

## Pantheon Report

Generated at 2019-03-09 15:20:54 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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

### System info:

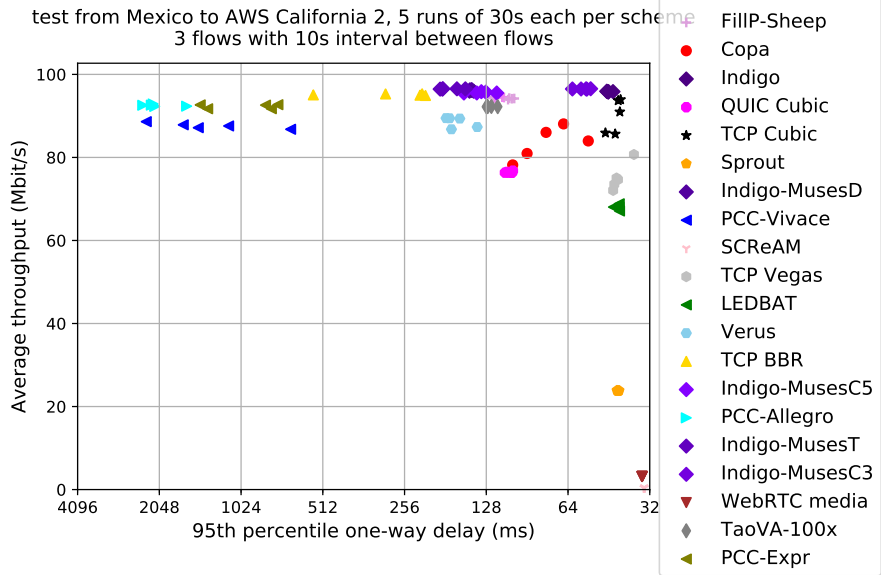
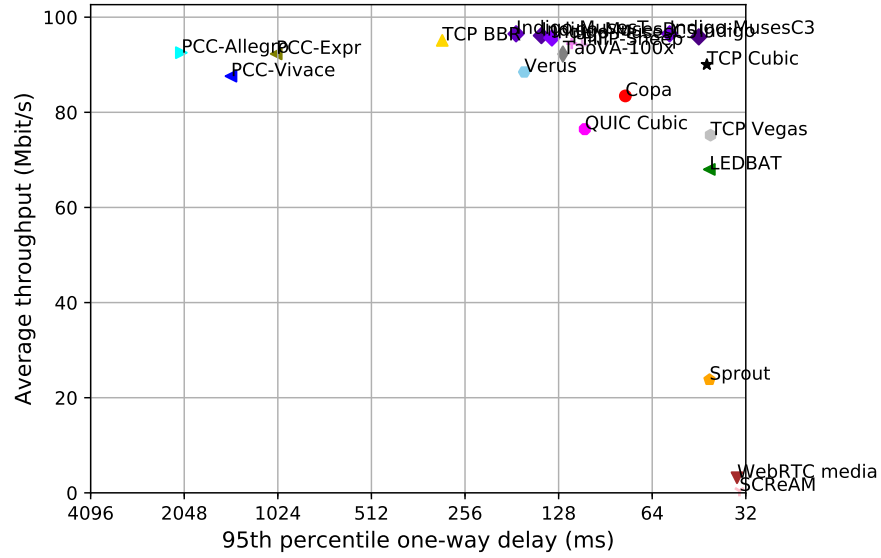
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 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 Mexico to AWS California 2, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	60.00	38.19	29.34	161.55	184.08	497.48	0.86	1.55	3.86
Copa	5	51.04	33.93	29.61	95.62	50.49	57.71	0.14	0.32	0.61
TCP Cubic	5	51.72	41.44	32.43	44.97	40.84	48.85	0.19	0.33	0.65
FillP	5	55.79	43.66	28.98	102.41	120.32	117.64	0.43	3.16	3.35
FillP-Sheep	5	56.18	37.23	39.95	106.28	117.55	82.45	0.36	0.61	0.91
Indigo	5	58.45	41.61	29.82	46.62	44.69	43.57	0.19	0.32	0.77
Indigo-MusesC3	5	61.41	40.31	29.76	51.94	59.99	75.89	0.21	0.52	1.32
Indigo-MusesC5	5	58.20	45.11	27.48	113.92	116.40	149.54	1.26	2.23	6.62
Indigo-MusesD	5	62.38	36.54	33.42	145.61	131.15	92.74	5.70	12.60	2.75
Indigo-MusesT	5	60.33	42.05	30.00	126.36	207.84	199.60	1.84	5.30	6.87
LEDBAT	5	40.41	30.78	21.44	41.60	43.54	40.52	0.18	0.32	1.00
PCC-Allegro	5	57.26	39.94	26.57	2148.55	1108.88	559.24	14.09	9.18	6.25
PCC-Expr	5	58.07	38.45	26.32	956.15	836.42	187.05	30.23	12.96	1.86
QUIC Cubic	5	43.21	37.10	26.04	92.97	123.68	132.06	0.21	0.42	1.07
SCReAM	5	0.21	0.21	0.22	33.56	33.55	33.50	0.23	0.40	0.71
Sprout	5	12.00	11.97	11.66	41.66	42.02	42.14	0.21	0.33	0.85
TaoVA-100x	5	56.14	37.78	33.06	116.91	128.12	137.94	0.64	1.45	2.58
TCP Vegas	5	39.02	37.79	33.28	49.56	36.41	47.63	0.24	0.29	0.84
Verus	5	53.86	38.55	27.09	147.07	137.67	311.75	0.25	0.50	1.97
PCC-Vivace	5	53.88	38.63	24.40	1110.87	738.80	96.84	3.15	4.79	1.06
WebRTC media	5	1.75	1.00	0.43	34.11	34.14	34.25	0.14	0.21	0.65

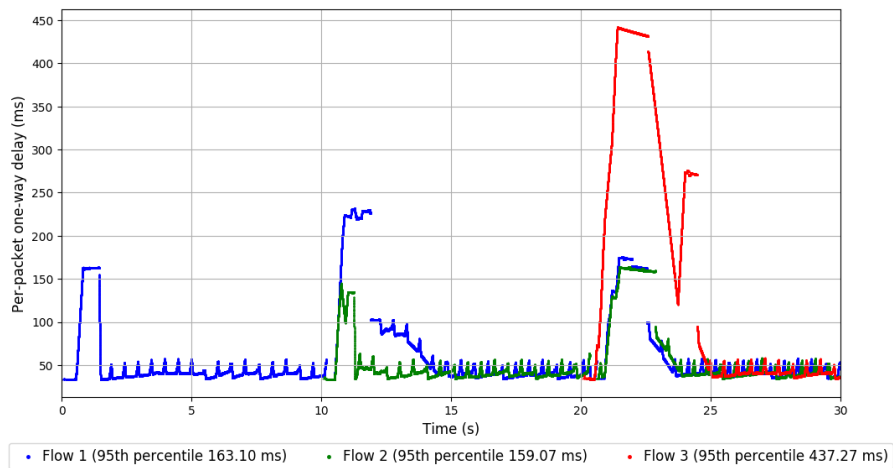
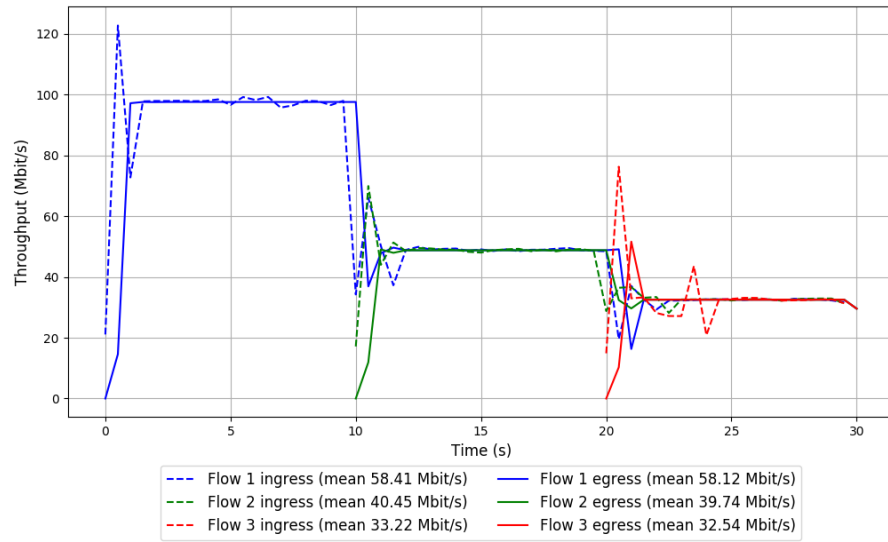


Run 1: Statistics of TCP BBR

Start at: 2019-03-09 13:08:06  
End at: 2019-03-09 13:08:36  
Local clock offset: 0.338 ms  
Remote clock offset: -4.137 ms

# Below is generated by plot.py at 2019-03-09 15:07:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.32 Mbit/s  
95th percentile per-packet one-way delay: 220.550 ms  
Loss rate: 1.31%  
-- Flow 1:  
Average throughput: 58.12 Mbit/s  
95th percentile per-packet one-way delay: 163.101 ms  
Loss rate: 0.70%  
-- Flow 2:  
Average throughput: 39.74 Mbit/s  
95th percentile per-packet one-way delay: 159.067 ms  
Loss rate: 2.07%  
-- Flow 3:  
Average throughput: 32.54 Mbit/s  
95th percentile per-packet one-way delay: 437.267 ms  
Loss rate: 2.68%

# Run 1: Report of TCP BBR — Data Link

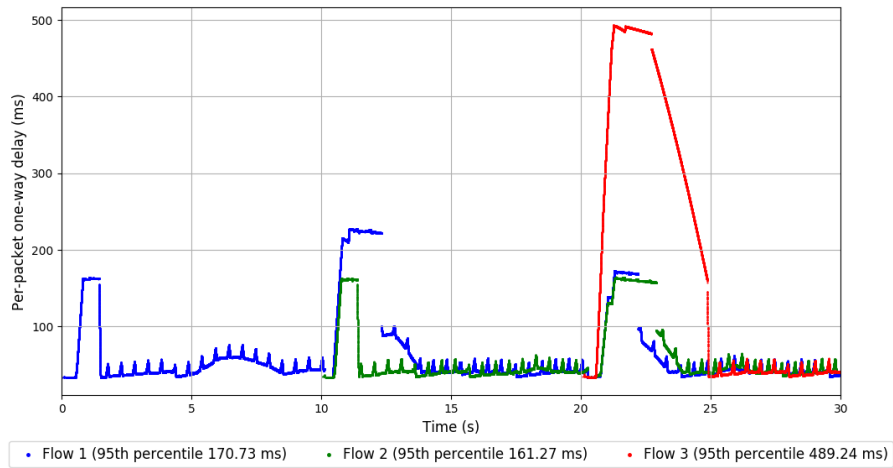
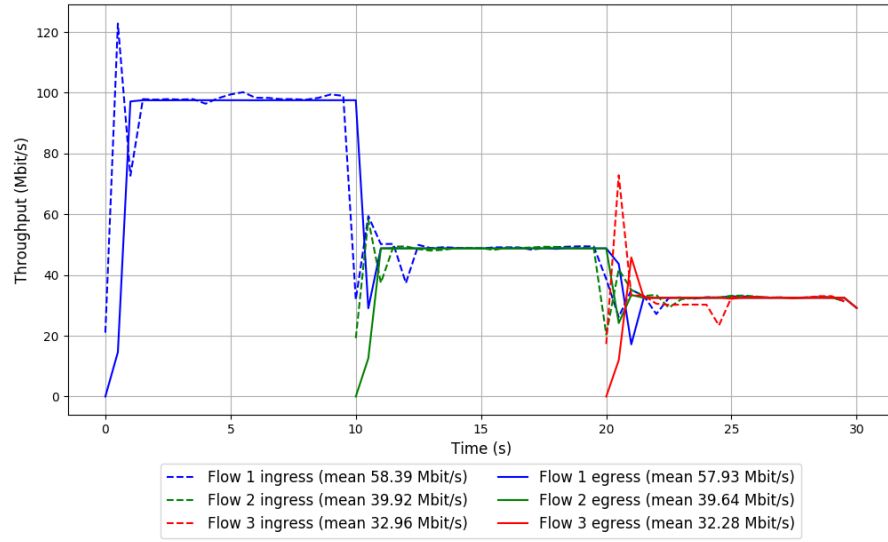


Run 2: Statistics of TCP BBR

Start at: 2019-03-09 13:34:02  
End at: 2019-03-09 13:34:32  
Local clock offset: 0.27 ms  
Remote clock offset: -2.395 ms

# Below is generated by plot.py at 2019-03-09 15:07:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.00 Mbit/s  
95th percentile per-packet one-way delay: 224.529 ms  
Loss rate: 1.20%  
-- Flow 1:  
Average throughput: 57.93 Mbit/s  
95th percentile per-packet one-way delay: 170.733 ms  
Loss rate: 1.00%  
-- Flow 2:  
Average throughput: 39.64 Mbit/s  
95th percentile per-packet one-way delay: 161.266 ms  
Loss rate: 1.01%  
-- Flow 3:  
Average throughput: 32.28 Mbit/s  
95th percentile per-packet one-way delay: 489.237 ms  
Loss rate: 2.71%

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

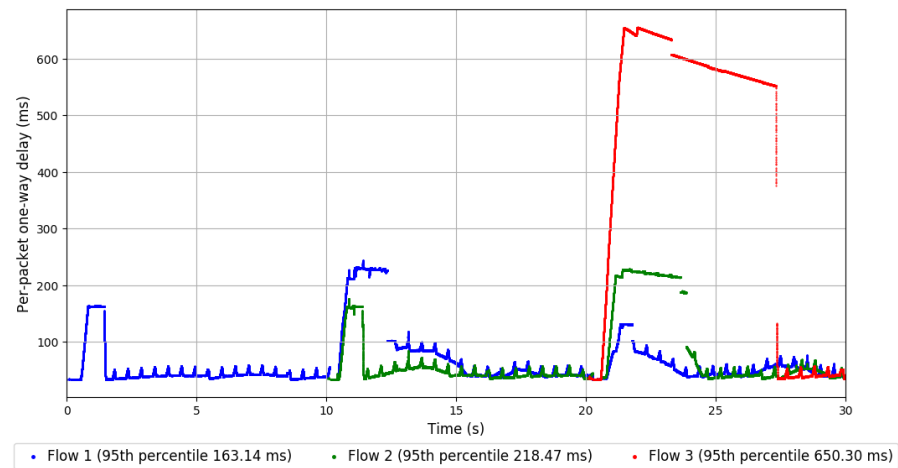
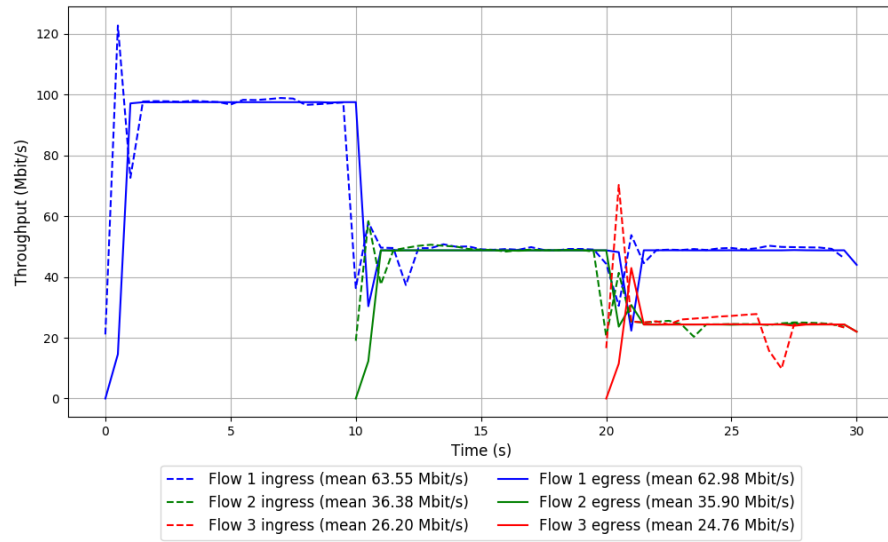


Run 3: Statistics of TCP BBR

Start at: 2019-03-09 13:59:42  
End at: 2019-03-09 14:00:12  
Local clock offset: 0.356 ms  
Remote clock offset: -0.686 ms

# Below is generated by plot.py at 2019-03-09 15:07:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.07 Mbit/s  
95th percentile per-packet one-way delay: 554.867 ms  
Loss rate: 1.70%  
-- Flow 1:  
Average throughput: 62.98 Mbit/s  
95th percentile per-packet one-way delay: 163.138 ms  
Loss rate: 1.11%  
-- Flow 2:  
Average throughput: 35.90 Mbit/s  
95th percentile per-packet one-way delay: 218.467 ms  
Loss rate: 1.63%  
-- Flow 3:  
Average throughput: 24.76 Mbit/s  
95th percentile per-packet one-way delay: 650.298 ms  
Loss rate: 6.12%

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



Run 4: Statistics of TCP BBR

Start at: 2019-03-09 14:25:26

End at: 2019-03-09 14:25:56

Local clock offset: 0.423 ms

Remote clock offset: 0.071 ms

# Below is generated by plot.py at 2019-03-09 15:07:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.30 Mbit/s

95th percentile per-packet one-way delay: 300.710 ms

Loss rate: 1.39%

-- Flow 1:

Average throughput: 58.05 Mbit/s

95th percentile per-packet one-way delay: 161.628 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 39.76 Mbit/s

95th percentile per-packet one-way delay: 163.314 ms

Loss rate: 1.80%

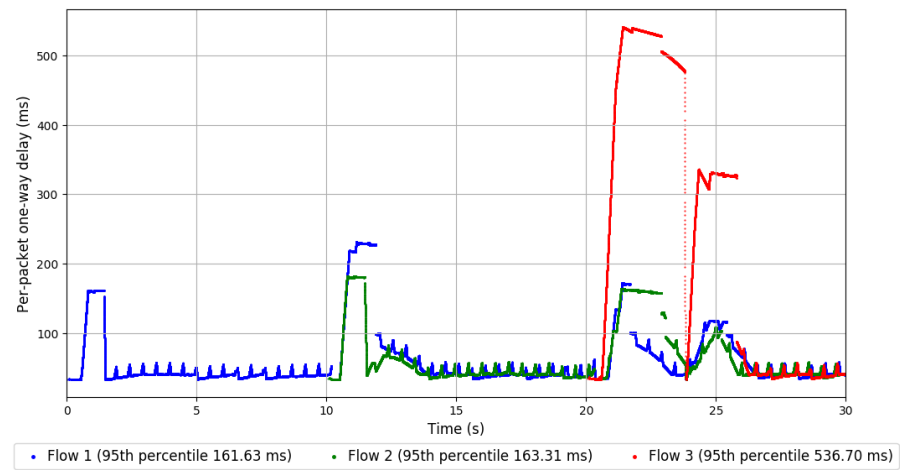
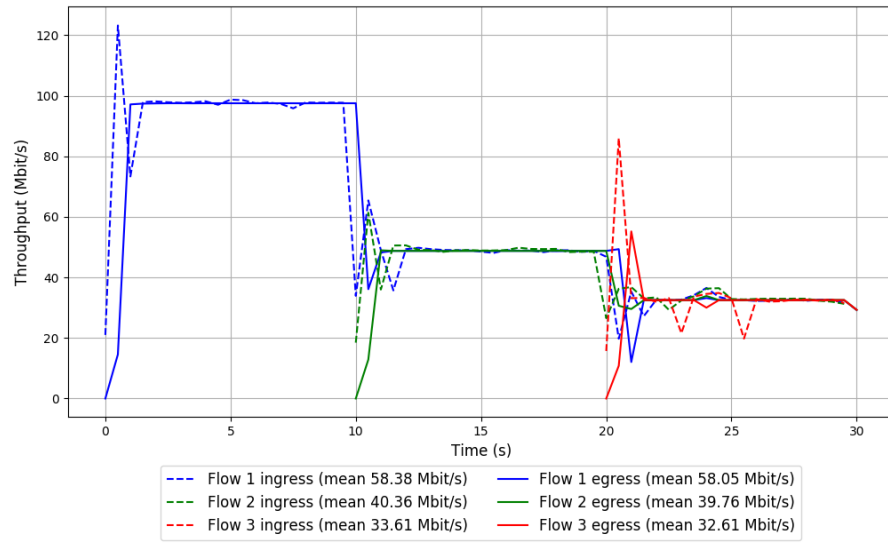
-- Flow 3:

Average throughput: 32.61 Mbit/s

95th percentile per-packet one-way delay: 536.695 ms

Loss rate: 3.59%

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





Run 5: Statistics of TCP BBR

Start at: 2019-03-09 14:51:41

End at: 2019-03-09 14:52:11

Local clock offset: 0.371 ms

Remote clock offset: 0.818 ms

# Below is generated by plot.py at 2019-03-09 15:07:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.93 Mbit/s

95th percentile per-packet one-way delay: 214.409 ms

Loss rate: 1.16%

-- Flow 1:

Average throughput: 62.93 Mbit/s

95th percentile per-packet one-way delay: 149.127 ms

Loss rate: 0.73%

-- Flow 2:

Average throughput: 35.89 Mbit/s

95th percentile per-packet one-way delay: 218.283 ms

Loss rate: 1.22%

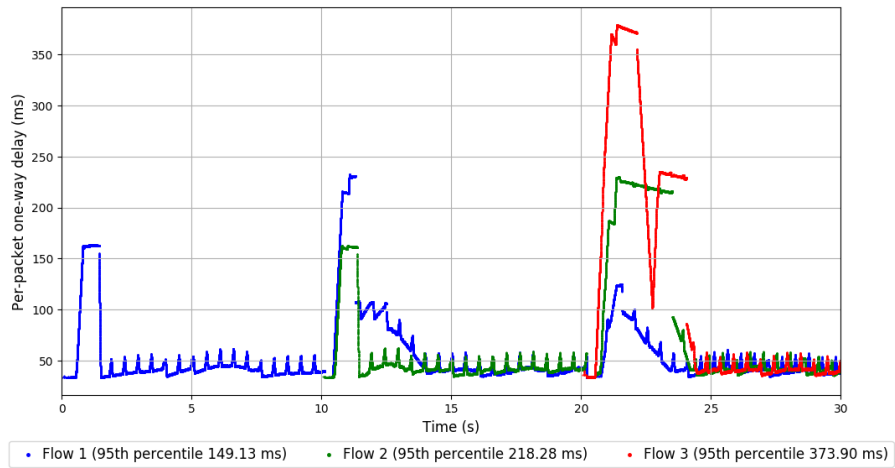
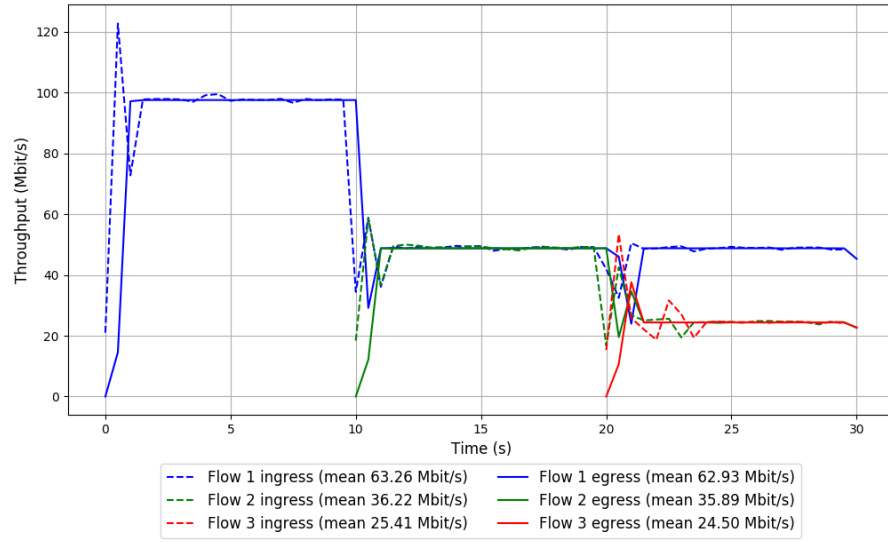
-- Flow 3:

Average throughput: 24.50 Mbit/s

95th percentile per-packet one-way delay: 373.897 ms

Loss rate: 4.20%

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

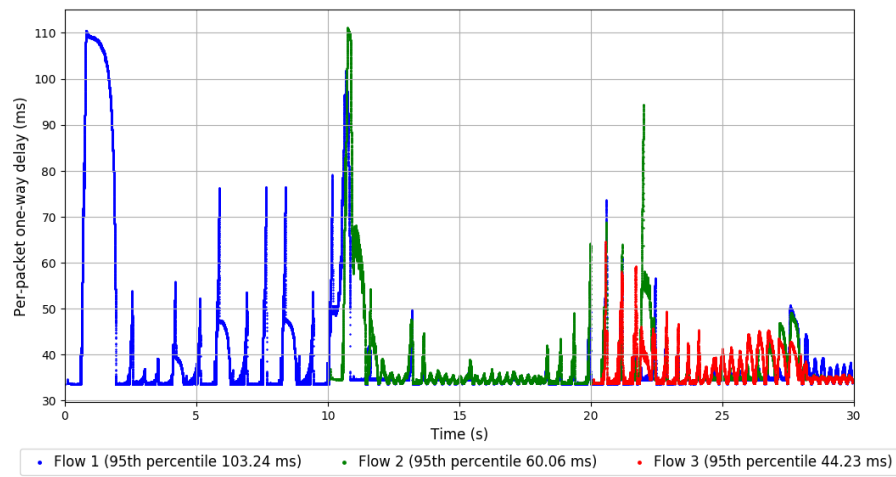
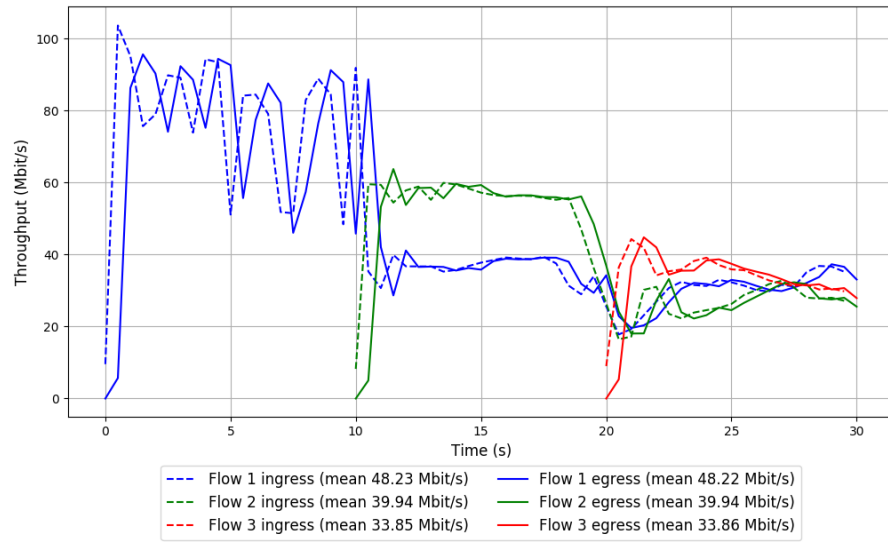


Run 1: Statistics of Copa

Start at: 2019-03-09 13:13:02  
End at: 2019-03-09 13:13:32  
Local clock offset: 0.324 ms  
Remote clock offset: -4.012 ms

# Below is generated by plot.py at 2019-03-09 15:07:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.04 Mbit/s  
95th percentile per-packet one-way delay: 77.104 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 48.22 Mbit/s  
95th percentile per-packet one-way delay: 103.240 ms  
Loss rate: 0.24%  
-- Flow 2:  
Average throughput: 39.94 Mbit/s  
95th percentile per-packet one-way delay: 60.062 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 33.86 Mbit/s  
95th percentile per-packet one-way delay: 44.233 ms  
Loss rate: 0.59%

# Run 1: Report of Copa — Data Link

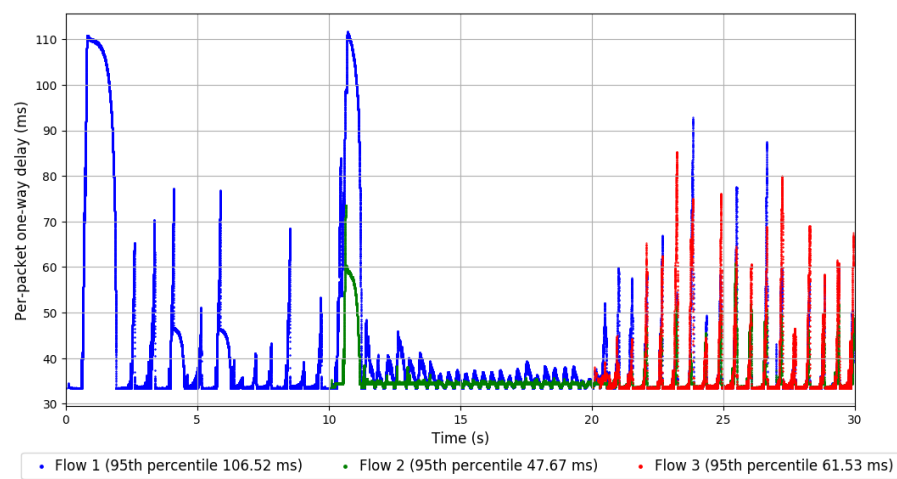
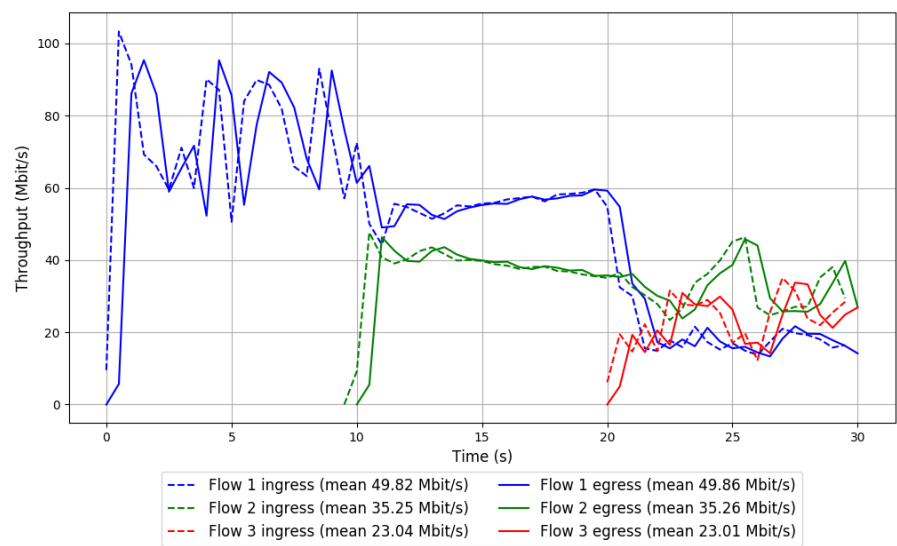


Run 2: Statistics of Copa

Start at: 2019-03-09 13:38:58  
End at: 2019-03-09 13:39:28  
Local clock offset: 0.264 ms  
Remote clock offset: -2.016 ms

# Below is generated by plot.py at 2019-03-09 15:07:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 80.95 Mbit/s  
95th percentile per-packet one-way delay: 90.566 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 49.86 Mbit/s  
95th percentile per-packet one-way delay: 106.516 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 35.26 Mbit/s  
95th percentile per-packet one-way delay: 47.667 ms  
Loss rate: 0.30%  
-- Flow 3:  
Average throughput: 23.01 Mbit/s  
95th percentile per-packet one-way delay: 61.528 ms  
Loss rate: 0.73%

Run 2: Report of Copa — Data Link

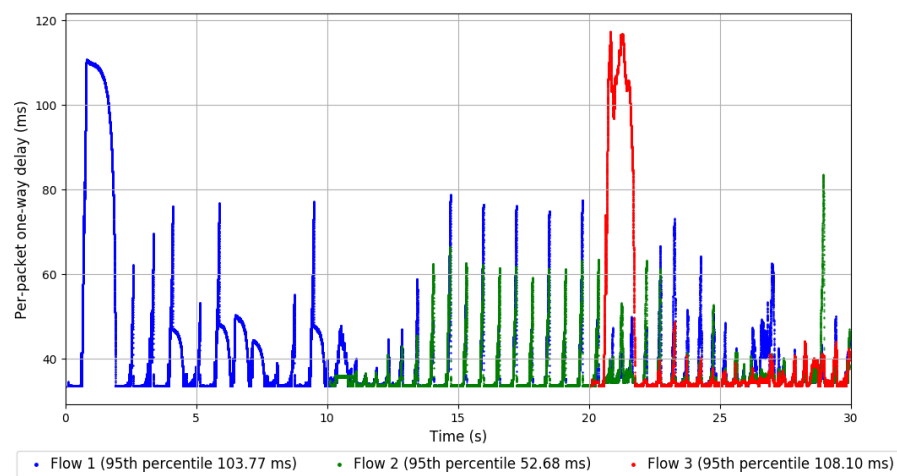
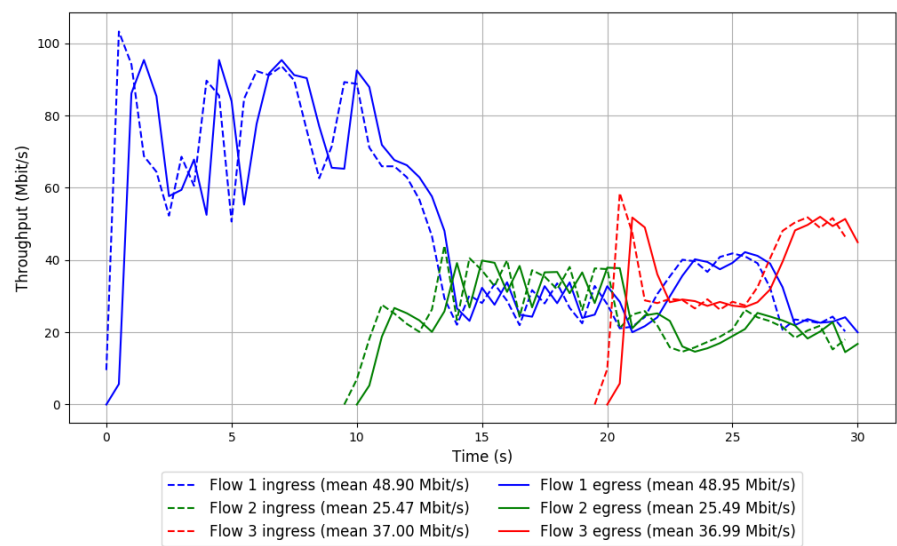


Run 3: Statistics of Copa

Start at: 2019-03-09 14:04:38  
End at: 2019-03-09 14:05:08  
Local clock offset: 0.365 ms  
Remote clock offset: -0.481 ms

# Below is generated by plot.py at 2019-03-09 15:07:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 78.20 Mbit/s  
95th percentile per-packet one-way delay: 102.328 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 48.95 Mbit/s  
95th percentile per-packet one-way delay: 103.765 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 25.49 Mbit/s  
95th percentile per-packet one-way delay: 52.676 ms  
Loss rate: 0.25%  
-- Flow 3:  
Average throughput: 36.99 Mbit/s  
95th percentile per-packet one-way delay: 108.096 ms  
Loss rate: 0.68%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-03-09 14:30:28

End at: 2019-03-09 14:30:58

Local clock offset: 0.431 ms

Remote clock offset: 0.258 ms

# Below is generated by plot.py at 2019-03-09 15:09:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.08 Mbit/s

95th percentile per-packet one-way delay: 66.476 ms

Loss rate: 0.20%

-- Flow 1:

Average throughput: 52.97 Mbit/s

95th percentile per-packet one-way delay: 103.424 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 37.13 Mbit/s

95th percentile per-packet one-way delay: 46.873 ms

Loss rate: 0.31%

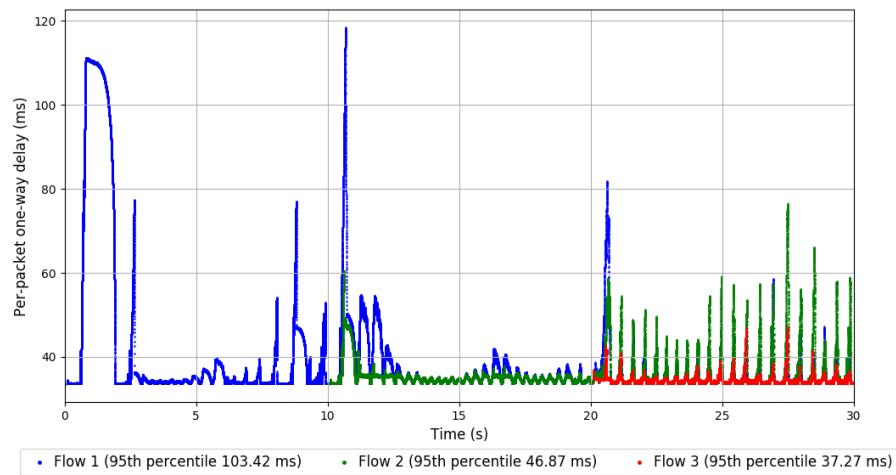
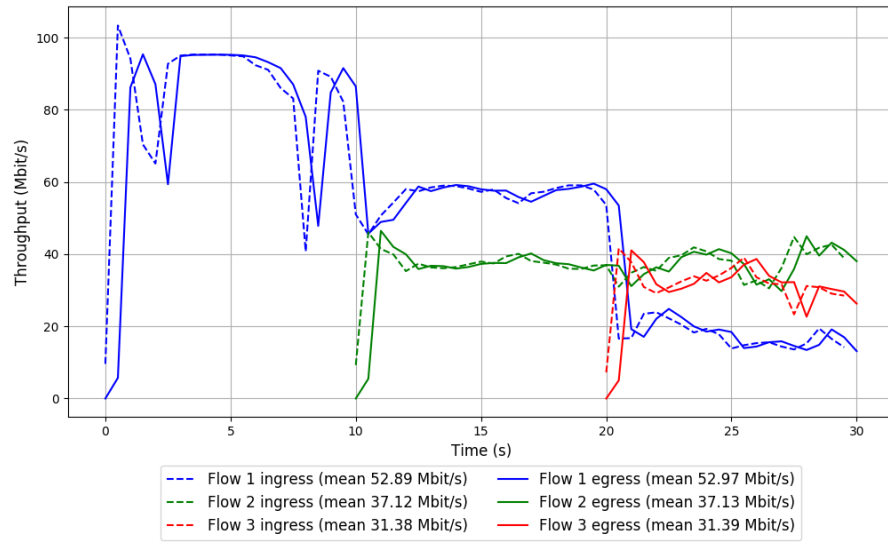
-- Flow 3:

Average throughput: 31.39 Mbit/s

95th percentile per-packet one-way delay: 37.265 ms

Loss rate: 0.61%

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



Run 5: Statistics of Copa

Start at: 2019-03-09 14:56:51

End at: 2019-03-09 14:57:21

Local clock offset: 0.341 ms

Remote clock offset: 0.704 ms

# Below is generated by plot.py at 2019-03-09 15:09:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 83.97 Mbit/s

95th percentile per-packet one-way delay: 53.903 ms

Loss rate: 0.25%

-- Flow 1:

Average throughput: 55.22 Mbit/s

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

Loss rate: 0.15%

-- Flow 2:

Average throughput: 31.83 Mbit/s

95th percentile per-packet one-way delay: 45.177 ms

Loss rate: 0.43%

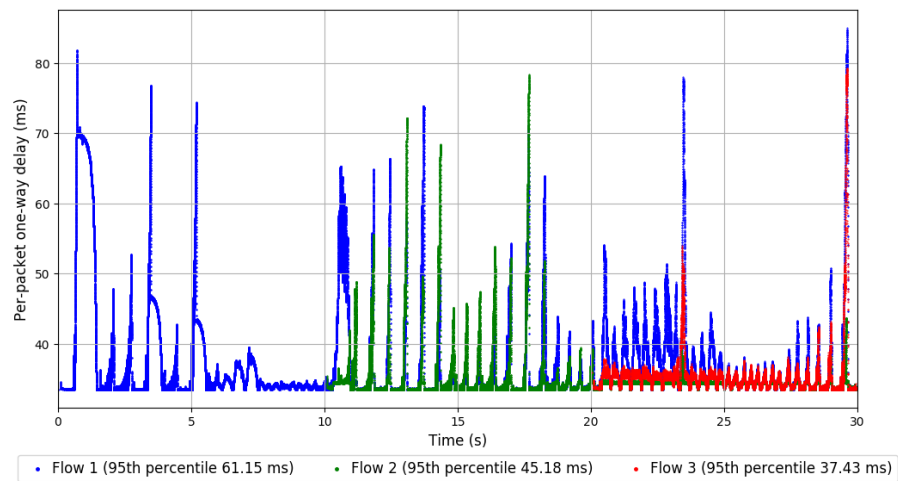
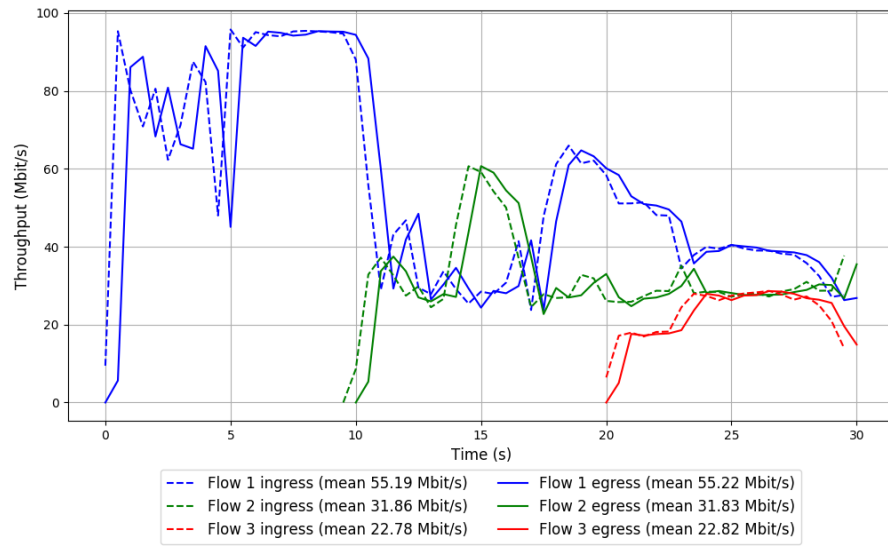
-- Flow 3:

Average throughput: 22.82 Mbit/s

95th percentile per-packet one-way delay: 37.433 ms

Loss rate: 0.46%

## Run 5: Report of Copa — Data Link

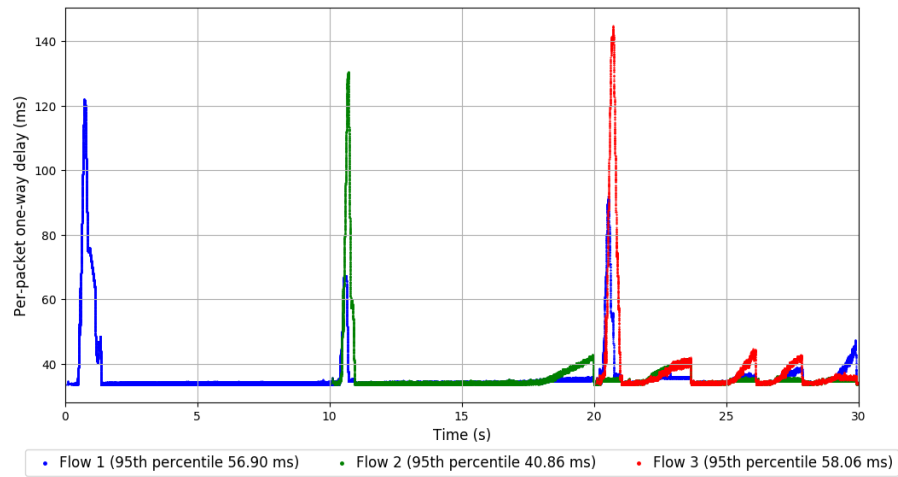
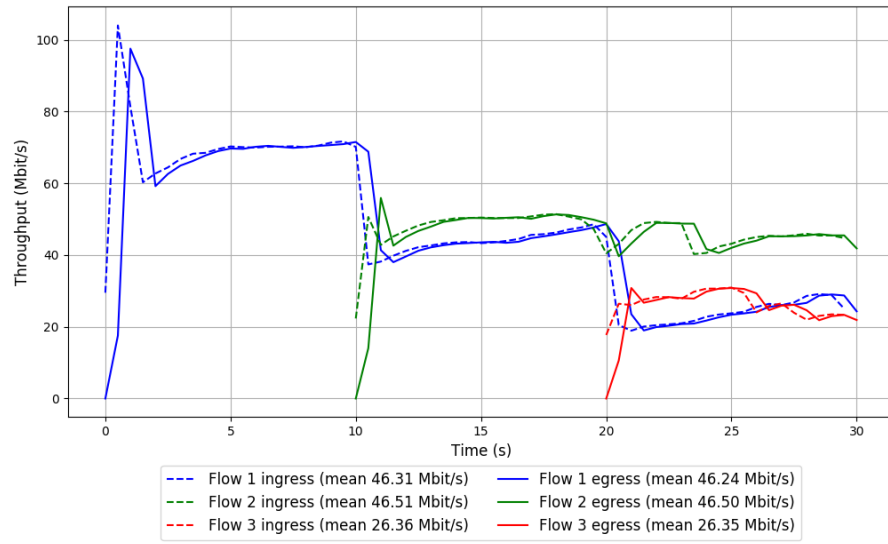


Run 1: Statistics of TCP Cubic

Start at: 2019-03-09 13:16:48  
End at: 2019-03-09 13:17:18  
Local clock offset: 0.319 ms  
Remote clock offset: -3.718 ms

# Below is generated by plot.py at 2019-03-09 15:09:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.91 Mbit/s  
95th percentile per-packet one-way delay: 46.596 ms  
Loss rate: 0.39%  
-- Flow 1:  
Average throughput: 46.24 Mbit/s  
95th percentile per-packet one-way delay: 56.896 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 46.50 Mbit/s  
95th percentile per-packet one-way delay: 40.862 ms  
Loss rate: 0.34%  
-- Flow 3:  
Average throughput: 26.35 Mbit/s  
95th percentile per-packet one-way delay: 58.058 ms  
Loss rate: 0.66%

# Run 1: Report of TCP Cubic — Data Link

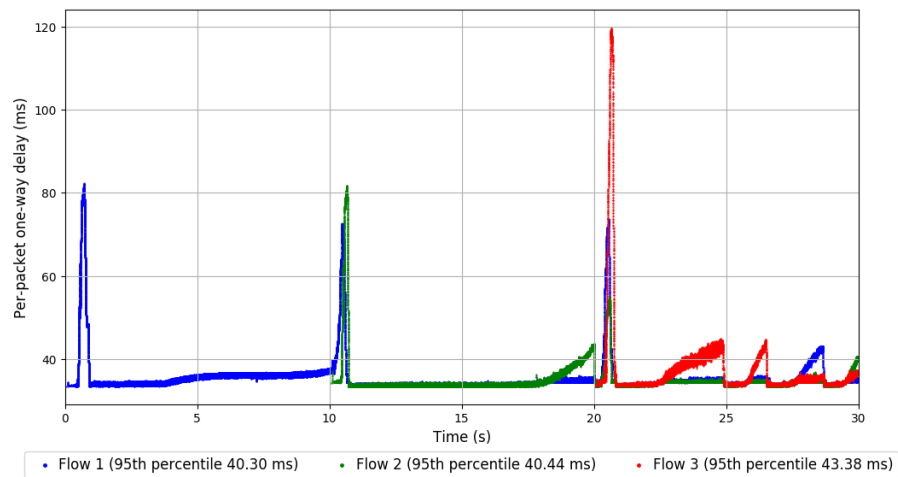
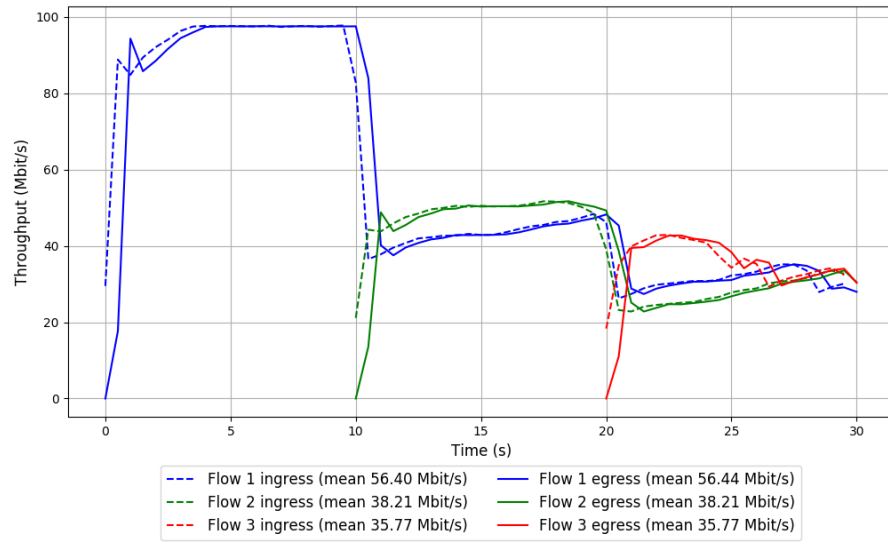


