Pantheon Report

Generated at 2018-04-04 02:00:12 (UTC).

Data path: AWS Korea Ethernet (*local*) →China Ethernet (*remote*).

Repeated the test of 17 congestion control schemes 10 times.

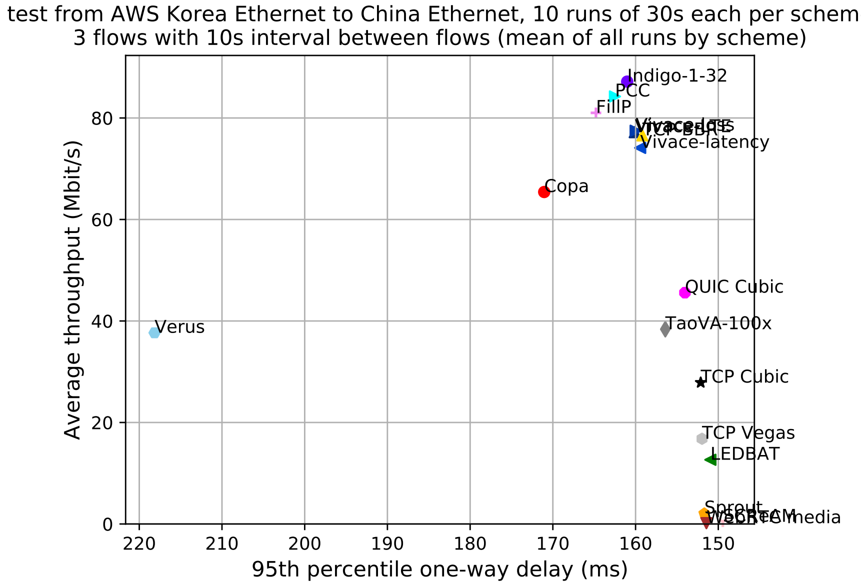
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

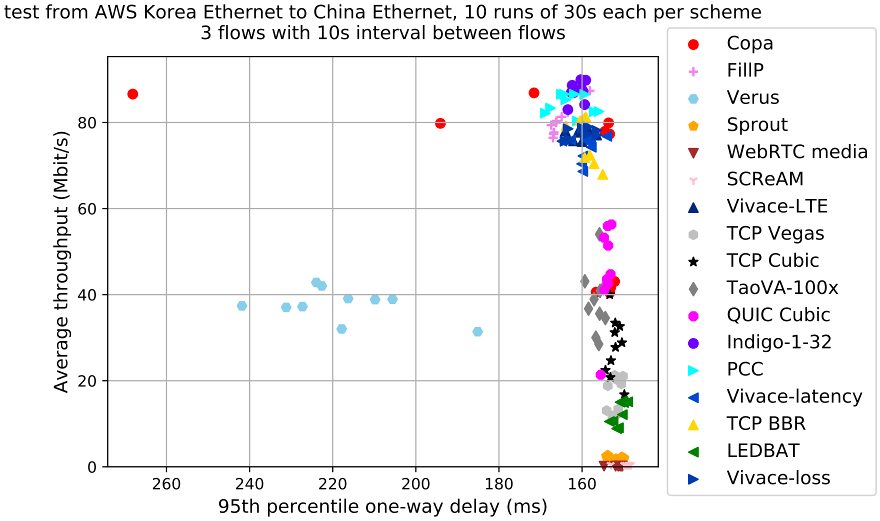
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

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

```
Git summary:
branch: master @ eb420b5be9bafccd22cf68b99ff5a2000462fc59
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf1dc797253db7e8ca04076272b2a44
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bff6c4a2
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ f271183af822eee5d0031620f4bebf38aedc5581
```


test from AWS Korea Ethernet to China Ethernet, 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
20
40
60
80
220
210
200
190
180
170
160
150
Indigo-1-32
PCC
FillP
Vivace-LTE
Vivace-loss
TCP BBR
Vivace-latency
Copa
QUIC Cubic
Verus
TaoVA-100x
TCP Cubic
TCP Vegas
LEDBAT
Sprout
SCReAM
WebRTC media


test from AWS Korea Ethernet to China Ethernet, 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
20
40
60
80
260
240
220
200
180
160
Copa
FillP
Verus
Sprout
WebRTC media
SCReAM
Vivace-LTE
TCP Vegas
TCP Cubic
TaoVA-100x
QUIC Cubic
Indigo-1-32
PCC
Vivace-latency
TCP BBR
LEDBAT
Vivace-loss

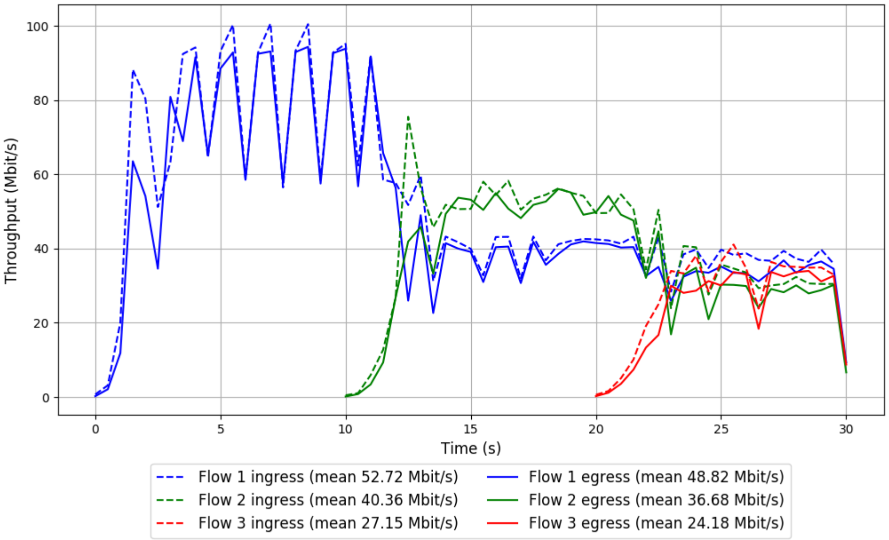
		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	47.68	32.05	22.74	157.83	159.65	161.60	8.09	9.29	11.98
TCP Cubic	10	18.74	9.75	7.95	151.98	151.84	151.38	0.29	0.82	1.47
LEDBAT	10	8.03	5.46	3.04	150.45	150.97	152.35	0.20	0.15	0.03
PCC	10	73.23	14.32	4.51	161.90	162.57	162.59	2.75	3.34	4.47
QUIC Cubic	9	27.17	23.03	9.80	152.63	154.47	153.92	1.03	1.20	1.79
SCReAM	10	0.22	0.22	0.22	148.93	148.46	148.51	0.00	0.00	0.01
WebRTC media	10	0.06	0.06	0.05	151.22	150.62	151.08	0.00	0.00	0.01
Sprout	10	1.08	1.00	0.97	151.39	150.80	150.77	0.08	0.19	0.19
TaoVA-100x	10	23.11	17.18	11.65	155.81	156.40	155.87	7.62	7.45	9.63
TCP Vegas	9	8.97	8.36	6.81	151.26	151.47	152.30	0.36	0.51	1.15
Verus	10	24.54	16.84	9.74	221.38	187.43	169.39	83.08	64.30	54.91
Copa	10	50.43	20.11	8.47	169.84	167.16	158.13	25.86	15.50	10.16
FillP	10	42.01	35.69	46.11	161.98	167.48	165.71	19.40	30.01	24.29
Indigo-1-32	9	57.18	33.75	25.20	160.52	161.20	161.18	55.63	71.34	77.39
Vivace-latency	10	63.79	12.26	6.57	158.76	159.62	159.88	0.78	1.50	1.55
Vivace-loss	9	68.46	11.44	4.33	159.78	160.48	161.62	1.08	2.57	3.56
Vivace-LTE	10	66.92	13.40	4.19	159.92	160.70	160.84	0.92	1.96	2.57

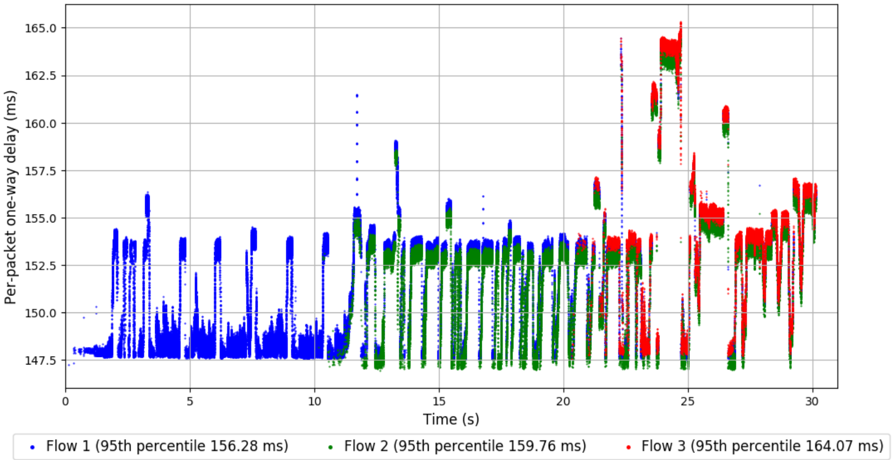
```
Run 1: Statistics of TCP BBR

Start at: 2018-04-03 21:31:02
End at: 2018-04-03 21:31:32
Local clock offset: 6.166 ms
Remote clock offset: -1.505 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.30 Mbit/s
95th percentile per-packet one-way delay: 159.120 ms
Loss rate: 8.24%
-- Flow 1:
Average throughput: 48.82 Mbit/s
95th percentile per-packet one-way delay: 156.278 ms
Loss rate: 7.37%
-- Flow 2:
Average throughput: 36.68 Mbit/s
95th percentile per-packet one-way delay: 159.757 ms
Loss rate: 9.07%
-- Flow 3:
Average throughput: 24.18 Mbit/s
95th percentile per-packet one-way delay: 164.073 ms
Loss rate: 10.89%
```

Run 1: Report of TCP BBR — Data Link



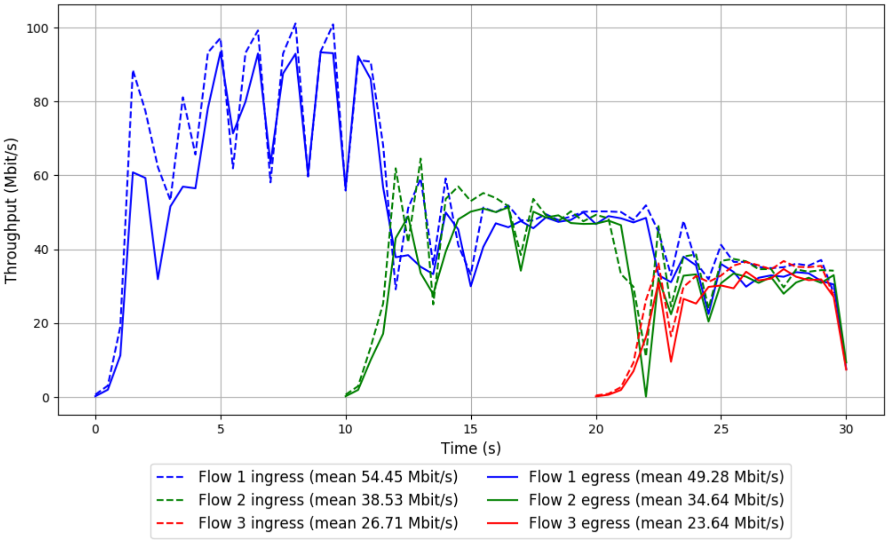


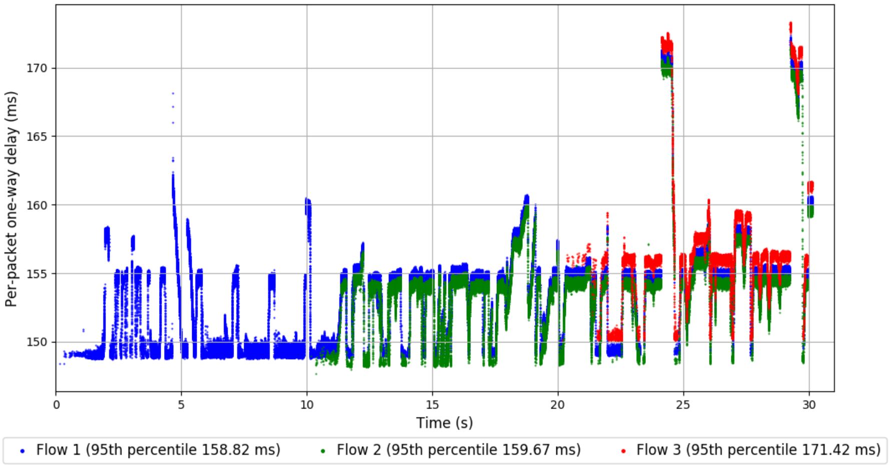
```
Run 2: Statistics of TCP BBR

Start at: 2018-04-03 21:55:25
End at: 2018-04-03 21:55:55
Local clock offset: 8.763 ms
Remote clock offset: 3.131 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 159.858 ms
Loss rate: 9.82%
-- Flow 1:
Average throughput: 49.28 Mbit/s
95th percentile per-packet one-way delay: 158.821 ms
Loss rate: 9.46%
-- Flow 2:
Average throughput: 34.64 Mbit/s
95th percentile per-packet one-way delay: 159.673 ms
Loss rate: 10.05%
-- Flow 3:
Average throughput: 23.64 Mbit/s
95th percentile per-packet one-way delay: 171.422 ms
Loss rate: 11.40%
```

Run 2: Report of TCP BBR — Data Link



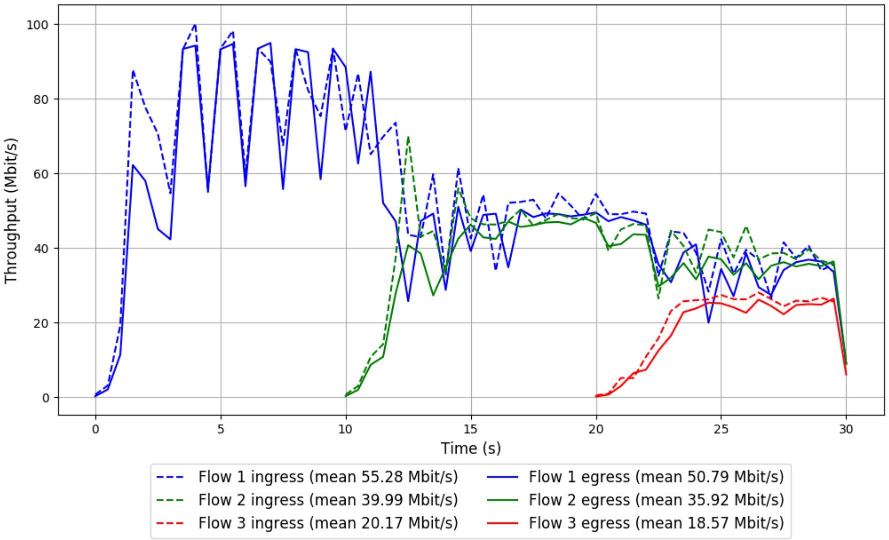


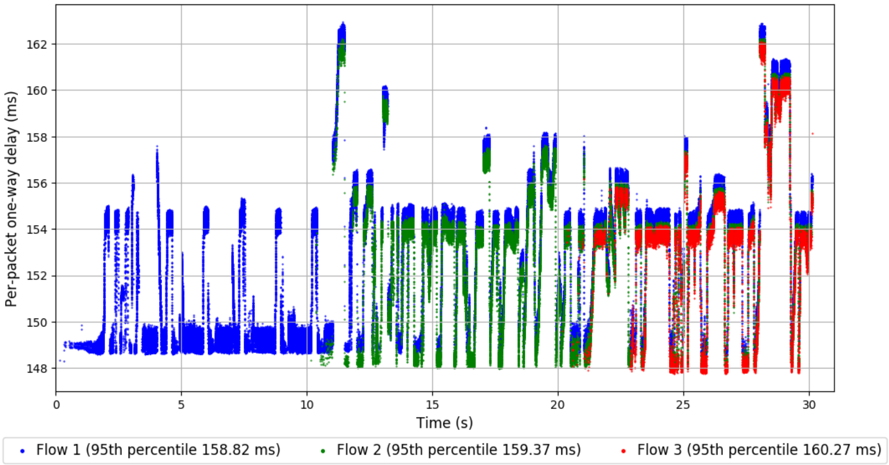
```
Run 3: Statistics of TCP BBR

Start at: 2018-04-03 22:19:42
End at: 2018-04-03 22:20:12
Local clock offset: 11.071 ms
Remote clock offset: -3.755 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.88 Mbit/s
95th percentile per-packet one-way delay: 159.478 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 50.79 Mbit/s
95th percentile per-packet one-way delay: 158.823 ms
Loss rate: 8.09%
-- Flow 2:
Average throughput: 35.92 Mbit/s
95th percentile per-packet one-way delay: 159.367 ms
Loss rate: 10.14%
-- Flow 3:
Average throughput: 18.57 Mbit/s
95th percentile per-packet one-way delay: 160.267 ms
Loss rate: 7.88%
```

Run 3: Report of TCP BBR — Data Link



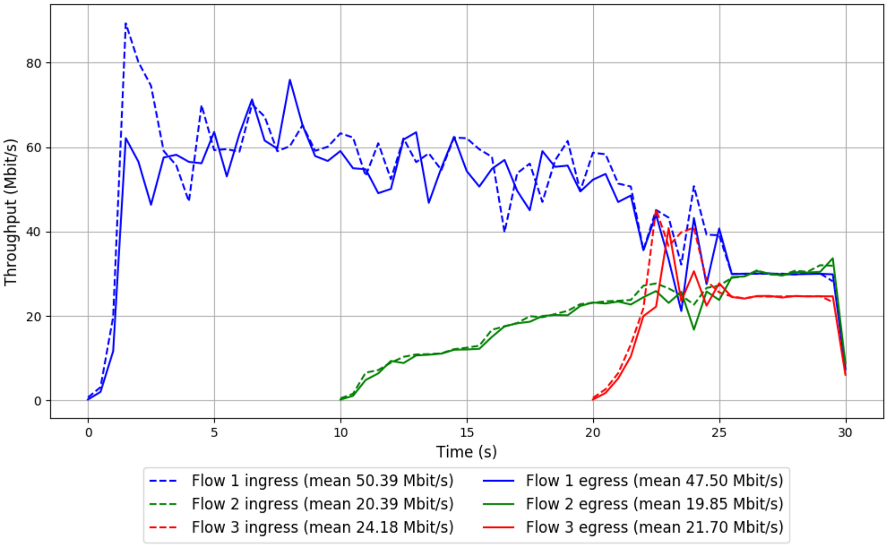


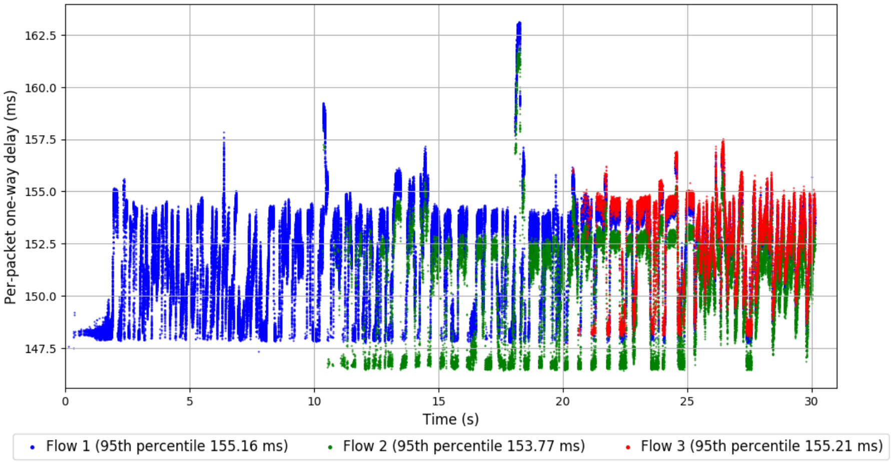
```
Run 4: Statistics of TCP BBR

Start at: 2018-04-03 22:44:05
End at: 2018-04-03 22:44:35
Local clock offset: 6.412 ms
Remote clock offset: 7.019 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.94 Mbit/s
95th percentile per-packet one-way delay: 155.016 ms
Loss rate: 5.62%
-- Flow 1:
Average throughput: 47.50 Mbit/s
95th percentile per-packet one-way delay: 155.161 ms
Loss rate: 5.71%
-- Flow 2:
Average throughput: 19.85 Mbit/s
95th percentile per-packet one-way delay: 153.774 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 21.70 Mbit/s
95th percentile per-packet one-way delay: 155.211 ms
Loss rate: 10.21%
```

Run 4: Report of TCP BBR — Data Link



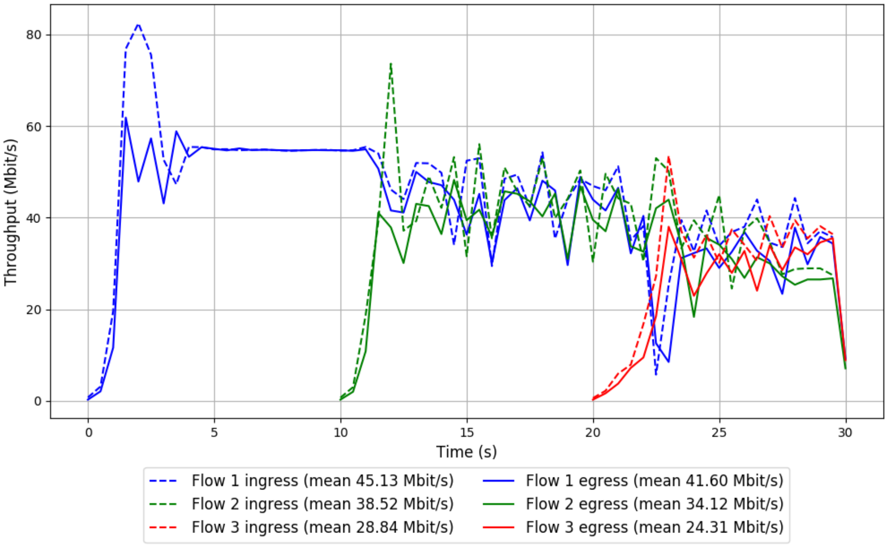


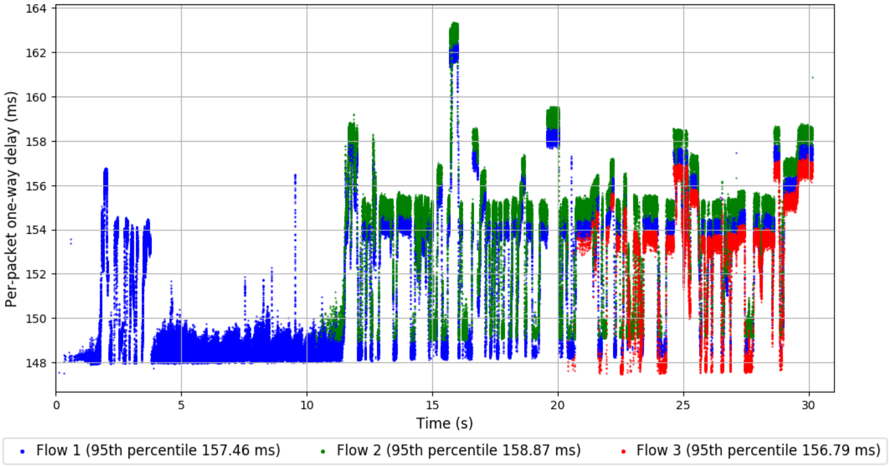
```
Run 5: Statistics of TCP BBR

Start at: 2018-04-03 23:08:55
End at: 2018-04-03 23:09:25
Local clock offset: 6.512 ms
Remote clock offset: 3.966 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.39 Mbit/s
95th percentile per-packet one-way delay: 158.119 ms
Loss rate: 9.87%
-- Flow 1:
Average throughput: 41.60 Mbit/s
95th percentile per-packet one-way delay: 157.463 ms
Loss rate: 7.79%
-- Flow 2:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 158.869 ms
Loss rate: 11.36%
-- Flow 3:
Average throughput: 24.31 Mbit/s
95th percentile per-packet one-way delay: 156.791 ms
Loss rate: 15.65%
```

Run 5: Report of TCP BBR — Data Link



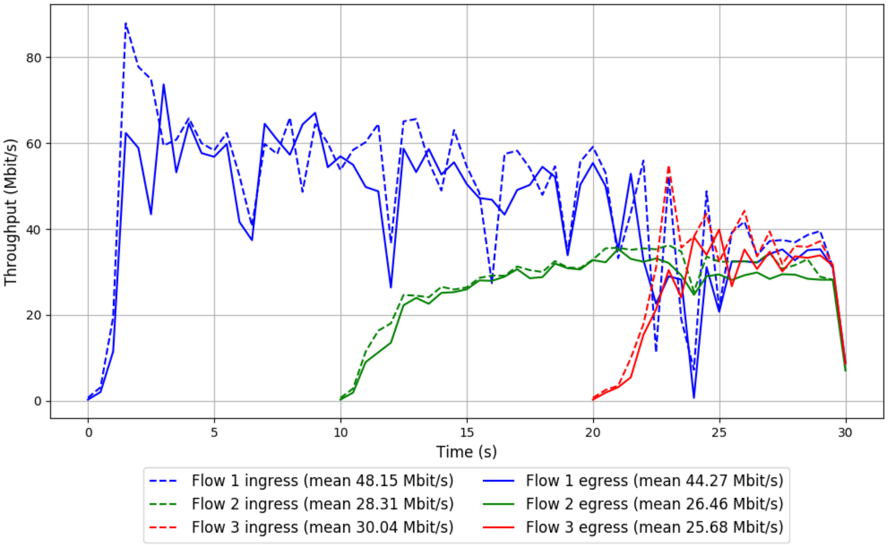


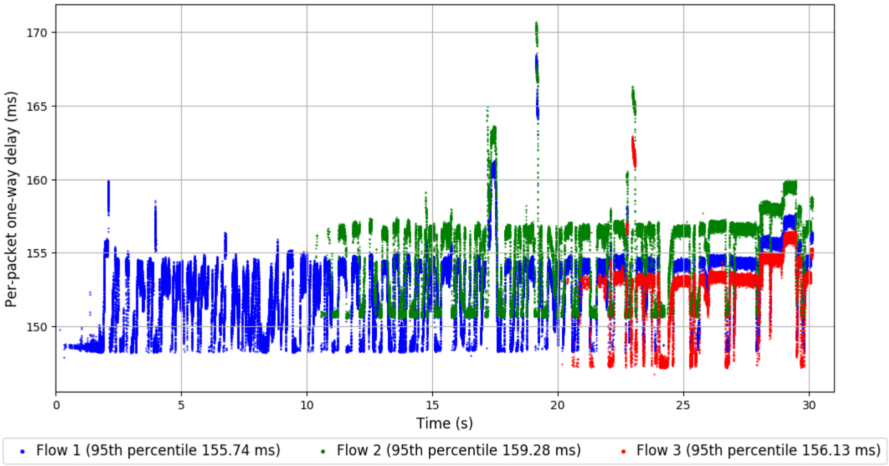
```
Run 6: Statistics of TCP BBR

Start at: 2018-04-03 23:33:33
End at: 2018-04-03 23:34:03
Local clock offset: 6.391 ms
Remote clock offset: -6.419 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.44 Mbit/s
95th percentile per-packet one-way delay: 157.121 ms
Loss rate: 8.50%
-- Flow 1:
Average throughput: 44.27 Mbit/s
95th percentile per-packet one-way delay: 155.742 ms
Loss rate: 8.05%
-- Flow 2:
Average throughput: 26.46 Mbit/s
95th percentile per-packet one-way delay: 159.285 ms
Loss rate: 6.52%
-- Flow 3:
Average throughput: 25.68 Mbit/s
95th percentile per-packet one-way delay: 156.126 ms
Loss rate: 14.44%
```

Run 6: Report of TCP BBR — Data Link



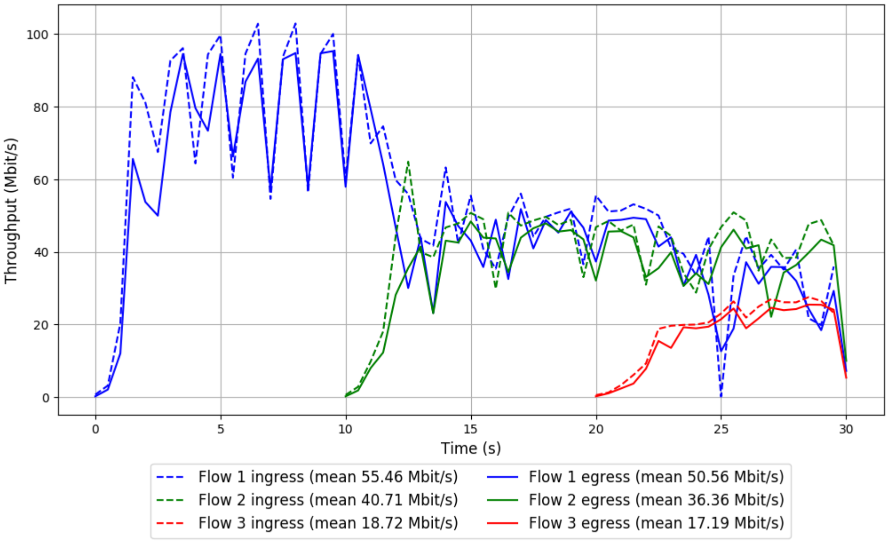


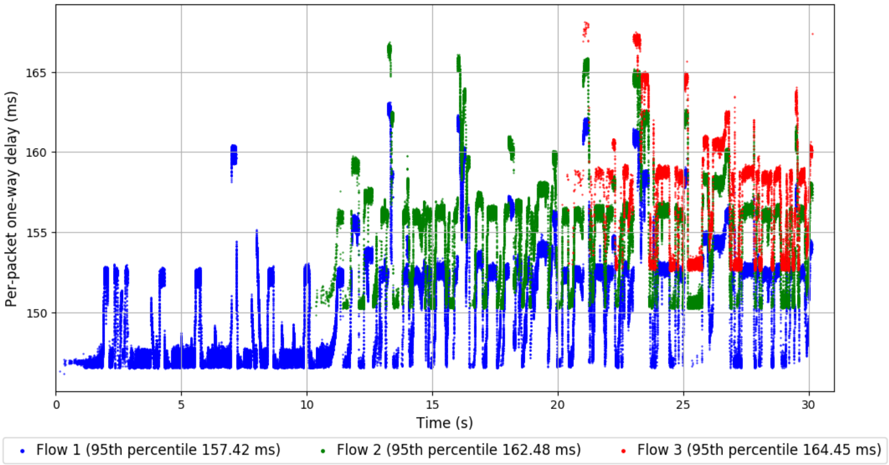
```
Run 7: Statistics of TCP BBR

Start at: 2018-04-03 23:58:00
End at: 2018-04-03 23:58:30
Local clock offset: 6.267 ms
Remote clock offset: -3.041 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.45 Mbit/s
95th percentile per-packet one-way delay: 160.492 ms
Loss rate: 9.33%
-- Flow 1:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 157.417 ms
Loss rate: 8.80%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 162.477 ms
Loss rate: 10.67%
-- Flow 3:
Average throughput: 17.19 Mbit/s
95th percentile per-packet one-way delay: 164.447 ms
Loss rate: 8.21%
```

Run 7: Report of TCP BBR — Data Link



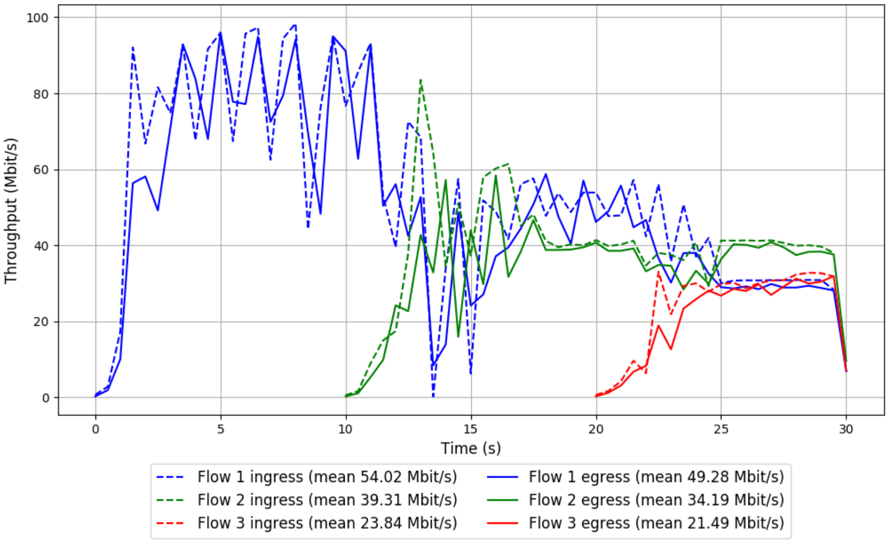


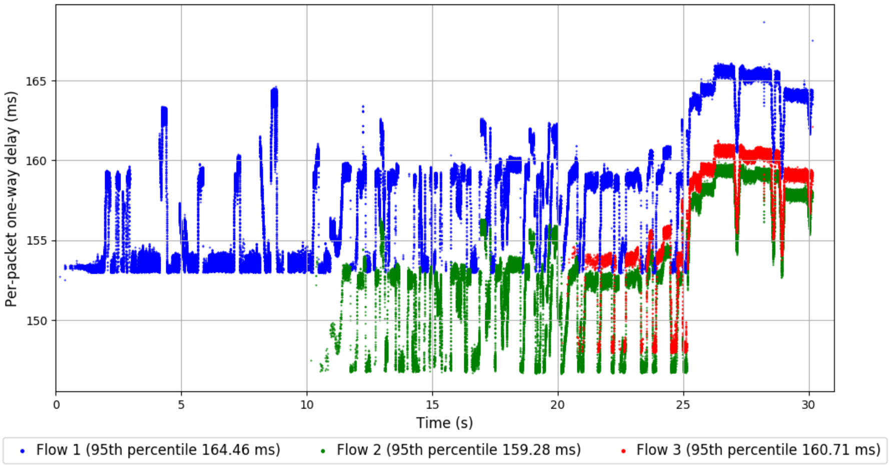
```
Run 8: Statistics of TCP BBR

Start at: 2018-04-04 00:23:14
End at: 2018-04-04 00:23:44
Local clock offset: 10.203 ms
Remote clock offset: 0.98 ms

# Below is generated by plot.py at 2018-04-04 01:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.19 Mbit/s
95th percentile per-packet one-way delay: 163.862 ms
Loss rate: 10.08%
-- Flow 1:
Average throughput: 49.28 Mbit/s
95th percentile per-packet one-way delay: 164.456 ms
Loss rate: 8.72%
-- Flow 2:
Average throughput: 34.19 Mbit/s
95th percentile per-packet one-way delay: 159.276 ms
Loss rate: 12.98%
-- Flow 3:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 160.713 ms
Loss rate: 9.76%
```

