# Pantheon Report

Generated at 2018-08-23 01:20:02 (UTC).

Data path: Saudi Arabia Ethernet (*remote*) →AWS India 2 Ethernet (*local*).

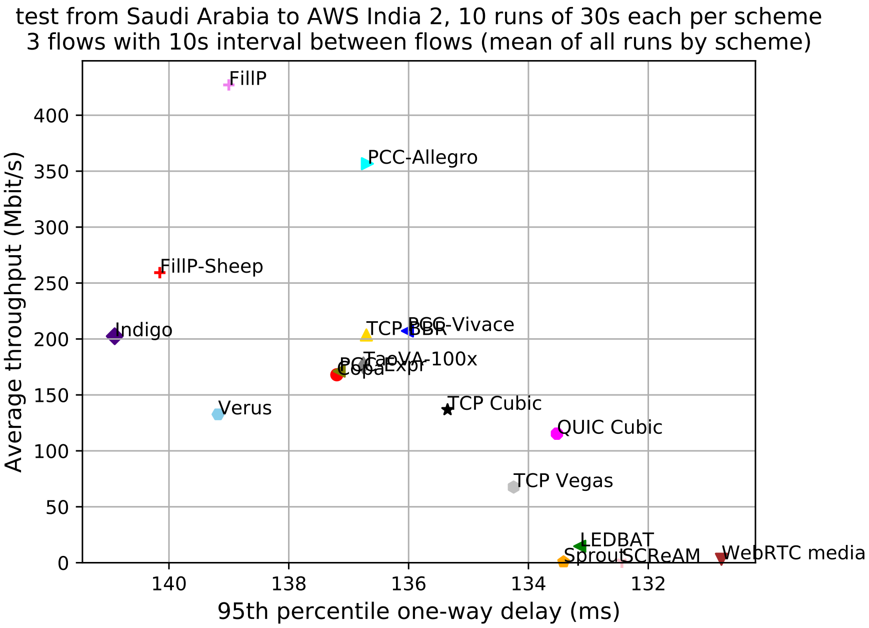
Repeated the test of 17 congestion control schemes 10 times.

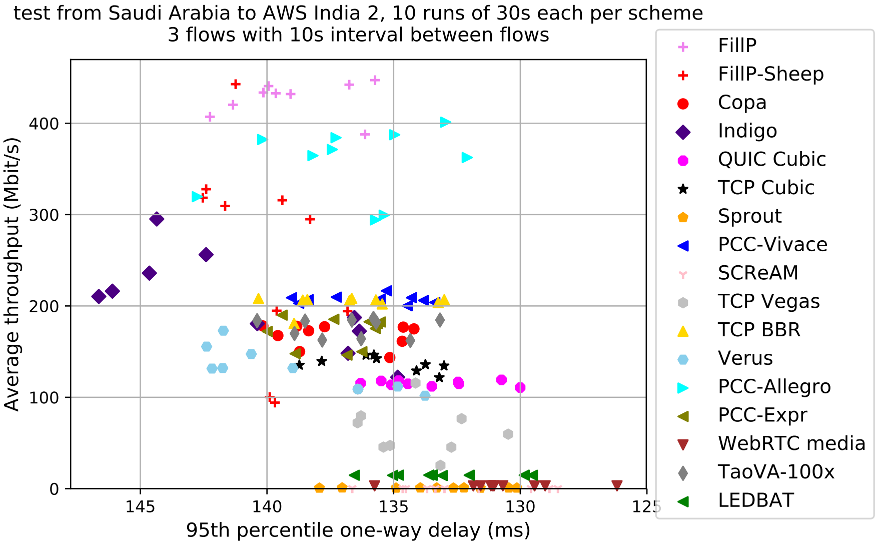
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

```
System info:
Linux 4.15.0-1016-aws
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 33554432
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304
```

```
Git summary:
branch: master @ 7719b900495aa706f8452ab7d4a94dd562e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```


test from Saudi Arabia to AWS India 2, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
50
100
150
200
250
300
350
400
140
138
136
134
132
FillP
PCC-Allegro
FillP-Sheep
Indigo
TCP BBR
PCC-Vivace
TaoVA-100x
PCC-Expr
Copa
Verus
TCP Cubic
QUIC Cubic
TCP Vegas
LEDBAT
Sprout
SCReAM
WebRTC media


test from Saudi Arabia to AWS India 2, 10 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
100
200
300
400
145
140
135
130
125
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

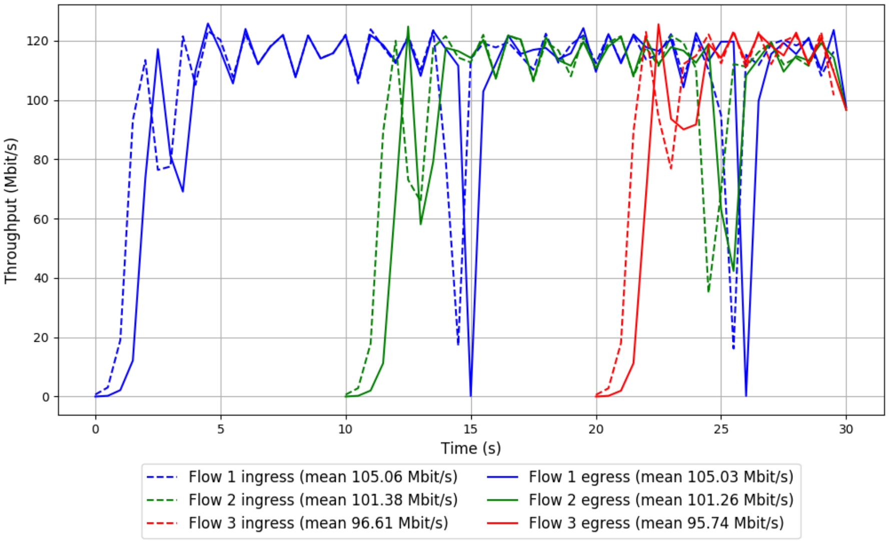
| | | mean avg tput (Mbit/s) | | | mean 95th-%ile delay (ms) | | | mean loss rate (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| scheme | # runs | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 |
| TCP BBR | 10 | 105.89 | 103.13 | 95.19 | 135.33 | 137.03 | 139.33 | 0.71 | 1.10 | 2.59 |
| Copa | 10 | 115.56 | 59.27 | 40.05 | 136.87 | 137.22 | 137.54 | 0.33 | 1.24 | 3.10 |
| TCP Cubic | 9 | 74.69 | 63.47 | 60.90 | 134.65 | 135.44 | 136.91 | 0.63 | 1.25 | 2.35 |
| FillP | 9 | 270.35 | 183.93 | 120.69 | 138.28 | 139.28 | 139.45 | 2.48 | 7.65 | 16.71 |
| FillP-Sheep | 10 | 67.88 | 193.14 | 197.55 | 139.14 | 139.76 | 140.11 | 0.47 | 1.32 | 4.08 |
| Indigo | 10 | 109.88 | 104.27 | 72.28 | 139.90 | 141.16 | 141.83 | 0.70 | 1.06 | 2.37 |
| LEDBAT | 10 | 9.57 | 6.30 | 3.03 | 132.15 | 132.74 | 132.31 | 1.29 | 1.96 | 3.96 |
| PCC-Allegro | 10 | 321.06 | 49.98 | 7.72 | 136.65 | 136.52 | 136.61 | 0.74 | 1.32 | 2.40 |
| PCC-Expr | 10 | 159.12 | 15.27 | 6.22 | 137.22 | 135.59 | 135.95 | 0.96 | 1.52 | 2.84 |
| QUIC Cubic | 10 | 60.15 | 56.64 | 53.89 | 132.97 | 132.88 | 133.40 | 0.68 | 1.04 | 2.23 |
| SCReAM | 10 | 0.22 | 0.22 | 0.22 | 132.27 | 132.00 | 132.15 | 0.64 | 1.04 | 1.84 |
| Sprout | 10 | 0.36 | 0.45 | 0.51 | 133.14 | 132.85 | 132.86 | 0.45 | 0.86 | 0.77 |
| TaoVA-100x | 10 | 105.62 | 78.16 | 58.43 | 135.87 | 137.18 | 137.97 | 0.45 | 1.07 | 2.11 |
| TCP Vegas | 10 | 31.08 | 34.90 | 40.95 | 132.21 | 133.88 | 136.46 | 0.84 | 1.05 | 2.12 |
| Verus | 9 | 86.49 | 49.69 | 42.08 | 139.24 | 138.67 | 138.37 | 0.42 | 2.83 | 2.87 |
| PCC-Vivace | 10 | 178.01 | 36.91 | 14.48 | 135.87 | 135.78 | 135.64 | 0.58 | 1.35 | 3.98 |
| WebRTC media | 10 | 1.69 | 1.03 | 0.40 | 130.36 | 130.23 | 130.50 | 0.58 | 1.20 | 2.99 |

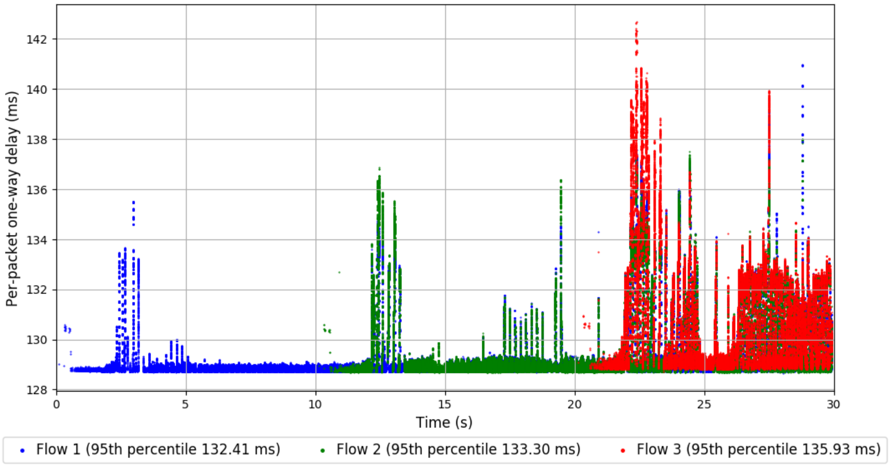
```
Run 1: Statistics of TCP BBR

Start at: 2018-08-22 19:08:17
End at: 2018-08-22 19:08:47
Local clock offset: -0.286 ms
Remote clock offset: -35.467 ms

# Below is generated by plot.py at 2018-08-23 00:37:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.63 Mbit/s
95th percentile per-packet one-way delay: 133.241 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 105.03 Mbit/s
95th percentile per-packet one-way delay: 132.410 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 101.26 Mbit/s
95th percentile per-packet one-way delay: 133.298 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 135.927 ms
Loss rate: 2.35%
```

Run 1: Report of TCP BBR — Data Link



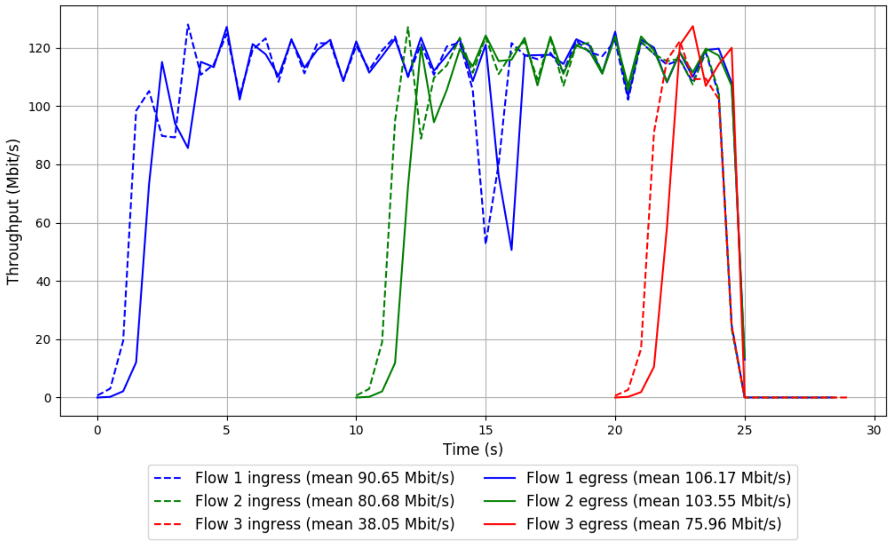


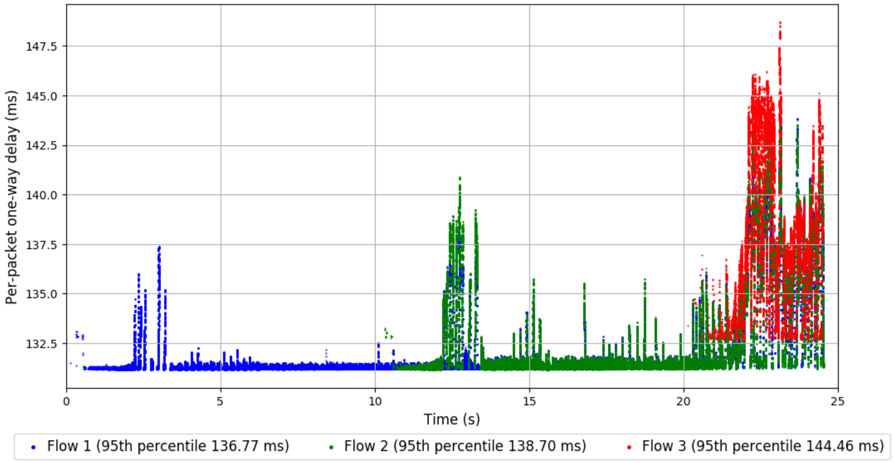
```
Run 2: Statistics of TCP BBR

Start at: 2018-08-22 19:44:30
End at: 2018-08-22 19:45:00
Local clock offset: 1.41 ms
Remote clock offset: -35.125 ms

# Below is generated by plot.py at 2018-08-23 00:37:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.80 Mbit/s
95th percentile per-packet one-way delay: 138.931 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 106.17 Mbit/s
95th percentile per-packet one-way delay: 136.772 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 103.55 Mbit/s
95th percentile per-packet one-way delay: 138.704 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 144.463 ms
Loss rate: 4.78%
```

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



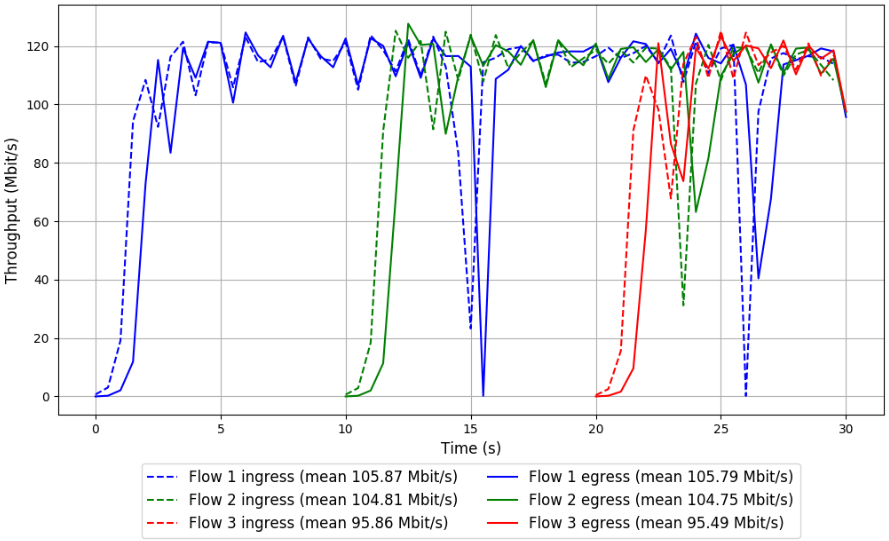


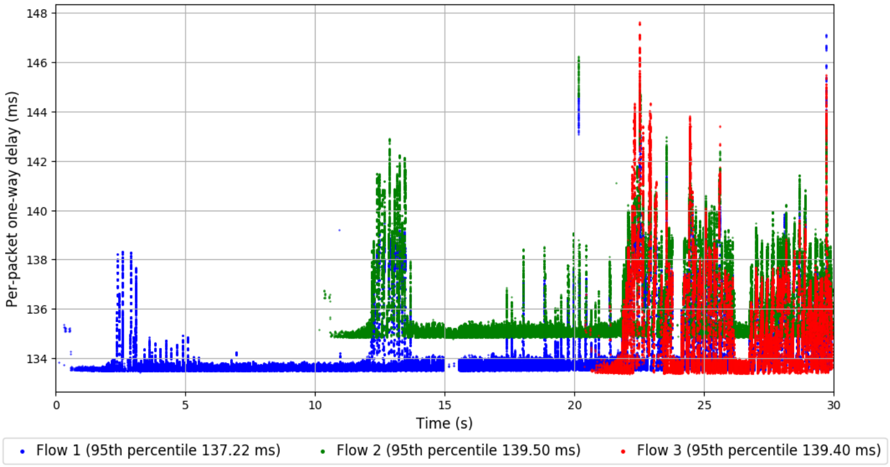
```
Run 3: Statistics of TCP BBR

Start at: 2018-08-22 20:20:10
End at: 2018-08-22 20:20:40
Local clock offset: -0.839 ms
Remote clock offset: -37.923 ms

# Below is generated by plot.py at 2018-08-23 00:37:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.42 Mbit/s
95th percentile per-packet one-way delay: 138.586 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 105.79 Mbit/s
95th percentile per-packet one-way delay: 137.218 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 104.75 Mbit/s
95th percentile per-packet one-way delay: 139.504 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 95.49 Mbit/s
95th percentile per-packet one-way delay: 139.400 ms
Loss rate: 2.39%
```

Run 3: Report of TCP BBR — Data Link



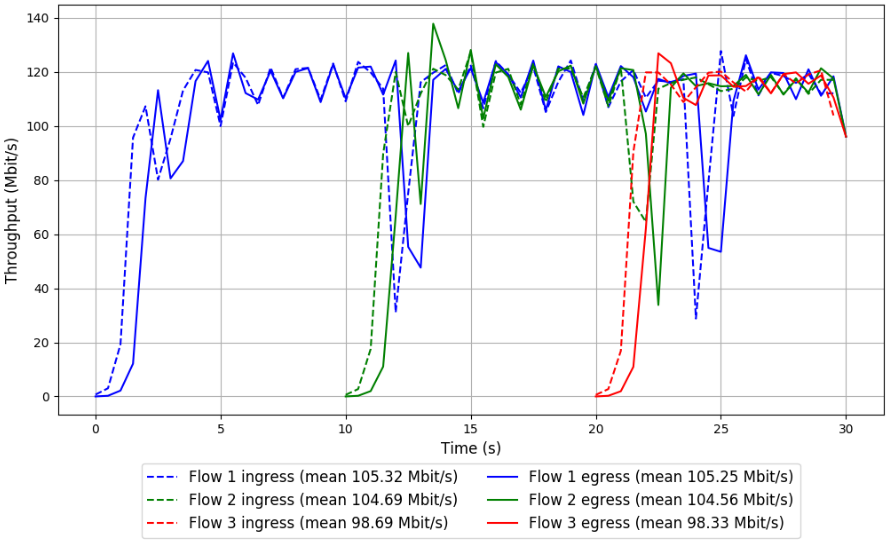


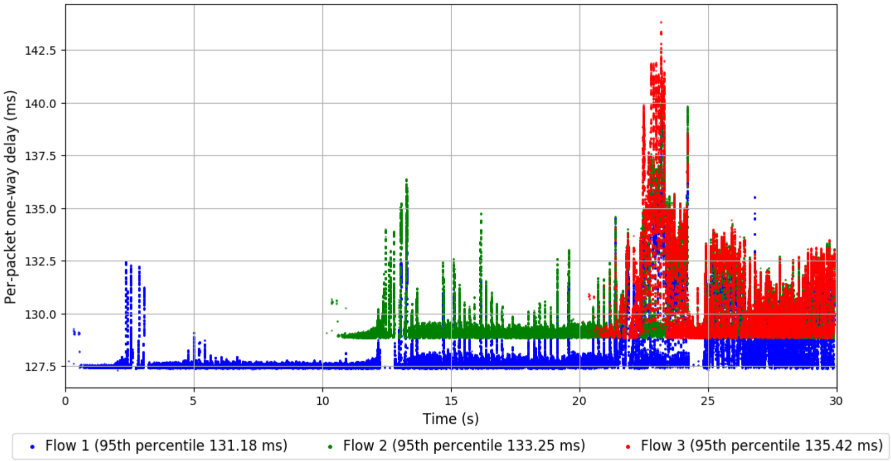
```
Run 4: Statistics of TCP BBR

Start at: 2018-08-22 20:50:16
End at: 2018-08-22 20:50:46
Local clock offset: 0.165 ms
Remote clock offset: -31.936 ms

# Below is generated by plot.py at 2018-08-23 00:37:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.84 Mbit/s
95th percentile per-packet one-way delay: 133.002 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 105.25 Mbit/s
95th percentile per-packet one-way delay: 131.181 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 104.56 Mbit/s
95th percentile per-packet one-way delay: 133.253 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 98.33 Mbit/s
95th percentile per-packet one-way delay: 135.420 ms
Loss rate: 2.36%
```

Run 4: Report of TCP BBR — Data Link



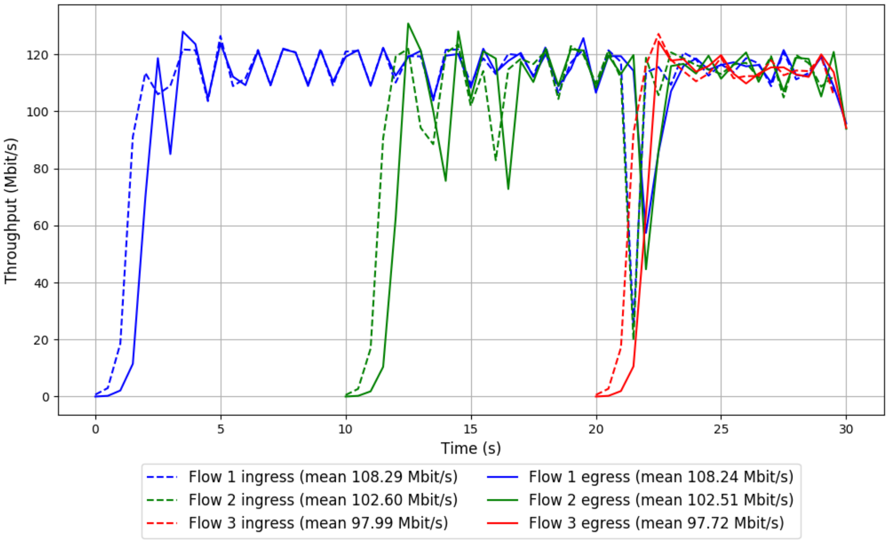


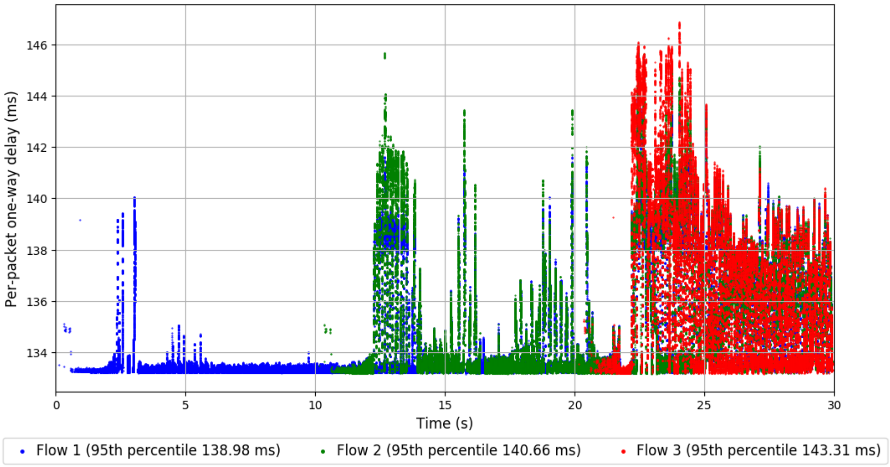
```
Run 5: Statistics of TCP BBR

Start at: 2018-08-22 21:20:19
End at: 2018-08-22 21:20:49
Local clock offset: 1.508 ms
Remote clock offset: -36.676 ms

# Below is generated by plot.py at 2018-08-23 00:37:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.12 Mbit/s
95th percentile per-packet one-way delay: 140.335 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 108.24 Mbit/s
95th percentile per-packet one-way delay: 138.981 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 102.51 Mbit/s
95th percentile per-packet one-way delay: 140.662 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 97.72 Mbit/s
95th percentile per-packet one-way delay: 143.314 ms
Loss rate: 2.27%
```

Run 5: Report of TCP BBR — Data Link



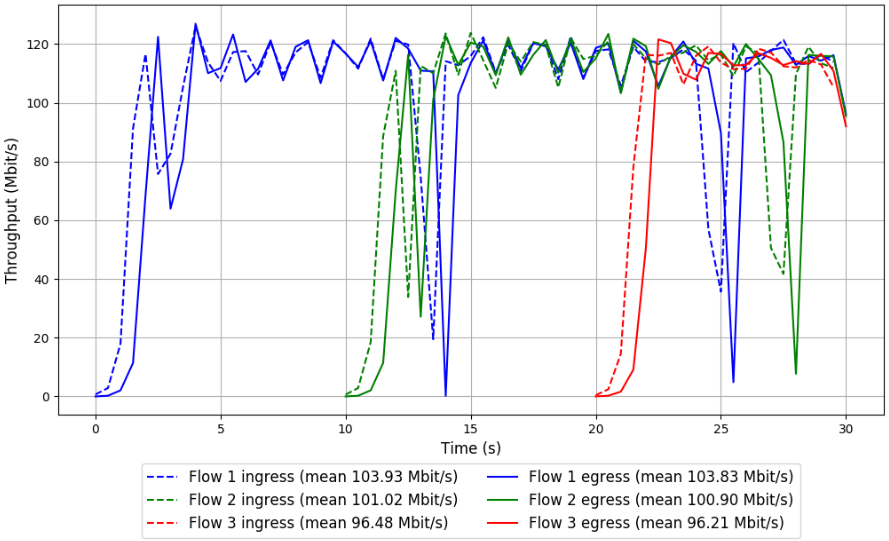


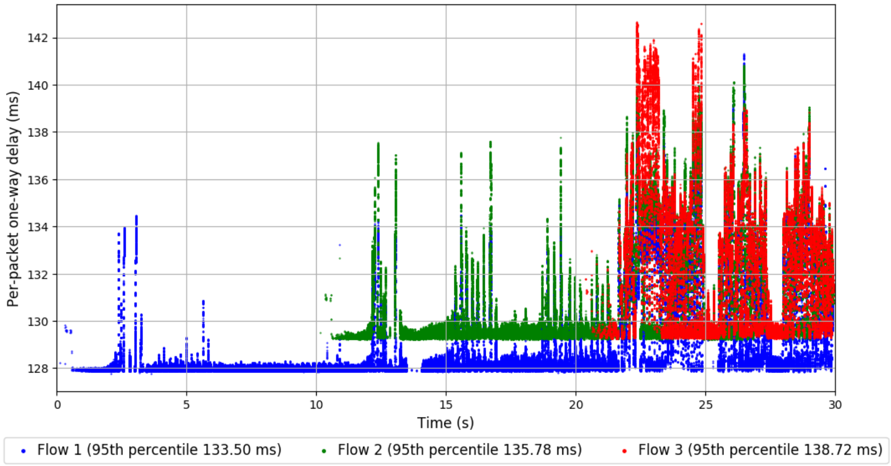
```
Run 6: Statistics of TCP BBR

Start at: 2018-08-22 21:49:57
End at: 2018-08-22 21:50:27
Local clock offset: 0.443 ms
Remote clock offset: -35.223 ms

# Below is generated by plot.py at 2018-08-23 00:37:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.18 Mbit/s
95th percentile per-packet one-way delay: 135.451 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 103.83 Mbit/s
95th percentile per-packet one-way delay: 133.499 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 100.90 Mbit/s
95th percentile per-packet one-way delay: 135.779 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 96.21 Mbit/s
95th percentile per-packet one-way delay: 138.719 ms
Loss rate: 2.28%
```

# Run 6: Report of TCP BBR — Data Link



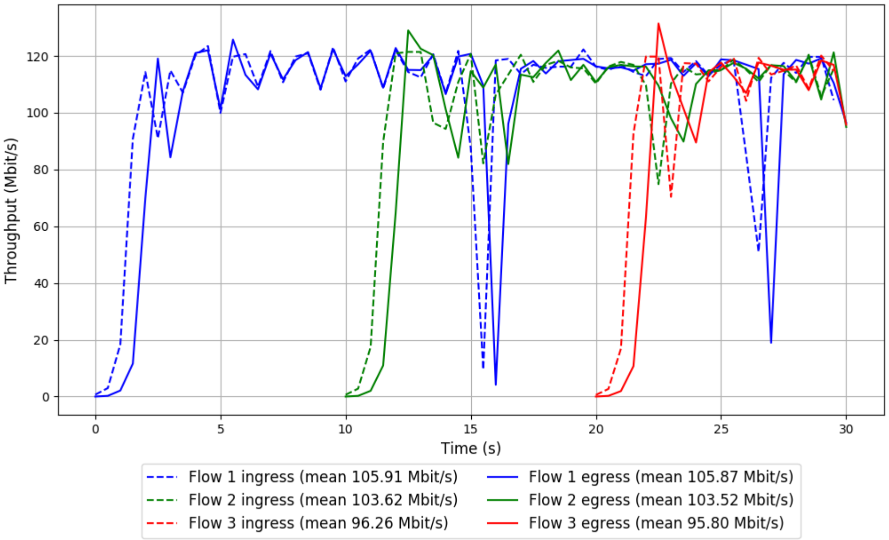


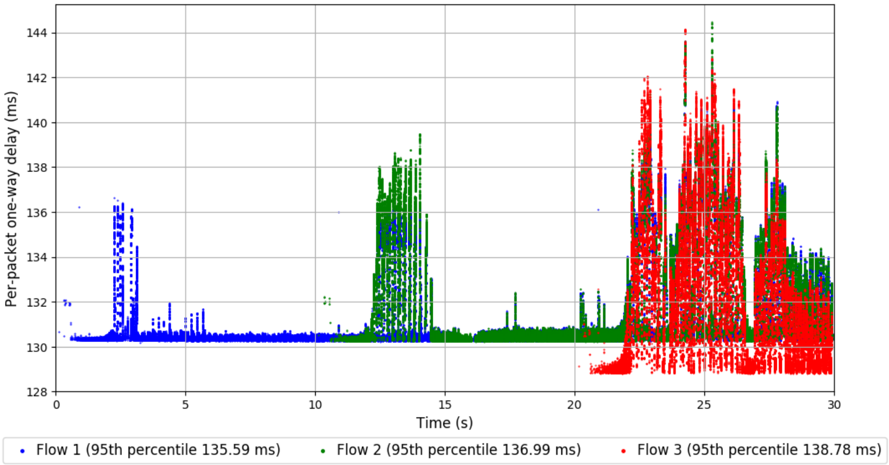
```
Run 7: Statistics of TCP BBR

Start at: 2018-08-22 22:19:54
End at: 2018-08-22 22:20:24
Local clock offset: 2.352 ms
Remote clock offset: -35.603 ms

# Below is generated by plot.py at 2018-08-23 00:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.96 Mbit/s
95th percentile per-packet one-way delay: 136.741 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 105.87 Mbit/s
95th percentile per-packet one-way delay: 135.586 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 103.52 Mbit/s
95th percentile per-packet one-way delay: 136.993 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 138.778 ms
Loss rate: 2.56%
```

Run 7: Report of TCP BBR — Data Link



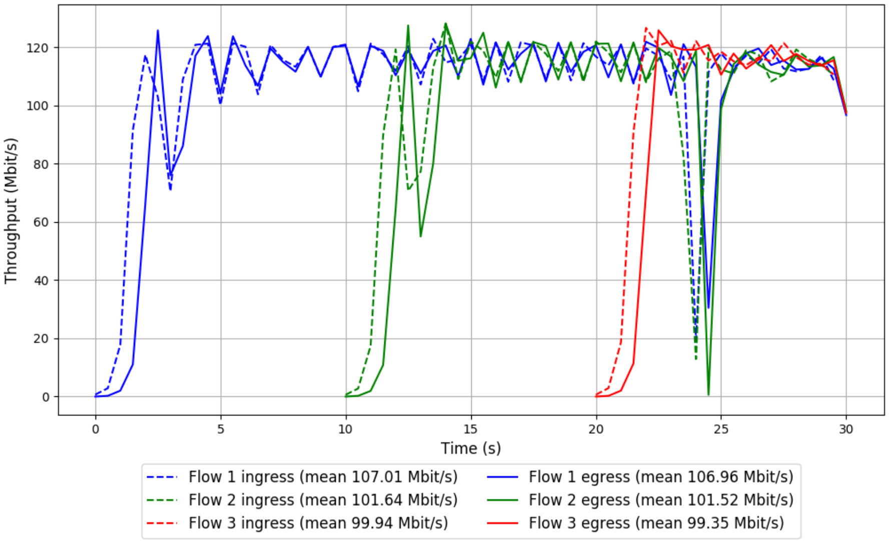


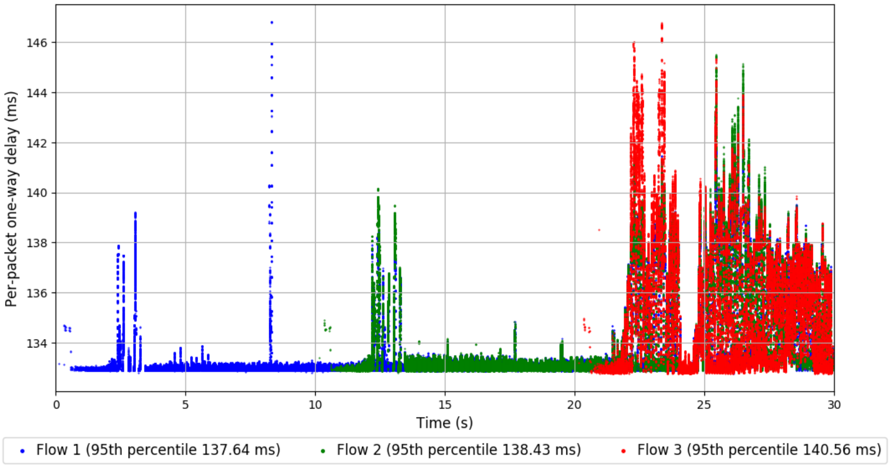
```
Run 8: Statistics of TCP BBR

Start at: 2018-08-22 22:55:43
End at: 2018-08-22 22:56:13
Local clock offset: 4.136 ms
Remote clock offset: -37.829 ms

# Below is generated by plot.py at 2018-08-23 00:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.92 Mbit/s
95th percentile per-packet one-way delay: 138.408 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 106.96 Mbit/s
95th percentile per-packet one-way delay: 137.642 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 101.52 Mbit/s
95th percentile per-packet one-way delay: 138.430 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 99.35 Mbit/s
95th percentile per-packet one-way delay: 140.562 ms
Loss rate: 2.32%
```

# Run 8: Report of TCP BBR — Data Link



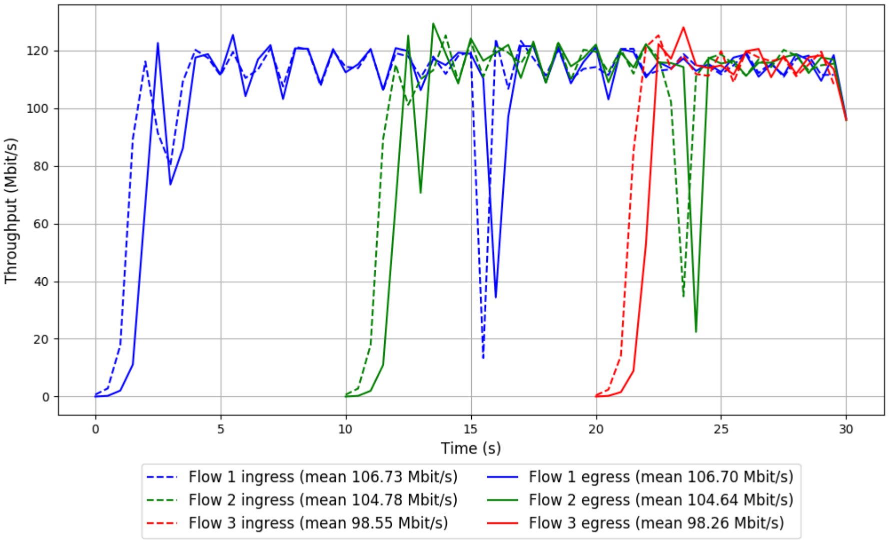


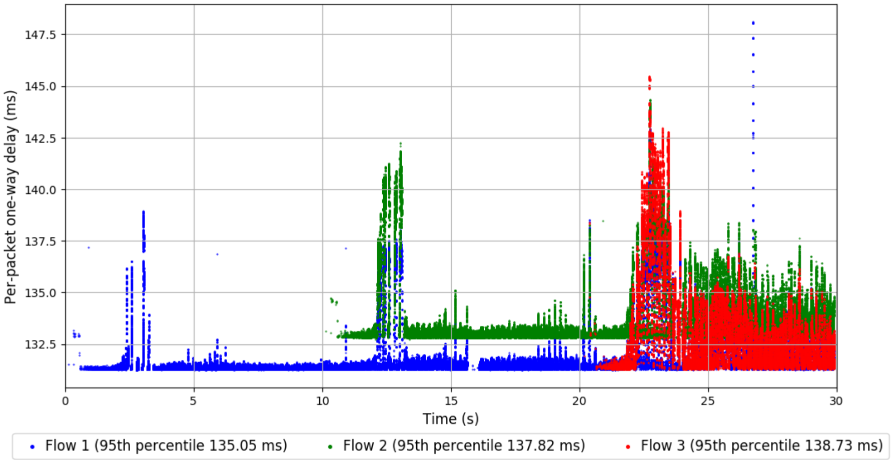
```
Run 9: Statistics of TCP BBR

Start at: 2018-08-22 23:26:05
End at: 2018-08-22 23:26:35
Local clock offset: 4.269 ms
Remote clock offset: -36.163 ms

# Below is generated by plot.py at 2018-08-23 00:38:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.20 Mbit/s
95th percentile per-packet one-way delay: 136.653 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 106.70 Mbit/s
95th percentile per-packet one-way delay: 135.051 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 104.64 Mbit/s
95th percentile per-packet one-way delay: 137.820 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 98.26 Mbit/s
95th percentile per-packet one-way delay: 138.733 ms
Loss rate: 2.27%
```

## Run 9: Report of TCP BBR — Data Link



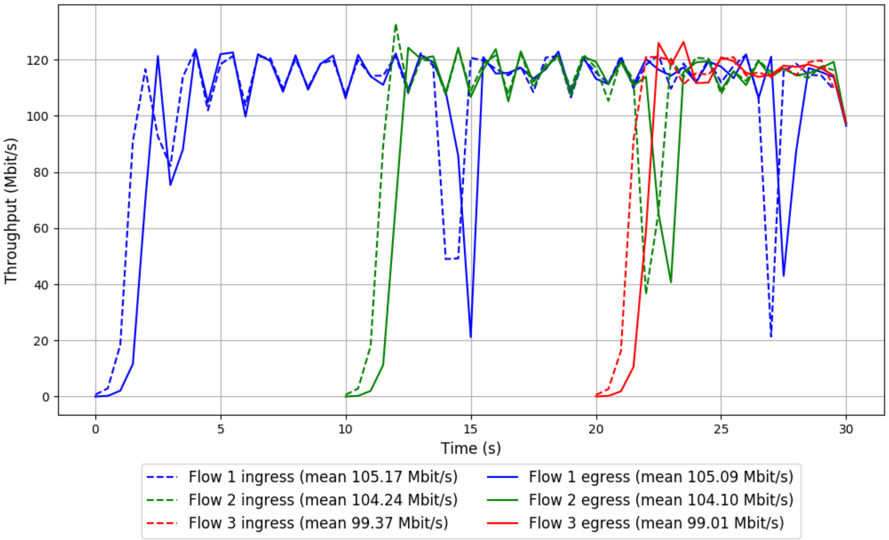


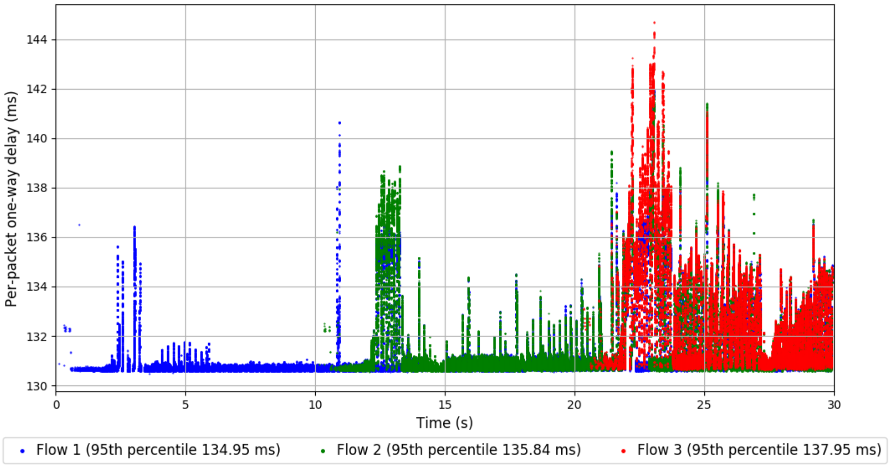
```
Run 10: Statistics of TCP BBR

Start at: 2018-08-23 00:01:37
End at: 2018-08-23 00:02:07
Local clock offset: 2.889 ms
Remote clock offset: -35.172 ms

# Below is generated by plot.py at 2018-08-23 00:39:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.64 Mbit/s
95th percentile per-packet one-way delay: 135.700 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 105.09 Mbit/s
95th percentile per-packet one-way delay: 134.949 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 104.10 Mbit/s
95th percentile per-packet one-way delay: 135.843 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 99.01 Mbit/s
95th percentile per-packet one-way delay: 137.951 ms
Loss rate: 2.36%
```

## Run 10: Report of TCP BBR — Data Link



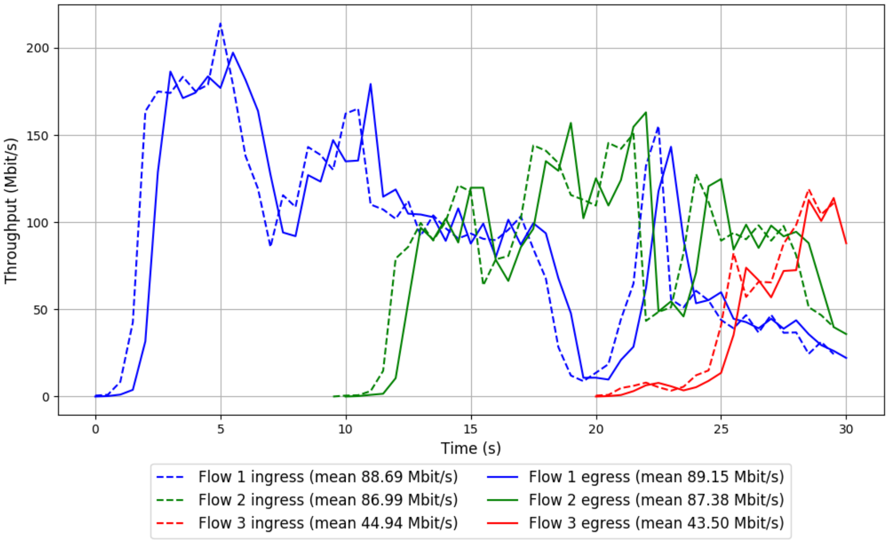


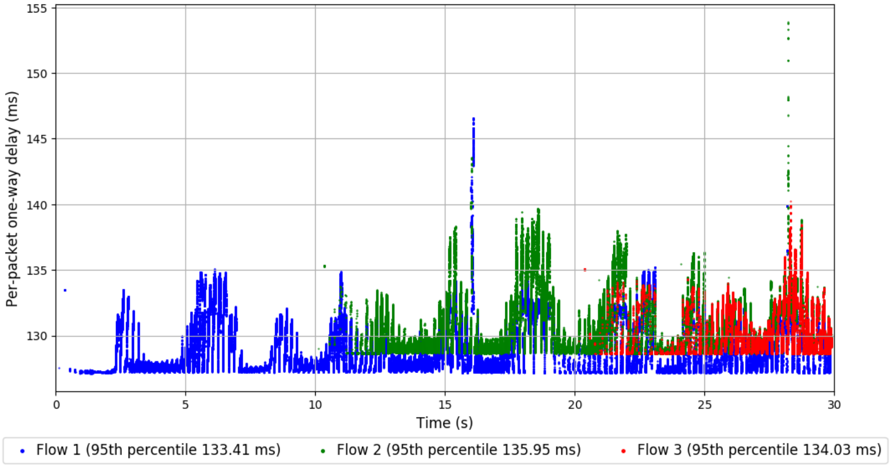
```
Run 1: Statistics of Copa

Start at: 2018-08-22 19:09:45
End at: 2018-08-22 19:10:15
Local clock offset: -4.009 ms
Remote clock offset: -37.687 ms

# Below is generated by plot.py at 2018-08-23 00:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.34 Mbit/s
95th percentile per-packet one-way delay: 134.661 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 89.15 Mbit/s
95th percentile per-packet one-way delay: 133.405 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 87.38 Mbit/s
95th percentile per-packet one-way delay: 135.952 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 43.50 Mbit/s
95th percentile per-packet one-way delay: 134.029 ms
Loss rate: 5.09%
```

Run 1: Report of Copa — Data Link



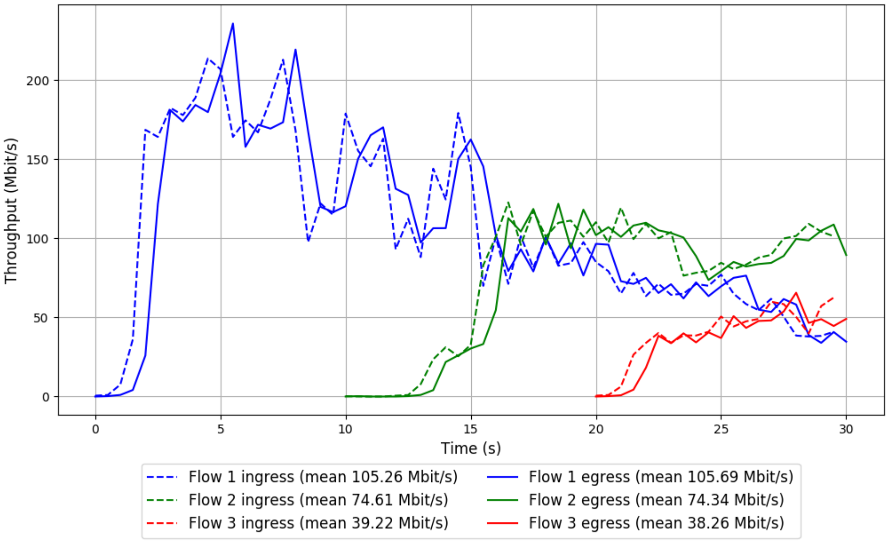


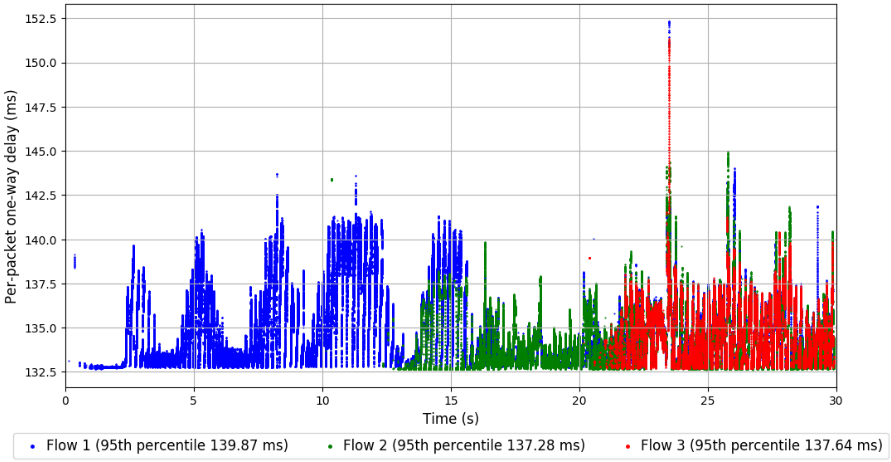
```
Run 2: Statistics of Copa

Start at: 2018-08-22 19:51:36
End at: 2018-08-22 19:52:06
Local clock offset: 1.586 ms
Remote clock offset: -34.369 ms

# Below is generated by plot.py at 2018-08-23 00:40:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 167.58 Mbit/s
95th percentile per-packet one-way delay: 139.570 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 105.69 Mbit/s
95th percentile per-packet one-way delay: 139.865 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 74.34 Mbit/s
95th percentile per-packet one-way delay: 137.277 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 38.26 Mbit/s
95th percentile per-packet one-way delay: 137.640 ms
Loss rate: 4.36%
```

Run 2: Report of Copa — Data Link



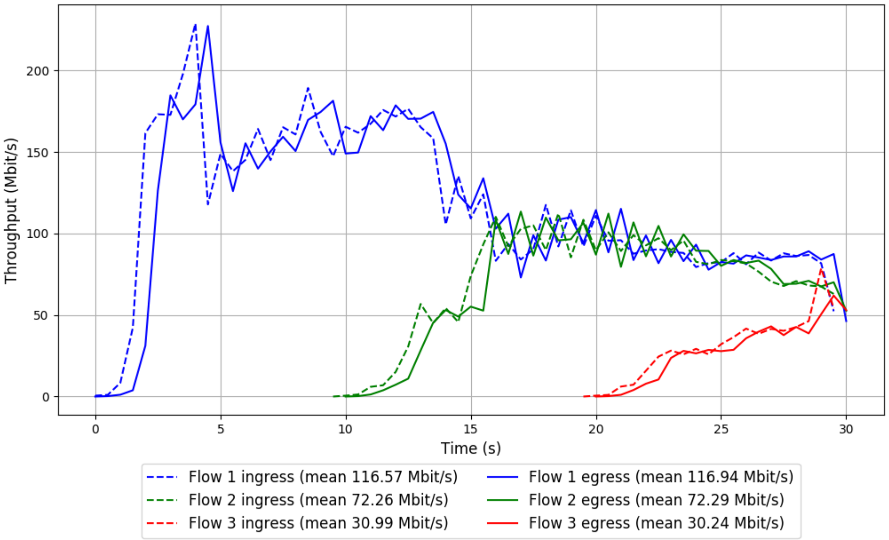


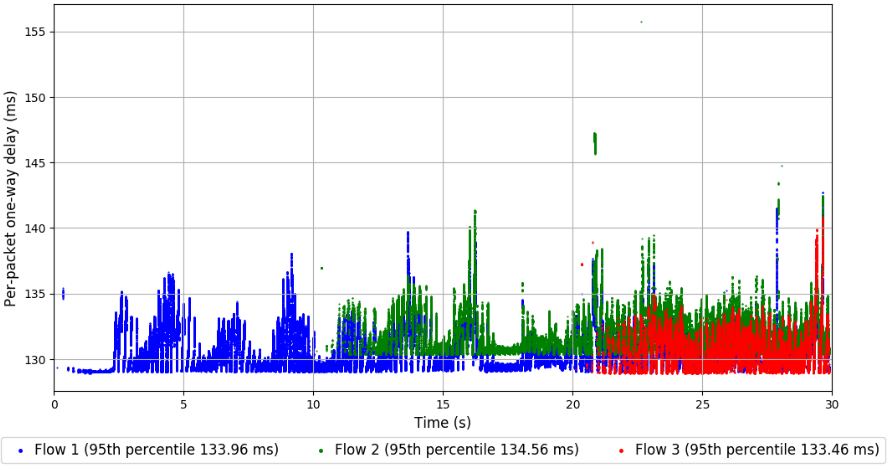
```
Run 3: Statistics of Copa

Start at: 2018-08-22 20:21:37
End at: 2018-08-22 20:22:07
Local clock offset: -0.52 ms
Remote clock offset: -33.083 ms

# Below is generated by plot.py at 2018-08-23 00:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.91 Mbit/s
95th percentile per-packet one-way delay: 134.198 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 116.94 Mbit/s
95th percentile per-packet one-way delay: 133.958 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 72.29 Mbit/s
95th percentile per-packet one-way delay: 134.559 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 30.24 Mbit/s
95th percentile per-packet one-way delay: 133.456 ms
Loss rate: 4.30%
```

Run 3: Report of Copa — Data Link



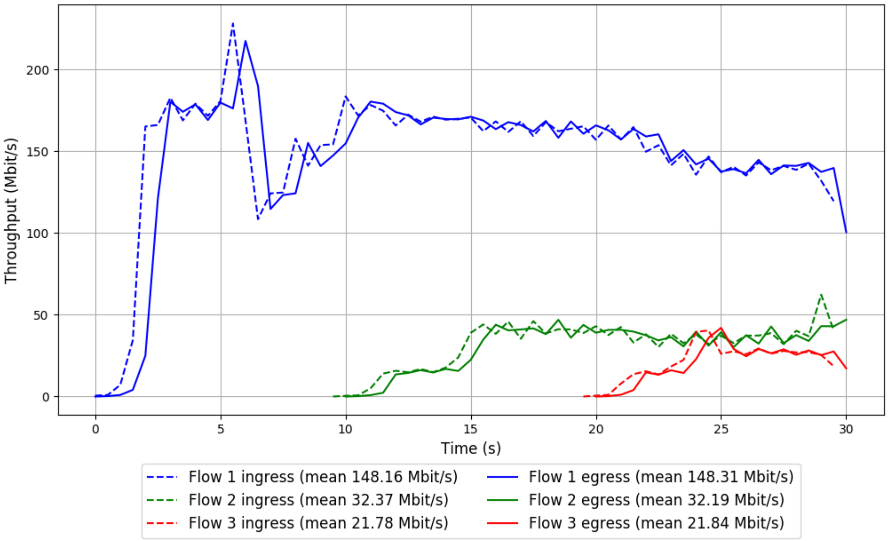


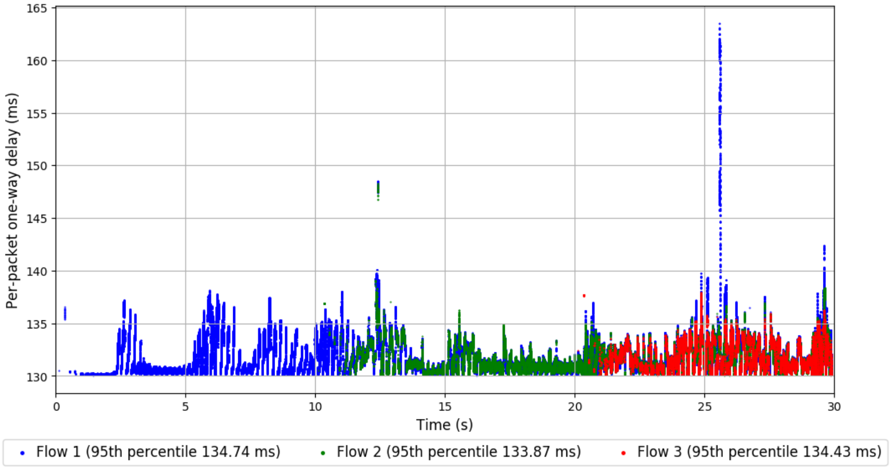
```
Run 4: Statistics of Copa

Start at: 2018-08-22 20:51:44
End at: 2018-08-22 20:52:14
Local clock offset: -0.184 ms
Remote clock offset: -33.601 ms

# Below is generated by plot.py at 2018-08-23 00:40:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 176.85 Mbit/s
95th percentile per-packet one-way delay: 134.621 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 148.31 Mbit/s
95th percentile per-packet one-way delay: 134.739 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 133.874 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 21.84 Mbit/s
95th percentile per-packet one-way delay: 134.430 ms
Loss rate: 1.70%
```

# Run 4: Report of Copa — Data Link



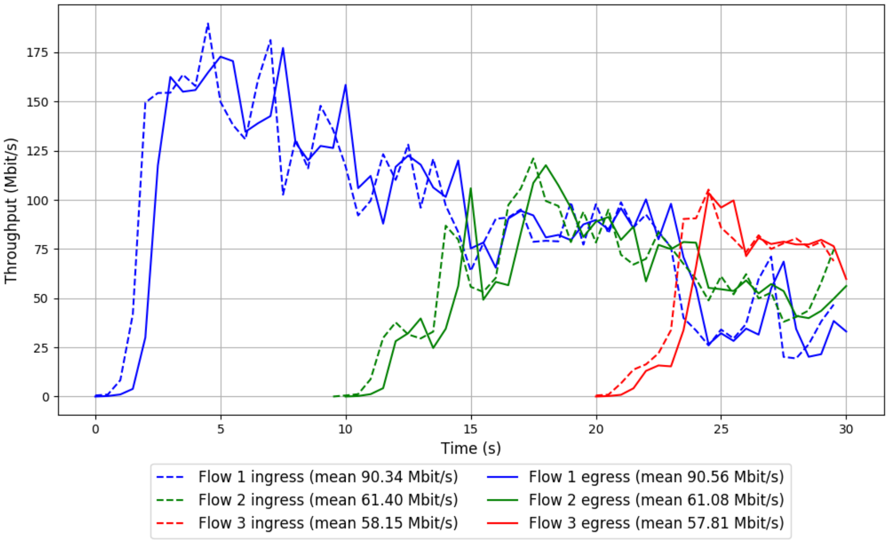


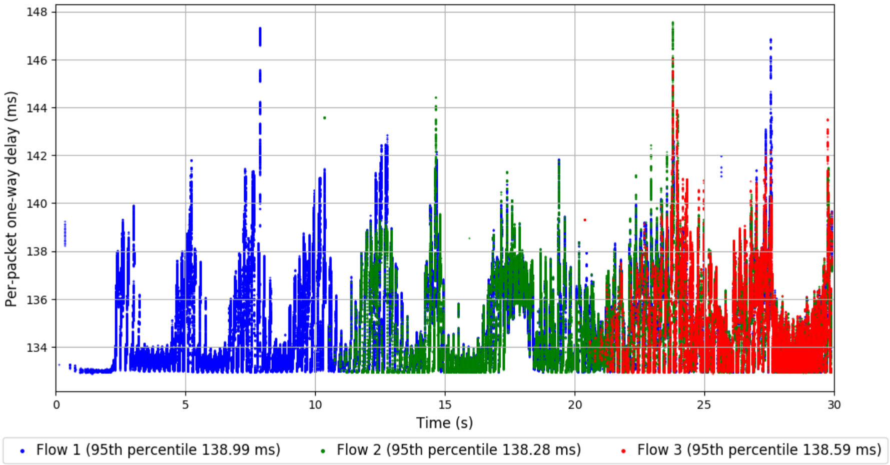
```
Run 5: Statistics of Copa

Start at: 2018-08-22 21:21:47
End at: 2018-08-22 21:22:17
Local clock offset: 0.415 ms
Remote clock offset: -39.064 ms

# Below is generated by plot.py at 2018-08-23 00:40:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 150.07 Mbit/s
95th percentile per-packet one-way delay: 138.711 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 138.990 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 61.08 Mbit/s
95th percentile per-packet one-way delay: 138.277 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 57.81 Mbit/s
95th percentile per-packet one-way delay: 138.592 ms
Loss rate: 2.67%
```

Run 5: Report of Copa — Data Link



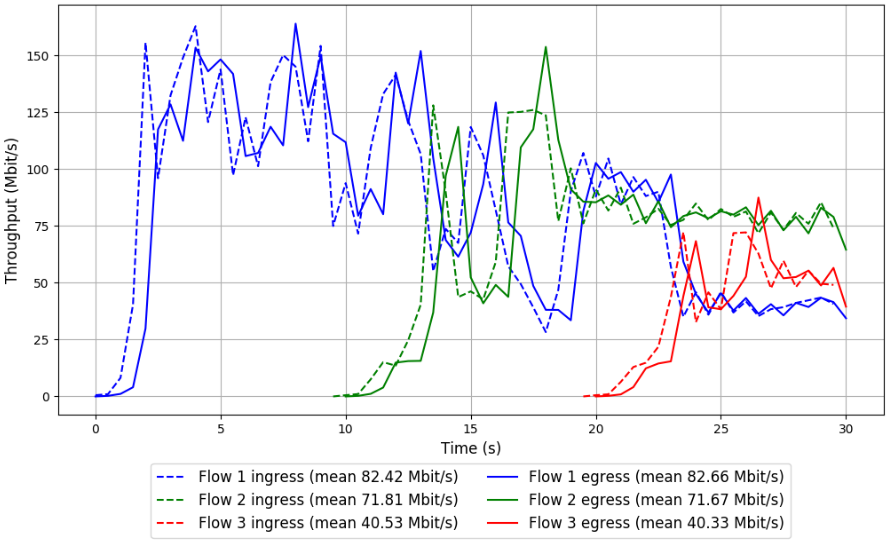


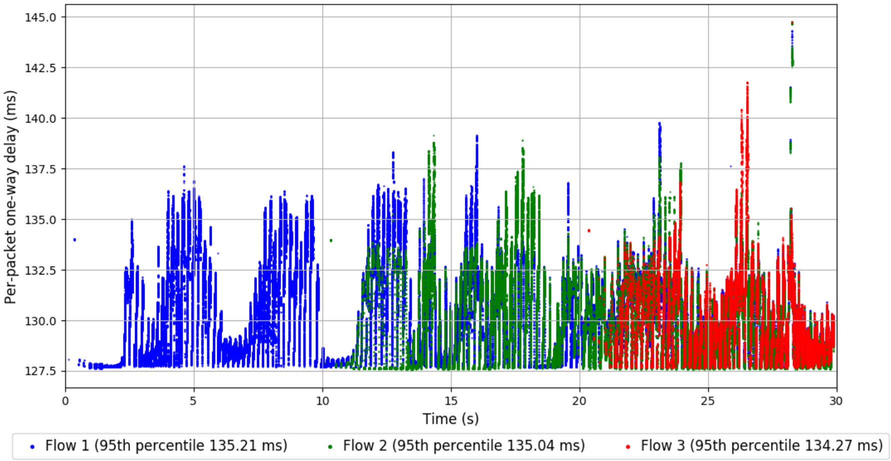
```
Run 6: Statistics of Copa

Start at: 2018-08-22 21:51:25
End at: 2018-08-22 21:51:55
Local clock offset: 0.066 ms
Remote clock offset: -34.007 ms

# Below is generated by plot.py at 2018-08-23 00:40:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 143.52 Mbit/s
95th percentile per-packet one-way delay: 135.151 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 82.66 Mbit/s
95th percentile per-packet one-way delay: 135.211 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 71.67 Mbit/s
95th percentile per-packet one-way delay: 135.044 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 40.33 Mbit/s
95th percentile per-packet one-way delay: 134.268 ms
Loss rate: 2.46%
```

Run 6: Report of Copa — Data Link



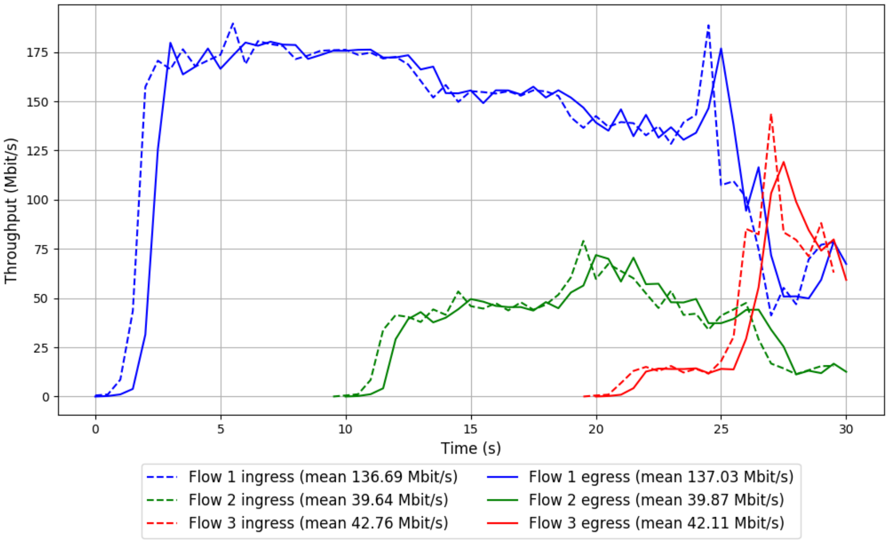


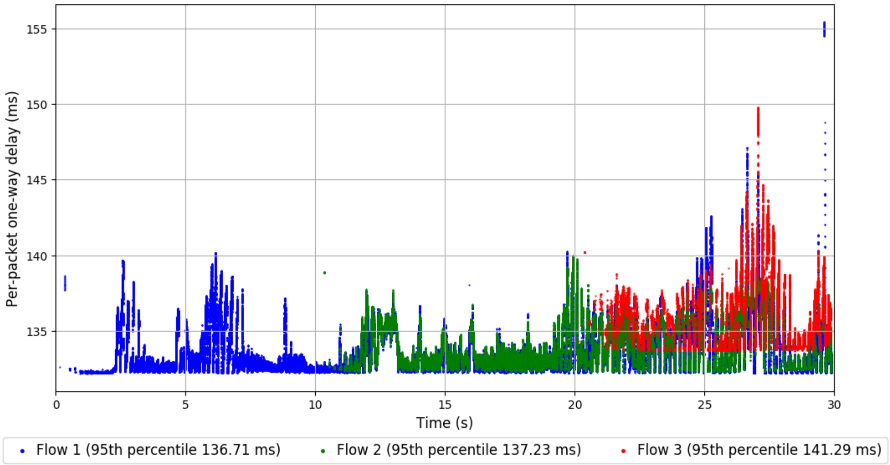
```
Run 7: Statistics of Copa

Start at: 2018-08-22 22:21:22
End at: 2018-08-22 22:21:52
Local clock offset: 3.063 ms
Remote clock offset: -38.408 ms

# Below is generated by plot.py at 2018-08-23 00:42:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.28 Mbit/s
95th percentile per-packet one-way delay: 137.726 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 137.03 Mbit/s
95th percentile per-packet one-way delay: 136.706 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 137.228 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 42.11 Mbit/s
95th percentile per-packet one-way delay: 141.295 ms
Loss rate: 3.46%
```

## Run 7: Report of Copa — Data Link



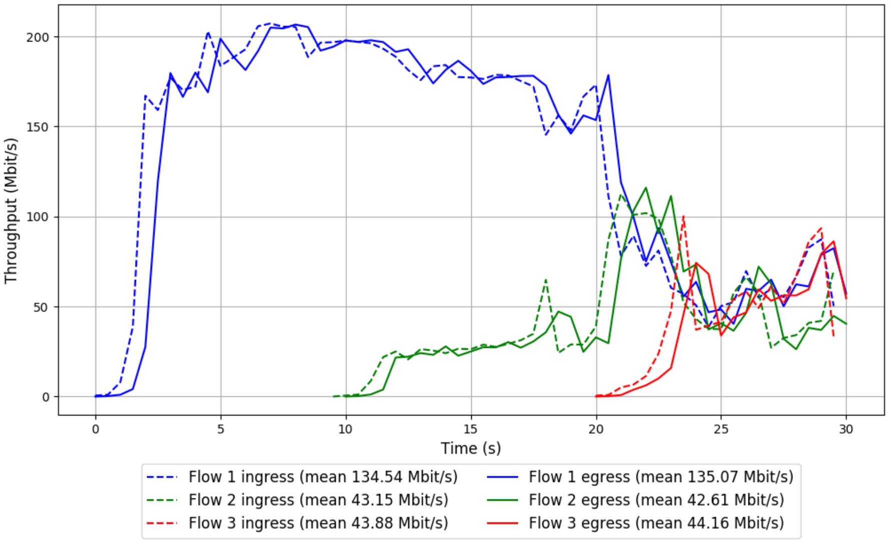


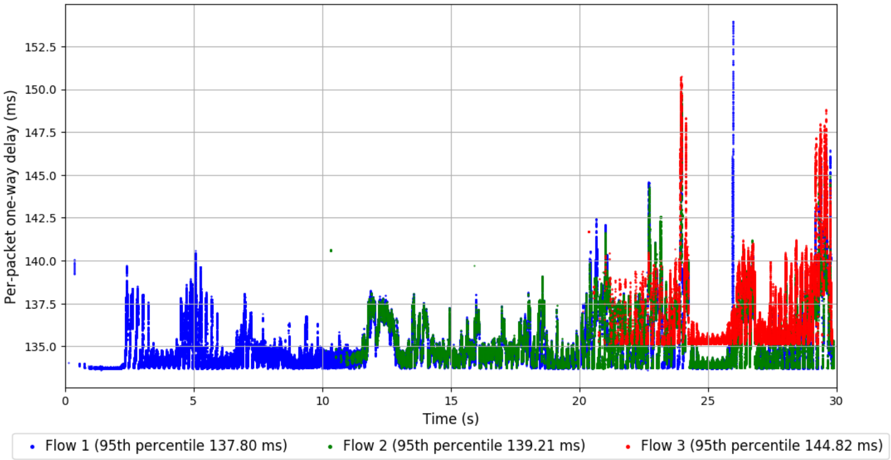
```
Run 8: Statistics of Copa

Start at: 2018-08-22 22:57:19
End at: 2018-08-22 22:57:49
Local clock offset: 3.495 ms
Remote clock offset: -39.386 ms

# Below is generated by plot.py at 2018-08-23 00:43:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.73 Mbit/s
95th percentile per-packet one-way delay: 138.825 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 135.07 Mbit/s
95th percentile per-packet one-way delay: 137.798 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 139.207 ms
Loss rate: 2.21%
-- Flow 3:
Average throughput: 44.16 Mbit/s
95th percentile per-packet one-way delay: 144.816 ms
Loss rate: 1.58%
```

Run 8: Report of Copa — Data Link



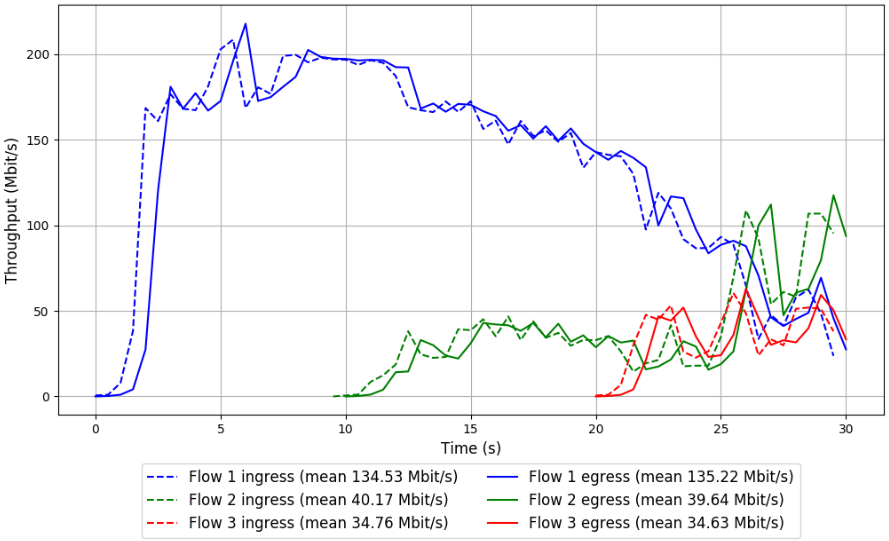


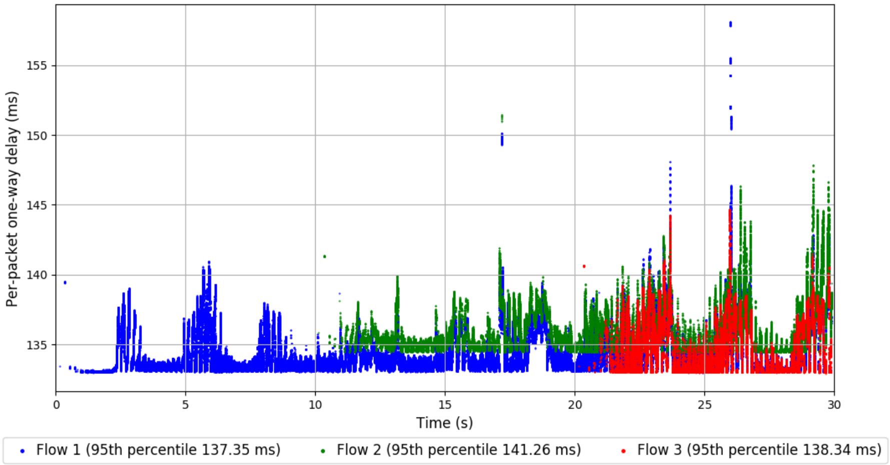
```
Run 9: Statistics of Copa

