

## Pantheon Report

Generated at 2019-01-25 21:45:36 (UTC).

Data path: India on `em1` (*remote*) → AWS India 1 on `ens5` (*local*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

### System info:

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

### Git summary:

```
branch: muses @ 0b8e9a949603c3842368430acf469eec3b941f9f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ d9c5ea33091330aca25ecd105ab2db6d34d5c40d
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



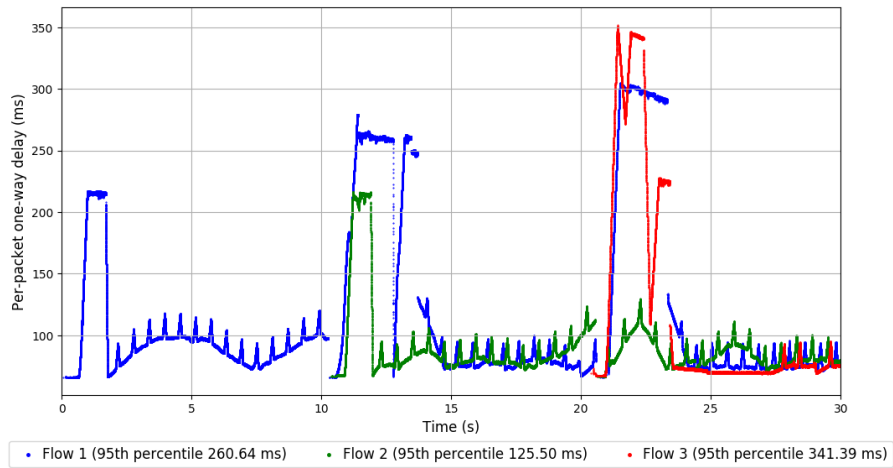
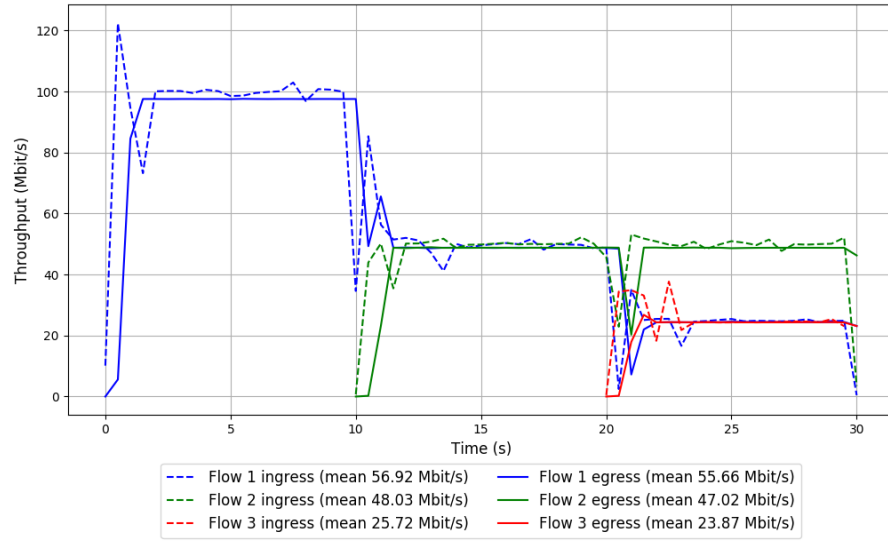
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	58.31	40.10	31.70	251.58	332.34	272.49	2.29	2.97	5.14
Copa	5	54.81	29.79	24.23	91.46	79.24	75.58	0.15	0.39	0.85
TCP Cubic	5	47.07	40.45	36.17	103.01	79.89	94.72	0.20	0.39	0.73
FillP	5	55.72	44.04	28.41	141.32	157.48	142.31	0.38	2.48	3.18
FillP-Sheep	5	55.60	38.93	37.68	155.76	151.03	127.46	0.33	0.70	1.27
Indigo	5	58.59	38.97	29.44	83.55	83.77	82.00	0.21	0.37	0.89
Indigo-MusesC3	5	47.87	30.48	27.80	76.37	77.06	78.07	0.11	0.19	1.07
Indigo-MusesC5	5	59.45	38.74	30.27	156.37	184.85	123.16	1.46	3.40	4.10
Indigo-MusesD	5	55.93	32.66	9.16	79.97	91.56	79.03	0.15	0.51	1.59
Indigo-MusesT	5	58.45	34.53	24.19	140.98	202.24	140.70	1.08	2.72	2.52
LEDBAT	5	35.28	28.68	19.47	77.06	77.80	76.09	0.25	0.39	1.09
PCC-Allegro	5	63.01	22.09	22.22	1382.70	712.87	234.43	6.72	4.07	1.13
PCC-Expr	5	58.55	27.24	21.60	750.12	417.44	141.63	19.17	6.85	1.46
QUIC Cubic	5	43.69	36.78	25.65	111.14	136.65	166.20	0.22	0.47	1.40
SCReAM	5	0.22	0.22	0.22	69.14	68.57	68.73	0.26	0.39	0.56
Sprout	5	10.05	9.95	9.65	77.10	79.06	80.98	0.22	0.40	0.79
TaoVA-100x	5	55.43	36.79	38.37	151.86	178.72	170.89	0.40	0.82	2.00
TCP Vegas	5	39.68	32.93	29.77	83.40	73.33	72.64	0.26	0.35	0.91
Verus	5	46.72	31.88	22.78	181.88	169.74	174.95	0.31	0.55	1.27
PCC-Vivace	5	52.81	26.13	16.36	895.04	570.92	87.60	3.86	4.02	1.34
WebRTC media	5	1.61	0.86	0.42	70.54	70.45	70.94	0.10	0.25	0.67

Run 1: Statistics of TCP BBR

Start at: 2019-01-25 19:12:50  
End at: 2019-01-25 19:13:20  
Local clock offset: -0.892 ms  
Remote clock offset: -1.349 ms

# Below is generated by plot.py at 2019-01-25 21:33:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.16 Mbit/s  
95th percentile per-packet one-way delay: 259.277 ms  
Loss rate: 3.31%  
-- Flow 1:  
Average throughput: 55.66 Mbit/s  
95th percentile per-packet one-way delay: 260.639 ms  
Loss rate: 2.54%  
-- Flow 2:  
Average throughput: 47.02 Mbit/s  
95th percentile per-packet one-way delay: 125.504 ms  
Loss rate: 3.48%  
-- Flow 3:  
Average throughput: 23.87 Mbit/s  
95th percentile per-packet one-way delay: 341.394 ms  
Loss rate: 7.95%

# Run 1: Report of TCP BBR — Data Link

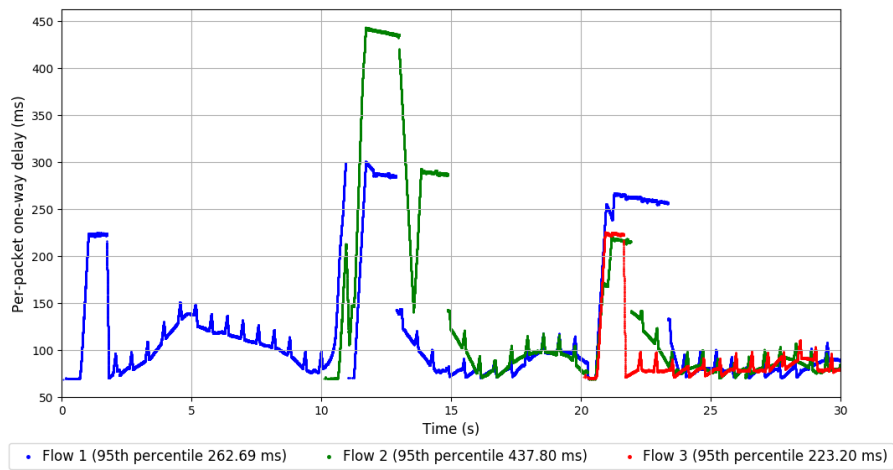
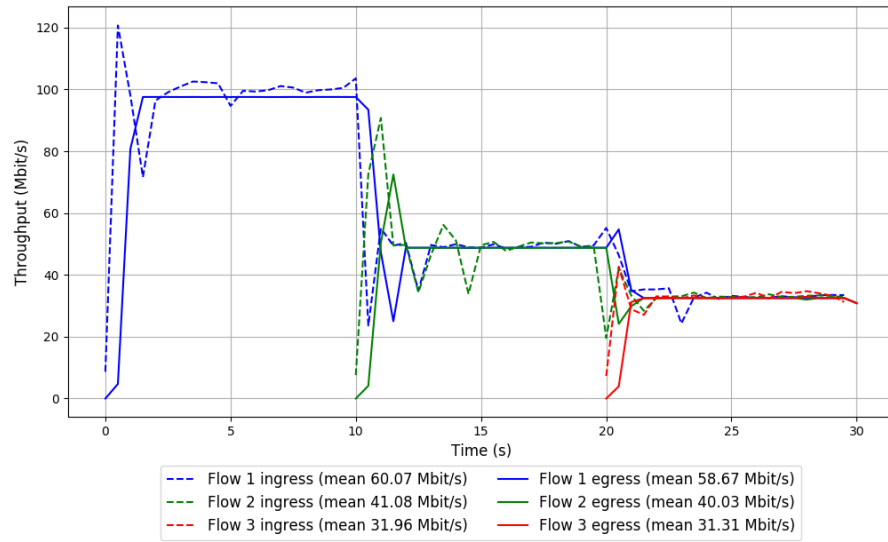


Run 2: Statistics of TCP BBR

Start at: 2019-01-25 19:41:12  
End at: 2019-01-25 19:41:42  
Local clock offset: 1.235 ms  
Remote clock offset: -0.735 ms

# Below is generated by plot.py at 2019-01-25 21:33:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 287.892 ms  
Loss rate: 2.70%  
-- Flow 1:  
Average throughput: 58.67 Mbit/s  
95th percentile per-packet one-way delay: 262.689 ms  
Loss rate: 2.57%  
-- Flow 2:  
Average throughput: 40.03 Mbit/s  
95th percentile per-packet one-way delay: 437.802 ms  
Loss rate: 2.95%  
-- Flow 3:  
Average throughput: 31.31 Mbit/s  
95th percentile per-packet one-way delay: 223.199 ms  
Loss rate: 2.81%

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

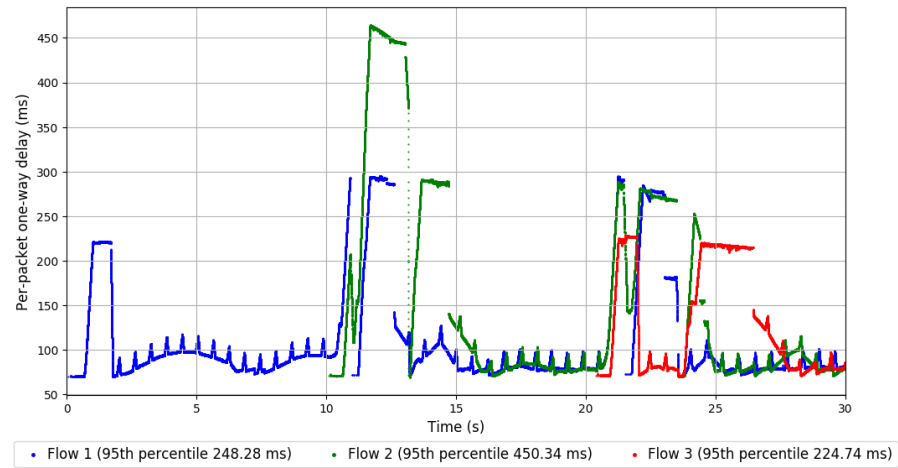
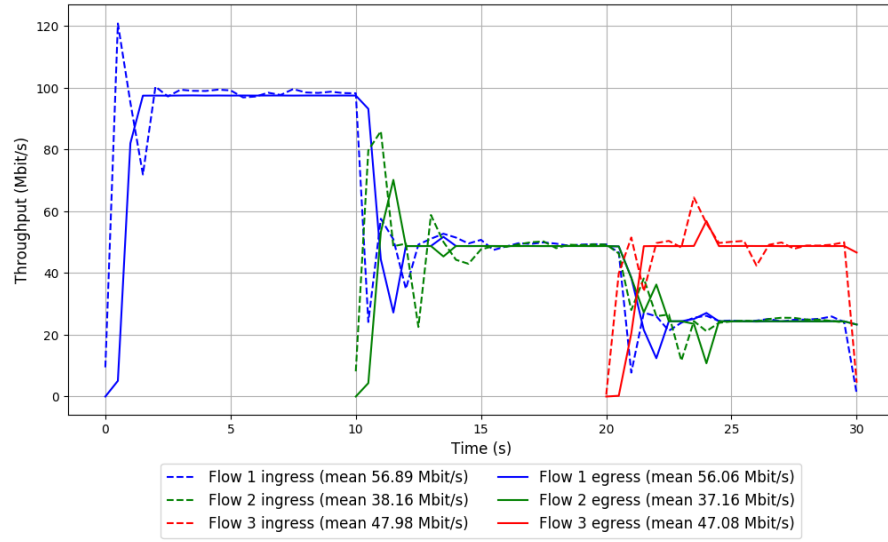


Run 3: Statistics of TCP BBR

Start at: 2019-01-25 20:09:53  
End at: 2019-01-25 20:10:23  
Local clock offset: -0.632 ms  
Remote clock offset: -0.632 ms

# Below is generated by plot.py at 2019-01-25 21:33:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.90 Mbit/s  
95th percentile per-packet one-way delay: 289.037 ms  
Loss rate: 2.38%  
-- Flow 1:  
Average throughput: 56.06 Mbit/s  
95th percentile per-packet one-way delay: 248.279 ms  
Loss rate: 1.83%  
-- Flow 2:  
Average throughput: 37.16 Mbit/s  
95th percentile per-packet one-way delay: 450.344 ms  
Loss rate: 2.99%  
-- Flow 3:  
Average throughput: 47.08 Mbit/s  
95th percentile per-packet one-way delay: 224.735 ms  
Loss rate: 3.42%

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

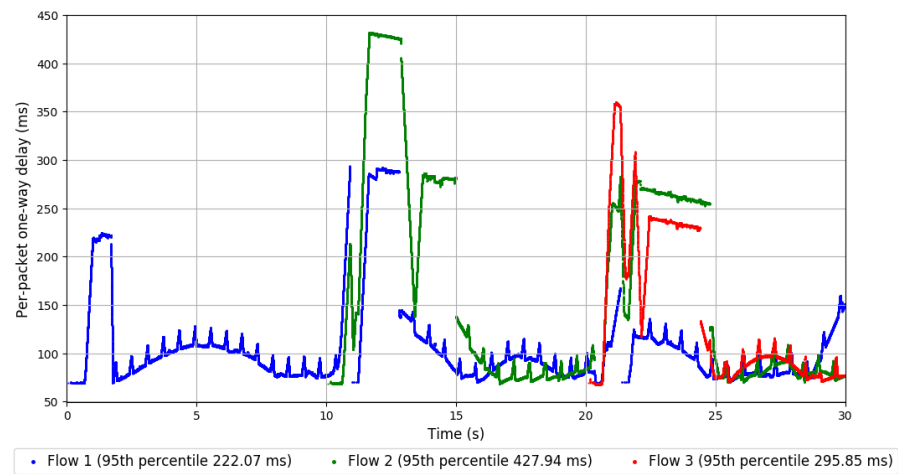
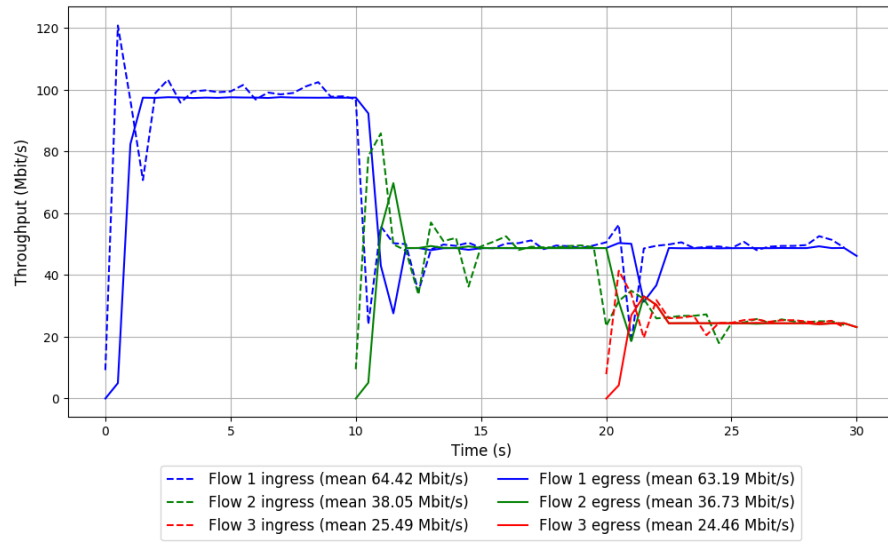


Run 4: Statistics of TCP BBR

Start at: 2019-01-25 20:37:10  
End at: 2019-01-25 20:37:40  
Local clock offset: -2.048 ms  
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2019-01-25 21:33:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.71 Mbit/s  
95th percentile per-packet one-way delay: 285.528 ms  
Loss rate: 2.82%  
-- Flow 1:  
Average throughput: 63.19 Mbit/s  
95th percentile per-packet one-way delay: 222.067 ms  
Loss rate: 2.16%  
-- Flow 2:  
Average throughput: 36.73 Mbit/s  
95th percentile per-packet one-way delay: 427.945 ms  
Loss rate: 3.82%  
-- Flow 3:  
Average throughput: 24.46 Mbit/s  
95th percentile per-packet one-way delay: 295.845 ms  
Loss rate: 4.76%

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



Run 5: Statistics of TCP BBR

Start at: 2019-01-25 21:04:32

End at: 2019-01-25 21:05:02

Local clock offset: -1.007 ms

Remote clock offset: 1.545 ms

# Below is generated by plot.py at 2019-01-25 21:33:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.81 Mbit/s

95th percentile per-packet one-way delay: 260.077 ms

Loss rate: 2.66%

-- Flow 1:

Average throughput: 57.98 Mbit/s

95th percentile per-packet one-way delay: 264.210 ms

Loss rate: 2.37%

-- Flow 2:

Average throughput: 39.56 Mbit/s

95th percentile per-packet one-way delay: 220.106 ms

Loss rate: 1.61%

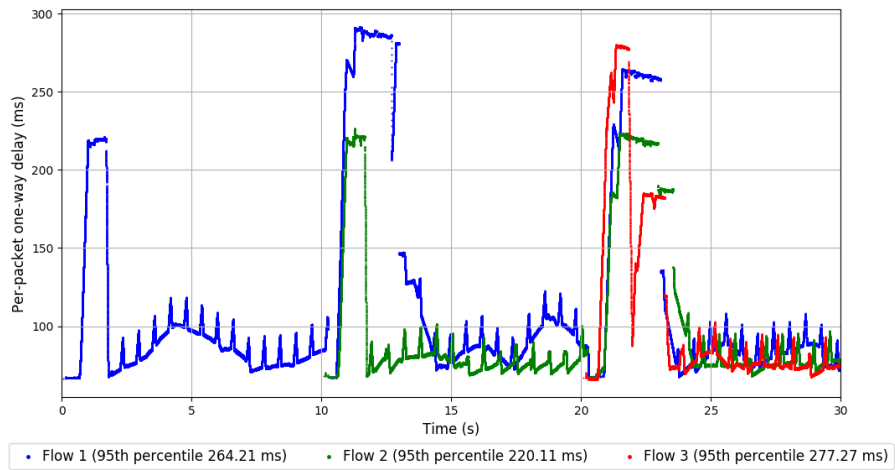
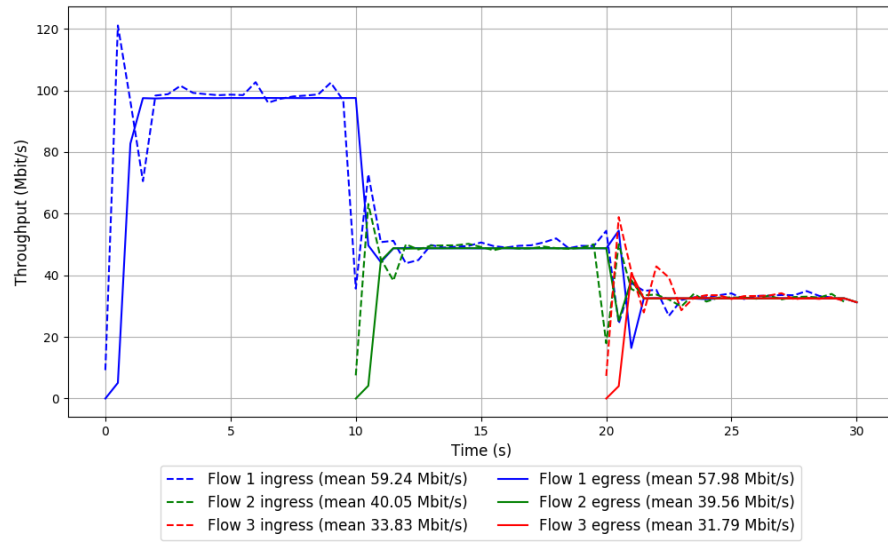
-- Flow 3:

Average throughput: 31.79 Mbit/s

95th percentile per-packet one-way delay: 277.275 ms

Loss rate: 6.75%

# Run 5: Report of TCP BBR — Data Link

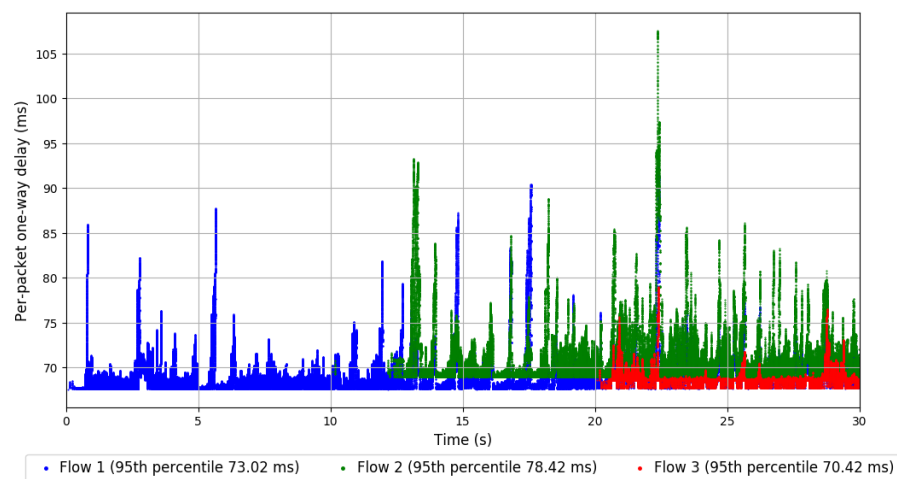
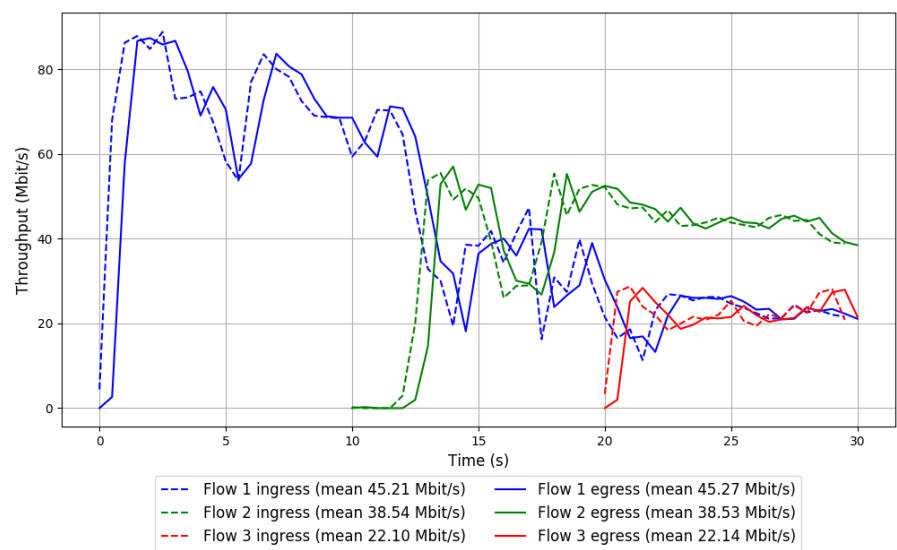


Run 1: Statistics of Copa

Start at: 2019-01-25 19:24:45  
End at: 2019-01-25 19:25:15  
Local clock offset: -0.637 ms  
Remote clock offset: -2.321 ms

# Below is generated by plot.py at 2019-01-25 21:34:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 78.22 Mbit/s  
95th percentile per-packet one-way delay: 75.295 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 45.27 Mbit/s  
95th percentile per-packet one-way delay: 73.019 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 38.53 Mbit/s  
95th percentile per-packet one-way delay: 78.425 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 22.14 Mbit/s  
95th percentile per-packet one-way delay: 70.418 ms  
Loss rate: 0.62%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-01-25 19:53:32

End at: 2019-01-25 19:54:02

Local clock offset: -1.111 ms

Remote clock offset: -1.44 ms

# Below is generated by plot.py at 2019-01-25 21:34:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 83.17 Mbit/s

95th percentile per-packet one-way delay: 77.880 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 57.93 Mbit/s

95th percentile per-packet one-way delay: 77.941 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 29.38 Mbit/s

95th percentile per-packet one-way delay: 77.326 ms

Loss rate: 0.37%

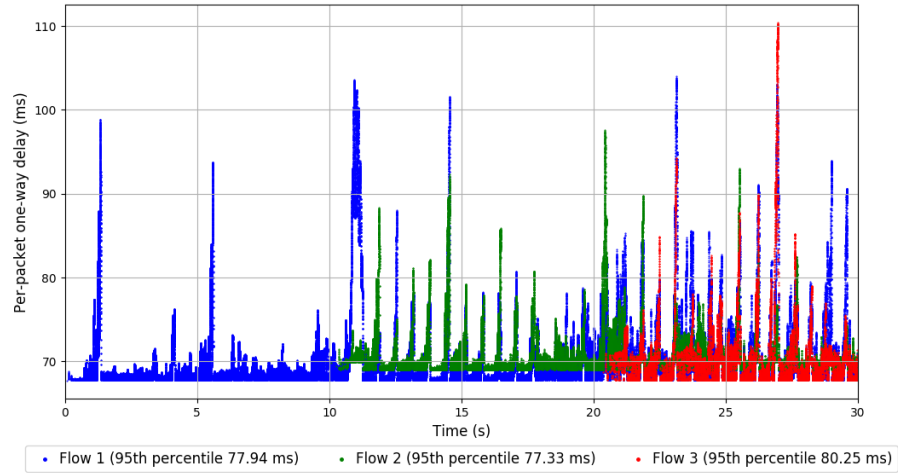
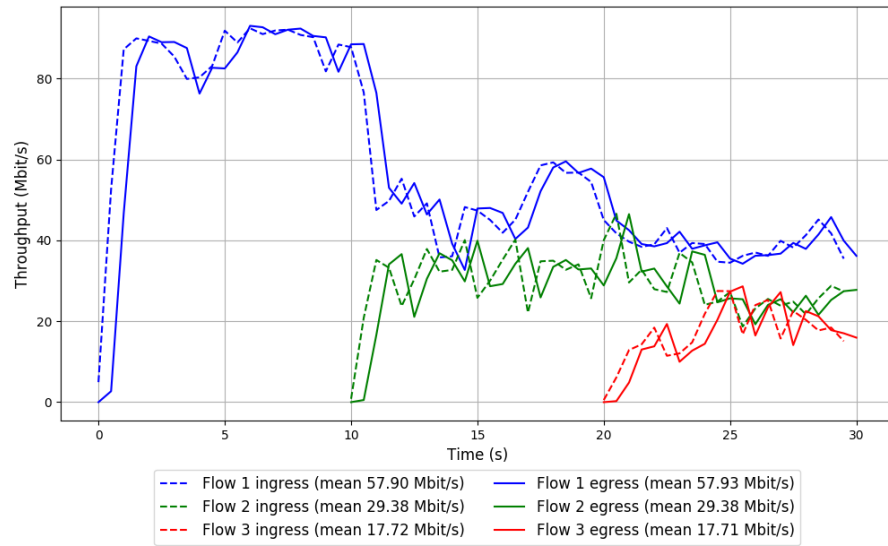
-- Flow 3:

Average throughput: 17.71 Mbit/s

95th percentile per-packet one-way delay: 80.252 ms

Loss rate: 0.82%

## Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-25 20:21:53

End at: 2019-01-25 20:22:23

Local clock offset: 1.008 ms

Remote clock offset: 0.532 ms

# Below is generated by plot.py at 2019-01-25 21:34:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.00 Mbit/s

95th percentile per-packet one-way delay: 82.337 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 64.73 Mbit/s

95th percentile per-packet one-way delay: 85.004 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 19.42 Mbit/s

95th percentile per-packet one-way delay: 75.781 ms

Loss rate: 0.50%

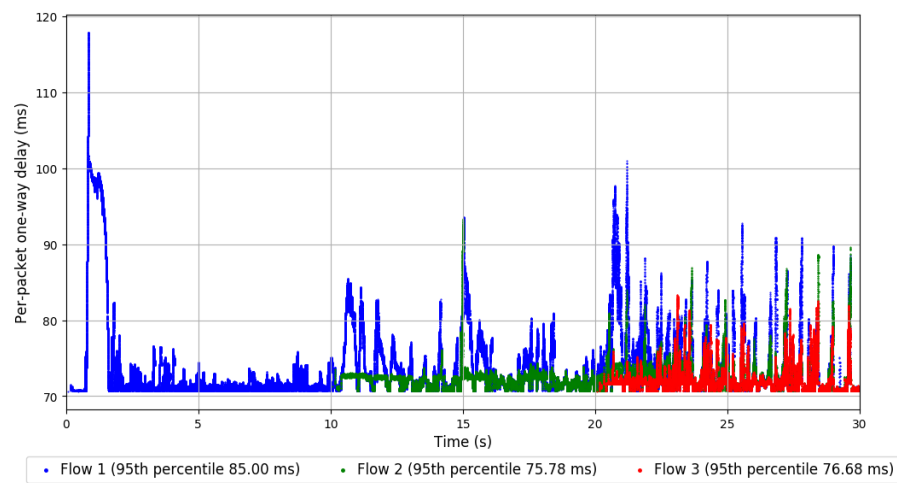
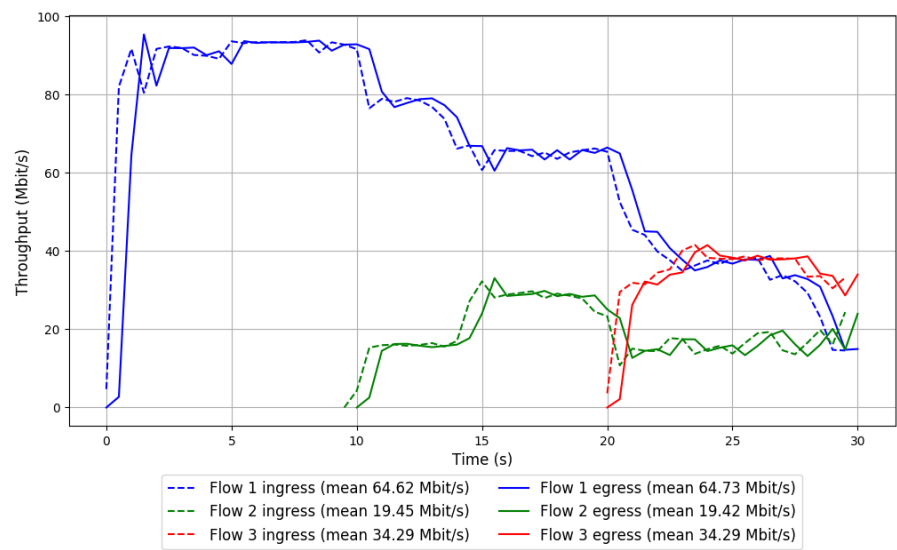
-- Flow 3:

Average throughput: 34.29 Mbit/s

95th percentile per-packet one-way delay: 76.677 ms

Loss rate: 0.77%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-25 20:48:27

End at: 2019-01-25 20:48:57

Local clock offset: 0.275 ms

Remote clock offset: 1.225 ms

# Below is generated by plot.py at 2019-01-25 21:35:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.75 Mbit/s

95th percentile per-packet one-way delay: 95.625 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 63.28 Mbit/s

95th percentile per-packet one-way delay: 122.659 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 25.18 Mbit/s

95th percentile per-packet one-way delay: 72.066 ms

Loss rate: 0.37%

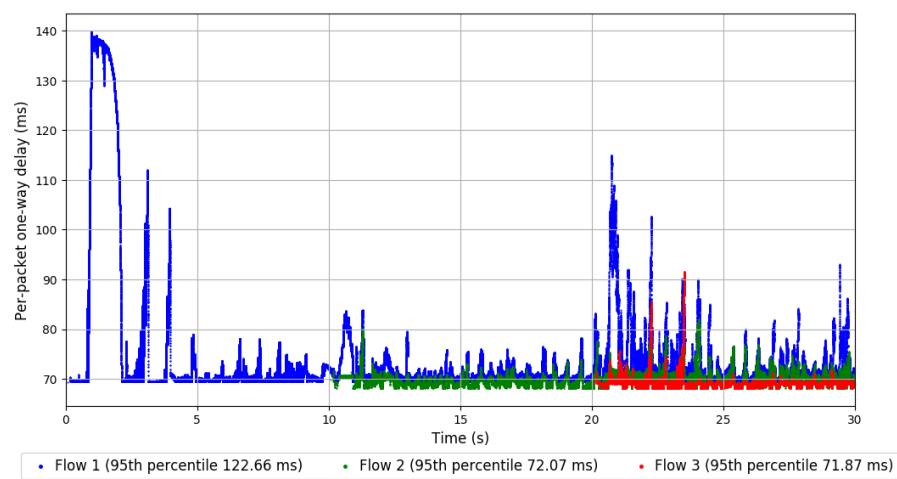
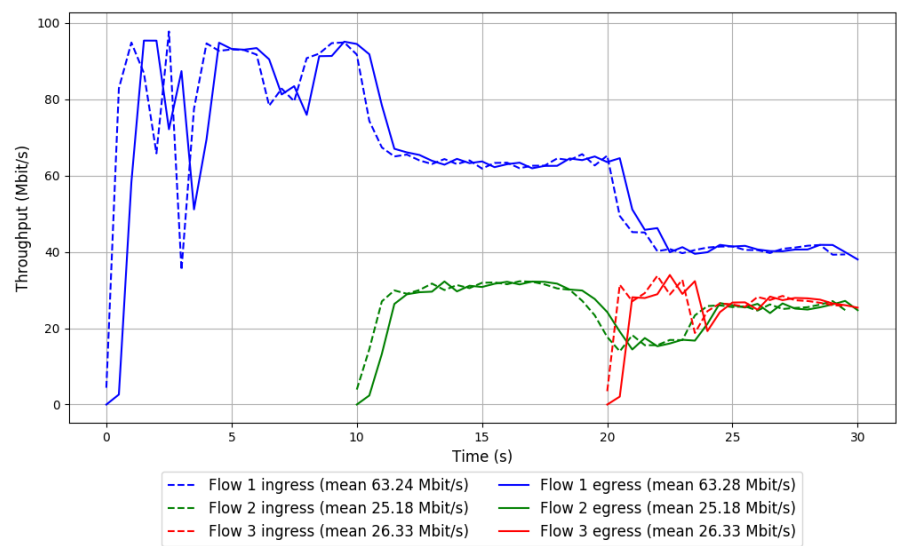
-- Flow 3:

Average throughput: 26.33 Mbit/s

95th percentile per-packet one-way delay: 71.873 ms

Loss rate: 0.77%

Run 4: Report of Copa — Data Link

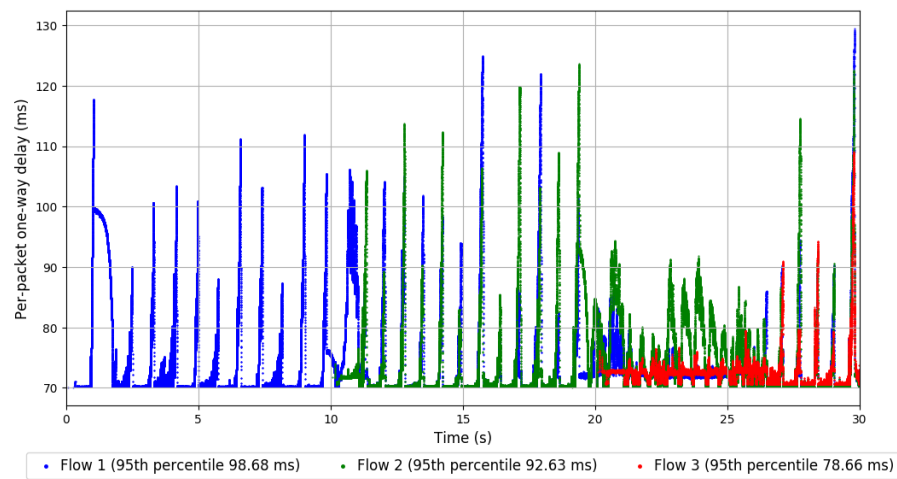
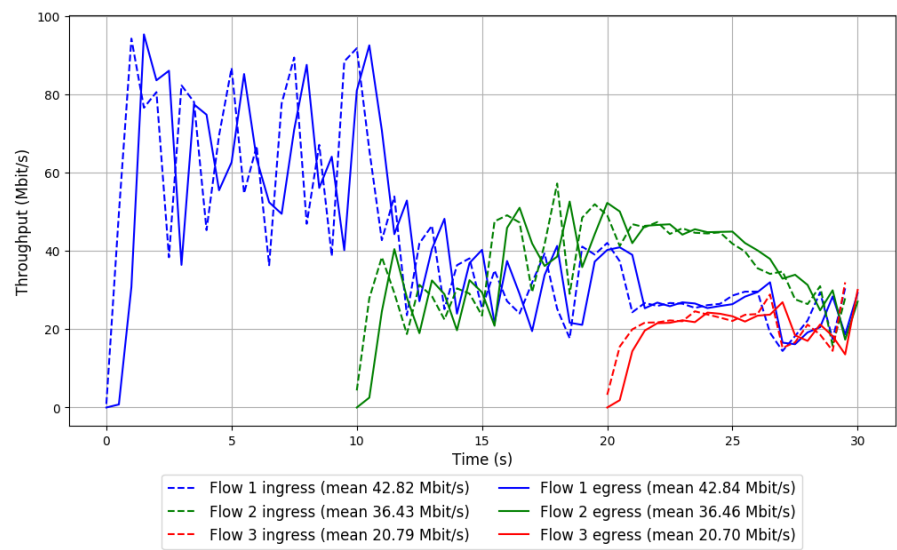


Run 5: Statistics of Copa

Start at: 2019-01-25 21:16:00  
End at: 2019-01-25 21:16:30  
Local clock offset: 1.971 ms  
Remote clock offset: -0.807 ms

# Below is generated by plot.py at 2019-01-25 21:35:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.95 Mbit/s  
95th percentile per-packet one-way delay: 97.576 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 42.84 Mbit/s  
95th percentile per-packet one-way delay: 98.684 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 36.46 Mbit/s  
95th percentile per-packet one-way delay: 92.627 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 20.70 Mbit/s  
95th percentile per-packet one-way delay: 78.664 ms  
Loss rate: 1.26%

Run 5: Report of Copa — Data Link

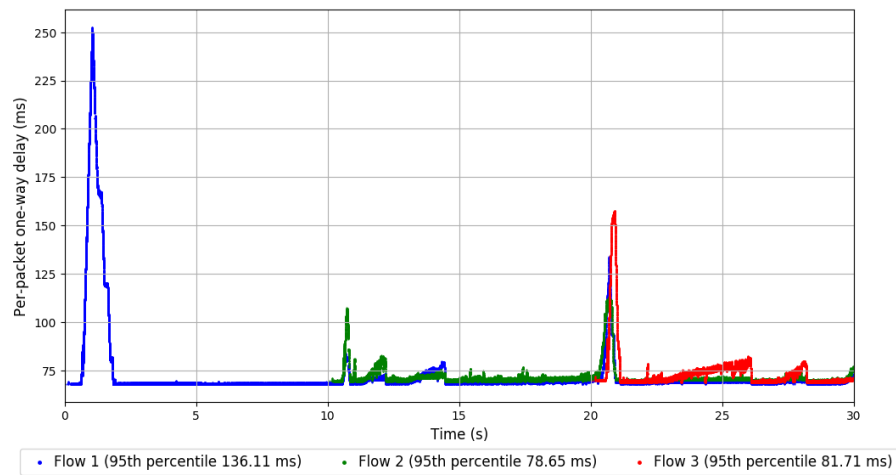
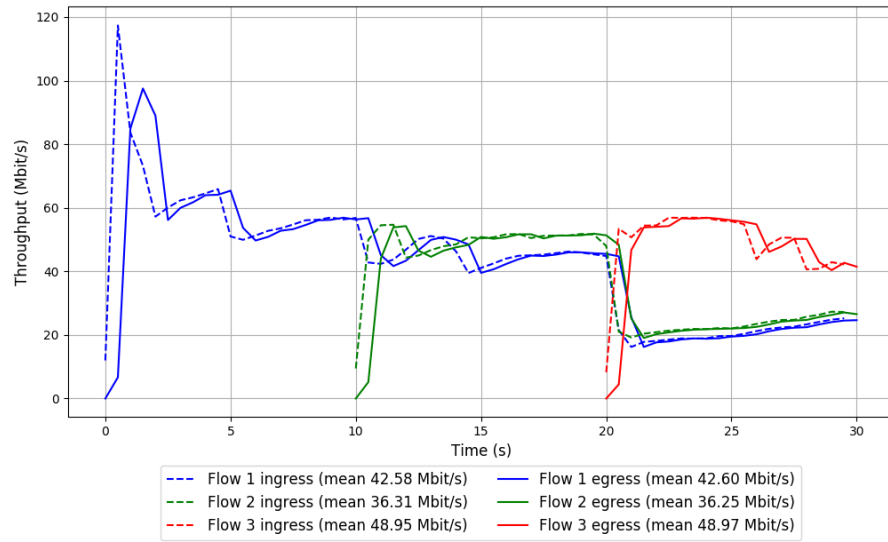


Run 1: Statistics of TCP Cubic

Start at: 2019-01-25 19:11:25  
End at: 2019-01-25 19:11:55  
Local clock offset: -1.895 ms  
Remote clock offset: -3.931 ms

# Below is generated by plot.py at 2019-01-25 21:35:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.91 Mbit/s  
95th percentile per-packet one-way delay: 98.449 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 42.60 Mbit/s  
95th percentile per-packet one-way delay: 136.110 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 36.25 Mbit/s  
95th percentile per-packet one-way delay: 78.653 ms  
Loss rate: 0.54%  
-- Flow 3:  
Average throughput: 48.97 Mbit/s  
95th percentile per-packet one-way delay: 81.710 ms  
Loss rate: 0.72%

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

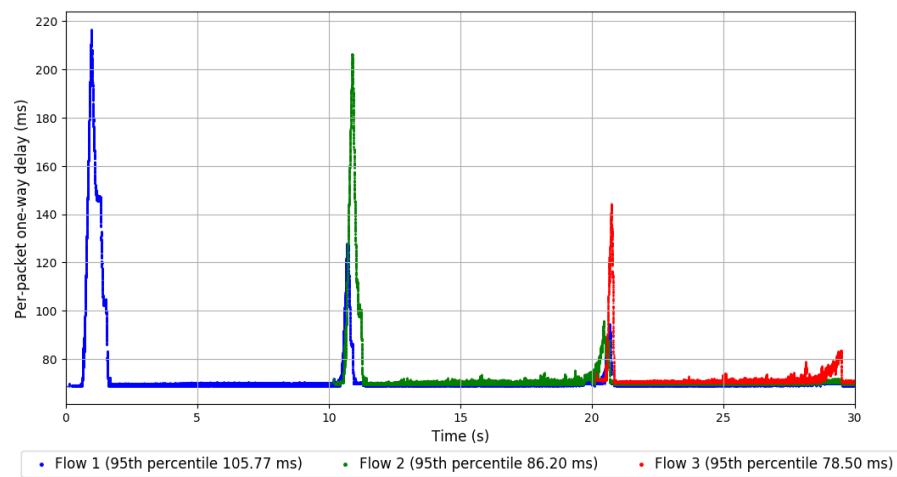
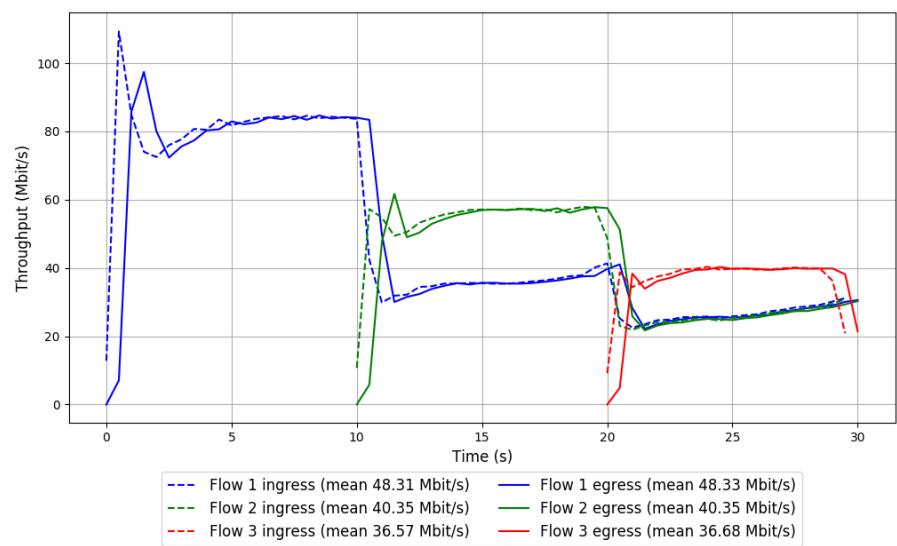


Run 2: Statistics of TCP Cubic

Start at: 2019-01-25 19:39:50  
End at: 2019-01-25 19:40:20  
Local clock offset: -0.292 ms  
Remote clock offset: -2.433 ms

# Below is generated by plot.py at 2019-01-25 21:35:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.30 Mbit/s  
95th percentile per-packet one-way delay: 96.759 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 48.33 Mbit/s  
95th percentile per-packet one-way delay: 105.770 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 40.35 Mbit/s  
95th percentile per-packet one-way delay: 86.204 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 36.68 Mbit/s  
