

## Pantheon Report

Generated at 2018-06-05 10:58:51 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 ppp0 (*remote*).

Repeated the test of 16 congestion control schemes 3 times.

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

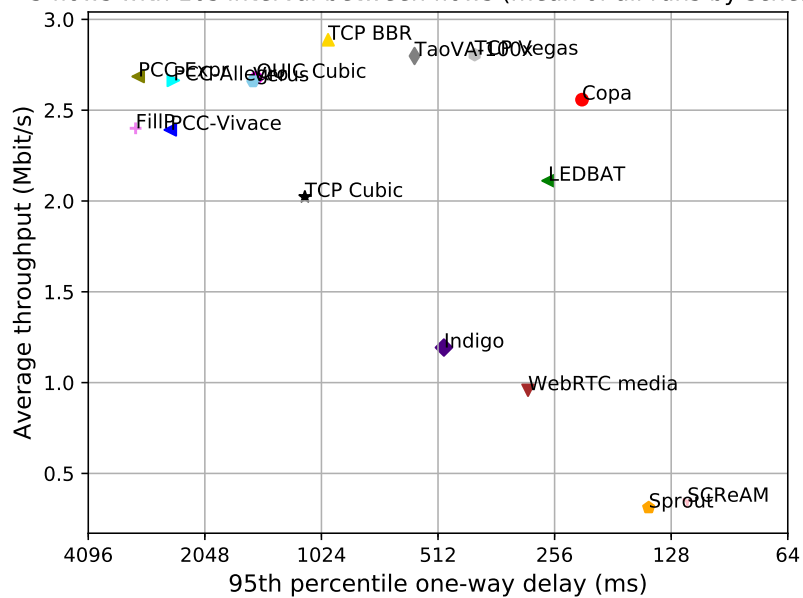
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