Run 8: Report of TCP BBR — Data Link



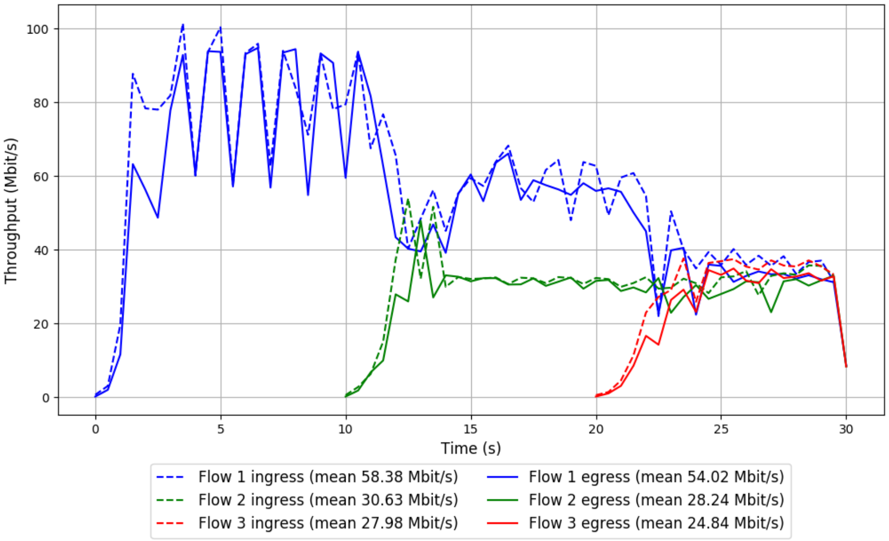


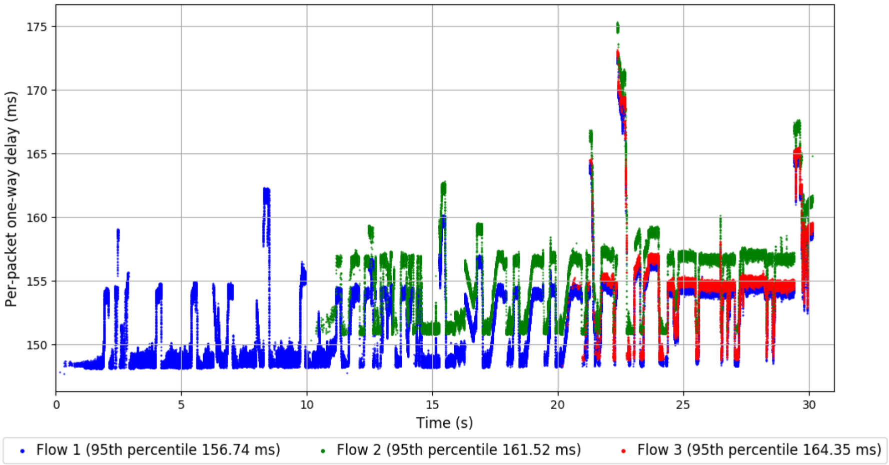
```
Run 9: Statistics of TCP BBR

Start at: 2018-04-04 00:47:53
End at: 2018-04-04 00:48:23
Local clock offset: 9.961 ms
Remote clock offset: 2.055 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.08 Mbit/s
95th percentile per-packet one-way delay: 159.306 ms
Loss rate: 7.89%
-- Flow 1:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 156.736 ms
Loss rate: 7.43%
-- Flow 2:
Average throughput: 28.24 Mbit/s
95th percentile per-packet one-way delay: 161.523 ms
Loss rate: 7.75%
-- Flow 3:
Average throughput: 24.84 Mbit/s
95th percentile per-packet one-way delay: 164.354 ms
Loss rate: 11.11%
```

Run 9: Report of TCP BBR — Data Link



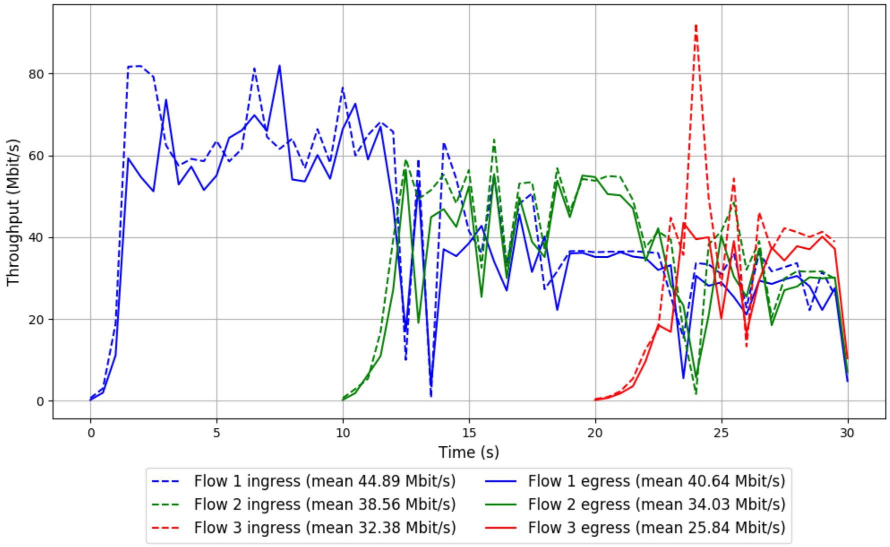


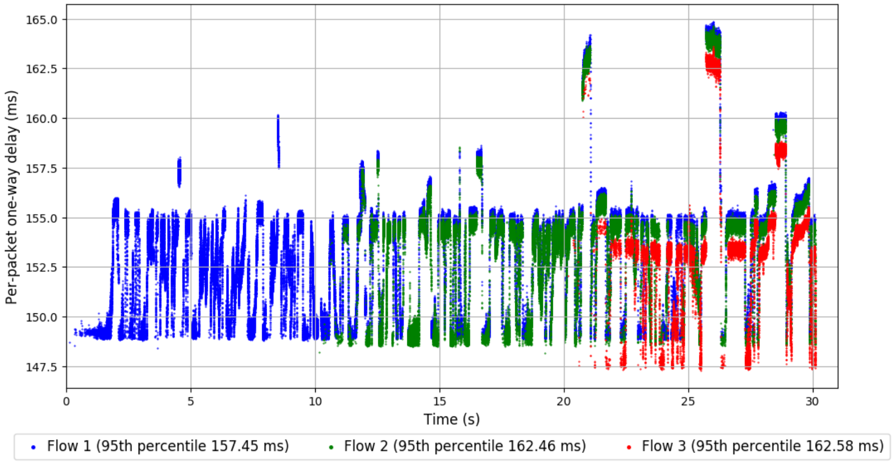
```
Run 10: Statistics of TCP BBR

Start at: 2018-04-04 01:12:47
End at: 2018-04-04 01:13:17
Local clock offset: 9.494 ms
Remote clock offset: -2.407 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.86 Mbit/s
95th percentile per-packet one-way delay: 159.369 ms
Loss rate: 11.61%
-- Flow 1:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 157.448 ms
Loss rate: 9.48%
-- Flow 2:
Average throughput: 34.03 Mbit/s
95th percentile per-packet one-way delay: 162.460 ms
Loss rate: 11.72%
-- Flow 3:
Average throughput: 25.84 Mbit/s
95th percentile per-packet one-way delay: 162.584 ms
Loss rate: 20.24%
```

Run 10: Report of TCP BBR — Data Link



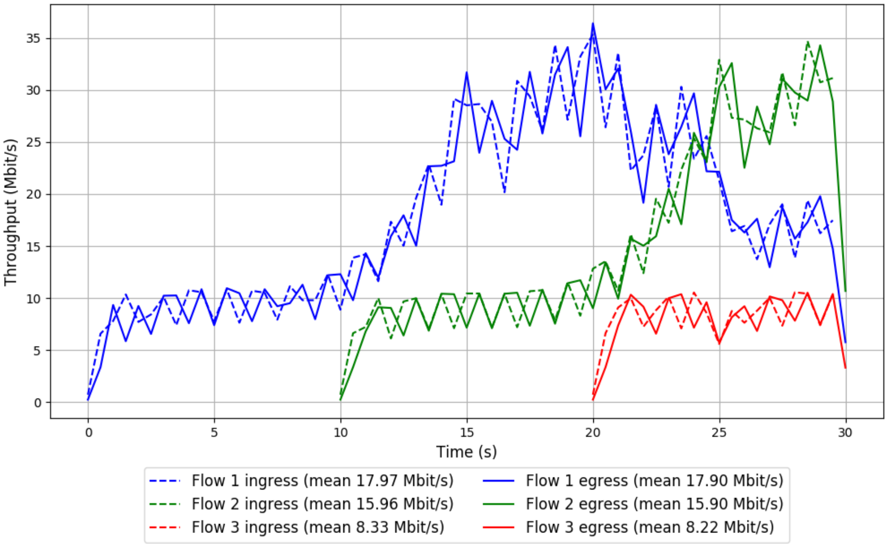


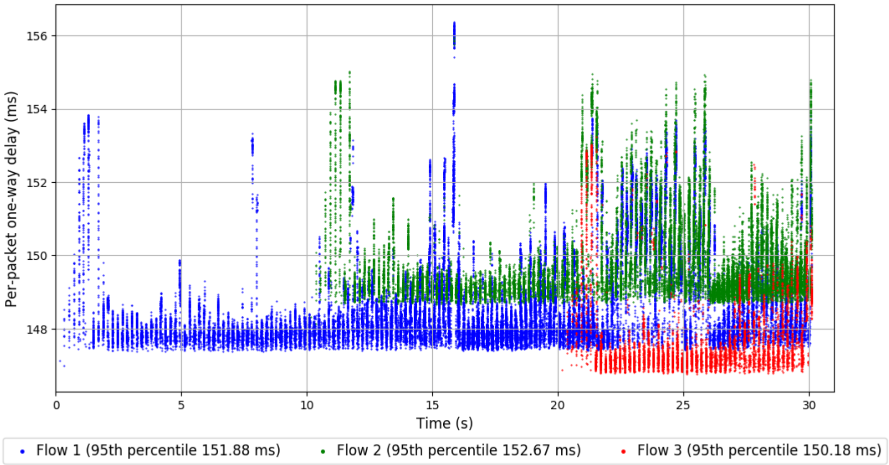
```
Run 1: Statistics of TCP Cubic

Start at: 2018-04-03 21:18:48
End at: 2018-04-03 21:19:18
Local clock offset: 5.897 ms
Remote clock offset: -11.015 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.22 Mbit/s
95th percentile per-packet one-way delay: 152.129 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 17.90 Mbit/s
95th percentile per-packet one-way delay: 151.878 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 15.90 Mbit/s
95th percentile per-packet one-way delay: 152.674 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 150.177 ms
Loss rate: 1.32%
```

Run 1: Report of TCP Cubic — Data Link



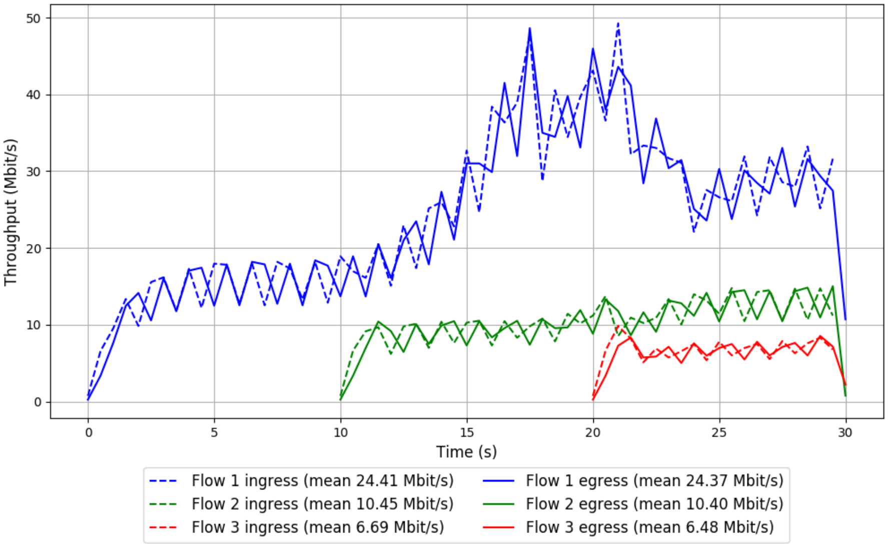


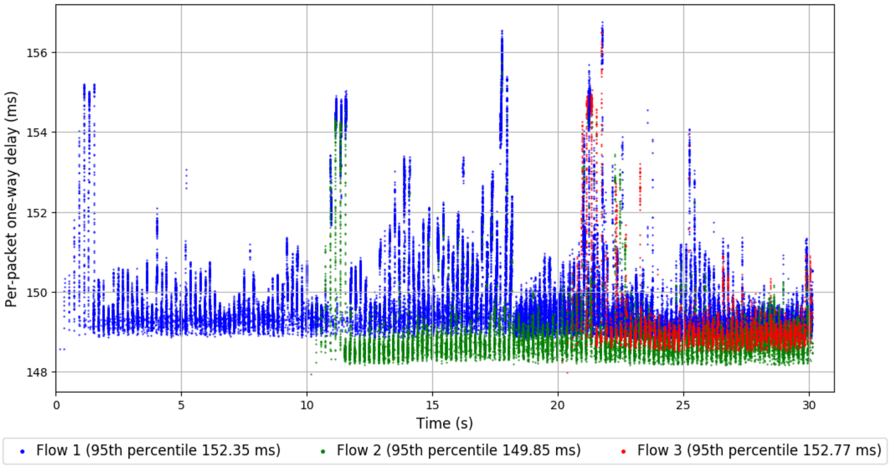
```
Run 2: Statistics of TCP Cubic

Start at: 2018-04-03 21:43:10
End at: 2018-04-03 21:43:40
Local clock offset: 6.164 ms
Remote clock offset: 2.171 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.44 Mbit/s
95th percentile per-packet one-way delay: 152.017 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 24.37 Mbit/s
95th percentile per-packet one-way delay: 152.346 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 10.40 Mbit/s
95th percentile per-packet one-way delay: 149.849 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 6.48 Mbit/s
95th percentile per-packet one-way delay: 152.772 ms
Loss rate: 3.17%
```

Run 2: Report of TCP Cubic — Data Link



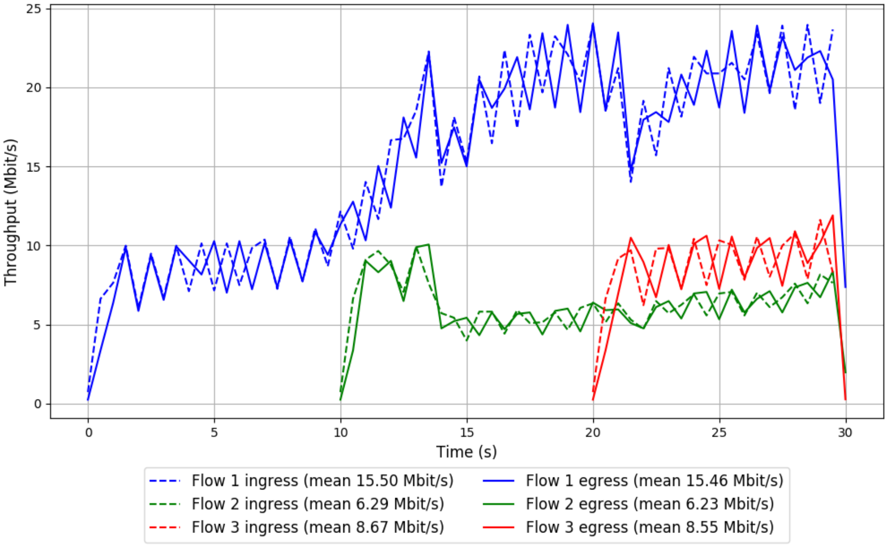


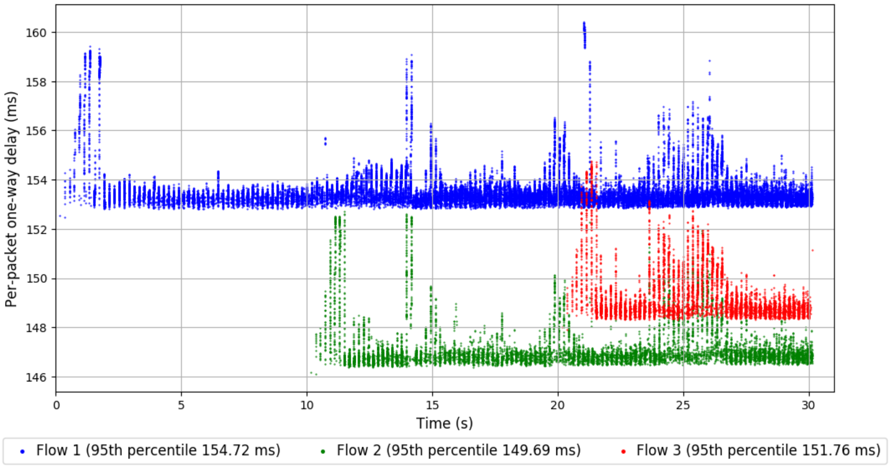
```
Run 3: Statistics of TCP Cubic

Start at: 2018-04-03 22:07:29
End at: 2018-04-03 22:07:59
Local clock offset: 10.342 ms
Remote clock offset: -1.884 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 154.375 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 15.46 Mbit/s
95th percentile per-packet one-way delay: 154.715 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 149.689 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 151.763 ms
Loss rate: 1.28%
```

Run 3: Report of TCP Cubic — Data Link



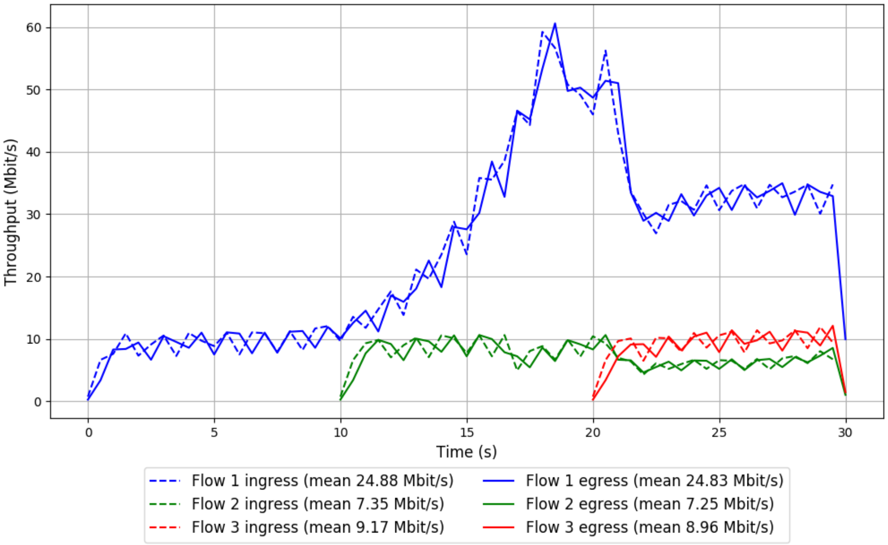


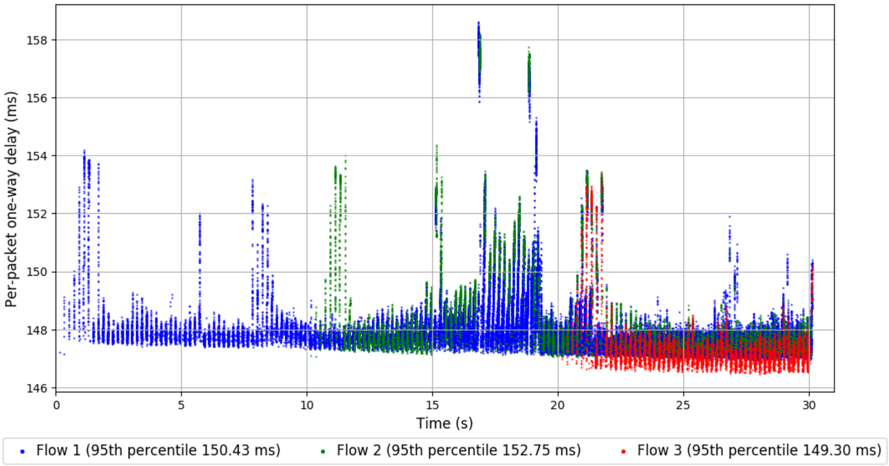
```
Run 4: Statistics of TCP Cubic

Start at: 2018-04-03 22:31:56
End at: 2018-04-03 22:32:26
Local clock offset: 7.579 ms
Remote clock offset: -0.839 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.63 Mbit/s
95th percentile per-packet one-way delay: 150.929 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 24.83 Mbit/s
95th percentile per-packet one-way delay: 150.427 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 152.755 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 149.296 ms
Loss rate: 2.23%
```

Run 4: Report of TCP Cubic — Data Link



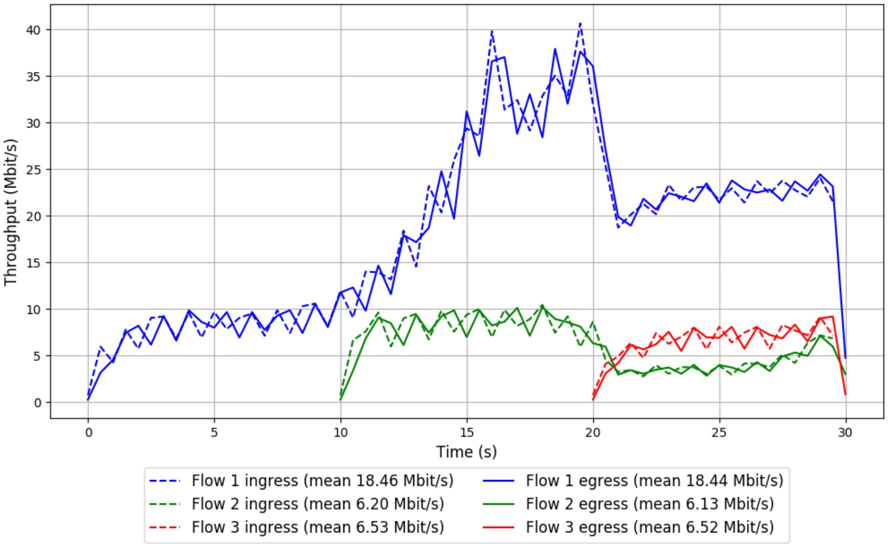


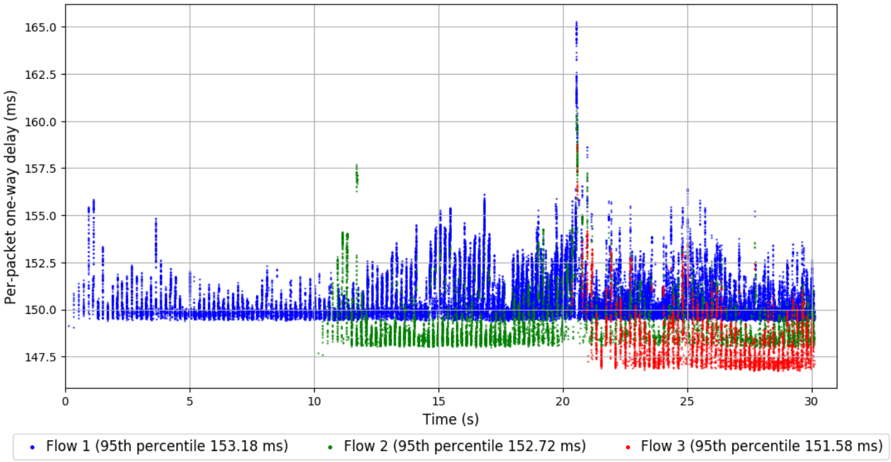
```
Run 5: Statistics of TCP Cubic

Start at: 2018-04-03 22:56:08
End at: 2018-04-03 22:56:38
Local clock offset: 6.148 ms
Remote clock offset: 10.057 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.69 Mbit/s
95th percentile per-packet one-way delay: 153.059 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 18.44 Mbit/s
95th percentile per-packet one-way delay: 153.184 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 152.717 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 151.583 ms
Loss rate: 0.22%
```

Run 5: Report of TCP Cubic — Data Link



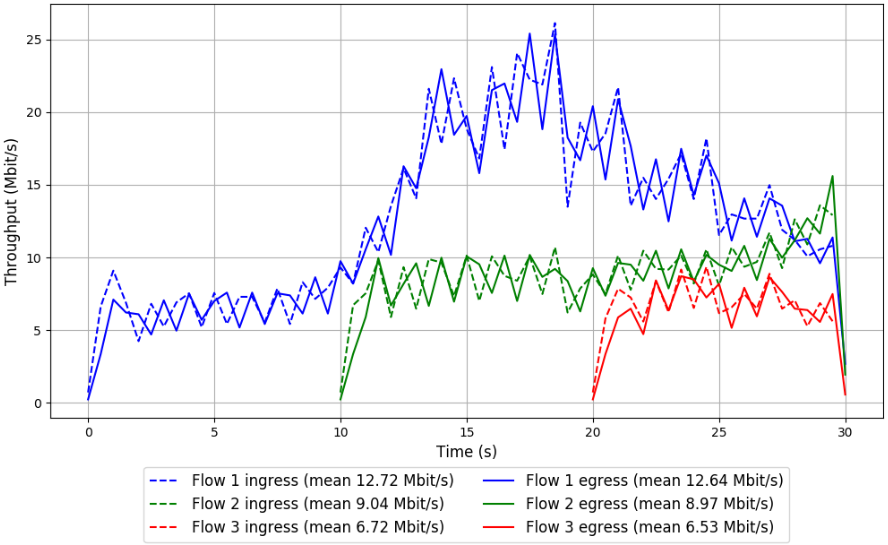


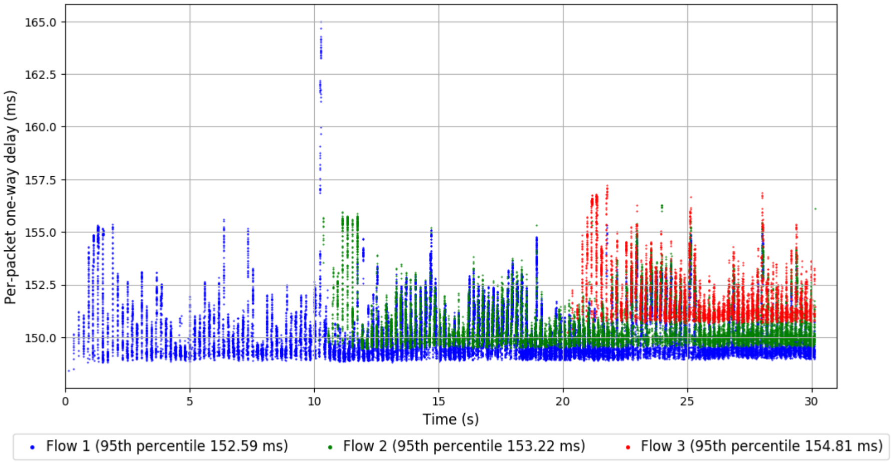
```
Run 6: Statistics of TCP Cubic

Start at: 2018-04-03 23:21:23
End at: 2018-04-03 23:21:53
Local clock offset: 6.487 ms
Remote clock offset: -3.208 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.78 Mbit/s
95th percentile per-packet one-way delay: 153.192 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 12.64 Mbit/s
95th percentile per-packet one-way delay: 152.594 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 8.97 Mbit/s
95th percentile per-packet one-way delay: 153.222 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 154.805 ms
Loss rate: 2.89%
```

Run 6: Report of TCP Cubic — Data Link



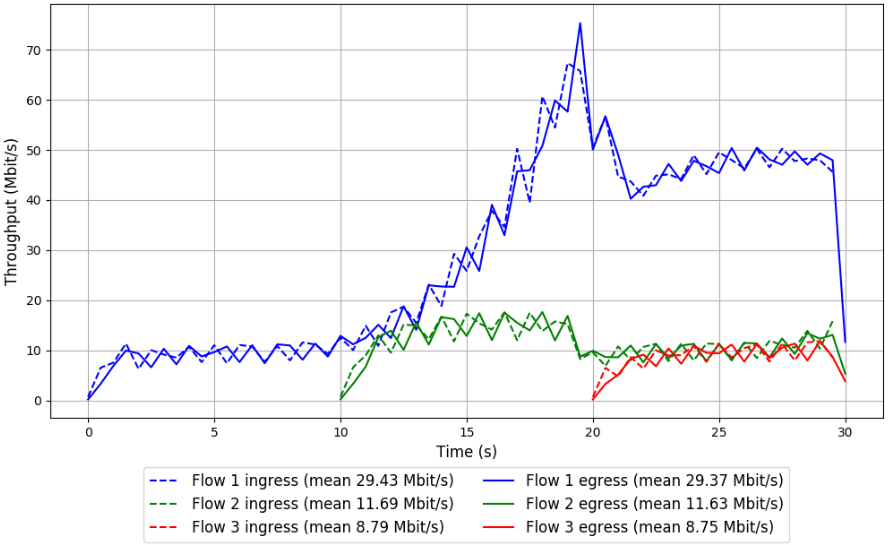


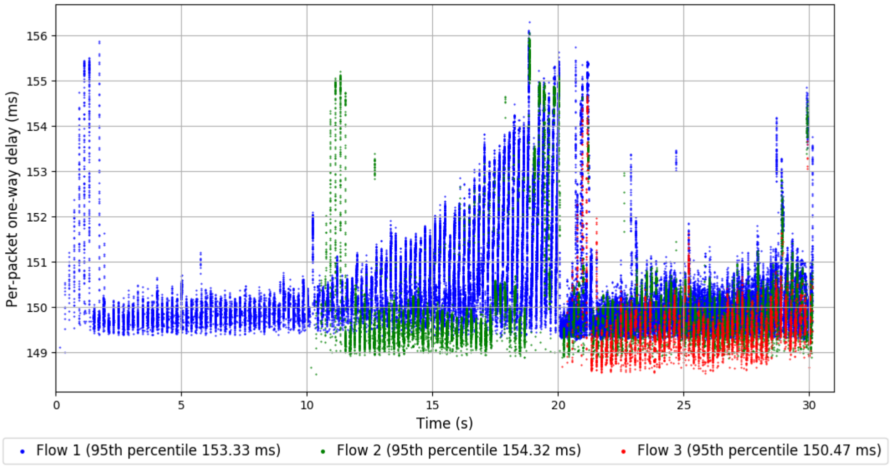
```
Run 7: Statistics of TCP Cubic

Start at: 2018-04-03 23:45:35
End at: 2018-04-03 23:46:05
Local clock offset: 6.45 ms
Remote clock offset: -3.818 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.02 Mbit/s
95th percentile per-packet one-way delay: 153.350 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 29.37 Mbit/s
95th percentile per-packet one-way delay: 153.331 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 154.319 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 150.469 ms
Loss rate: 0.43%
```

Run 7: Report of TCP Cubic — Data Link



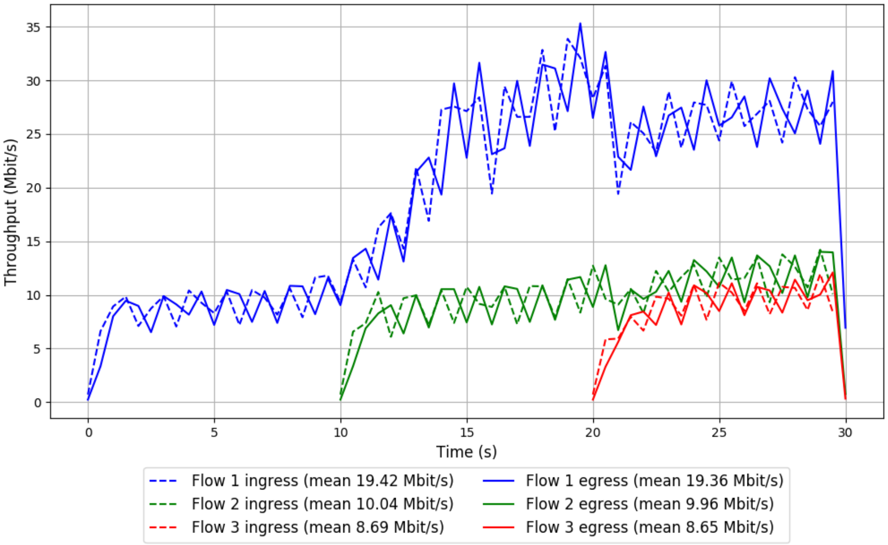


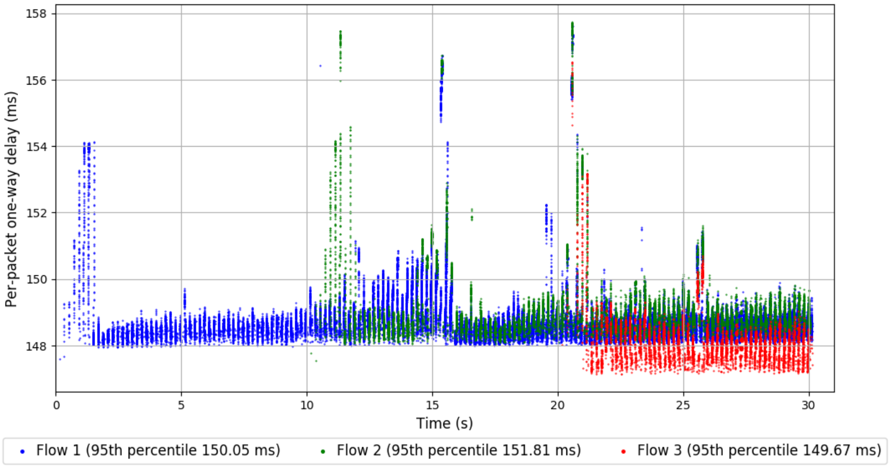
```
Run 8: Statistics of TCP Cubic

Start at: 2018-04-04 00:10:40
End at: 2018-04-04 00:11:10
Local clock offset: 8.601 ms
Remote clock offset: -3.572 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.84 Mbit/s
95th percentile per-packet one-way delay: 150.411 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 19.36 Mbit/s
95th percentile per-packet one-way delay: 150.054 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 151.813 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 8.65 Mbit/s
95th percentile per-packet one-way delay: 149.672 ms
Loss rate: 0.43%
```

