

## Pantheon Report

Generated at 2019-03-09 04:34:19 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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

### System info:

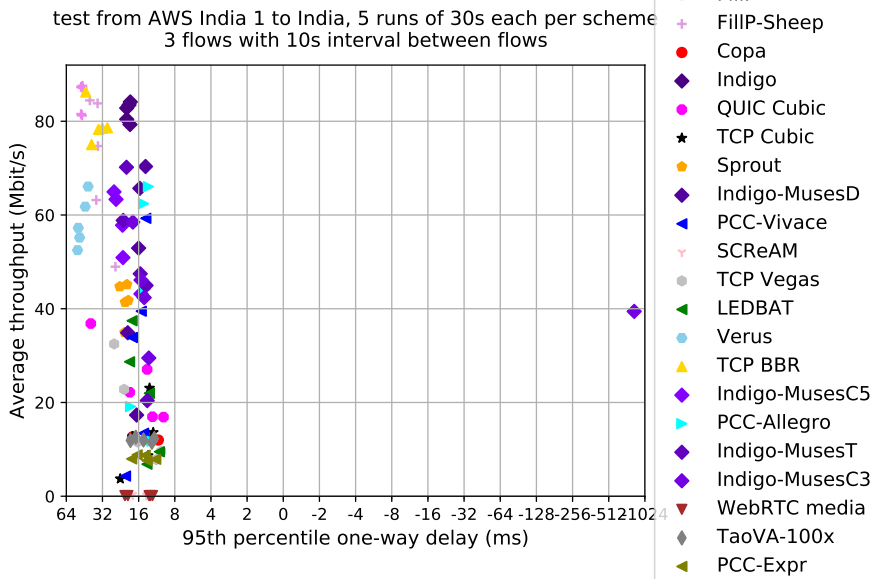
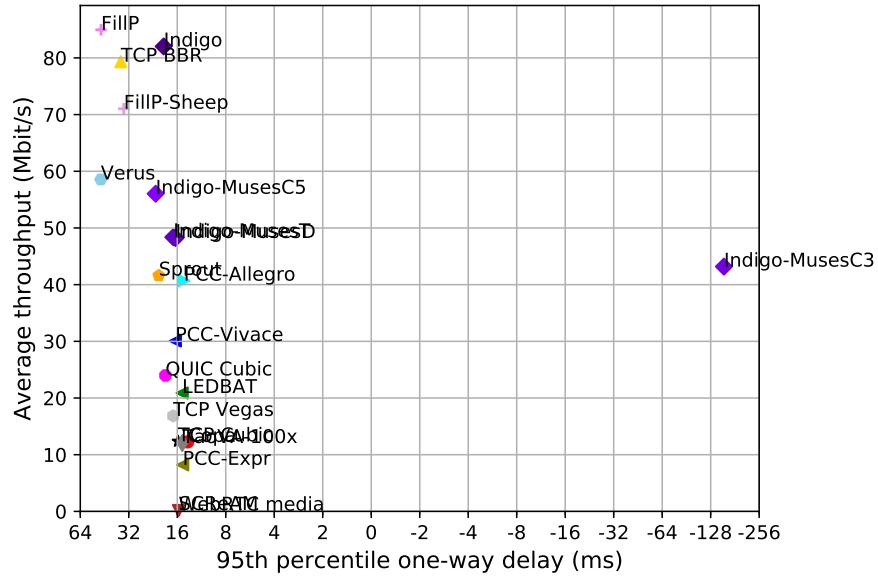
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from AWS India 1 to India, 5 runs of 30s each per scheme  
 3 flows with 10s interval between flows (mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	49.45	29.67	30.39	30.35	36.70	42.92	13.51	13.54	14.00
Copa	5	9.07	4.65	0.30	13.79	13.84	13.14	59.48	65.95	87.80
TCP Cubic	5	6.39	6.20	5.55	16.09	15.78	15.74	2.50	3.46	3.16
FillP	5	48.67	39.70	29.97	45.79	48.45	49.59	30.73	40.89	51.13
FillP-Sheep	5	39.69	32.26	29.82	30.80	35.19	39.10	17.02	18.70	19.81
Indigo	5	46.42	38.49	31.59	18.38	19.53	21.58	13.84	15.29	16.80
Indigo-MusesC3	5	23.22	19.66	23.70	-154.28	-155.30	-155.13	6.95	7.80	7.36
Indigo-MusesC5	5	30.09	29.56	22.20	21.44	21.03	22.63	11.06	11.63	13.75
Indigo-MusesD	5	27.19	23.75	18.71	16.60	16.11	16.05	9.70	10.37	9.73
Indigo-MusesT	5	29.84	21.52	14.83	16.57	17.29	15.34	9.71	9.33	10.46
LEDBAT	5	12.07	9.24	8.91	15.23	14.67	14.35	2.17	2.49	3.68
PCC-Allegro	5	27.84	18.04	2.63	14.60	14.36	14.35	8.95	9.46	9.83
PCC-Expr	5	0.08	9.26	6.20	14.51	14.79	15.12	85.71	26.81	32.94
QUIC Cubic	5	12.72	11.16	11.66	16.48	17.42	20.51	3.80	3.60	4.77
SCReAM	5	0.09	0.14	0.16	15.64	15.49	15.81	2.09	2.28	2.23
Sprout	5	21.40	20.79	19.33	20.76	20.58	21.49	6.78	8.29	10.94
TaoVA-100x	5	6.55	7.82	3.96	15.10	15.06	18.71	86.10	89.17	69.31
TCP Vegas	5	9.57	7.76	6.37	17.42	14.91	15.07	2.29	2.30	3.69
Verus	5	37.14	26.71	16.42	45.24	50.29	46.30	46.89	57.66	48.51
PCC-Vivace	5	18.10	13.45	9.25	16.72	15.99	16.94	7.35	7.16	7.26
WebRTC media	5	0.05	0.05	0.05	15.08	14.93	16.25	1.84	3.42	1.31



Run 1: Statistics of TCP BBR

Start at: 2019-03-09 02:39:31

End at: 2019-03-09 02:40:01

Local clock offset: -0.098 ms

Remote clock offset: 0.24 ms

# Below is generated by plot.py at 2019-03-09 04:28:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 78.61 Mbit/s

95th percentile per-packet one-way delay: 29.114 ms

Loss rate: 15.15%

-- Flow 1:

Average throughput: 44.33 Mbit/s

95th percentile per-packet one-way delay: 19.786 ms

Loss rate: 14.81%

-- Flow 2:

Average throughput: 38.19 Mbit/s

95th percentile per-packet one-way delay: 31.880 ms

Loss rate: 15.22%

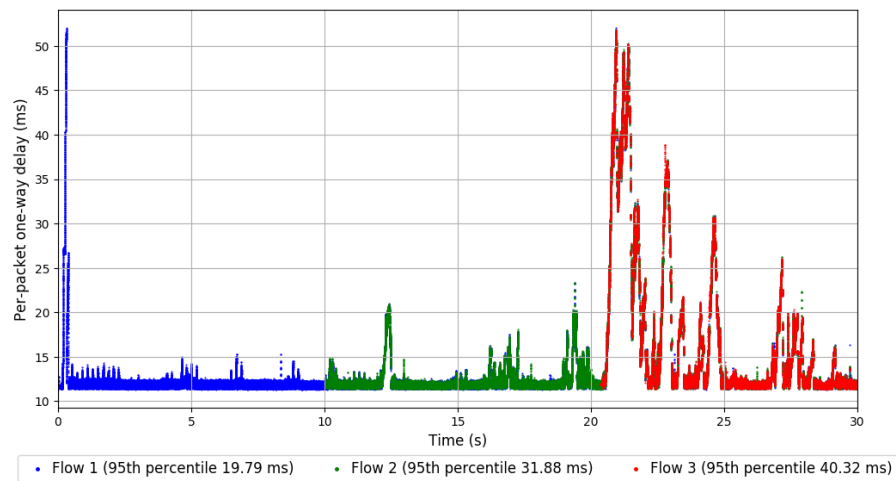
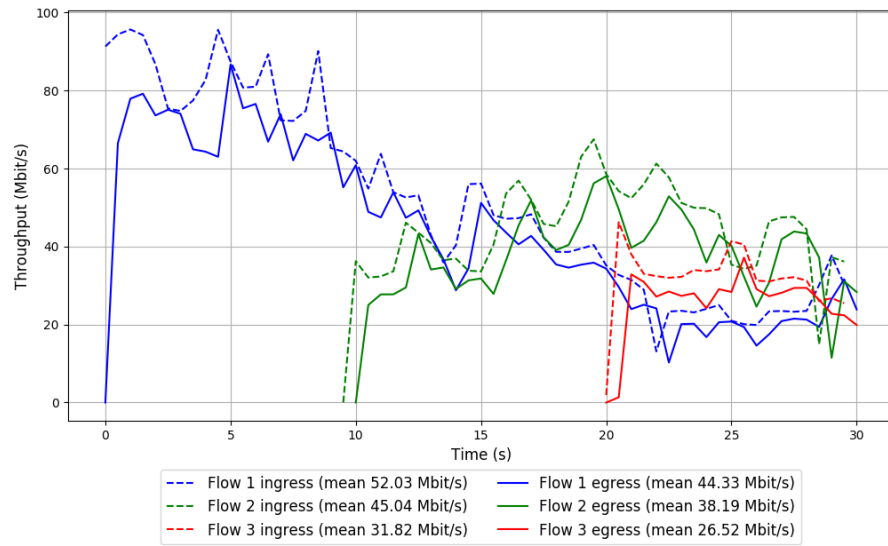
-- Flow 3:

Average throughput: 26.52 Mbit/s

95th percentile per-packet one-way delay: 40.320 ms

Loss rate: 16.65%

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

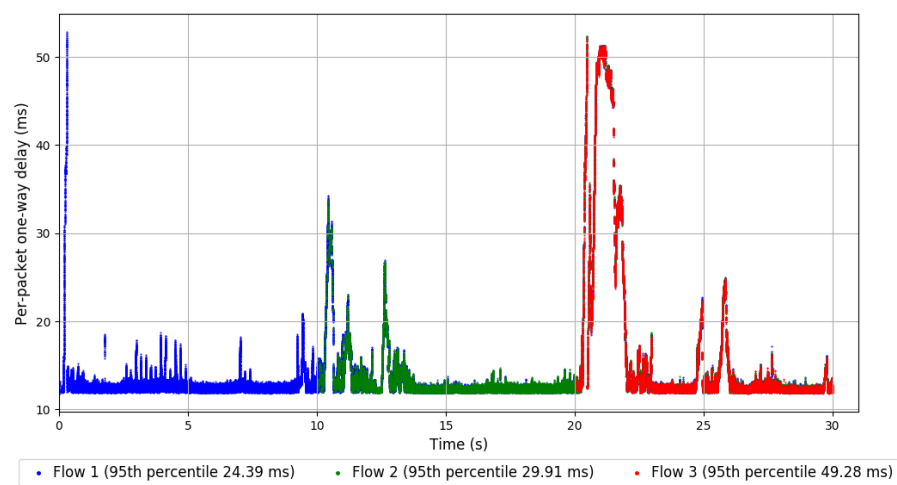
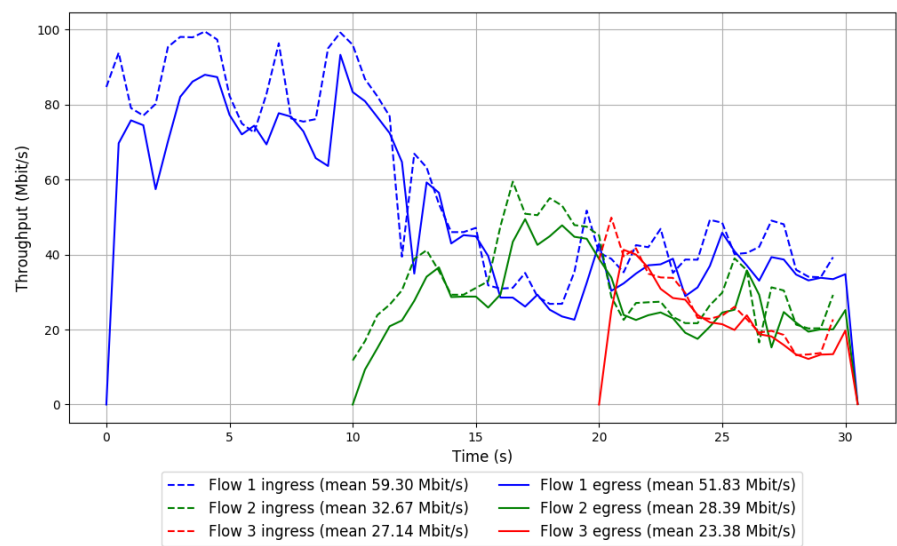


Run 2: Statistics of TCP BBR

Start at: 2019-03-09 03:04:18  
End at: 2019-03-09 03:04:48  
Local clock offset: -2.564 ms  
Remote clock offset: -1.162 ms

# Below is generated by plot.py at 2019-03-09 04:28:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 78.51 Mbit/s  
95th percentile per-packet one-way delay: 32.081 ms  
Loss rate: 12.86%  
-- Flow 1:  
Average throughput: 51.83 Mbit/s  
95th percentile per-packet one-way delay: 24.386 ms  
Loss rate: 12.61%  
-- Flow 2:  
Average throughput: 28.39 Mbit/s  
95th percentile per-packet one-way delay: 29.913 ms  
Loss rate: 13.11%  
-- Flow 3:  
Average throughput: 23.38 Mbit/s  
95th percentile per-packet one-way delay: 49.282 ms  
Loss rate: 13.87%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-03-09 03:29:43

End at: 2019-03-09 03:30:13

Local clock offset: -3.796 ms

Remote clock offset: 1.168 ms

# Below is generated by plot.py at 2019-03-09 04:28:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 75.03 Mbit/s

95th percentile per-packet one-way delay: 39.399 ms

Loss rate: 16.80%

-- Flow 1:

Average throughput: 45.46 Mbit/s

95th percentile per-packet one-way delay: 32.876 ms

Loss rate: 16.74%

-- Flow 2:

Average throughput: 25.17 Mbit/s

95th percentile per-packet one-way delay: 41.558 ms

Loss rate: 16.95%

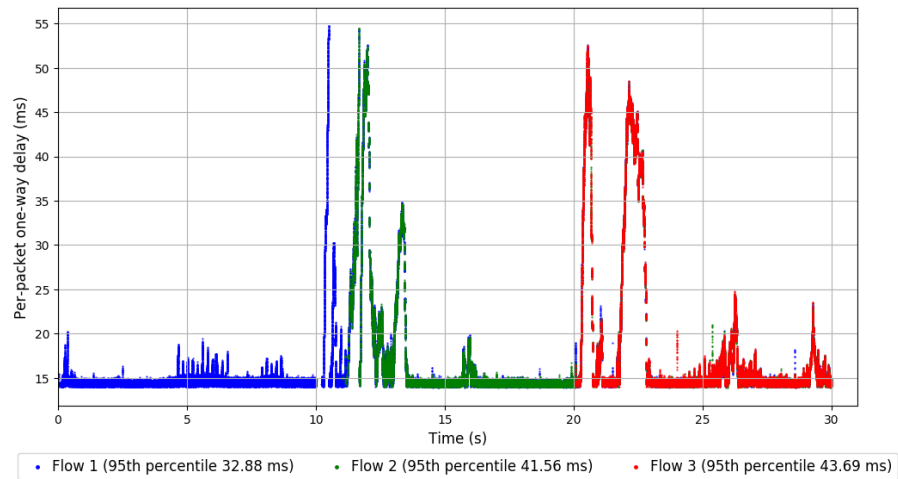
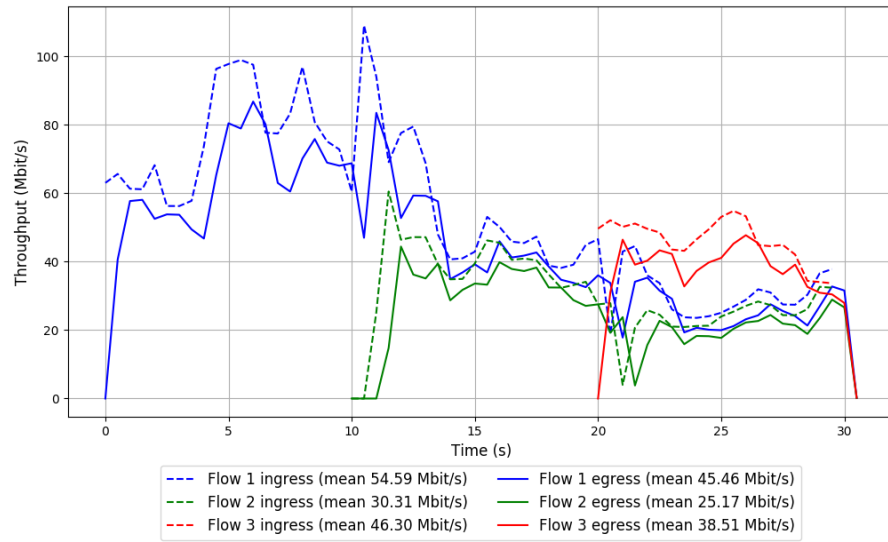
-- Flow 3:

Average throughput: 38.51 Mbit/s

95th percentile per-packet one-way delay: 43.688 ms

Loss rate: 16.83%

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



Run 4: Statistics of TCP BBR

Start at: 2019-03-09 03:55:16

End at: 2019-03-09 03:55:46

Local clock offset: -1.779 ms

Remote clock offset: 1.199 ms

# Below is generated by plot.py at 2019-03-09 04:28:09

# Datalink statistics

-- Total of 3 flows:

Average throughput: 78.26 Mbit/s

95th percentile per-packet one-way delay: 34.535 ms

Loss rate: 13.78%

-- Flow 1:

Average throughput: 46.35 Mbit/s

95th percentile per-packet one-way delay: 33.468 ms

Loss rate: 14.37%

-- Flow 2:

Average throughput: 38.12 Mbit/s

95th percentile per-packet one-way delay: 35.557 ms

Loss rate: 13.07%

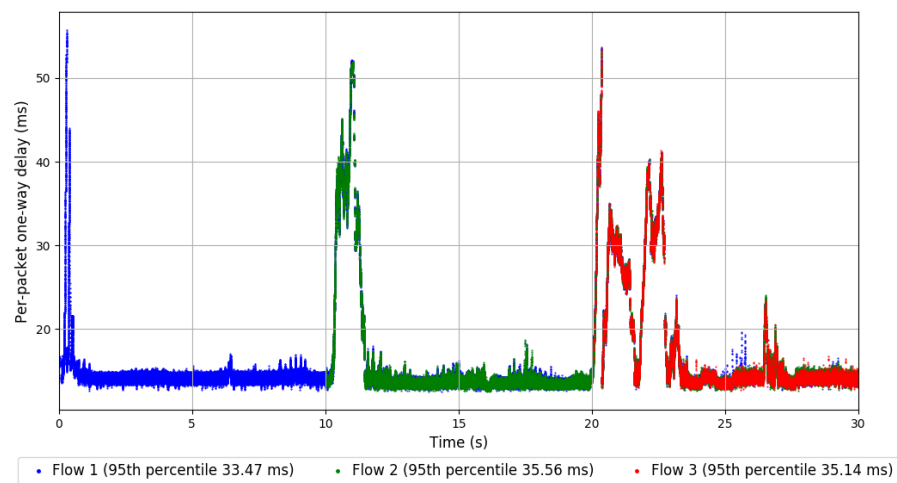
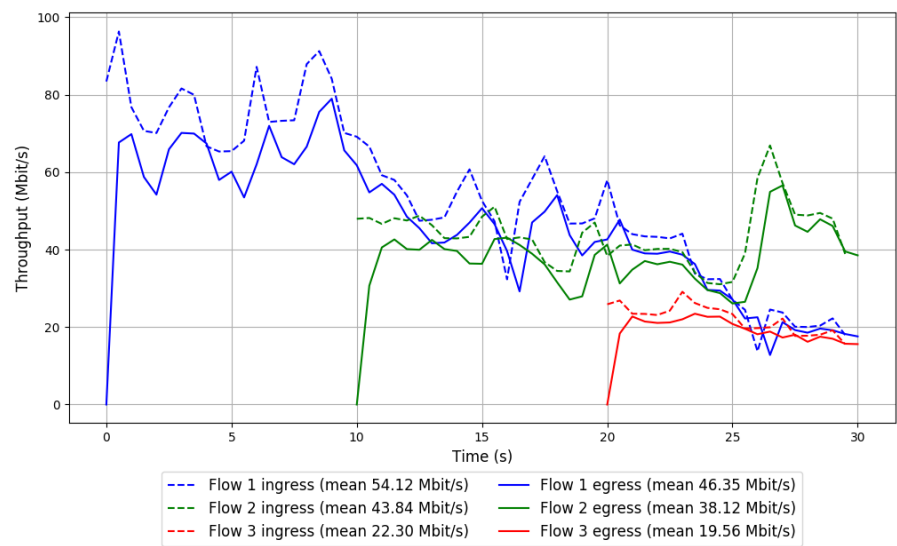
-- Flow 3:

Average throughput: 19.56 Mbit/s

95th percentile per-packet one-way delay: 35.140 ms

Loss rate: 12.28%

Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2019-03-09 04:21:34

End at: 2019-03-09 04:22:04

Local clock offset: 0.752 ms

Remote clock offset: 0.147 ms

# Below is generated by plot.py at 2019-03-09 04:28:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.24 Mbit/s

95th percentile per-packet one-way delay: 44.096 ms

Loss rate: 9.28%

-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 41.231 ms

Loss rate: 9.00%

-- Flow 2:

Average throughput: 18.48 Mbit/s

95th percentile per-packet one-way delay: 44.605 ms

Loss rate: 9.34%

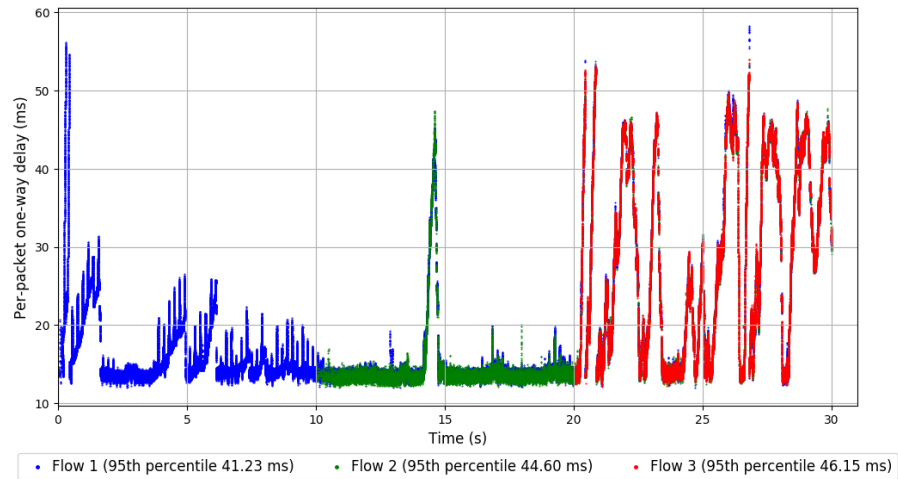
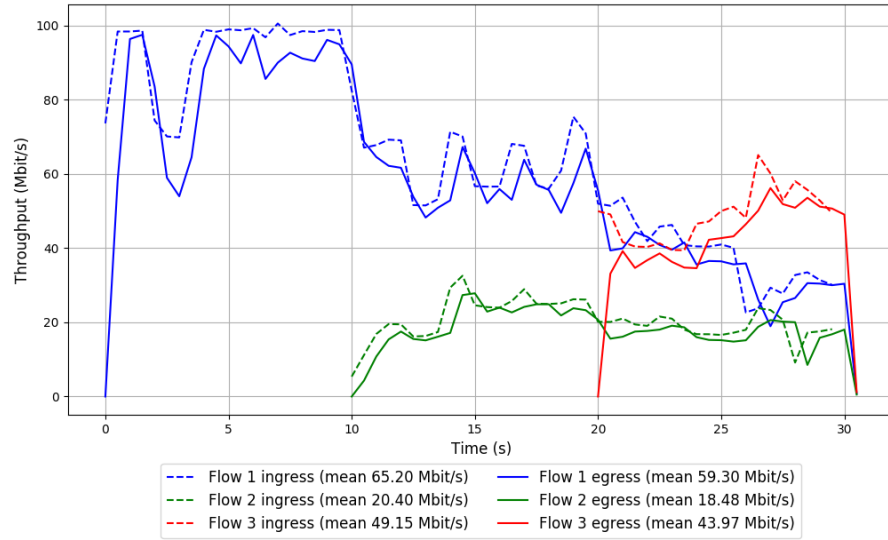
-- Flow 3:

Average throughput: 43.97 Mbit/s

95th percentile per-packet one-way delay: 46.154 ms

Loss rate: 10.38%

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

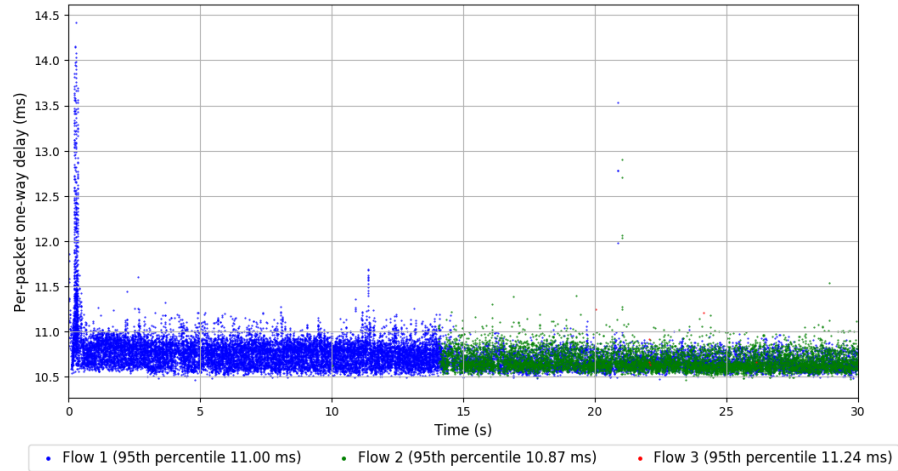
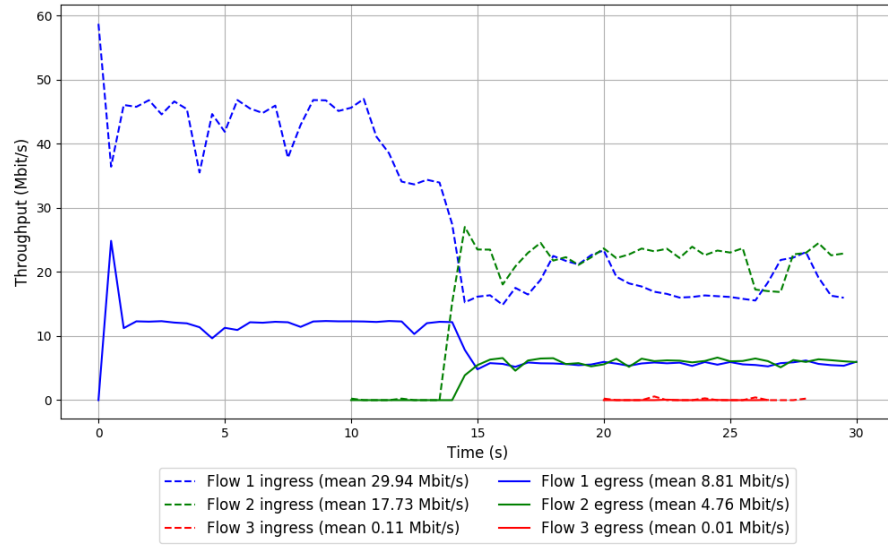


Run 1: Statistics of Copa

Start at: 2019-03-09 02:40:46  
End at: 2019-03-09 02:41:16  
Local clock offset: -0.255 ms  
Remote clock offset: -0.701 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 11.98 Mbit/s  
95th percentile per-packet one-way delay: 10.968 ms  
Loss rate: 71.31%  
-- Flow 1:  
Average throughput: 8.81 Mbit/s  
95th percentile per-packet one-way delay: 11.000 ms  
Loss rate: 70.57%  
-- Flow 2:  
Average throughput: 4.76 Mbit/s  
95th percentile per-packet one-way delay: 10.869 ms  
Loss rate: 73.14%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 11.244 ms  
Loss rate: 93.14%

## Run 1: Report of Copa — Data Link

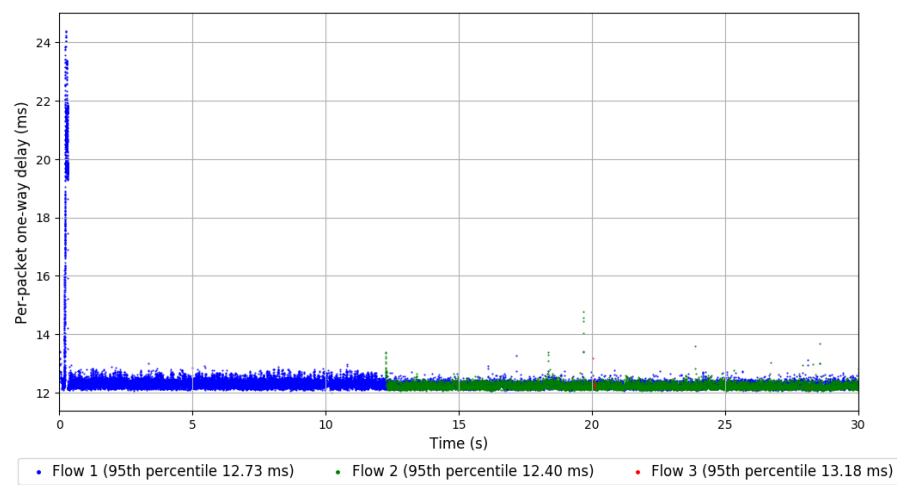
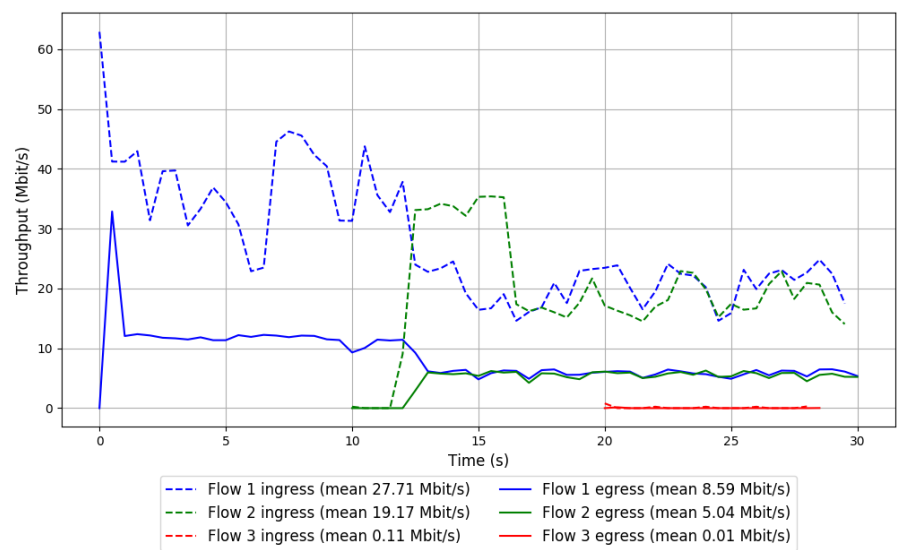


Run 2: Statistics of Copa

Start at: 2019-03-09 03:05:34  
End at: 2019-03-09 03:06:04  
Local clock offset: -1.862 ms  
Remote clock offset: -0.169 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 11.91 Mbit/s  
95th percentile per-packet one-way delay: 12.620 ms  
Loss rate: 70.60%  
-- Flow 1:  
Average throughput: 8.59 Mbit/s  
95th percentile per-packet one-way delay: 12.730 ms  
Loss rate: 69.01%  
-- Flow 2:  
Average throughput: 5.04 Mbit/s  
95th percentile per-packet one-way delay: 12.404 ms  
Loss rate: 73.99%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 13.177 ms  
Loss rate: 90.56%

Run 2: Report of Copa — Data Link

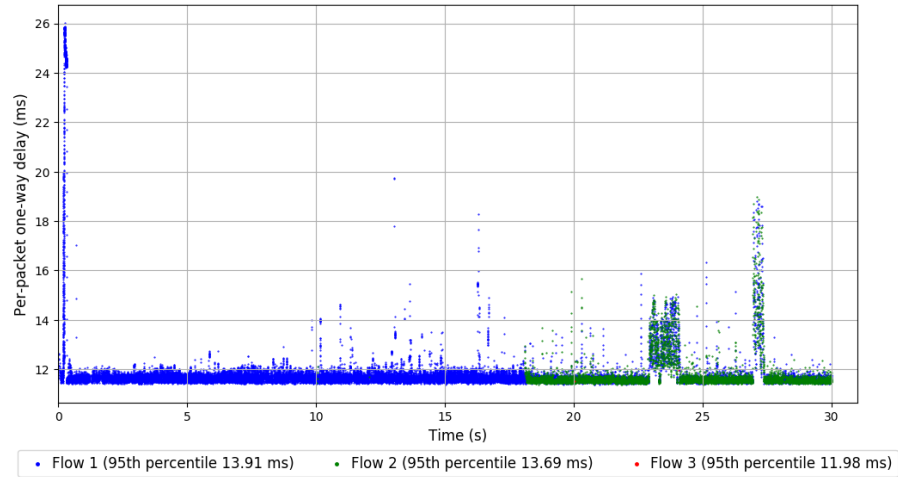
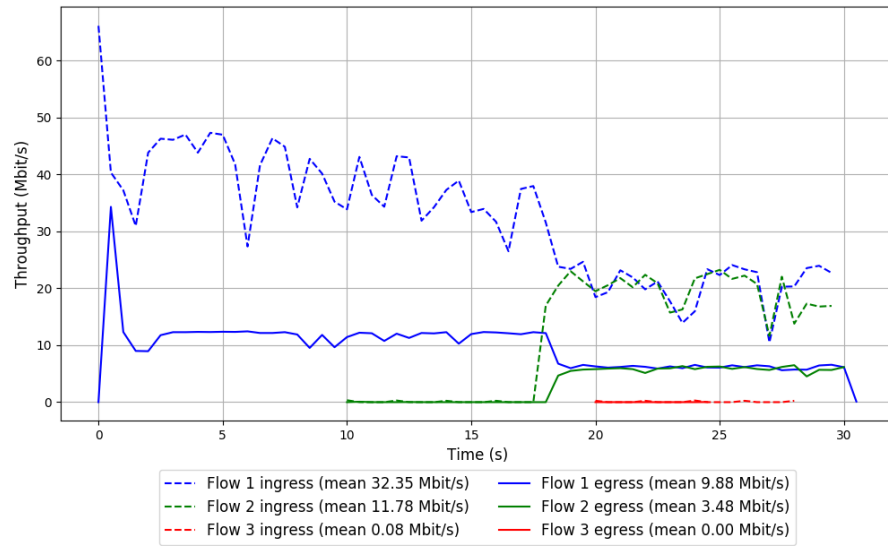


Run 3: Statistics of Copa

Start at: 2019-03-09 03:31:01  
End at: 2019-03-09 03:31:31  
Local clock offset: -2.894 ms  
Remote clock offset: -0.415 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.20 Mbit/s  
95th percentile per-packet one-way delay: 13.824 ms  
Loss rate: 69.65%  
-- Flow 1:  
Average throughput: 9.88 Mbit/s  
95th percentile per-packet one-way delay: 13.915 ms  
Loss rate: 69.45%  
-- Flow 2:  
Average throughput: 3.48 Mbit/s  
95th percentile per-packet one-way delay: 13.687 ms  
Loss rate: 70.43%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 11.976 ms  
Loss rate: 97.92%

### Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-03-09 03:56:42

End at: 2019-03-09 03:57:12

Local clock offset: 0.532 ms

Remote clock offset: 0.762 ms

# Below is generated by plot.py at 2019-03-09 04:28:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.53 Mbit/s

95th percentile per-packet one-way delay: 13.594 ms

Loss rate: 55.73%

-- Flow 1:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 13.512 ms

Loss rate: 52.68%

-- Flow 2:

Average throughput: 5.51 Mbit/s

95th percentile per-packet one-way delay: 13.756 ms

Loss rate: 61.56%

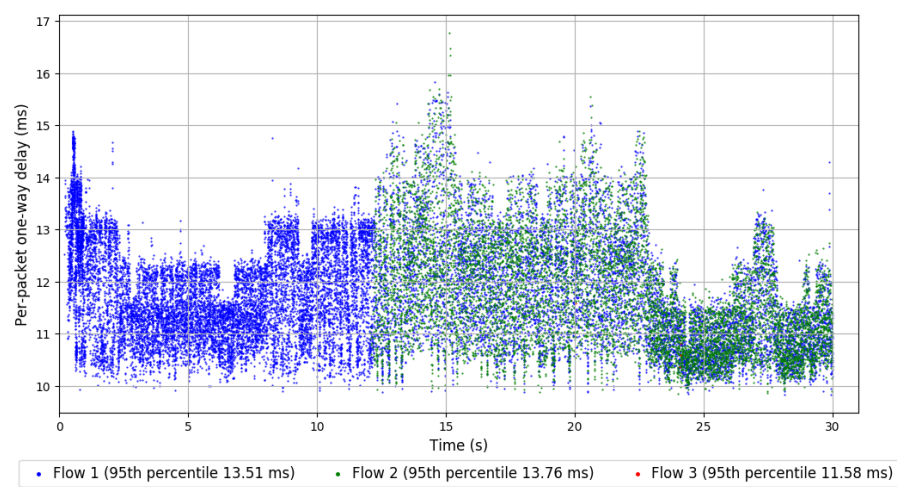
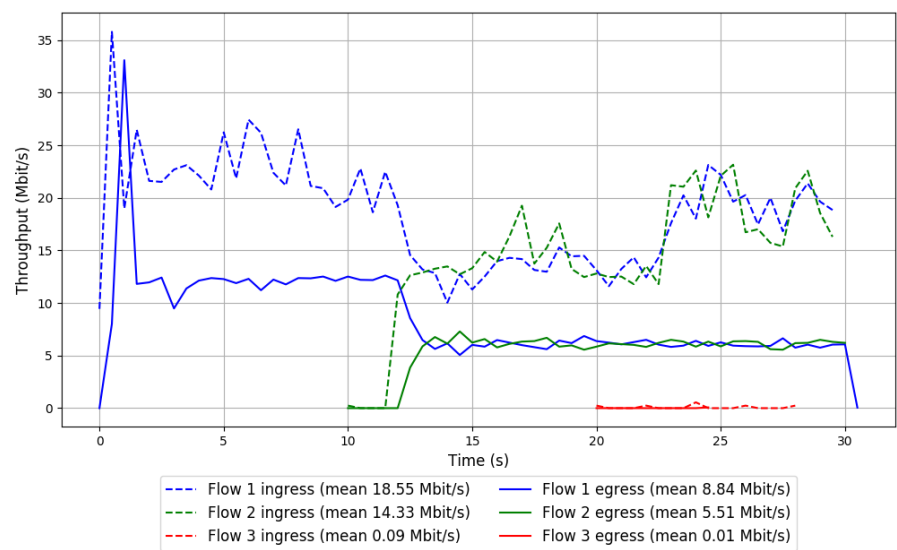
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 11.581 ms

Loss rate: 95.11%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-03-09 04:22:57

End at: 2019-03-09 04:23:27

Local clock offset: 0.148 ms

Remote clock offset: 0.48 ms

# Below is generated by plot.py at 2019-03-09 04:28:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.68 Mbit/s

95th percentile per-packet one-way delay: 17.980 ms

Loss rate: 41.45%

-- Flow 1:

Average throughput: 9.21 Mbit/s

95th percentile per-packet one-way delay: 17.808 ms

Loss rate: 35.67%

-- Flow 2:

Average throughput: 4.48 Mbit/s

95th percentile per-packet one-way delay: 18.505 ms

Loss rate: 50.64%

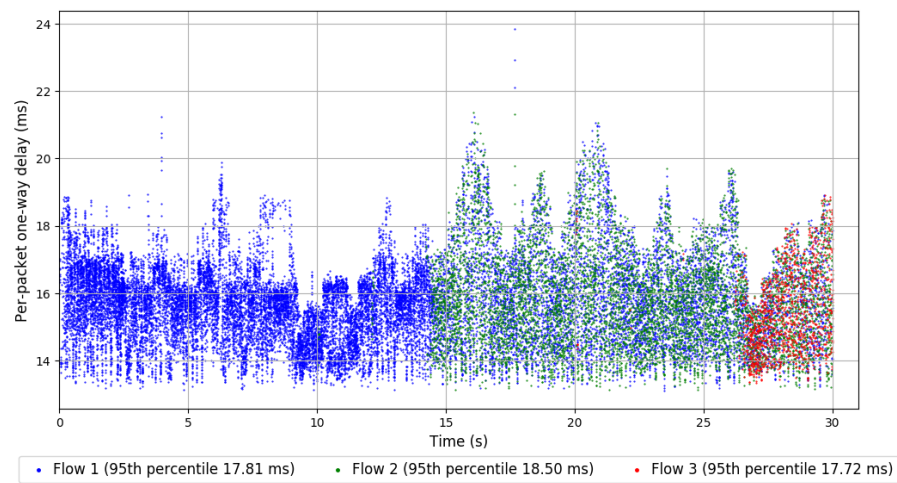
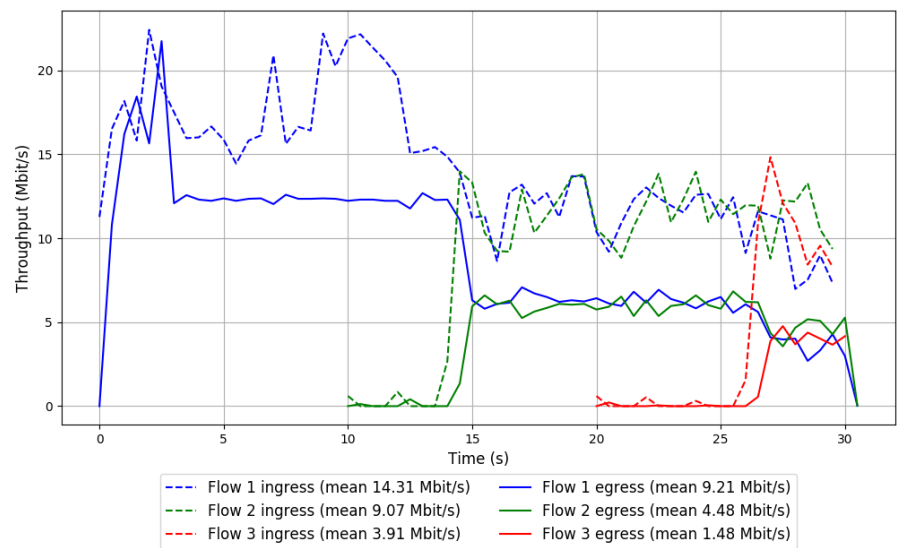
-- Flow 3:

Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 17.723 ms

Loss rate: 62.27%

Run 5: Report of Copa — Data Link

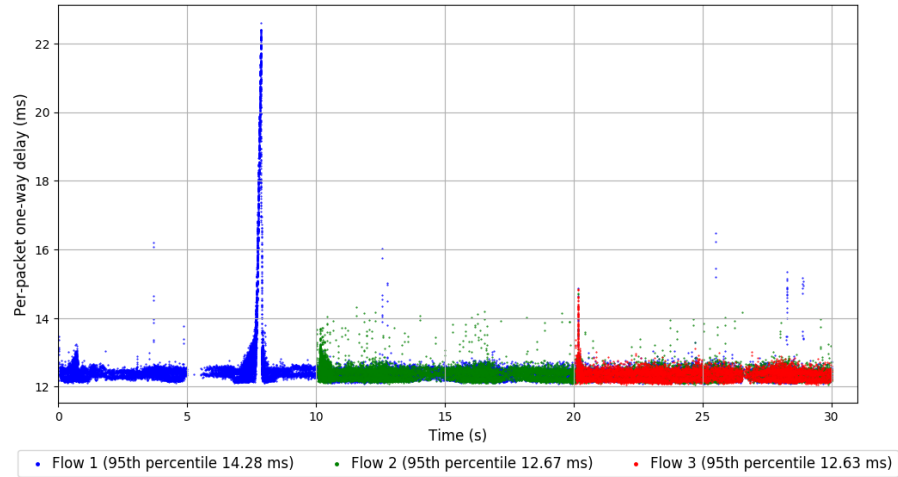
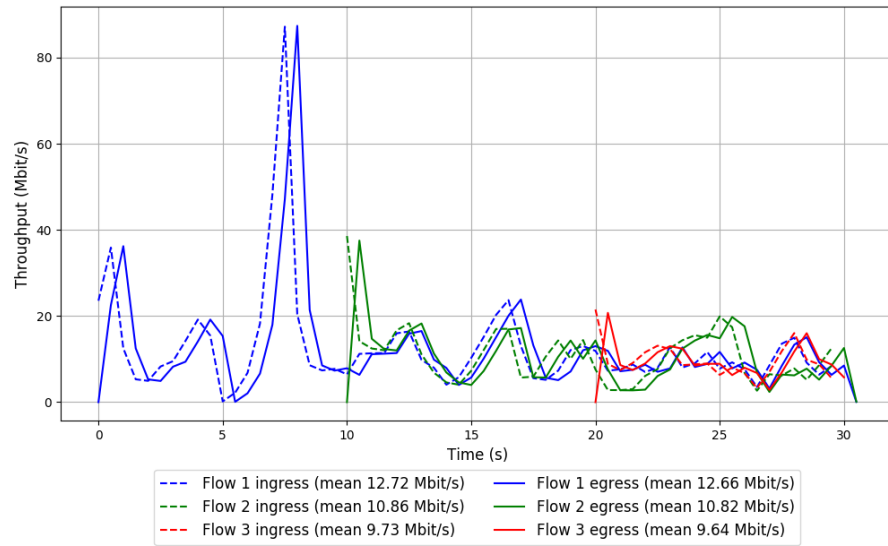


Run 1: Statistics of TCP Cubic

Start at: 2019-03-09 02:24:30  
End at: 2019-03-09 02:25:00  
Local clock offset: -1.15 ms  
Remote clock offset: -0.642 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.08 Mbit/s  
95th percentile per-packet one-way delay: 12.977 ms  
Loss rate: 0.50%  
-- Flow 1:  
Average throughput: 12.66 Mbit/s  
95th percentile per-packet one-way delay: 14.278 ms  
Loss rate: 0.46%  
-- Flow 2:  
Average throughput: 10.82 Mbit/s  
95th percentile per-packet one-way delay: 12.672 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 9.64 Mbit/s  
95th percentile per-packet one-way delay: 12.627 ms  
Loss rate: 0.88%

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

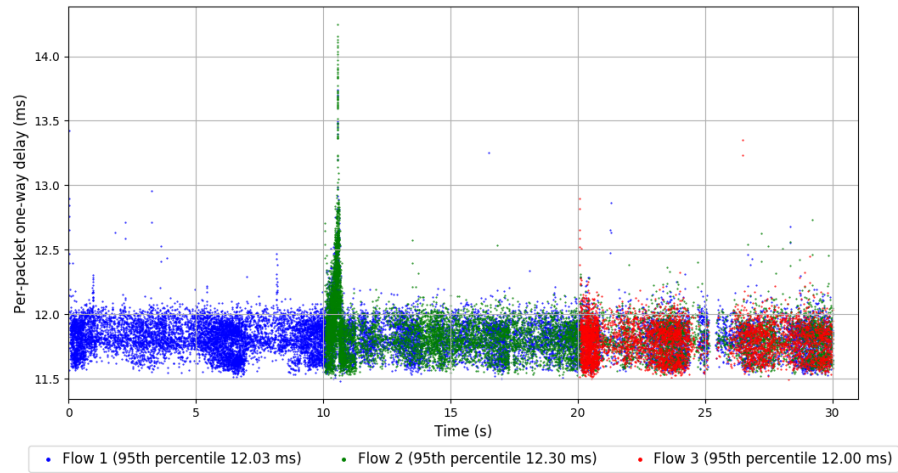
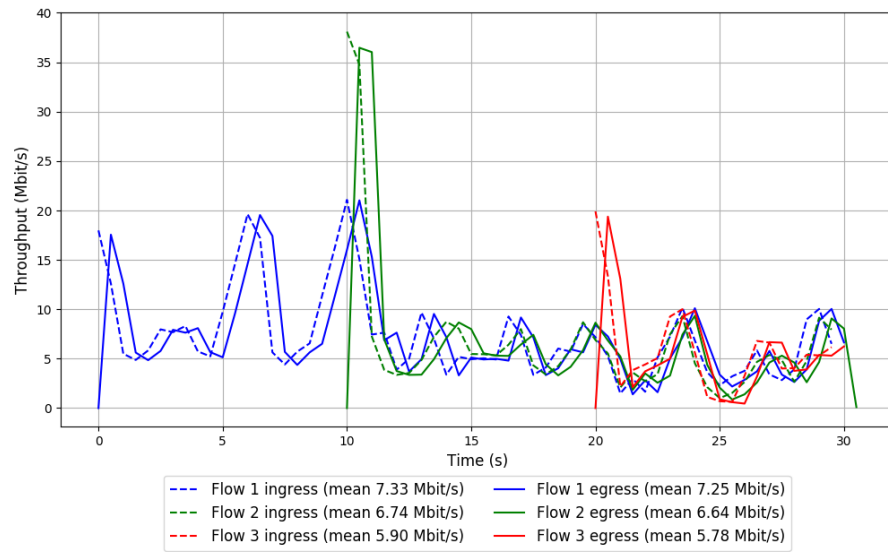