Start at: 2018-08-22 23:27:32
End at: 2018-08-22 23:28:02
Local clock offset: 2.089 ms
Remote clock offset: -40.085 ms

# Below is generated by plot.py at 2018-08-23 00:43:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.83 Mbit/s
95th percentile per-packet one-way delay: 138.356 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 135.22 Mbit/s
95th percentile per-packet one-way delay: 137.349 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 39.64 Mbit/s
95th percentile per-packet one-way delay: 141.258 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 138.345 ms
Loss rate: 2.42%
```

## Run 9: Report of Copa — Data Link



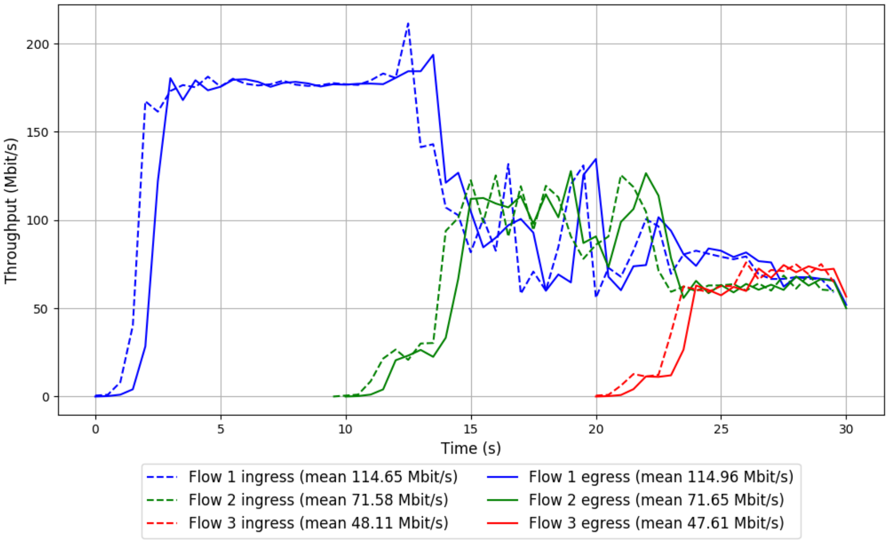


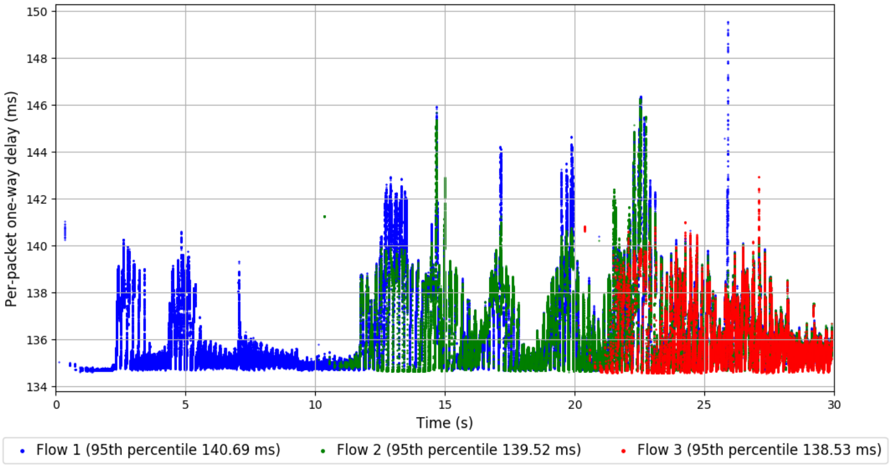
```
Run 10: Statistics of Copa

Start at: 2018-08-23 00:03:05
End at: 2018-08-23 00:03:35
Local clock offset: 1.979 ms
Remote clock offset: -40.115 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.14 Mbit/s
95th percentile per-packet one-way delay: 140.162 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 114.96 Mbit/s
95th percentile per-packet one-way delay: 140.688 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 71.65 Mbit/s
95th percentile per-packet one-way delay: 139.523 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 47.61 Mbit/s
95th percentile per-packet one-way delay: 138.531 ms
Loss rate: 2.98%
```

Run 10: Report of Copa — Data Link



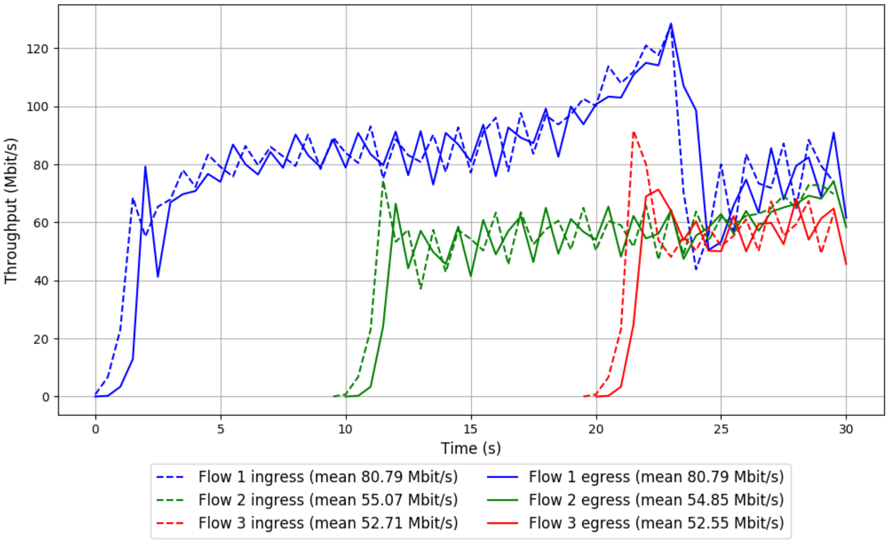


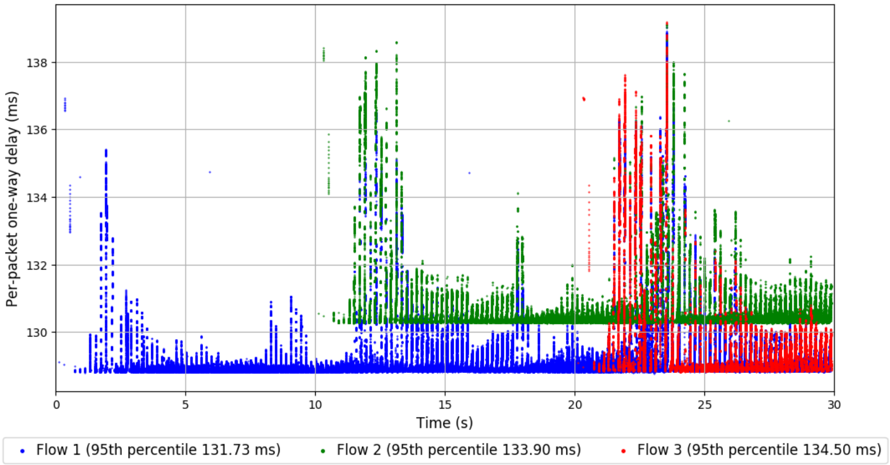
```
Run 1: Statistics of TCP Cubic

Start at: 2018-08-22 19:20:54
End at: 2018-08-22 19:21:24
Local clock offset: 1.037 ms
Remote clock offset: -34.32 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.44 Mbit/s
95th percentile per-packet one-way delay: 133.010 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 80.79 Mbit/s
95th percentile per-packet one-way delay: 131.730 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 54.85 Mbit/s
95th percentile per-packet one-way delay: 133.904 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 52.55 Mbit/s
95th percentile per-packet one-way delay: 134.497 ms
Loss rate: 2.22%
```

Run 1: Report of TCP Cubic — Data Link



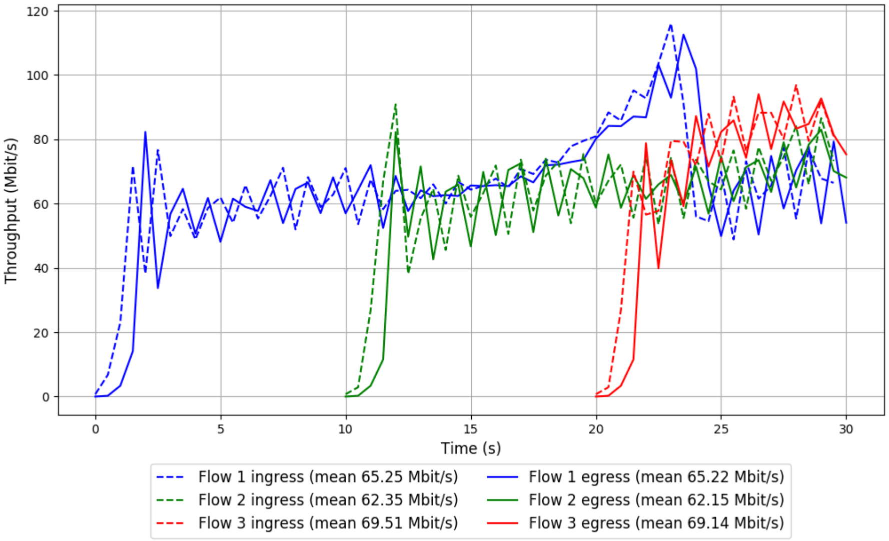


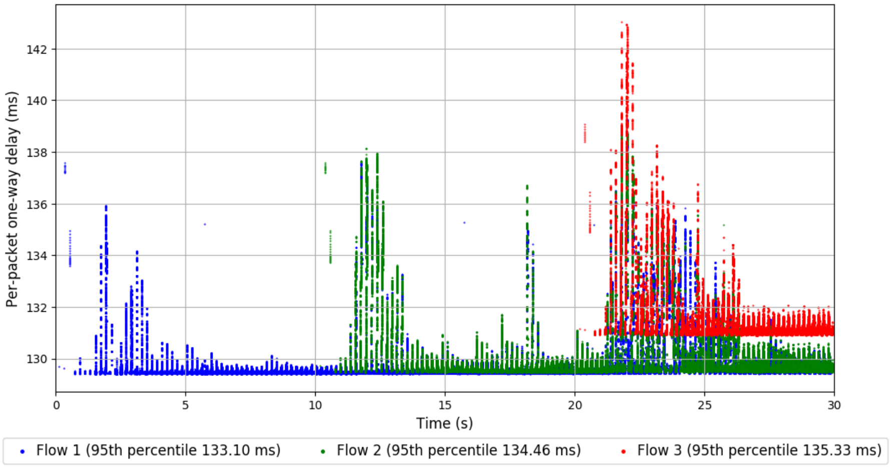
```
Run 2: Statistics of TCP Cubic

Start at: 2018-08-22 20:02:41
End at: 2018-08-22 20:03:12
Local clock offset: -0.002 ms
Remote clock offset: -33.591 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 129.03 Mbit/s
95th percentile per-packet one-way delay: 134.097 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 65.22 Mbit/s
95th percentile per-packet one-way delay: 133.098 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 62.15 Mbit/s
95th percentile per-packet one-way delay: 134.460 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 69.14 Mbit/s
95th percentile per-packet one-way delay: 135.334 ms
Loss rate: 2.45%
```

Run 2: Report of TCP Cubic — Data Link



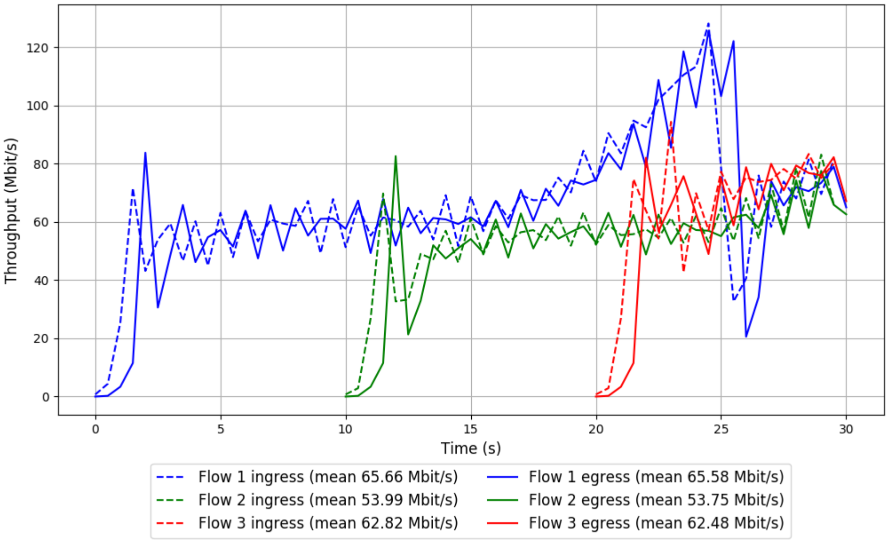


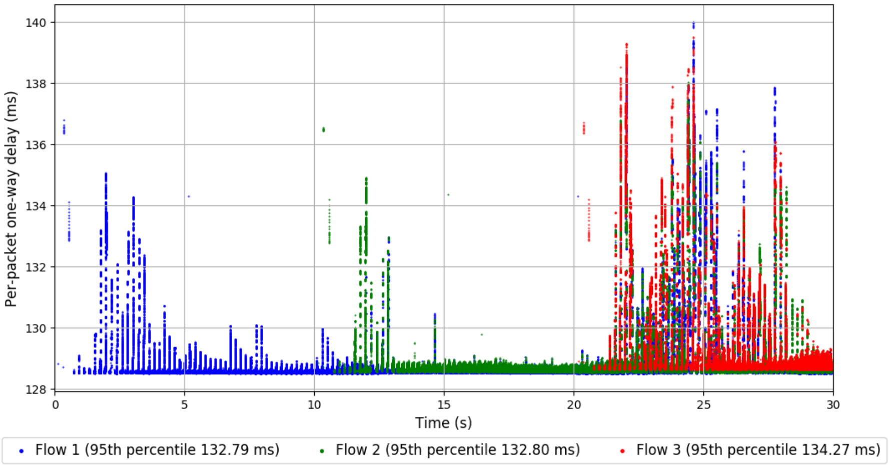
```
Run 3: Statistics of TCP Cubic

Start at: 2018-08-22 20:32:45
End at: 2018-08-22 20:33:15
Local clock offset: -0.448 ms
Remote clock offset: -30.829 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.67 Mbit/s
95th percentile per-packet one-way delay: 133.196 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 65.58 Mbit/s
95th percentile per-packet one-way delay: 132.792 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 53.75 Mbit/s
95th percentile per-packet one-way delay: 132.800 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 62.48 Mbit/s
95th percentile per-packet one-way delay: 134.269 ms
Loss rate: 2.46%
```

Run 3: Report of TCP Cubic — Data Link



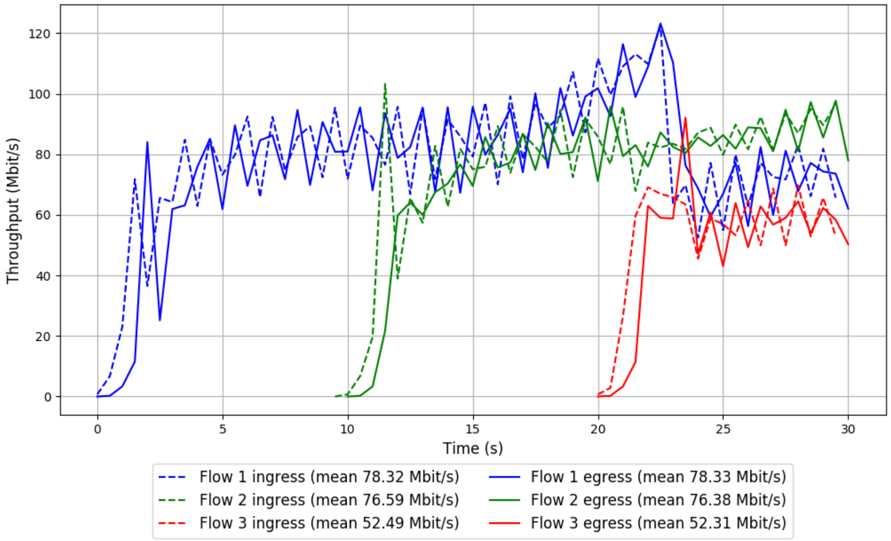


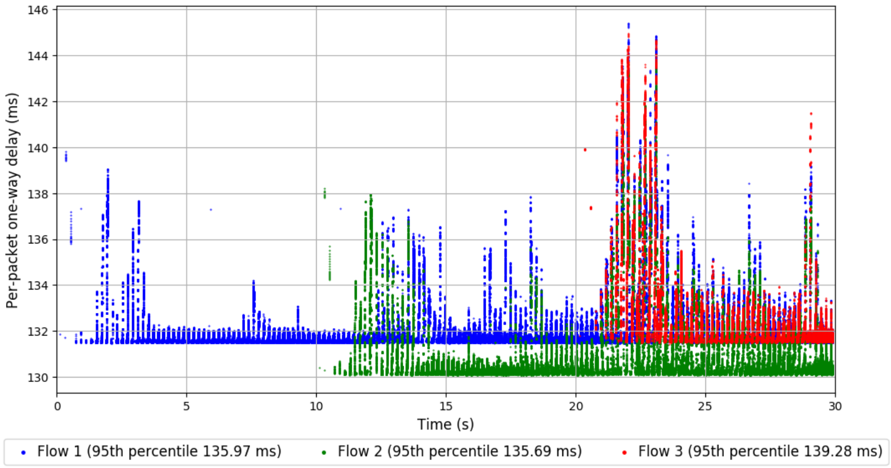
```
Run 4: Statistics of TCP Cubic

Start at: 2018-08-22 21:02:58
End at: 2018-08-22 21:03:28
Local clock offset: 1.376 ms
Remote clock offset: -33.877 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.20 Mbit/s
95th percentile per-packet one-way delay: 136.089 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 78.33 Mbit/s
95th percentile per-packet one-way delay: 135.966 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 135.690 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 52.31 Mbit/s
95th percentile per-packet one-way delay: 139.285 ms
Loss rate: 2.31%
```

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



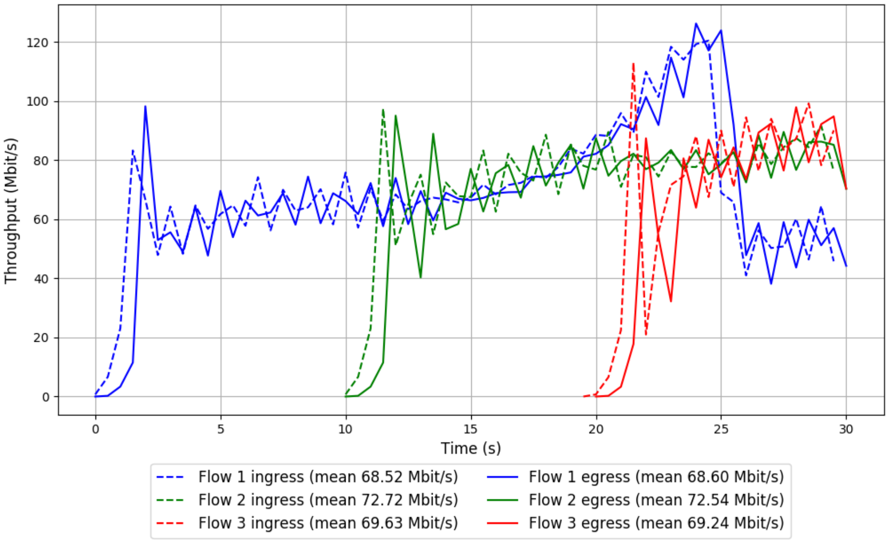


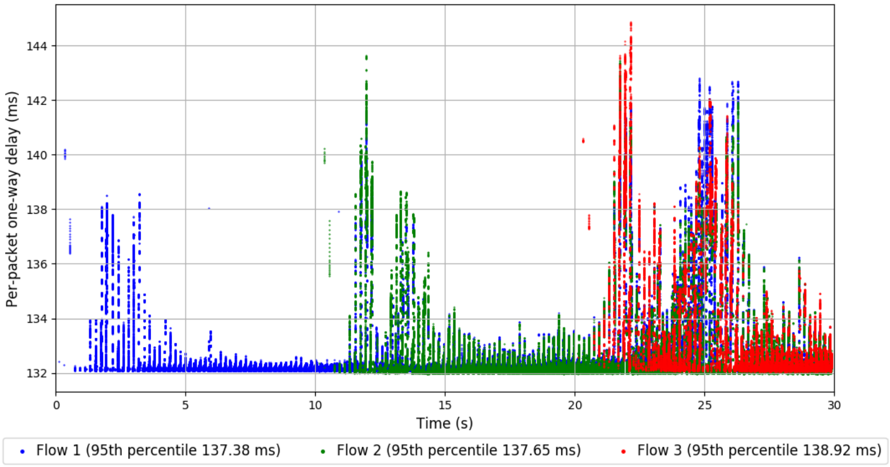
```
Run 5: Statistics of TCP Cubic

Start at: 2018-08-22 21:38:23
End at: 2018-08-22 21:38:53
Local clock offset: 2.447 ms
Remote clock offset: -36.873 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.43 Mbit/s
95th percentile per-packet one-way delay: 137.839 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 68.60 Mbit/s
95th percentile per-packet one-way delay: 137.375 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 72.54 Mbit/s
95th percentile per-packet one-way delay: 137.646 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 69.24 Mbit/s
95th percentile per-packet one-way delay: 138.921 ms
Loss rate: 2.47%
```

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



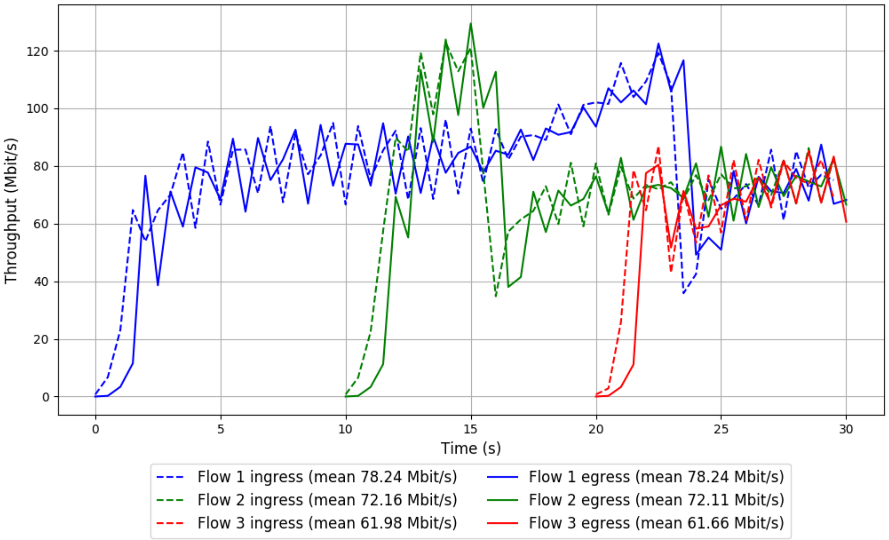


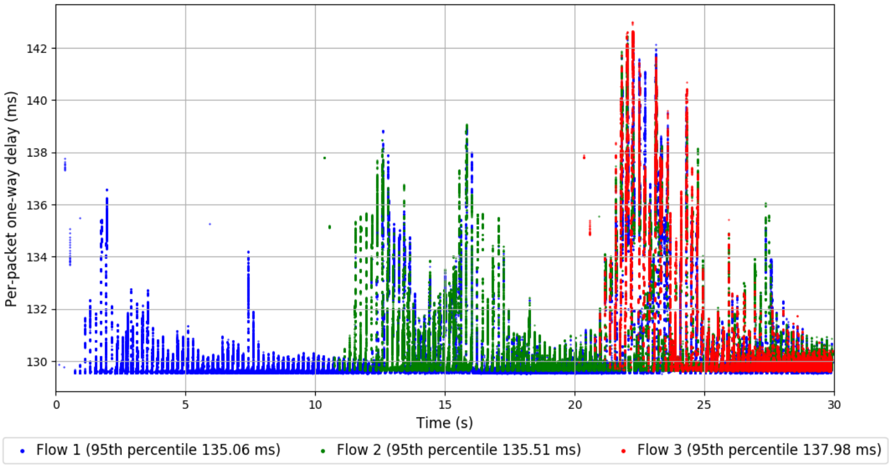
```
Run 6: Statistics of TCP Cubic

Start at: 2018-08-22 22:02:32
End at: 2018-08-22 22:03:02
Local clock offset: 1.631 ms
Remote clock offset: -34.679 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.33 Mbit/s
95th percentile per-packet one-way delay: 135.778 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 78.24 Mbit/s
95th percentile per-packet one-way delay: 135.064 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 72.11 Mbit/s
95th percentile per-packet one-way delay: 135.509 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 61.66 Mbit/s
95th percentile per-packet one-way delay: 137.976 ms
Loss rate: 2.45%
```

Run 6: Report of TCP Cubic — Data Link



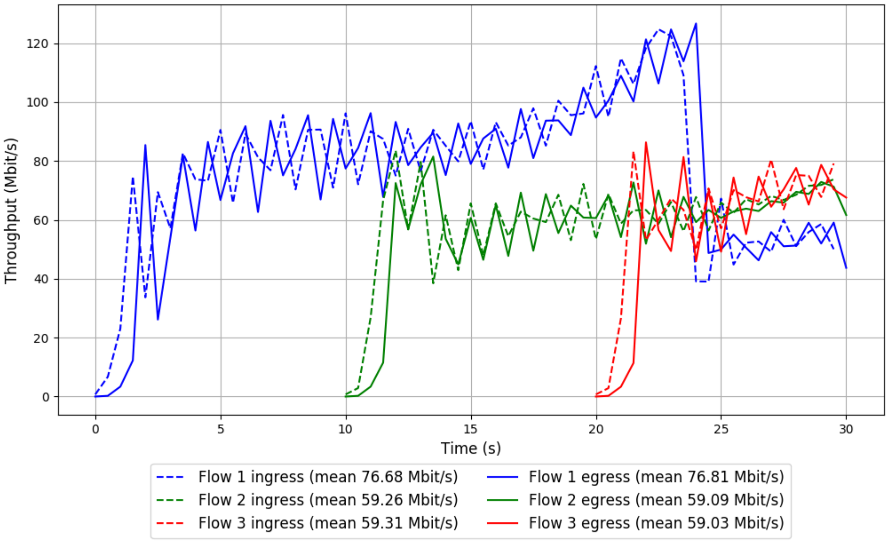


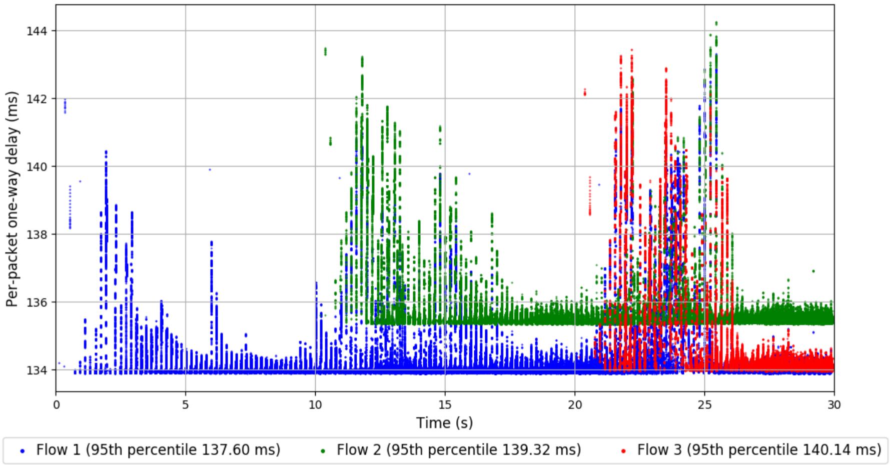
```
Run 7: Statistics of TCP Cubic

Start at: 2018-08-22 22:32:33
End at: 2018-08-22 22:33:03
Local clock offset: 2.982 ms
Remote clock offset: -40.383 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.27 Mbit/s
95th percentile per-packet one-way delay: 138.722 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 76.81 Mbit/s
95th percentile per-packet one-way delay: 137.600 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 139.317 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 140.142 ms
Loss rate: 2.40%
```

## Run 7: Report of TCP Cubic — Data Link



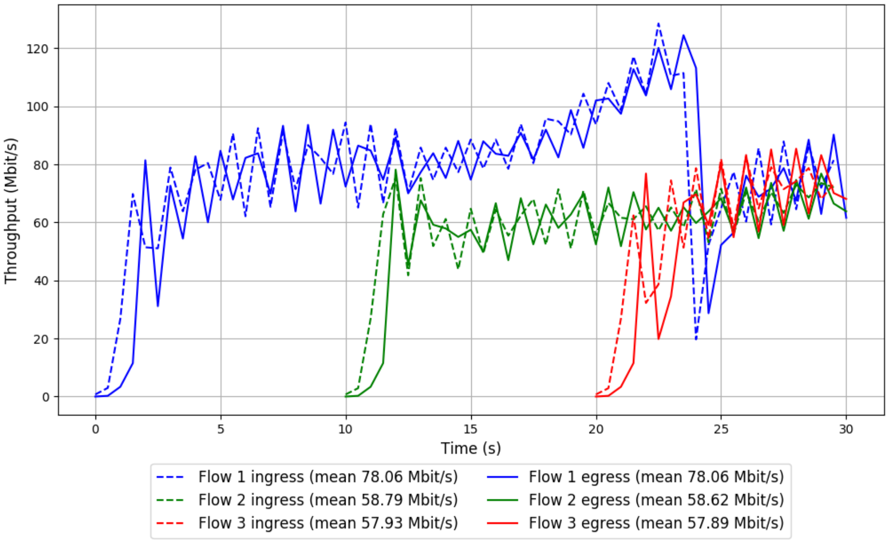


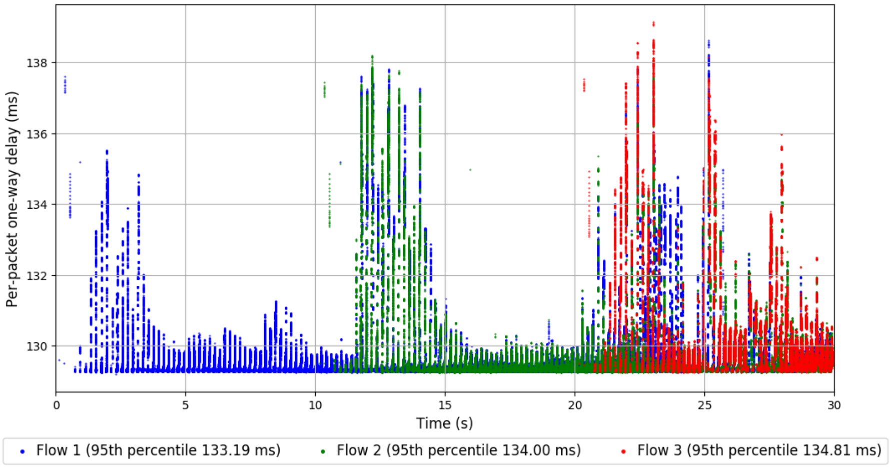
```
Run 8: Statistics of TCP Cubic

Start at: 2018-08-22 23:14:08
End at: 2018-08-22 23:14:38
Local clock offset: 1.771 ms
Remote clock offset: -35.363 ms

# Below is generated by plot.py at 2018-08-23 00:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.88 Mbit/s
95th percentile per-packet one-way delay: 133.745 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 78.06 Mbit/s
95th percentile per-packet one-way delay: 133.194 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 58.62 Mbit/s
95th percentile per-packet one-way delay: 134.001 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 134.813 ms
Loss rate: 2.03%
```

Run 8: Report of TCP Cubic — Data Link



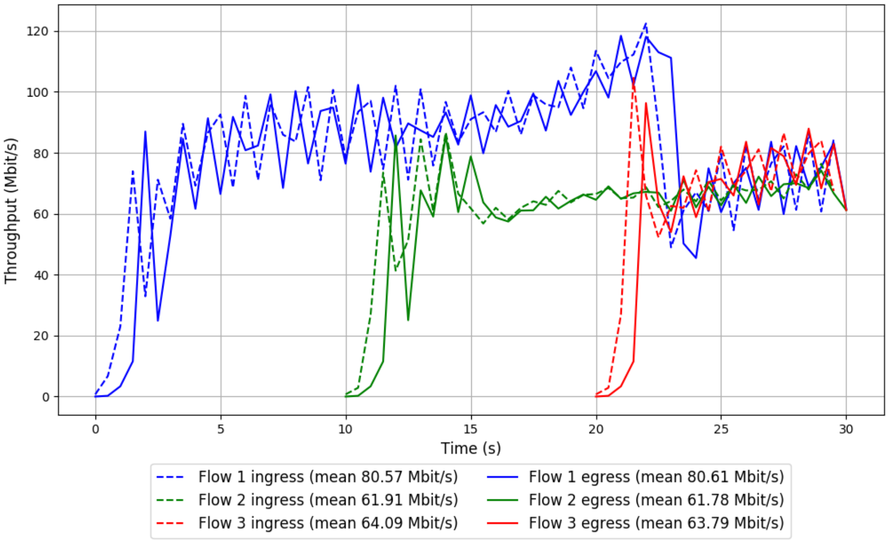


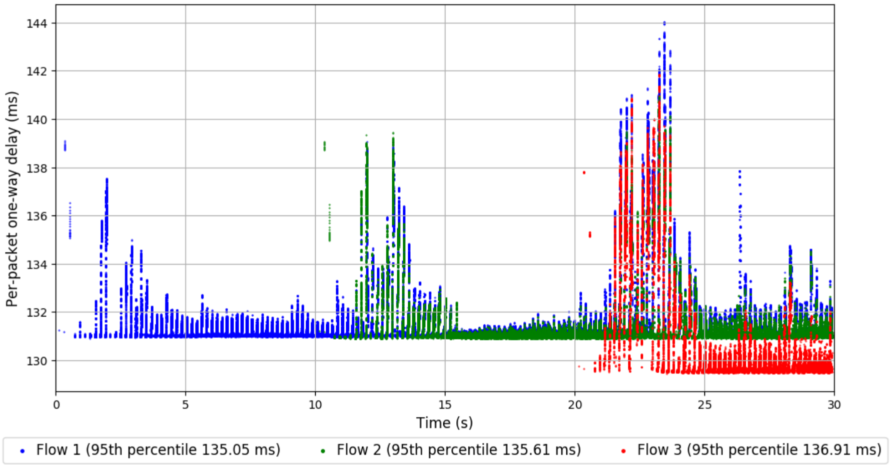
```
Run 9: Statistics of TCP Cubic

Start at: 2018-08-22 23:44:19
End at: 2018-08-22 23:44:49
Local clock offset: 3.667 ms
Remote clock offset: -34.858 ms

# Below is generated by plot.py at 2018-08-23 00:44:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.47 Mbit/s
95th percentile per-packet one-way delay: 135.675 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 80.61 Mbit/s
95th percentile per-packet one-way delay: 135.053 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 61.78 Mbit/s
95th percentile per-packet one-way delay: 135.608 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 63.79 Mbit/s
95th percentile per-packet one-way delay: 136.910 ms
Loss rate: 2.37%
```

## Run 9: Report of TCP Cubic — Data Link





```
Run 10: Statistics of TCP Cubic

Start at: 2018-08-23 00:19:55
End at: 2018-08-23 00:20:25
Local clock offset: 1.004 ms
Remote clock offset: -33.791 ms
```

Run 10: Report of TCP Cubic — Data Link

Figure is missing

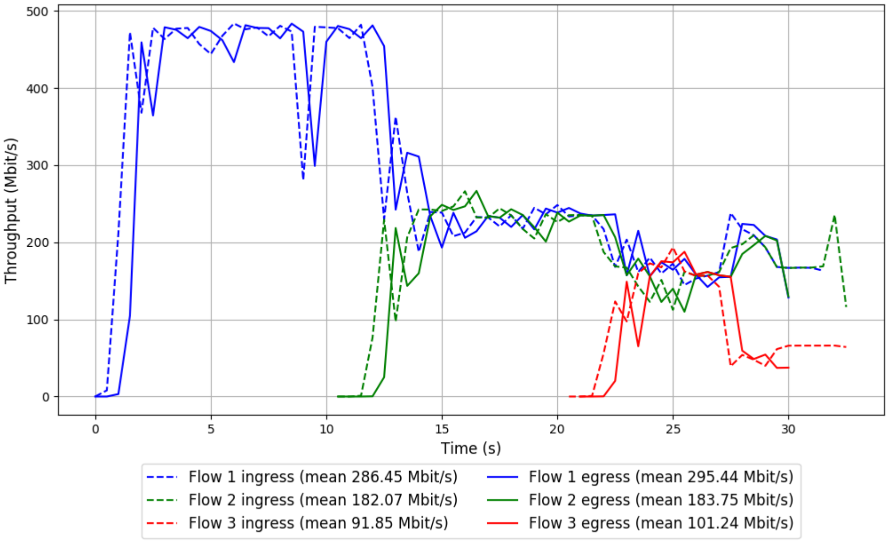
Figure is missing

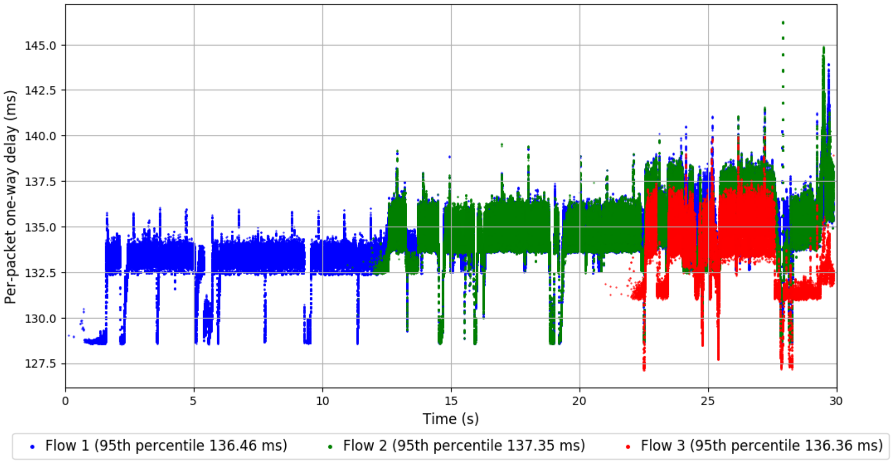
```
Run 1: Statistics of FillP

Start at: 2018-08-22 19:00:31
End at: 2018-08-22 19:01:01
Local clock offset: -0.38 ms
Remote clock offset: -34.121 ms

# Below is generated by plot.py at 2018-08-23 00:49:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.24 Mbit/s
95th percentile per-packet one-way delay: 136.752 ms
Loss rate: 8.00%
-- Flow 1:
Average throughput: 295.44 Mbit/s
95th percentile per-packet one-way delay: 136.461 ms
Loss rate: 4.10%
-- Flow 2:
Average throughput: 183.75 Mbit/s
95th percentile per-packet one-way delay: 137.349 ms
Loss rate: 13.77%
-- Flow 3:
Average throughput: 101.24 Mbit/s
95th percentile per-packet one-way delay: 136.364 ms
Loss rate: 19.26%
```

# Run 1: Report of FillP — Data Link





```
Run 2: Statistics of FillP

Start at: 2018-08-22 19:30:55
End at: 2018-08-22 19:31:25
Local clock offset: 2.984 ms
Remote clock offset: -35.979 ms
```

Run 2: Report of FillP — Data Link

Figure is missing

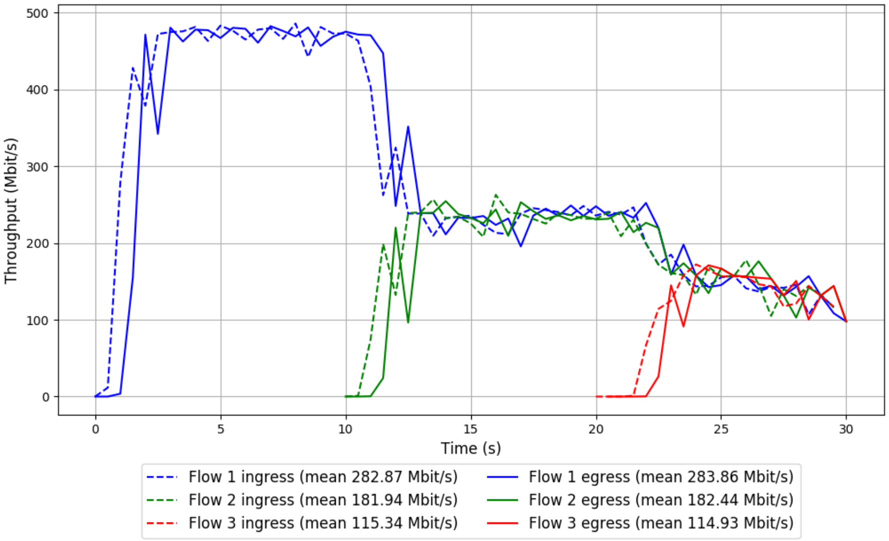
Figure is missing

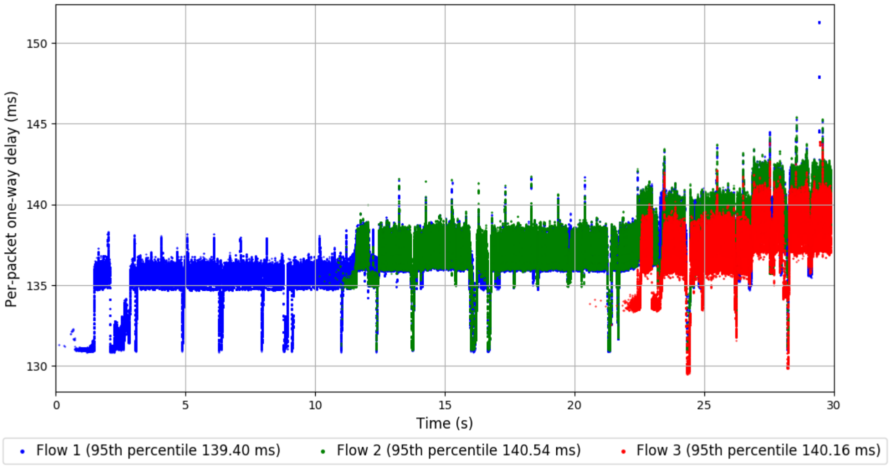
```
Run 3: Statistics of FillP

Start at: 2018-08-22 20:12:47
End at: 2018-08-22 20:13:17
Local clock offset: -0.87 ms
Remote clock offset: -34.33 ms

# Below is generated by plot.py at 2018-08-23 00:49:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 440.70 Mbit/s
95th percentile per-packet one-way delay: 139.940 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 283.86 Mbit/s
95th percentile per-packet one-way delay: 139.403 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 182.44 Mbit/s
95th percentile per-packet one-way delay: 140.536 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 114.93 Mbit/s
95th percentile per-packet one-way delay: 140.158 ms
Loss rate: 2.49%
```

Run 3: Report of FillP — Data Link



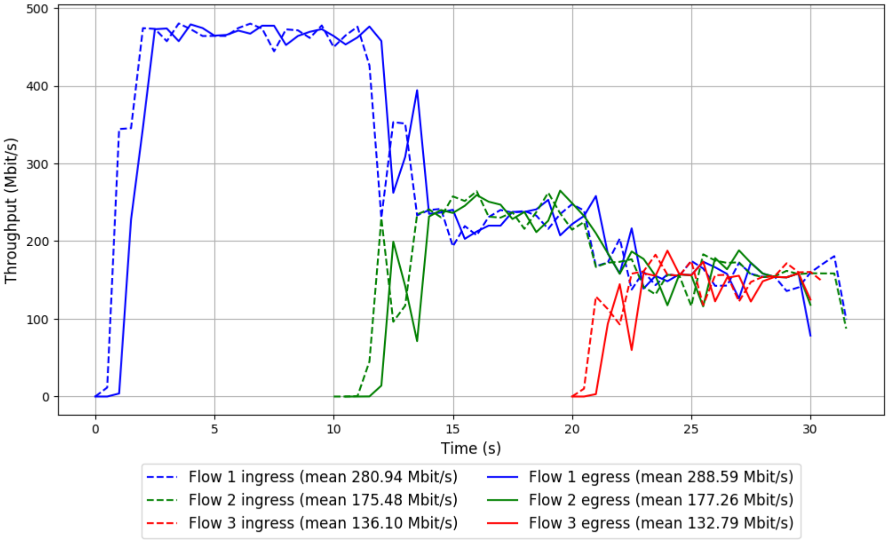


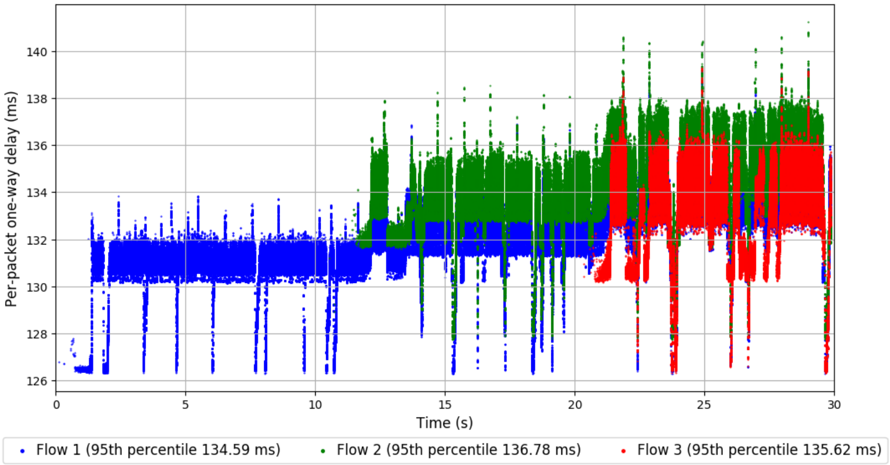
```
Run 4: Statistics of FillP

Start at: 2018-08-22 20:42:46
End at: 2018-08-22 20:43:16
Local clock offset: -1.321 ms
Remote clock offset: -31.988 ms

# Below is generated by plot.py at 2018-08-23 00:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.19 Mbit/s
95th percentile per-packet one-way delay: 135.734 ms
Loss rate: 6.14%
-- Flow 1:
Average throughput: 288.59 Mbit/s
95th percentile per-packet one-way delay: 134.592 ms
Loss rate: 3.87%
-- Flow 2:
Average throughput: 177.26 Mbit/s
95th percentile per-packet one-way delay: 136.777 ms
Loss rate: 8.66%
-- Flow 3:
Average throughput: 132.79 Mbit/s
95th percentile per-packet one-way delay: 135.617 ms
Loss rate: 13.40%
```

## Run 4: Report of FillP — Data Link



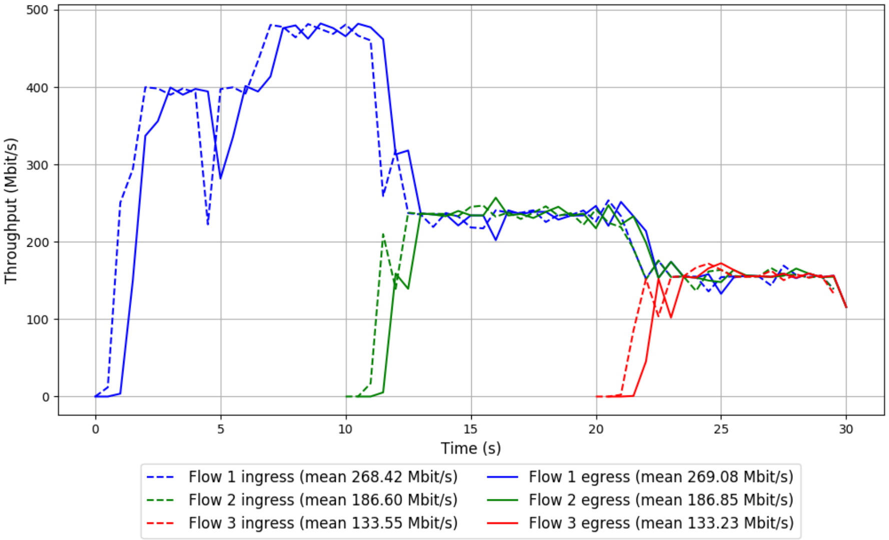


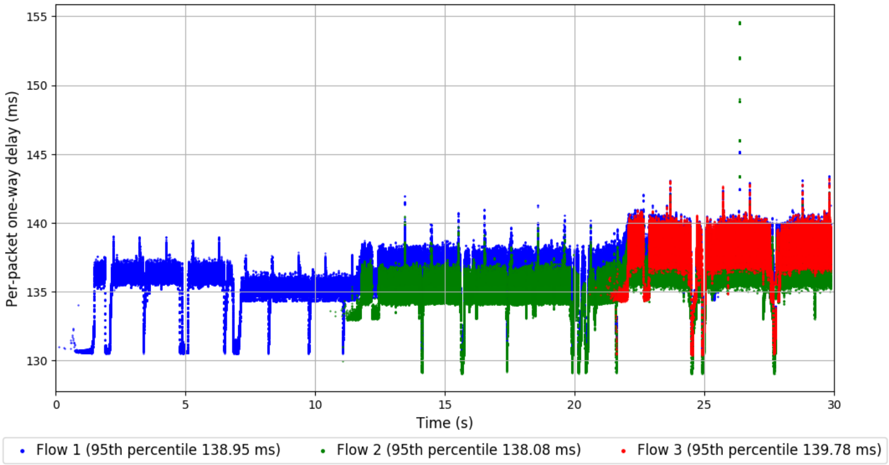
```
Run 5: Statistics of FillP

Start at: 2018-08-22 21:13:02
End at: 2018-08-22 21:13:32
Local clock offset: 0.226 ms
Remote clock offset: -34.859 ms

# Below is generated by plot.py at 2018-08-23 00:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 431.98 Mbit/s
95th percentile per-packet one-way delay: 139.068 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 269.08 Mbit/s
95th percentile per-packet one-way delay: 138.950 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 186.85 Mbit/s
95th percentile per-packet one-way delay: 138.082 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 133.23 Mbit/s
95th percentile per-packet one-way delay: 139.784 ms
Loss rate: 2.37%
```

Run 5: Report of FillP — Data Link



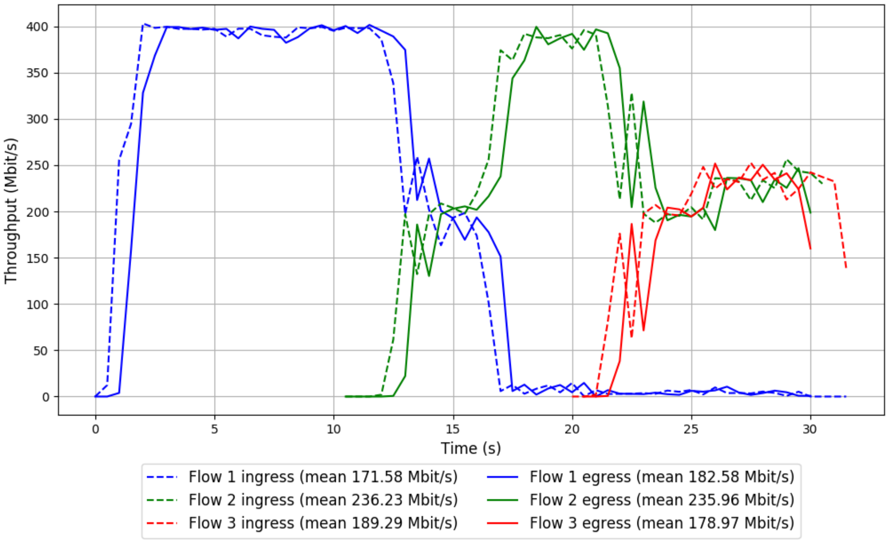


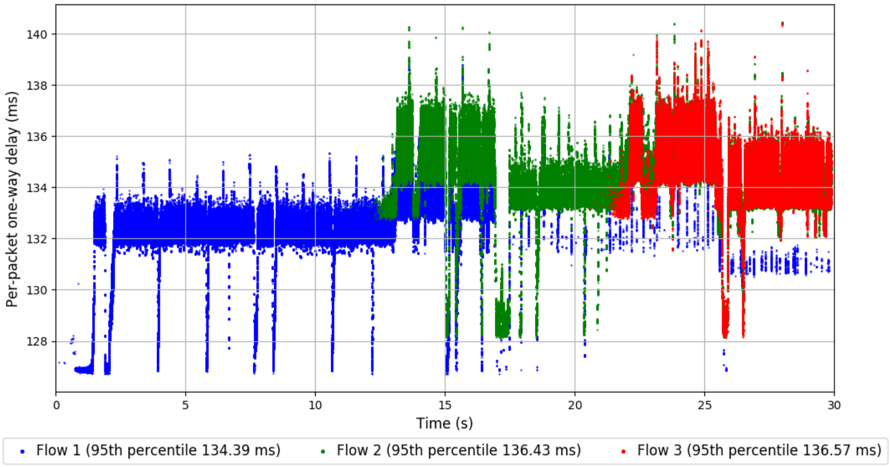
```
Run 6: Statistics of FillP

Start at: 2018-08-22 21:42:53
End at: 2018-08-22 21:43:23
Local clock offset: -0.887 ms
Remote clock offset: -35.306 ms

# Below is generated by plot.py at 2018-08-23 00:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.83 Mbit/s
95th percentile per-packet one-way delay: 136.128 ms
Loss rate: 6.33%
-- Flow 1:
Average throughput: 182.58 Mbit/s
95th percentile per-packet one-way delay: 134.388 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 235.96 Mbit/s
95th percentile per-packet one-way delay: 136.426 ms
Loss rate: 6.19%
-- Flow 3:
Average throughput: 178.97 Mbit/s
95th percentile per-packet one-way delay: 136.570 ms
Loss rate: 22.53%
```

Run 6: Report of FillP — Data Link



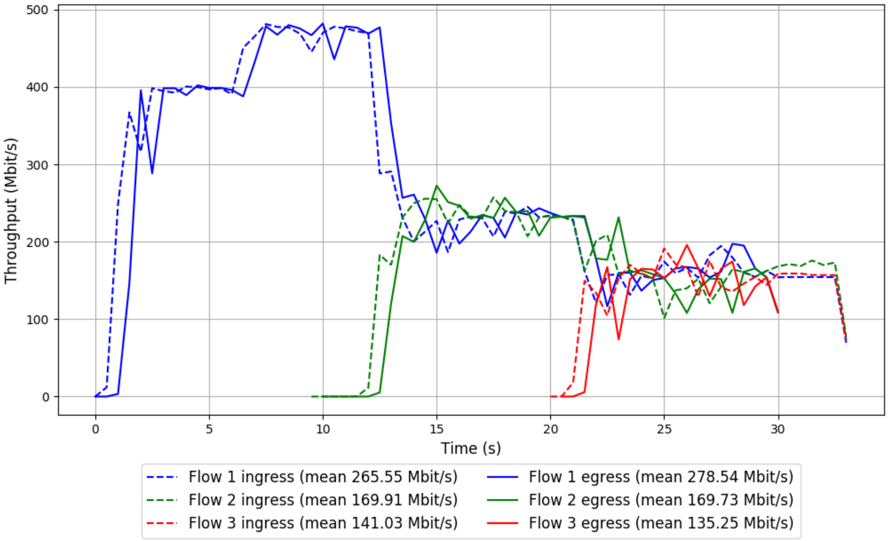


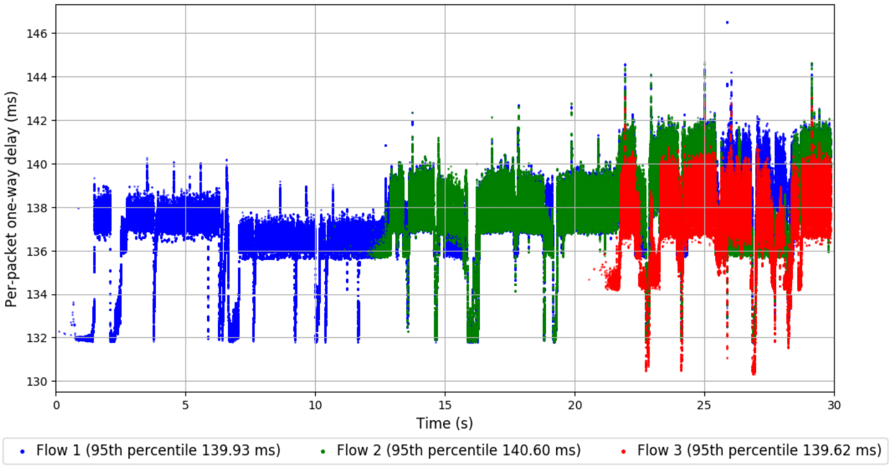
```
Run 7: Statistics of FillP

Start at: 2018-08-22 22:07:00
End at: 2018-08-22 22:07:30
Local clock offset: 1.739 ms
Remote clock offset: -36.978 ms

# Below is generated by plot.py at 2018-08-23 00:50:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.62 Mbit/s
95th percentile per-packet one-way delay: 140.141 ms
Loss rate: 11.62%
-- Flow 1:
Average throughput: 278.54 Mbit/s
95th percentile per-packet one-way delay: 139.929 ms
Loss rate: 6.18%
-- Flow 2:
Average throughput: 169.73 Mbit/s
95th percentile per-packet one-way delay: 140.605 ms
Loss rate: 15.20%
-- Flow 3:
Average throughput: 135.25 Mbit/s
95th percentile per-packet one-way delay: 139.623 ms
Loss rate: 30.36%
```

Run 7: Report of FillP — Data Link



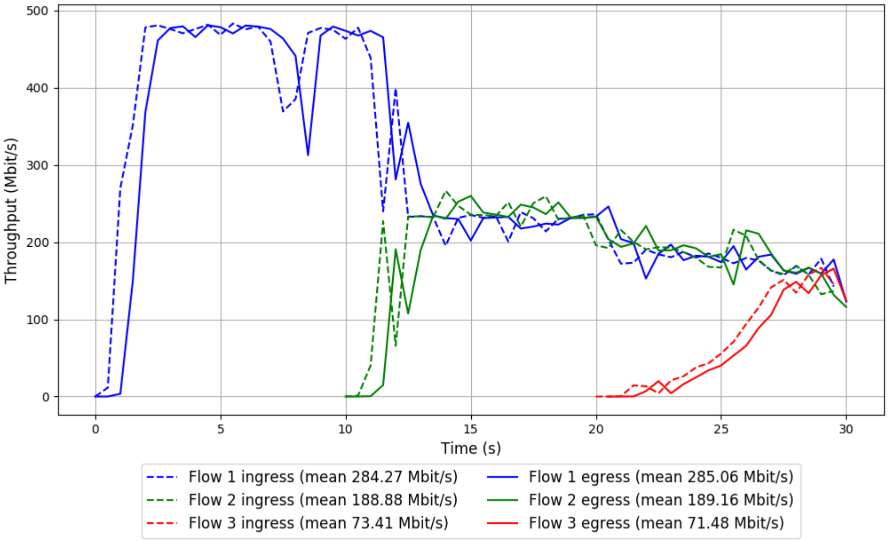


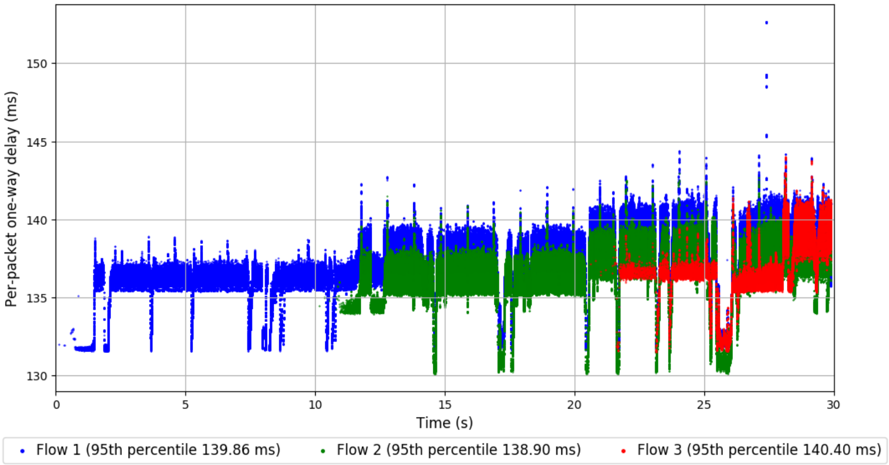
```
Run 8: Statistics of FillP

Start at: 2018-08-22 22:37:08
End at: 2018-08-22 22:37:38
Local clock offset: 1.507 ms
Remote clock offset: -38.094 ms

# Below is generated by plot.py at 2018-08-23 00:50:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 432.77 Mbit/s
95th percentile per-packet one-way delay: 139.652 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 285.06 Mbit/s
95th percentile per-packet one-way delay: 139.857 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 189.16 Mbit/s
95th percentile per-packet one-way delay: 138.902 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 71.48 Mbit/s
95th percentile per-packet one-way delay: 140.395 ms
Loss rate: 4.75%
```

## Run 8: Report of FillP — Data Link



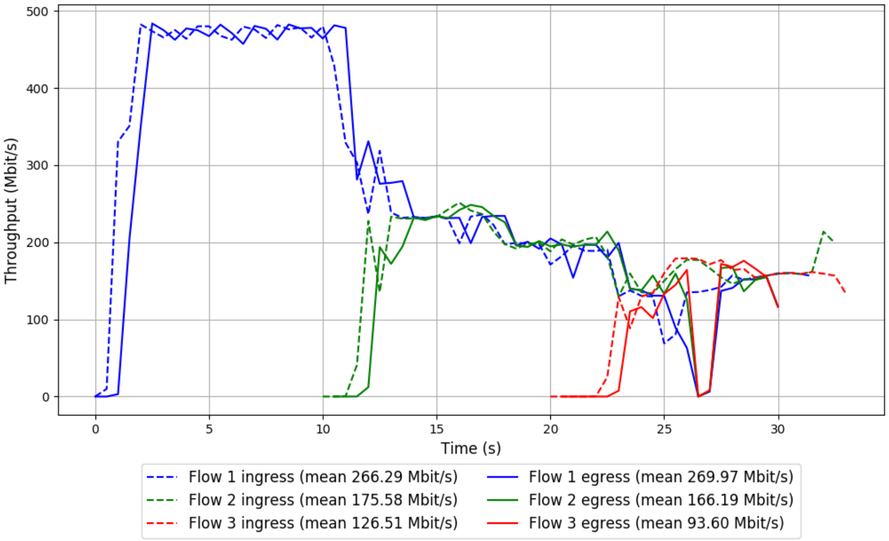


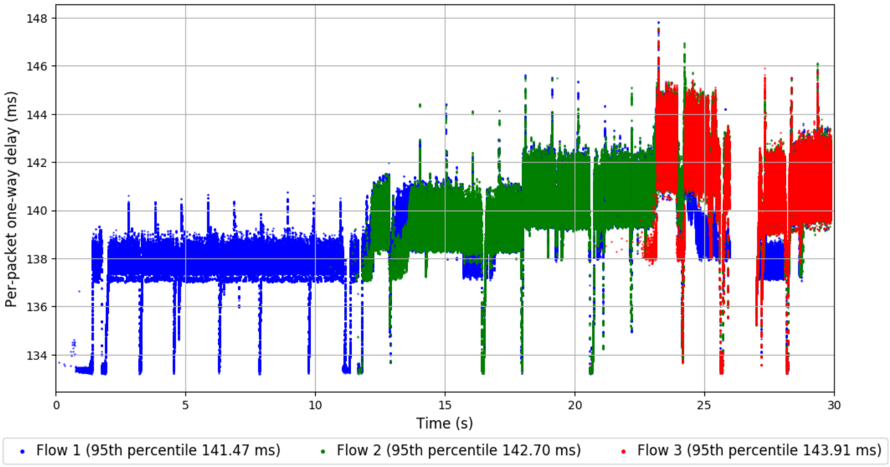
```
Run 9: Statistics of FillP

Start at: 2018-08-22 23:18:40
End at: 2018-08-22 23:19:10
Local clock offset: 1.74 ms
Remote clock offset: -39.365 ms

# Below is generated by plot.py at 2018-08-23 00:50:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 407.13 Mbit/s
95th percentile per-packet one-way delay: 142.250 ms
Loss rate: 14.25%
-- Flow 1:
Average throughput: 269.97 Mbit/s
95th percentile per-packet one-way delay: 141.471 ms
Loss rate: 5.74%
-- Flow 2:
Average throughput: 166.19 Mbit/s
95th percentile per-packet one-way delay: 142.703 ms
Loss rate: 18.97%
-- Flow 3:
Average throughput: 93.60 Mbit/s
95th percentile per-packet one-way delay: 143.906 ms
Loss rate: 47.00%
```

## Run 9: Report of FillP — Data Link



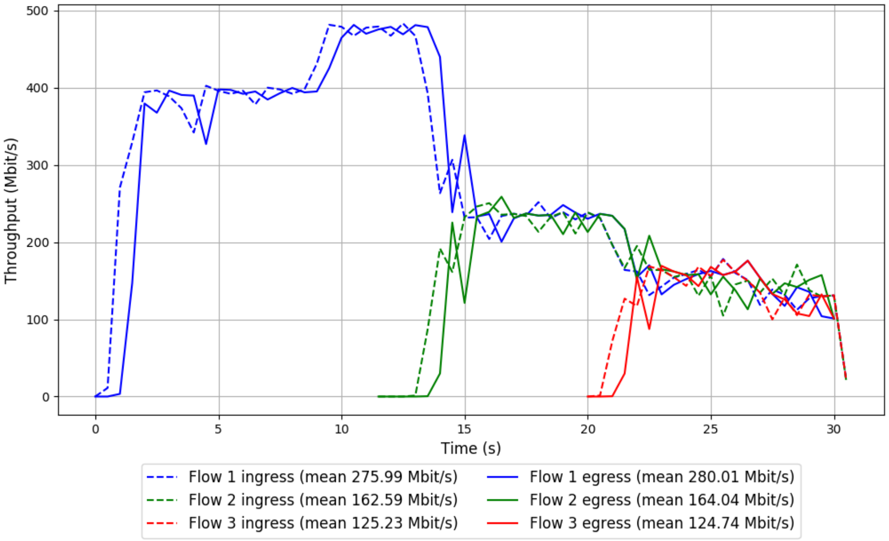


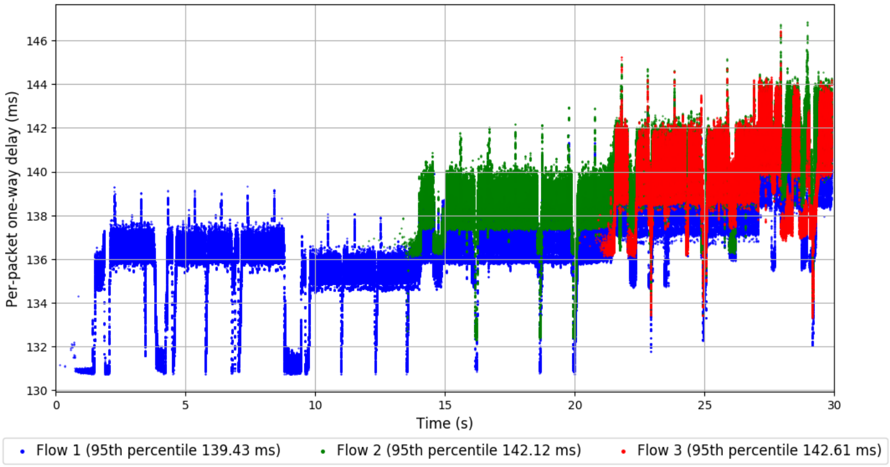
```
Run 10: Statistics of FillP

Start at: 2018-08-22 23:48:52
End at: 2018-08-22 23:49:22
Local clock offset: 4.224 ms
Remote clock offset: -35.577 ms

# Below is generated by plot.py at 2018-08-23 00:54:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.27 Mbit/s
95th percentile per-packet one-way delay: 141.342 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 280.01 Mbit/s
95th percentile per-packet one-way delay: 139.434 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 164.04 Mbit/s
95th percentile per-packet one-way delay: 142.119 ms
Loss rate: 3.55%
-- Flow 3:
Average throughput: 124.74 Mbit/s
95th percentile per-packet one-way delay: 142.609 ms
Loss rate: 8.26%
```

Run 10: Report of FillP — Data Link



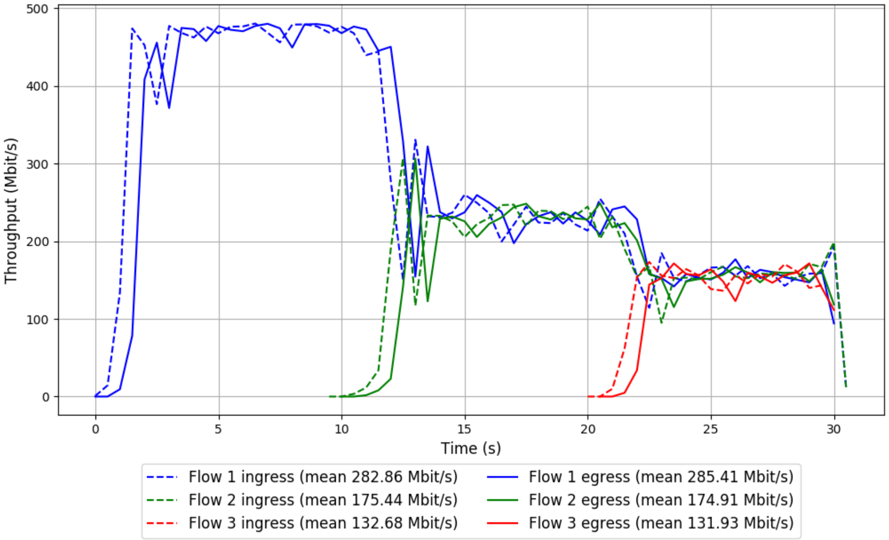


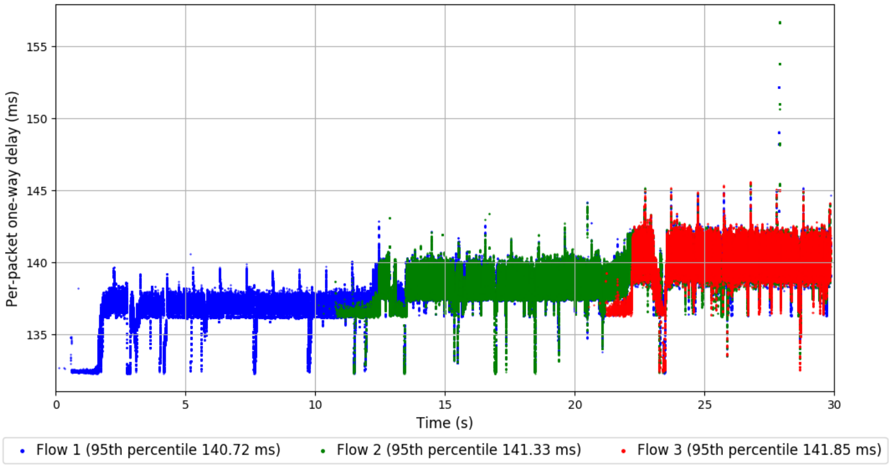
```
Run 1: Statistics of FillP-Sheep