Run 8: Report of TCP Cubic — Data Link



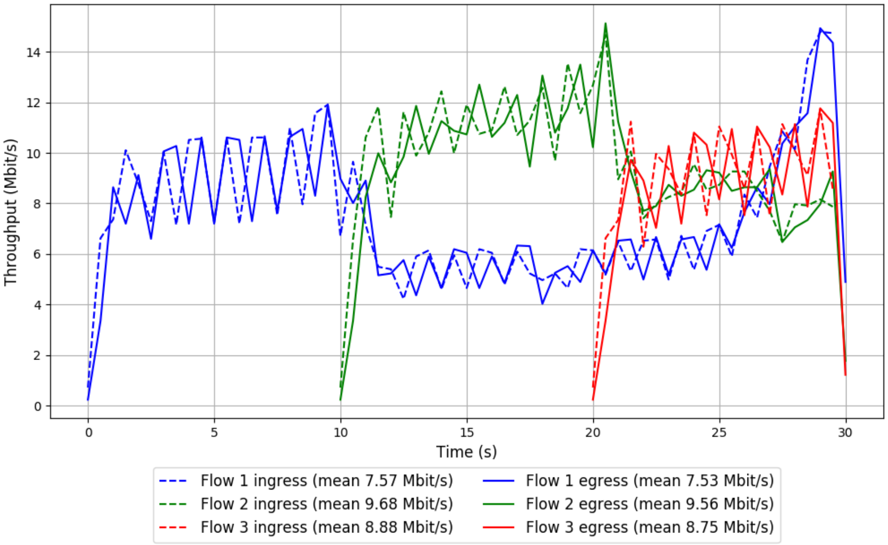


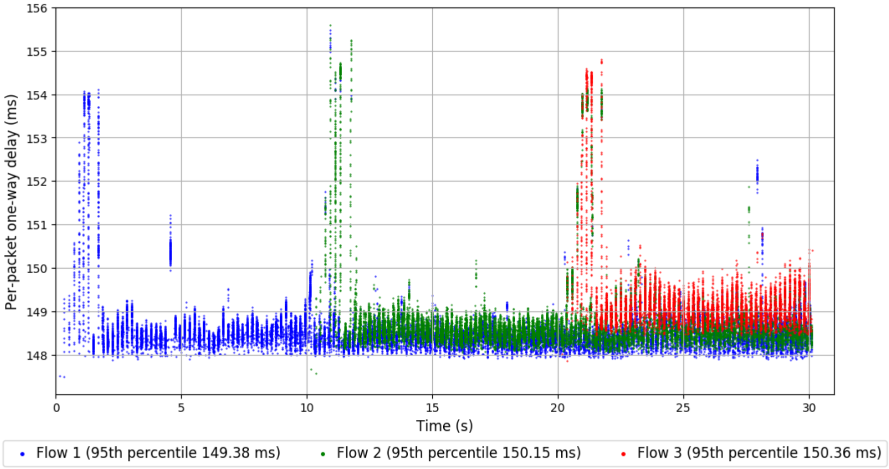
```
Run 9: Statistics of TCP Cubic

Start at: 2018-04-04 00:35:19
End at: 2018-04-04 00:35:49
Local clock offset: 11.162 ms
Remote clock offset: 2.653 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.78 Mbit/s
95th percentile per-packet one-way delay: 149.834 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 149.383 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 150.150 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 150.357 ms
Loss rate: 1.44%
```

Run 9: Report of TCP Cubic — Data Link



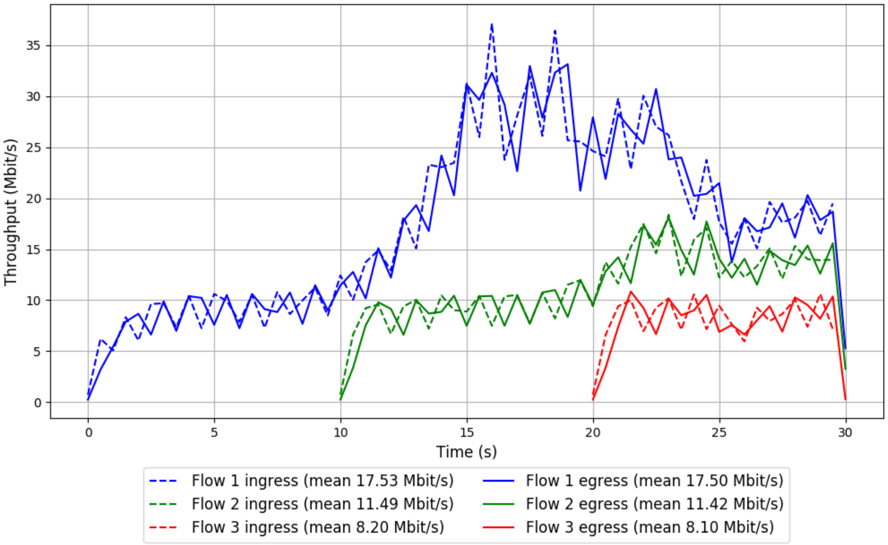


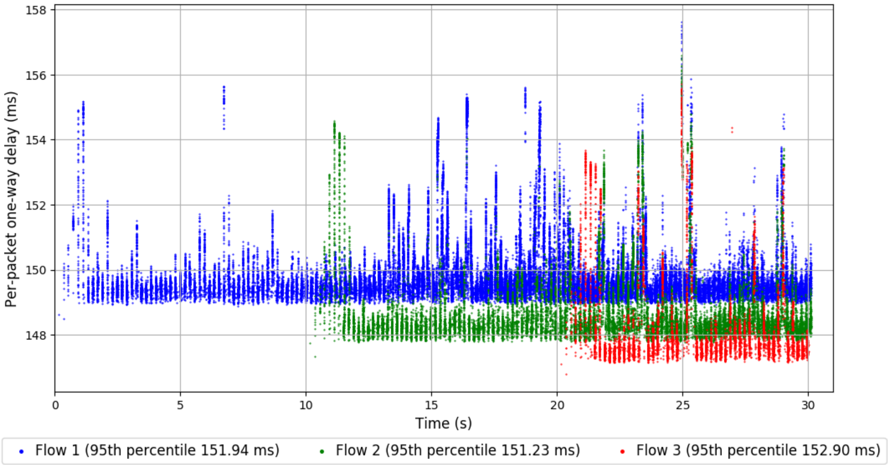
```
Run 10: Statistics of TCP Cubic

Start at: 2018-04-04 00:59:57
End at: 2018-04-04 01:00:27
Local clock offset: 9.577 ms
Remote clock offset: -1.223 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.77 Mbit/s
95th percentile per-packet one-way delay: 151.952 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 17.50 Mbit/s
95th percentile per-packet one-way delay: 151.936 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 11.42 Mbit/s
95th percentile per-packet one-way delay: 151.230 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 152.902 ms
Loss rate: 1.30%
```

Run 10: Report of TCP Cubic — Data Link



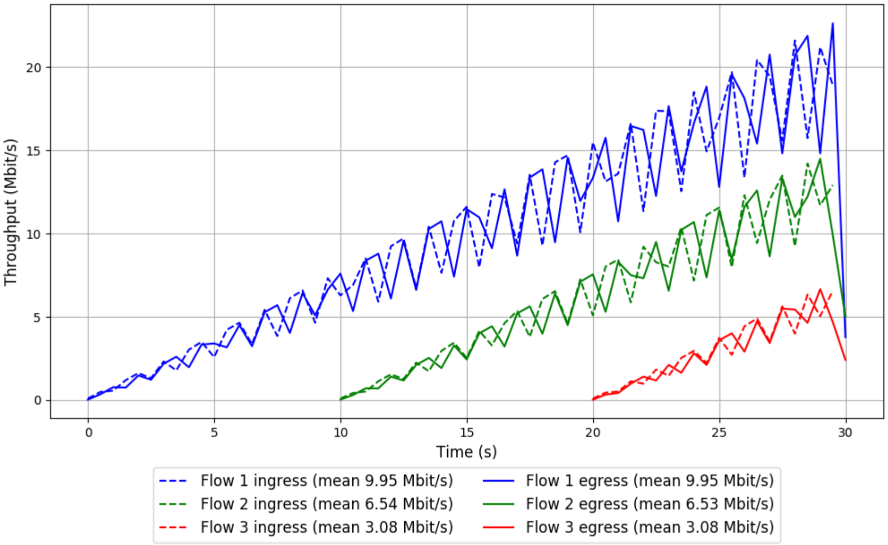


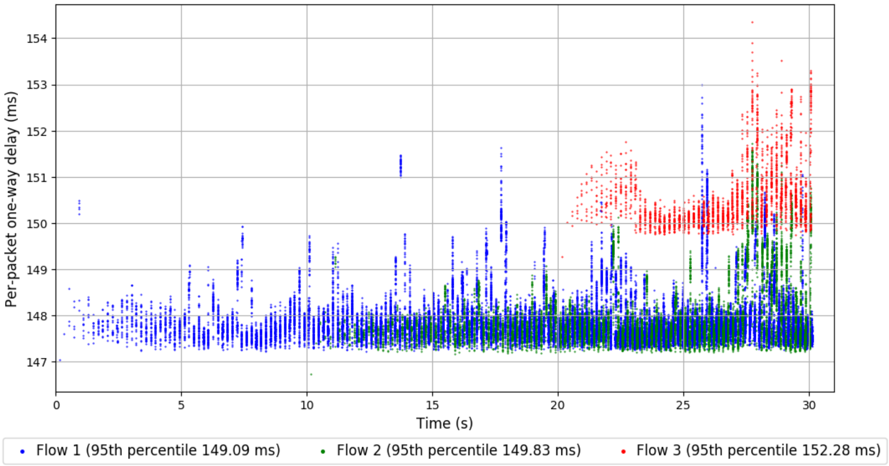
```
Run 1: Statistics of LEDBAT

Start at: 2018-04-03 21:17:30
End at: 2018-04-03 21:18:00
Local clock offset: 5.78 ms
Remote clock offset: -10.838 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.30 Mbit/s
95th percentile per-packet one-way delay: 150.274 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.95 Mbit/s
95th percentile per-packet one-way delay: 149.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 149.829 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 152.278 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



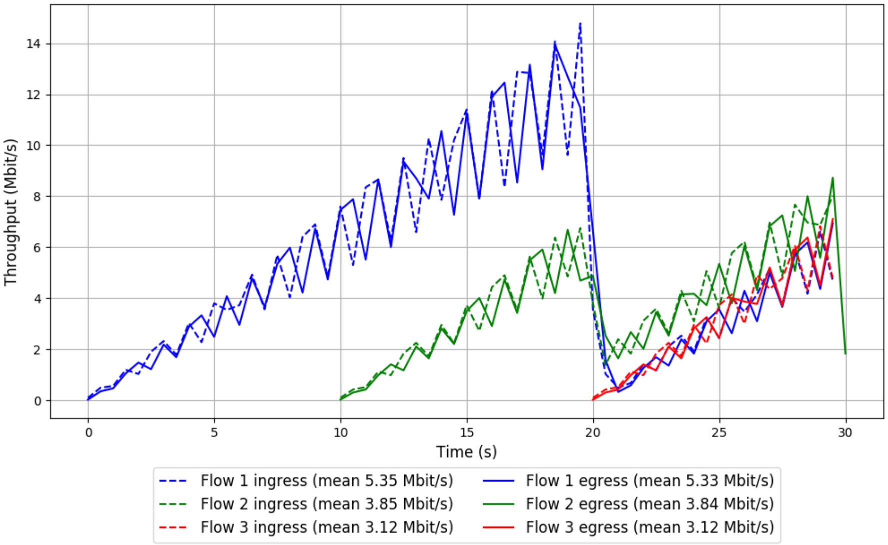


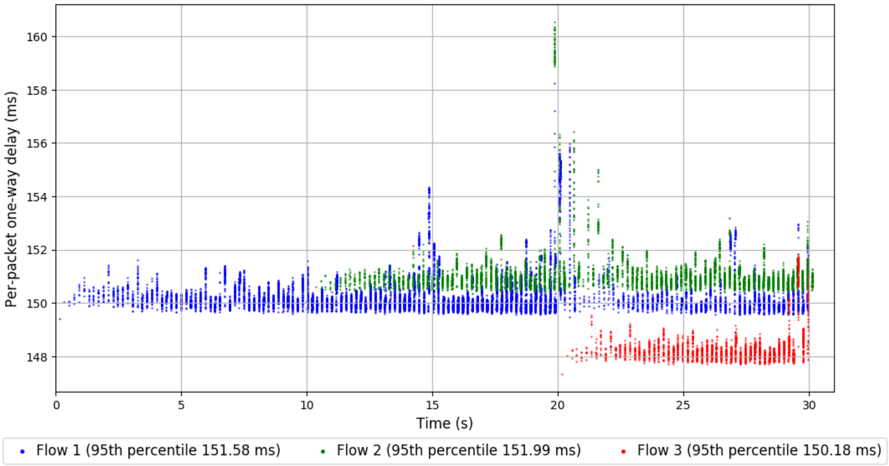
```
Run 2: Statistics of LEDBAT

Start at: 2018-04-03 21:41:52
End at: 2018-04-03 21:42:23
Local clock offset: 6.286 ms
Remote clock offset: 1.99 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.87 Mbit/s
95th percentile per-packet one-way delay: 151.690 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 151.577 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 151.989 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 150.176 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link



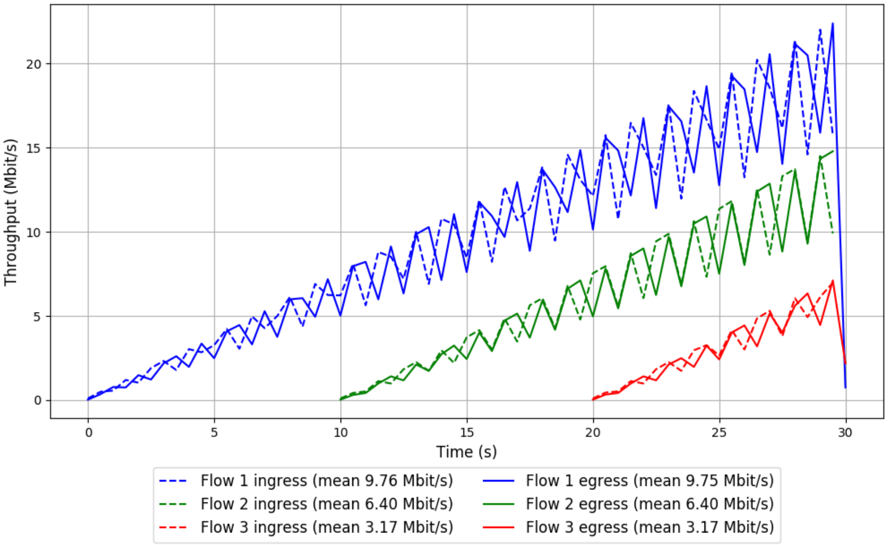


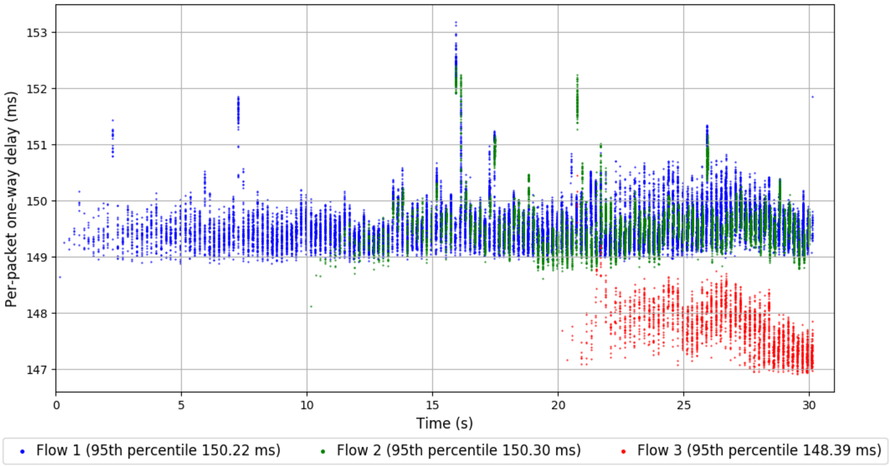
```
Run 3: Statistics of LEDBAT

Start at: 2018-04-03 22:06:11
End at: 2018-04-03 22:06:41
Local clock offset: 10.096 ms
Remote clock offset: -1.697 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.04 Mbit/s
95th percentile per-packet one-way delay: 150.199 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 9.75 Mbit/s
95th percentile per-packet one-way delay: 150.217 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 150.301 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 148.389 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link



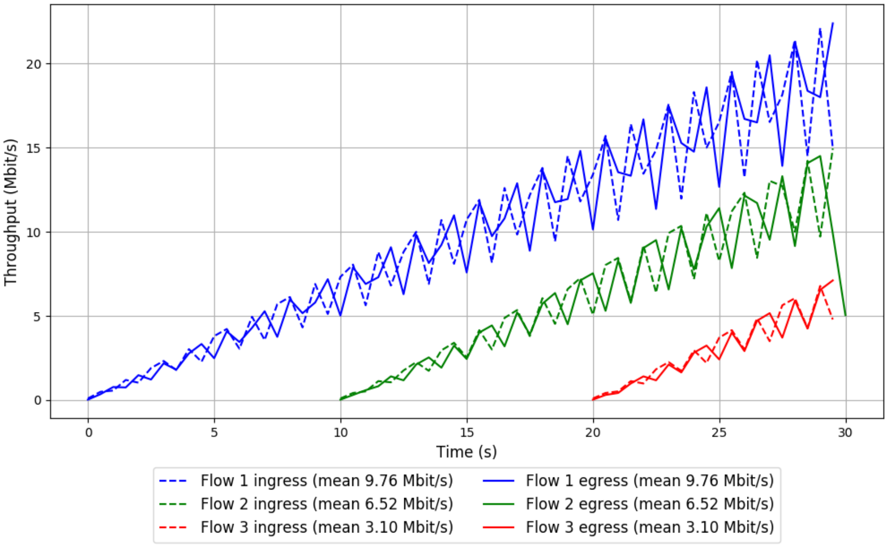


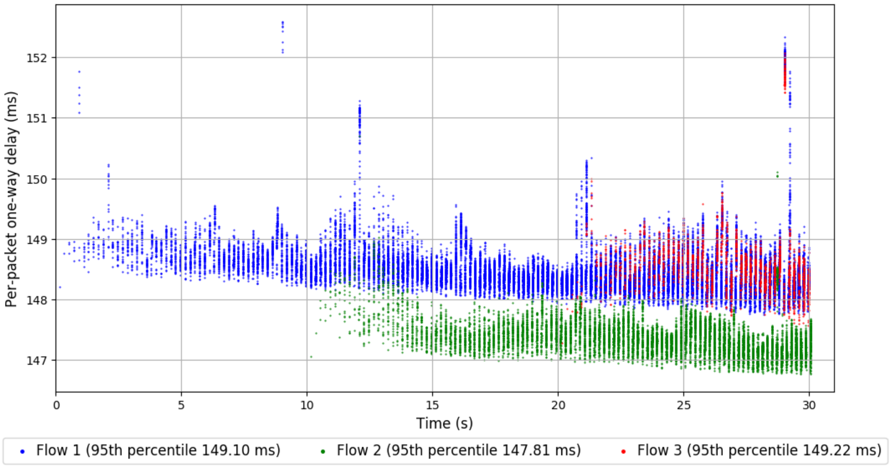
```
Run 4: Statistics of LEDBAT

Start at: 2018-04-03 22:30:38
End at: 2018-04-03 22:31:08
Local clock offset: 7.629 ms
Remote clock offset: -2.588 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.10 Mbit/s
95th percentile per-packet one-way delay: 149.012 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.76 Mbit/s
95th percentile per-packet one-way delay: 149.104 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 147.815 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 149.215 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link



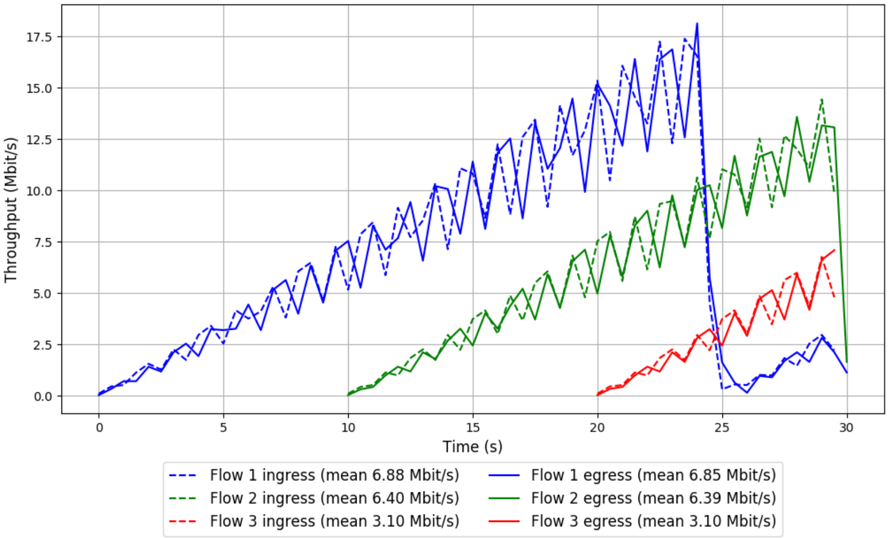


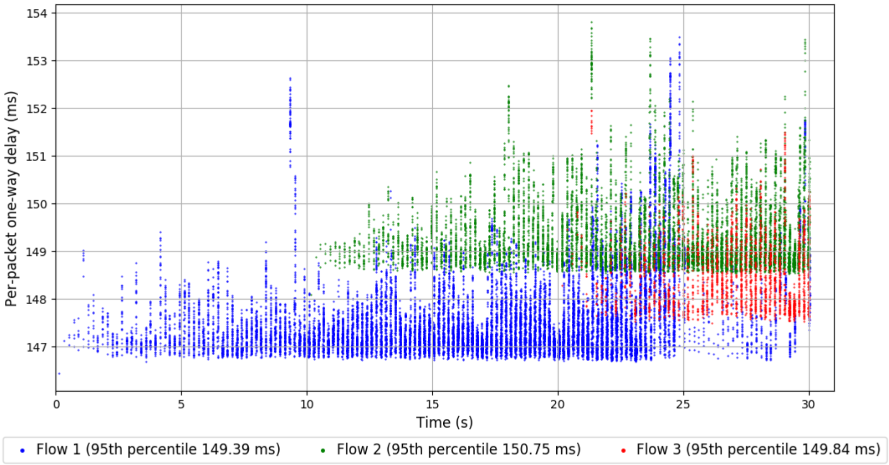
```
Run 5: Statistics of LEDBAT

Start at: 2018-04-03 22:54:50
End at: 2018-04-03 22:55:20
Local clock offset: 6.309 ms
Remote clock offset: 9.779 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.12 Mbit/s
95th percentile per-packet one-way delay: 150.305 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 149.394 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 150.748 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 149.842 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link



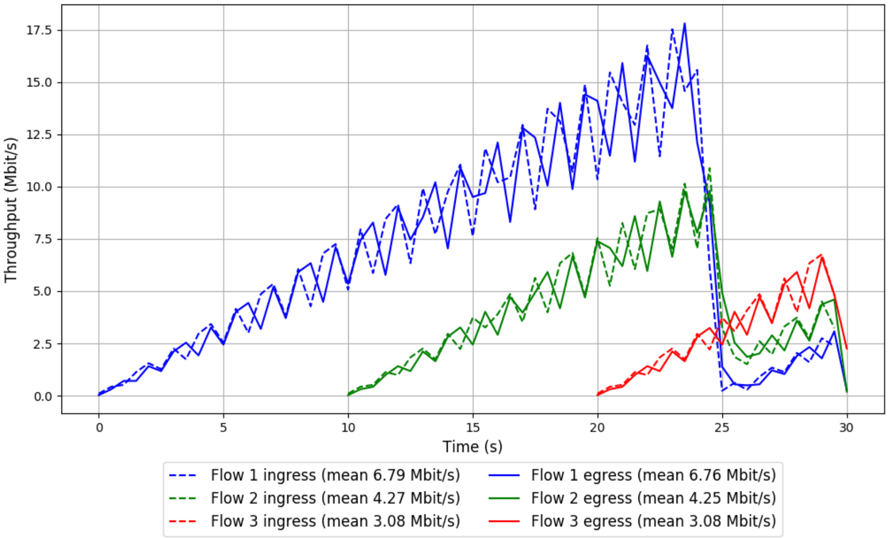


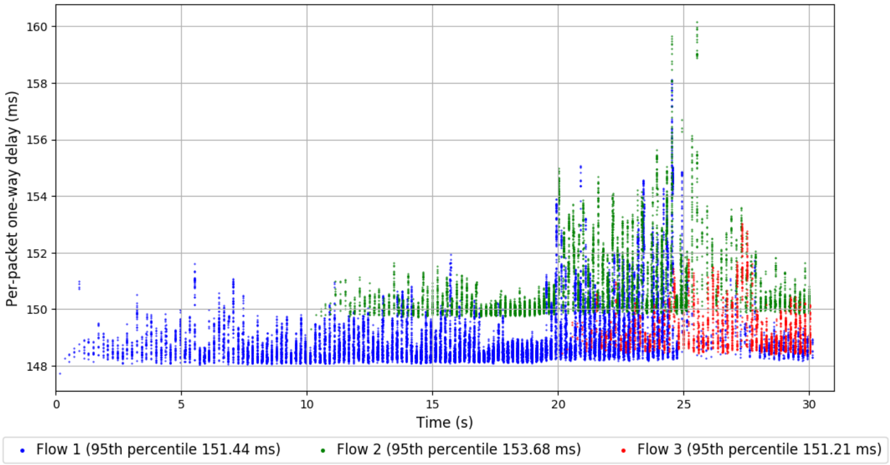
```
Run 6: Statistics of LEDBAT

Start at: 2018-04-03 23:20:06
End at: 2018-04-03 23:20:36
Local clock offset: 6.502 ms
Remote clock offset: -2.707 ms

# Below is generated by plot.py at 2018-04-04 01:41:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.59 Mbit/s
95th percentile per-packet one-way delay: 152.548 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 151.443 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 153.682 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 151.209 ms
Loss rate: 0.00%
```

Run 6: Report of LEDBAT — Data Link



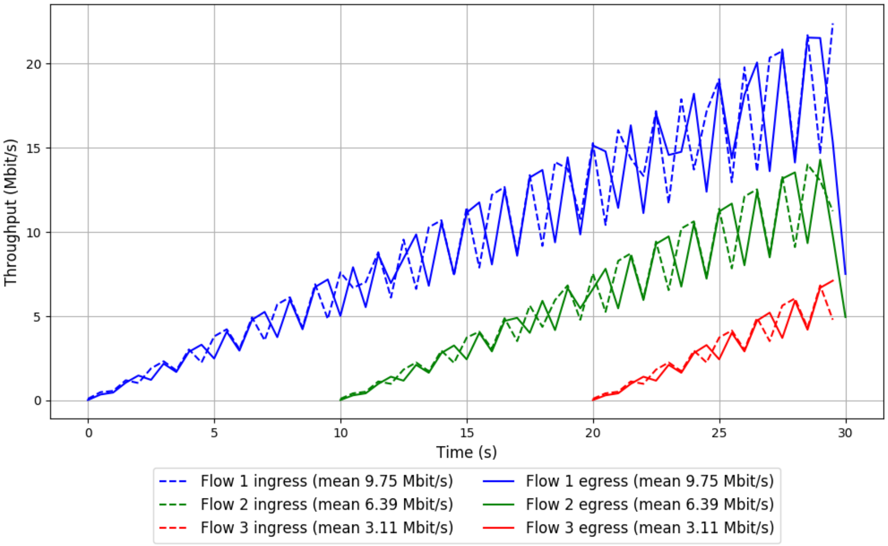


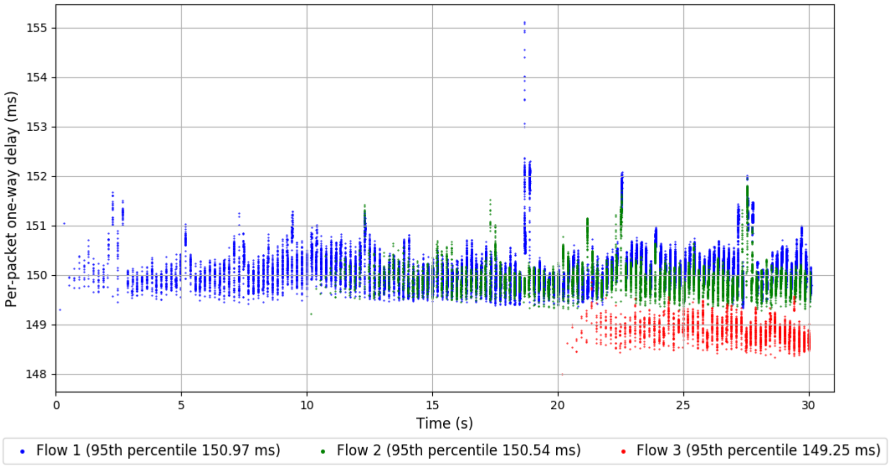
```
Run 7: Statistics of LEDBAT

Start at: 2018-04-03 23:44:17
End at: 2018-04-03 23:44:47
Local clock offset: 6.332 ms
Remote clock offset: -4.175 ms

# Below is generated by plot.py at 2018-04-04 01:41:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.01 Mbit/s
95th percentile per-packet one-way delay: 150.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.75 Mbit/s
95th percentile per-packet one-way delay: 150.969 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 150.537 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 149.253 ms
Loss rate: 0.00%
```

Run 7: Report of LEDBAT — Data Link



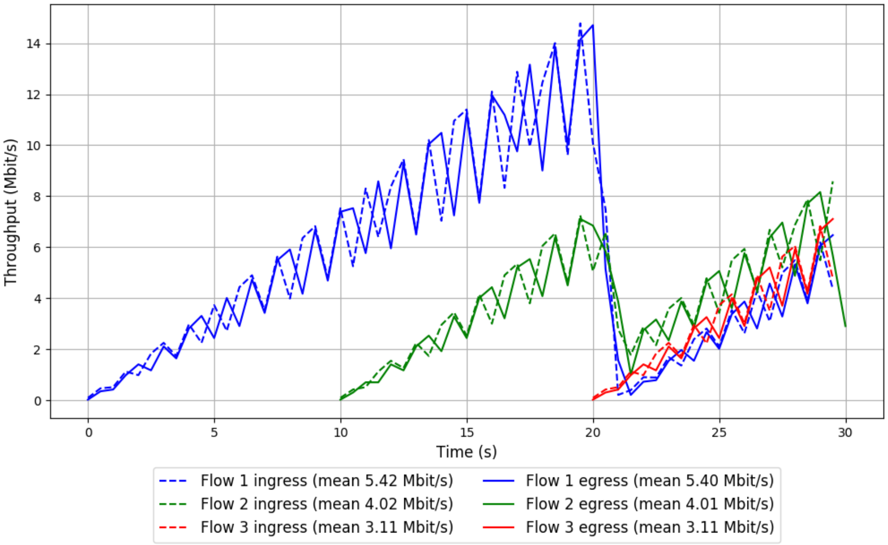


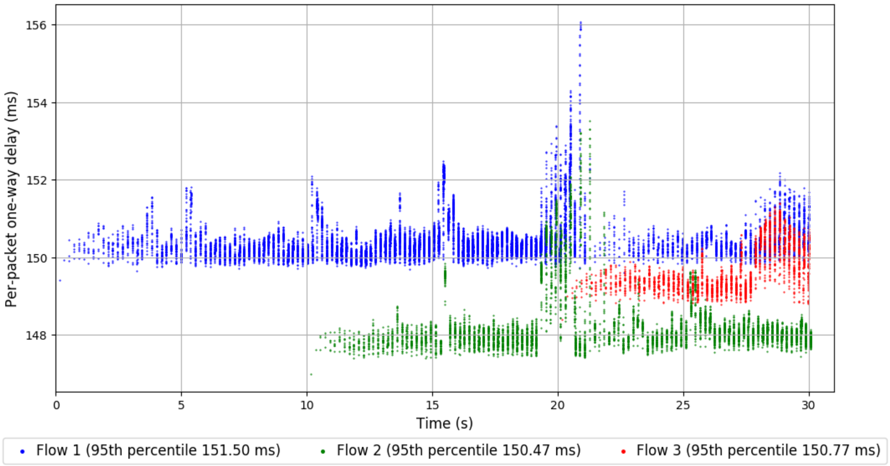
```
Run 8: Statistics of LEDBAT

Start at: 2018-04-04 00:09:22
End at: 2018-04-04 00:09:52
Local clock offset: 8.213 ms
Remote clock offset: -3.458 ms

# Below is generated by plot.py at 2018-04-04 01:41:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 151.243 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 151.500 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 150.468 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 150.768 ms
Loss rate: 0.00%
```

Run 8: Report of LEDBAT — Data Link



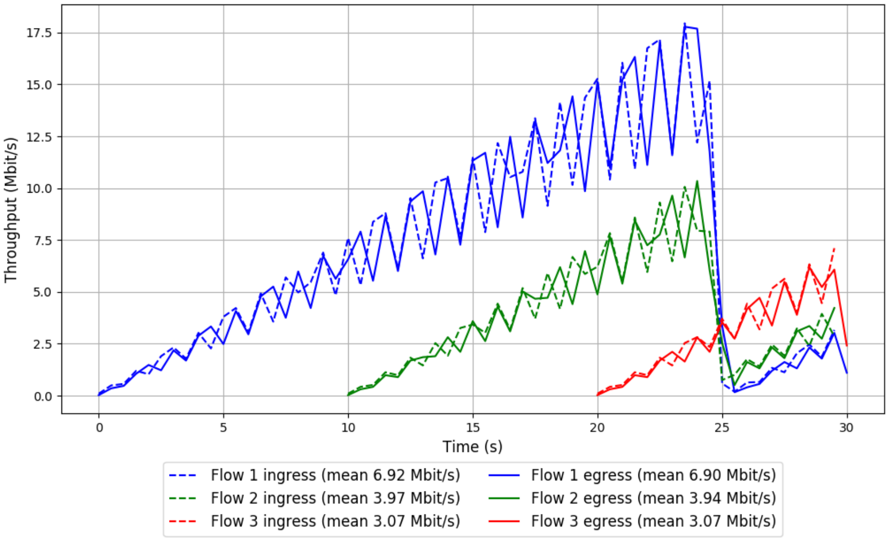


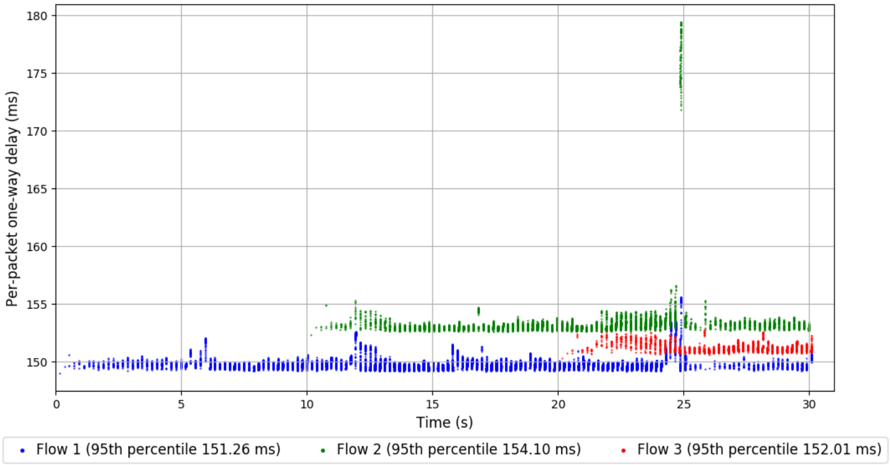
```
Run 9: Statistics of LEDBAT

