

## Pantheon Report

Generated at 2018-08-01 23:43:57 (UTC).

Data path: India ppp0 ppp0 (*remote*) → AWS India 1 Ethernet (*local*).

Repeated the test of 17 congestion control schemes 3 times.

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

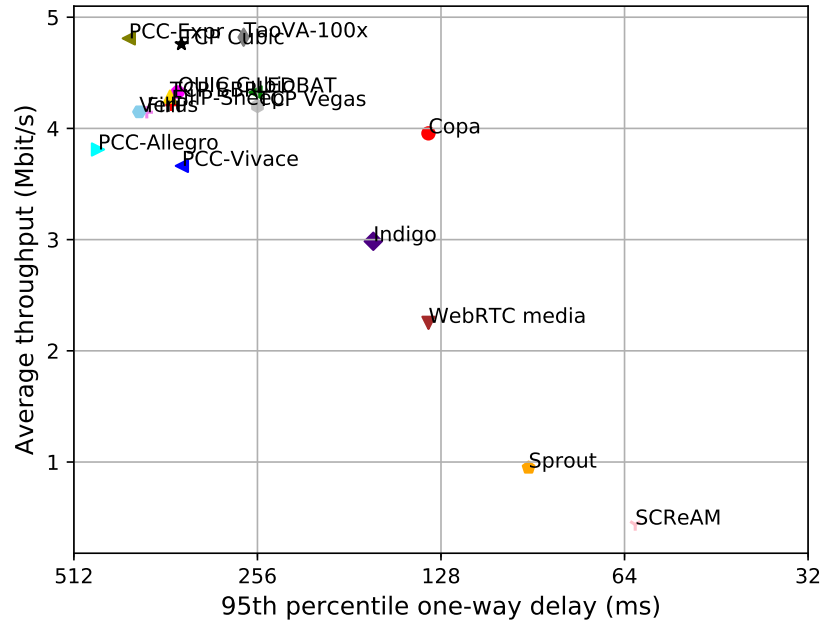
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

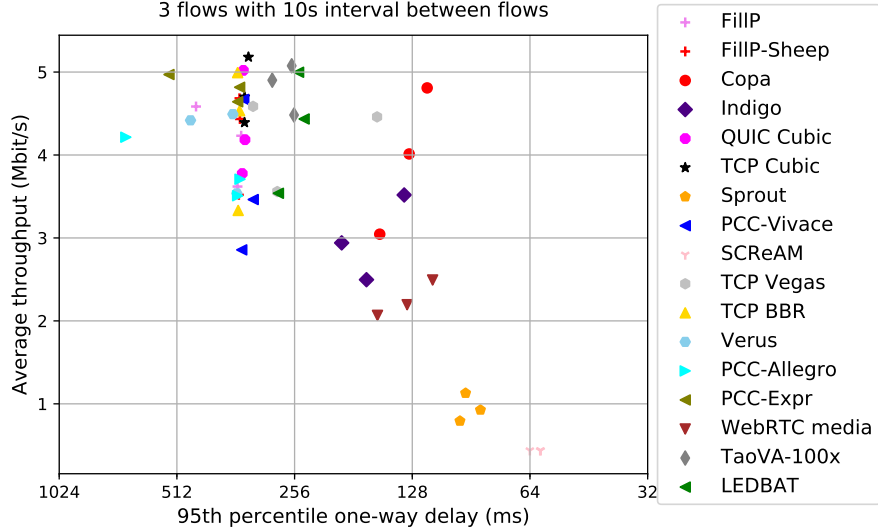
Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme  
 3 flows with 10s interval between flows



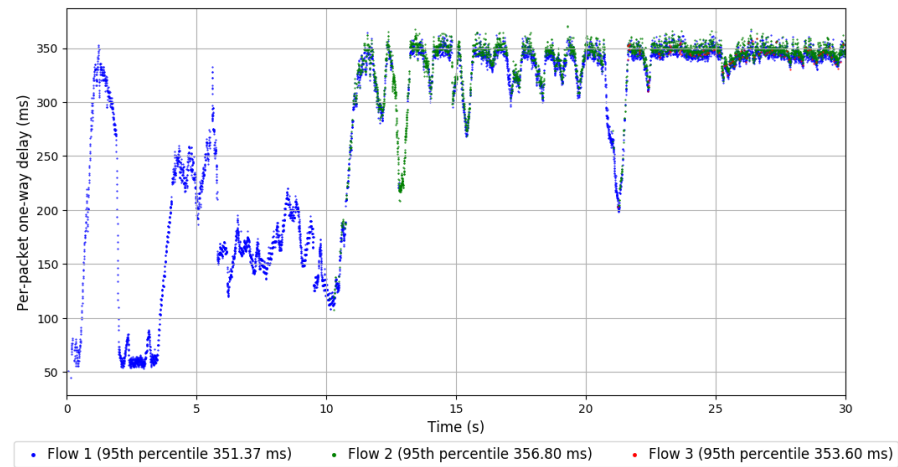
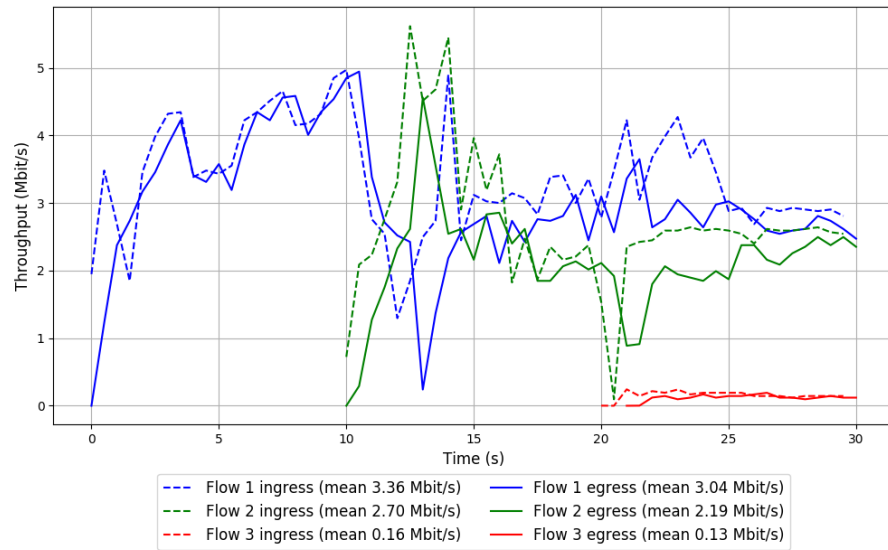
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	2.51	2.28	0.83	353.21	358.74	357.29	8.82	19.27	20.37
Copa	3	2.36	1.65	1.50	136.49	132.37	133.80	0.28	0.40	1.10
TCP Cubic	3	3.50	1.32	1.18	339.37	342.95	343.24	1.41	3.17	6.03
FillP	3	2.48	1.97	1.20	366.89	453.53	351.87	32.54	34.54	31.73
FillP-Sheep	3	2.36	1.91	1.84	350.87	354.70	357.27	21.89	43.45	50.92
Indigo	3	1.45	1.53	1.60	156.83	154.60	192.35	3.27	0.87	1.76
LEDBAT	3	3.05	1.45	0.99	249.23	270.98	286.94	0.20	1.47	2.87
PCC-Allegro	3	1.82	2.17	1.69	352.73	475.36	643.92	16.98	25.61	50.60
PCC-Expr	3	2.55	2.35	2.21	357.65	472.49	358.97	36.41	50.50	65.13
QUIC Cubic	3	3.26	1.13	0.97	345.60	346.08	347.57	4.99	7.49	10.40
SCReAM	3	0.22	0.22	0.22	61.22	61.56	59.40	0.26	0.39	0.70
Sprout	3	0.43	0.51	0.53	94.48	92.65	90.64	0.07	0.31	0.85
TaoVA-100x	3	2.76	2.17	1.87	238.80	276.50	316.57	1.59	1.98	4.35
TCP Vegas	3	1.73	2.81	1.84	237.09	262.35	214.79	1.30	1.78	1.06
Verus	3	3.75	0.54	0.13	399.92	402.22	401.41	39.32	47.57	45.48
PCC-Vivace	3	2.09	1.70	1.46	306.35	347.93	345.85	9.18	25.48	10.81
WebRTC media	3	1.39	0.58	0.29	125.61	140.47	141.35	0.42	0.19	0.94

Run 1: Statistics of TCP BBR

Start at: 2018-08-01 22:50:02  
End at: 2018-08-01 22:50:32  
Local clock offset: 1.267 ms  
Remote clock offset: -13.515 ms

# Below is generated by plot.py at 2018-08-01 23:43:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.53 Mbit/s  
95th percentile per-packet one-way delay: 353.897 ms  
Loss rate: 13.30%  
-- Flow 1:  
Average throughput: 3.04 Mbit/s  
95th percentile per-packet one-way delay: 351.370 ms  
Loss rate: 9.73%  
-- Flow 2:  
Average throughput: 2.19 Mbit/s  
95th percentile per-packet one-way delay: 356.800 ms  
Loss rate: 19.56%  
-- Flow 3:  
Average throughput: 0.13 Mbit/s  
95th percentile per-packet one-way delay: 353.602 ms  
Loss rate: 27.14%

# Run 1: Report of TCP BBR — Data Link

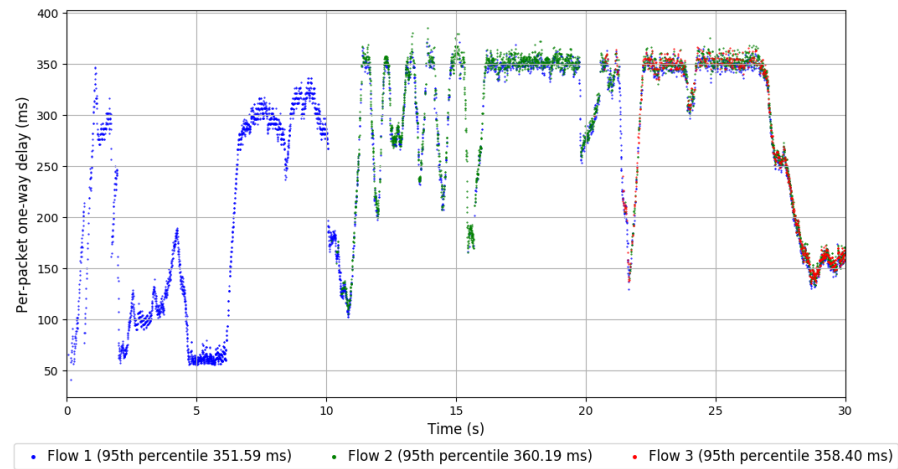
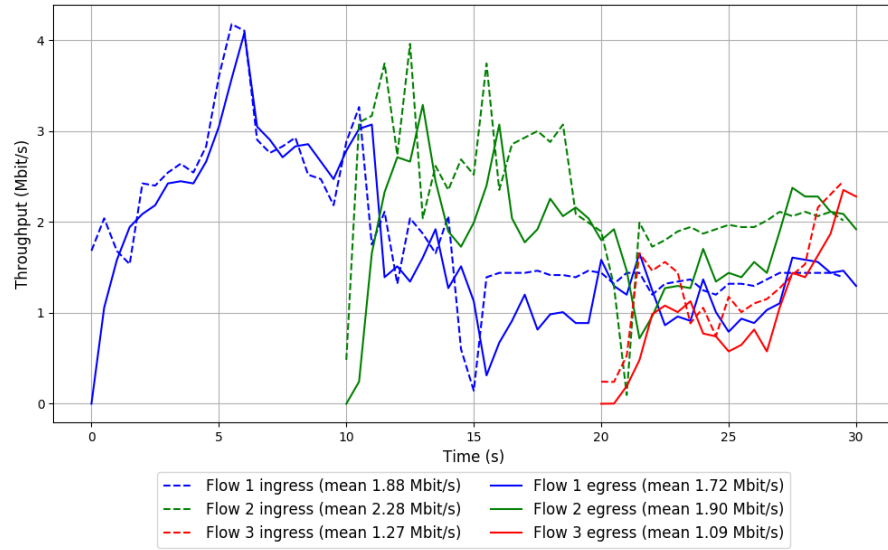


Run 2: Statistics of TCP BBR

Start at: 2018-08-01 23:09:07  
End at: 2018-08-01 23:09:37  
Local clock offset: -0.089 ms  
Remote clock offset: -17.401 ms

# Below is generated by plot.py at 2018-08-01 23:43:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.33 Mbit/s  
95th percentile per-packet one-way delay: 356.841 ms  
Loss rate: 13.00%  
-- Flow 1:  
Average throughput: 1.72 Mbit/s  
95th percentile per-packet one-way delay: 351.587 ms  
Loss rate: 8.46%  
-- Flow 2:  
Average throughput: 1.90 Mbit/s  
95th percentile per-packet one-way delay: 360.190 ms  
Loss rate: 17.44%  
-- Flow 3:  
Average throughput: 1.09 Mbit/s  
95th percentile per-packet one-way delay: 358.405 ms  
Loss rate: 17.20%

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



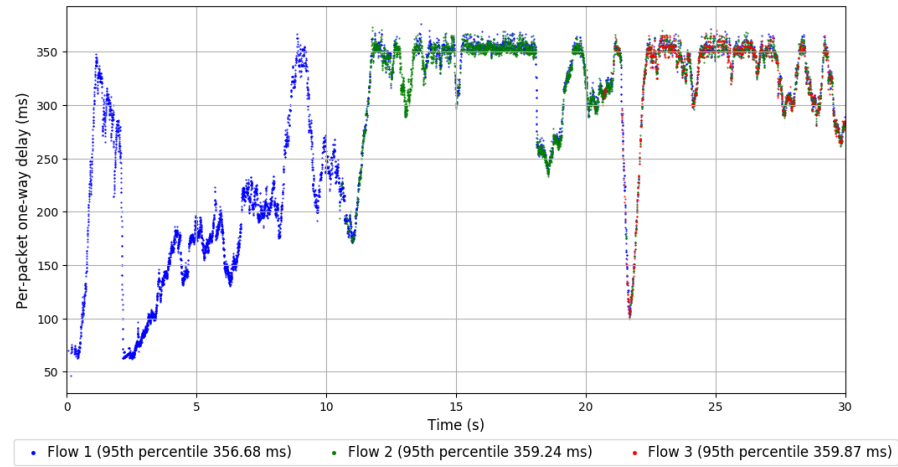
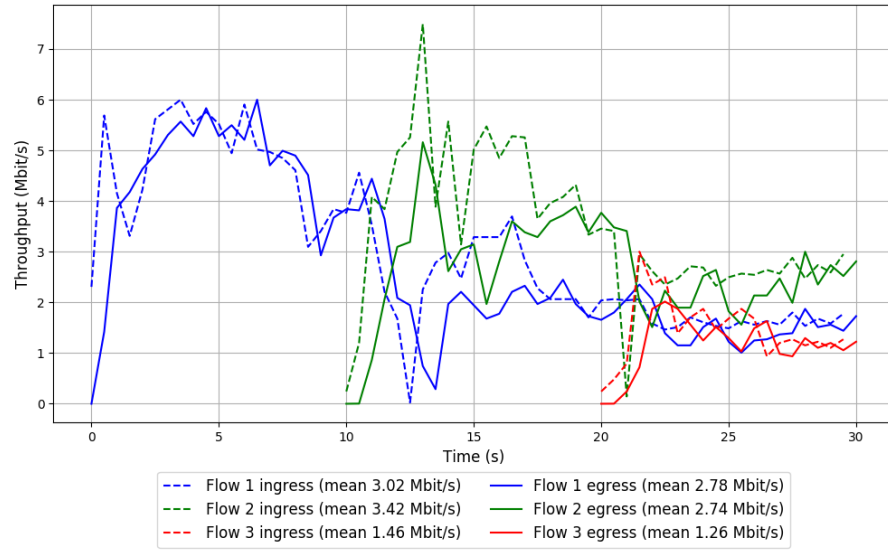
Run 3: Statistics of TCP BBR

Start at: 2018-08-01 23:27:58  
End at: 2018-08-01 23:28:28  
Local clock offset: 2.357 ms  
Remote clock offset: -8.365 ms

# Below is generated by plot.py at 2018-08-01 23:43:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.99 Mbit/s  
95th percentile per-packet one-way delay: 358.022 ms  
Loss rate: 13.92%  
-- Flow 1:  
Average throughput: 2.78 Mbit/s  
95th percentile per-packet one-way delay: 356.678 ms  
Loss rate: 8.26%  
-- Flow 2:  
Average throughput: 2.74 Mbit/s  
95th percentile per-packet one-way delay: 359.238 ms  
Loss rate: 20.82%  
-- Flow 3:  
Average throughput: 1.26 Mbit/s  
95th percentile per-packet one-way delay: 359.866 ms  
Loss rate: 16.77%



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

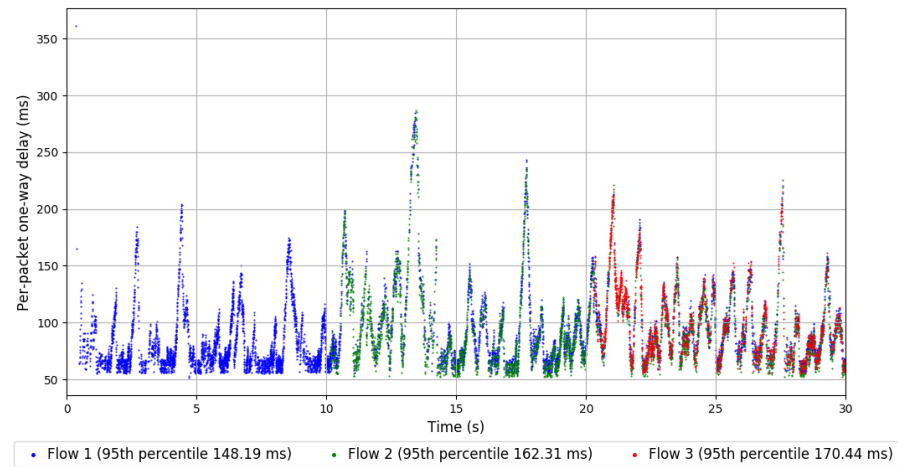
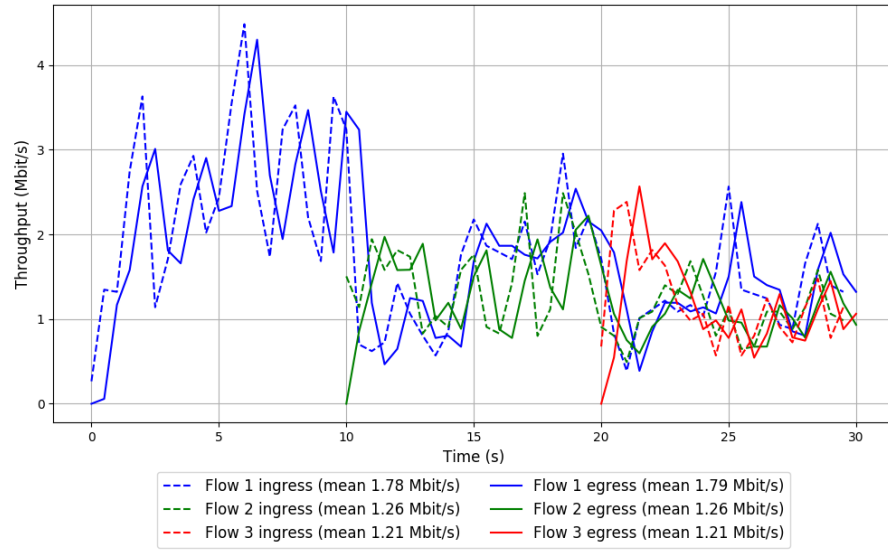


Run 1: Statistics of Copa

Start at: 2018-08-01 23:01:25  
End at: 2018-08-01 23:01:55  
Local clock offset: 2.652 ms  
Remote clock offset: -17.625 ms

# Below is generated by plot.py at 2018-08-01 23:43:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.05 Mbit/s  
95th percentile per-packet one-way delay: 155.042 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 1.79 Mbit/s  
95th percentile per-packet one-way delay: 148.195 ms  
Loss rate: 0.29%  
-- Flow 2:  
Average throughput: 1.26 Mbit/s  
95th percentile per-packet one-way delay: 162.309 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 1.21 Mbit/s  
95th percentile per-packet one-way delay: 170.443 ms  
Loss rate: 0.97%

## Run 1: Report of Copa — Data Link

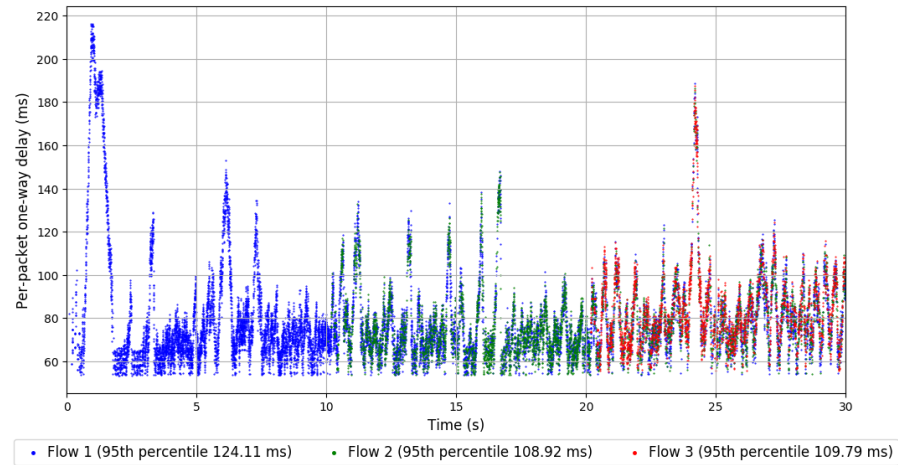
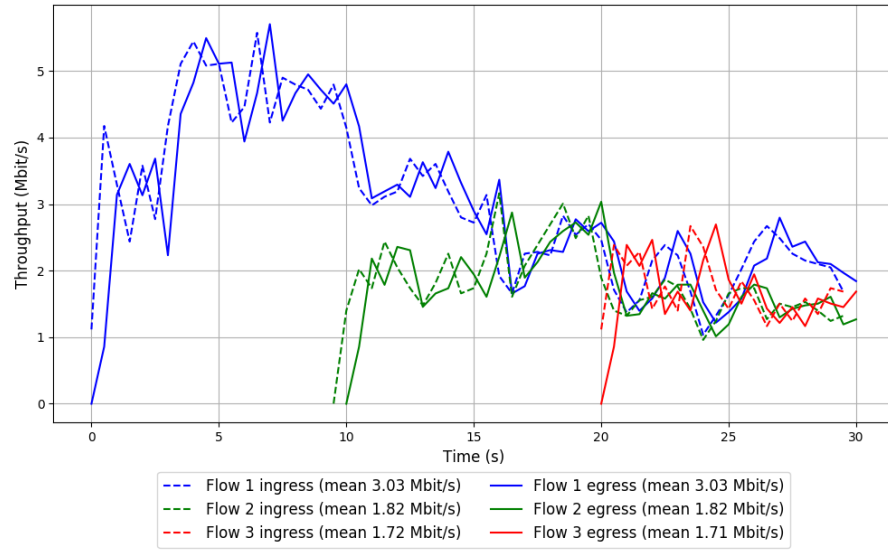


Run 2: Statistics of Copa

Start at: 2018-08-01 23:20:15  
End at: 2018-08-01 23:20:45  
Local clock offset: 1.827 ms  
Remote clock offset: -11.094 ms

# Below is generated by plot.py at 2018-08-01 23:43:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.81 Mbit/s  
95th percentile per-packet one-way delay: 117.252 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 3.03 Mbit/s  
95th percentile per-packet one-way delay: 124.113 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 1.82 Mbit/s  
95th percentile per-packet one-way delay: 108.922 ms  
Loss rate: 0.32%  
-- Flow 3:  
Average throughput: 1.71 Mbit/s  
95th percentile per-packet one-way delay: 109.793 ms  
Loss rate: 1.20%

## Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-08-01 23:39:05

End at: 2018-08-01 23:39:35

Local clock offset: -1.979 ms

Remote clock offset: -5.77 ms

# Below is generated by plot.py at 2018-08-01 23:43:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 4.01 Mbit/s

95th percentile per-packet one-way delay: 130.353 ms

Loss rate: 0.54%

-- Flow 1:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 137.156 ms

Loss rate: 0.42%

-- Flow 2:

Average throughput: 1.86 Mbit/s

95th percentile per-packet one-way delay: 125.892 ms

Loss rate: 0.52%

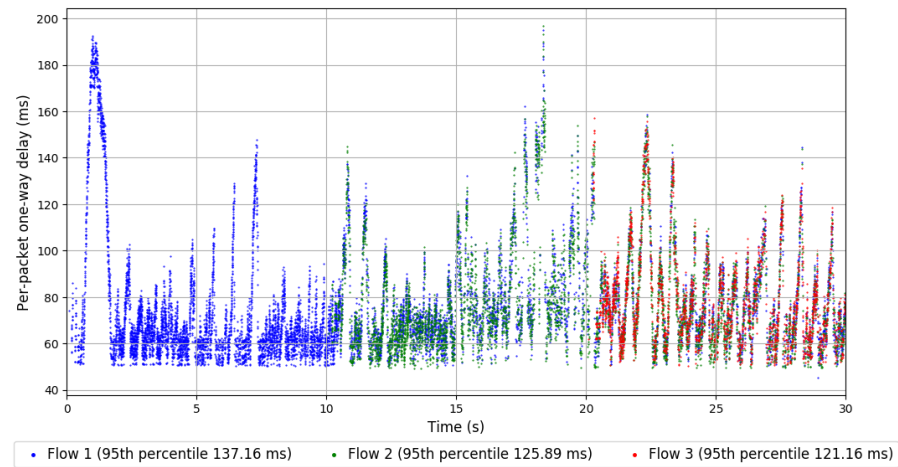
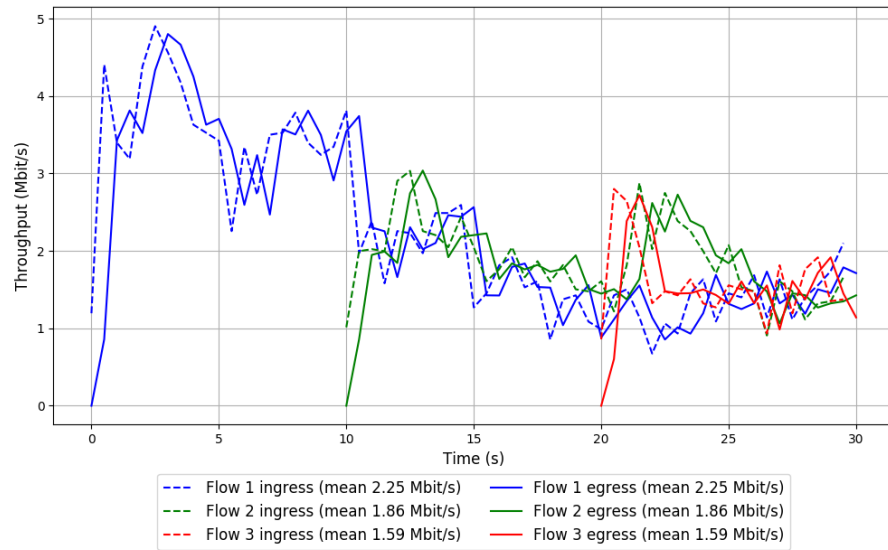
-- Flow 3:

Average throughput: 1.59 Mbit/s

95th percentile per-packet one-way delay: 121.157 ms

Loss rate: 1.13%

### Run 3: Report of Copa — Data Link



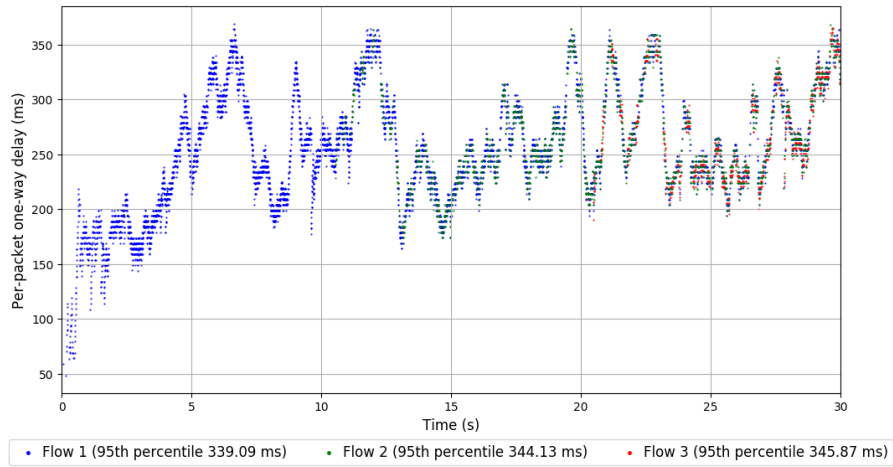
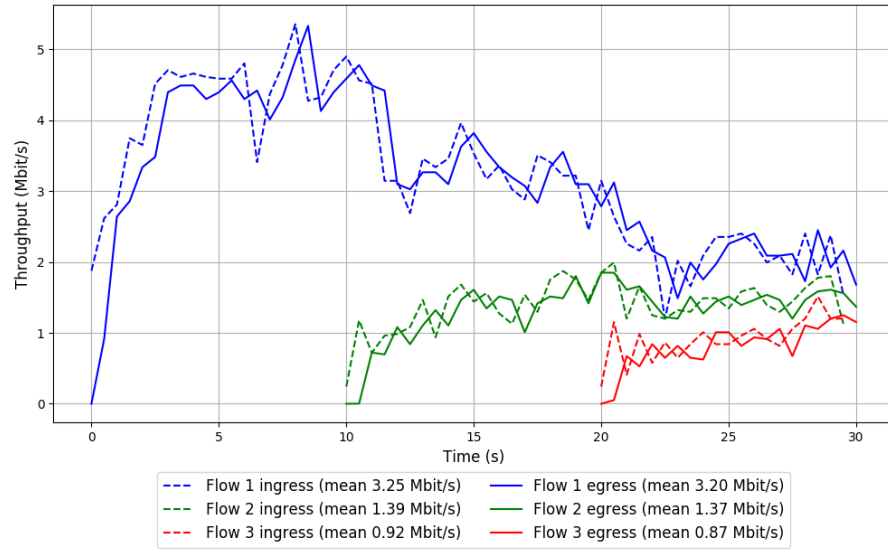
Run 1: Statistics of TCP Cubic

Start at: 2018-08-01 22:56:46  
End at: 2018-08-01 22:57:16  
Local clock offset: 2.362 ms  
Remote clock offset: -15.163 ms

# Below is generated by plot.py at 2018-08-01 23:43:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.39 Mbit/s  
95th percentile per-packet one-way delay: 343.773 ms  
Loss rate: 2.21%  
-- Flow 1:  
Average throughput: 3.20 Mbit/s  
95th percentile per-packet one-way delay: 339.089 ms  
Loss rate: 1.60%  
-- Flow 2:  
Average throughput: 1.37 Mbit/s  
95th percentile per-packet one-way delay: 344.129 ms  
Loss rate: 2.68%  
-- Flow 3:  
Average throughput: 0.87 Mbit/s  
95th percentile per-packet one-way delay: 345.867 ms  
Loss rate: 7.21%



# Run 1: Report of TCP Cubic — Data Link

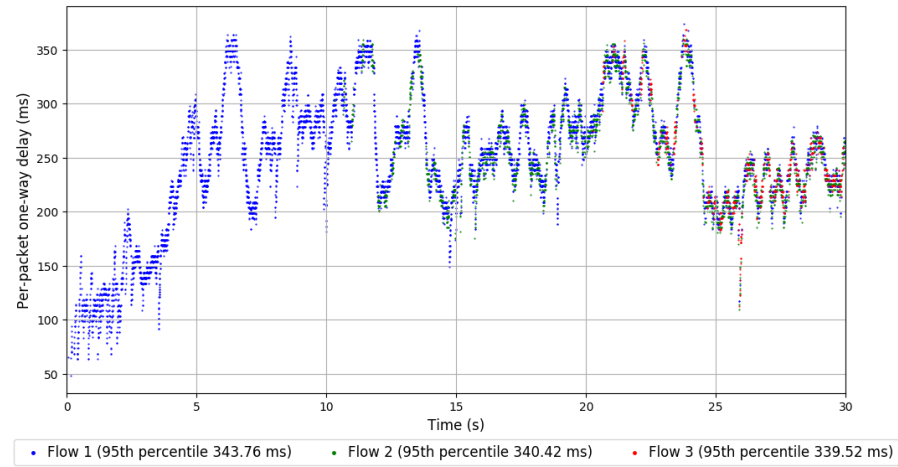
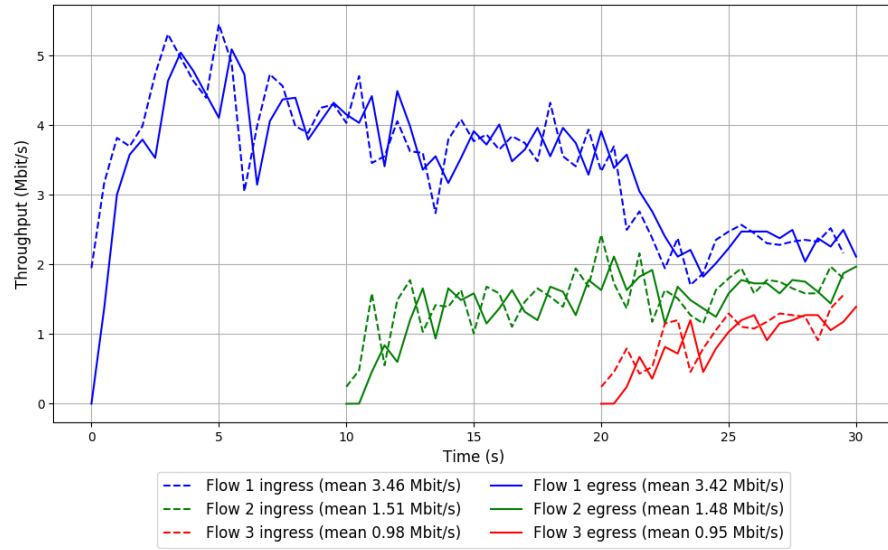


Run 2: Statistics of TCP Cubic

Start at: 2018-08-01 23:15:49  
End at: 2018-08-01 23:16:19  
Local clock offset: 3.228 ms  
Remote clock offset: -10.121 ms

# Below is generated by plot.py at 2018-08-01 23:43:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.70 Mbit/s  
95th percentile per-packet one-way delay: 343.672 ms  
Loss rate: 2.11%  
-- Flow 1:  
Average throughput: 3.42 Mbit/s  
95th percentile per-packet one-way delay: 343.762 ms  
Loss rate: 1.43%  
-- Flow 2:  
Average throughput: 1.48 Mbit/s  
95th percentile per-packet one-way delay: 340.423 ms  
Loss rate: 3.07%  
-- Flow 3:  
Average throughput: 0.95 Mbit/s  
95th percentile per-packet one-way delay: 339.525 ms  
Loss rate: 6.30%

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

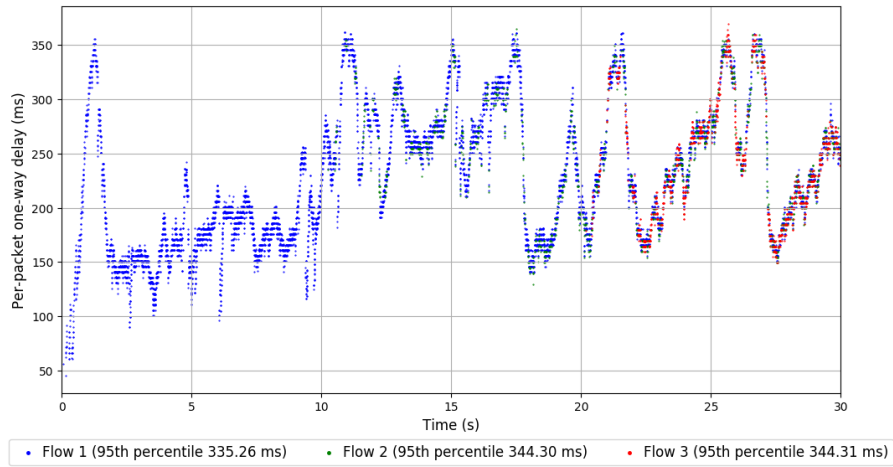
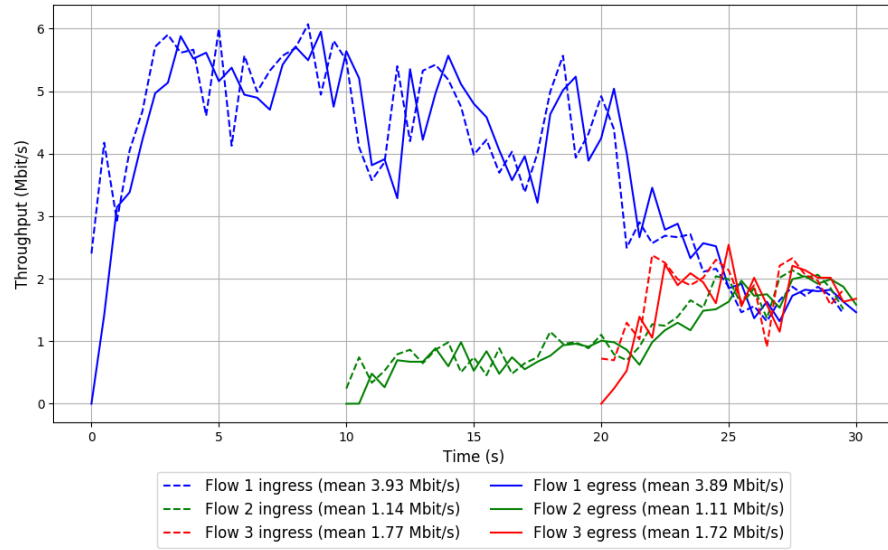


Run 3: Statistics of TCP Cubic

Start at: 2018-08-01 23:34:35  
End at: 2018-08-01 23:35:05  
Local clock offset: 0.311 ms  
Remote clock offset: -5.514 ms

# Below is generated by plot.py at 2018-08-01 23:43:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 5.18 Mbit/s  
95th percentile per-packet one-way delay: 335.911 ms  
Loss rate: 1.94%  
-- Flow 1:  
Average throughput: 3.89 Mbit/s  
95th percentile per-packet one-way delay: 335.259 ms  
Loss rate: 1.20%  
-- Flow 2:  
Average throughput: 1.11 Mbit/s  
95th percentile per-packet one-way delay: 344.295 ms  
Loss rate: 3.75%  
-- Flow 3:  
Average throughput: 1.72 Mbit/s  
95th percentile per-packet one-way delay: 344.315 ms  
Loss rate: 4.58%

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

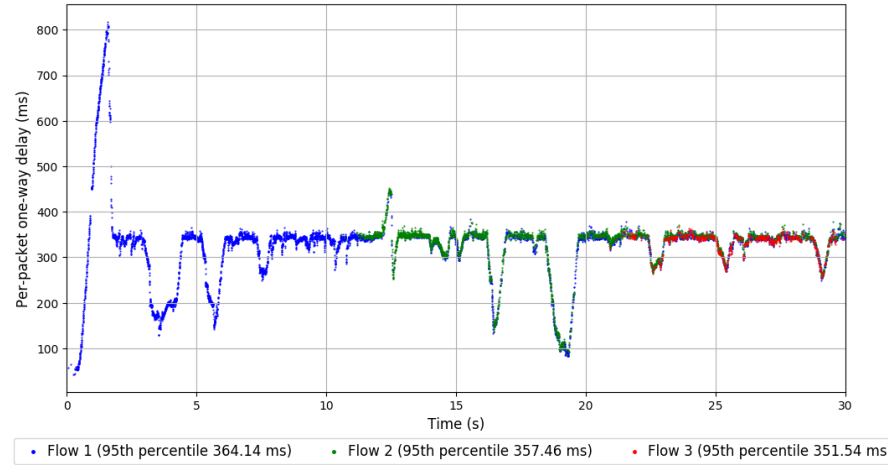
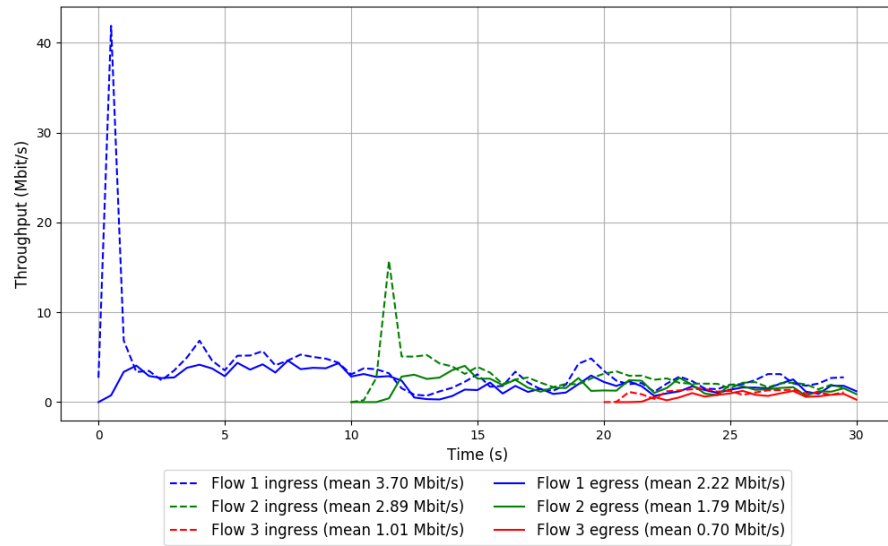


Run 1: Statistics of FillP

Start at: 2018-08-01 23:03:37  
End at: 2018-08-01 23:04:07  
Local clock offset: 2.41 ms  
Remote clock offset: -17.013 ms

# Below is generated by plot.py at 2018-08-01 23:43:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.62 Mbit/s  
95th percentile per-packet one-way delay: 358.299 ms  
Loss rate: 39.42%  
-- Flow 1:  
Average throughput: 2.22 Mbit/s  
95th percentile per-packet one-way delay: 364.143 ms  
Loss rate: 40.10%  
-- Flow 2:  
Average throughput: 1.79 Mbit/s  
95th percentile per-packet one-way delay: 357.464 ms  
Loss rate: 38.83%  
-- Flow 3:  
Average throughput: 0.70 Mbit/s  
95th percentile per-packet one-way delay: 351.540 ms  
Loss rate: 35.38%

## Run 1: Report of FillP — Data Link



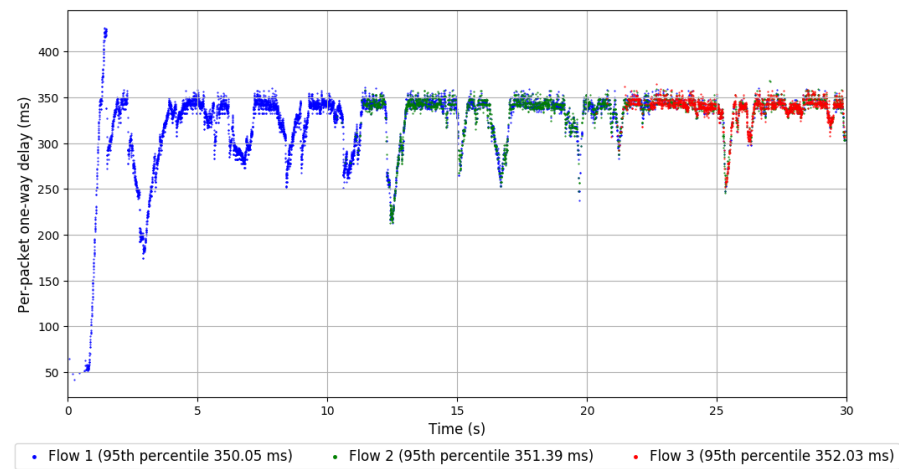
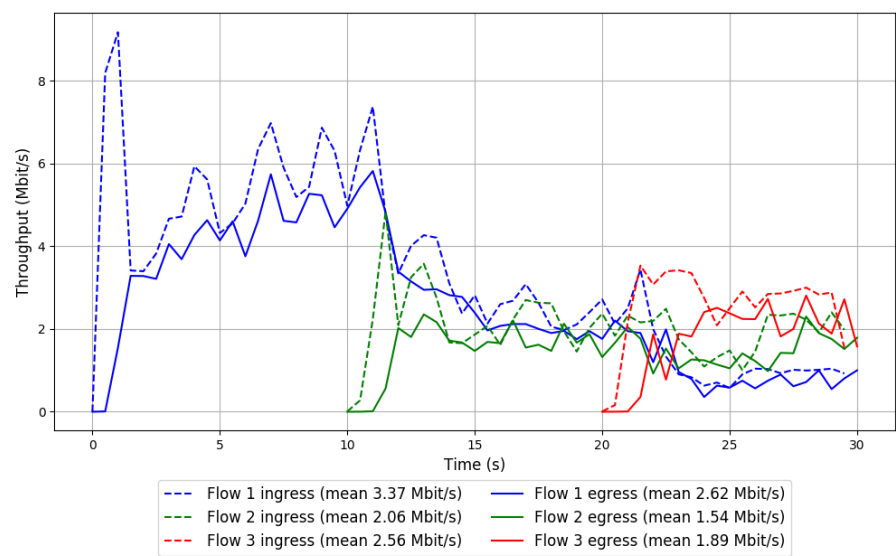
Run 2: Statistics of FillP

Start at: 2018-08-01 23:22:28  
End at: 2018-08-01 23:22:58  
Local clock offset: 0.088 ms  
Remote clock offset: -7.966 ms

# Below is generated by plot.py at 2018-08-01 23:43:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.23 Mbit/s  
95th percentile per-packet one-way delay: 350.629 ms  
Loss rate: 24.44%  
-- Flow 1:  
Average throughput: 2.62 Mbit/s  
95th percentile per-packet one-way delay: 350.048 ms  
Loss rate: 22.56%  
-- Flow 2:  
Average throughput: 1.54 Mbit/s  
95th percentile per-packet one-way delay: 351.386 ms  
Loss rate: 26.39%  
-- Flow 3:  
Average throughput: 1.89 Mbit/s  
95th percentile per-packet one-way delay: 352.030 ms  
Loss rate: 28.73%