95th percentile per-packet one-way delay: 78.500 ms  
Loss rate: 0.47%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-25 20:08:33

End at: 2019-01-25 20:09:03

Local clock offset: 0.549 ms

Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2019-01-25 21:35:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.55 Mbit/s

95th percentile per-packet one-way delay: 89.038 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 48.78 Mbit/s

95th percentile per-packet one-way delay: 89.324 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 40.60 Mbit/s

95th percentile per-packet one-way delay: 79.095 ms

Loss rate: 0.30%

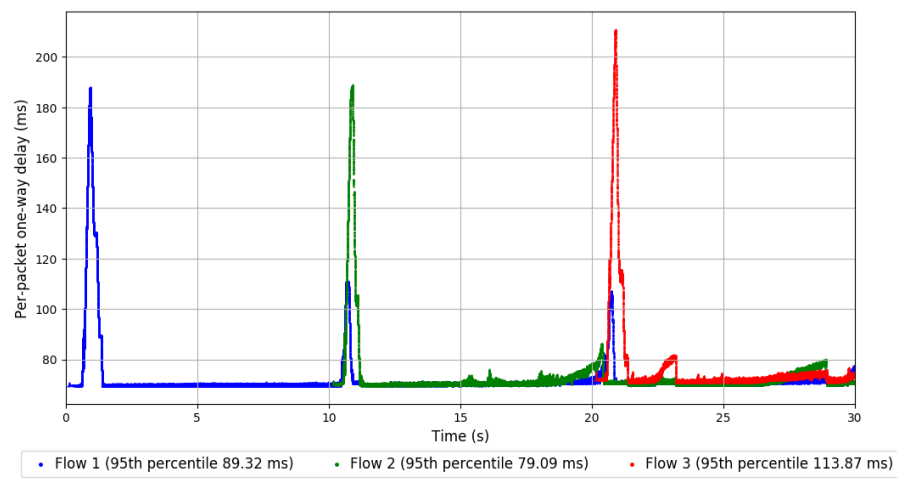
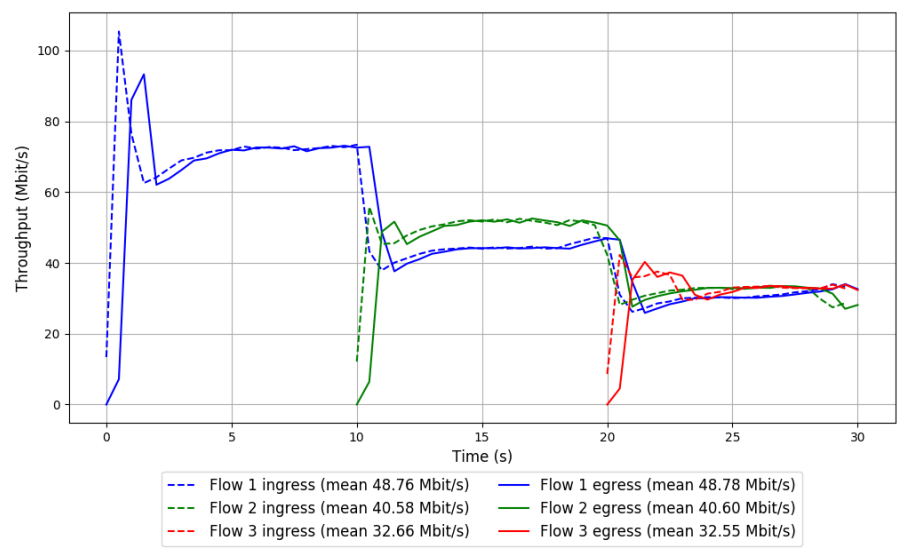
-- Flow 3:

Average throughput: 32.55 Mbit/s

95th percentile per-packet one-way delay: 113.871 ms

Loss rate: 1.09%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-25 20:35:54

End at: 2019-01-25 20:36:24

Local clock offset: -2.105 ms

Remote clock offset: 0.19 ms

# Below is generated by plot.py at 2019-01-25 21:35:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.66 Mbit/s

95th percentile per-packet one-way delay: 85.232 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 47.10 Mbit/s

95th percentile per-packet one-way delay: 90.593 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 46.98 Mbit/s

95th percentile per-packet one-way delay: 77.109 ms

Loss rate: 0.38%

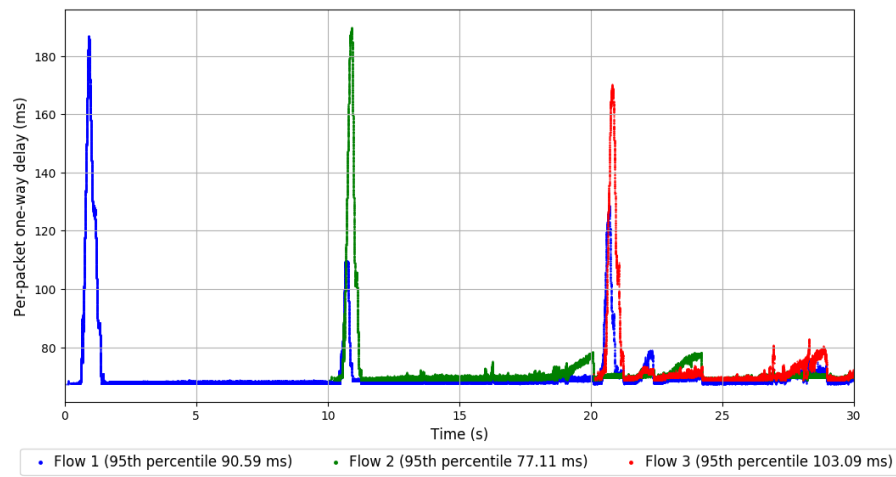
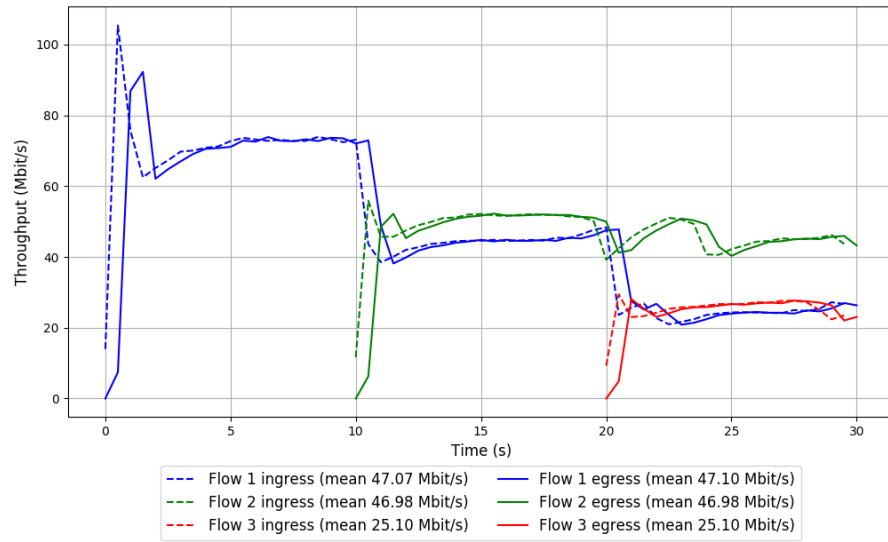
-- Flow 3:

Average throughput: 25.10 Mbit/s

95th percentile per-packet one-way delay: 103.090 ms

Loss rate: 0.79%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-01-25 21:03:06

End at: 2019-01-25 21:03:36

Local clock offset: 0.967 ms

Remote clock offset: 1.321 ms

# Below is generated by plot.py at 2019-01-25 21:35:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.27 Mbit/s

95th percentile per-packet one-way delay: 89.515 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 48.52 Mbit/s

95th percentile per-packet one-way delay: 93.231 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 38.07 Mbit/s

95th percentile per-packet one-way delay: 78.378 ms

Loss rate: 0.35%

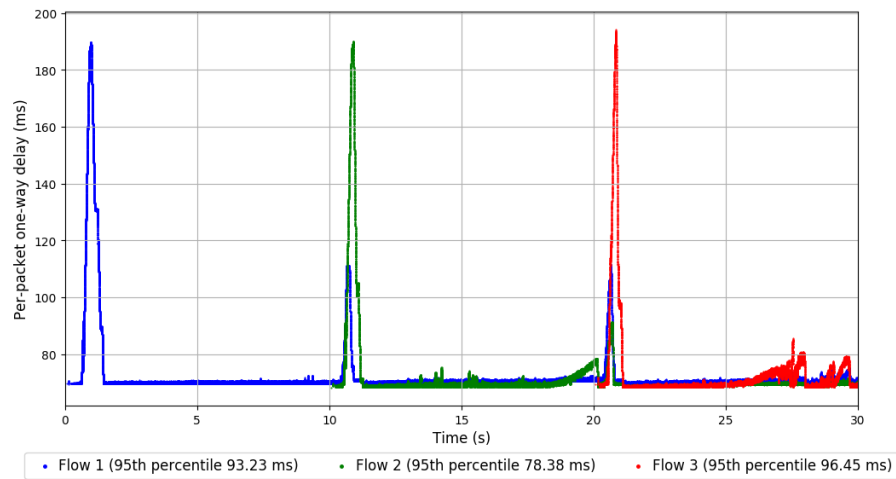
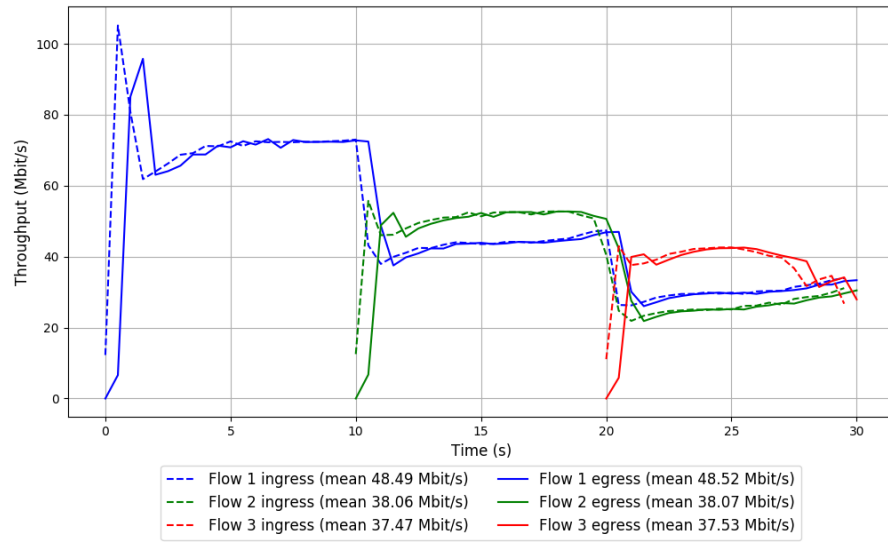
-- Flow 3:

Average throughput: 37.53 Mbit/s

95th percentile per-packet one-way delay: 96.452 ms

Loss rate: 0.58%

# Run 5: Report of TCP Cubic — Data Link

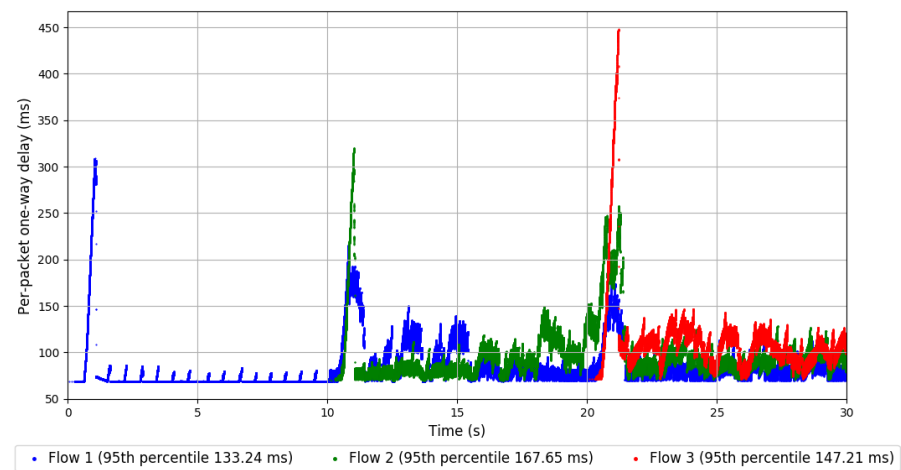
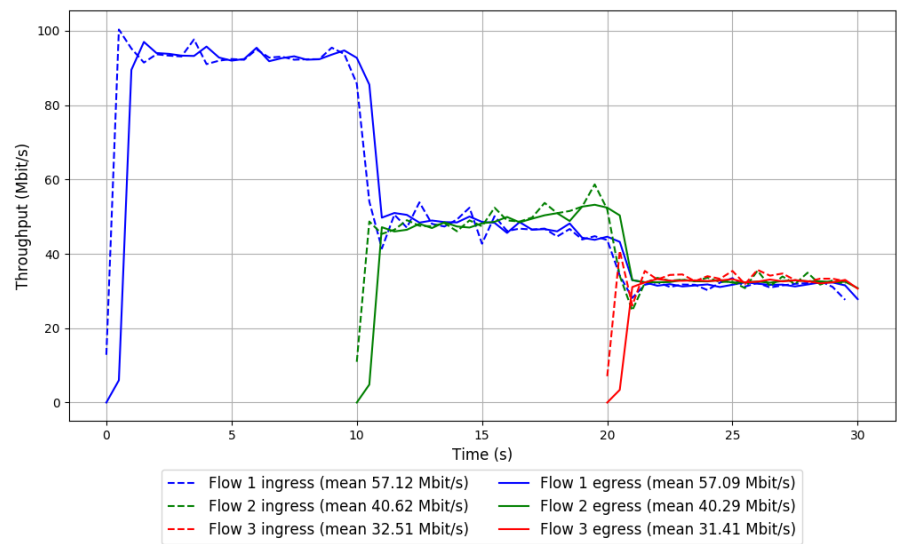


Run 1: Statistics of FillP

Start at: 2019-01-25 19:28:51  
End at: 2019-01-25 19:29:21  
Local clock offset: -0.408 ms  
Remote clock offset: -2.823 ms

# Below is generated by plot.py at 2019-01-25 21:35:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.28 Mbit/s  
95th percentile per-packet one-way delay: 142.376 ms  
Loss rate: 0.95%  
-- Flow 1:  
Average throughput: 57.09 Mbit/s  
95th percentile per-packet one-way delay: 133.239 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 40.29 Mbit/s  
95th percentile per-packet one-way delay: 167.645 ms  
Loss rate: 1.16%  
-- Flow 3:  
Average throughput: 31.41 Mbit/s  
95th percentile per-packet one-way delay: 147.209 ms  
Loss rate: 4.10%

Run 1: Report of FillP — Data Link

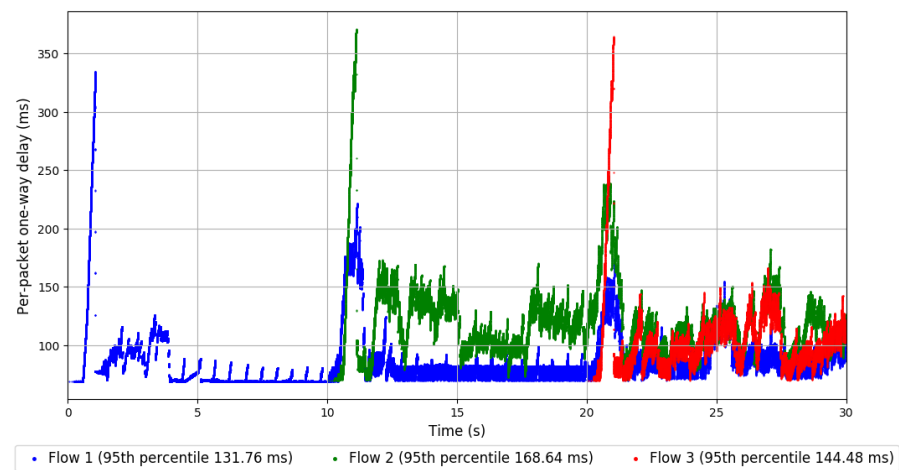
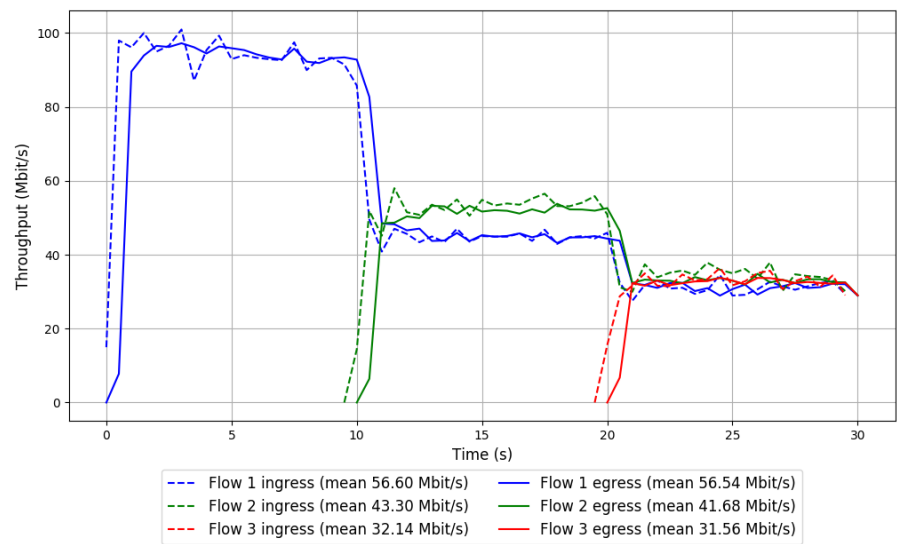


Run 2: Statistics of FillP

Start at: 2019-01-25 19:57:32  
End at: 2019-01-25 19:58:02  
Local clock offset: -0.283 ms  
Remote clock offset: -1.723 ms

# Below is generated by plot.py at 2019-01-25 21:35:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.72 Mbit/s  
95th percentile per-packet one-way delay: 156.126 ms  
Loss rate: 1.70%  
-- Flow 1:  
Average throughput: 56.54 Mbit/s  
95th percentile per-packet one-way delay: 131.757 ms  
Loss rate: 0.35%  
-- Flow 2:  
Average throughput: 41.68 Mbit/s  
95th percentile per-packet one-way delay: 168.644 ms  
Loss rate: 4.08%  
-- Flow 3:  
Average throughput: 31.56 Mbit/s  
95th percentile per-packet one-way delay: 144.480 ms  
Loss rate: 2.42%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-25 20:25:53

End at: 2019-01-25 20:26:23

Local clock offset: -1.639 ms

Remote clock offset: -0.78 ms

# Below is generated by plot.py at 2019-01-25 21:35:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.24 Mbit/s

95th percentile per-packet one-way delay: 151.733 ms

Loss rate: 1.60%

-- Flow 1:

Average throughput: 56.39 Mbit/s

95th percentile per-packet one-way delay: 130.541 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 41.44 Mbit/s

95th percentile per-packet one-way delay: 162.948 ms

Loss rate: 4.23%

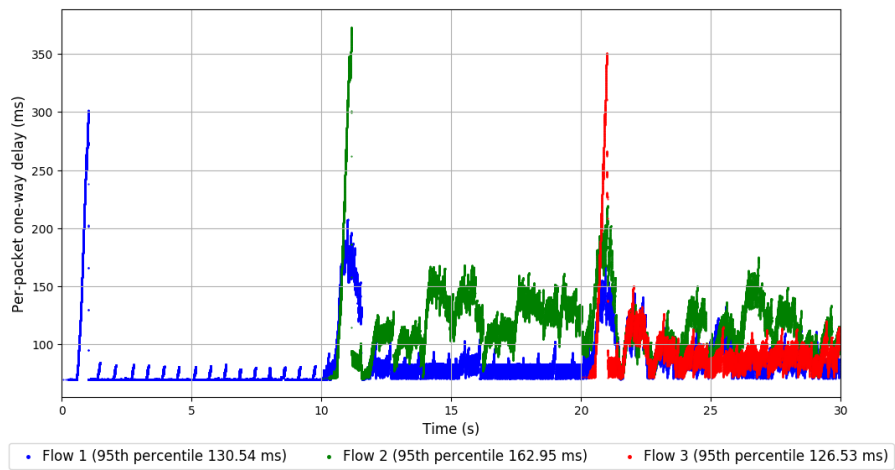
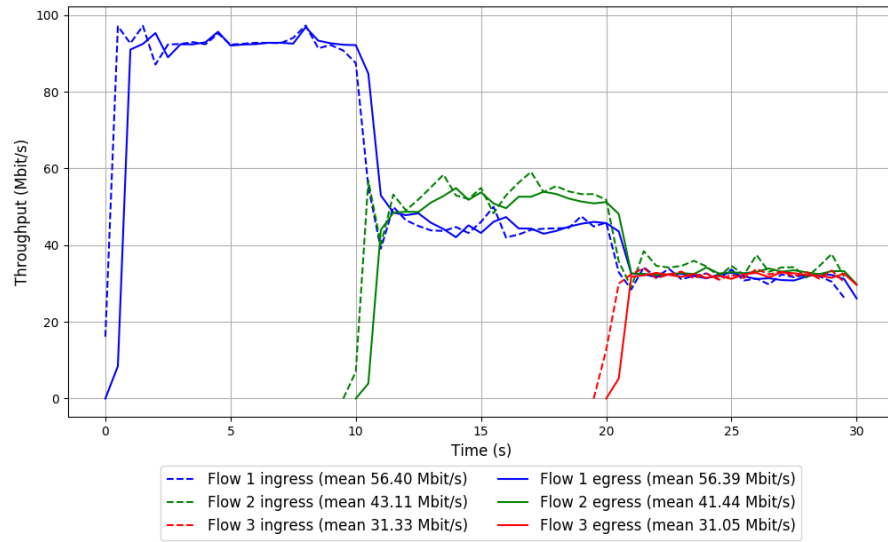
-- Flow 3:

Average throughput: 31.05 Mbit/s

95th percentile per-packet one-way delay: 126.527 ms

Loss rate: 1.65%

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

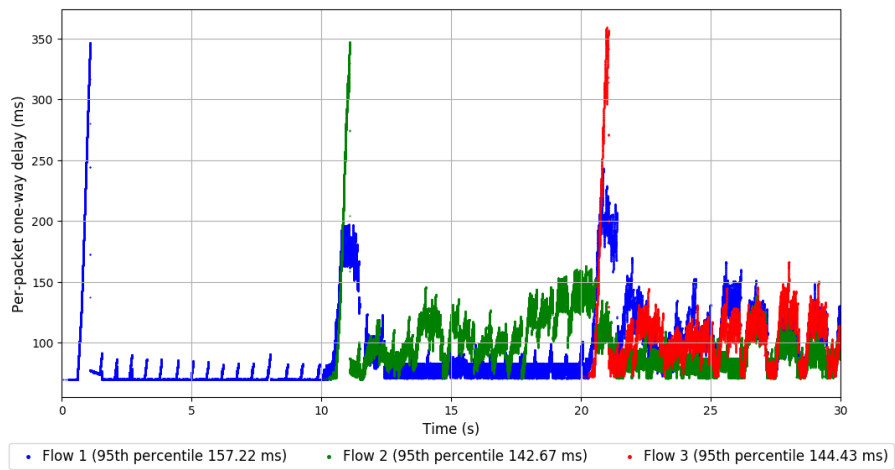
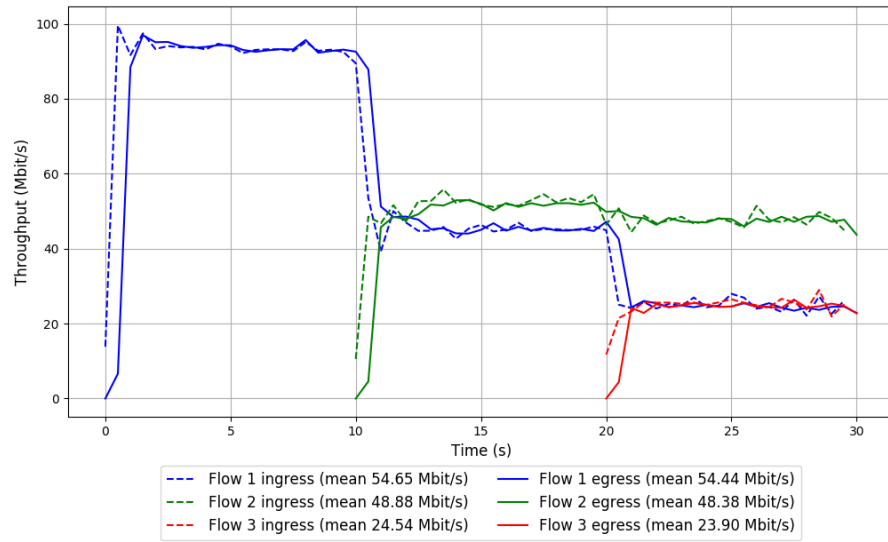


Run 4: Statistics of FillP

Start at: 2019-01-25 20:52:21  
End at: 2019-01-25 20:52:51  
Local clock offset: -0.101 ms  
Remote clock offset: -1.047 ms

# Below is generated by plot.py at 2019-01-25 21:35:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.50 Mbit/s  
95th percentile per-packet one-way delay: 145.902 ms  
Loss rate: 1.10%  
-- Flow 1:  
Average throughput: 54.44 Mbit/s  
95th percentile per-packet one-way delay: 157.216 ms  
Loss rate: 0.60%  
-- Flow 2:  
Average throughput: 48.38 Mbit/s  
95th percentile per-packet one-way delay: 142.667 ms  
Loss rate: 1.37%  
-- Flow 3:  
Average throughput: 23.90 Mbit/s  
95th percentile per-packet one-way delay: 144.427 ms  
Loss rate: 3.33%

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



Run 5: Statistics of FillP

Start at: 2019-01-25 21:20:01

End at: 2019-01-25 21:20:31

Local clock offset: 2.143 ms

Remote clock offset: -1.69 ms

# Below is generated by plot.py at 2019-01-25 21:36:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.33 Mbit/s

95th percentile per-packet one-way delay: 146.954 ms

Loss rate: 1.19%

-- Flow 1:

Average throughput: 54.13 Mbit/s

95th percentile per-packet one-way delay: 153.837 ms

Loss rate: 0.47%

-- Flow 2:

Average throughput: 48.42 Mbit/s

95th percentile per-packet one-way delay: 145.479 ms

Loss rate: 1.56%

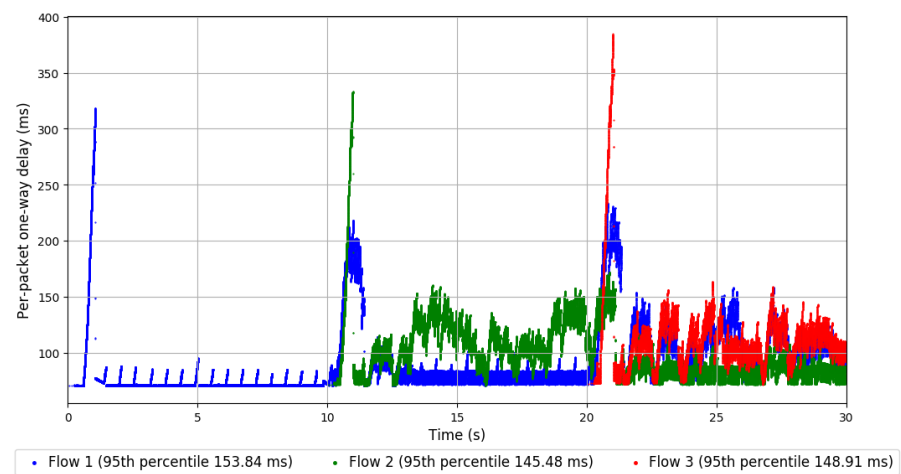
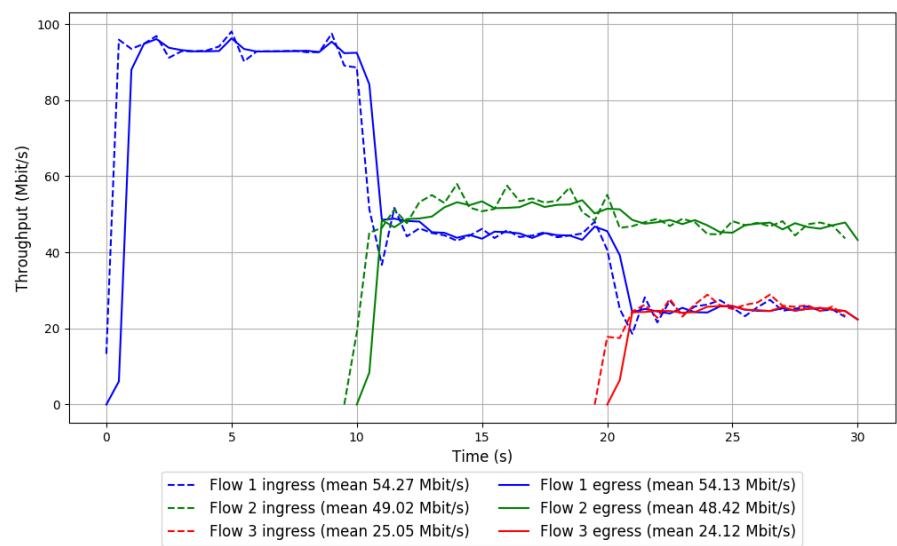
-- Flow 3:

Average throughput: 24.12 Mbit/s

95th percentile per-packet one-way delay: 148.906 ms

Loss rate: 4.41%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-01-25 19:27:25

End at: 2019-01-25 19:27:55

Local clock offset: 0.589 ms

Remote clock offset: -0.84 ms

# Below is generated by plot.py at 2019-01-25 21:36:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.32 Mbit/s

95th percentile per-packet one-way delay: 161.629 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 53.98 Mbit/s

95th percentile per-packet one-way delay: 154.534 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 37.26 Mbit/s

95th percentile per-packet one-way delay: 182.603 ms

Loss rate: 0.90%

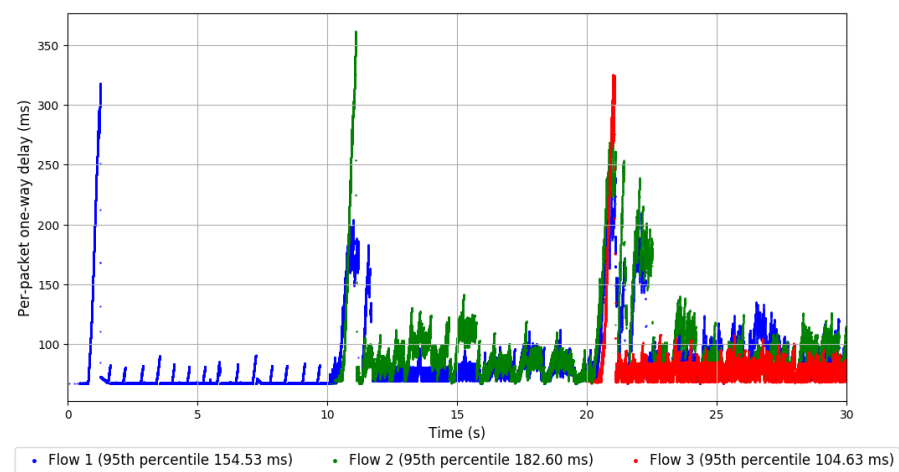
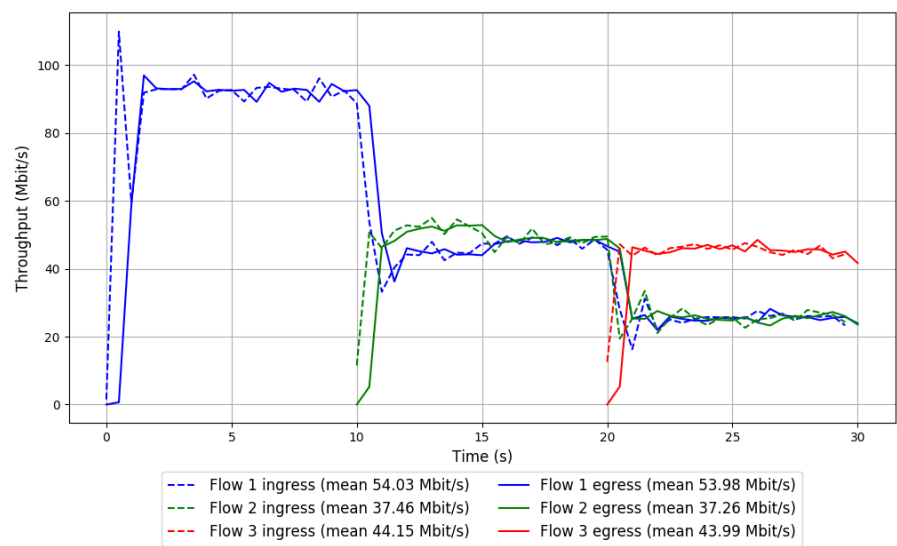
-- Flow 3:

Average throughput: 43.99 Mbit/s

95th percentile per-packet one-way delay: 104.634 ms

Loss rate: 1.09%

Run 1: Report of FillP-Sheep — Data Link

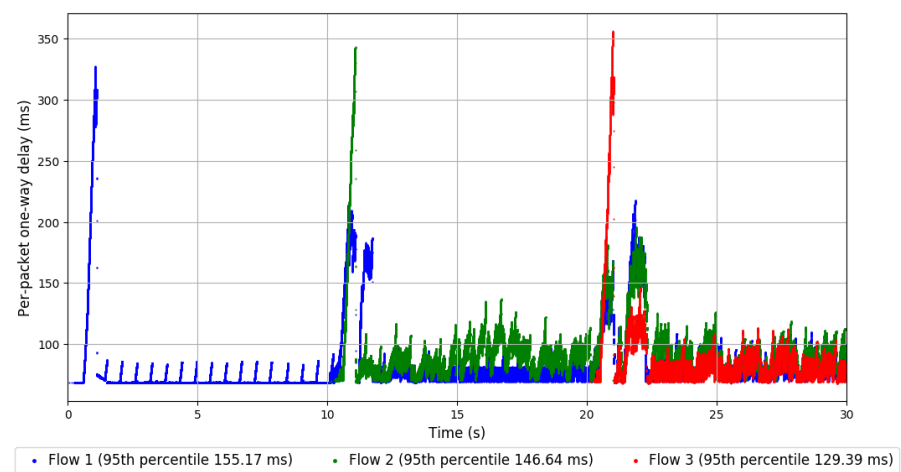
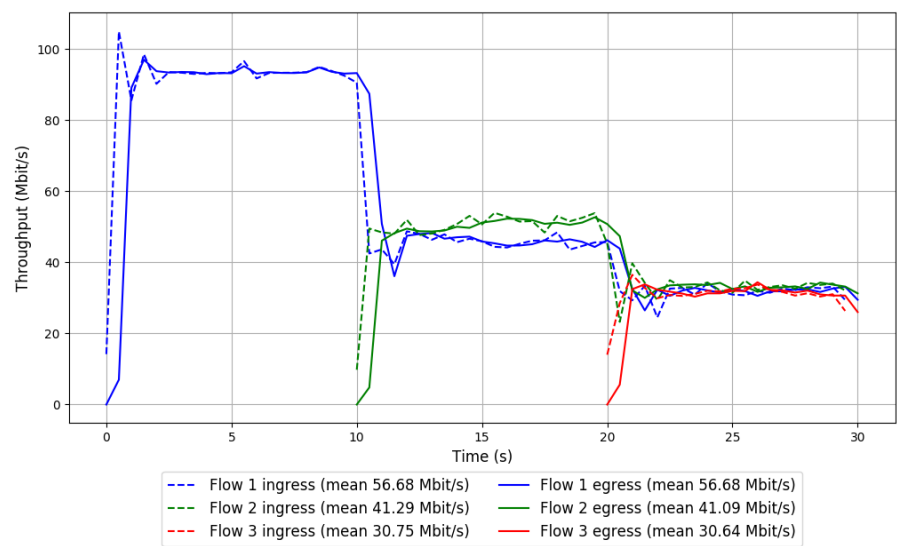


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-25 19:56:13  
End at: 2019-01-25 19:56:43  
Local clock offset: -0.363 ms  
Remote clock offset: -0.966 ms

# Below is generated by plot.py at 2019-01-25 21:36:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.13 Mbit/s  
95th percentile per-packet one-way delay: 149.728 ms  
Loss rate: 0.50%  
-- Flow 1:  
Average throughput: 56.68 Mbit/s  
95th percentile per-packet one-way delay: 155.166 ms  
Loss rate: 0.24%  
-- Flow 2:  
Average throughput: 41.09 Mbit/s  
95th percentile per-packet one-way delay: 146.641 ms  
Loss rate: 0.86%  
-- Flow 3:  
Average throughput: 30.64 Mbit/s  
95th percentile per-packet one-way delay: 129.392 ms  
Loss rate: 1.00%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-25 20:24:38

End at: 2019-01-25 20:25:08

Local clock offset: -2.158 ms

Remote clock offset: 2.371 ms

# Below is generated by plot.py at 2019-01-25 21:36:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.94 Mbit/s

95th percentile per-packet one-way delay: 151.671 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 55.63 Mbit/s

95th percentile per-packet one-way delay: 158.060 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 44.46 Mbit/s

95th percentile per-packet one-way delay: 91.952 ms

Loss rate: 0.50%

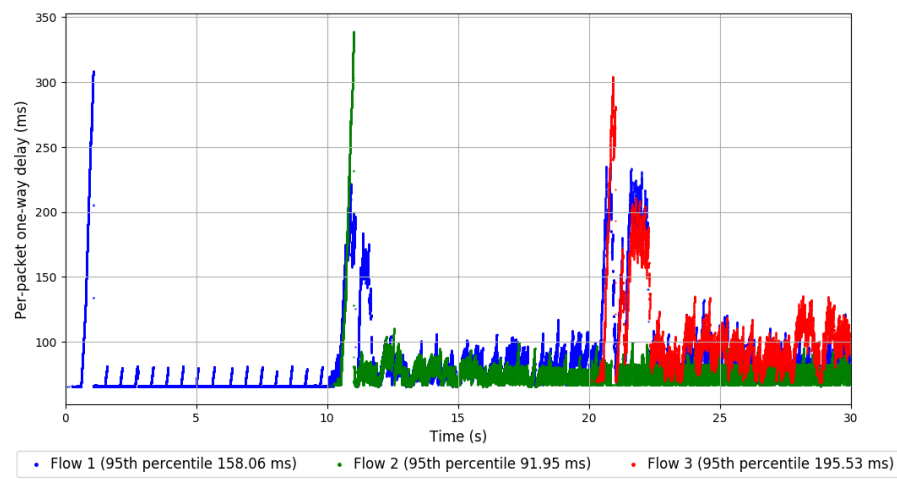
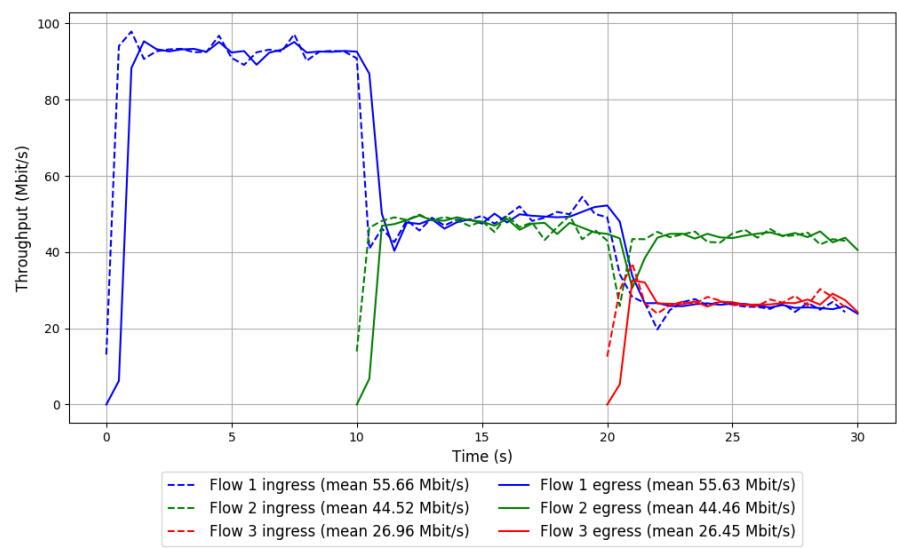
-- Flow 3:

Average throughput: 26.45 Mbit/s

95th percentile per-packet one-way delay: 195.527 ms

Loss rate: 2.56%

Run 3: Report of FillP-Sheep — Data Link

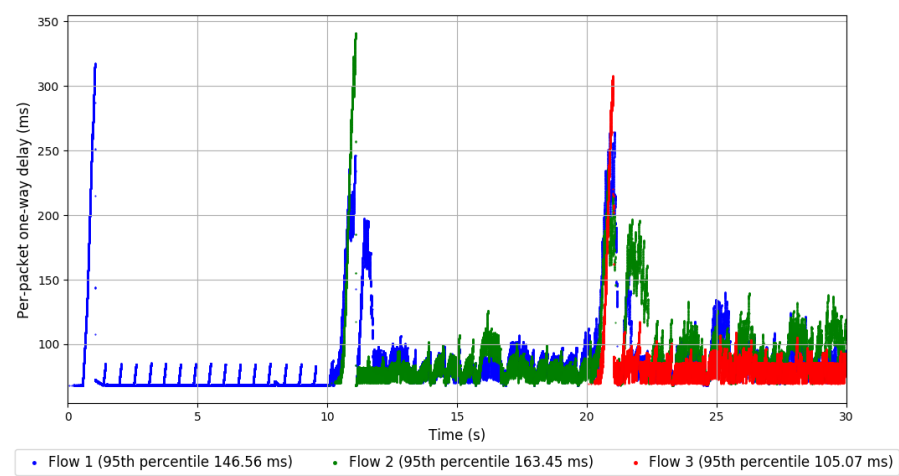
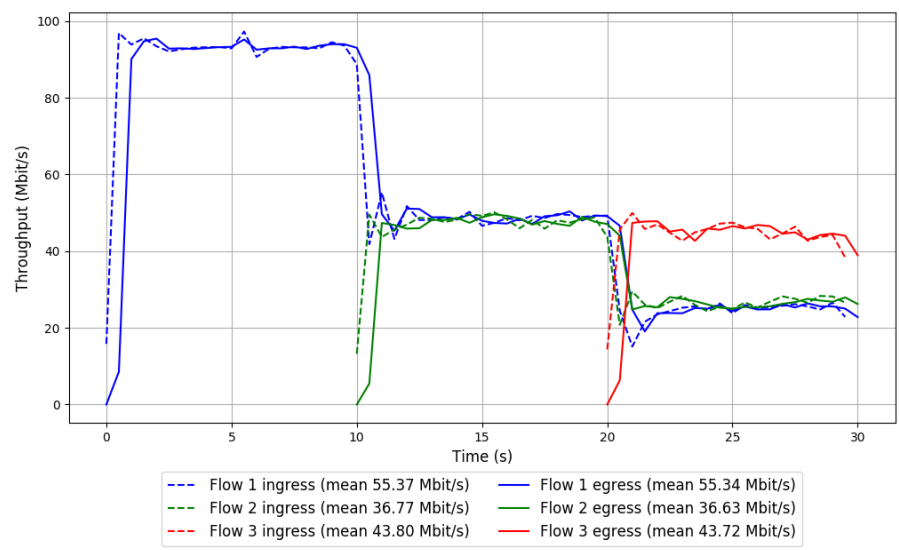


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-25 20:50:59  
End at: 2019-01-25 20:51:29  
Local clock offset: -1.888 ms  
Remote clock offset: -0.956 ms

# Below is generated by plot.py at 2019-01-25 21:37:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.16 Mbit/s  
95th percentile per-packet one-way delay: 149.067 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 55.34 Mbit/s  
95th percentile per-packet one-way delay: 146.556 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 36.63 Mbit/s  
95th percentile per-packet one-way delay: 163.446 ms  
Loss rate: 0.75%  
-- Flow 3:  
Average throughput: 43.72 Mbit/s  
95th percentile per-packet one-way delay: 105.067 ms  
Loss rate: 0.77%

Run 4: Report of FillP-Sheep — Data Link

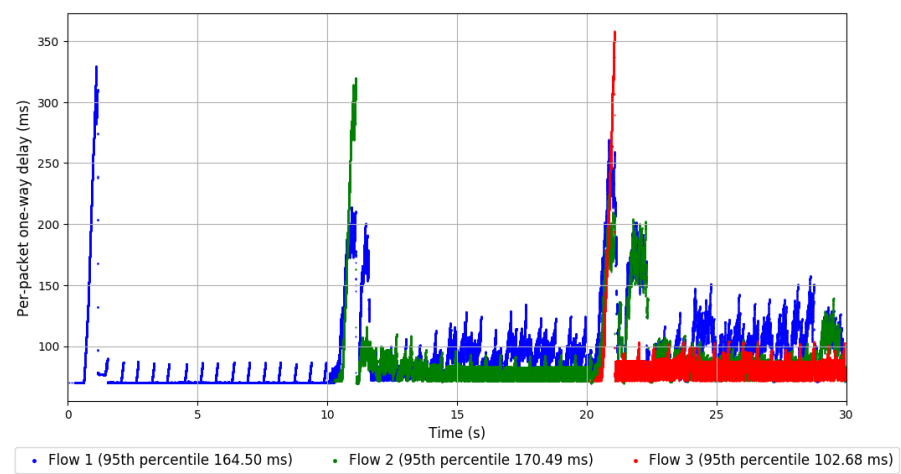
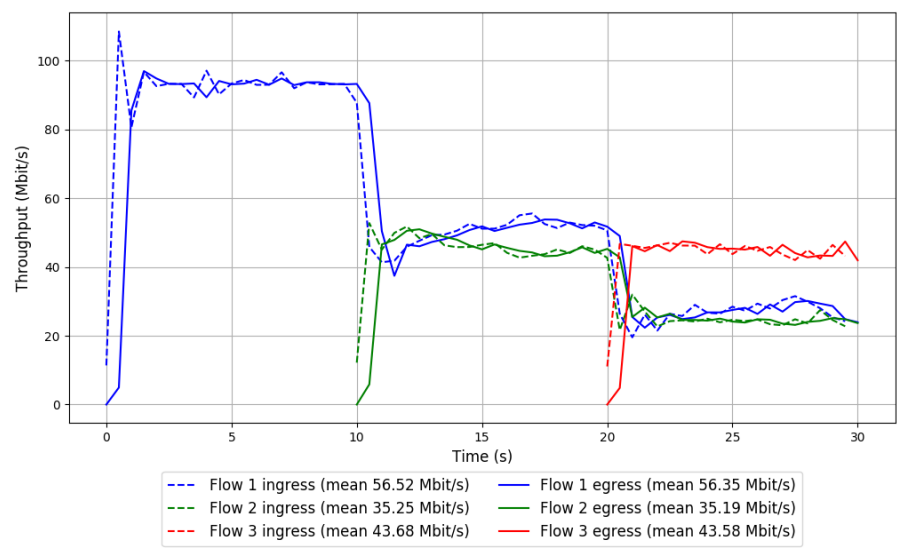


Run 5: Statistics of FillP-Sheep

Start at: 2019-01-25 21:18:40  
End at: 2019-01-25 21:19:10  
Local clock offset: 1.311 ms  
Remote clock offset: -1.143 ms

# Below is generated by plot.py at 2019-01-25 21:37:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.15 Mbit/s  
95th percentile per-packet one-way delay: 163.277 ms  
Loss rate: 0.58%  
-- Flow 1:  
Average throughput: 56.35 Mbit/s  
95th percentile per-packet one-way delay: 164.496 ms  
Loss rate: 0.54%  
-- Flow 2:  
Average throughput: 35.19 Mbit/s  
95th percentile per-packet one-way delay: 170.494 ms  
Loss rate: 0.49%  
-- Flow 3:  
Average throughput: 43.58 Mbit/s  
95th percentile per-packet one-way delay: 102.681 ms  
Loss rate: 0.91%

Run 5: Report of FillP-Sheep — Data Link

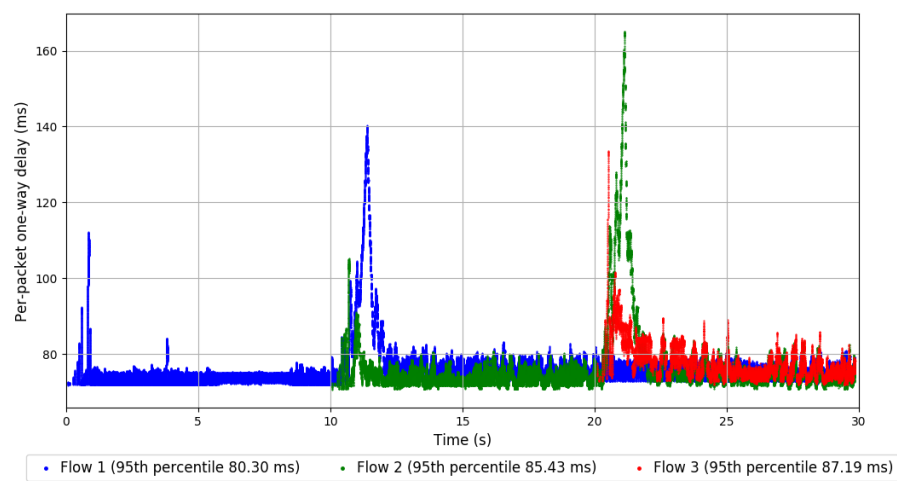
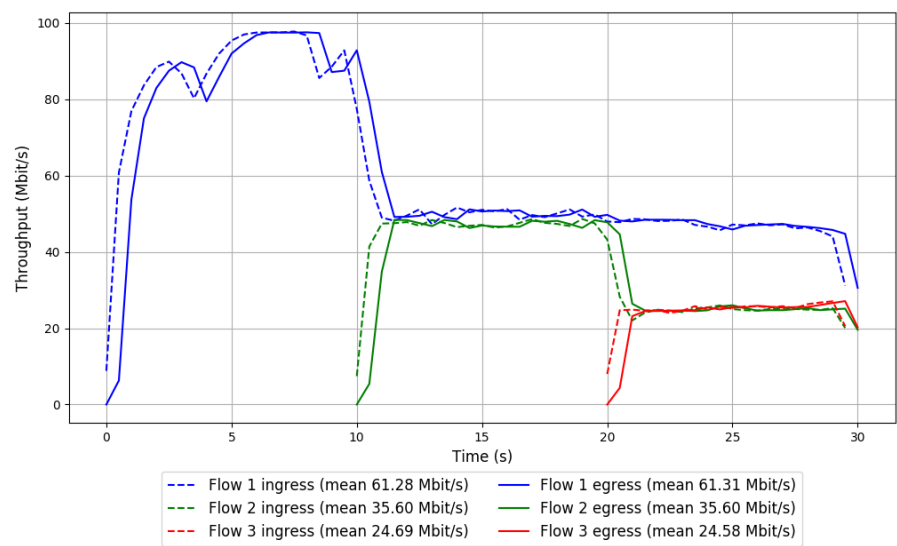


Run 1: Statistics of Indigo

Start at: 2019-01-25 19:20:50  
End at: 2019-01-25 19:21:20  
Local clock offset: 2.415 ms  
Remote clock offset: -2.482 ms

# Below is generated by plot.py at 2019-01-25 21:37:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.99 Mbit/s  
95th percentile per-packet one-way delay: 83.340 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 61.31 Mbit/s  
95th percentile per-packet one-way delay: 80.302 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 35.60 Mbit/s  
95th percentile per-packet one-way delay: 85.430 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 24.58 Mbit/s  
95th percentile per-packet one-way delay: 87.188 ms  
Loss rate: 1.23%

Run 1: Report of Indigo — Data Link

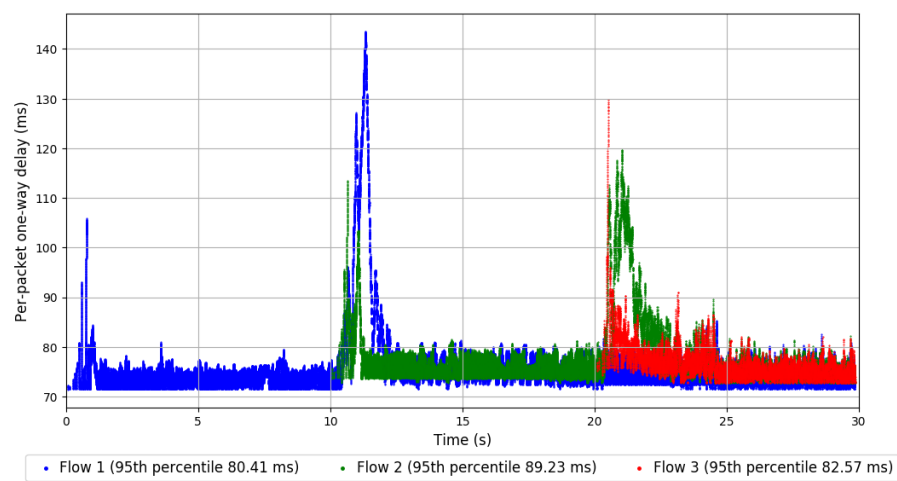
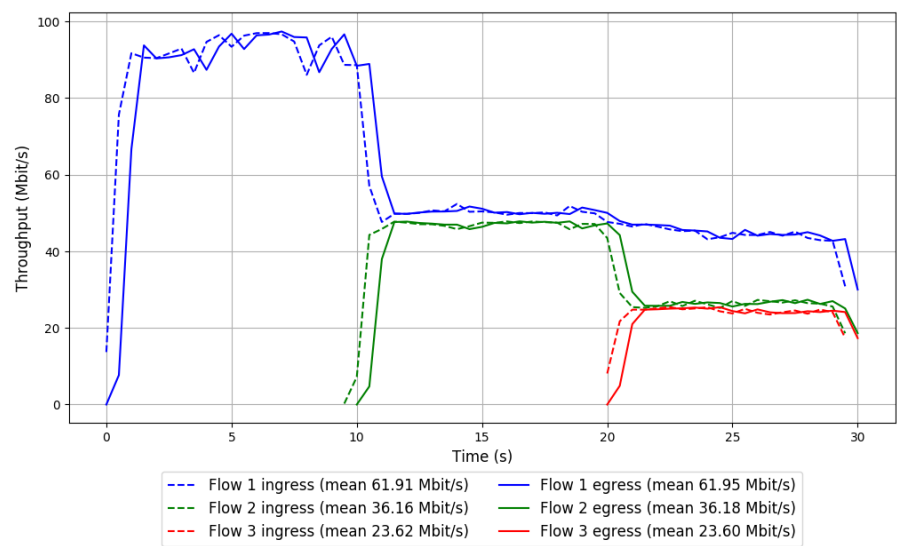