Start at: 2018-04-04 00:34:02
End at: 2018-04-04 00:34:32
Local clock offset: 11.061 ms
Remote clock offset: 2.591 ms

# Below is generated by plot.py at 2018-04-04 01:41:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 153.431 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 151.257 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 154.096 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 152.006 ms
Loss rate: 0.00%
```

Run 9: Report of LEDBAT — Data Link



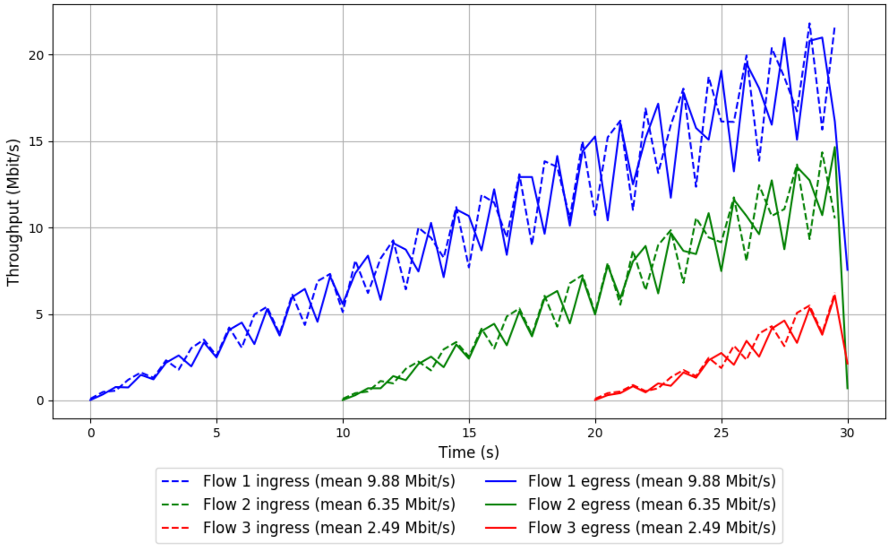


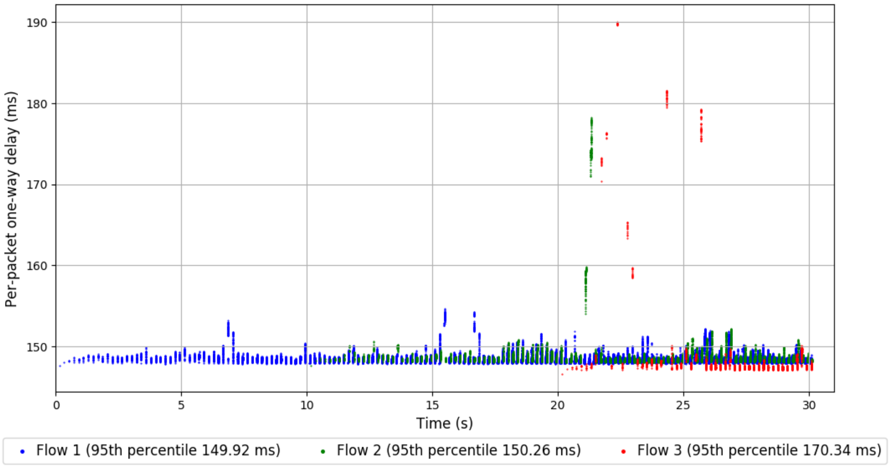
```
Run 10: Statistics of LEDBAT

Start at: 2018-04-04 00:58:39
End at: 2018-04-04 00:59:09
Local clock offset: 9.698 ms
Remote clock offset: -1.036 ms

# Below is generated by plot.py at 2018-04-04 01:41:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.92 Mbit/s
95th percentile per-packet one-way delay: 150.024 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 9.88 Mbit/s
95th percentile per-packet one-way delay: 149.916 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 150.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 170.338 ms
Loss rate: 0.28%
```

Run 10: Report of LEDBAT — Data Link



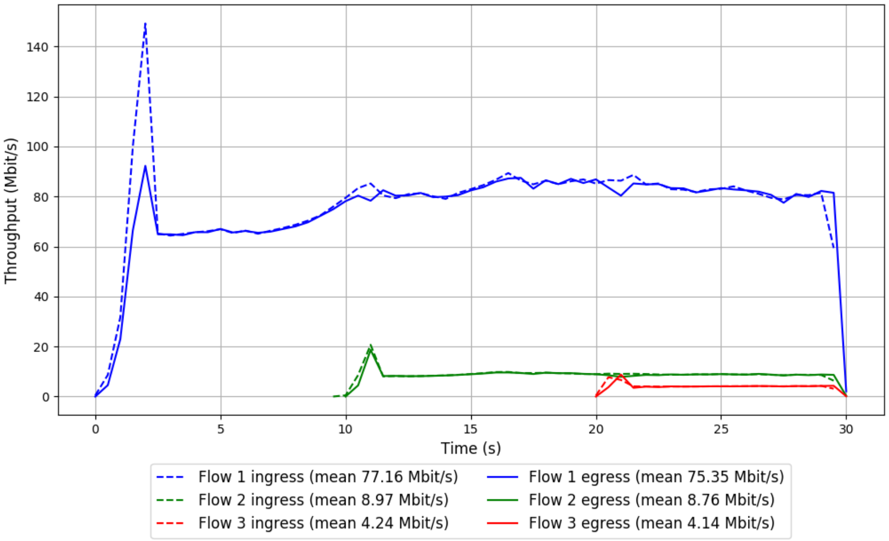


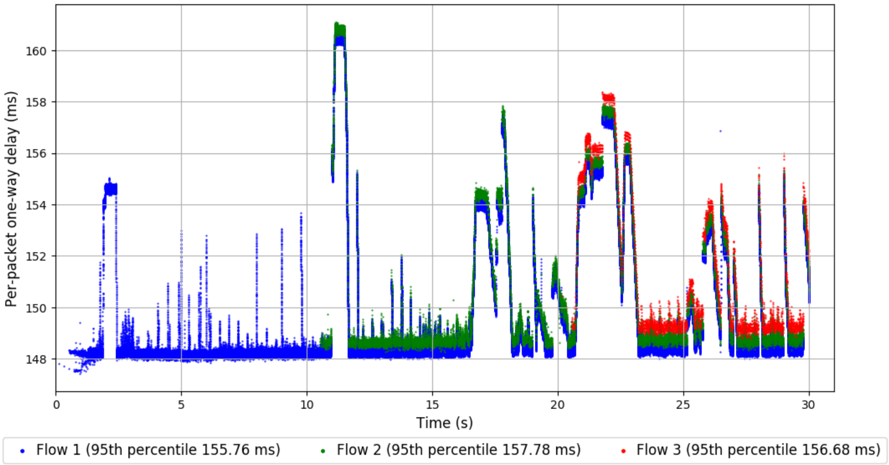
```
Run 1: Statistics of PCC

Start at: 2018-04-03 21:14:45
End at: 2018-04-03 21:15:15
Local clock offset: 5.819 ms
Remote clock offset: -10.356 ms

# Below is generated by plot.py at 2018-04-04 01:42:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.55 Mbit/s
95th percentile per-packet one-way delay: 155.938 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 75.35 Mbit/s
95th percentile per-packet one-way delay: 155.765 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 157.783 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 156.681 ms
Loss rate: 2.34%
```

Run 1: Report of PCC — Data Link



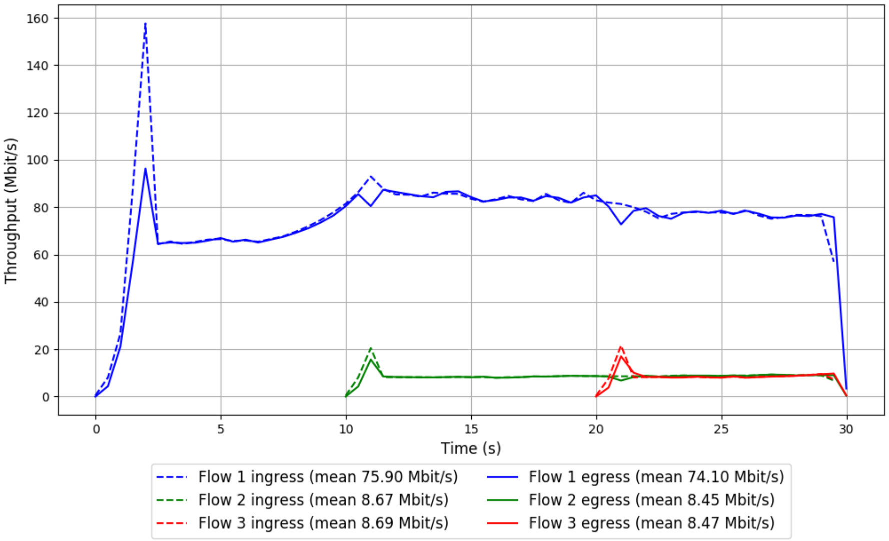


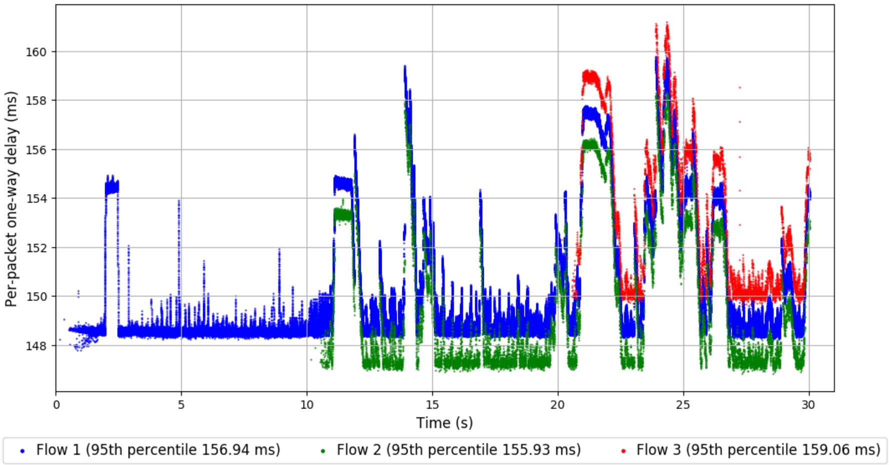
```
Run 2: Statistics of PCC

Start at: 2018-04-03 21:39:10
End at: 2018-04-03 21:39:40
Local clock offset: 6.066 ms
Remote clock offset: 1.37 ms

# Below is generated by plot.py at 2018-04-04 01:42:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.51 Mbit/s
95th percentile per-packet one-way delay: 157.067 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 74.10 Mbit/s
95th percentile per-packet one-way delay: 156.935 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 155.927 ms
Loss rate: 2.49%
-- Flow 3:
Average throughput: 8.47 Mbit/s
95th percentile per-packet one-way delay: 159.057 ms
Loss rate: 2.53%
```

Run 2: Report of PCC — Data Link



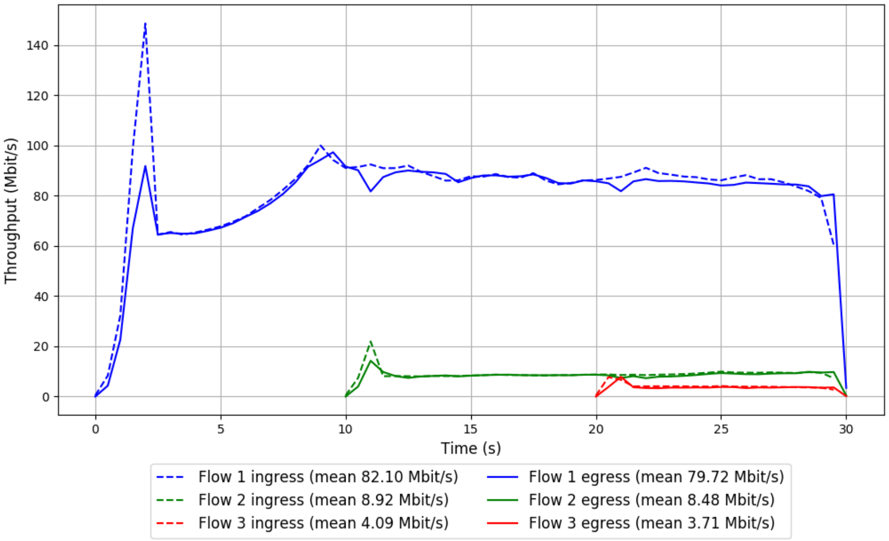


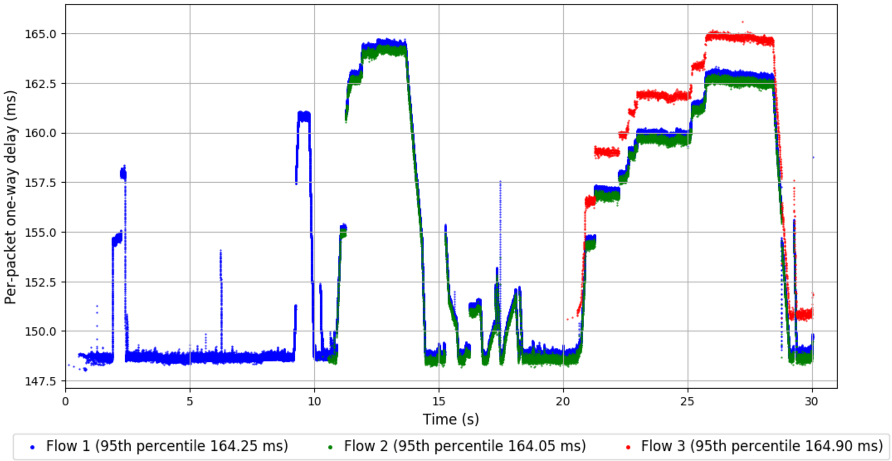
```
Run 3: Statistics of PCC

Start at: 2018-04-03 22:03:29
End at: 2018-04-03 22:03:59
Local clock offset: 9.993 ms
Remote clock offset: -0.929 ms

# Below is generated by plot.py at 2018-04-04 01:42:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 164.254 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 79.72 Mbit/s
95th percentile per-packet one-way delay: 164.250 ms
Loss rate: 2.87%
-- Flow 2:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 164.053 ms
Loss rate: 4.88%
-- Flow 3:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 164.904 ms
Loss rate: 9.30%
```

Run 3: Report of PCC — Data Link



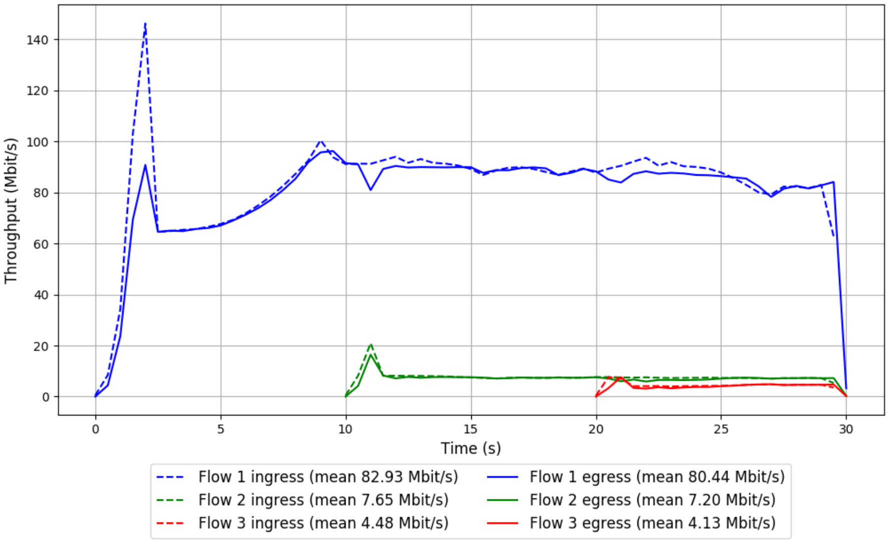


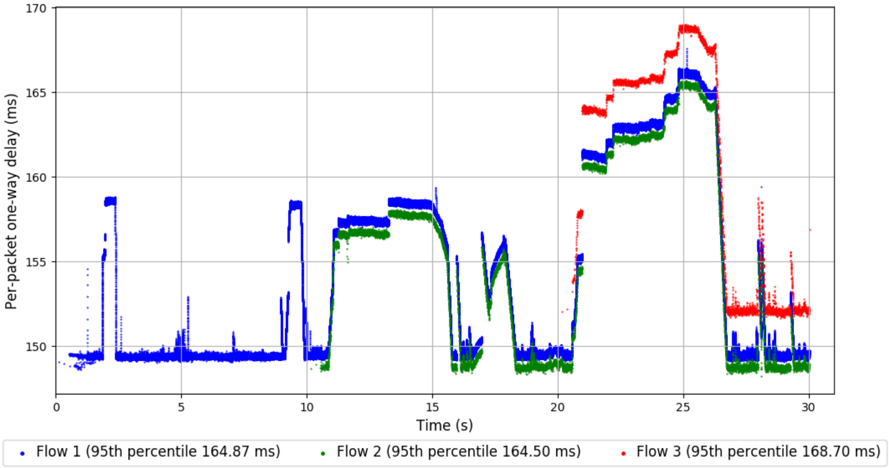
```
Run 4: Statistics of PCC

Start at: 2018-04-03 22:27:54
End at: 2018-04-03 22:28:24
Local clock offset: 8.472 ms
Remote clock offset: -4.638 ms

# Below is generated by plot.py at 2018-04-04 01:42:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.56 Mbit/s
95th percentile per-packet one-way delay: 164.981 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 80.44 Mbit/s
95th percentile per-packet one-way delay: 164.871 ms
Loss rate: 3.01%
-- Flow 2:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 164.496 ms
Loss rate: 5.90%
-- Flow 3:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 168.696 ms
Loss rate: 7.93%
```

Run 4: Report of PCC — Data Link



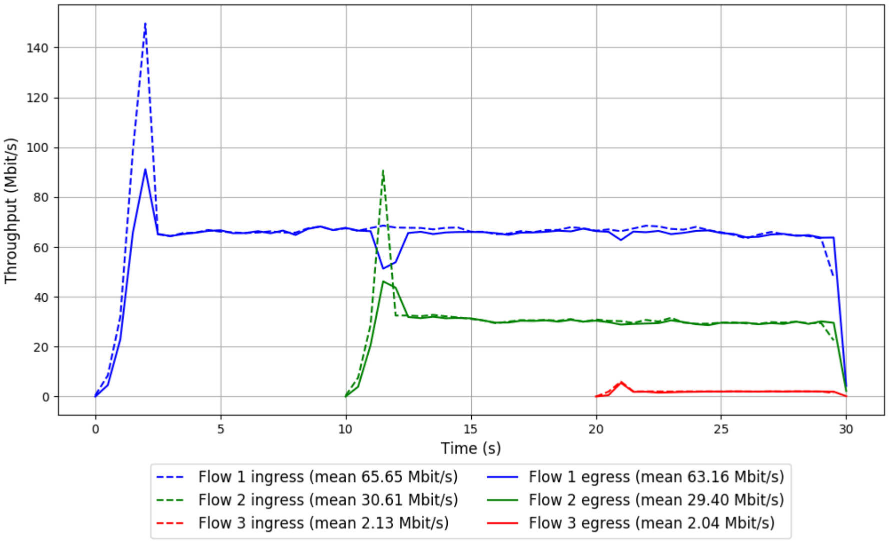


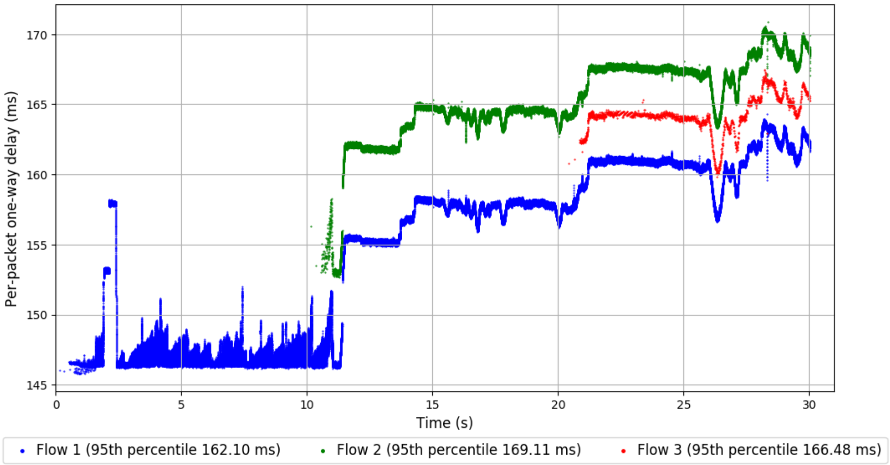
```
Run 5: Statistics of PCC

Start at: 2018-04-03 22:52:08
End at: 2018-04-03 22:52:38
Local clock offset: 6.176 ms
Remote clock offset: 9.242 ms

# Below is generated by plot.py at 2018-04-04 01:42:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.35 Mbit/s
95th percentile per-packet one-way delay: 167.593 ms
Loss rate: 3.80%
-- Flow 1:
Average throughput: 63.16 Mbit/s
95th percentile per-packet one-way delay: 162.098 ms
Loss rate: 3.74%
-- Flow 2:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 169.110 ms
Loss rate: 3.90%
-- Flow 3:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 166.476 ms
Loss rate: 6.61%
```

Run 5: Report of PCC — Data Link



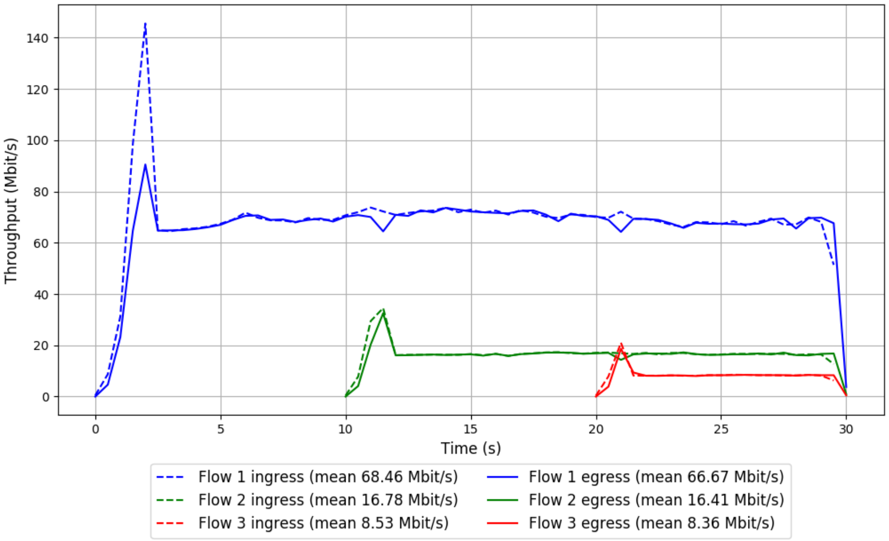


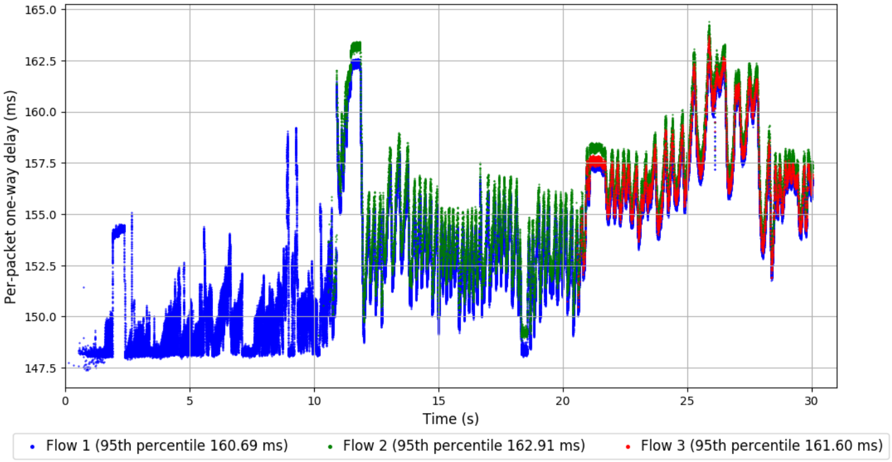
```
Run 6: Statistics of PCC

Start at: 2018-04-03 23:17:23
End at: 2018-04-03 23:17:53
Local clock offset: 6.483 ms
Remote clock offset: -1.587 ms

# Below is generated by plot.py at 2018-04-04 01:42:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.34 Mbit/s
95th percentile per-packet one-way delay: 161.134 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 66.67 Mbit/s
95th percentile per-packet one-way delay: 160.695 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 16.41 Mbit/s
95th percentile per-packet one-way delay: 162.909 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 161.601 ms
Loss rate: 1.94%
```

Run 6: Report of PCC — Data Link



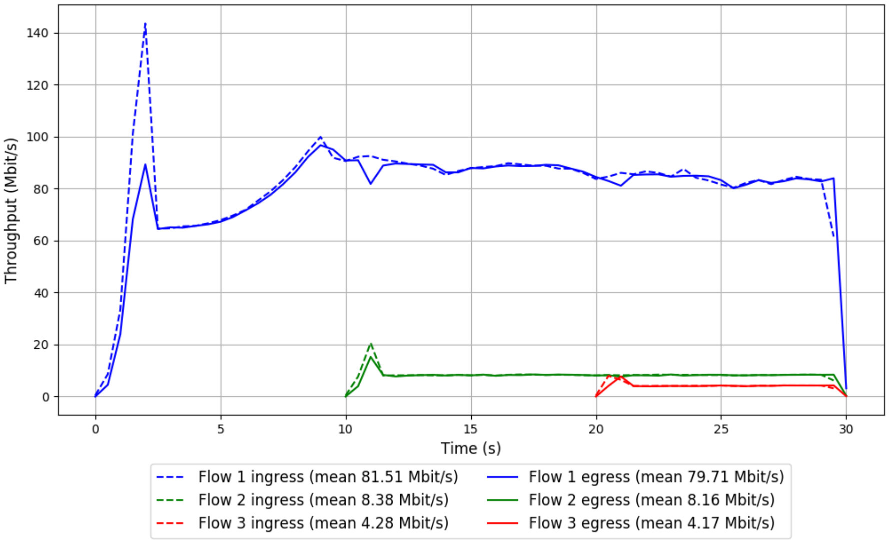


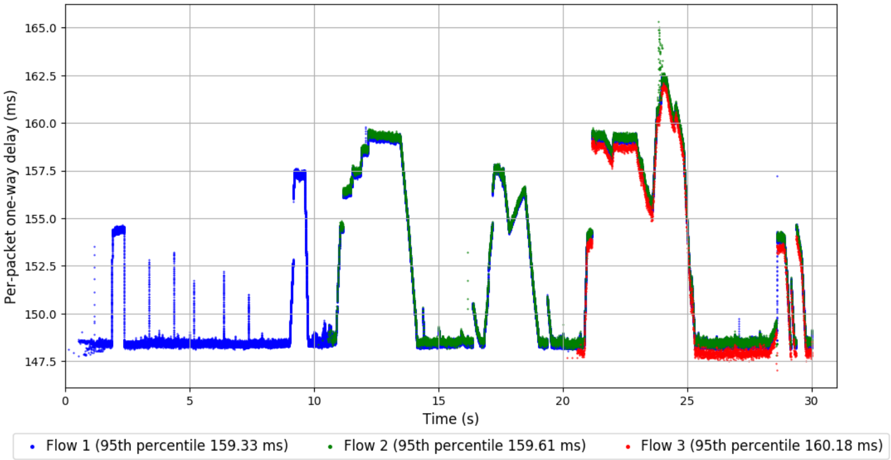
```
Run 7: Statistics of PCC

Start at: 2018-04-03 23:41:34
End at: 2018-04-03 23:42:04
Local clock offset: 6.427 ms
Remote clock offset: -5.035 ms

# Below is generated by plot.py at 2018-04-04 01:42:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.52 Mbit/s
95th percentile per-packet one-way delay: 159.356 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 79.71 Mbit/s
95th percentile per-packet one-way delay: 159.332 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 159.612 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 160.175 ms
Loss rate: 2.48%
```

Run 7: Report of PCC — Data Link



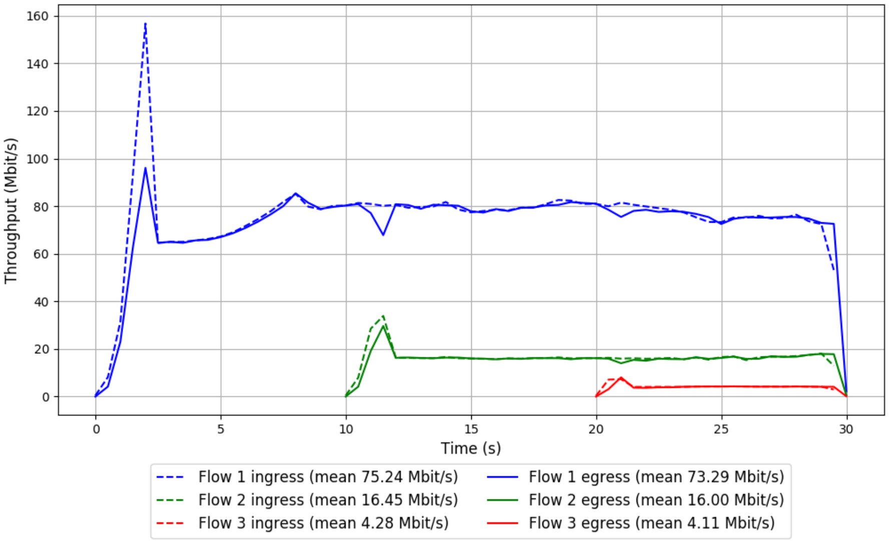


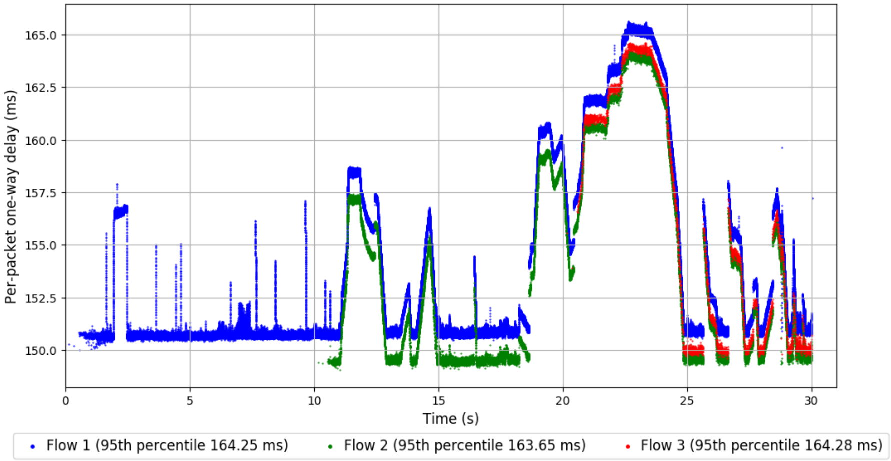
```
Run 8: Statistics of PCC

Start at: 2018-04-04 00:06:35
End at: 2018-04-04 00:07:05
Local clock offset: 7.571 ms
Remote clock offset: -3.27 ms

# Below is generated by plot.py at 2018-04-04 01:42:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.29 Mbit/s
95th percentile per-packet one-way delay: 163.913 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 73.29 Mbit/s
95th percentile per-packet one-way delay: 164.246 ms
Loss rate: 2.57%
-- Flow 2:
Average throughput: 16.00 Mbit/s
95th percentile per-packet one-way delay: 163.650 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 164.280 ms
Loss rate: 3.90%
```

Run 8: Report of PCC — Data Link



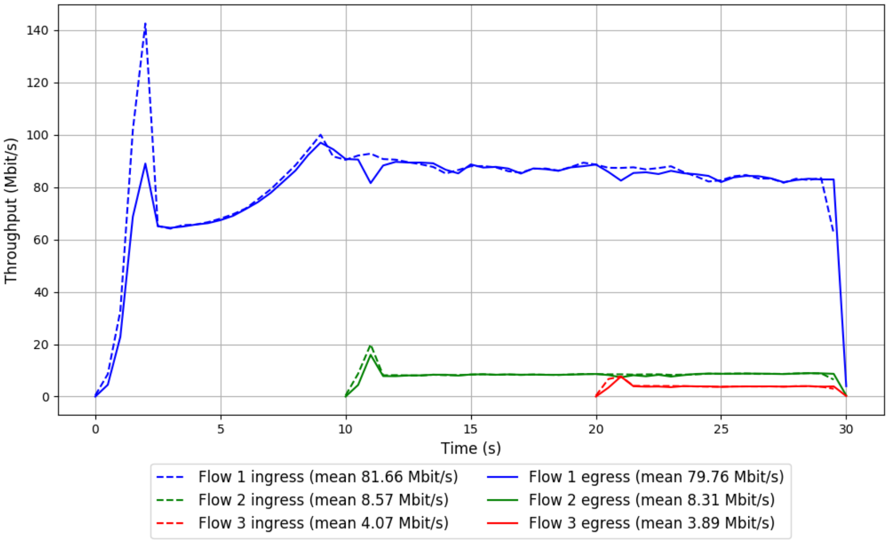


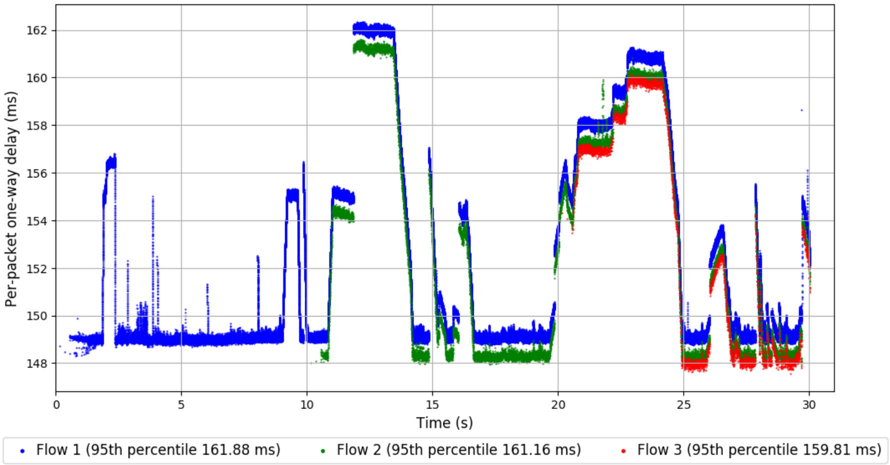
```
Run 9: Statistics of PCC

