Pantheon Report

Generated at 2018-07-06 01:33:13 (UTC).

Data path: GCE London Ethernet (*local*) →GCE Iowa Ethernet (*remote*).

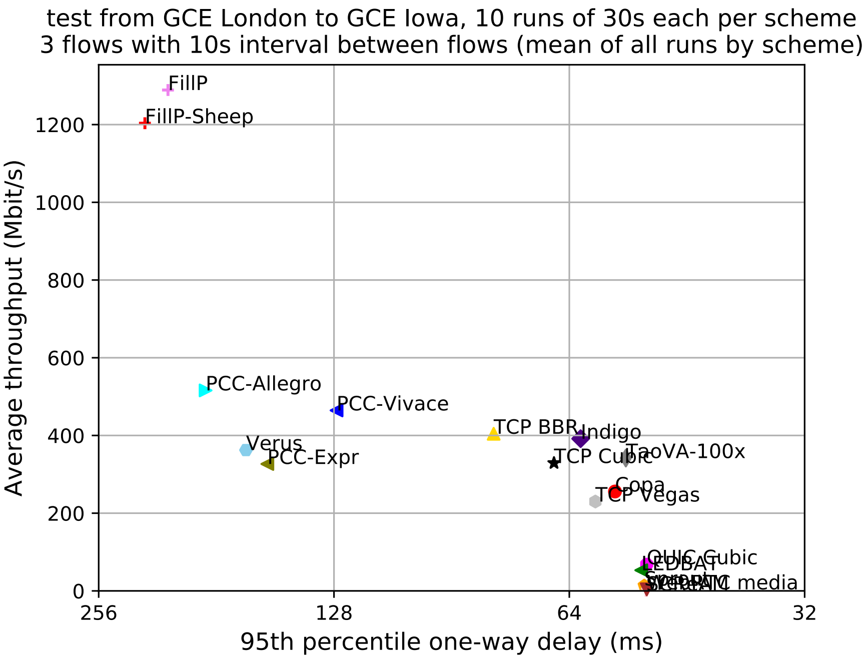
Repeated the test of 17 congestion control schemes 10 times.

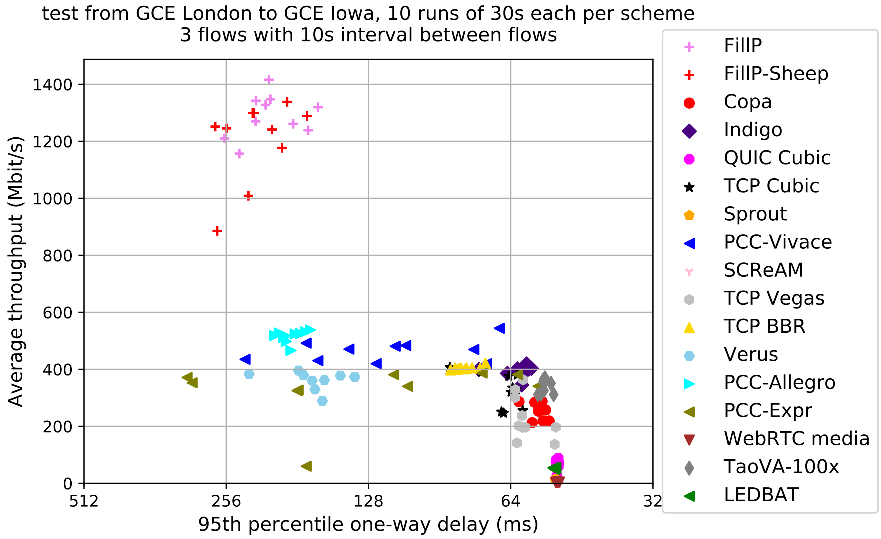
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: master @ 9250dbeec7fb57193cdff1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 37162fe9af85249aeccac061c93e75640ef710b5
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
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 @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


test from GCE London to GCE Iowa, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
1000
1200
256
128
64
32
FillP
FillP-Sheep
PCC-Allegro
PCC-Vivace
Verus
PCC-Expr
TCP BBR
Indigo
TCP Cubic
TaoVA-100x
Copa
TCP Vegas
QUIC Cubic
LEDBAT
Sprout
SCReAM
WebRTC media


test from GCE London to GCE Iowa, 10 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
1000
1200
1400
512
256
128
64
32
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

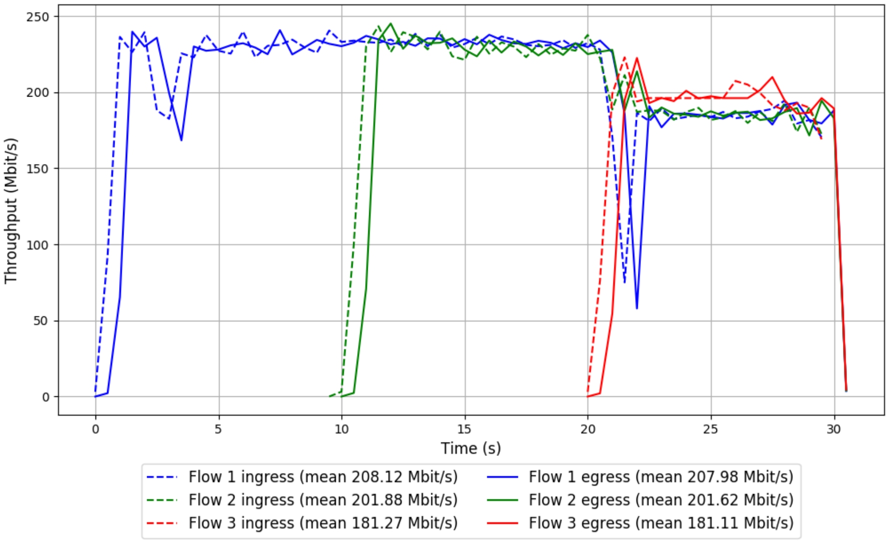
		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	209.29	201.27	183.83	77.71	79.99	83.00	0.05	0.08	0.25
Copa	10	140.05	123.36	108.93	55.54	56.31	56.06	0.03	0.05	0.03
TCP Cubic	10	187.75	135.95	152.78	65.57	66.25	68.54	0.03	0.05	0.09
FillP	10	686.50	630.29	550.66	212.88	190.52	163.65	5.64	5.48	6.79
FillP-Sheep	10	610.95	627.08	529.19	226.44	206.17	177.45	8.10	6.85	5.68
Indigo	10	209.26	202.39	148.66	60.88	62.24	63.56	0.02	0.03	0.06
LEDBAT	10	34.94	21.99	10.86	51.83	51.75	51.45	0.00	0.00	0.03
PCC-Allegro	10	444.92	80.05	54.21	189.79	176.43	136.25	1.80	1.58	1.45
PCC-Expr	10	191.40	175.41	56.28	150.20	142.05	115.17	2.99	2.18	3.05
QUIC Cubic	10	43.25	28.79	19.05	50.72	50.92	50.91	0.00	0.00	0.00
SCReAM	10	0.22	0.22	0.22	51.04	50.91	50.71	0.00	0.00	0.00
Sprout	10	7.00	6.71	6.87	51.32	51.33	51.26	0.00	0.00	0.00
TaoVA-100x	10	178.14	166.54	159.38	53.55	54.12	56.37	0.02	0.03	0.07
TCP Vegas	10	125.05	121.30	72.91	56.97	58.31	56.89	0.02	0.03	0.12
Verus	10	199.34	186.31	120.21	149.44	172.27	218.19	0.77	1.32	2.95
PCC-Vivace	10	269.75	240.72	104.92	132.93	113.05	53.35	0.14	0.52	0.00
WebRTC media	10	2.09	1.33	0.54	50.87	50.88	62.76	0.00	0.00	0.01

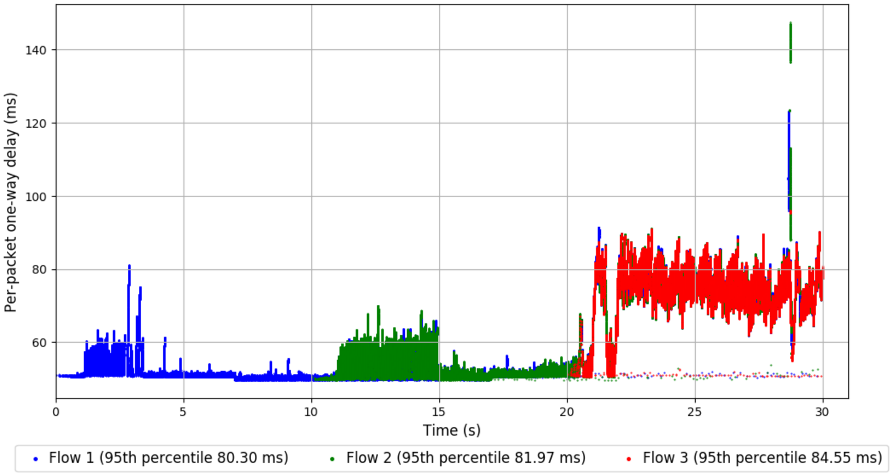
```
Run 1: Statistics of TCP BBR

Start at: 2018-07-05 18:26:33
End at: 2018-07-05 18:27:03
Local clock offset: -0.1 ms
Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2018-07-05 22:59:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.52 Mbit/s
95th percentile per-packet one-way delay: 82.206 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 207.98 Mbit/s
95th percentile per-packet one-way delay: 80.301 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 201.62 Mbit/s
95th percentile per-packet one-way delay: 81.972 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 181.11 Mbit/s
95th percentile per-packet one-way delay: 84.553 ms
Loss rate: 0.08%
```

Run 1: Report of TCP BBR — Data Link



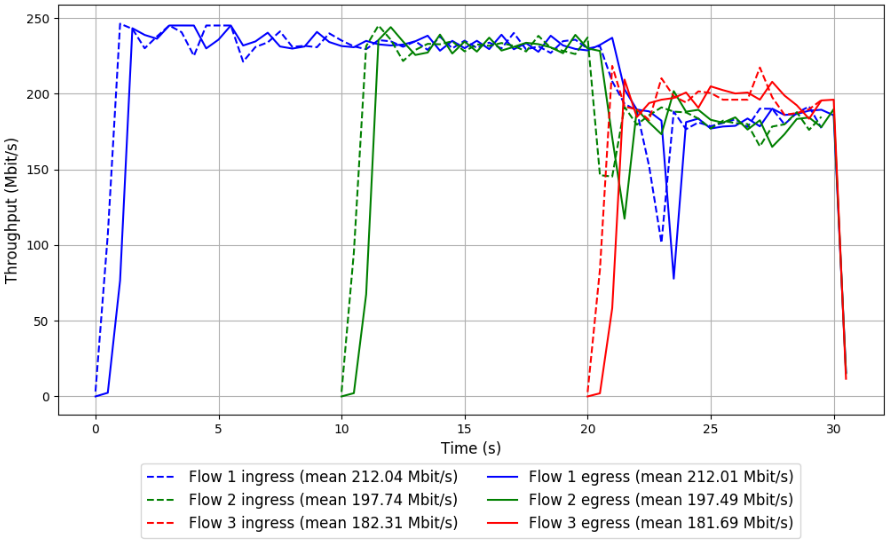


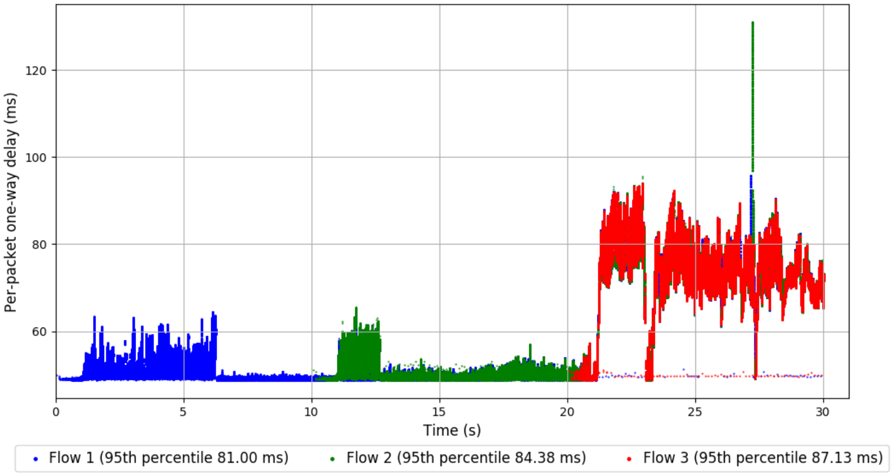
```
Run 2: Statistics of TCP BBR

Start at: 2018-07-05 18:51:29
End at: 2018-07-05 18:51:59
Local clock offset: -0.089 ms
Remote clock offset: 0.156 ms

# Below is generated by plot.py at 2018-07-05 22:59:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.95 Mbit/s
95th percentile per-packet one-way delay: 83.859 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 212.01 Mbit/s
95th percentile per-packet one-way delay: 81.004 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 197.49 Mbit/s
95th percentile per-packet one-way delay: 84.384 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 181.69 Mbit/s
95th percentile per-packet one-way delay: 87.127 ms
Loss rate: 0.35%
```

Run 2: Report of TCP BBR — Data Link



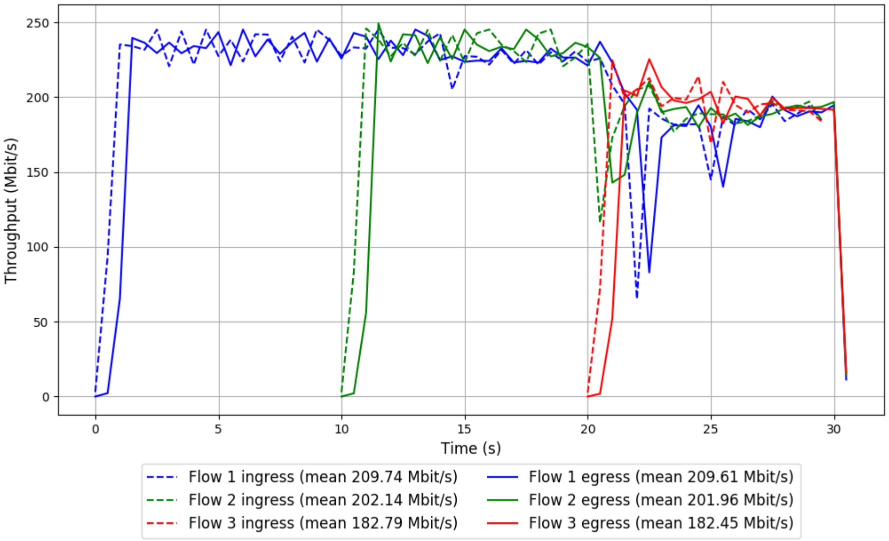


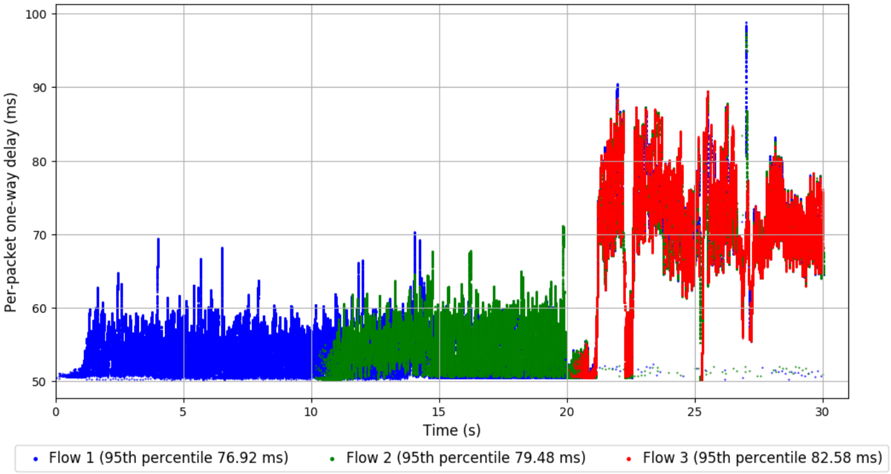
```
Run 3: Statistics of TCP BBR

Start at: 2018-07-05 19:16:47
End at: 2018-07-05 19:17:17
Local clock offset: -0.073 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2018-07-05 22:59:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.72 Mbit/s
95th percentile per-packet one-way delay: 79.435 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 209.61 Mbit/s
95th percentile per-packet one-way delay: 76.919 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 201.96 Mbit/s
95th percentile per-packet one-way delay: 79.479 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 182.45 Mbit/s
95th percentile per-packet one-way delay: 82.575 ms
Loss rate: 0.02%
```

Run 3: Report of TCP BBR — Data Link



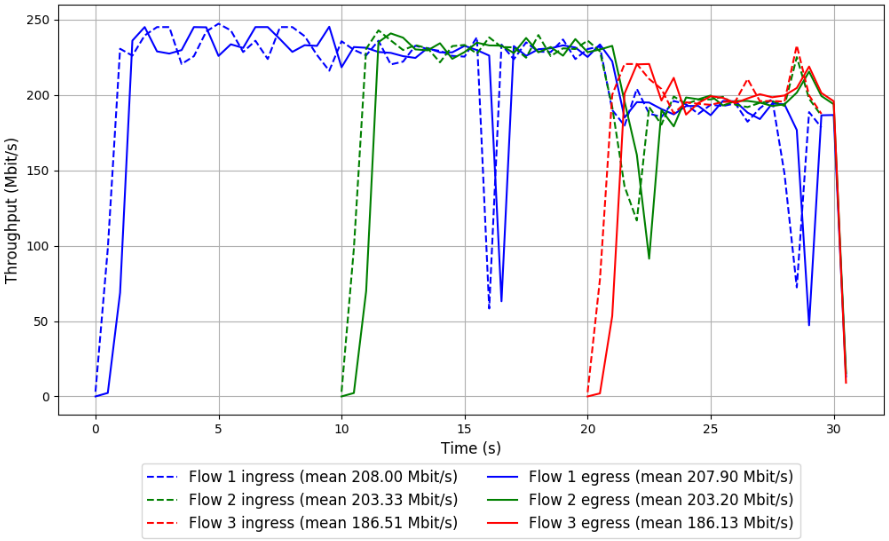


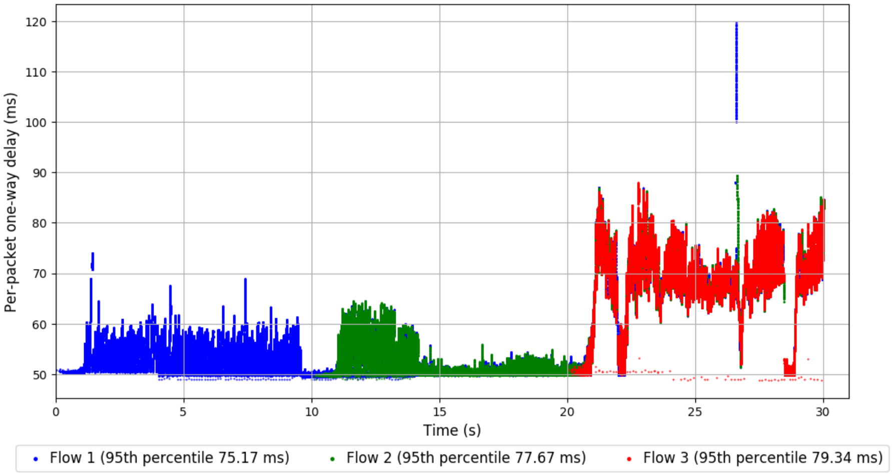
```
Run 4: Statistics of TCP BBR

Start at: 2018-07-05 19:41:27
End at: 2018-07-05 19:41:57
Local clock offset: -0.09 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-07-05 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.05 Mbit/s
95th percentile per-packet one-way delay: 77.276 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 207.90 Mbit/s
95th percentile per-packet one-way delay: 75.173 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 203.20 Mbit/s
95th percentile per-packet one-way delay: 77.675 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 186.13 Mbit/s
95th percentile per-packet one-way delay: 79.336 ms
Loss rate: 0.31%
```

Run 4: Report of TCP BBR — Data Link



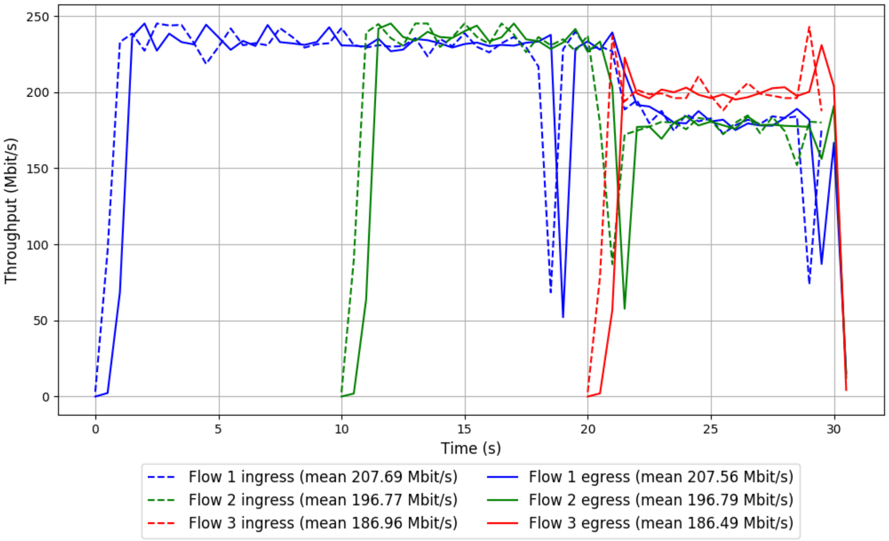


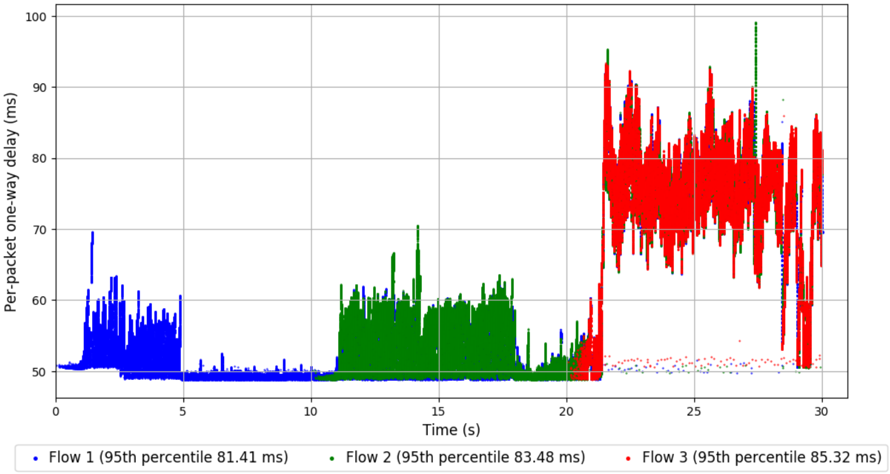
```
Run 5: Statistics of TCP BBR

Start at: 2018-07-05 20:06:28
End at: 2018-07-05 20:06:58
Local clock offset: -0.09 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-07-05 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.43 Mbit/s
95th percentile per-packet one-way delay: 83.282 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 207.56 Mbit/s
95th percentile per-packet one-way delay: 81.412 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 196.79 Mbit/s
95th percentile per-packet one-way delay: 83.482 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 186.49 Mbit/s
95th percentile per-packet one-way delay: 85.316 ms
Loss rate: 0.43%
```

Run 5: Report of TCP BBR — Data Link



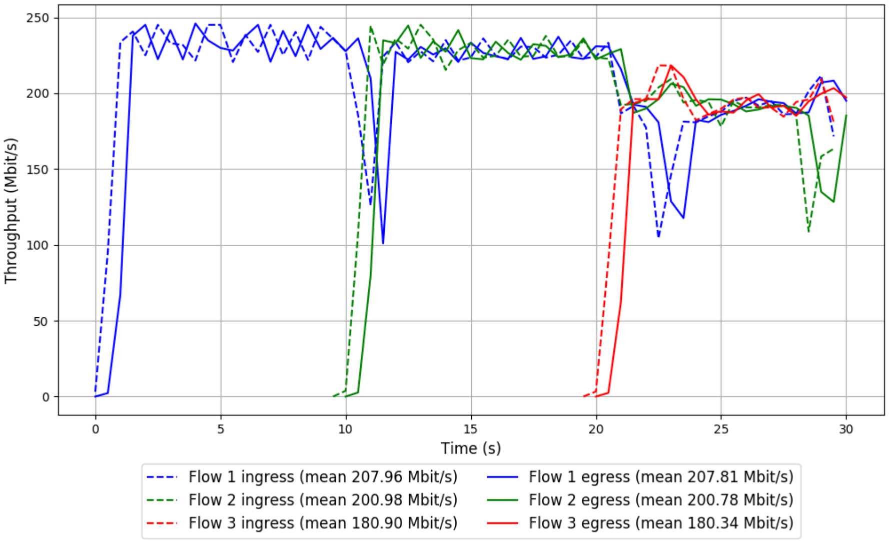


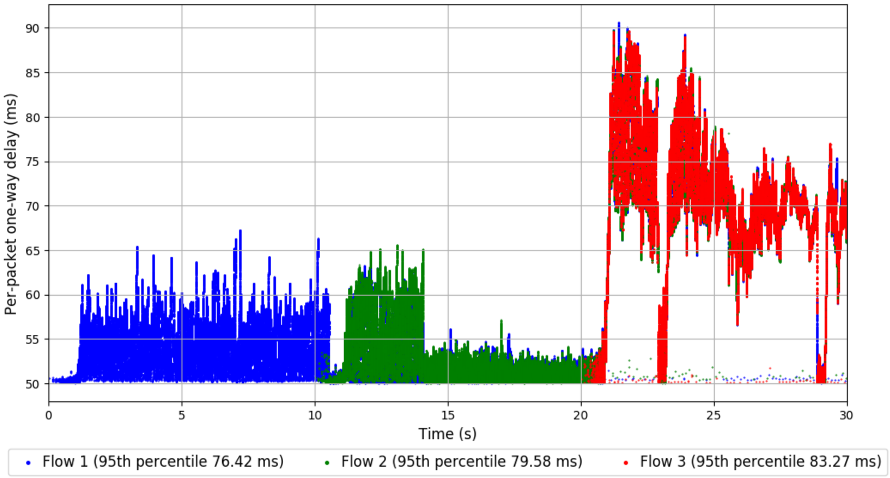
```
Run 6: Statistics of TCP BBR

Start at: 2018-07-05 20:31:26
End at: 2018-07-05 20:31:56
Local clock offset: 0.195 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2018-07-05 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.71 Mbit/s
95th percentile per-packet one-way delay: 79.730 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 207.81 Mbit/s
95th percentile per-packet one-way delay: 76.423 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 200.78 Mbit/s
95th percentile per-packet one-way delay: 79.582 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 180.34 Mbit/s
95th percentile per-packet one-way delay: 83.270 ms
Loss rate: 0.32%
```

Run 6: Report of TCP BBR — Data Link



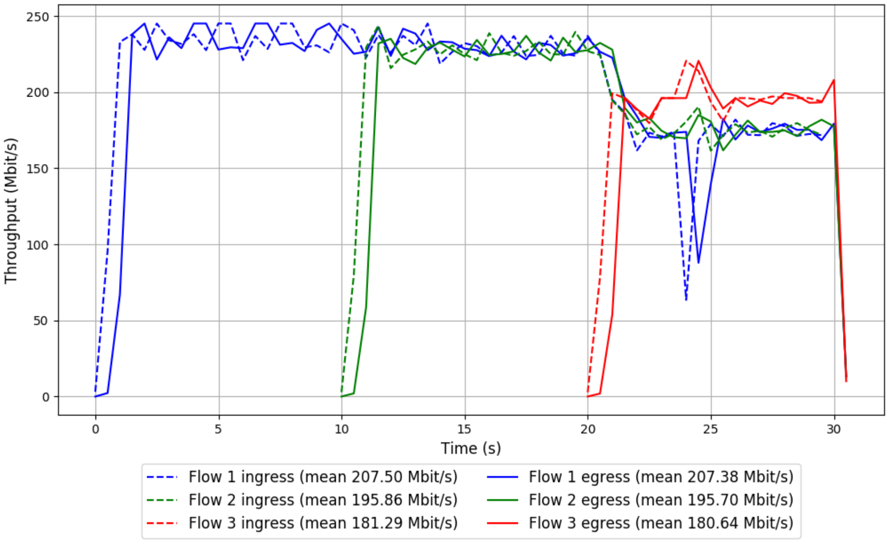


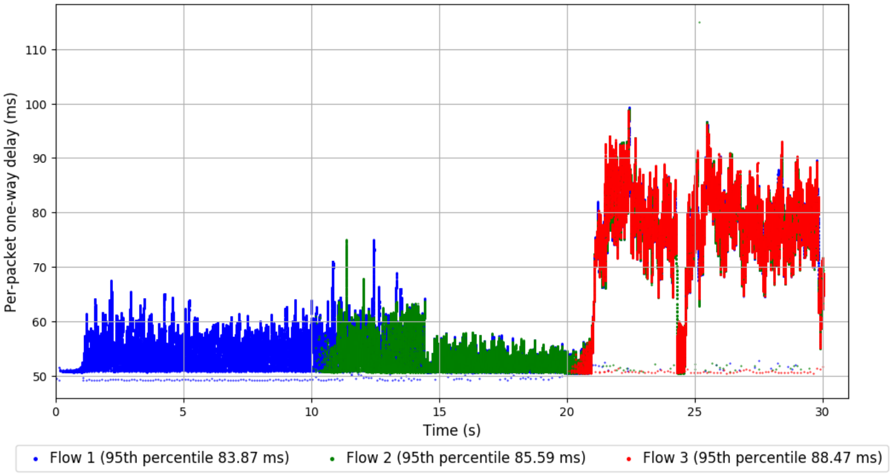
```
Run 7: Statistics of TCP BBR

Start at: 2018-07-05 20:55:51
End at: 2018-07-05 20:56:21
Local clock offset: -0.522 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2018-07-05 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.74 Mbit/s
95th percentile per-packet one-way delay: 85.806 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 207.38 Mbit/s
95th percentile per-packet one-way delay: 83.869 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 195.70 Mbit/s
95th percentile per-packet one-way delay: 85.587 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 180.64 Mbit/s
95th percentile per-packet one-way delay: 88.473 ms
Loss rate: 0.34%
```

Run 7: Report of TCP BBR — Data Link



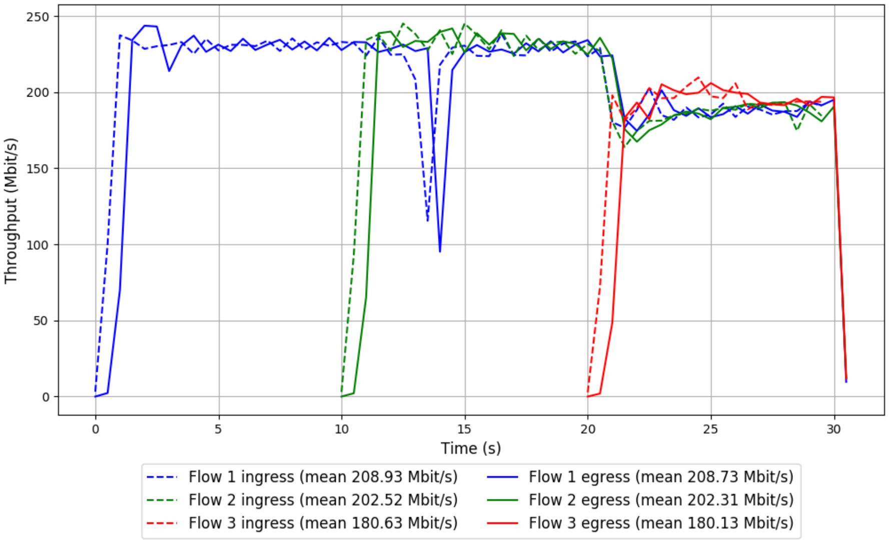


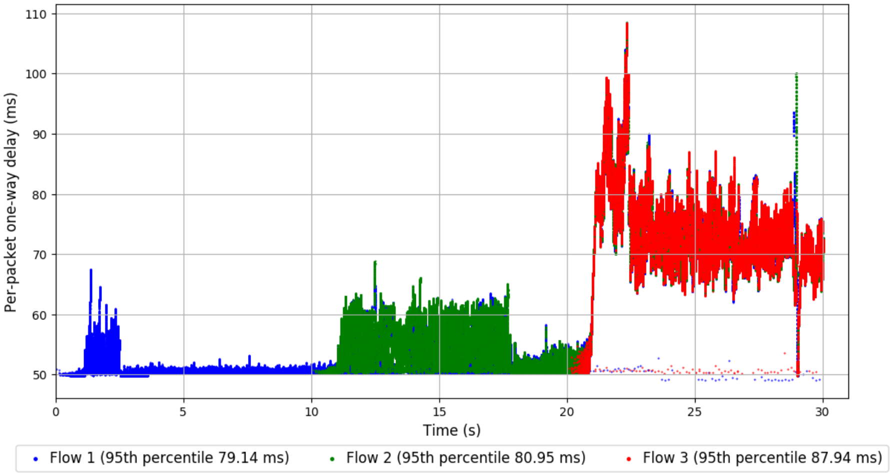
```
Run 8: Statistics of TCP BBR

Start at: 2018-07-05 21:20:47
End at: 2018-07-05 21:21:17
Local clock offset: -0.084 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2018-07-05 22:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.33 Mbit/s
95th percentile per-packet one-way delay: 81.477 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 208.73 Mbit/s
95th percentile per-packet one-way delay: 79.138 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 202.31 Mbit/s
95th percentile per-packet one-way delay: 80.953 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 180.13 Mbit/s
95th percentile per-packet one-way delay: 87.936 ms
Loss rate: 0.27%
```

Run 8: Report of TCP BBR — Data Link



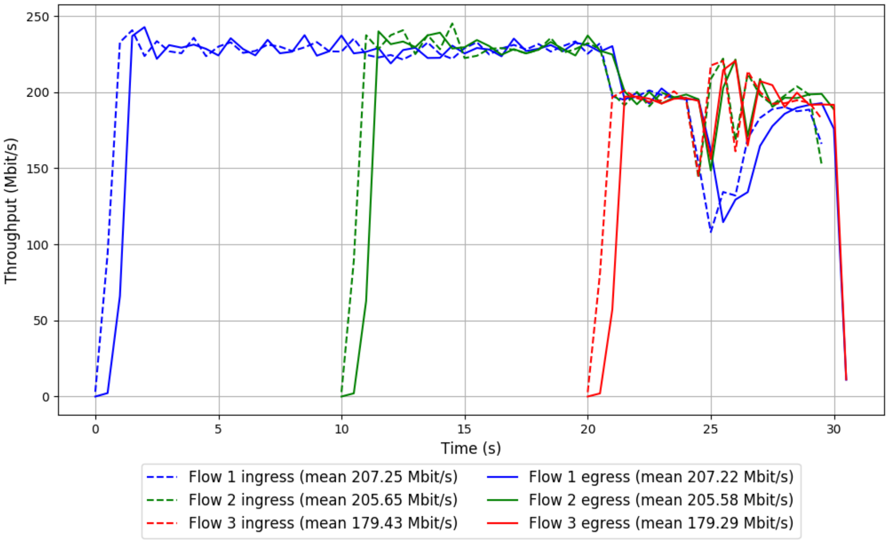


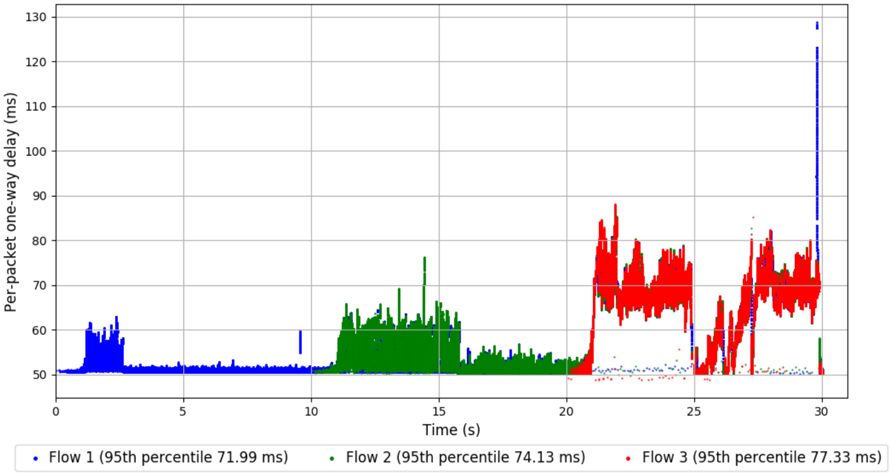
```
Run 9: Statistics of TCP BBR

Start at: 2018-07-05 21:45:35
End at: 2018-07-05 21:46:05
Local clock offset: -0.014 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-07-05 23:05:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.12 Mbit/s
95th percentile per-packet one-way delay: 74.289 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 207.22 Mbit/s
95th percentile per-packet one-way delay: 71.988 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 205.58 Mbit/s
95th percentile per-packet one-way delay: 74.132 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 179.29 Mbit/s
95th percentile per-packet one-way delay: 77.328 ms
Loss rate: 0.08%
```

Run 9: Report of TCP BBR — Data Link



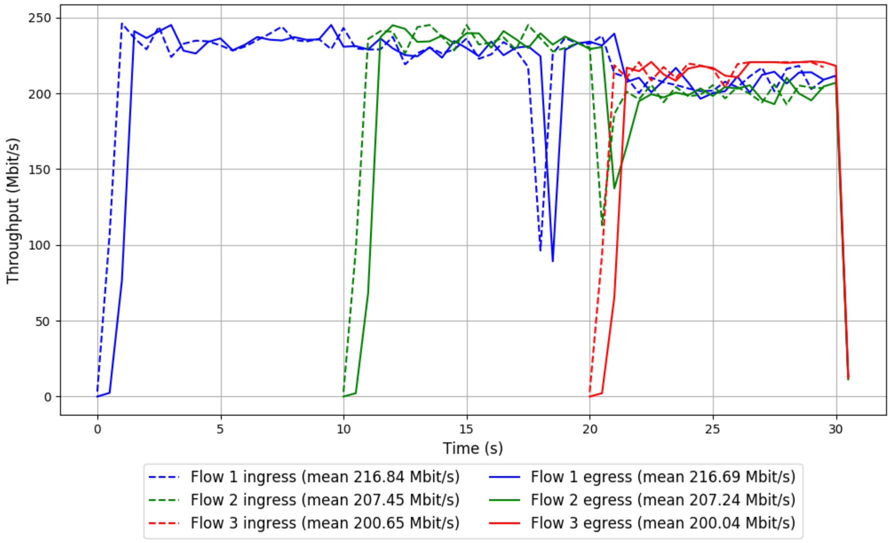


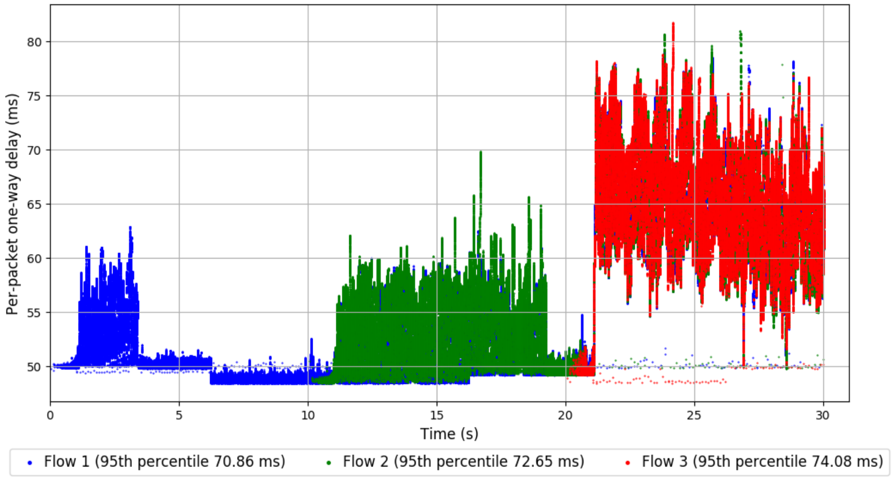
```
Run 10: Statistics of TCP BBR

Start at: 2018-07-05 22:10:44
End at: 2018-07-05 22:11:14
Local clock offset: 0.424 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2018-07-05 23:06:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 421.25 Mbit/s
95th percentile per-packet one-way delay: 72.384 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 216.69 Mbit/s
95th percentile per-packet one-way delay: 70.862 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 207.24 Mbit/s
95th percentile per-packet one-way delay: 72.648 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 200.04 Mbit/s
95th percentile per-packet one-way delay: 74.085 ms
Loss rate: 0.28%
```

Run 10: Report of TCP BBR — Data Link



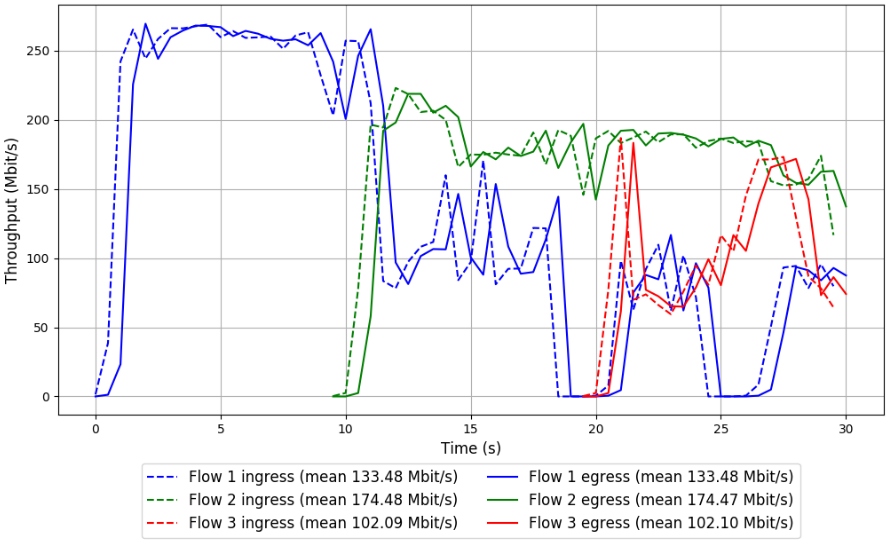


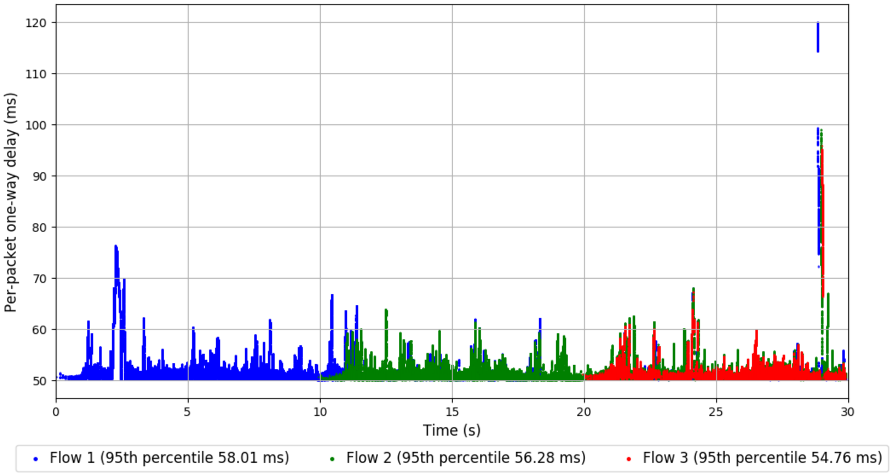
```
Run 1: Statistics of Copa

Start at: 2018-07-05 18:28:00
End at: 2018-07-05 18:28:30
Local clock offset: -0.089 ms
Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2018-07-05 23:07:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.18 Mbit/s
95th percentile per-packet one-way delay: 56.914 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 133.48 Mbit/s
95th percentile per-packet one-way delay: 58.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 174.47 Mbit/s
95th percentile per-packet one-way delay: 56.282 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 102.10 Mbit/s
95th percentile per-packet one-way delay: 54.757 ms
Loss rate: 0.00%
```

Run 1: Report of Copa — Data Link



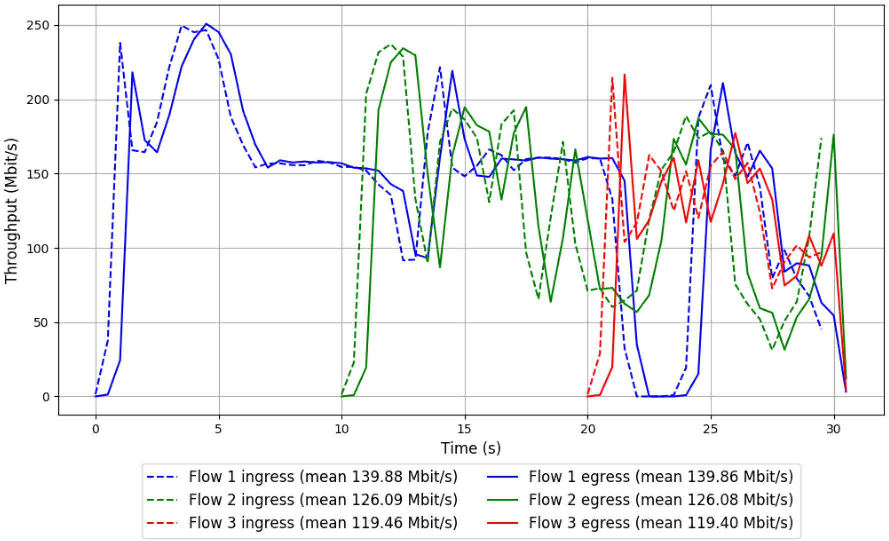


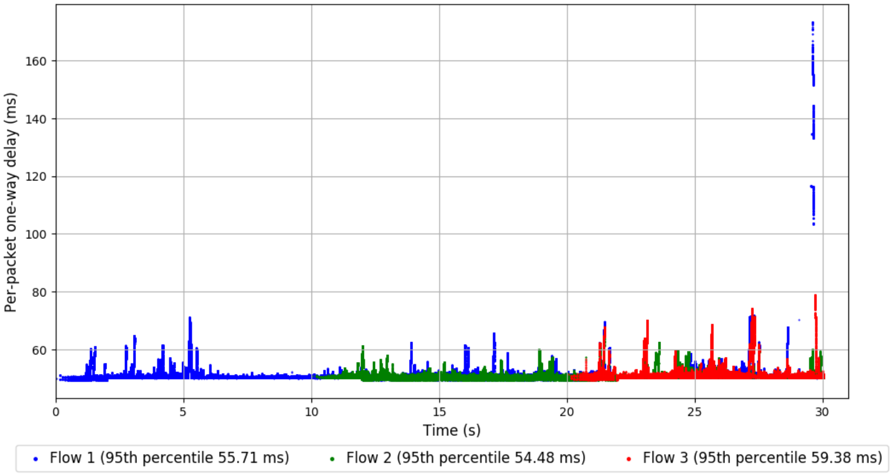
```
Run 2: Statistics of Copa

Start at: 2018-07-05 18:52:59
End at: 2018-07-05 18:53:29
Local clock offset: -0.077 ms
Remote clock offset: 0.182 ms

# Below is generated by plot.py at 2018-07-05 23:07:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.50 Mbit/s
95th percentile per-packet one-way delay: 55.790 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 139.86 Mbit/s
95th percentile per-packet one-way delay: 55.714 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 126.08 Mbit/s
95th percentile per-packet one-way delay: 54.477 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 119.40 Mbit/s
95th percentile per-packet one-way delay: 59.385 ms
Loss rate: 0.07%
```

Run 2: Report of Copa — Data Link



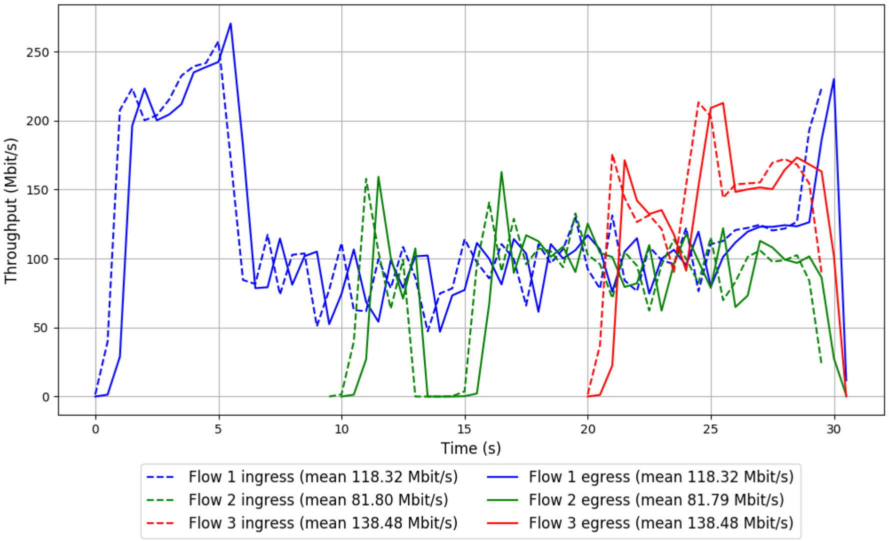


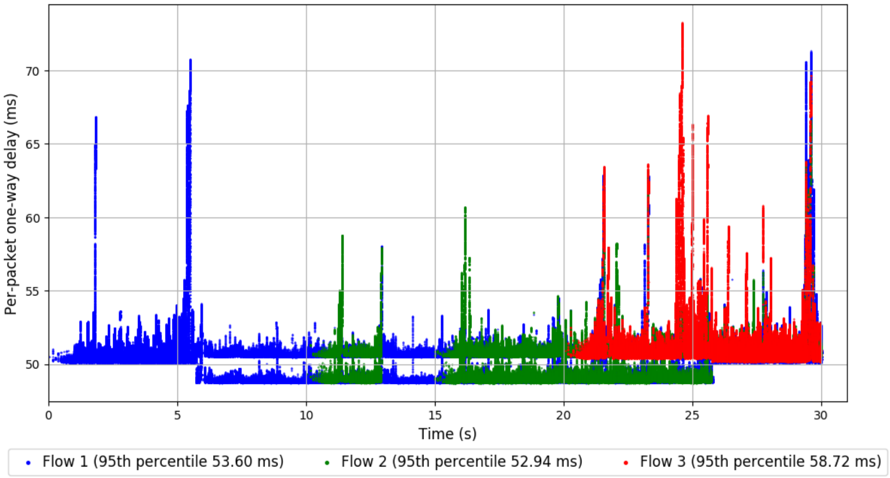
```
Run 3: Statistics of Copa

Start at: 2018-07-05 19:18:15
End at: 2018-07-05 19:18:45
Local clock offset: -0.052 ms
Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2018-07-05 23:07:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.83 Mbit/s
95th percentile per-packet one-way delay: 54.676 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 118.32 Mbit/s
95th percentile per-packet one-way delay: 53.599 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 81.79 Mbit/s
95th percentile per-packet one-way delay: 52.940 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 138.48 Mbit/s
95th percentile per-packet one-way delay: 58.720 ms
Loss rate: 0.00%
```

Run 3: Report of Copa — Data Link



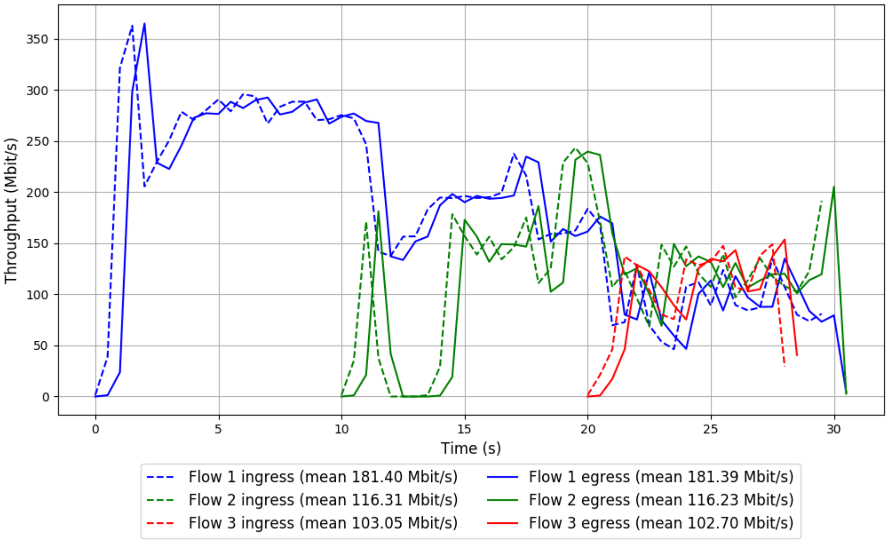


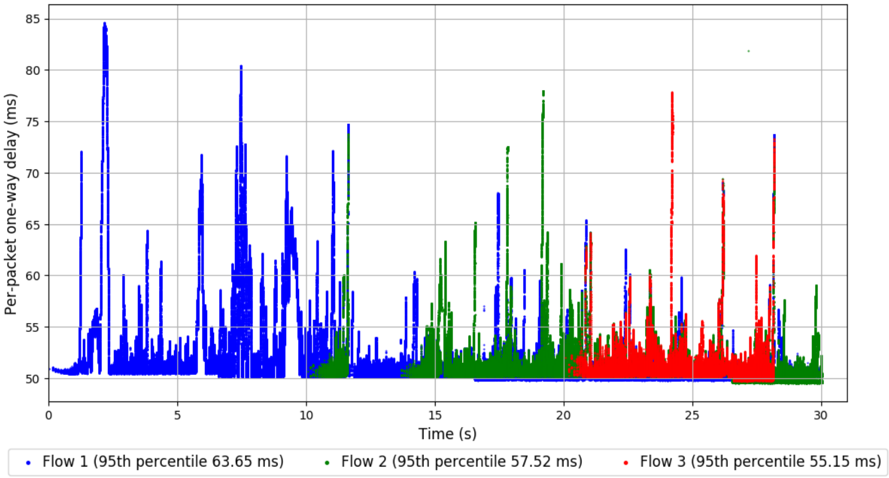
```
Run 4: Statistics of Copa

Start at: 2018-07-05 19:42:54
End at: 2018-07-05 19:43:24
Local clock offset: -0.06 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-05 23:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.44 Mbit/s
95th percentile per-packet one-way delay: 61.480 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 181.39 Mbit/s
95th percentile per-packet one-way delay: 63.646 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 116.23 Mbit/s
95th percentile per-packet one-way delay: 57.521 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 102.70 Mbit/s
95th percentile per-packet one-way delay: 55.149 ms
Loss rate: 0.07%
```

Run 4: Report of Copa — Data Link



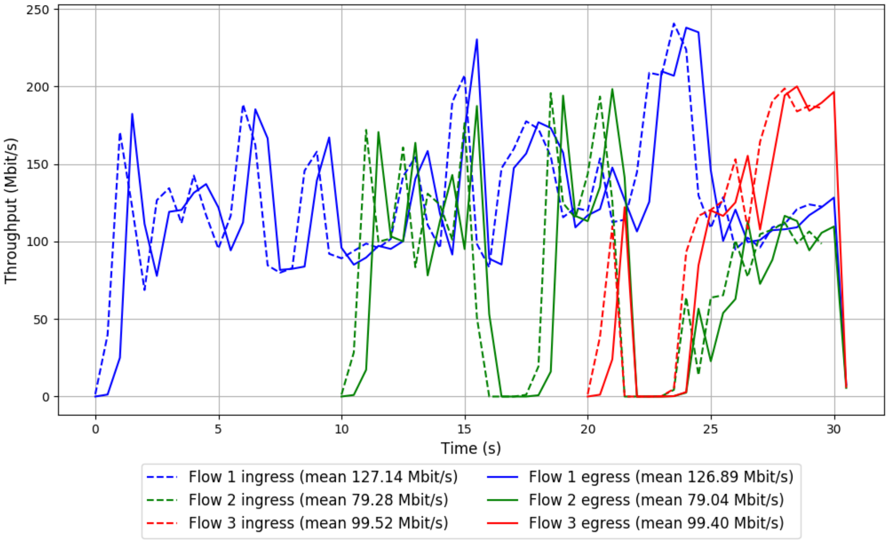


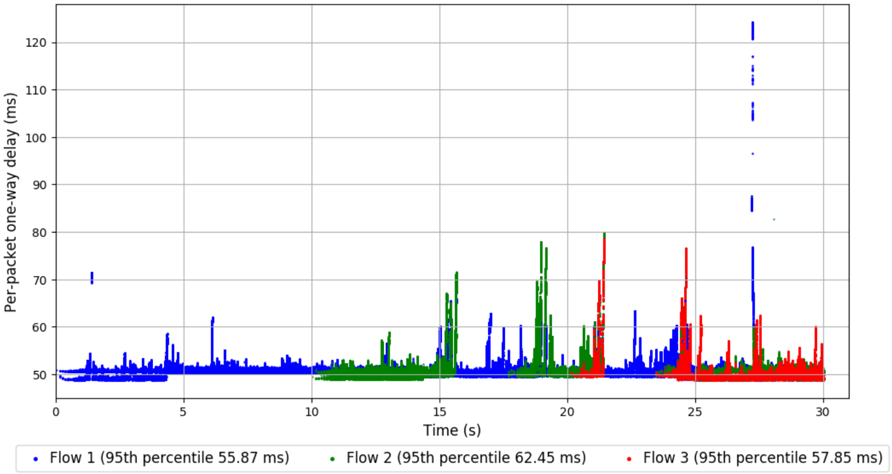
```
Run 5: Statistics of Copa

Start at: 2018-07-05 20:07:56
End at: 2018-07-05 20:08:26
Local clock offset: -0.111 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2018-07-05 23:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.61 Mbit/s
95th percentile per-packet one-way delay: 57.646 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 126.89 Mbit/s
95th percentile per-packet one-way delay: 55.869 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 79.04 Mbit/s
95th percentile per-packet one-way delay: 62.450 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 99.40 Mbit/s
95th percentile per-packet one-way delay: 57.855 ms
Loss rate: 0.13%
```

Run 5: Report of Copa — Data Link



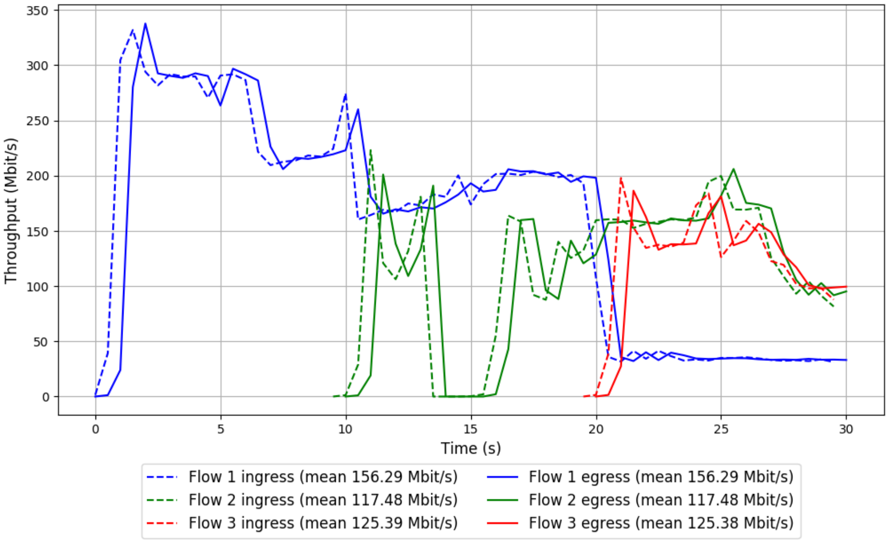


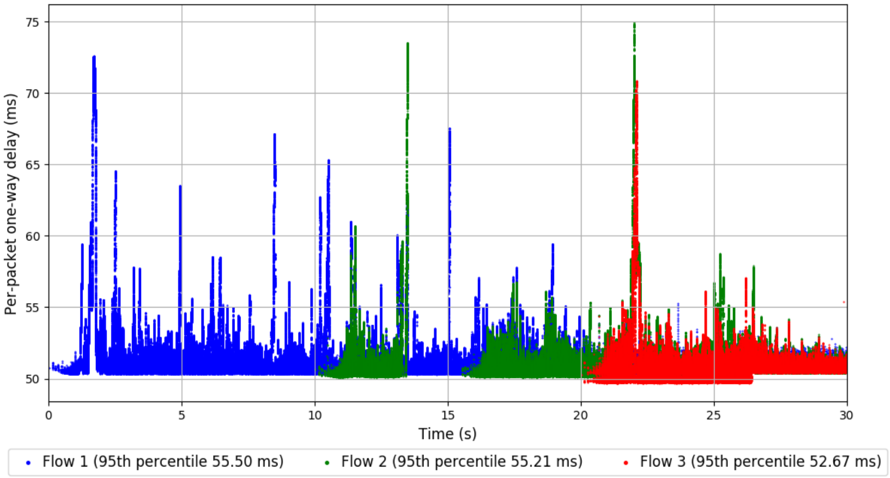
```
Run 6: Statistics of Copa

Start at: 2018-07-05 20:32:54
End at: 2018-07-05 20:33:24
Local clock offset: -0.152 ms
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2018-07-05 23:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.29 Mbit/s
95th percentile per-packet one-way delay: 55.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.29 Mbit/s
95th percentile per-packet one-way delay: 55.497 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 117.48 Mbit/s
95th percentile per-packet one-way delay: 55.212 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 125.38 Mbit/s
95th percentile per-packet one-way delay: 52.666 ms
Loss rate: 0.00%
```

Run 6: Report of Copa — Data Link



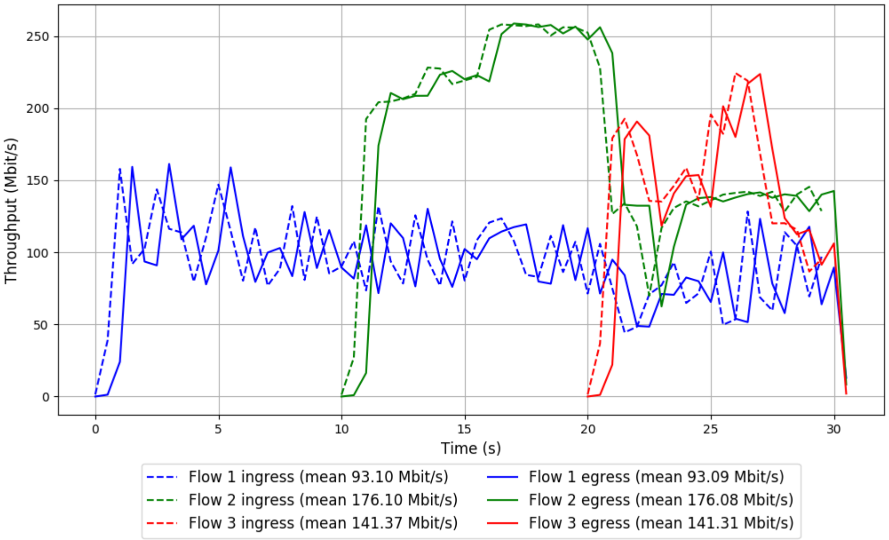


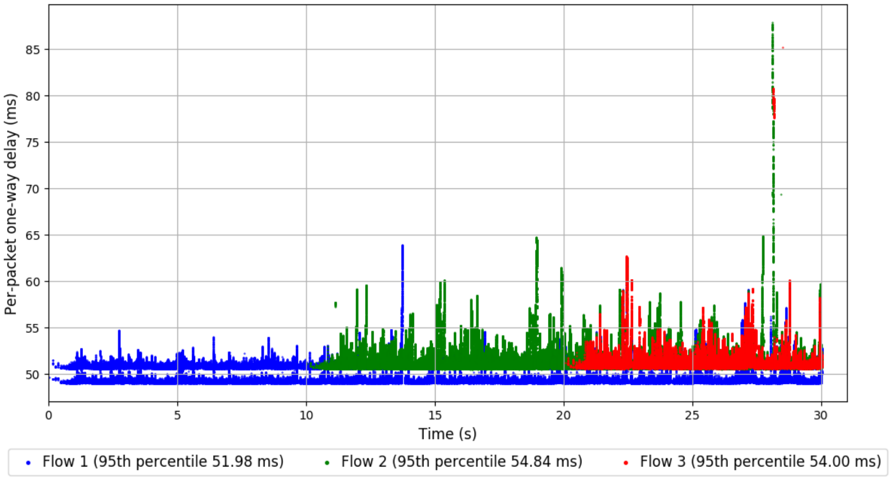
```
Run 7: Statistics of Copa

Start at: 2018-07-05 20:57:20
End at: 2018-07-05 20:57:50
Local clock offset: -0.517 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2018-07-05 23:13:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 257.37 Mbit/s
95th percentile per-packet one-way delay: 53.996 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 93.09 Mbit/s
95th percentile per-packet one-way delay: 51.978 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 176.08 Mbit/s
95th percentile per-packet one-way delay: 54.838 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 141.31 Mbit/s
95th percentile per-packet one-way delay: 53.996 ms
Loss rate: 0.05%
```

Run 7: Report of Copa — Data Link



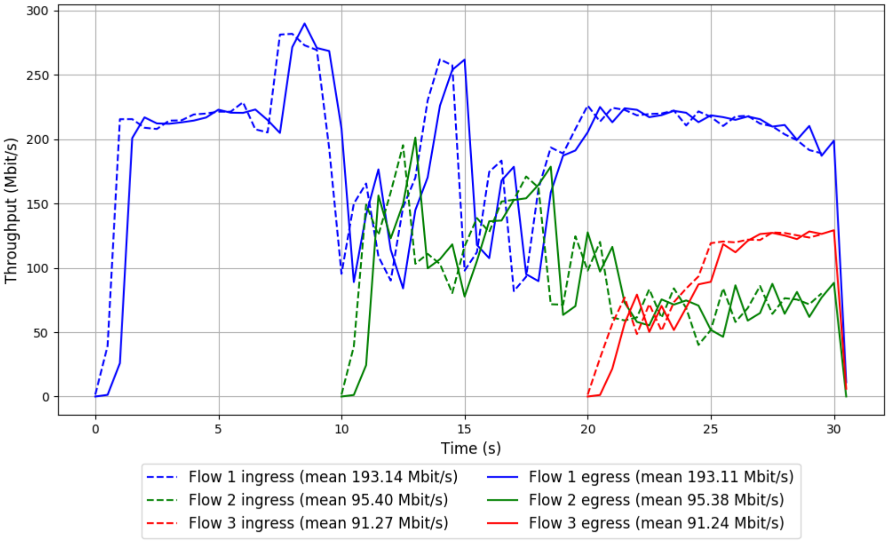


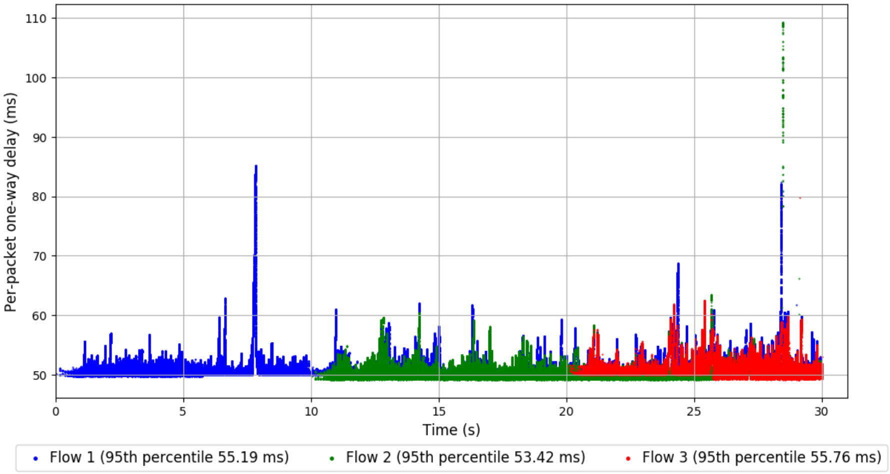
```
Run 8: Statistics of Copa

Start at: 2018-07-05 21:22:15
End at: 2018-07-05 21:22:45
Local clock offset: 0.282 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2018-07-05 23:14:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.96 Mbit/s
95th percentile per-packet one-way delay: 54.932 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 193.11 Mbit/s
95th percentile per-packet one-way delay: 55.186 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 53.419 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 55.759 ms
Loss rate: 0.02%
```

Run 8: Report of Copa — Data Link



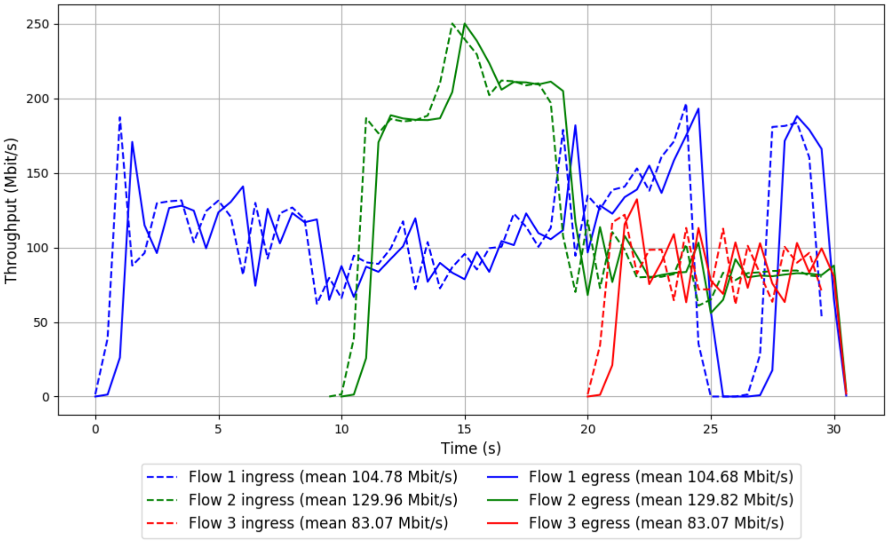


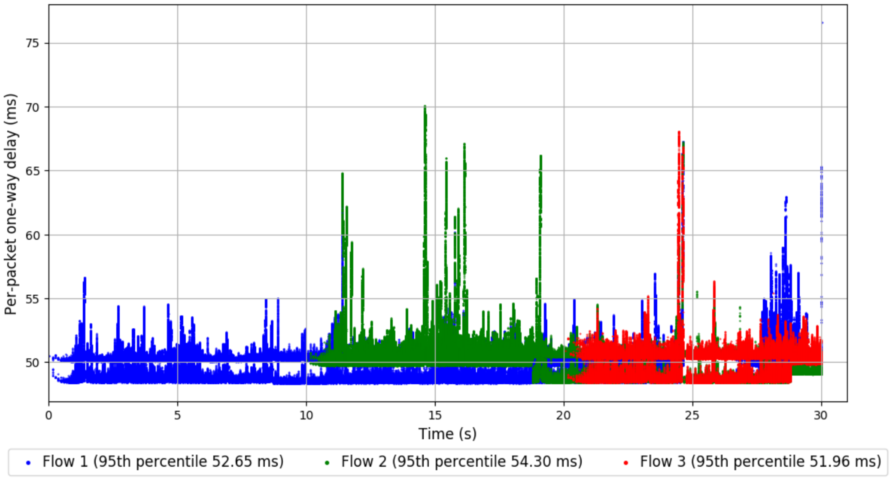
```
Run 9: Statistics of Copa

Start at: 2018-07-05 21:47:02
End at: 2018-07-05 21:47:32
Local clock offset: 0.387 ms
Remote clock offset: 0.064 ms

# Below is generated by plot.py at 2018-07-05 23:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.70 Mbit/s
95th percentile per-packet one-way delay: 53.074 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 104.68 Mbit/s
95th percentile per-packet one-way delay: 52.652 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 129.82 Mbit/s
95th percentile per-packet one-way delay: 54.299 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 83.07 Mbit/s
95th percentile per-packet one-way delay: 51.956 ms
Loss rate: 0.00%
```