Run 2: Statistics of TCP Cubic

Start at: 2019-03-09 02:49:12  
End at: 2019-03-09 02:49:42  
Local clock offset: -2.2 ms  
Remote clock offset: -1.485 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 13.59 Mbit/s  
95th percentile per-packet one-way delay: 12.100 ms  
Loss rate: 1.36%  
-- Flow 1:  
Average throughput: 7.25 Mbit/s  
95th percentile per-packet one-way delay: 12.029 ms  
Loss rate: 1.10%  
-- Flow 2:  
Average throughput: 6.64 Mbit/s  
95th percentile per-packet one-way delay: 12.304 ms  
Loss rate: 1.44%  
-- Flow 3:  
Average throughput: 5.78 Mbit/s  
95th percentile per-packet one-way delay: 12.001 ms  
Loss rate: 2.16%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-03-09 03:14:23

End at: 2019-03-09 03:14:53

Local clock offset: -2.087 ms

Remote clock offset: 0.651 ms

# Below is generated by plot.py at 2019-03-09 04:28:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.65 Mbit/s

95th percentile per-packet one-way delay: 13.366 ms

Loss rate: 3.22%

-- Flow 1:

Average throughput: 4.36 Mbit/s

95th percentile per-packet one-way delay: 13.380 ms

Loss rate: 2.69%

-- Flow 2:

Average throughput: 4.50 Mbit/s

95th percentile per-packet one-way delay: 13.349 ms

Loss rate: 3.92%

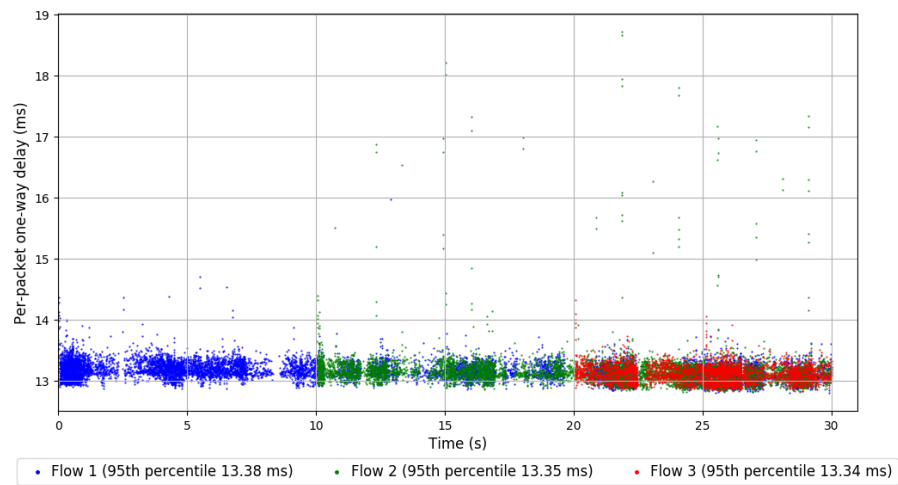
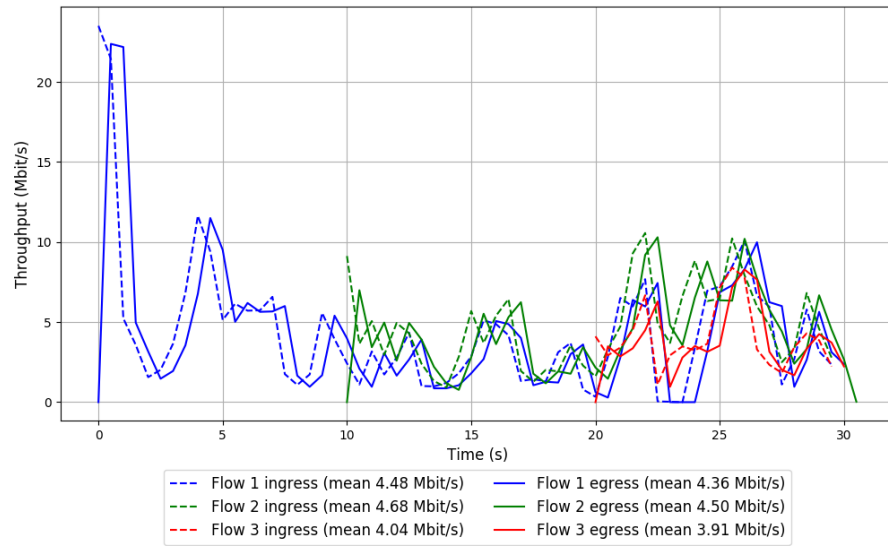
-- Flow 3:

Average throughput: 3.91 Mbit/s

95th percentile per-packet one-way delay: 13.340 ms

Loss rate: 3.39%

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

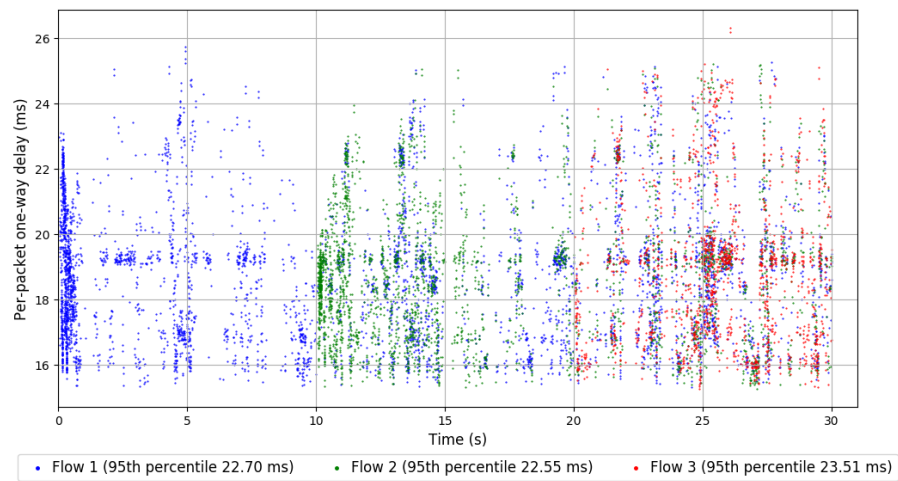
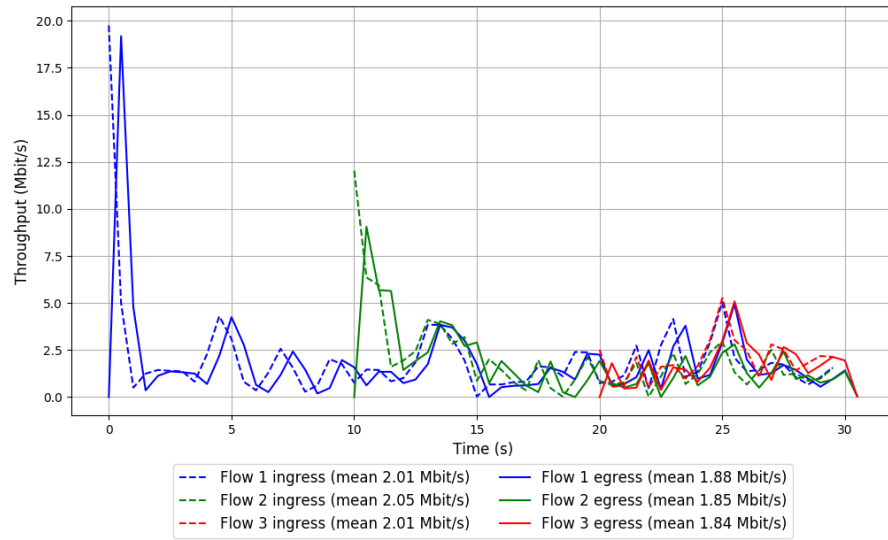


Run 4: Statistics of TCP Cubic

Start at: 2019-03-09 03:39:43  
End at: 2019-03-09 03:40:13  
Local clock offset: -4.686 ms  
Remote clock offset: 1.599 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.72 Mbit/s  
95th percentile per-packet one-way delay: 22.739 ms  
Loss rate: 8.00%  
-- Flow 1:  
Average throughput: 1.88 Mbit/s  
95th percentile per-packet one-way delay: 22.698 ms  
Loss rate: 6.62%  
-- Flow 2:  
Average throughput: 1.85 Mbit/s  
95th percentile per-packet one-way delay: 22.553 ms  
Loss rate: 9.82%  
-- Flow 3:  
Average throughput: 1.84 Mbit/s  
95th percentile per-packet one-way delay: 23.508 ms  
Loss rate: 8.46%

# Run 4: Report of TCP Cubic — Data Link

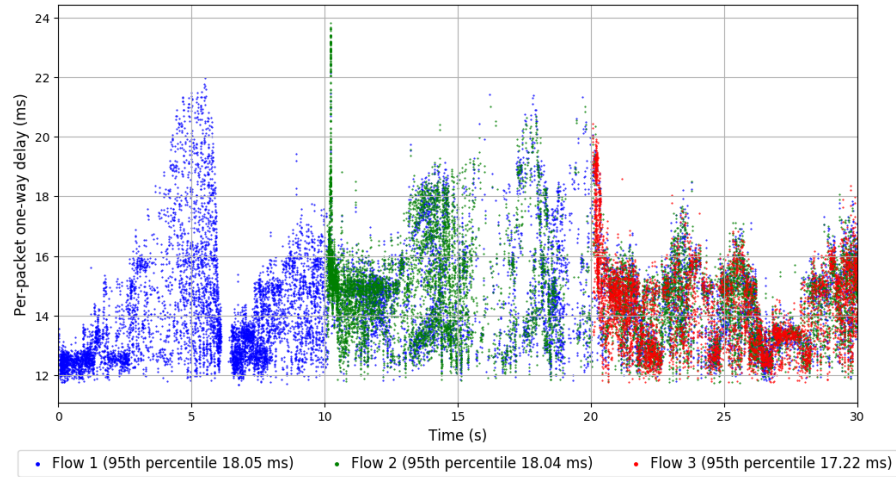
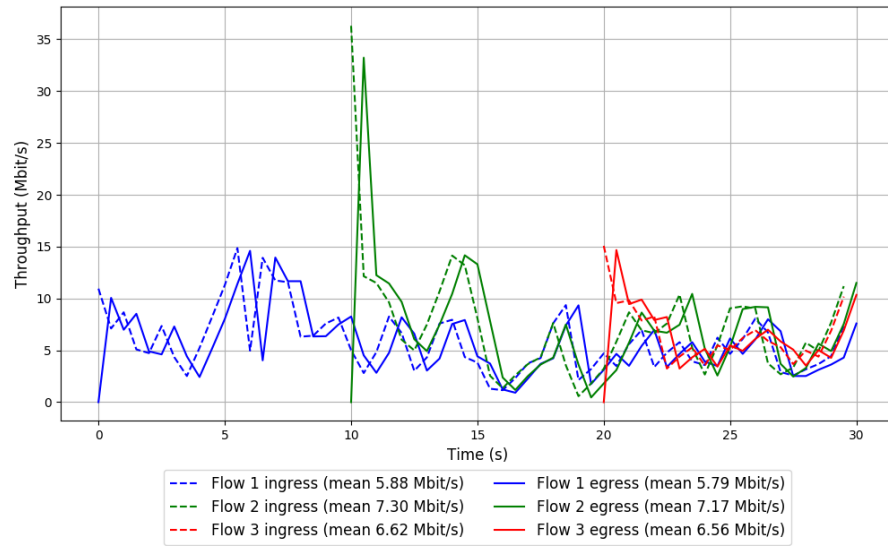


Run 5: Statistics of TCP Cubic

Start at: 2019-03-09 04:05:42  
End at: 2019-03-09 04:06:12  
Local clock offset: -2.536 ms  
Remote clock offset: -0.825 ms

# Below is generated by plot.py at 2019-03-09 04:28:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.74 Mbit/s  
95th percentile per-packet one-way delay: 17.958 ms  
Loss rate: 1.54%  
-- Flow 1:  
Average throughput: 5.79 Mbit/s  
95th percentile per-packet one-way delay: 18.051 ms  
Loss rate: 1.65%  
-- Flow 2:  
Average throughput: 7.17 Mbit/s  
95th percentile per-packet one-way delay: 18.044 ms  
Loss rate: 1.70%  
-- Flow 3:  
Average throughput: 6.56 Mbit/s  
95th percentile per-packet one-way delay: 17.217 ms  
Loss rate: 0.89%

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



Run 1: Statistics of FillP

Start at: 2019-03-09 02:38:19

End at: 2019-03-09 02:38:49

Local clock offset: -0.505 ms

Remote clock offset: 0.163 ms

# Below is generated by plot.py at 2019-03-09 04:29:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.57 Mbit/s

95th percentile per-packet one-way delay: 47.013 ms

Loss rate: 36.29%

-- Flow 1:

Average throughput: 49.63 Mbit/s

95th percentile per-packet one-way delay: 45.316 ms

Loss rate: 29.20%

-- Flow 2:

Average throughput: 42.12 Mbit/s

95th percentile per-packet one-way delay: 47.835 ms

Loss rate: 40.83%

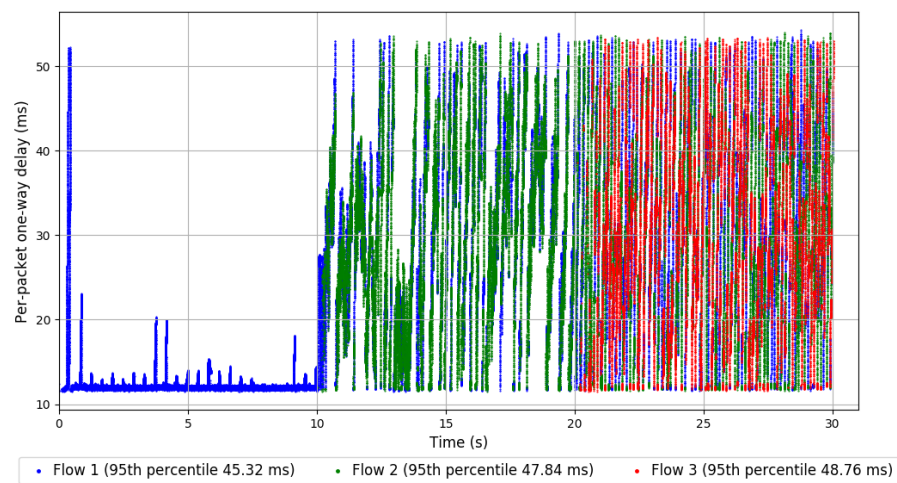
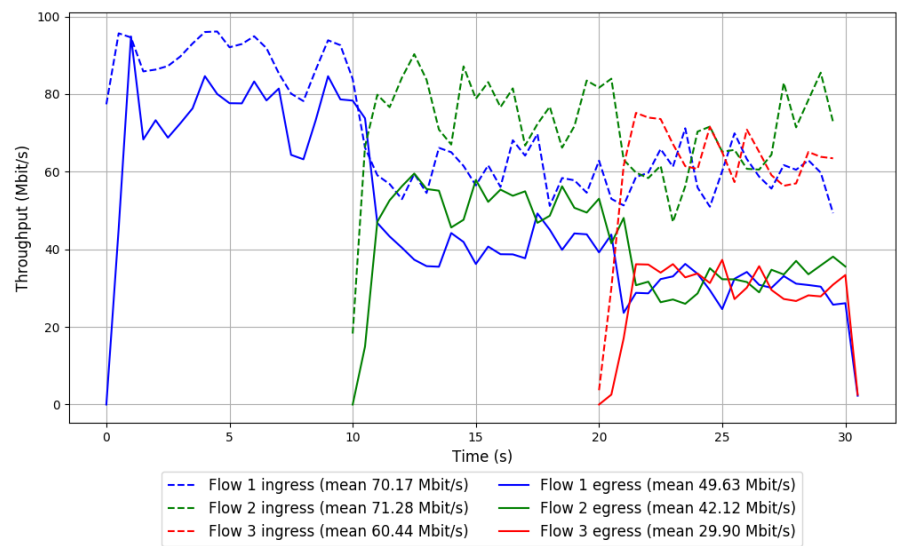
-- Flow 3:

Average throughput: 29.90 Mbit/s

95th percentile per-packet one-way delay: 48.763 ms

Loss rate: 50.38%

Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2019-03-09 03:02:59

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

Local clock offset: -1.91 ms

Remote clock offset: 0.663 ms

# Below is generated by plot.py at 2019-03-09 04:29:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 81.54 Mbit/s

95th percentile per-packet one-way delay: 48.201 ms

Loss rate: 36.75%

-- Flow 1:

Average throughput: 45.38 Mbit/s

95th percentile per-packet one-way delay: 47.158 ms

Loss rate: 31.80%

-- Flow 2:

Average throughput: 40.74 Mbit/s

95th percentile per-packet one-way delay: 49.000 ms

Loss rate: 39.18%

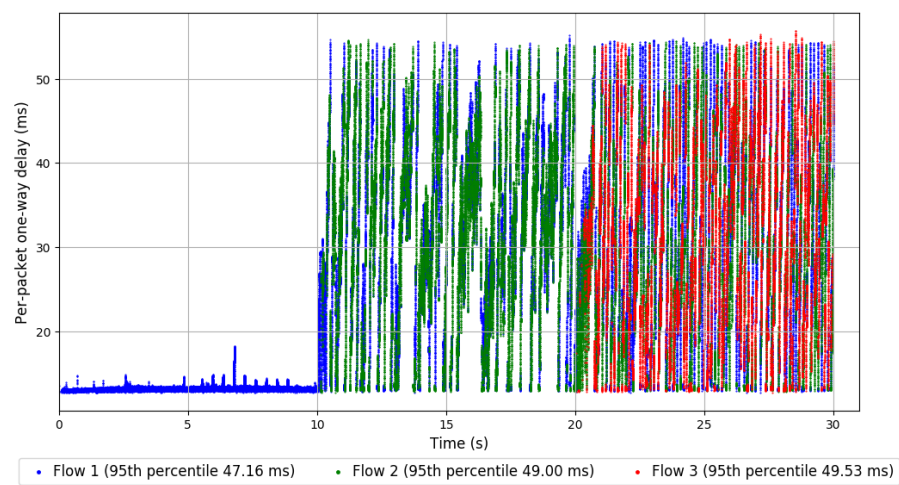
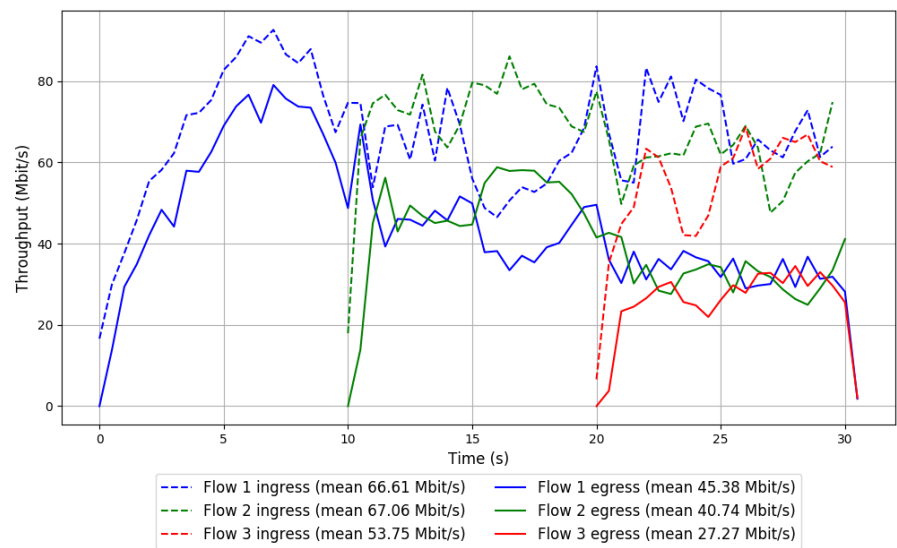
-- Flow 3:

Average throughput: 27.27 Mbit/s

95th percentile per-packet one-way delay: 49.528 ms

Loss rate: 49.14%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-03-09 03:28:24

End at: 2019-03-09 03:28:54

Local clock offset: -1.071 ms

Remote clock offset: 1.668 ms

# Below is generated by plot.py at 2019-03-09 04:29:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.12 Mbit/s

95th percentile per-packet one-way delay: 46.883 ms

Loss rate: 38.22%

-- Flow 1:

Average throughput: 51.29 Mbit/s

95th percentile per-packet one-way delay: 44.723 ms

Loss rate: 31.60%

-- Flow 2:

Average throughput: 38.91 Mbit/s

95th percentile per-packet one-way delay: 47.894 ms

Loss rate: 42.99%

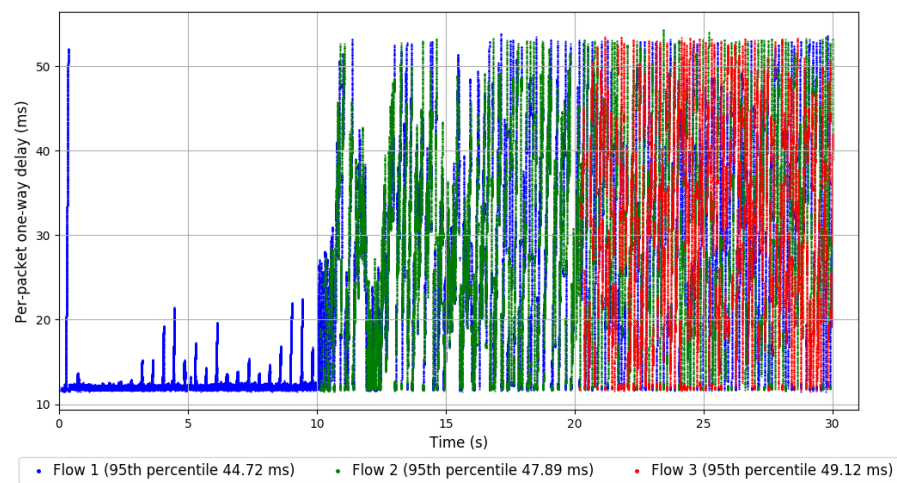
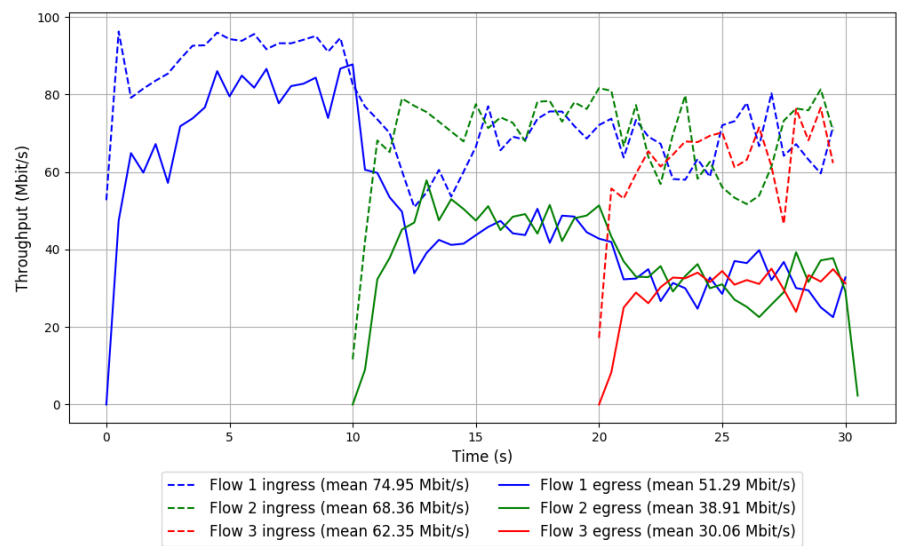
-- Flow 3:

Average throughput: 30.06 Mbit/s

95th percentile per-packet one-way delay: 49.124 ms

Loss rate: 51.73%

Run 3: Report of FillP — Data Link

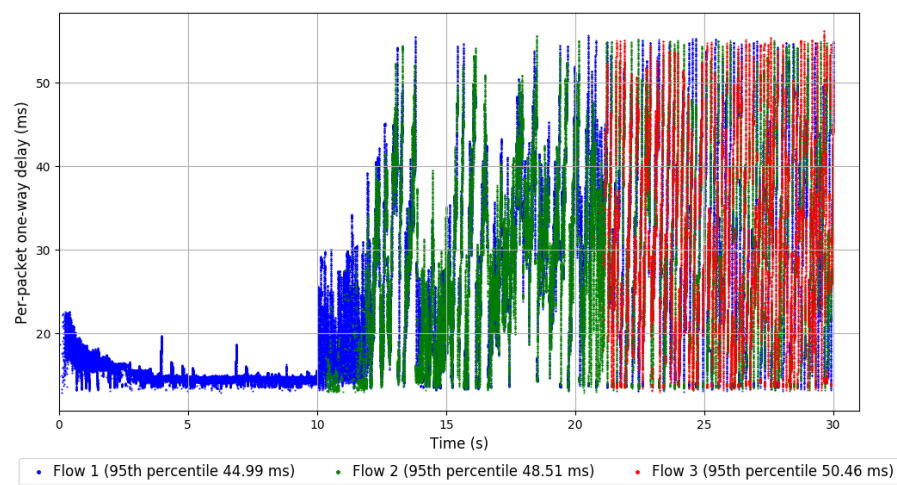
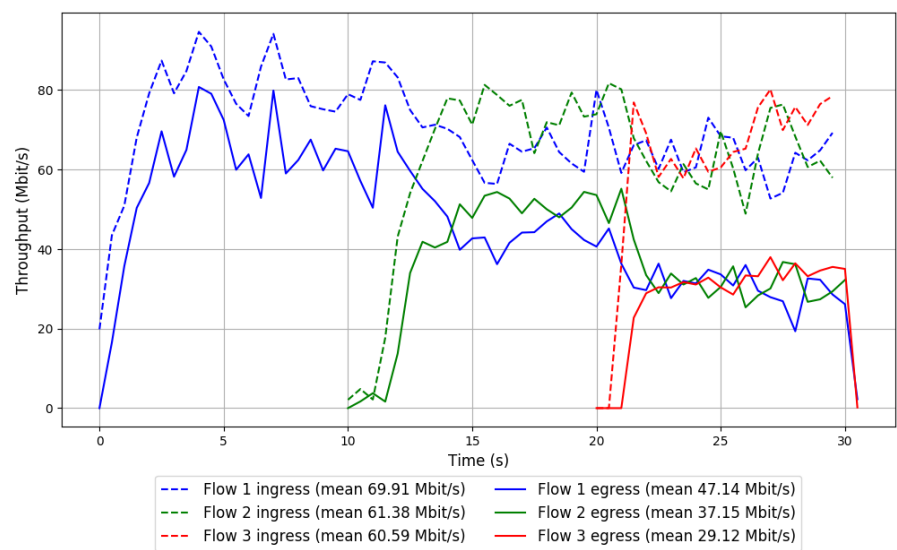


Run 4: Statistics of FillP

Start at: 2019-03-09 03:53:55  
End at: 2019-03-09 03:54:25  
Local clock offset: -2.062 ms  
Remote clock offset: 1.407 ms

# Below is generated by plot.py at 2019-03-09 04:29:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.24 Mbit/s  
95th percentile per-packet one-way delay: 47.414 ms  
Loss rate: 37.87%  
-- Flow 1:  
Average throughput: 47.14 Mbit/s  
95th percentile per-packet one-way delay: 44.990 ms  
Loss rate: 32.51%  
-- Flow 2:  
Average throughput: 37.15 Mbit/s  
95th percentile per-packet one-way delay: 48.514 ms  
Loss rate: 40.13%  
-- Flow 3:  
Average throughput: 29.12 Mbit/s  
95th percentile per-packet one-way delay: 50.463 ms  
Loss rate: 51.92%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-09 04:20:10

End at: 2019-03-09 04:20:40

Local clock offset: 1.04 ms

Remote clock offset: 0.64 ms

# Below is generated by plot.py at 2019-03-09 04:29:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.33 Mbit/s

95th percentile per-packet one-way delay: 48.213 ms

Loss rate: 36.74%

-- Flow 1:

Average throughput: 49.92 Mbit/s

95th percentile per-packet one-way delay: 46.773 ms

Loss rate: 28.54%

-- Flow 2:

Average throughput: 39.58 Mbit/s

95th percentile per-packet one-way delay: 48.991 ms

Loss rate: 41.34%

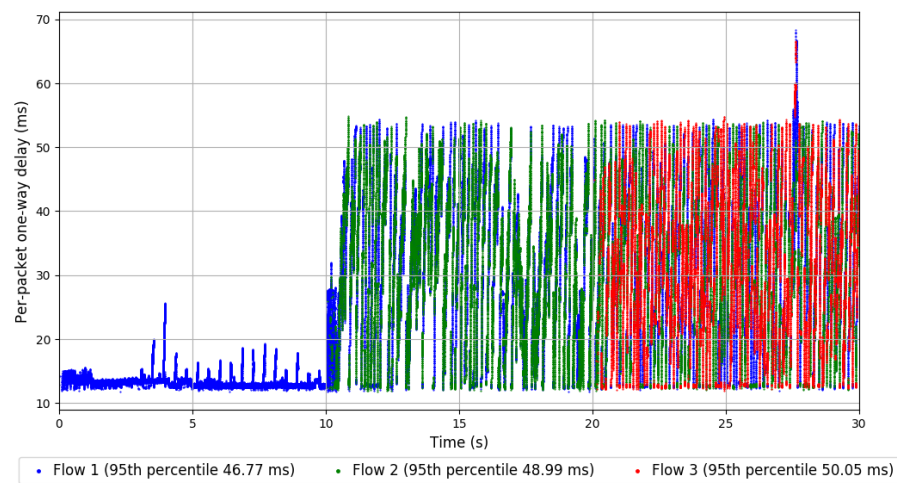
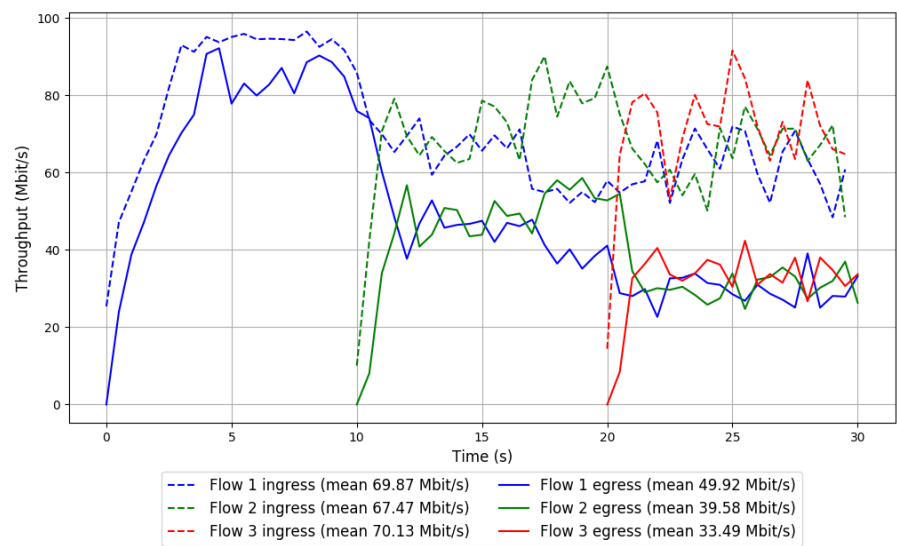
-- Flow 3:

Average throughput: 33.49 Mbit/s

95th percentile per-packet one-way delay: 50.053 ms

Loss rate: 52.50%

Run 5: Report of FillP — Data Link



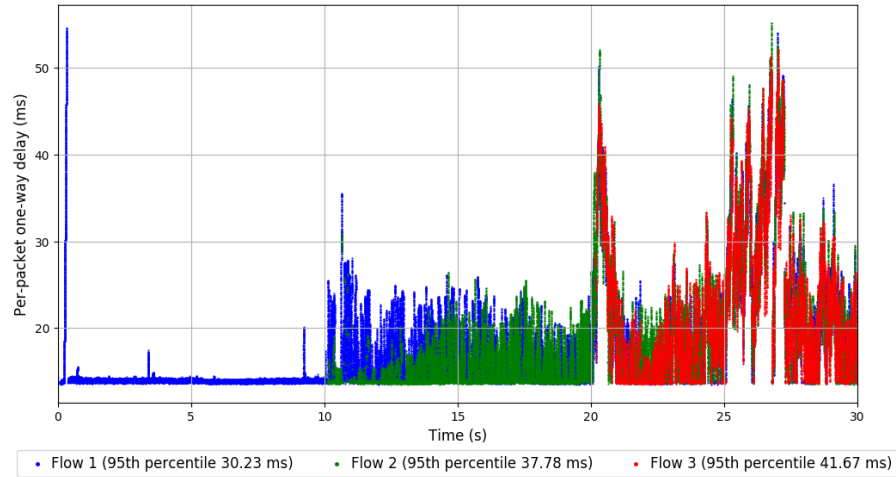
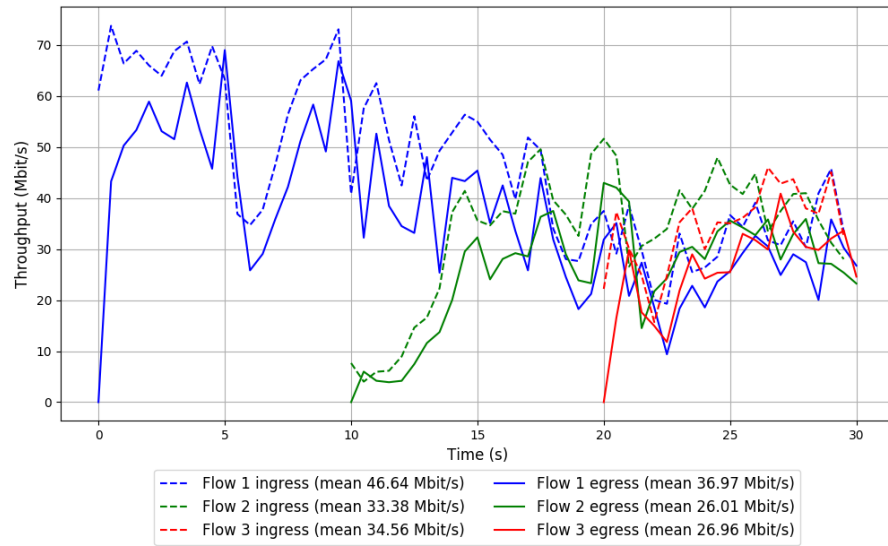


Run 1: Statistics of FillP-Sheep

Start at: 2019-03-09 02:22:05  
End at: 2019-03-09 02:22:35  
Local clock offset: -2.293 ms  
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2019-03-09 04:29:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 63.19 Mbit/s  
95th percentile per-packet one-way delay: 36.022 ms  
Loss rate: 21.30%  
-- Flow 1:  
Average throughput: 36.97 Mbit/s  
95th percentile per-packet one-way delay: 30.227 ms  
Loss rate: 20.74%  
-- Flow 2:  
Average throughput: 26.01 Mbit/s  
95th percentile per-packet one-way delay: 37.776 ms  
Loss rate: 22.10%  
-- Flow 3:  
Average throughput: 26.96 Mbit/s  
95th percentile per-packet one-way delay: 41.669 ms  
Loss rate: 22.03%

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



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-09 02:46:45

End at: 2019-03-09 02:47:15

Local clock offset: -2.795 ms

Remote clock offset: 0.089 ms

# Below is generated by plot.py at 2019-03-09 04:29:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 84.45 Mbit/s

95th percentile per-packet one-way delay: 40.761 ms

Loss rate: 13.09%

-- Flow 1:

Average throughput: 49.26 Mbit/s

95th percentile per-packet one-way delay: 35.860 ms

Loss rate: 12.13%

-- Flow 2:

Average throughput: 36.71 Mbit/s

95th percentile per-packet one-way delay: 40.996 ms

Loss rate: 13.55%

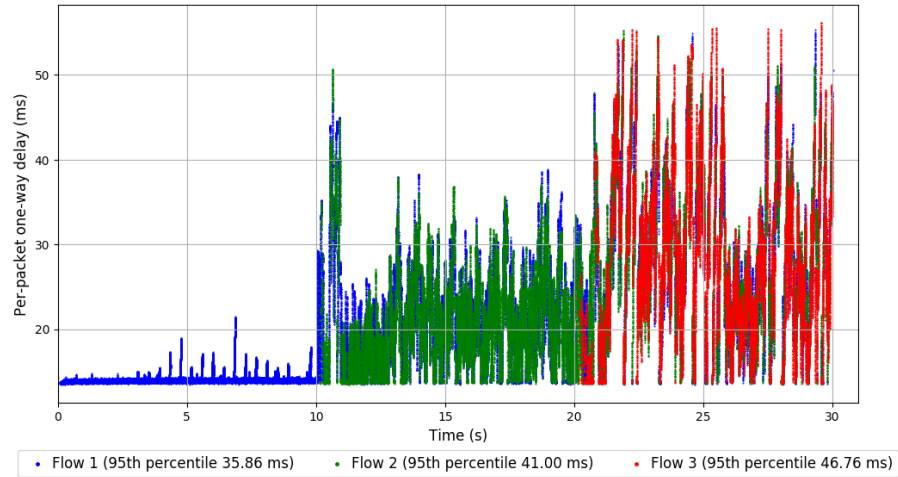
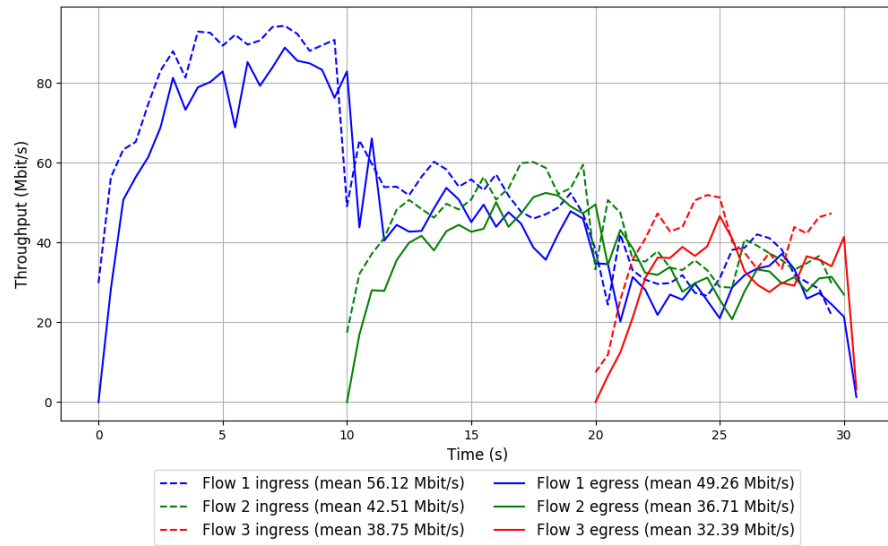
-- Flow 3:

Average throughput: 32.39 Mbit/s

95th percentile per-packet one-way delay: 46.762 ms

Loss rate: 16.26%

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



Run 3: Statistics of FillP-Sheep

Start at: 2019-03-09 03:11:49

End at: 2019-03-09 03:12:19

Local clock offset: -2.503 ms

Remote clock offset: 0.93 ms

# Below is generated by plot.py at 2019-03-09 04:29:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 74.72 Mbit/s

95th percentile per-packet one-way delay: 34.882 ms

Loss rate: 17.21%

-- Flow 1:

Average throughput: 43.13 Mbit/s

95th percentile per-packet one-way delay: 31.749 ms

Loss rate: 16.45%

-- Flow 2:

Average throughput: 33.46 Mbit/s

95th percentile per-packet one-way delay: 35.818 ms

Loss rate: 17.58%

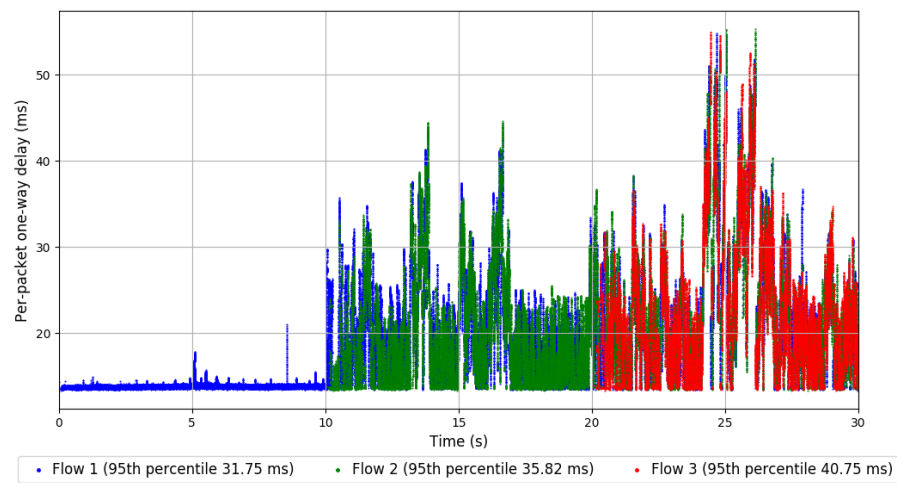
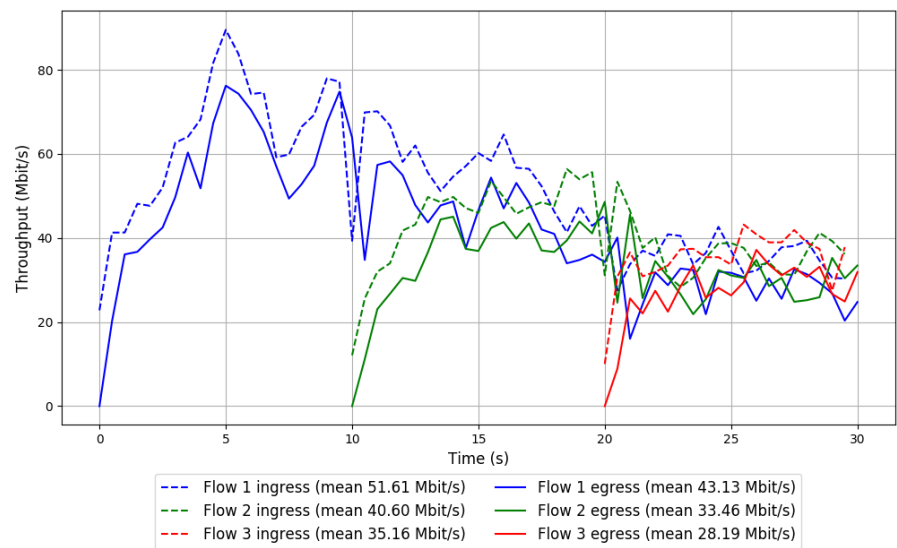
-- Flow 3:

Average throughput: 28.19 Mbit/s

95th percentile per-packet one-way delay: 40.752 ms

Loss rate: 19.77%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-09 03:37:21

End at: 2019-03-09 03:37:51

Local clock offset: -3.626 ms

Remote clock offset: 0.796 ms

# Below is generated by plot.py at 2019-03-09 04:29:41

# Datalink statistics

-- Total of 3 flows:

Average throughput: 48.97 Mbit/s

95th percentile per-packet one-way delay: 24.947 ms

Loss rate: 22.92%

-- Flow 1:

Average throughput: 19.36 Mbit/s

95th percentile per-packet one-way delay: 24.287 ms

Loss rate: 21.88%

-- Flow 2:

Average throughput: 30.55 Mbit/s

95th percentile per-packet one-way delay: 25.278 ms

Loss rate: 24.04%

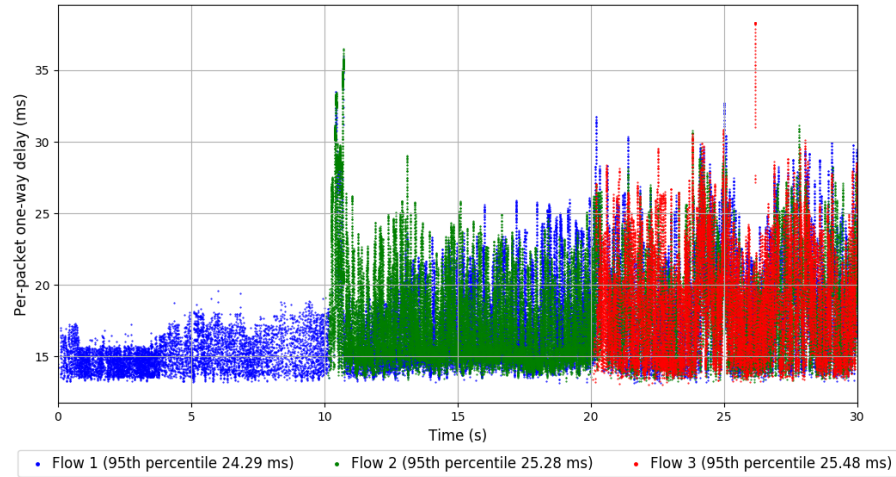
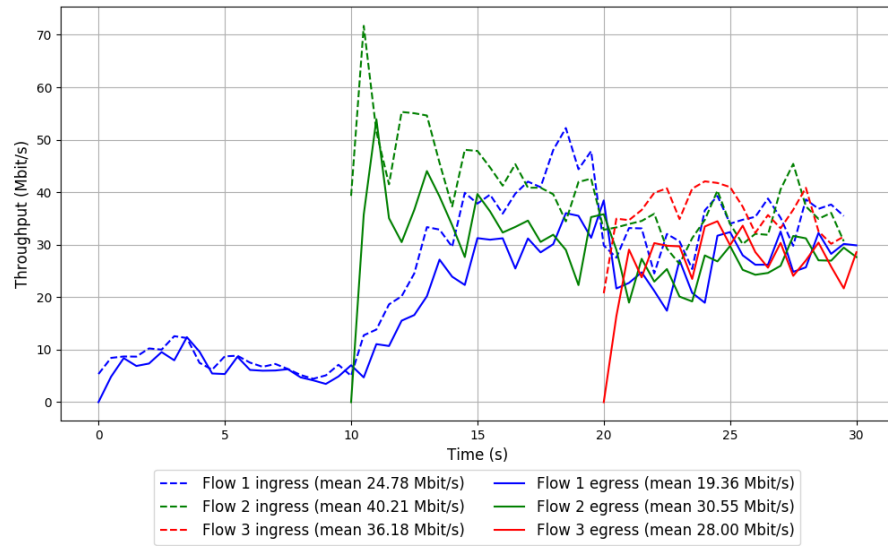
-- Flow 3:

Average throughput: 28.00 Mbit/s

95th percentile per-packet one-way delay: 25.479 ms

Loss rate: 22.56%

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



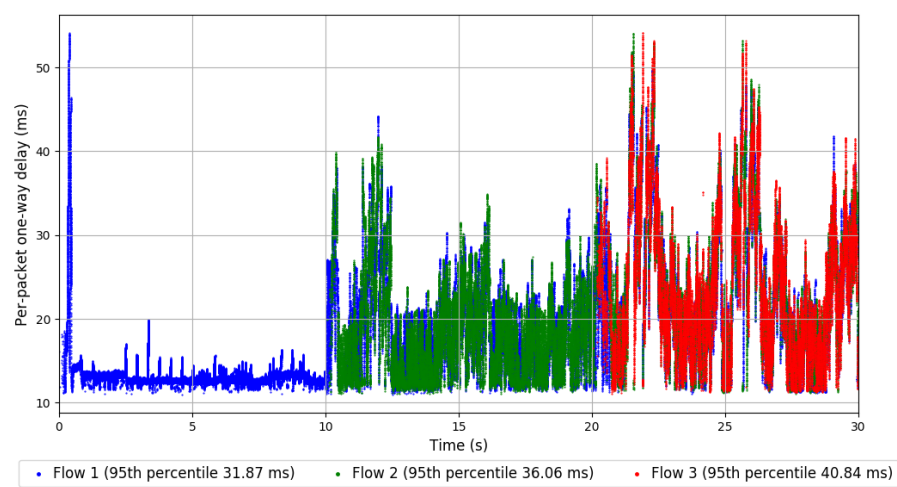
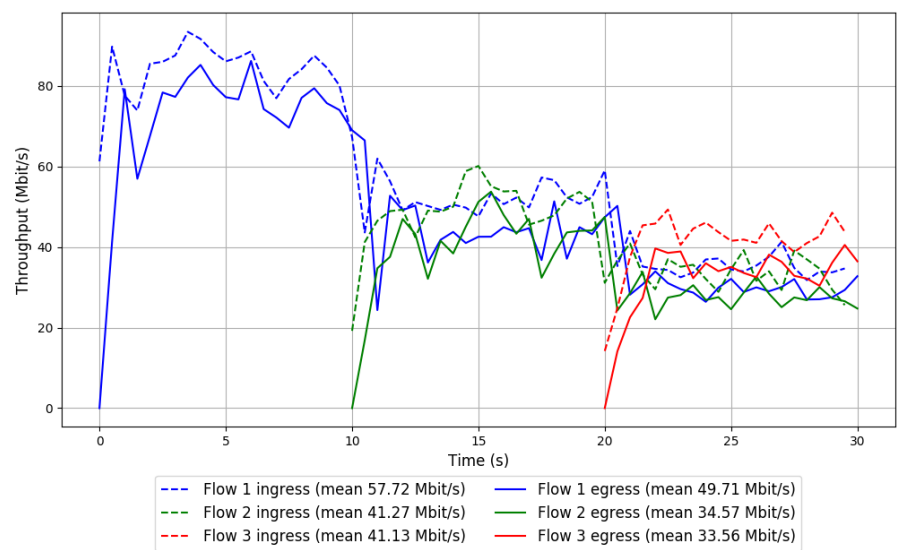