Start at: 2018-08-22 19:02:19
End at: 2018-08-22 19:02:49
Local clock offset: 0.38 ms
Remote clock offset: -38.509 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.82 Mbit/s
95th percentile per-packet one-way delay: 141.237 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 285.41 Mbit/s
95th percentile per-packet one-way delay: 140.719 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 174.91 Mbit/s
95th percentile per-packet one-way delay: 141.333 ms
Loss rate: 4.26%
-- Flow 3:
Average throughput: 131.93 Mbit/s
95th percentile per-packet one-way delay: 141.849 ms
Loss rate: 2.96%
```

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



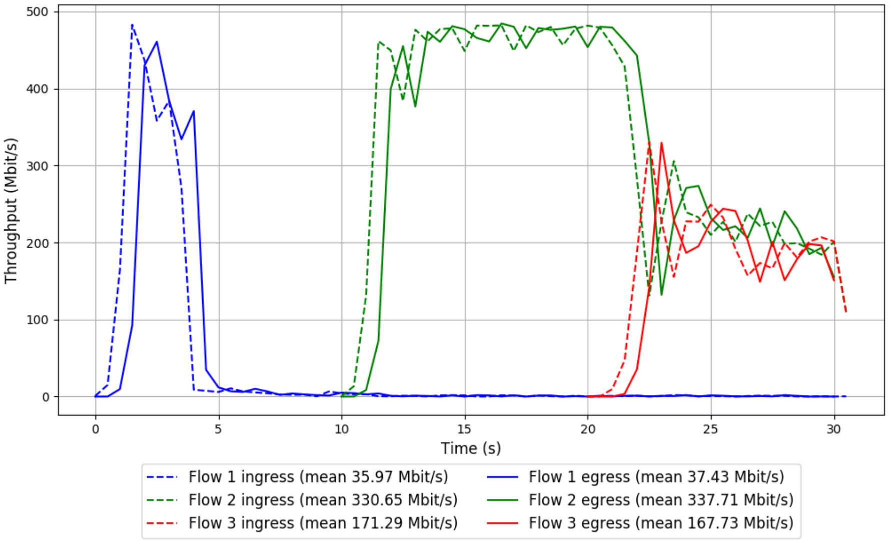


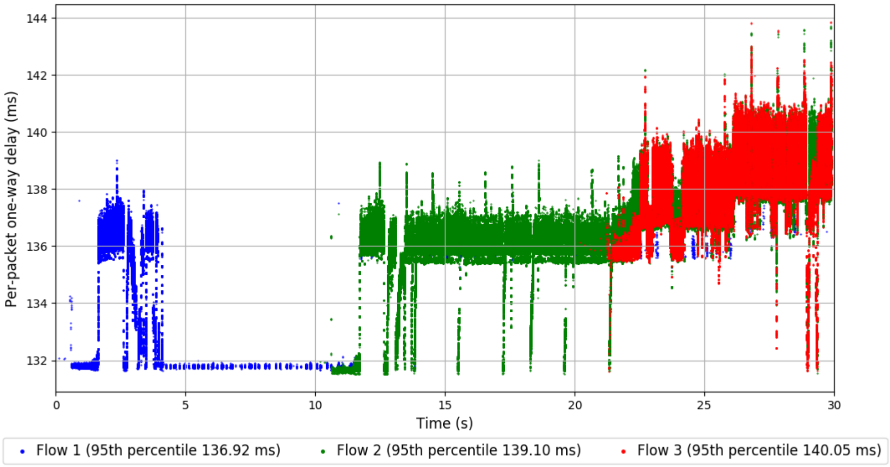
```
Run 2: Statistics of FillP-Sheep

Start at: 2018-08-22 19:33:06
End at: 2018-08-22 19:33:36
Local clock offset: 0.476 ms
Remote clock offset: -37.573 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.72 Mbit/s
95th percentile per-packet one-way delay: 139.394 ms
Loss rate: 4.17%
-- Flow 1:
Average throughput: 37.43 Mbit/s
95th percentile per-packet one-way delay: 136.922 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 337.71 Mbit/s
95th percentile per-packet one-way delay: 139.098 ms
Loss rate: 2.89%
-- Flow 3:
Average throughput: 167.73 Mbit/s
95th percentile per-packet one-way delay: 140.048 ms
Loss rate: 11.41%
```

Run 2: Report of FillP-Sheep — Data Link



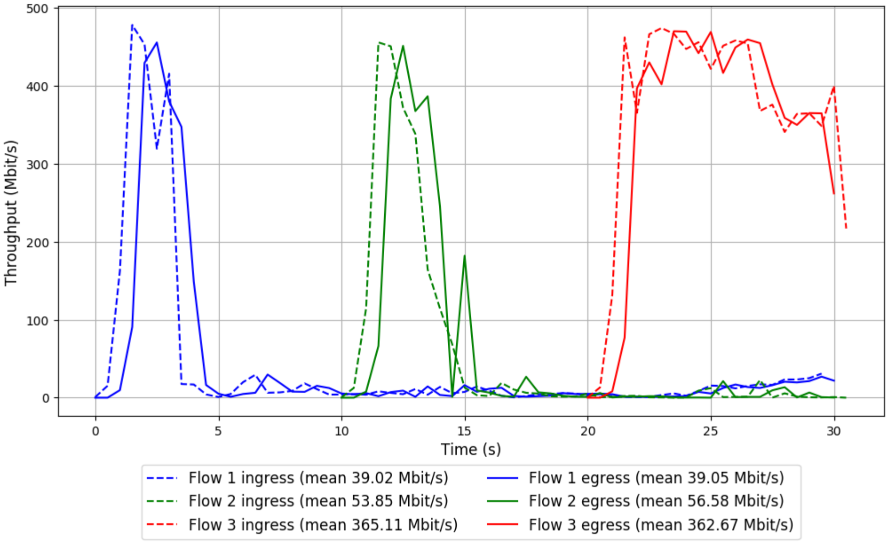


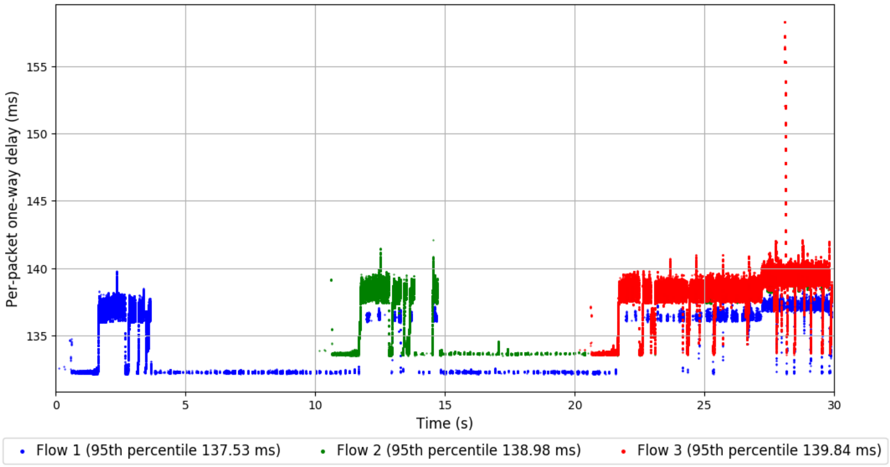
```
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-22 20:14:31
End at: 2018-08-22 20:15:01
Local clock offset: -0.818 ms
Remote clock offset: -36.868 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 194.76 Mbit/s
95th percentile per-packet one-way delay: 139.616 ms
Loss rate: 6.58%
-- Flow 1:
Average throughput: 39.05 Mbit/s
95th percentile per-packet one-way delay: 137.525 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 56.58 Mbit/s
95th percentile per-packet one-way delay: 138.984 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 362.67 Mbit/s
95th percentile per-packet one-way delay: 139.844 ms
Loss rate: 10.21%
```

Run 3: Report of FillP-Sheep — Data Link



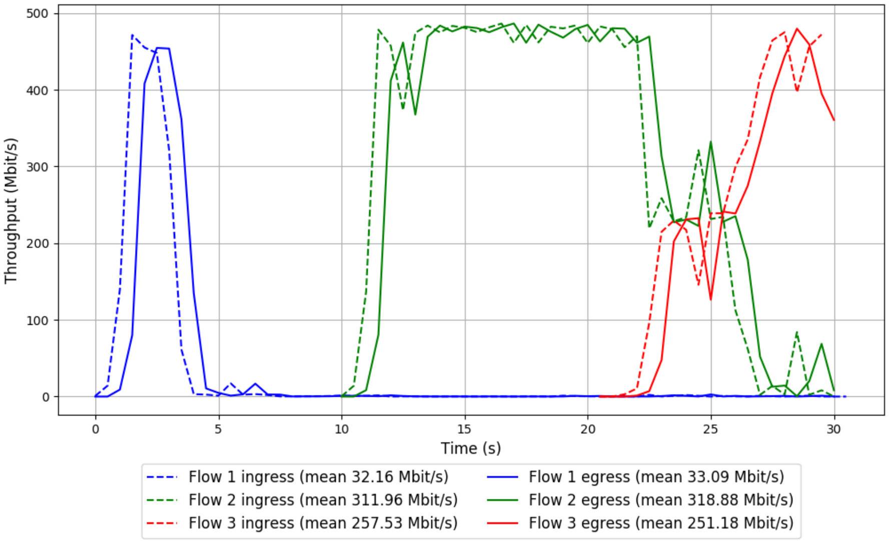


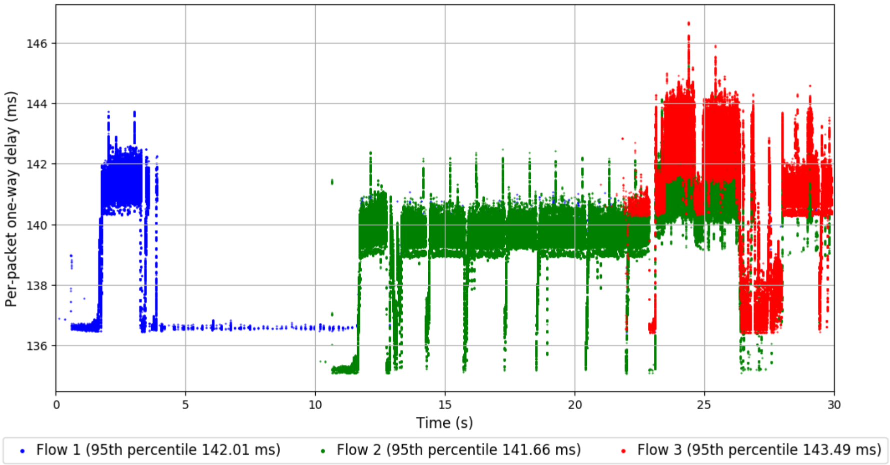
```
Run 4: Statistics of FillP-Sheep

Start at: 2018-08-22 20:44:26
End at: 2018-08-22 20:44:56
Local clock offset: 0.962 ms
Remote clock offset: -38.504 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.46 Mbit/s
95th percentile per-packet one-way delay: 142.534 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 33.09 Mbit/s
95th percentile per-packet one-way delay: 142.012 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 318.88 Mbit/s
95th percentile per-packet one-way delay: 141.661 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.18 Mbit/s
95th percentile per-packet one-way delay: 143.487 ms
Loss rate: 5.14%
```

Run 4: Report of FillP-Sheep — Data Link



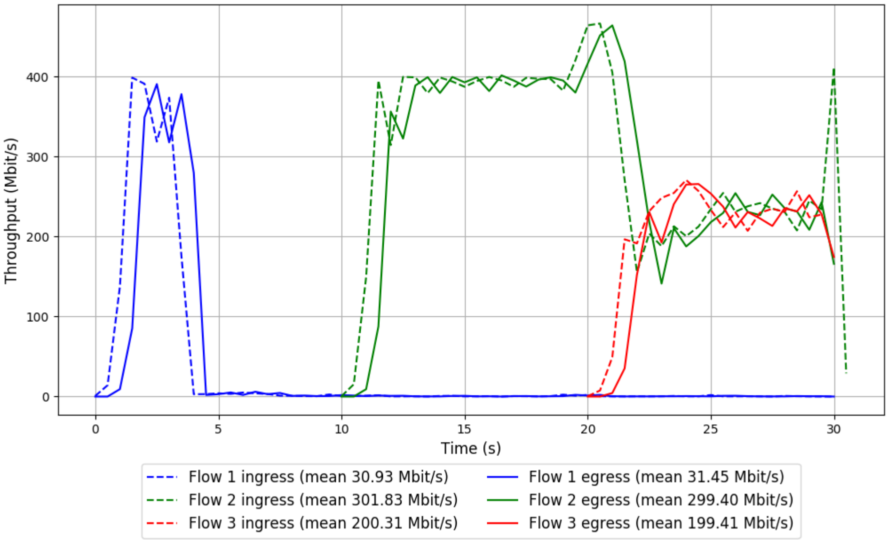


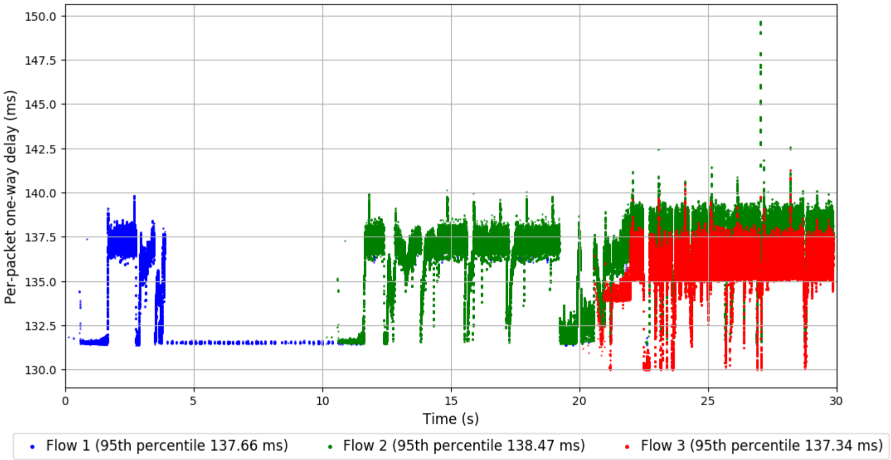
```
Run 5: Statistics of FillP-Sheep

Start at: 2018-08-22 21:14:38
End at: 2018-08-22 21:15:08
Local clock offset: 0.699 ms
Remote clock offset: -35.471 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.93 Mbit/s
95th percentile per-packet one-way delay: 138.298 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 137.665 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 299.40 Mbit/s
95th percentile per-packet one-way delay: 138.469 ms
Loss rate: 4.69%
-- Flow 3:
Average throughput: 199.41 Mbit/s
95th percentile per-packet one-way delay: 137.342 ms
Loss rate: 2.94%
```

# Run 5: Report of FillP-Sheep — Data Link



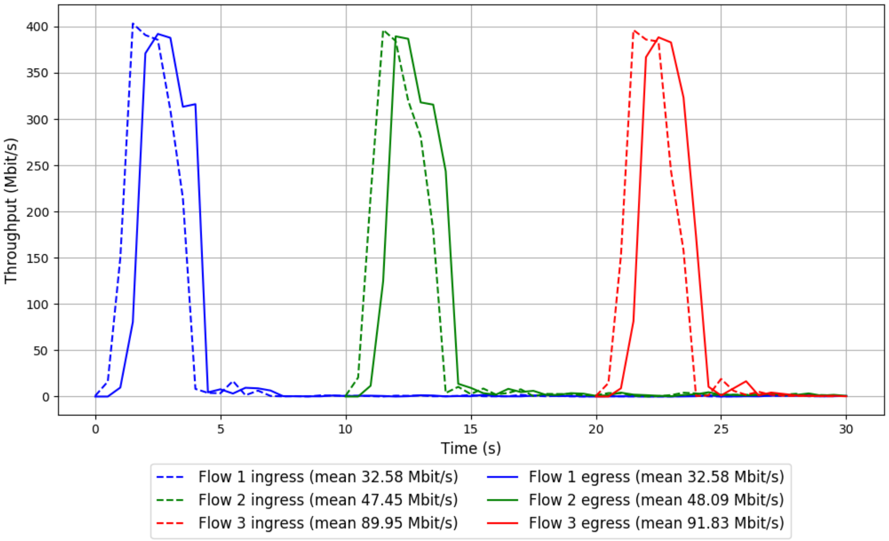


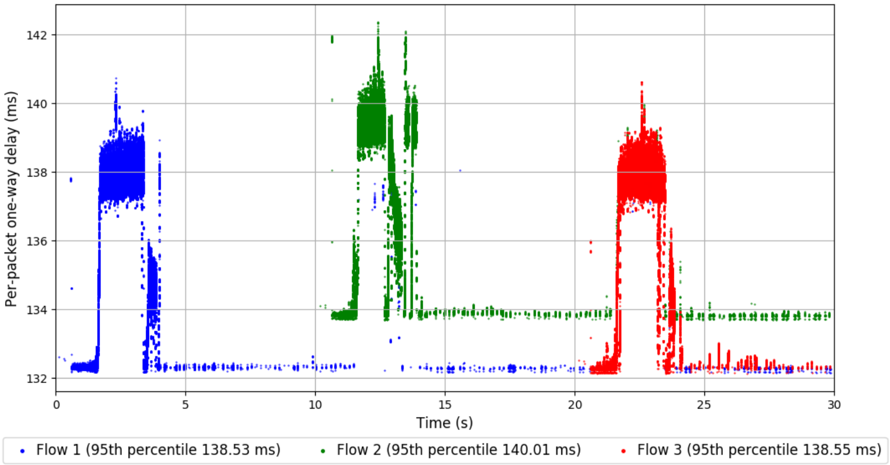
```
Run 6: Statistics of FillP-Sheep

Start at: 2018-08-22 21:44:30
End at: 2018-08-22 21:45:00
Local clock offset: 0.066 ms
Remote clock offset: -39.86 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.21 Mbit/s
95th percentile per-packet one-way delay: 139.686 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 138.534 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.09 Mbit/s
95th percentile per-packet one-way delay: 140.009 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 138.552 ms
Loss rate: 0.00%
```

## Run 6: Report of FillP-Sheep — Data Link



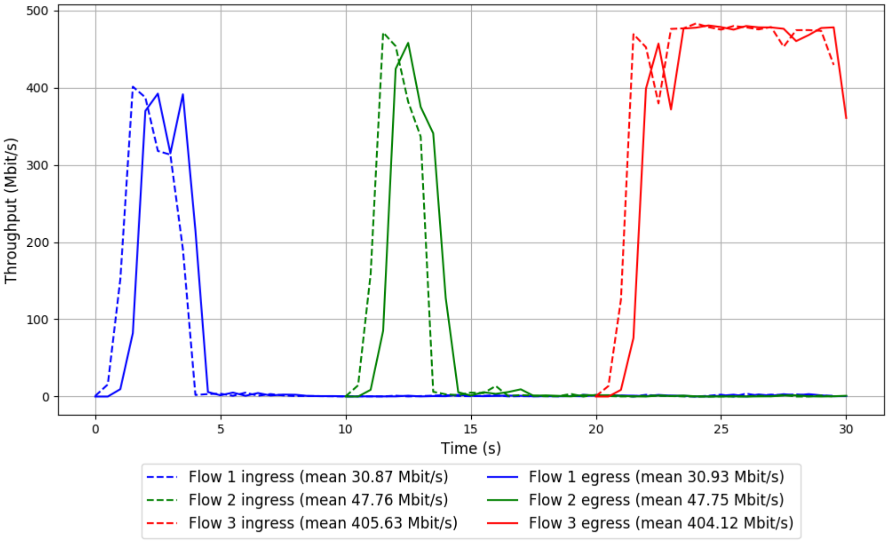


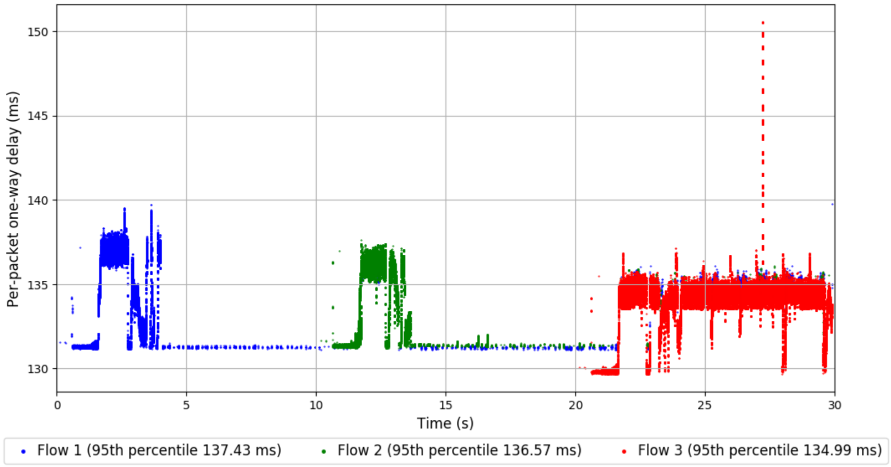
```
Run 7: Statistics of FillP-Sheep

Start at: 2018-08-22 22:08:42
End at: 2018-08-22 22:09:12
Local clock offset: 3.764 ms
Remote clock offset: -34.479 ms

# Below is generated by plot.py at 2018-08-23 00:55:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 194.28 Mbit/s
95th percentile per-packet one-way delay: 136.820 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 30.93 Mbit/s
95th percentile per-packet one-way delay: 137.432 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 47.75 Mbit/s
95th percentile per-packet one-way delay: 136.574 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 404.12 Mbit/s
95th percentile per-packet one-way delay: 134.987 ms
Loss rate: 2.36%
```

Run 7: Report of FillP-Sheep — Data Link



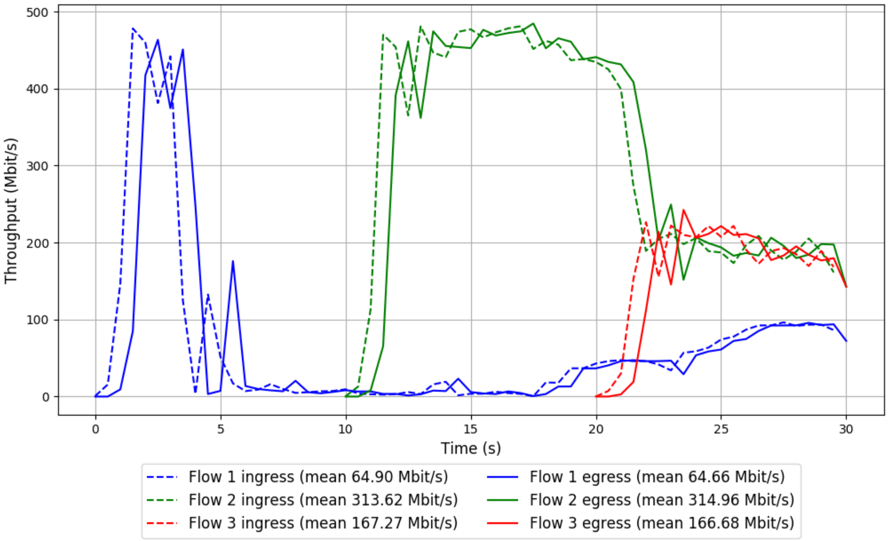


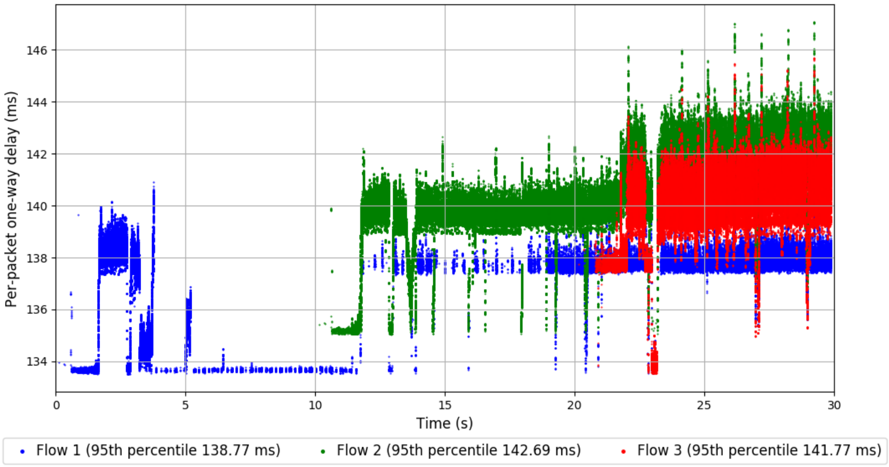
```
Run 8: Statistics of FillP-Sheep

Start at: 2018-08-22 22:38:53
End at: 2018-08-22 22:39:23
Local clock offset: 3.765 ms
Remote clock offset: -39.205 ms

# Below is generated by plot.py at 2018-08-23 00:55:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.82 Mbit/s
95th percentile per-packet one-way delay: 142.401 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 138.768 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 314.96 Mbit/s
95th percentile per-packet one-way delay: 142.692 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 166.68 Mbit/s
95th percentile per-packet one-way delay: 141.766 ms
Loss rate: 2.38%
```

Run 8: Report of FillP-Sheep — Data Link



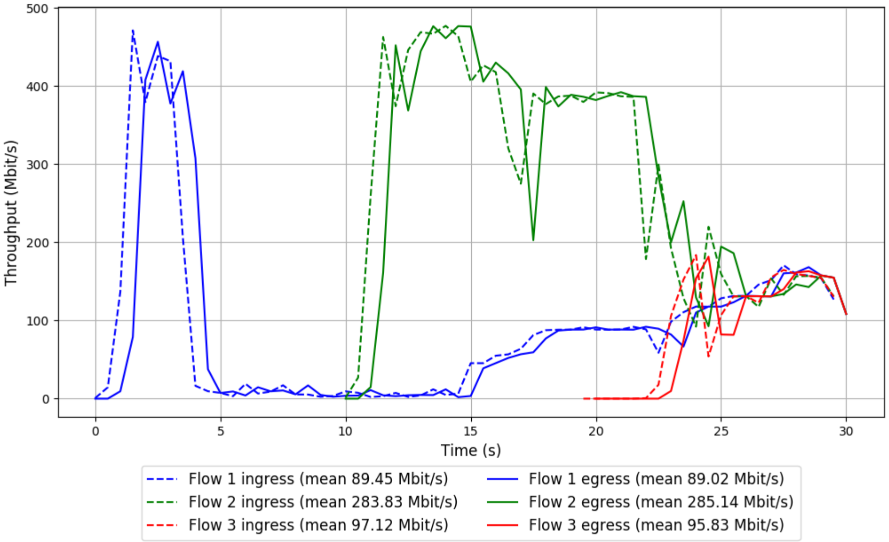


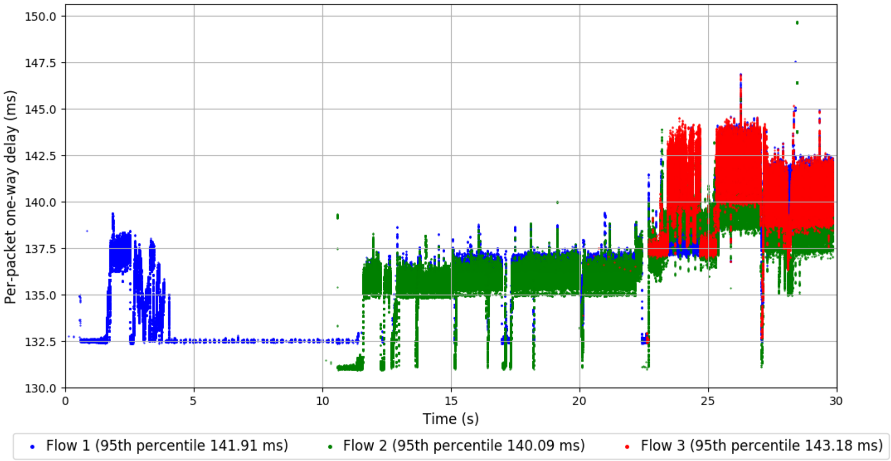
```
Run 9: Statistics of FillP-Sheep

Start at: 2018-08-22 23:20:20
End at: 2018-08-22 23:20:50
Local clock offset: 1.005 ms
Remote clock offset: -39.232 ms

# Below is generated by plot.py at 2018-08-23 00:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.52 Mbit/s
95th percentile per-packet one-way delay: 141.653 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 89.02 Mbit/s
95th percentile per-packet one-way delay: 141.914 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 285.14 Mbit/s
95th percentile per-packet one-way delay: 140.090 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 143.180 ms
Loss rate: 3.37%
```

# Run 9: Report of FillP-Sheep — Data Link



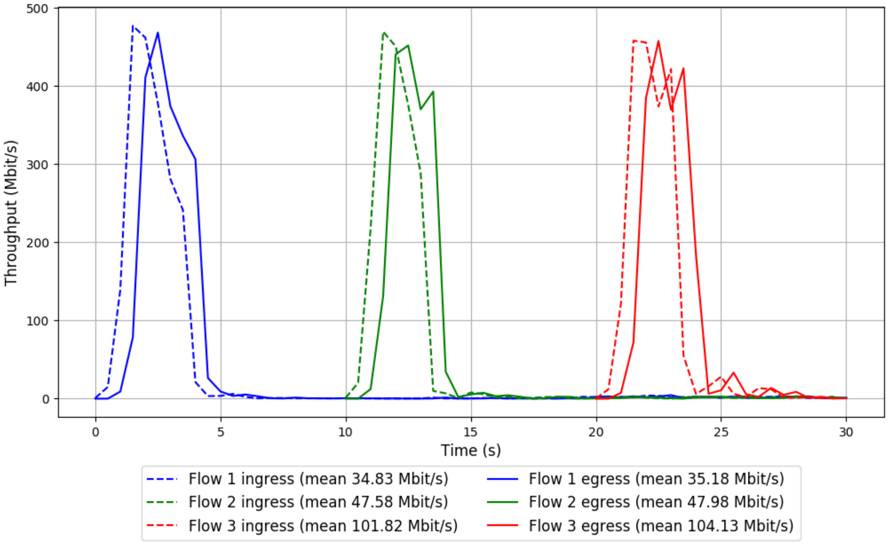


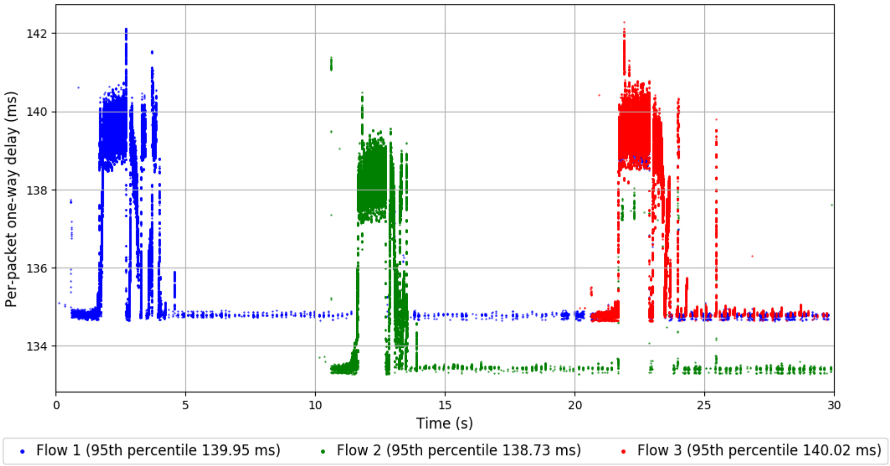
```
Run 10: Statistics of FillP-Sheep

Start at: 2018-08-22 23:55:55
End at: 2018-08-22 23:56:25
Local clock offset: 2.317 ms
Remote clock offset: -39.93 ms

# Below is generated by plot.py at 2018-08-23 00:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.24 Mbit/s
95th percentile per-packet one-way delay: 139.891 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 35.18 Mbit/s
95th percentile per-packet one-way delay: 139.953 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 47.98 Mbit/s
95th percentile per-packet one-way delay: 138.729 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 104.13 Mbit/s
95th percentile per-packet one-way delay: 140.017 ms
Loss rate: 0.01%
```

Run 10: Report of FillP-Sheep — Data Link



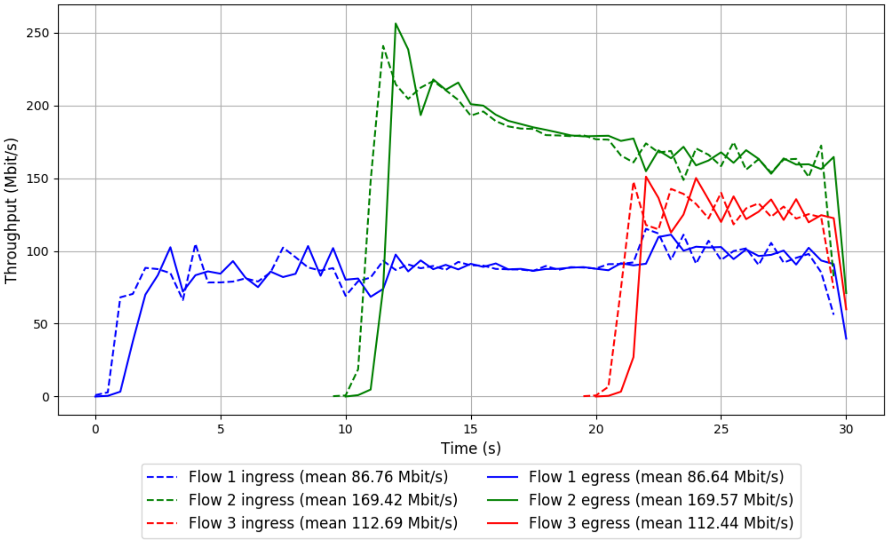


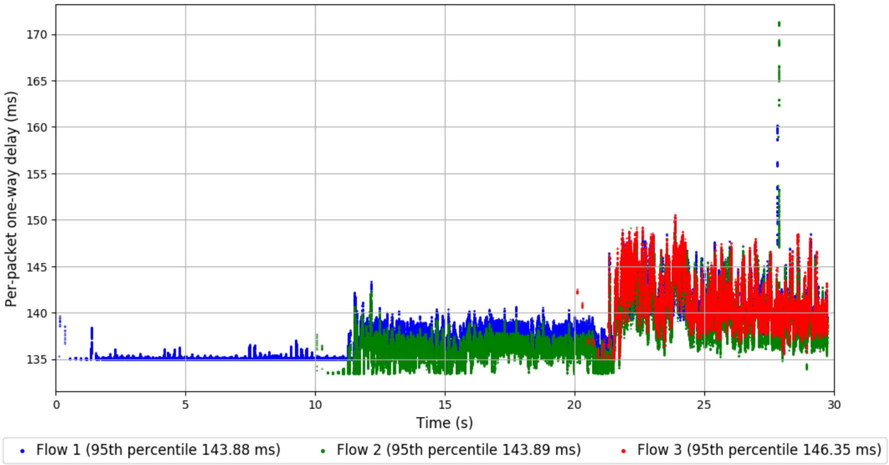
```
Run 1: Statistics of Indigo

Start at: 2018-08-22 19:11:17
End at: 2018-08-22 19:11:47
Local clock offset: 1.057 ms
Remote clock offset: -38.918 ms

# Below is generated by plot.py at 2018-08-23 00:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.93 Mbit/s
95th percentile per-packet one-way delay: 144.642 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 86.64 Mbit/s
95th percentile per-packet one-way delay: 143.884 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 169.57 Mbit/s
95th percentile per-packet one-way delay: 143.889 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 112.44 Mbit/s
95th percentile per-packet one-way delay: 146.347 ms
Loss rate: 2.29%
```

## Run 1: Report of Indigo — Data Link



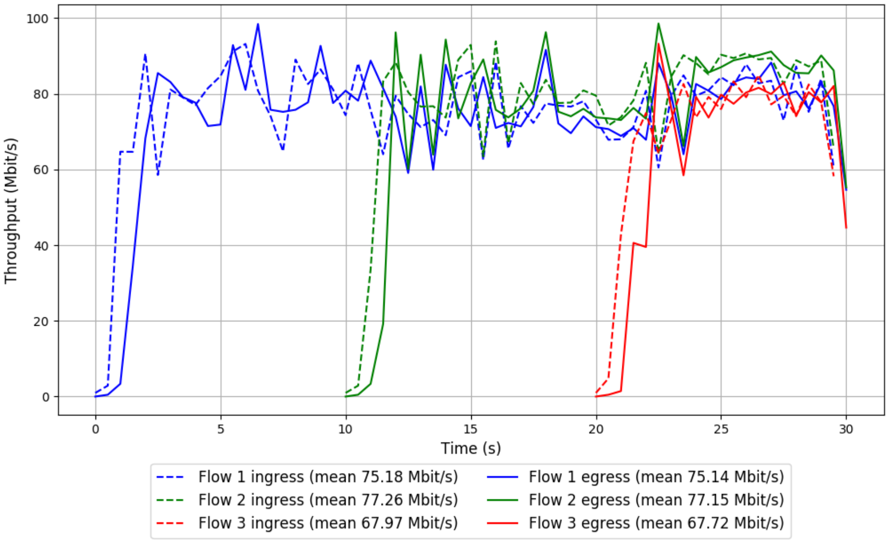


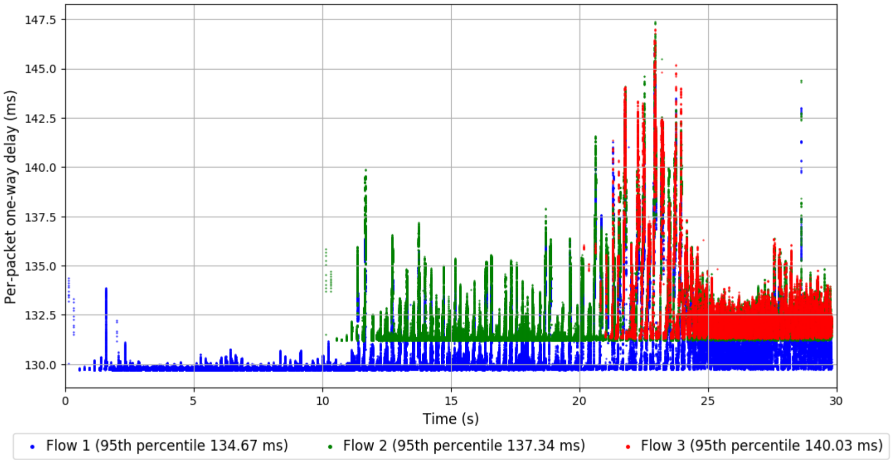
```
Run 2: Statistics of Indigo

Start at: 2018-08-22 19:53:08
End at: 2018-08-22 19:53:39
Local clock offset: 1.183 ms
Remote clock offset: -33.199 ms

# Below is generated by plot.py at 2018-08-23 00:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.24 Mbit/s
95th percentile per-packet one-way delay: 136.800 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 75.14 Mbit/s
95th percentile per-packet one-way delay: 134.673 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 77.15 Mbit/s
95th percentile per-packet one-way delay: 137.344 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 67.72 Mbit/s
95th percentile per-packet one-way delay: 140.031 ms
Loss rate: 2.41%
```

Run 2: Report of Indigo — Data Link



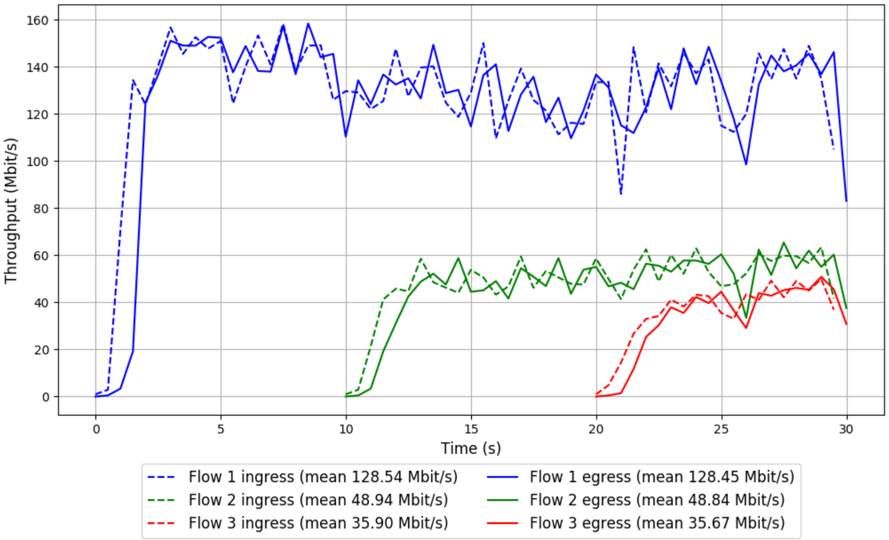


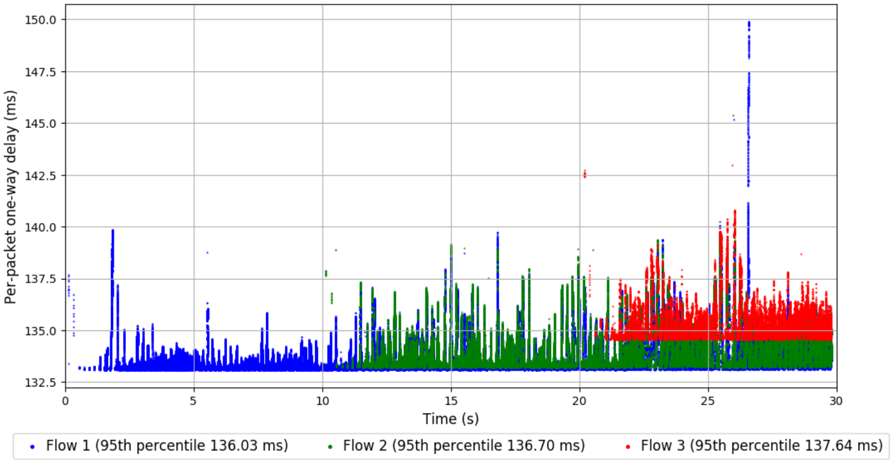
```
Run 3: Statistics of Indigo

Start at: 2018-08-22 20:23:10
End at: 2018-08-22 20:23:40
Local clock offset: -4.878 ms
Remote clock offset: -41.558 ms

# Below is generated by plot.py at 2018-08-23 00:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.35 Mbit/s
95th percentile per-packet one-way delay: 136.354 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 128.45 Mbit/s
95th percentile per-packet one-way delay: 136.033 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 48.84 Mbit/s
95th percentile per-packet one-way delay: 136.701 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 35.67 Mbit/s
95th percentile per-packet one-way delay: 137.640 ms
Loss rate: 2.72%
```

## Run 3: Report of Indigo — Data Link



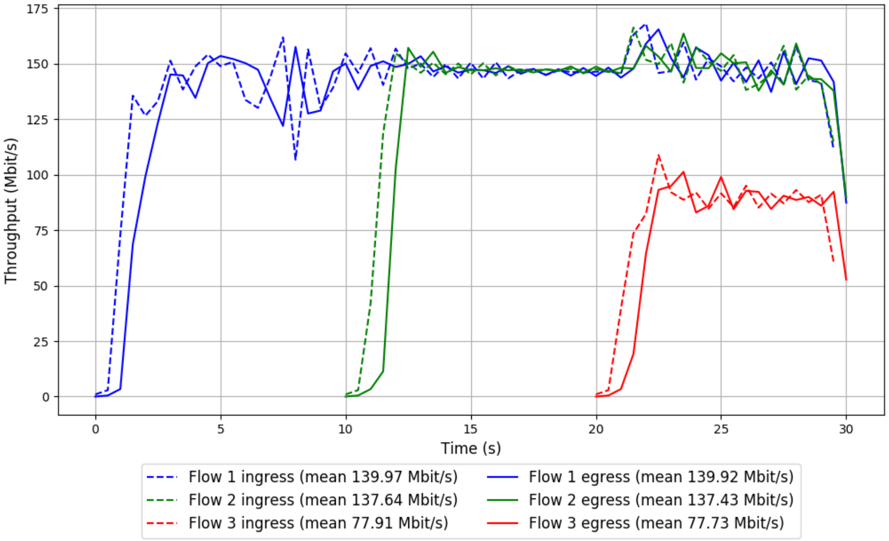


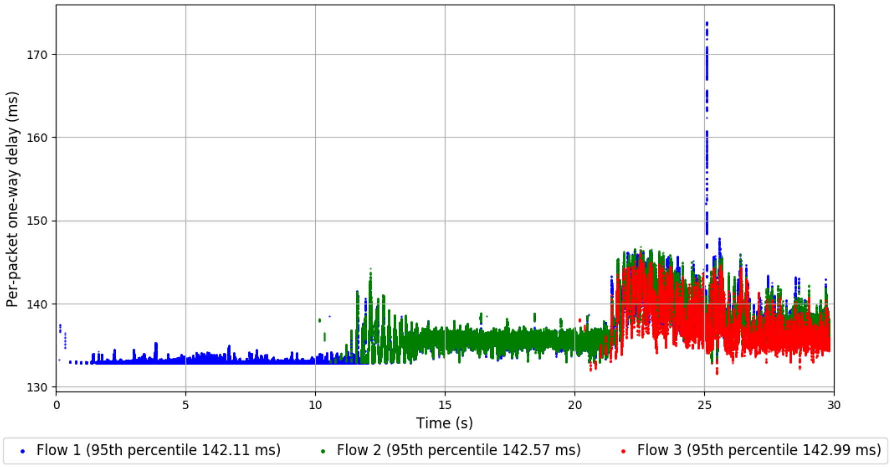
```
Run 4: Statistics of Indigo

Start at: 2018-08-22 20:53:18
End at: 2018-08-22 20:53:48
Local clock offset: 1.268 ms
Remote clock offset: -34.94 ms

# Below is generated by plot.py at 2018-08-23 00:57:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.18 Mbit/s
95th percentile per-packet one-way delay: 142.404 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 139.92 Mbit/s
95th percentile per-packet one-way delay: 142.111 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 137.43 Mbit/s
95th percentile per-packet one-way delay: 142.575 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 77.73 Mbit/s
95th percentile per-packet one-way delay: 142.993 ms
Loss rate: 2.25%
```

## Run 4: Report of Indigo — Data Link



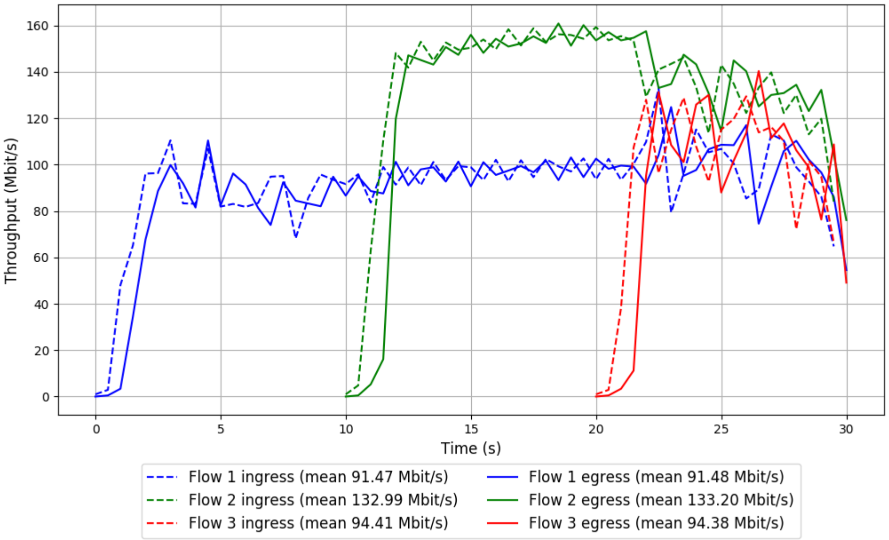


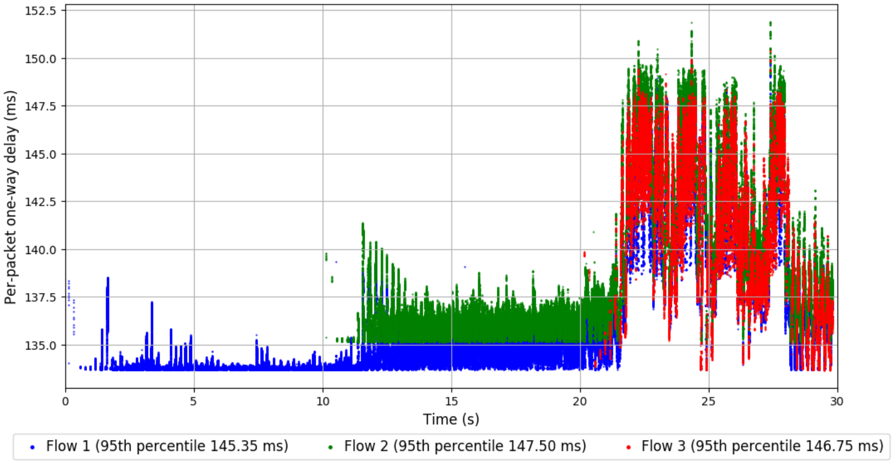
```
Run 5: Statistics of Indigo

Start at: 2018-08-22 21:23:20
End at: 2018-08-22 21:23:50
Local clock offset: 0.683 ms
Remote clock offset: -39.612 ms

# Below is generated by plot.py at 2018-08-23 00:57:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.39 Mbit/s
95th percentile per-packet one-way delay: 146.639 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 91.48 Mbit/s
95th percentile per-packet one-way delay: 145.353 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 133.20 Mbit/s
95th percentile per-packet one-way delay: 147.504 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 146.754 ms
Loss rate: 2.06%
```

Run 5: Report of Indigo — Data Link



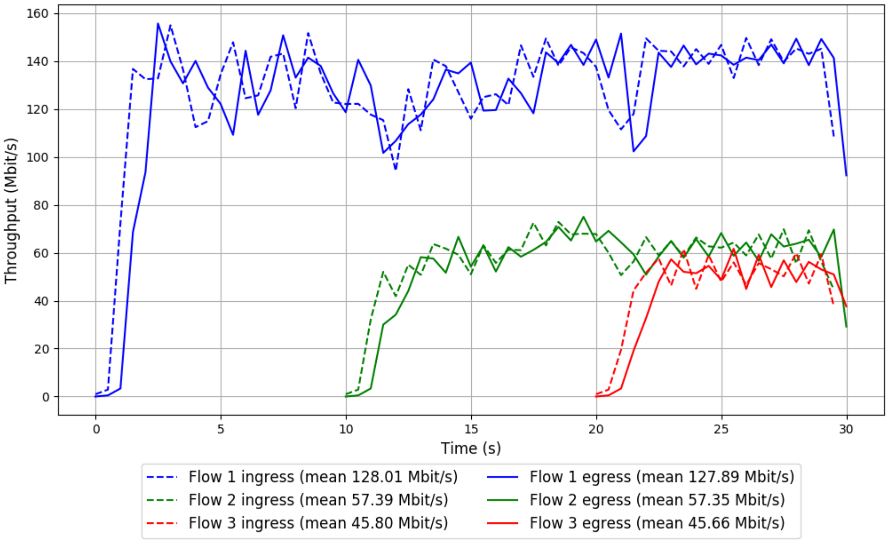


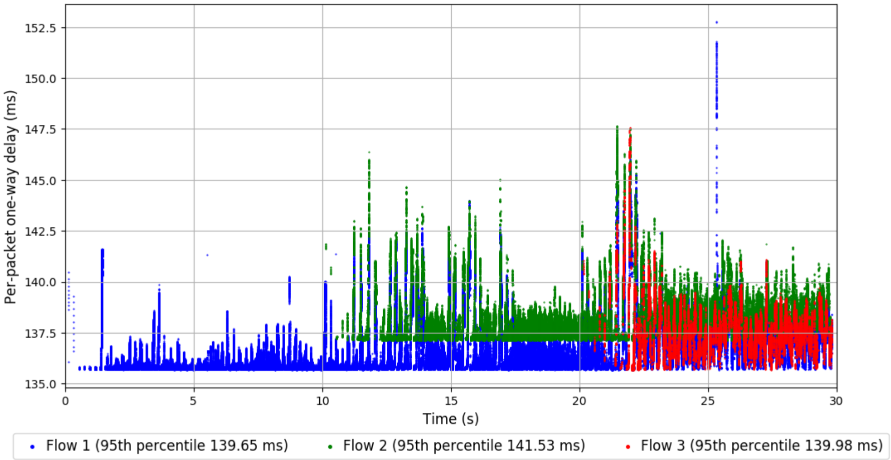
```
Run 6: Statistics of Indigo

Start at: 2018-08-22 21:52:57
End at: 2018-08-22 21:53:27
Local clock offset: 3.531 ms
Remote clock offset: -40.147 ms

# Below is generated by plot.py at 2018-08-23 00:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.65 Mbit/s
95th percentile per-packet one-way delay: 140.381 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 127.89 Mbit/s
95th percentile per-packet one-way delay: 139.651 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 57.35 Mbit/s
95th percentile per-packet one-way delay: 141.532 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 45.66 Mbit/s
95th percentile per-packet one-way delay: 139.983 ms
Loss rate: 2.32%
```

## Run 6: Report of Indigo — Data Link



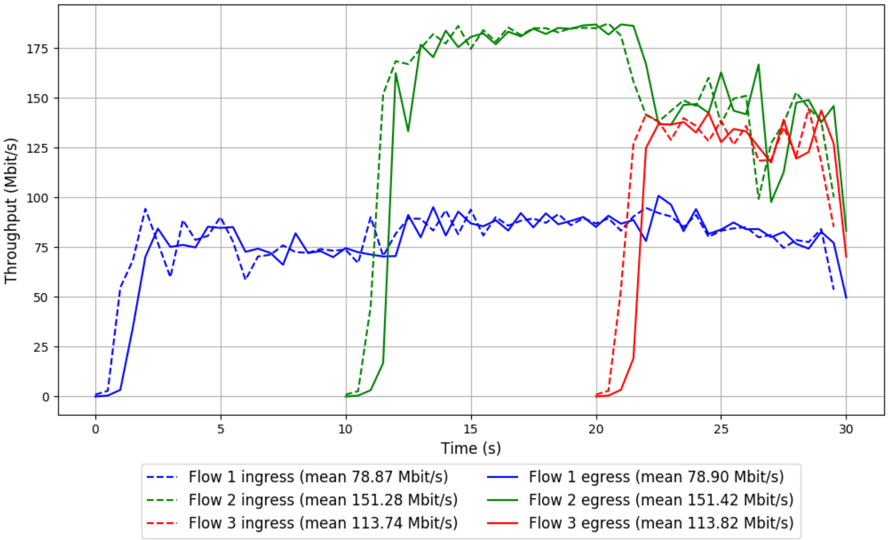


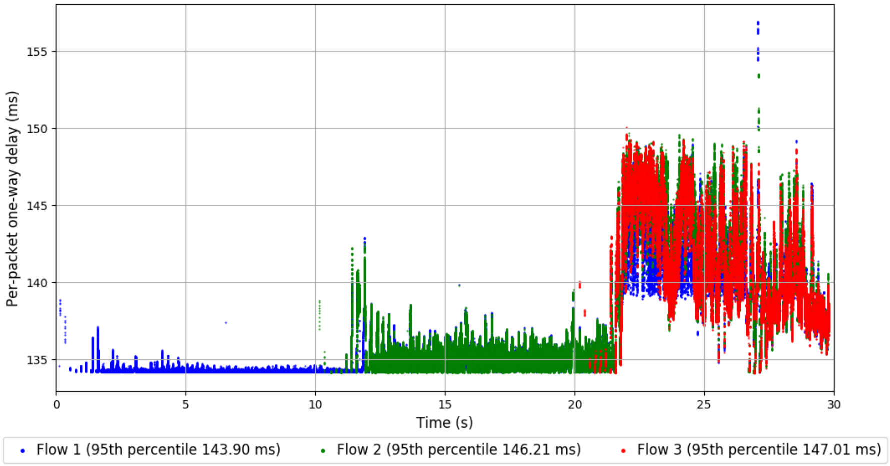
```
Run 7: Statistics of Indigo

Start at: 2018-08-22 22:22:56
End at: 2018-08-22 22:23:26
Local clock offset: 1.481 ms
Remote clock offset: -40.409 ms

# Below is generated by plot.py at 2018-08-23 00:58:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 216.19 Mbit/s
95th percentile per-packet one-way delay: 146.102 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 78.90 Mbit/s
95th percentile per-packet one-way delay: 143.902 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 151.42 Mbit/s
95th percentile per-packet one-way delay: 146.205 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 113.82 Mbit/s
95th percentile per-packet one-way delay: 147.014 ms
Loss rate: 1.98%
```

Run 7: Report of Indigo — Data Link



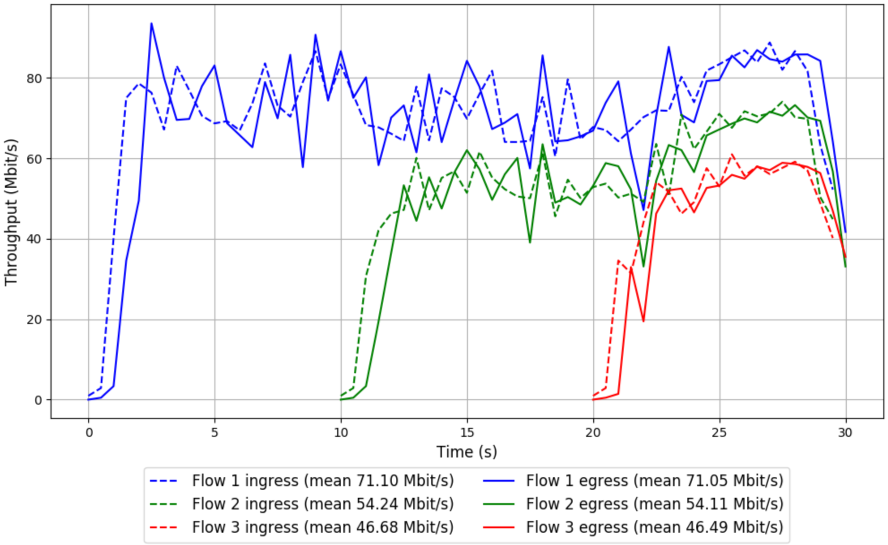


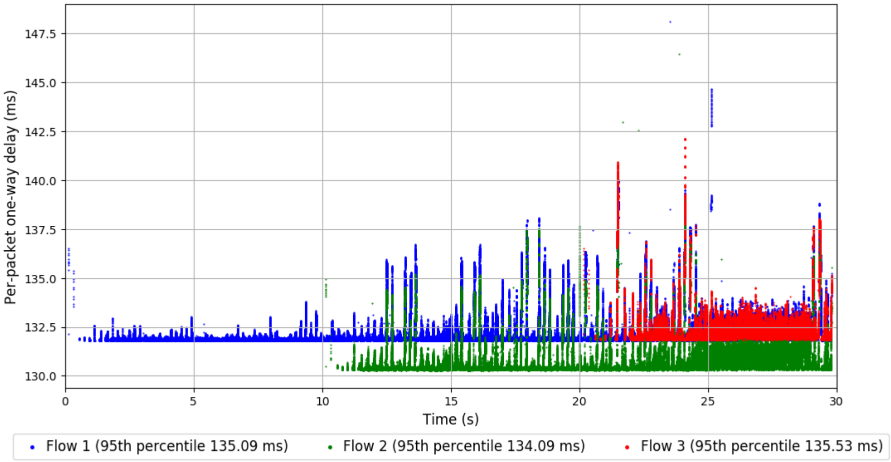
```
Run 8: Statistics of Indigo

Start at: 2018-08-22 22:58:53
End at: 2018-08-22 22:59:23
Local clock offset: 0.856 ms
Remote clock offset: -38.64 ms

# Below is generated by plot.py at 2018-08-23 00:58:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.01 Mbit/s
95th percentile per-packet one-way delay: 134.838 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 71.05 Mbit/s
95th percentile per-packet one-way delay: 135.086 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 54.11 Mbit/s
95th percentile per-packet one-way delay: 134.088 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 46.49 Mbit/s
95th percentile per-packet one-way delay: 135.534 ms
Loss rate: 2.35%
```

## Run 8: Report of Indigo — Data Link



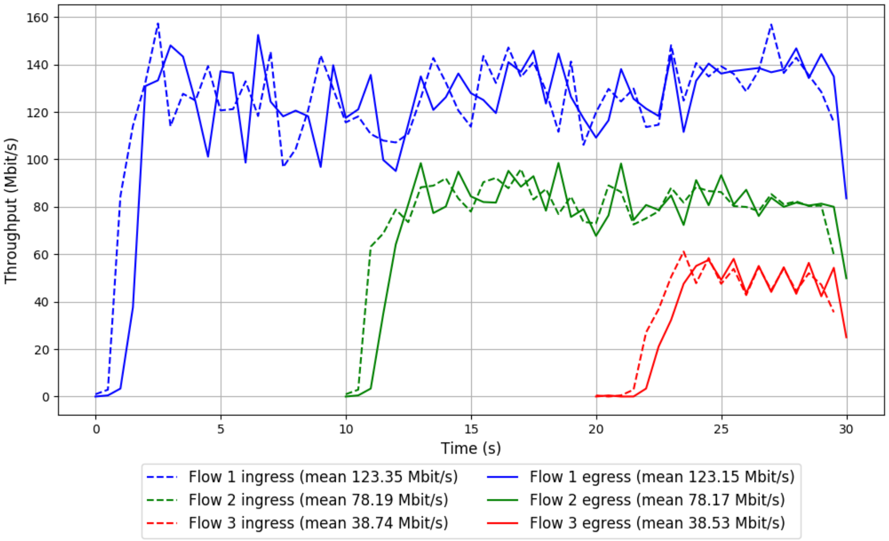


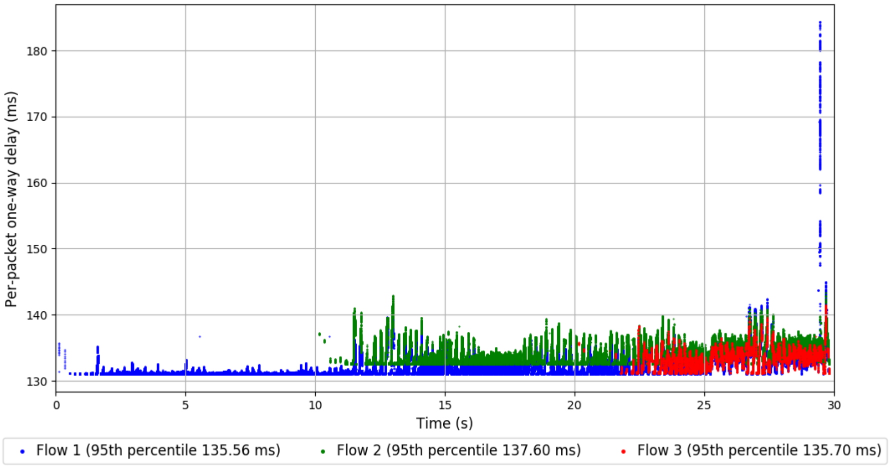
```
Run 9: Statistics of Indigo

Start at: 2018-08-22 23:29:06
End at: 2018-08-22 23:29:36
Local clock offset: 3.015 ms
Remote clock offset: -37.21 ms

# Below is generated by plot.py at 2018-08-23 00:58:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.35 Mbit/s
95th percentile per-packet one-way delay: 136.548 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 123.15 Mbit/s
95th percentile per-packet one-way delay: 135.557 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 78.17 Mbit/s
95th percentile per-packet one-way delay: 137.601 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 38.53 Mbit/s
95th percentile per-packet one-way delay: 135.700 ms
Loss rate: 2.52%
```

## Run 9: Report of Indigo — Data Link



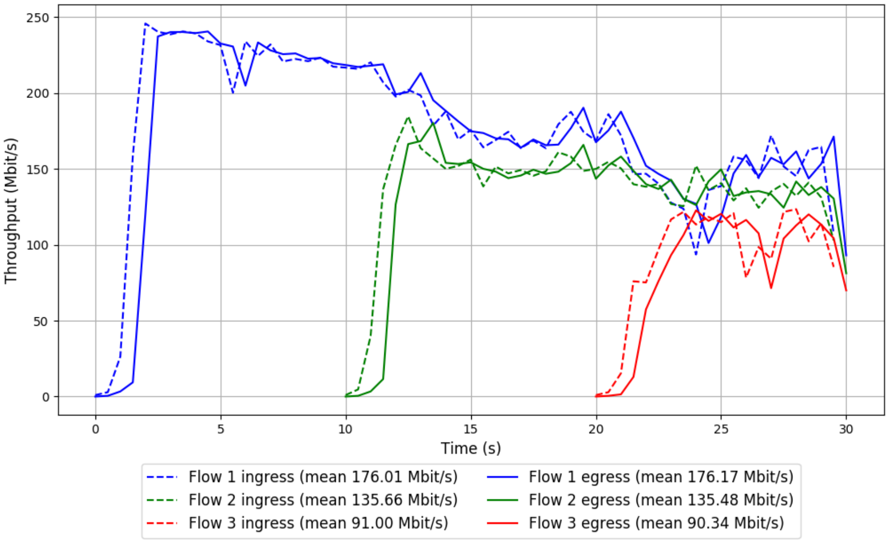


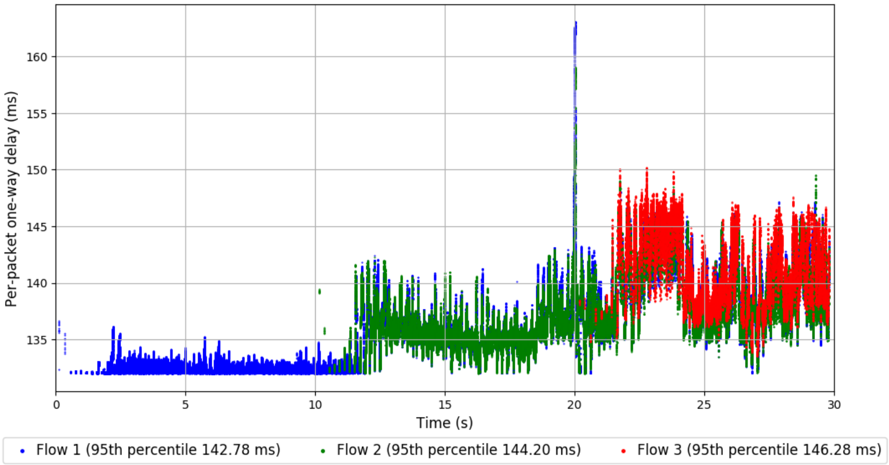
```
Run 10: Statistics of Indigo

Start at: 2018-08-23 00:04:39
End at: 2018-08-23 00:05:09
Local clock offset: 1.272 ms
Remote clock offset: -39.577 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.21 Mbit/s
95th percentile per-packet one-way delay: 144.351 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 176.17 Mbit/s
95th percentile per-packet one-way delay: 142.778 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 135.48 Mbit/s
95th percentile per-packet one-way delay: 144.197 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 90.34 Mbit/s
95th percentile per-packet one-way delay: 146.282 ms
Loss rate: 2.78%
```

## Run 10: Report of Indigo — Data Link



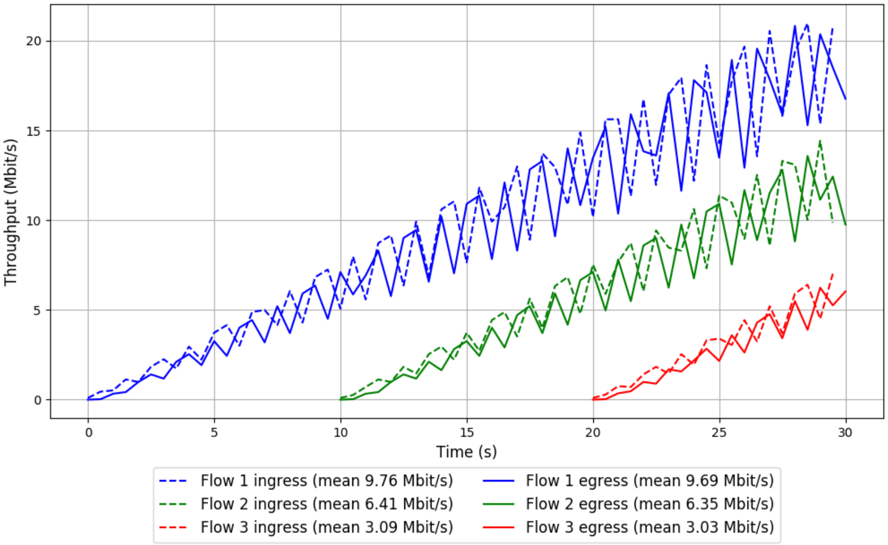


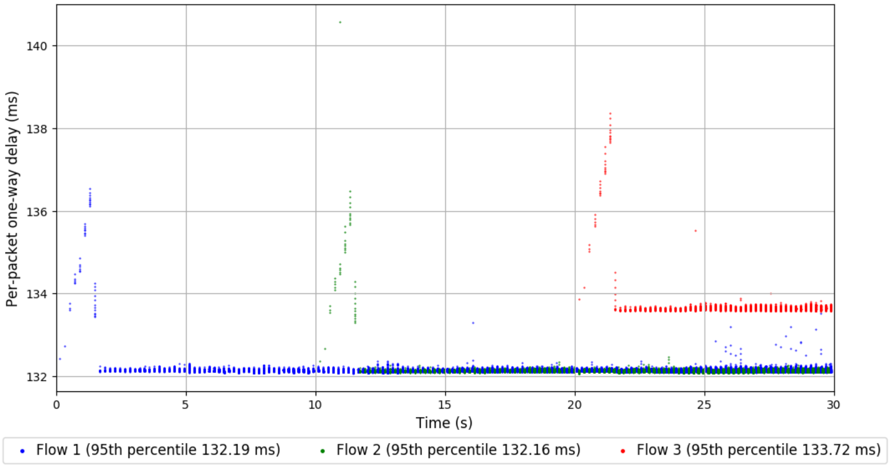
```
Run 1: Statistics of LEDBAT

Start at: 2018-08-22 19:14:08
End at: 2018-08-22 19:14:38
Local clock offset: 2.473 ms
Remote clock offset: -36.079 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 133.610 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 132.188 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 132.165 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 133.717 ms
Loss rate: 3.95%
```

## Run 1: Report of LEDBAT — Data Link



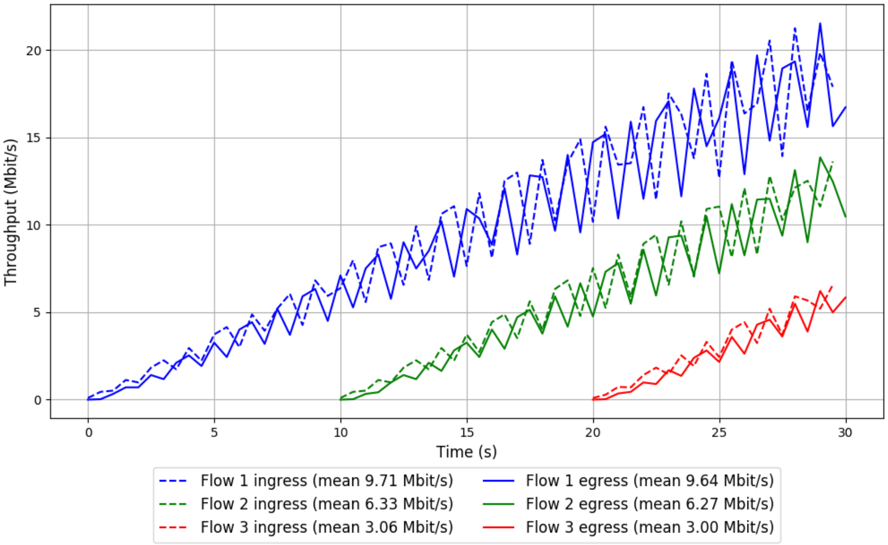


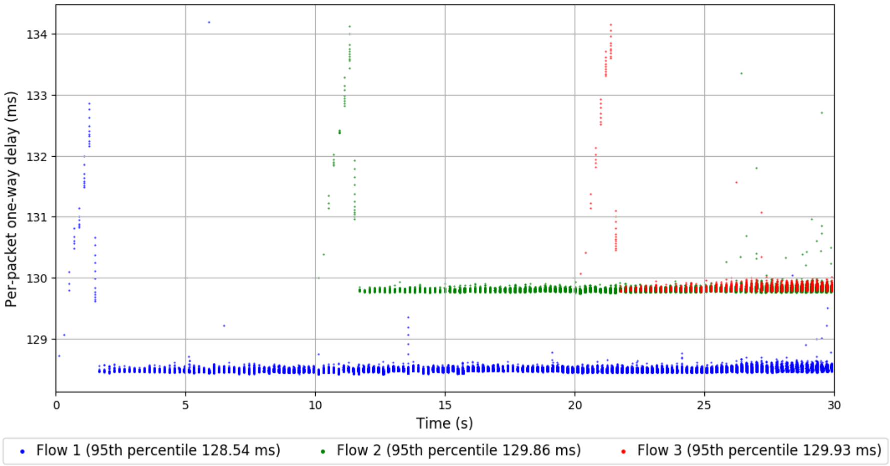
```
Run 2: Statistics of LEDBAT