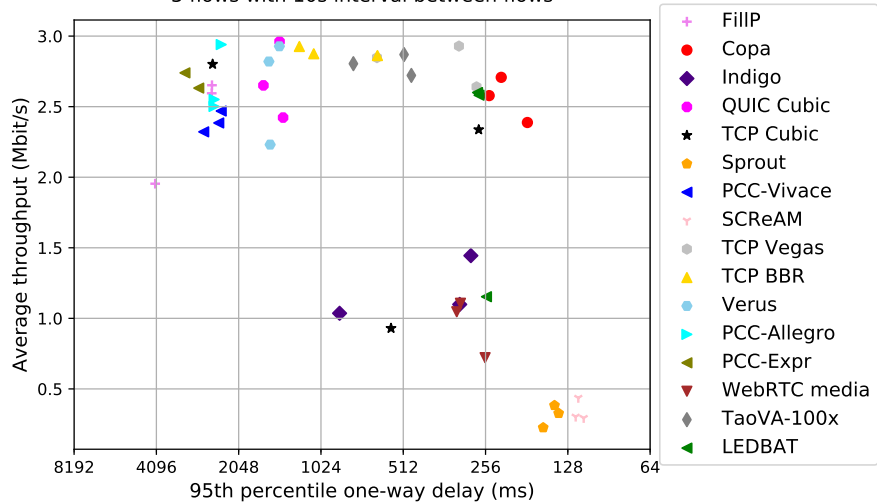
Git summary:

```
branch: master @ 227fdf9a3757f17b88537cceed5743a33037a3d2
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ c838669682f0c19f6baf92afc9a596a406d48c1f
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows



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	3	1.86	1.18	0.79	971.20	1000.46	856.97	3.33	5.96	9.53
Copa	3	1.37	1.26	1.05	218.05	197.12	204.38	0.04	0.12	0.52
TCP Cubic	3	1.66	0.21	0.66	1093.55	883.40	1116.78	10.75	36.71	43.78
FillP	3	1.58	1.29	0.05	3021.04	3134.49	3161.98	61.33	66.03	76.21
Indigo	3	0.78	0.47	0.32	511.70	365.23	264.89	37.81	57.73	57.42
LEDBAT	3	1.92	0.43	0.35	262.86	282.52	229.42	1.23	8.03	13.80
PCC-Allegro	3	1.57	1.63	0.00	2459.17	2481.14	2491.00	39.38	29.61	15.80
PCC-Expr	2	2.69	0.00	0.00	3046.26	2706.49	2700.89	55.05	40.81	71.59
QUIC Cubic	3	2.06	0.75	0.34	1449.07	1569.37	1688.06	4.06	7.13	21.08
SCReAM	3	0.13	0.22	0.22	112.80	116.34	123.10	0.04	0.05	0.23
Sprout	3	0.14	0.16	0.18	149.50	143.89	145.65	8.88	6.56	2.69
TaoVA-100x	3	1.57	1.30	1.16	472.02	755.02	626.90	1.01	1.72	4.37
TCP Vegas	3	1.80	0.98	1.08	391.44	421.82	440.23	1.12	0.48	2.12
Verus	3	2.65	0.01	0.01	1537.06	1506.71	1520.40	3.61	3.10	9.70
PCC-Vivace	3	1.19	1.20	1.25	2479.76	2495.75	2567.09	14.06	16.83	32.32
WebRTC media	3	0.47	0.39	0.10	342.52	272.73	270.20	0.05	0.07	0.52

Run 1: Statistics of TCP BBR

Start at: 2018-06-05 10:07:52

End at: 2018-06-05 10:08:22

Local clock offset: -5.559 ms

Remote clock offset: 8.453 ms

# Below is generated by plot.py at 2018-06-05 10:58:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.86 Mbit/s

95th percentile per-packet one-way delay: 636.330 ms

Loss rate: 10.35%

-- Flow 1:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 627.238 ms

Loss rate: 7.62%

-- Flow 2:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 647.532 ms

Loss rate: 12.71%

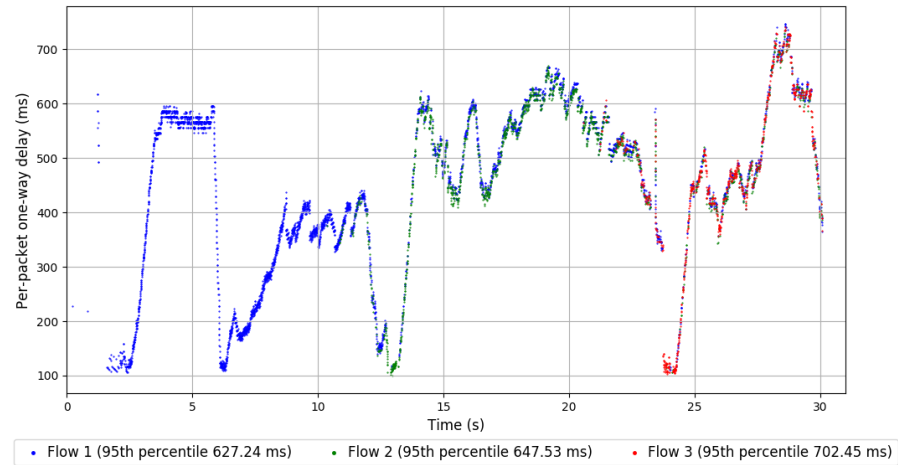
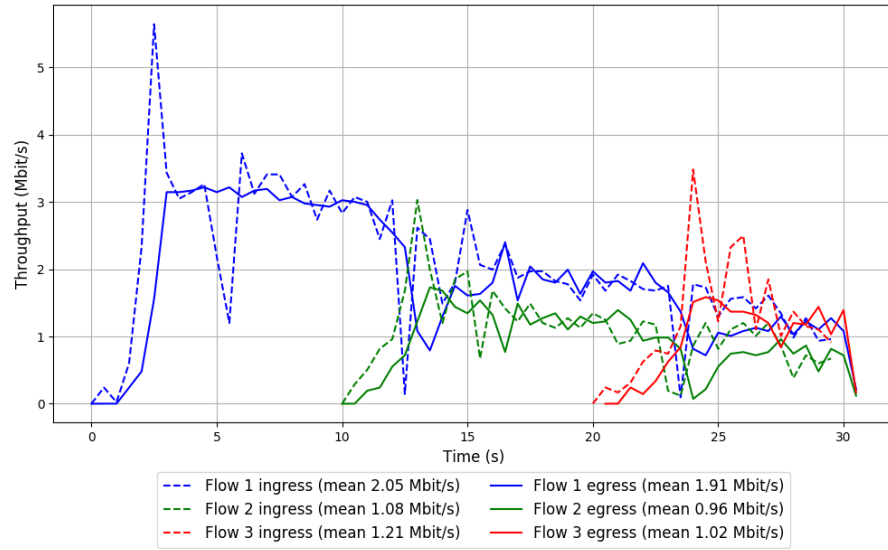
-- Flow 3:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 702.447 ms

Loss rate: 20.06%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-06-05 10:27:07

End at: 2018-06-05 10:27:37

Local clock offset: -7.359 ms

Remote clock offset: 4.632 ms

# Below is generated by plot.py at 2018-06-05 10:58:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1228.194 ms

Loss rate: 1.50%

-- Flow 1:

Average throughput: 1.86 Mbit/s

95th percentile per-packet one-way delay: 1209.997 ms

Loss rate: 0.81%

-- Flow 2:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 1248.547 ms

Loss rate: 2.39%

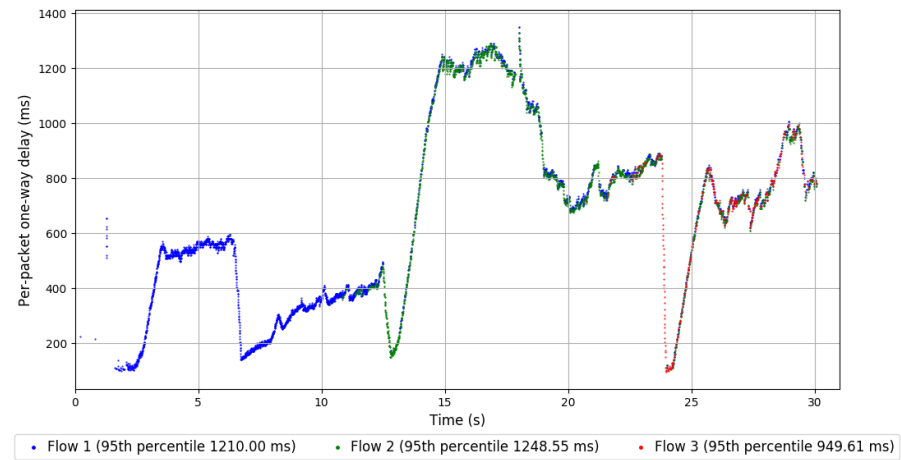
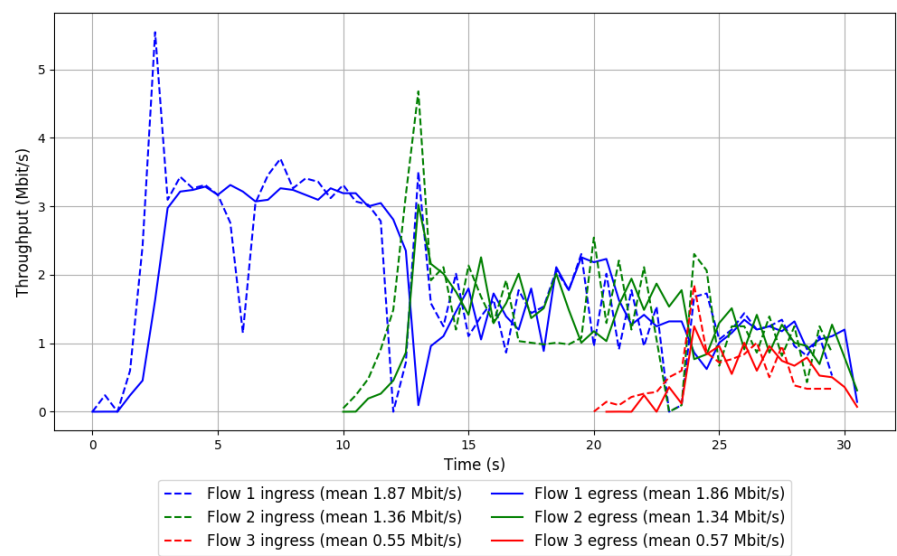
-- Flow 3:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 949.611 ms

Loss rate: 4.14%

Run 2: Report of TCP BBR — Data Link



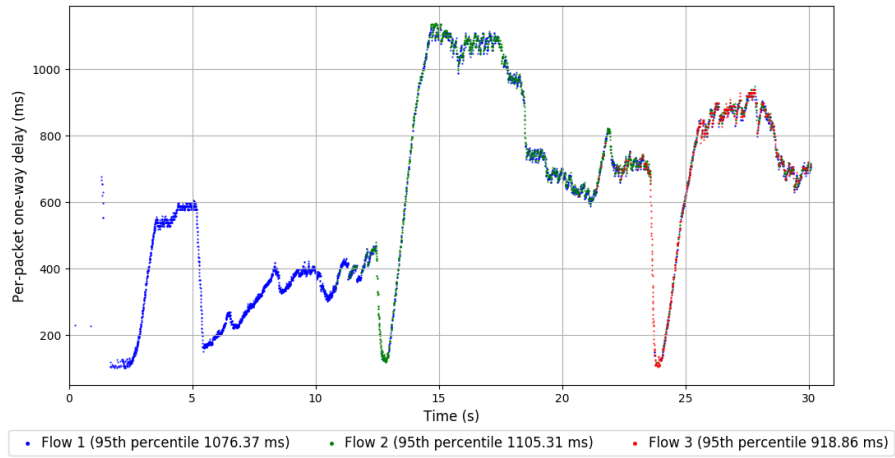
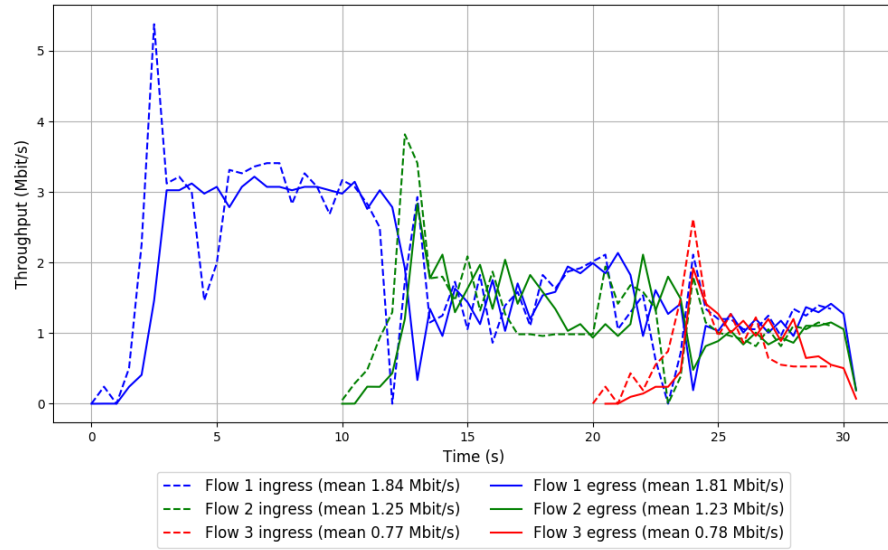
Run 3: Statistics of TCP BBR

Start at: 2018-06-05 10:46:25  
End at: 2018-06-05 10:46:55  
Local clock offset: -6.437 ms  
Remote clock offset: 14.101 ms

# Below is generated by plot.py at 2018-06-05 10:58:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.87 Mbit/s  
95th percentile per-packet one-way delay: 1088.246 ms  
Loss rate: 2.16%  
-- Flow 1:  
Average throughput: 1.81 Mbit/s  
95th percentile per-packet one-way delay: 1076.371 ms  
Loss rate: 1.57%  
-- Flow 2:  
Average throughput: 1.23 Mbit/s  
95th percentile per-packet one-way delay: 1105.305 ms  
Loss rate: 2.78%  
-- Flow 3:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 918.859 ms  
Loss rate: 4.38%



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



Run 1: Statistics of Copa

Start at: 2018-06-05 10:16:18

End at: 2018-06-05 10:16:48

Local clock offset: -7.304 ms

Remote clock offset: 1.293 ms

# Below is generated by plot.py at 2018-06-05 10:58:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 224.309 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 1.34 Mbit/s

95th percentile per-packet one-way delay: 218.541 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 1.39 Mbit/s

95th percentile per-packet one-way delay: 212.452 ms

Loss rate: 0.09%

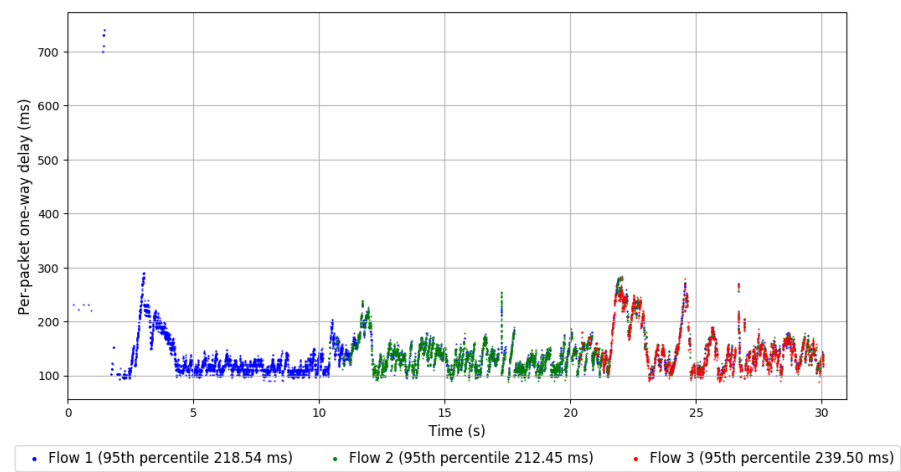
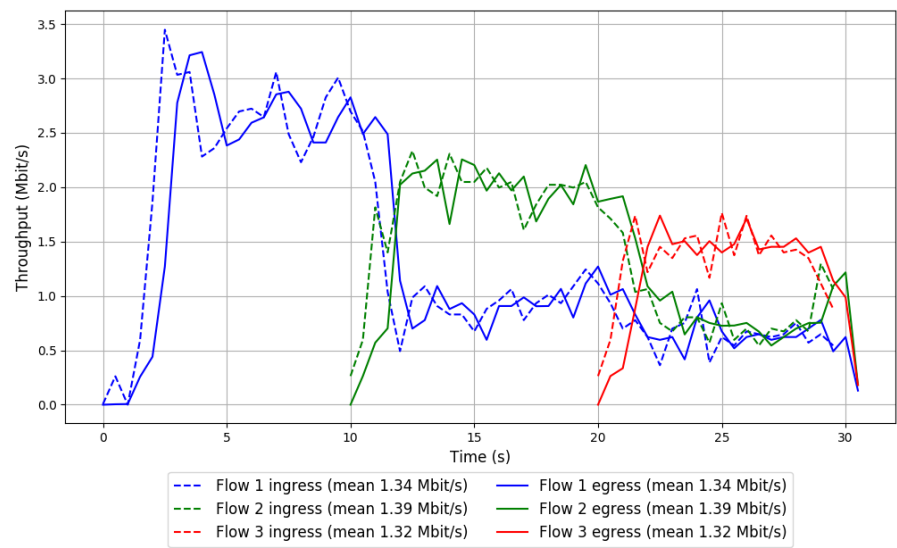
-- Flow 3:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 239.497 ms

Loss rate: 0.09%

Run 1: Report of Copa — Data Link

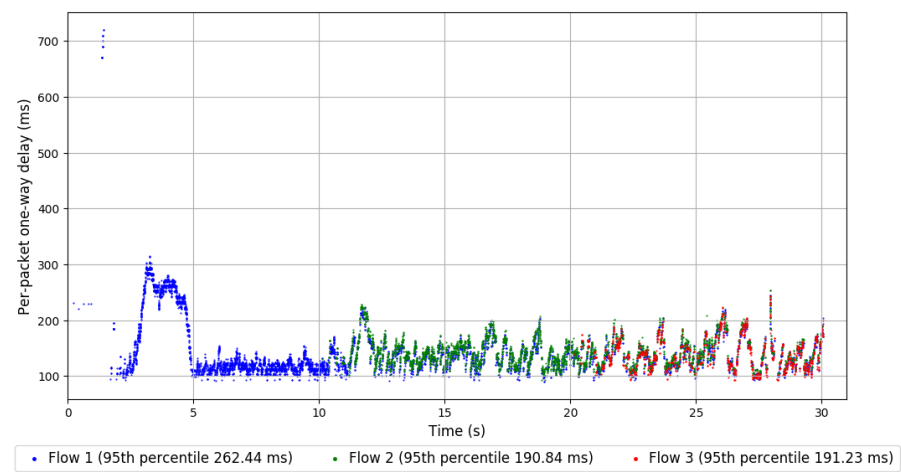
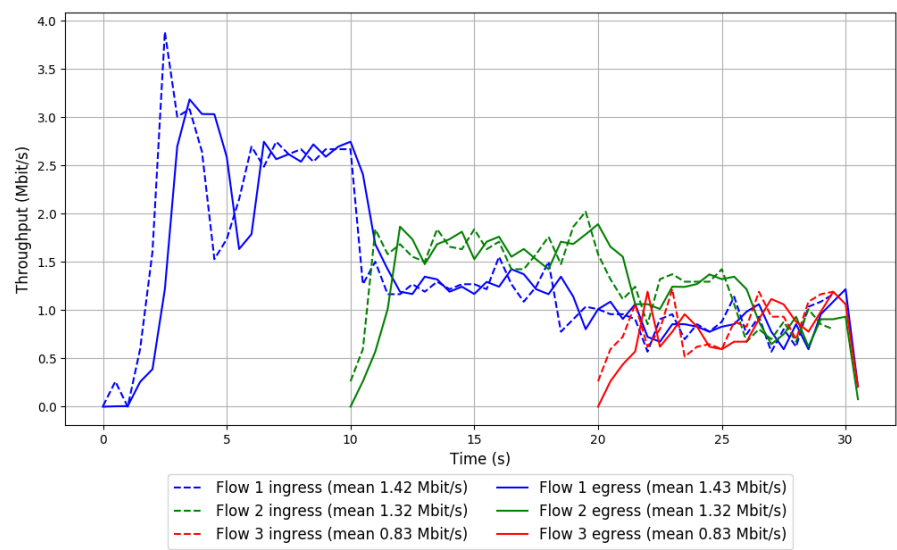


Run 2: Statistics of Copa

Start at: 2018-06-05 10:35:34  
End at: 2018-06-05 10:36:04  
Local clock offset: -6.521 ms  
Remote clock offset: 6.803 ms

# Below is generated by plot.py at 2018-06-05 10:58:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.58 Mbit/s  
95th percentile per-packet one-way delay: 248.295 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 1.43 Mbit/s  
95th percentile per-packet one-way delay: 262.444 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 1.32 Mbit/s  
95th percentile per-packet one-way delay: 190.844 ms  
Loss rate: 0.15%  
-- Flow 3:  
Average throughput: 0.83 Mbit/s  
95th percentile per-packet one-way delay: 191.231 ms  
Loss rate: 1.09%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-06-05 10:54:53

End at: 2018-06-05 10:55:23

Local clock offset: -5.638 ms

Remote clock offset: 9.368 ms

# Below is generated by plot.py at 2018-06-05 10:58:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 179.931 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 1.35 Mbit/s

95th percentile per-packet one-way delay: 173.179 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 1.06 Mbit/s

95th percentile per-packet one-way delay: 188.049 ms

Loss rate: 0.12%

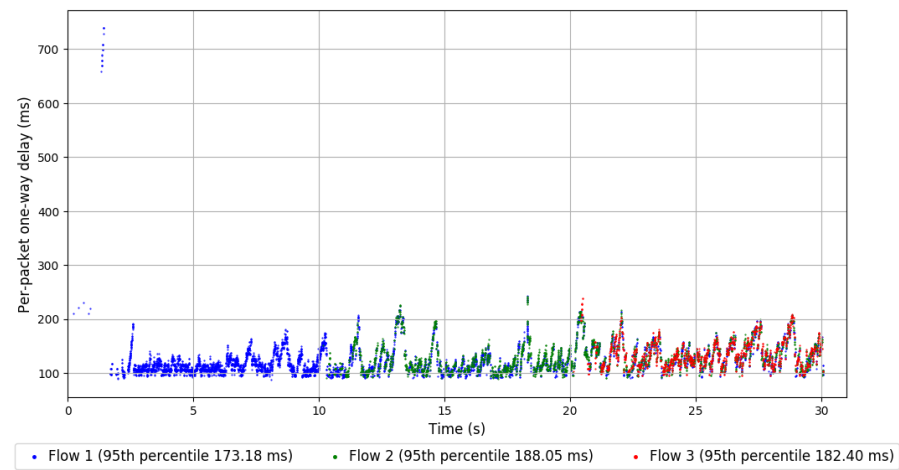
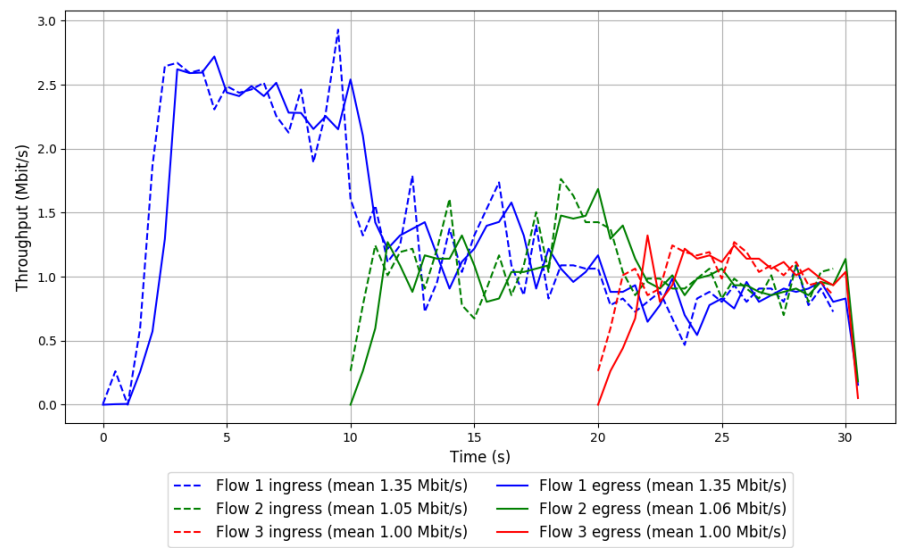
-- Flow 3:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 182.398 ms

Loss rate: 0.39%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-06-05 10:09:04

End at: 2018-06-05 10:09:34

Local clock offset: -6.351 ms

Remote clock offset: 3.207 ms

# Below is generated by plot.py at 2018-06-05 10:58:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 271.175 ms

Loss rate: 8.82%

-- Flow 1:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 301.528 ms

Loss rate: 7.01%

-- Flow 2:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 201.094 ms

Loss rate: 8.70%

-- Flow 3:

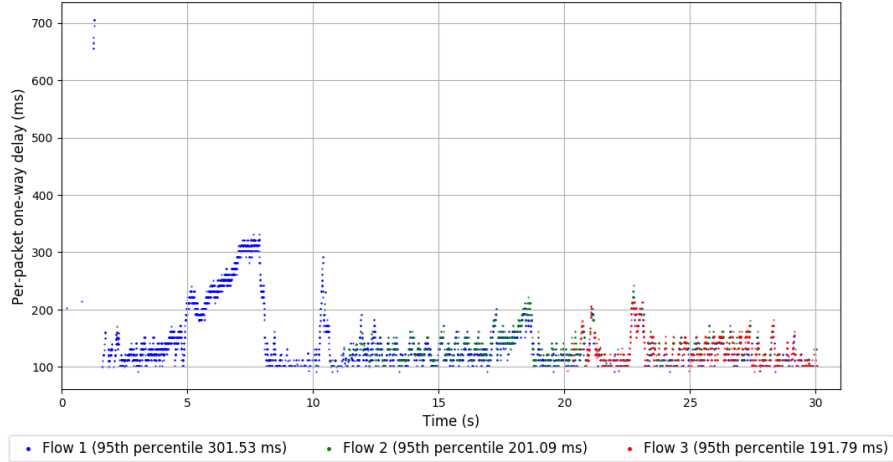
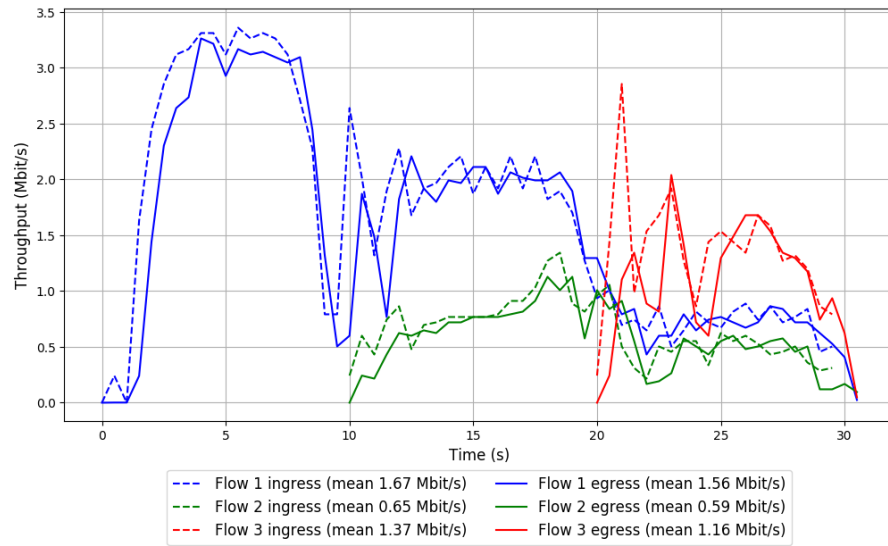
Average throughput: 1.16 Mbit/s

95th percentile per-packet one-way delay: 191.786 ms

Loss rate: 15.58%



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



Run 2: Statistics of TCP Cubic

Start at: 2018-06-05 10:28:20

End at: 2018-06-05 10:28:50

Local clock offset: -5.832 ms

Remote clock offset: 9.017 ms

# Below is generated by plot.py at 2018-06-05 10:58:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 567.554 ms

Loss rate: 19.13%

-- Flow 1:

Average throughput: 0.64 Mbit/s

95th percentile per-packet one-way delay: 428.122 ms

Loss rate: 14.23%

-- Flow 2:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 437.918 ms

Loss rate: 52.11%

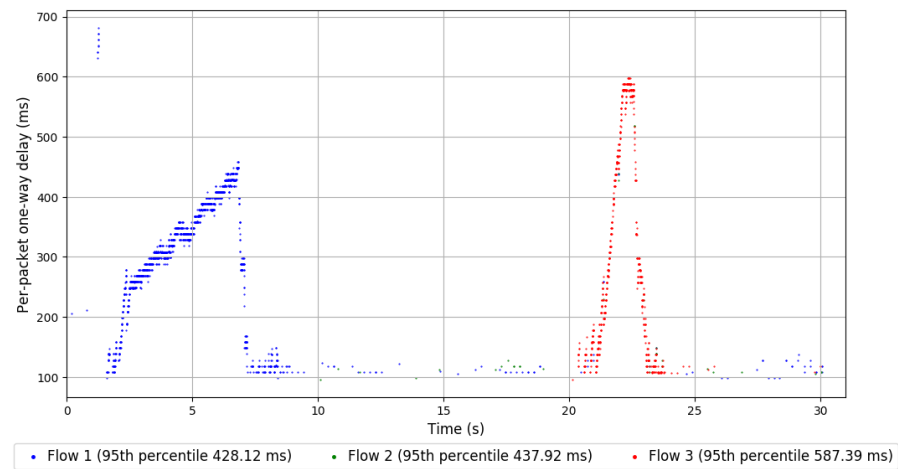
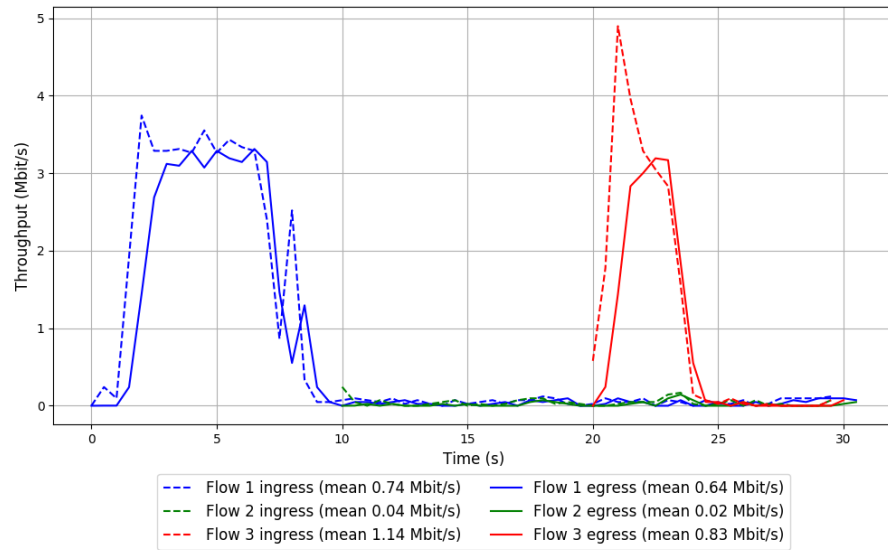
-- Flow 3:

Average throughput: 0.83 Mbit/s

95th percentile per-packet one-way delay: 587.393 ms

Loss rate: 26.36%

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

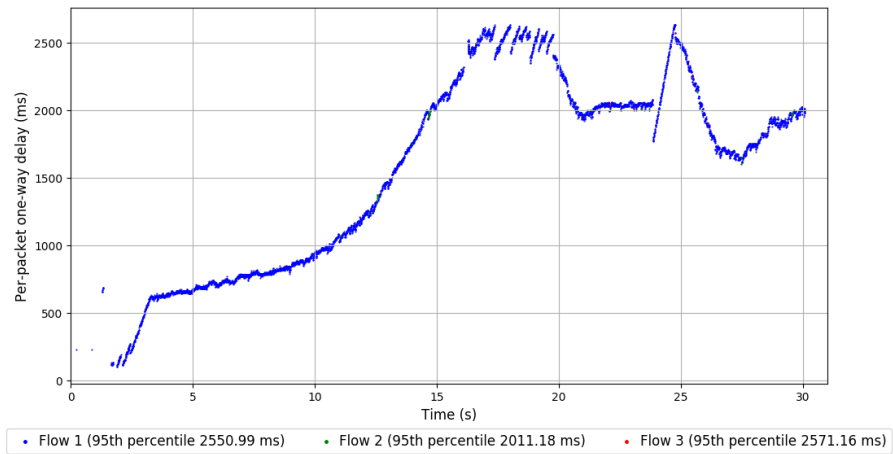
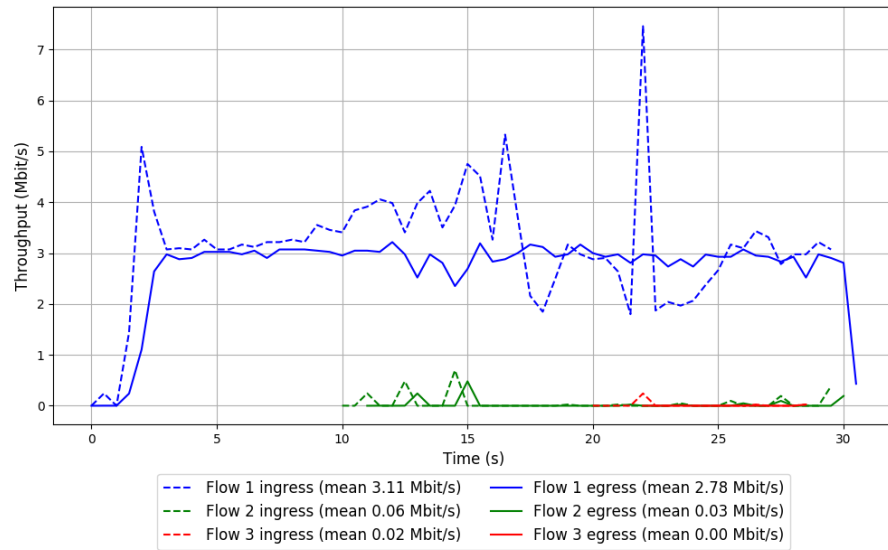


Run 3: Statistics of TCP Cubic

Start at: 2018-06-05 10:47:37  
End at: 2018-06-05 10:48:07  
Local clock offset: -6.414 ms  
Remote clock offset: 14.169 ms

# Below is generated by plot.py at 2018-06-05 10:58:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.80 Mbit/s  
95th percentile per-packet one-way delay: 2550.966 ms  
Loss rate: 11.57%  
-- Flow 1:  
Average throughput: 2.78 Mbit/s  
95th percentile per-packet one-way delay: 2550.989 ms  
Loss rate: 11.01%  
-- Flow 2:  
Average throughput: 0.03 Mbit/s  
95th percentile per-packet one-way delay: 2011.185 ms  
Loss rate: 49.32%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 2571.160 ms  
Loss rate: 89.40%

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



Run 1: Statistics of FillP

Start at: 2018-06-05 10:18:42

End at: 2018-06-05 10:19:12

Local clock offset: -6.486 ms

Remote clock offset: 0.963 ms

# Below is generated by plot.py at 2018-06-05 10:58:23

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.59 Mbit/s

95th percentile per-packet one-way delay: 2569.676 ms

Loss rate: 79.47%

-- Flow 1:

Average throughput: 2.01 Mbit/s

95th percentile per-packet one-way delay: 2502.511 ms

Loss rate: 77.74%

-- Flow 2:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 2626.301 ms

Loss rate: 84.43%

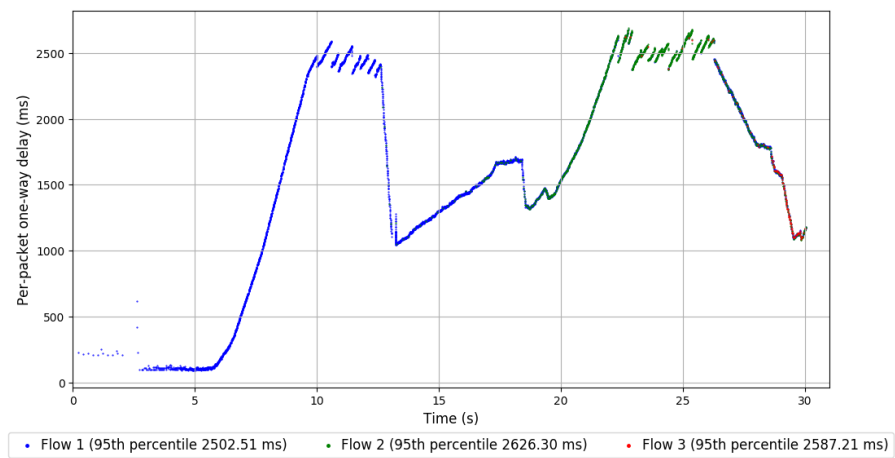
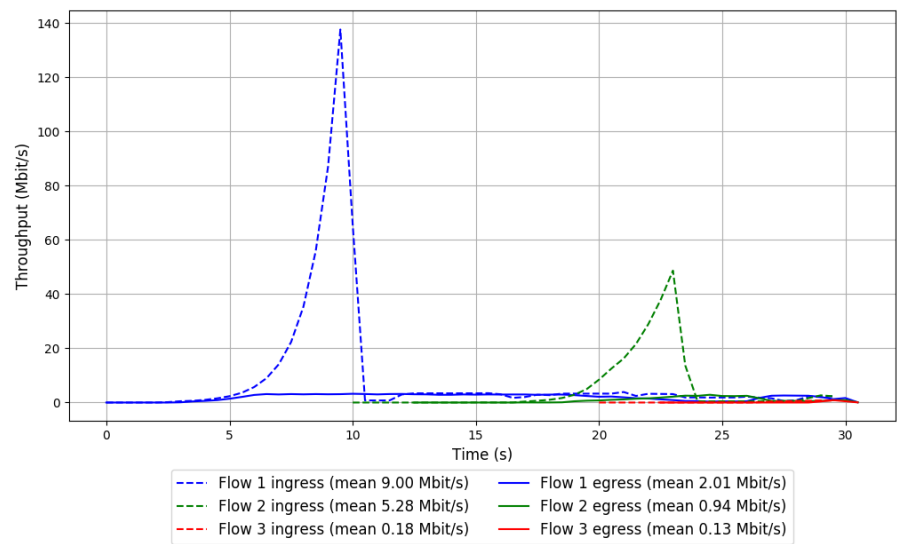
-- Flow 3:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 2587.211 ms

Loss rate: 48.22%

Run 1: Report of FillP — Data Link



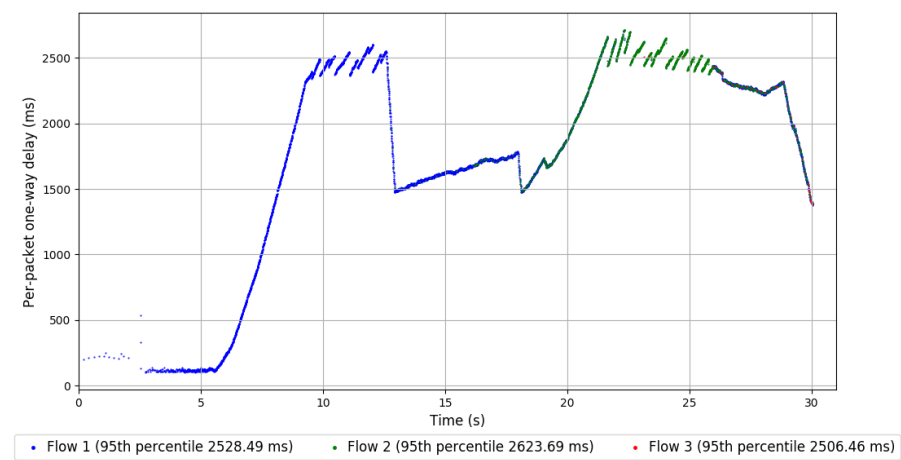
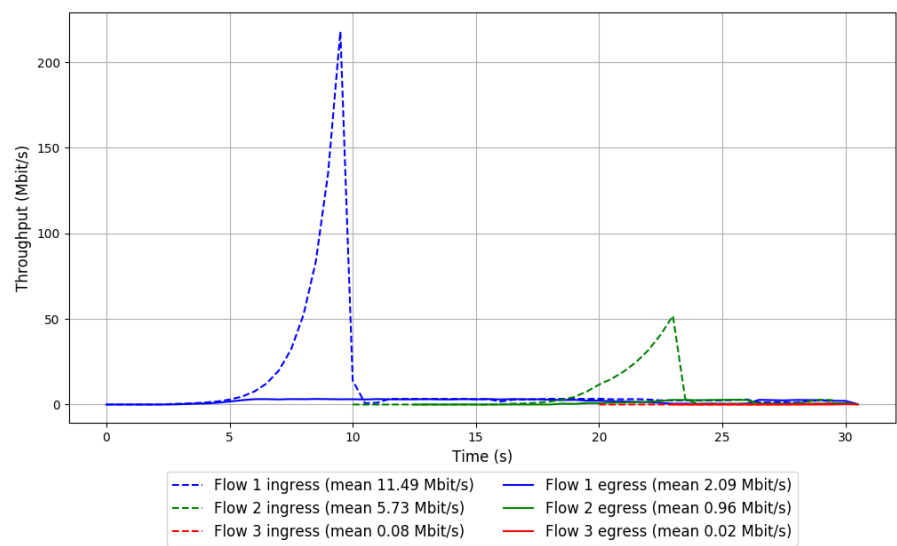
Run 2: Statistics of FillP

Start at: 2018-06-05 10:38:00  
End at: 2018-06-05 10:38:30  
Local clock offset: -5.787 ms  
Remote clock offset: 13.467 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.65 Mbit/s  
95th percentile per-packet one-way delay: 2564.529 ms  
Loss rate: 82.76%  
-- Flow 1:  
Average throughput: 2.09 Mbit/s  
95th percentile per-packet one-way delay: 2528.486 ms  
Loss rate: 81.88%  
-- Flow 2:  
Average throughput: 0.96 Mbit/s  
95th percentile per-packet one-way delay: 2623.687 ms  
Loss rate: 85.41%  
-- Flow 3:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 2506.464 ms  
Loss rate: 81.39%



Run 2: Report of FillP — Data Link

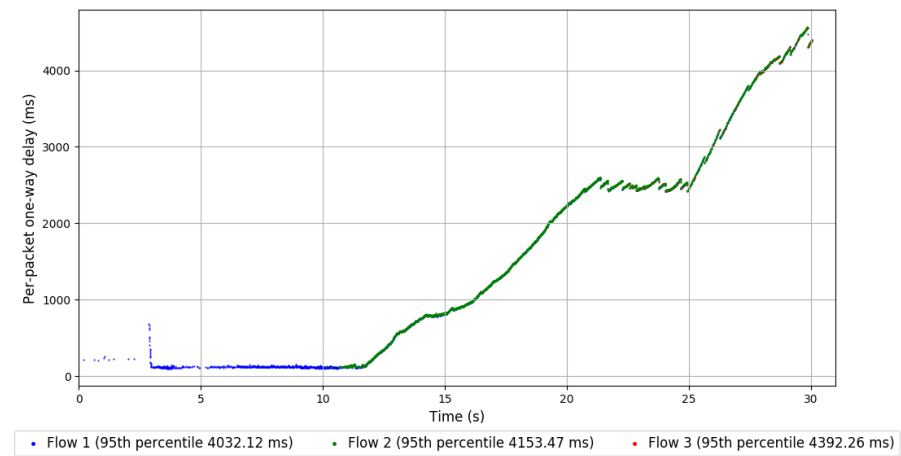
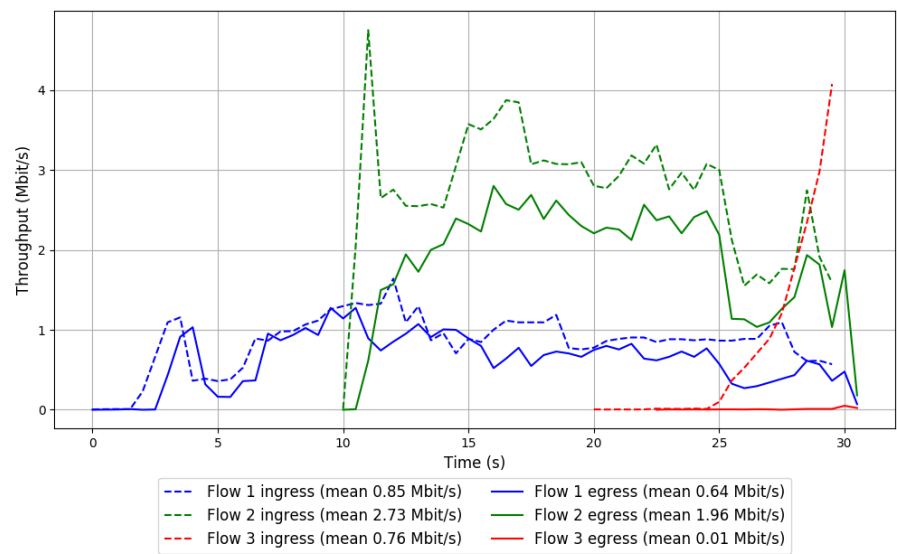


Run 3: Statistics of FillP

Start at: 2018-06-05 10:57:17  
End at: 2018-06-05 10:57:47  
Local clock offset: -6.447 ms  
Remote clock offset: 13.163 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.95 Mbit/s  
95th percentile per-packet one-way delay: 4137.773 ms  
Loss rate: 33.23%  
-- Flow 1:  
Average throughput: 0.64 Mbit/s  
95th percentile per-packet one-way delay: 4032.116 ms  
Loss rate: 24.38%  
-- Flow 2:  
Average throughput: 1.96 Mbit/s  
95th percentile per-packet one-way delay: 4153.468 ms  
Loss rate: 28.26%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 4392.257 ms  
Loss rate: 99.01%

Run 3: Report of FillP — Data Link

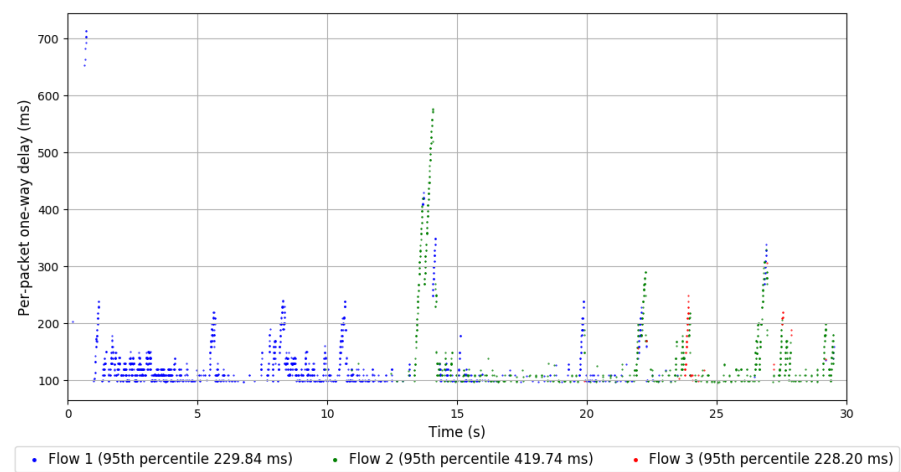
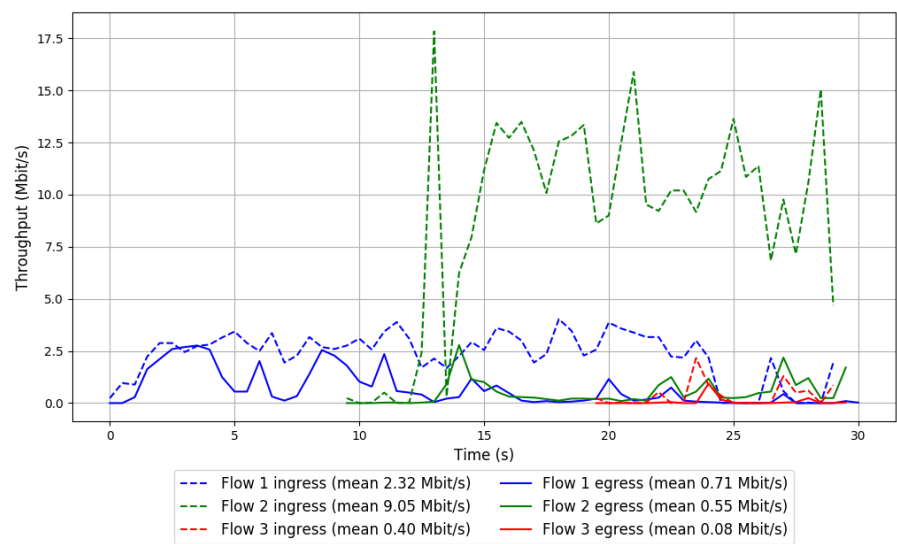