Run 5: Statistics of FillP-Sheep

Start at: 2019-03-09 04:03:00  
End at: 2019-03-09 04:03:30  
Local clock offset: -1.32 ms  
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2019-03-09 04:30:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.82 Mbit/s  
95th percentile per-packet one-way delay: 35.131 ms  
Loss rate: 15.17%  
-- Flow 1:  
Average throughput: 49.71 Mbit/s  
95th percentile per-packet one-way delay: 31.873 ms  
Loss rate: 13.89%  
-- Flow 2:  
Average throughput: 34.57 Mbit/s  
95th percentile per-packet one-way delay: 36.059 ms  
Loss rate: 16.23%  
-- Flow 3:  
Average throughput: 33.56 Mbit/s  
95th percentile per-packet one-way delay: 40.844 ms  
Loss rate: 18.45%

Run 5: Report of FillP-Sheep — Data Link

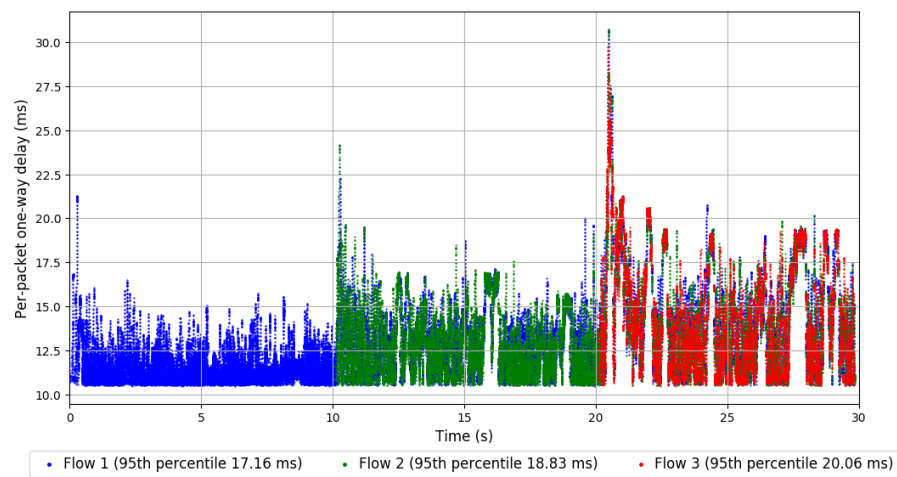
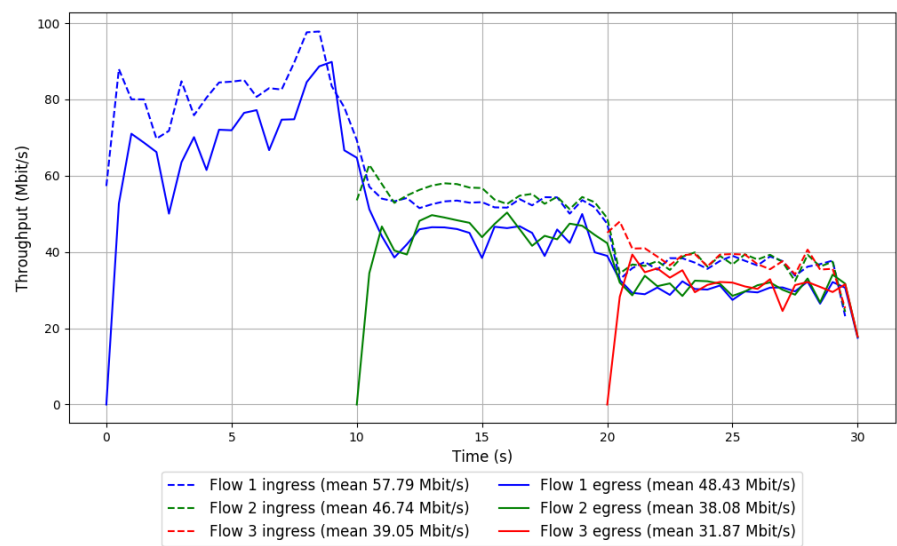


Run 1: Statistics of Indigo

Start at: 2019-03-09 02:41:54  
End at: 2019-03-09 02:42:24  
Local clock offset: -0.697 ms  
Remote clock offset: -1.073 ms

# Below is generated by plot.py at 2019-03-09 04:30:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 84.13 Mbit/s  
95th percentile per-packet one-way delay: 18.769 ms  
Loss rate: 17.20%  
-- Flow 1:  
Average throughput: 48.43 Mbit/s  
95th percentile per-packet one-way delay: 17.161 ms  
Loss rate: 16.20%  
-- Flow 2:  
Average throughput: 38.08 Mbit/s  
95th percentile per-packet one-way delay: 18.832 ms  
Loss rate: 18.55%  
-- Flow 3:  
Average throughput: 31.87 Mbit/s  
95th percentile per-packet one-way delay: 20.059 ms  
Loss rate: 18.43%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-03-09 03:06:43

End at: 2019-03-09 03:07:13

Local clock offset: -0.969 ms

Remote clock offset: 1.035 ms

# Below is generated by plot.py at 2019-03-09 04:30:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 82.81 Mbit/s

95th percentile per-packet one-way delay: 20.113 ms

Loss rate: 15.99%

-- Flow 1:

Average throughput: 48.77 Mbit/s

95th percentile per-packet one-way delay: 18.462 ms

Loss rate: 15.53%

-- Flow 2:

Average throughput: 38.30 Mbit/s

95th percentile per-packet one-way delay: 20.553 ms

Loss rate: 15.95%

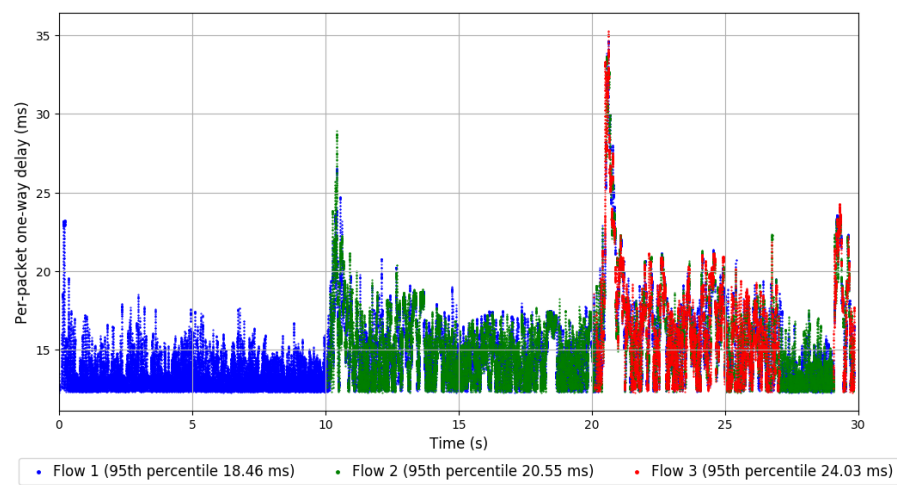
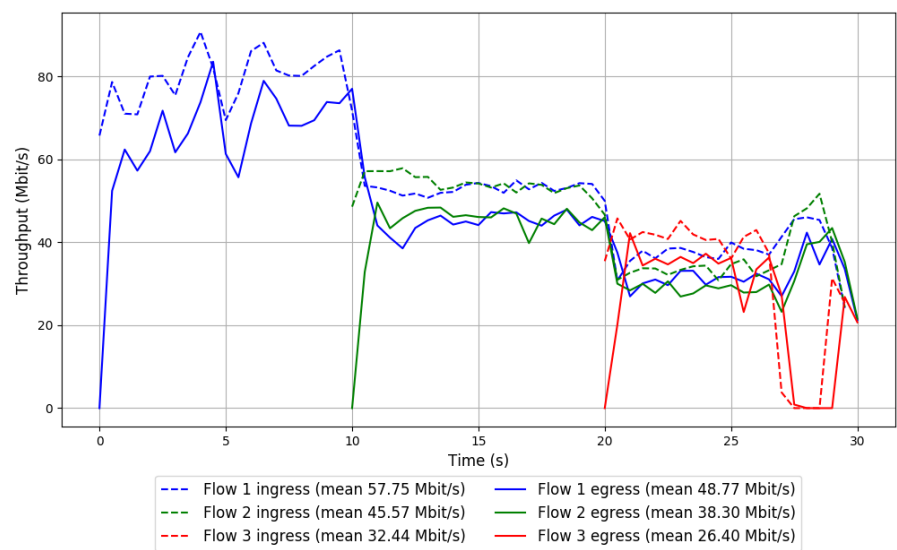
-- Flow 3:

Average throughput: 26.40 Mbit/s

95th percentile per-packet one-way delay: 24.029 ms

Loss rate: 18.58%

Run 2: Report of Indigo — Data Link

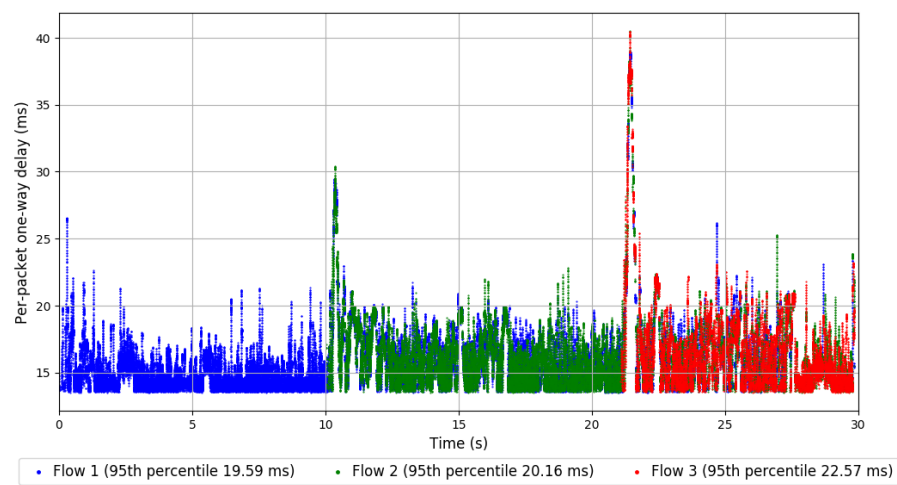
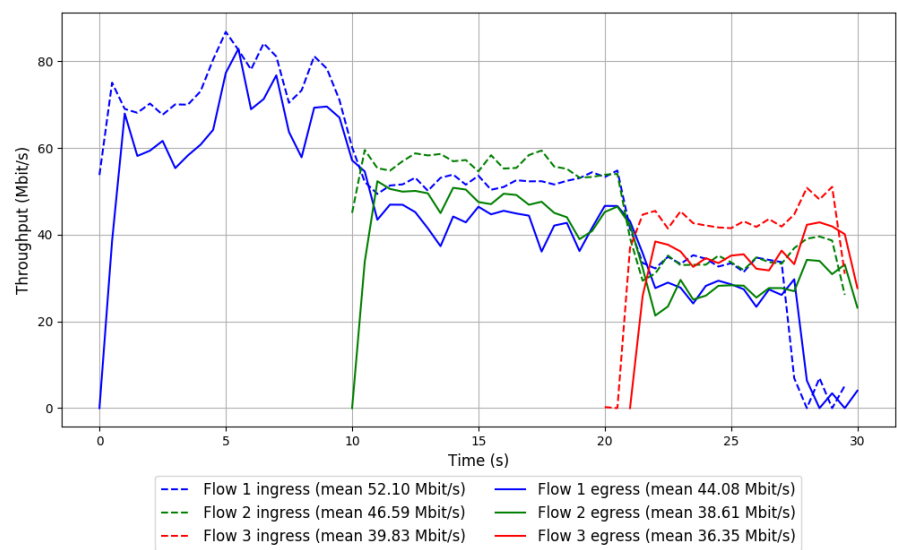


Run 3: Statistics of Indigo

Start at: 2019-03-09 03:32:11  
End at: 2019-03-09 03:32:41  
Local clock offset: -3.274 ms  
Remote clock offset: 1.447 ms

# Below is generated by plot.py at 2019-03-09 04:30:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 80.41 Mbit/s  
95th percentile per-packet one-way delay: 20.120 ms  
Loss rate: 16.32%  
-- Flow 1:  
Average throughput: 44.08 Mbit/s  
95th percentile per-packet one-way delay: 19.595 ms  
Loss rate: 15.40%  
-- Flow 2:  
Average throughput: 38.61 Mbit/s  
95th percentile per-packet one-way delay: 20.155 ms  
Loss rate: 17.14%  
-- Flow 3:  
Average throughput: 36.35 Mbit/s  
95th percentile per-packet one-way delay: 22.571 ms  
Loss rate: 18.04%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-03-09 03:57:53

End at: 2019-03-09 03:58:23

Local clock offset: -1.32 ms

Remote clock offset: 0.66 ms

# Below is generated by plot.py at 2019-03-09 04:30:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 83.47 Mbit/s

95th percentile per-packet one-way delay: 19.251 ms

Loss rate: 10.79%

-- Flow 1:

Average throughput: 48.20 Mbit/s

95th percentile per-packet one-way delay: 18.310 ms

Loss rate: 10.00%

-- Flow 2:

Average throughput: 39.93 Mbit/s

95th percentile per-packet one-way delay: 19.294 ms

Loss rate: 11.34%

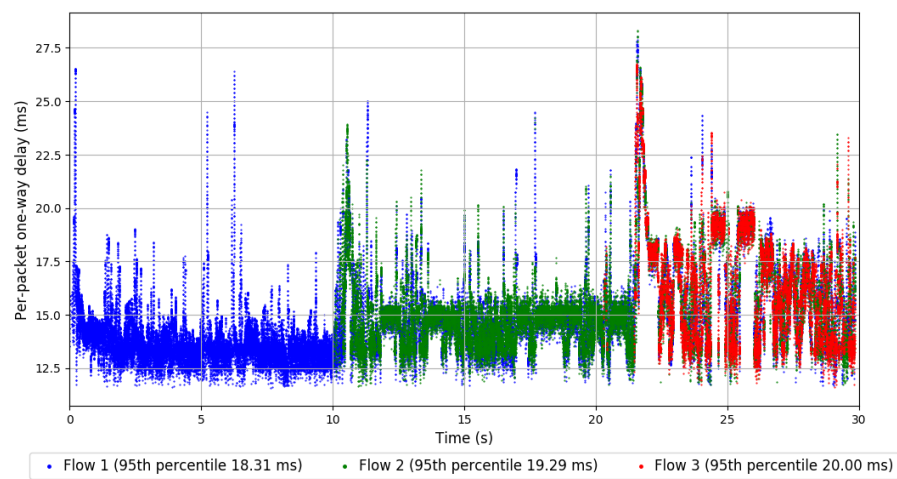
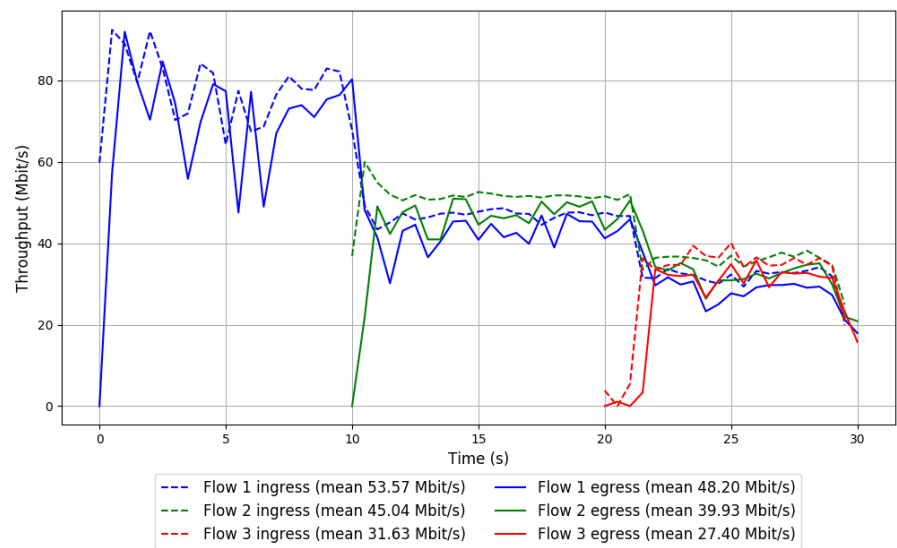
-- Flow 3:

Average throughput: 27.40 Mbit/s

95th percentile per-packet one-way delay: 20.004 ms

Loss rate: 13.32%

Run 4: Report of Indigo — Data Link

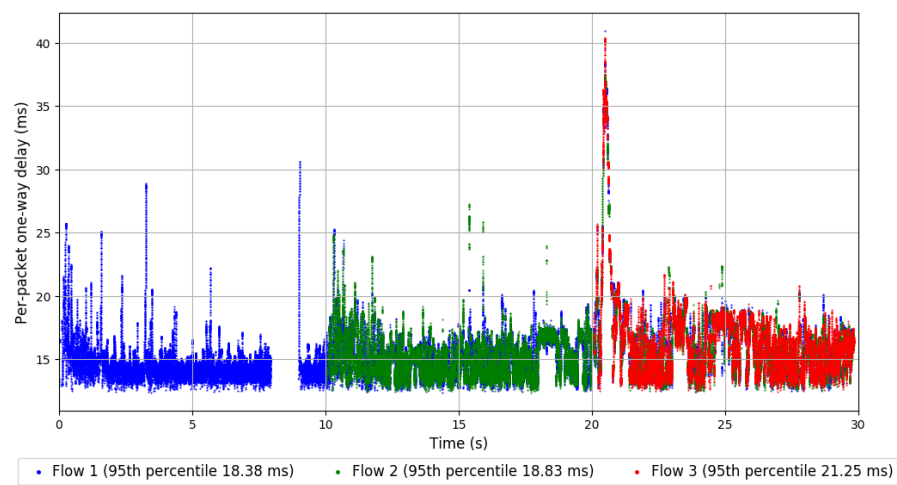
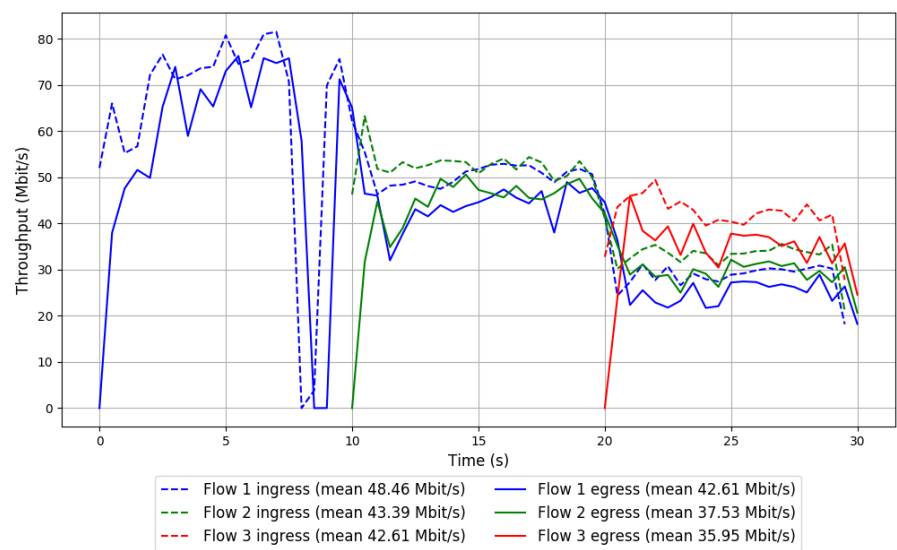


Run 5: Statistics of Indigo

Start at: 2019-03-09 04:24:05  
End at: 2019-03-09 04:24:35  
Local clock offset: 0.482 ms  
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-03-09 04:30:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.30 Mbit/s  
95th percentile per-packet one-way delay: 18.874 ms  
Loss rate: 13.06%  
-- Flow 1:  
Average throughput: 42.61 Mbit/s  
95th percentile per-packet one-way delay: 18.378 ms  
Loss rate: 12.05%  
-- Flow 2:  
Average throughput: 37.53 Mbit/s  
95th percentile per-packet one-way delay: 18.827 ms  
Loss rate: 13.49%  
-- Flow 3:  
Average throughput: 35.95 Mbit/s  
95th percentile per-packet one-way delay: 21.250 ms  
Loss rate: 15.64%

Run 5: Report of Indigo — Data Link

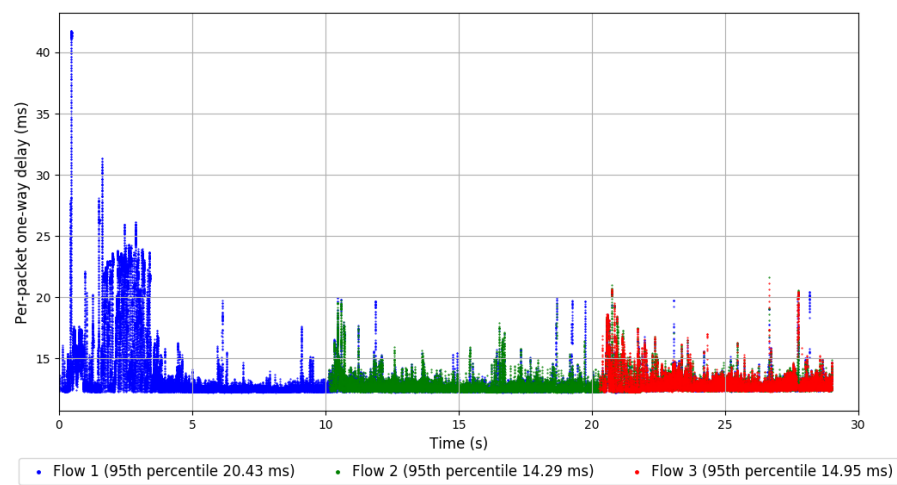
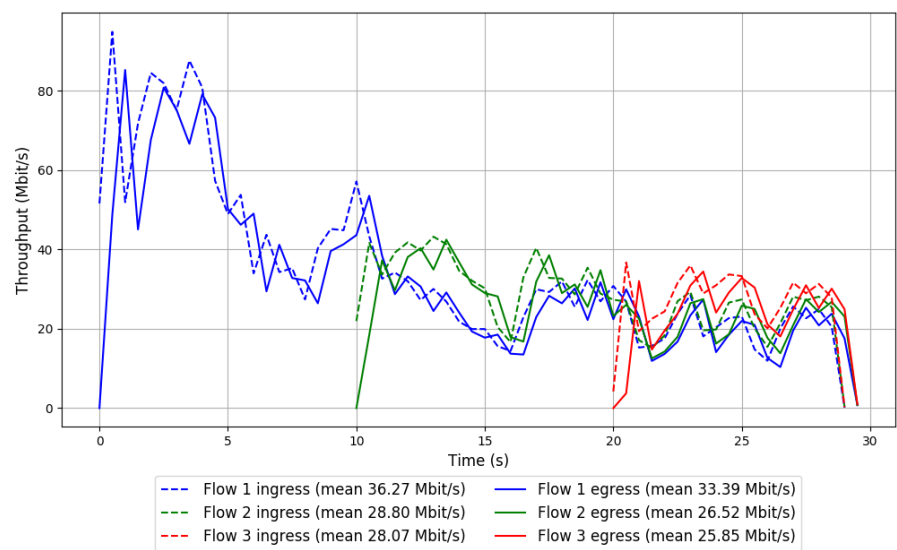


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-09 02:32:36  
End at: 2019-03-09 02:33:06  
Local clock offset: -1.793 ms  
Remote clock offset: -0.643 ms

# Below is generated by plot.py at 2019-03-09 04:30:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 58.49 Mbit/s  
95th percentile per-packet one-way delay: 17.872 ms  
Loss rate: 7.92%  
-- Flow 1:  
Average throughput: 33.39 Mbit/s  
95th percentile per-packet one-way delay: 20.433 ms  
Loss rate: 7.94%  
-- Flow 2:  
Average throughput: 26.52 Mbit/s  
95th percentile per-packet one-way delay: 14.288 ms  
Loss rate: 7.91%  
-- Flow 3:  
Average throughput: 25.85 Mbit/s  
95th percentile per-packet one-way delay: 14.948 ms  
Loss rate: 7.90%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-09 02:57:16

End at: 2019-03-09 02:57:46

Local clock offset: -2.701 ms

Remote clock offset: 0.178 ms

# Below is generated by plot.py at 2019-03-09 04:30:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 42.38 Mbit/s

95th percentile per-packet one-way delay: 14.382 ms

Loss rate: 7.85%

-- Flow 1:

Average throughput: 24.36 Mbit/s

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

Loss rate: 7.50%

-- Flow 2:

Average throughput: 20.05 Mbit/s

95th percentile per-packet one-way delay: 14.702 ms

Loss rate: 8.43%

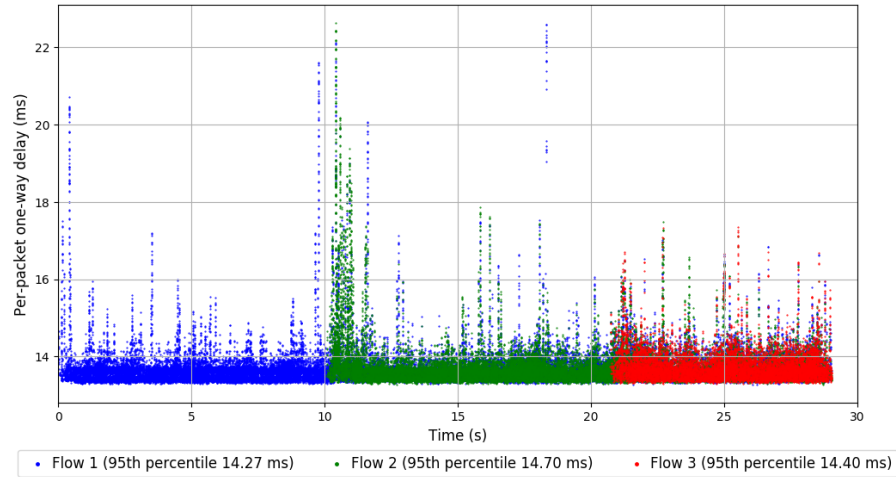
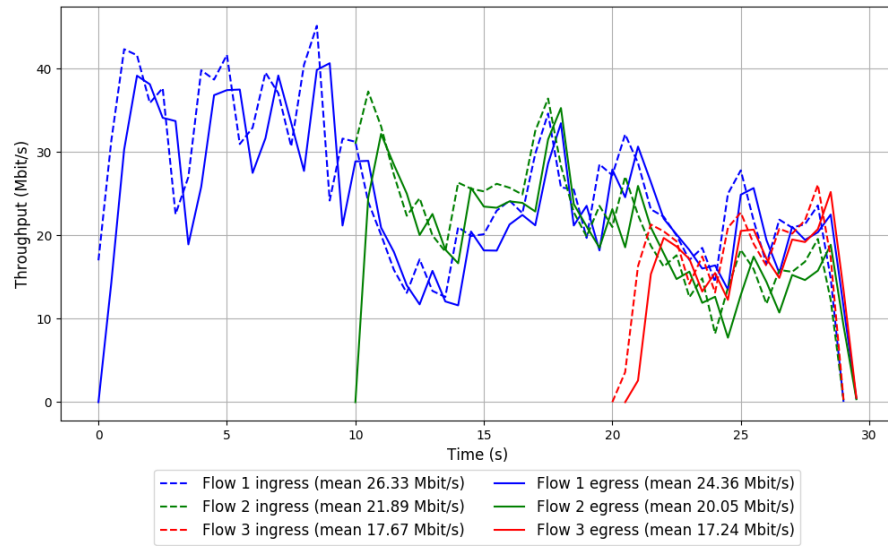
-- Flow 3:

Average throughput: 17.24 Mbit/s

95th percentile per-packet one-way delay: 14.404 ms

Loss rate: 7.98%

## Run 2: Report of Indigo-MusesC3 — Data Link





Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-09 03:22:34

End at: 2019-03-09 03:23:04

Local clock offset: -2.326 ms

Remote clock offset: 0.313 ms

# Below is generated by plot.py at 2019-03-09 04:30:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 29.49 Mbit/s

95th percentile per-packet one-way delay: 13.165 ms

Loss rate: 10.39%

-- Flow 1:

Average throughput: 15.42 Mbit/s

95th percentile per-packet one-way delay: 13.022 ms

Loss rate: 10.08%

-- Flow 2:

Average throughput: 13.50 Mbit/s

95th percentile per-packet one-way delay: 13.227 ms

Loss rate: 10.64%

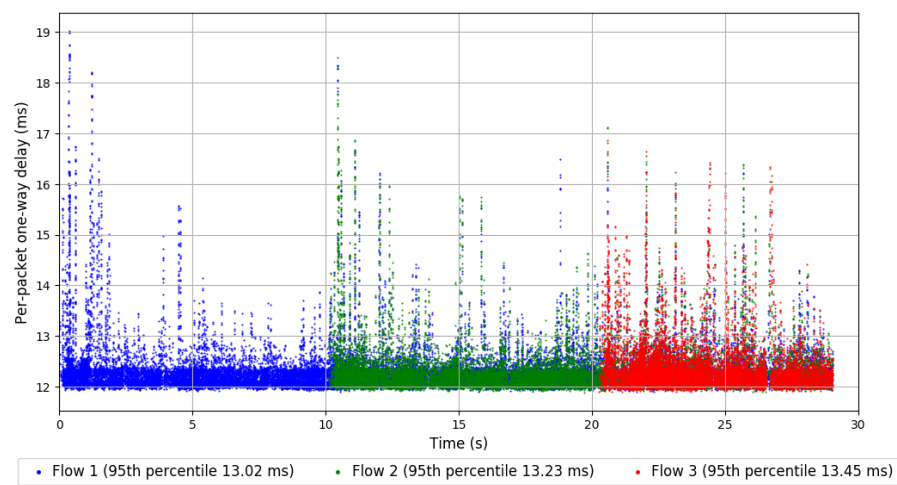
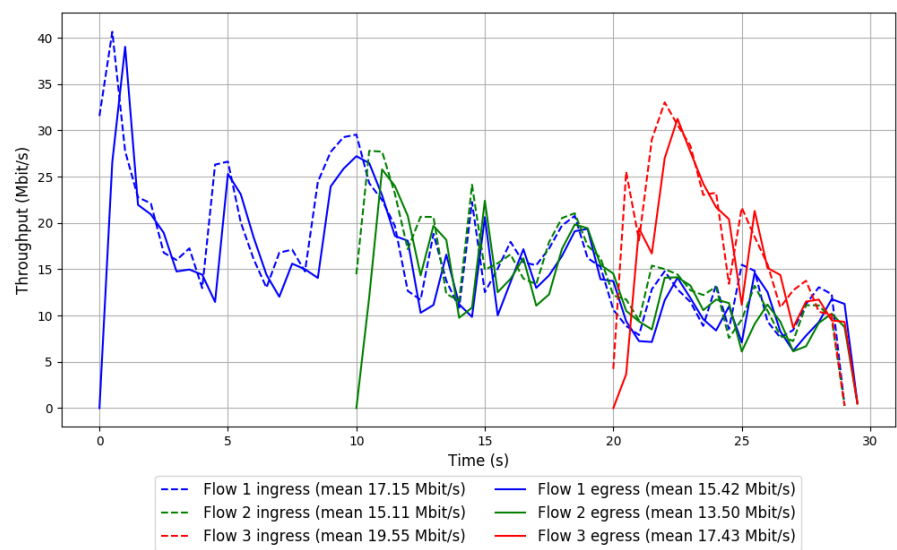
-- Flow 3:

Average throughput: 17.43 Mbit/s

95th percentile per-packet one-way delay: 13.446 ms

Loss rate: 10.84%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-09 03:47:52

End at: 2019-03-09 03:48:22

Local clock offset: -1.406 ms

Remote clock offset: 0.73 ms

# Below is generated by plot.py at 2019-03-09 04:30:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 46.12 Mbit/s

95th percentile per-packet one-way delay: 15.292 ms

Loss rate: 4.81%

-- Flow 1:

Average throughput: 24.40 Mbit/s

95th percentile per-packet one-way delay: 14.932 ms

Loss rate: 4.01%

-- Flow 2:

Average throughput: 15.88 Mbit/s

95th percentile per-packet one-way delay: 15.661 ms

Loss rate: 6.31%

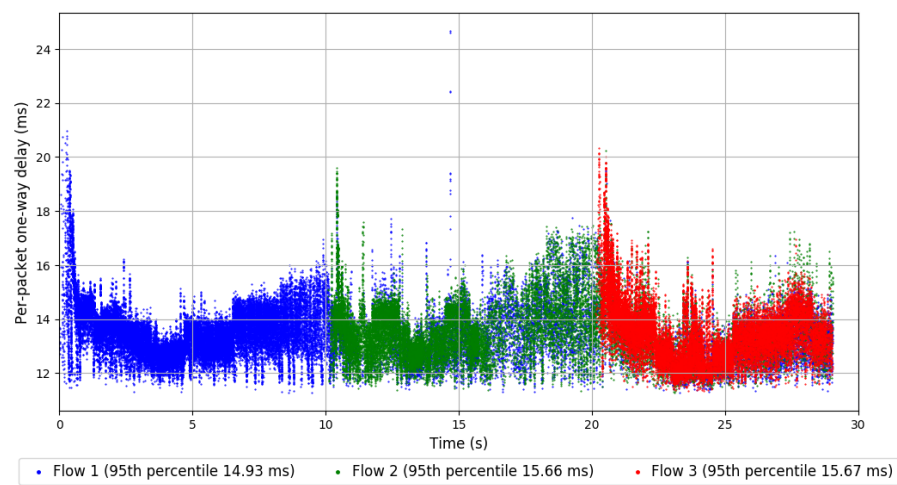
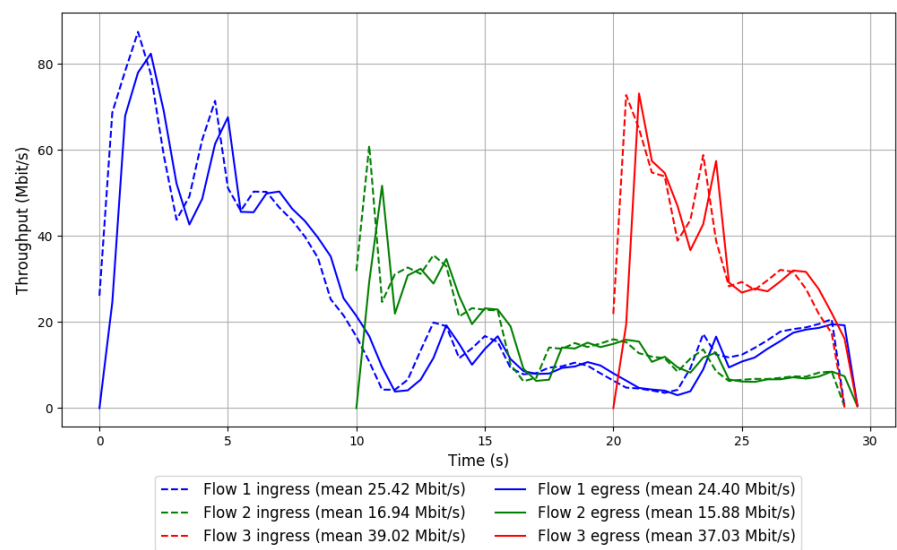
-- Flow 3:

Average throughput: 37.03 Mbit/s

95th percentile per-packet one-way delay: 15.672 ms

Loss rate: 5.11%

Run 4: Report of Indigo-MusesC3 — Data Link

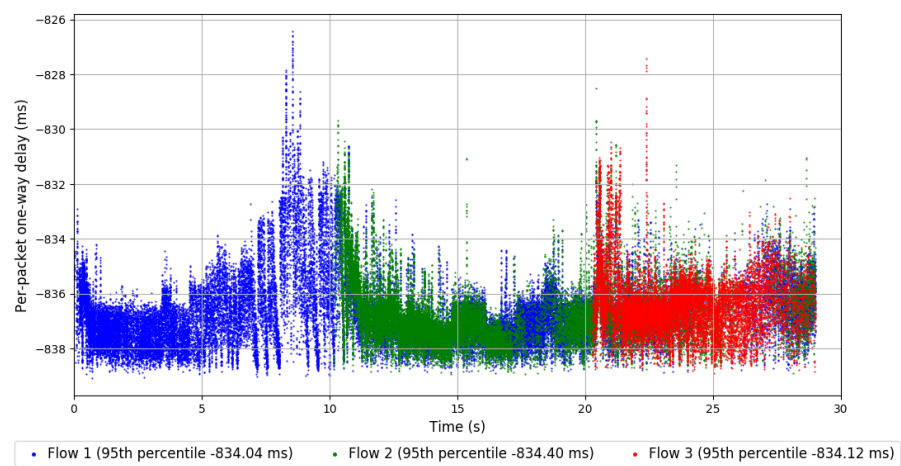
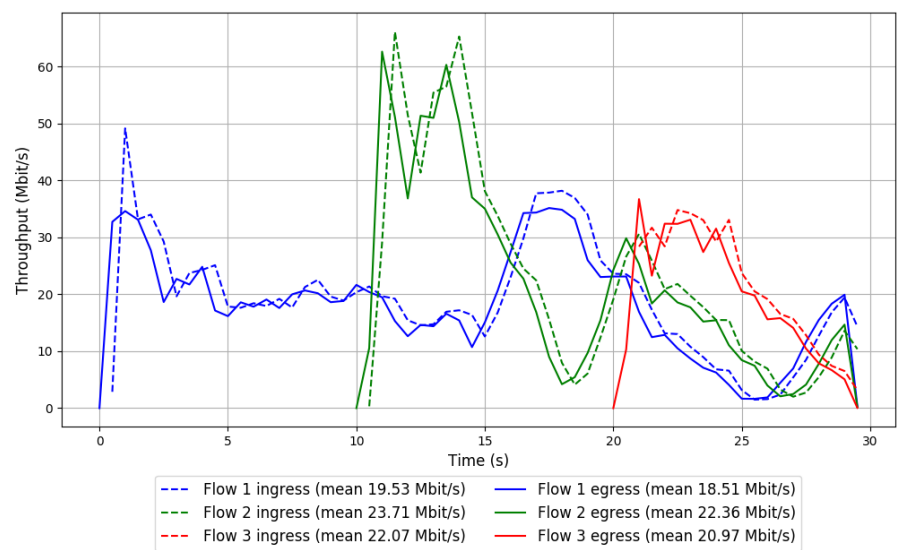


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-09 04:14:11  
End at: 2019-03-09 04:14:41  
Local clock offset: -2.468 ms  
Remote clock offset: -851.859 ms

# Below is generated by plot.py at 2019-03-09 04:30:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 39.43 Mbit/s  
95th percentile per-packet one-way delay: -834.210 ms  
Loss rate: 5.36%  
-- Flow 1:  
Average throughput: 18.51 Mbit/s  
95th percentile per-packet one-way delay: -834.038 ms  
Loss rate: 5.23%  
-- Flow 2:  
Average throughput: 22.36 Mbit/s  
95th percentile per-packet one-way delay: -834.402 ms  
Loss rate: 5.69%  
-- Flow 3:  
Average throughput: 20.97 Mbit/s  
95th percentile per-packet one-way delay: -834.120 ms  
Loss rate: 4.99%

Run 5: Report of Indigo-MusesC3 — Data Link

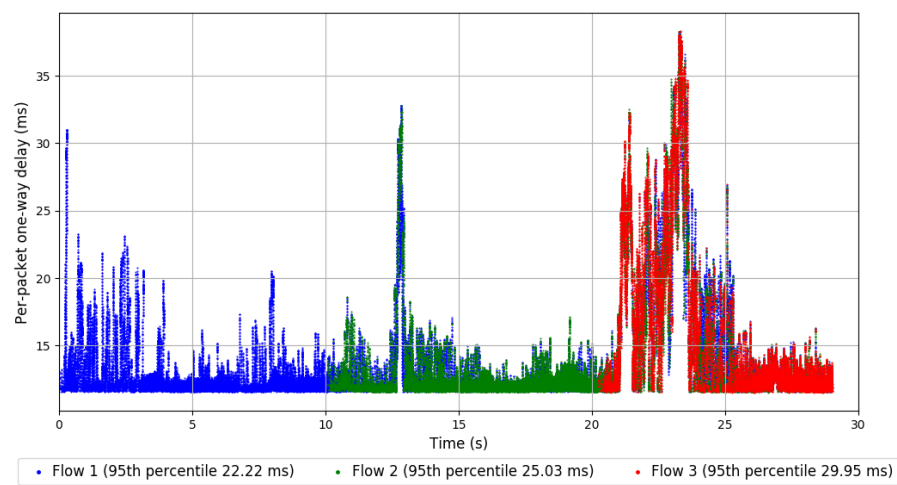
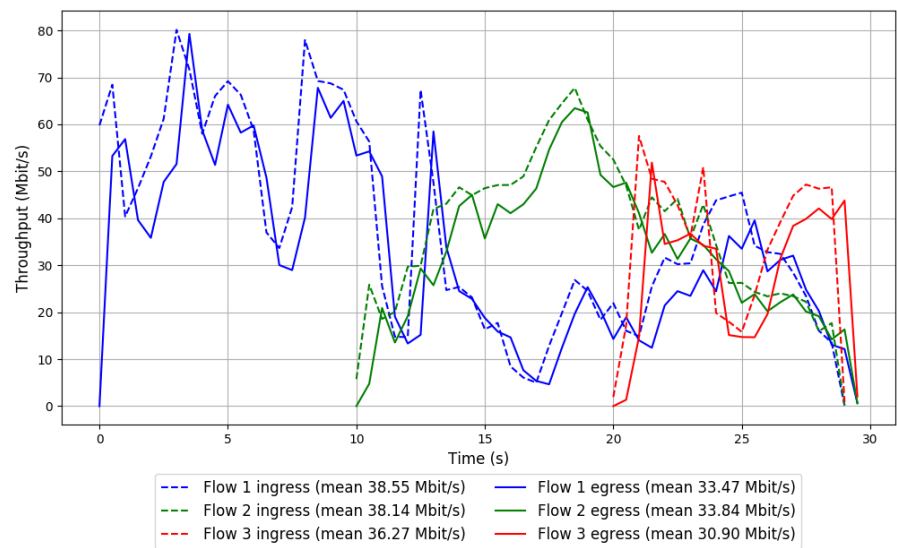


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-09 02:25:38  
End at: 2019-03-09 02:26:08  
Local clock offset: -2.111 ms  
Remote clock offset: -2.028 ms

# Below is generated by plot.py at 2019-03-09 04:31:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 64.93 Mbit/s  
95th percentile per-packet one-way delay: 25.641 ms  
Loss rate: 12.77%  
-- Flow 1:  
Average throughput: 33.47 Mbit/s  
95th percentile per-packet one-way delay: 22.216 ms  
Loss rate: 13.17%  
-- Flow 2:  
Average throughput: 33.84 Mbit/s  
95th percentile per-packet one-way delay: 25.027 ms  
Loss rate: 11.26%  
-- Flow 3:  
Average throughput: 30.90 Mbit/s  
95th percentile per-packet one-way delay: 29.945 ms  
Loss rate: 14.80%

Run 1: Report of Indigo-MusesC5 — Data Link





Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-09 02:50:21

End at: 2019-03-09 02:50:51

Local clock offset: -2.8 ms

Remote clock offset: 1.017 ms

# Below is generated by plot.py at 2019-03-09 04:31:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 57.82 Mbit/s

95th percentile per-packet one-way delay: 21.777 ms

Loss rate: 11.27%

-- Flow 1:

Average throughput: 32.68 Mbit/s

95th percentile per-packet one-way delay: 23.673 ms

Loss rate: 10.91%

-- Flow 2:

Average throughput: 29.03 Mbit/s

95th percentile per-packet one-way delay: 19.381 ms

Loss rate: 10.55%

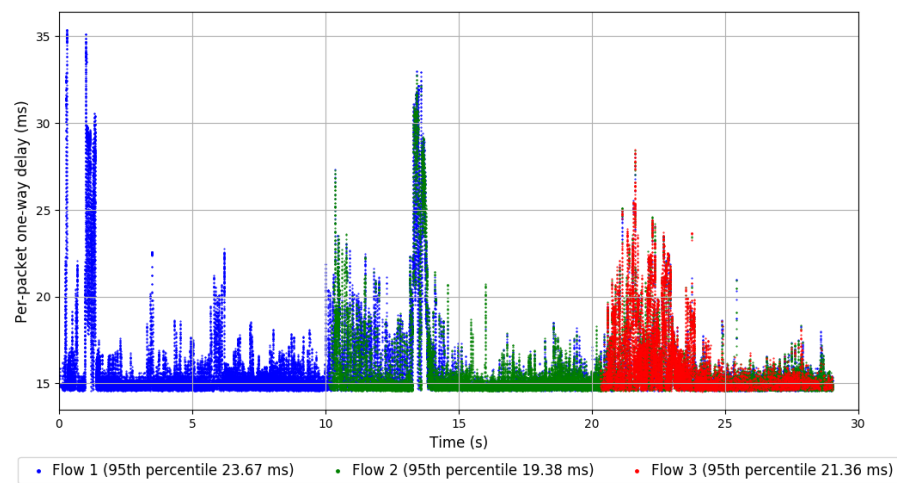
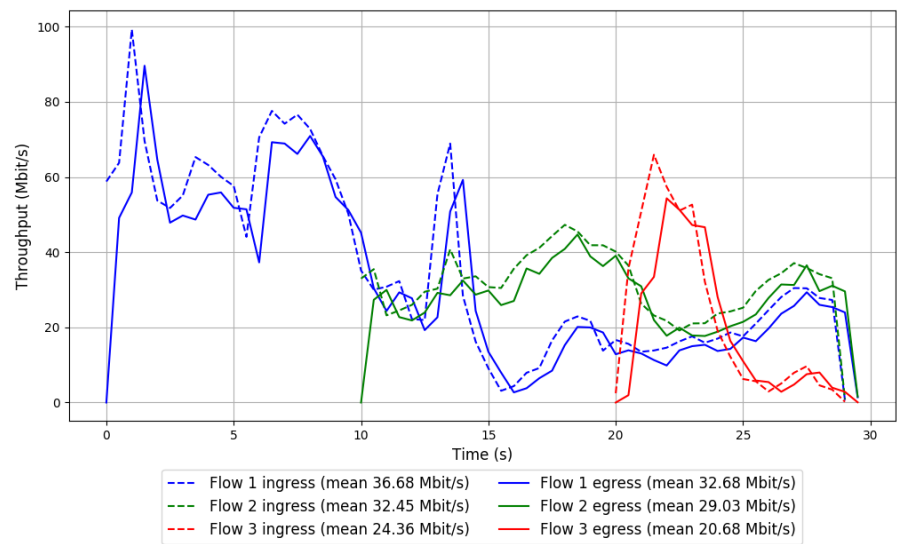
-- Flow 3:

Average throughput: 20.68 Mbit/s

95th percentile per-packet one-way delay: 21.355 ms

Loss rate: 15.15%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-09 03:15:30

End at: 2019-03-09 03:16:00

Local clock offset: 0.581 ms

Remote clock offset: 1.286 ms

# Below is generated by plot.py at 2019-03-09 04:31:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 43.18 Mbit/s

95th percentile per-packet one-way delay: 15.308 ms

Loss rate: 12.85%

-- Flow 1:

Average throughput: 20.39 Mbit/s

95th percentile per-packet one-way delay: 16.249 ms

Loss rate: 13.72%

-- Flow 2:

Average throughput: 23.94 Mbit/s

95th percentile per-packet one-way delay: 12.968 ms

Loss rate: 10.77%

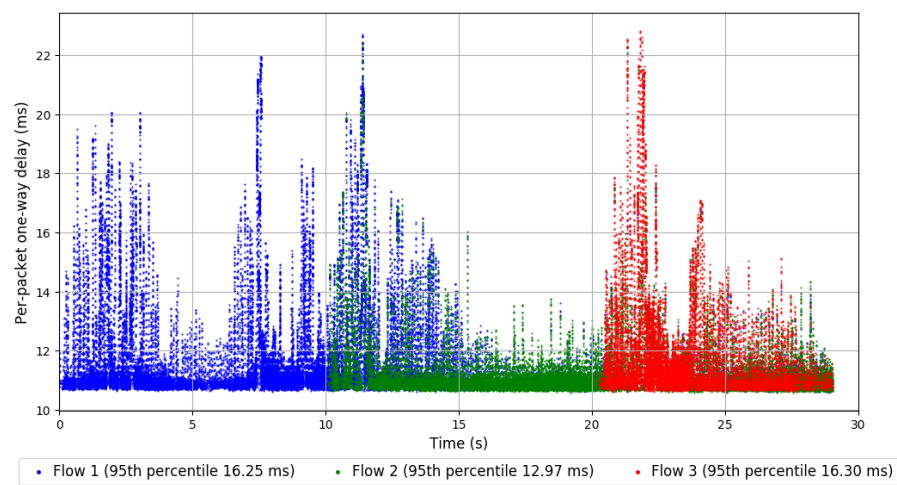
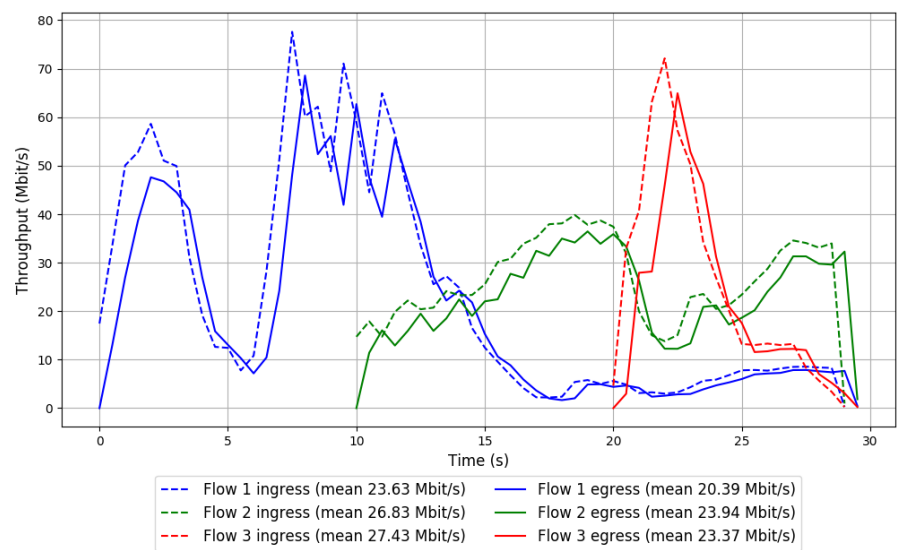
-- Flow 3:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 16.300 ms

