Pantheon Report

Generated at 2019-09-18 11:54:51 (UTC).

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

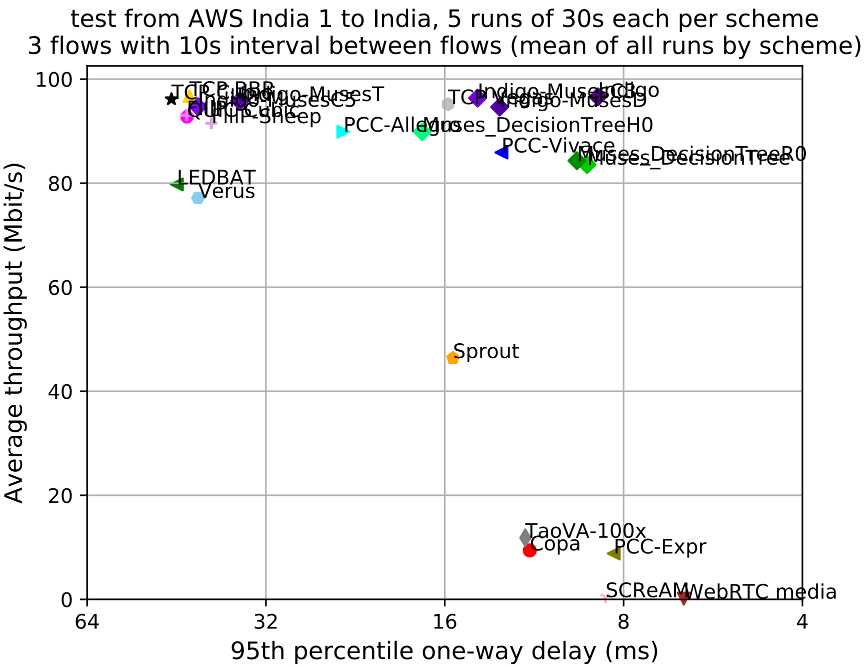
Repeated the test of 24 congestion control schemes 5 times.

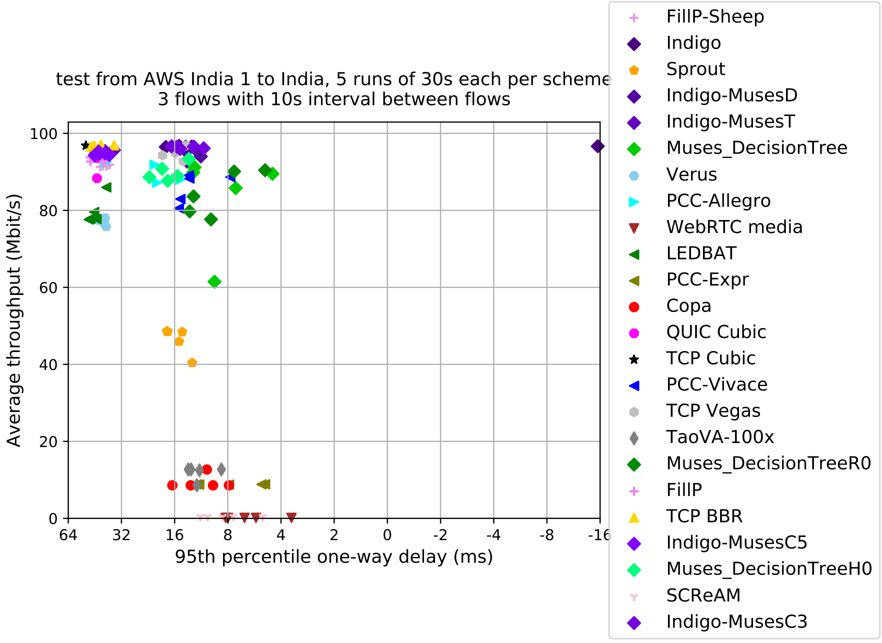
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

```
System info:
Linux 4.15.0-1045-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

```
Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


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


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

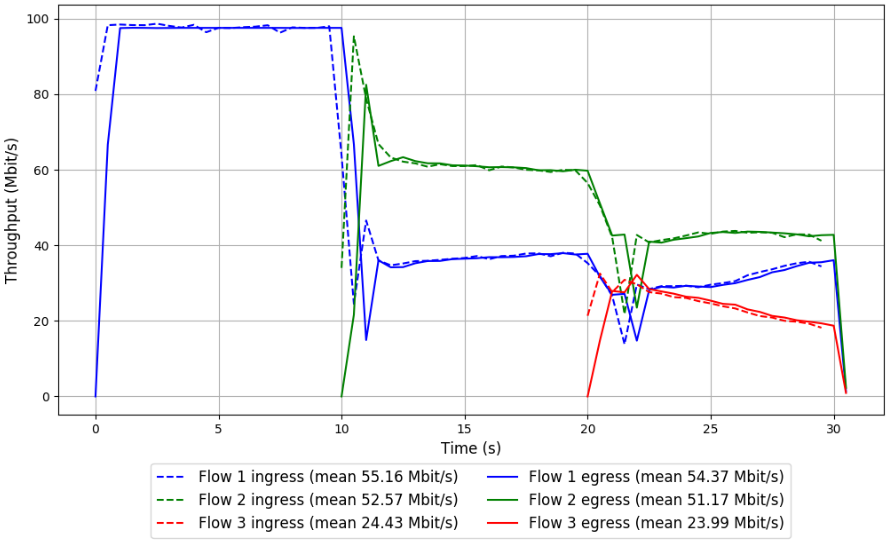
		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	56.46	42.33	36.50	42.58	43.72	43.79	1.45	2.96	2.55
Copa	5	1.81	8.60	5.62	9.08	16.36	10.35	91.79	70.47	76.89
TCP Cubic	5	71.51	29.01	16.06	45.81	46.16	46.22	0.82	0.96	0.93
FillP	5	57.16	39.61	29.37	41.92	44.48	45.04	30.11	47.82	57.59
FillP-Sheep	5	55.89	38.55	30.26	37.68	40.61	41.92	5.29	9.42	18.54
Indigo	5	60.74	34.99	38.64	7.42	8.45	8.62	0.00	0.00	0.01
Indigo-MusesC3	5	49.39	48.42	53.55	13.39	13.84	15.97	0.04	0.00	0.00
Indigo-MusesC5	5	60.06	42.13	24.74	38.65	42.50	46.13	3.91	10.53	23.55
Indigo-MusesD	5	52.85	46.76	39.04	13.02	12.49	12.14	0.00	0.00	0.00
Indigo-MusesT	5	65.37	32.97	30.99	32.42	36.94	38.49	2.28	7.87	14.16
LEDBAT	5	47.64	34.61	27.83	44.68	45.61	45.99	0.39	0.41	0.63
Muses_DecisionTree	5	46.68	40.81	30.36	9.45	9.23	9.33	0.00	0.00	0.00
Muses_DecisionTreeH0	5	49.60	48.93	24.22	16.29	17.75	19.05	0.00	0.00	0.00
Muses_DecisionTreeR0	5	43.32	40.98	42.61	7.51	10.10	9.40	0.00	0.00	0.00
PCC-Allegro	4	80.22	7.49	14.25	22.68	27.00	28.16	0.86	7.28	1.56
PCC-Expr	5	0.07	10.12	6.31	6.79	8.38	8.23	85.71	48.93	30.23
QUIC Cubic	5	67.71	27.02	21.68	43.31	43.36	45.01	1.70	1.92	2.46
SCReAM	5	0.21	0.21	0.22	6.85	7.39	7.42	0.00	0.00	0.00
Sprout	5	22.76	23.59	23.98	14.97	15.13	16.05	4.96	1.86	0.00
TaoVA-100x	5	6.22	7.74	2.96	11.42	11.40	11.40	89.88	89.89	96.41
TCP Vegas	5	54.03	41.22	41.19	16.65	14.99	10.46	0.47	0.00	0.00
Verus	5	47.15	27.18	38.47	40.87	41.84	44.12	35.71	33.17	39.46
PCC-Vivace	5	58.50	31.49	19.56	12.45	13.18	14.99	0.00	0.00	0.00
WebRTC media	5	0.05	0.05	0.05	5.32	4.82	5.51	0.00	0.00	0.00

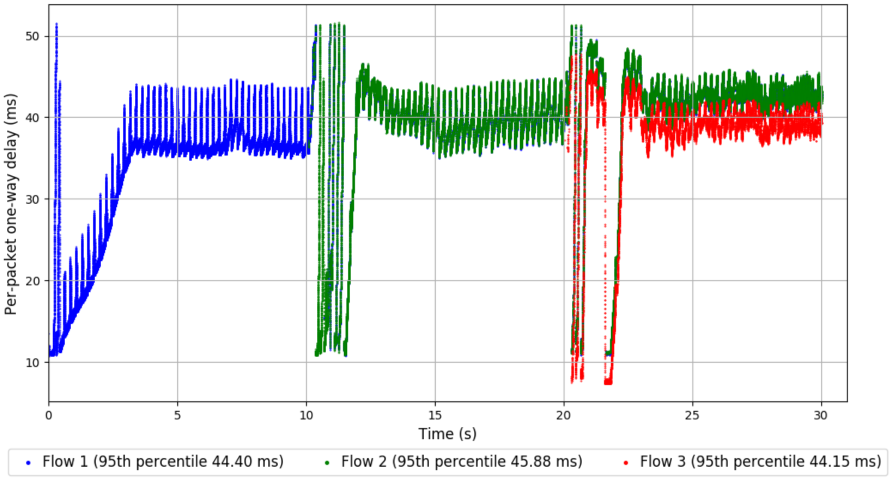
```
Run 1: Statistics of TCP BBR

Start at: 2019-09-18 09:38:28
End at: 2019-09-18 09:38:58
Local clock offset: 2.471 ms
Remote clock offset: 1.805 ms

# Below is generated by plot.py at 2019-09-18 11:41:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.42 Mbit/s
95th percentile per-packet one-way delay: 44.927 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 54.37 Mbit/s
95th percentile per-packet one-way delay: 44.396 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 51.17 Mbit/s
95th percentile per-packet one-way delay: 45.875 ms
Loss rate: 2.65%
-- Flow 3:
Average throughput: 23.99 Mbit/s
95th percentile per-packet one-way delay: 44.145 ms
Loss rate: 1.80%
```

Run 1: Report of TCP BBR — Data Link



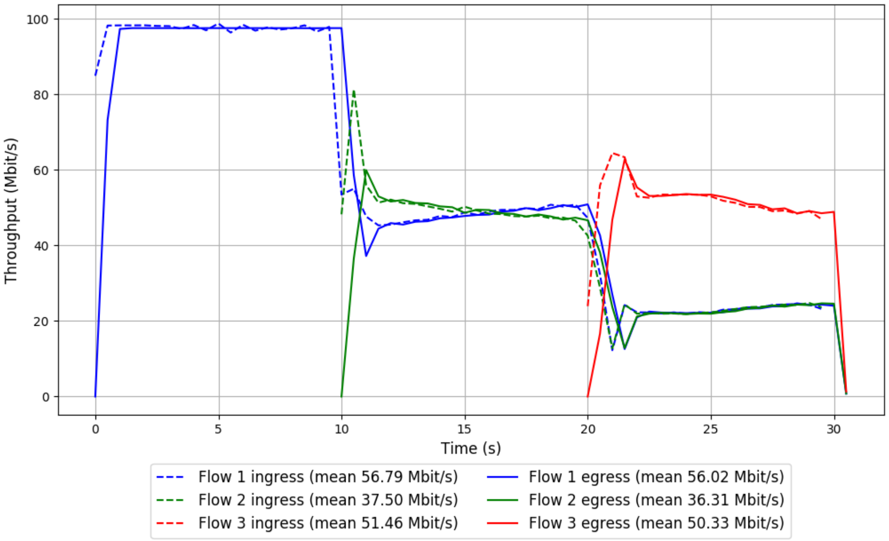


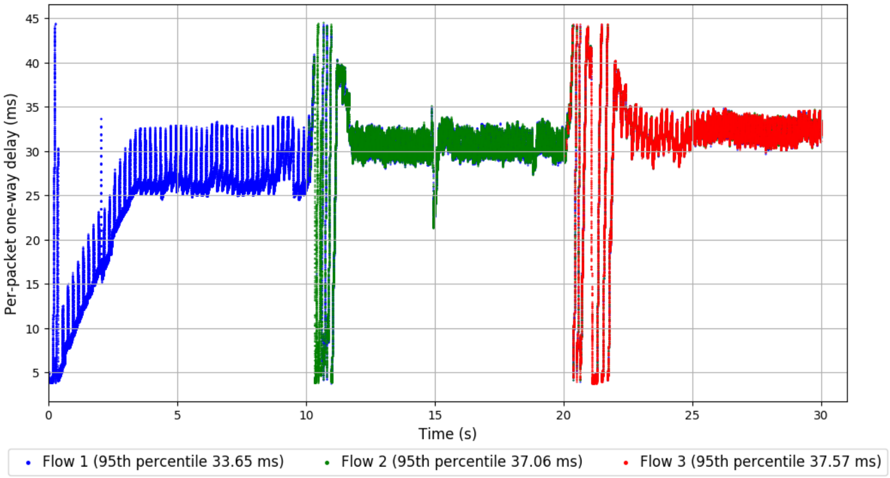
```
Run 2: Statistics of TCP BBR

Start at: 2019-09-18 10:08:07
End at: 2019-09-18 10:08:37
Local clock offset: 5.379 ms
Remote clock offset: 3.511 ms

# Below is generated by plot.py at 2019-09-18 11:41:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.92 Mbit/s
95th percentile per-packet one-way delay: 35.215 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 56.02 Mbit/s
95th percentile per-packet one-way delay: 33.648 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 37.065 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 50.33 Mbit/s
95th percentile per-packet one-way delay: 37.572 ms
Loss rate: 2.18%
```

Run 2: Report of TCP BBR — Data Link



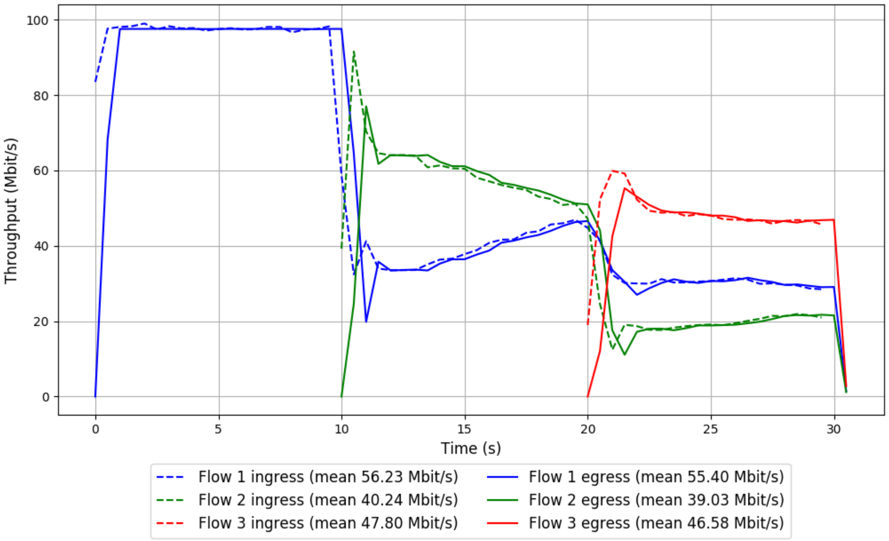


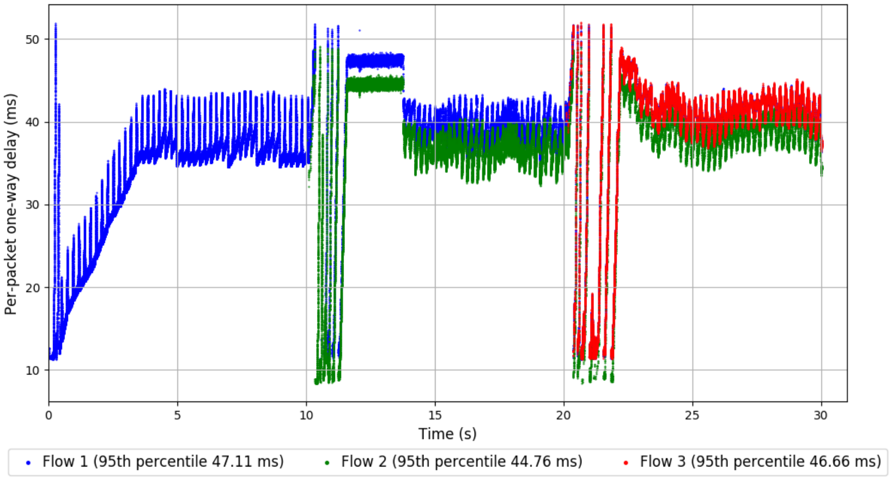
```
Run 3: Statistics of TCP BBR

Start at: 2019-09-18 10:37:05
End at: 2019-09-18 10:37:35
Local clock offset: 0.63 ms
Remote clock offset: 4.728 ms

# Below is generated by plot.py at 2019-09-18 11:41:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.83 Mbit/s
95th percentile per-packet one-way delay: 45.772 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 55.40 Mbit/s
95th percentile per-packet one-way delay: 47.108 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 44.763 ms
Loss rate: 3.03%
-- Flow 3:
Average throughput: 46.58 Mbit/s
95th percentile per-packet one-way delay: 46.663 ms
Loss rate: 2.58%
```

Run 3: Report of TCP BBR — Data Link



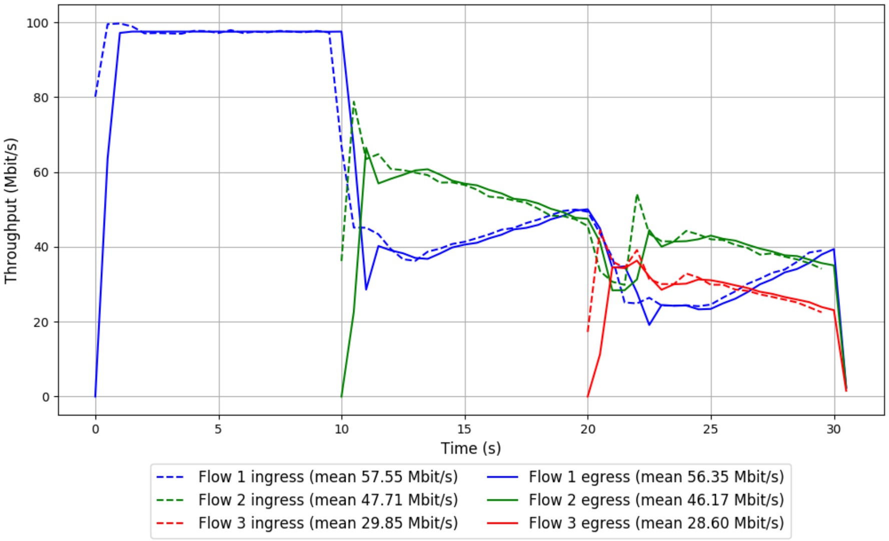


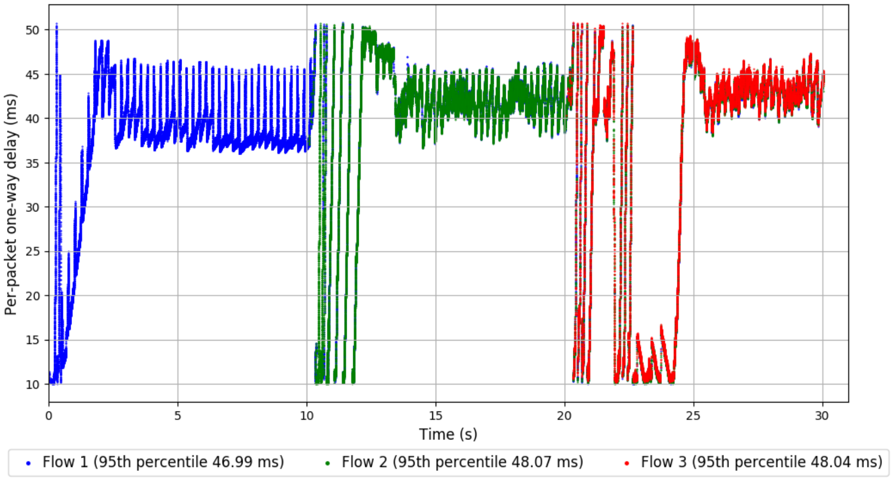
```
Run 4: Statistics of TCP BBR

Start at: 2019-09-18 11:06:23
End at: 2019-09-18 11:06:53
Local clock offset: 0.999 ms
Remote clock offset: 4.542 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.58 Mbit/s
95th percentile per-packet one-way delay: 47.576 ms
Loss rate: 2.59%
-- Flow 1:
Average throughput: 56.35 Mbit/s
95th percentile per-packet one-way delay: 46.992 ms
Loss rate: 1.99%
-- Flow 2:
Average throughput: 46.17 Mbit/s
95th percentile per-packet one-way delay: 48.072 ms
Loss rate: 3.20%
-- Flow 3:
Average throughput: 28.60 Mbit/s
95th percentile per-packet one-way delay: 48.044 ms
Loss rate: 4.16%
```

Run 4: Report of TCP BBR — Data Link



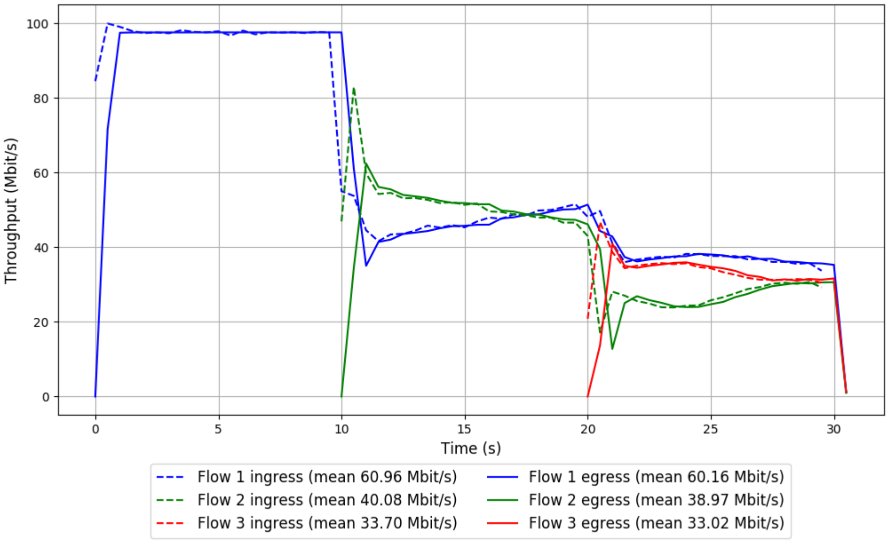


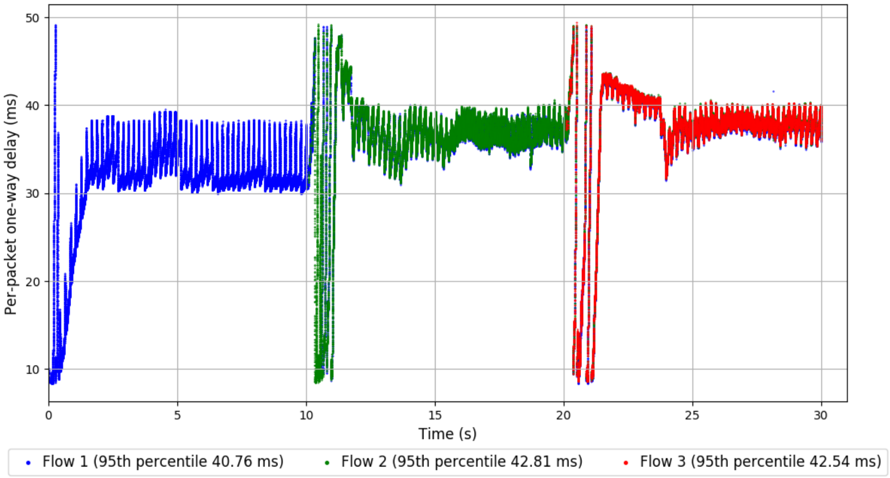
```
Run 5: Statistics of TCP BBR

Start at: 2019-09-18 11:37:30
End at: 2019-09-18 11:38:00
Local clock offset: 1.371 ms
Remote clock offset: 6.767 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.07 Mbit/s
95th percentile per-packet one-way delay: 41.784 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 60.16 Mbit/s
95th percentile per-packet one-way delay: 40.757 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 38.97 Mbit/s
95th percentile per-packet one-way delay: 42.809 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 42.540 ms
Loss rate: 2.04%
```

Run 5: Report of TCP BBR — Data Link



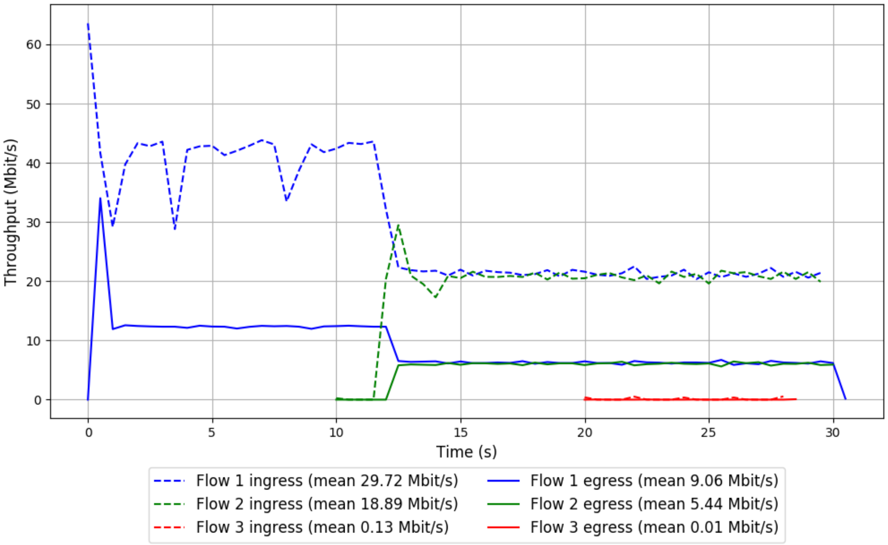


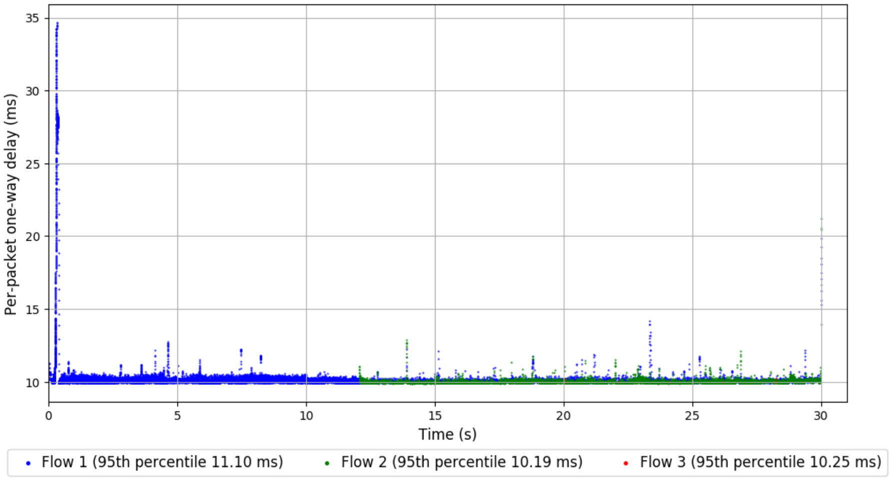
```
Run 1: Statistics of Copa

Start at: 2019-09-18 09:20:46
End at: 2019-09-18 09:21:16
Local clock offset: 2.328 ms
Remote clock offset: 1.108 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 10.507 ms
Loss rate: 70.03%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 11.100 ms
Loss rate: 69.52%
-- Flow 2:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 10.194 ms
Loss rate: 71.17%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 10.247 ms
Loss rate: 92.14%
```

Run 1: Report of Copa — Data Link



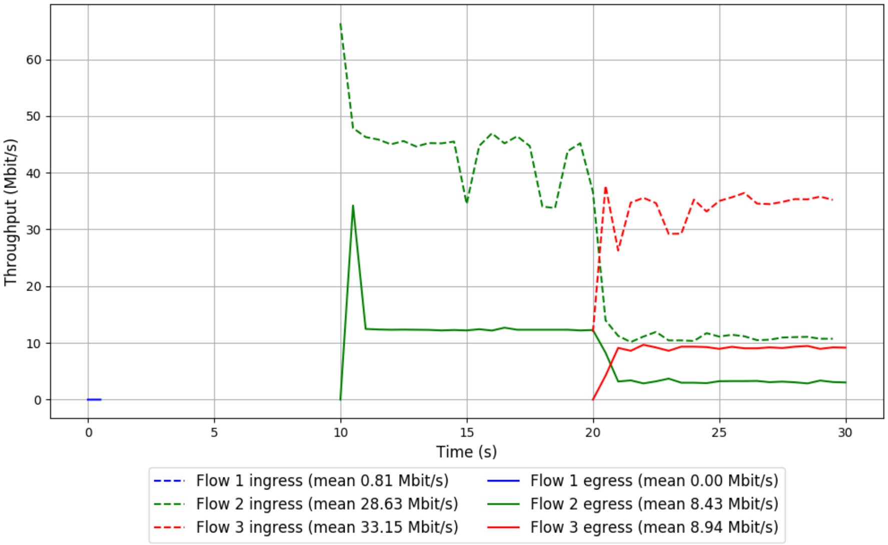


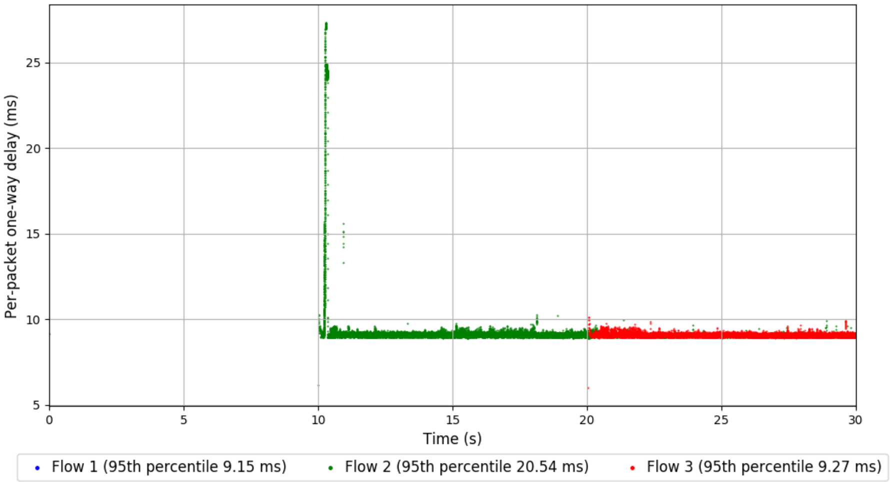
```
Run 2: Statistics of Copa

Start at: 2019-09-18 09:51:02
End at: 2019-09-18 09:51:32
Local clock offset: 2.551 ms
Remote clock offset: 0.852 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 9.698 ms
Loss rate: 71.46%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9.154 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 20.537 ms
Loss rate: 70.57%
-- Flow 3:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 9.267 ms
Loss rate: 73.02%
```

Run 2: Report of Copa — Data Link



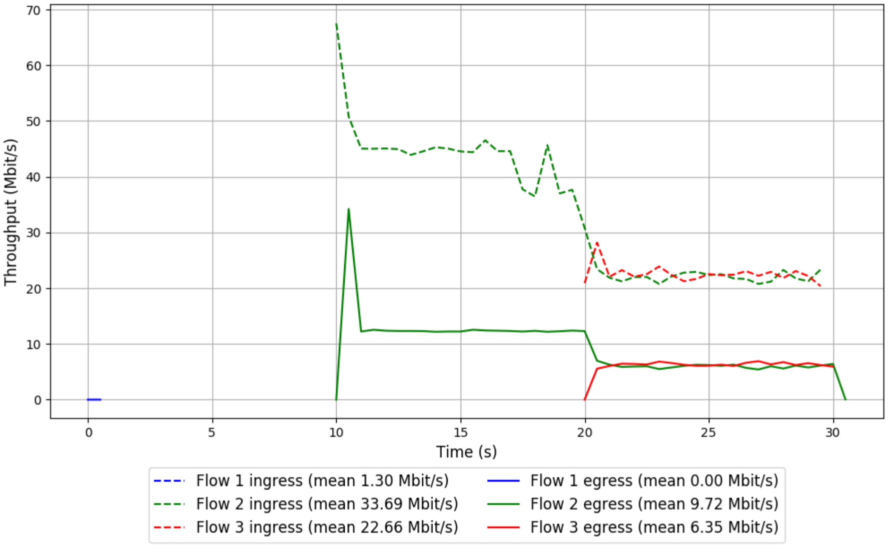


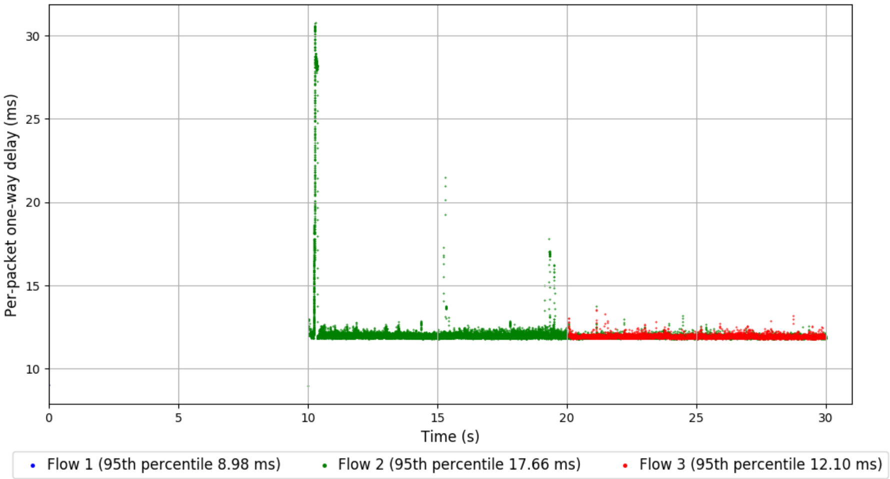
```
Run 3: Statistics of Copa

Start at: 2019-09-18 10:20:04
End at: 2019-09-18 10:20:34
Local clock offset: 0.015 ms
Remote clock offset: 4.283 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 12.967 ms
Loss rate: 71.35%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.977 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 9.72 Mbit/s
95th percentile per-packet one-way delay: 17.657 ms
Loss rate: 71.13%
-- Flow 3:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 12.099 ms
Loss rate: 71.99%
```

Run 3: Report of Copa — Data Link



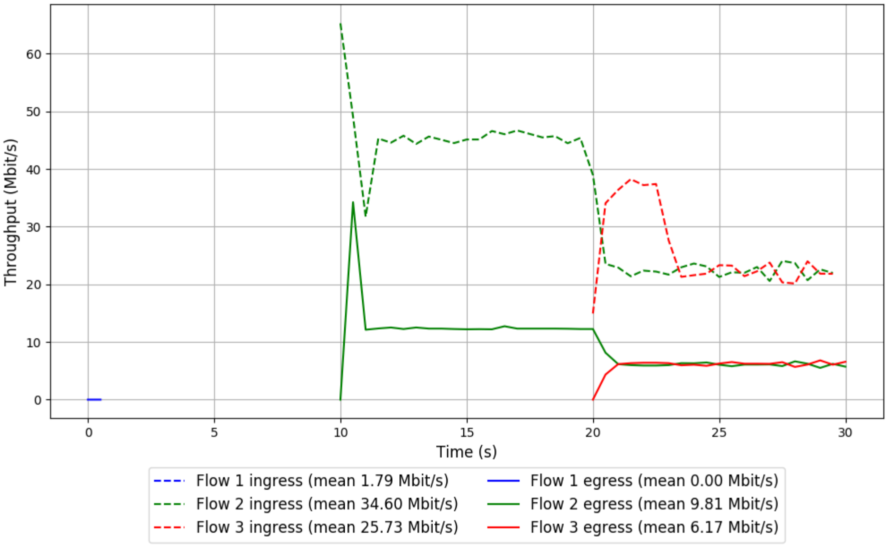


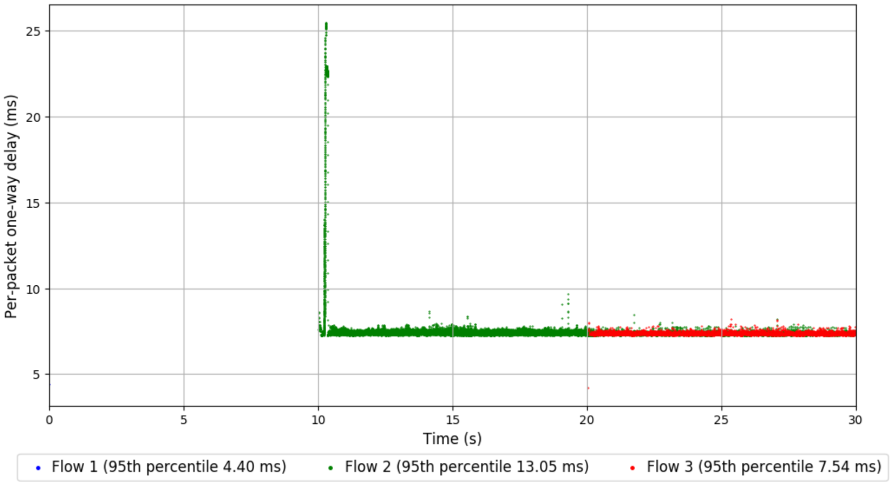
```
Run 4: Statistics of Copa

Start at: 2019-09-18 10:49:01
End at: 2019-09-18 10:49:31
Local clock offset: 5.391 ms
Remote clock offset: 5.792 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 7.885 ms
Loss rate: 72.84%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.403 ms
Loss rate: 97.92%
-- Flow 2:
Average throughput: 9.81 Mbit/s
95th percentile per-packet one-way delay: 13.050 ms
Loss rate: 71.66%
-- Flow 3:
Average throughput: 6.17 Mbit/s
95th percentile per-packet one-way delay: 7.536 ms
Loss rate: 76.00%
```

Run 4: Report of Copa — Data Link



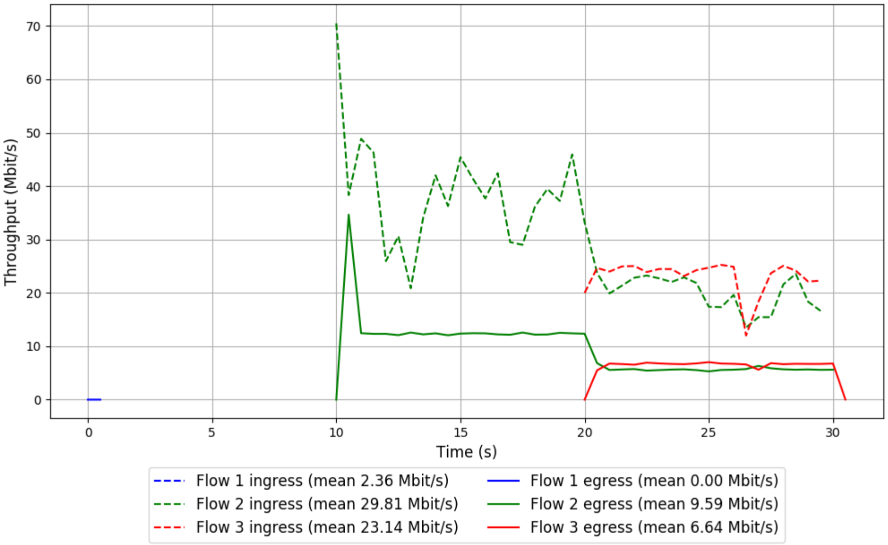


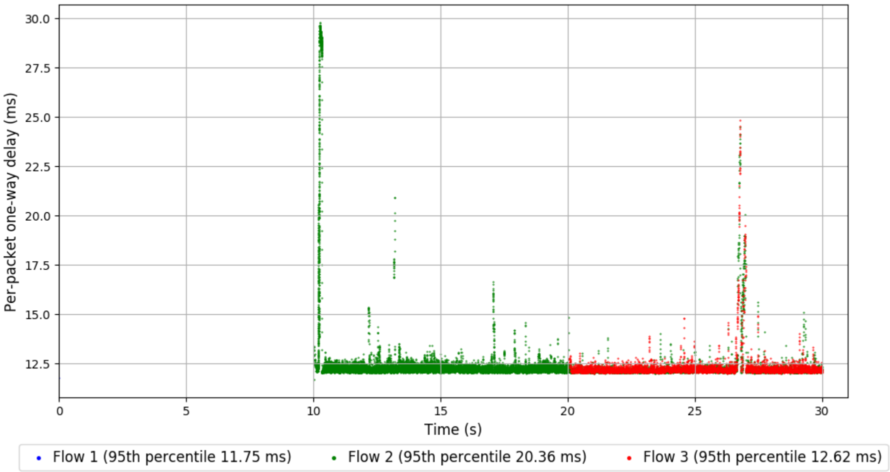
```
Run 5: Statistics of Copa

Start at: 2019-09-18 11:19:09
End at: 2019-09-18 11:19:39
Local clock offset: 0.738 ms
Remote clock offset: 10.382 ms

# Below is generated by plot.py at 2019-09-18 11:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 16.482 ms
Loss rate: 68.81%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.752 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 20.359 ms
Loss rate: 67.83%
-- Flow 3:
Average throughput: 6.64 Mbit/s
95th percentile per-packet one-way delay: 12.624 ms
Loss rate: 71.31%
```

Run 5: Report of Copa — Data Link



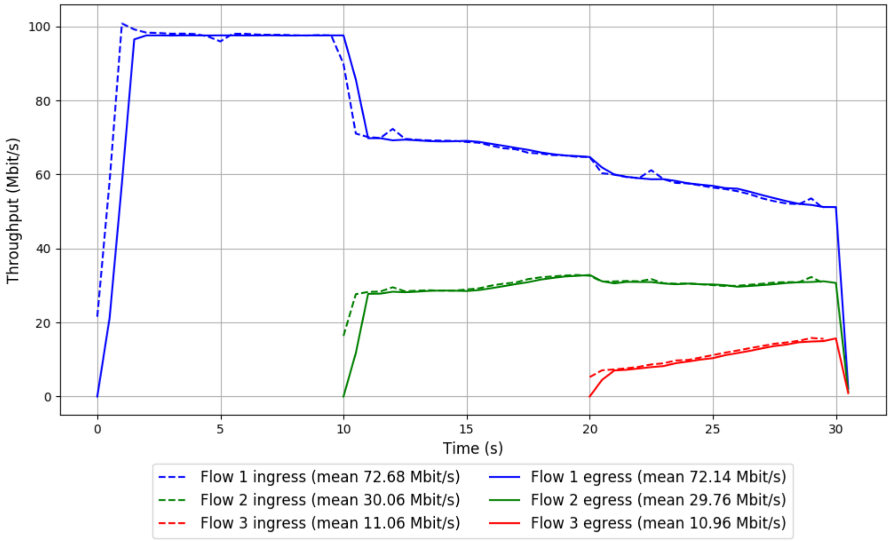


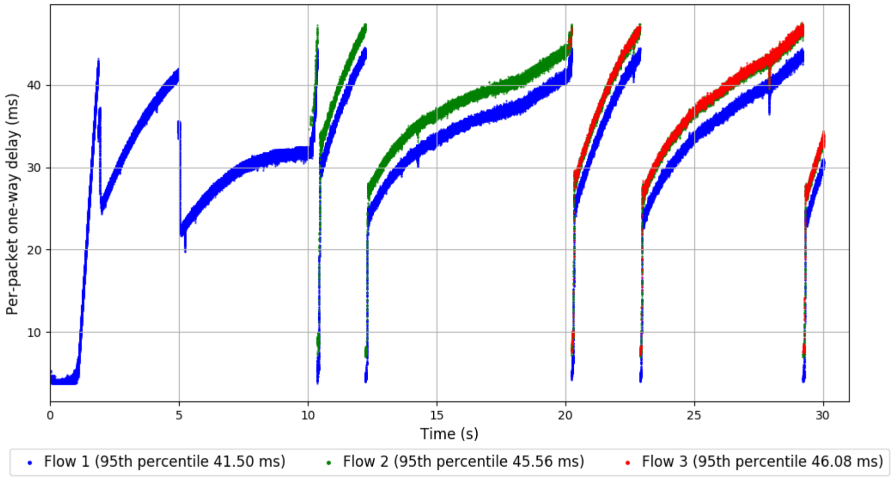
```
Run 1: Statistics of TCP Cubic

Start at: 2019-09-18 09:24:33
End at: 2019-09-18 09:25:03
Local clock offset: 6.573 ms
Remote clock offset: 1.944 ms

# Below is generated by plot.py at 2019-09-18 11:41:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 43.267 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 72.14 Mbit/s
95th percentile per-packet one-way delay: 41.504 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 29.76 Mbit/s
95th percentile per-packet one-way delay: 45.563 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 10.96 Mbit/s
95th percentile per-packet one-way delay: 46.084 ms
Loss rate: 1.03%
```

Run 1: Report of TCP Cubic — Data Link



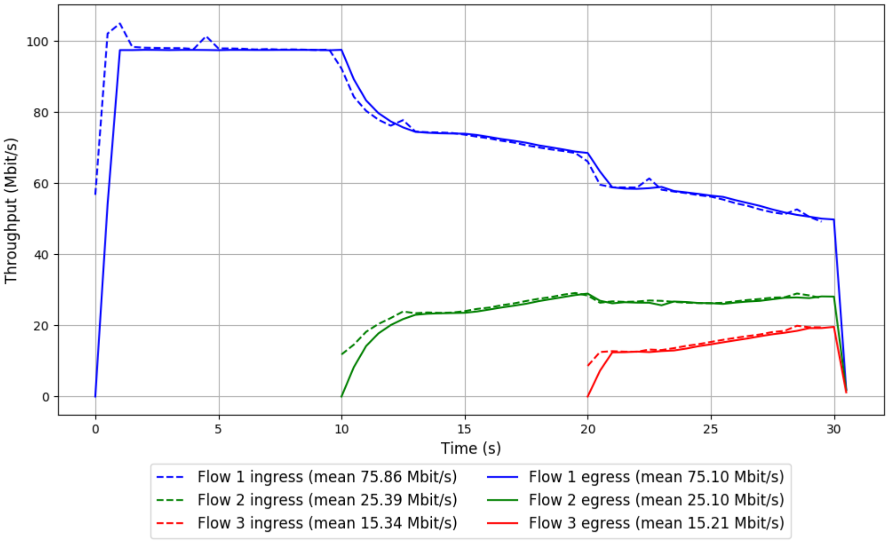


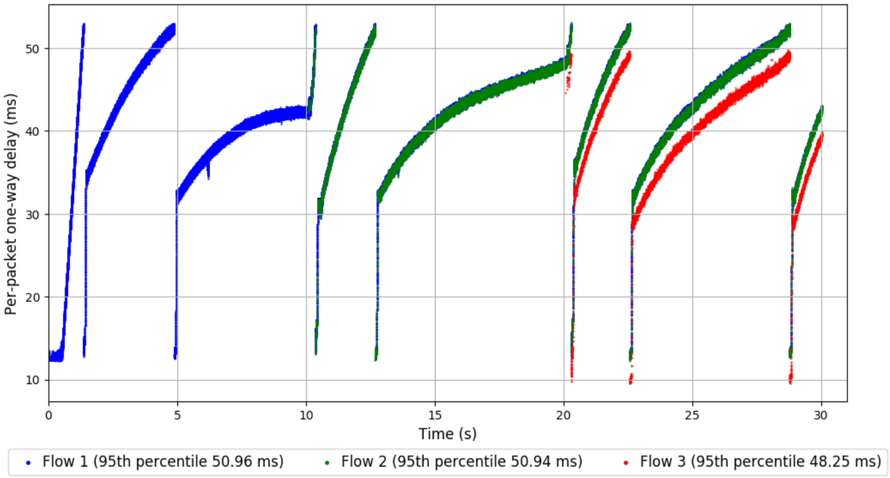
```
Run 2: Statistics of TCP Cubic

Start at: 2019-09-18 09:54:45
End at: 2019-09-18 09:55:15
Local clock offset: 1.677 ms
Remote clock offset: 3.542 ms

# Below is generated by plot.py at 2019-09-18 11:41:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.82 Mbit/s
95th percentile per-packet one-way delay: 50.872 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 75.10 Mbit/s
95th percentile per-packet one-way delay: 50.959 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 25.10 Mbit/s
95th percentile per-packet one-way delay: 50.940 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 48.252 ms
Loss rate: 0.93%
```

Run 2: Report of TCP Cubic — Data Link



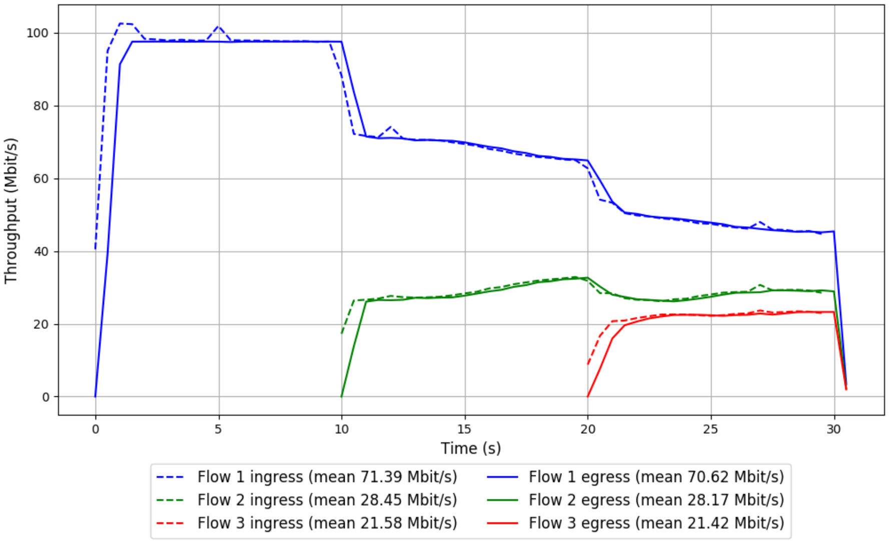


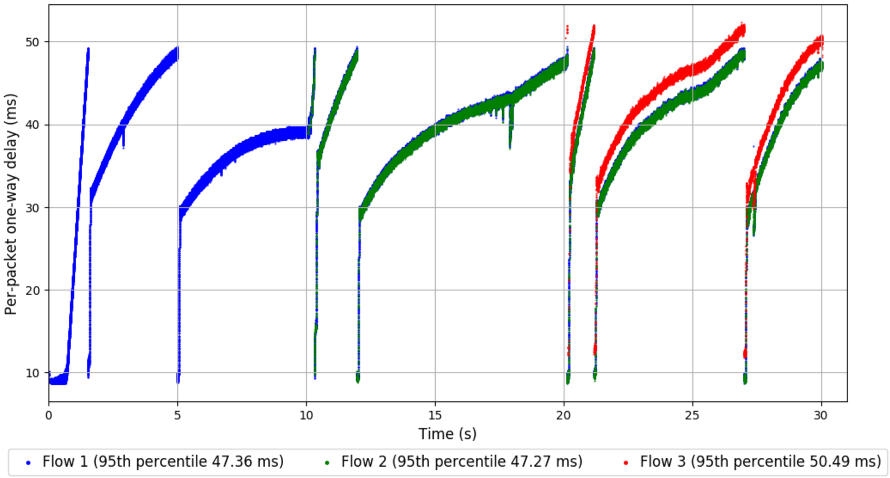
```
Run 3: Statistics of TCP Cubic

Start at: 2019-09-18 10:23:44
End at: 2019-09-18 10:24:14
Local clock offset: 0.525 ms
Remote clock offset: 4.877 ms

# Below is generated by plot.py at 2019-09-18 11:41:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.47 Mbit/s
95th percentile per-packet one-way delay: 47.688 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 70.62 Mbit/s
95th percentile per-packet one-way delay: 47.363 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 28.17 Mbit/s
95th percentile per-packet one-way delay: 47.266 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 21.42 Mbit/s
95th percentile per-packet one-way delay: 50.488 ms
Loss rate: 0.79%
```