Start at: 2018-04-04 00:31:19
End at: 2018-04-04 00:31:49
Local clock offset: 10.836 ms
Remote clock offset: 2.262 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.57 Mbit/s
95th percentile per-packet one-way delay: 161.838 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 79.76 Mbit/s
95th percentile per-packet one-way delay: 161.882 ms
Loss rate: 2.32%
-- Flow 2:
Average throughput: 8.31 Mbit/s
95th percentile per-packet one-way delay: 161.159 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 159.807 ms
Loss rate: 4.33%
```

Run 9: Report of PCC — Data Link



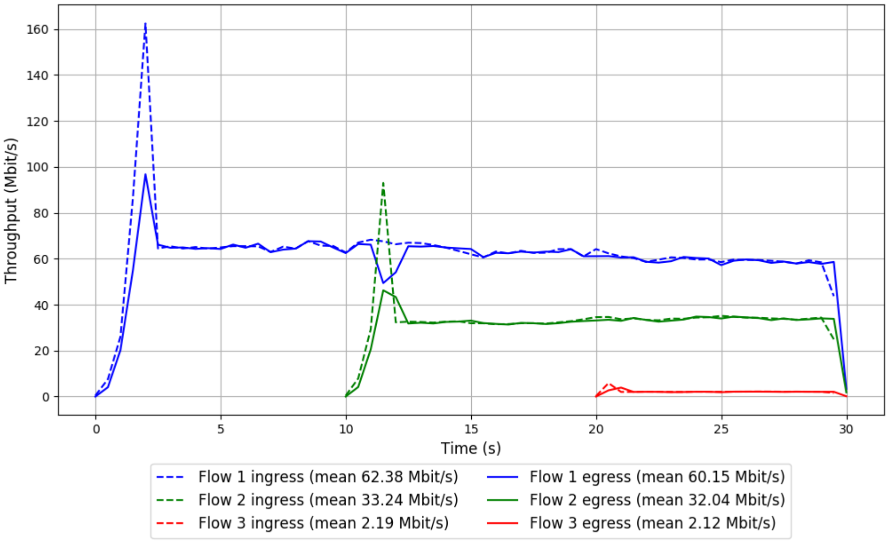


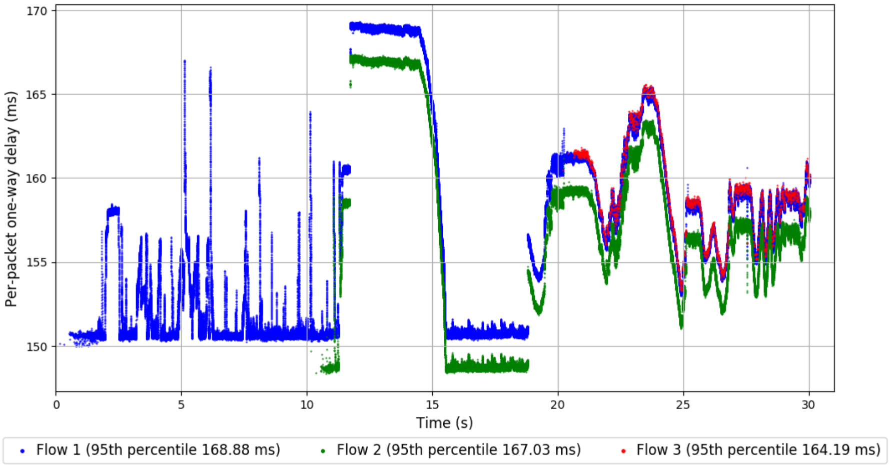
```
Run 10: Statistics of PCC

Start at: 2018-04-04 00:55:56
End at: 2018-04-04 00:56:26
Local clock offset: 9.772 ms
Remote clock offset: -0.512 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.15 Mbit/s
95th percentile per-packet one-way delay: 168.807 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 60.15 Mbit/s
95th percentile per-packet one-way delay: 168.880 ms
Loss rate: 3.56%
-- Flow 2:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 167.035 ms
Loss rate: 3.56%
-- Flow 3:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 164.191 ms
Loss rate: 3.30%
```

Run 10: Report of PCC — Data Link



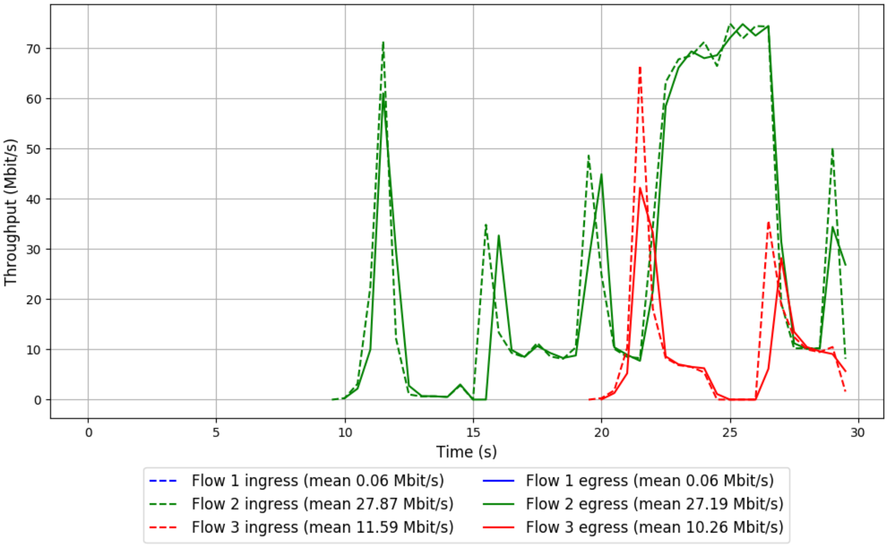


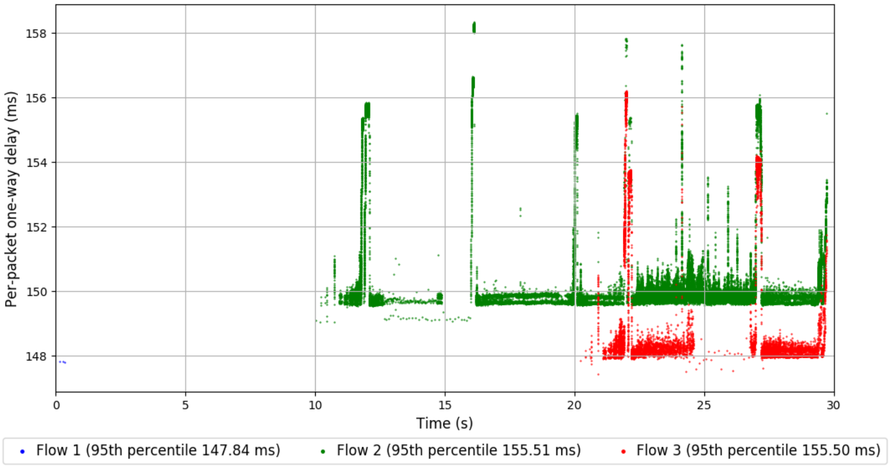
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-04-03 21:10:41
End at: 2018-04-03 21:11:11
Local clock offset: 5.659 ms
Remote clock offset: -9.745 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.39 Mbit/s
95th percentile per-packet one-way delay: 155.510 ms
Loss rate: 4.17%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 147.838 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.19 Mbit/s
95th percentile per-packet one-way delay: 155.510 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 10.26 Mbit/s
95th percentile per-packet one-way delay: 155.500 ms
Loss rate: 12.79%
```

Run 1: Report of QUIC Cubic — Data Link



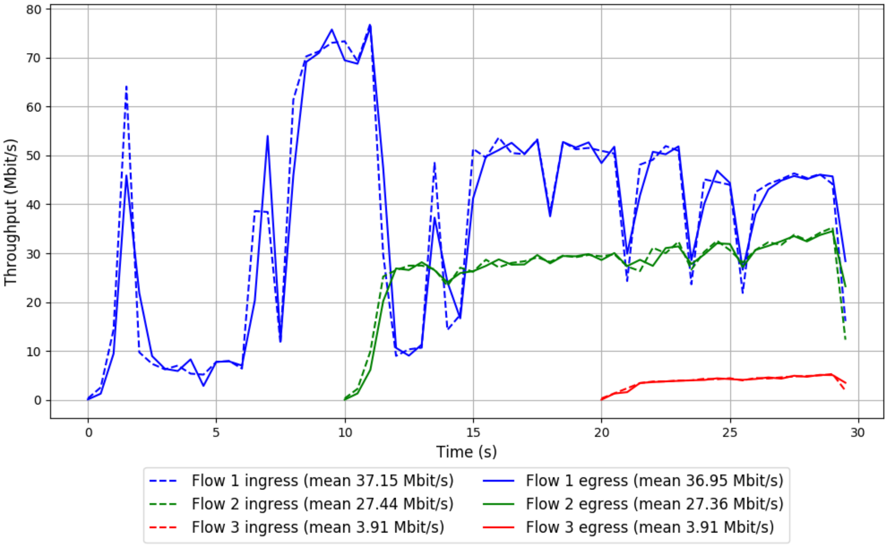


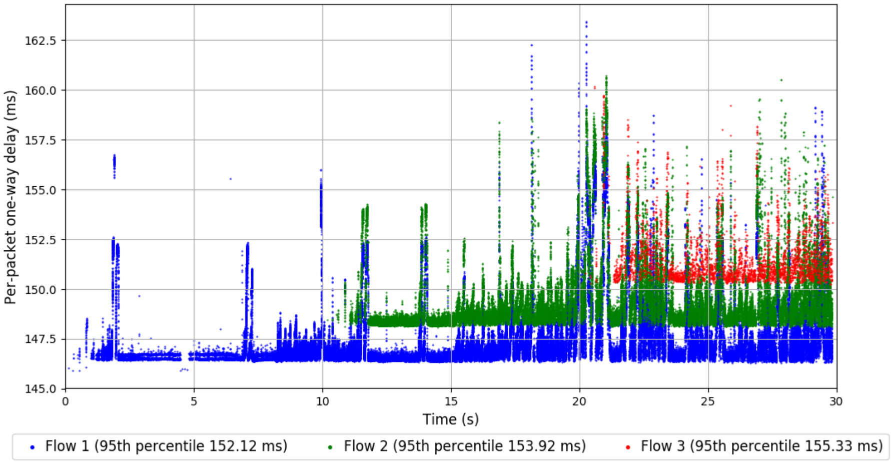
```
Run 2: Statistics of QUIC Cubic

Start at: 2018-04-03 21:35:08
End at: 2018-04-03 21:35:38
Local clock offset: 6.311 ms
Remote clock offset: 0.251 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.31 Mbit/s
95th percentile per-packet one-way delay: 152.950 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 36.95 Mbit/s
95th percentile per-packet one-way delay: 152.121 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 27.36 Mbit/s
95th percentile per-packet one-way delay: 153.923 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 155.328 ms
Loss rate: 0.09%
```

Run 2: Report of QUIC Cubic — Data Link



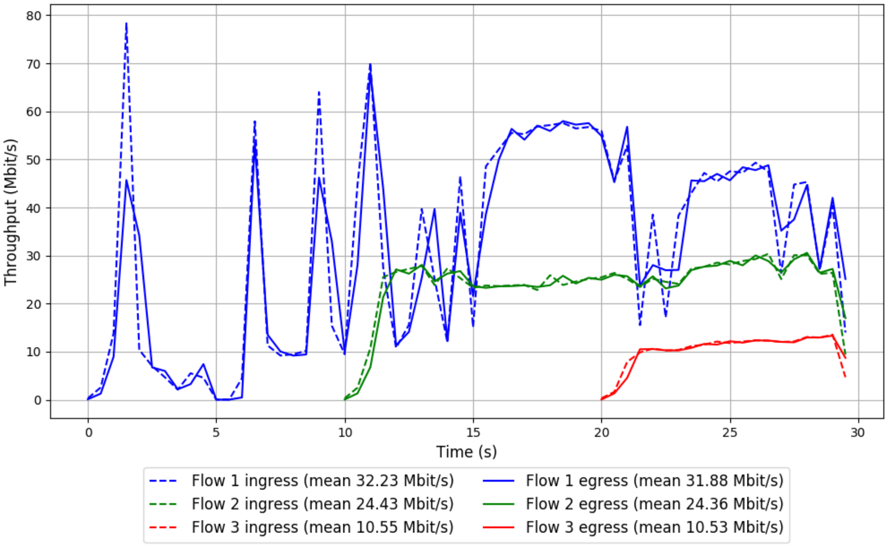


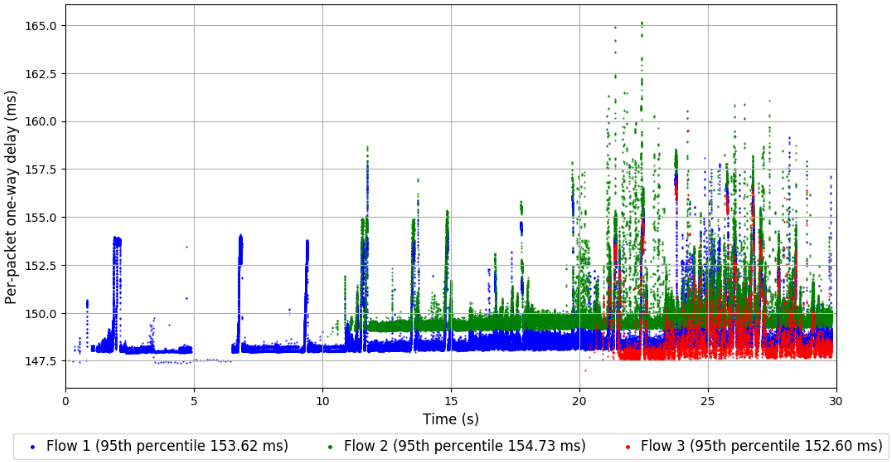
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-04-03 21:59:30
End at: 2018-04-03 22:00:00
Local clock offset: 9.363 ms
Remote clock offset: 0.745 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.41 Mbit/s
95th percentile per-packet one-way delay: 153.715 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 31.88 Mbit/s
95th percentile per-packet one-way delay: 153.616 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 154.732 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 10.53 Mbit/s
95th percentile per-packet one-way delay: 152.597 ms
Loss rate: 0.26%
```

Run 3: Report of QUIC Cubic — Data Link



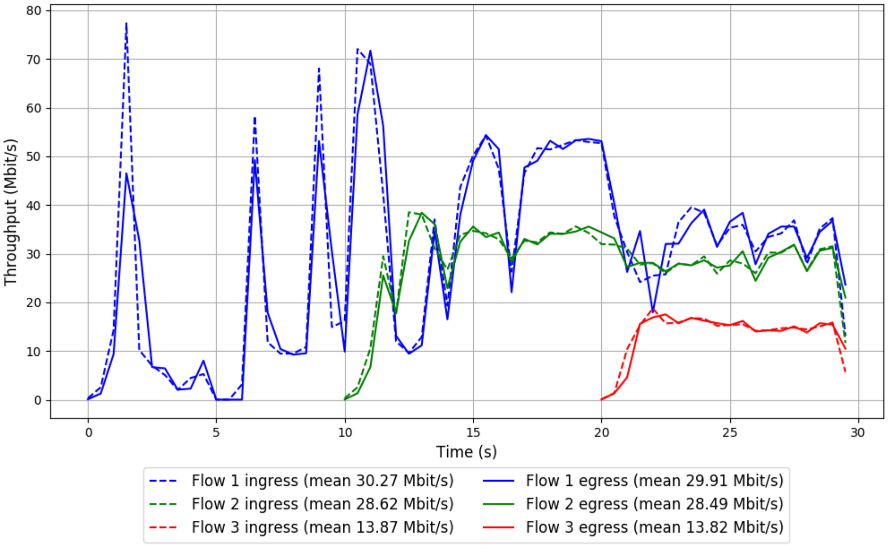


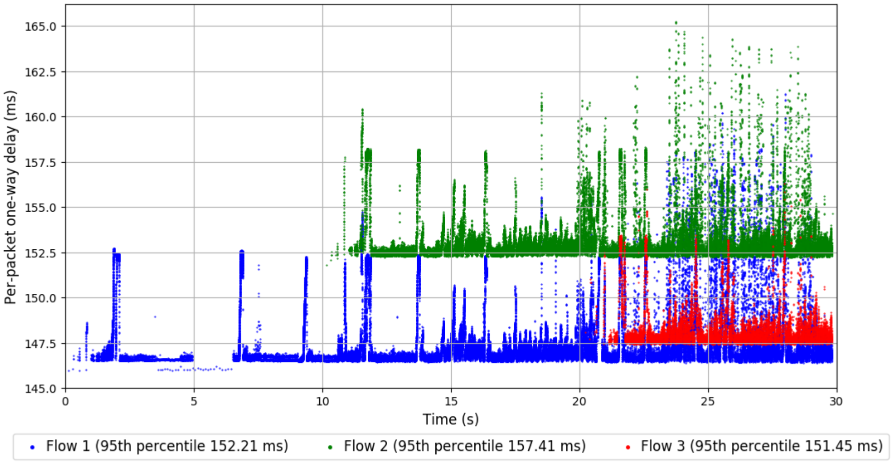
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-04-03 22:23:48
End at: 2018-04-03 22:24:18
Local clock offset: 9.646 ms
Remote clock offset: -4.377 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.24 Mbit/s
95th percentile per-packet one-way delay: 154.730 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 29.91 Mbit/s
95th percentile per-packet one-way delay: 152.208 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 157.413 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 13.82 Mbit/s
95th percentile per-packet one-way delay: 151.447 ms
Loss rate: 0.39%
```

Run 4: Report of QUIC Cubic — Data Link



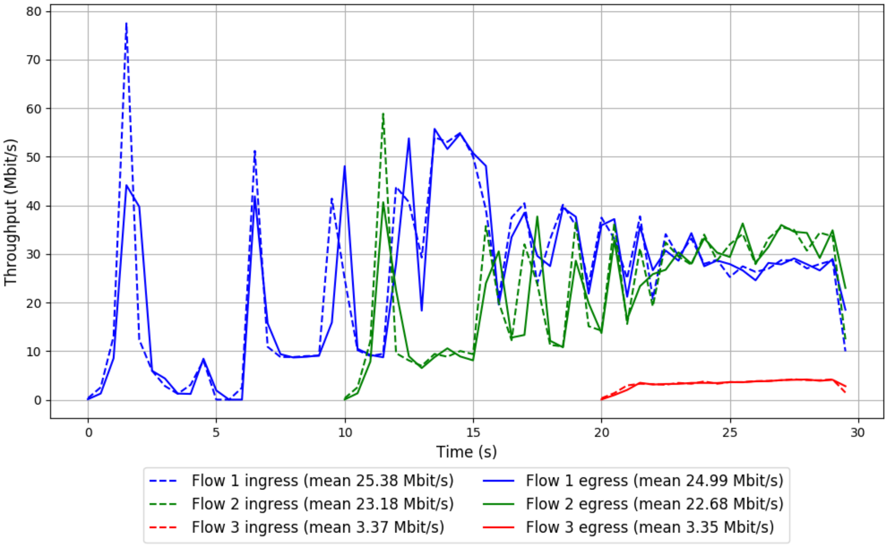


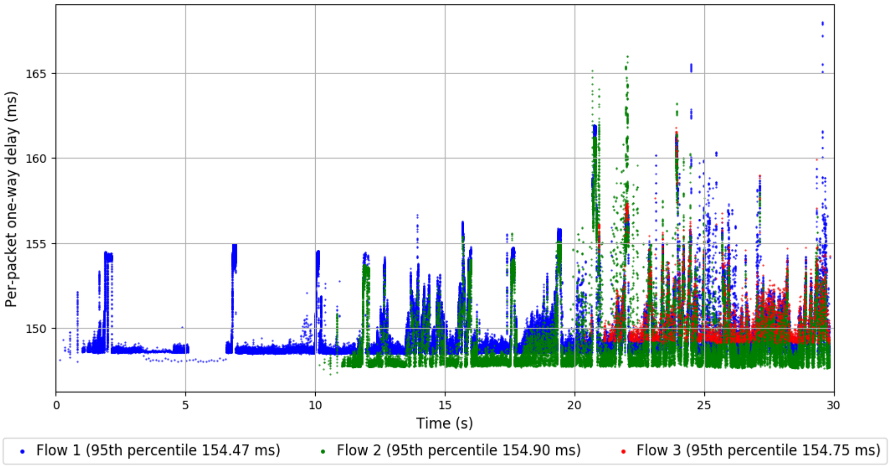
```
Run 5: Statistics of QUIC Cubic

Start at: 2018-04-03 22:48:09
End at: 2018-04-03 22:48:39
Local clock offset: 6.387 ms
Remote clock offset: 8.278 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.10 Mbit/s
95th percentile per-packet one-way delay: 154.621 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 24.99 Mbit/s
95th percentile per-packet one-way delay: 154.471 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 22.68 Mbit/s
95th percentile per-packet one-way delay: 154.899 ms
Loss rate: 2.14%
-- Flow 3:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 154.755 ms
Loss rate: 0.66%
```

Run 5: Report of QUIC Cubic — Data Link



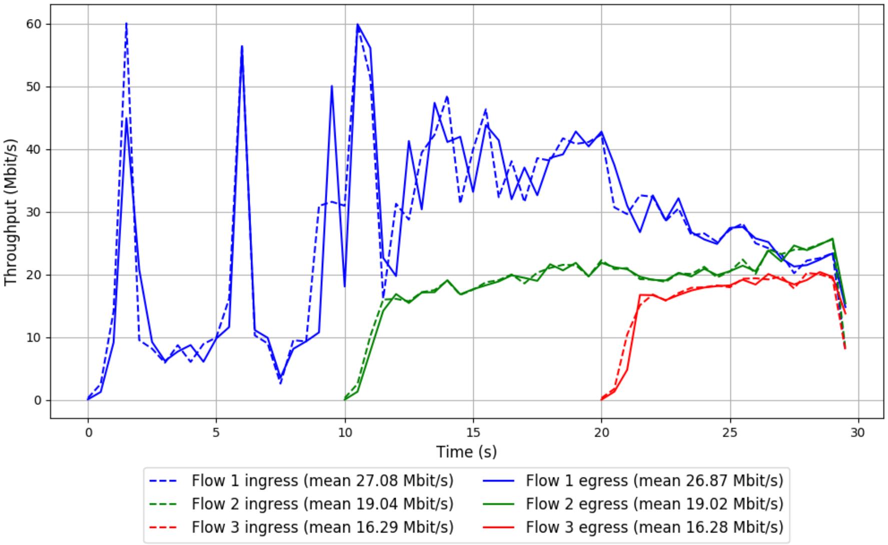


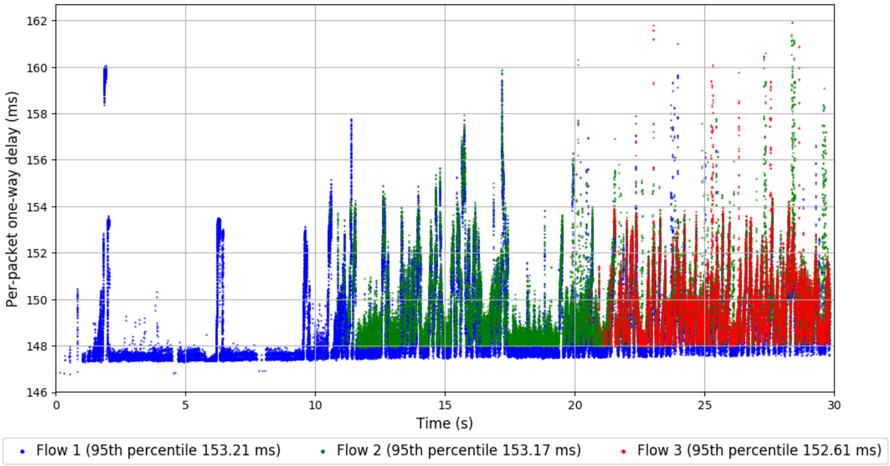
```
Run 6: Statistics of QUIC Cubic

Start at: 2018-04-03 23:13:15
End at: 2018-04-03 23:13:45
Local clock offset: 6.603 ms
Remote clock offset: 0.68 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.73 Mbit/s
95th percentile per-packet one-way delay: 153.144 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 26.87 Mbit/s
95th percentile per-packet one-way delay: 153.209 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 19.02 Mbit/s
95th percentile per-packet one-way delay: 153.173 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 16.28 Mbit/s
95th percentile per-packet one-way delay: 152.606 ms
Loss rate: 0.05%
```

Run 6: Report of QUIC Cubic — Data Link



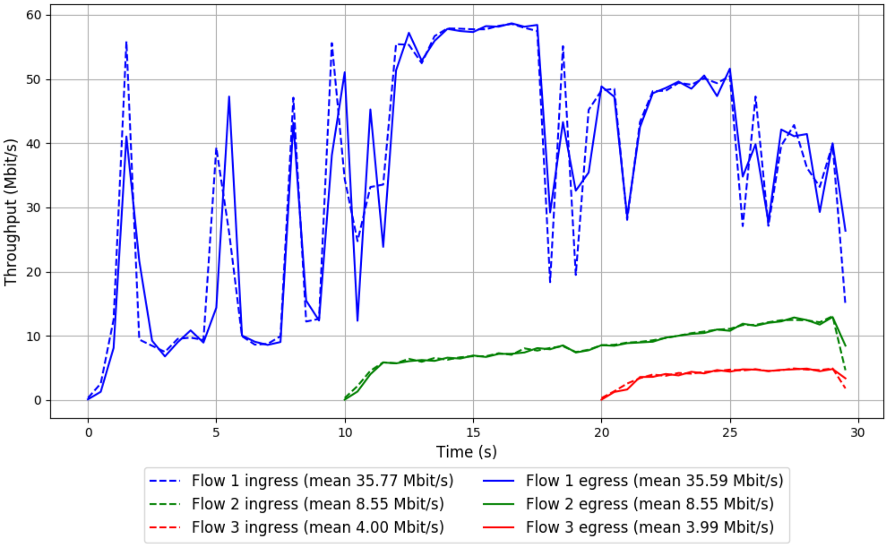


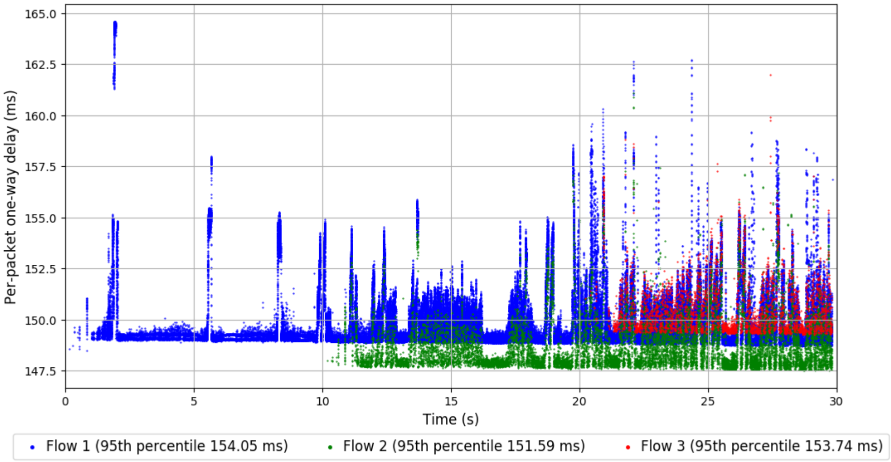
```
Run 7: Statistics of QUIC Cubic

Start at: 2018-04-03 23:37:37
End at: 2018-04-03 23:38:07
Local clock offset: 6.574 ms
Remote clock offset: -6.974 ms

# Below is generated by plot.py at 2018-04-04 01:44:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.53 Mbit/s
95th percentile per-packet one-way delay: 153.812 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 35.59 Mbit/s
95th percentile per-packet one-way delay: 154.046 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 151.594 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 153.742 ms
Loss rate: 0.24%
```

Run 7: Report of QUIC Cubic — Data Link





`Run 8: Statistics of QUIC Cubic`

`/home/ubuntu/pantheon_data/2018-04-03T21-07-AWS-Korea-to-China-10-runs-3-flows/quic_stats_ru`

Run 8: Report of QUIC Cubic — Data Link

Figure is missing

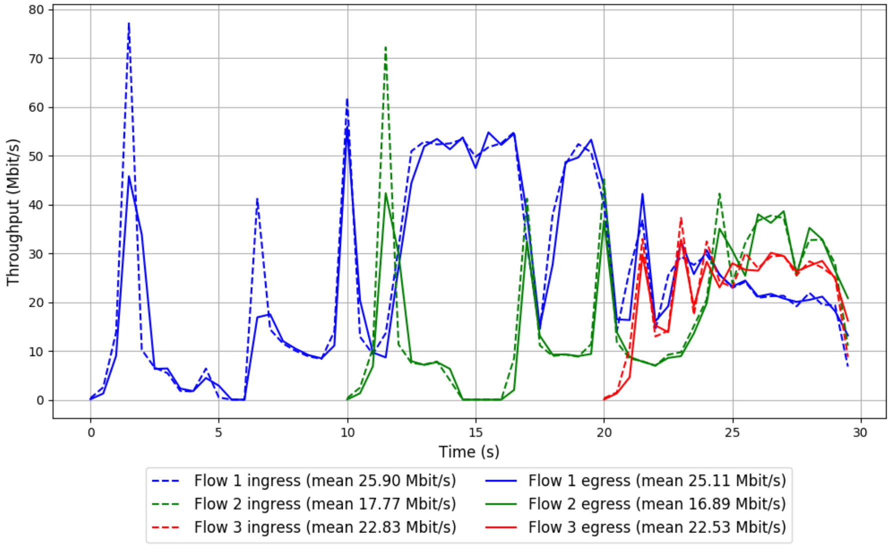
Figure is missing

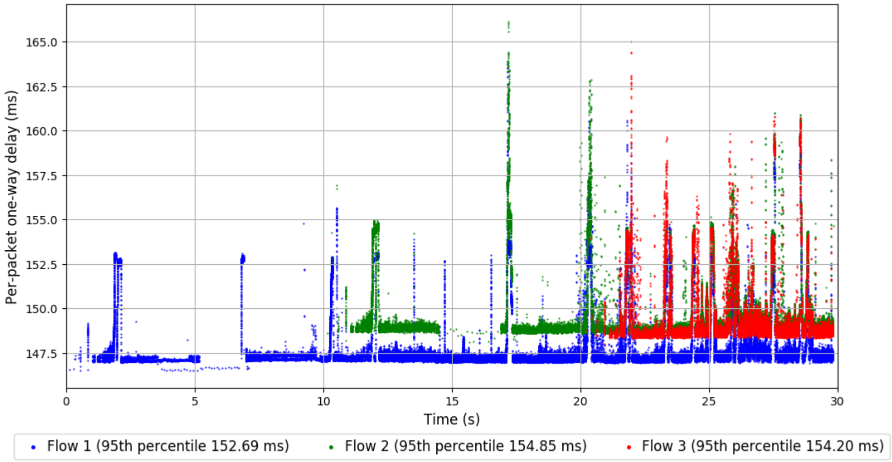
```
Run 9: Statistics of QUIC Cubic

Start at: 2018-04-04 00:27:20
End at: 2018-04-04 00:27:50
Local clock offset: 10.646 ms
Remote clock offset: 1.693 ms

# Below is generated by plot.py at 2018-04-04 01:44:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.57 Mbit/s
95th percentile per-packet one-way delay: 154.014 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 25.11 Mbit/s
95th percentile per-packet one-way delay: 152.688 ms
Loss rate: 3.03%
-- Flow 2:
Average throughput: 16.89 Mbit/s
95th percentile per-packet one-way delay: 154.855 ms
Loss rate: 4.94%
-- Flow 3:
Average throughput: 22.53 Mbit/s
95th percentile per-packet one-way delay: 154.201 ms
Loss rate: 1.30%
```