Run 2: Report of FillP — Data Link

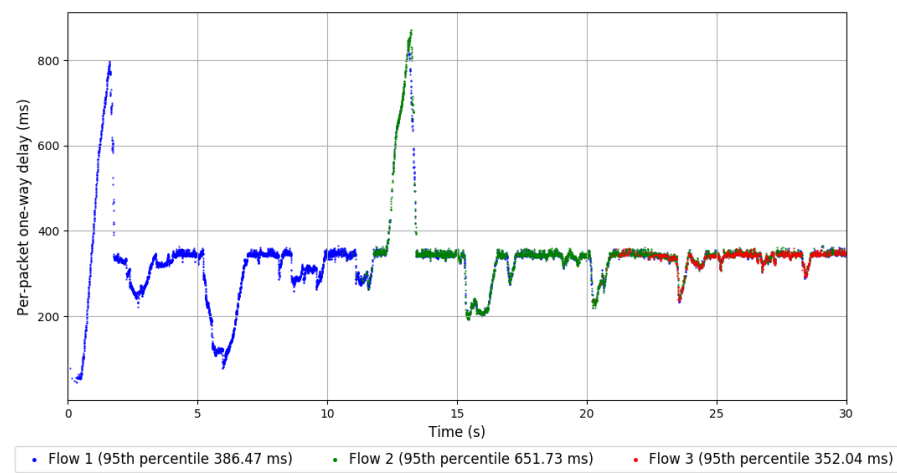
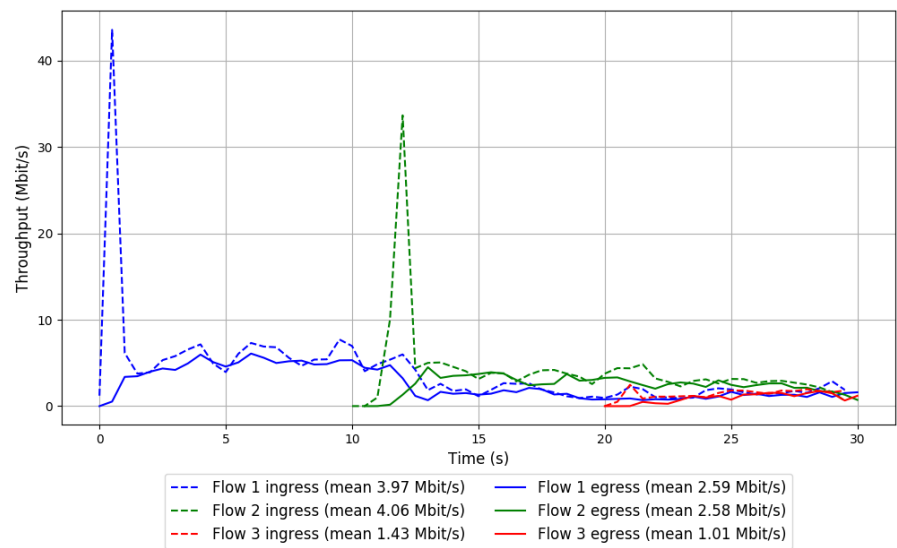


Run 3: Statistics of FillP

Start at: 2018-08-01 23:41:18  
End at: 2018-08-01 23:41:48  
Local clock offset: -0.32 ms  
Remote clock offset: -7.968 ms

# Below is generated by plot.py at 2018-08-01 23:43:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.58 Mbit/s  
95th percentile per-packet one-way delay: 457.405 ms  
Loss rate: 36.00%  
-- Flow 1:  
Average throughput: 2.59 Mbit/s  
95th percentile per-packet one-way delay: 386.466 ms  
Loss rate: 34.95%  
-- Flow 2:  
Average throughput: 2.58 Mbit/s  
95th percentile per-packet one-way delay: 651.732 ms  
Loss rate: 38.41%  
-- Flow 3:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 352.040 ms  
Loss rate: 31.09%

Run 3: Report of FillP — Data Link

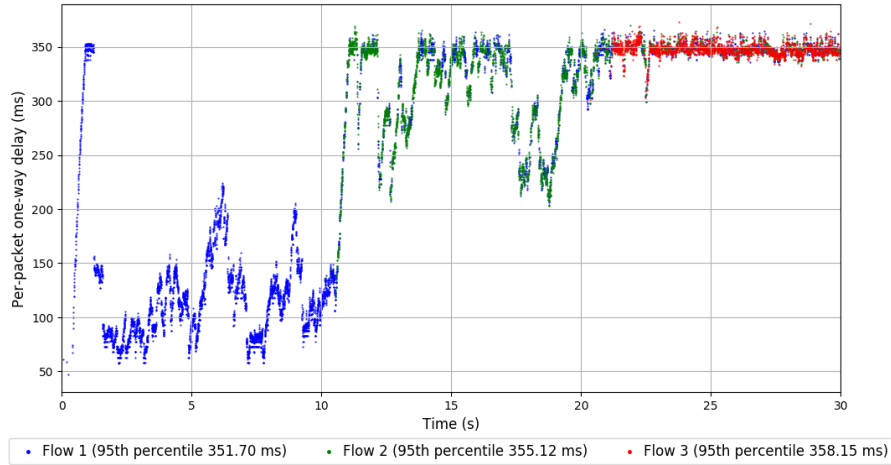
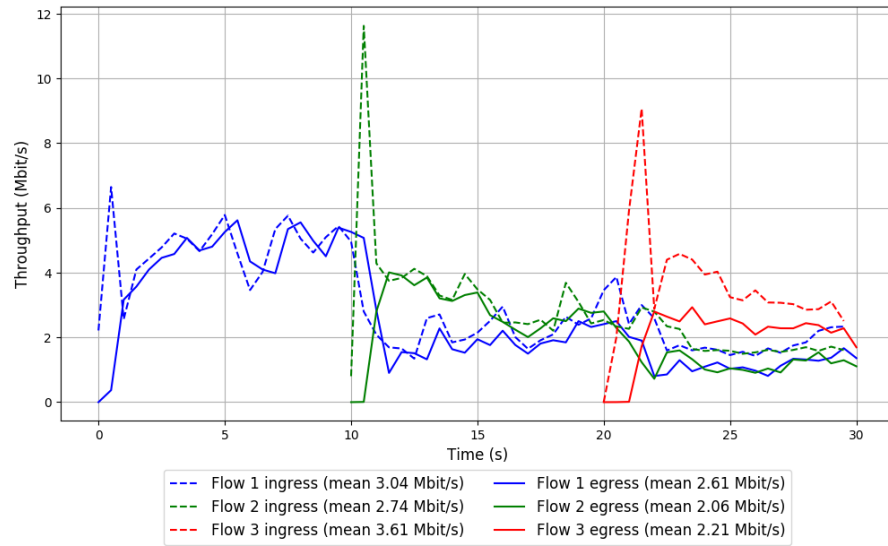


Run 1: Statistics of FillP-Sheep

Start at: 2018-08-01 22:46:43  
End at: 2018-08-01 22:47:13  
Local clock offset: 2.36 ms  
Remote clock offset: -16.307 ms

# Below is generated by plot.py at 2018-08-01 23:43:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.68 Mbit/s  
95th percentile per-packet one-way delay: 354.180 ms  
Loss rate: 22.86%  
-- Flow 1:  
Average throughput: 2.61 Mbit/s  
95th percentile per-packet one-way delay: 351.705 ms  
Loss rate: 14.51%  
-- Flow 2:  
Average throughput: 2.06 Mbit/s  
95th percentile per-packet one-way delay: 355.122 ms  
Loss rate: 25.10%  
-- Flow 3:  
Average throughput: 2.21 Mbit/s  
95th percentile per-packet one-way delay: 358.154 ms  
Loss rate: 40.71%

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

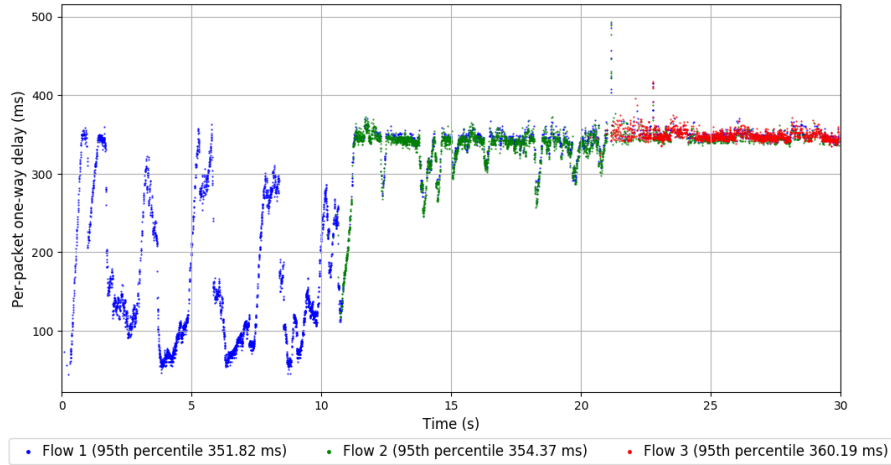
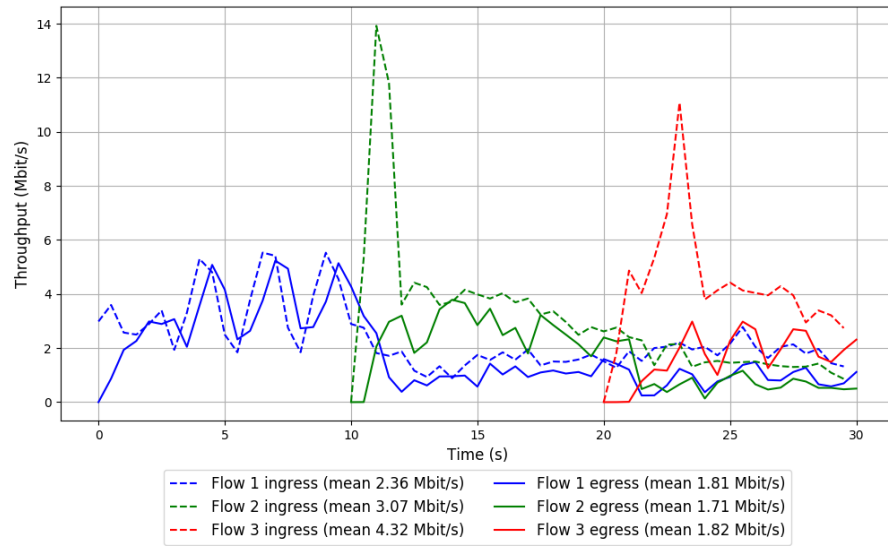


Run 2: Statistics of FillP-Sheep

Start at: 2018-08-01 23:05:48  
End at: 2018-08-01 23:06:18  
Local clock offset: 1.473 ms  
Remote clock offset: -16.872 ms

# Below is generated by plot.py at 2018-08-01 23:43:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.52 Mbit/s  
95th percentile per-packet one-way delay: 355.402 ms  
Loss rate: 39.87%  
-- Flow 1:  
Average throughput: 1.81 Mbit/s  
95th percentile per-packet one-way delay: 351.819 ms  
Loss rate: 23.68%  
-- Flow 2:  
Average throughput: 1.71 Mbit/s  
95th percentile per-packet one-way delay: 354.368 ms  
Loss rate: 44.96%  
-- Flow 3:  
Average throughput: 1.82 Mbit/s  
95th percentile per-packet one-way delay: 360.193 ms  
Loss rate: 59.33%

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



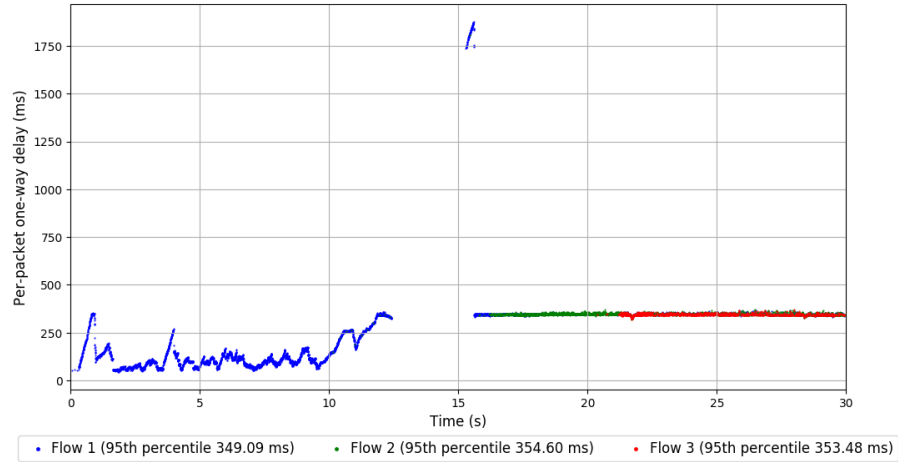
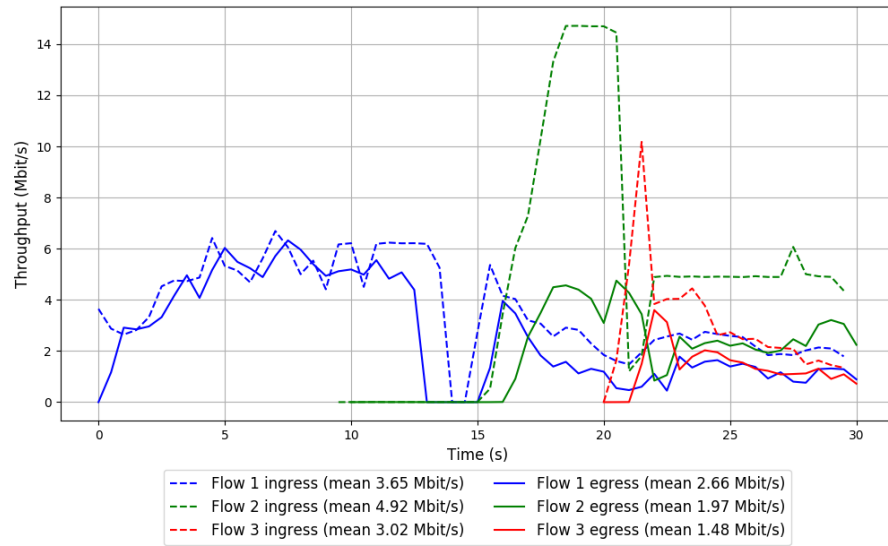
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-01 23:24:39  
End at: 2018-08-01 23:25:09  
Local clock offset: 0.733 ms  
Remote clock offset: -7.406 ms

# Below is generated by plot.py at 2018-08-01 23:43:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.43 Mbit/s  
95th percentile per-packet one-way delay: 353.223 ms  
Loss rate: 44.22%  
-- Flow 1:  
Average throughput: 2.66 Mbit/s  
95th percentile per-packet one-way delay: 349.088 ms  
Loss rate: 27.47%  
-- Flow 2:  
Average throughput: 1.97 Mbit/s  
95th percentile per-packet one-way delay: 354.597 ms  
Loss rate: 60.28%  
-- Flow 3:  
Average throughput: 1.48 Mbit/s  
95th percentile per-packet one-way delay: 353.477 ms  
Loss rate: 52.71%



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

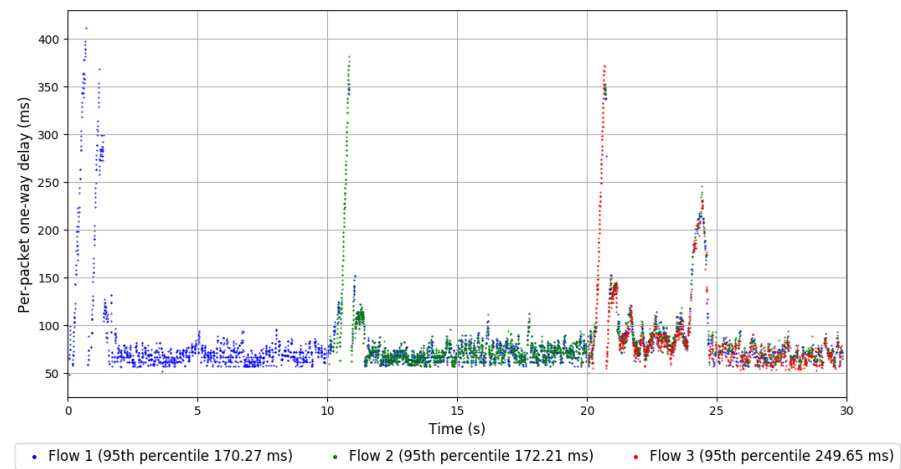
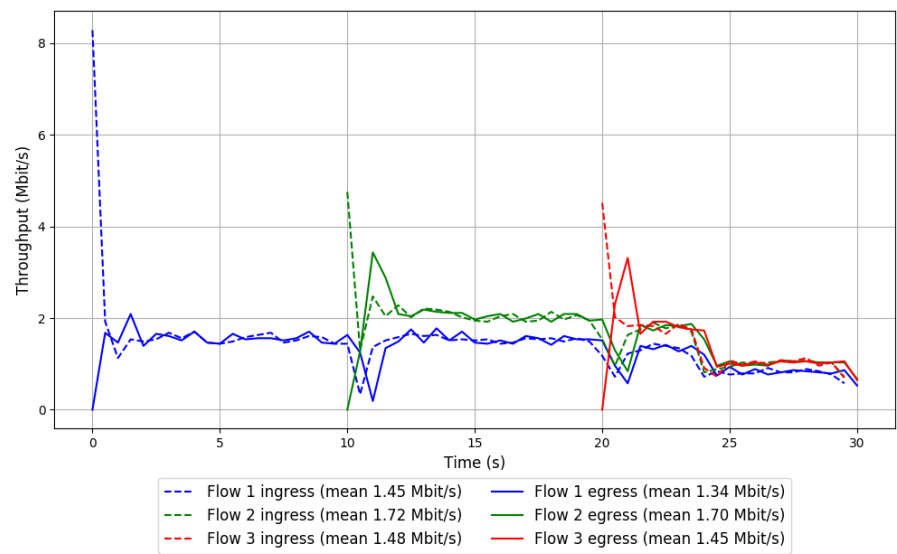


```
Run 1: Statistics of Indigo

Start at: 2018-08-01 22:47:50
End at: 2018-08-01 22:48:20
Local clock offset: 0.623 ms
Remote clock offset: -13.872 ms

# Below is generated by plot.py at 2018-08-01 23:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 194.006 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 170.267 ms
Loss rate: 7.48%
-- Flow 2:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 172.205 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 249.654 ms
Loss rate: 2.73%
```

Run 1: Report of Indigo — Data Link

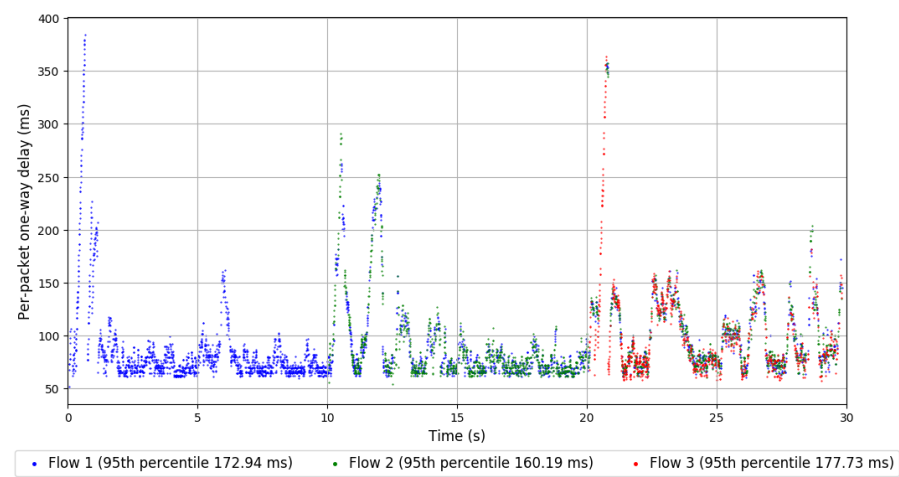
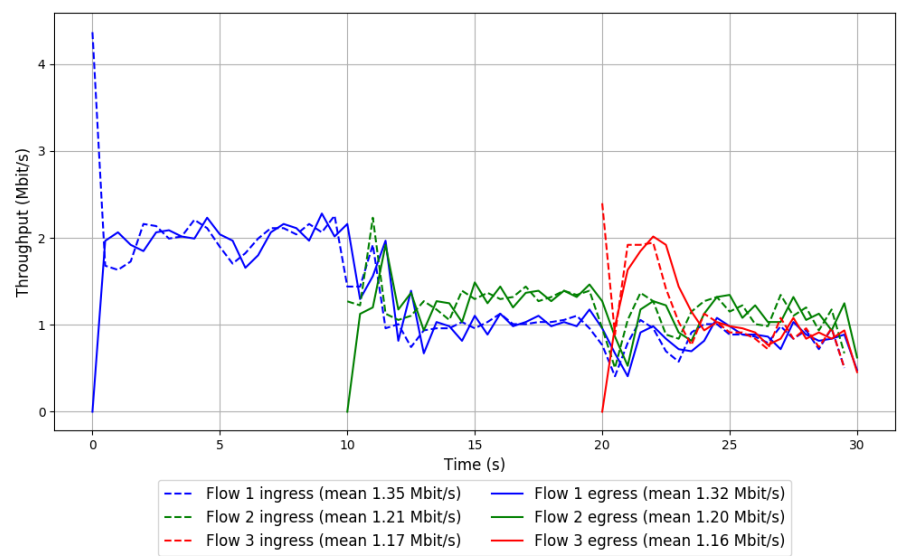


Run 2: Statistics of Indigo

Start at: 2018-08-01 23:06:55  
End at: 2018-08-01 23:07:25  
Local clock offset: 1.929 ms  
Remote clock offset: -17.335 ms

# Below is generated by plot.py at 2018-08-01 23:43:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.50 Mbit/s  
95th percentile per-packet one-way delay: 167.630 ms  
Loss rate: 1.68%  
-- Flow 1:  
Average throughput: 1.32 Mbit/s  
95th percentile per-packet one-way delay: 172.941 ms  
Loss rate: 2.15%  
-- Flow 2:  
Average throughput: 1.20 Mbit/s  
95th percentile per-packet one-way delay: 160.195 ms  
Loss rate: 0.80%  
-- Flow 3:  
Average throughput: 1.16 Mbit/s  
95th percentile per-packet one-way delay: 177.731 ms  
Loss rate: 1.88%

Run 2: Report of Indigo — Data Link

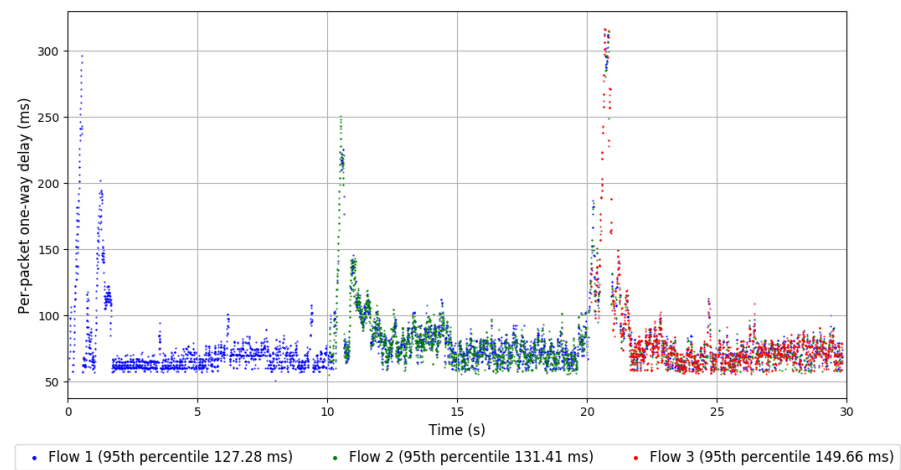
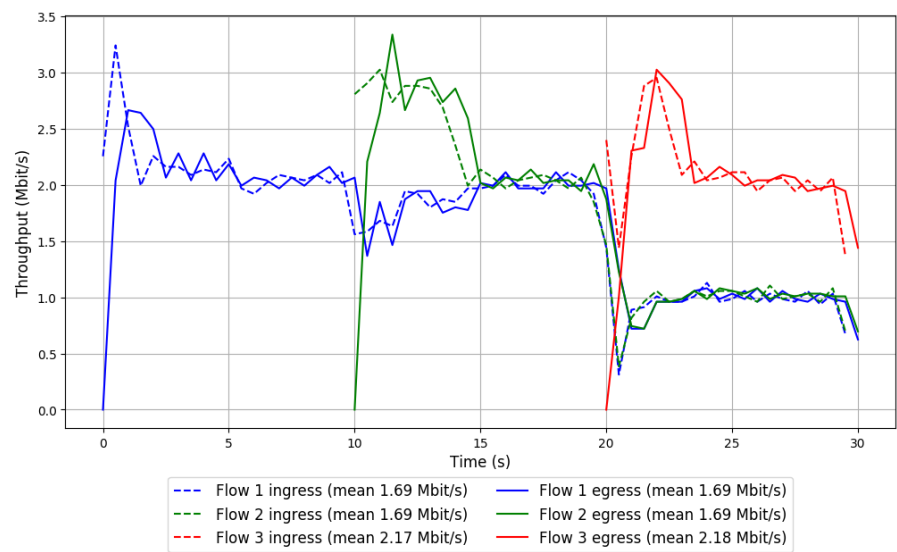