Run 2: Statistics of Indigo

Start at: 2019-01-25 19:49:26  
End at: 2019-01-25 19:49:56  
Local clock offset: 2.502 ms  
Remote clock offset: -1.745 ms

# Below is generated by plot.py at 2019-01-25 21:37:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.72 Mbit/s  
95th percentile per-packet one-way delay: 83.087 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 61.95 Mbit/s  
95th percentile per-packet one-way delay: 80.411 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 36.18 Mbit/s  
95th percentile per-packet one-way delay: 89.232 ms  
Loss rate: 0.34%  
-- Flow 3:  
Average throughput: 23.60 Mbit/s  
95th percentile per-packet one-way delay: 82.573 ms  
Loss rate: 0.81%

Run 2: Report of Indigo — Data Link

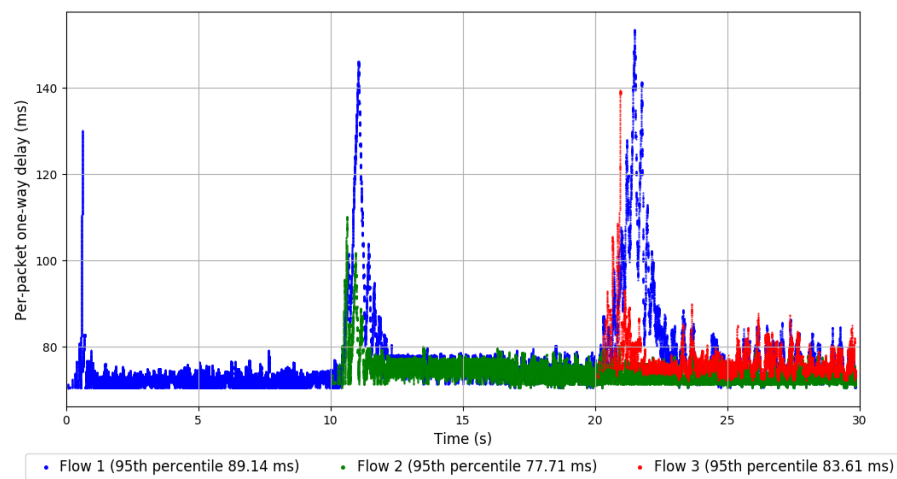
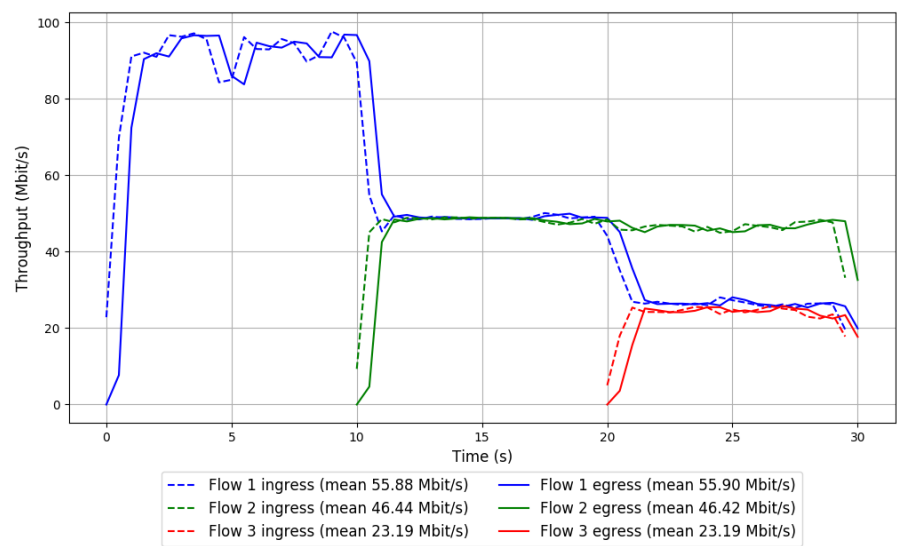


Run 3: Statistics of Indigo

Start at: 2019-01-25 20:17:51  
End at: 2019-01-25 20:18:21  
Local clock offset: 0.509 ms  
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2019-01-25 21:37:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.31 Mbit/s  
95th percentile per-packet one-way delay: 84.186 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 55.90 Mbit/s  
95th percentile per-packet one-way delay: 89.145 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 46.42 Mbit/s  
95th percentile per-packet one-way delay: 77.711 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 23.19 Mbit/s  
95th percentile per-packet one-way delay: 83.606 ms  
Loss rate: 0.81%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-25 20:44:39

End at: 2019-01-25 20:45:09

Local clock offset: -1.418 ms

Remote clock offset: 1.476 ms

# Below is generated by plot.py at 2019-01-25 21:37:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.25 Mbit/s

95th percentile per-packet one-way delay: 81.302 ms

Loss rate: 0.37%

-- Flow 1:

Average throughput: 55.09 Mbit/s

95th percentile per-packet one-way delay: 81.991 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 36.82 Mbit/s

95th percentile per-packet one-way delay: 85.175 ms

Loss rate: 0.37%

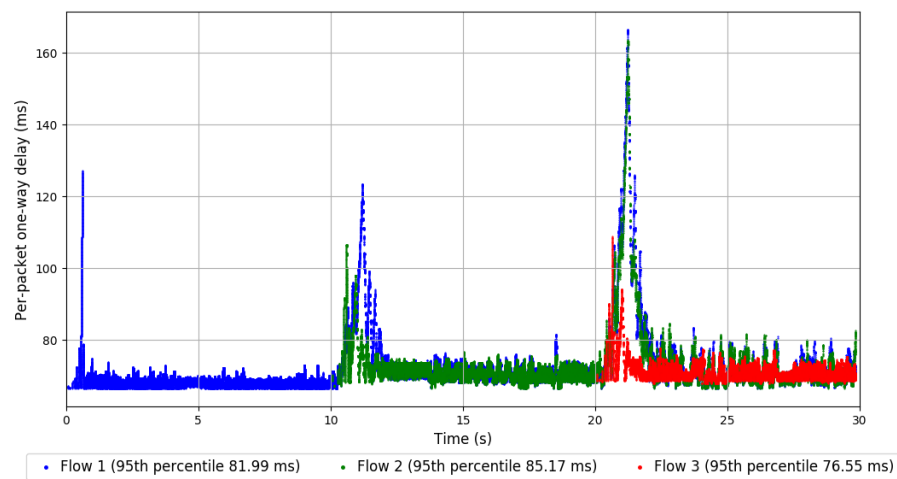
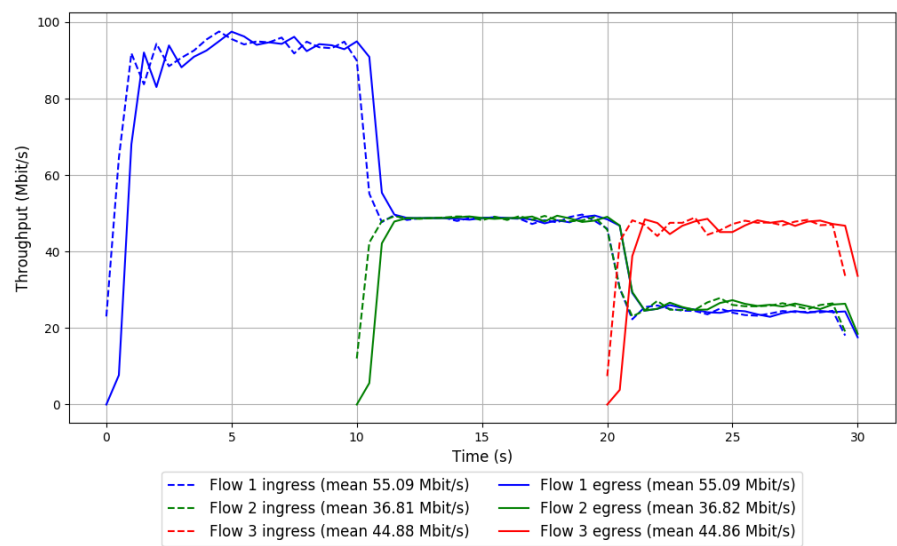
-- Flow 3:

Average throughput: 44.86 Mbit/s

95th percentile per-packet one-way delay: 76.548 ms

Loss rate: 0.79%

Run 4: Report of Indigo — Data Link

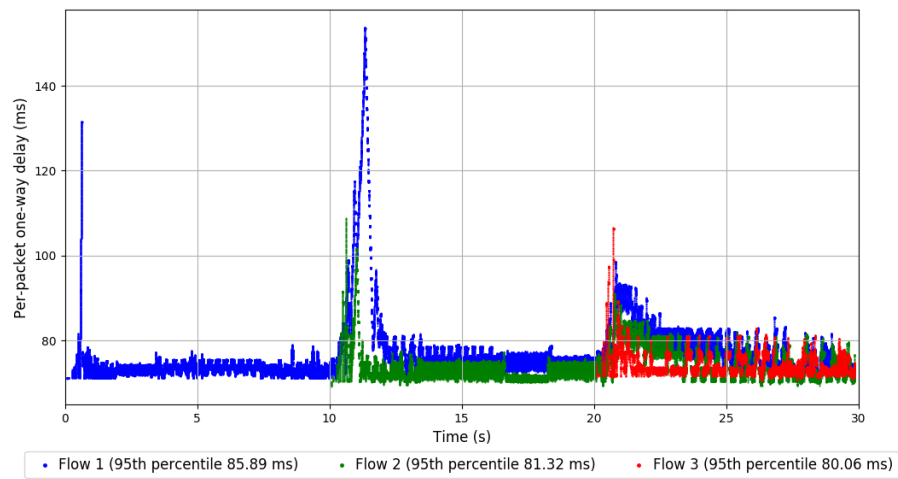
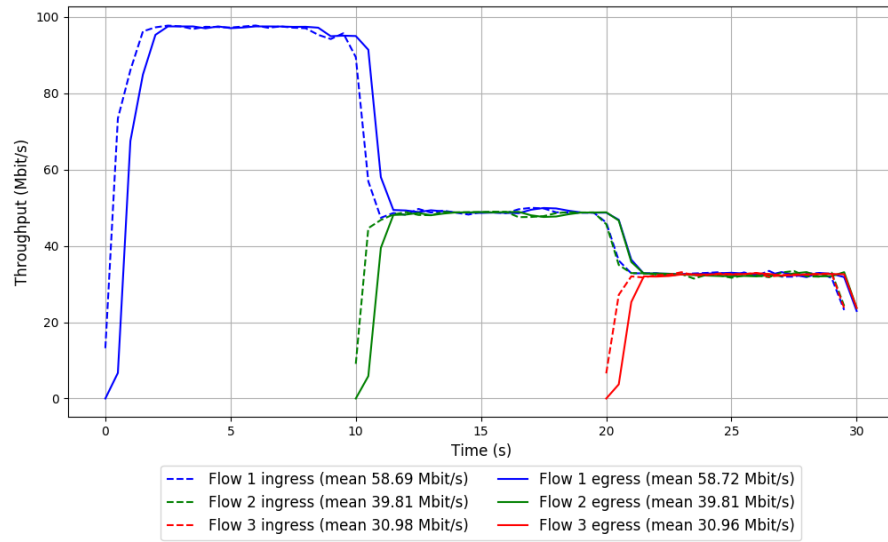


Run 5: Statistics of Indigo

Start at: 2019-01-25 21:12:13  
End at: 2019-01-25 21:12:43  
Local clock offset: 0.154 ms  
Remote clock offset: -1.557 ms

# Below is generated by plot.py at 2019-01-25 21:37:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.31 Mbit/s  
95th percentile per-packet one-way delay: 83.065 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 58.72 Mbit/s  
95th percentile per-packet one-way delay: 85.891 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 39.81 Mbit/s  
95th percentile per-packet one-way delay: 81.323 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 30.96 Mbit/s  
95th percentile per-packet one-way delay: 80.063 ms  
Loss rate: 0.82%

## Run 5: Report of Indigo — Data Link

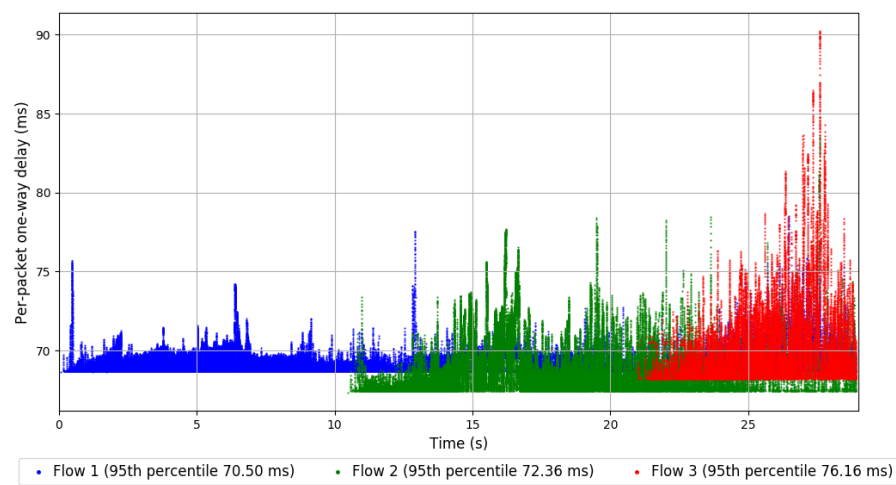
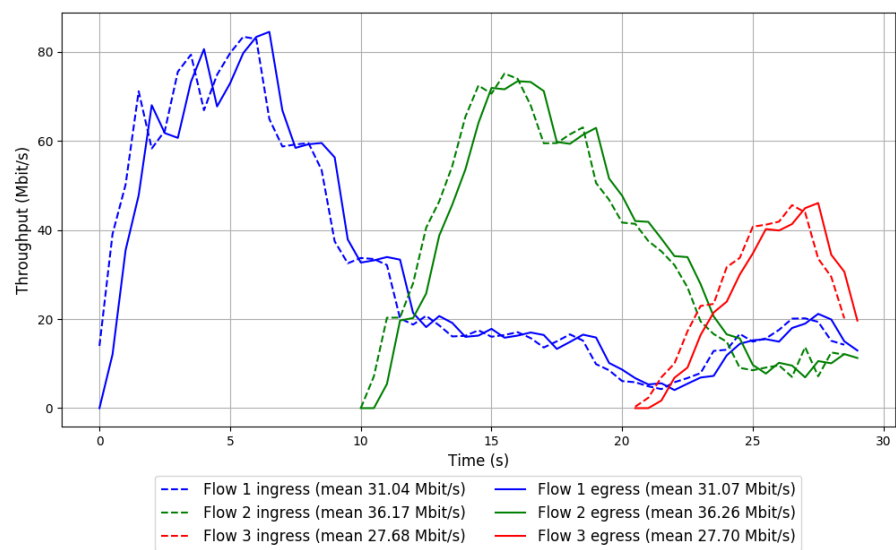


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:16:56  
End at: 2019-01-25 19:17:26  
Local clock offset: -1.161 ms  
Remote clock offset: -2.479 ms

# Below is generated by plot.py at 2019-01-25 21:37:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 61.87 Mbit/s  
95th percentile per-packet one-way delay: 72.312 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 31.07 Mbit/s  
95th percentile per-packet one-way delay: 70.498 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 36.26 Mbit/s  
95th percentile per-packet one-way delay: 72.362 ms  
Loss rate: 0.17%  
-- Flow 3:  
Average throughput: 27.70 Mbit/s  
95th percentile per-packet one-way delay: 76.162 ms  
Loss rate: 0.88%

Run 1: Report of Indigo-MusesC3 — Data Link

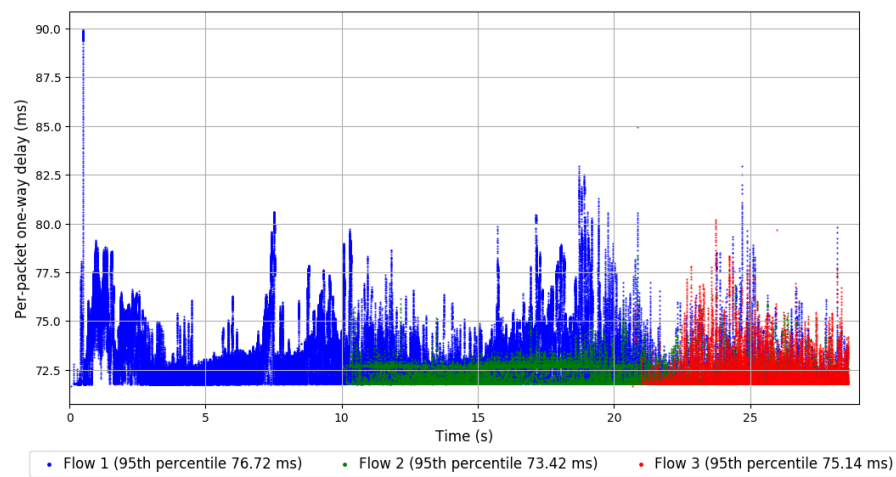
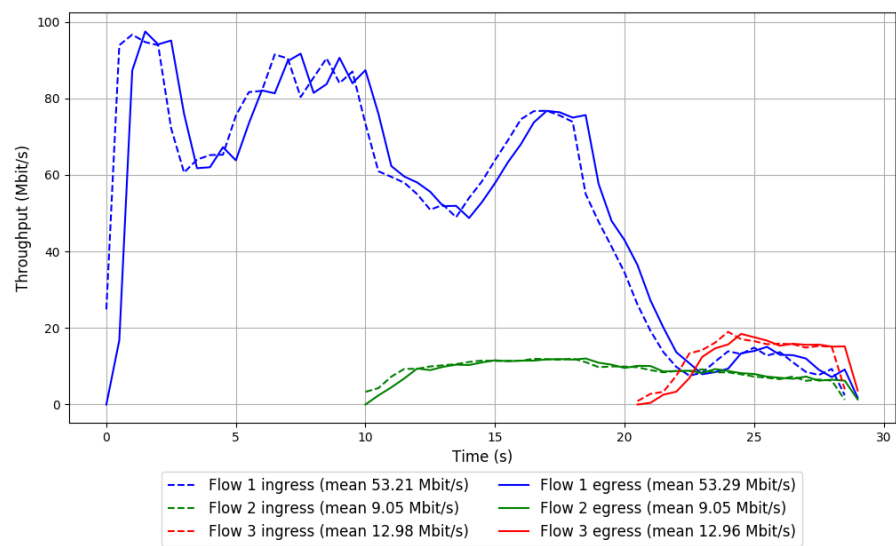


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-25 19:45:26  
End at: 2019-01-25 19:45:56  
Local clock offset: 2.039 ms  
Remote clock offset: -1.416 ms

# Below is generated by plot.py at 2019-01-25 21:37:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 62.74 Mbit/s  
95th percentile per-packet one-way delay: 76.441 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 53.29 Mbit/s  
95th percentile per-packet one-way delay: 76.725 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 9.05 Mbit/s  
95th percentile per-packet one-way delay: 73.417 ms  
Loss rate: 0.27%  
-- Flow 3:  
Average throughput: 12.96 Mbit/s  
95th percentile per-packet one-way delay: 75.145 ms  
Loss rate: 1.06%

Run 2: Report of Indigo-MusesC3 — Data Link

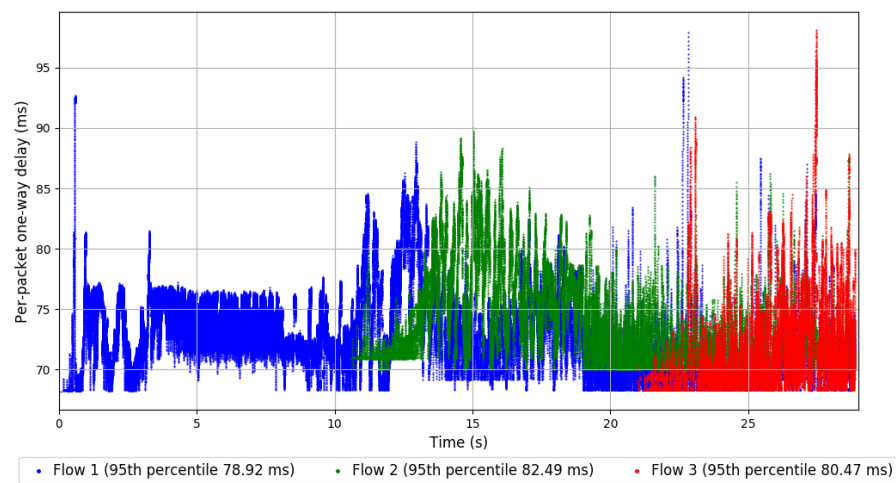
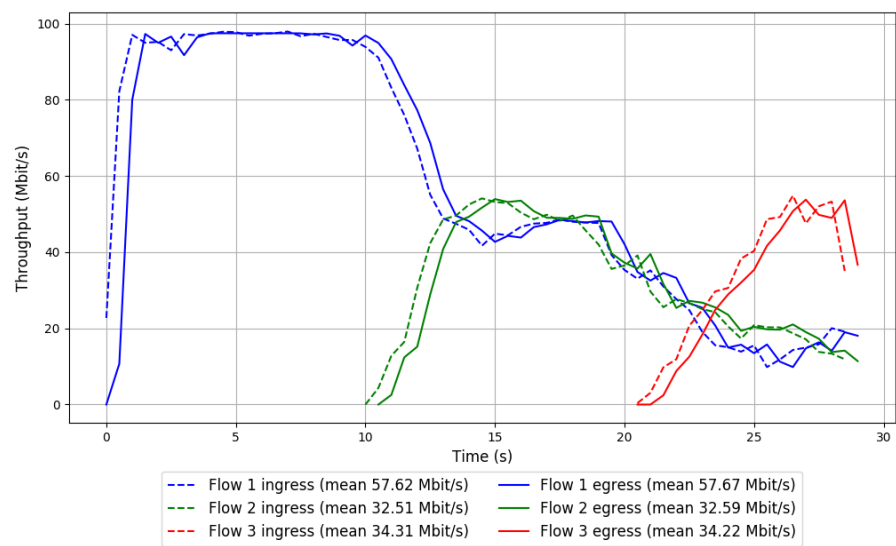


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:13:57  
End at: 2019-01-25 20:14:27  
Local clock offset: -2.777 ms  
Remote clock offset: -1.397 ms

# Below is generated by plot.py at 2019-01-25 21:37:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.83 Mbit/s  
95th percentile per-packet one-way delay: 80.630 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 57.67 Mbit/s  
95th percentile per-packet one-way delay: 78.921 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 32.59 Mbit/s  
95th percentile per-packet one-way delay: 82.493 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 34.22 Mbit/s  
95th percentile per-packet one-way delay: 80.475 ms  
Loss rate: 1.08%

Run 3: Report of Indigo-MusesC3 — Data Link

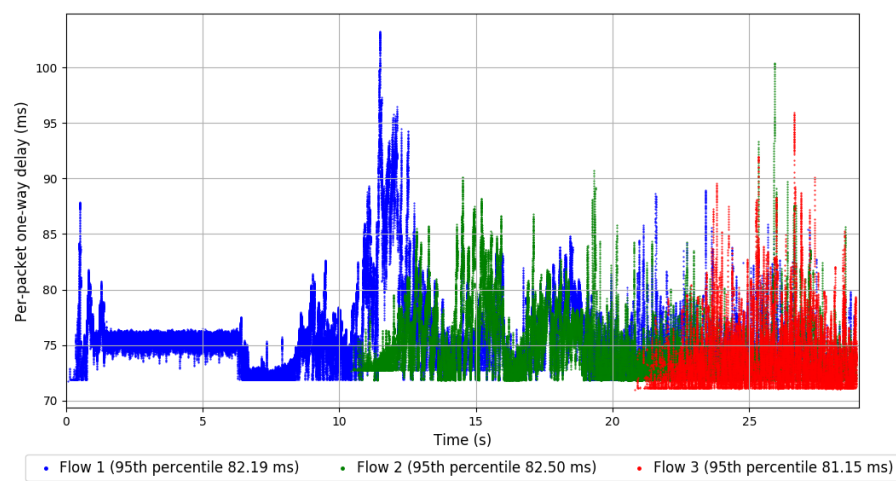
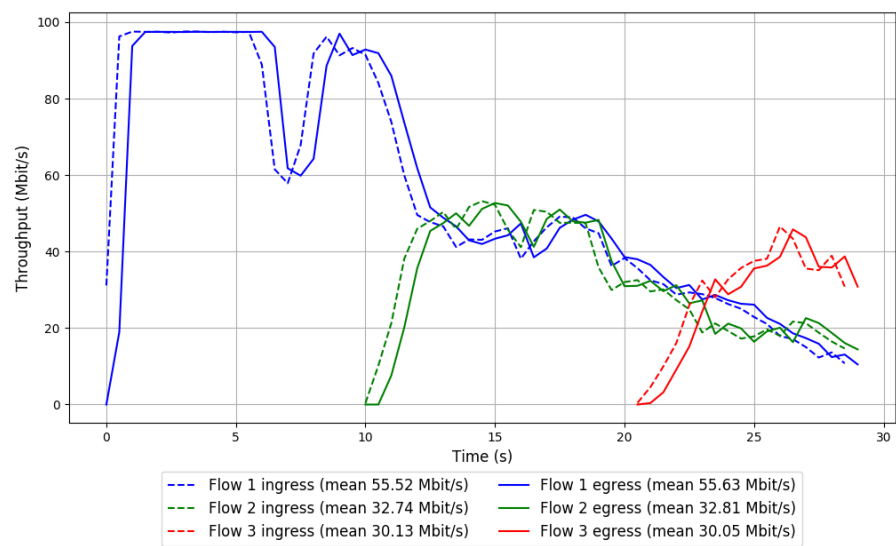


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-25 20:40:53  
End at: 2019-01-25 20:41:24  
Local clock offset: 0.928 ms  
Remote clock offset: -0.215 ms

# Below is generated by plot.py at 2019-01-25 21:38:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.06 Mbit/s  
95th percentile per-packet one-way delay: 82.182 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 55.63 Mbit/s  
95th percentile per-packet one-way delay: 82.195 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 32.81 Mbit/s  
95th percentile per-packet one-way delay: 82.497 ms  
Loss rate: 0.22%  
-- Flow 3:  
Average throughput: 30.05 Mbit/s  
95th percentile per-packet one-way delay: 81.153 ms  
Loss rate: 1.18%

Run 4: Report of Indigo-MusesC3 — Data Link

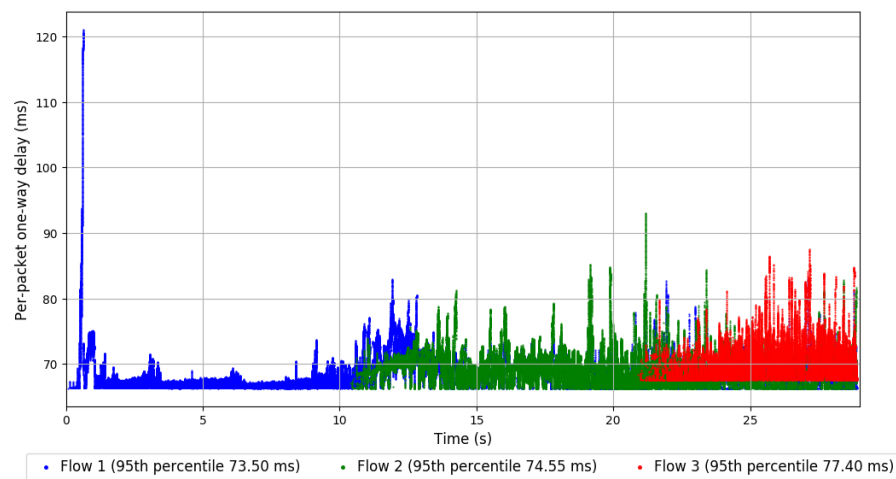
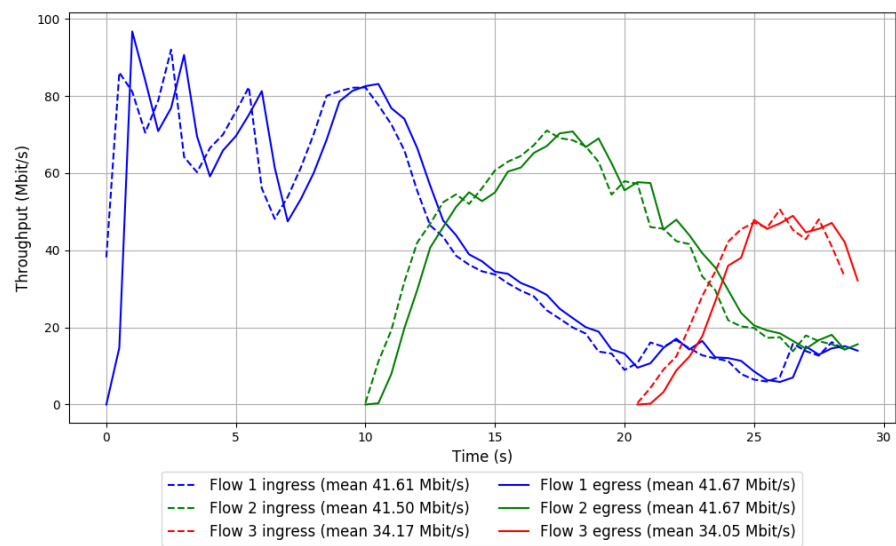


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-25 21:08:31  
End at: 2019-01-25 21:09:01  
Local clock offset: -0.072 ms  
Remote clock offset: 1.441 ms

# Below is generated by plot.py at 2019-01-25 21:38:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.84 Mbit/s  
95th percentile per-packet one-way delay: 74.503 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 41.67 Mbit/s  
95th percentile per-packet one-way delay: 73.500 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 41.67 Mbit/s  
95th percentile per-packet one-way delay: 74.548 ms  
Loss rate: 0.10%  
-- Flow 3:  
Average throughput: 34.05 Mbit/s  
95th percentile per-packet one-way delay: 77.396 ms  
Loss rate: 1.15%

Run 5: Report of Indigo-MusesC3 — Data Link

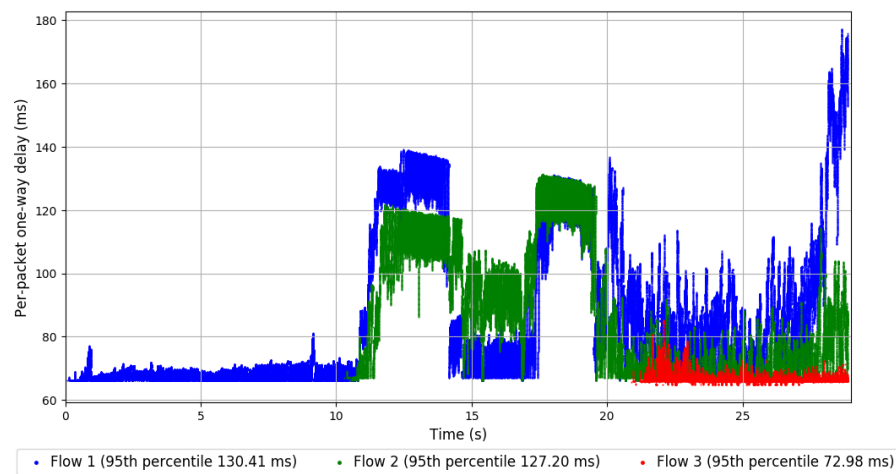
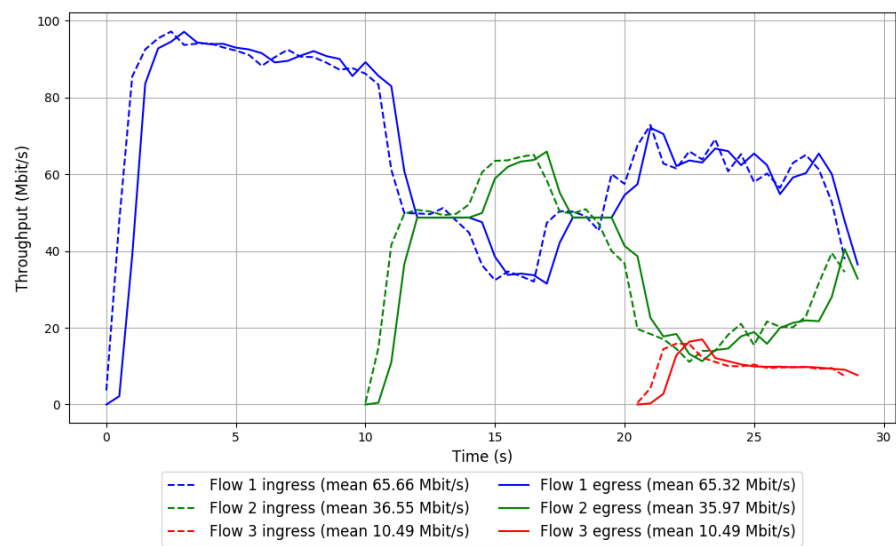


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:19:32  
End at: 2019-01-25 19:20:02  
Local clock offset: -1.829 ms  
Remote clock offset: -0.989 ms

# Below is generated by plot.py at 2019-01-25 21:38:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.42 Mbit/s  
95th percentile per-packet one-way delay: 128.977 ms  
Loss rate: 1.08%  
-- Flow 1:  
Average throughput: 65.32 Mbit/s  
95th percentile per-packet one-way delay: 130.414 ms  
Loss rate: 0.76%  
-- Flow 2:  
Average throughput: 35.97 Mbit/s  
95th percentile per-packet one-way delay: 127.199 ms  
Loss rate: 1.99%  
-- Flow 3:  
Average throughput: 10.49 Mbit/s  
95th percentile per-packet one-way delay: 72.982 ms  
Loss rate: 0.85%

Run 1: Report of Indigo-MusesC5 — Data Link

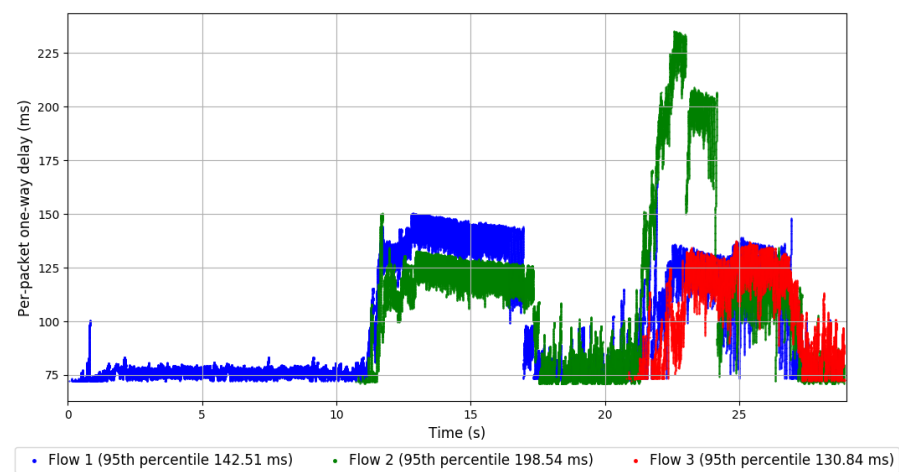
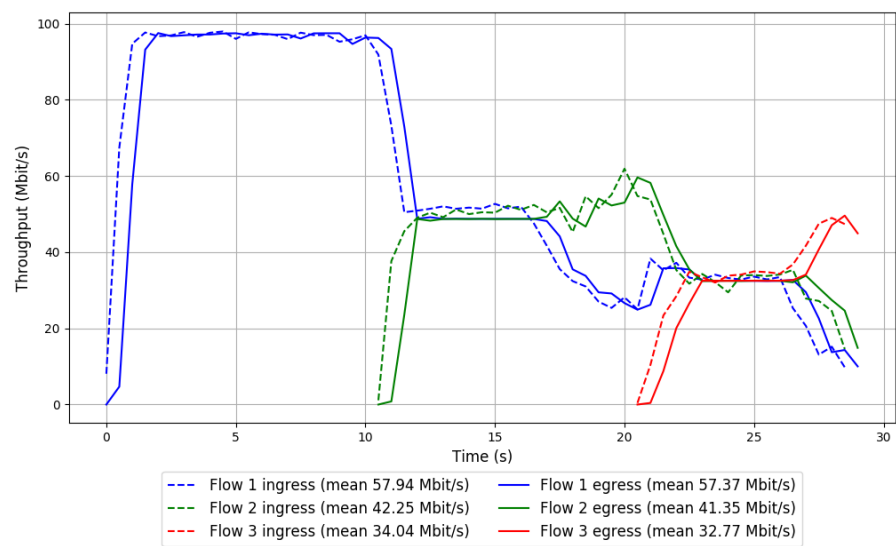


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-25 19:48:07  
End at: 2019-01-25 19:48:37  
Local clock offset: 2.149 ms  
Remote clock offset: -1.581 ms

# Below is generated by plot.py at 2019-01-25 21:38:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.66 Mbit/s  
95th percentile per-packet one-way delay: 144.268 ms  
Loss rate: 1.91%  
-- Flow 1:  
Average throughput: 57.37 Mbit/s  
95th percentile per-packet one-way delay: 142.507 ms  
Loss rate: 1.21%  
-- Flow 2:  
Average throughput: 41.35 Mbit/s  
95th percentile per-packet one-way delay: 198.539 ms  
Loss rate: 2.51%  
-- Flow 3:  
Average throughput: 32.77 Mbit/s  
95th percentile per-packet one-way delay: 130.836 ms  
Loss rate: 4.45%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:16:33

End at: 2019-01-25 20:17:03

Local clock offset: 0.224 ms

Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2019-01-25 21:38:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.42 Mbit/s

95th percentile per-packet one-way delay: 196.259 ms

Loss rate: 2.86%

-- Flow 1:

Average throughput: 56.42 Mbit/s

95th percentile per-packet one-way delay: 195.117 ms

Loss rate: 2.07%

-- Flow 2:

Average throughput: 36.86 Mbit/s

95th percentile per-packet one-way delay: 201.273 ms

Loss rate: 4.61%

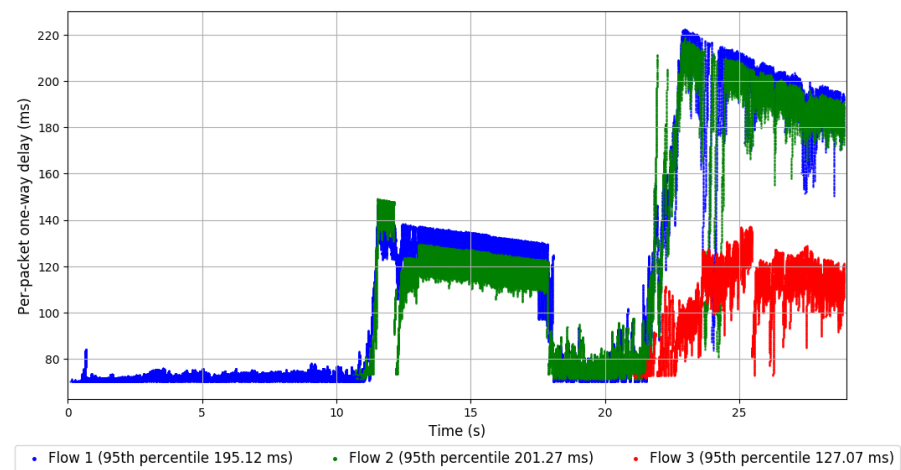
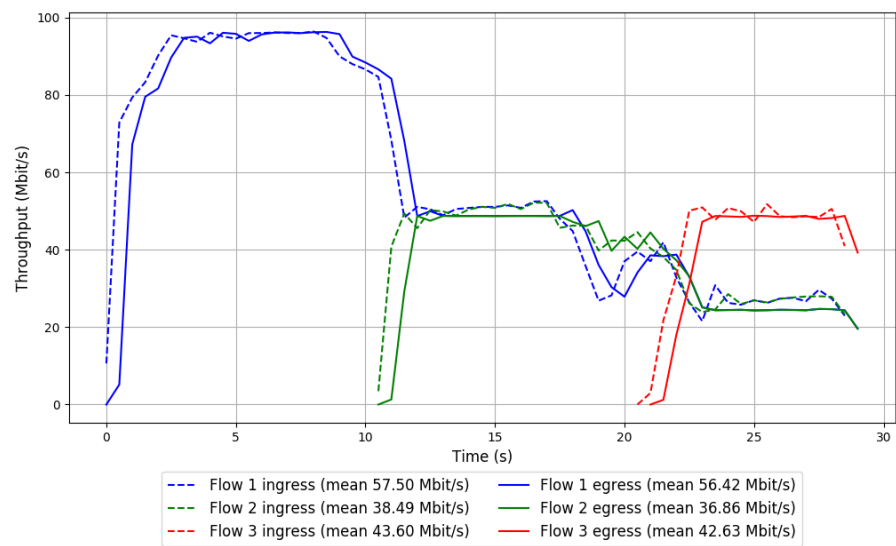
-- Flow 3:

Average throughput: 42.63 Mbit/s

95th percentile per-packet one-way delay: 127.073 ms

Loss rate: 3.05%

Run 3: Report of Indigo-MusesC5 — Data Link

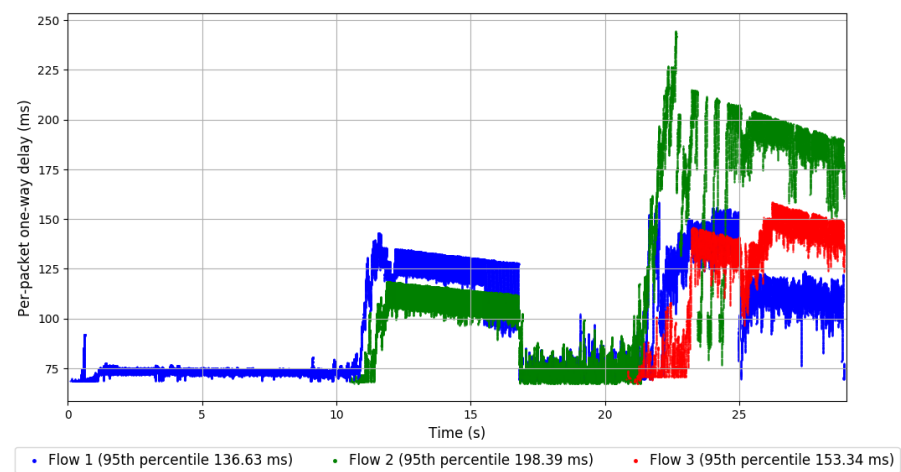
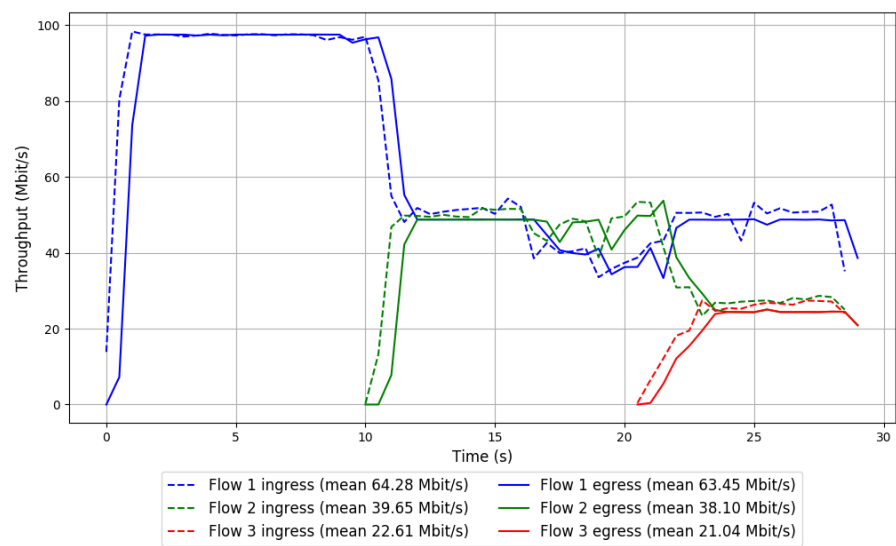


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-25 20:43:25  
End at: 2019-01-25 20:43:55  
Local clock offset: -2.064 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-01-25 21:38:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.72 Mbit/s  
95th percentile per-packet one-way delay: 175.620 ms  
Loss rate: 2.68%  
-- Flow 1:  
Average throughput: 63.45 Mbit/s  
95th percentile per-packet one-way delay: 136.635 ms  
Loss rate: 1.54%  
-- Flow 2:  
Average throughput: 38.10 Mbit/s  
95th percentile per-packet one-way delay: 198.394 ms  
Loss rate: 4.27%  
-- Flow 3:  
Average throughput: 21.04 Mbit/s  
95th percentile per-packet one-way delay: 153.337 ms  
Loss rate: 7.80%

Run 4: Report of Indigo-MusesC5 — Data Link

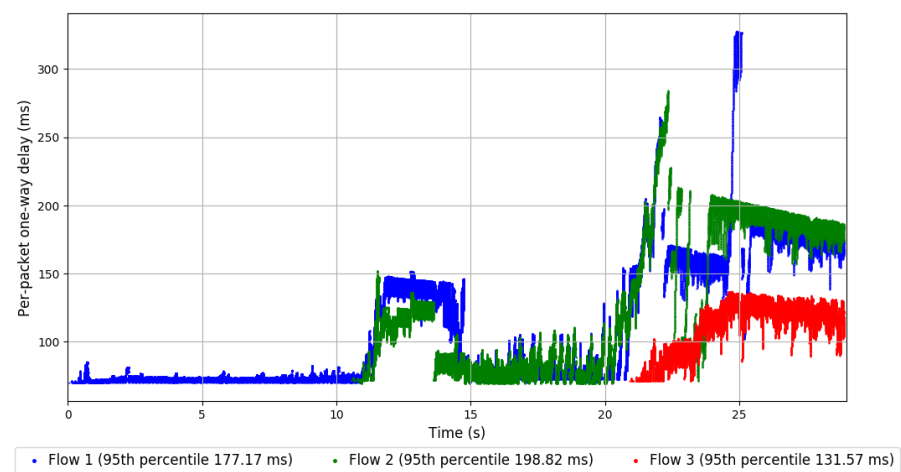
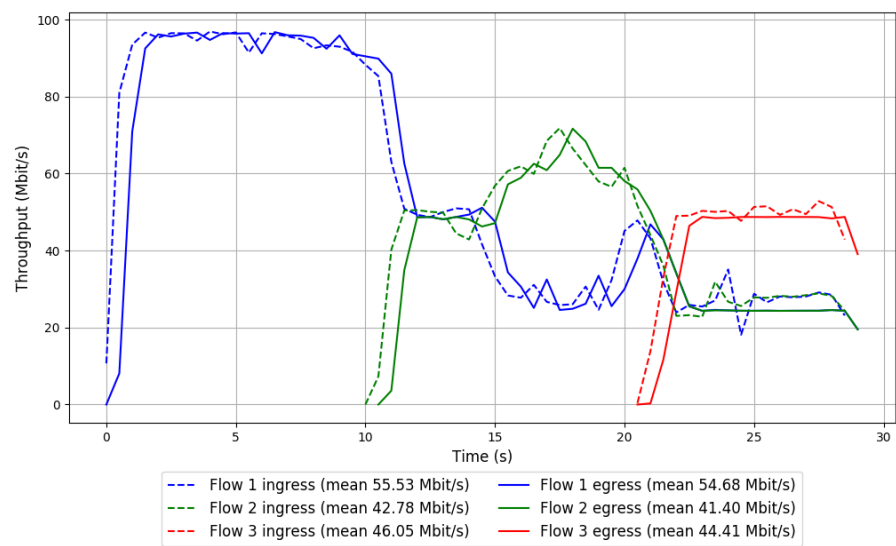


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-25 21:11:00  
End at: 2019-01-25 21:11:30  
Local clock offset: 0.634 ms  
Remote clock offset: -0.574 ms

# Below is generated by plot.py at 2019-01-25 21:38:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.38 Mbit/s  
95th percentile per-packet one-way delay: 186.881 ms  
Loss rate: 2.63%  
-- Flow 1:  
Average throughput: 54.68 Mbit/s  
95th percentile per-packet one-way delay: 177.171 ms  
Loss rate: 1.74%  
-- Flow 2:  
Average throughput: 41.40 Mbit/s  
95th percentile per-packet one-way delay: 198.821 ms  
Loss rate: 3.62%  
-- Flow 3:  
Average throughput: 44.41 Mbit/s  
95th percentile per-packet one-way delay: 131.572 ms  
Loss rate: 4.37%

Run 5: Report of Indigo-MusesC5 — Data Link

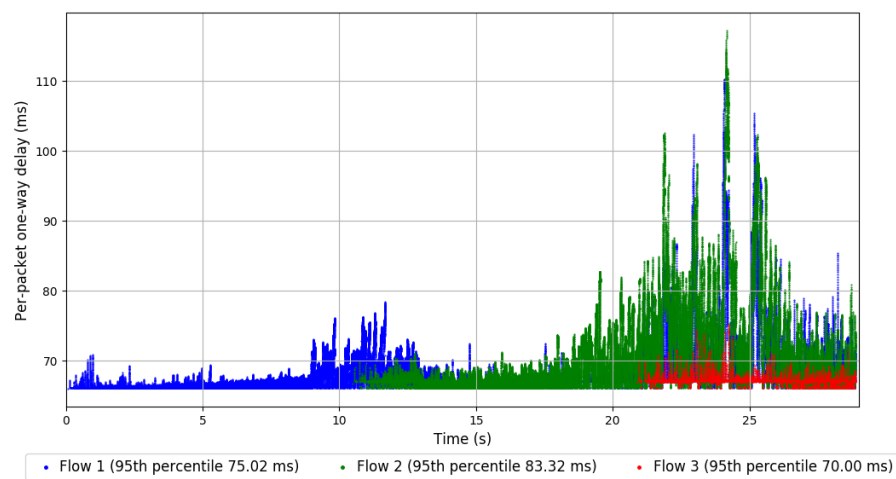
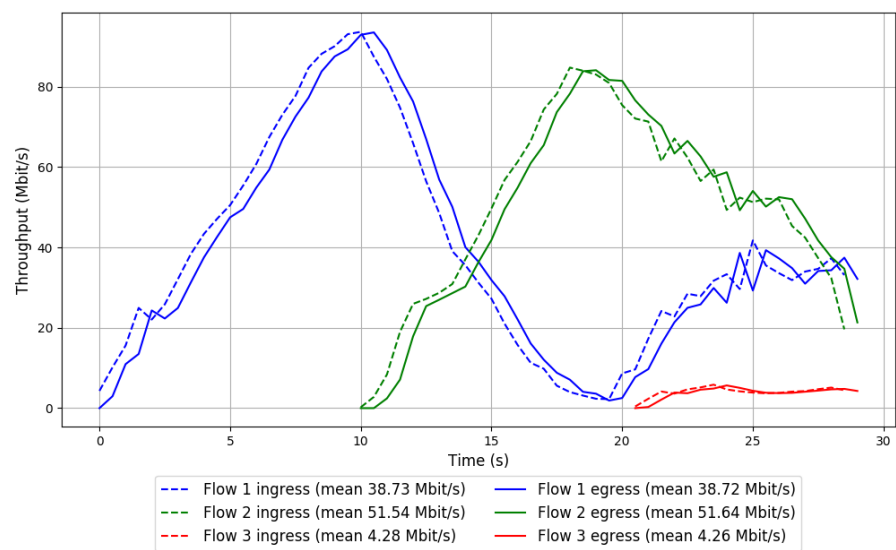