Start at: 2018-08-22 19:55:57
End at: 2018-08-22 19:56:27
Local clock offset: -0.517 ms
Remote clock offset: -33.334 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 129.846 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 128.542 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 129.864 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 129.927 ms
Loss rate: 3.98%
```

Run 2: Report of LEDBAT — Data Link



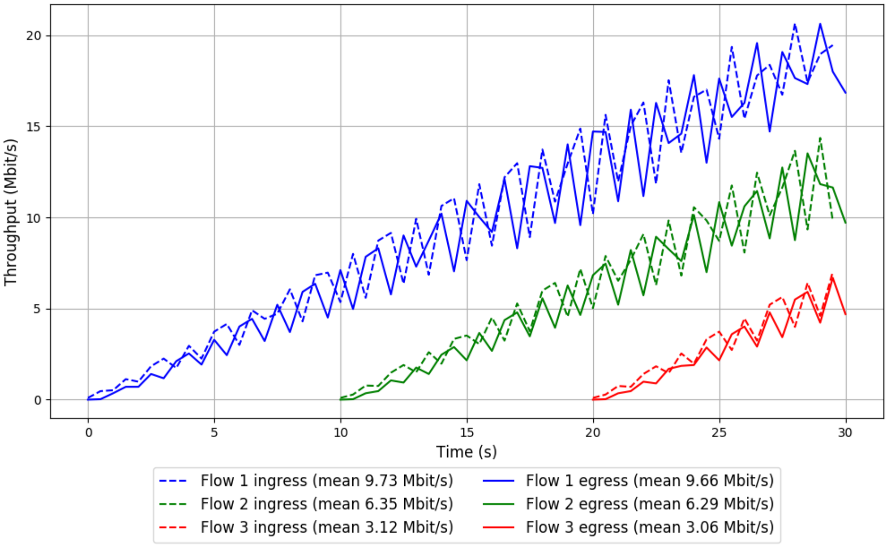


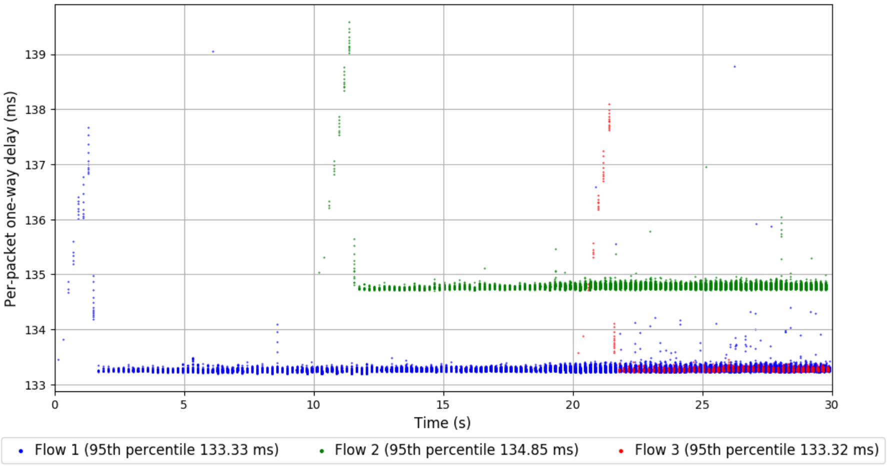
```
Run 3: Statistics of LEDBAT

Start at: 2018-08-22 20:25:59
End at: 2018-08-22 20:26:29
Local clock offset: -1.07 ms
Remote clock offset: -37.698 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 134.810 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 133.333 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 134.846 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 133.324 ms
Loss rate: 3.94%
```

Run 3: Report of LEDBAT — Data Link



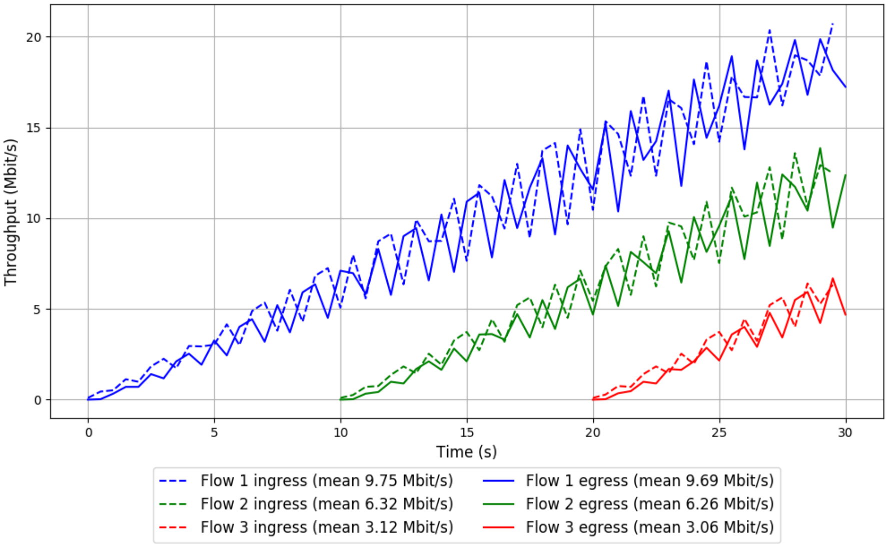


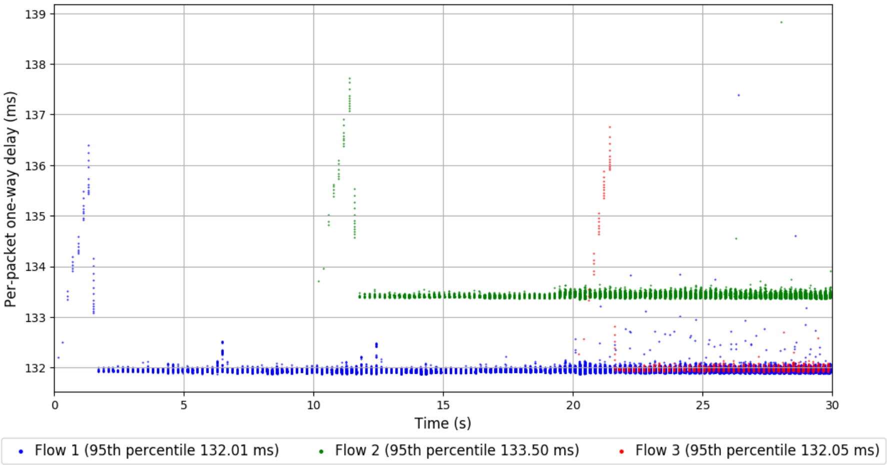
```
Run 4: Statistics of LEDBAT

Start at: 2018-08-22 20:56:12
End at: 2018-08-22 20:56:42
Local clock offset: 1.543 ms
Remote clock offset: -35.245 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 133.464 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 132.014 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 6.26 Mbit/s
95th percentile per-packet one-way delay: 133.505 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 132.051 ms
Loss rate: 3.94%
```

Run 4: Report of LEDBAT — Data Link



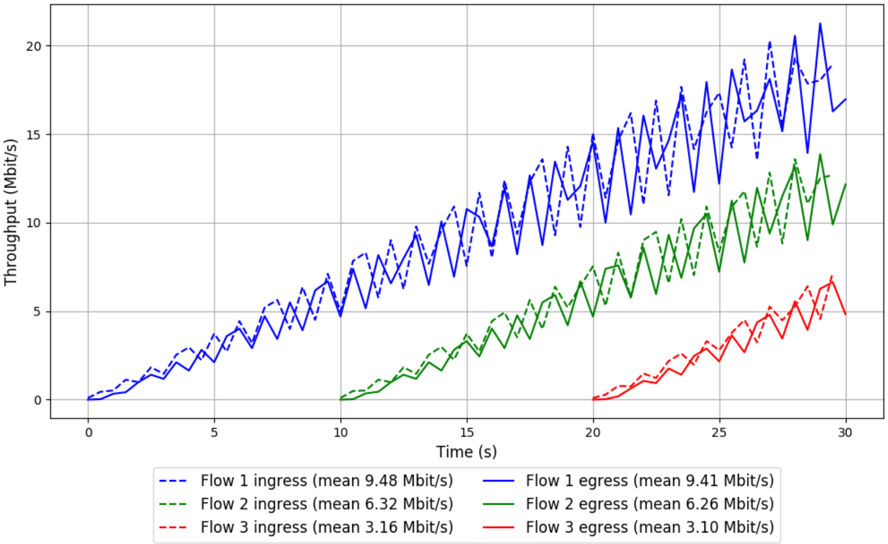


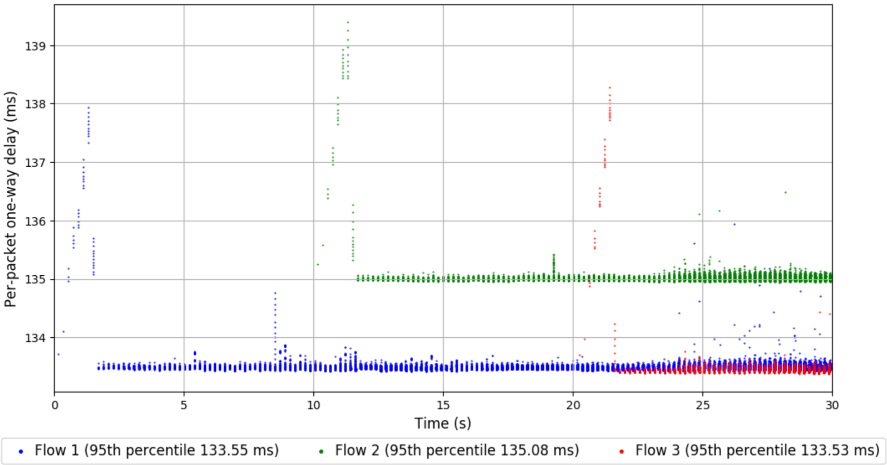
```
Run 5: Statistics of LEDBAT

Start at: 2018-08-22 21:26:09
End at: 2018-08-22 21:26:39
Local clock offset: 0.276 ms
Remote clock offset: -39.852 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.57 Mbit/s
95th percentile per-packet one-way delay: 135.039 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 133.552 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 6.26 Mbit/s
95th percentile per-packet one-way delay: 135.080 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 133.533 ms
Loss rate: 3.93%
```

# Run 5: Report of LEDBAT — Data Link



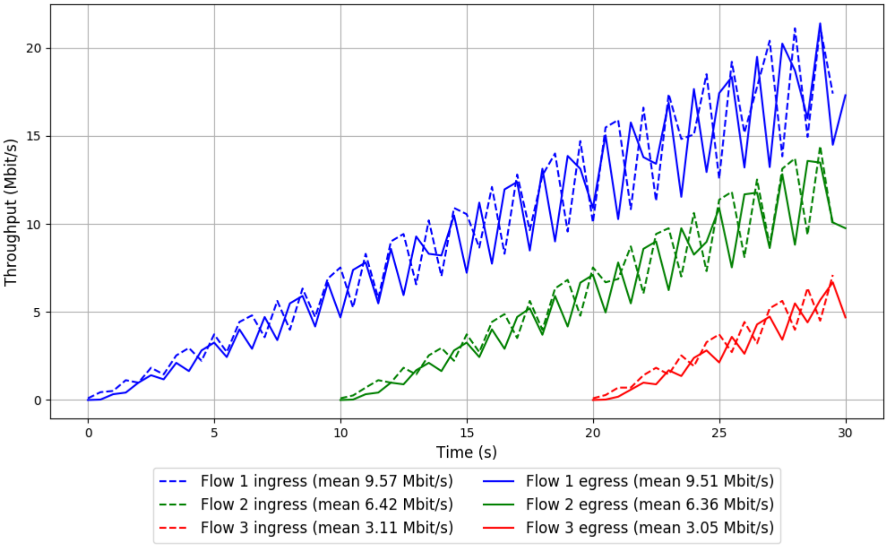


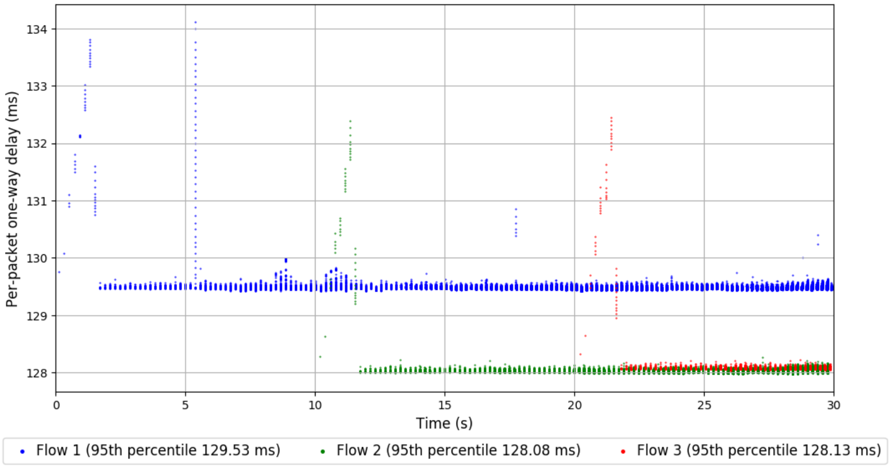
```
Run 6: Statistics of LEDBAT

Start at: 2018-08-22 21:55:48
End at: 2018-08-22 21:56:18
Local clock offset: 1.23 ms
Remote clock offset: -34.824 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 129.523 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 129.534 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 128.078 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 128.133 ms
Loss rate: 3.95%
```

## Run 6: Report of LEDBAT — Data Link



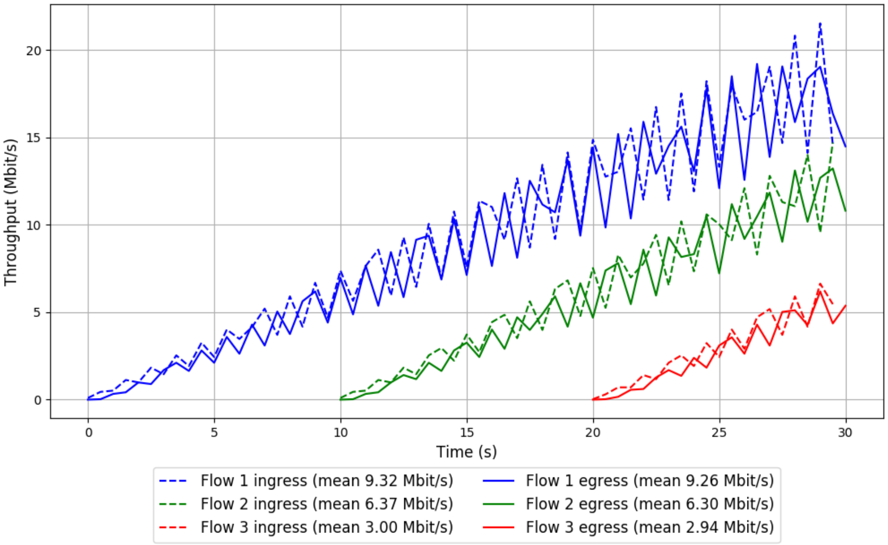


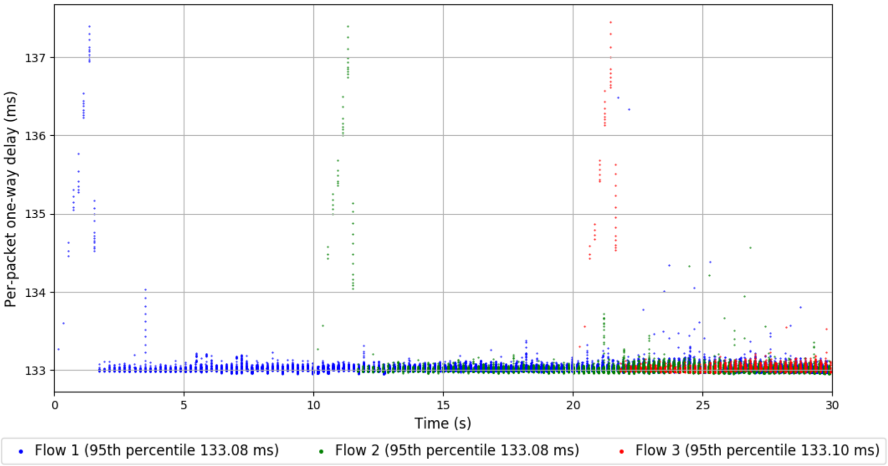
```
Run 7: Statistics of LEDBAT

Start at: 2018-08-22 22:25:48
End at: 2018-08-22 22:26:18
Local clock offset: 4.028 ms
Remote clock offset: -36.843 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.35 Mbit/s
95th percentile per-packet one-way delay: 133.082 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 133.081 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 6.30 Mbit/s
95th percentile per-packet one-way delay: 133.076 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 133.105 ms
Loss rate: 4.00%
```

## Run 7: Report of LEDBAT — Data Link



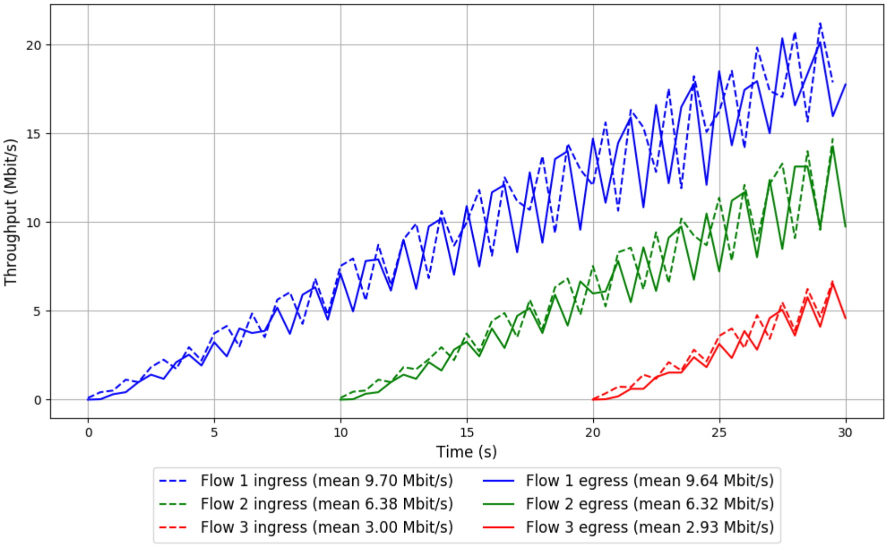


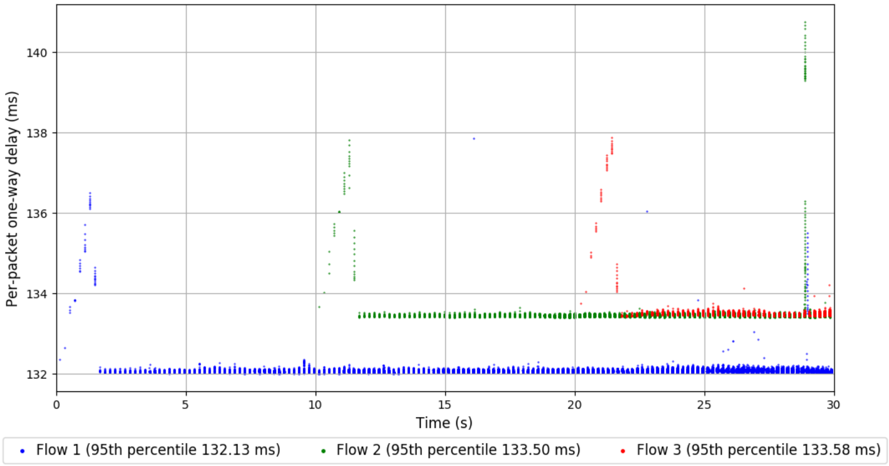
```
Run 8: Statistics of LEDBAT

Start at: 2018-08-22 23:07:22
End at: 2018-08-22 23:07:52
Local clock offset: 1.509 ms
Remote clock offset: -39.817 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.77 Mbit/s
95th percentile per-packet one-way delay: 133.492 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 132.128 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.32 Mbit/s
95th percentile per-packet one-way delay: 133.498 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 133.583 ms
Loss rate: 4.03%
```

Run 8: Report of LEDBAT — Data Link



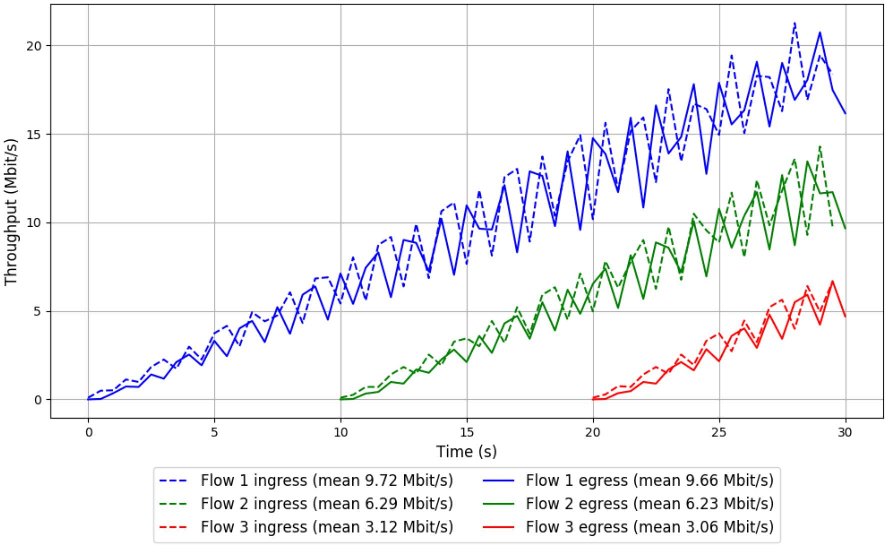


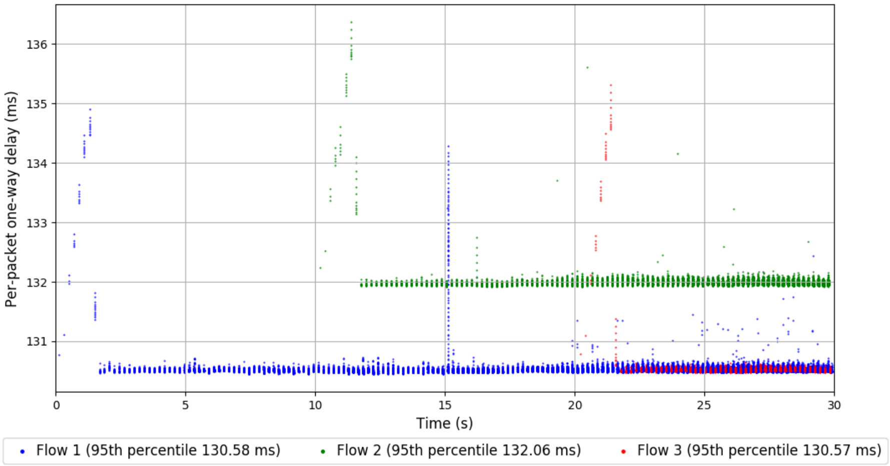
```
Run 9: Statistics of LEDBAT

Start at: 2018-08-22 23:37:34
End at: 2018-08-22 23:38:04
Local clock offset: 4.244 ms
Remote clock offset: -35.45 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 132.017 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 130.584 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 132.056 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 130.569 ms
Loss rate: 3.94%
```

Run 9: Report of LEDBAT — Data Link



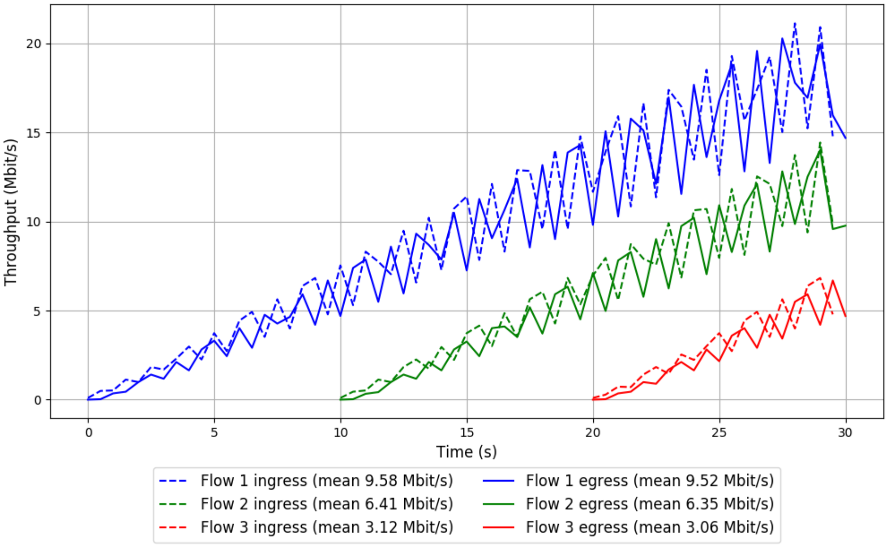


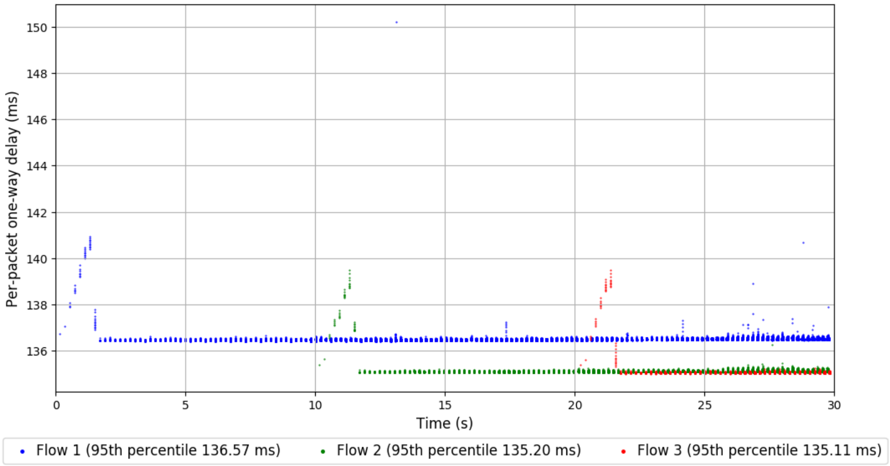
```
Run 10: Statistics of LEDBAT

Start at: 2018-08-23 00:07:35
End at: 2018-08-23 00:08:05
Local clock offset: 3.802 ms
Remote clock offset: -39.944 ms

# Below is generated by plot.py at 2018-08-23 00:59:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.69 Mbit/s
95th percentile per-packet one-way delay: 136.553 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 136.567 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 135.198 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 135.114 ms
Loss rate: 3.95%
```

Run 10: Report of LEDBAT — Data Link



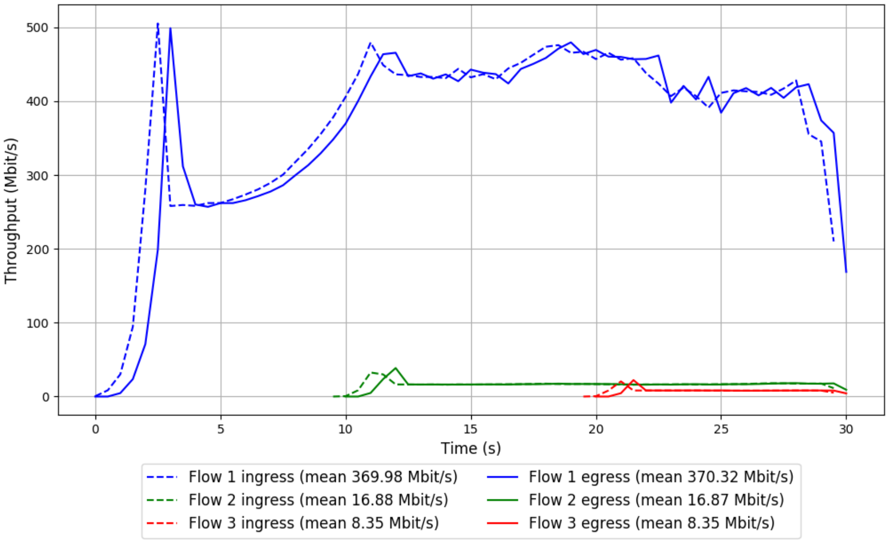


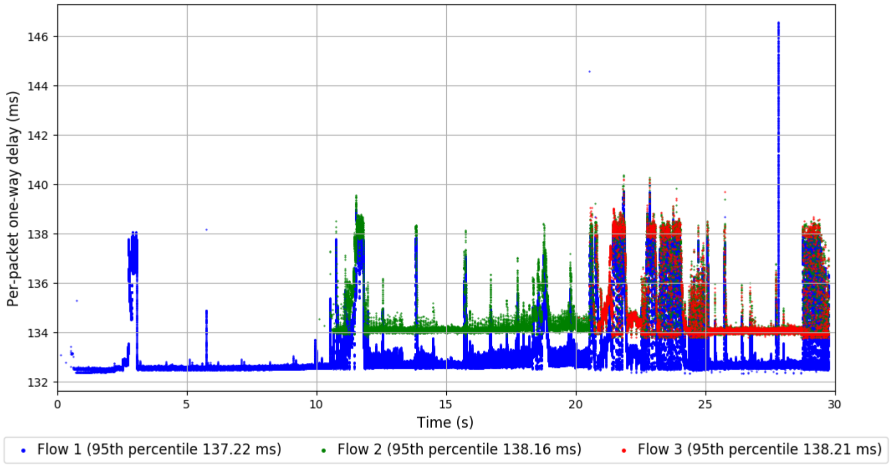
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-22 19:06:46
End at: 2018-08-22 19:07:16
Local clock offset: 0.002 ms
Remote clock offset: -38.788 ms

# Below is generated by plot.py at 2018-08-23 01:01:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.21 Mbit/s
95th percentile per-packet one-way delay: 137.273 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 370.32 Mbit/s
95th percentile per-packet one-way delay: 137.221 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 16.87 Mbit/s
95th percentile per-packet one-way delay: 138.156 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 138.212 ms
Loss rate: 1.93%
```

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



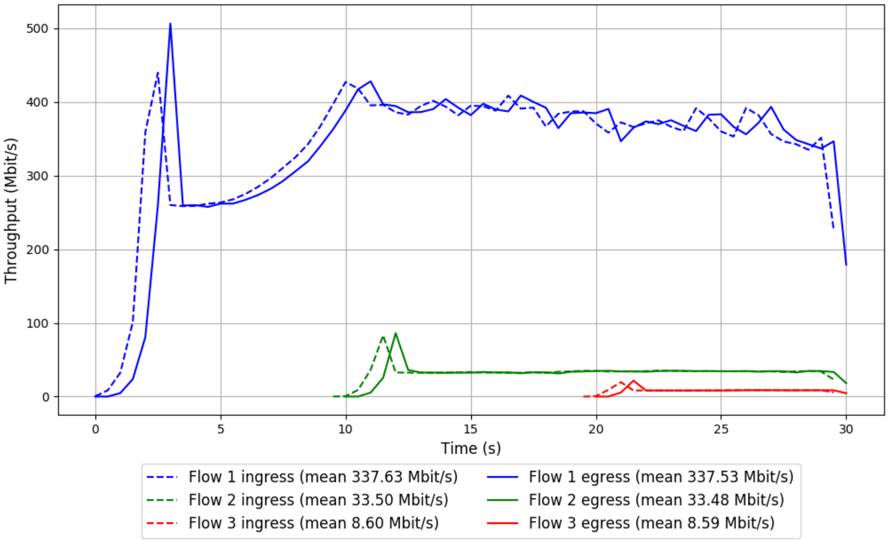


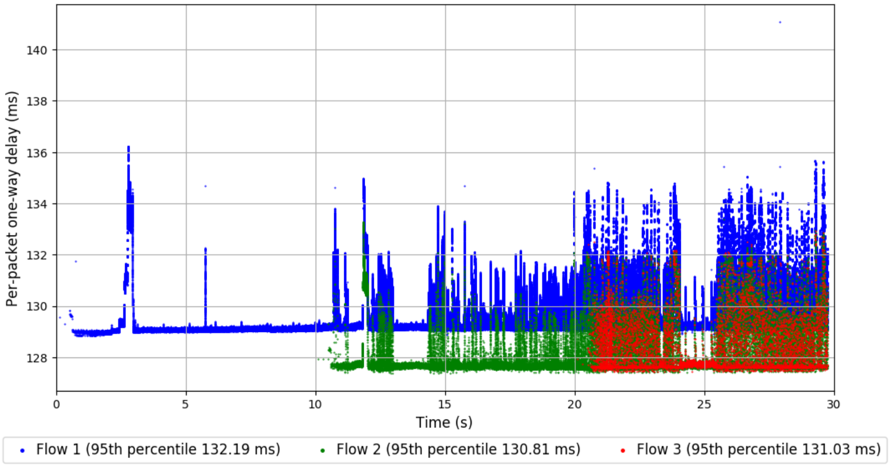
```
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-22 19:42:59
End at: 2018-08-22 19:43:29
Local clock offset: -0.864 ms
Remote clock offset: -33.879 ms

# Below is generated by plot.py at 2018-08-23 01:01:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.50 Mbit/s
95th percentile per-packet one-way delay: 132.093 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 337.53 Mbit/s
95th percentile per-packet one-way delay: 132.188 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 33.48 Mbit/s
95th percentile per-packet one-way delay: 130.809 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 131.027 ms
Loss rate: 2.00%
```

Run 2: Report of PCC-Allegro — Data Link



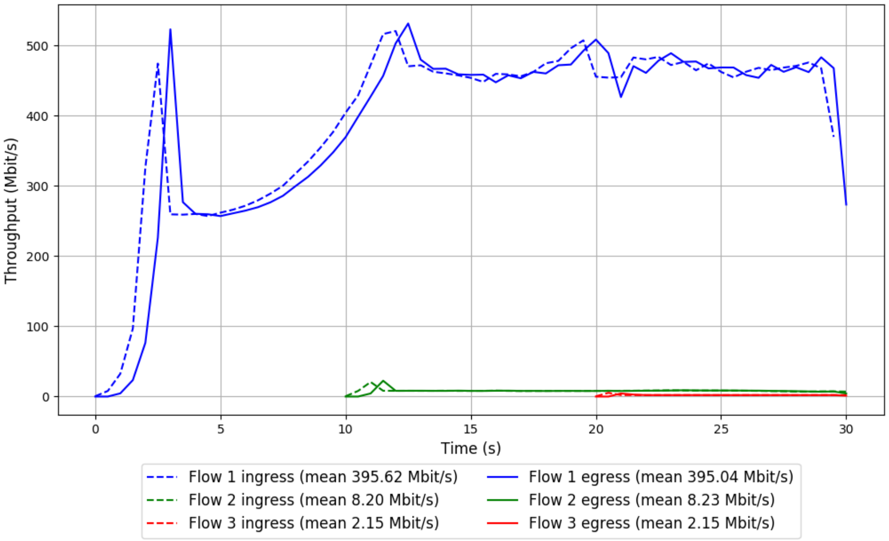


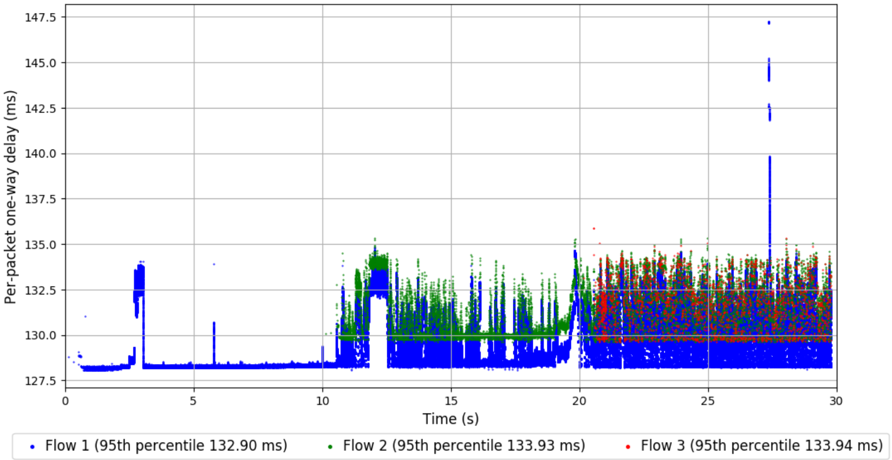
```
Run 3: Statistics of PCC-Allegro

Start at: 2018-08-22 20:18:38
End at: 2018-08-22 20:19:08
Local clock offset: -0.976 ms
Remote clock offset: -32.919 ms

# Below is generated by plot.py at 2018-08-23 01:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.20 Mbit/s
95th percentile per-packet one-way delay: 132.942 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 395.04 Mbit/s
95th percentile per-packet one-way delay: 132.902 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 133.931 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 133.942 ms
Loss rate: 7.67%
```

Run 3: Report of PCC-Allegro — Data Link



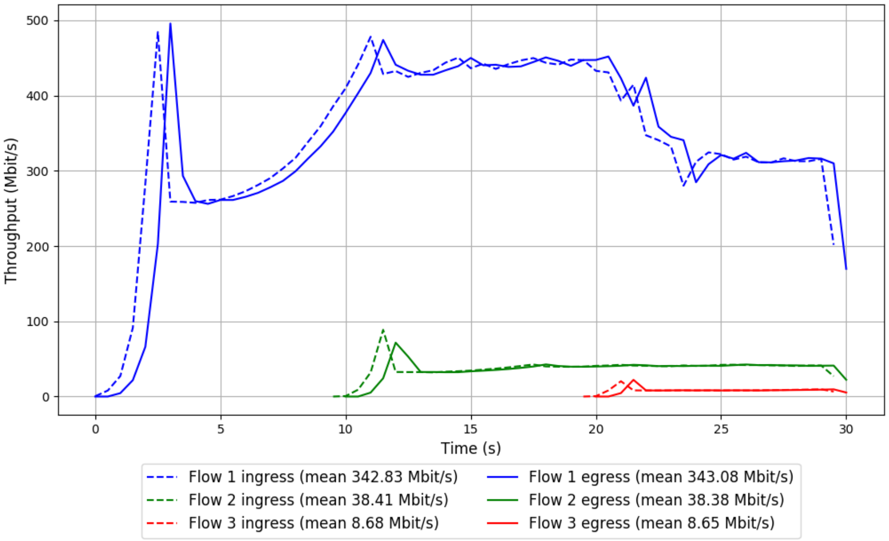


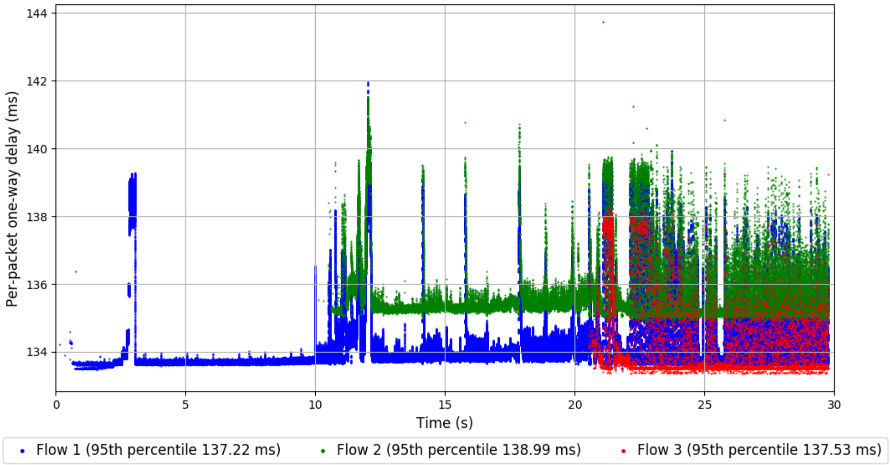
```
Run 4: Statistics of PCC-Allegro

Start at: 2018-08-22 20:48:45
End at: 2018-08-22 20:49:15
Local clock offset: -0.331 ms
Remote clock offset: -38.486 ms

# Below is generated by plot.py at 2018-08-23 01:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.28 Mbit/s
95th percentile per-packet one-way delay: 137.420 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 343.08 Mbit/s
95th percentile per-packet one-way delay: 137.217 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 38.38 Mbit/s
95th percentile per-packet one-way delay: 138.992 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 8.65 Mbit/s
95th percentile per-packet one-way delay: 137.525 ms
Loss rate: 2.28%
```

## Run 4: Report of PCC-Allegro — Data Link



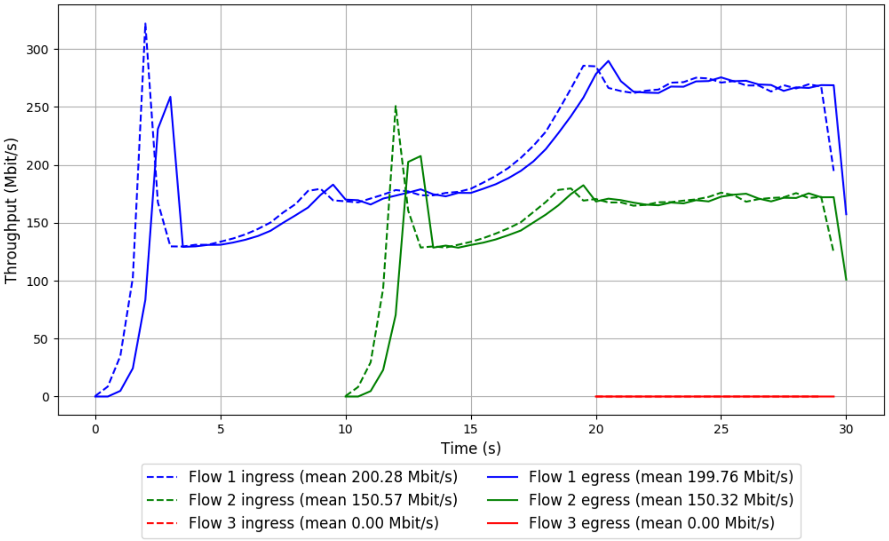


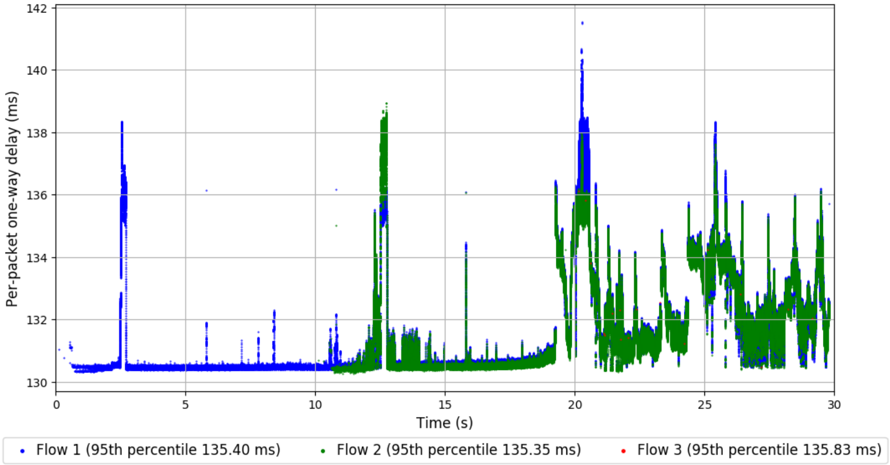
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-08-22 21:18:52
End at: 2018-08-22 21:19:22
Local clock offset: -0.099 ms
Remote clock offset: -36.835 ms

# Below is generated by plot.py at 2018-08-23 01:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.39 Mbit/s
95th percentile per-packet one-way delay: 135.371 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 199.76 Mbit/s
95th percentile per-packet one-way delay: 135.395 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 150.32 Mbit/s
95th percentile per-packet one-way delay: 135.349 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 135.828 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Allegro — Data Link



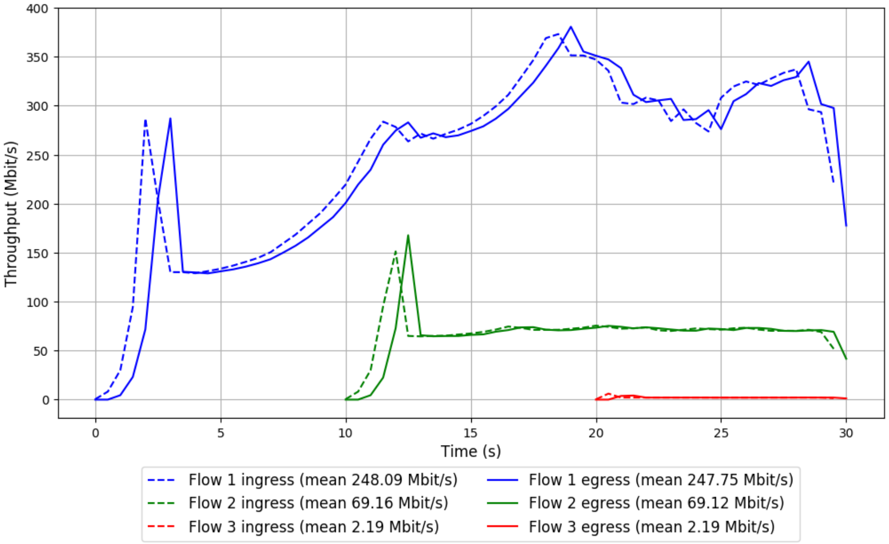


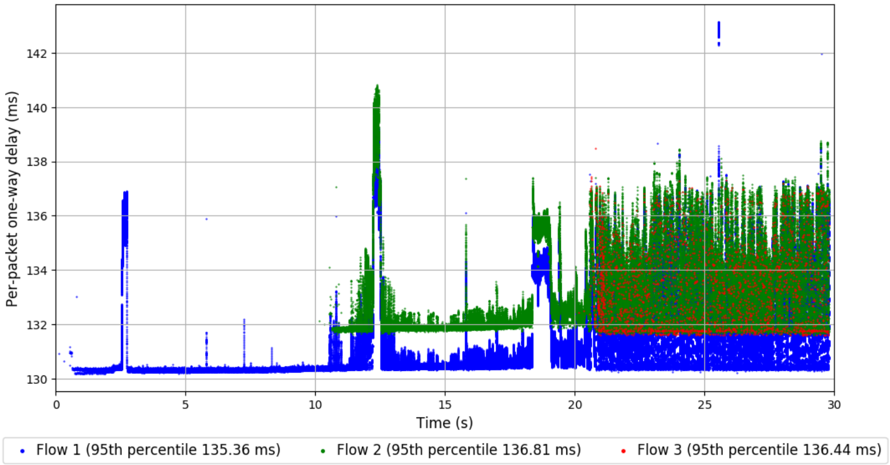
```
Run 6: Statistics of PCC-Allegro

Start at: 2018-08-22 21:48:29
End at: 2018-08-22 21:48:59
Local clock offset: 0.68 ms
Remote clock offset: -37.359 ms

# Below is generated by plot.py at 2018-08-23 01:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.23 Mbit/s
95th percentile per-packet one-way delay: 135.721 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 247.75 Mbit/s
95th percentile per-packet one-way delay: 135.363 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 69.12 Mbit/s
95th percentile per-packet one-way delay: 136.812 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 136.439 ms
Loss rate: 1.99%
```

Run 6: Report of PCC-Allegro — Data Link



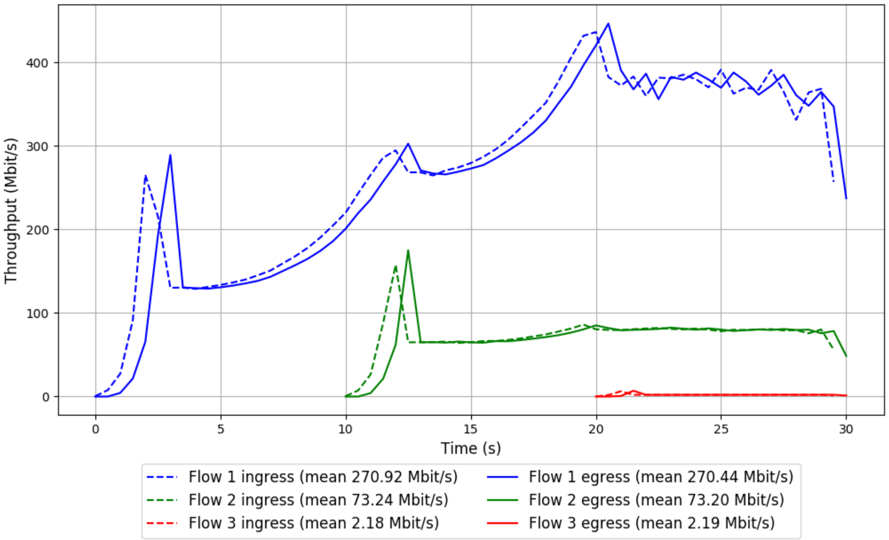


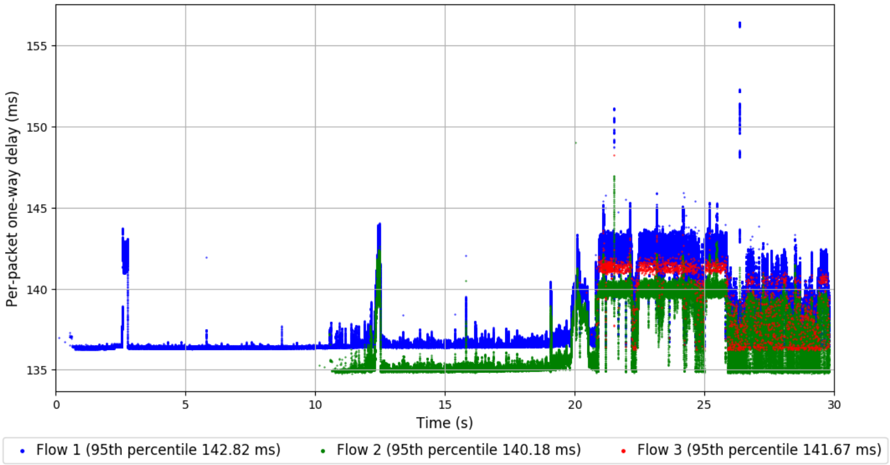
```
Run 7: Statistics of PCC-Allegro

Start at: 2018-08-22 22:18:24
End at: 2018-08-22 22:18:54
Local clock offset: 4.142 ms
Remote clock offset: -39.868 ms

# Below is generated by plot.py at 2018-08-23 01:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.63 Mbit/s
95th percentile per-packet one-way delay: 142.749 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 270.44 Mbit/s
95th percentile per-packet one-way delay: 142.825 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 73.20 Mbit/s
95th percentile per-packet one-way delay: 140.183 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 141.671 ms
Loss rate: 1.83%
```

## Run 7: Report of PCC-Allegro — Data Link



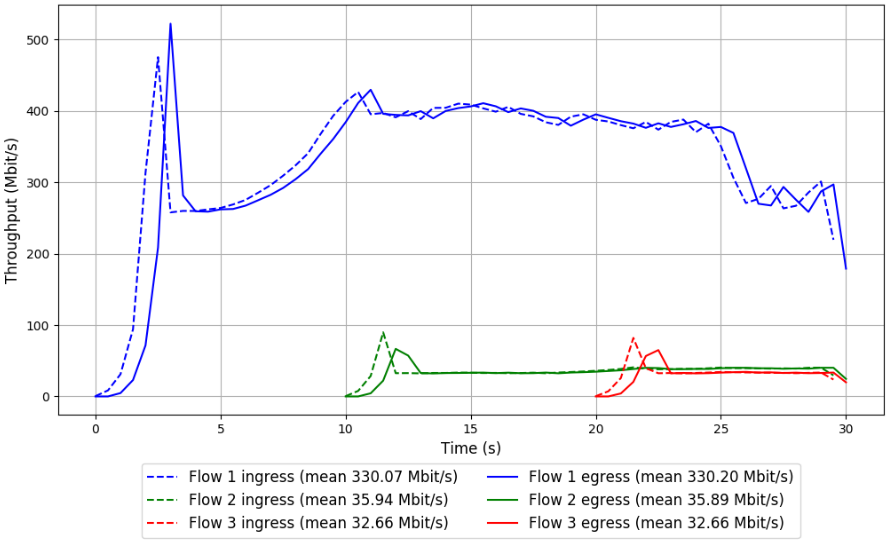


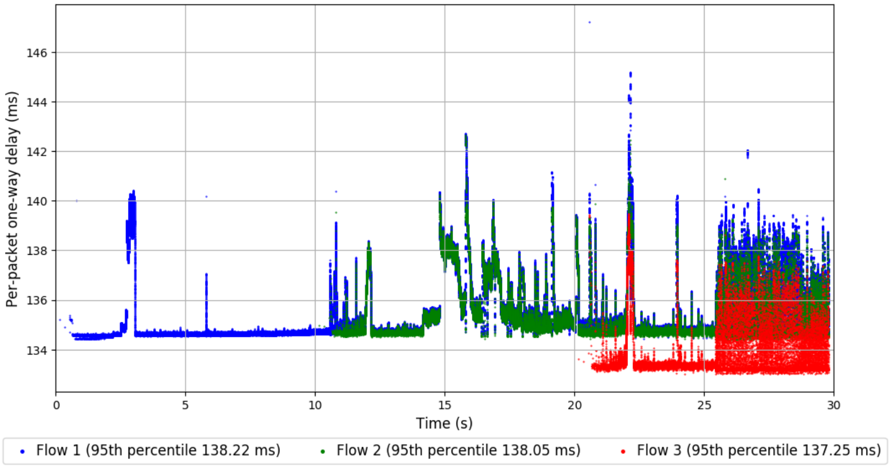
```
Run 8: Statistics of PCC-Allegro

Start at: 2018-08-22 22:48:40
End at: 2018-08-22 22:49:10
Local clock offset: 2.15 ms
Remote clock offset: -40.039 ms

# Below is generated by plot.py at 2018-08-23 01:04:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 364.57 Mbit/s
95th percentile per-packet one-way delay: 138.184 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 330.20 Mbit/s
95th percentile per-packet one-way delay: 138.223 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 35.89 Mbit/s
95th percentile per-packet one-way delay: 138.051 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 32.66 Mbit/s
95th percentile per-packet one-way delay: 137.247 ms
Loss rate: 1.99%
```

## Run 8: Report of PCC-Allegro — Data Link



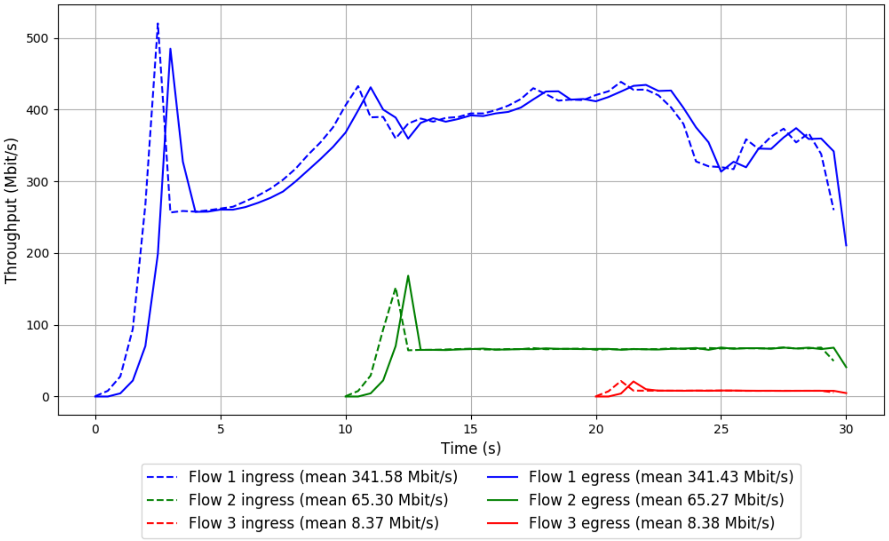


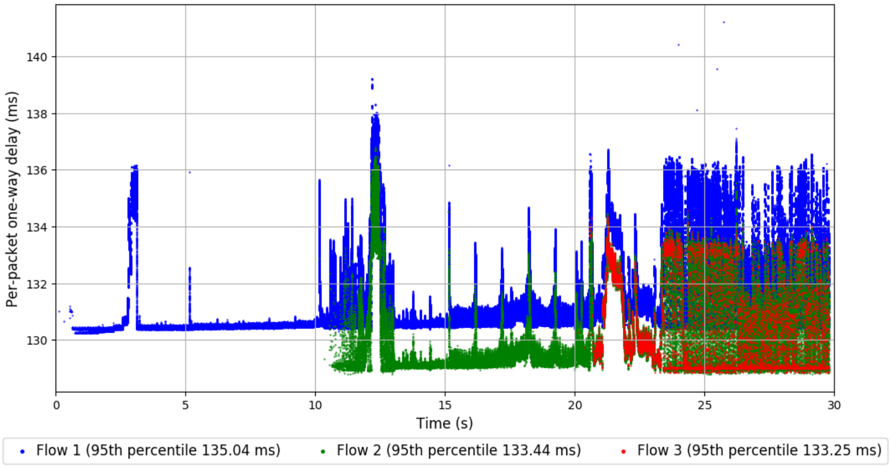
```
Run 9: Statistics of PCC-Allegro

Start at: 2018-08-22 23:24:33
End at: 2018-08-22 23:25:03
Local clock offset: 1.214 ms
Remote clock offset: -36.933 ms

# Below is generated by plot.py at 2018-08-23 01:05:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.38 Mbit/s
95th percentile per-packet one-way delay: 134.956 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 341.43 Mbit/s
95th percentile per-packet one-way delay: 135.039 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 133.444 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 133.250 ms
Loss rate: 1.86%
```

Run 9: Report of PCC-Allegro — Data Link



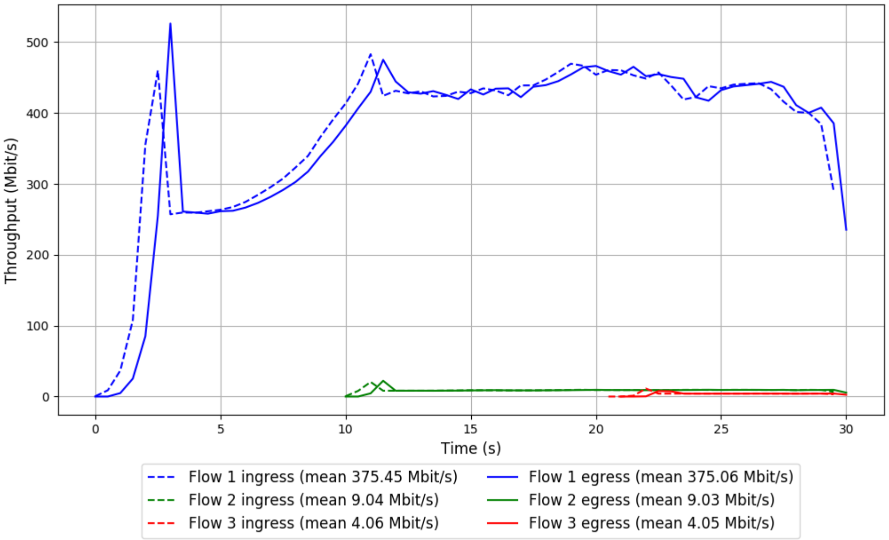


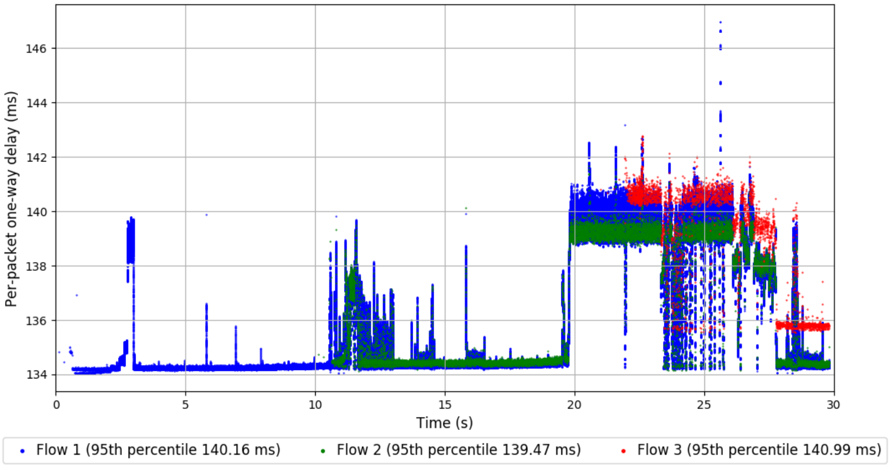
```
Run 10: Statistics of PCC-Allegro

Start at: 2018-08-23 00:00:06
End at: 2018-08-23 00:00:36
Local clock offset: 3.52 ms
Remote clock offset: -39.622 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.24 Mbit/s
95th percentile per-packet one-way delay: 140.168 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 375.06 Mbit/s
95th percentile per-packet one-way delay: 140.164 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 9.03 Mbit/s
95th percentile per-packet one-way delay: 139.466 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 140.992 ms
Loss rate: 2.42%
```

Run 10: Report of PCC-Allegro — Data Link



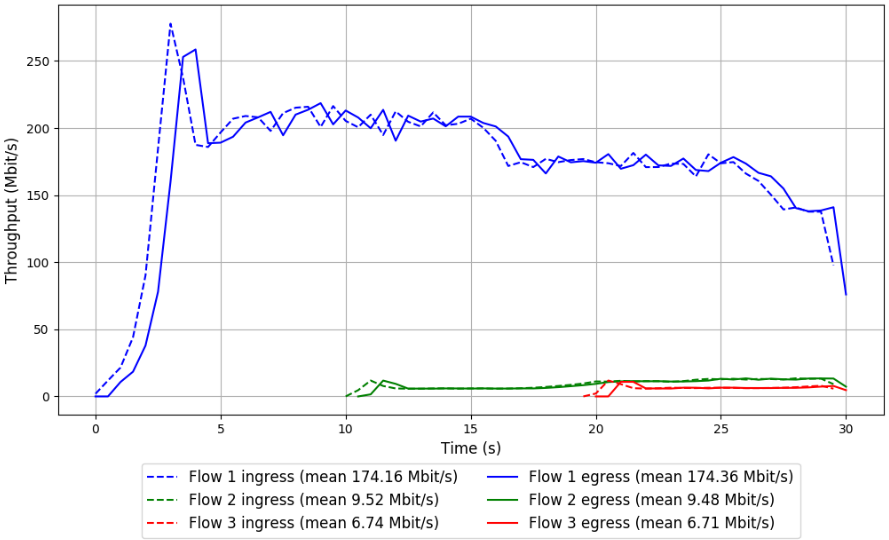


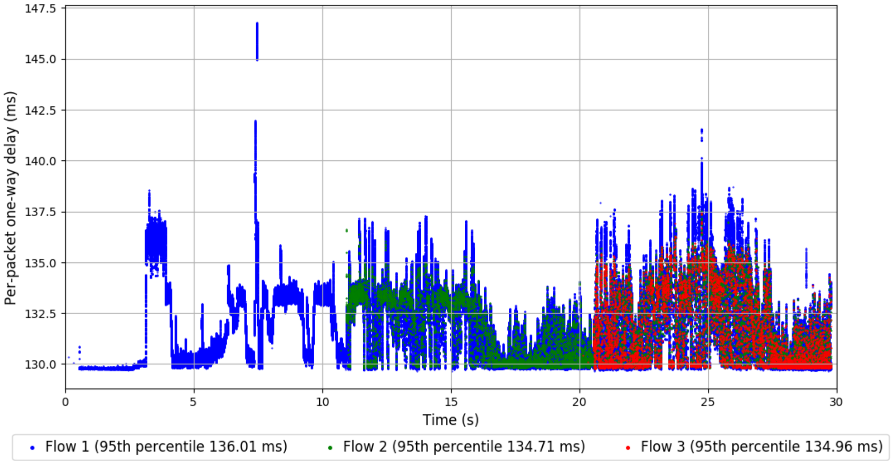
```
Run 1: Statistics of PCC-Expr

Start at: 2018-08-22 19:23:53
End at: 2018-08-22 19:24:23
Local clock offset: -0.981 ms
Remote clock offset: -37.259 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.70 Mbit/s
95th percentile per-packet one-way delay: 135.970 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 174.36 Mbit/s
95th percentile per-packet one-way delay: 136.010 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 134.712 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 134.963 ms
Loss rate: 2.44%
```

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



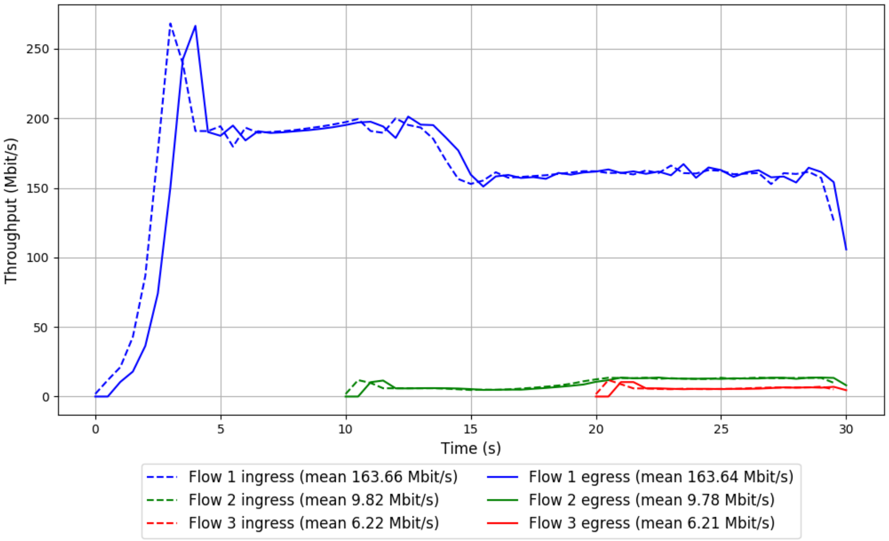


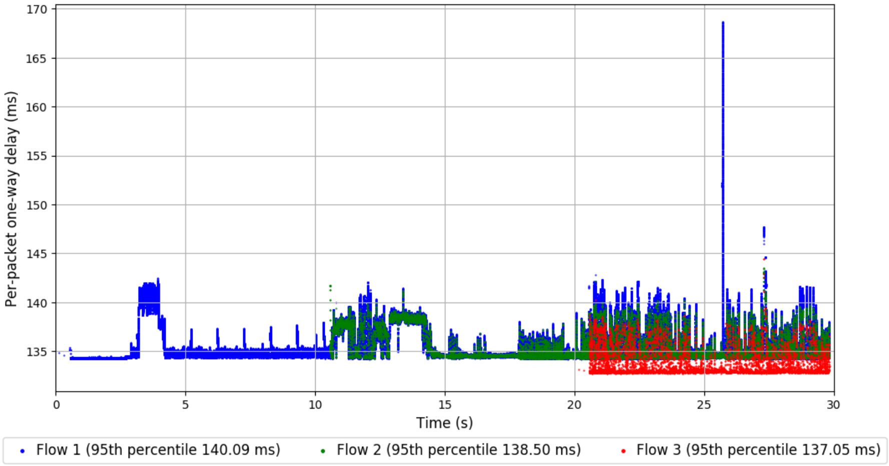
```
Run 2: Statistics of PCC-Expr

Start at: 2018-08-22 20:11:13
End at: 2018-08-22 20:11:43
Local clock offset: 0.624 ms
Remote clock offset: -36.124 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.15 Mbit/s
95th percentile per-packet one-way delay: 139.991 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 163.64 Mbit/s
95th percentile per-packet one-way delay: 140.085 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 9.78 Mbit/s
95th percentile per-packet one-way delay: 138.496 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 137.049 ms
Loss rate: 2.07%
```

Run 2: Report of PCC-Expr — Data Link



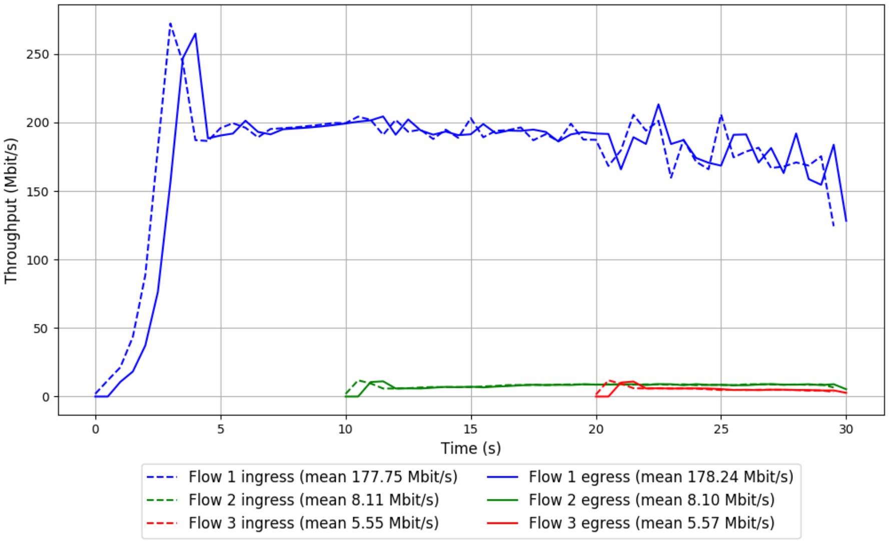


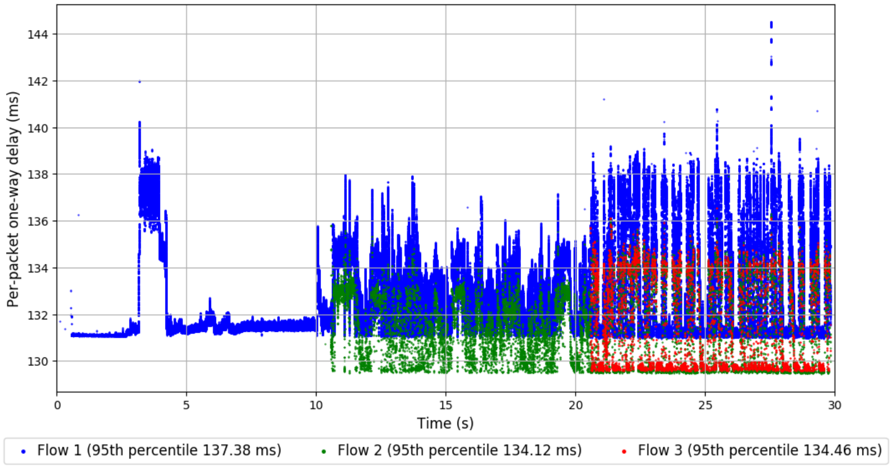
```
Run 3: Statistics of PCC-Expr

Start at: 2018-08-22 20:41:11
End at: 2018-08-22 20:41:41
Local clock offset: 0.92 ms
Remote clock offset: -32.678 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 185.41 Mbit/s
95th percentile per-packet one-way delay: 137.361 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 178.24 Mbit/s
95th percentile per-packet one-way delay: 137.383 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 134.115 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 134.455 ms
Loss rate: 1.60%
```

## Run 3: Report of PCC-Expr — Data Link



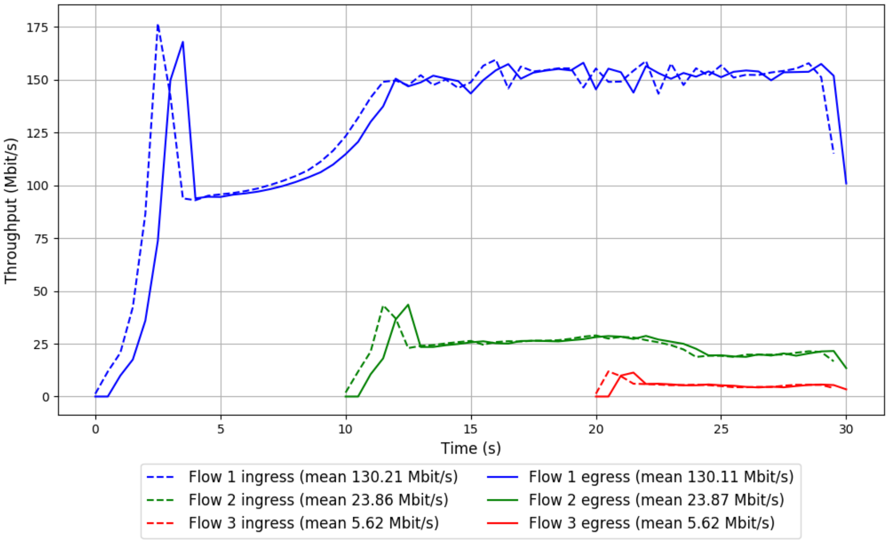


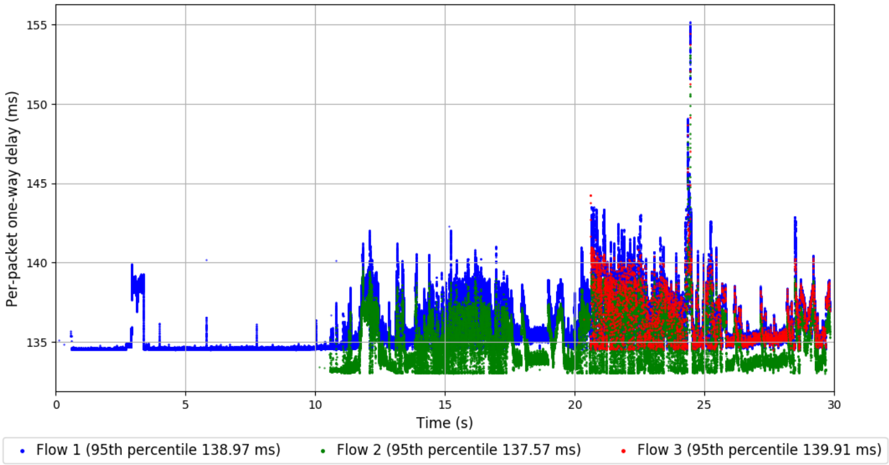
```
Run 4: Statistics of PCC-Expr

Start at: 2018-08-22 21:11:31
End at: 2018-08-22 21:12:01
Local clock offset: 0.19 ms
Remote clock offset: -38.791 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.76 Mbit/s
95th percentile per-packet one-way delay: 138.891 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 130.11 Mbit/s
95th percentile per-packet one-way delay: 138.971 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 23.87 Mbit/s
95th percentile per-packet one-way delay: 137.574 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 139.907 ms
Loss rate: 1.90%
```