Run 9: Report of Copa — Data Link



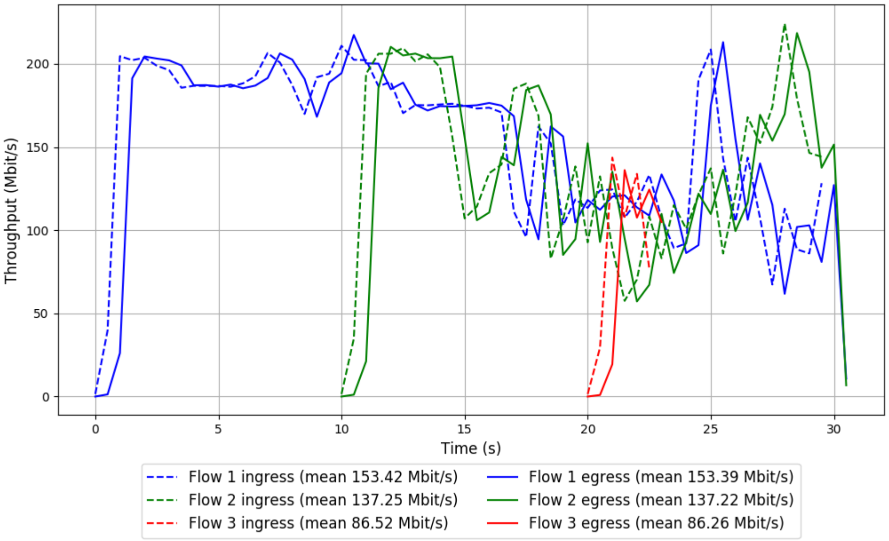


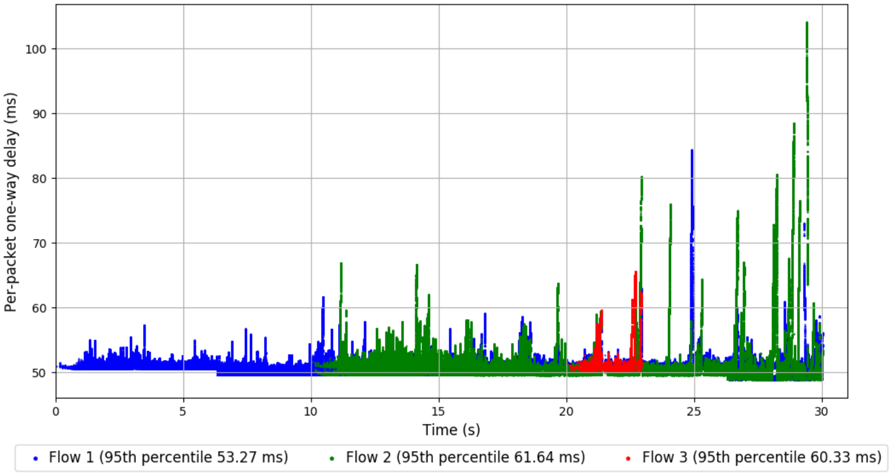
```
Run 10: Statistics of Copa

Start at: 2018-07-05 22:12:14
End at: 2018-07-05 22:12:44
Local clock offset: 0.055 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2018-07-05 23:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.01 Mbit/s
95th percentile per-packet one-way delay: 55.915 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 153.39 Mbit/s
95th percentile per-packet one-way delay: 53.275 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 137.22 Mbit/s
95th percentile per-packet one-way delay: 61.644 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 86.26 Mbit/s
95th percentile per-packet one-way delay: 60.329 ms
Loss rate: 0.00%
```

Run 10: Report of Copa — Data Link



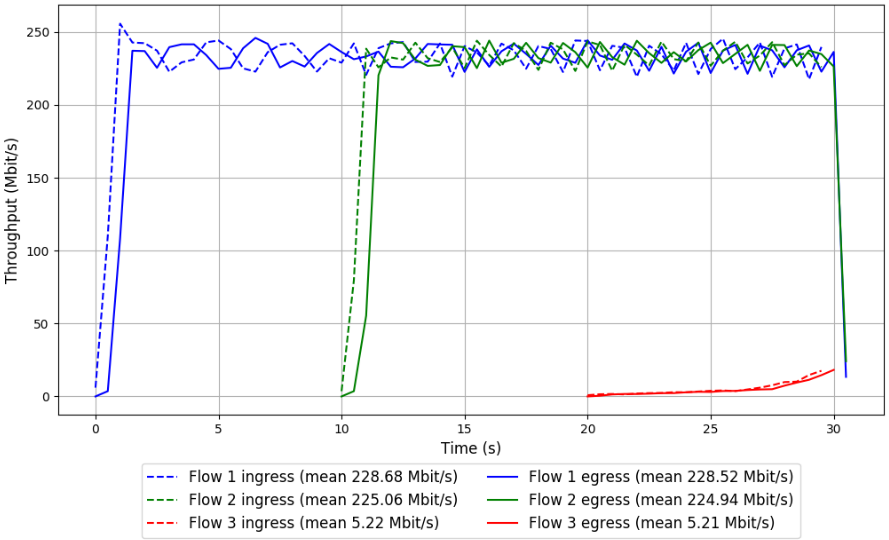


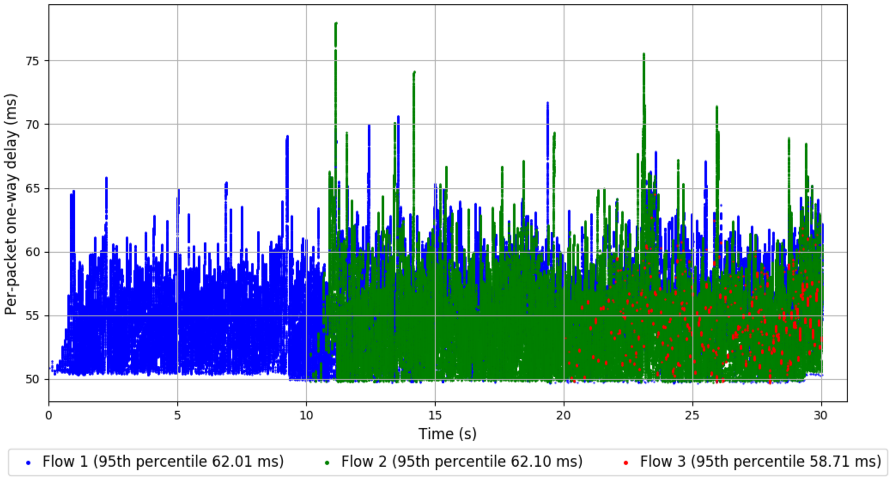
```
Run 1: Statistics of TCP Cubic

Start at: 2018-07-05 18:43:21
End at: 2018-07-05 18:43:51
Local clock offset: -0.076 ms
Remote clock offset: 0.2 ms

# Below is generated by plot.py at 2018-07-05 23:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 380.04 Mbit/s
95th percentile per-packet one-way delay: 62.019 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 228.52 Mbit/s
95th percentile per-packet one-way delay: 62.009 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 224.94 Mbit/s
95th percentile per-packet one-way delay: 62.099 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 58.708 ms
Loss rate: 0.14%
```

Run 1: Report of TCP Cubic — Data Link



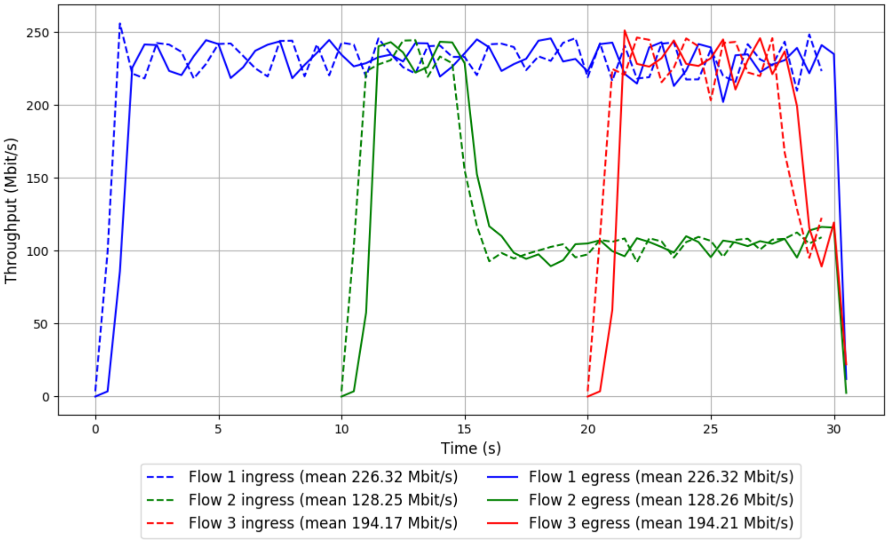


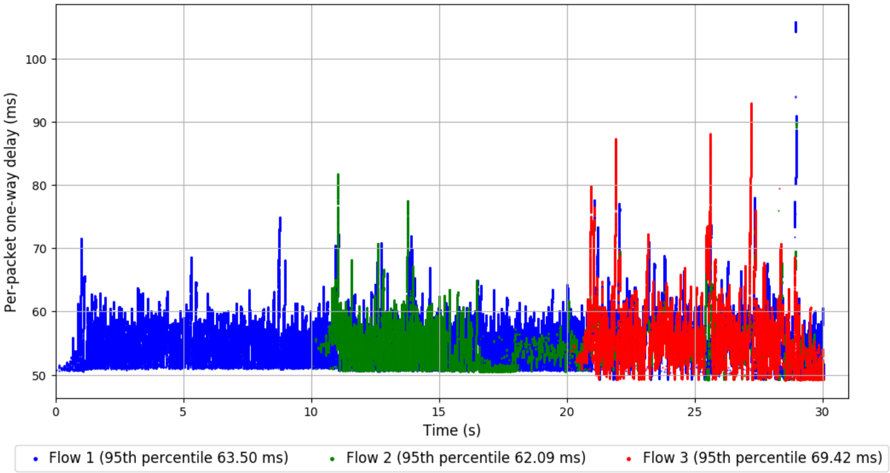
```
Run 2: Statistics of TCP Cubic

Start at: 2018-07-05 19:08:29
End at: 2018-07-05 19:08:59
Local clock offset: -0.427 ms
Remote clock offset: 0.116 ms

# Below is generated by plot.py at 2018-07-05 23:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 376.14 Mbit/s
95th percentile per-packet one-way delay: 64.596 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 226.32 Mbit/s
95th percentile per-packet one-way delay: 63.504 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 128.26 Mbit/s
95th percentile per-packet one-way delay: 62.088 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 194.21 Mbit/s
95th percentile per-packet one-way delay: 69.419 ms
Loss rate: 0.00%
```

Run 2: Report of TCP Cubic — Data Link



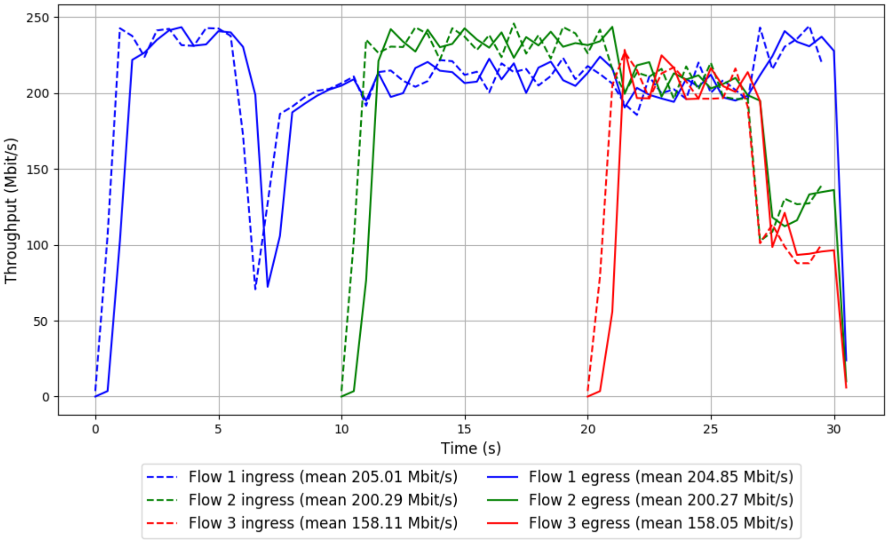


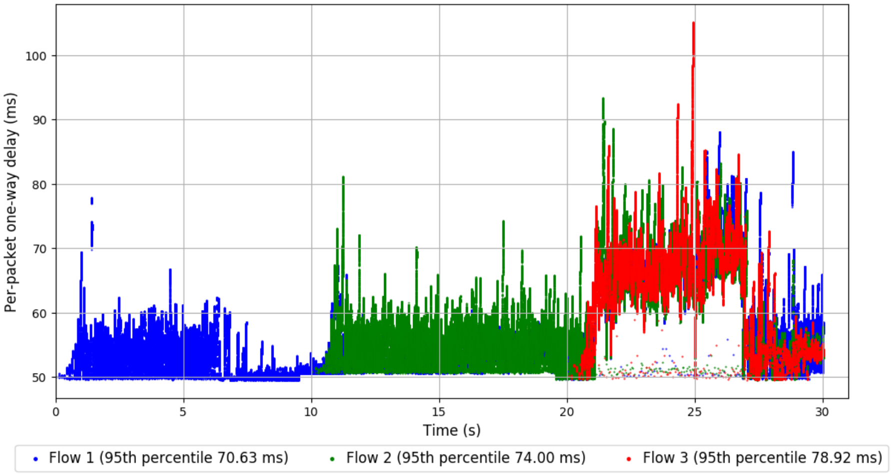
```
Run 3: Statistics of TCP Cubic

Start at: 2018-07-05 19:33:11
End at: 2018-07-05 19:33:41
Local clock offset: -0.067 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-05 23:14:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.76 Mbit/s
95th percentile per-packet one-way delay: 73.741 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 204.85 Mbit/s
95th percentile per-packet one-way delay: 70.630 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 200.27 Mbit/s
95th percentile per-packet one-way delay: 74.004 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 158.05 Mbit/s
95th percentile per-packet one-way delay: 78.918 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Cubic — Data Link



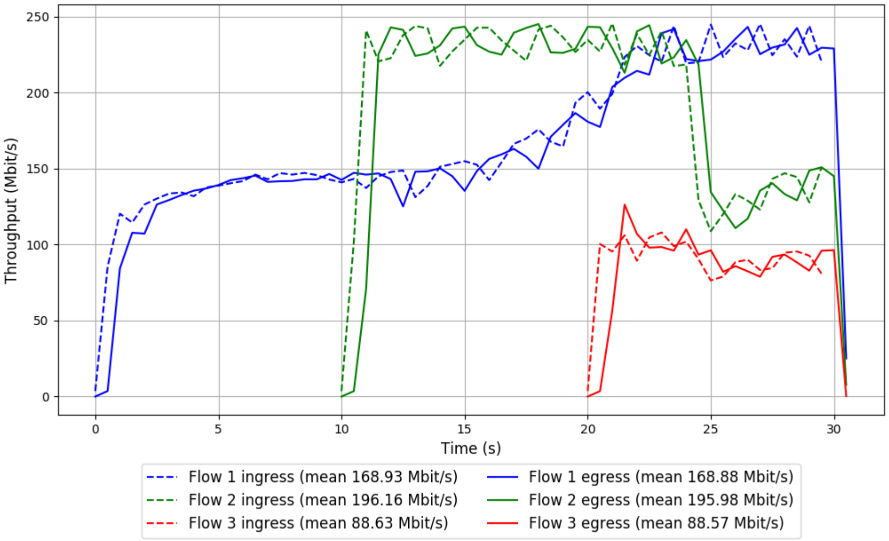


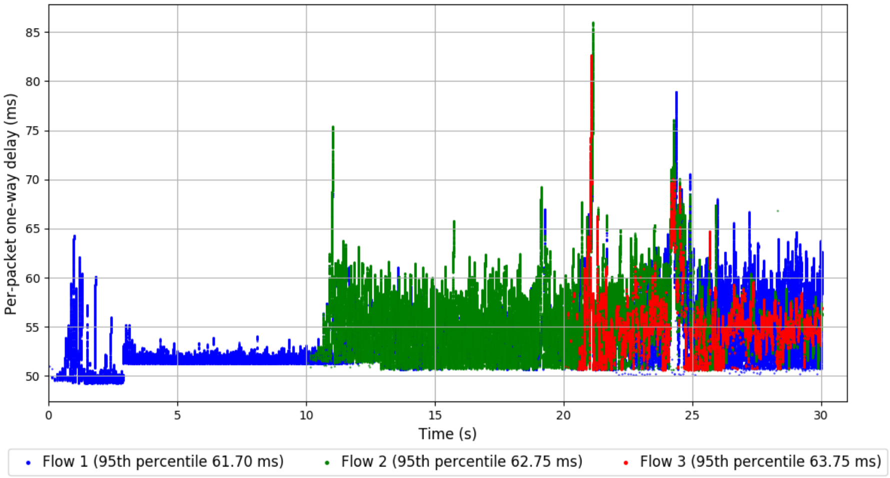
```
Run 4: Statistics of TCP Cubic

Start at: 2018-07-05 19:58:18
End at: 2018-07-05 19:58:48
Local clock offset: -0.436 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-07-05 23:14:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.81 Mbit/s
95th percentile per-packet one-way delay: 62.248 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 168.88 Mbit/s
95th percentile per-packet one-way delay: 61.704 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.98 Mbit/s
95th percentile per-packet one-way delay: 62.749 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 88.57 Mbit/s
95th percentile per-packet one-way delay: 63.752 ms
Loss rate: 0.01%
```

Run 4: Report of TCP Cubic — Data Link



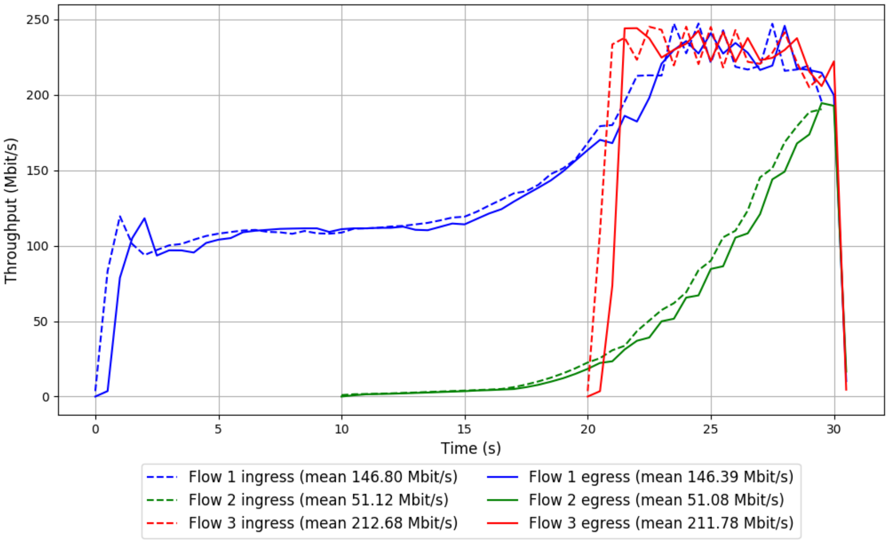


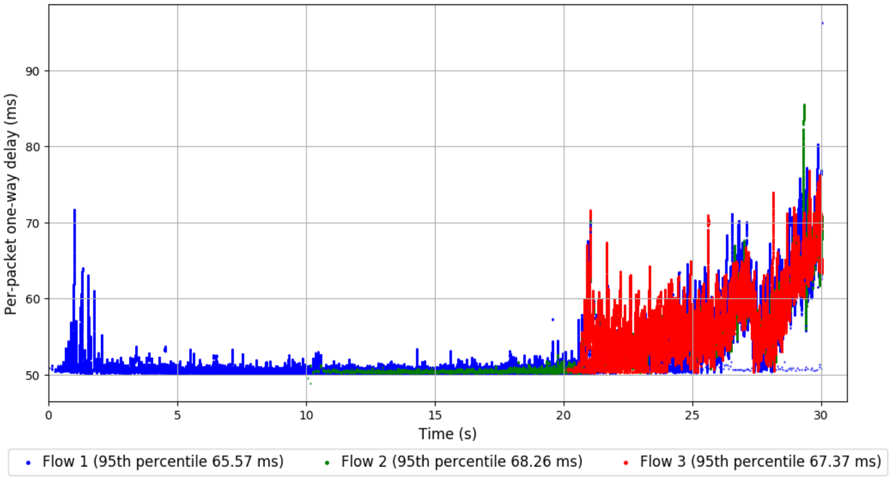
```
Run 5: Statistics of TCP Cubic

Start at: 2018-07-05 20:23:14
End at: 2018-07-05 20:23:44
Local clock offset: -0.157 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2018-07-05 23:16:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.76 Mbit/s
95th percentile per-packet one-way delay: 66.953 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 146.39 Mbit/s
95th percentile per-packet one-way delay: 65.568 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 51.08 Mbit/s
95th percentile per-packet one-way delay: 68.258 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 211.78 Mbit/s
95th percentile per-packet one-way delay: 67.366 ms
Loss rate: 0.42%
```

Run 5: Report of TCP Cubic — Data Link



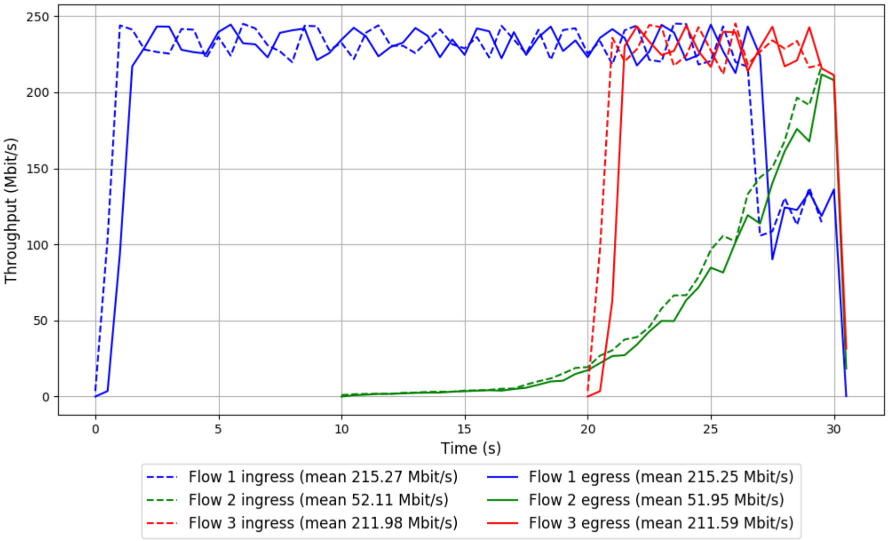


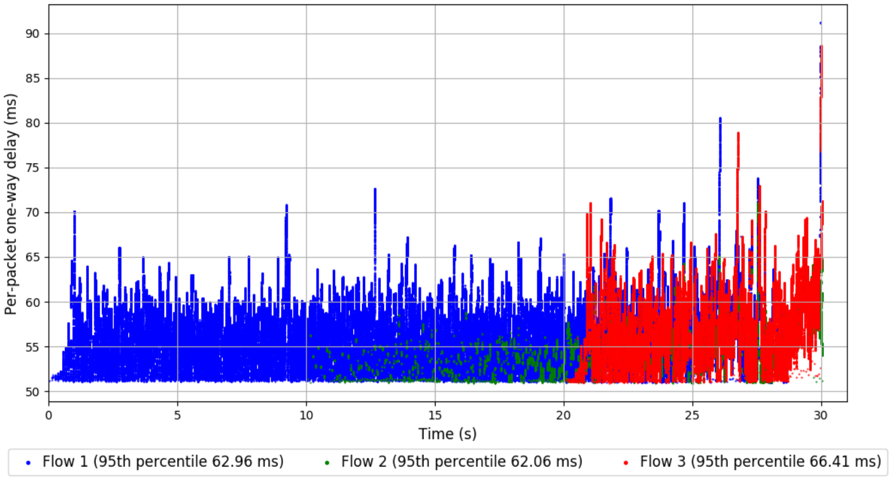
```
Run 6: Statistics of TCP Cubic

Start at: 2018-07-05 20:48:05
End at: 2018-07-05 20:48:35
Local clock offset: -0.554 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-07-05 23:18:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.16 Mbit/s
95th percentile per-packet one-way delay: 63.909 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 215.25 Mbit/s
95th percentile per-packet one-way delay: 62.957 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.95 Mbit/s
95th percentile per-packet one-way delay: 62.064 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 211.59 Mbit/s
95th percentile per-packet one-way delay: 66.414 ms
Loss rate: 0.00%
```

Run 6: Report of TCP Cubic — Data Link



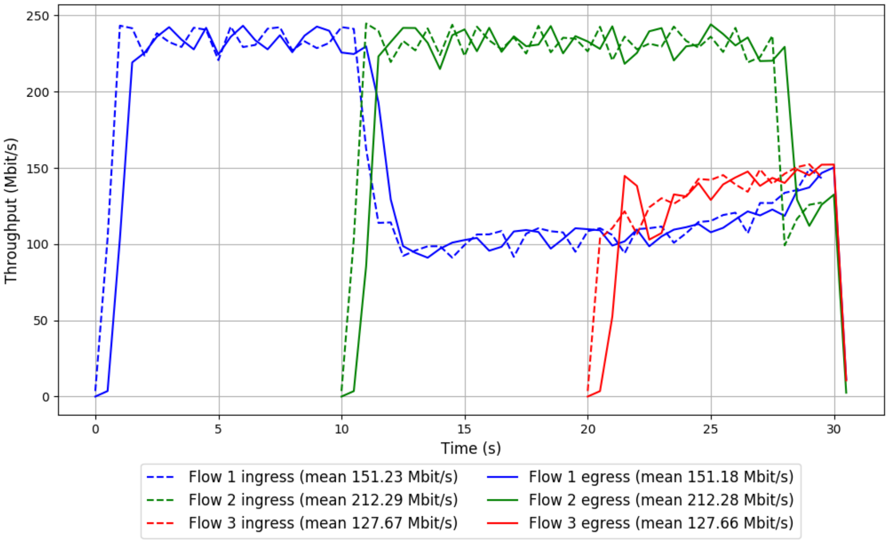


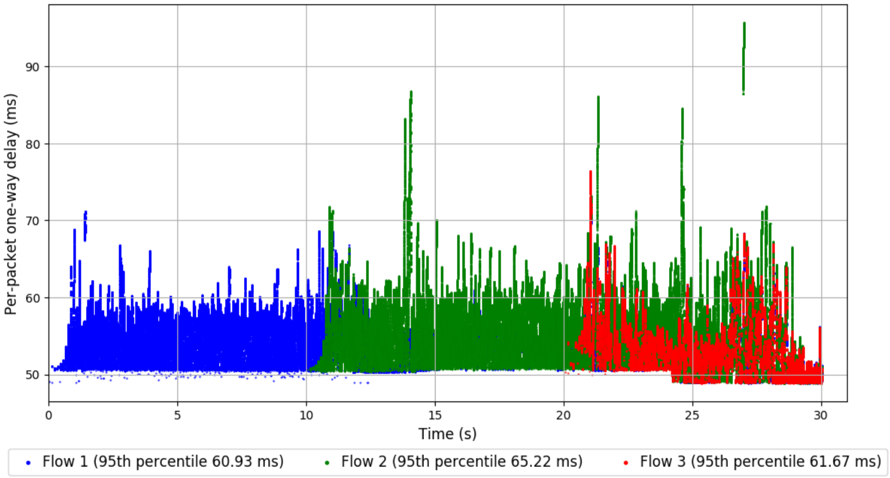
```
Run 7: Statistics of TCP Cubic

Start at: 2018-07-05 21:12:36
End at: 2018-07-05 21:13:06
Local clock offset: -0.157 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2018-07-05 23:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.98 Mbit/s
95th percentile per-packet one-way delay: 63.422 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 151.18 Mbit/s
95th percentile per-packet one-way delay: 60.929 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 212.28 Mbit/s
95th percentile per-packet one-way delay: 65.219 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 127.66 Mbit/s
95th percentile per-packet one-way delay: 61.674 ms
Loss rate: 0.00%
```

Run 7: Report of TCP Cubic — Data Link



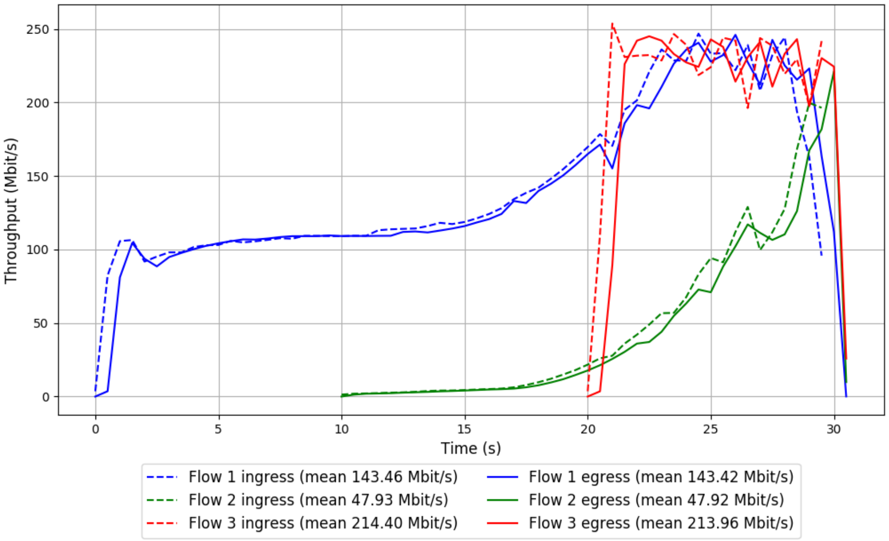


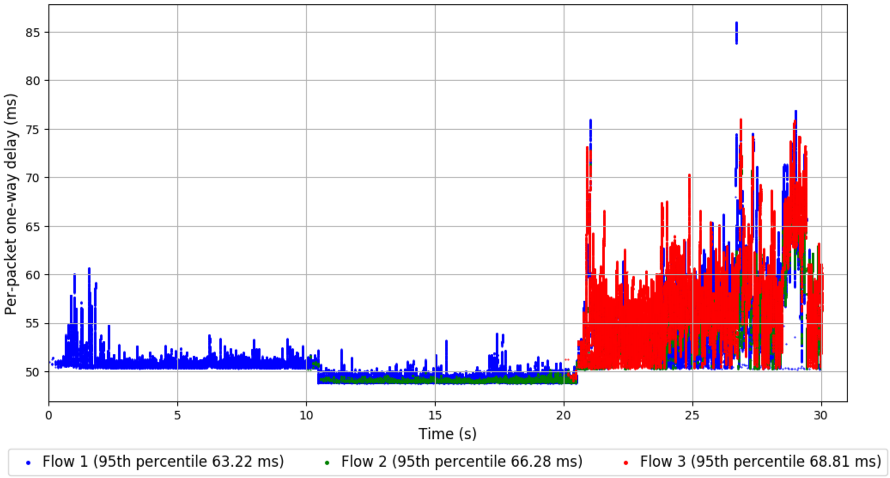
```
Run 8: Statistics of TCP Cubic

Start at: 2018-07-05 21:37:30
End at: 2018-07-05 21:38:00
Local clock offset: -0.042 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-07-05 23:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 246.42 Mbit/s
95th percentile per-packet one-way delay: 66.260 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 143.42 Mbit/s
95th percentile per-packet one-way delay: 63.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.92 Mbit/s
95th percentile per-packet one-way delay: 66.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.96 Mbit/s
95th percentile per-packet one-way delay: 68.810 ms
Loss rate: 0.19%
```

Run 8: Report of TCP Cubic — Data Link



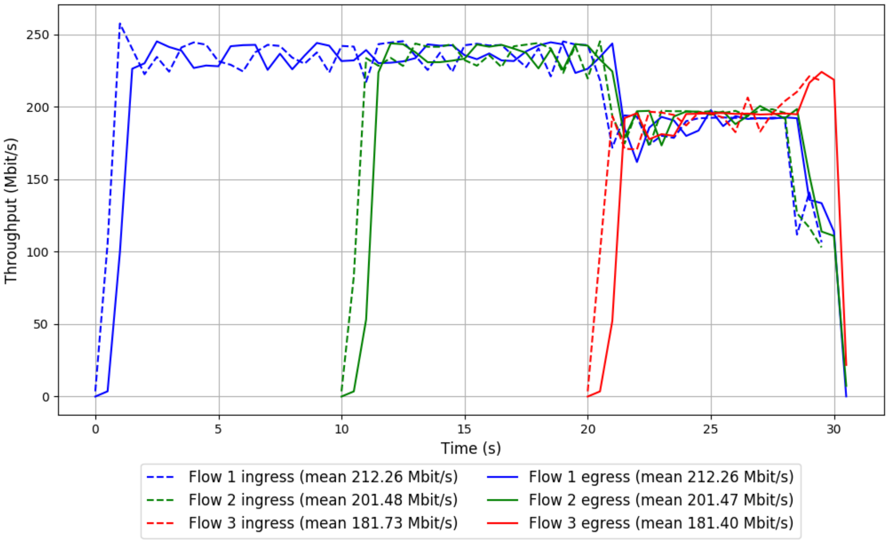


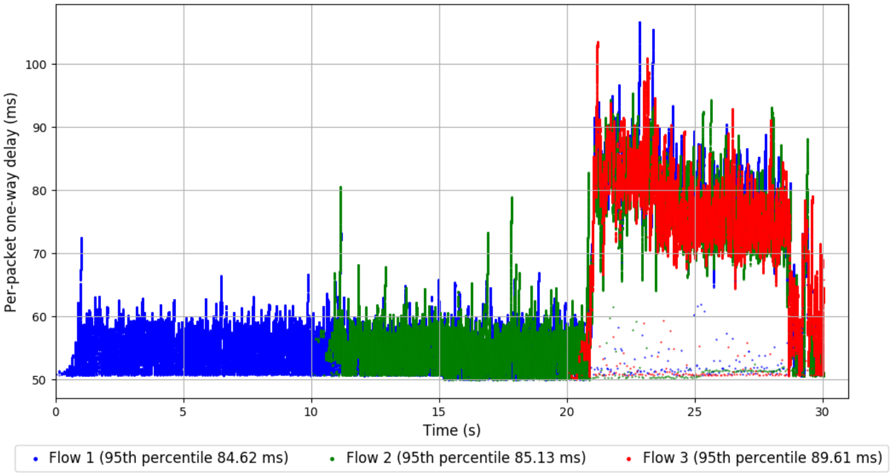
```
Run 9: Statistics of TCP Cubic

Start at: 2018-07-05 22:02:25
End at: 2018-07-05 22:02:55
Local clock offset: -0.354 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-07-05 23:19:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 406.70 Mbit/s
95th percentile per-packet one-way delay: 86.064 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 212.26 Mbit/s
95th percentile per-packet one-way delay: 84.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 201.47 Mbit/s
95th percentile per-packet one-way delay: 85.126 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 181.40 Mbit/s
95th percentile per-packet one-way delay: 89.612 ms
Loss rate: 0.05%
```

Run 9: Report of TCP Cubic — Data Link



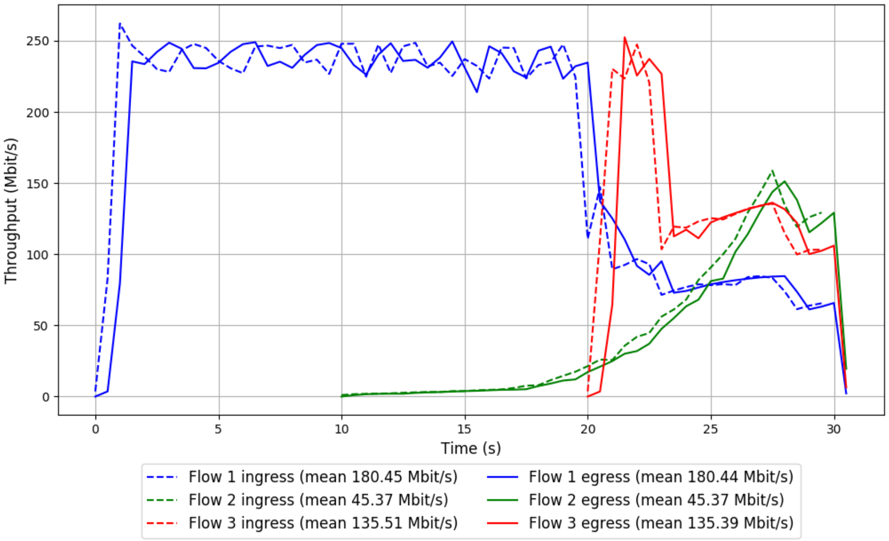


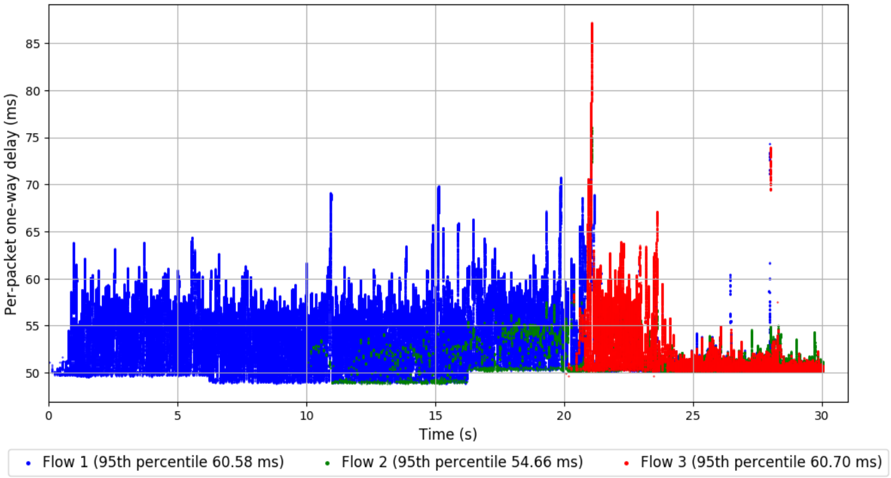
```
Run 10: Statistics of TCP Cubic

Start at: 2018-07-05 22:27:24
End at: 2018-07-05 22:27:54
Local clock offset: 0.054 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2018-07-05 23:19:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.56 Mbit/s
95th percentile per-packet one-way delay: 60.355 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 180.44 Mbit/s
95th percentile per-packet one-way delay: 60.583 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 54.658 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 135.39 Mbit/s
95th percentile per-packet one-way delay: 60.695 ms
Loss rate: 0.08%
```

Run 10: Report of TCP Cubic — Data Link



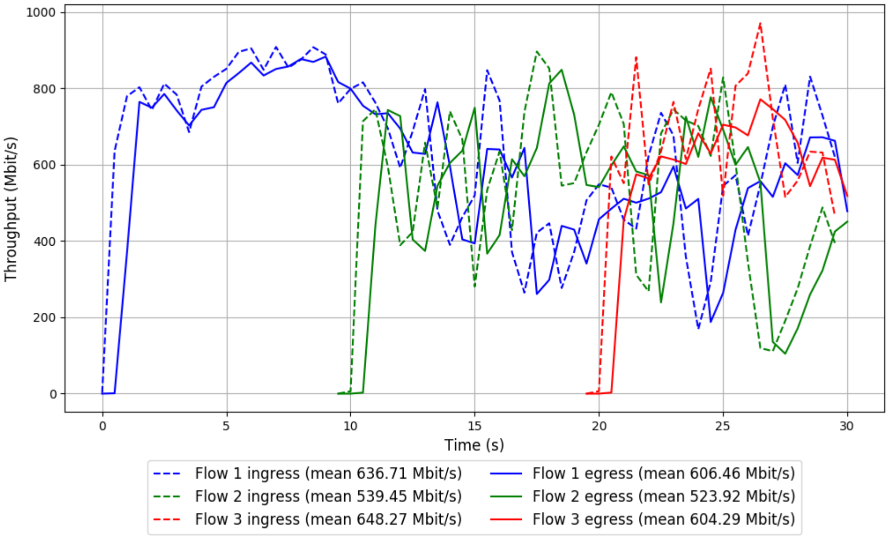


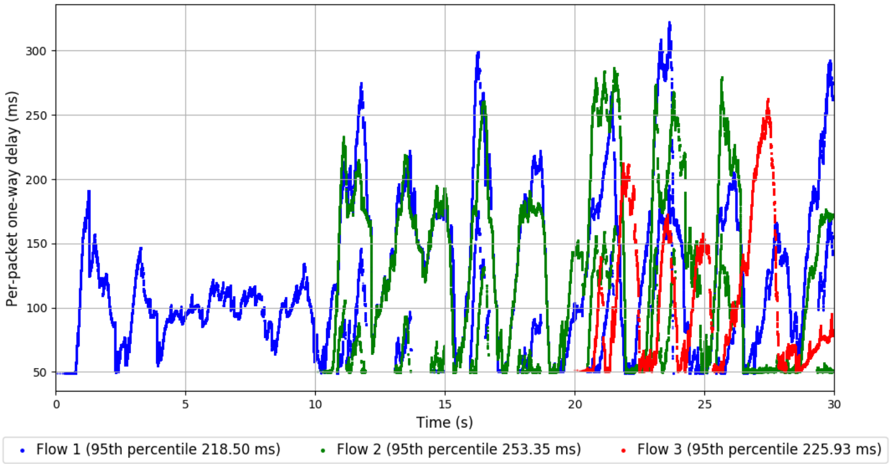
```
Run 1: Statistics of FillP

Start at: 2018-07-05 18:38:49
End at: 2018-07-05 18:39:19
Local clock offset: -0.138 ms
Remote clock offset: 0.154 ms

# Below is generated by plot.py at 2018-07-05 23:36:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1156.83 Mbit/s
95th percentile per-packet one-way delay: 240.054 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 606.46 Mbit/s
95th percentile per-packet one-way delay: 218.499 ms
Loss rate: 4.74%
-- Flow 2:
Average throughput: 523.92 Mbit/s
95th percentile per-packet one-way delay: 253.347 ms
Loss rate: 2.87%
-- Flow 3:
Average throughput: 604.29 Mbit/s
95th percentile per-packet one-way delay: 225.932 ms
Loss rate: 6.78%
```

Run 1: Report of FillP — Data Link



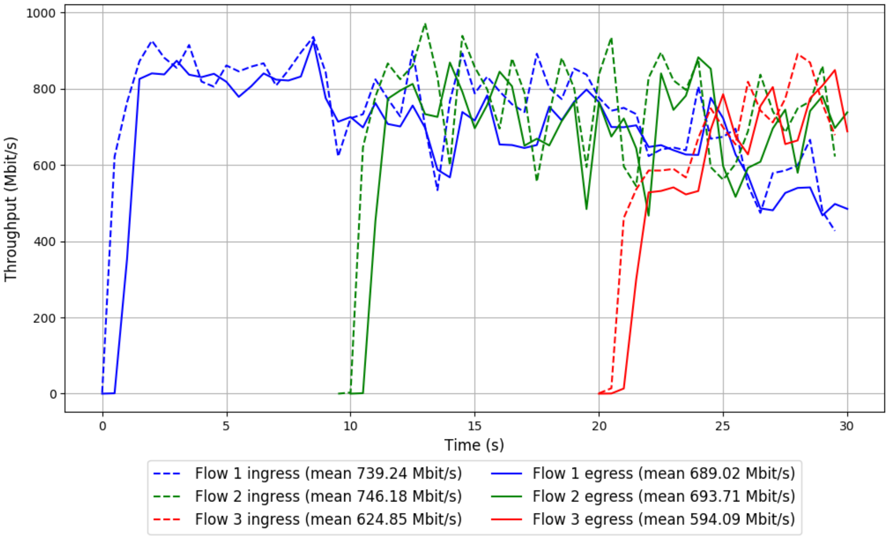


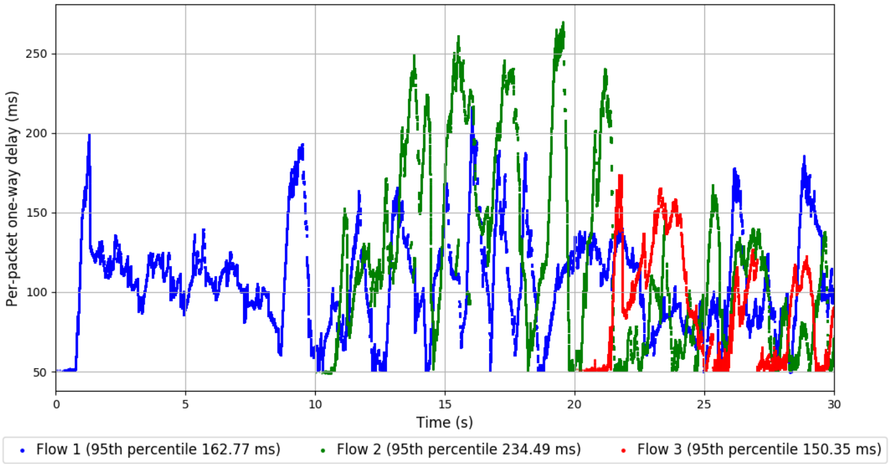
```
Run 2: Statistics of FillP

Start at: 2018-07-05 19:03:50
End at: 2018-07-05 19:04:20
Local clock offset: -0.052 ms
Remote clock offset: 0.088 ms

# Below is generated by plot.py at 2018-07-05 23:40:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1347.46 Mbit/s
95th percentile per-packet one-way delay: 206.371 ms
Loss rate: 6.60%
-- Flow 1:
Average throughput: 689.02 Mbit/s
95th percentile per-packet one-way delay: 162.766 ms
Loss rate: 6.79%
-- Flow 2:
Average throughput: 693.71 Mbit/s
95th percentile per-packet one-way delay: 234.488 ms
Loss rate: 7.02%
-- Flow 3:
Average throughput: 594.09 Mbit/s
95th percentile per-packet one-way delay: 150.348 ms
Loss rate: 4.92%
```

Run 2: Report of FillP — Data Link



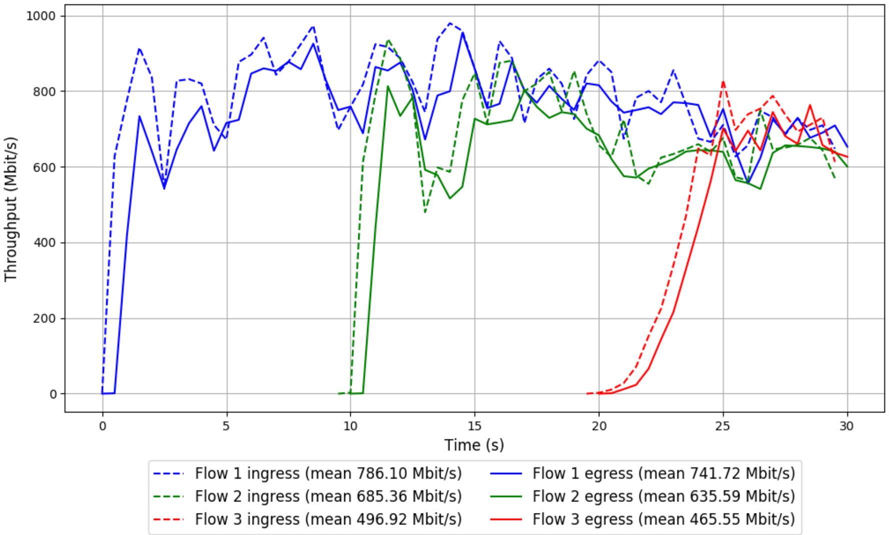


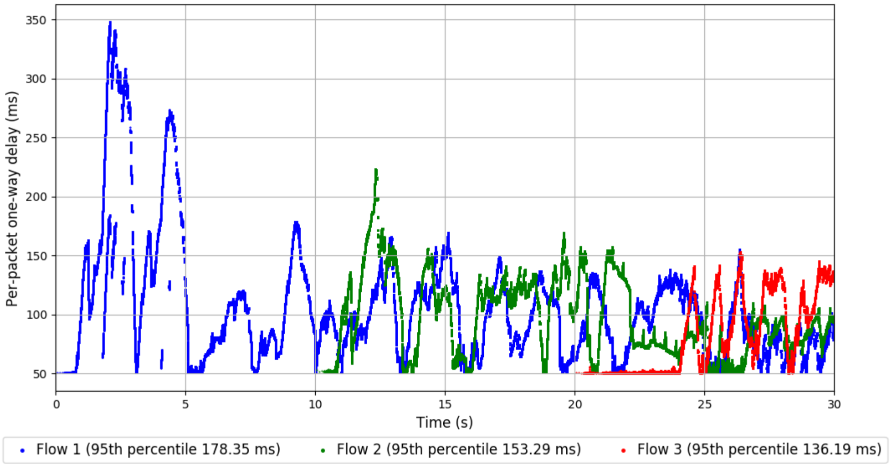
```
Run 3: Statistics of FillP

Start at: 2018-07-05 19:28:32
End at: 2018-07-05 19:29:02
Local clock offset: -0.058 ms
Remote clock offset: 0.058 ms

# Below is generated by plot.py at 2018-07-05 23:42:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1319.53 Mbit/s
95th percentile per-packet one-way delay: 163.622 ms
Loss rate: 6.24%
-- Flow 1:
Average throughput: 741.72 Mbit/s
95th percentile per-packet one-way delay: 178.346 ms
Loss rate: 5.64%
-- Flow 2:
Average throughput: 635.59 Mbit/s
95th percentile per-packet one-way delay: 153.293 ms
Loss rate: 7.26%
-- Flow 3:
Average throughput: 465.55 Mbit/s
95th percentile per-packet one-way delay: 136.195 ms
Loss rate: 6.30%
```

Run 3: Report of FillP — Data Link



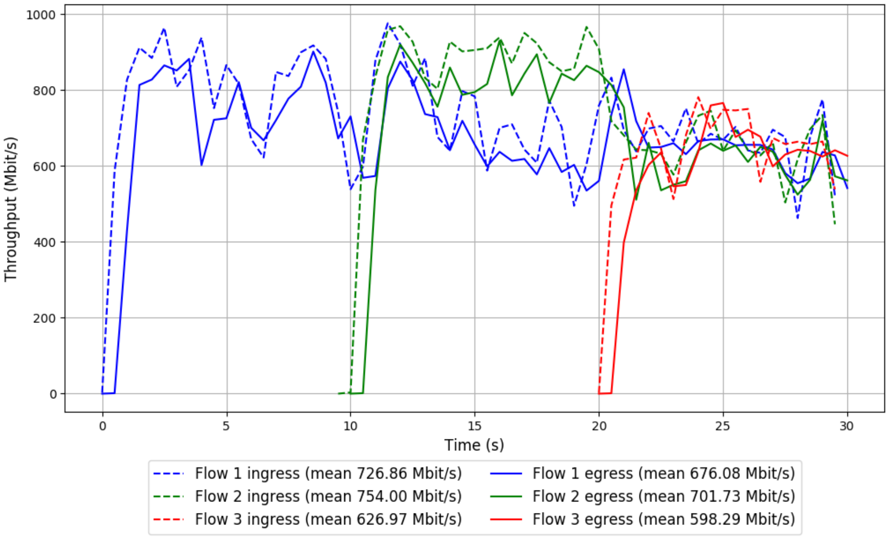


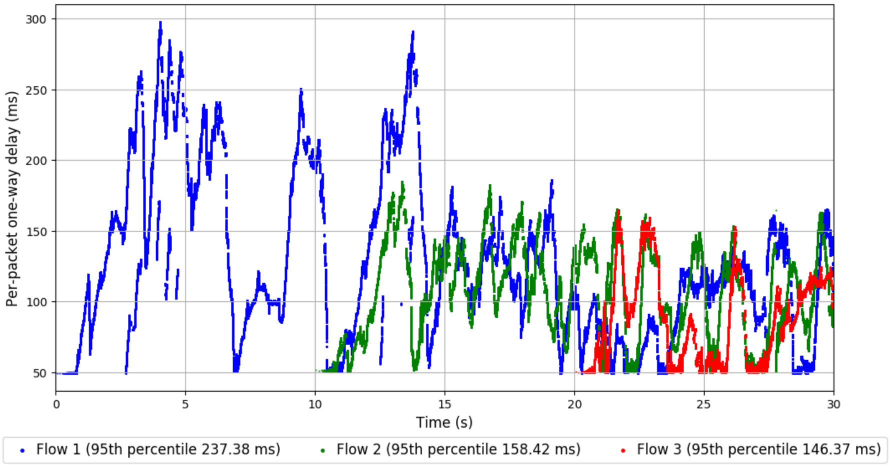
```
Run 4: Statistics of FillP

Start at: 2018-07-05 19:53:38
End at: 2018-07-05 19:54:08
Local clock offset: -0.429 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-07-05 23:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1342.31 Mbit/s
95th percentile per-packet one-way delay: 221.550 ms
Loss rate: 6.61%
-- Flow 1:
Average throughput: 676.08 Mbit/s
95th percentile per-packet one-way delay: 237.375 ms
Loss rate: 6.98%
-- Flow 2:
Average throughput: 701.73 Mbit/s
95th percentile per-packet one-way delay: 158.424 ms
Loss rate: 6.92%
-- Flow 3:
Average throughput: 598.29 Mbit/s
95th percentile per-packet one-way delay: 146.368 ms
Loss rate: 4.56%
```

Run 4: Report of FillP — Data Link



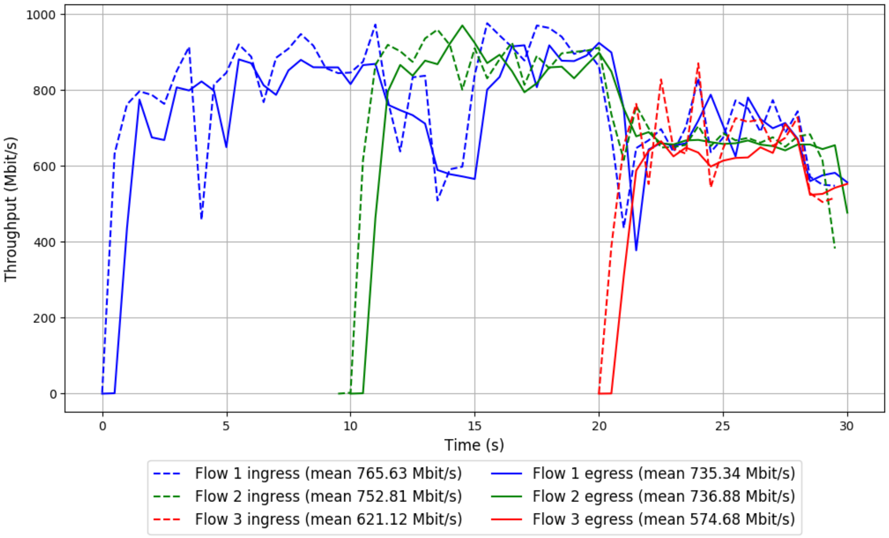


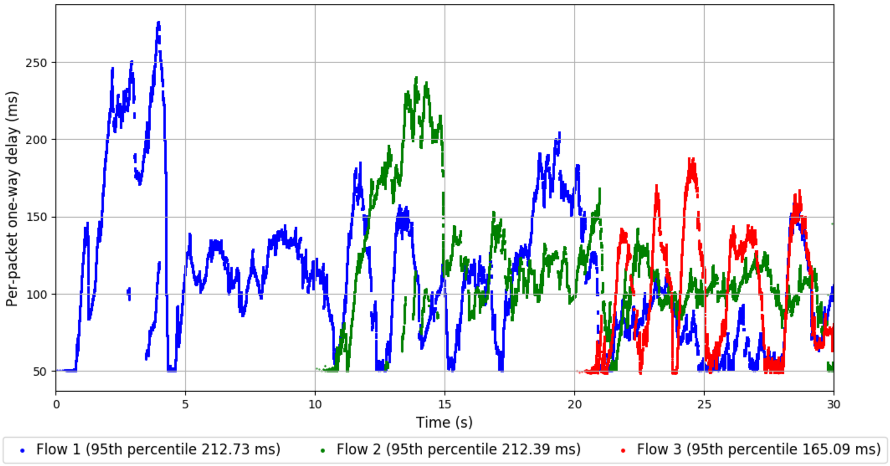
```
Run 5: Statistics of FillP

Start at: 2018-07-05 20:18:32
End at: 2018-07-05 20:19:02
Local clock offset: 0.212 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-07-05 23:45:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1416.14 Mbit/s
95th percentile per-packet one-way delay: 207.905 ms
Loss rate: 3.82%
-- Flow 1:
Average throughput: 735.34 Mbit/s
95th percentile per-packet one-way delay: 212.731 ms
Loss rate: 3.95%
-- Flow 2:
Average throughput: 736.88 Mbit/s
95th percentile per-packet one-way delay: 212.394 ms
Loss rate: 2.12%
-- Flow 3:
Average throughput: 574.68 Mbit/s
95th percentile per-packet one-way delay: 165.091 ms
Loss rate: 7.46%
```

Run 5: Report of FillP — Data Link



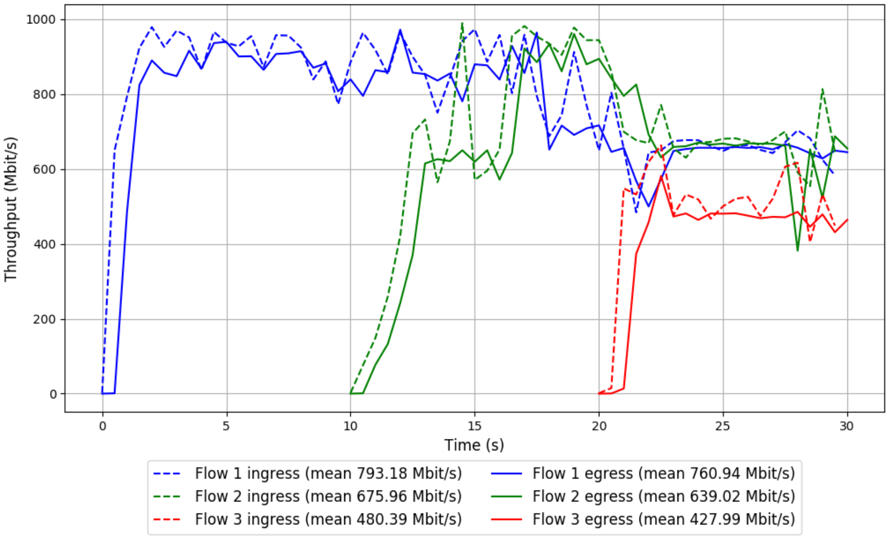


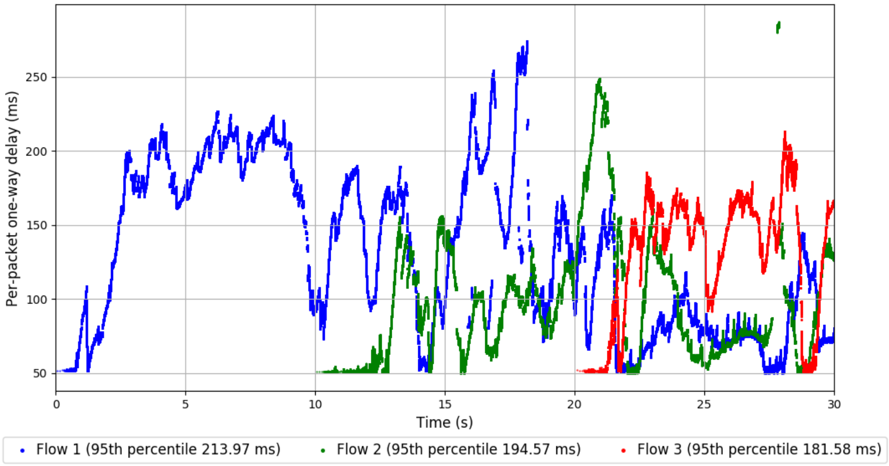
```
Run 6: Statistics of FillP

Start at: 2018-07-05 20:43:26
End at: 2018-07-05 20:43:56
Local clock offset: -0.507 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-07-05 23:45:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1327.97 Mbit/s
95th percentile per-packet one-way delay: 211.341 ms
Loss rate: 5.30%
-- Flow 1:
Average throughput: 760.94 Mbit/s
95th percentile per-packet one-way delay: 213.974 ms
Loss rate: 4.07%
-- Flow 2:
Average throughput: 639.02 Mbit/s
95th percentile per-packet one-way delay: 194.572 ms
Loss rate: 5.47%
-- Flow 3:
Average throughput: 427.99 Mbit/s
95th percentile per-packet one-way delay: 181.581 ms
Loss rate: 10.93%
```

Run 6: Report of FillP — Data Link



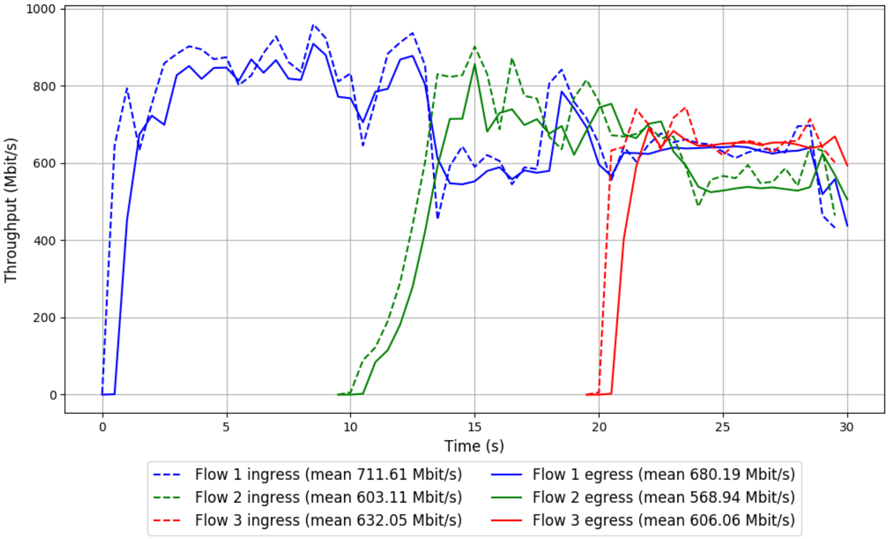


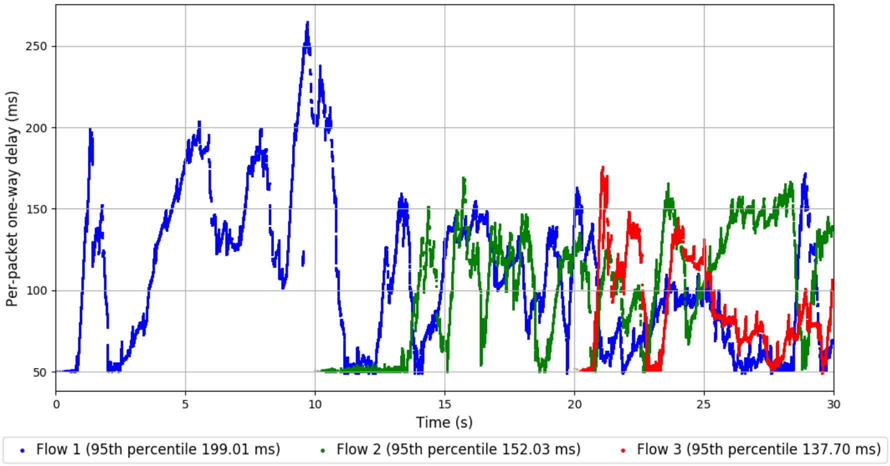
```
Run 7: Statistics of FillP

Start at: 2018-07-05 21:08:03
End at: 2018-07-05 21:08:33
Local clock offset: -0.208 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-05 23:45:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1261.43 Mbit/s
95th percentile per-packet one-way delay: 184.709 ms
Loss rate: 4.75%
-- Flow 1:
Average throughput: 680.19 Mbit/s
95th percentile per-packet one-way delay: 199.007 ms
Loss rate: 4.41%
-- Flow 2:
Average throughput: 568.94 Mbit/s
95th percentile per-packet one-way delay: 152.025 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 606.06 Mbit/s
95th percentile per-packet one-way delay: 137.703 ms
Loss rate: 4.12%
```

Run 7: Report of FillP — Data Link



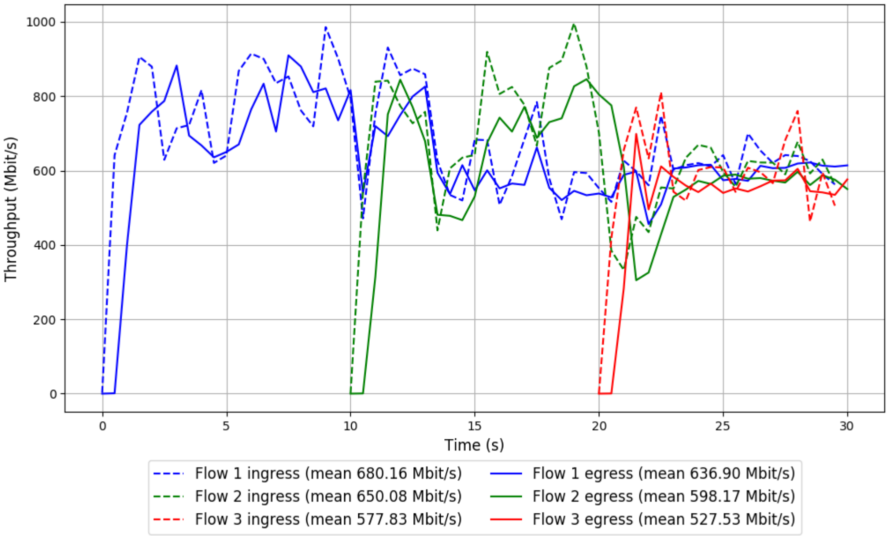


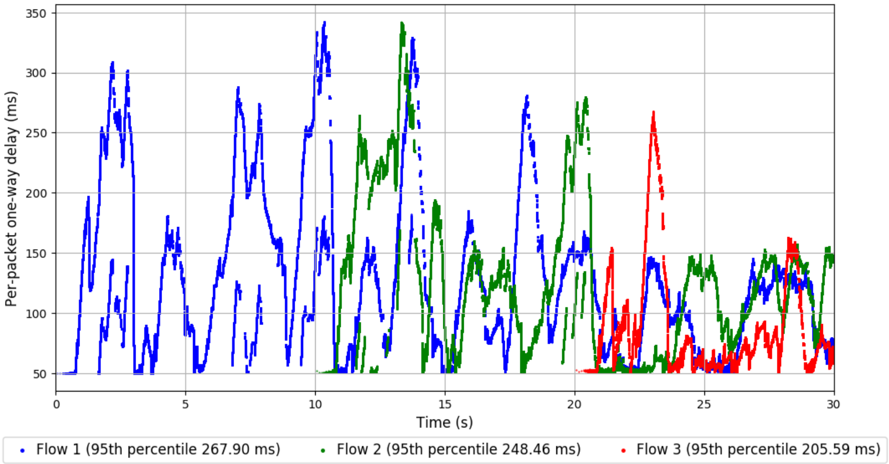
```
Run 8: Statistics of FillP

Start at: 2018-07-05 21:32:56
End at: 2018-07-05 21:33:26
Local clock offset: -0.393 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2018-07-05 23:45:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1210.00 Mbit/s
95th percentile per-packet one-way delay: 258.174 ms
Loss rate: 7.25%
-- Flow 1:
Average throughput: 636.90 Mbit/s
95th percentile per-packet one-way delay: 267.904 ms
Loss rate: 6.36%
-- Flow 2:
Average throughput: 598.17 Mbit/s
95th percentile per-packet one-way delay: 248.456 ms
Loss rate: 7.99%
-- Flow 3:
Average throughput: 527.53 Mbit/s
95th percentile per-packet one-way delay: 205.585 ms
Loss rate: 8.76%
```

Run 8: Report of FillP — Data Link



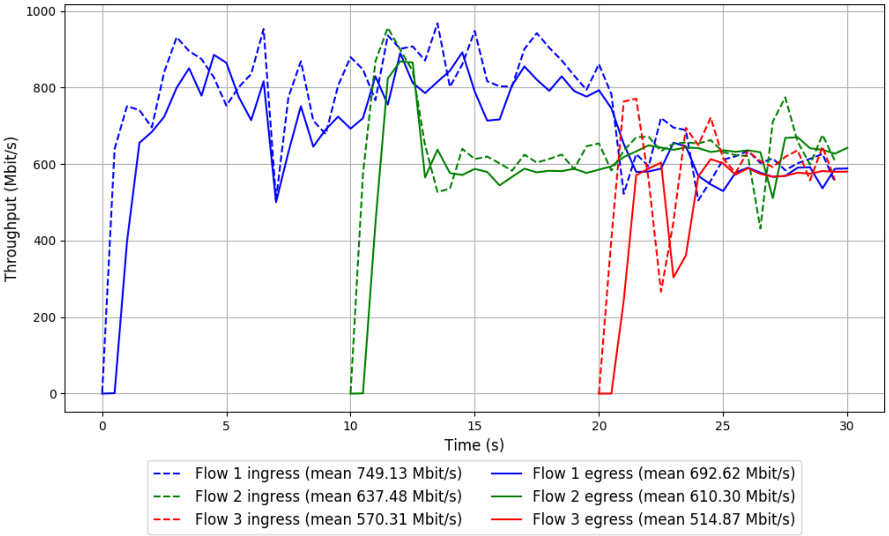


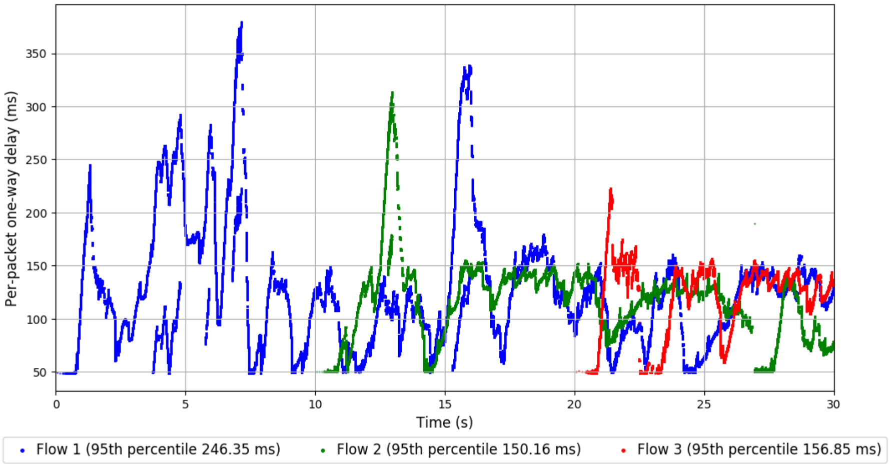
```
Run 9: Statistics of FillP

Start at: 2018-07-05 21:57:42
End at: 2018-07-05 21:58:12
Local clock offset: 0.047 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-07-06 00:03:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1269.66 Mbit/s
95th percentile per-packet one-way delay: 221.864 ms
Loss rate: 6.82%
-- Flow 1:
Average throughput: 692.62 Mbit/s
95th percentile per-packet one-way delay: 246.349 ms
Loss rate: 7.54%
-- Flow 2:
Average throughput: 610.30 Mbit/s
95th percentile per-packet one-way delay: 150.161 ms
Loss rate: 4.26%
-- Flow 3:
Average throughput: 514.87 Mbit/s
95th percentile per-packet one-way delay: 156.852 ms
Loss rate: 9.71%
```

Run 9: Report of FillP — Data Link



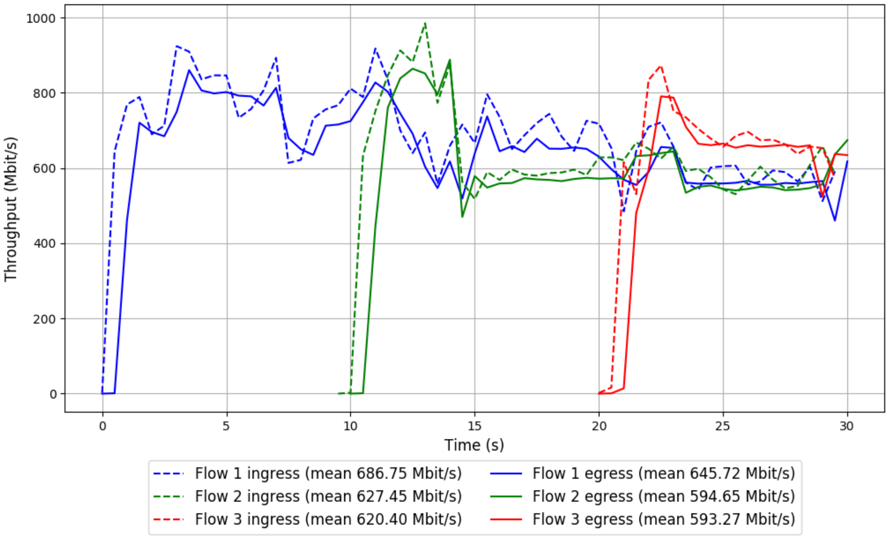


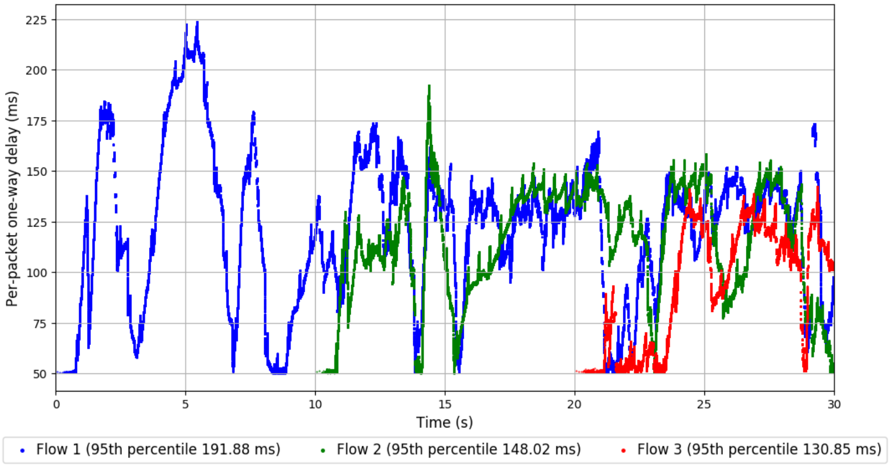
```
Run 10: Statistics of FillP