Run 2: Statistics of TCP Cubic

Start at: 2019-03-09 13:42:41  
End at: 2019-03-09 13:43:11  
Local clock offset: 0.258 ms  
Remote clock offset: -1.804 ms

# Below is generated by plot.py at 2019-03-09 15:09:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.70 Mbit/s  
95th percentile per-packet one-way delay: 41.815 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 56.44 Mbit/s  
95th percentile per-packet one-way delay: 40.302 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 38.21 Mbit/s  
95th percentile per-packet one-way delay: 40.443 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 35.77 Mbit/s  
95th percentile per-packet one-way delay: 43.383 ms  
Loss rate: 0.64%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-03-09 14:08:22

End at: 2019-03-09 14:08:52

Local clock offset: 0.368 ms

Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-03-09 15:09:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.93 Mbit/s

95th percentile per-packet one-way delay: 40.989 ms

Loss rate: 0.23%

-- Flow 1:

Average throughput: 54.10 Mbit/s

95th percentile per-packet one-way delay: 40.145 ms

Loss rate: 0.10%

-- Flow 2:

Average throughput: 46.67 Mbit/s

95th percentile per-packet one-way delay: 40.302 ms

Loss rate: 0.34%

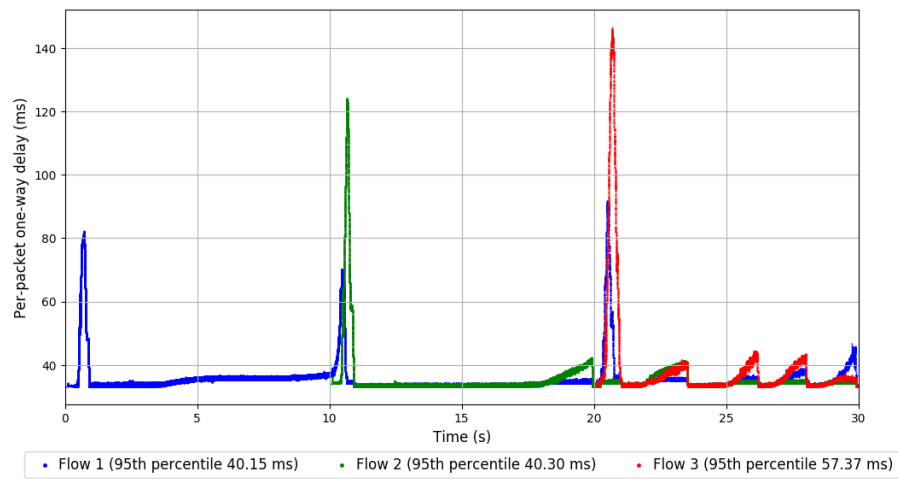
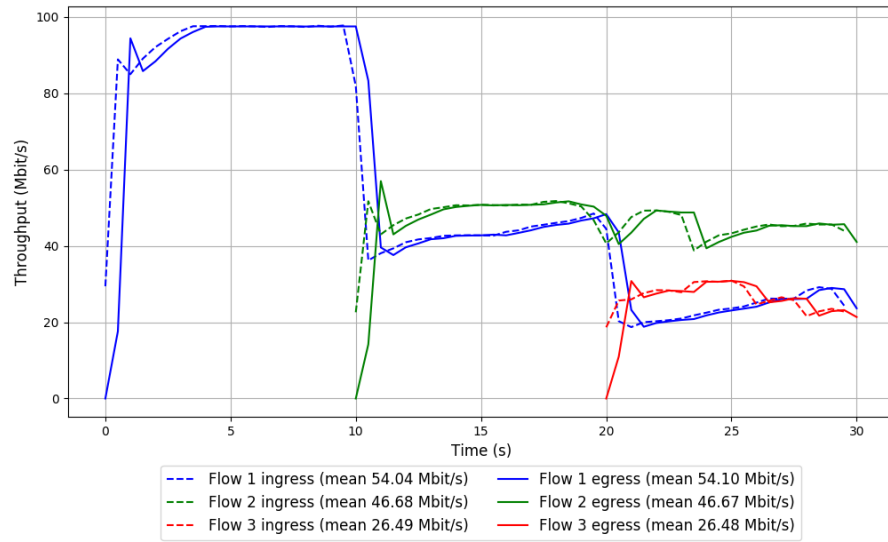
-- Flow 3:

Average throughput: 26.48 Mbit/s

95th percentile per-packet one-way delay: 57.372 ms

Loss rate: 0.66%

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



Run 4: Statistics of TCP Cubic

Start at: 2019-03-09 14:34:12

End at: 2019-03-09 14:34:42

Local clock offset: 0.436 ms

Remote clock offset: 0.479 ms

# Below is generated by plot.py at 2019-03-09 15:09:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.65 Mbit/s

95th percentile per-packet one-way delay: 42.892 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 48.38 Mbit/s

95th percentile per-packet one-way delay: 47.176 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 38.22 Mbit/s

95th percentile per-packet one-way delay: 41.476 ms

Loss rate: 0.32%

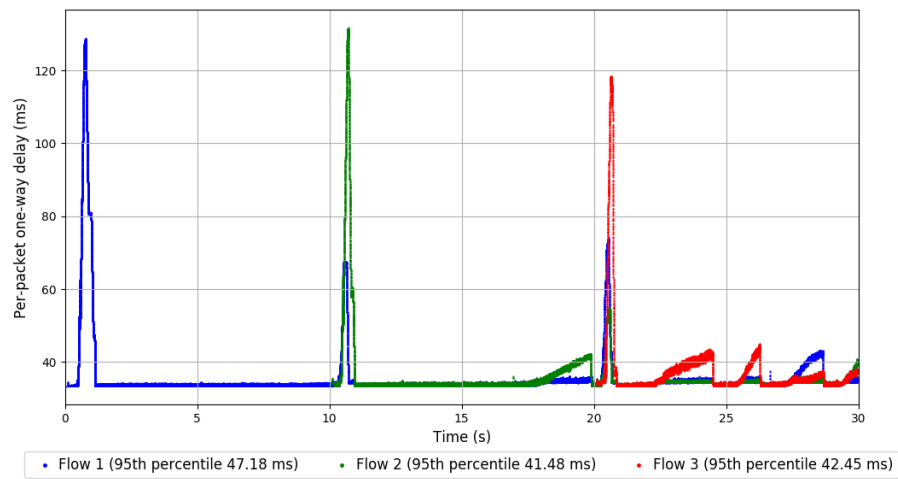
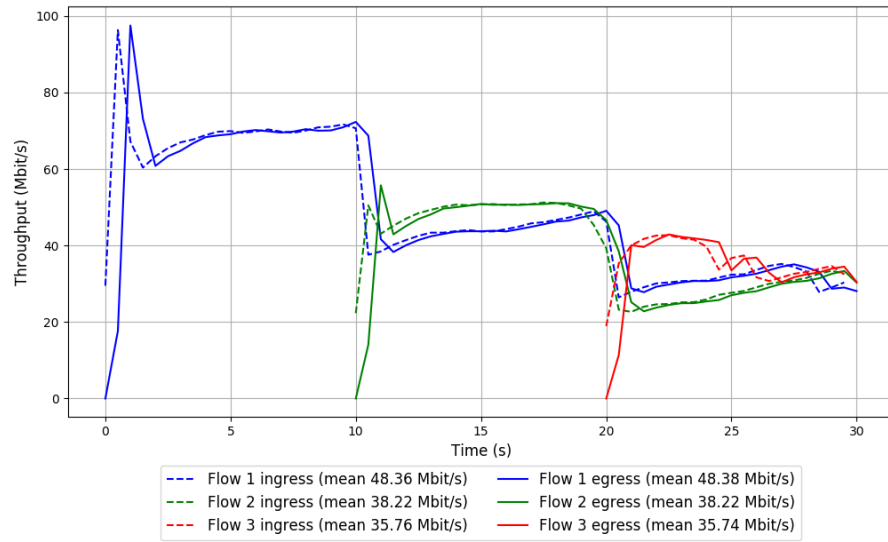
-- Flow 3:

Average throughput: 35.74 Mbit/s

95th percentile per-packet one-way delay: 42.450 ms

Loss rate: 0.70%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-03-09 15:00:47

End at: 2019-03-09 15:01:18

Local clock offset: 0.332 ms

Remote clock offset: 0.771 ms

# Below is generated by plot.py at 2019-03-09 15:09:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.98 Mbit/s

95th percentile per-packet one-way delay: 41.246 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 53.45 Mbit/s

95th percentile per-packet one-way delay: 40.329 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 37.58 Mbit/s

95th percentile per-packet one-way delay: 41.112 ms

Loss rate: 0.33%

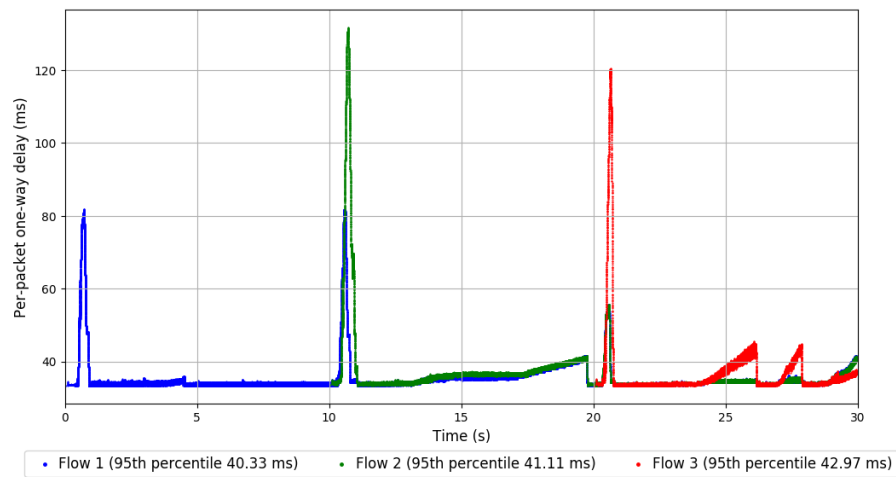
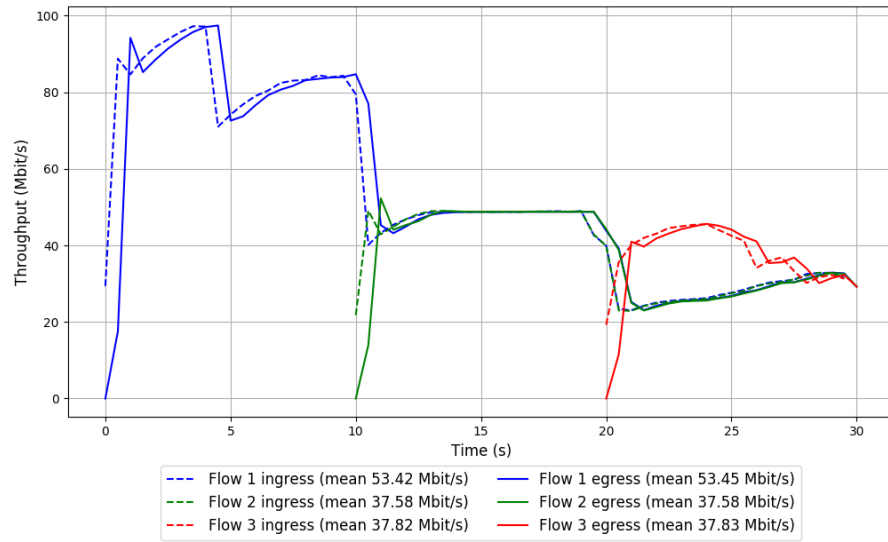
-- Flow 3:

Average throughput: 37.83 Mbit/s

95th percentile per-packet one-way delay: 42.965 ms

Loss rate: 0.60%

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

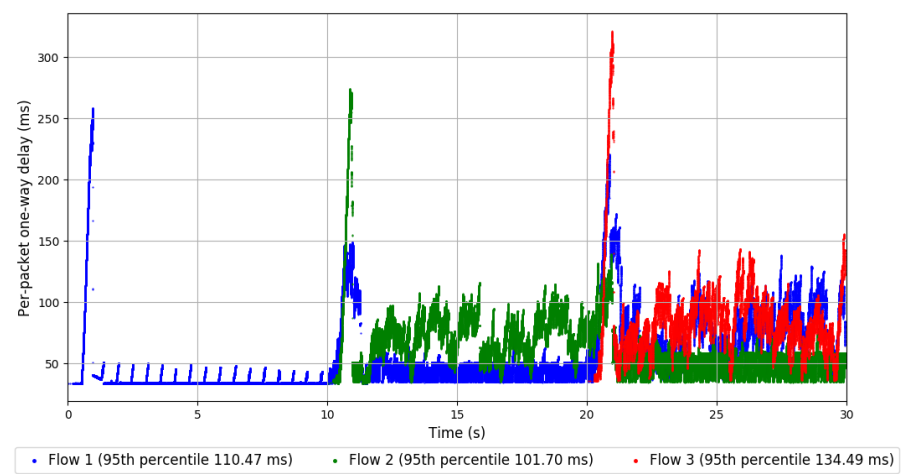
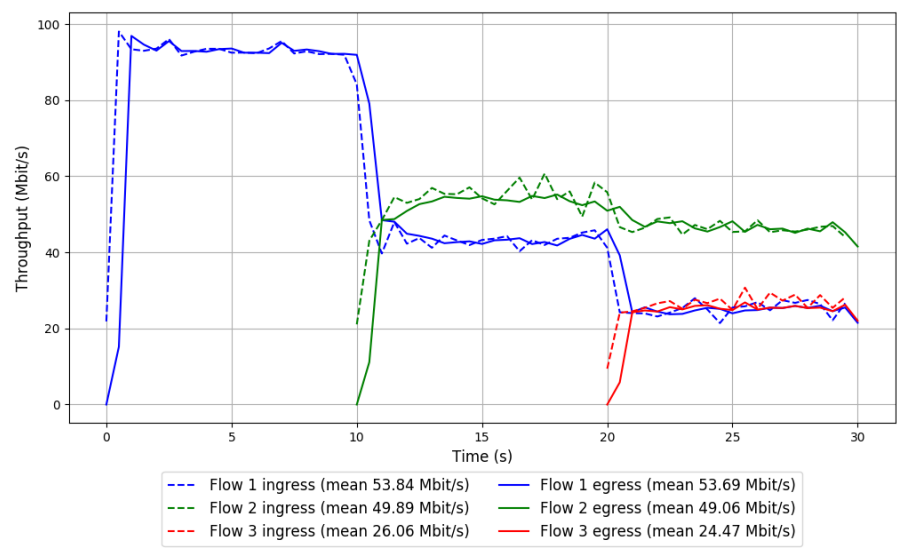


Run 1: Statistics of FillP

Start at: 2019-03-09 13:05:38  
End at: 2019-03-09 13:06:08  
Local clock offset: 0.35 ms  
Remote clock offset: -4.581 ms

# Below is generated by plot.py at 2019-03-09 15:09:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.42 Mbit/s  
95th percentile per-packet one-way delay: 110.138 ms  
Loss rate: 1.56%  
-- Flow 1:  
Average throughput: 53.69 Mbit/s  
95th percentile per-packet one-way delay: 110.474 ms  
Loss rate: 0.49%  
-- Flow 2:  
Average throughput: 49.06 Mbit/s  
95th percentile per-packet one-way delay: 101.701 ms  
Loss rate: 1.96%  
-- Flow 3:  
Average throughput: 24.47 Mbit/s  
95th percentile per-packet one-way delay: 134.490 ms  
Loss rate: 6.65%

Run 1: Report of FillP — Data Link



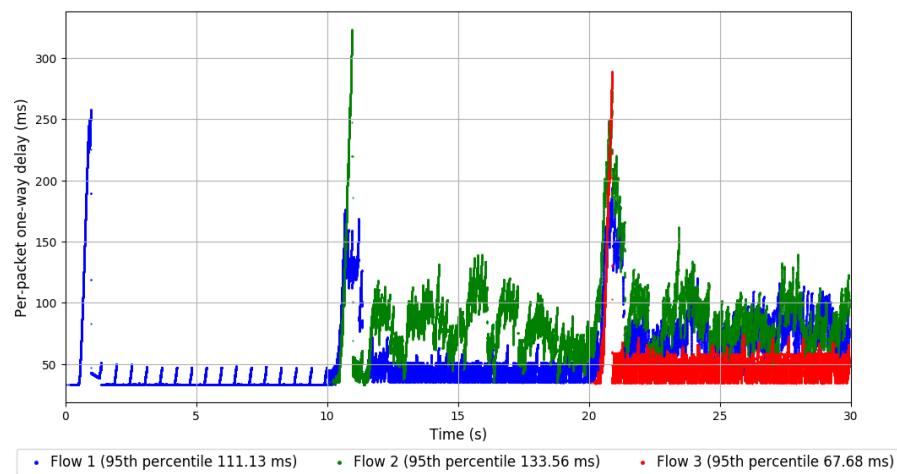
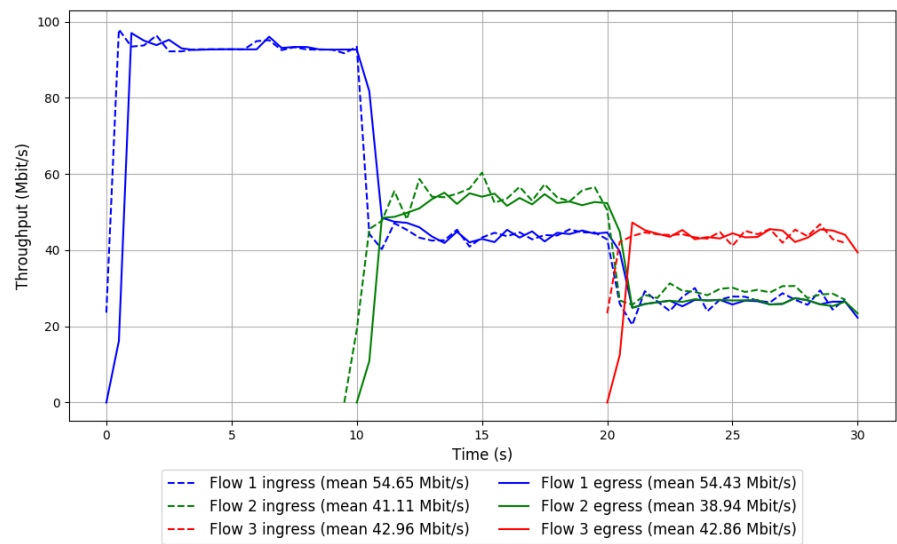


Run 2: Statistics of FillP

Start at: 2019-03-09 13:31:33  
End at: 2019-03-09 13:32:03  
Local clock offset: 0.282 ms  
Remote clock offset: -2.497 ms

# Below is generated by plot.py at 2019-03-09 15:09:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.54 Mbit/s  
95th percentile per-packet one-way delay: 120.094 ms  
Loss rate: 2.03%  
-- Flow 1:  
Average throughput: 54.43 Mbit/s  
95th percentile per-packet one-way delay: 111.131 ms  
Loss rate: 0.57%  
-- Flow 2:  
Average throughput: 38.94 Mbit/s  
95th percentile per-packet one-way delay: 133.557 ms  
Loss rate: 5.58%  
-- Flow 3:  
Average throughput: 42.86 Mbit/s  
95th percentile per-packet one-way delay: 67.682 ms  
Loss rate: 0.84%

Run 2: Report of FillP — Data Link

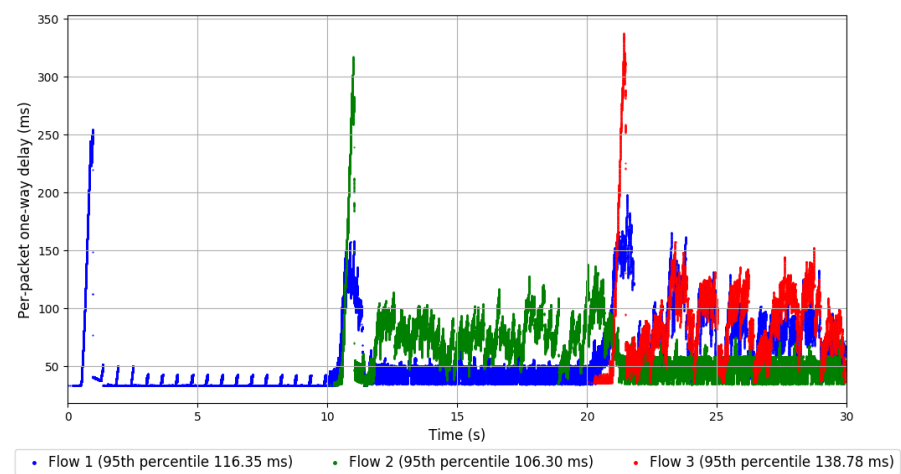
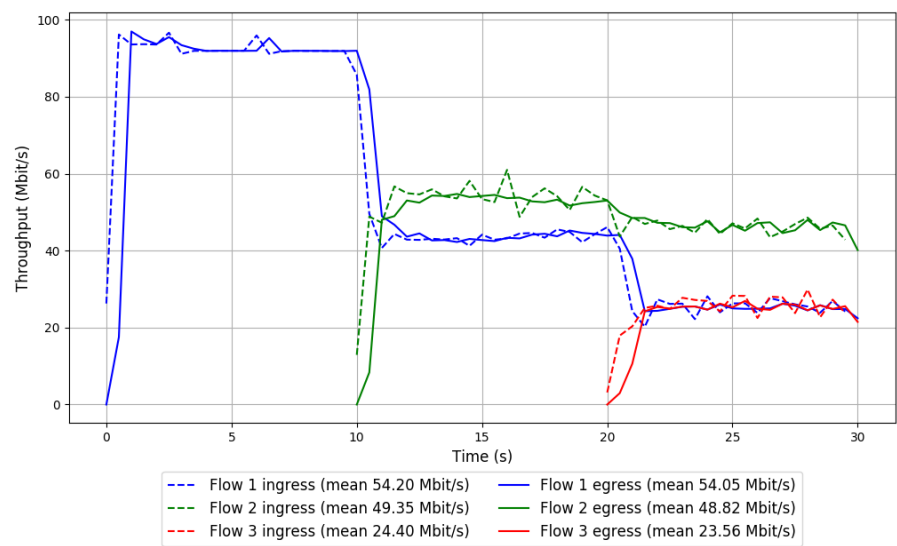


Run 3: Statistics of FillP

Start at: 2019-03-09 13:57:15  
End at: 2019-03-09 13:57:45  
Local clock offset: 0.365 ms  
Remote clock offset: -1.043 ms

# Below is generated by plot.py at 2019-03-09 15:09:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.31 Mbit/s  
95th percentile per-packet one-way delay: 119.010 ms  
Loss rate: 1.07%  
-- Flow 1:  
Average throughput: 54.05 Mbit/s  
95th percentile per-packet one-way delay: 116.353 ms  
Loss rate: 0.48%  
-- Flow 2:  
Average throughput: 48.82 Mbit/s  
95th percentile per-packet one-way delay: 106.297 ms  
Loss rate: 1.34%  
-- Flow 3:  
Average throughput: 23.56 Mbit/s  
95th percentile per-packet one-way delay: 138.785 ms  
Loss rate: 4.02%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-09 14:22:57

End at: 2019-03-09 14:23:27

Local clock offset: 0.404 ms

Remote clock offset: 0.235 ms

# Below is generated by plot.py at 2019-03-09 15:09:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.51 Mbit/s

95th percentile per-packet one-way delay: 111.890 ms

Loss rate: 1.30%

-- Flow 1:

Average throughput: 56.10 Mbit/s

95th percentile per-packet one-way delay: 98.184 ms

Loss rate: 0.30%

-- Flow 2:

Average throughput: 43.20 Mbit/s

95th percentile per-packet one-way delay: 117.634 ms

Loss rate: 3.17%

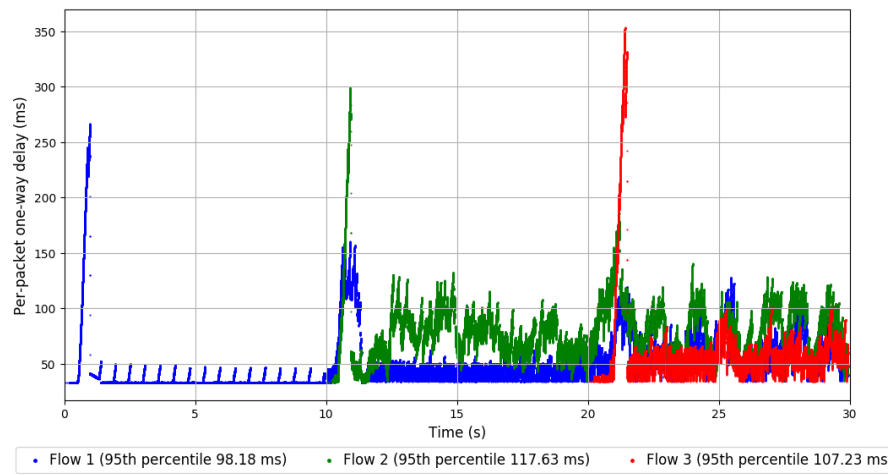
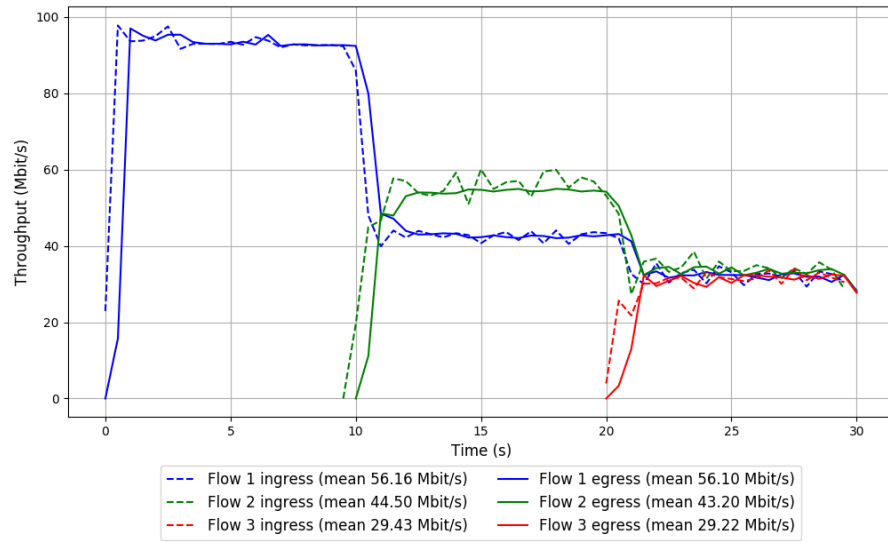
-- Flow 3:

Average throughput: 29.22 Mbit/s

95th percentile per-packet one-way delay: 107.233 ms

Loss rate: 1.35%

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



Run 5: Statistics of FillP

Start at: 2019-03-09 14:49:07

End at: 2019-03-09 14:49:37

Local clock offset: 0.409 ms

Remote clock offset: 0.764 ms

# Below is generated by plot.py at 2019-03-09 15:10:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 119.614 ms

Loss rate: 1.57%

-- Flow 1:

Average throughput: 60.70 Mbit/s

95th percentile per-packet one-way delay: 75.911 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 38.26 Mbit/s

95th percentile per-packet one-way delay: 142.429 ms

Loss rate: 3.73%

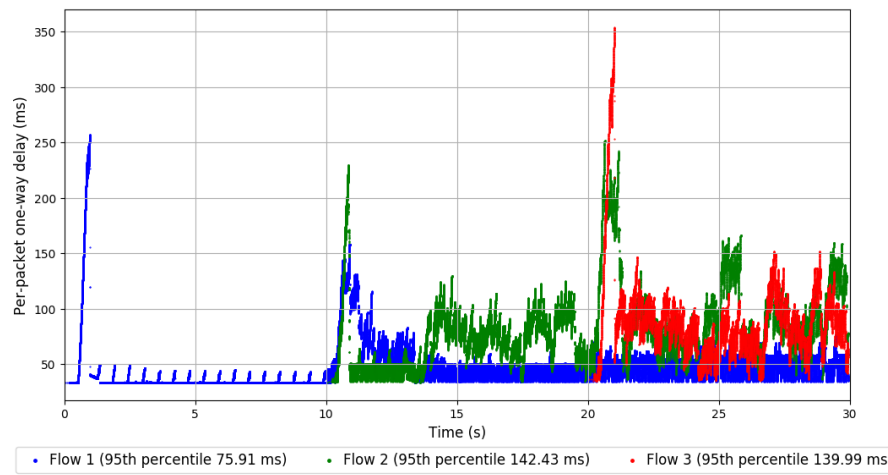
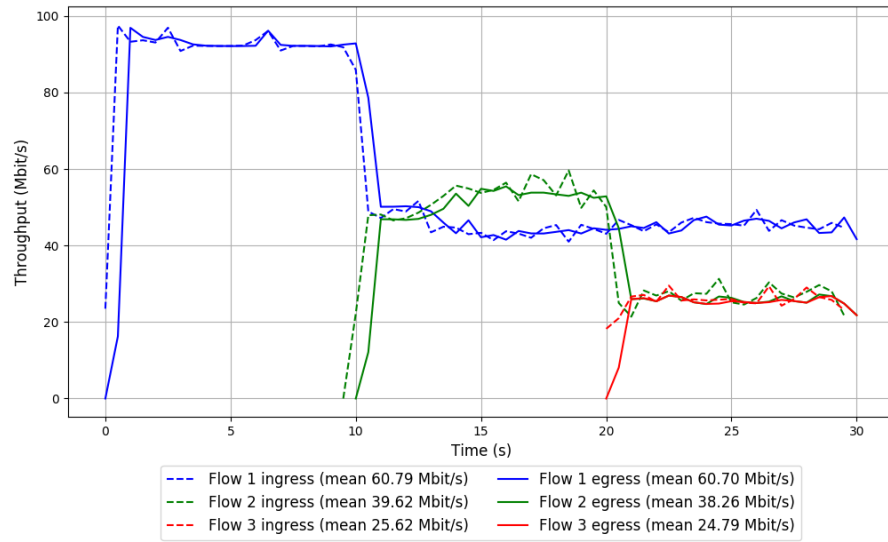
-- Flow 3:

Average throughput: 24.79 Mbit/s

95th percentile per-packet one-way delay: 139.990 ms

Loss rate: 3.89%

## Run 5: Report of FillP — Data Link



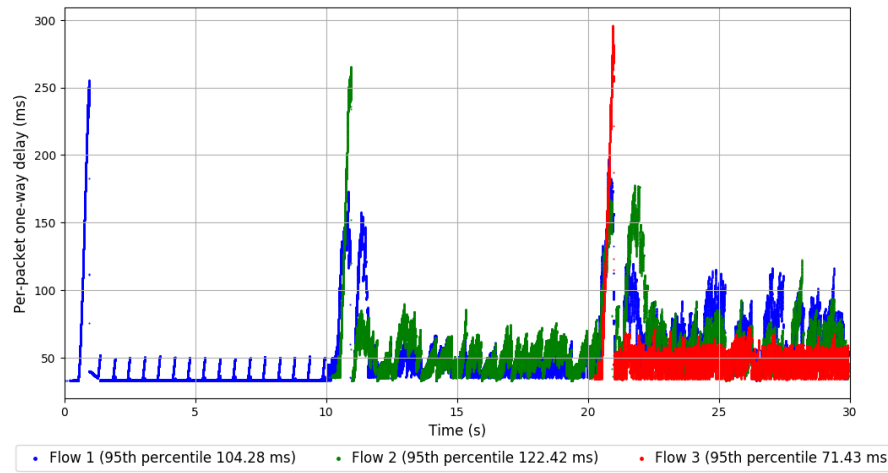
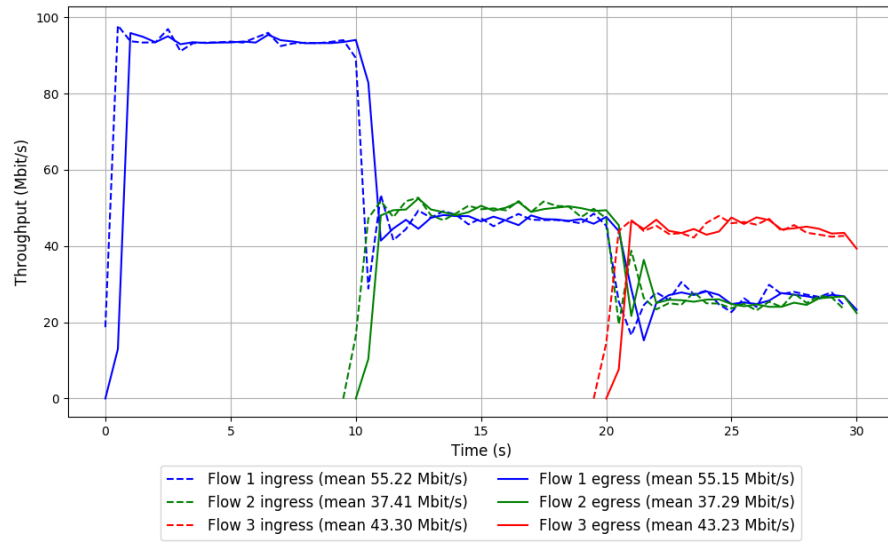


Run 1: Statistics of FillP-Sheep

Start at: 2019-03-09 13:03:10  
End at: 2019-03-09 13:03:40  
Local clock offset: 0.341 ms  
Remote clock offset: -4.518 ms

# Below is generated by plot.py at 2019-03-09 15:10:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.30 Mbit/s  
95th percentile per-packet one-way delay: 105.347 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 55.15 Mbit/s  
95th percentile per-packet one-way delay: 104.277 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 37.29 Mbit/s  
95th percentile per-packet one-way delay: 122.417 ms  
Loss rate: 0.59%  
-- Flow 3:  
Average throughput: 43.23 Mbit/s  
95th percentile per-packet one-way delay: 71.428 ms  
Loss rate: 0.81%

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

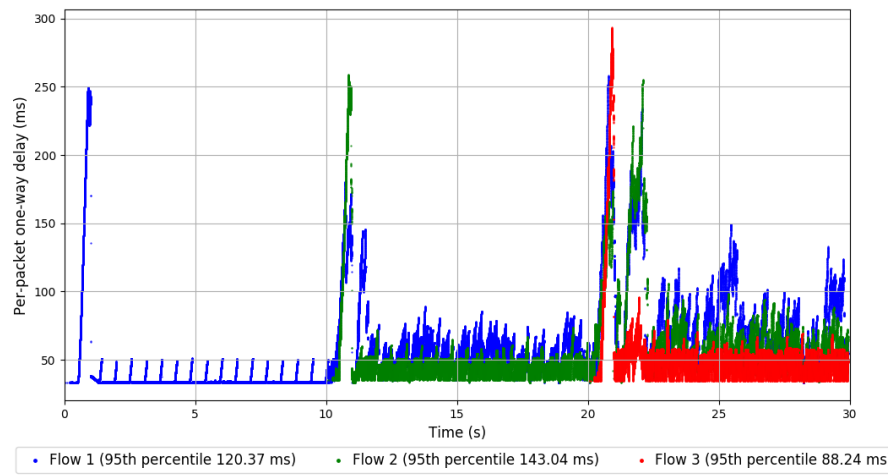
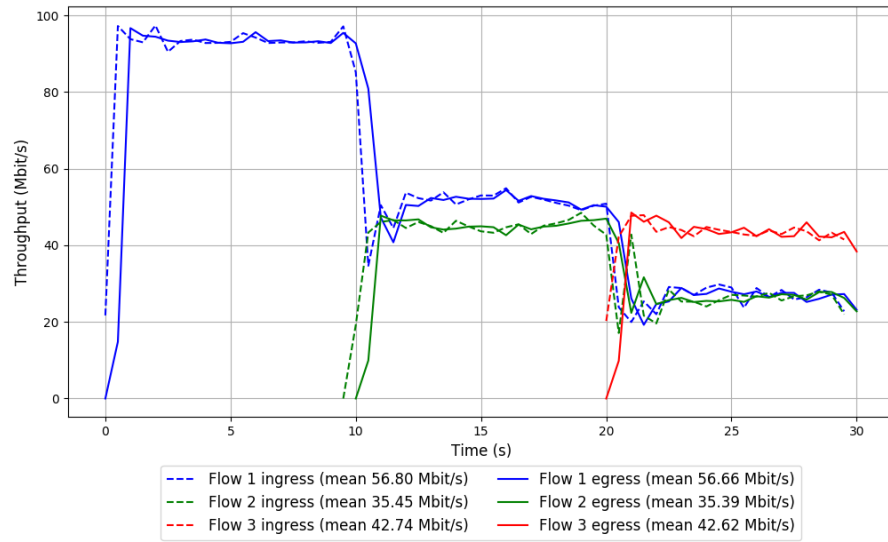


Run 2: Statistics of FillP-Sheep

Start at: 2019-03-09 13:29:05  
End at: 2019-03-09 13:29:35  
Local clock offset: 0.285 ms  
Remote clock offset: -2.574 ms

# Below is generated by plot.py at 2019-03-09 15:10:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.31 Mbit/s  
95th percentile per-packet one-way delay: 121.344 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 56.66 Mbit/s  
95th percentile per-packet one-way delay: 120.367 ms  
Loss rate: 0.44%  
-- Flow 2:  
Average throughput: 35.39 Mbit/s  
95th percentile per-packet one-way delay: 143.039 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 42.62 Mbit/s  
95th percentile per-packet one-way delay: 88.240 ms  
Loss rate: 0.93%

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

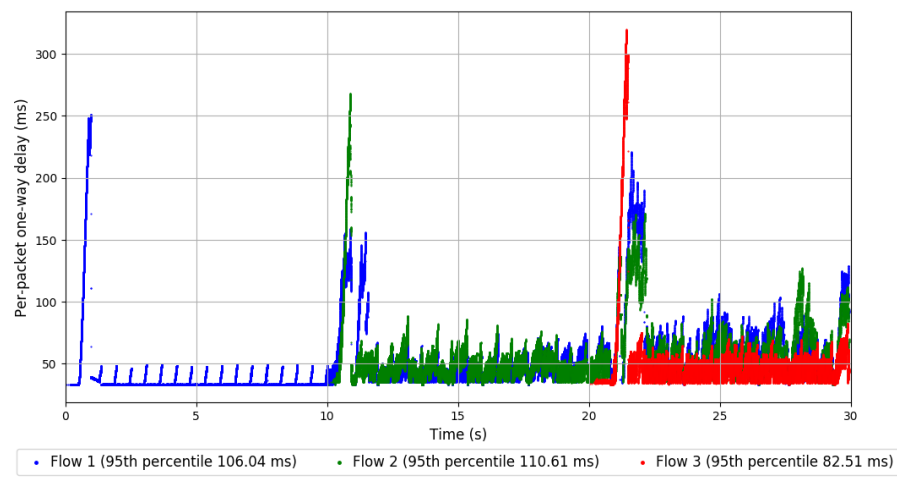
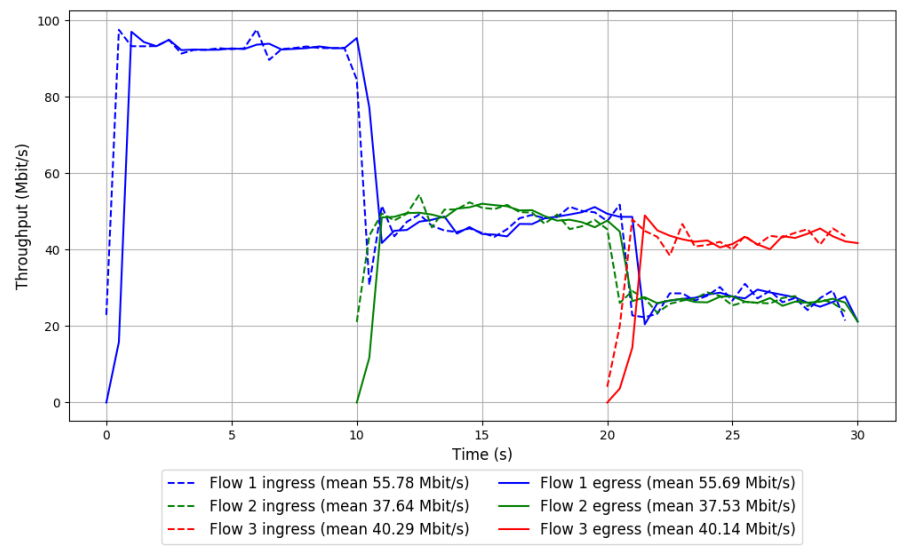


Run 3: Statistics of FillP-Sheep

Start at: 2019-03-09 13:54:48  
End at: 2019-03-09 13:55:18  
Local clock offset: 0.348 ms  
Remote clock offset: -0.959 ms

# Below is generated by plot.py at 2019-03-09 15:10:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.92 Mbit/s  
95th percentile per-packet one-way delay: 106.413 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 55.69 Mbit/s  
95th percentile per-packet one-way delay: 106.042 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 37.53 Mbit/s  
95th percentile per-packet one-way delay: 110.606 ms  
Loss rate: 0.60%  
-- Flow 3:  
Average throughput: 40.14 Mbit/s  
95th percentile per-packet one-way delay: 82.510 ms  
Loss rate: 1.02%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-09 14:20:30

End at: 2019-03-09 14:21:00

Local clock offset: 0.396 ms

Remote clock offset: 0.182 ms

# Below is generated by plot.py at 2019-03-09 15:10:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.14 Mbit/s

95th percentile per-packet one-way delay: 103.131 ms

Loss rate: 0.42%

-- Flow 1:

Average throughput: 54.46 Mbit/s

95th percentile per-packet one-way delay: 94.057 ms

Loss rate: 0.23%

-- Flow 2:

Average throughput: 38.30 Mbit/s

95th percentile per-packet one-way delay: 115.497 ms

Loss rate: 0.65%

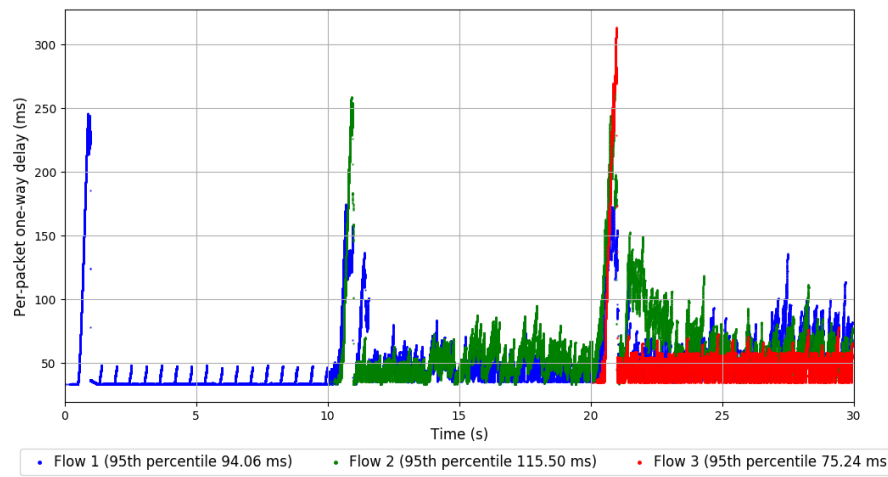
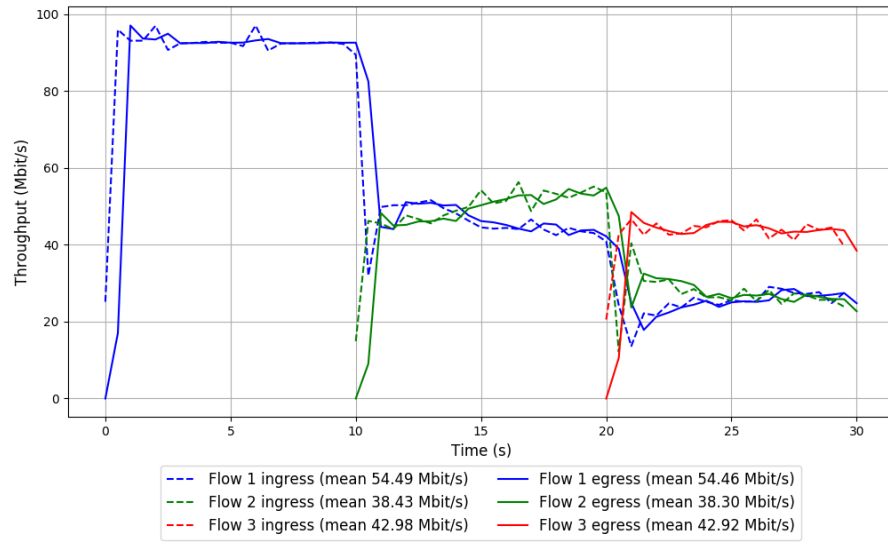
-- Flow 3:

Average throughput: 42.92 Mbit/s

95th percentile per-packet one-way delay: 75.239 ms

Loss rate: 0.74%

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





Run 5: Statistics of FillP-Sheep

Start at: 2019-03-09 14:46:32

End at: 2019-03-09 14:47:02

Local clock offset: 0.42 ms

Remote clock offset: 0.571 ms

# Below is generated by plot.py at 2019-03-09 15:10:56

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.19 Mbit/s

95th percentile per-packet one-way delay: 100.978 ms

Loss rate: 0.68%

-- Flow 1:

Average throughput: 58.95 Mbit/s

95th percentile per-packet one-way delay: 106.636 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 37.62 Mbit/s

95th percentile per-packet one-way delay: 96.195 ms

Loss rate: 0.86%

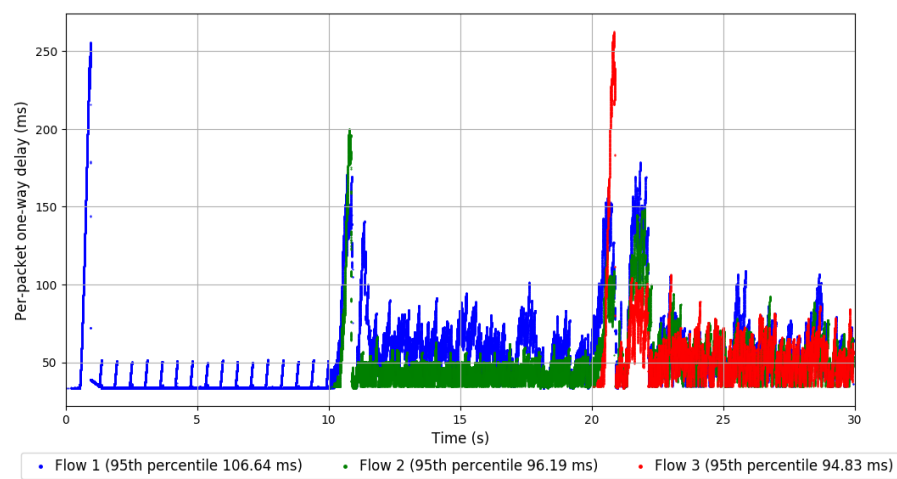
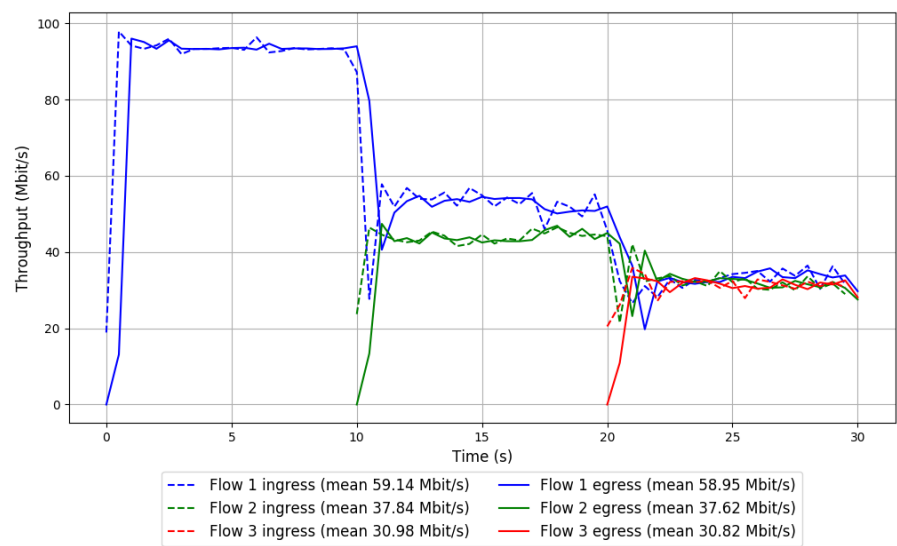
-- Flow 3:

Average throughput: 30.82 Mbit/s

95th percentile per-packet one-way delay: 94.831 ms

Loss rate: 1.05%

Run 5: Report of FillP-Sheep — Data Link

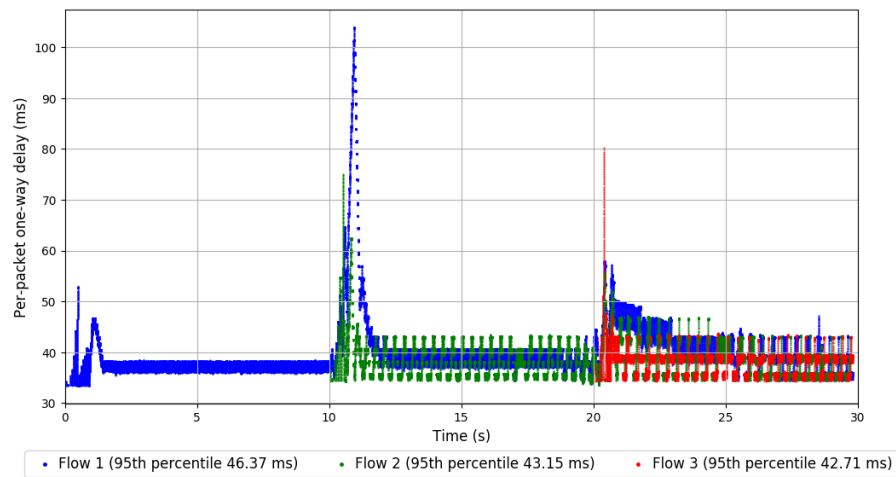
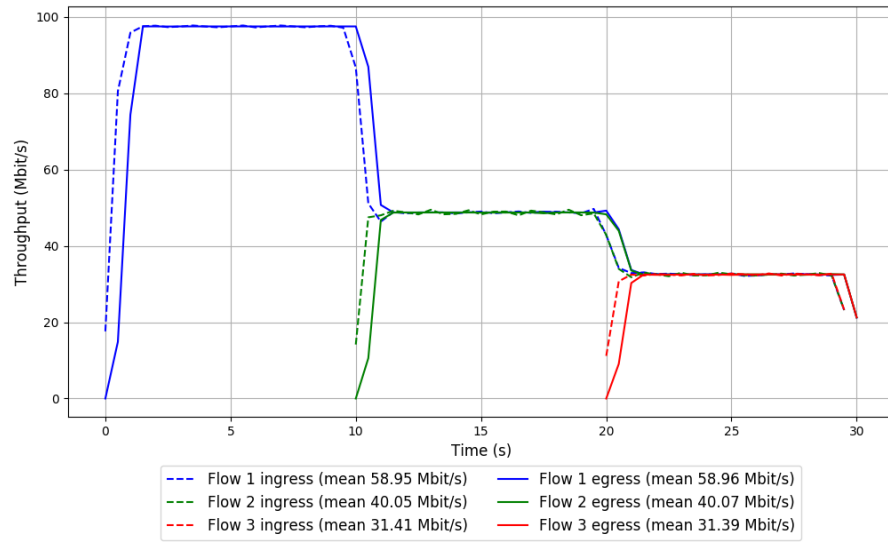


Run 1: Statistics of Indigo

Start at: 2019-03-09 13:06:51  
End at: 2019-03-09 13:07:21  
Local clock offset: 0.339 ms  
Remote clock offset: -4.219 ms

# Below is generated by plot.py at 2019-03-09 15:10:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.86 Mbit/s  
95th percentile per-packet one-way delay: 45.417 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 58.96 Mbit/s  
95th percentile per-packet one-way delay: 46.367 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 40.07 Mbit/s  
95th percentile per-packet one-way delay: 43.146 ms  
Loss rate: 0.28%  
-- Flow 3:  
Average throughput: 31.39 Mbit/s  
95th percentile per-packet one-way delay: 42.711 ms  
Loss rate: 0.73%

## Run 1: Report of Indigo — Data Link

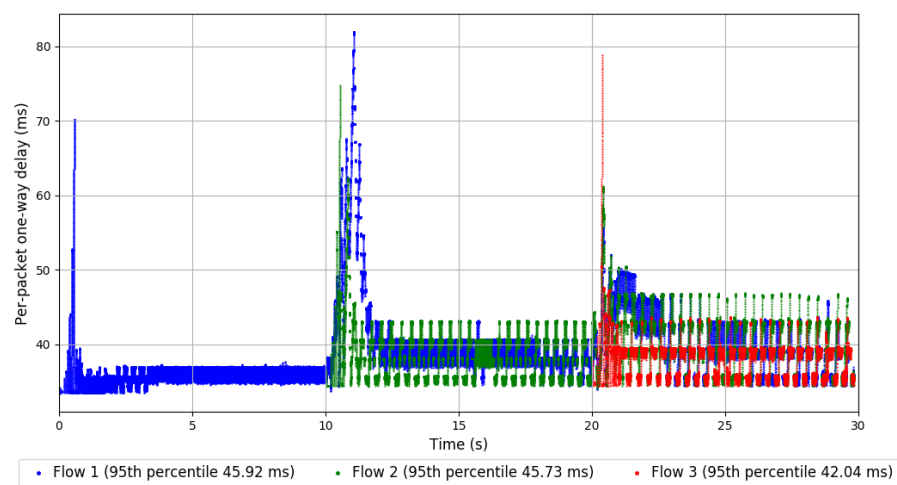
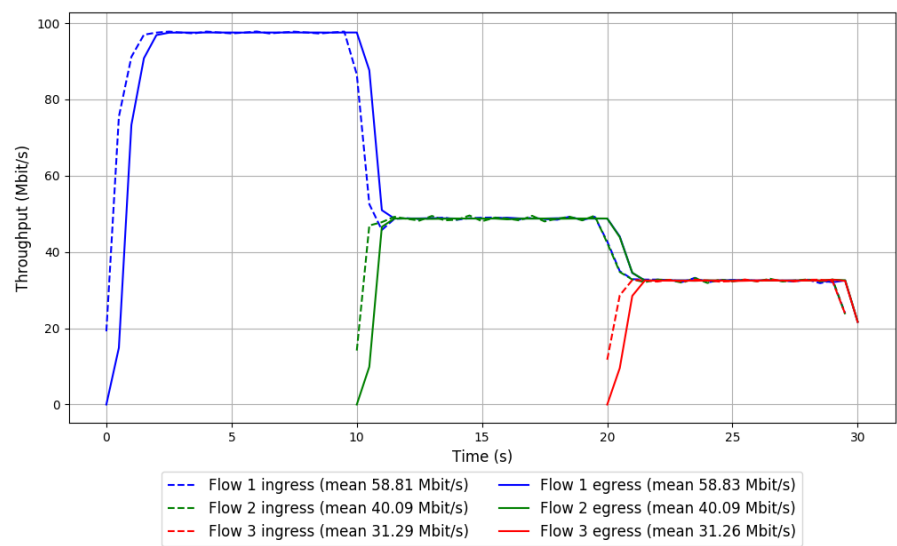


Run 2: Statistics of Indigo

Start at: 2019-03-09 13:32:47  
End at: 2019-03-09 13:33:17  
Local clock offset: 0.273 ms  
Remote clock offset: -2.451 ms

# Below is generated by plot.py at 2019-03-09 15:10:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.72 Mbit/s  
95th percentile per-packet one-way delay: 45.505 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 58.83 Mbit/s  
95th percentile per-packet one-way delay: 45.923 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 40.09 Mbit/s  
95th percentile per-packet one-way delay: 45.728 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 31.26 Mbit/s  
95th percentile per-packet one-way delay: 42.041 ms  
Loss rate: 0.73%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-09 13:58:28

End at: 2019-03-09 13:58:58

Local clock offset: 0.361 ms

Remote clock offset: -0.72 ms

# Below is generated by plot.py at 2019-03-09 15:11:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.86 Mbit/s

95th percentile per-packet one-way delay: 43.699 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 56.41 Mbit/s

95th percentile per-packet one-way delay: 46.529 ms

Loss rate: 0.17%

-- Flow 2:

Average throughput: 47.77 Mbit/s

95th percentile per-packet one-way delay: 42.737 ms

Loss rate: 0.34%

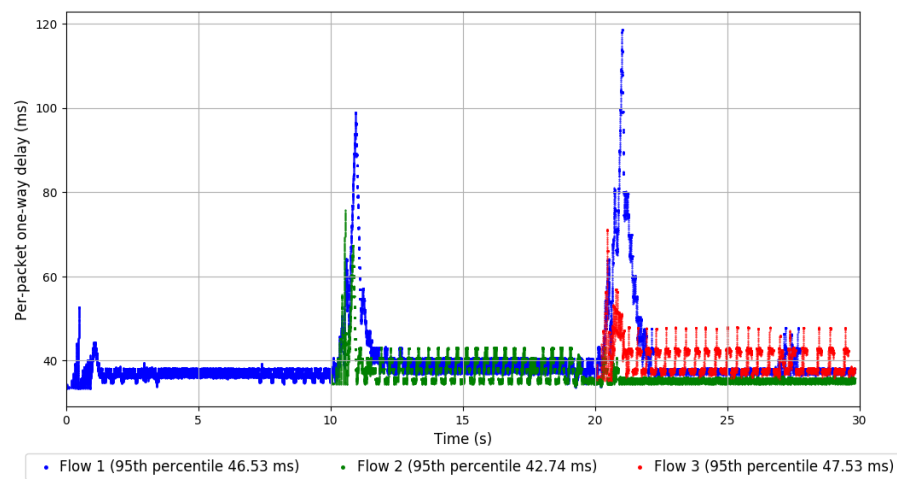
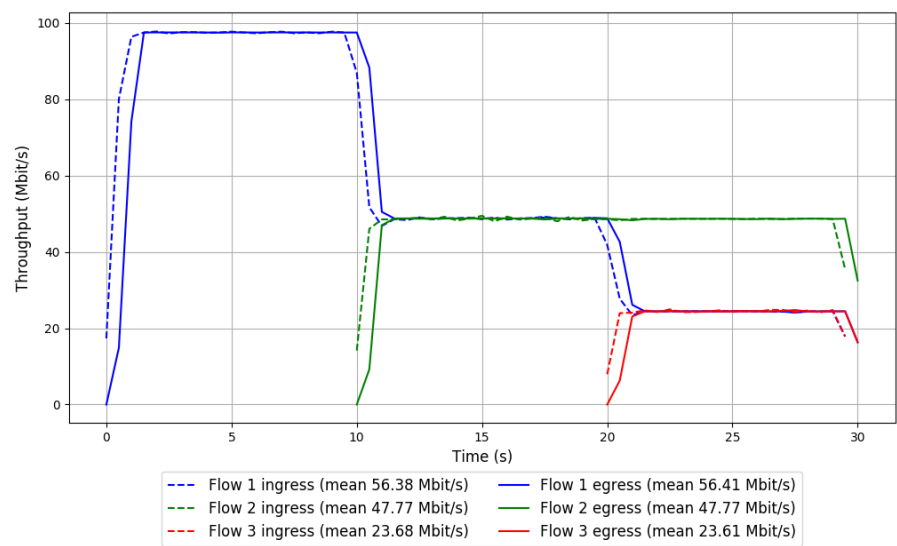
-- Flow 3:

Average throughput: 23.61 Mbit/s

95th percentile per-packet one-way delay: 47.528 ms

Loss rate: 0.94%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-03-09 14:24:10

End at: 2019-03-09 14:24:40

Local clock offset: 0.413 ms

Remote clock offset: 0.254 ms

# Below is generated by plot.py at 2019-03-09 15:11:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.89 Mbit/s

95th percentile per-packet one-way delay: 45.984 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 58.99 Mbit/s

95th percentile per-packet one-way delay: 47.567 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 40.08 Mbit/s

95th percentile per-packet one-way delay: 45.843 ms

Loss rate: 0.33%

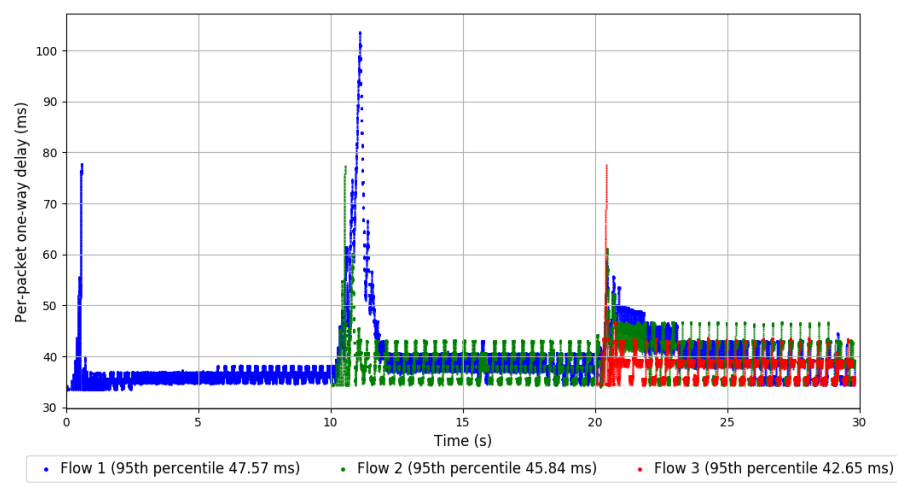
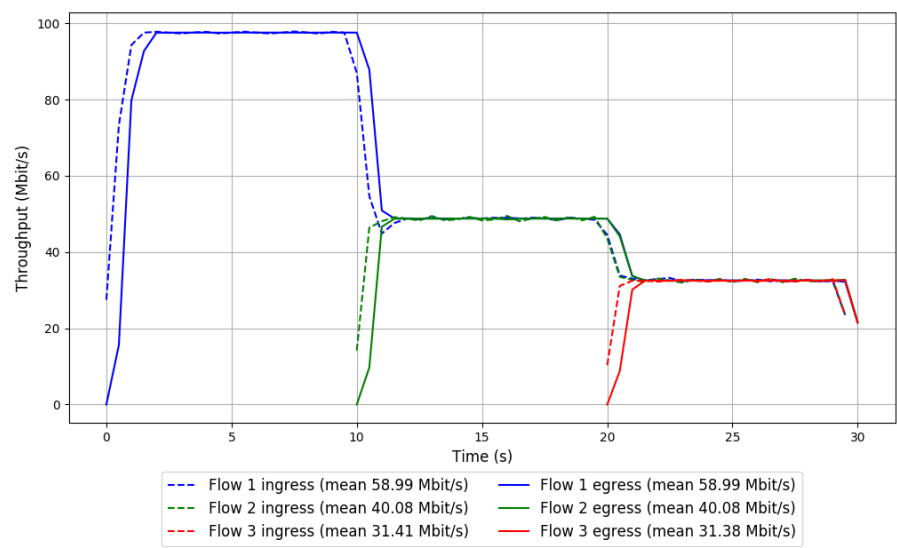
-- Flow 3:

Average throughput: 31.38 Mbit/s

95th percentile per-packet one-way delay: 42.647 ms

Loss rate: 0.73%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-09 14:50:21

End at: 2019-03-09 14:50:51

Local clock offset: 0.386 ms

Remote clock offset: 0.792 ms

# Below is generated by plot.py at 2019-03-09 15:11:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 46.054 ms

Loss rate: 0.29%

-- Flow 1:

Average throughput: 59.05 Mbit/s

95th percentile per-packet one-way delay: 46.723 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 40.05 Mbit/s

95th percentile per-packet one-way delay: 46.015 ms

Loss rate: 0.32%

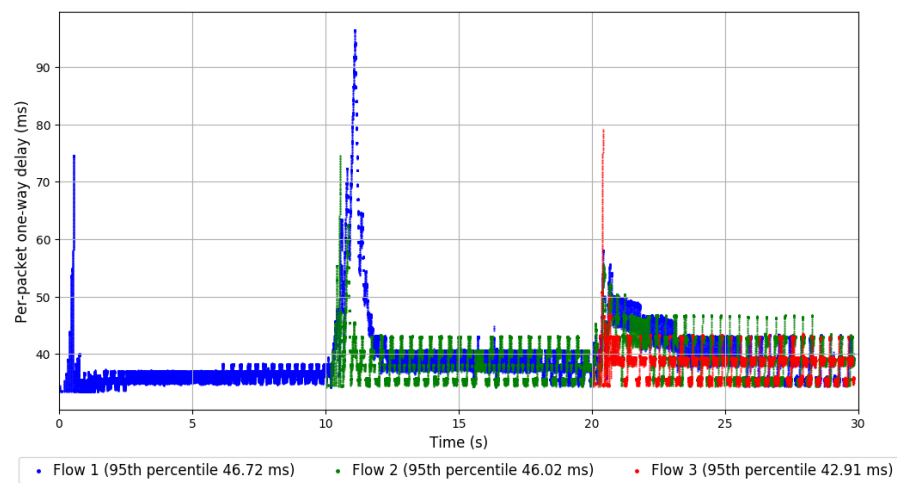
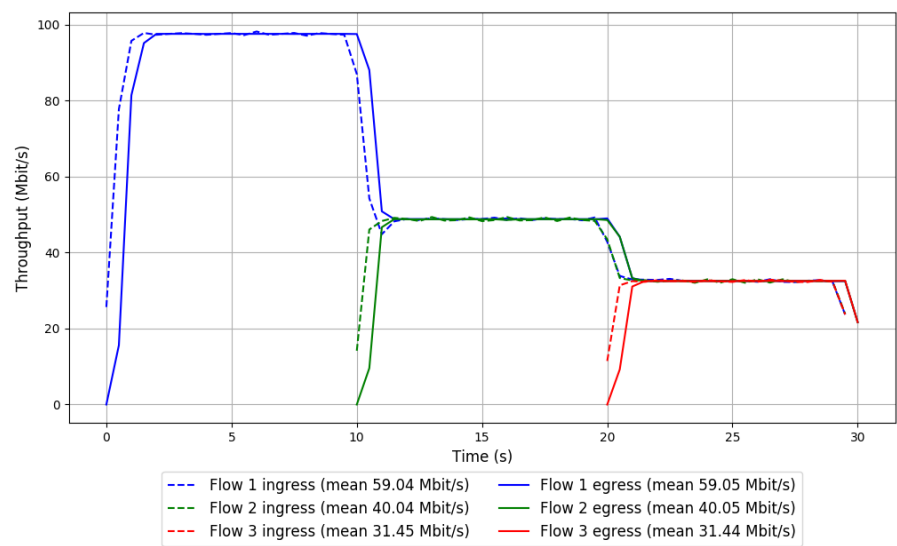
-- Flow 3:

Average throughput: 31.44 Mbit/s

95th percentile per-packet one-way delay: 42.912 ms

Loss rate: 0.70%

Run 5: Report of Indigo — Data Link

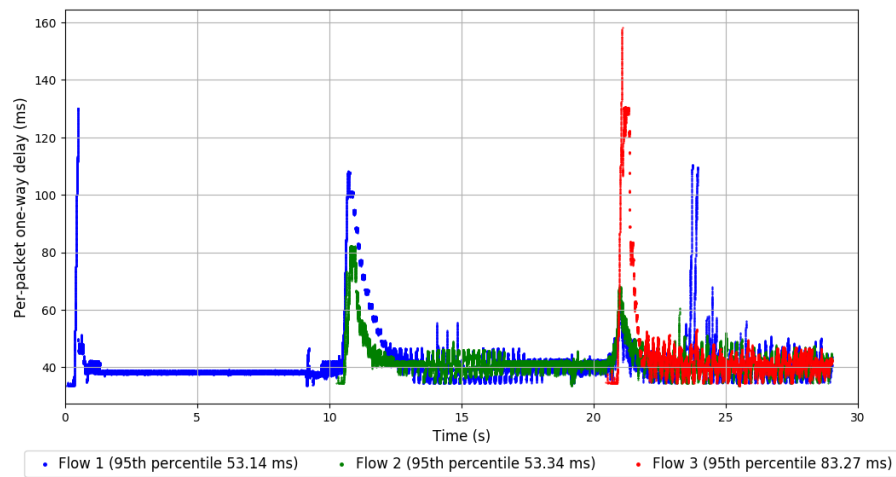
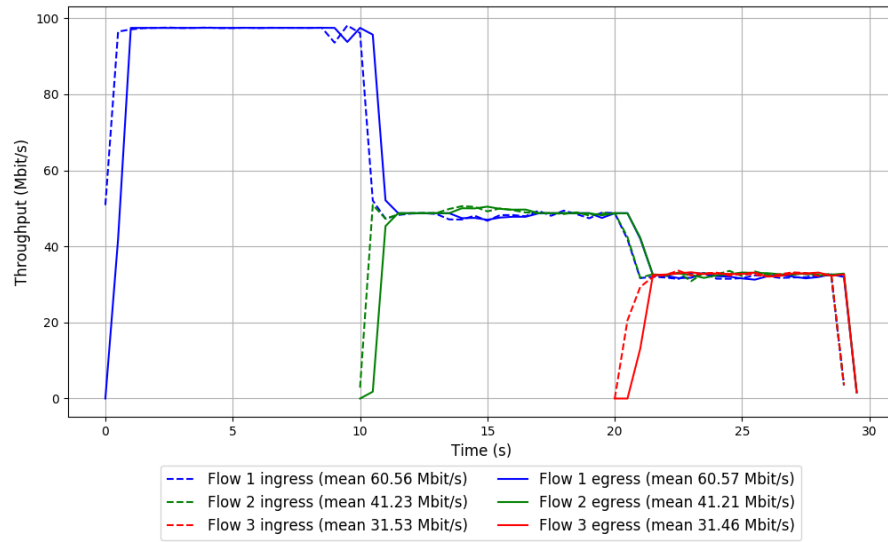


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-09 13:01:57  
End at: 2019-03-09 13:02:27  
Local clock offset: 0.351 ms  
Remote clock offset: -4.786 ms

# Below is generated by plot.py at 2019-03-09 15:11:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.52 Mbit/s  
95th percentile per-packet one-way delay: 54.949 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 60.57 Mbit/s  
95th percentile per-packet one-way delay: 53.138 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 41.21 Mbit/s  
95th percentile per-packet one-way delay: 53.342 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 31.46 Mbit/s  
95th percentile per-packet one-way delay: 83.271 ms  
Loss rate: 0.98%

## Run 1: Report of Indigo-MusesC3 — Data Link

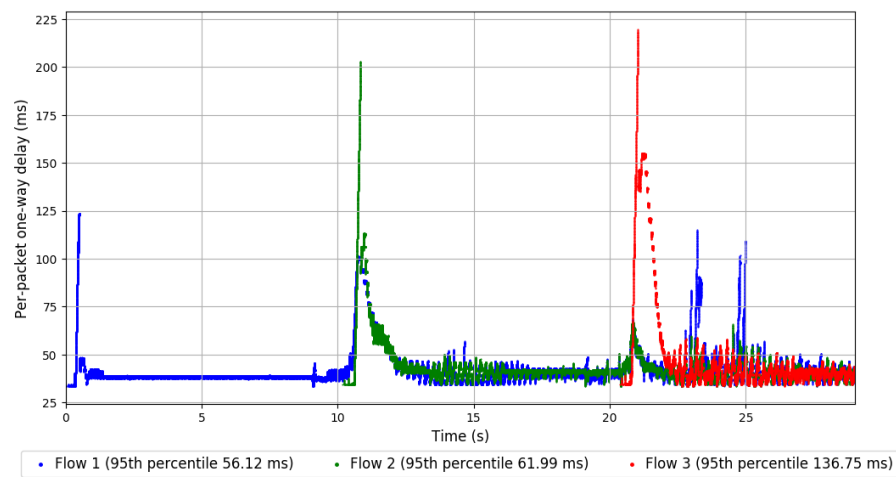
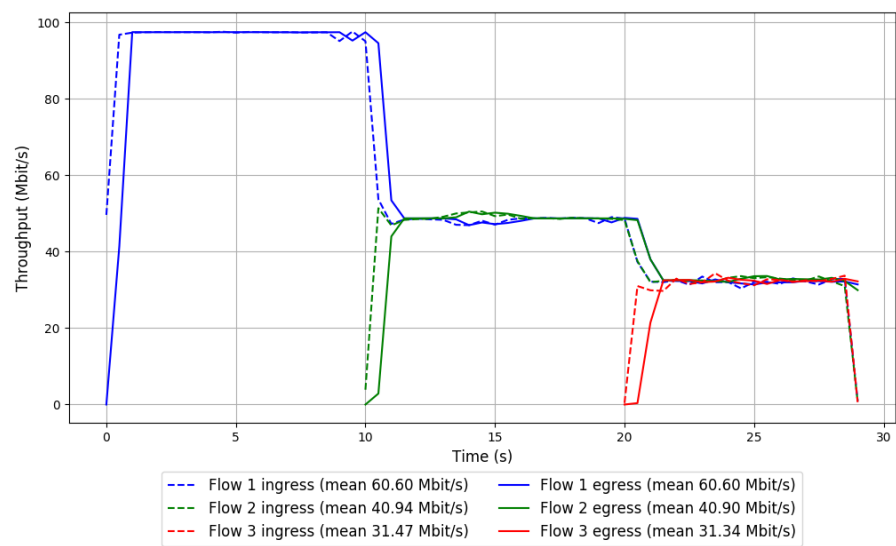


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-09 13:27:51  
End at: 2019-03-09 13:28:21  
Local clock offset: 0.287 ms  
Remote clock offset: -2.771 ms

# Below is generated by plot.py at 2019-03-09 15:11:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.49 Mbit/s  
95th percentile per-packet one-way delay: 61.668 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 60.60 Mbit/s  
95th percentile per-packet one-way delay: 56.125 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 40.90 Mbit/s  
95th percentile per-packet one-way delay: 61.988 ms  
Loss rate: 0.44%  
-- Flow 3:  
Average throughput: 31.34 Mbit/s  
95th percentile per-packet one-way delay: 136.749 ms  
Loss rate: 1.17%

Run 2: Report of Indigo-MusesC3 — Data Link



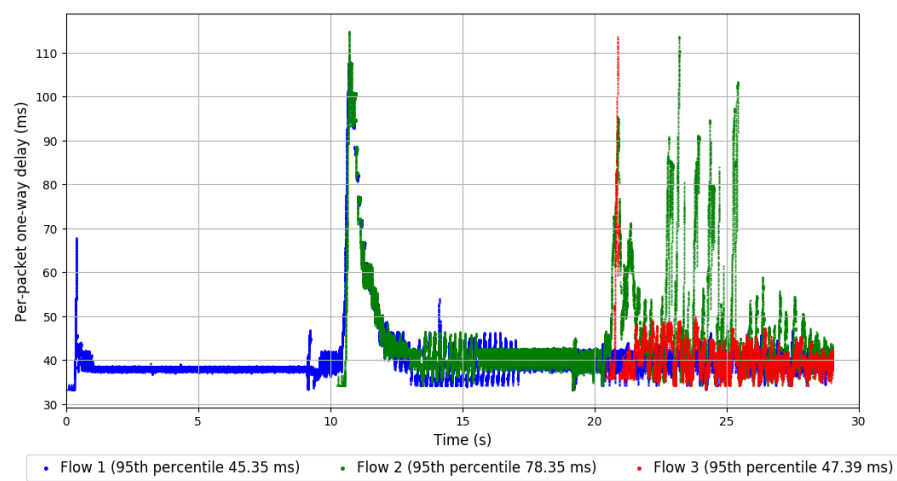
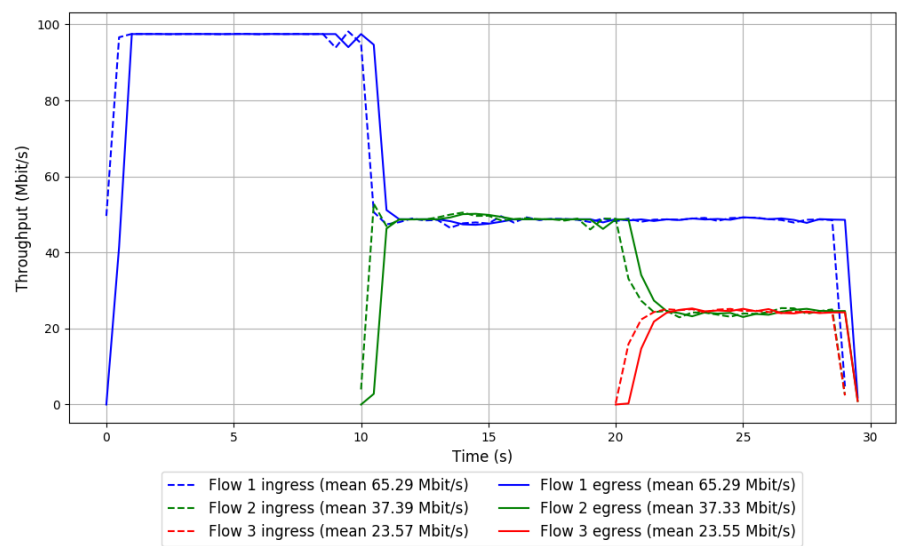


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-09 13:53:35  
End at: 2019-03-09 13:54:05  
Local clock offset: 0.341 ms  
Remote clock offset: -0.987 ms

# Below is generated by plot.py at 2019-03-09 15:11:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.49 Mbit/s  
95th percentile per-packet one-way delay: 57.301 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 65.29 Mbit/s  
95th percentile per-packet one-way delay: 45.351 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 37.33 Mbit/s  
95th percentile per-packet one-way delay: 78.348 ms  
Loss rate: 0.49%  
-- Flow 3:  
Average throughput: 23.55 Mbit/s  
95th percentile per-packet one-way delay: 47.391 ms  
Loss rate: 0.89%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-09 14:19:17

End at: 2019-03-09 14:19:47

Local clock offset: 0.389 ms

Remote clock offset: 0.154 ms

# Below is generated by plot.py at 2019-03-09 15:11:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.45 Mbit/s

95th percentile per-packet one-way delay: 54.574 ms

Loss rate: 0.66%

-- Flow 1:

Average throughput: 59.99 Mbit/s

95th percentile per-packet one-way delay: 52.401 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 40.87 Mbit/s

95th percentile per-packet one-way delay: 56.691 ms

Loss rate: 0.96%

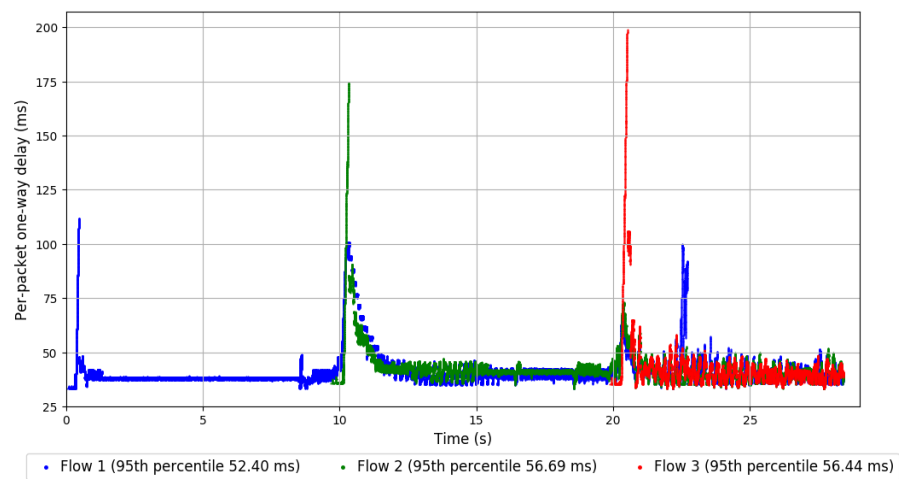
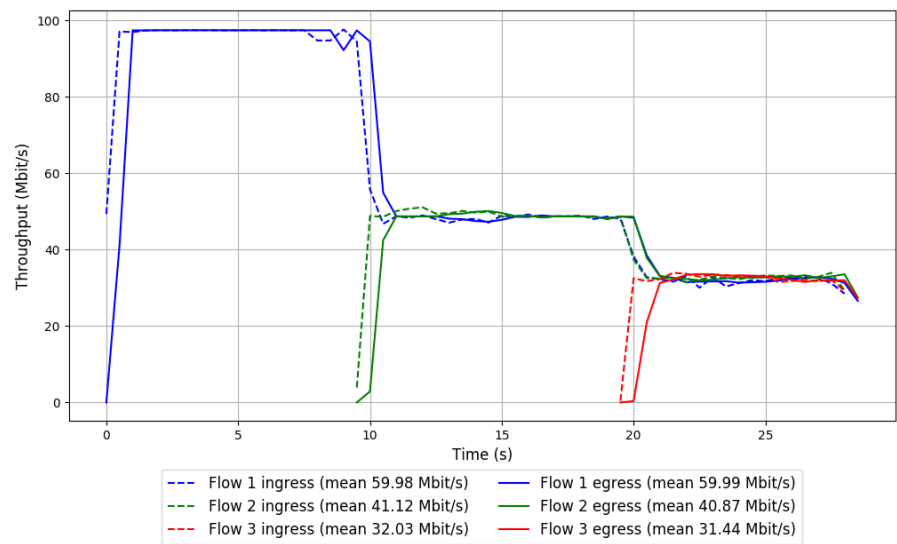
-- Flow 3:

Average throughput: 31.44 Mbit/s

95th percentile per-packet one-way delay: 56.441 ms

Loss rate: 2.58%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-09 14:45:12

End at: 2019-03-09 14:45:42

Local clock offset: 0.448 ms

Remote clock offset: 0.598 ms

# Below is generated by plot.py at 2019-03-09 15:12:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 52.821 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 60.61 Mbit/s

95th percentile per-packet one-way delay: 52.691 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 41.23 Mbit/s

95th percentile per-packet one-way delay: 49.577 ms

Loss rate: 0.34%

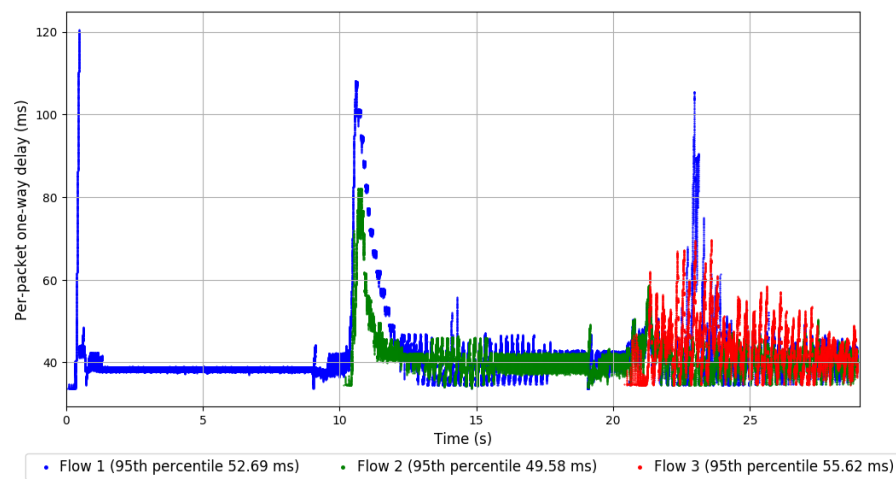
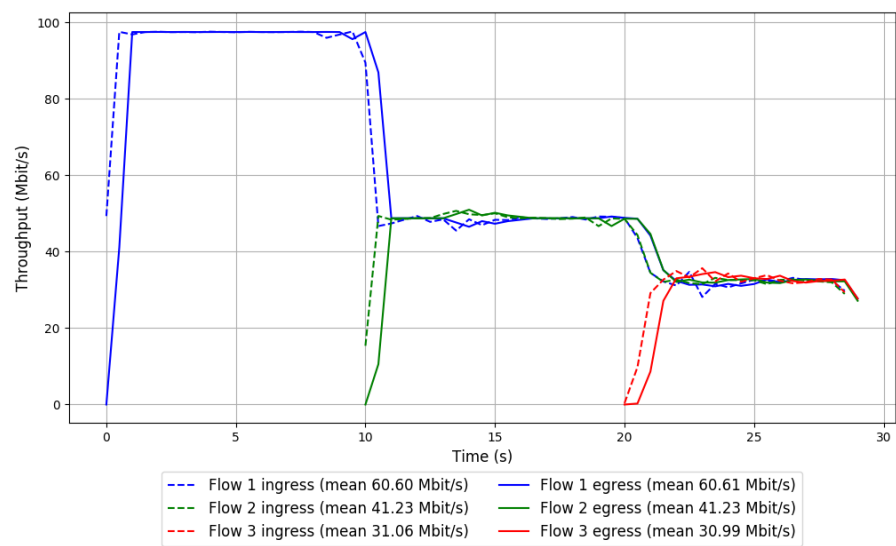
-- Flow 3:

Average throughput: 30.99 Mbit/s

95th percentile per-packet one-way delay: 55.616 ms

Loss rate: 0.97%

Run 5: Report of Indigo-MusesC3 — Data Link

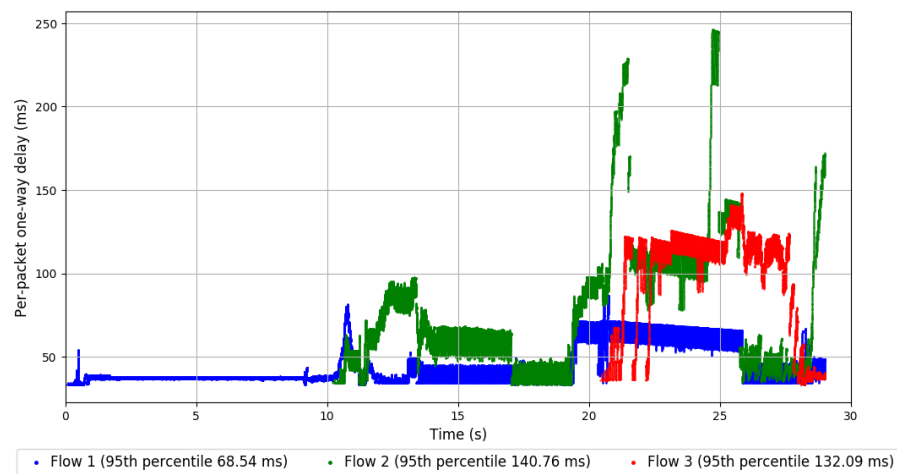
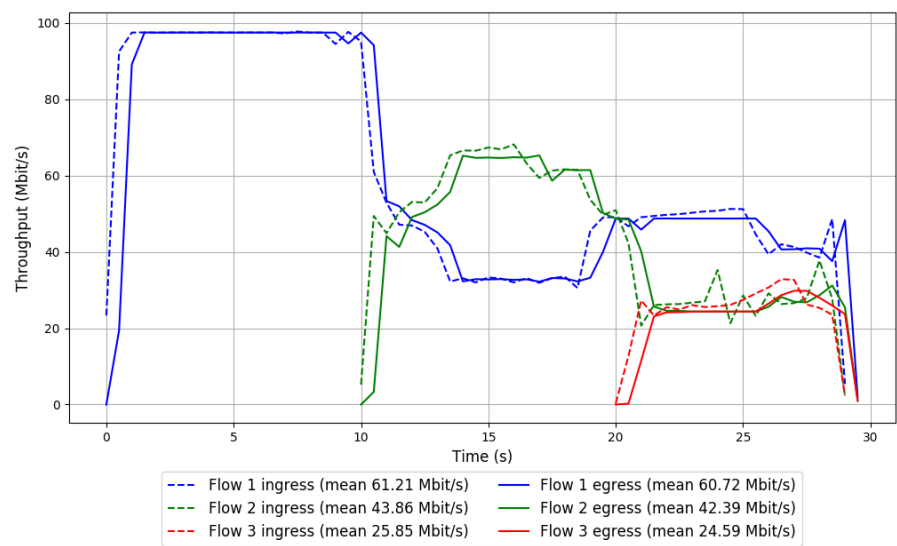


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-09 13:18:01  
End at: 2019-03-09 13:18:31  
Local clock offset: 0.297 ms  
Remote clock offset: -3.383 ms

# Below is generated by plot.py at 2019-03-09 15:12:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.52 Mbit/s  
95th percentile per-packet one-way delay: 117.155 ms  
Loss rate: 2.15%  
-- Flow 1:  
Average throughput: 60.72 Mbit/s  
95th percentile per-packet one-way delay: 68.544 ms  
Loss rate: 1.03%  
-- Flow 2:  
Average throughput: 42.39 Mbit/s  
95th percentile per-packet one-way delay: 140.756 ms  
Loss rate: 3.64%  
-- Flow 3:  
Average throughput: 24.59 Mbit/s  
95th percentile per-packet one-way delay: 132.090 ms  
Loss rate: 5.59%

Run 1: Report of Indigo-MusesC5 — Data Link



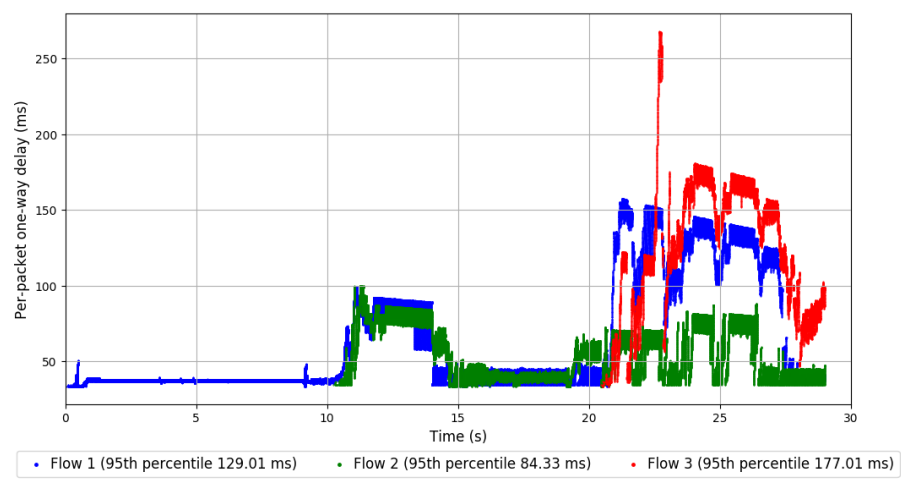
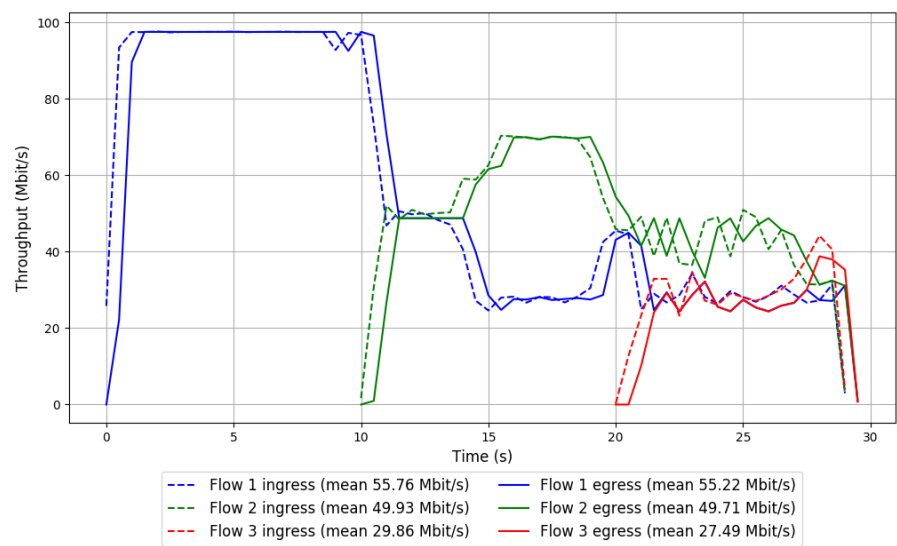


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-09 13:43:54  
End at: 2019-03-09 13:44:24  
Local clock offset: 0.243 ms  
Remote clock offset: -1.719 ms

# Below is generated by plot.py at 2019-03-09 15:12:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.53 Mbit/s  
95th percentile per-packet one-way delay: 138.746 ms  
Loss rate: 1.75%  
-- Flow 1:  
Average throughput: 55.22 Mbit/s  
95th percentile per-packet one-way delay: 129.015 ms  
Loss rate: 1.19%  
-- Flow 2:  
Average throughput: 49.71 Mbit/s  
95th percentile per-packet one-way delay: 84.325 ms  
Loss rate: 0.80%  
-- Flow 3:  
Average throughput: 27.49 Mbit/s  
95th percentile per-packet one-way delay: 177.006 ms  
Loss rate: 8.69%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-09 14:09:36

End at: 2019-03-09 14:10:06

Local clock offset: 0.391 ms

Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-03-09 15:12:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.51 Mbit/s

95th percentile per-packet one-way delay: 154.755 ms

Loss rate: 2.24%

-- Flow 1:

Average throughput: 61.70 Mbit/s

95th percentile per-packet one-way delay: 93.846 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 40.54 Mbit/s

95th percentile per-packet one-way delay: 177.076 ms

Loss rate: 4.38%

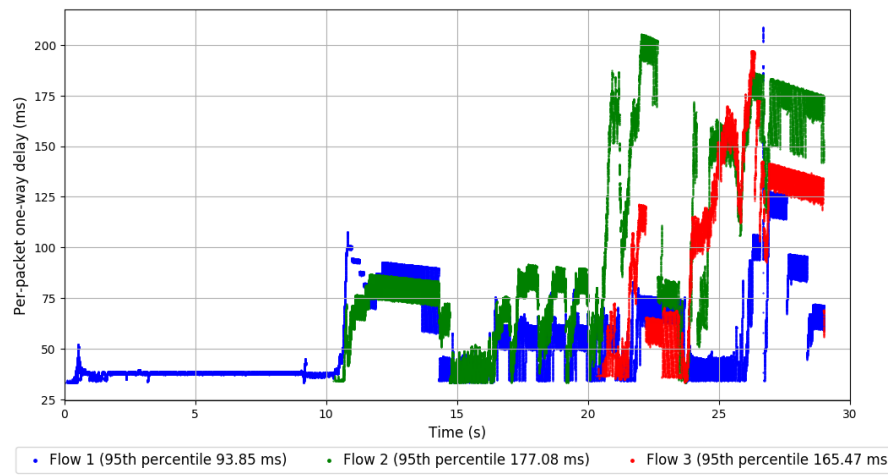
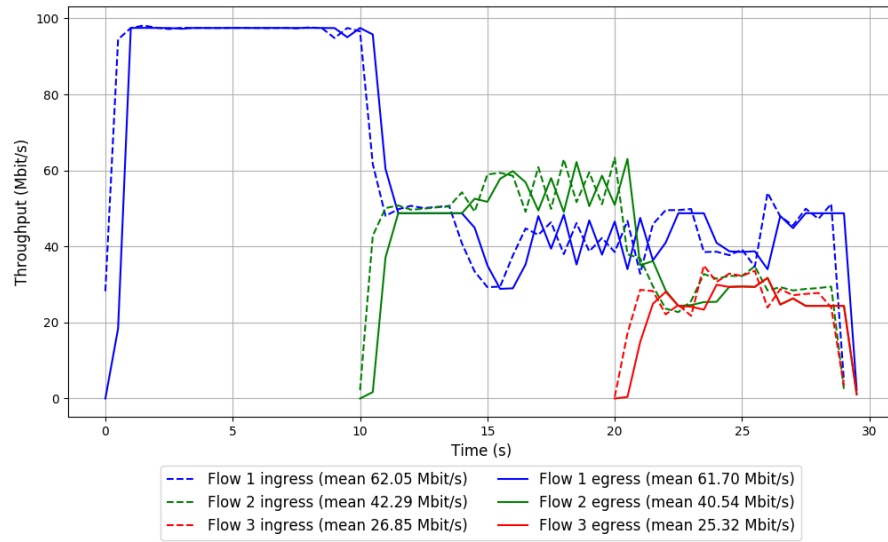
-- Flow 3:

Average throughput: 25.32 Mbit/s

95th percentile per-packet one-way delay: 165.467 ms

Loss rate: 6.39%

### Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-09 14:35:25

End at: 2019-03-09 14:35:55

Local clock offset: 0.464 ms

Remote clock offset: 0.558 ms

# Below is generated by plot.py at 2019-03-09 15:12:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 133.474 ms

Loss rate: 2.30%

-- Flow 1:

Average throughput: 58.08 Mbit/s

95th percentile per-packet one-way delay: 142.153 ms

Loss rate: 1.81%

-- Flow 2:

Average throughput: 42.48 Mbit/s

95th percentile per-packet one-way delay: 109.479 ms

Loss rate: 1.46%

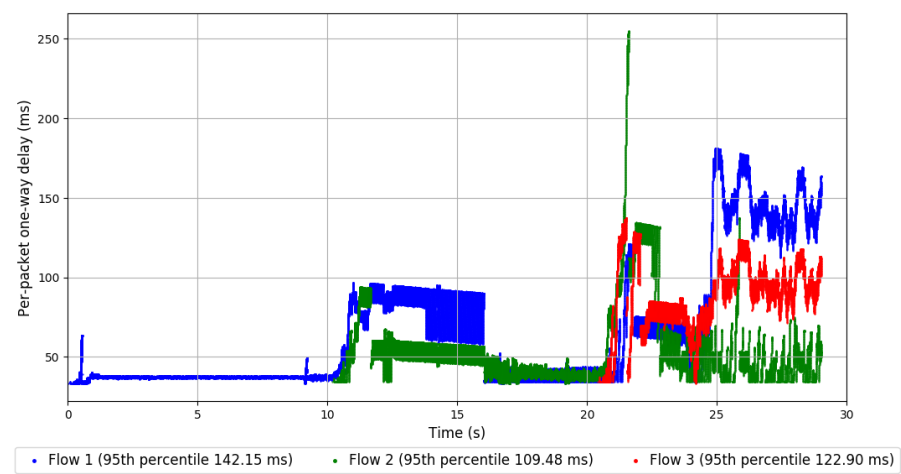
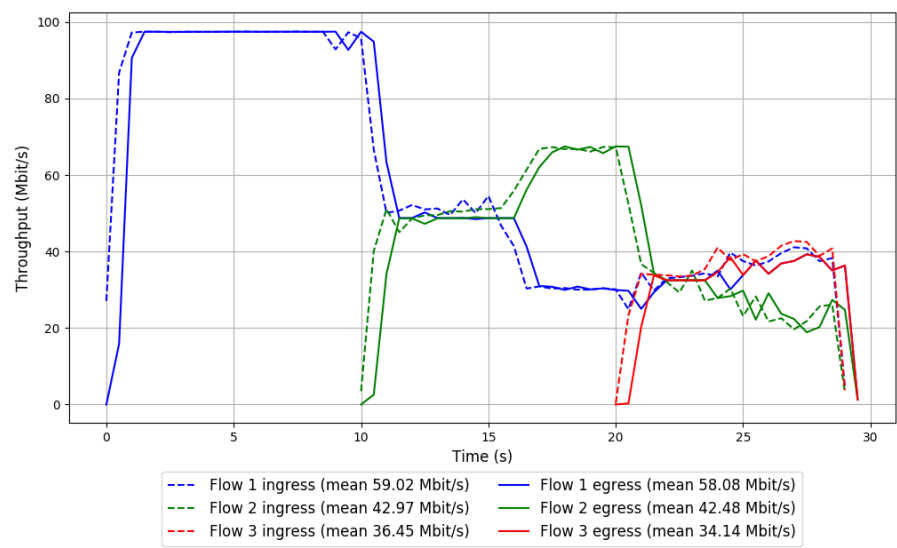
-- Flow 3:

Average throughput: 34.14 Mbit/s

95th percentile per-packet one-way delay: 122.898 ms

Loss rate: 7.06%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-09 15:02:01

End at: 2019-03-09 15:02:31

Local clock offset: 0.33 ms

Remote clock offset: 0.748 ms

# Below is generated by plot.py at 2019-03-09 15:13:04

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.74 Mbit/s

95th percentile per-packet one-way delay: 128.530 ms

Loss rate: 1.63%

-- Flow 1:

Average throughput: 55.26 Mbit/s

95th percentile per-packet one-way delay: 136.036 ms

Loss rate: 1.54%

-- Flow 2:

Average throughput: 50.45 Mbit/s

95th percentile per-packet one-way delay: 70.355 ms

Loss rate: 0.88%

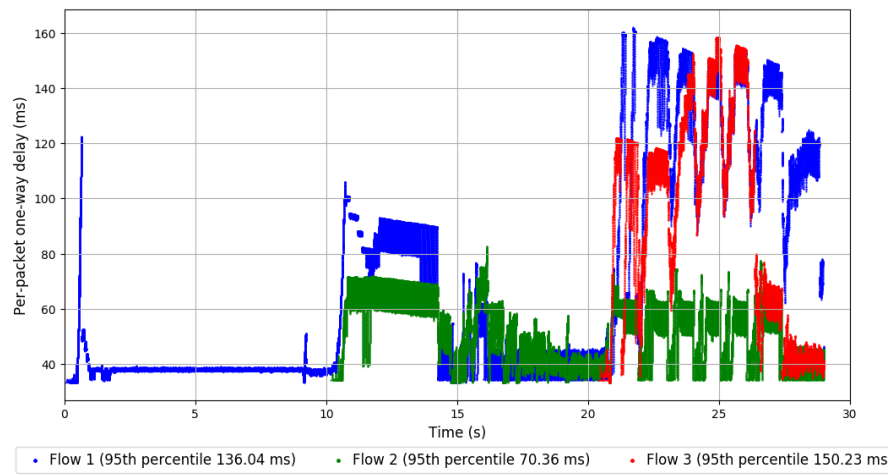
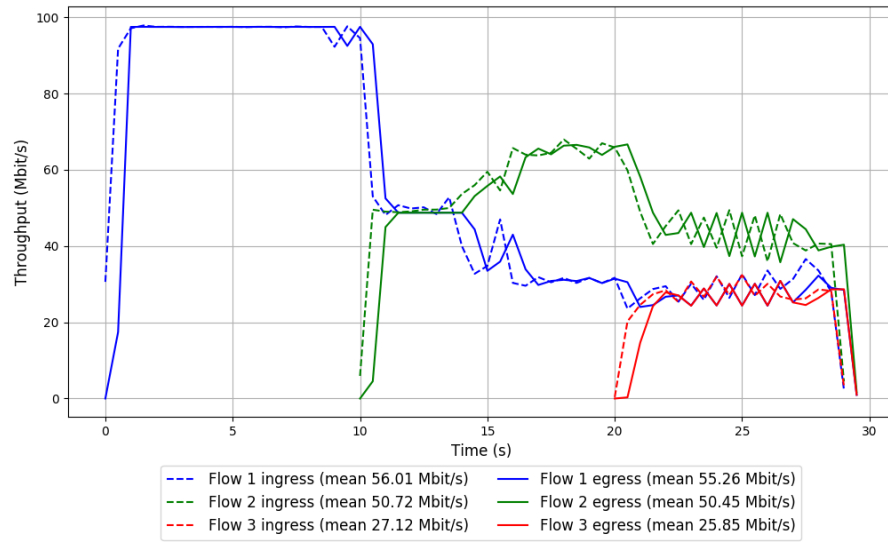
-- Flow 3:

Average throughput: 25.85 Mbit/s

95th percentile per-packet one-way delay: 150.233 ms

Loss rate: 5.36%

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



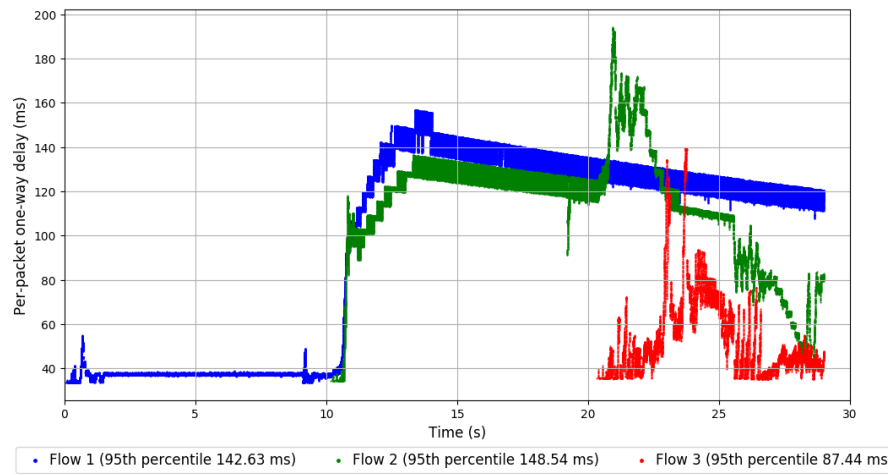
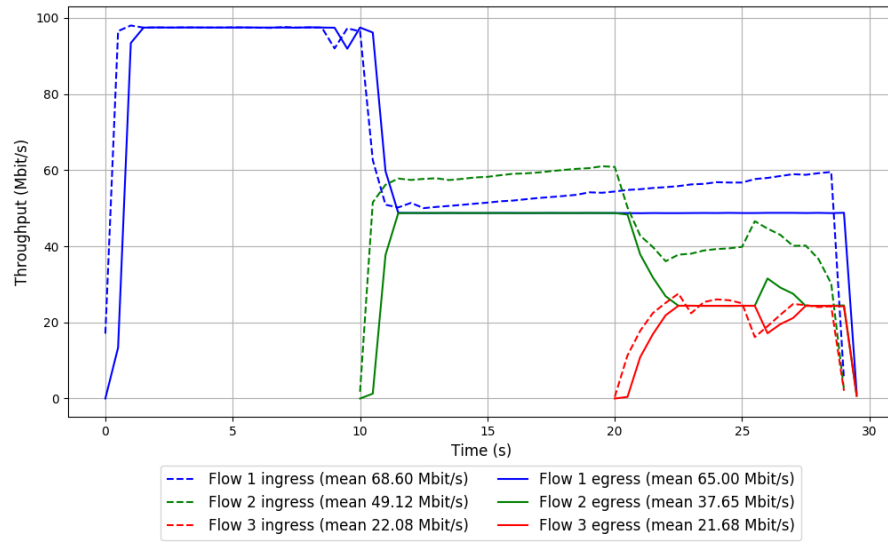


Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-09 13:15:34  
End at: 2019-03-09 13:16:04  
Local clock offset: 0.31 ms  
Remote clock offset: -3.811 ms

# Below is generated by plot.py at 2019-03-09 15:13:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.96 Mbit/s  
95th percentile per-packet one-way delay: 142.515 ms  
Loss rate: 10.69%  
-- Flow 1:  
Average throughput: 65.00 Mbit/s  
95th percentile per-packet one-way delay: 142.634 ms  
Loss rate: 5.46%  
-- Flow 2:  
Average throughput: 37.65 Mbit/s  
95th percentile per-packet one-way delay: 148.540 ms  
Loss rate: 23.62%  
-- Flow 3:  
Average throughput: 21.68 Mbit/s  
95th percentile per-packet one-way delay: 87.444 ms  
Loss rate: 2.50%

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

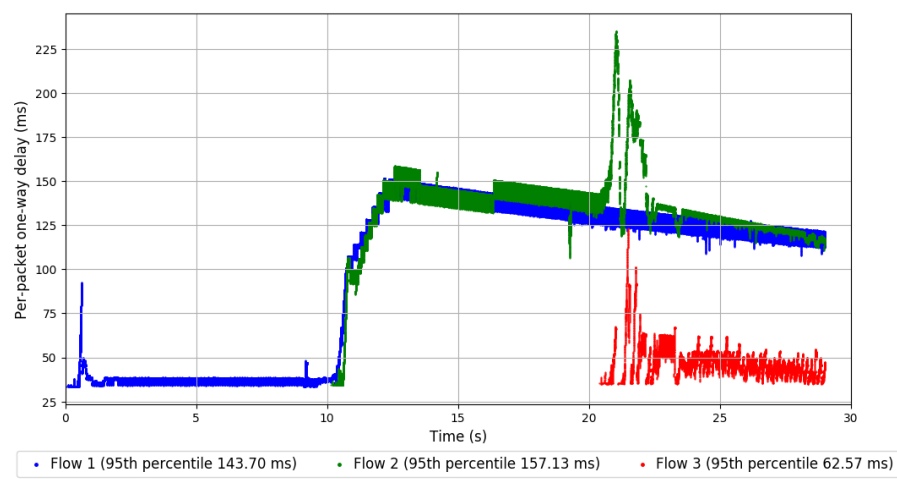
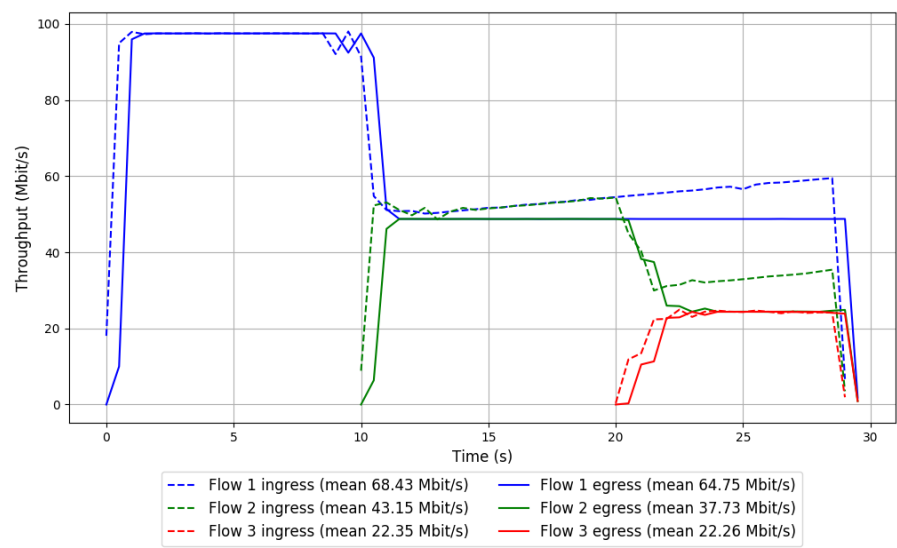


Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-09 13:41:27  
End at: 2019-03-09 13:41:57  
Local clock offset: 0.257 ms  
Remote clock offset: -1.817 ms

# Below is generated by plot.py at 2019-03-09 15:13:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.95 Mbit/s  
95th percentile per-packet one-way delay: 147.578 ms  
Loss rate: 7.27%  
-- Flow 1:  
Average throughput: 64.75 Mbit/s  
95th percentile per-packet one-way delay: 143.696 ms  
Loss rate: 5.58%  
-- Flow 2:  
Average throughput: 37.73 Mbit/s  
95th percentile per-packet one-way delay: 157.134 ms  
Loss rate: 12.84%  
-- Flow 3:  
Average throughput: 22.26 Mbit/s  
95th percentile per-packet one-way delay: 62.568 ms  
Loss rate: 1.12%

Run 2: Report of Indigo-MusesD — Data Link

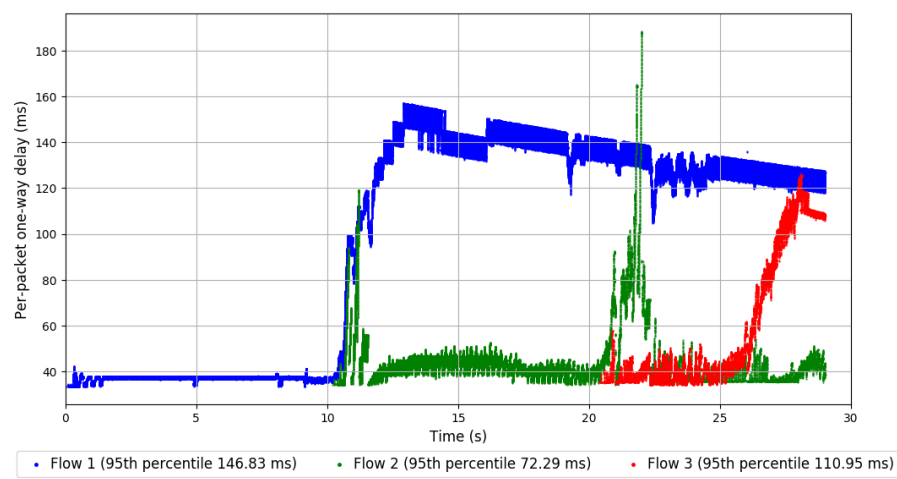
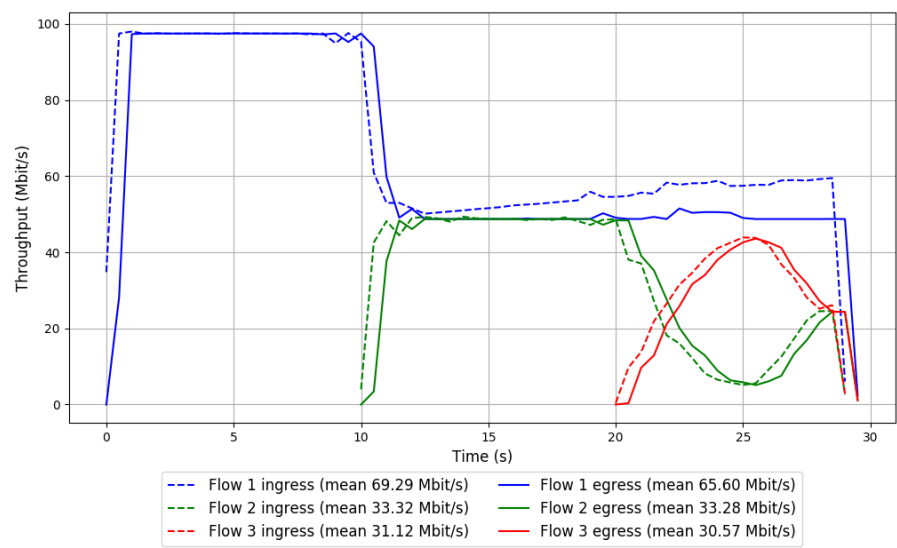


Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-09 14:07:08  
End at: 2019-03-09 14:07:38  
Local clock offset: 0.386 ms  
Remote clock offset: -0.199 ms

# Below is generated by plot.py at 2019-03-09 15:13:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.34 Mbit/s  
95th percentile per-packet one-way delay: 144.867 ms  
Loss rate: 4.16%  
-- Flow 1:  
Average throughput: 65.60 Mbit/s  
95th percentile per-packet one-way delay: 146.832 ms  
Loss rate: 5.54%  
-- Flow 2:  
Average throughput: 33.28 Mbit/s  
95th percentile per-packet one-way delay: 72.294 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 30.57 Mbit/s  
95th percentile per-packet one-way delay: 110.949 ms  
Loss rate: 2.51%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-09 14:32:58

End at: 2019-03-09 14:33:28

Local clock offset: 0.44 ms

Remote clock offset: 0.536 ms

# Below is generated by plot.py at 2019-03-09 15:13:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.28 Mbit/s

95th percentile per-packet one-way delay: 147.069 ms

Loss rate: 7.94%

-- Flow 1:

Average throughput: 58.23 Mbit/s

95th percentile per-packet one-way delay: 148.202 ms

Loss rate: 5.97%

-- Flow 2:

Average throughput: 37.02 Mbit/s

95th percentile per-packet one-way delay: 139.291 ms

Loss rate: 13.00%

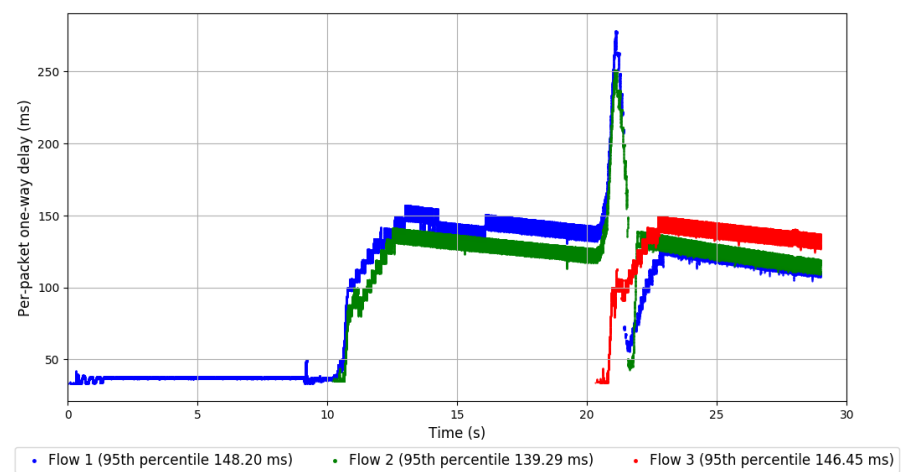
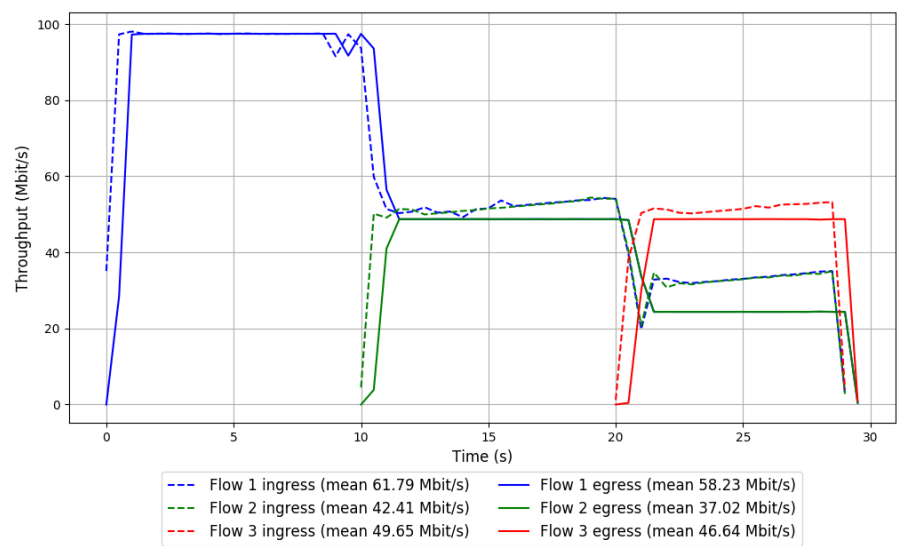
-- Flow 3:

Average throughput: 46.64 Mbit/s

95th percentile per-packet one-way delay: 146.451 ms

Loss rate: 6.75%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-09 14:59:32

End at: 2019-03-09 15:00:02

Local clock offset: 0.332 ms

Remote clock offset: 0.751 ms

# Below is generated by plot.py at 2019-03-09 15:13:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.14 Mbit/s

95th percentile per-packet one-way delay: 145.028 ms

Loss rate: 7.19%

-- Flow 1:

Average throughput: 58.31 Mbit/s

95th percentile per-packet one-way delay: 146.693 ms

Loss rate: 5.96%

-- Flow 2:

Average throughput: 37.02 Mbit/s

95th percentile per-packet one-way delay: 138.515 ms

Loss rate: 13.10%

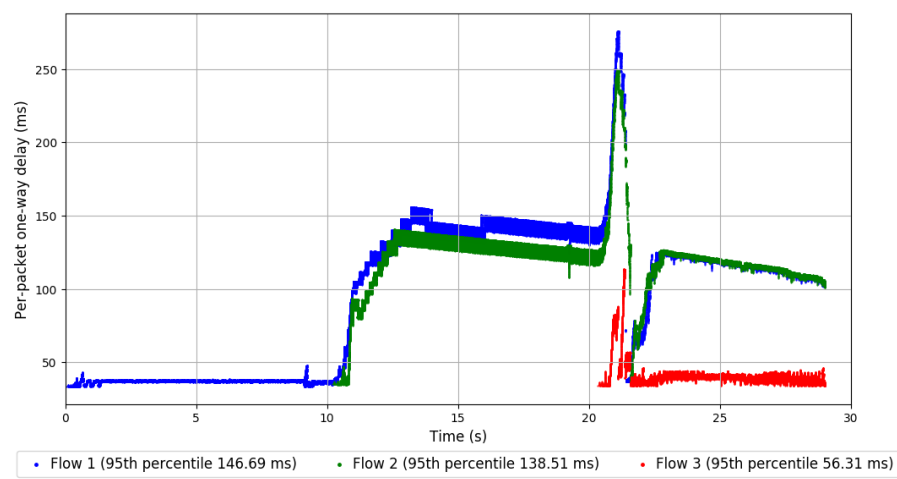
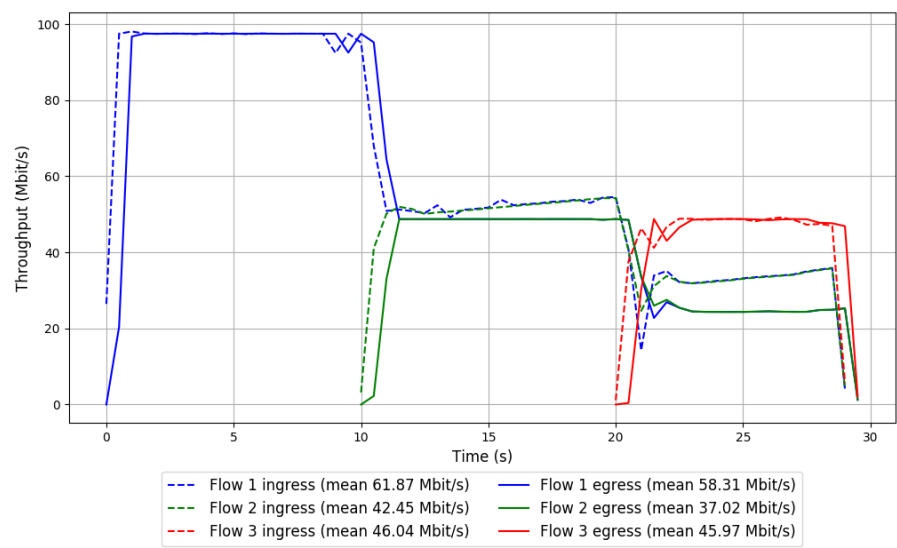
-- Flow 3:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 56.306 ms

Loss rate: 0.89%

Run 5: Report of Indigo-MusesD — Data Link

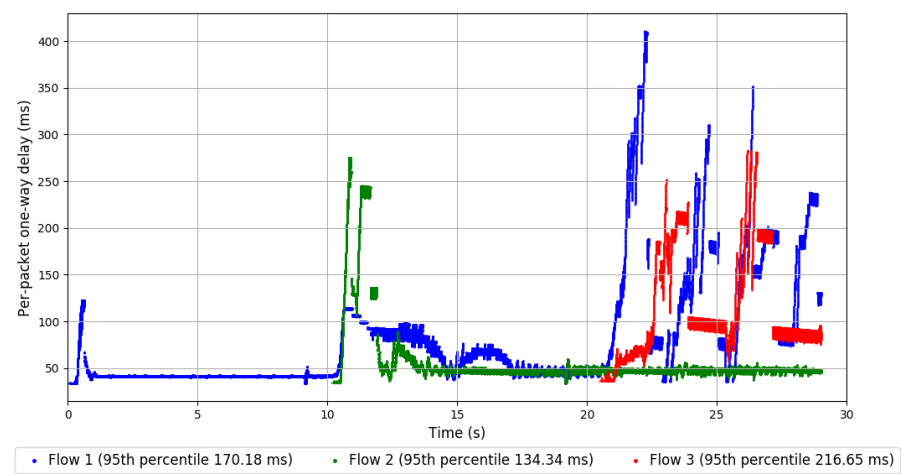
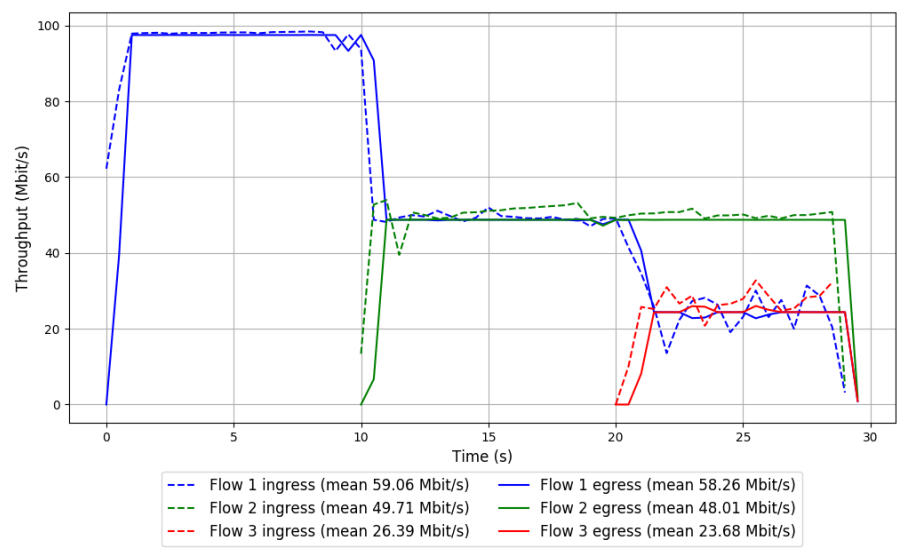


Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-09 13:11:48  
End at: 2019-03-09 13:12:18  
Local clock offset: 0.323 ms  
Remote clock offset: -3.934 ms

# Below is generated by plot.py at 2019-03-09 15:13:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.45 Mbit/s  
95th percentile per-packet one-way delay: 185.720 ms  
Loss rate: 2.95%  
-- Flow 1:  
Average throughput: 58.26 Mbit/s  
95th percentile per-packet one-way delay: 170.178 ms  
Loss rate: 1.58%  
-- Flow 2:  
Average throughput: 48.01 Mbit/s  
95th percentile per-packet one-way delay: 134.336 ms  
Loss rate: 3.75%  
-- Flow 3:  
Average throughput: 23.68 Mbit/s  
95th percentile per-packet one-way delay: 216.650 ms  
Loss rate: 10.06%

Run 1: Report of Indigo-MusesT — Data Link

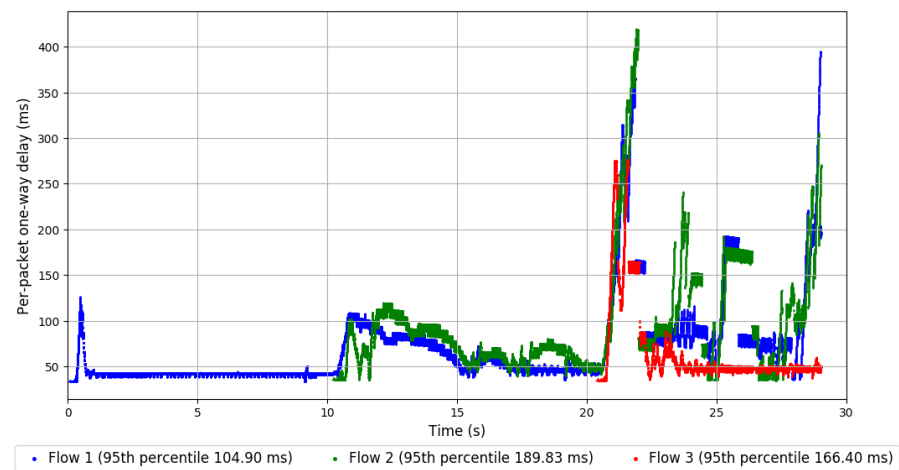
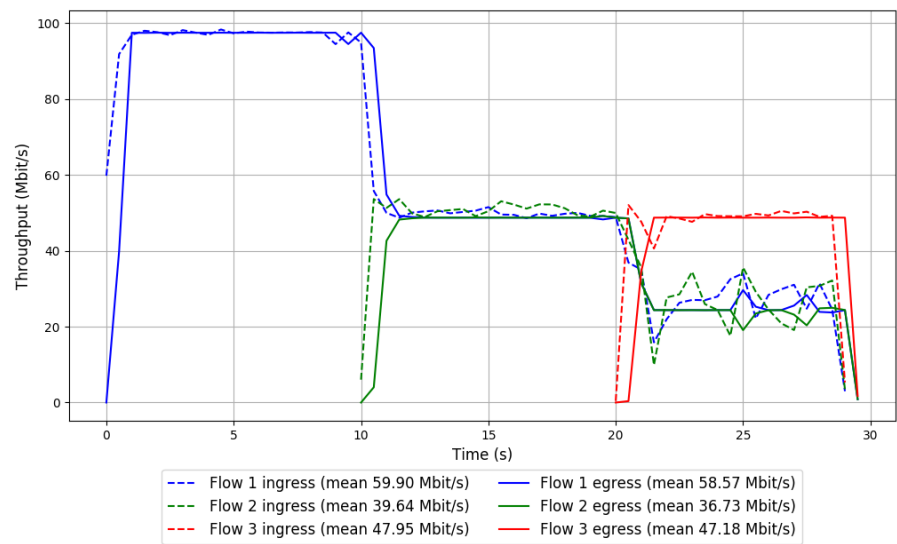


Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-09 13:37:45  
End at: 2019-03-09 13:38:15  
Local clock offset: 0.261 ms  
Remote clock offset: -2.082 ms

# Below is generated by plot.py at 2019-03-09 15:14:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.53 Mbit/s  
95th percentile per-packet one-way delay: 164.219 ms  
Loss rate: 3.78%  
-- Flow 1:  
Average throughput: 58.57 Mbit/s  
95th percentile per-packet one-way delay: 104.903 ms  
Loss rate: 2.44%  
-- Flow 2:  
Average throughput: 36.73 Mbit/s  
95th percentile per-packet one-way delay: 189.834 ms  
Loss rate: 7.67%  
-- Flow 3:  
Average throughput: 47.18 Mbit/s  
95th percentile per-packet one-way delay: 166.403 ms  
Loss rate: 2.35%

Run 2: Report of Indigo-MusesT — Data Link

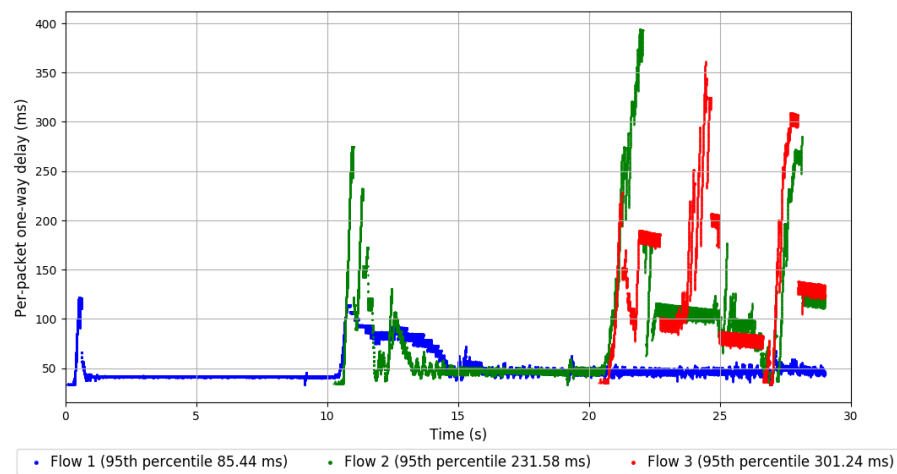
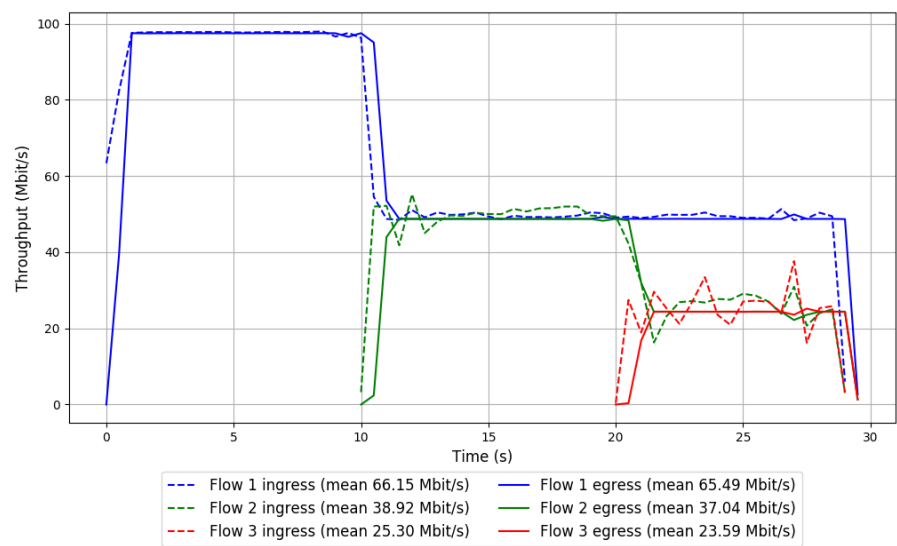


Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-09 14:03:25  
End at: 2019-03-09 14:03:55  
Local clock offset: 0.361 ms  
Remote clock offset: -0.466 ms

# Below is generated by plot.py at 2019-03-09 15:14:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.52 Mbit/s  
95th percentile per-packet one-way delay: 152.826 ms  
Loss rate: 2.68%  
-- Flow 1:  
Average throughput: 65.49 Mbit/s  
95th percentile per-packet one-way delay: 85.435 ms  
Loss rate: 1.21%  
-- Flow 2:  
Average throughput: 37.04 Mbit/s  
95th percentile per-packet one-way delay: 231.578 ms  
Loss rate: 5.10%  
-- Flow 3:  
Average throughput: 23.59 Mbit/s  
95th percentile per-packet one-way delay: 301.236 ms  
Loss rate: 7.41%

Run 3: Report of Indigo-MusesT — Data Link





Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-09 14:29:14

End at: 2019-03-09 14:29:44

Local clock offset: 0.442 ms

Remote clock offset: 0.486 ms

# Below is generated by plot.py at 2019-03-09 15:14:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.46 Mbit/s

95th percentile per-packet one-way delay: 189.305 ms

Loss rate: 3.56%

-- Flow 1:

Average throughput: 60.58 Mbit/s

95th percentile per-packet one-way delay: 129.822 ms

Loss rate: 1.82%

-- Flow 2:

Average throughput: 40.58 Mbit/s

95th percentile per-packet one-way delay: 240.453 ms

Loss rate: 5.64%

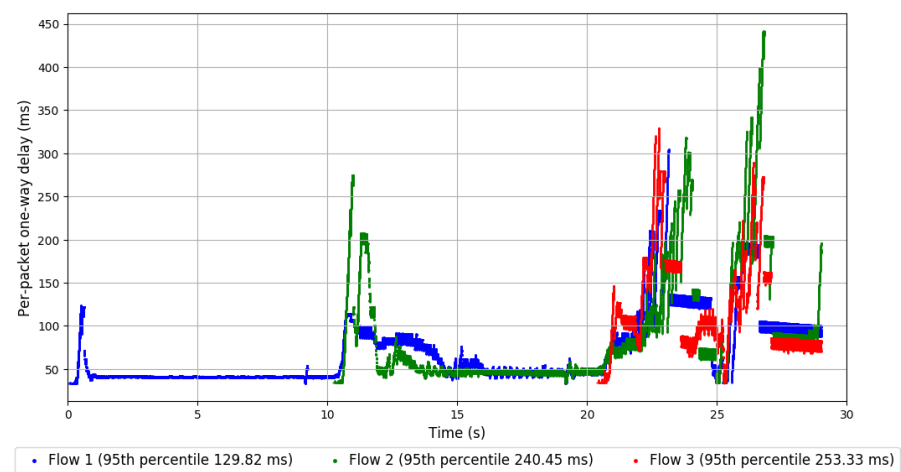
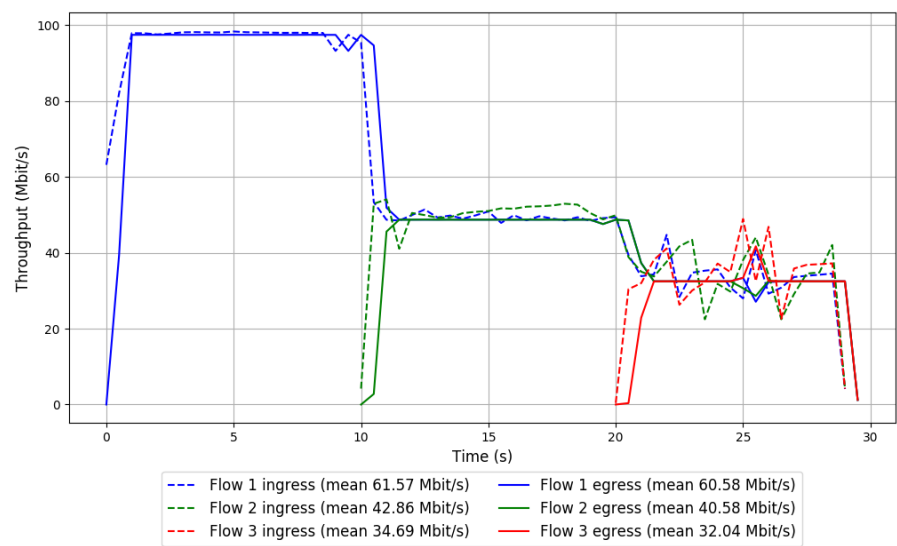
-- Flow 3:

Average throughput: 32.04 Mbit/s

95th percentile per-packet one-way delay: 253.326 ms

Loss rate: 8.30%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-09 14:55:31

End at: 2019-03-09 14:56:01

Local clock offset: 0.341 ms

Remote clock offset: 0.717 ms

# Below is generated by plot.py at 2019-03-09 15:14:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.56 Mbit/s

95th percentile per-packet one-way delay: 184.996 ms

Loss rate: 3.15%

-- Flow 1:

Average throughput: 58.73 Mbit/s

95th percentile per-packet one-way delay: 141.474 ms

Loss rate: 2.14%

-- Flow 2:

Average throughput: 47.89 Mbit/s

95th percentile per-packet one-way delay: 242.996 ms

Loss rate: 4.34%

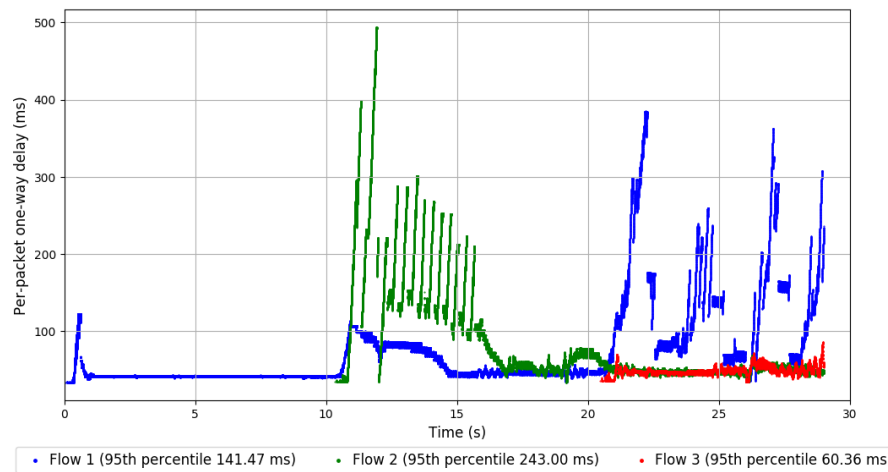
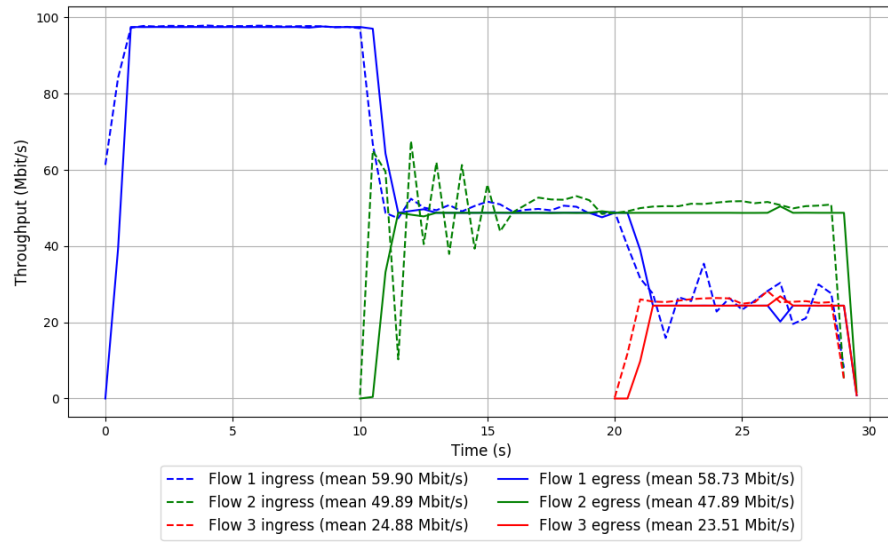
-- Flow 3:

Average throughput: 23.51 Mbit/s

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

Loss rate: 6.21%

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

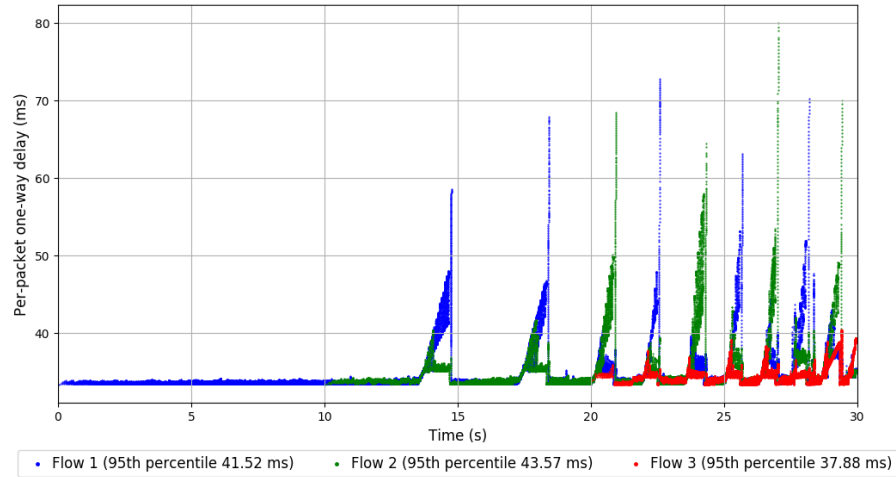
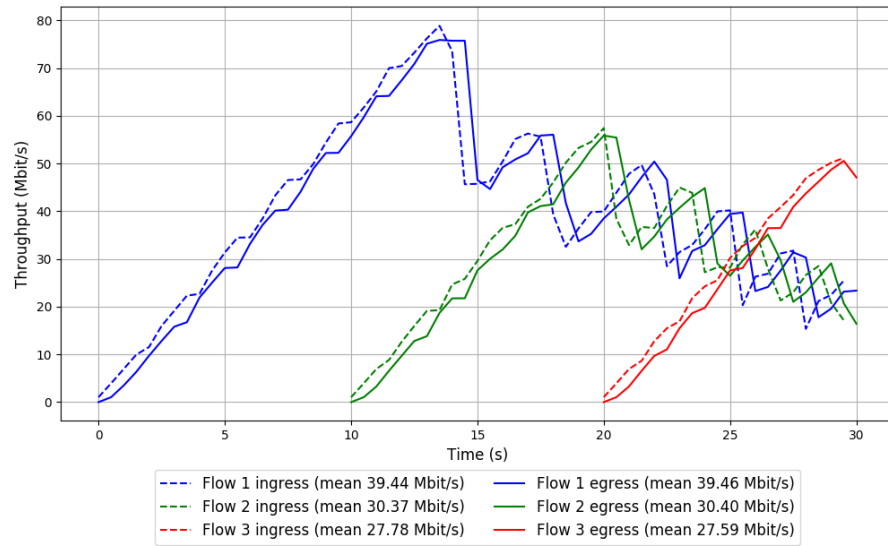


```
Run 1: Statistics of LEDBAT

Start at: 2019-03-09 13:09:20
End at: 2019-03-09 13:09:50
Local clock offset: 0.345 ms
Remote clock offset: -4.036 ms

# Below is generated by plot.py at 2019-03-09 15:14:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.84 Mbit/s
95th percentile per-packet one-way delay: 41.466 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 39.46 Mbit/s
95th percentile per-packet one-way delay: 41.515 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 43.571 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 27.59 Mbit/s
95th percentile per-packet one-way delay: 37.878 ms
Loss rate: 1.31%
```