# Run 4: Report of PCC-Expr — Data Link



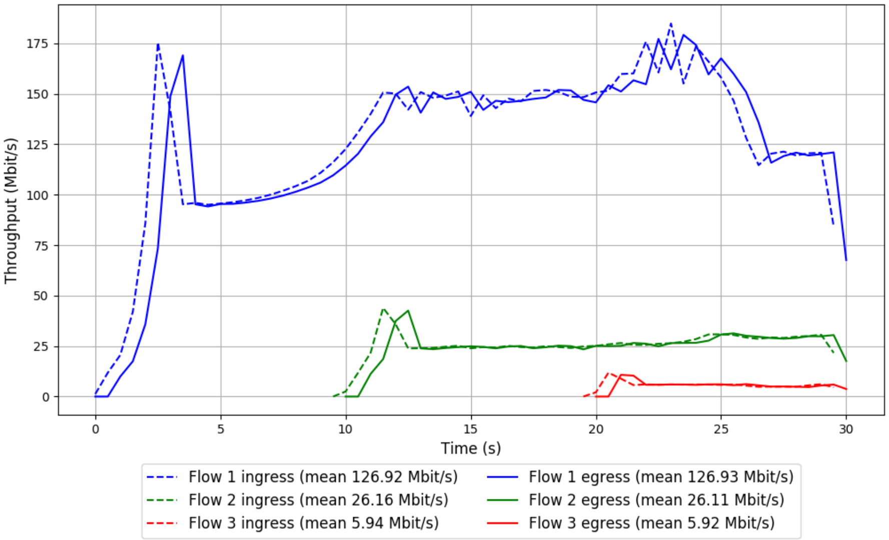


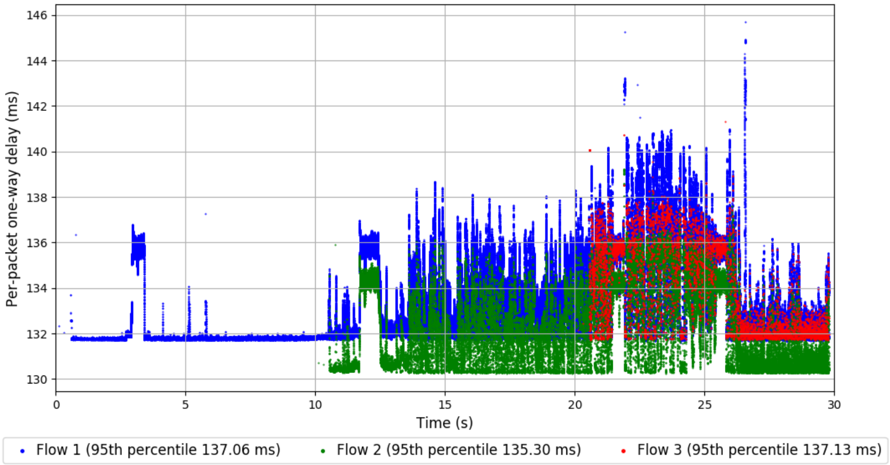
```
Run 5: Statistics of PCC-Expr

Start at: 2018-08-22 21:41:22
End at: 2018-08-22 21:41:52
Local clock offset: 1.467 ms
Remote clock offset: -36.344 ms

# Below is generated by plot.py at 2018-08-23 01:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.19 Mbit/s
95th percentile per-packet one-way delay: 136.842 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 126.93 Mbit/s
95th percentile per-packet one-way delay: 137.057 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 26.11 Mbit/s
95th percentile per-packet one-way delay: 135.304 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 137.128 ms
Loss rate: 2.21%
```

Run 5: Report of PCC-Expr — Data Link



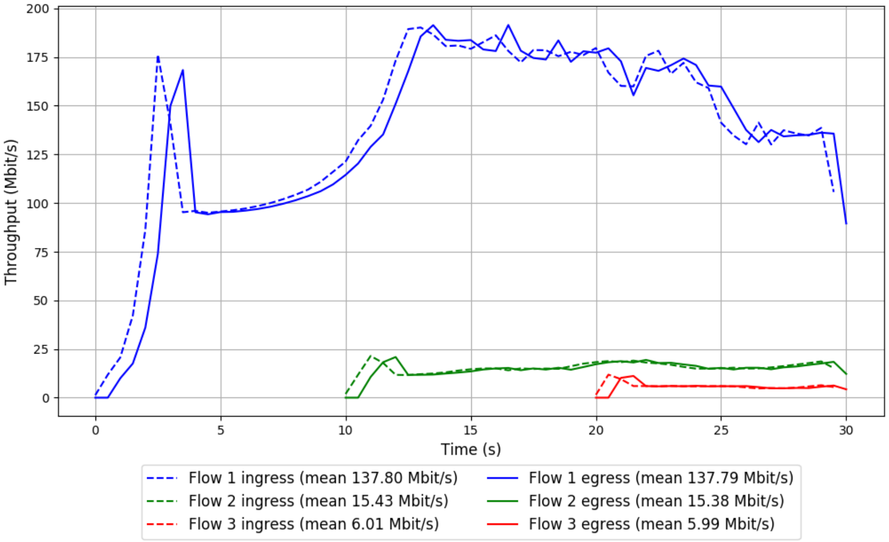


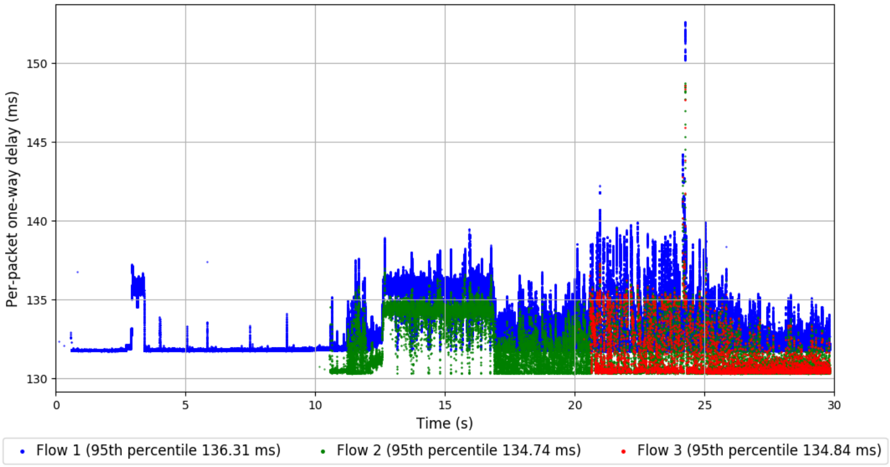
```
Run 6: Statistics of PCC-Expr

Start at: 2018-08-22 22:05:29
End at: 2018-08-22 22:05:59
Local clock offset: 3.88 ms
Remote clock offset: -34.694 ms

# Below is generated by plot.py at 2018-08-23 01:07:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.94 Mbit/s
95th percentile per-packet one-way delay: 136.254 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 137.79 Mbit/s
95th percentile per-packet one-way delay: 136.307 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 15.38 Mbit/s
95th percentile per-packet one-way delay: 134.739 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 5.99 Mbit/s
95th percentile per-packet one-way delay: 134.842 ms
Loss rate: 2.43%
```

Run 6: Report of PCC-Expr — Data Link



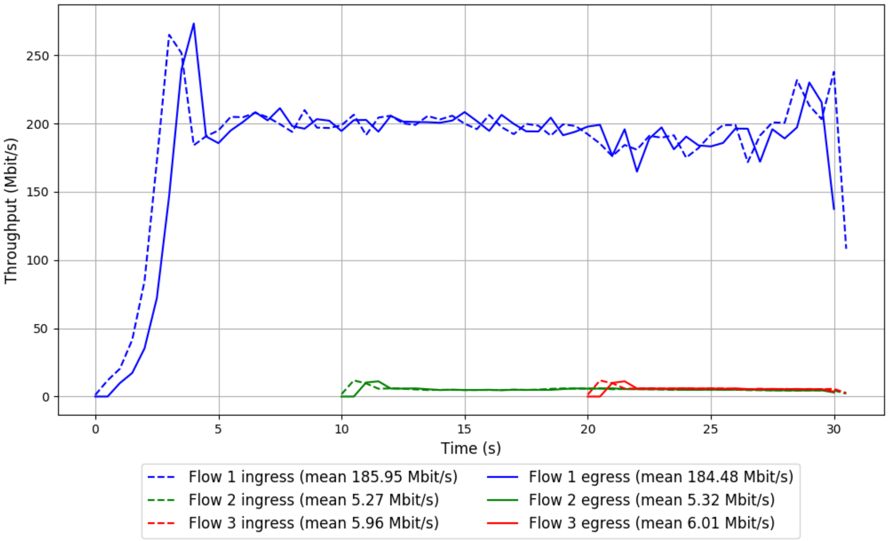


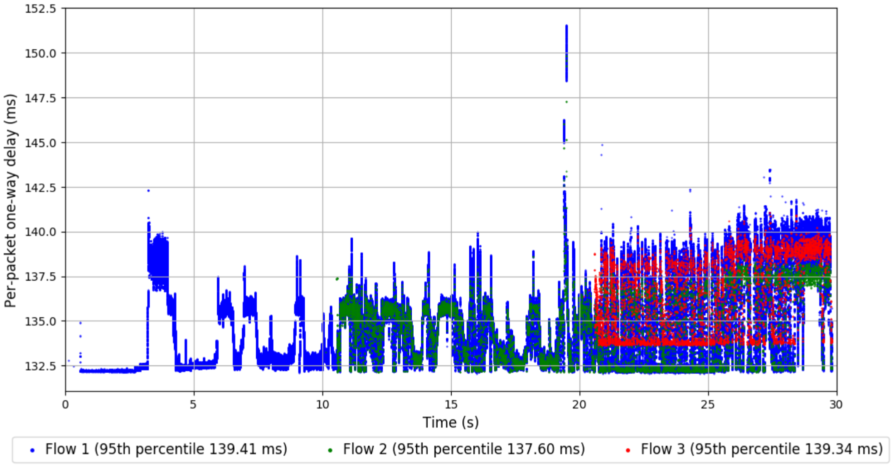
```
Run 7: Statistics of PCC-Expr

Start at: 2018-08-22 22:35:32
End at: 2018-08-22 22:36:02
Local clock offset: 4.261 ms
Remote clock offset: -37.395 ms

# Below is generated by plot.py at 2018-08-23 01:08:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.95 Mbit/s
95th percentile per-packet one-way delay: 139.401 ms
Loss rate: 4.21%
-- Flow 1:
Average throughput: 184.48 Mbit/s
95th percentile per-packet one-way delay: 139.415 ms
Loss rate: 4.16%
-- Flow 2:
Average throughput: 5.32 Mbit/s
95th percentile per-packet one-way delay: 137.600 ms
Loss rate: 4.28%
-- Flow 3:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 139.341 ms
Loss rate: 9.10%
```

## Run 7: Report of PCC-Expr — Data Link



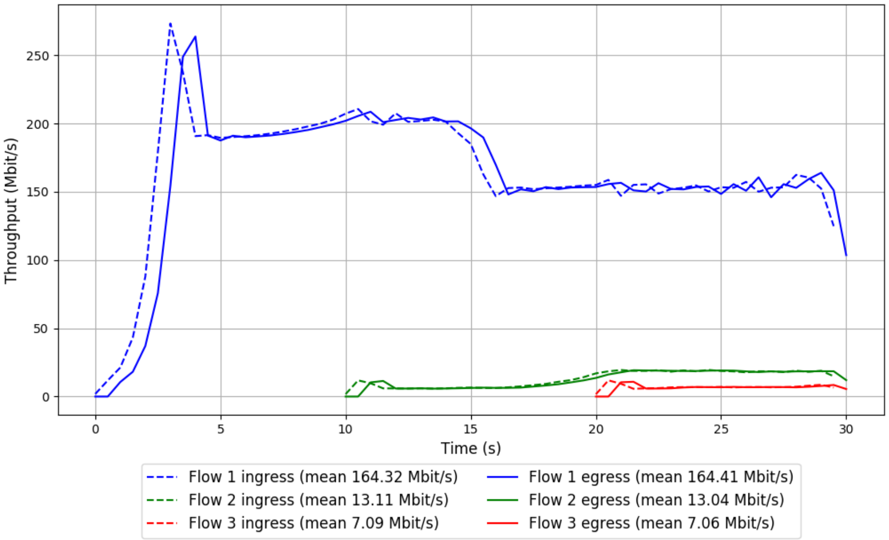


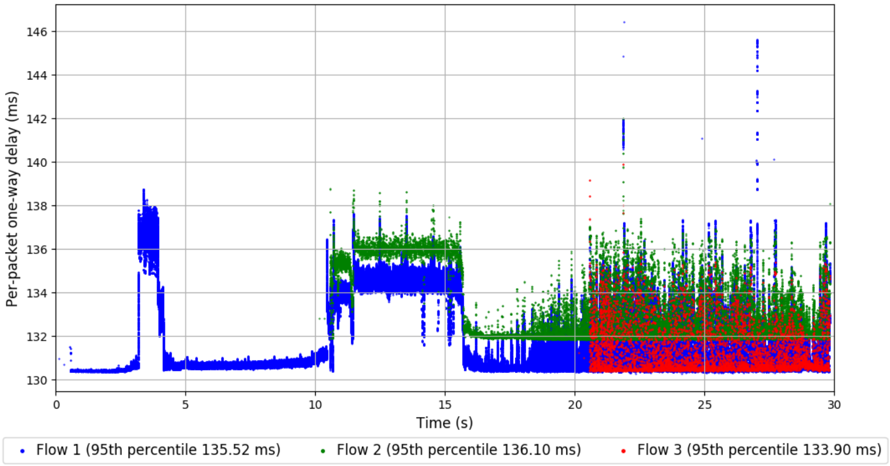
```
Run 8: Statistics of PCC-Expr

Start at: 2018-08-22 23:17:06
End at: 2018-08-22 23:17:36
Local clock offset: 3.839 ms
Remote clock offset: -35.807 ms

# Below is generated by plot.py at 2018-08-23 01:08:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.33 Mbit/s
95th percentile per-packet one-way delay: 135.725 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 164.41 Mbit/s
95th percentile per-packet one-way delay: 135.522 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 136.097 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 7.06 Mbit/s
95th percentile per-packet one-way delay: 133.904 ms
Loss rate: 2.41%
```

Run 8: Report of PCC-Expr — Data Link



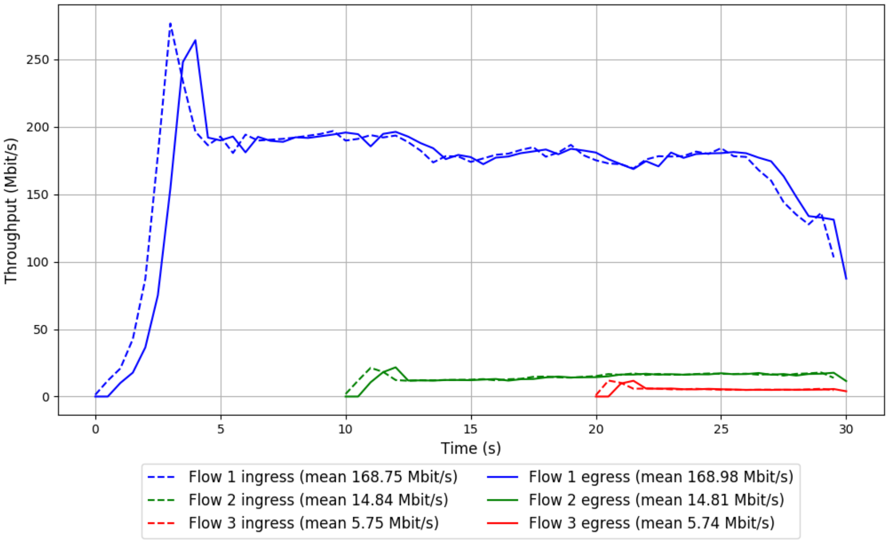


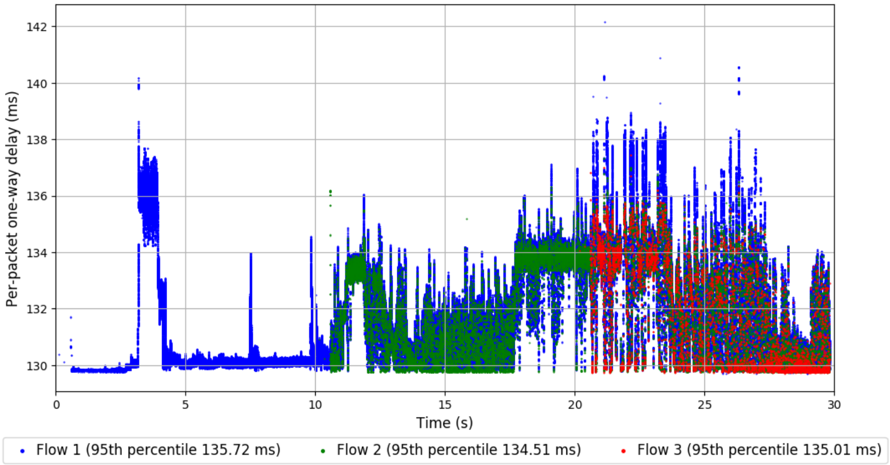
```
Run 9: Statistics of PCC-Expr

Start at: 2018-08-22 23:47:18
End at: 2018-08-22 23:47:48
Local clock offset: 2.142 ms
Remote clock offset: -36.561 ms

# Below is generated by plot.py at 2018-08-23 01:09:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.65 Mbit/s
95th percentile per-packet one-way delay: 135.639 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 168.98 Mbit/s
95th percentile per-packet one-way delay: 135.717 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 14.81 Mbit/s
95th percentile per-packet one-way delay: 134.515 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 5.74 Mbit/s
95th percentile per-packet one-way delay: 135.009 ms
Loss rate: 2.18%
```

Run 9: Report of PCC-Expr — Data Link



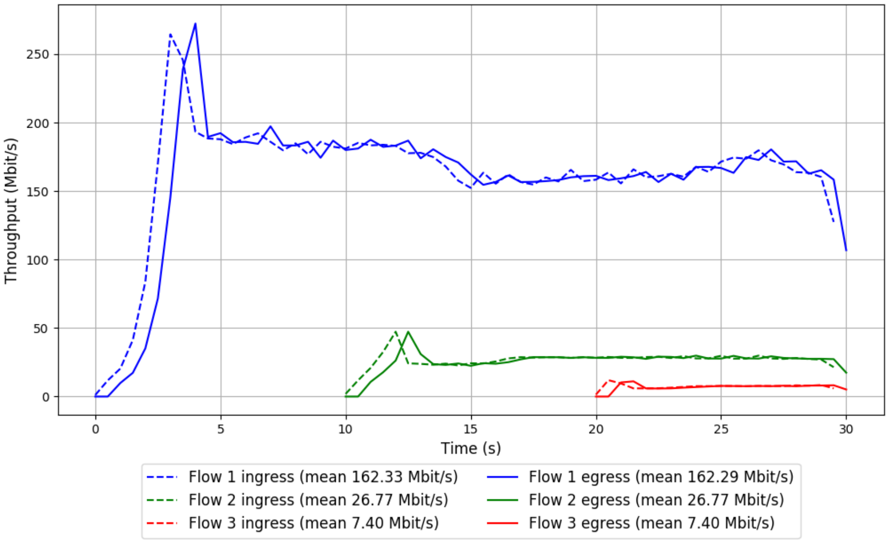


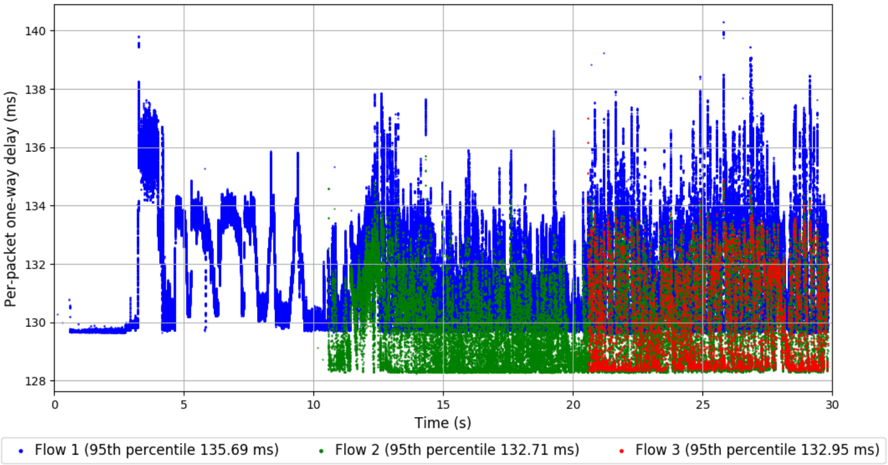
```
Run 10: Statistics of PCC-Expr

Start at: 2018-08-23 00:27:56
End at: 2018-08-23 00:28:26
Local clock offset: 1.037 ms
Remote clock offset: -35.19 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.44 Mbit/s
95th percentile per-packet one-way delay: 135.525 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 162.29 Mbit/s
95th percentile per-packet one-way delay: 135.686 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 26.77 Mbit/s
95th percentile per-packet one-way delay: 132.706 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 132.948 ms
Loss rate: 2.07%
```

## Run 10: Report of PCC-Expr — Data Link



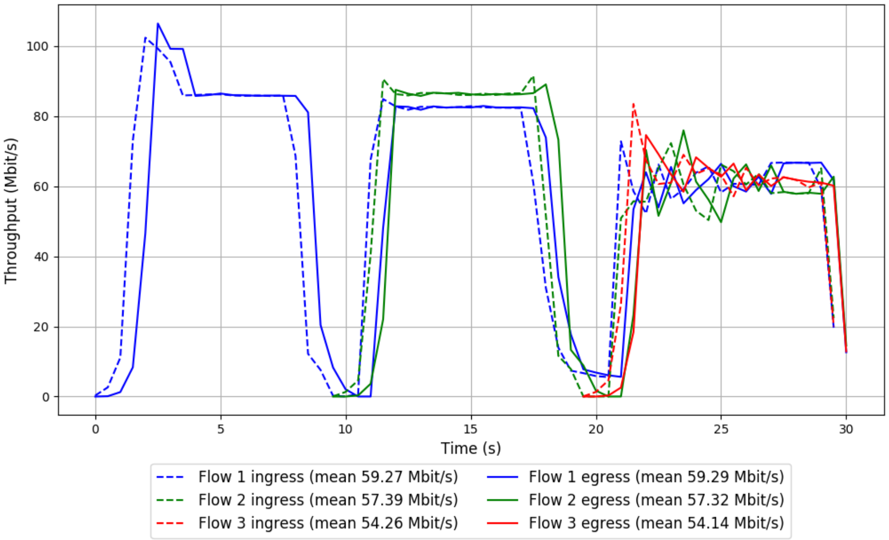


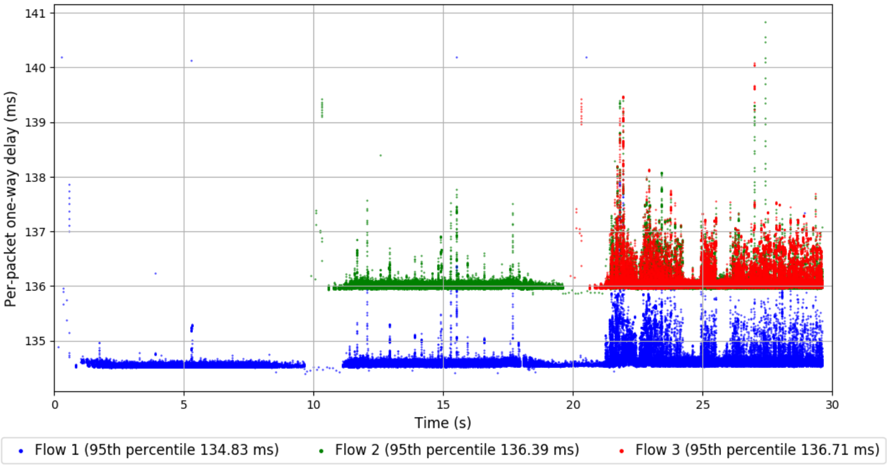
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-22 19:16:59
End at: 2018-08-22 19:17:29
Local clock offset: 2.179 ms
Remote clock offset: -38.892 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.46 Mbit/s
95th percentile per-packet one-way delay: 136.304 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 134.830 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 57.32 Mbit/s
95th percentile per-packet one-way delay: 136.390 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 54.14 Mbit/s
95th percentile per-packet one-way delay: 136.705 ms
Loss rate: 2.23%
```

Run 1: Report of QUIC Cubic — Data Link



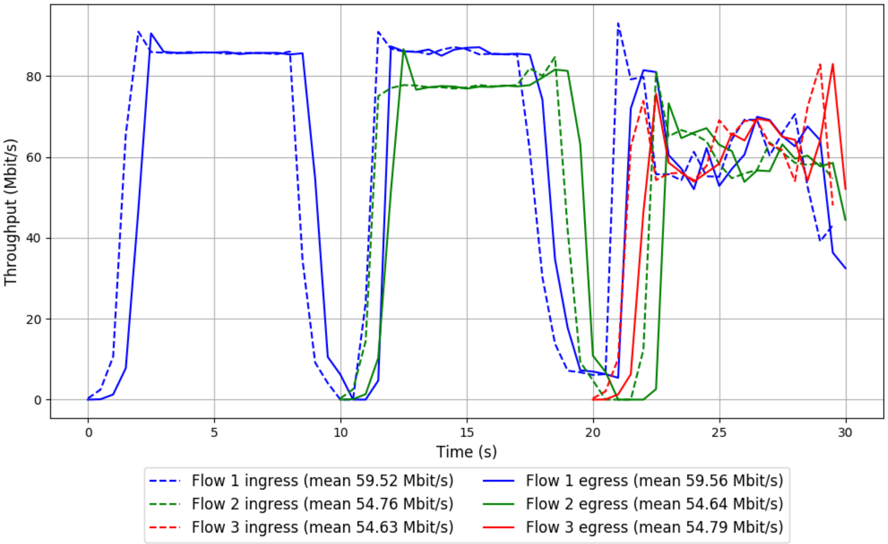


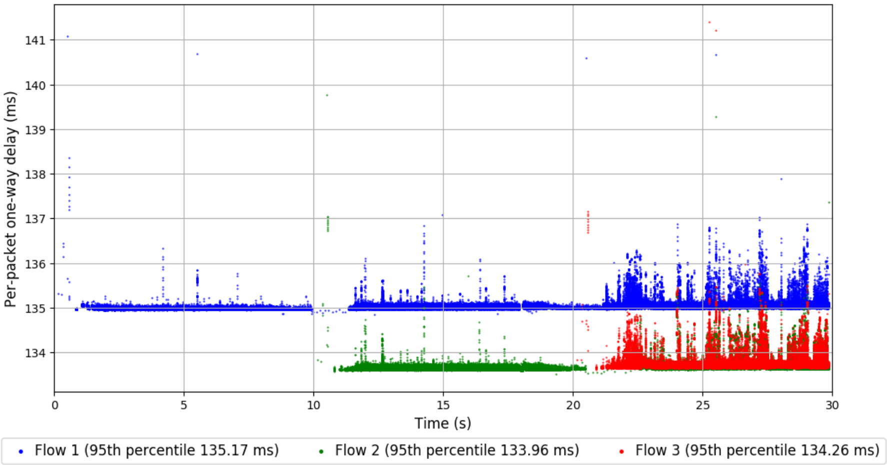
```
Run 2: Statistics of QUIC Cubic

Start at: 2018-08-22 19:58:47
End at: 2018-08-22 19:59:17
Local clock offset: 0.487 ms
Remote clock offset: -37.449 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.69 Mbit/s
95th percentile per-packet one-way delay: 135.089 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 135.166 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 133.959 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 54.79 Mbit/s
95th percentile per-packet one-way delay: 134.258 ms
Loss rate: 1.67%
```

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



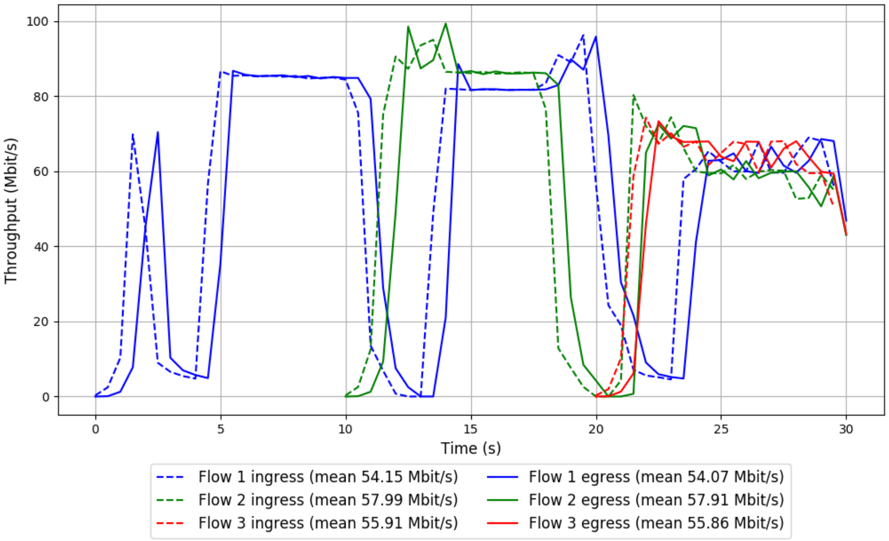


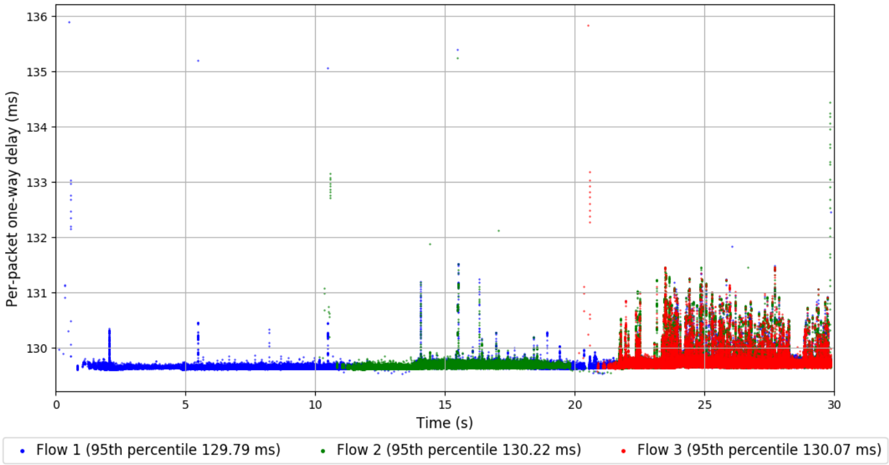
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-08-22 20:28:51
End at: 2018-08-22 20:29:21
Local clock offset: -1.679 ms
Remote clock offset: -33.244 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.69 Mbit/s
95th percentile per-packet one-way delay: 130.004 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 54.07 Mbit/s
95th percentile per-packet one-way delay: 129.788 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 57.91 Mbit/s
95th percentile per-packet one-way delay: 130.224 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 55.86 Mbit/s
95th percentile per-packet one-way delay: 130.066 ms
Loss rate: 2.05%
```

Run 3: Report of QUIC Cubic — Data Link



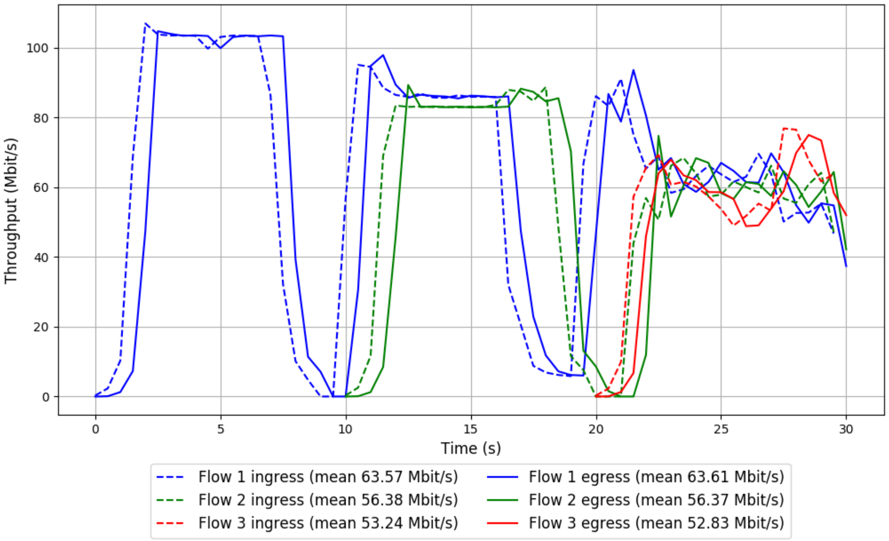


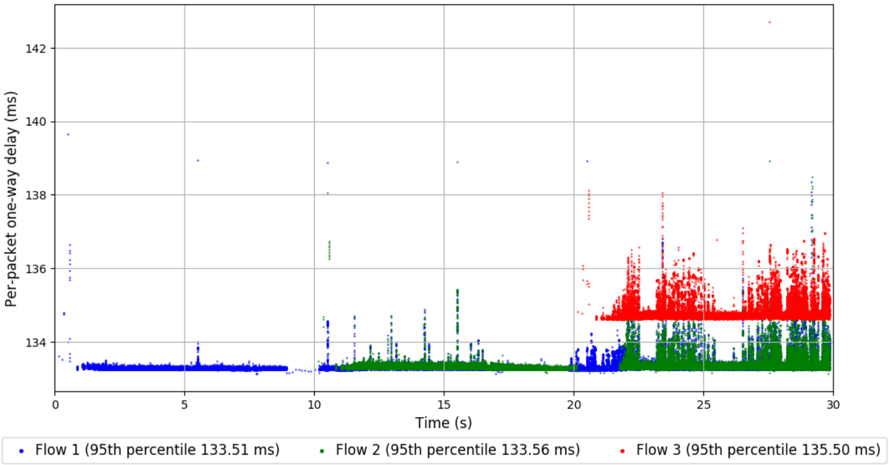
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-08-22 20:59:03
End at: 2018-08-22 20:59:33
Local clock offset: 0.193 ms
Remote clock offset: -38.019 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.24 Mbit/s
95th percentile per-packet one-way delay: 134.805 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 63.61 Mbit/s
95th percentile per-packet one-way delay: 133.512 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 56.37 Mbit/s
95th percentile per-packet one-way delay: 133.565 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 52.83 Mbit/s
95th percentile per-packet one-way delay: 135.500 ms
Loss rate: 2.81%
```

Run 4: Report of QUIC Cubic — Data Link



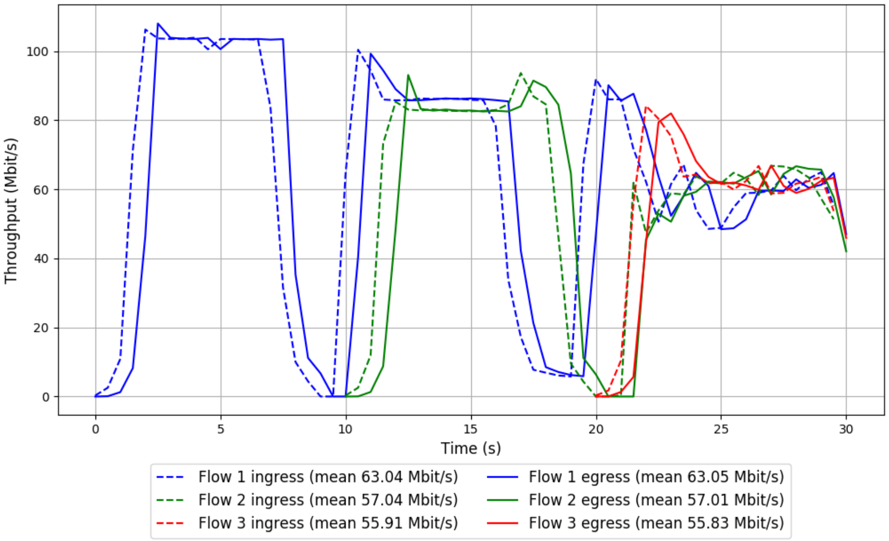


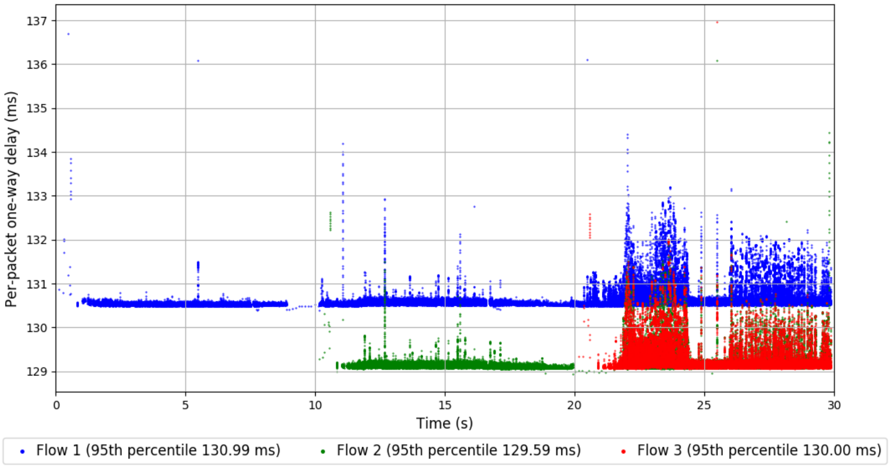
```
Run 5: Statistics of QUIC Cubic

Start at: 2018-08-22 21:28:59
End at: 2018-08-22 21:29:29
Local clock offset: 2.449 ms
Remote clock offset: -33.406 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.08 Mbit/s
95th percentile per-packet one-way delay: 130.741 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 63.05 Mbit/s
95th percentile per-packet one-way delay: 130.987 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 57.01 Mbit/s
95th percentile per-packet one-way delay: 129.588 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 55.83 Mbit/s
95th percentile per-packet one-way delay: 129.997 ms
Loss rate: 2.22%
```

Run 5: Report of QUIC Cubic — Data Link



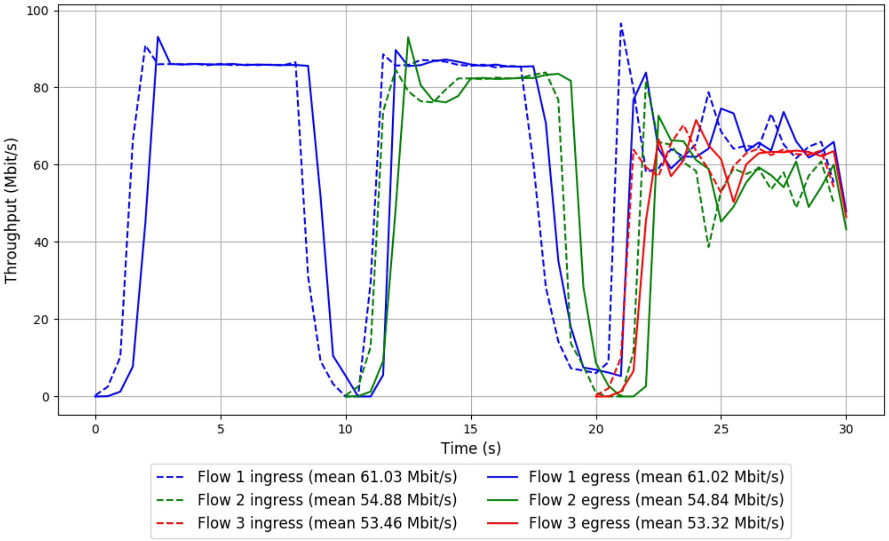


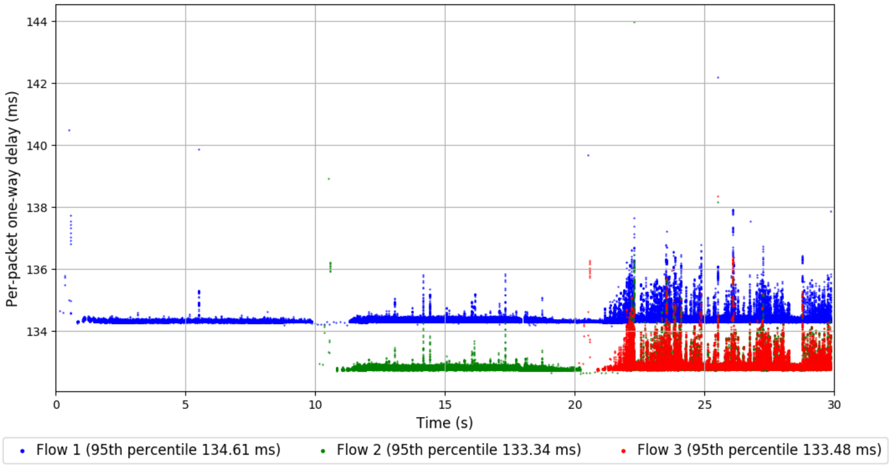
```
Run 6: Statistics of QUIC Cubic

Start at: 2018-08-22 21:58:37
End at: 2018-08-22 21:59:07
Local clock offset: 1.61 ms
Remote clock offset: -39.305 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.80 Mbit/s
95th percentile per-packet one-way delay: 134.437 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 61.02 Mbit/s
95th percentile per-packet one-way delay: 134.614 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 54.84 Mbit/s
95th percentile per-packet one-way delay: 133.340 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 133.482 ms
Loss rate: 2.33%
```

Run 6: Report of QUIC Cubic — Data Link



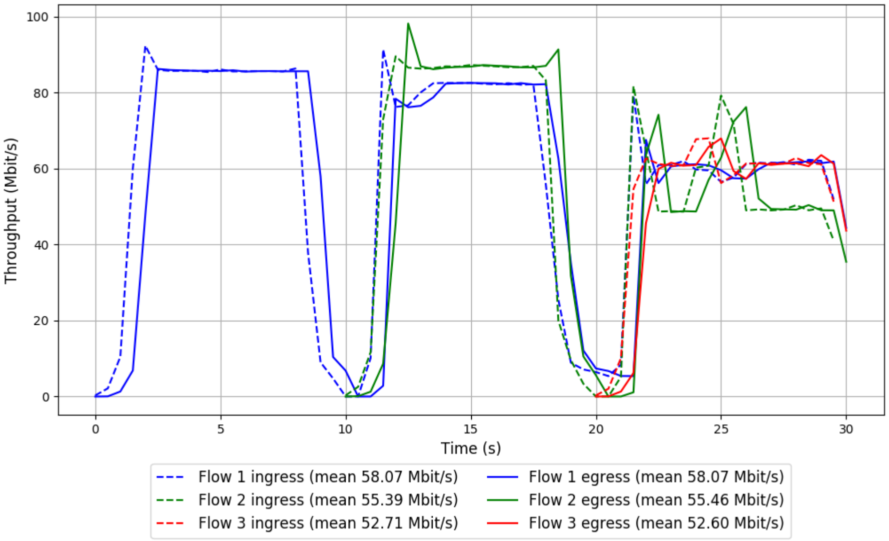


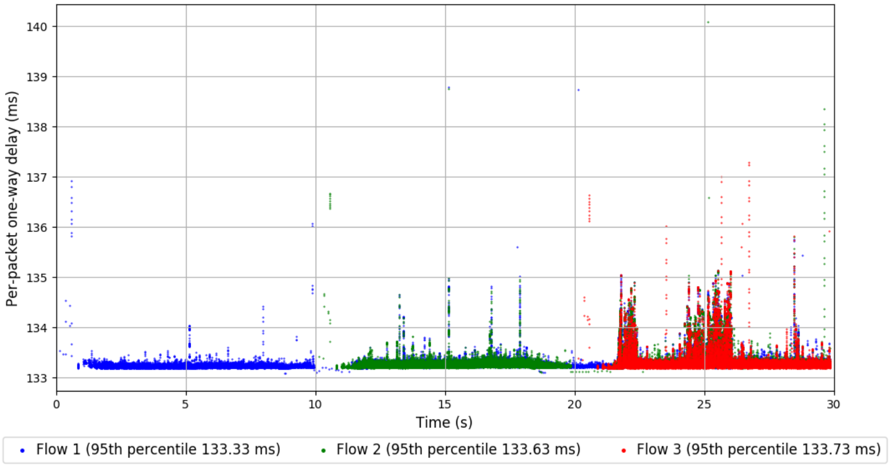
```
Run 7: Statistics of QUIC Cubic

Start at: 2018-08-22 22:28:38
End at: 2018-08-22 22:29:08
Local clock offset: 4.35 ms
Remote clock offset: -36.748 ms

# Below is generated by plot.py at 2018-08-23 01:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.02 Mbit/s
95th percentile per-packet one-way delay: 133.492 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 133.330 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 55.46 Mbit/s
95th percentile per-packet one-way delay: 133.633 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 52.60 Mbit/s
95th percentile per-packet one-way delay: 133.730 ms
Loss rate: 2.28%
```

Run 7: Report of QUIC Cubic — Data Link



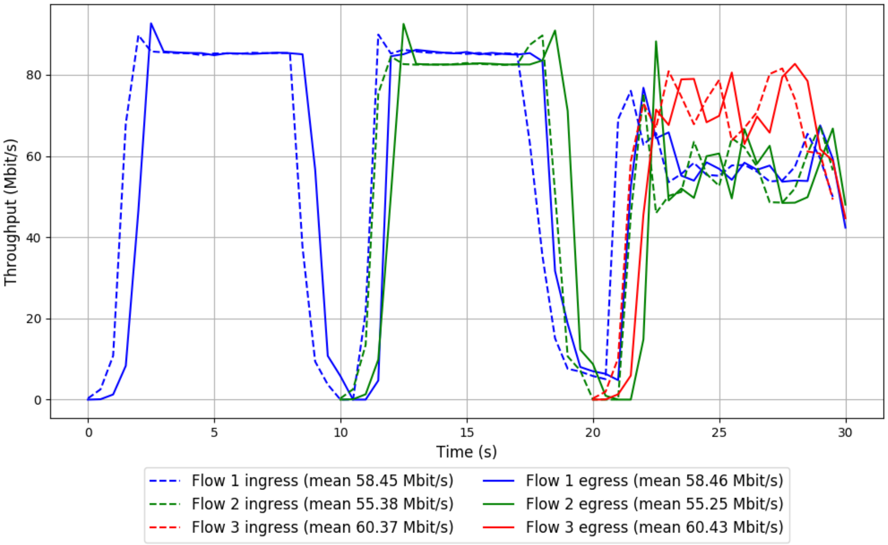


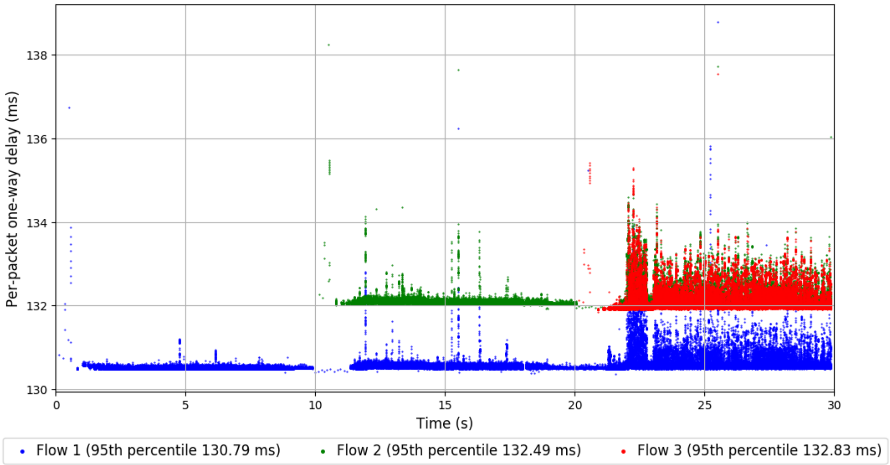
```
Run 8: Statistics of QUIC Cubic

Start at: 2018-08-22 23:10:13
End at: 2018-08-22 23:10:43
Local clock offset: 2.523 ms
Remote clock offset: -37.345 ms

# Below is generated by plot.py at 2018-08-23 01:09:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.83 Mbit/s
95th percentile per-packet one-way delay: 132.421 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 58.46 Mbit/s
95th percentile per-packet one-way delay: 130.787 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 55.25 Mbit/s
95th percentile per-packet one-way delay: 132.489 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 60.43 Mbit/s
95th percentile per-packet one-way delay: 132.832 ms
Loss rate: 1.89%
```

Run 8: Report of QUIC Cubic — Data Link



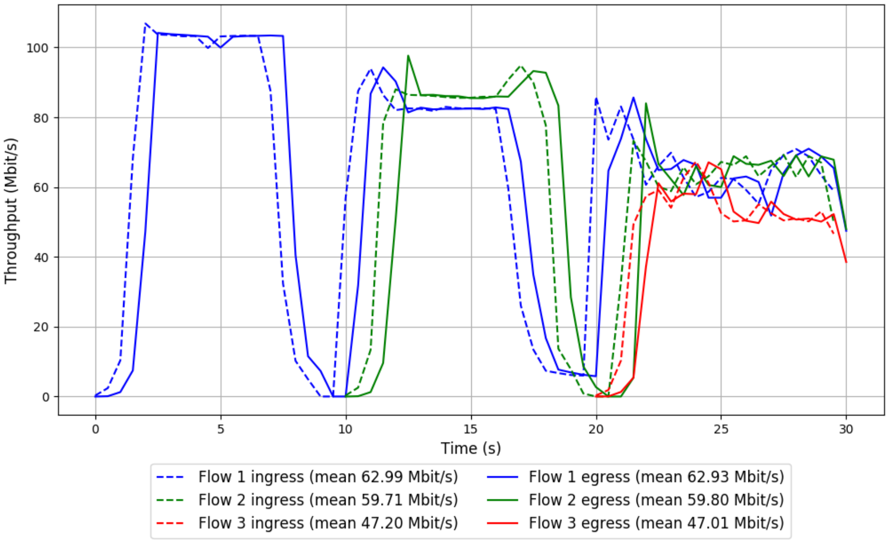


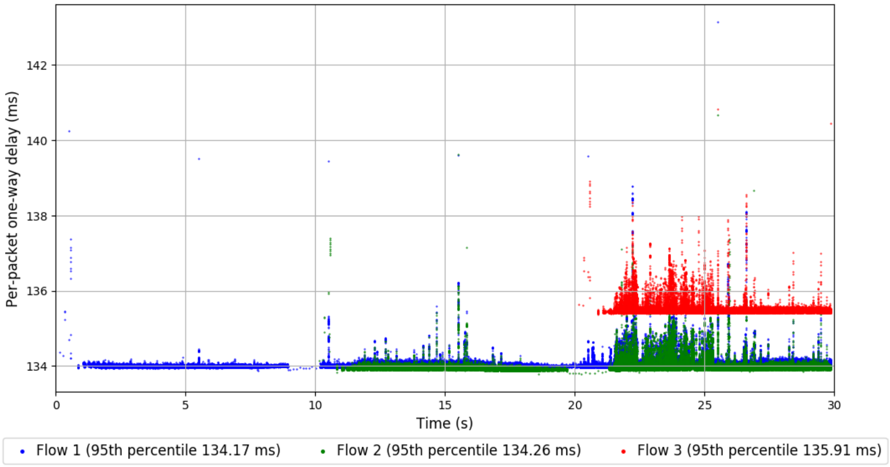
```
Run 9: Statistics of QUIC Cubic

Start at: 2018-08-22 23:40:24
End at: 2018-08-22 23:40:54
Local clock offset: 4.073 ms
Remote clock offset: -38.997 ms

# Below is generated by plot.py at 2018-08-23 01:09:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.94 Mbit/s
95th percentile per-packet one-way delay: 135.489 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 134.174 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 59.80 Mbit/s
95th percentile per-packet one-way delay: 134.265 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 135.909 ms
Loss rate: 2.42%
```

Run 9: Report of QUIC Cubic — Data Link



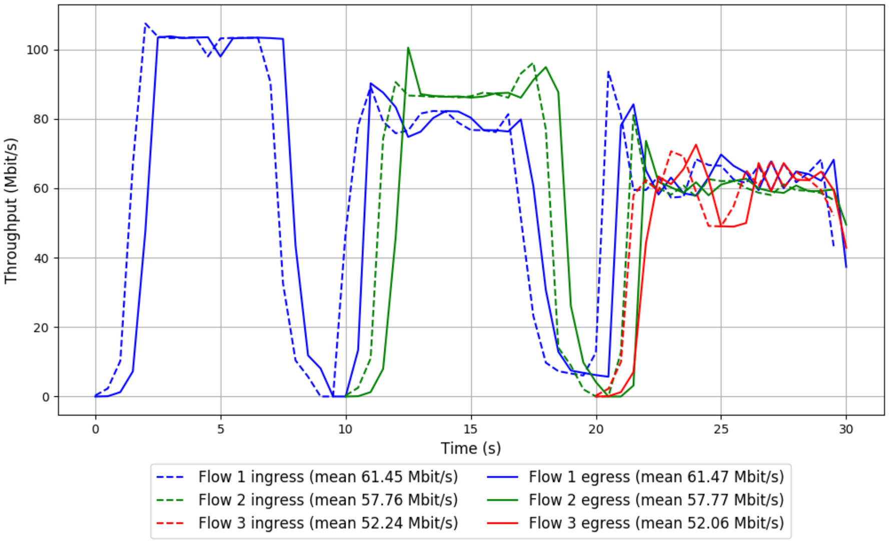


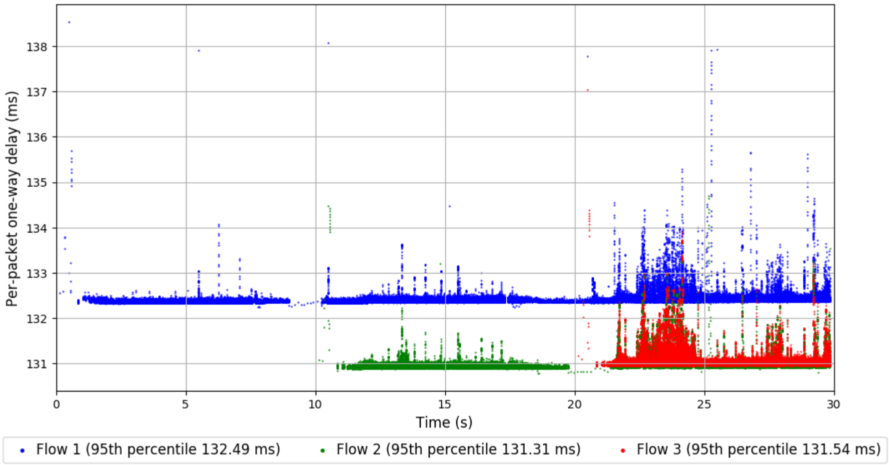
```
Run 10: Statistics of QUIC Cubic

Start at: 2018-08-23 00:15:52
End at: 2018-08-23 00:16:22
Local clock offset: 3.26 ms
Remote clock offset: -35.847 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.80 Mbit/s
95th percentile per-packet one-way delay: 132.457 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 61.47 Mbit/s
95th percentile per-packet one-way delay: 132.487 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 57.77 Mbit/s
95th percentile per-packet one-way delay: 131.314 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 52.06 Mbit/s
95th percentile per-packet one-way delay: 131.537 ms
Loss rate: 2.40%
```

## Run 10: Report of QUIC Cubic — Data Link



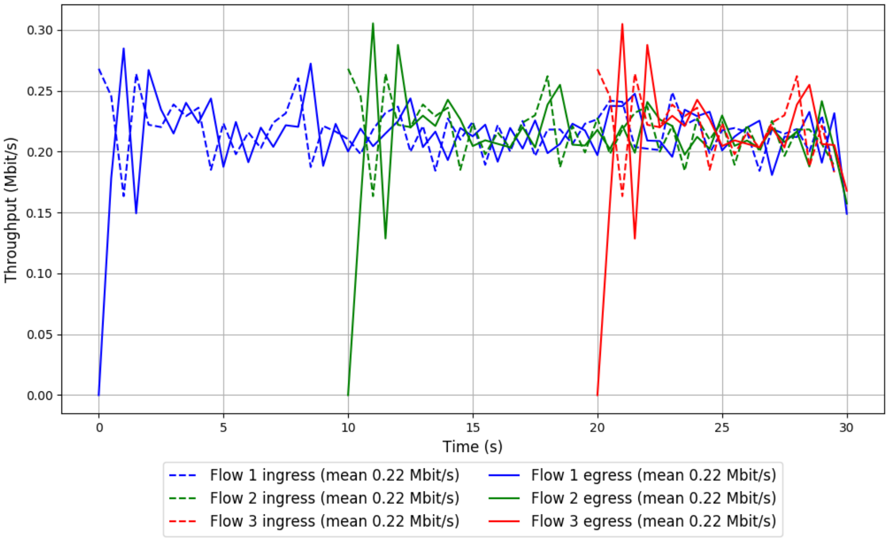


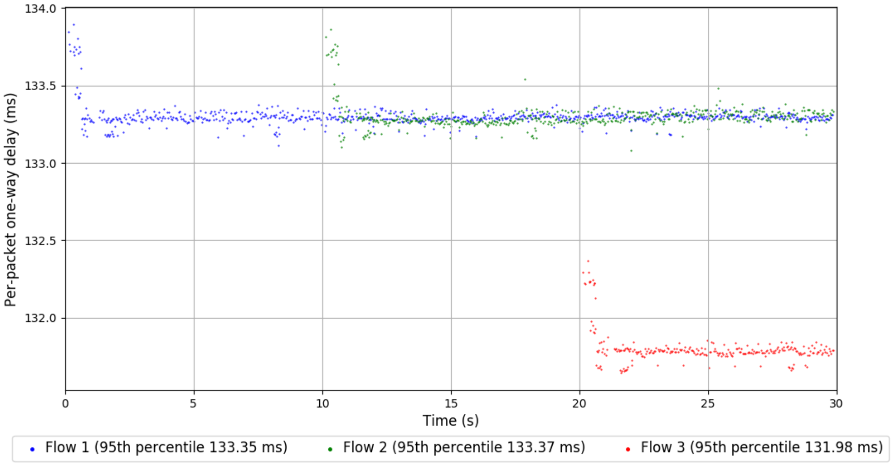
```
Run 1: Statistics of SCReAM

Start at: 2018-08-22 19:05:31
End at: 2018-08-22 19:06:01
Local clock offset: 0.115 ms
Remote clock offset: -37.931 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 133.351 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.353 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.371 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.976 ms
Loss rate: 1.84%
```

Run 1: Report of SCReAM — Data Link



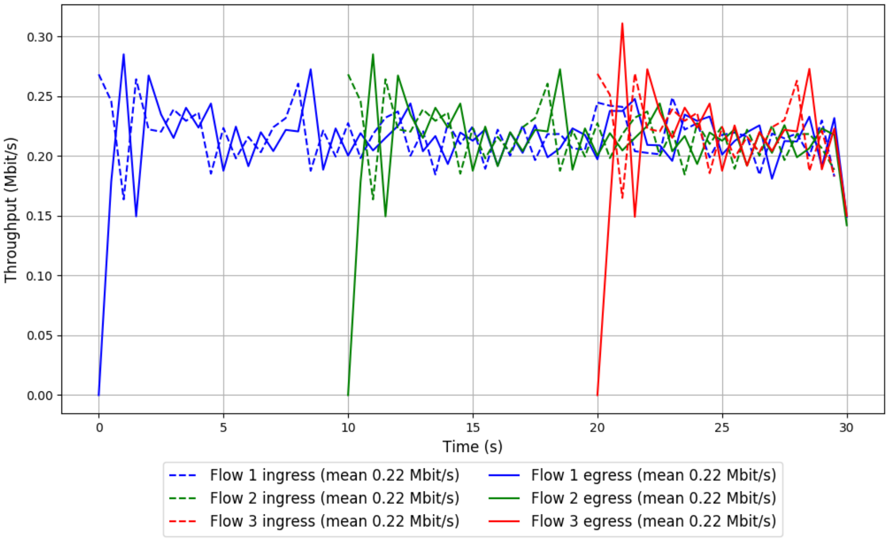


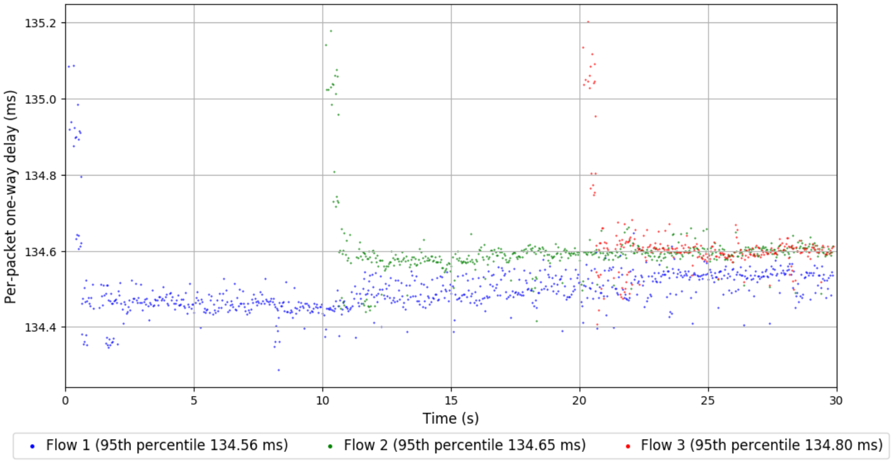
```
Run 2: Statistics of SCReAM

Start at: 2018-08-22 19:41:44
End at: 2018-08-22 19:42:14
Local clock offset: 0.112 ms
Remote clock offset: -38.519 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 134.643 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.561 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.650 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.804 ms
Loss rate: 1.83%
```

Run 2: Report of SCReAM — Data Link



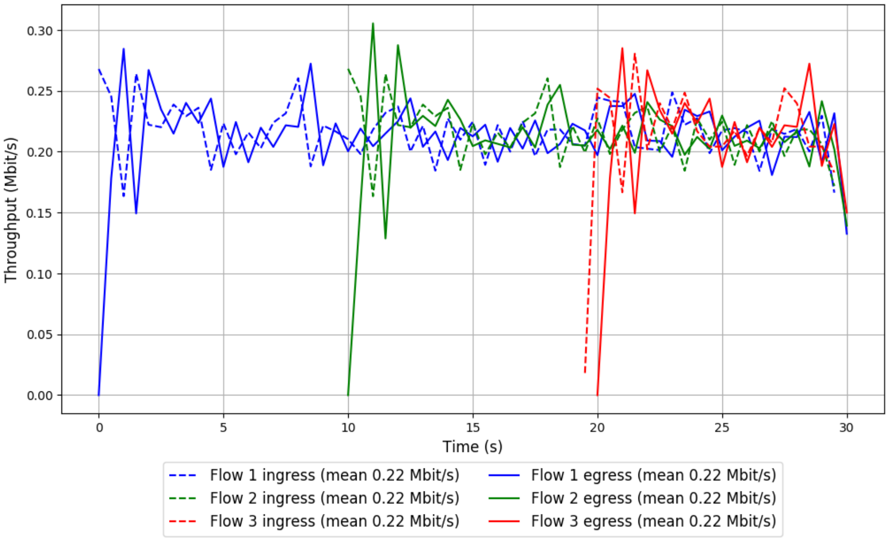


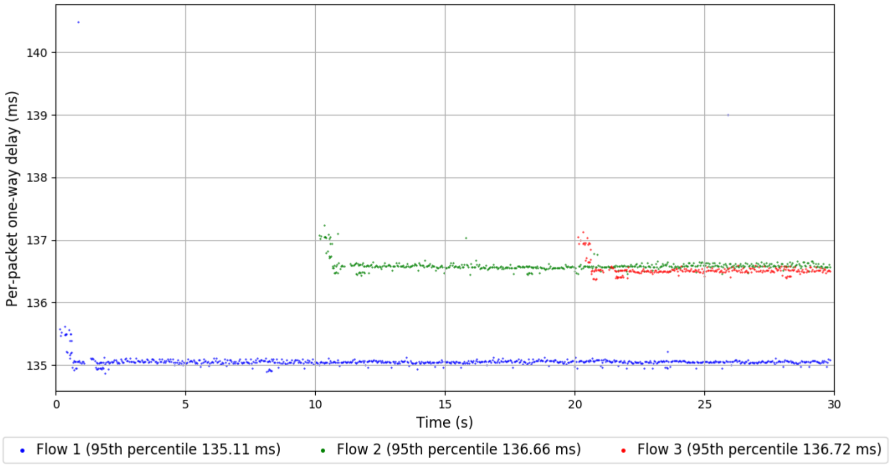
```
Run 3: Statistics of SCReAM

Start at: 2018-08-22 20:17:23
End at: 2018-08-22 20:17:53
Local clock offset: 1.324 ms
Remote clock offset: -37.417 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.633 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.107 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.660 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.716 ms
Loss rate: 1.84%
```

Run 3: Report of SCReAM — Data Link



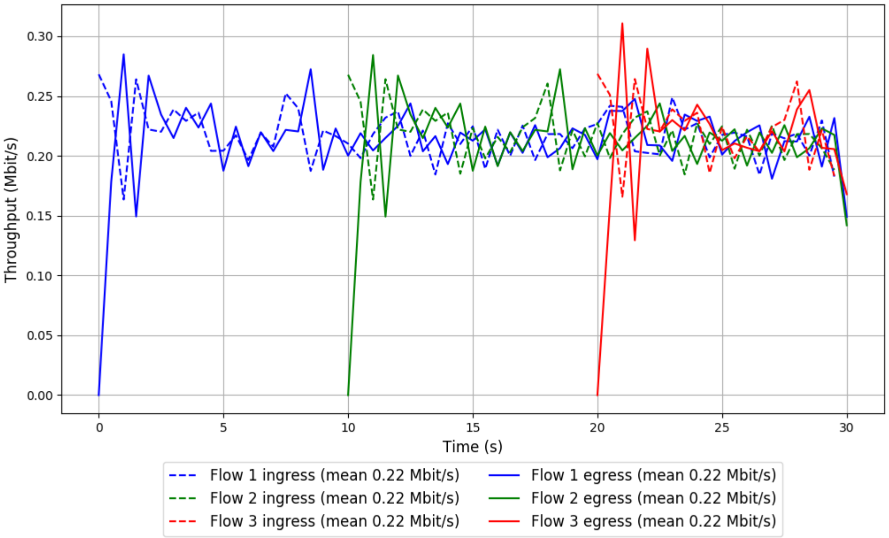


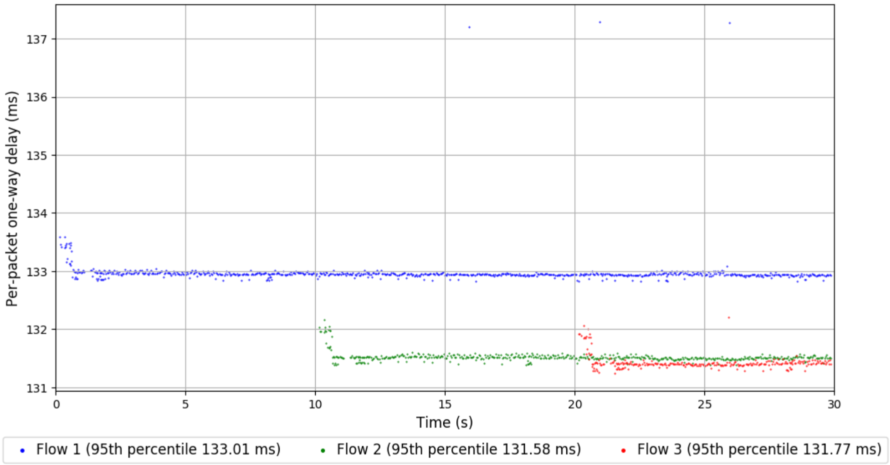
```
Run 4: Statistics of SCReAM

Start at: 2018-08-22 20:47:31
End at: 2018-08-22 20:48:01
Local clock offset: -1.761 ms
Remote clock offset: -37.657 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 132.992 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.012 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.583 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.766 ms
Loss rate: 1.83%
```

Run 4: Report of SCReAM — Data Link



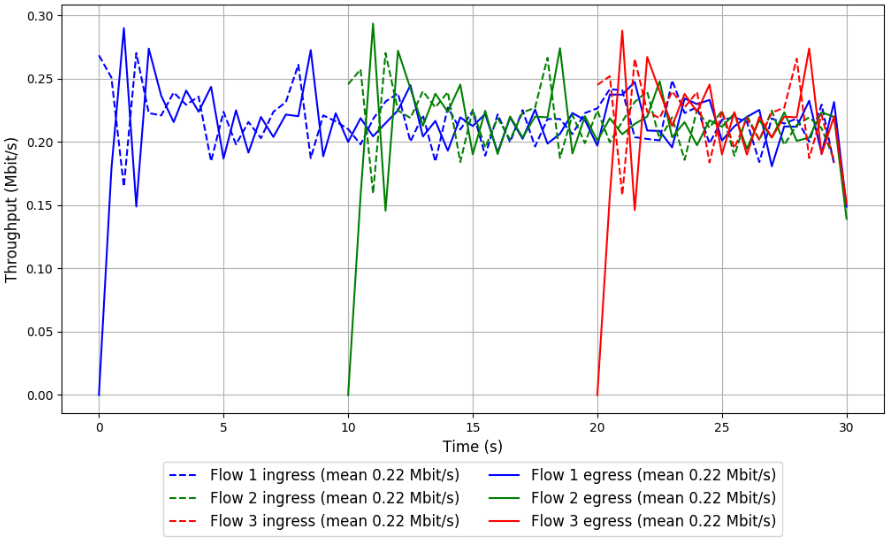


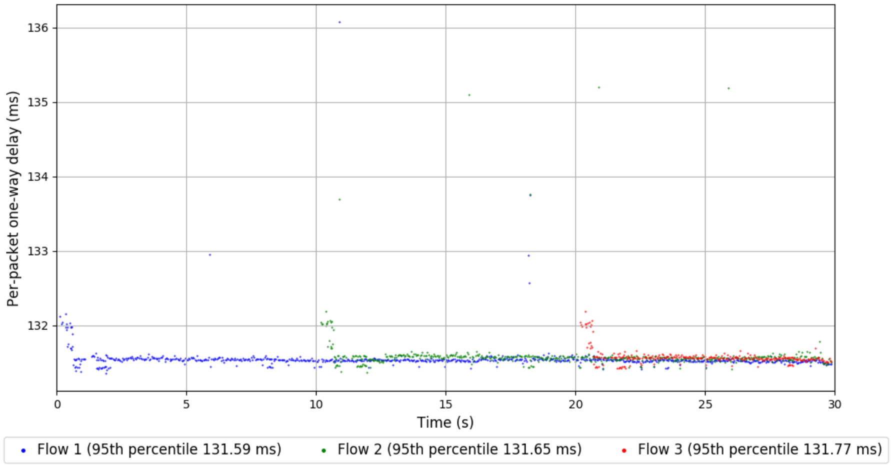
```
Run 5: Statistics of SCReAM