Run 9: Report of QUIC Cubic — Data Link



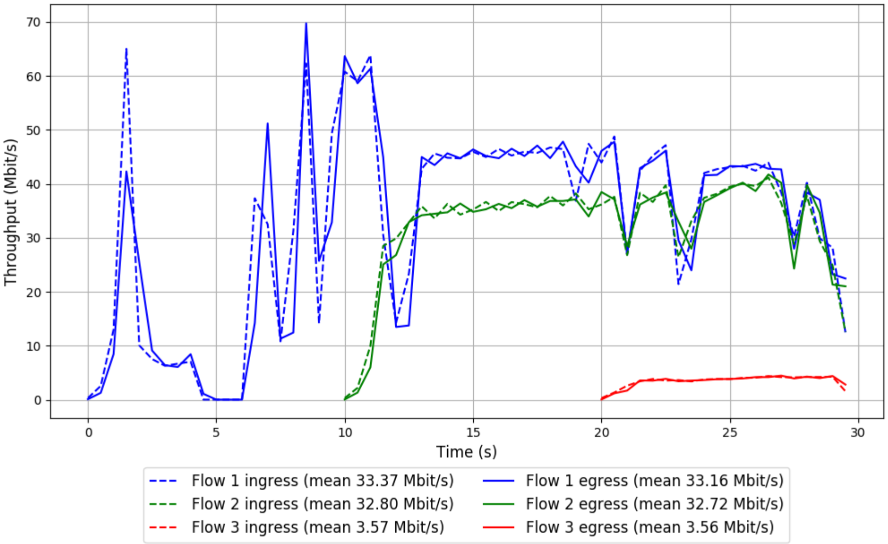


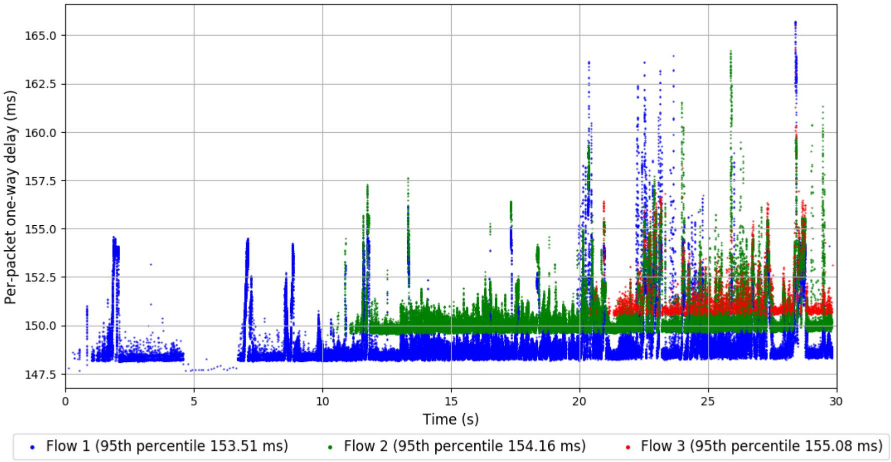
```
Run 10: Statistics of QUIC Cubic

Start at: 2018-04-04 00:51:59
End at: 2018-04-04 00:52:29
Local clock offset: 9.686 ms
Remote clock offset: 0.403 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 153.801 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 33.16 Mbit/s
95th percentile per-packet one-way delay: 153.511 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 32.72 Mbit/s
95th percentile per-packet one-way delay: 154.156 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 155.078 ms
Loss rate: 0.33%
```

Run 10: Report of QUIC Cubic — Data Link



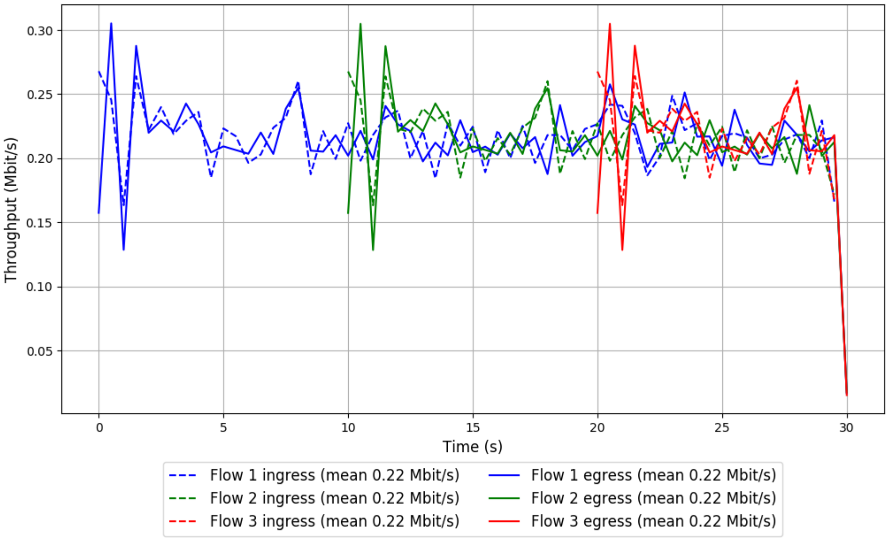


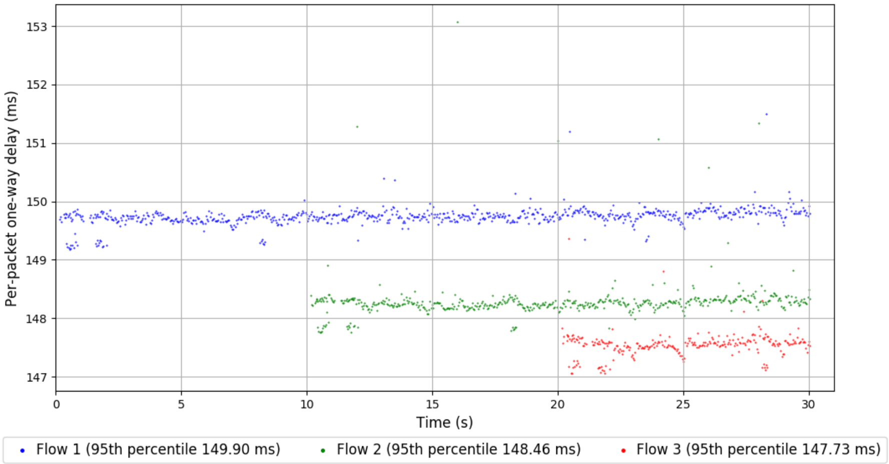
```
Run 1: Statistics of SCReAM

Start at: 2018-04-03 21:11:59
End at: 2018-04-03 21:12:29
Local clock offset: 5.68 ms
Remote clock offset: -9.944 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 149.858 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.899 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.456 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 147.734 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link



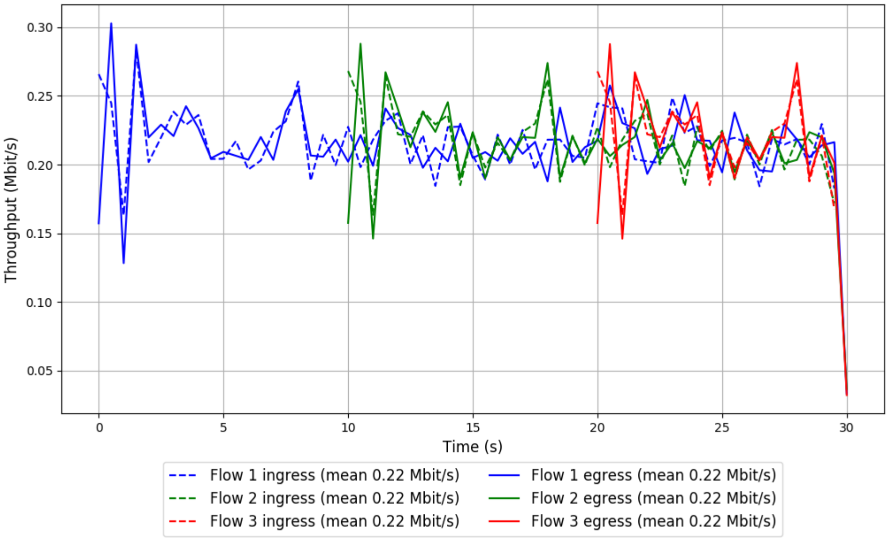


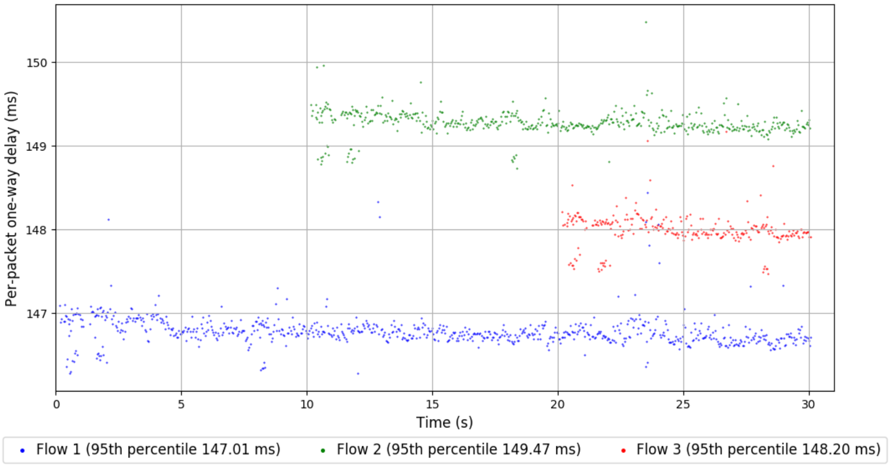
```
Run 2: Statistics of SCReAM

Start at: 2018-04-03 21:36:29
End at: 2018-04-03 21:36:59
Local clock offset: 6.354 ms
Remote clock offset: 0.671 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 149.394 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 147.013 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.472 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.201 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link



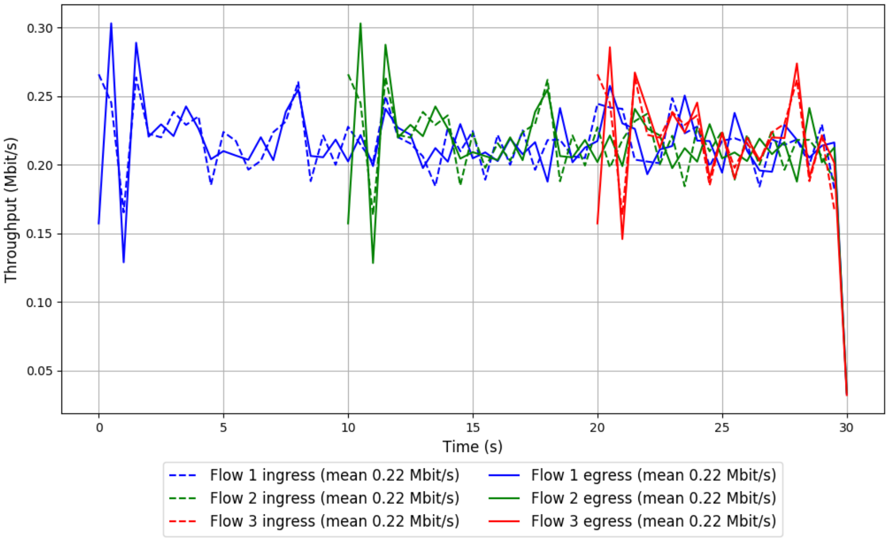


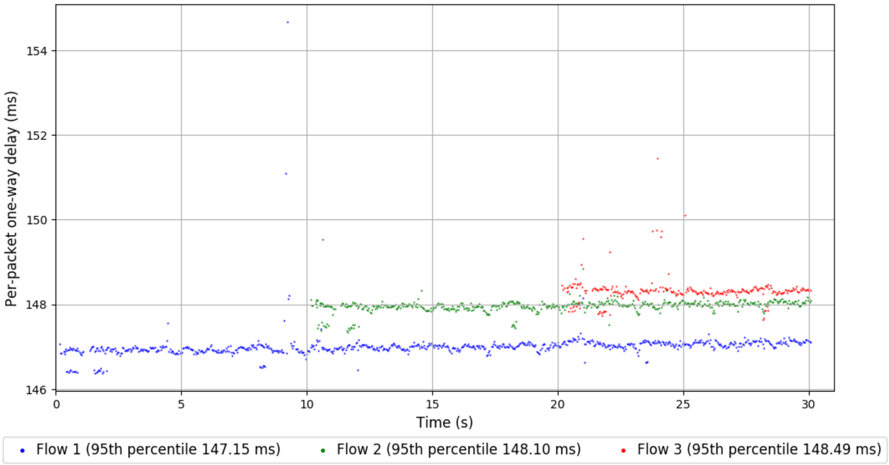
```
Run 3: Statistics of SCReAM

Start at: 2018-04-03 22:00:50
End at: 2018-04-03 22:01:20
Local clock offset: 9.504 ms
Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 148.355 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 147.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.099 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.491 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link



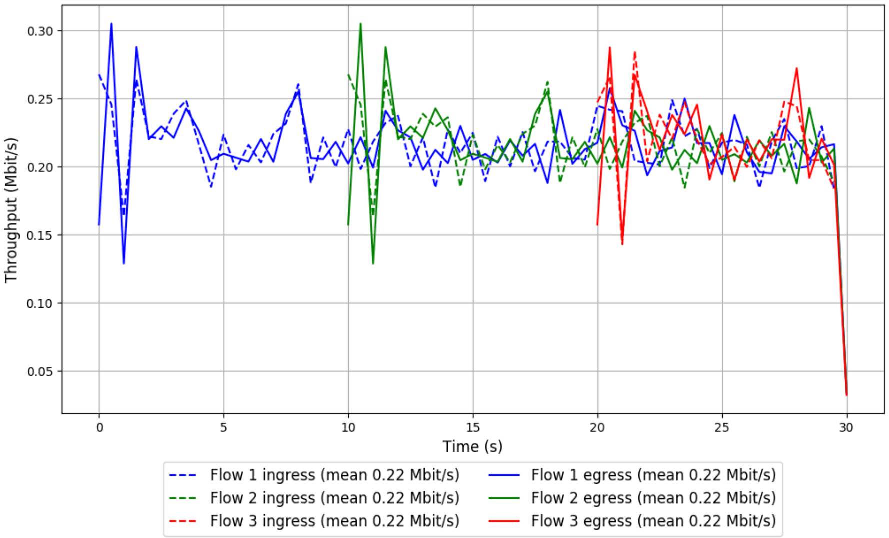


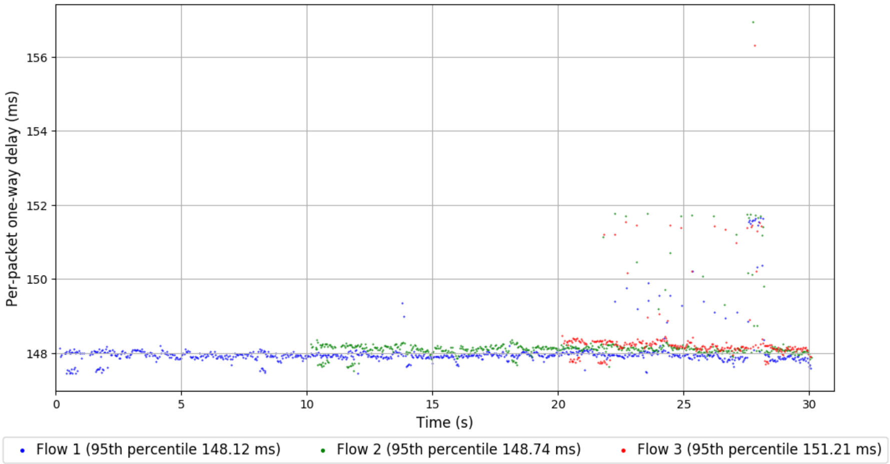
```
Run 4: Statistics of SCReAM

Start at: 2018-04-03 22:25:08
End at: 2018-04-03 22:25:38
Local clock offset: 9.047 ms
Remote clock offset: -4.473 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 148.841 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.115 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.742 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 151.214 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link



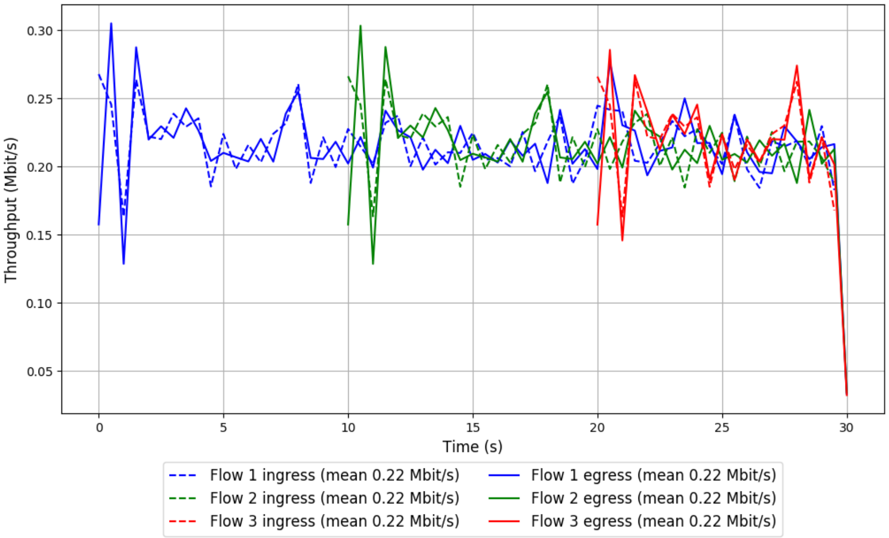


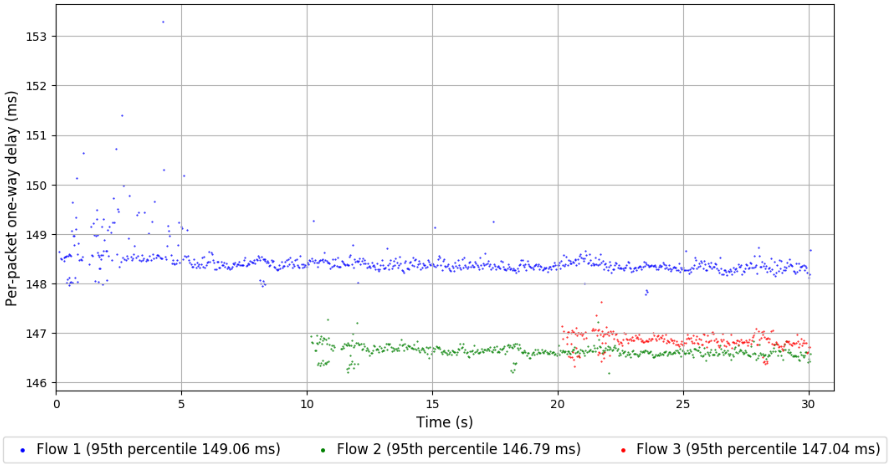
```
Run 5: Statistics of SCReAM

Start at: 2018-04-03 22:49:29
End at: 2018-04-03 22:49:59
Local clock offset: 6.296 ms
Remote clock offset: 8.605 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 148.583 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.062 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 146.788 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 147.045 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link



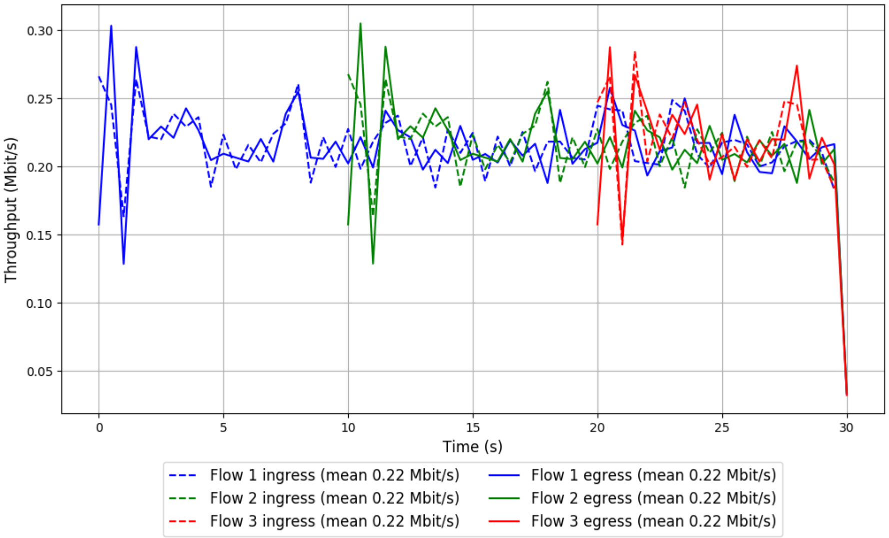


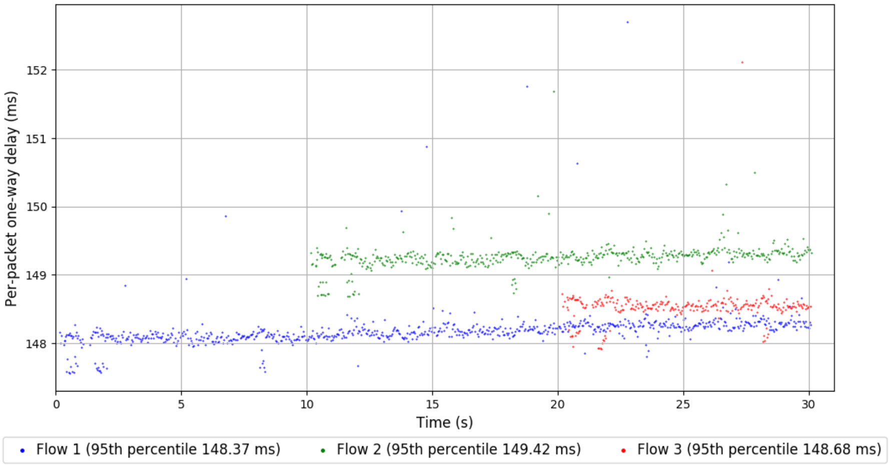
```
Run 6: Statistics of SCReAM

Start at: 2018-04-03 23:14:35
End at: 2018-04-03 23:15:05
Local clock offset: 6.393 ms
Remote clock offset: -0.176 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 149.348 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.368 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.675 ms
Loss rate: 0.00%
```

Run 6: Report of SCReAM — Data Link



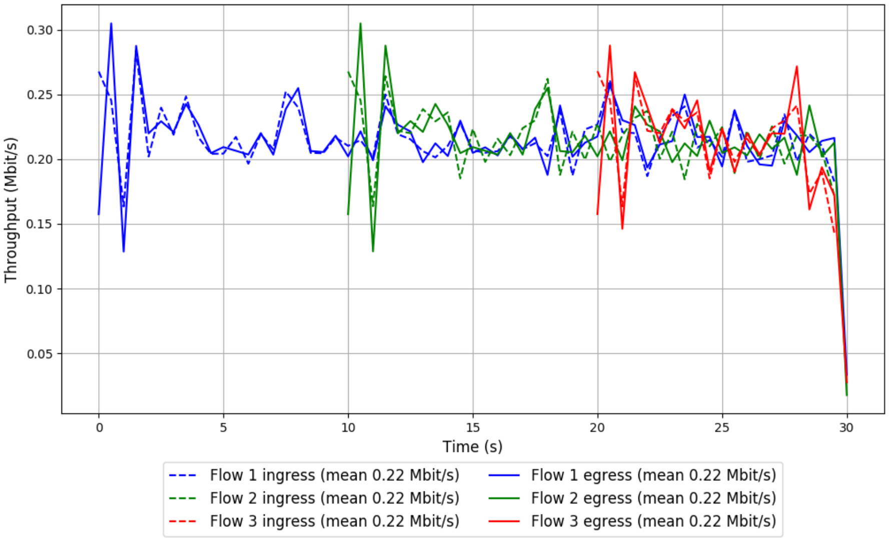


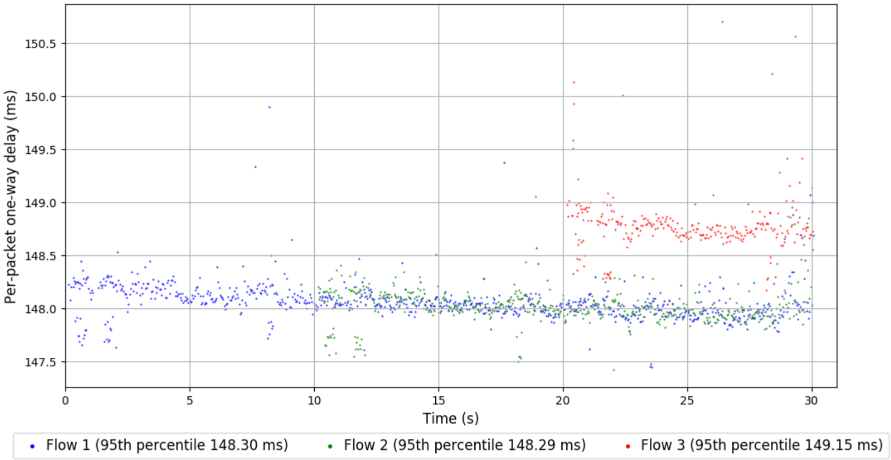
```
Run 7: Statistics of SCReAM

Start at: 2018-04-03 23:38:57
End at: 2018-04-03 23:39:27
Local clock offset: 6.458 ms
Remote clock offset: -6.137 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 148.842 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.300 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.288 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.148 ms
Loss rate: 0.05%
```

Run 7: Report of SCReAM — Data Link



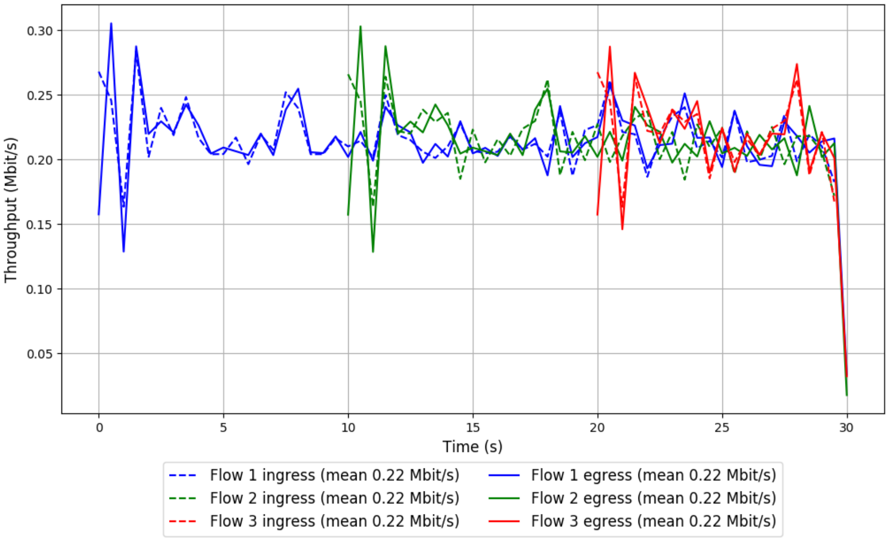


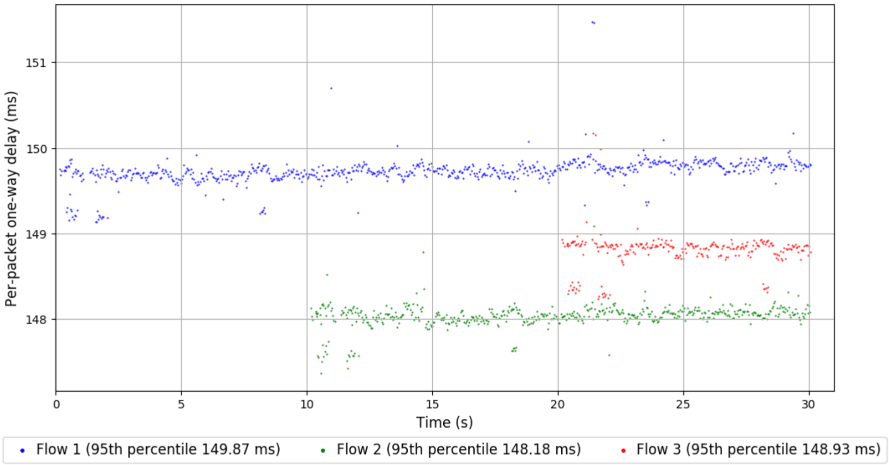
```
Run 8: Statistics of SCReAM

Start at: 2018-04-04 00:03:53
End at: 2018-04-04 00:04:23
Local clock offset: 6.784 ms
Remote clock offset: -3.158 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 149.840 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.869 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.175 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.926 ms
Loss rate: 0.00%
```

Run 8: Report of SCReAM — Data Link



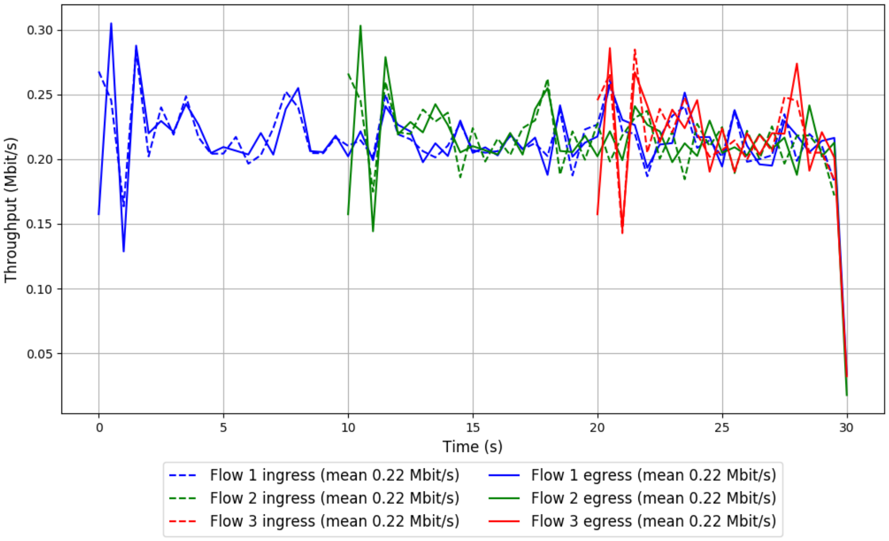


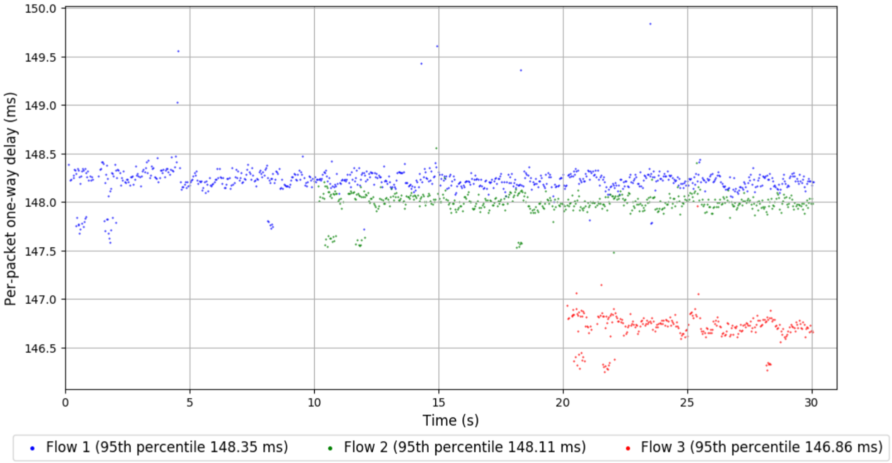
```
Run 9: Statistics of SCReAM

Start at: 2018-04-04 00:28:40
End at: 2018-04-04 00:29:10
Local clock offset: 10.689 ms
Remote clock offset: 1.863 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 148.324 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.350 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 146.864 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link



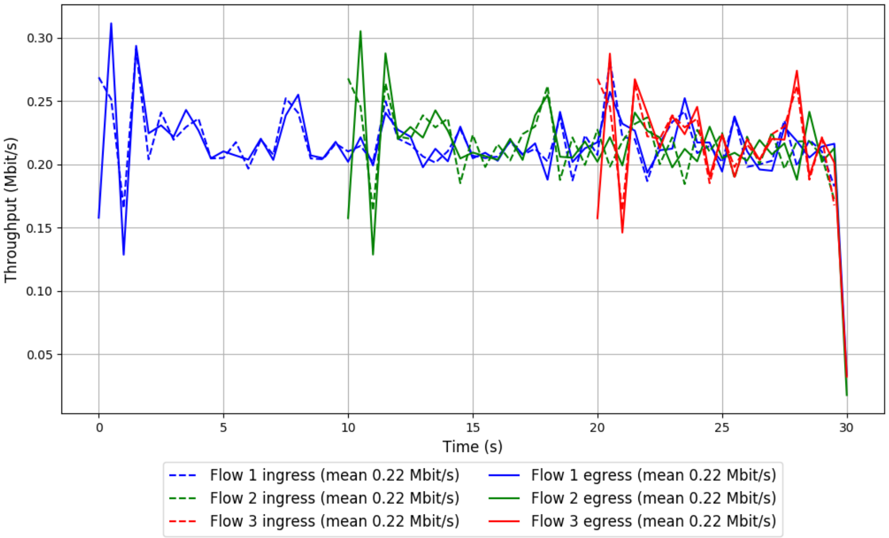


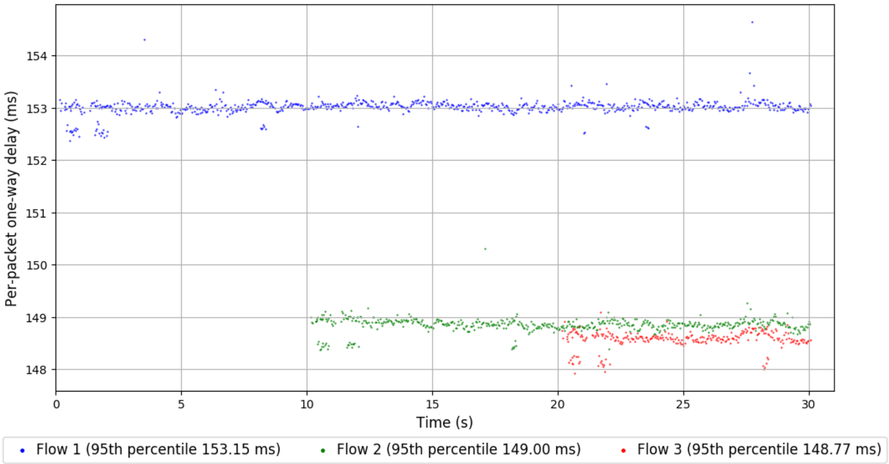
```
Run 10: Statistics of SCReAM

Start at: 2018-04-04 00:53:19
End at: 2018-04-04 00:53:49
Local clock offset: 9.872 ms
Remote clock offset: 0.037 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 153.120 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 153.152 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.004 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 148.773 ms
Loss rate: 0.00%
```