# Run 1: Report of LEDBAT — Data Link

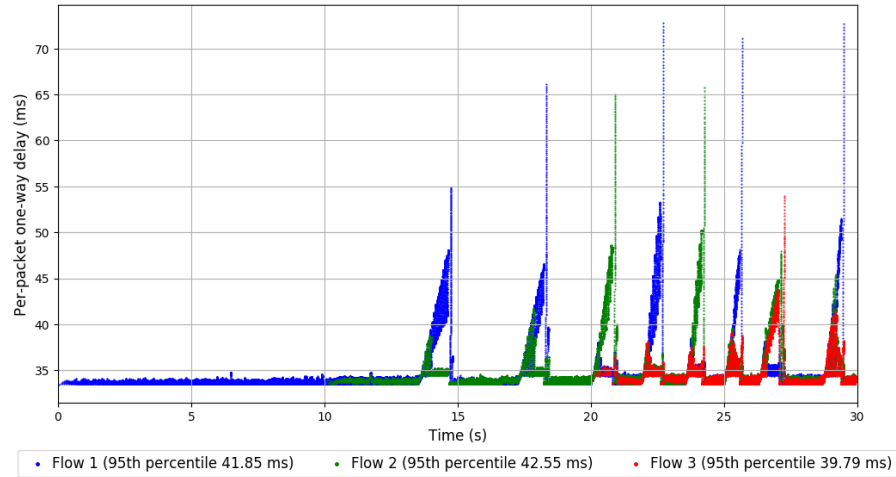
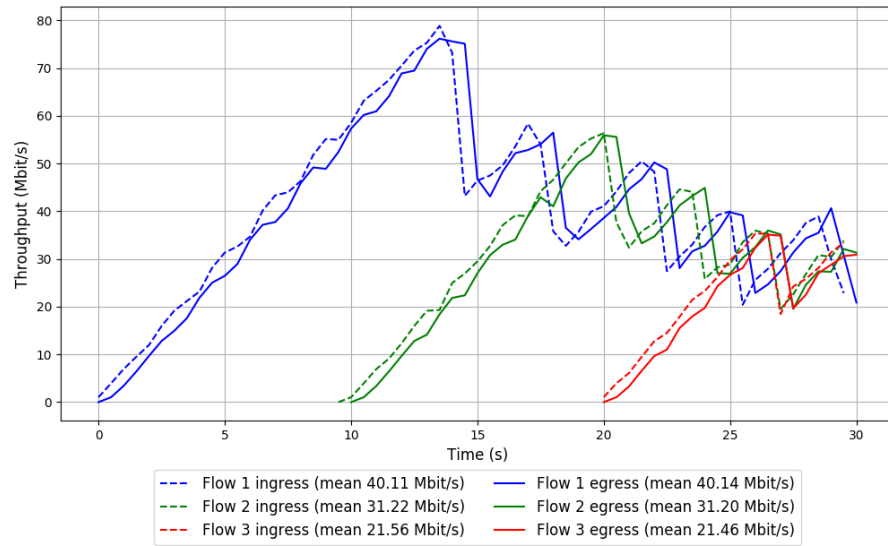


Run 2: Statistics of LEDBAT

Start at: 2019-03-09 13:35:17  
End at: 2019-03-09 13:35:47  
Local clock offset: 0.271 ms  
Remote clock offset: -2.316 ms

# Below is generated by plot.py at 2019-03-09 15:14:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 68.02 Mbit/s  
95th percentile per-packet one-way delay: 41.737 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 40.14 Mbit/s  
95th percentile per-packet one-way delay: 41.853 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 31.20 Mbit/s  
95th percentile per-packet one-way delay: 42.545 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 21.46 Mbit/s  
95th percentile per-packet one-way delay: 39.790 ms  
Loss rate: 1.12%

## Run 2: Report of LEDBAT — Data Link



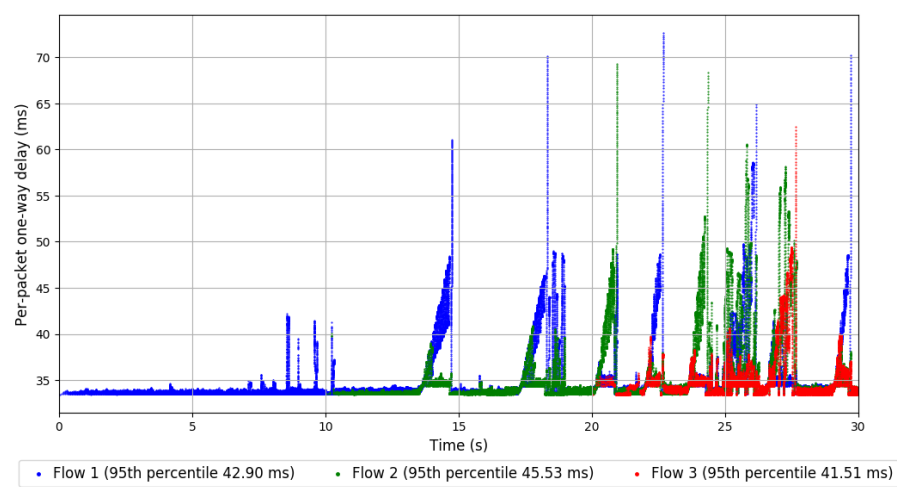
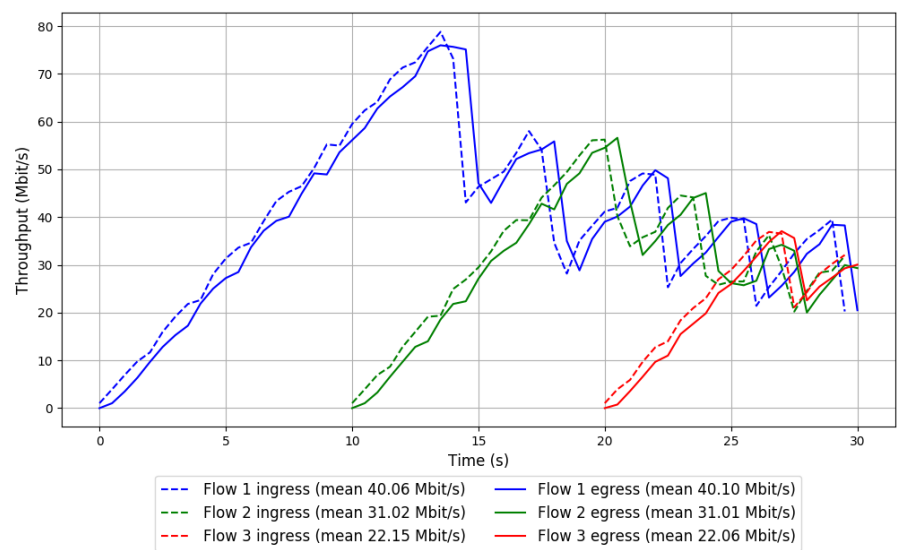


Run 3: Statistics of LEDBAT

Start at: 2019-03-09 14:00:57  
End at: 2019-03-09 14:01:27  
Local clock offset: 0.37 ms  
Remote clock offset: -0.604 ms

# Below is generated by plot.py at 2019-03-09 15:14:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 68.05 Mbit/s  
95th percentile per-packet one-way delay: 43.543 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 40.10 Mbit/s  
95th percentile per-packet one-way delay: 42.902 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 31.01 Mbit/s  
95th percentile per-packet one-way delay: 45.529 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 22.06 Mbit/s  
95th percentile per-packet one-way delay: 41.509 ms  
Loss rate: 1.02%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-09 14:26:45

End at: 2019-03-09 14:27:15

Local clock offset: 0.421 ms

Remote clock offset: 0.348 ms

# Below is generated by plot.py at 2019-03-09 15:14:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 67.10 Mbit/s

95th percentile per-packet one-way delay: 41.364 ms

Loss rate: 0.34%

-- Flow 1:

Average throughput: 40.57 Mbit/s

95th percentile per-packet one-way delay: 41.158 ms

Loss rate: 0.25%

-- Flow 2:

Average throughput: 31.33 Mbit/s

95th percentile per-packet one-way delay: 41.707 ms

Loss rate: 0.38%

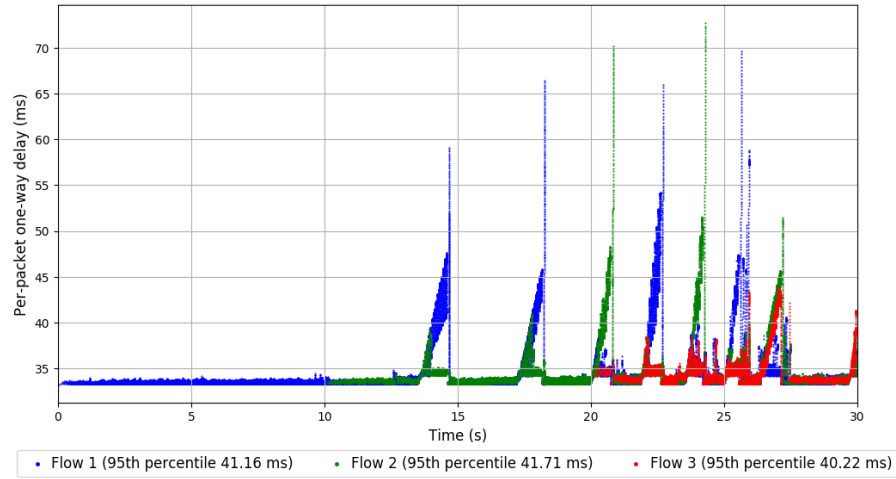
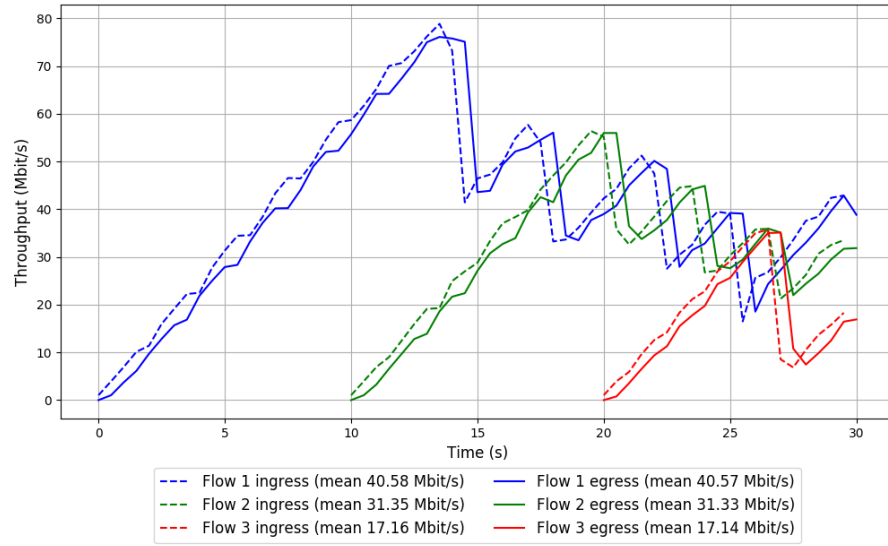
-- Flow 3:

Average throughput: 17.14 Mbit/s

95th percentile per-packet one-way delay: 40.224 ms

Loss rate: 0.80%

# Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-09 14:52:58

End at: 2019-03-09 14:53:28

Local clock offset: 0.357 ms

Remote clock offset: 0.797 ms

# Below is generated by plot.py at 2019-03-09 15:14:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 67.97 Mbit/s

95th percentile per-packet one-way delay: 41.548 ms

Loss rate: 0.27%

-- Flow 1:

Average throughput: 41.77 Mbit/s

95th percentile per-packet one-way delay: 40.596 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 29.98 Mbit/s

95th percentile per-packet one-way delay: 44.361 ms

Loss rate: 0.24%

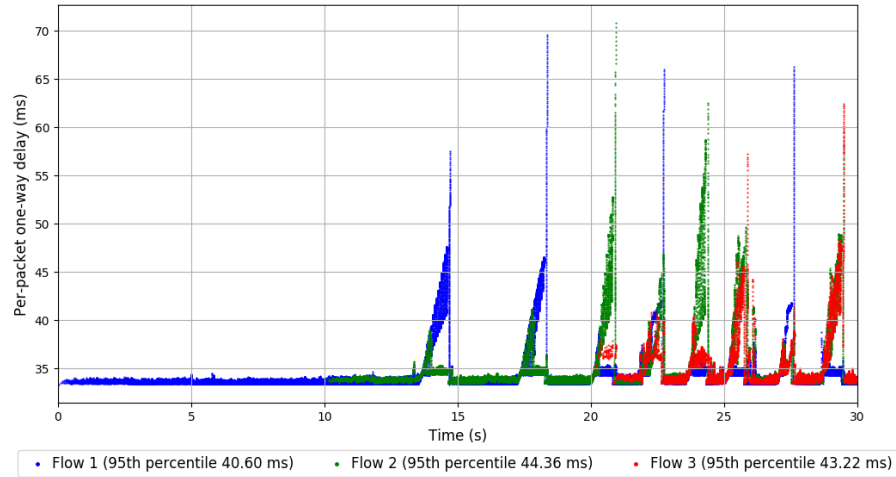
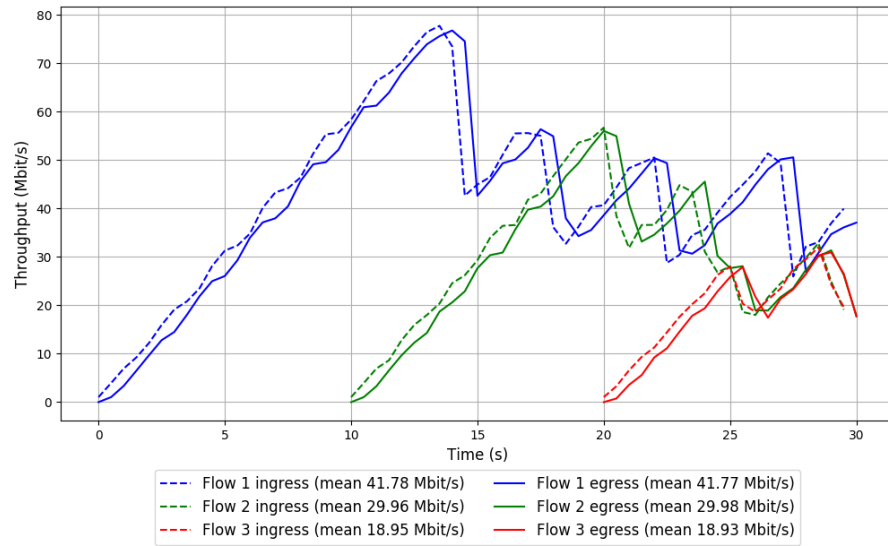
-- Flow 3:

Average throughput: 18.93 Mbit/s

95th percentile per-packet one-way delay: 43.216 ms

Loss rate: 0.73%

## Run 5: Report of LEDBAT — Data Link

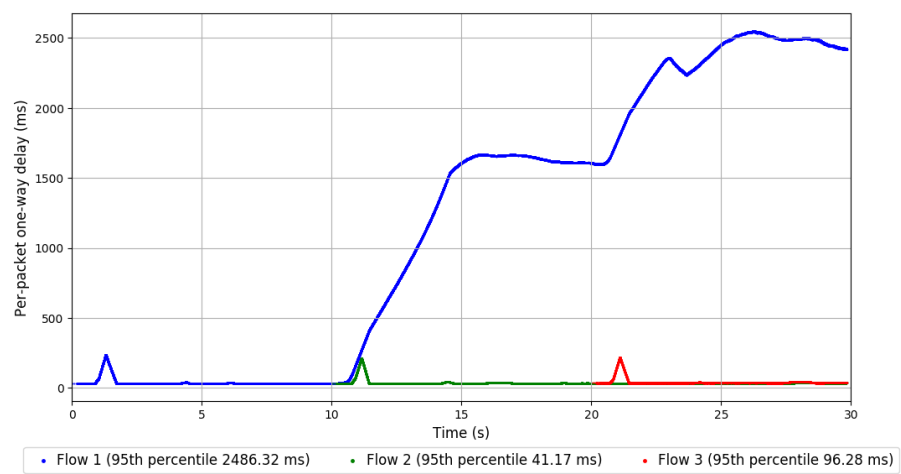
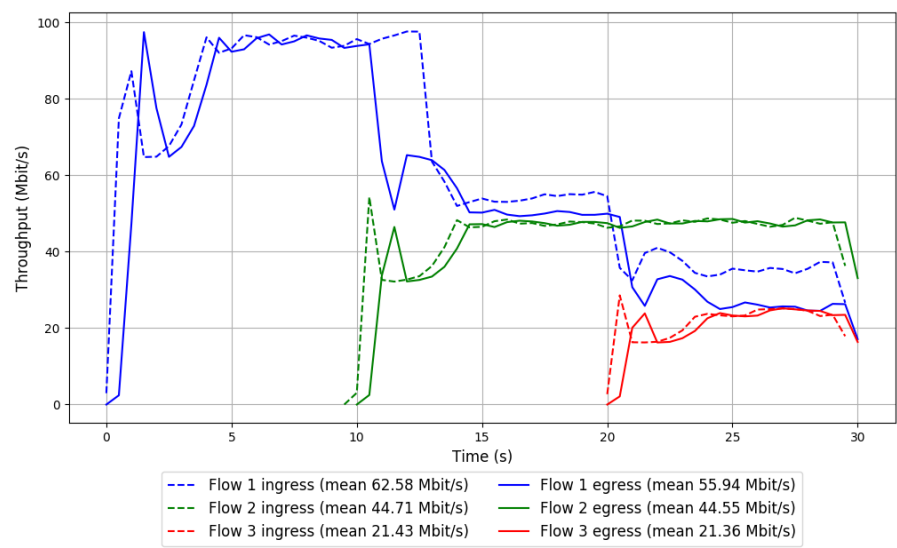


Run 1: Statistics of PCC-Allegro

Start at: 2019-03-09 13:14:21  
End at: 2019-03-09 13:14:51  
Local clock offset: 0.32 ms  
Remote clock offset: -3.704 ms

# Below is generated by plot.py at 2019-03-09 15:15:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.57 Mbit/s  
95th percentile per-packet one-way delay: 2356.736 ms  
Loss rate: 7.05%  
-- Flow 1:  
Average throughput: 55.94 Mbit/s  
95th percentile per-packet one-way delay: 2486.320 ms  
Loss rate: 10.78%  
-- Flow 2:  
Average throughput: 44.55 Mbit/s  
95th percentile per-packet one-way delay: 41.169 ms  
Loss rate: 0.66%  
-- Flow 3:  
Average throughput: 21.36 Mbit/s  
95th percentile per-packet one-way delay: 96.275 ms  
Loss rate: 0.96%

Run 1: Report of PCC-Allegro — Data Link



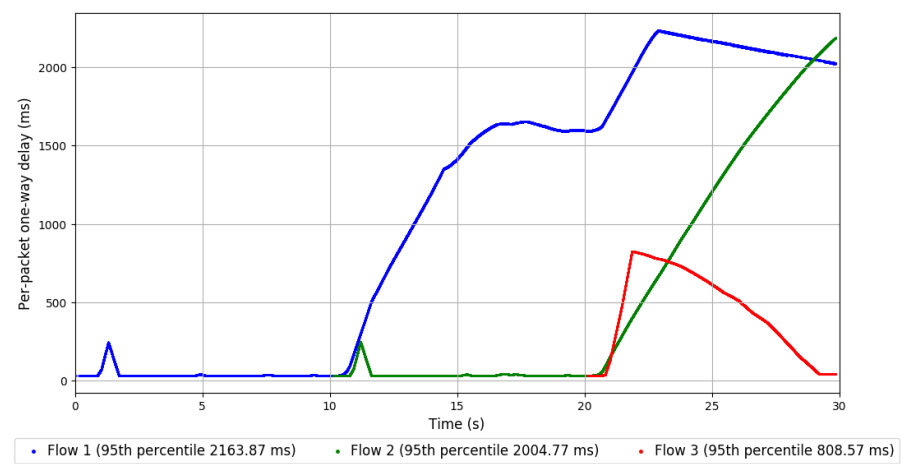
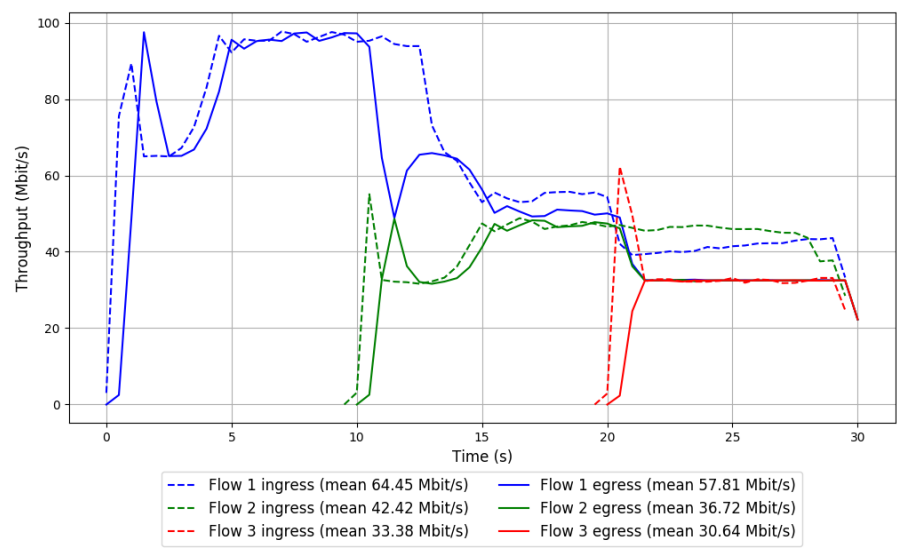


Run 2: Statistics of PCC-Allegro

Start at: 2019-03-09 13:40:14  
End at: 2019-03-09 13:40:44  
Local clock offset: 0.26 ms  
Remote clock offset: -1.938 ms

# Below is generated by plot.py at 2019-03-09 15:15:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.29 Mbit/s  
95th percentile per-packet one-way delay: 2128.509 ms  
Loss rate: 11.20%  
-- Flow 1:  
Average throughput: 57.81 Mbit/s  
95th percentile per-packet one-way delay: 2163.867 ms  
Loss rate: 10.50%  
-- Flow 2:  
Average throughput: 36.72 Mbit/s  
95th percentile per-packet one-way delay: 2004.771 ms  
Loss rate: 13.72%  
-- Flow 3:  
Average throughput: 30.64 Mbit/s  
95th percentile per-packet one-way delay: 808.567 ms  
Loss rate: 8.80%

Run 2: Report of PCC-Allegro — Data Link

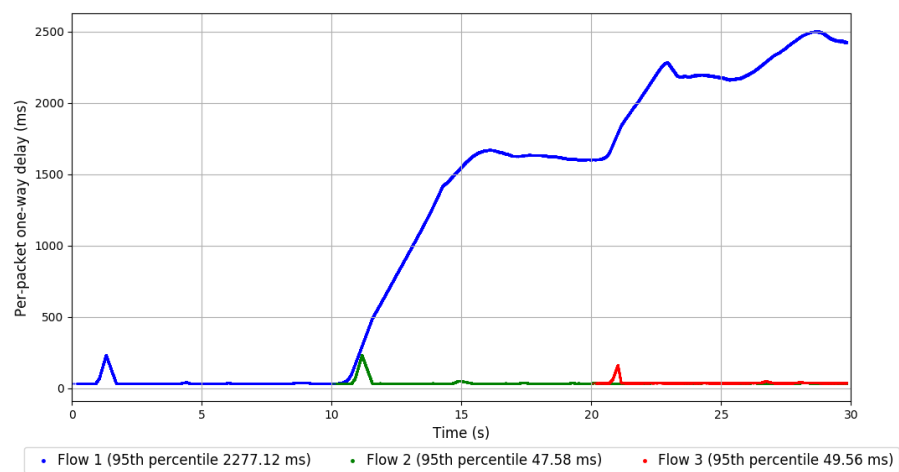
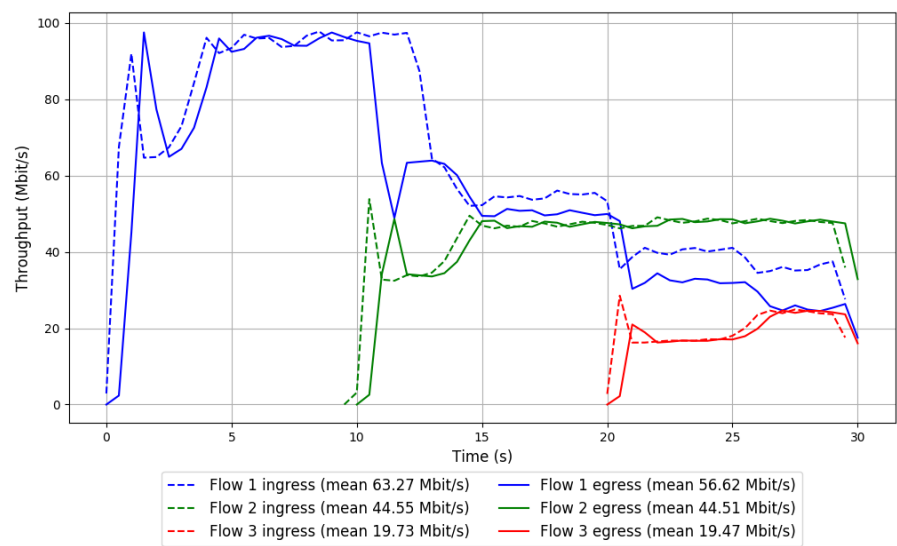


Run 3: Statistics of PCC-Allegro

Start at: 2019-03-09 14:05:55  
End at: 2019-03-09 14:06:25  
Local clock offset: 0.374 ms  
Remote clock offset: -0.473 ms

# Below is generated by plot.py at 2019-03-09 15:15:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.60 Mbit/s  
95th percentile per-packet one-way delay: 2192.103 ms  
Loss rate: 7.06%  
-- Flow 1:  
Average throughput: 56.62 Mbit/s  
95th percentile per-packet one-way delay: 2277.120 ms  
Loss rate: 10.71%  
-- Flow 2:  
Average throughput: 44.51 Mbit/s  
95th percentile per-packet one-way delay: 47.581 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 19.47 Mbit/s  
95th percentile per-packet one-way delay: 49.561 ms  
Loss rate: 1.98%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-09 14:31:45

End at: 2019-03-09 14:32:15

Local clock offset: 0.451 ms

Remote clock offset: 0.521 ms

# Below is generated by plot.py at 2019-03-09 15:15:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.35 Mbit/s

95th percentile per-packet one-way delay: 1624.713 ms

Loss rate: 23.64%

-- Flow 1:

Average throughput: 57.86 Mbit/s

95th percentile per-packet one-way delay: 1655.548 ms

Loss rate: 27.99%

-- Flow 2:

Average throughput: 36.72 Mbit/s

95th percentile per-packet one-way delay: 1221.660 ms

Loss rate: 17.49%

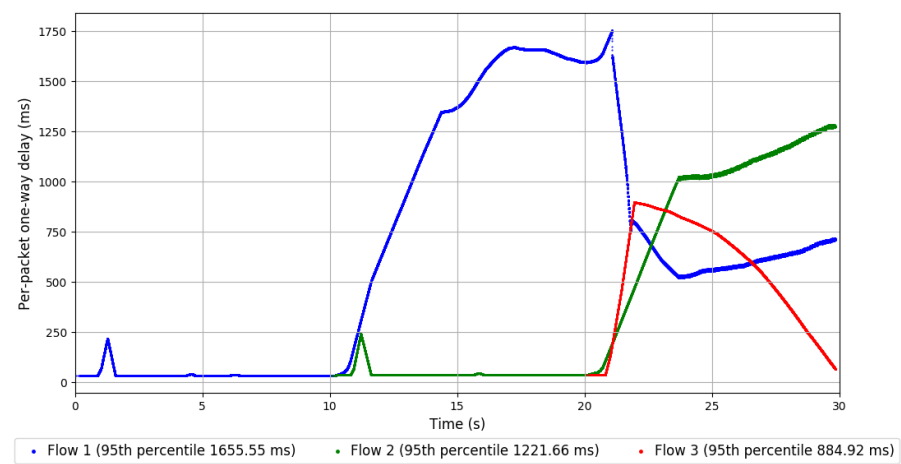
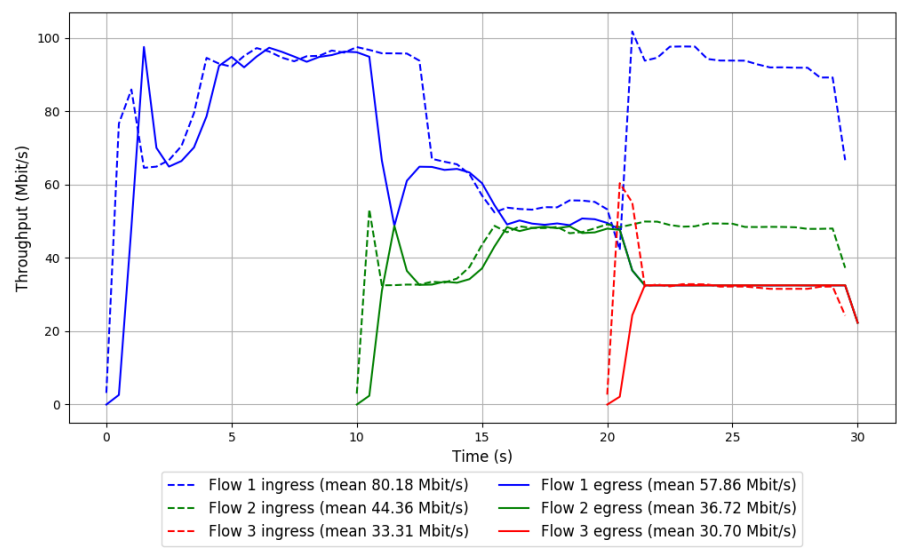
-- Flow 3:

Average throughput: 30.70 Mbit/s

95th percentile per-packet one-way delay: 884.916 ms

Loss rate: 8.45%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-09 14:58:16

End at: 2019-03-09 14:58:46

Local clock offset: 0.339 ms

Remote clock offset: 0.695 ms

# Below is generated by plot.py at 2019-03-09 15:15:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.88 Mbit/s

95th percentile per-packet one-way delay: 2157.742 ms

Loss rate: 11.40%

-- Flow 1:

Average throughput: 58.06 Mbit/s

95th percentile per-packet one-way delay: 2159.918 ms

Loss rate: 10.46%

-- Flow 2:

Average throughput: 37.22 Mbit/s

95th percentile per-packet one-way delay: 2229.206 ms

Loss rate: 13.66%

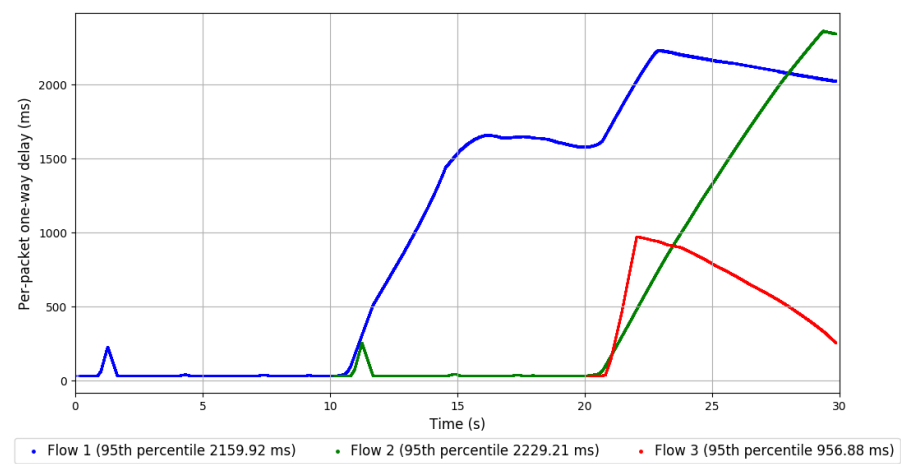
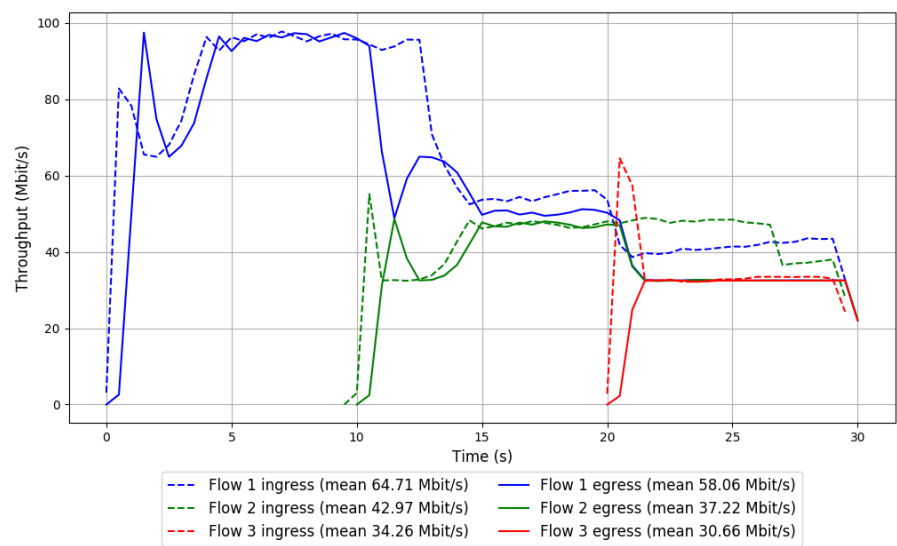
-- Flow 3:

Average throughput: 30.66 Mbit/s

95th percentile per-packet one-way delay: 956.883 ms

Loss rate: 11.08%

Run 5: Report of PCC-Allegro — Data Link



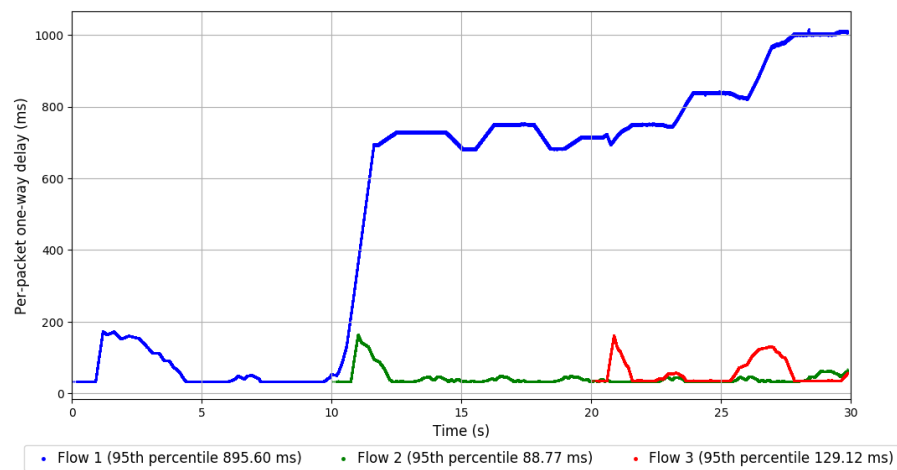
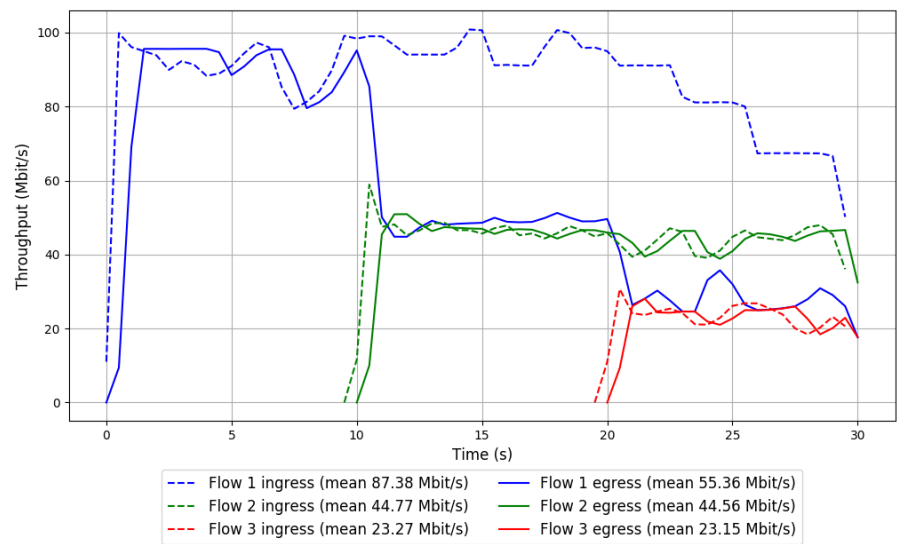


```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-09 12:54:38
End at: 2019-03-09 12:55:08
Local clock offset: 0.356 ms
Remote clock offset: -4.9 ms

# Below is generated by plot.py at 2019-03-09 15:16:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.60 Mbit/s
95th percentile per-packet one-way delay: 832.626 ms
Loss rate: 25.99%
-- Flow 1:
Average throughput: 55.36 Mbit/s
95th percentile per-packet one-way delay: 895.596 ms
Loss rate: 36.78%
-- Flow 2:
Average throughput: 44.56 Mbit/s
95th percentile per-packet one-way delay: 88.772 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 23.15 Mbit/s
95th percentile per-packet one-way delay: 129.124 ms
Loss rate: 1.16%
```

Run 1: Report of PCC-Expr — Data Link

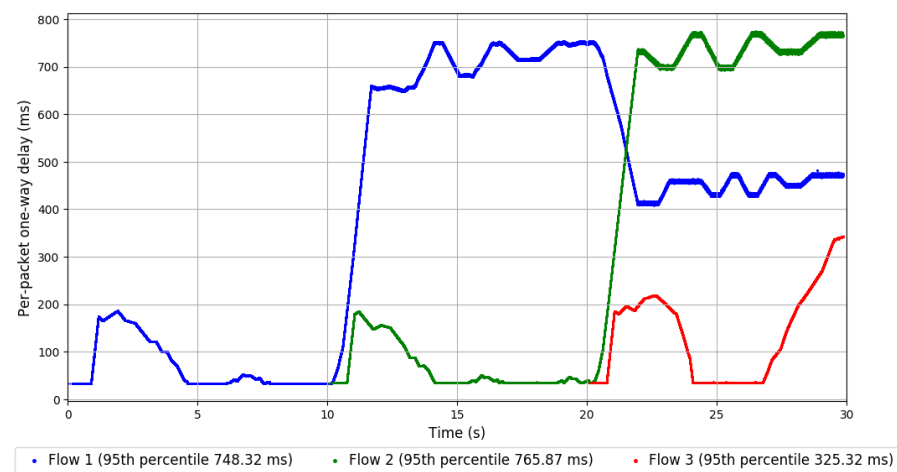
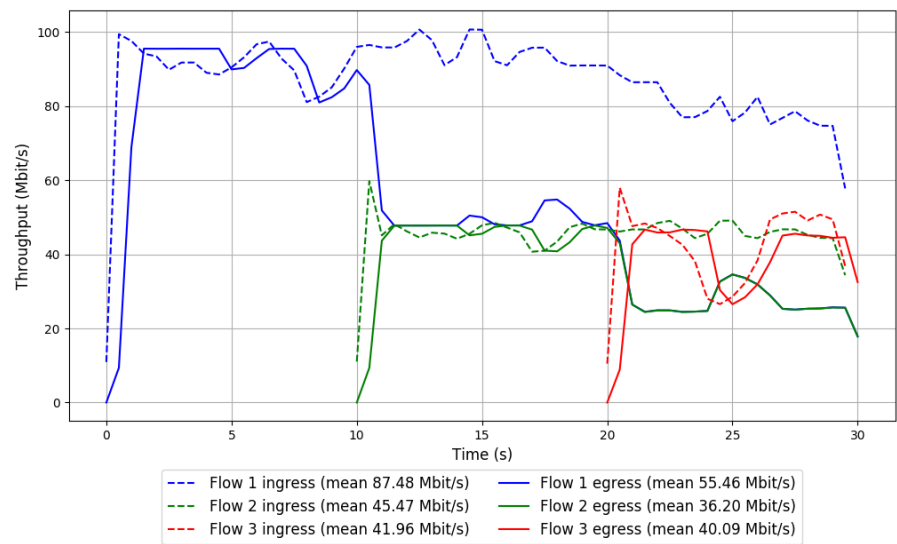


Run 2: Statistics of PCC-Expr

Start at: 2019-03-09 13:20:24  
End at: 2019-03-09 13:20:54  
Local clock offset: 0.311 ms  
Remote clock offset: -3.223 ms

# Below is generated by plot.py at 2019-03-09 15:17:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.70 Mbit/s  
95th percentile per-packet one-way delay: 749.412 ms  
Loss rate: 29.70%  
-- Flow 1:  
Average throughput: 55.46 Mbit/s  
95th percentile per-packet one-way delay: 748.316 ms  
Loss rate: 36.74%  
-- Flow 2:  
Average throughput: 36.20 Mbit/s  
95th percentile per-packet one-way delay: 765.866 ms  
Loss rate: 20.65%  
-- Flow 3:  
Average throughput: 40.09 Mbit/s  
95th percentile per-packet one-way delay: 325.321 ms  
Loss rate: 5.08%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-09 13:46:16

End at: 2019-03-09 13:46:46

Local clock offset: 0.276 ms

Remote clock offset: -1.54 ms

# Below is generated by plot.py at 2019-03-09 15:17:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.66 Mbit/s

95th percentile per-packet one-way delay: 1448.565 ms

Loss rate: 23.10%

-- Flow 1:

Average throughput: 61.93 Mbit/s

95th percentile per-packet one-way delay: 1006.842 ms

Loss rate: 26.74%

-- Flow 2:

Average throughput: 34.98 Mbit/s

95th percentile per-packet one-way delay: 1706.311 ms

Loss rate: 18.11%

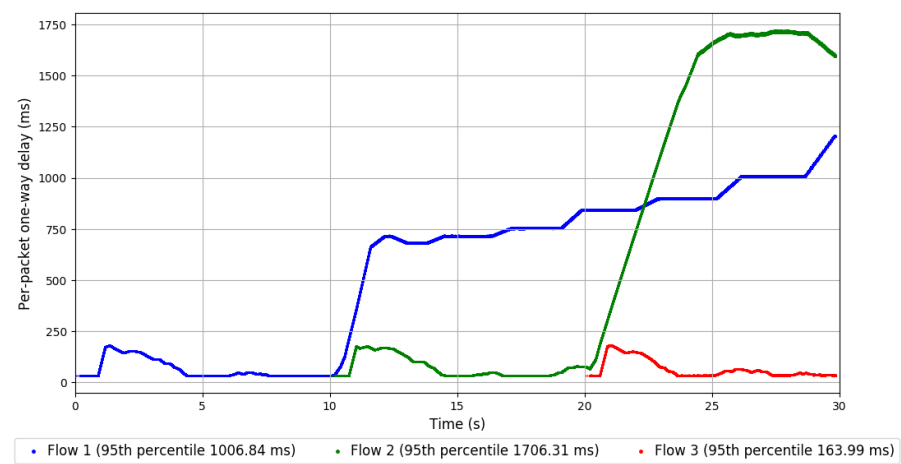
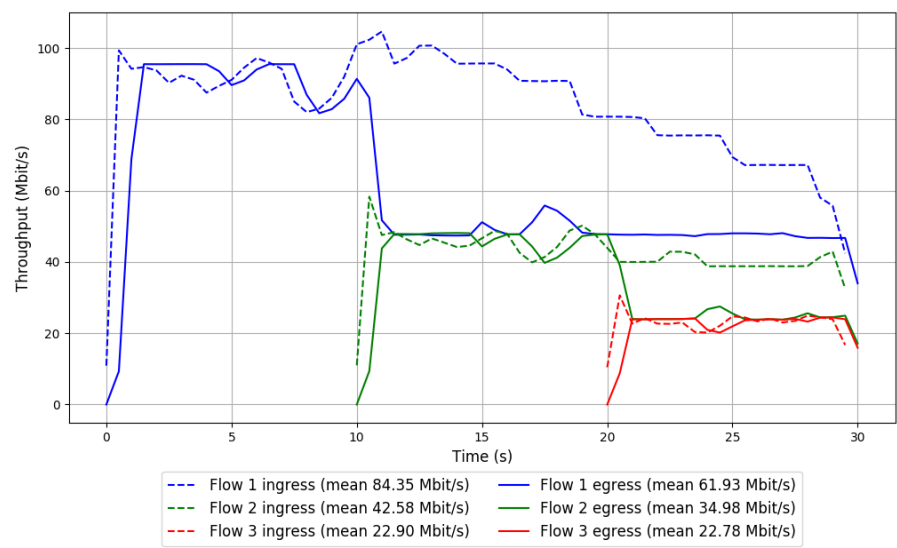
-- Flow 3:

Average throughput: 22.78 Mbit/s

95th percentile per-packet one-way delay: 163.989 ms

Loss rate: 1.17%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-09 14:11:58

End at: 2019-03-09 14:12:28

Local clock offset: 0.395 ms

Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-03-09 15:17:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.73 Mbit/s

95th percentile per-packet one-way delay: 1359.608 ms

Loss rate: 18.30%

-- Flow 1:

Average throughput: 61.16 Mbit/s

95th percentile per-packet one-way delay: 1255.341 ms

Loss rate: 17.62%

-- Flow 2:

Average throughput: 34.87 Mbit/s

95th percentile per-packet one-way delay: 1478.405 ms

Loss rate: 24.16%

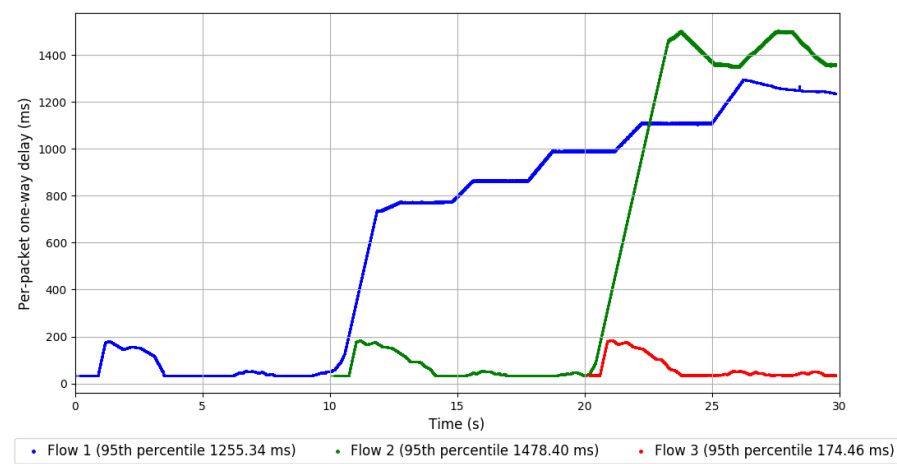
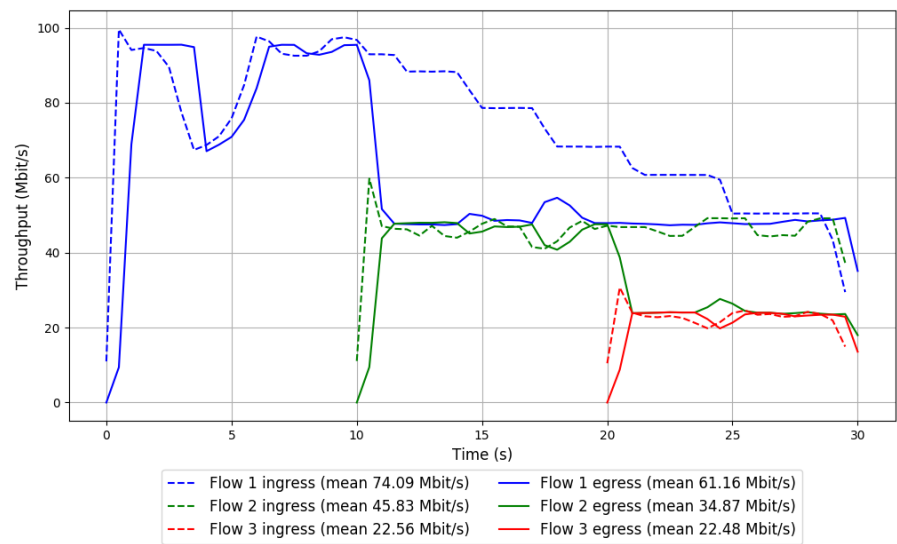
-- Flow 3:

Average throughput: 22.48 Mbit/s

95th percentile per-packet one-way delay: 174.460 ms

Loss rate: 1.02%

Run 4: Report of PCC-Expr — Data Link



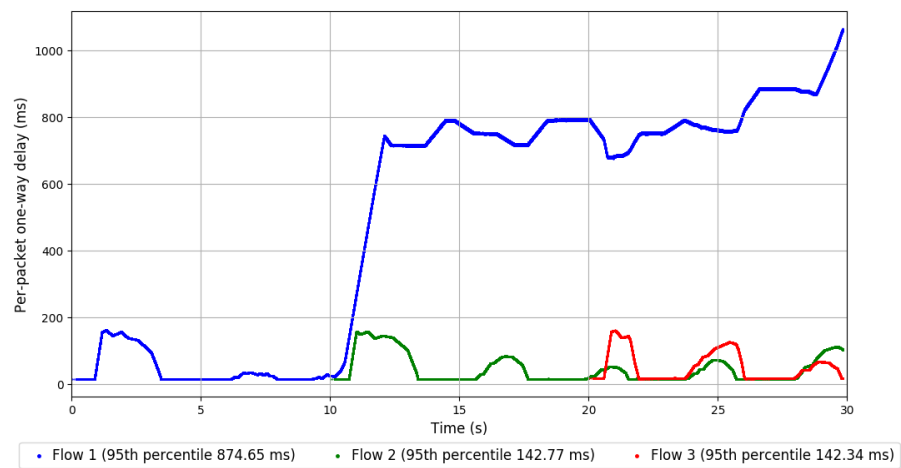
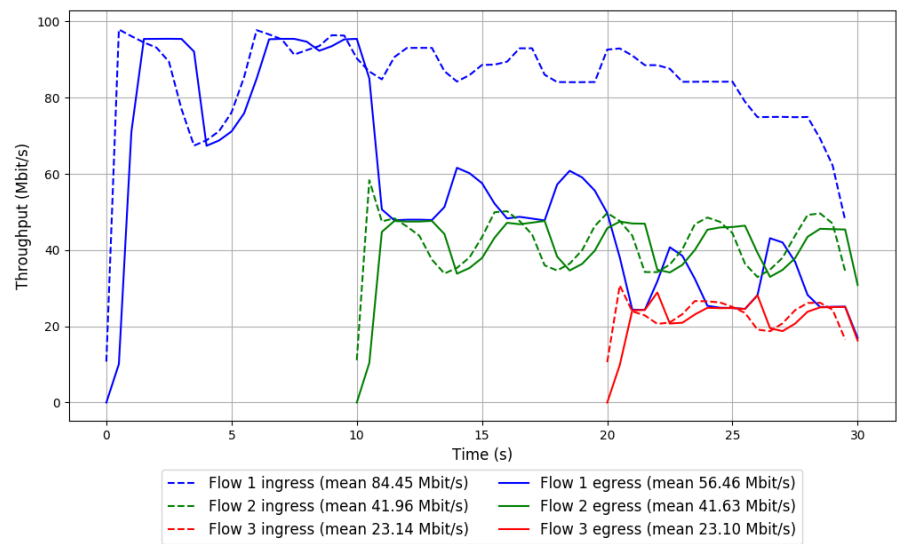


Run 5: Statistics of PCC-Expr

Start at: 2019-03-09 14:37:48  
End at: 2019-03-09 14:38:18  
Local clock offset: 0.449 ms  
Remote clock offset: 20.171 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.73 Mbit/s  
95th percentile per-packet one-way delay: 792.380 ms  
Loss rate: 23.73%  
-- Flow 1:  
Average throughput: 56.46 Mbit/s  
95th percentile per-packet one-way delay: 874.651 ms  
Loss rate: 33.28%  
-- Flow 2:  
Average throughput: 41.63 Mbit/s  
95th percentile per-packet one-way delay: 142.766 ms  
Loss rate: 1.12%  
-- Flow 3:  
Average throughput: 23.10 Mbit/s  
95th percentile per-packet one-way delay: 142.339 ms  
Loss rate: 0.85%

Run 5: Report of PCC-Expr — Data Link

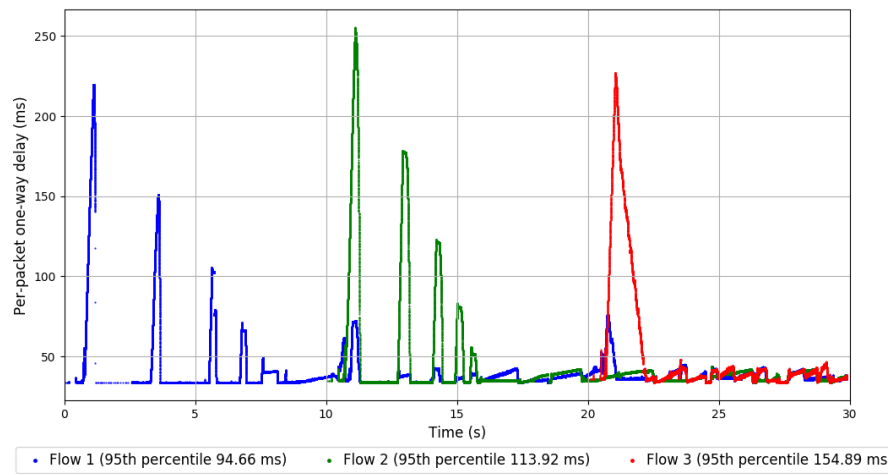
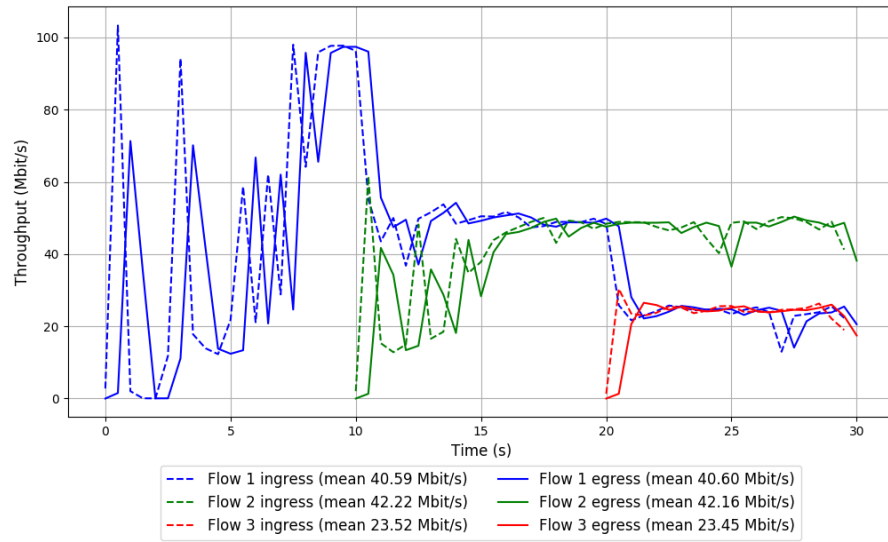


Run 1: Statistics of QUIC Cubic

Start at: 2019-03-09 12:55:56  
End at: 2019-03-09 12:56:26  
Local clock offset: 0.364 ms  
Remote clock offset: -5.041 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.34 Mbit/s  
95th percentile per-packet one-way delay: 105.506 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 40.60 Mbit/s  
95th percentile per-packet one-way delay: 94.656 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 42.16 Mbit/s  
95th percentile per-packet one-way delay: 113.922 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 23.45 Mbit/s  
95th percentile per-packet one-way delay: 154.889 ms  
Loss rate: 0.96%

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

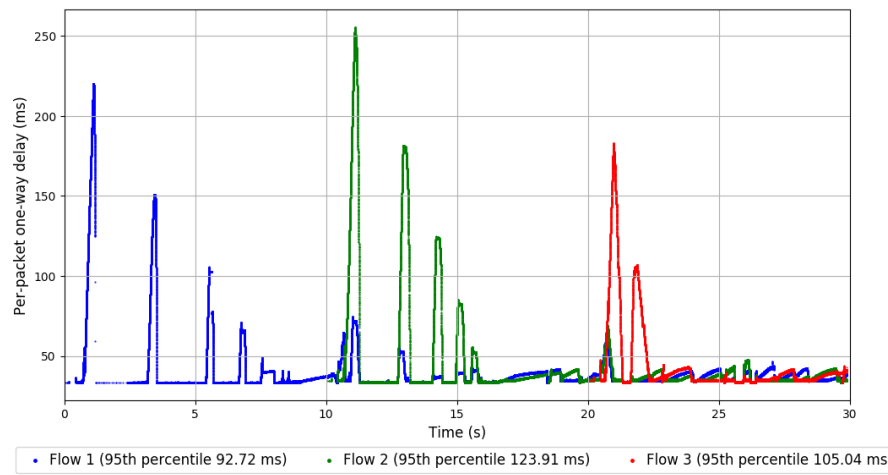
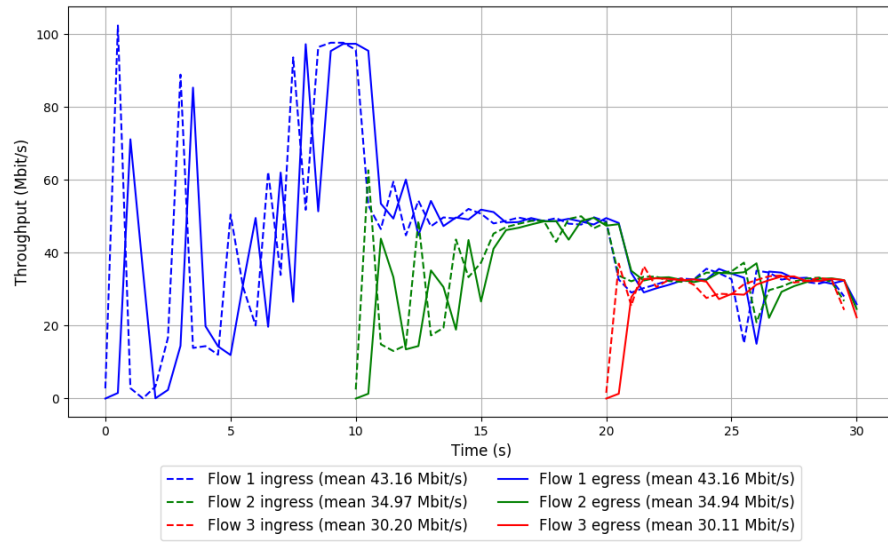


Run 2: Statistics of QUIC Cubic

Start at: 2019-03-09 13:21:43  
End at: 2019-03-09 13:22:13  
Local clock offset: 0.301 ms  
Remote clock offset: -3.164 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.31 Mbit/s  
95th percentile per-packet one-way delay: 102.872 ms  
Loss rate: 0.36%  
-- Flow 1:  
Average throughput: 43.16 Mbit/s  
95th percentile per-packet one-way delay: 92.722 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 34.94 Mbit/s  
95th percentile per-packet one-way delay: 123.912 ms  
Loss rate: 0.40%  
-- Flow 3:  
Average throughput: 30.11 Mbit/s  
95th percentile per-packet one-way delay: 105.041 ms  
Loss rate: 0.95%

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

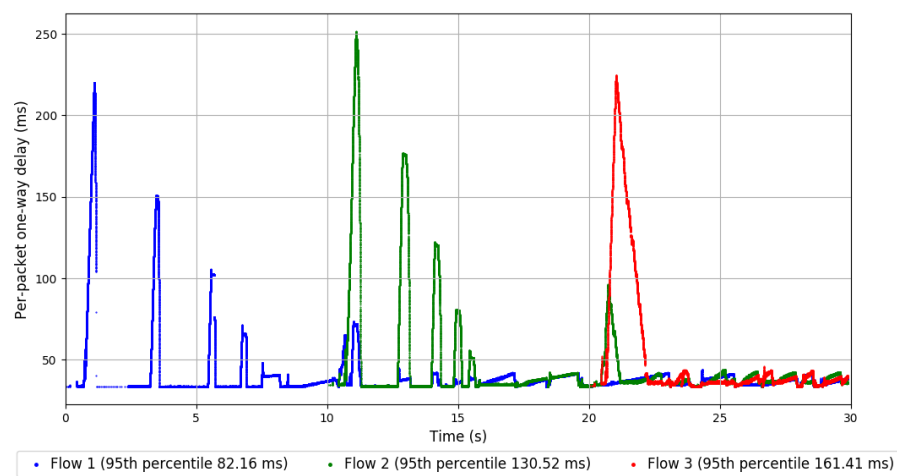
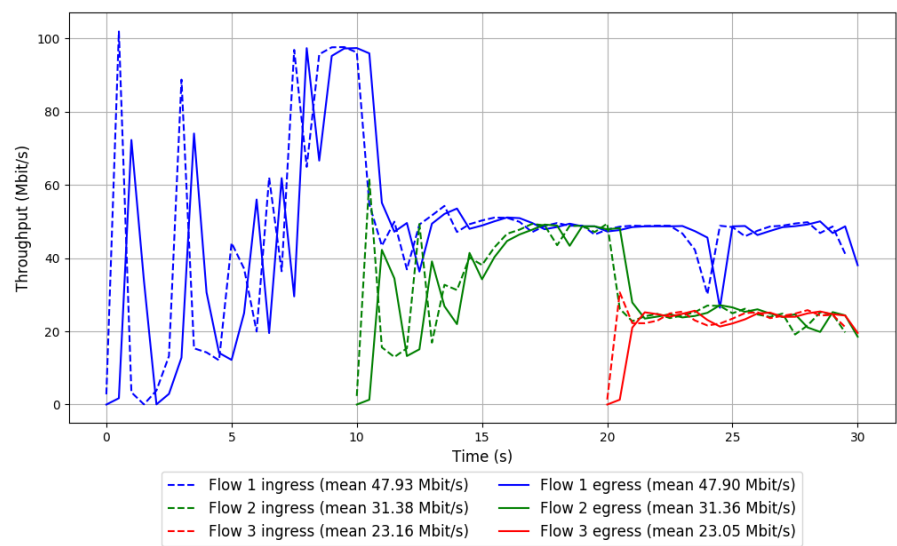


Run 3: Statistics of QUIC Cubic

Start at: 2019-03-09 13:47:34  
End at: 2019-03-09 13:48:04  
Local clock offset: 0.288 ms  
Remote clock offset: -1.361 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.34 Mbit/s  
95th percentile per-packet one-way delay: 109.254 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 47.90 Mbit/s  
95th percentile per-packet one-way delay: 82.157 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 31.36 Mbit/s  
95th percentile per-packet one-way delay: 130.519 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 23.05 Mbit/s  
95th percentile per-packet one-way delay: 161.405 ms  
Loss rate: 1.12%

Run 3: Report of QUIC Cubic — Data Link



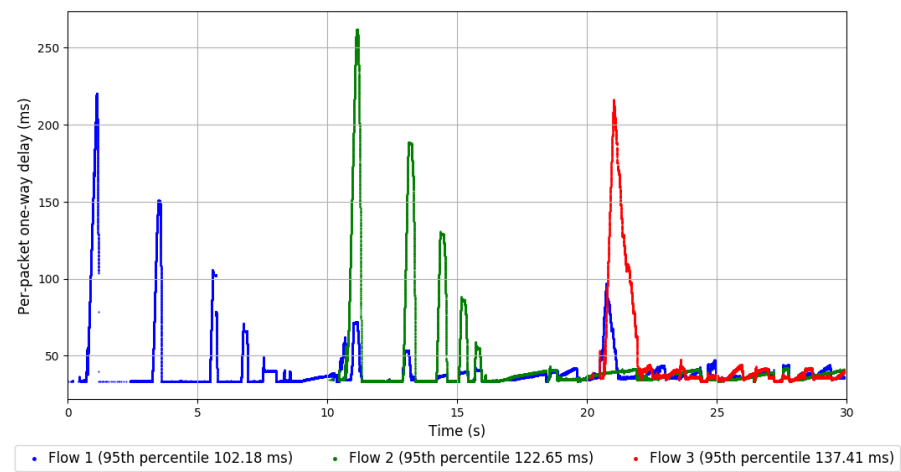
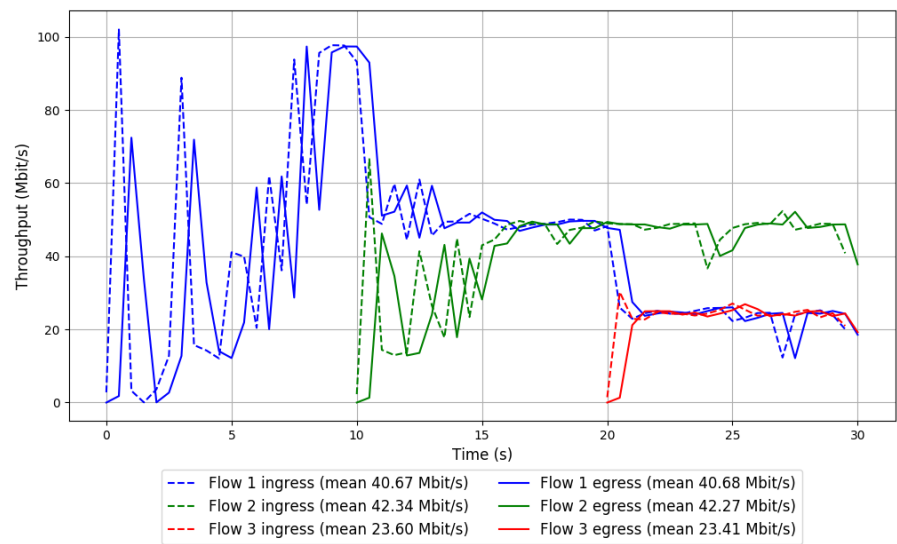


Run 4: Statistics of QUIC Cubic

Start at: 2019-03-09 14:13:16  
End at: 2019-03-09 14:13:46  
Local clock offset: 0.39 ms  
Remote clock offset: -0.185 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.50 Mbit/s  
95th percentile per-packet one-way delay: 107.371 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 40.68 Mbit/s  
95th percentile per-packet one-way delay: 102.183 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 42.27 Mbit/s  
95th percentile per-packet one-way delay: 122.653 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 23.41 Mbit/s  
95th percentile per-packet one-way delay: 137.410 ms  
Loss rate: 1.42%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-09 14:39:07

End at: 2019-03-09 14:39:37

Local clock offset: 0.448 ms

Remote clock offset: 0.8 ms

# Below is generated by plot.py at 2019-03-09 15:17:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.81 Mbit/s

95th percentile per-packet one-way delay: 102.165 ms

Loss rate: 0.35%

-- Flow 1:

Average throughput: 43.73 Mbit/s

95th percentile per-packet one-way delay: 93.150 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 34.79 Mbit/s

95th percentile per-packet one-way delay: 127.407 ms

Loss rate: 0.39%

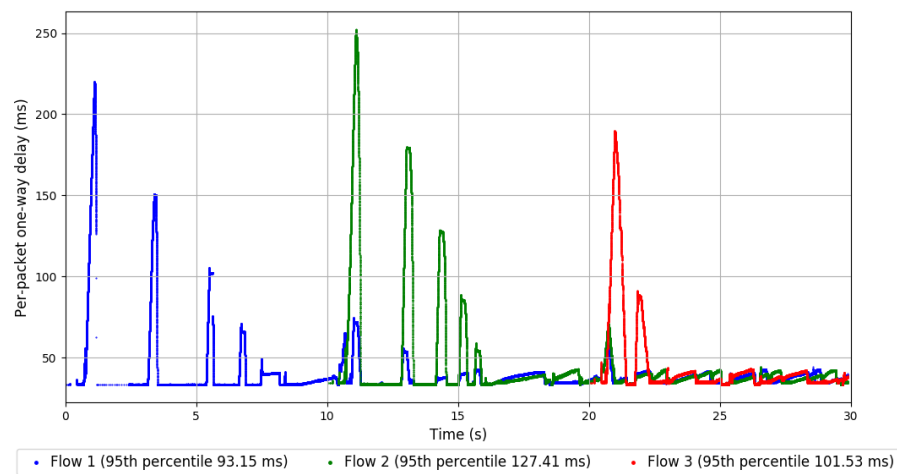
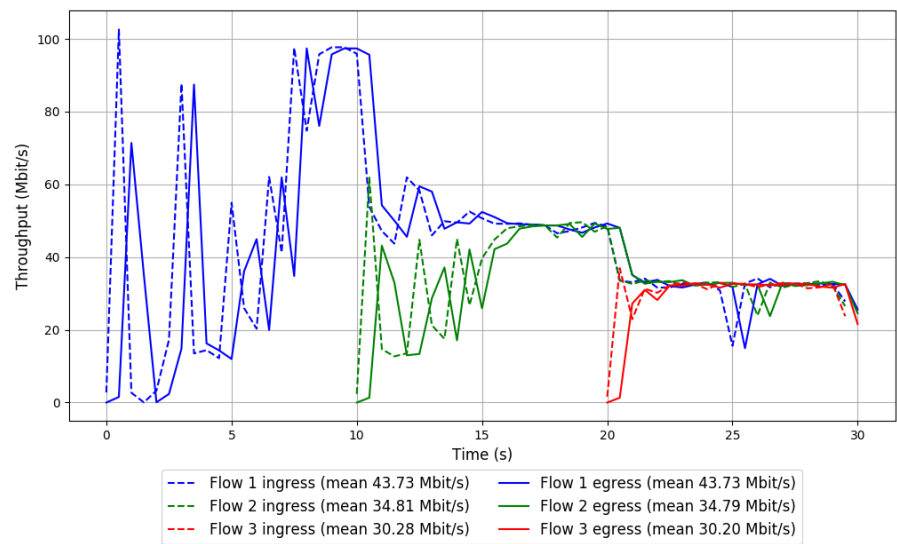
-- Flow 3:

Average throughput: 30.20 Mbit/s

95th percentile per-packet one-way delay: 101.534 ms

Loss rate: 0.89%

Run 5: Report of QUIC Cubic — Data Link

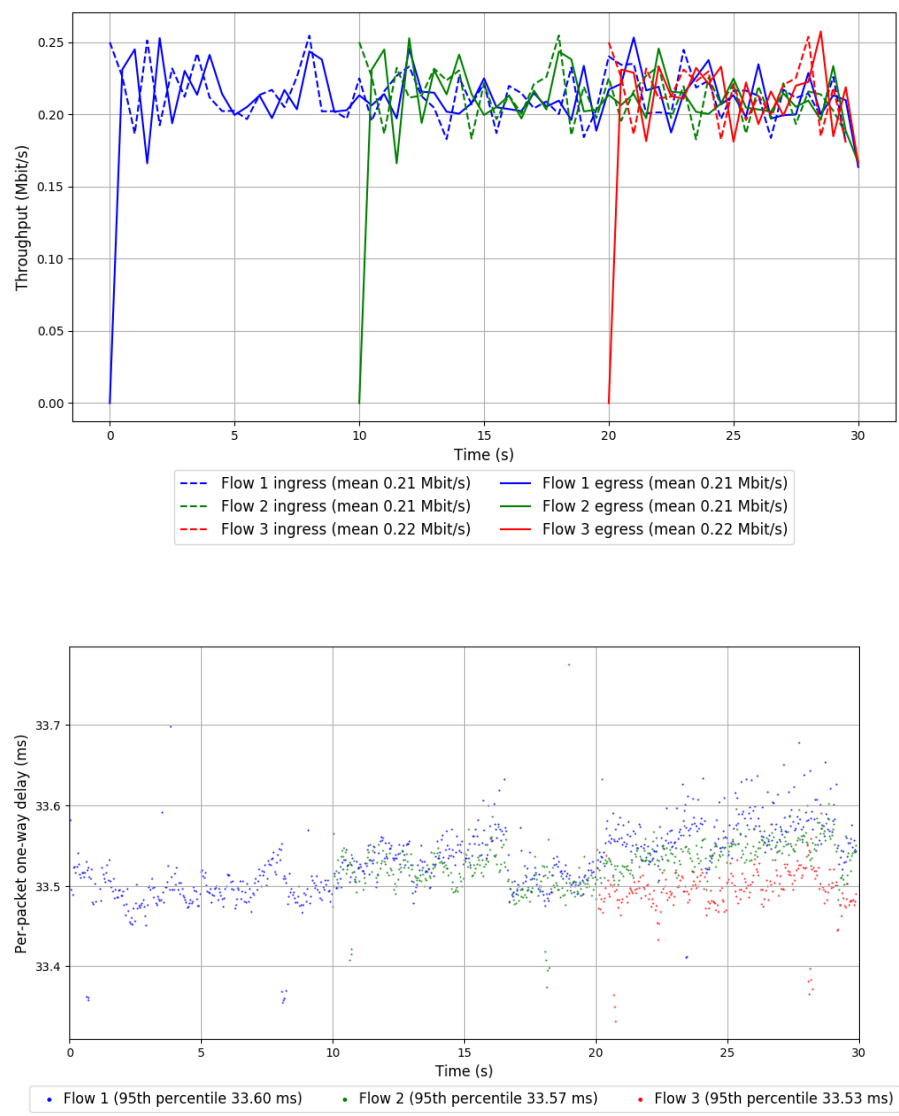


```
Run 1: Statistics of SCReAM

Start at: 2019-03-09 13:19:16
End at: 2019-03-09 13:19:46
Local clock offset: 0.303 ms
Remote clock offset: -3.308 ms

# Below is generated by plot.py at 2019-03-09 15:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.583 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.599 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.568 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.528 ms
Loss rate: 0.71%
```

Run 1: Report of SCRaM — Data Link



Run 2: Statistics of SReAM

Start at: 2019-03-09 13:45:08

End at: 2019-03-09 13:45:38

Local clock offset: 0.265 ms

Remote clock offset: -1.63 ms

# Below is generated by plot.py at 2019-03-09 15:17:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 33.596 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.620 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.577 ms

Loss rate: 0.40%

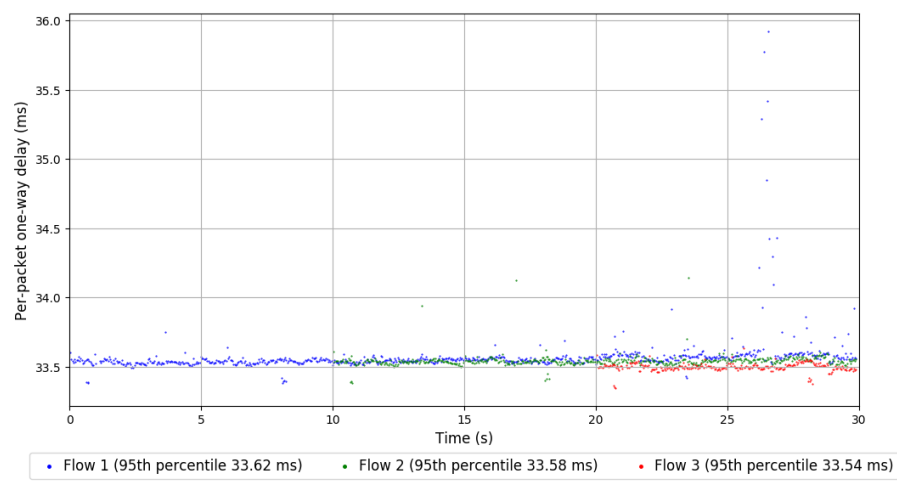
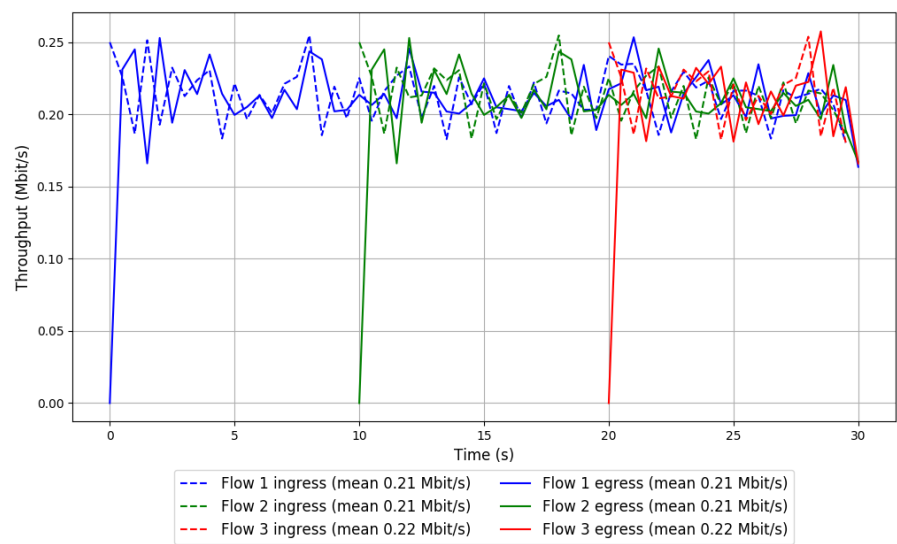
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 33.542 ms

Loss rate: 0.71%

Run 2: Report of SReAM — Data Link





Run 3: Statistics of SReAM

Start at: 2019-03-09 14:10:50

End at: 2019-03-09 14:11:20

Local clock offset: 0.383 ms

Remote clock offset: -0.25 ms

# Below is generated by plot.py at 2019-03-09 15:17:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 33.613 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.583 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.624 ms

Loss rate: 0.40%

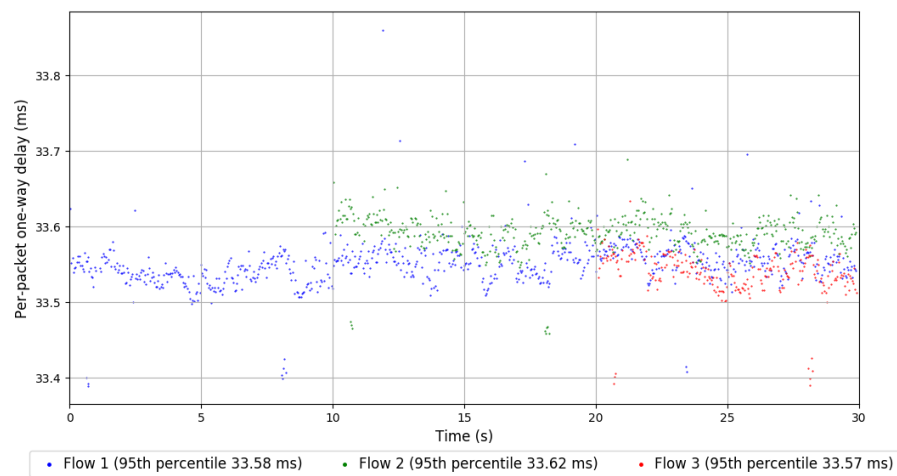
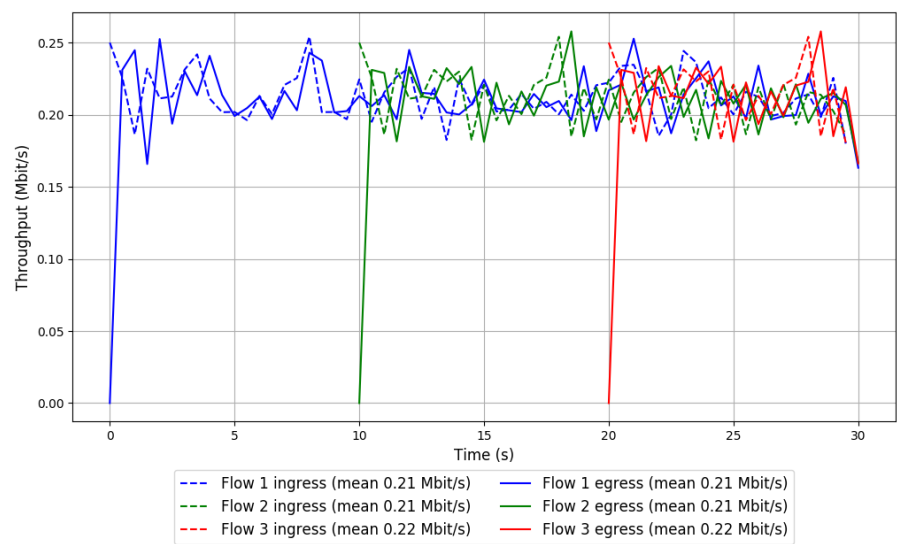
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 33.574 ms

Loss rate: 0.71%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-03-09 14:36:39

End at: 2019-03-09 14:37:09

Local clock offset: 0.455 ms

Remote clock offset: 0.654 ms

# Below is generated by plot.py at 2019-03-09 15:17:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 33.467 ms

Loss rate: 0.31%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.471 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.458 ms

Loss rate: 0.40%

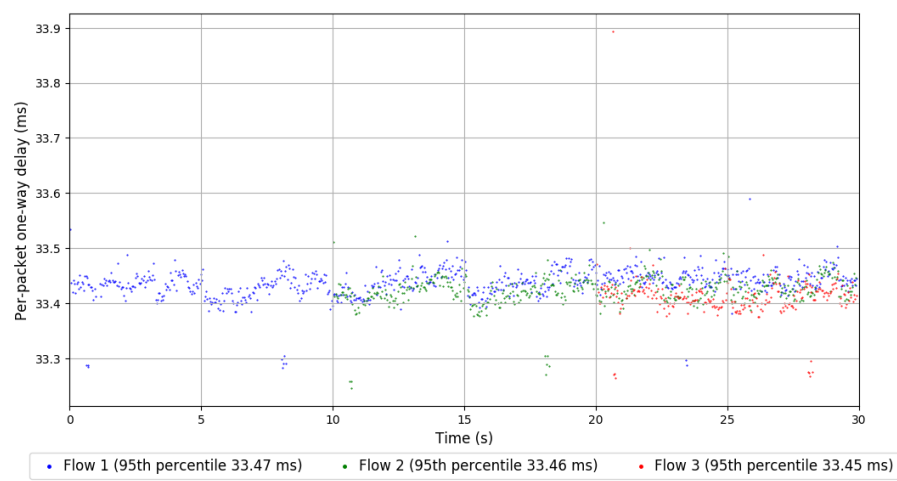
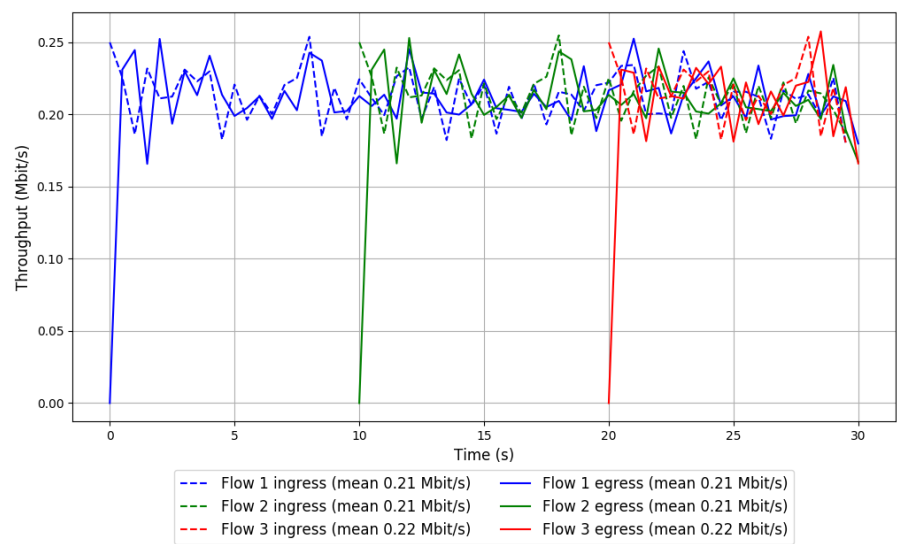
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 33.446 ms

Loss rate: 0.71%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

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

End at: 2019-03-09 15:03:45

Local clock offset: 0.321 ms

Remote clock offset: 0.76 ms

# Below is generated by plot.py at 2019-03-09 15:17:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 33.508 ms

Loss rate: 0.38%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.510 ms

Loss rate: 0.26%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.515 ms

Loss rate: 0.40%

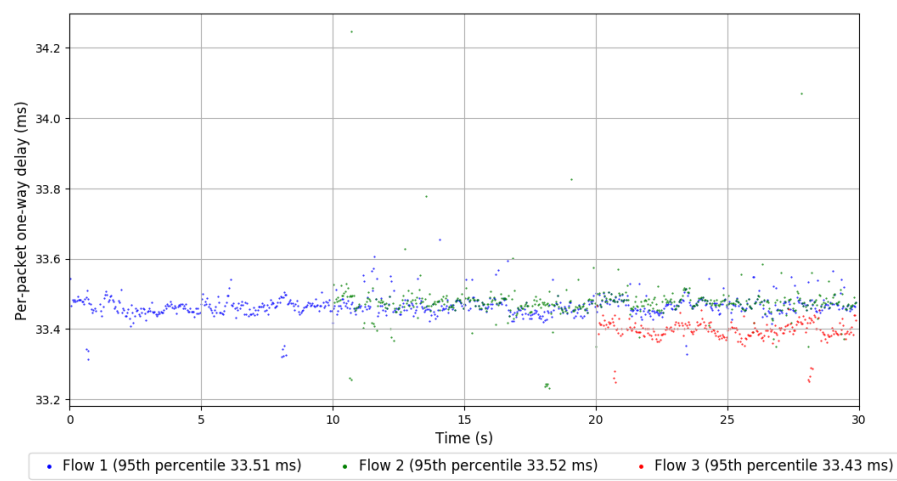
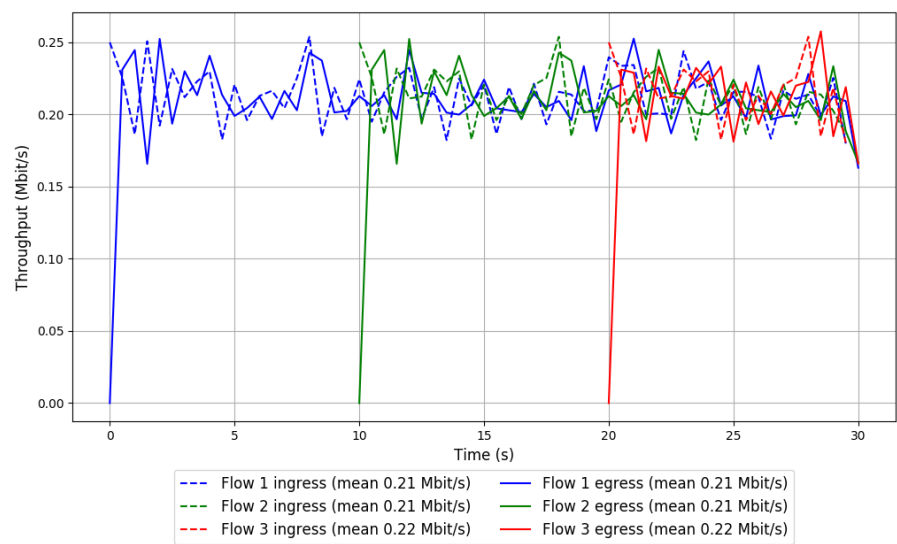
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 33.434 ms

Loss rate: 0.71%

Run 5: Report of SReAM — Data Link

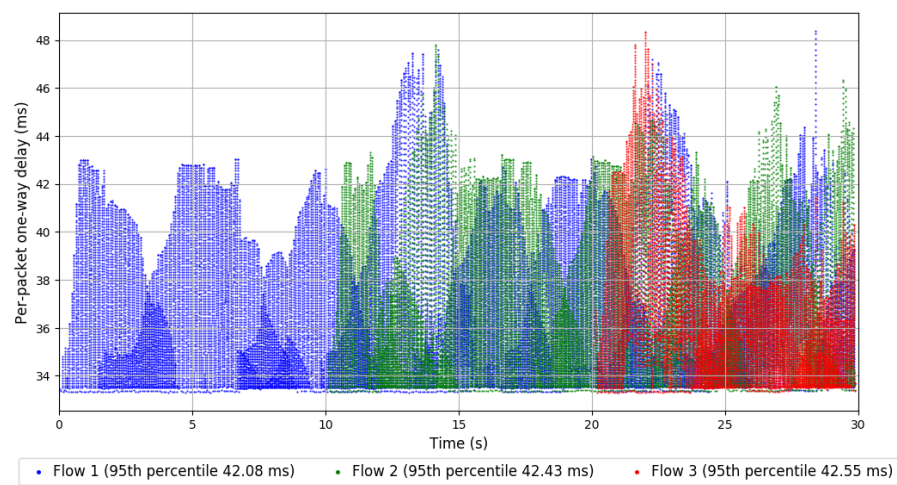
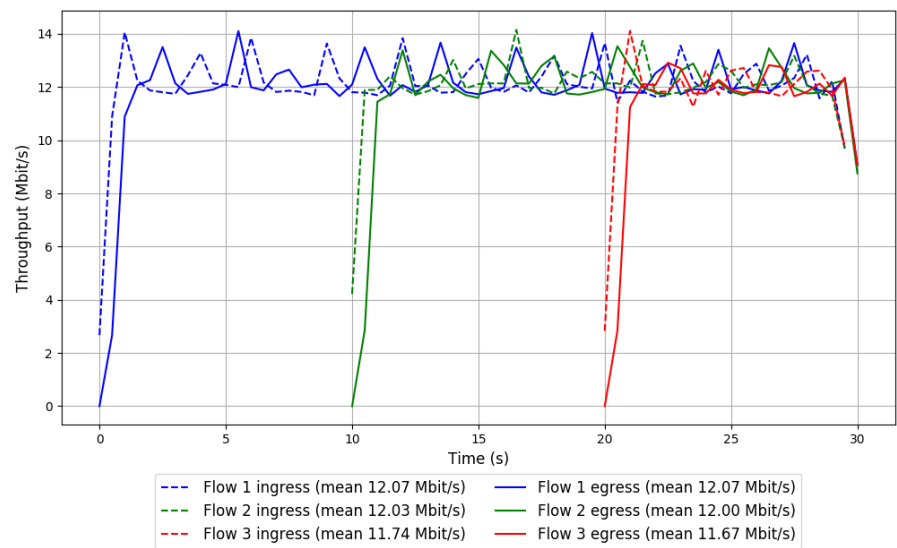


Run 1: Statistics of Sprout

Start at: 2019-03-09 12:57:08  
End at: 2019-03-09 12:57:38  
Local clock offset: 0.364 ms  
Remote clock offset: -4.784 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.89 Mbit/s  
95th percentile per-packet one-way delay: 42.276 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 12.07 Mbit/s  
95th percentile per-packet one-way delay: 42.080 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 12.00 Mbit/s  
95th percentile per-packet one-way delay: 42.428 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 11.67 Mbit/s  
95th percentile per-packet one-way delay: 42.545 ms  
Loss rate: 0.84%

Run 1: Report of Sprout — Data Link



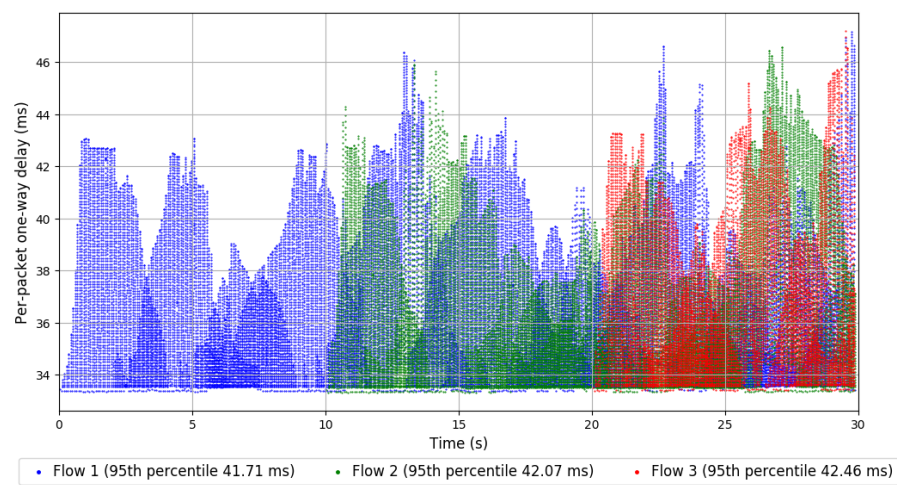
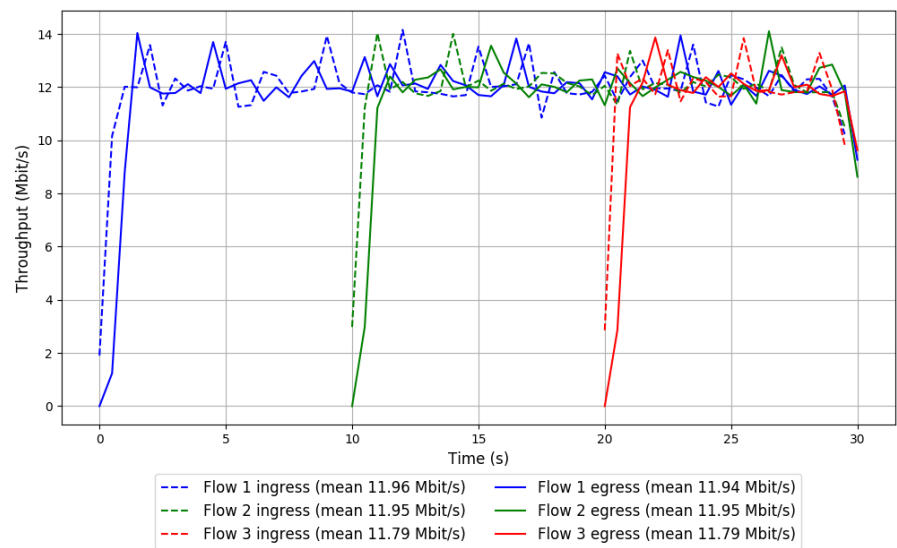


Run 2: Statistics of Sprout

Start at: 2019-03-09 13:23:01  
End at: 2019-03-09 13:23:31  
Local clock offset: 0.31 ms  
Remote clock offset: -3.115 ms

# Below is generated by plot.py at 2019-03-09 15:17:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 23.75 Mbit/s  
95th percentile per-packet one-way delay: 41.965 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 11.94 Mbit/s  
95th percentile per-packet one-way delay: 41.710 ms  
Loss rate: 0.32%  
-- Flow 2:  
Average throughput: 11.95 Mbit/s  
95th percentile per-packet one-way delay: 42.072 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 42.462 ms  
Loss rate: 0.85%

Run 2: Report of Sprout — Data Link

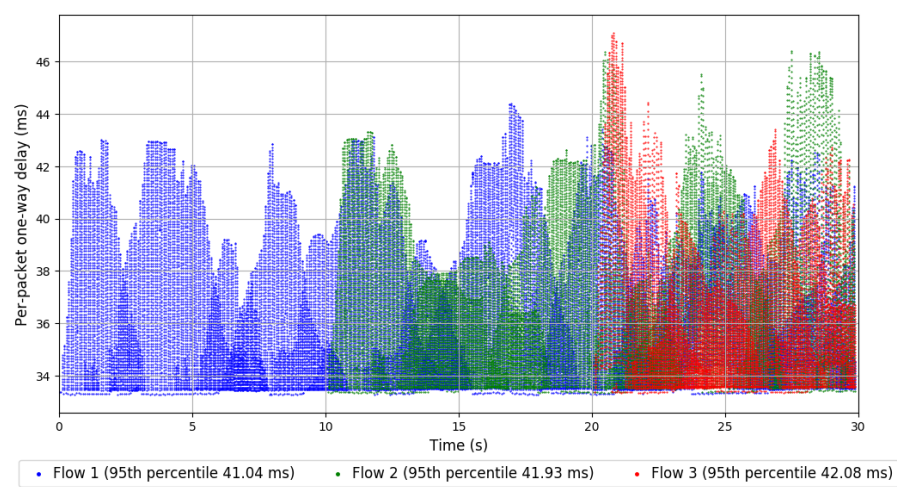
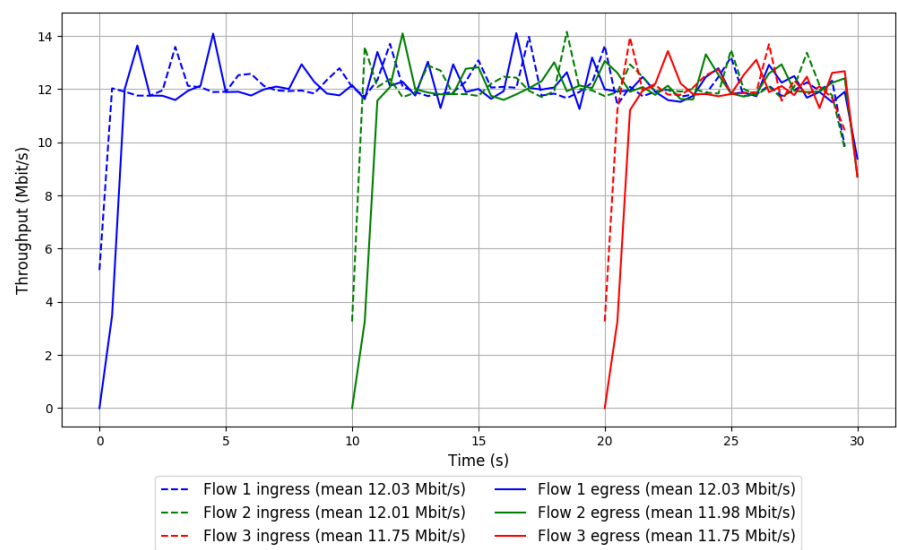