Run 3: Report of TCP Cubic — Data Link



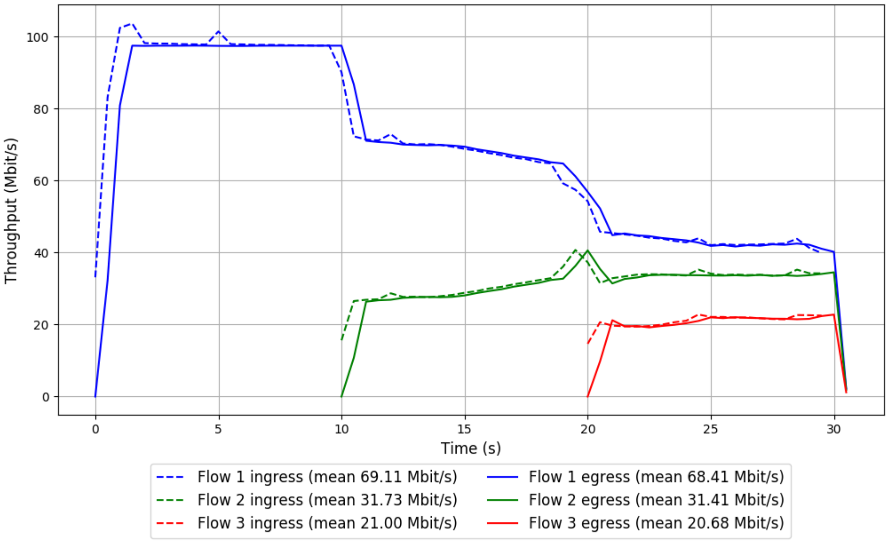


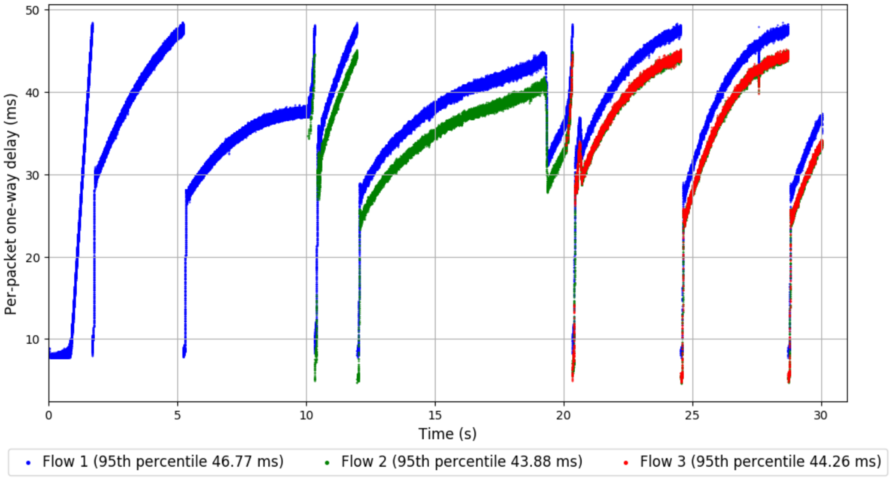
```
Run 4: Statistics of TCP Cubic

Start at: 2019-09-18 10:52:38
End at: 2019-09-18 10:53:08
Local clock offset: 5.049 ms
Remote clock offset: 5.883 ms

# Below is generated by plot.py at 2019-09-18 11:42:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.19 Mbit/s
95th percentile per-packet one-way delay: 46.300 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 68.41 Mbit/s
95th percentile per-packet one-way delay: 46.770 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 31.41 Mbit/s
95th percentile per-packet one-way delay: 43.884 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 20.68 Mbit/s
95th percentile per-packet one-way delay: 44.258 ms
Loss rate: 1.52%
```

Run 4: Report of TCP Cubic — Data Link



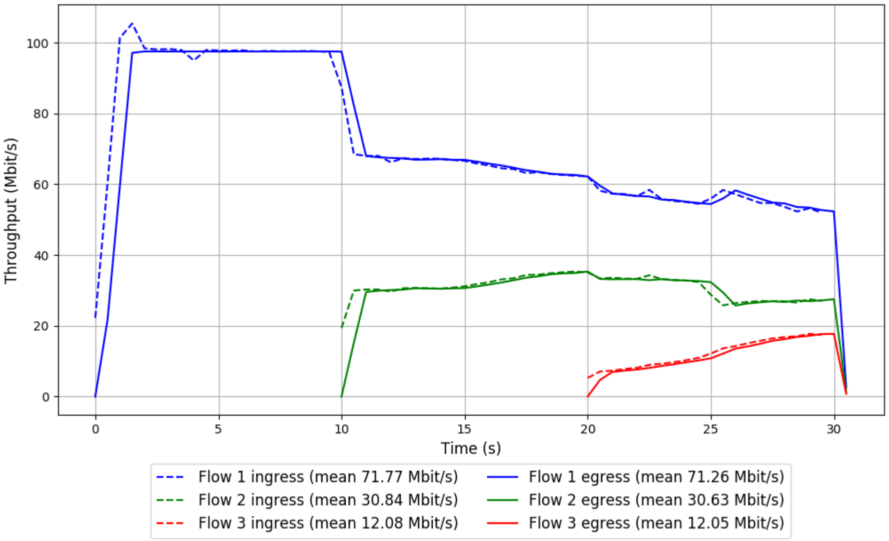


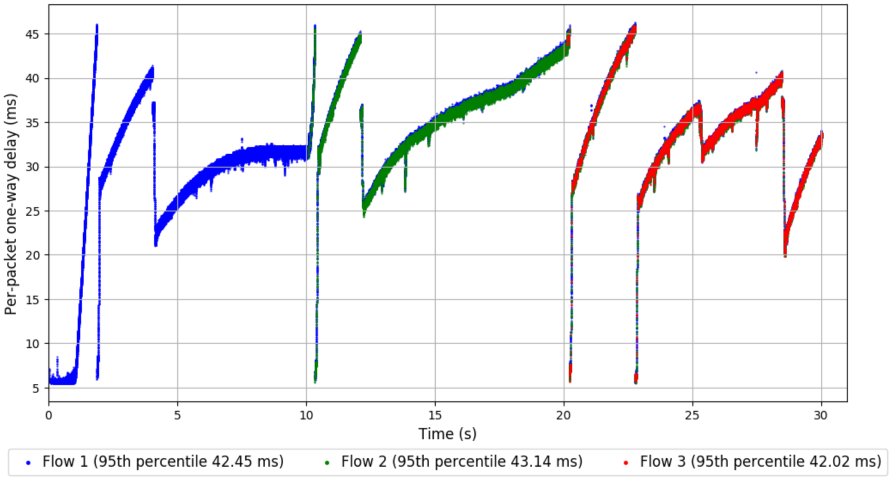
```
Run 5: Statistics of TCP Cubic

Start at: 2019-09-18 11:23:00
End at: 2019-09-18 11:23:30
Local clock offset: 4.638 ms
Remote clock offset: 7.124 ms

# Below is generated by plot.py at 2019-09-18 11:42:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 42.639 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 71.26 Mbit/s
95th percentile per-packet one-way delay: 42.446 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 43.143 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 42.018 ms
Loss rate: 0.38%
```

Run 5: Report of TCP Cubic — Data Link



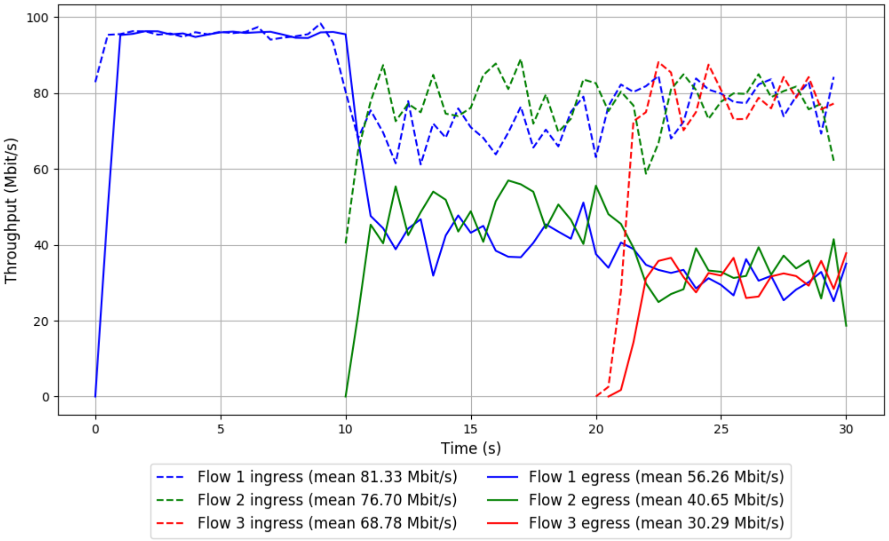


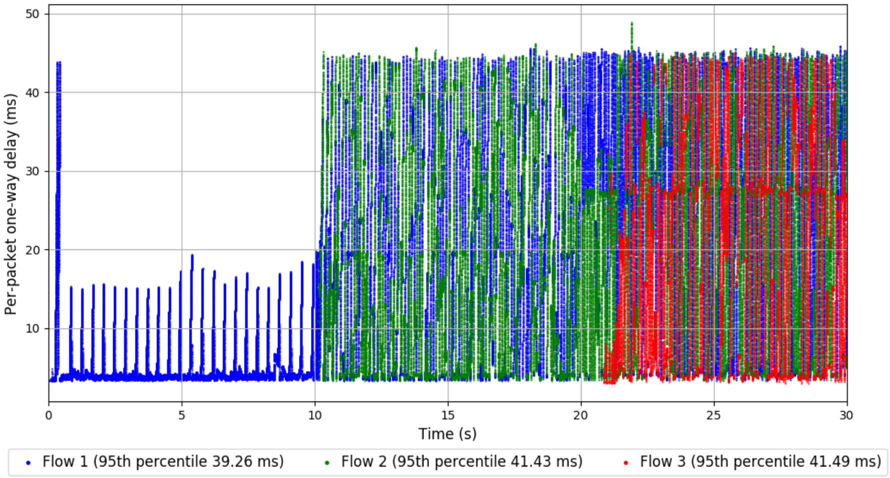
```
Run 1: Statistics of FillP

Start at: 2019-09-18 09:19:25
End at: 2019-09-18 09:19:55
Local clock offset: 6.195 ms
Remote clock offset: 1.58 ms

# Below is generated by plot.py at 2019-09-18 11:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 40.409 ms
Loss rate: 40.28%
-- Flow 1:
Average throughput: 56.26 Mbit/s
95th percentile per-packet one-way delay: 39.257 ms
Loss rate: 30.79%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 41.434 ms
Loss rate: 47.00%
-- Flow 3:
Average throughput: 30.29 Mbit/s
95th percentile per-packet one-way delay: 41.495 ms
Loss rate: 59.10%
```

Run 1: Report of FillP — Data Link



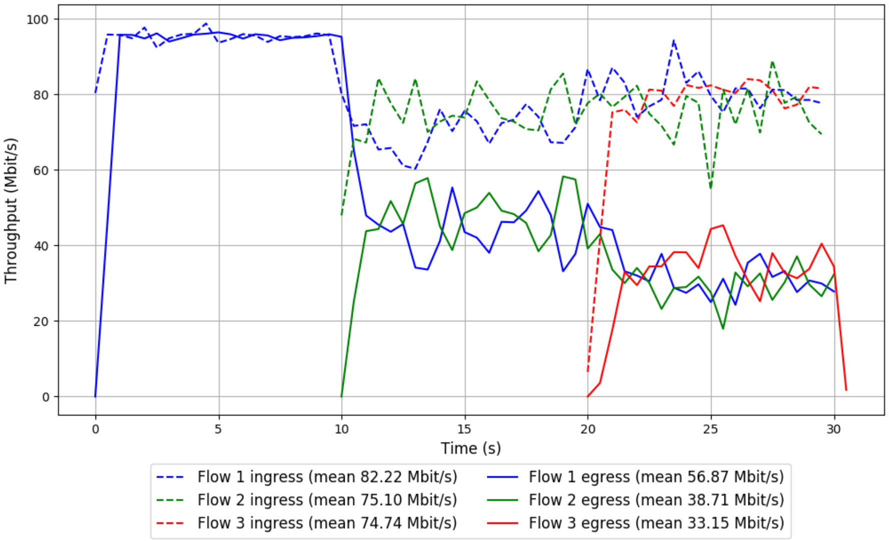


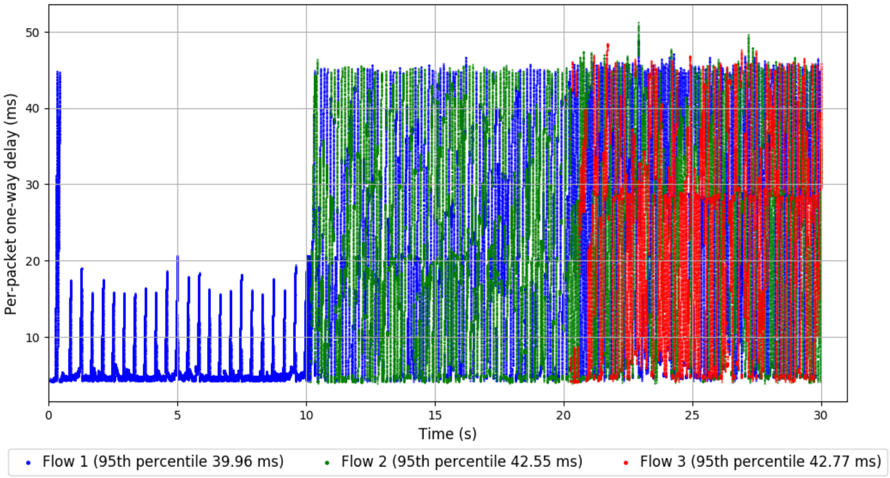
```
Run 2: Statistics of FillP

Start at: 2019-09-18 09:49:47
End at: 2019-09-18 09:50:17
Local clock offset: 6.105 ms
Remote clock offset: 2.569 ms

# Below is generated by plot.py at 2019-09-18 11:43:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.49 Mbit/s
95th percentile per-packet one-way delay: 41.409 ms
Loss rate: 40.35%
-- Flow 1:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 39.962 ms
Loss rate: 30.83%
-- Flow 2:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 42.547 ms
Loss rate: 48.40%
-- Flow 3:
Average throughput: 33.15 Mbit/s
95th percentile per-packet one-way delay: 42.773 ms
Loss rate: 55.67%
```

Run 2: Report of FillP — Data Link



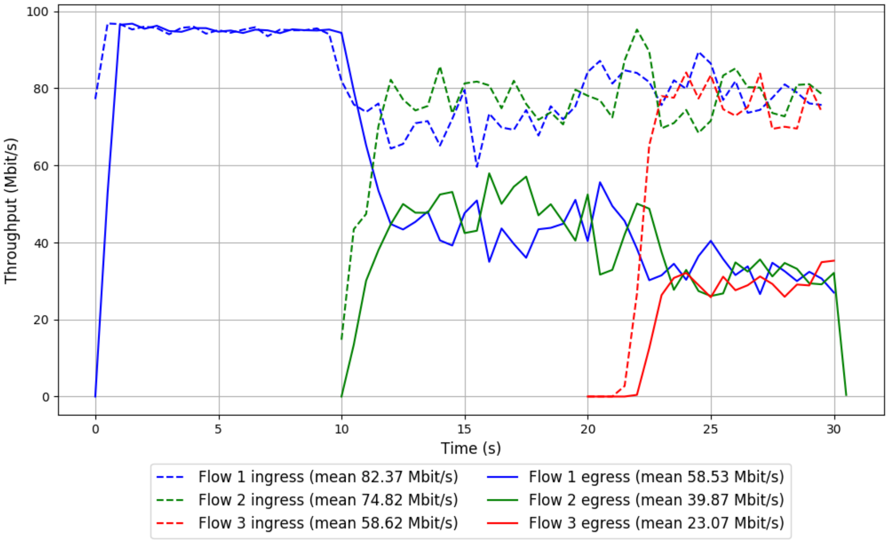


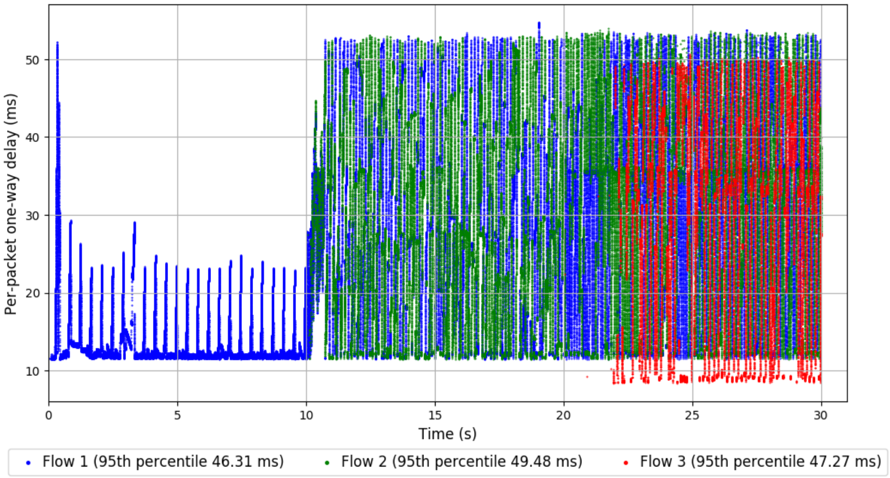
```
Run 3: Statistics of FillP

Start at: 2019-09-18 10:18:50
End at: 2019-09-18 10:19:20
Local clock offset: 0.557 ms
Remote clock offset: 4.48 ms

# Below is generated by plot.py at 2019-09-18 11:43:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.66 Mbit/s
95th percentile per-packet one-way delay: 47.927 ms
Loss rate: 38.82%
-- Flow 1:
Average throughput: 58.53 Mbit/s
95th percentile per-packet one-way delay: 46.314 ms
Loss rate: 28.95%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 49.478 ms
Loss rate: 46.63%
-- Flow 3:
Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 47.265 ms
Loss rate: 60.62%
```

Run 3: Report of FillP — Data Link



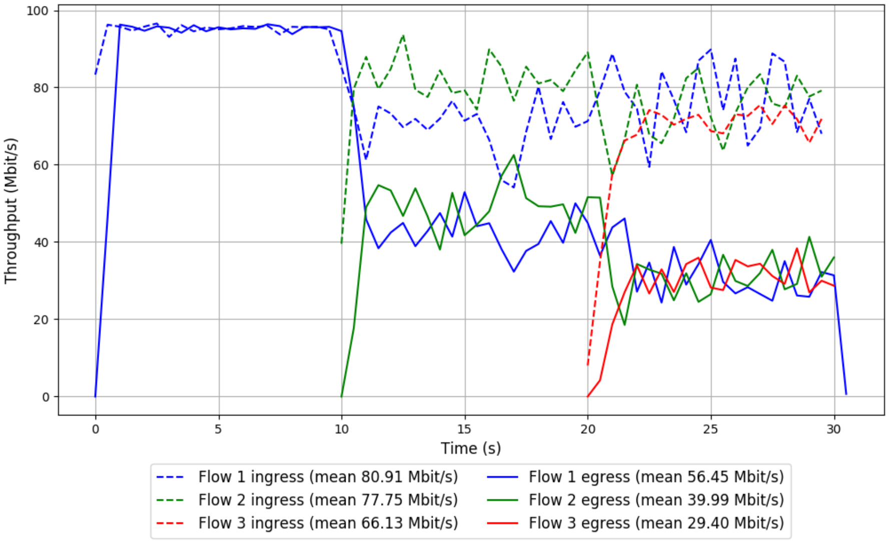


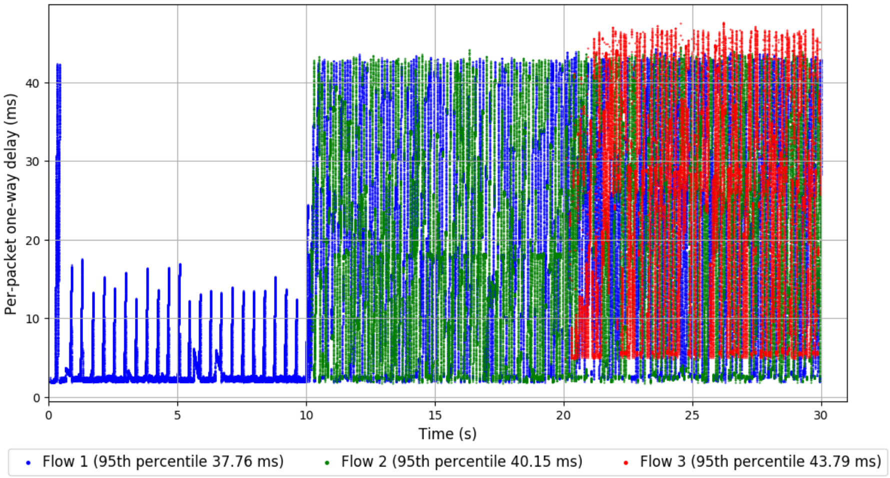
```
Run 4: Statistics of FillP

Start at: 2019-09-18 10:47:48
End at: 2019-09-18 10:48:18
Local clock offset: 5.303 ms
Remote clock offset: 3.362 ms

# Below is generated by plot.py at 2019-09-18 11:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.79 Mbit/s
95th percentile per-packet one-way delay: 39.660 ms
Loss rate: 39.90%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 37.762 ms
Loss rate: 30.15%
-- Flow 2:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 40.153 ms
Loss rate: 48.59%
-- Flow 3:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 43.791 ms
Loss rate: 55.40%
```

Run 4: Report of FillP — Data Link



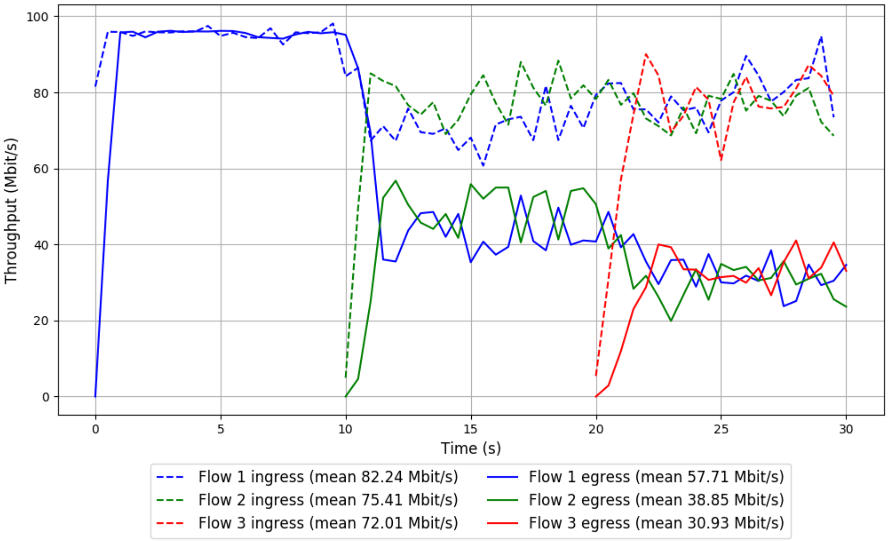


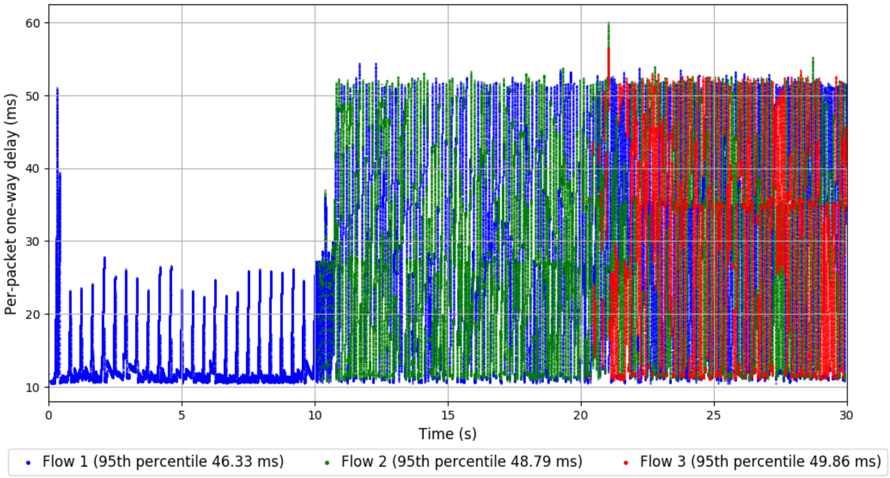
```
Run 5: Statistics of FillP

Start at: 2019-09-18 11:17:49
End at: 2019-09-18 11:18:19
Local clock offset: 1.079 ms
Remote clock offset: 9.667 ms

# Below is generated by plot.py at 2019-09-18 11:43:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.77 Mbit/s
95th percentile per-packet one-way delay: 48.103 ms
Loss rate: 39.99%
-- Flow 1:
Average throughput: 57.71 Mbit/s
95th percentile per-packet one-way delay: 46.327 ms
Loss rate: 29.83%
-- Flow 2:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 48.792 ms
Loss rate: 48.48%
-- Flow 3:
Average throughput: 30.93 Mbit/s
95th percentile per-packet one-way delay: 49.859 ms
Loss rate: 57.16%
```

Run 5: Report of FillP — Data Link



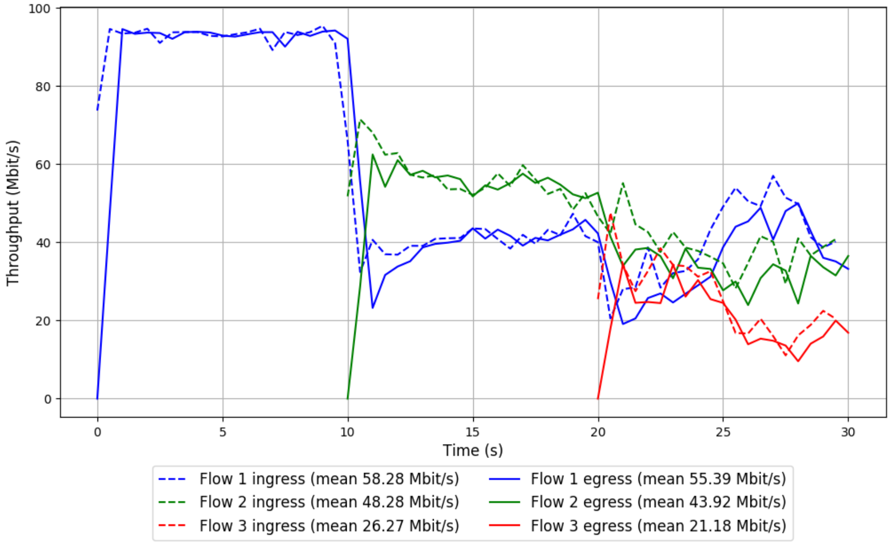


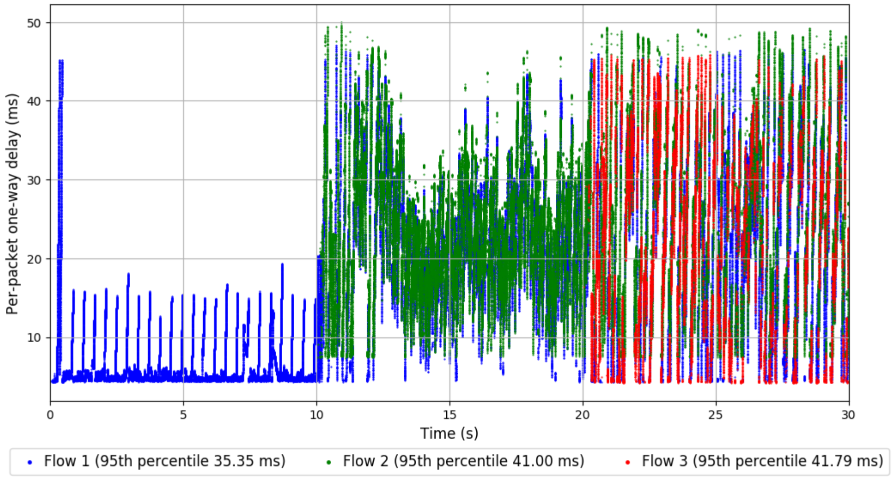
```
Run 1: Statistics of FillP-Sheep

Start at: 2019-09-18 09:34:50
End at: 2019-09-18 09:35:20
Local clock offset: 6.215 ms
Remote clock offset: 2.222 ms

# Below is generated by plot.py at 2019-09-18 11:43:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.59 Mbit/s
95th percentile per-packet one-way delay: 38.566 ms
Loss rate: 7.51%
-- Flow 1:
Average throughput: 55.39 Mbit/s
95th percentile per-packet one-way delay: 35.353 ms
Loss rate: 4.95%
-- Flow 2:
Average throughput: 43.92 Mbit/s
95th percentile per-packet one-way delay: 40.999 ms
Loss rate: 8.94%
-- Flow 3:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 41.794 ms
Loss rate: 19.32%
```

Run 1: Report of FillP-Sheep — Data Link



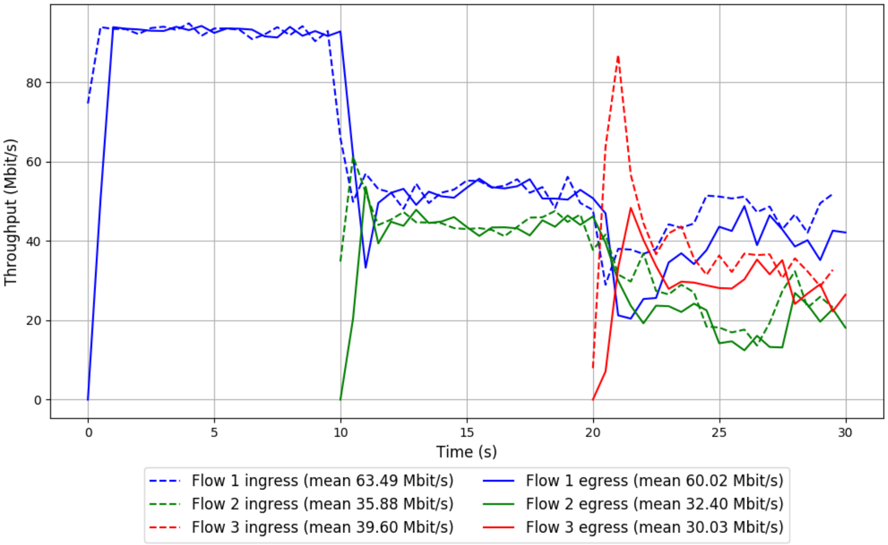


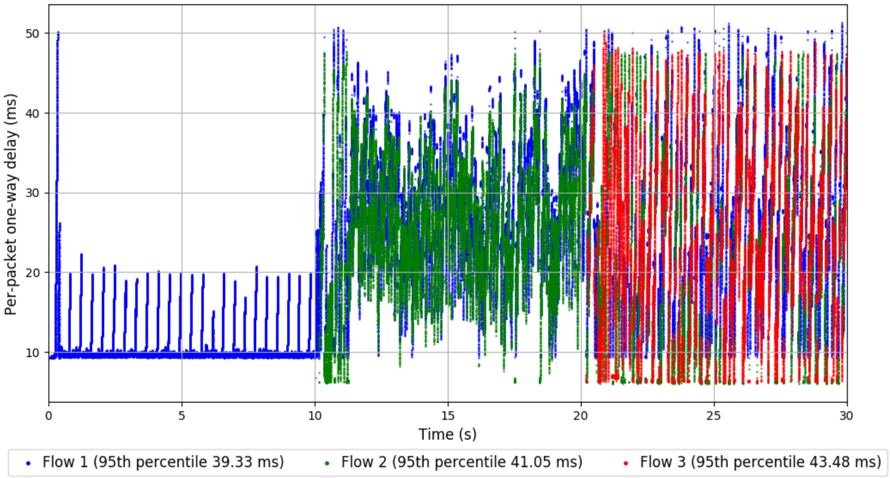
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-09-18 10:04:36
End at: 2019-09-18 10:05:06
Local clock offset: 2.016 ms
Remote clock offset: 2.146 ms

# Below is generated by plot.py at 2019-09-18 11:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.51 Mbit/s
95th percentile per-packet one-way delay: 40.711 ms
Loss rate: 8.93%
-- Flow 1:
Average throughput: 60.02 Mbit/s
95th percentile per-packet one-way delay: 39.326 ms
Loss rate: 5.43%
-- Flow 2:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 41.045 ms
Loss rate: 9.76%
-- Flow 3:
Average throughput: 30.03 Mbit/s
95th percentile per-packet one-way delay: 43.478 ms
Loss rate: 24.32%
```

Run 2: Report of FillP-Sheep — Data Link



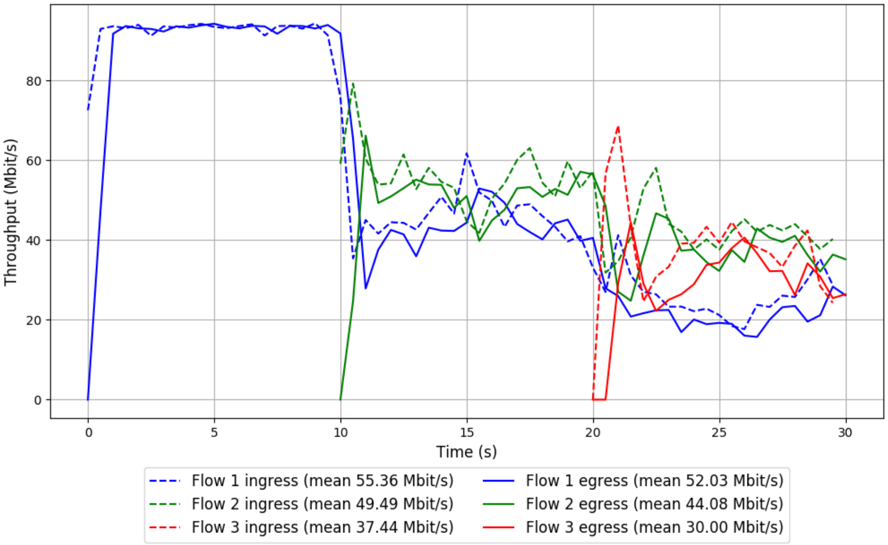


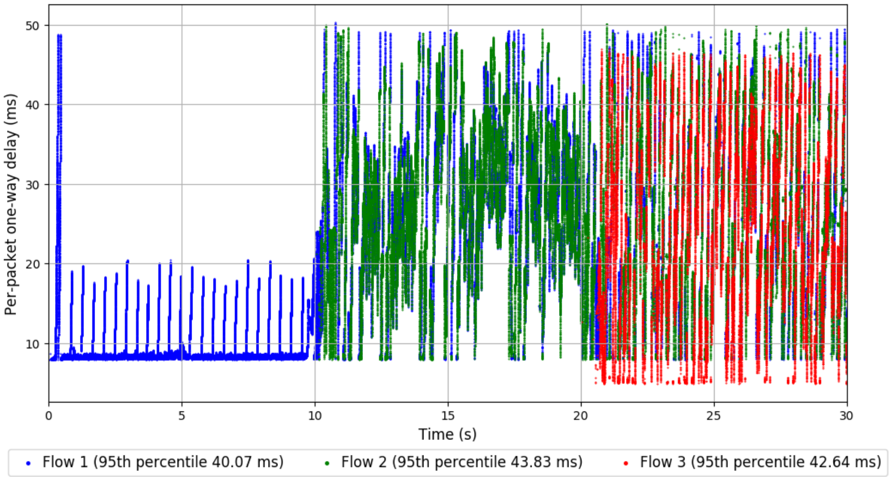
```
Run 3: Statistics of FillP-Sheep

Start at: 2019-09-18 10:33:33
End at: 2019-09-18 10:34:03
Local clock offset: 4.638 ms
Remote clock offset: 5.568 ms

# Below is generated by plot.py at 2019-09-18 11:43:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 42.158 ms
Loss rate: 9.33%
-- Flow 1:
Average throughput: 52.03 Mbit/s
95th percentile per-packet one-way delay: 40.072 ms
Loss rate: 6.02%
-- Flow 2:
Average throughput: 44.08 Mbit/s
95th percentile per-packet one-way delay: 43.834 ms
Loss rate: 10.91%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 42.640 ms
Loss rate: 19.93%
```

Run 3: Report of FillP-Sheep — Data Link



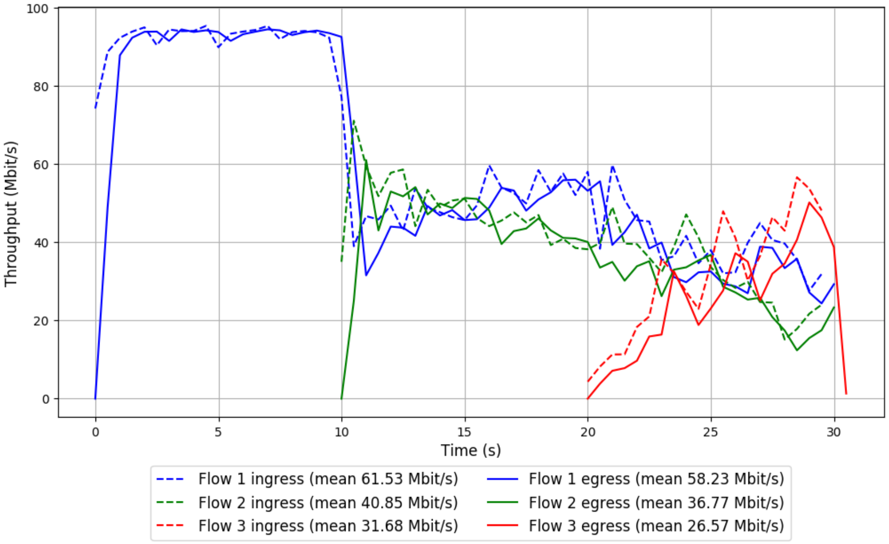


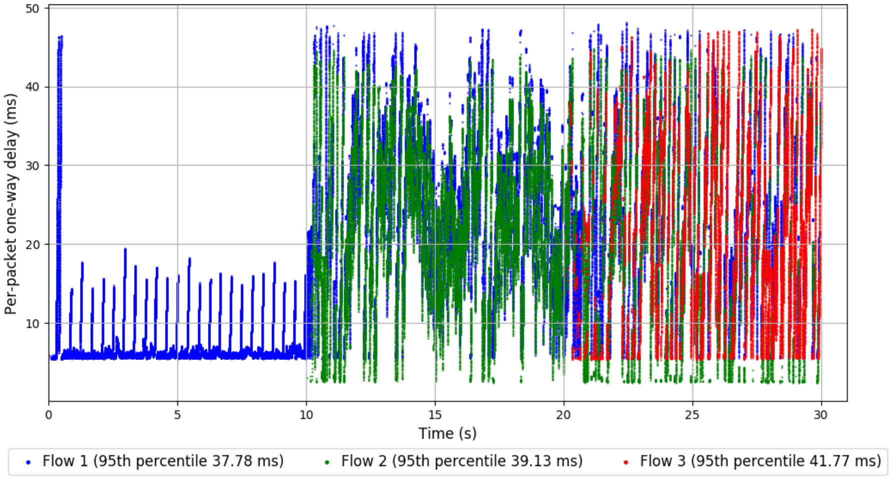
```
Run 4: Statistics of FillP-Sheep

Start at: 2019-09-18 11:02:38
End at: 2019-09-18 11:03:08
Local clock offset: 5.412 ms
Remote clock offset: 4.549 ms

# Below is generated by plot.py at 2019-09-18 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.47 Mbit/s
95th percentile per-packet one-way delay: 38.889 ms
Loss rate: 7.64%
-- Flow 1:
Average throughput: 58.23 Mbit/s
95th percentile per-packet one-way delay: 37.783 ms
Loss rate: 5.26%
-- Flow 2:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 39.134 ms
Loss rate: 9.84%
-- Flow 3:
Average throughput: 26.57 Mbit/s
95th percentile per-packet one-way delay: 41.770 ms
Loss rate: 15.90%
```

Run 4: Report of FillP-Sheep — Data Link



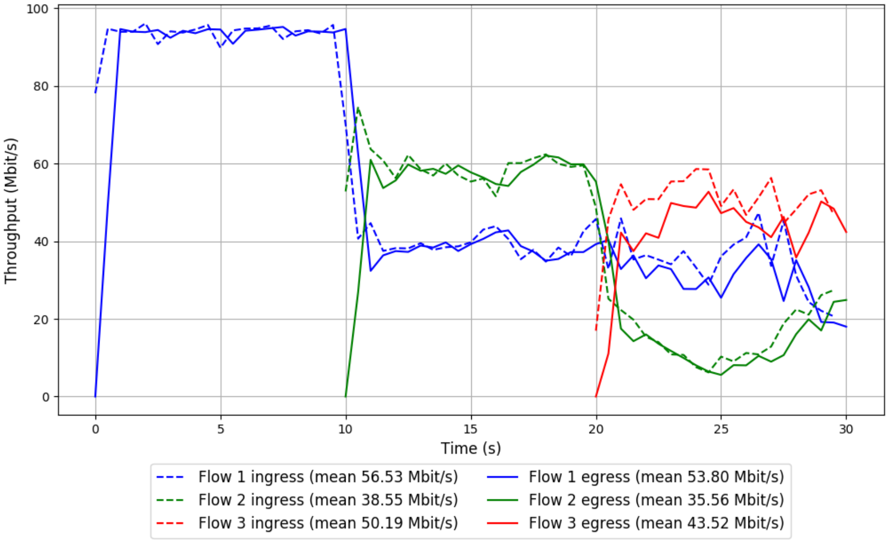


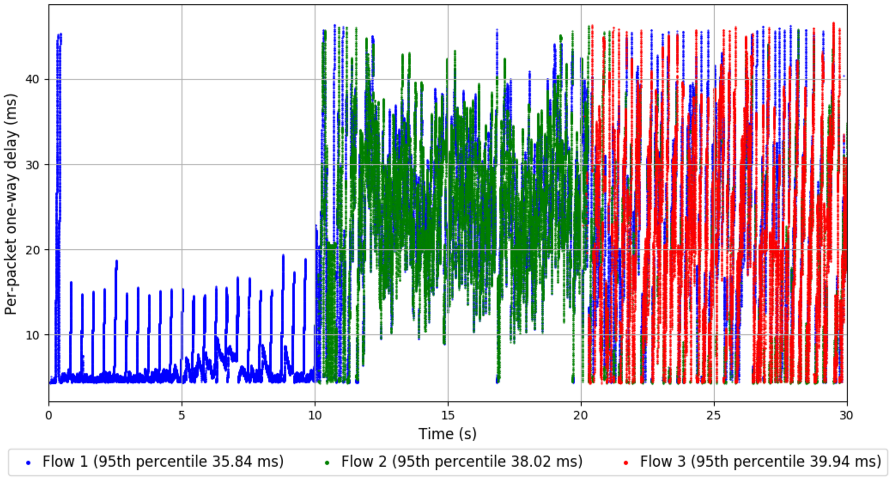
```
Run 5: Statistics of FillP-Sheep

Start at: 2019-09-18 11:33:43
End at: 2019-09-18 11:34:13
Local clock offset: 5.29 ms
Remote clock offset: 6.876 ms

# Below is generated by plot.py at 2019-09-18 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.85 Mbit/s
95th percentile per-packet one-way delay: 37.369 ms
Loss rate: 6.95%
-- Flow 1:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 35.844 ms
Loss rate: 4.78%
-- Flow 2:
Average throughput: 35.56 Mbit/s
95th percentile per-packet one-way delay: 38.021 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 43.52 Mbit/s
95th percentile per-packet one-way delay: 39.943 ms
Loss rate: 13.25%
```

Run 5: Report of FillP-Sheep — Data Link



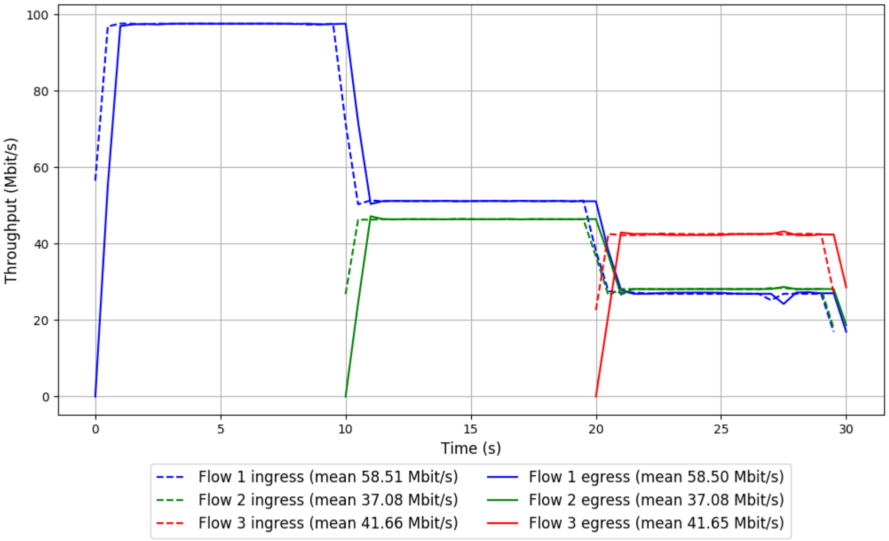


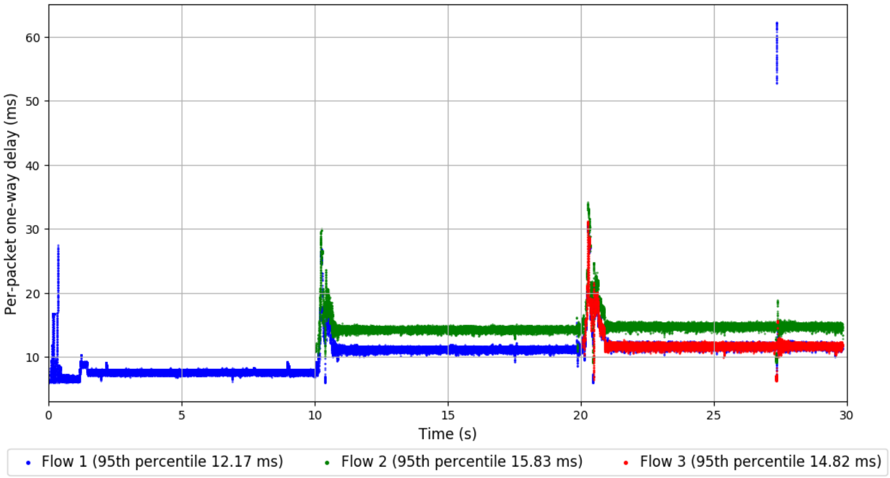
```
Run 1: Statistics of Indigo

Start at: 2019-09-18 09:23:16
End at: 2019-09-18 09:23:46
Local clock offset: 3.014 ms
Remote clock offset: 0.838 ms

# Below is generated by plot.py at 2019-09-18 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.75 Mbit/s
95th percentile per-packet one-way delay: 15.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.50 Mbit/s
95th percentile per-packet one-way delay: 12.166 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 15.833 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.65 Mbit/s
95th percentile per-packet one-way delay: 14.822 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo — Data Link



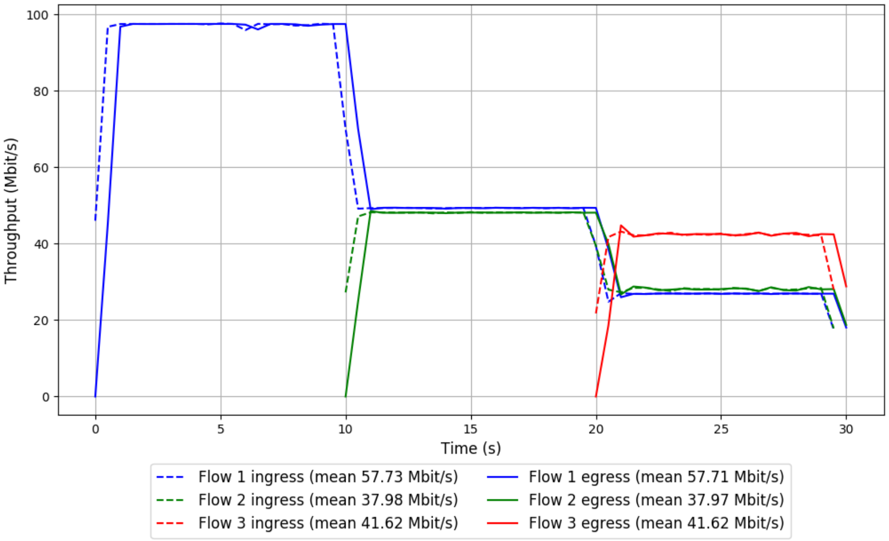


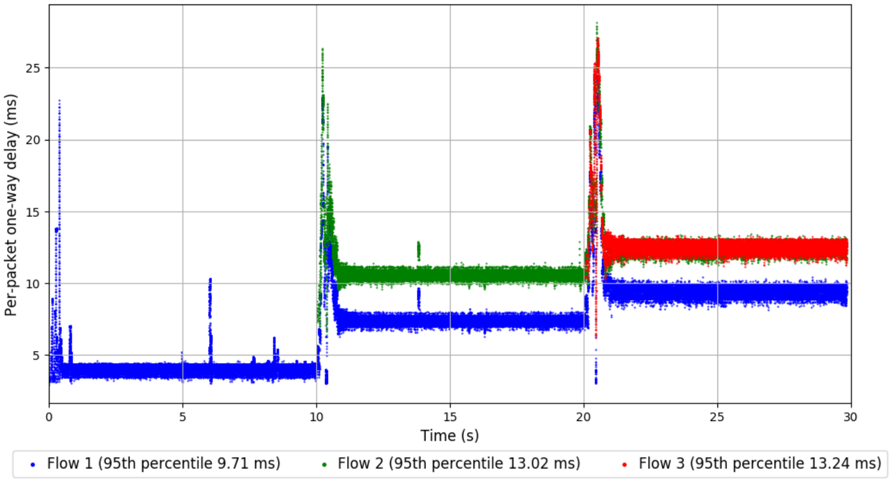
```
Run 2: Statistics of Indigo

Start at: 2019-09-18 09:53:30
End at: 2019-09-18 09:54:00
Local clock offset: 6.177 ms
Remote clock offset: 1.726 ms

# Below is generated by plot.py at 2019-09-18 11:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 12.817 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.71 Mbit/s
95th percentile per-packet one-way delay: 9.706 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.97 Mbit/s
95th percentile per-packet one-way delay: 13.018 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.62 Mbit/s
95th percentile per-packet one-way delay: 13.243 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link



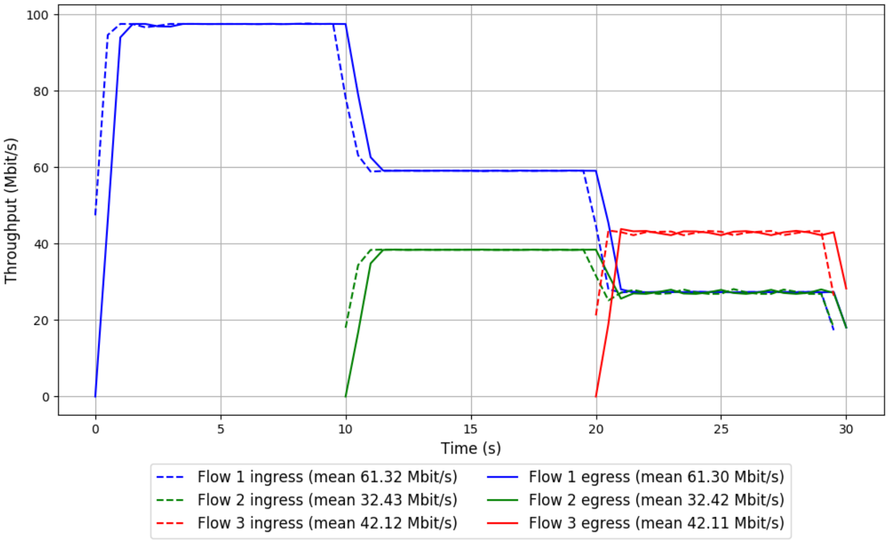


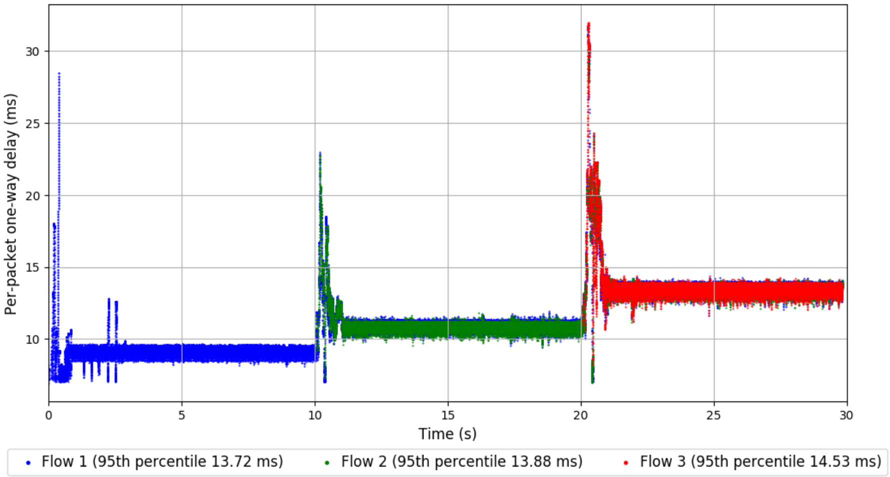
```
Run 3: Statistics of Indigo

Start at: 2019-09-18 10:22:28
End at: 2019-09-18 10:22:58
Local clock offset: 0.393 ms
Remote clock offset: 3.039 ms

# Below is generated by plot.py at 2019-09-18 11:44:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 13.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.30 Mbit/s
95th percentile per-packet one-way delay: 13.723 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 13.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.11 Mbit/s
95th percentile per-packet one-way delay: 14.533 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link