Start at: 2018-07-05 22:22:49
End at: 2018-07-05 22:23:19
Local clock offset: 0.057 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-07-06 00:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1238.56 Mbit/s
95th percentile per-packet one-way delay: 171.681 ms
Loss rate: 5.48%
-- Flow 1:
Average throughput: 645.72 Mbit/s
95th percentile per-packet one-way delay: 191.884 ms
Loss rate: 5.97%
-- Flow 2:
Average throughput: 594.65 Mbit/s
95th percentile per-packet one-way delay: 148.017 ms
Loss rate: 5.22%
-- Flow 3:
Average throughput: 593.27 Mbit/s
95th percentile per-packet one-way delay: 130.848 ms
Loss rate: 4.37%
```

Run 10: Report of FillP — Data Link



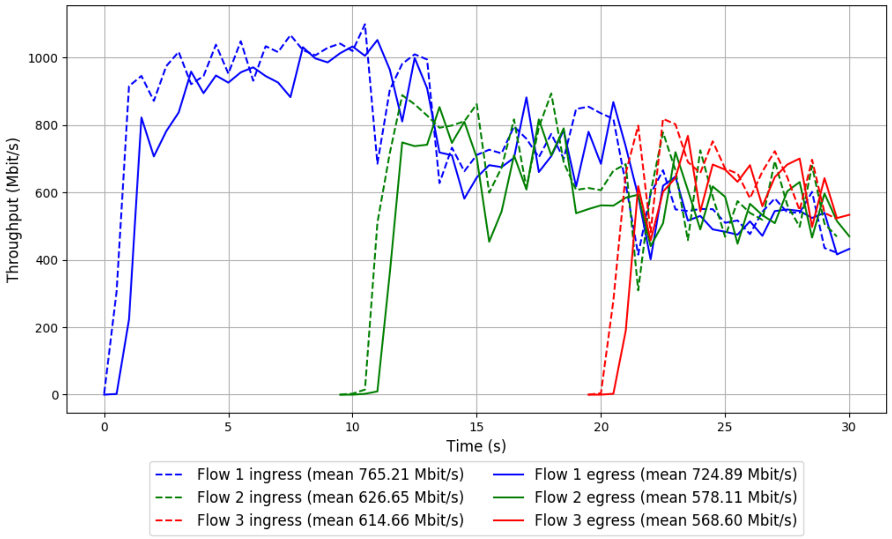


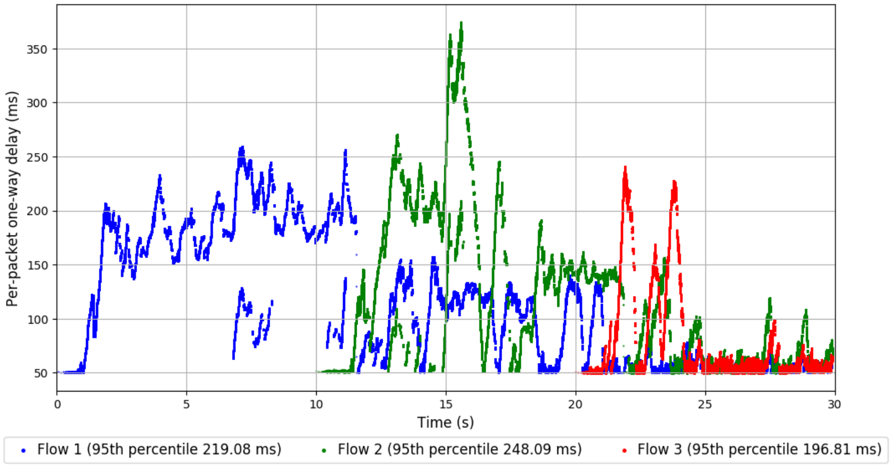
```
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-05 18:30:42
End at: 2018-07-05 18:31:12
Local clock offset: -0.093 ms
Remote clock offset: 0.12 ms

# Below is generated by plot.py at 2018-07-06 00:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1299.29 Mbit/s
95th percentile per-packet one-way delay: 224.994 ms
Loss rate: 6.33%
-- Flow 1:
Average throughput: 724.89 Mbit/s
95th percentile per-packet one-way delay: 219.081 ms
Loss rate: 5.26%
-- Flow 2:
Average throughput: 578.11 Mbit/s
95th percentile per-packet one-way delay: 248.090 ms
Loss rate: 7.74%
-- Flow 3:
Average throughput: 568.60 Mbit/s
95th percentile per-packet one-way delay: 196.815 ms
Loss rate: 7.47%
```

Run 1: Report of FillP-Sheep — Data Link



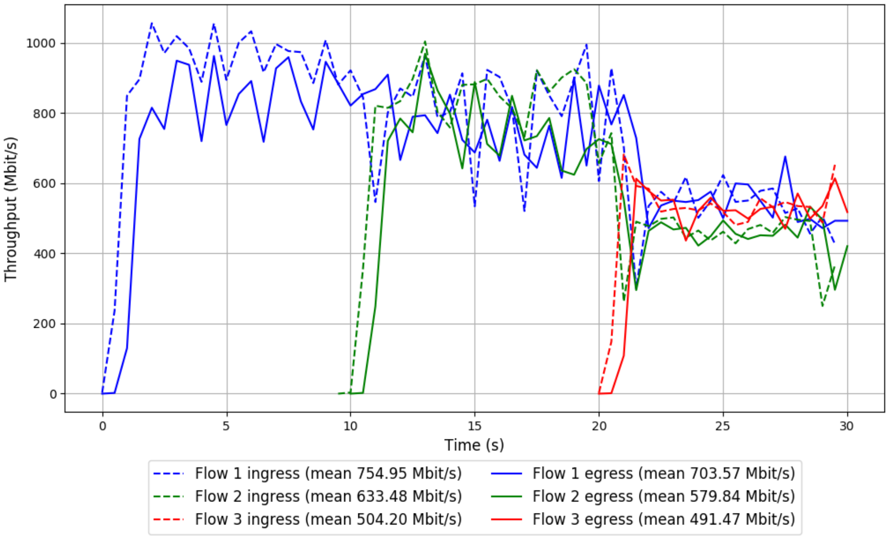


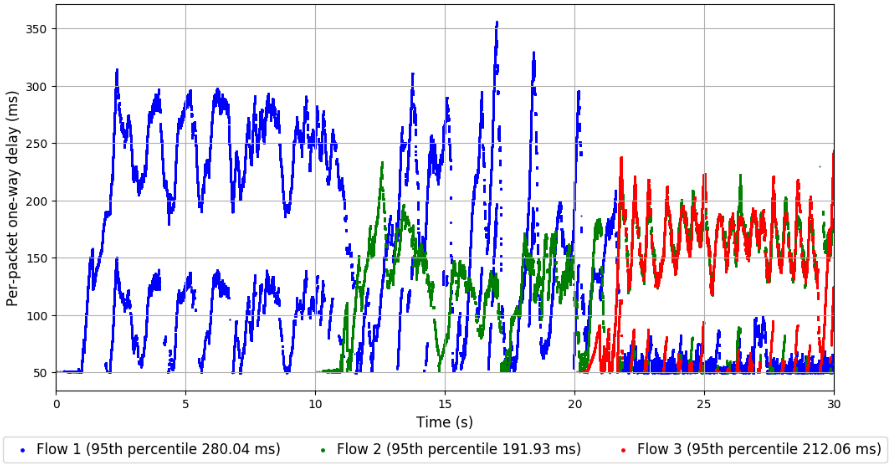
```
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-05 18:55:38
End at: 2018-07-05 18:56:08
Local clock offset: -0.067 ms
Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-07-06 00:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1251.71 Mbit/s
95th percentile per-packet one-way delay: 270.029 ms
Loss rate: 6.75%
-- Flow 1:
Average throughput: 703.57 Mbit/s
95th percentile per-packet one-way delay: 280.037 ms
Loss rate: 6.79%
-- Flow 2:
Average throughput: 579.84 Mbit/s
95th percentile per-packet one-way delay: 191.930 ms
Loss rate: 8.35%
-- Flow 3:
Average throughput: 491.47 Mbit/s
95th percentile per-packet one-way delay: 212.065 ms
Loss rate: 2.51%
```

Run 2: Report of FillP-Sheep — Data Link



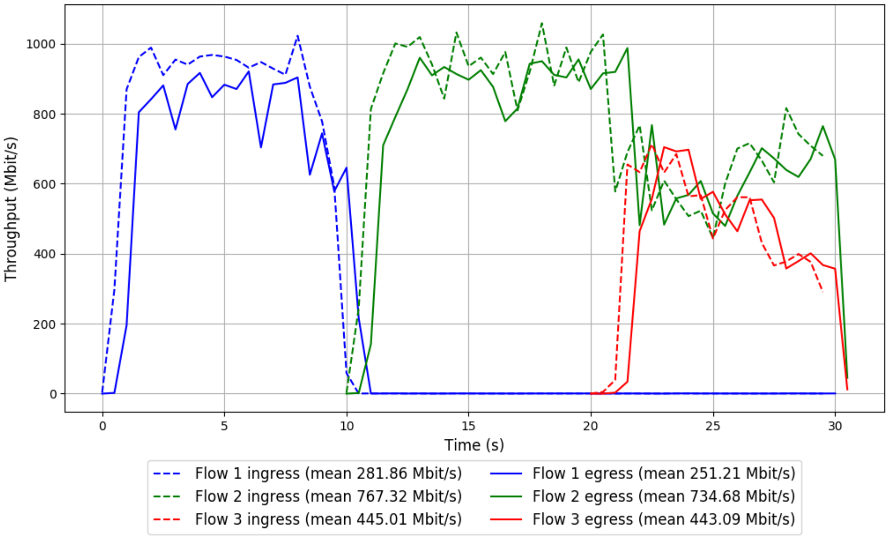


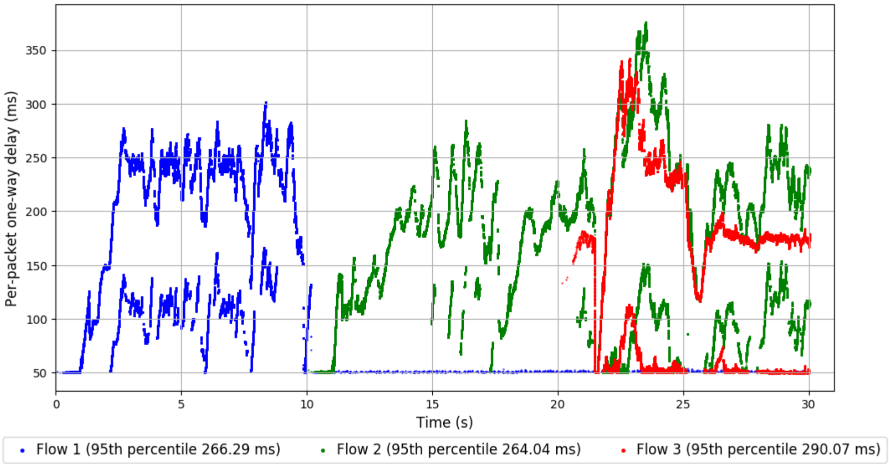
```
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-05 19:20:52
End at: 2018-07-05 19:21:22
Local clock offset: -0.091 ms
Remote clock offset: 0.137 ms

# Below is generated by plot.py at 2018-07-06 00:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 885.54 Mbit/s
95th percentile per-packet one-way delay: 267.477 ms
Loss rate: 5.62%
-- Flow 1:
Average throughput: 251.21 Mbit/s
95th percentile per-packet one-way delay: 266.287 ms
Loss rate: 10.87%
-- Flow 2:
Average throughput: 734.68 Mbit/s
95th percentile per-packet one-way delay: 264.041 ms
Loss rate: 4.09%
-- Flow 3:
Average throughput: 443.09 Mbit/s
95th percentile per-packet one-way delay: 290.075 ms
Loss rate: 0.91%
```

Run 3: Report of FillP-Sheep — Data Link



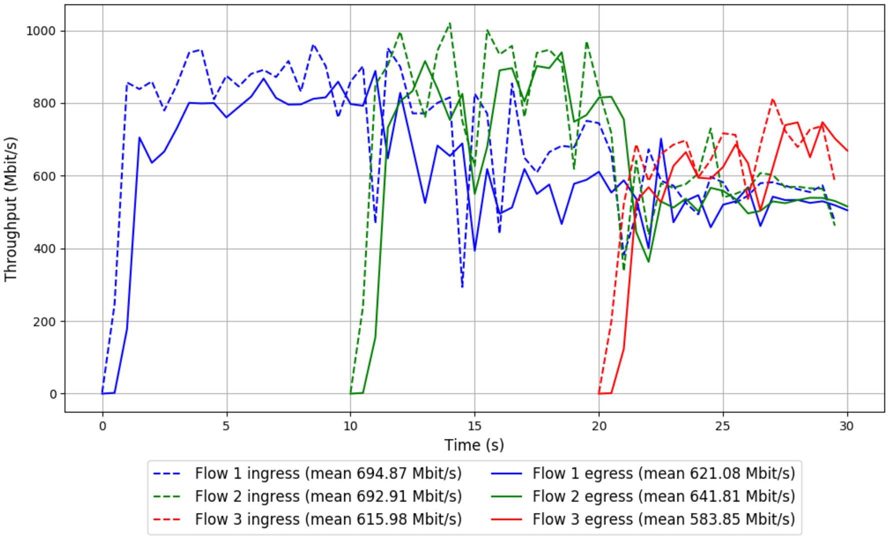


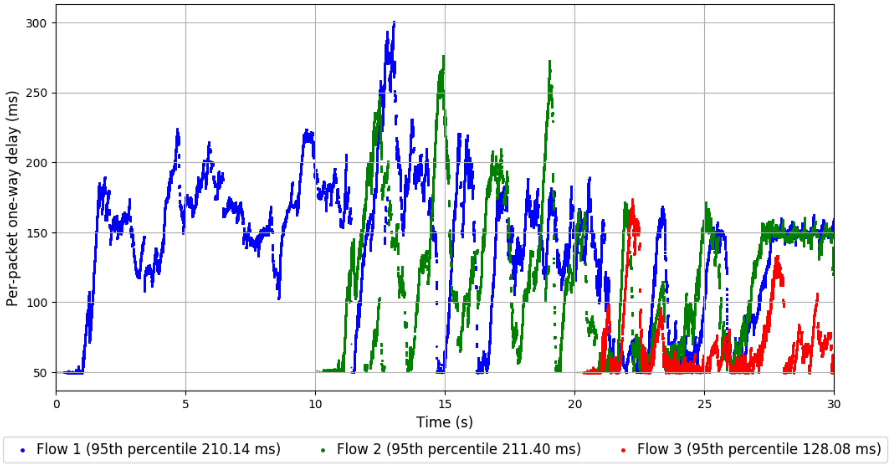
```
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-05 19:45:35
End at: 2018-07-05 19:46:05
Local clock offset: -0.105 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-07-06 00:09:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1241.26 Mbit/s
95th percentile per-packet one-way delay: 204.723 ms
Loss rate: 8.71%
-- Flow 1:
Average throughput: 621.08 Mbit/s
95th percentile per-packet one-way delay: 210.137 ms
Loss rate: 10.62%
-- Flow 2:
Average throughput: 641.81 Mbit/s
95th percentile per-packet one-way delay: 211.400 ms
Loss rate: 7.38%
-- Flow 3:
Average throughput: 583.85 Mbit/s
95th percentile per-packet one-way delay: 128.084 ms
Loss rate: 5.20%
```

Run 4: Report of FillP-Sheep — Data Link



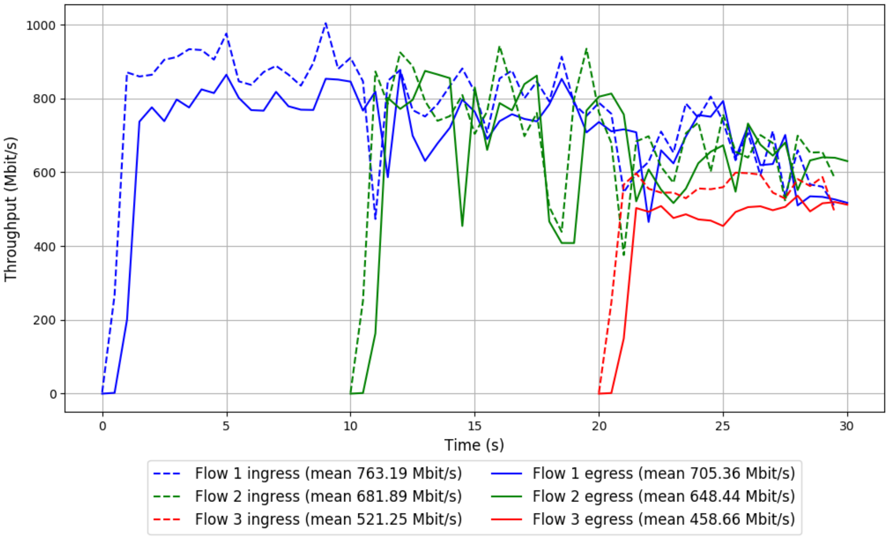


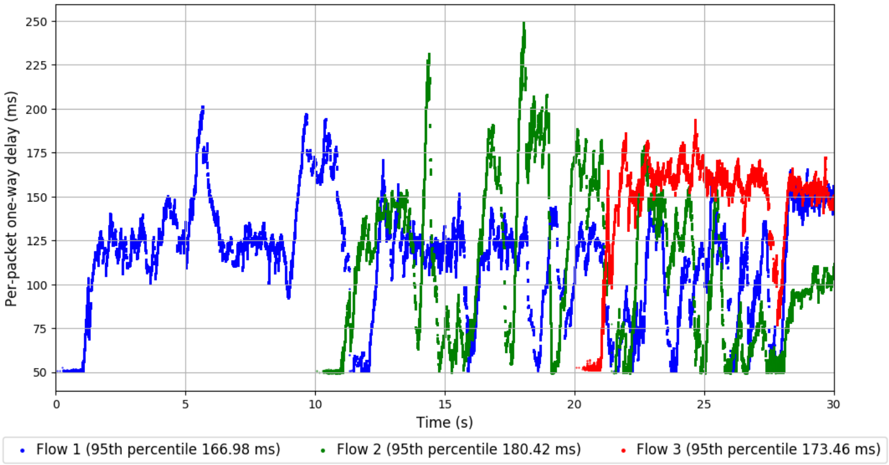
```
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-05 20:10:32
End at: 2018-07-05 20:11:02
Local clock offset: -0.502 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2018-07-06 00:10:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1288.79 Mbit/s
95th percentile per-packet one-way delay: 172.663 ms
Loss rate: 7.25%
-- Flow 1:
Average throughput: 705.36 Mbit/s
95th percentile per-packet one-way delay: 166.981 ms
Loss rate: 7.57%
-- Flow 2:
Average throughput: 648.44 Mbit/s
95th percentile per-packet one-way delay: 180.416 ms
Loss rate: 4.90%
-- Flow 3:
Average throughput: 458.66 Mbit/s
95th percentile per-packet one-way delay: 173.455 ms
Loss rate: 12.02%
```

Run 5: Report of FillP-Sheep — Data Link



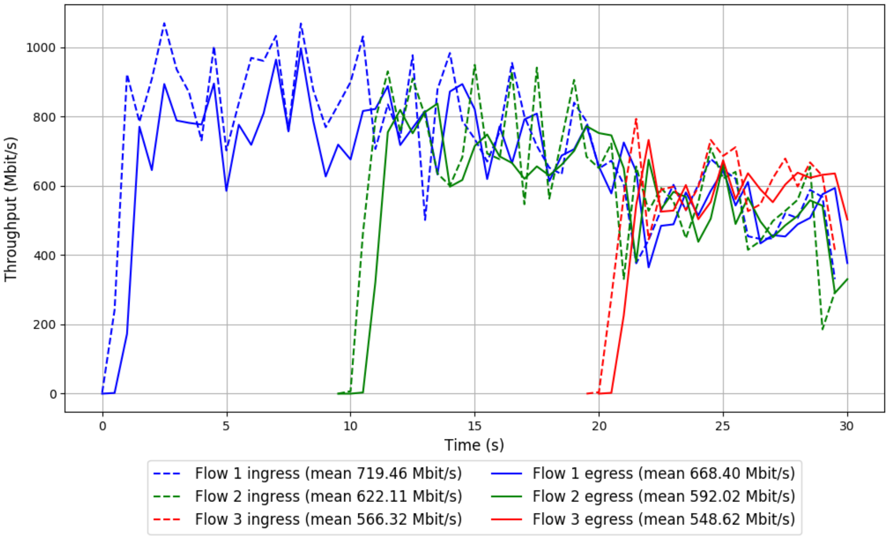


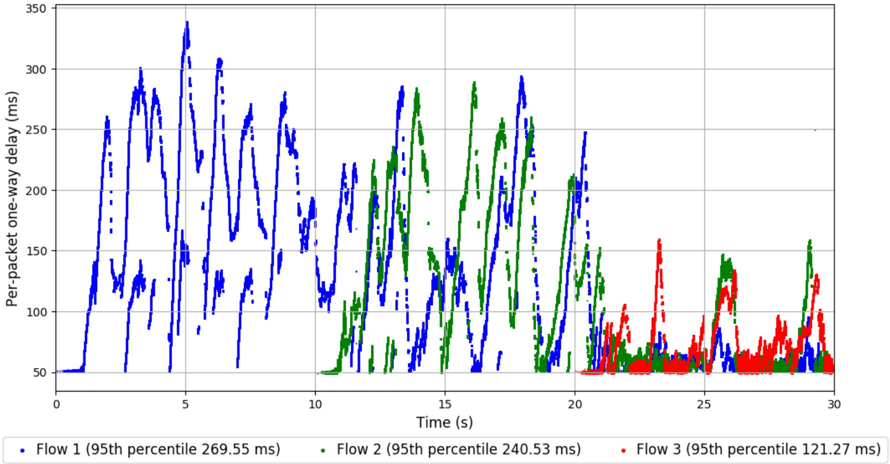
```
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-05 20:35:35
End at: 2018-07-05 20:36:05
Local clock offset: -0.518 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2018-07-06 00:11:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1245.13 Mbit/s
95th percentile per-packet one-way delay: 255.596 ms
Loss rate: 5.82%
-- Flow 1:
Average throughput: 668.40 Mbit/s
95th percentile per-packet one-way delay: 269.551 ms
Loss rate: 7.10%
-- Flow 2:
Average throughput: 592.02 Mbit/s
95th percentile per-packet one-way delay: 240.533 ms
Loss rate: 4.83%
-- Flow 3:
Average throughput: 548.62 Mbit/s
95th percentile per-packet one-way delay: 121.272 ms
Loss rate: 3.12%
```

Run 6: Report of FillP-Sheep — Data Link



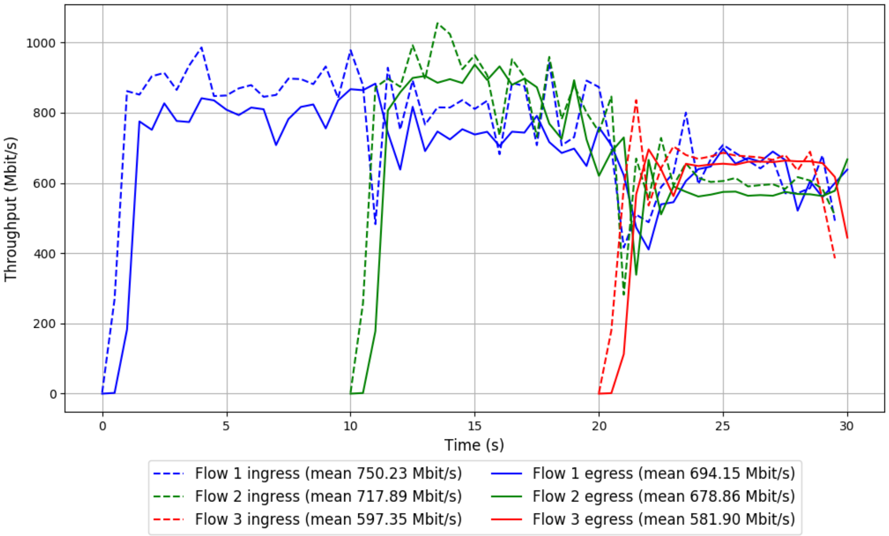


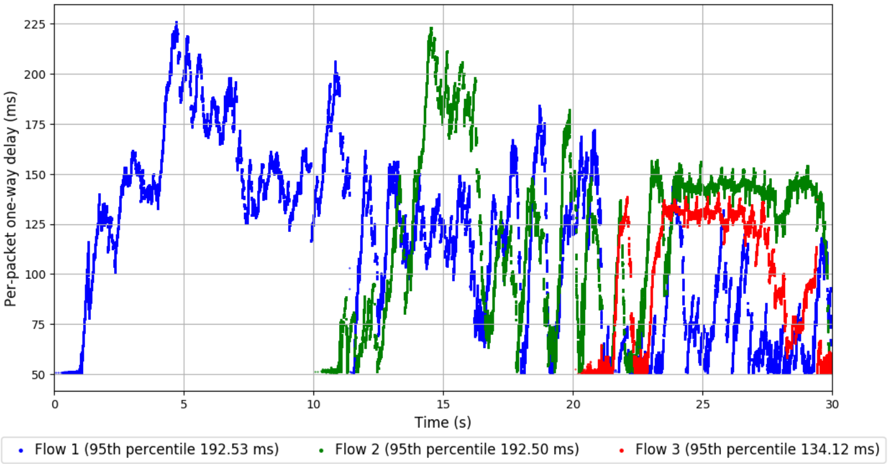
```
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-05 20:59:59
End at: 2018-07-05 21:00:29
Local clock offset: -0.526 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-07-06 00:31:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1338.26 Mbit/s
95th percentile per-packet one-way delay: 190.265 ms
Loss rate: 6.11%
-- Flow 1:
Average throughput: 694.15 Mbit/s
95th percentile per-packet one-way delay: 192.525 ms
Loss rate: 7.47%
-- Flow 2:
Average throughput: 678.86 Mbit/s
95th percentile per-packet one-way delay: 192.497 ms
Loss rate: 5.42%
-- Flow 3:
Average throughput: 581.90 Mbit/s
95th percentile per-packet one-way delay: 134.124 ms
Loss rate: 2.60%
```

Run 7: Report of FillP-Sheep — Data Link



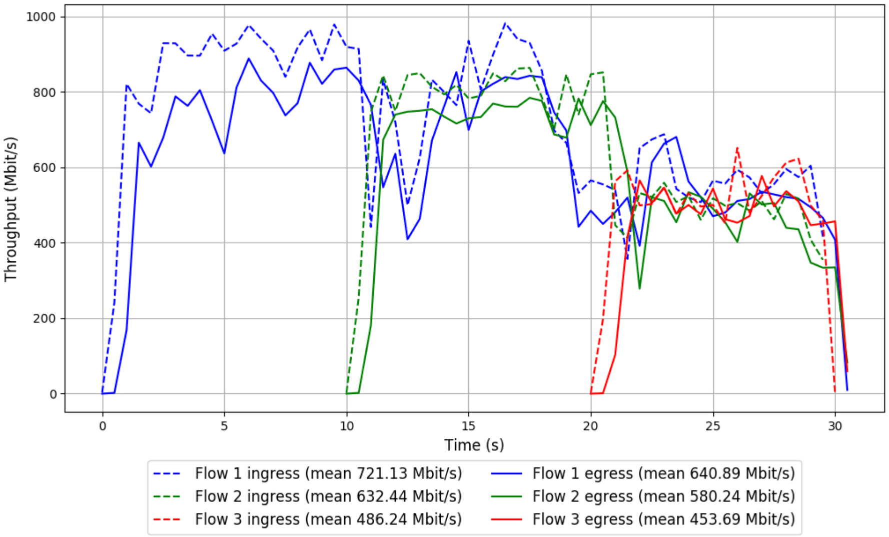


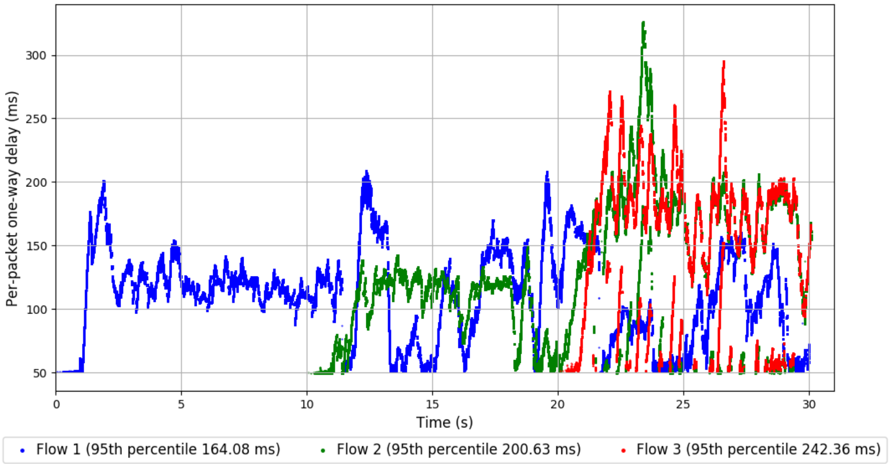
```
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-05 21:24:59
End at: 2018-07-05 21:25:29
Local clock offset: -0.04 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-07-06 00:31:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1176.87 Mbit/s
95th percentile per-packet one-way delay: 195.056 ms
Loss rate: 9.56%
-- Flow 1:
Average throughput: 640.89 Mbit/s
95th percentile per-packet one-way delay: 164.084 ms
Loss rate: 11.06%
-- Flow 2:
Average throughput: 580.24 Mbit/s
95th percentile per-packet one-way delay: 200.633 ms
Loss rate: 7.81%
-- Flow 3:
Average throughput: 453.69 Mbit/s
95th percentile per-packet one-way delay: 242.361 ms
Loss rate: 7.44%
```

Run 8: Report of FillP-Sheep — Data Link



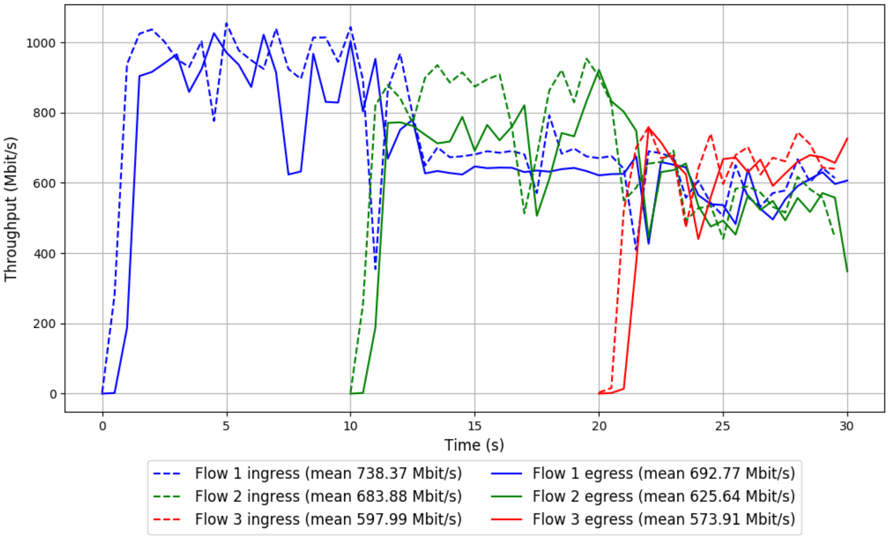


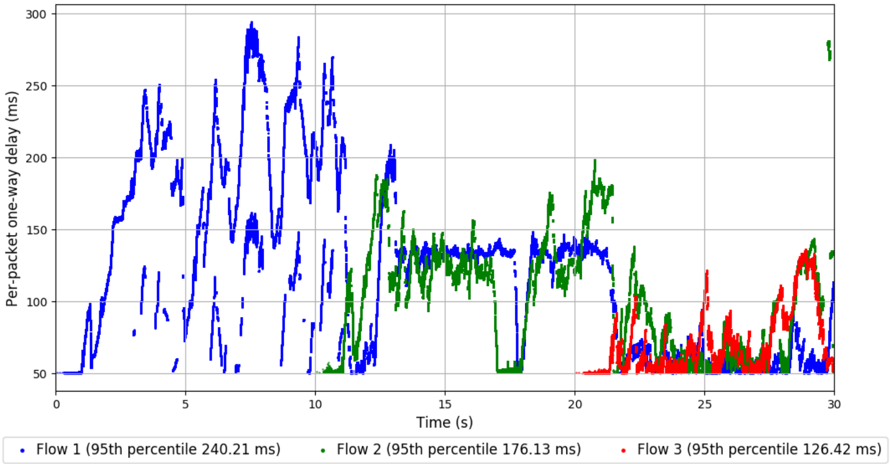
```
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-05 21:49:37
End at: 2018-07-05 21:50:07
Local clock offset: -0.055 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1299.49 Mbit/s
95th percentile per-packet one-way delay: 223.535 ms
Loss rate: 6.63%
-- Flow 1:
Average throughput: 692.77 Mbit/s
95th percentile per-packet one-way delay: 240.205 ms
Loss rate: 6.18%
-- Flow 2:
Average throughput: 625.64 Mbit/s
95th percentile per-packet one-way delay: 176.126 ms
Loss rate: 8.49%
-- Flow 3:
Average throughput: 573.91 Mbit/s
95th percentile per-packet one-way delay: 126.423 ms
Loss rate: 4.03%
```

Run 9: Report of FillP-Sheep — Data Link



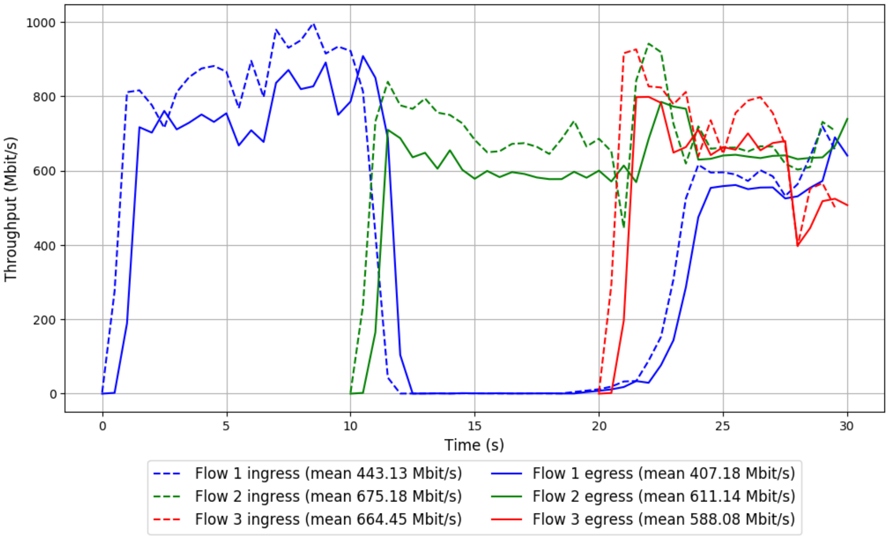


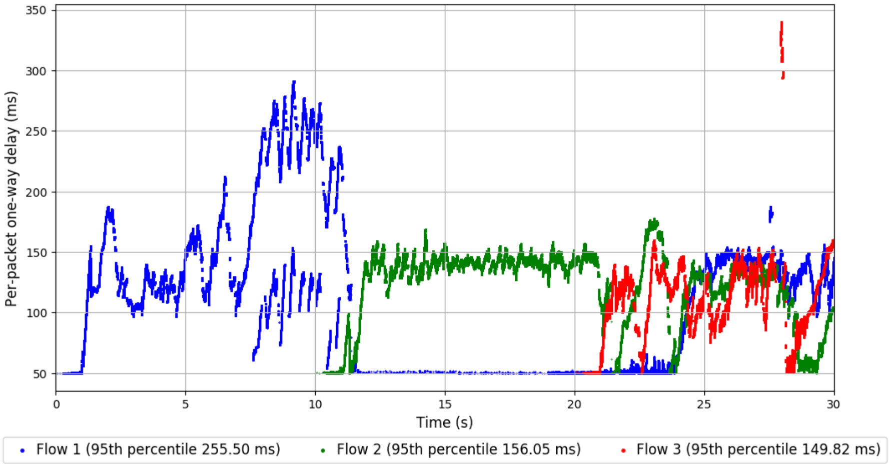
```
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-05 22:14:55
End at: 2018-07-05 22:15:25
Local clock offset: 0.058 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1008.65 Mbit/s
95th percentile per-packet one-way delay: 229.723 ms
Loss rate: 9.33%
-- Flow 1:
Average throughput: 407.18 Mbit/s
95th percentile per-packet one-way delay: 255.499 ms
Loss rate: 8.09%
-- Flow 2:
Average throughput: 611.14 Mbit/s
95th percentile per-packet one-way delay: 156.050 ms
Loss rate: 9.49%
-- Flow 3:
Average throughput: 588.08 Mbit/s
95th percentile per-packet one-way delay: 149.818 ms
Loss rate: 11.51%
```

Run 10: Report of FillP-Sheep — Data Link



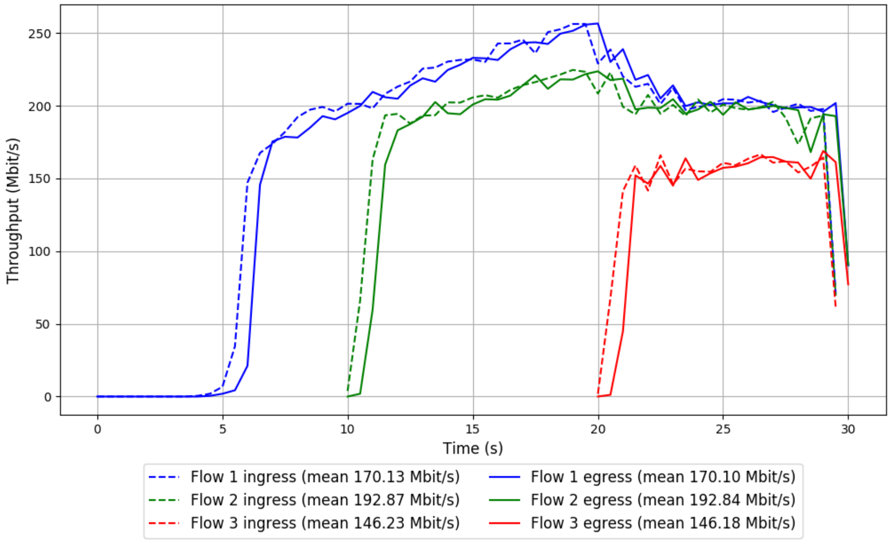


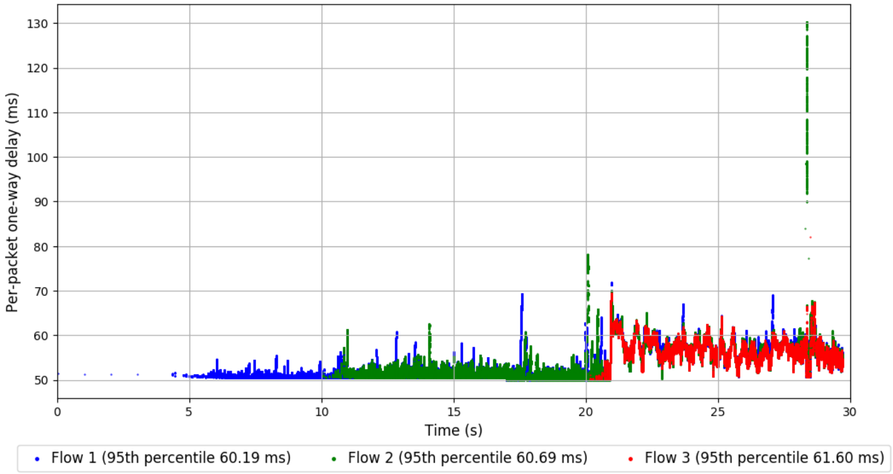
```
Run 1: Statistics of Indigo

Start at: 2018-07-05 18:32:43
End at: 2018-07-05 18:33:13
Local clock offset: -0.433 ms
Remote clock offset: 0.11 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.04 Mbit/s
95th percentile per-packet one-way delay: 60.658 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 170.10 Mbit/s
95th percentile per-packet one-way delay: 60.194 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 192.84 Mbit/s
95th percentile per-packet one-way delay: 60.690 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 146.18 Mbit/s
95th percentile per-packet one-way delay: 61.601 ms
Loss rate: 0.03%
```

Run 1: Report of Indigo — Data Link



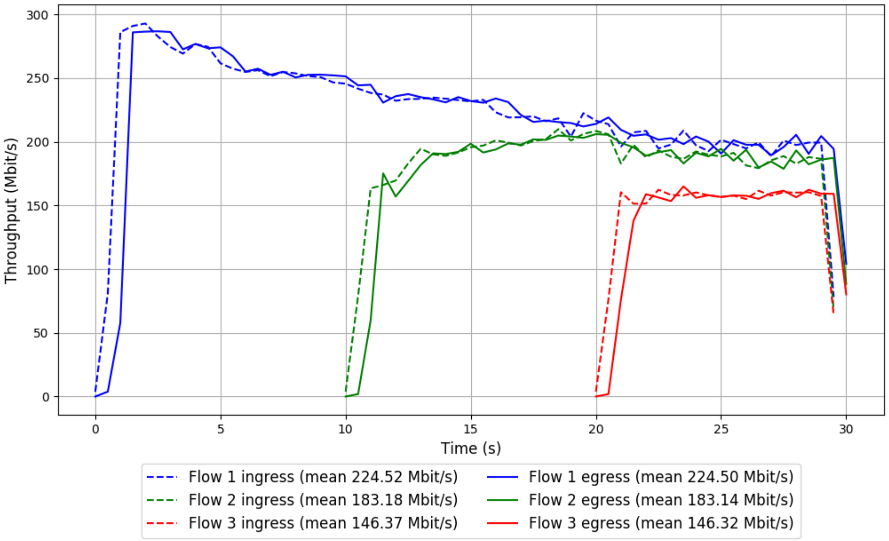


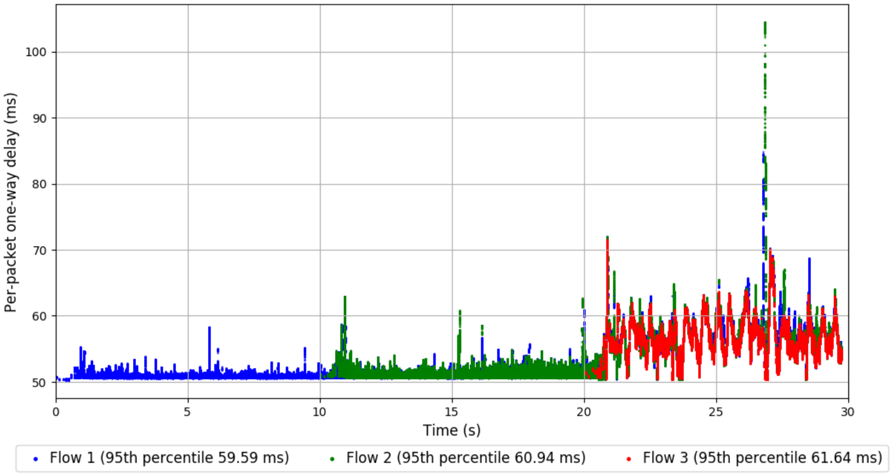
```
Run 2: Statistics of Indigo

Start at: 2018-07-05 18:57:40
End at: 2018-07-05 18:58:10
Local clock offset: -0.094 ms
Remote clock offset: 0.114 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 393.57 Mbit/s
95th percentile per-packet one-way delay: 60.486 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 224.50 Mbit/s
95th percentile per-packet one-way delay: 59.588 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 183.14 Mbit/s
95th percentile per-packet one-way delay: 60.944 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 146.32 Mbit/s
95th percentile per-packet one-way delay: 61.636 ms
Loss rate: 0.03%
```

Run 2: Report of Indigo — Data Link



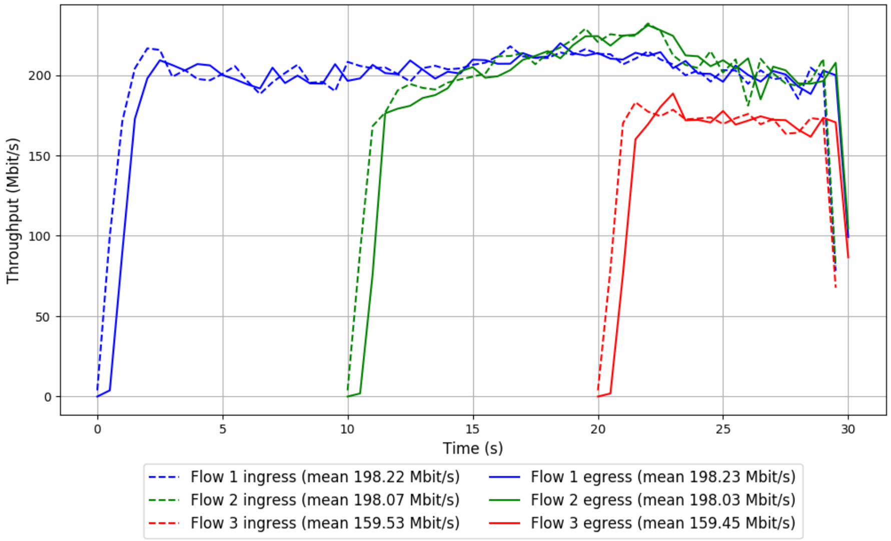


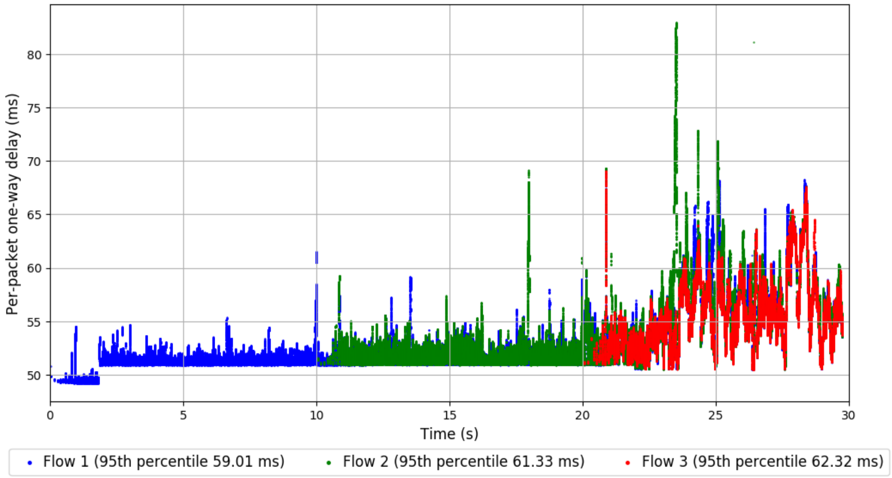
```
Run 3: Statistics of Indigo

Start at: 2018-07-05 19:22:38
End at: 2018-07-05 19:23:08
Local clock offset: -0.426 ms
Remote clock offset: 0.107 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.38 Mbit/s
95th percentile per-packet one-way delay: 60.431 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 198.23 Mbit/s
95th percentile per-packet one-way delay: 59.005 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 198.03 Mbit/s
95th percentile per-packet one-way delay: 61.325 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 159.45 Mbit/s
95th percentile per-packet one-way delay: 62.316 ms
Loss rate: 0.04%
```

Run 3: Report of Indigo — Data Link



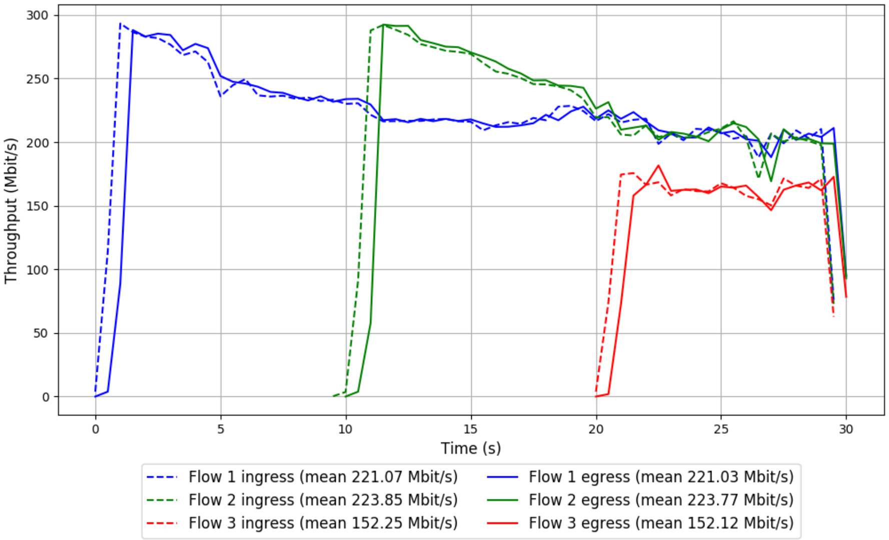


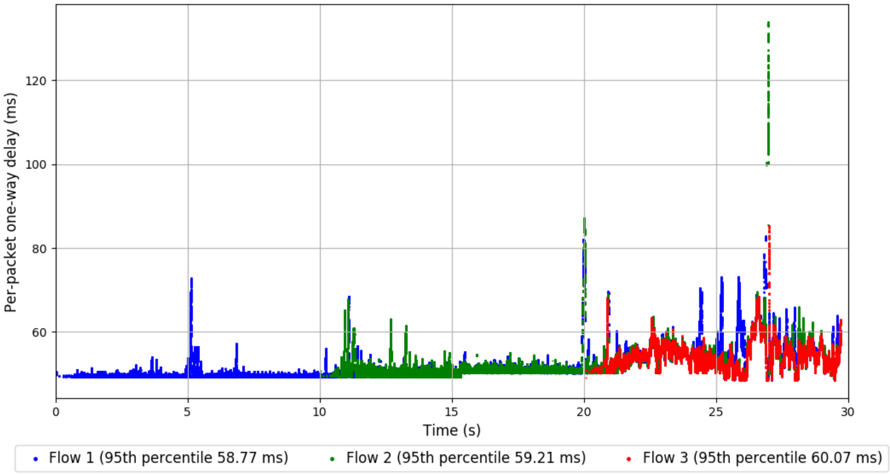
```
Run 4: Statistics of Indigo

Start at: 2018-07-05 19:47:35
End at: 2018-07-05 19:48:05
Local clock offset: 0.216 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.87 Mbit/s
95th percentile per-packet one-way delay: 59.220 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 221.03 Mbit/s
95th percentile per-packet one-way delay: 58.774 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 223.77 Mbit/s
95th percentile per-packet one-way delay: 59.209 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 152.12 Mbit/s
95th percentile per-packet one-way delay: 60.067 ms
Loss rate: 0.05%
```

Run 4: Report of Indigo — Data Link



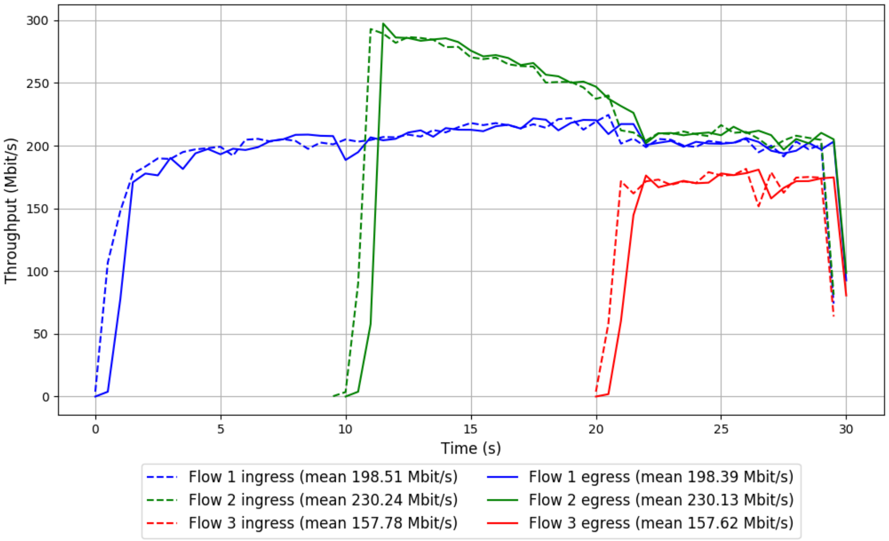


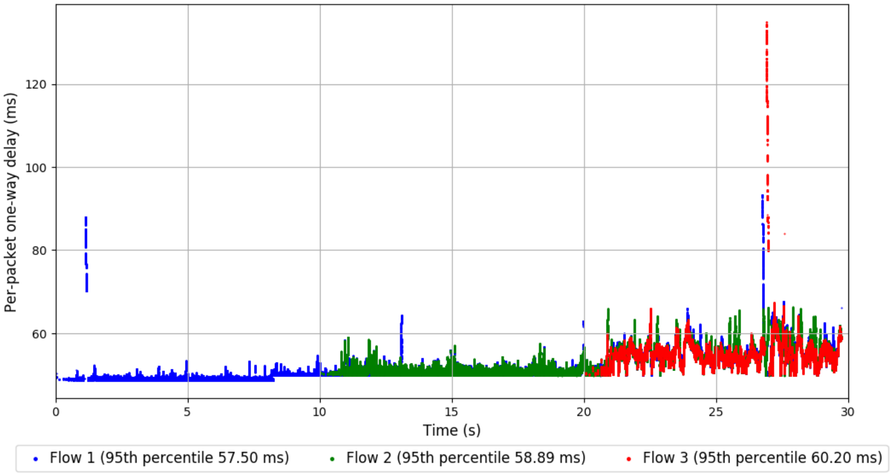
```
Run 5: Statistics of Indigo

Start at: 2018-07-05 20:12:32
End at: 2018-07-05 20:13:02
Local clock offset: 0.245 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.19 Mbit/s
95th percentile per-packet one-way delay: 58.552 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 198.39 Mbit/s
95th percentile per-packet one-way delay: 57.500 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 230.13 Mbit/s
95th percentile per-packet one-way delay: 58.892 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 157.62 Mbit/s
95th percentile per-packet one-way delay: 60.199 ms
Loss rate: 0.09%
```

Run 5: Report of Indigo — Data Link



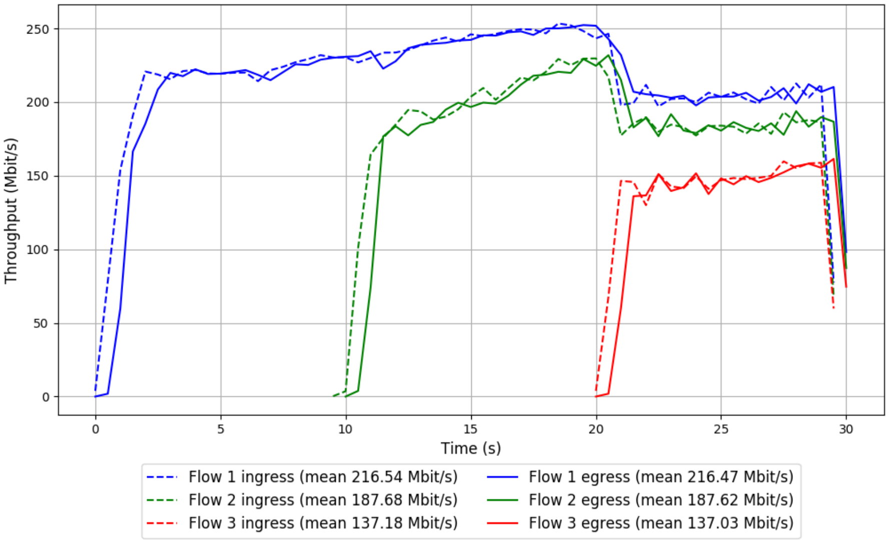


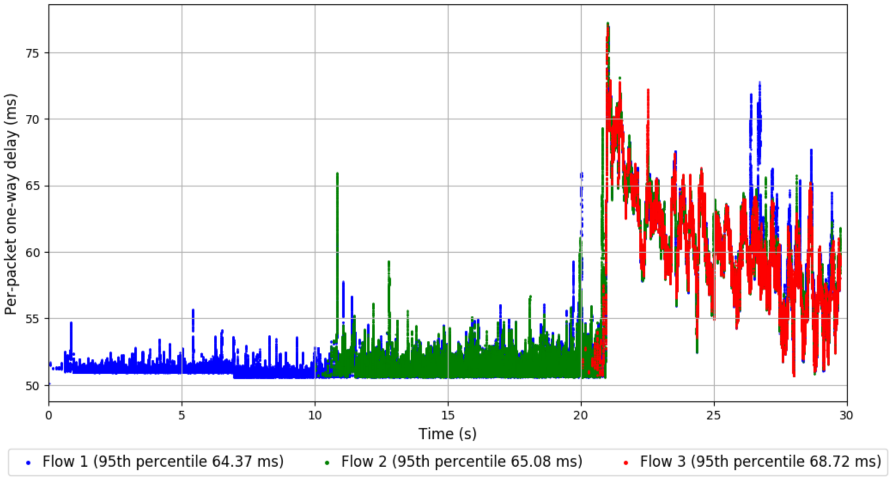
```
Run 6: Statistics of Indigo

Start at: 2018-07-05 20:37:33
End at: 2018-07-05 20:38:03
Local clock offset: -0.524 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.57 Mbit/s
95th percentile per-packet one-way delay: 65.042 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 216.47 Mbit/s
95th percentile per-packet one-way delay: 64.366 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 187.62 Mbit/s
95th percentile per-packet one-way delay: 65.077 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 137.03 Mbit/s
95th percentile per-packet one-way delay: 68.721 ms
Loss rate: 0.07%
```

Run 6: Report of Indigo — Data Link



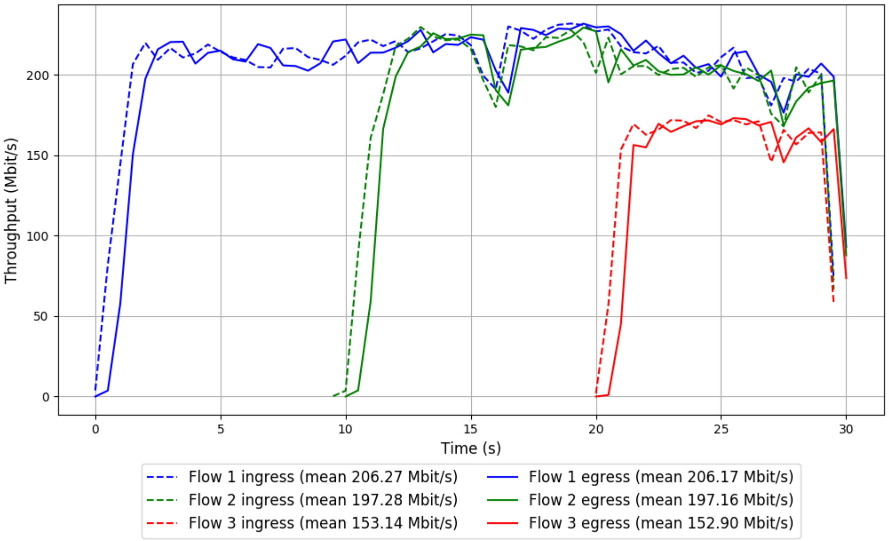


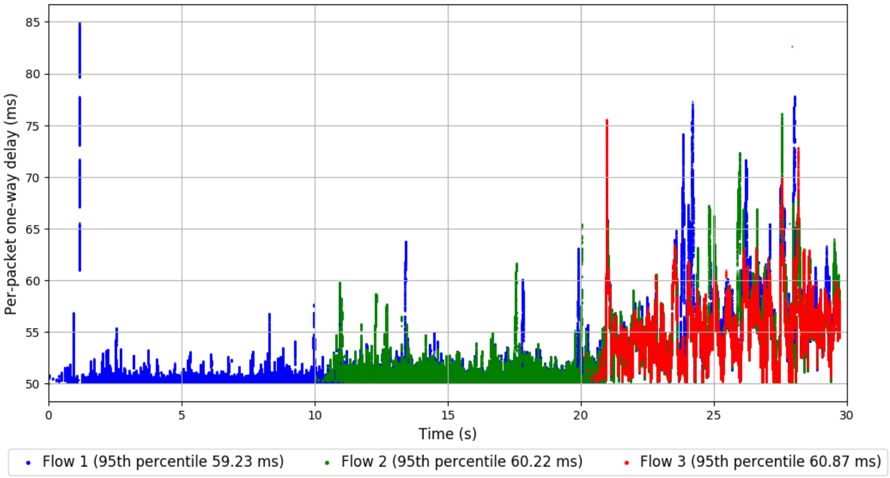
```
Run 7: Statistics of Indigo

Start at: 2018-07-05 21:02:01
End at: 2018-07-05 21:02:31
Local clock offset: 0.194 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.27 Mbit/s
95th percentile per-packet one-way delay: 60.023 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 206.17 Mbit/s
95th percentile per-packet one-way delay: 59.229 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 197.16 Mbit/s
95th percentile per-packet one-way delay: 60.215 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 152.90 Mbit/s
95th percentile per-packet one-way delay: 60.874 ms
Loss rate: 0.16%
```

Run 7: Report of Indigo — Data Link



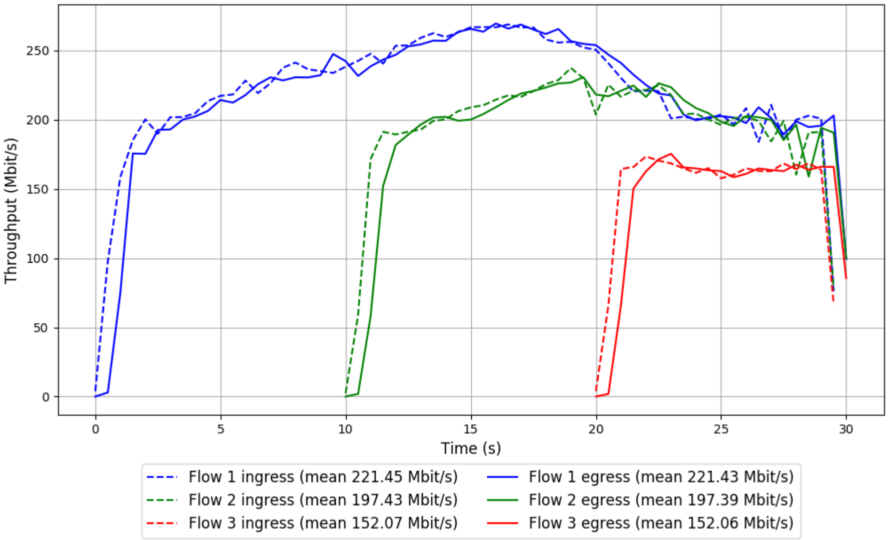


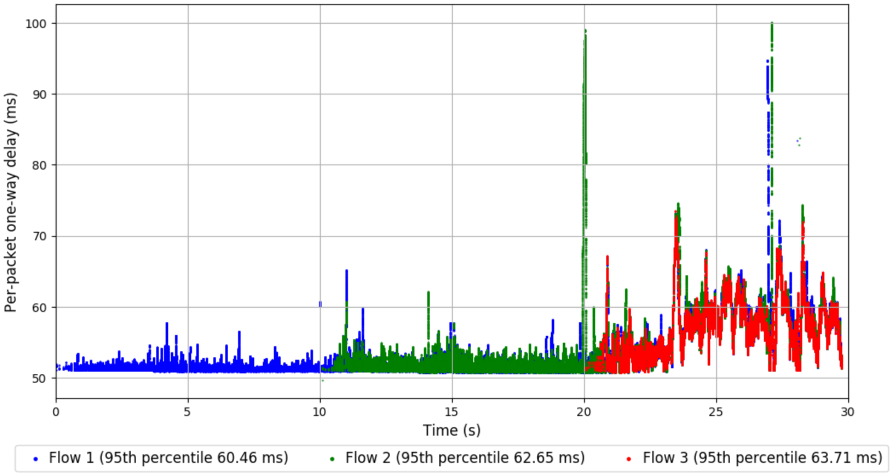
```
Run 8: Statistics of Indigo

Start at: 2018-07-05 21:26:57
End at: 2018-07-05 21:27:27
Local clock offset: -0.429 ms
Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.53 Mbit/s
95th percentile per-packet one-way delay: 61.964 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 221.43 Mbit/s
95th percentile per-packet one-way delay: 60.462 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.39 Mbit/s
95th percentile per-packet one-way delay: 62.650 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 152.06 Mbit/s
95th percentile per-packet one-way delay: 63.708 ms
Loss rate: 0.01%
```

Run 8: Report of Indigo — Data Link



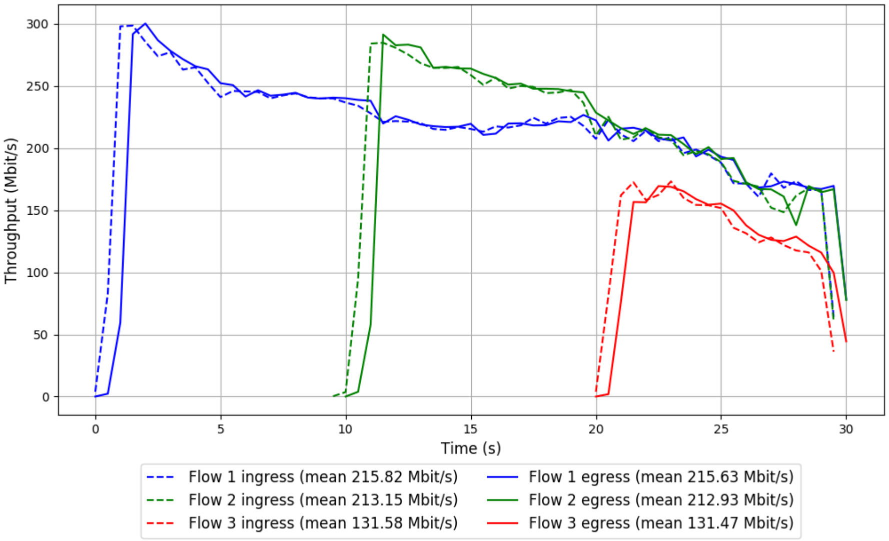


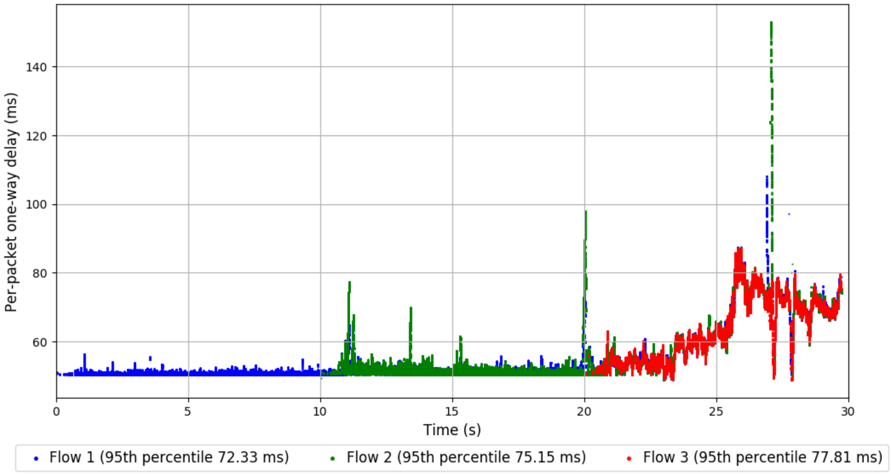
```
Run 9: Statistics of Indigo

Start at: 2018-07-05 21:51:38
End at: 2018-07-05 21:52:08
Local clock offset: -0.023 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.65 Mbit/s
95th percentile per-packet one-way delay: 74.753 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 215.63 Mbit/s
95th percentile per-packet one-way delay: 72.328 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 212.93 Mbit/s
95th percentile per-packet one-way delay: 75.153 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 131.47 Mbit/s
95th percentile per-packet one-way delay: 77.813 ms
Loss rate: 0.12%
```

Run 9: Report of Indigo — Data Link



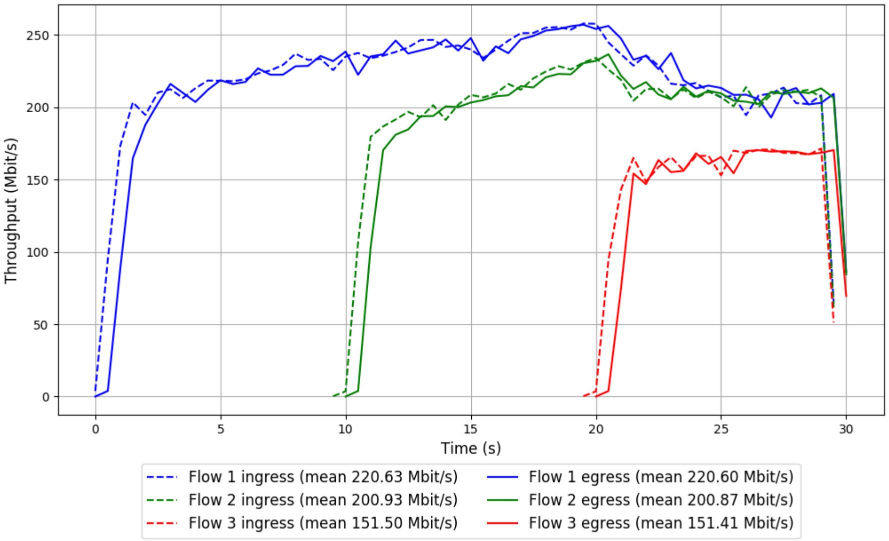


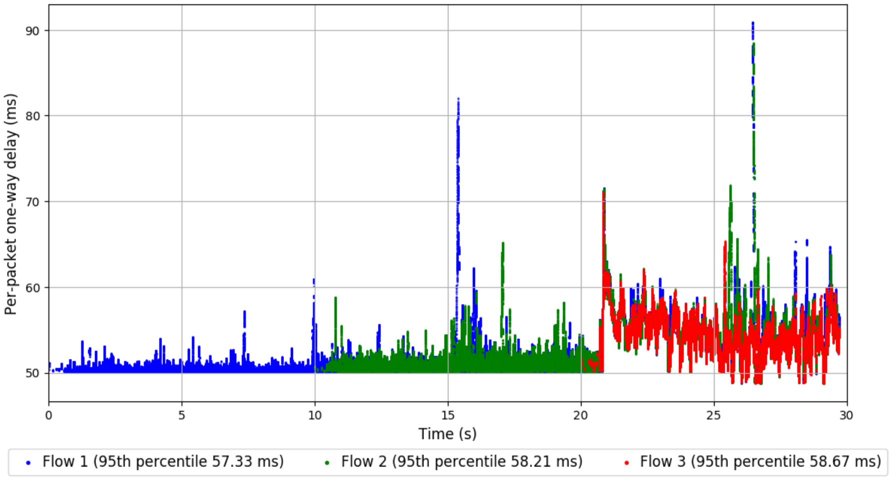
```
Run 10: Statistics of Indigo

Start at: 2018-07-05 22:16:45
End at: 2018-07-05 22:17:15
Local clock offset: 0.043 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.31 Mbit/s
95th percentile per-packet one-way delay: 57.882 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 220.60 Mbit/s
95th percentile per-packet one-way delay: 57.330 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 200.87 Mbit/s
95th percentile per-packet one-way delay: 58.208 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 151.41 Mbit/s
95th percentile per-packet one-way delay: 58.670 ms
Loss rate: 0.03%
```

Run 10: Report of Indigo — Data Link



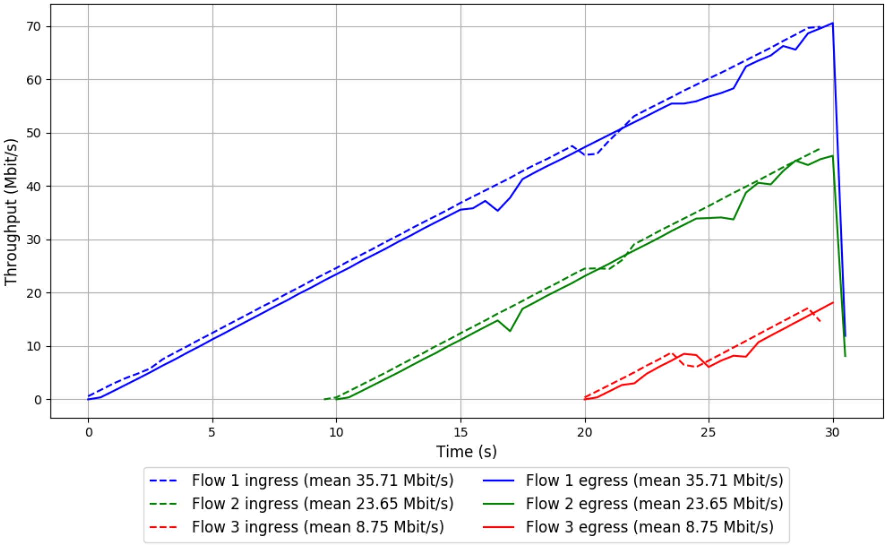


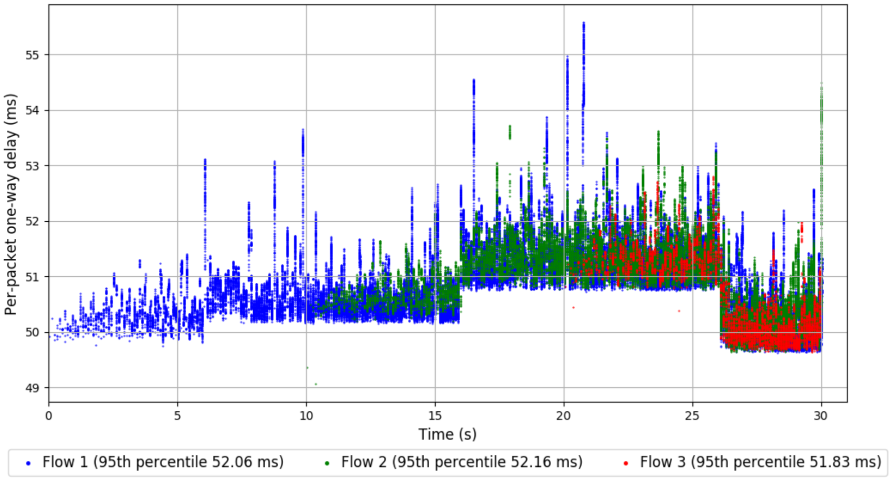
```
Run 1: Statistics of LEDBAT