Loss rate: 14.78%

Run 3: Report of Indigo-MusesC5 — Data Link

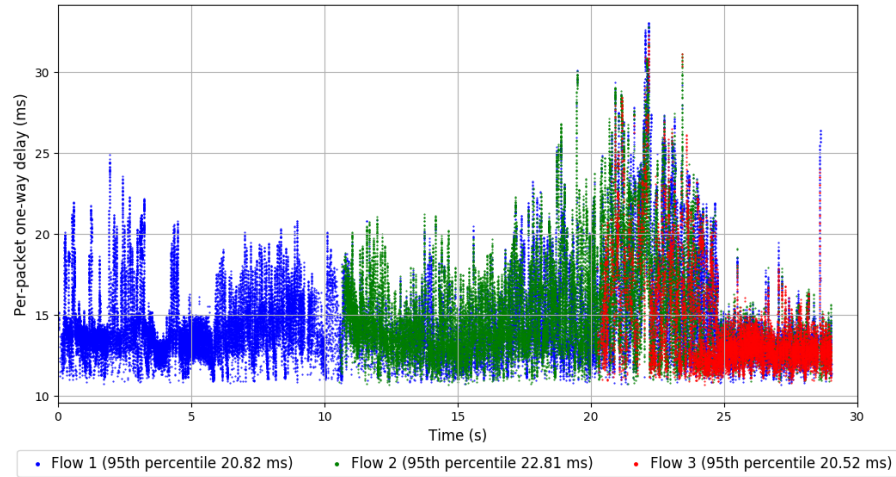
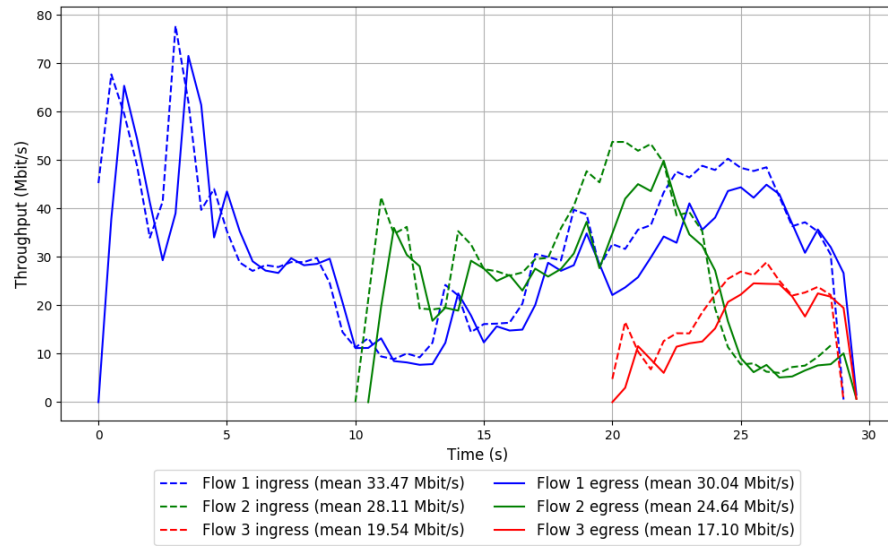


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-09 03:40:51  
End at: 2019-03-09 03:41:21  
Local clock offset: -1.849 ms  
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2019-03-09 04:31:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 50.91 Mbit/s  
95th percentile per-packet one-way delay: 21.596 ms  
Loss rate: 11.88%  
-- Flow 1:  
Average throughput: 30.04 Mbit/s  
95th percentile per-packet one-way delay: 20.815 ms  
Loss rate: 10.25%  
-- Flow 2:  
Average throughput: 24.64 Mbit/s  
95th percentile per-packet one-way delay: 22.806 ms  
Loss rate: 14.65%  
-- Flow 3:  
Average throughput: 17.10 Mbit/s  
95th percentile per-packet one-way delay: 20.523 ms  
Loss rate: 12.54%

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



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-09 04:06:51

End at: 2019-03-09 04:07:21

Local clock offset: -0.904 ms

Remote clock offset: 0.575 ms

# Below is generated by plot.py at 2019-03-09 04:31:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 63.34 Mbit/s

95th percentile per-packet one-way delay: 24.675 ms

Loss rate: 9.04%

-- Flow 1:

Average throughput: 33.89 Mbit/s

95th percentile per-packet one-way delay: 24.256 ms

Loss rate: 7.24%

-- Flow 2:

Average throughput: 36.35 Mbit/s

95th percentile per-packet one-way delay: 24.956 ms

Loss rate: 10.91%

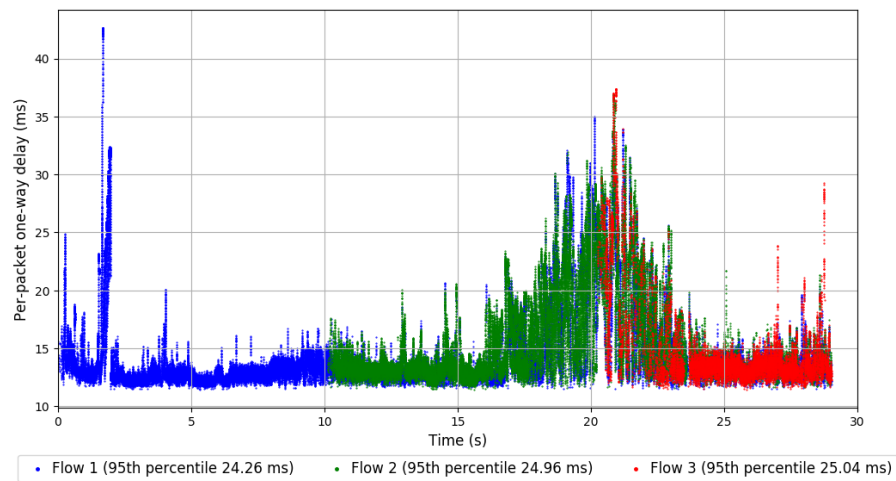
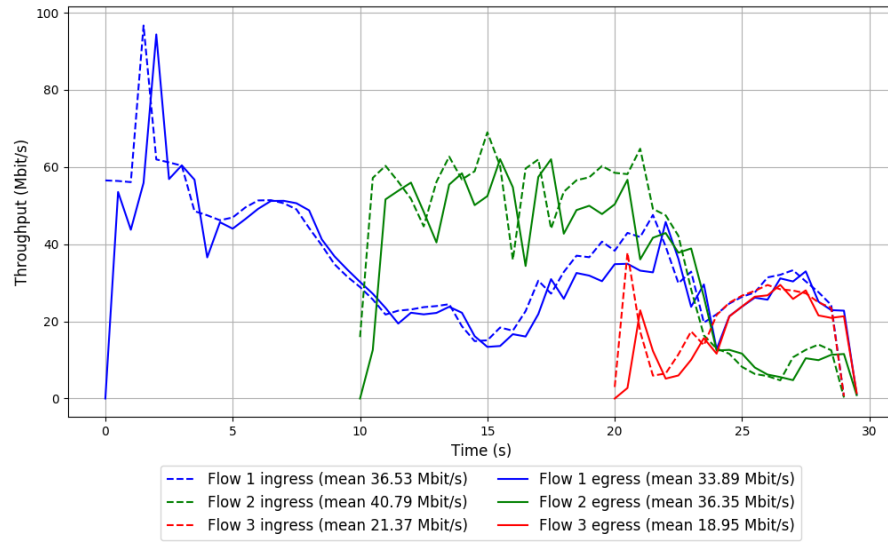
-- Flow 3:

Average throughput: 18.95 Mbit/s

95th percentile per-packet one-way delay: 25.039 ms

Loss rate: 11.47%

# Run 5: Report of Indigo-MusesC5 — Data Link



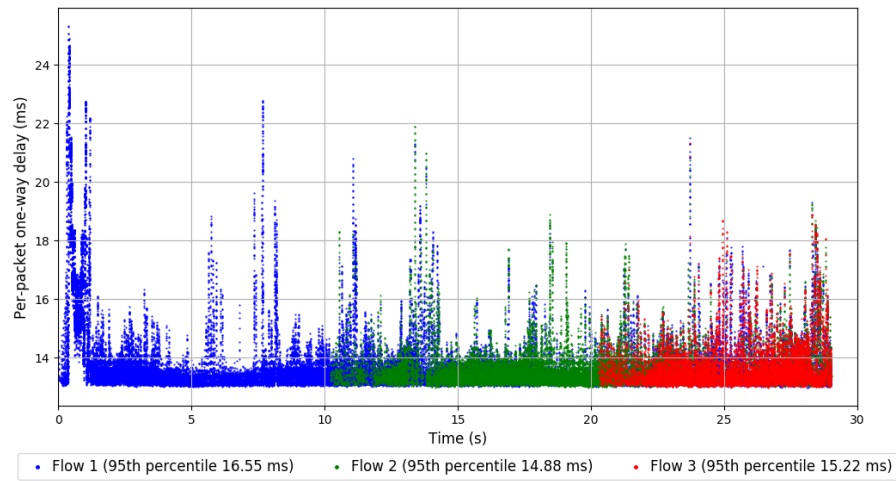
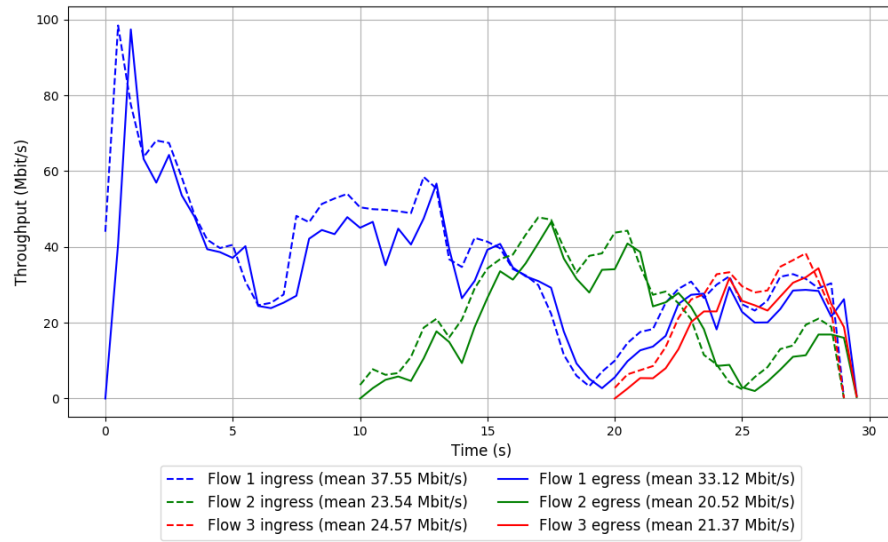


Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-09 02:23:16  
End at: 2019-03-09 02:23:46  
Local clock offset: -1.919 ms  
Remote clock offset: -0.587 ms

# Below is generated by plot.py at 2019-03-09 04:31:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 52.94 Mbit/s  
95th percentile per-packet one-way delay: 16.004 ms  
Loss rate: 12.22%  
-- Flow 1:  
Average throughput: 33.12 Mbit/s  
95th percentile per-packet one-way delay: 16.553 ms  
Loss rate: 11.82%  
-- Flow 2:  
Average throughput: 20.52 Mbit/s  
95th percentile per-packet one-way delay: 14.884 ms  
Loss rate: 12.81%  
-- Flow 3:  
Average throughput: 21.37 Mbit/s  
95th percentile per-packet one-way delay: 15.224 ms  
Loss rate: 13.03%

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

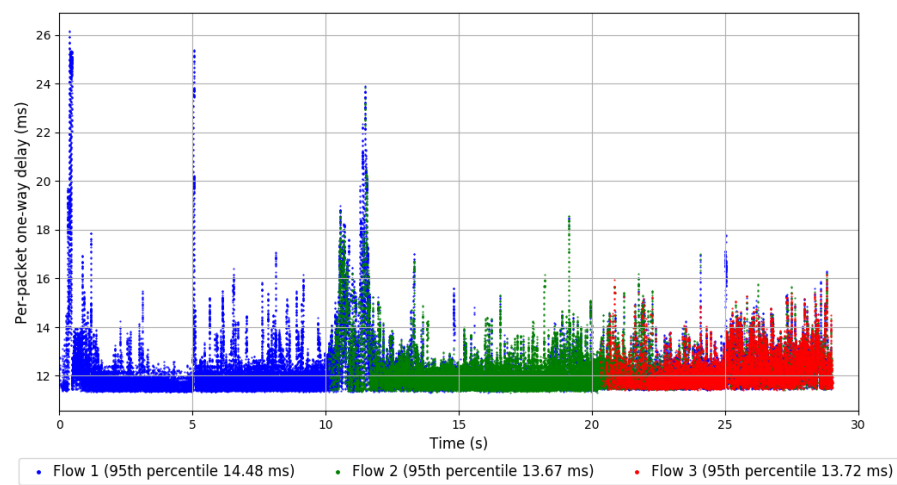
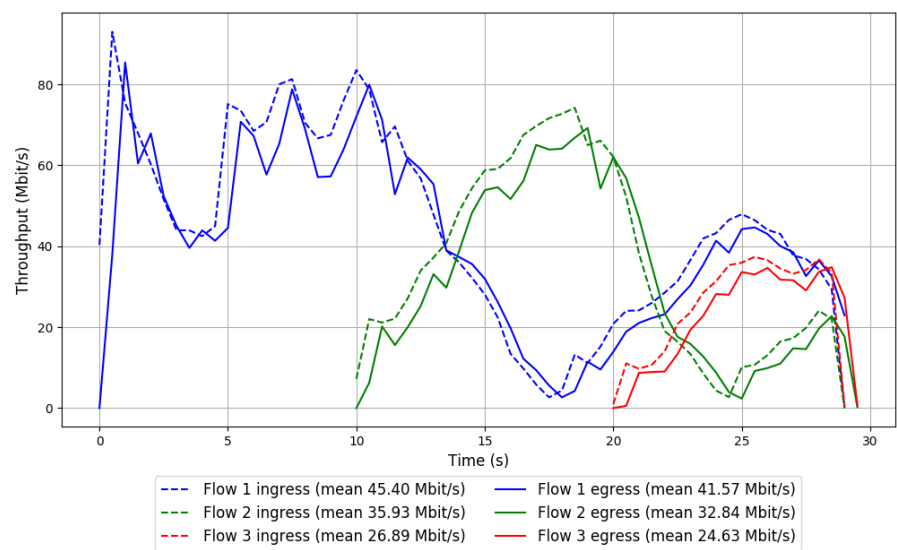


Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-09 02:47:55  
End at: 2019-03-09 02:48:25  
Local clock offset: -1.134 ms  
Remote clock offset: -0.554 ms

# Below is generated by plot.py at 2019-03-09 04:31:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 70.35 Mbit/s  
95th percentile per-packet one-way delay: 14.016 ms  
Loss rate: 8.51%  
-- Flow 1:  
Average throughput: 41.57 Mbit/s  
95th percentile per-packet one-way delay: 14.477 ms  
Loss rate: 8.48%  
-- Flow 2:  
Average throughput: 32.84 Mbit/s  
95th percentile per-packet one-way delay: 13.666 ms  
Loss rate: 8.62%  
-- Flow 3:  
Average throughput: 24.63 Mbit/s  
95th percentile per-packet one-way delay: 13.720 ms  
Loss rate: 8.40%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-09 03:13:07

End at: 2019-03-09 03:13:37

Local clock offset: -2.802 ms

Remote clock offset: 0.531 ms

# Below is generated by plot.py at 2019-03-09 04:31:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 65.69 Mbit/s

95th percentile per-packet one-way delay: 15.636 ms

Loss rate: 9.91%

-- Flow 1:

Average throughput: 40.68 Mbit/s

95th percentile per-packet one-way delay: 15.451 ms

Loss rate: 10.18%

-- Flow 2:

Average throughput: 27.58 Mbit/s

95th percentile per-packet one-way delay: 15.894 ms

Loss rate: 9.43%

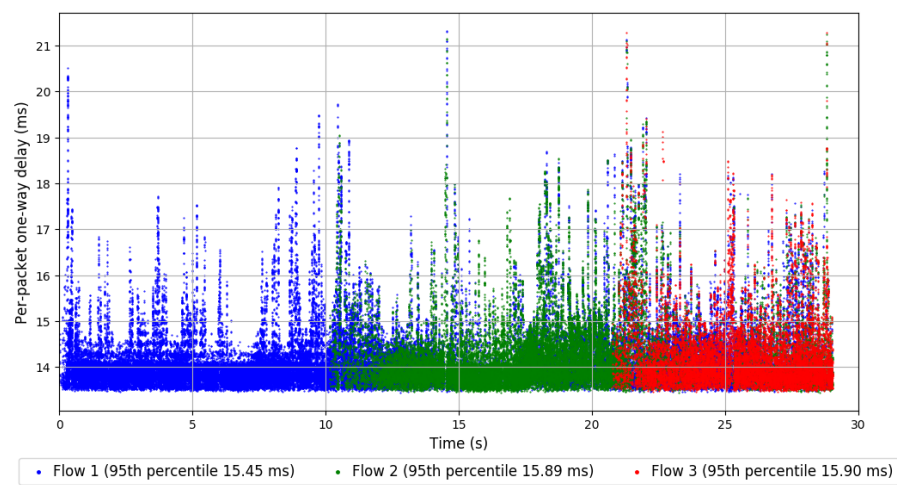
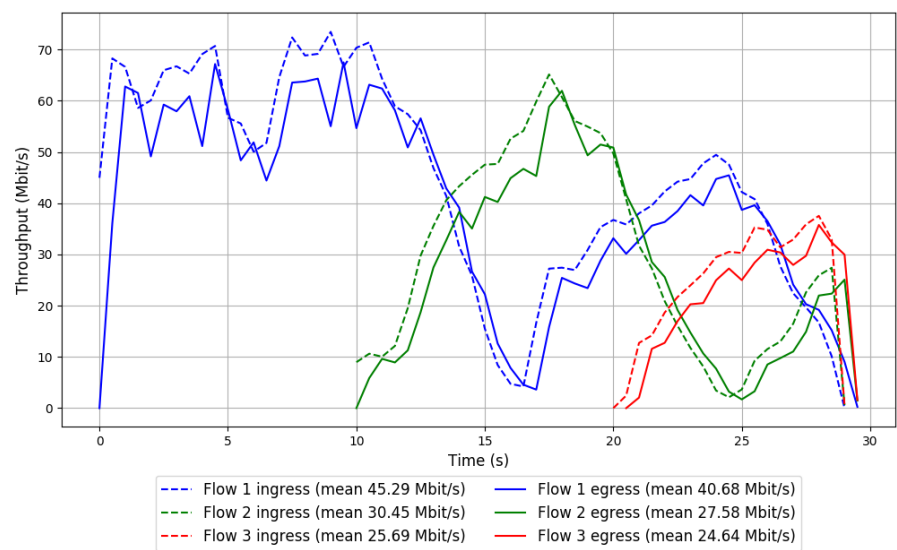
-- Flow 3:

Average throughput: 24.64 Mbit/s

95th percentile per-packet one-way delay: 15.898 ms

Loss rate: 9.54%

Run 3: Report of Indigo-MusesD — Data Link

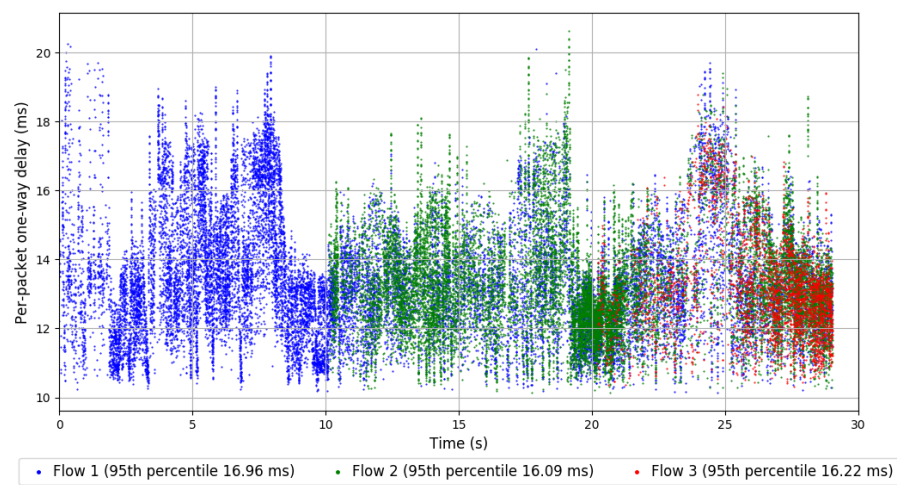
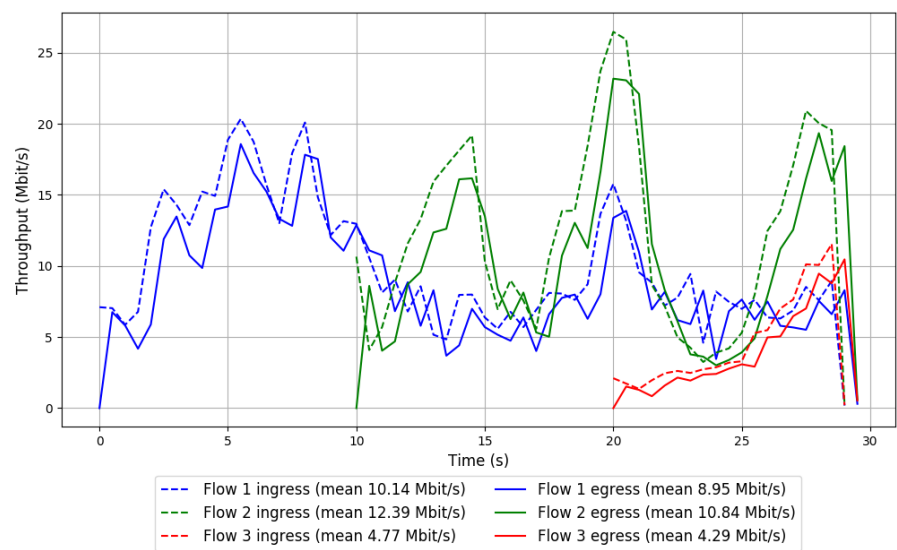


Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-09 03:38:34  
End at: 2019-03-09 03:39:04  
Local clock offset: -1.565 ms  
Remote clock offset: -0.258 ms

# Below is generated by plot.py at 2019-03-09 04:31:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 17.32 Mbit/s  
95th percentile per-packet one-way delay: 16.637 ms  
Loss rate: 11.96%  
-- Flow 1:  
Average throughput: 8.95 Mbit/s  
95th percentile per-packet one-way delay: 16.959 ms  
Loss rate: 11.75%  
-- Flow 2:  
Average throughput: 10.84 Mbit/s  
95th percentile per-packet one-way delay: 16.093 ms  
Loss rate: 12.54%  
-- Flow 3:  
Average throughput: 4.29 Mbit/s  
95th percentile per-packet one-way delay: 16.216 ms  
Loss rate: 10.13%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-09 04:04:22

End at: 2019-03-09 04:04:52

Local clock offset: -3.442 ms

Remote clock offset: 0.06 ms

# Below is generated by plot.py at 2019-03-09 04:31:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 34.88 Mbit/s

95th percentile per-packet one-way delay: 19.711 ms

Loss rate: 7.59%

-- Flow 1:

Average throughput: 11.65 Mbit/s

95th percentile per-packet one-way delay: 19.551 ms

Loss rate: 6.28%

-- Flow 2:

Average throughput: 26.96 Mbit/s

95th percentile per-packet one-way delay: 19.996 ms

Loss rate: 8.45%

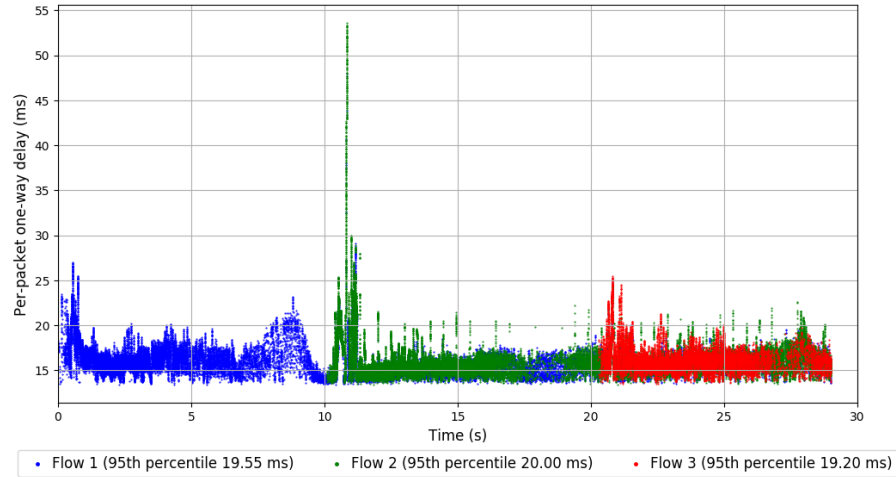
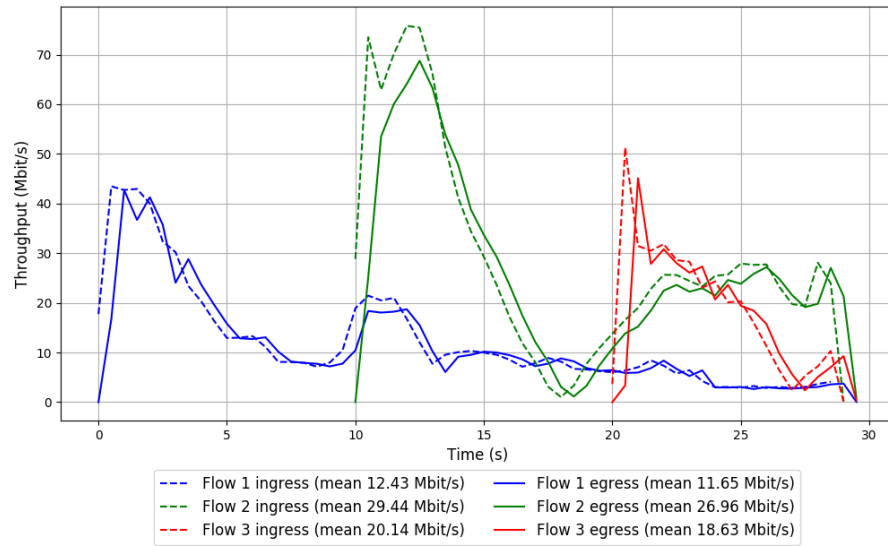
-- Flow 3:

Average throughput: 18.63 Mbit/s

95th percentile per-packet one-way delay: 19.201 ms

Loss rate: 7.53%

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



Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-09 02:20:54

End at: 2019-03-09 02:21:24

Local clock offset: -2.561 ms

Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-03-09 04:31:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 58.85 Mbit/s

95th percentile per-packet one-way delay: 21.499 ms

Loss rate: 11.26%

-- Flow 1:

Average throughput: 36.30 Mbit/s

95th percentile per-packet one-way delay: 19.783 ms

Loss rate: 11.42%

-- Flow 2:

Average throughput: 28.67 Mbit/s

95th percentile per-packet one-way delay: 23.157 ms

Loss rate: 11.08%

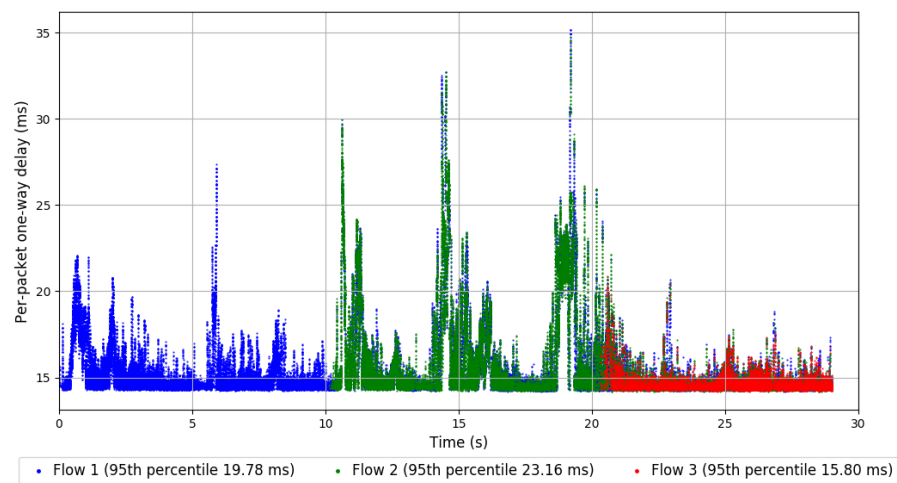
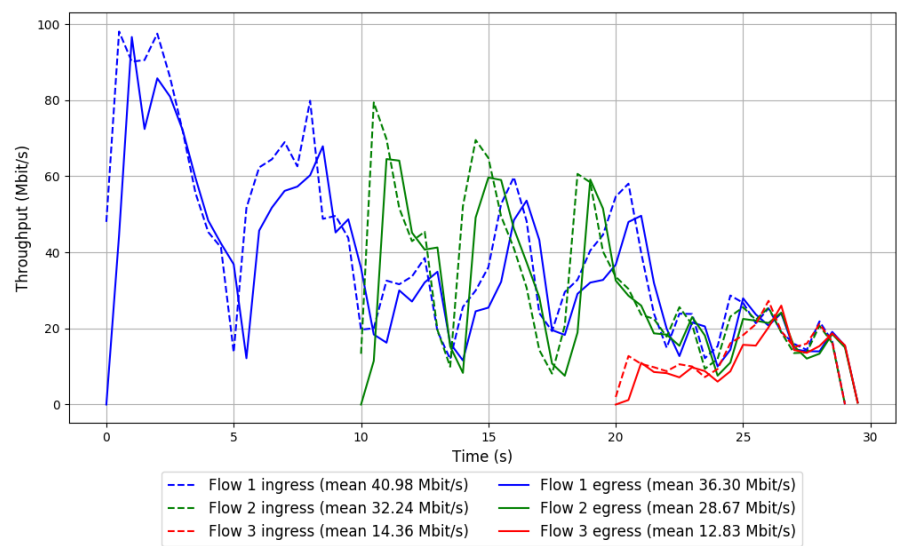
-- Flow 3:

Average throughput: 12.83 Mbit/s

95th percentile per-packet one-way delay: 15.799 ms

Loss rate: 10.72%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-09 02:45:33

End at: 2019-03-09 02:46:03

Local clock offset: -2.423 ms

Remote clock offset: 0.863 ms

# Below is generated by plot.py at 2019-03-09 04:31:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 70.19 Mbit/s

95th percentile per-packet one-way delay: 20.201 ms

Loss rate: 9.64%

-- Flow 1:

Average throughput: 43.76 Mbit/s

95th percentile per-packet one-way delay: 18.258 ms

Loss rate: 9.59%

-- Flow 2:

Average throughput: 27.82 Mbit/s

95th percentile per-packet one-way delay: 22.270 ms

Loss rate: 10.14%

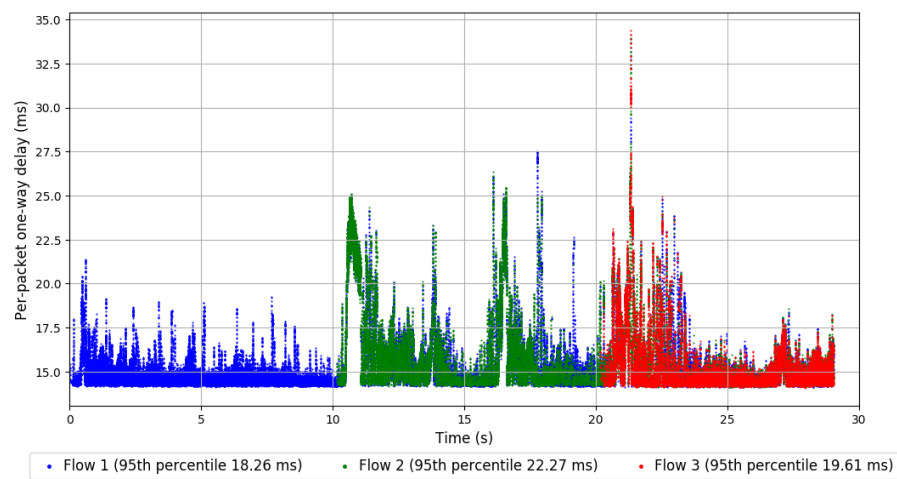
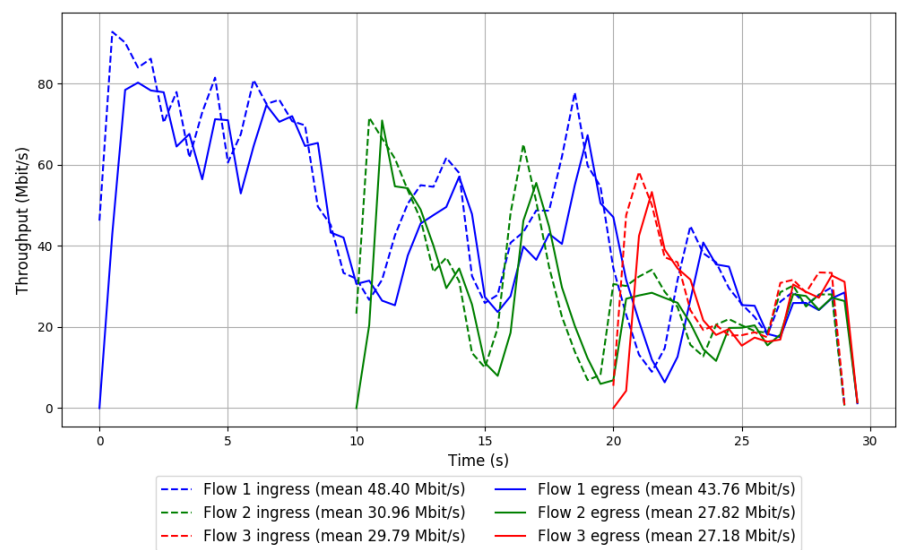
-- Flow 3:

Average throughput: 27.18 Mbit/s

95th percentile per-packet one-way delay: 19.610 ms

Loss rate: 8.80%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-09 03:10:34

End at: 2019-03-09 03:11:04

Local clock offset: -0.321 ms

Remote clock offset: 1.263 ms

# Below is generated by plot.py at 2019-03-09 04:31:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 44.97 Mbit/s

95th percentile per-packet one-way delay: 13.871 ms

Loss rate: 8.82%

-- Flow 1:

Average throughput: 26.32 Mbit/s

95th percentile per-packet one-way delay: 14.927 ms

Loss rate: 9.19%

-- Flow 2:

Average throughput: 20.91 Mbit/s

95th percentile per-packet one-way delay: 13.111 ms

Loss rate: 7.84%

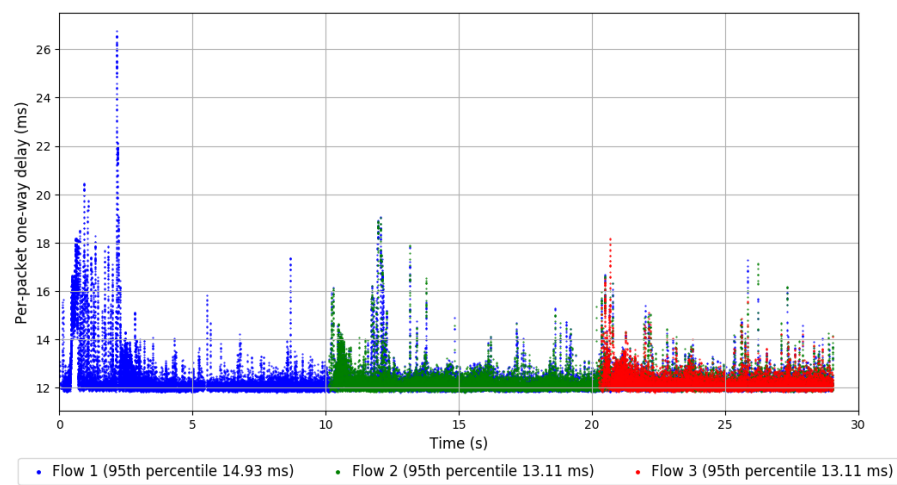
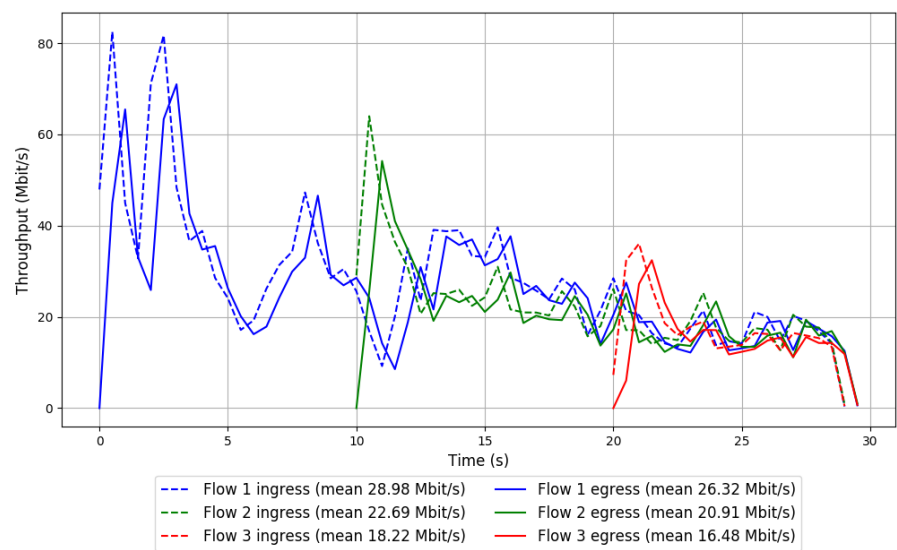
-- Flow 3:

Average throughput: 16.48 Mbit/s

95th percentile per-packet one-way delay: 13.107 ms

Loss rate: 9.53%

Run 3: Report of Indigo-MusesT — Data Link



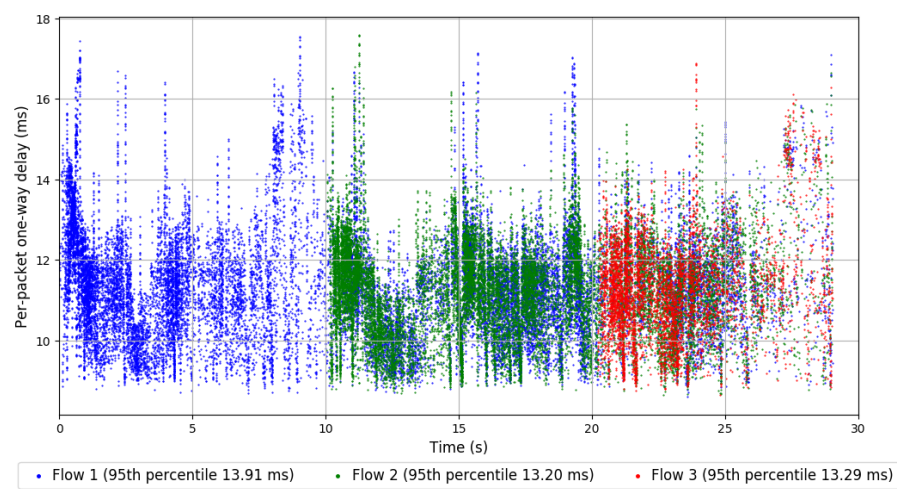
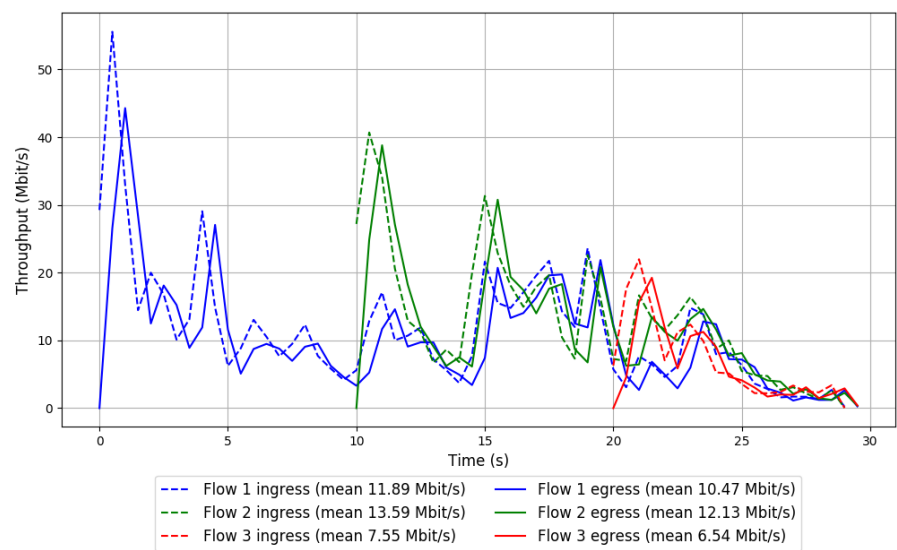


Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-09 03:36:11  
End at: 2019-03-09 03:36:41  
Local clock offset: -1.293 ms  
Remote clock offset: -1.561 ms

# Below is generated by plot.py at 2019-03-09 04:31:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 20.39 Mbit/s  
95th percentile per-packet one-way delay: 13.566 ms  
Loss rate: 11.63%  
-- Flow 1:  
Average throughput: 10.47 Mbit/s  
95th percentile per-packet one-way delay: 13.913 ms  
Loss rate: 11.96%  
-- Flow 2:  
Average throughput: 12.13 Mbit/s  
95th percentile per-packet one-way delay: 13.203 ms  
Loss rate: 10.73%  
-- Flow 3:  
Average throughput: 6.54 Mbit/s  
95th percentile per-packet one-way delay: 13.295 ms  
Loss rate: 13.42%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-09 04:01:46

End at: 2019-03-09 04:02:16

Local clock offset: -0.883 ms

Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-03-09 04:31:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 47.46 Mbit/s

95th percentile per-packet one-way delay: 15.511 ms

Loss rate: 6.76%

-- Flow 1:

Average throughput: 32.33 Mbit/s

95th percentile per-packet one-way delay: 15.947 ms

Loss rate: 6.40%

-- Flow 2:

Average throughput: 18.05 Mbit/s

95th percentile per-packet one-way delay: 14.701 ms

Loss rate: 6.85%

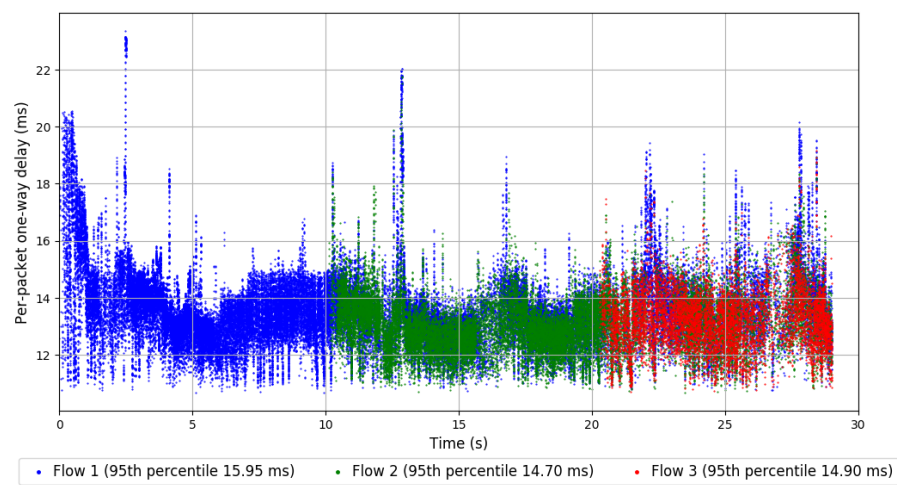
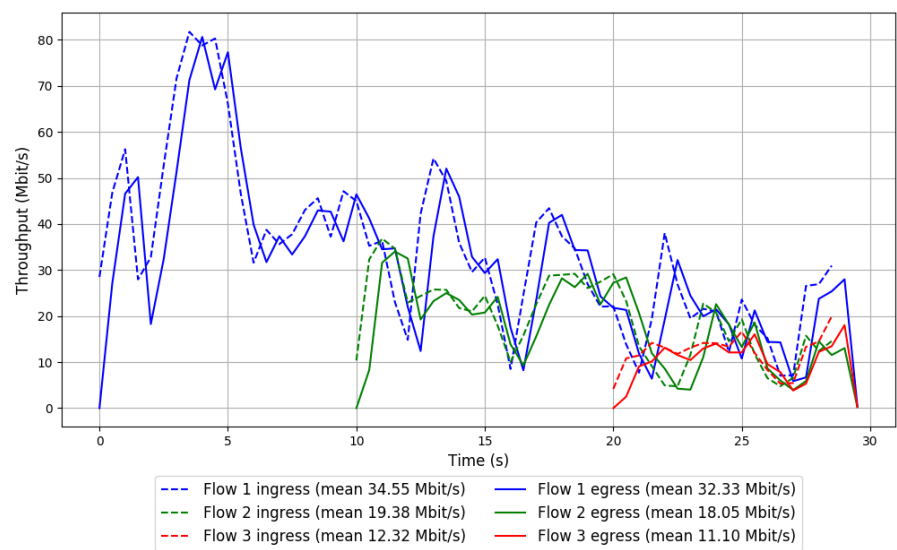
-- Flow 3:

Average throughput: 11.10 Mbit/s

95th percentile per-packet one-way delay: 14.902 ms

Loss rate: 9.83%

Run 5: Report of Indigo-MusesT — Data Link

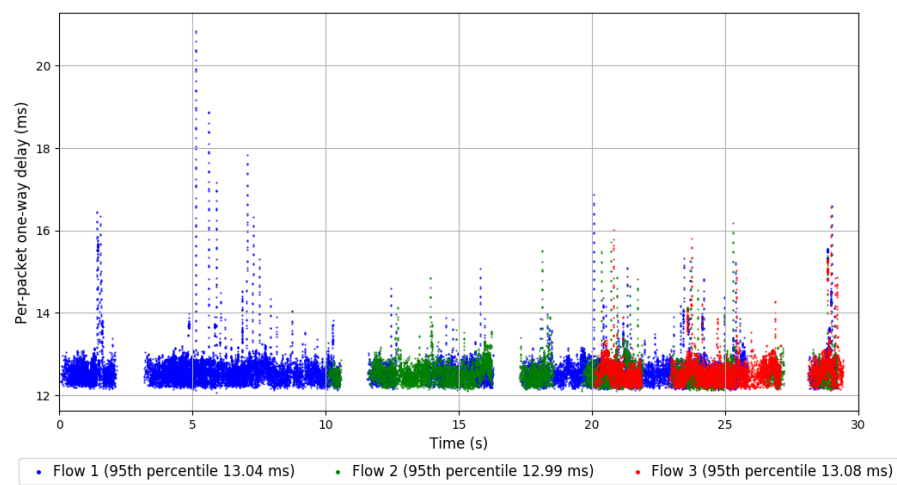
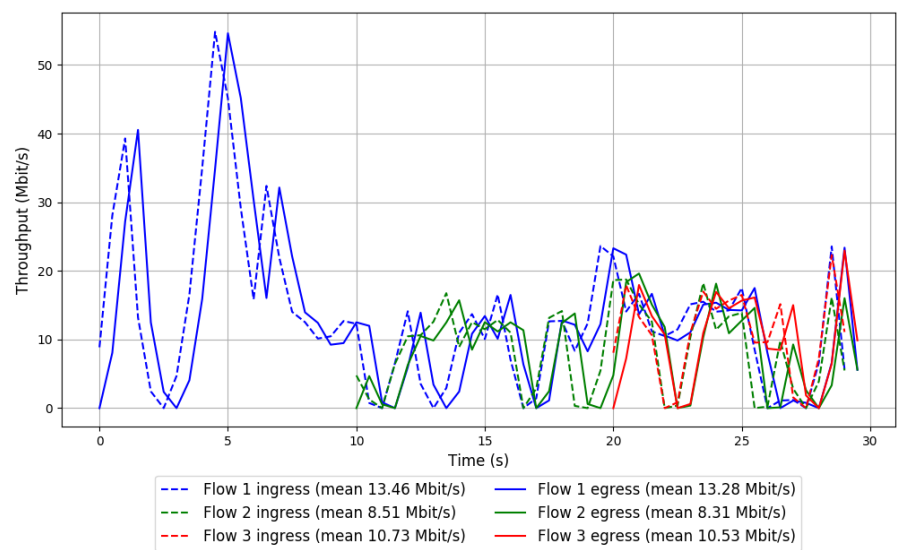


```
Run 1: Statistics of LEDBAT

Start at: 2019-03-09 02:31:24
End at: 2019-03-09 02:31:54
Local clock offset: -2.622 ms
Remote clock offset: -1.631 ms

# Below is generated by plot.py at 2019-03-09 04:31:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.97 Mbit/s
95th percentile per-packet one-way delay: 13.038 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 13.28 Mbit/s
95th percentile per-packet one-way delay: 13.040 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 8.31 Mbit/s
95th percentile per-packet one-way delay: 12.995 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 10.53 Mbit/s
95th percentile per-packet one-way delay: 13.076 ms
Loss rate: 2.21%
```