Run 3: Statistics of Indigo

Start at: 2018-08-01 23:25:46  
End at: 2018-08-01 23:26:16  
Local clock offset: -0.256 ms  
Remote clock offset: -6.757 ms

# Below is generated by plot.py at 2018-08-01 23:43:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.52 Mbit/s  
95th percentile per-packet one-way delay: 134.243 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 1.69 Mbit/s  
95th percentile per-packet one-way delay: 127.277 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 1.69 Mbit/s  
95th percentile per-packet one-way delay: 131.406 ms  
Loss rate: 0.18%  
-- Flow 3:  
Average throughput: 2.18 Mbit/s  
95th percentile per-packet one-way delay: 149.656 ms  
Loss rate: 0.68%

Run 3: Report of Indigo — Data Link



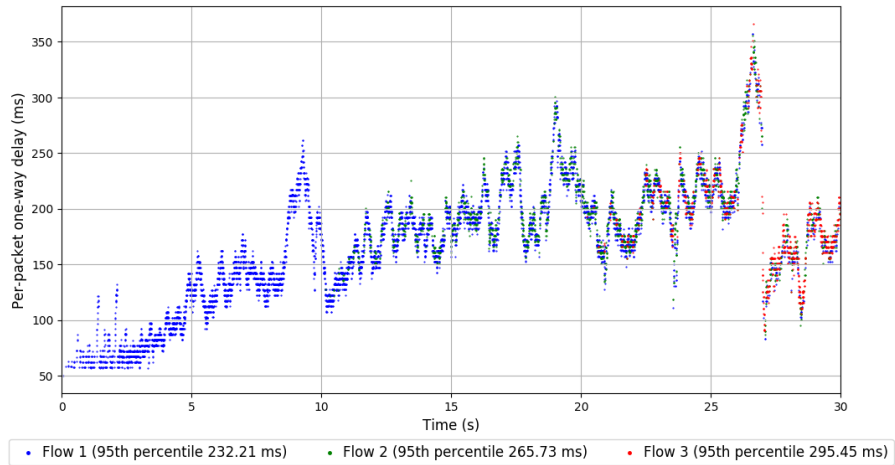
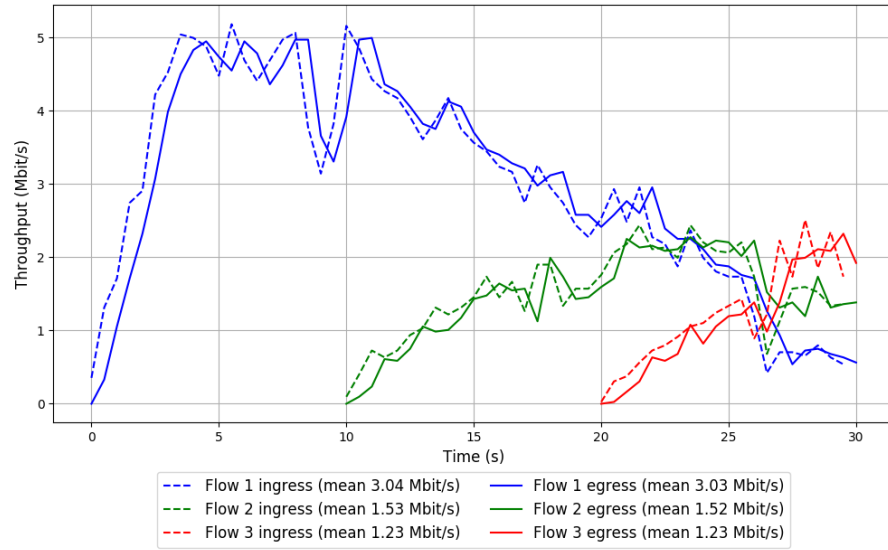
```
Run 1: Statistics of LEDBAT

Start at: 2018-08-01 22:48:56
End at: 2018-08-01 22:49:26
Local clock offset: 0.598 ms
Remote clock offset: -15.61 ms

# Below is generated by plot.py at 2018-08-01 23:43:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 242.043 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 232.208 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 265.725 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 295.449 ms
Loss rate: 1.92%
```



# Run 1: Report of LEDBAT — Data Link

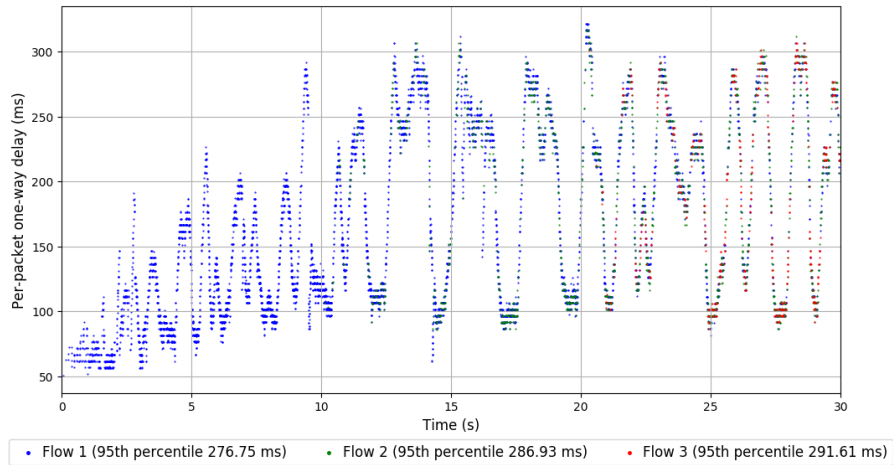
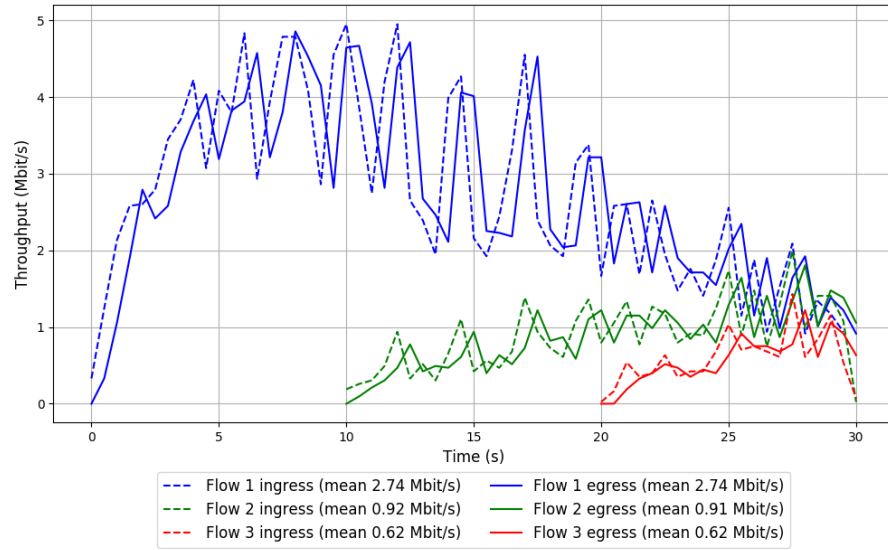


Run 2: Statistics of LEDBAT

Start at: 2018-08-01 23:08:00  
End at: 2018-08-01 23:08:30  
Local clock offset: 1.645 ms  
Remote clock offset: -15.963 ms

# Below is generated by plot.py at 2018-08-01 23:43:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.54 Mbit/s  
95th percentile per-packet one-way delay: 281.614 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 2.74 Mbit/s  
95th percentile per-packet one-way delay: 276.747 ms  
Loss rate: 0.29%  
-- Flow 2:  
Average throughput: 0.91 Mbit/s  
95th percentile per-packet one-way delay: 286.930 ms  
Loss rate: 1.54%  
-- Flow 3:  
Average throughput: 0.62 Mbit/s  
95th percentile per-packet one-way delay: 291.606 ms  
Loss rate: 3.02%

## Run 2: Report of LEDBAT — Data Link

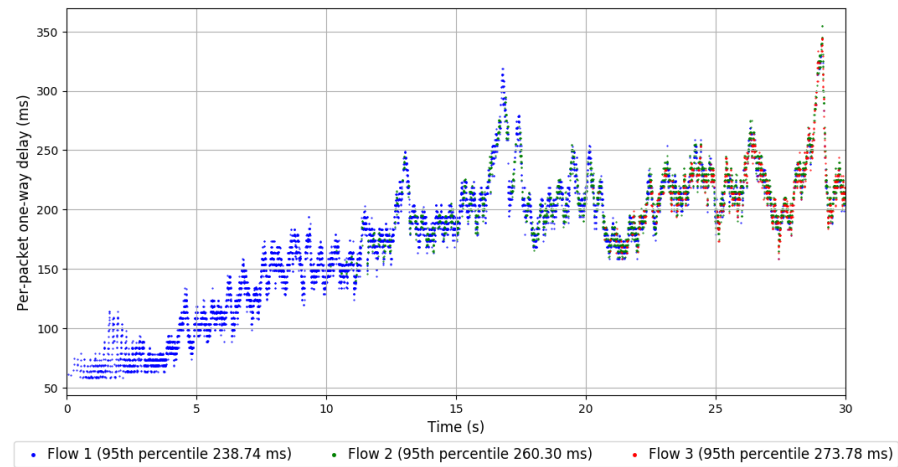
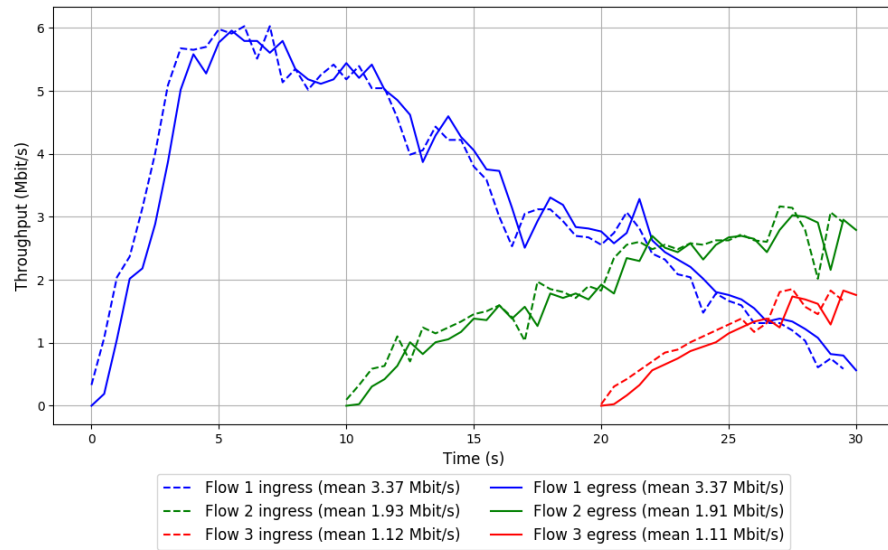


Run 3: Statistics of LEDBAT

Start at: 2018-08-01 23:26:52  
End at: 2018-08-01 23:27:22  
Local clock offset: 1.534 ms  
Remote clock offset: -7.788 ms

# Below is generated by plot.py at 2018-08-01 23:43:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 5.00 Mbit/s  
95th percentile per-packet one-way delay: 250.069 ms  
Loss rate: 0.84%  
-- Flow 1:  
Average throughput: 3.37 Mbit/s  
95th percentile per-packet one-way delay: 238.735 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 1.91 Mbit/s  
95th percentile per-packet one-way delay: 260.297 ms  
Loss rate: 1.86%  
-- Flow 3:  
Average throughput: 1.11 Mbit/s  
95th percentile per-packet one-way delay: 273.776 ms  
Loss rate: 3.66%

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

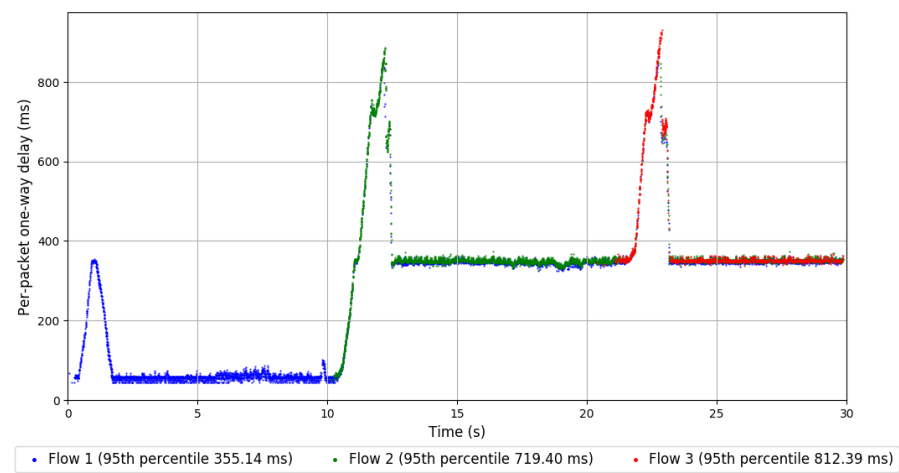
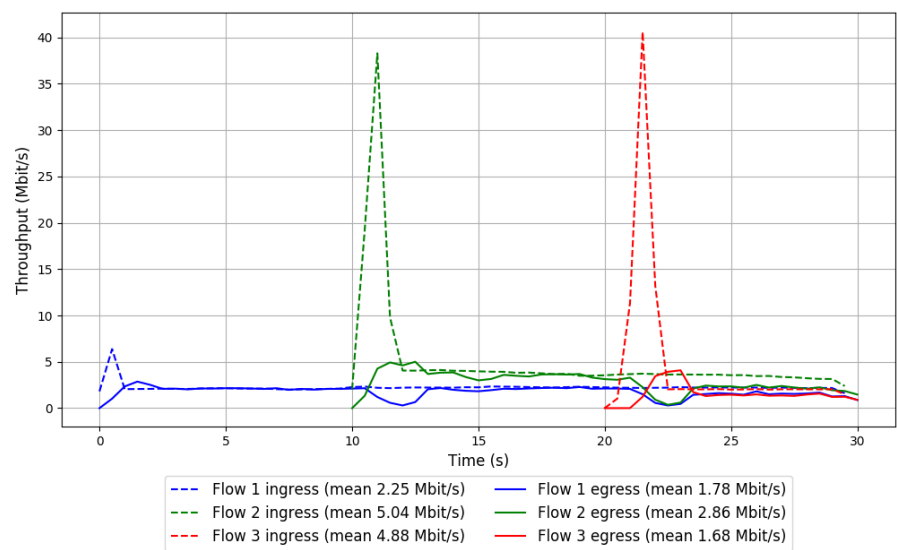


Run 1: Statistics of PCC-Allegro

Start at: 2018-08-01 22:52:14  
End at: 2018-08-01 22:52:44  
Local clock offset: 1.779 ms  
Remote clock offset: -14.354 ms

# Below is generated by plot.py at 2018-08-01 23:43:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.21 Mbit/s  
95th percentile per-packet one-way delay: 691.487 ms  
Loss rate: 41.70%  
-- Flow 1:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 355.140 ms  
Loss rate: 21.19%  
-- Flow 2:  
Average throughput: 2.86 Mbit/s  
95th percentile per-packet one-way delay: 719.400 ms  
Loss rate: 43.39%  
-- Flow 3:  
Average throughput: 1.68 Mbit/s  
95th percentile per-packet one-way delay: 812.393 ms  
Loss rate: 66.85%

Run 1: Report of PCC-Allegro — Data Link



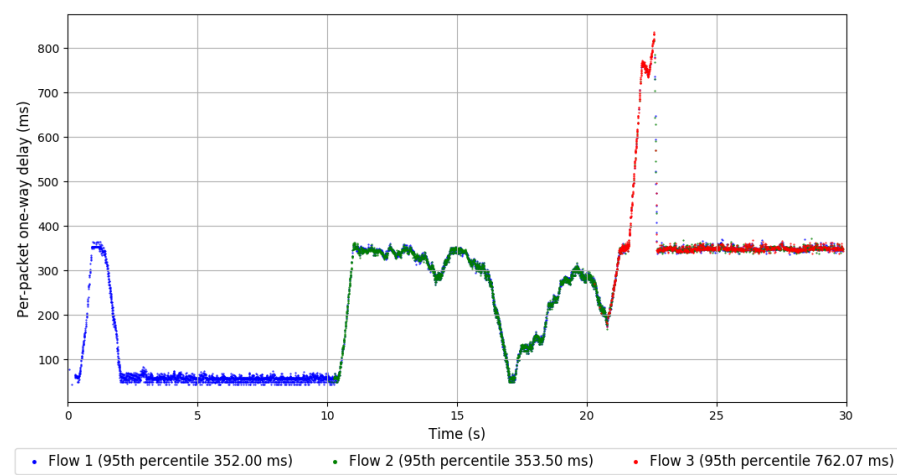
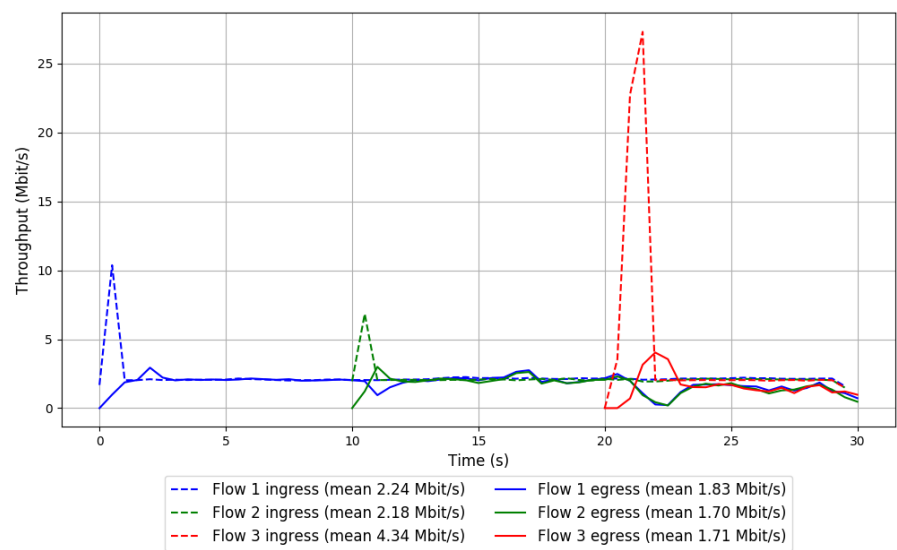
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-01 23:11:20  
End at: 2018-08-01 23:11:50  
Local clock offset: -0.67 ms  
Remote clock offset: -14.828 ms

# Below is generated by plot.py at 2018-08-01 23:43:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.51 Mbit/s  
95th percentile per-packet one-way delay: 357.971 ms  
Loss rate: 31.74%  
-- Flow 1:  
Average throughput: 1.83 Mbit/s  
95th percentile per-packet one-way delay: 351.996 ms  
Loss rate: 18.69%  
-- Flow 2:  
Average throughput: 1.70 Mbit/s  
95th percentile per-packet one-way delay: 353.498 ms  
Loss rate: 22.31%  
-- Flow 3:  
Average throughput: 1.71 Mbit/s  
95th percentile per-packet one-way delay: 762.072 ms  
Loss rate: 61.79%



Run 2: Report of PCC-Allegro — Data Link

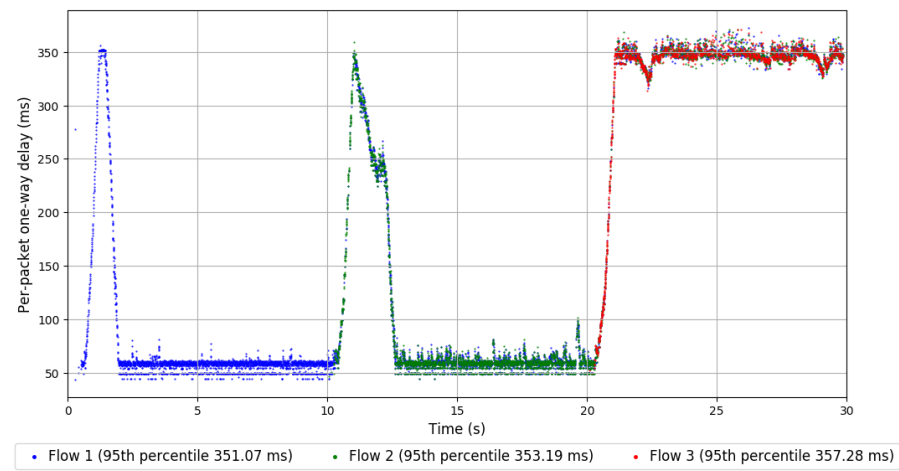
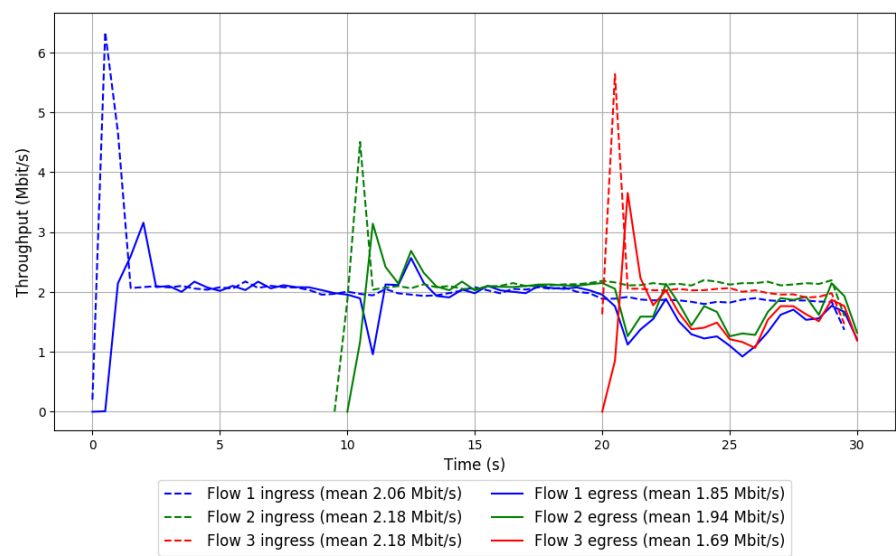


Run 3: Statistics of PCC-Allegro

Start at: 2018-08-01 23:30:11  
End at: 2018-08-01 23:30:41  
Local clock offset: -2.264 ms  
Remote clock offset: -6.856 ms

# Below is generated by plot.py at 2018-08-01 23:43:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.71 Mbit/s  
95th percentile per-packet one-way delay: 353.026 ms  
Loss rate: 13.14%  
-- Flow 1:  
Average throughput: 1.85 Mbit/s  
95th percentile per-packet one-way delay: 351.069 ms  
Loss rate: 11.07%  
-- Flow 2:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 353.192 ms  
Loss rate: 11.13%  
-- Flow 3:  
Average throughput: 1.69 Mbit/s  
95th percentile per-packet one-way delay: 357.284 ms  
Loss rate: 23.16%