Start at: 2018-07-05 18:40:45
End at: 2018-07-05 18:41:15
Local clock offset: -0.094 ms
Remote clock offset: 0.184 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.35 Mbit/s
95th percentile per-packet one-way delay: 52.084 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.71 Mbit/s
95th percentile per-packet one-way delay: 52.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.65 Mbit/s
95th percentile per-packet one-way delay: 52.163 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 51.829 ms
Loss rate: 0.01%
```

Run 1: Report of LEDBAT — Data Link



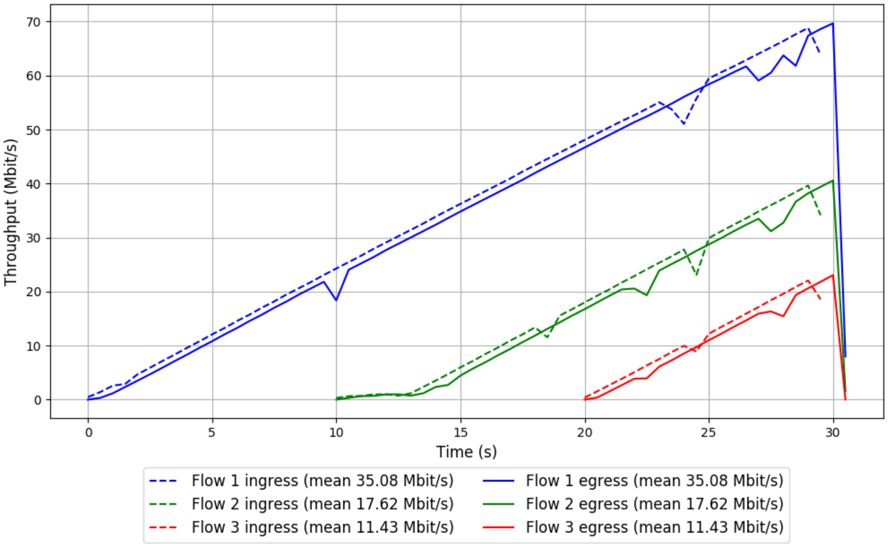


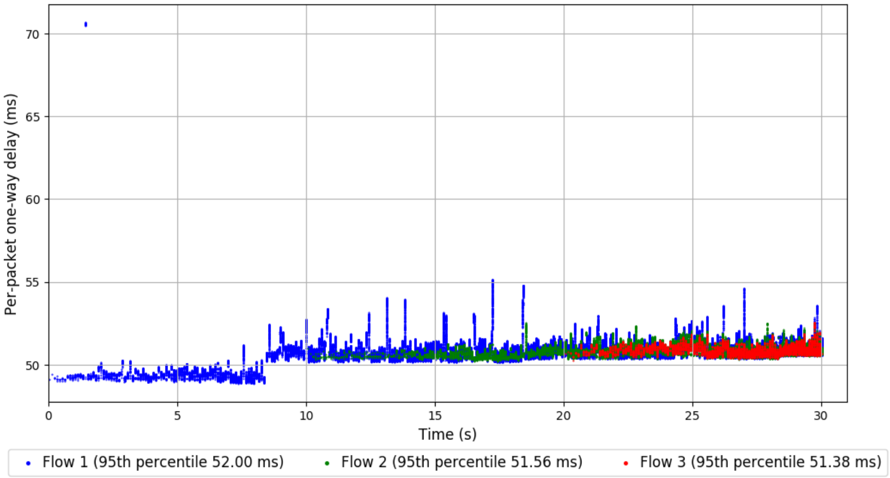
```
Run 2: Statistics of LEDBAT

Start at: 2018-07-05 19:05:52
End at: 2018-07-05 19:06:22
Local clock offset: -0.105 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.62 Mbit/s
95th percentile per-packet one-way delay: 51.829 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.08 Mbit/s
95th percentile per-packet one-way delay: 51.999 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.62 Mbit/s
95th percentile per-packet one-way delay: 51.563 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 51.378 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link



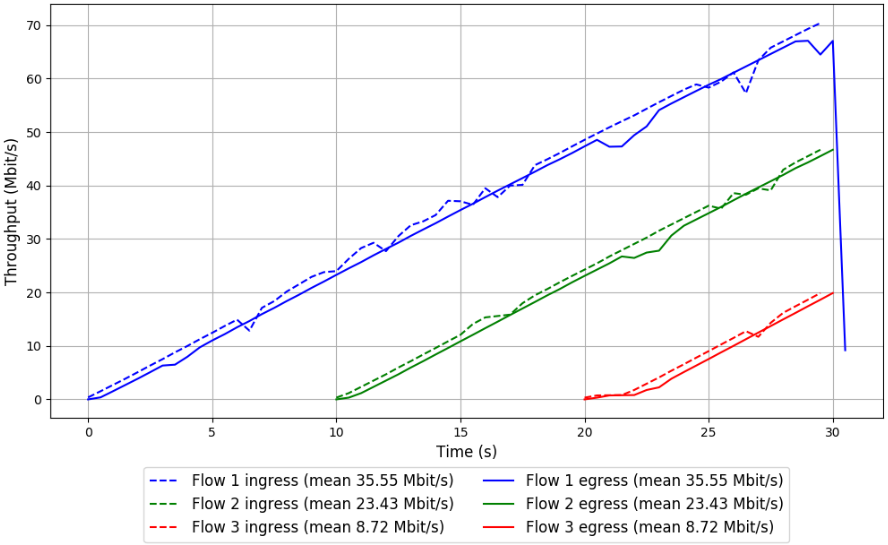


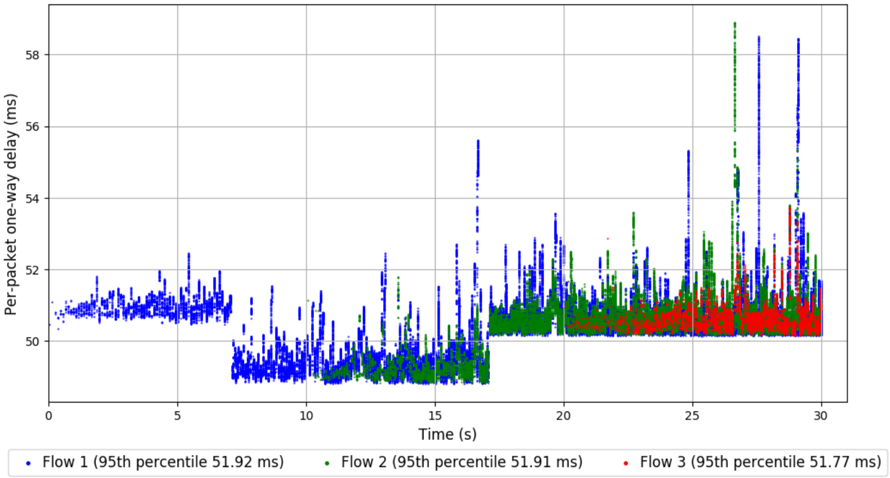
```
Run 3: Statistics of LEDBAT

Start at: 2018-07-05 19:30:33
End at: 2018-07-05 19:31:03
Local clock offset: -0.093 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 51.912 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.55 Mbit/s
95th percentile per-packet one-way delay: 51.923 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 51.914 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 51.774 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link



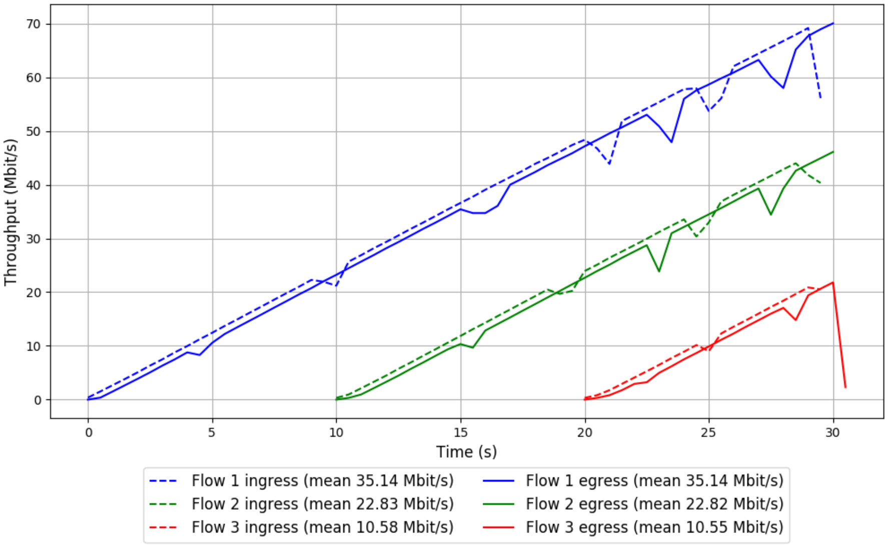


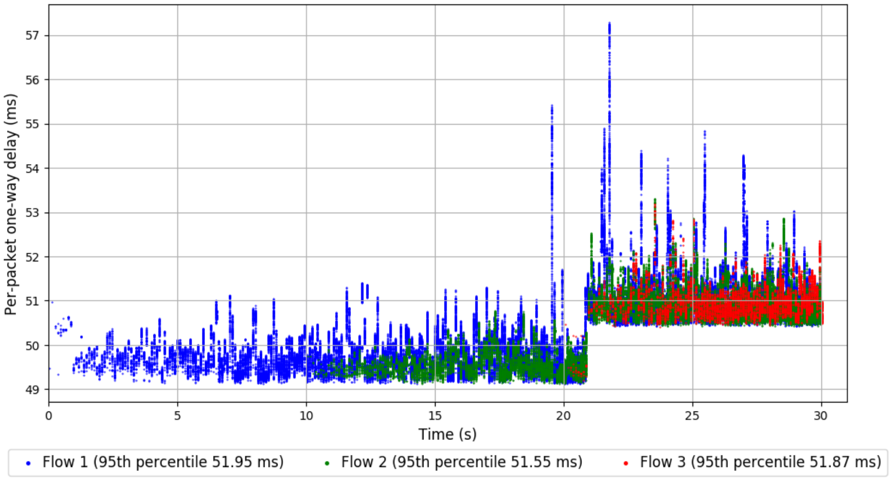
```
Run 4: Statistics of LEDBAT

Start at: 2018-07-05 19:55:40
End at: 2018-07-05 19:56:10
Local clock offset: 0.288 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 51.795 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 35.14 Mbit/s
95th percentile per-packet one-way delay: 51.945 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.82 Mbit/s
95th percentile per-packet one-way delay: 51.555 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.55 Mbit/s
95th percentile per-packet one-way delay: 51.871 ms
Loss rate: 0.31%
```

Run 4: Report of LEDBAT — Data Link



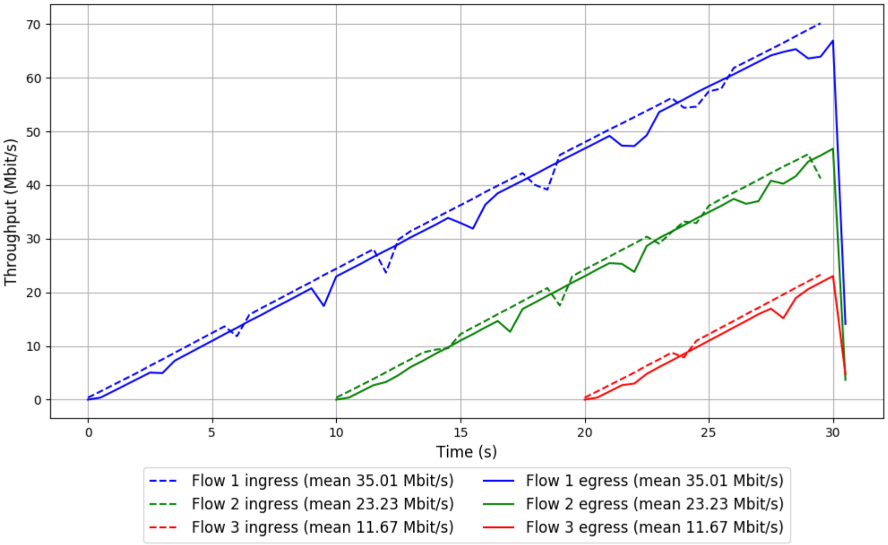


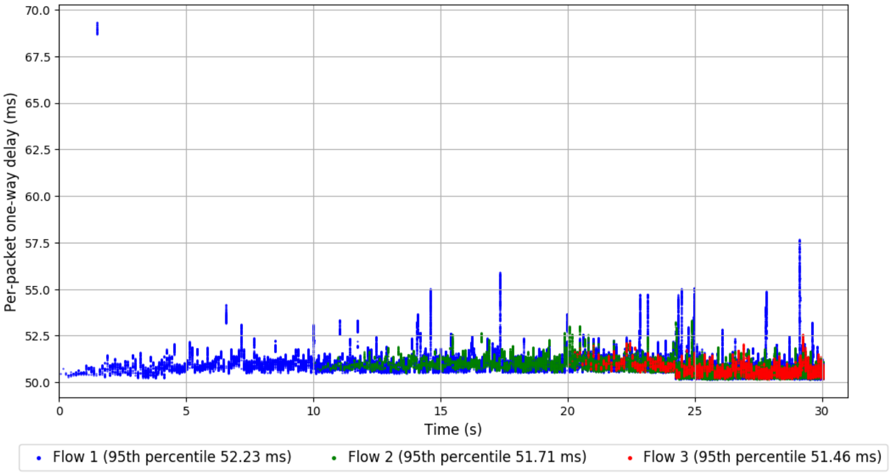
```
Run 5: Statistics of LEDBAT

Start at: 2018-07-05 20:20:36
End at: 2018-07-05 20:21:06
Local clock offset: -0.115 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.35 Mbit/s
95th percentile per-packet one-way delay: 52.005 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 52.234 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 51.706 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.67 Mbit/s
95th percentile per-packet one-way delay: 51.460 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link



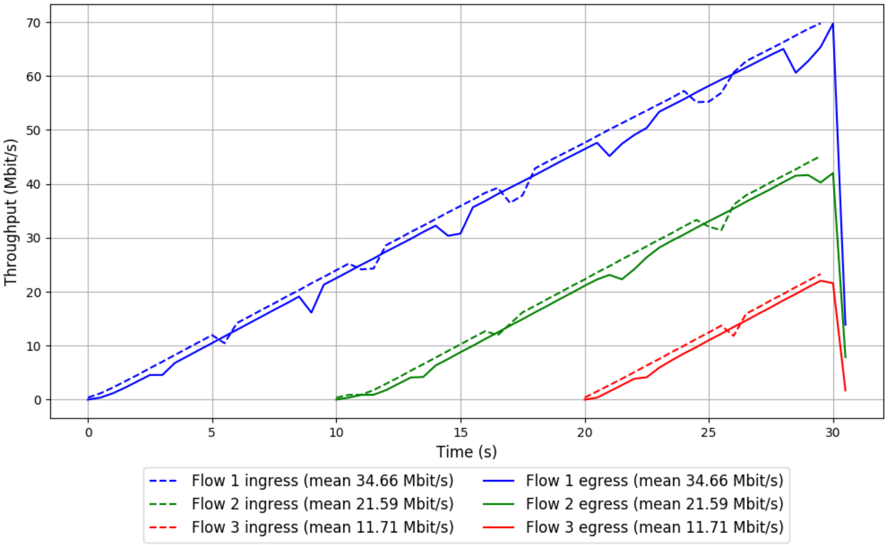


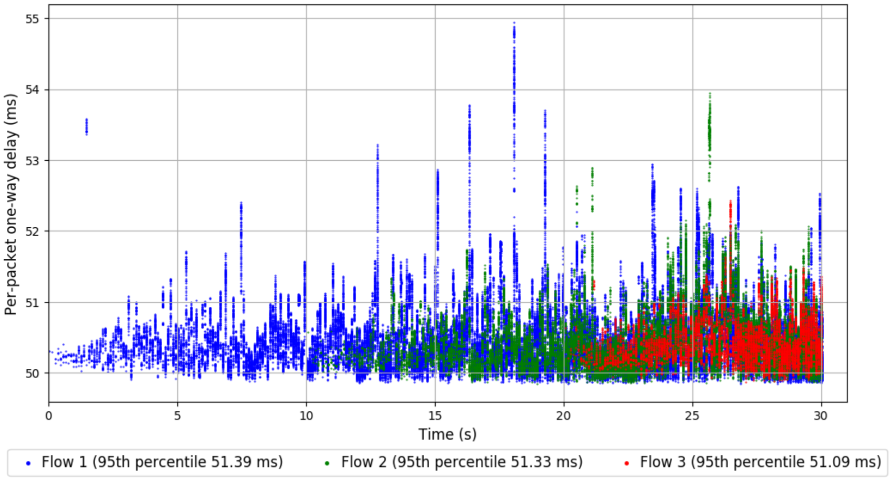
```
Run 6: Statistics of LEDBAT

Start at: 2018-07-05 20:45:27
End at: 2018-07-05 20:45:57
Local clock offset: 0.172 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 51.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 51.393 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.59 Mbit/s
95th percentile per-packet one-way delay: 51.331 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 51.087 ms
Loss rate: 0.00%
```

Run 6: Report of LEDBAT — Data Link



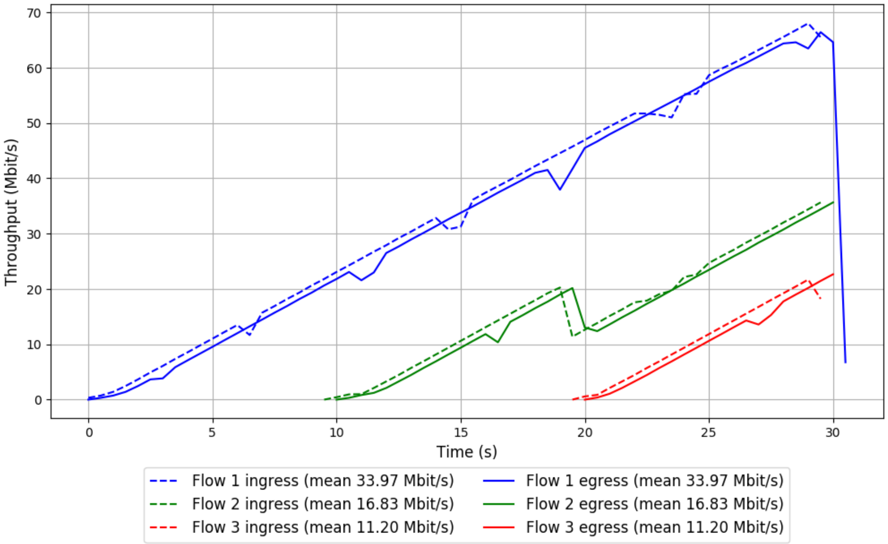


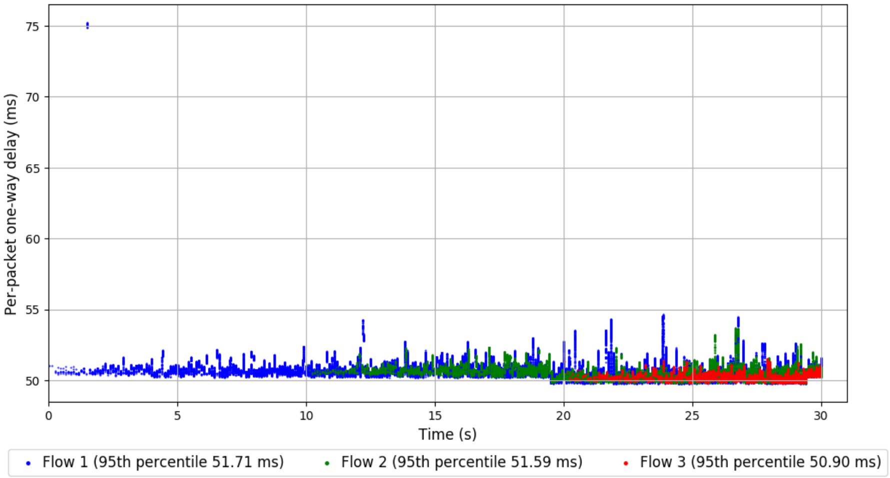
```
Run 7: Statistics of LEDBAT

Start at: 2018-07-05 21:10:01
End at: 2018-07-05 21:10:31
Local clock offset: -0.178 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 51.633 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.97 Mbit/s
95th percentile per-packet one-way delay: 51.713 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 51.586 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 50.897 ms
Loss rate: 0.00%
```

Run 7: Report of LEDBAT — Data Link



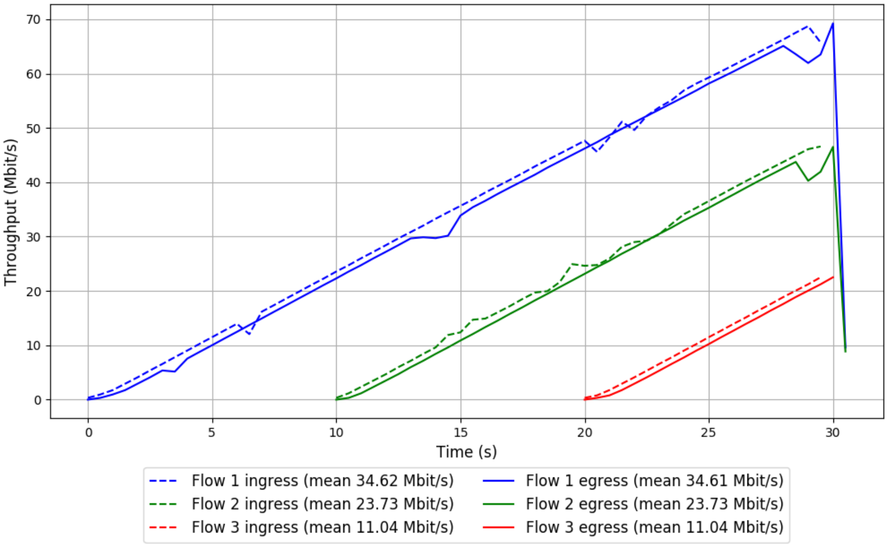


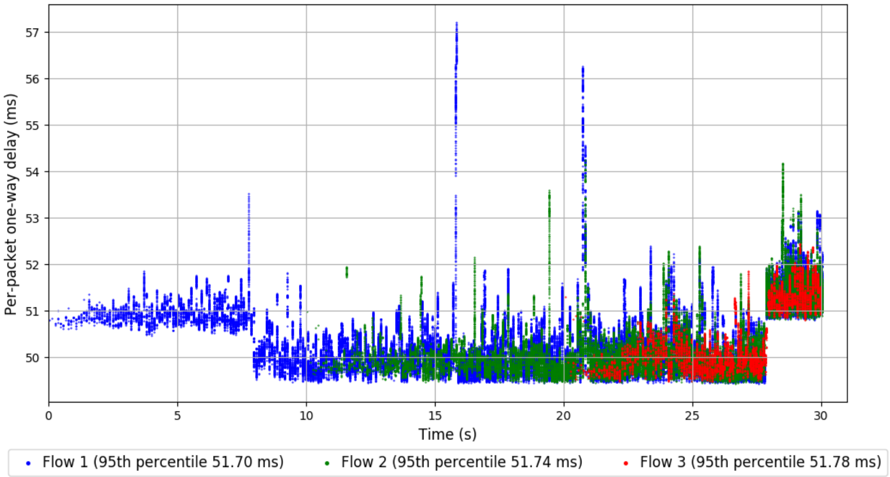
```
Run 8: Statistics of LEDBAT

Start at: 2018-07-05 21:34:53
End at: 2018-07-05 21:35:23
Local clock offset: 0.007 ms
Remote clock offset: 0.068 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.07 Mbit/s
95th percentile per-packet one-way delay: 51.722 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 34.61 Mbit/s
95th percentile per-packet one-way delay: 51.697 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 23.73 Mbit/s
95th percentile per-packet one-way delay: 51.738 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 51.777 ms
Loss rate: 0.00%
```

Run 8: Report of LEDBAT — Data Link



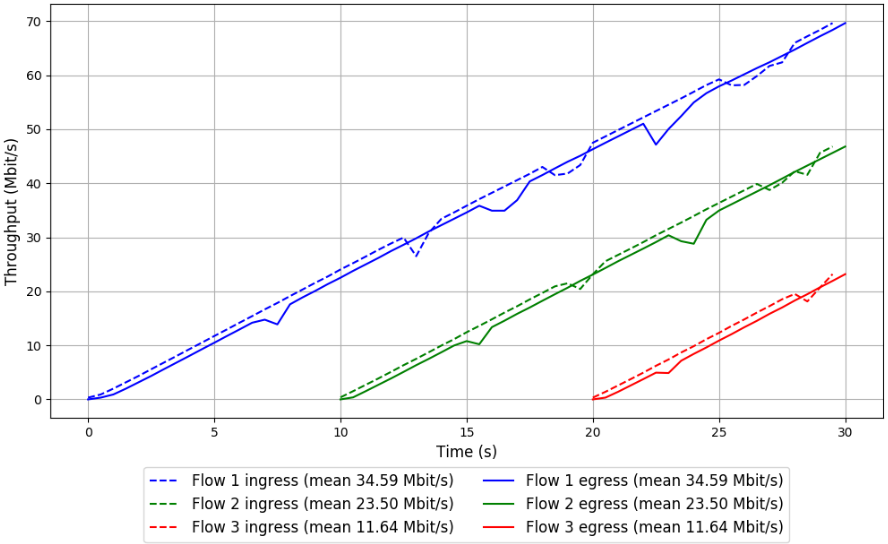


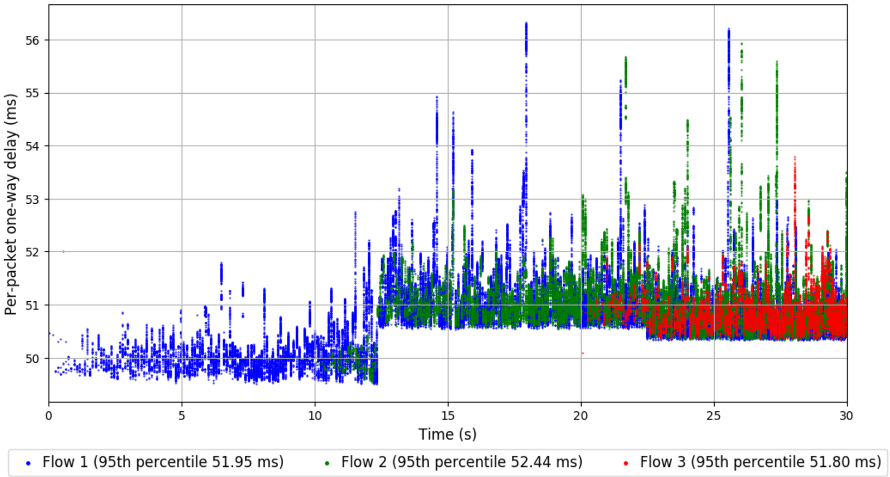
```
Run 9: Statistics of LEDBAT

Start at: 2018-07-05 21:59:48
End at: 2018-07-05 22:00:18
Local clock offset: 0.021 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.07 Mbit/s
95th percentile per-packet one-way delay: 52.096 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 51.945 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.50 Mbit/s
95th percentile per-packet one-way delay: 52.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.64 Mbit/s
95th percentile per-packet one-way delay: 51.801 ms
Loss rate: 0.00%
```

Run 9: Report of LEDBAT — Data Link



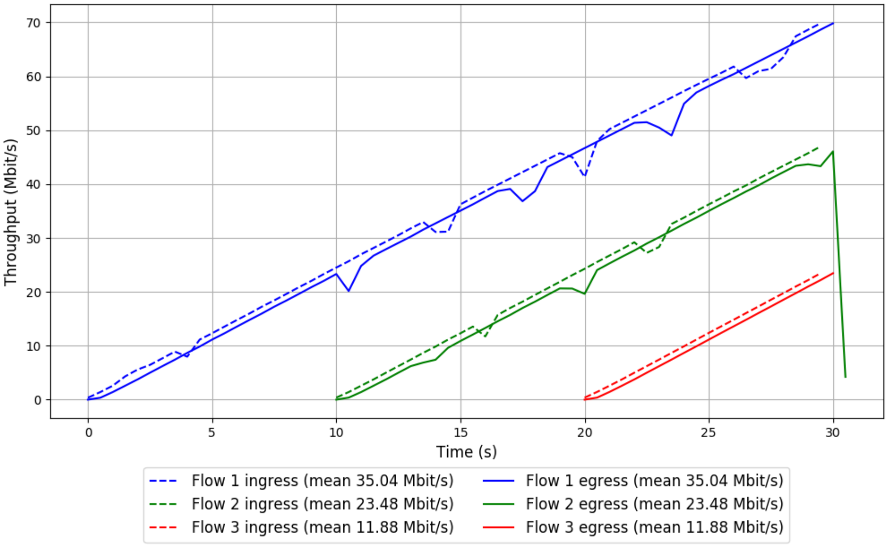


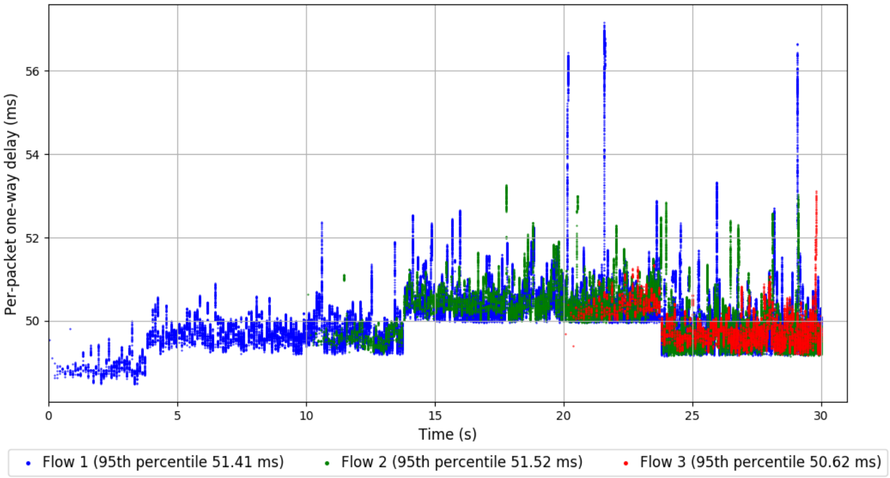
```
Run 10: Statistics of LEDBAT

Start at: 2018-07-05 22:24:47
End at: 2018-07-05 22:25:17
Local clock offset: 0.419 ms
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2018-07-06 00:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 51.395 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.04 Mbit/s
95th percentile per-packet one-way delay: 51.414 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.48 Mbit/s
95th percentile per-packet one-way delay: 51.515 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 50.620 ms
Loss rate: 0.00%
```

Run 10: Report of LEDBAT — Data Link



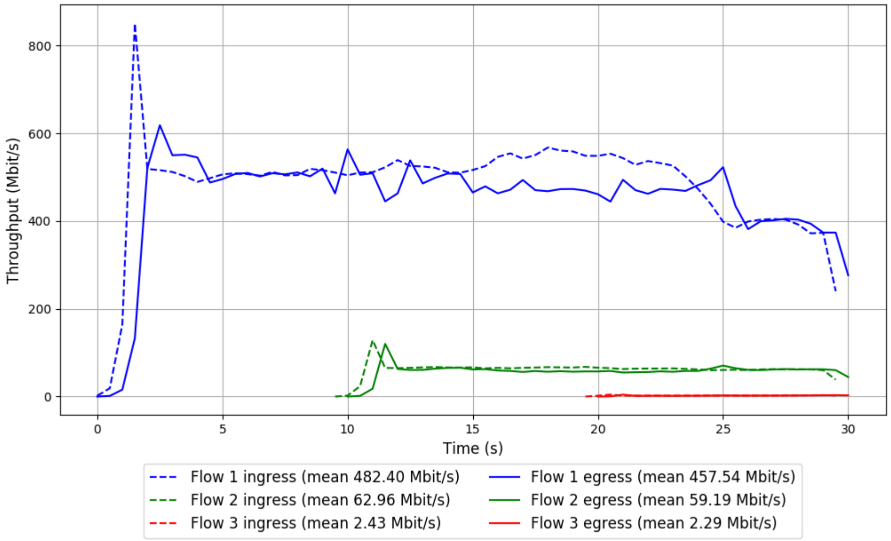


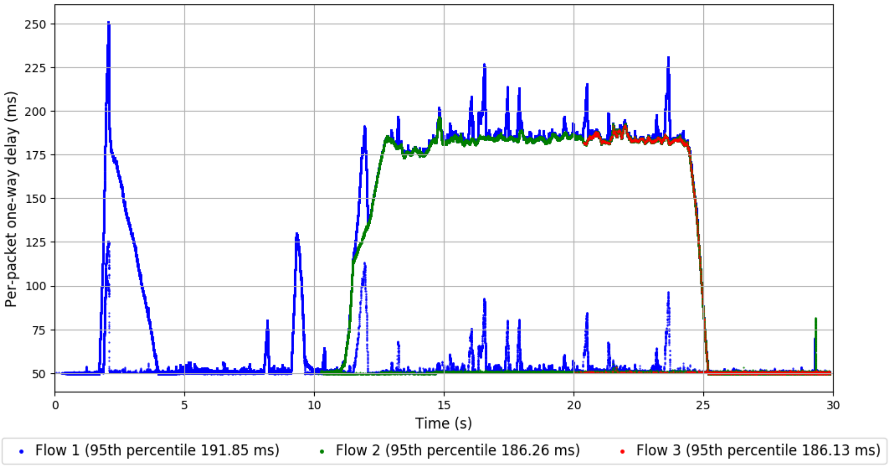
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-05 18:41:56
End at: 2018-07-05 18:42:26
Local clock offset: -0.113 ms
Remote clock offset: 0.168 ms

# Below is generated by plot.py at 2018-07-06 00:38:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.68 Mbit/s
95th percentile per-packet one-way delay: 191.089 ms
Loss rate: 5.22%
-- Flow 1:
Average throughput: 457.54 Mbit/s
95th percentile per-packet one-way delay: 191.850 ms
Loss rate: 5.15%
-- Flow 2:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 186.259 ms
Loss rate: 6.00%
-- Flow 3:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 186.126 ms
Loss rate: 5.63%
```

Run 1: Report of PCC-Allegro — Data Link



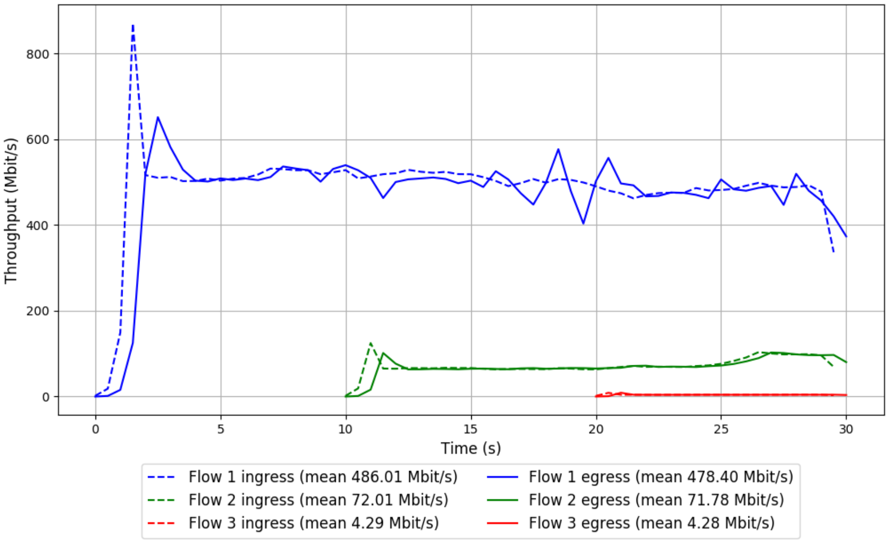


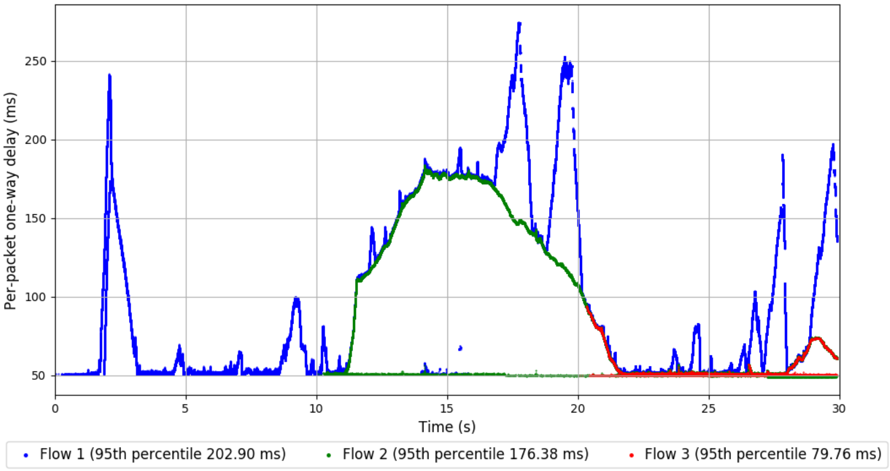
```
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-05 19:07:03
End at: 2018-07-05 19:07:33
Local clock offset: -0.097 ms
Remote clock offset: 0.104 ms

# Below is generated by plot.py at 2018-07-06 00:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 527.52 Mbit/s
95th percentile per-packet one-way delay: 197.731 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 478.40 Mbit/s
95th percentile per-packet one-way delay: 202.903 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 176.383 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 79.757 ms
Loss rate: 0.11%
```

Run 2: Report of PCC-Allegro — Data Link



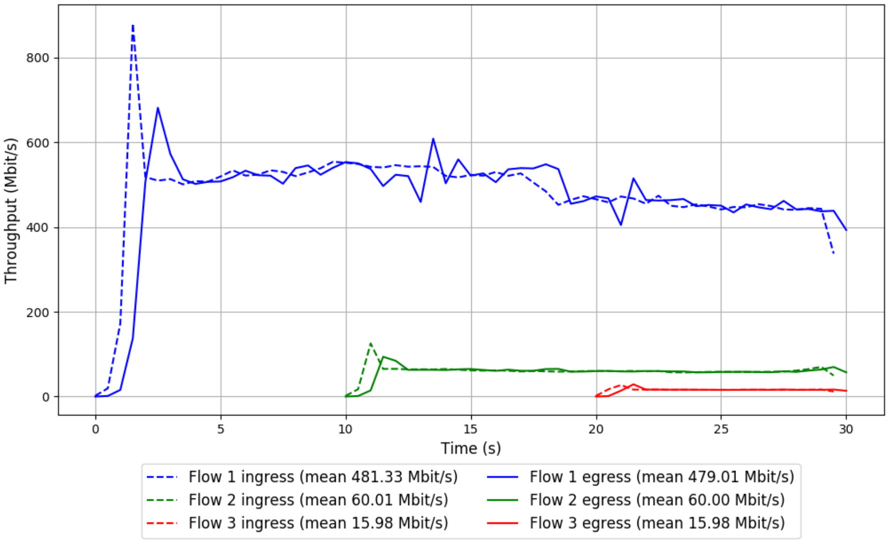


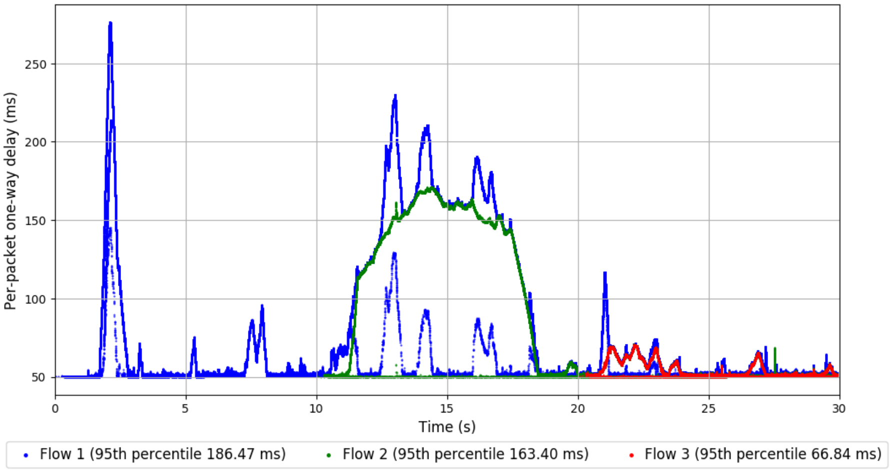
```
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-05 19:31:45
End at: 2018-07-05 19:32:15
Local clock offset: -0.449 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-07-06 00:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 524.13 Mbit/s
95th percentile per-packet one-way delay: 182.998 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 479.01 Mbit/s
95th percentile per-packet one-way delay: 186.466 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 163.404 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 15.98 Mbit/s
95th percentile per-packet one-way delay: 66.841 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Allegro — Data Link



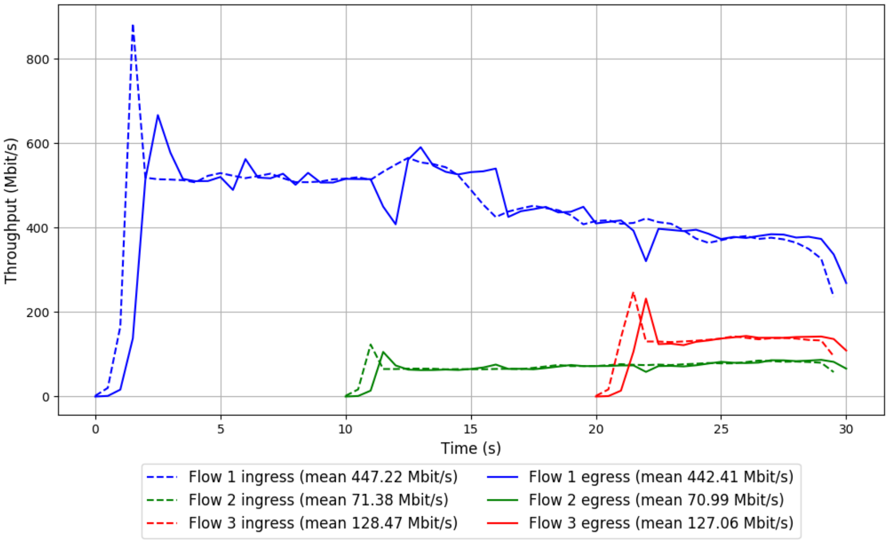


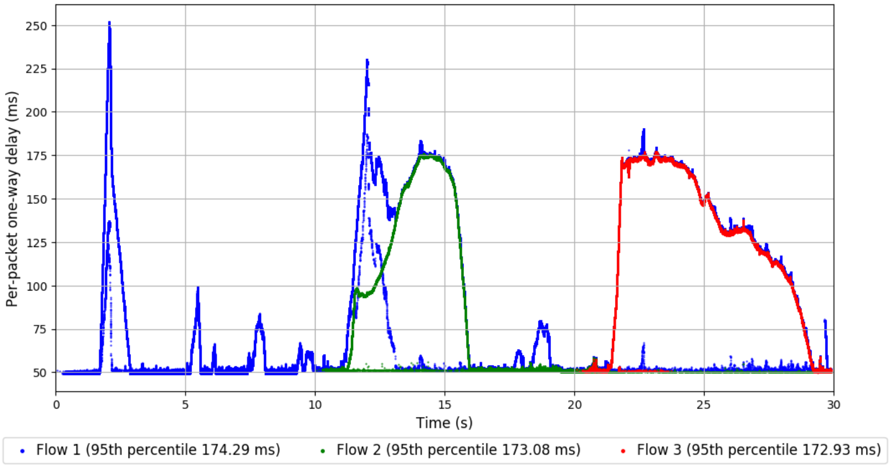
```
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-05 19:56:51
End at: 2018-07-05 19:57:21
Local clock offset: -0.453 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-07-06 00:39:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.41 Mbit/s
95th percentile per-packet one-way delay: 173.952 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 442.41 Mbit/s
95th percentile per-packet one-way delay: 174.290 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 70.99 Mbit/s
95th percentile per-packet one-way delay: 173.077 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 127.06 Mbit/s
95th percentile per-packet one-way delay: 172.934 ms
Loss rate: 1.11%
```

Run 4: Report of PCC-Allegro — Data Link



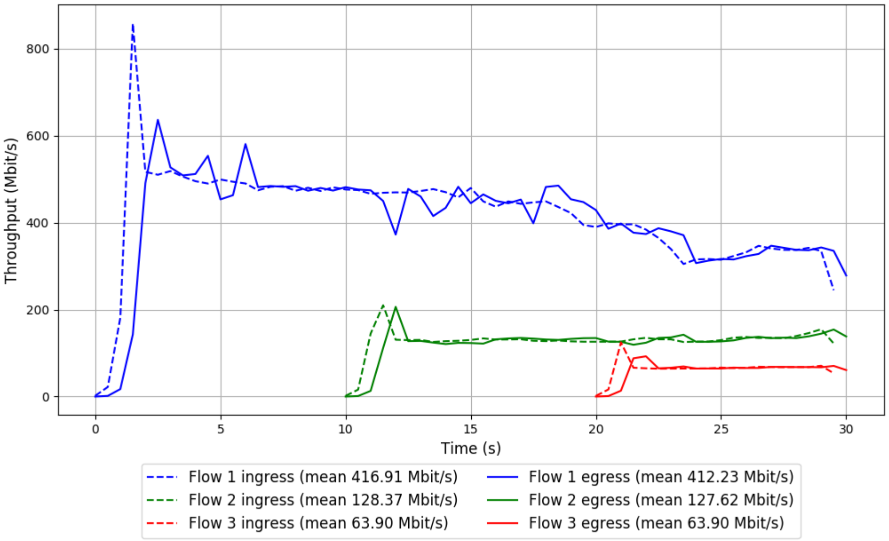


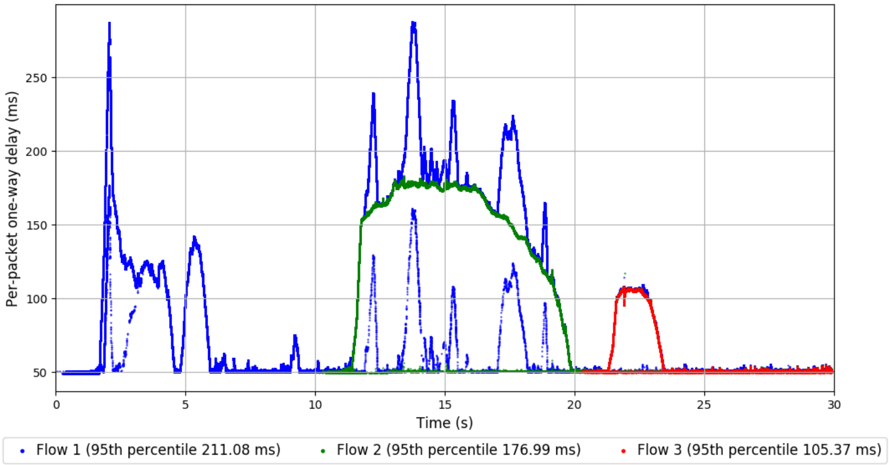
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-05 20:21:48
End at: 2018-07-05 20:22:18
Local clock offset: -0.151 ms
Remote clock offset: -0.133 ms

# Below is generated by plot.py at 2018-07-06 00:39:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.08 Mbit/s
95th percentile per-packet one-way delay: 202.047 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 412.23 Mbit/s
95th percentile per-packet one-way delay: 211.081 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 127.62 Mbit/s
95th percentile per-packet one-way delay: 176.992 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 105.372 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Allegro — Data Link



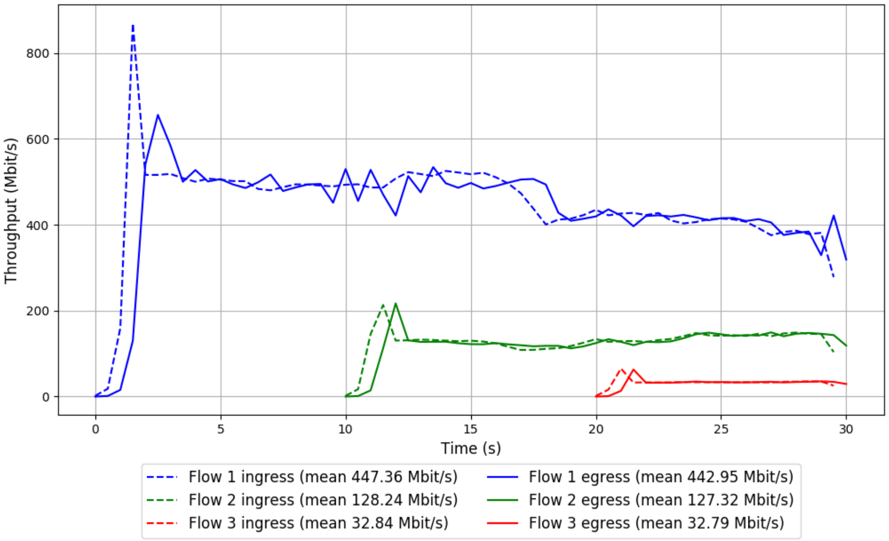


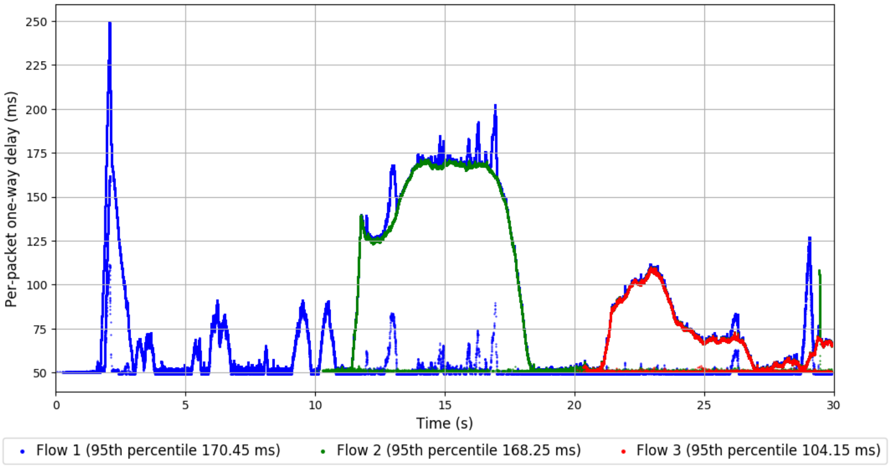
```
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-05 20:46:38
End at: 2018-07-05 20:47:08
Local clock offset: -0.556 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2018-07-06 00:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 538.30 Mbit/s
95th percentile per-packet one-way delay: 169.839 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 442.95 Mbit/s
95th percentile per-packet one-way delay: 170.448 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 127.32 Mbit/s
95th percentile per-packet one-way delay: 168.252 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 32.79 Mbit/s
95th percentile per-packet one-way delay: 104.146 ms
Loss rate: 0.15%
```

Run 6: Report of PCC-Allegro — Data Link



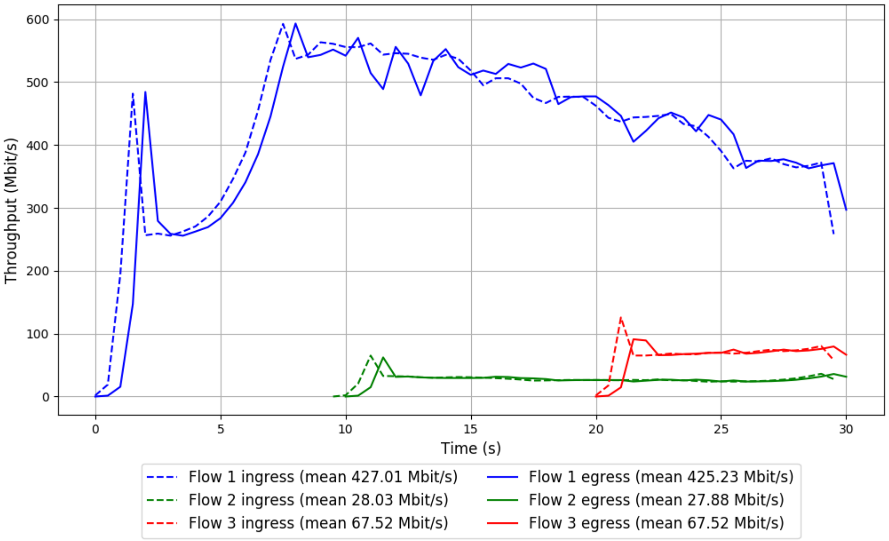


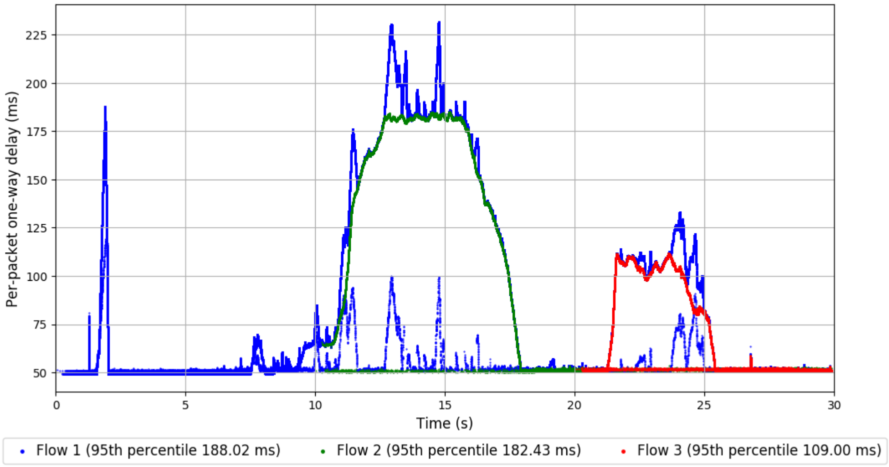
```
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-05 21:11:12
End at: 2018-07-05 21:11:42
Local clock offset: -0.524 ms
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-07-06 00:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 466.03 Mbit/s
95th percentile per-packet one-way delay: 186.759 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 425.23 Mbit/s
95th percentile per-packet one-way delay: 188.022 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 27.88 Mbit/s
95th percentile per-packet one-way delay: 182.431 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 67.52 Mbit/s
95th percentile per-packet one-way delay: 108.997 ms
Loss rate: 0.00%
```

Run 7: Report of PCC-Allegro — Data Link



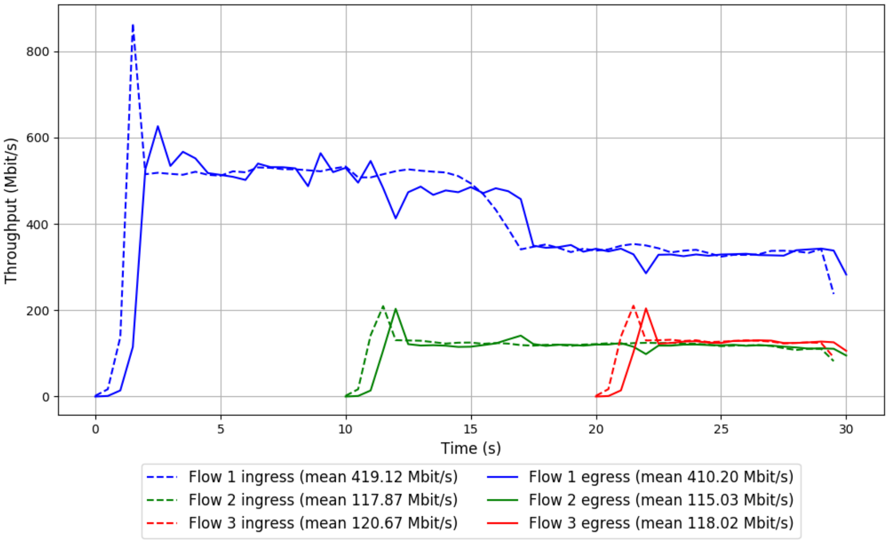


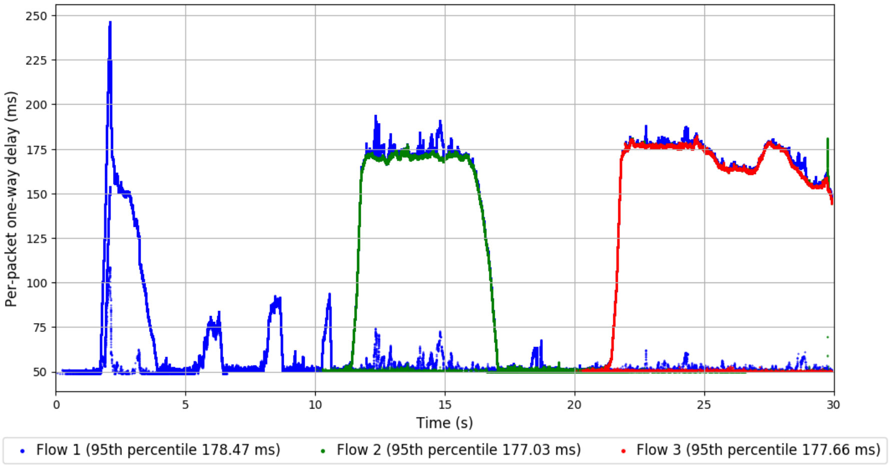
```
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-05 21:36:04
End at: 2018-07-05 21:36:34
Local clock offset: -0.048 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2018-07-06 00:44:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.54 Mbit/s
95th percentile per-packet one-way delay: 178.023 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 410.20 Mbit/s
95th percentile per-packet one-way delay: 178.468 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 115.03 Mbit/s
95th percentile per-packet one-way delay: 177.025 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 118.02 Mbit/s
95th percentile per-packet one-way delay: 177.657 ms
Loss rate: 2.19%
```

Run 8: Report of PCC-Allegro — Data Link



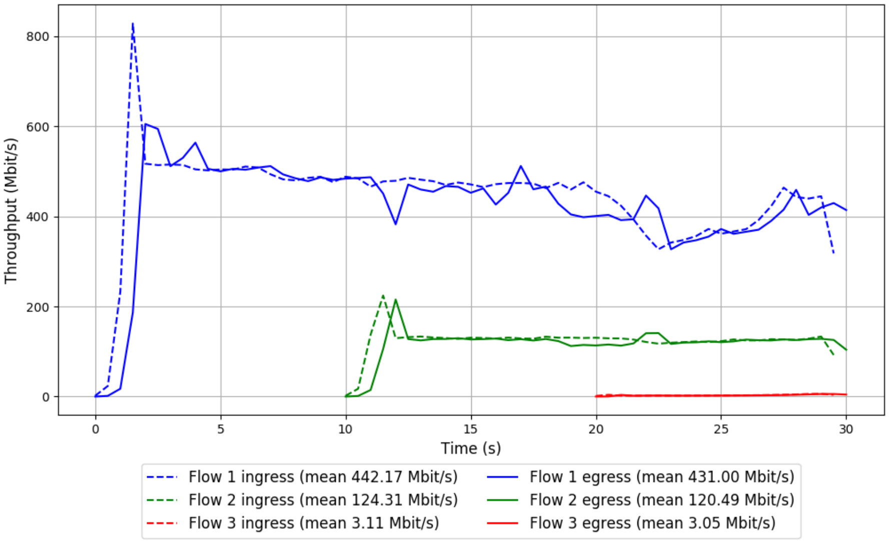


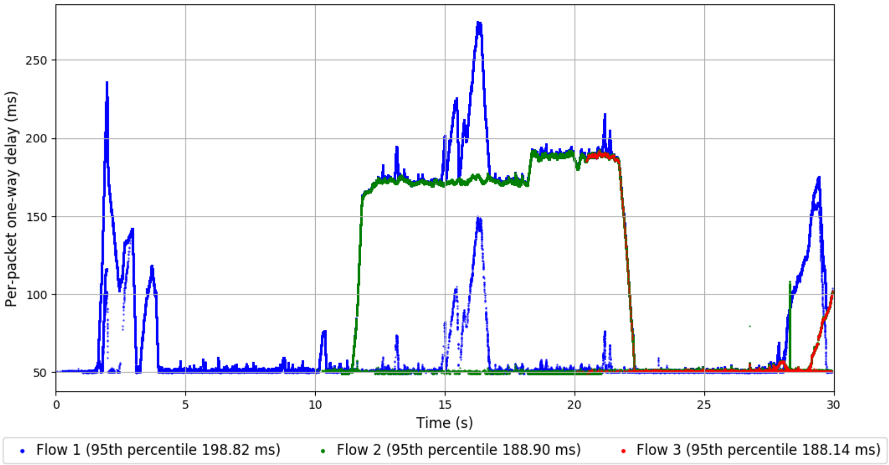
```
Run 9: Statistics of PCC-Allegro

Start at: 2018-07-05 22:00:59
End at: 2018-07-05 22:01:29
Local clock offset: -0.364 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-07-06 00:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.13 Mbit/s
95th percentile per-packet one-way delay: 193.355 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 431.00 Mbit/s
95th percentile per-packet one-way delay: 198.825 ms
Loss rate: 2.47%
-- Flow 2:
Average throughput: 120.49 Mbit/s
95th percentile per-packet one-way delay: 188.901 ms
Loss rate: 3.00%
-- Flow 3:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 188.142 ms
Loss rate: 2.00%
```

Run 9: Report of PCC-Allegro — Data Link



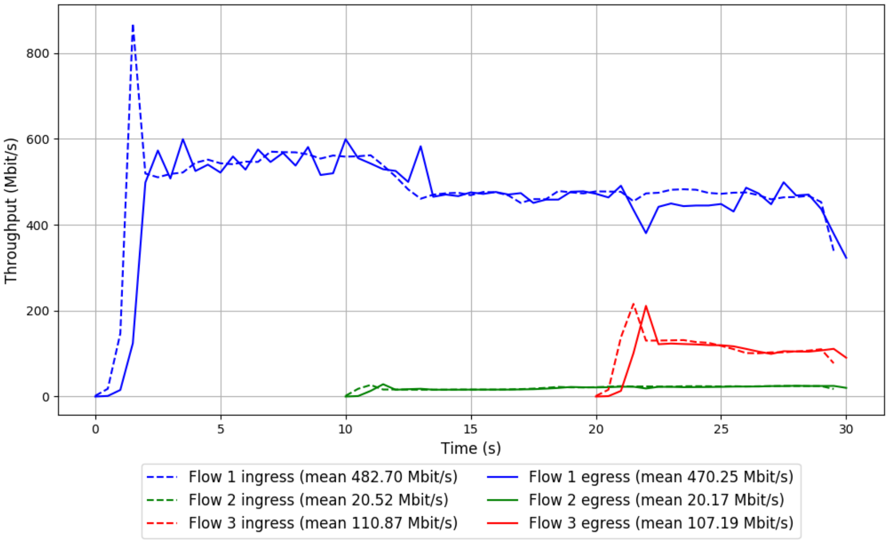


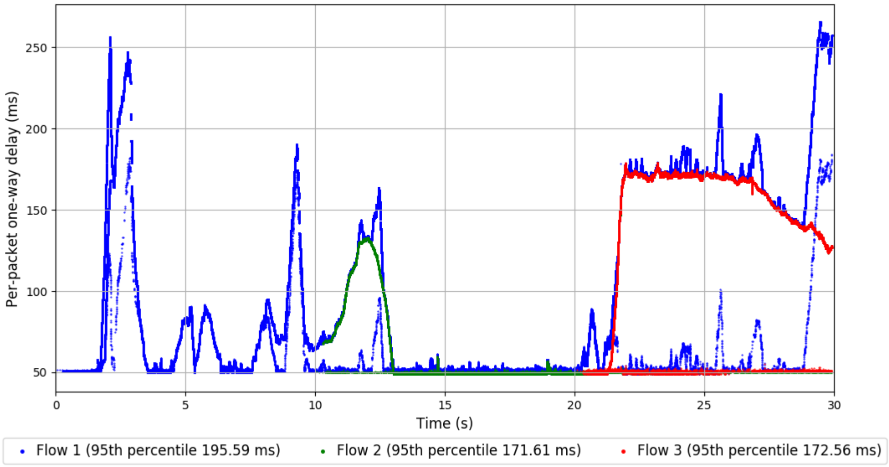
```
Run 10: Statistics of PCC-Allegro

Start at: 2018-07-05 22:25:58
End at: 2018-07-05 22:26:28
Local clock offset: 0.017 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-07-06 00:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.97 Mbit/s
95th percentile per-packet one-way delay: 192.396 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 470.25 Mbit/s
95th percentile per-packet one-way delay: 195.588 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 20.17 Mbit/s
95th percentile per-packet one-way delay: 171.606 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 107.19 Mbit/s
95th percentile per-packet one-way delay: 172.559 ms
Loss rate: 3.31%
```

Run 10: Report of PCC-Allegro — Data Link



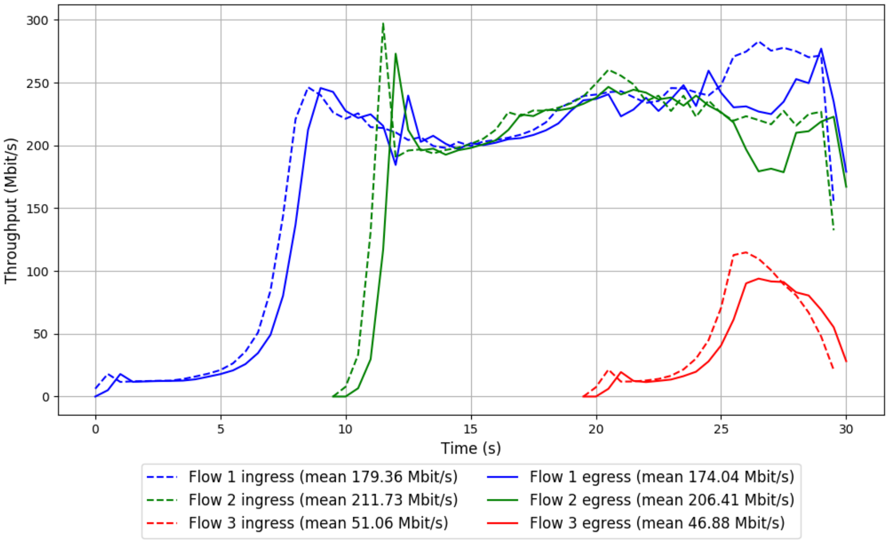


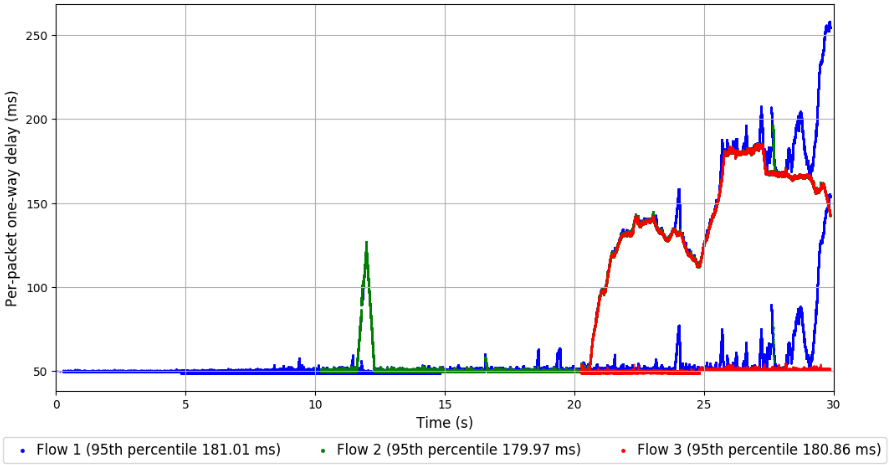
```
Run 1: Statistics of PCC-Expr

Start at: 2018-07-05 18:47:06
End at: 2018-07-05 18:47:36
Local clock offset: -0.046 ms
Remote clock offset: 0.2 ms

# Below is generated by plot.py at 2018-07-06 00:49:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.20 Mbit/s
95th percentile per-packet one-way delay: 180.356 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 174.04 Mbit/s
95th percentile per-packet one-way delay: 181.010 ms
Loss rate: 2.96%
-- Flow 2:
Average throughput: 206.41 Mbit/s
95th percentile per-packet one-way delay: 179.966 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 46.88 Mbit/s
95th percentile per-packet one-way delay: 180.863 ms
Loss rate: 8.19%
```

Run 1: Report of PCC-Expr — Data Link



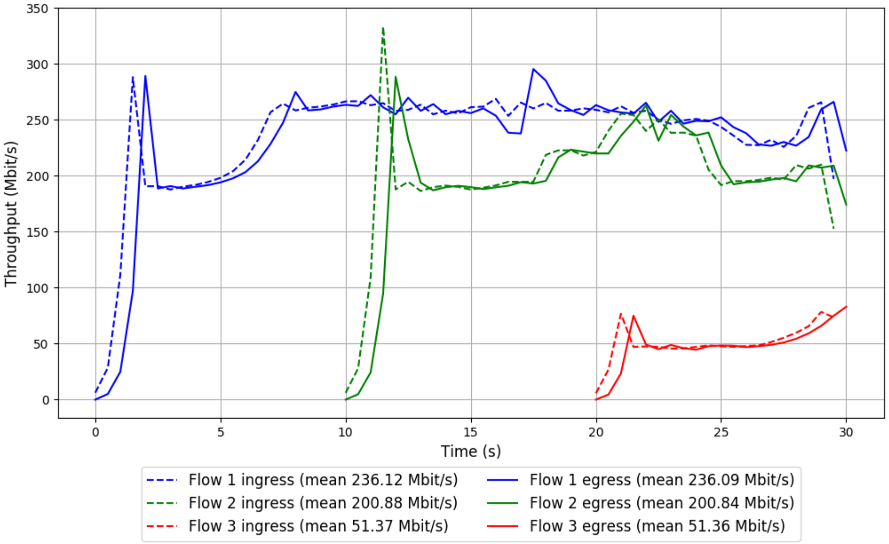


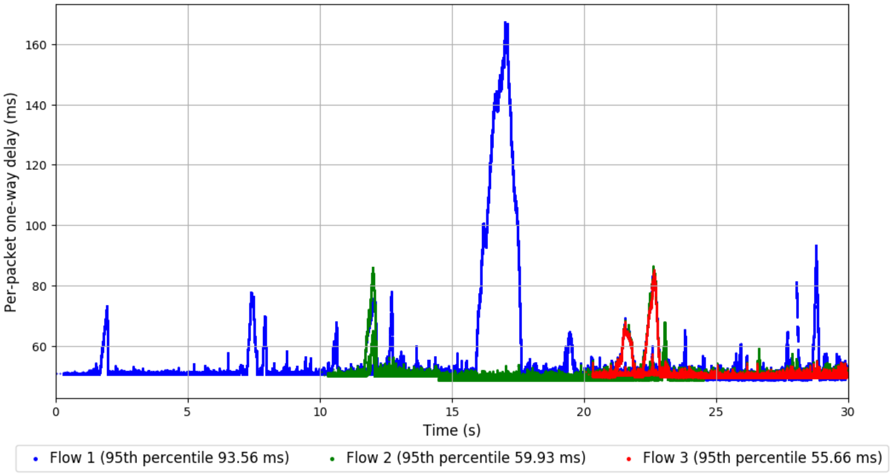
```
Run 2: Statistics of PCC-Expr

Start at: 2018-07-05 19:12:16
End at: 2018-07-05 19:12:46
Local clock offset: -0.067 ms
Remote clock offset: 0.111 ms

# Below is generated by plot.py at 2018-07-06 00:50:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.61 Mbit/s
95th percentile per-packet one-way delay: 73.581 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 236.09 Mbit/s
95th percentile per-packet one-way delay: 93.562 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 200.84 Mbit/s
95th percentile per-packet one-way delay: 59.927 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 51.36 Mbit/s
95th percentile per-packet one-way delay: 55.664 ms
Loss rate: 0.03%
```