Run 1: Report of LEDBAT — Data Link

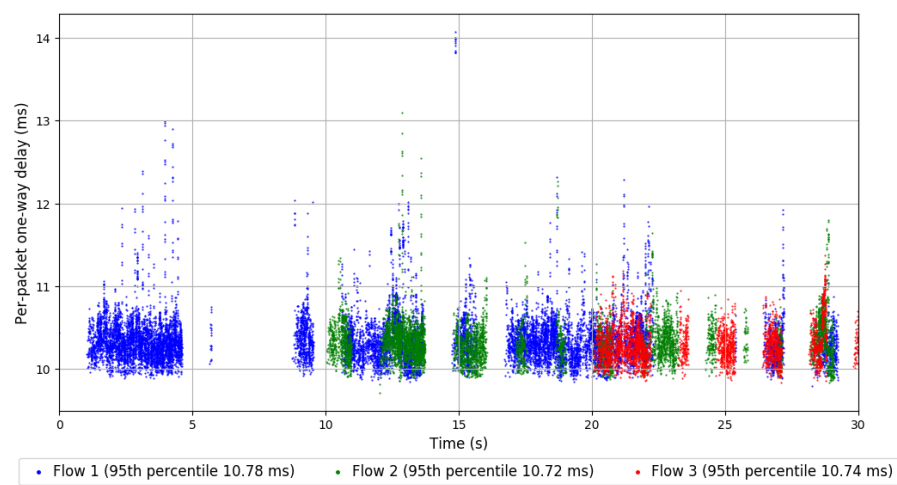
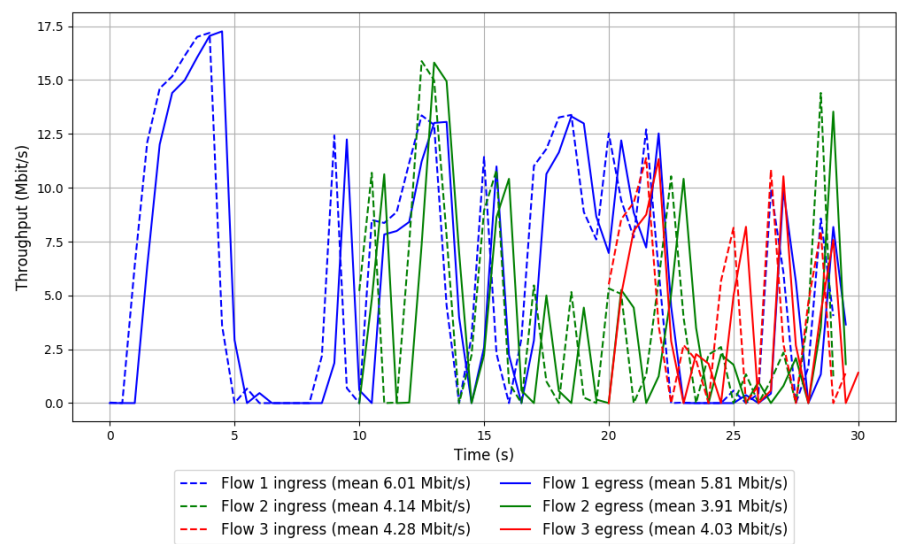


Run 2: Statistics of LEDBAT

Start at: 2019-03-09 02:56:08  
End at: 2019-03-09 02:56:38  
Local clock offset: 0.339 ms  
Remote clock offset: -0.288 ms

# Below is generated by plot.py at 2019-03-09 04:31:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 9.49 Mbit/s  
95th percentile per-packet one-way delay: 10.753 ms  
Loss rate: 4.34%  
-- Flow 1:  
Average throughput: 5.81 Mbit/s  
95th percentile per-packet one-way delay: 10.778 ms  
Loss rate: 3.42%  
-- Flow 2:  
Average throughput: 3.91 Mbit/s  
95th percentile per-packet one-way delay: 10.719 ms  
Loss rate: 5.54%  
-- Flow 3:  
Average throughput: 4.03 Mbit/s  
95th percentile per-packet one-way delay: 10.739 ms  
Loss rate: 5.91%

Run 2: Report of LEDBAT — Data Link





Run 3: Statistics of LEDBAT

Start at: 2019-03-09 03:21:21

End at: 2019-03-09 03:21:51

Local clock offset: -2.566 ms

Remote clock offset: 0.7 ms

# Below is generated by plot.py at 2019-03-09 04:31:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 6.83 Mbit/s

95th percentile per-packet one-way delay: 13.645 ms

Loss rate: 4.65%

-- Flow 1:

Average throughput: 3.52 Mbit/s

95th percentile per-packet one-way delay: 13.609 ms

Loss rate: 5.35%

-- Flow 2:

Average throughput: 4.56 Mbit/s

95th percentile per-packet one-way delay: 13.725 ms

Loss rate: 3.35%

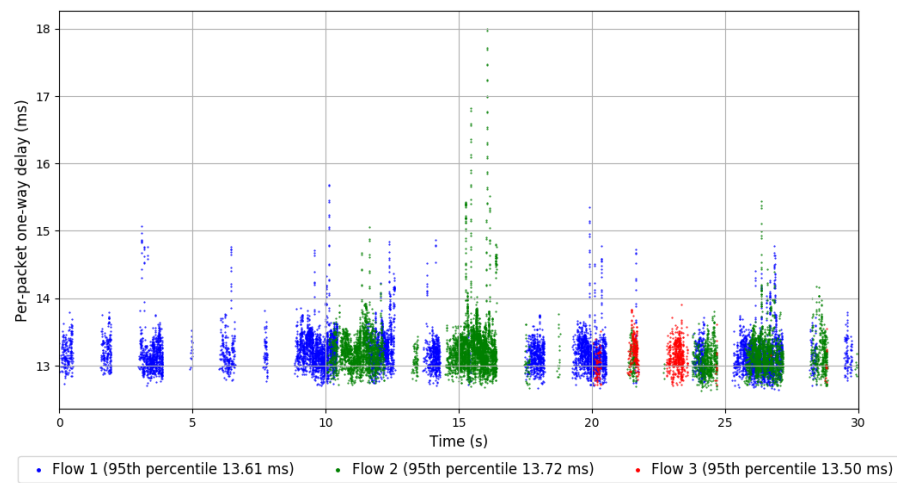
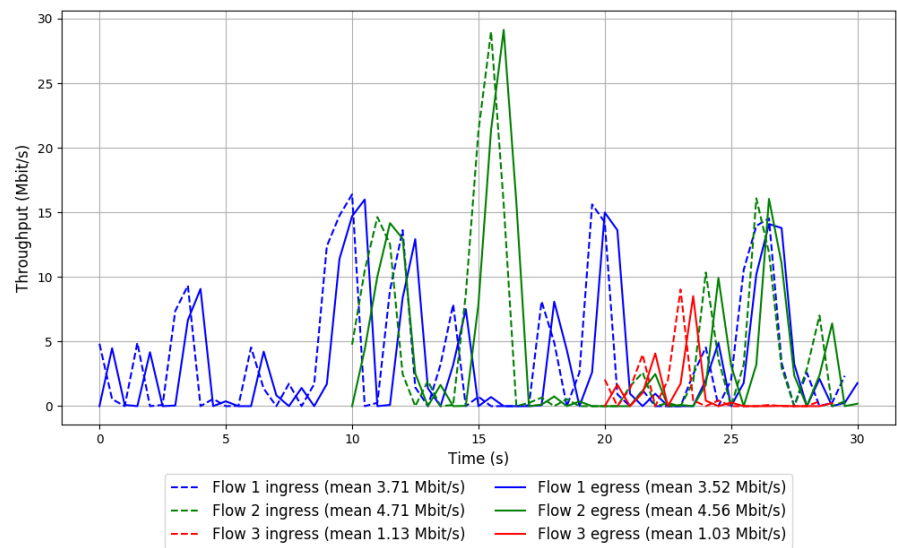
-- Flow 3:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 13.499 ms

Loss rate: 9.23%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-09 03:46:40

End at: 2019-03-09 03:47:10

Local clock offset: -3.763 ms

Remote clock offset: 0.775 ms

# Below is generated by plot.py at 2019-03-09 04:31:59

# Datalink statistics

-- Total of 3 flows:

Average throughput: 28.68 Mbit/s

95th percentile per-packet one-way delay: 19.048 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 17.05 Mbit/s

95th percentile per-packet one-way delay: 20.023 ms

Loss rate: 0.46%

-- Flow 2:

Average throughput: 12.63 Mbit/s

95th percentile per-packet one-way delay: 17.745 ms

Loss rate: 0.78%

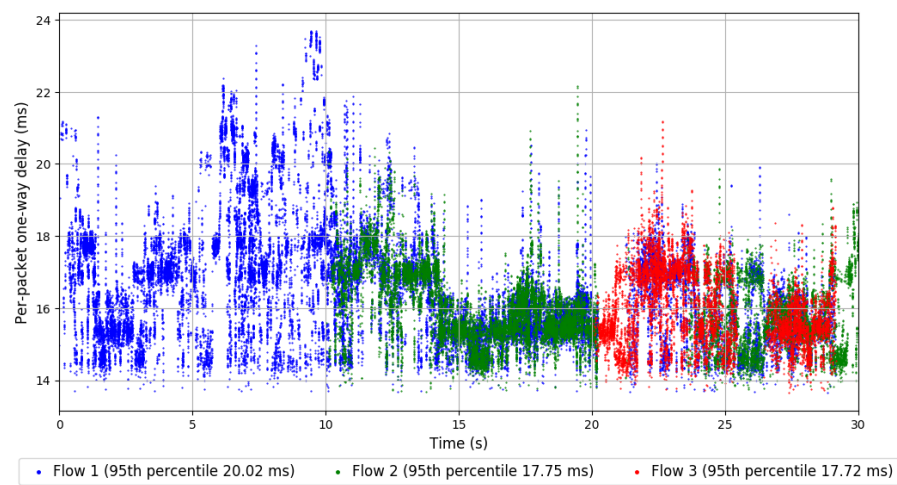
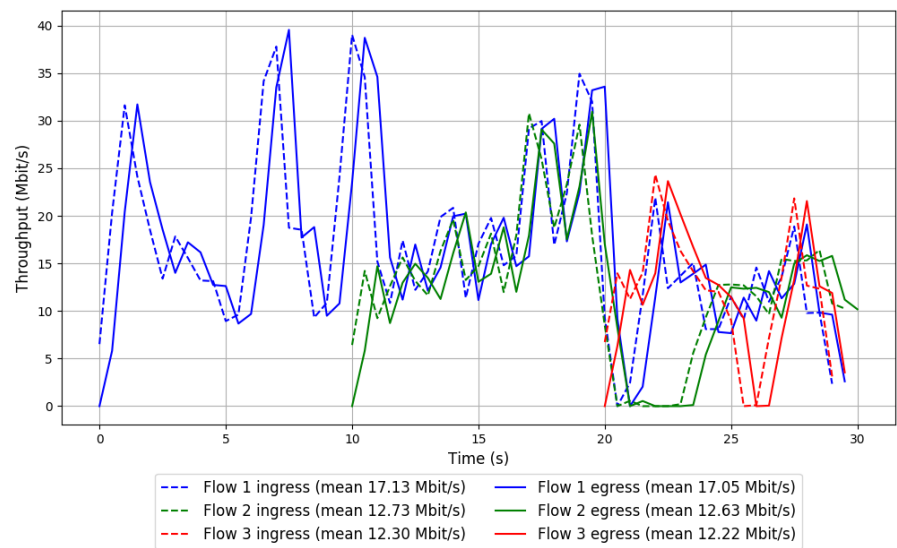
-- Flow 3:

Average throughput: 12.22 Mbit/s

95th percentile per-packet one-way delay: 17.722 ms

Loss rate: 0.67%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-09 04:12:47

End at: 2019-03-09 04:13:17

Local clock offset: -2.3 ms

Remote clock offset: 0.568 ms

# Below is generated by plot.py at 2019-03-09 04:32:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 37.44 Mbit/s

95th percentile per-packet one-way delay: 18.152 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 20.70 Mbit/s

95th percentile per-packet one-way delay: 18.697 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 16.77 Mbit/s

95th percentile per-packet one-way delay: 18.155 ms

Loss rate: 0.44%

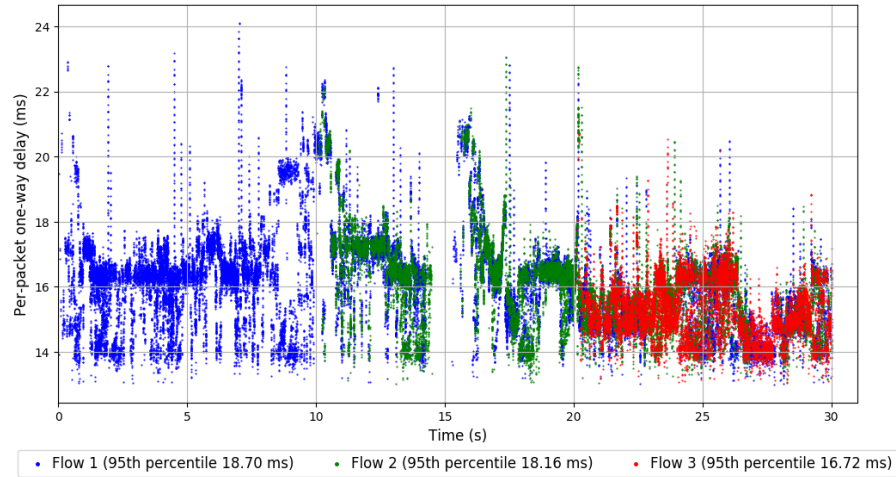
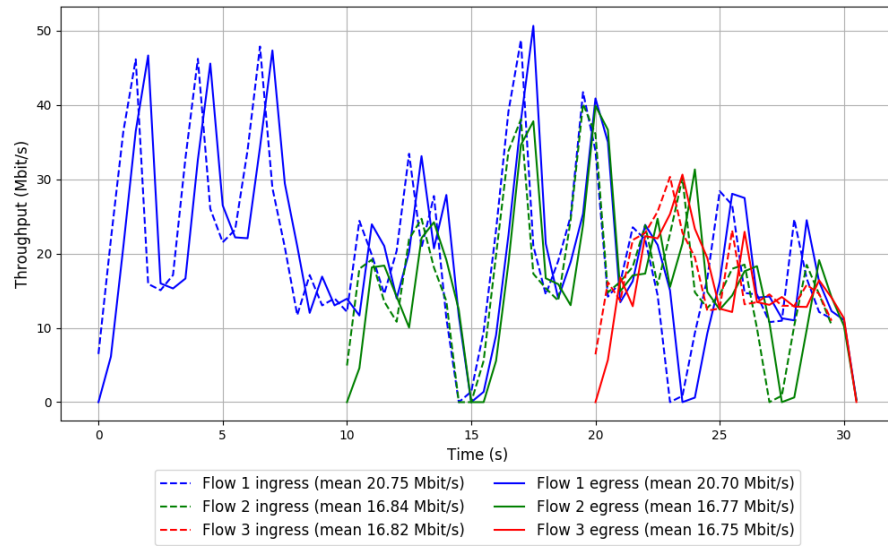
-- Flow 3:

Average throughput: 16.75 Mbit/s

95th percentile per-packet one-way delay: 16.718 ms

Loss rate: 0.37%

# Run 5: Report of LEDBAT — Data Link

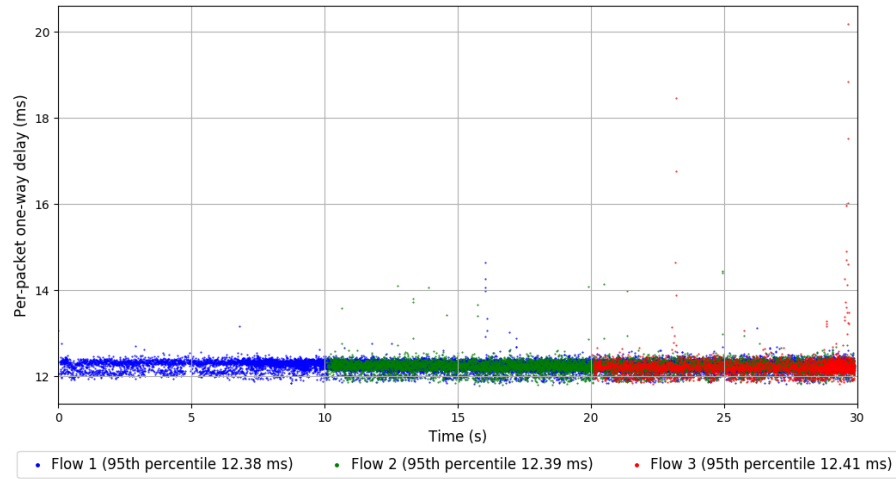
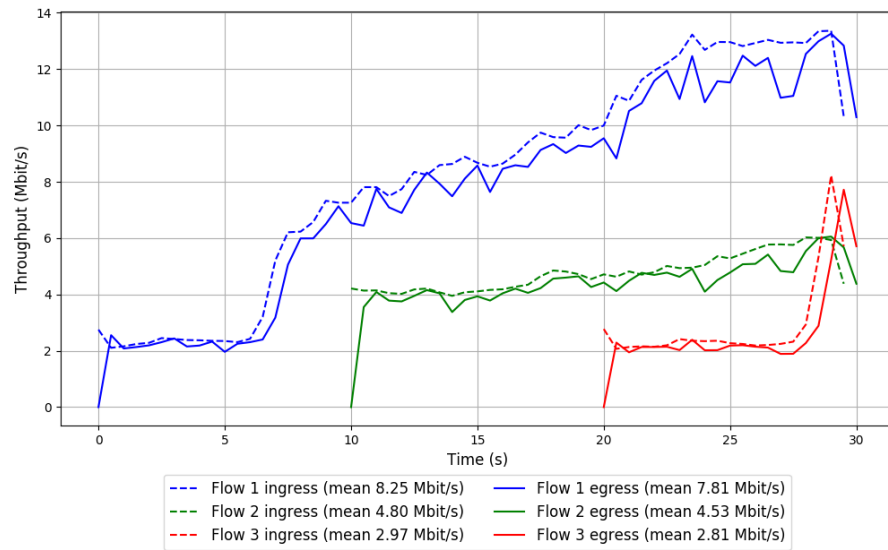


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-09 02:43:11
End at: 2019-03-09 02:43:41
Local clock offset: -2.532 ms
Remote clock offset: -1.429 ms

# Below is generated by plot.py at 2019-03-09 04:32:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 12.383 ms
Loss rate: 5.45%
-- Flow 1:
Average throughput: 7.81 Mbit/s
95th percentile per-packet one-way delay: 12.377 ms
Loss rate: 5.35%
-- Flow 2:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 12.392 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 12.410 ms
Loss rate: 5.57%
```

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





Run 2: Statistics of PCC-Allegro

Start at: 2019-03-09 03:08:03

End at: 2019-03-09 03:08:33

Local clock offset: -2.668 ms

Remote clock offset: 0.569 ms

# Below is generated by plot.py at 2019-03-09 04:32:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 44.20 Mbit/s

95th percentile per-packet one-way delay: 13.961 ms

Loss rate: 12.88%

-- Flow 1:

Average throughput: 6.57 Mbit/s

95th percentile per-packet one-way delay: 13.961 ms

Loss rate: 10.38%

-- Flow 2:

Average throughput: 55.69 Mbit/s

95th percentile per-packet one-way delay: 13.960 ms

Loss rate: 13.31%

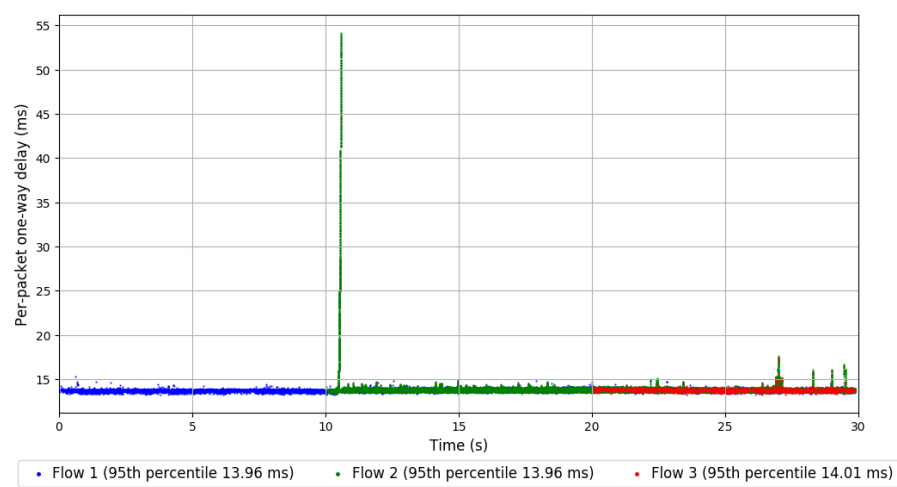
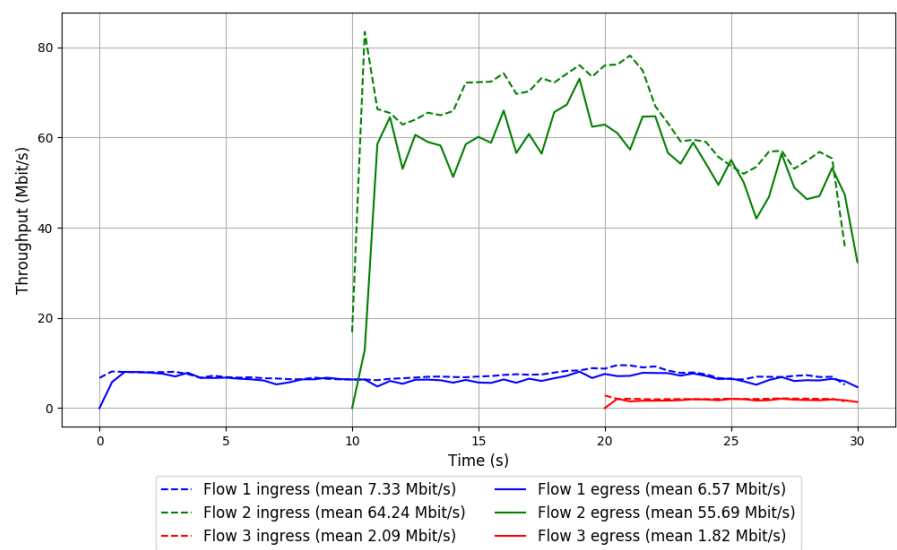
-- Flow 3:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 14.014 ms

Loss rate: 12.71%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-09 03:33:37

End at: 2019-03-09 03:34:07

Local clock offset: -1.645 ms

Remote clock offset: 1.723 ms

# Below is generated by plot.py at 2019-03-09 04:32:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 62.42 Mbit/s

95th percentile per-packet one-way delay: 14.567 ms

Loss rate: 13.05%

-- Flow 1:

Average throughput: 59.66 Mbit/s

95th percentile per-packet one-way delay: 14.579 ms

Loss rate: 13.09%

-- Flow 2:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 13.929 ms

Loss rate: 12.21%

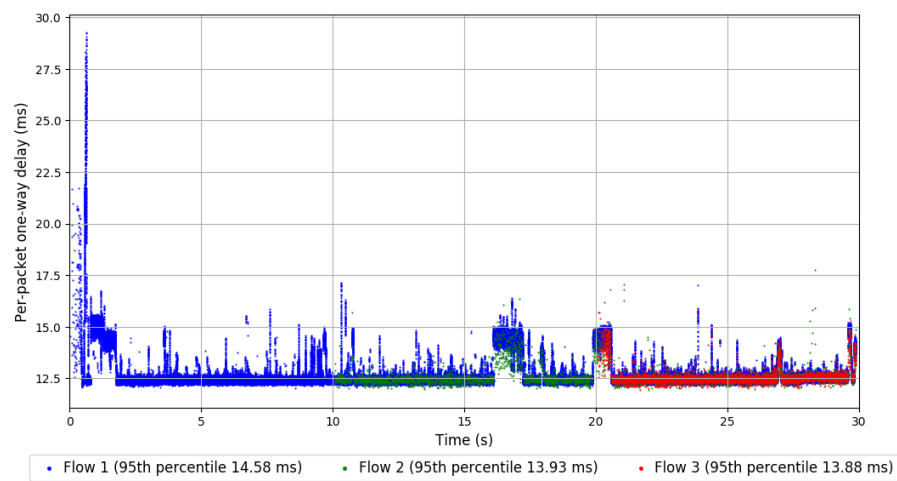
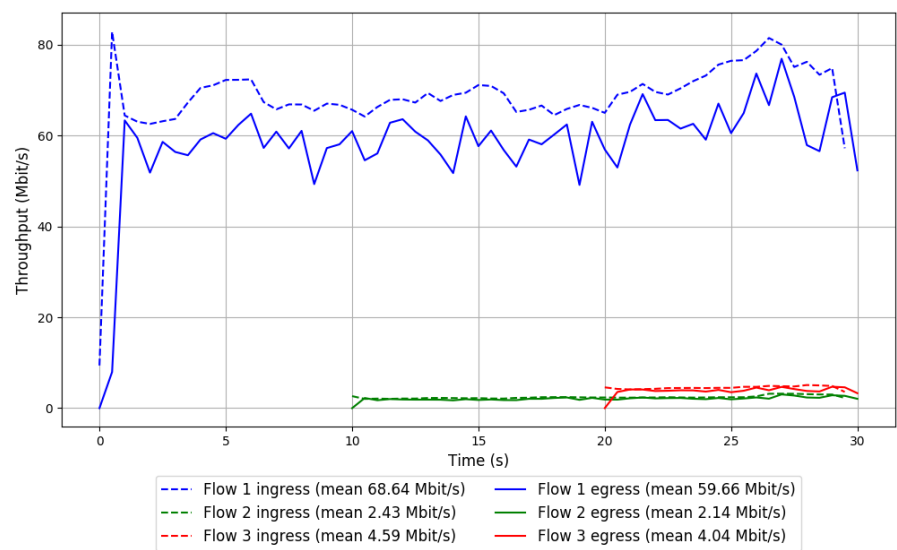
-- Flow 3:

Average throughput: 4.04 Mbit/s

95th percentile per-packet one-way delay: 13.883 ms

Loss rate: 12.02%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-09 03:59:17

End at: 2019-03-09 03:59:47

Local clock offset: -0.867 ms

Remote clock offset: 0.495 ms

# Below is generated by plot.py at 2019-03-09 04:32:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 19.12 Mbit/s

95th percentile per-packet one-way delay: 18.679 ms

Loss rate: 0.36%

-- Flow 1:

Average throughput: 15.43 Mbit/s

95th percentile per-packet one-way delay: 18.738 ms

Loss rate: 0.33%

-- Flow 2:

Average throughput: 4.13 Mbit/s

95th percentile per-packet one-way delay: 18.609 ms

Loss rate: 0.40%

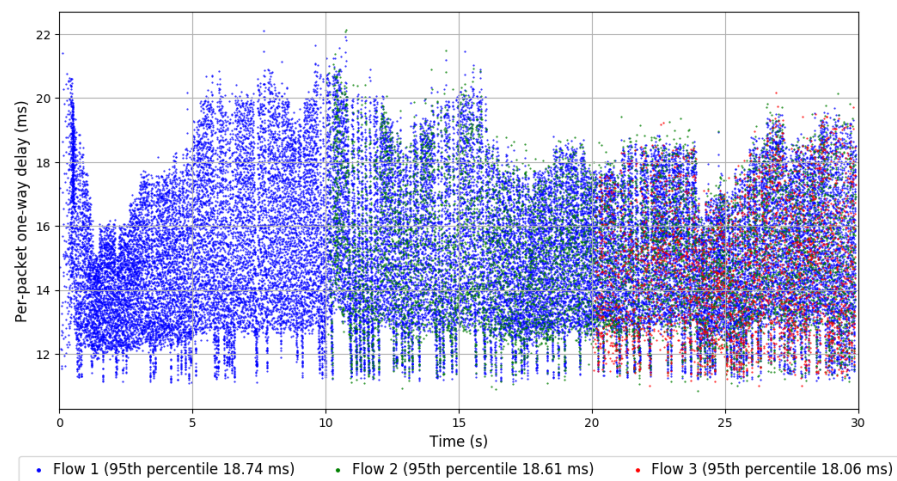
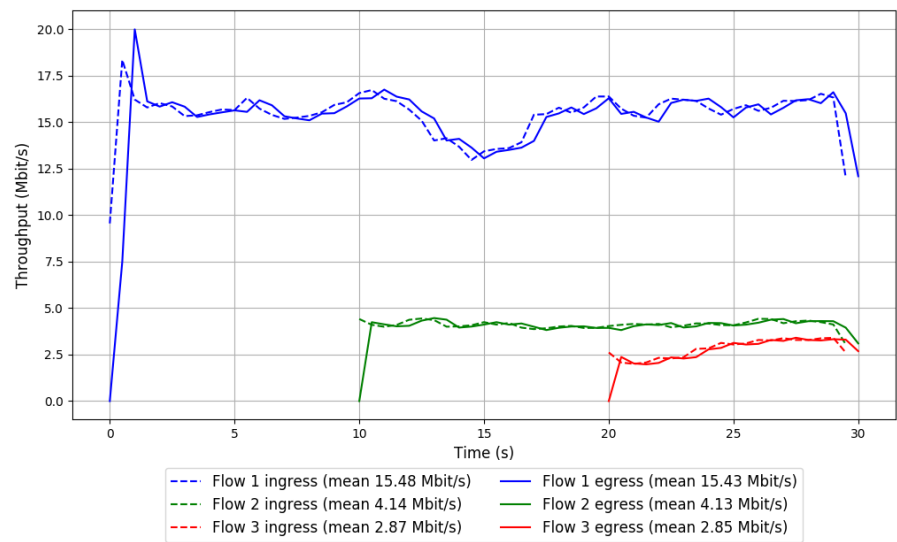
-- Flow 3:

Average throughput: 2.85 Mbit/s

95th percentile per-packet one-way delay: 18.063 ms

Loss rate: 0.77%

Run 4: Report of PCC-Allegro — Data Link

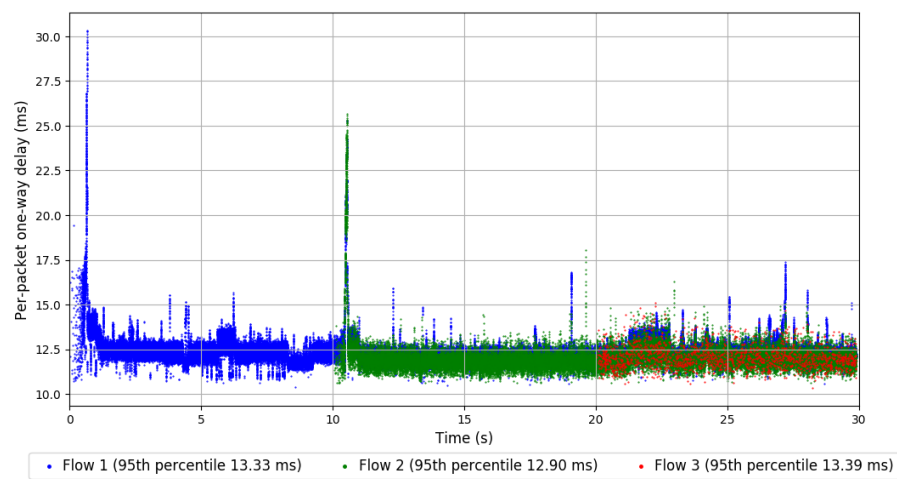
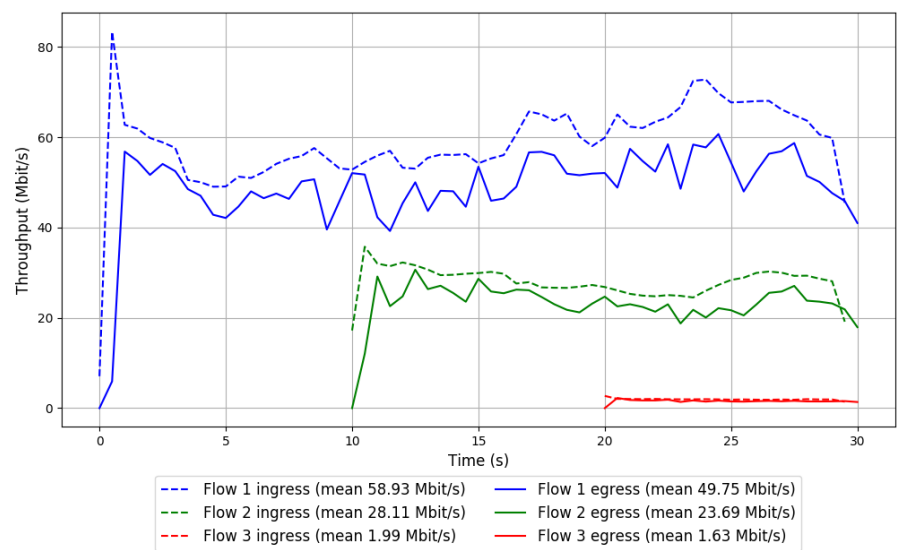


Run 5: Statistics of PCC-Allegro

Start at: 2019-03-09 04:25:26  
End at: 2019-03-09 04:25:56  
Local clock offset: 2.177 ms  
Remote clock offset: -0.671 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 66.05 Mbit/s  
95th percentile per-packet one-way delay: 13.258 ms  
Loss rate: 15.64%  
-- Flow 1:  
Average throughput: 49.75 Mbit/s  
95th percentile per-packet one-way delay: 13.332 ms  
Loss rate: 15.59%  
-- Flow 2:  
Average throughput: 23.69 Mbit/s  
95th percentile per-packet one-way delay: 12.905 ms  
Loss rate: 15.71%  
-- Flow 3:  
Average throughput: 1.63 Mbit/s  
95th percentile per-packet one-way delay: 13.395 ms  
Loss rate: 18.06%

Run 5: Report of PCC-Allegro — Data Link



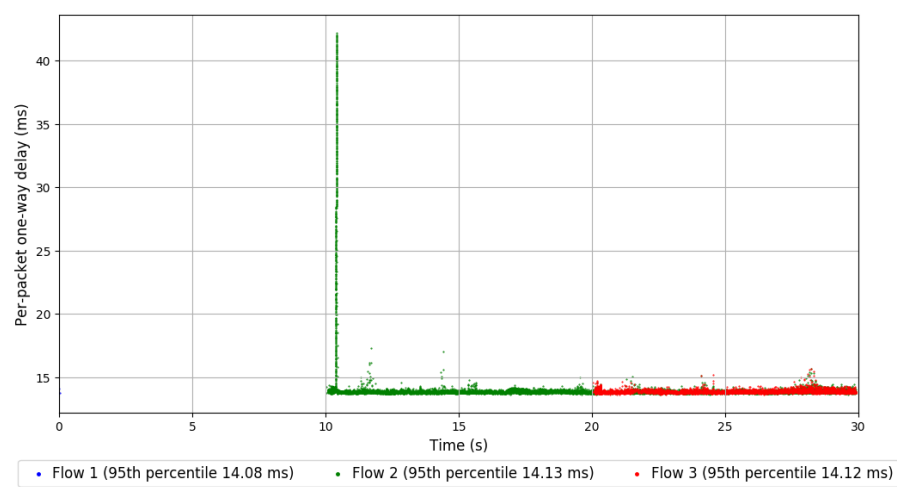
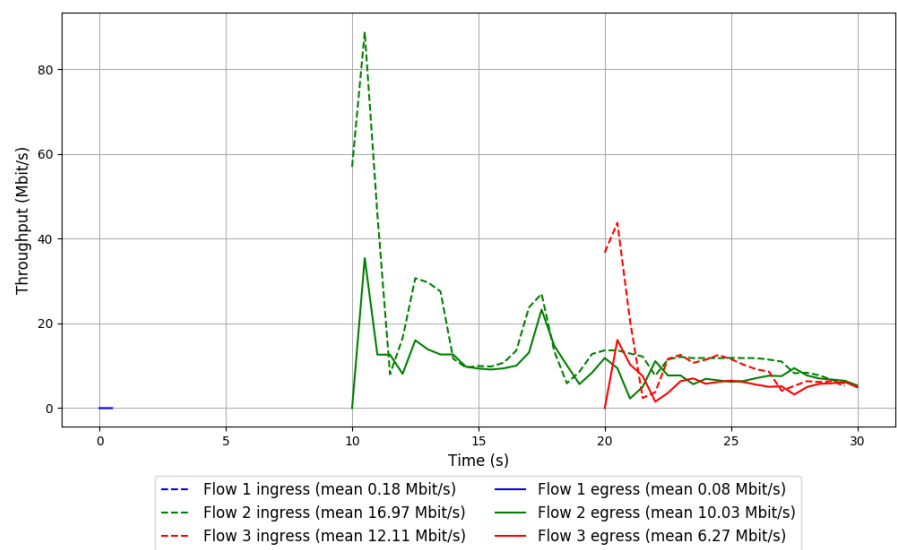