```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:23:29
End at: 2019-01-25 19:23:59
Local clock offset: -0.219 ms
Remote clock offset: -0.36 ms

# Below is generated by plot.py at 2019-01-25 21:38:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.87 Mbit/s
95th percentile per-packet one-way delay: 80.196 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 38.72 Mbit/s
95th percentile per-packet one-way delay: 75.020 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 51.64 Mbit/s
95th percentile per-packet one-way delay: 83.319 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 70.003 ms
Loss rate: 1.42%
```

Run 1: Report of Indigo-MusesD — Data Link

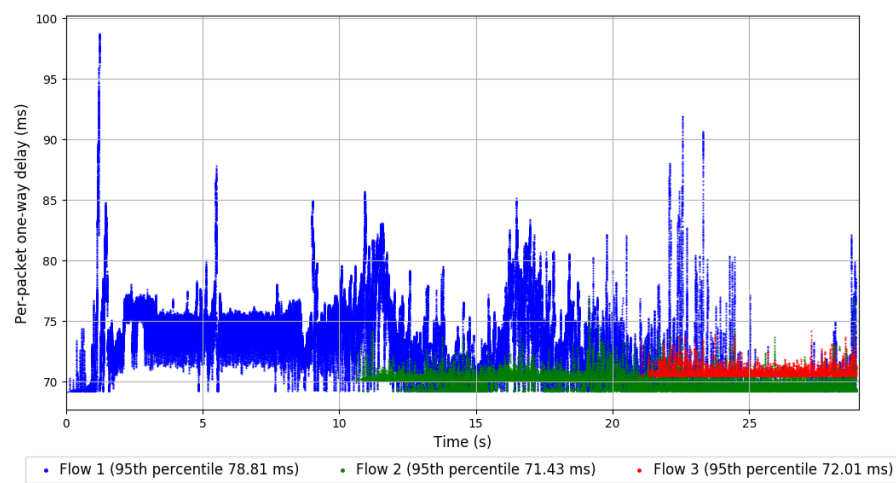
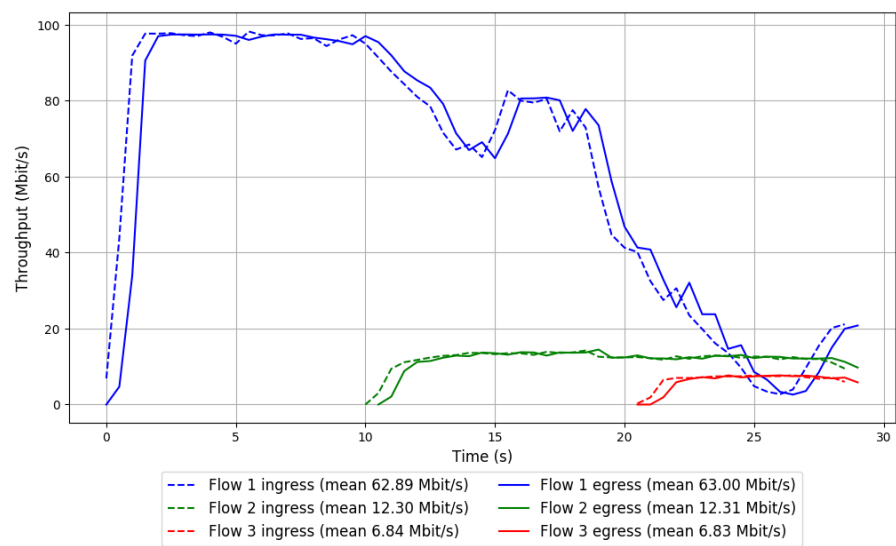


Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-25 19:52:09  
End at: 2019-01-25 19:52:39  
Local clock offset: 0.485 ms  
Remote clock offset: -1.356 ms

# Below is generated by plot.py at 2019-01-25 21:38:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 72.71 Mbit/s  
95th percentile per-packet one-way delay: 78.390 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 63.00 Mbit/s  
95th percentile per-packet one-way delay: 78.812 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 12.31 Mbit/s  
95th percentile per-packet one-way delay: 71.429 ms  
Loss rate: 0.26%  
-- Flow 3:  
Average throughput: 6.83 Mbit/s  
95th percentile per-packet one-way delay: 72.009 ms  
Loss rate: 1.02%

Run 2: Report of Indigo-MusesD — Data Link

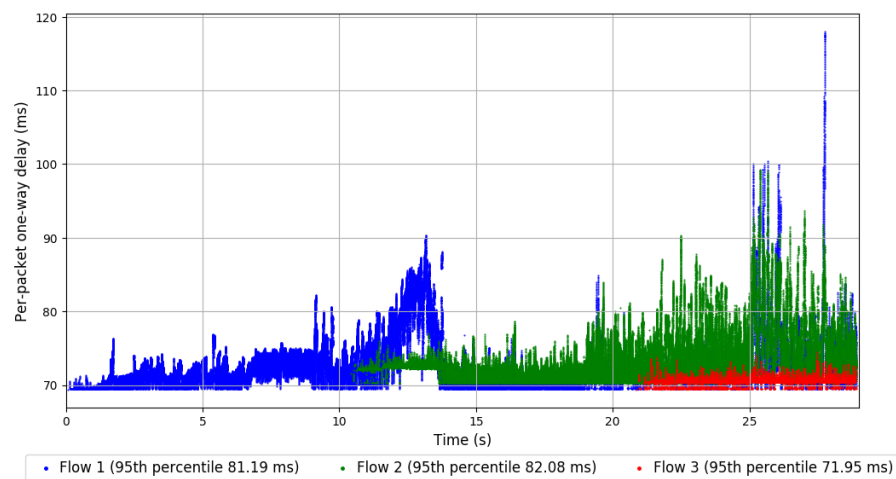
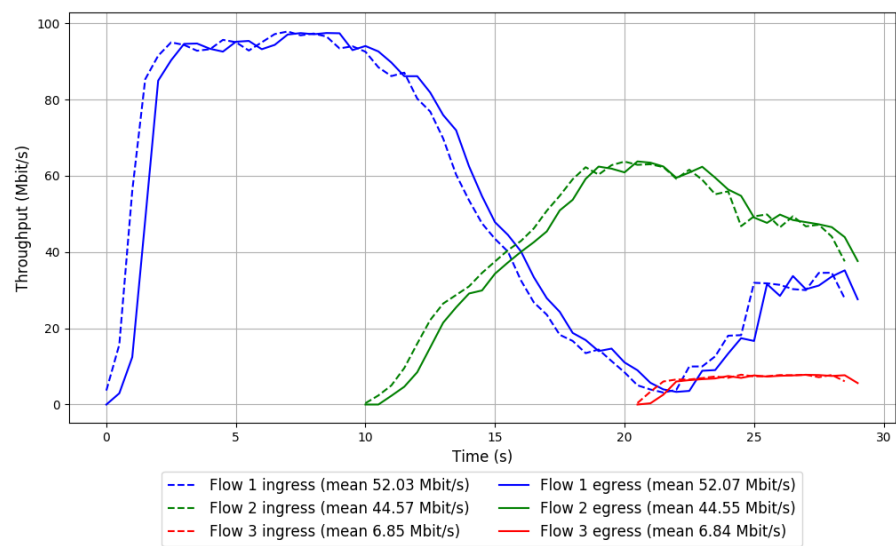


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-25 20:20:29  
End at: 2019-01-25 20:20:59  
Local clock offset: -2.091 ms  
Remote clock offset: -0.963 ms

# Below is generated by plot.py at 2019-01-25 21:39:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.51 Mbit/s  
95th percentile per-packet one-way delay: 81.424 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 52.07 Mbit/s  
95th percentile per-packet one-way delay: 81.186 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 44.55 Mbit/s  
95th percentile per-packet one-way delay: 82.076 ms  
Loss rate: 0.45%  
-- Flow 3:  
Average throughput: 6.84 Mbit/s  
95th percentile per-packet one-way delay: 71.952 ms  
Loss rate: 1.16%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-25 20:47:12

End at: 2019-01-25 20:47:42

Local clock offset: -1.201 ms

Remote clock offset: 0.417 ms

# Below is generated by plot.py at 2019-01-25 21:39:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 78.93 Mbit/s

95th percentile per-packet one-way delay: 79.735 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 72.07 Mbit/s

95th percentile per-packet one-way delay: 80.069 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 8.36 Mbit/s

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

Loss rate: 0.41%

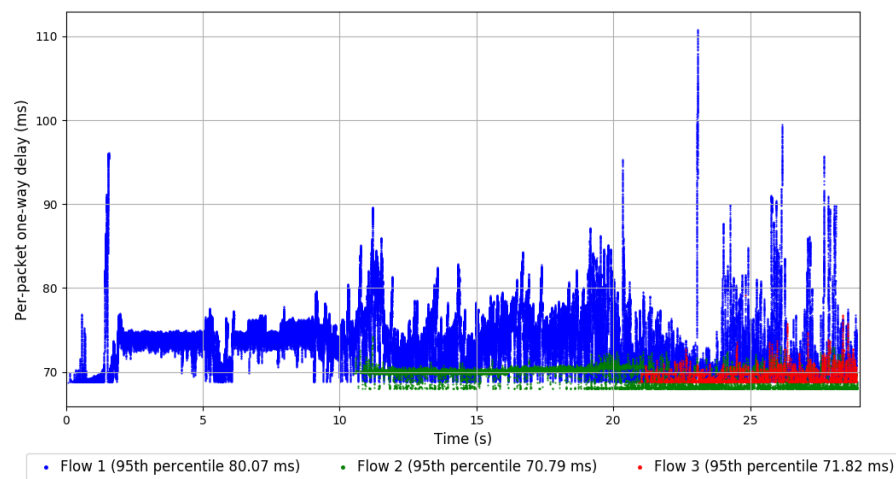
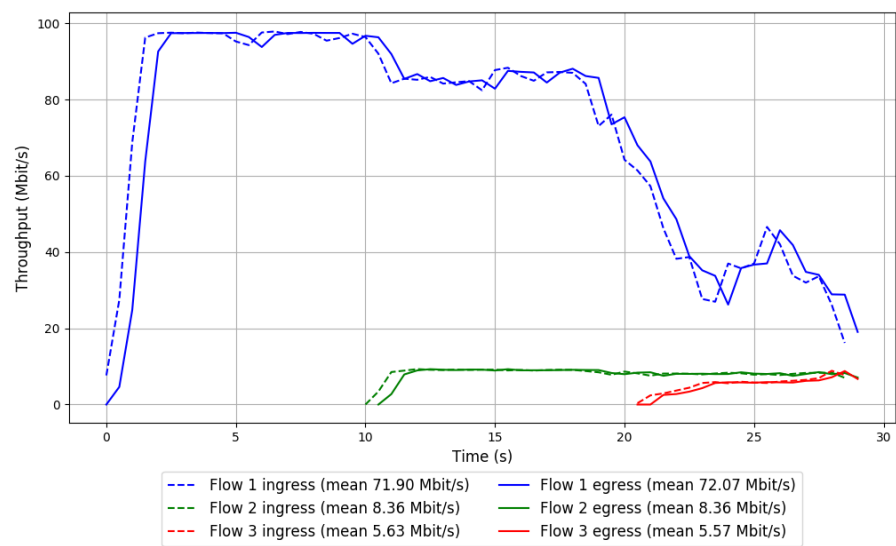
-- Flow 3:

Average throughput: 5.57 Mbit/s

95th percentile per-packet one-way delay: 71.821 ms

Loss rate: 2.12%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-25 21:14:43

End at: 2019-01-25 21:15:13

Local clock offset: -0.624 ms

Remote clock offset: -0.77 ms

# Below is generated by plot.py at 2019-01-25 21:39:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.51 Mbit/s

95th percentile per-packet one-way delay: 123.588 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 53.81 Mbit/s

95th percentile per-packet one-way delay: 84.746 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 46.45 Mbit/s

95th percentile per-packet one-way delay: 150.190 ms

Loss rate: 1.31%

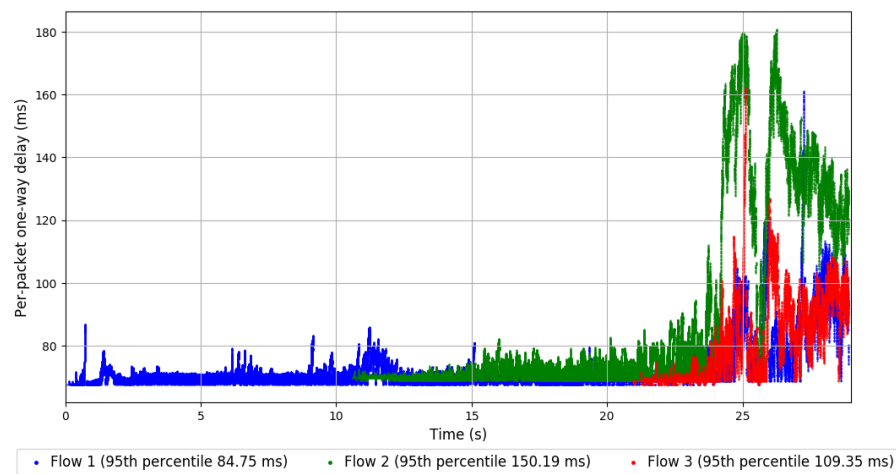
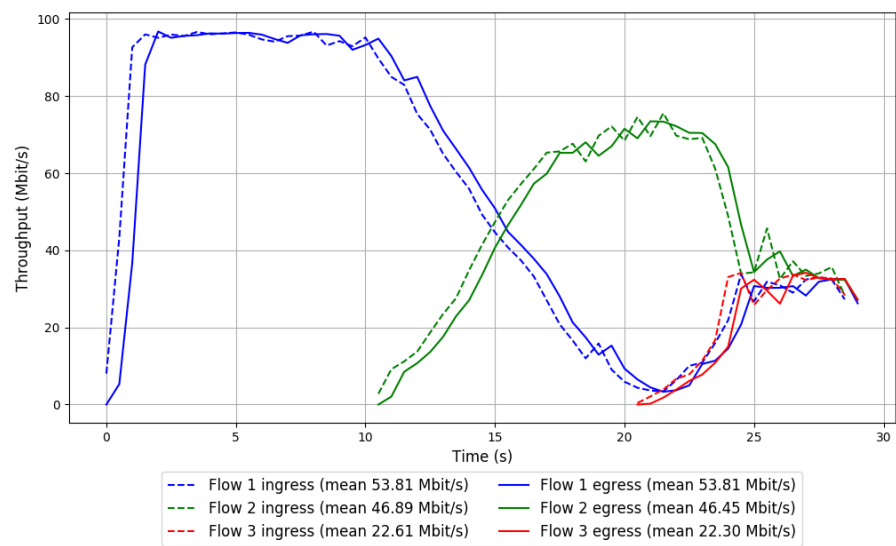
-- Flow 3:

Average throughput: 22.30 Mbit/s

95th percentile per-packet one-way delay: 109.351 ms

Loss rate: 2.22%

Run 5: Report of Indigo-MusesD — Data Link

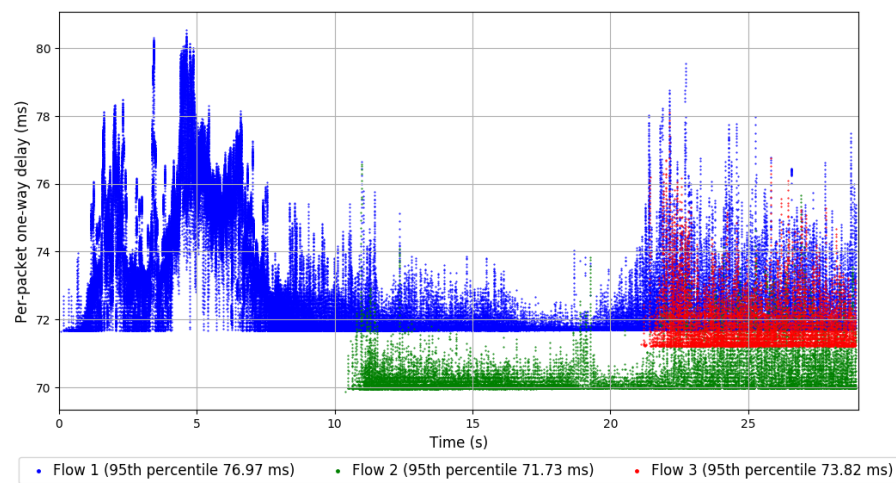
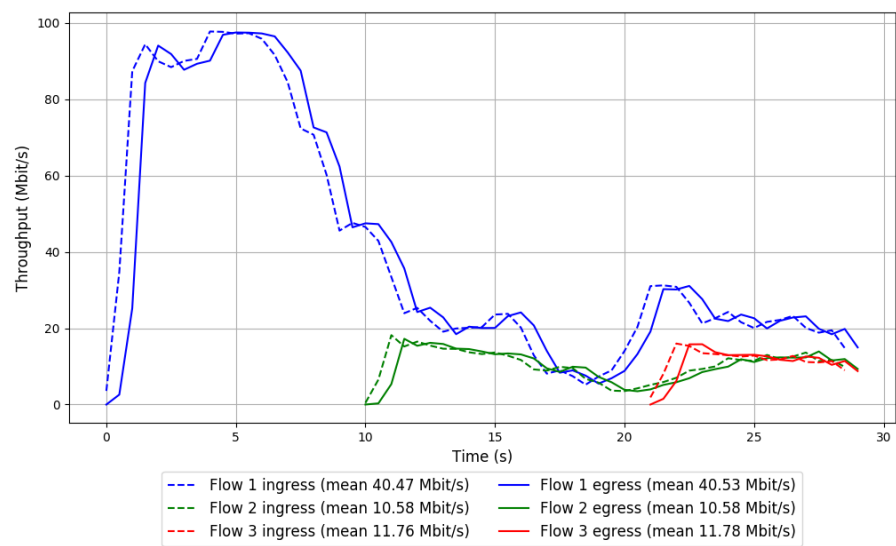


Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-25 19:30:11  
End at: 2019-01-25 19:30:41  
Local clock offset: 0.913 ms  
Remote clock offset: -2.691 ms

# Below is generated by plot.py at 2019-01-25 21:39:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 50.49 Mbit/s  
95th percentile per-packet one-way delay: 76.752 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 40.53 Mbit/s  
95th percentile per-packet one-way delay: 76.975 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 10.58 Mbit/s  
95th percentile per-packet one-way delay: 71.726 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 11.78 Mbit/s  
95th percentile per-packet one-way delay: 73.824 ms  
Loss rate: 0.99%

Run 1: Report of Indigo-MusesT — Data Link

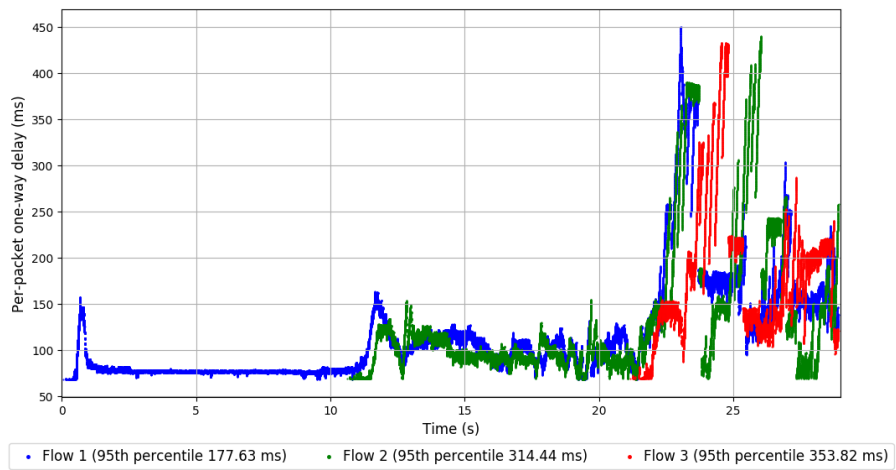
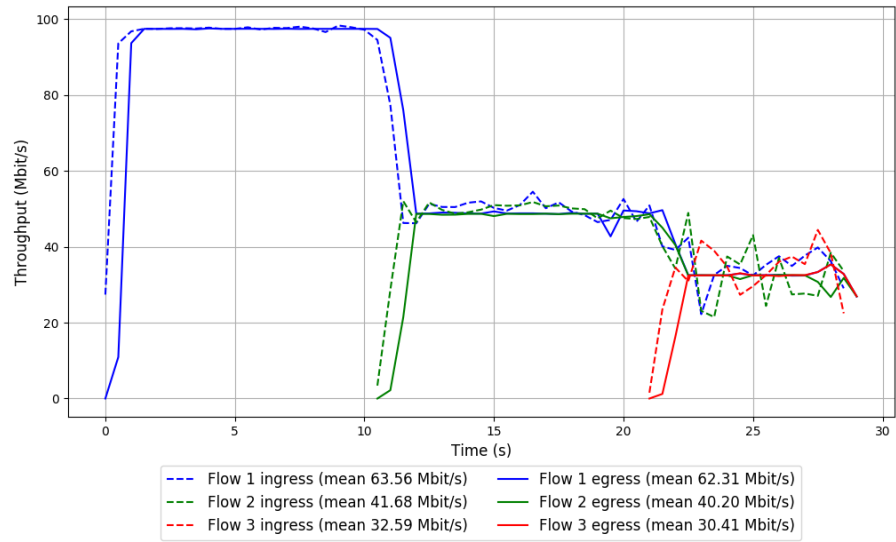


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-25 19:59:02  
End at: 2019-01-25 19:59:32  
Local clock offset: -1.471 ms  
Remote clock offset: -0.804 ms

# Below is generated by plot.py at 2019-01-25 21:39:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.97 Mbit/s  
95th percentile per-packet one-way delay: 241.394 ms  
Loss rate: 2.98%  
-- Flow 1:  
Average throughput: 62.31 Mbit/s  
95th percentile per-packet one-way delay: 177.628 ms  
Loss rate: 2.11%  
-- Flow 2:  
Average throughput: 40.20 Mbit/s  
95th percentile per-packet one-way delay: 314.441 ms  
Loss rate: 3.57%  
-- Flow 3:  
Average throughput: 30.41 Mbit/s  
95th percentile per-packet one-way delay: 353.818 ms  
Loss rate: 7.55%

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



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:27:07

End at: 2019-01-25 20:27:37

Local clock offset: -0.51 ms

Remote clock offset: 1.785 ms

# Below is generated by plot.py at 2019-01-25 21:39:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.08 Mbit/s

95th percentile per-packet one-way delay: 202.139 ms

Loss rate: 2.24%

-- Flow 1:

Average throughput: 60.73 Mbit/s

95th percentile per-packet one-way delay: 203.704 ms

Loss rate: 1.63%

-- Flow 2:

Average throughput: 37.46 Mbit/s

95th percentile per-packet one-way delay: 205.922 ms

Loss rate: 3.95%

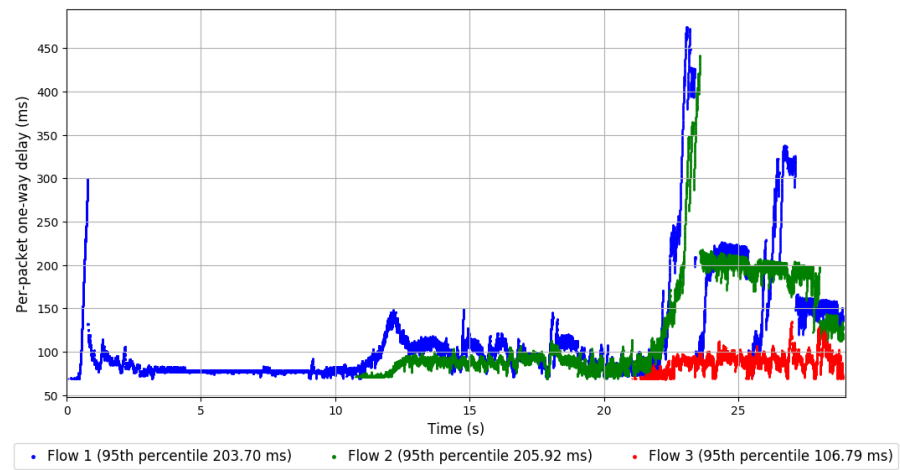
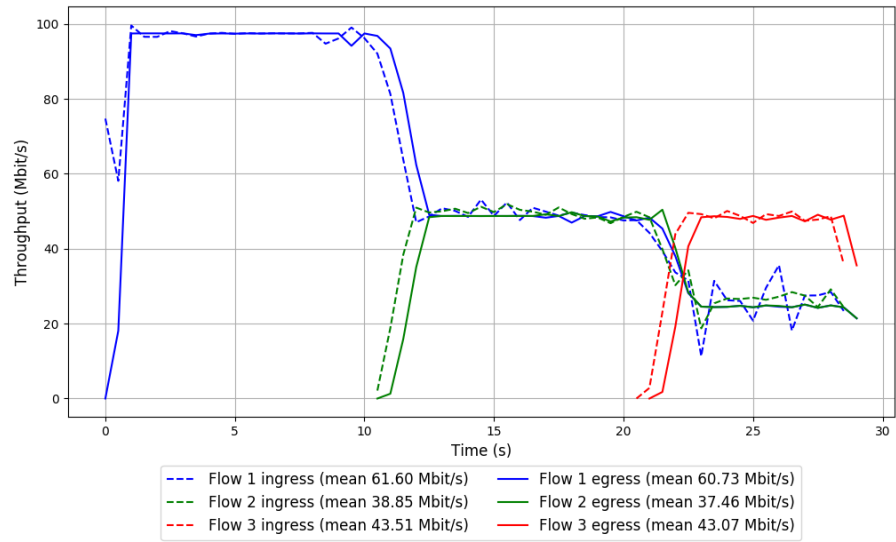
-- Flow 3:

Average throughput: 43.07 Mbit/s

95th percentile per-packet one-way delay: 106.790 ms

Loss rate: 1.90%

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

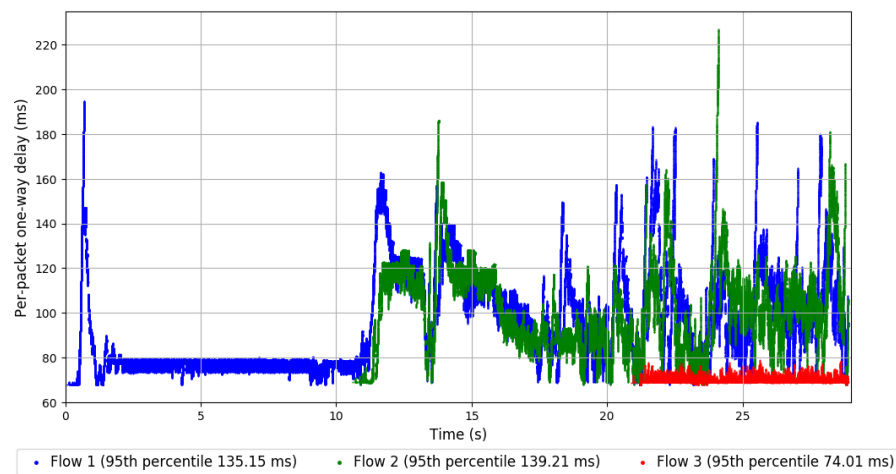
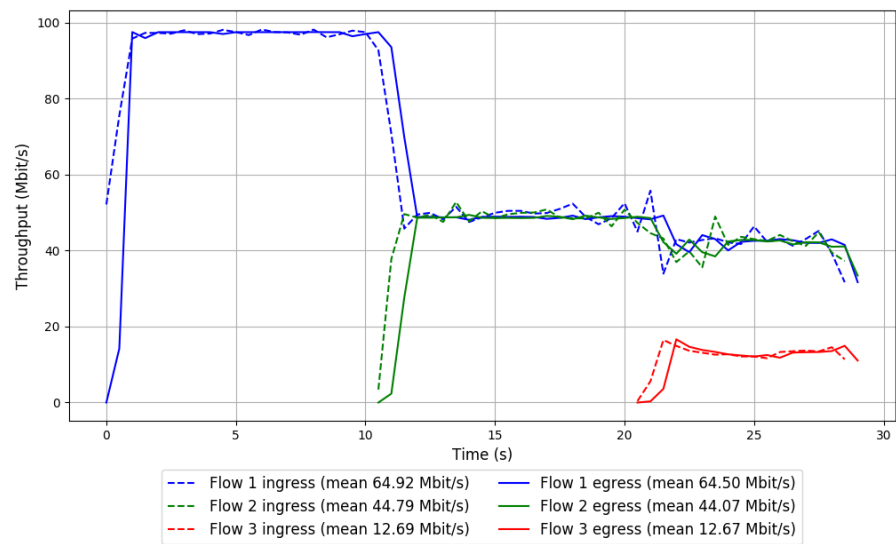


Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-25 20:53:37  
End at: 2019-01-25 20:54:07  
Local clock offset: -3.309 ms  
Remote clock offset: -2.306 ms

# Below is generated by plot.py at 2019-01-25 21:39:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.97 Mbit/s  
95th percentile per-packet one-way delay: 135.494 ms  
Loss rate: 1.21%  
-- Flow 1:  
Average throughput: 64.50 Mbit/s  
95th percentile per-packet one-way delay: 135.149 ms  
Loss rate: 0.87%  
-- Flow 2:  
Average throughput: 44.07 Mbit/s  
95th percentile per-packet one-way delay: 139.207 ms  
Loss rate: 1.99%  
-- Flow 3:  
Average throughput: 12.67 Mbit/s  
95th percentile per-packet one-way delay: 74.008 ms  
Loss rate: 1.02%

Run 4: Report of Indigo-MusesT — Data Link

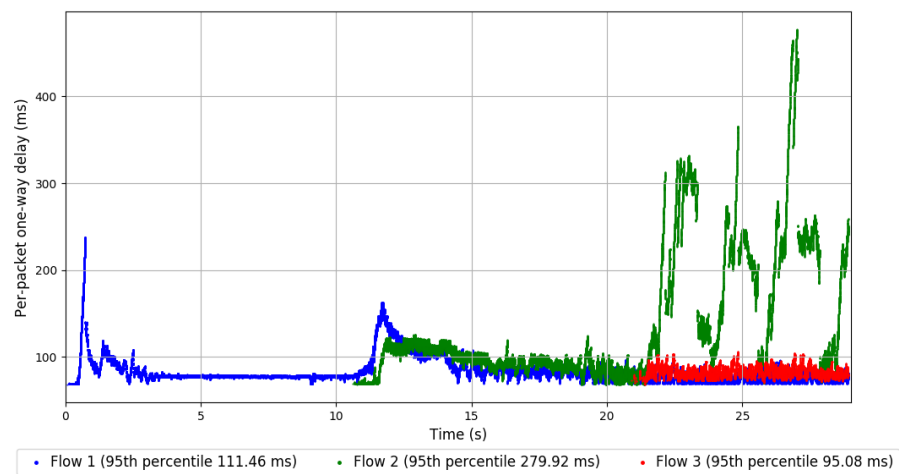
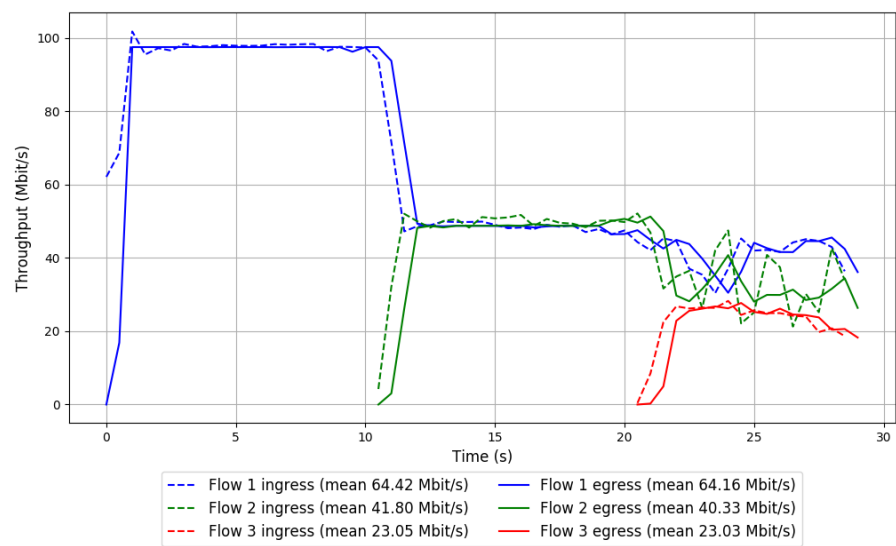


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-25 21:21:20  
End at: 2019-01-25 21:21:50  
Local clock offset: -0.119 ms  
Remote clock offset: -1.055 ms

# Below is generated by plot.py at 2019-01-25 21:40:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.15 Mbit/s  
95th percentile per-packet one-way delay: 182.912 ms  
Loss rate: 1.50%  
-- Flow 1:  
Average throughput: 64.16 Mbit/s  
95th percentile per-packet one-way delay: 111.461 ms  
Loss rate: 0.66%  
-- Flow 2:  
Average throughput: 40.33 Mbit/s  
95th percentile per-packet one-way delay: 279.924 ms  
Loss rate: 3.64%  
-- Flow 3:  
Average throughput: 23.03 Mbit/s  
95th percentile per-packet one-way delay: 95.075 ms  
Loss rate: 1.13%

Run 5: Report of Indigo-MusesT — Data Link

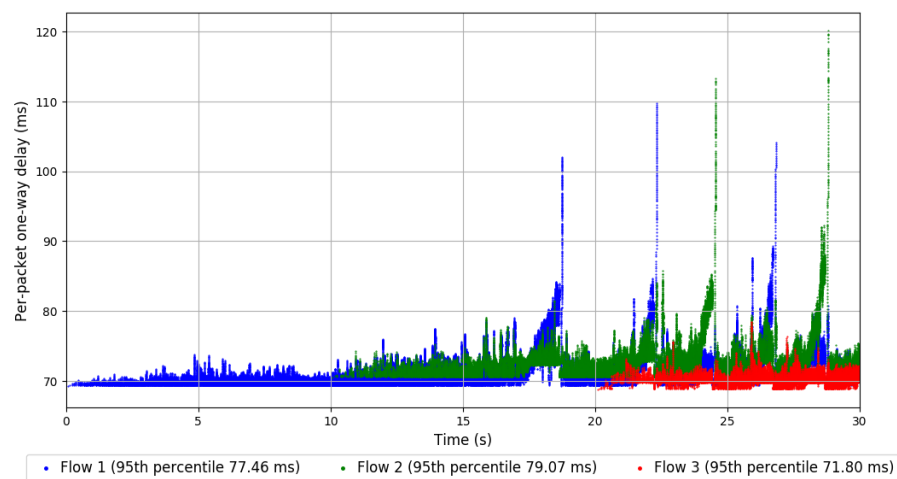
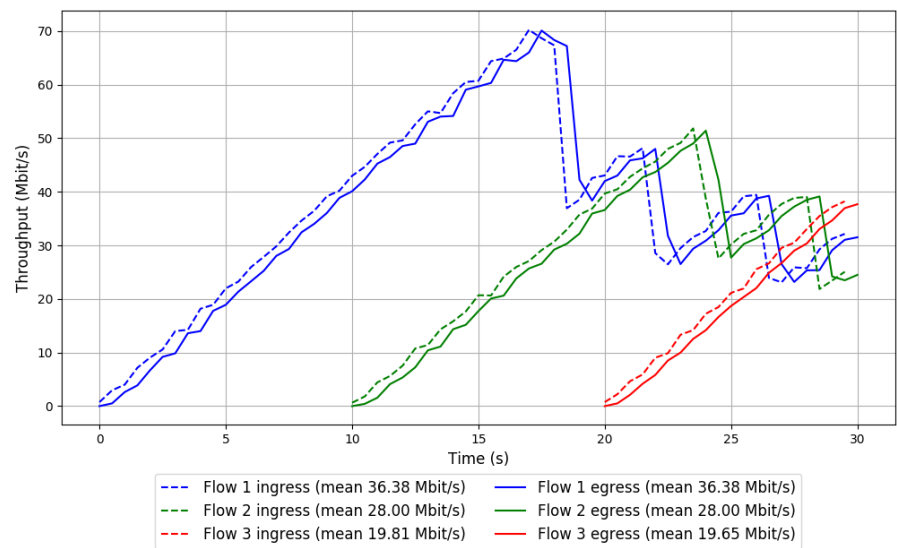


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-25 19:32:45
End at: 2019-01-25 19:33:15
Local clock offset: 1.427 ms
Remote clock offset: -0.97 ms

# Below is generated by plot.py at 2019-01-25 21:40:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.50 Mbit/s
95th percentile per-packet one-way delay: 77.564 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 36.38 Mbit/s
95th percentile per-packet one-way delay: 77.459 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 28.00 Mbit/s
95th percentile per-packet one-way delay: 79.073 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 19.65 Mbit/s
95th percentile per-packet one-way delay: 71.804 ms
Loss rate: 1.53%
```

Run 1: Report of LEDBAT — Data Link

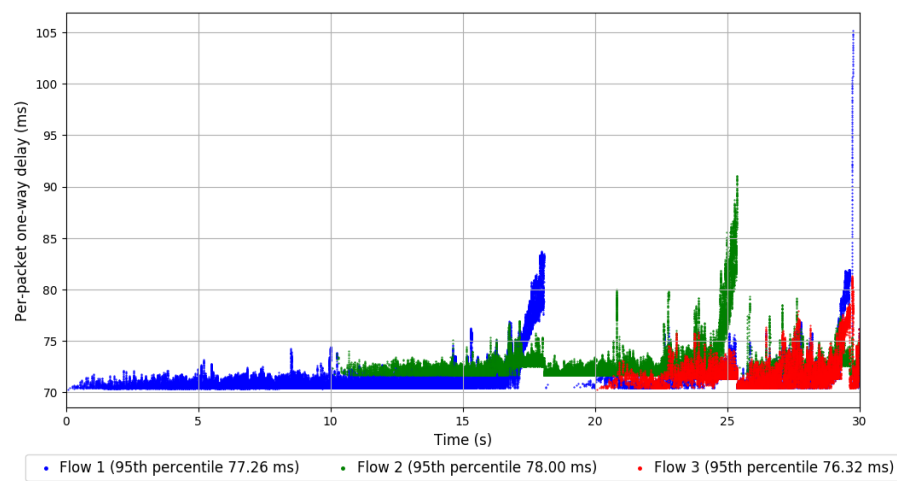
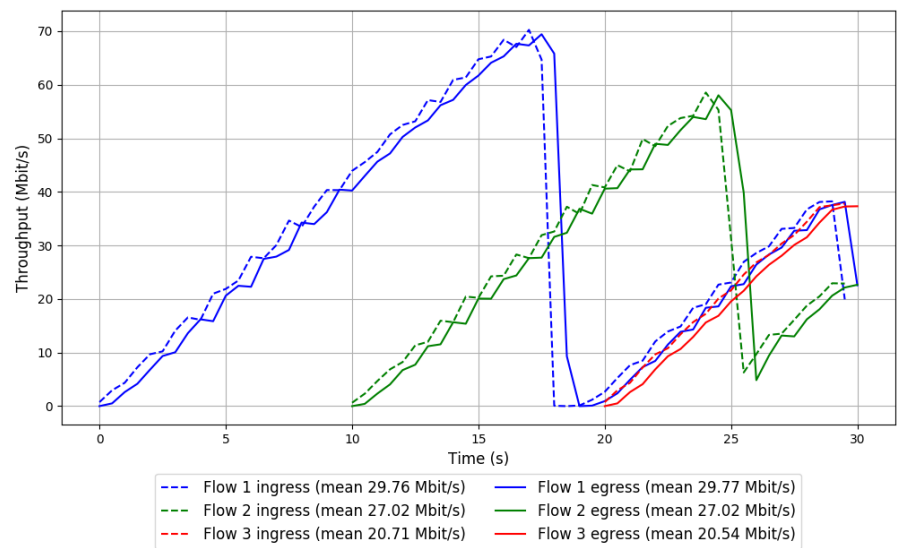