Run 2: Report of PCC-Expr — Data Link



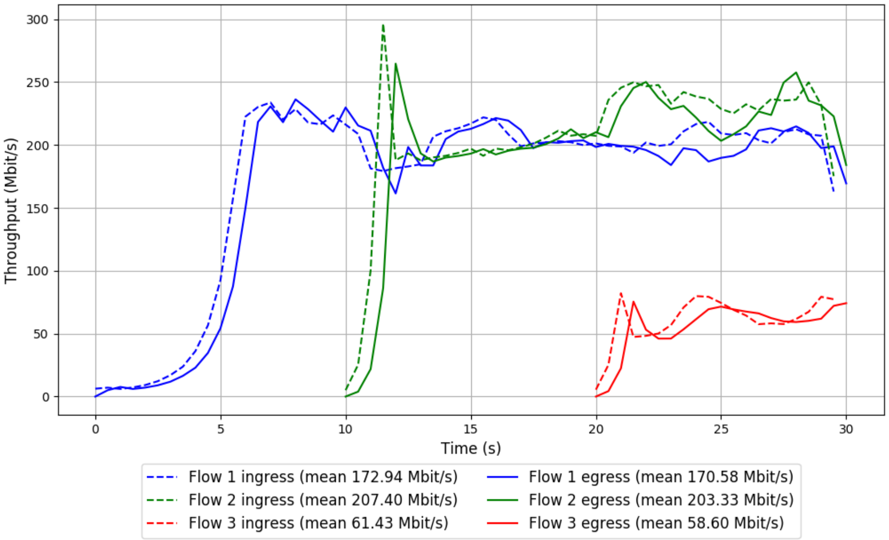


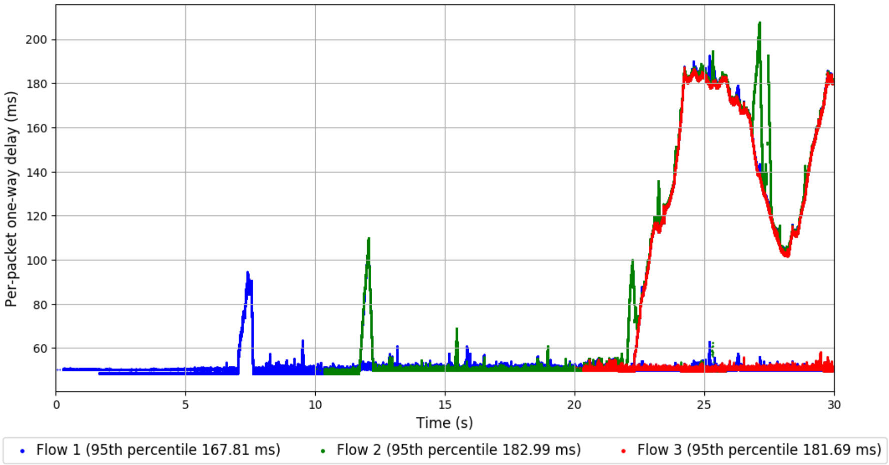
```
Run 3: Statistics of PCC-Expr

Start at: 2018-07-05 19:36:59
End at: 2018-07-05 19:37:29
Local clock offset: 0.279 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-07-06 00:50:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.14 Mbit/s
95th percentile per-packet one-way delay: 181.269 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 170.58 Mbit/s
95th percentile per-packet one-way delay: 167.815 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 203.33 Mbit/s
95th percentile per-packet one-way delay: 182.987 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 181.692 ms
Loss rate: 4.61%
```

Run 3: Report of PCC-Expr — Data Link



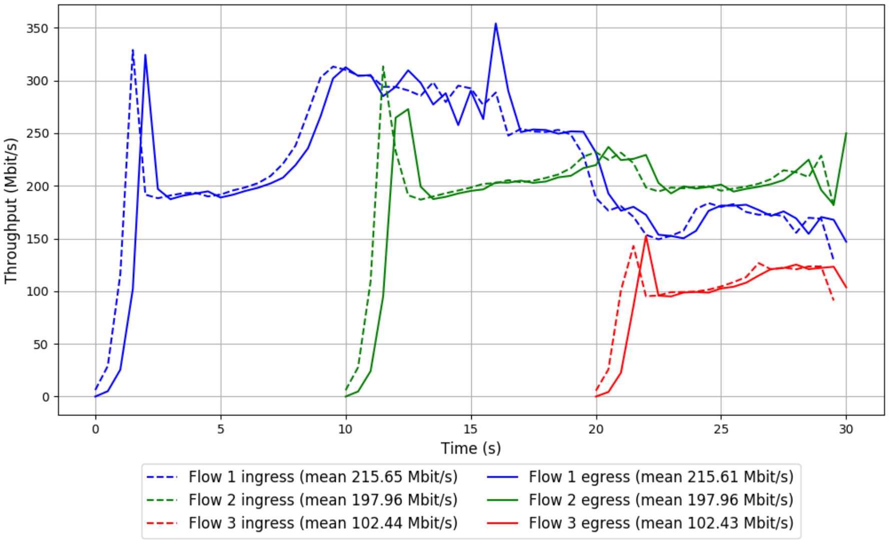


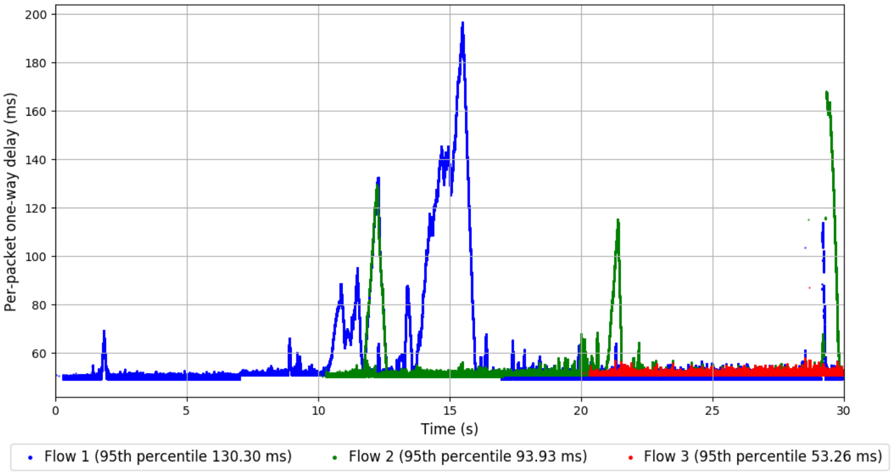
```
Run 4: Statistics of PCC-Expr

Start at: 2018-07-05 20:02:03
End at: 2018-07-05 20:02:33
Local clock offset: -0.479 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2018-07-06 00:51:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.06 Mbit/s
95th percentile per-packet one-way delay: 113.186 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 215.61 Mbit/s
95th percentile per-packet one-way delay: 130.302 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 197.96 Mbit/s
95th percentile per-packet one-way delay: 93.928 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 102.43 Mbit/s
95th percentile per-packet one-way delay: 53.255 ms
Loss rate: 0.02%
```

Run 4: Report of PCC-Expr — Data Link



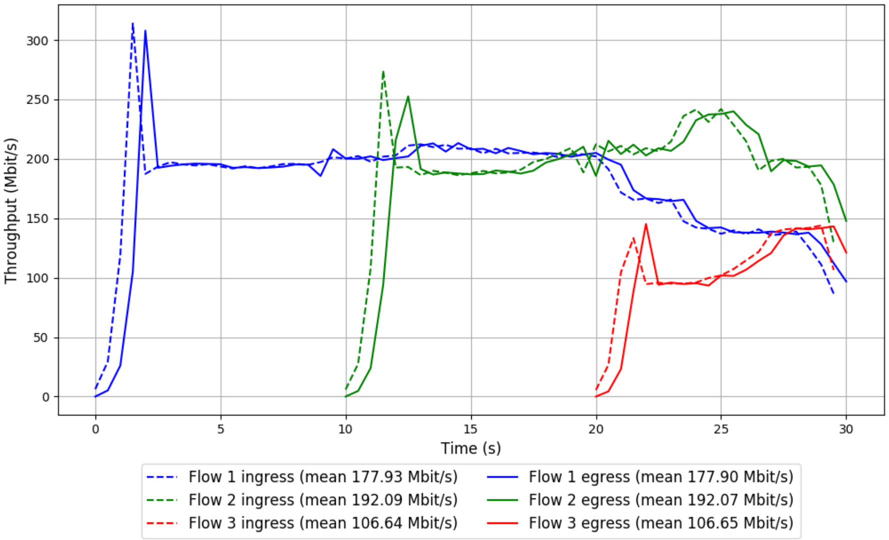


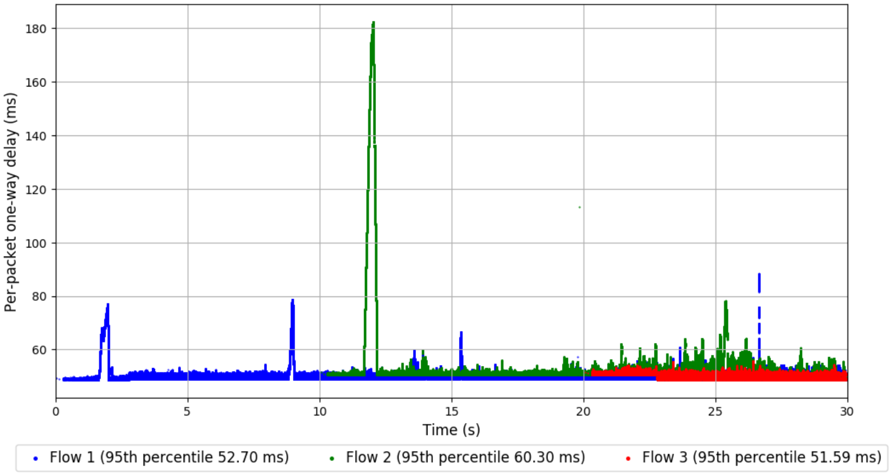
```
Run 5: Statistics of PCC-Expr

Start at: 2018-07-05 20:26:58
End at: 2018-07-05 20:27:28
Local clock offset: -0.11 ms
Remote clock offset: -0.174 ms

# Below is generated by plot.py at 2018-07-06 00:51:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.79 Mbit/s
95th percentile per-packet one-way delay: 56.033 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 177.90 Mbit/s
95th percentile per-packet one-way delay: 52.702 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 192.07 Mbit/s
95th percentile per-packet one-way delay: 60.305 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 106.65 Mbit/s
95th percentile per-packet one-way delay: 51.590 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Expr — Data Link



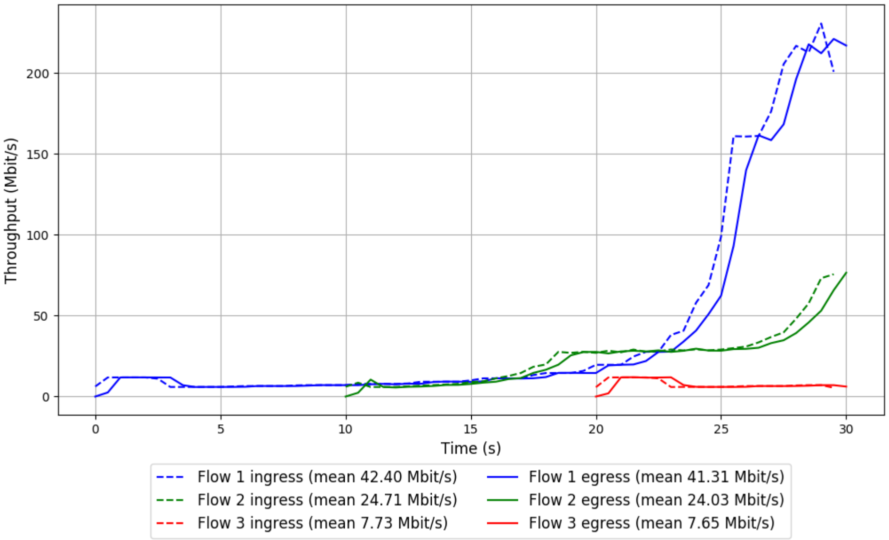


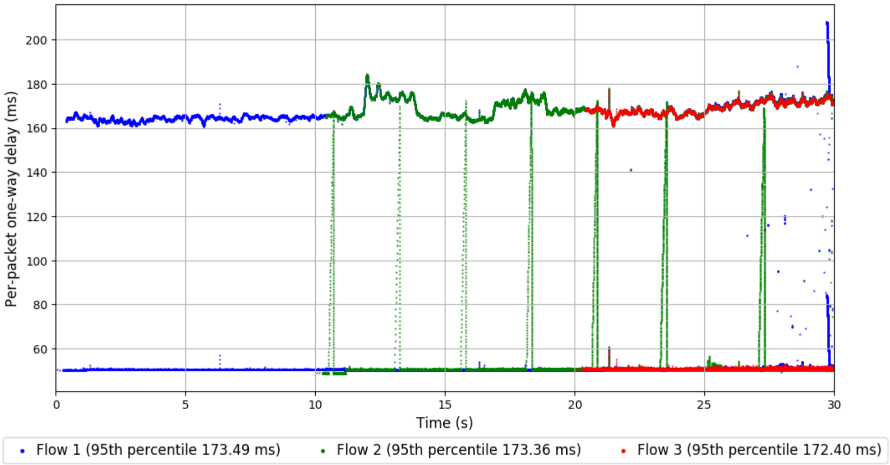
```
Run 6: Statistics of PCC-Expr

Start at: 2018-07-05 20:51:49
End at: 2018-07-05 20:52:19
Local clock offset: -0.192 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-07-06 00:51:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.82 Mbit/s
95th percentile per-packet one-way delay: 173.422 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 41.31 Mbit/s
95th percentile per-packet one-way delay: 173.486 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 173.359 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 172.397 ms
Loss rate: 1.08%
```

Run 6: Report of PCC-Expr — Data Link



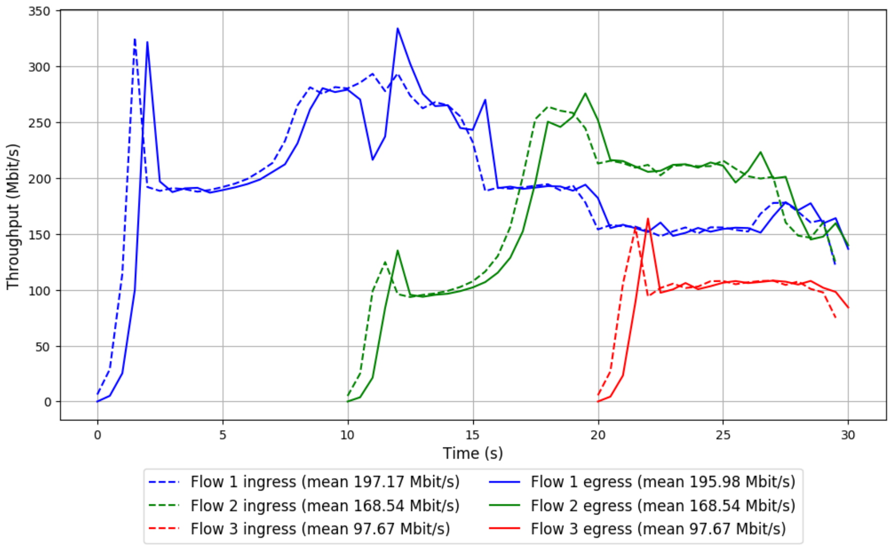


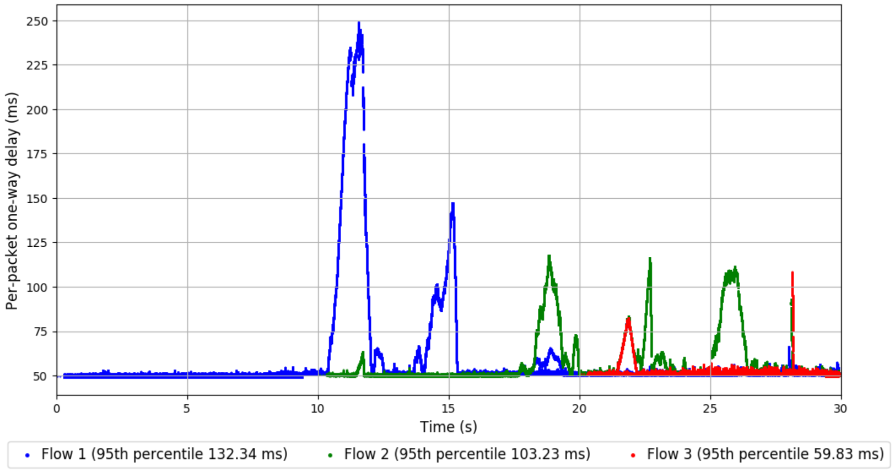
```
Run 7: Statistics of PCC-Expr

Start at: 2018-07-05 21:16:21
End at: 2018-07-05 21:16:51
Local clock offset: -0.13 ms
Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-07-06 00:57:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.27 Mbit/s
95th percentile per-packet one-way delay: 105.827 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 195.98 Mbit/s
95th percentile per-packet one-way delay: 132.337 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 168.54 Mbit/s
95th percentile per-packet one-way delay: 103.229 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 97.67 Mbit/s
95th percentile per-packet one-way delay: 59.830 ms
Loss rate: 0.00%
```

Run 7: Report of PCC-Expr — Data Link



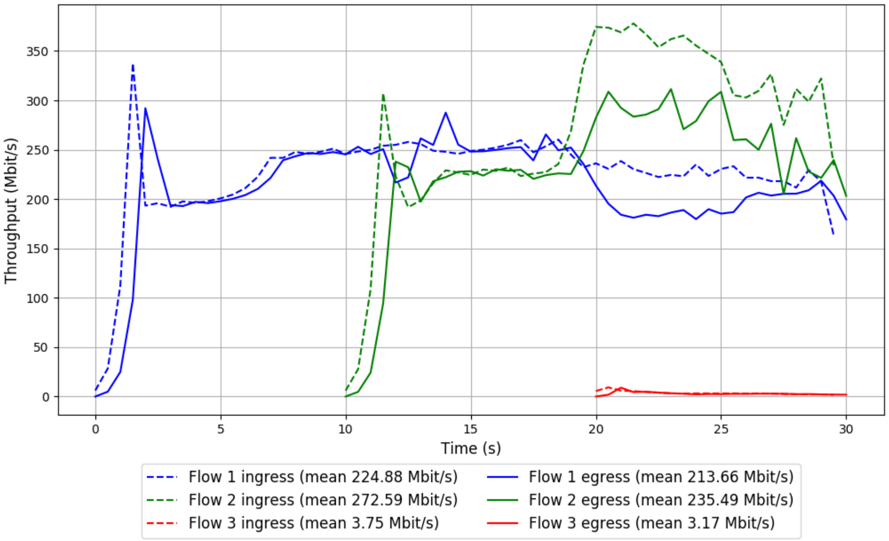


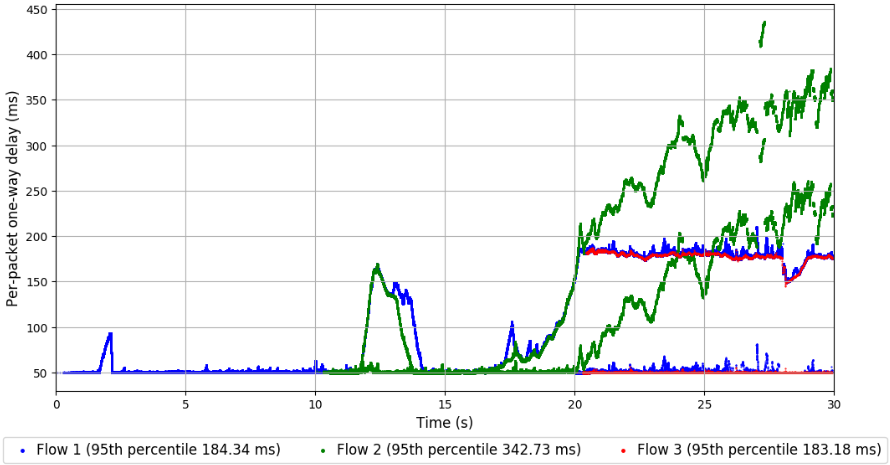
```
Run 8: Statistics of PCC-Expr

Start at: 2018-07-05 21:41:10
End at: 2018-07-05 21:41:40
Local clock offset: 0.339 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2018-07-06 00:59:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.31 Mbit/s
95th percentile per-packet one-way delay: 309.875 ms
Loss rate: 8.86%
-- Flow 1:
Average throughput: 213.66 Mbit/s
95th percentile per-packet one-way delay: 184.335 ms
Loss rate: 4.99%
-- Flow 2:
Average throughput: 235.49 Mbit/s
95th percentile per-packet one-way delay: 342.733 ms
Loss rate: 13.62%
-- Flow 3:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 183.178 ms
Loss rate: 15.41%
```

Run 8: Report of PCC-Expr — Data Link



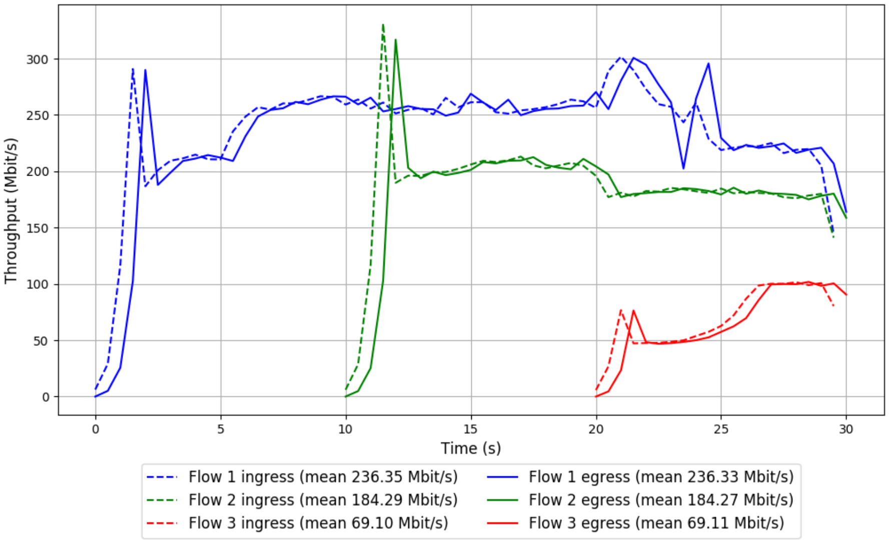


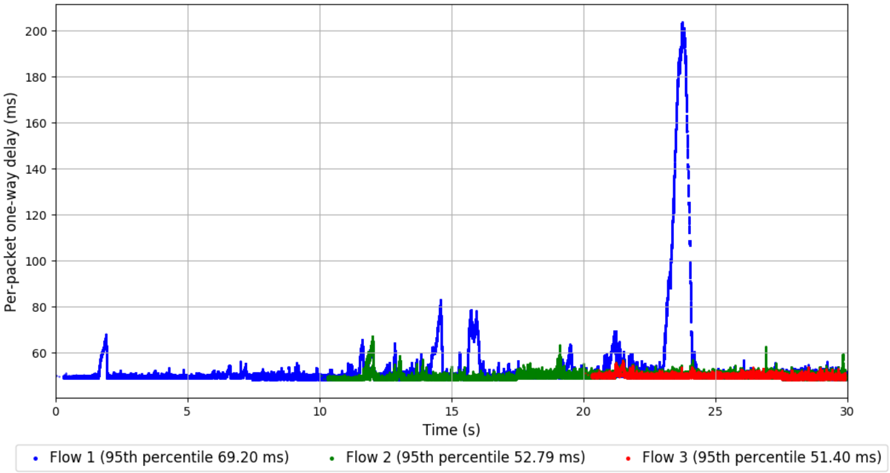
```
Run 9: Statistics of PCC-Expr

Start at: 2018-07-05 22:06:13
End at: 2018-07-05 22:06:43
Local clock offset: 0.386 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-07-06 00:59:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.69 Mbit/s
95th percentile per-packet one-way delay: 61.917 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 236.33 Mbit/s
95th percentile per-packet one-way delay: 69.199 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 184.27 Mbit/s
95th percentile per-packet one-way delay: 52.789 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 69.11 Mbit/s
95th percentile per-packet one-way delay: 51.403 ms
Loss rate: 0.00%
```

Run 9: Report of PCC-Expr — Data Link



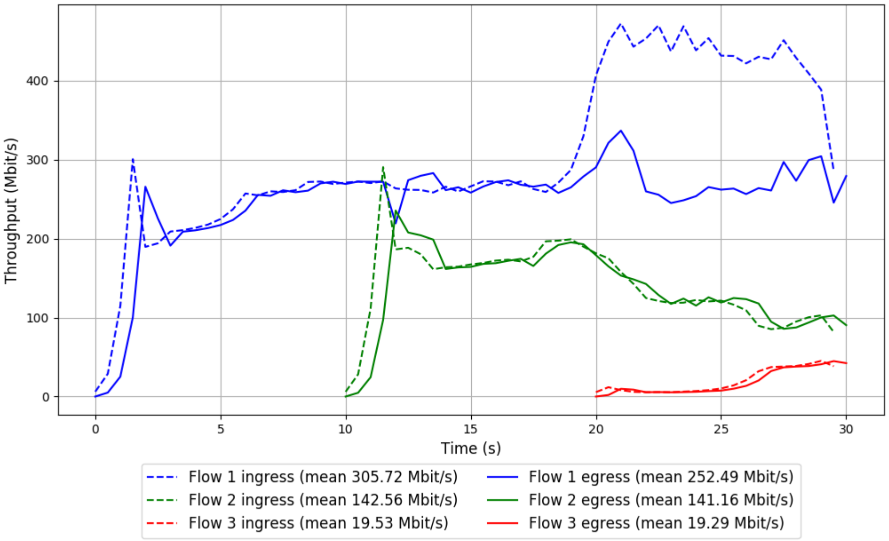


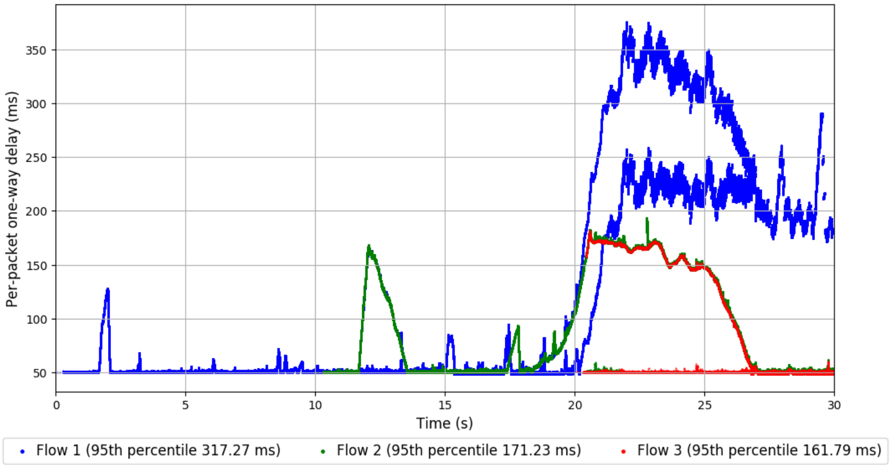
```
Run 10: Statistics of PCC-Expr

Start at: 2018-07-05 22:31:05
End at: 2018-07-05 22:31:35
Local clock offset: 0.104 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.72 Mbit/s
95th percentile per-packet one-way delay: 302.311 ms
Loss rate: 13.32%
-- Flow 1:
Average throughput: 252.49 Mbit/s
95th percentile per-packet one-way delay: 317.273 ms
Loss rate: 17.41%
-- Flow 2:
Average throughput: 141.16 Mbit/s
95th percentile per-packet one-way delay: 171.228 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 19.29 Mbit/s
95th percentile per-packet one-way delay: 161.793 ms
Loss rate: 1.20%
```

Run 10: Report of PCC-Expr — Data Link



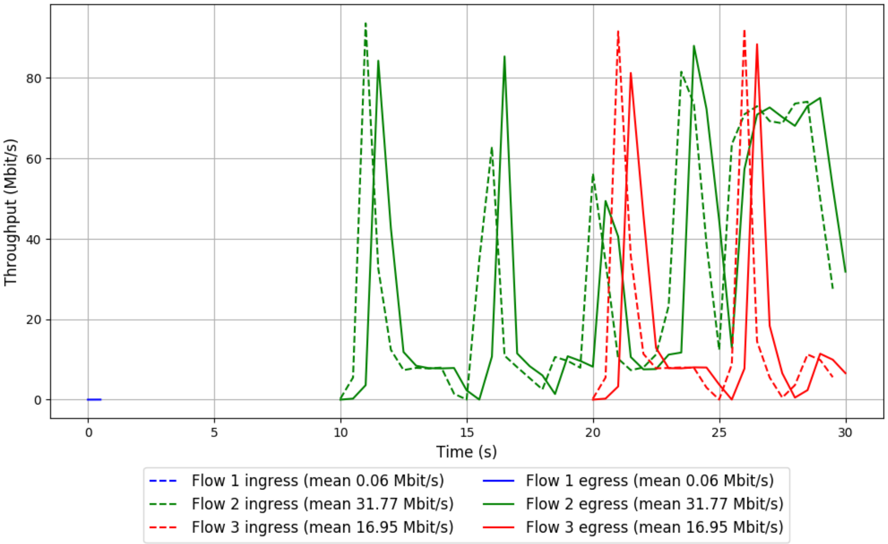


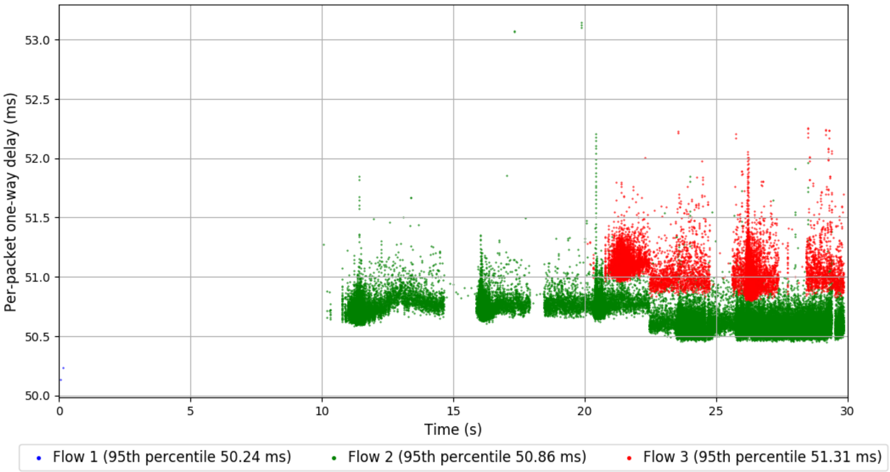
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-05 18:44:48
End at: 2018-07-05 18:45:18
Local clock offset: -0.411 ms
Remote clock offset: 0.152 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.65 Mbit/s
95th percentile per-packet one-way delay: 51.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 50.237 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.77 Mbit/s
95th percentile per-packet one-way delay: 50.860 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.95 Mbit/s
95th percentile per-packet one-way delay: 51.306 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link



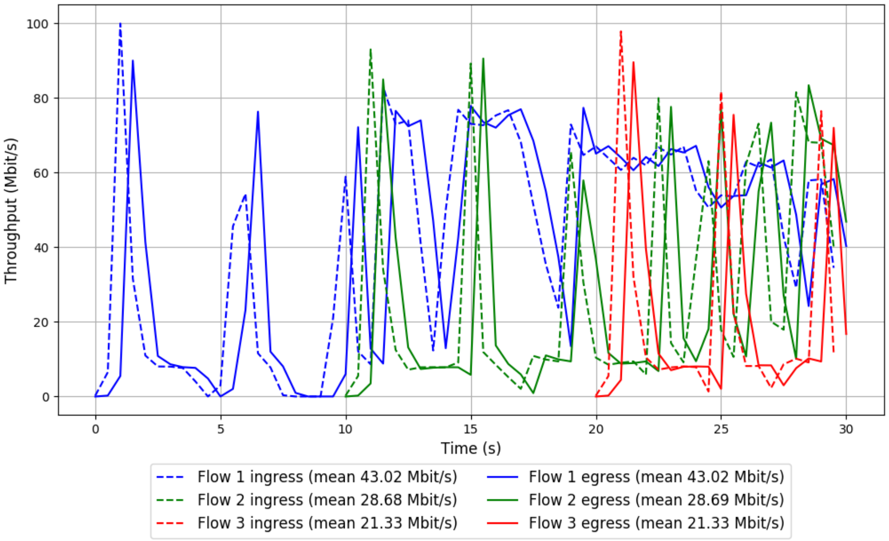


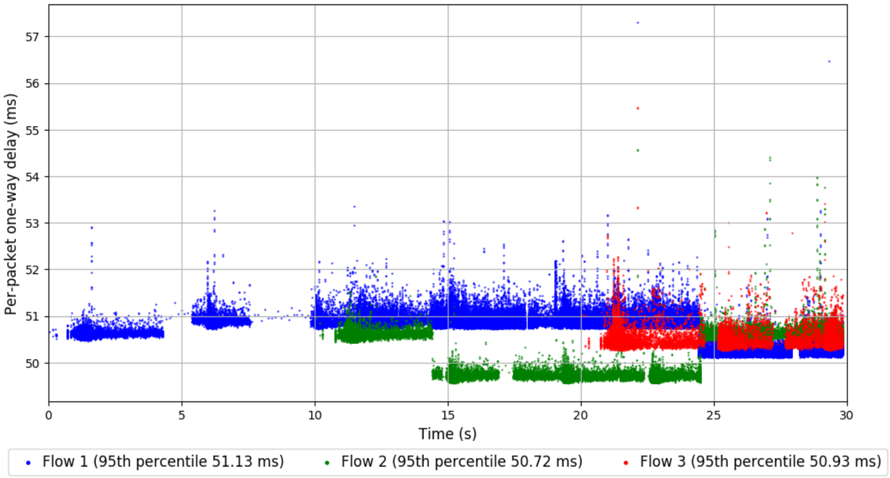
```
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-05 19:09:56
End at: 2018-07-05 19:10:26
Local clock offset: -0.062 ms
Remote clock offset: 0.101 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.04 Mbit/s
95th percentile per-packet one-way delay: 51.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.02 Mbit/s
95th percentile per-packet one-way delay: 51.134 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.69 Mbit/s
95th percentile per-packet one-way delay: 50.723 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.33 Mbit/s
95th percentile per-packet one-way delay: 50.933 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link



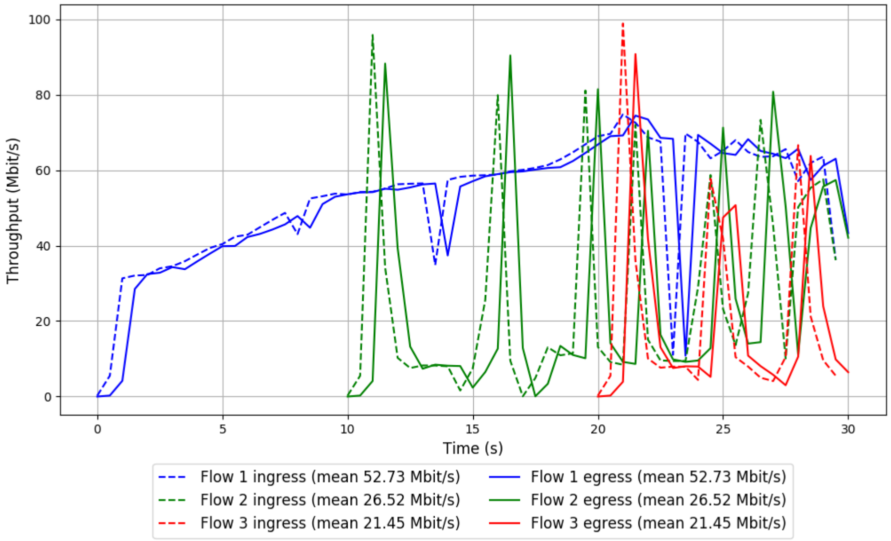


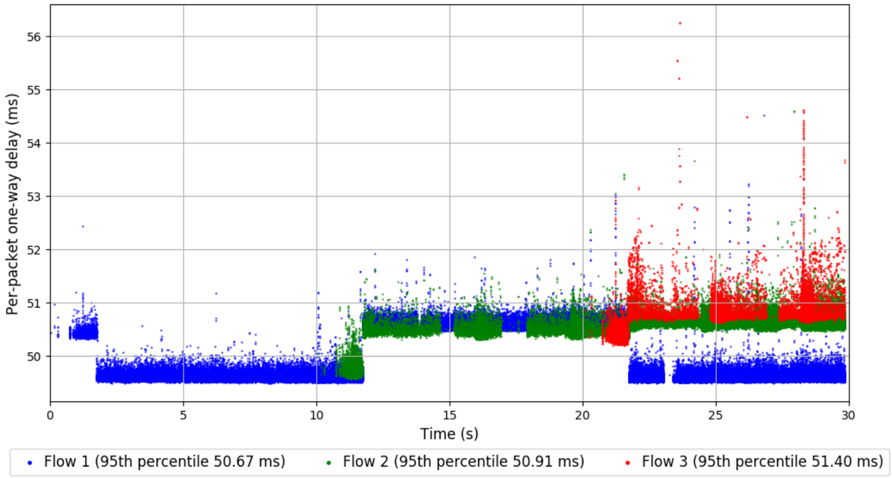
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-05 19:34:39
End at: 2018-07-05 19:35:09
Local clock offset: -0.096 ms
Remote clock offset: 0.009 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.36 Mbit/s
95th percentile per-packet one-way delay: 50.857 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.73 Mbit/s
95th percentile per-packet one-way delay: 50.667 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.52 Mbit/s
95th percentile per-packet one-way delay: 50.913 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 51.400 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link



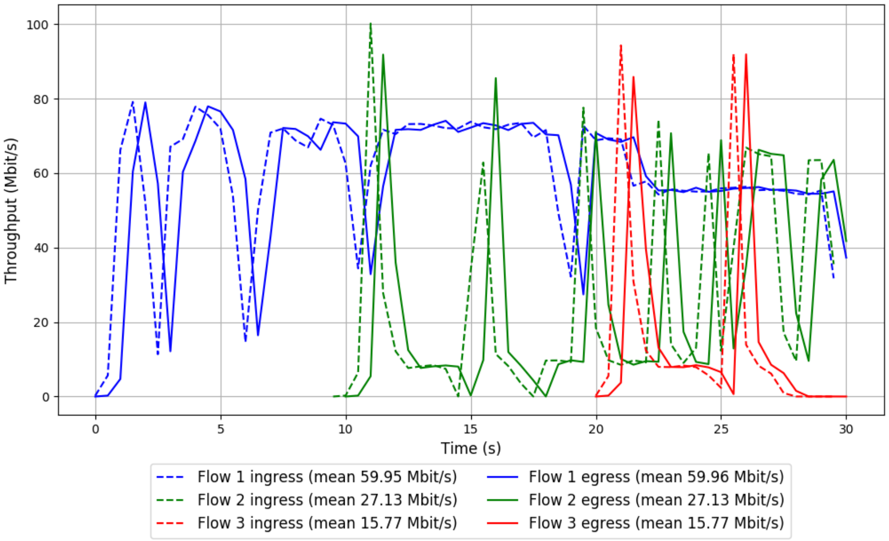


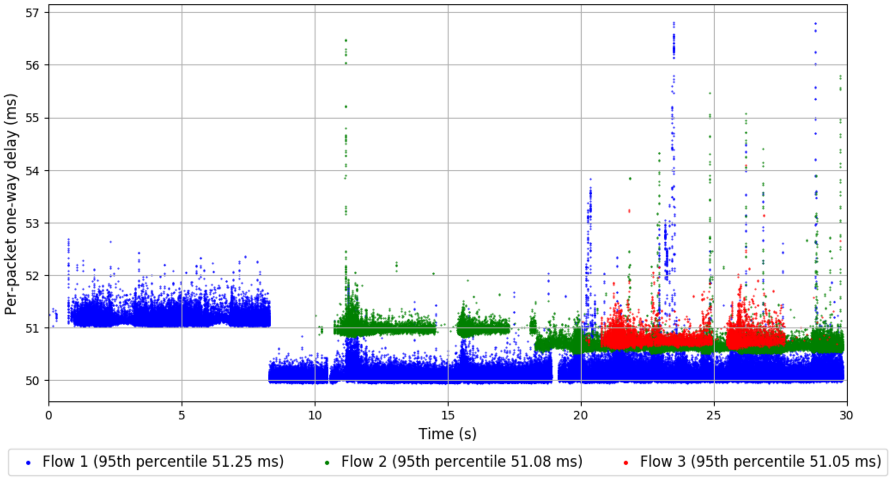
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-05 19:59:42
End at: 2018-07-05 20:00:12
Local clock offset: -0.36 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.09 Mbit/s
95th percentile per-packet one-way delay: 51.222 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.96 Mbit/s
95th percentile per-packet one-way delay: 51.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.13 Mbit/s
95th percentile per-packet one-way delay: 51.081 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.77 Mbit/s
95th percentile per-packet one-way delay: 51.051 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link



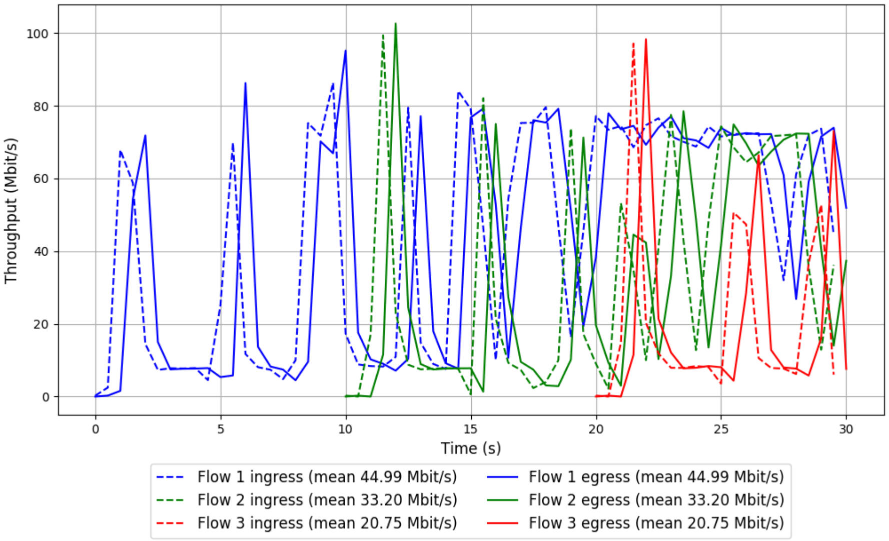


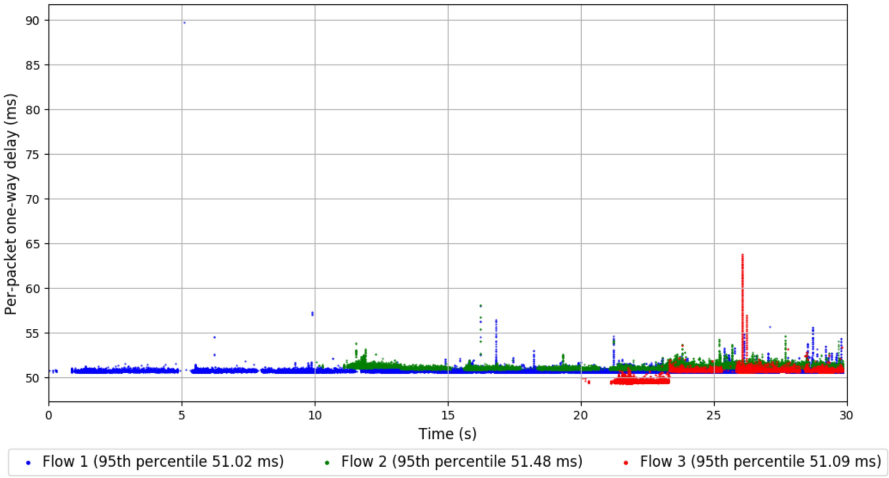
```
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-05 20:24:37
End at: 2018-07-05 20:25:07
Local clock offset: -0.488 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.84 Mbit/s
95th percentile per-packet one-way delay: 51.349 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.99 Mbit/s
95th percentile per-packet one-way delay: 51.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.20 Mbit/s
95th percentile per-packet one-way delay: 51.478 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 51.092 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link



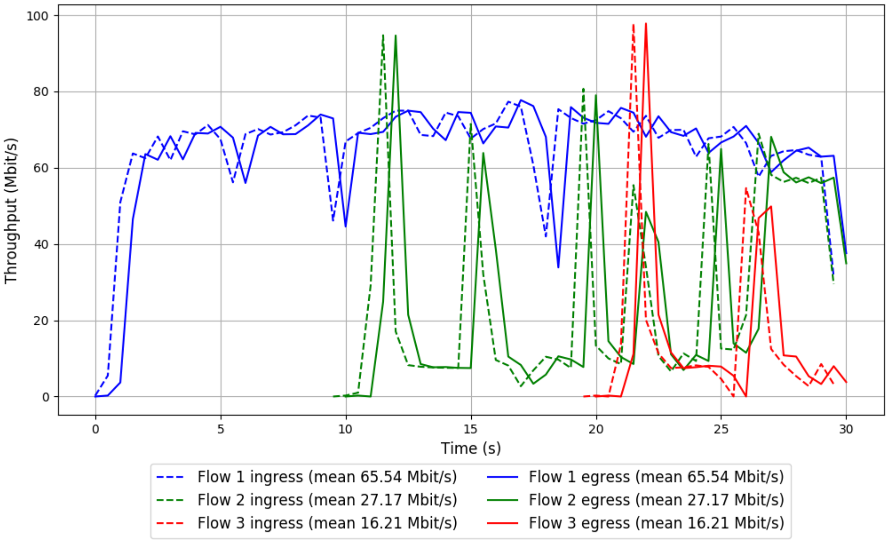


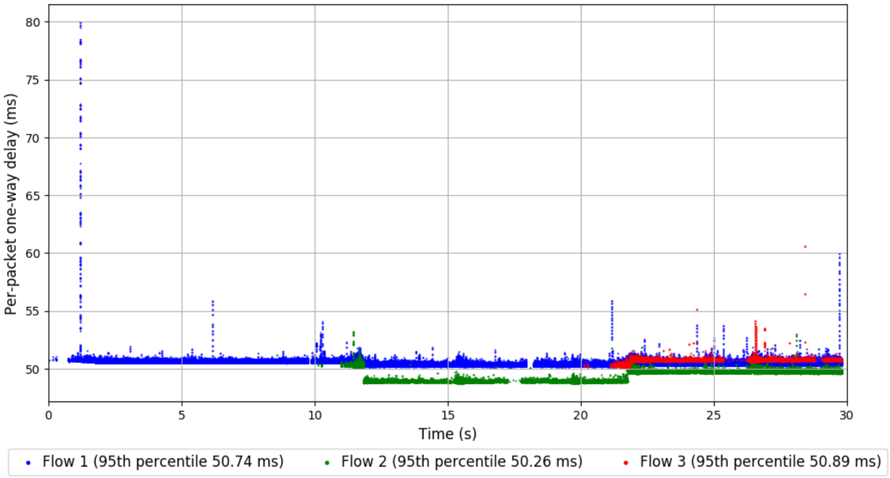
```
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-05 20:49:29
End at: 2018-07-05 20:49:59
Local clock offset: -0.157 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.91 Mbit/s
95th percentile per-packet one-way delay: 50.751 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.54 Mbit/s
95th percentile per-packet one-way delay: 50.745 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.17 Mbit/s
95th percentile per-packet one-way delay: 50.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.21 Mbit/s
95th percentile per-packet one-way delay: 50.888 ms
Loss rate: 0.00%
```

Run 6: Report of QUIC Cubic — Data Link



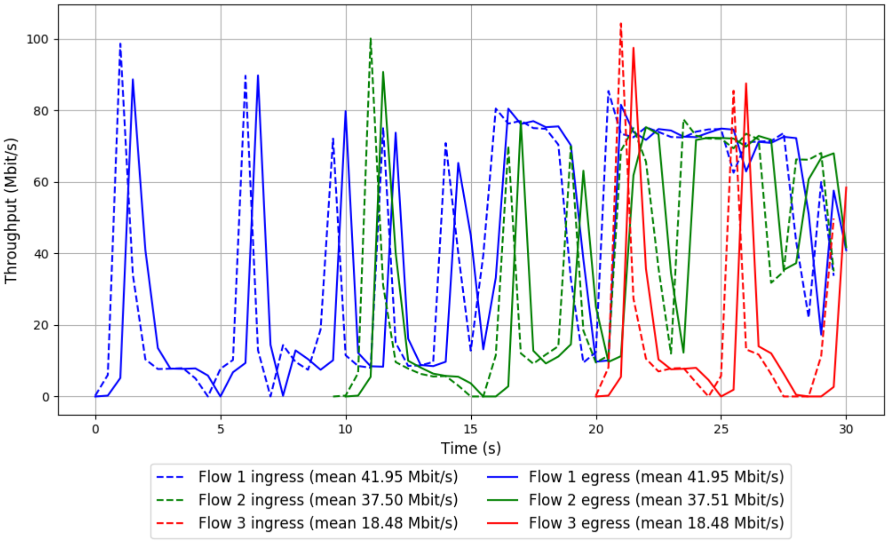


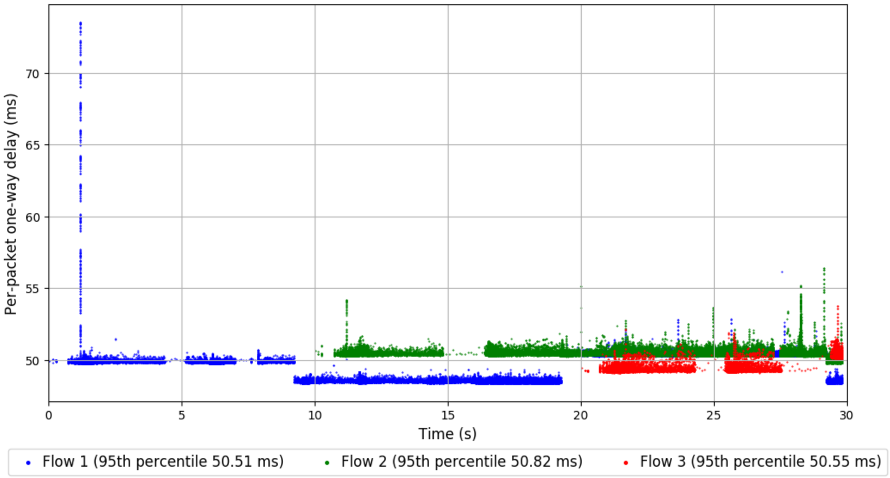
```
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-05 21:14:01
End at: 2018-07-05 21:14:31
Local clock offset: 0.246 ms
Remote clock offset: -0.015 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.94 Mbit/s
95th percentile per-packet one-way delay: 50.667 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.95 Mbit/s
95th percentile per-packet one-way delay: 50.508 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.51 Mbit/s
95th percentile per-packet one-way delay: 50.824 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.48 Mbit/s
95th percentile per-packet one-way delay: 50.549 ms
Loss rate: 0.00%
```

Run 7: Report of QUIC Cubic — Data Link



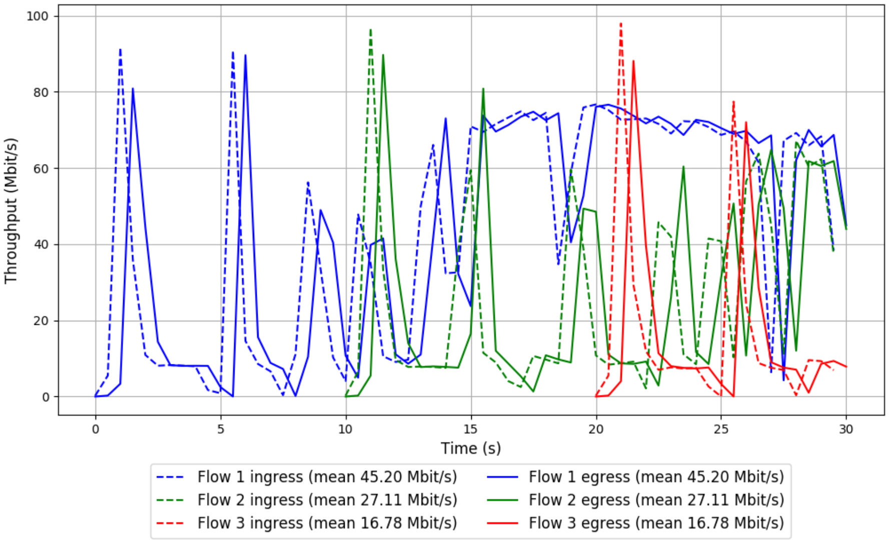


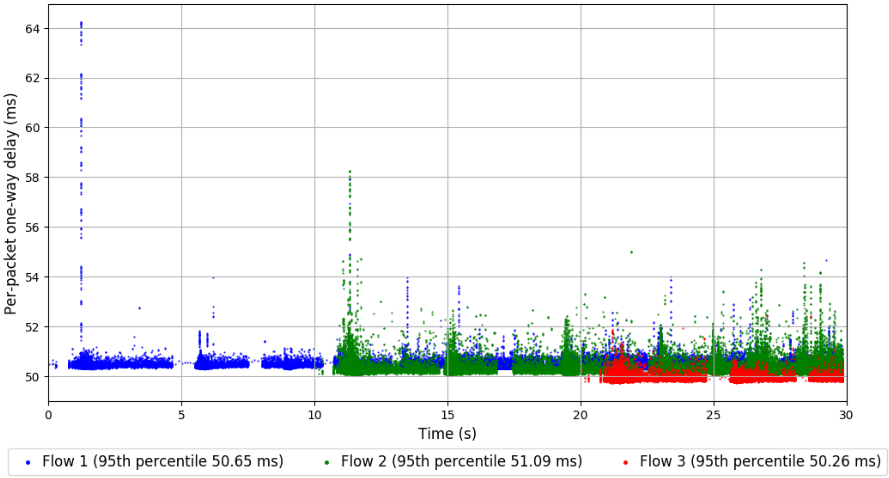
```
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-05 21:38:50
End at: 2018-07-05 21:39:20
Local clock offset: 0.342 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.71 Mbit/s
95th percentile per-packet one-way delay: 50.719 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 50.646 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.11 Mbit/s
95th percentile per-packet one-way delay: 51.095 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.78 Mbit/s
95th percentile per-packet one-way delay: 50.256 ms
Loss rate: 0.00%
```

Run 8: Report of QUIC Cubic — Data Link



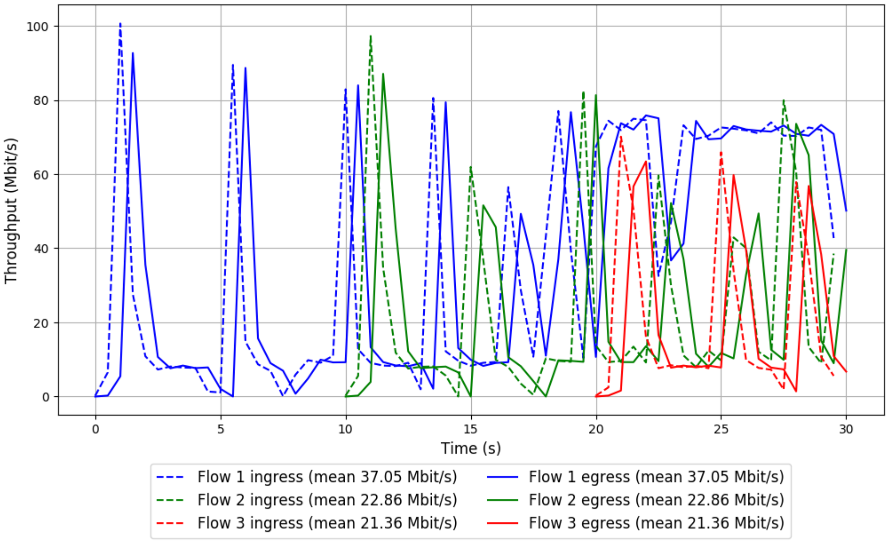


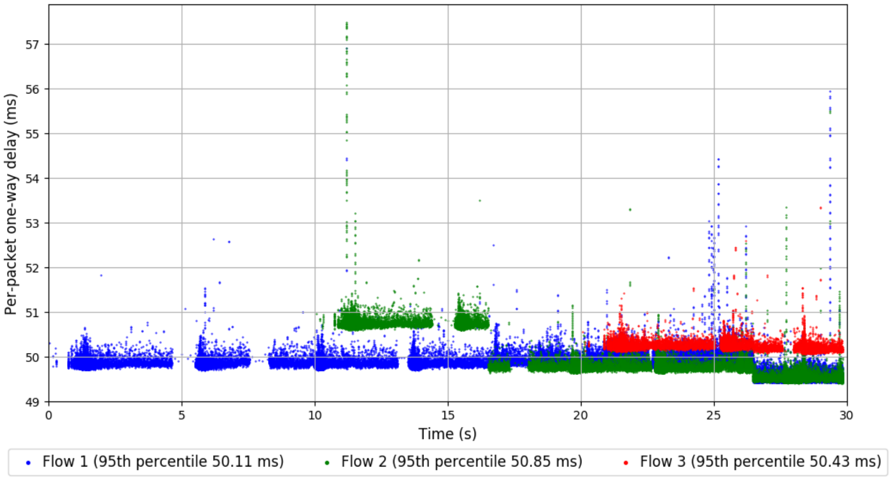
```
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-05 22:03:54
End at: 2018-07-05 22:04:24
Local clock offset: 0.024 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 50.727 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.05 Mbit/s
95th percentile per-packet one-way delay: 50.113 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.86 Mbit/s
95th percentile per-packet one-way delay: 50.846 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.36 Mbit/s
95th percentile per-packet one-way delay: 50.428 ms
Loss rate: 0.00%
```

Run 9: Report of QUIC Cubic — Data Link



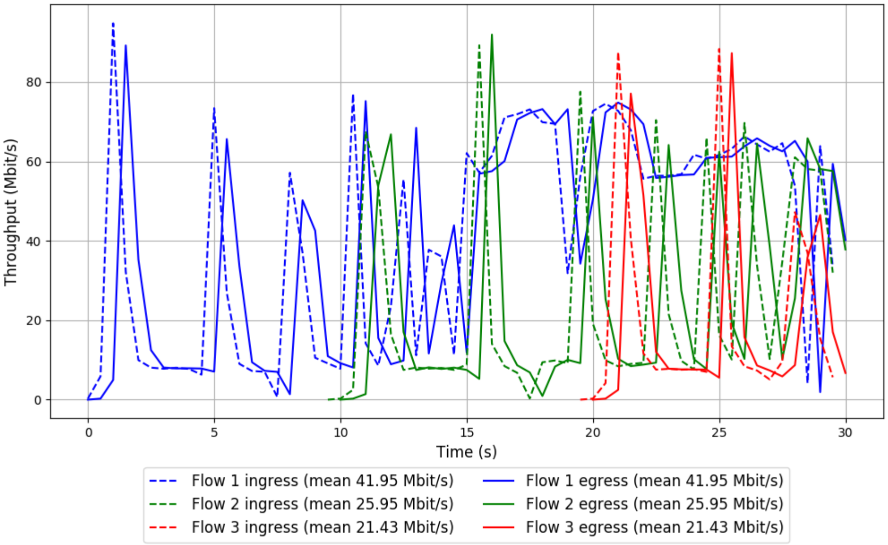


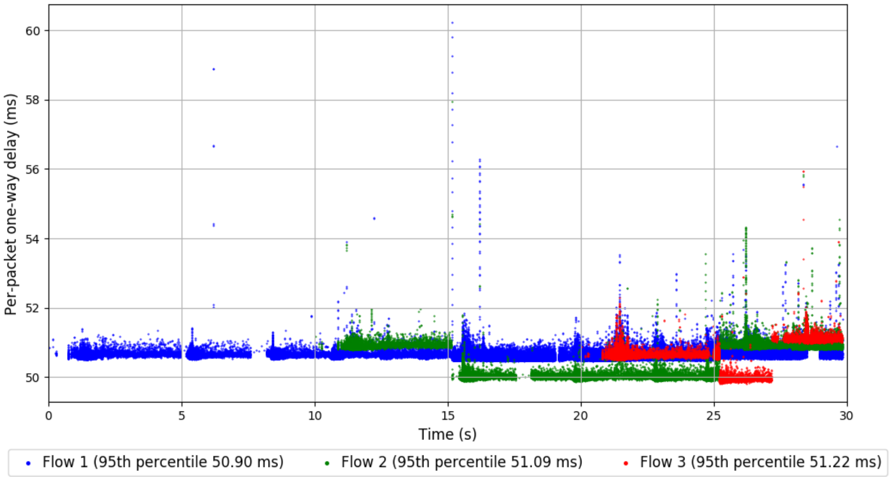
```
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-05 22:28:45
End at: 2018-07-05 22:29:15
Local clock offset: -0.295 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.23 Mbit/s
95th percentile per-packet one-way delay: 51.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.95 Mbit/s
95th percentile per-packet one-way delay: 50.899 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.95 Mbit/s
95th percentile per-packet one-way delay: 51.090 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.43 Mbit/s
95th percentile per-packet one-way delay: 51.224 ms
Loss rate: 0.00%
```

Run 10: Report of QUIC Cubic — Data Link



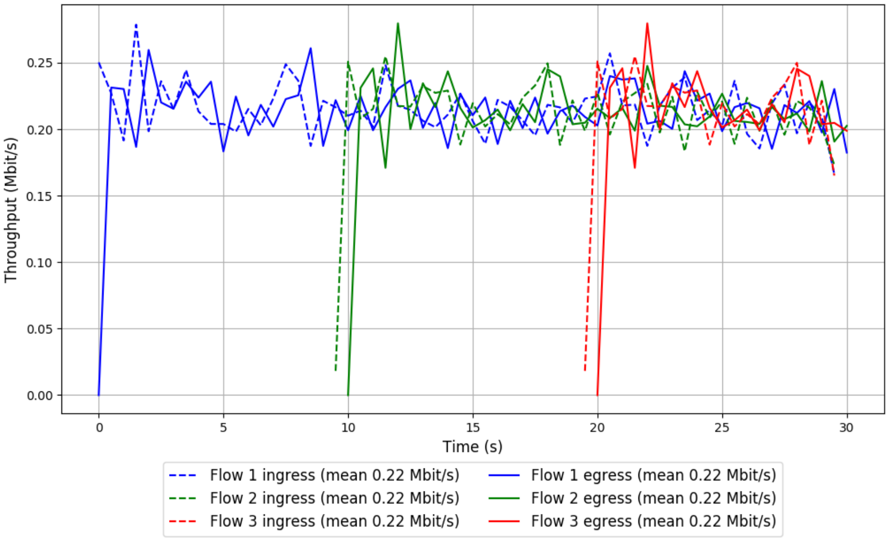


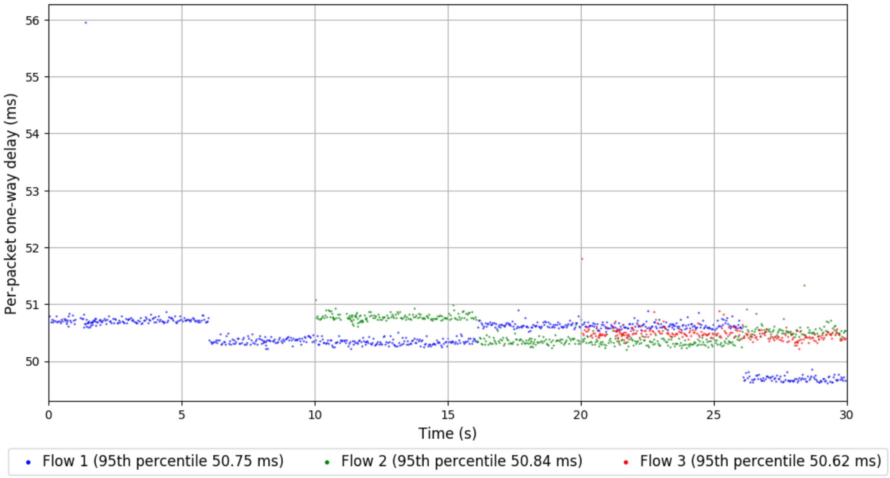
```
Run 1: Statistics of SCReAM

Start at: 2018-07-05 18:29:34
End at: 2018-07-05 18:30:04
Local clock offset: -0.071 ms
Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.754 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.619 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



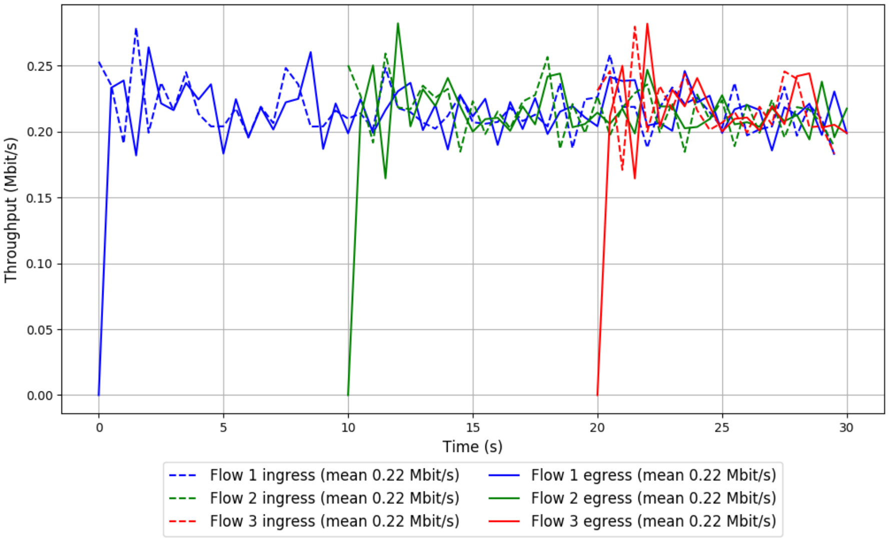


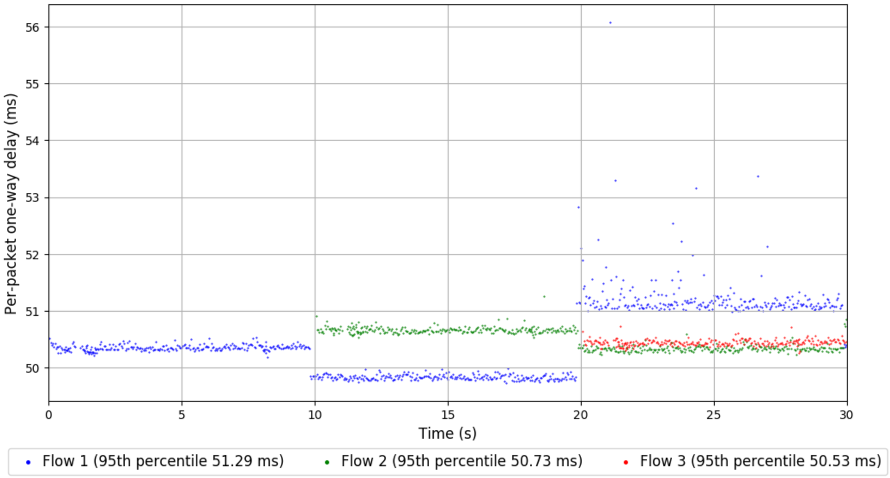
```
Run 2: Statistics of SCReAM

Start at: 2018-07-05 18:54:31
End at: 2018-07-05 18:55:01
Local clock offset: -0.077 ms
Remote clock offset: 0.146 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.195 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.293 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.727 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.533 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



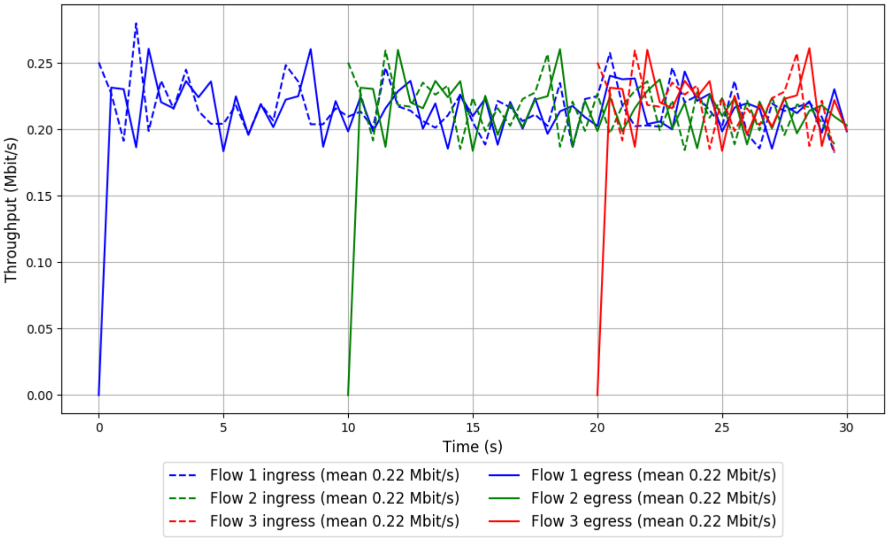


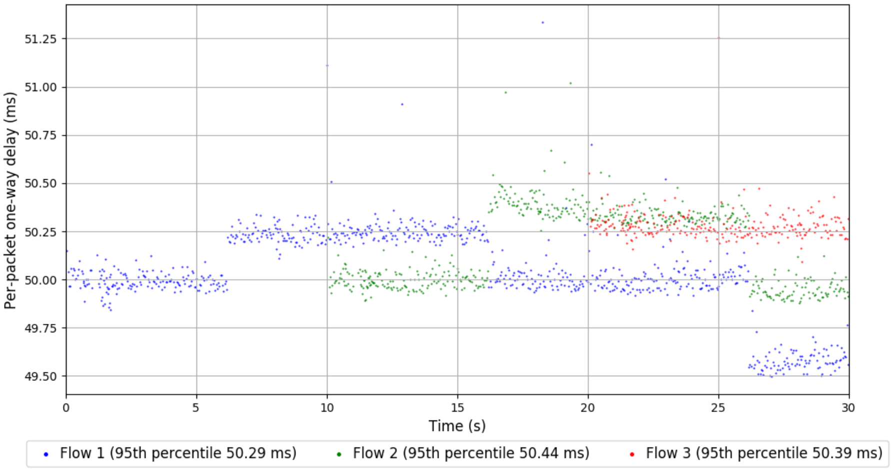
```
Run 3: Statistics of SCReAM

Start at: 2018-07-05 19:19:44
End at: 2018-07-05 19:20:14
Local clock offset: 0.321 ms
Remote clock offset: 0.12 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.389 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.290 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.436 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.386 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



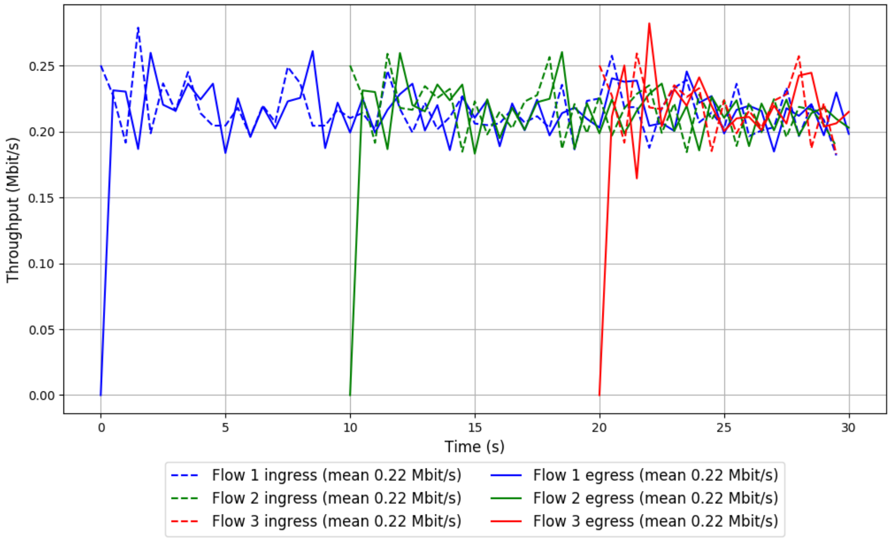


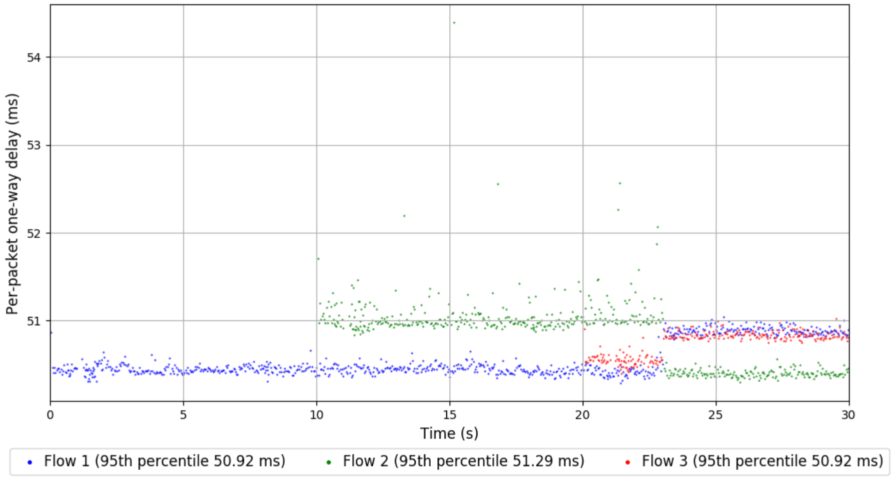
```
Run 4: Statistics of SCReAM

Start at: 2018-07-05 19:44:27
End at: 2018-07-05 19:44:57
Local clock offset: -0.112 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.087 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.917 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.916 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link



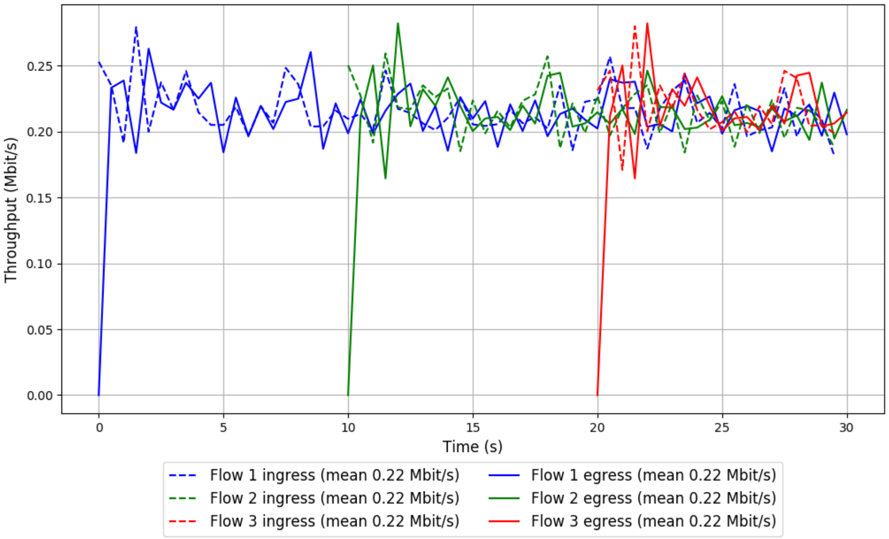


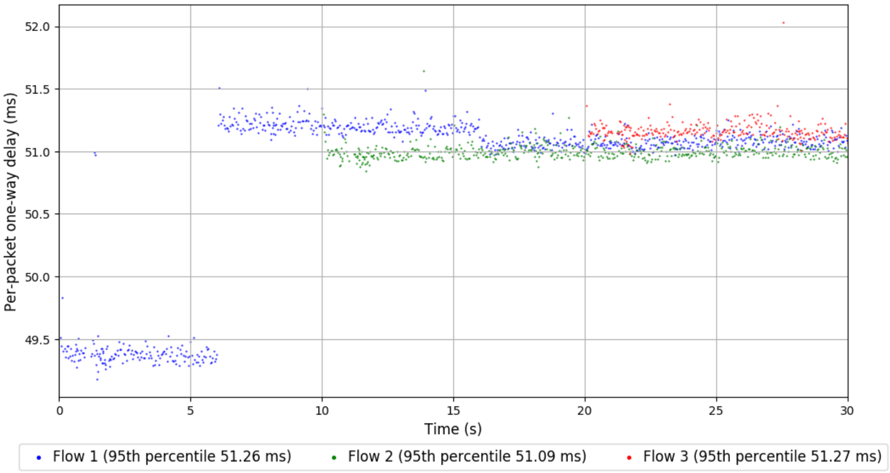
```
Run 5: Statistics of SCReAM