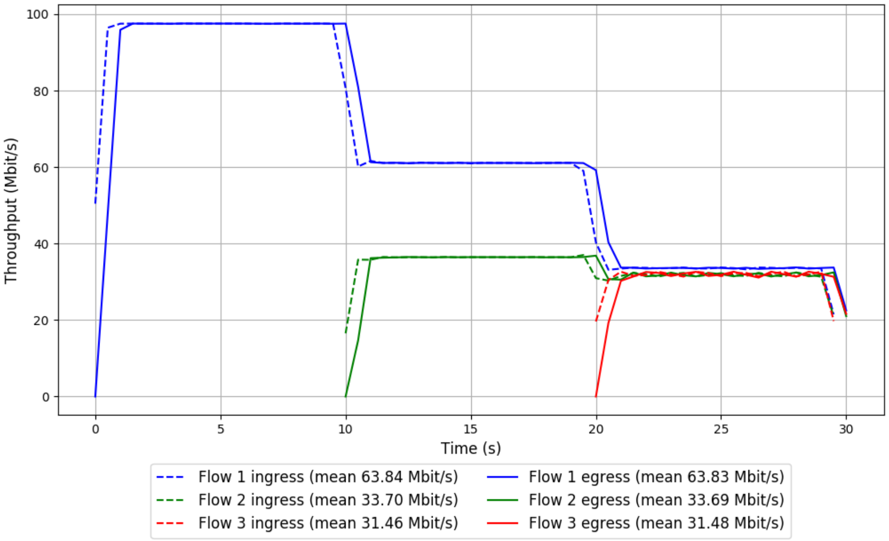


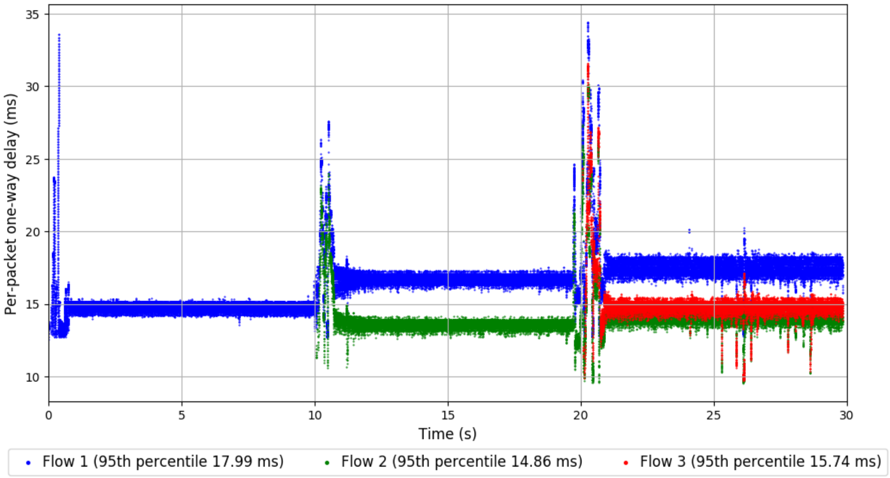
```
Run 4: Statistics of Indigo

Start at: 2019-09-18 10:51:22
End at: 2019-09-18 10:51:52
Local clock offset: 0.433 ms
Remote clock offset: 6.371 ms

# Below is generated by plot.py at 2019-09-18 11:44:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.47 Mbit/s
95th percentile per-packet one-way delay: 17.950 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.83 Mbit/s
95th percentile per-packet one-way delay: 17.994 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 33.69 Mbit/s
95th percentile per-packet one-way delay: 14.862 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 31.48 Mbit/s
95th percentile per-packet one-way delay: 15.740 ms
Loss rate: 0.04%
```

Run 4: Report of Indigo — Data Link



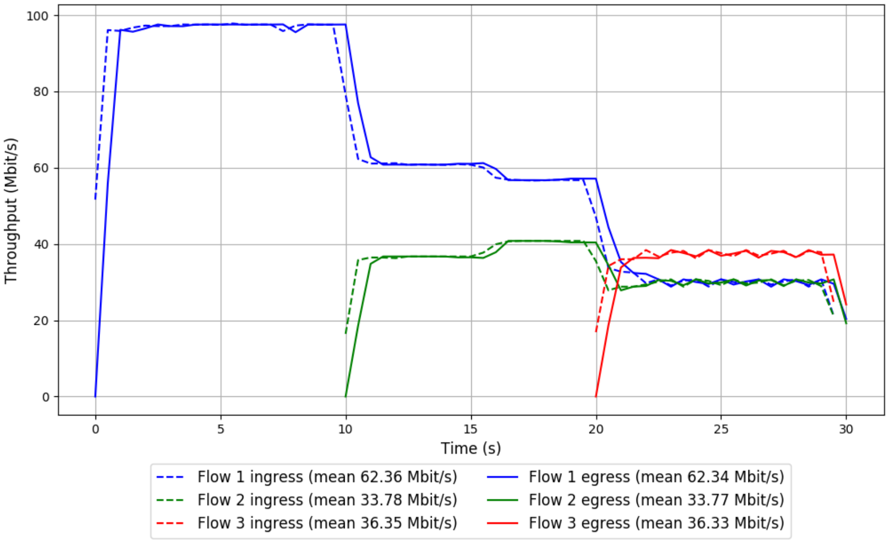


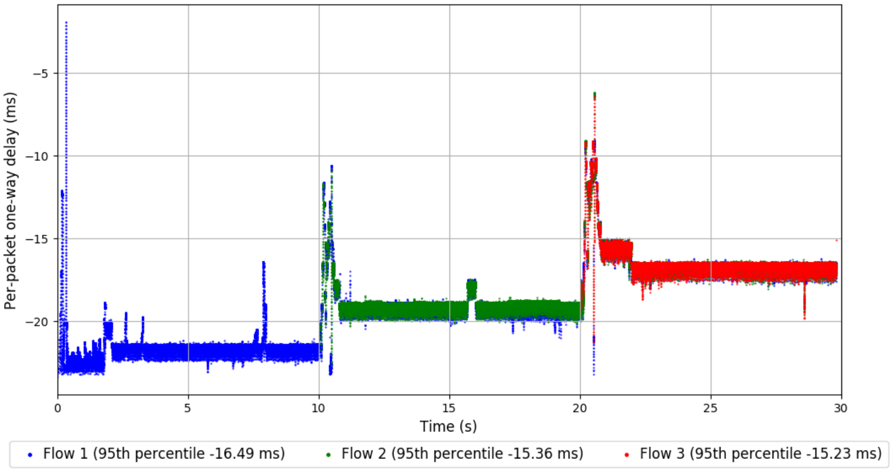
```
Run 5: Statistics of Indigo

Start at: 2019-09-18 11:21:35
End at: 2019-09-18 11:22:05
Local clock offset: 1.551 ms
Remote clock offset: -24.743 ms

# Below is generated by plot.py at 2019-09-18 11:45:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.66 Mbit/s
95th percentile per-packet one-way delay: -15.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.34 Mbit/s
95th percentile per-packet one-way delay: -16.492 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.77 Mbit/s
95th percentile per-packet one-way delay: -15.362 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.33 Mbit/s
95th percentile per-packet one-way delay: -15.228 ms
Loss rate: 0.01%
```

Run 5: Report of Indigo — Data Link



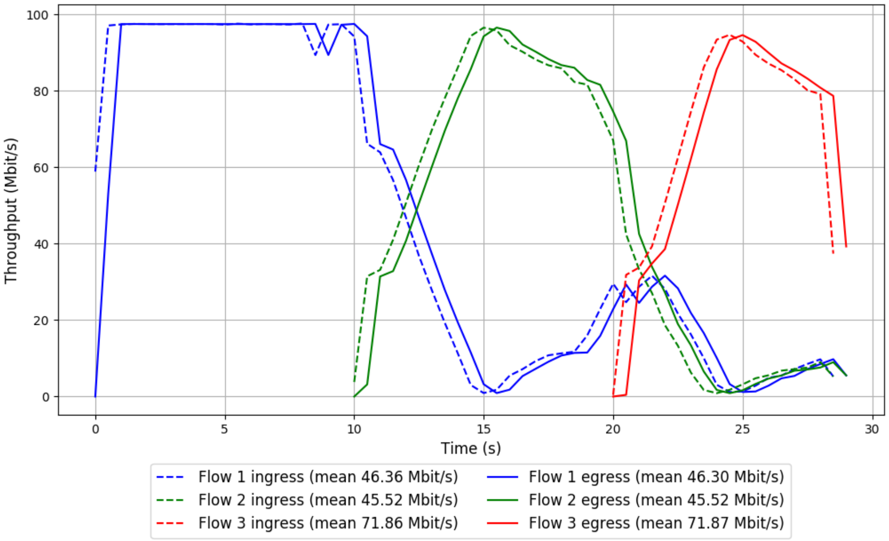


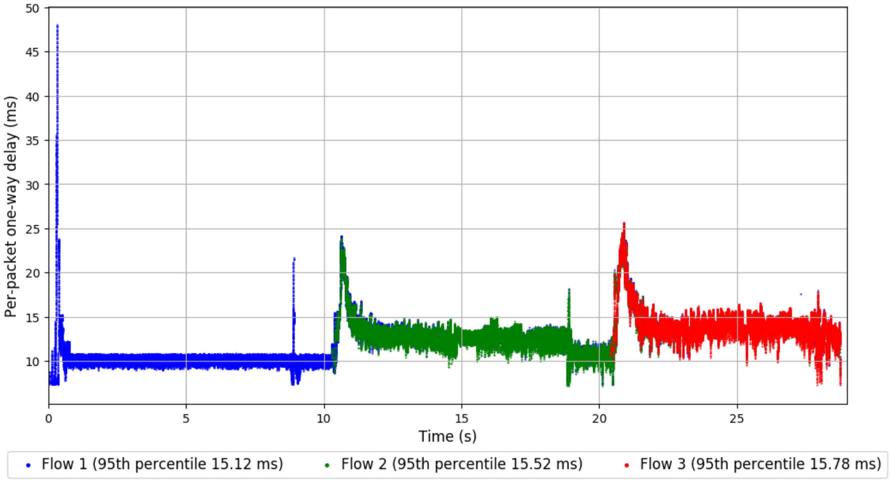
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-09-18 09:30:48
End at: 2019-09-18 09:31:18
Local clock offset: 2.881 ms
Remote clock offset: 1.61 ms

# Below is generated by plot.py at 2019-09-18 11:45:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 15.511 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 15.122 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 45.52 Mbit/s
95th percentile per-packet one-way delay: 15.520 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 71.87 Mbit/s
95th percentile per-packet one-way delay: 15.783 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesC3 — Data Link



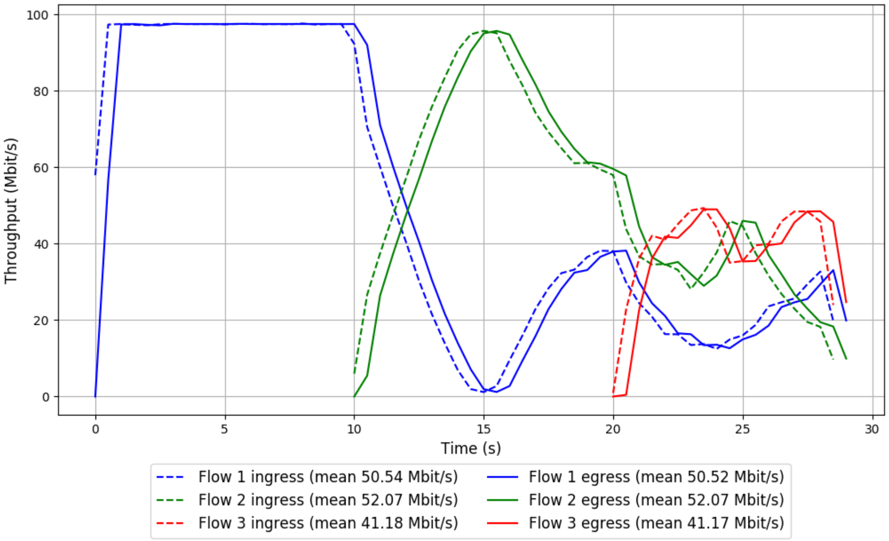


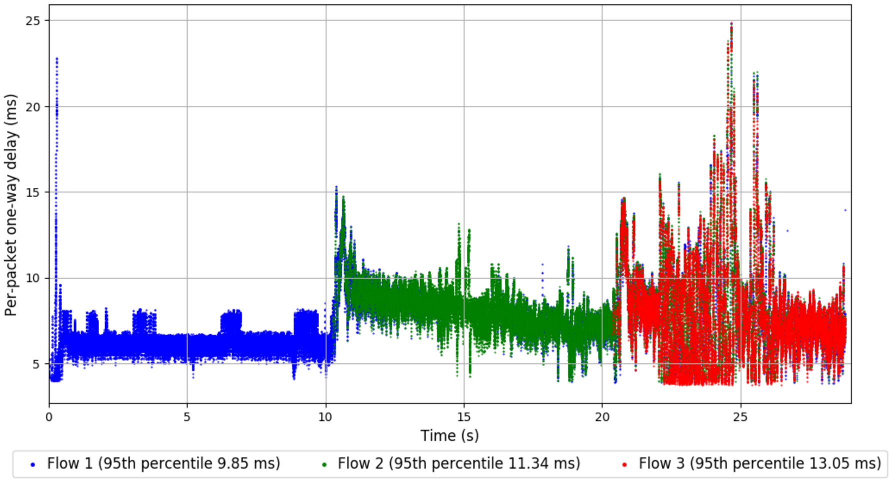
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-09-18 10:00:48
End at: 2019-09-18 10:01:18
Local clock offset: 6.001 ms
Remote clock offset: 2.961 ms

# Below is generated by plot.py at 2019-09-18 11:45:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.12 Mbit/s
95th percentile per-packet one-way delay: 10.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.52 Mbit/s
95th percentile per-packet one-way delay: 9.845 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.07 Mbit/s
95th percentile per-packet one-way delay: 11.338 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.17 Mbit/s
95th percentile per-packet one-way delay: 13.051 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC3 — Data Link



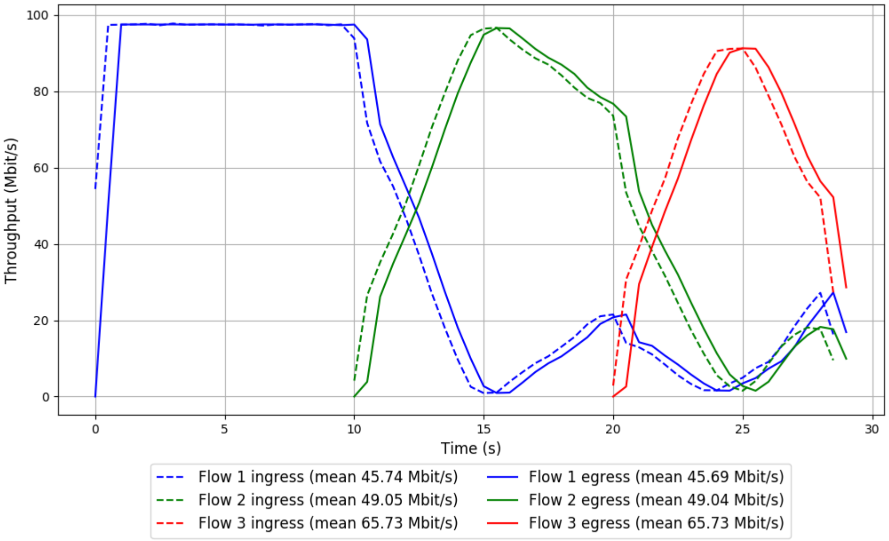


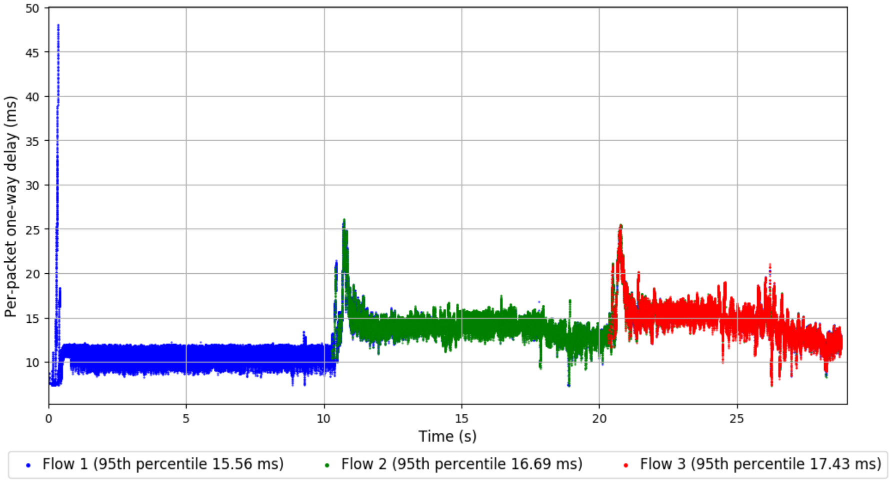
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-09-18 10:29:47
End at: 2019-09-18 10:30:17
Local clock offset: 4.543 ms
Remote clock offset: 4.902 ms

# Below is generated by plot.py at 2019-09-18 11:45:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.63 Mbit/s
95th percentile per-packet one-way delay: 16.669 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 45.69 Mbit/s
95th percentile per-packet one-way delay: 15.560 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 49.04 Mbit/s
95th percentile per-packet one-way delay: 16.691 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.73 Mbit/s
95th percentile per-packet one-way delay: 17.434 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC3 — Data Link



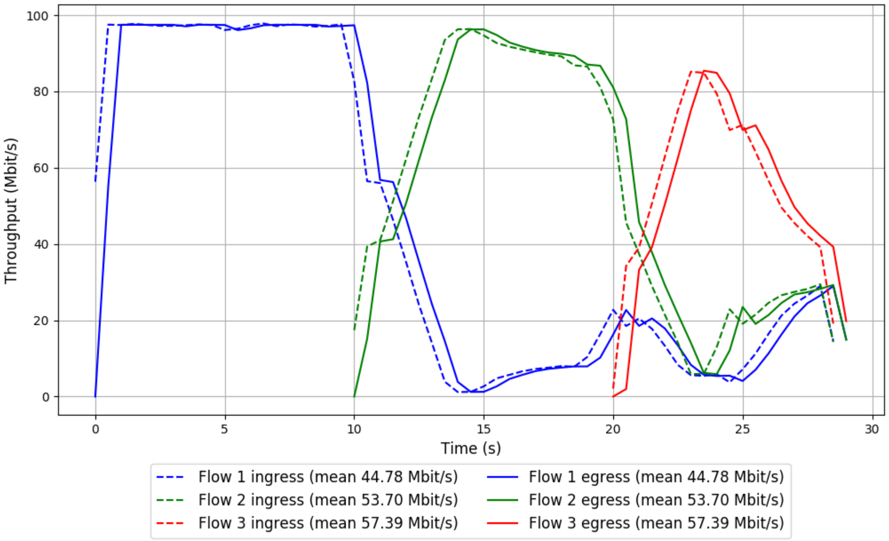


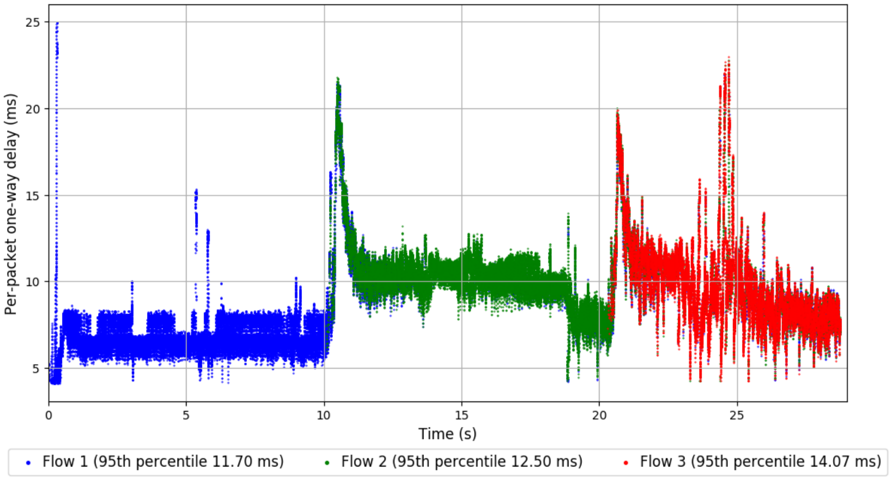
```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-09-18 10:58:41
End at: 2019-09-18 10:59:11
Local clock offset: 5.739 ms
Remote clock offset: 6.498 ms

# Below is generated by plot.py at 2019-09-18 11:45:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 12.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.78 Mbit/s
95th percentile per-packet one-way delay: 11.695 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 12.504 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 57.39 Mbit/s
95th percentile per-packet one-way delay: 14.070 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC3 — Data Link



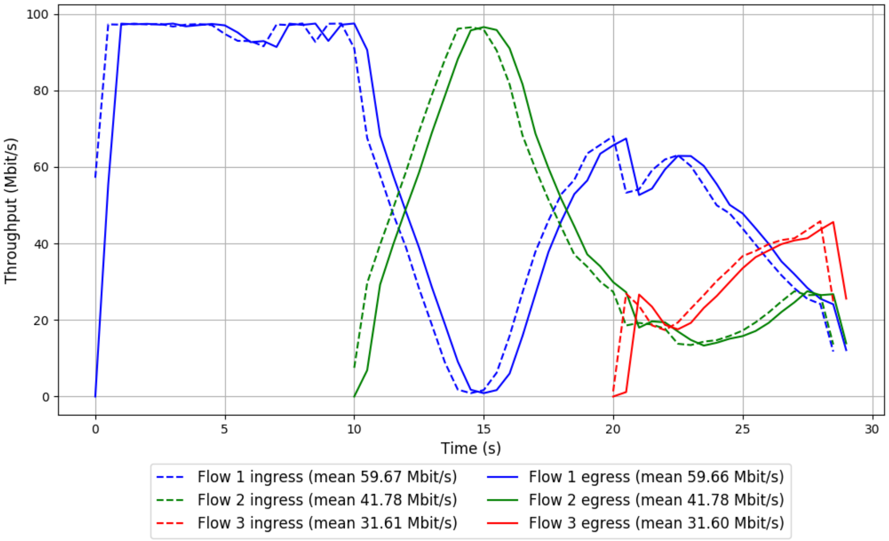


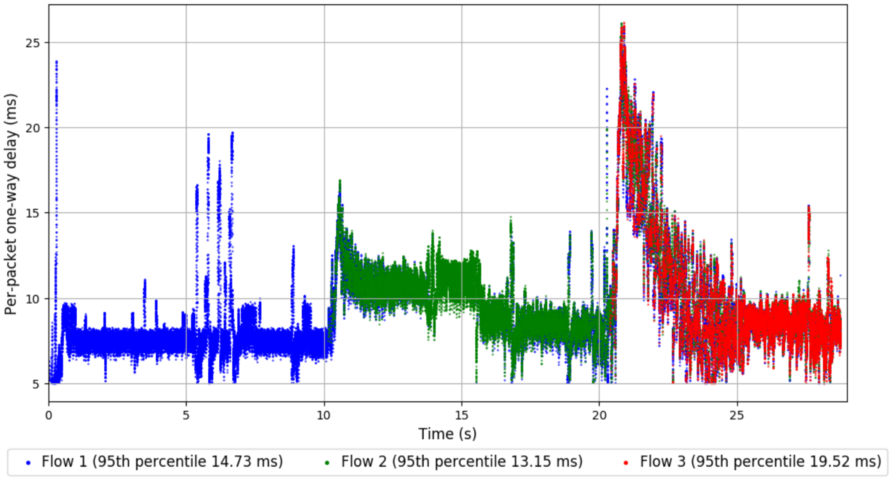
```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-09-18 11:29:47
End at: 2019-09-18 11:30:17
Local clock offset: 5.042 ms
Remote clock offset: 7.446 ms

# Below is generated by plot.py at 2019-09-18 11:45:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 14.864 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.66 Mbit/s
95th percentile per-packet one-way delay: 14.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.78 Mbit/s
95th percentile per-packet one-way delay: 13.150 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.60 Mbit/s
95th percentile per-packet one-way delay: 19.525 ms
Loss rate: 0.02%
```

Run 5: Report of Indigo-MusesC3 — Data Link



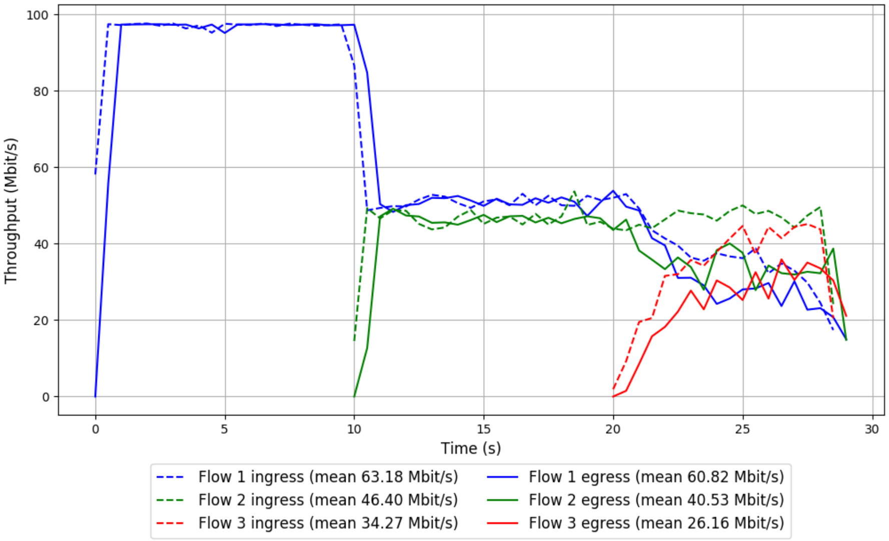


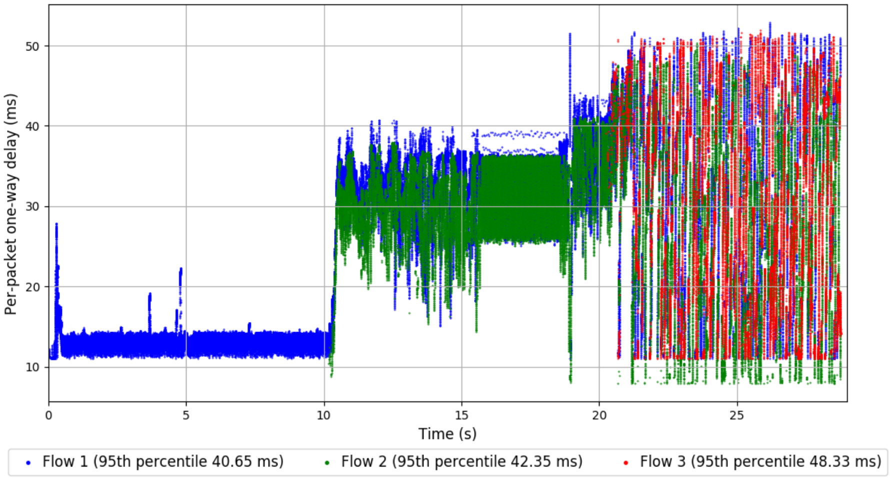
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-09-18 09:21:57
End at: 2019-09-18 09:22:27
Local clock offset: 2.708 ms
Remote clock offset: 2.52 ms

# Below is generated by plot.py at 2019-09-18 11:45:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.73 Mbit/s
95th percentile per-packet one-way delay: 42.678 ms
Loss rate: 8.28%
-- Flow 1:
Average throughput: 60.82 Mbit/s
95th percentile per-packet one-way delay: 40.653 ms
Loss rate: 3.69%
-- Flow 2:
Average throughput: 40.53 Mbit/s
95th percentile per-packet one-way delay: 42.348 ms
Loss rate: 12.63%
-- Flow 3:
Average throughput: 26.16 Mbit/s
95th percentile per-packet one-way delay: 48.327 ms
Loss rate: 23.88%
```

Run 1: Report of Indigo-MusesC5 — Data Link



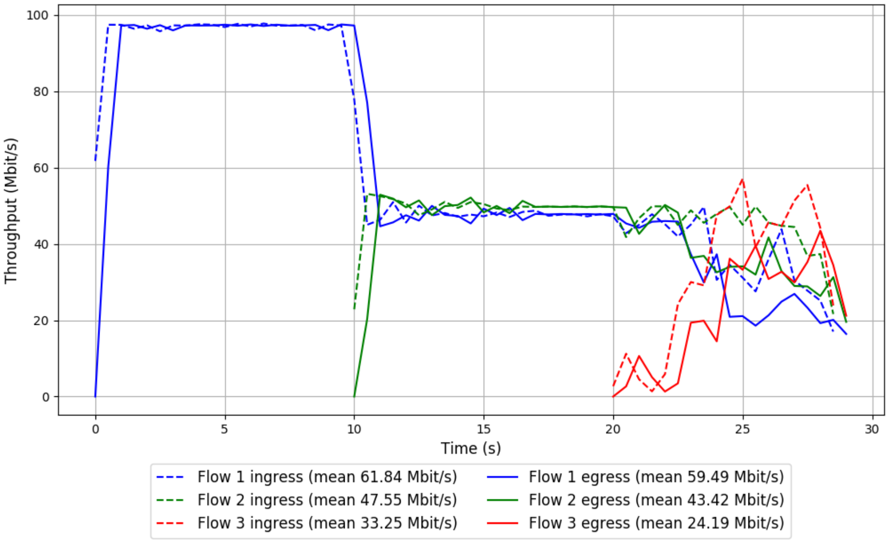


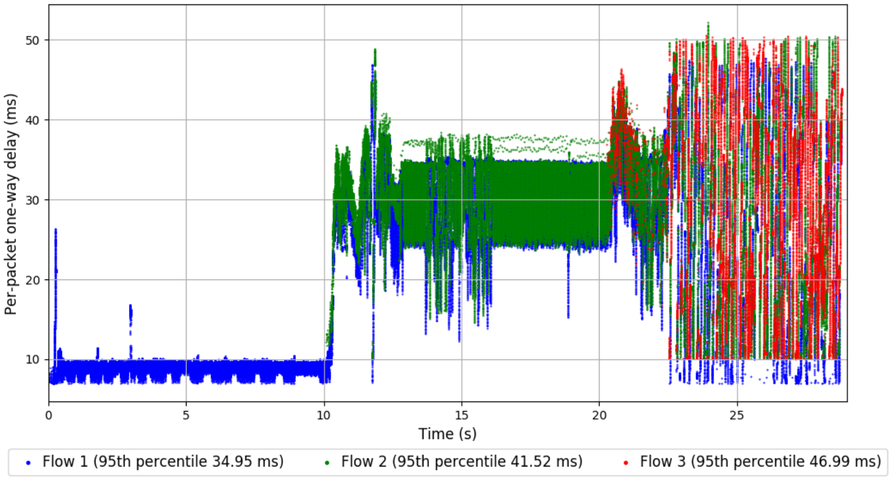
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-09-18 09:52:10
End at: 2019-09-18 09:52:40
Local clock offset: 2.418 ms
Remote clock offset: 1.841 ms

# Below is generated by plot.py at 2019-09-18 11:45:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 39.667 ms
Loss rate: 7.41%
-- Flow 1:
Average throughput: 59.49 Mbit/s
95th percentile per-packet one-way delay: 34.945 ms
Loss rate: 3.69%
-- Flow 2:
Average throughput: 43.42 Mbit/s
95th percentile per-packet one-way delay: 41.520 ms
Loss rate: 8.54%
-- Flow 3:
Average throughput: 24.19 Mbit/s
95th percentile per-packet one-way delay: 46.993 ms
Loss rate: 27.18%
```

Run 2: Report of Indigo-MusesC5 — Data Link



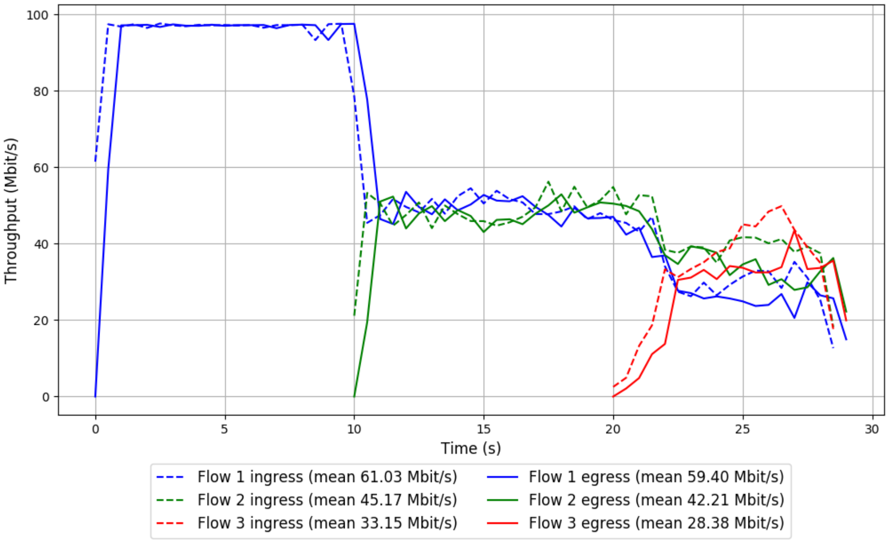


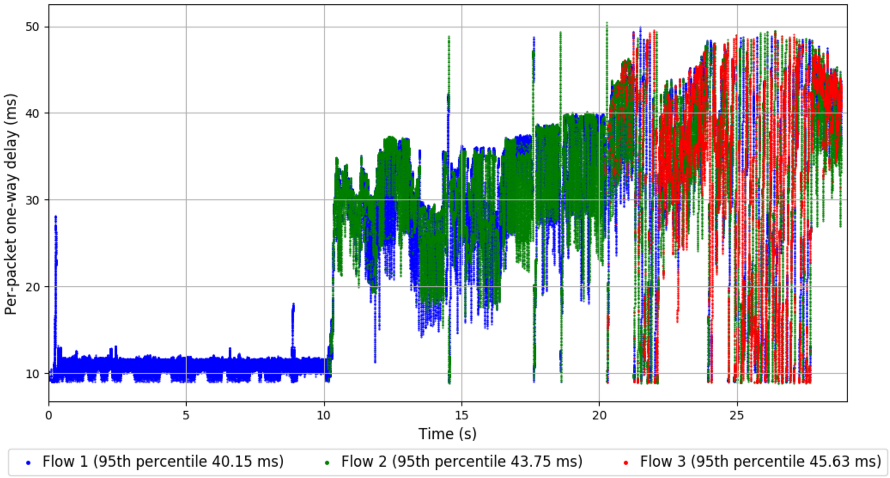
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-09-18 10:21:12
End at: 2019-09-18 10:21:42
Local clock offset: 0.819 ms
Remote clock offset: 5.252 ms

# Below is generated by plot.py at 2019-09-18 11:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.27 Mbit/s
95th percentile per-packet one-way delay: 43.082 ms
Loss rate: 4.86%
-- Flow 1:
Average throughput: 59.40 Mbit/s
95th percentile per-packet one-way delay: 40.151 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 42.21 Mbit/s
95th percentile per-packet one-way delay: 43.747 ms
Loss rate: 6.40%
-- Flow 3:
Average throughput: 28.38 Mbit/s
95th percentile per-packet one-way delay: 45.630 ms
Loss rate: 14.35%
```

Run 3: Report of Indigo-MusesC5 — Data Link



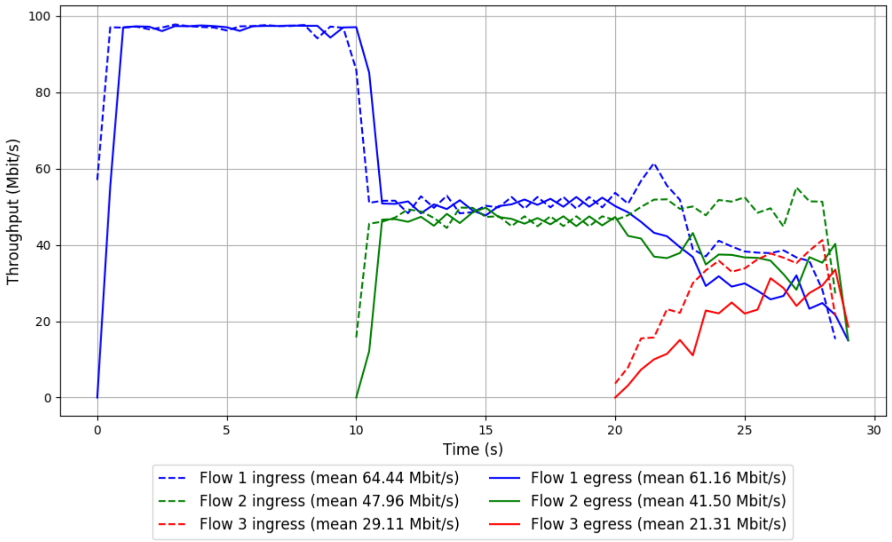


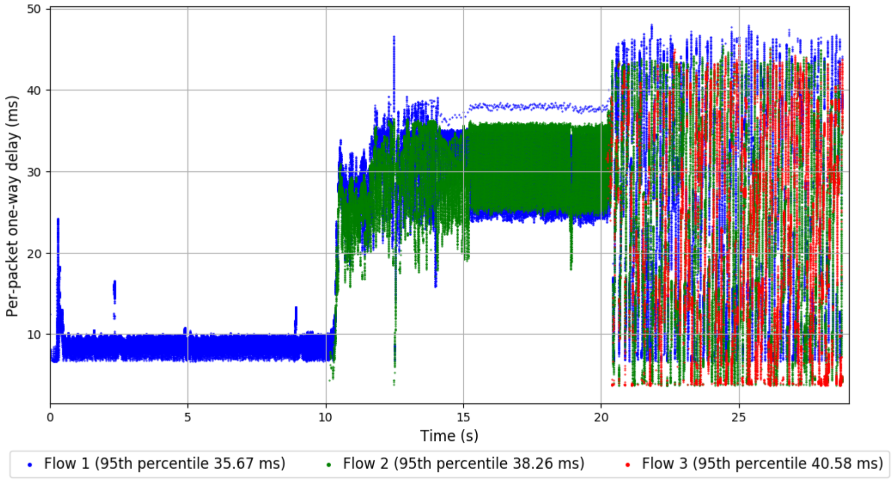
```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-09-18 10:50:08
End at: 2019-09-18 10:50:38
Local clock offset: 5.352 ms
Remote clock offset: 5.256 ms

# Below is generated by plot.py at 2019-09-18 11:46:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 37.487 ms
Loss rate: 9.42%
-- Flow 1:
Average throughput: 61.16 Mbit/s
95th percentile per-packet one-way delay: 35.675 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 41.50 Mbit/s
95th percentile per-packet one-way delay: 38.263 ms
Loss rate: 13.48%
-- Flow 3:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 40.578 ms
Loss rate: 27.03%
```

Run 4: Report of Indigo-MusesC5 — Data Link



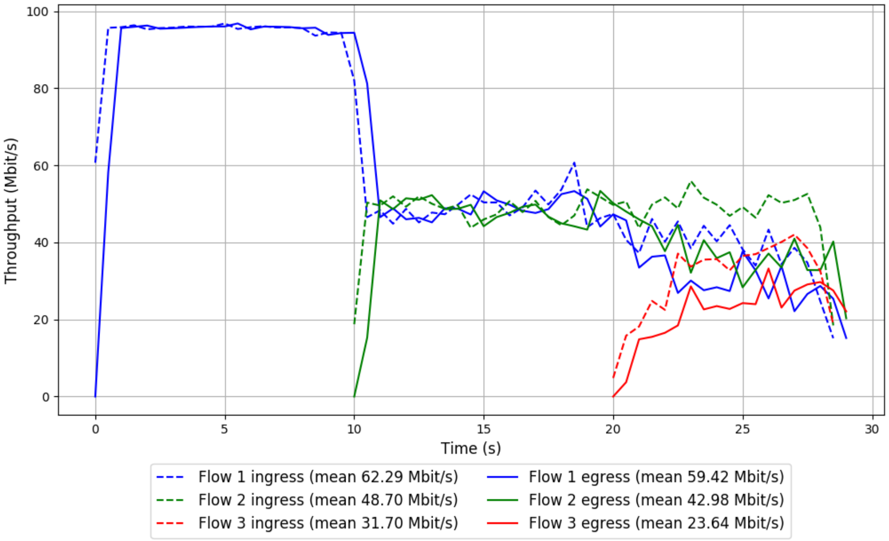


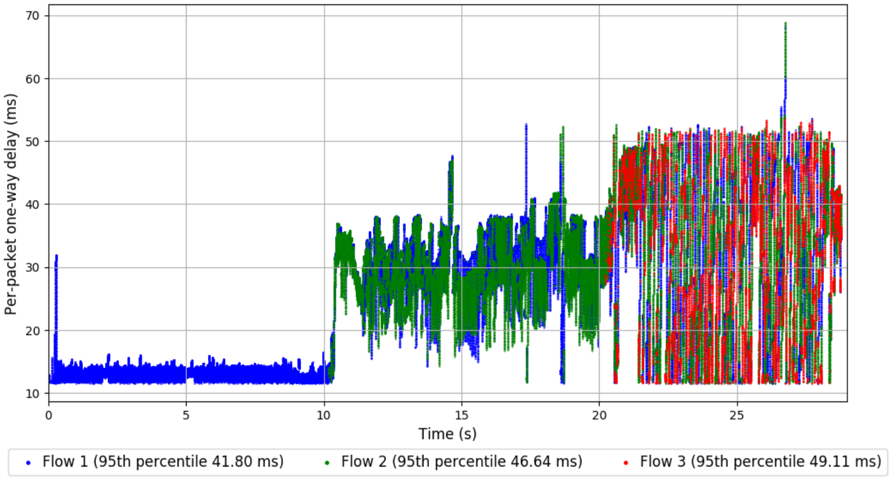
```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-09-18 11:20:17
End at: 2019-09-18 11:20:47
Local clock offset: 0.639 ms
Remote clock offset: 9.885 ms

# Below is generated by plot.py at 2019-09-18 11:46:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.32 Mbit/s
95th percentile per-packet one-way delay: 45.332 ms
Loss rate: 8.59%
-- Flow 1:
Average throughput: 59.42 Mbit/s
95th percentile per-packet one-way delay: 41.804 ms
Loss rate: 4.51%
-- Flow 2:
Average throughput: 42.98 Mbit/s
95th percentile per-packet one-way delay: 46.644 ms
Loss rate: 11.61%
-- Flow 3:
Average throughput: 23.64 Mbit/s
95th percentile per-packet one-way delay: 49.109 ms
Loss rate: 25.31%
```

Run 5: Report of Indigo-MusesC5 — Data Link



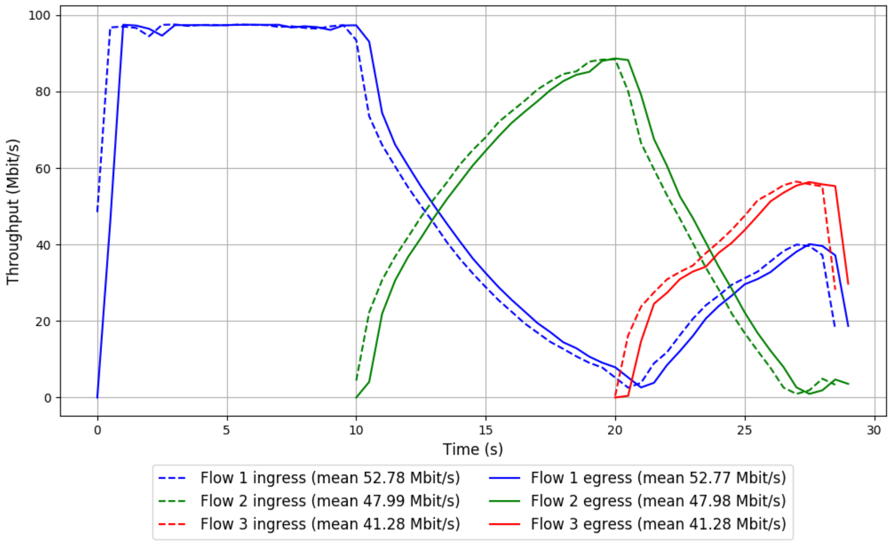


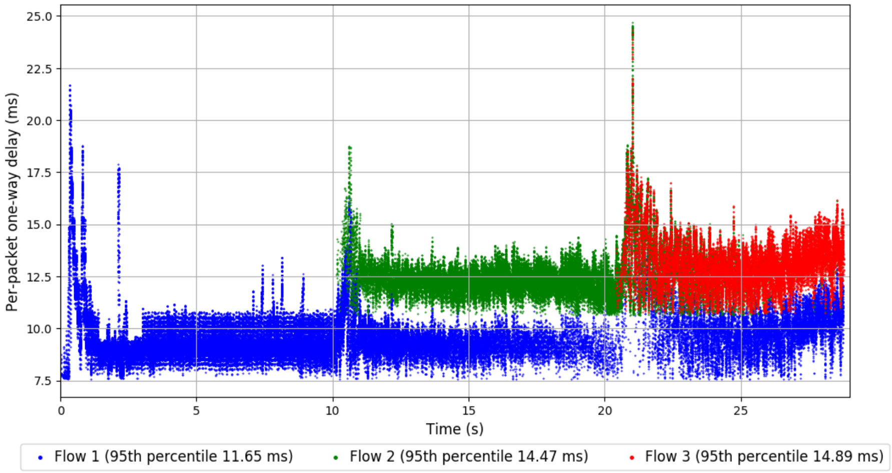
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-09-18 09:32:07
End at: 2019-09-18 09:32:37
Local clock offset: 1.71 ms
Remote clock offset: 0.625 ms

# Below is generated by plot.py at 2019-09-18 11:46:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 14.093 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.77 Mbit/s
95th percentile per-packet one-way delay: 11.651 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.98 Mbit/s
95th percentile per-packet one-way delay: 14.474 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 14.891 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesD — Data Link



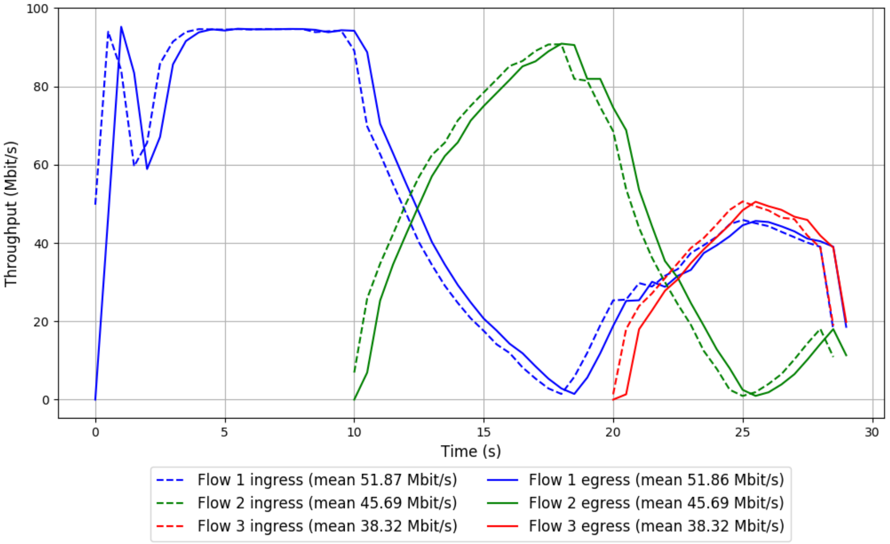


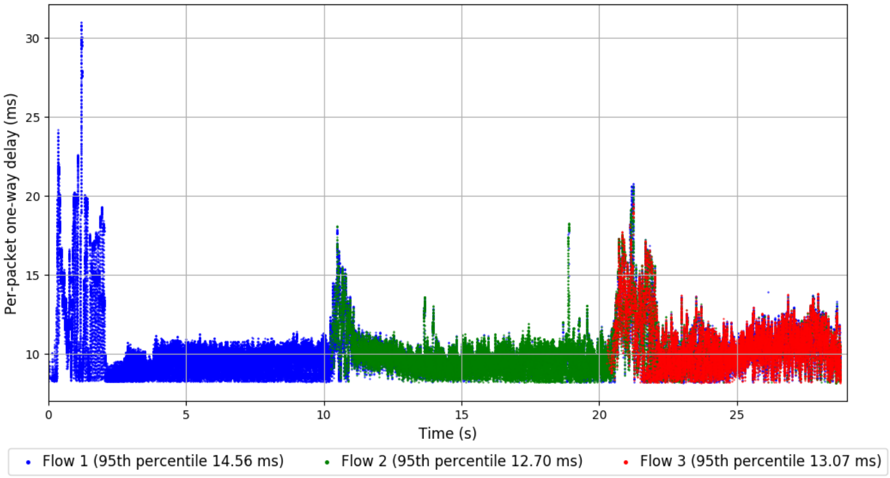
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-09-18 10:02:05
End at: 2019-09-18 10:02:35
Local clock offset: 2.418 ms
Remote clock offset: 3.887 ms

# Below is generated by plot.py at 2019-09-18 11:46:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.66 Mbit/s
95th percentile per-packet one-way delay: 13.579 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.86 Mbit/s
95th percentile per-packet one-way delay: 14.559 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.69 Mbit/s
95th percentile per-packet one-way delay: 12.703 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 13.068 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesD — Data Link



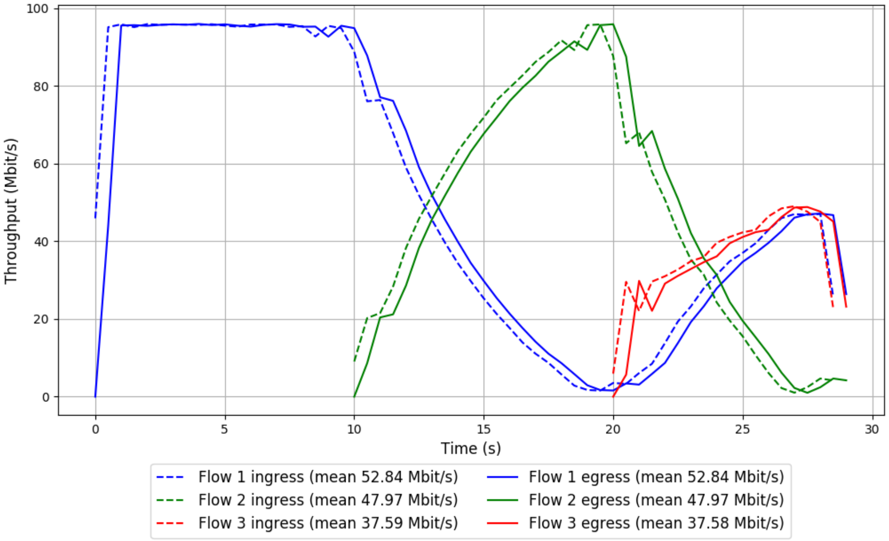


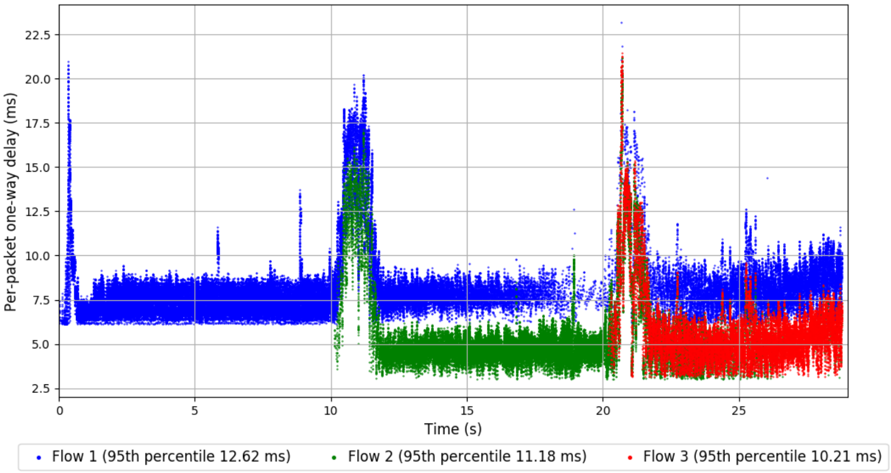
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-09-18 10:31:04
End at: 2019-09-18 10:31:34
Local clock offset: 4.394 ms
Remote clock offset: 3.465 ms

# Below is generated by plot.py at 2019-09-18 11:46:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 11.800 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.84 Mbit/s
95th percentile per-packet one-way delay: 12.620 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.97 Mbit/s
95th percentile per-packet one-way delay: 11.184 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 10.212 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesD — Data Link