Run 2: Statistics of LEDBAT

Start at: 2019-01-25 20:01:56  
End at: 2019-01-25 20:02:26  
Local clock offset: 0.955 ms  
Remote clock offset: -1.194 ms

# Below is generated by plot.py at 2019-01-25 21:40:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 54.54 Mbit/s  
95th percentile per-packet one-way delay: 77.193 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 29.77 Mbit/s  
95th percentile per-packet one-way delay: 77.262 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 27.02 Mbit/s  
95th percentile per-packet one-way delay: 77.999 ms  
Loss rate: 0.37%  
-- Flow 3:  
Average throughput: 20.54 Mbit/s  
95th percentile per-packet one-way delay: 76.324 ms  
Loss rate: 1.51%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-25 20:29:33

End at: 2019-01-25 20:30:03

Local clock offset: -1.554 ms

Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2019-01-25 21:40:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 62.49 Mbit/s

95th percentile per-packet one-way delay: 77.271 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 36.59 Mbit/s

95th percentile per-packet one-way delay: 76.726 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 29.36 Mbit/s

95th percentile per-packet one-way delay: 78.277 ms

Loss rate: 0.39%

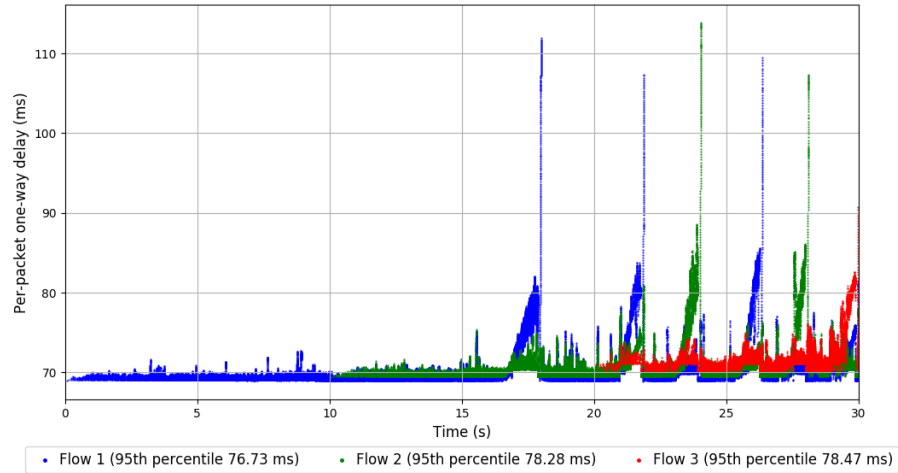
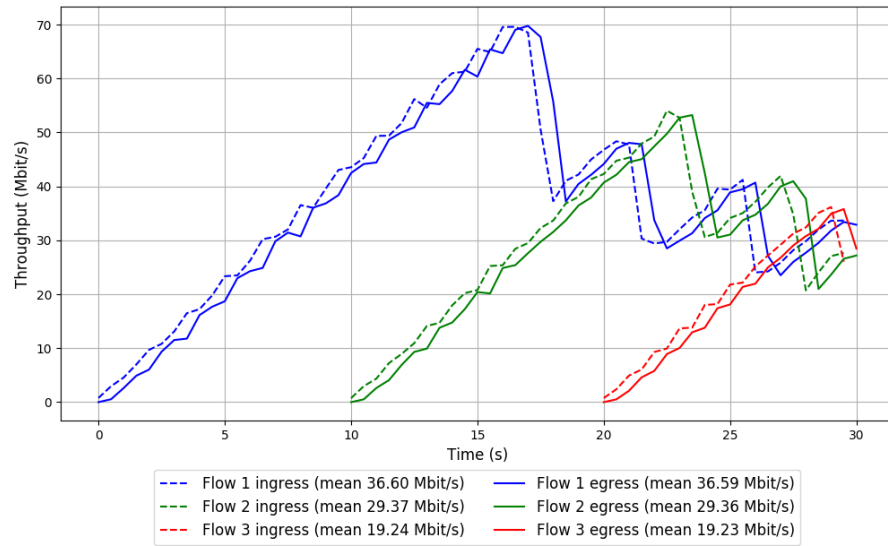
-- Flow 3:

Average throughput: 19.23 Mbit/s

95th percentile per-packet one-way delay: 78.469 ms

Loss rate: 0.79%

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

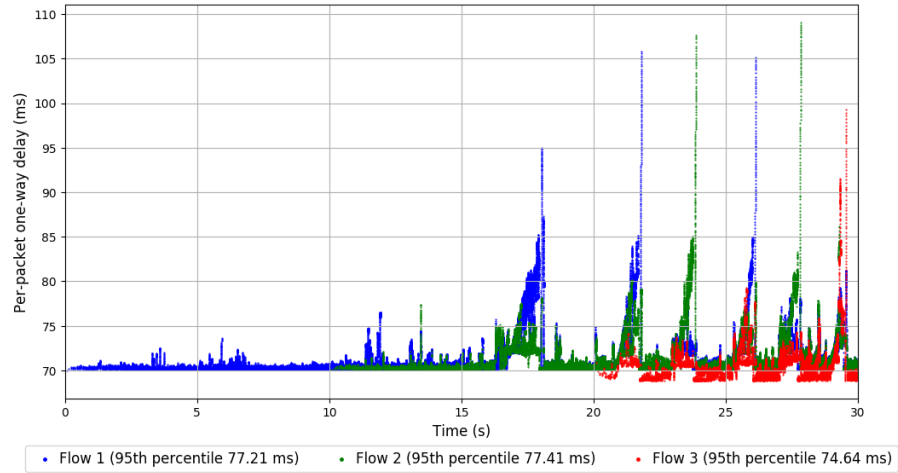
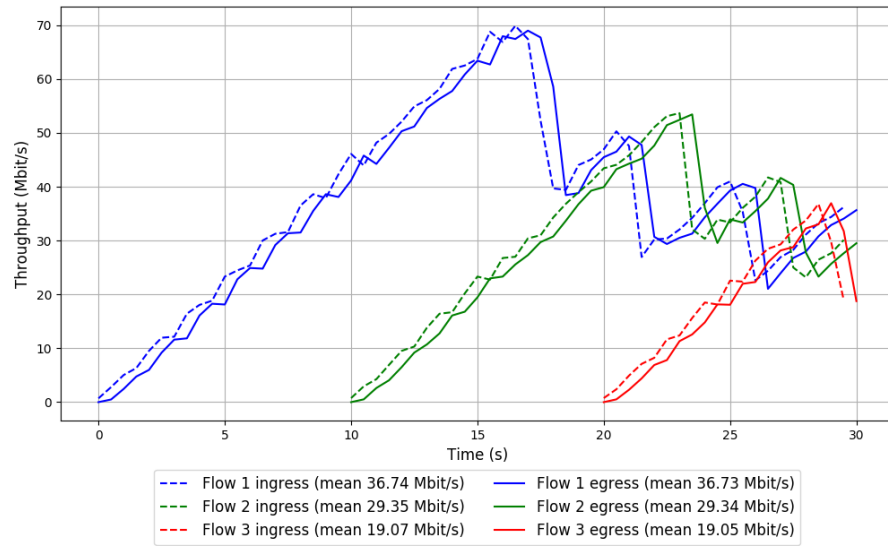


Run 4: Statistics of LEDBAT

Start at: 2019-01-25 20:56:05  
End at: 2019-01-25 20:56:35  
Local clock offset: -1.077 ms  
Remote clock offset: -1.061 ms

# Below is generated by plot.py at 2019-01-25 21:40:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 62.55 Mbit/s  
95th percentile per-packet one-way delay: 77.137 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 36.73 Mbit/s  
95th percentile per-packet one-way delay: 77.211 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 29.34 Mbit/s  
95th percentile per-packet one-way delay: 77.410 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 19.05 Mbit/s  
95th percentile per-packet one-way delay: 74.643 ms  
Loss rate: 0.82%

# Run 4: Report of LEDBAT — Data Link

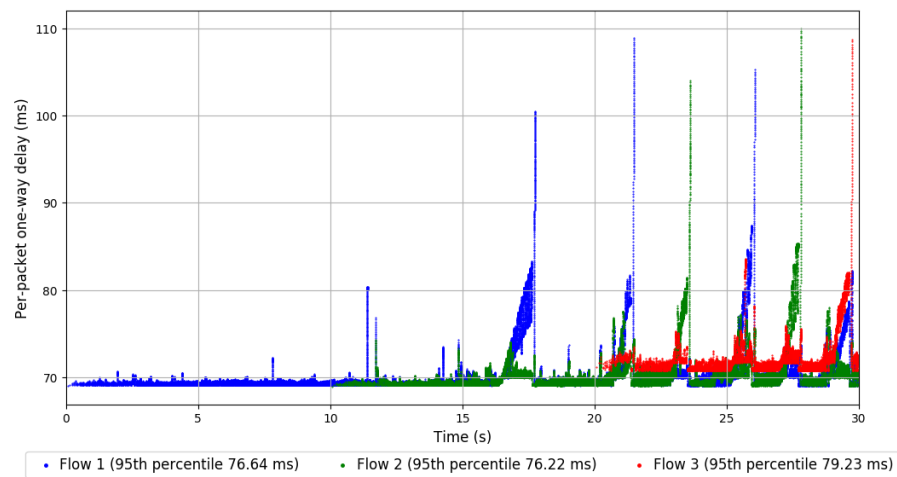
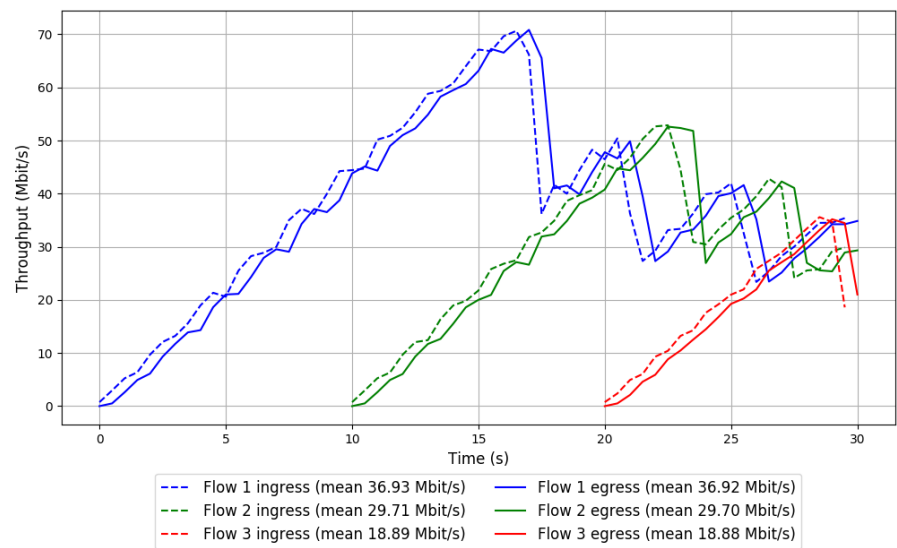


Run 5: Statistics of LEDBAT

Start at: 2019-01-25 21:23:58  
End at: 2019-01-25 21:24:28  
Local clock offset: 2.172 ms  
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-01-25 21:40:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 62.93 Mbit/s  
95th percentile per-packet one-way delay: 76.930 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 36.92 Mbit/s  
95th percentile per-packet one-way delay: 76.640 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 29.70 Mbit/s  
95th percentile per-packet one-way delay: 76.223 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 18.88 Mbit/s  
95th percentile per-packet one-way delay: 79.235 ms  
Loss rate: 0.82%

Run 5: Report of LEDBAT — Data Link

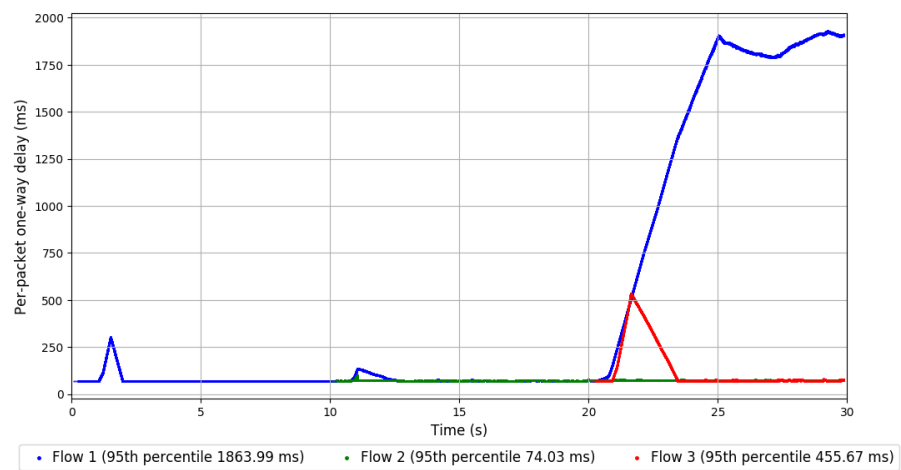
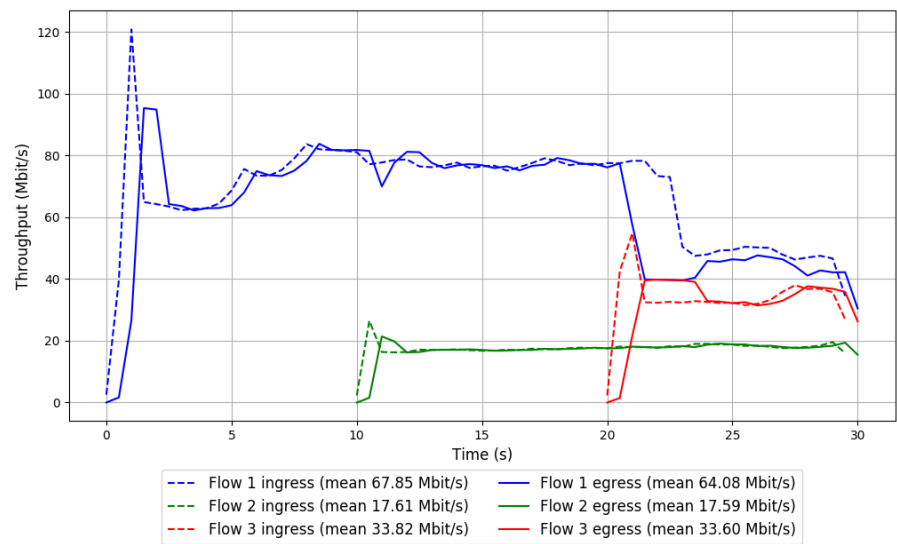


Run 1: Statistics of PCC-Allegro

Start at: 2019-01-25 19:22:13  
End at: 2019-01-25 19:22:43  
Local clock offset: 1.657 ms  
Remote clock offset: -2.239 ms

# Below is generated by plot.py at 2019-01-25 21:40:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.77 Mbit/s  
95th percentile per-packet one-way delay: 1841.221 ms  
Loss rate: 4.57%  
-- Flow 1:  
Average throughput: 64.08 Mbit/s  
95th percentile per-packet one-way delay: 1863.991 ms  
Loss rate: 5.78%  
-- Flow 2:  
Average throughput: 17.59 Mbit/s  
95th percentile per-packet one-way delay: 74.035 ms  
Loss rate: 0.50%  
-- Flow 3:  
Average throughput: 33.60 Mbit/s  
95th percentile per-packet one-way delay: 455.667 ms  
Loss rate: 1.50%

Run 1: Report of PCC-Allegro — Data Link

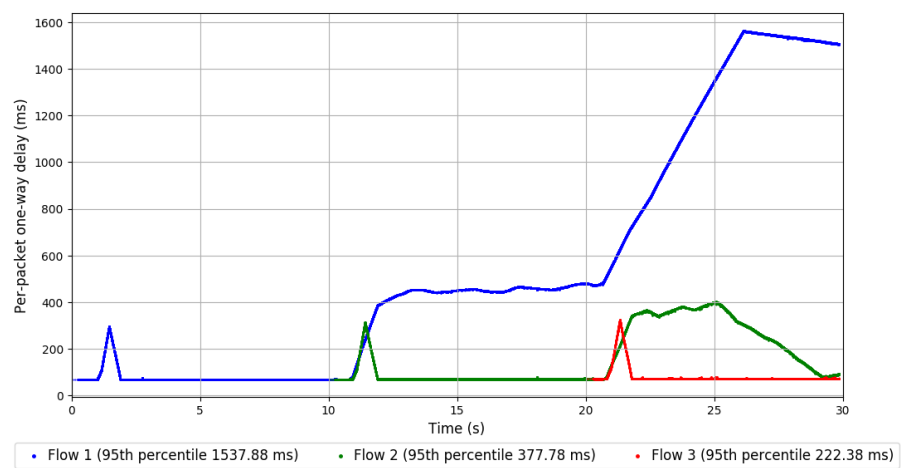
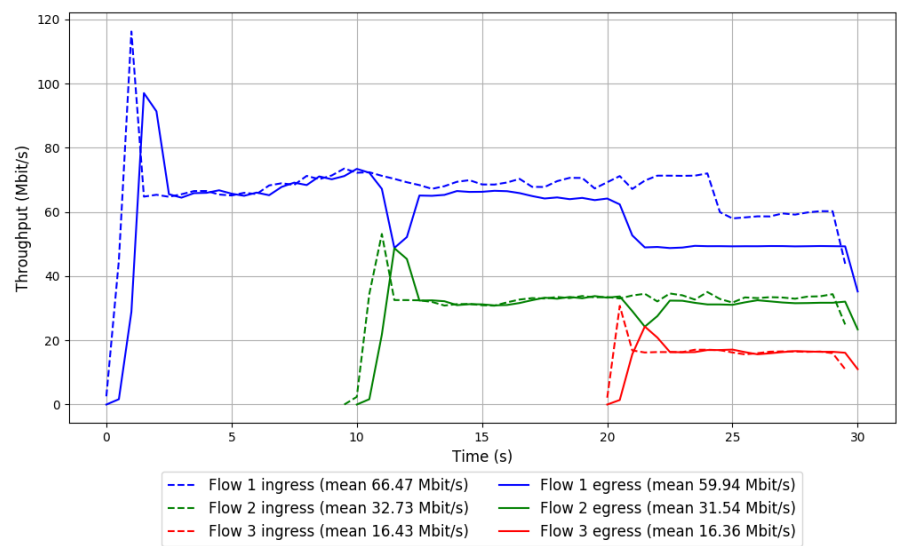


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-25 19:50:49  
End at: 2019-01-25 19:51:19  
Local clock offset: -1.084 ms  
Remote clock offset: -1.196 ms

# Below is generated by plot.py at 2019-01-25 21:40:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.26 Mbit/s  
95th percentile per-packet one-way delay: 1526.300 ms  
Loss rate: 8.12%  
-- Flow 1:  
Average throughput: 59.94 Mbit/s  
95th percentile per-packet one-way delay: 1537.877 ms  
Loss rate: 10.05%  
-- Flow 2:  
Average throughput: 31.54 Mbit/s  
95th percentile per-packet one-way delay: 377.780 ms  
Loss rate: 3.98%  
-- Flow 3:  
Average throughput: 16.36 Mbit/s  
95th percentile per-packet one-way delay: 222.379 ms  
Loss rate: 1.12%

Run 2: Report of PCC-Allegro — Data Link

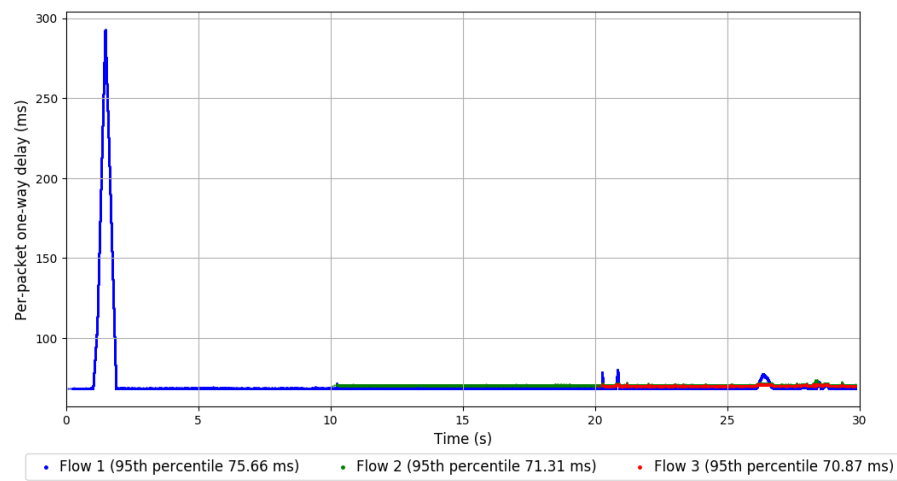
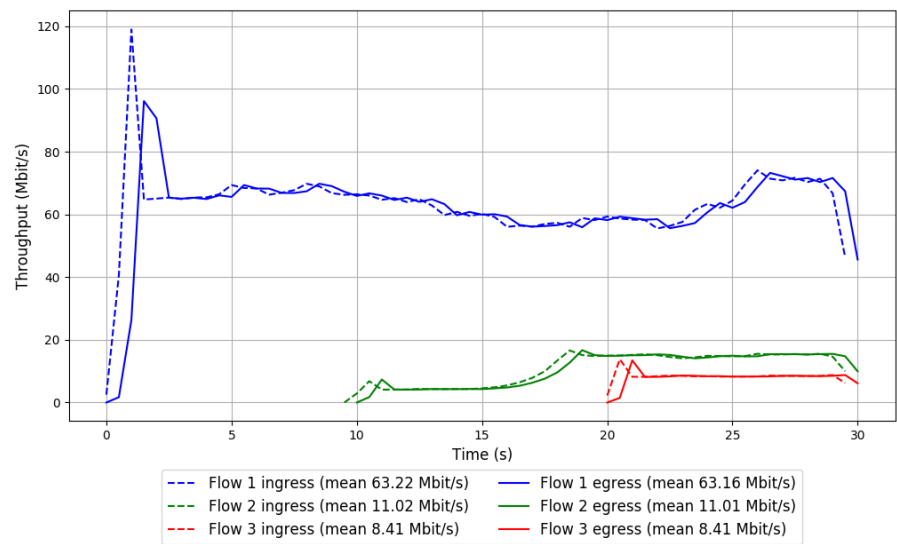


Run 3: Statistics of PCC-Allegro

Start at: 2019-01-25 20:19:13  
End at: 2019-01-25 20:19:43  
Local clock offset: -1.86 ms  
Remote clock offset: -0.422 ms

# Below is generated by plot.py at 2019-01-25 21:40:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.23 Mbit/s  
95th percentile per-packet one-way delay: 73.387 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 63.16 Mbit/s  
95th percentile per-packet one-way delay: 75.656 ms  
Loss rate: 0.34%  
-- Flow 2:  
Average throughput: 11.01 Mbit/s  
95th percentile per-packet one-way delay: 71.307 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 8.41 Mbit/s  
95th percentile per-packet one-way delay: 70.866 ms  
Loss rate: 0.77%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-25 20:45:58

End at: 2019-01-25 20:46:28

Local clock offset: 1.266 ms

Remote clock offset: 1.261 ms

# Below is generated by plot.py at 2019-01-25 21:40:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.08 Mbit/s

95th percentile per-packet one-way delay: 1793.023 ms

Loss rate: 6.03%

-- Flow 1:

Average throughput: 64.06 Mbit/s

95th percentile per-packet one-way delay: 1814.573 ms

Loss rate: 7.72%

-- Flow 2:

Average throughput: 16.54 Mbit/s

95th percentile per-packet one-way delay: 74.802 ms

Loss rate: 0.48%

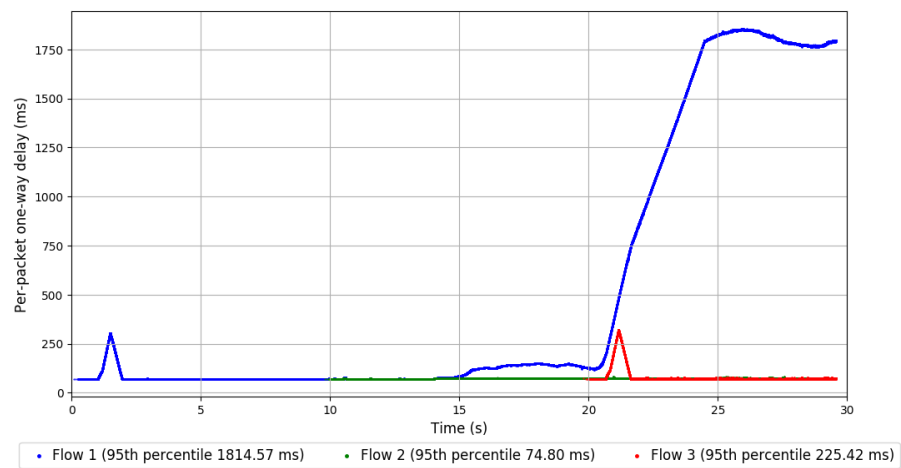
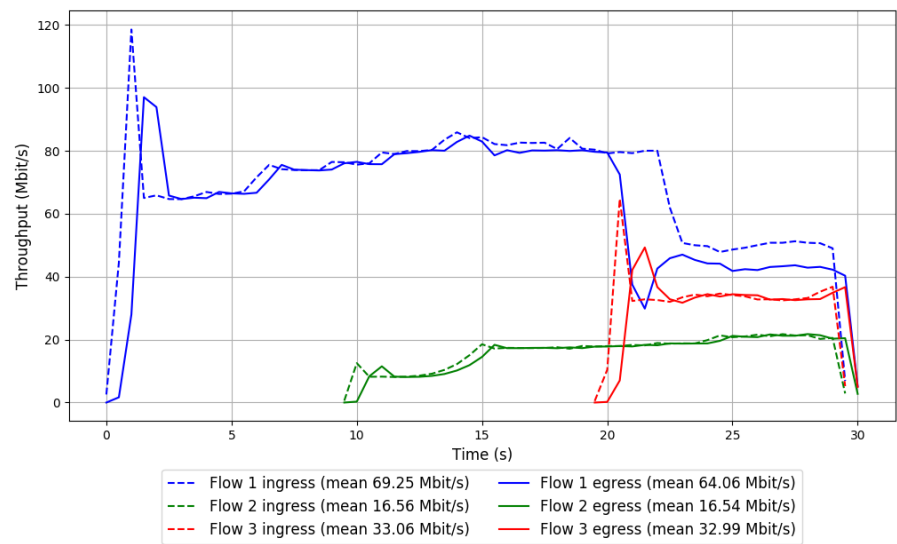
-- Flow 3:

Average throughput: 32.99 Mbit/s

95th percentile per-packet one-way delay: 225.420 ms

Loss rate: 0.96%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-25 21:13:28

End at: 2019-01-25 21:13:58

Local clock offset: -0.832 ms

Remote clock offset: 1.105 ms

# Below is generated by plot.py at 2019-01-25 21:41:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.70 Mbit/s

95th percentile per-packet one-way delay: 1629.748 ms

Loss rate: 10.50%

-- Flow 1:

Average throughput: 63.81 Mbit/s

95th percentile per-packet one-way delay: 1621.413 ms

Loss rate: 9.71%

-- Flow 2:

Average throughput: 33.77 Mbit/s

95th percentile per-packet one-way delay: 2966.428 ms

Loss rate: 14.91%

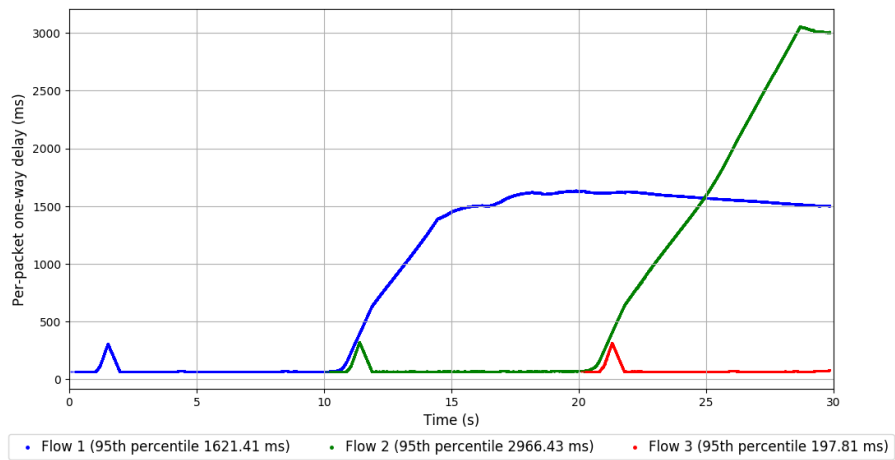
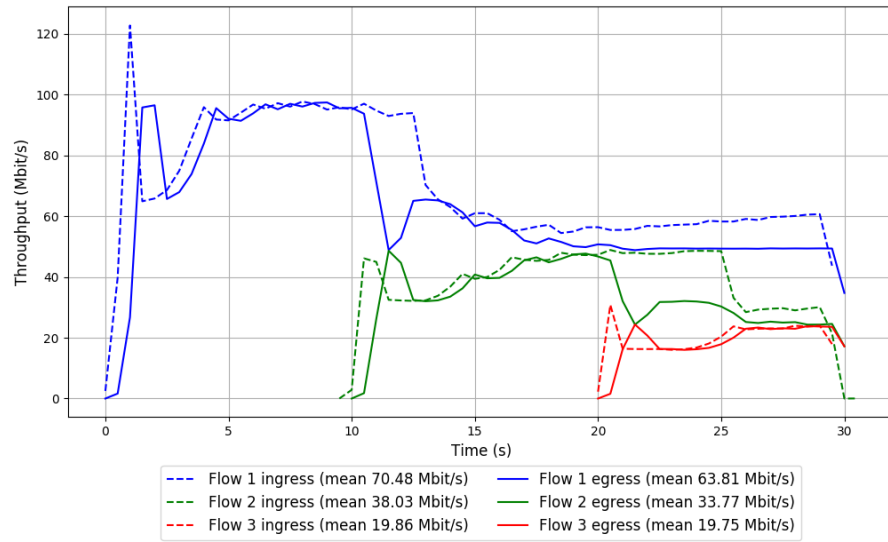
-- Flow 3:

Average throughput: 19.75 Mbit/s

95th percentile per-packet one-way delay: 197.808 ms

Loss rate: 1.28%

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

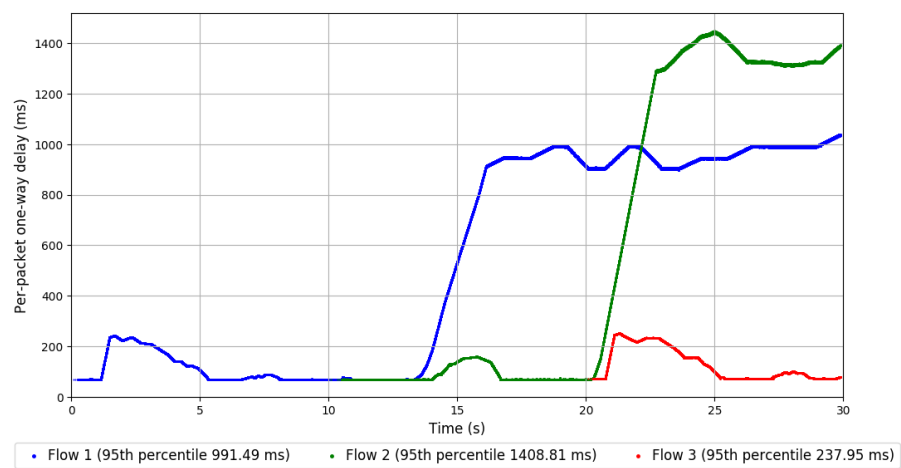
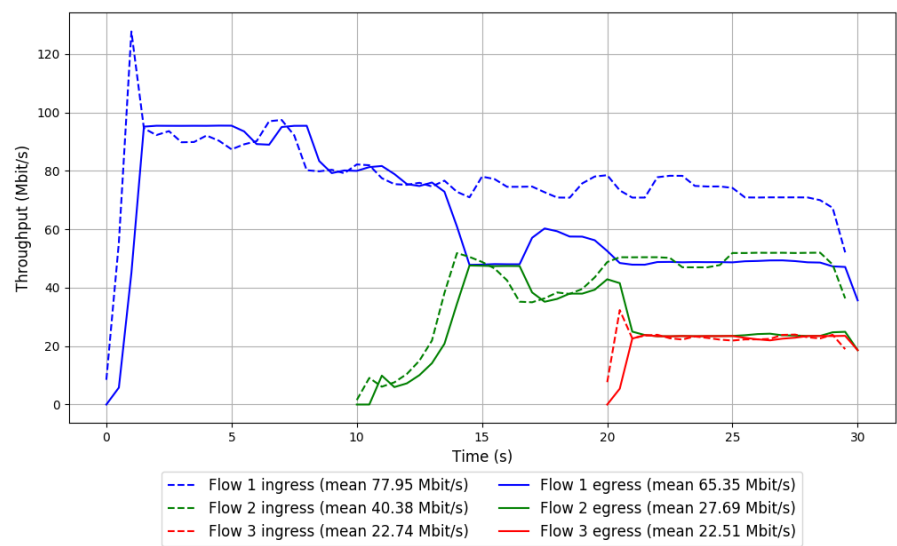


```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-25 19:38:05
End at: 2019-01-25 19:38:35
Local clock offset: -1.259 ms
Remote clock offset: -2.7 ms

# Below is generated by plot.py at 2019-01-25 21:42:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 1316.927 ms
Loss rate: 19.06%
-- Flow 1:
Average throughput: 65.35 Mbit/s
95th percentile per-packet one-way delay: 991.492 ms
Loss rate: 16.38%
-- Flow 2:
Average throughput: 27.69 Mbit/s
95th percentile per-packet one-way delay: 1408.809 ms
Loss rate: 31.68%
-- Flow 3:
Average throughput: 22.51 Mbit/s
95th percentile per-packet one-way delay: 237.953 ms
Loss rate: 1.77%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-25 20:07:18

End at: 2019-01-25 20:07:48

Local clock offset: -2.26 ms

Remote clock offset: -0.43 ms

# Below is generated by plot.py at 2019-01-25 21:42:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 52.79 Mbit/s

95th percentile per-packet one-way delay: 73.118 ms

Loss rate: 0.74%

-- Flow 1:

Average throughput: 38.86 Mbit/s

95th percentile per-packet one-way delay: 75.679 ms

Loss rate: 0.65%

-- Flow 2:

Average throughput: 9.98 Mbit/s

95th percentile per-packet one-way delay: 68.681 ms

Loss rate: 0.81%

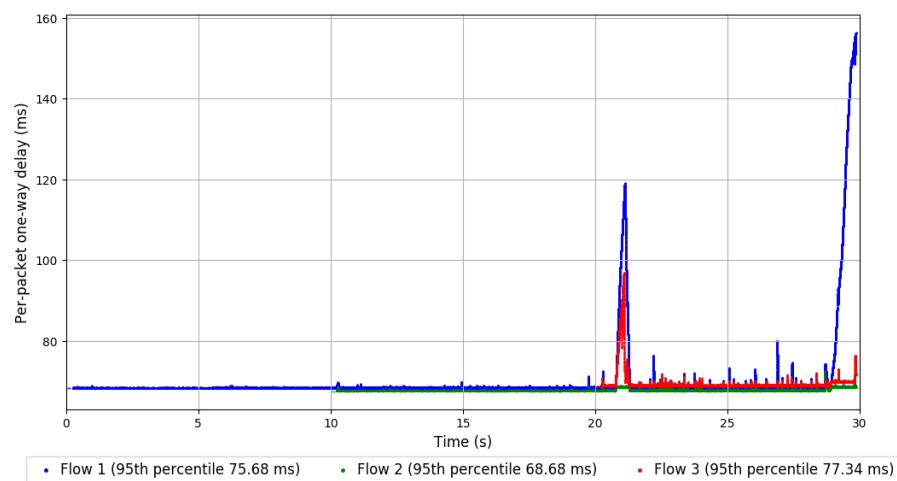
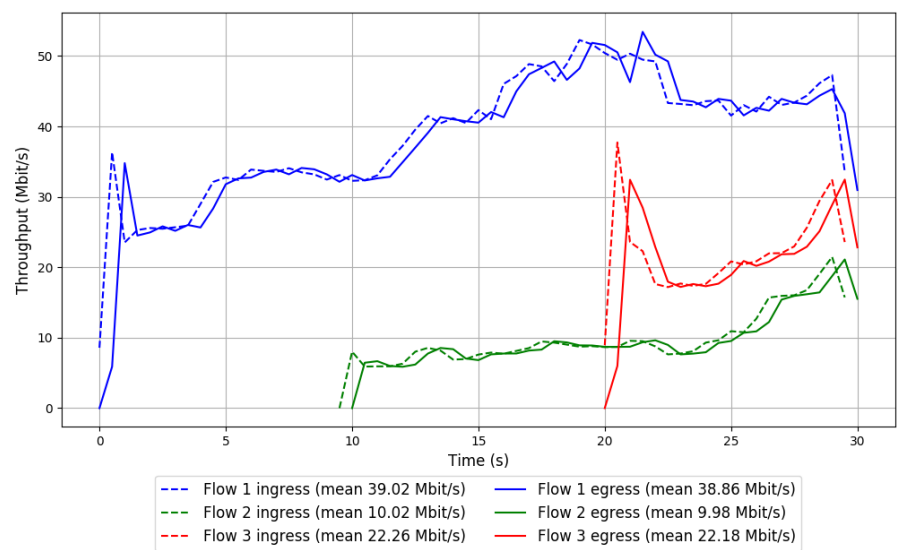
-- Flow 3:

Average throughput: 22.18 Mbit/s

95th percentile per-packet one-way delay: 77.337 ms

Loss rate: 1.14%

Run 2: Report of PCC-Expr — Data Link

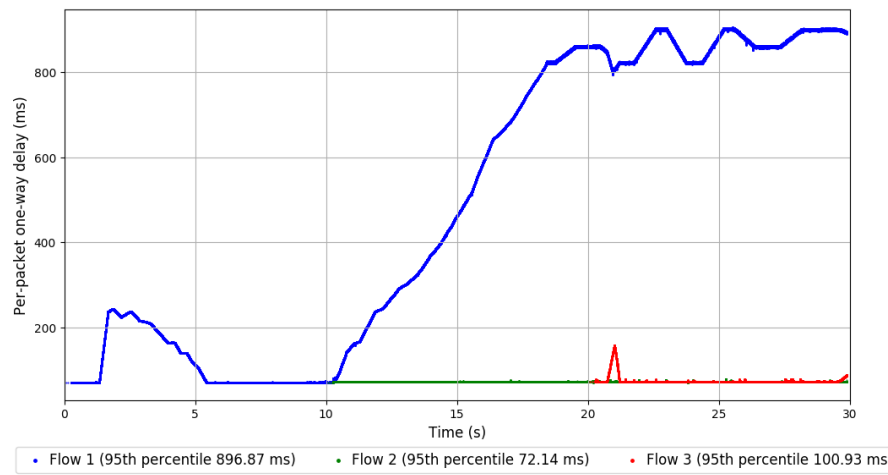
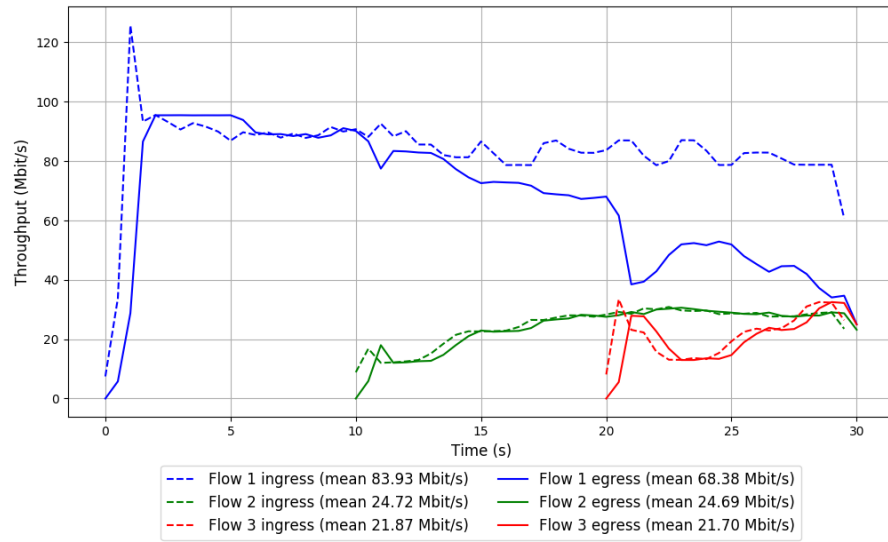


Run 3: Statistics of PCC-Expr

Start at: 2019-01-25 20:34:30  
End at: 2019-01-25 20:35:00  
Local clock offset: -0.514 ms  
Remote clock offset: -0.412 ms

# Below is generated by plot.py at 2019-01-25 21:42:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.90 Mbit/s  
95th percentile per-packet one-way delay: 887.226 ms  
Loss rate: 14.78%  
-- Flow 1:  
Average throughput: 68.38 Mbit/s  
95th percentile per-packet one-way delay: 896.870 ms  
Loss rate: 18.72%  
-- Flow 2:  
Average throughput: 24.69 Mbit/s  
95th percentile per-packet one-way delay: 72.140 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 21.70 Mbit/s  
95th percentile per-packet one-way delay: 100.931 ms  
Loss rate: 1.53%

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

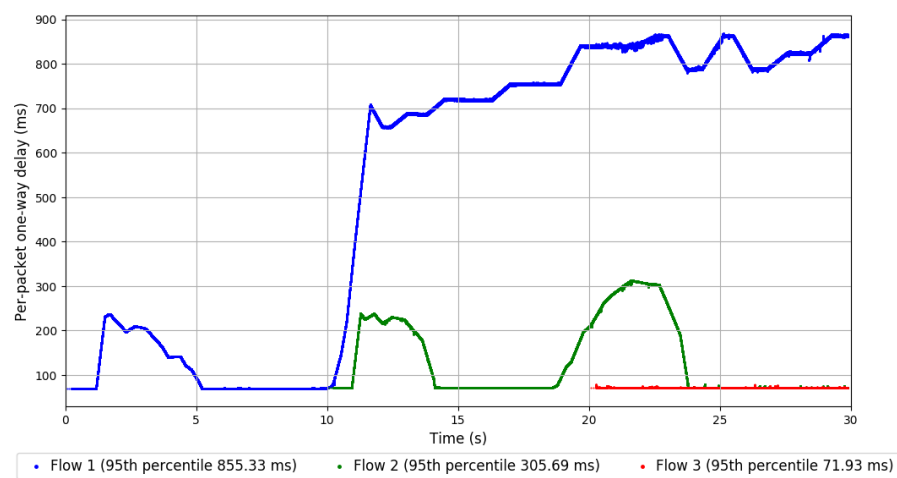
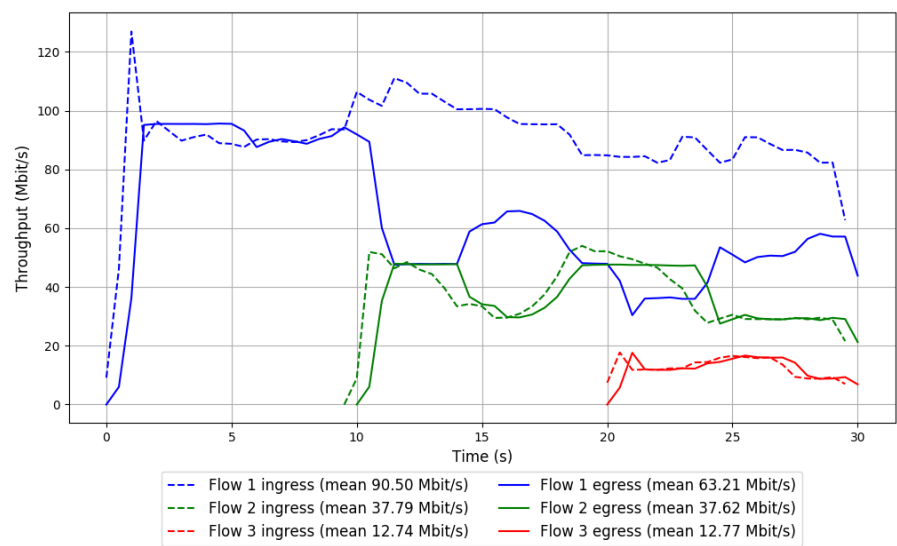


Run 4: Statistics of PCC-Expr

Start at: 2019-01-25 21:01:31  
End at: 2019-01-25 21:02:01  
Local clock offset: 0.03 ms  
Remote clock offset: -0.559 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.40 Mbit/s  
95th percentile per-packet one-way delay: 843.813 ms  
Loss rate: 23.12%  
-- Flow 1:  
Average throughput: 63.21 Mbit/s  
95th percentile per-packet one-way delay: 855.330 ms  
Loss rate: 30.36%  
-- Flow 2:  
Average throughput: 37.62 Mbit/s  
95th percentile per-packet one-way delay: 305.695 ms  
Loss rate: 0.83%  
-- Flow 3:  
Average throughput: 12.77 Mbit/s  
95th percentile per-packet one-way delay: 71.927 ms  
Loss rate: 0.56%

Run 4: Report of PCC-Expr — Data Link

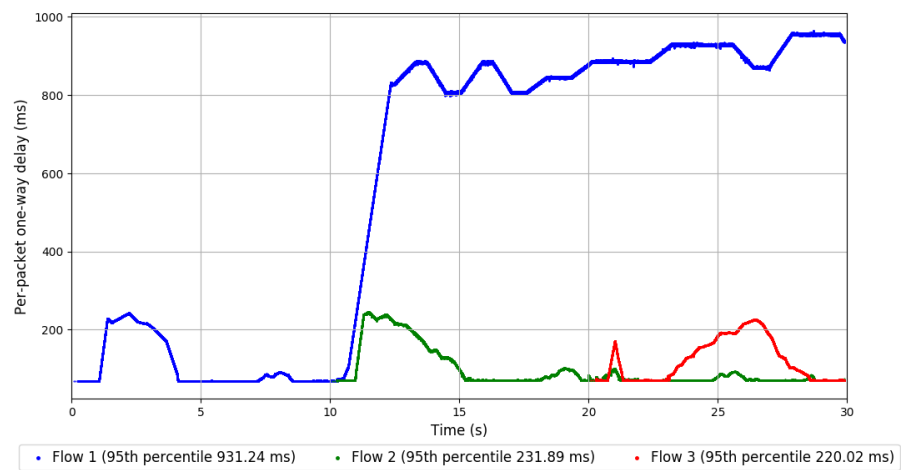
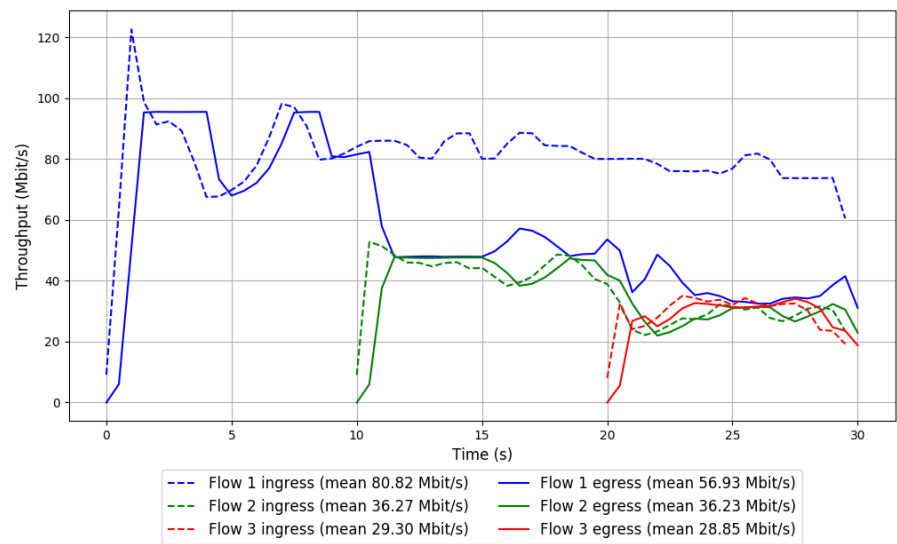


Run 5: Statistics of PCC-Expr

Start at: 2019-01-25 21:29:25  
End at: 2019-01-25 21:29:55  
Local clock offset: 0.266 ms  
Remote clock offset: -2.043 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.47 Mbit/s  
95th percentile per-packet one-way delay: 927.528 ms  
Loss rate: 21.26%  
-- Flow 1:  
Average throughput: 56.93 Mbit/s  
95th percentile per-packet one-way delay: 931.240 ms  
Loss rate: 29.73%  
-- Flow 2:  
Average throughput: 36.23 Mbit/s  
95th percentile per-packet one-way delay: 231.894 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 28.85 Mbit/s  
95th percentile per-packet one-way delay: 220.020 ms  
Loss rate: 2.29%

Run 5: Report of PCC-Expr — Data Link

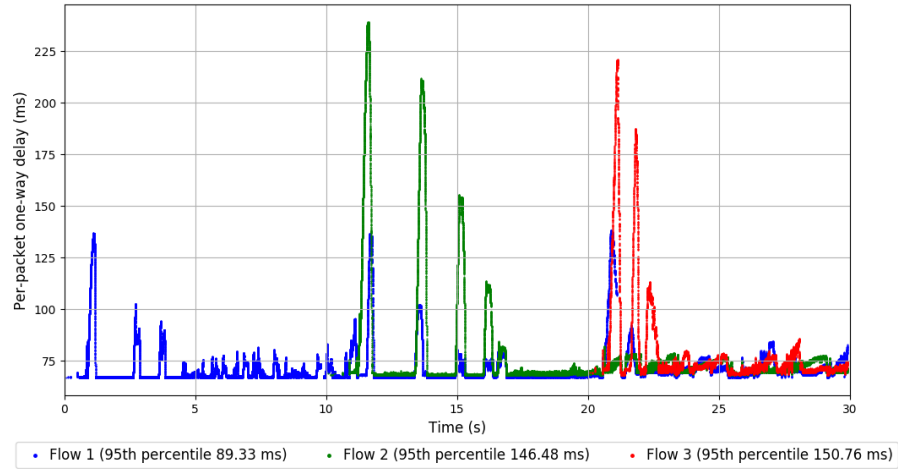
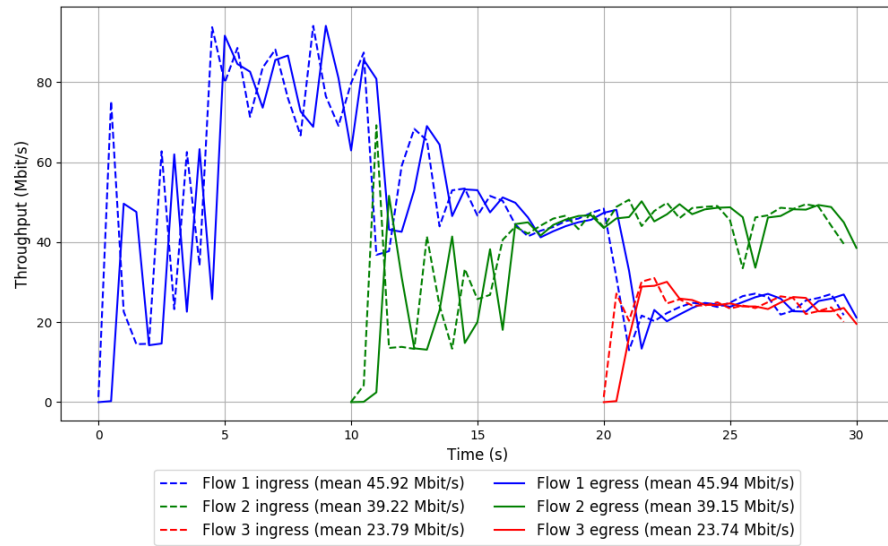


Run 1: Statistics of QUIC Cubic

Start at: 2019-01-25 19:14:29  
End at: 2019-01-25 19:14:59  
Local clock offset: -1.248 ms  
Remote clock offset: -2.636 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.77 Mbit/s  
95th percentile per-packet one-way delay: 107.410 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 45.94 Mbit/s  
95th percentile per-packet one-way delay: 89.335 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 39.15 Mbit/s  
95th percentile per-packet one-way delay: 146.479 ms  
Loss rate: 0.54%  
-- Flow 3:  
Average throughput: 23.74 Mbit/s  
95th percentile per-packet one-way delay: 150.763 ms  
Loss rate: 0.97%

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

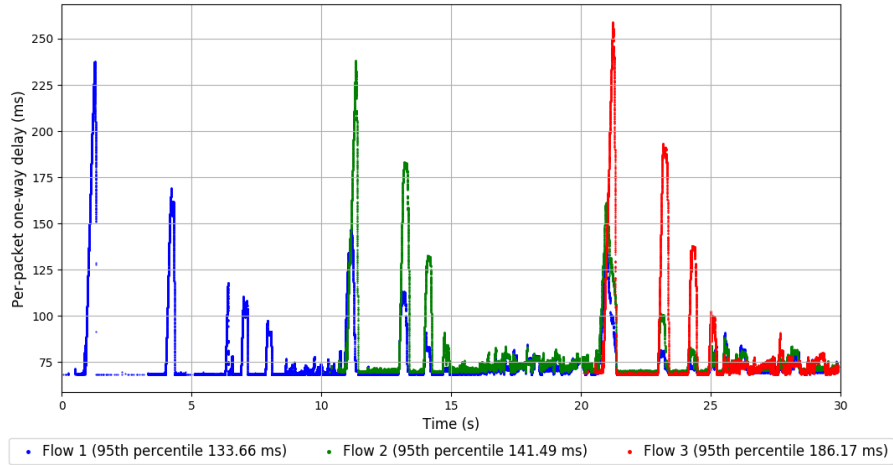
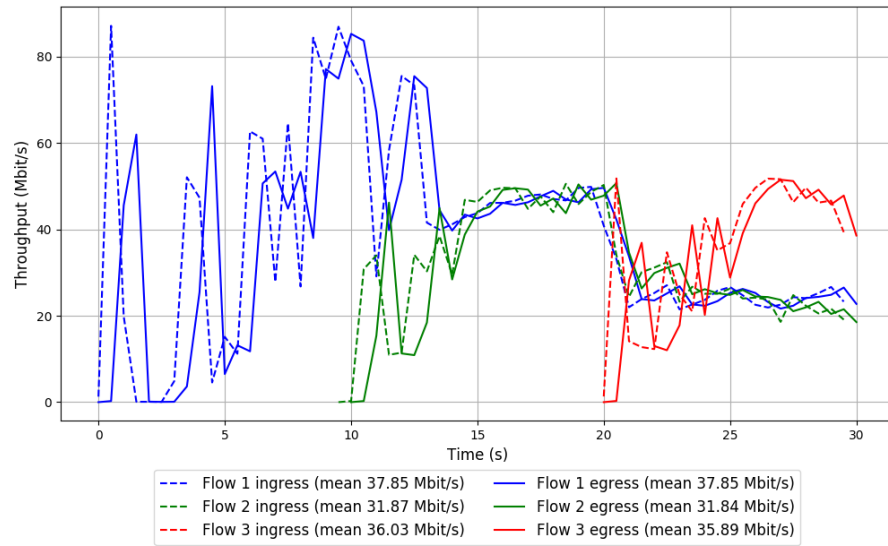


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-25 19:42:48  
End at: 2019-01-25 19:43:18  
Local clock offset: -0.606 ms  
Remote clock offset: -1.661 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 70.85 Mbit/s  
95th percentile per-packet one-way delay: 141.969 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 37.85 Mbit/s  
95th percentile per-packet one-way delay: 133.657 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 31.84 Mbit/s  
95th percentile per-packet one-way delay: 141.487 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 35.89 Mbit/s  
95th percentile per-packet one-way delay: 186.174 ms  
Loss rate: 1.12%

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



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-25 20:11:18

End at: 2019-01-25 20:11:48

Local clock offset: -0.064 ms

Remote clock offset: 1.474 ms

# Below is generated by plot.py at 2019-01-25 21:42:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 74.06 Mbit/s

95th percentile per-packet one-way delay: 127.220 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 39.43 Mbit/s

95th percentile per-packet one-way delay: 124.795 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 41.26 Mbit/s

95th percentile per-packet one-way delay: 126.788 ms

Loss rate: 0.50%

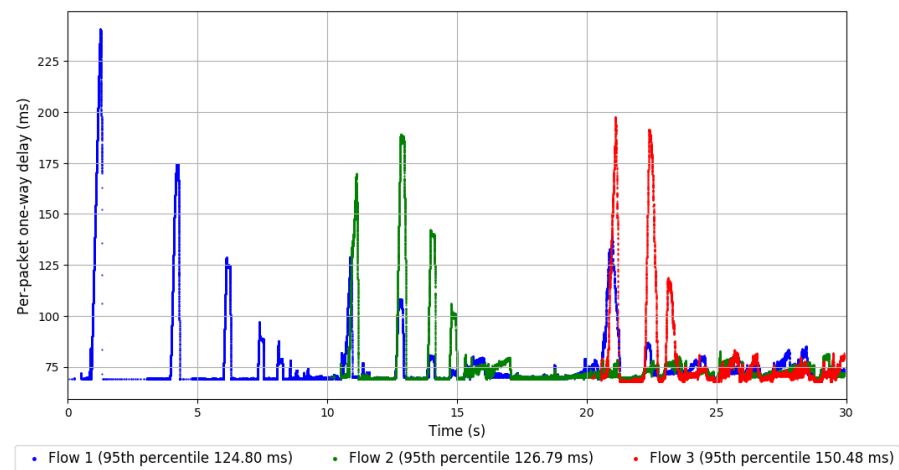
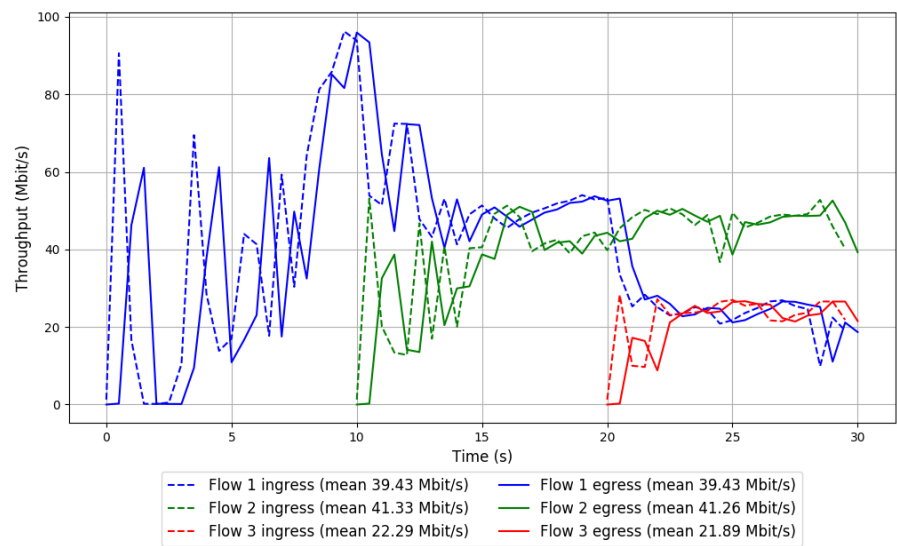
-- Flow 3:

Average throughput: 21.89 Mbit/s

95th percentile per-packet one-way delay: 150.484 ms

Loss rate: 2.50%

Run 3: Report of QUIC Cubic — Data Link

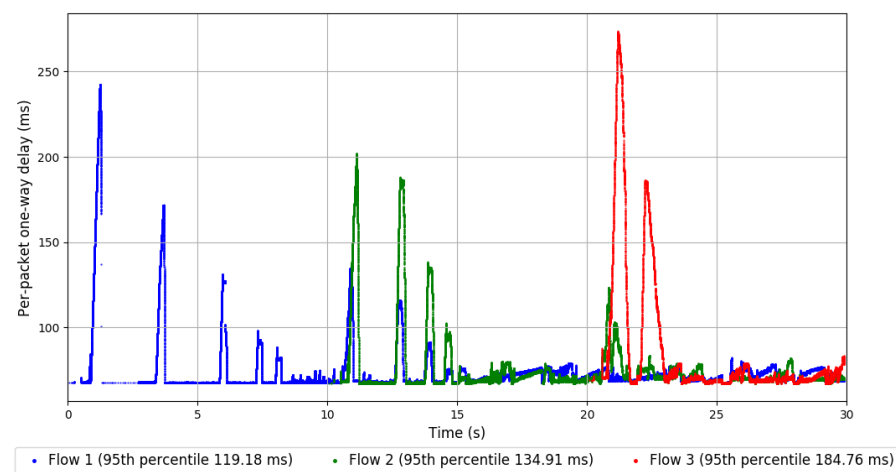
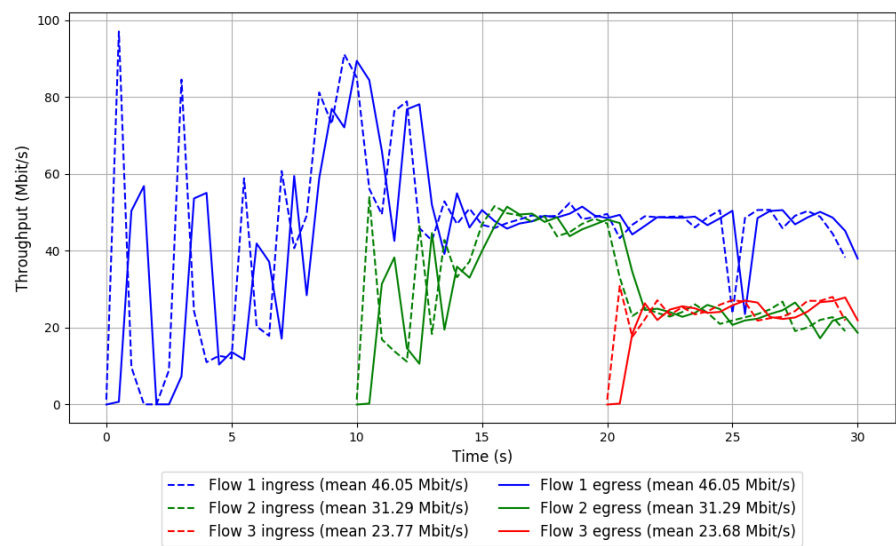


Run 4: Statistics of QUIC Cubic

Start at: 2019-01-25 20:38:27  
End at: 2019-01-25 20:38:57  
Local clock offset: -2.627 ms  
Remote clock offset: -0.291 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.64 Mbit/s  
95th percentile per-packet one-way delay: 131.011 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 46.05 Mbit/s  
95th percentile per-packet one-way delay: 119.178 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 31.29 Mbit/s  
95th percentile per-packet one-way delay: 134.908 ms  
Loss rate: 0.37%  
-- Flow 3:  
Average throughput: 23.68 Mbit/s  
95th percentile per-packet one-way delay: 184.758 ms  
Loss rate: 1.21%

Run 4: Report of QUIC Cubic — Data Link

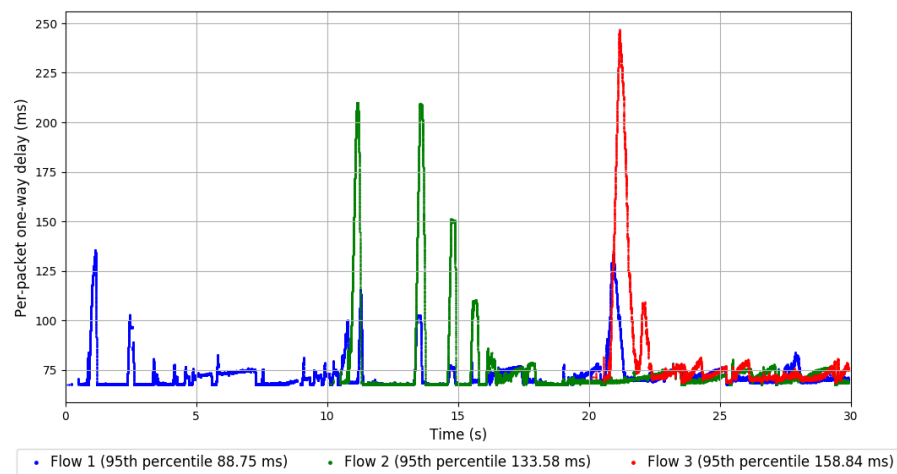
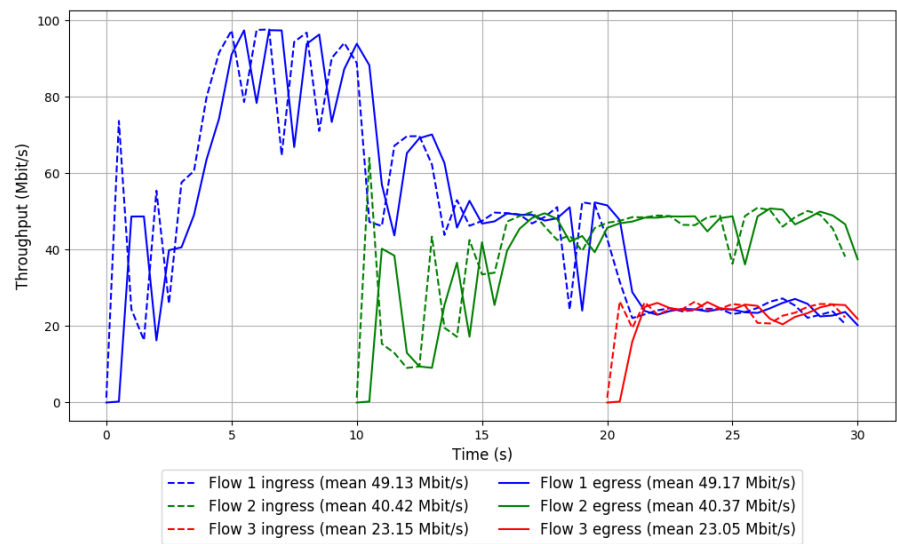


Run 5: Statistics of QUIC Cubic

Start at: 2019-01-25 21:06:02  
End at: 2019-01-25 21:06:32  
Local clock offset: -1.053 ms  
Remote clock offset: -0.722 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.60 Mbit/s  
95th percentile per-packet one-way delay: 101.199 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 49.17 Mbit/s  
95th percentile per-packet one-way delay: 88.751 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 40.37 Mbit/s  
95th percentile per-packet one-way delay: 133.580 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 23.05 Mbit/s  
95th percentile per-packet one-way delay: 158.836 ms  
Loss rate: 1.19%

Run 5: Report of QUIC Cubic — Data Link

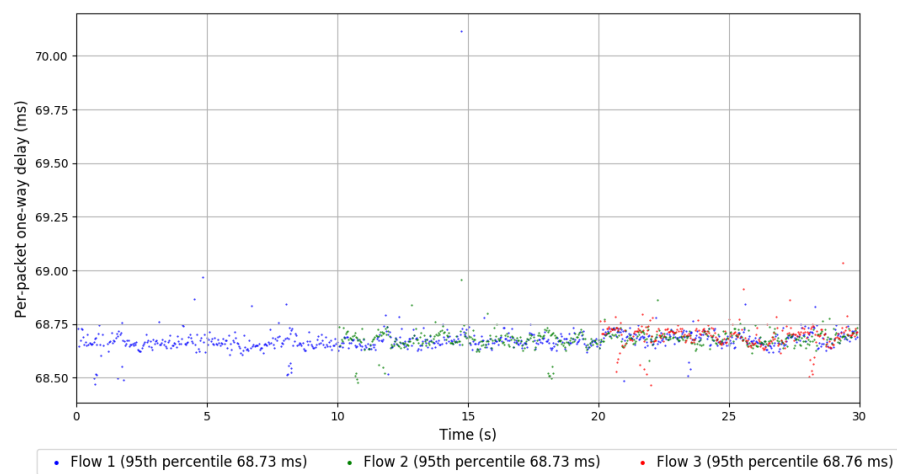
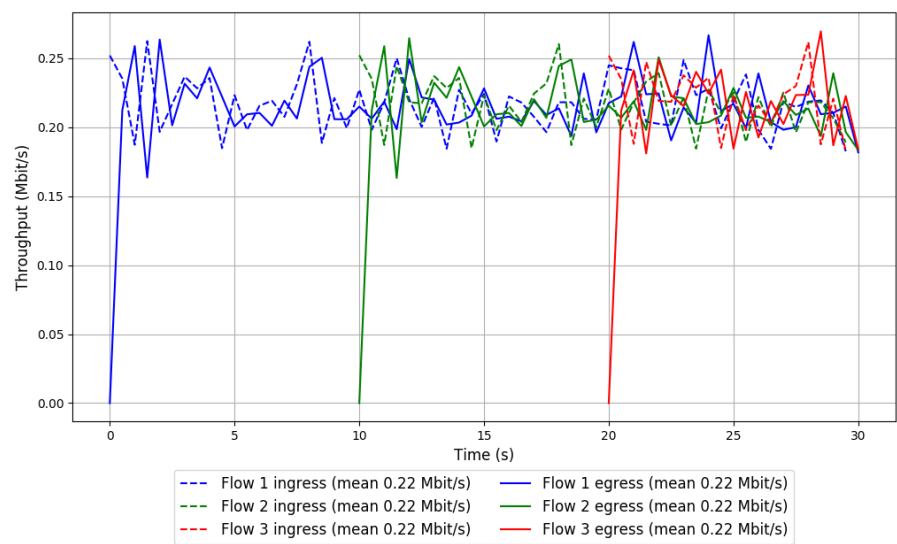


```
Run 1: Statistics of SCReAM

Start at: 2019-01-25 19:33:59
End at: 2019-01-25 19:34:29
Local clock offset: 0.196 ms
Remote clock offset: -0.665 ms

# Below is generated by plot.py at 2019-01-25 21:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 68.734 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.733 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.730 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.764 ms
Loss rate: 0.70%
```

Run 1: Report of SReAM — Data Link

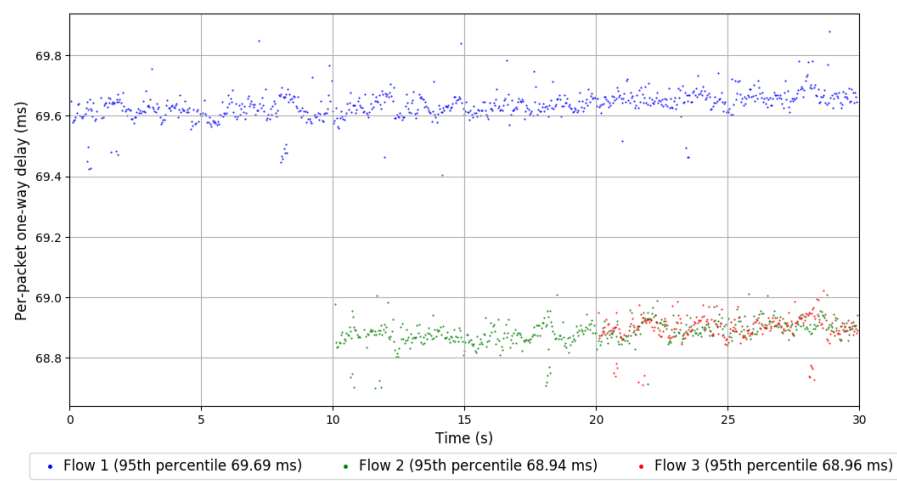
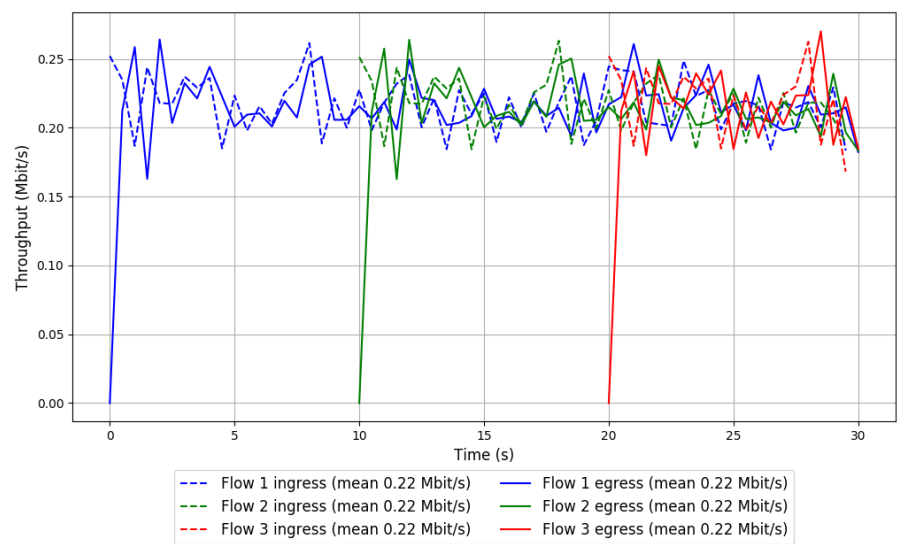


Run 2: Statistics of SReAM

Start at: 2019-01-25 20:03:20  
End at: 2019-01-25 20:03:50  
Local clock offset: -1.325 ms  
Remote clock offset: -1.239 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 69.678 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 69.695 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 68.944 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 68.959 ms  
Loss rate: 0.35%

Run 2: Report of SReAM — Data Link

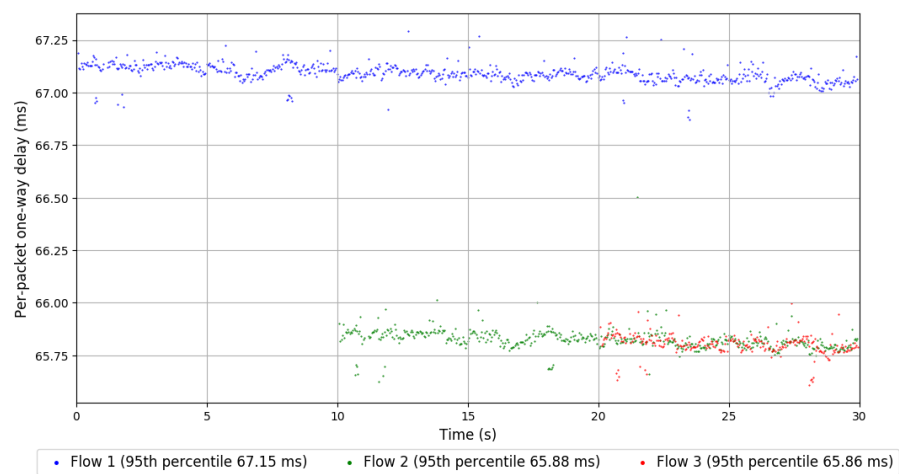
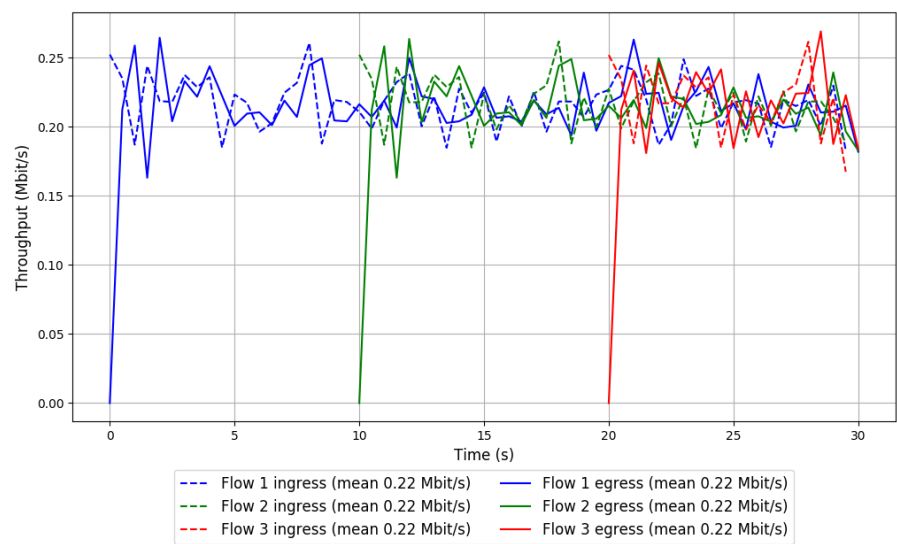


Run 3: Statistics of SReAM

Start at: 2019-01-25 20:30:47  
End at: 2019-01-25 20:31:17  
Local clock offset: -2.736 ms  
Remote clock offset: 1.789 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 67.138 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 67.151 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 65.878 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 65.858 ms  
Loss rate: 0.35%

Run 3: Report of SReAM — Data Link

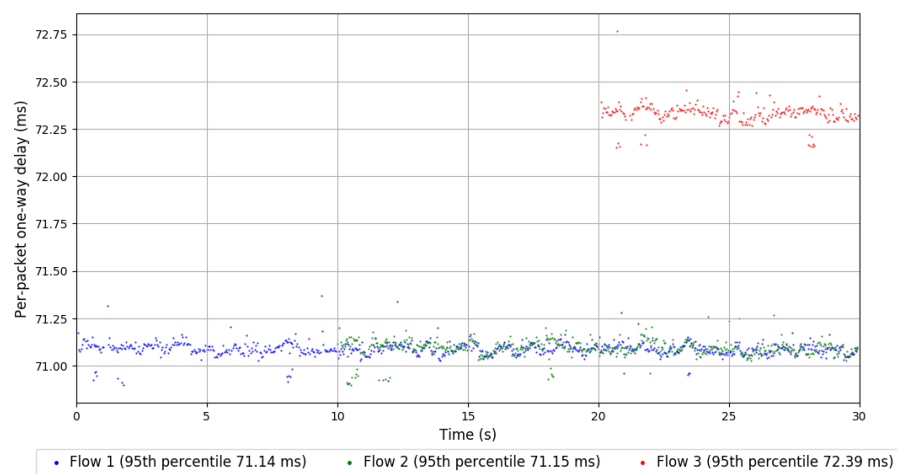
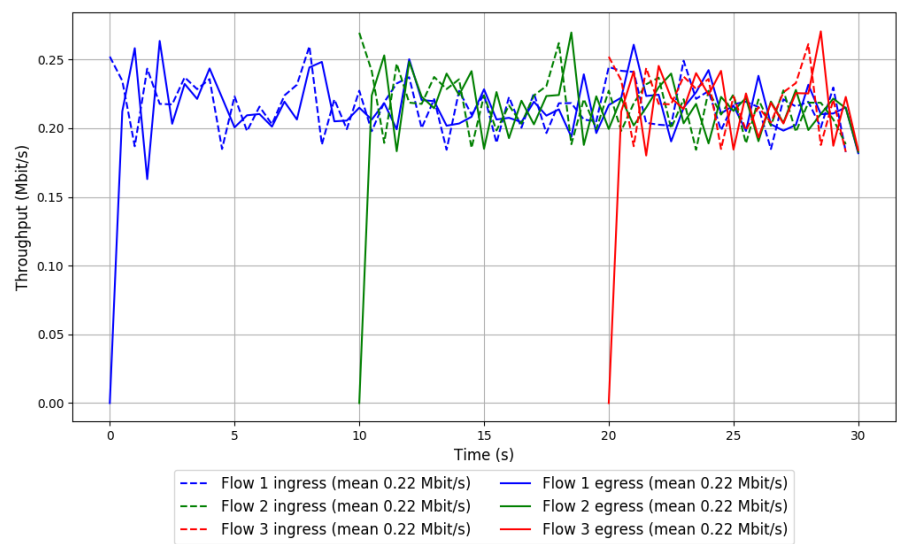


Run 4: Statistics of SReAM

Start at: 2019-01-25 20:57:27  
End at: 2019-01-25 20:57:57  
Local clock offset: 1.778 ms  
Remote clock offset: -0.439 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 72.351 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 71.137 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 71.152 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 72.391 ms  
Loss rate: 0.70%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-01-25 21:25:21

End at: 2019-01-25 21:25:51

Local clock offset: 0.616 ms

Remote clock offset: -0.22 ms

# Below is generated by plot.py at 2019-01-25 21:42:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 68.938 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 68.961 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 68.170 ms

Loss rate: 0.39%

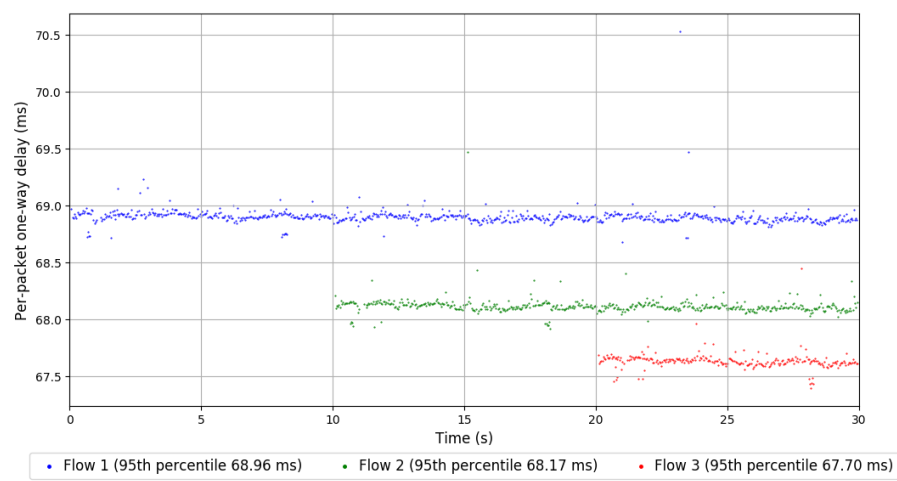
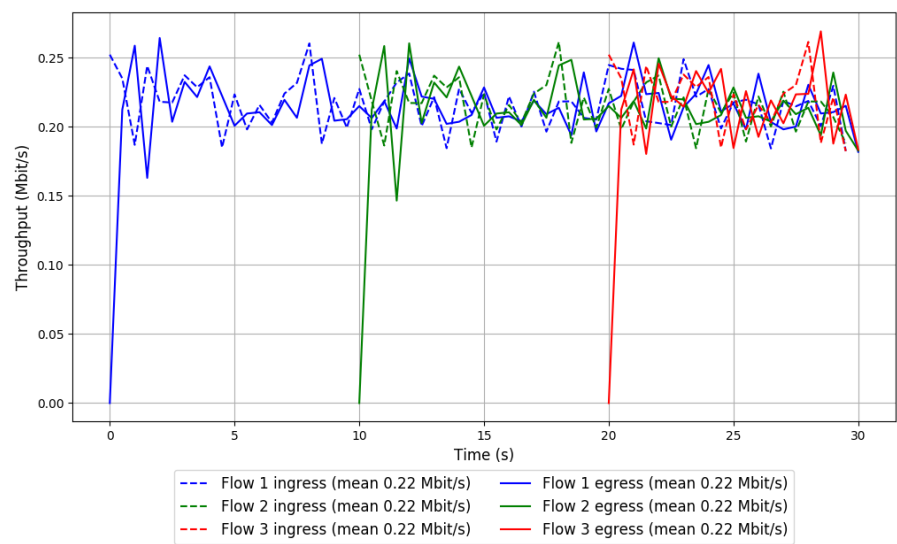
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 67.699 ms

Loss rate: 0.70%

Run 5: Report of SReAM — Data Link

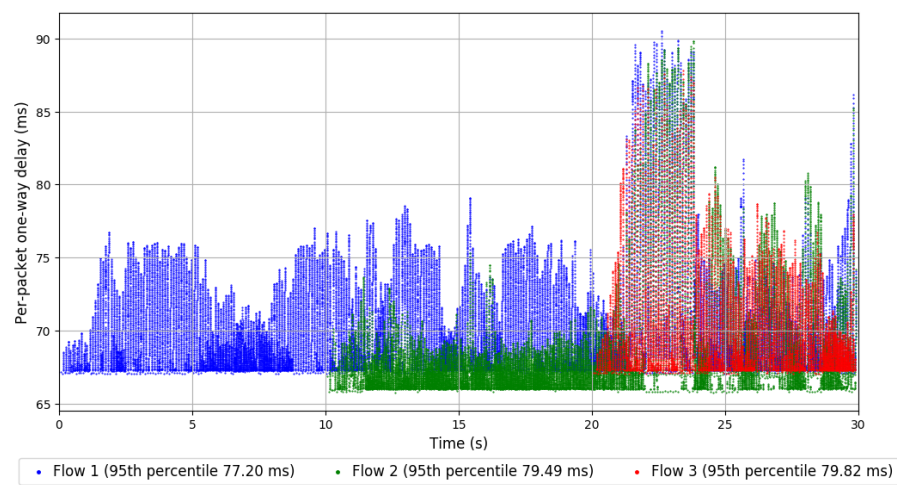
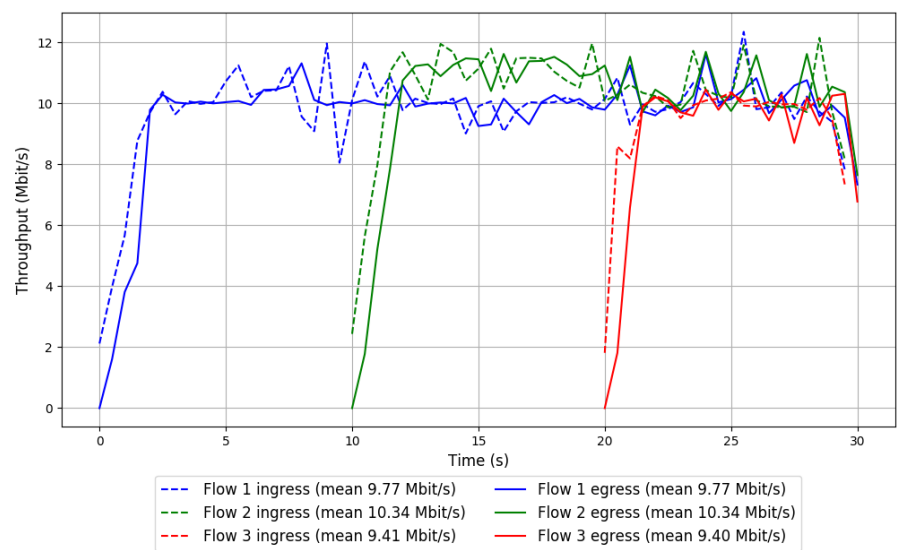


Run 1: Statistics of Sprout

Start at: 2019-01-25 19:15:46  
End at: 2019-01-25 19:16:16  
Local clock offset: -1.141 ms  
Remote clock offset: -1.497 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.72 Mbit/s  
95th percentile per-packet one-way delay: 78.686 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 9.77 Mbit/s  
95th percentile per-packet one-way delay: 77.197 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 10.34 Mbit/s  
95th percentile per-packet one-way delay: 79.486 ms  
Loss rate: 0.37%  
-- Flow 3:  
Average throughput: 9.40 Mbit/s  
95th percentile per-packet one-way delay: 79.824 ms  
Loss rate: 0.91%

Run 1: Report of Sprout — Data Link

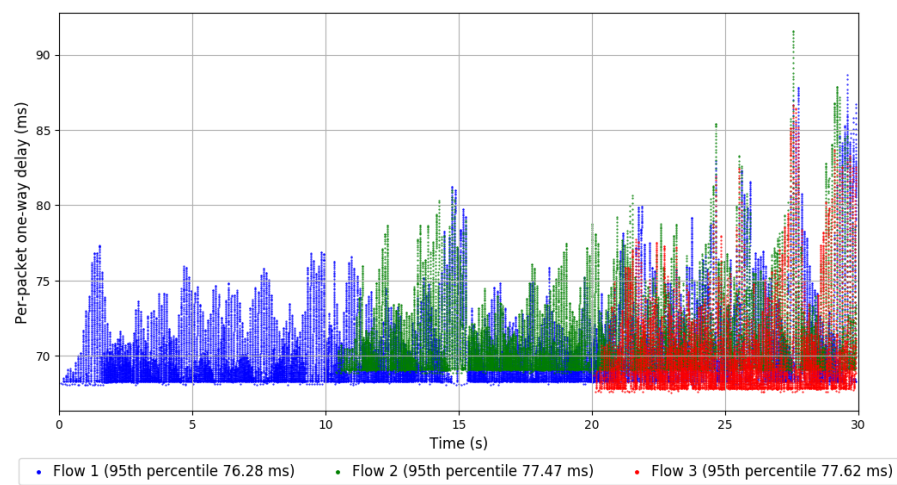
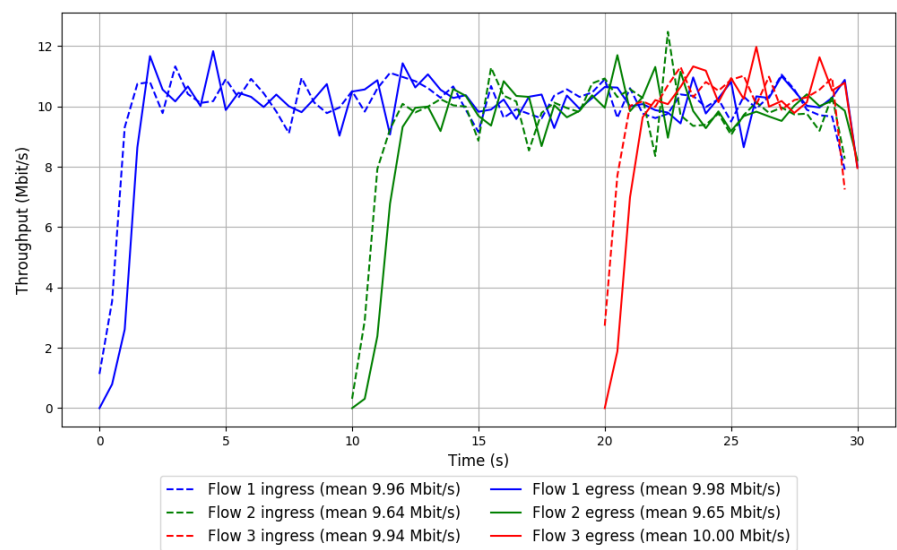


Run 2: Statistics of Sprout

Start at: 2019-01-25 19:44:06  
End at: 2019-01-25 19:44:36  
Local clock offset: -1.486 ms  
Remote clock offset: -2.231 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.58 Mbit/s  
95th percentile per-packet one-way delay: 76.983 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 9.98 Mbit/s  
95th percentile per-packet one-way delay: 76.276 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 9.65 Mbit/s  
95th percentile per-packet one-way delay: 77.468 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 10.00 Mbit/s  
95th percentile per-packet one-way delay: 77.623 ms  
Loss rate: 0.05%

Run 2: Report of Sprout — Data Link

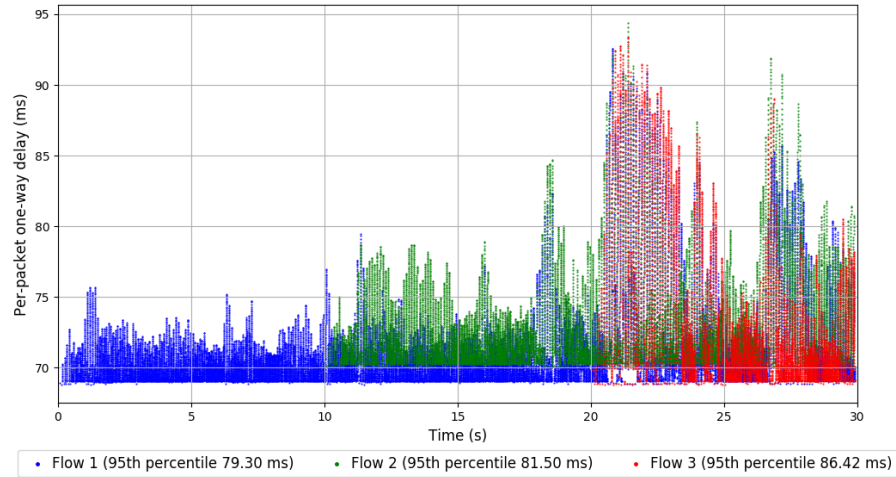
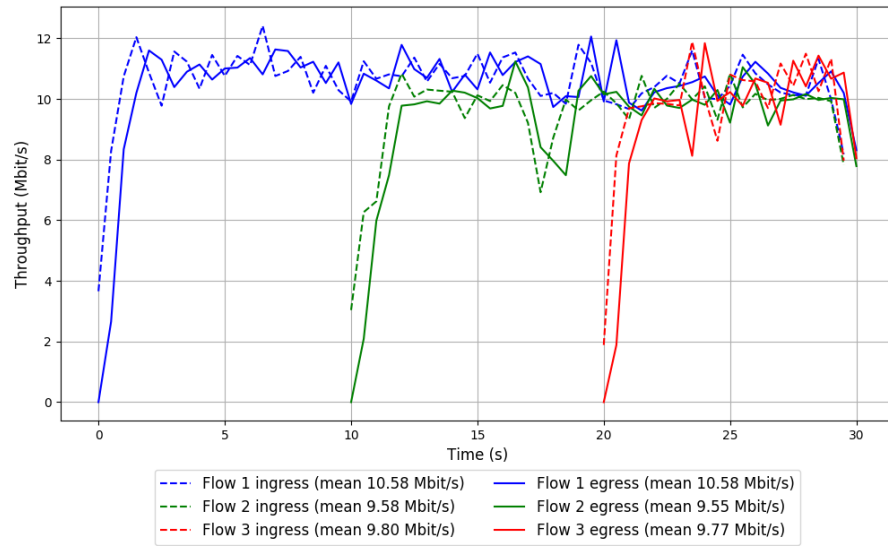


### Run 3: Statistics of Sprout

Start at: 2019-01-25 20:12:44  
End at: 2019-01-25 20:13:14  
Local clock offset: -0.935 ms  
Remote clock offset: -0.389 ms