Start at: 2018-07-05 20:09:24
End at: 2018-07-05 20:09:54
Local clock offset: -0.462 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.262 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.090 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.274 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link



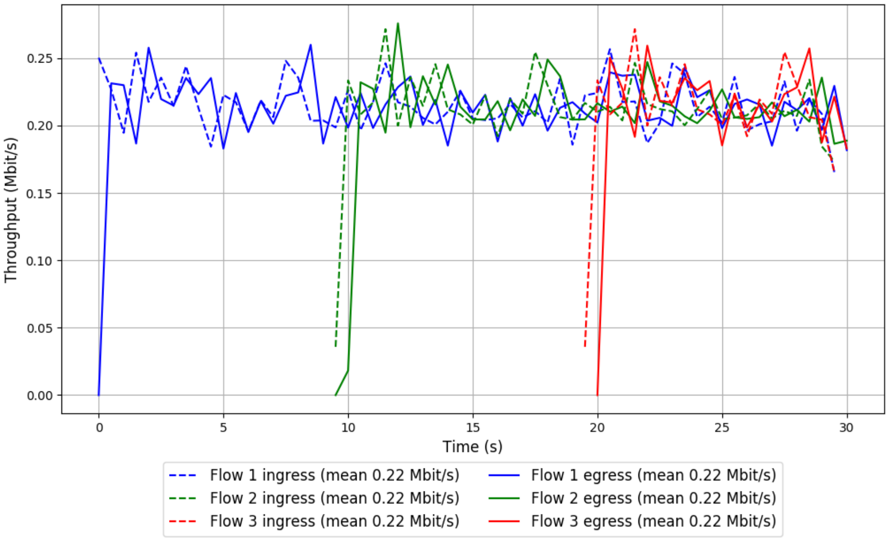


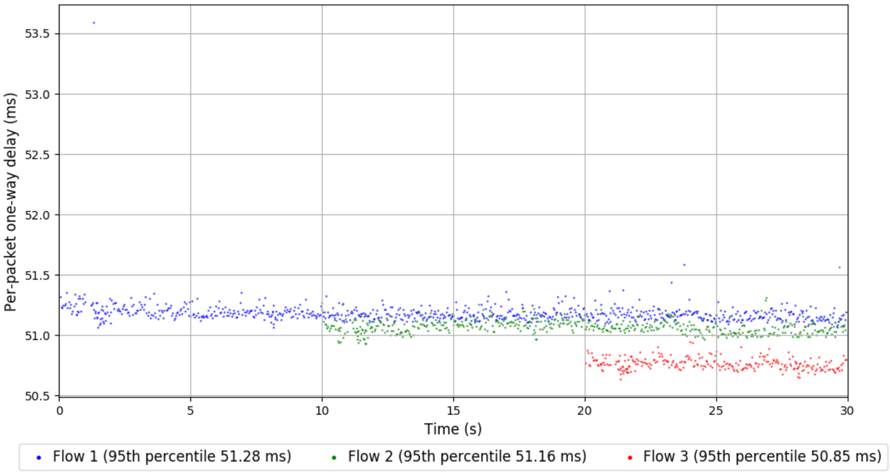
```
Run 6: Statistics of SCReAM

Start at: 2018-07-05 20:34:27
End at: 2018-07-05 20:34:57
Local clock offset: -0.492 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.251 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.164 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.851 ms
Loss rate: 0.00%
```

Run 6: Report of SCReAM — Data Link



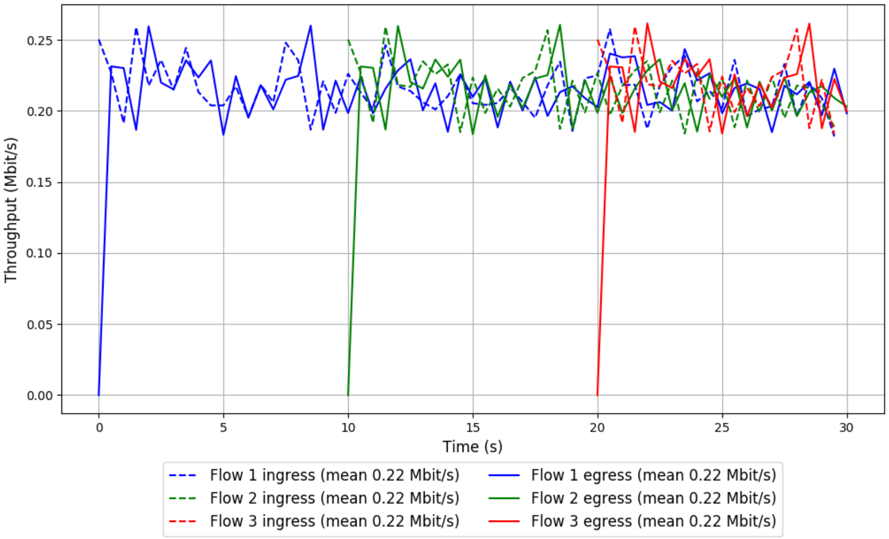


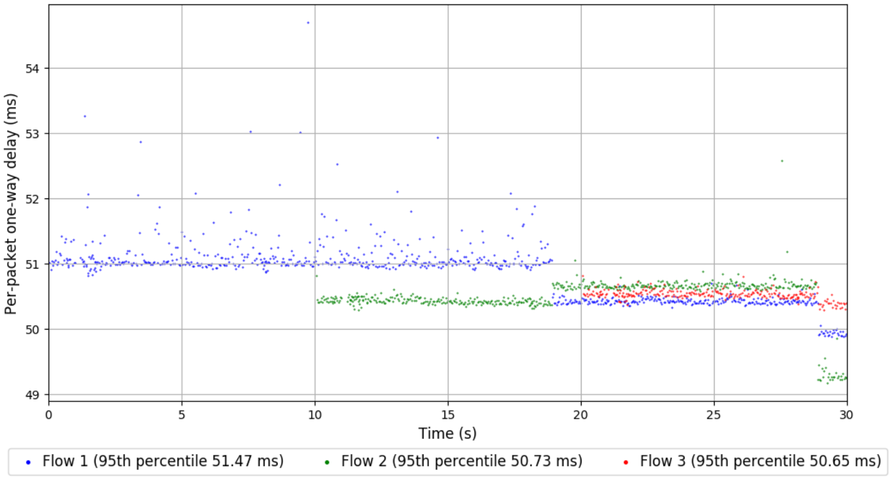
```
Run 7: Statistics of SCReAM

Start at: 2018-07-05 20:58:52
End at: 2018-07-05 20:59:22
Local clock offset: -0.211 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.267 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.468 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.735 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.651 ms
Loss rate: 0.00%
```

Run 7: Report of SCReAM — Data Link



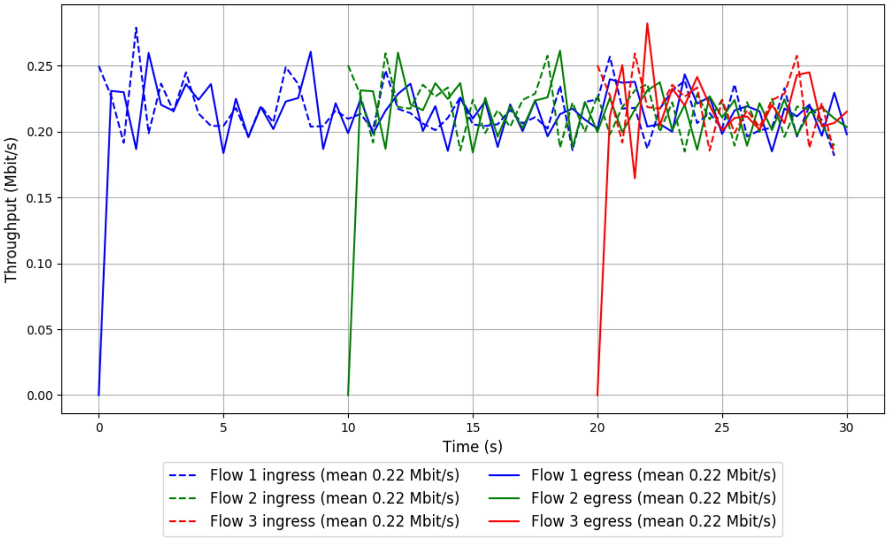


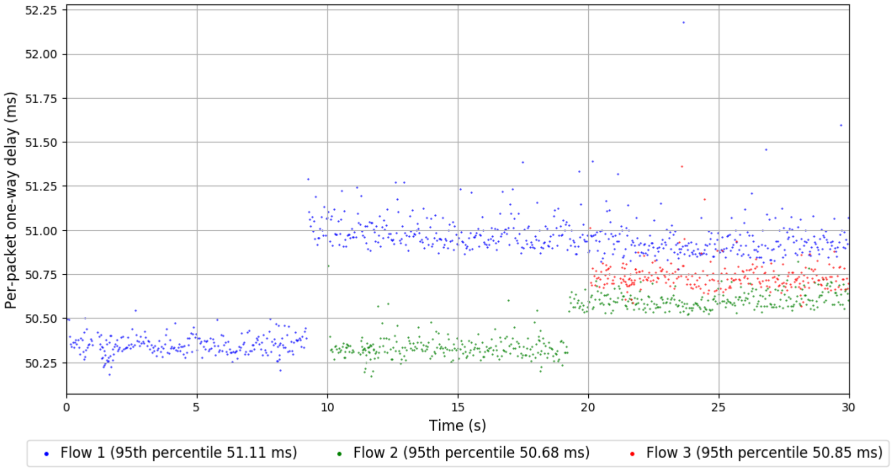
```
Run 8: Statistics of SCReAM

Start at: 2018-07-05 21:23:51
End at: 2018-07-05 21:24:21
Local clock offset: -0.038 ms
Remote clock offset: 0.021 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.053 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.106 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.681 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.854 ms
Loss rate: 0.00%
```

Run 8: Report of SCReAM — Data Link



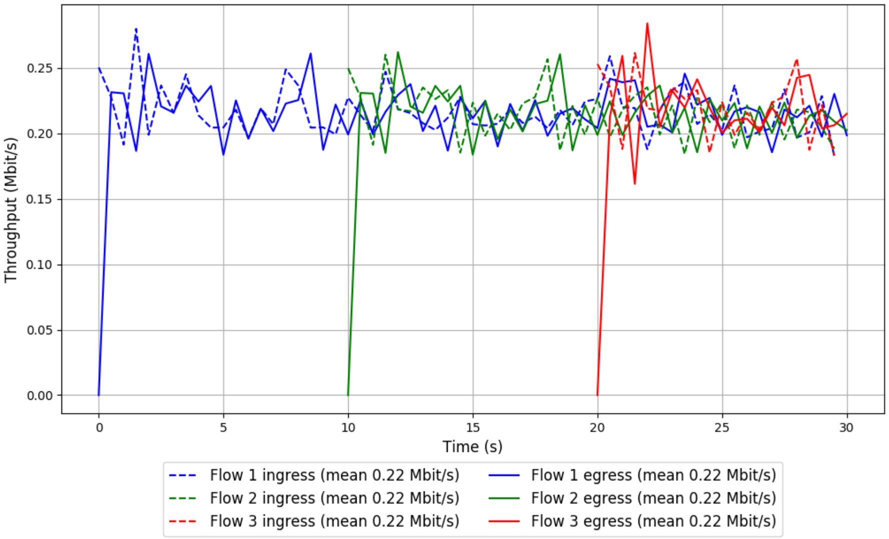


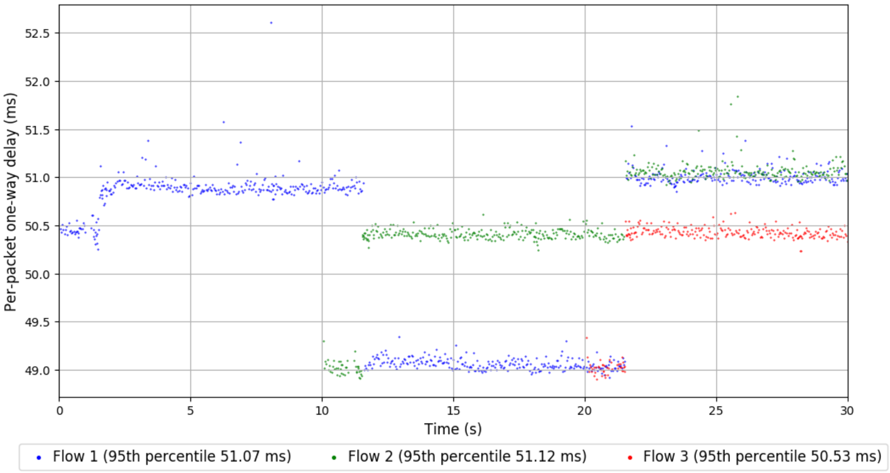
```
Run 9: Statistics of SCReAM

Start at: 2018-07-05 21:48:29
End at: 2018-07-05 21:48:59
Local clock offset: -0.005 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.122 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.531 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link



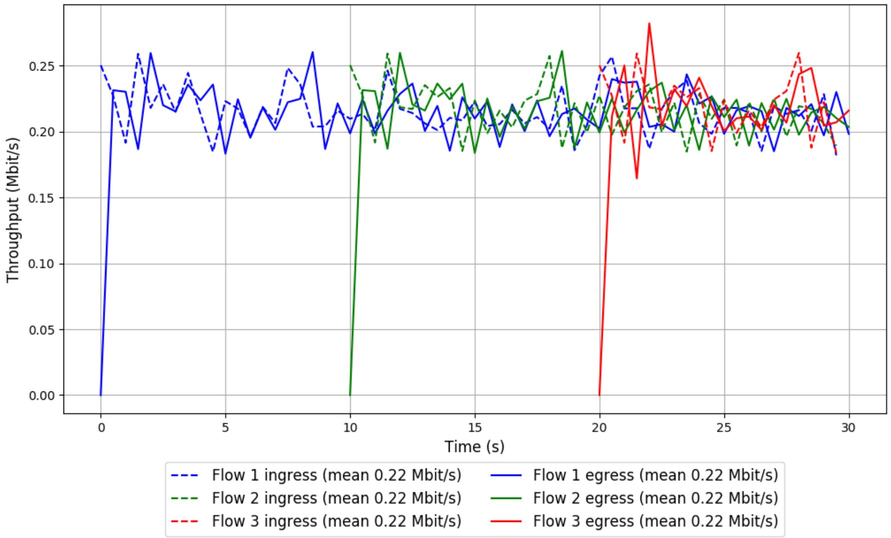


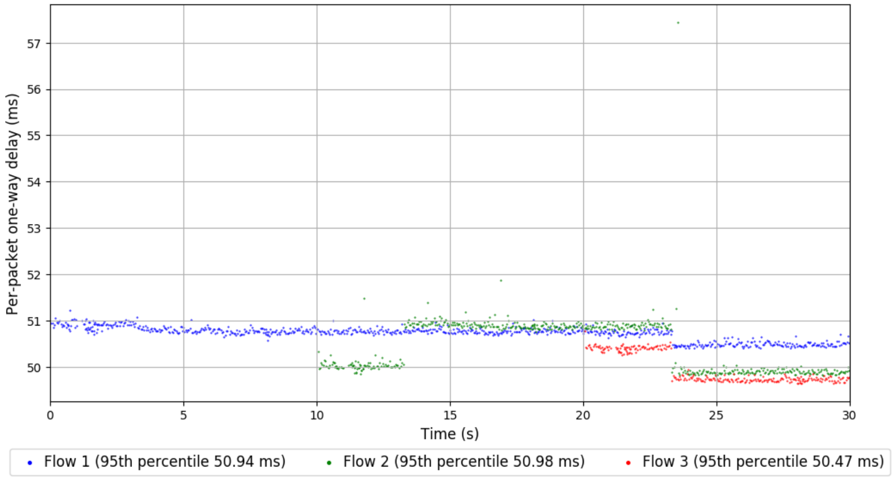
```
Run 10: Statistics of SCReAM

Start at: 2018-07-05 22:13:47
End at: 2018-07-05 22:14:17
Local clock offset: 0.02 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.954 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.943 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.982 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.466 ms
Loss rate: 0.00%
```

Run 10: Report of SCReAM — Data Link



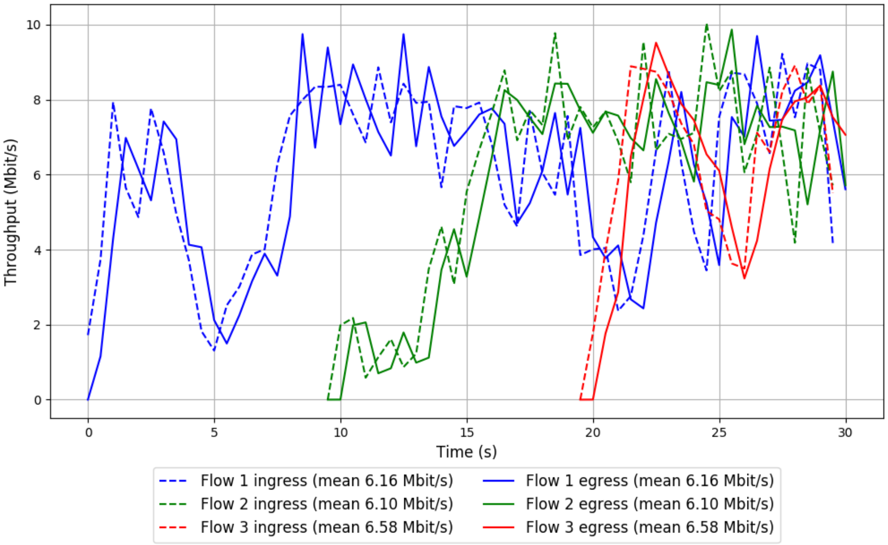


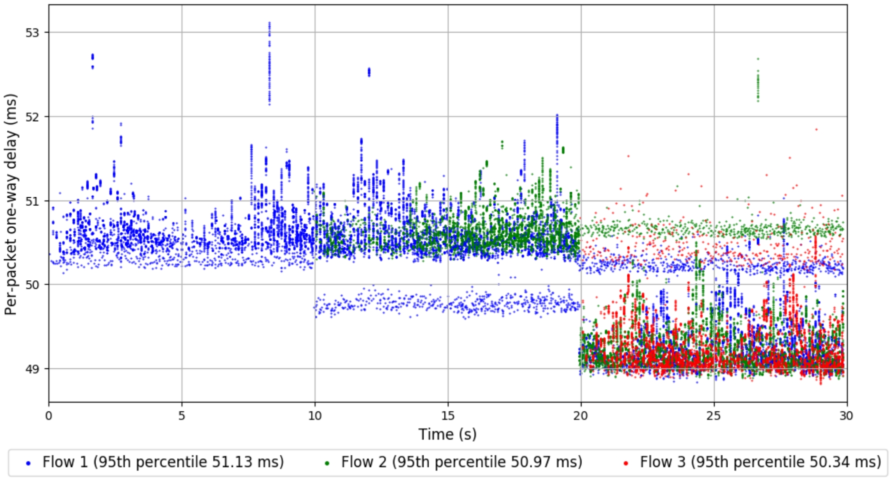
```
Run 1: Statistics of Sprout

Start at: 2018-07-05 18:48:40
End at: 2018-07-05 18:49:10
Local clock offset: -0.07 ms
Remote clock offset: 0.156 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.41 Mbit/s
95th percentile per-packet one-way delay: 51.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.16 Mbit/s
95th percentile per-packet one-way delay: 51.127 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 50.971 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 50.345 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



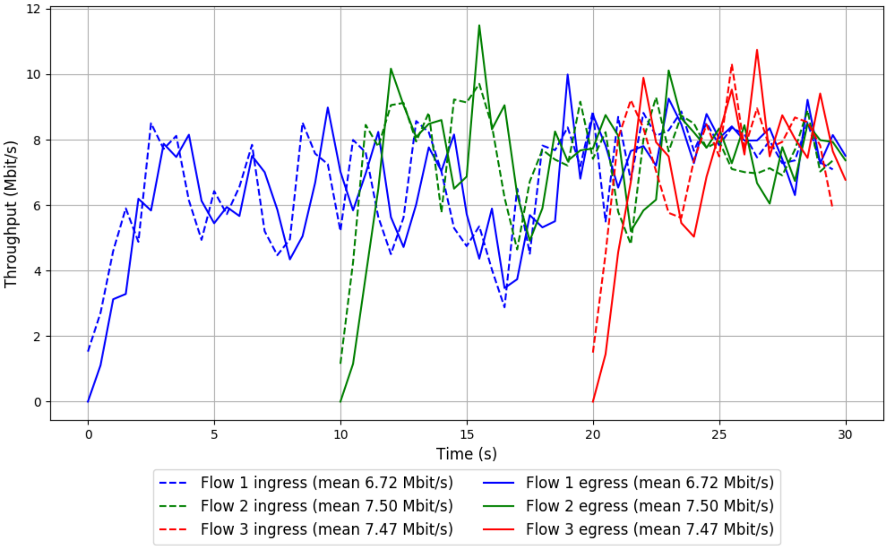


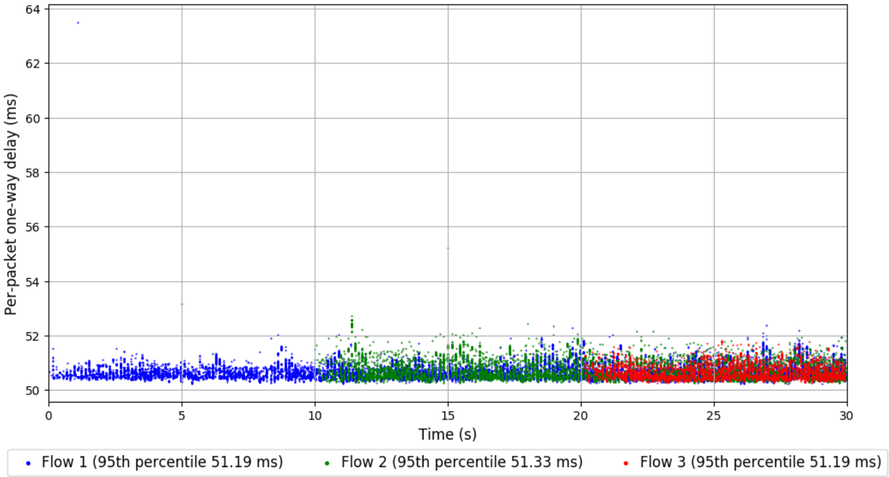
```
Run 2: Statistics of Sprout

Start at: 2018-07-05 19:13:57
End at: 2018-07-05 19:14:27
Local clock offset: -0.076 ms
Remote clock offset: 0.121 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.16 Mbit/s
95th percentile per-packet one-way delay: 51.241 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 51.186 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 51.332 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 51.187 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link



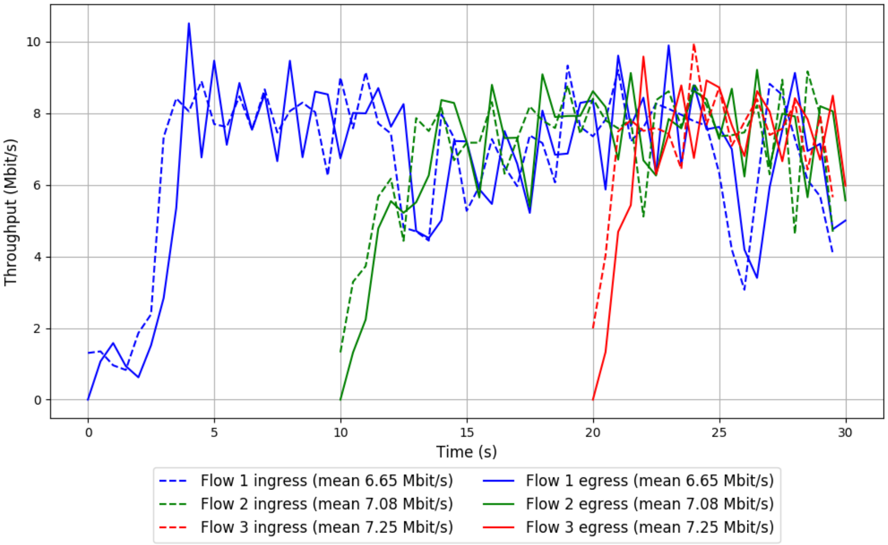


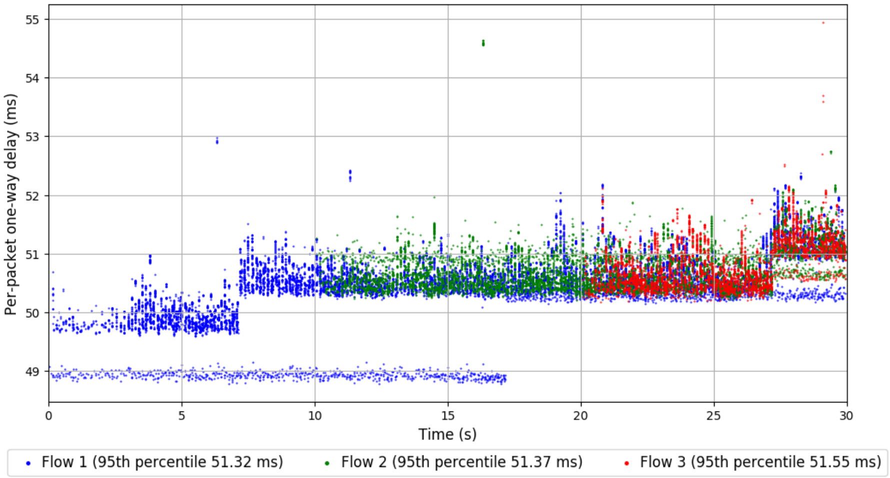
```
Run 3: Statistics of Sprout

Start at: 2018-07-05 19:38:33
End at: 2018-07-05 19:39:03
Local clock offset: -0.072 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 51.383 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 51.319 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 51.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 51.545 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link



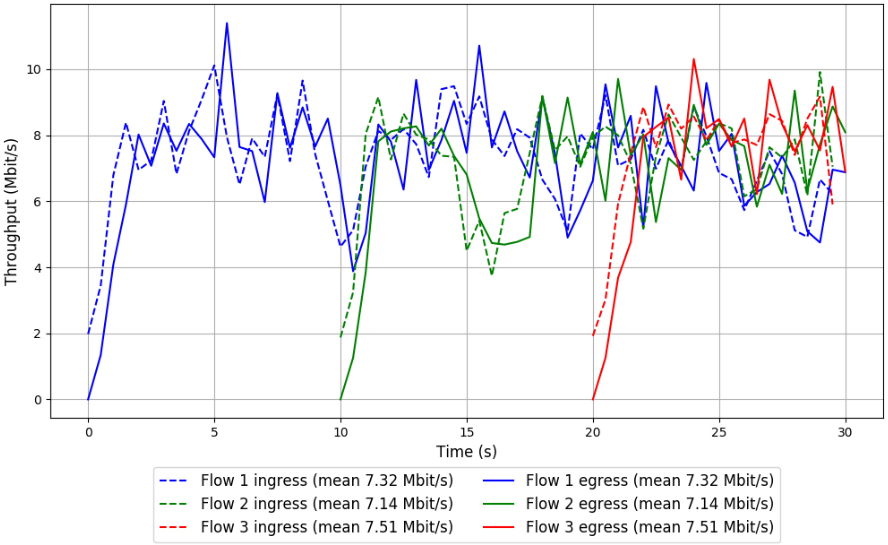


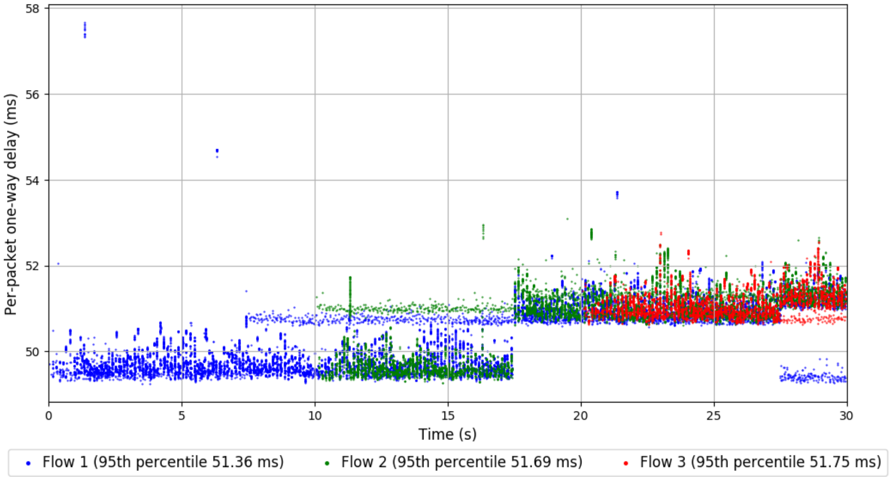
```
Run 4: Statistics of Sprout

Start at: 2018-07-05 20:03:43
End at: 2018-07-05 20:04:13
Local clock offset: -0.478 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 51.582 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 51.359 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 51.692 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 51.754 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link



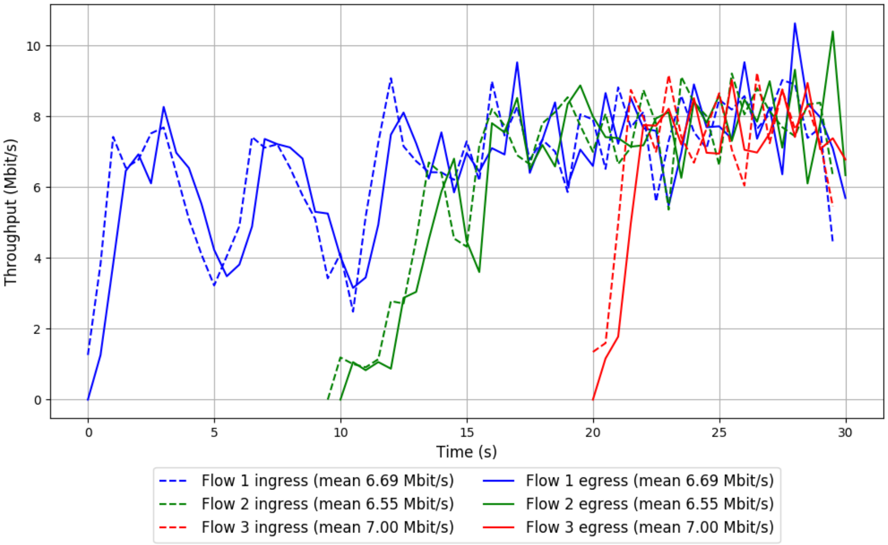


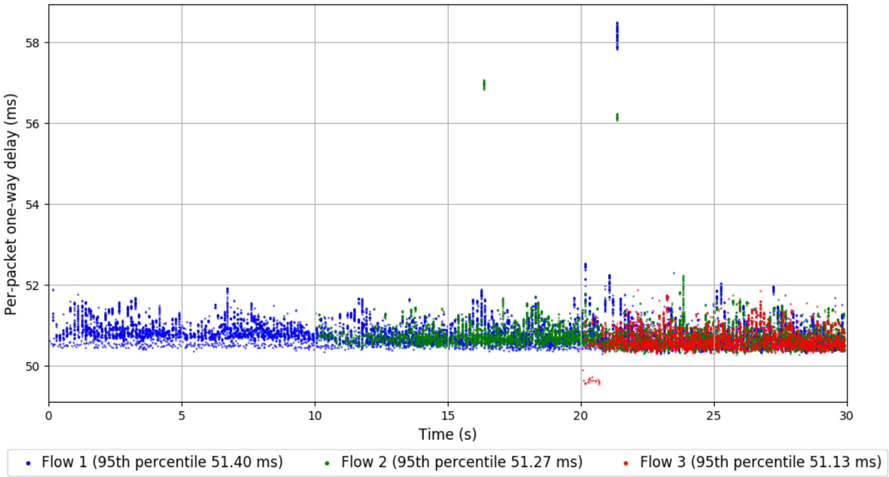
```
Run 5: Statistics of Sprout

Start at: 2018-07-05 20:28:40
End at: 2018-07-05 20:29:10
Local clock offset: -0.14 ms
Remote clock offset: -0.138 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.35 Mbit/s
95th percentile per-packet one-way delay: 51.317 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 51.399 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 51.275 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 51.132 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



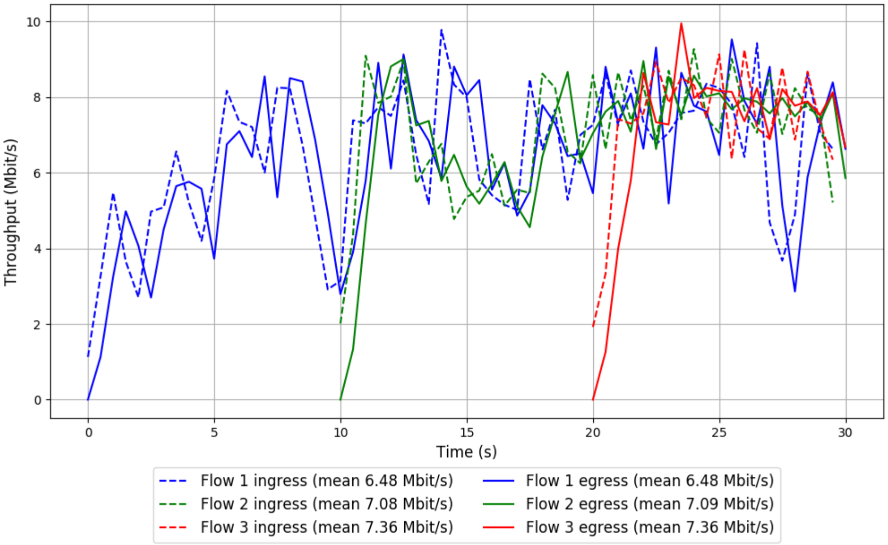


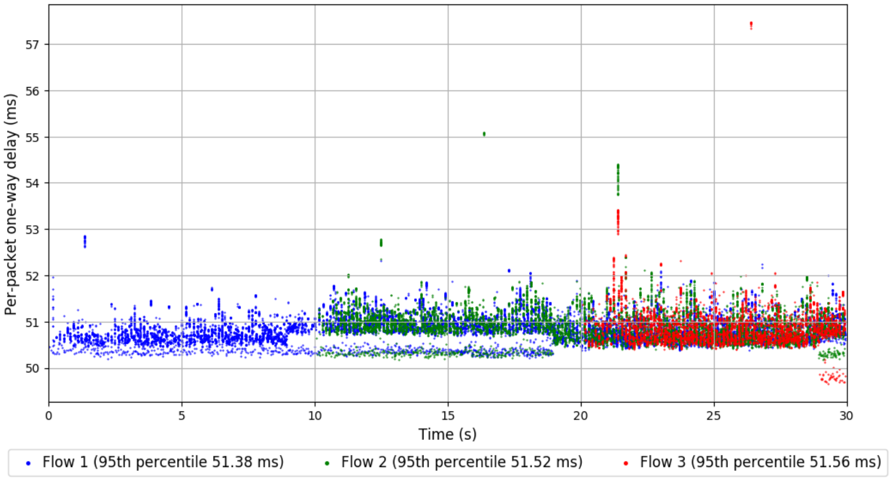
```
Run 6: Statistics of Sprout

Start at: 2018-07-05 20:53:02
End at: 2018-07-05 20:53:32
Local clock offset: -0.17 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 51.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.48 Mbit/s
95th percentile per-packet one-way delay: 51.379 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 51.517 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 51.564 ms
Loss rate: 0.00%
```

Run 6: Report of Sprout — Data Link



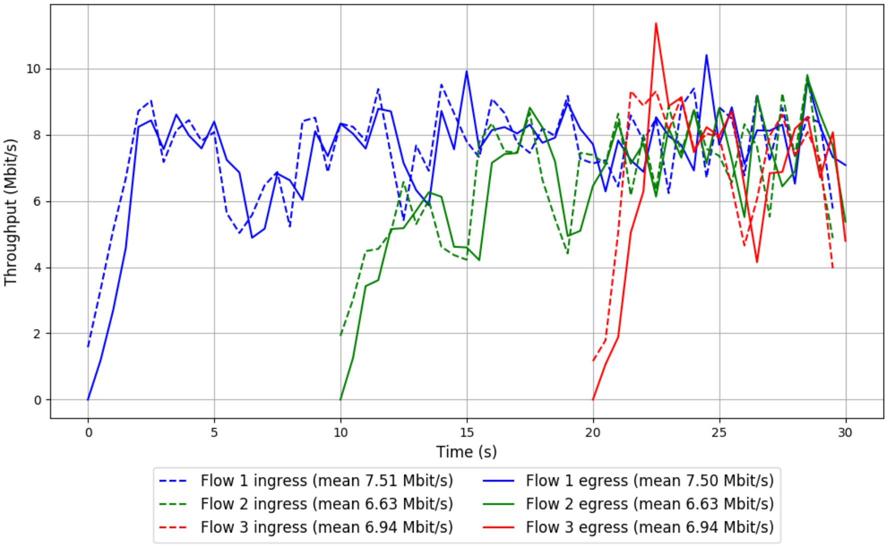


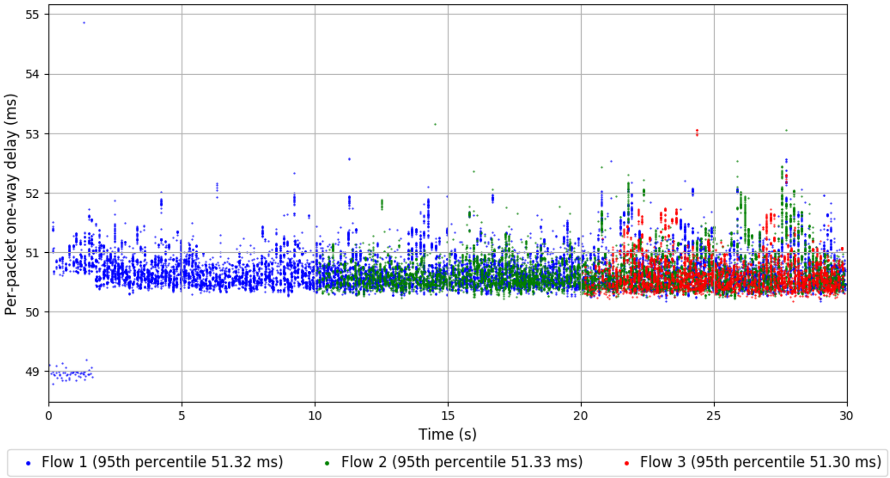
```
Run 7: Statistics of Sprout

Start at: 2018-07-05 21:17:59
End at: 2018-07-05 21:18:29
Local clock offset: -0.072 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.20 Mbit/s
95th percentile per-packet one-way delay: 51.319 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 51.316 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.63 Mbit/s
95th percentile per-packet one-way delay: 51.330 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.94 Mbit/s
95th percentile per-packet one-way delay: 51.304 ms
Loss rate: 0.00%
```

Run 7: Report of Sprout — Data Link



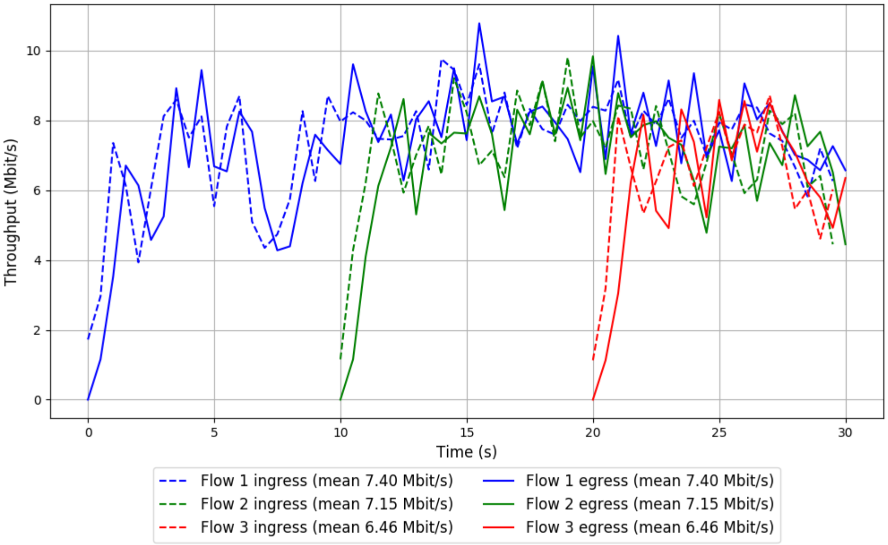


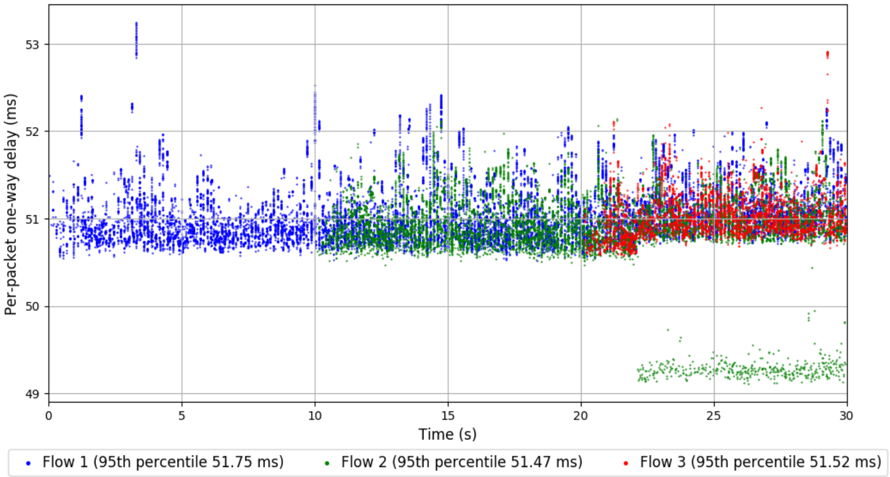
```
Run 8: Statistics of Sprout

Start at: 2018-07-05 21:42:48
End at: 2018-07-05 21:43:18
Local clock offset: -0.371 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.28 Mbit/s
95th percentile per-packet one-way delay: 51.603 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 51.749 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 51.474 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 51.516 ms
Loss rate: 0.00%
```

Run 8: Report of Sprout — Data Link



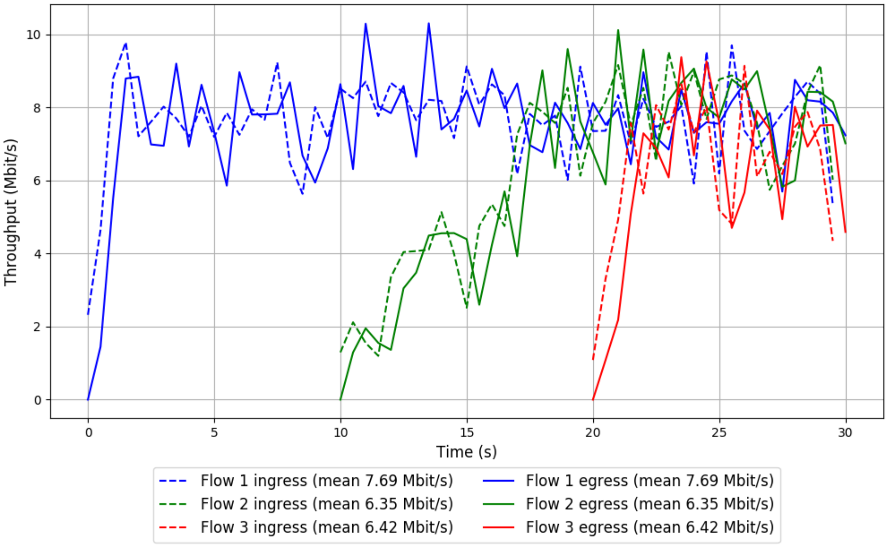


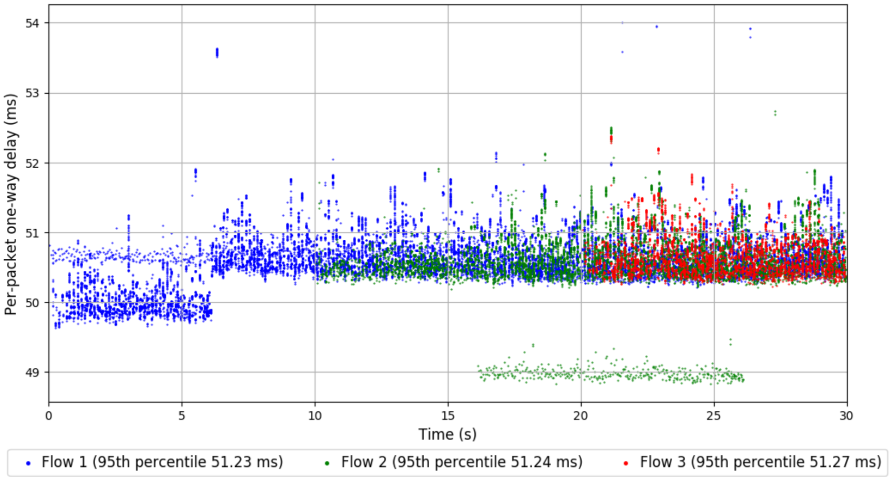
```
Run 9: Statistics of Sprout

Start at: 2018-07-05 22:07:54
End at: 2018-07-05 22:08:24
Local clock offset: 0.021 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.01 Mbit/s
95th percentile per-packet one-way delay: 51.237 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 51.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 51.238 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 51.274 ms
Loss rate: 0.00%
```

Run 9: Report of Sprout — Data Link



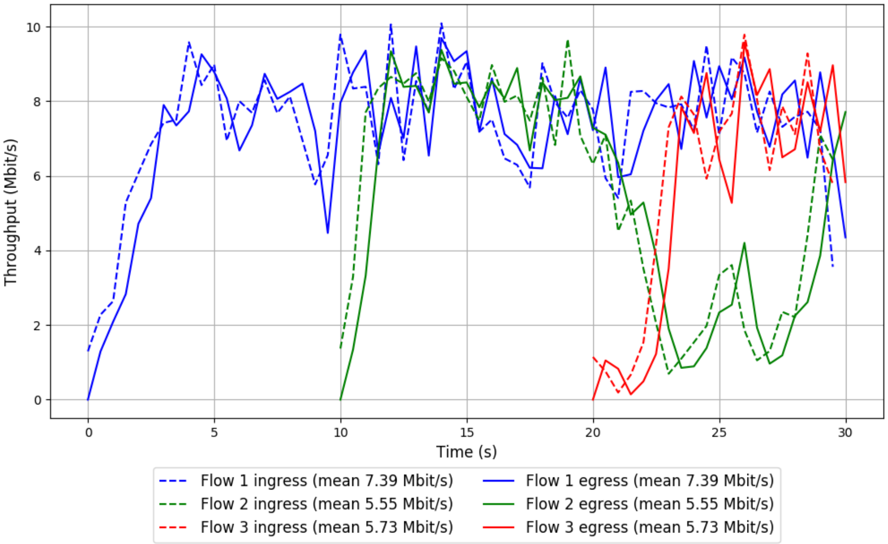


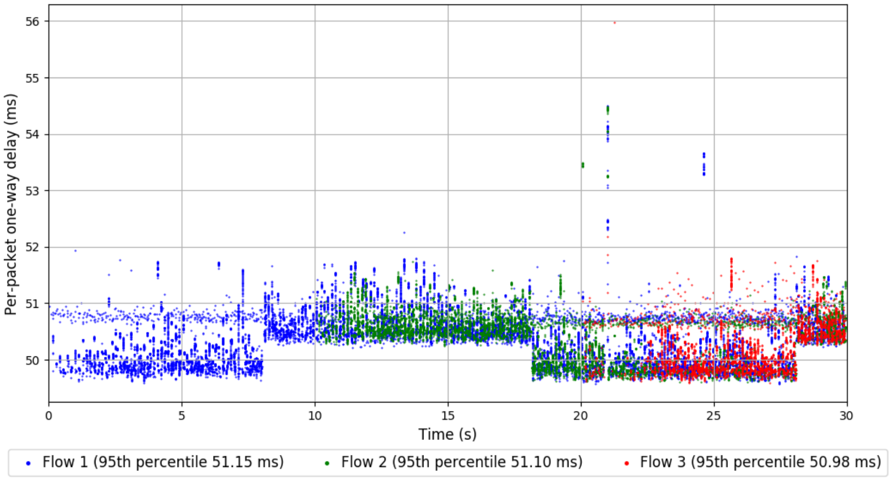
```
Run 10: Statistics of Sprout

Start at: 2018-07-05 22:32:42
End at: 2018-07-05 22:33:12
Local clock offset: 0.056 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2018-07-06 01:00:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.97 Mbit/s
95th percentile per-packet one-way delay: 51.115 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 51.146 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.55 Mbit/s
95th percentile per-packet one-way delay: 51.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 50.980 ms
Loss rate: 0.00%
```

Run 10: Report of Sprout — Data Link



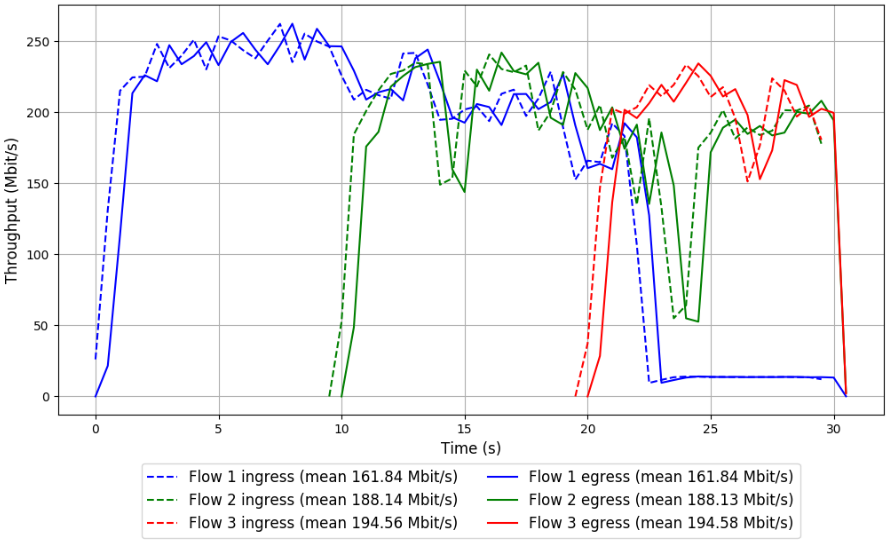


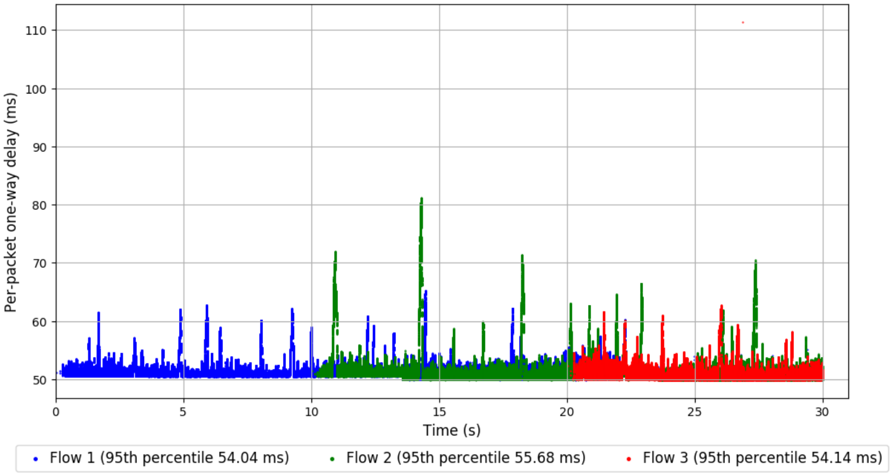
```
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-05 18:35:47
End at: 2018-07-05 18:36:17
Local clock offset: -0.44 ms
Remote clock offset: 0.117 ms

# Below is generated by plot.py at 2018-07-06 01:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.88 Mbit/s
95th percentile per-packet one-way delay: 54.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 161.84 Mbit/s
95th percentile per-packet one-way delay: 54.042 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 188.13 Mbit/s
95th percentile per-packet one-way delay: 55.683 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 194.58 Mbit/s
95th percentile per-packet one-way delay: 54.140 ms
Loss rate: 0.00%
```

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



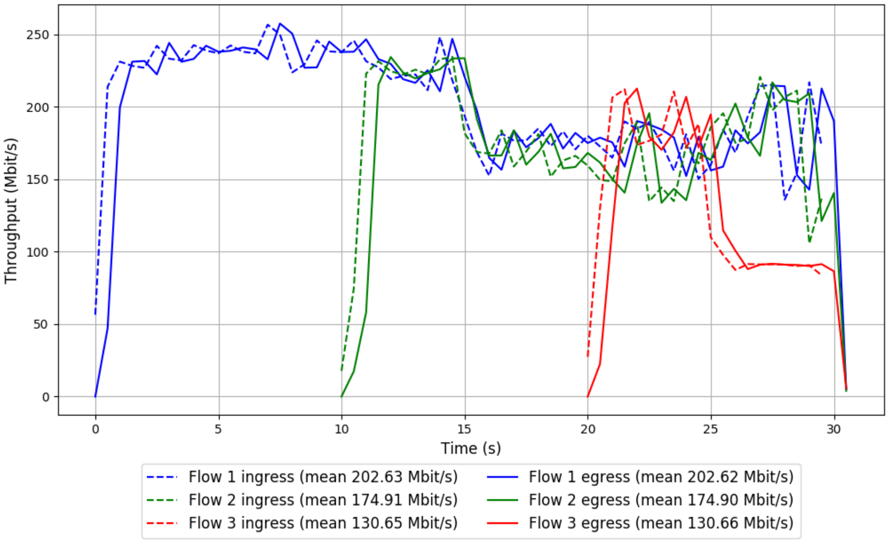


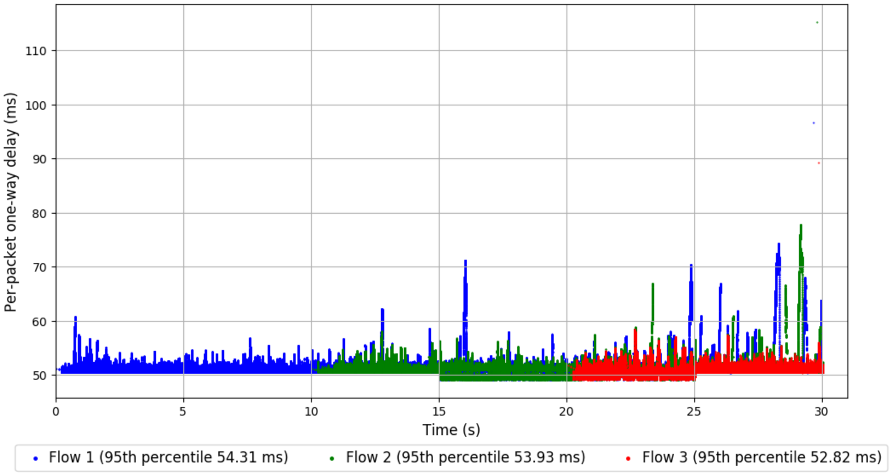
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-05 19:00:45
End at: 2018-07-05 19:01:15
Local clock offset: -0.451 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2018-07-06 01:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.52 Mbit/s
95th percentile per-packet one-way delay: 53.935 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 202.62 Mbit/s
95th percentile per-packet one-way delay: 54.312 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 174.90 Mbit/s
95th percentile per-packet one-way delay: 53.927 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 130.66 Mbit/s
95th percentile per-packet one-way delay: 52.820 ms
Loss rate: 0.01%
```

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



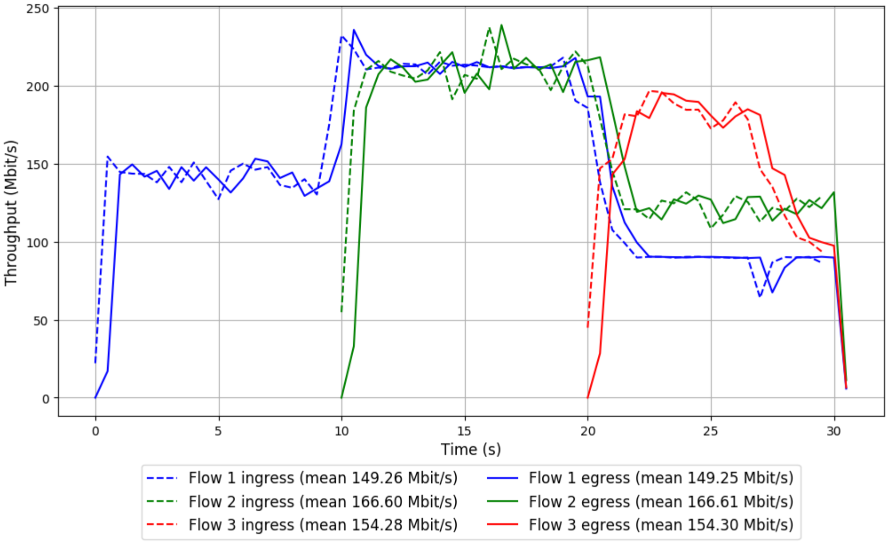


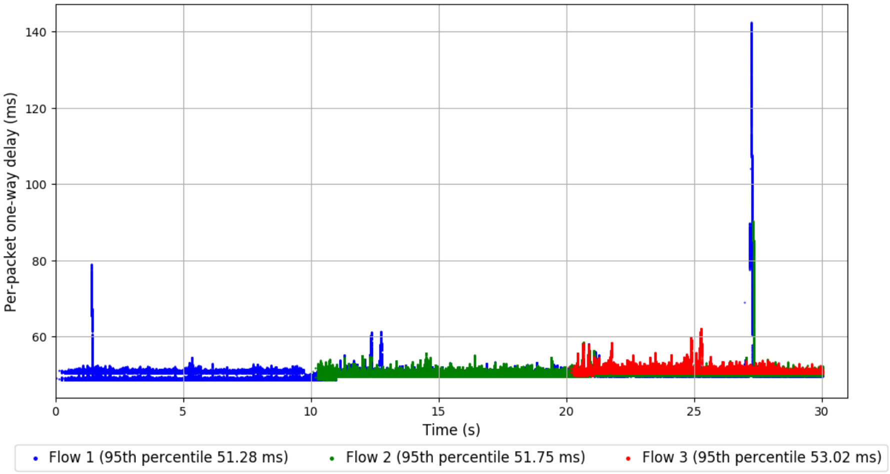
```
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-05 19:25:40
End at: 2018-07-05 19:26:10
Local clock offset: -0.046 ms
Remote clock offset: 0.101 ms

# Below is generated by plot.py at 2018-07-06 01:05:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.41 Mbit/s
95th percentile per-packet one-way delay: 51.910 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 149.25 Mbit/s
95th percentile per-packet one-way delay: 51.277 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 166.61 Mbit/s
95th percentile per-packet one-way delay: 51.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 154.30 Mbit/s
95th percentile per-packet one-way delay: 53.019 ms
Loss rate: 0.00%
```

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



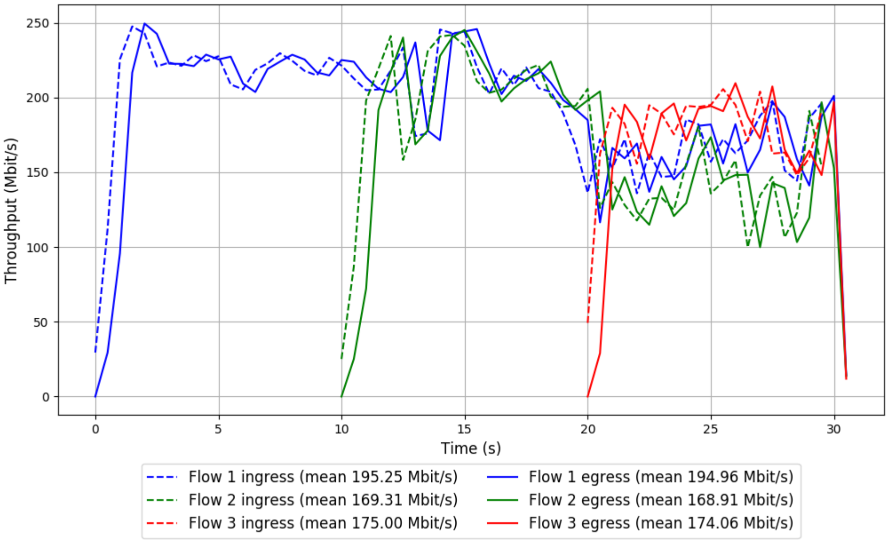


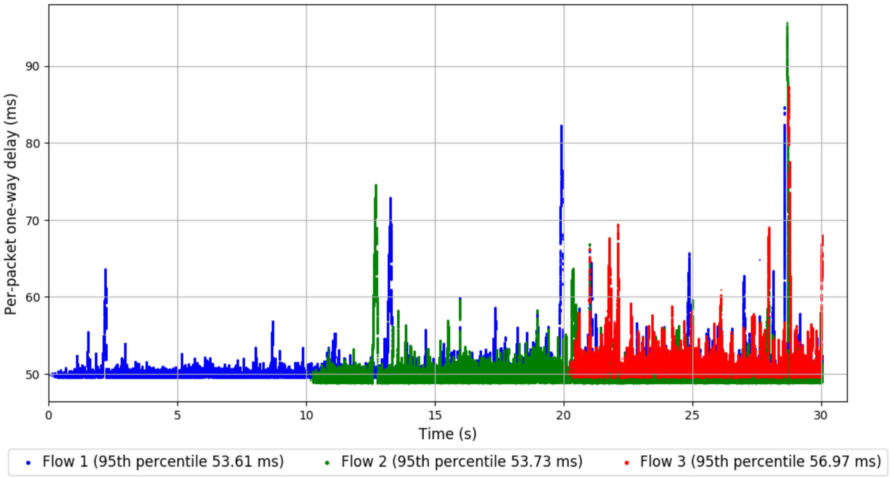
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-05 19:50:41
End at: 2018-07-05 19:51:11
Local clock offset: -0.079 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2018-07-06 01:05:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 365.26 Mbit/s
95th percentile per-packet one-way delay: 54.500 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 194.96 Mbit/s
95th percentile per-packet one-way delay: 53.607 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 168.91 Mbit/s
95th percentile per-packet one-way delay: 53.732 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 174.06 Mbit/s
95th percentile per-packet one-way delay: 56.973 ms
Loss rate: 0.56%
```

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



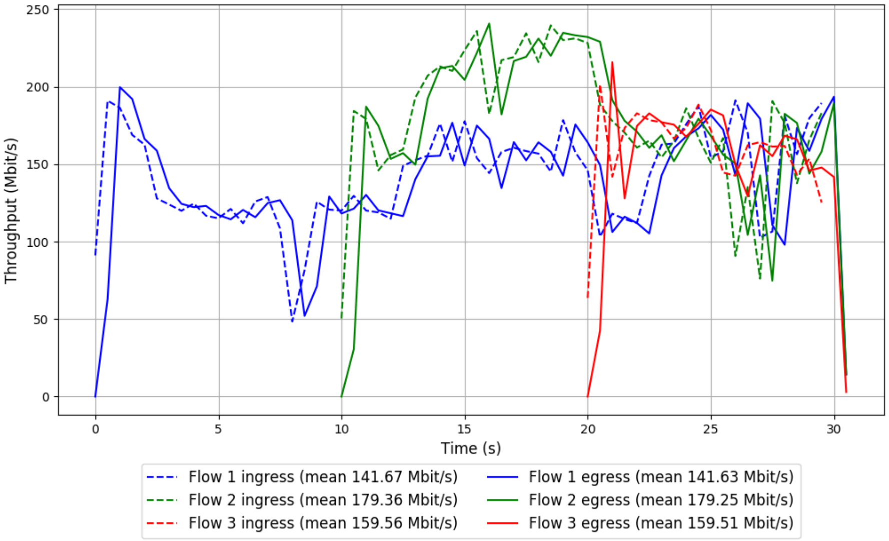


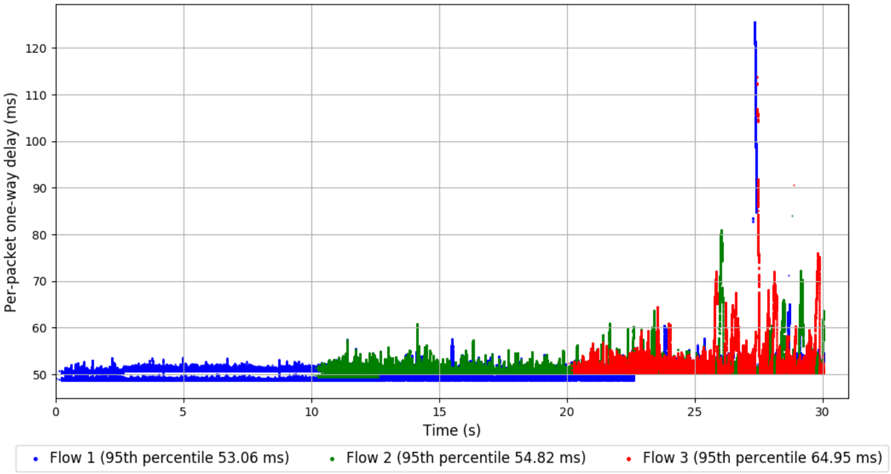
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-05 20:15:38
End at: 2018-07-05 20:16:08
Local clock offset: -0.106 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-07-06 01:07:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.97 Mbit/s
95th percentile per-packet one-way delay: 55.195 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 141.63 Mbit/s
95th percentile per-packet one-way delay: 53.058 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 179.25 Mbit/s
95th percentile per-packet one-way delay: 54.822 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 159.51 Mbit/s
95th percentile per-packet one-way delay: 64.947 ms
Loss rate: 0.05%
```

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



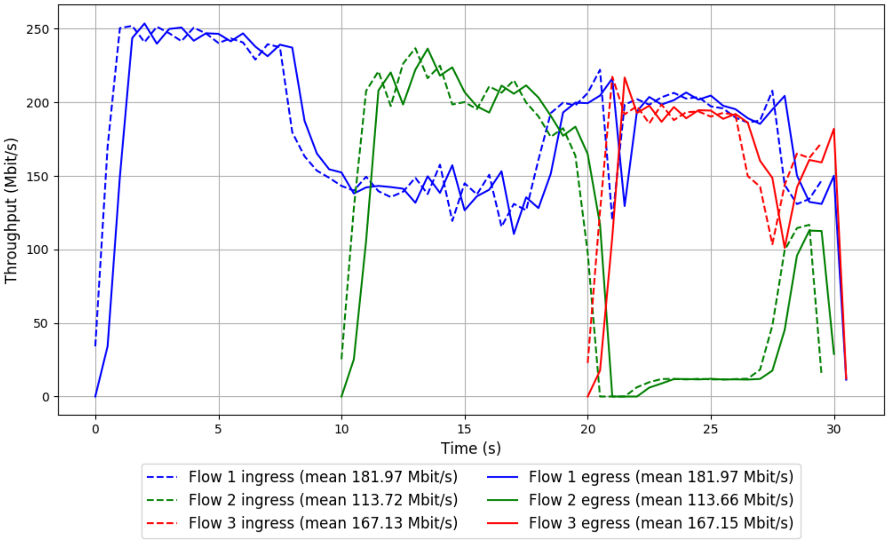


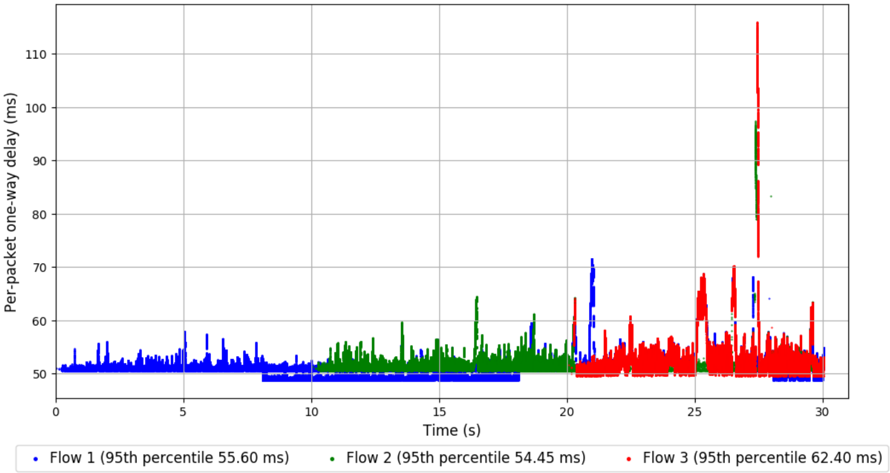
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-05 20:40:32
End at: 2018-07-05 20:41:02
Local clock offset: -0.169 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-07-06 01:09:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.58 Mbit/s
95th percentile per-packet one-way delay: 56.053 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 181.97 Mbit/s
95th percentile per-packet one-way delay: 55.596 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 113.66 Mbit/s
95th percentile per-packet one-way delay: 54.445 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 167.15 Mbit/s
95th percentile per-packet one-way delay: 62.404 ms
Loss rate: 0.00%
```

Run 6: Report of TaoVA-100x — Data Link



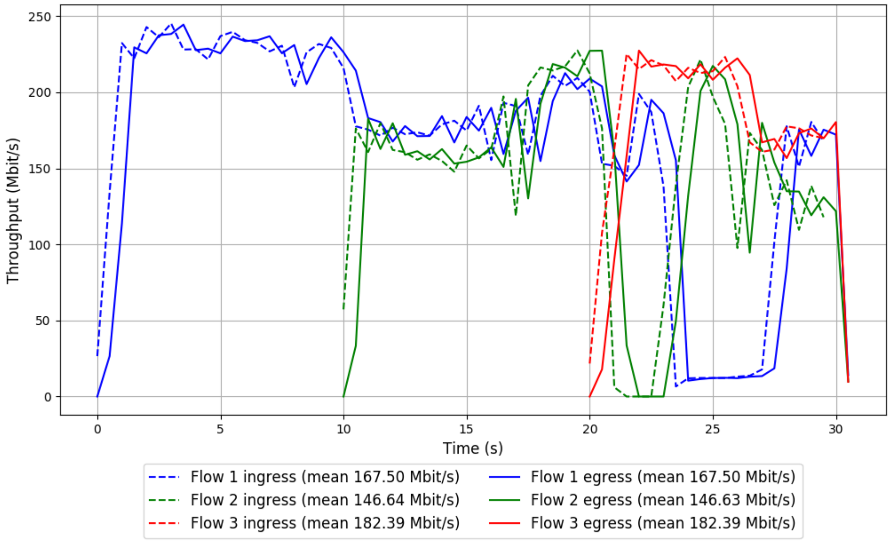


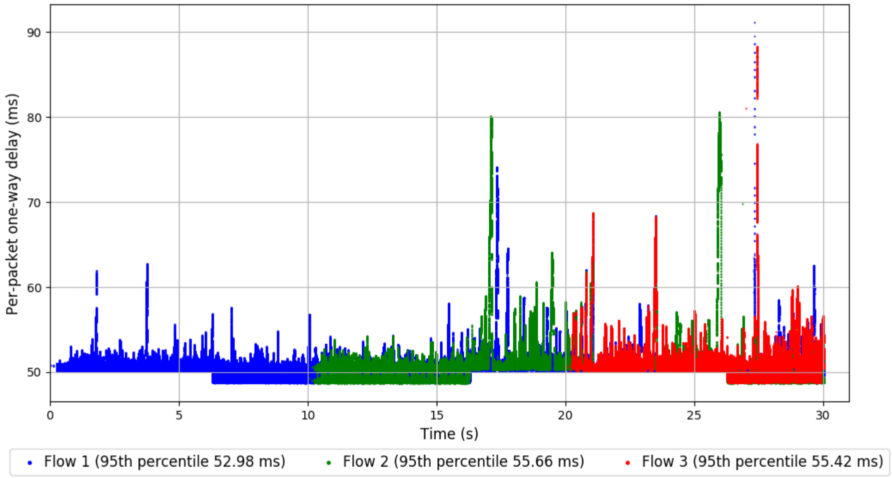
```
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-05 21:05:04
End at: 2018-07-05 21:05:34
Local clock offset: -0.151 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2018-07-06 01:09:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.77 Mbit/s
95th percentile per-packet one-way delay: 54.415 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 167.50 Mbit/s
95th percentile per-packet one-way delay: 52.976 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.63 Mbit/s
95th percentile per-packet one-way delay: 55.659 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 182.39 Mbit/s
95th percentile per-packet one-way delay: 55.421 ms
Loss rate: 0.00%
```