```
Run 1: Statistics of Indigo

Start at: 2018-06-05 10:11:29
End at: 2018-06-05 10:11:59
Local clock offset: -6.406 ms
Remote clock offset: 1.829 ms

# Below is generated by plot.py at 2018-06-05 10:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 318.234 ms
Loss rate: 87.05%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 229.839 ms
Loss rate: 69.55%
-- Flow 2:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 419.744 ms
Loss rate: 93.96%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 228.203 ms
Loss rate: 79.60%
```

Run 1: Report of Indigo — Data Link

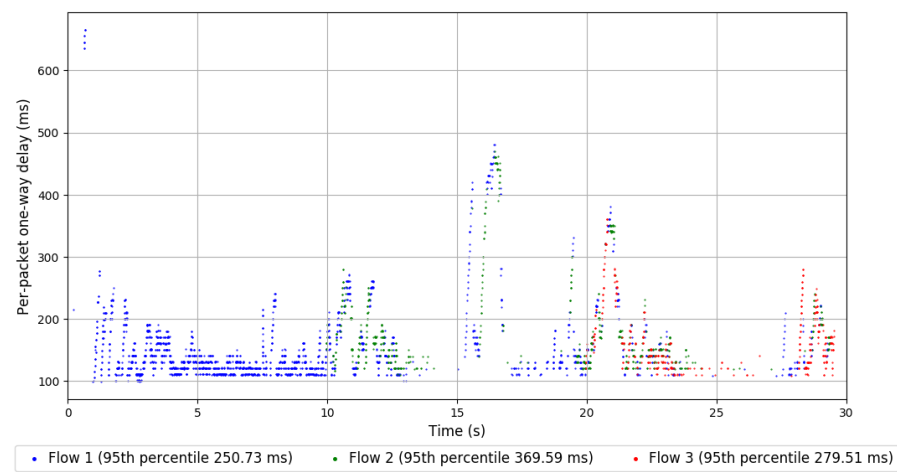
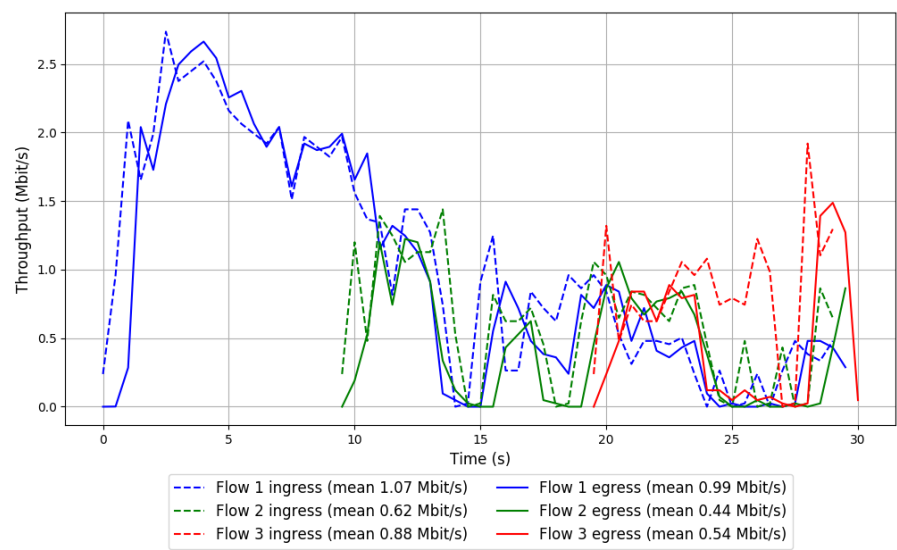


Run 2: Statistics of Indigo

Start at: 2018-06-05 10:30:44  
End at: 2018-06-05 10:31:14  
Local clock offset: -5.784 ms  
Remote clock offset: 12.005 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.44 Mbit/s  
95th percentile per-packet one-way delay: 289.679 ms  
Loss rate: 18.34%  
-- Flow 1:  
Average throughput: 0.99 Mbit/s  
95th percentile per-packet one-way delay: 250.729 ms  
Loss rate: 8.38%  
-- Flow 2:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 369.593 ms  
Loss rate: 30.02%  
-- Flow 3:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 279.514 ms  
Loss rate: 38.72%

Run 2: Report of Indigo — Data Link



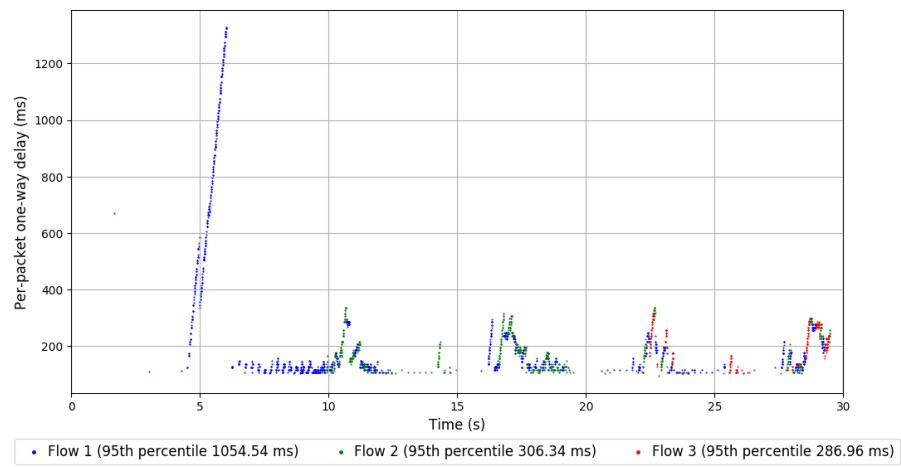
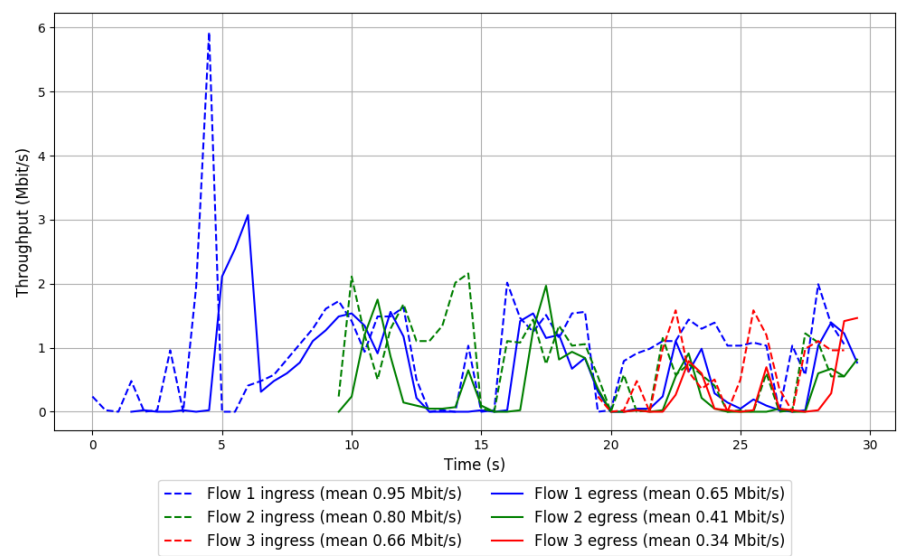
Run 3: Statistics of Indigo

Start at: 2018-06-05 10:50:02  
End at: 2018-06-05 10:50:32  
Local clock offset: -6.412 ms  
Remote clock offset: 12.019 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.04 Mbit/s  
95th percentile per-packet one-way delay: 875.371 ms  
Loss rate: 42.11%  
-- Flow 1:  
Average throughput: 0.65 Mbit/s  
95th percentile per-packet one-way delay: 1054.540 ms  
Loss rate: 35.49%  
-- Flow 2:  
Average throughput: 0.41 Mbit/s  
95th percentile per-packet one-way delay: 306.343 ms  
Loss rate: 49.20%  
-- Flow 3:  
Average throughput: 0.34 Mbit/s  
95th percentile per-packet one-way delay: 286.963 ms  
Loss rate: 53.94%



Run 3: Report of Indigo — Data Link

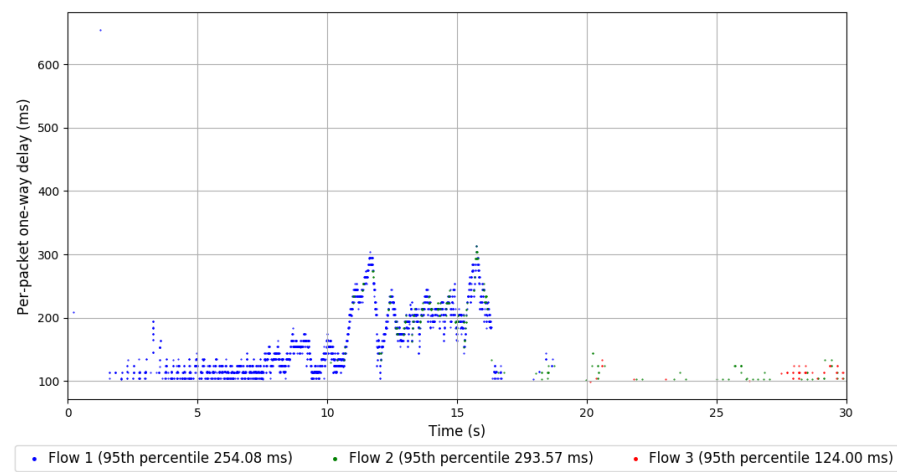
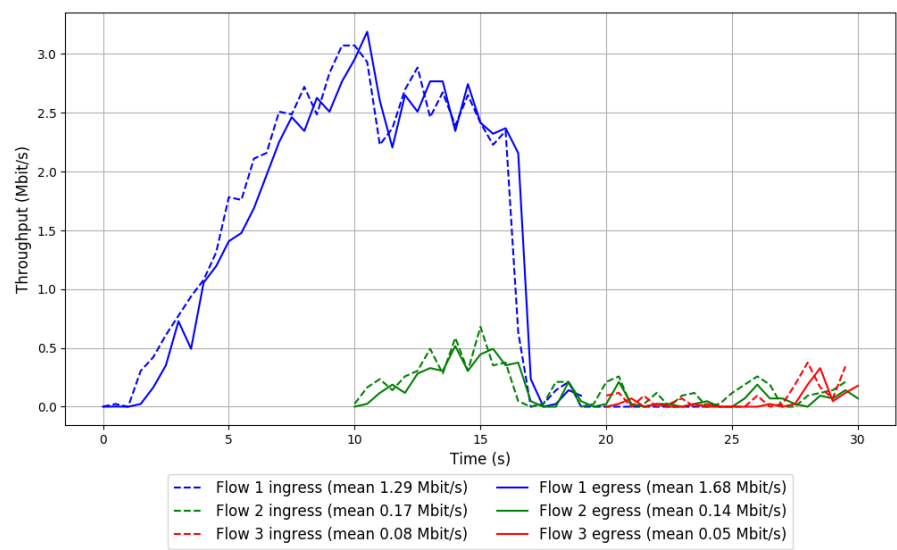


```
Run 1: Statistics of LEDBAT

Start at: 2018-06-05 10:04:15
End at: 2018-06-05 10:04:45
Local clock offset: -6.19 ms
Remote clock offset: 9.151 ms

# Below is generated by plot.py at 2018-06-05 10:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 254.090 ms
Loss rate: 5.45%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 254.080 ms
Loss rate: 2.76%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 293.566 ms
Loss rate: 22.52%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 124.001 ms
Loss rate: 37.67%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-06-05 10:23:31

End at: 2018-06-05 10:24:01

Local clock offset: -6.583 ms

Remote clock offset: 3.829 ms

# Below is generated by plot.py at 2018-06-05 10:58:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.58 Mbit/s

95th percentile per-packet one-way delay: 270.503 ms

Loss rate: 0.50%

-- Flow 1:

Average throughput: 2.02 Mbit/s

95th percentile per-packet one-way delay: 270.347 ms

Loss rate: 0.39%

-- Flow 2:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 279.914 ms

Loss rate: 0.39%

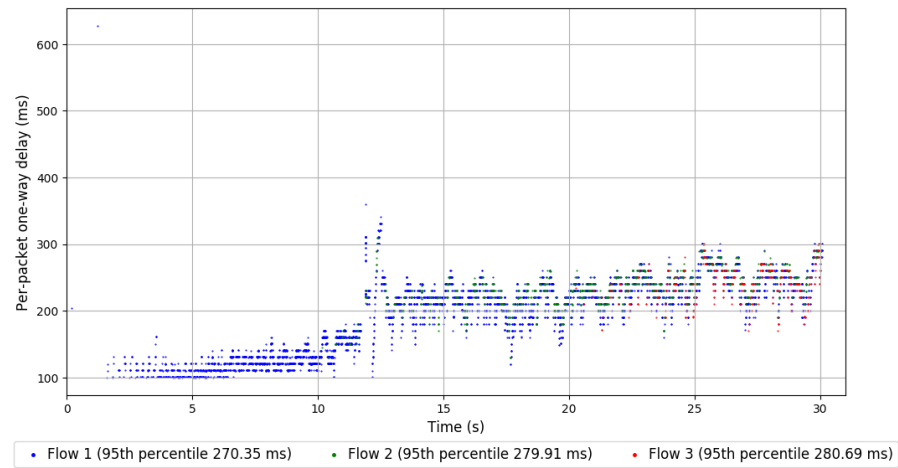
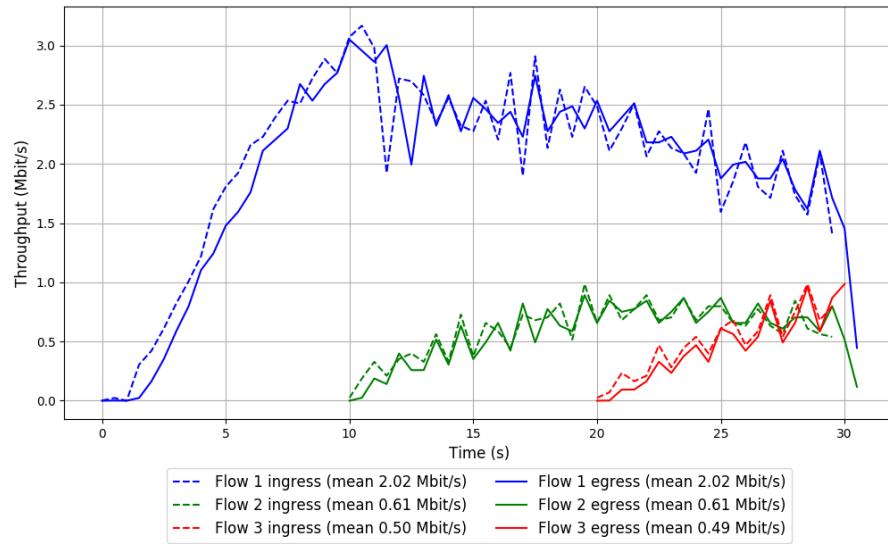
-- Flow 3:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 280.688 ms

Loss rate: 2.15%

## Run 2: Report of LEDBAT — Data Link

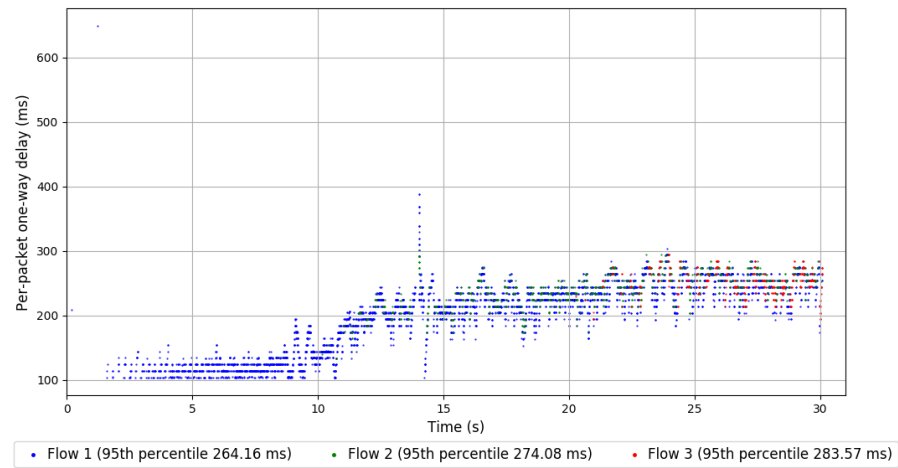
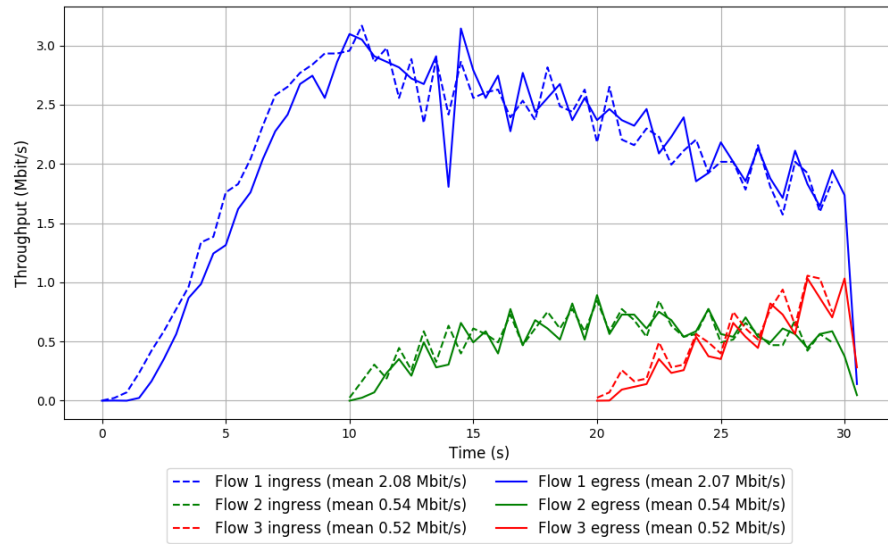


Run 3: Statistics of LEDBAT

Start at: 2018-06-05 10:42:49  
End at: 2018-06-05 10:43:19  
Local clock offset: -6.456 ms  
Remote clock offset: 13.842 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.60 Mbit/s  
95th percentile per-packet one-way delay: 273.892 ms  
Loss rate: 0.70%  
-- Flow 1:  
Average throughput: 2.07 Mbit/s  
95th percentile per-packet one-way delay: 264.156 ms  
Loss rate: 0.55%  
-- Flow 2:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 274.077 ms  
Loss rate: 1.19%  
-- Flow 3:  
Average throughput: 0.52 Mbit/s  
95th percentile per-packet one-way delay: 283.566 ms  
Loss rate: 1.59%

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



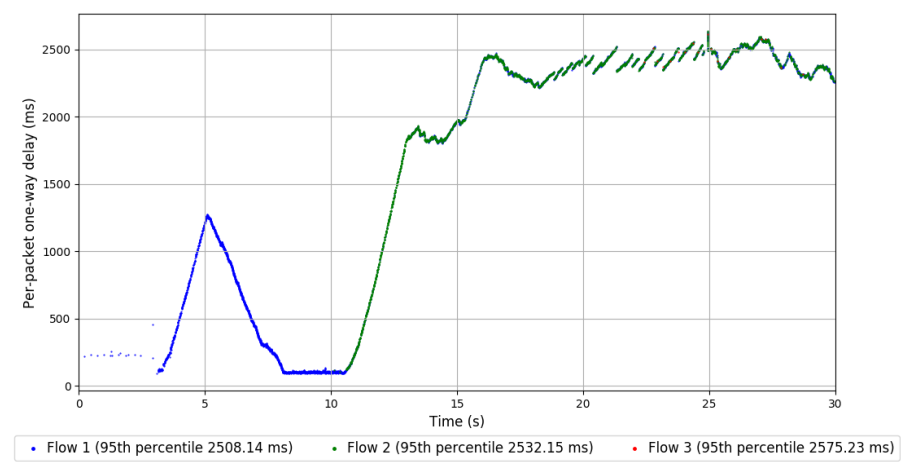
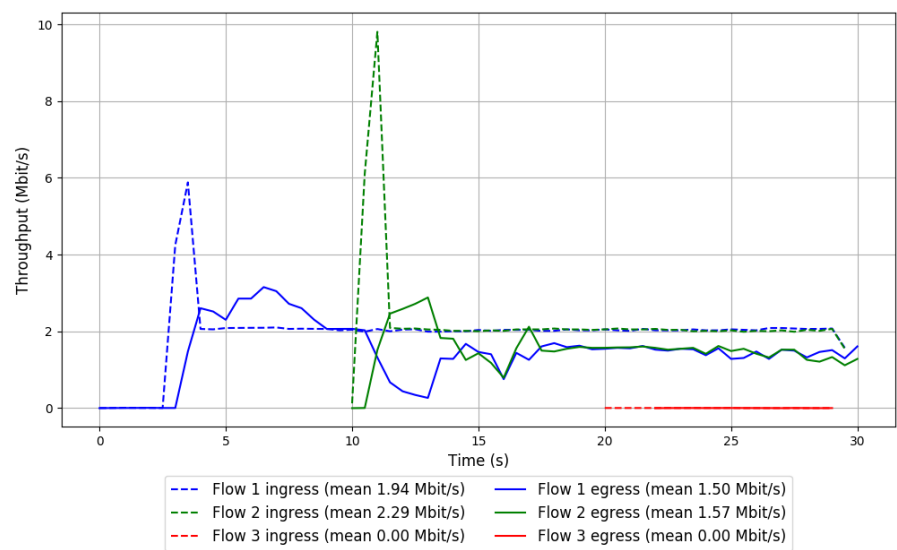
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-05 10:10:17
End at: 2018-06-05 10:10:47
Local clock offset: -6.391 ms
Remote clock offset: 2.056 ms

# Below is generated by plot.py at 2018-06-05 10:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 2517.614 ms
Loss rate: 26.69%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 2508.141 ms
Loss rate: 23.06%
-- Flow 2:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 2532.146 ms
Loss rate: 31.32%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2575.232 ms
Loss rate: 28.84%
```



Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-06-05 10:29:32

End at: 2018-06-05 10:30:02

Local clock offset: -6.537 ms

Remote clock offset: 5.478 ms

# Below is generated by plot.py at 2018-06-05 10:58:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.50 Mbit/s

95th percentile per-packet one-way delay: 2520.319 ms

Loss rate: 47.21%

-- Flow 1:

Average throughput: 1.47 Mbit/s

95th percentile per-packet one-way delay: 2503.659 ms

Loss rate: 54.64%

-- Flow 2:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 2532.533 ms

Loss rate: 31.07%

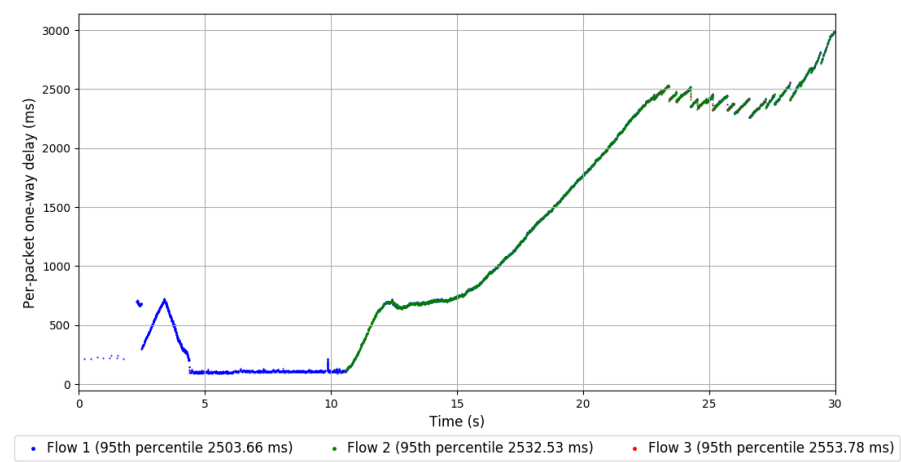
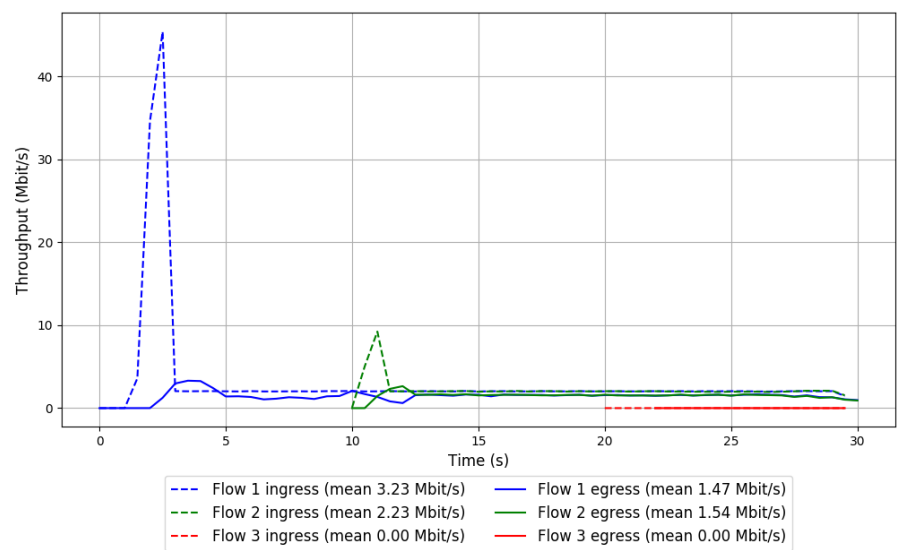
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2553.776 ms

Loss rate: 11.07%

Run 2: Report of PCC-Allegro — Data Link

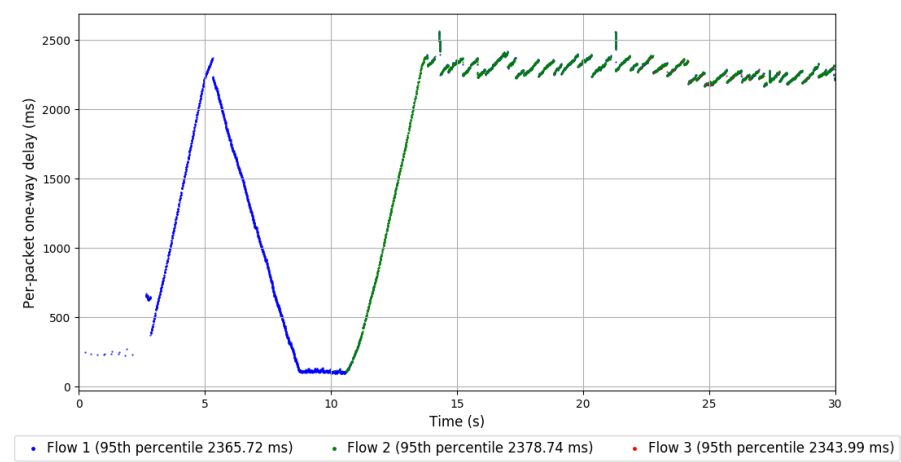
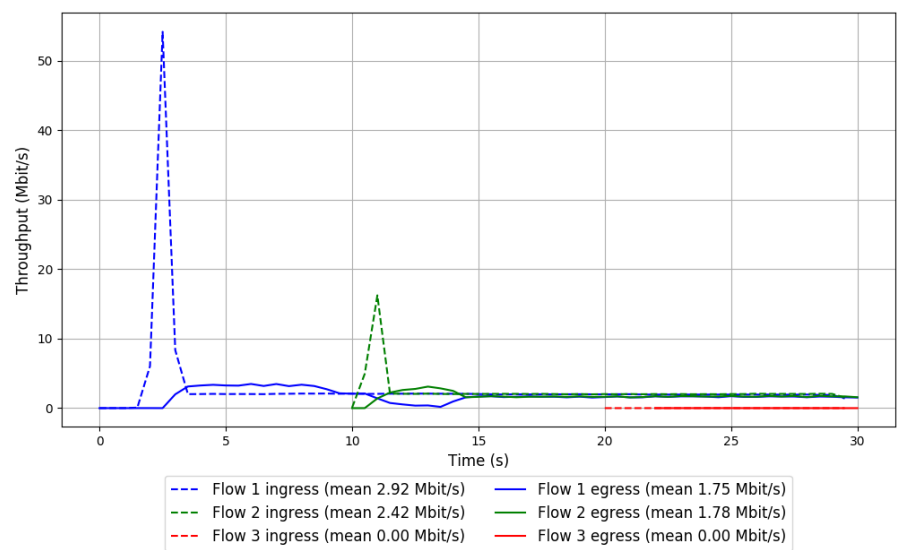


Run 3: Statistics of PCC-Allegro

Start at: 2018-06-05 10:48:50  
End at: 2018-06-05 10:49:20  
Local clock offset: -6.429 ms  
Remote clock offset: 13.086 ms

# Below is generated by plot.py at 2018-06-05 10:58:25  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.94 Mbit/s  
95th percentile per-packet one-way delay: 2372.133 ms  
Loss rate: 35.47%  
-- Flow 1:  
Average throughput: 1.75 Mbit/s  
95th percentile per-packet one-way delay: 2365.722 ms  
Loss rate: 40.45%  
-- Flow 2:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 2378.745 ms  
Loss rate: 26.45%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 2343.992 ms  
Loss rate: 7.49%

Run 3: Report of PCC-Allegro — Data Link

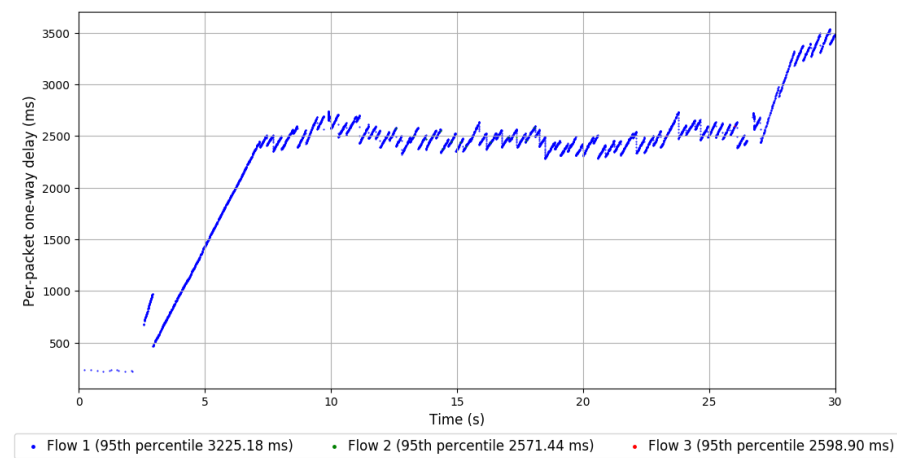
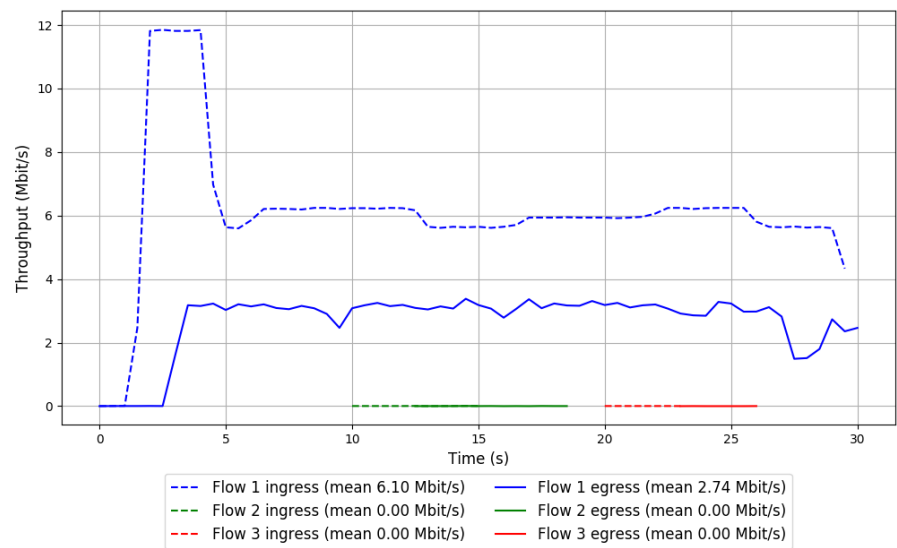


```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-05 10:13:53
End at: 2018-06-05 10:14:23
Local clock offset: -5.672 ms
Remote clock offset: 6.565 ms

# Below is generated by plot.py at 2018-06-05 10:58:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 3221.262 ms
Loss rate: 55.34%
-- Flow 1:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 3225.177 ms
Loss rate: 55.34%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2571.437 ms
Loss rate: 29.90%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2598.900 ms
Loss rate: 83.22%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-06-05 10:33:09