```
# Below is generated by plot.py at 2019-01-25 21:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.14 Mbit/s
95th percentile per-packet one-way delay: 81.889 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 79.304 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 81.501 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 9.77 Mbit/s
95th percentile per-packet one-way delay: 86.420 ms
Loss rate: 1.00%
```

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

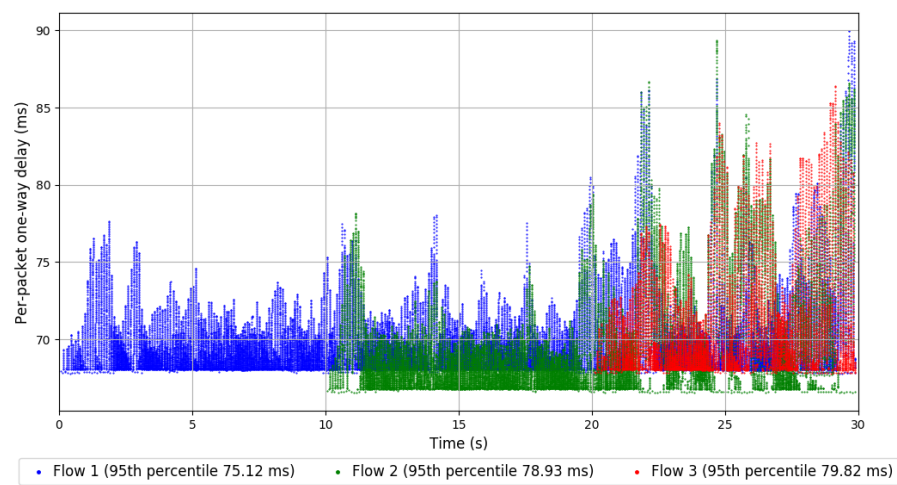
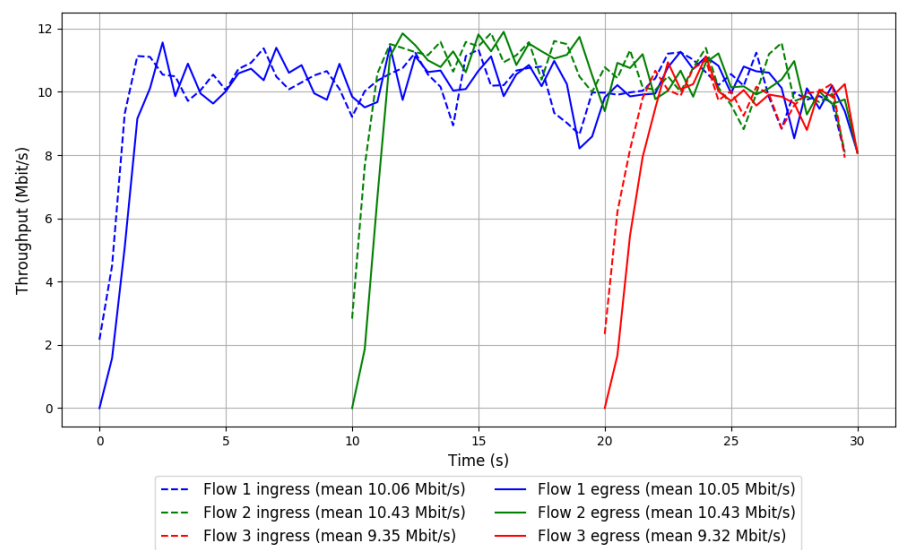


#### Run 4: Statistics of Sprout

Start at: 2019-01-25 20:39:43  
End at: 2019-01-25 20:40:13  
Local clock offset: -2.684 ms  
Remote clock offset: 0.123 ms