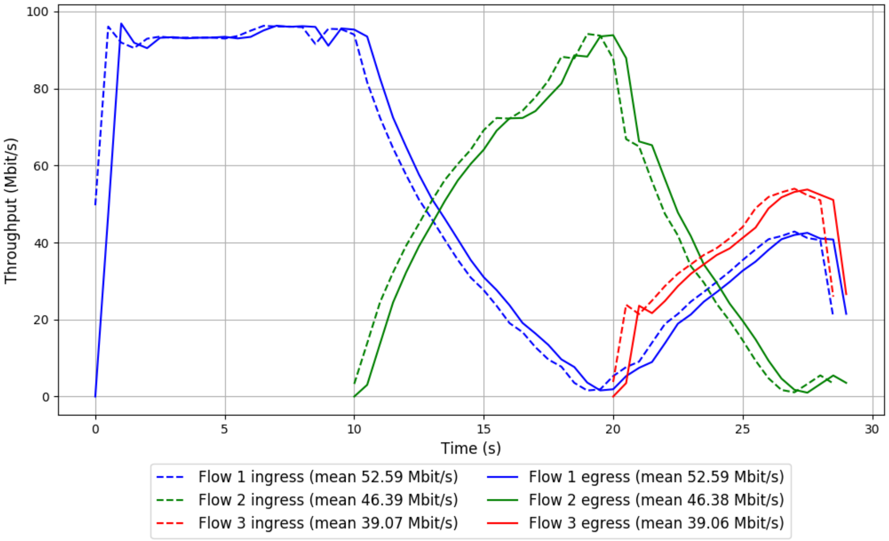


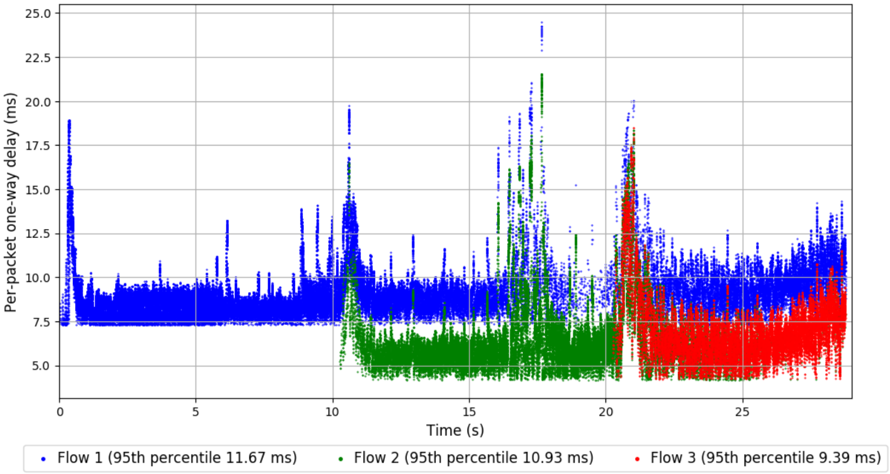
```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-09-18 10:59:57
End at: 2019-09-18 11:00:27
Local clock offset: 4.63 ms
Remote clock offset: 5.485 ms

# Below is generated by plot.py at 2019-09-18 11:46:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 11.376 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.59 Mbit/s
95th percentile per-packet one-way delay: 11.667 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.38 Mbit/s
95th percentile per-packet one-way delay: 10.933 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.06 Mbit/s
95th percentile per-packet one-way delay: 9.389 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link



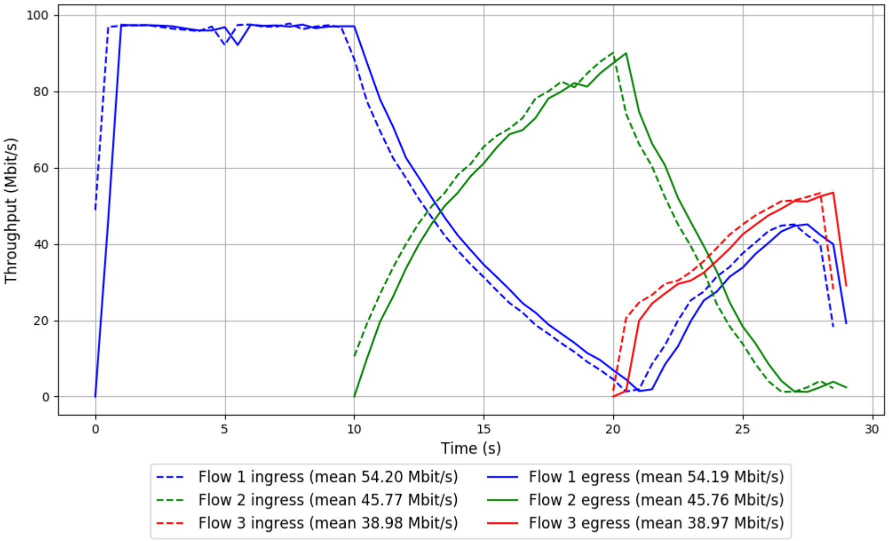


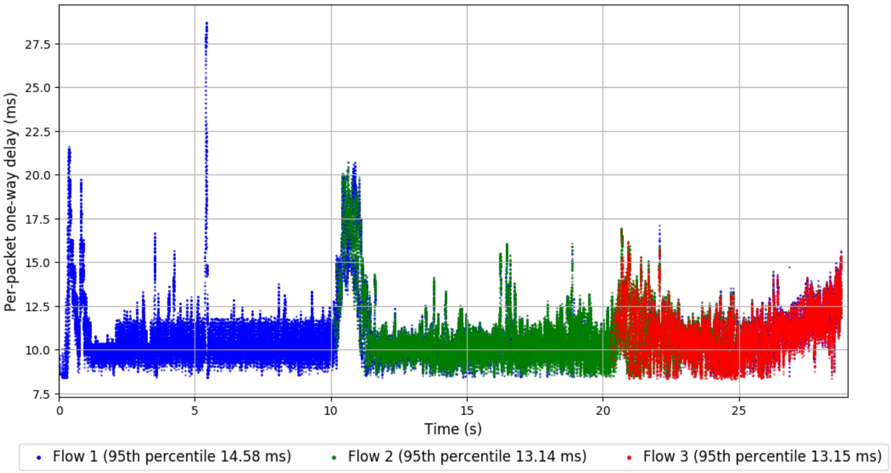
```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-09-18 11:31:06
End at: 2019-09-18 11:31:36
Local clock offset: 1.325 ms
Remote clock offset: 7.084 ms

# Below is generated by plot.py at 2019-09-18 11:47:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.42 Mbit/s
95th percentile per-packet one-way delay: 13.817 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.19 Mbit/s
95th percentile per-packet one-way delay: 14.582 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.76 Mbit/s
95th percentile per-packet one-way delay: 13.143 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.97 Mbit/s
95th percentile per-packet one-way delay: 13.153 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesD — Data Link



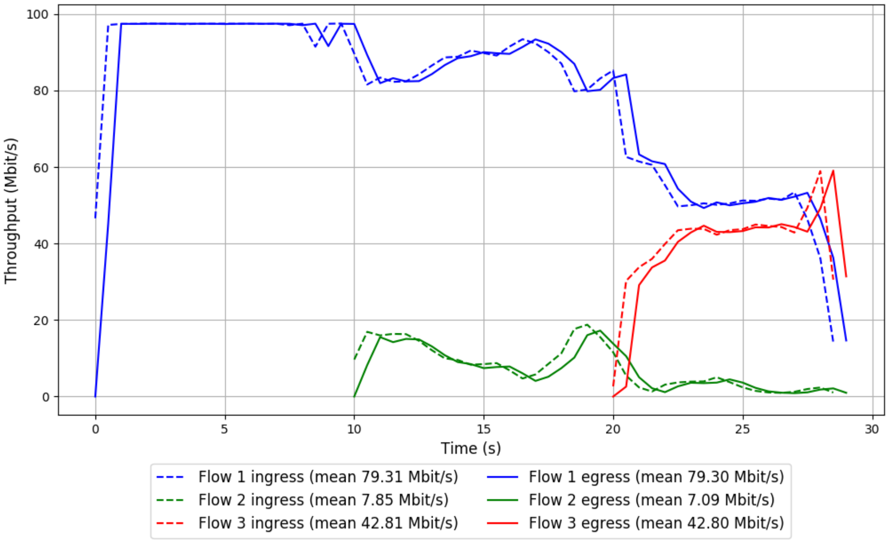


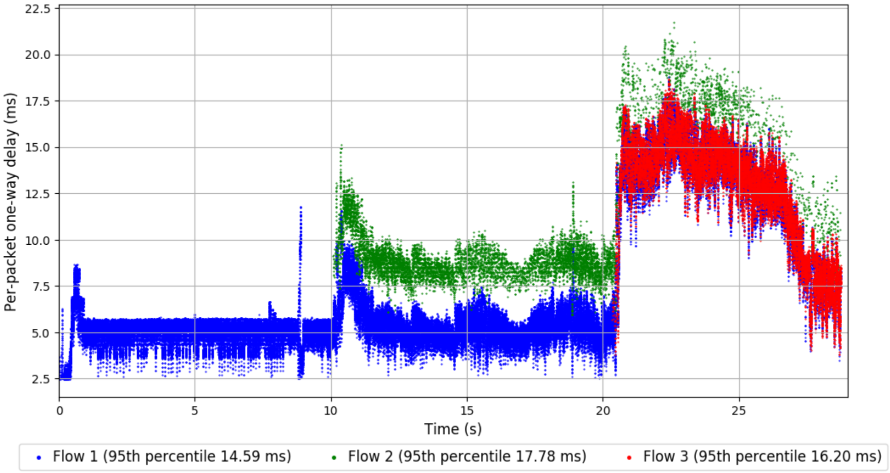
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-09-18 09:16:57
End at: 2019-09-18 09:17:27
Local clock offset: 6.429 ms
Remote clock offset: 1.359 ms

# Below is generated by plot.py at 2019-09-18 11:47:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.41 Mbit/s
95th percentile per-packet one-way delay: 15.224 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 79.30 Mbit/s
95th percentile per-packet one-way delay: 14.585 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 17.778 ms
Loss rate: 9.72%
-- Flow 3:
Average throughput: 42.80 Mbit/s
95th percentile per-packet one-way delay: 16.200 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesT — Data Link



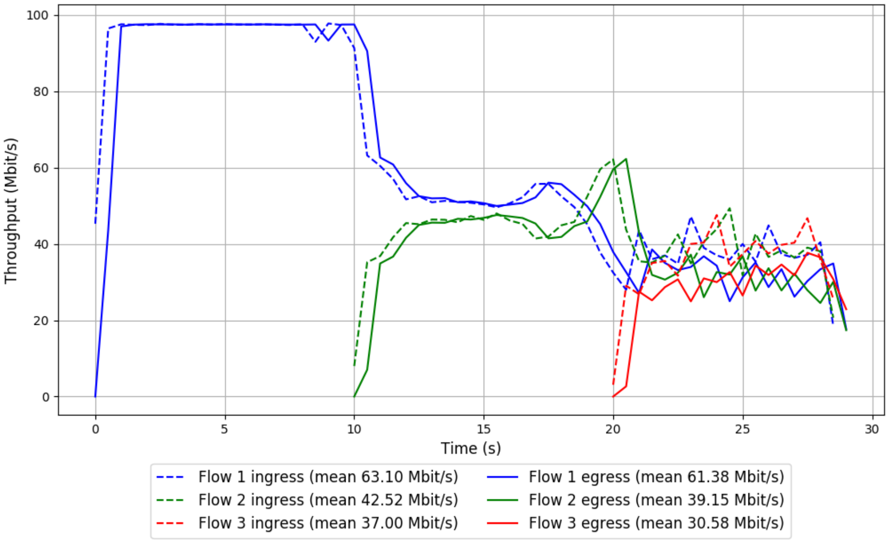


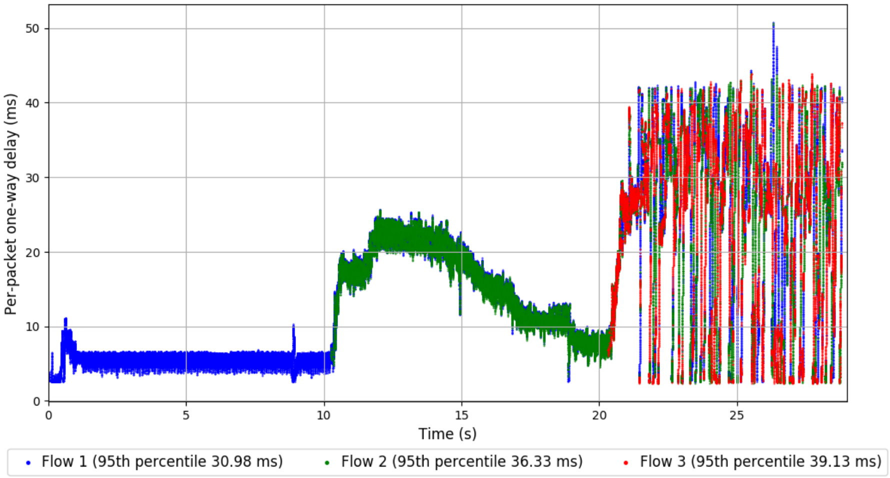
```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-09-18 09:47:03
End at: 2019-09-18 09:47:33
Local clock offset: 6.985 ms
Remote clock offset: 1.582 ms

# Below is generated by plot.py at 2019-09-18 11:47:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 35.303 ms
Loss rate: 5.56%
-- Flow 1:
Average throughput: 61.38 Mbit/s
95th percentile per-packet one-way delay: 30.976 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 39.15 Mbit/s
95th percentile per-packet one-way delay: 36.325 ms
Loss rate: 7.81%
-- Flow 3:
Average throughput: 30.58 Mbit/s
95th percentile per-packet one-way delay: 39.126 ms
Loss rate: 17.05%
```

Run 2: Report of Indigo-MusesT — Data Link



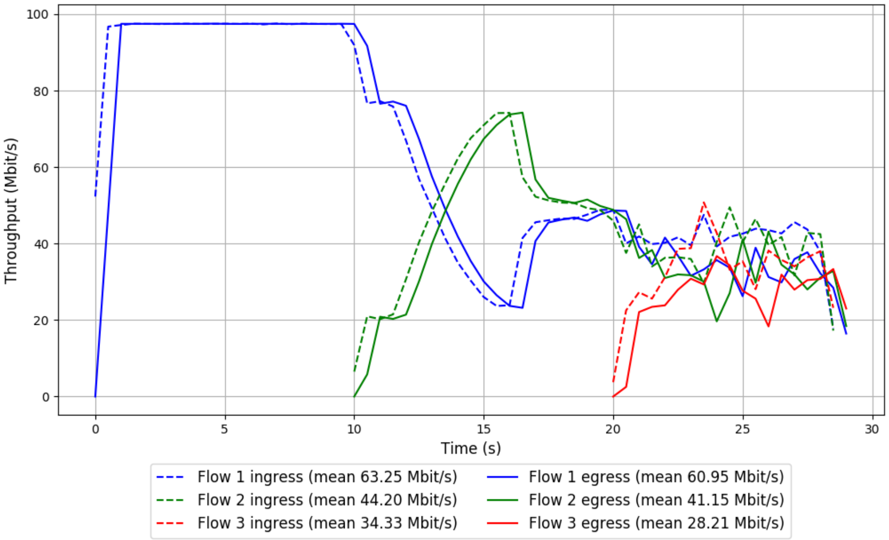


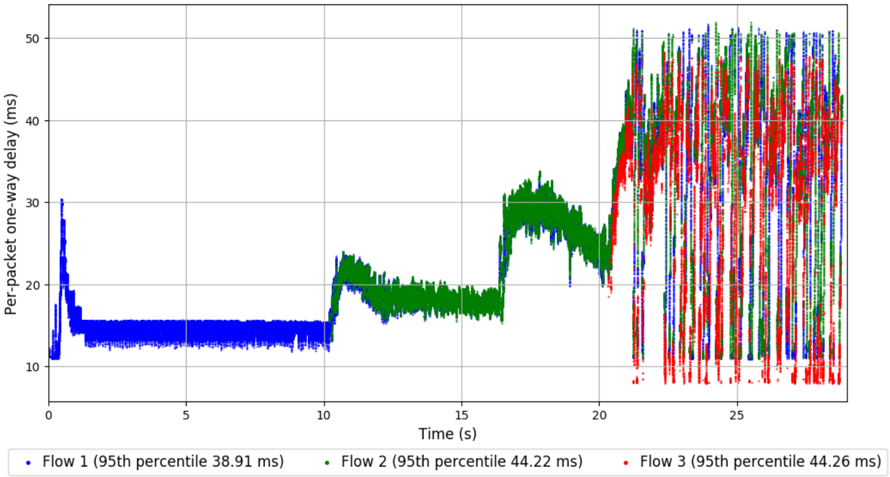
```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-09-18 10:16:22
End at: 2019-09-18 10:16:52
Local clock offset: 1.18 ms
Remote clock offset: 4.306 ms

# Below is generated by plot.py at 2019-09-18 11:47:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 41.929 ms
Loss rate: 5.87%
-- Flow 1:
Average throughput: 60.95 Mbit/s
95th percentile per-packet one-way delay: 38.912 ms
Loss rate: 3.54%
-- Flow 2:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 44.215 ms
Loss rate: 6.81%
-- Flow 3:
Average throughput: 28.21 Mbit/s
95th percentile per-packet one-way delay: 44.260 ms
Loss rate: 17.72%
```

Run 3: Report of Indigo-MusesT — Data Link



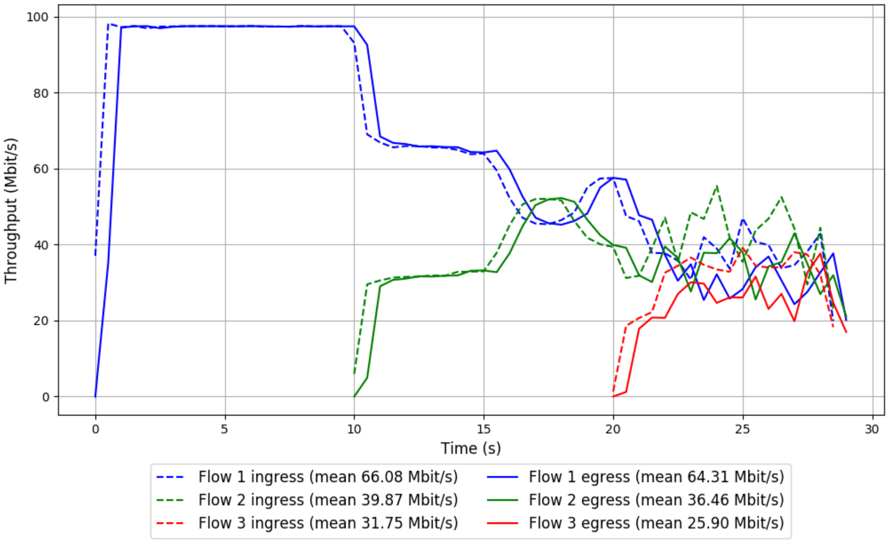


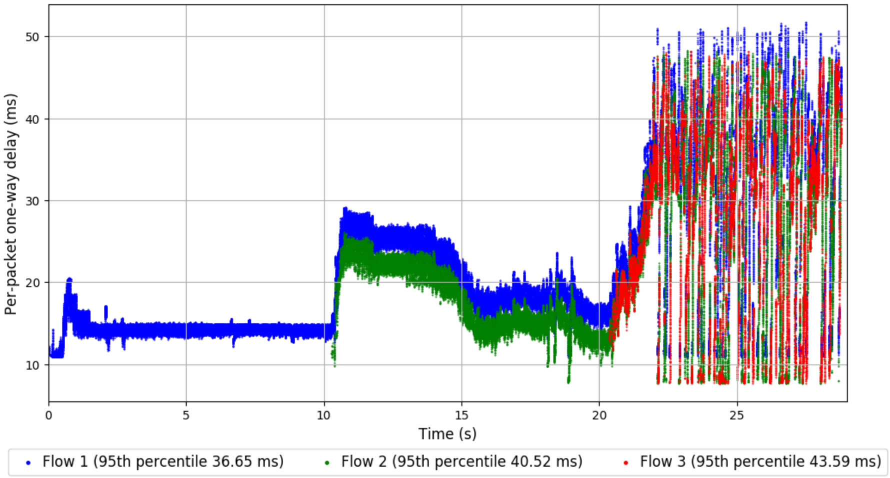
```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-09-18 10:45:23
End at: 2019-09-18 10:45:53
Local clock offset: 0.524 ms
Remote clock offset: 4.23 ms

# Below is generated by plot.py at 2019-09-18 11:47:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 39.608 ms
Loss rate: 5.48%
-- Flow 1:
Average throughput: 64.31 Mbit/s
95th percentile per-packet one-way delay: 36.645 ms
Loss rate: 2.56%
-- Flow 2:
Average throughput: 36.46 Mbit/s
95th percentile per-packet one-way delay: 40.517 ms
Loss rate: 8.40%
-- Flow 3:
Average throughput: 25.90 Mbit/s
95th percentile per-packet one-way delay: 43.587 ms
Loss rate: 18.15%
```

Run 4: Report of Indigo-MusesT — Data Link



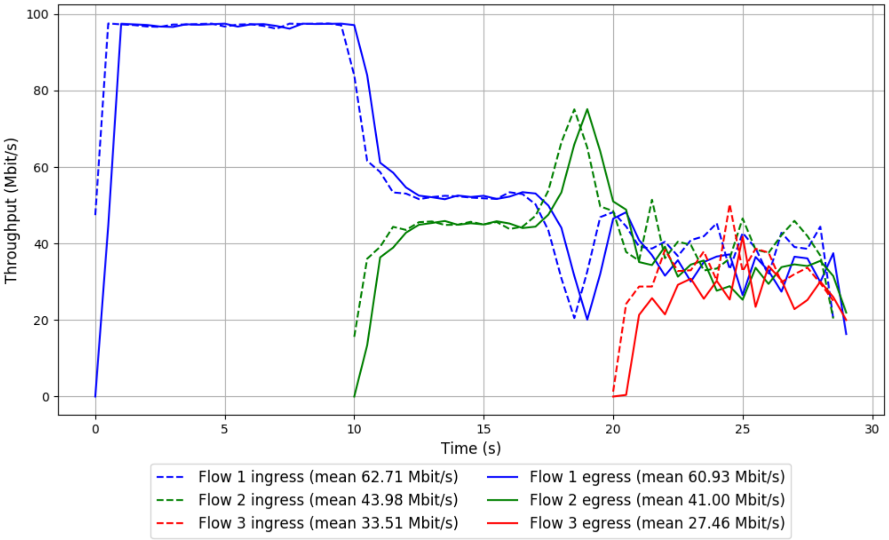


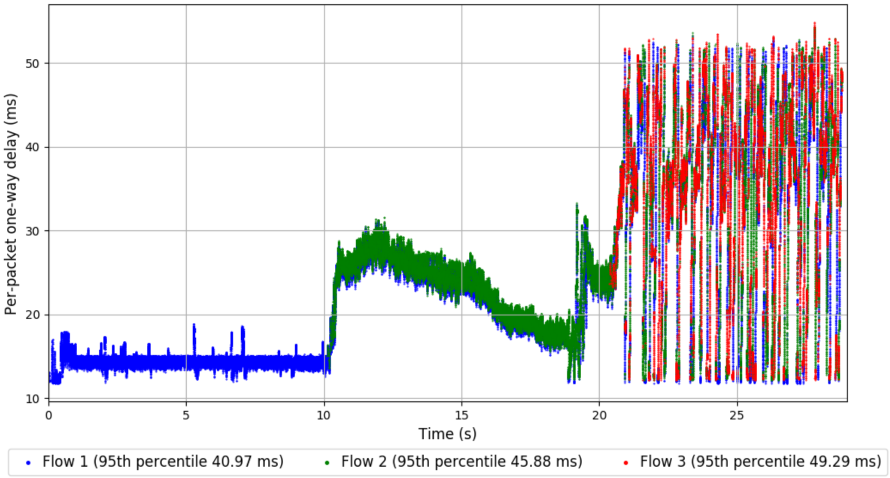
```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-09-18 11:15:13
End at: 2019-09-18 11:15:43
Local clock offset: 0.667 ms
Remote clock offset: 10.332 ms

# Below is generated by plot.py at 2019-09-18 11:48:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 45.109 ms
Loss rate: 5.29%
-- Flow 1:
Average throughput: 60.93 Mbit/s
95th percentile per-packet one-way delay: 40.966 ms
Loss rate: 2.72%
-- Flow 2:
Average throughput: 41.00 Mbit/s
95th percentile per-packet one-way delay: 45.877 ms
Loss rate: 6.62%
-- Flow 3:
Average throughput: 27.46 Mbit/s
95th percentile per-packet one-way delay: 49.294 ms
Loss rate: 17.87%
```

Run 5: Report of Indigo-MusesT — Data Link



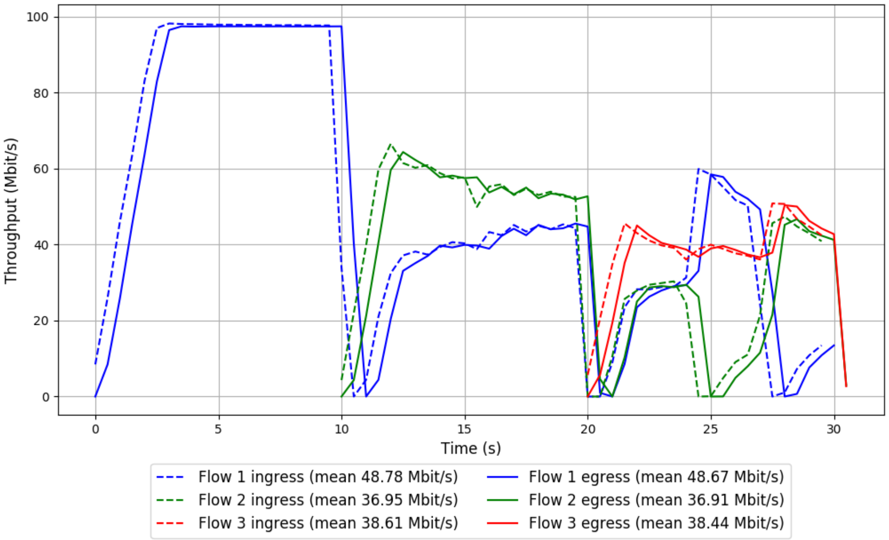


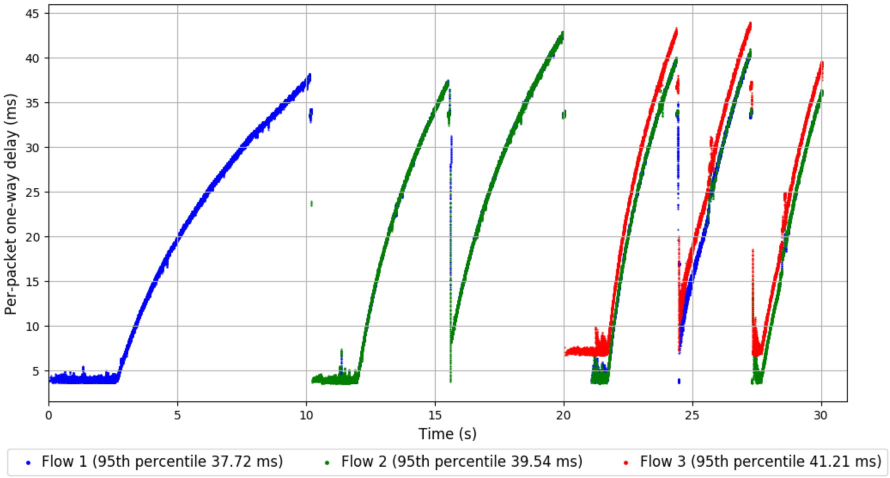
```
Run 1: Statistics of LEDBAT

Start at: 2019-09-18 09:28:19
End at: 2019-09-18 09:28:49
Local clock offset: 7.461 ms
Remote clock offset: 2.503 ms

# Below is generated by plot.py at 2019-09-18 11:48:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.97 Mbit/s
95th percentile per-packet one-way delay: 39.013 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 37.716 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 36.91 Mbit/s
95th percentile per-packet one-way delay: 39.543 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 38.44 Mbit/s
95th percentile per-packet one-way delay: 41.209 ms
Loss rate: 0.12%
```

Run 1: Report of LEDBAT — Data Link



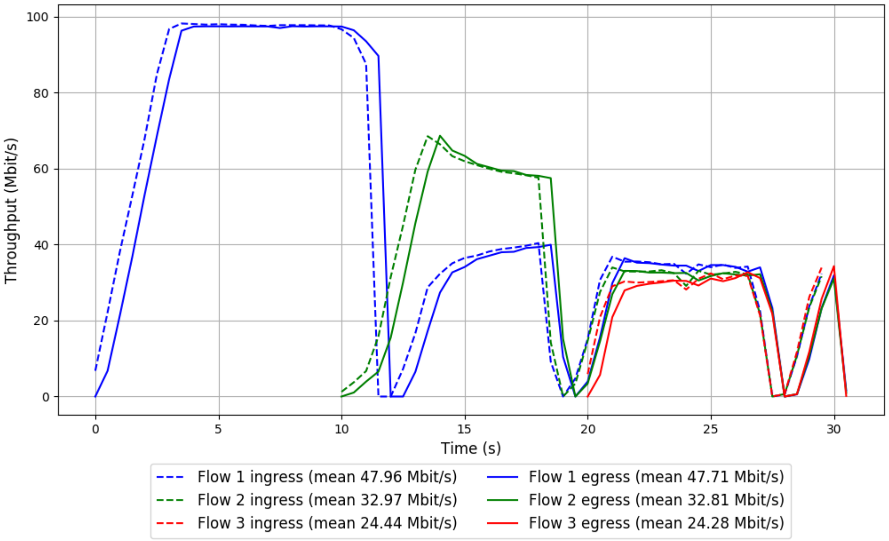


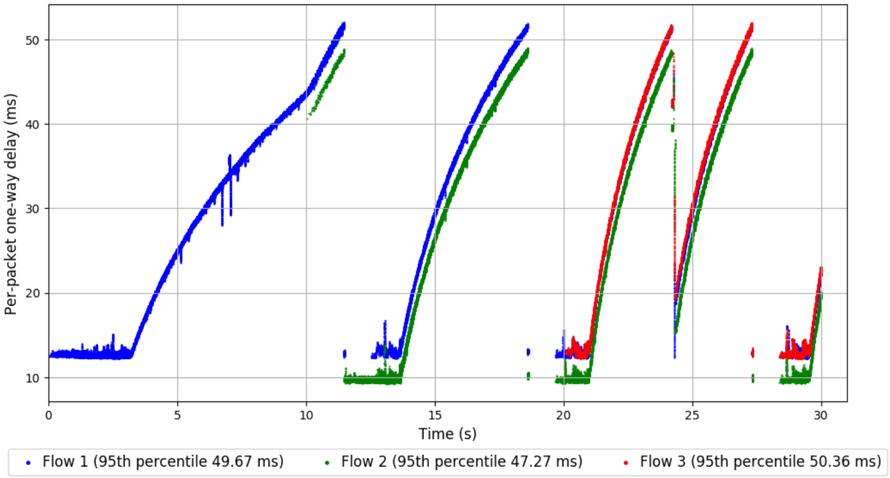
```
Run 2: Statistics of LEDBAT

Start at: 2019-09-18 09:58:19
End at: 2019-09-18 09:58:49
Local clock offset: 2.455 ms
Remote clock offset: 4.487 ms

# Below is generated by plot.py at 2019-09-18 11:48:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.62 Mbit/s
95th percentile per-packet one-way delay: 49.047 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 47.71 Mbit/s
95th percentile per-packet one-way delay: 49.671 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 47.265 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 50.362 ms
Loss rate: 0.59%
```

Run 2: Report of LEDBAT — Data Link



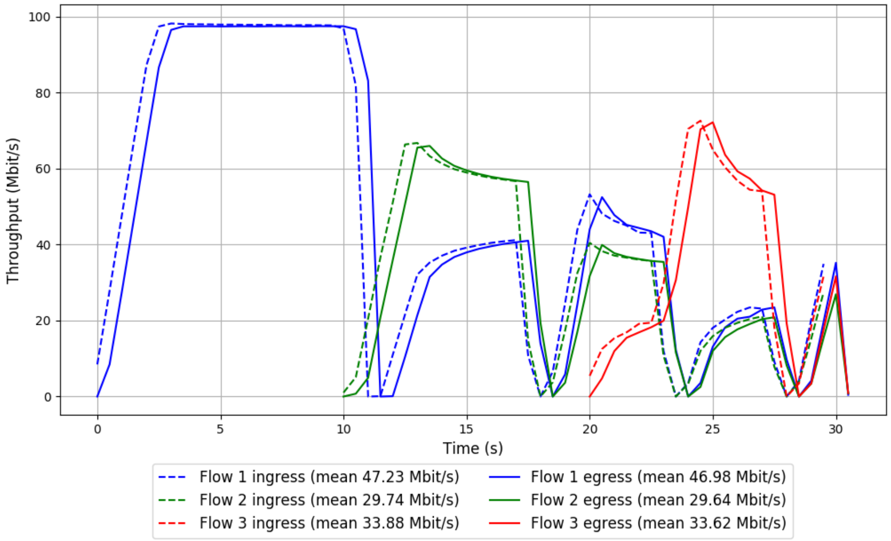


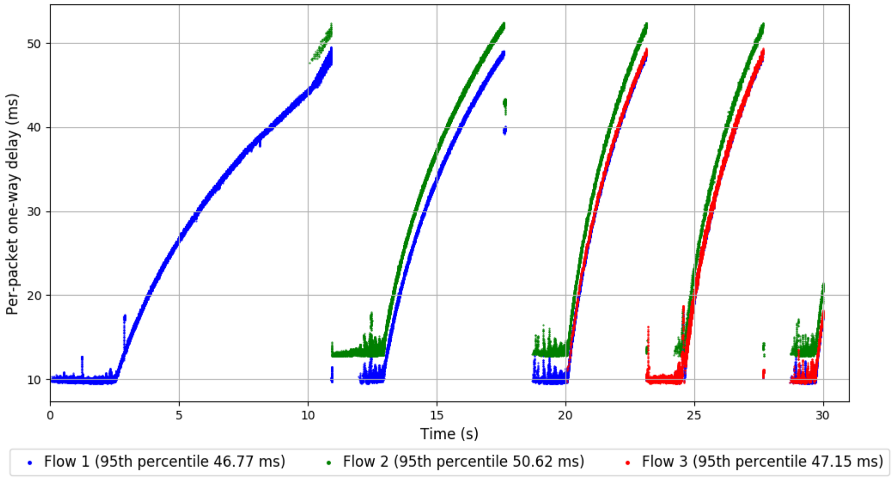
```
Run 3: Statistics of LEDBAT

Start at: 2019-09-18 10:27:21
End at: 2019-09-18 10:27:51
Local clock offset: -0.037 ms
Remote clock offset: 5.425 ms

# Below is generated by plot.py at 2019-09-18 11:48:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.88 Mbit/s
95th percentile per-packet one-way delay: 47.976 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 46.98 Mbit/s
95th percentile per-packet one-way delay: 46.768 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 29.64 Mbit/s
95th percentile per-packet one-way delay: 50.618 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 33.62 Mbit/s
95th percentile per-packet one-way delay: 47.145 ms
Loss rate: 0.68%
```

Run 3: Report of LEDBAT — Data Link



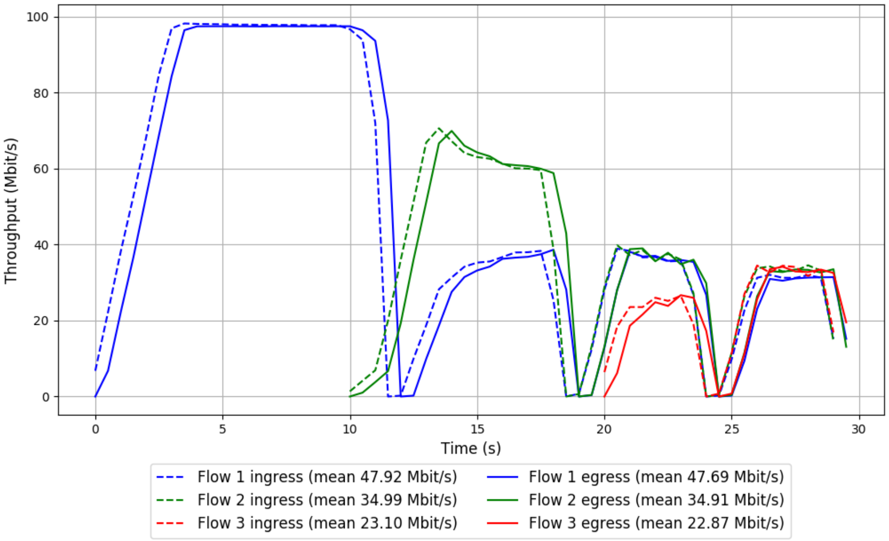


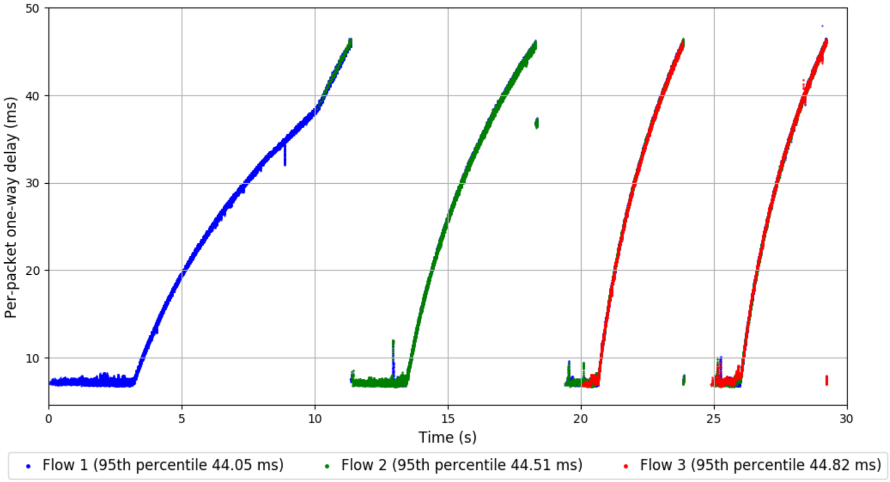
```
Run 4: Statistics of LEDBAT

Start at: 2019-09-18 10:56:11
End at: 2019-09-18 10:56:41
Local clock offset: 5.433 ms
Remote clock offset: 5.648 ms

# Below is generated by plot.py at 2019-09-18 11:48:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.76 Mbit/s
95th percentile per-packet one-way delay: 44.310 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 47.69 Mbit/s
95th percentile per-packet one-way delay: 44.046 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 34.91 Mbit/s
95th percentile per-packet one-way delay: 44.506 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 22.87 Mbit/s
95th percentile per-packet one-way delay: 44.824 ms
Loss rate: 1.00%
```

Run 4: Report of LEDBAT — Data Link



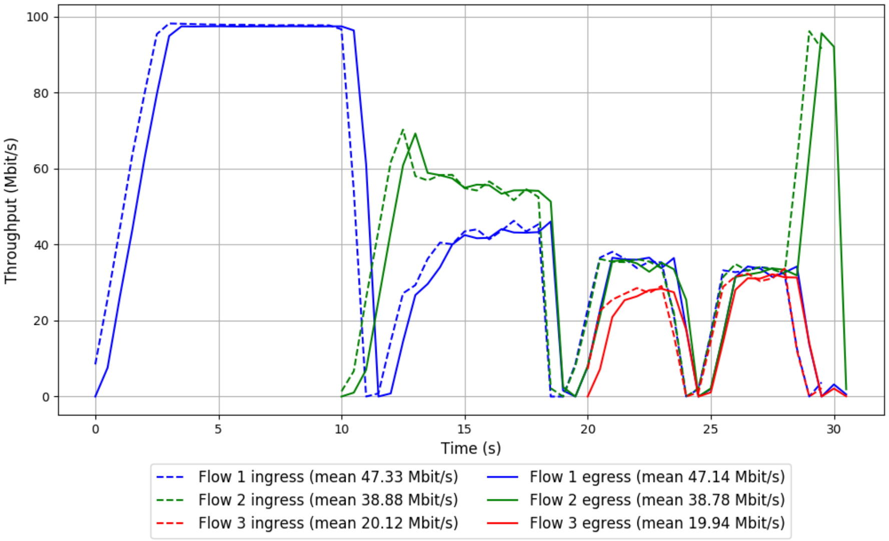


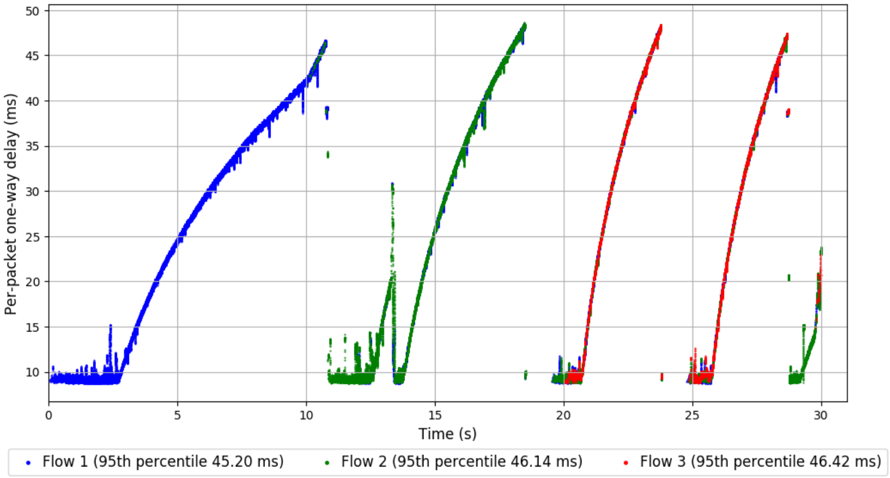
```
Run 5: Statistics of LEDBAT

Start at: 2019-09-18 11:26:58
End at: 2019-09-18 11:27:28
Local clock offset: 0.608 ms
Remote clock offset: 6.611 ms

# Below is generated by plot.py at 2019-09-18 11:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.56 Mbit/s
95th percentile per-packet one-way delay: 45.673 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 47.14 Mbit/s
95th percentile per-packet one-way delay: 45.204 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 38.78 Mbit/s
95th percentile per-packet one-way delay: 46.139 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 19.94 Mbit/s
95th percentile per-packet one-way delay: 46.418 ms
Loss rate: 0.77%
```

Run 5: Report of LEDBAT — Data Link



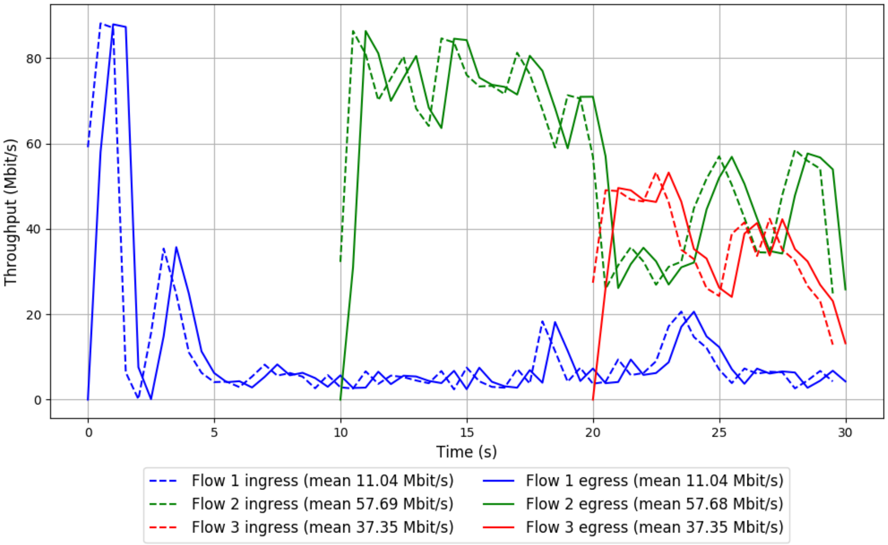


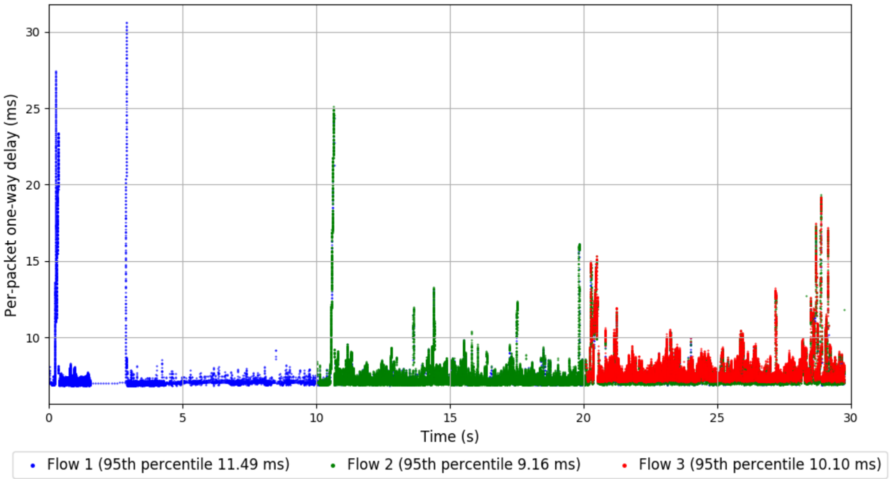
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-09-18 09:09:54
End at: 2019-09-18 09:10:24
Local clock offset: 6.119 ms
Remote clock offset: 2.725 ms

# Below is generated by plot.py at 2019-09-18 11:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.46 Mbit/s
95th percentile per-packet one-way delay: 9.518 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 11.486 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.68 Mbit/s
95th percentile per-packet one-way delay: 9.162 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.35 Mbit/s
95th percentile per-packet one-way delay: 10.104 ms
Loss rate: 0.00%
```

Run 1: Report of Muses_DecisionTree — Data Link



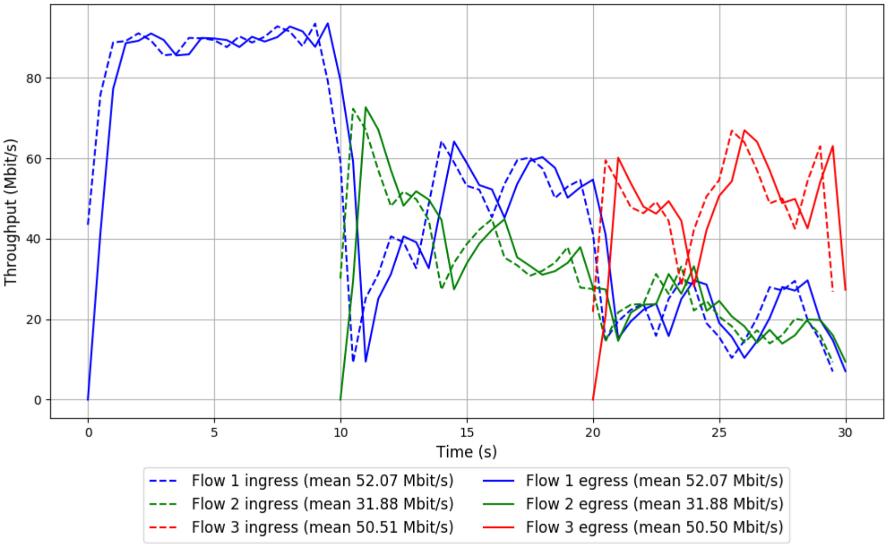


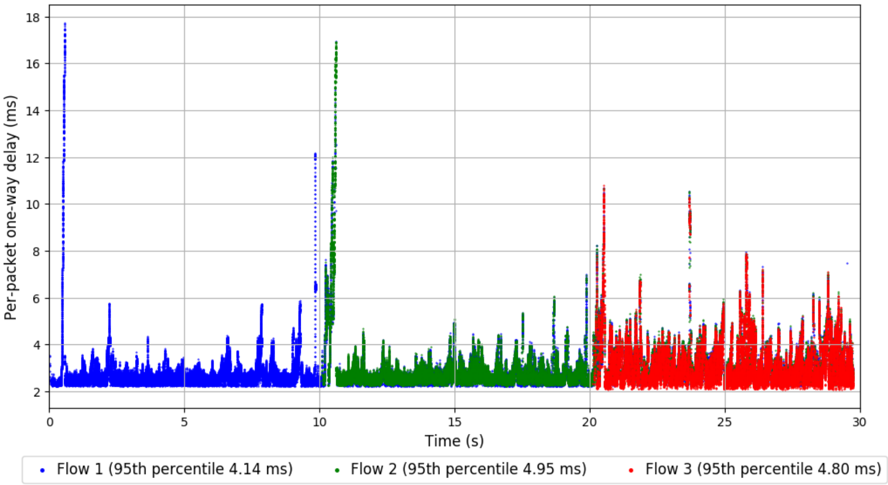
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-09-18 09:39:46
End at: 2019-09-18 09:40:16
Local clock offset: 6.472 ms
Remote clock offset: 0.462 ms

# Below is generated by plot.py at 2019-09-18 11:49:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 4.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.07 Mbit/s
95th percentile per-packet one-way delay: 4.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.88 Mbit/s
95th percentile per-packet one-way delay: 4.946 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.50 Mbit/s
95th percentile per-packet one-way delay: 4.802 ms
Loss rate: 0.00%
```

Run 2: Report of Muses_DecisionTree — Data Link



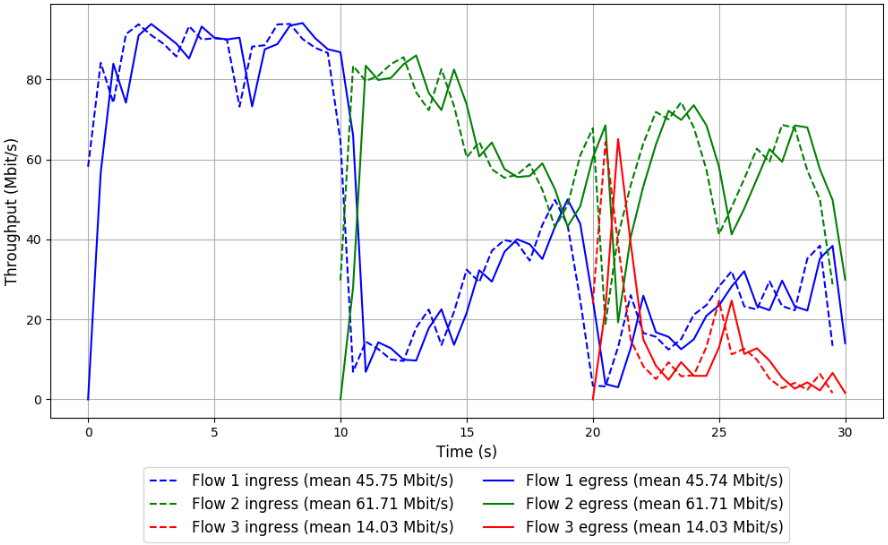


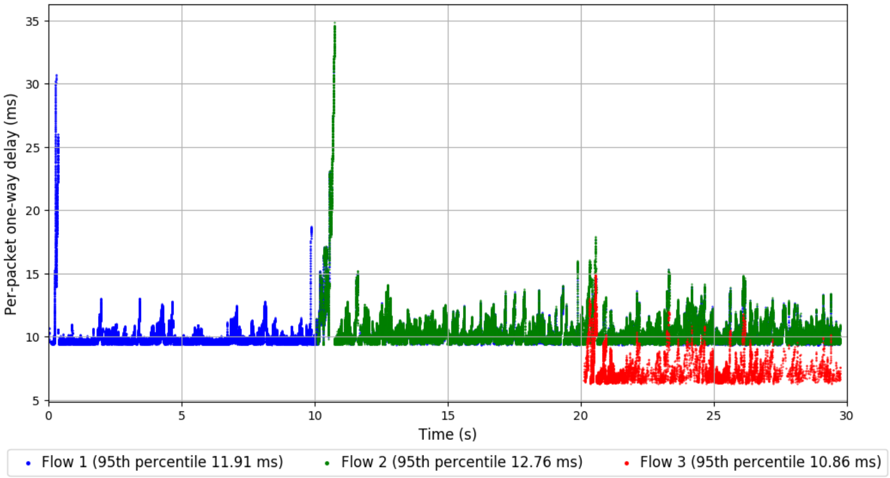
```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-09-18 10:09:19
End at: 2019-09-18 10:09:49
Local clock offset: 1.684 ms
Remote clock offset: 2.582 ms

# Below is generated by plot.py at 2019-09-18 11:49:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.19 Mbit/s
95th percentile per-packet one-way delay: 12.341 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 11.911 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 61.71 Mbit/s
95th percentile per-packet one-way delay: 12.758 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.03 Mbit/s
95th percentile per-packet one-way delay: 10.858 ms
Loss rate: 0.00%
```