Run 3: Report of PCC-Allegro — Data Link

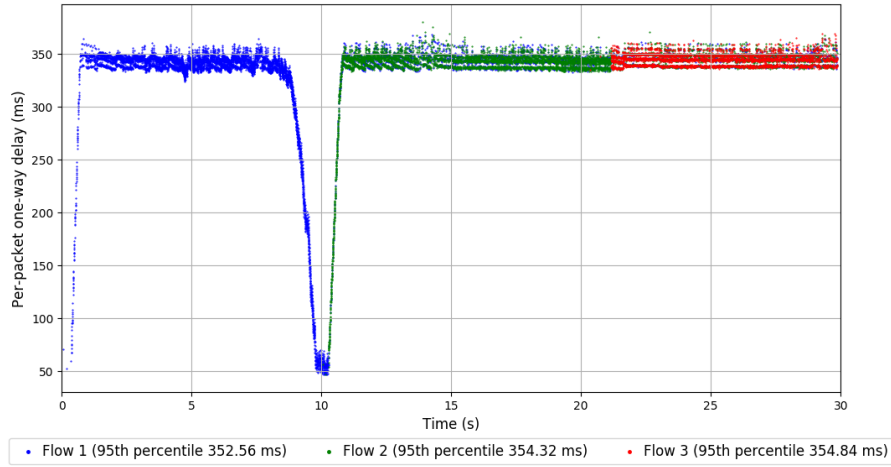
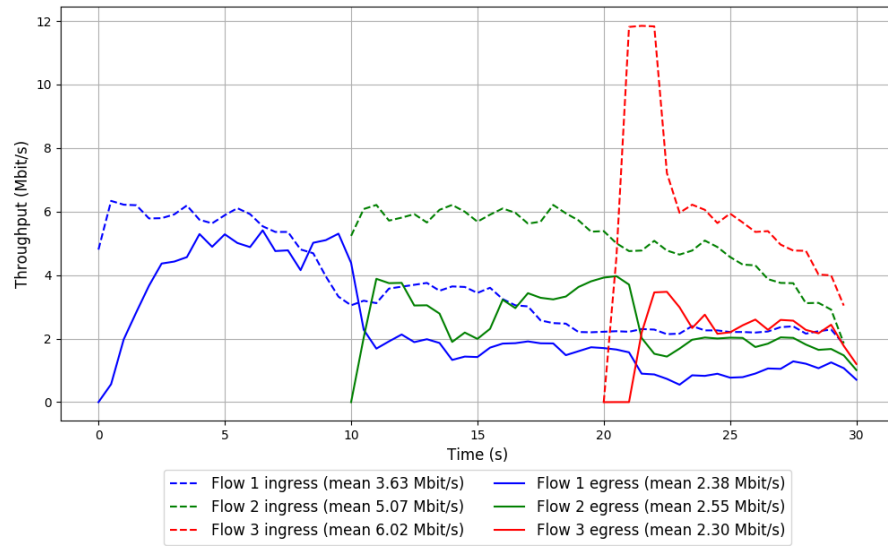


```
Run 1: Statistics of PCC-Expr

Start at: 2018-08-01 22:55:37
End at: 2018-08-01 22:56:07
Local clock offset: -0.514 ms
Remote clock offset: -14.794 ms

# Below is generated by plot.py at 2018-08-01 23:43:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 353.860 ms
Loss rate: 46.63%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 352.558 ms
Loss rate: 34.55%
-- Flow 2:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 354.320 ms
Loss rate: 49.88%
-- Flow 3:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 354.844 ms
Loss rate: 63.16%
```

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

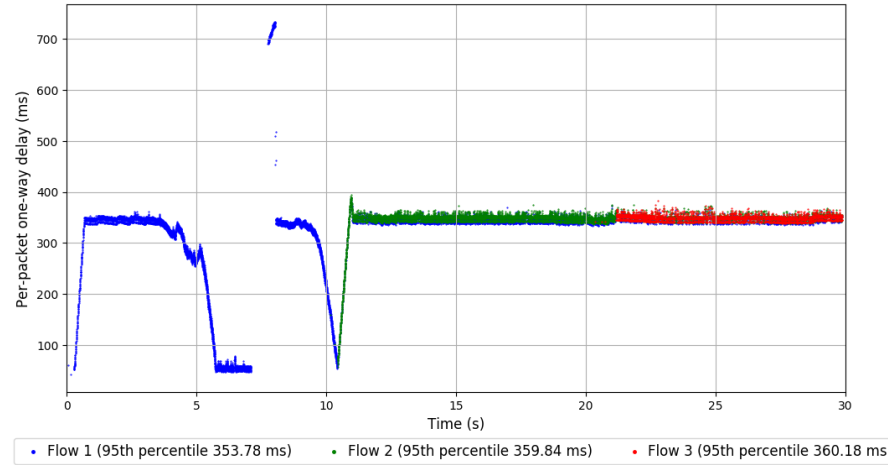
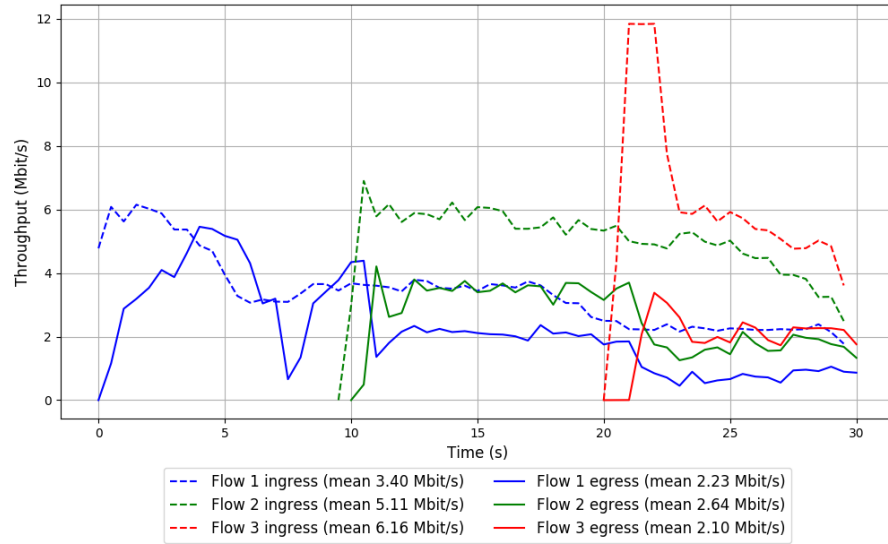


Run 2: Statistics of PCC-Expr

Start at: 2018-08-01 23:14:43  
End at: 2018-08-01 23:15:13  
Local clock offset: 1.569 ms  
Remote clock offset: -9.959 ms

# Below is generated by plot.py at 2018-08-01 23:43:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.64 Mbit/s  
95th percentile per-packet one-way delay: 357.967 ms  
Loss rate: 47.55%  
-- Flow 1:  
Average throughput: 2.23 Mbit/s  
95th percentile per-packet one-way delay: 353.783 ms  
Loss rate: 34.65%  
-- Flow 2:  
Average throughput: 2.64 Mbit/s  
95th percentile per-packet one-way delay: 359.838 ms  
Loss rate: 48.72%  
-- Flow 3:  
Average throughput: 2.10 Mbit/s  
95th percentile per-packet one-way delay: 360.179 ms  
Loss rate: 67.15%

## Run 2: Report of PCC-Expr — Data Link



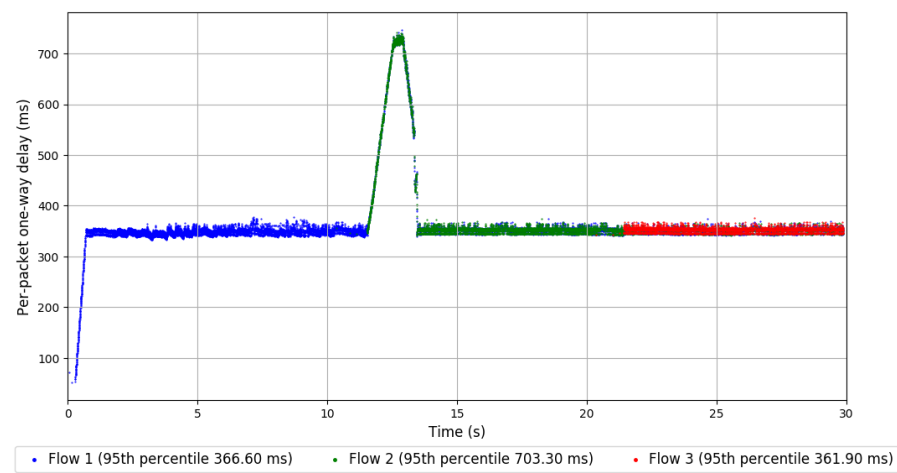
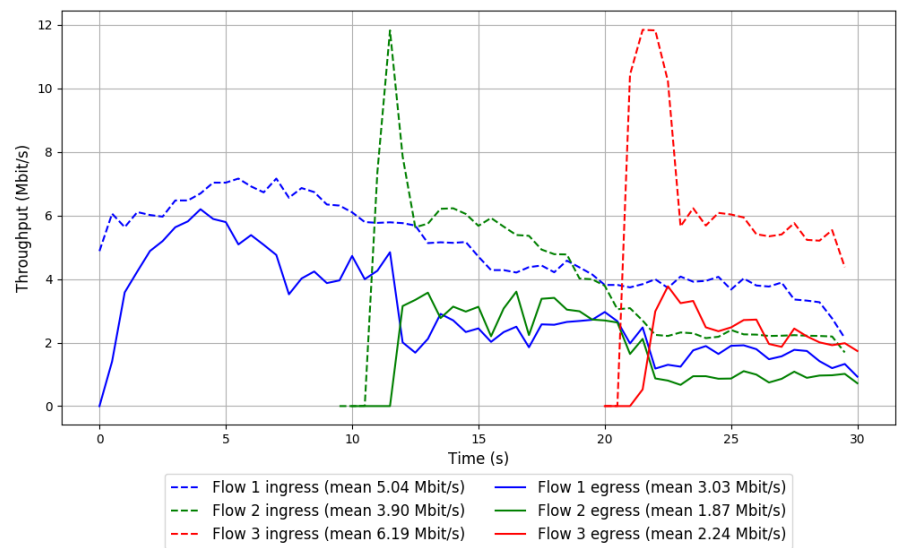
Run 3: Statistics of PCC-Expr

Start at: 2018-08-01 23:33:28  
End at: 2018-08-01 23:33:58  
Local clock offset: 1.356 ms  
Remote clock offset: -6.566 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.97 Mbit/s  
95th percentile per-packet one-way delay: 536.517 ms  
Loss rate: 48.78%  
-- Flow 1:  
Average throughput: 3.03 Mbit/s  
95th percentile per-packet one-way delay: 366.600 ms  
Loss rate: 40.03%  
-- Flow 2:  
Average throughput: 1.87 Mbit/s  
95th percentile per-packet one-way delay: 703.302 ms  
Loss rate: 52.91%  
-- Flow 3:  
Average throughput: 2.24 Mbit/s  
95th percentile per-packet one-way delay: 361.898 ms  
Loss rate: 65.07%



Run 3: Report of PCC-Expr — Data Link

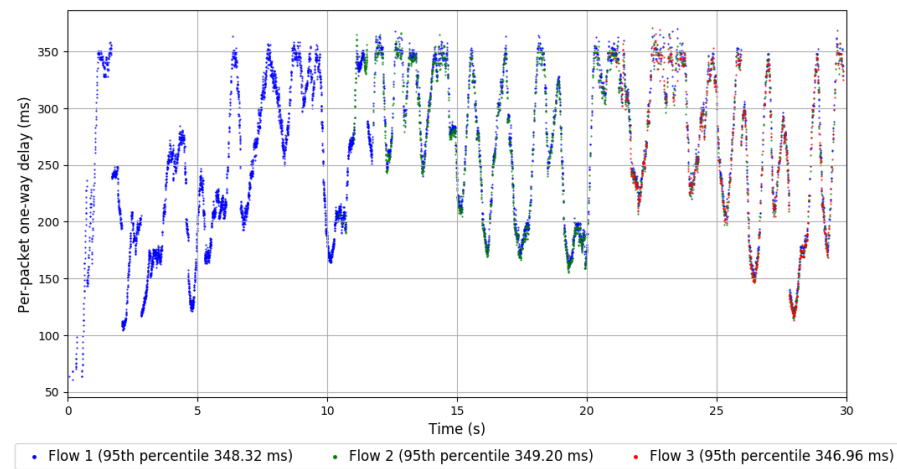
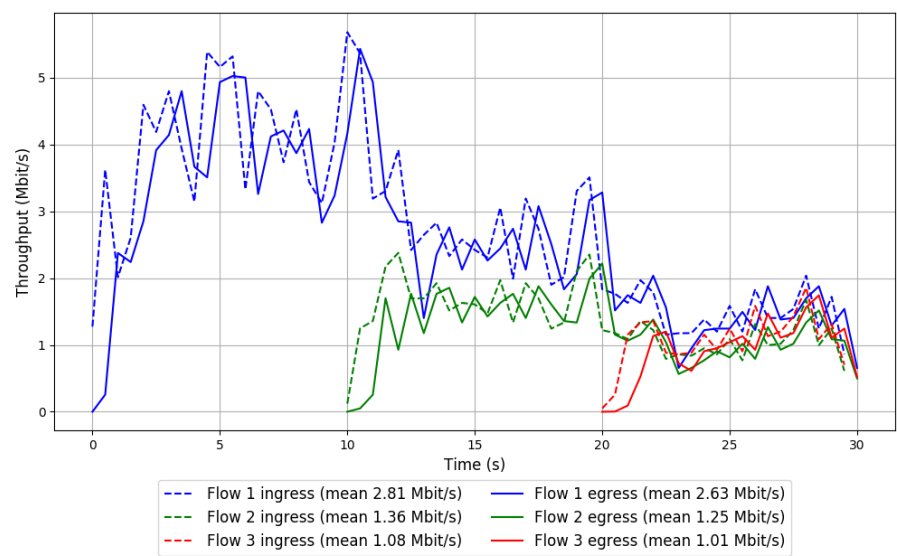


Run 1: Statistics of QUIC Cubic

Start at: 2018-08-01 22:58:59  
End at: 2018-08-01 22:59:29  
Local clock offset: 1.3 ms  
Remote clock offset: -17.773 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.78 Mbit/s  
95th percentile per-packet one-way delay: 348.453 ms  
Loss rate: 7.51%  
-- Flow 1:  
Average throughput: 2.63 Mbit/s  
95th percentile per-packet one-way delay: 348.320 ms  
Loss rate: 6.70%  
-- Flow 2:  
Average throughput: 1.25 Mbit/s  
95th percentile per-packet one-way delay: 349.205 ms  
Loss rate: 9.04%  
-- Flow 3:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 346.961 ms  
Loss rate: 9.99%

Run 1: Report of QUIC Cubic — Data Link

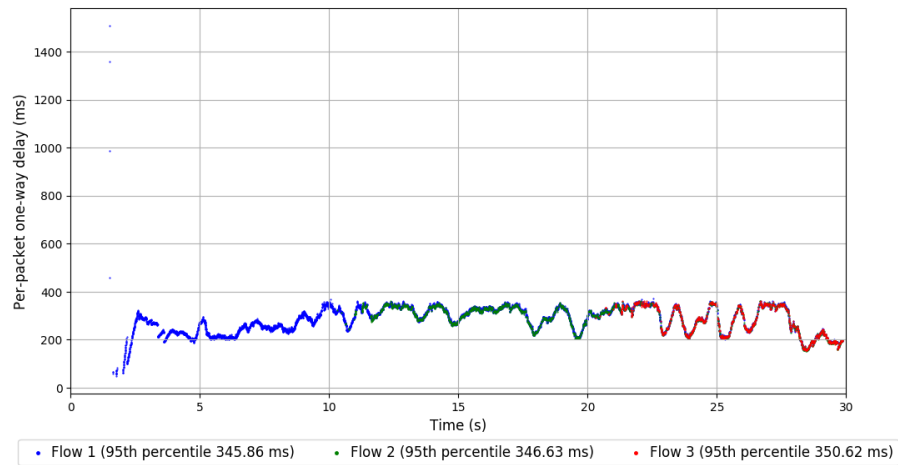
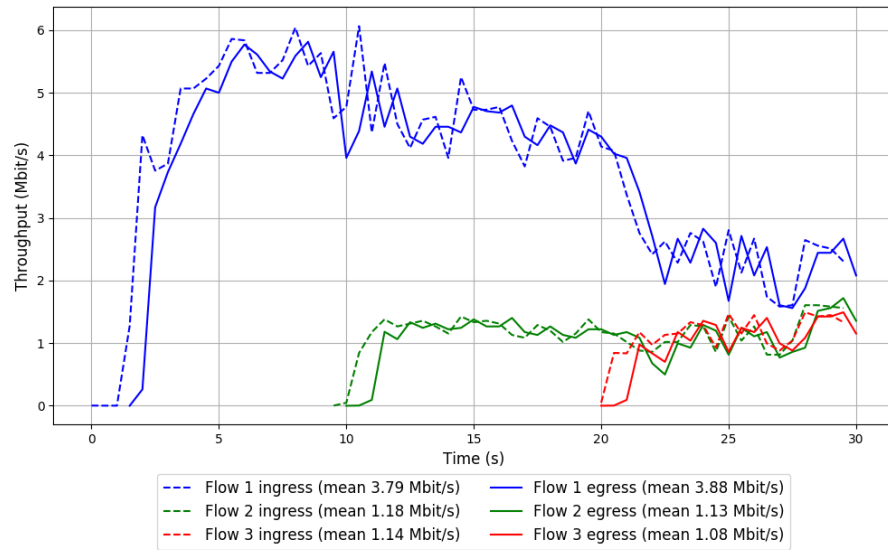


Run 2: Statistics of QUIC Cubic

Start at: 2018-08-01 23:18:03  
End at: 2018-08-01 23:18:33  
Local clock offset: -3.064 ms  
Remote clock offset: -15.315 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 346.144 ms  
Loss rate: 3.79%  
-- Flow 1:  
Average throughput: 3.88 Mbit/s  
95th percentile per-packet one-way delay: 345.863 ms  
Loss rate: 3.04%  
-- Flow 2:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 346.626 ms  
Loss rate: 5.37%  
-- Flow 3:  
Average throughput: 1.08 Mbit/s  
95th percentile per-packet one-way delay: 350.615 ms  
Loss rate: 7.98%

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

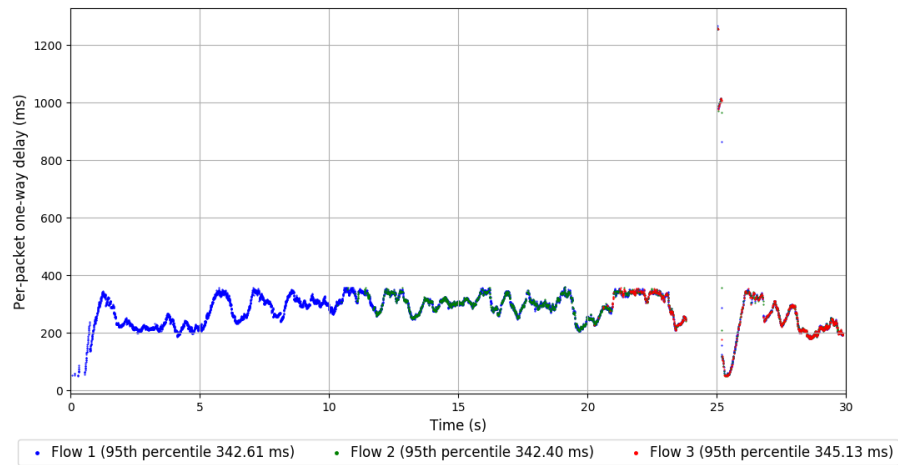
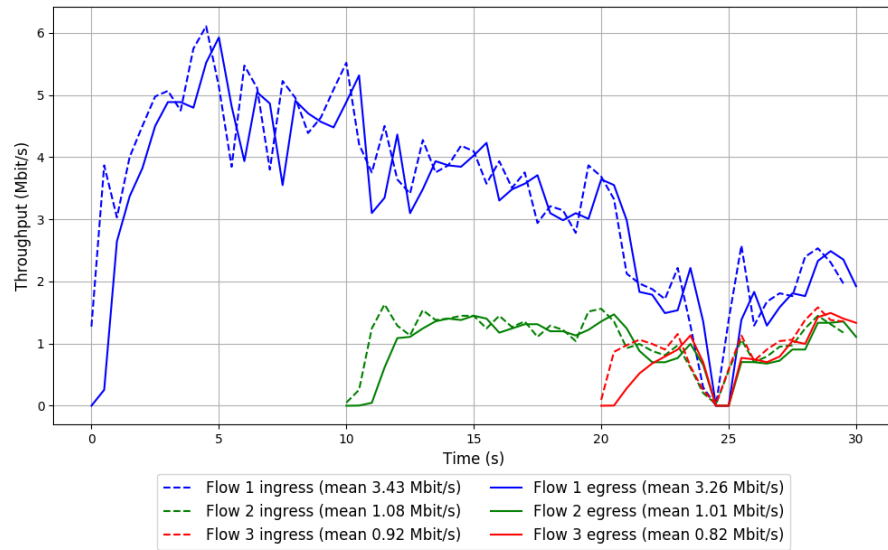


Run 3: Statistics of QUIC Cubic

Start at: 2018-08-01 23:36:48  
End at: 2018-08-01 23:37:18  
Local clock offset: -0.982 ms  
Remote clock offset: -4.653 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.18 Mbit/s  
95th percentile per-packet one-way delay: 342.876 ms  
Loss rate: 6.23%  
-- Flow 1:  
Average throughput: 3.26 Mbit/s  
95th percentile per-packet one-way delay: 342.613 ms  
Loss rate: 5.23%  
-- Flow 2:  
Average throughput: 1.01 Mbit/s  
95th percentile per-packet one-way delay: 342.402 ms  
Loss rate: 8.07%  
-- Flow 3:  
Average throughput: 0.82 Mbit/s  
95th percentile per-packet one-way delay: 345.129 ms  
Loss rate: 13.24%

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



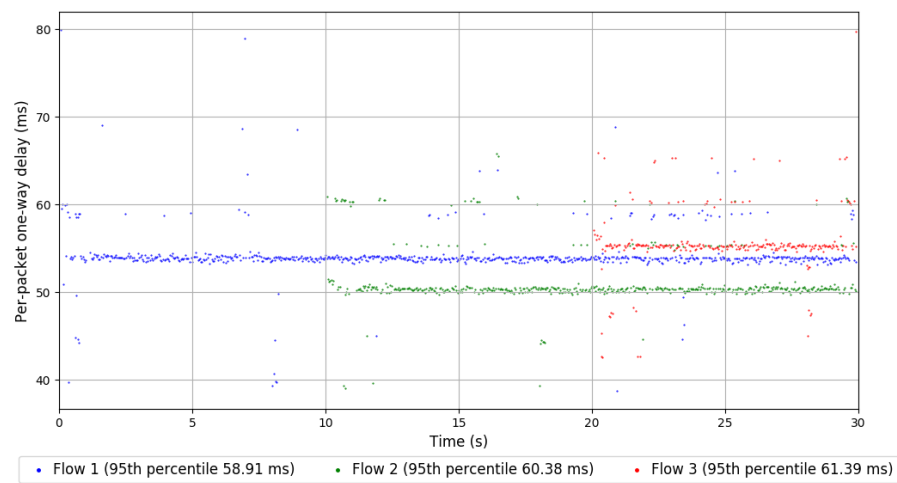
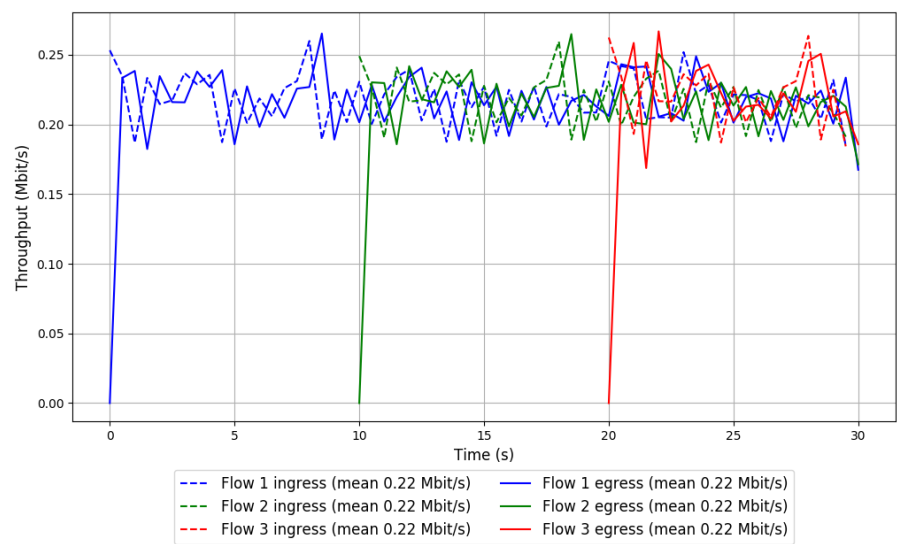
```
Run 1: Statistics of SReAM

Start at: 2018-08-01 22:54:31
End at: 2018-08-01 22:55:01
Local clock offset: 0.69 ms
Remote clock offset: -16.633 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.089 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.908 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.378 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.393 ms
Loss rate: 0.70%
```