```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-09 02:33:48
End at: 2019-03-09 02:34:18
Local clock offset: -2.634 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-03-09 04:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.74 Mbit/s
95th percentile per-packet one-way delay: 14.123 ms
Loss rate: 42.82%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 14.084 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.03 Mbit/s
95th percentile per-packet one-way delay: 14.128 ms
Loss rate: 40.89%
-- Flow 3:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 14.123 ms
Loss rate: 48.26%
```

Run 1: Report of PCC-Expr — Data Link

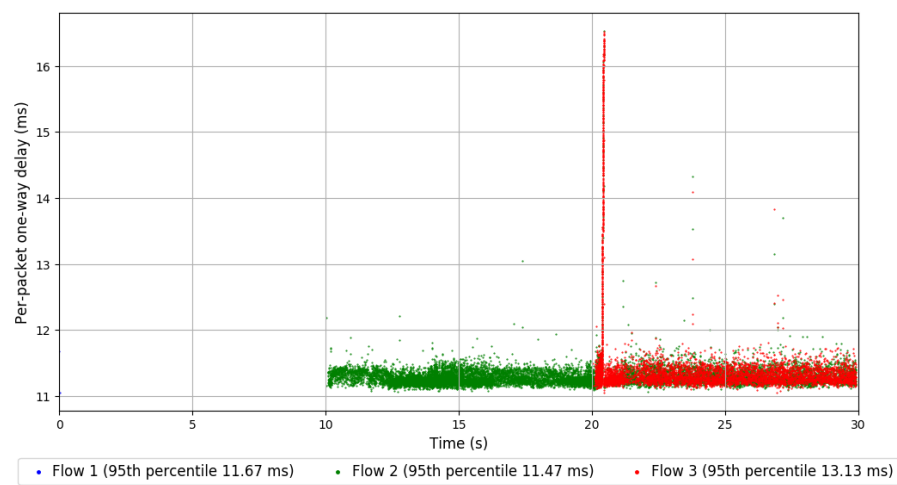
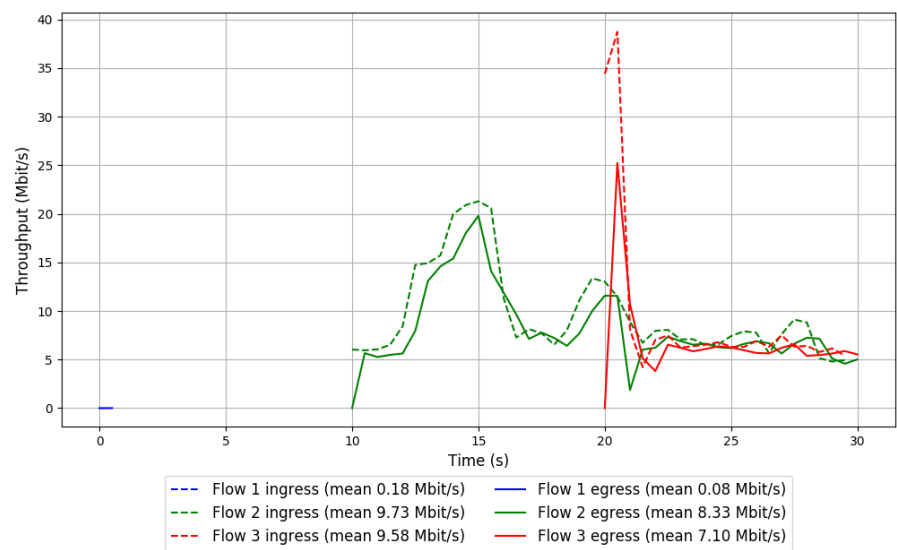


Run 2: Statistics of PCC-Expr

Start at: 2019-03-09 02:58:25  
End at: 2019-03-09 02:58:55  
Local clock offset: -1.677 ms  
Remote clock offset: -1.099 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 7.89 Mbit/s  
95th percentile per-packet one-way delay: 11.543 ms  
Loss rate: 18.20%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 11.673 ms  
Loss rate: 85.71%  
-- Flow 2:  
Average throughput: 8.33 Mbit/s  
95th percentile per-packet one-way delay: 11.468 ms  
Loss rate: 14.40%  
-- Flow 3:  
Average throughput: 7.10 Mbit/s  
95th percentile per-packet one-way delay: 13.129 ms  
Loss rate: 25.95%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-09 03:23:49

End at: 2019-03-09 03:24:19

Local clock offset: -2.315 ms

Remote clock offset: 1.571 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 7.62 Mbit/s

95th percentile per-packet one-way delay: 13.642 ms

Loss rate: 37.12%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 13.833 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 8.25 Mbit/s

95th percentile per-packet one-way delay: 13.680 ms

Loss rate: 35.96%

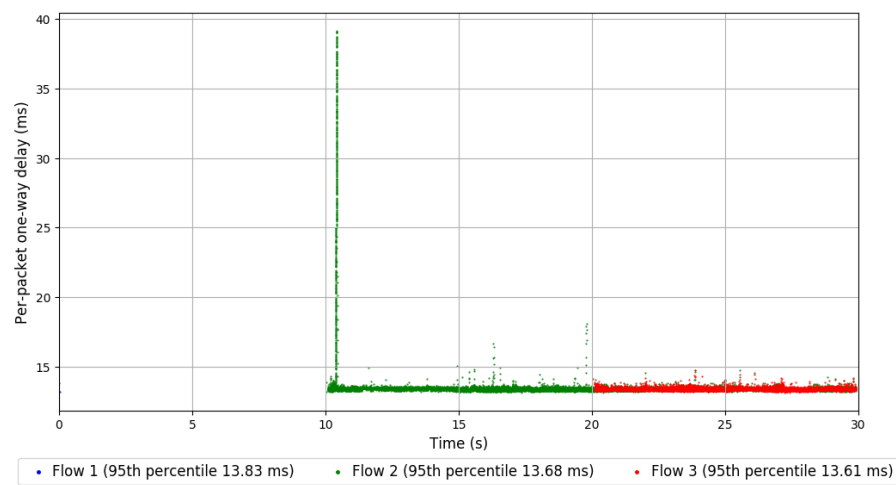
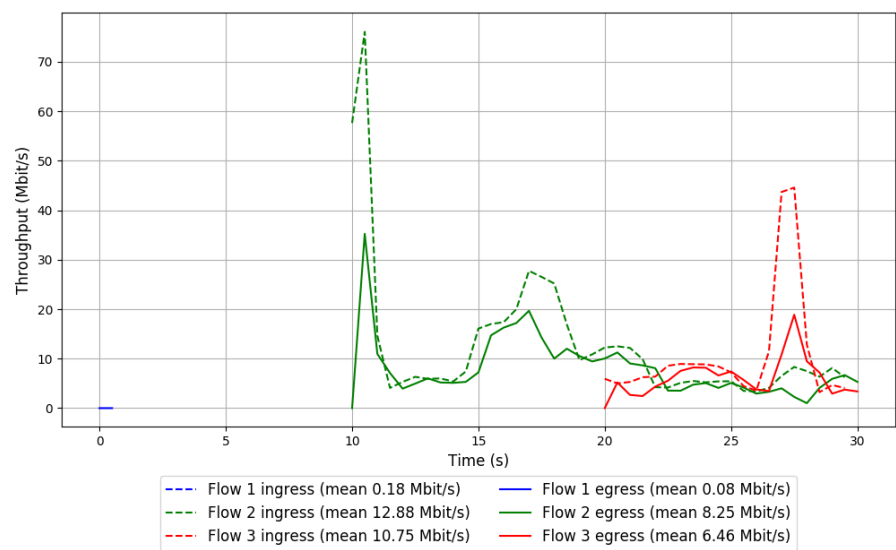
-- Flow 3:

Average throughput: 6.46 Mbit/s

95th percentile per-packet one-way delay: 13.605 ms

Loss rate: 39.92%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-09 03:49:04

End at: 2019-03-09 03:49:34

Local clock offset: -1.611 ms

Remote clock offset: 0.616 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.83 Mbit/s

95th percentile per-packet one-way delay: 16.474 ms

Loss rate: 18.03%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 15.929 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.26 Mbit/s

95th percentile per-packet one-way delay: 16.257 ms

Loss rate: 17.37%

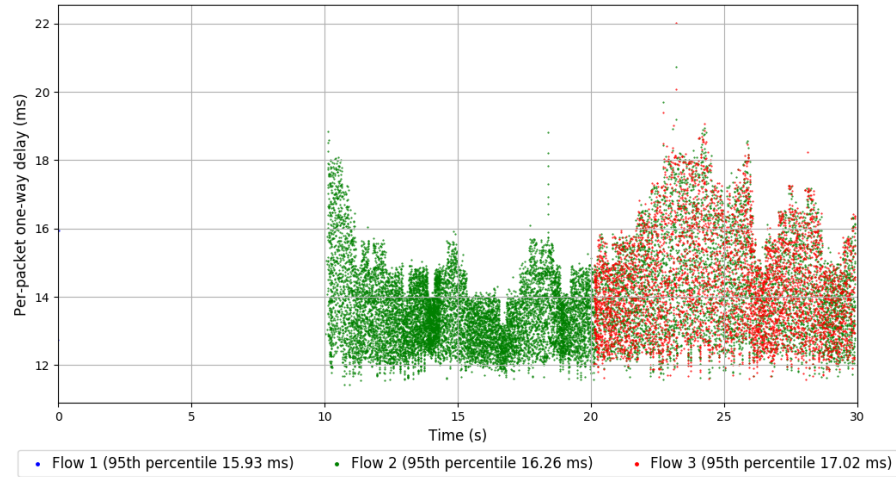
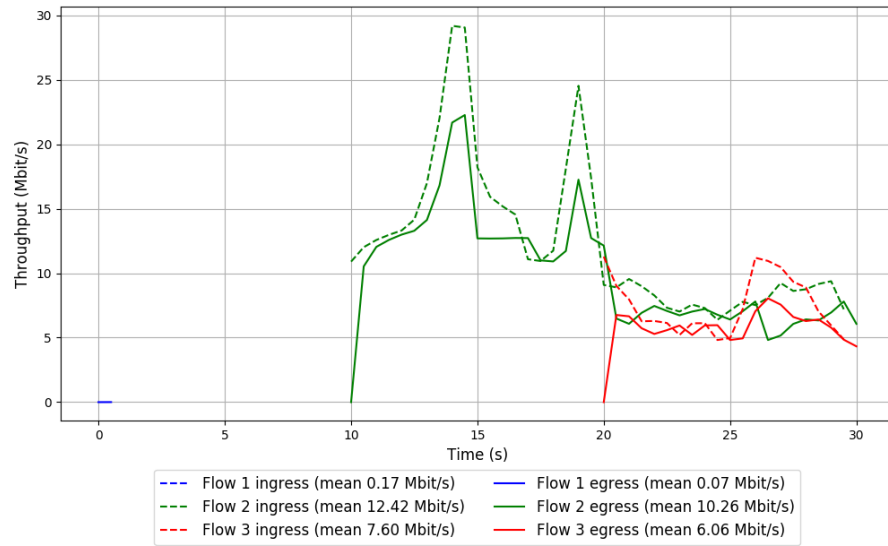
-- Flow 3:

Average throughput: 6.06 Mbit/s

95th percentile per-packet one-way delay: 17.019 ms

Loss rate: 20.22%

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





Run 5: Statistics of PCC-Expr

Start at: 2019-03-09 04:15:24

End at: 2019-03-09 04:15:54

Local clock offset: -0.057 ms

Remote clock offset: 0.585 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 7.96 Mbit/s

95th percentile per-packet one-way delay: 18.283 ms

Loss rate: 26.52%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 17.055 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.43 Mbit/s

95th percentile per-packet one-way delay: 18.419 ms

Loss rate: 25.41%

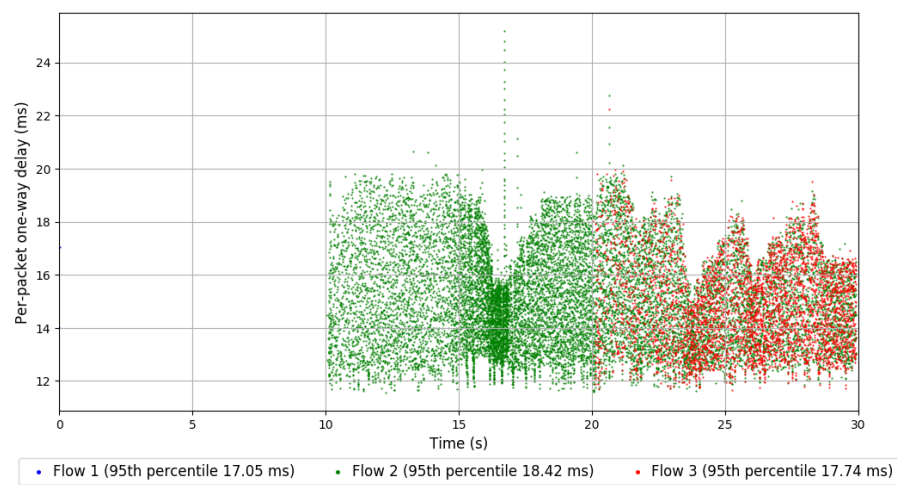
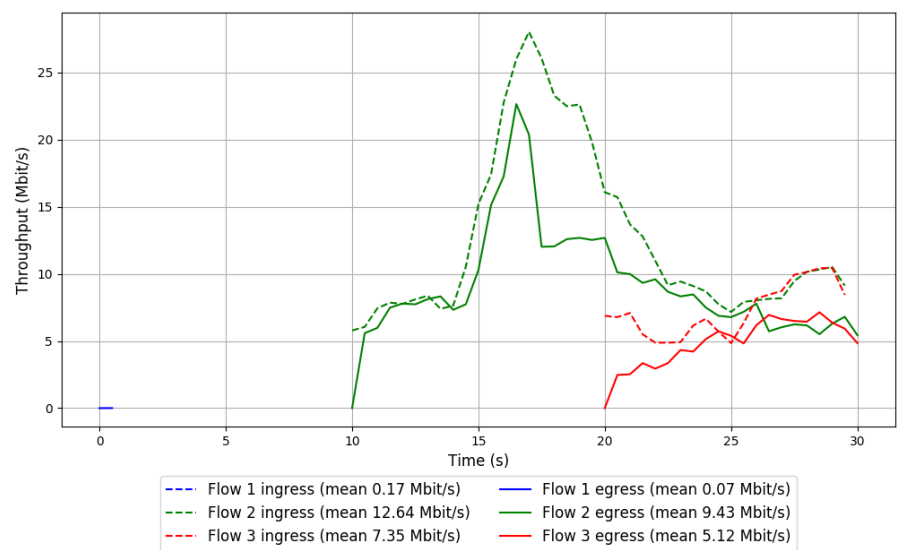
-- Flow 3:

Average throughput: 5.12 Mbit/s

95th percentile per-packet one-way delay: 17.741 ms

Loss rate: 30.35%

Run 5: Report of PCC-Expr — Data Link

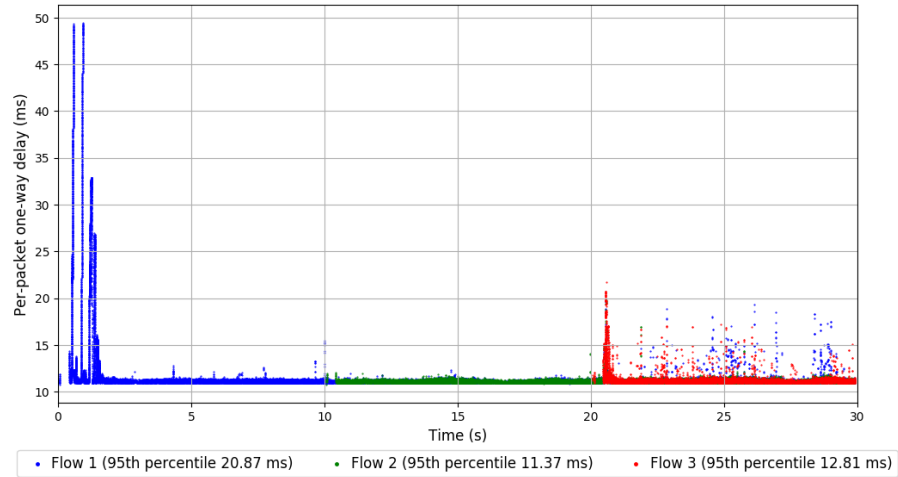
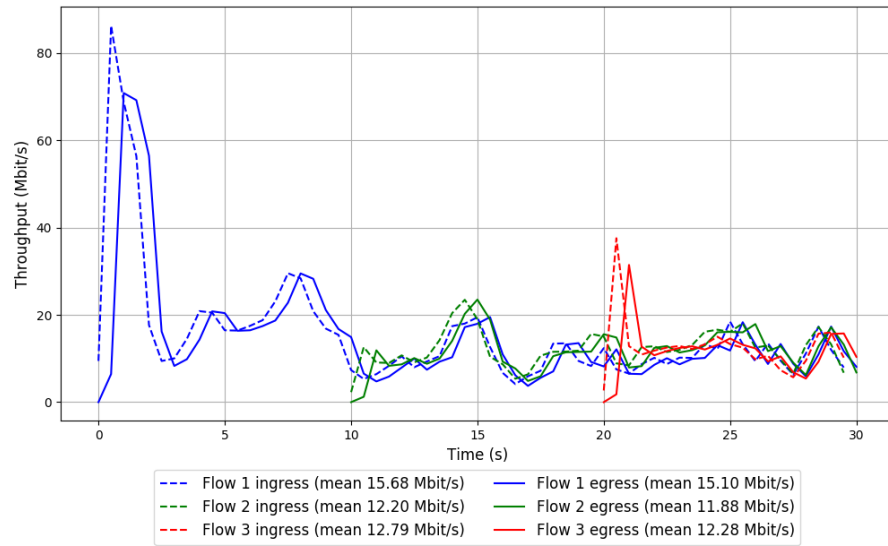


Run 1: Statistics of QUIC Cubic

Start at: 2019-03-09 02:37:11  
End at: 2019-03-09 02:37:41  
Local clock offset: -0.7 ms  
Remote clock offset: -0.746 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 27.05 Mbit/s  
95th percentile per-packet one-way delay: 13.590 ms  
Loss rate: 3.45%  
-- Flow 1:  
Average throughput: 15.10 Mbit/s  
95th percentile per-packet one-way delay: 20.874 ms  
Loss rate: 3.69%  
-- Flow 2:  
Average throughput: 11.88 Mbit/s  
95th percentile per-packet one-way delay: 11.372 ms  
Loss rate: 2.66%  
-- Flow 3:  
Average throughput: 12.28 Mbit/s  
95th percentile per-packet one-way delay: 12.813 ms  
Loss rate: 4.03%

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



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-09 03:01:50

End at: 2019-03-09 03:02:20

Local clock offset: -0.773 ms

Remote clock offset: 0.574 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 16.96 Mbit/s

95th percentile per-packet one-way delay: 12.276 ms

Loss rate: 5.36%

-- Flow 1:

Average throughput: 8.22 Mbit/s

95th percentile per-packet one-way delay: 12.183 ms

Loss rate: 5.10%

-- Flow 2:

Average throughput: 9.70 Mbit/s

95th percentile per-packet one-way delay: 12.423 ms

Loss rate: 4.99%

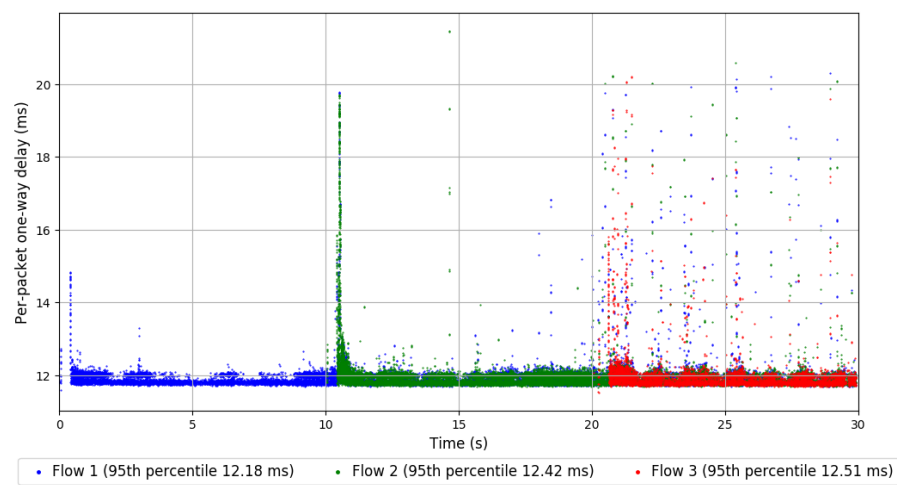
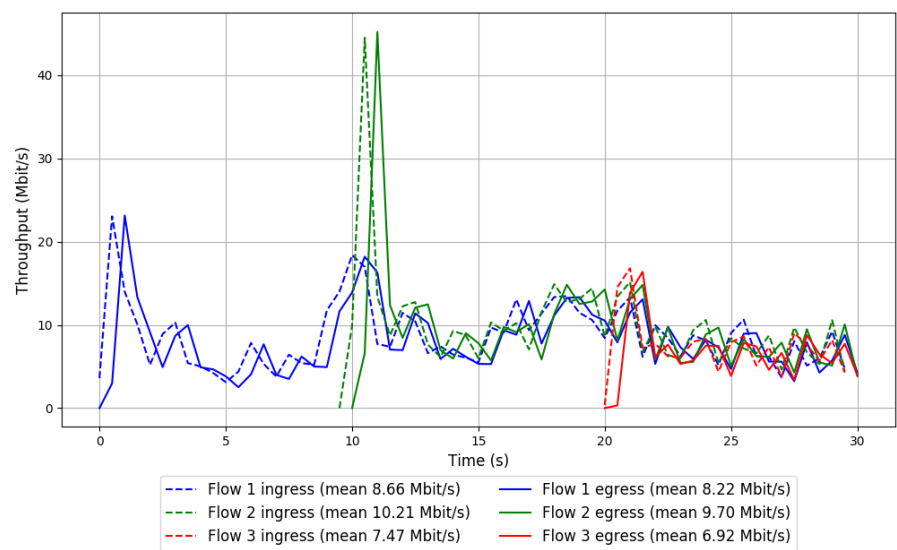
-- Flow 3:

Average throughput: 6.92 Mbit/s

95th percentile per-packet one-way delay: 12.509 ms

Loss rate: 7.31%

Run 2: Report of QUIC Cubic — Data Link

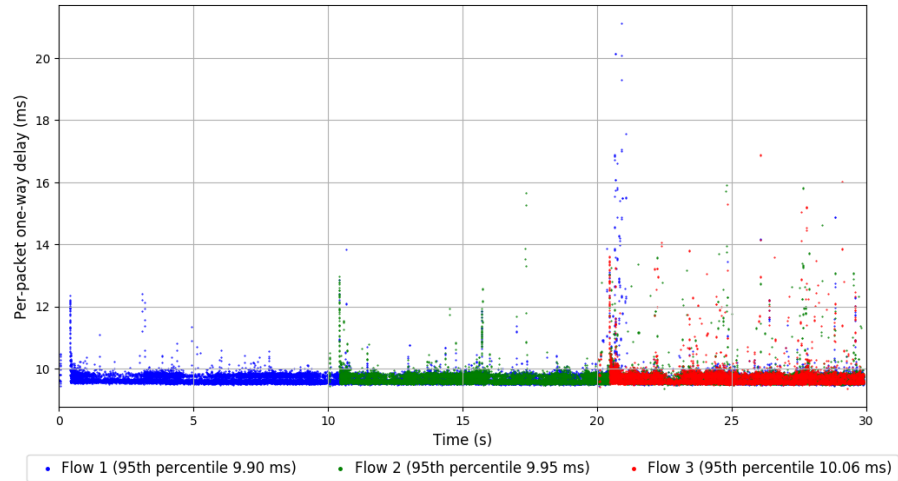
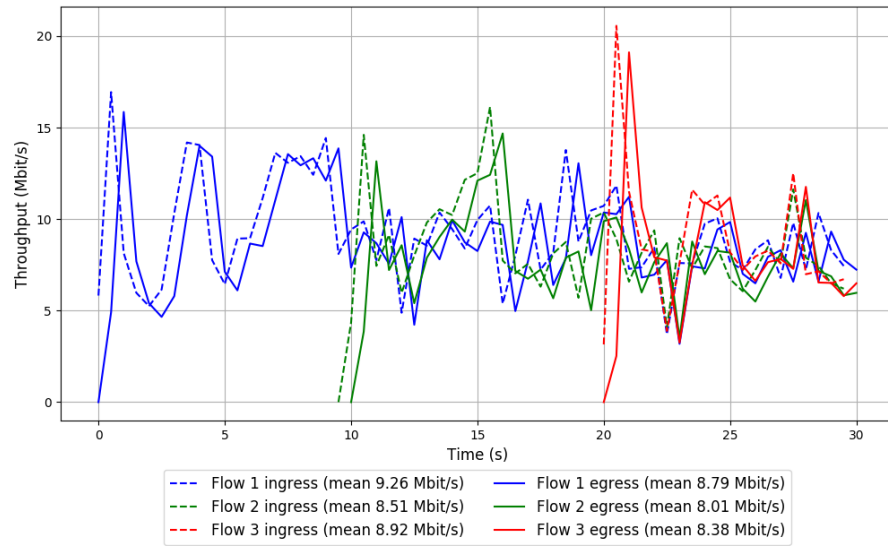


Run 3: Statistics of QUIC Cubic

Start at: 2019-03-09 03:27:15  
End at: 2019-03-09 03:27:45  
Local clock offset: -5.685 ms  
Remote clock offset: -5.211 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 16.88 Mbit/s  
95th percentile per-packet one-way delay: 9.933 ms  
Loss rate: 5.47%  
-- Flow 1:  
Average throughput: 8.79 Mbit/s  
95th percentile per-packet one-way delay: 9.900 ms  
Loss rate: 5.03%  
-- Flow 2:  
Average throughput: 8.01 Mbit/s  
95th percentile per-packet one-way delay: 9.948 ms  
Loss rate: 5.82%  
-- Flow 3:  
Average throughput: 8.38 Mbit/s  
95th percentile per-packet one-way delay: 10.063 ms  
Loss rate: 6.15%

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





Run 4: Statistics of QUIC Cubic

Start at: 2019-03-09 03:52:35

End at: 2019-03-09 03:53:05

Local clock offset: -2.89 ms

Remote clock offset: 0.281 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 36.84 Mbit/s

95th percentile per-packet one-way delay: 40.020 ms

Loss rate: 0.90%

-- Flow 1:

Average throughput: 17.75 Mbit/s

95th percentile per-packet one-way delay: 19.706 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 17.82 Mbit/s

95th percentile per-packet one-way delay: 35.427 ms

Loss rate: 0.88%

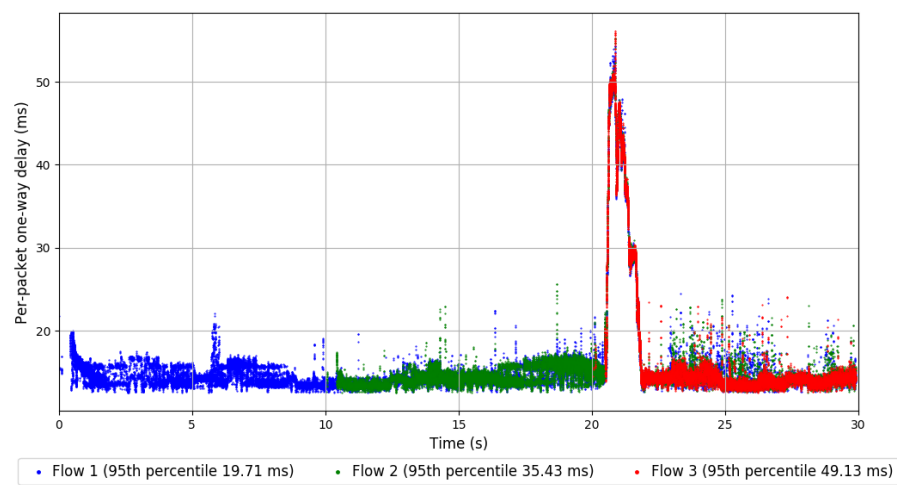
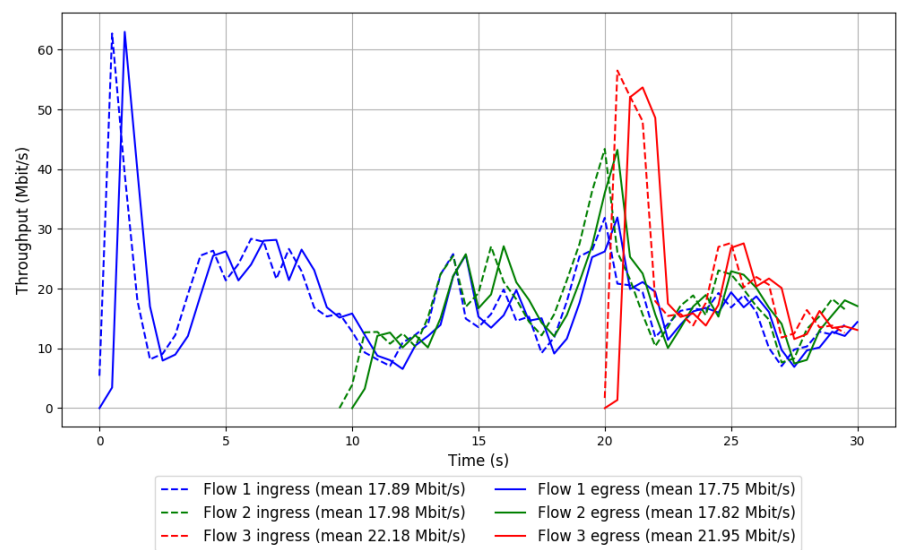
-- Flow 3:

Average throughput: 21.95 Mbit/s

95th percentile per-packet one-way delay: 49.131 ms

Loss rate: 1.07%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-09 04:18:56

End at: 2019-03-09 04:19:26

Local clock offset: -1.343 ms

Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 22.18 Mbit/s

95th percentile per-packet one-way delay: 18.958 ms

Loss rate: 4.29%

-- Flow 1:

Average throughput: 13.72 Mbit/s

95th percentile per-packet one-way delay: 19.739 ms

Loss rate: 4.33%

-- Flow 2:

Average throughput: 8.39 Mbit/s

95th percentile per-packet one-way delay: 17.948 ms

Loss rate: 3.66%

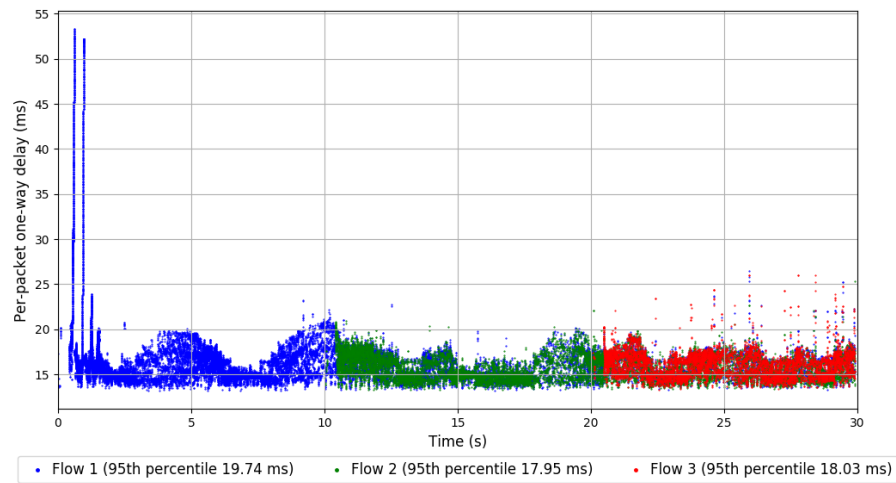
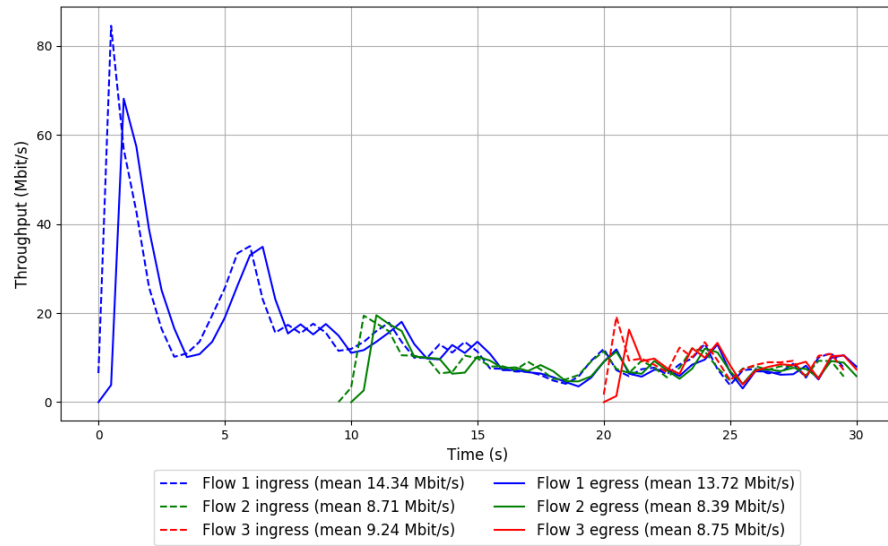
-- Flow 3:

Average throughput: 8.75 Mbit/s

95th percentile per-packet one-way delay: 18.033 ms

Loss rate: 5.30%

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



Run 1: Statistics of SCReAM

Start at: 2019-03-09 02:29:11

End at: 2019-03-09 02:29:41

Local clock offset: -1.781 ms

Remote clock offset: 0.265 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 13.609 ms

Loss rate: 0.62%

-- Flow 1:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 13.576 ms

Loss rate: 1.02%

-- Flow 2:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 13.596 ms

Loss rate: 0.72%

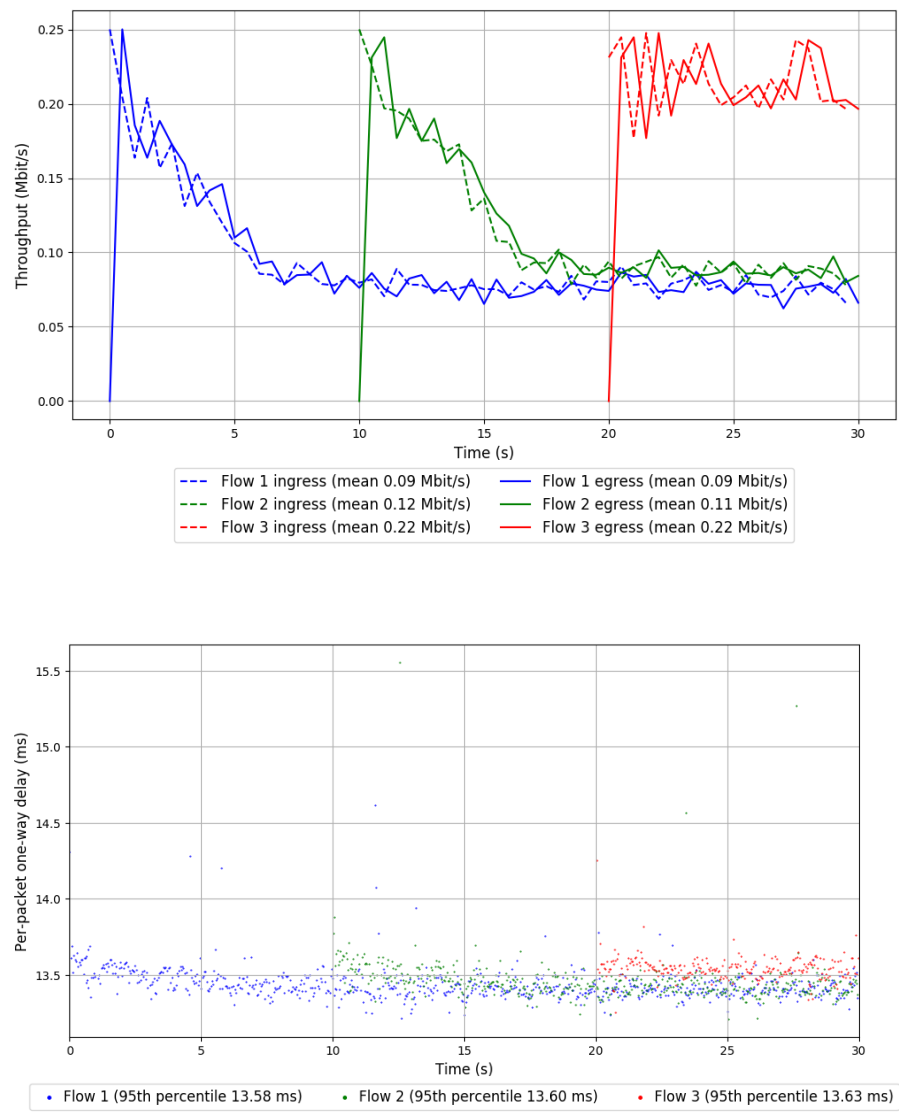
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 13.629 ms

Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

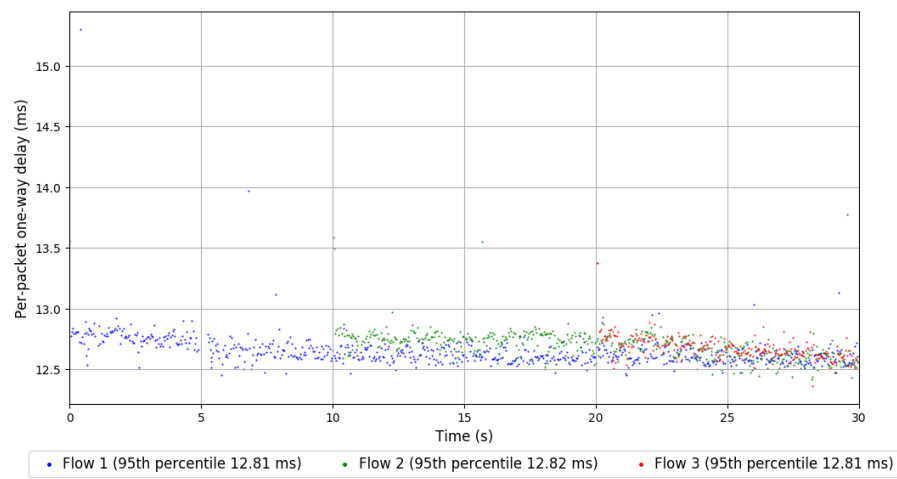
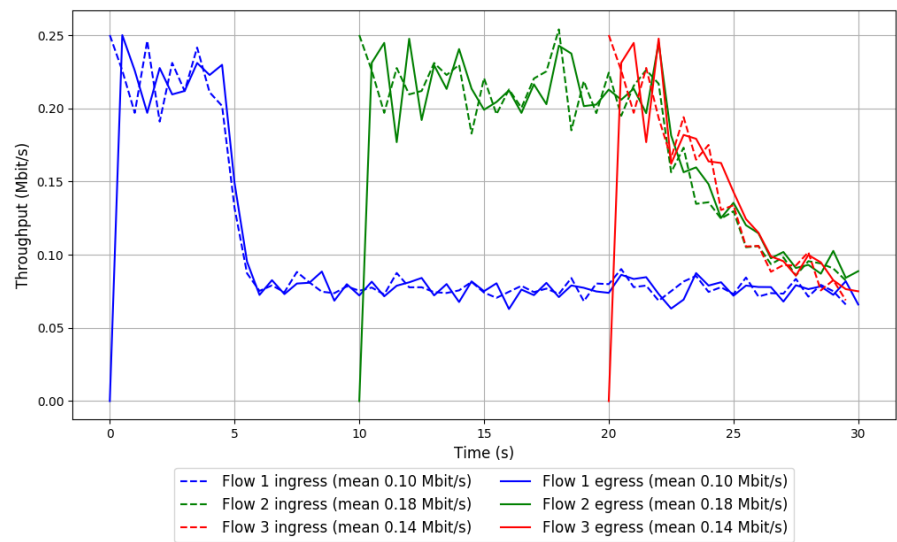


Run 2: Statistics of SCReAM

Start at: 2019-03-09 02:53:55  
End at: 2019-03-09 02:54:25  
Local clock offset: -2.557 ms  
Remote clock offset: -0.644 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.27 Mbit/s  
95th percentile per-packet one-way delay: 12.815 ms  
Loss rate: 1.12%  
-- Flow 1:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 12.812 ms  
Loss rate: 1.86%  
-- Flow 2:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 12.824 ms  
Loss rate: 0.50%  
-- Flow 3:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 12.809 ms  
Loss rate: 1.09%

Run 2: Report of SReAM — Data Link





Run 3: Statistics of SCReAM

Start at: 2019-03-09 03:19:06

End at: 2019-03-09 03:19:36

Local clock offset: -2.753 ms

Remote clock offset: 1.222 ms

# Below is generated by plot.py at 2019-03-09 04:32:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 13.833 ms

Loss rate: 7.13%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 13.832 ms

Loss rate: 6.11%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 13.837 ms

Loss rate: 9.08%

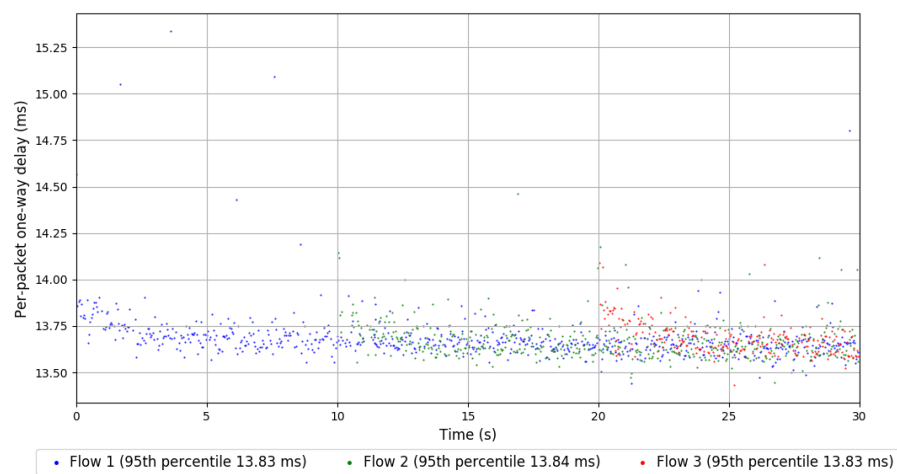
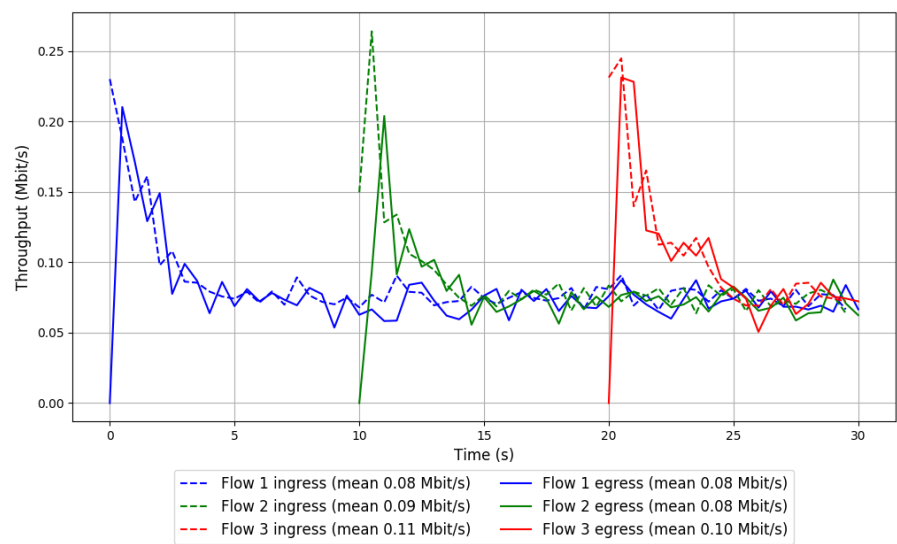
-- Flow 3:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 13.833 ms

Loss rate: 6.39%

Run 3: Report of SCRaM — Data Link

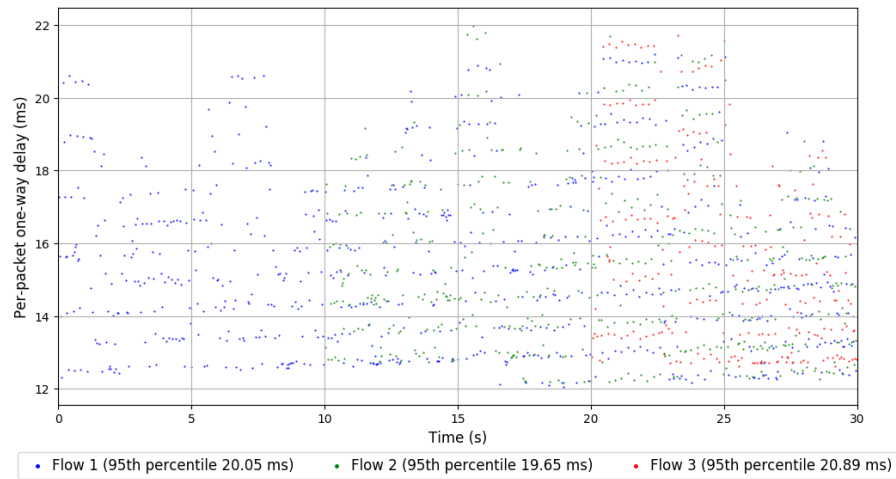
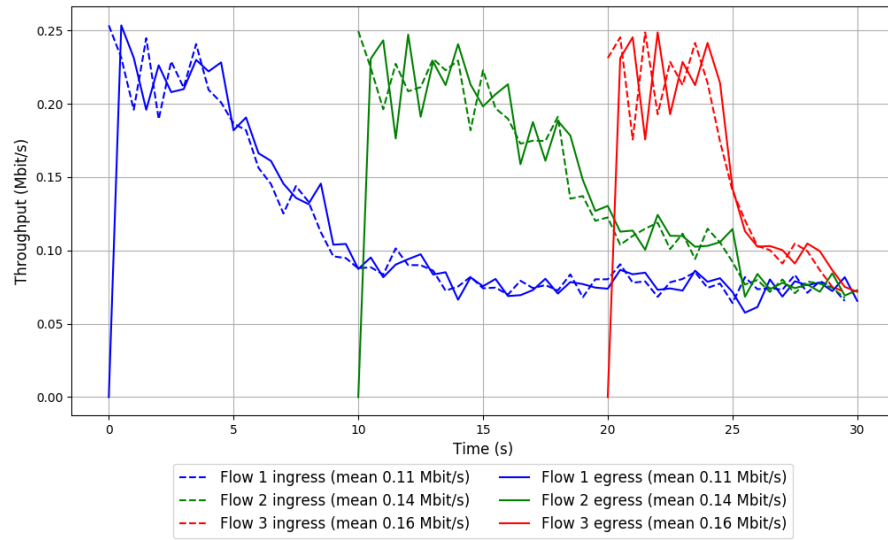


Run 4: Statistics of SCReAM

Start at: 2019-03-09 03:44:27  
End at: 2019-03-09 03:44:57  
Local clock offset: -3.34 ms  
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2019-03-09 04:32:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.26 Mbit/s  
95th percentile per-packet one-way delay: 20.142 ms  
Loss rate: 1.05%  
-- Flow 1:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 20.047 ms  
Loss rate: 0.81%  
-- Flow 2:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 19.654 ms  
Loss rate: 0.57%  
-- Flow 3:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 20.891 ms  
Loss rate: 2.45%

# Run 4: Report of SReAM — Data Link

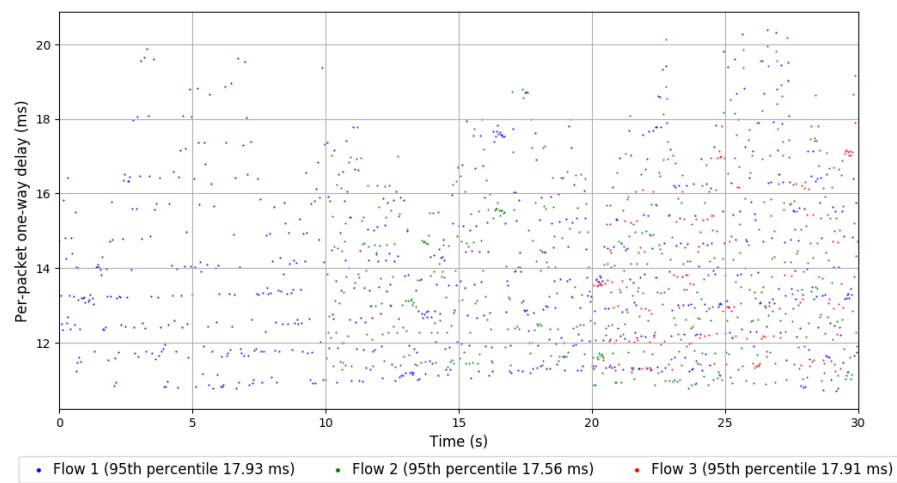
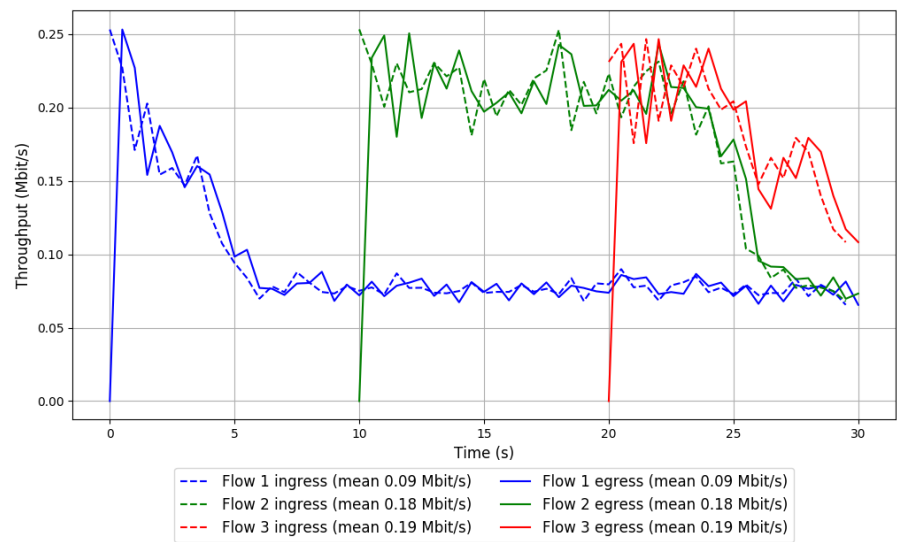


Run 5: Statistics of SCReAM

Start at: 2019-03-09 04:10:34  
End at: 2019-03-09 04:11:04  
Local clock offset: -0.047 ms  
Remote clock offset: 0.562 ms

```
# Below is generated by plot.py at 2019-03-09 04:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 17.897 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 17.935 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 17.564 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 17.908 ms
Loss rate: 1.22%
```

Run 5: Report of SReAM — Data Link

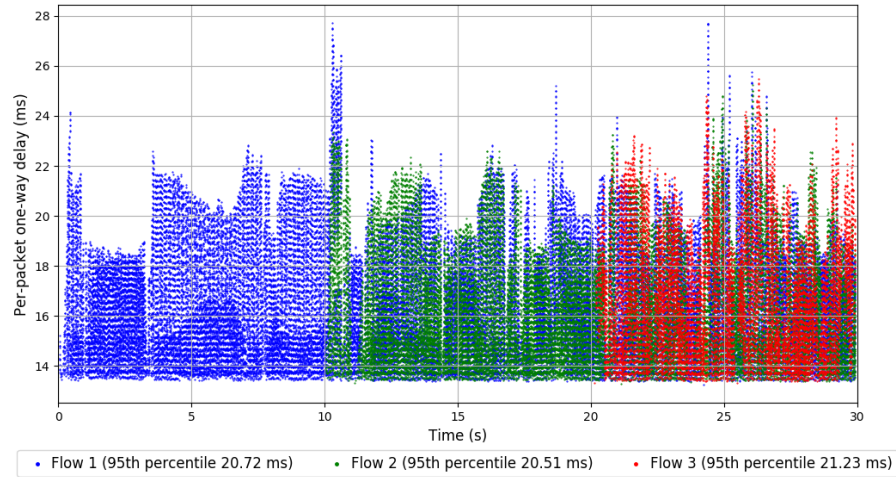
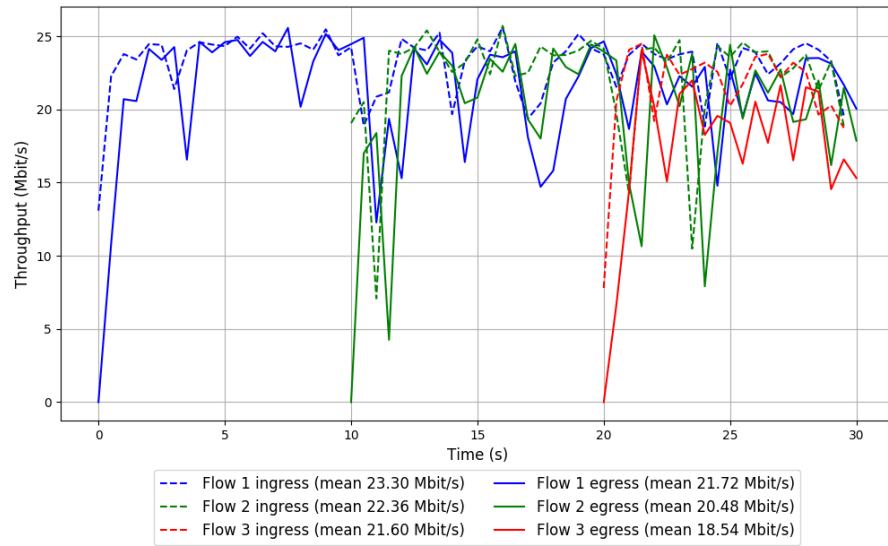


Run 1: Statistics of Sprout

Start at: 2019-03-09 02:28:01  
End at: 2019-03-09 02:28:31  
Local clock offset: -2.54 ms  
Remote clock offset: -0.567 ms

# Below is generated by plot.py at 2019-03-09 04:32:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 41.39 Mbit/s  
95th percentile per-packet one-way delay: 20.738 ms  
Loss rate: 8.63%  
-- Flow 1:  
Average throughput: 21.72 Mbit/s  
95th percentile per-packet one-way delay: 20.723 ms  
Loss rate: 6.78%  
-- Flow 2:  
Average throughput: 20.48 Mbit/s  
95th percentile per-packet one-way delay: 20.513 ms  
Loss rate: 8.41%  
-- Flow 3:  
Average throughput: 18.54 Mbit/s  
95th percentile per-packet one-way delay: 21.226 ms  
Loss rate: 15.14%

# Run 1: Report of Sprout — Data Link



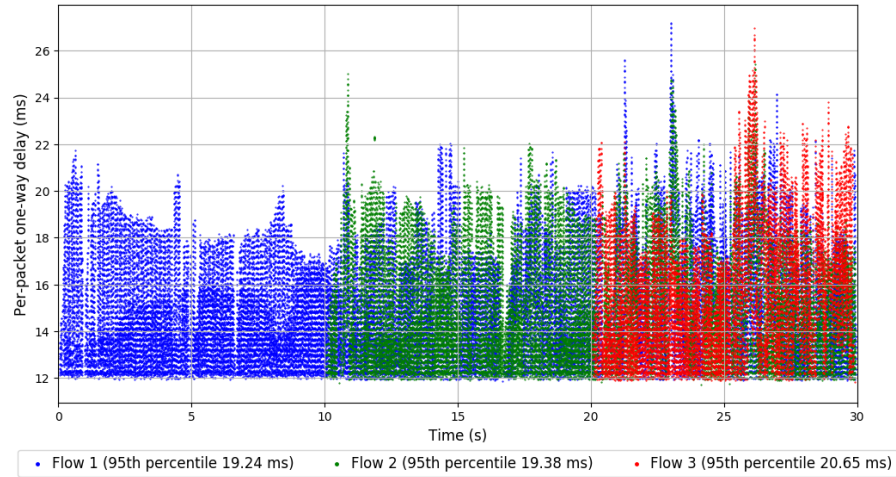
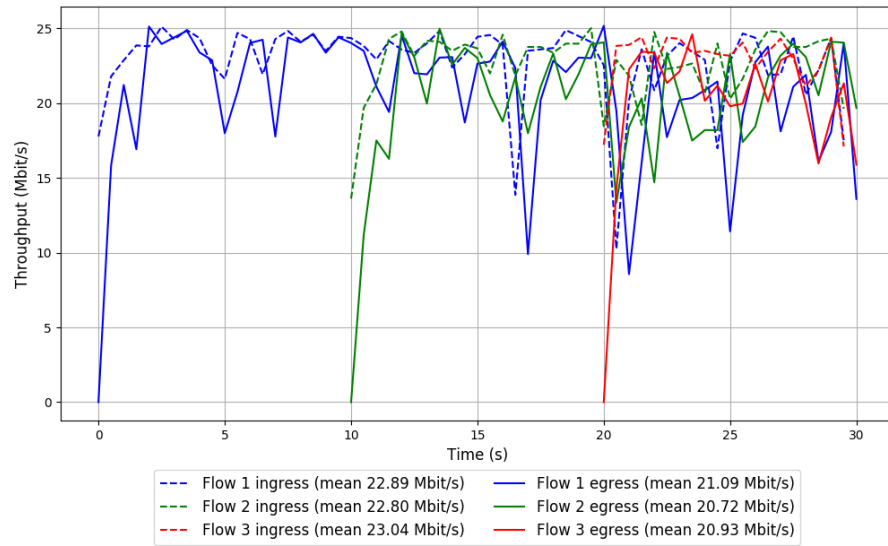


Run 2: Statistics of Sprout

Start at: 2019-03-09 02:52:44  
End at: 2019-03-09 02:53:14  
Local clock offset: -1.647 ms  
Remote clock offset: -0.348 ms

# Below is generated by plot.py at 2019-03-09 04:32:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 41.78 Mbit/s  
95th percentile per-packet one-way delay: 19.515 ms  
Loss rate: 8.53%  
-- Flow 1:  
Average throughput: 21.09 Mbit/s  
95th percentile per-packet one-way delay: 19.237 ms  
Loss rate: 7.89%  
-- Flow 2:  
Average throughput: 20.72 Mbit/s  
95th percentile per-packet one-way delay: 19.381 ms  
Loss rate: 9.16%  
-- Flow 3:  
Average throughput: 20.93 Mbit/s  
95th percentile per-packet one-way delay: 20.653 ms  
Loss rate: 9.21%

## Run 2: Report of Sprout — Data Link

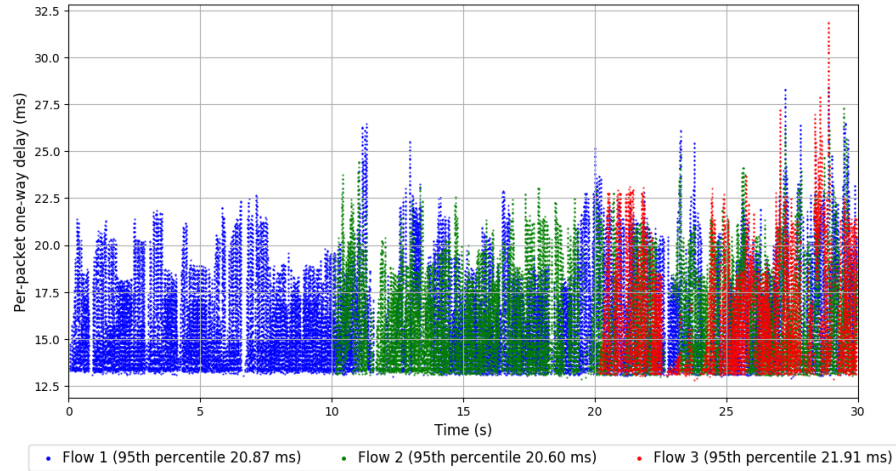
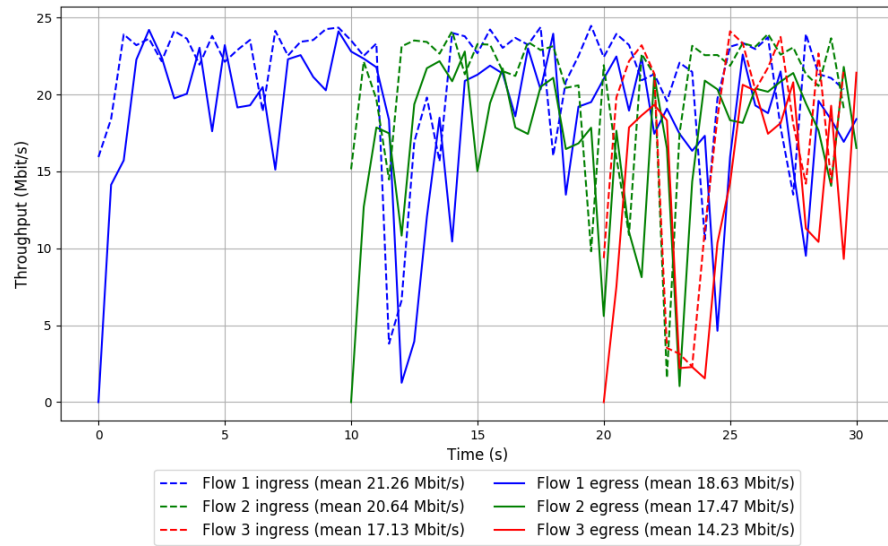


### Run 3: Statistics of Sprout

Start at: 2019-03-09 03:17:50  
End at: 2019-03-09 03:18:20  
Local clock offset: -2.385 ms  
Remote clock offset: 1.022 ms