Run 3: Report of Muses_DecisionTree — Data Link



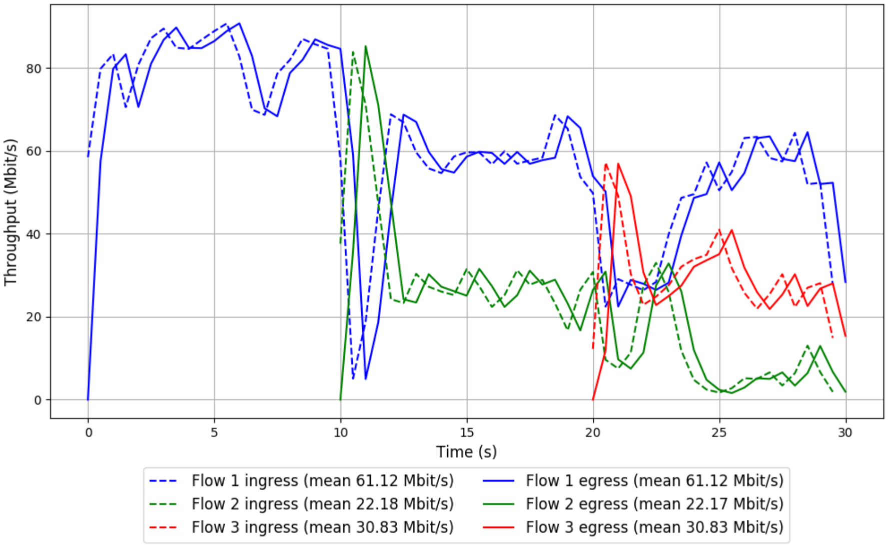


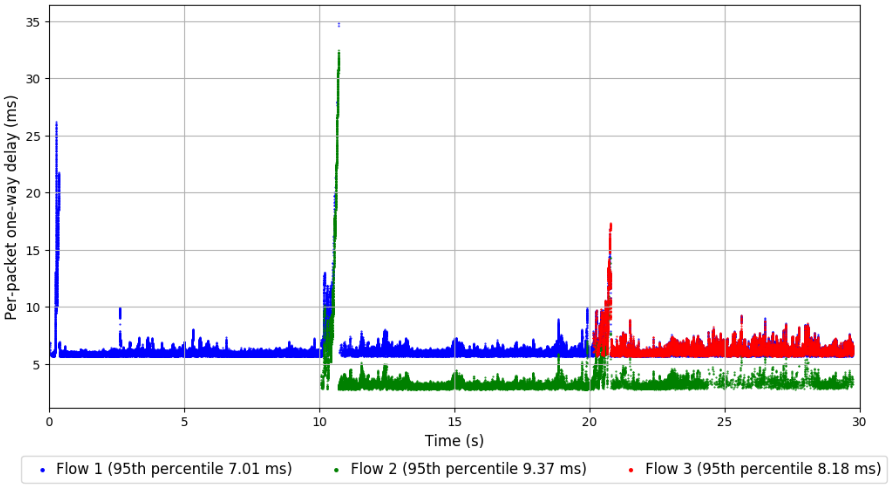
```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-09-18 10:38:17
End at: 2019-09-18 10:38:47
Local clock offset: 4.889 ms
Remote clock offset: 3.393 ms

# Below is generated by plot.py at 2019-09-18 11:49:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.79 Mbit/s
95th percentile per-packet one-way delay: 7.219 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.12 Mbit/s
95th percentile per-packet one-way delay: 7.011 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.17 Mbit/s
95th percentile per-packet one-way delay: 9.369 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.83 Mbit/s
95th percentile per-packet one-way delay: 8.183 ms
Loss rate: 0.00%
```

Run 4: Report of Muses_DecisionTree — Data Link



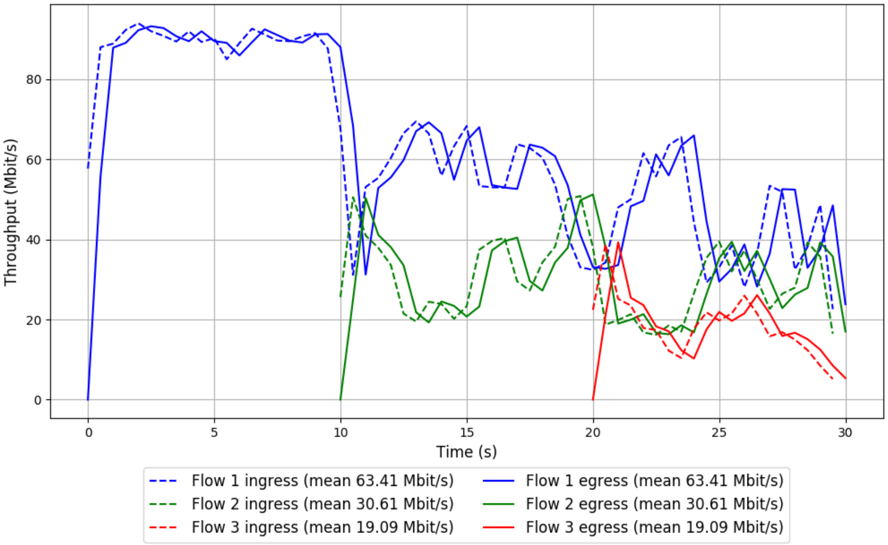


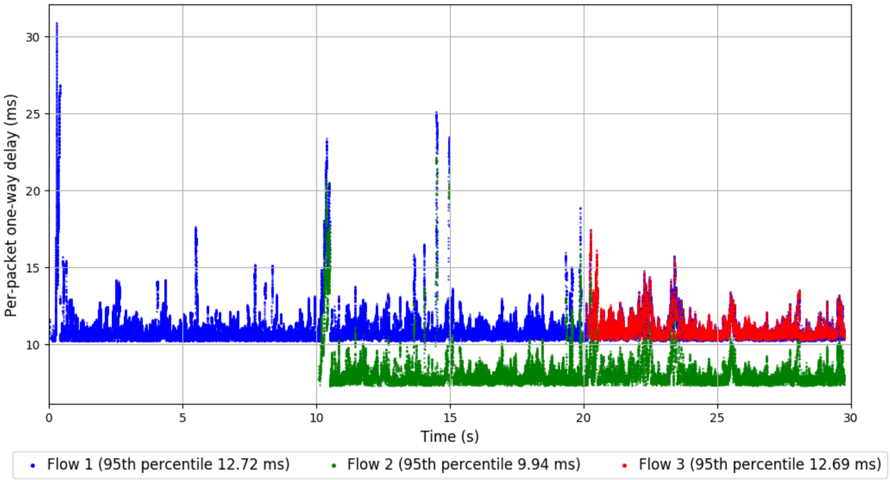
```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-09-18 11:07:56
End at: 2019-09-18 11:08:26
Local clock offset: 0.905 ms
Remote clock offset: 4.712 ms

# Below is generated by plot.py at 2019-09-18 11:49:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.88 Mbit/s
95th percentile per-packet one-way delay: 12.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.41 Mbit/s
95th percentile per-packet one-way delay: 12.725 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.61 Mbit/s
95th percentile per-packet one-way delay: 9.940 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 12.692 ms
Loss rate: 0.00%
```

Run 5: Report of Muses_DecisionTree — Data Link



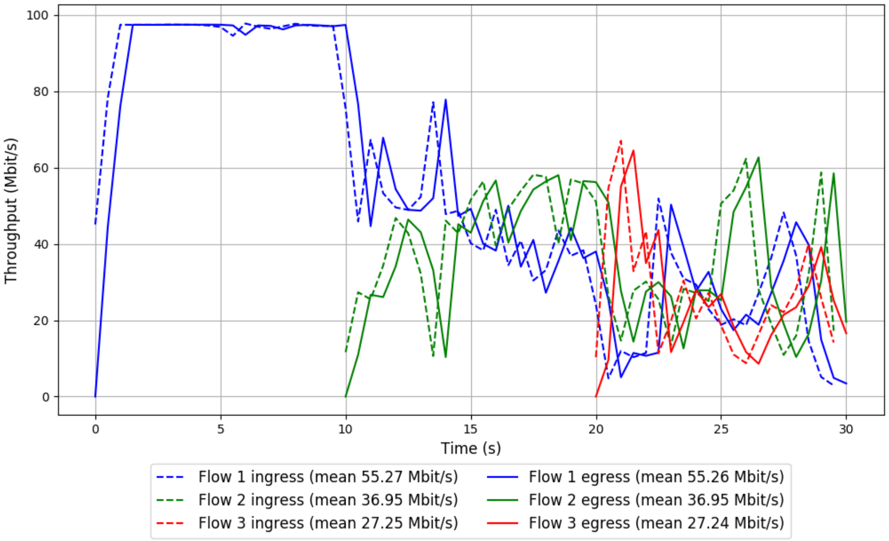


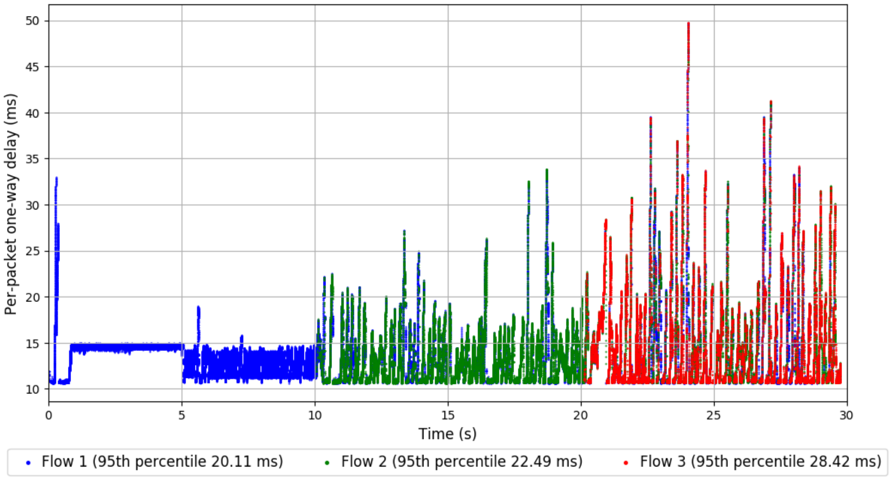
```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-09-18 09:29:36
End at: 2019-09-18 09:30:06
Local clock offset: 3.066 ms
Remote clock offset: 1.89 ms

# Below is generated by plot.py at 2019-09-18 11:49:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.61 Mbit/s
95th percentile per-packet one-way delay: 22.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.26 Mbit/s
95th percentile per-packet one-way delay: 20.108 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.95 Mbit/s
95th percentile per-packet one-way delay: 22.493 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.24 Mbit/s
95th percentile per-packet one-way delay: 28.418 ms
Loss rate: 0.00%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link



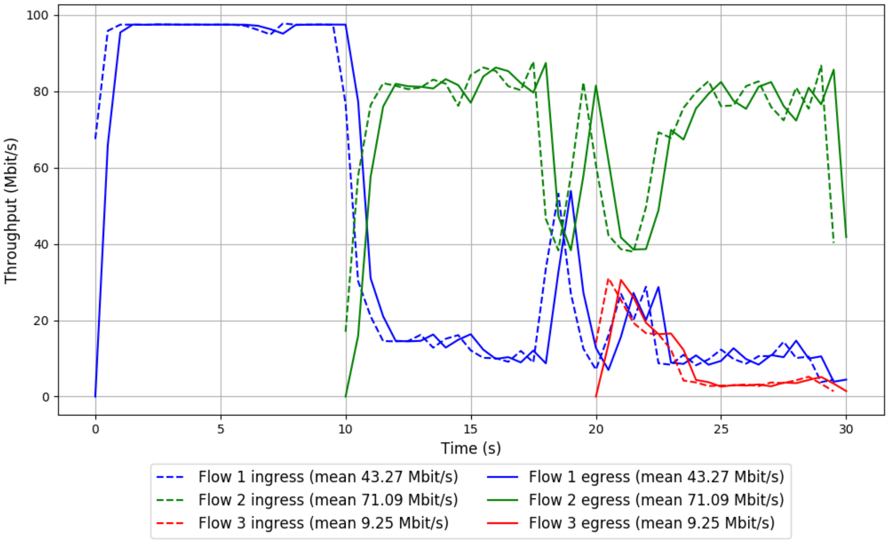


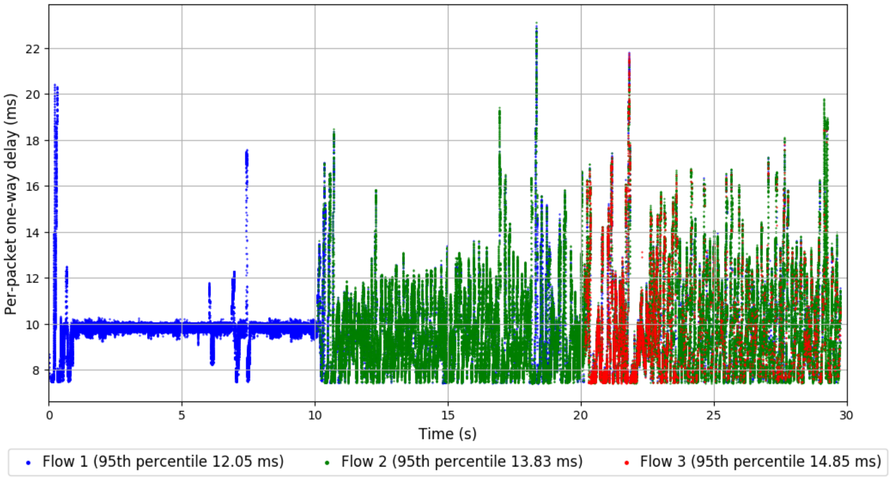
```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-09-18 09:59:32
End at: 2019-09-18 10:00:02
Local clock offset: 2.379 ms
Remote clock offset: 2.67 ms

# Below is generated by plot.py at 2019-09-18 11:49:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 13.296 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.27 Mbit/s
95th percentile per-packet one-way delay: 12.052 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 71.09 Mbit/s
95th percentile per-packet one-way delay: 13.831 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 14.851 ms
Loss rate: 0.00%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



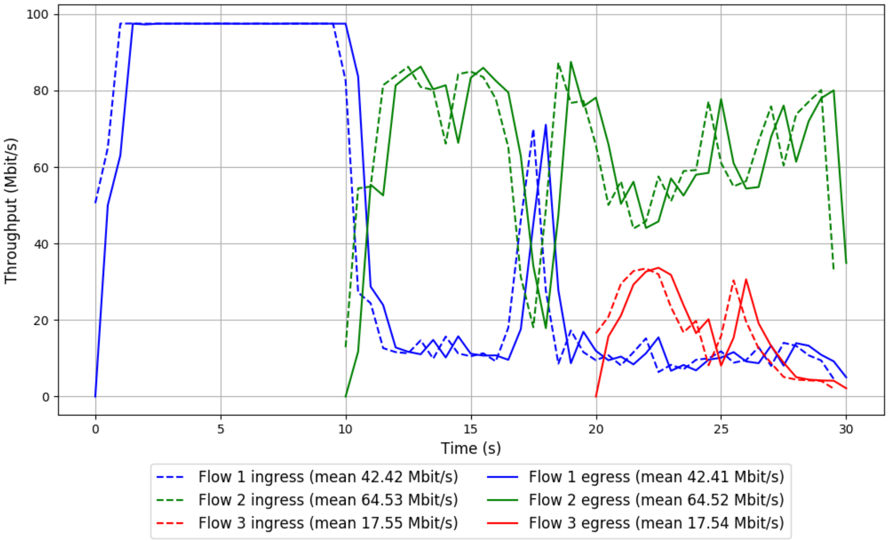


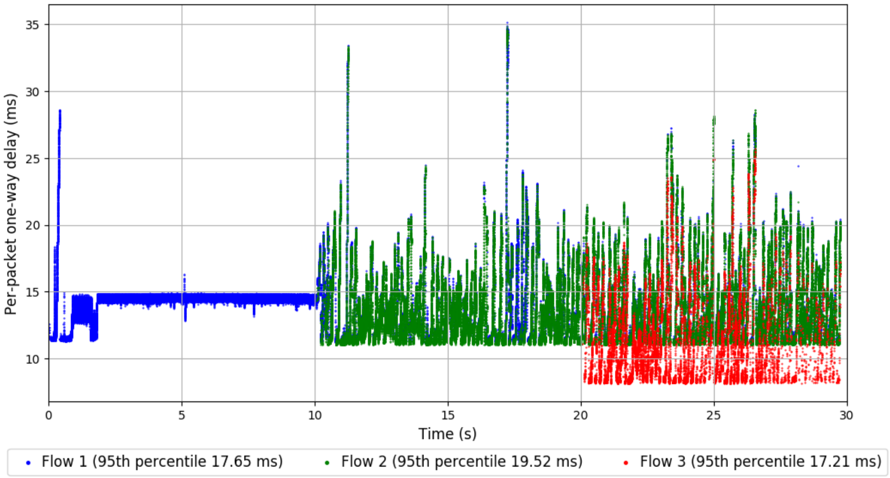
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-09-18 10:28:34
End at: 2019-09-18 10:29:04
Local clock offset: 0.451 ms
Remote clock offset: 4.482 ms

# Below is generated by plot.py at 2019-09-18 11:49:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.80 Mbit/s
95th percentile per-packet one-way delay: 18.838 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.41 Mbit/s
95th percentile per-packet one-way delay: 17.651 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.52 Mbit/s
95th percentile per-packet one-way delay: 19.524 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.54 Mbit/s
95th percentile per-packet one-way delay: 17.207 ms
Loss rate: 0.00%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



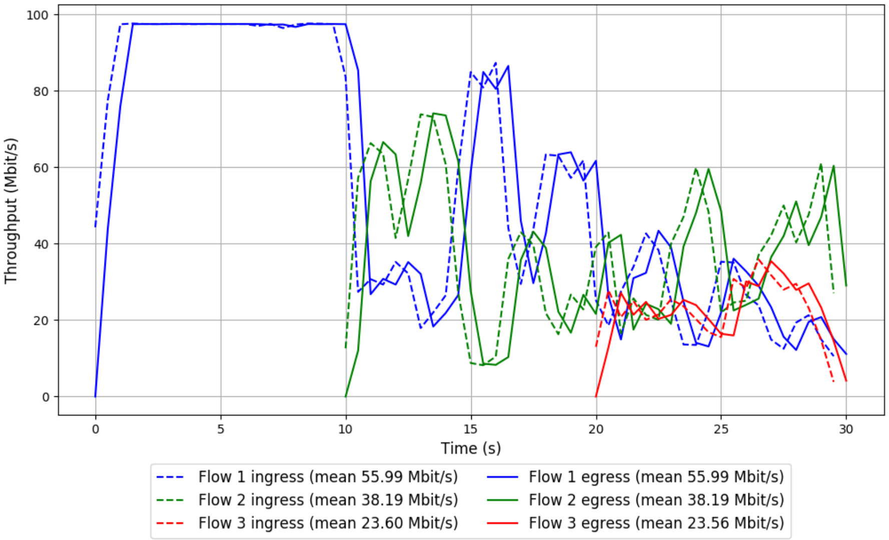


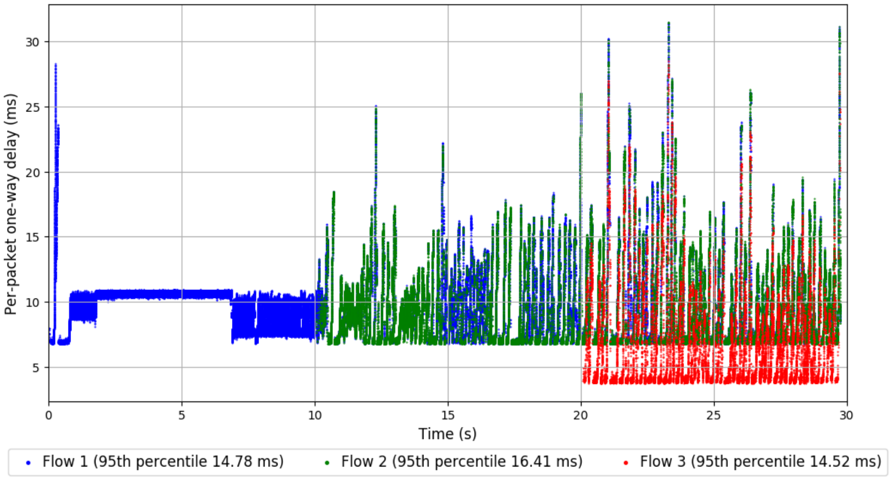
```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-09-18 10:57:25
End at: 2019-09-18 10:57:55
Local clock offset: 4.645 ms
Remote clock offset: 4.884 ms

# Below is generated by plot.py at 2019-09-18 11:49:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.94 Mbit/s
95th percentile per-packet one-way delay: 15.392 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.99 Mbit/s
95th percentile per-packet one-way delay: 14.784 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.19 Mbit/s
95th percentile per-packet one-way delay: 16.413 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 14.516 ms
Loss rate: 0.00%
```

Run 4: Report of Muses_DecisionTreeH0 — Data Link



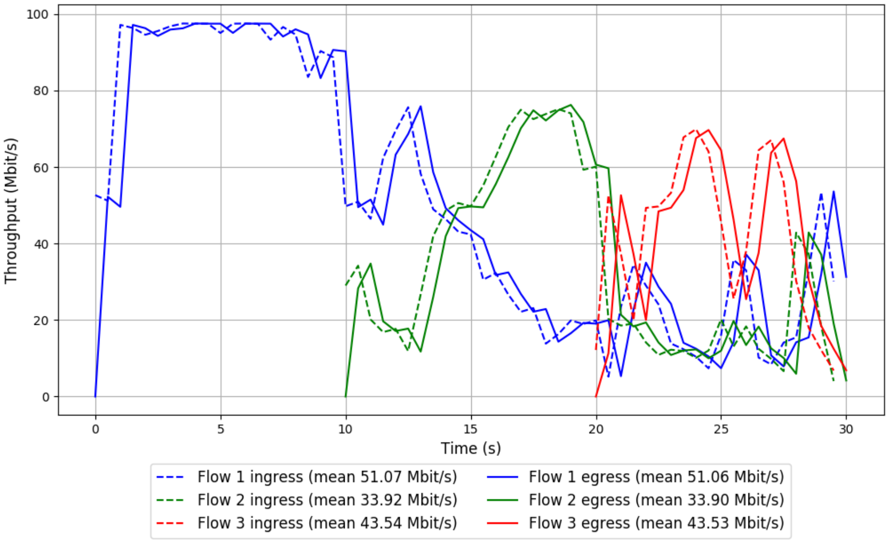


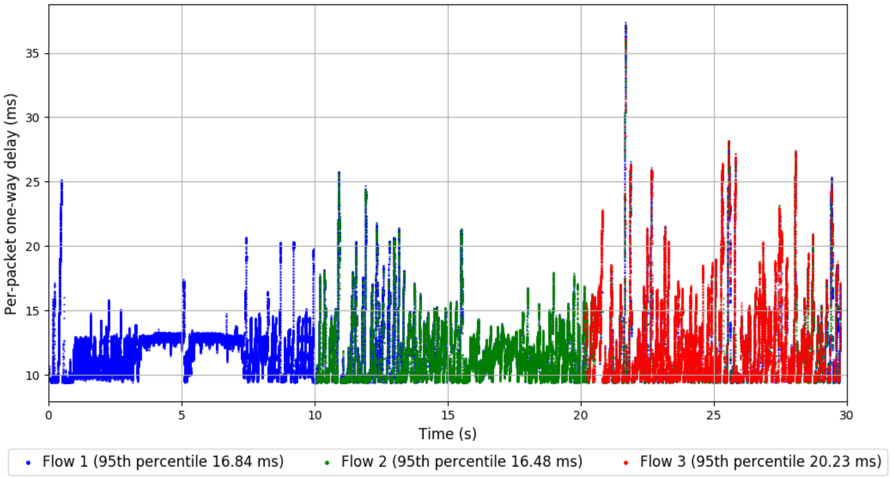
```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-09-18 11:28:22
End at: 2019-09-18 11:28:52
Local clock offset: 0.728 ms
Remote clock offset: 7.472 ms

# Below is generated by plot.py at 2019-09-18 11:50:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.66 Mbit/s
95th percentile per-packet one-way delay: 17.517 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.06 Mbit/s
95th percentile per-packet one-way delay: 16.838 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.90 Mbit/s
95th percentile per-packet one-way delay: 16.482 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.53 Mbit/s
95th percentile per-packet one-way delay: 20.235 ms
Loss rate: 0.00%
```

Run 5: Report of Muses_DecisionTreeH0 — Data Link



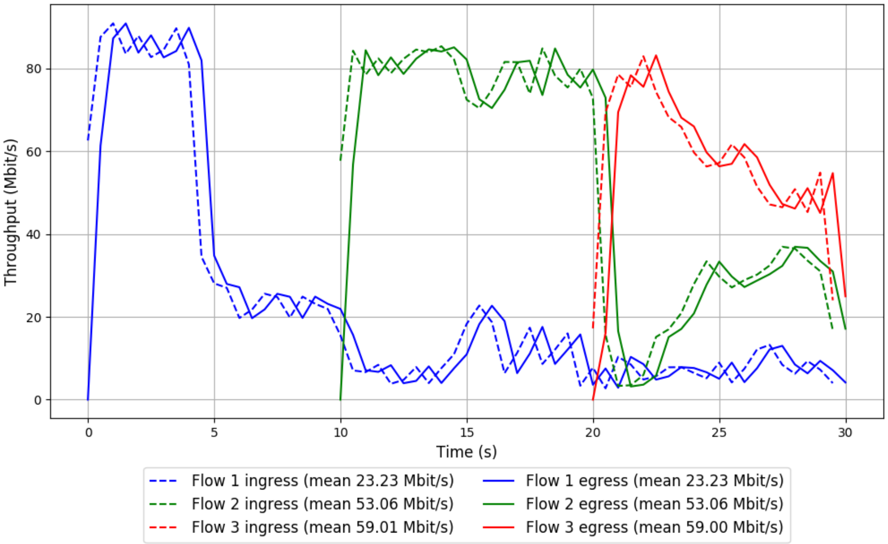


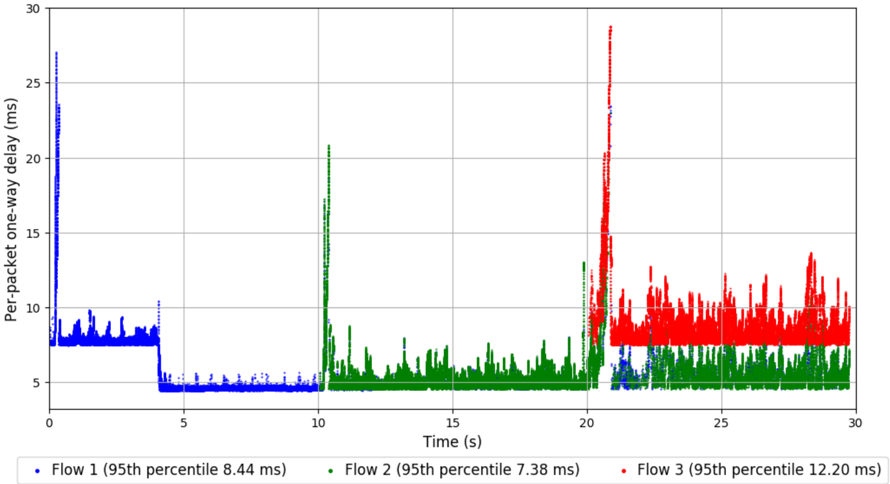
```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-09-18 09:11:07
End at: 2019-09-18 09:11:37
Local clock offset: 6.36 ms
Remote clock offset: 3.539 ms

# Below is generated by plot.py at 2019-09-18 11:50:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.65 Mbit/s
95th percentile per-packet one-way delay: 9.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 8.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.06 Mbit/s
95th percentile per-packet one-way delay: 7.384 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 12.203 ms
Loss rate: 0.00%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



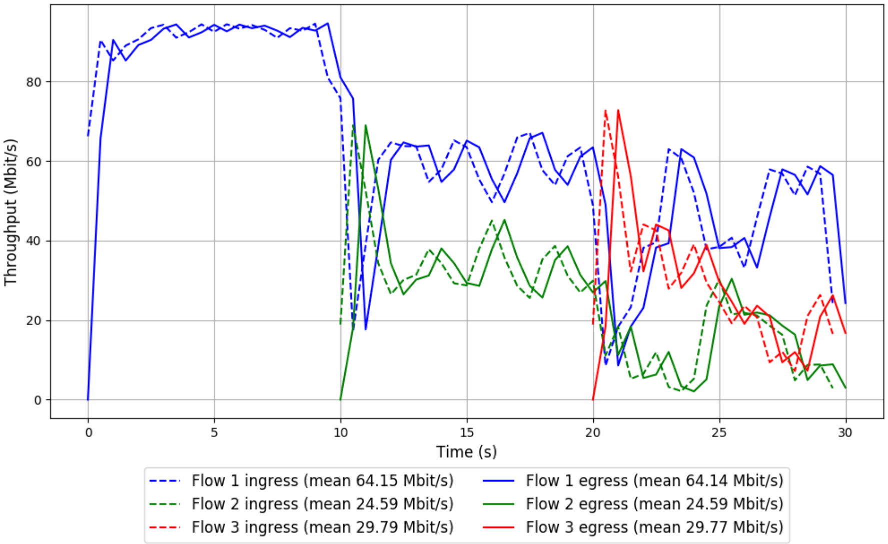


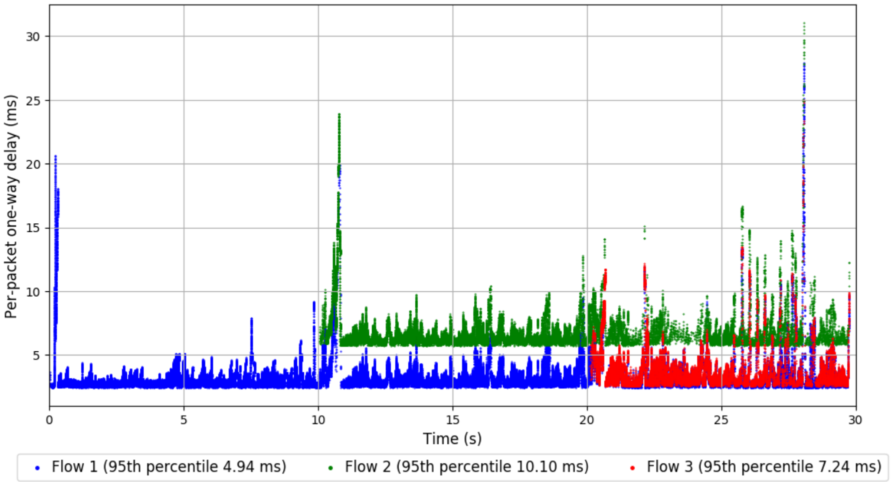
```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-09-18 09:41:01
End at: 2019-09-18 09:41:31
Local clock offset: 6.482 ms
Remote clock offset: 0.907 ms

# Below is generated by plot.py at 2019-09-18 11:50:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.10 Mbit/s
95th percentile per-packet one-way delay: 7.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 4.939 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 10.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 7.237 ms
Loss rate: 0.00%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



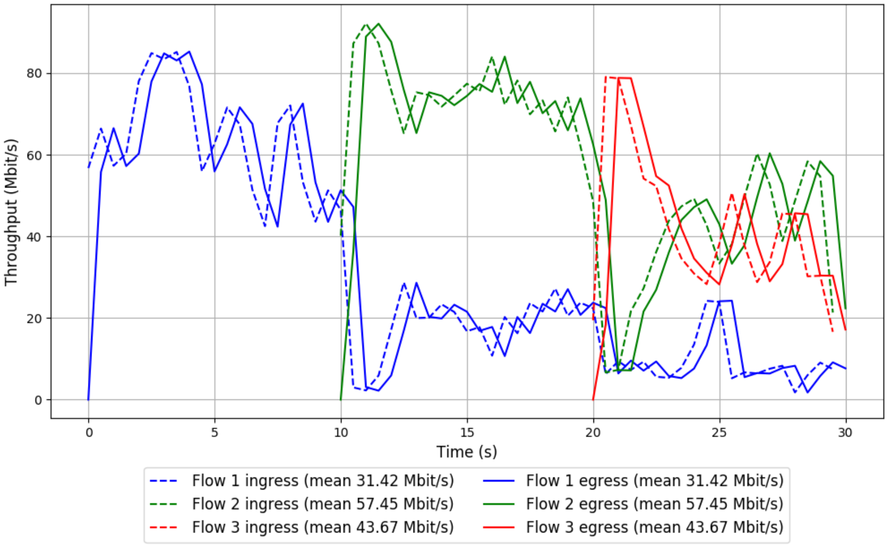


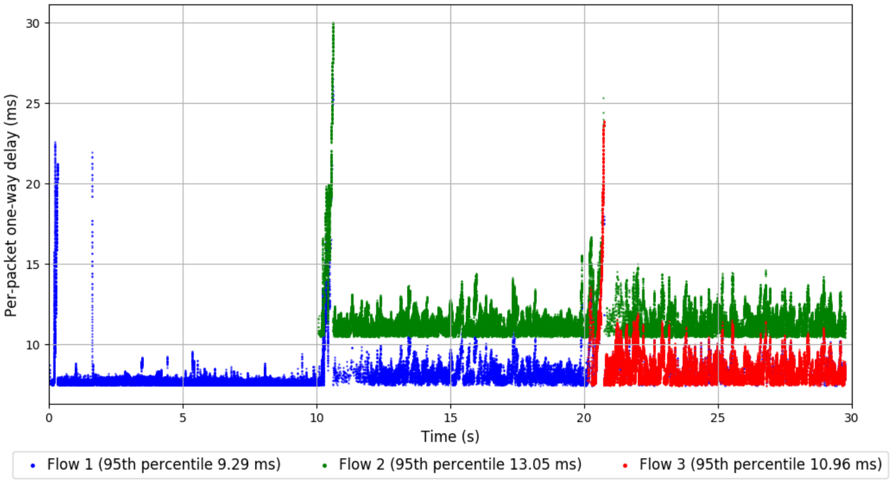
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-09-18 10:10:31
End at: 2019-09-18 10:11:01
Local clock offset: 1.167 ms
Remote clock offset: 3.213 ms

# Below is generated by plot.py at 2019-09-18 11:50:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.63 Mbit/s
95th percentile per-packet one-way delay: 12.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.42 Mbit/s
95th percentile per-packet one-way delay: 9.286 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.45 Mbit/s
95th percentile per-packet one-way delay: 13.052 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 10.961 ms
Loss rate: 0.00%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link



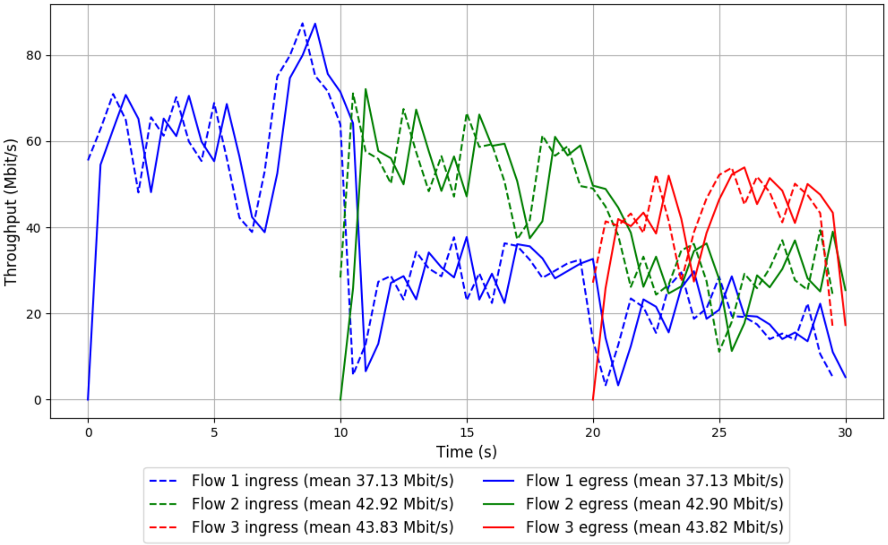


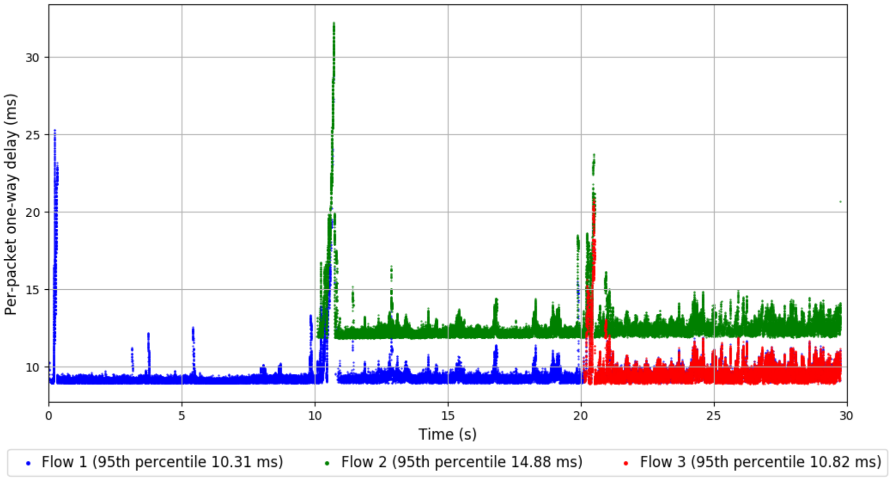
```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-09-18 10:39:29
End at: 2019-09-18 10:39:59
Local clock offset: 0.128 ms
Remote clock offset: 4.812 ms

# Below is generated by plot.py at 2019-09-18 11:50:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.74 Mbit/s
95th percentile per-packet one-way delay: 13.159 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 10.306 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.90 Mbit/s
95th percentile per-packet one-way delay: 14.882 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.82 Mbit/s
95th percentile per-packet one-way delay: 10.821 ms
Loss rate: 0.00%
```

Run 4: Report of Muses_DecisionTreeR0 — Data Link



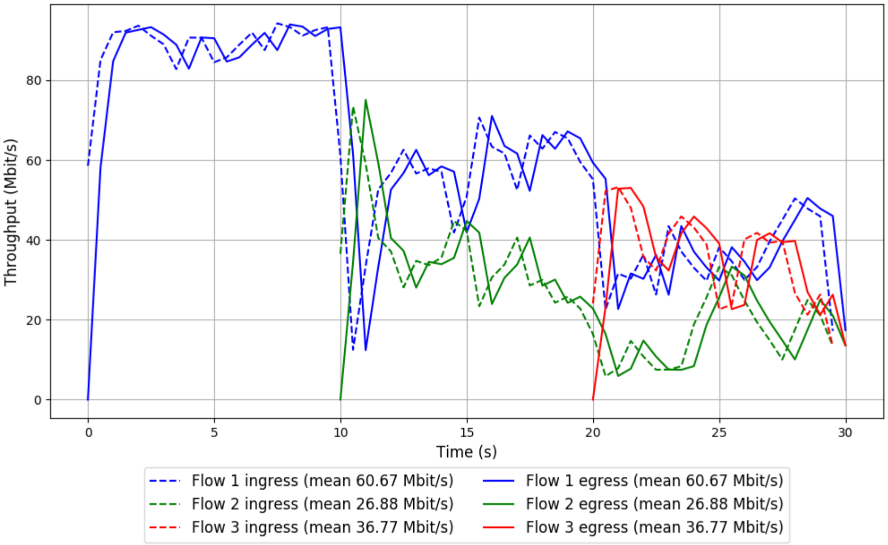


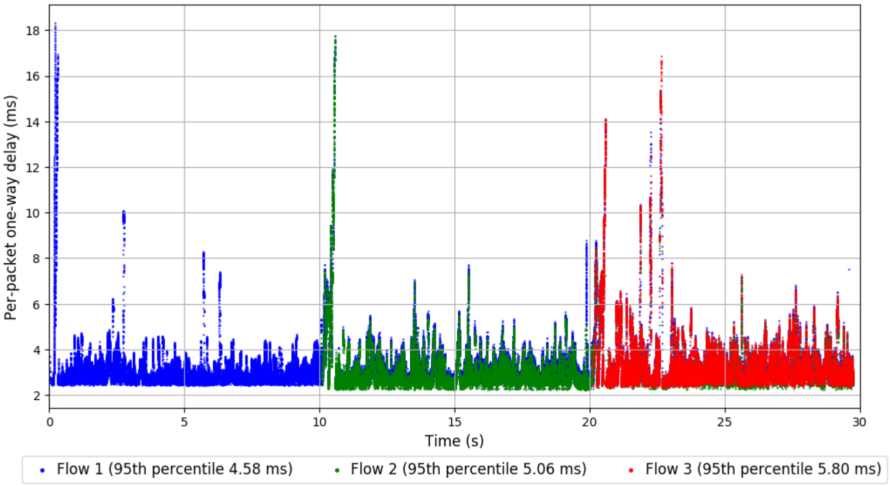
```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-09-18 11:09:14
End at: 2019-09-18 11:09:44
Local clock offset: 5.159 ms
Remote clock offset: 4.109 ms

# Below is generated by plot.py at 2019-09-18 11:51:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.42 Mbit/s
95th percentile per-packet one-way delay: 4.922 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 4.582 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.88 Mbit/s
95th percentile per-packet one-way delay: 5.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 5.801 ms
Loss rate: 0.00%
```

Run 5: Report of Muses_DecisionTreeR0 — Data Link



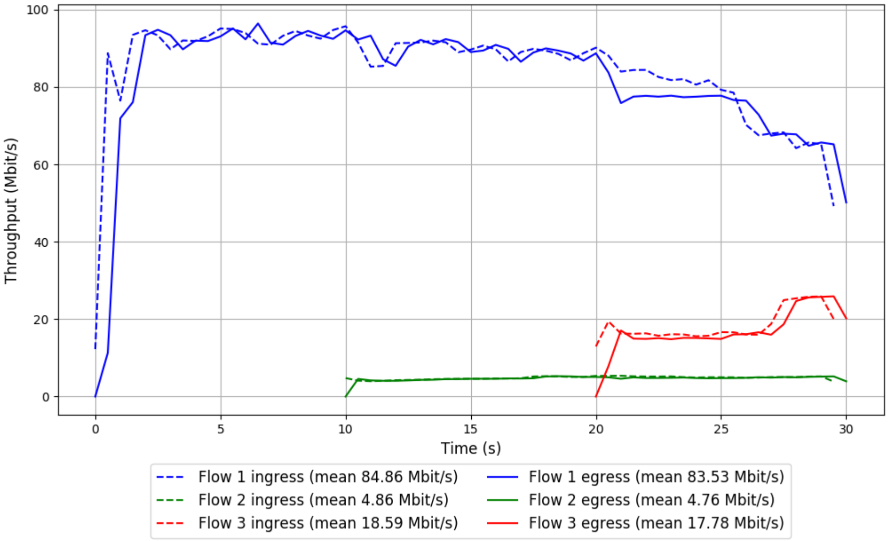


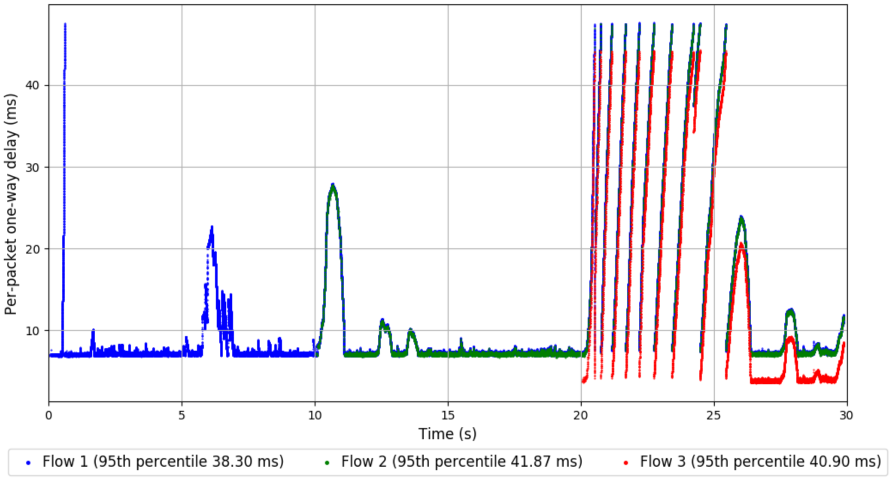
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-09-18 09:15:45
End at: 2019-09-18 09:16:15
Local clock offset: 7.003 ms
Remote clock offset: 3.122 ms

# Below is generated by plot.py at 2019-09-18 11:51:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.57 Mbit/s
95th percentile per-packet one-way delay: 39.037 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 83.53 Mbit/s
95th percentile per-packet one-way delay: 38.296 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 41.871 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 17.78 Mbit/s
95th percentile per-packet one-way delay: 40.898 ms
Loss rate: 4.32%
```

Run 1: Report of PCC-Allegro — Data Link



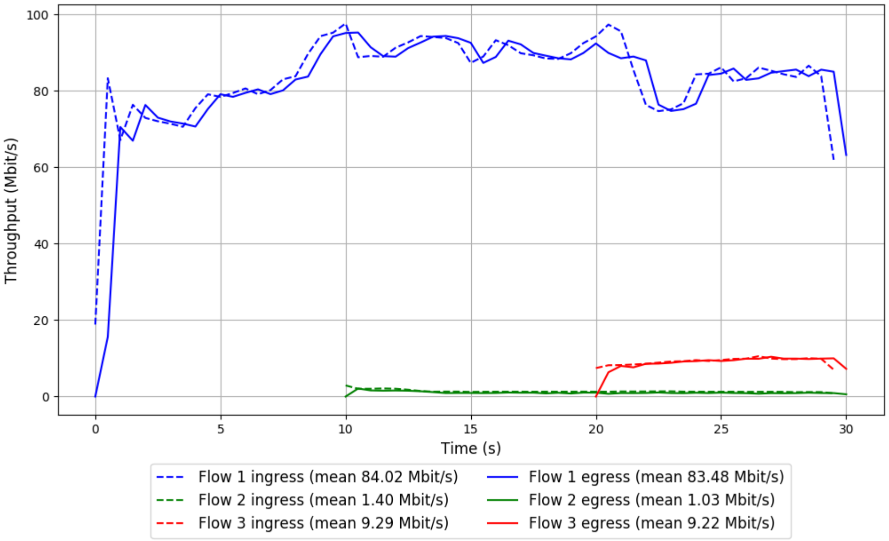


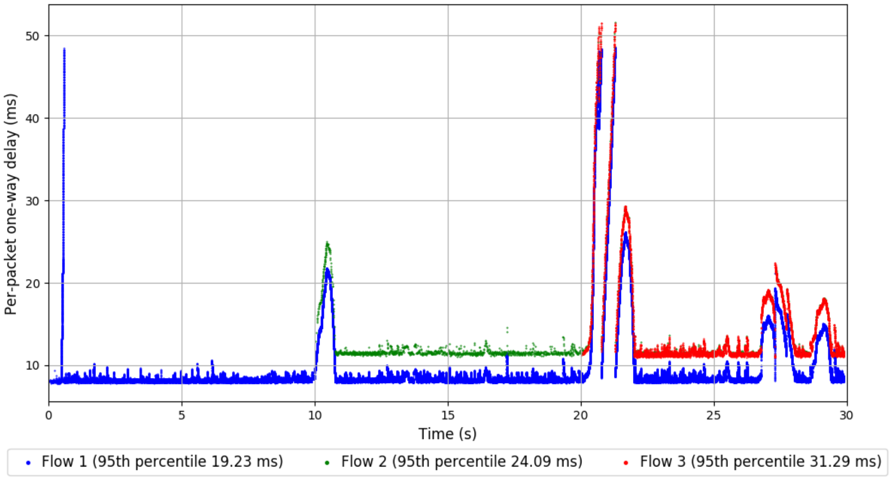
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-09-18 09:45:42
End at: 2019-09-18 09:46:12
Local clock offset: 2.331 ms
Remote clock offset: 2.368 ms

# Below is generated by plot.py at 2019-09-18 11:51:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 20.087 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 83.48 Mbit/s
95th percentile per-packet one-way delay: 19.225 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 24.086 ms
Loss rate: 26.38%
-- Flow 3:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 31.287 ms
Loss rate: 0.80%
```

Run 2: Report of PCC-Allegro — Data Link



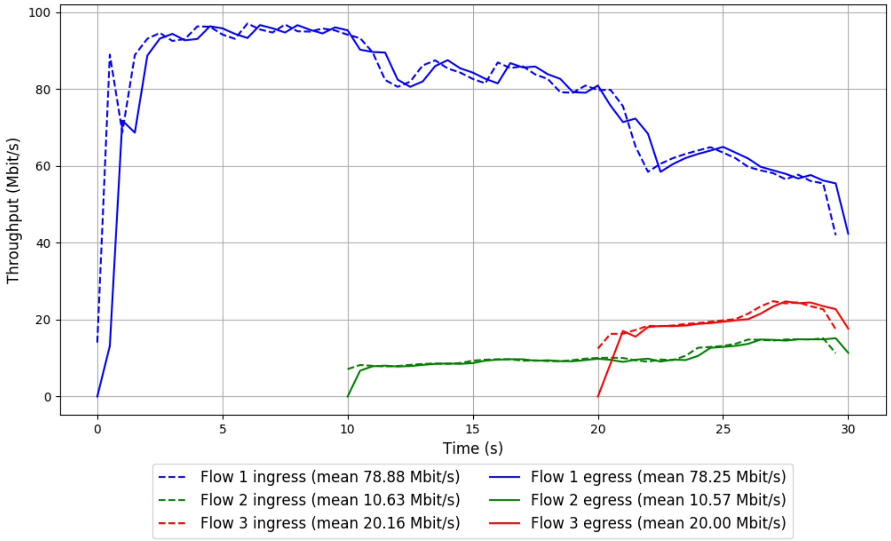


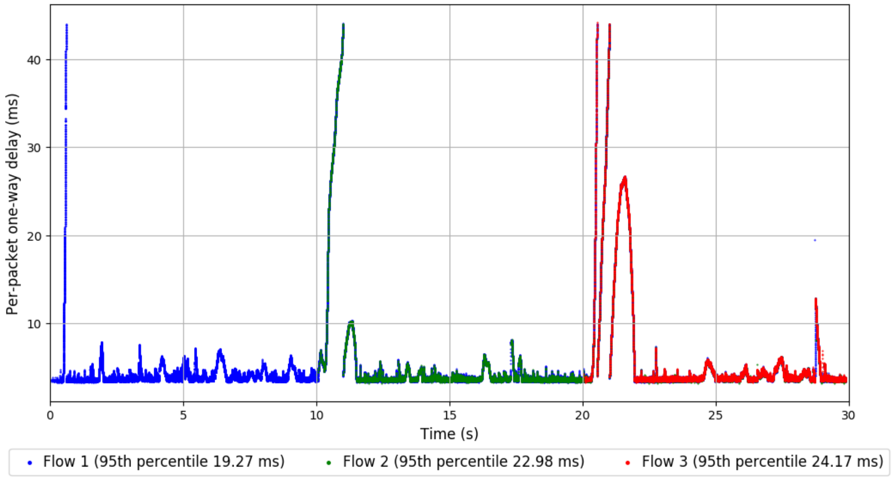
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-09-18 10:15:10
End at: 2019-09-18 10:15:40
Local clock offset: 5.639 ms
Remote clock offset: 4.108 ms

# Below is generated by plot.py at 2019-09-18 11:51:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.88 Mbit/s
95th percentile per-packet one-way delay: 20.782 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 78.25 Mbit/s
95th percentile per-packet one-way delay: 19.267 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 10.57 Mbit/s
95th percentile per-packet one-way delay: 22.980 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 20.00 Mbit/s
95th percentile per-packet one-way delay: 24.168 ms
Loss rate: 0.78%
```

Run 3: Report of PCC-Allegro — Data Link



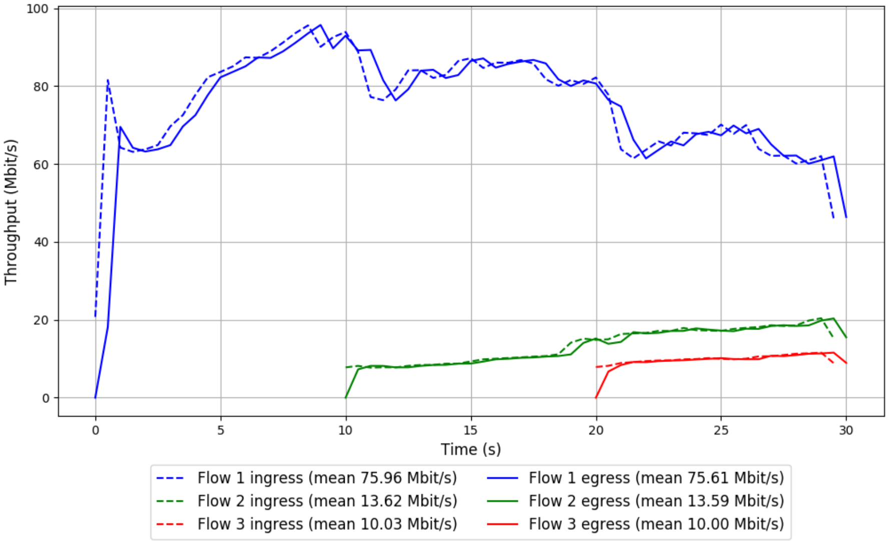


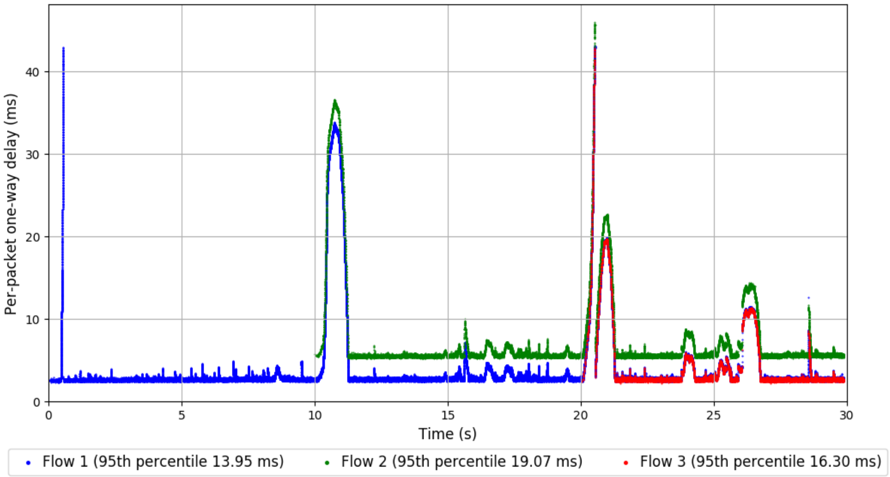
```
Run 4: Statistics of PCC-Allegro