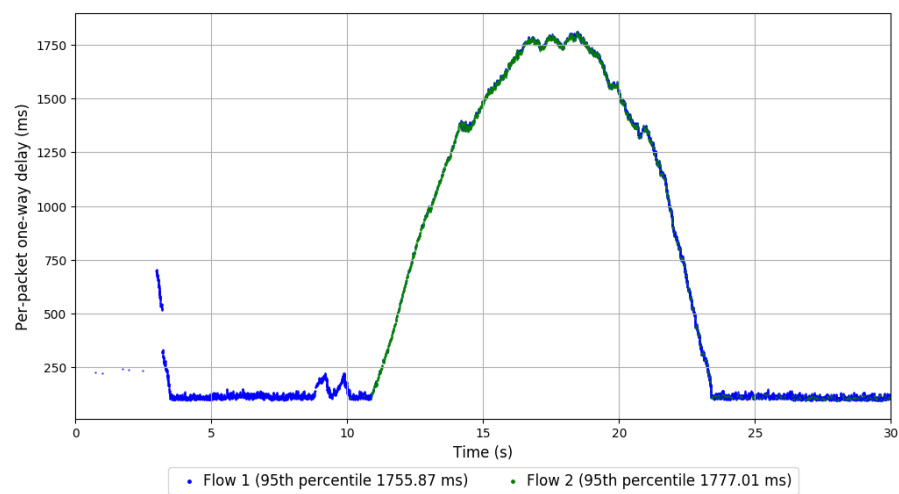
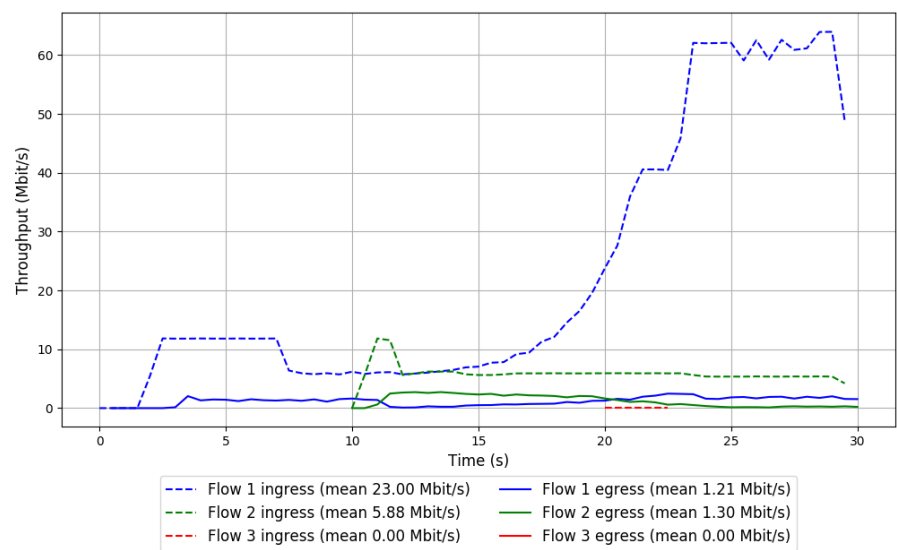
End at: 2018-06-05 10:33:39

Local clock offset: -6.603 ms

Remote clock offset: 11.5 ms



Run 2: Report of PCC-Expr — Data Link

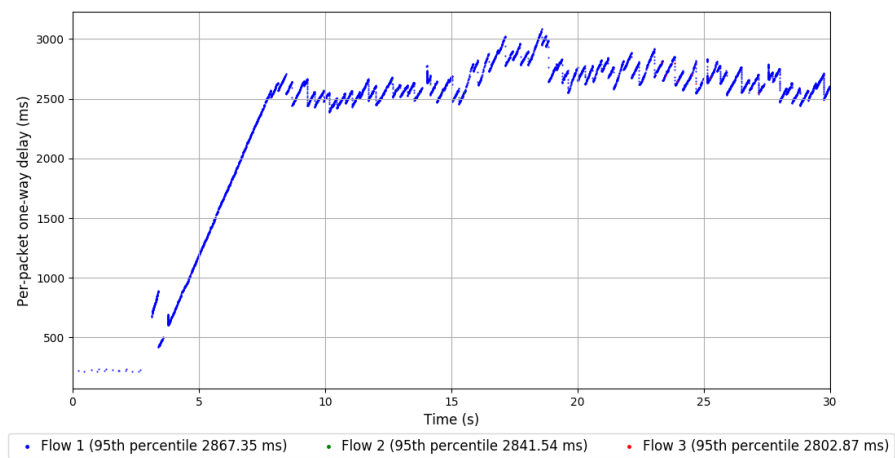
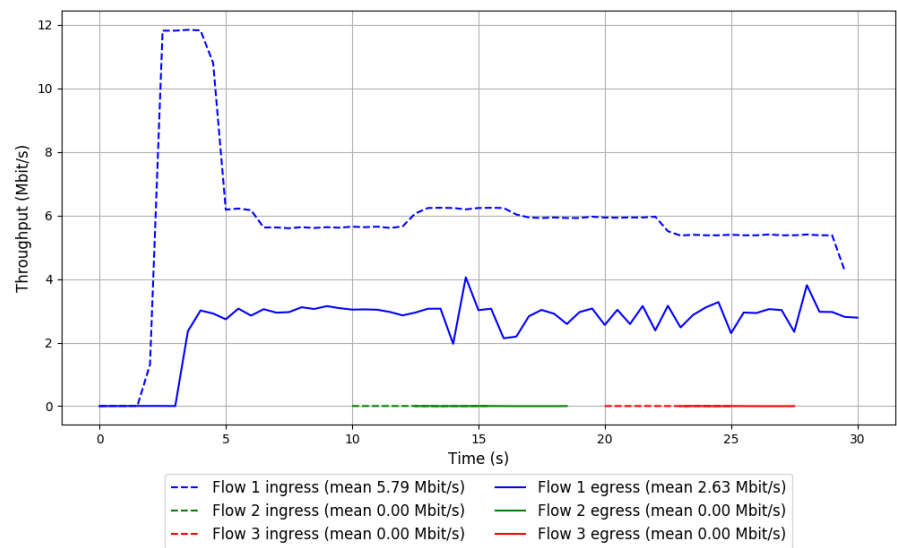


Run 3: Statistics of PCC-Expr

Start at: 2018-06-05 10:52:29  
End at: 2018-06-05 10:52:59  
Local clock offset: -7.15 ms  
Remote clock offset: 12.184 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.63 Mbit/s  
95th percentile per-packet one-way delay: 2867.339 ms  
Loss rate: 54.76%  
-- Flow 1:  
Average throughput: 2.63 Mbit/s  
95th percentile per-packet one-way delay: 2867.349 ms  
Loss rate: 54.76%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 2841.539 ms  
Loss rate: 51.72%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 2802.871 ms  
Loss rate: 59.97%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-06-05 10:15:05

End at: 2018-06-05 10:15:35

Local clock offset: -6.458 ms

Remote clock offset: 2.465 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 1408.836 ms

Loss rate: 5.66%

-- Flow 1:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 1396.860 ms

Loss rate: 4.03%

-- Flow 2:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 1421.502 ms

Loss rate: 7.68%

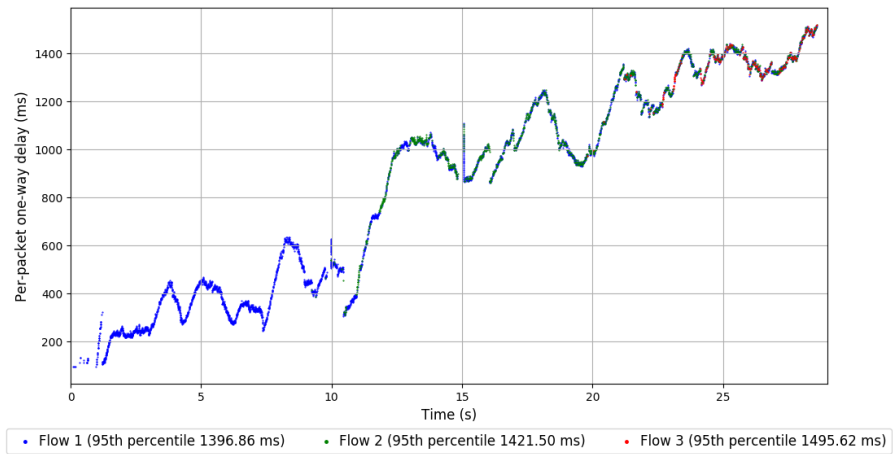
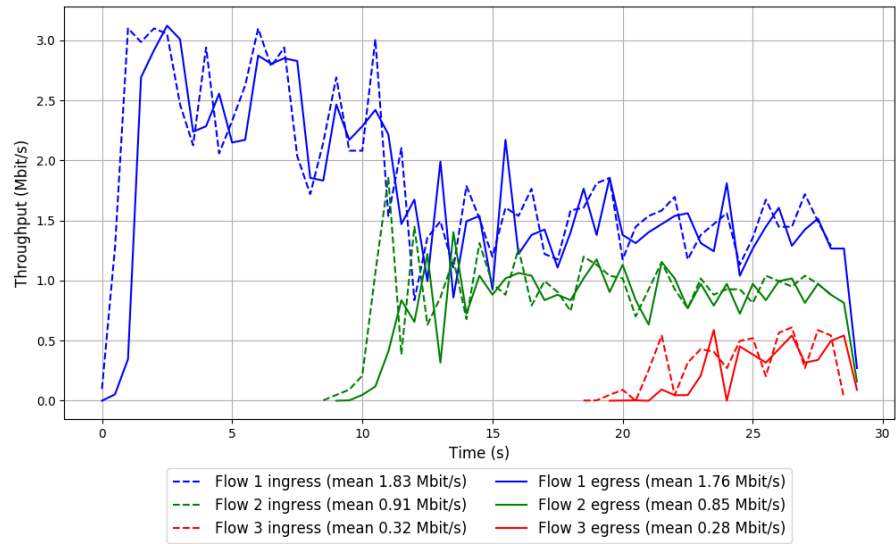
-- Flow 3:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 1495.619 ms

Loss rate: 21.40%

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

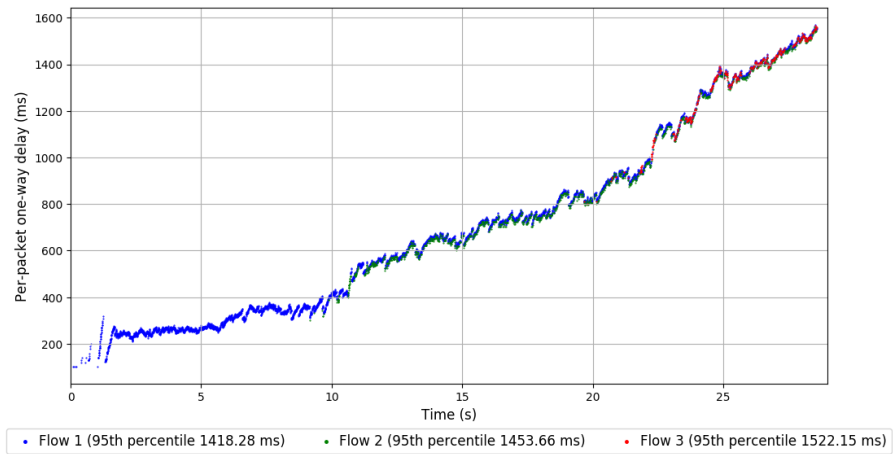
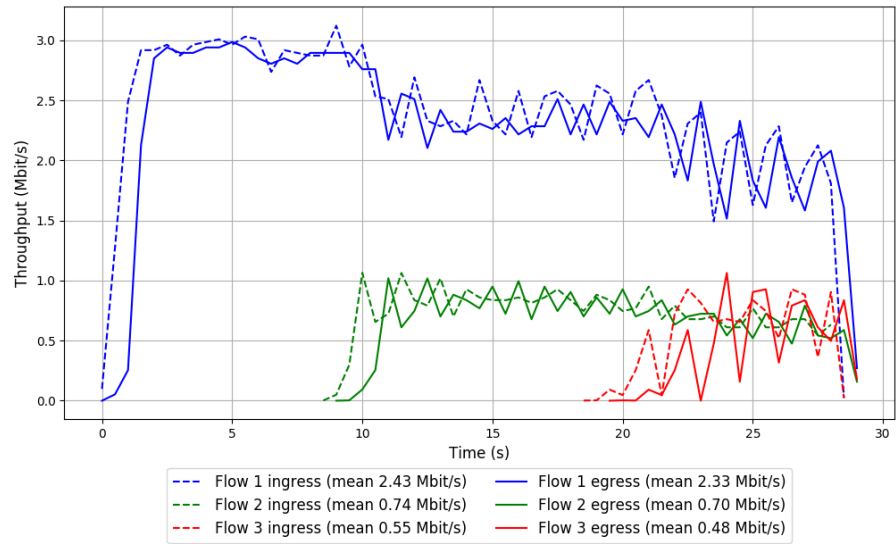


Run 2: Statistics of QUIC Cubic

Start at: 2018-06-05 10:34:22  
End at: 2018-06-05 10:34:52  
Local clock offset: -5.77 ms  
Remote clock offset: 10.593 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.96 Mbit/s  
95th percentile per-packet one-way delay: 1451.313 ms  
Loss rate: 5.41%  
-- Flow 1:  
Average throughput: 2.33 Mbit/s  
95th percentile per-packet one-way delay: 1418.275 ms  
Loss rate: 4.15%  
-- Flow 2:  
Average throughput: 0.70 Mbit/s  
95th percentile per-packet one-way delay: 1453.658 ms  
Loss rate: 6.20%  
-- Flow 3:  
Average throughput: 0.48 Mbit/s  
95th percentile per-packet one-way delay: 1522.152 ms  
Loss rate: 19.68%

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



Run 3: Statistics of QUIC Cubic

Start at: 2018-06-05 10:53:41

End at: 2018-06-05 10:54:11

Local clock offset: -5.621 ms

Remote clock offset: 8.228 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.65 Mbit/s

95th percentile per-packet one-way delay: 1662.687 ms

Loss rate: 5.28%

-- Flow 1:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 1532.089 ms

Loss rate: 4.00%

-- Flow 2:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 1832.956 ms

Loss rate: 7.51%

-- Flow 3:

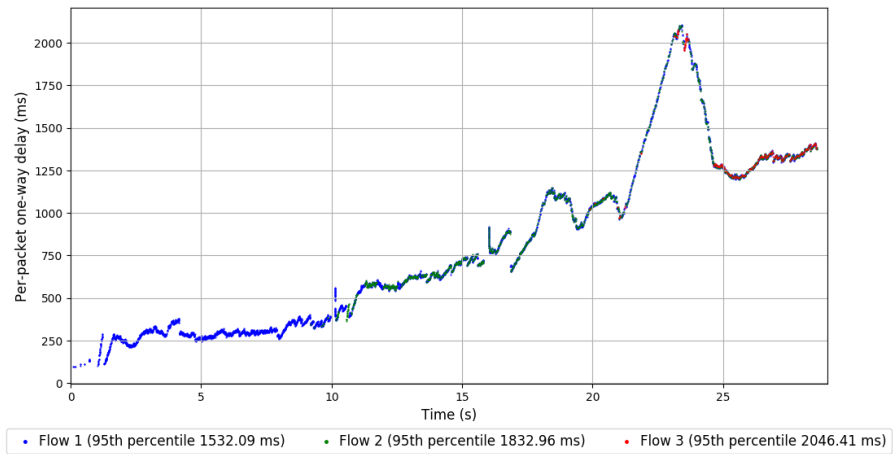
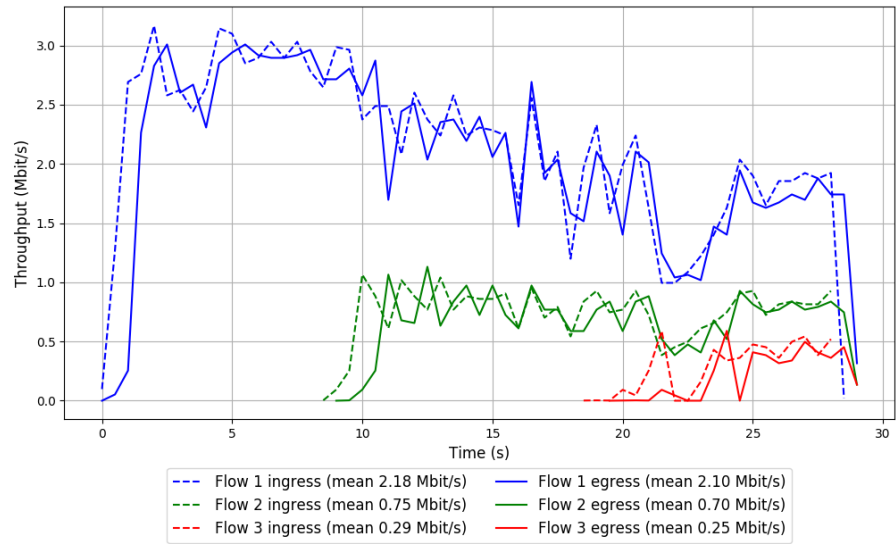
Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 2046.414 ms

Loss rate: 22.16%



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

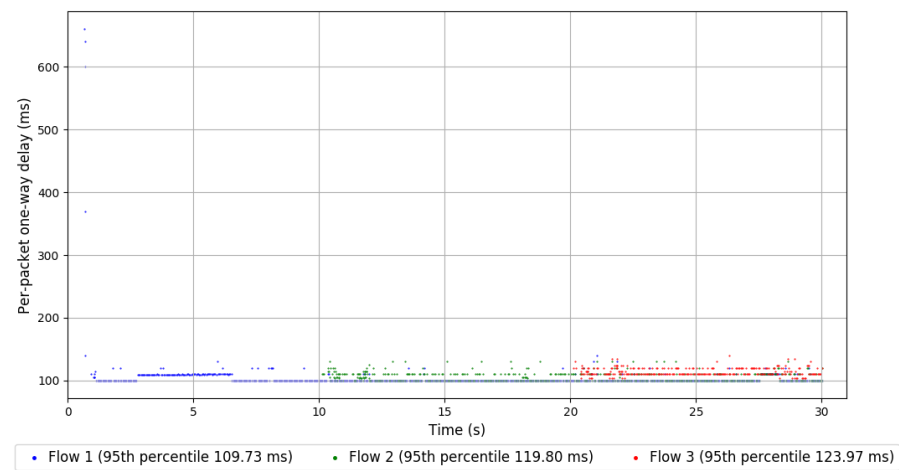
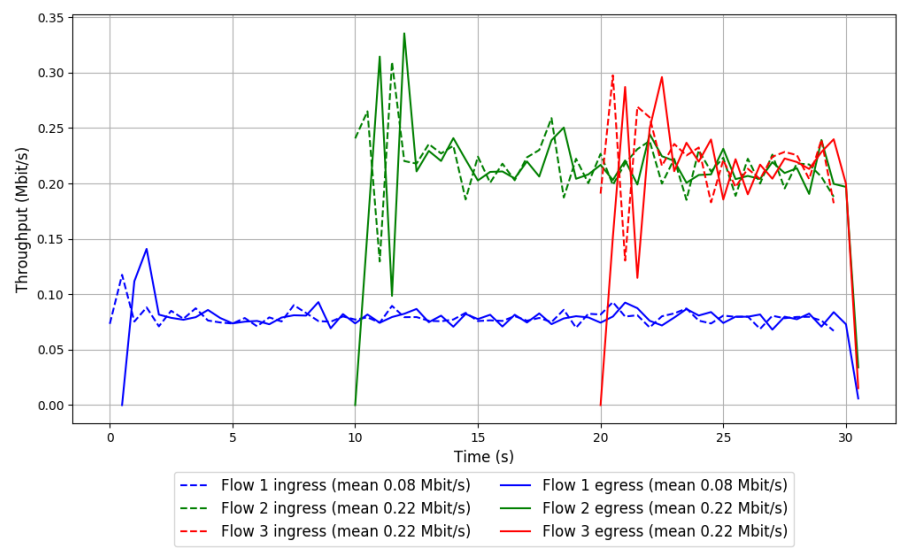


```
Run 1: Statistics of SReAM

Start at: 2018-06-05 10:17:30
End at: 2018-06-05 10:18:00
Local clock offset: -7.253 ms
Remote clock offset: 7.122 ms

# Below is generated by plot.py at 2018-06-05 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 119.803 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 109.727 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 119.803 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 123.965 ms
Loss rate: 0.35%
```

Run 1: Report of SReAM — Data Link

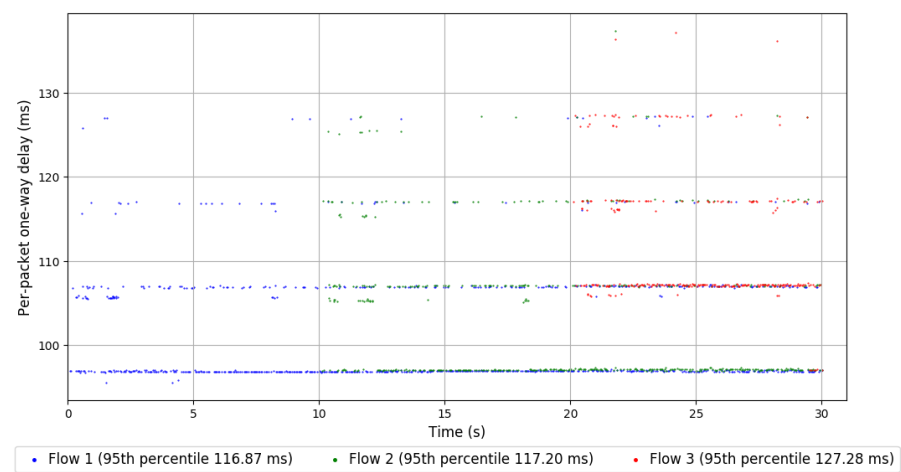
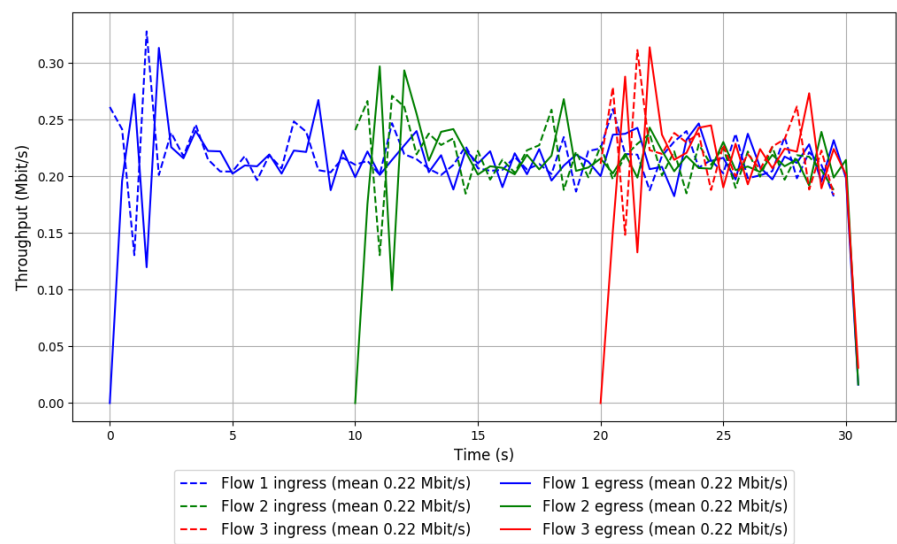