Run 1: Report of SReAM — Data Link

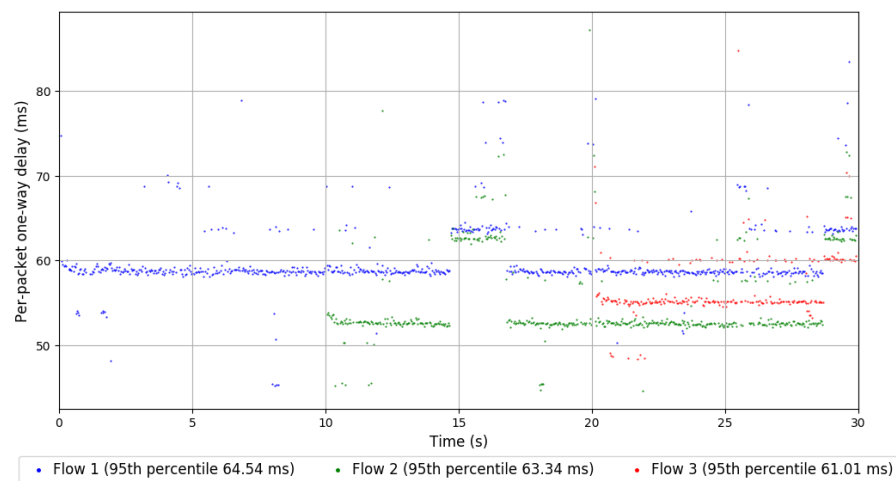
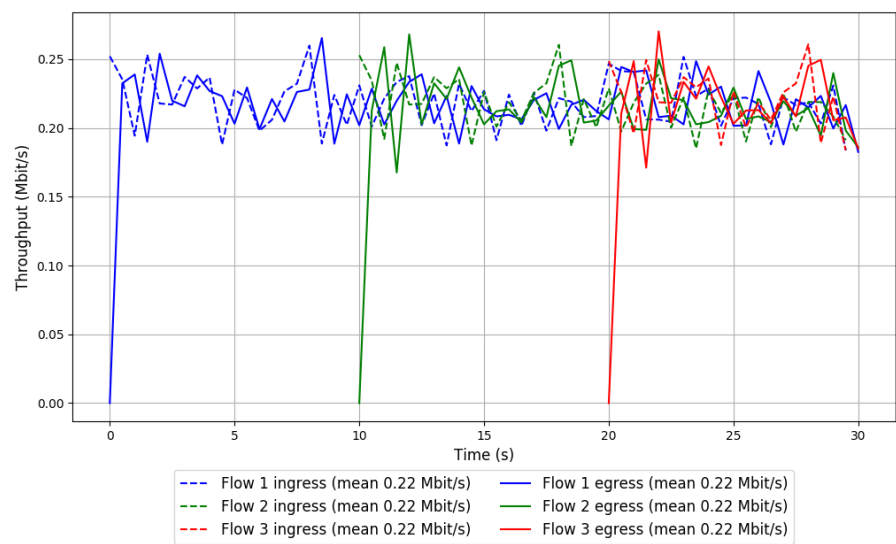


Run 2: Statistics of SReAM

Start at: 2018-08-01 23:13:36  
End at: 2018-08-01 23:14:06  
Local clock offset: 1.228 ms  
Remote clock offset: -14.215 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 64.050 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 64.544 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 63.339 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 61.005 ms  
Loss rate: 0.70%

Run 2: Report of SReAM — Data Link

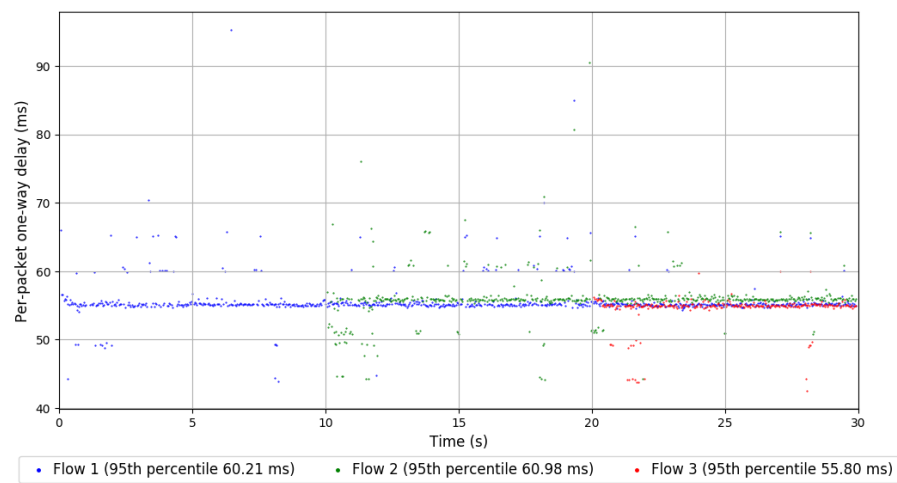
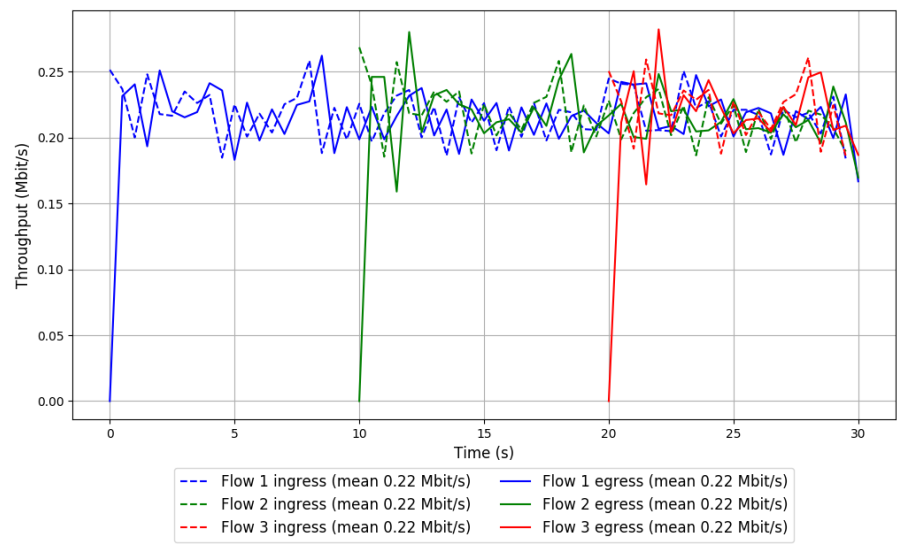


Run 3: Statistics of SReAM

Start at: 2018-08-01 23:32:22  
End at: 2018-08-01 23:32:52  
Local clock offset: -2.206 ms  
Remote clock offset: -7.798 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 60.270 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 60.206 ms  
Loss rate: 0.26%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 60.976 ms  
Loss rate: 0.39%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 55.800 ms  
Loss rate: 0.71%

Run 3: Report of SReAM — Data Link

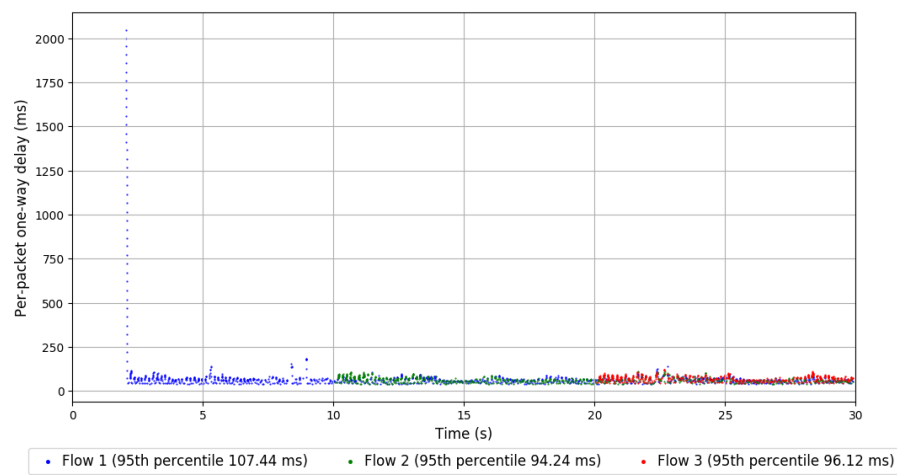
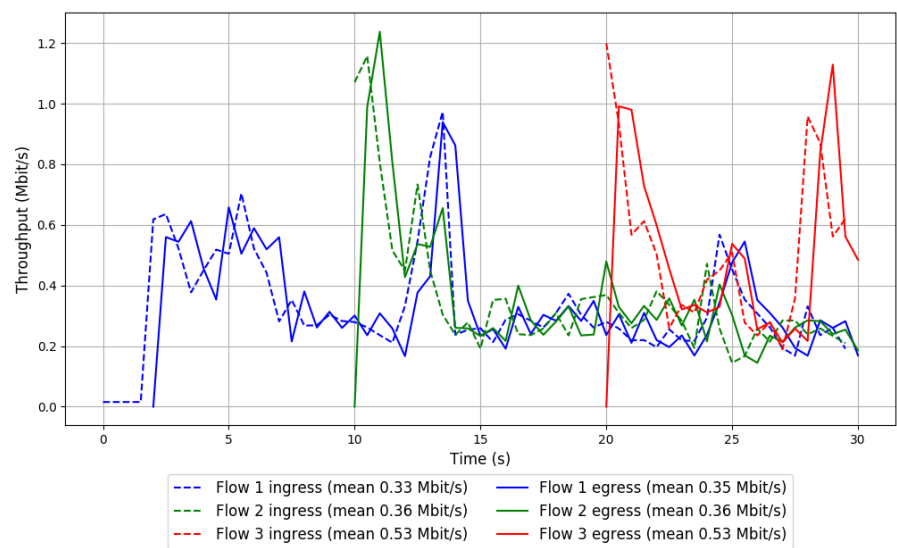


Run 1: Statistics of Sprout

Start at: 2018-08-01 23:04:43  
End at: 2018-08-01 23:05:13  
Local clock offset: 2.111 ms  
Remote clock offset: -17.909 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.79 Mbit/s  
95th percentile per-packet one-way delay: 96.662 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 0.35 Mbit/s  
95th percentile per-packet one-way delay: 107.438 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 0.36 Mbit/s  
95th percentile per-packet one-way delay: 94.236 ms  
Loss rate: 0.33%  
-- Flow 3:  
Average throughput: 0.53 Mbit/s  
95th percentile per-packet one-way delay: 96.124 ms  
Loss rate: 1.31%

Run 1: Report of Sprout — Data Link



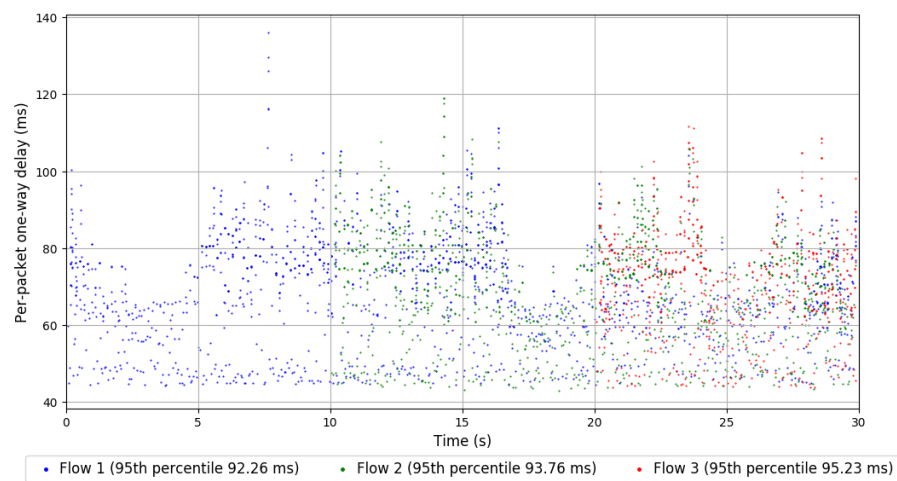
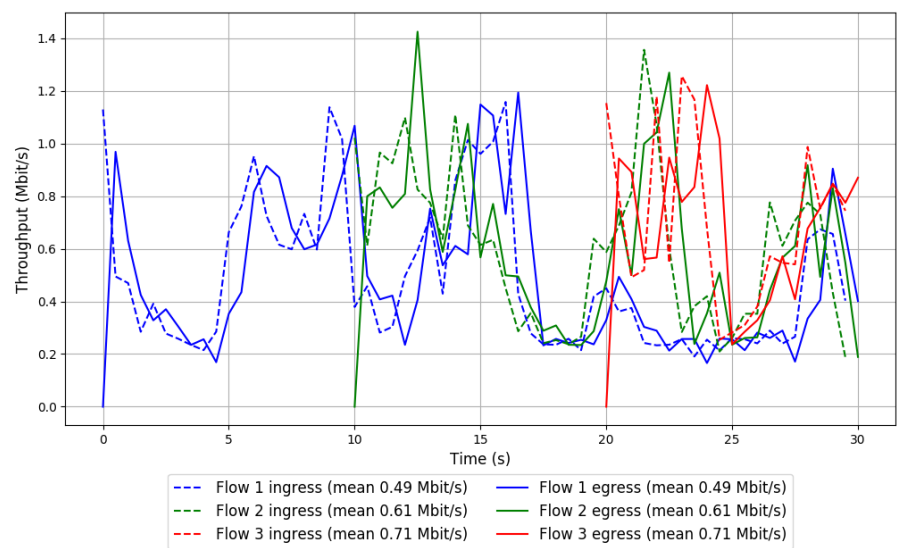
Run 2: Statistics of Sprout

Start at: 2018-08-01 23:23:34  
End at: 2018-08-01 23:24:04  
Local clock offset: 2.687 ms  
Remote clock offset: -8.907 ms

# Below is generated by plot.py at 2018-08-01 23:43:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 93.503 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 0.49 Mbit/s  
95th percentile per-packet one-way delay: 92.261 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 0.61 Mbit/s  
95th percentile per-packet one-way delay: 93.764 ms  
Loss rate: 0.29%  
-- Flow 3:  
Average throughput: 0.71 Mbit/s  
95th percentile per-packet one-way delay: 95.234 ms  
Loss rate: 0.62%



Run 2: Report of Sprout — Data Link

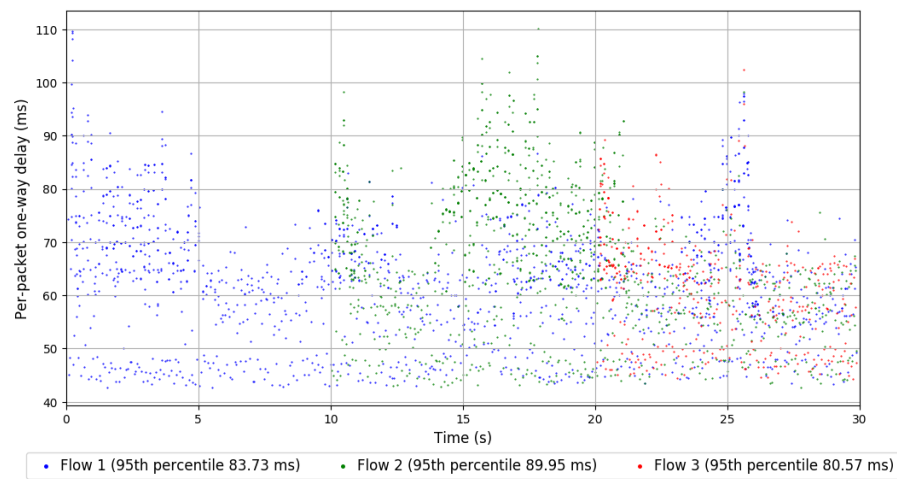
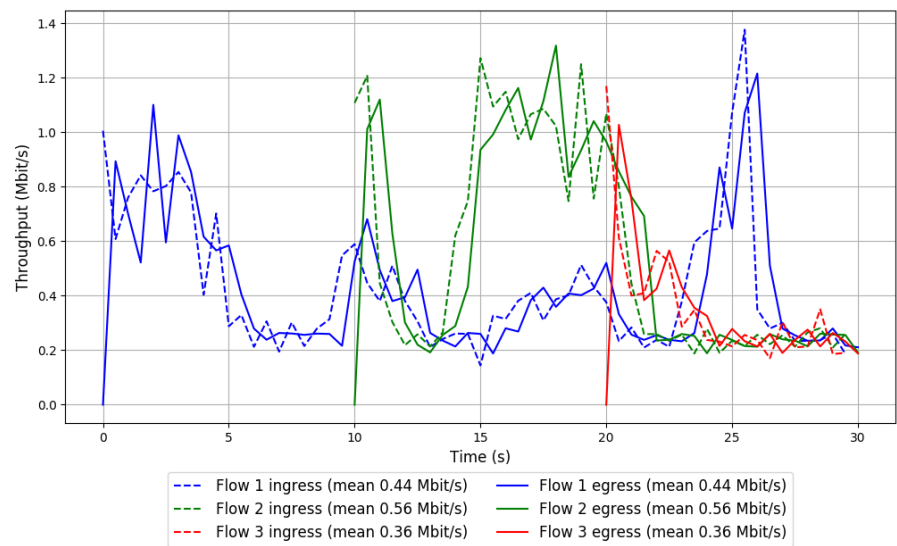


### Run 3: Statistics of Sprout

Start at: 2018-08-01 23:42:24  
End at: 2018-08-01 23:42:54  
Local clock offset: -0.019 ms  
Remote clock offset: -7.716 ms

```
# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 85.671 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 83.730 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 89.948 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 80.571 ms
Loss rate: 0.63%
```

Run 3: Report of Sprout — Data Link

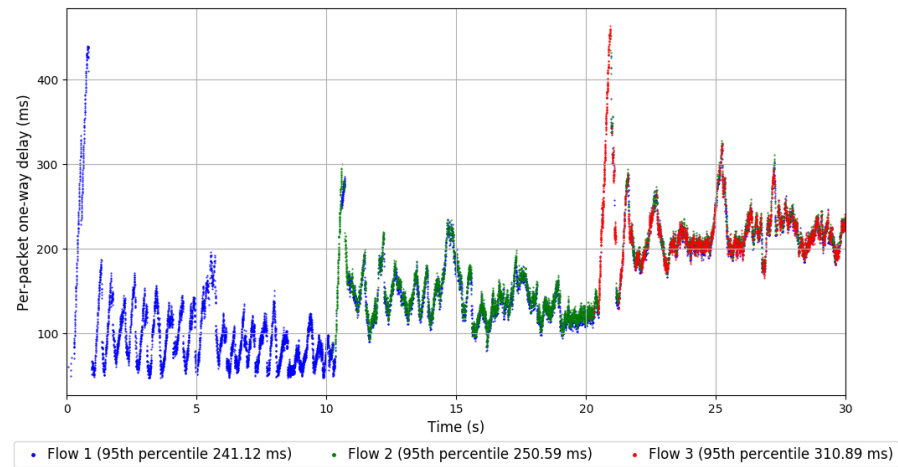
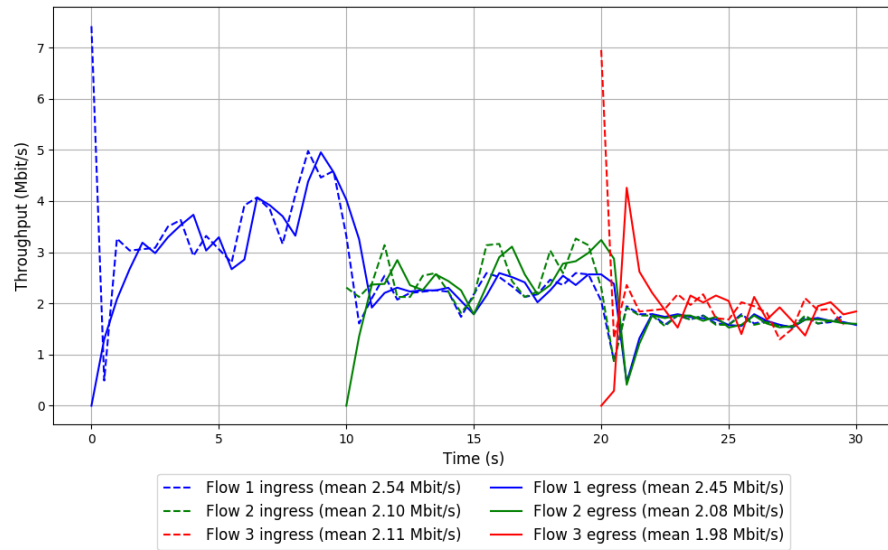


Run 1: Statistics of TaoVA-100x

Start at: 2018-08-01 22:51:08  
End at: 2018-08-01 22:51:38  
Local clock offset: 1.448 ms  
Remote clock offset: -13.988 ms

# Below is generated by plot.py at 2018-08-01 23:43:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.48 Mbit/s  
95th percentile per-packet one-way delay: 256.796 ms  
Loss rate: 3.60%  
-- Flow 1:  
Average throughput: 2.45 Mbit/s  
95th percentile per-packet one-way delay: 241.115 ms  
Loss rate: 3.67%  
-- Flow 2:  
Average throughput: 2.08 Mbit/s  
95th percentile per-packet one-way delay: 250.586 ms  
Loss rate: 1.61%  
-- Flow 3:  
Average throughput: 1.98 Mbit/s  
95th percentile per-packet one-way delay: 310.888 ms  
Loss rate: 7.32%

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

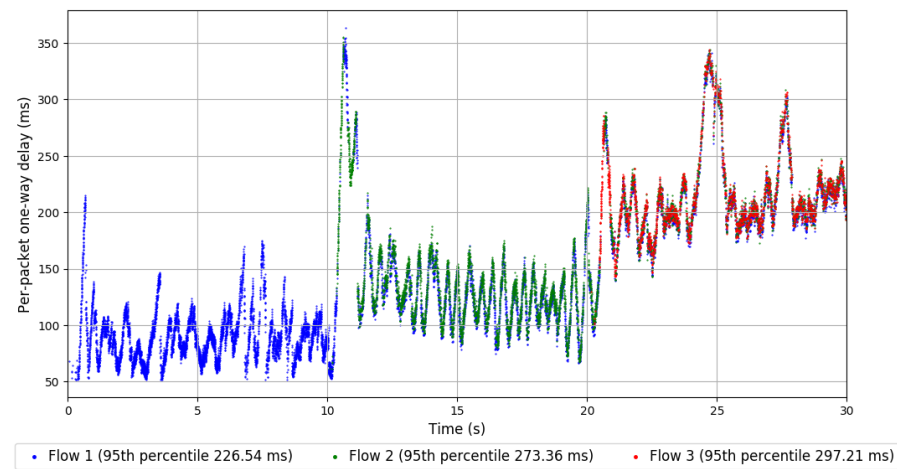
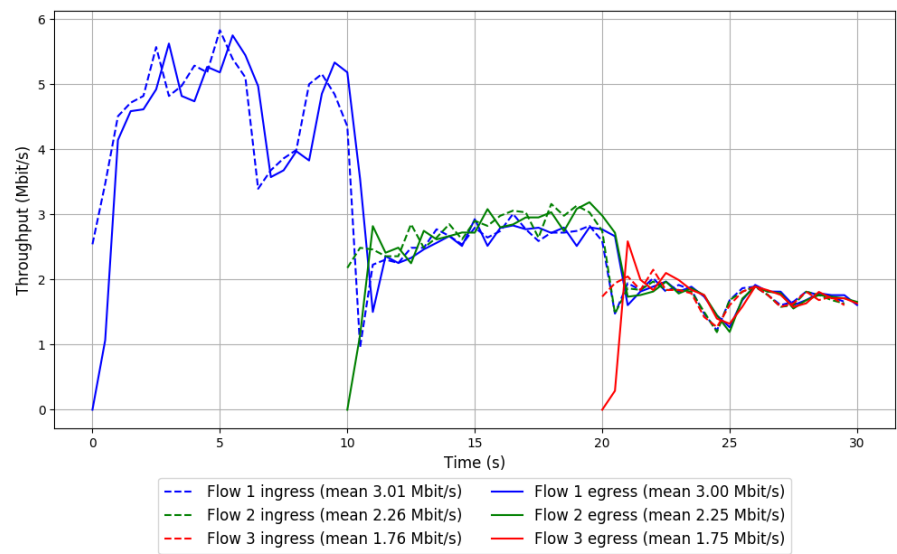