Run 7: Report of TaoVA-100x — Data Link



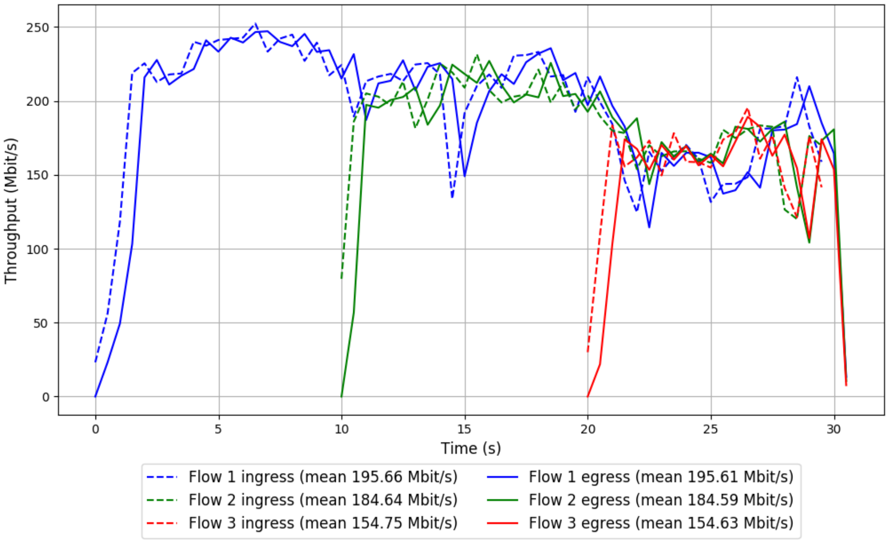


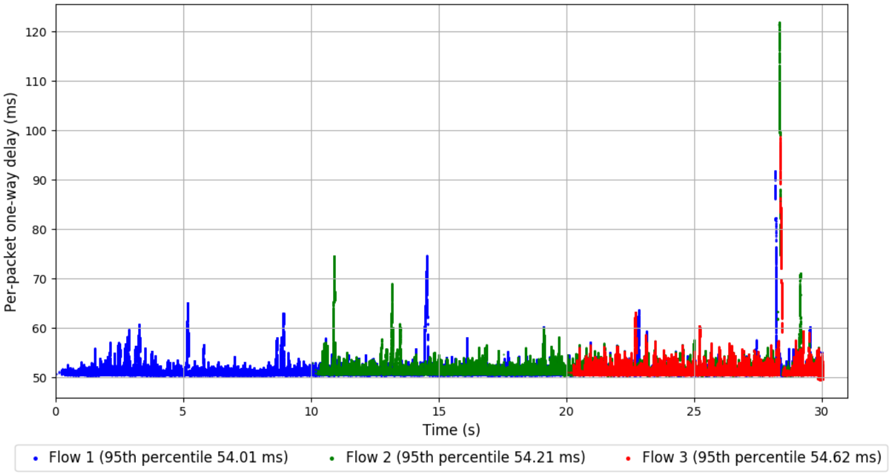
```
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-05 21:30:01
End at: 2018-07-05 21:30:31
Local clock offset: -0.068 ms
Remote clock offset: 0.015 ms

# Below is generated by plot.py at 2018-07-06 01:12:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 369.86 Mbit/s
95th percentile per-packet one-way delay: 54.184 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 195.61 Mbit/s
95th percentile per-packet one-way delay: 54.007 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 184.59 Mbit/s
95th percentile per-packet one-way delay: 54.208 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 154.63 Mbit/s
95th percentile per-packet one-way delay: 54.618 ms
Loss rate: 0.08%
```

Run 8: Report of TaoVA-100x — Data Link



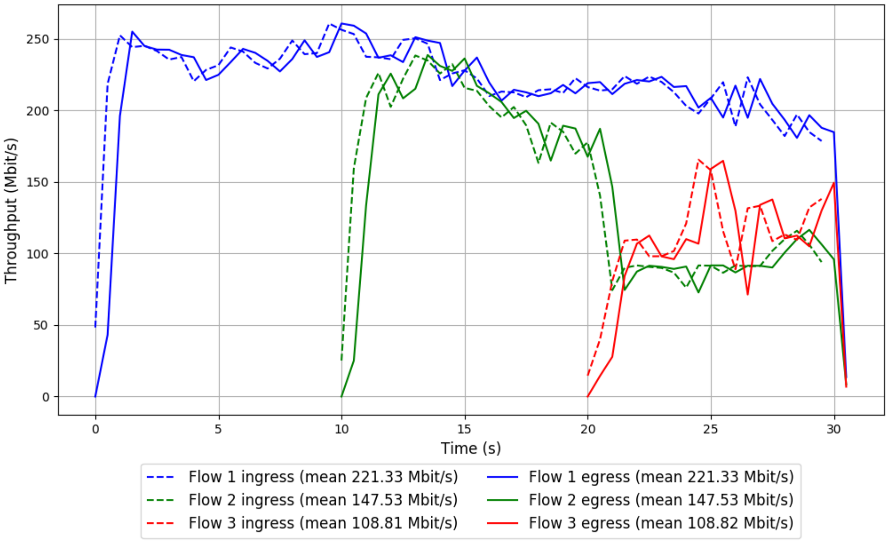


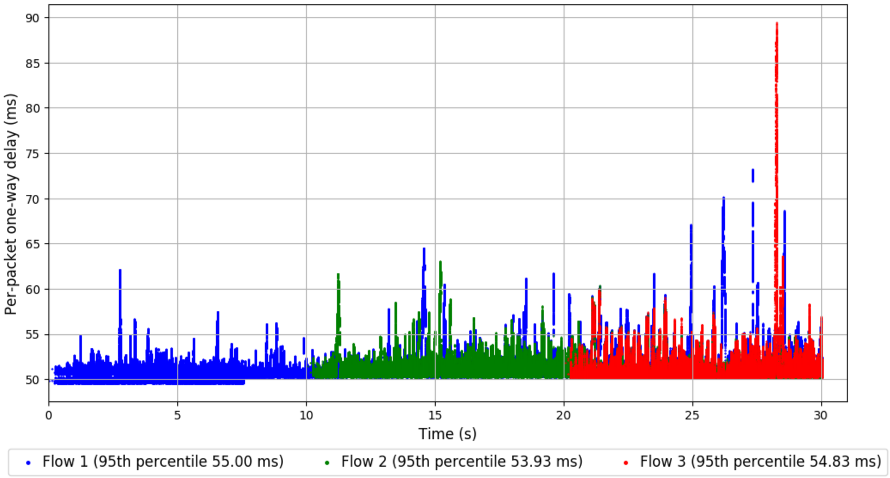
```
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-05 21:54:43
End at: 2018-07-05 21:55:13
Local clock offset: -0.023 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-07-06 01:15:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.74 Mbit/s
95th percentile per-packet one-way delay: 54.660 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.33 Mbit/s
95th percentile per-packet one-way delay: 54.998 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.53 Mbit/s
95th percentile per-packet one-way delay: 53.933 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 108.82 Mbit/s
95th percentile per-packet one-way delay: 54.826 ms
Loss rate: 0.00%
```

Run 9: Report of TaoVA-100x — Data Link



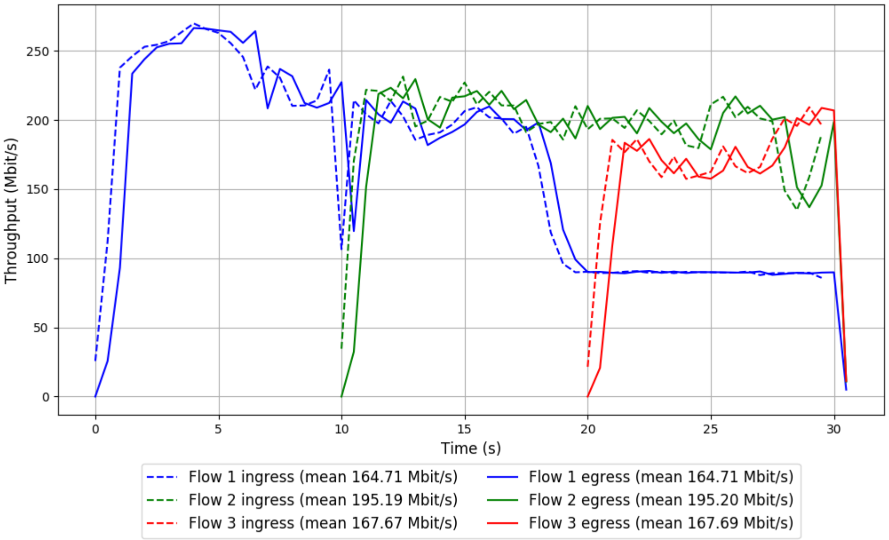


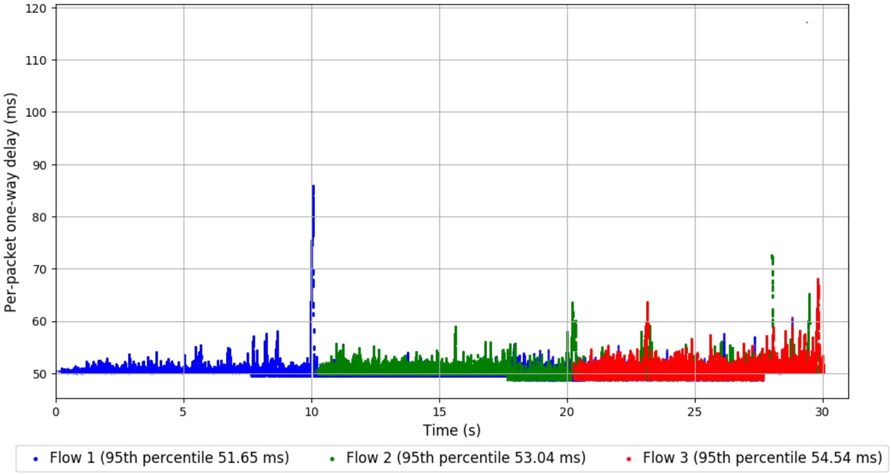
```
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-05 22:19:53
End at: 2018-07-05 22:20:23
Local clock offset: 0.053 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 350.45 Mbit/s
95th percentile per-packet one-way delay: 52.592 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 164.71 Mbit/s
95th percentile per-packet one-way delay: 51.645 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.20 Mbit/s
95th percentile per-packet one-way delay: 53.041 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 167.69 Mbit/s
95th percentile per-packet one-way delay: 54.538 ms
Loss rate: 0.00%
```

Run 10: Report of TaoVA-100x — Data Link



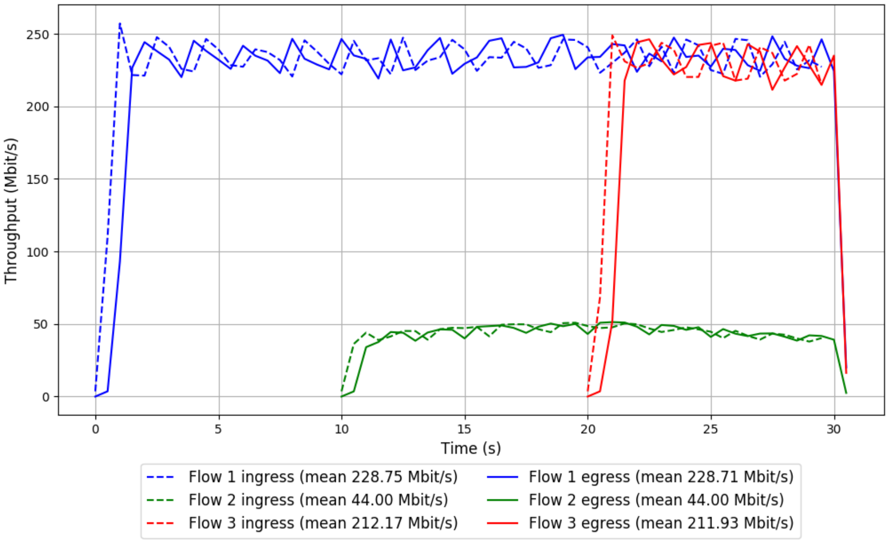


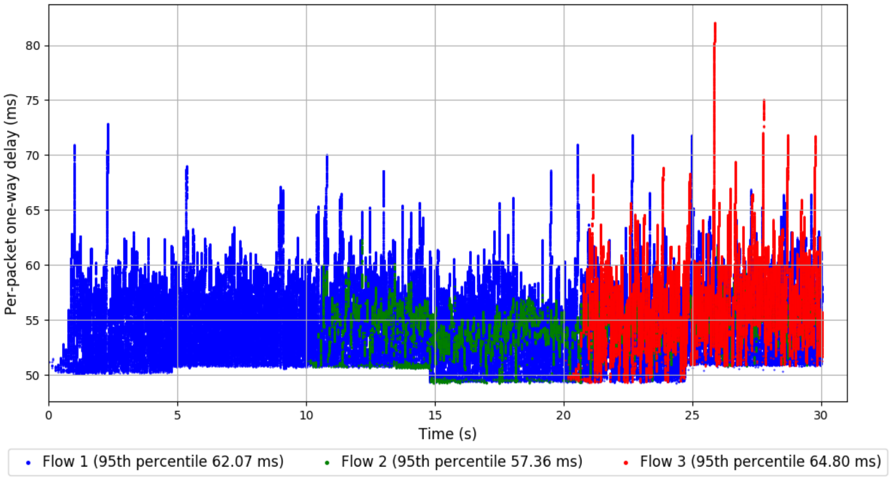
```
Run 1: Statistics of TCP Vegas

Start at: 2018-07-05 18:37:26
End at: 2018-07-05 18:37:56
Local clock offset: -0.453 ms
Remote clock offset: 0.188 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.34 Mbit/s
95th percentile per-packet one-way delay: 62.565 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 228.71 Mbit/s
95th percentile per-packet one-way delay: 62.072 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.00 Mbit/s
95th percentile per-packet one-way delay: 57.356 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 211.93 Mbit/s
95th percentile per-packet one-way delay: 64.803 ms
Loss rate: 0.13%
```

Run 1: Report of TCP Vegas — Data Link



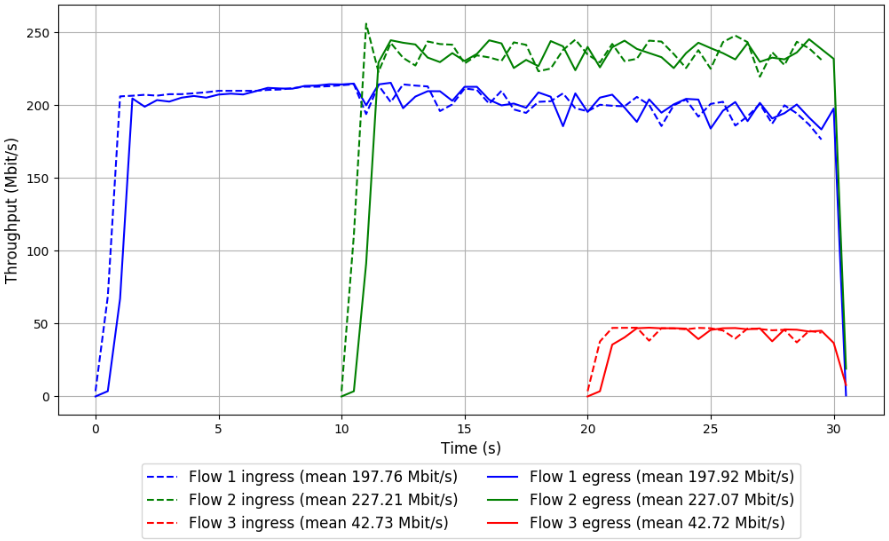


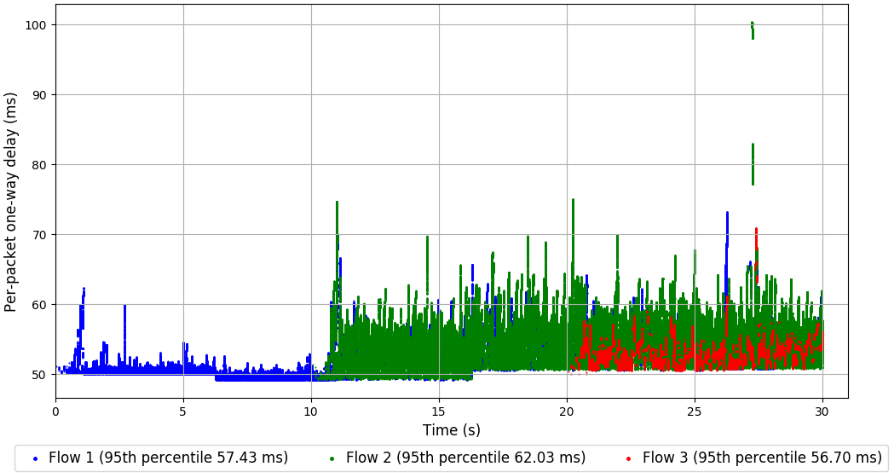
```
Run 2: Statistics of TCP Vegas

Start at: 2018-07-05 19:02:24
End at: 2018-07-05 19:02:54
Local clock offset: -0.437 ms
Remote clock offset: 0.141 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.14 Mbit/s
95th percentile per-packet one-way delay: 60.240 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 197.92 Mbit/s
95th percentile per-packet one-way delay: 57.428 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 227.07 Mbit/s
95th percentile per-packet one-way delay: 62.033 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 56.705 ms
Loss rate: 0.00%
```

Run 2: Report of TCP Vegas — Data Link



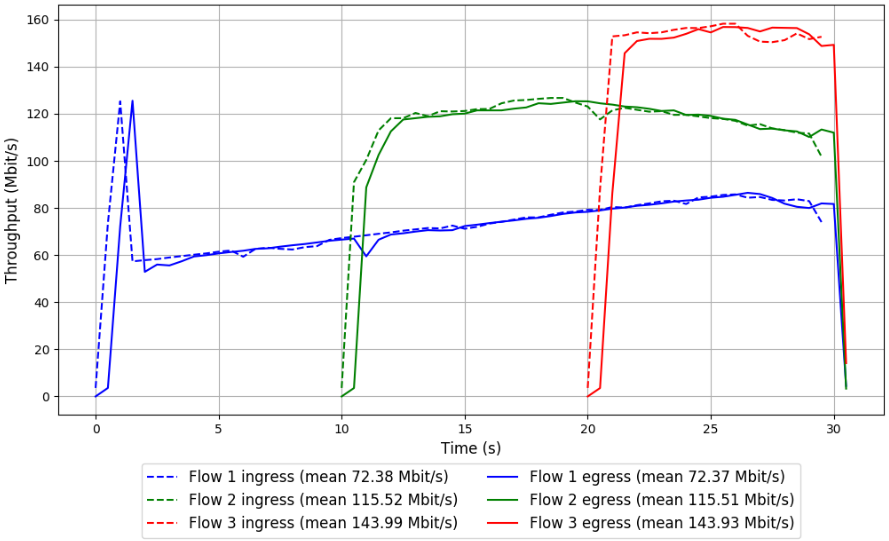


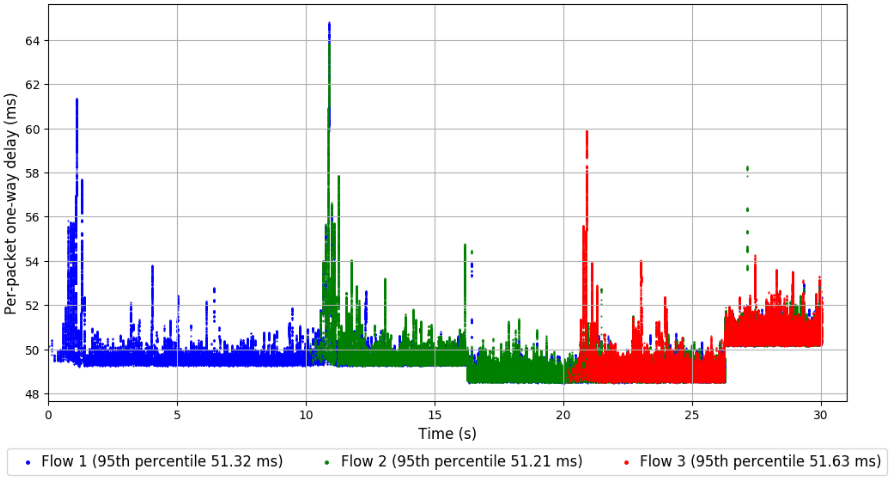
```
Run 3: Statistics of TCP Vegas

Start at: 2018-07-05 19:27:14
End at: 2018-07-05 19:27:44
Local clock offset: 0.28 ms
Remote clock offset: 0.124 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.13 Mbit/s
95th percentile per-packet one-way delay: 51.390 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 51.323 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 115.51 Mbit/s
95th percentile per-packet one-way delay: 51.209 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 143.93 Mbit/s
95th percentile per-packet one-way delay: 51.629 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link



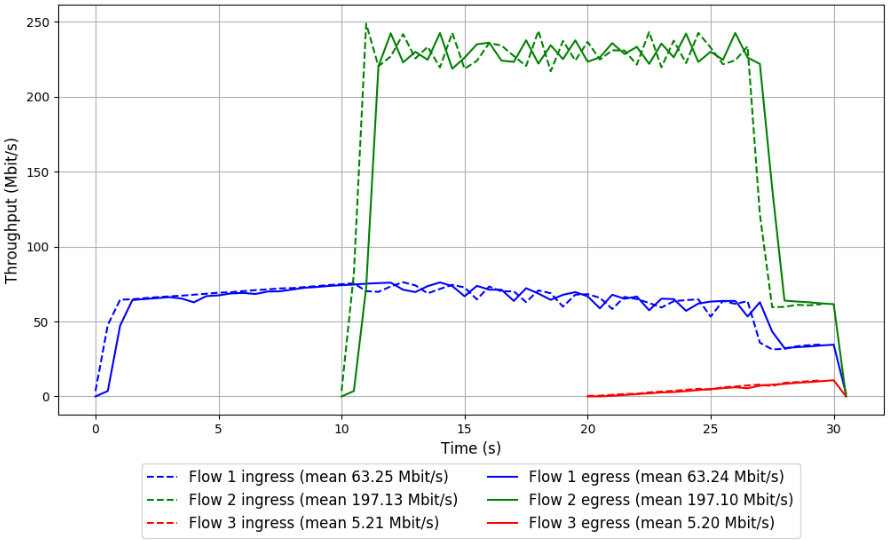


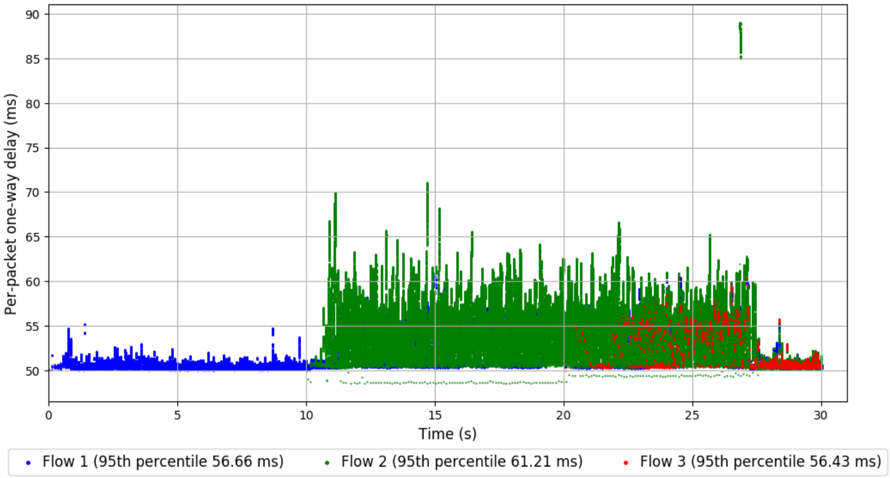
```
Run 4: Statistics of TCP Vegas

Start at: 2018-07-05 19:52:20
End at: 2018-07-05 19:52:50
Local clock offset: 0.291 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.27 Mbit/s
95th percentile per-packet one-way delay: 60.456 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.24 Mbit/s
95th percentile per-packet one-way delay: 56.656 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 197.10 Mbit/s
95th percentile per-packet one-way delay: 61.211 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 56.426 ms
Loss rate: 0.23%
```

Run 4: Report of TCP Vegas — Data Link



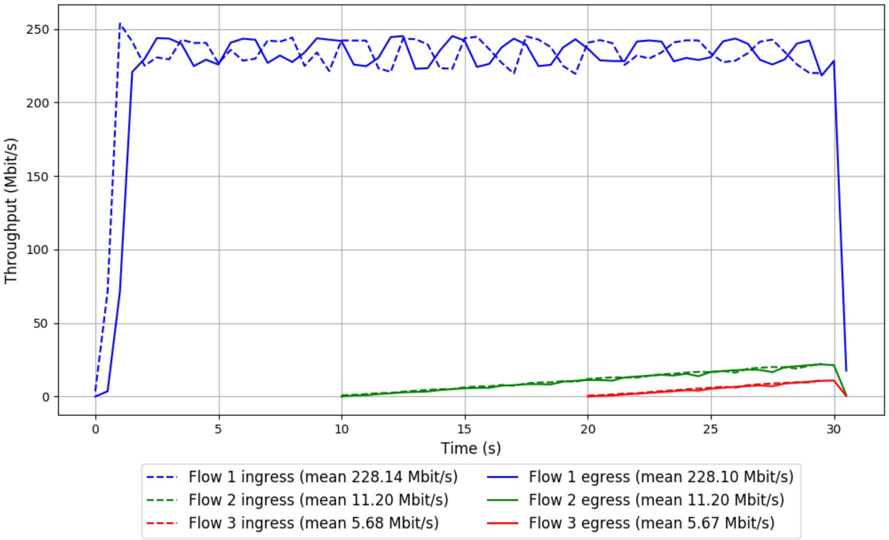


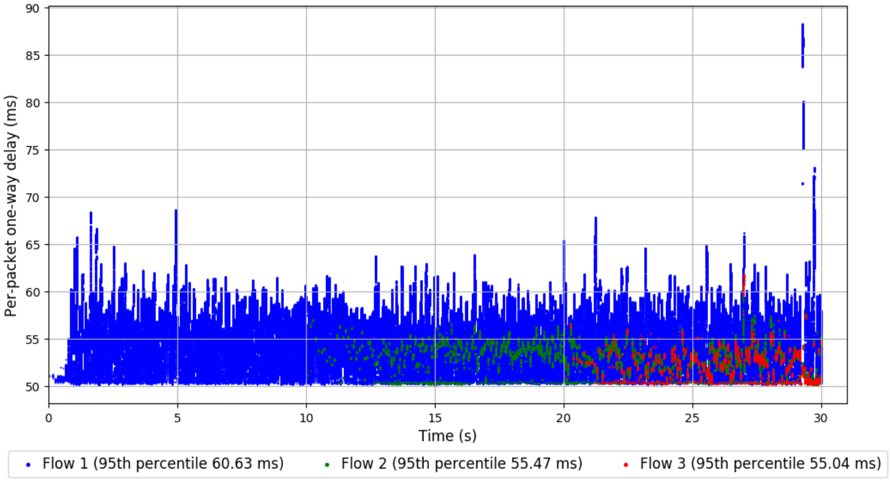
```
Run 5: Statistics of TCP Vegas

Start at: 2018-07-05 20:17:13
End at: 2018-07-05 20:17:43
Local clock offset: -0.123 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.43 Mbit/s
95th percentile per-packet one-way delay: 60.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.10 Mbit/s
95th percentile per-packet one-way delay: 60.630 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 55.473 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 55.042 ms
Loss rate: 0.15%
```

Run 5: Report of TCP Vegas — Data Link



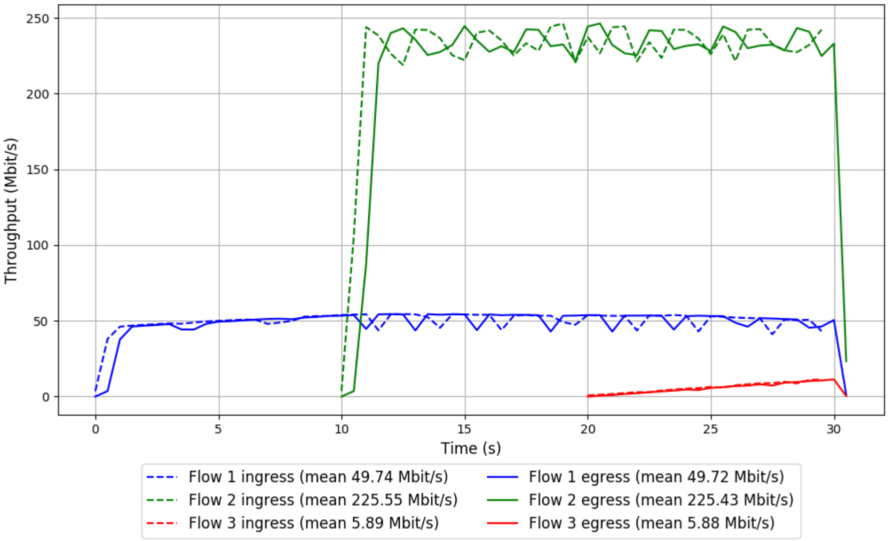


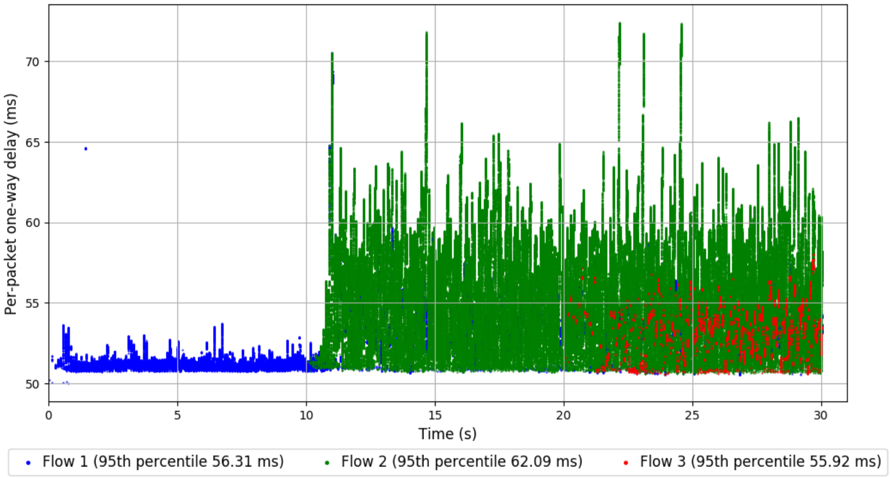
```
Run 6: Statistics of TCP Vegas

Start at: 2018-07-05 20:42:08
End at: 2018-07-05 20:42:38
Local clock offset: -0.476 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-07-06 01:16:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 201.84 Mbit/s
95th percentile per-packet one-way delay: 61.570 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 49.72 Mbit/s
95th percentile per-packet one-way delay: 56.314 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 225.43 Mbit/s
95th percentile per-packet one-way delay: 62.092 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 5.88 Mbit/s
95th percentile per-packet one-way delay: 55.924 ms
Loss rate: 0.16%
```

Run 6: Report of TCP Vegas — Data Link



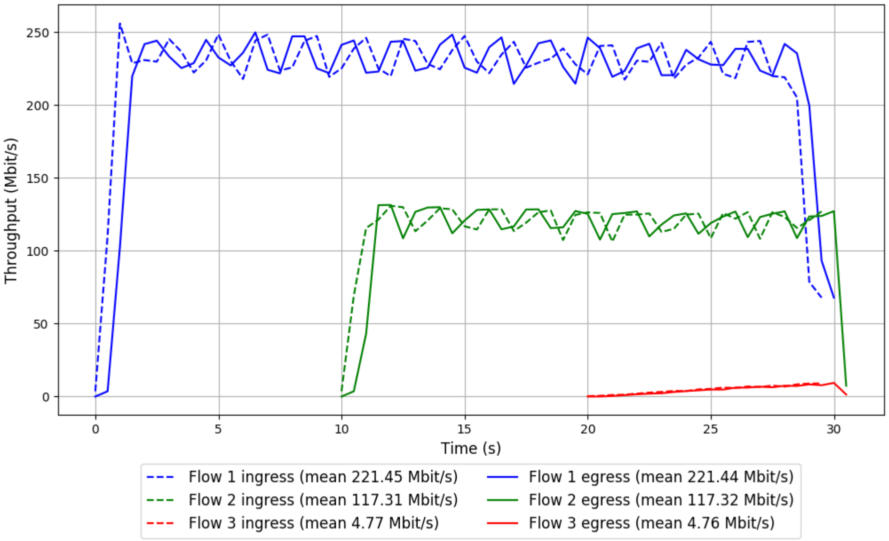


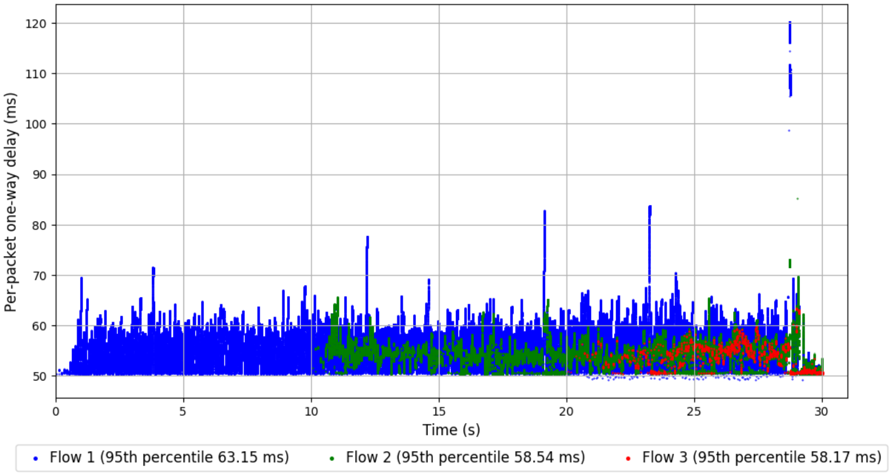
```
Run 7: Statistics of TCP Vegas

Start at: 2018-07-05 21:06:40
End at: 2018-07-05 21:07:10
Local clock offset: -0.192 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-07-06 01:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.92 Mbit/s
95th percentile per-packet one-way delay: 62.655 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.44 Mbit/s
95th percentile per-packet one-way delay: 63.152 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 117.32 Mbit/s
95th percentile per-packet one-way delay: 58.541 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 58.173 ms
Loss rate: 0.25%
```

Run 7: Report of TCP Vegas — Data Link



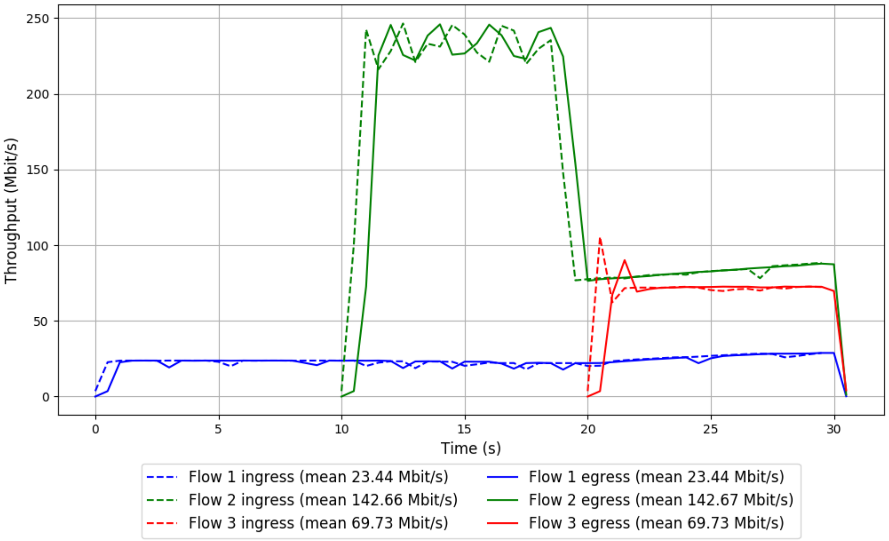


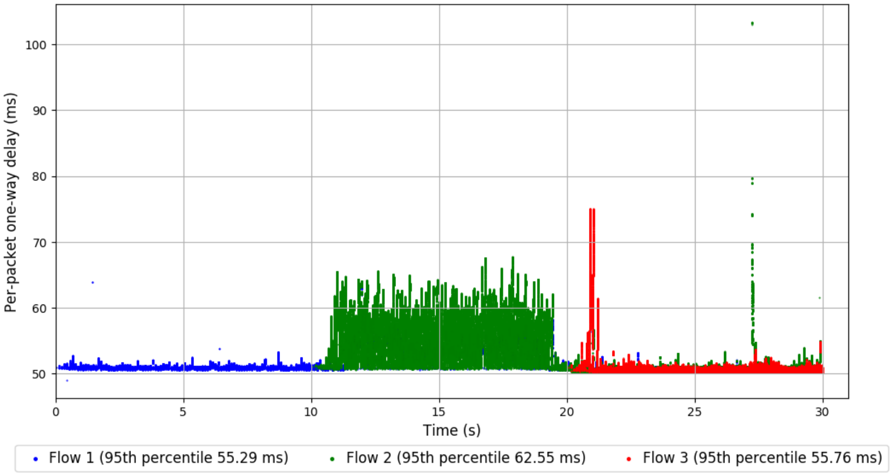
```
Run 8: Statistics of TCP Vegas

Start at: 2018-07-05 21:31:40
End at: 2018-07-05 21:32:10
Local clock offset: -0.018 ms
Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2018-07-06 01:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.58 Mbit/s
95th percentile per-packet one-way delay: 62.053 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.44 Mbit/s
95th percentile per-packet one-way delay: 55.287 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.67 Mbit/s
95th percentile per-packet one-way delay: 62.552 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.73 Mbit/s
95th percentile per-packet one-way delay: 55.763 ms
Loss rate: 0.00%
```

Run 8: Report of TCP Vegas — Data Link



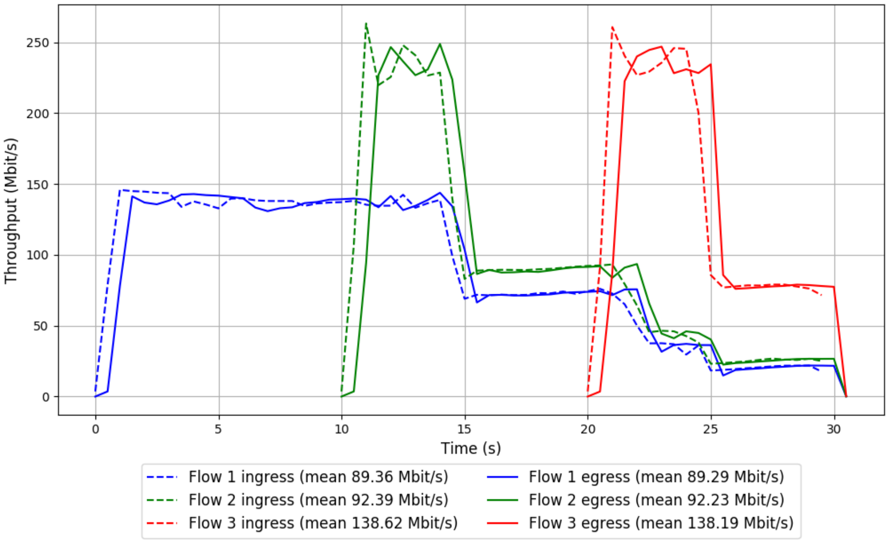


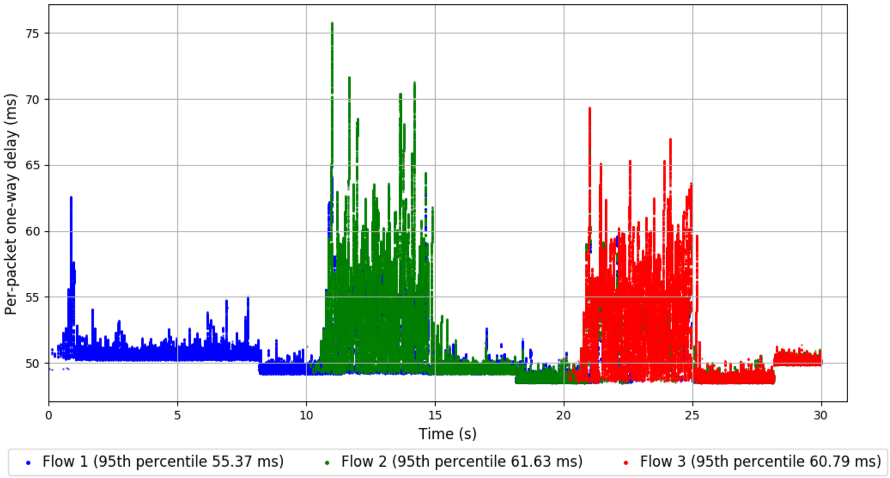
```
Run 9: Statistics of TCP Vegas

Start at: 2018-07-05 21:56:22
End at: 2018-07-05 21:56:52
Local clock offset: 0.352 ms
Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2018-07-06 01:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.56 Mbit/s
95th percentile per-packet one-way delay: 59.571 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 55.371 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 92.23 Mbit/s
95th percentile per-packet one-way delay: 61.634 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 138.19 Mbit/s
95th percentile per-packet one-way delay: 60.786 ms
Loss rate: 0.31%
```

Run 9: Report of TCP Vegas — Data Link



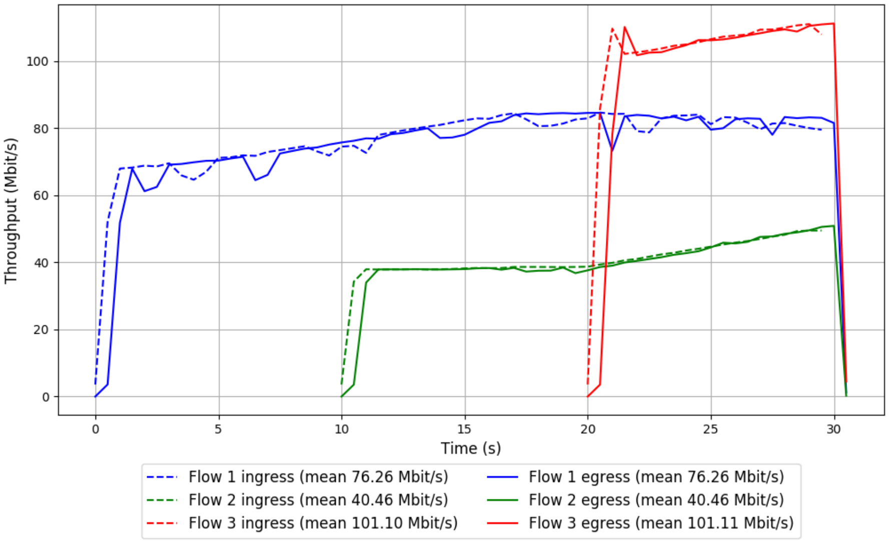


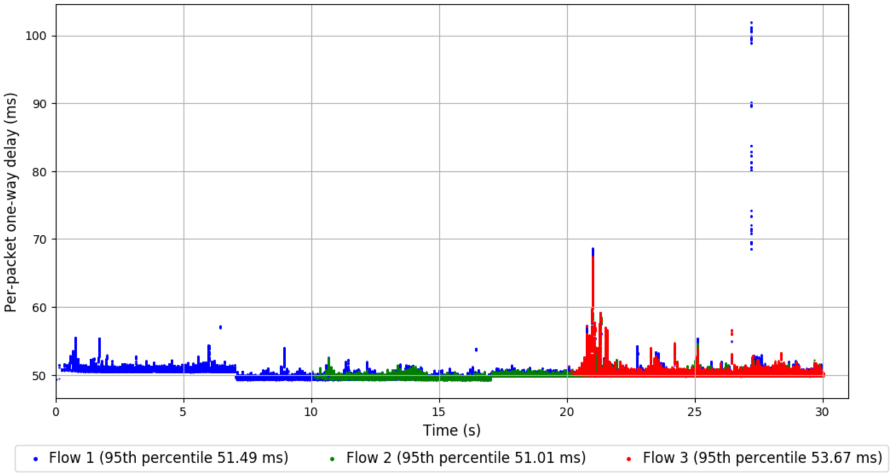
```
Run 10: Statistics of TCP Vegas

Start at: 2018-07-05 22:21:34
End at: 2018-07-05 22:22:04
Local clock offset: 0.403 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2018-07-06 01:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.70 Mbit/s
95th percentile per-packet one-way delay: 51.671 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.26 Mbit/s
95th percentile per-packet one-way delay: 51.486 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.46 Mbit/s
95th percentile per-packet one-way delay: 51.005 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 101.11 Mbit/s
95th percentile per-packet one-way delay: 53.670 ms
Loss rate: 0.00%
```

Run 10: Report of TCP Vegas — Data Link



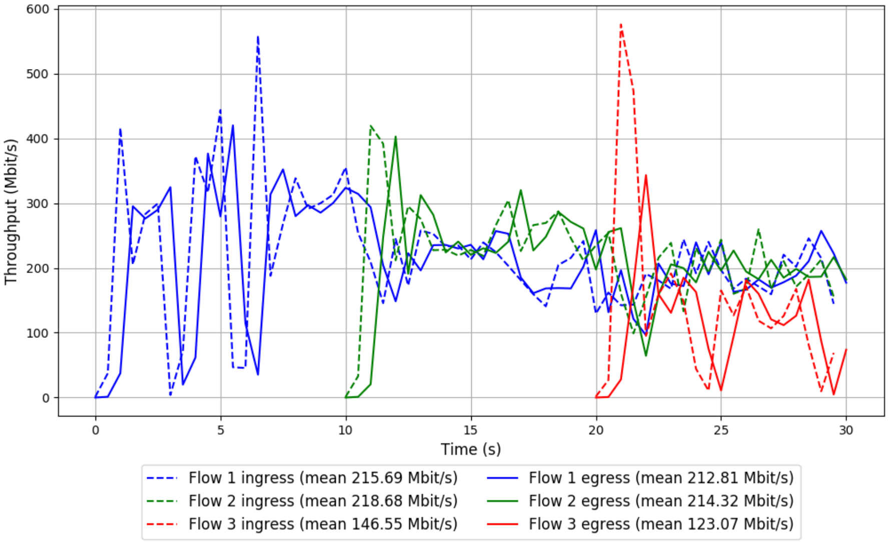


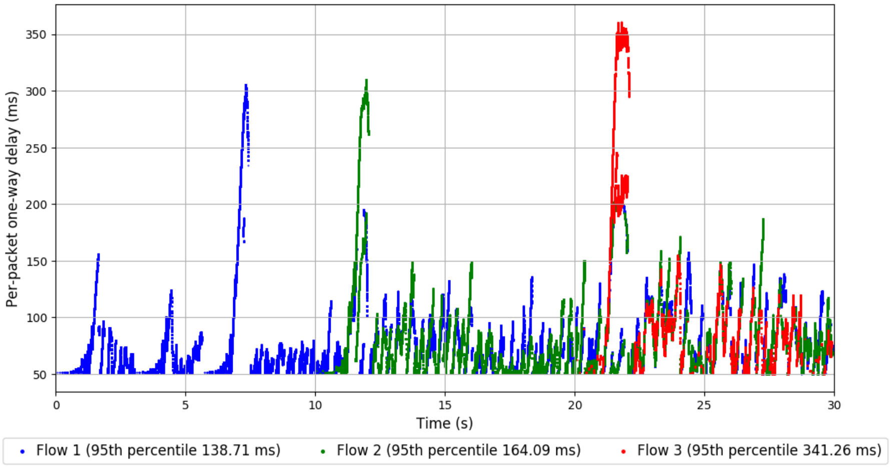
```
Run 1: Statistics of Verus

Start at: 2018-07-05 18:34:13
End at: 2018-07-05 18:34:43
Local clock offset: -0.494 ms
Remote clock offset: 0.138 ms

# Below is generated by plot.py at 2018-07-06 01:20:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.60 Mbit/s
95th percentile per-packet one-way delay: 179.969 ms
Loss rate: 3.23%
-- Flow 1:
Average throughput: 212.81 Mbit/s
95th percentile per-packet one-way delay: 138.705 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 214.32 Mbit/s
95th percentile per-packet one-way delay: 164.095 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 123.07 Mbit/s
95th percentile per-packet one-way delay: 341.261 ms
Loss rate: 15.89%
```

Run 1: Report of Verus — Data Link



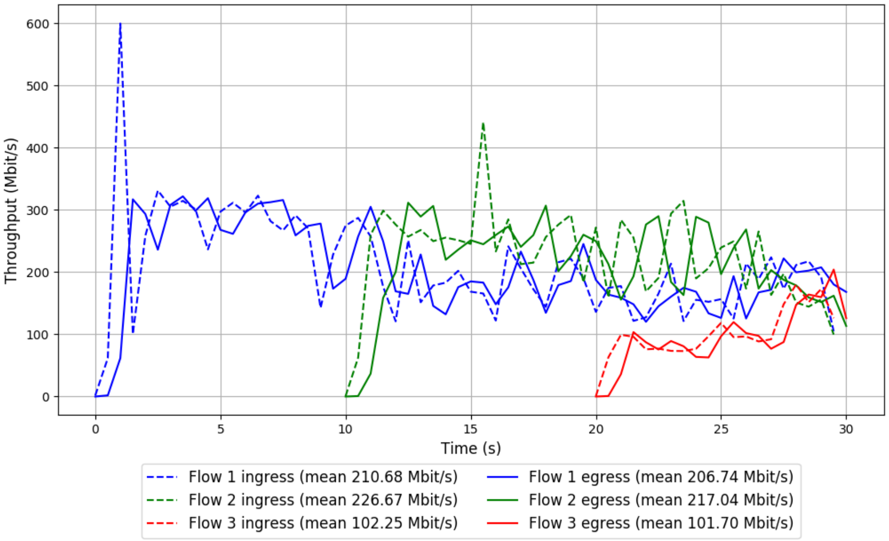


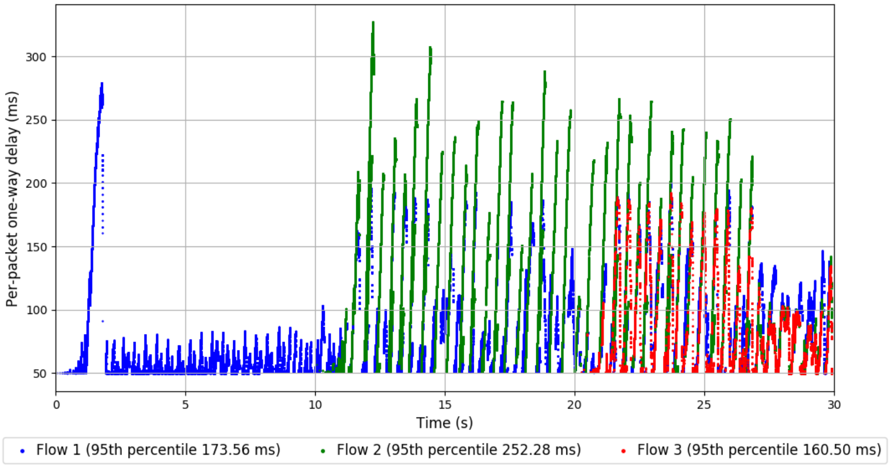
```
Run 2: Statistics of Verus

Start at: 2018-07-05 18:59:12
End at: 2018-07-05 18:59:42
Local clock offset: -0.118 ms
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2018-07-06 01:20:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.59 Mbit/s
95th percentile per-packet one-way delay: 228.952 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 206.74 Mbit/s
95th percentile per-packet one-way delay: 173.559 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 217.04 Mbit/s
95th percentile per-packet one-way delay: 252.280 ms
Loss rate: 4.27%
-- Flow 3:
Average throughput: 101.70 Mbit/s
95th percentile per-packet one-way delay: 160.502 ms
Loss rate: 1.05%
```

Run 2: Report of Verus — Data Link



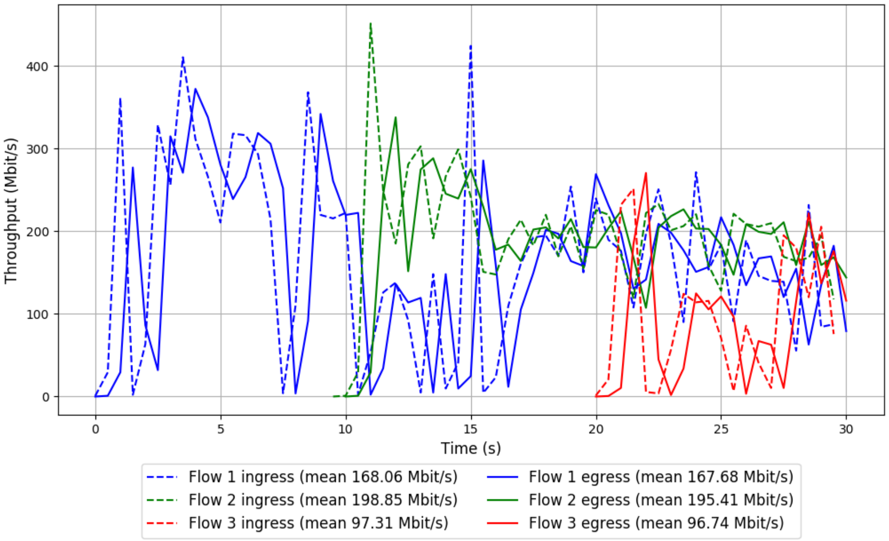


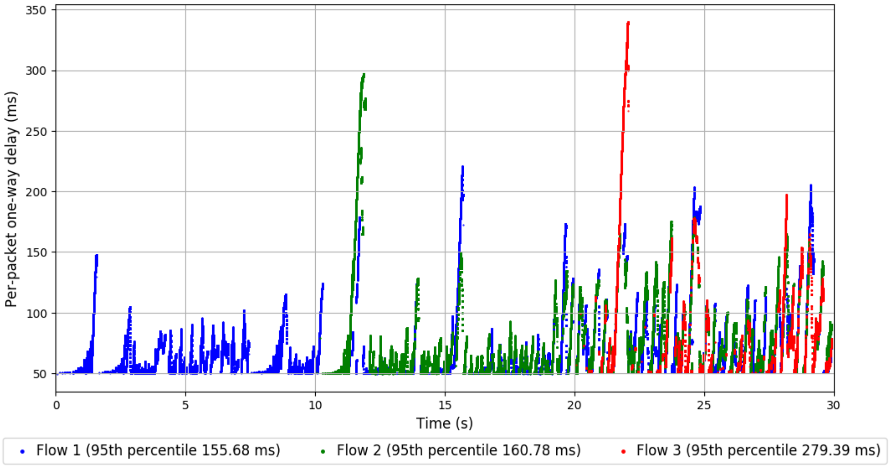
```
Run 3: Statistics of Verus

Start at: 2018-07-05 19:24:10
End at: 2018-07-05 19:24:40
Local clock offset: -0.099 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-07-06 01:20:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.50 Mbit/s
95th percentile per-packet one-way delay: 166.176 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 167.68 Mbit/s
95th percentile per-packet one-way delay: 155.676 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 195.41 Mbit/s
95th percentile per-packet one-way delay: 160.781 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 96.74 Mbit/s
95th percentile per-packet one-way delay: 279.391 ms
Loss rate: 0.64%
```

Run 3: Report of Verus — Data Link



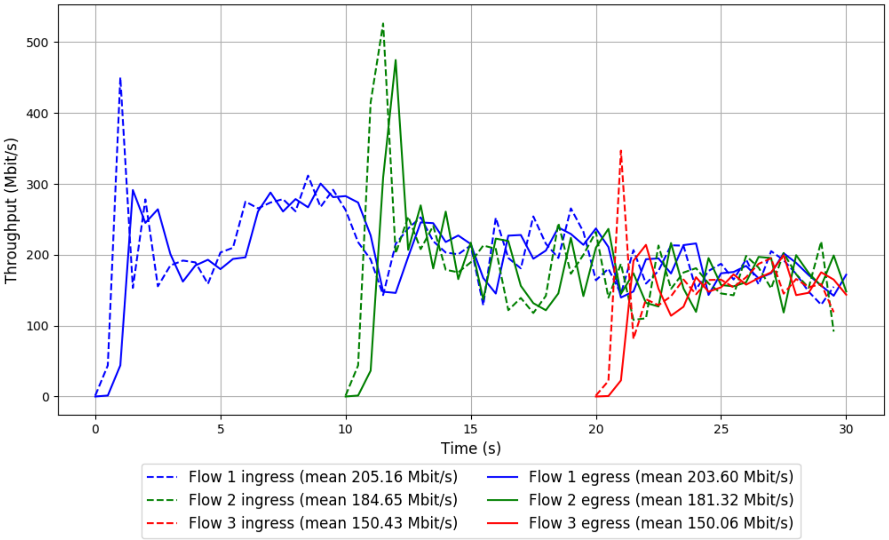


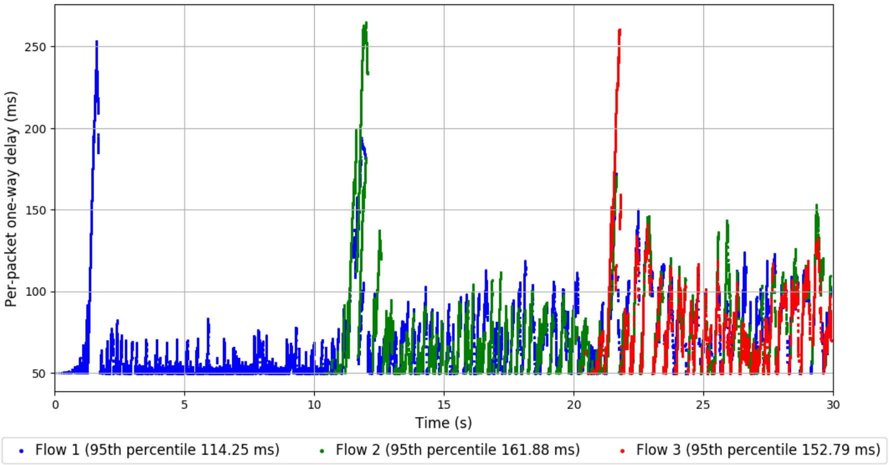
```
Run 4: Statistics of Verus

Start at: 2018-07-05 19:49:09
End at: 2018-07-05 19:49:39
Local clock offset: -0.069 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-07-06 01:21:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.07 Mbit/s
95th percentile per-packet one-way delay: 136.801 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 203.60 Mbit/s
95th percentile per-packet one-way delay: 114.250 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 181.32 Mbit/s
95th percentile per-packet one-way delay: 161.882 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 150.06 Mbit/s
95th percentile per-packet one-way delay: 152.790 ms
Loss rate: 0.27%
```

Run 4: Report of Verus — Data Link



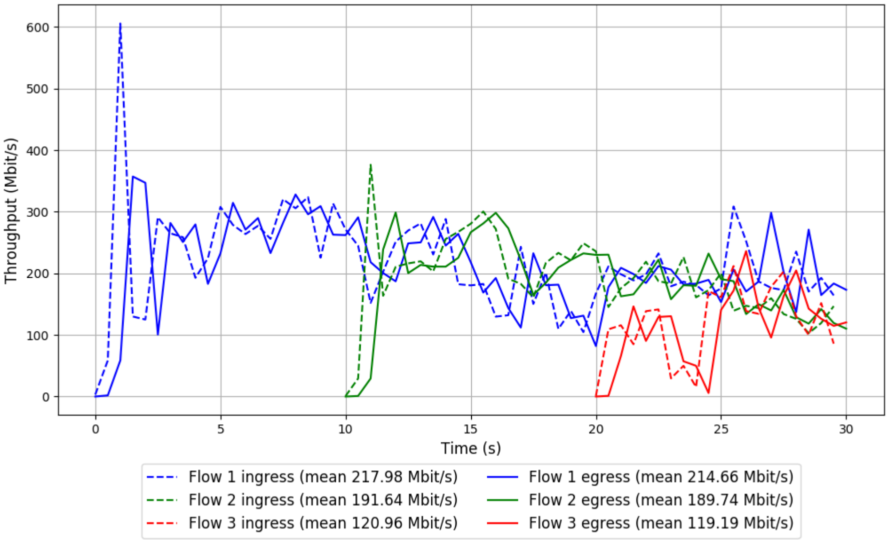


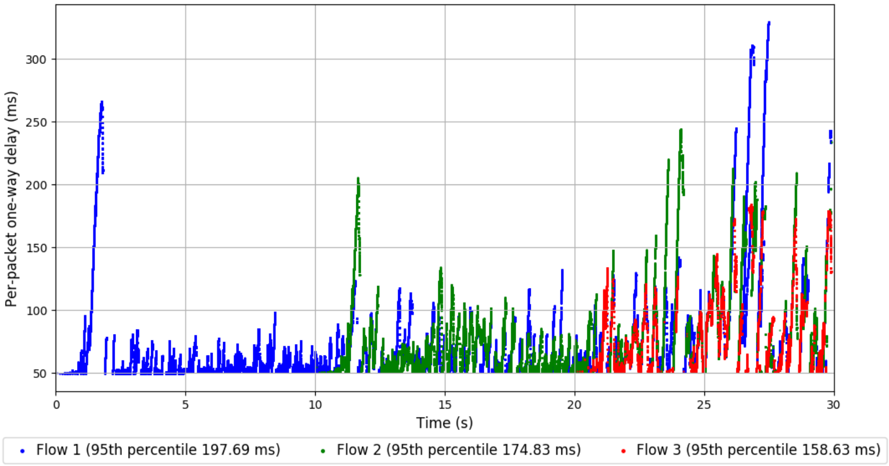
```
Run 5: Statistics of Verus

Start at: 2018-07-05 20:14:05
End at: 2018-07-05 20:14:35
Local clock offset: -0.104 ms
Remote clock offset: 0.053 ms

# Below is generated by plot.py at 2018-07-06 01:21:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.53 Mbit/s
95th percentile per-packet one-way delay: 175.725 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 214.66 Mbit/s
95th percentile per-packet one-way delay: 197.686 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 189.74 Mbit/s
95th percentile per-packet one-way delay: 174.834 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 119.19 Mbit/s
95th percentile per-packet one-way delay: 158.626 ms
Loss rate: 0.66%
```

Run 5: Report of Verus — Data Link



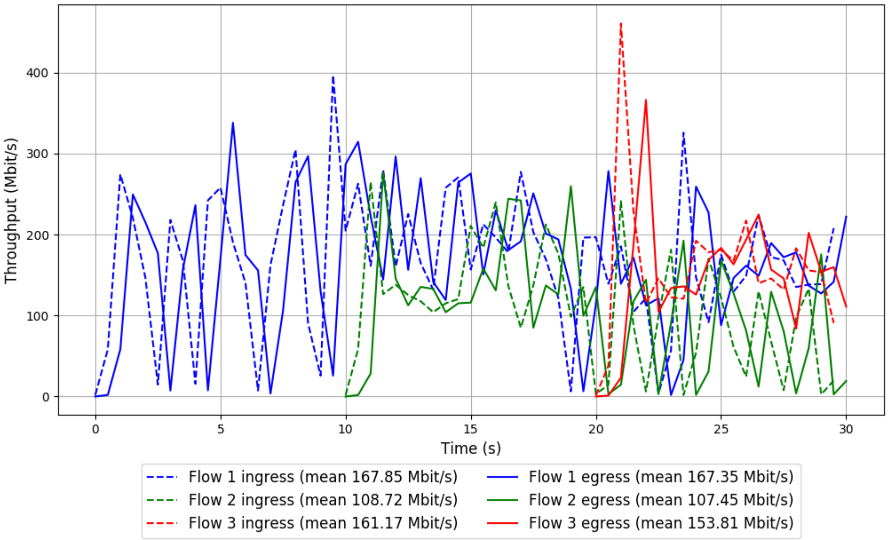


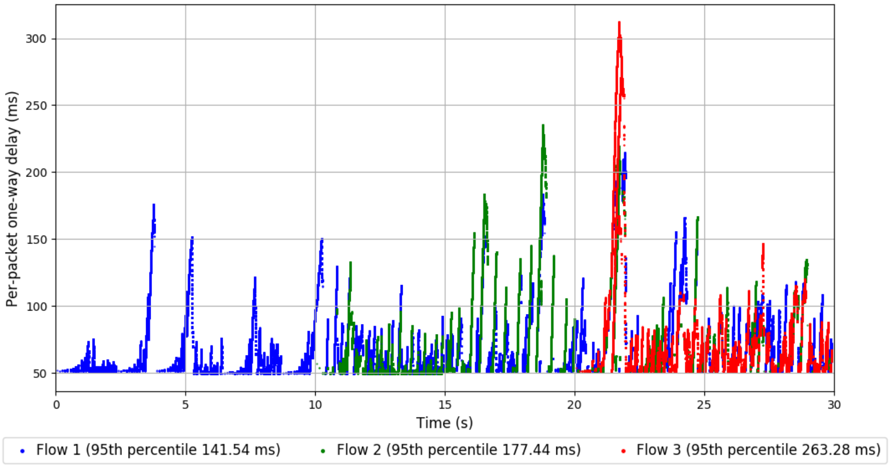
```
Run 6: Statistics of Verus

Start at: 2018-07-05 20:39:05
End at: 2018-07-05 20:39:35
Local clock offset: -0.536 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2018-07-06 01:21:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.12 Mbit/s
95th percentile per-packet one-way delay: 160.274 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 167.35 Mbit/s
95th percentile per-packet one-way delay: 141.538 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 107.45 Mbit/s
95th percentile per-packet one-way delay: 177.436 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 153.81 Mbit/s
95th percentile per-packet one-way delay: 263.282 ms
Loss rate: 4.60%
```

Run 6: Report of Verus — Data Link



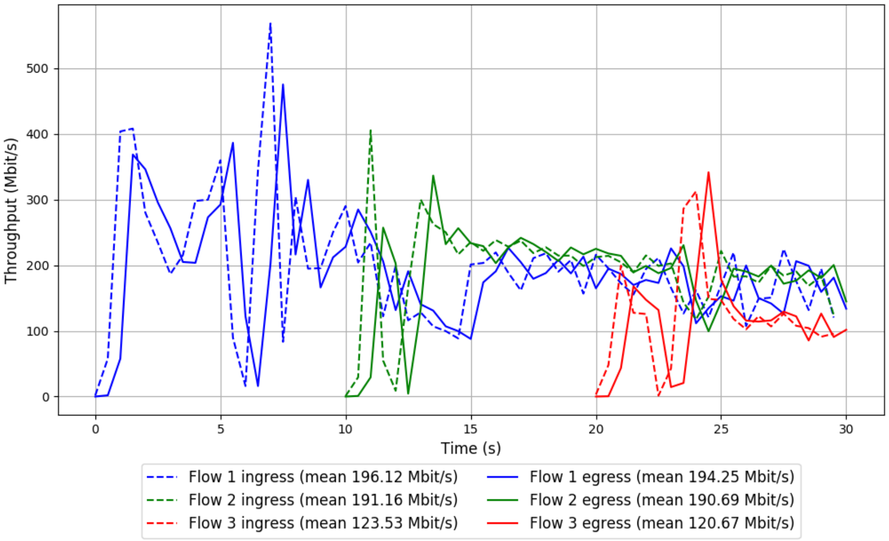


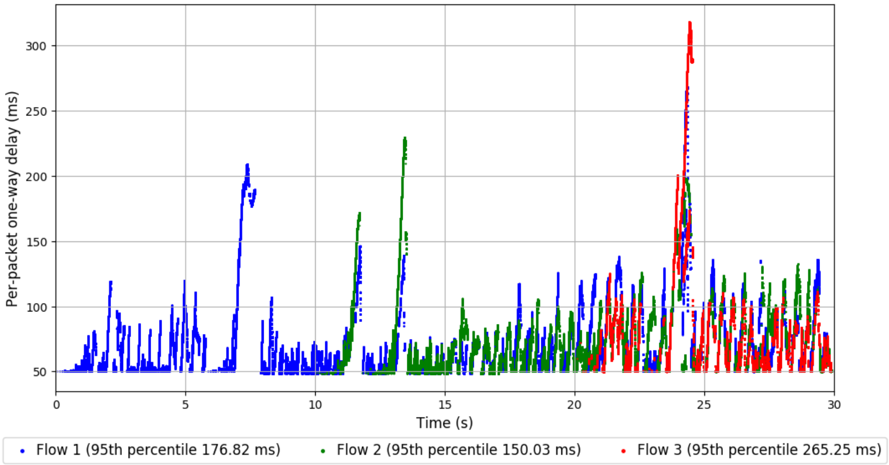
```
Run 7: Statistics of Verus

Start at: 2018-07-05 21:03:33
End at: 2018-07-05 21:04:03
Local clock offset: 0.196 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2018-07-06 01:22:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.25 Mbit/s
95th percentile per-packet one-way delay: 168.406 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 194.25 Mbit/s
95th percentile per-packet one-way delay: 176.816 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 190.69 Mbit/s
95th percentile per-packet one-way delay: 150.031 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 120.67 Mbit/s
95th percentile per-packet one-way delay: 265.252 ms
Loss rate: 2.34%
```

Run 7: Report of Verus — Data Link



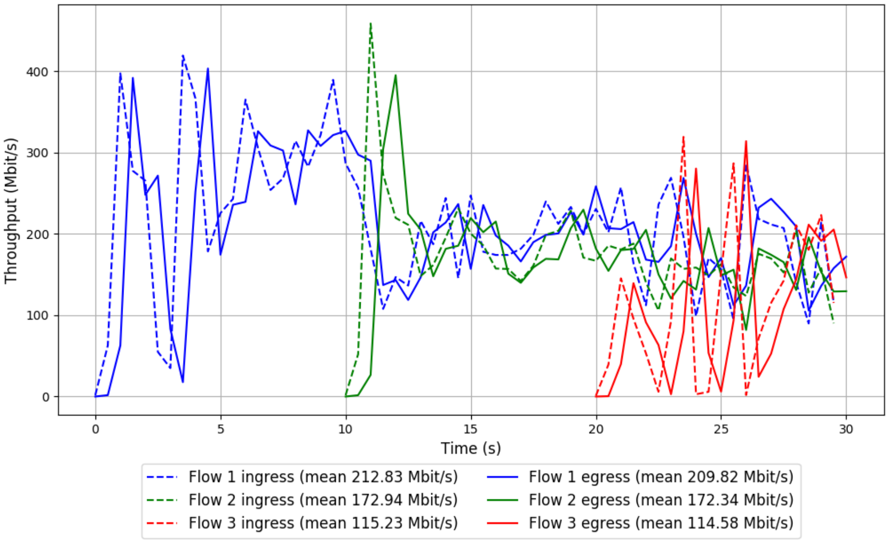


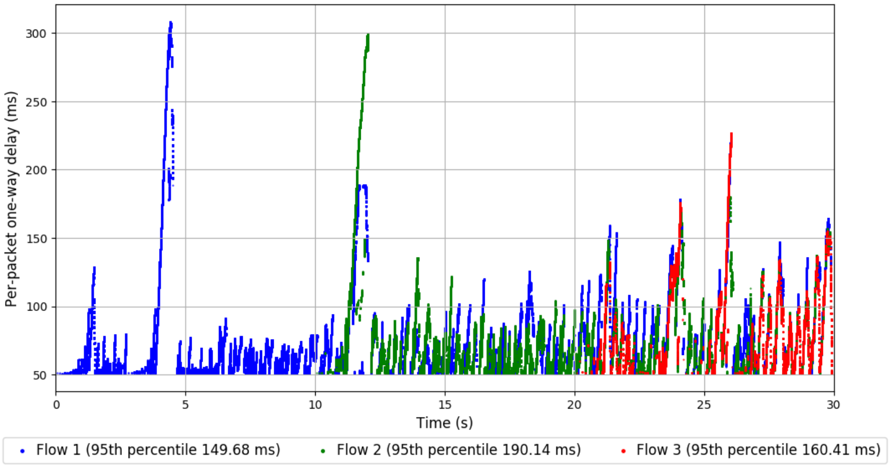
```
Run 8: Statistics of Verus