Start at: 2019-09-18 10:44:10
End at: 2019-09-18 10:44:40
Local clock offset: 5.124 ms
Remote clock offset: 3.426 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.93 Mbit/s
95th percentile per-packet one-way delay: 14.885 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 75.61 Mbit/s
95th percentile per-packet one-way delay: 13.945 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 13.59 Mbit/s
95th percentile per-packet one-way delay: 19.073 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 10.00 Mbit/s
95th percentile per-packet one-way delay: 16.297 ms
Loss rate: 0.33%
```

Run 4: Report of PCC-Allegro — Data Link

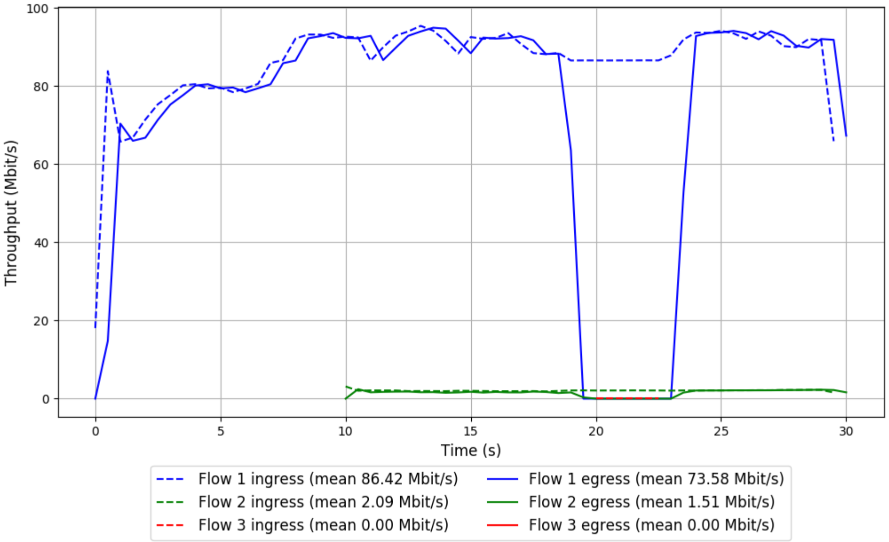


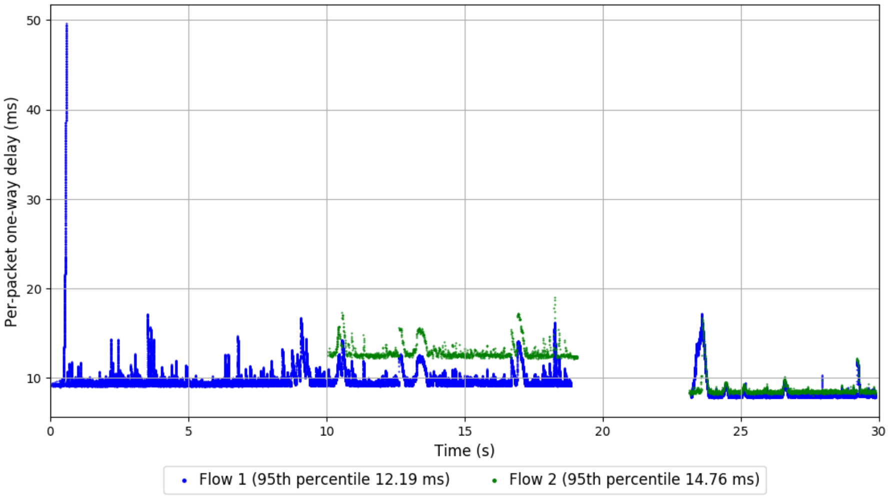


```
Run 5: Statistics of PCC-Allegro

Start at: 2019-09-18 11:14:00
End at: 2019-09-18 11:14:30
Local clock offset: 0.508 ms
Remote clock offset: 6.167 ms
```

Run 5: Report of PCC-Allegro — Data Link



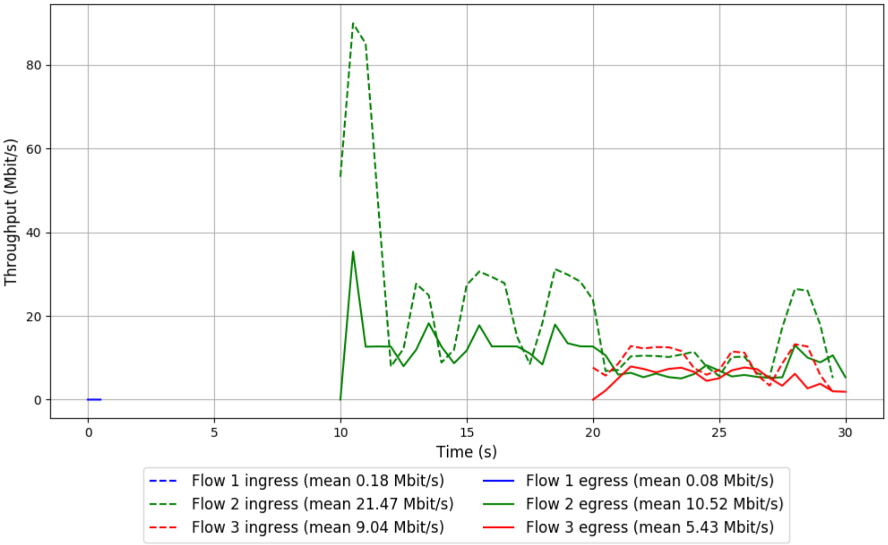


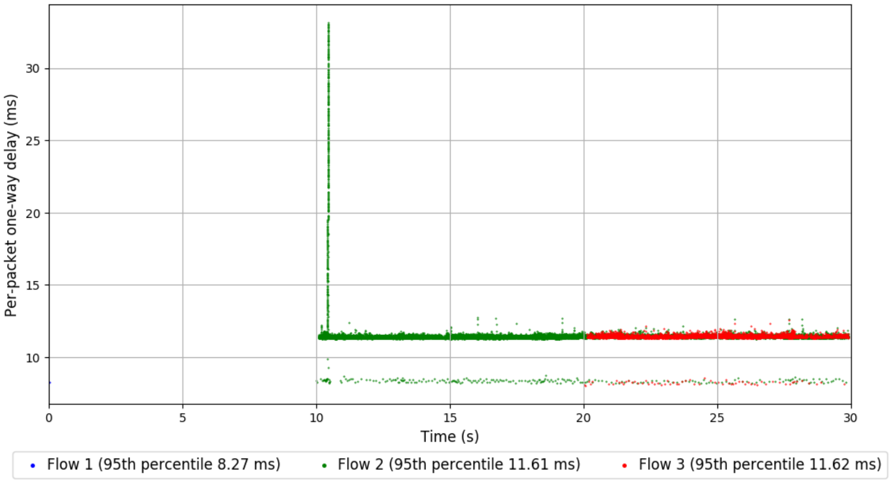
```
Run 1: Statistics of PCC-Expr

Start at: 2019-09-18 09:37:20
End at: 2019-09-18 09:37:50
Local clock offset: 1.909 ms
Remote clock offset: 1.829 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 11.617 ms
Loss rate: 49.11%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 8.266 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 11.613 ms
Loss rate: 51.02%
-- Flow 3:
Average throughput: 5.43 Mbit/s
95th percentile per-packet one-way delay: 11.624 ms
Loss rate: 39.97%
```

Run 1: Report of PCC-Expr — Data Link



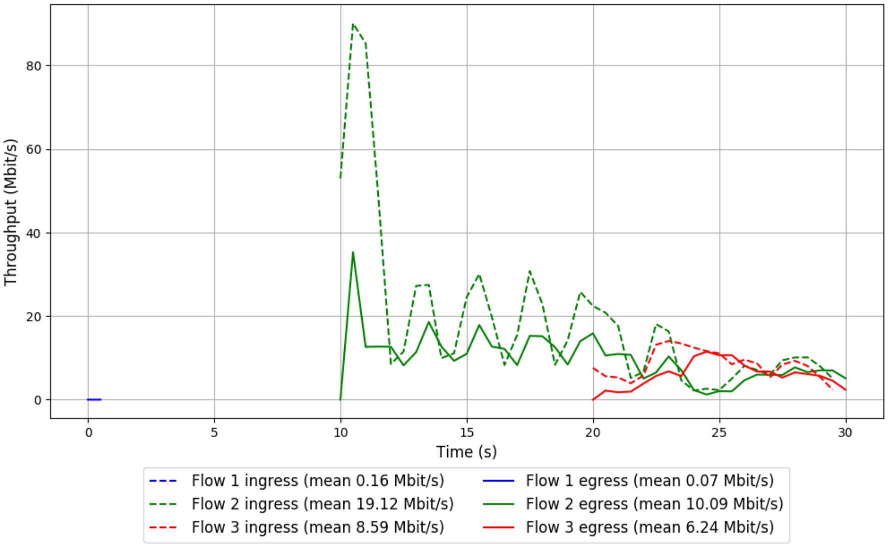


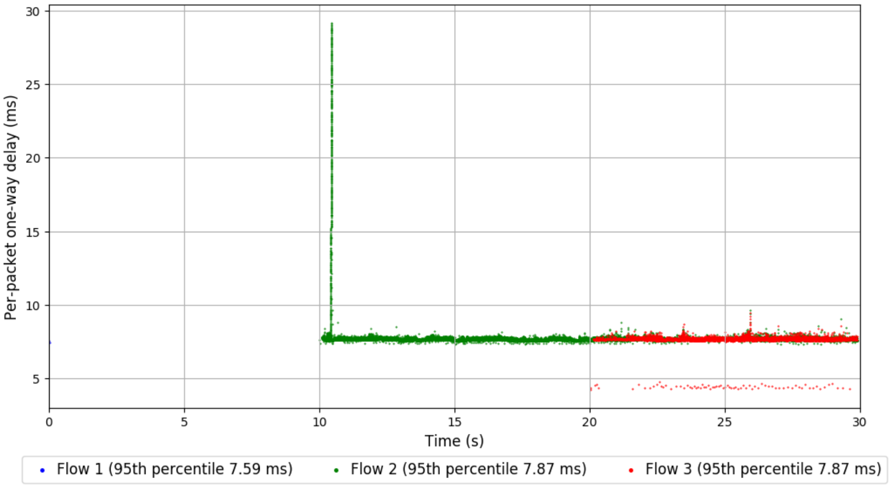
```
Run 2: Statistics of PCC-Expr

Start at: 2019-09-18 10:07:00
End at: 2019-09-18 10:07:30
Local clock offset: 5.819 ms
Remote clock offset: 4.338 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 7.873 ms
Loss rate: 43.60%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 7.588 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 7.874 ms
Loss rate: 47.23%
-- Flow 3:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 7.865 ms
Loss rate: 27.34%
```

Run 2: Report of PCC-Expr — Data Link



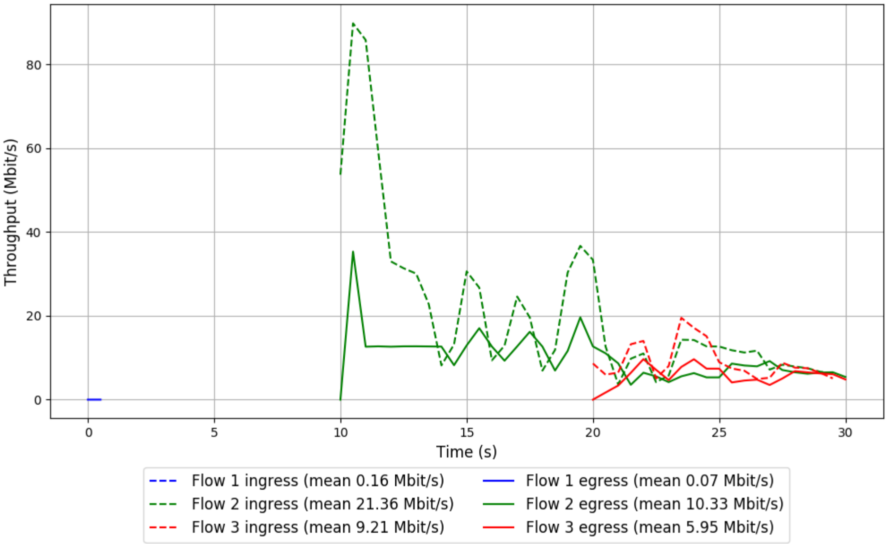


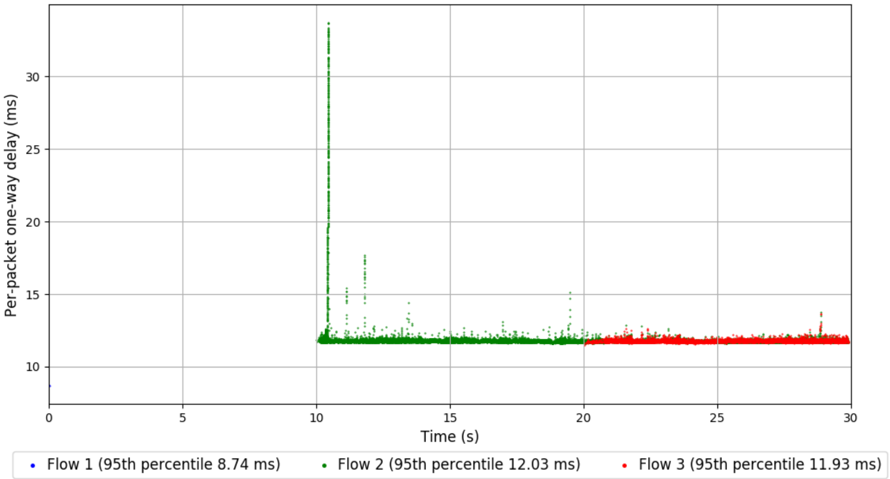
```
Run 3: Statistics of PCC-Expr

Start at: 2019-09-18 10:35:57
End at: 2019-09-18 10:36:27
Local clock offset: 0.509 ms
Remote clock offset: 4.959 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 11.993 ms
Loss rate: 48.77%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 8.745 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.33 Mbit/s
95th percentile per-packet one-way delay: 12.028 ms
Loss rate: 51.64%
-- Flow 3:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 11.932 ms
Loss rate: 35.37%
```

Run 3: Report of PCC-Expr — Data Link



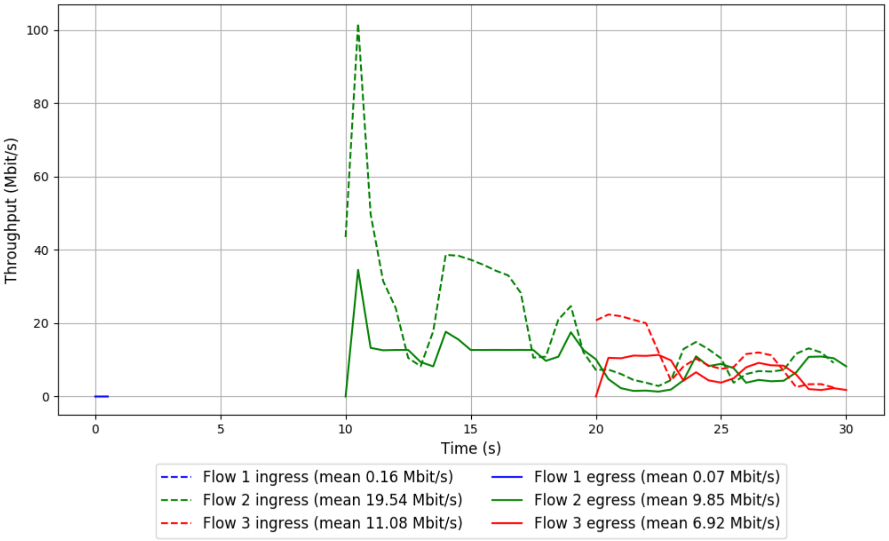


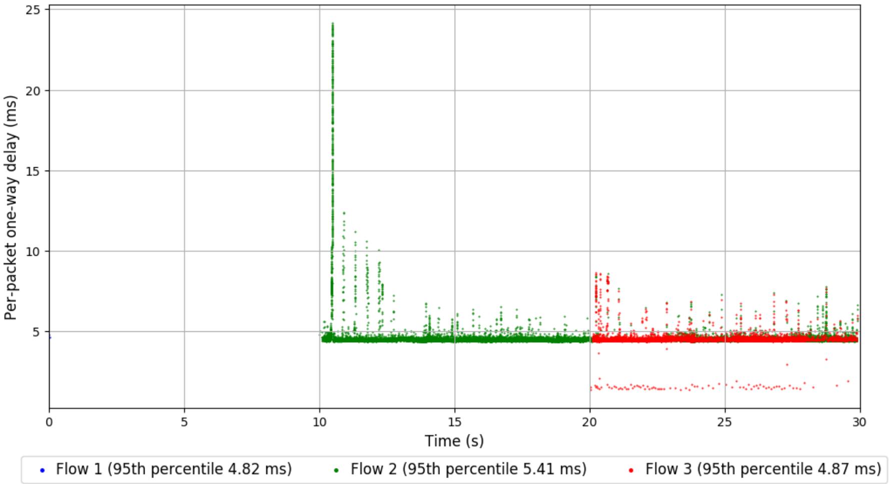
```
Run 4: Statistics of PCC-Expr

Start at: 2019-09-18 11:05:15
End at: 2019-09-18 11:05:45
Local clock offset: 5.621 ms
Remote clock offset: 3.622 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 5.161 ms
Loss rate: 46.96%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 4.819 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 5.409 ms
Loss rate: 49.60%
-- Flow 3:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 4.874 ms
Loss rate: 37.58%
```

Run 4: Report of PCC-Expr — Data Link



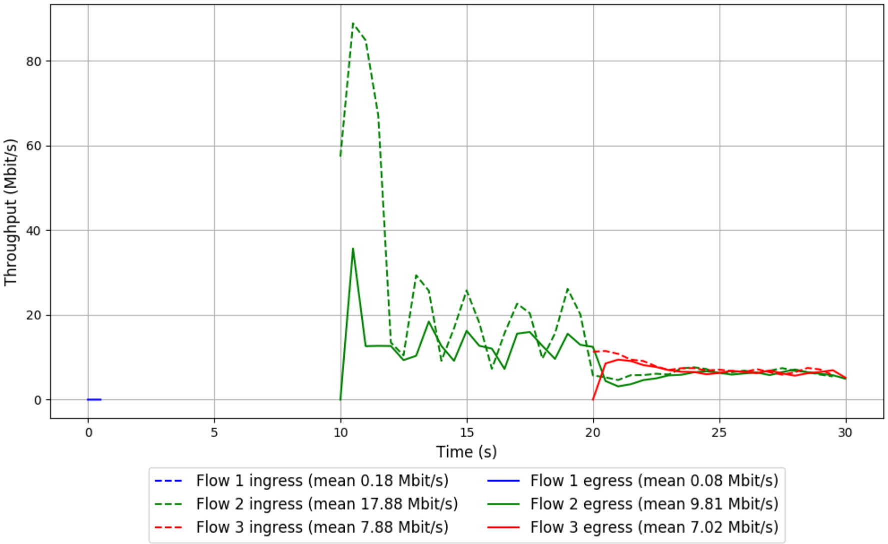


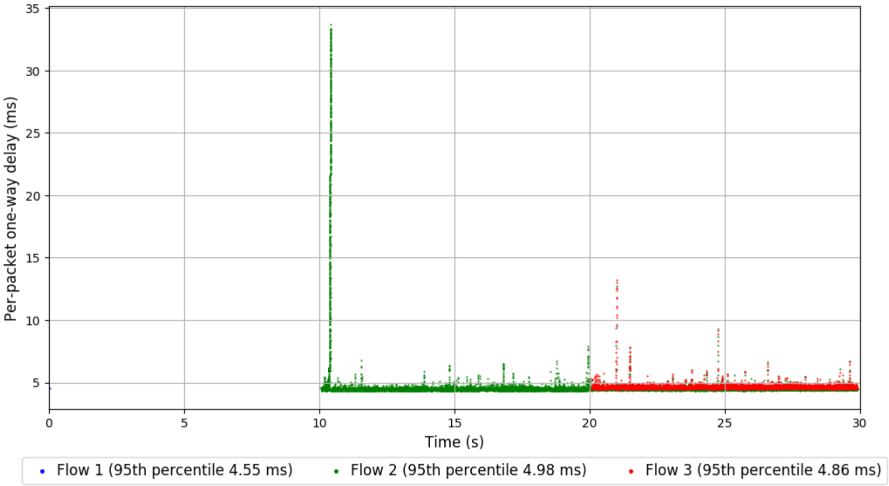
```
Run 5: Statistics of PCC-Expr

Start at: 2019-09-18 11:36:22
End at: 2019-09-18 11:36:52
Local clock offset: 5.454 ms
Remote clock offset: 6.871 ms

# Below is generated by plot.py at 2019-09-18 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 4.922 ms
Loss rate: 39.00%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 4.546 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.81 Mbit/s
95th percentile per-packet one-way delay: 4.980 ms
Loss rate: 45.15%
-- Flow 3:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 4.860 ms
Loss rate: 10.91%
```

Run 5: Report of PCC-Expr — Data Link



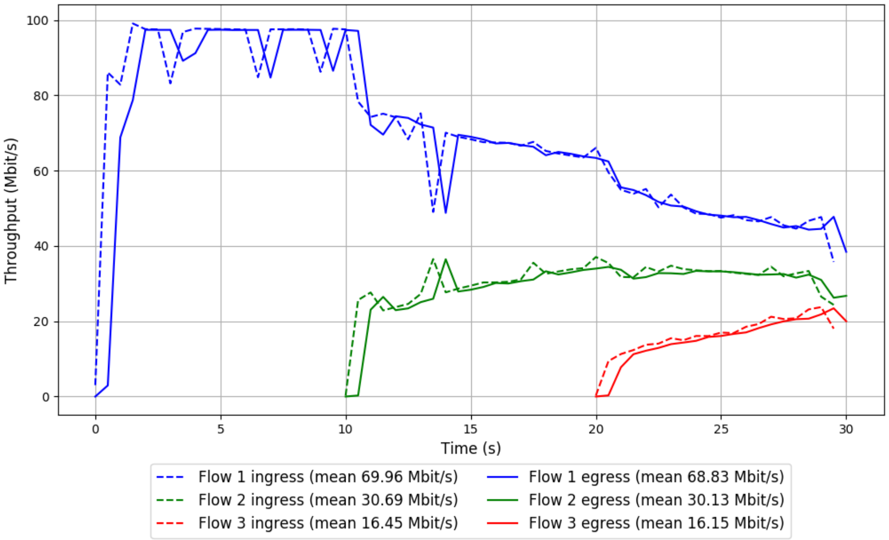


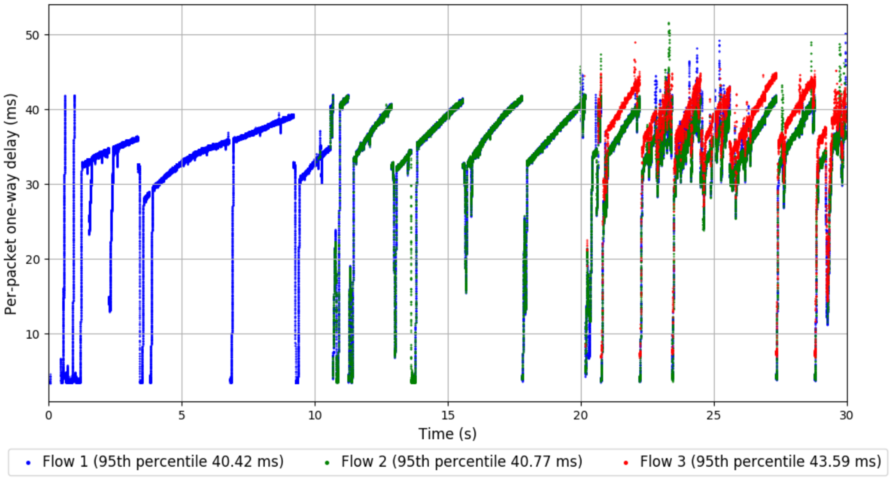
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-09-18 09:18:10
End at: 2019-09-18 09:18:40
Local clock offset: 6.407 ms
Remote clock offset: 2.175 ms

# Below is generated by plot.py at 2019-09-18 11:52:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 40.742 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 68.83 Mbit/s
95th percentile per-packet one-way delay: 40.424 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 30.13 Mbit/s
95th percentile per-packet one-way delay: 40.766 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 16.15 Mbit/s
95th percentile per-packet one-way delay: 43.595 ms
Loss rate: 1.87%
```

Run 1: Report of QUIC Cubic — Data Link



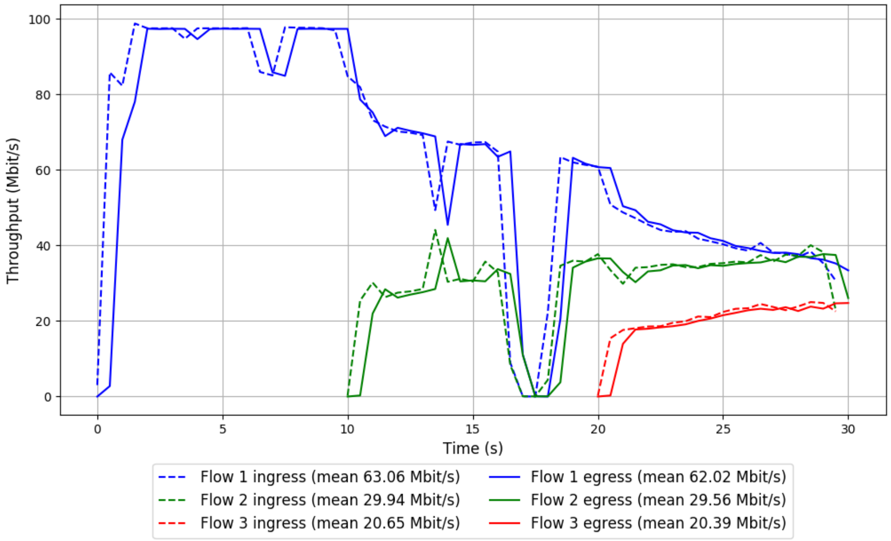


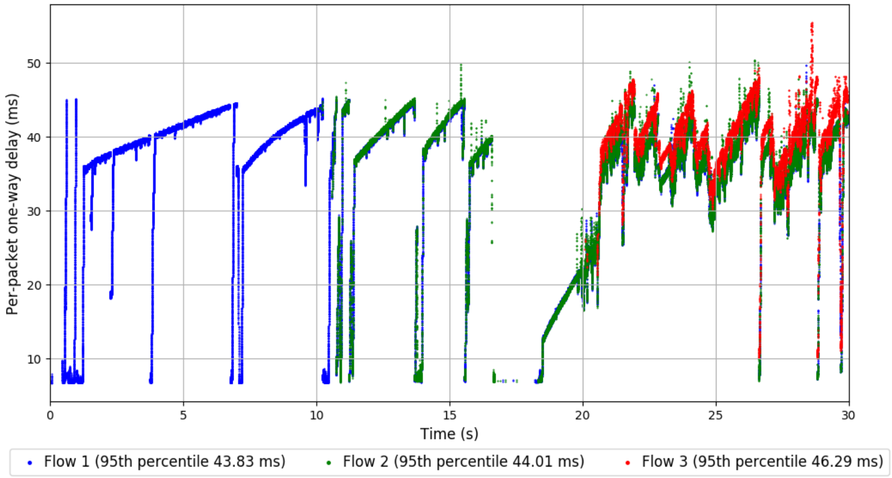
```
Run 2: Statistics of QUIC Cubic

Start at: 2019-09-18 09:48:25
End at: 2019-09-18 09:48:55
Local clock offset: 1.959 ms
Remote clock offset: 1.005 ms

# Below is generated by plot.py at 2019-09-18 11:52:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.35 Mbit/s
95th percentile per-packet one-way delay: 44.005 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 62.02 Mbit/s
95th percentile per-packet one-way delay: 43.829 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 29.56 Mbit/s
95th percentile per-packet one-way delay: 44.006 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 20.39 Mbit/s
95th percentile per-packet one-way delay: 46.291 ms
Loss rate: 1.07%
```

Run 2: Report of QUIC Cubic — Data Link



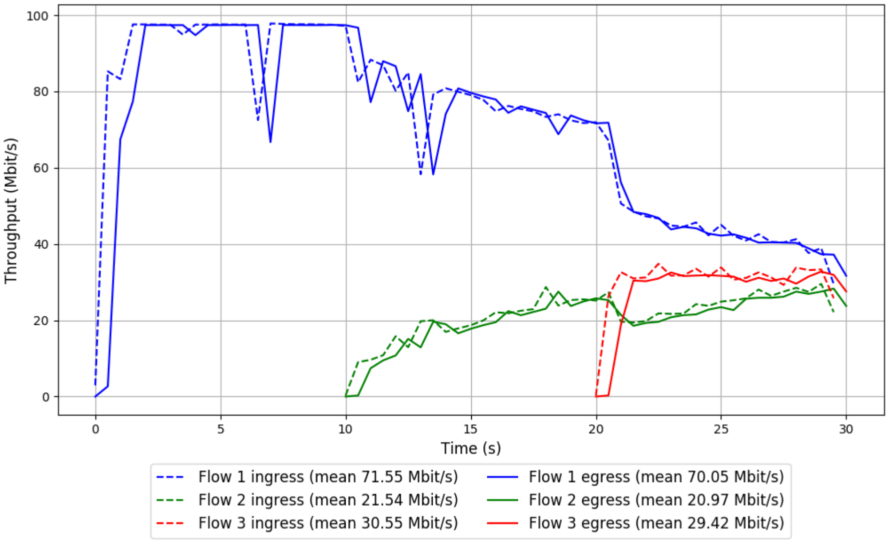


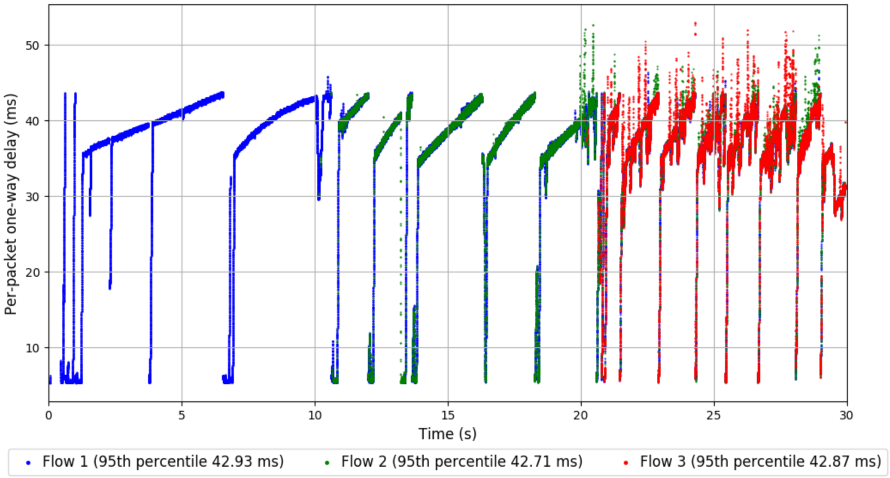
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-09-18 10:17:36
End at: 2019-09-18 10:18:06
Local clock offset: -0.033 ms
Remote clock offset: 0.585 ms

# Below is generated by plot.py at 2019-09-18 11:52:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 42.903 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 70.05 Mbit/s
95th percentile per-packet one-way delay: 42.930 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 20.97 Mbit/s
95th percentile per-packet one-way delay: 42.707 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 29.42 Mbit/s
95th percentile per-packet one-way delay: 42.872 ms
Loss rate: 3.69%
```

Run 3: Report of QUIC Cubic — Data Link



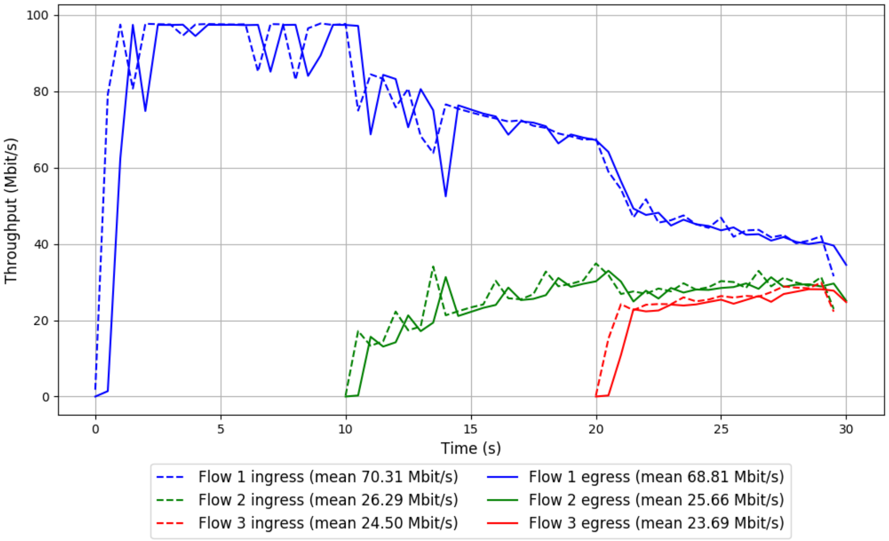


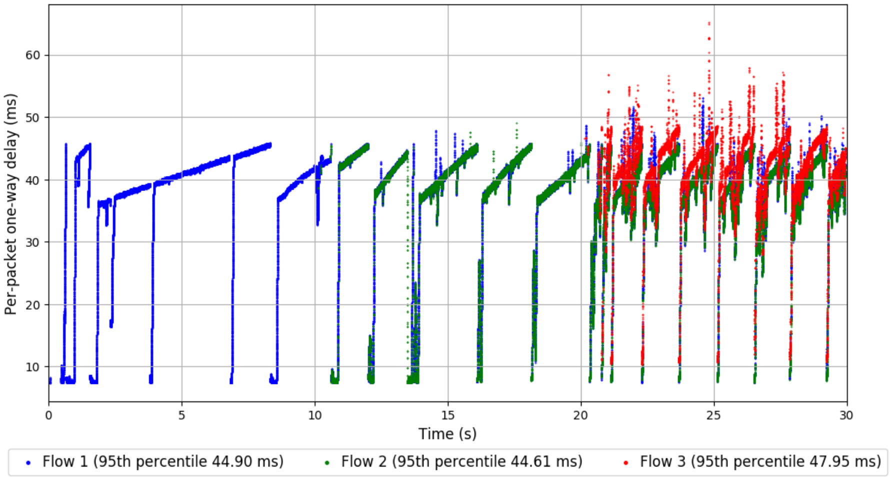
```
Run 4: Statistics of QUIC Cubic

Start at: 2019-09-18 10:46:35
End at: 2019-09-18 10:47:05
Local clock offset: 0.929 ms
Remote clock offset: 4.395 ms

# Below is generated by plot.py at 2019-09-18 11:52:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.60 Mbit/s
95th percentile per-packet one-way delay: 45.067 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 68.81 Mbit/s
95th percentile per-packet one-way delay: 44.897 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 25.66 Mbit/s
95th percentile per-packet one-way delay: 44.606 ms
Loss rate: 2.37%
-- Flow 3:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 47.949 ms
Loss rate: 3.35%
```

Run 4: Report of QUIC Cubic — Data Link



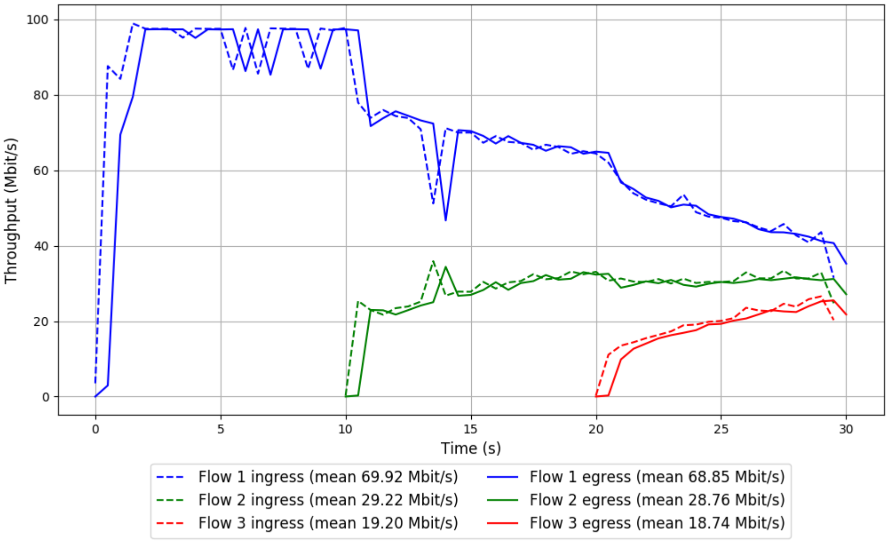


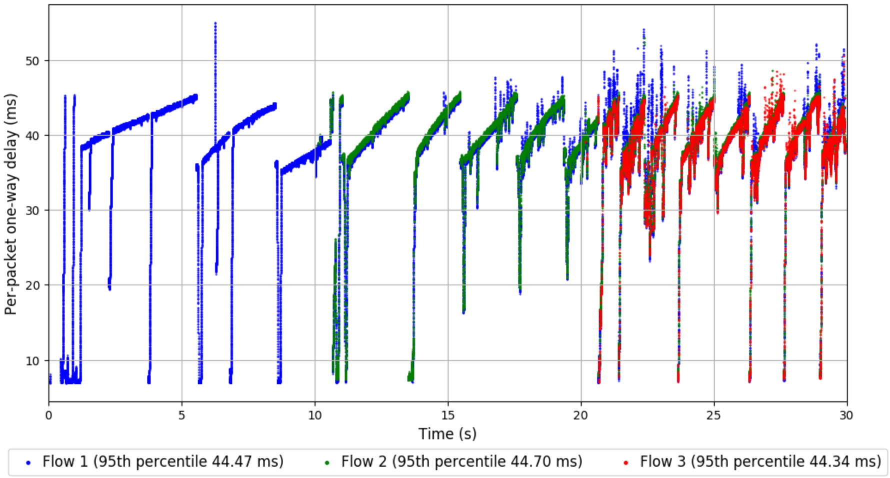
```
Run 5: Statistics of QUIC Cubic

Start at: 2019-09-18 11:16:31
End at: 2019-09-18 11:17:01
Local clock offset: 5.624 ms
Remote clock offset: 10.542 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.08 Mbit/s
95th percentile per-packet one-way delay: 44.526 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 68.85 Mbit/s
95th percentile per-packet one-way delay: 44.471 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 28.76 Mbit/s
95th percentile per-packet one-way delay: 44.695 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 18.74 Mbit/s
95th percentile per-packet one-way delay: 44.340 ms
Loss rate: 2.32%
```

Run 5: Report of QUIC Cubic — Data Link



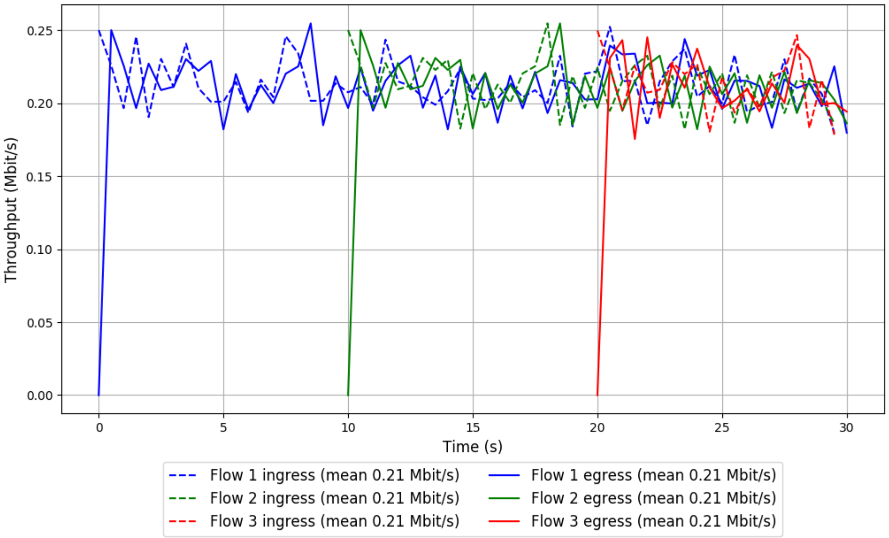


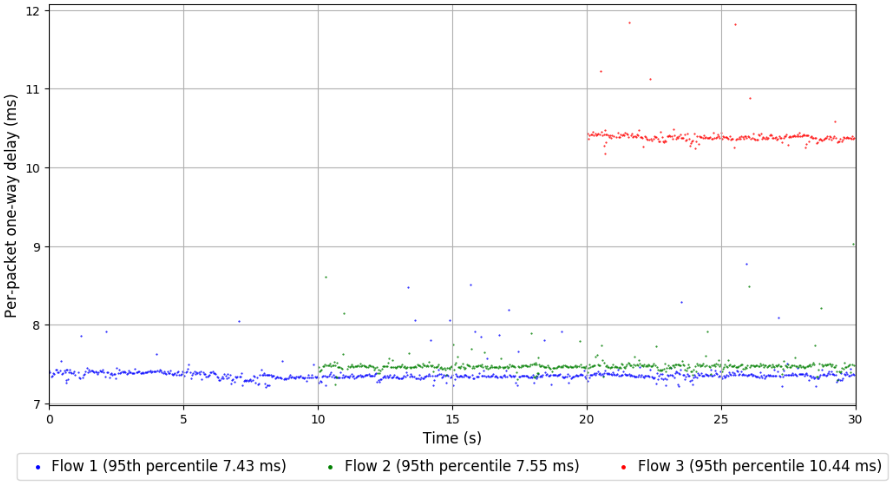
```
Run 1: Statistics of SCReAM

Start at: 2019-09-18 09:27:12
End at: 2019-09-18 09:27:42
Local clock offset: 2.172 ms
Remote clock offset: 0.778 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 10.402 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 7.433 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 7.555 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.444 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



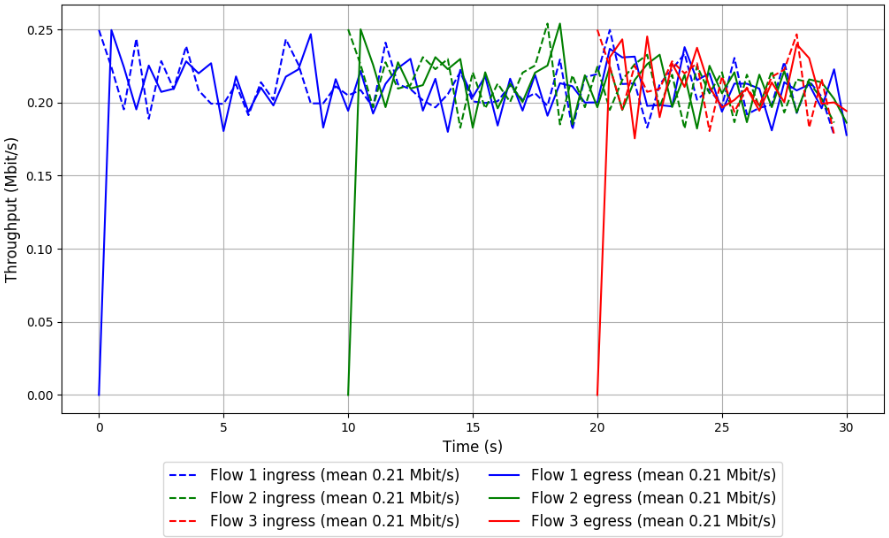


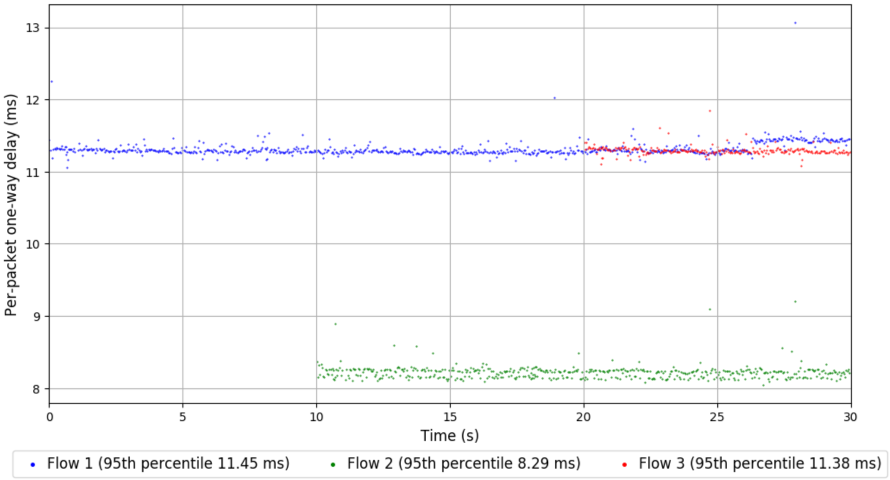
```
Run 2: Statistics of SCReAM

Start at: 2019-09-18 09:57:12
End at: 2019-09-18 09:57:42
Local clock offset: 2.752 ms
Remote clock offset: 3.619 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 11.434 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.453 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.295 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.377 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



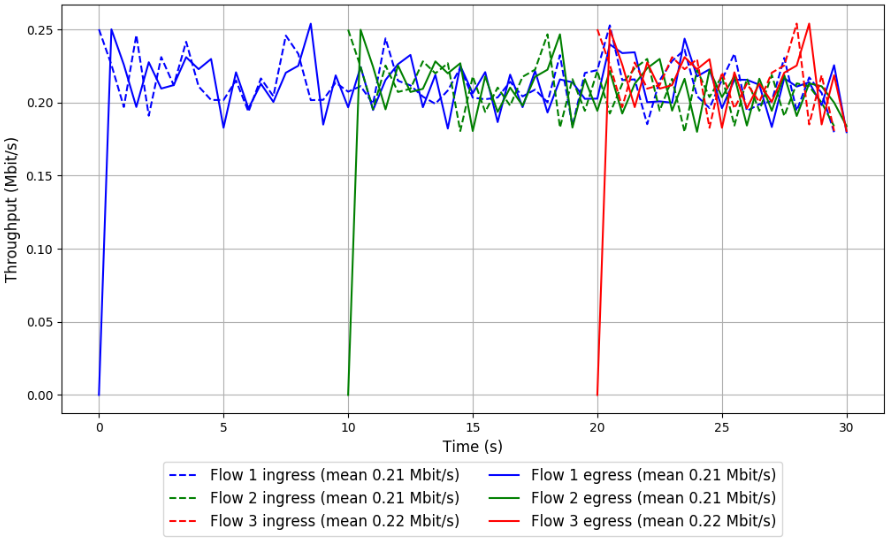


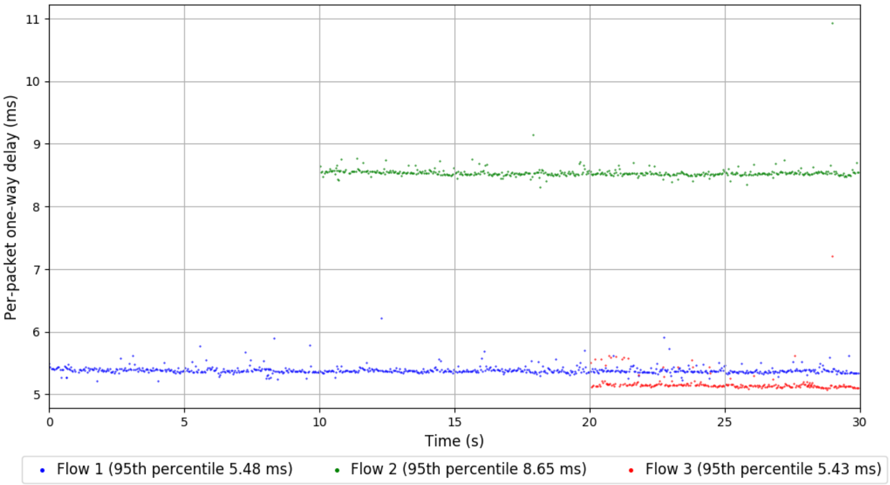
```
Run 3: Statistics of SCReAM

Start at: 2019-09-18 10:26:14
End at: 2019-09-18 10:26:44
Local clock offset: 4.408 ms
Remote clock offset: 5.376 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 8.562 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 5.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.646 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 5.435 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



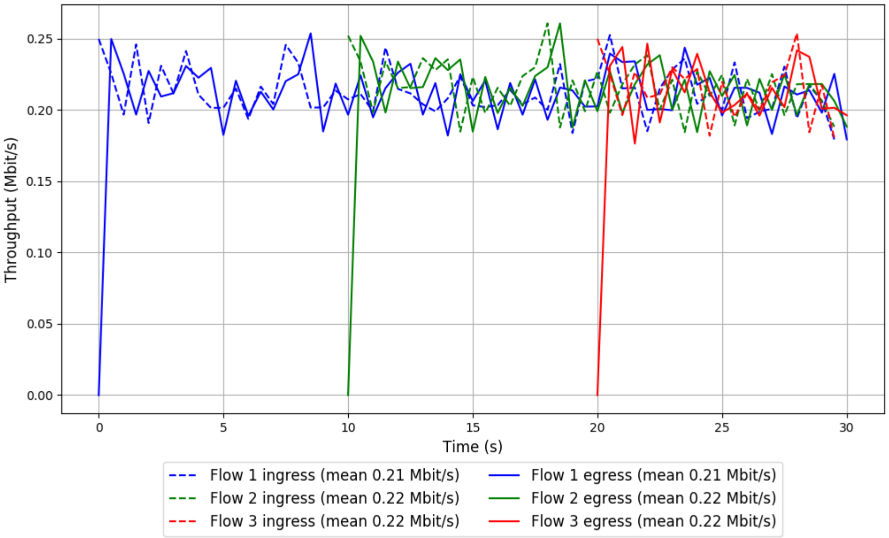


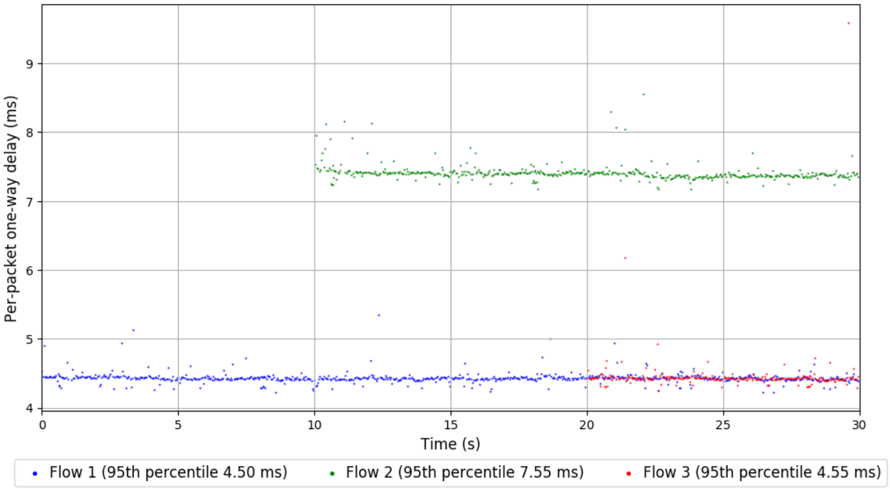
```
Run 4: Statistics of SCReAM

Start at: 2019-09-18 10:55:05
End at: 2019-09-18 10:55:35
Local clock offset: 5.539 ms
Remote clock offset: 6.216 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 7.438 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 4.498 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.551 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 4.548 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link



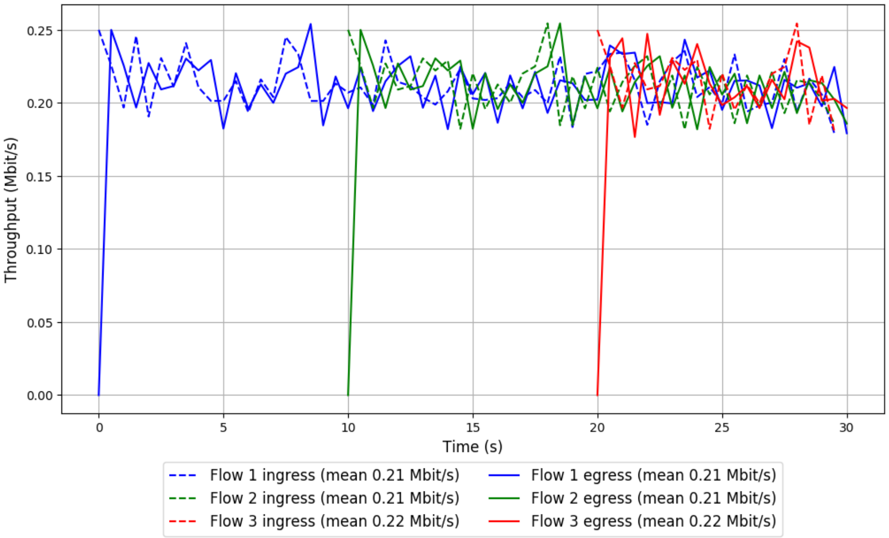


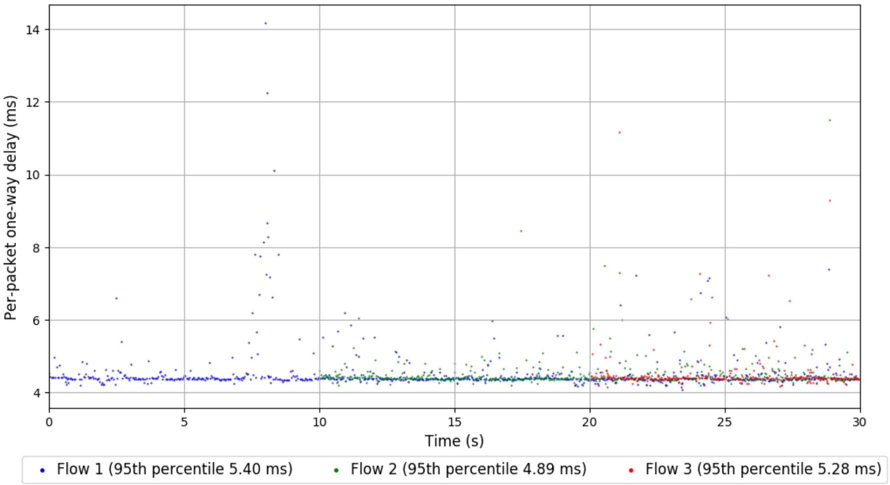
```
Run 5: Statistics of SCReAM