Run 2: Statistics of SReAM

Start at: 2018-06-05 10:36:48  
End at: 2018-06-05 10:37:18  
Local clock offset: -7.28 ms  
Remote clock offset: 10.913 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 117.206 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 116.870 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 117.201 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 127.278 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2018-06-05 10:56:06

End at: 2018-06-05 10:56:36

Local clock offset: -5.608 ms

Remote clock offset: 8.216 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 111.984 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 111.814 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 112.013 ms

Loss rate: 0.15%

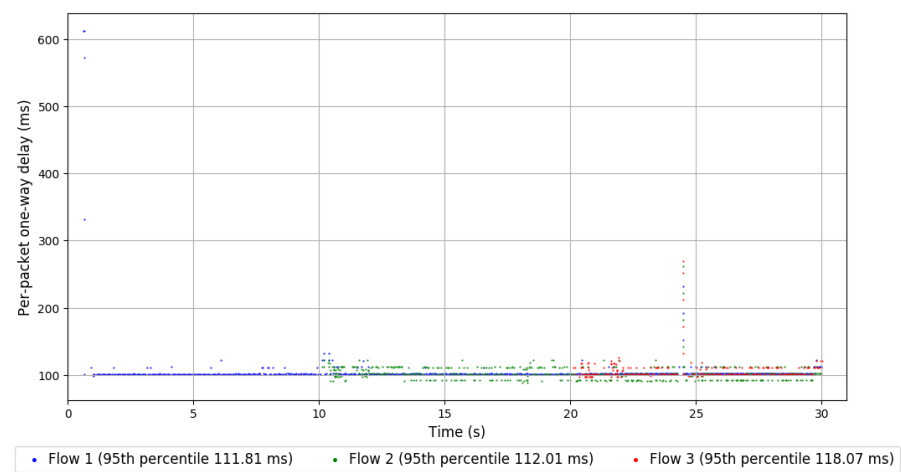
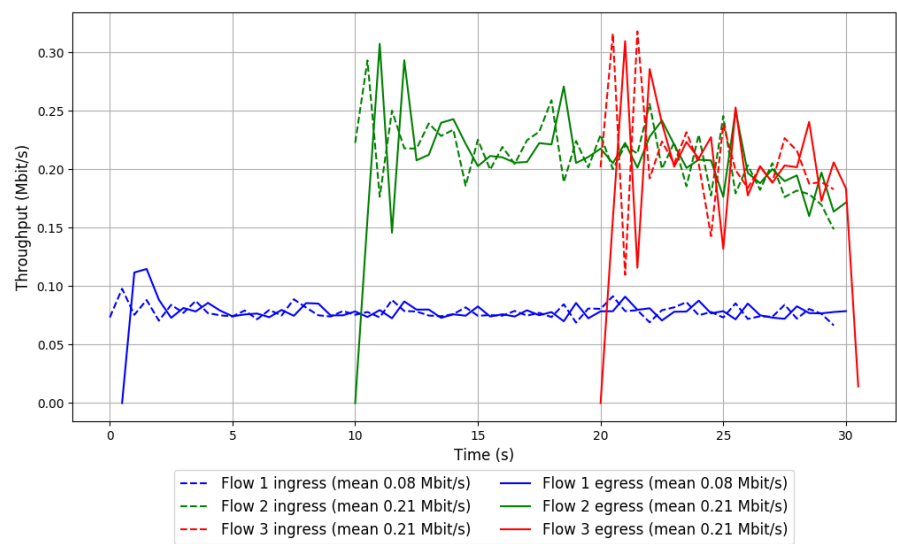
-- Flow 3:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 118.068 ms

Loss rate: 0.34%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-06-05 10:12:41

End at: 2018-06-05 10:13:11

Local clock offset: -5.66 ms

Remote clock offset: 1.647 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 138.284 ms

Loss rate: 2.07%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 147.330 ms

Loss rate: 1.99%

-- Flow 2:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 128.958 ms

Loss rate: 3.09%

-- Flow 3:

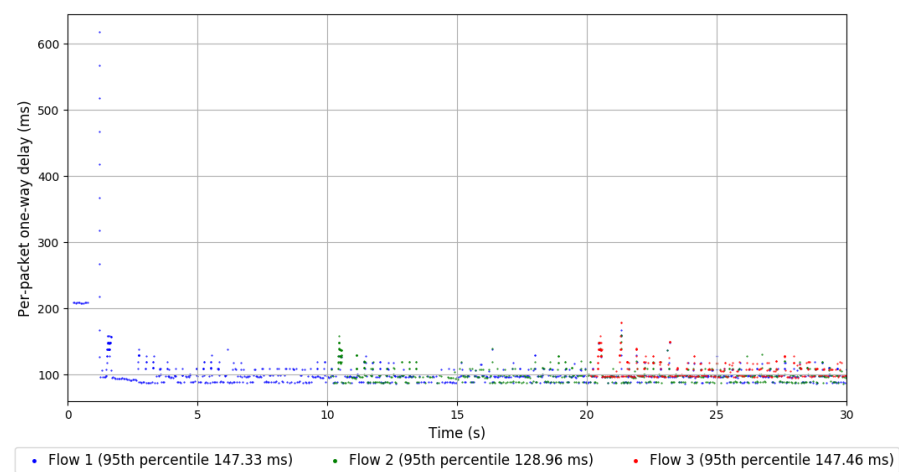
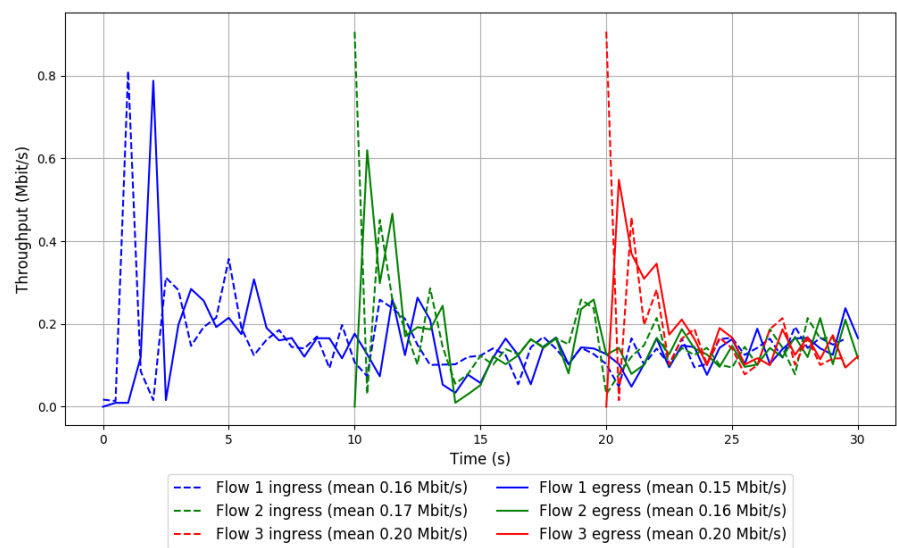
Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 147.458 ms

Loss rate: 0.52%



Run 1: Report of Sprout — Data Link

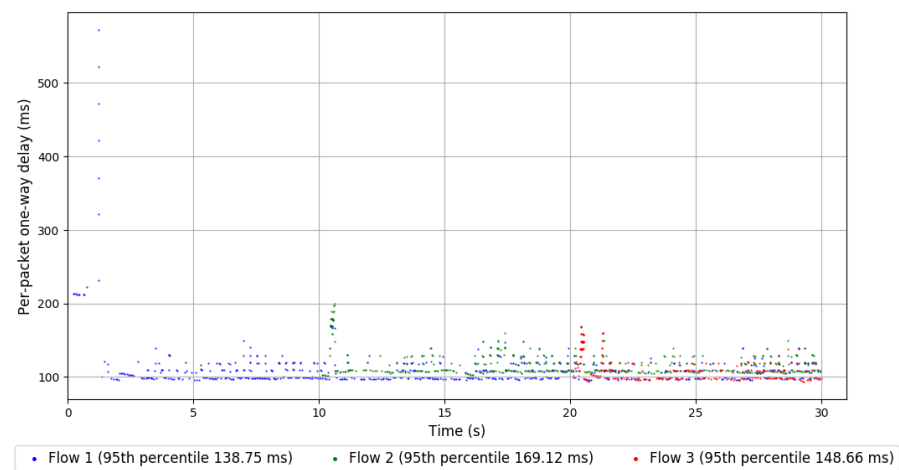
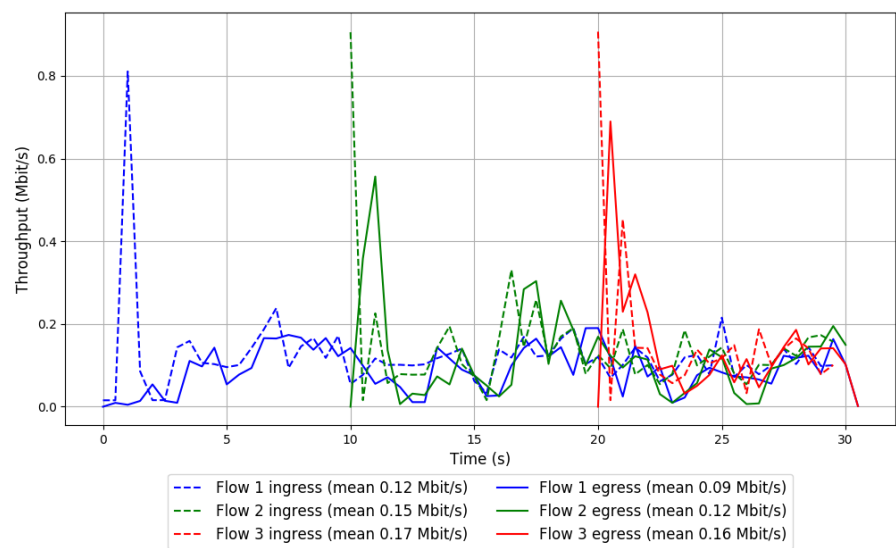


Run 2: Statistics of Sprout

Start at: 2018-06-05 10:31:57  
End at: 2018-06-05 10:32:27  
Local clock offset: -6.536 ms  
Remote clock offset: 10.129 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.23 Mbit/s  
95th percentile per-packet one-way delay: 157.510 ms  
Loss rate: 18.37%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 138.755 ms  
Loss rate: 24.65%  
-- Flow 2:  
Average throughput: 0.12 Mbit/s  
95th percentile per-packet one-way delay: 169.116 ms  
Loss rate: 16.60%  
-- Flow 3:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 148.665 ms  
Loss rate: 7.54%

Run 2: Report of Sprout — Data Link

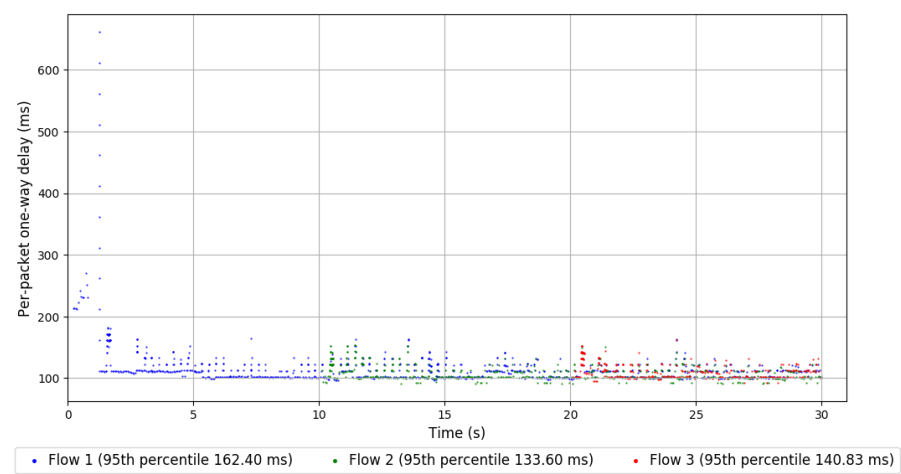
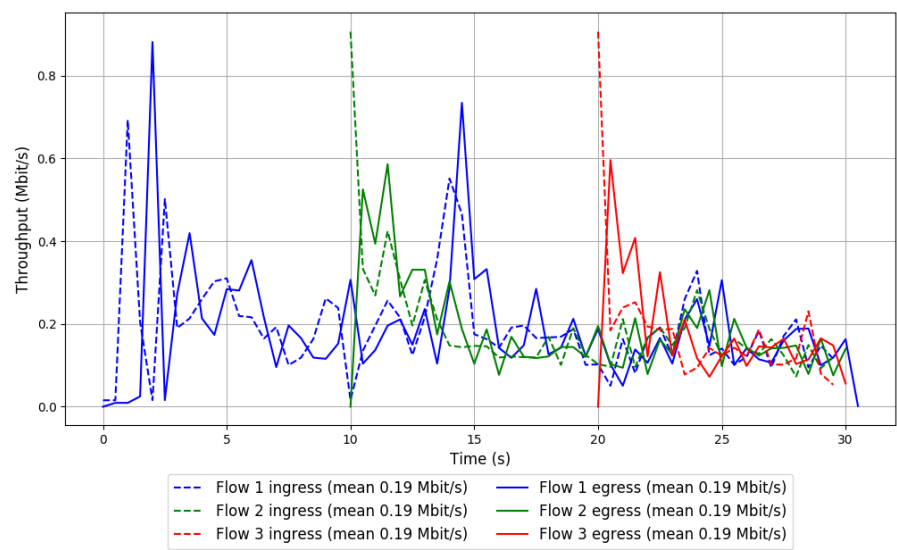