Run 2: Statistics of TaoVA-100x

Start at: 2018-08-01 23:10:14  
End at: 2018-08-01 23:10:44  
Local clock offset: 1.497 ms  
Remote clock offset: -16.922 ms

# Below is generated by plot.py at 2018-08-01 23:43:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 5.08 Mbit/s  
95th percentile per-packet one-way delay: 260.385 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 3.00 Mbit/s  
95th percentile per-packet one-way delay: 226.543 ms  
Loss rate: 0.45%  
-- Flow 2:  
Average throughput: 2.25 Mbit/s  
95th percentile per-packet one-way delay: 273.357 ms  
Loss rate: 0.80%  
-- Flow 3:  
Average throughput: 1.75 Mbit/s  
95th percentile per-packet one-way delay: 297.214 ms  
Loss rate: 2.07%

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



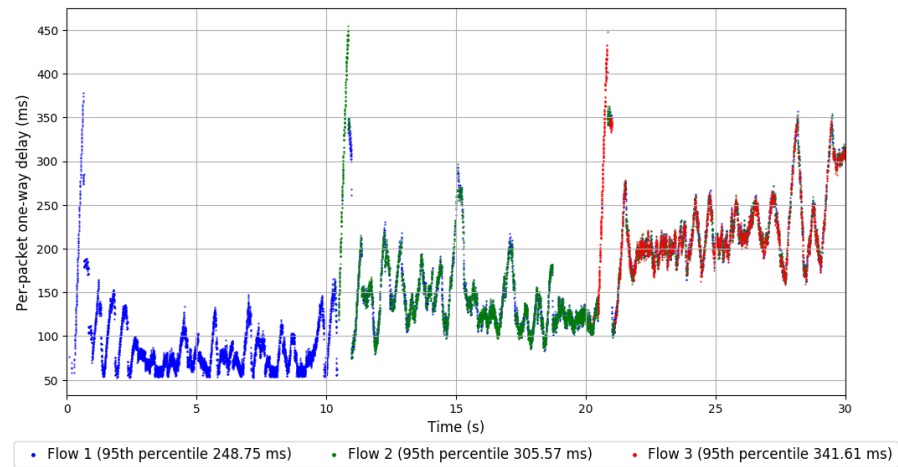
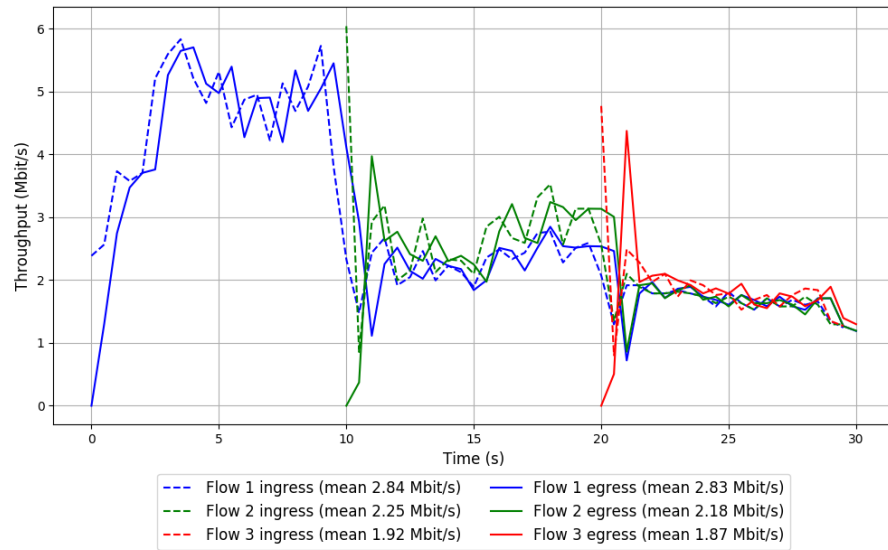
Run 3: Statistics of TaoVA-100x

Start at: 2018-08-01 23:29:04  
End at: 2018-08-01 23:29:34  
Local clock offset: 1.652 ms  
Remote clock offset: -6.306 ms

# Below is generated by plot.py at 2018-08-01 23:43:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.90 Mbit/s  
95th percentile per-packet one-way delay: 291.962 ms  
Loss rate: 1.91%  
-- Flow 1:  
Average throughput: 2.83 Mbit/s  
95th percentile per-packet one-way delay: 248.753 ms  
Loss rate: 0.66%  
-- Flow 2:  
Average throughput: 2.18 Mbit/s  
95th percentile per-packet one-way delay: 305.572 ms  
Loss rate: 3.52%  
-- Flow 3:  
Average throughput: 1.87 Mbit/s  
95th percentile per-packet one-way delay: 341.611 ms  
Loss rate: 3.66%



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

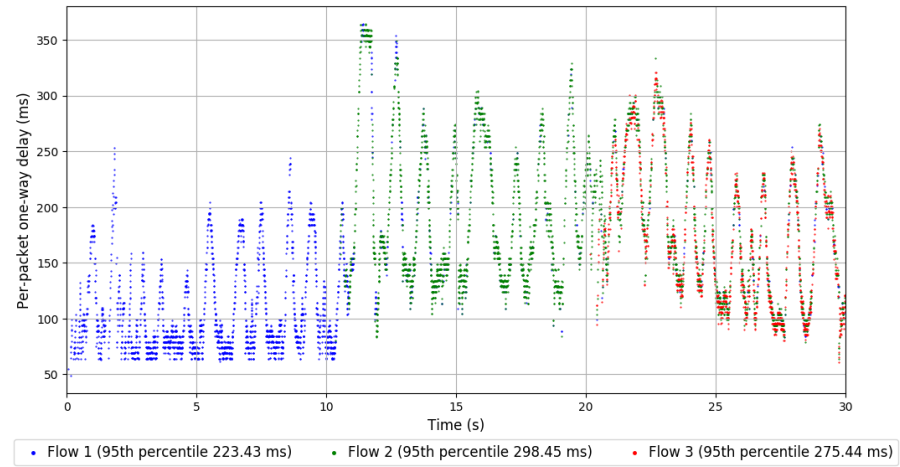
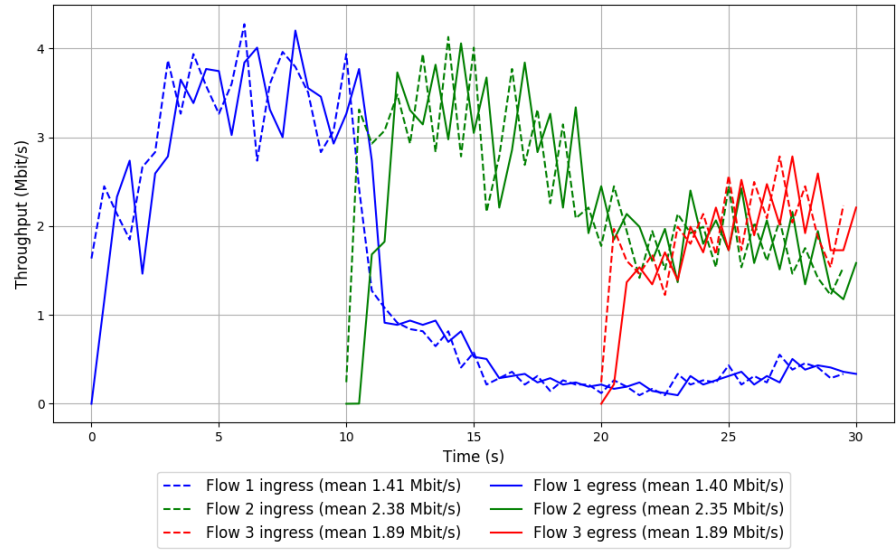


Run 1: Statistics of TCP Vegas

Start at: 2018-08-01 23:00:18  
End at: 2018-08-01 23:00:48  
Local clock offset: 2.378 ms  
Remote clock offset: -16.241 ms

# Below is generated by plot.py at 2018-08-01 23:43:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.56 Mbit/s  
95th percentile per-packet one-way delay: 283.424 ms  
Loss rate: 1.30%  
-- Flow 1:  
Average throughput: 1.40 Mbit/s  
95th percentile per-packet one-way delay: 223.433 ms  
Loss rate: 0.80%  
-- Flow 2:  
Average throughput: 2.35 Mbit/s  
95th percentile per-packet one-way delay: 298.454 ms  
Loss rate: 1.71%  
-- Flow 3:  
Average throughput: 1.89 Mbit/s  
95th percentile per-packet one-way delay: 275.442 ms  
Loss rate: 1.40%

# Run 1: Report of TCP Vegas — Data Link

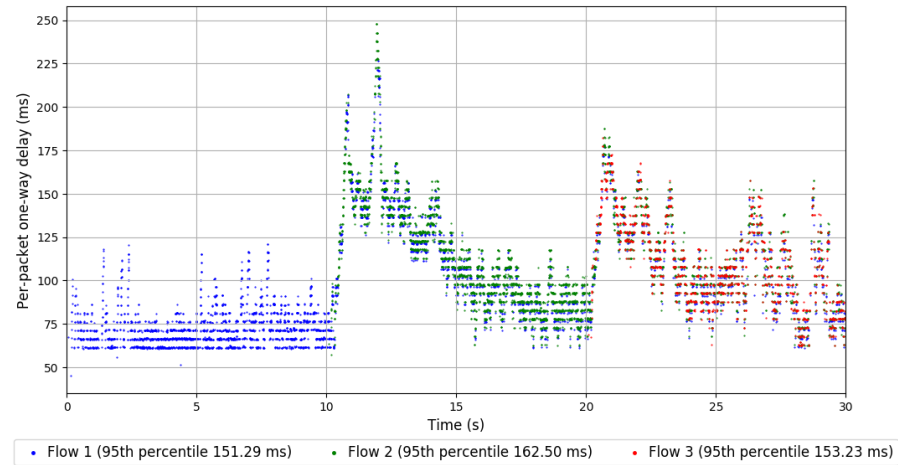
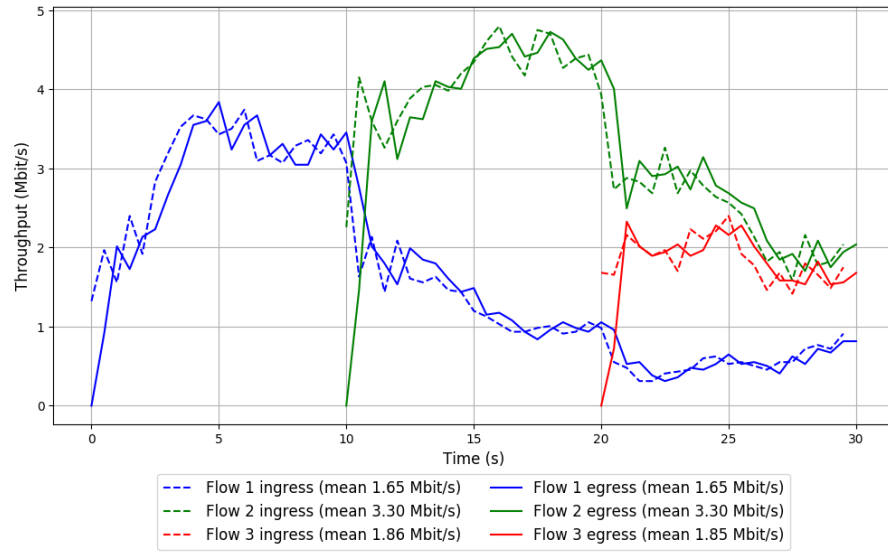


Run 2: Statistics of TCP Vegas

Start at: 2018-08-01 23:19:09  
End at: 2018-08-01 23:19:39  
Local clock offset: 0.675 ms  
Remote clock offset: -11.256 ms

# Below is generated by plot.py at 2018-08-01 23:43:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.46 Mbit/s  
95th percentile per-packet one-way delay: 157.486 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 1.65 Mbit/s  
95th percentile per-packet one-way delay: 151.291 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 3.30 Mbit/s  
95th percentile per-packet one-way delay: 162.501 ms  
Loss rate: 0.22%  
-- Flow 3:  
Average throughput: 1.85 Mbit/s  
95th percentile per-packet one-way delay: 153.231 ms  
Loss rate: 0.91%

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

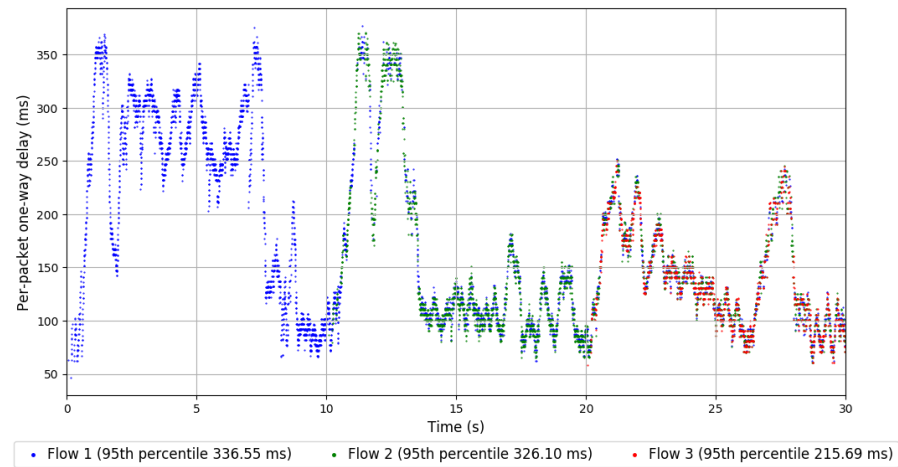
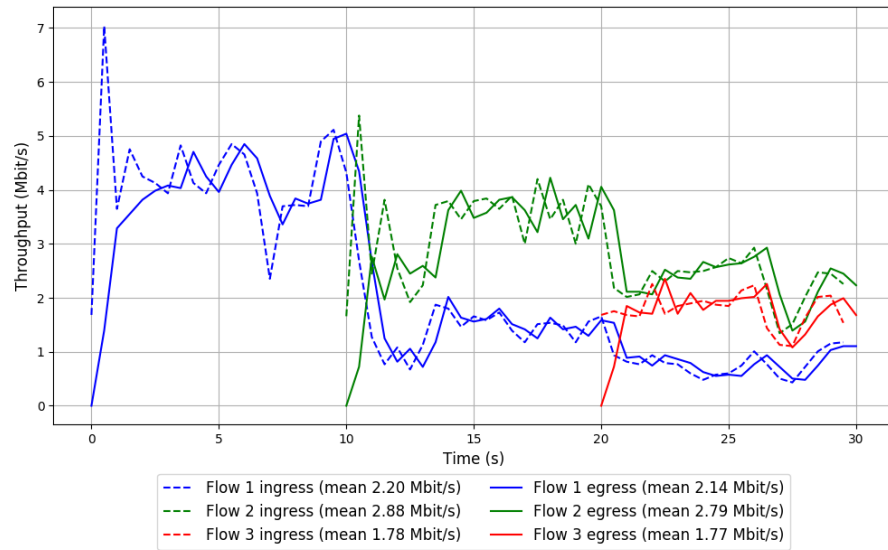


Run 3: Statistics of TCP Vegas

Start at: 2018-08-01 23:37:54  
End at: 2018-08-01 23:38:24  
Local clock offset: 0.084 ms  
Remote clock offset: -7.234 ms

# Below is generated by plot.py at 2018-08-01 23:43:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.59 Mbit/s  
95th percentile per-packet one-way delay: 326.929 ms  
Loss rate: 2.86%  
-- Flow 1:  
Average throughput: 2.14 Mbit/s  
95th percentile per-packet one-way delay: 336.545 ms  
Loss rate: 2.91%  
-- Flow 2:  
Average throughput: 2.79 Mbit/s  
95th percentile per-packet one-way delay: 326.099 ms  
Loss rate: 3.40%  
-- Flow 3:  
Average throughput: 1.77 Mbit/s  
95th percentile per-packet one-way delay: 215.688 ms  
Loss rate: 0.88%

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



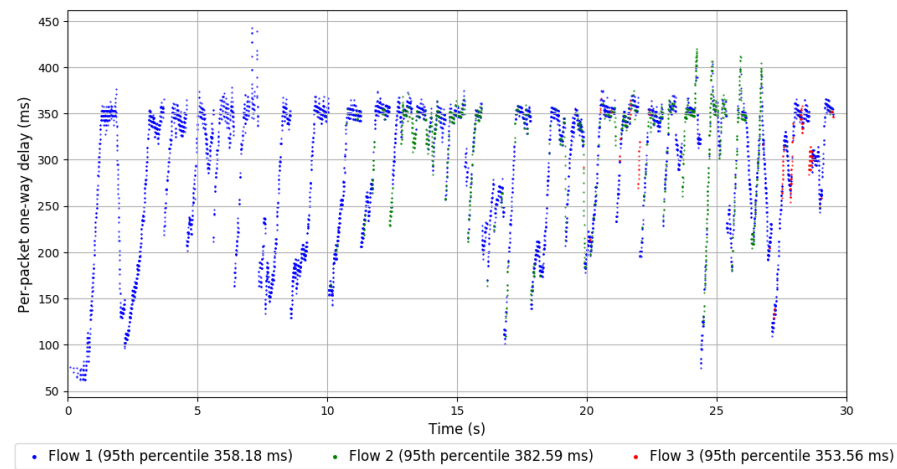
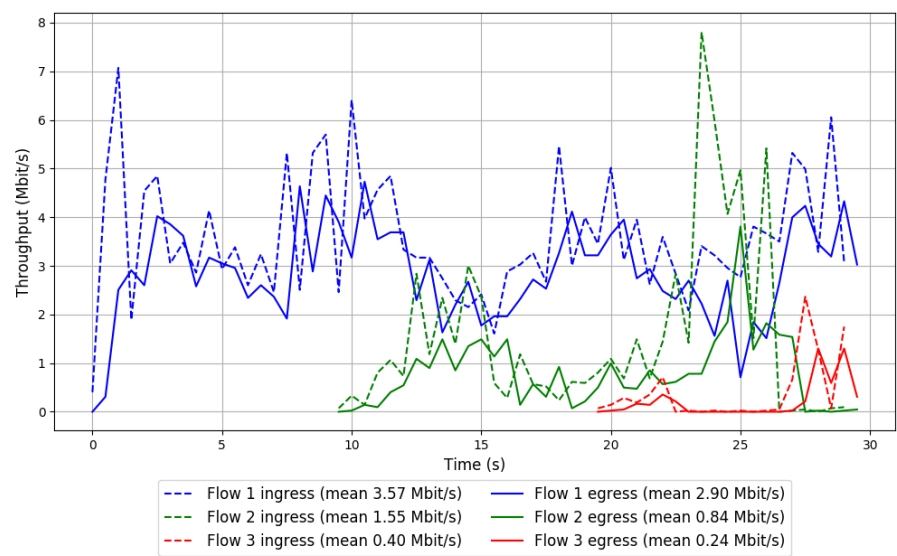
Run 1: Statistics of Verus

Start at: 2018-08-01 23:02:31  
End at: 2018-08-01 23:03:01  
Local clock offset: 1.48 ms  
Remote clock offset: -16.242 ms

# Below is generated by plot.py at 2018-08-01 23:43:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.54 Mbit/s  
95th percentile per-packet one-way delay: 359.479 ms  
Loss rate: 25.70%  
-- Flow 1:  
Average throughput: 2.90 Mbit/s  
95th percentile per-packet one-way delay: 358.181 ms  
Loss rate: 18.99%  
-- Flow 2:  
Average throughput: 0.84 Mbit/s  
95th percentile per-packet one-way delay: 382.589 ms  
Loss rate: 46.68%  
-- Flow 3:  
Average throughput: 0.24 Mbit/s  
95th percentile per-packet one-way delay: 353.556 ms  
Loss rate: 41.59%



Run 1: Report of Verus — Data Link

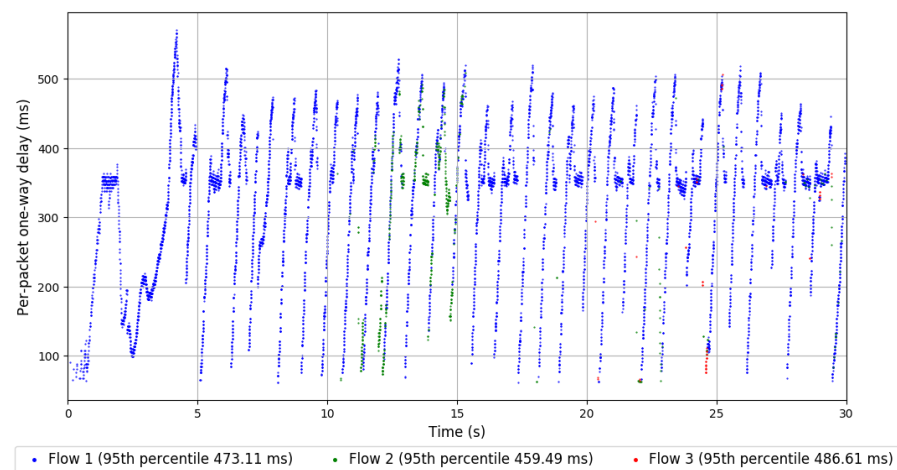
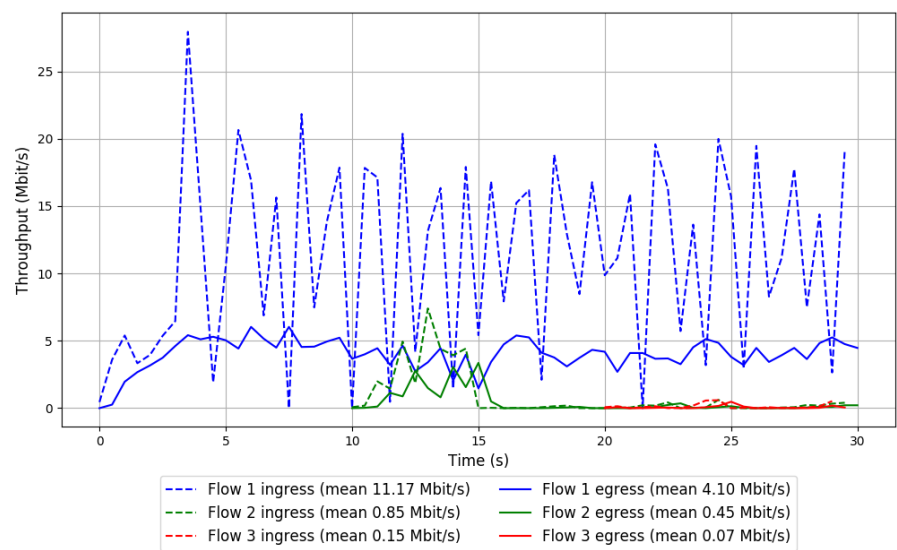


Run 2: Statistics of Verus

Start at: 2018-08-01 23:21:21  
End at: 2018-08-01 23:21:51  
Local clock offset: 1.653 ms  
Remote clock offset: -10.309 ms