Start at: 2018-08-22 21:17:37
End at: 2018-08-22 21:18:07
Local clock offset: 2.067 ms
Remote clock offset: -34.141 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 131.641 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.591 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.648 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.766 ms
Loss rate: 1.86%
```

## Run 5: Report of SCReAM — Data Link



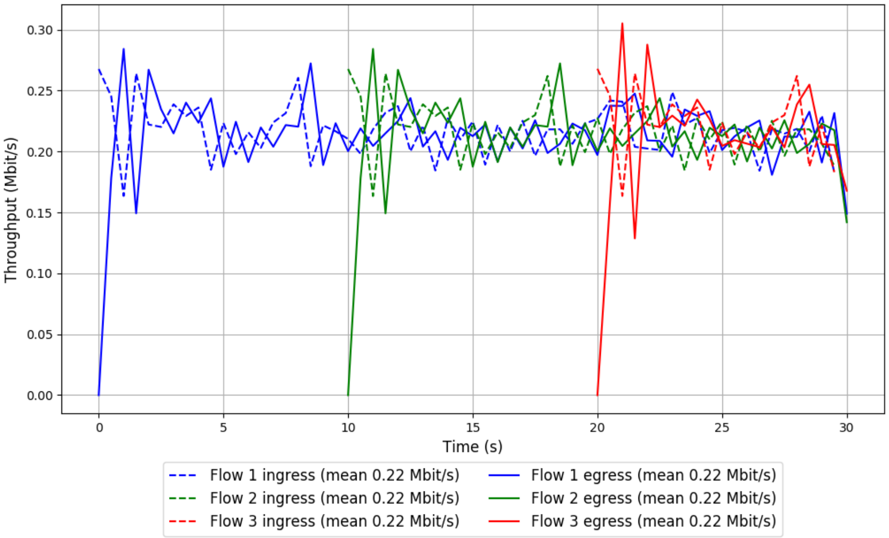


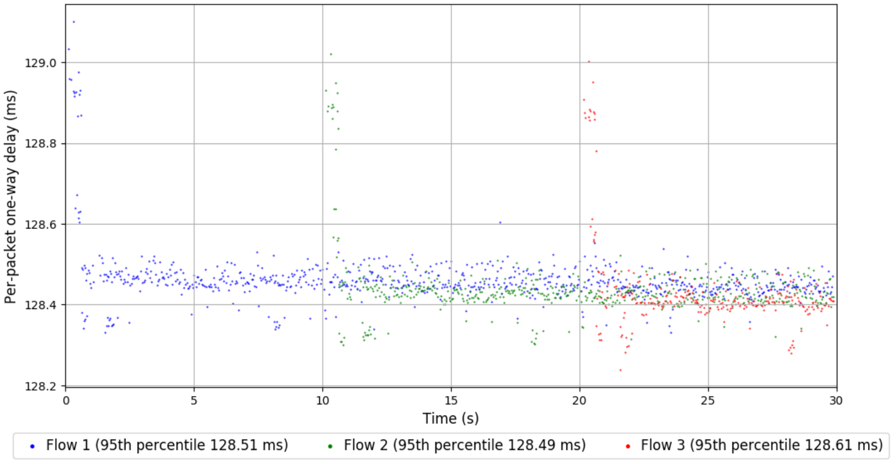
```
Run 6: Statistics of SCReAM

Start at: 2018-08-22 21:47:14
End at: 2018-08-22 21:47:44
Local clock offset: 1.424 ms
Remote clock offset: -34.702 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 128.514 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.515 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.491 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.613 ms
Loss rate: 1.84%
```

Run 6: Report of SCReAM — Data Link



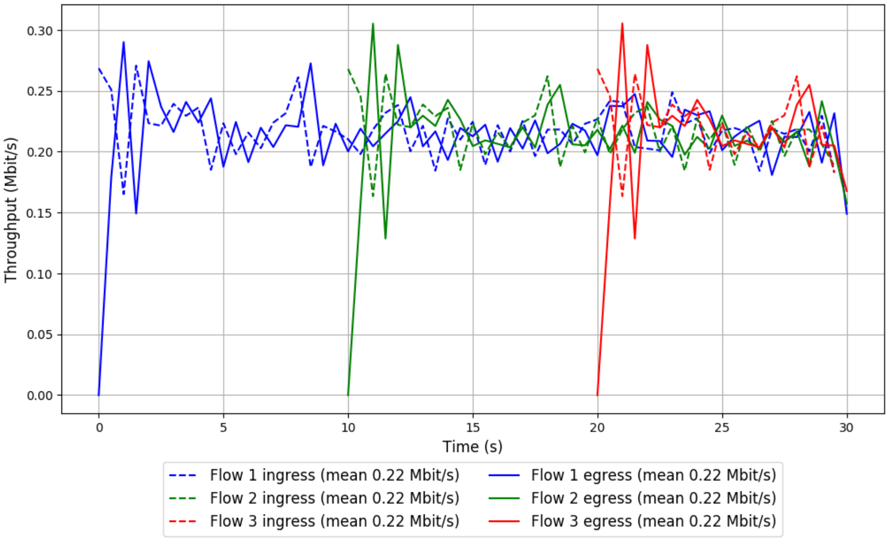


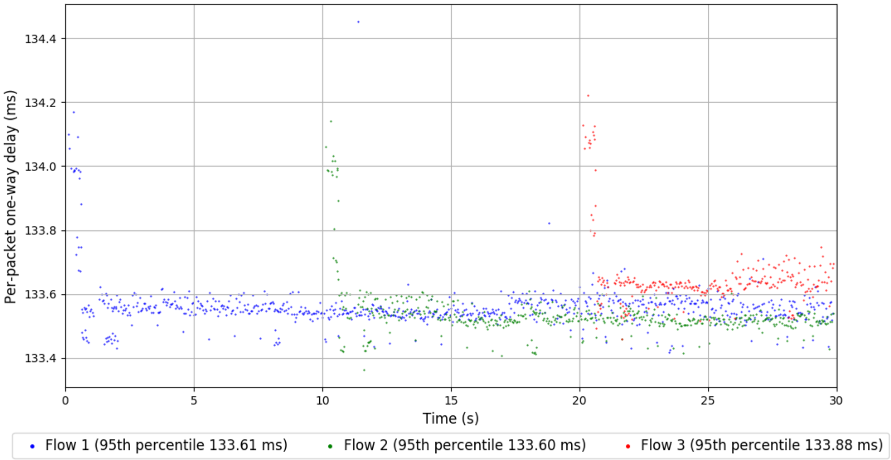
```
Run 7: Statistics of SCReAM

Start at: 2018-08-22 22:17:09
End at: 2018-08-22 22:17:39
Local clock offset: 2.069 ms
Remote clock offset: -38.944 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 133.680 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.614 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.603 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.877 ms
Loss rate: 1.83%
```

Run 7: Report of SCReAM — Data Link



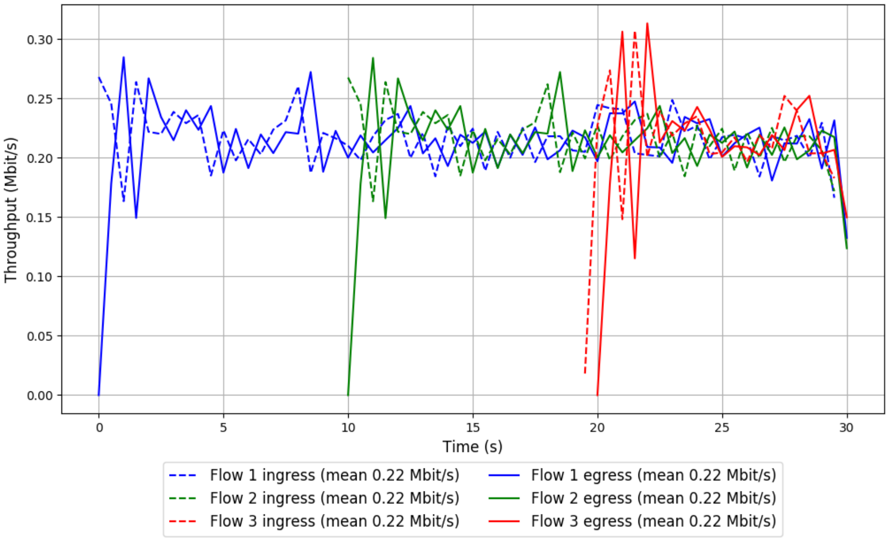


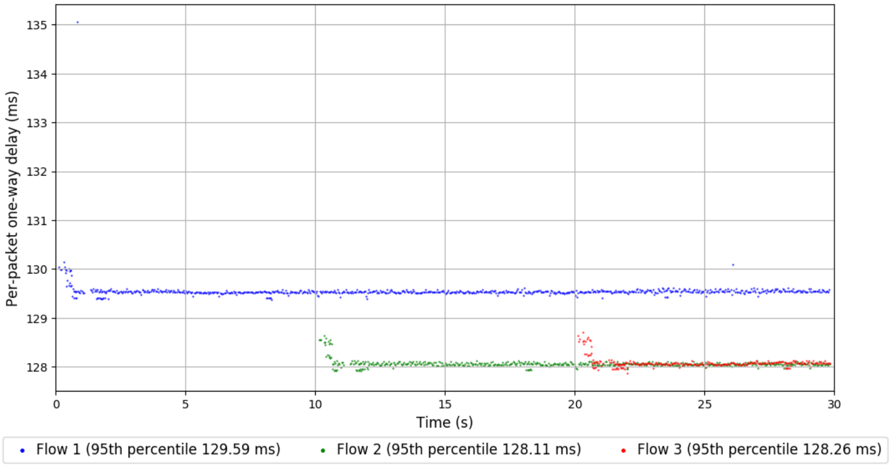
```
Run 8: Statistics of SCReAM

Start at: 2018-08-22 22:47:25
End at: 2018-08-22 22:47:55
Local clock offset: 1.979 ms
Remote clock offset: -34.999 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 129.577 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.593 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.111 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.259 ms
Loss rate: 1.83%
```

Run 8: Report of SCReAM — Data Link



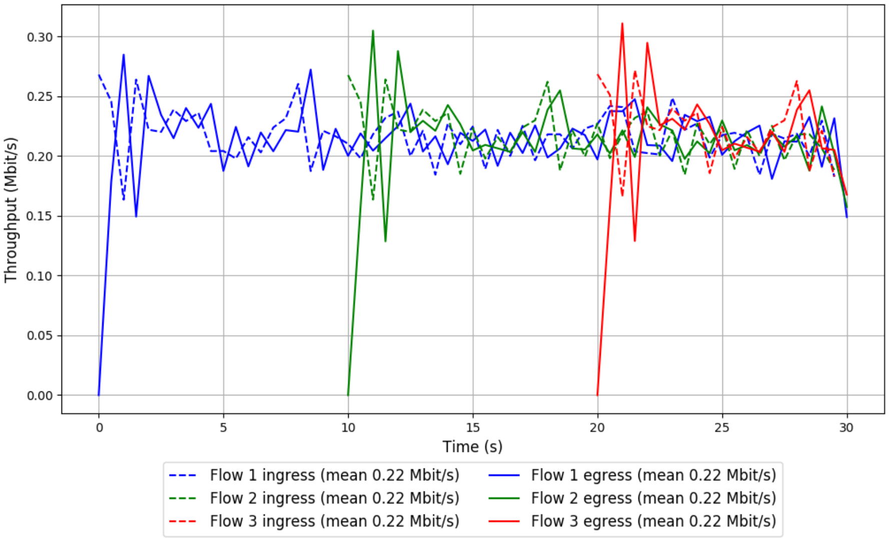


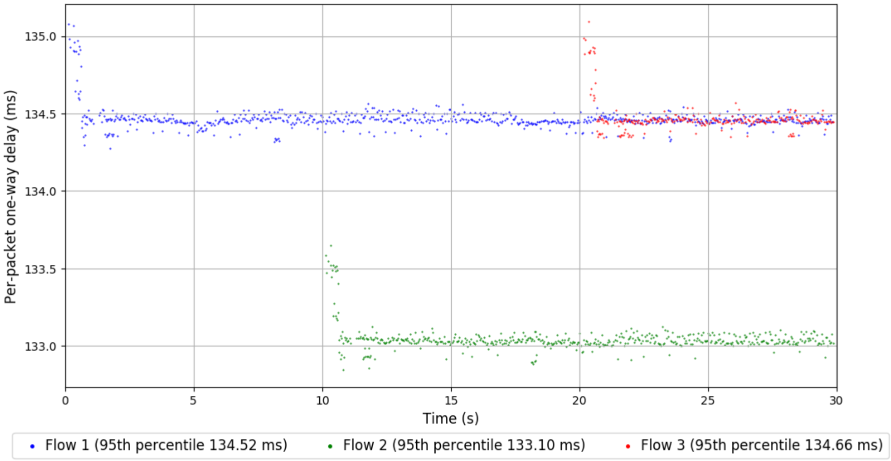
```
Run 9: Statistics of SCReAM

Start at: 2018-08-22 23:23:19
End at: 2018-08-22 23:23:49
Local clock offset: 1.792 ms
Remote clock offset: -40.325 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 134.516 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.522 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.098 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.658 ms
Loss rate: 1.82%
```

Run 9: Report of SCReAM — Data Link



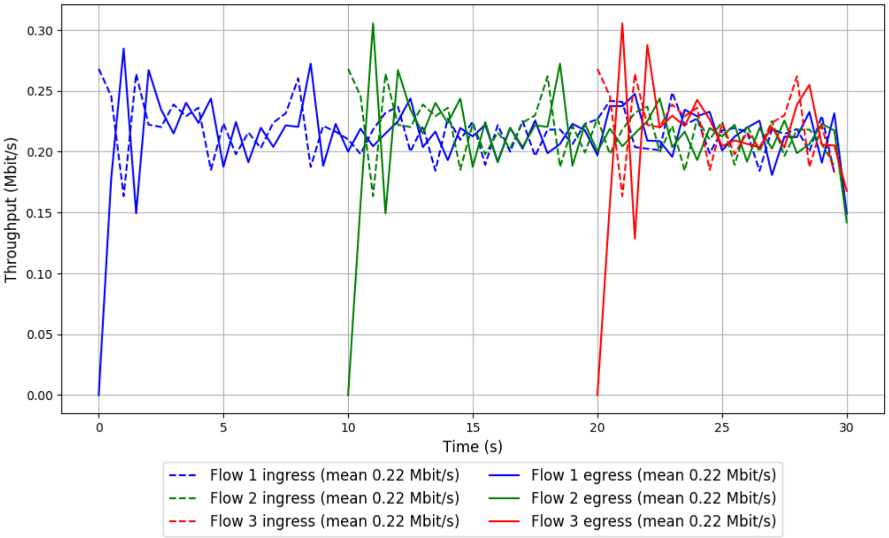


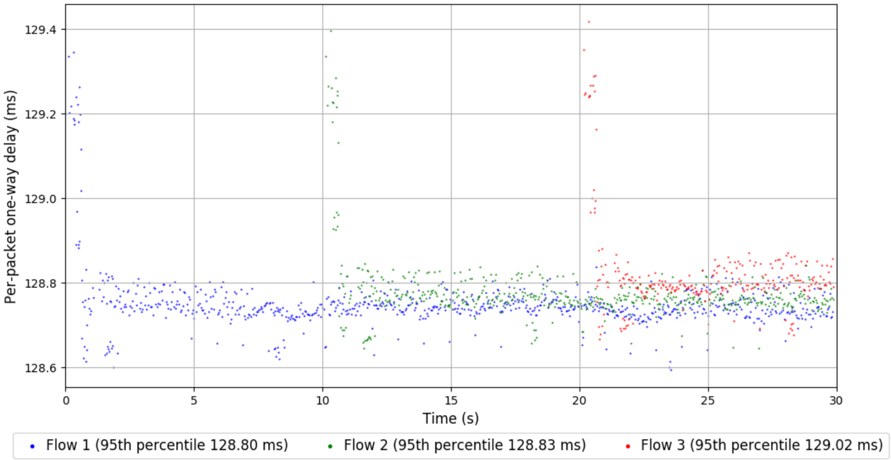
```
Run 10: Statistics of SCReAM

Start at: 2018-08-22 23:58:51
End at: 2018-08-22 23:59:21
Local clock offset: 3.185 ms
Remote clock offset: -32.924 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 128.848 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.803 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.831 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.020 ms
Loss rate: 1.83%
```

Run 10: Report of SCReAM — Data Link



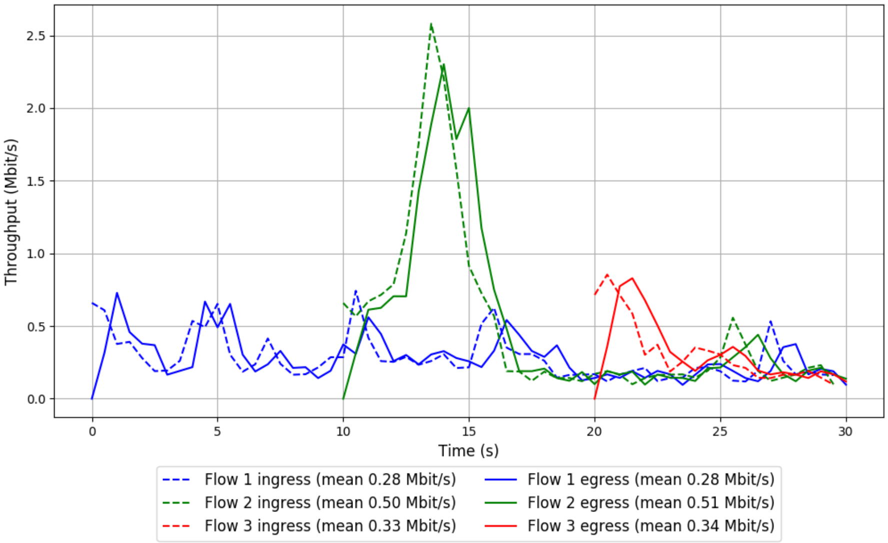


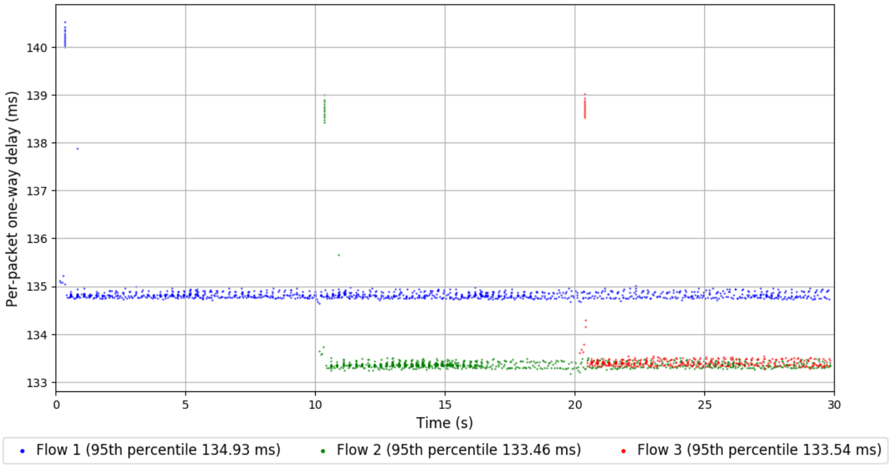
```
Run 1: Statistics of Sprout

Start at: 2018-08-22 19:18:22
End at: 2018-08-22 19:18:52
Local clock offset: 1.007 ms
Remote clock offset: -38.895 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 134.904 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 134.933 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 133.462 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 133.536 ms
Loss rate: 0.12%
```

## Run 1: Report of Sprout — Data Link



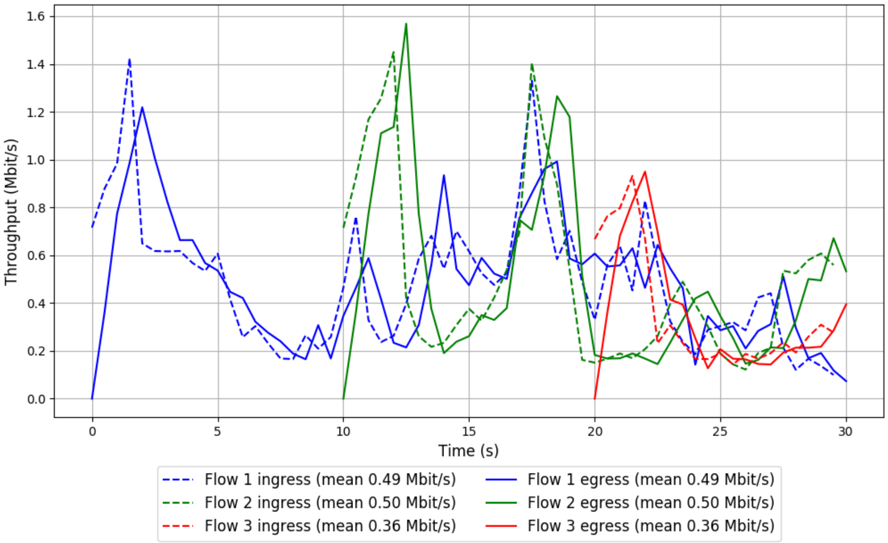


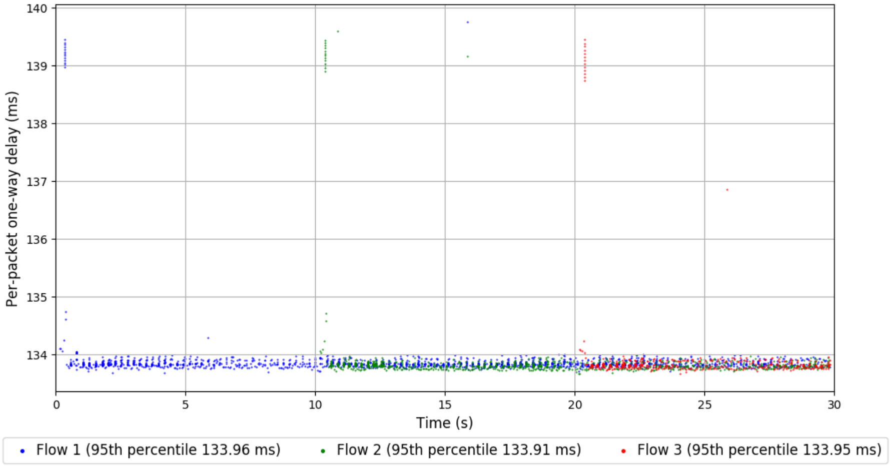
```
Run 2: Statistics of Sprout

Start at: 2018-08-22 20:00:10
End at: 2018-08-22 20:00:40
Local clock offset: 1.442 ms
Remote clock offset: -35.209 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 133.944 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 133.955 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 133.909 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 133.947 ms
Loss rate: 0.59%
```

Run 2: Report of Sprout — Data Link



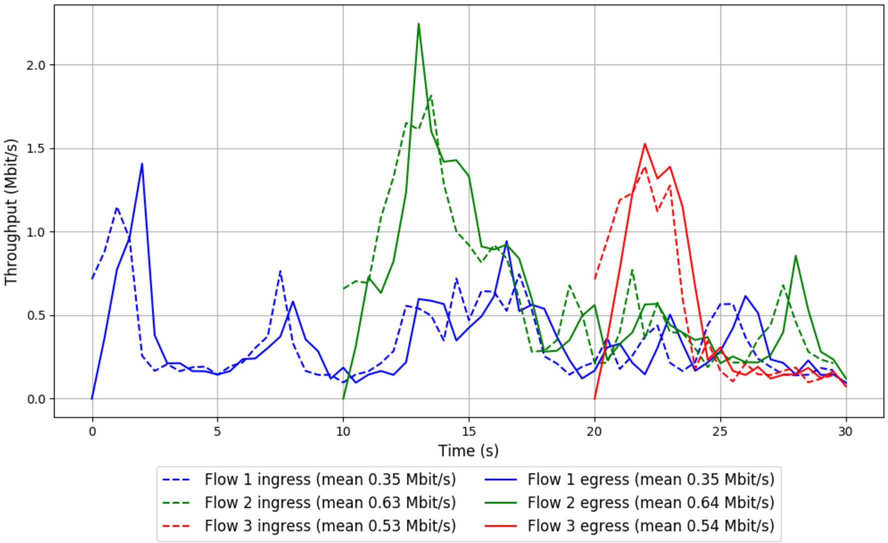


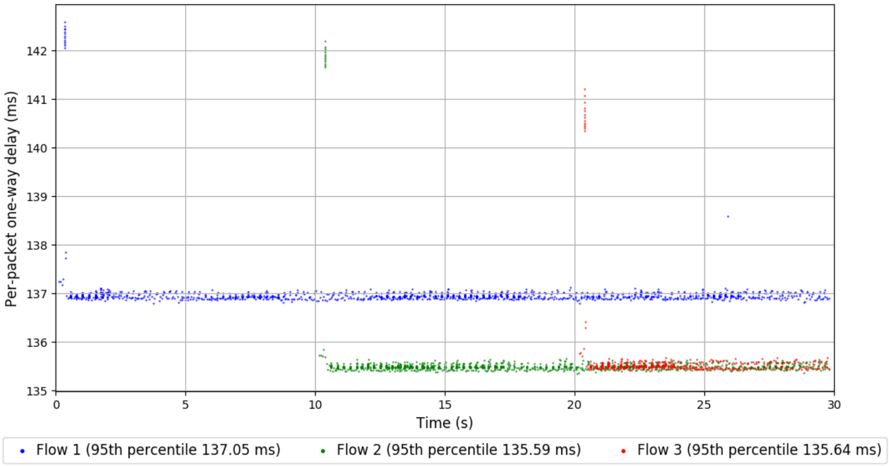
```
Run 3: Statistics of Sprout

Start at: 2018-08-22 20:30:13
End at: 2018-08-22 20:30:43
Local clock offset: -0.833 ms
Remote clock offset: -39.592 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 137.030 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 137.052 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 135.588 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 135.644 ms
Loss rate: 0.67%
```

## Run 3: Report of Sprout — Data Link



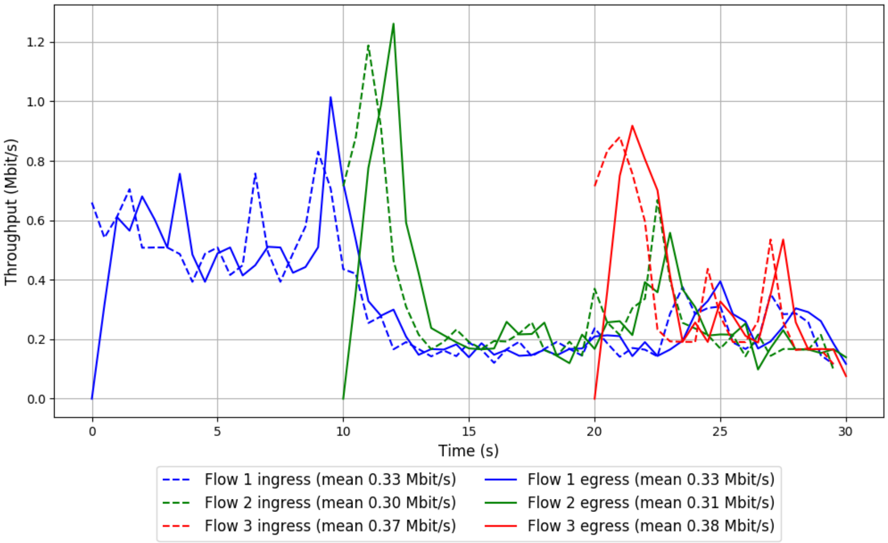


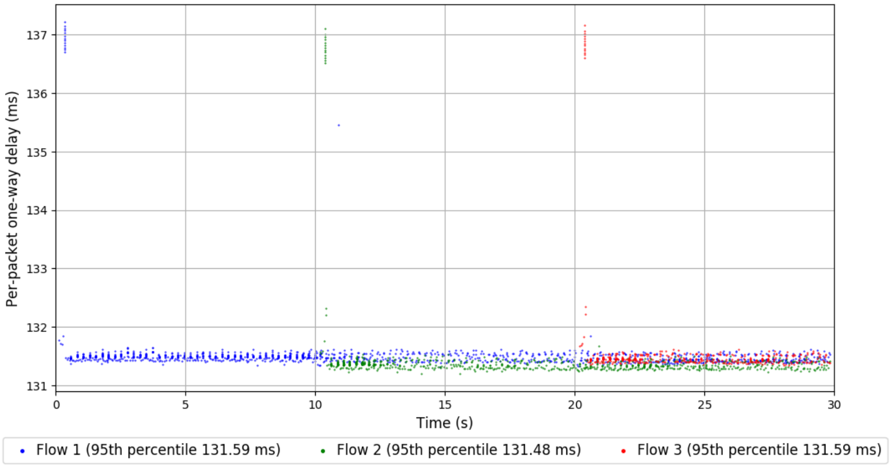
```
Run 4: Statistics of Sprout

Start at: 2018-08-22 21:00:26
End at: 2018-08-22 21:00:56
Local clock offset: 0.378 ms
Remote clock offset: -36.061 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 131.575 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 131.588 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 131.476 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 131.591 ms
Loss rate: 0.61%
```

Run 4: Report of Sprout — Data Link



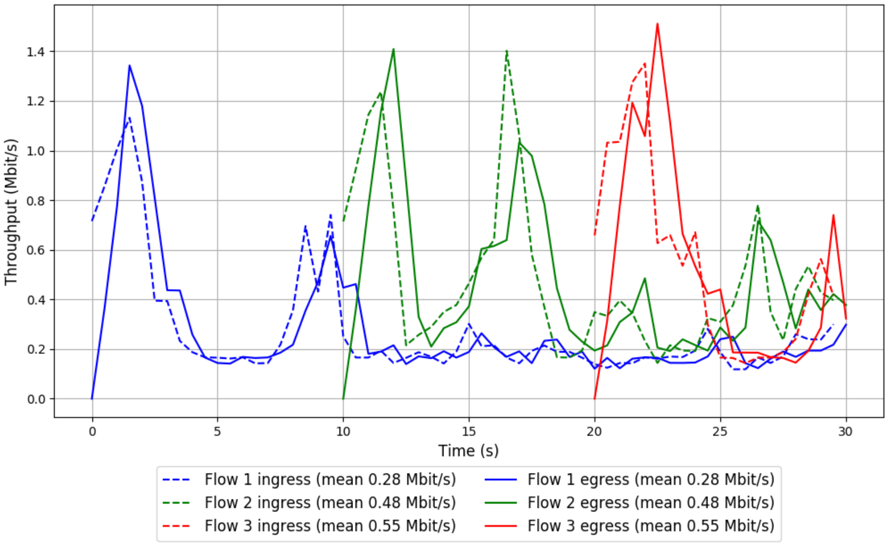


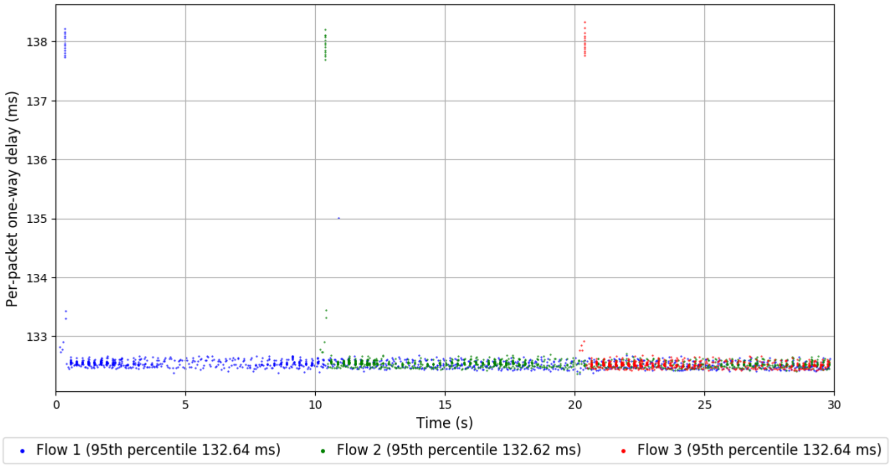
```
Run 5: Statistics of Sprout

Start at: 2018-08-22 21:35:50
End at: 2018-08-22 21:36:20
Local clock offset: 1.078 ms
Remote clock offset: -38.597 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 132.638 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 132.641 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 132.625 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 132.642 ms
Loss rate: 1.54%
```

Run 5: Report of Sprout — Data Link



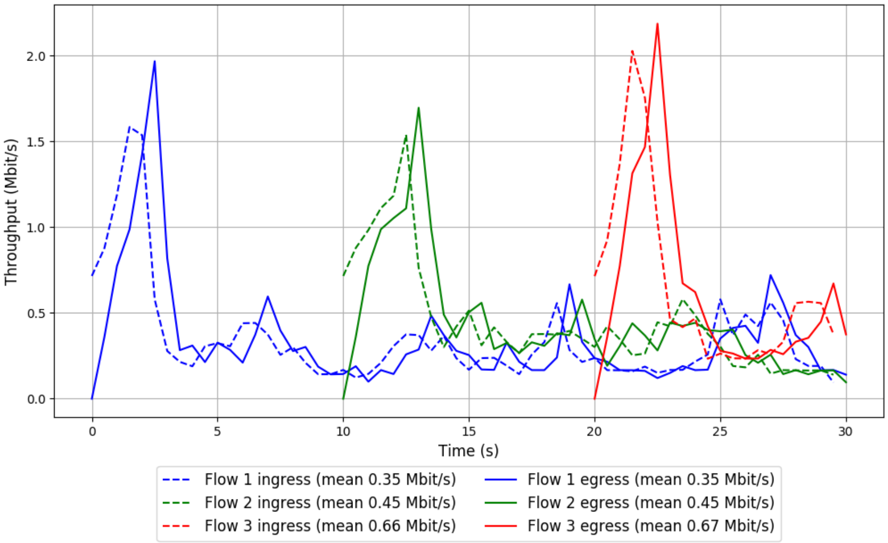


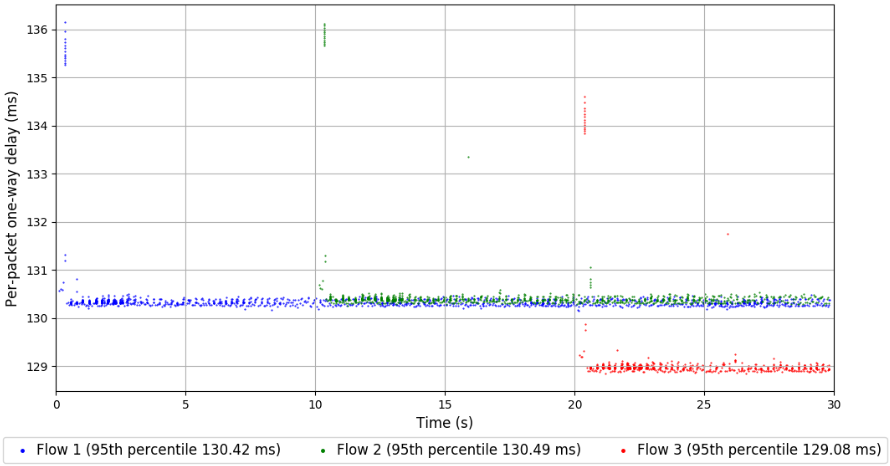
```
Run 6: Statistics of Sprout

Start at: 2018-08-22 22:00:00
End at: 2018-08-22 22:00:30
Local clock offset: 1.295 ms
Remote clock offset: -35.712 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 130.454 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 130.423 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 130.486 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 129.076 ms
Loss rate: 1.60%
```

Run 6: Report of Sprout — Data Link



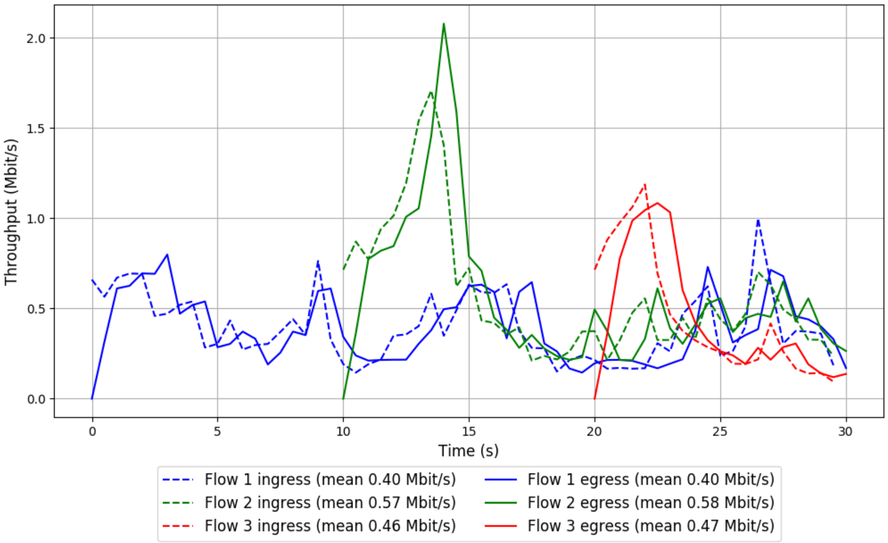


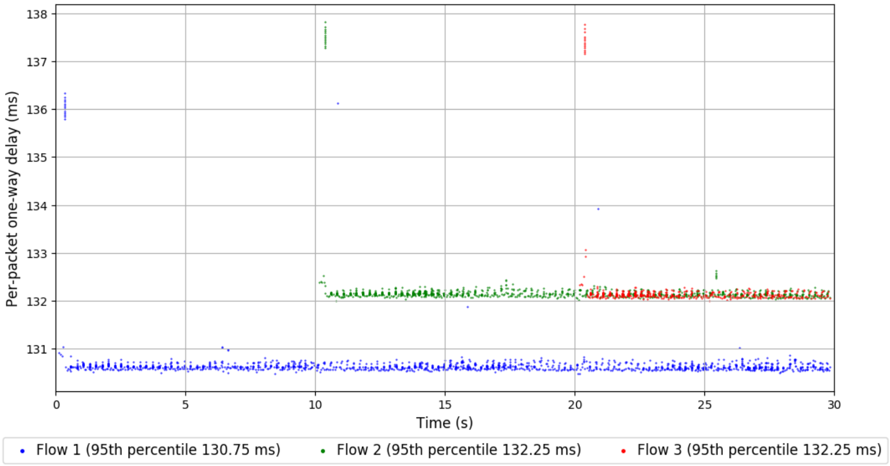
```
Run 7: Statistics of Sprout

Start at: 2018-08-22 22:30:01
End at: 2018-08-22 22:30:31
Local clock offset: 2.954 ms
Remote clock offset: -37.075 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 132.224 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 130.751 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 132.247 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 132.253 ms
Loss rate: 0.53%
```

Run 7: Report of Sprout — Data Link



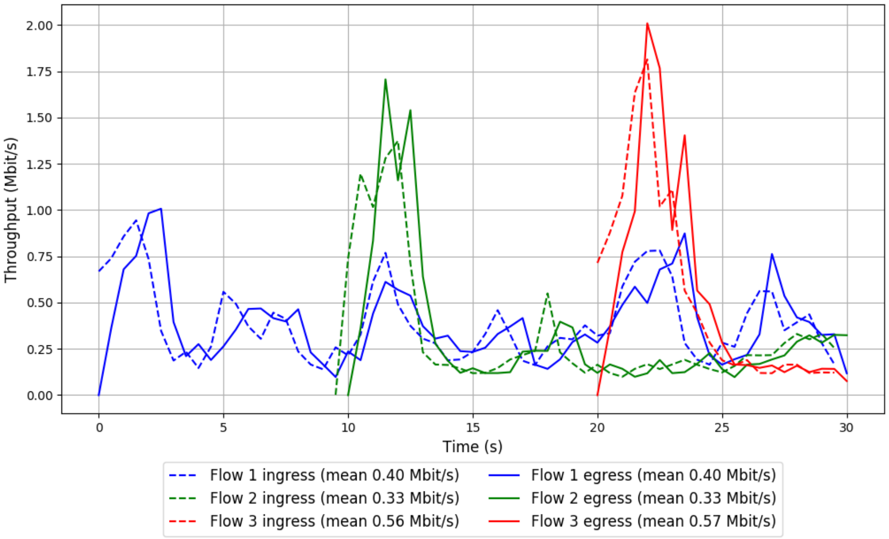


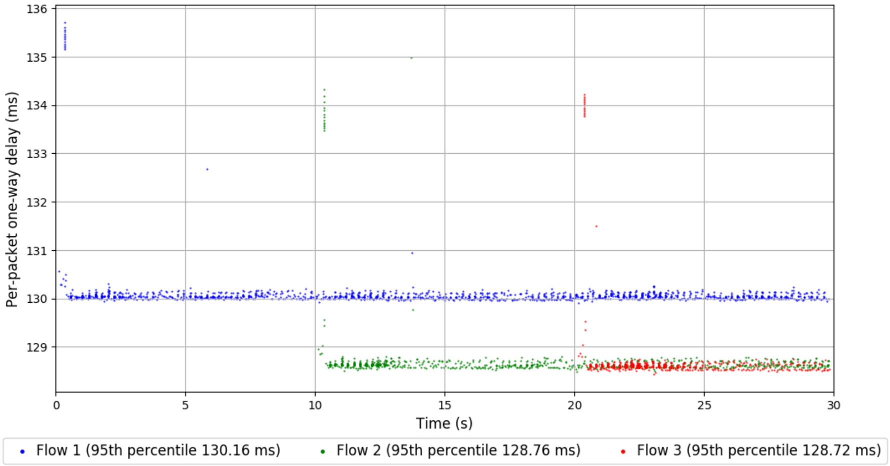
```
Run 8: Statistics of Sprout

Start at: 2018-08-22 23:11:36
End at: 2018-08-22 23:12:06
Local clock offset: 1.518 ms
Remote clock offset: -36.393 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 130.135 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 130.157 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 128.765 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 128.715 ms
Loss rate: 0.64%
```

Run 8: Report of Sprout — Data Link



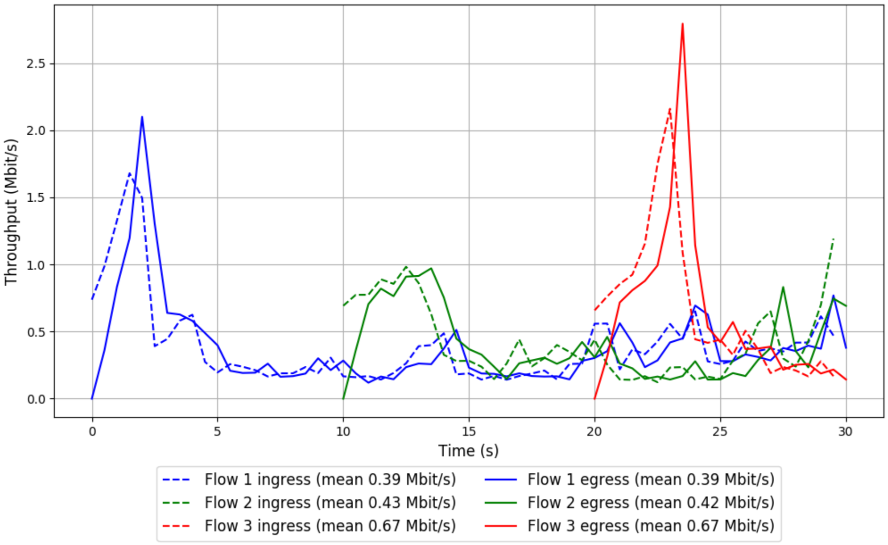


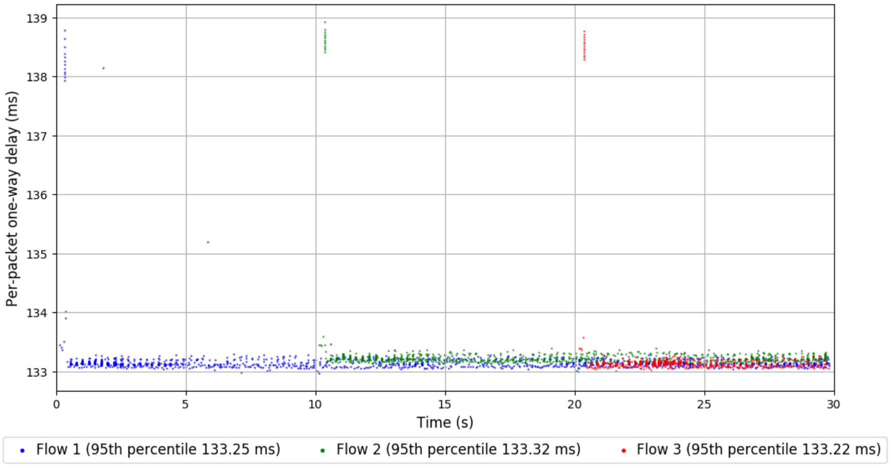
```
Run 9: Statistics of Sprout

Start at: 2018-08-22 23:41:47
End at: 2018-08-22 23:42:17
Local clock offset: 3.562 ms
Remote clock offset: -37.195 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 133.300 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 133.247 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 133.321 ms
Loss rate: 2.98%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 133.225 ms
Loss rate: 0.71%
```

## Run 9: Report of Sprout — Data Link



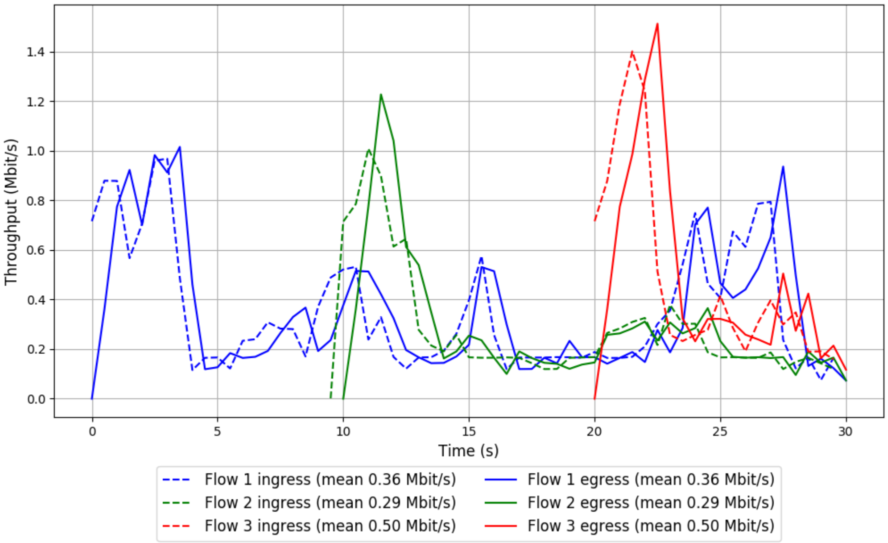


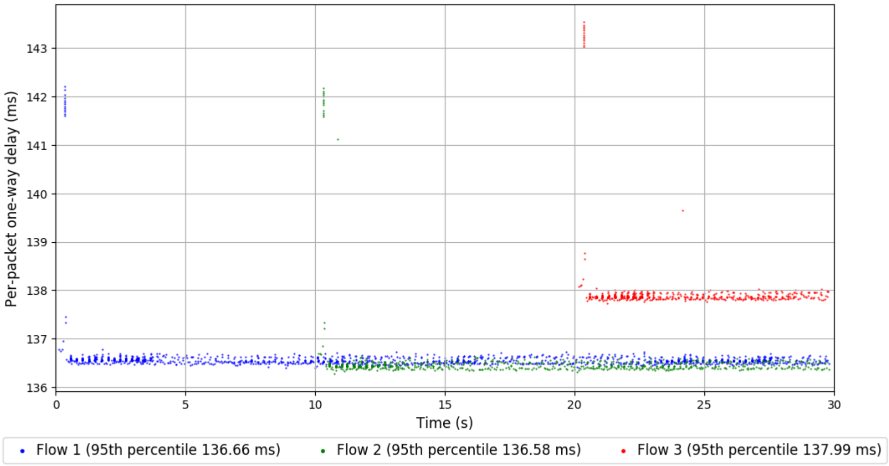
```
Run 10: Statistics of Sprout

Start at: 2018-08-23 00:17:23
End at: 2018-08-23 00:17:53
Local clock offset: 2.874 ms
Remote clock offset: -41.714 ms

# Below is generated by plot.py at 2018-08-23 01:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 137.929 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 136.665 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 136.579 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 137.994 ms
Loss rate: 0.71%
```

Run 10: Report of Sprout — Data Link



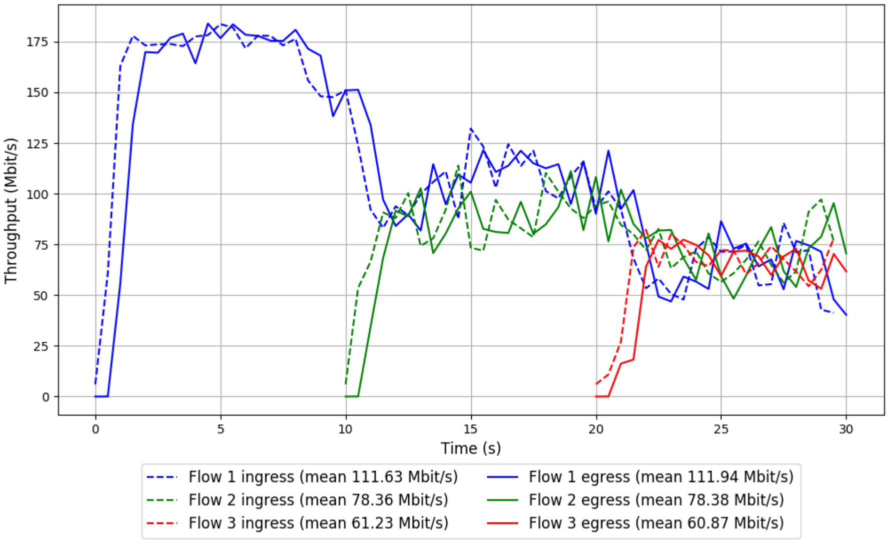


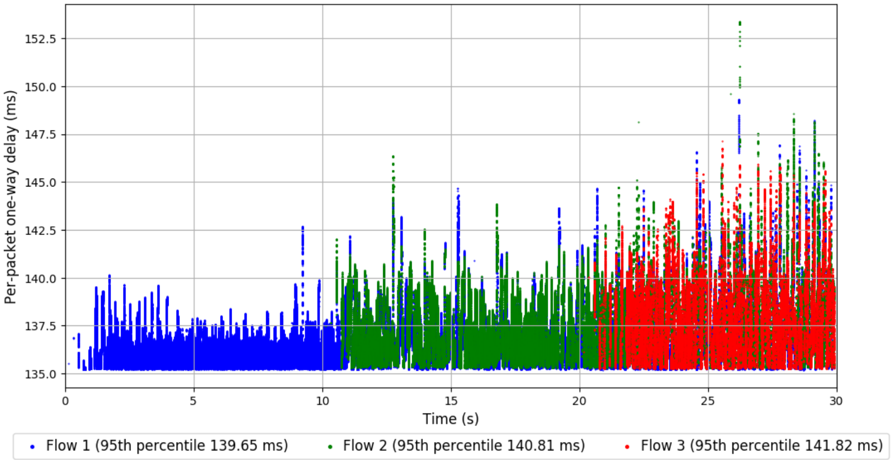
```
Run 1: Statistics of TaoVA-100x

Start at: 2018-08-22 19:22:18
End at: 2018-08-22 19:22:48
Local clock offset: 1.88 ms
Remote clock offset: -38.457 ms

# Below is generated by plot.py at 2018-08-23 01:12:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.88 Mbit/s
95th percentile per-packet one-way delay: 140.390 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 111.94 Mbit/s
95th percentile per-packet one-way delay: 139.647 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 78.38 Mbit/s
95th percentile per-packet one-way delay: 140.811 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 60.87 Mbit/s
95th percentile per-packet one-way delay: 141.824 ms
Loss rate: 2.57%
```

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



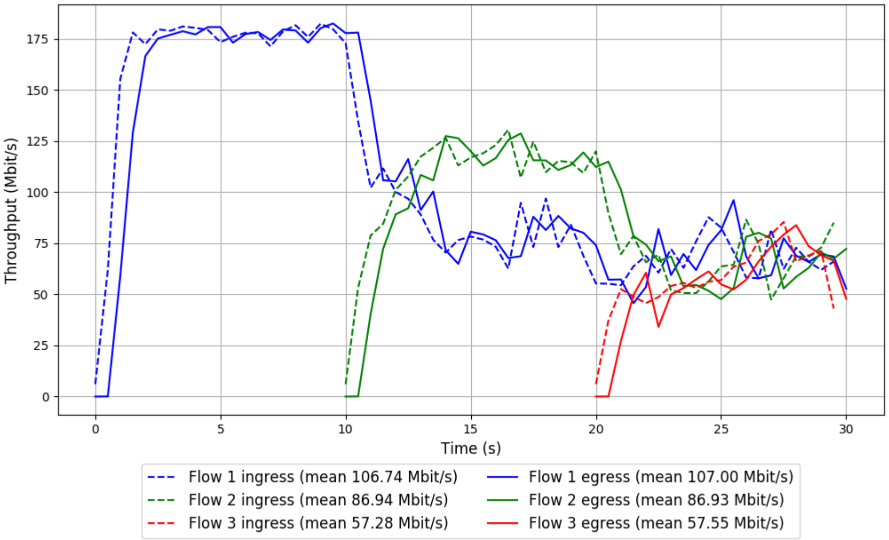


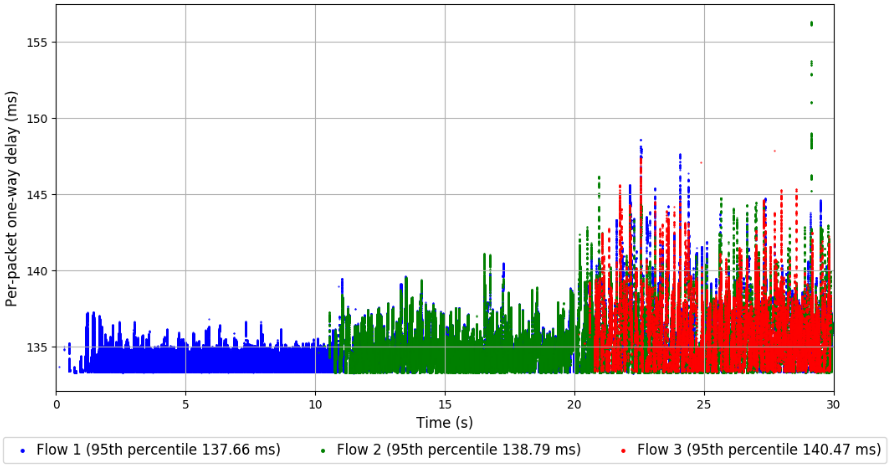
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-08-22 20:04:05
End at: 2018-08-22 20:04:35
Local clock offset: 0.448 ms
Remote clock offset: -37.0 ms

# Below is generated by plot.py at 2018-08-23 01:12:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.48 Mbit/s
95th percentile per-packet one-way delay: 138.496 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 107.00 Mbit/s
95th percentile per-packet one-way delay: 137.663 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 86.93 Mbit/s
95th percentile per-packet one-way delay: 138.786 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 57.55 Mbit/s
95th percentile per-packet one-way delay: 140.471 ms
Loss rate: 1.54%
```

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



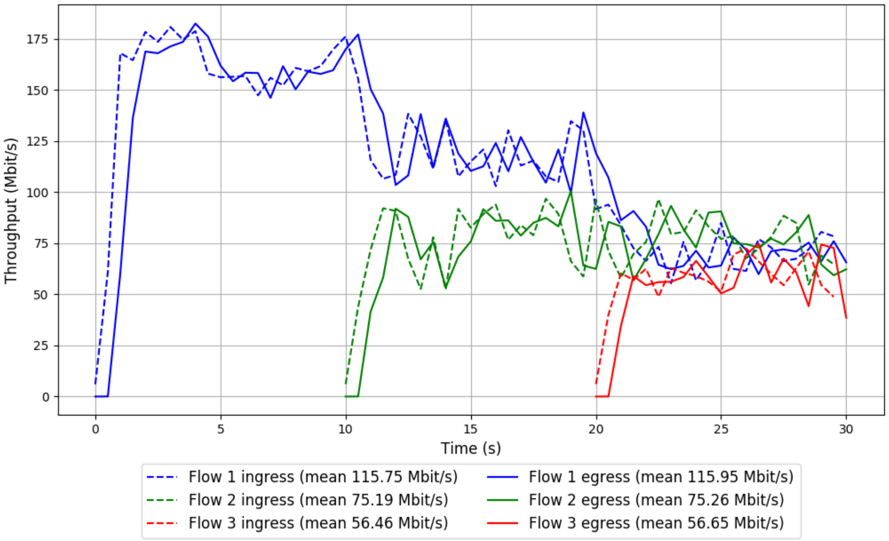


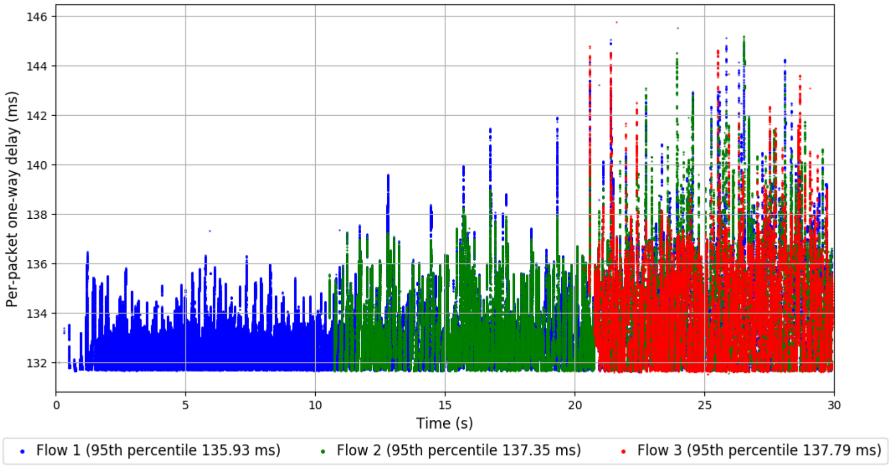
```
Run 3: Statistics of TaoVA-100x

Start at: 2018-08-22 20:34:08
End at: 2018-08-22 20:34:38
Local clock offset: -1.881 ms
Remote clock offset: -36.886 ms

# Below is generated by plot.py at 2018-08-23 01:12:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.48 Mbit/s
95th percentile per-packet one-way delay: 136.648 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 115.95 Mbit/s
95th percentile per-packet one-way delay: 135.931 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 75.26 Mbit/s
95th percentile per-packet one-way delay: 137.354 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 56.65 Mbit/s
95th percentile per-packet one-way delay: 137.788 ms
Loss rate: 1.67%
```

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



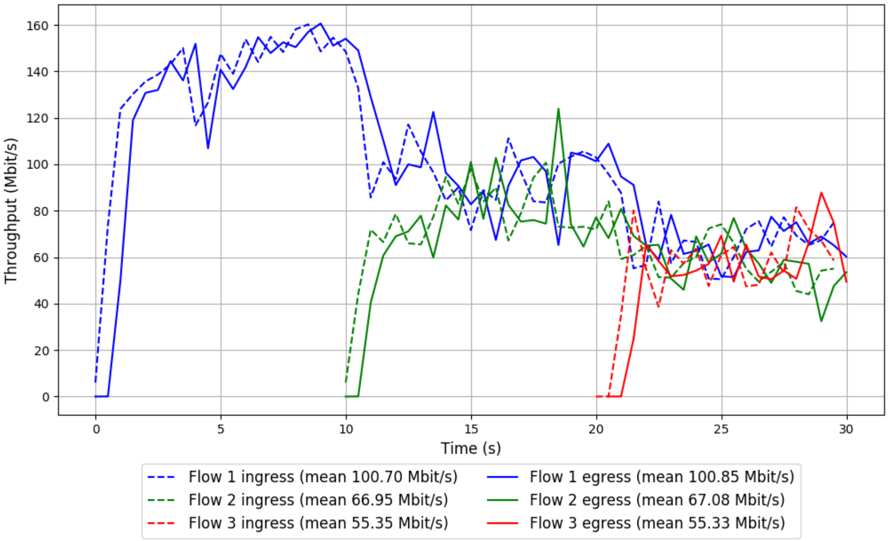


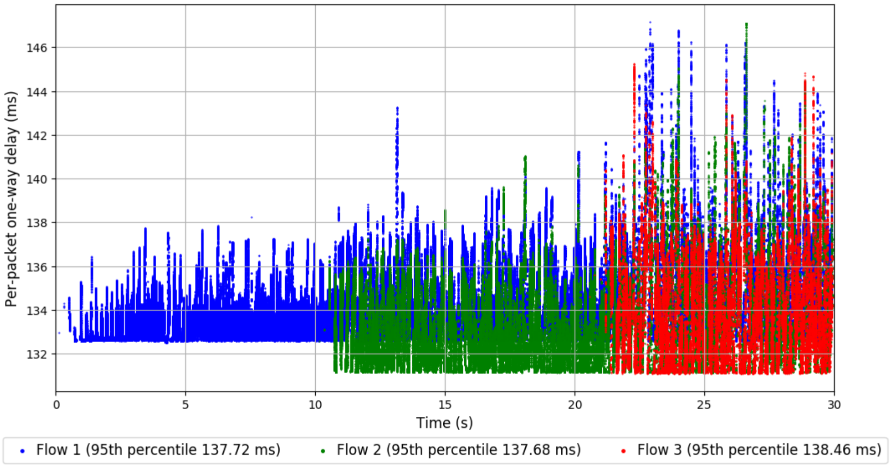
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-08-22 21:04:23
End at: 2018-08-22 21:04:53
Local clock offset: -1.552 ms
Remote clock offset: -37.957 ms

# Below is generated by plot.py at 2018-08-23 01:12:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.70 Mbit/s
95th percentile per-packet one-way delay: 137.818 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 100.85 Mbit/s
95th percentile per-packet one-way delay: 137.722 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 67.08 Mbit/s
95th percentile per-packet one-way delay: 137.679 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 55.33 Mbit/s
95th percentile per-packet one-way delay: 138.458 ms
Loss rate: 2.09%
```

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



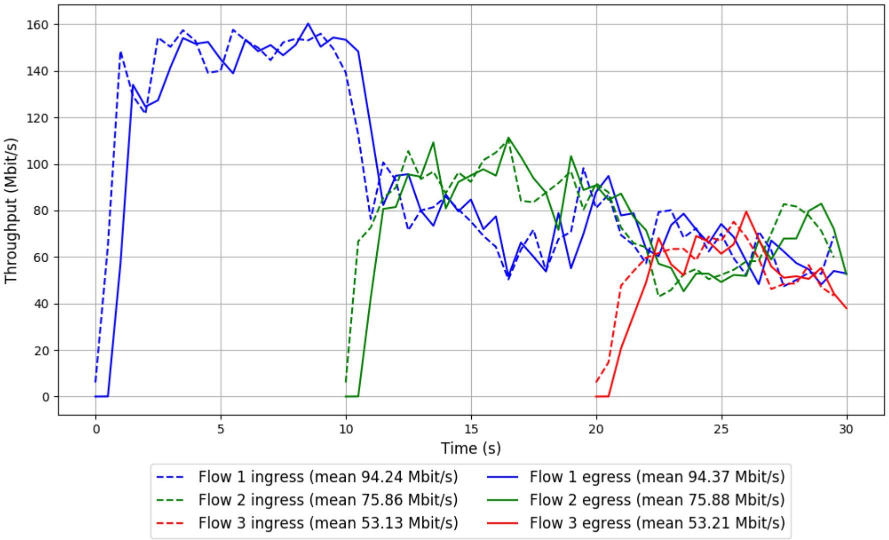


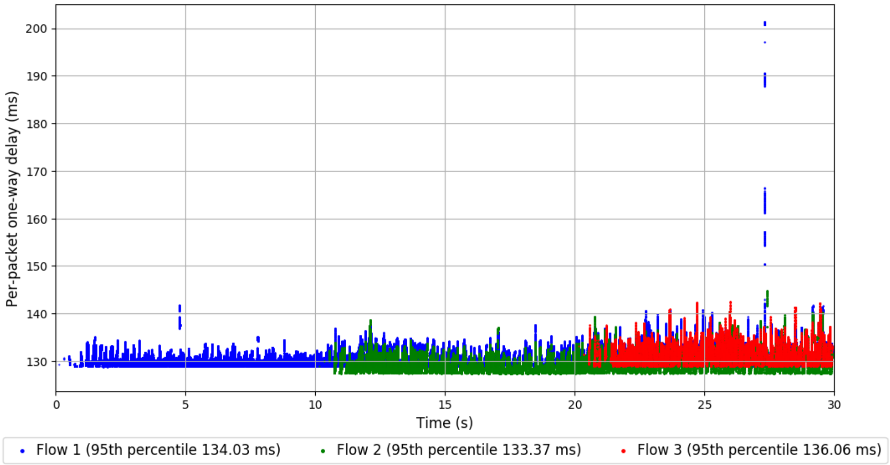
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-08-22 21:39:49
End at: 2018-08-22 21:40:19
Local clock offset: 0.216 ms
Remote clock offset: -34.673 ms

# Below is generated by plot.py at 2018-08-23 01:12:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.19 Mbit/s
95th percentile per-packet one-way delay: 134.340 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 94.37 Mbit/s
95th percentile per-packet one-way delay: 134.033 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 75.88 Mbit/s
95th percentile per-packet one-way delay: 133.366 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 53.21 Mbit/s
95th percentile per-packet one-way delay: 136.059 ms
Loss rate: 1.83%
```

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



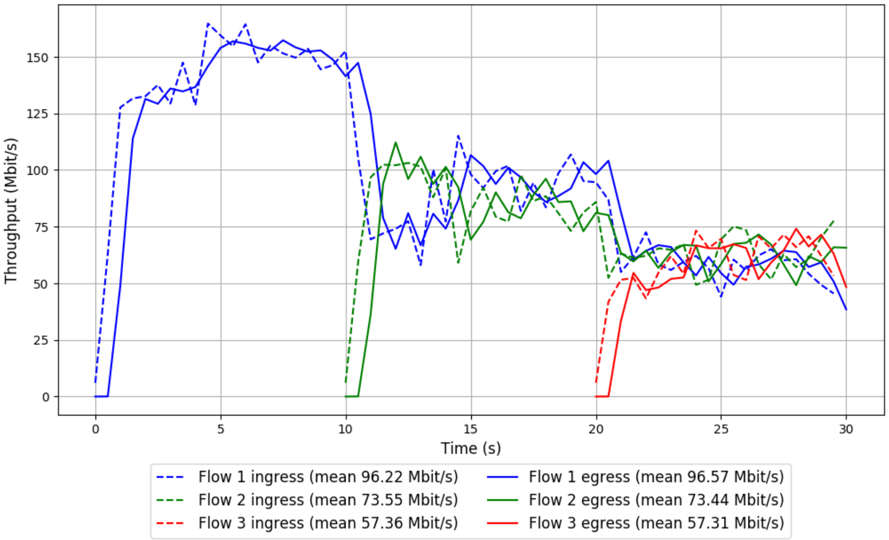


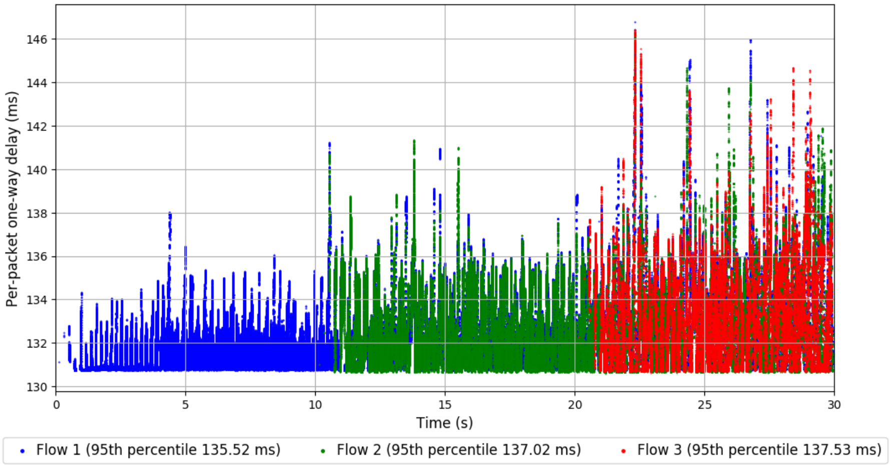
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-08-22 22:03:56
End at: 2018-08-22 22:04:26
Local clock offset: 3.591 ms
Remote clock offset: -35.303 ms

# Below is generated by plot.py at 2018-08-23 01:12:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.09 Mbit/s
95th percentile per-packet one-way delay: 136.281 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 96.57 Mbit/s
95th percentile per-packet one-way delay: 135.518 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 73.44 Mbit/s
95th percentile per-packet one-way delay: 137.020 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 57.31 Mbit/s
95th percentile per-packet one-way delay: 137.525 ms
Loss rate: 1.96%
```

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



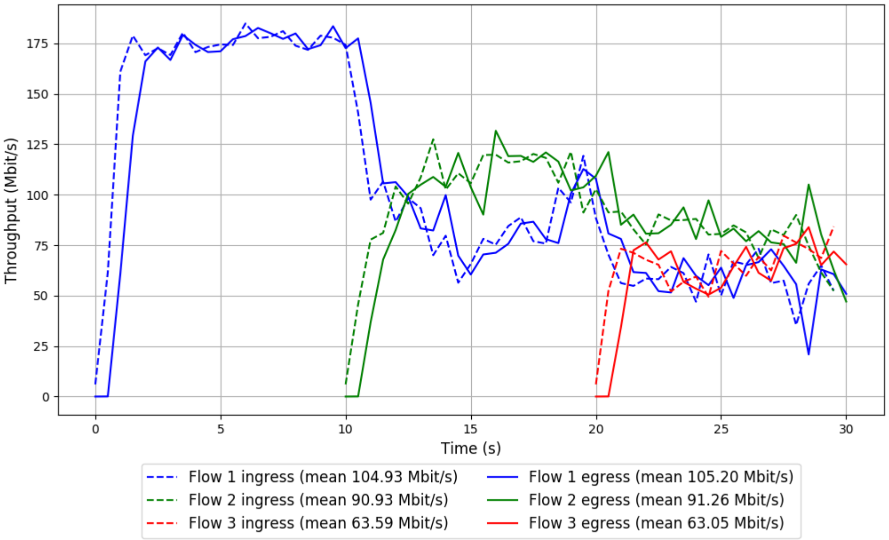


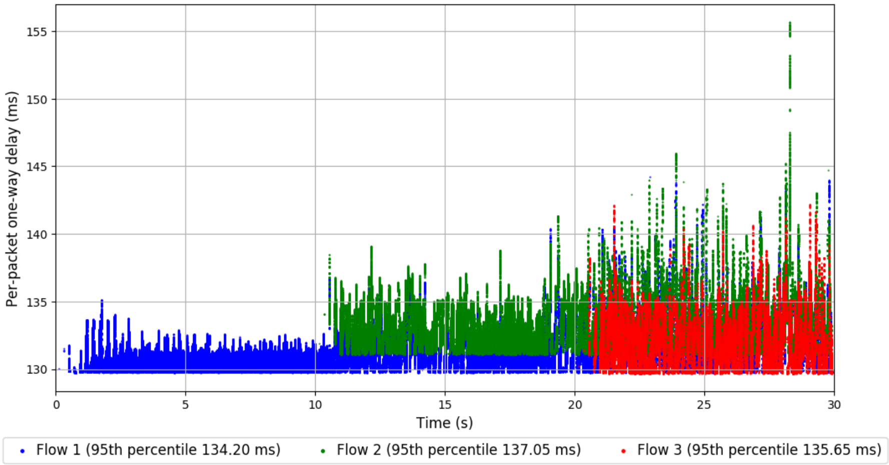
```
Run 7: Statistics of TaoVA-100x

Start at: 2018-08-22 22:33:57
End at: 2018-08-22 22:34:27
Local clock offset: 2.552 ms
Remote clock offset: -36.614 ms