Start at: 2018-07-05 21:28:30
End at: 2018-07-05 21:29:00
Local clock offset: -0.055 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-07-06 01:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.79 Mbit/s
95th percentile per-packet one-way delay: 158.694 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 209.82 Mbit/s
95th percentile per-packet one-way delay: 149.684 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 172.34 Mbit/s
95th percentile per-packet one-way delay: 190.138 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 114.58 Mbit/s
95th percentile per-packet one-way delay: 160.411 ms
Loss rate: 0.55%
```

Run 8: Report of Verus — Data Link



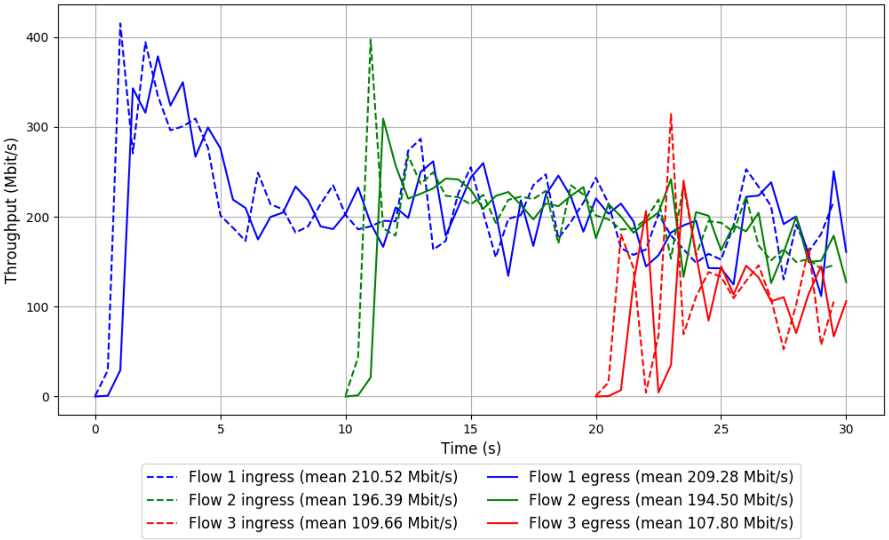


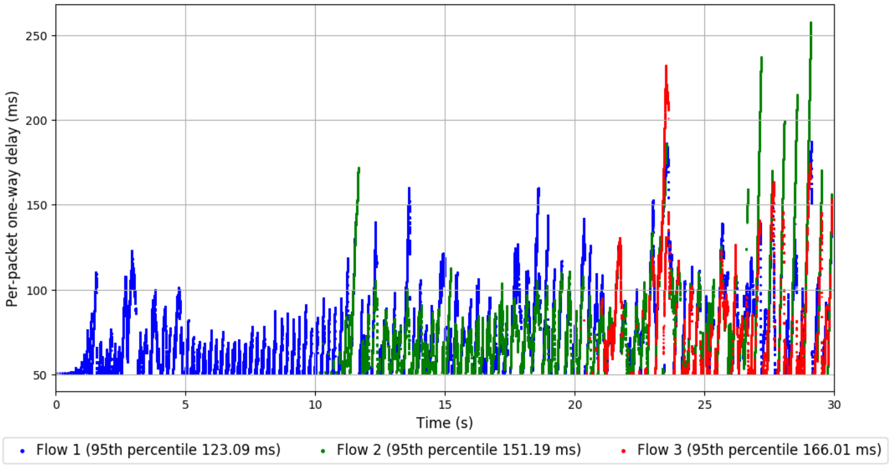
```
Run 9: Statistics of Verus

Start at: 2018-07-05 21:53:11
End at: 2018-07-05 21:53:41
Local clock offset: -0.384 ms
Remote clock offset: 0.012 ms

# Below is generated by plot.py at 2018-07-06 01:25:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.02 Mbit/s
95th percentile per-packet one-way delay: 136.937 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 209.28 Mbit/s
95th percentile per-packet one-way delay: 123.089 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 194.50 Mbit/s
95th percentile per-packet one-way delay: 151.187 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 107.80 Mbit/s
95th percentile per-packet one-way delay: 166.013 ms
Loss rate: 1.67%
```

Run 9: Report of Verus — Data Link



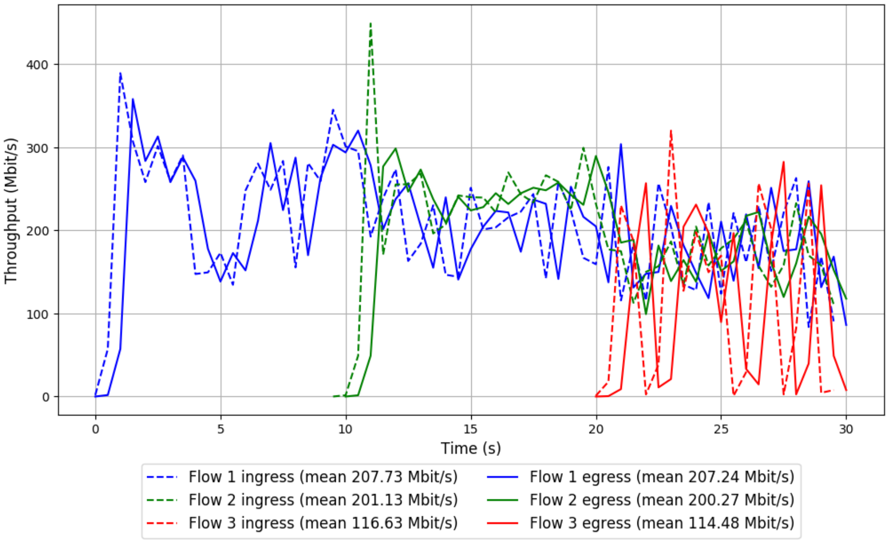


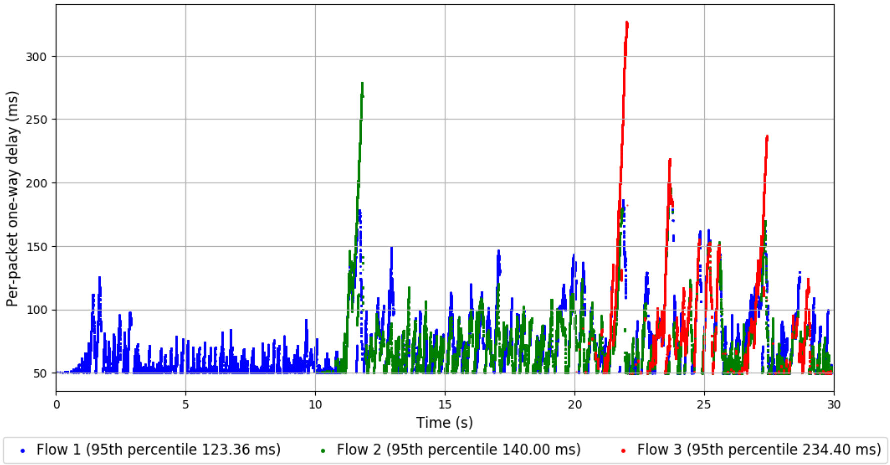
```
Run 10: Statistics of Verus

Start at: 2018-07-05 22:18:18
End at: 2018-07-05 22:18:48
Local clock offset: -0.015 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-07-06 01:26:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.97 Mbit/s
95th percentile per-packet one-way delay: 146.806 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 207.24 Mbit/s
95th percentile per-packet one-way delay: 123.359 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 200.27 Mbit/s
95th percentile per-packet one-way delay: 140.005 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 114.48 Mbit/s
95th percentile per-packet one-way delay: 234.401 ms
Loss rate: 1.83%
```

Run 10: Report of Verus — Data Link



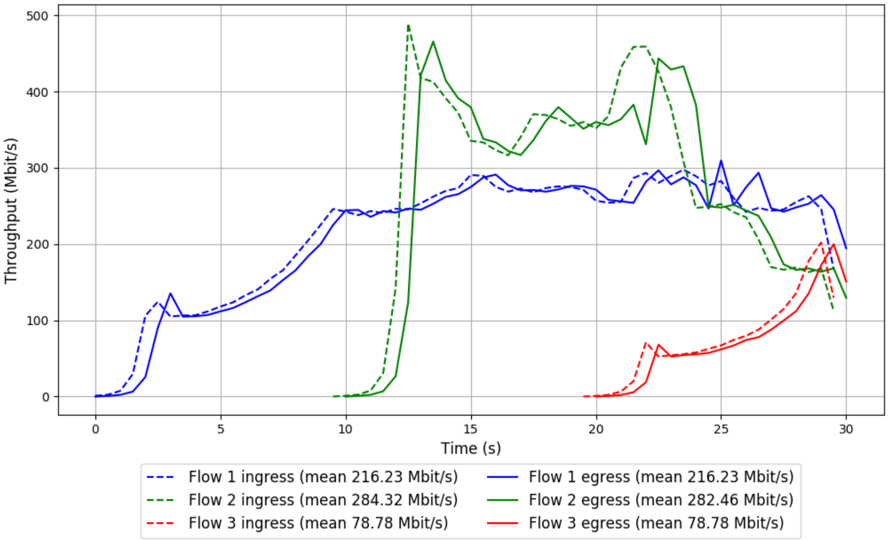


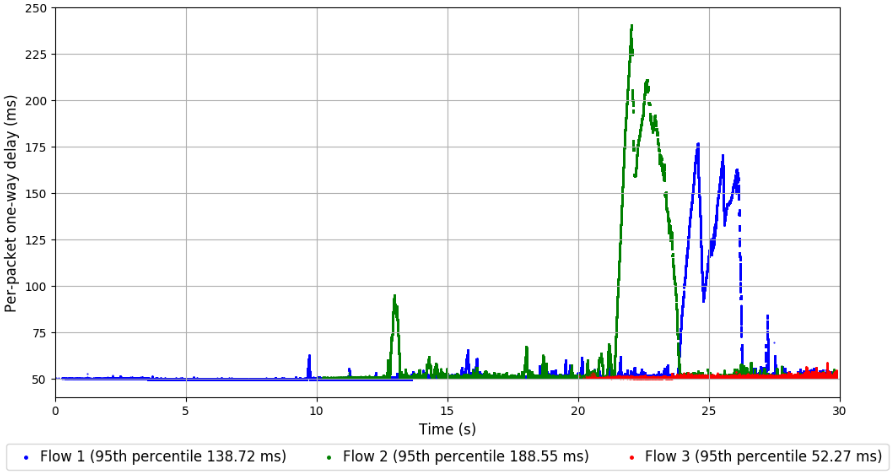
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-05 18:24:57
End at: 2018-07-05 18:25:27
Local clock offset: -0.107 ms
Remote clock offset: 0.104 ms

# Below is generated by plot.py at 2018-07-06 01:28:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.36 Mbit/s
95th percentile per-packet one-way delay: 163.782 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 216.23 Mbit/s
95th percentile per-packet one-way delay: 138.720 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 282.46 Mbit/s
95th percentile per-packet one-way delay: 188.546 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 78.78 Mbit/s
95th percentile per-packet one-way delay: 52.272 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link



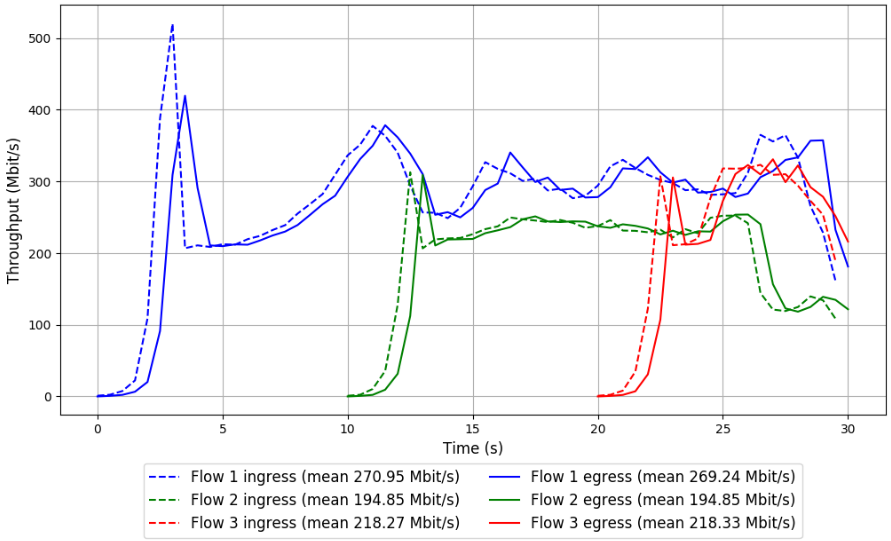


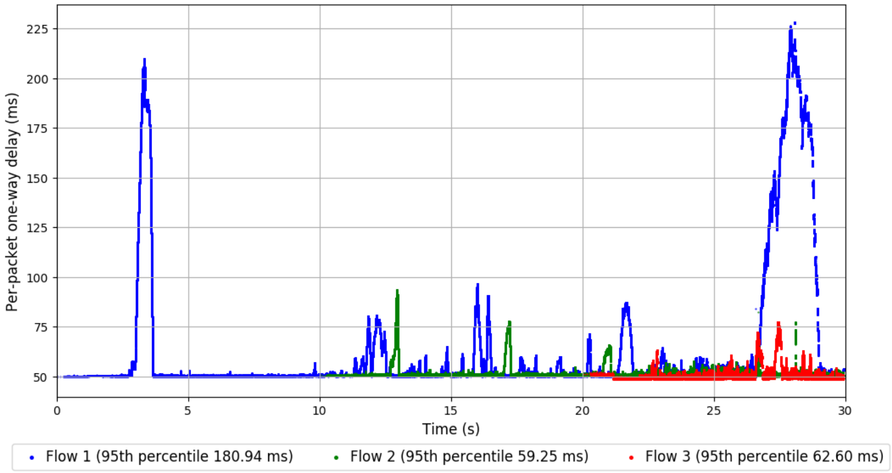
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-05 18:49:49
End at: 2018-07-05 18:50:19
Local clock offset: -0.104 ms
Remote clock offset: 0.205 ms

# Below is generated by plot.py at 2018-07-06 01:29:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.81 Mbit/s
95th percentile per-packet one-way delay: 140.831 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 269.24 Mbit/s
95th percentile per-packet one-way delay: 180.936 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 194.85 Mbit/s
95th percentile per-packet one-way delay: 59.247 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.33 Mbit/s
95th percentile per-packet one-way delay: 62.597 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link



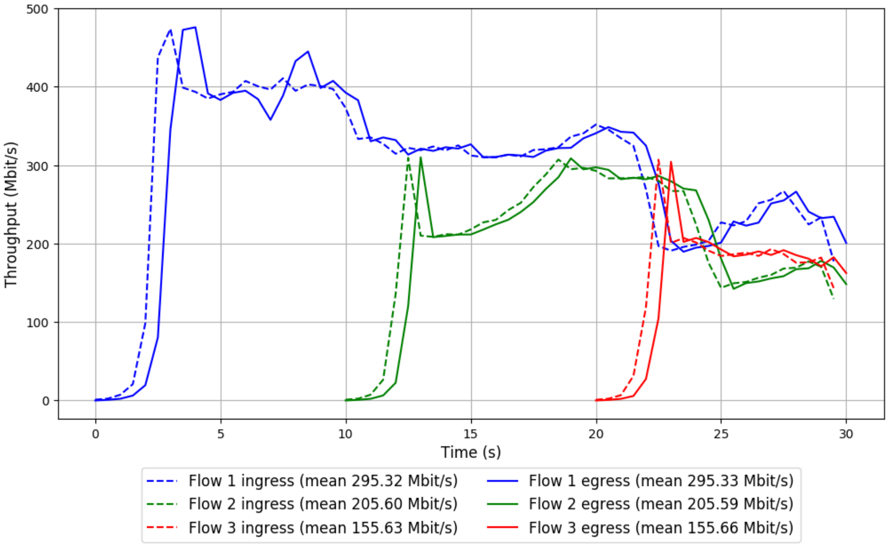


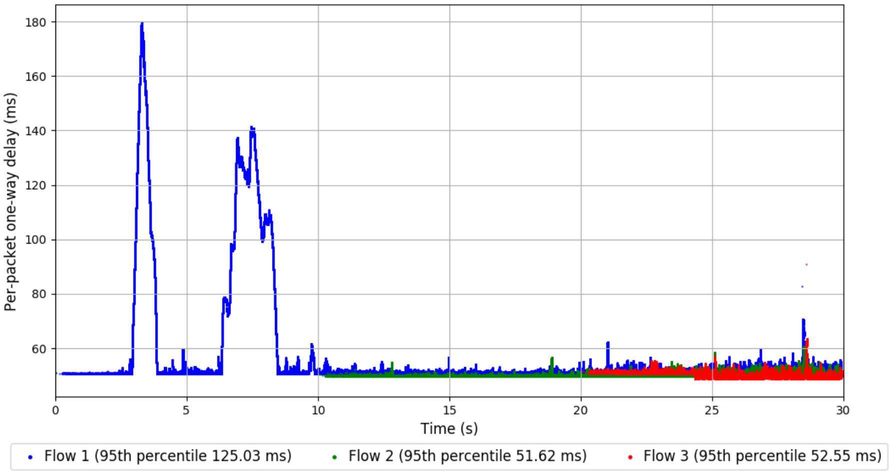
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-05 19:15:06
End at: 2018-07-05 19:15:36
Local clock offset: -0.033 ms
Remote clock offset: 0.107 ms

# Below is generated by plot.py at 2018-07-06 01:29:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 483.38 Mbit/s
95th percentile per-packet one-way delay: 106.740 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 295.33 Mbit/s
95th percentile per-packet one-way delay: 125.028 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 205.59 Mbit/s
95th percentile per-packet one-way delay: 51.619 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 155.66 Mbit/s
95th percentile per-packet one-way delay: 52.547 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link



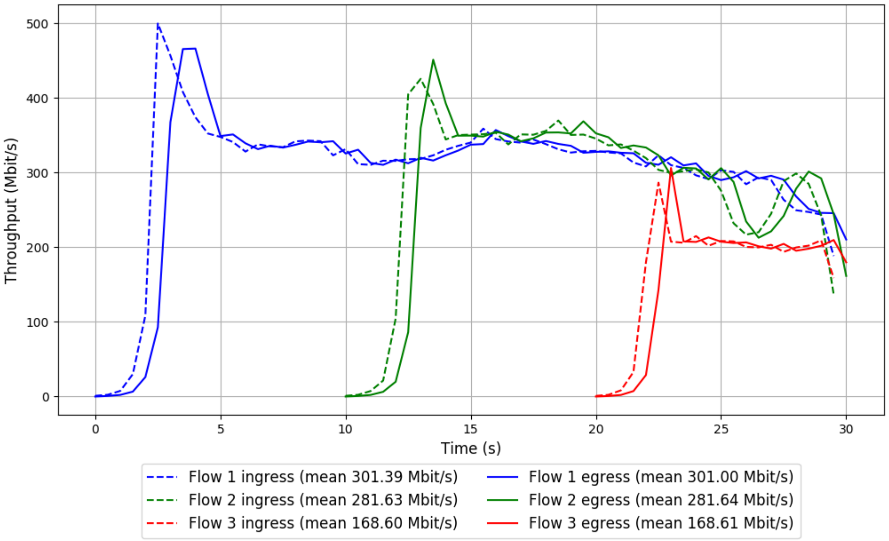


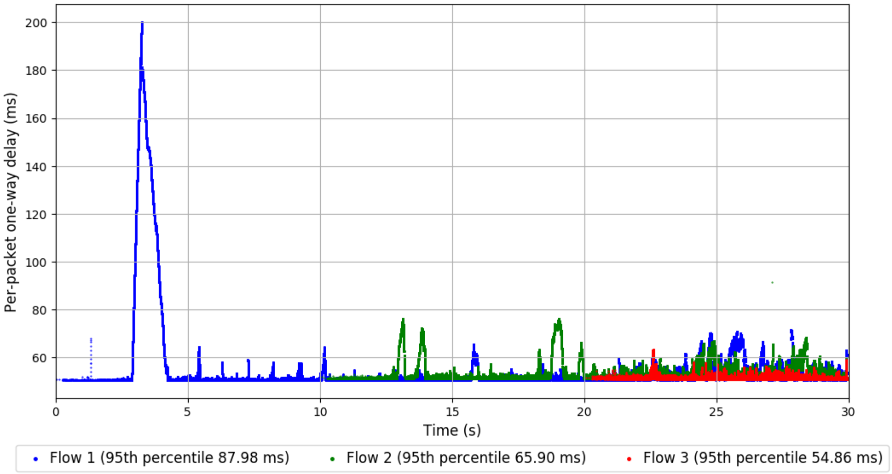
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-05 19:39:42
End at: 2018-07-05 19:40:12
Local clock offset: -0.445 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2018-07-06 01:30:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 543.89 Mbit/s
95th percentile per-packet one-way delay: 67.682 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 301.00 Mbit/s
95th percentile per-packet one-way delay: 87.977 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 281.64 Mbit/s
95th percentile per-packet one-way delay: 65.897 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 168.61 Mbit/s
95th percentile per-packet one-way delay: 54.859 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link



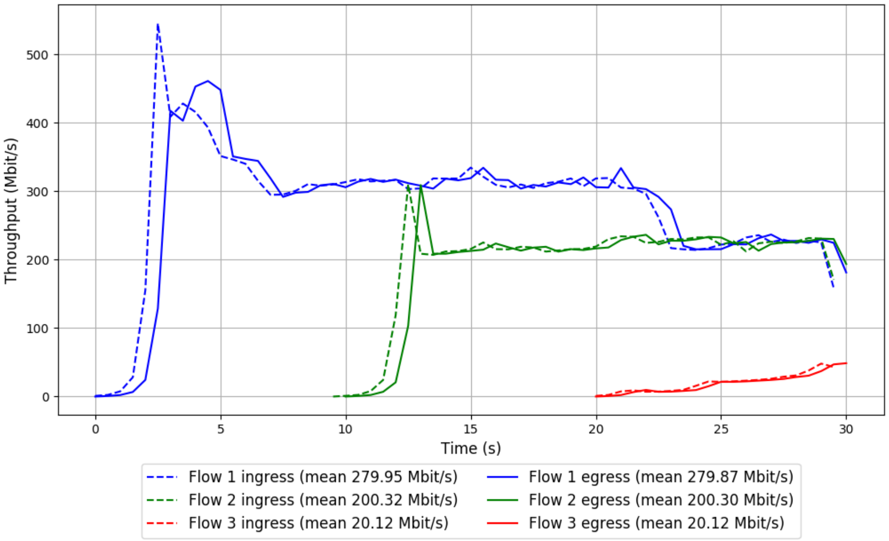


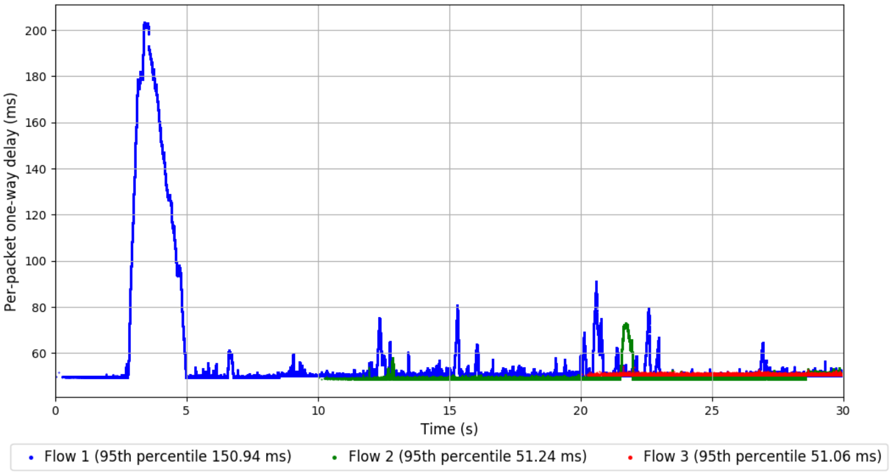
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-05 20:04:52
End at: 2018-07-05 20:05:22
Local clock offset: -0.085 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-07-06 01:30:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.82 Mbit/s
95th percentile per-packet one-way delay: 123.320 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 279.87 Mbit/s
95th percentile per-packet one-way delay: 150.942 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 200.30 Mbit/s
95th percentile per-packet one-way delay: 51.241 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.12 Mbit/s
95th percentile per-packet one-way delay: 51.060 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link



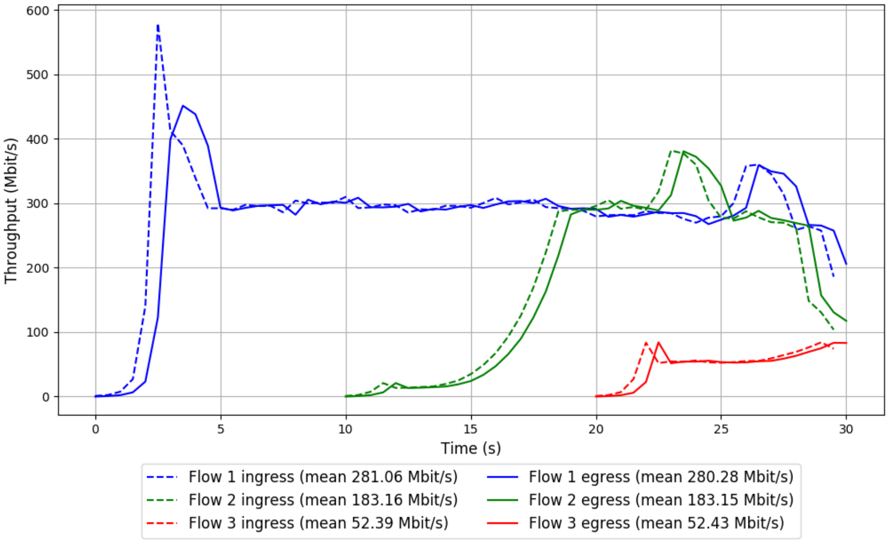


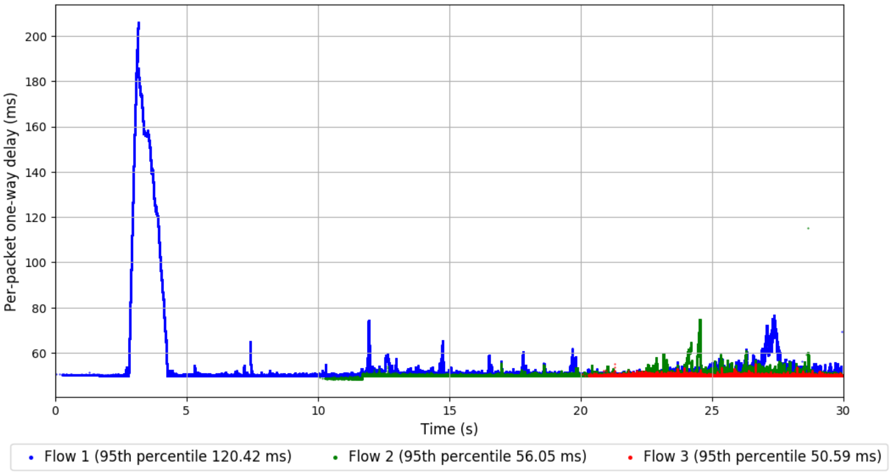
```
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-05 20:29:49
End at: 2018-07-05 20:30:19
Local clock offset: 0.219 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-07-06 01:30:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.34 Mbit/s
95th percentile per-packet one-way delay: 72.060 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 280.28 Mbit/s
95th percentile per-packet one-way delay: 120.425 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 183.15 Mbit/s
95th percentile per-packet one-way delay: 56.050 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.43 Mbit/s
95th percentile per-packet one-way delay: 50.592 ms
Loss rate: 0.00%
```

Run 6: Report of PCC-Vivace — Data Link



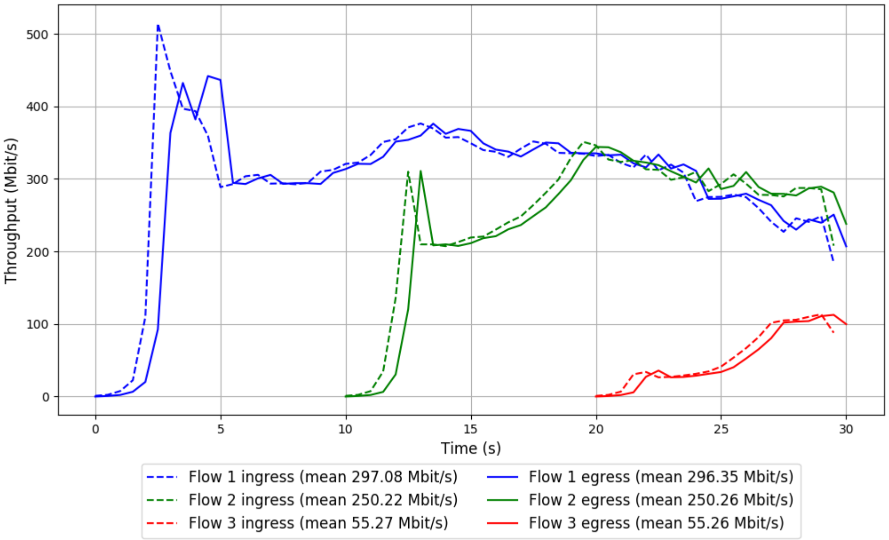


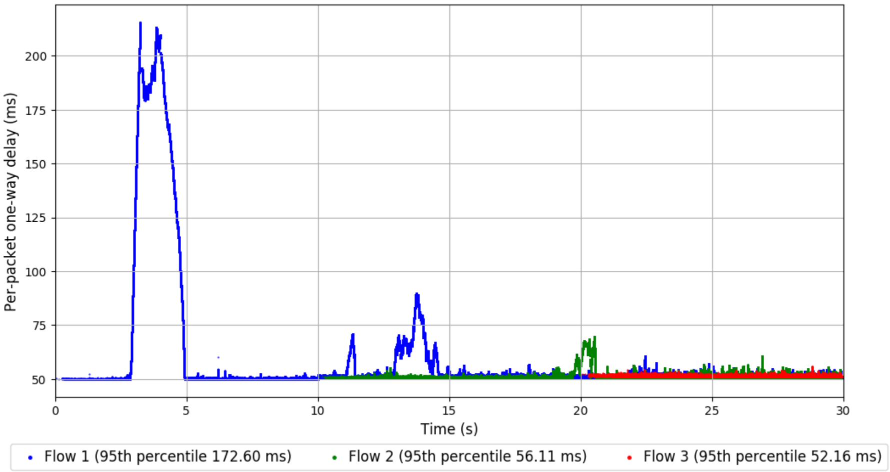
```
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-05 20:54:10
End at: 2018-07-05 20:54:40
Local clock offset: -0.532 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-07-06 01:32:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.99 Mbit/s
95th percentile per-packet one-way delay: 112.394 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 296.35 Mbit/s
95th percentile per-packet one-way delay: 172.603 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 250.26 Mbit/s
95th percentile per-packet one-way delay: 56.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.26 Mbit/s
95th percentile per-packet one-way delay: 52.155 ms
Loss rate: 0.03%
```

Run 7: Report of PCC-Vivace — Data Link



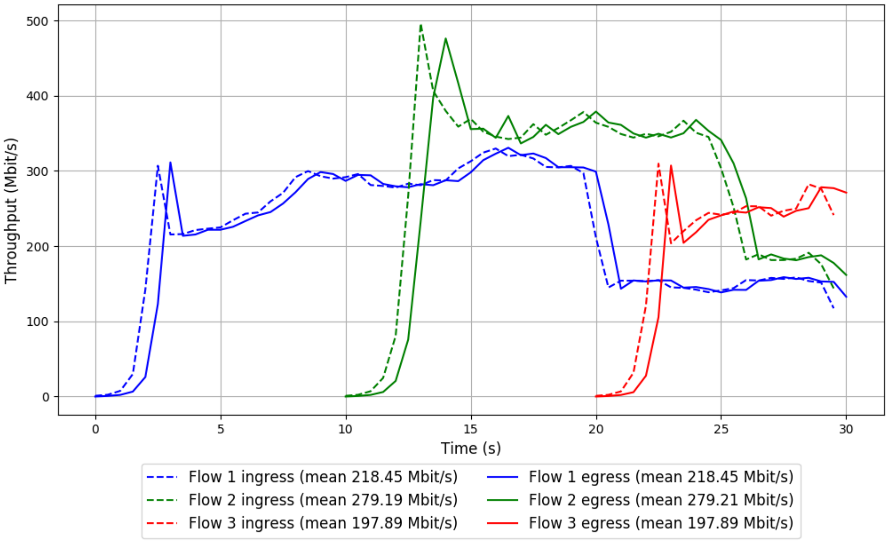


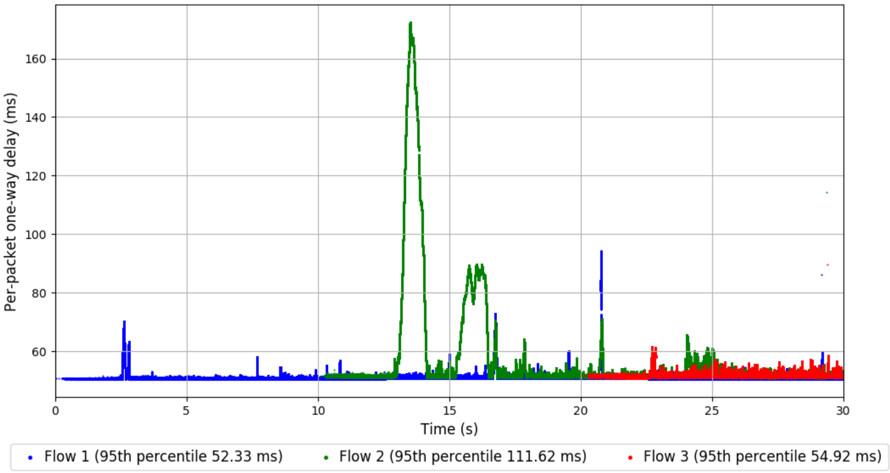
```
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-05 21:19:08
End at: 2018-07-05 21:19:38
Local clock offset: -0.465 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2018-07-06 01:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.43 Mbit/s
95th percentile per-packet one-way delay: 76.608 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 218.45 Mbit/s
95th percentile per-packet one-way delay: 52.332 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 279.21 Mbit/s
95th percentile per-packet one-way delay: 111.623 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 197.89 Mbit/s
95th percentile per-packet one-way delay: 54.916 ms
Loss rate: 0.00%
```

Run 8: Report of PCC-Vivace — Data Link



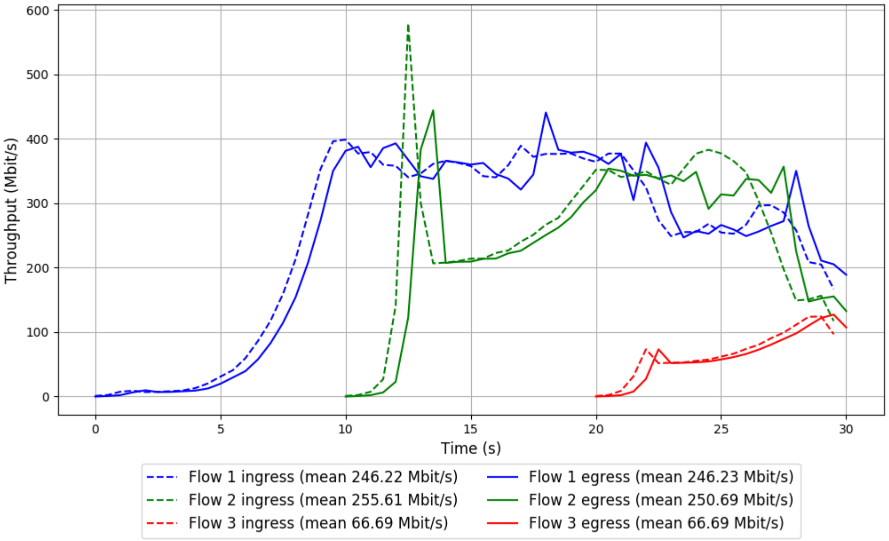


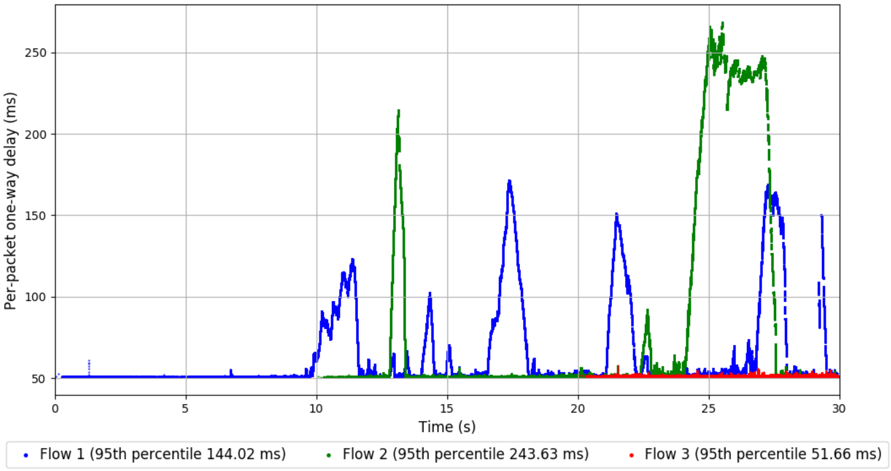
```
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-05 21:43:57
End at: 2018-07-05 21:44:27
Local clock offset: -0.387 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2018-07-06 01:33:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.92 Mbit/s
95th percentile per-packet one-way delay: 233.590 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 246.23 Mbit/s
95th percentile per-packet one-way delay: 144.017 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 250.69 Mbit/s
95th percentile per-packet one-way delay: 243.634 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 66.69 Mbit/s
95th percentile per-packet one-way delay: 51.657 ms
Loss rate: 0.00%
```

Run 9: Report of PCC-Vivace — Data Link



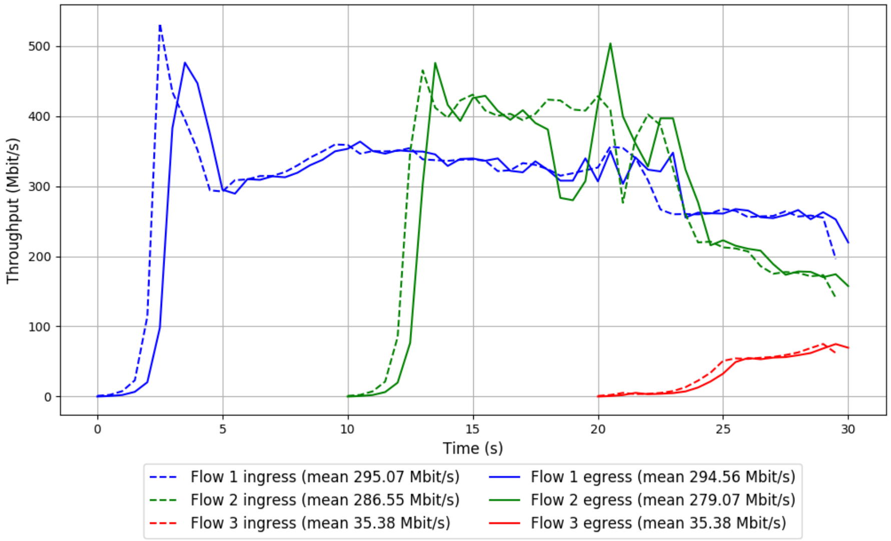


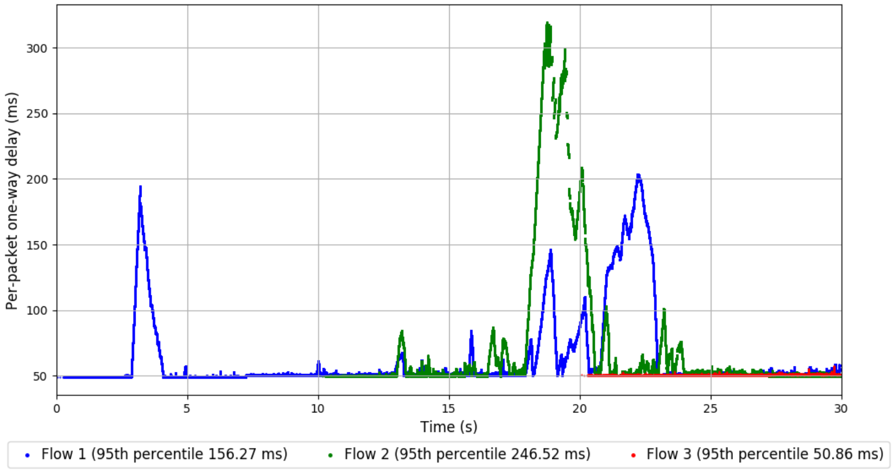
```
Run 10: Statistics of PCC-Vivace

Start at: 2018-07-05 22:09:03
End at: 2018-07-05 22:09:33
Local clock offset: 0.022 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.79 Mbit/s
95th percentile per-packet one-way delay: 173.464 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 294.56 Mbit/s
95th percentile per-packet one-way delay: 156.273 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 279.07 Mbit/s
95th percentile per-packet one-way delay: 246.518 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 35.38 Mbit/s
95th percentile per-packet one-way delay: 50.858 ms
Loss rate: 0.00%
```

Run 10: Report of PCC-Vivace — Data Link



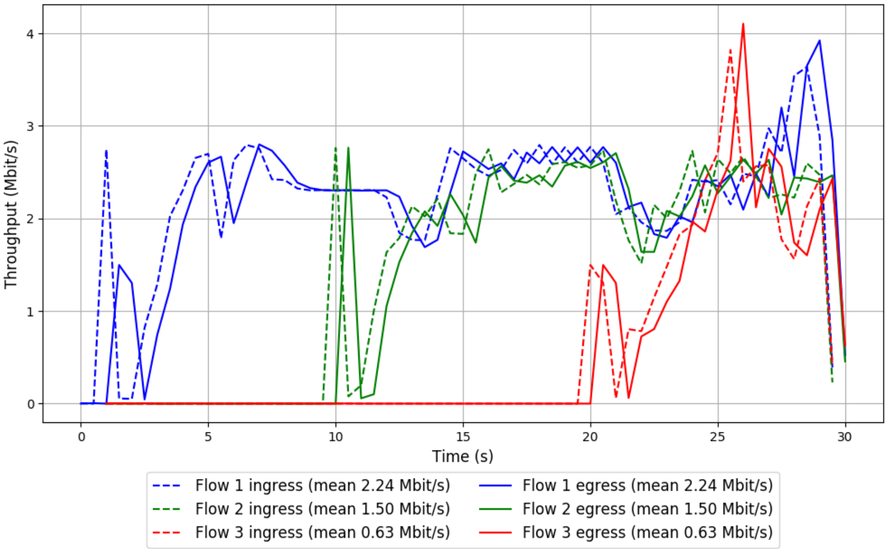


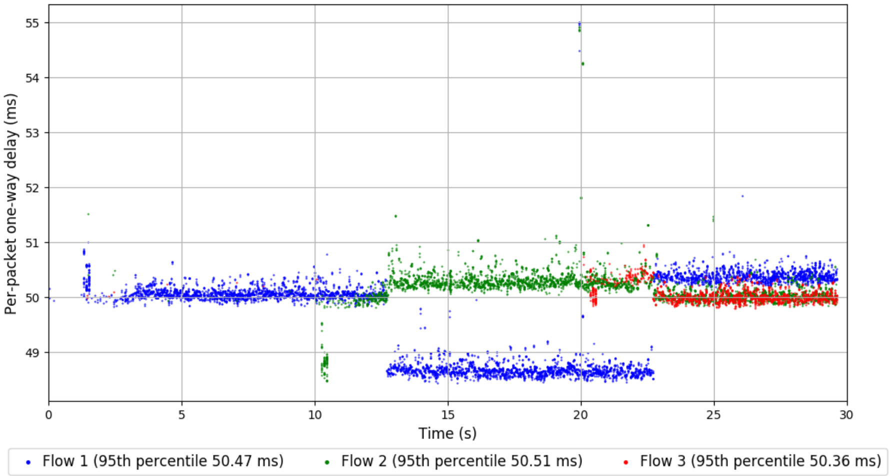
```
Run 1: Statistics of WebRTC media

Start at: 2018-07-05 18:45:57
End at: 2018-07-05 18:46:27
Local clock offset: 0.296 ms
Remote clock offset: 0.144 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 50.471 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 50.472 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 50.507 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 50.364 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



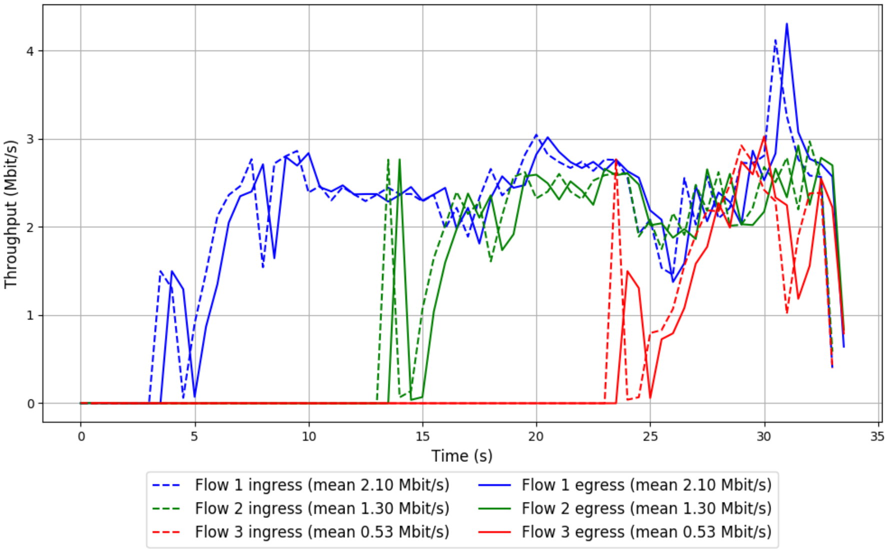


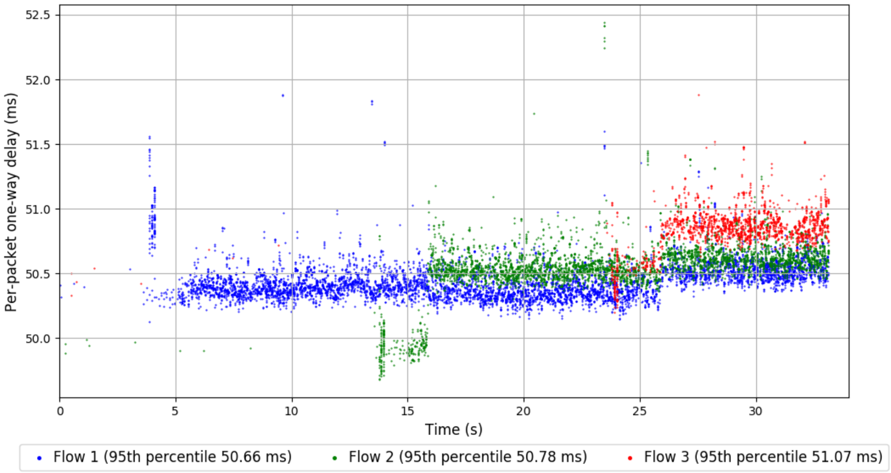
```
Run 2: Statistics of WebRTC media

Start at: 2018-07-05 19:11:08
End at: 2018-07-05 19:11:38
Local clock offset: -0.037 ms
Remote clock offset: 0.146 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 50.656 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 50.782 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 51.071 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



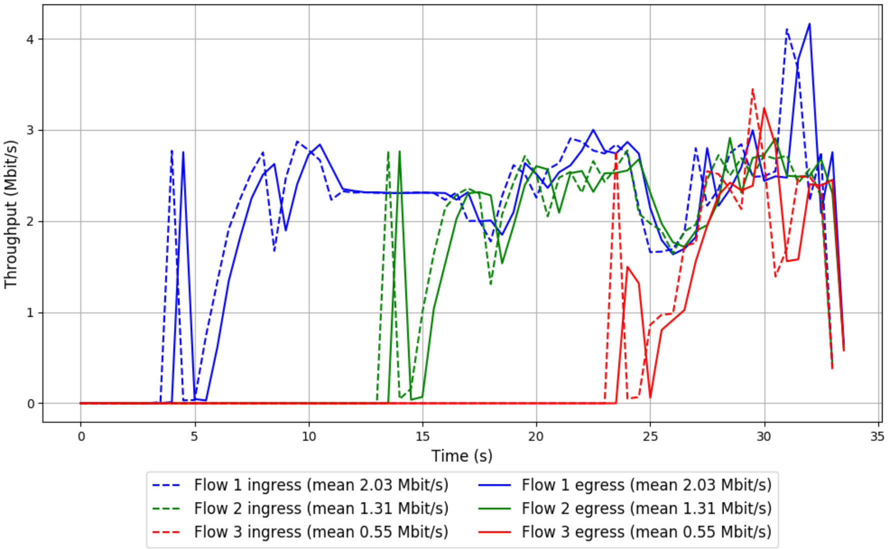


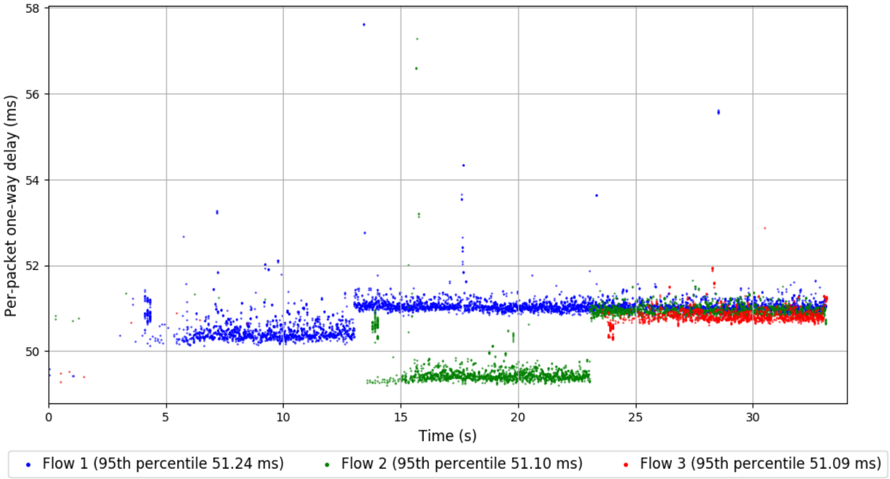
```
Run 3: Statistics of WebRTC media

Start at: 2018-07-05 19:35:51
End at: 2018-07-05 19:36:21
Local clock offset: -0.457 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 51.200 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 51.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 51.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 51.094 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



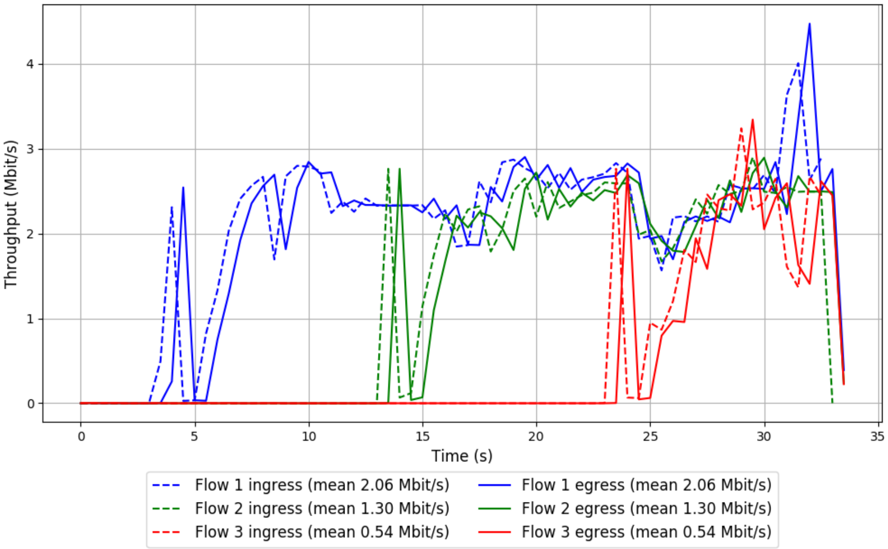


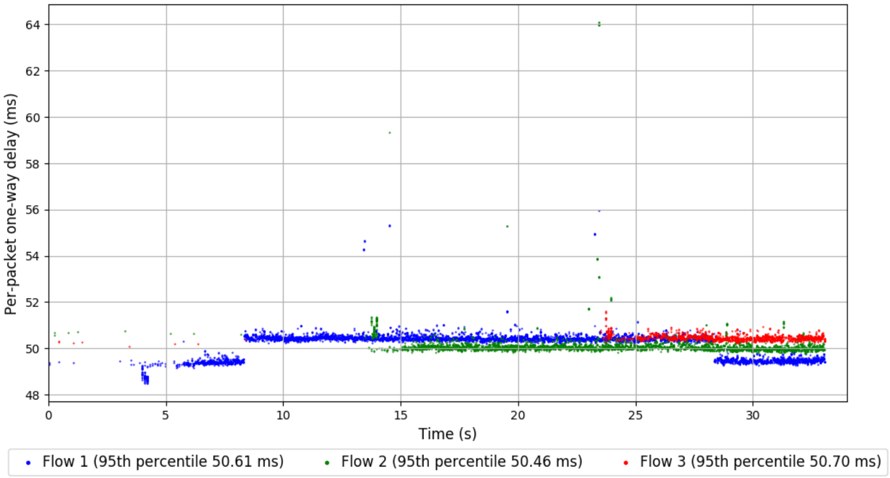
```
Run 4: Statistics of WebRTC media

Start at: 2018-07-05 20:00:55
End at: 2018-07-05 20:01:25
Local clock offset: 0.282 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 50.616 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 50.609 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 50.459 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 50.695 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



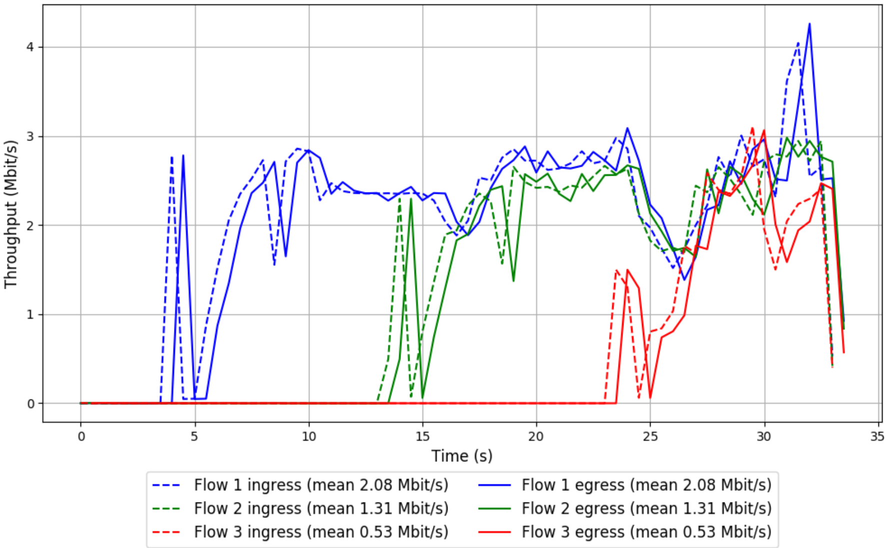


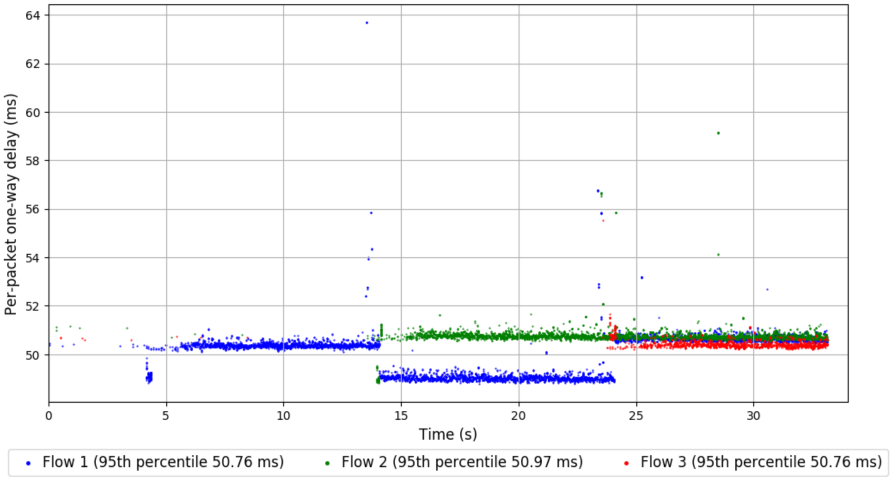
```
Run 5: Statistics of WebRTC media

Start at: 2018-07-05 20:25:50
End at: 2018-07-05 20:26:20
Local clock offset: -0.105 ms
Remote clock offset: -0.148 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 50.875 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 50.764 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 50.974 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 50.764 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link



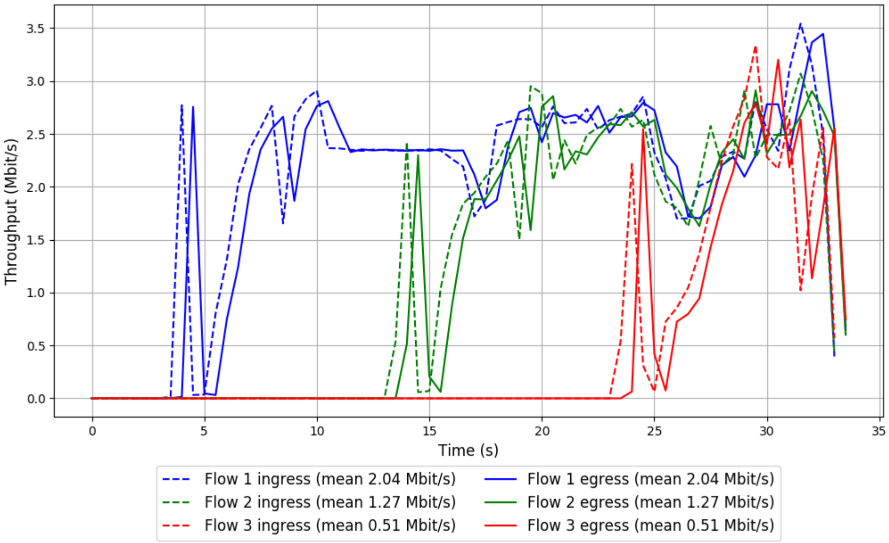


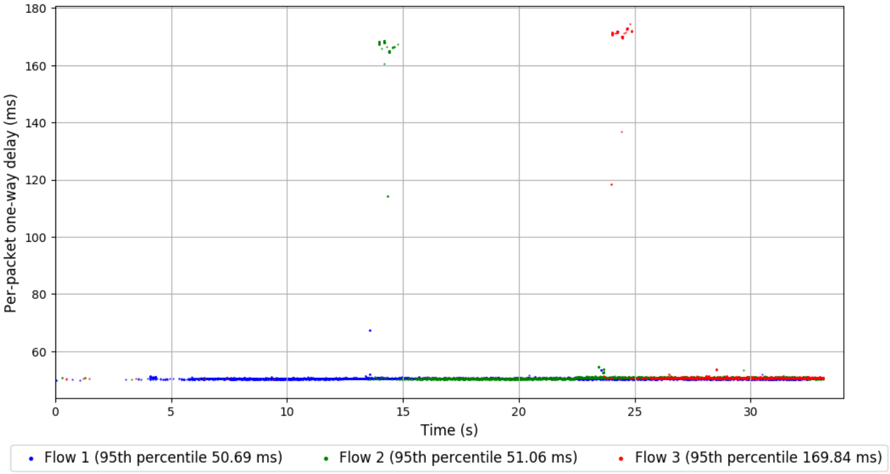
```
Run 6: Statistics of WebRTC media

Start at: 2018-07-05 20:50:41
End at: 2018-07-05 20:51:11
Local clock offset: -0.148 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 50.949 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 50.685 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 51.058 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 169.841 ms
Loss rate: 0.07%
```

Run 6: Report of WebRTC media — Data Link



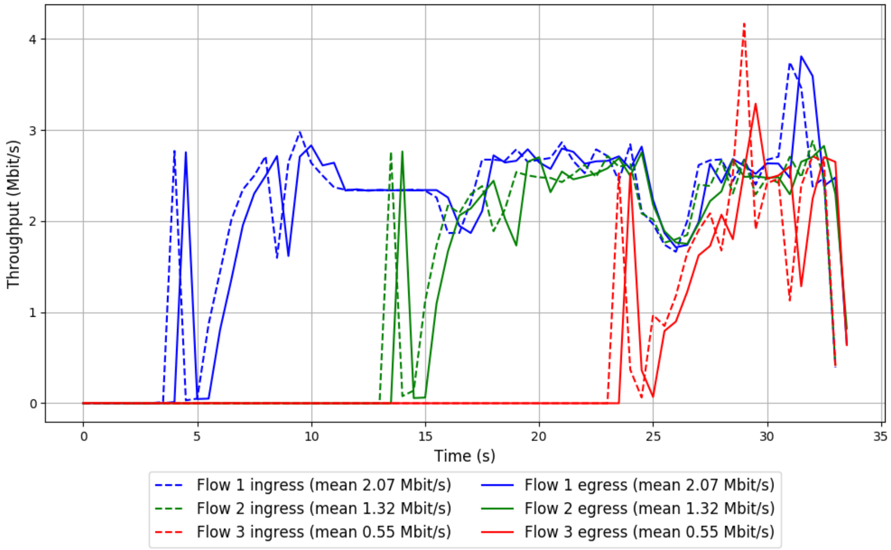


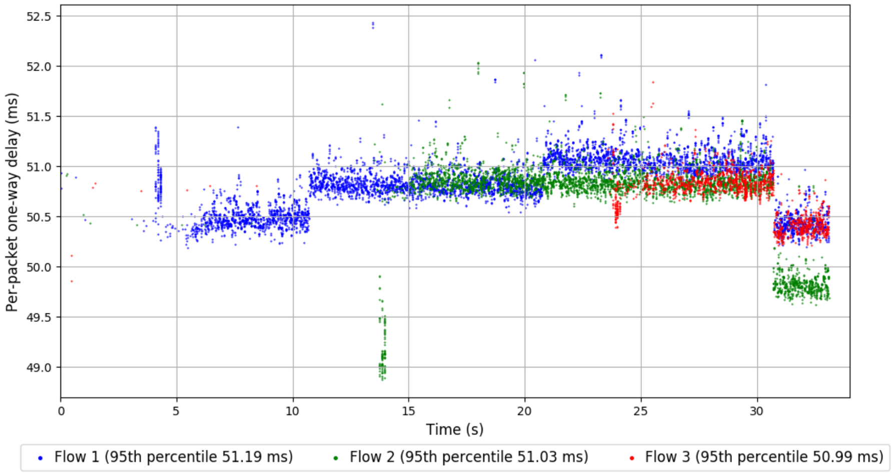
```
Run 7: Statistics of WebRTC media

Start at: 2018-07-05 21:15:13
End at: 2018-07-05 21:15:43
Local clock offset: -0.078 ms
Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 51.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 51.193 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 51.035 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 50.995 ms
Loss rate: 0.00%
```

Run 7: Report of WebRTC media — Data Link



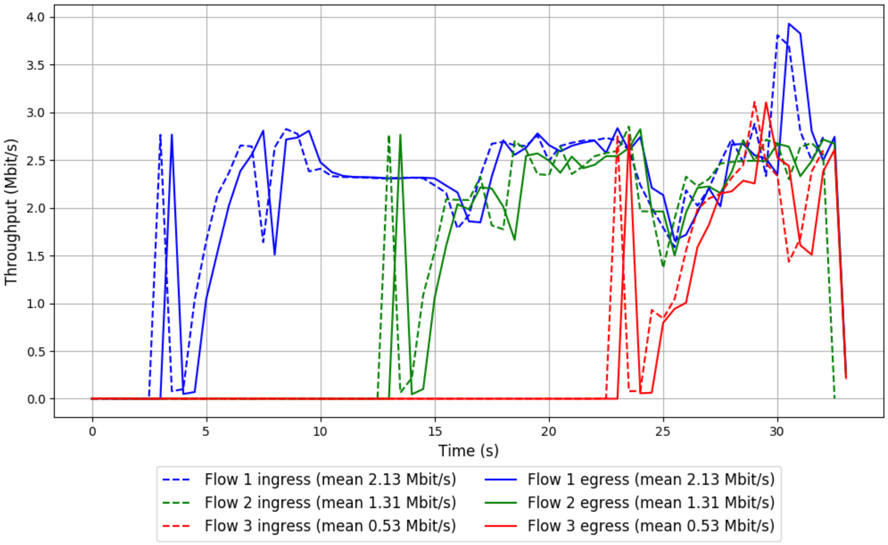


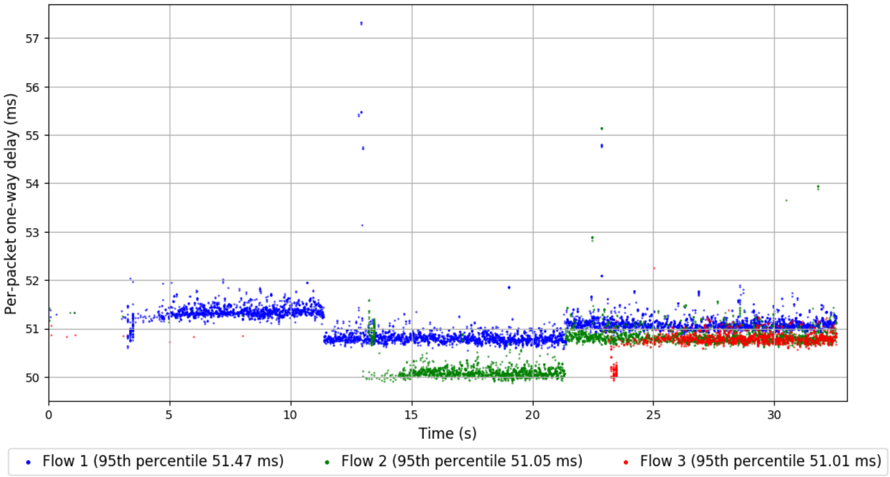
```
Run 8: Statistics of WebRTC media

Start at: 2018-07-05 21:40:02
End at: 2018-07-05 21:40:32
Local clock offset: -0.415 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 51.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 51.466 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 51.055 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 51.013 ms
Loss rate: 0.00%
```

Run 8: Report of WebRTC media — Data Link



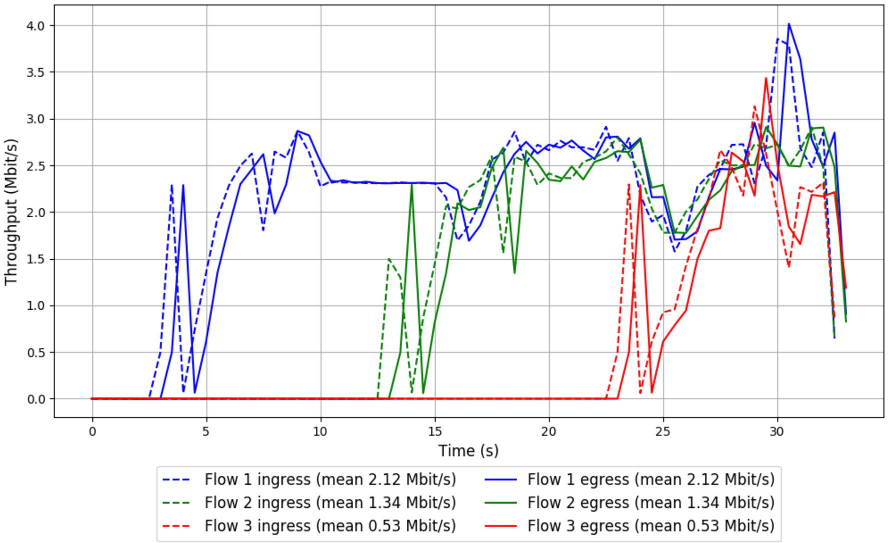


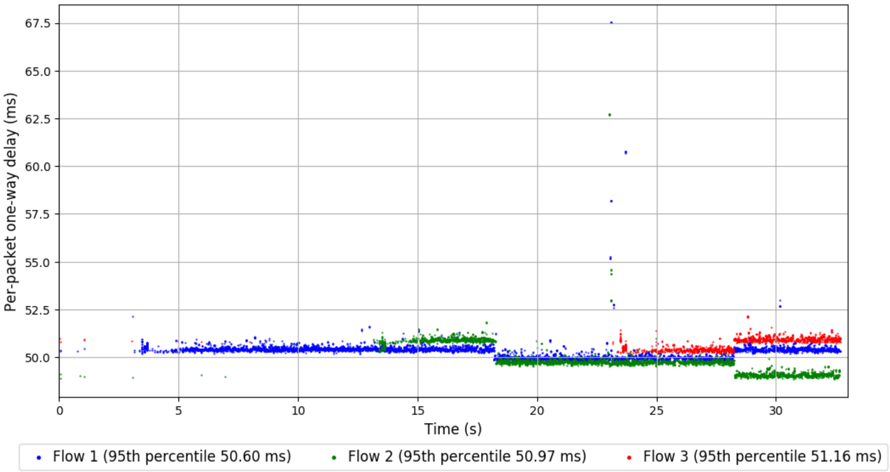
```
Run 9: Statistics of WebRTC media

Start at: 2018-07-05 22:05:05
End at: 2018-07-05 22:05:35
Local clock offset: -0.007 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 50.960 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 50.601 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 50.966 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 51.157 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link



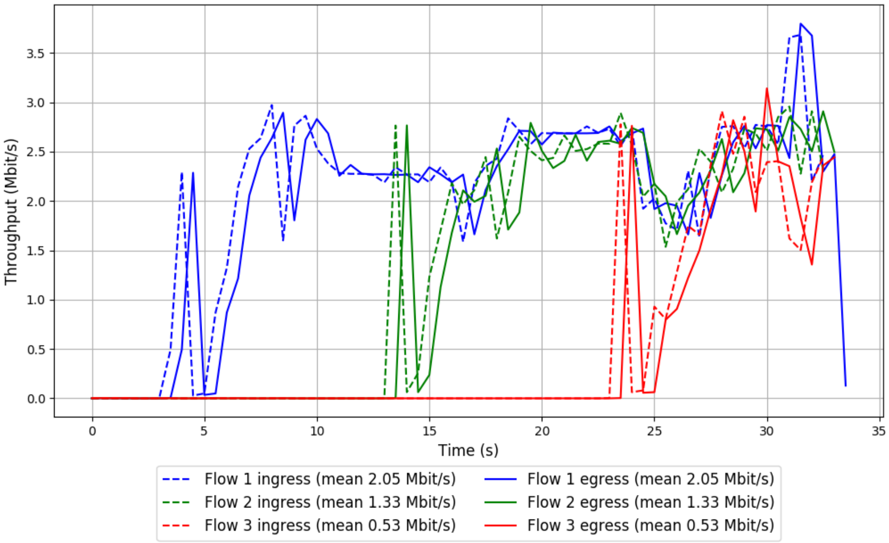


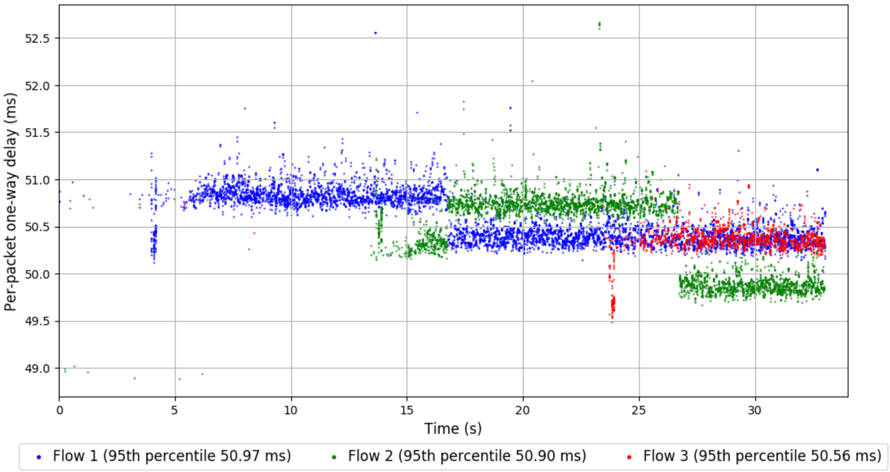
```
Run 10: Statistics of WebRTC media

Start at: 2018-07-05 22:29:57
End at: 2018-07-05 22:30:27
Local clock offset: 0.089 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2018-07-06 01:33:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 50.930 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 50.966 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 50.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 50.559 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link


Throughput (Mbit/s)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
35
Time (s)
Flow 1 ingress (mean 2.05 Mbit/s)
Flow 2 ingress (mean 1.33 Mbit/s)
Flow 3 ingress (mean 0.53 Mbit/s)
Flow 1 egress (mean 2.05 Mbit/s)
Flow 2 egress (mean 1.33 Mbit/s)
Flow 3 egress (mean 0.53 Mbit/s)


Per-packet one-way delay (ms)
52.5
52.0
51.5
51.0
50.5
50.0
49.5
49.0
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 50.97 ms)
Flow 2 (95th percentile 50.90 ms)
Flow 3 (95th percentile 50.56 ms)