Start at: 2019-09-18 11:25:51
End at: 2019-09-18 11:26:21
Local clock offset: 5.07 ms
Remote clock offset: 6.526 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 5.078 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 5.404 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 4.891 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 5.275 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link



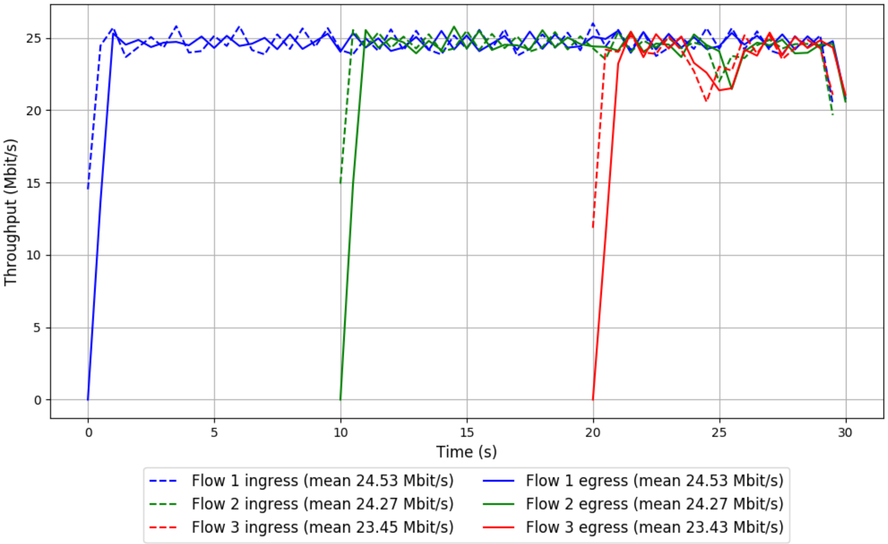


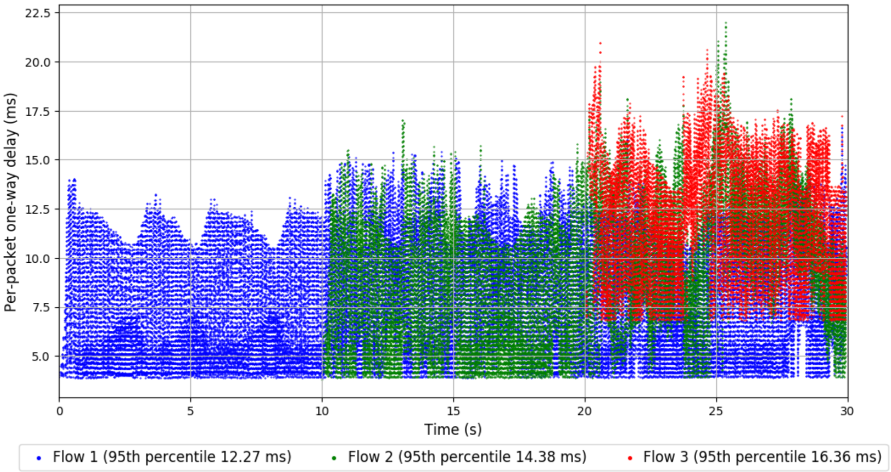
```
Run 1: Statistics of Sprout

Start at: 2019-09-18 09:12:21
End at: 2019-09-18 09:12:51
Local clock offset: 6.77 ms
Remote clock offset: 3.141 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.42 Mbit/s
95th percentile per-packet one-way delay: 14.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 12.267 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.27 Mbit/s
95th percentile per-packet one-way delay: 14.375 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 16.355 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



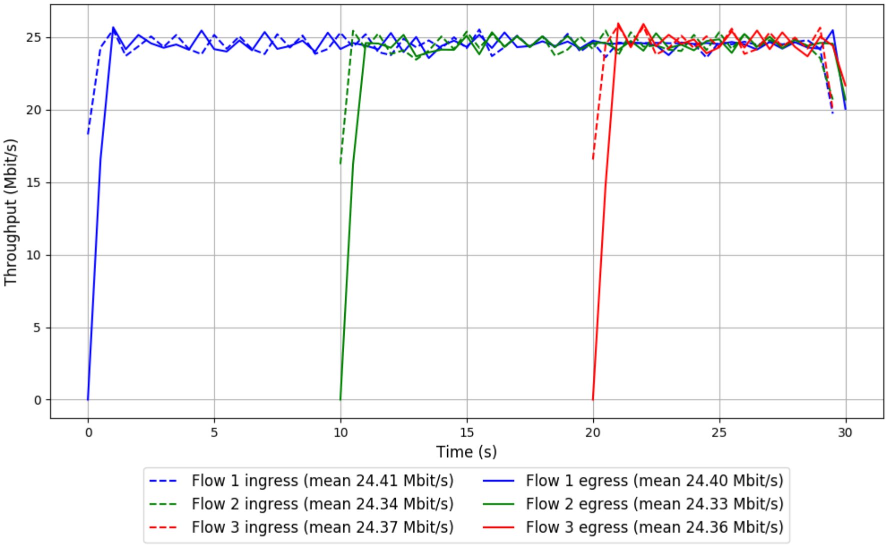


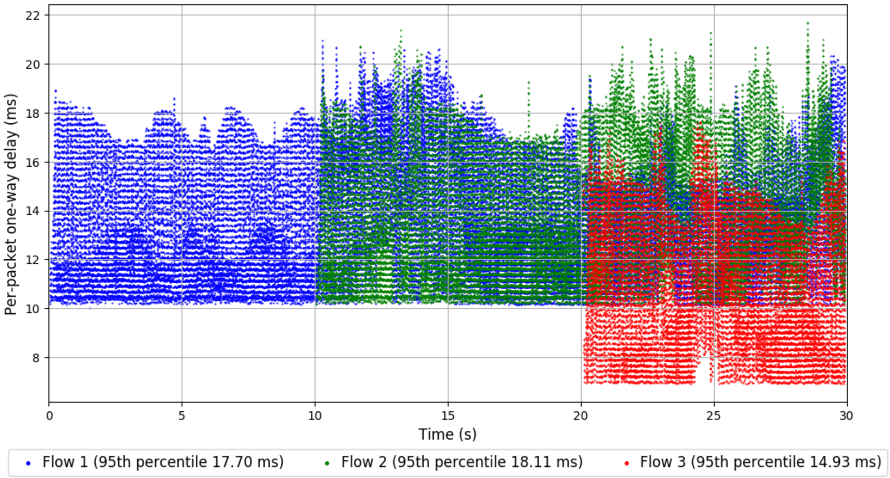
```
Run 2: Statistics of Sprout

Start at: 2019-09-18 09:42:16
End at: 2019-09-18 09:42:46
Local clock offset: 2.677 ms
Remote clock offset: 1.728 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.64 Mbit/s
95th percentile per-packet one-way delay: 17.700 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.40 Mbit/s
95th percentile per-packet one-way delay: 17.697 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 18.109 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 14.926 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link



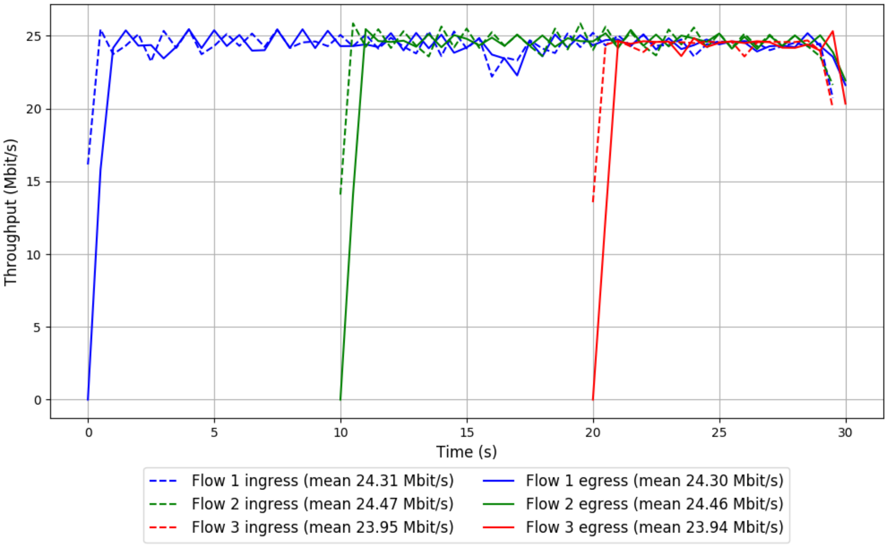


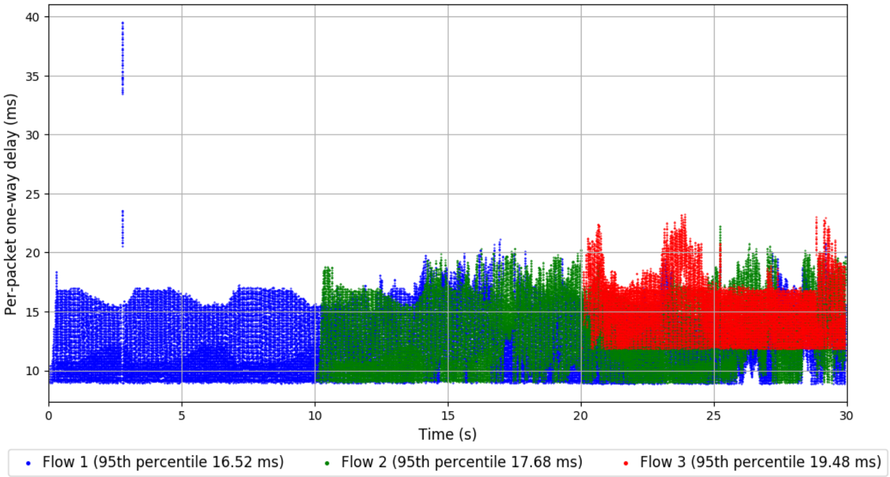
```
Run 3: Statistics of Sprout

Start at: 2019-09-18 10:11:43
End at: 2019-09-18 10:12:13
Local clock offset: 0.478 ms
Remote clock offset: 4.147 ms

# Below is generated by plot.py at 2019-09-18 11:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.48 Mbit/s
95th percentile per-packet one-way delay: 17.499 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 16.517 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 17.683 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.94 Mbit/s
95th percentile per-packet one-way delay: 19.482 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link



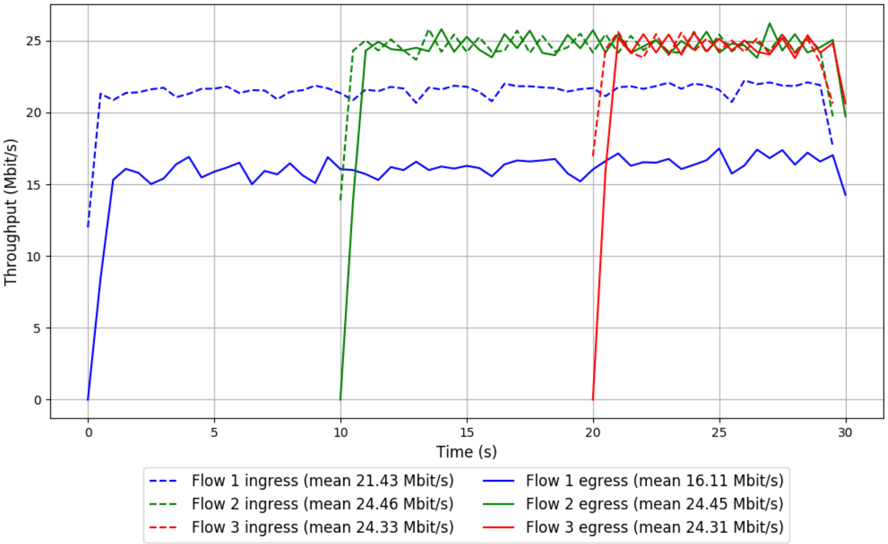


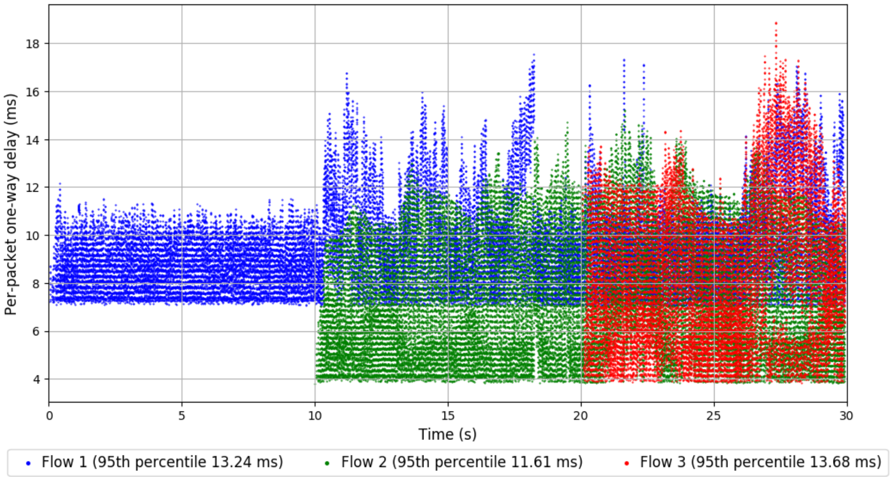
```
Run 4: Statistics of Sprout

Start at: 2019-09-18 10:40:43
End at: 2019-09-18 10:41:13
Local clock offset: 4.825 ms
Remote clock offset: 4.5 ms

# Below is generated by plot.py at 2019-09-18 11:52:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.41 Mbit/s
95th percentile per-packet one-way delay: 12.730 ms
Loss rate: 11.63%
-- Flow 1:
Average throughput: 16.11 Mbit/s
95th percentile per-packet one-way delay: 13.242 ms
Loss rate: 24.82%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 11.606 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.31 Mbit/s
95th percentile per-packet one-way delay: 13.681 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link



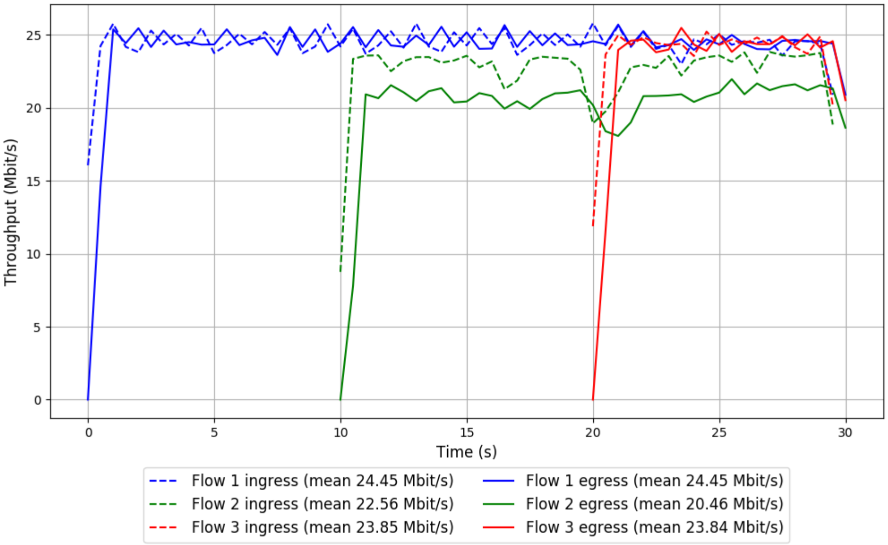


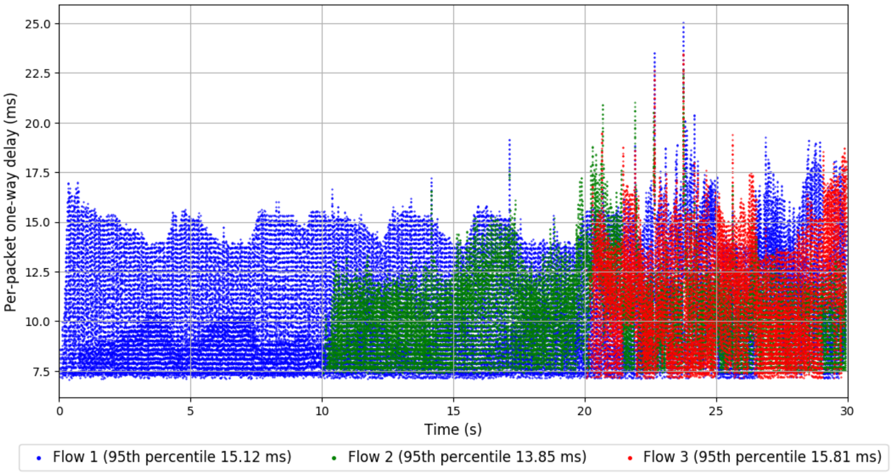
```
Run 5: Statistics of Sprout

Start at: 2019-09-18 11:10:30
End at: 2019-09-18 11:11:00
Local clock offset: 5.161 ms
Remote clock offset: 5.955 ms

# Below is generated by plot.py at 2019-09-18 11:52:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 15.076 ms
Loss rate: 2.94%
-- Flow 1:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 15.122 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.46 Mbit/s
95th percentile per-packet one-way delay: 13.853 ms
Loss rate: 9.29%
-- Flow 3:
Average throughput: 23.84 Mbit/s
95th percentile per-packet one-way delay: 15.810 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



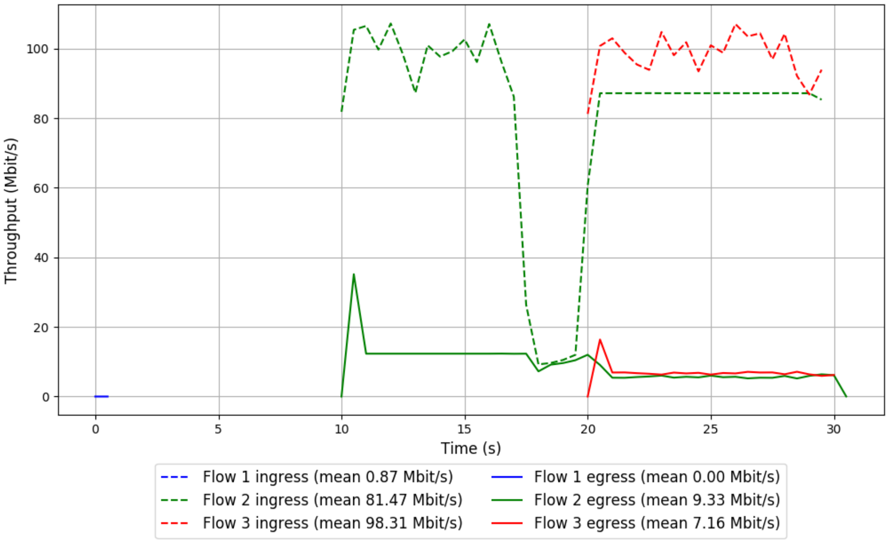


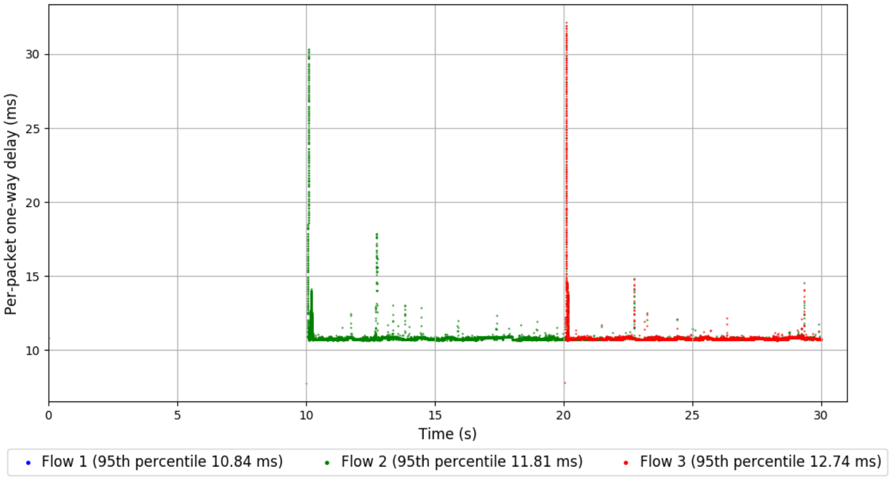
```
Run 1: Statistics of TaoVA-100x

Start at: 2019-09-18 09:13:30
End at: 2019-09-18 09:14:00
Local clock offset: 1.701 ms
Remote clock offset: 1.853 ms

# Below is generated by plot.py at 2019-09-18 11:52:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 11.973 ms
Loss rate: 90.11%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.835 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 11.811 ms
Loss rate: 88.54%
-- Flow 3:
Average throughput: 7.16 Mbit/s
95th percentile per-packet one-way delay: 12.745 ms
Loss rate: 92.72%
```

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



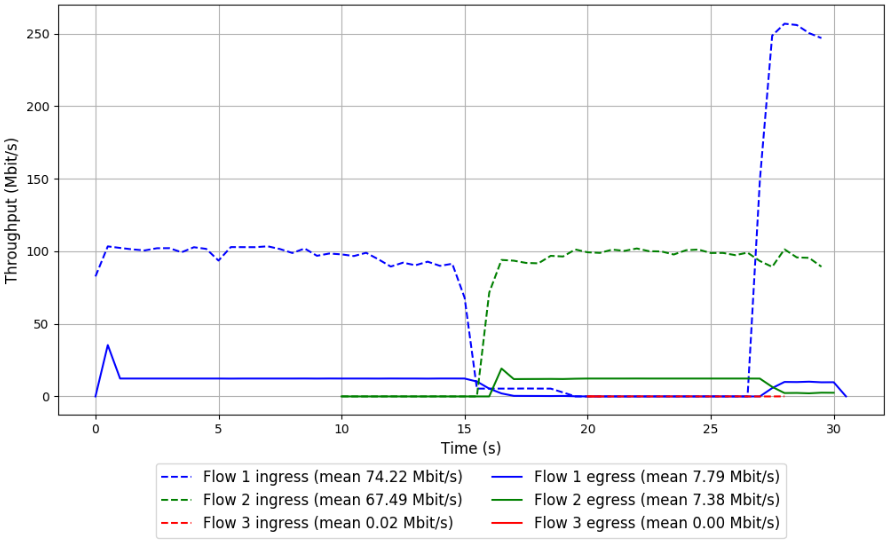


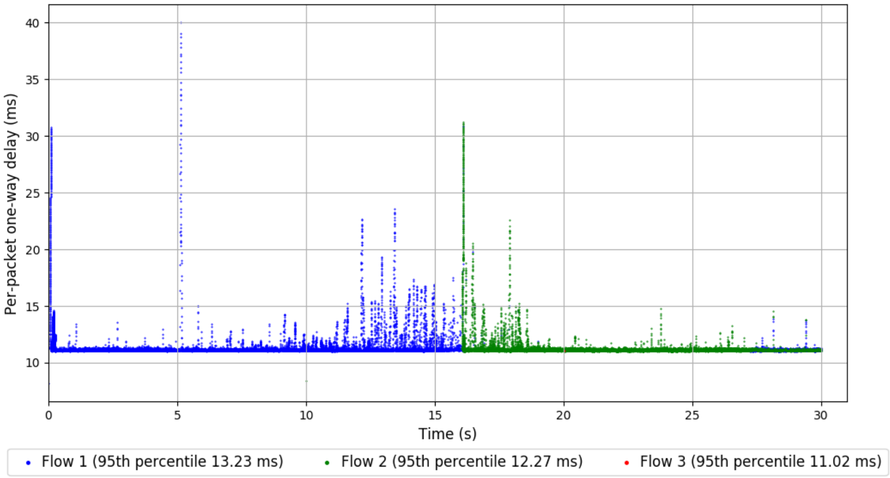
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-09-18 09:43:26
End at: 2019-09-18 09:43:56
Local clock offset: 2.675 ms
Remote clock offset: 2.626 ms

# Below is generated by plot.py at 2019-09-18 11:52:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 12.919 ms
Loss rate: 89.34%
-- Flow 1:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 13.232 ms
Loss rate: 89.50%
-- Flow 2:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 12.268 ms
Loss rate: 89.07%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.016 ms
Loss rate: 99.16%
```

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



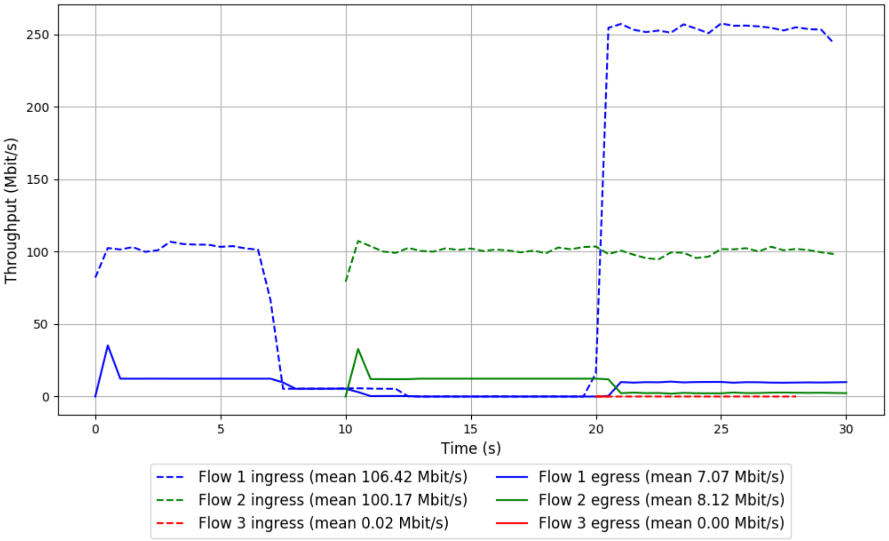


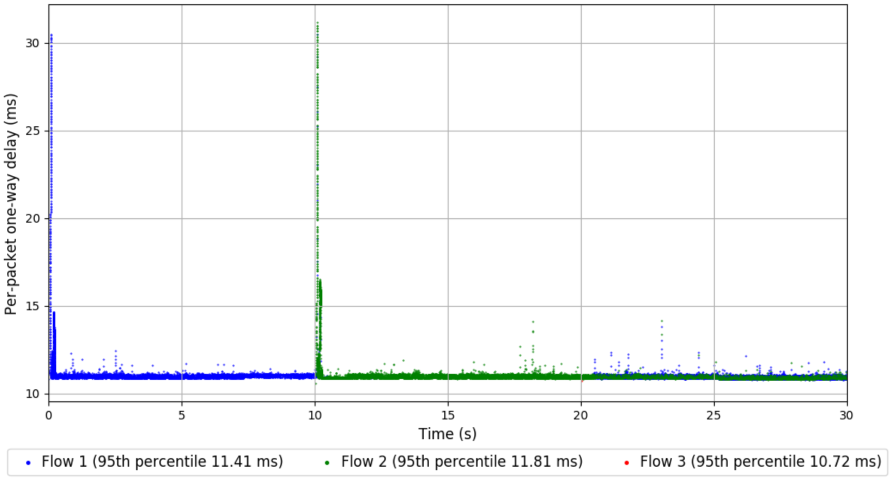
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-09-18 10:12:52
End at: 2019-09-18 10:13:22
Local clock offset: 1.406 ms
Remote clock offset: 3.862 ms

# Below is generated by plot.py at 2019-09-18 11:52:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 11.568 ms
Loss rate: 92.79%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 11.406 ms
Loss rate: 93.35%
-- Flow 2:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 11.808 ms
Loss rate: 91.90%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.717 ms
Loss rate: 99.16%
```

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



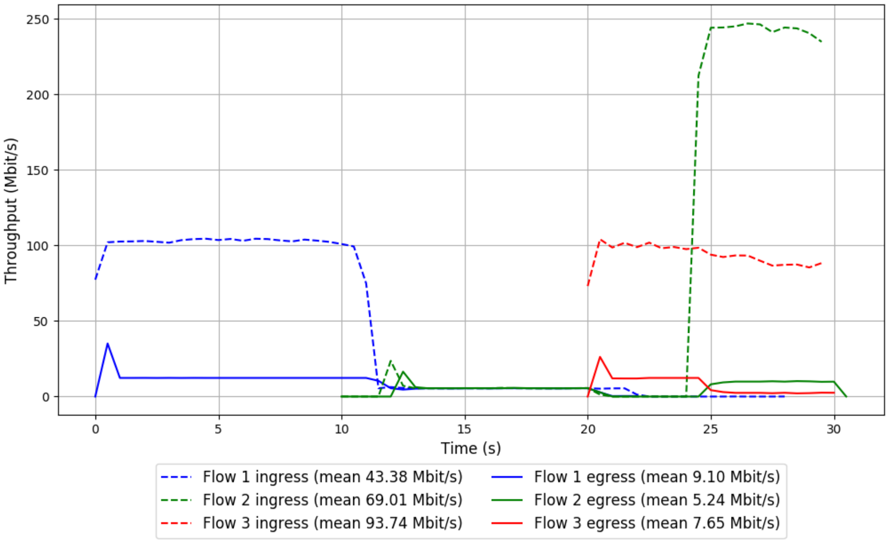


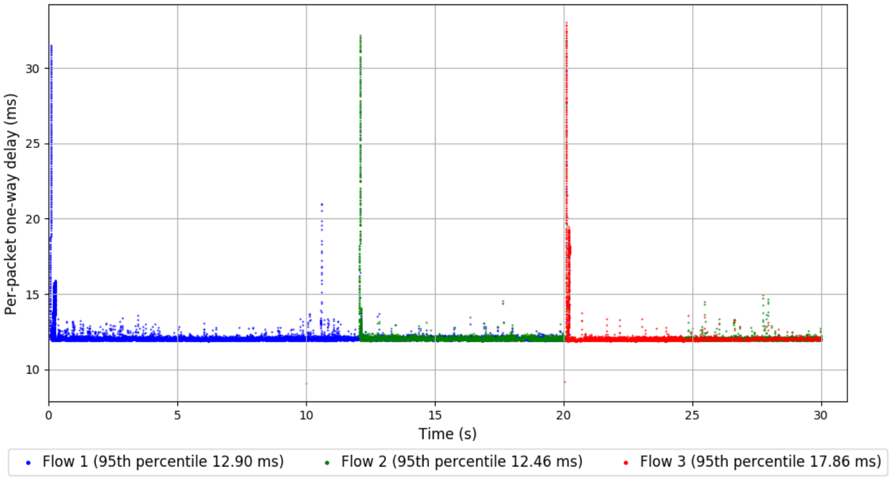
```
Run 4: Statistics of TaoVA-100x

Start at: 2019-09-18 10:41:53
End at: 2019-09-18 10:42:23
Local clock offset: 0.478 ms
Remote clock offset: 5.237 ms

# Below is generated by plot.py at 2019-09-18 11:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 13.398 ms
Loss rate: 89.20%
-- Flow 1:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 12.901 ms
Loss rate: 83.54%
-- Flow 2:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 12.455 ms
Loss rate: 92.40%
-- Flow 3:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 17.861 ms
Loss rate: 91.85%
```

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



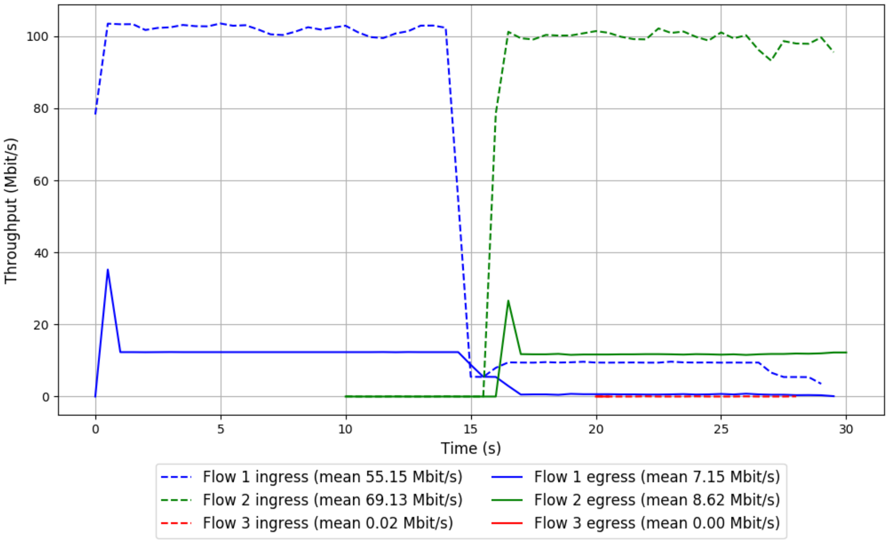


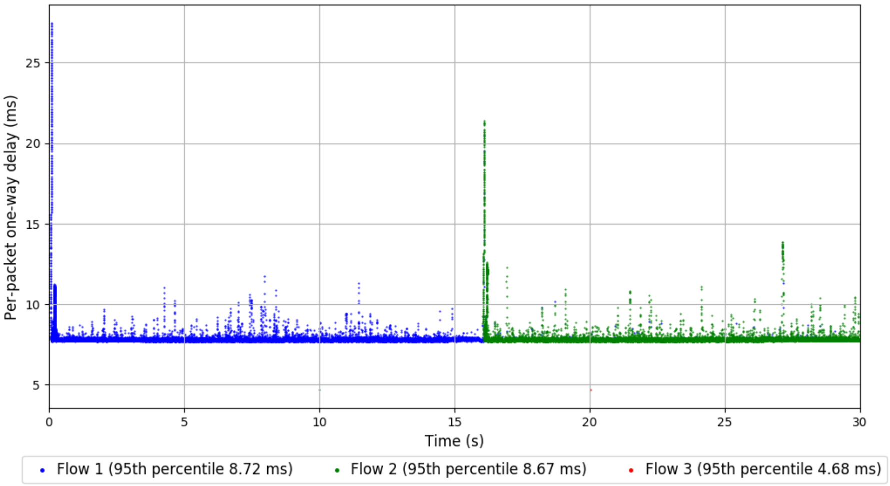
```
Run 5: Statistics of TaoVA-100x

Start at: 2019-09-18 11:11:42
End at: 2019-09-18 11:12:12
Local clock offset: 5.434 ms
Remote clock offset: 6.732 ms

# Below is generated by plot.py at 2019-09-18 11:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 8.697 ms
Loss rate: 87.29%
-- Flow 1:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 8.723 ms
Loss rate: 87.09%
-- Flow 2:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 8.667 ms
Loss rate: 87.53%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.683 ms
Loss rate: 99.16%
```

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



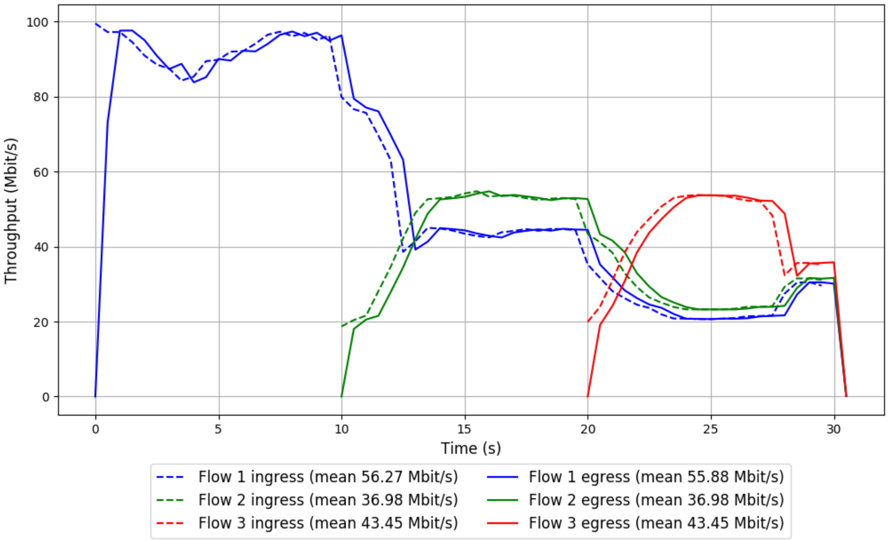


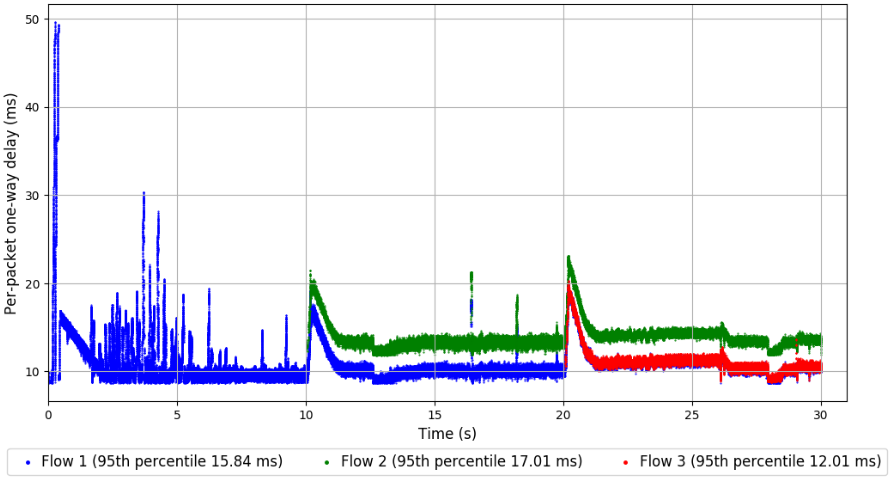
```
Run 1: Statistics of TCP Vegas

Start at: 2019-09-18 09:36:06
End at: 2019-09-18 09:36:36
Local clock offset: 2.211 ms
Remote clock offset: 2.606 ms

# Below is generated by plot.py at 2019-09-18 11:53:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.95 Mbit/s
95th percentile per-packet one-way delay: 15.813 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 55.88 Mbit/s
95th percentile per-packet one-way delay: 15.841 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 36.98 Mbit/s
95th percentile per-packet one-way delay: 17.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.45 Mbit/s
95th percentile per-packet one-way delay: 12.009 ms
Loss rate: 0.01%
```

Run 1: Report of TCP Vegas — Data Link



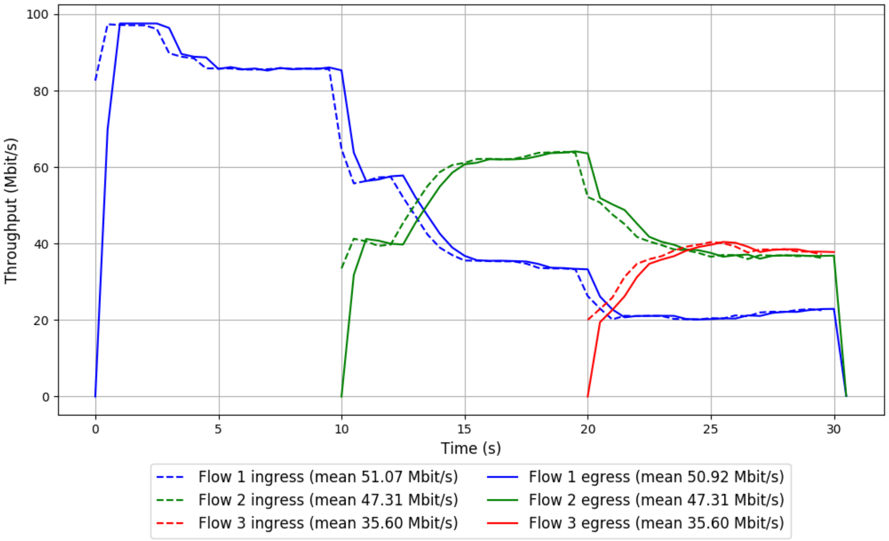


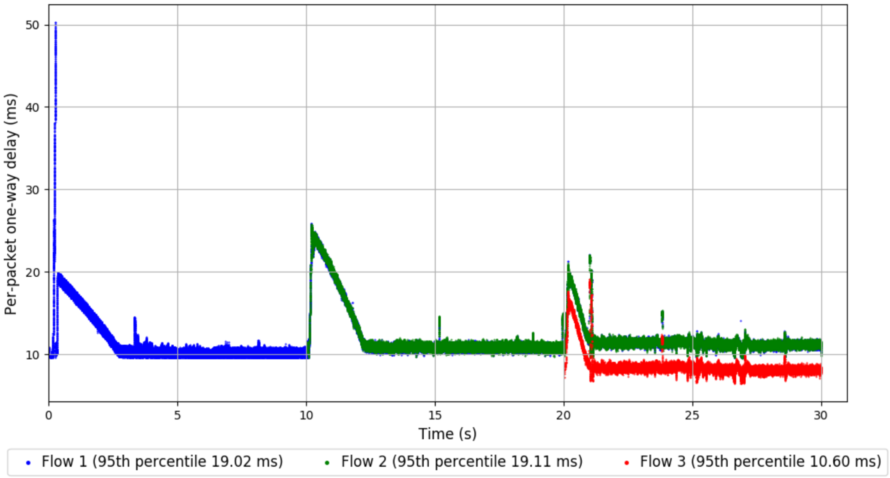
```
Run 2: Statistics of TCP Vegas

Start at: 2019-09-18 10:05:48
End at: 2019-09-18 10:06:18
Local clock offset: 1.479 ms
Remote clock offset: 1.969 ms

# Below is generated by plot.py at 2019-09-18 11:53:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.28 Mbit/s
95th percentile per-packet one-way delay: 18.737 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 50.92 Mbit/s
95th percentile per-packet one-way delay: 19.025 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 47.31 Mbit/s
95th percentile per-packet one-way delay: 19.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.60 Mbit/s
95th percentile per-packet one-way delay: 10.602 ms
Loss rate: 0.00%
```

Run 2: Report of TCP Vegas — Data Link



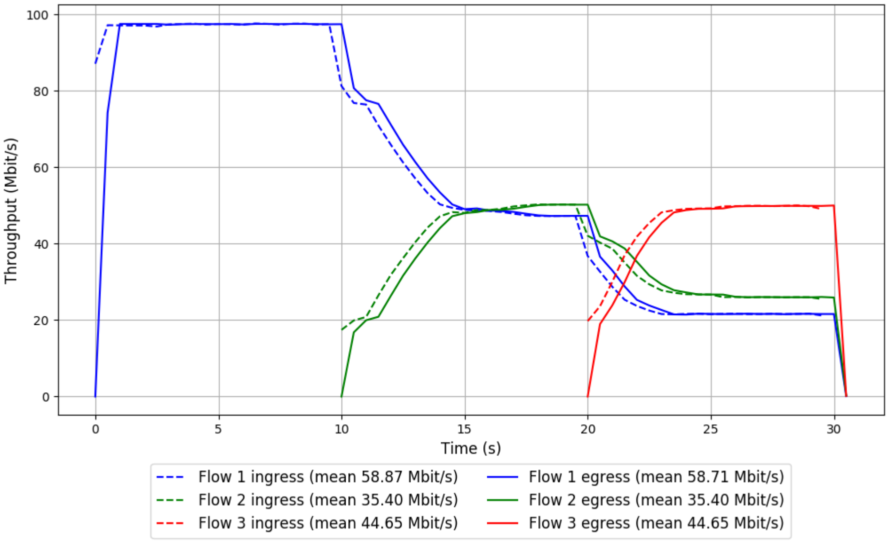


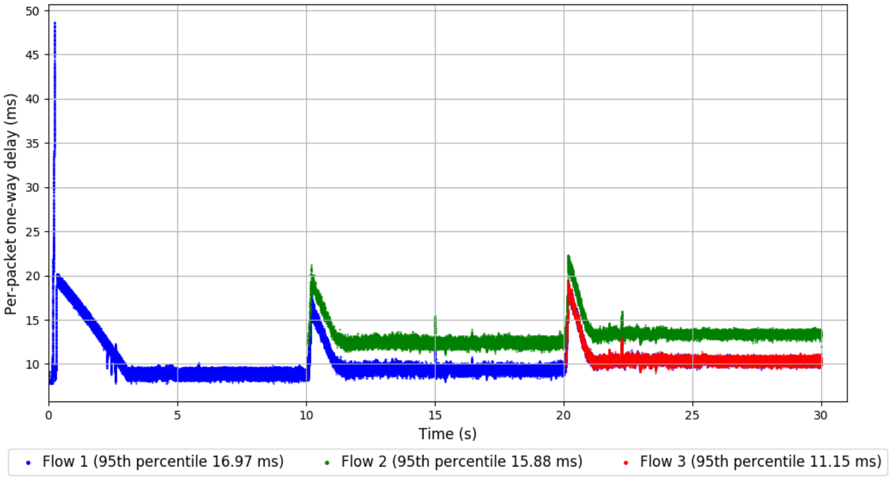
```
Run 3: Statistics of TCP Vegas

Start at: 2019-09-18 10:34:45
End at: 2019-09-18 10:35:15
Local clock offset: 0.155 ms
Remote clock offset: 3.804 ms

# Below is generated by plot.py at 2019-09-18 11:53:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 16.354 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 58.71 Mbit/s
95th percentile per-packet one-way delay: 16.974 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 35.40 Mbit/s
95th percentile per-packet one-way delay: 15.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.65 Mbit/s
95th percentile per-packet one-way delay: 11.151 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link



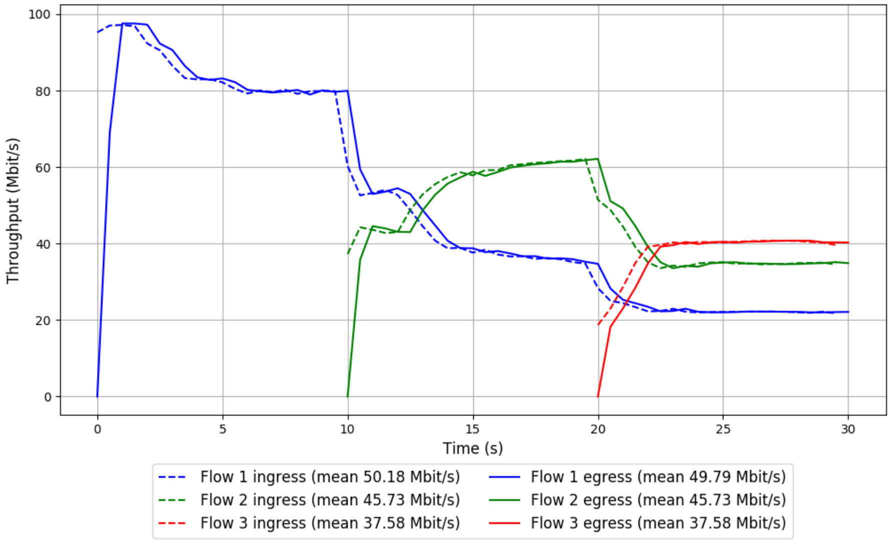


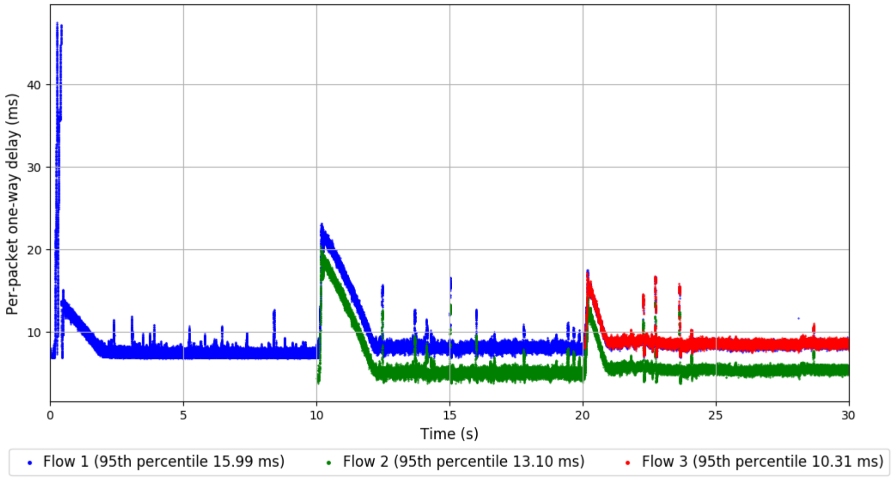
```
Run 4: Statistics of TCP Vegas

Start at: 2019-09-18 11:03:58
End at: 2019-09-18 11:04:28
Local clock offset: 5.403 ms
Remote clock offset: 5.828 ms

# Below is generated by plot.py at 2019-09-18 11:53:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 14.292 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 49.79 Mbit/s
95th percentile per-packet one-way delay: 15.993 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 45.73 Mbit/s
95th percentile per-packet one-way delay: 13.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 10.315 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link



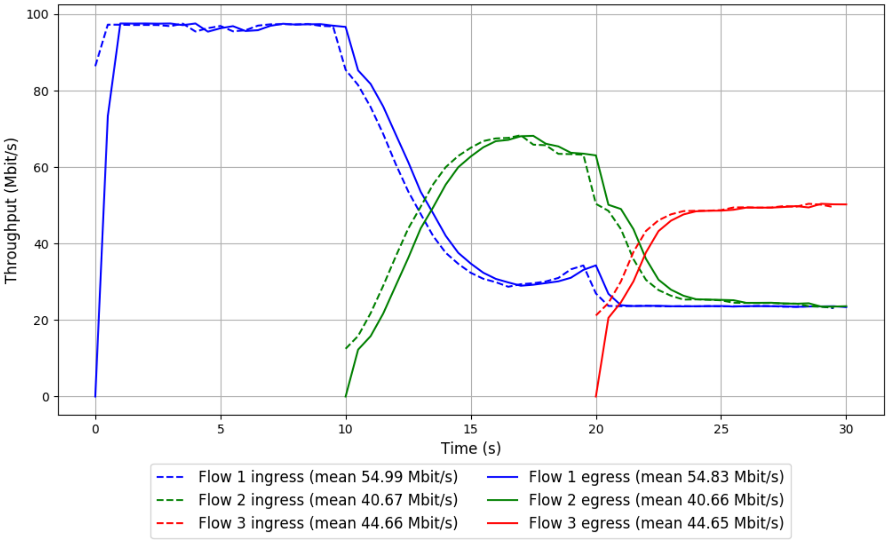


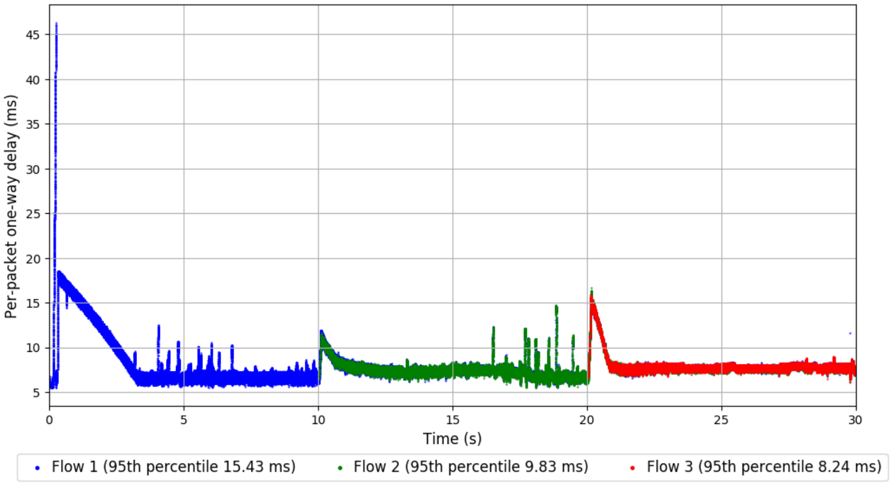
```
Run 5: Statistics of TCP Vegas