# Below is generated by plot.py at 2018-08-23 01:13:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 186.39 Mbit/s
95th percentile per-packet one-way delay: 135.796 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 105.20 Mbit/s
95th percentile per-packet one-way delay: 134.196 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 137.047 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 63.05 Mbit/s
95th percentile per-packet one-way delay: 135.645 ms
Loss rate: 2.75%
```

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



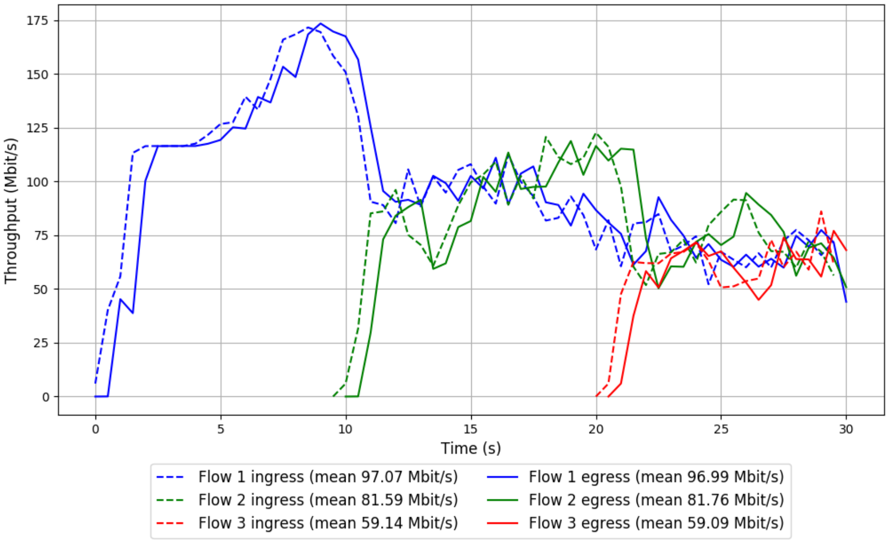


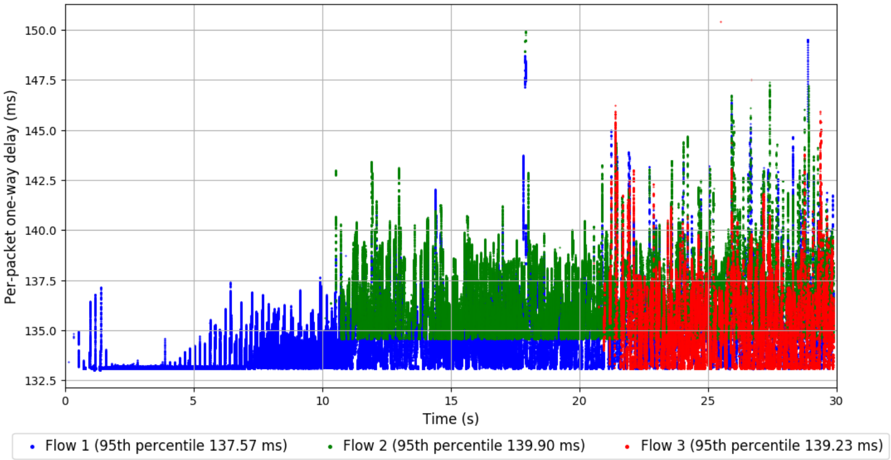
```
Run 8: Statistics of TaoVA-100x

Start at: 2018-08-22 23:15:32
End at: 2018-08-22 23:16:02
Local clock offset: 3.139 ms
Remote clock offset: -39.178 ms

# Below is generated by plot.py at 2018-08-23 01:13:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 169.82 Mbit/s
95th percentile per-packet one-way delay: 138.913 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 137.573 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 81.76 Mbit/s
95th percentile per-packet one-way delay: 139.896 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 139.231 ms
Loss rate: 2.17%
```

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



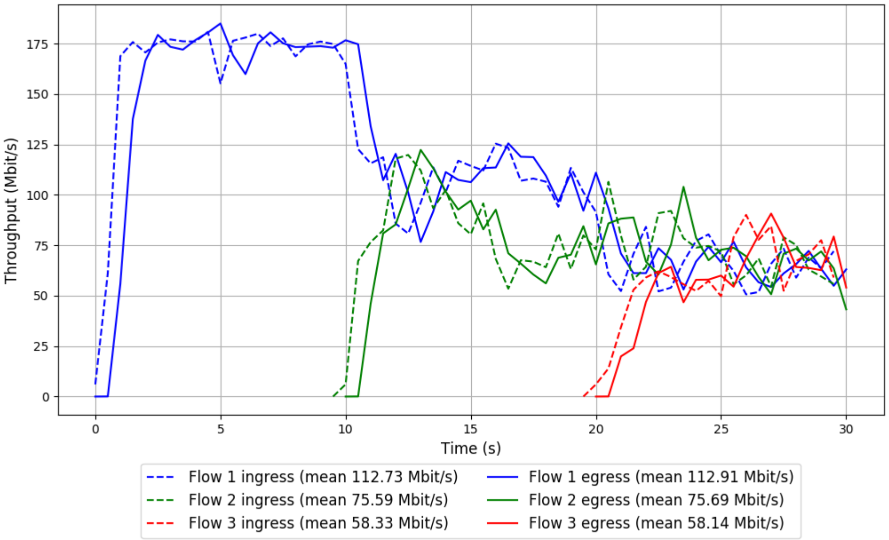


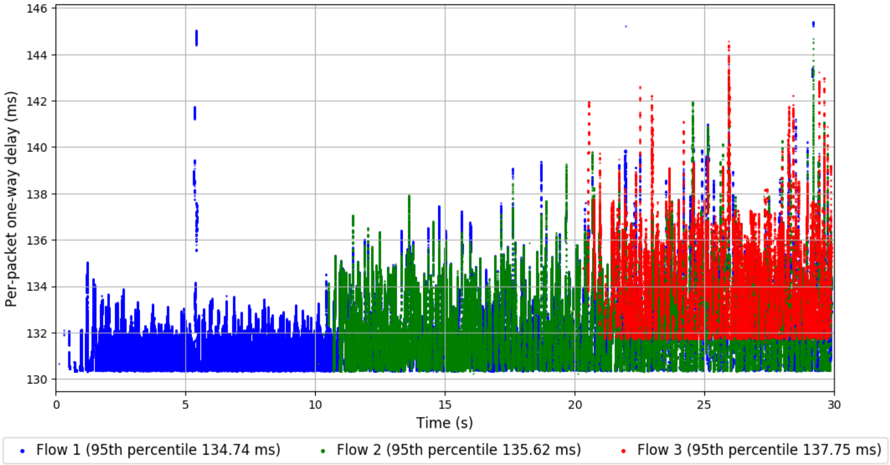
```
Run 9: Statistics of TaoVA-100x

Start at: 2018-08-22 23:45:43
End at: 2018-08-22 23:46:13
Local clock offset: 4.443 ms
Remote clock offset: -34.878 ms

# Below is generated by plot.py at 2018-08-23 01:16:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.29 Mbit/s
95th percentile per-packet one-way delay: 135.690 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 112.91 Mbit/s
95th percentile per-packet one-way delay: 134.741 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 75.69 Mbit/s
95th percentile per-packet one-way delay: 135.619 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 58.14 Mbit/s
95th percentile per-packet one-way delay: 137.747 ms
Loss rate: 2.19%
```

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



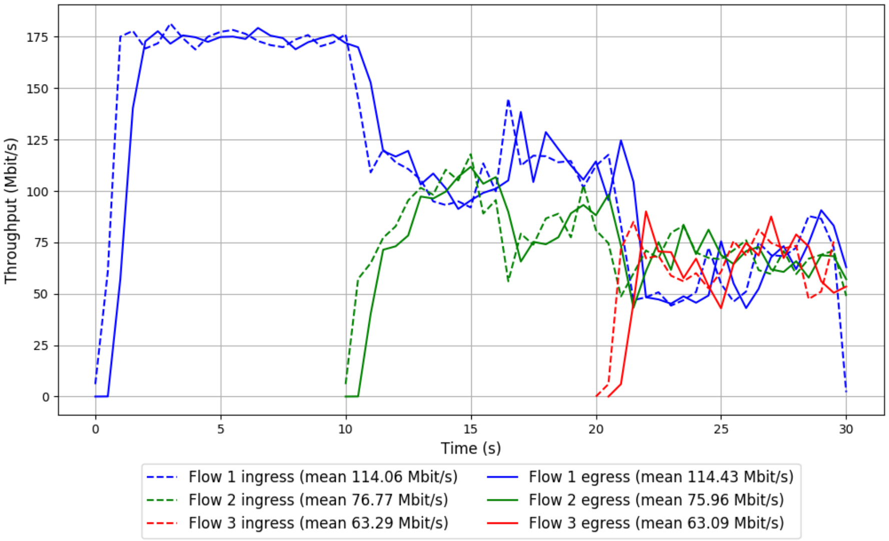


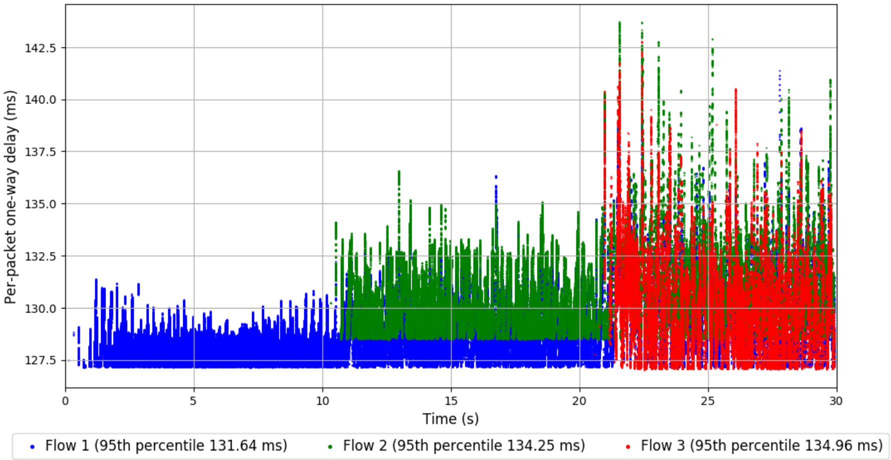
```
Run 10: Statistics of TaoVA-100x

Start at: 2018-08-23 00:26:14
End at: 2018-08-23 00:26:44
Local clock offset: 1.282 ms
Remote clock offset: -33.775 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.60 Mbit/s
95th percentile per-packet one-way delay: 133.169 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 114.43 Mbit/s
95th percentile per-packet one-way delay: 131.641 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 134.254 ms
Loss rate: 2.88%
-- Flow 3:
Average throughput: 63.09 Mbit/s
95th percentile per-packet one-way delay: 134.962 ms
Loss rate: 2.31%
```

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



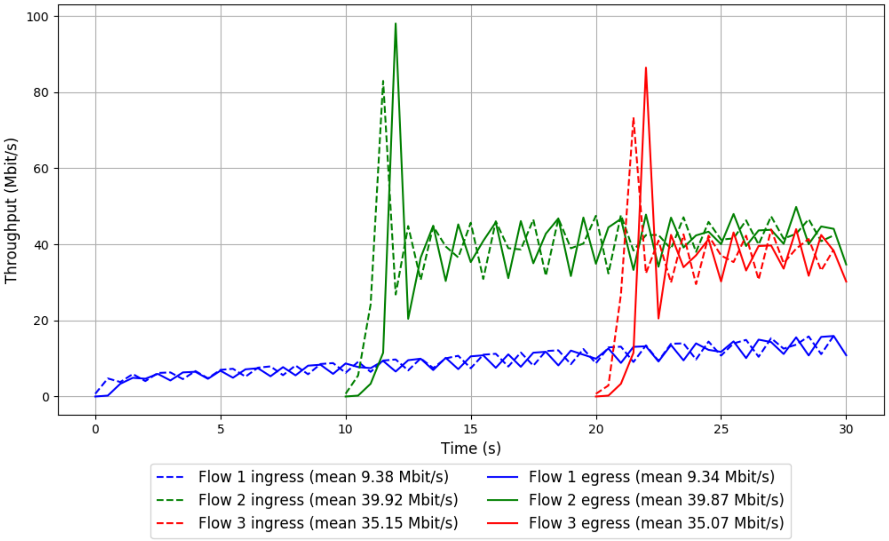


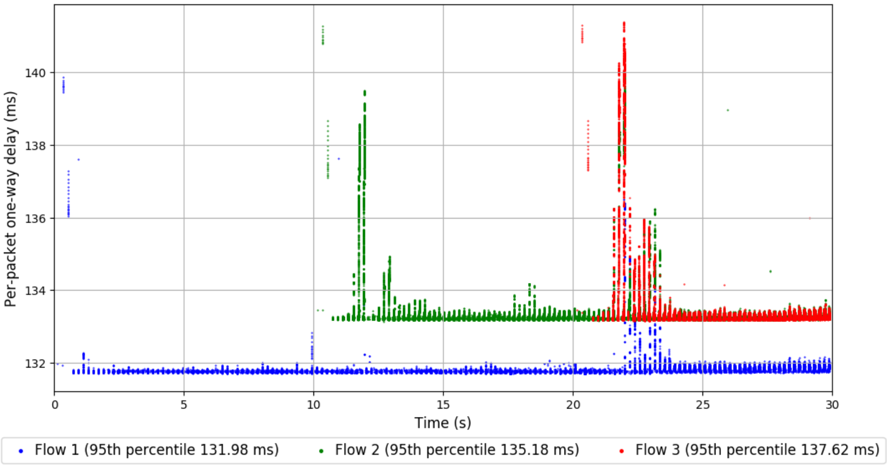
```
Run 1: Statistics of TCP Vegas

Start at: 2018-08-22 19:12:49
End at: 2018-08-22 19:13:19
Local clock offset: -0.618 ms
Remote clock offset: -38.877 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.27 Mbit/s
95th percentile per-packet one-way delay: 135.141 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 131.977 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 135.183 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 35.07 Mbit/s
95th percentile per-packet one-way delay: 137.619 ms
Loss rate: 2.14%
```

# Run 1: Report of TCP Vegas — Data Link



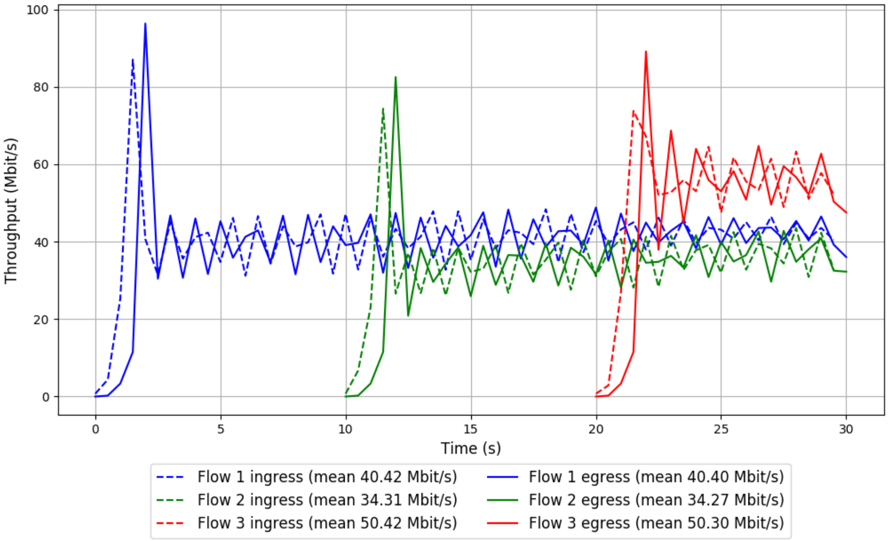


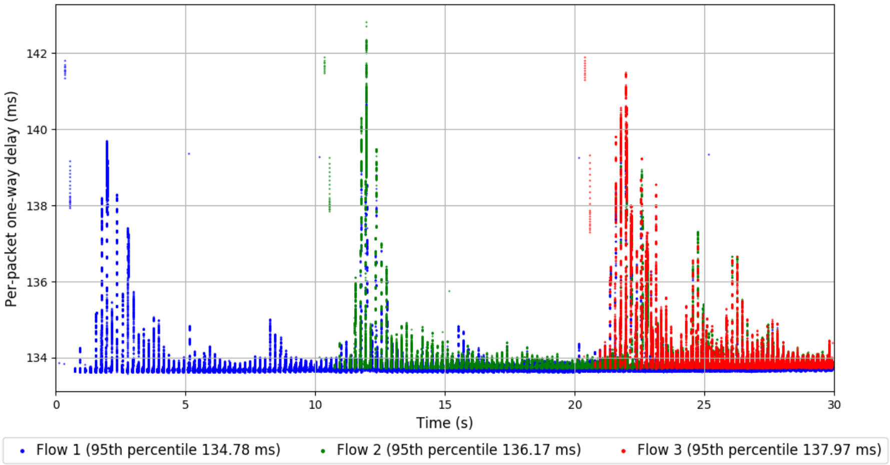
```
Run 2: Statistics of TCP Vegas

Start at: 2018-08-22 19:54:36
End at: 2018-08-22 19:55:06
Local clock offset: 1.405 ms
Remote clock offset: -35.344 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.62 Mbit/s
95th percentile per-packet one-way delay: 136.289 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 40.40 Mbit/s
95th percentile per-packet one-way delay: 134.777 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 136.172 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 137.969 ms
Loss rate: 2.17%
```

Run 2: Report of TCP Vegas — Data Link



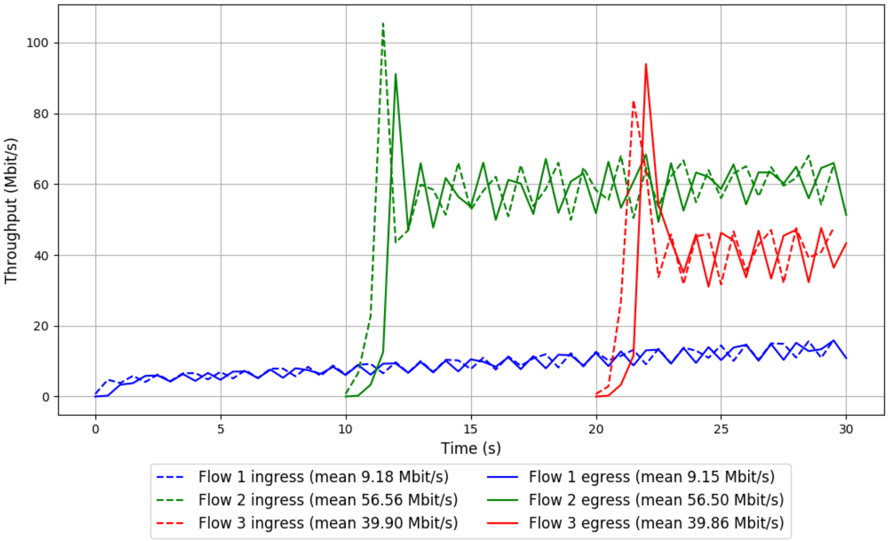


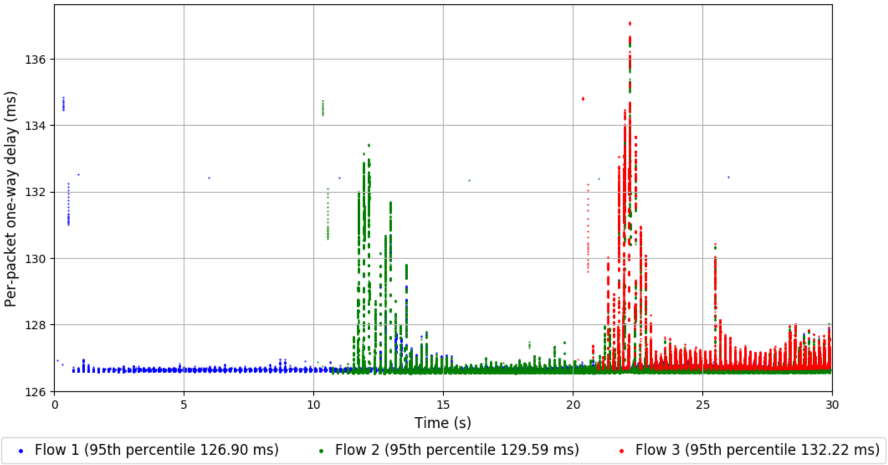
```
Run 3: Statistics of TCP Vegas

Start at: 2018-08-22 20:24:39
End at: 2018-08-22 20:25:09
Local clock offset: -1.592 ms
Remote clock offset: -31.654 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.66 Mbit/s
95th percentile per-packet one-way delay: 130.476 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 126.901 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 56.50 Mbit/s
95th percentile per-packet one-way delay: 129.595 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 39.86 Mbit/s
95th percentile per-packet one-way delay: 132.220 ms
Loss rate: 2.04%
```

Run 3: Report of TCP Vegas — Data Link



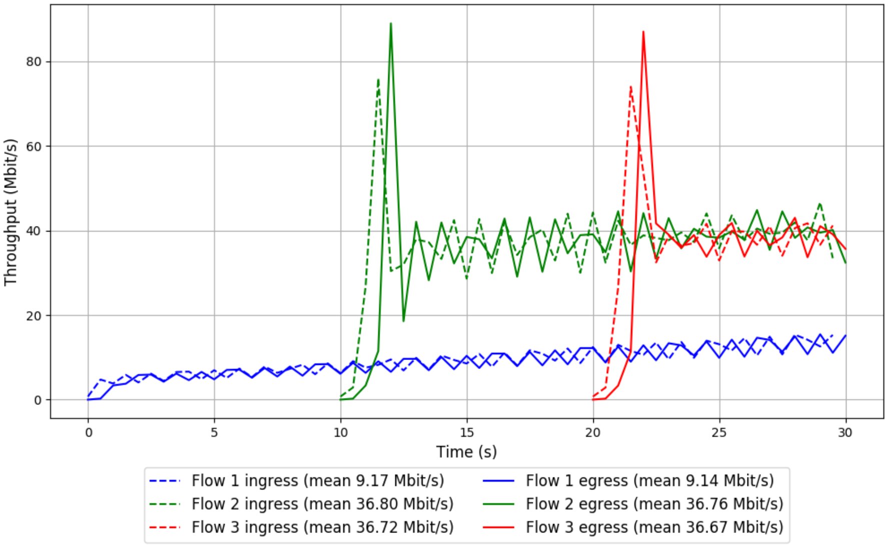


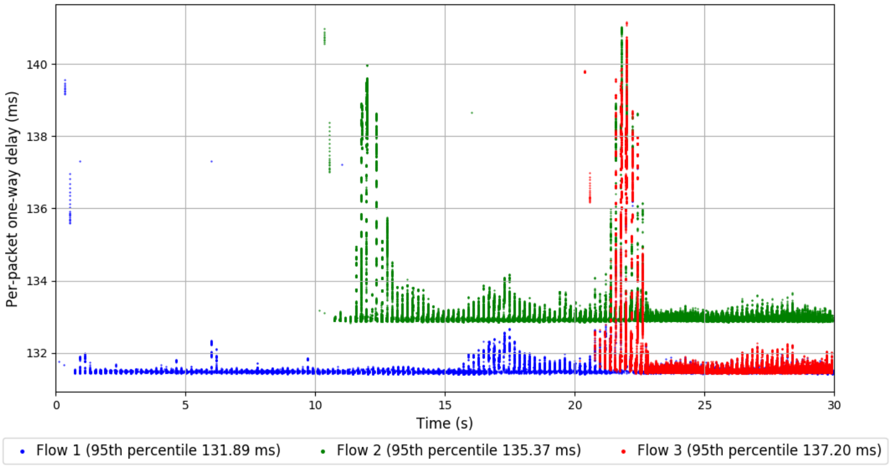
```
Run 4: Statistics of TCP Vegas

Start at: 2018-08-22 20:54:52
End at: 2018-08-22 20:55:22
Local clock offset: -1.415 ms
Remote clock offset: -37.695 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.51 Mbit/s
95th percentile per-packet one-way delay: 135.402 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 9.14 Mbit/s
95th percentile per-packet one-way delay: 131.887 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 36.76 Mbit/s
95th percentile per-packet one-way delay: 135.369 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 137.196 ms
Loss rate: 2.07%
```

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



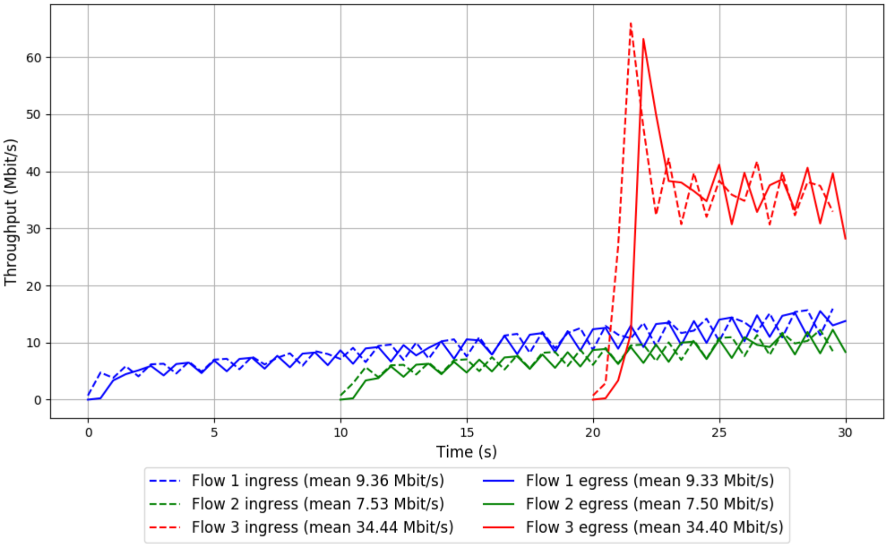


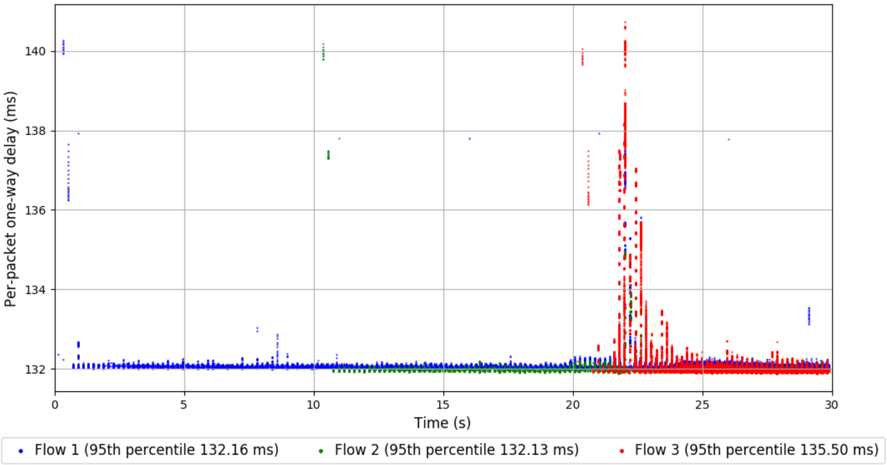
```
Run 5: Statistics of TCP Vegas

Start at: 2018-08-22 21:24:50
End at: 2018-08-22 21:25:20
Local clock offset: 2.016 ms
Remote clock offset: -36.551 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.53 Mbit/s
95th percentile per-packet one-way delay: 133.151 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 132.161 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 132.132 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 34.40 Mbit/s
95th percentile per-packet one-way delay: 135.497 ms
Loss rate: 2.06%
```

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



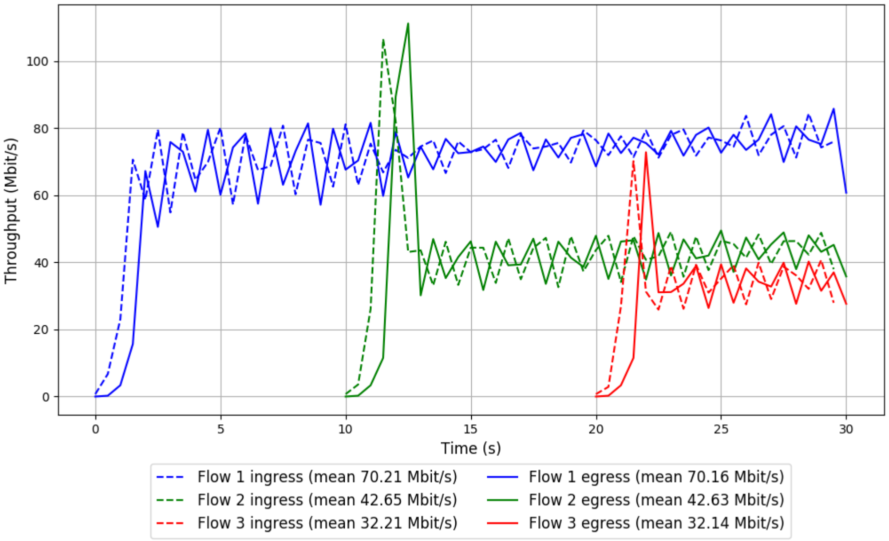


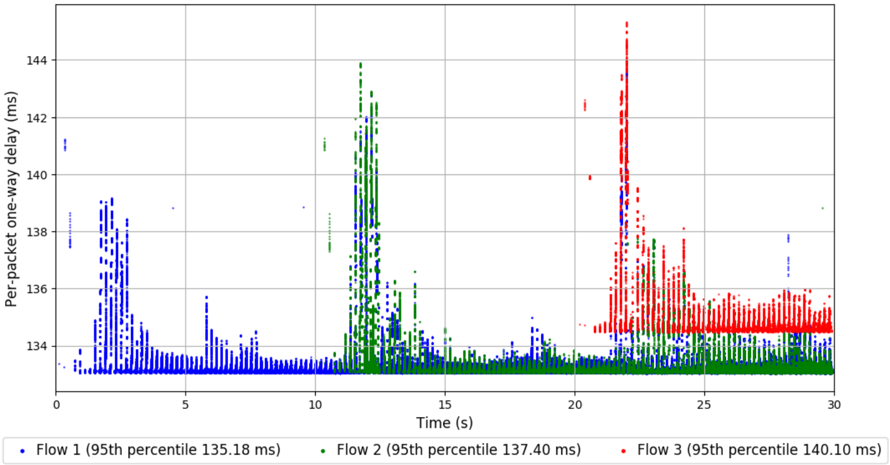
```
Run 6: Statistics of TCP Vegas

Start at: 2018-08-22 21:54:26
End at: 2018-08-22 21:54:56
Local clock offset: 1.572 ms
Remote clock offset: -39.501 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.95 Mbit/s
95th percentile per-packet one-way delay: 136.416 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 70.16 Mbit/s
95th percentile per-packet one-way delay: 135.181 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 42.63 Mbit/s
95th percentile per-packet one-way delay: 137.398 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 140.104 ms
Loss rate: 2.15%
```

## Run 6: Report of TCP Vegas — Data Link



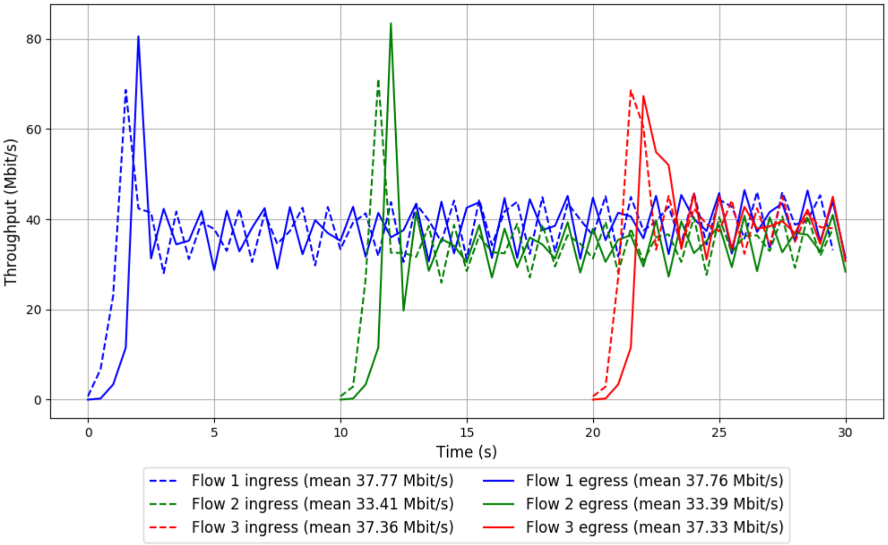


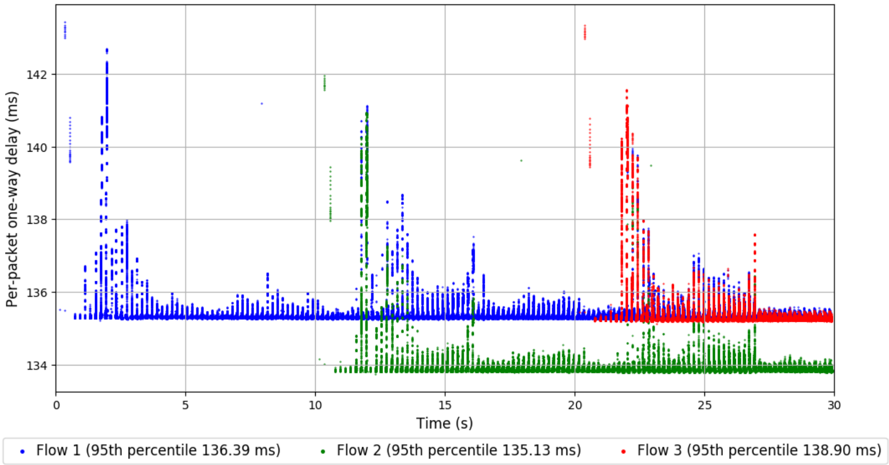
```
Run 7: Statistics of TCP Vegas

Start at: 2018-08-22 22:24:28
End at: 2018-08-22 22:24:58
Local clock offset: 3.736 ms
Remote clock offset: -39.329 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.08 Mbit/s
95th percentile per-packet one-way delay: 136.423 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 37.76 Mbit/s
95th percentile per-packet one-way delay: 136.391 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 33.39 Mbit/s
95th percentile per-packet one-way delay: 135.134 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 37.33 Mbit/s
95th percentile per-packet one-way delay: 138.903 ms
Loss rate: 2.05%
```

## Run 7: Report of TCP Vegas — Data Link



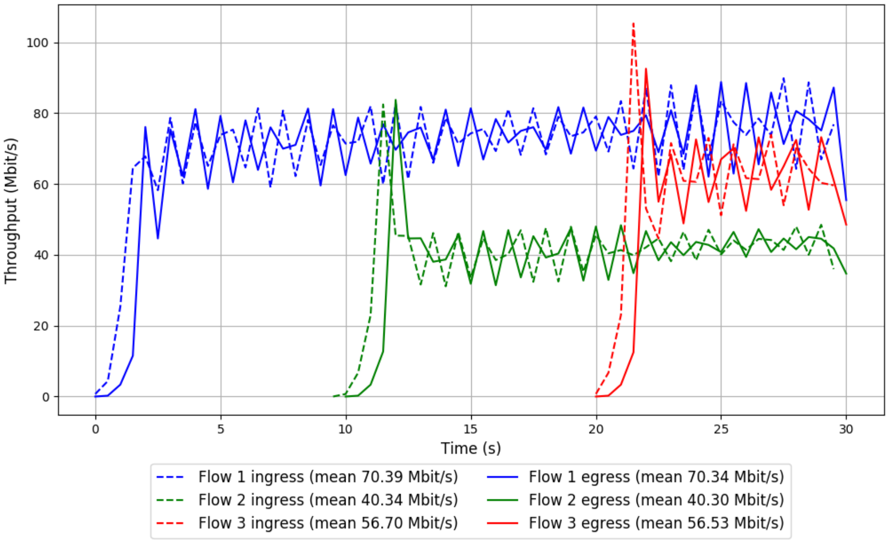


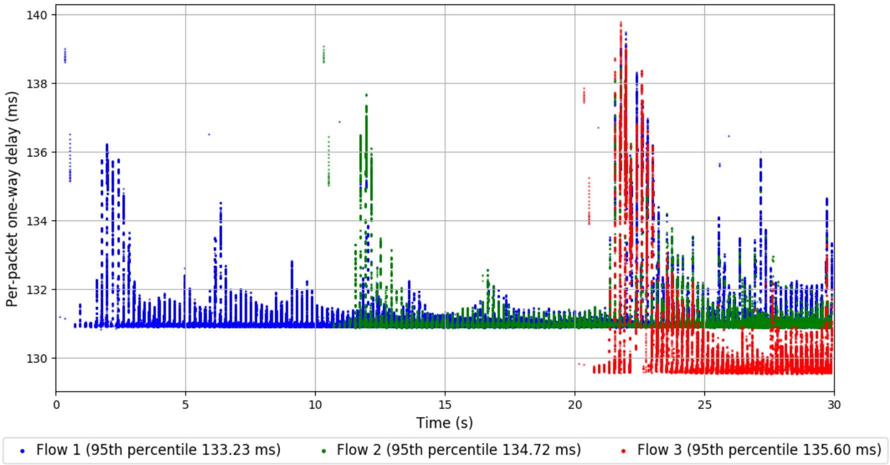
```
Run 8: Statistics of TCP Vegas

Start at: 2018-08-22 23:05:51
End at: 2018-08-22 23:06:21
Local clock offset: 2.584 ms
Remote clock offset: -36.214 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.63 Mbit/s
95th percentile per-packet one-way delay: 134.135 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 70.34 Mbit/s
95th percentile per-packet one-way delay: 133.226 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 40.30 Mbit/s
95th percentile per-packet one-way delay: 134.720 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 56.53 Mbit/s
95th percentile per-packet one-way delay: 135.597 ms
Loss rate: 2.22%
```

Run 8: Report of TCP Vegas — Data Link



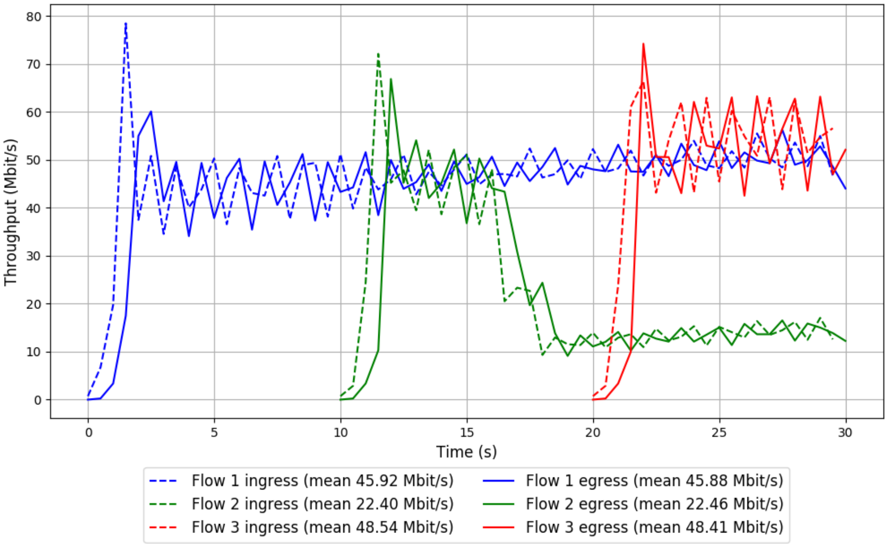


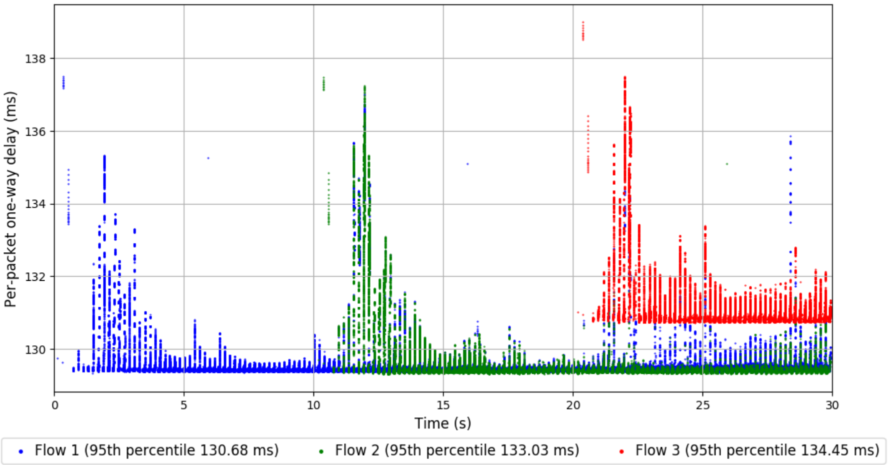
```
Run 9: Statistics of TCP Vegas

Start at: 2018-08-22 23:36:11
End at: 2018-08-22 23:36:41
Local clock offset: 4.732 ms
Remote clock offset: -33.809 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.59 Mbit/s
95th percentile per-packet one-way delay: 132.317 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 45.88 Mbit/s
95th percentile per-packet one-way delay: 130.680 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 22.46 Mbit/s
95th percentile per-packet one-way delay: 133.026 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 48.41 Mbit/s
95th percentile per-packet one-way delay: 134.450 ms
Loss rate: 2.21%
```

Run 9: Report of TCP Vegas — Data Link



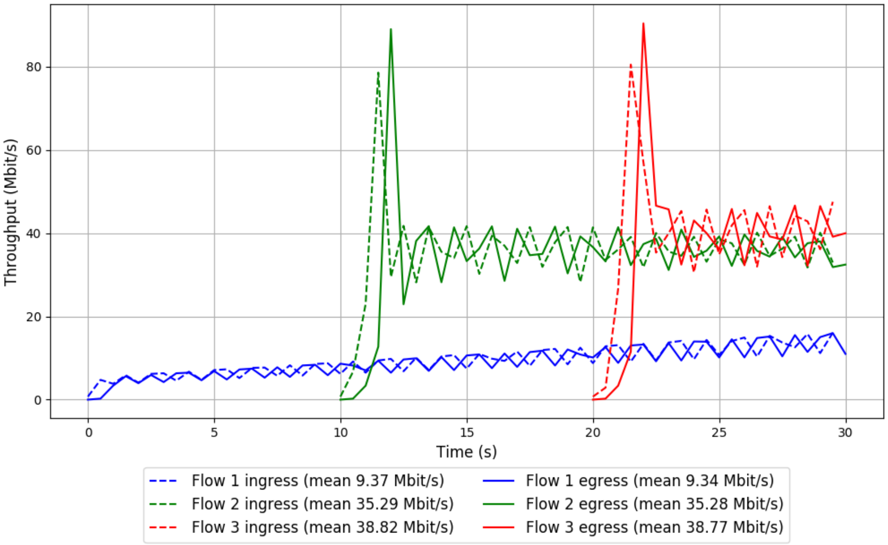


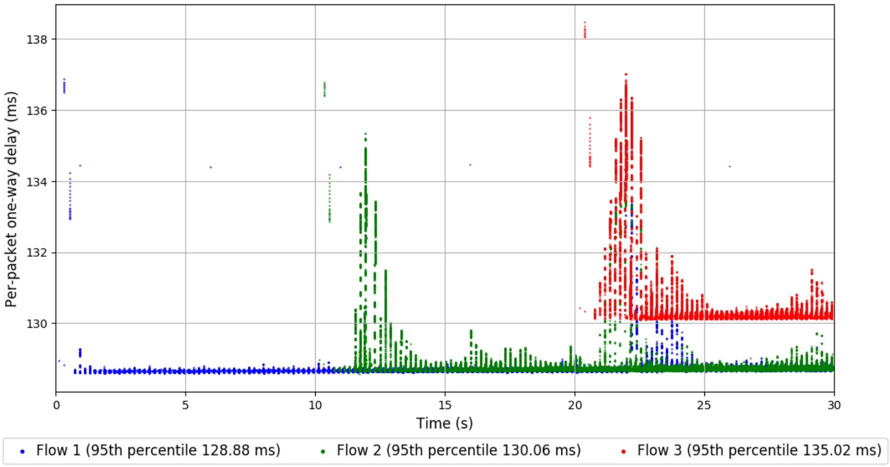
```
Run 10: Statistics of TCP Vegas

Start at: 2018-08-23 00:06:15
End at: 2018-08-23 00:06:45
Local clock offset: -4.965 ms
Remote clock offset: -42.476 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.42 Mbit/s
95th percentile per-packet one-way delay: 132.721 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 128.877 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 35.28 Mbit/s
95th percentile per-packet one-way delay: 130.059 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 38.77 Mbit/s
95th percentile per-packet one-way delay: 135.019 ms
Loss rate: 2.07%
```

# Run 10: Report of TCP Vegas — Data Link



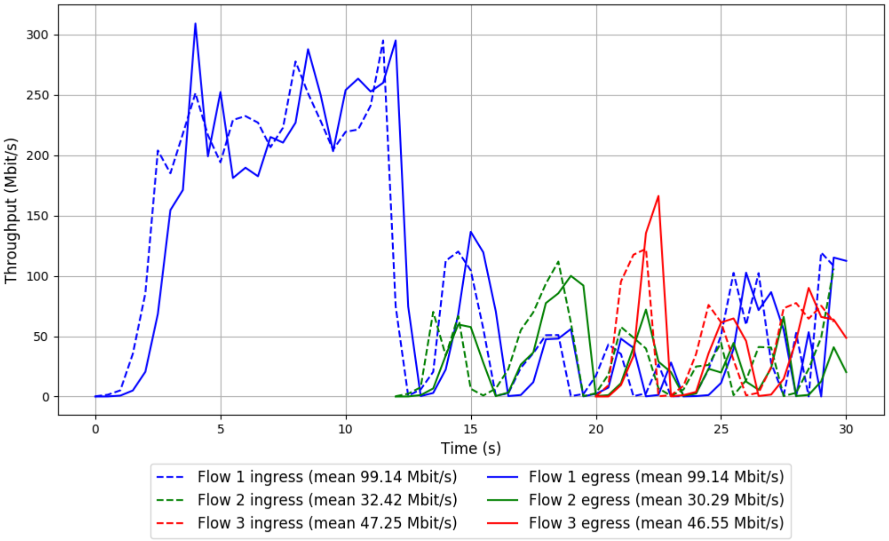


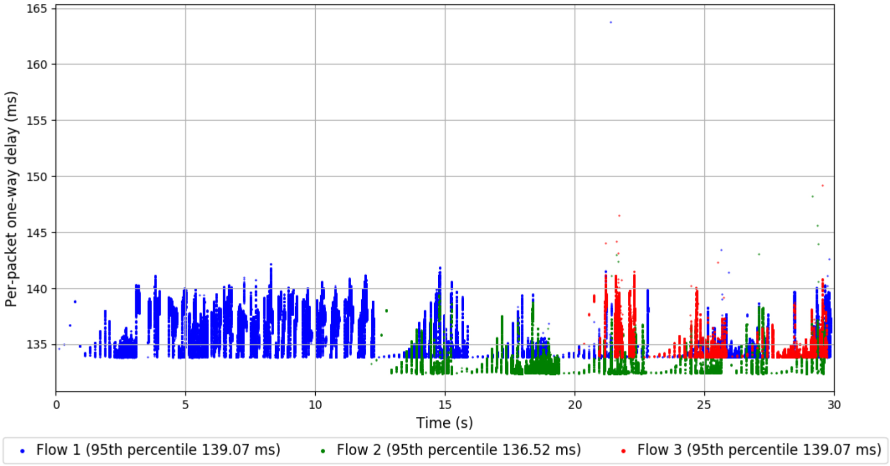
```
Run 1: Statistics of Verus

Start at: 2018-08-22 19:04:04
End at: 2018-08-22 19:04:34
Local clock offset: -0.347 ms
Remote clock offset: -39.143 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.89 Mbit/s
95th percentile per-packet one-way delay: 138.978 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 99.14 Mbit/s
95th percentile per-packet one-way delay: 139.075 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.29 Mbit/s
95th percentile per-packet one-way delay: 136.521 ms
Loss rate: 9.12%
-- Flow 3:
Average throughput: 46.55 Mbit/s
95th percentile per-packet one-way delay: 139.068 ms
Loss rate: 5.27%
```

# Run 1: Report of Verus — Data Link

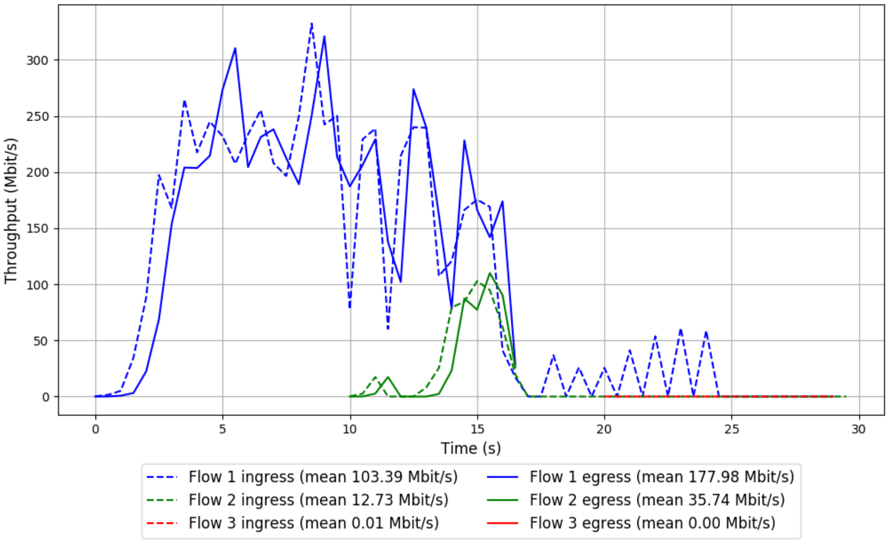


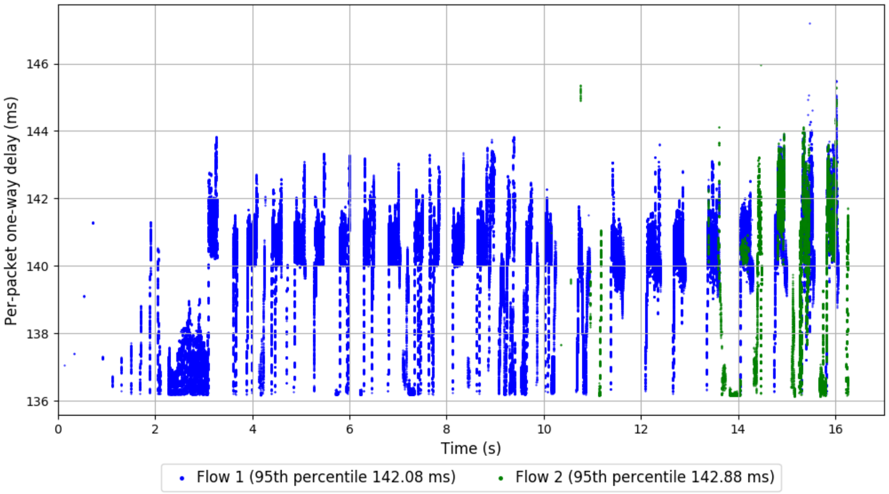


```
Run 2: Statistics of Verus

Start at: 2018-08-22 19:34:38
End at: 2018-08-22 19:35:08
Local clock offset: 2.149 ms
Remote clock offset: -38.885 ms
```

Run 2: Report of Verus — Data Link



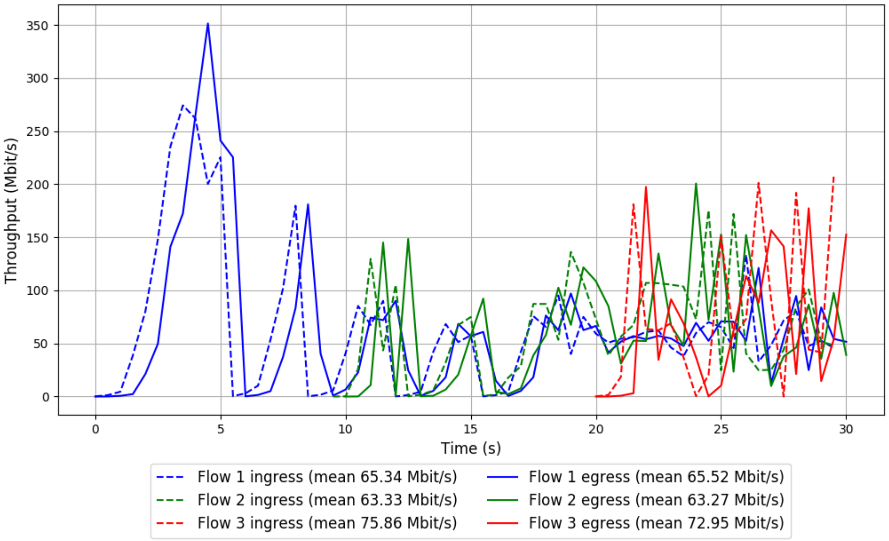


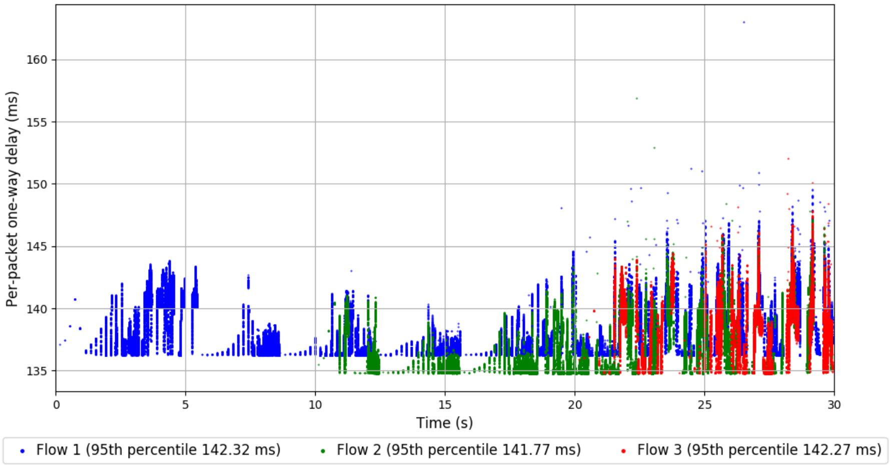
```
Run 3: Statistics of Verus

Start at: 2018-08-22 20:15:58
End at: 2018-08-22 20:16:28
Local clock offset: 0.822 ms
Remote clock offset: -37.783 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.46 Mbit/s
95th percentile per-packet one-way delay: 142.169 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 65.52 Mbit/s
95th percentile per-packet one-way delay: 142.321 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 63.27 Mbit/s
95th percentile per-packet one-way delay: 141.768 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 72.95 Mbit/s
95th percentile per-packet one-way delay: 142.269 ms
Loss rate: 5.73%
```

# Run 3: Report of Verus — Data Link



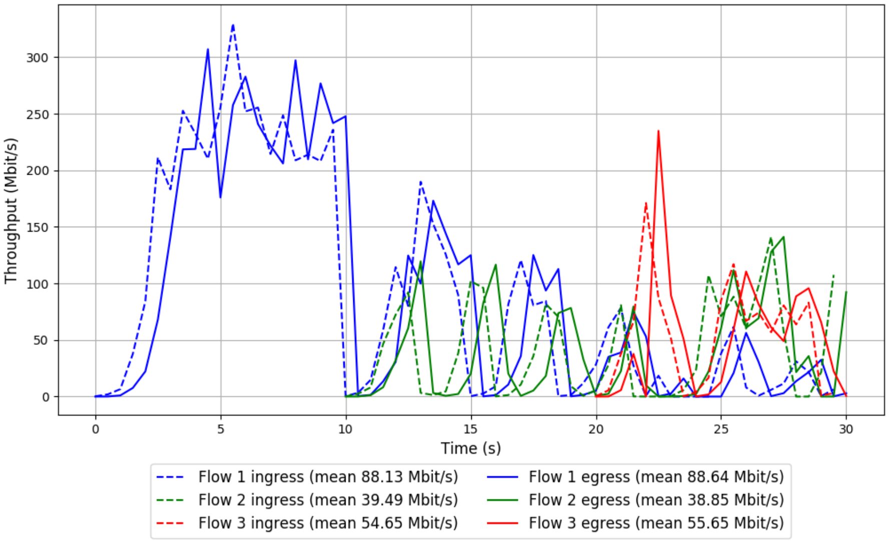


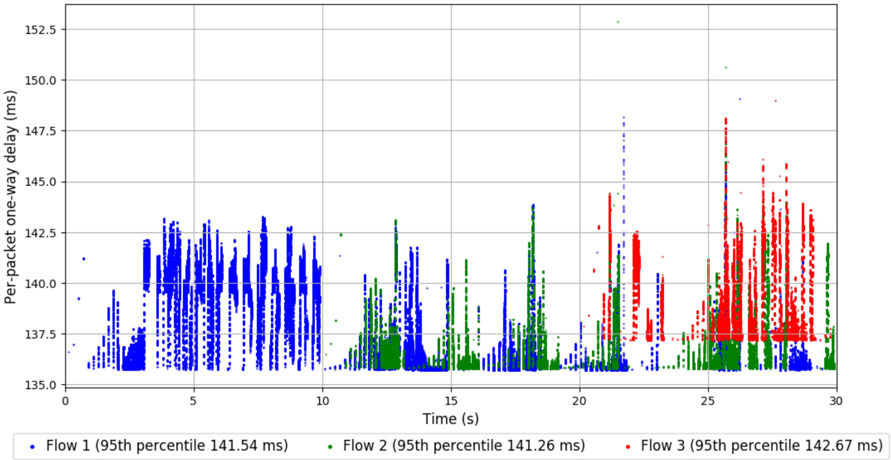
```
Run 4: Statistics of Verus

Start at: 2018-08-22 20:46:05
End at: 2018-08-22 20:46:35
Local clock offset: 0.064 ms
Remote clock offset: -40.134 ms

# Below is generated by plot.py at 2018-08-23 01:16:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.03 Mbit/s
95th percentile per-packet one-way delay: 141.748 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 141.539 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 141.258 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 142.669 ms
Loss rate: 0.24%
```

## Run 4: Report of Verus — Data Link



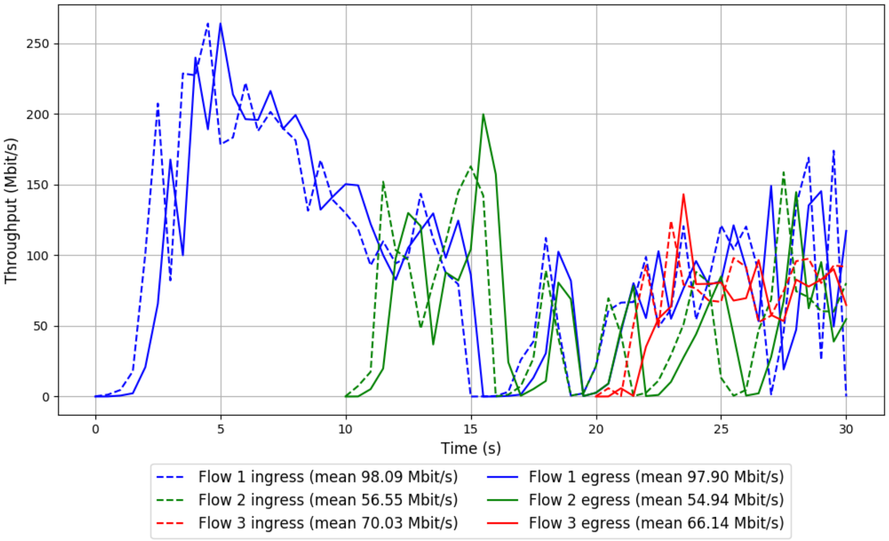


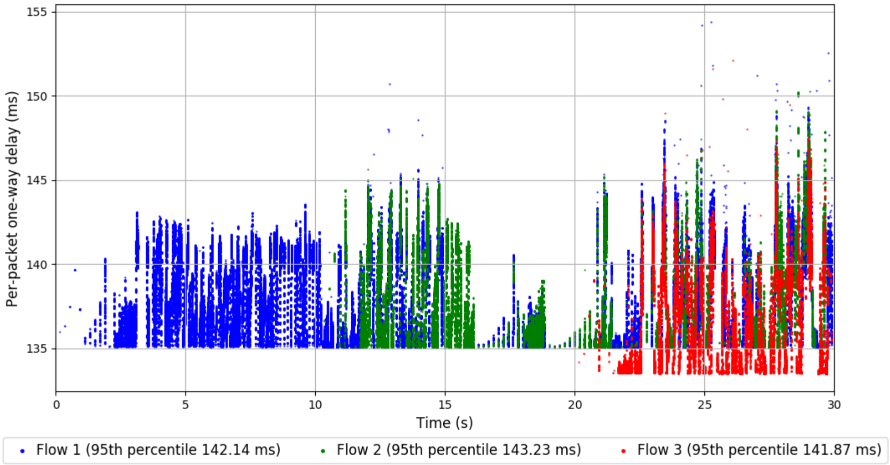
```
Run 5: Statistics of Verus

Start at: 2018-08-22 21:16:09
End at: 2018-08-22 21:16:39
Local clock offset: 0.249 ms
Remote clock offset: -39.49 ms

# Below is generated by plot.py at 2018-08-23 01:16:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 155.52 Mbit/s
95th percentile per-packet one-way delay: 142.382 ms
Loss rate: 3.61%
-- Flow 1:
Average throughput: 97.90 Mbit/s
95th percentile per-packet one-way delay: 142.141 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 54.94 Mbit/s
95th percentile per-packet one-way delay: 143.228 ms
Loss rate: 5.75%
-- Flow 3:
Average throughput: 66.14 Mbit/s
95th percentile per-packet one-way delay: 141.869 ms
Loss rate: 11.02%
```

## Run 5: Report of Verus — Data Link



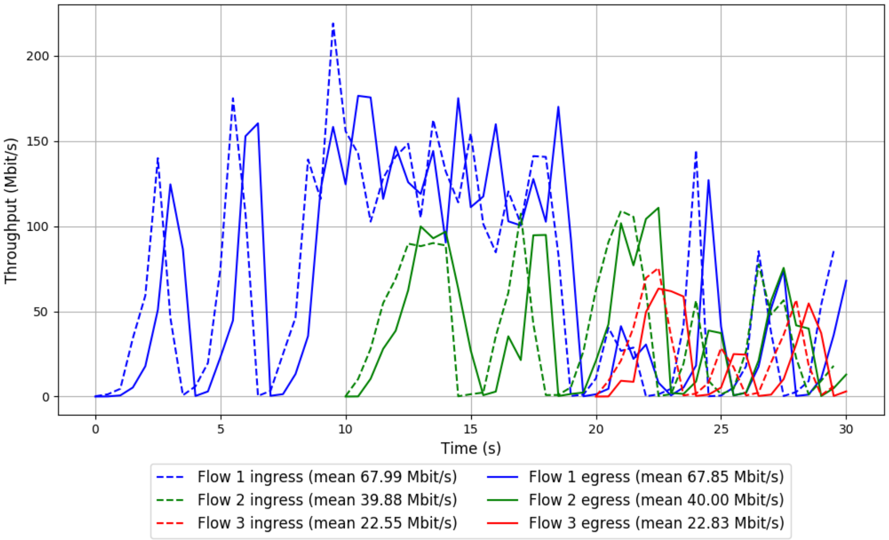


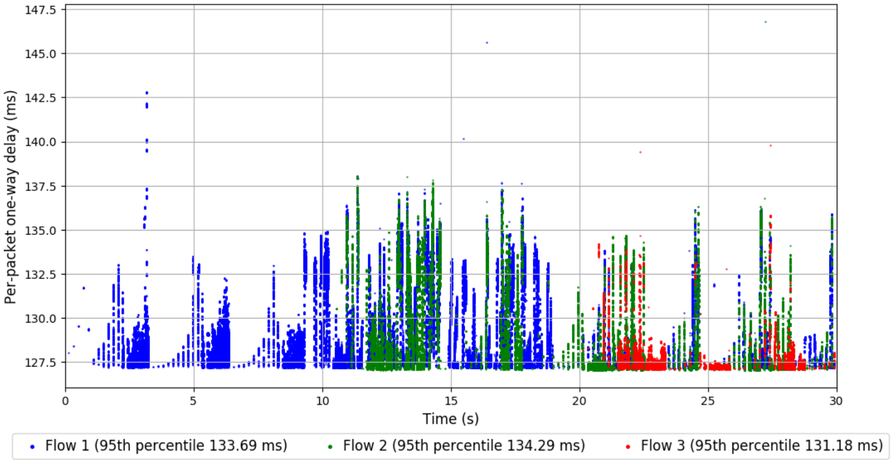
```
Run 6: Statistics of Verus

Start at: 2018-08-22 21:45:51
End at: 2018-08-22 21:46:21
Local clock offset: 1.221 ms
Remote clock offset: -33.603 ms

# Below is generated by plot.py at 2018-08-23 01:16:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.76 Mbit/s
95th percentile per-packet one-way delay: 133.760 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 67.85 Mbit/s
95th percentile per-packet one-way delay: 133.695 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 40.00 Mbit/s
95th percentile per-packet one-way delay: 134.289 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 22.83 Mbit/s
95th percentile per-packet one-way delay: 131.176 ms
Loss rate: 0.77%
```

Run 6: Report of Verus — Data Link



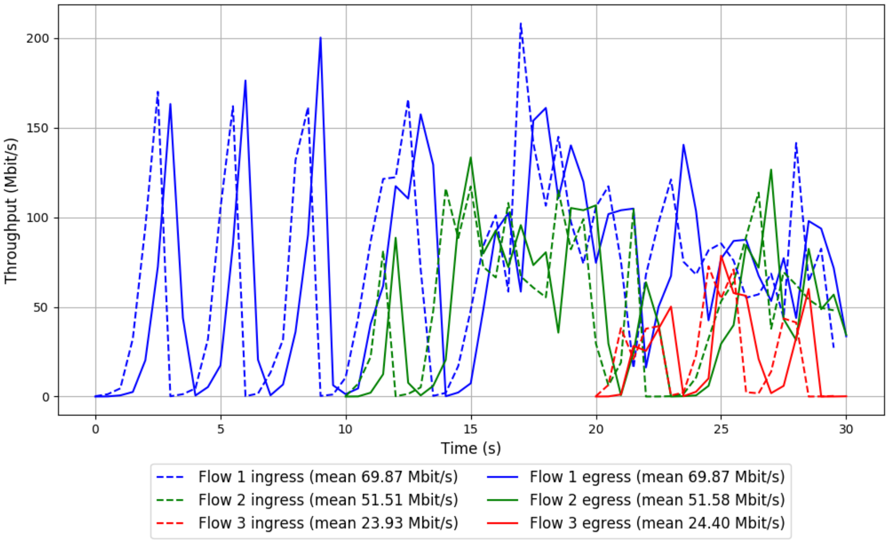


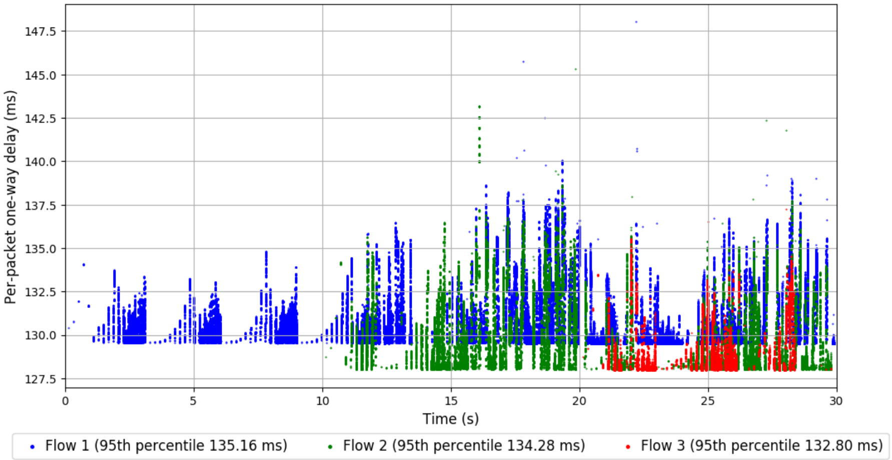
```
Run 7: Statistics of Verus

Start at: 2018-08-22 22:15:37
End at: 2018-08-22 22:16:07
Local clock offset: 1.506 ms
Remote clock offset: -35.449 ms

# Below is generated by plot.py at 2018-08-23 01:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.80 Mbit/s
95th percentile per-packet one-way delay: 134.838 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 69.87 Mbit/s
95th percentile per-packet one-way delay: 135.159 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 134.282 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 24.40 Mbit/s
95th percentile per-packet one-way delay: 132.798 ms
Loss rate: 0.05%
```

## Run 7: Report of Verus — Data Link



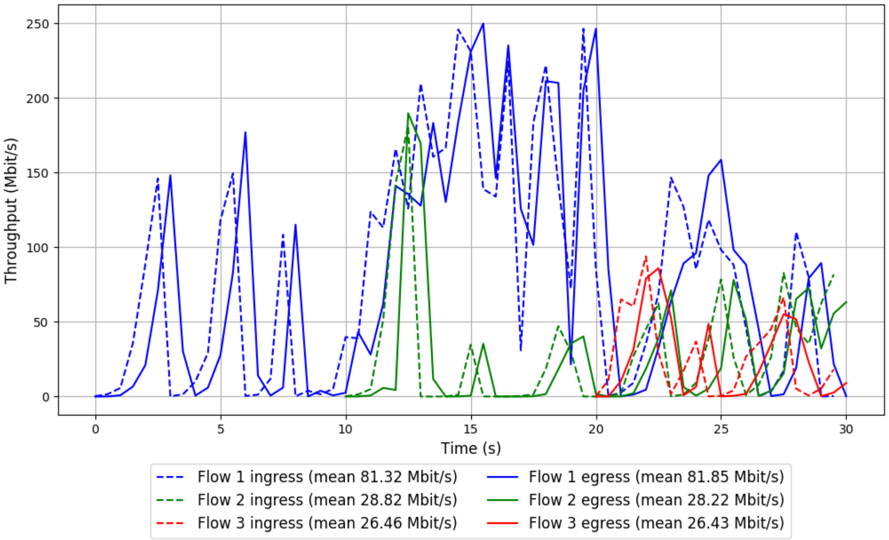


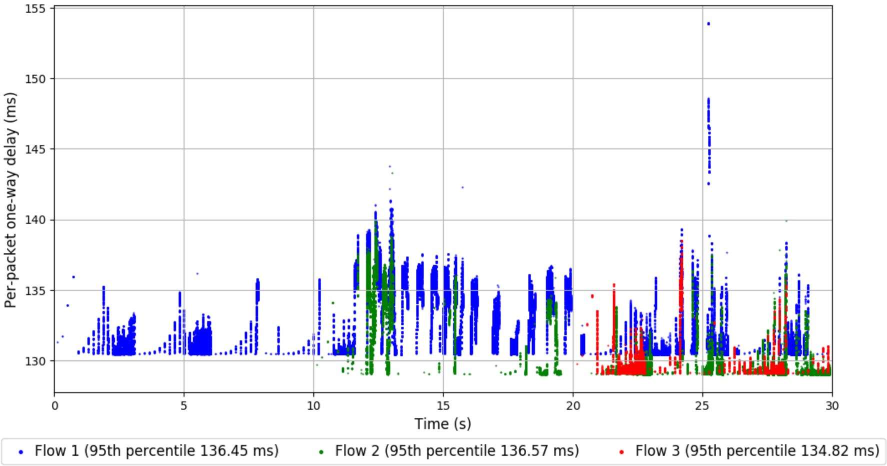
```
Run 8: Statistics of Verus

Start at: 2018-08-22 22:45:53
End at: 2018-08-22 22:46:23
Local clock offset: 2.361 ms
Remote clock offset: -35.733 ms

# Below is generated by plot.py at 2018-08-23 01:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.90 Mbit/s
95th percentile per-packet one-way delay: 136.407 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 81.85 Mbit/s
95th percentile per-packet one-way delay: 136.452 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.22 Mbit/s
95th percentile per-packet one-way delay: 136.572 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 26.43 Mbit/s
95th percentile per-packet one-way delay: 134.818 ms
Loss rate: 2.32%
```

## Run 8: Report of Verus — Data Link



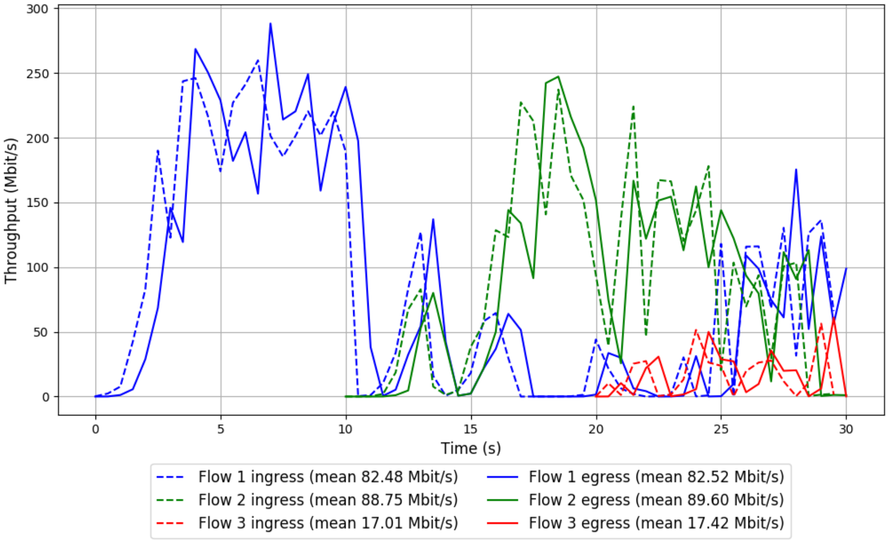


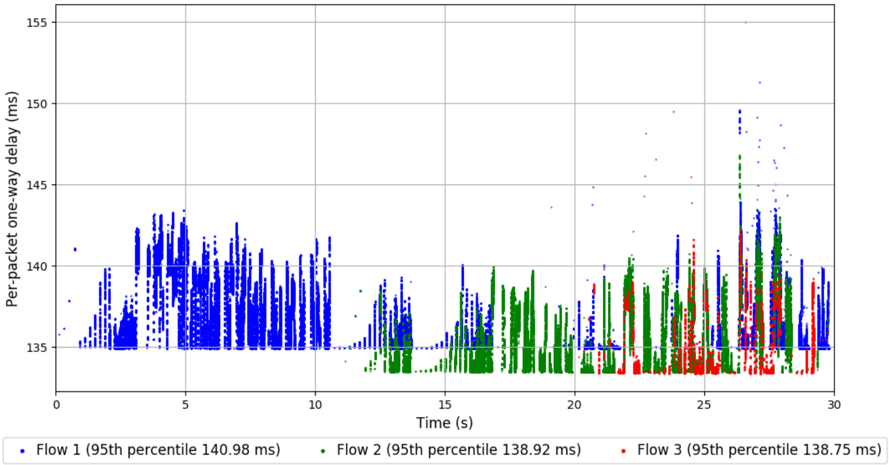
```
Run 9: Statistics of Verus