```
# Below is generated by plot.py at 2019-03-09 04:32:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.95 Mbit/s
95th percentile per-packet one-way delay: 20.923 ms
Loss rate: 14.01%
-- Flow 1:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 20.868 ms
Loss rate: 12.35%
-- Flow 2:
Average throughput: 17.47 Mbit/s
95th percentile per-packet one-way delay: 20.604 ms
Loss rate: 15.36%
-- Flow 3:
Average throughput: 14.23 Mbit/s
95th percentile per-packet one-way delay: 21.912 ms
Loss rate: 16.96%
```

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

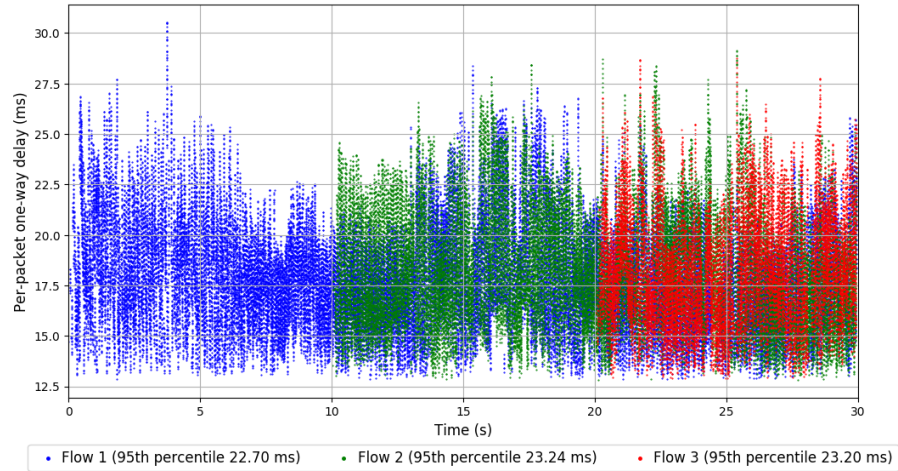
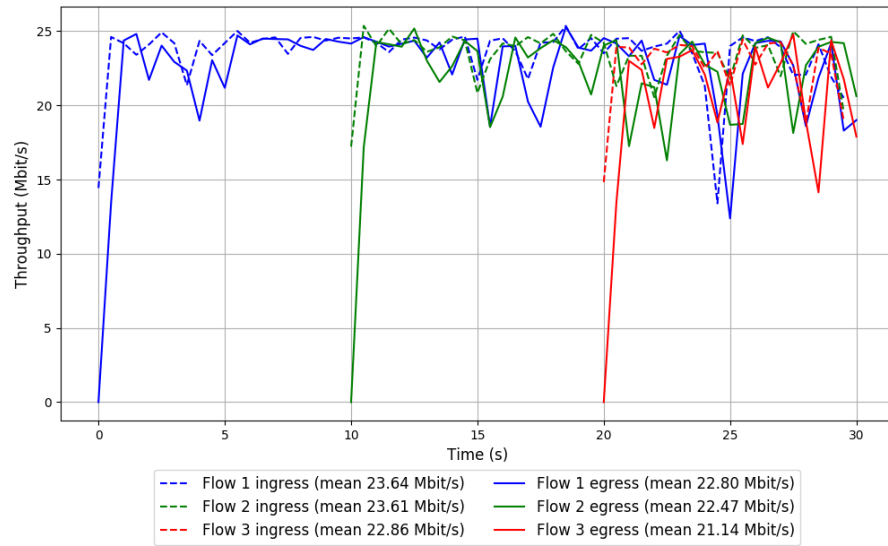


#### Run 4: Statistics of Sprout

Start at: 2019-03-09 03:43:15  
End at: 2019-03-09 03:43:45  
Local clock offset: -3.243 ms  
Remote clock offset: 0.834 ms

```
# Below is generated by plot.py at 2019-03-09 04:33:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.73 Mbit/s
95th percentile per-packet one-way delay: 22.989 ms
Loss rate: 4.58%
-- Flow 1:
Average throughput: 22.80 Mbit/s
95th percentile per-packet one-way delay: 22.700 ms
Loss rate: 3.52%
-- Flow 2:
Average throughput: 22.47 Mbit/s
95th percentile per-packet one-way delay: 23.240 ms
Loss rate: 4.79%
-- Flow 3:
Average throughput: 21.14 Mbit/s
95th percentile per-packet one-way delay: 23.198 ms
Loss rate: 7.45%
```

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

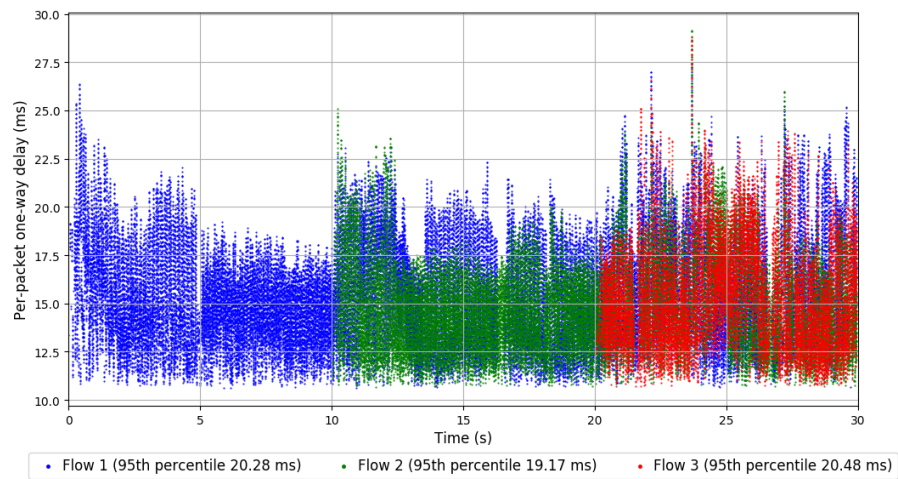
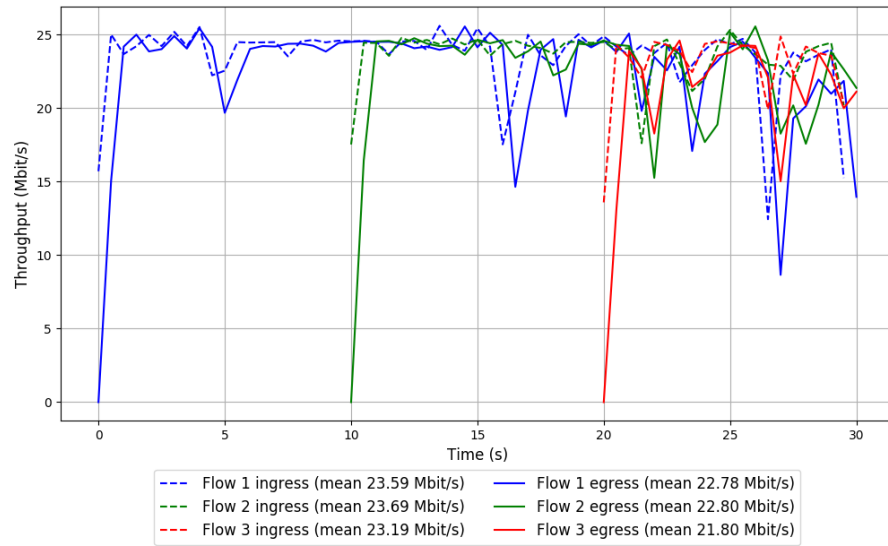


Run 5: Statistics of Sprout

Start at: 2019-03-09 04:09:23  
End at: 2019-03-09 04:09:53  
Local clock offset: -1.485 ms  
Remote clock offset: -0.927 ms