### Run 3: Statistics of Sprout

Start at: 2019-03-09 13:48:47  
End at: 2019-03-09 13:49:17  
Local clock offset: 0.31 ms  
Remote clock offset: -1.302 ms

```
# Below is generated by plot.py at 2019-03-09 15:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 41.486 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 41.043 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 41.933 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 42.082 ms
Loss rate: 0.84%
```

Run 3: Report of Sprout — Data Link

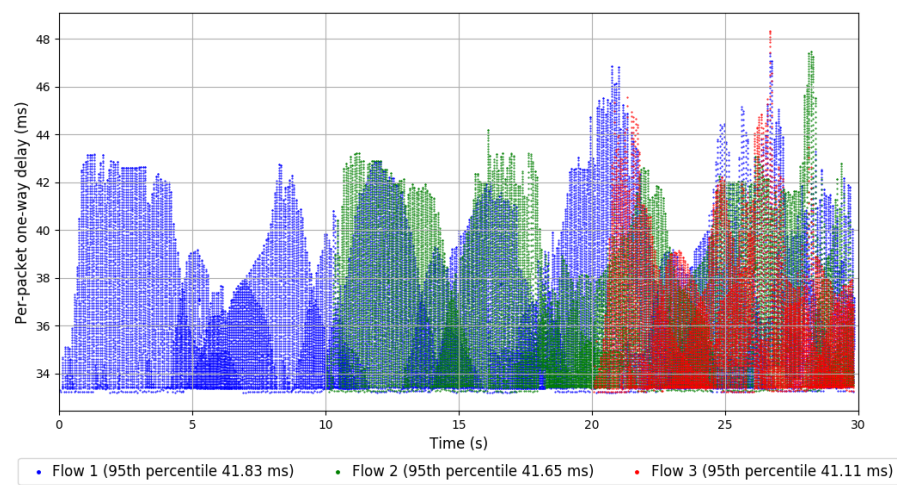
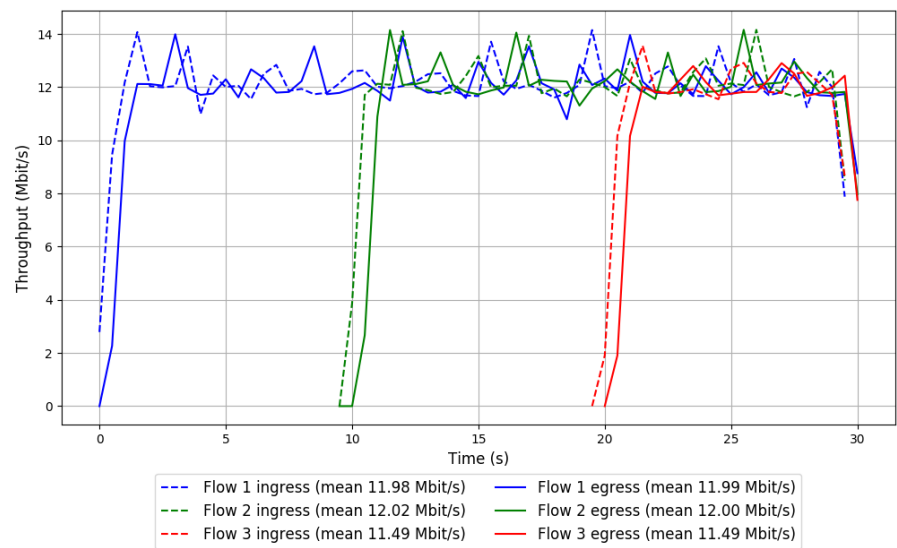


Run 4: Statistics of Sprout

Start at: 2019-03-09 14:14:29  
End at: 2019-03-09 14:14:59  
Local clock offset: 0.39 ms  
Remote clock offset: -0.004 ms

```
# Below is generated by plot.py at 2019-03-09 15:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 41.681 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 41.826 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 41.654 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 11.49 Mbit/s
95th percentile per-packet one-way delay: 41.113 ms
Loss rate: 0.86%
```

Run 4: Report of Sprout — Data Link

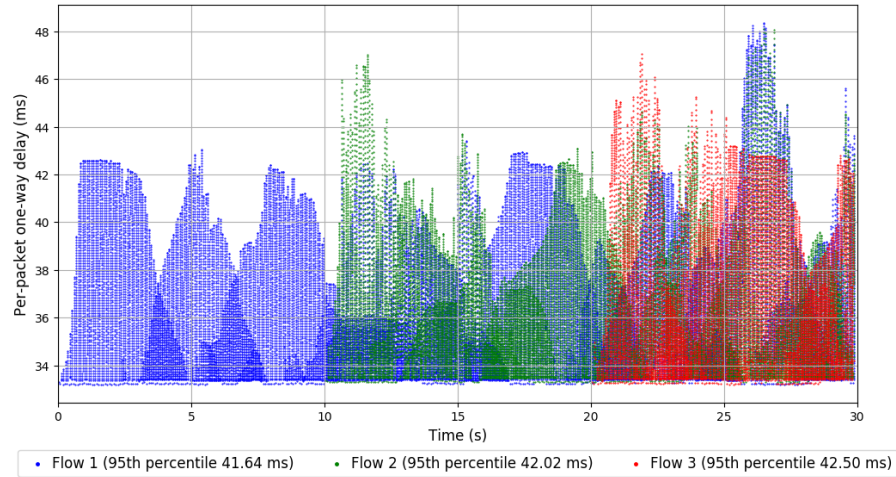
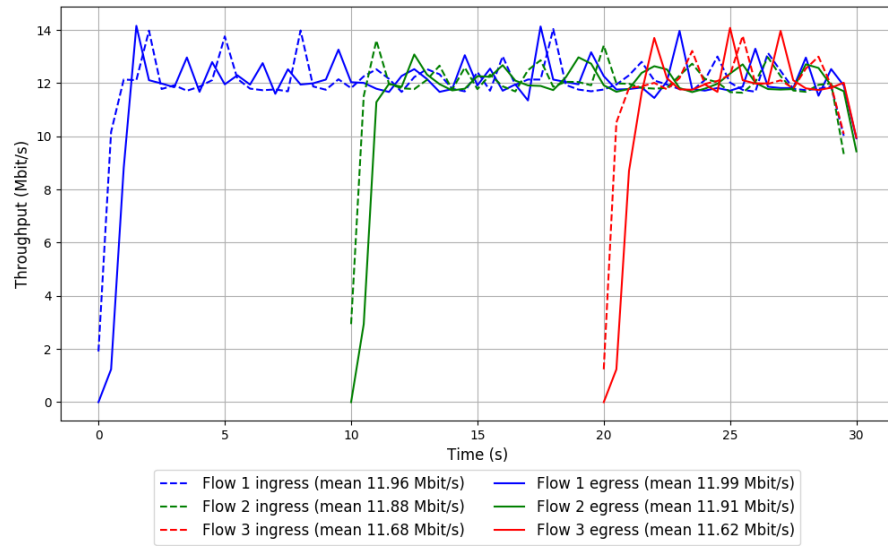


Run 5: Statistics of Sprout

Start at: 2019-03-09 14:40:20  
End at: 2019-03-09 14:40:50  
Local clock offset: 0.453 ms  
Remote clock offset: 0.819 ms

```
# Below is generated by plot.py at 2019-03-09 15:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 41.945 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 41.637 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 11.91 Mbit/s
95th percentile per-packet one-way delay: 42.023 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 11.62 Mbit/s
95th percentile per-packet one-way delay: 42.497 ms
Loss rate: 0.88%
```

## Run 5: Report of Sprout — Data Link



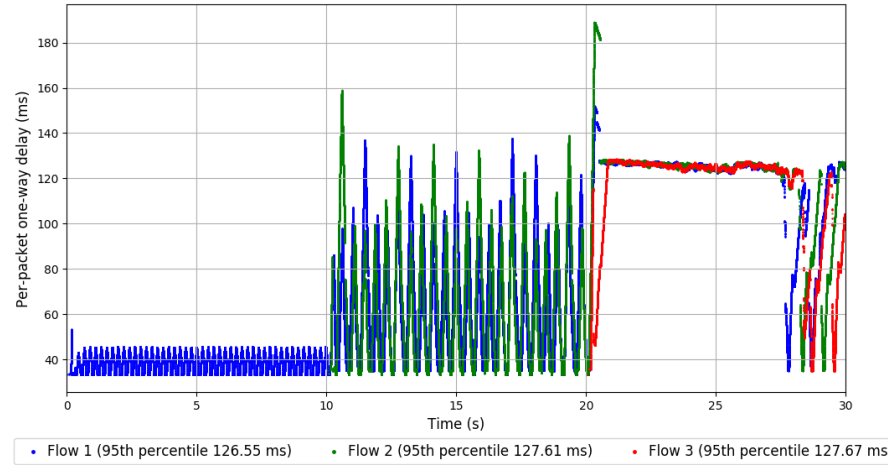
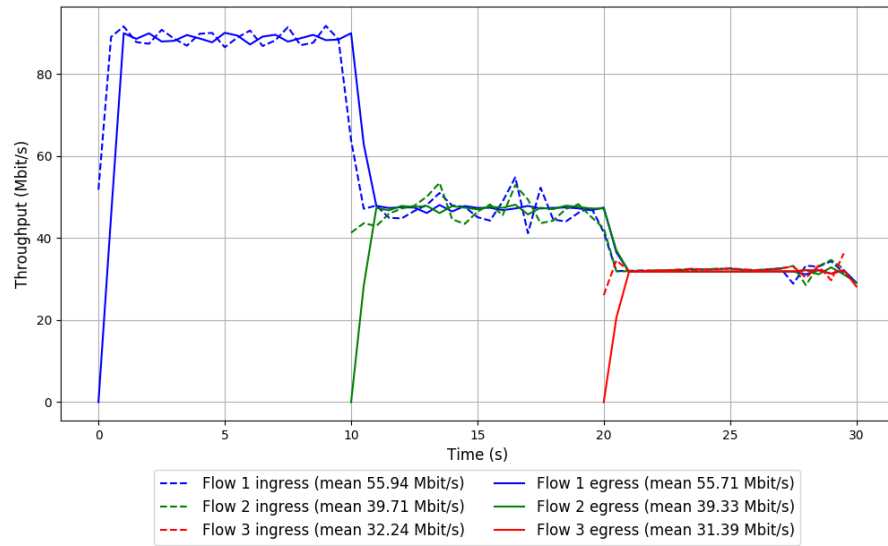


Run 1: Statistics of TaoVA-100x

Start at: 2019-03-09 12:58:18  
End at: 2019-03-09 12:58:48  
Local clock offset: 0.352 ms  
Remote clock offset: -4.737 ms

# Below is generated by plot.py at 2019-03-09 15:19:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.29 Mbit/s  
95th percentile per-packet one-way delay: 127.063 ms  
Loss rate: 1.11%  
-- Flow 1:  
Average throughput: 55.71 Mbit/s  
95th percentile per-packet one-way delay: 126.552 ms  
Loss rate: 0.61%  
-- Flow 2:  
Average throughput: 39.33 Mbit/s  
95th percentile per-packet one-way delay: 127.612 ms  
Loss rate: 1.29%  
-- Flow 3:  
Average throughput: 31.39 Mbit/s  
95th percentile per-packet one-way delay: 127.666 ms  
Loss rate: 3.26%

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

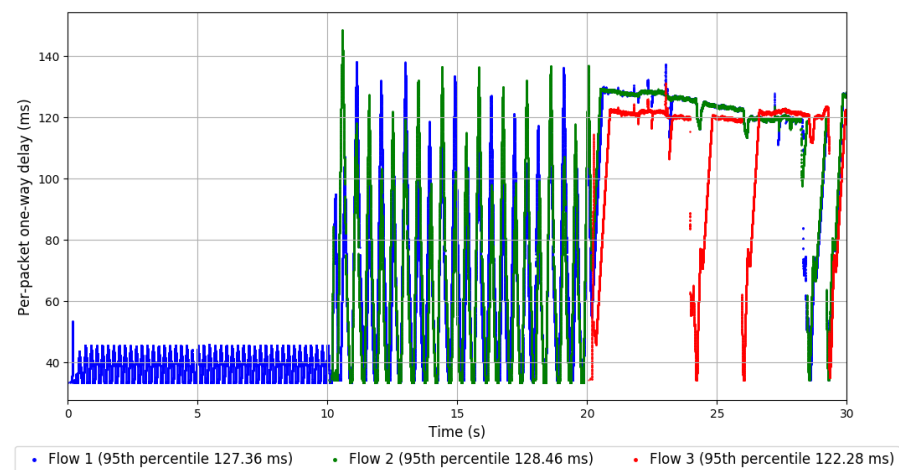
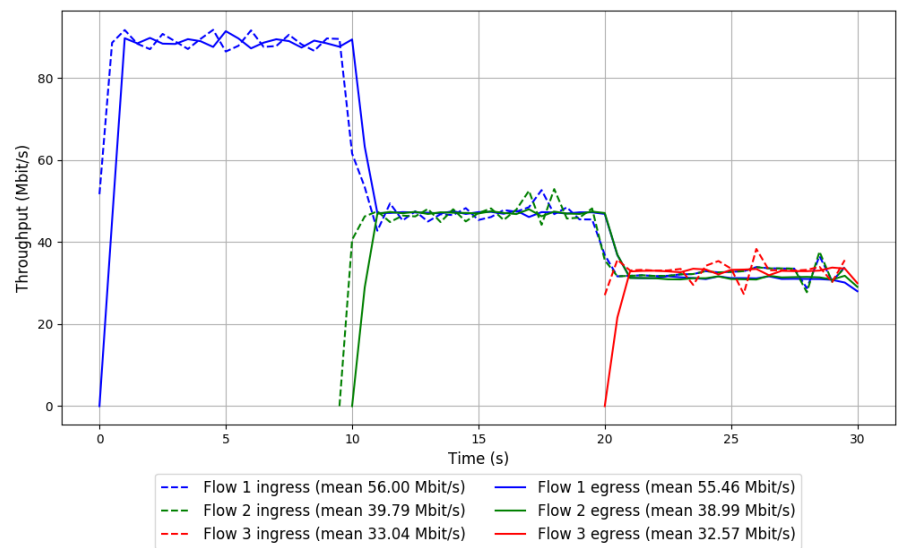


Run 2: Statistics of TaoVA-100x

Start at: 2019-03-09 13:24:11  
End at: 2019-03-09 13:24:41  
Local clock offset: 0.305 ms  
Remote clock offset: -3.012 ms

# Below is generated by plot.py at 2019-03-09 15:19:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.21 Mbit/s  
95th percentile per-packet one-way delay: 127.878 ms  
Loss rate: 1.61%  
-- Flow 1:  
Average throughput: 55.46 Mbit/s  
95th percentile per-packet one-way delay: 127.356 ms  
Loss rate: 1.19%  
-- Flow 2:  
Average throughput: 38.99 Mbit/s  
95th percentile per-packet one-way delay: 128.457 ms  
Loss rate: 2.34%  
-- Flow 3:  
Average throughput: 32.57 Mbit/s  
95th percentile per-packet one-way delay: 122.275 ms  
Loss rate: 2.04%

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

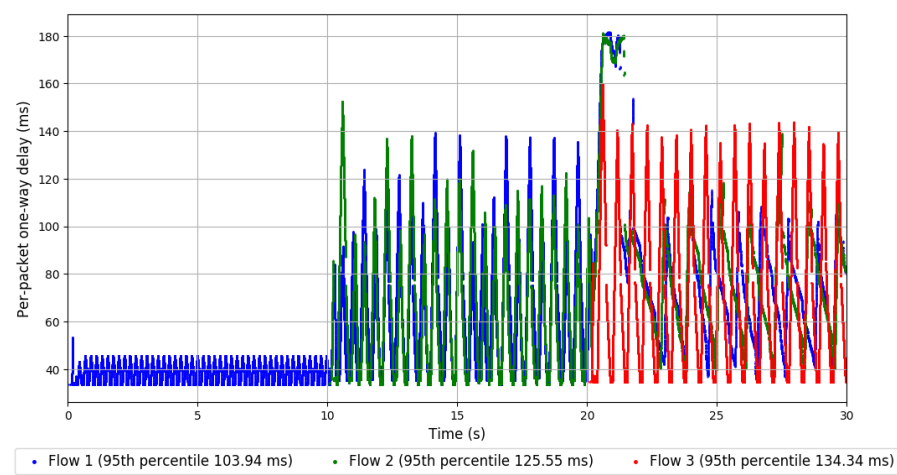
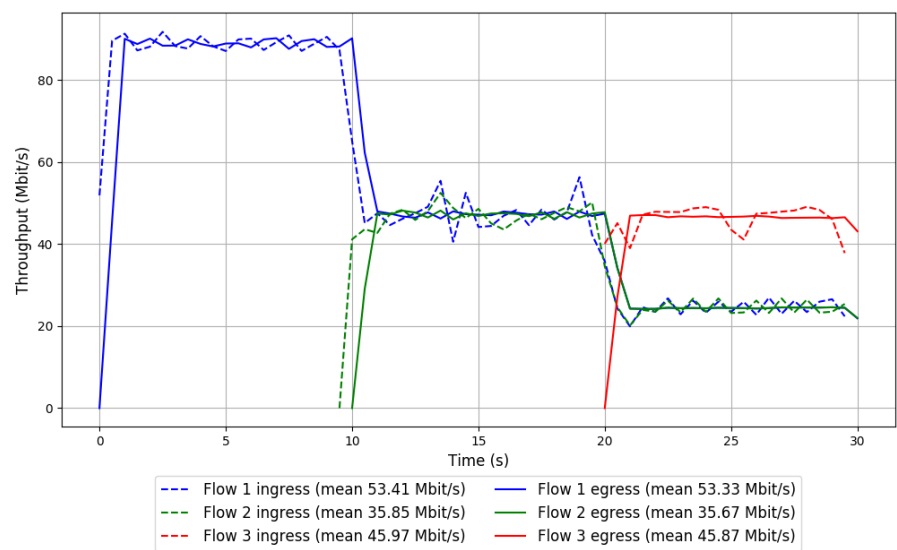


Run 3: Statistics of TaoVA-100x

Start at: 2019-03-09 13:49:57  
End at: 2019-03-09 13:50:27  
Local clock offset: 0.315 ms  
Remote clock offset: -1.392 ms

# Below is generated by plot.py at 2019-03-09 15:19:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.28 Mbit/s  
95th percentile per-packet one-way delay: 122.589 ms  
Loss rate: 0.57%  
-- Flow 1:  
Average throughput: 53.33 Mbit/s  
95th percentile per-packet one-way delay: 103.942 ms  
Loss rate: 0.38%  
-- Flow 2:  
Average throughput: 35.67 Mbit/s  
95th percentile per-packet one-way delay: 125.549 ms  
Loss rate: 0.79%  
-- Flow 3:  
Average throughput: 45.87 Mbit/s  
95th percentile per-packet one-way delay: 134.340 ms  
Loss rate: 0.87%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-09 14:15:39

End at: 2019-03-09 14:16:09

Local clock offset: 0.382 ms

Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2019-03-09 15:19:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.23 Mbit/s

95th percentile per-packet one-way delay: 126.476 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 55.75 Mbit/s

95th percentile per-packet one-way delay: 125.736 ms

Loss rate: 0.72%

-- Flow 2:

Average throughput: 39.22 Mbit/s

95th percentile per-packet one-way delay: 126.501 ms

Loss rate: 1.84%

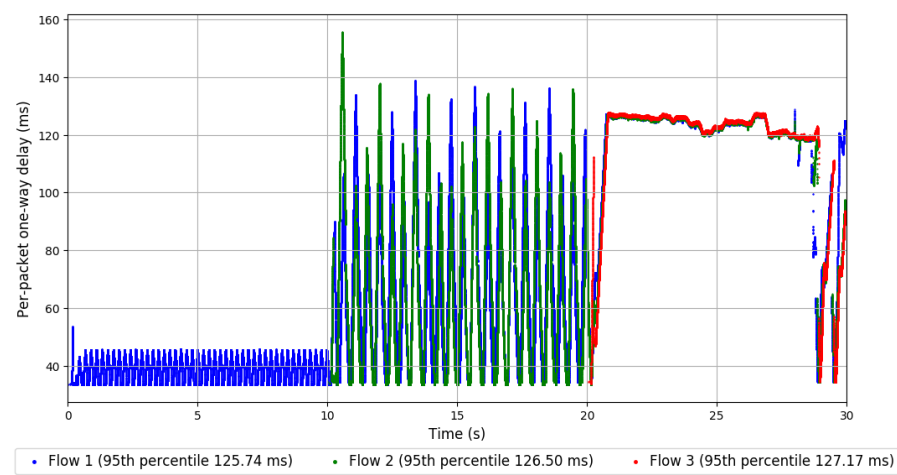
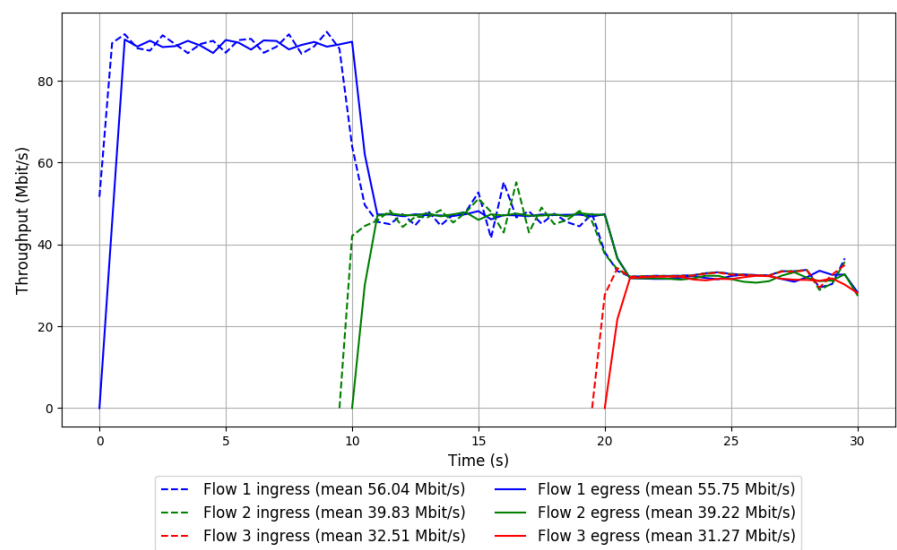
-- Flow 3:

Average throughput: 31.27 Mbit/s

95th percentile per-packet one-way delay: 127.168 ms

Loss rate: 4.44%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-03-09 14:41:30

End at: 2019-03-09 14:42:00

Local clock offset: 0.475 ms

Remote clock offset: 0.821 ms

# Below is generated by plot.py at 2019-03-09 15:19:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.22 Mbit/s

95th percentile per-packet one-way delay: 116.183 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 60.46 Mbit/s

95th percentile per-packet one-way delay: 100.983 ms

Loss rate: 0.29%

-- Flow 2:

Average throughput: 35.67 Mbit/s

95th percentile per-packet one-way delay: 132.467 ms

Loss rate: 0.98%

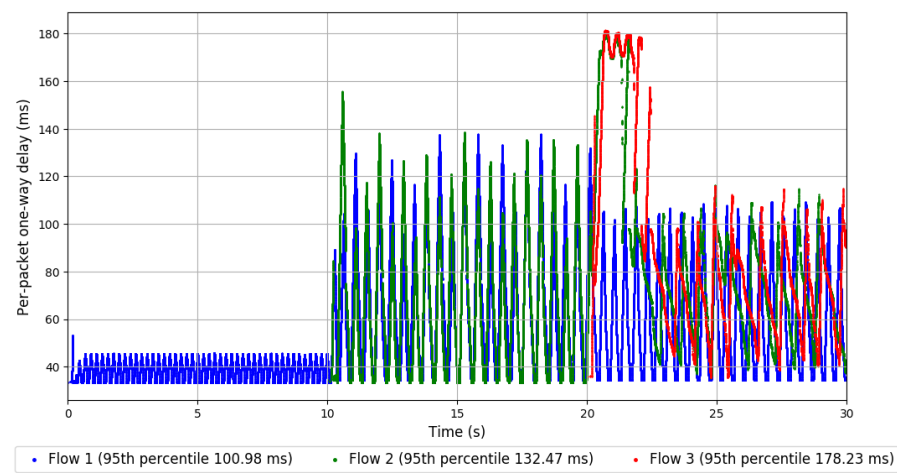
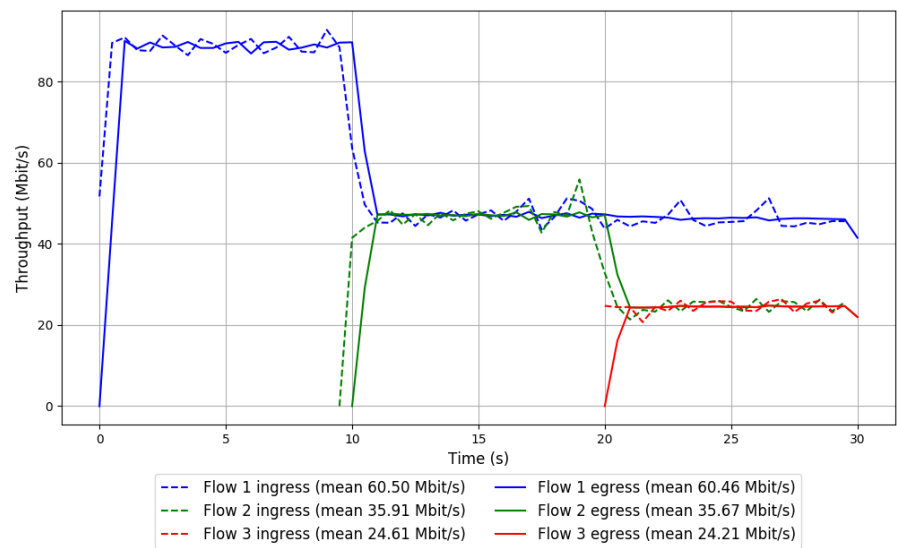
-- Flow 3:

Average throughput: 24.21 Mbit/s

95th percentile per-packet one-way delay: 178.229 ms

Loss rate: 2.28%

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

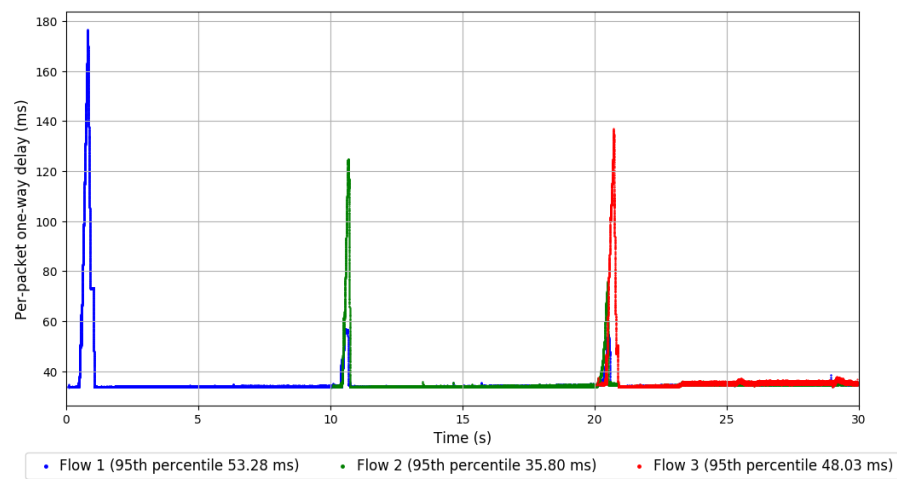
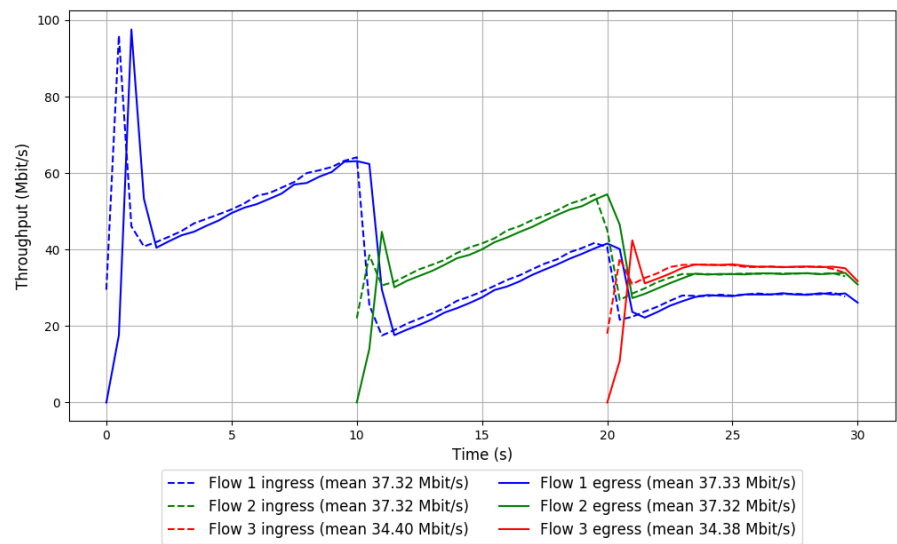


Run 1: Statistics of TCP Vegas

Start at: 2019-03-09 12:59:35  
End at: 2019-03-09 13:00:05  
Local clock offset: 0.356 ms  
Remote clock offset: -4.862 ms

# Below is generated by plot.py at 2019-03-09 15:19:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.54 Mbit/s  
95th percentile per-packet one-way delay: 43.230 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 37.33 Mbit/s  
95th percentile per-packet one-way delay: 53.281 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 37.32 Mbit/s  
95th percentile per-packet one-way delay: 35.802 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 34.38 Mbit/s  
95th percentile per-packet one-way delay: 48.035 ms  
Loss rate: 0.69%

Run 1: Report of TCP Vegas — Data Link

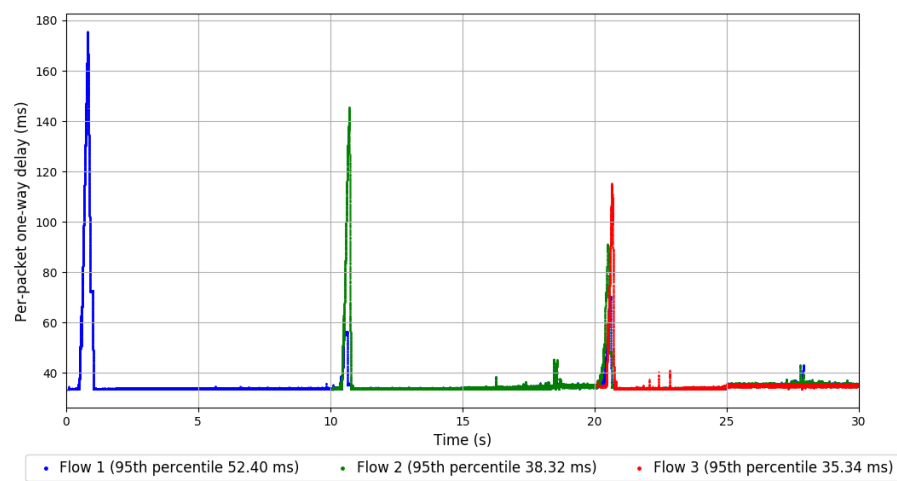
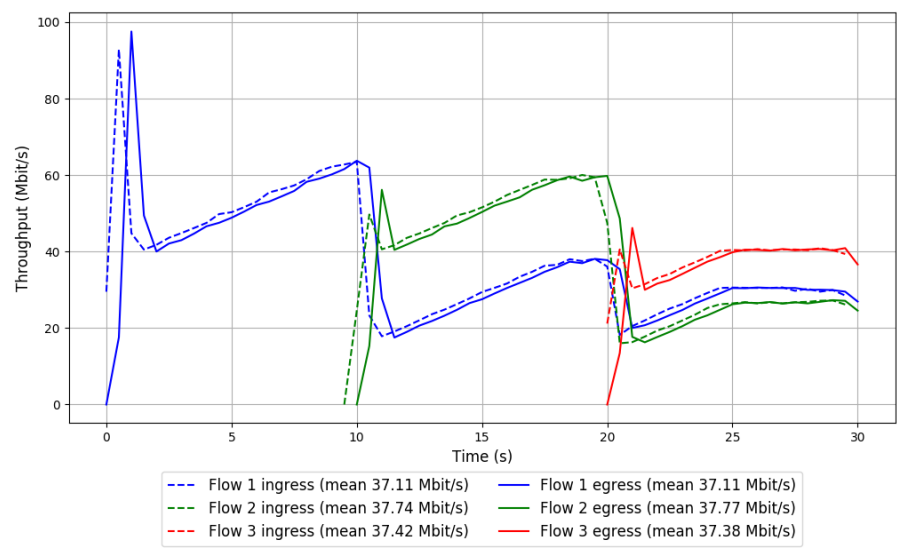


Run 2: Statistics of TCP Vegas

Start at: 2019-03-09 13:25:30  
End at: 2019-03-09 13:26:00  
Local clock offset: 0.308 ms  
Remote clock offset: -2.936 ms

# Below is generated by plot.py at 2019-03-09 15:19:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.64 Mbit/s  
95th percentile per-packet one-way delay: 41.904 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 37.11 Mbit/s  
95th percentile per-packet one-way delay: 52.403 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 37.77 Mbit/s  
95th percentile per-packet one-way delay: 38.318 ms  
Loss rate: 0.25%  
-- Flow 3:  
Average throughput: 37.38 Mbit/s  
95th percentile per-packet one-way delay: 35.335 ms  
Loss rate: 0.75%

Run 2: Report of TCP Vegas — Data Link

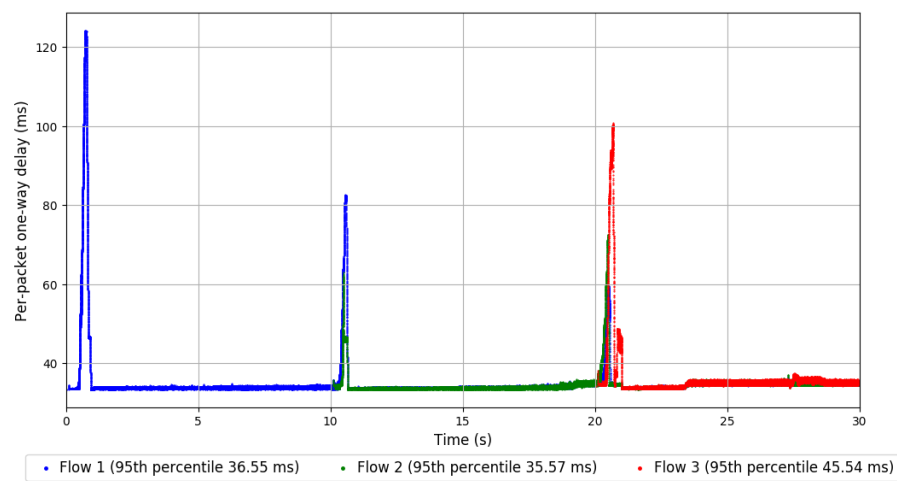
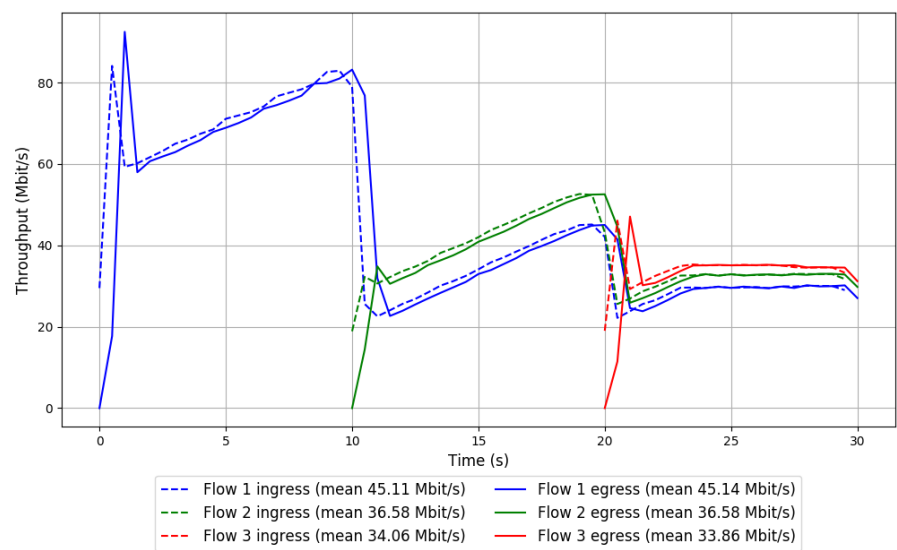


Run 3: Statistics of TCP Vegas

Start at: 2019-03-09 13:51:13  
End at: 2019-03-09 13:51:43  
Local clock offset: 0.333 ms  
Remote clock offset: -1.156 ms

# Below is generated by plot.py at 2019-03-09 15:19:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 80.70 Mbit/s  
95th percentile per-packet one-way delay: 36.599 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 45.14 Mbit/s  
95th percentile per-packet one-way delay: 36.550 ms  
Loss rate: 0.15%  
-- Flow 2:  
Average throughput: 36.58 Mbit/s  
95th percentile per-packet one-way delay: 35.566 ms  
Loss rate: 0.30%  
-- Flow 3:  
Average throughput: 33.86 Mbit/s  
95th percentile per-packet one-way delay: 45.538 ms  
Loss rate: 1.22%

Run 3: Report of TCP Vegas — Data Link



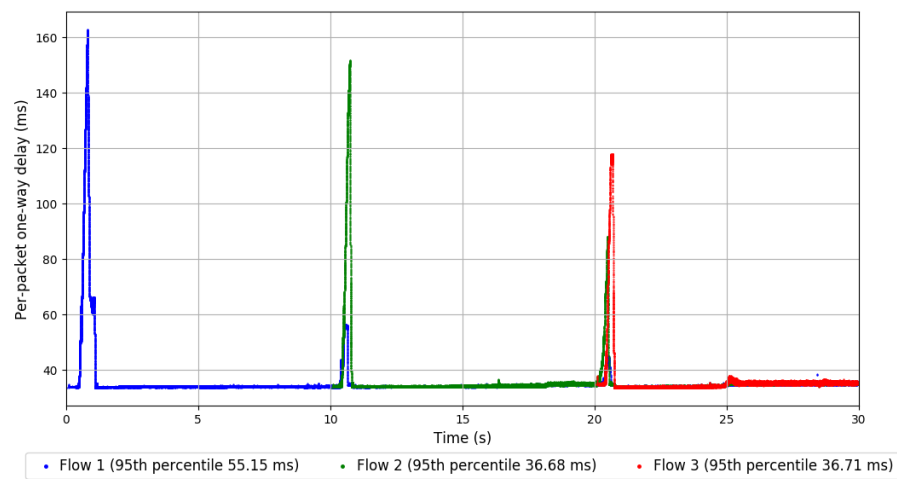
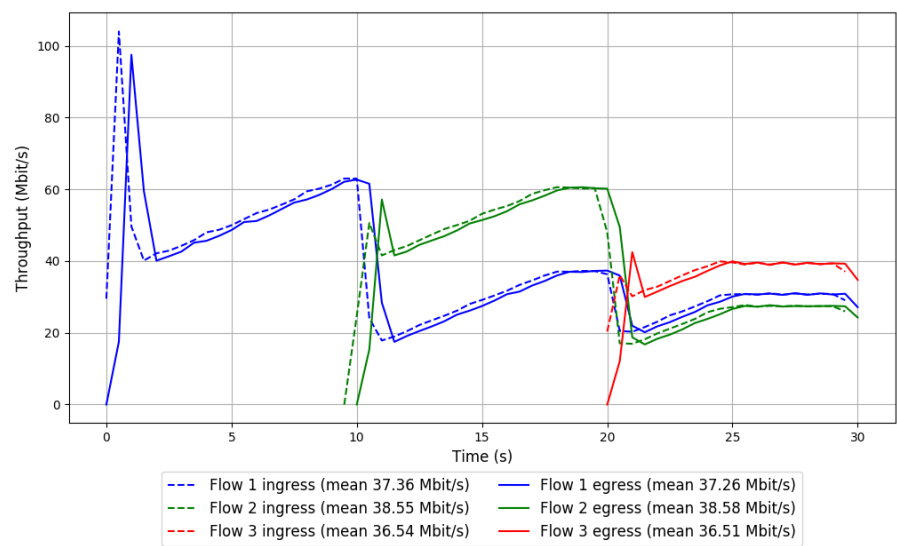


Run 4: Statistics of TCP Vegas

Start at: 2019-03-09 14:16:56  
End at: 2019-03-09 14:17:26  
Local clock offset: 0.398 ms  
Remote clock offset: -0.142 ms

# Below is generated by plot.py at 2019-03-09 15:19:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 75.04 Mbit/s  
95th percentile per-packet one-way delay: 42.413 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 37.26 Mbit/s  
95th percentile per-packet one-way delay: 55.154 ms  
Loss rate: 0.47%  
-- Flow 2:  
Average throughput: 38.58 Mbit/s  
95th percentile per-packet one-way delay: 36.683 ms  
Loss rate: 0.24%  
-- Flow 3:  
Average throughput: 36.51 Mbit/s  
95th percentile per-packet one-way delay: 36.710 ms  
Loss rate: 0.71%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-09 14:42:49

End at: 2019-03-09 14:43:19

Local clock offset: 0.463 ms

Remote clock offset: 0.886 ms

# Below is generated by plot.py at 2019-03-09 15:19:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 72.06 Mbit/s

95th percentile per-packet one-way delay: 43.651 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 38.26 Mbit/s

95th percentile per-packet one-way delay: 50.427 ms

Loss rate: 0.20%

-- Flow 2:

Average throughput: 38.70 Mbit/s

95th percentile per-packet one-way delay: 35.691 ms

Loss rate: 0.33%

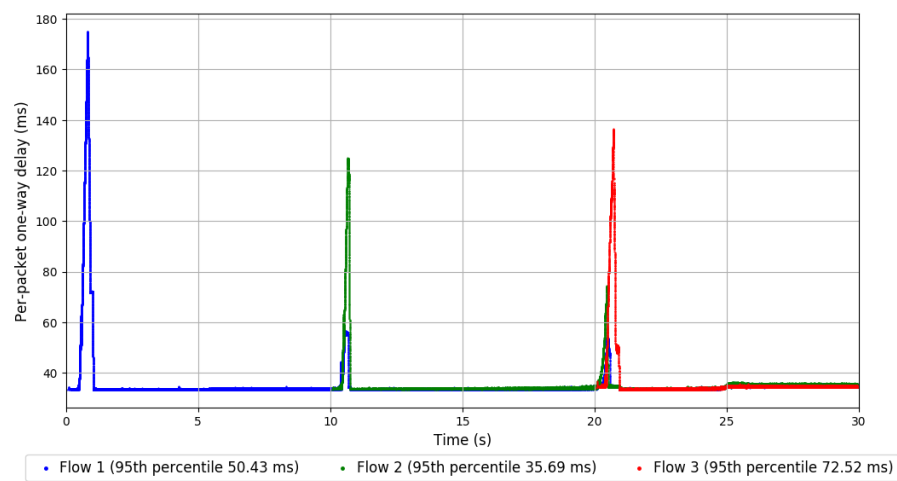
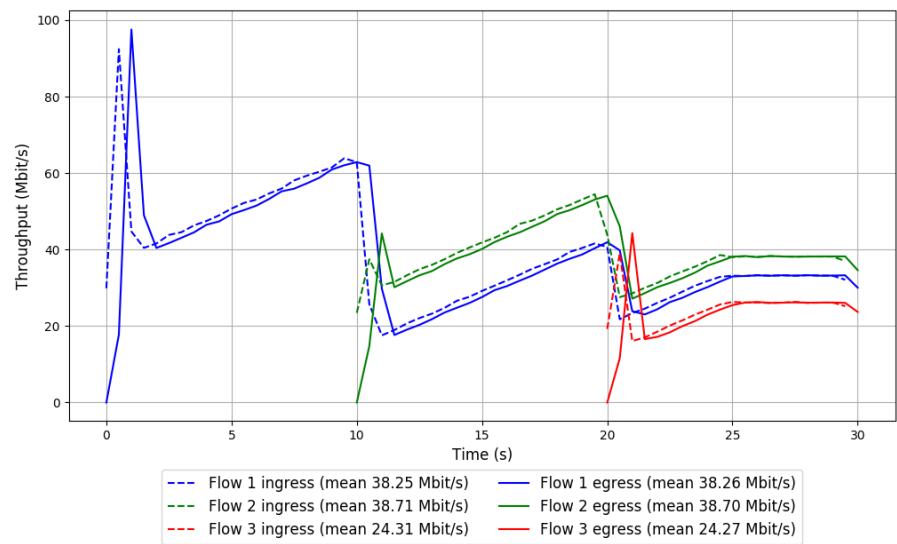
-- Flow 3:

Average throughput: 24.27 Mbit/s

95th percentile per-packet one-way delay: 72.517 ms

Loss rate: 0.83%

Run 5: Report of TCP Vegas — Data Link

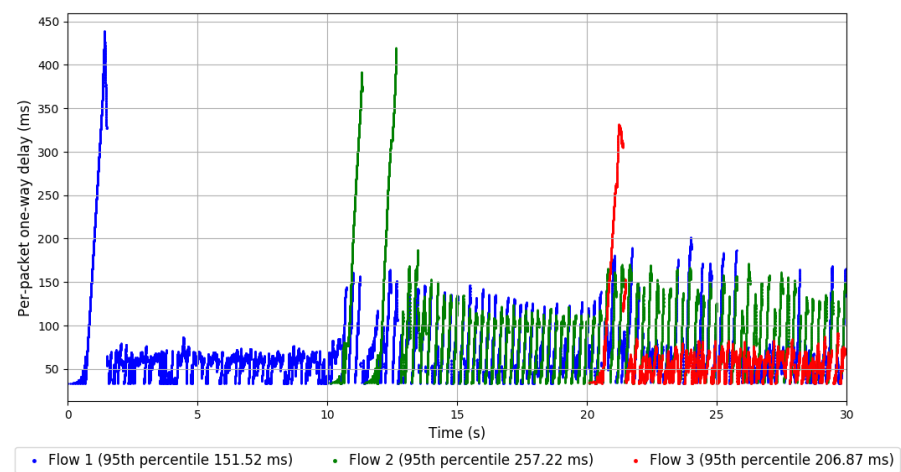
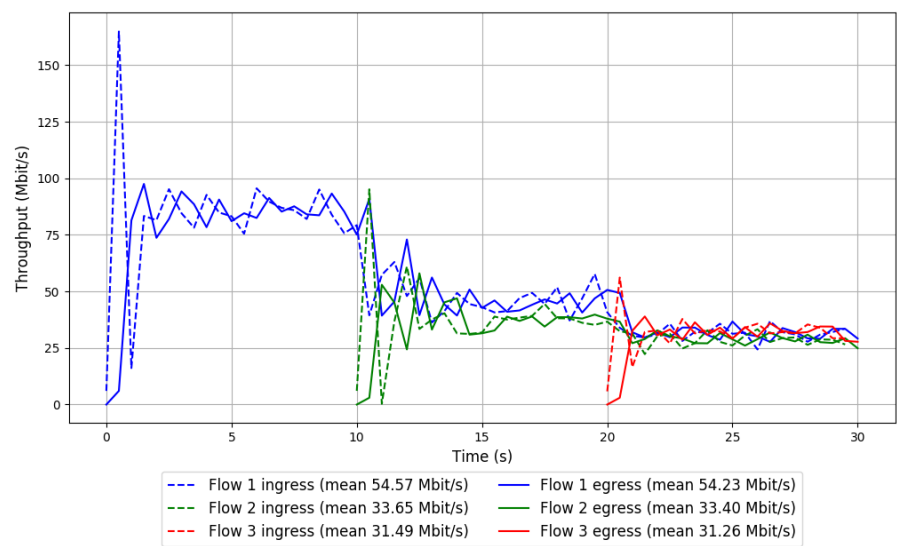


Run 1: Statistics of Verus

Start at: 2019-03-09 13:10:34  
End at: 2019-03-09 13:11:04  
Local clock offset: 0.329 ms  
Remote clock offset: -3.915 ms

# Below is generated by plot.py at 2019-03-09 15:19:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.78 Mbit/s  
95th percentile per-packet one-way delay: 172.019 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 54.23 Mbit/s  
95th percentile per-packet one-way delay: 151.523 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 33.40 Mbit/s  
95th percentile per-packet one-way delay: 257.222 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 31.26 Mbit/s  
95th percentile per-packet one-way delay: 206.873 ms  
Loss rate: 1.33%