Start at: 2018-08-22 23:21:51
End at: 2018-08-22 23:22:21
Local clock offset: 2.199 ms
Remote clock offset: -40.382 ms

# Below is generated by plot.py at 2018-08-23 01:17:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.37 Mbit/s
95th percentile per-packet one-way delay: 140.619 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 82.52 Mbit/s
95th percentile per-packet one-way delay: 140.976 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 138.919 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 17.42 Mbit/s
95th percentile per-packet one-way delay: 138.750 ms
Loss rate: 0.46%
```

Run 9: Report of Verus — Data Link



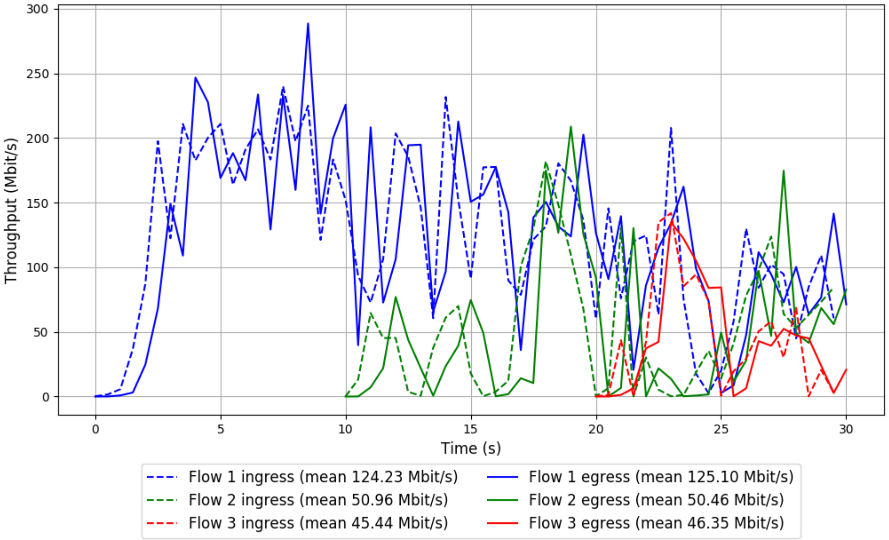


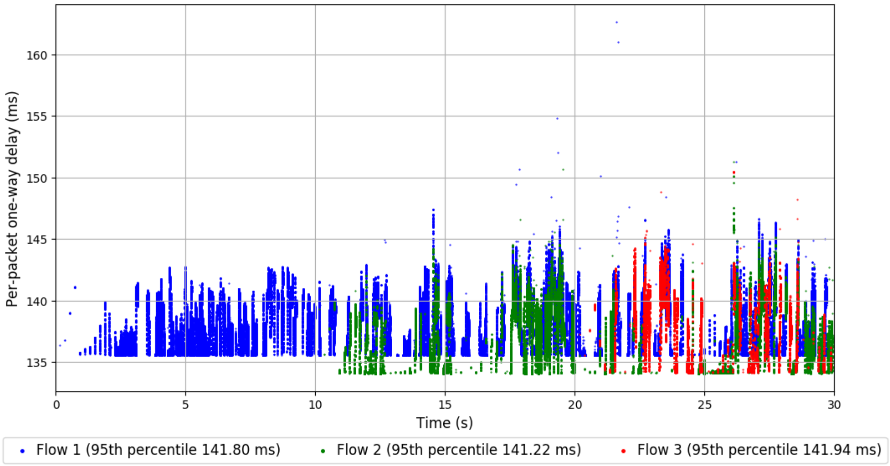
```
Run 10: Statistics of Verus

Start at: 2018-08-22 23:57:22
End at: 2018-08-22 23:57:52
Local clock offset: 3.492 ms
Remote clock offset: -39.54 ms

# Below is generated by plot.py at 2018-08-23 01:17:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.94 Mbit/s
95th percentile per-packet one-way delay: 141.723 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 125.10 Mbit/s
95th percentile per-packet one-way delay: 141.801 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.46 Mbit/s
95th percentile per-packet one-way delay: 141.223 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 46.35 Mbit/s
95th percentile per-packet one-way delay: 141.936 ms
Loss rate: 0.01%
```

## Run 10: Report of Verus — Data Link



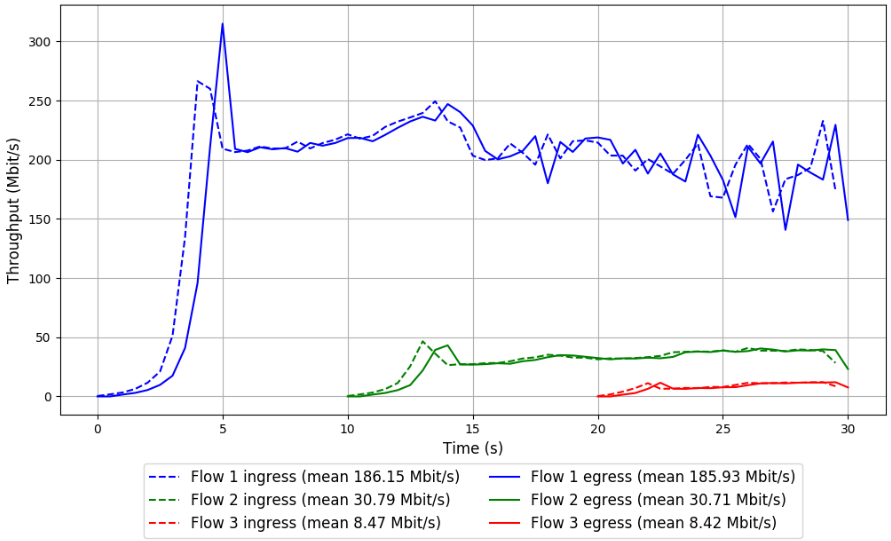


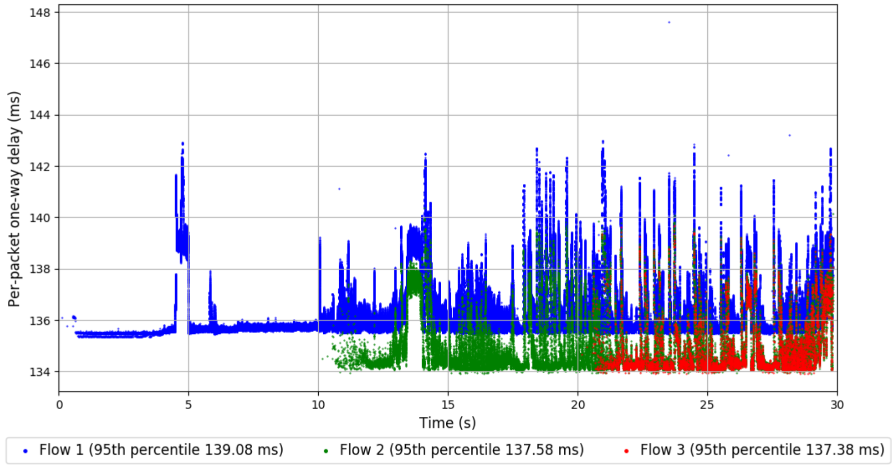
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-08-22 19:15:26
End at: 2018-08-22 19:15:56
Local clock offset: 2.075 ms
Remote clock offset: -38.564 ms

# Below is generated by plot.py at 2018-08-23 01:18:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.01 Mbit/s
95th percentile per-packet one-way delay: 139.033 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 185.93 Mbit/s
95th percentile per-packet one-way delay: 139.078 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 137.579 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 8.42 Mbit/s
95th percentile per-packet one-way delay: 137.377 ms
Loss rate: 2.59%
```

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



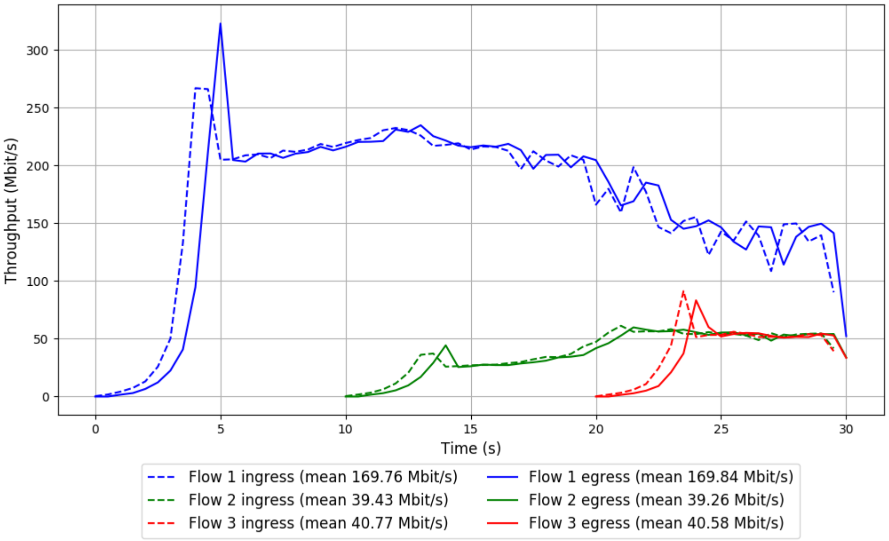


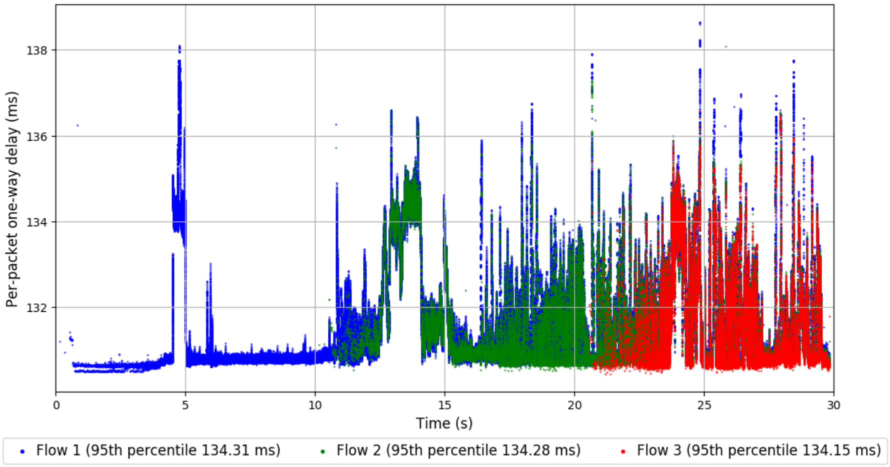
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-22 19:57:14
End at: 2018-08-22 19:57:44
Local clock offset: 1.621 ms
Remote clock offset: -31.95 ms

# Below is generated by plot.py at 2018-08-23 01:18:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.06 Mbit/s
95th percentile per-packet one-way delay: 134.298 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 169.84 Mbit/s
95th percentile per-packet one-way delay: 134.312 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 39.26 Mbit/s
95th percentile per-packet one-way delay: 134.280 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 134.154 ms
Loss rate: 2.46%
```

Run 2: Report of PCC-Vivace — Data Link



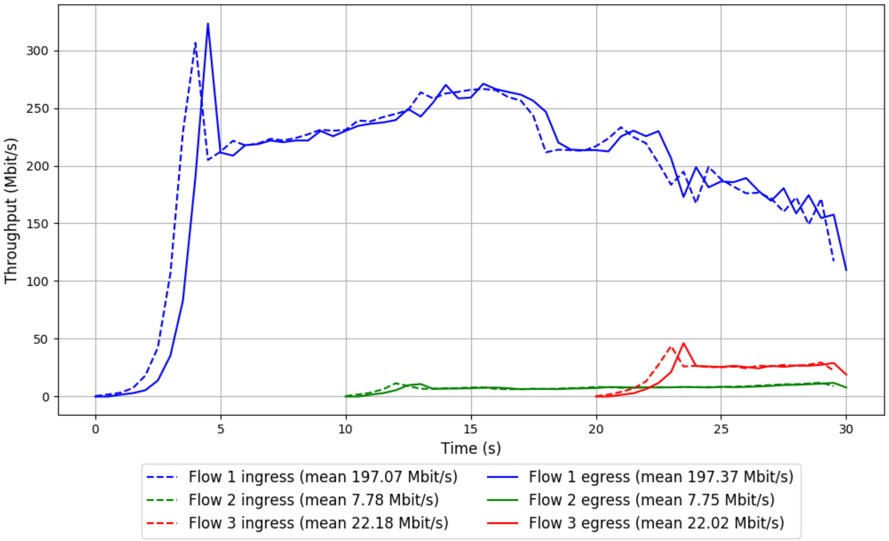


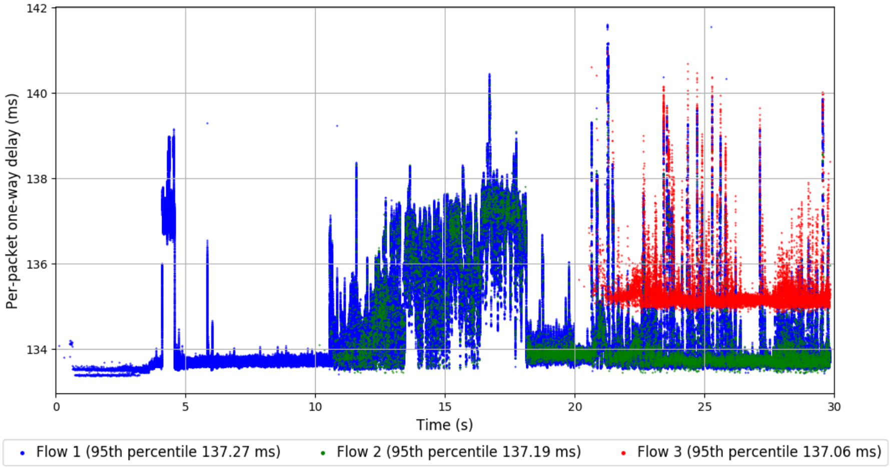
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-08-22 20:27:17
End at: 2018-08-22 20:27:47
Local clock offset: -0.21 ms
Remote clock offset: -37.193 ms

# Below is generated by plot.py at 2018-08-23 01:18:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.66 Mbit/s
95th percentile per-packet one-way delay: 137.264 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 197.37 Mbit/s
95th percentile per-packet one-way delay: 137.268 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 137.187 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 22.02 Mbit/s
95th percentile per-packet one-way delay: 137.056 ms
Loss rate: 2.64%
```

## Run 3: Report of PCC-Vivace — Data Link



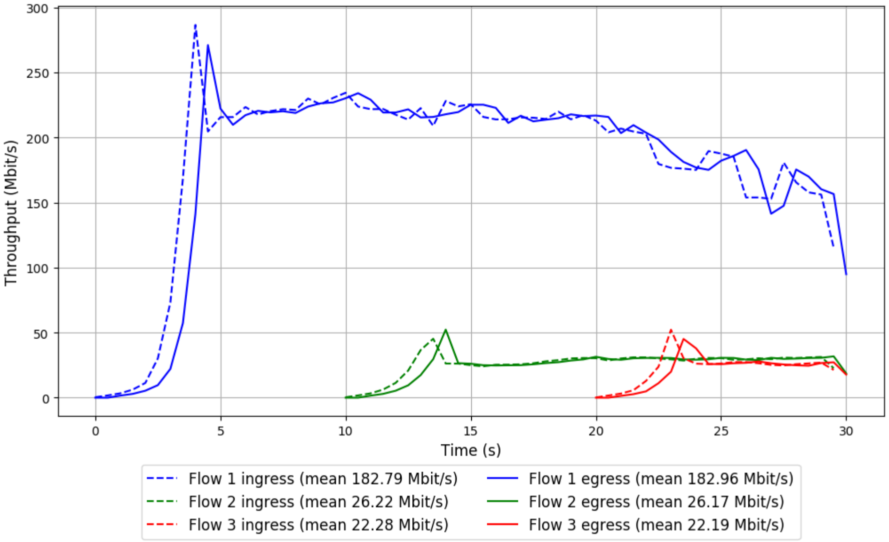


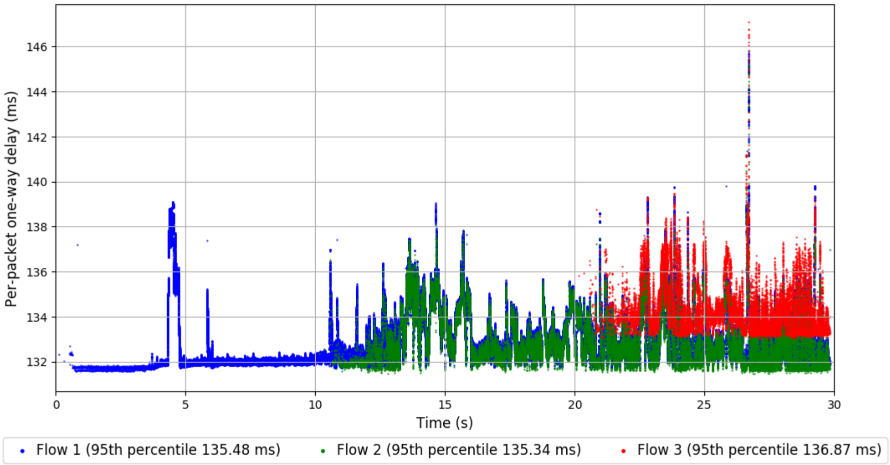
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-08-22 20:57:29
End at: 2018-08-22 20:57:59
Local clock offset: 1.542 ms
Remote clock offset: -35.083 ms

# Below is generated by plot.py at 2018-08-23 01:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 207.50 Mbit/s
95th percentile per-packet one-way delay: 135.536 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 182.96 Mbit/s
95th percentile per-packet one-way delay: 135.479 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 26.17 Mbit/s
95th percentile per-packet one-way delay: 135.345 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 22.19 Mbit/s
95th percentile per-packet one-way delay: 136.873 ms
Loss rate: 2.44%
```

Run 4: Report of PCC-Vivace — Data Link



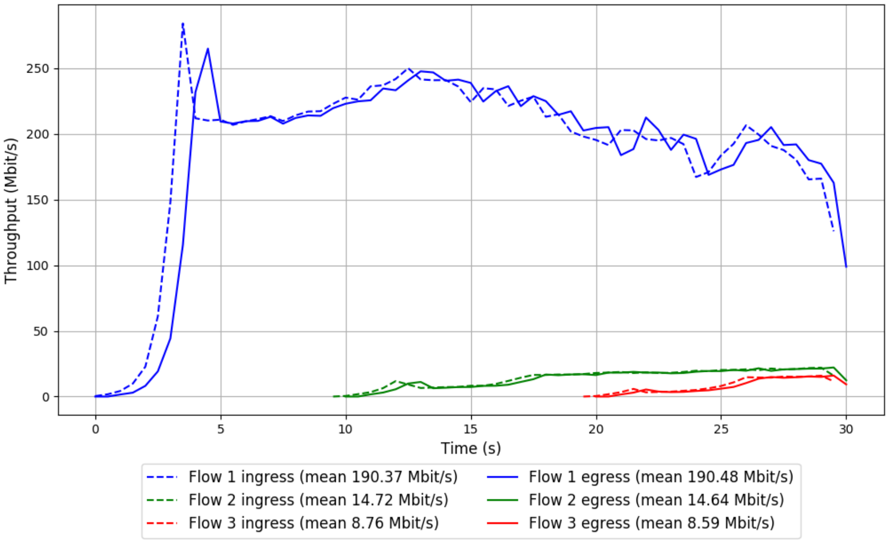


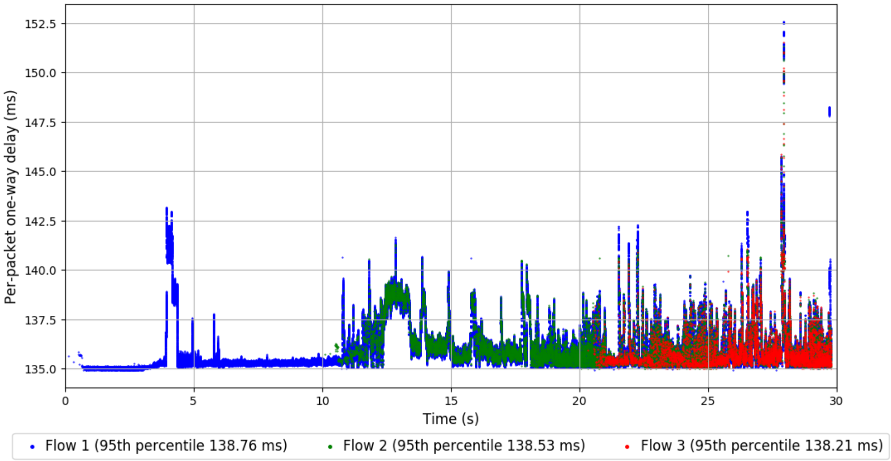
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-08-22 21:27:27
End at: 2018-08-22 21:27:57
Local clock offset: 1.148 ms
Remote clock offset: -39.269 ms

# Below is generated by plot.py at 2018-08-23 01:19:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.96 Mbit/s
95th percentile per-packet one-way delay: 138.748 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 190.48 Mbit/s
95th percentile per-packet one-way delay: 138.763 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 14.64 Mbit/s
95th percentile per-packet one-way delay: 138.528 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 138.210 ms
Loss rate: 3.81%
```

## Run 5: Report of PCC-Vivace — Data Link



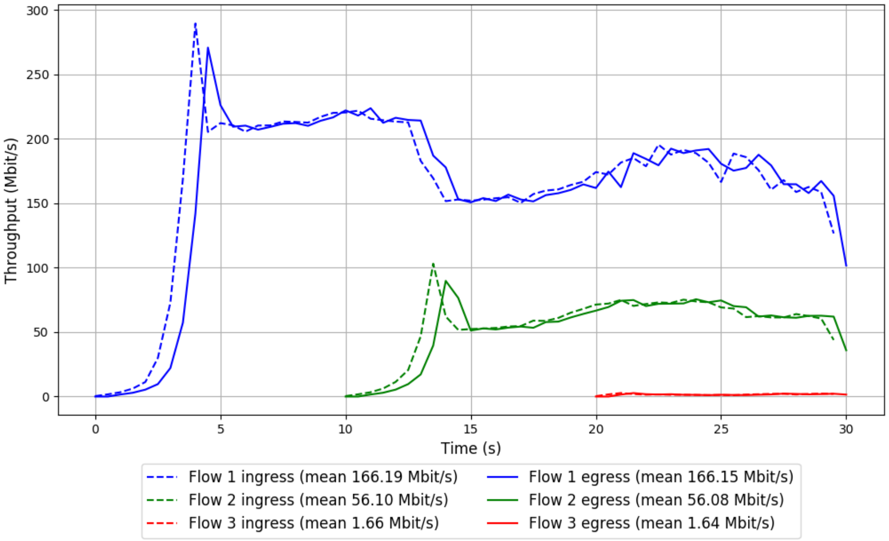


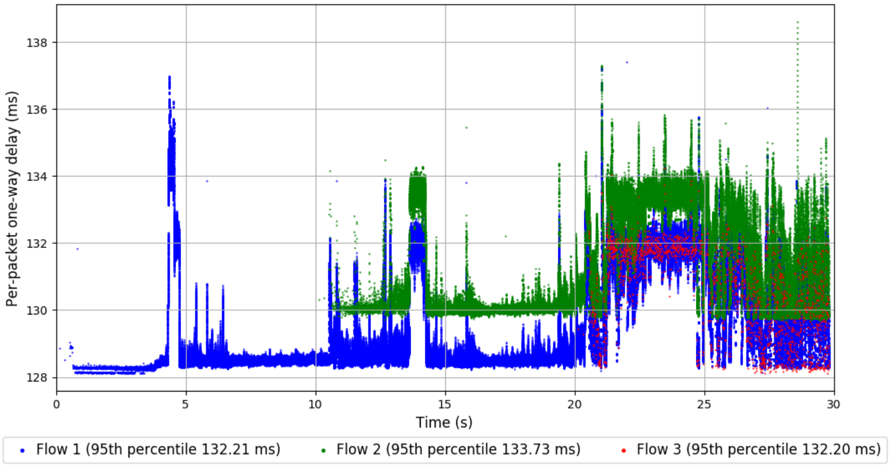
```
Run 6: Statistics of PCC-Vivace

Start at: 2018-08-22 21:57:06
End at: 2018-08-22 21:57:36
Local clock offset: 0.975 ms
Remote clock offset: -35.398 ms

# Below is generated by plot.py at 2018-08-23 01:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.85 Mbit/s
95th percentile per-packet one-way delay: 133.376 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 166.15 Mbit/s
95th percentile per-packet one-way delay: 132.212 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 56.08 Mbit/s
95th percentile per-packet one-way delay: 133.727 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 132.201 ms
Loss rate: 3.42%
```

## Run 6: Report of PCC-Vivace — Data Link



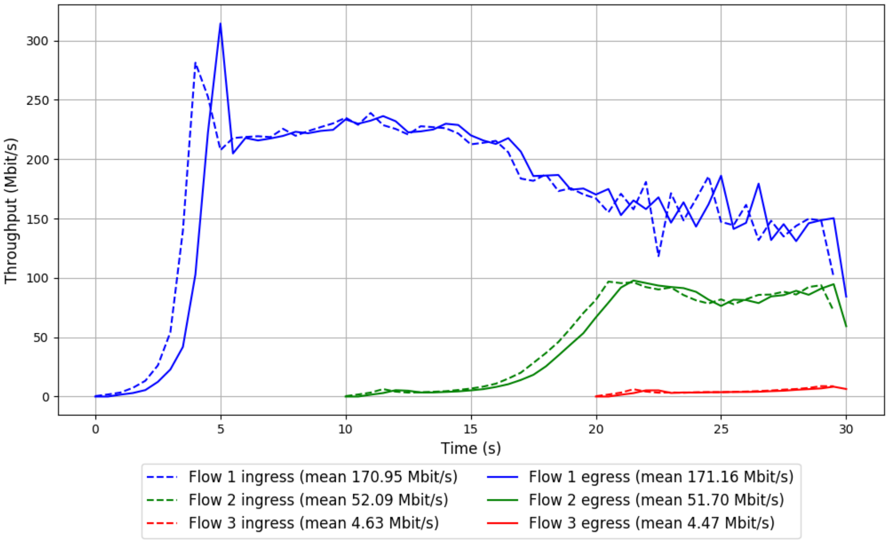


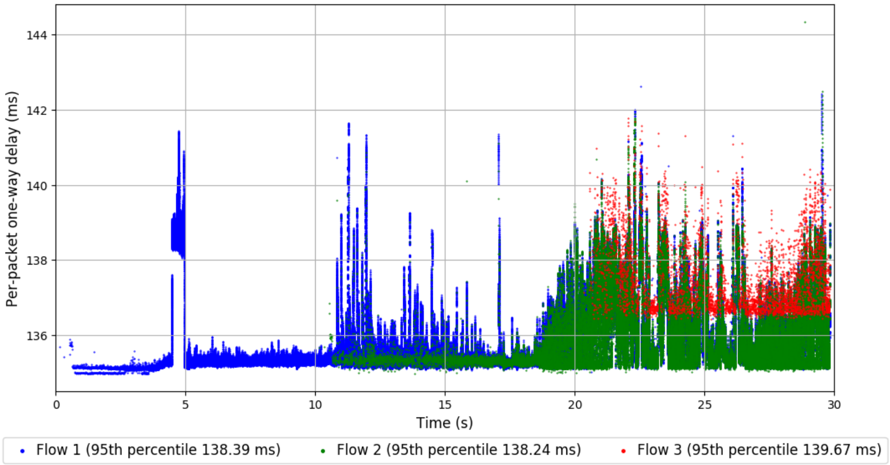
```
Run 7: Statistics of PCC-Vivace

Start at: 2018-08-22 22:27:06
End at: 2018-08-22 22:27:36
Local clock offset: 4.544 ms
Remote clock offset: -39.987 ms

# Below is generated by plot.py at 2018-08-23 01:19:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.88 Mbit/s
95th percentile per-packet one-way delay: 138.374 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 171.16 Mbit/s
95th percentile per-packet one-way delay: 138.388 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 51.70 Mbit/s
95th percentile per-packet one-way delay: 138.239 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 139.672 ms
Loss rate: 5.52%
```

## Run 7: Report of PCC-Vivace — Data Link



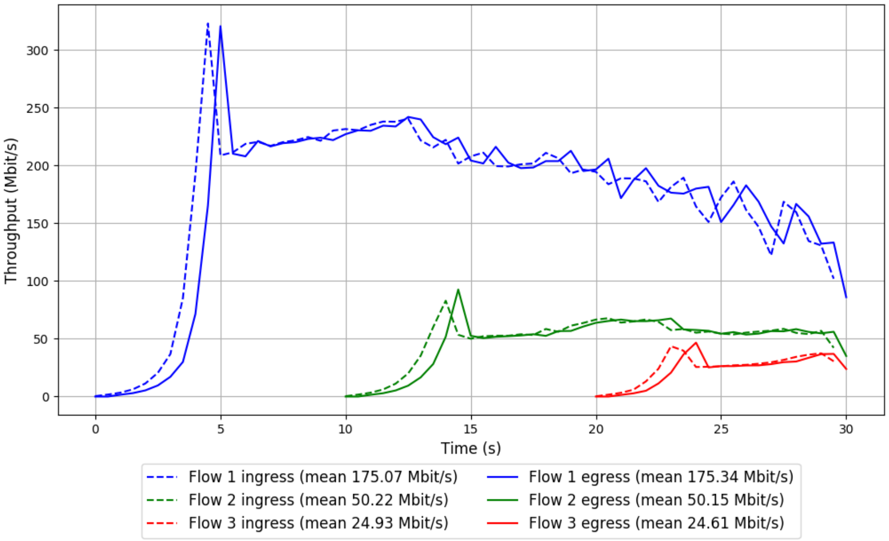


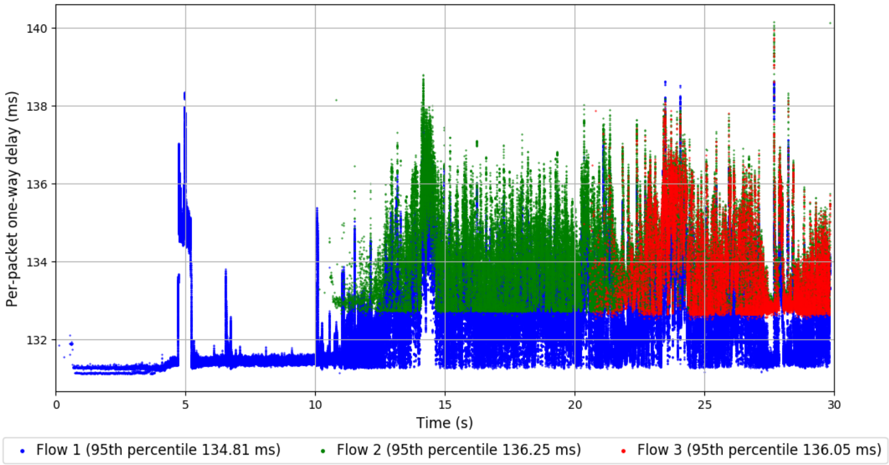
```
Run 8: Statistics of PCC-Vivace

Start at: 2018-08-22 23:08:39
End at: 2018-08-22 23:09:09
Local clock offset: 3.81 ms
Remote clock offset: -36.783 ms

# Below is generated by plot.py at 2018-08-23 01:19:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 216.55 Mbit/s
95th percentile per-packet one-way delay: 135.285 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 175.34 Mbit/s
95th percentile per-packet one-way delay: 134.815 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 136.248 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 24.61 Mbit/s
95th percentile per-packet one-way delay: 136.051 ms
Loss rate: 3.36%
```

Run 8: Report of PCC-Vivace — Data Link



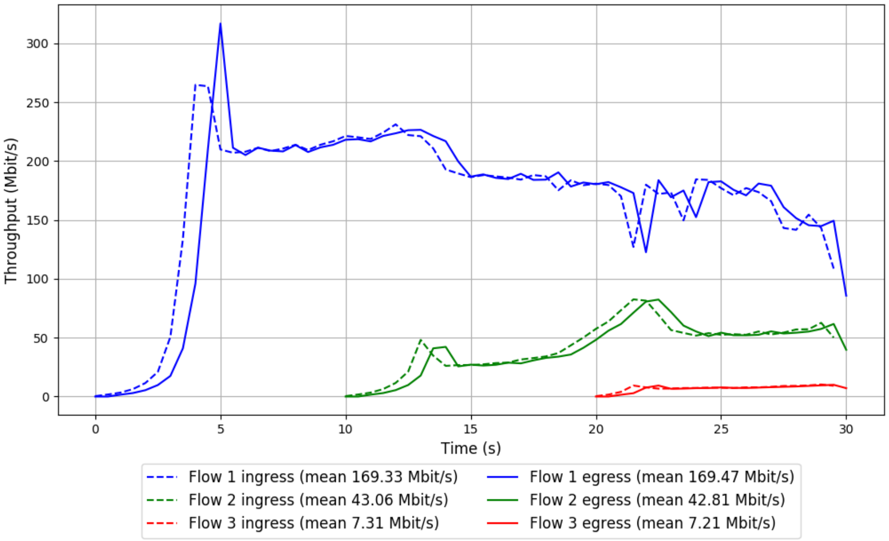


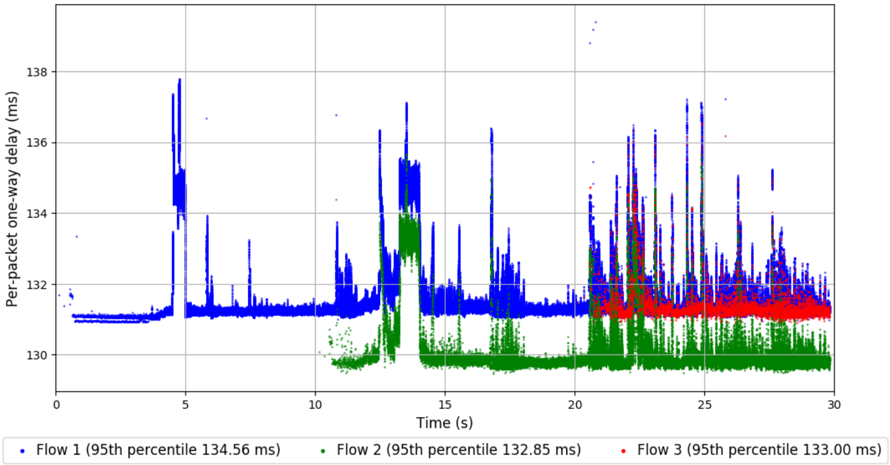
```
Run 9: Statistics of PCC-Vivace

Start at: 2018-08-22 23:38:52
End at: 2018-08-22 23:39:22
Local clock offset: 3.672 ms
Remote clock offset: -35.139 ms

# Below is generated by plot.py at 2018-08-23 01:20:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.20 Mbit/s
95th percentile per-packet one-way delay: 134.467 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 169.47 Mbit/s
95th percentile per-packet one-way delay: 134.561 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 42.81 Mbit/s
95th percentile per-packet one-way delay: 132.853 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 133.002 ms
Loss rate: 3.35%
```

## Run 9: Report of PCC-Vivace — Data Link



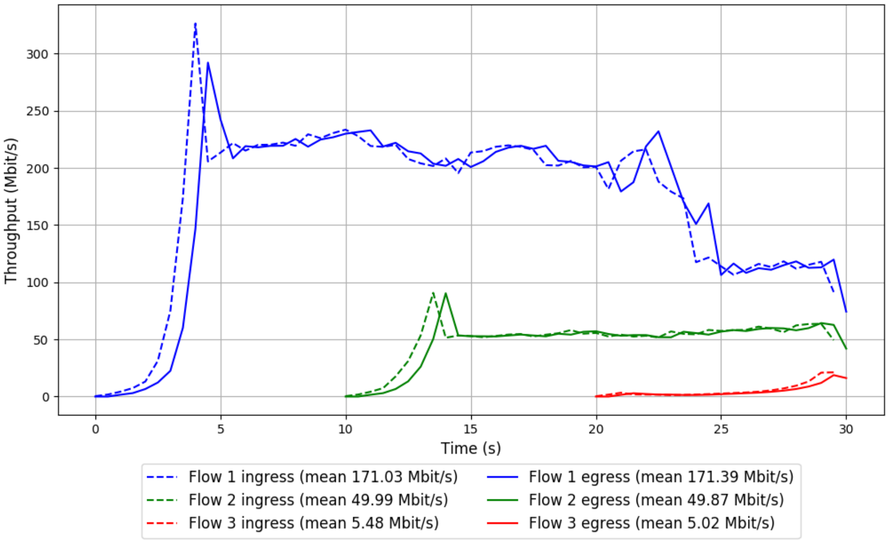


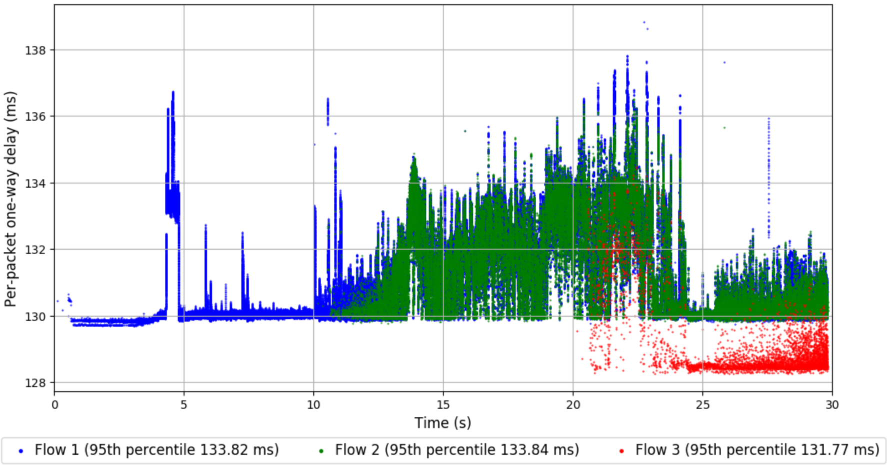
```
Run 10: Statistics of PCC-Vivace

Start at: 2018-08-23 00:08:52
End at: 2018-08-23 00:09:22
Local clock offset: 1.653 ms
Remote clock offset: -35.353 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.06 Mbit/s
95th percentile per-packet one-way delay: 133.819 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 171.39 Mbit/s
95th percentile per-packet one-way delay: 133.821 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 133.841 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 131.768 ms
Loss rate: 10.23%
```

Run 10: Report of PCC-Vivace — Data Link



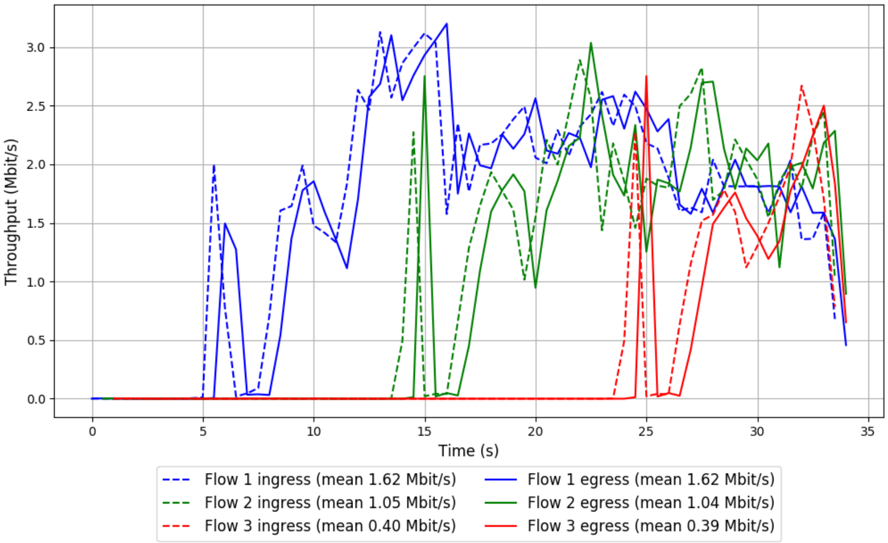


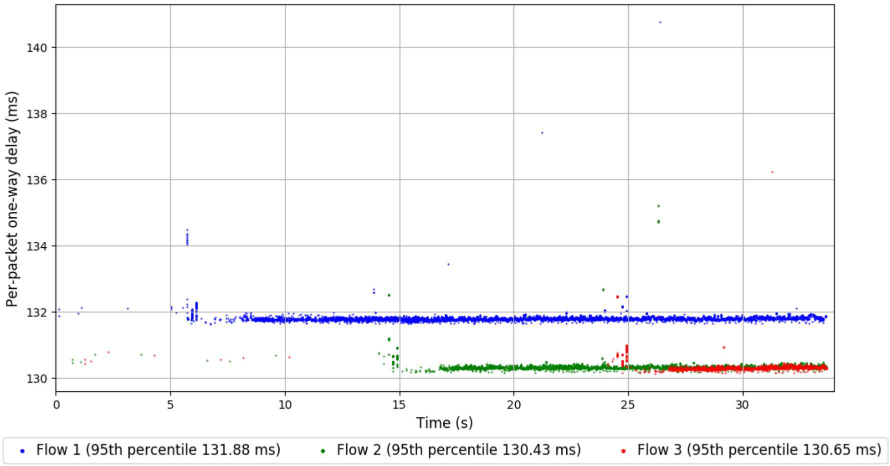
```
Run 1: Statistics of WebRTC media

Start at: 2018-08-22 19:19:38
End at: 2018-08-22 19:20:08
Local clock offset: 1.241 ms
Remote clock offset: -35.513 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 131.853 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 131.878 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 130.434 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 130.648 ms
Loss rate: 2.49%
```

Run 1: Report of WebRTC media — Data Link



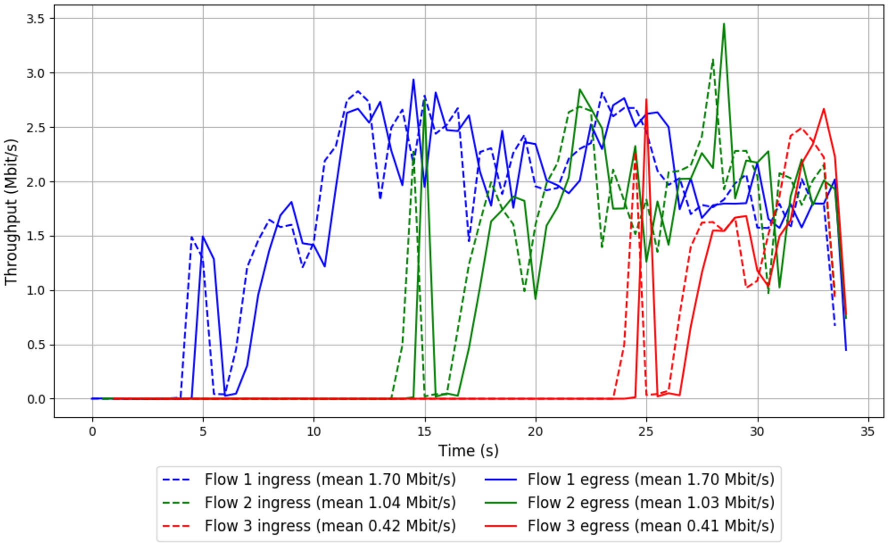


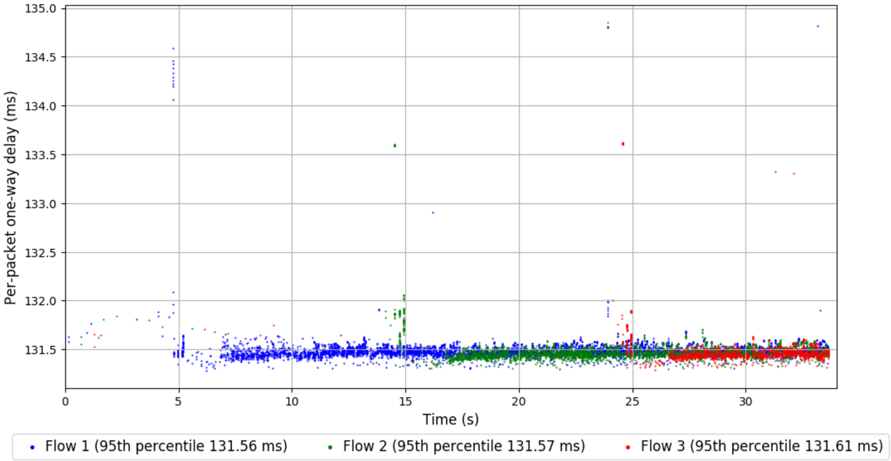
```
Run 2: Statistics of WebRTC media

Start at: 2018-08-22 20:01:26
End at: 2018-08-22 20:01:56
Local clock offset: -0.802 ms
Remote clock offset: -35.058 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 131.568 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 131.560 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 131.571 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 131.608 ms
Loss rate: 2.85%
```

Run 2: Report of WebRTC media — Data Link



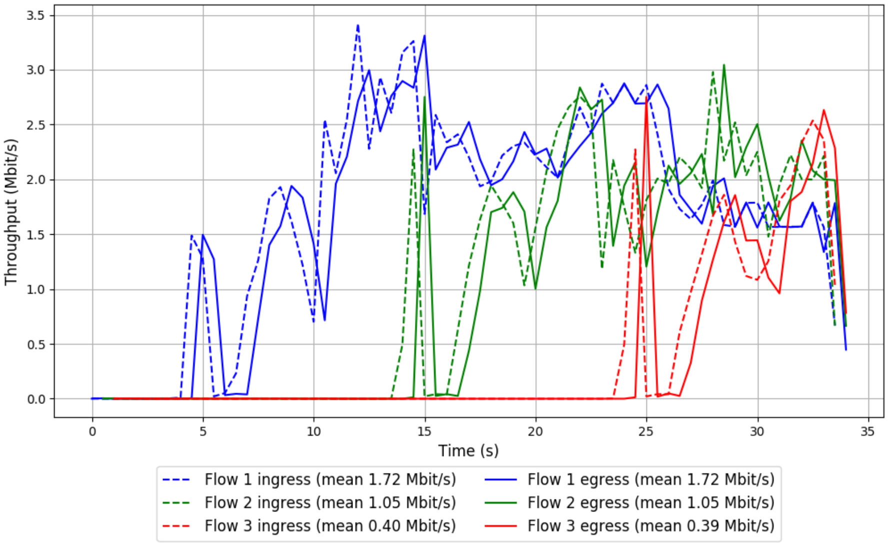


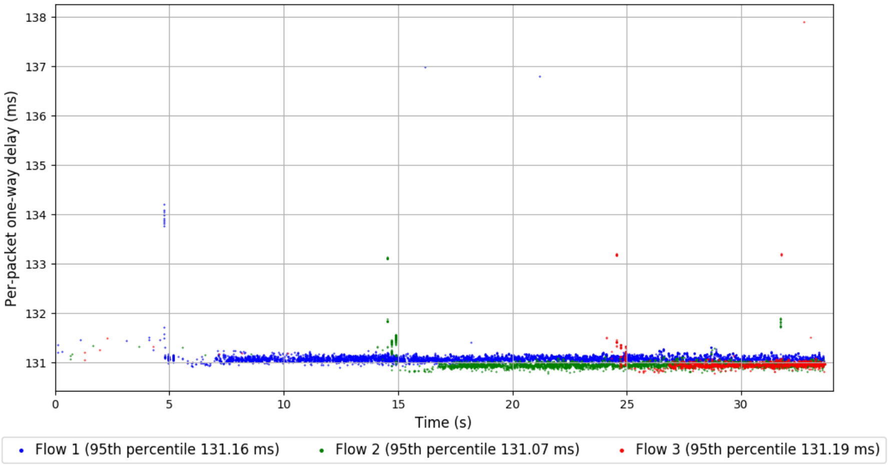
```
Run 3: Statistics of WebRTC media

Start at: 2018-08-22 20:31:29
End at: 2018-08-22 20:31:59
Local clock offset: -1.617 ms
Remote clock offset: -34.384 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 131.160 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 131.165 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 131.067 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 131.185 ms
Loss rate: 3.46%
```

Run 3: Report of WebRTC media — Data Link



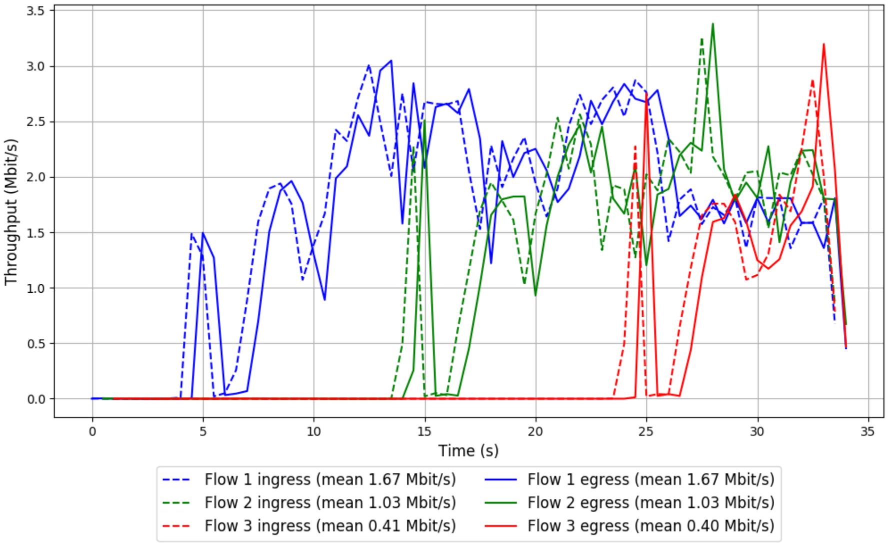


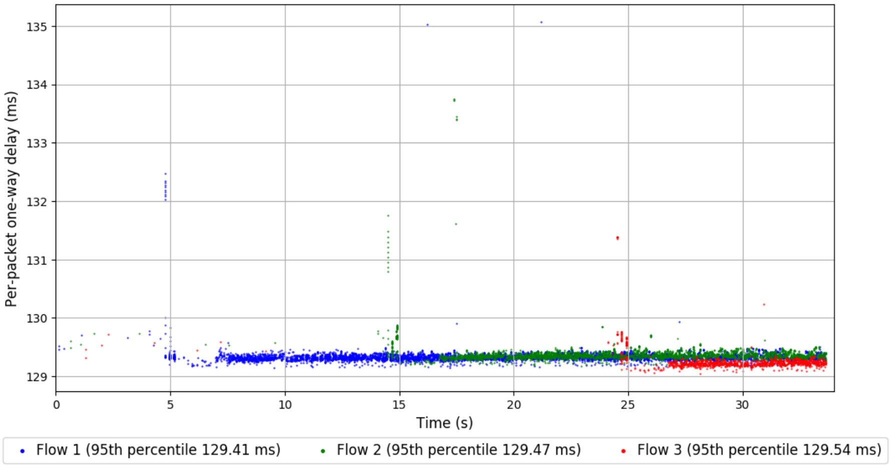
```
Run 4: Statistics of WebRTC media

Start at: 2018-08-22 21:01:42
End at: 2018-08-22 21:02:12
Local clock offset: 1.057 ms
Remote clock offset: -33.301 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 129.435 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 129.411 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 129.466 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 129.537 ms
Loss rate: 2.97%
```

Run 4: Report of WebRTC media — Data Link



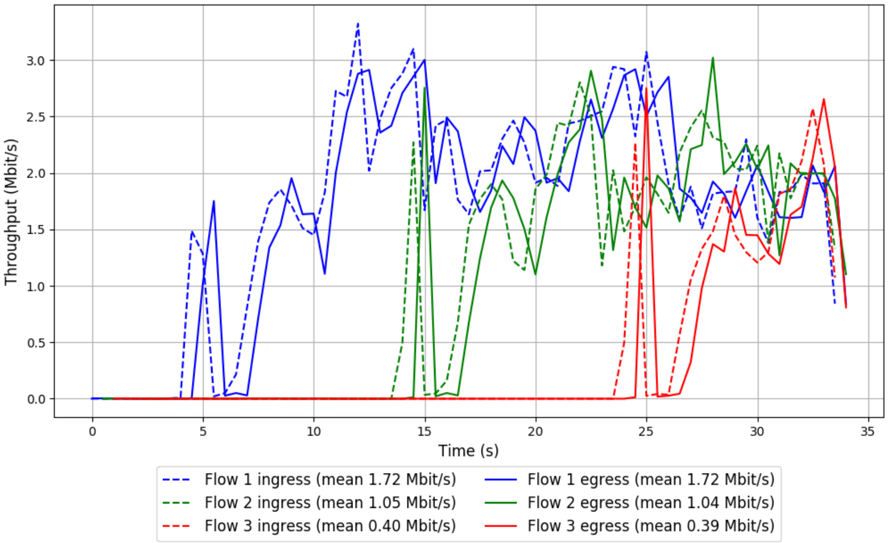


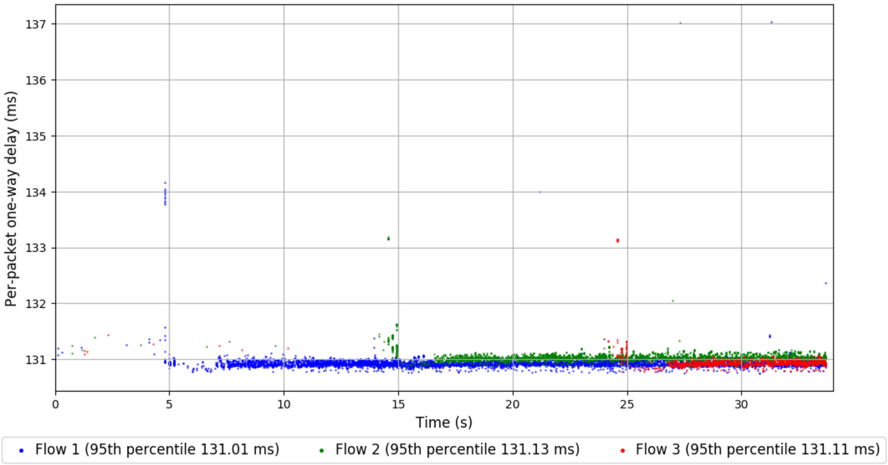
```
Run 5: Statistics of WebRTC media

Start at: 2018-08-22 21:37:06
End at: 2018-08-22 21:37:36
Local clock offset: -1.26 ms
Remote clock offset: -39.419 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 131.088 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 131.007 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 131.134 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 131.107 ms
Loss rate: 3.10%
```

Run 5: Report of WebRTC media — Data Link



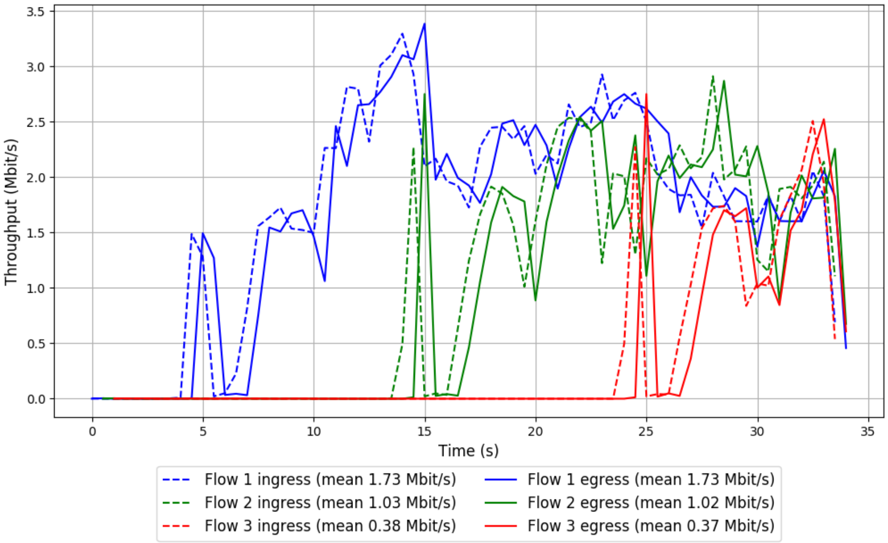


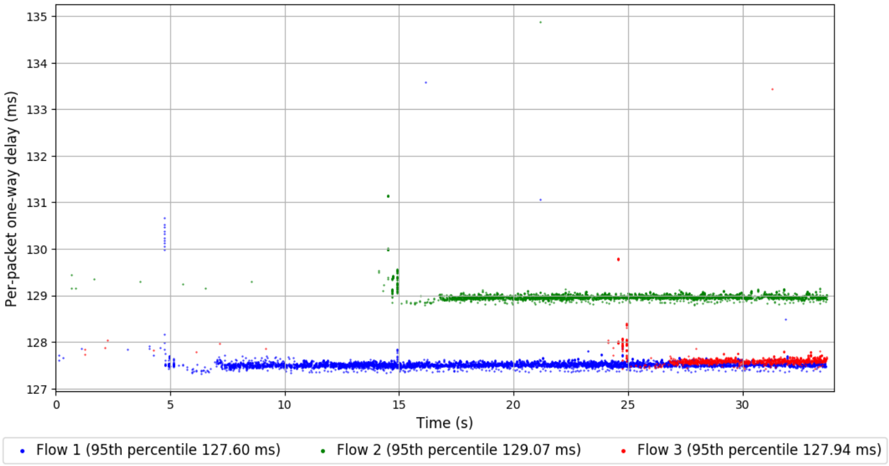
```
Run 6: Statistics of WebRTC media

Start at: 2018-08-22 22:01:16
End at: 2018-08-22 22:01:46
Local clock offset: 0.597 ms
Remote clock offset: -35.079 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 129.017 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 127.596 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 129.073 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 127.945 ms
Loss rate: 1.89%
```

Run 6: Report of WebRTC media — Data Link



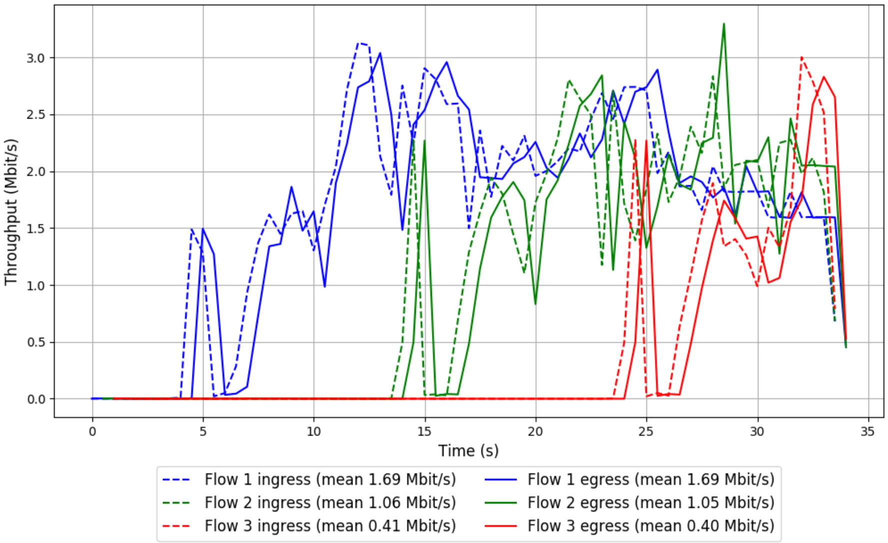


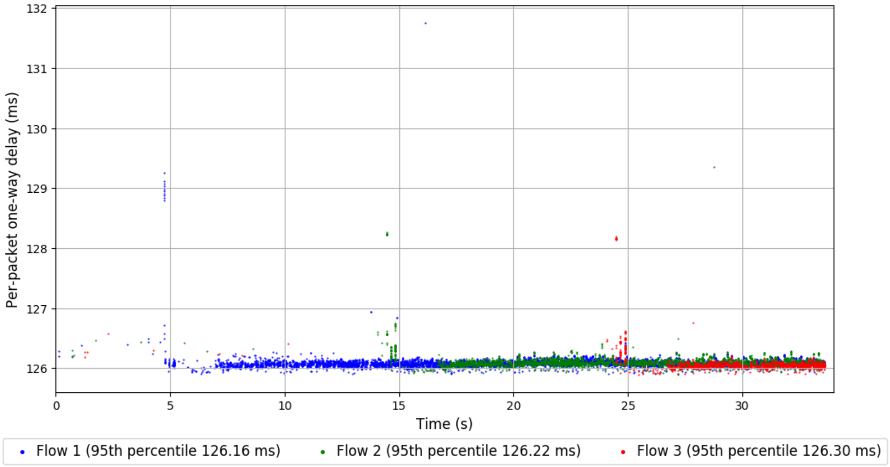
```
Run 7: Statistics of WebRTC media

Start at: 2018-08-22 22:31:17
End at: 2018-08-22 22:31:47
Local clock offset: 1.403 ms
Remote clock offset: -34.114 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 126.180 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 126.163 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 126.215 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 126.296 ms
Loss rate: 2.96%
```

Run 7: Report of WebRTC media — Data Link



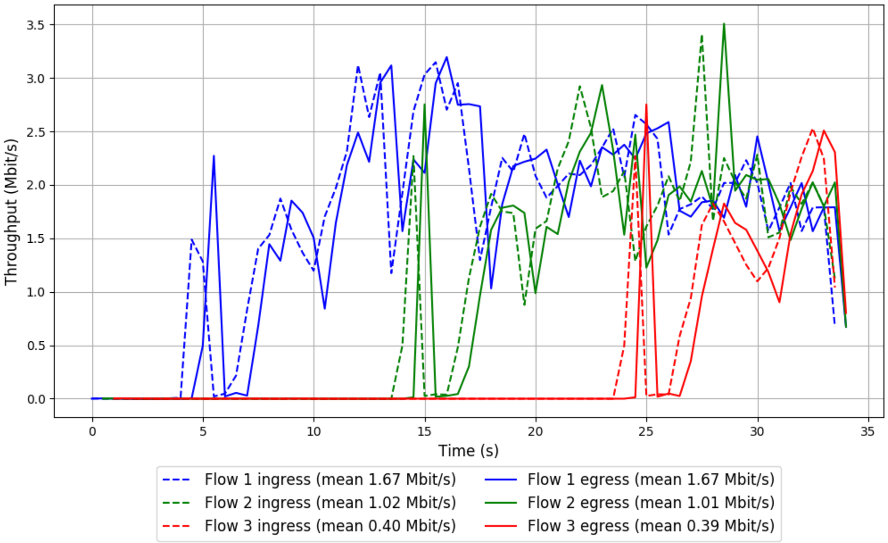


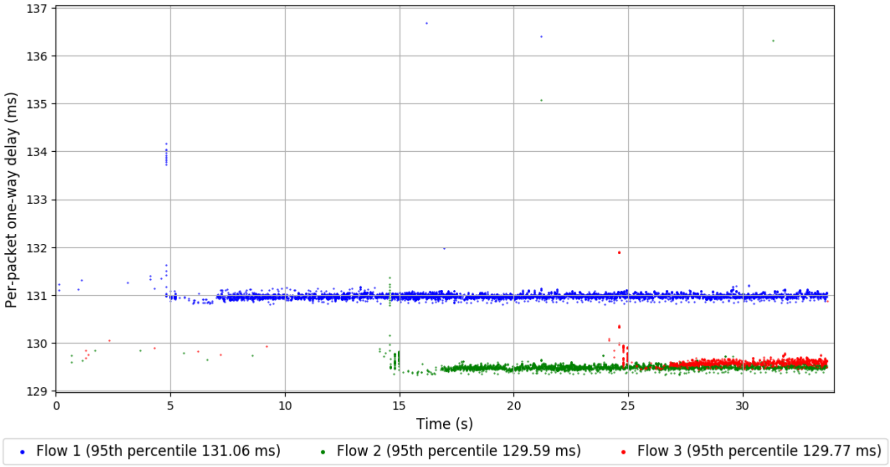
```
Run 8: Statistics of WebRTC media

Start at: 2018-08-22 23:12:53
End at: 2018-08-22 23:13:23
Local clock offset: 1.358 ms
Remote clock offset: -37.436 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 131.039 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 131.061 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 129.587 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 129.774 ms
Loss rate: 2.92%
```

Run 8: Report of WebRTC media — Data Link



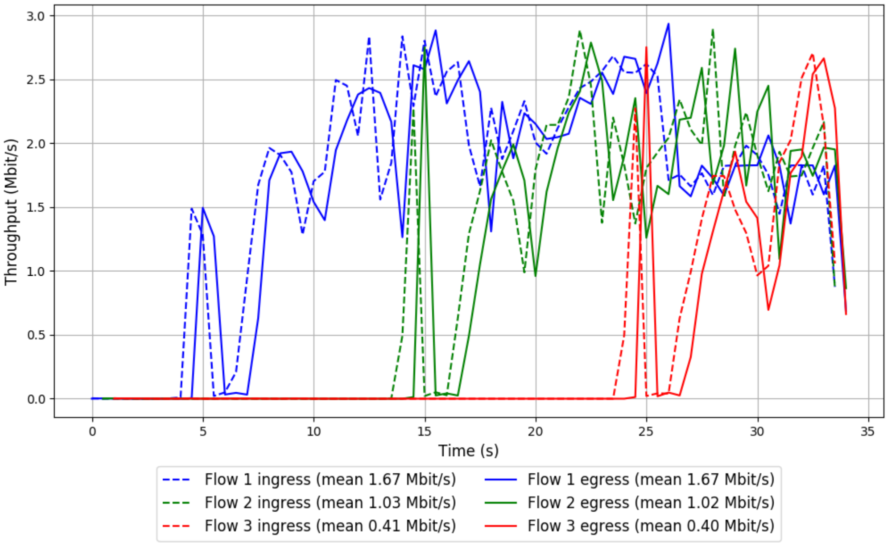


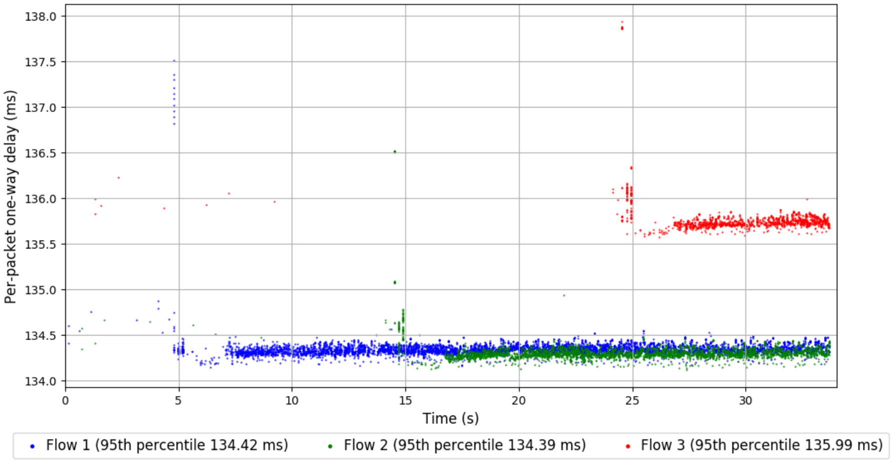
```
Run 9: Statistics of WebRTC media

Start at: 2018-08-22 23:43:03
End at: 2018-08-22 23:43:33
Local clock offset: 3.529 ms
Remote clock offset: -39.803 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 135.751 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 134.423 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 134.394 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 135.991 ms
Loss rate: 3.50%
```

Run 9: Report of WebRTC media — Data Link



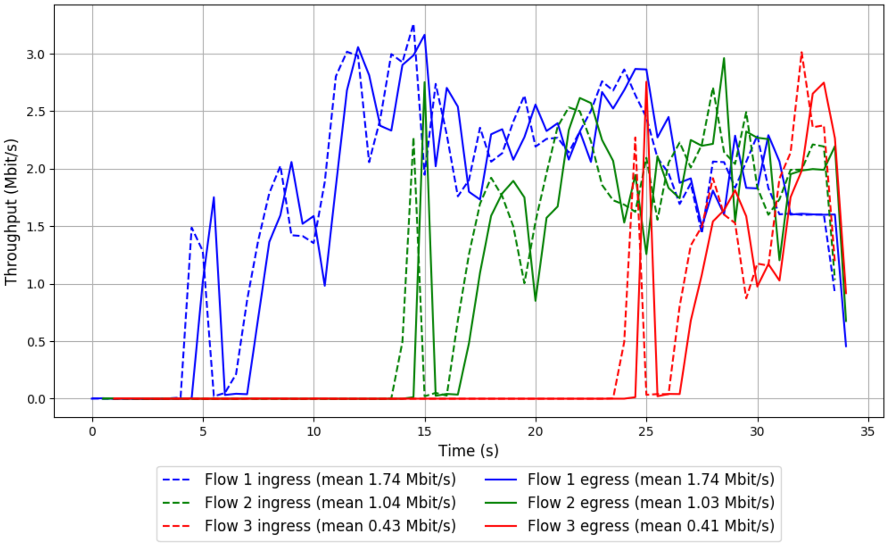


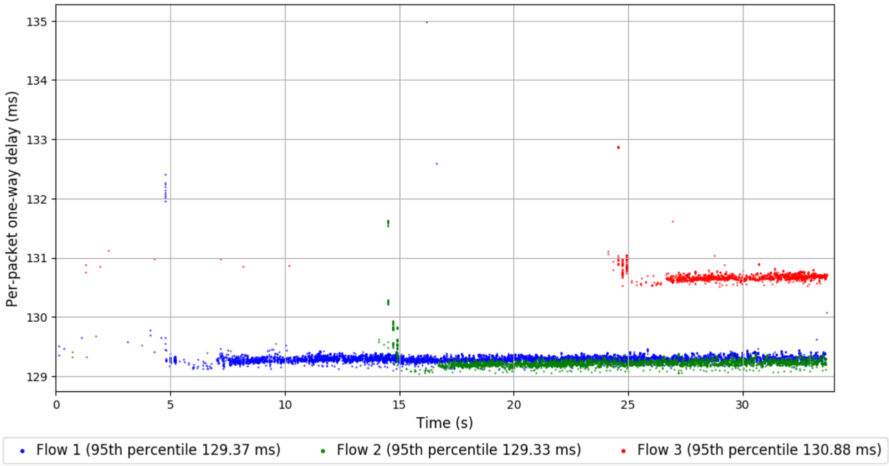
```
Run 10: Statistics of WebRTC media

Start at: 2018-08-23 00:18:39
End at: 2018-08-23 00:19:09
Local clock offset: 1.532 ms
Remote clock offset: -35.781 ms

# Below is generated by plot.py at 2018-08-23 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 130.690 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 129.371 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 129.326 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 130.885 ms
Loss rate: 3.80%
```

## Run 10: Report of WebRTC media — Data Link


Throughput (Mbit/s)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
5
10
15
20
25
30
35
Time (s)
Flow 1 ingress (mean 1.74 Mbit/s)
Flow 1 egress (mean 1.74 Mbit/s)
Flow 2 ingress (mean 1.04 Mbit/s)
Flow 2 egress (mean 1.03 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s)
Flow 3 egress (mean 0.41 Mbit/s)


Per-packet one-way delay (ms)
129
130
131
132
133
134
135
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 129.37 ms)
Flow 2 (95th percentile 129.33 ms)
Flow 3 (95th percentile 130.88 ms)