### Run 3: Statistics of Sprout

Start at: 2018-06-05 10:51:14  
End at: 2018-06-05 10:51:44  
Local clock offset: -6.392 ms  
Remote clock offset: 13.192 ms

```
# Below is generated by plot.py at 2018-06-05 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 143.212 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 162.403 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 133.605 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 140.834 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-06-05 10:01:51

End at: 2018-06-05 10:02:21

Local clock offset: -5.434 ms

Remote clock offset: 3.369 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 779.252 ms

Loss rate: 0.69%

-- Flow 1:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 638.084 ms

Loss rate: 0.31%

-- Flow 2:

Average throughput: 1.25 Mbit/s

95th percentile per-packet one-way delay: 934.018 ms

Loss rate: 0.72%

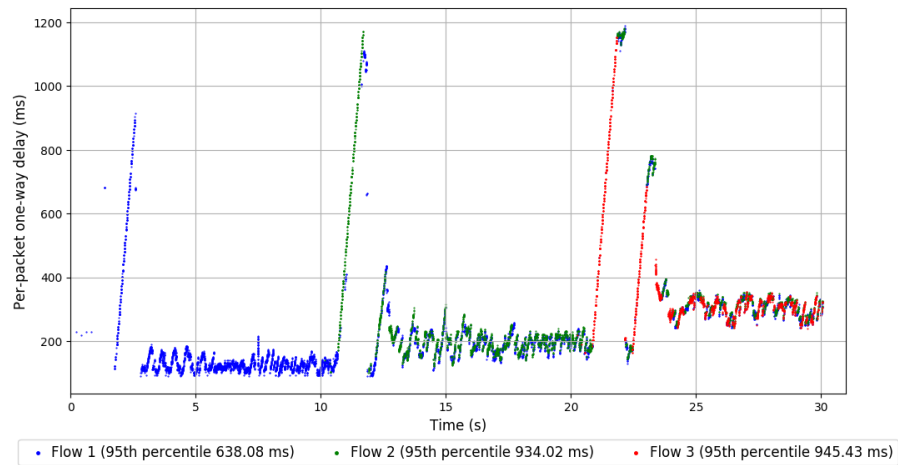
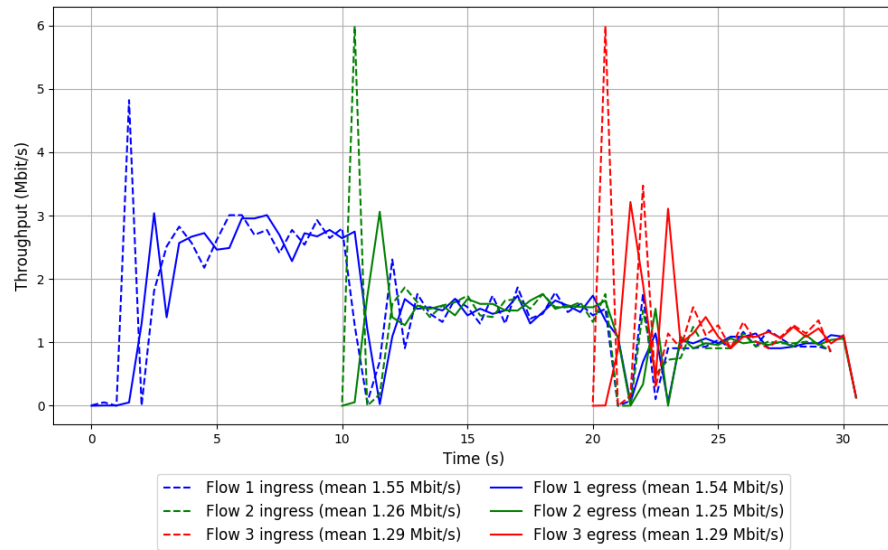
-- Flow 3:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 945.433 ms

Loss rate: 2.01%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-06-05 10:21:06

End at: 2018-06-05 10:21:36

Local clock offset: -6.525 ms

Remote clock offset: 5.883 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.87 Mbit/s

95th percentile per-packet one-way delay: 508.539 ms

Loss rate: 0.94%

-- Flow 1:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 430.300 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 1.30 Mbit/s

95th percentile per-packet one-way delay: 579.124 ms

Loss rate: 1.04%

-- Flow 3:

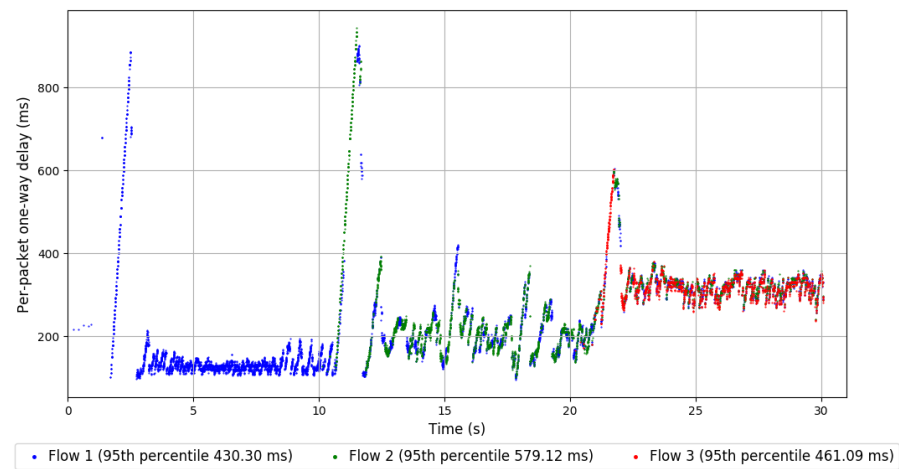
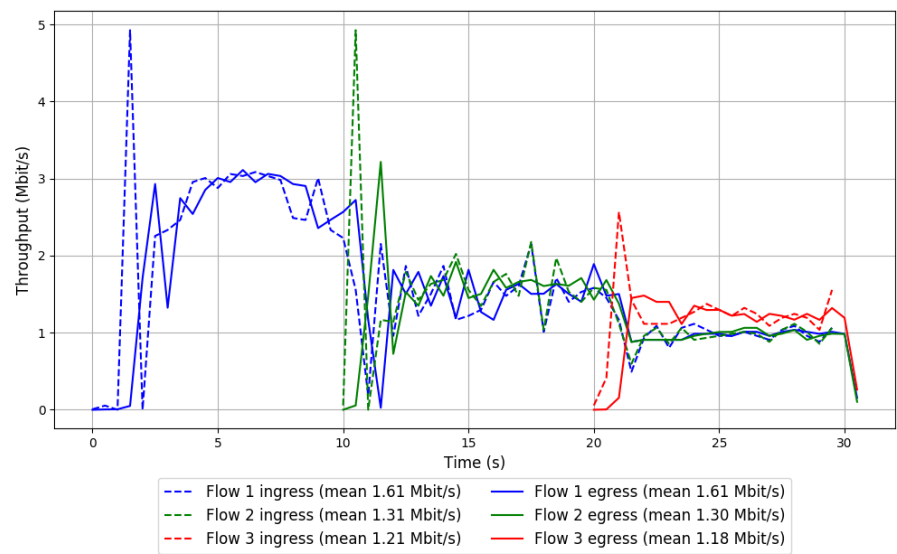
Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 461.091 ms

Loss rate: 2.80%



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

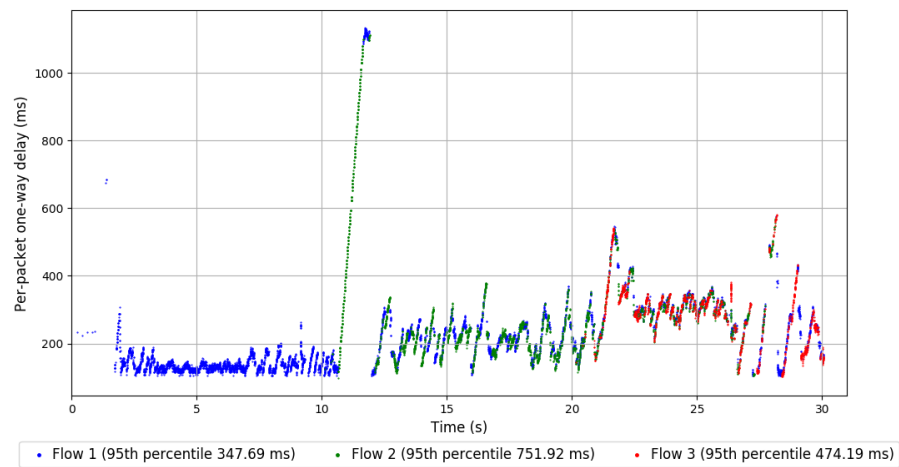
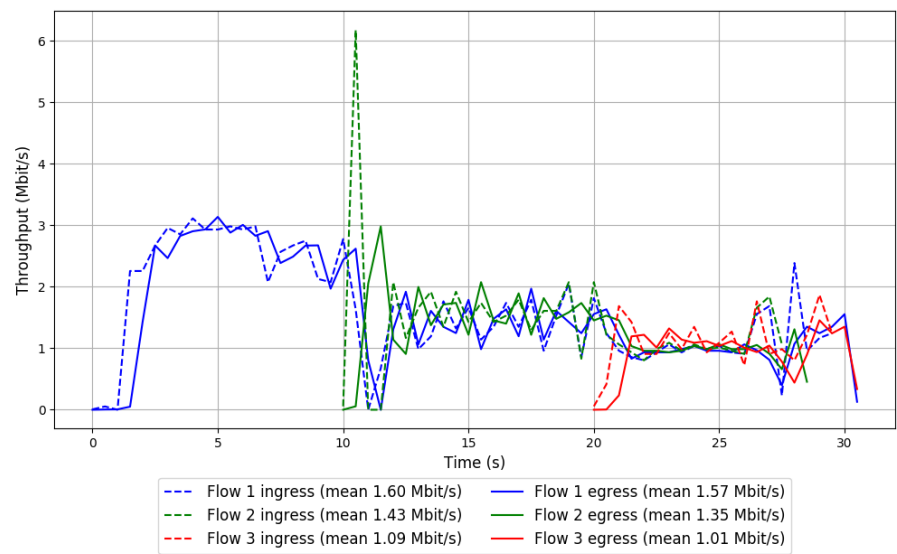


Run 3: Statistics of TaoVA-100x

Start at: 2018-06-05 10:40:24  
End at: 2018-06-05 10:40:54  
Local clock offset: -6.532 ms  
Remote clock offset: 11.439 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.72 Mbit/s  
95th percentile per-packet one-way delay: 478.228 ms  
Loss rate: 3.41%  
-- Flow 1:  
Average throughput: 1.57 Mbit/s  
95th percentile per-packet one-way delay: 347.686 ms  
Loss rate: 2.30%  
-- Flow 2:  
Average throughput: 1.35 Mbit/s  
95th percentile per-packet one-way delay: 751.925 ms  
Loss rate: 3.40%  
-- Flow 3:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 474.187 ms  
Loss rate: 8.31%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-06-05 10:05:27

End at: 2018-06-05 10:05:57

Local clock offset: -6.24 ms

Remote clock offset: 2.771 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.64 Mbit/s

95th percentile per-packet one-way delay: 276.192 ms

Loss rate: 1.28%

-- Flow 1:

Average throughput: 1.15 Mbit/s

95th percentile per-packet one-way delay: 276.128 ms

Loss rate: 2.39%

-- Flow 2:

Average throughput: 1.63 Mbit/s

95th percentile per-packet one-way delay: 286.138 ms

Loss rate: 0.22%

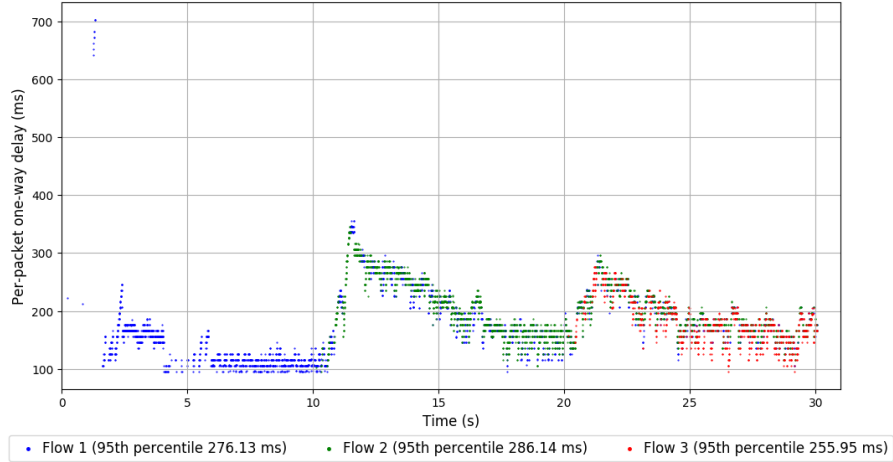
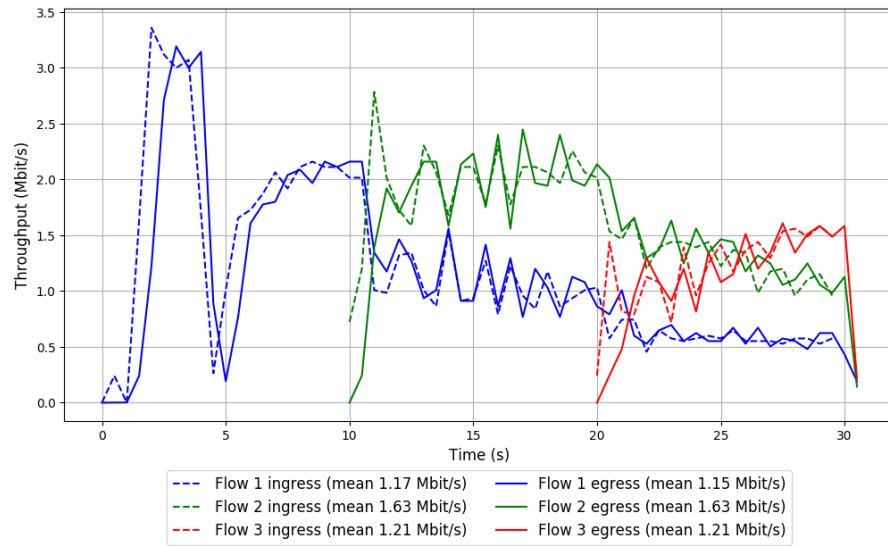
-- Flow 3:

Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 255.950 ms

Loss rate: 0.89%

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



Run 2: Statistics of TCP Vegas

Start at: 2018-06-05 10:24:43

End at: 2018-06-05 10:25:13

Local clock offset: -5.758 ms

Remote clock offset: 3.52 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.85 Mbit/s

95th percentile per-packet one-way delay: 638.895 ms

Loss rate: 1.14%

-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 598.225 ms

Loss rate: 0.85%

-- Flow 2:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 659.275 ms

Loss rate: 1.09%

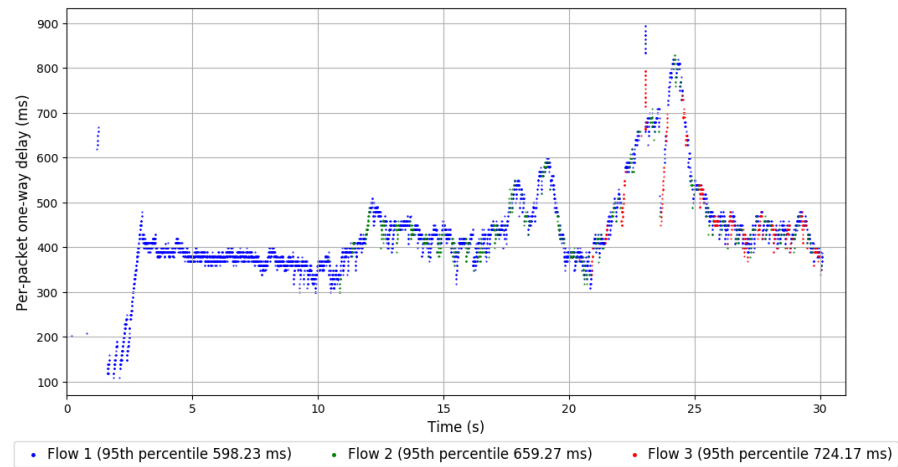
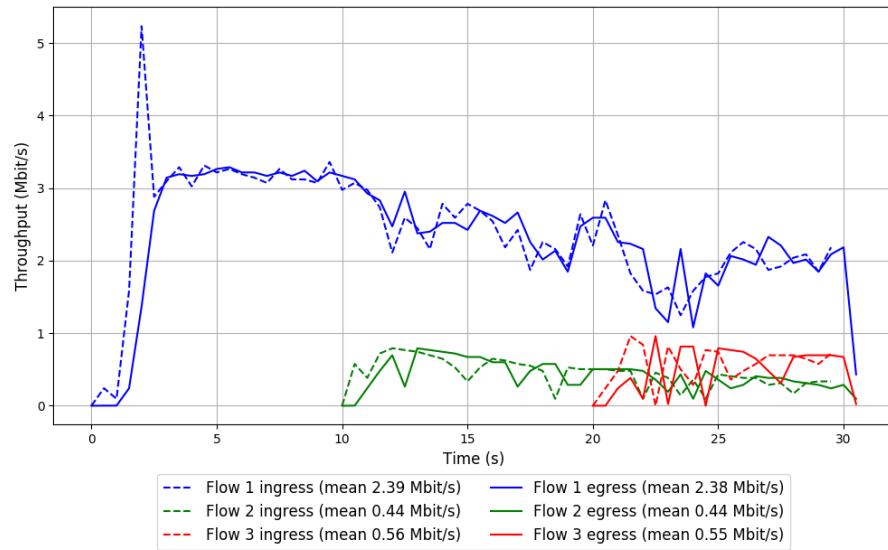
-- Flow 3:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 724.168 ms

Loss rate: 4.98%

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



Run 3: Statistics of TCP Vegas

Start at: 2018-06-05 10:44:01

End at: 2018-06-05 10:44:31

Local clock offset: -5.676 ms

Remote clock offset: 8.928 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 320.301 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 299.976 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 320.054 ms

Loss rate: 0.14%

-- Flow 3:

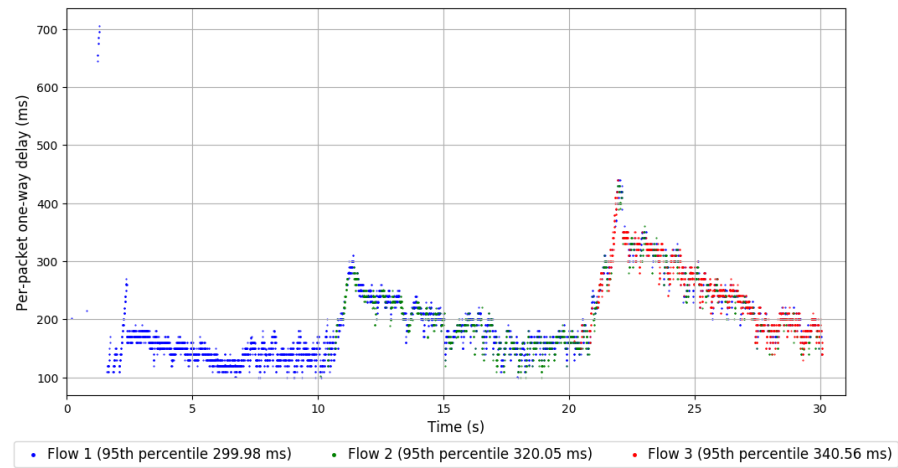
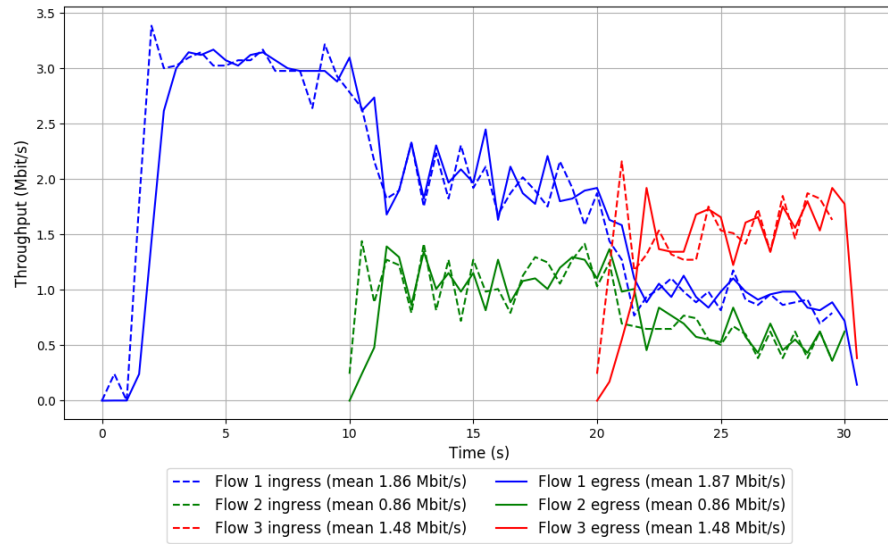
Average throughput: 1.48 Mbit/s

95th percentile per-packet one-way delay: 340.558 ms

Loss rate: 0.49%



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



Run 1: Statistics of Verus

Start at: 2018-06-05 10:06:39

End at: 2018-06-05 10:07:09

Local clock offset: -7.101 ms

Remote clock offset: 2.55 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1453.613 ms

Loss rate: 4.31%

-- Flow 1:

Average throughput: 2.92 Mbit/s

95th percentile per-packet one-way delay: 1452.197 ms

Loss rate: 4.31%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1417.460 ms

Loss rate: 0.00%

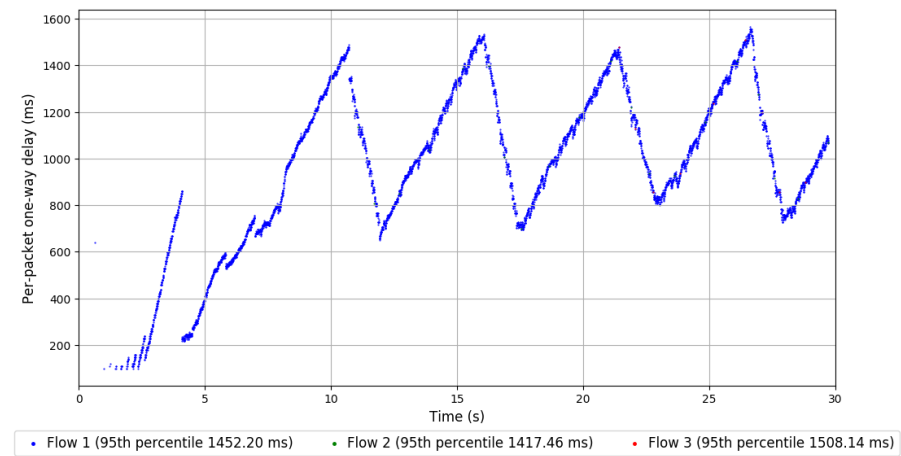
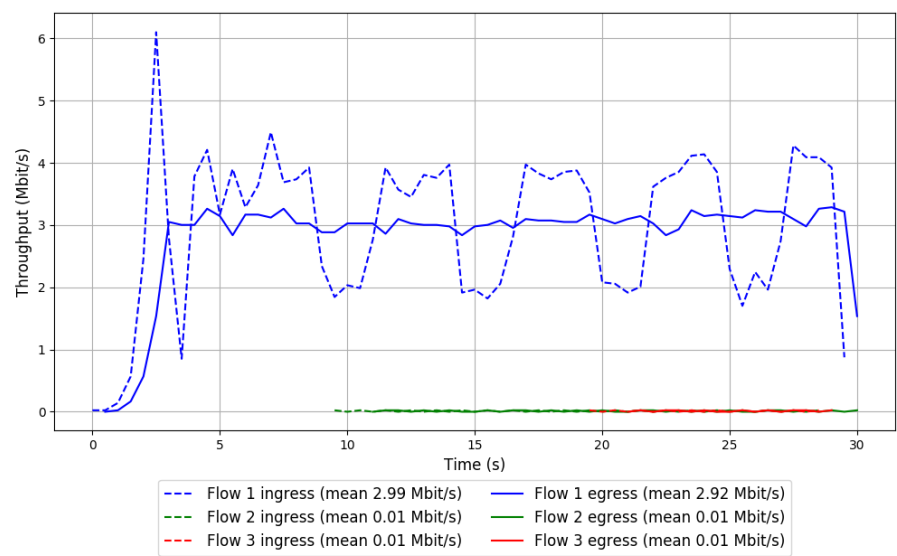
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1508.139 ms

Loss rate: 10.00%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-06-05 10:25:55

End at: 2018-06-05 10:26:25

Local clock offset: -6.583 ms

Remote clock offset: 9.093 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.82 Mbit/s

95th percentile per-packet one-way delay: 1587.818 ms

Loss rate: 2.37%

-- Flow 1:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 1587.818 ms

Loss rate: 2.35%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1607.877 ms

Loss rate: 4.76%

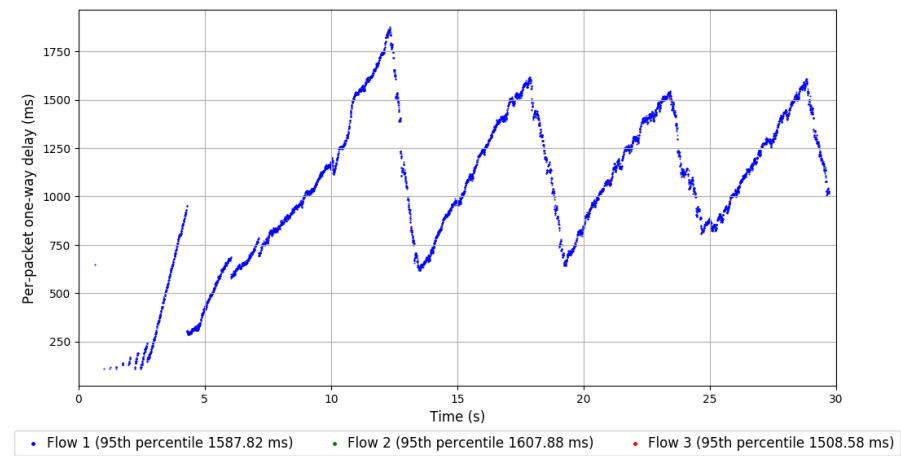
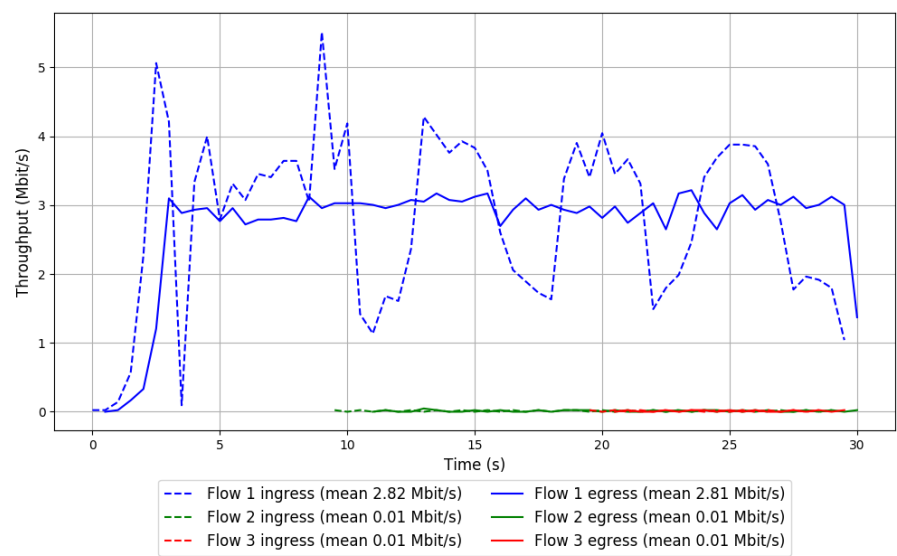
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1508.584 ms

Loss rate: 10.00%

Run 2: Report of Verus — Data Link

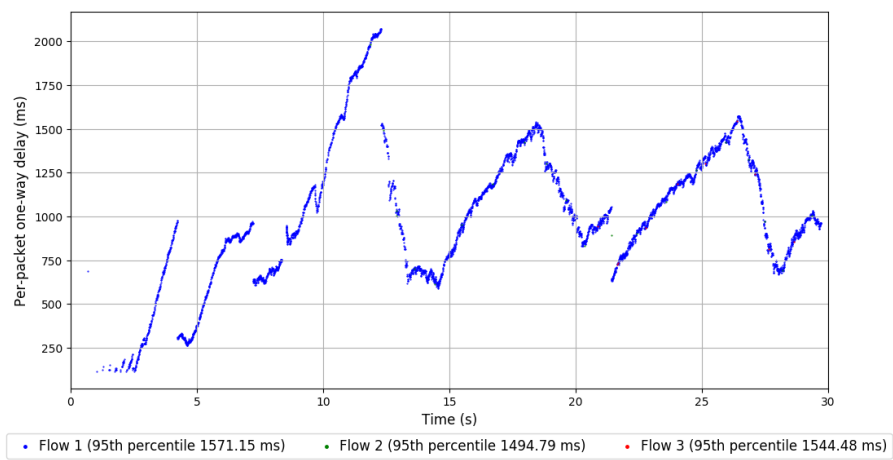
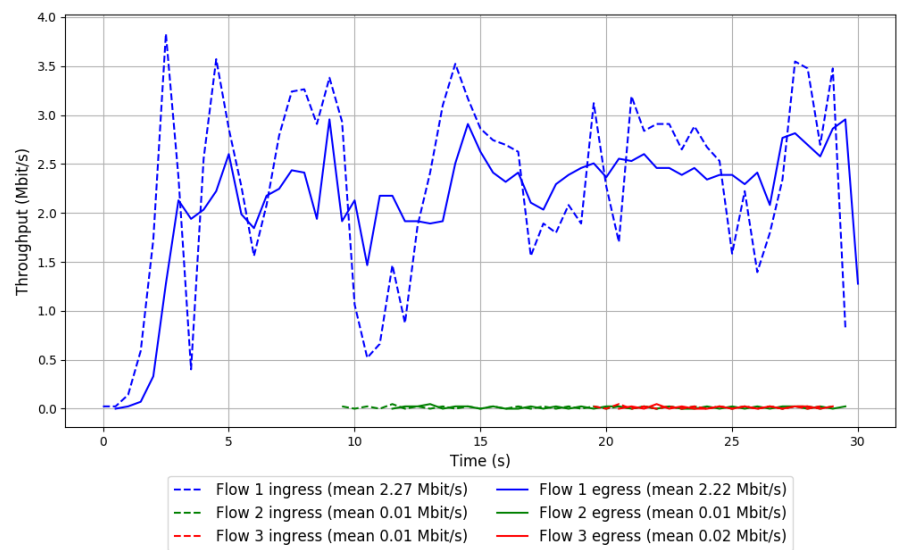


Run 3: Statistics of Verus

Start at: 2018-06-05 10:45:13  
End at: 2018-06-05 10:45:43  
Local clock offset: -6.43 ms  
Remote clock offset: 12.998 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.23 Mbit/s  
95th percentile per-packet one-way delay: 1570.982 ms  
Loss rate: 4.18%  
-- Flow 1:  
Average throughput: 2.22 Mbit/s  
95th percentile per-packet one-way delay: 1571.151 ms  
Loss rate: 4.17%  
-- Flow 2:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 1494.789 ms  
Loss rate: 4.55%  
-- Flow 3:  
Average throughput: 0.02 Mbit/s  
95th percentile per-packet one-way delay: 1544.476 ms  
Loss rate: 9.09%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-06-05 10:03:03

End at: 2018-06-05 10:03:33

Local clock offset: -5.476 ms

Remote clock offset: 4.23 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 2423.041 ms

Loss rate: 20.18%

-- Flow 1:

Average throughput: 1.20 Mbit/s

95th percentile per-packet one-way delay: 2398.889 ms

Loss rate: 16.06%

-- Flow 2:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 2408.873 ms

Loss rate: 18.34%

-- Flow 3:

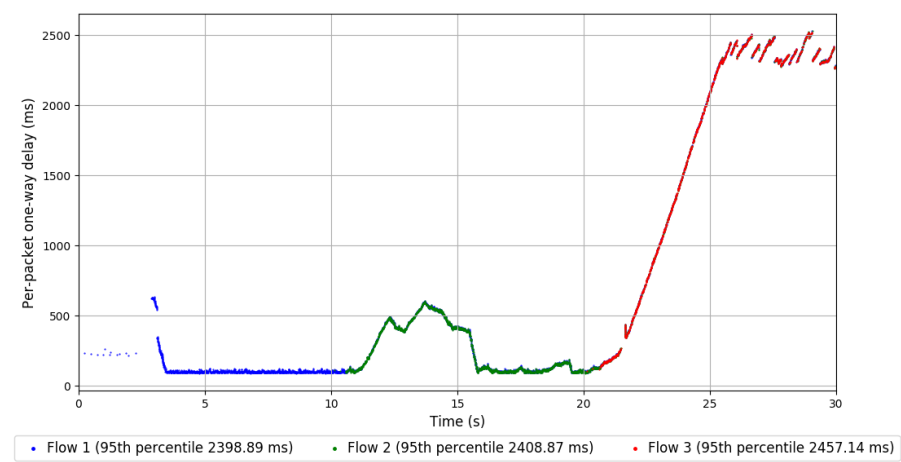
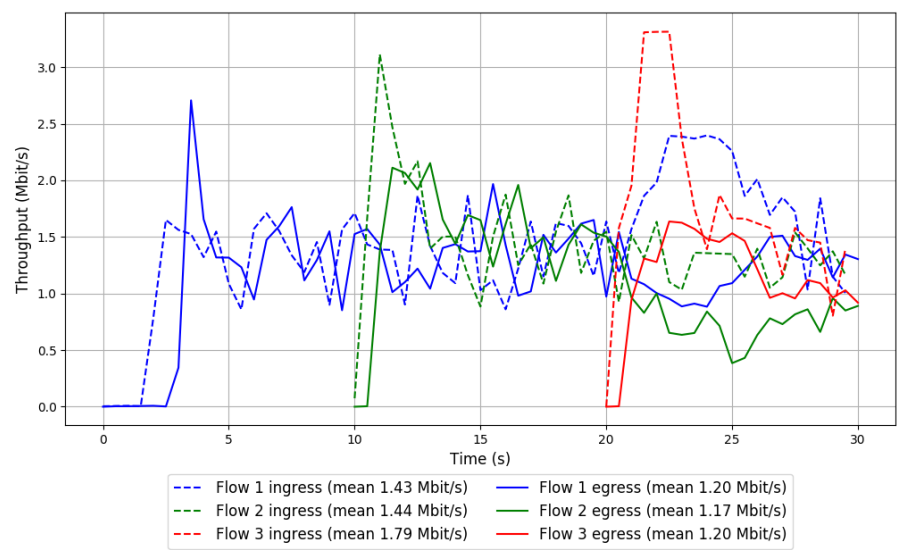
Average throughput: 1.20 Mbit/s

95th percentile per-packet one-way delay: 2457.141 ms

Loss rate: 33.15%



Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-06-05 10:22:18

End at: 2018-06-05 10:22:48

Local clock offset: -6.516 ms

Remote clock offset: 1.643 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.47 Mbit/s

95th percentile per-packet one-way delay: 2373.396 ms

Loss rate: 15.62%

-- Flow 1:

Average throughput: 1.16 Mbit/s

95th percentile per-packet one-way delay: 2357.138 ms

Loss rate: 12.06%

-- Flow 2:

Average throughput: 1.30 Mbit/s

95th percentile per-packet one-way delay: 2366.830 ms

Loss rate: 14.12%

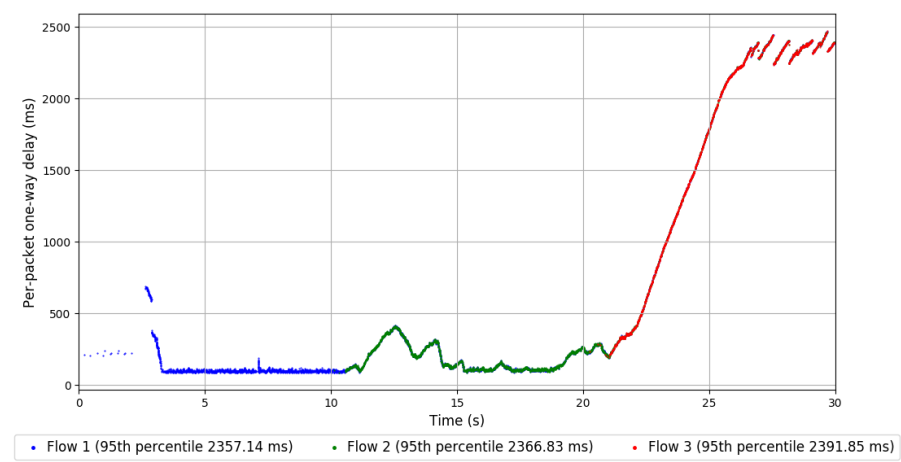
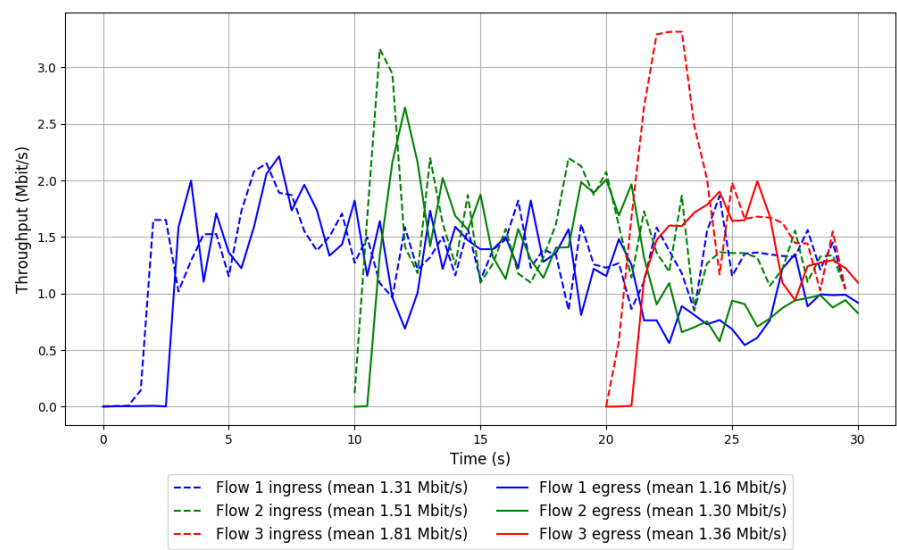
-- Flow 3:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 2391.846 ms

Loss rate: 26.01%

Run 2: Report of PCC-Vivace — Data Link

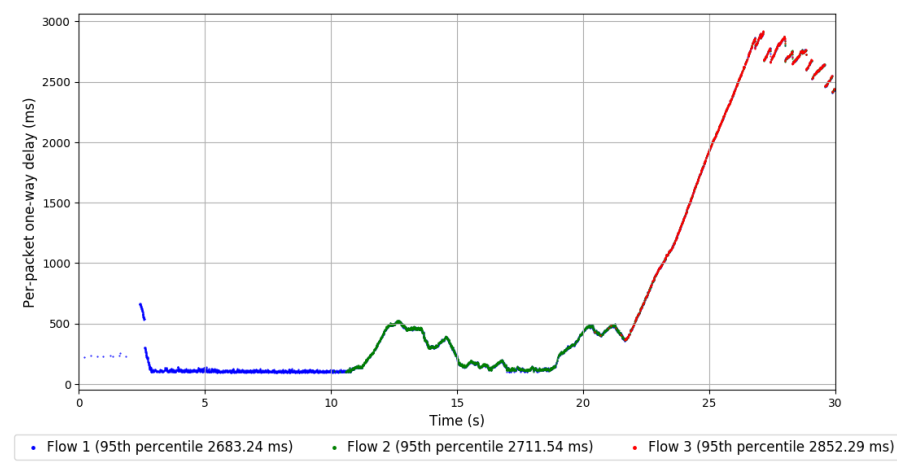
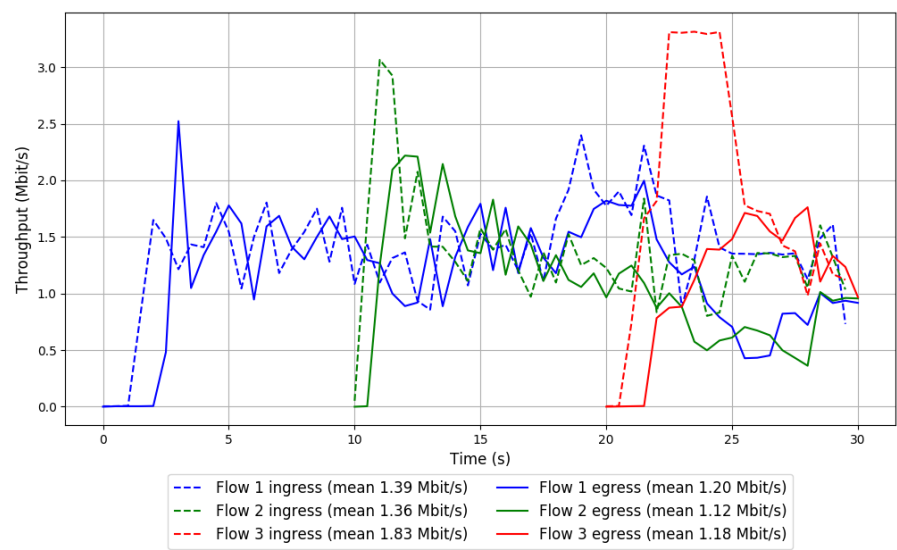


Run 3: Statistics of PCC-Vivace

Start at: 2018-06-05 10:41:36  
End at: 2018-06-05 10:42:06  
Local clock offset: -5.69 ms  
Remote clock offset: 13.675 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.32 Mbit/s  
95th percentile per-packet one-way delay: 2750.096 ms  
Loss rate: 20.24%  
-- Flow 1:  
Average throughput: 1.20 Mbit/s  
95th percentile per-packet one-way delay: 2683.241 ms  
Loss rate: 14.05%  
-- Flow 2:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 2711.538 ms  
Loss rate: 18.03%  
-- Flow 3:  
Average throughput: 1.18 Mbit/s  
95th percentile per-packet one-way delay: 2852.287 ms  
Loss rate: 37.81%

Run 3: Report of PCC-Vivace — Data Link

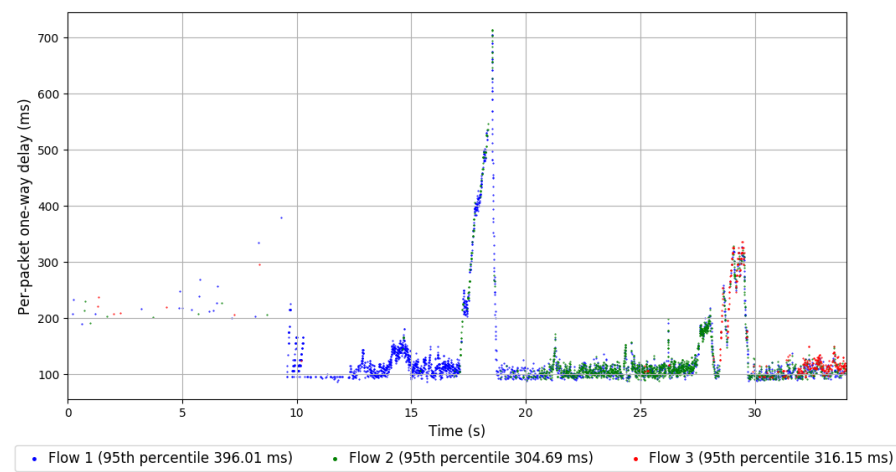
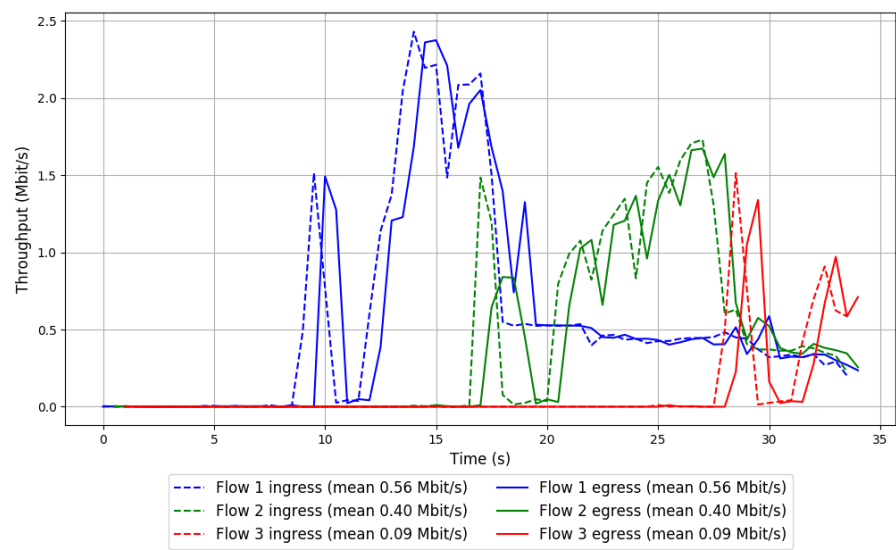