# Below is generated by plot.py at 2018-08-01 23:43:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.42 Mbit/s  
95th percentile per-packet one-way delay: 472.498 ms  
Loss rate: 62.60%  
-- Flow 1:  
Average throughput: 4.10 Mbit/s  
95th percentile per-packet one-way delay: 473.110 ms  
Loss rate: 63.36%  
-- Flow 2:  
Average throughput: 0.45 Mbit/s  
95th percentile per-packet one-way delay: 459.489 ms  
Loss rate: 48.54%  
-- Flow 3:  
Average throughput: 0.07 Mbit/s  
95th percentile per-packet one-way delay: 486.614 ms  
Loss rate: 52.25%

Run 2: Report of Verus — Data Link

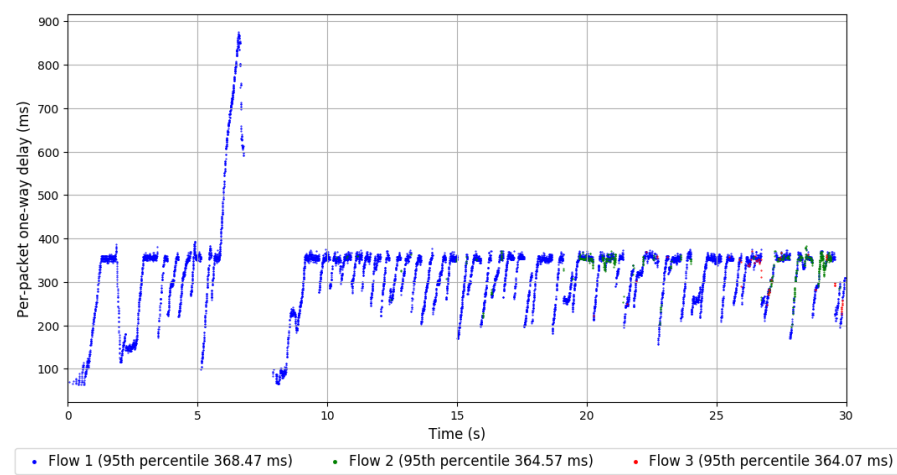
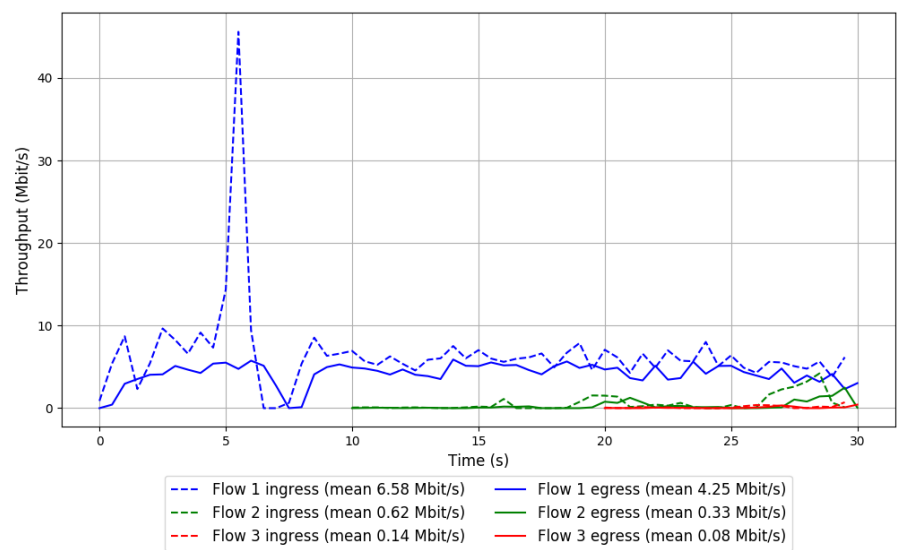


Run 3: Statistics of Verus

Start at: 2018-08-01 23:40:11  
End at: 2018-08-01 23:40:41  
Local clock offset: 1.761 ms  
Remote clock offset: -7.717 ms

# Below is generated by plot.py at 2018-08-01 23:43:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.49 Mbit/s  
95th percentile per-packet one-way delay: 368.147 ms  
Loss rate: 36.33%  
-- Flow 1:  
Average throughput: 4.25 Mbit/s  
95th percentile per-packet one-way delay: 368.466 ms  
Loss rate: 35.60%  
-- Flow 2:  
Average throughput: 0.33 Mbit/s  
95th percentile per-packet one-way delay: 364.571 ms  
Loss rate: 47.48%  
-- Flow 3:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 364.074 ms  
Loss rate: 42.61%

Run 3: Report of Verus — Data Link

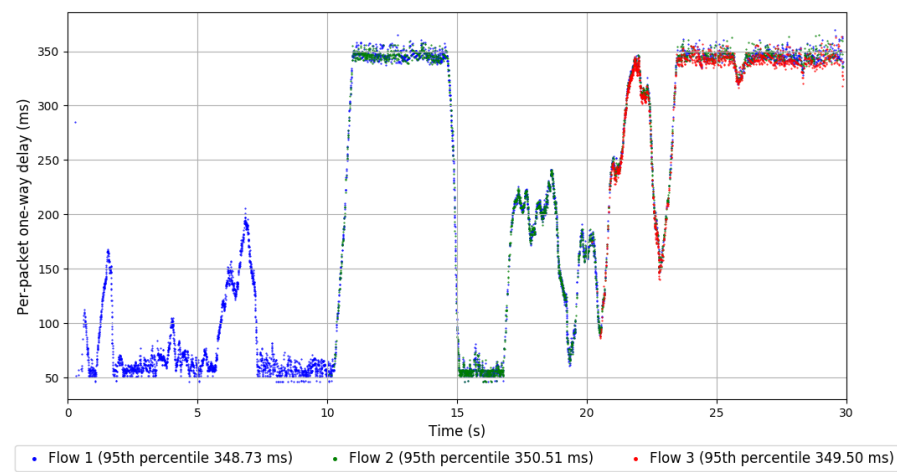
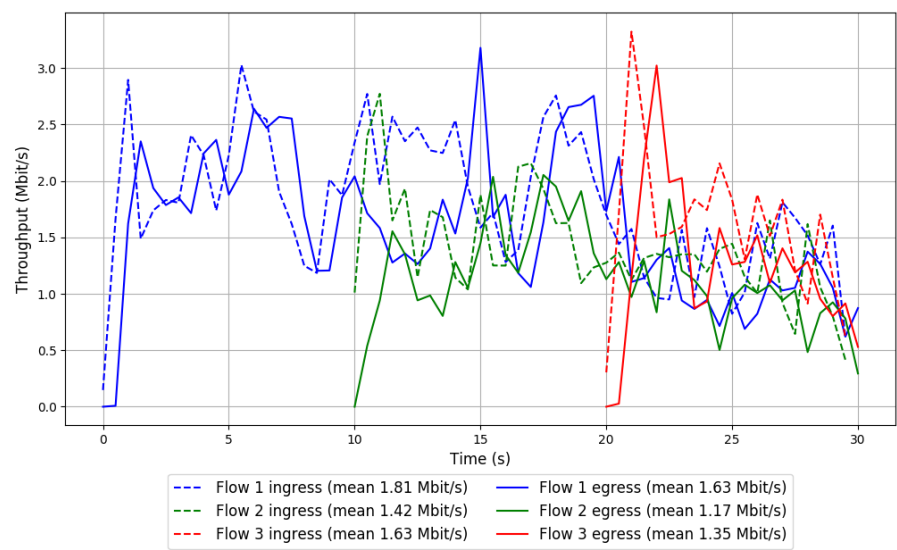


Run 1: Statistics of PCC-Vivace

Start at: 2018-08-01 22:57:52  
End at: 2018-08-01 22:58:22  
Local clock offset: -0.417 ms  
Remote clock offset: -16.886 ms

# Below is generated by plot.py at 2018-08-01 23:43:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.86 Mbit/s  
95th percentile per-packet one-way delay: 349.513 ms  
Loss rate: 14.11%  
-- Flow 1:  
Average throughput: 1.63 Mbit/s  
95th percentile per-packet one-way delay: 348.728 ms  
Loss rate: 10.82%  
-- Flow 2:  
Average throughput: 1.17 Mbit/s  
95th percentile per-packet one-way delay: 350.508 ms  
Loss rate: 17.62%  
-- Flow 3:  
Average throughput: 1.35 Mbit/s  
95th percentile per-packet one-way delay: 349.505 ms  
Loss rate: 19.01%

Run 1: Report of PCC-Vivace — Data Link



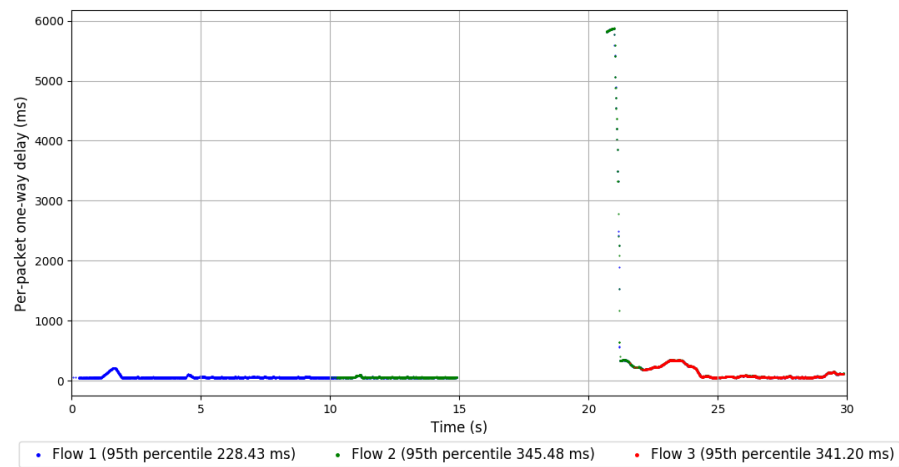
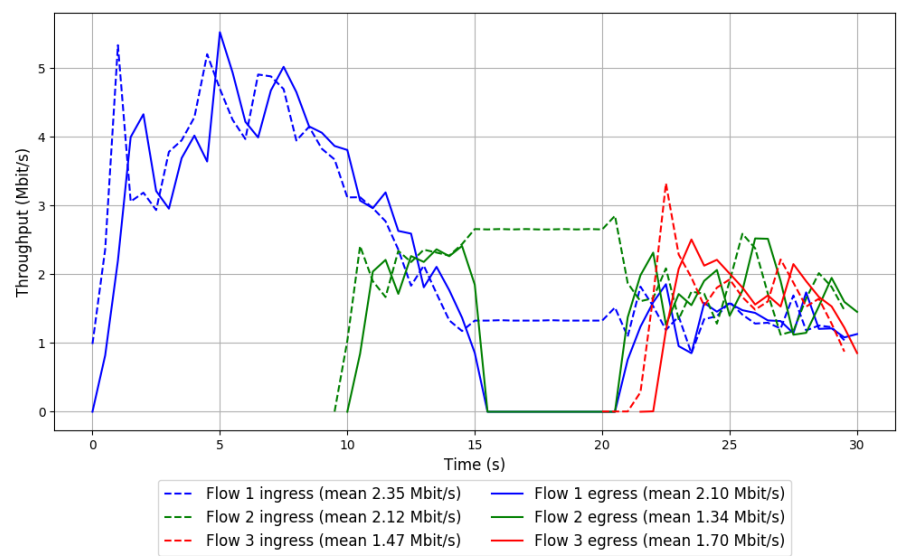
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-01 23:16:55  
End at: 2018-08-01 23:17:25  
Local clock offset: 1.964 ms  
Remote clock offset: -9.398 ms

# Below is generated by plot.py at 2018-08-01 23:43:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.46 Mbit/s  
95th percentile per-packet one-way delay: 326.678 ms  
Loss rate: 18.66%  
-- Flow 1:  
Average throughput: 2.10 Mbit/s  
95th percentile per-packet one-way delay: 228.428 ms  
Loss rate: 11.00%  
-- Flow 2:  
Average throughput: 1.34 Mbit/s  
95th percentile per-packet one-way delay: 345.481 ms  
Loss rate: 36.75%  
-- Flow 3:  
Average throughput: 1.70 Mbit/s  
95th percentile per-packet one-way delay: 341.197 ms  
Loss rate: 3.28%



Run 2: Report of PCC-Vivace — Data Link

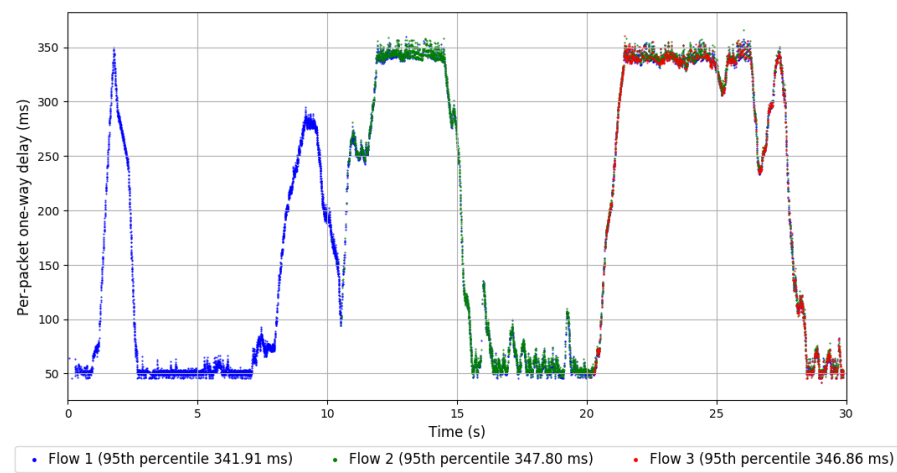
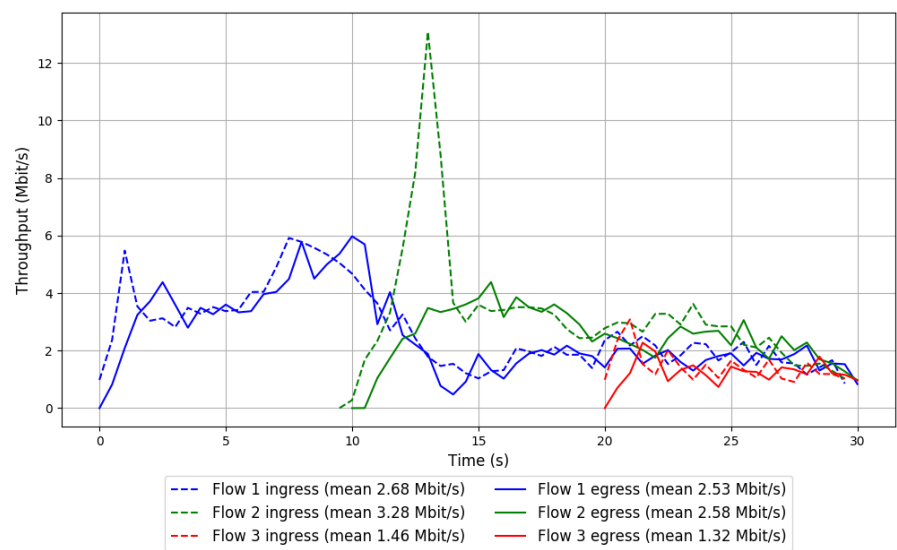


Run 3: Statistics of PCC-Vivace

Start at: 2018-08-01 23:35:41  
End at: 2018-08-01 23:36:11  
Local clock offset: -1.014 ms  
Remote clock offset: -4.543 ms

# Below is generated by plot.py at 2018-08-01 23:43:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 4.67 Mbit/s  
95th percentile per-packet one-way delay: 345.445 ms  
Loss rate: 12.79%  
-- Flow 1:  
Average throughput: 2.53 Mbit/s  
95th percentile per-packet one-way delay: 341.908 ms  
Loss rate: 5.72%  
-- Flow 2:  
Average throughput: 2.58 Mbit/s  
95th percentile per-packet one-way delay: 347.797 ms  
Loss rate: 22.08%  
-- Flow 3:  
Average throughput: 1.32 Mbit/s  
95th percentile per-packet one-way delay: 346.857 ms  
Loss rate: 10.15%

Run 3: Report of PCC-Vivace — Data Link

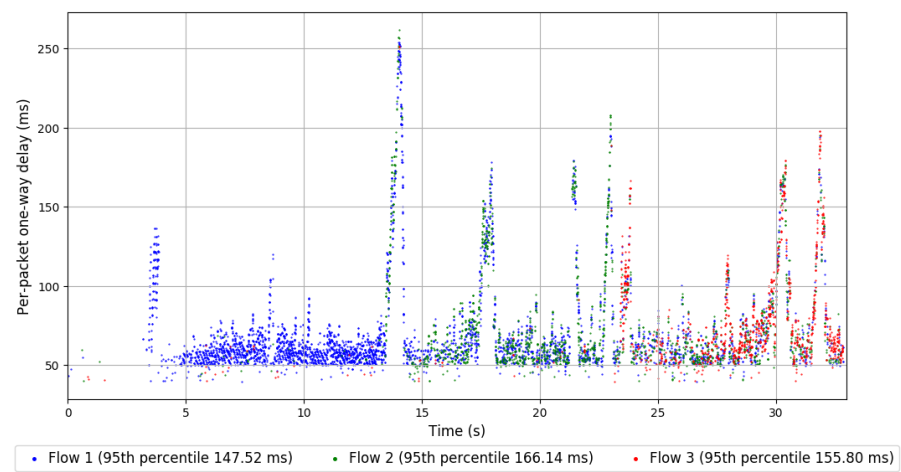
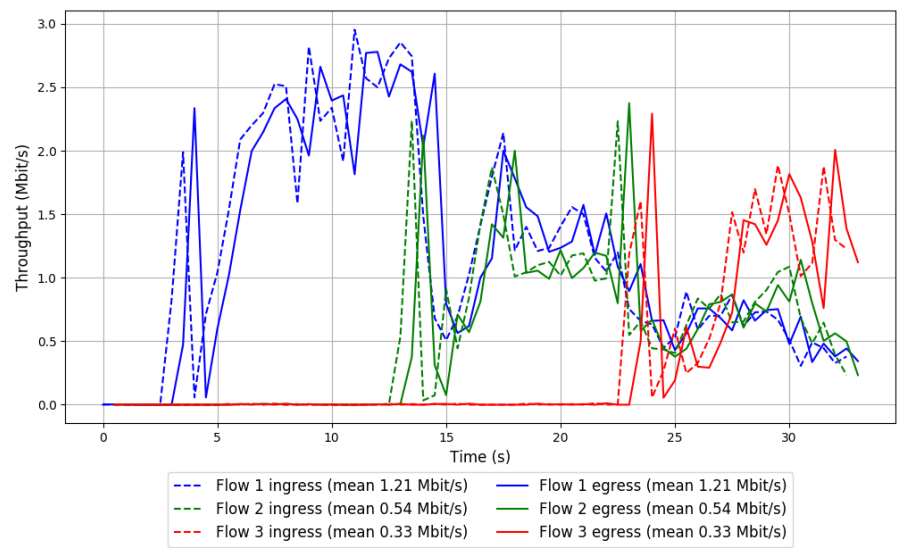


Run 1: Statistics of WebRTC media

Start at: 2018-08-01 22:53:22  
End at: 2018-08-01 22:53:52  
Local clock offset: 3.31 ms  
Remote clock offset: -14.156 ms

# Below is generated by plot.py at 2018-08-01 23:43:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.07 Mbit/s  
95th percentile per-packet one-way delay: 157.111 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 1.21 Mbit/s  
95th percentile per-packet one-way delay: 147.516 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 166.139 ms  
Loss rate: 0.16%  
-- Flow 3:  
Average throughput: 0.33 Mbit/s  
95th percentile per-packet one-way delay: 155.803 ms  
Loss rate: 1.13%

Run 1: Report of WebRTC media — Data Link

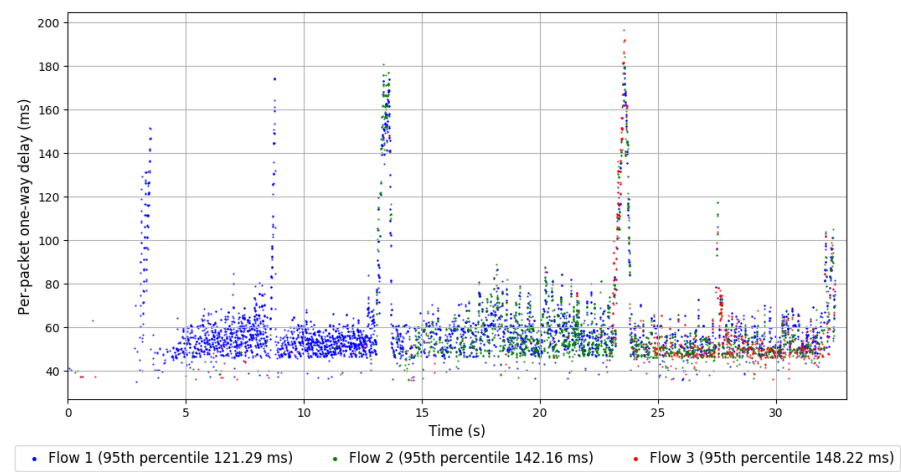
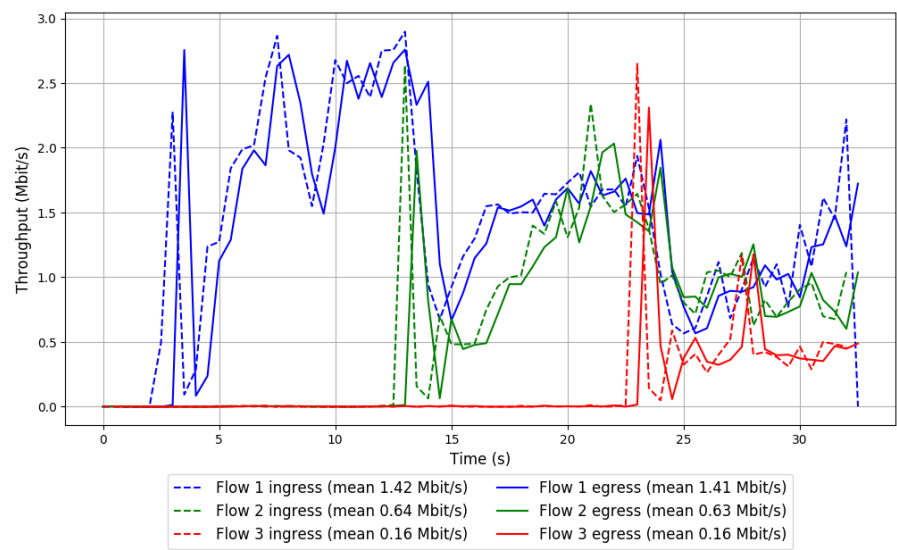


Run 2: Statistics of WebRTC media

Start at: 2018-08-01 23:12:30  
End at: 2018-08-01 23:13:00  
Local clock offset: -1.132 ms  
Remote clock offset: -11.995 ms

# Below is generated by plot.py at 2018-08-01 23:43:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.19 Mbit/s  
95th percentile per-packet one-way delay: 131.911 ms  
Loss rate: 0.77%  
-- Flow 1:  
Average throughput: 1.41 Mbit/s  
95th percentile per-packet one-way delay: 121.290 ms  
Loss rate: 0.92%  
-- Flow 2:  
Average throughput: 0.63 Mbit/s  
95th percentile per-packet one-way delay: 142.156 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 0.16 Mbit/s  
95th percentile per-packet one-way delay: 148.224 ms  
Loss rate: 0.79%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-08-01 23:31:17  
End at: 2018-08-01 23:31:47  
Local clock offset: -0.474 ms  
Remote clock offset: -8.752 ms

# Below is generated by plot.py at 2018-08-01 23:43:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.49 Mbit/s  
95th percentile per-packet one-way delay: 113.544 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 1.54 Mbit/s  
95th percentile per-packet one-way delay: 108.026 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 113.115 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 120.027 ms  
Loss rate: 0.89%



Run 3: Report of WebRTC media — Data Link