```
# Below is generated by plot.py at 2019-01-25 21:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.03 Mbit/s
95th percentile per-packet one-way delay: 77.762 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 10.05 Mbit/s
95th percentile per-packet one-way delay: 75.121 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 10.43 Mbit/s
95th percentile per-packet one-way delay: 78.927 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 79.824 ms
Loss rate: 0.99%
```

Run 4: Report of Sprout — Data Link

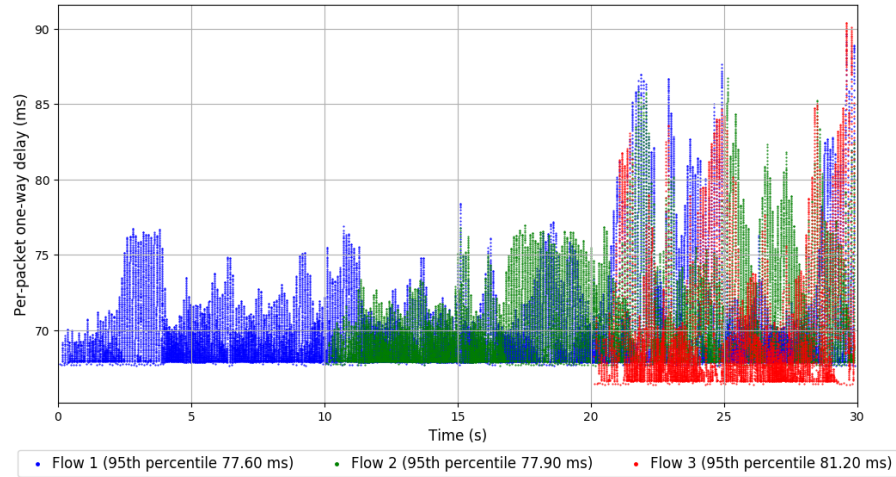
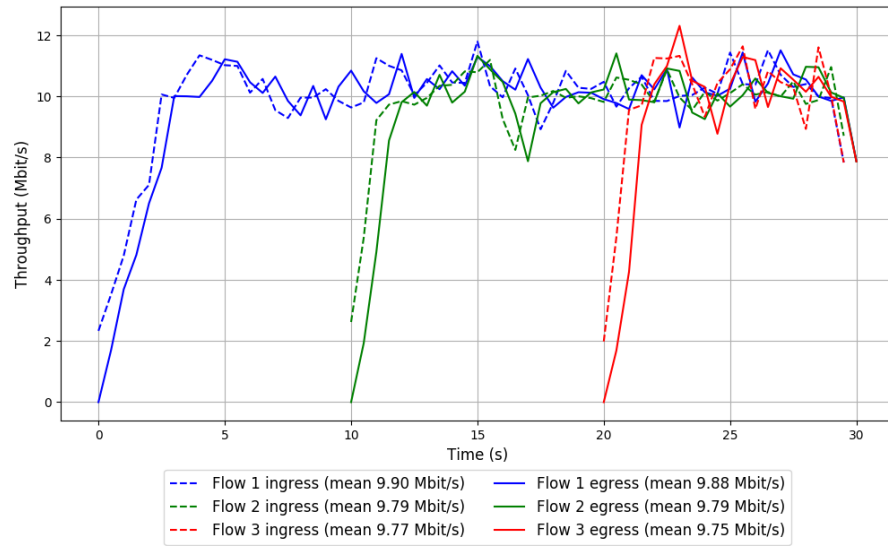


Run 5: Statistics of Sprout

Start at: 2019-01-25 21:07:21  
End at: 2019-01-25 21:07:51  
Local clock offset: -0.643 ms  
Remote clock offset: 0.654 ms

# Below is generated by plot.py at 2019-01-25 21:42:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.58 Mbit/s  
95th percentile per-packet one-way delay: 78.674 ms  
Loss rate: 0.50%  
-- Flow 1:  
Average throughput: 9.88 Mbit/s  
95th percentile per-packet one-way delay: 77.596 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 9.79 Mbit/s  
95th percentile per-packet one-way delay: 77.902 ms  
Loss rate: 0.49%  
-- Flow 3:  
Average throughput: 9.75 Mbit/s  
95th percentile per-packet one-way delay: 81.201 ms  
Loss rate: 1.02%

## Run 5: Report of Sprout — Data Link

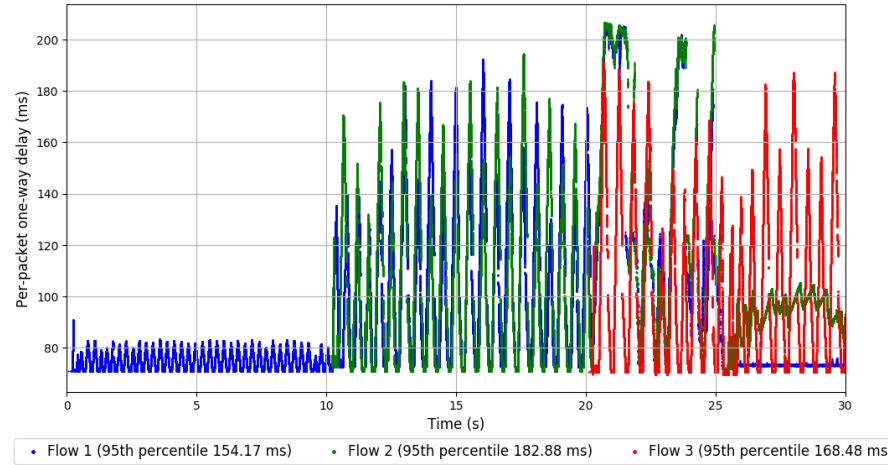
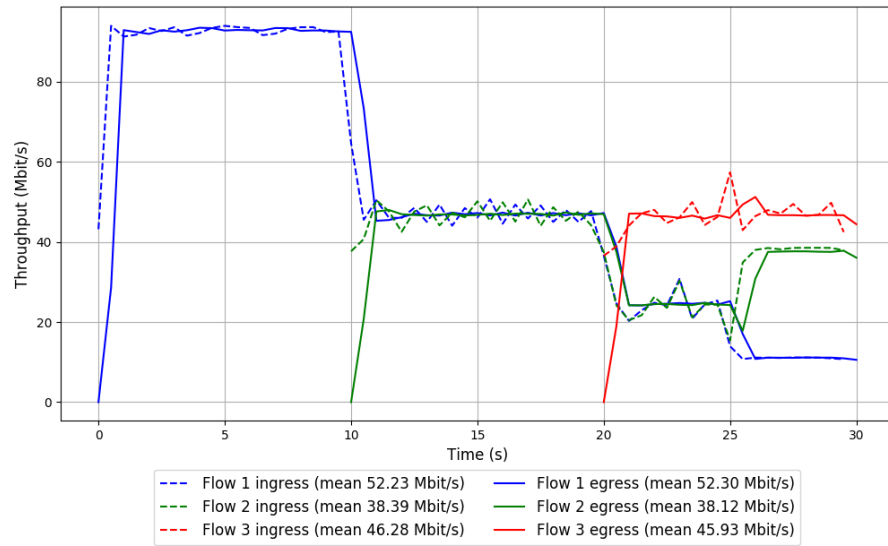


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-25 19:36:26
End at: 2019-01-25 19:36:56
Local clock offset: 0.191 ms
Remote clock offset: -2.82 ms

# Below is generated by plot.py at 2019-01-25 21:44:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.84 Mbit/s
95th percentile per-packet one-way delay: 167.459 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 52.30 Mbit/s
95th percentile per-packet one-way delay: 154.170 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 38.12 Mbit/s
95th percentile per-packet one-way delay: 182.875 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 168.483 ms
Loss rate: 1.51%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-25 20:05:51

End at: 2019-01-25 20:06:21

Local clock offset: -0.649 ms

Remote clock offset: 1.07 ms

# Below is generated by plot.py at 2019-01-25 21:44:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.93 Mbit/s

95th percentile per-packet one-way delay: 173.111 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 54.20 Mbit/s

95th percentile per-packet one-way delay: 151.493 ms

Loss rate: 0.35%

-- Flow 2:

Average throughput: 35.58 Mbit/s

95th percentile per-packet one-way delay: 198.203 ms

Loss rate: 0.78%

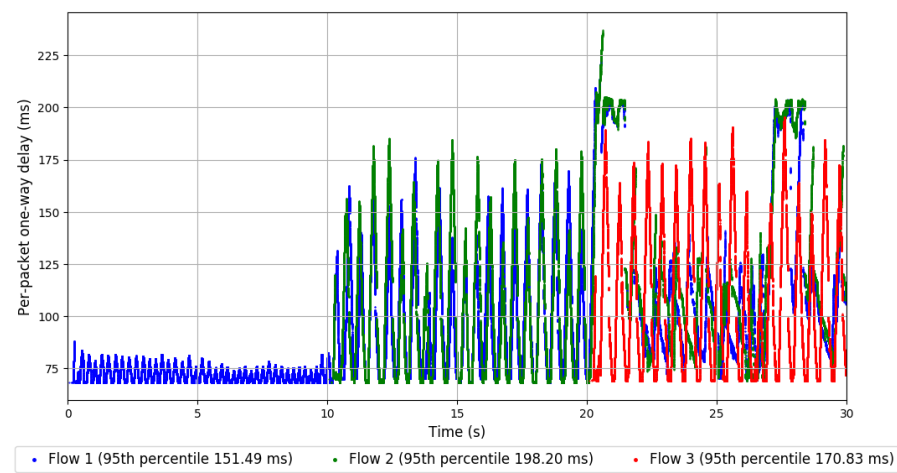
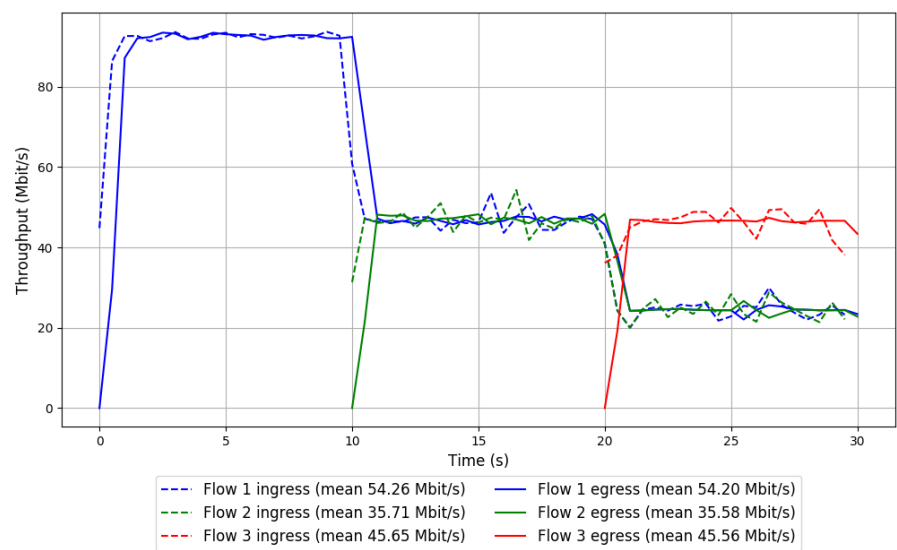
-- Flow 3:

Average throughput: 45.56 Mbit/s

95th percentile per-packet one-way delay: 170.832 ms

Loss rate: 0.96%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-25 20:33:10

End at: 2019-01-25 20:33:40

Local clock offset: -2.138 ms

Remote clock offset: 0.618 ms

# Below is generated by plot.py at 2019-01-25 21:44:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.36 Mbit/s

95th percentile per-packet one-way delay: 154.041 ms

Loss rate: 1.07%

-- Flow 1:

Average throughput: 56.07 Mbit/s

95th percentile per-packet one-way delay: 153.576 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 39.24 Mbit/s

95th percentile per-packet one-way delay: 162.522 ms

Loss rate: 0.87%

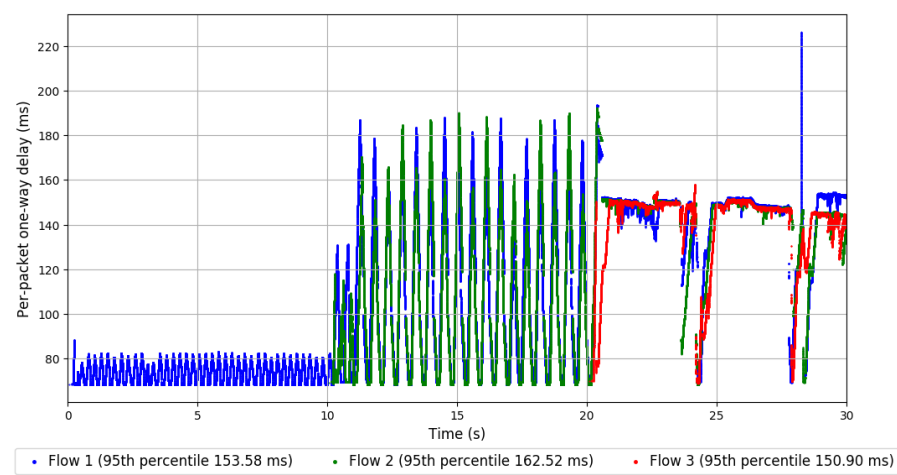
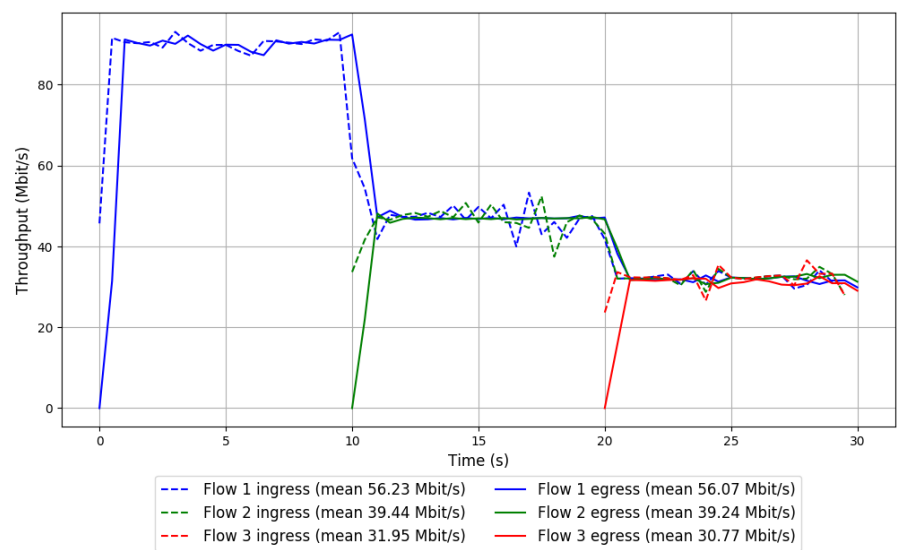
-- Flow 3:

Average throughput: 30.77 Mbit/s

95th percentile per-packet one-way delay: 150.899 ms

Loss rate: 4.42%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-25 21:00:00

End at: 2019-01-25 21:00:30

Local clock offset: 0.652 ms

Remote clock offset: 1.671 ms

# Below is generated by plot.py at 2019-01-25 21:44:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.39 Mbit/s

95th percentile per-packet one-way delay: 162.474 ms

Loss rate: 0.71%

-- Flow 1:

Average throughput: 60.79 Mbit/s

95th percentile per-packet one-way delay: 146.721 ms

Loss rate: 0.55%

-- Flow 2:

Average throughput: 35.57 Mbit/s

95th percentile per-packet one-way delay: 176.539 ms

Loss rate: 0.71%

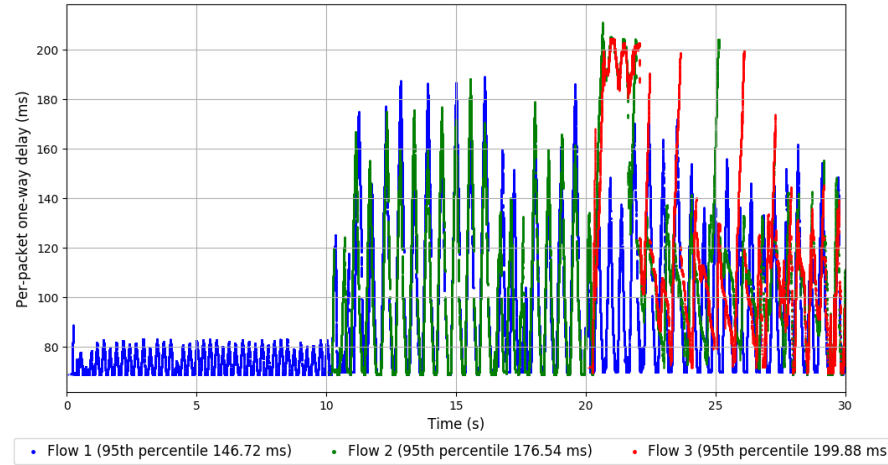
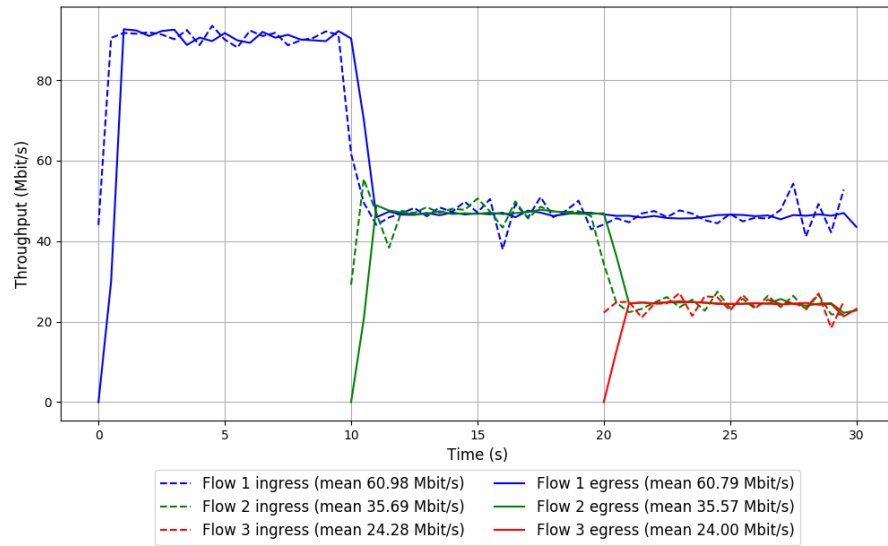
-- Flow 3:

Average throughput: 24.00 Mbit/s

95th percentile per-packet one-way delay: 199.882 ms

Loss rate: 1.94%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-25 21:27:55

End at: 2019-01-25 21:28:25

Local clock offset: -0.863 ms

Remote clock offset: 0.284 ms

# Below is generated by plot.py at 2019-01-25 21:44:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.45 Mbit/s

95th percentile per-packet one-way delay: 162.248 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 53.78 Mbit/s

95th percentile per-packet one-way delay: 153.361 ms

Loss rate: 0.44%

-- Flow 2:

Average throughput: 35.46 Mbit/s

95th percentile per-packet one-way delay: 173.453 ms

Loss rate: 0.67%

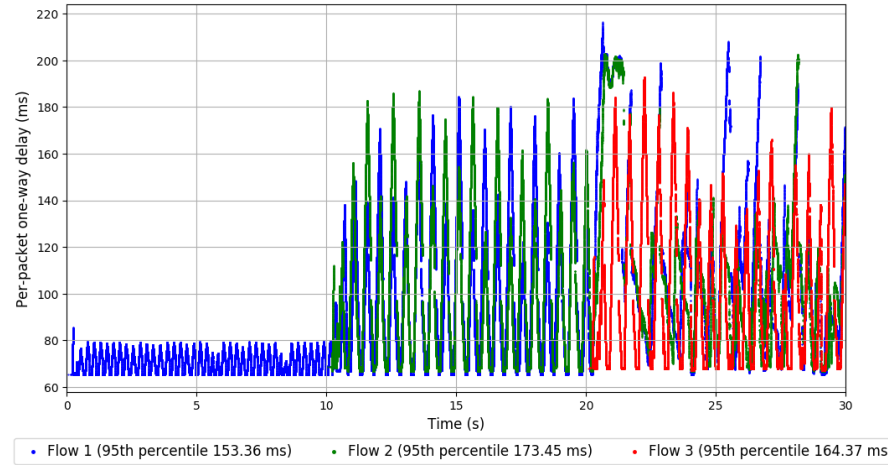
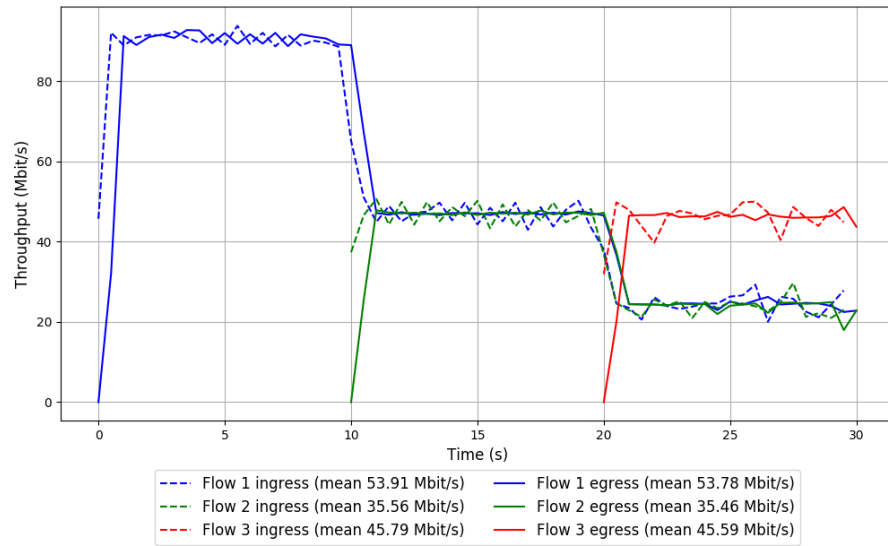
-- Flow 3:

Average throughput: 45.59 Mbit/s

95th percentile per-packet one-way delay: 164.372 ms

Loss rate: 1.17%

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

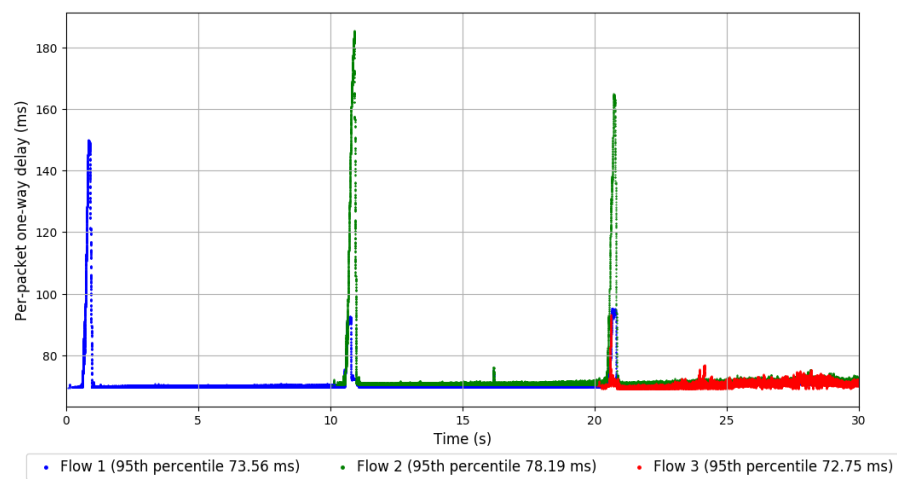
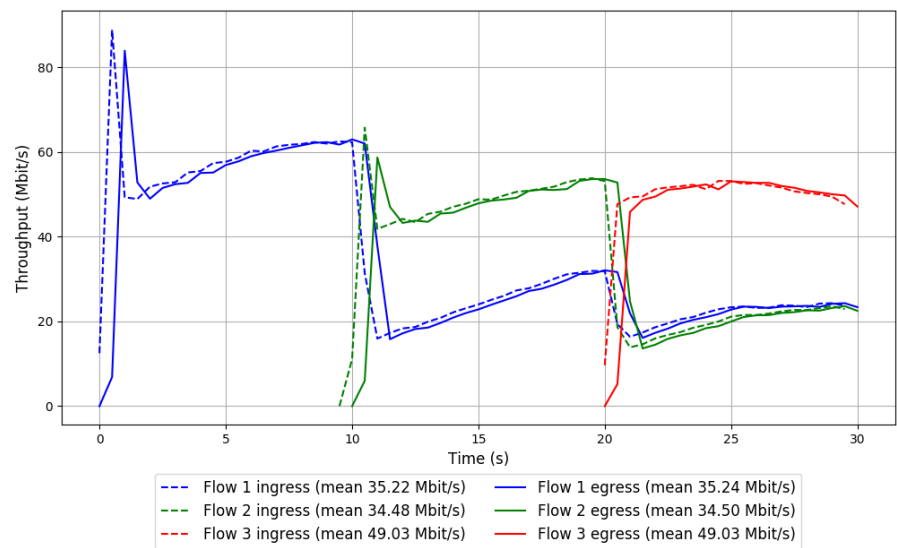


Run 1: Statistics of TCP Vegas

Start at: 2019-01-25 19:31:29  
End at: 2019-01-25 19:31:59  
Local clock offset: 1.51 ms  
Remote clock offset: -1.261 ms

# Below is generated by plot.py at 2019-01-25 21:44:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.42 Mbit/s  
95th percentile per-packet one-way delay: 73.174 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 35.24 Mbit/s  
95th percentile per-packet one-way delay: 73.561 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 34.50 Mbit/s  
95th percentile per-packet one-way delay: 78.193 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 49.03 Mbit/s  
95th percentile per-packet one-way delay: 72.753 ms  
Loss rate: 0.77%

Run 1: Report of TCP Vegas — Data Link

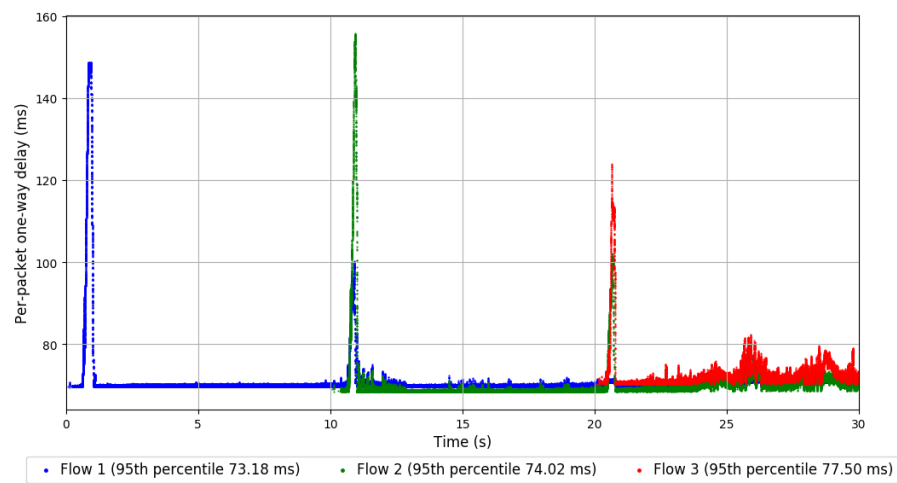
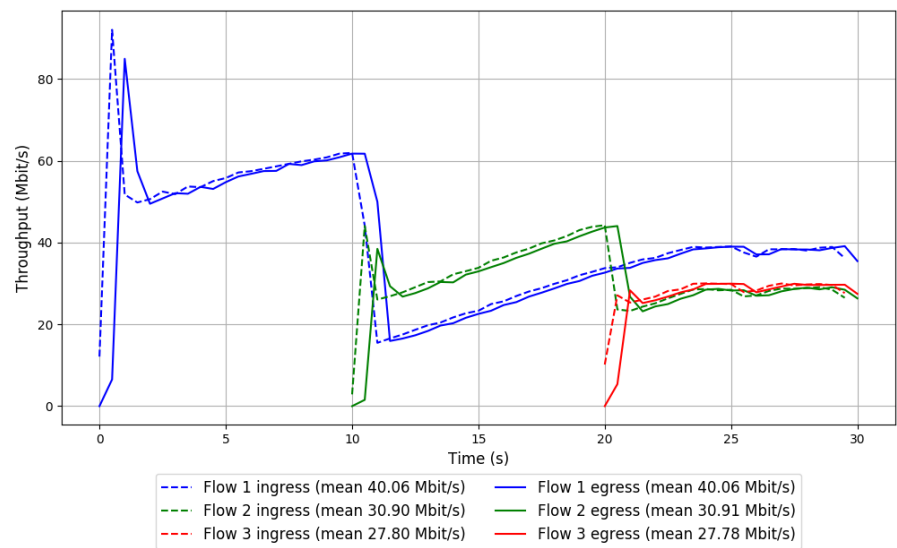


Run 2: Statistics of TCP Vegas

Start at: 2019-01-25 20:00:38  
End at: 2019-01-25 20:01:08  
Local clock offset: 0.198 ms  
Remote clock offset: -0.289 ms

# Below is generated by plot.py at 2019-01-25 21:44:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 69.81 Mbit/s  
95th percentile per-packet one-way delay: 75.505 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 40.06 Mbit/s  
95th percentile per-packet one-way delay: 73.183 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 30.91 Mbit/s  
95th percentile per-packet one-way delay: 74.016 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 27.78 Mbit/s  
95th percentile per-packet one-way delay: 77.501 ms  
Loss rate: 0.85%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-25 20:28:20

End at: 2019-01-25 20:28:50

Local clock offset: -2.556 ms

Remote clock offset: 1.967 ms

# Below is generated by plot.py at 2019-01-25 21:44:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 68.38 Mbit/s

95th percentile per-packet one-way delay: 84.364 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 35.55 Mbit/s

95th percentile per-packet one-way delay: 105.280 ms

Loss rate: 0.36%

-- Flow 2:

Average throughput: 38.57 Mbit/s

95th percentile per-packet one-way delay: 71.908 ms

Loss rate: 0.34%

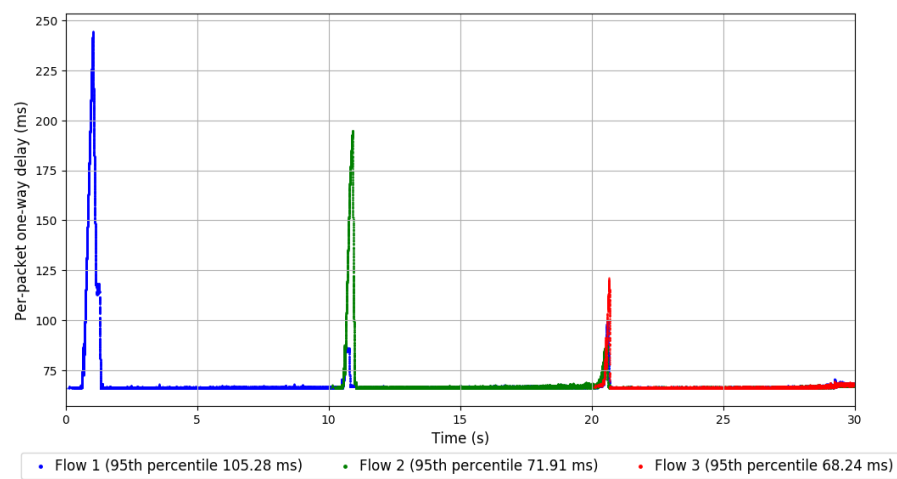
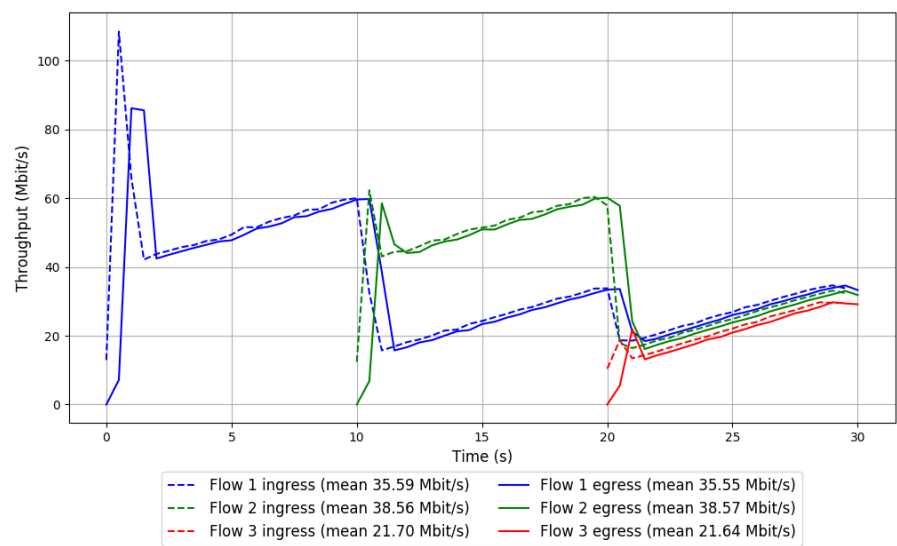
-- Flow 3:

Average throughput: 21.64 Mbit/s

95th percentile per-packet one-way delay: 68.236 ms

Loss rate: 1.05%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2019-01-25 20:54:51

End at: 2019-01-25 20:55:21

Local clock offset: -0.325 ms

Remote clock offset: -0.31 ms

# Below is generated by plot.py at 2019-01-25 21:44:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 66.75 Mbit/s

95th percentile per-packet one-way delay: 84.615 ms

Loss rate: 0.39%

-- Flow 1:

Average throughput: 40.78 Mbit/s

95th percentile per-packet one-way delay: 92.753 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 28.93 Mbit/s

95th percentile per-packet one-way delay: 70.654 ms

Loss rate: 0.35%

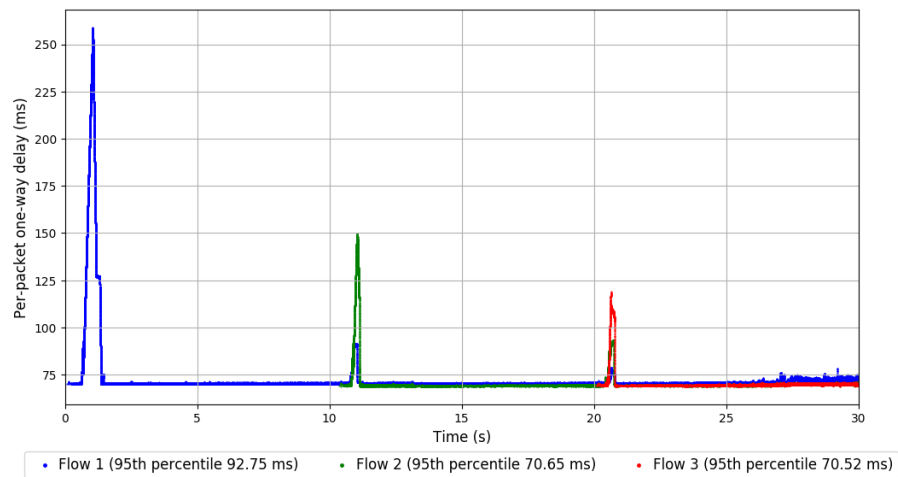
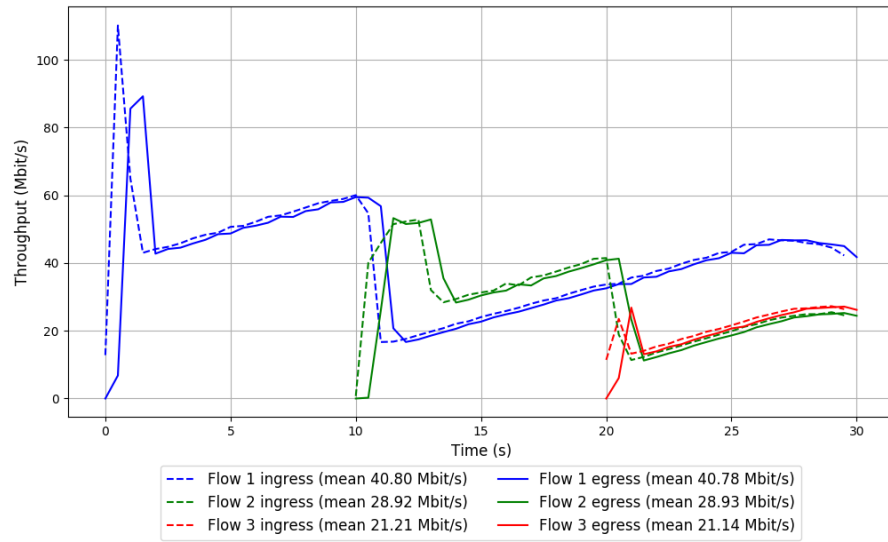
-- Flow 3:

Average throughput: 21.14 Mbit/s

95th percentile per-packet one-way delay: 70.521 ms

Loss rate: 1.06%

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



Run 5: Statistics of TCP Vegas

Start at: 2019-01-25 21:22:39

End at: 2019-01-25 21:23:09

Local clock offset: 1.036 ms

Remote clock offset: 0.271 ms

# Below is generated by plot.py at 2019-01-25 21:44:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.56 Mbit/s

95th percentile per-packet one-way delay: 73.319 ms

Loss rate: 0.33%

-- Flow 1:

Average throughput: 46.76 Mbit/s

95th percentile per-packet one-way delay: 72.210 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 31.74 Mbit/s

95th percentile per-packet one-way delay: 71.861 ms

Loss rate: 0.37%

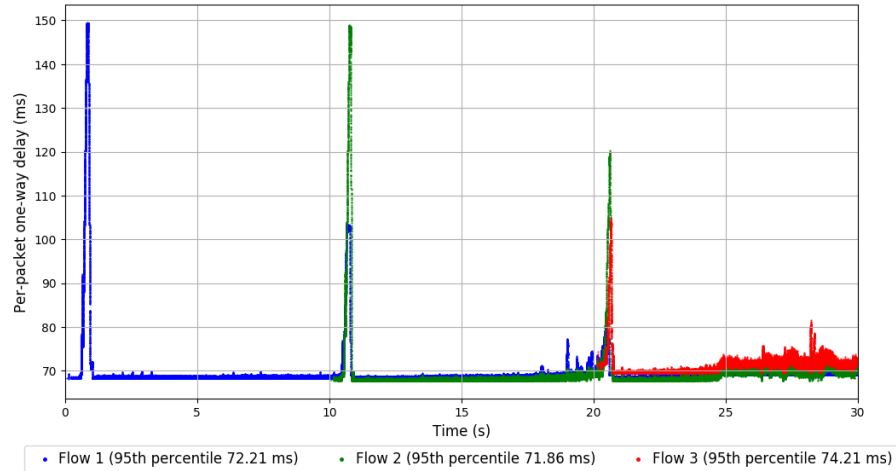
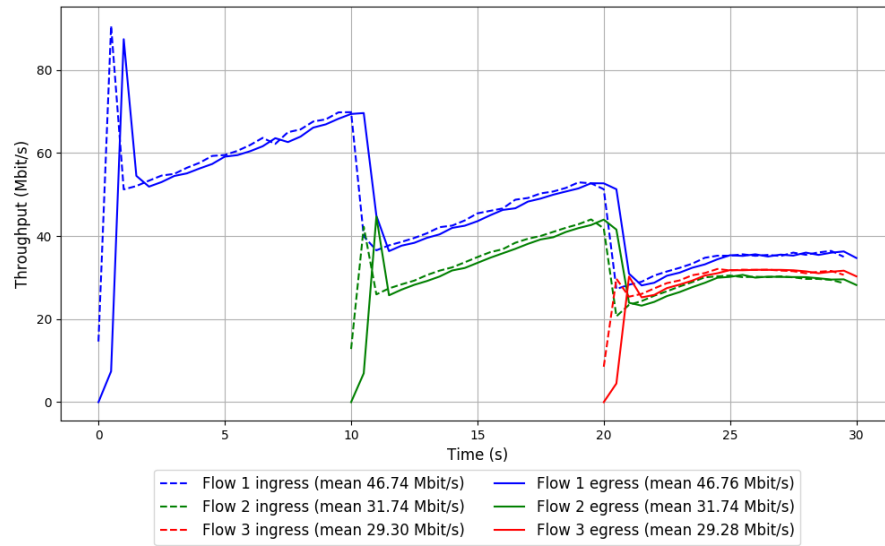
-- Flow 3:

Average throughput: 29.28 Mbit/s

95th percentile per-packet one-way delay: 74.206 ms

Loss rate: 0.84%

# Run 5: Report of TCP Vegas — Data Link

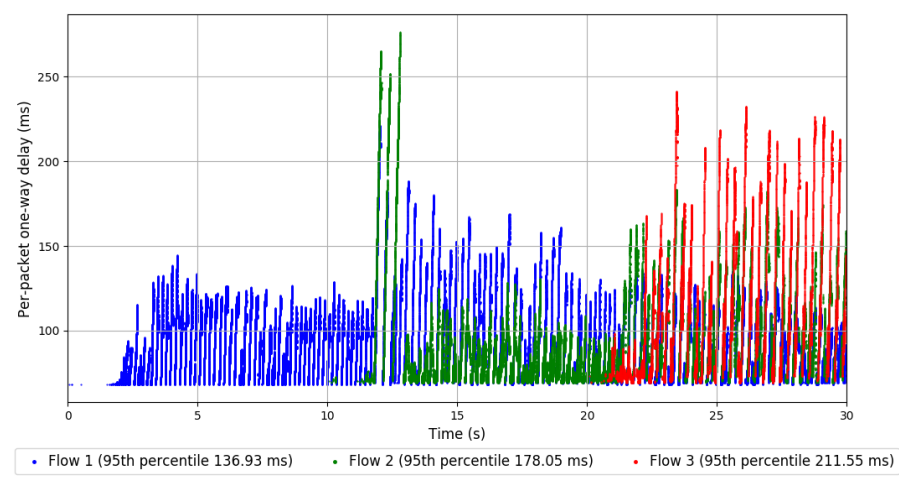
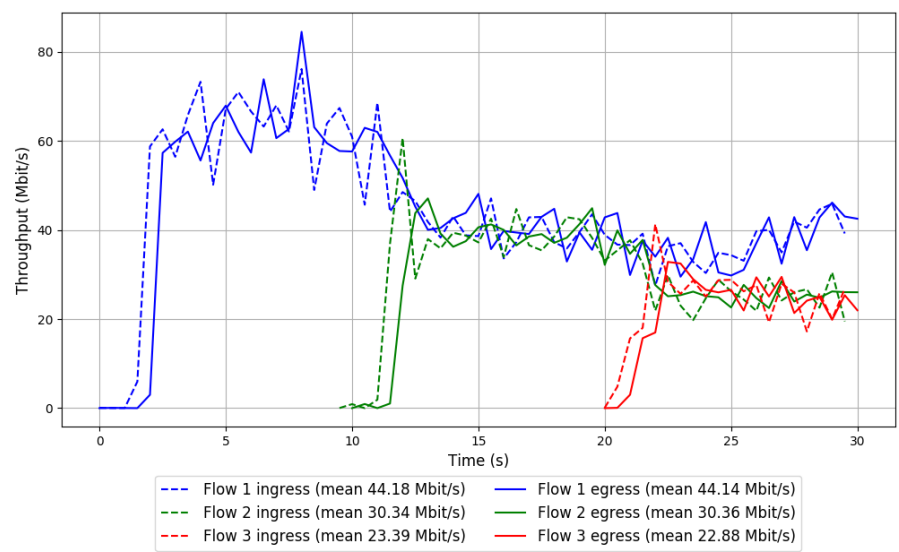


Run 1: Statistics of Verus

Start at: 2019-01-25 19:35:10  
End at: 2019-01-25 19:35:40  
Local clock offset: -1.211 ms  
Remote clock offset: -2.611 ms

# Below is generated by plot.py at 2019-01-25 21:44:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 71.90 Mbit/s  
95th percentile per-packet one-way delay: 163.304 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 44.14 Mbit/s  
95th percentile per-packet one-way delay: 136.933 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 30.36 Mbit/s  
95th percentile per-packet one-way delay: 178.052 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 22.88 Mbit/s  
95th percentile per-packet one-way delay: 211.546 ms  
Loss rate: 2.05%

Run 1: Report of Verus — Data Link

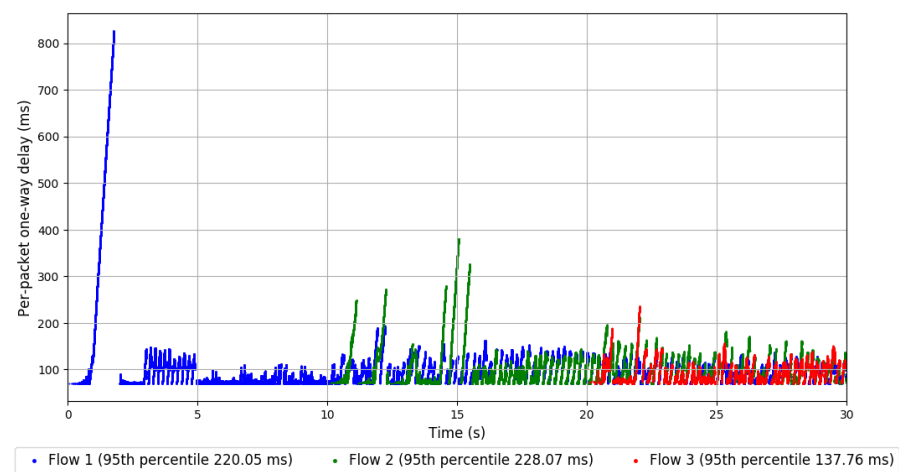
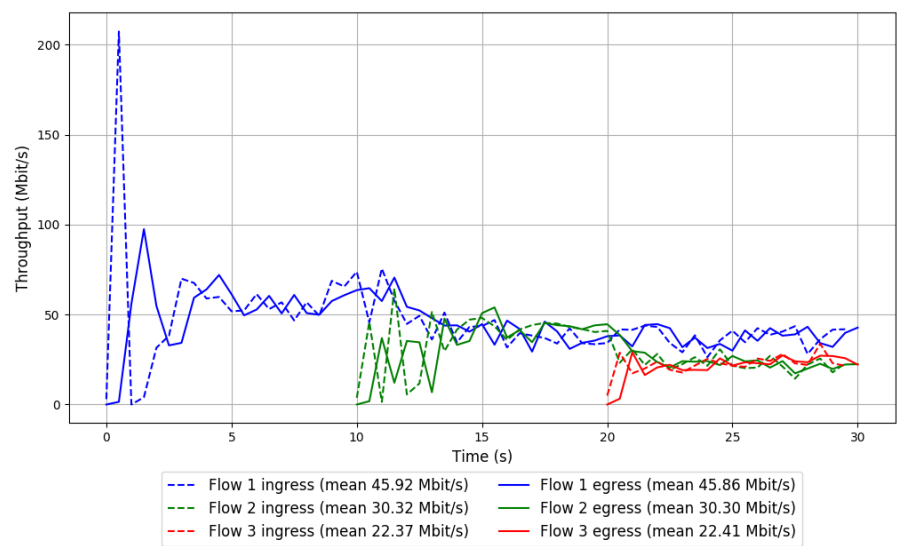


Run 2: Statistics of Verus

Start at: 2019-01-25 20:04:28  
End at: 2019-01-25 20:04:58  
Local clock offset: -1.59 ms  
Remote clock offset: -1.215 ms

# Below is generated by plot.py at 2019-01-25 21:45:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.40 Mbit/s  
95th percentile per-packet one-way delay: 206.945 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 45.86 Mbit/s  
95th percentile per-packet one-way delay: 220.053 ms  
Loss rate: 0.40%  
-- Flow 2:  
Average throughput: 30.30 Mbit/s  
95th percentile per-packet one-way delay: 228.068 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 22.41 Mbit/s  
95th percentile per-packet one-way delay: 137.763 ms  
Loss rate: 0.84%

Run 2: Report of Verus — Data Link

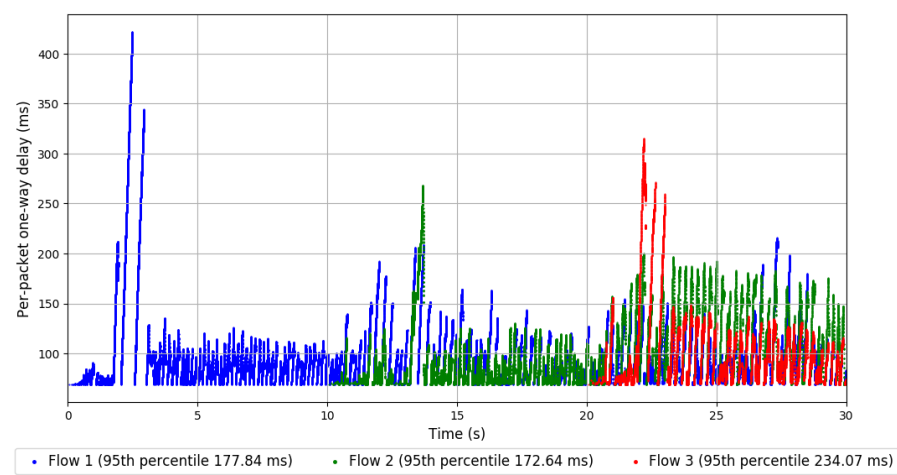
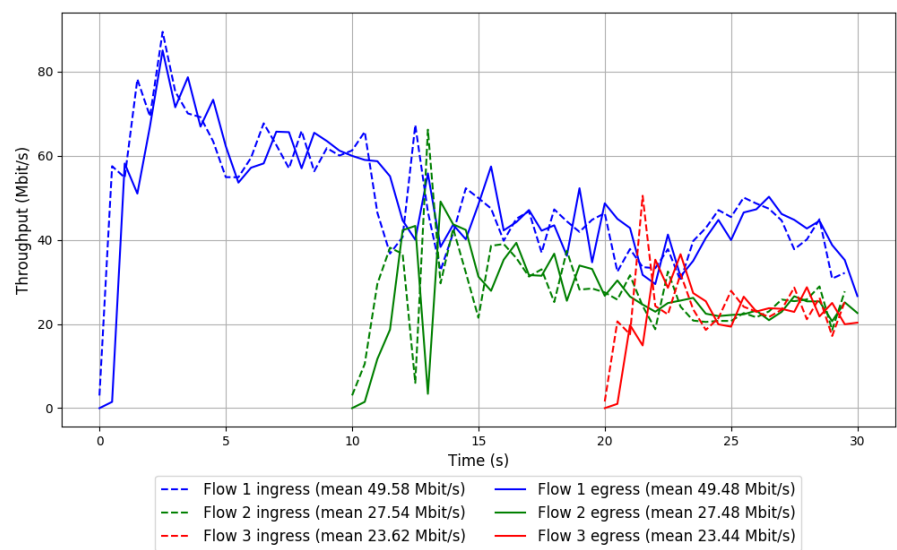


Run 3: Statistics of Verus

Start at: 2019-01-25 20:31:55  
End at: 2019-01-25 20:32:25  
Local clock offset: -2.76 ms  
Remote clock offset: -0.577 ms

# Below is generated by plot.py at 2019-01-25 21:45:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 75.48 Mbit/s  
95th percentile per-packet one-way delay: 178.982 ms  
Loss rate: 0.55%  
-- Flow 1:  
Average throughput: 49.48 Mbit/s  
95th percentile per-packet one-way delay: 177.839 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 27.48 Mbit/s  
95th percentile per-packet one-way delay: 172.643 ms  
Loss rate: 0.76%  
-- Flow 3:  
Average throughput: 23.44 Mbit/s  
95th percentile per-packet one-way delay: 234.068 ms  
Loss rate: 1.47%

Run 3: Report of Verus — Data Link

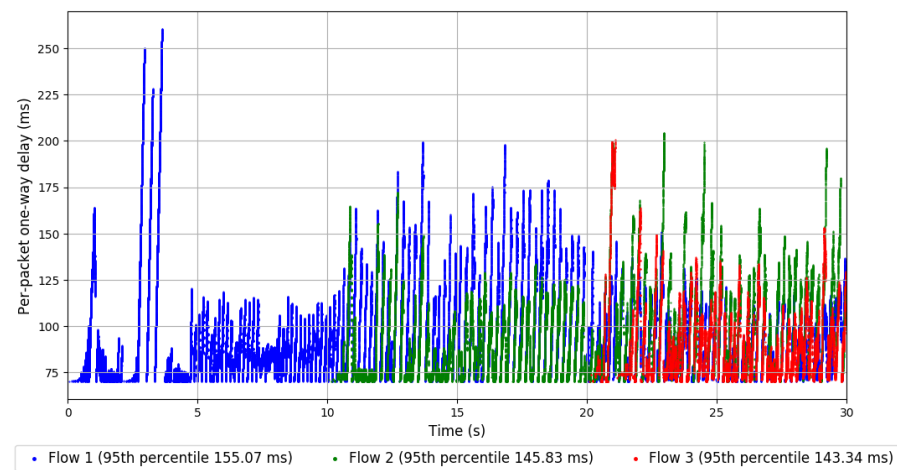
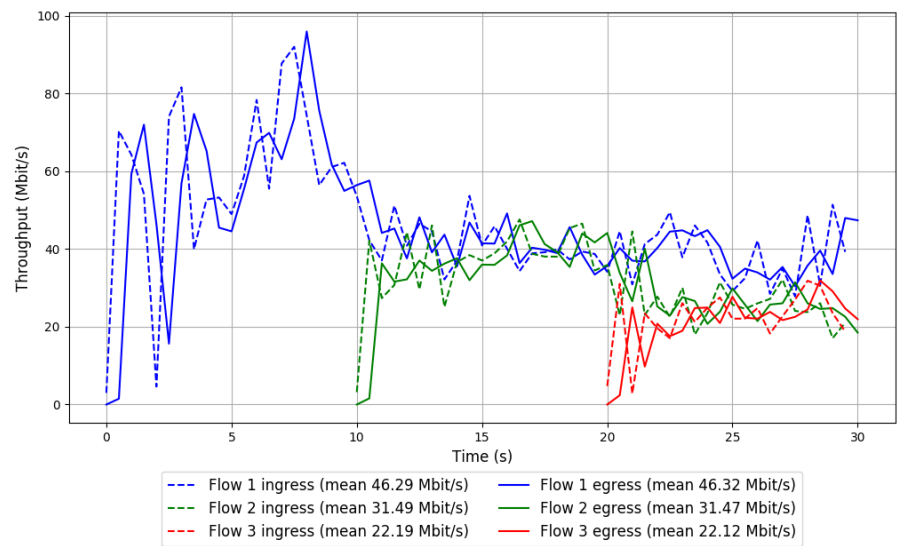


Run 4: Statistics of Verus

Start at: 2019-01-25 20:58:36  
End at: 2019-01-25 20:59:06  
Local clock offset: 0.448 ms  
Remote clock offset: -0.991 ms

# Below is generated by plot.py at 2019-01-25 21:45:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.57 Mbit/s  
95th percentile per-packet one-way delay: 151.281 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 46.32 Mbit/s  
95th percentile per-packet one-way delay: 155.068 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 31.47 Mbit/s  
95th percentile per-packet one-way delay: 145.827 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 22.12 Mbit/s  
95th percentile per-packet one-way delay: 143.335 ms  
Loss rate: 0.59%

Run 4: Report of Verus — Data Link

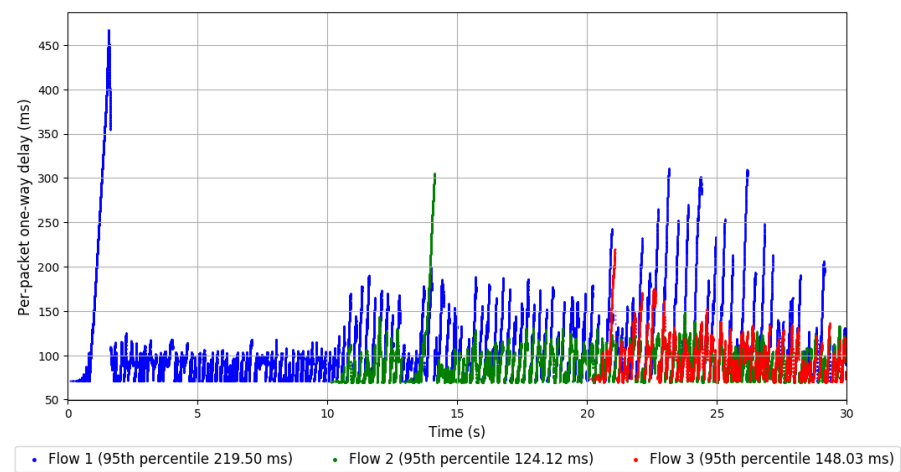
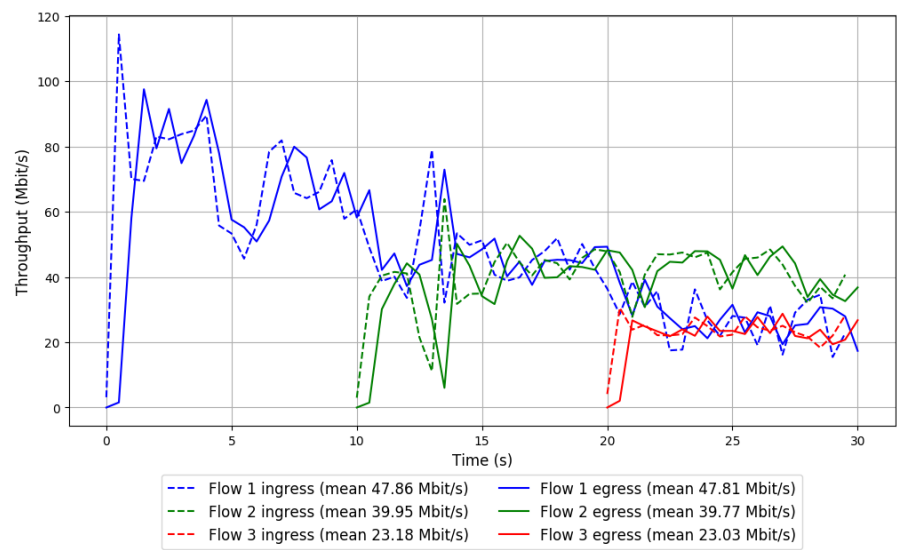


Run 5: Statistics of Verus

Start at: 2019-01-25 21:26:29  
End at: 2019-01-25 21:26:59  
Local clock offset: 1.756 ms  
Remote clock offset: -1.138 ms

# Below is generated by plot.py at 2019-01-25 21:45:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.87 Mbit/s  
95th percentile per-packet one-way delay: 182.787 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 47.81 Mbit/s  
95th percentile per-packet one-way delay: 219.497 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 39.77 Mbit/s  
95th percentile per-packet one-way delay: 124.117 ms  
Loss rate: 0.82%  
-- Flow 3:  
Average throughput: 23.03 Mbit/s  
95th percentile per-packet one-way delay: 148.031 ms  
Loss rate: 1.39%

Run 5: Report of Verus — Data Link

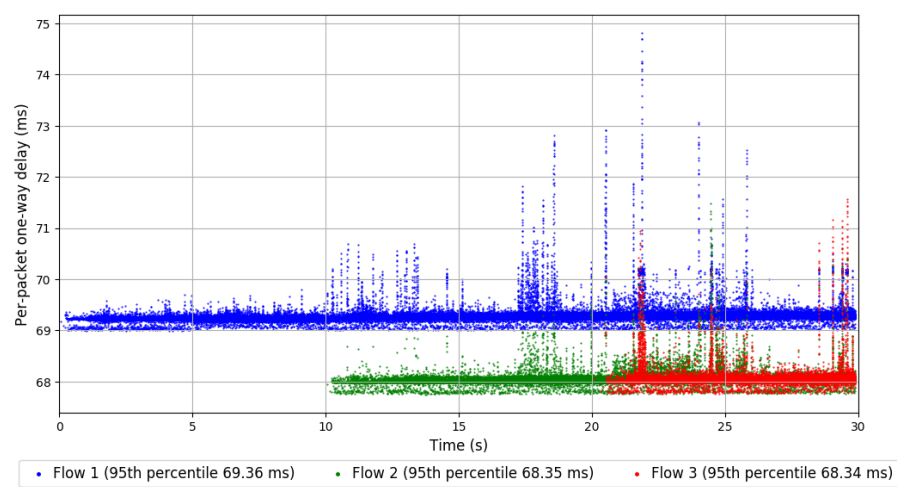
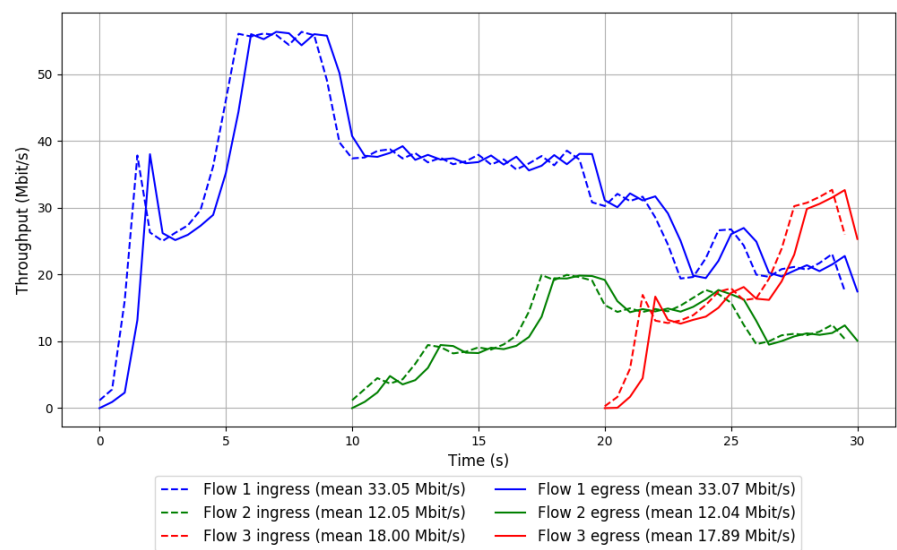


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-25 19:18:13  
End at: 2019-01-25 19:18:43  
Local clock offset: 0.189 ms  
Remote clock offset: -2.093 ms

# Below is generated by plot.py at 2019-01-25 21:45:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 46.95 Mbit/s  
95th percentile per-packet one-way delay: 69.339 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 33.07 Mbit/s  
95th percentile per-packet one-way delay: 69.361 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 12.04 Mbit/s  
95th percentile per-packet one-way delay: 68.347 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 17.89 Mbit/s  
95th percentile per-packet one-way delay: 68.340 ms  
Loss rate: 1.41%

Run 1: Report of PCC-Vivace — Data Link

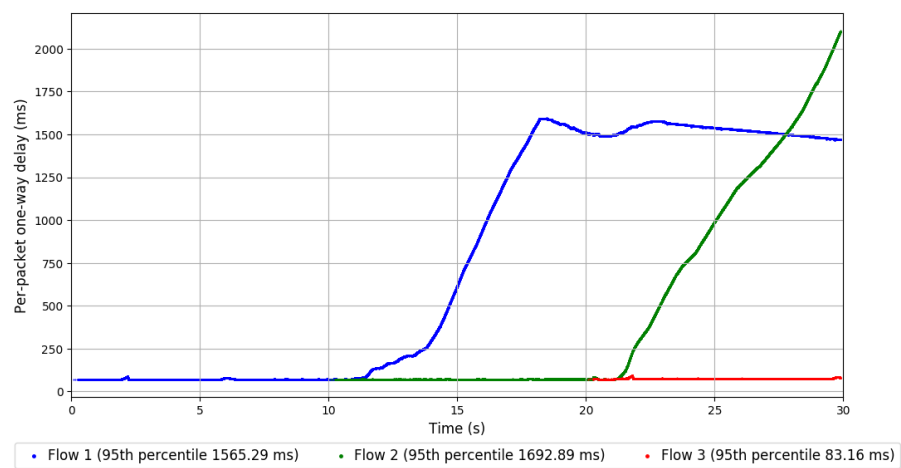
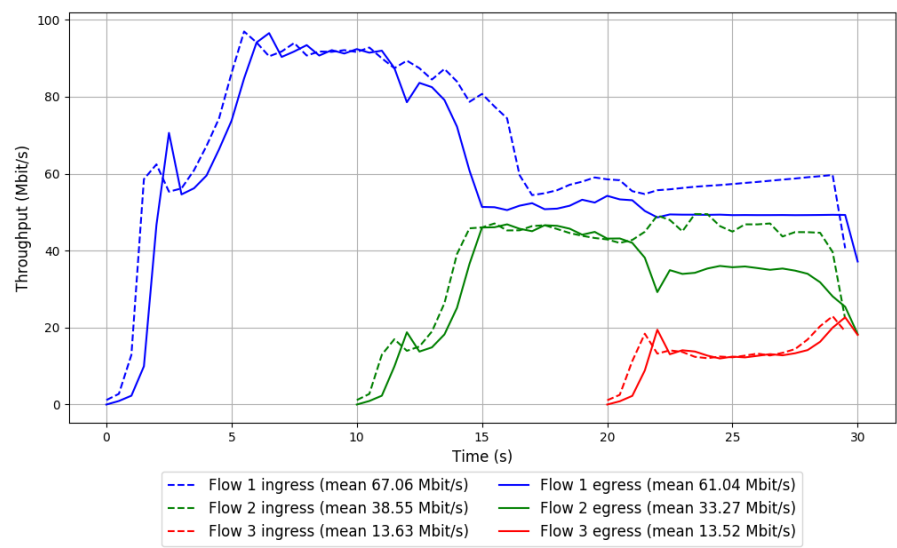


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-25 19:46:49  
End at: 2019-01-25 19:47:19  
Local clock offset: 0.202 ms  
Remote clock offset: -2.058 ms

# Below is generated by plot.py at 2019-01-25 21:45:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.58 Mbit/s  
95th percentile per-packet one-way delay: 1567.497 ms  
Loss rate: 10.14%  
-- Flow 1:  
Average throughput: 61.04 Mbit/s  
95th percentile per-packet one-way delay: 1565.287 ms  
Loss rate: 9.23%  
-- Flow 2:  
Average throughput: 33.27 Mbit/s  
95th percentile per-packet one-way delay: 1692.893 ms  
Loss rate: 14.01%  
-- Flow 3:  
Average throughput: 13.52 Mbit/s  
95th percentile per-packet one-way delay: 83.160 ms  
Loss rate: 1.65%

Run 2: Report of PCC-Vivace — Data Link

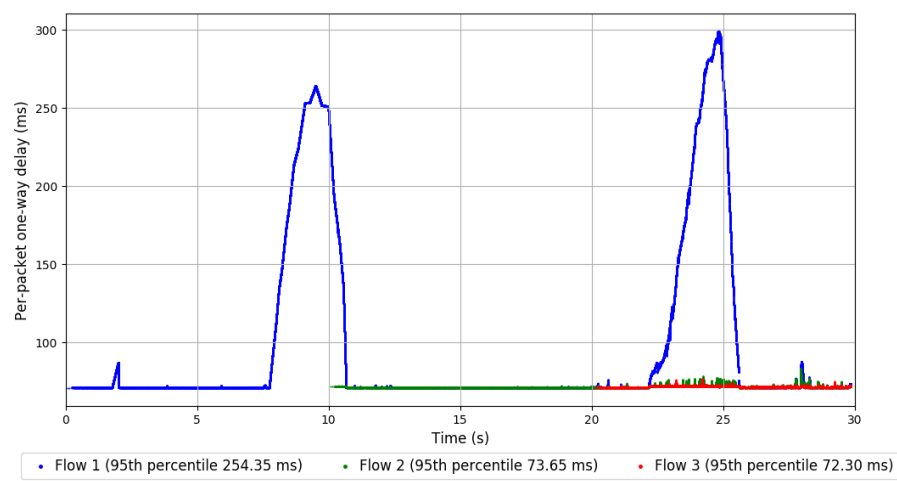
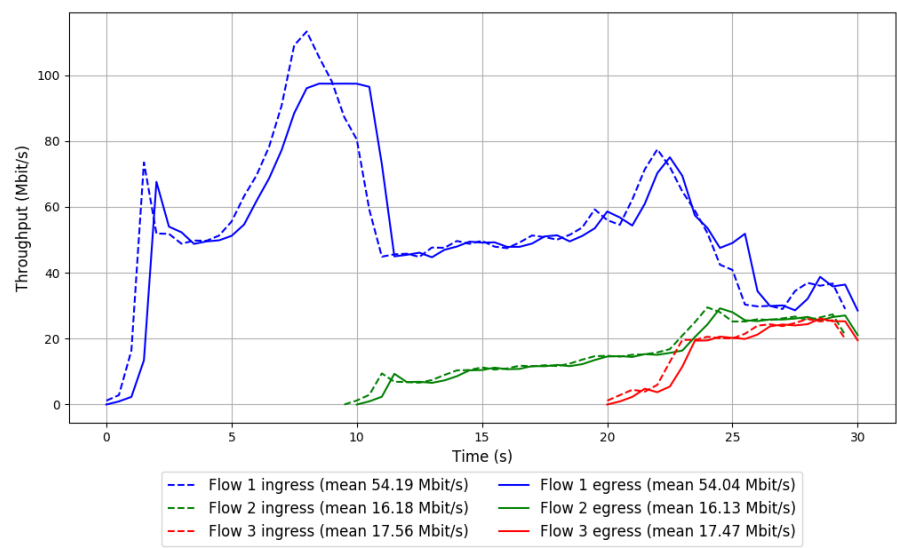


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-25 20:15:18  
End at: 2019-01-25 20:15:48  
Local clock offset: 0.412 ms  
Remote clock offset: -1.034 ms

# Below is generated by plot.py at 2019-01-25 21:45:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 70.51 Mbit/s  
95th percentile per-packet one-way delay: 252.026 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 54.04 Mbit/s  
95th percentile per-packet one-way delay: 254.348 ms  
Loss rate: 0.54%  
-- Flow 2:  
Average throughput: 16.13 Mbit/s  
95th percentile per-packet one-way delay: 73.650 ms  
Loss rate: 0.65%  
-- Flow 3:  
Average throughput: 17.47 Mbit/s  
95th percentile per-packet one-way delay: 72.300 ms  
Loss rate: 1.23%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-25 20:42:10

End at: 2019-01-25 20:42:40

Local clock offset: 0.813 ms

Remote clock offset: 0.226 ms

# Below is generated by plot.py at 2019-01-25 21:45:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.27 Mbit/s

95th percentile per-packet one-way delay: 986.753 ms

Loss rate: 2.48%

-- Flow 1:

Average throughput: 56.28 Mbit/s

95th percentile per-packet one-way delay: 1019.586 ms

Loss rate: 1.76%

-- Flow 2:

Average throughput: 35.28 Mbit/s

95th percentile per-packet one-way delay: 852.179 ms

Loss rate: 4.51%

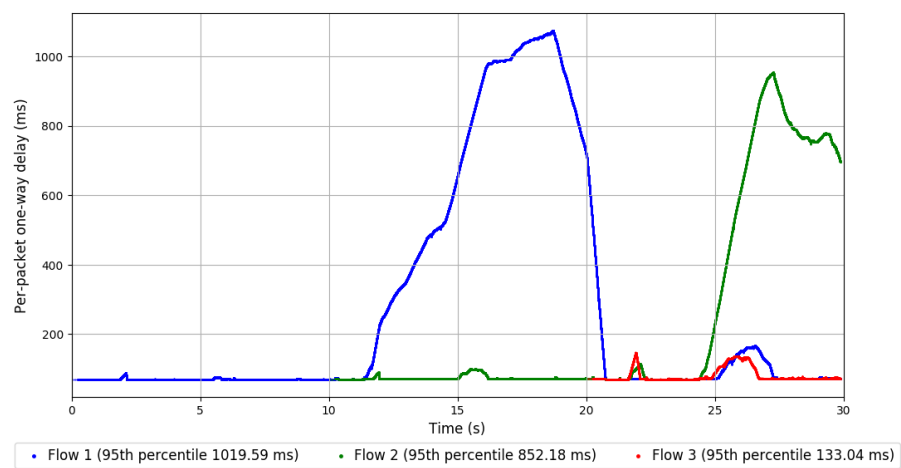
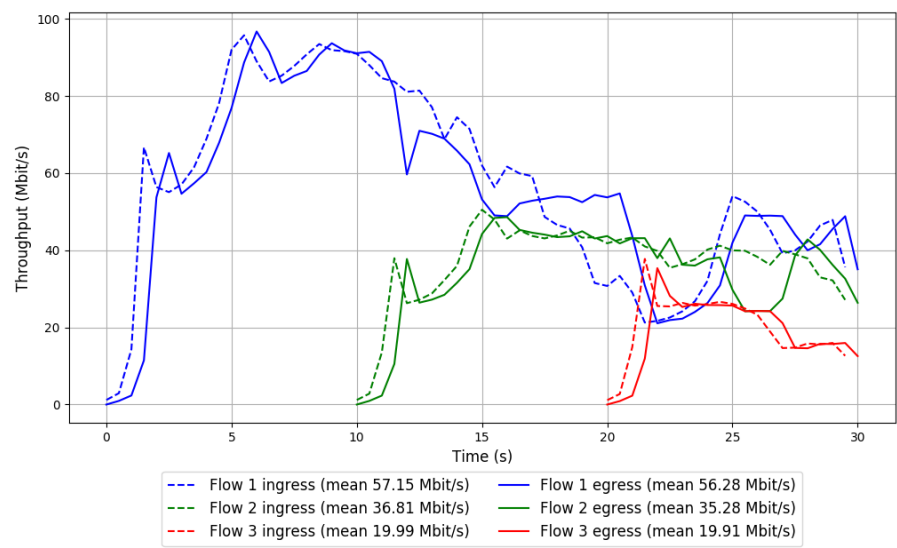
-- Flow 3:

Average throughput: 19.91 Mbit/s

95th percentile per-packet one-way delay: 133.041 ms

Loss rate: 1.13%

Run 4: Report of PCC-Vivace — Data Link

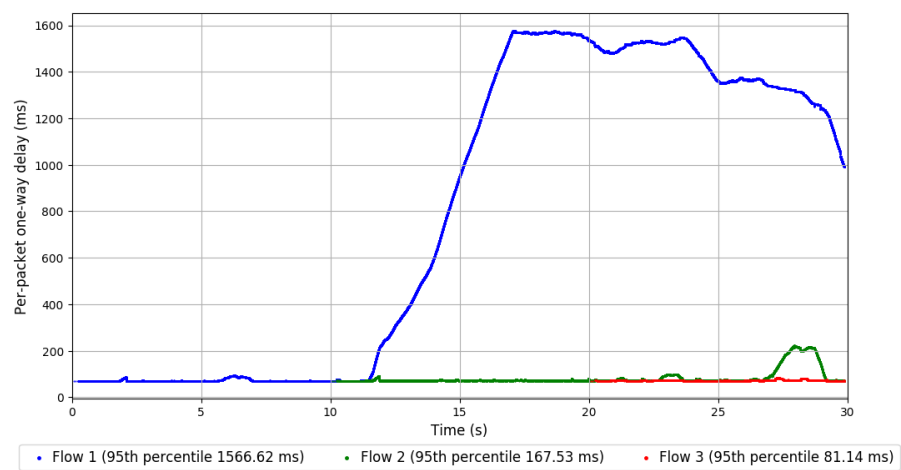
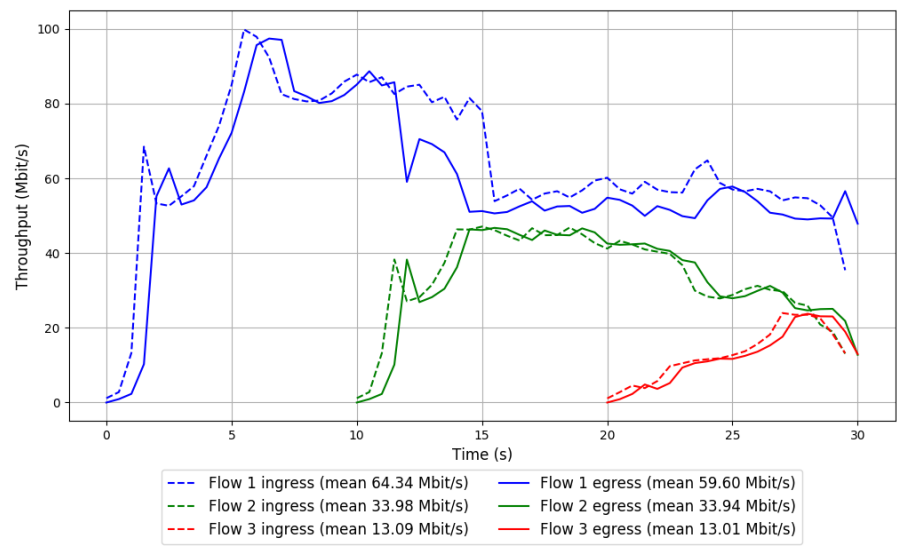


Run 5: Statistics of PCC-Vivace

Start at: 2019-01-25 21:09:45  
End at: 2019-01-25 21:10:15  
Local clock offset: 1.463 ms  
Remote clock offset: -0.971 ms

# Below is generated by plot.py at 2019-01-25 21:45:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.42 Mbit/s  
95th percentile per-packet one-way delay: 1561.541 ms  
Loss rate: 5.54%  
-- Flow 1:  
Average throughput: 59.60 Mbit/s  
95th percentile per-packet one-way delay: 1566.622 ms  
Loss rate: 7.60%  
-- Flow 2:  
Average throughput: 33.94 Mbit/s  
95th percentile per-packet one-way delay: 167.526 ms  
Loss rate: 0.50%  
-- Flow 3:  
Average throughput: 13.01 Mbit/s  
95th percentile per-packet one-way delay: 81.140 ms  
Loss rate: 1.27%

Run 5: Report of PCC-Vivace — Data Link

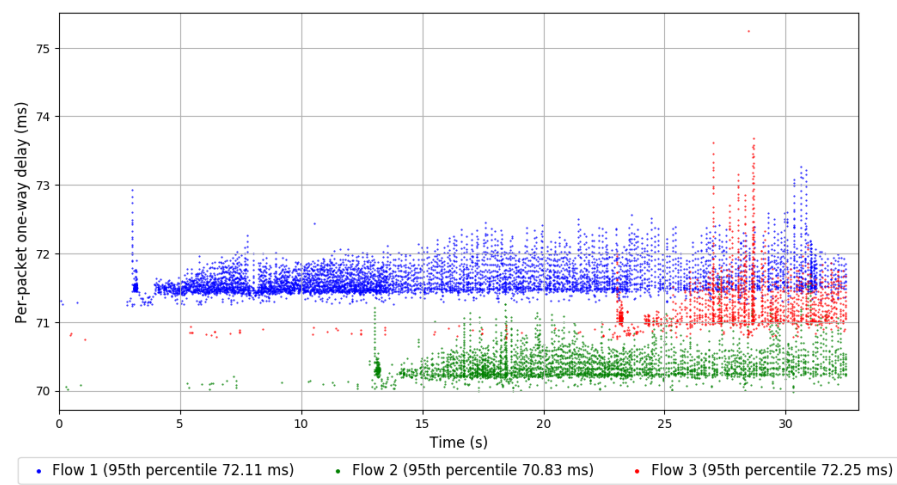
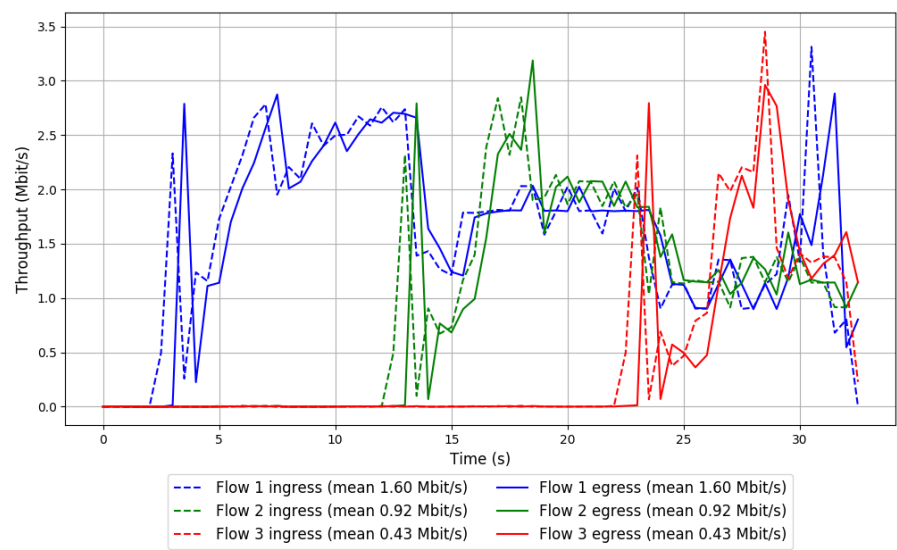


Run 1: Statistics of WebRTC media

Start at: 2019-01-25 19:26:15  
End at: 2019-01-25 19:26:45  
Local clock offset: 2.117 ms  
Remote clock offset: -1.463 ms

# Below is generated by plot.py at 2019-01-25 21:45:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.94 Mbit/s  
95th percentile per-packet one-way delay: 72.025 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 1.60 Mbit/s  
95th percentile per-packet one-way delay: 72.111 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 70.828 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 72.252 ms  
Loss rate: 0.83%

Run 1: Report of WebRTC media — Data Link

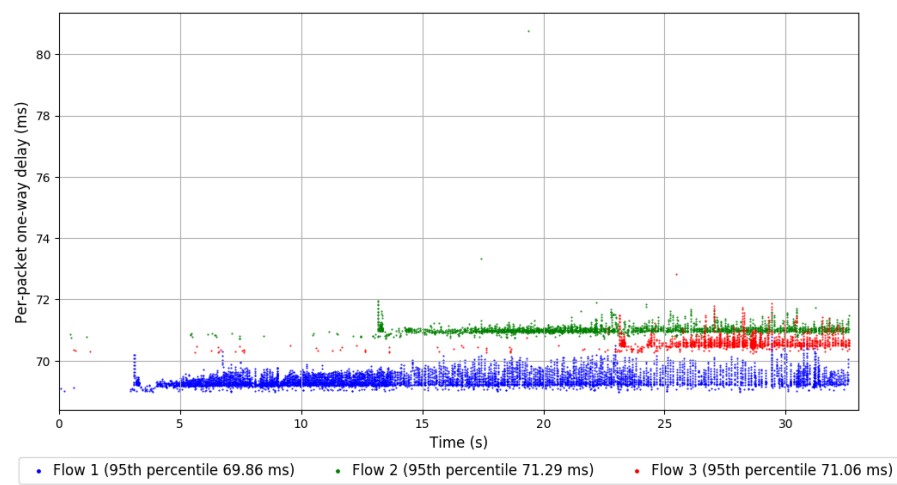
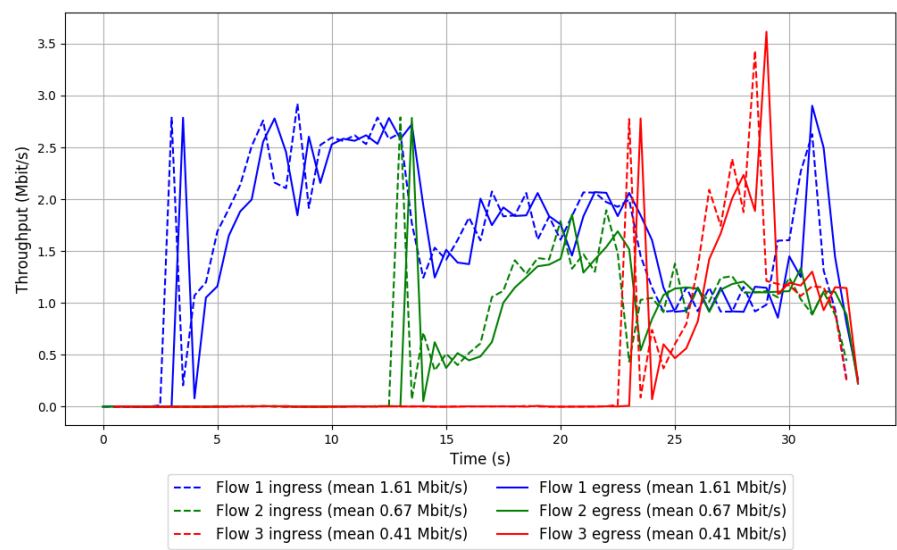


Run 2: Statistics of WebRTC media

Start at: 2019-01-25 19:55:04  
End at: 2019-01-25 19:55:34  
Local clock offset: 1.299 ms  
Remote clock offset: -0.363 ms

# Below is generated by plot.py at 2019-01-25 21:45:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.68 Mbit/s  
95th percentile per-packet one-way delay: 71.096 ms  
Loss rate: 0.21%  
-- Flow 1:  
Average throughput: 1.61 Mbit/s  
95th percentile per-packet one-way delay: 69.862 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.67 Mbit/s  
95th percentile per-packet one-way delay: 71.292 ms  
Loss rate: 0.51%  
-- Flow 3:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 71.055 ms  
Loss rate: 0.07%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-25 20:23:29

End at: 2019-01-25 20:23:59

Local clock offset: 0.835 ms

Remote clock offset: 0.014 ms

# Below is generated by plot.py at 2019-01-25 21:45:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 72.670 ms

Loss rate: 0.22%

-- Flow 1:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 71.931 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.90 Mbit/s

95th percentile per-packet one-way delay: 72.502 ms

Loss rate: 0.34%

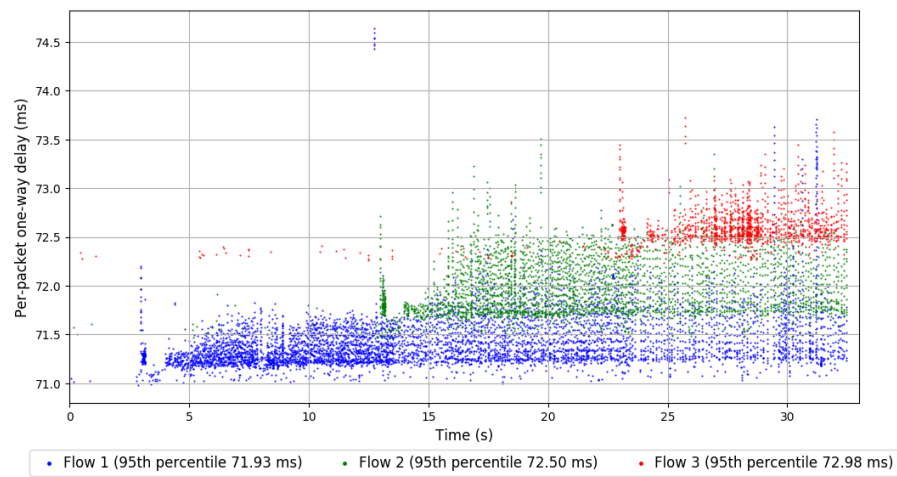
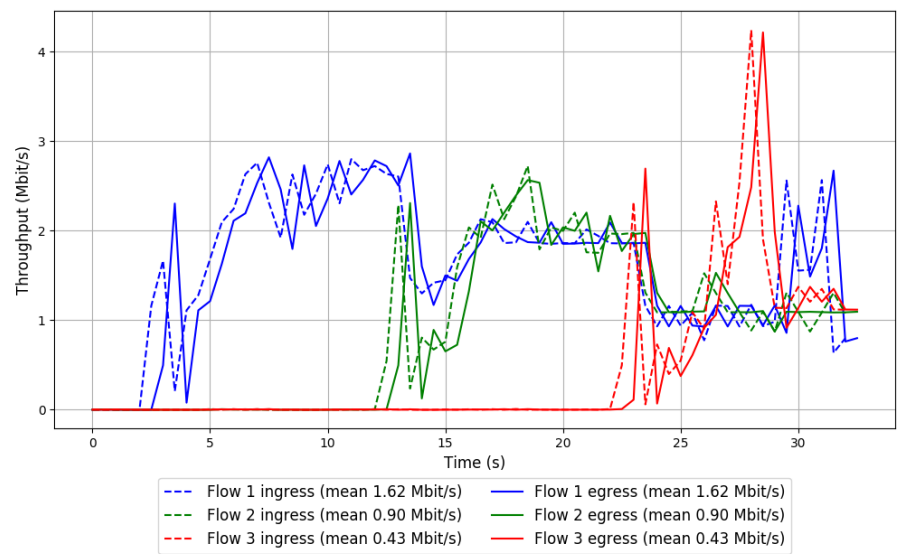
-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 72.983 ms

Loss rate: 0.82%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-01-25 20:49:50

End at: 2019-01-25 20:50:20

Local clock offset: 0.041 ms

Remote clock offset: 0.431 ms

# Below is generated by plot.py at 2019-01-25 21:45:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 69.465 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 69.425 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 69.559 ms

Loss rate: 0.01%

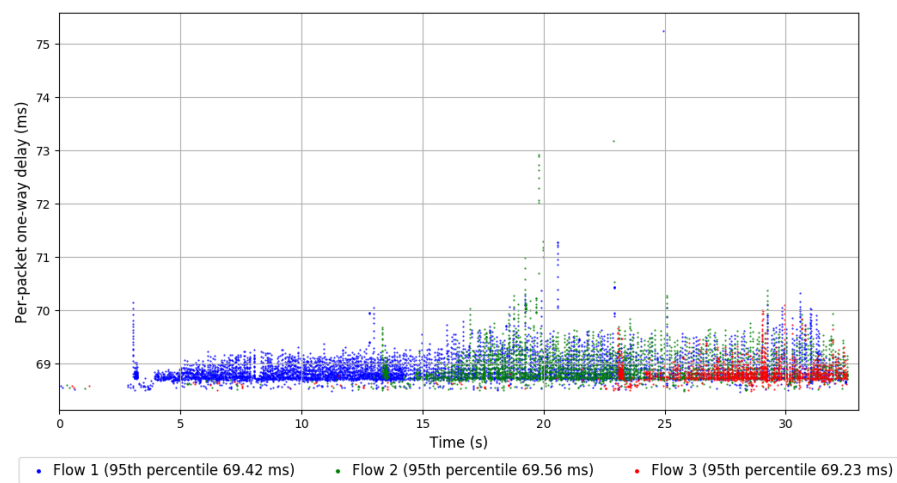
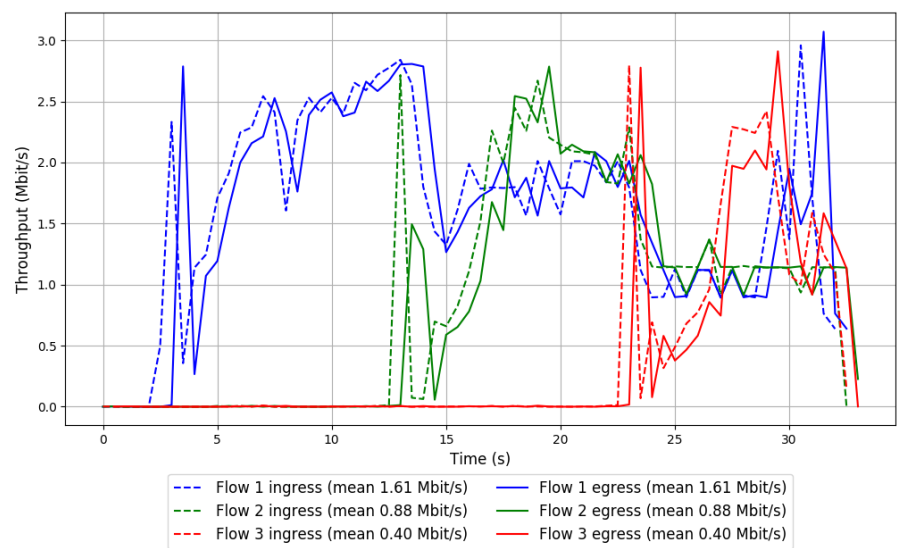
-- Flow 3:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 69.234 ms

Loss rate: 0.88%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-25 21:17:31

End at: 2019-01-25 21:18:01

Local clock offset: -0.849 ms

Remote clock offset: -0.99 ms

# Below is generated by plot.py at 2019-01-25 21:45:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.91 Mbit/s

95th percentile per-packet one-way delay: 69.260 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 1.59 Mbit/s

95th percentile per-packet one-way delay: 69.377 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 68.084 ms

Loss rate: 0.38%

-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 69.186 ms

Loss rate: 0.77%

Run 5: Report of WebRTC media — Data Link