Run 1: Report of Verus — Data Link

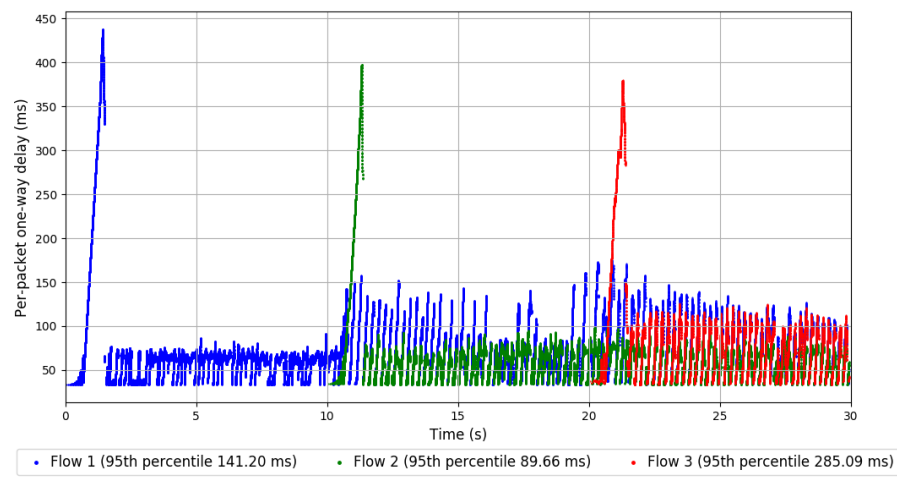
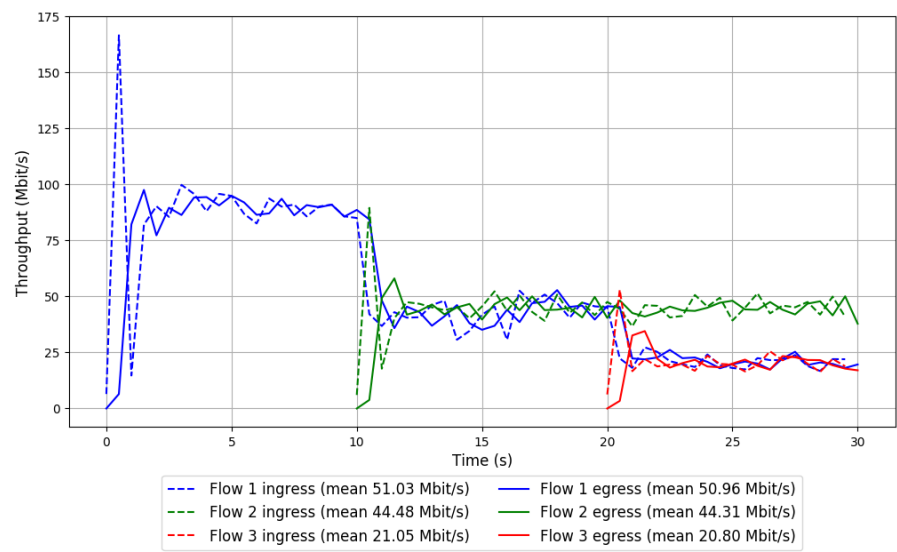


Run 2: Statistics of Verus

Start at: 2019-03-09 13:36:30  
End at: 2019-03-09 13:37:00  
Local clock offset: 0.274 ms  
Remote clock offset: -2.116 ms

# Below is generated by plot.py at 2019-03-09 15:20:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.32 Mbit/s  
95th percentile per-packet one-way delay: 138.243 ms  
Loss rate: 0.59%  
-- Flow 1:  
Average throughput: 50.96 Mbit/s  
95th percentile per-packet one-way delay: 141.199 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 44.31 Mbit/s  
95th percentile per-packet one-way delay: 89.659 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 20.80 Mbit/s  
95th percentile per-packet one-way delay: 285.086 ms  
Loss rate: 1.82%

Run 2: Report of Verus — Data Link



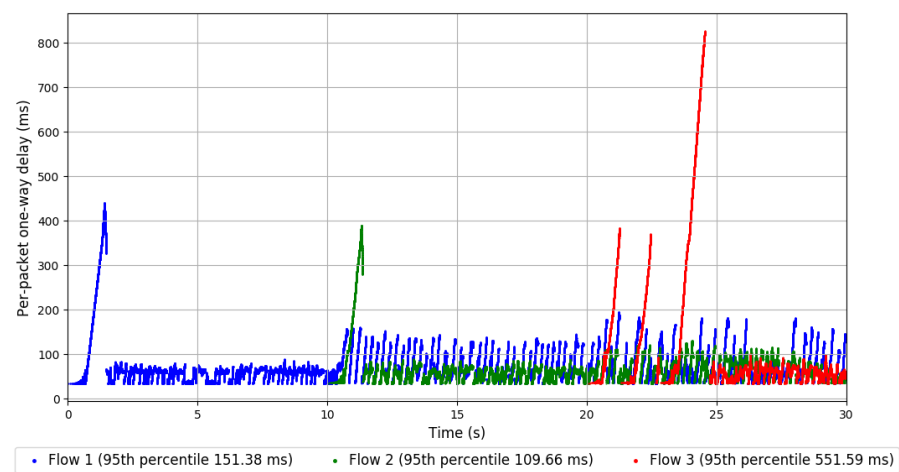
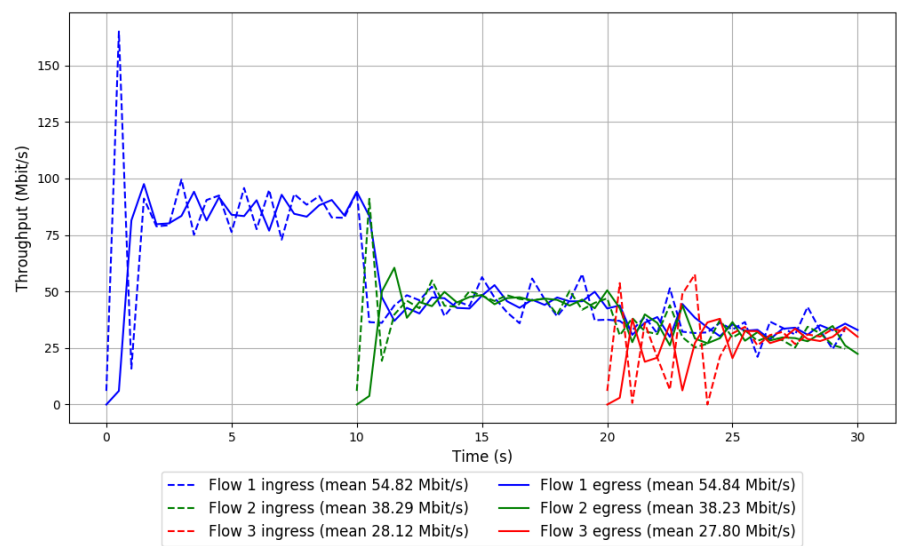


Run 3: Statistics of Verus

Start at: 2019-03-09 14:02:10  
End at: 2019-03-09 14:02:40  
Local clock offset: 0.364 ms  
Remote clock offset: -0.509 ms

# Below is generated by plot.py at 2019-03-09 15:20:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.47 Mbit/s  
95th percentile per-packet one-way delay: 180.036 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 54.84 Mbit/s  
95th percentile per-packet one-way delay: 151.381 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 38.23 Mbit/s  
95th percentile per-packet one-way delay: 109.656 ms  
Loss rate: 0.47%  
-- Flow 3:  
Average throughput: 27.80 Mbit/s  
95th percentile per-packet one-way delay: 551.593 ms  
Loss rate: 1.70%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-03-09 14:27:59

End at: 2019-03-09 14:28:29

Local clock offset: 0.425 ms

Remote clock offset: 0.412 ms

# Below is generated by plot.py at 2019-03-09 15:20:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.36 Mbit/s

95th percentile per-packet one-way delay: 160.261 ms

Loss rate: 0.58%

-- Flow 1:

Average throughput: 55.01 Mbit/s

95th percentile per-packet one-way delay: 142.784 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 37.61 Mbit/s

95th percentile per-packet one-way delay: 125.308 ms

Loss rate: 0.37%

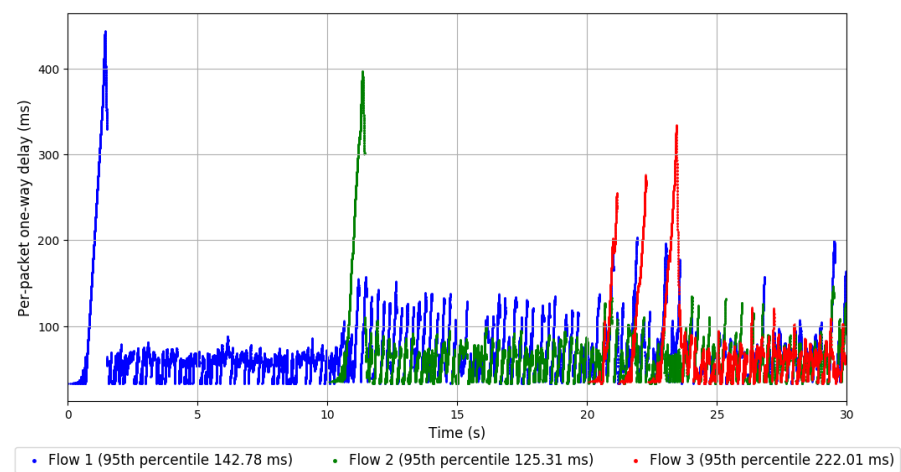
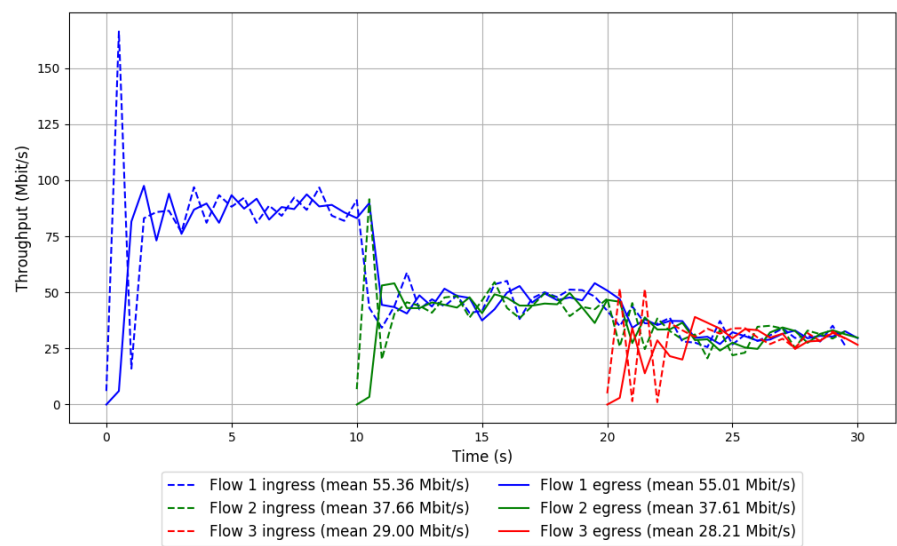
-- Flow 3:

Average throughput: 28.21 Mbit/s

95th percentile per-packet one-way delay: 222.010 ms

Loss rate: 3.34%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-03-09 14:54:13

End at: 2019-03-09 14:54:43

Local clock offset: 0.348 ms

Remote clock offset: 0.743 ms

# Below is generated by plot.py at 2019-03-09 15:20:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.44 Mbit/s

95th percentile per-packet one-way delay: 174.692 ms

Loss rate: 0.43%

-- Flow 1:

Average throughput: 54.28 Mbit/s

95th percentile per-packet one-way delay: 148.465 ms

Loss rate: 0.18%

-- Flow 2:

Average throughput: 39.22 Mbit/s

95th percentile per-packet one-way delay: 106.528 ms

Loss rate: 0.54%

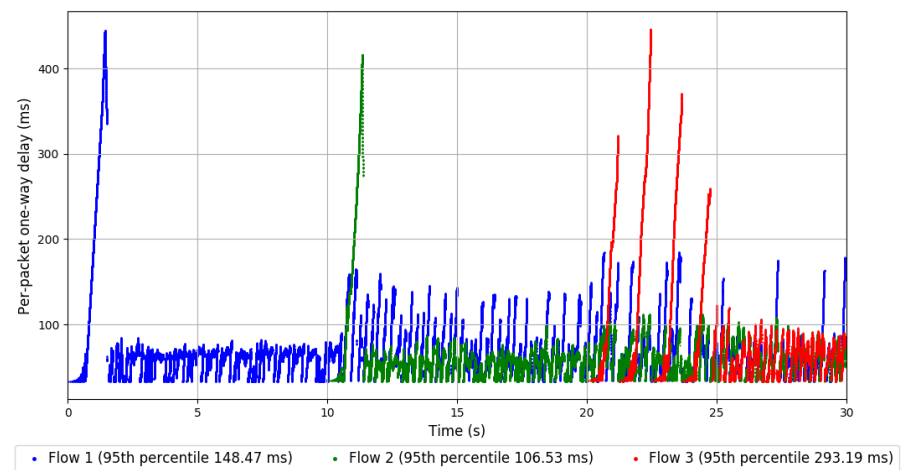
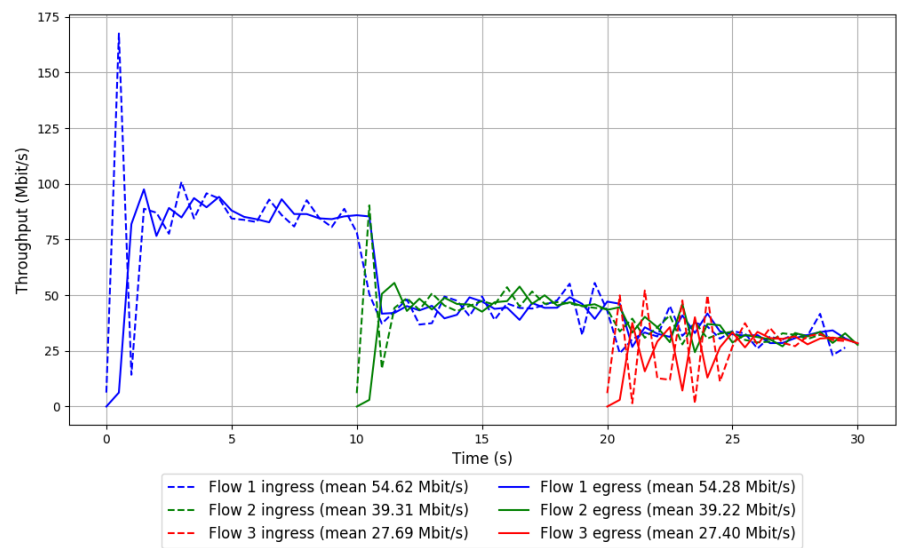
-- Flow 3:

Average throughput: 27.40 Mbit/s

95th percentile per-packet one-way delay: 293.192 ms

Loss rate: 1.65%

Run 5: Report of Verus — Data Link

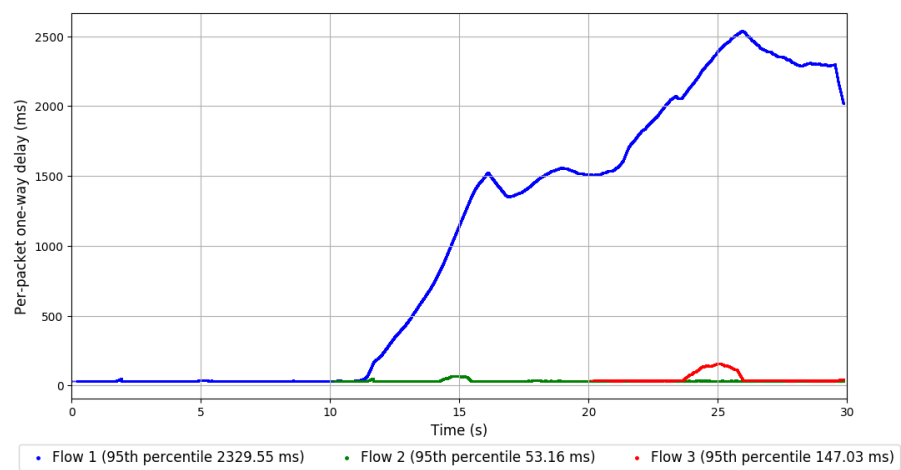
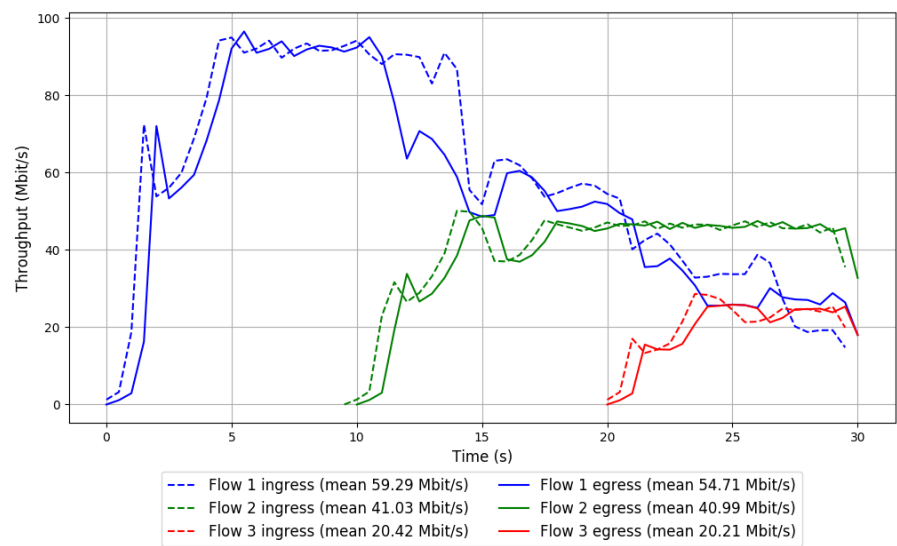


Run 1: Statistics of PCC-Vivace

Start at: 2019-03-09 13:04:23  
End at: 2019-03-09 13:04:53  
Local clock offset: 0.357 ms  
Remote clock offset: -4.414 ms

# Below is generated by plot.py at 2019-03-09 15:20:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.62 Mbit/s  
95th percentile per-packet one-way delay: 2288.615 ms  
Loss rate: 5.27%  
-- Flow 1:  
Average throughput: 54.71 Mbit/s  
95th percentile per-packet one-way delay: 2329.551 ms  
Loss rate: 7.91%  
-- Flow 2:  
Average throughput: 40.99 Mbit/s  
95th percentile per-packet one-way delay: 53.162 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 20.21 Mbit/s  
95th percentile per-packet one-way delay: 147.033 ms  
Loss rate: 1.71%

Run 1: Report of PCC-Vivace — Data Link



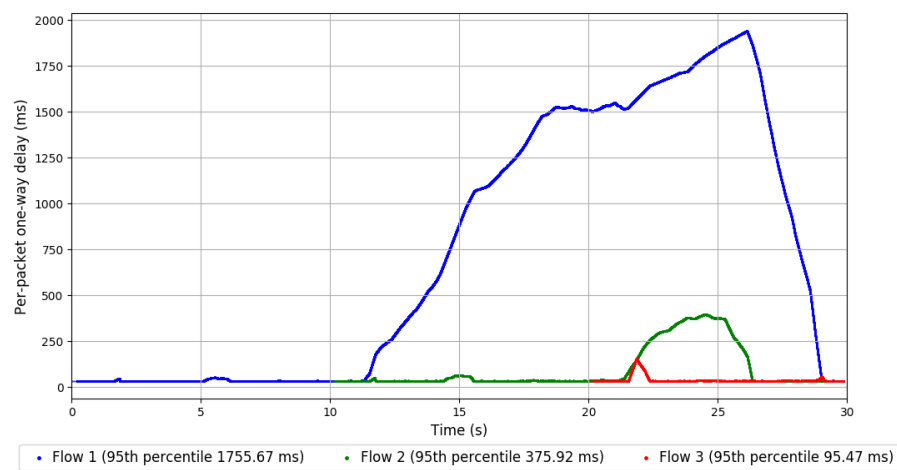
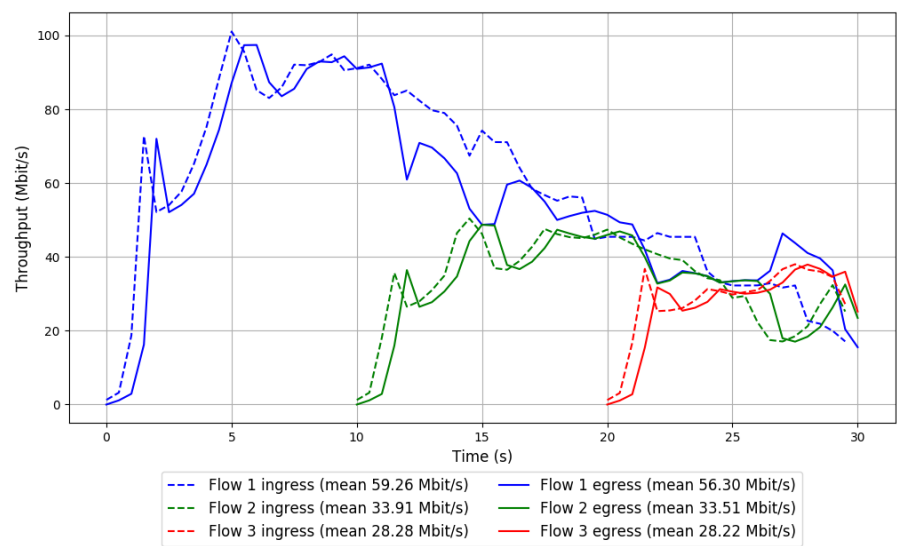


Run 2: Statistics of PCC-Vivace

Start at: 2019-03-09 13:30:18  
End at: 2019-03-09 13:30:48  
Local clock offset: 0.283 ms  
Remote clock offset: -2.598 ms

# Below is generated by plot.py at 2019-03-09 15:20:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.86 Mbit/s  
95th percentile per-packet one-way delay: 1672.578 ms  
Loss rate: 3.83%  
-- Flow 1:  
Average throughput: 56.30 Mbit/s  
95th percentile per-packet one-way delay: 1755.669 ms  
Loss rate: 5.19%  
-- Flow 2:  
Average throughput: 33.51 Mbit/s  
95th percentile per-packet one-way delay: 375.922 ms  
Loss rate: 1.49%  
-- Flow 3:  
Average throughput: 28.22 Mbit/s  
95th percentile per-packet one-way delay: 95.473 ms  
Loss rate: 0.88%

Run 2: Report of PCC-Vivace — Data Link

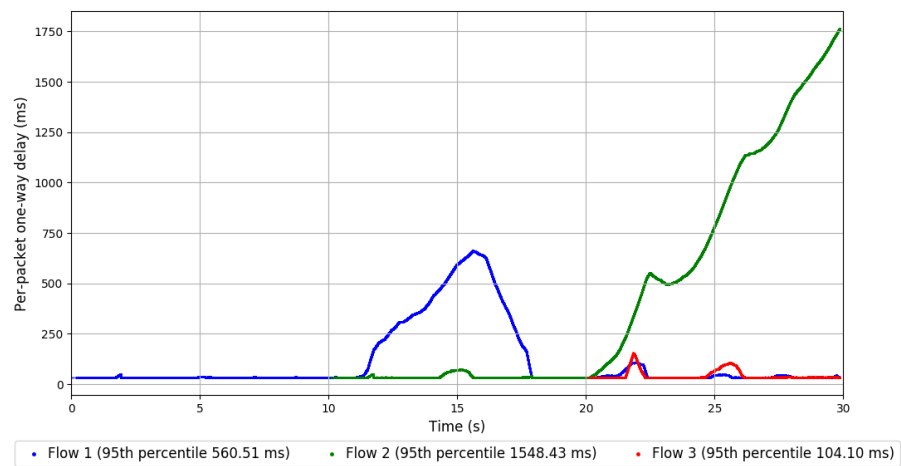
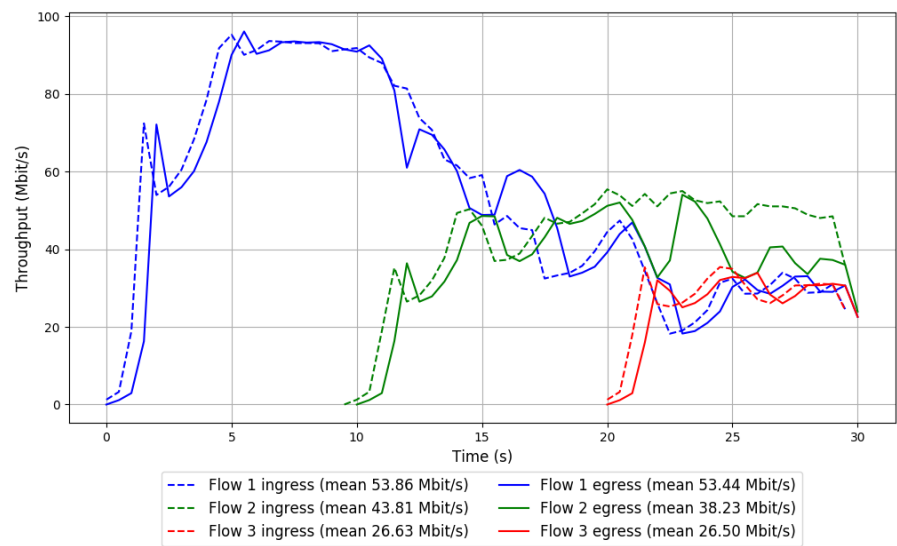


Run 3: Statistics of PCC-Vivace

Start at: 2019-03-09 13:56:00  
End at: 2019-03-09 13:56:31  
Local clock offset: 0.368 ms  
Remote clock offset: -0.928 ms

# Below is generated by plot.py at 2019-03-09 15:20:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.58 Mbit/s  
95th percentile per-packet one-way delay: 1138.360 ms  
Loss rate: 4.82%  
-- Flow 1:  
Average throughput: 53.44 Mbit/s  
95th percentile per-packet one-way delay: 560.506 ms  
Loss rate: 0.99%  
-- Flow 2:  
Average throughput: 38.23 Mbit/s  
95th percentile per-packet one-way delay: 1548.432 ms  
Loss rate: 13.00%  
-- Flow 3:  
Average throughput: 26.50 Mbit/s  
95th percentile per-packet one-way delay: 104.103 ms  
Loss rate: 1.15%

Run 3: Report of PCC-Vivace — Data Link

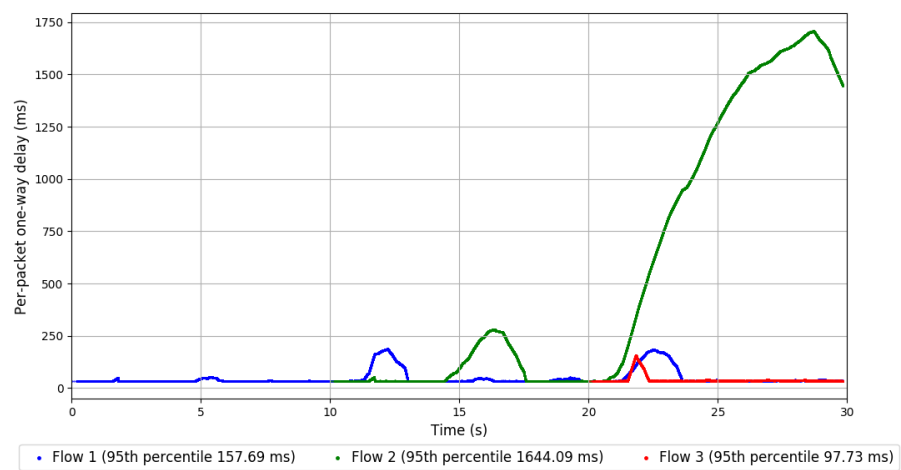
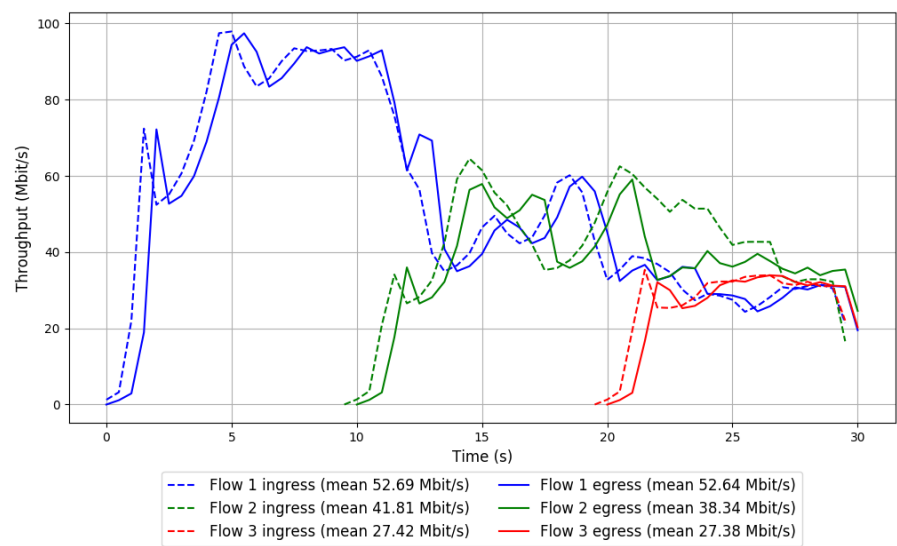


Run 4: Statistics of PCC-Vivace

Start at: 2019-03-09 14:21:43  
End at: 2019-03-09 14:22:13  
Local clock offset: 0.412 ms  
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2019-03-09 15:20:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.16 Mbit/s  
95th percentile per-packet one-way delay: 1472.650 ms  
Loss rate: 2.94%  
-- Flow 1:  
Average throughput: 52.64 Mbit/s  
95th percentile per-packet one-way delay: 157.691 ms  
Loss rate: 0.31%  
-- Flow 2:  
Average throughput: 38.34 Mbit/s  
95th percentile per-packet one-way delay: 1644.086 ms  
Loss rate: 8.60%  
-- Flow 3:  
Average throughput: 27.38 Mbit/s  
95th percentile per-packet one-way delay: 97.732 ms  
Loss rate: 0.81%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-09 14:47:45

End at: 2019-03-09 14:48:15

Local clock offset: 0.413 ms

Remote clock offset: 0.752 ms

# Below is generated by plot.py at 2019-03-09 15:20:52

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.78 Mbit/s

95th percentile per-packet one-way delay: 672.855 ms

Loss rate: 1.02%

-- Flow 1:

Average throughput: 52.33 Mbit/s

95th percentile per-packet one-way delay: 750.937 ms

Loss rate: 1.35%

-- Flow 2:

Average throughput: 42.08 Mbit/s

95th percentile per-packet one-way delay: 72.402 ms

Loss rate: 0.46%

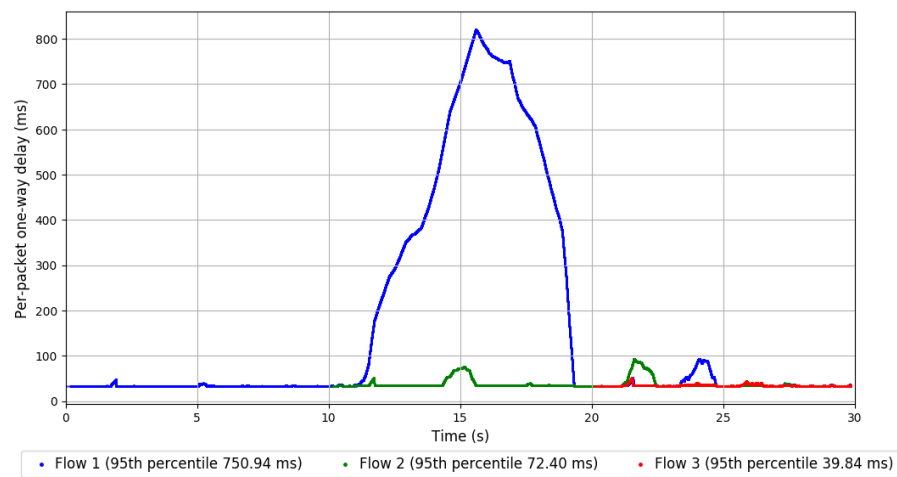
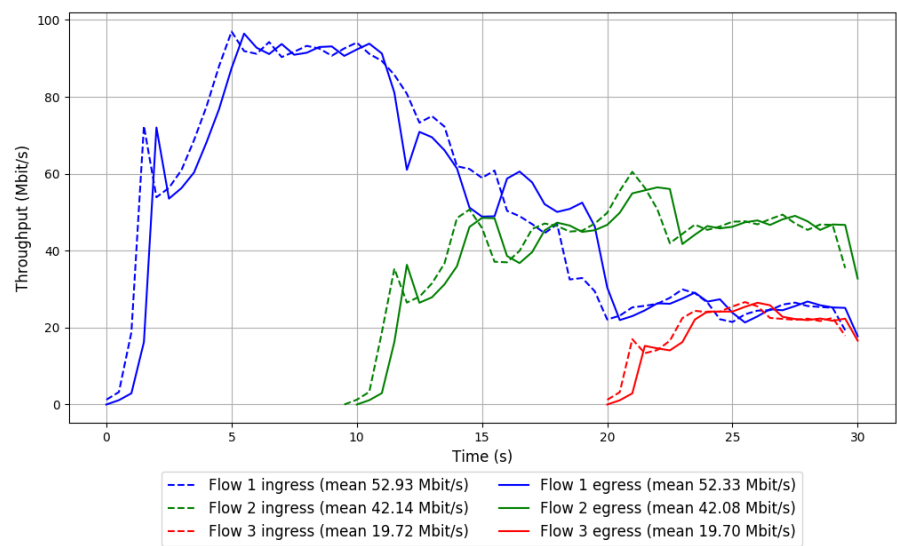
-- Flow 3:

Average throughput: 19.70 Mbit/s

95th percentile per-packet one-way delay: 39.839 ms

Loss rate: 0.75%

Run 5: Report of PCC-Vivace — Data Link



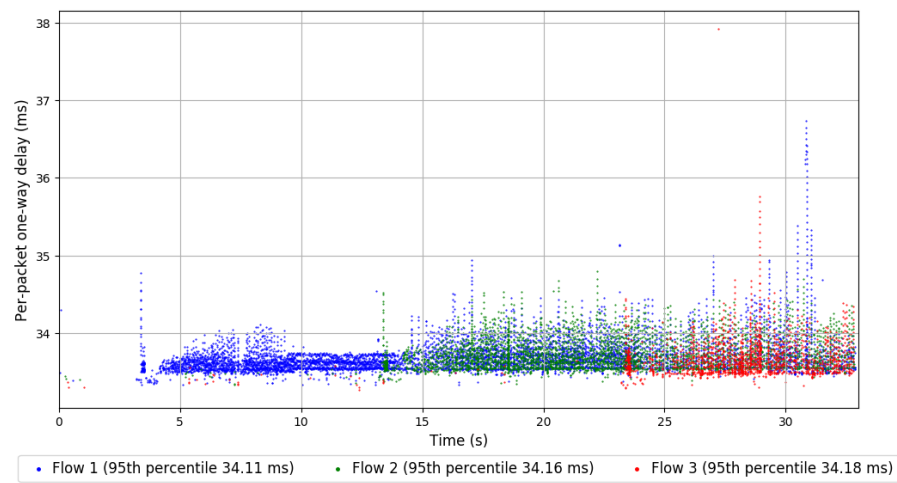
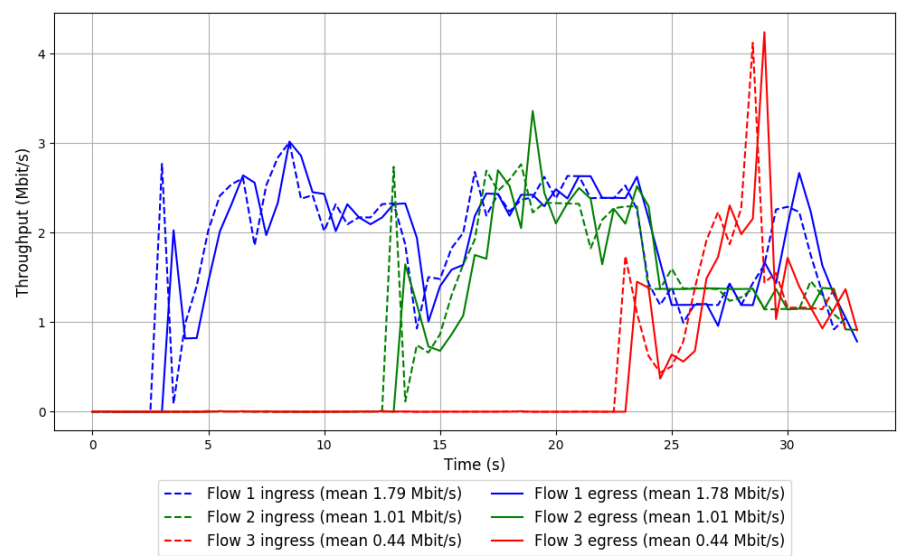


Run 1: Statistics of WebRTC media

Start at: 2019-03-09 13:00:48  
End at: 2019-03-09 13:01:18  
Local clock offset: 0.373 ms  
Remote clock offset: -4.622 ms

# Below is generated by plot.py at 2019-03-09 15:20:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.22 Mbit/s  
95th percentile per-packet one-way delay: 34.146 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 34.107 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 34.158 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 34.176 ms  
Loss rate: 0.79%

Run 1: Report of WebRTC media — Data Link

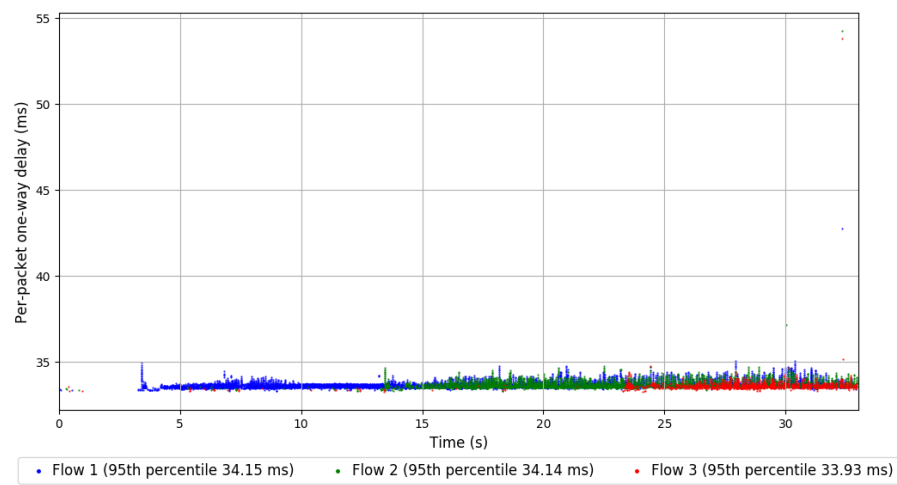
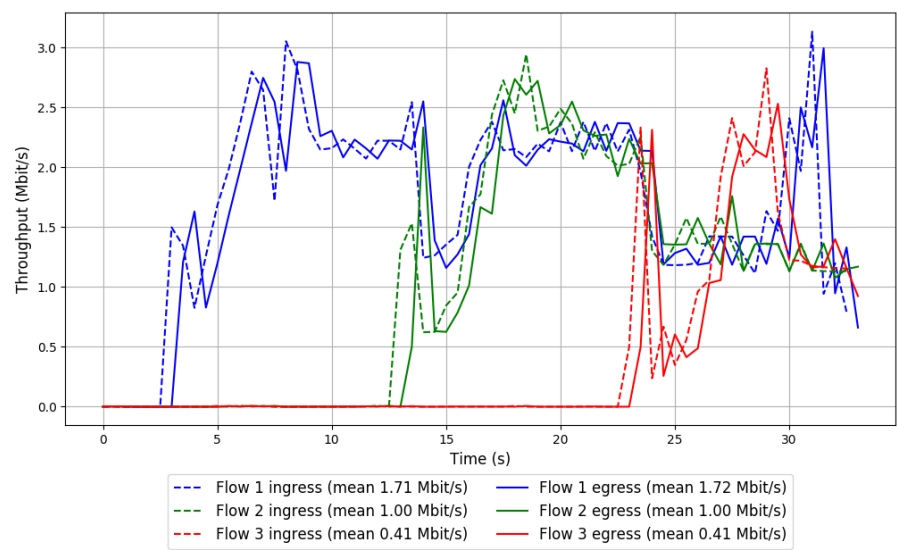


Run 2: Statistics of WebRTC media

Start at: 2019-03-09 13:26:42  
End at: 2019-03-09 13:27:12  
Local clock offset: 0.301 ms  
Remote clock offset: -2.815 ms

# Below is generated by plot.py at 2019-03-09 15:20:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.11 Mbit/s  
95th percentile per-packet one-way delay: 34.125 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 1.72 Mbit/s  
95th percentile per-packet one-way delay: 34.154 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 1.00 Mbit/s  
95th percentile per-packet one-way delay: 34.144 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 33.929 ms  
Loss rate: 0.86%

Run 2: Report of WebRTC media — Data Link

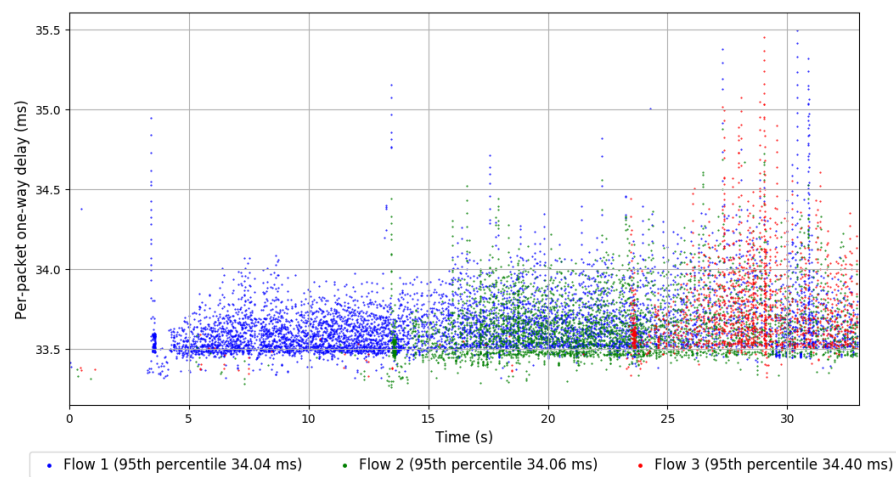
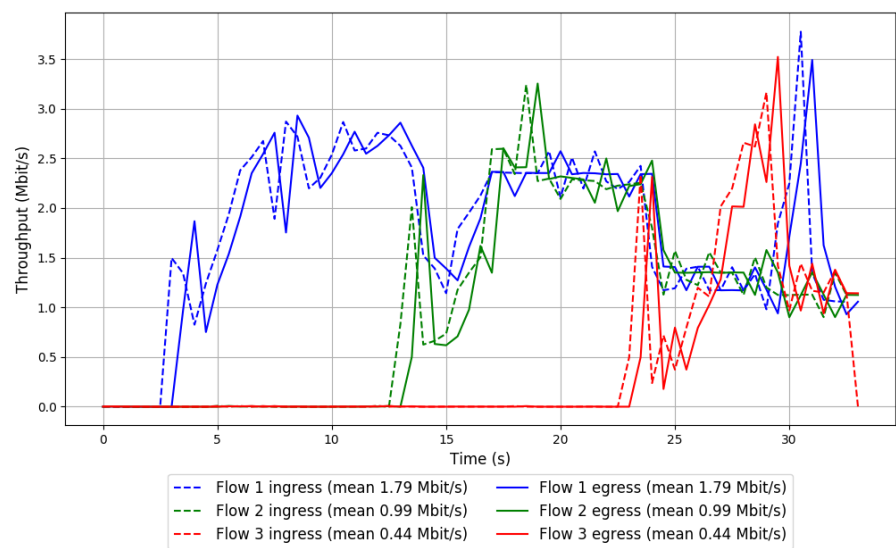


Run 3: Statistics of WebRTC media

Start at: 2019-03-09 13:52:26  
End at: 2019-03-09 13:52:56  
Local clock offset: 0.331 ms  
Remote clock offset: -1.117 ms

# Below is generated by plot.py at 2019-03-09 15:20:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.21 Mbit/s  
95th percentile per-packet one-way delay: 34.103 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 1.79 Mbit/s  
95th percentile per-packet one-way delay: 34.036 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 0.99 Mbit/s  
95th percentile per-packet one-way delay: 34.058 ms  
Loss rate: 0.34%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 34.397 ms  
Loss rate: 0.80%

Run 3: Report of WebRTC media — Data Link

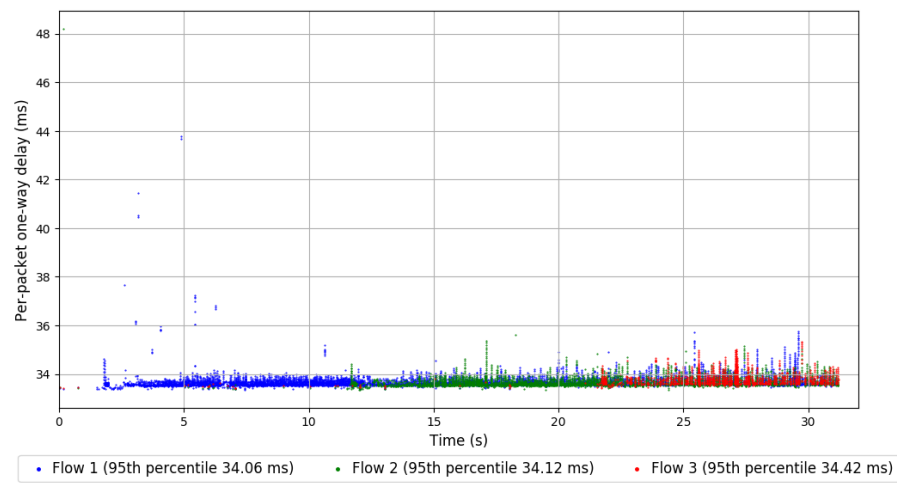
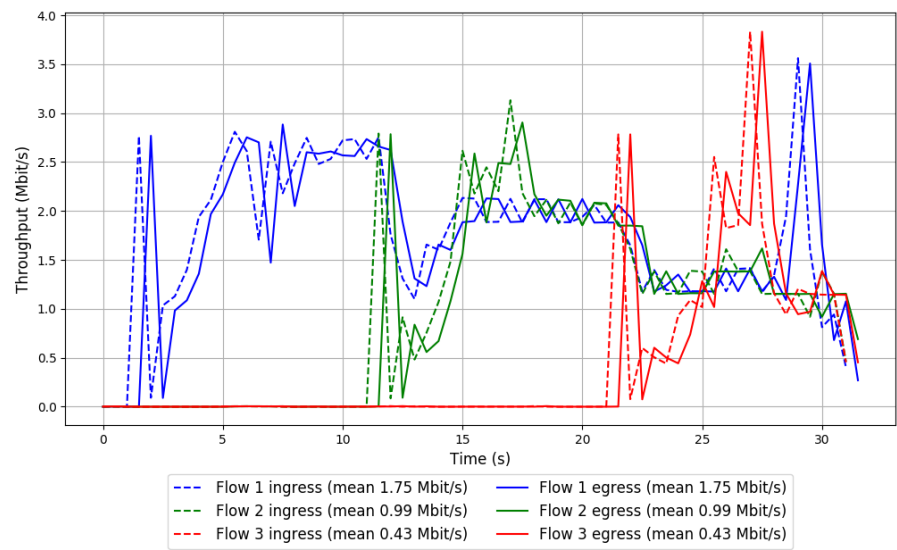


Run 4: Statistics of WebRTC media

Start at: 2019-03-09 14:18:08  
End at: 2019-03-09 14:18:38  
Local clock offset: 0.393 ms  
Remote clock offset: -0.044 ms

```
# Below is generated by plot.py at 2019-03-09 15:20:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 34.148 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 34.065 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 34.119 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 34.425 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-03-09 14:44:02

End at: 2019-03-09 14:44:32

Local clock offset: 0.469 ms

Remote clock offset: 0.67 ms

# Below is generated by plot.py at 2019-03-09 15:20:52

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.15 Mbit/s

95th percentile per-packet one-way delay: 34.224 ms

Loss rate: 0.28%

-- Flow 1:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 34.204 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 0.99 Mbit/s

95th percentile per-packet one-way delay: 34.213 ms

Loss rate: 0.35%

-- Flow 3:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 34.325 ms

Loss rate: 0.81%

Run 5: Report of WebRTC media — Data Link