Start at: 2019-09-18 11:35:00
End at: 2019-09-18 11:35:30
Local clock offset: 5.004 ms
Remote clock offset: 7.531 ms

# Below is generated by plot.py at 2019-09-18 11:53:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 13.806 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 54.83 Mbit/s
95th percentile per-packet one-way delay: 15.433 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 9.828 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.65 Mbit/s
95th percentile per-packet one-way delay: 8.240 ms
Loss rate: 0.01%
```

Run 5: Report of TCP Vegas — Data Link



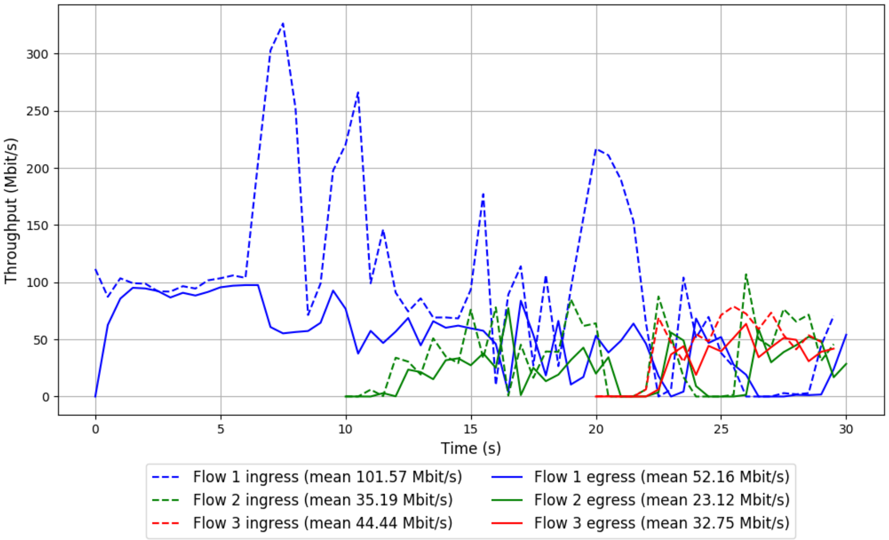


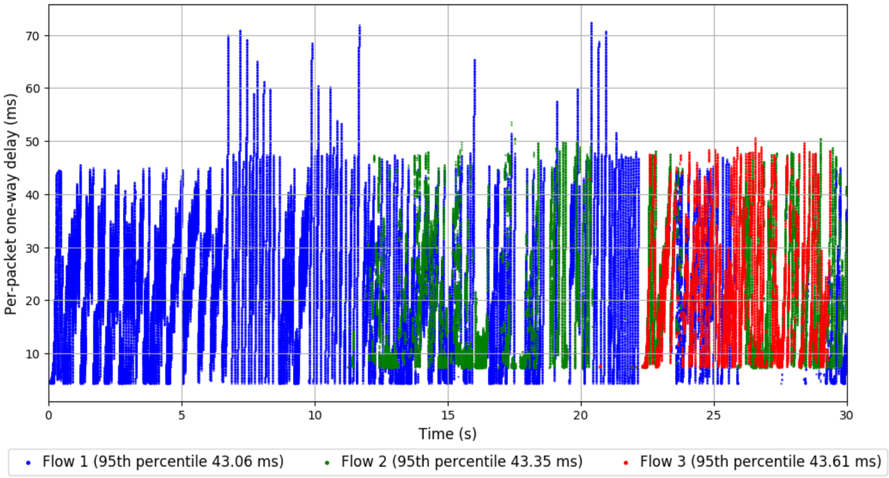
```
Run 1: Statistics of Verus

Start at: 2019-09-18 09:33:37
End at: 2019-09-18 09:34:07
Local clock offset: 6.685 ms
Remote clock offset: 2.43 ms

# Below is generated by plot.py at 2019-09-18 11:53:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.48 Mbit/s
95th percentile per-packet one-way delay: 43.208 ms
Loss rate: 43.99%
-- Flow 1:
Average throughput: 52.16 Mbit/s
95th percentile per-packet one-way delay: 43.063 ms
Loss rate: 48.59%
-- Flow 2:
Average throughput: 23.12 Mbit/s
95th percentile per-packet one-way delay: 43.346 ms
Loss rate: 34.18%
-- Flow 3:
Average throughput: 32.75 Mbit/s
95th percentile per-packet one-way delay: 43.614 ms
Loss rate: 26.29%
```

Run 1: Report of Verus — Data Link



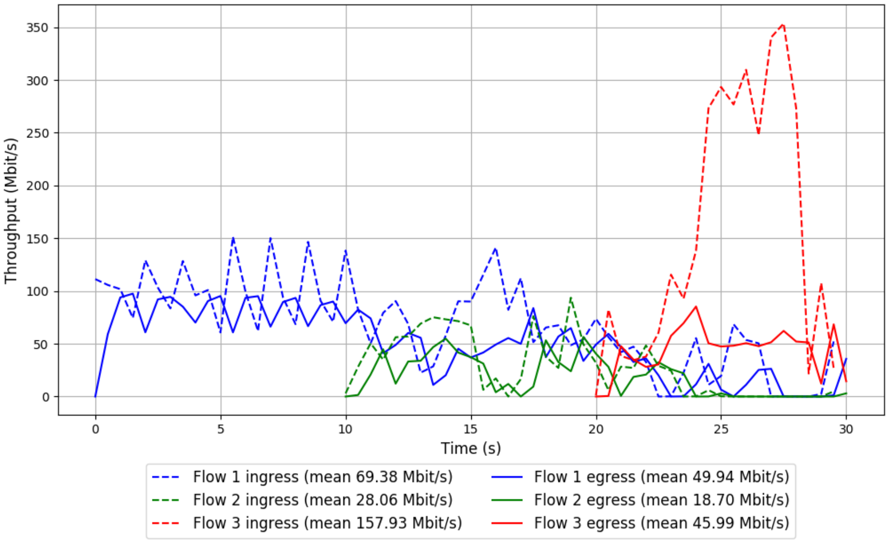


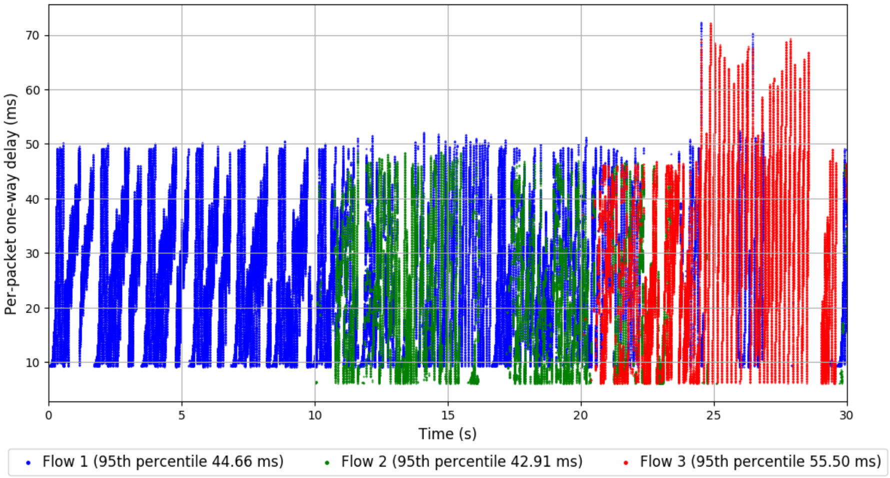
```
Run 2: Statistics of Verus

Start at: 2019-09-18 10:03:19
End at: 2019-09-18 10:03:49
Local clock offset: 1.67 ms
Remote clock offset: 1.36 ms

# Below is generated by plot.py at 2019-09-18 11:53:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.57 Mbit/s
95th percentile per-packet one-way delay: 45.687 ms
Loss rate: 44.63%
-- Flow 1:
Average throughput: 49.94 Mbit/s
95th percentile per-packet one-way delay: 44.662 ms
Loss rate: 27.95%
-- Flow 2:
Average throughput: 18.70 Mbit/s
95th percentile per-packet one-way delay: 42.913 ms
Loss rate: 33.25%
-- Flow 3:
Average throughput: 45.99 Mbit/s
95th percentile per-packet one-way delay: 55.499 ms
Loss rate: 70.85%
```

Run 2: Report of Verus — Data Link



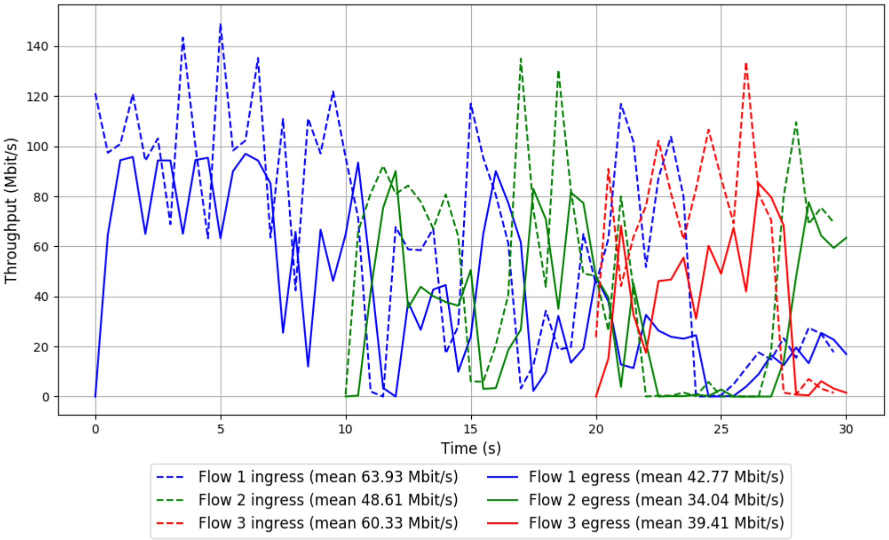


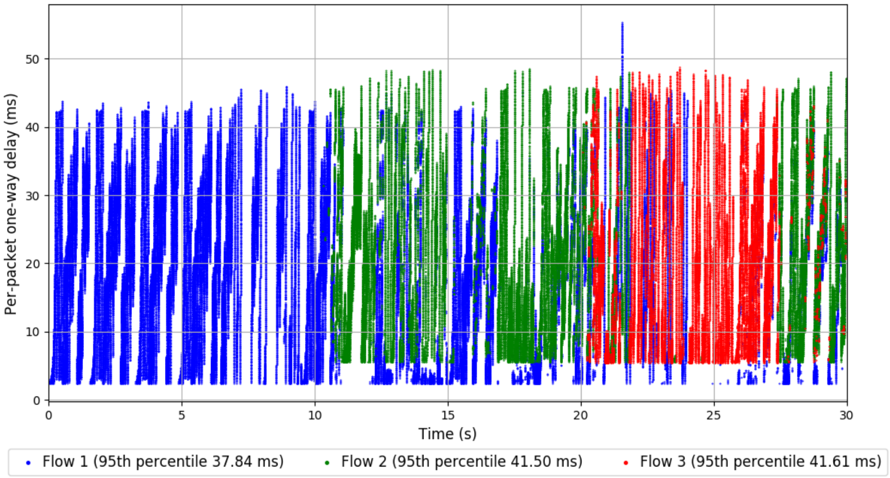
```
Run 3: Statistics of Verus

Start at: 2019-09-18 10:32:18
End at: 2019-09-18 10:32:48
Local clock offset: 4.276 ms
Remote clock offset: 2.663 ms

# Below is generated by plot.py at 2019-09-18 11:53:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.02 Mbit/s
95th percentile per-packet one-way delay: 39.572 ms
Loss rate: 32.53%
-- Flow 1:
Average throughput: 42.77 Mbit/s
95th percentile per-packet one-way delay: 37.842 ms
Loss rate: 33.16%
-- Flow 2:
Average throughput: 34.04 Mbit/s
95th percentile per-packet one-way delay: 41.497 ms
Loss rate: 29.90%
-- Flow 3:
Average throughput: 39.41 Mbit/s
95th percentile per-packet one-way delay: 41.609 ms
Loss rate: 34.70%
```

Run 3: Report of Verus — Data Link



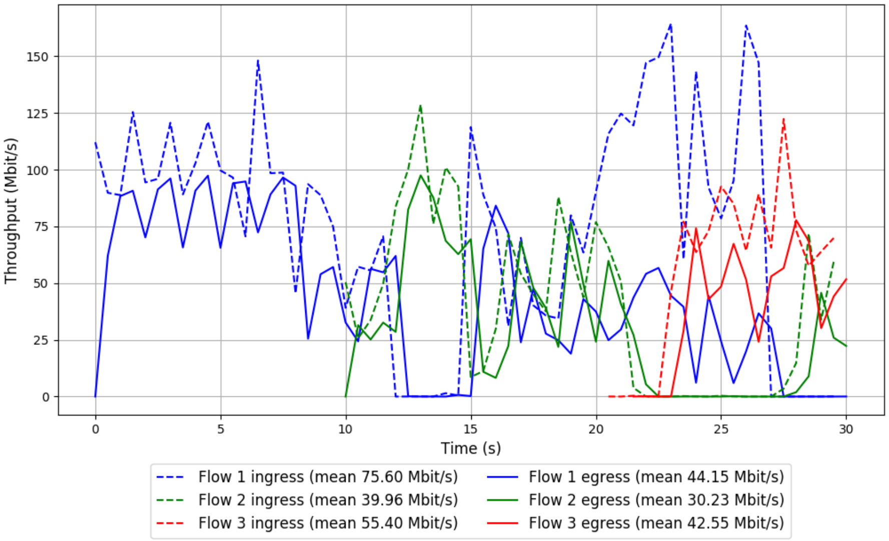


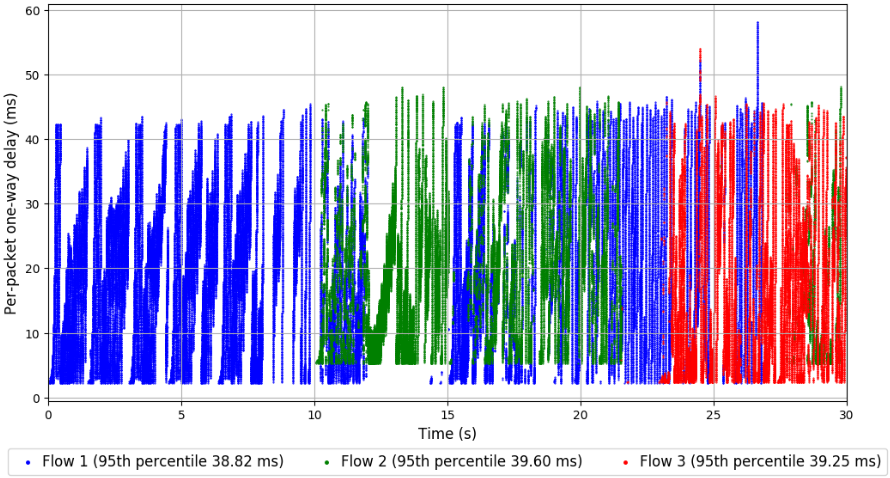
```
Run 4: Statistics of Verus

Start at: 2019-09-18 11:01:20
End at: 2019-09-18 11:01:50
Local clock offset: 5.697 ms
Remote clock offset: 4.611 ms

# Below is generated by plot.py at 2019-09-18 11:54:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.83 Mbit/s
95th percentile per-packet one-way delay: 39.097 ms
Loss rate: 36.26%
-- Flow 1:
Average throughput: 44.15 Mbit/s
95th percentile per-packet one-way delay: 38.818 ms
Loss rate: 41.65%
-- Flow 2:
Average throughput: 30.23 Mbit/s
95th percentile per-packet one-way delay: 39.603 ms
Loss rate: 24.29%
-- Flow 3:
Average throughput: 42.55 Mbit/s
95th percentile per-packet one-way delay: 39.254 ms
Loss rate: 31.09%
```

Run 4: Report of Verus — Data Link



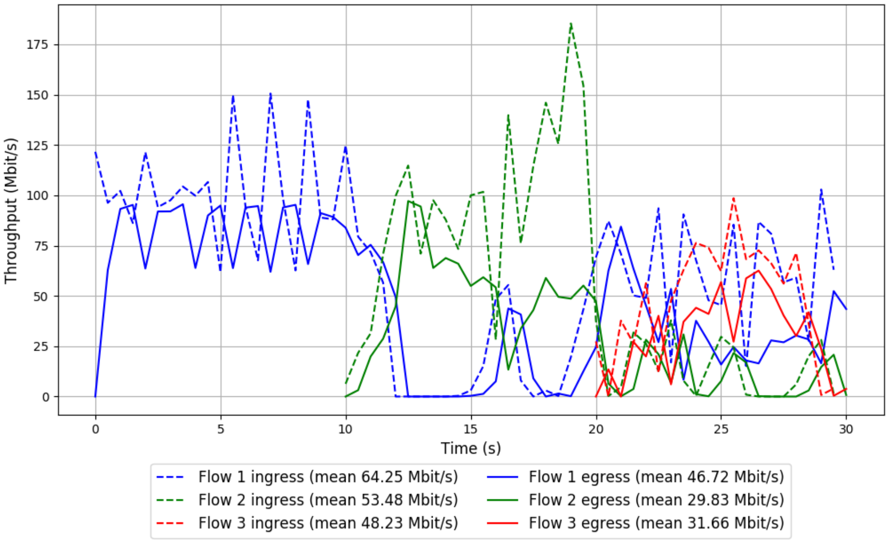


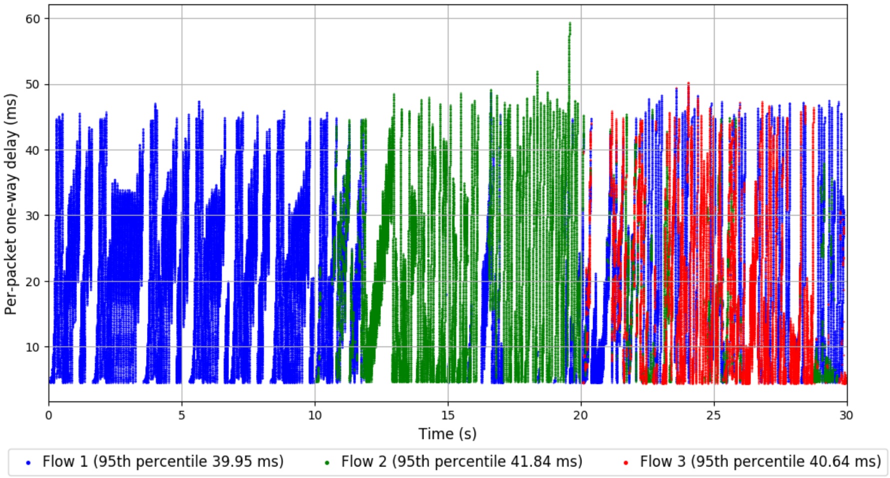
```
Run 5: Statistics of Verus

Start at: 2019-09-18 11:32:26
End at: 2019-09-18 11:32:56
Local clock offset: -1.859 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-09-18 11:54:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 40.563 ms
Loss rate: 33.44%
-- Flow 1:
Average throughput: 46.72 Mbit/s
95th percentile per-packet one-way delay: 39.949 ms
Loss rate: 27.22%
-- Flow 2:
Average throughput: 29.83 Mbit/s
95th percentile per-packet one-way delay: 41.835 ms
Loss rate: 44.22%
-- Flow 3:
Average throughput: 31.66 Mbit/s
95th percentile per-packet one-way delay: 40.642 ms
Loss rate: 34.36%
```

Run 5: Report of Verus — Data Link



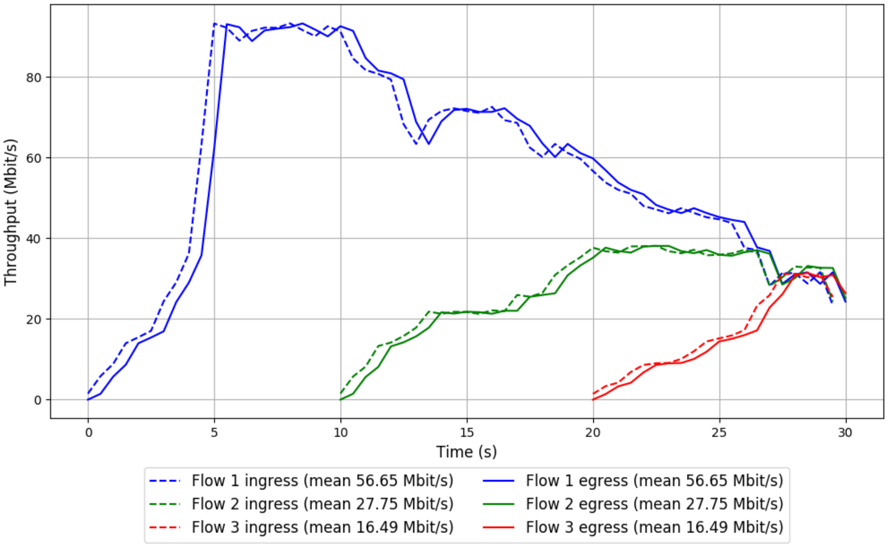


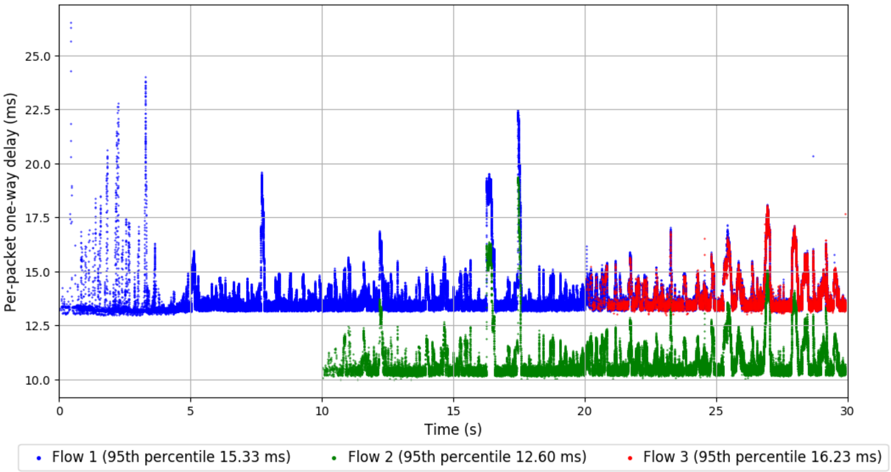
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-09-18 09:25:51
End at: 2019-09-18 09:26:21
Local clock offset: 1.649 ms
Remote clock offset: 3.265 ms

# Below is generated by plot.py at 2019-09-18 11:54:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.54 Mbit/s
95th percentile per-packet one-way delay: 15.148 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.65 Mbit/s
95th percentile per-packet one-way delay: 15.327 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.75 Mbit/s
95th percentile per-packet one-way delay: 12.597 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.49 Mbit/s
95th percentile per-packet one-way delay: 16.233 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link



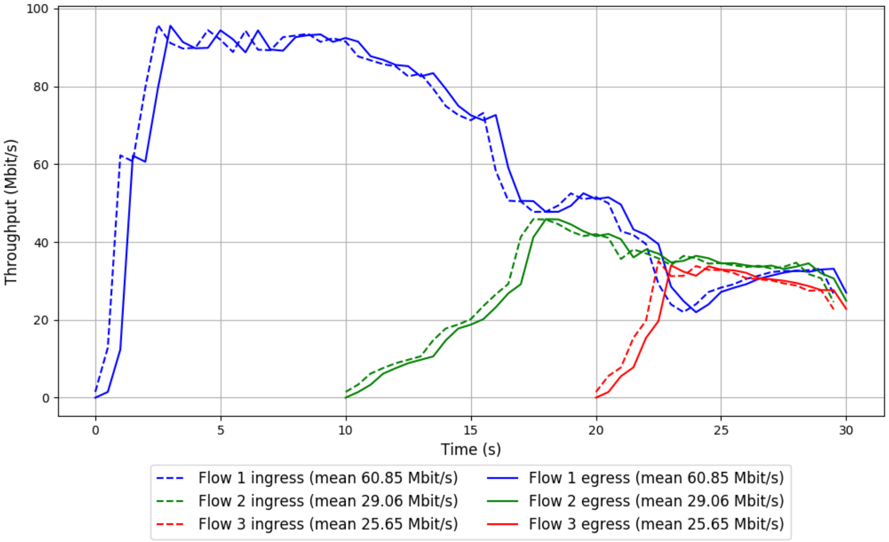


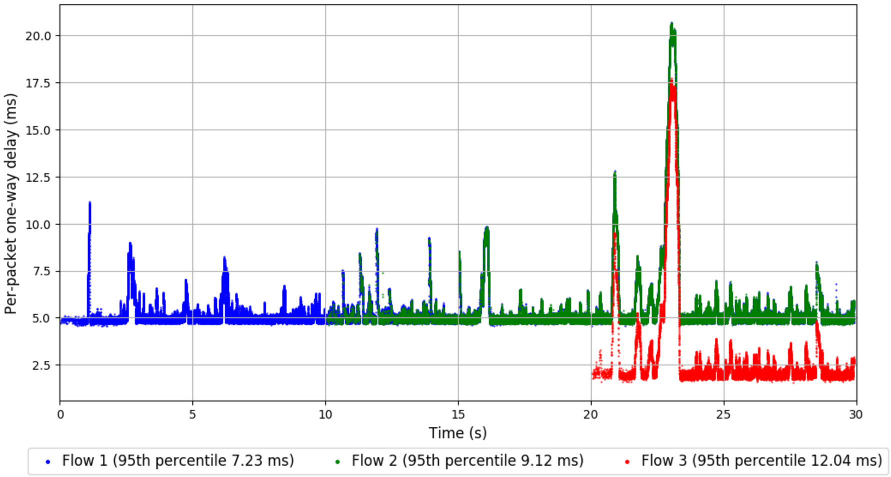
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-09-18 09:55:58
End at: 2019-09-18 09:56:28
Local clock offset: 6.752 ms
Remote clock offset: 1.157 ms

# Below is generated by plot.py at 2019-09-18 11:54:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 7.749 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.85 Mbit/s
95th percentile per-packet one-way delay: 7.232 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.06 Mbit/s
95th percentile per-packet one-way delay: 9.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 12.036 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link



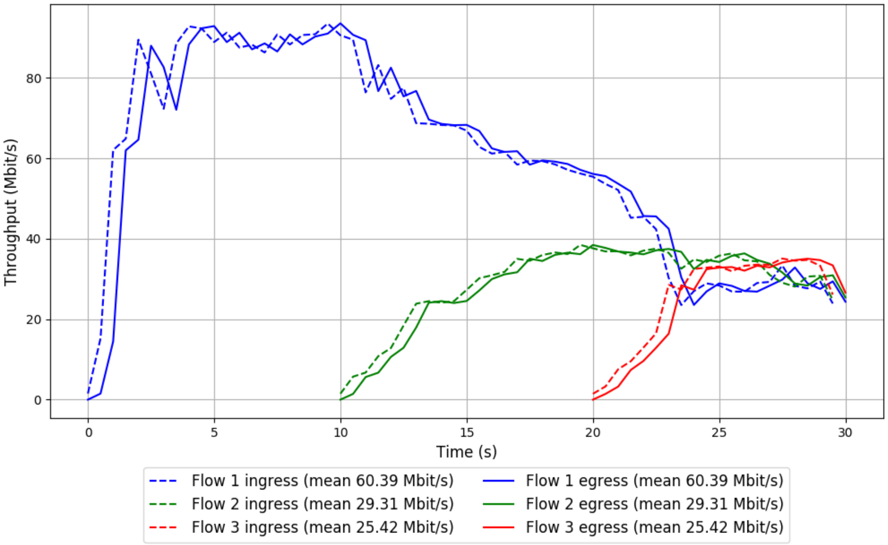


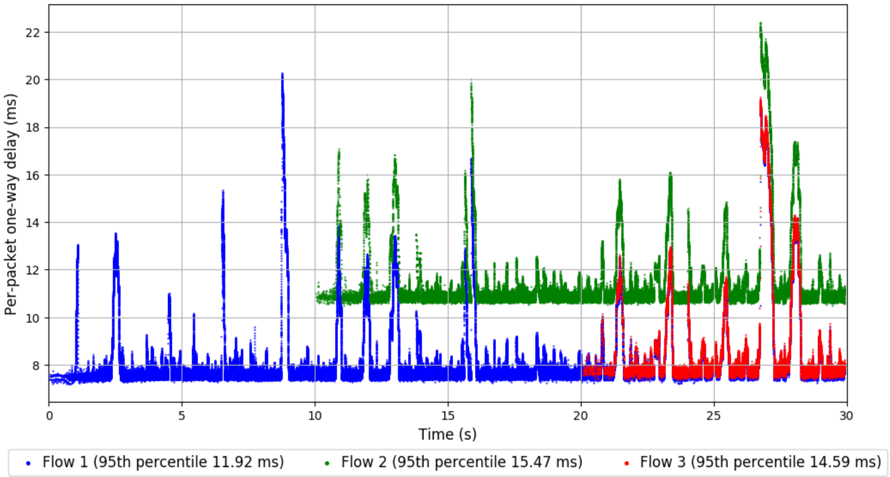
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-09-18 10:24:58
End at: 2019-09-18 10:25:28
Local clock offset: 0.235 ms
Remote clock offset: 3.384 ms

# Below is generated by plot.py at 2019-09-18 11:54:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.27 Mbit/s
95th percentile per-packet one-way delay: 13.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.39 Mbit/s
95th percentile per-packet one-way delay: 11.919 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.31 Mbit/s
95th percentile per-packet one-way delay: 15.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.42 Mbit/s
95th percentile per-packet one-way delay: 14.587 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link



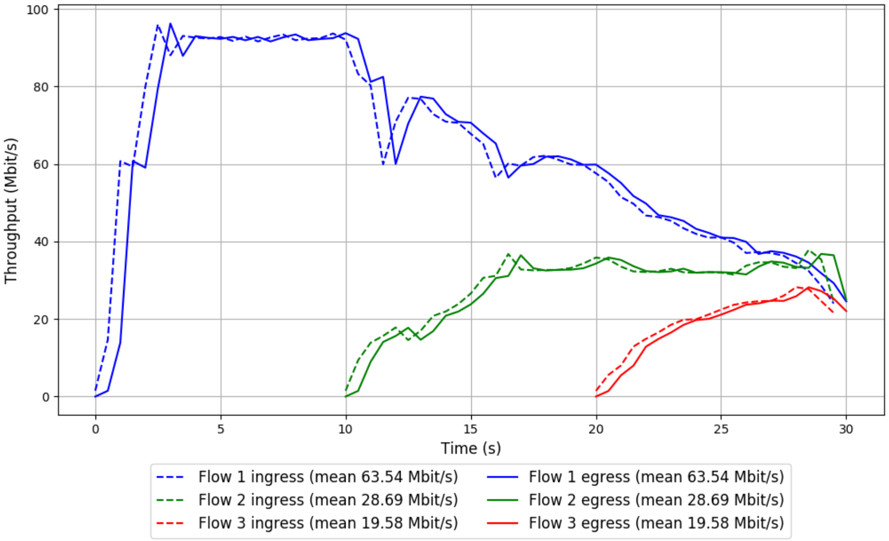


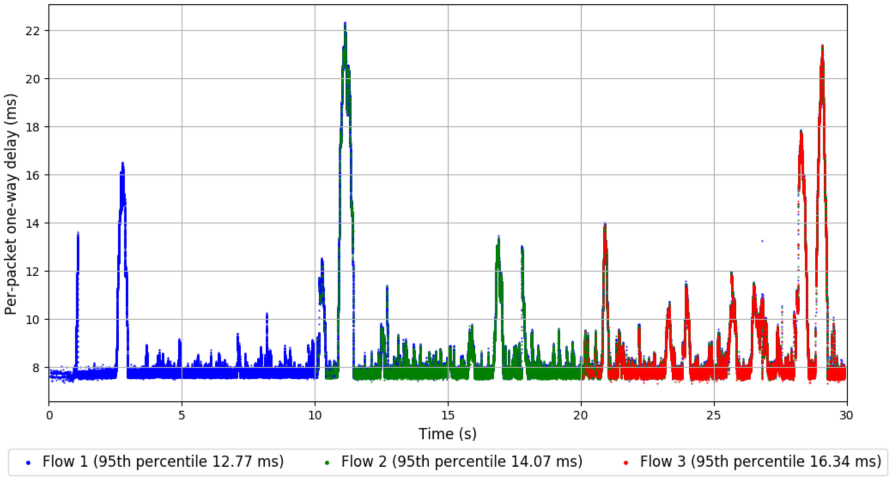
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-09-18 10:53:50
End at: 2019-09-18 10:54:20
Local clock offset: 1.185 ms
Remote clock offset: 5.047 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.09 Mbit/s
95th percentile per-packet one-way delay: 13.289 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.54 Mbit/s
95th percentile per-packet one-way delay: 12.768 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.69 Mbit/s
95th percentile per-packet one-way delay: 14.068 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.58 Mbit/s
95th percentile per-packet one-way delay: 16.339 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link



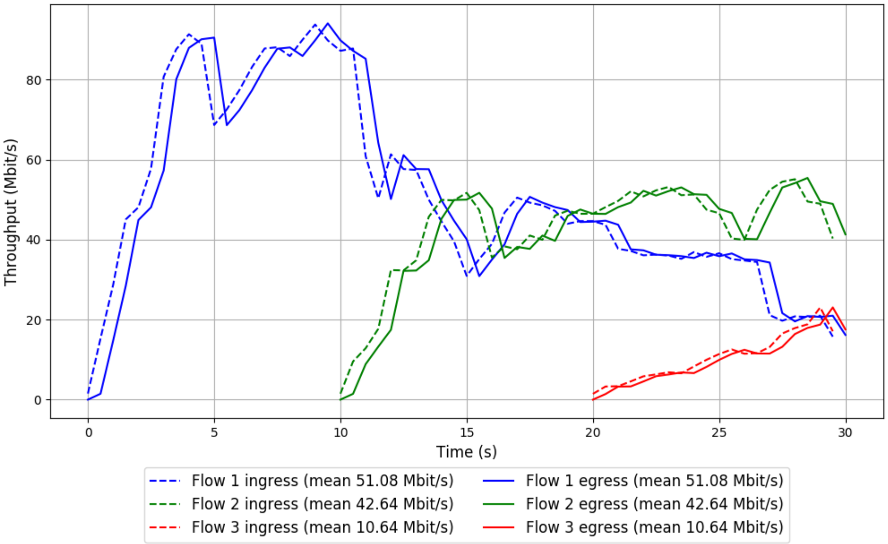


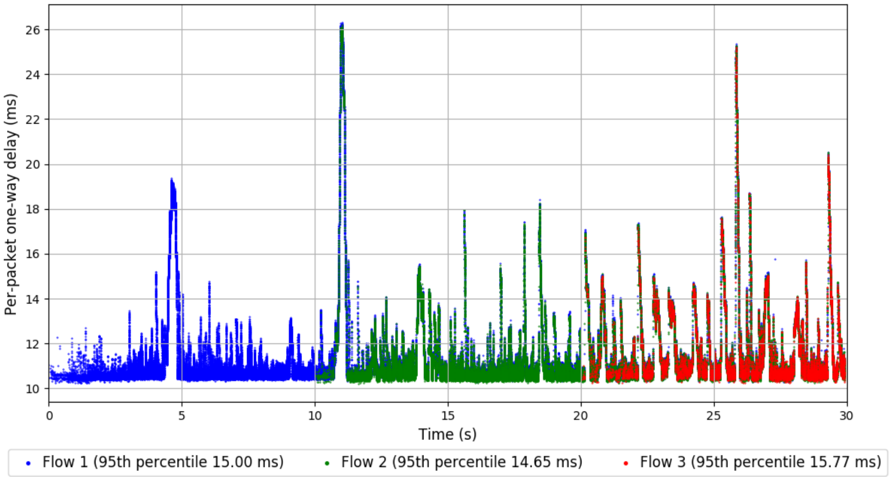
```
Run 5: Statistics of PCC-Vivace

Start at: 2019-09-18 11:24:22
End at: 2019-09-18 11:24:52
Local clock offset: 0.241 ms
Remote clock offset: 7.712 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.96 Mbit/s
95th percentile per-packet one-way delay: 14.846 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.08 Mbit/s
95th percentile per-packet one-way delay: 14.998 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 14.649 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.64 Mbit/s
95th percentile per-packet one-way delay: 15.765 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link



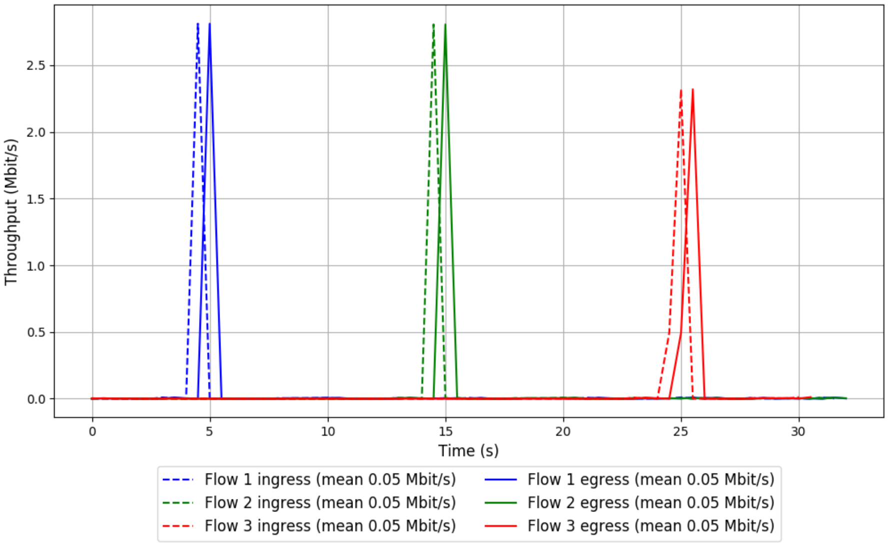


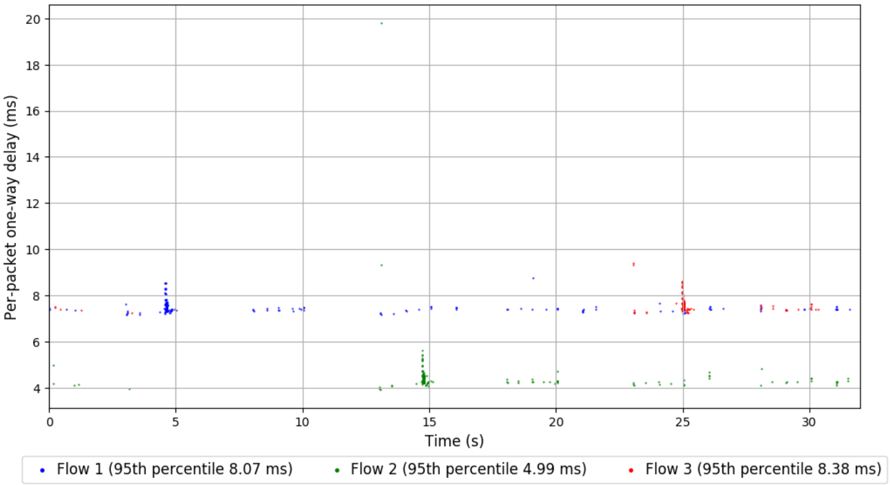
```
Run 1: Statistics of WebRTC media

Start at: 2019-09-18 09:14:38
End at: 2019-09-18 09:15:08
Local clock offset: 6.753 ms
Remote clock offset: 3.48 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 7.991 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.069 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.990 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.384 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



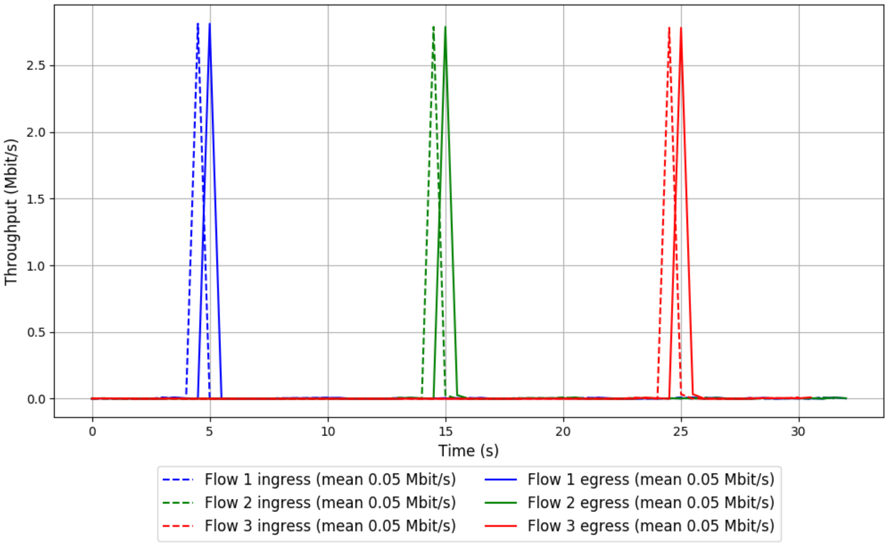


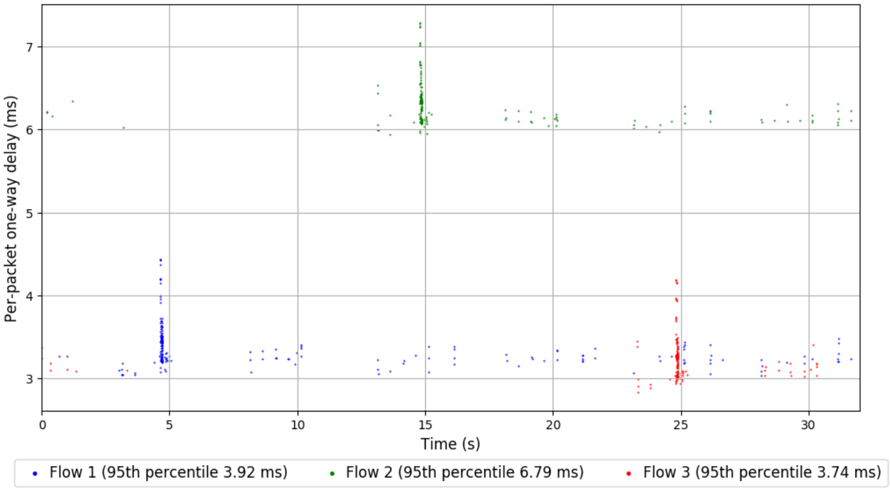
```
Run 2: Statistics of WebRTC media

Start at: 2019-09-18 09:44:35
End at: 2019-09-18 09:45:05
Local clock offset: 7.121 ms
Remote clock offset: 2.218 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 6.431 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.916 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.738 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



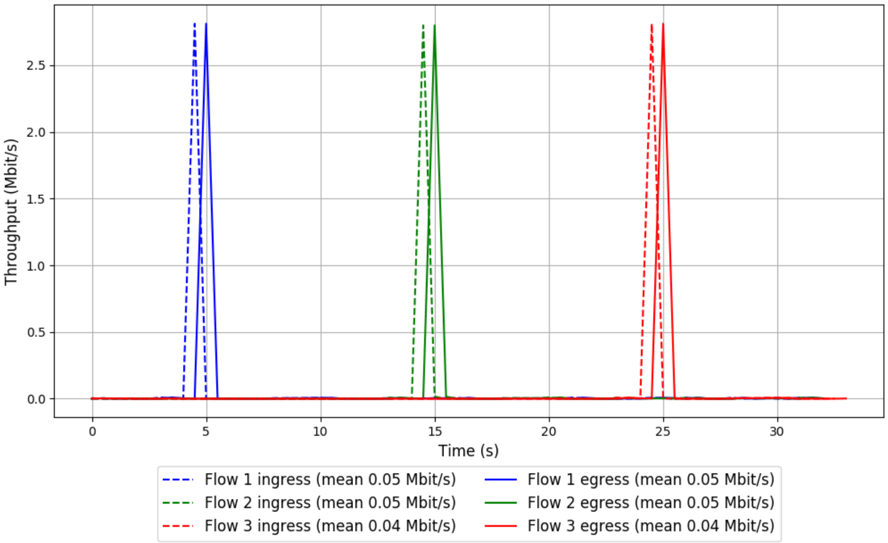


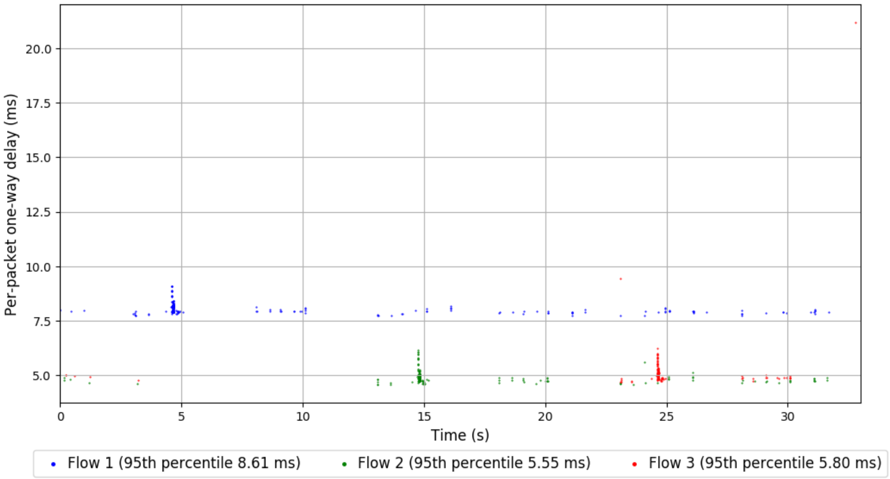
```
Run 3: Statistics of WebRTC media

Start at: 2019-09-18 10:14:03
End at: 2019-09-18 10:14:33
Local clock offset: 5.03 ms
Remote clock offset: 4.89 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 8.224 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.613 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.548 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 5.803 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



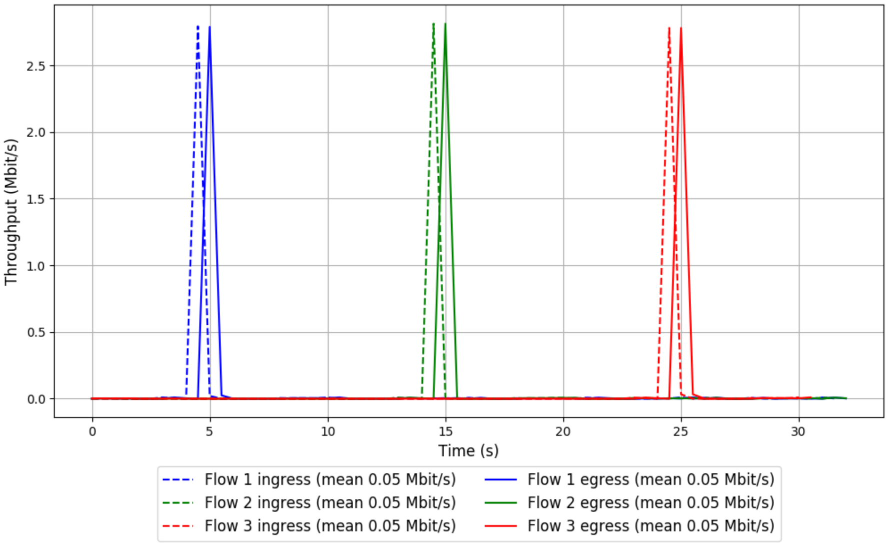


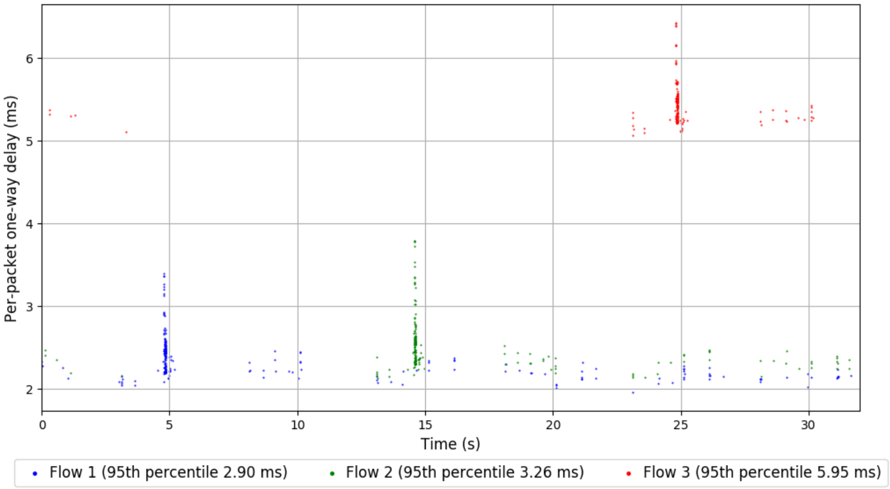
```
Run 4: Statistics of WebRTC media

Start at: 2019-09-18 10:43:03
End at: 2019-09-18 10:43:33
Local clock offset: 5.172 ms
Remote clock offset: 3.311 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 5.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.898 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.264 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.951 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



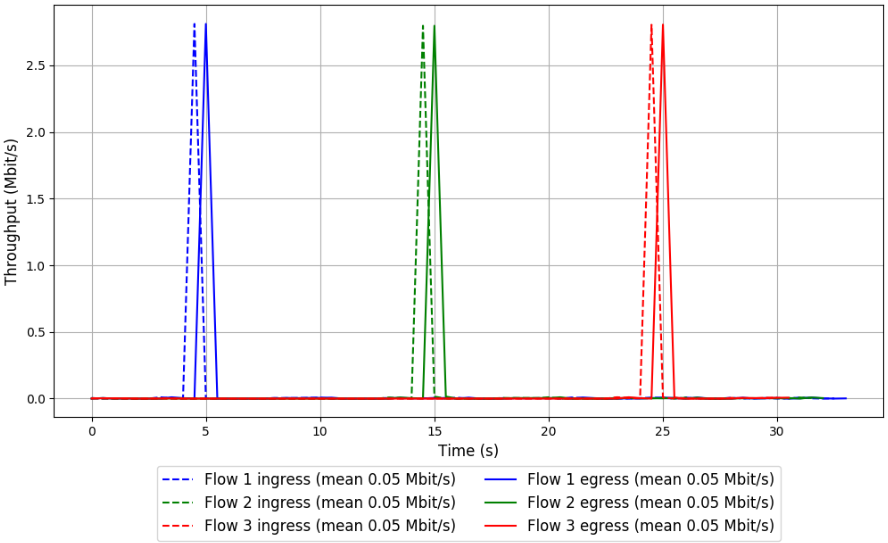


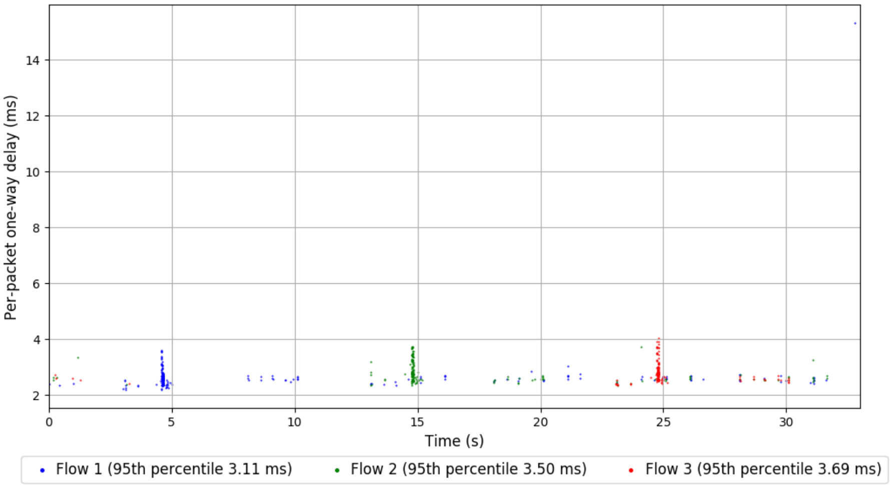
```
Run 5: Statistics of WebRTC media

Start at: 2019-09-18 11:12:52
End at: 2019-09-18 11:13:22
Local clock offset: 5.971 ms
Remote clock offset: 5.079 ms

# Below is generated by plot.py at 2019-09-18 11:54:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 3.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.107 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.501 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.691 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link


Throughput (Mbit/s)
0.0
0.5
1.0
1.5
2.0
2.5
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 0.05 Mbit/s)
Flow 2 ingress (mean 0.05 Mbit/s)
Flow 3 ingress (mean 0.05 Mbit/s)
Flow 1 egress (mean 0.05 Mbit/s)
Flow 2 egress (mean 0.05 Mbit/s)
Flow 3 egress (mean 0.05 Mbit/s)


Per-packet one-way delay (ms)
2
4
6
8
10
12
14
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 3.11 ms)
Flow 2 (95th percentile 3.50 ms)
Flow 3 (95th percentile 3.69 ms)