```
Run 1: Statistics of WebRTC media

Start at: 2018-06-05 10:00:39
End at: 2018-06-05 10:01:09
Local clock offset: -6.229 ms
Remote clock offset: 3.655 ms

# Below is generated by plot.py at 2018-06-05 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 326.326 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 396.007 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 304.686 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 316.155 ms
Loss rate: 0.54%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-06-05 10:19:54

End at: 2018-06-05 10:20:24

Local clock offset: -6.502 ms

Remote clock offset: 5.862 ms

# Below is generated by plot.py at 2018-06-05 10:58:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 256.928 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 257.160 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 267.187 ms

Loss rate: 0.11%

-- Flow 3:

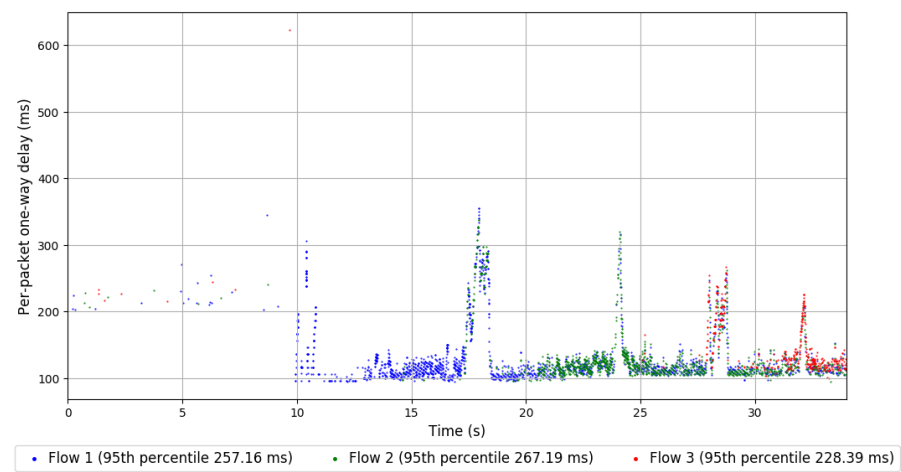
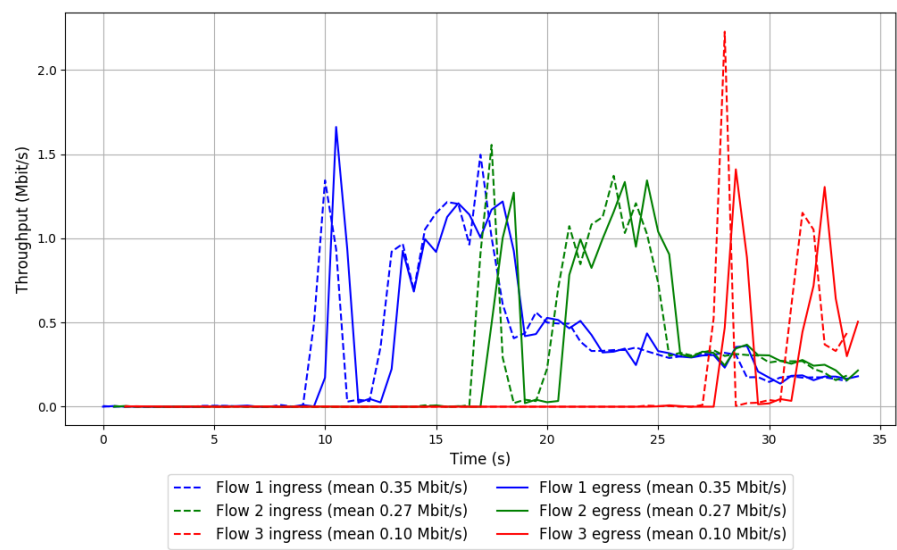
Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 228.386 ms

Loss rate: 0.39%



Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-06-05 10:39:12  
End at: 2018-06-05 10:39:42  
Local clock offset: -6.487 ms  
Remote clock offset: 11.342 ms

# Below is generated by plot.py at 2018-06-05 10:58:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.11 Mbit/s  
95th percentile per-packet one-way delay: 316.210 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 0.50 Mbit/s  
95th percentile per-packet one-way delay: 374.406 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 0.51 Mbit/s  
95th percentile per-packet one-way delay: 246.312 ms  
Loss rate: 0.05%  
-- Flow 3:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 266.064 ms  
Loss rate: 0.64%

Run 3: Report of WebRTC media — Data Link