Run 10: Report of SCReAM — Data Link



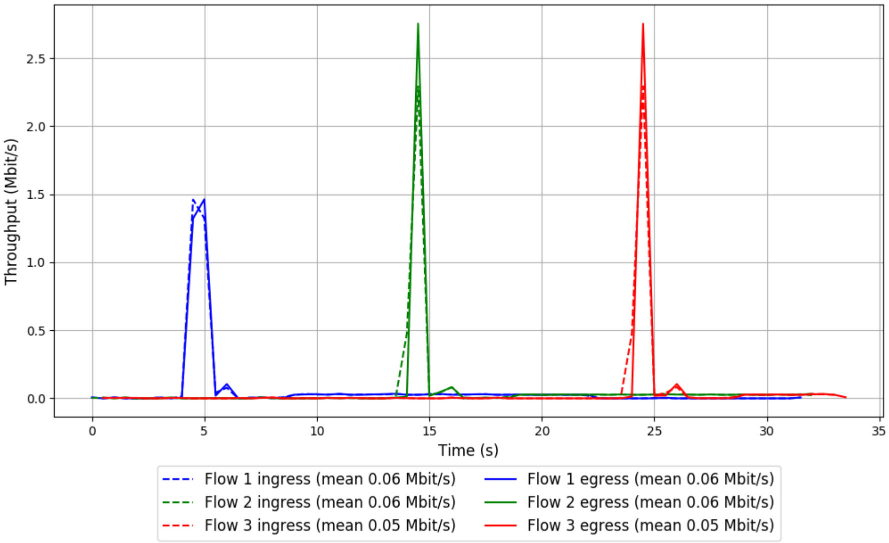


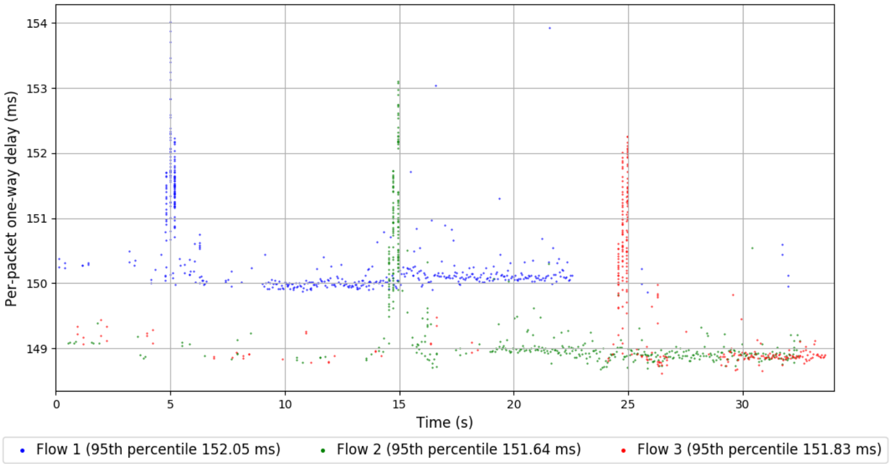
```
Run 1: Statistics of WebRTC media

Start at: 2018-04-03 21:29:45
End at: 2018-04-03 21:30:15
Local clock offset: 6.062 ms
Remote clock offset: -2.212 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 151.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 152.053 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 151.642 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 151.832 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



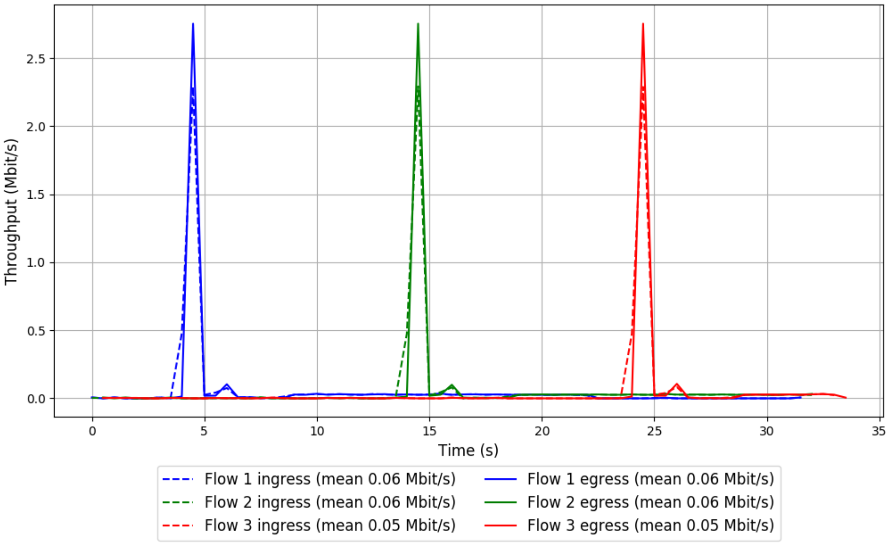


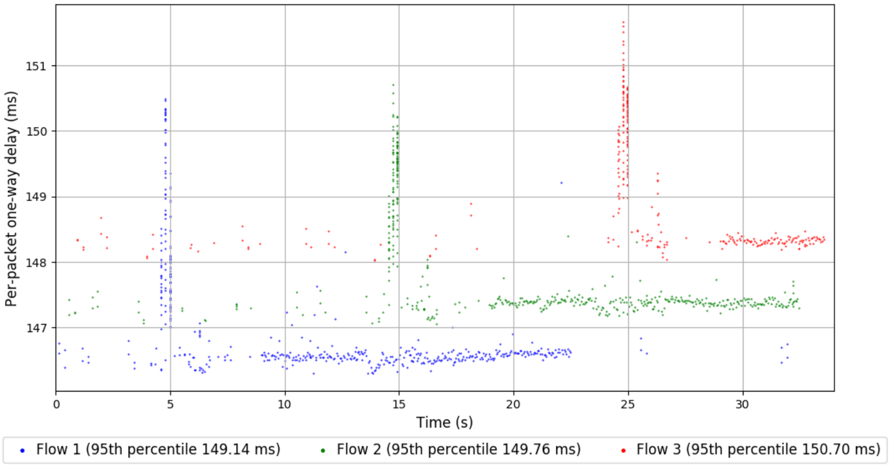
```
Run 2: Statistics of WebRTC media

Start at: 2018-04-03 21:54:09
End at: 2018-04-03 21:54:39
Local clock offset: 8.475 ms
Remote clock offset: 3.429 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 150.287 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.762 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 150.697 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



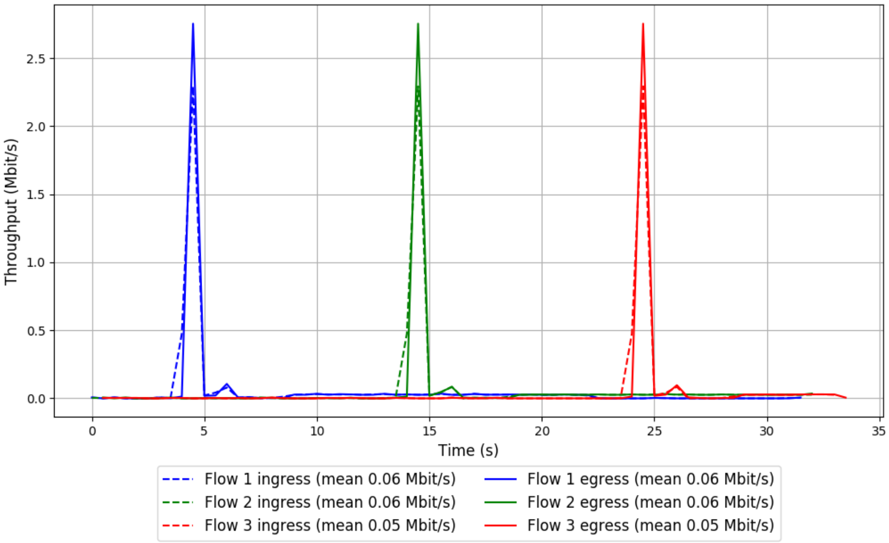


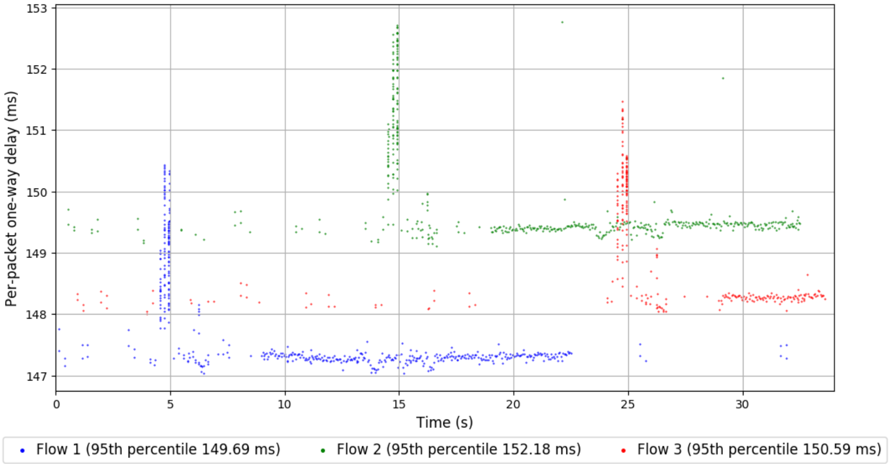
```
Run 3: Statistics of WebRTC media

Start at: 2018-04-03 22:18:26
End at: 2018-04-03 22:18:56
Local clock offset: 10.743 ms
Remote clock offset: -3.743 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 151.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.695 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 152.175 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 150.586 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link



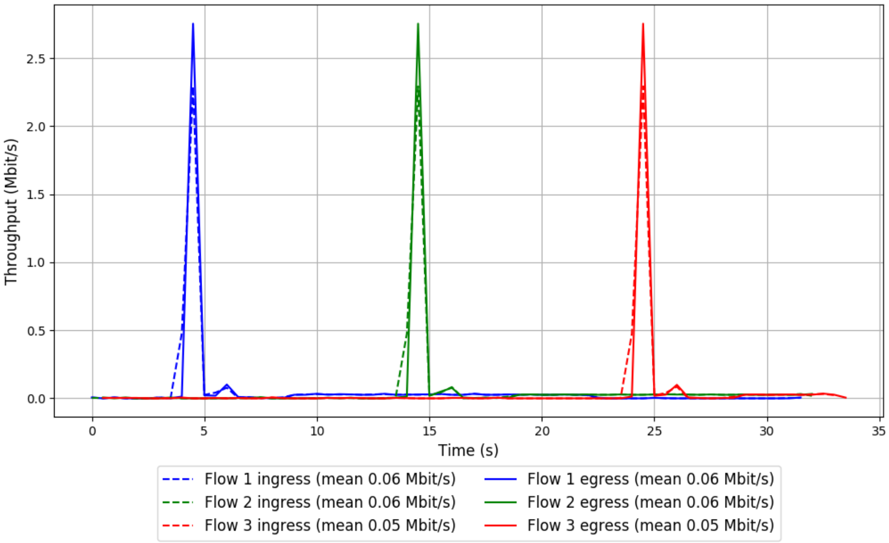


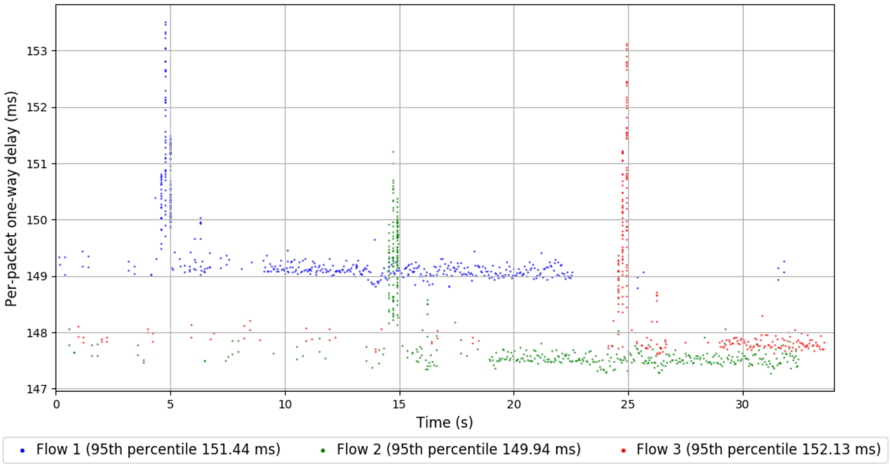
```
Run 4: Statistics of WebRTC media

Start at: 2018-04-03 22:42:48
End at: 2018-04-03 22:43:18
Local clock offset: 6.655 ms
Remote clock offset: 6.52 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 151.283 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 151.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.942 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 152.134 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



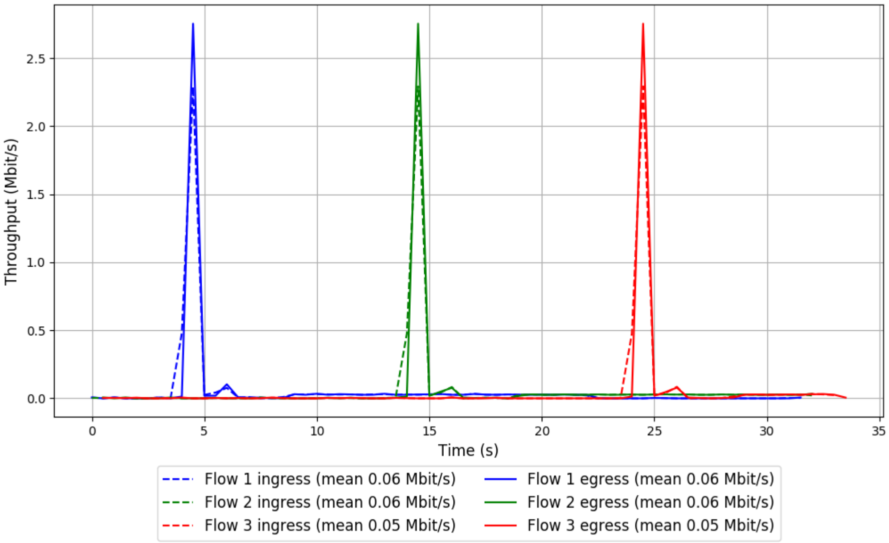


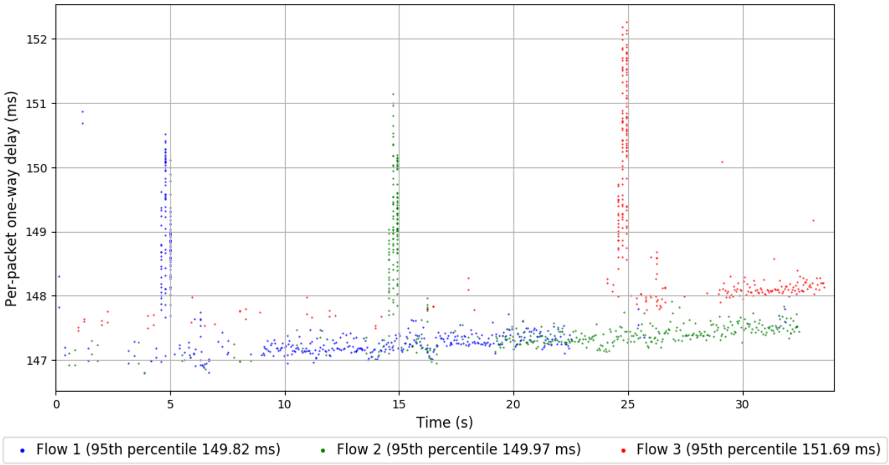
```
Run 5: Statistics of WebRTC media

Start at: 2018-04-03 23:07:38
End at: 2018-04-03 23:08:08
Local clock offset: 6.397 ms
Remote clock offset: 5.297 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 150.565 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.824 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.974 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 151.695 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link



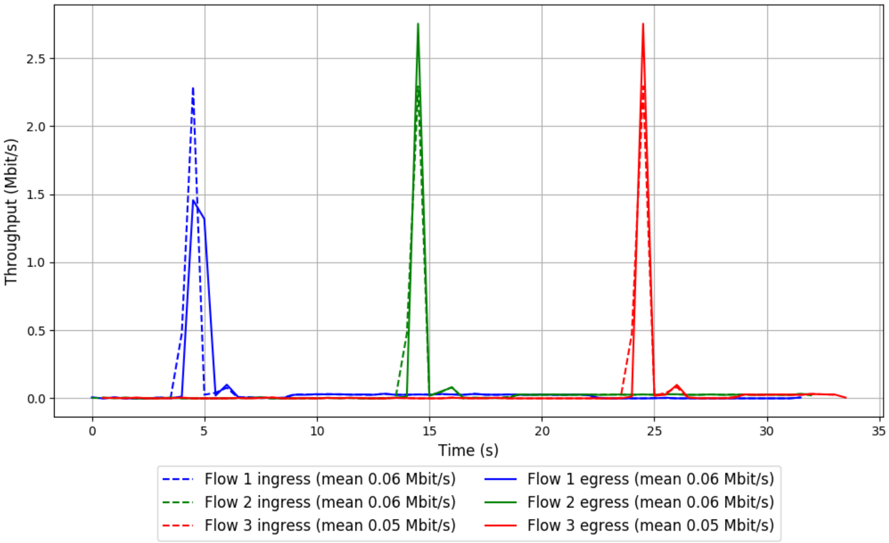


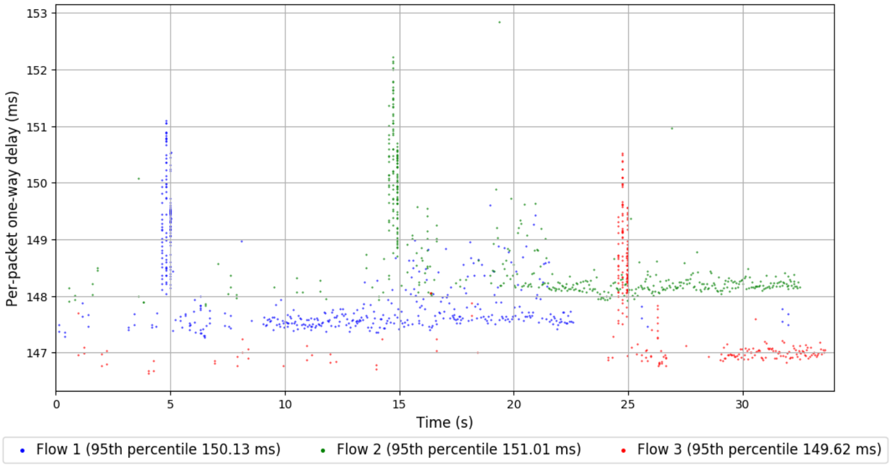
```
Run 6: Statistics of WebRTC media

Start at: 2018-04-03 23:32:16
End at: 2018-04-03 23:32:46
Local clock offset: 6.368 ms
Remote clock offset: -5.99 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 150.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 150.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 151.015 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 149.615 ms
Loss rate: 0.00%
```

Run 6: Report of WebRTC media — Data Link



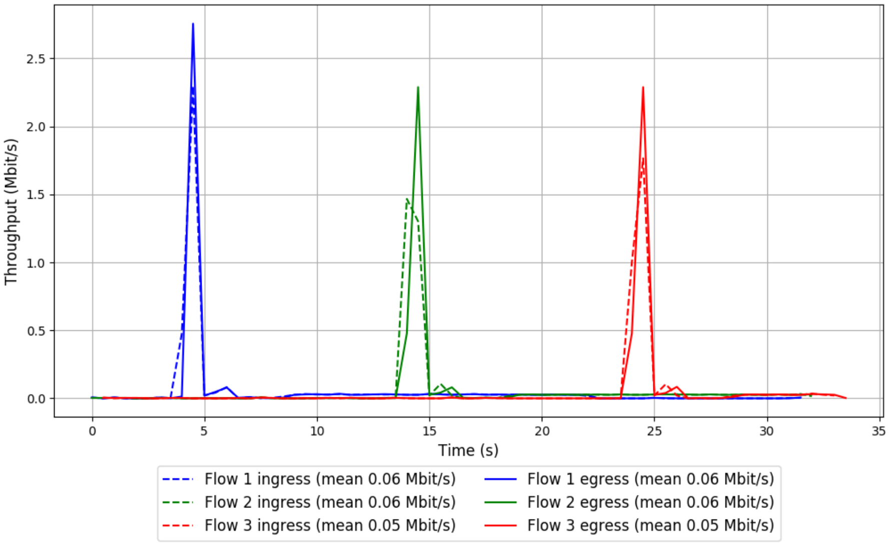


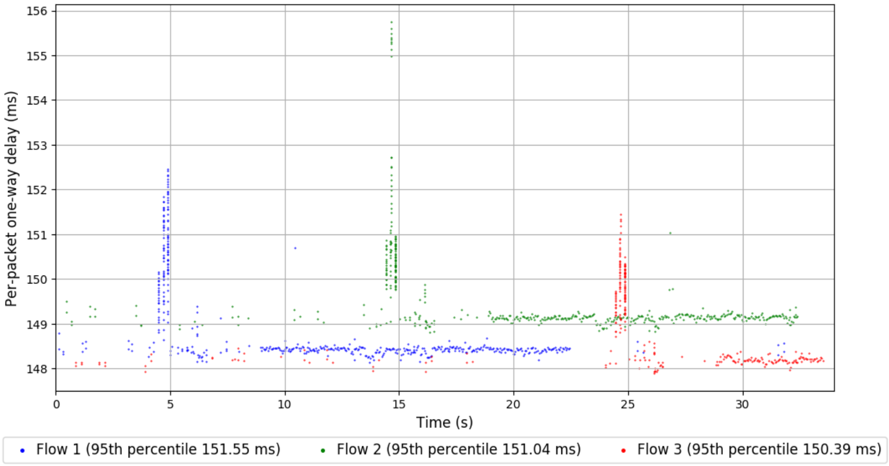
```
Run 7: Statistics of WebRTC media

Start at: 2018-04-03 23:56:43
End at: 2018-04-03 23:57:13
Local clock offset: 6.306 ms
Remote clock offset: -2.93 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 151.141 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 151.546 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 151.045 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 150.393 ms
Loss rate: 0.00%
```

Run 7: Report of WebRTC media — Data Link



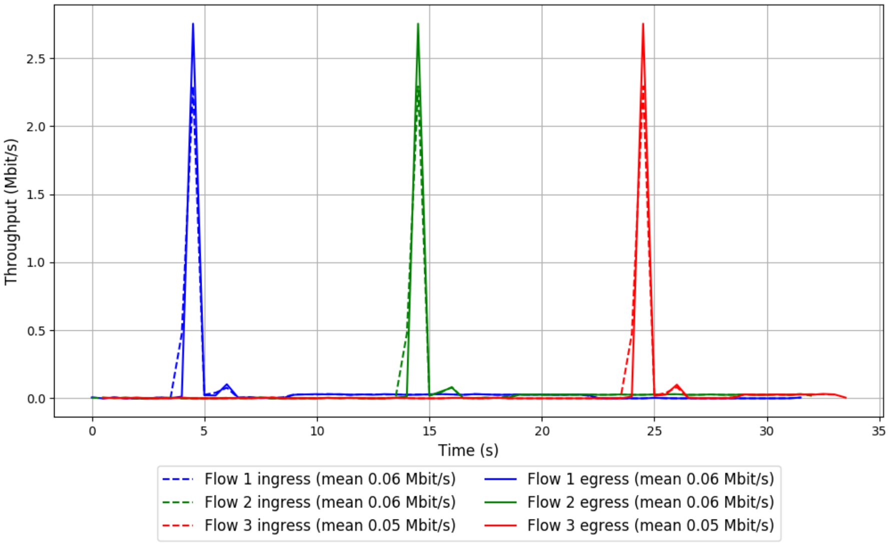


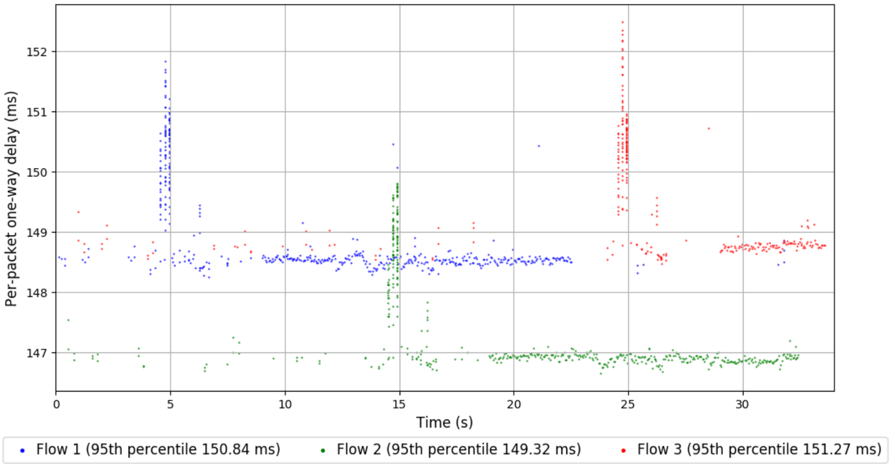
```
Run 8: Statistics of WebRTC media

Start at: 2018-04-04 00:21:58
End at: 2018-04-04 00:22:28
Local clock offset: 10.086 ms
Remote clock offset: 0.78 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 150.747 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 150.845 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 149.321 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 151.272 ms
Loss rate: 0.04%
```

Run 8: Report of WebRTC media — Data Link



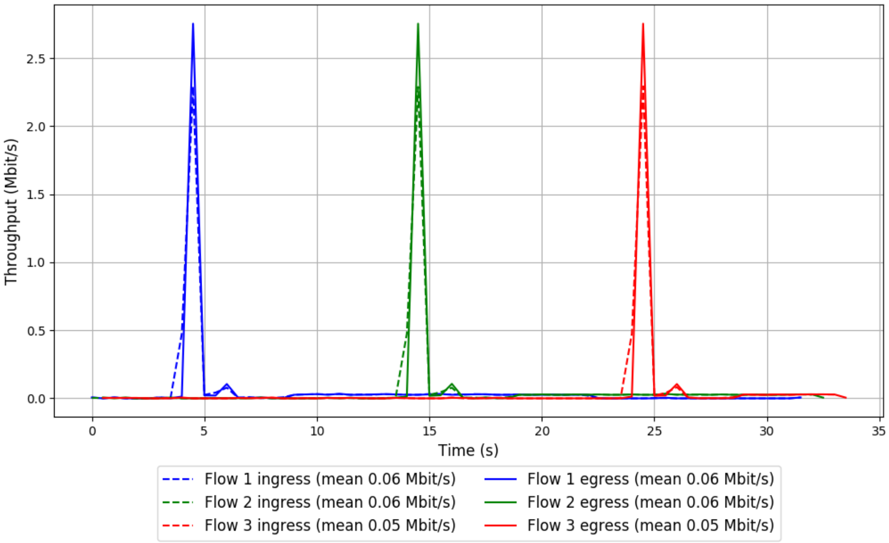


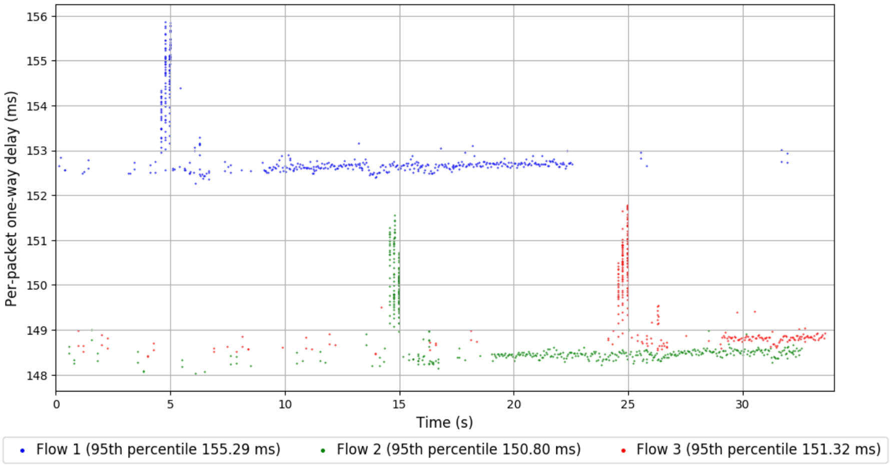
```
Run 9: Statistics of WebRTC media

Start at: 2018-04-04 00:46:36
End at: 2018-04-04 00:47:06
Local clock offset: 10.034 ms
Remote clock offset: 2.785 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 154.701 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 155.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 150.799 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 151.318 ms
Loss rate: 0.04%
```

Run 9: Report of WebRTC media — Data Link



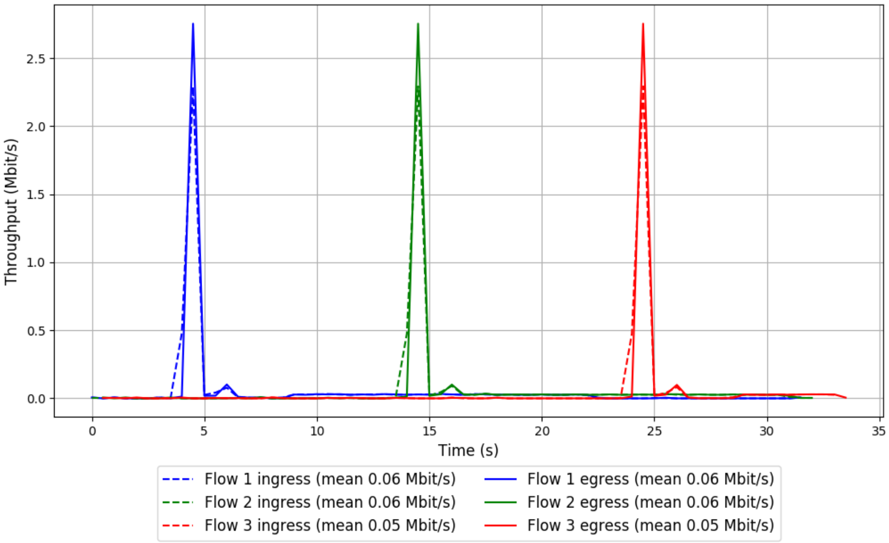


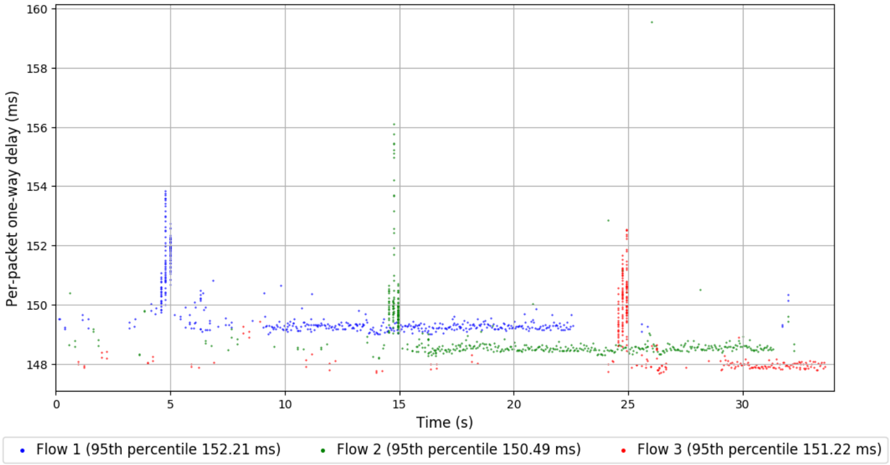
```
Run 10: Statistics of WebRTC media

Start at: 2018-04-04 01:11:30
End at: 2018-04-04 01:12:00
Local clock offset: 9.648 ms
Remote clock offset: -2.321 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 151.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 152.207 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 150.490 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 151.219 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link



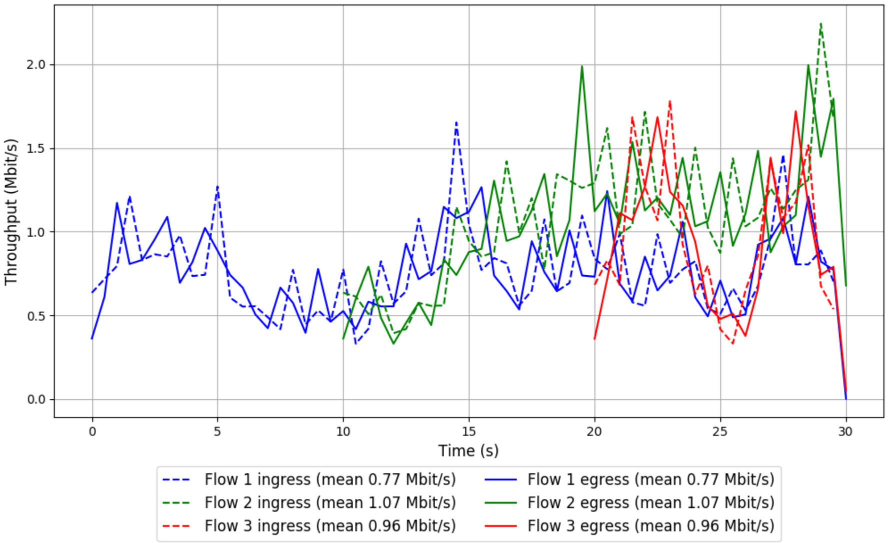


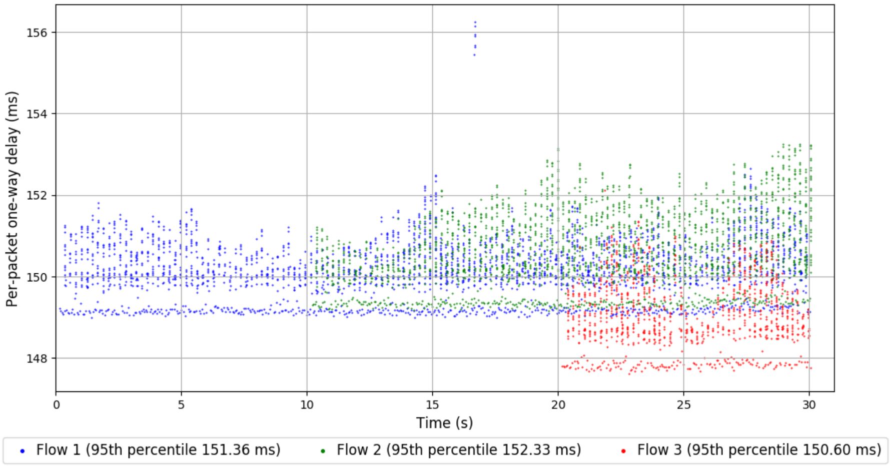
```
Run 1: Statistics of Sprout

Start at: 2018-04-03 21:07:59
End at: 2018-04-03 21:08:29
Local clock offset: 5.778 ms
Remote clock offset: -9.372 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 151.884 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 151.360 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 152.329 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 150.599 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link



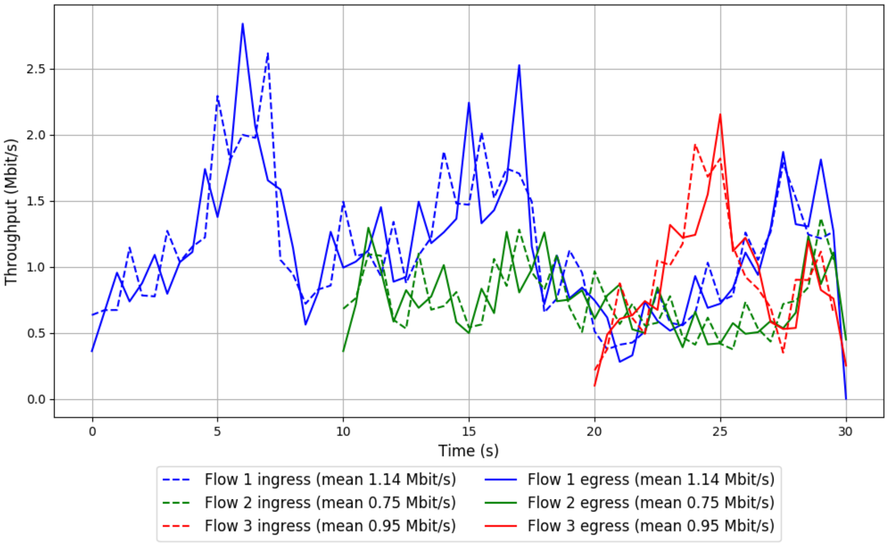


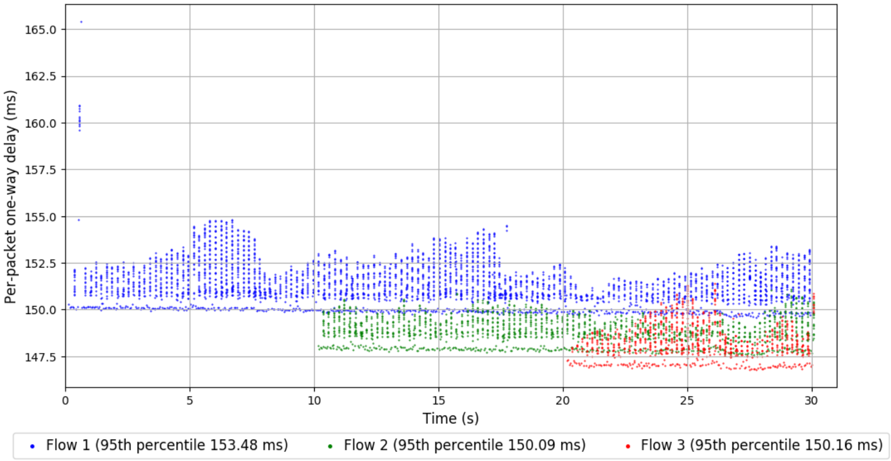
```
Run 2: Statistics of Sprout