```
# Below is generated by plot.py at 2019-03-09 04:33:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.17 Mbit/s
95th percentile per-packet one-way delay: 20.016 ms
Loss rate: 3.91%
-- Flow 1:
Average throughput: 22.78 Mbit/s
95th percentile per-packet one-way delay: 20.284 ms
Loss rate: 3.38%
-- Flow 2:
Average throughput: 22.80 Mbit/s
95th percentile per-packet one-way delay: 19.166 ms
Loss rate: 3.73%
-- Flow 3:
Average throughput: 21.80 Mbit/s
95th percentile per-packet one-way delay: 20.485 ms
Loss rate: 5.94%
```

## Run 5: Report of Sprout — Data Link



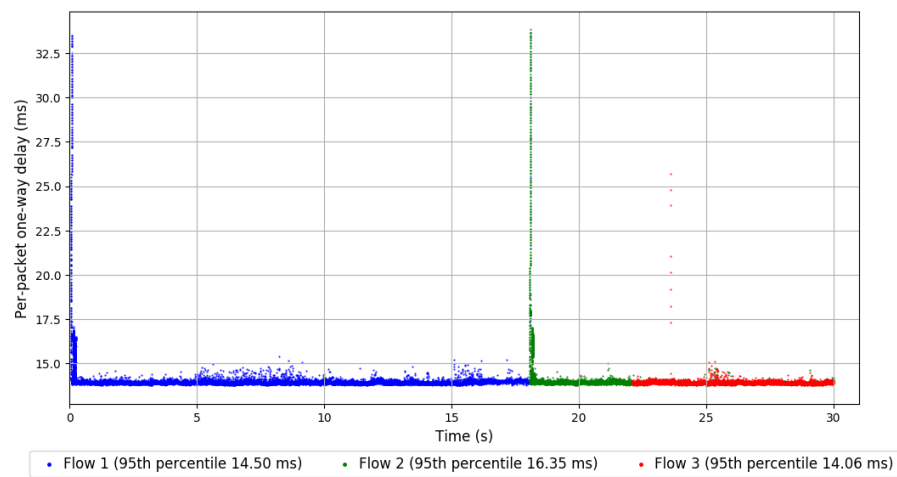
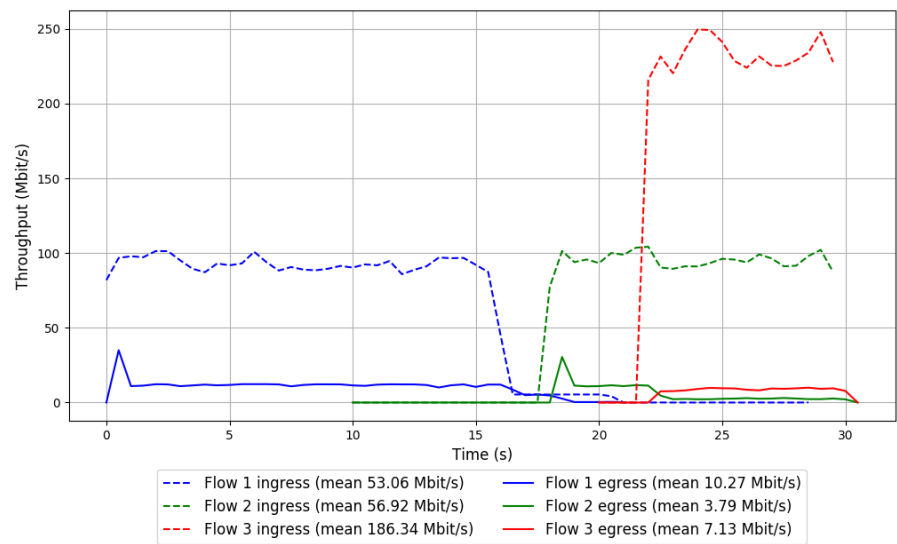


Run 1: Statistics of TaoVA-100x

Start at: 2019-03-09 02:34:55  
End at: 2019-03-09 02:35:25  
Local clock offset: -2.715 ms  
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2019-03-09 04:33:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.01 Mbit/s  
95th percentile per-packet one-way delay: 14.579 ms  
Loss rate: 92.04%  
-- Flow 1:  
Average throughput: 10.27 Mbit/s  
95th percentile per-packet one-way delay: 14.498 ms  
Loss rate: 86.04%  
-- Flow 2:  
Average throughput: 3.79 Mbit/s  
95th percentile per-packet one-way delay: 16.346 ms  
Loss rate: 93.35%  
-- Flow 3:  
Average throughput: 7.13 Mbit/s  
95th percentile per-packet one-way delay: 14.058 ms  
Loss rate: 96.17%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-09 02:59:33

End at: 2019-03-09 03:00:03

Local clock offset: -0.632 ms

Remote clock offset: 0.184 ms

# Below is generated by plot.py at 2019-03-09 04:33:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.29 Mbit/s

95th percentile per-packet one-way delay: 11.844 ms

Loss rate: 91.01%

-- Flow 1:

Average throughput: 5.31 Mbit/s

95th percentile per-packet one-way delay: 11.900 ms

Loss rate: 86.23%

-- Flow 2:

Average throughput: 9.26 Mbit/s

95th percentile per-packet one-way delay: 13.445 ms

Loss rate: 89.78%

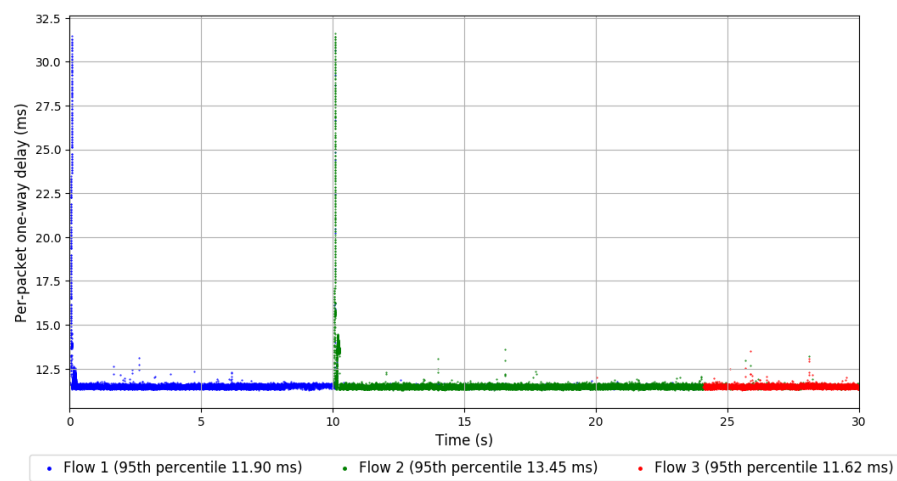
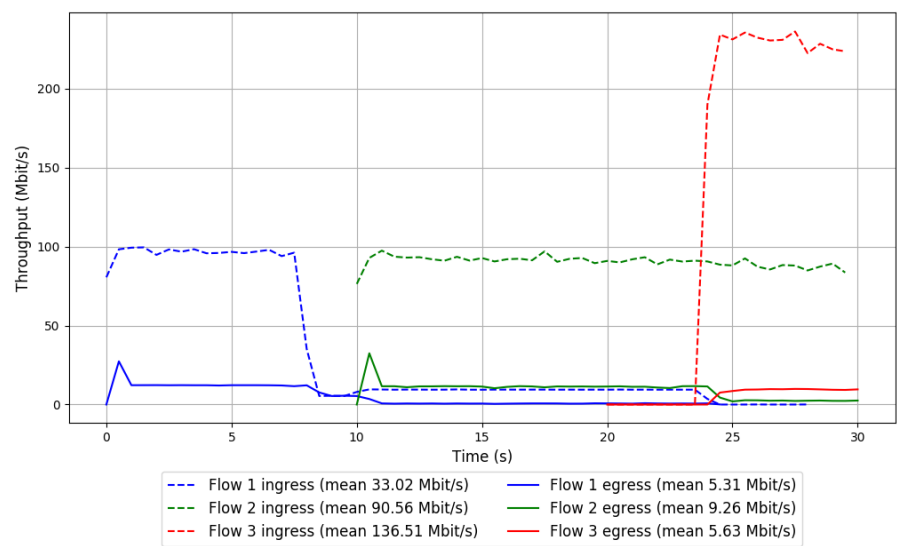
-- Flow 3:

Average throughput: 5.63 Mbit/s

95th percentile per-packet one-way delay: 11.616 ms

Loss rate: 95.88%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-09 03:24:57

End at: 2019-03-09 03:25:27

Local clock offset: -2.243 ms

Remote clock offset: 0.536 ms

# Below is generated by plot.py at 2019-03-09 04:33:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 11.52 Mbit/s

95th percentile per-packet one-way delay: 12.409 ms

Loss rate: 86.57%

-- Flow 1:

Average throughput: 4.71 Mbit/s

95th percentile per-packet one-way delay: 12.435 ms

Loss rate: 86.65%

-- Flow 2:

Average throughput: 9.71 Mbit/s

95th percentile per-packet one-way delay: 12.381 ms

Loss rate: 87.04%

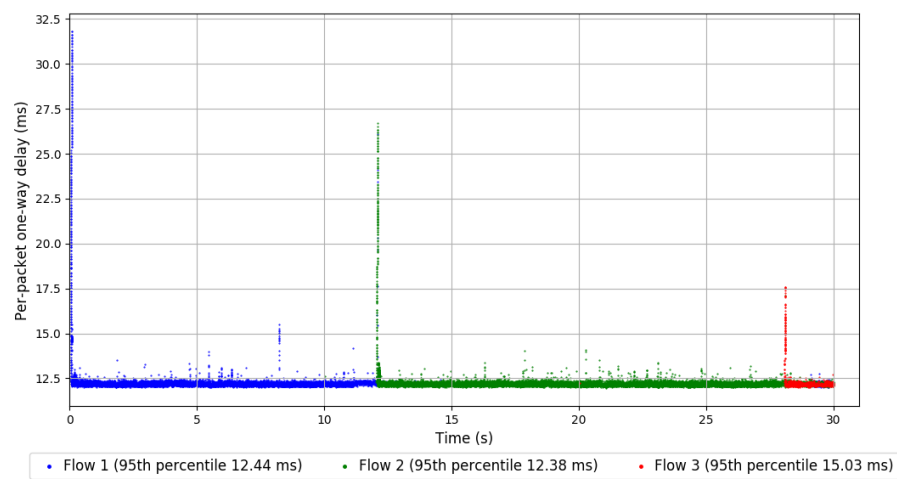
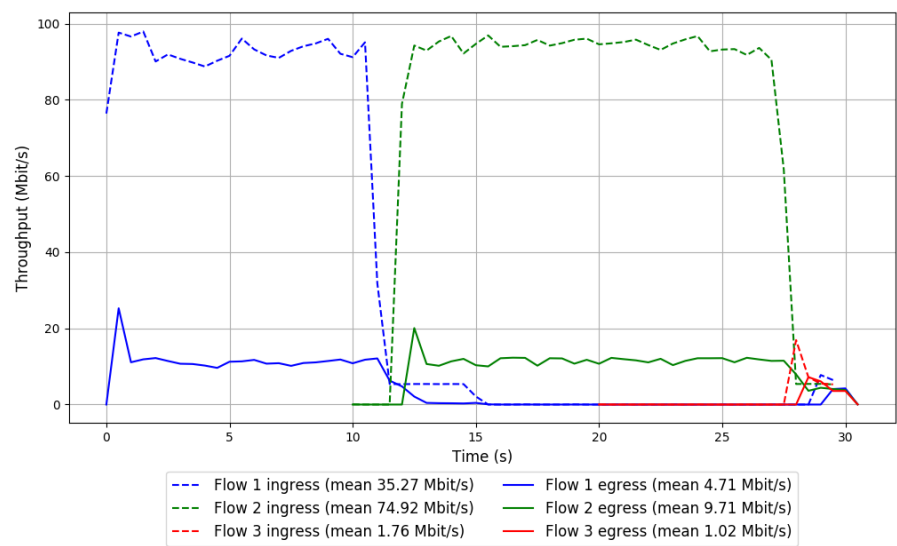
-- Flow 3:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 15.028 ms

Loss rate: 41.73%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-09 03:50:13

End at: 2019-03-09 03:50:43

Local clock offset: -1.361 ms

Remote clock offset: 1.427 ms

# Below is generated by plot.py at 2019-03-09 04:33:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 11.90 Mbit/s

95th percentile per-packet one-way delay: 18.705 ms

Loss rate: 93.63%

-- Flow 1:

Average throughput: 6.90 Mbit/s

95th percentile per-packet one-way delay: 18.996 ms

Loss rate: 91.00%

-- Flow 2:

Average throughput: 8.42 Mbit/s

95th percentile per-packet one-way delay: 18.094 ms

Loss rate: 95.19%

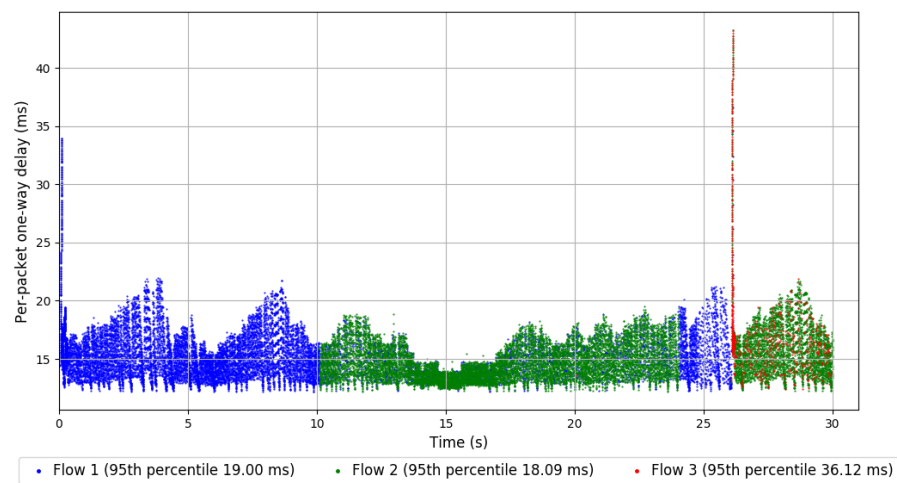
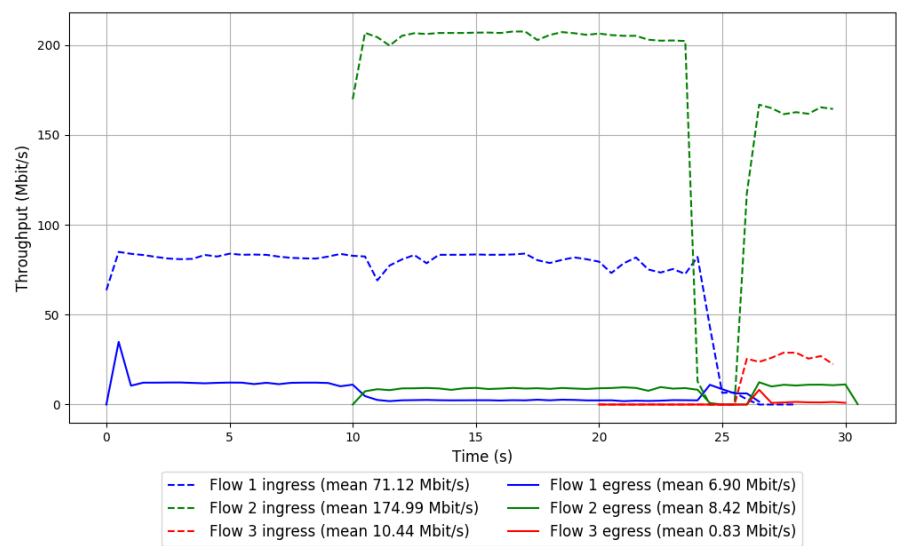
-- Flow 3:

Average throughput: 0.83 Mbit/s

95th percentile per-packet one-way delay: 36.118 ms

Loss rate: 92.06%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-03-09 04:16:32

End at: 2019-03-09 04:17:02

Local clock offset: 1.426 ms

Remote clock offset: 0.232 ms

# Below is generated by plot.py at 2019-03-09 04:33:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.58 Mbit/s

95th percentile per-packet one-way delay: 16.899 ms

Loss rate: 78.28%

-- Flow 1:

Average throughput: 5.58 Mbit/s

95th percentile per-packet one-way delay: 17.657 ms

Loss rate: 80.59%

-- Flow 2:

Average throughput: 7.92 Mbit/s

95th percentile per-packet one-way delay: 15.013 ms

Loss rate: 80.47%

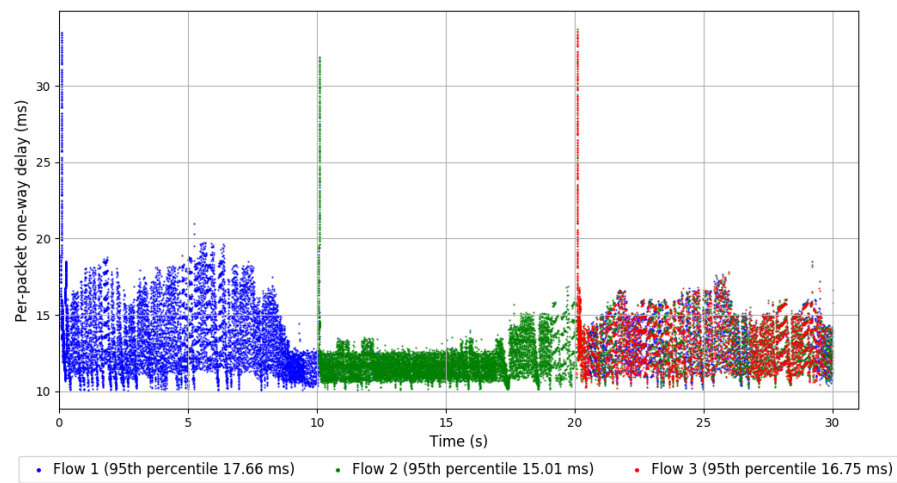
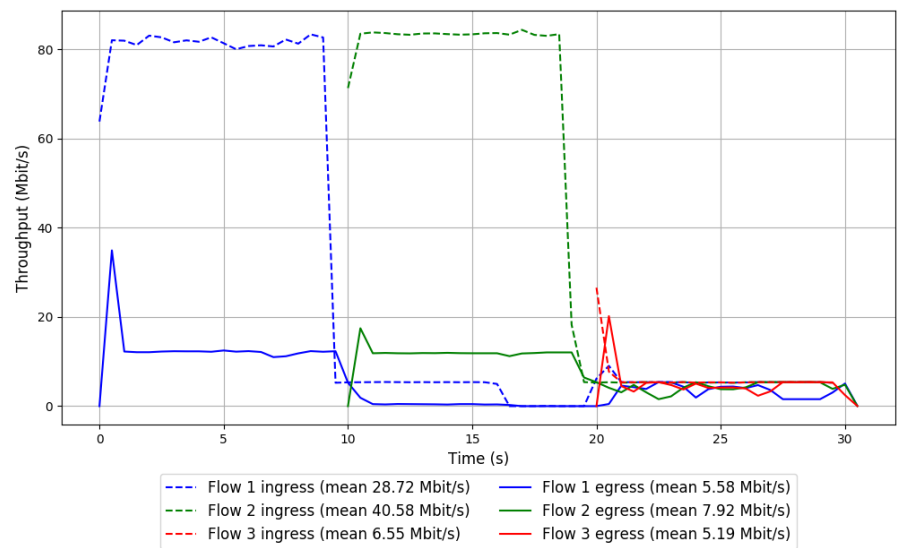
-- Flow 3:

Average throughput: 5.19 Mbit/s

95th percentile per-packet one-way delay: 16.755 ms

Loss rate: 20.71%

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

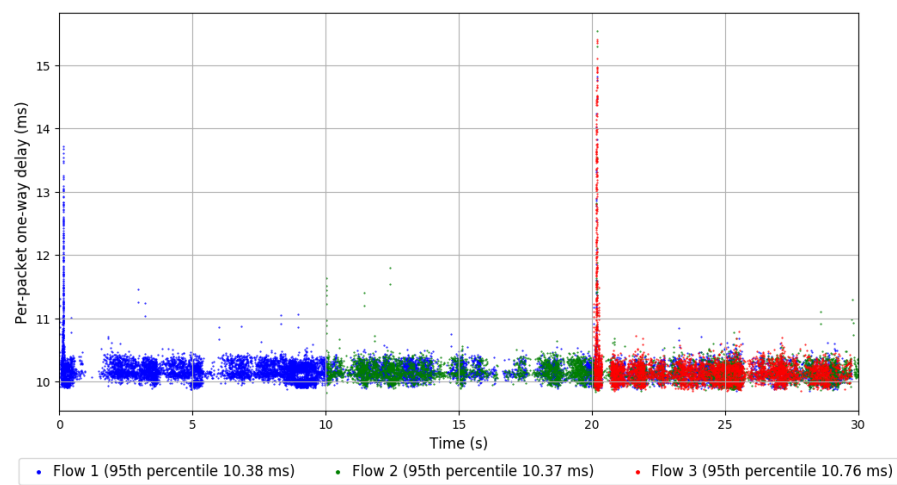
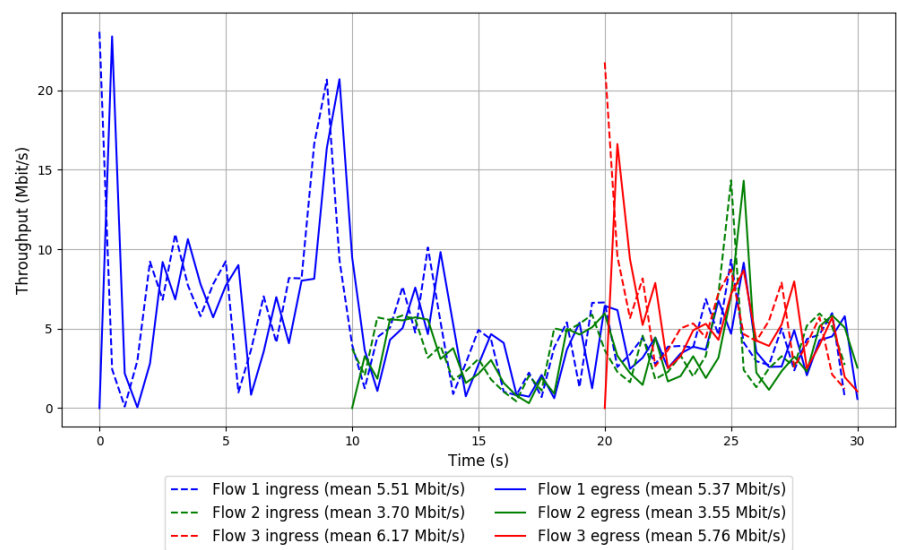


Run 1: Statistics of TCP Vegas

Start at: 2019-03-09 02:36:04  
End at: 2019-03-09 02:36:34  
Local clock offset: 0.305 ms  
Remote clock offset: -0.864 ms

# Below is generated by plot.py at 2019-03-09 04:33:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 9.56 Mbit/s  
95th percentile per-packet one-way delay: 10.396 ms  
Loss rate: 3.82%  
-- Flow 1:  
Average throughput: 5.37 Mbit/s  
95th percentile per-packet one-way delay: 10.385 ms  
Loss rate: 2.66%  
-- Flow 2:  
Average throughput: 3.55 Mbit/s  
95th percentile per-packet one-way delay: 10.372 ms  
Loss rate: 3.85%  
-- Flow 3:  
Average throughput: 5.76 Mbit/s  
95th percentile per-packet one-way delay: 10.756 ms  
Loss rate: 6.95%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-09 03:00:42

End at: 2019-03-09 03:01:12

Local clock offset: -4.465 ms

Remote clock offset: 0.878 ms

# Below is generated by plot.py at 2019-03-09 04:33:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 11.56 Mbit/s

95th percentile per-packet one-way delay: 16.316 ms

Loss rate: 2.71%

-- Flow 1:

Average throughput: 6.23 Mbit/s

95th percentile per-packet one-way delay: 16.317 ms

Loss rate: 2.28%

-- Flow 2:

Average throughput: 5.67 Mbit/s

95th percentile per-packet one-way delay: 16.300 ms

Loss rate: 2.97%

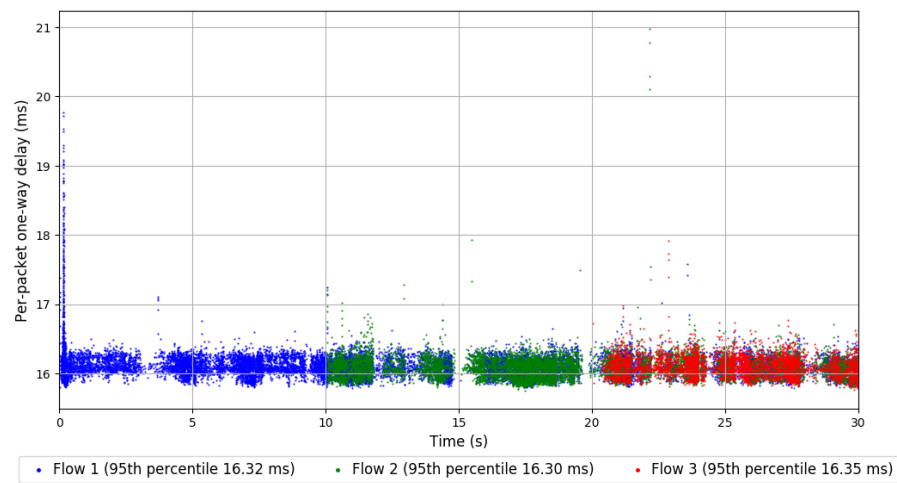
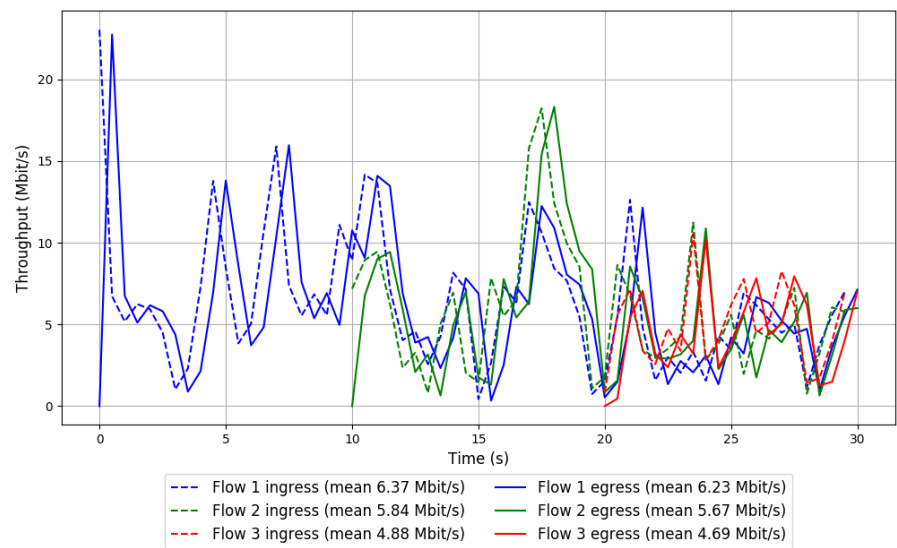
-- Flow 3:

Average throughput: 4.69 Mbit/s

95th percentile per-packet one-way delay: 16.350 ms

Loss rate: 3.75%

Run 2: Report of TCP Vegas — Data Link

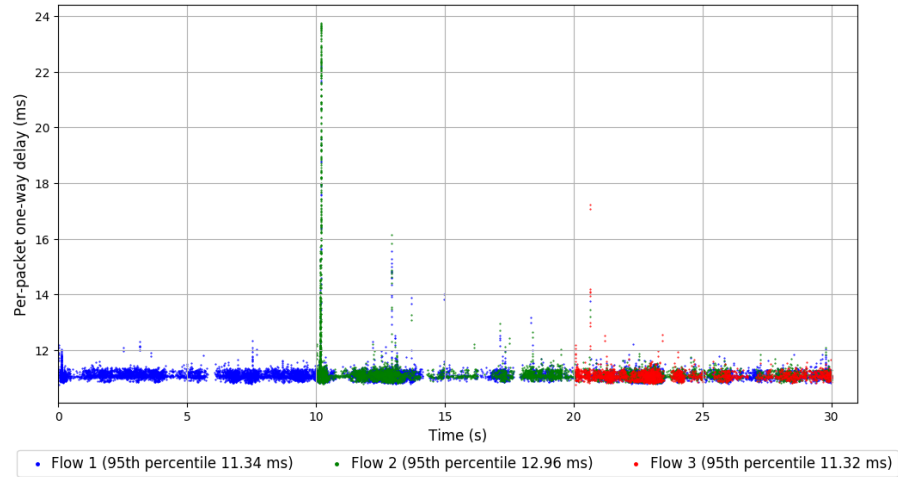
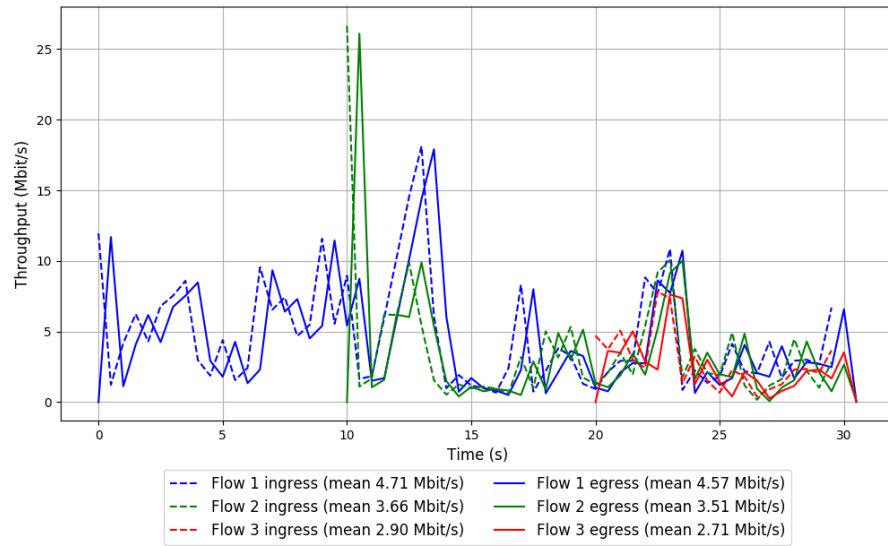


Run 3: Statistics of TCP Vegas

Start at: 2019-03-09 03:26:07  
End at: 2019-03-09 03:26:37  
Local clock offset: -2.155 ms  
Remote clock offset: -0.522 ms

# Below is generated by plot.py at 2019-03-09 04:33:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 7.81 Mbit/s  
95th percentile per-packet one-way delay: 11.425 ms  
Loss rate: 3.73%  
-- Flow 1:  
Average throughput: 4.57 Mbit/s  
95th percentile per-packet one-way delay: 11.337 ms  
Loss rate: 2.99%  
-- Flow 2:  
Average throughput: 3.51 Mbit/s  
95th percentile per-packet one-way delay: 12.957 ms  
Loss rate: 3.99%  
-- Flow 3:  
Average throughput: 2.71 Mbit/s  
95th percentile per-packet one-way delay: 11.321 ms  
Loss rate: 6.67%

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





Run 4: Statistics of TCP Vegas

Start at: 2019-03-09 03:51:25

End at: 2019-03-09 03:51:55

Local clock offset: -2.325 ms

Remote clock offset: 1.433 ms

# Below is generated by plot.py at 2019-03-09 04:33:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 32.48 Mbit/s

95th percentile per-packet one-way delay: 25.566 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 19.23 Mbit/s

95th percentile per-packet one-way delay: 26.027 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 14.75 Mbit/s

95th percentile per-packet one-way delay: 16.914 ms

Loss rate: 0.22%

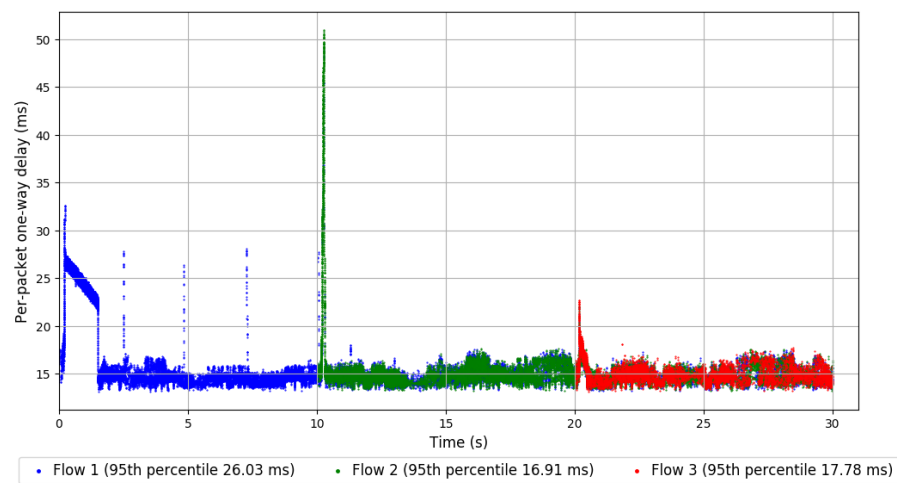
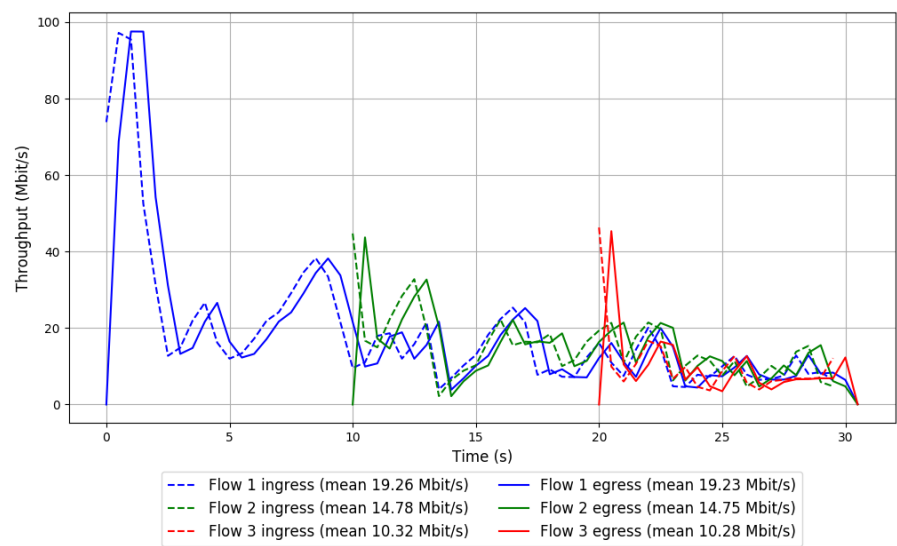
-- Flow 3:

Average throughput: 10.28 Mbit/s

95th percentile per-packet one-way delay: 17.778 ms

Loss rate: 0.37%

Run 4: Report of TCP Vegas — Data Link

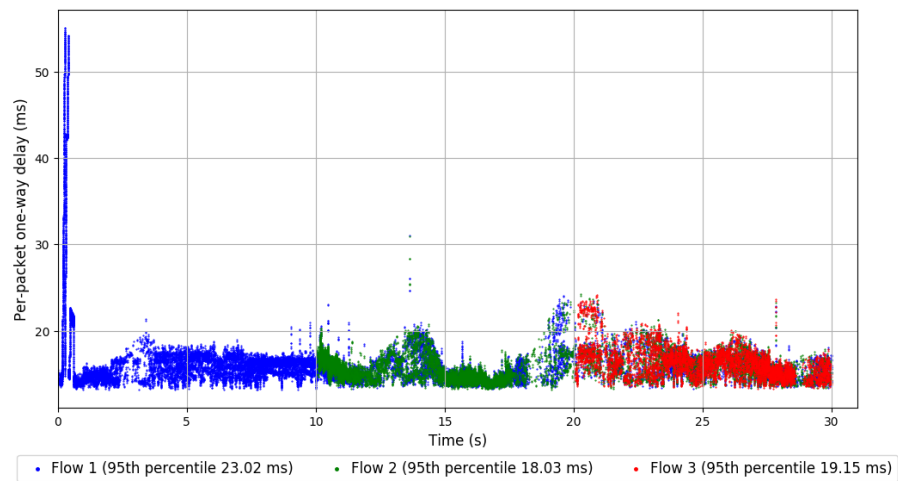
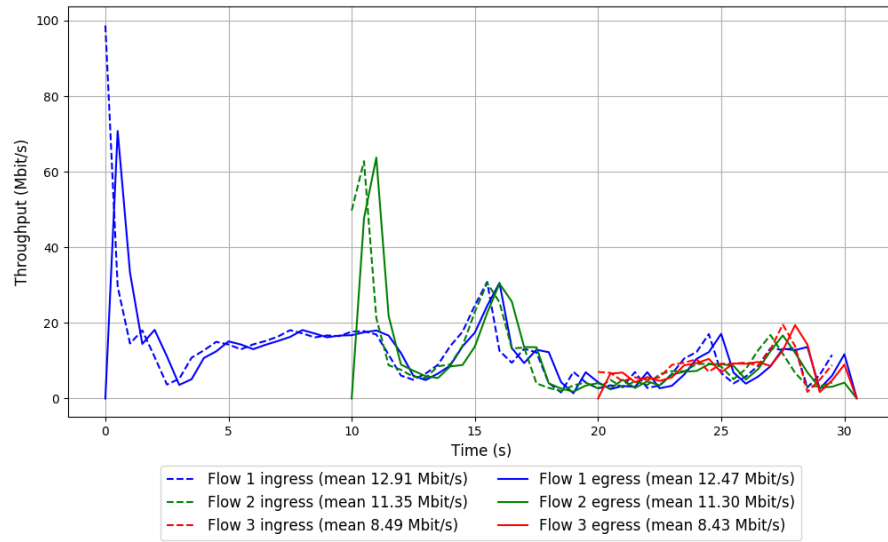


Run 5: Statistics of TCP Vegas

Start at: 2019-03-09 04:17:40  
End at: 2019-03-09 04:18:10  
Local clock offset: -1.986 ms  
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2019-03-09 04:33:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 22.80 Mbit/s  
95th percentile per-packet one-way delay: 21.147 ms  
Loss rate: 2.10%  
-- Flow 1:  
Average throughput: 12.47 Mbit/s  
95th percentile per-packet one-way delay: 23.019 ms  
Loss rate: 3.35%  
-- Flow 2:  
Average throughput: 11.30 Mbit/s  
95th percentile per-packet one-way delay: 18.027 ms  
Loss rate: 0.48%  
-- Flow 3:  
Average throughput: 8.43 Mbit/s  
95th percentile per-packet one-way delay: 19.151 ms  
Loss rate: 0.71%

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



Run 1: Statistics of Verus

Start at: 2019-03-09 02:19:42

End at: 2019-03-09 02:20:12

Local clock offset: -2.687 ms

Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-03-09 04:34:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 61.78 Mbit/s

95th percentile per-packet one-way delay: 44.531 ms

Loss rate: 40.38%

-- Flow 1:

Average throughput: 42.61 Mbit/s

95th percentile per-packet one-way delay: 40.987 ms

Loss rate: 26.06%

-- Flow 2:

Average throughput: 23.13 Mbit/s

95th percentile per-packet one-way delay: 49.085 ms

Loss rate: 59.10%

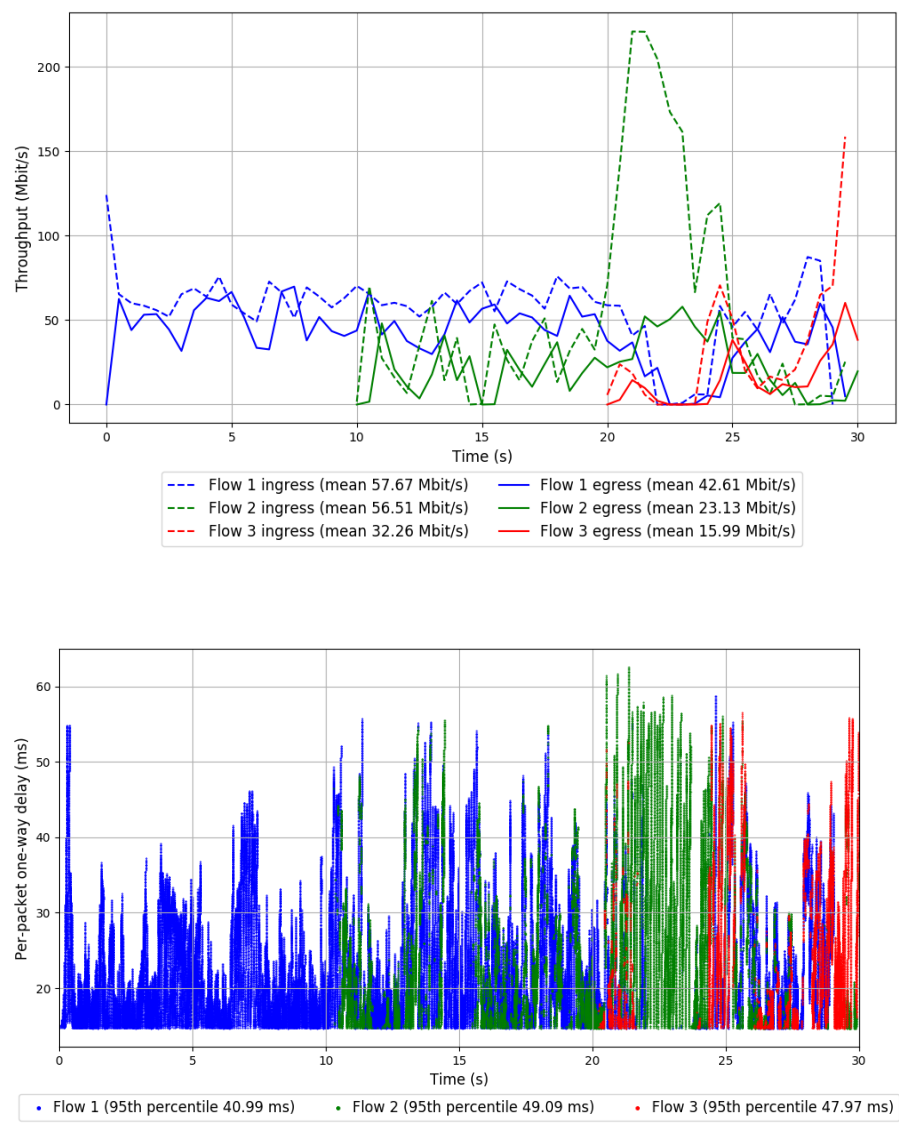
-- Flow 3:

Average throughput: 15.99 Mbit/s

95th percentile per-packet one-way delay: 47.967 ms

Loss rate: 50.26%

Run 1: Report of Verus — Data Link

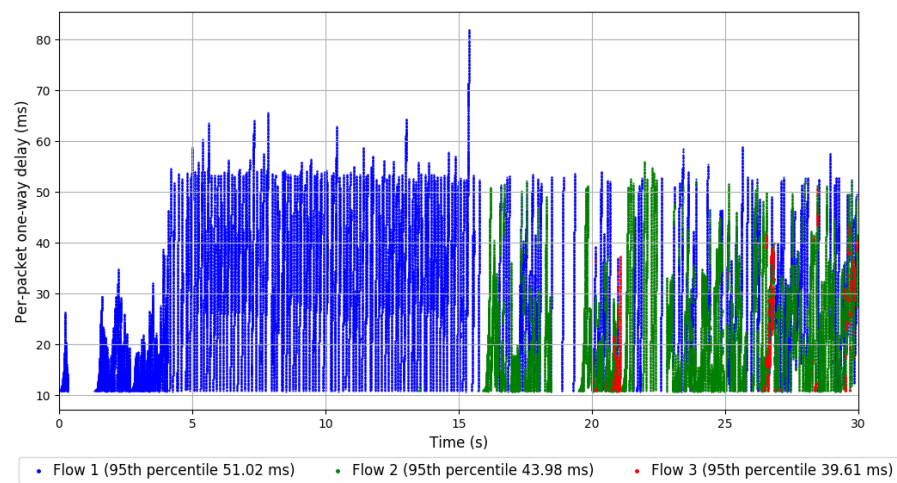
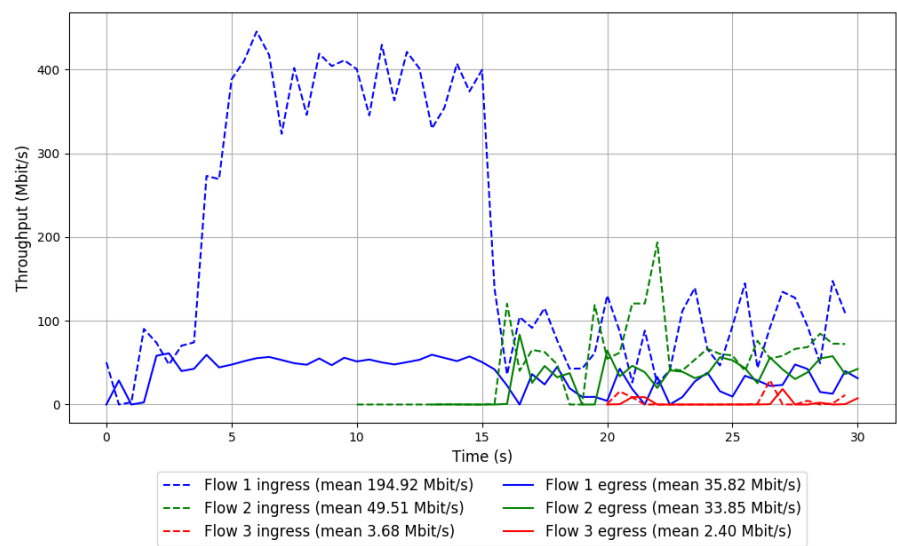


Run 2: Statistics of Verus

Start at: 2019-03-09 02:44:18  
End at: 2019-03-09 02:44:48  
Local clock offset: -3.05 ms  
Remote clock offset: -3.219 ms

# Below is generated by plot.py at 2019-03-09 04:34:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 55.18 Mbit/s  
95th percentile per-packet one-way delay: 49.601 ms  
Loss rate: 75.78%  
-- Flow 1:  
Average throughput: 35.82 Mbit/s  
95th percentile per-packet one-way delay: 51.022 ms  
Loss rate: 81.60%  
-- Flow 2:  
Average throughput: 33.85 Mbit/s  
95th percentile per-packet one-way delay: 43.981 ms  
Loss rate: 42.11%  
-- Flow 3:  
Average throughput: 2.40 Mbit/s  
95th percentile per-packet one-way delay: 39.608 ms  
Loss rate: 34.83%

Run 2: Report of Verus — Data Link



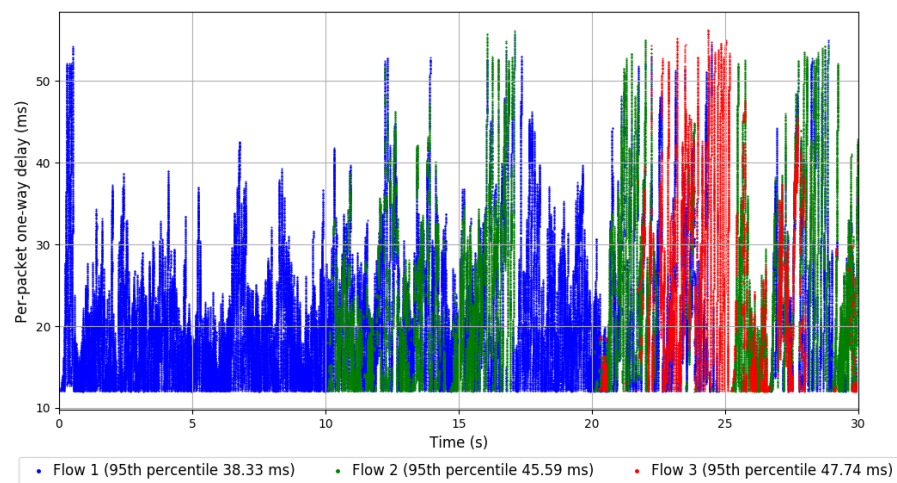
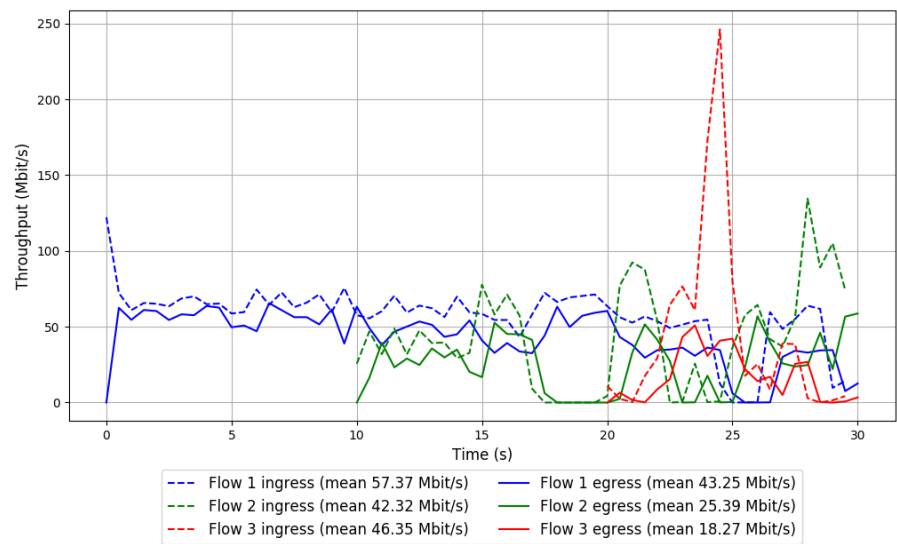


Run 3: Statistics of Verus

Start at: 2019-03-09 03:09:14  
End at: 2019-03-09 03:09:44  
Local clock offset: -1.072 ms  
Remote clock offset: 0.633 ms

# Below is generated by plot.py at 2019-03-09 04:34:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 66.07 Mbit/s  
95th percentile per-packet one-way delay: 42.133 ms  
Loss rate: 34.23%  
-- Flow 1:  
Average throughput: 43.25 Mbit/s  
95th percentile per-packet one-way delay: 38.334 ms  
Loss rate: 24.55%  
-- Flow 2:  
Average throughput: 25.39 Mbit/s  
95th percentile per-packet one-way delay: 45.590 ms  
Loss rate: 39.94%  
-- Flow 3:  
Average throughput: 18.27 Mbit/s  
95th percentile per-packet one-way delay: 47.738 ms  
Loss rate: 60.51%

Run 3: Report of Verus — Data Link

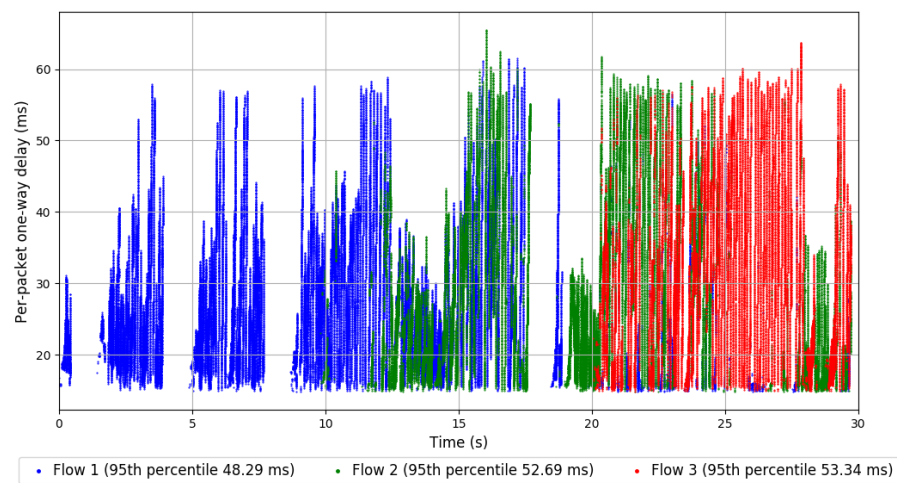
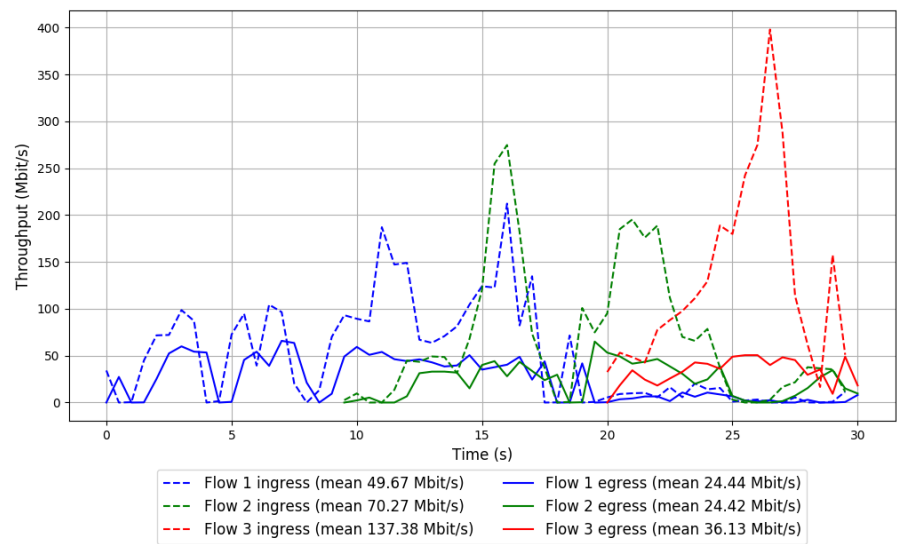


Run 4: Statistics of Verus

Start at: 2019-03-09 03:34:51  
End at: 2019-03-09 03:35:21  
Local clock offset: -4.274 ms  
Remote clock offset: 1.652 ms

# Below is generated by plot.py at 2019-03-09 04:34:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 52.50 Mbit/s  
95th percentile per-packet one-way delay: 51.557 ms  
Loss rate: 62.85%  
-- Flow 1:  
Average throughput: 24.44 Mbit/s  
95th percentile per-packet one-way delay: 48.289 ms  
Loss rate: 50.84%  
-- Flow 2:  
Average throughput: 24.42 Mbit/s  
95th percentile per-packet one-way delay: 52.691 ms  
Loss rate: 65.25%  
-- Flow 3:  
Average throughput: 36.13 Mbit/s  
95th percentile per-packet one-way delay: 53.335 ms  
Loss rate: 73.66%

Run 4: Report of Verus — Data Link

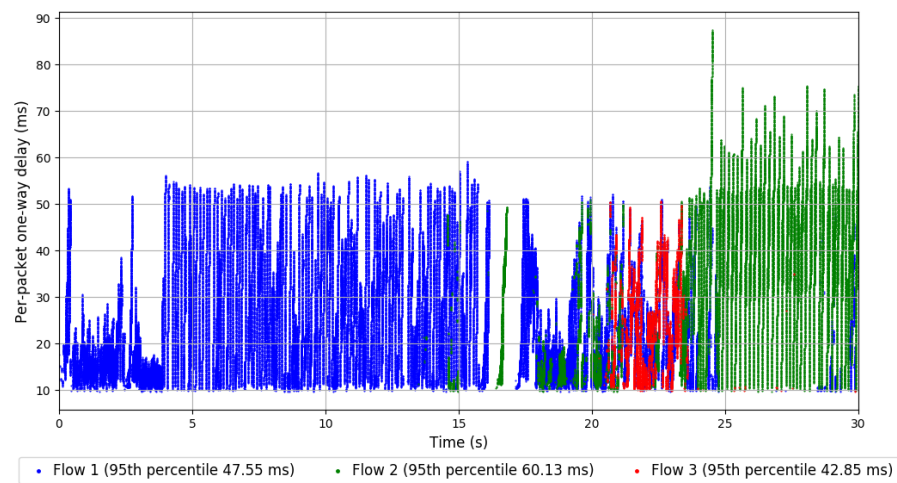
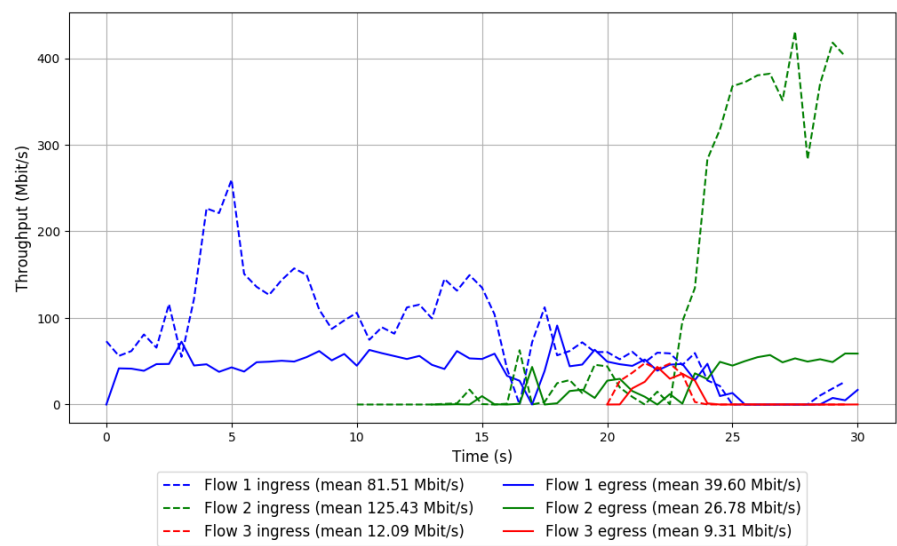


Run 5: Statistics of Verus

Start at: 2019-03-09 04:00:27  
End at: 2019-03-09 04:00:57  
Local clock offset: -0.486 ms  
Remote clock offset: -0.534 ms

# Below is generated by plot.py at 2019-03-09 04:34:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 57.25 Mbit/s  
95th percentile per-packet one-way delay: 50.875 ms  
Loss rate: 65.62%  
-- Flow 1:  
Average throughput: 39.60 Mbit/s  
95th percentile per-packet one-way delay: 47.553 ms  
Loss rate: 51.41%  
-- Flow 2:  
Average throughput: 26.78 Mbit/s  
95th percentile per-packet one-way delay: 60.127 ms  
Loss rate: 81.88%  
-- Flow 3:  
Average throughput: 9.31 Mbit/s  
95th percentile per-packet one-way delay: 42.852 ms  
Loss rate: 23.31%

Run 5: Report of Verus — Data Link

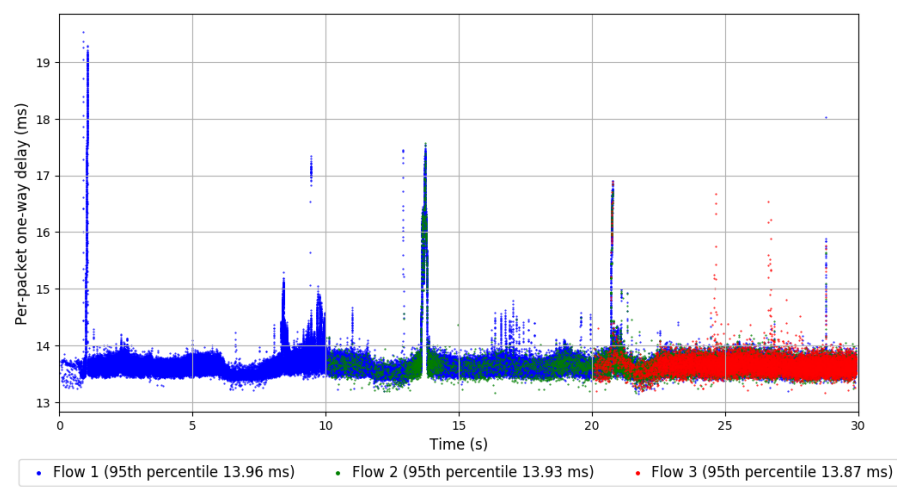
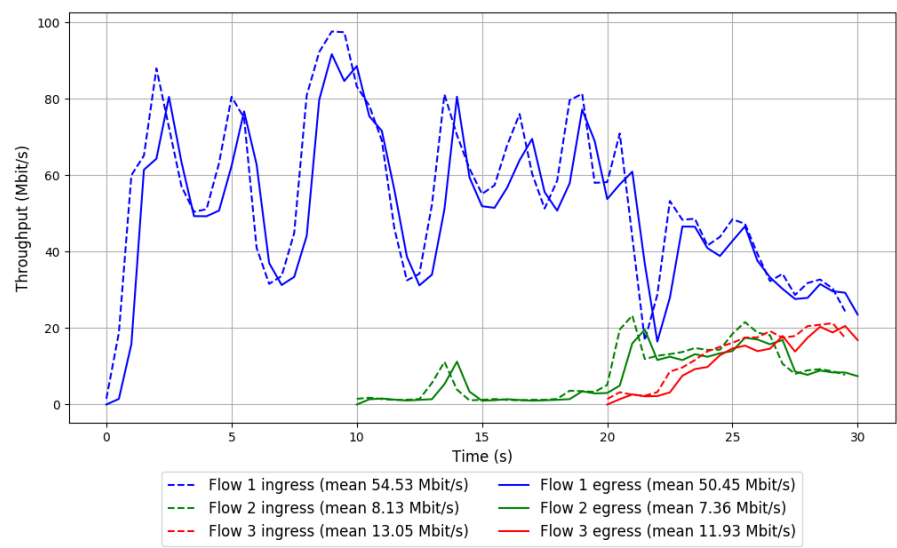


Run 1: Statistics of PCC-Vivace

Start at: 2019-03-09 02:26:49  
End at: 2019-03-09 02:27:19  
Local clock offset: -2.536 ms  
Remote clock offset: -0.498 ms

# Below is generated by plot.py at 2019-03-09 04:34:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 59.29 Mbit/s  
95th percentile per-packet one-way delay: 13.943 ms  
Loss rate: 7.71%  
-- Flow 1:  
Average throughput: 50.45 Mbit/s  
95th percentile per-packet one-way delay: 13.957 ms  
Loss rate: 7.47%  
-- Flow 2:  
Average throughput: 7.36 Mbit/s  
95th percentile per-packet one-way delay: 13.933 ms  
Loss rate: 9.41%  
-- Flow 3:  
Average throughput: 11.93 Mbit/s  
95th percentile per-packet one-way delay: 13.874 ms  
Loss rate: 8.54%

Run 1: Report of PCC-Vivace — Data Link





Run 2: Statistics of PCC-Vivace

Start at: 2019-03-09 02:51:32

End at: 2019-03-09 02:52:02

Local clock offset: -3.082 ms

Remote clock offset: 1.118 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 39.47 Mbit/s

95th percentile per-packet one-way delay: 15.225 ms

Loss rate: 9.41%

-- Flow 1:

Average throughput: 25.74 Mbit/s

95th percentile per-packet one-way delay: 15.202 ms

Loss rate: 9.46%

-- Flow 2:

Average throughput: 17.92 Mbit/s

95th percentile per-packet one-way delay: 15.267 ms

Loss rate: 9.41%

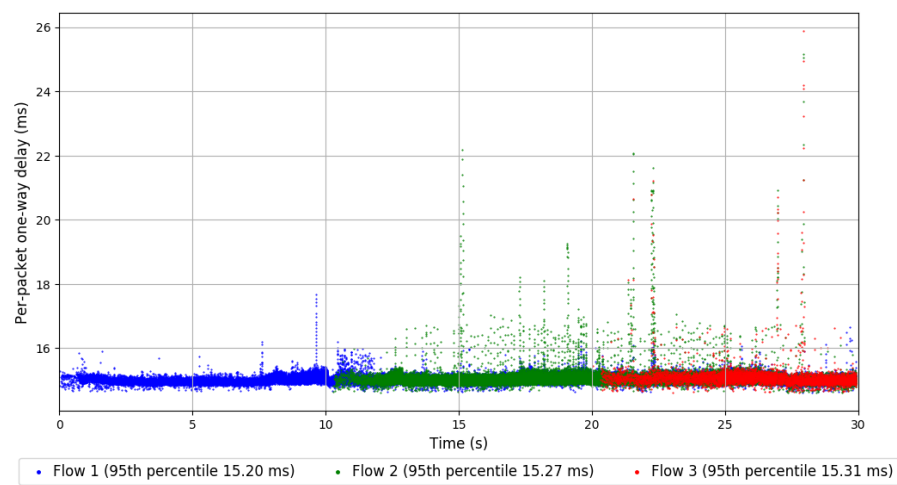
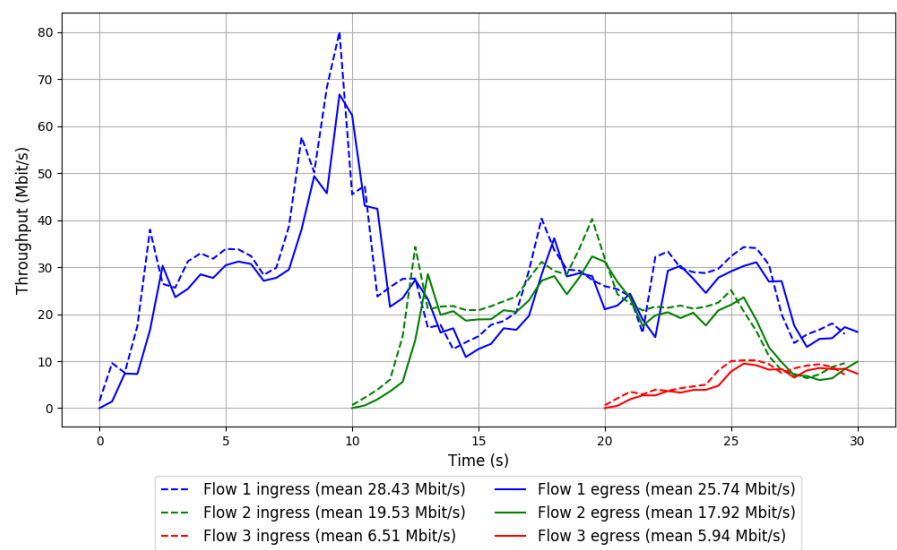
-- Flow 3:

Average throughput: 5.94 Mbit/s

95th percentile per-packet one-way delay: 15.311 ms

Loss rate: 8.77%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-09 03:16:42

End at: 2019-03-09 03:17:12

Local clock offset: -3.316 ms

Remote clock offset: 1.143 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 13.44 Mbit/s

95th percentile per-packet one-way delay: 14.540 ms

Loss rate: 11.13%

-- Flow 1:

Average throughput: 4.37 Mbit/s

95th percentile per-packet one-way delay: 14.548 ms

Loss rate: 11.81%

-- Flow 2:

Average throughput: 11.69 Mbit/s

95th percentile per-packet one-way delay: 14.533 ms

Loss rate: 10.66%

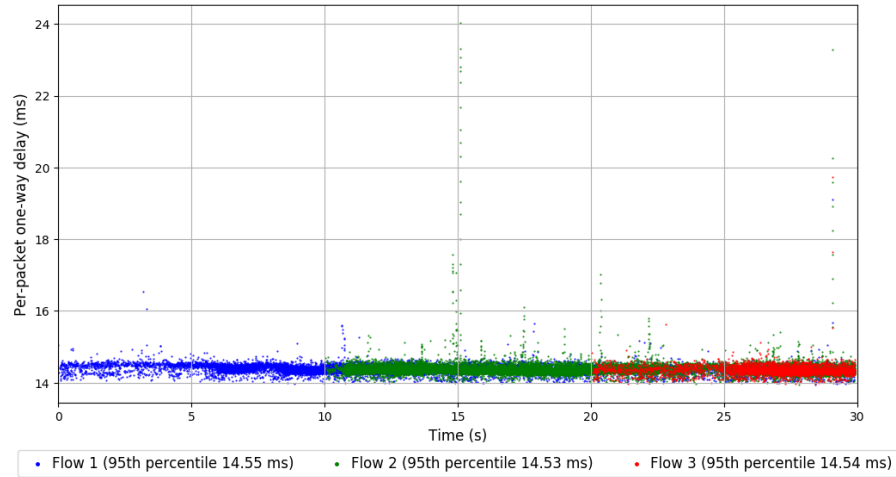
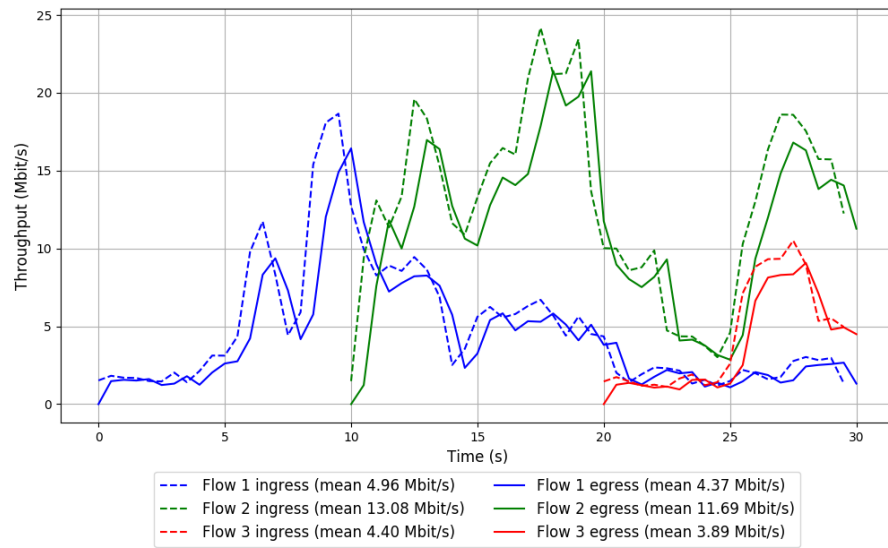
-- Flow 3:

Average throughput: 3.89 Mbit/s

95th percentile per-packet one-way delay: 14.543 ms

Loss rate: 11.59%

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



Run 4: Statistics of PCC-Vivace

Start at: 2019-03-09 03:42:06

End at: 2019-03-09 03:42:36

Local clock offset: -1.455 ms

Remote clock offset: 1.55 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 4.30 Mbit/s

95th percentile per-packet one-way delay: 20.579 ms

Loss rate: 3.17%

-- Flow 1:

Average throughput: 2.48 Mbit/s

95th percentile per-packet one-way delay: 20.616 ms

Loss rate: 3.60%

-- Flow 2:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 20.604 ms

Loss rate: 2.69%

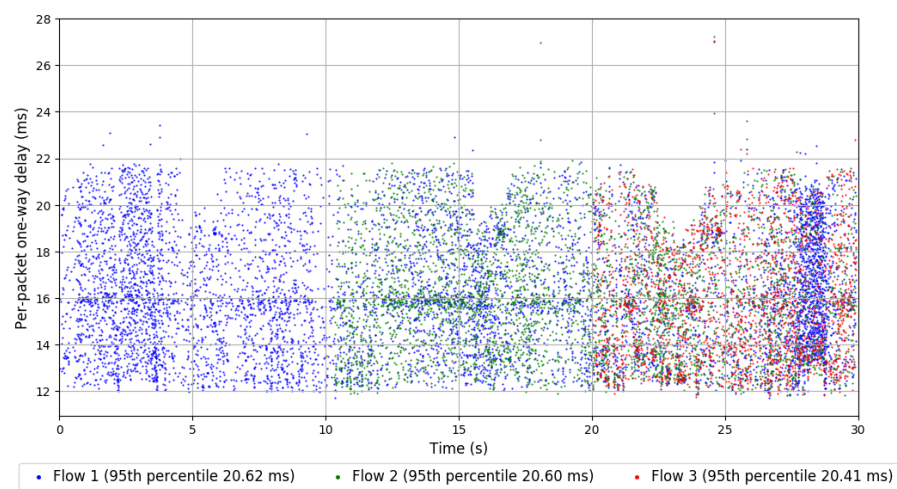
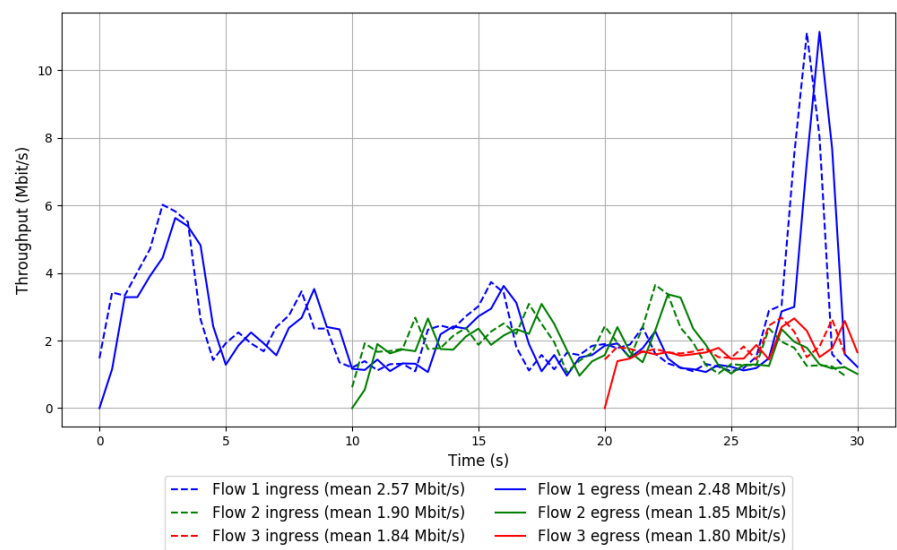
-- Flow 3:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 20.405 ms

Loss rate: 2.38%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-09 04:08:10

End at: 2019-03-09 04:08:40

Local clock offset: -1.014 ms

Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 33.86 Mbit/s

95th percentile per-packet one-way delay: 18.031 ms

Loss rate: 4.11%

-- Flow 1:

Average throughput: 7.48 Mbit/s

95th percentile per-packet one-way delay: 19.254 ms

Loss rate: 4.41%

-- Flow 2:

Average throughput: 28.41 Mbit/s

95th percentile per-packet one-way delay: 15.611 ms

Loss rate: 3.63%

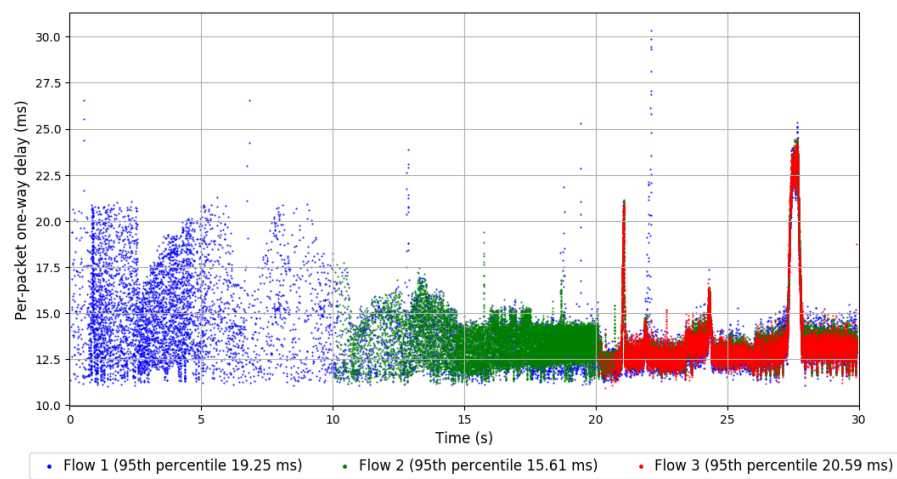
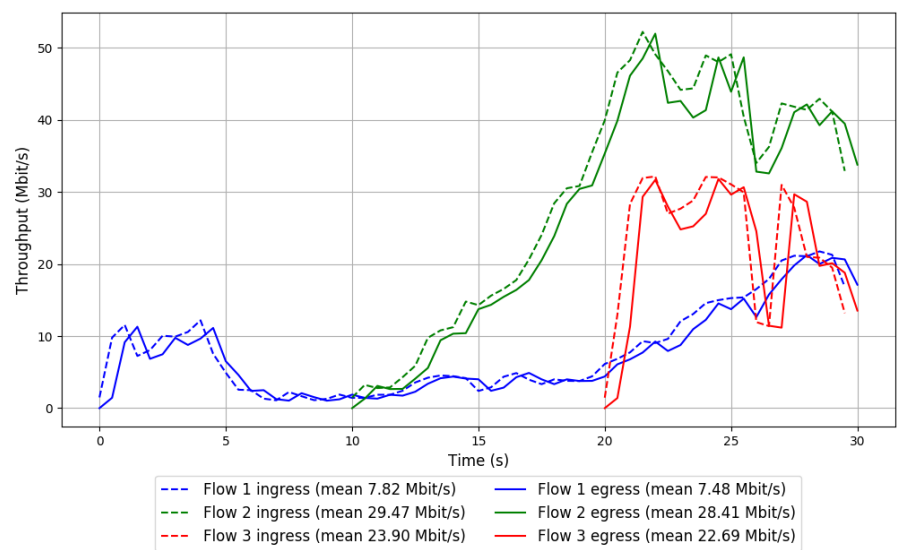
-- Flow 3:

Average throughput: 22.69 Mbit/s

95th percentile per-packet one-way delay: 20.590 ms

Loss rate: 5.01%

Run 5: Report of PCC-Vivace — Data Link





Run 1: Statistics of WebRTC media

Start at: 2019-03-09 02:30:17

End at: 2019-03-09 02:30:47

Local clock offset: -0.65 ms

Remote clock offset: 0.209 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 13.074 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.914 ms

Loss rate: 0.80%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.922 ms

Loss rate: 0.00%

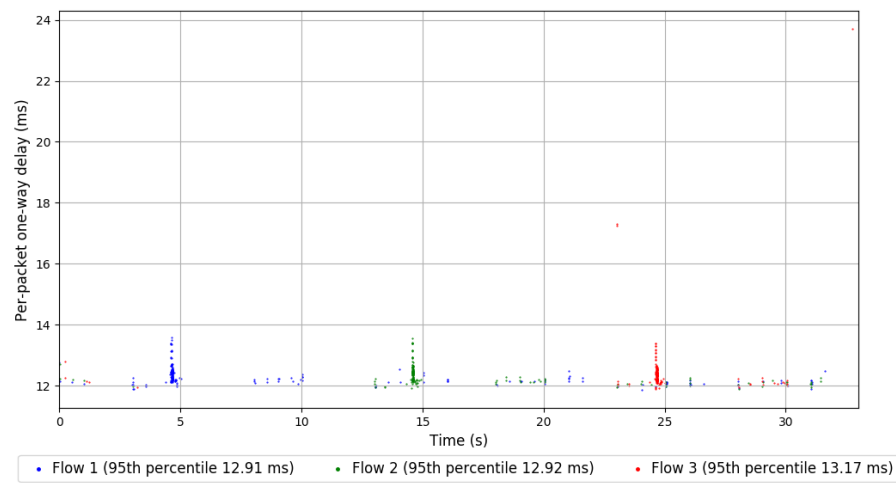
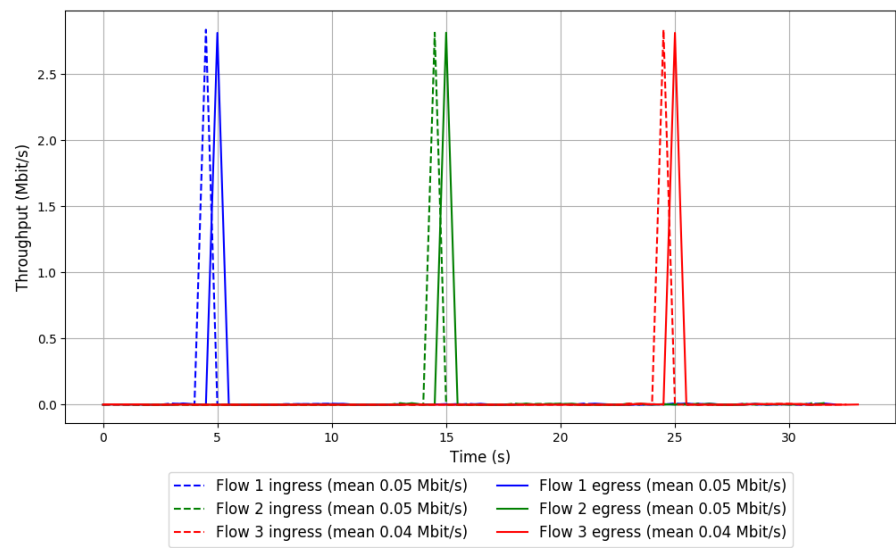
-- Flow 3:

Average throughput: 0.04 Mbit/s

95th percentile per-packet one-way delay: 13.170 ms

Loss rate: 0.89%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-09 02:55:01

End at: 2019-03-09 02:55:31

Local clock offset: -2.29 ms

Remote clock offset: -1.4 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 12.278 ms

Loss rate: 4.66%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.429 ms

Loss rate: 7.15%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.244 ms

Loss rate: 1.91%

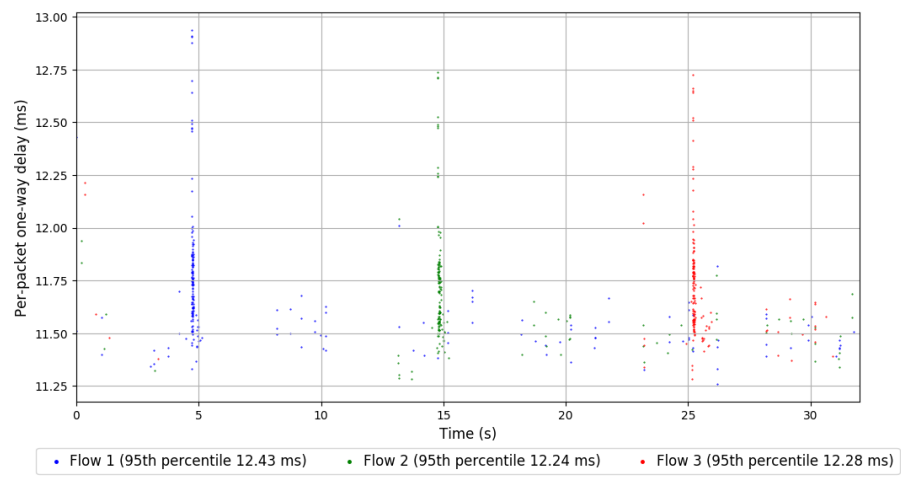
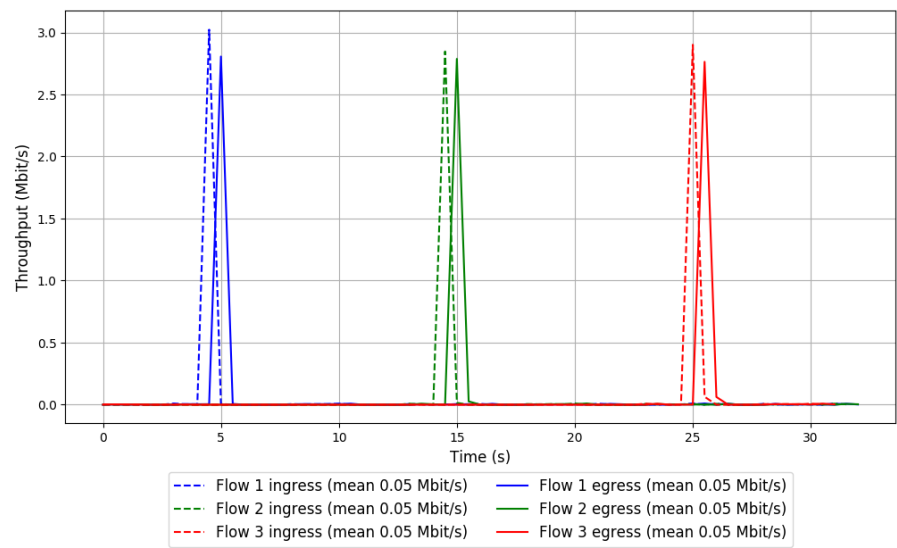
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.278 ms

Loss rate: 4.74%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-03-09 03:20:14

End at: 2019-03-09 03:20:44

Local clock offset: -1.221 ms

Remote clock offset: 1.406 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 12.780 ms

Loss rate: 6.24%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.668 ms

Loss rate: 1.23%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 12.619 ms

Loss rate: 15.14%

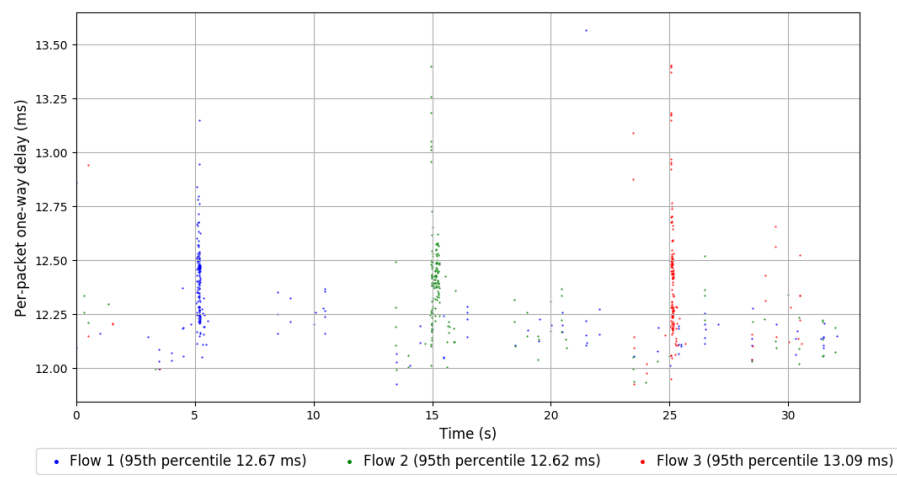
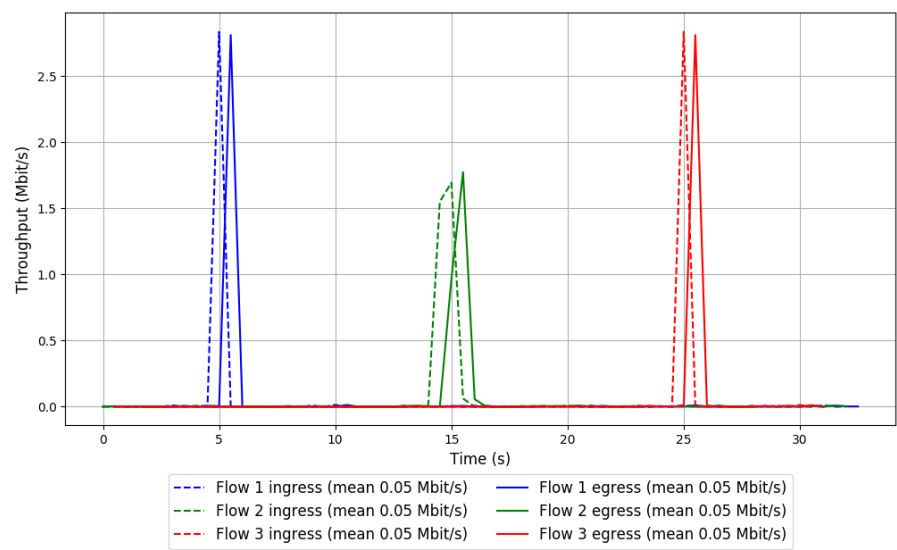
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 13.087 ms

Loss rate: 0.93%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-03-09 03:45:33

End at: 2019-03-09 03:46:03

Local clock offset: -2.54 ms

Remote clock offset: 0.647 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 20.804 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 19.254 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 18.522 ms

Loss rate: 0.00%

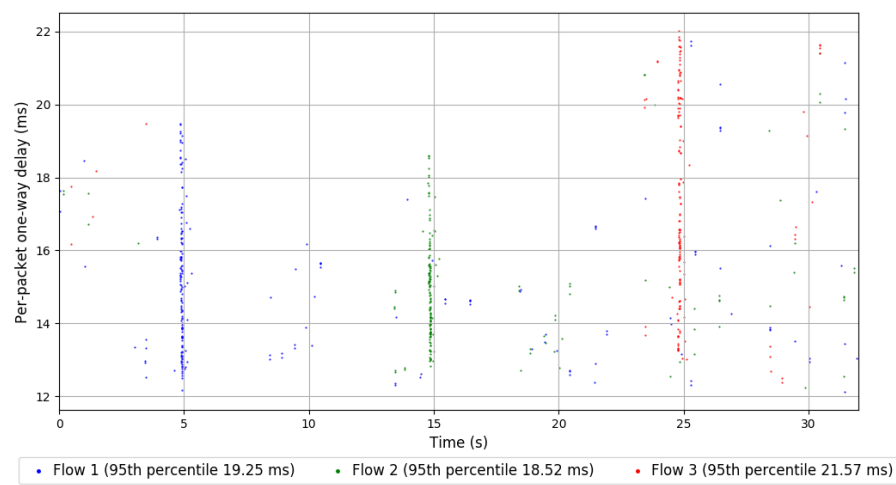
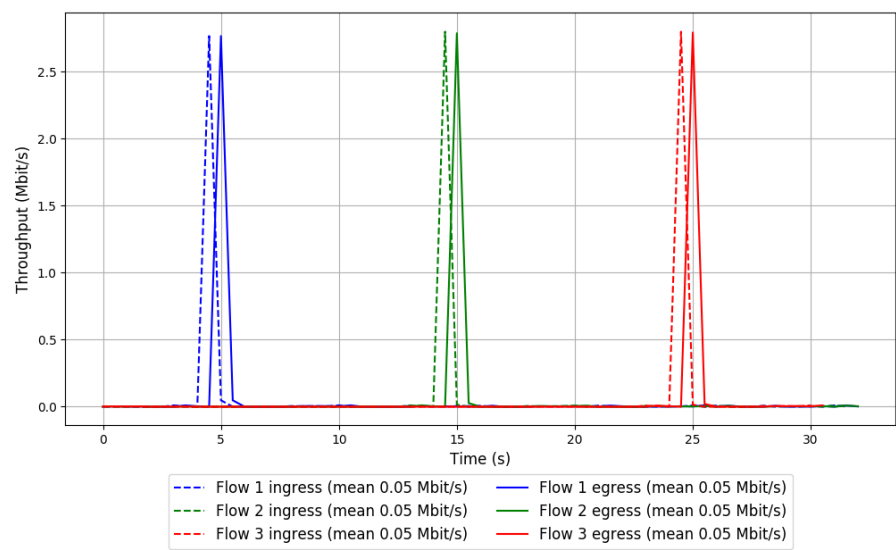
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 21.575 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-03-09 04:11:41

End at: 2019-03-09 04:12:11

Local clock offset: -2.376 ms

Remote clock offset: 0.511 ms

# Below is generated by plot.py at 2019-03-09 04:34:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 19.642 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 18.134 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 18.365 ms

Loss rate: 0.05%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 21.125 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