Start at: 2018-04-03 21:32:25
End at: 2018-04-03 21:32:55
Local clock offset: 6.225 ms
Remote clock offset: -0.854 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 152.997 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 153.483 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 150.095 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 150.156 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link



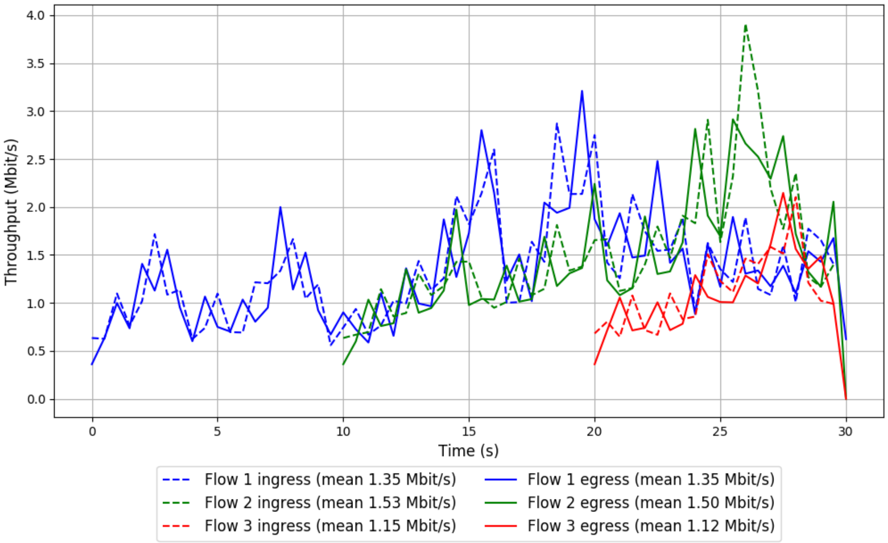


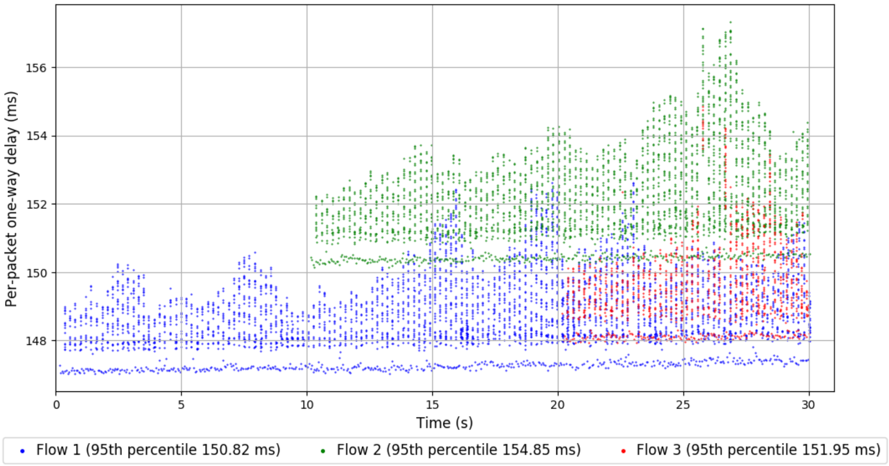
```
Run 3: Statistics of Sprout

Start at: 2018-04-03 21:56:48
End at: 2018-04-03 21:57:18
Local clock offset: 8.894 ms
Remote clock offset: 2.191 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.72 Mbit/s
95th percentile per-packet one-way delay: 153.797 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 150.824 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 154.855 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 151.948 ms
Loss rate: 1.87%
```

Run 3: Report of Sprout — Data Link



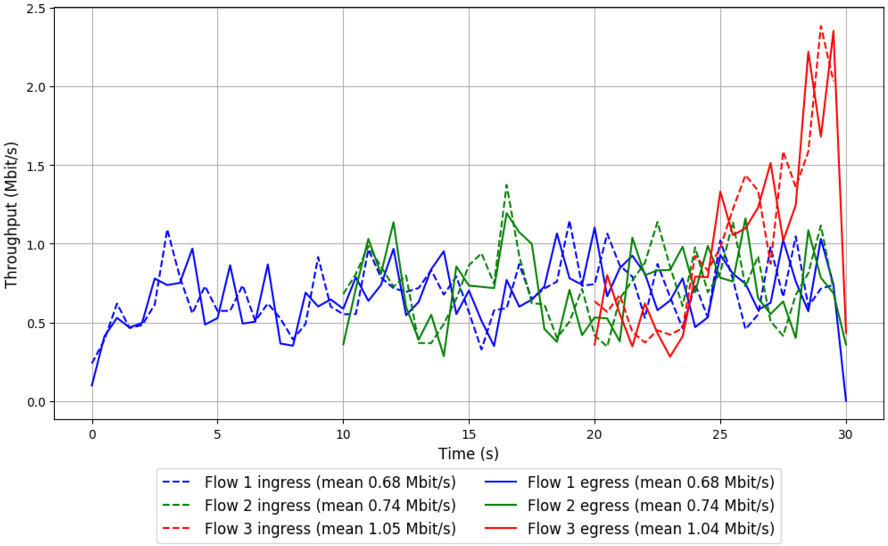


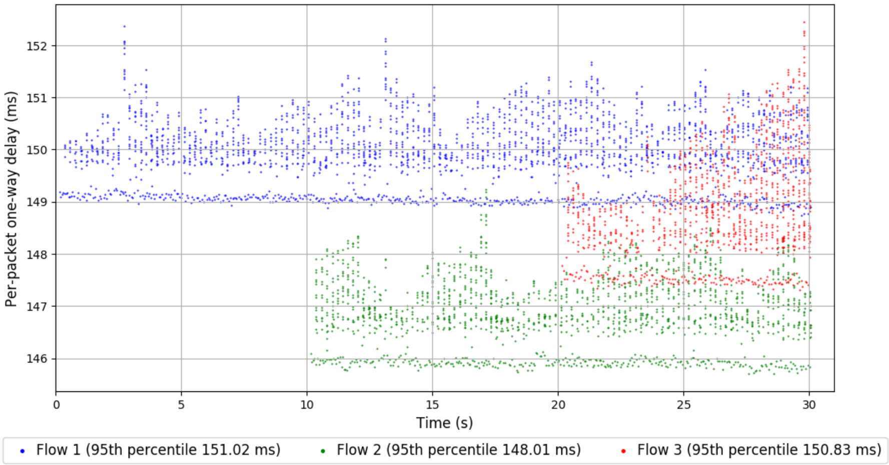
```
Run 4: Statistics of Sprout

Start at: 2018-04-03 22:21:05
End at: 2018-04-03 22:21:35
Local clock offset: 10.673 ms
Remote clock offset: -4.044 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 150.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 151.020 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 148.010 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 150.833 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link



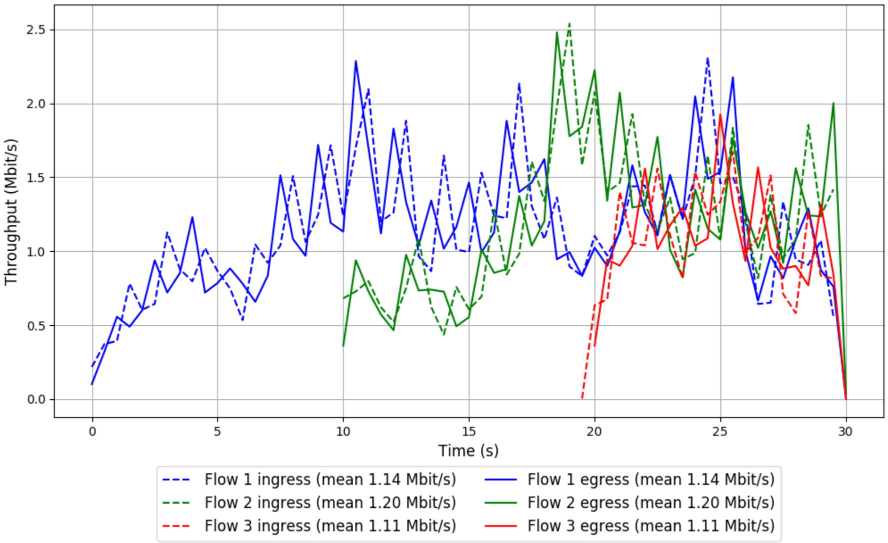


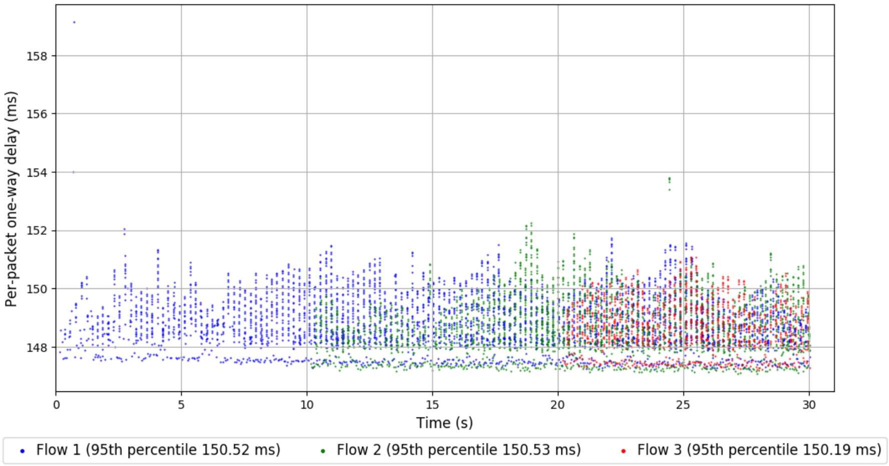
```
Run 5: Statistics of Sprout

Start at: 2018-04-03 22:45:27
End at: 2018-04-03 22:45:57
Local clock offset: 6.502 ms
Remote clock offset: 7.531 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 150.473 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 150.518 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 150.534 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 150.188 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



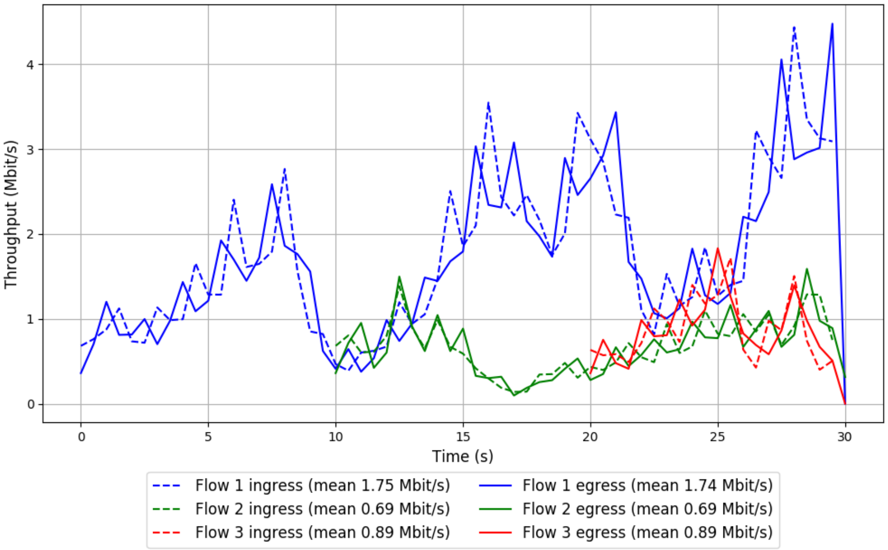


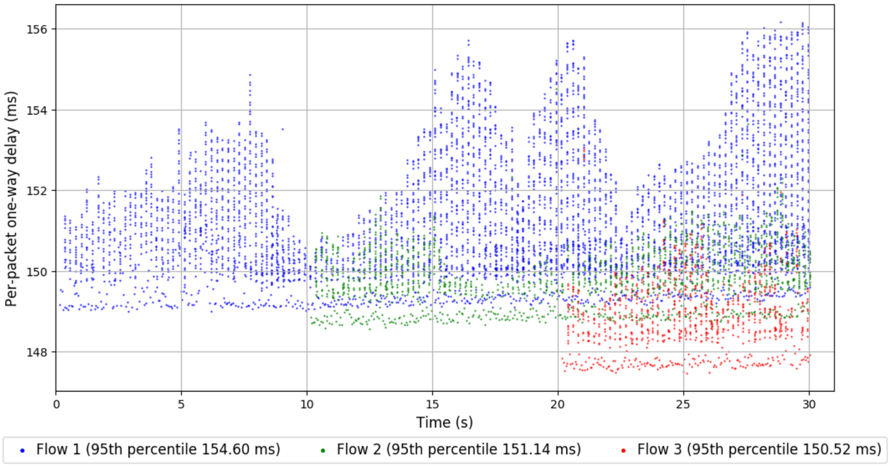
```
Run 6: Statistics of Sprout

Start at: 2018-04-03 23:10:27
End at: 2018-04-03 23:10:57
Local clock offset: 6.556 ms
Remote clock offset: 2.522 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 154.174 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 154.601 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 151.140 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 150.519 ms
Loss rate: 0.00%
```

Run 6: Report of Sprout — Data Link



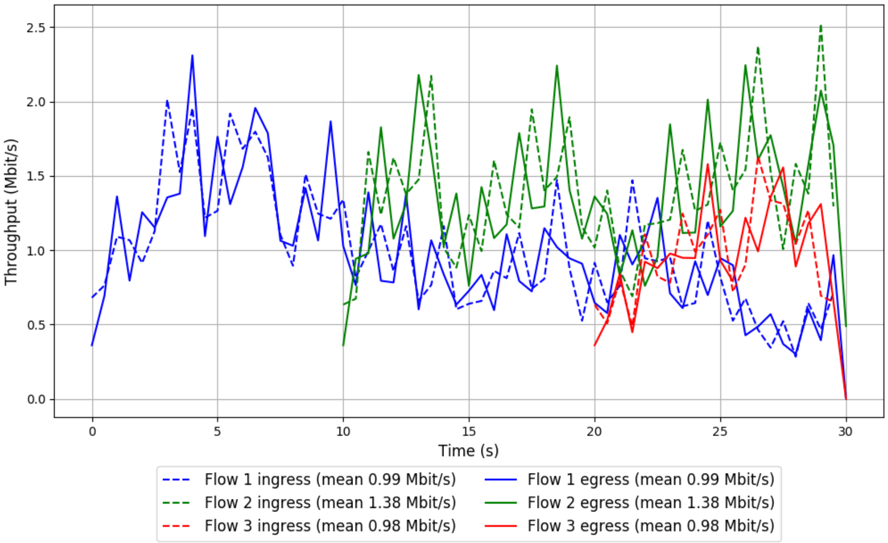


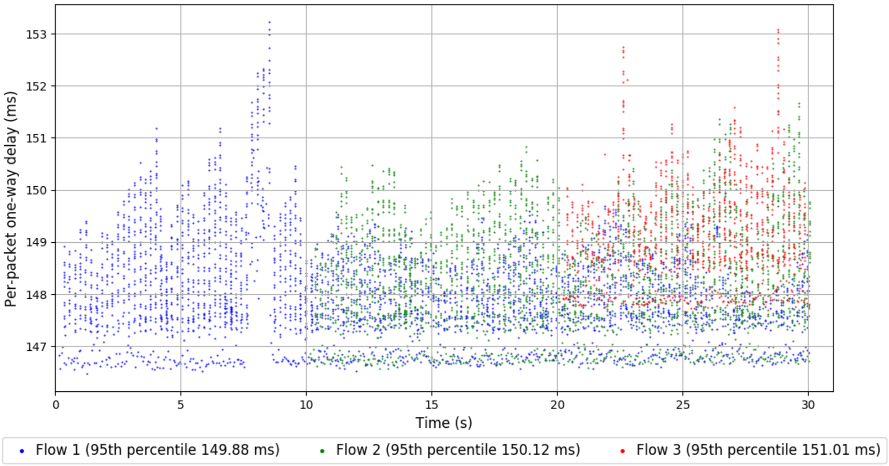
```
Run 7: Statistics of Sprout

Start at: 2018-04-03 23:34:55
End at: 2018-04-03 23:35:25
Local clock offset: 6.335 ms
Remote clock offset: -6.64 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 150.248 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 149.877 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 150.124 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 151.008 ms
Loss rate: 0.00%
```

Run 7: Report of Sprout — Data Link



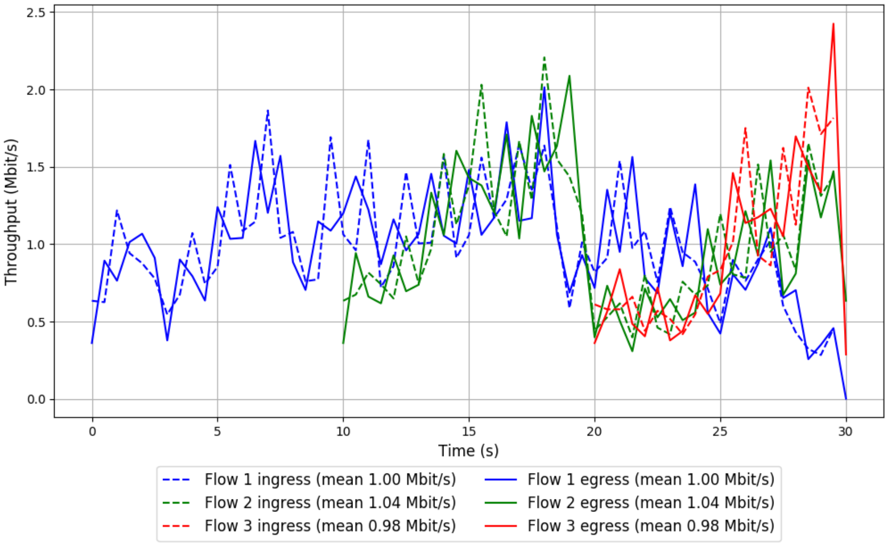


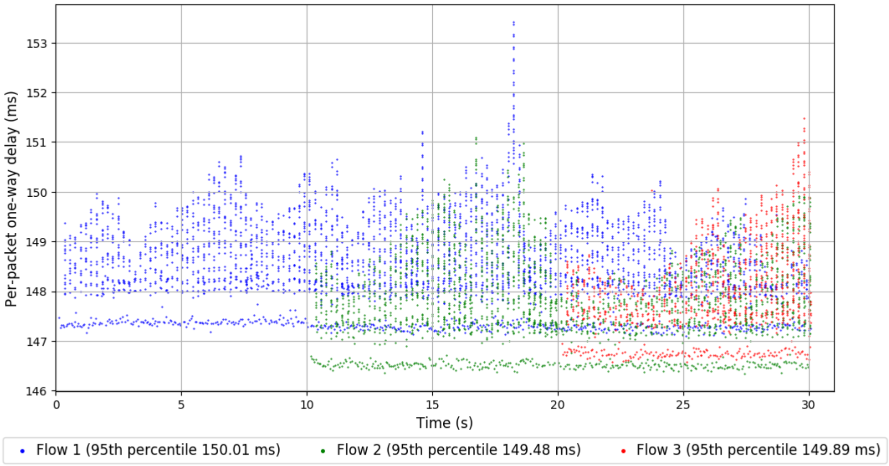
```
Run 8: Statistics of Sprout

Start at: 2018-04-03 23:59:24
End at: 2018-04-03 23:59:54
Local clock offset: 6.31 ms
Remote clock offset: -2.99 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 149.872 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 150.013 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 149.477 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 149.889 ms
Loss rate: 0.00%
```

Run 8: Report of Sprout — Data Link



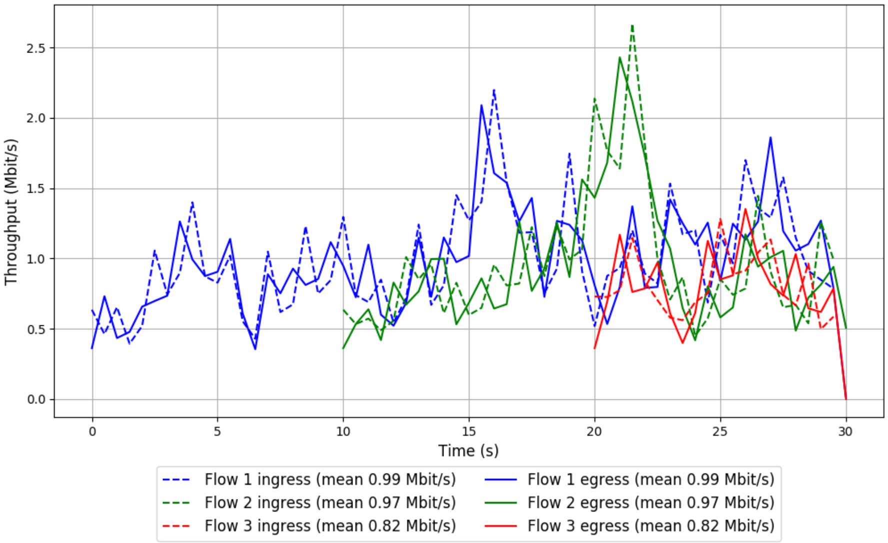


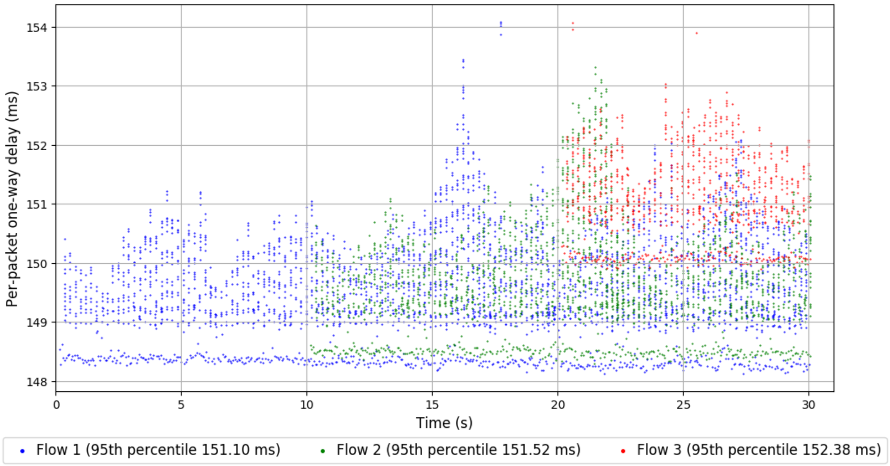
```
Run 9: Statistics of Sprout

Start at: 2018-04-04 00:24:38
End at: 2018-04-04 00:25:08
Local clock offset: 10.115 ms
Remote clock offset: 1.254 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 151.835 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 151.103 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 151.516 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 152.378 ms
Loss rate: 0.00%
```

Run 9: Report of Sprout — Data Link



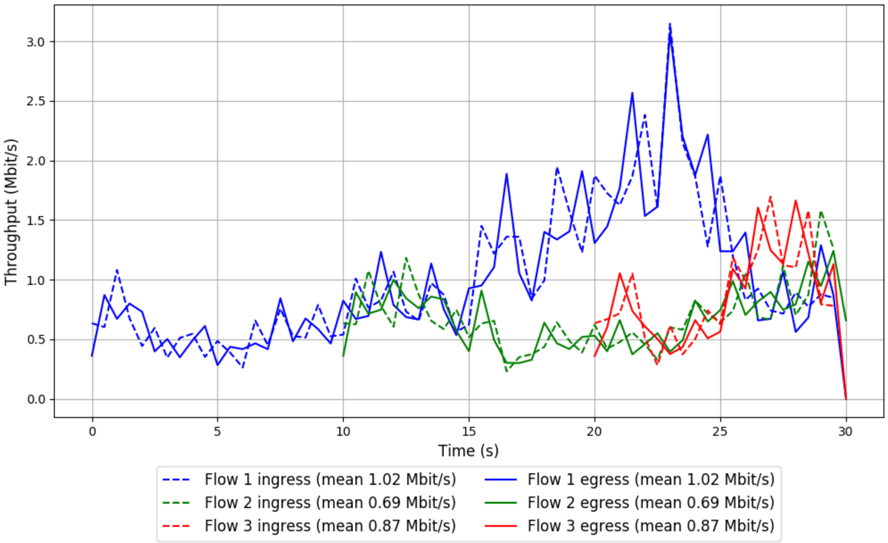


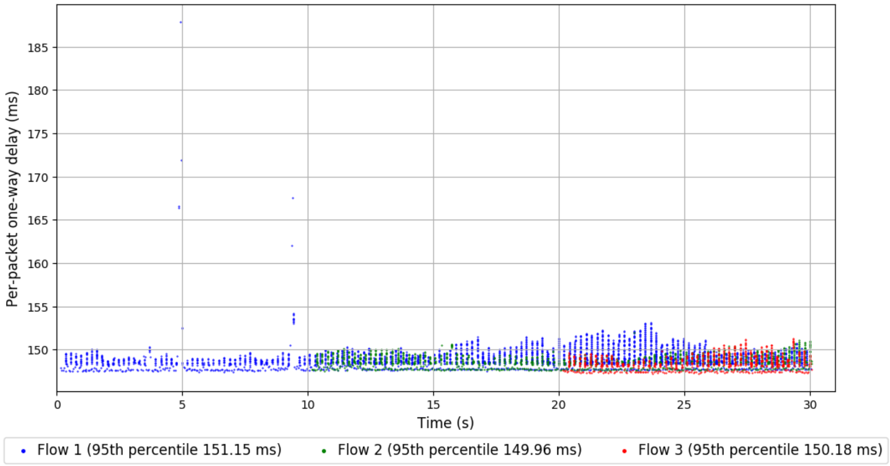
```
Run 10: Statistics of Sprout

Start at: 2018-04-04 00:49:16
End at: 2018-04-04 00:49:46
Local clock offset: 9.83 ms
Remote clock offset: 1.355 ms

# Below is generated by plot.py at 2018-04-04 01:44:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 150.749 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 151.147 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 149.960 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 150.176 ms
Loss rate: 0.00%
```

Run 10: Report of Sprout — Data Link



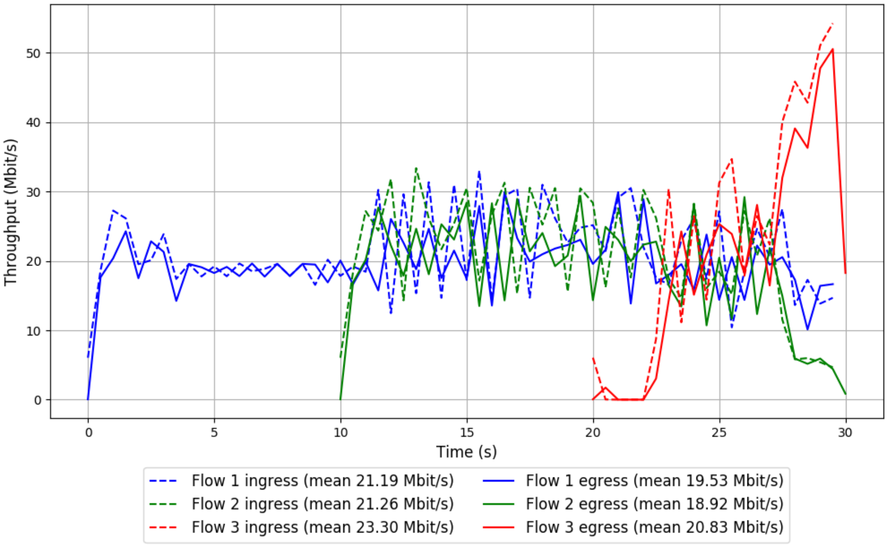


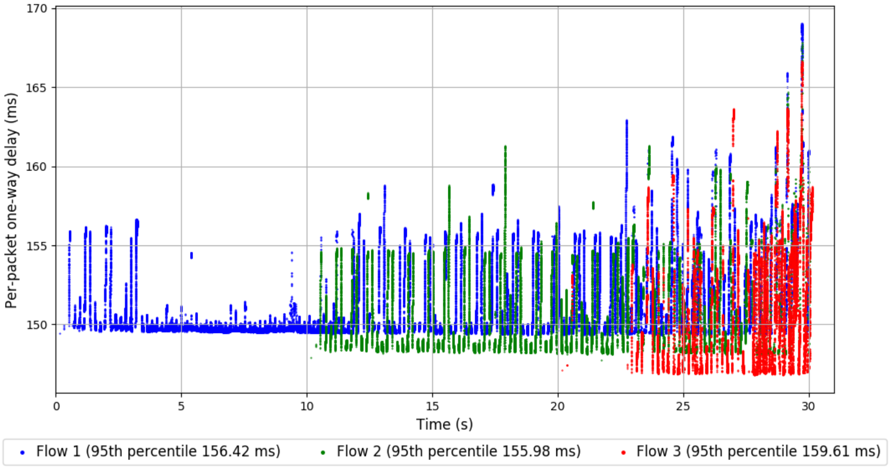
```
Run 1: Statistics of TaoVA-100x

Start at: 2018-04-03 21:27:02
End at: 2018-04-03 21:27:32
Local clock offset: 6.055 ms
Remote clock offset: -4.133 ms

# Below is generated by plot.py at 2018-04-04 01:45:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 157.115 ms
Loss rate: 9.32%
-- Flow 1:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 156.417 ms
Loss rate: 7.80%
-- Flow 2:
Average throughput: 18.92 Mbit/s
95th percentile per-packet one-way delay: 155.984 ms
Loss rate: 10.94%
-- Flow 3:
Average throughput: 20.83 Mbit/s
95th percentile per-packet one-way delay: 159.607 ms
Loss rate: 10.49%
```

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



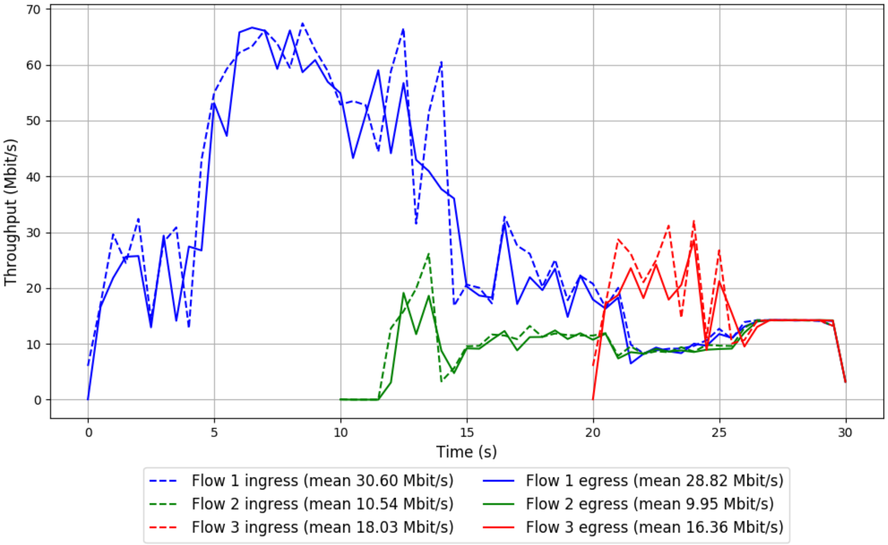


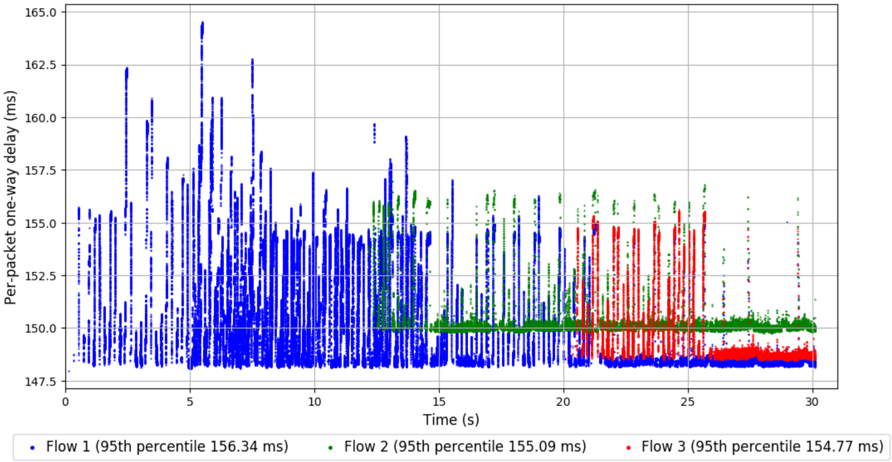
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-04-03 21:51:25
End at: 2018-04-03 21:51:55
Local clock offset: 7.939 ms
Remote clock offset: 3.204 ms

# Below is generated by plot.py at 2018-04-04 01:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.87 Mbit/s
95th percentile per-packet one-way delay: 155.654 ms
Loss rate: 6.25%
-- Flow 1:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 156.335 ms
Loss rate: 5.82%
-- Flow 2:
Average throughput: 9.95 Mbit/s
95th percentile per-packet one-way delay: 155.094 ms
Loss rate: 5.57%
-- Flow 3:
Average throughput: 16.36 Mbit/s
95th percentile per-packet one-way delay: 154.766 ms
Loss rate: 9.23%
```

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



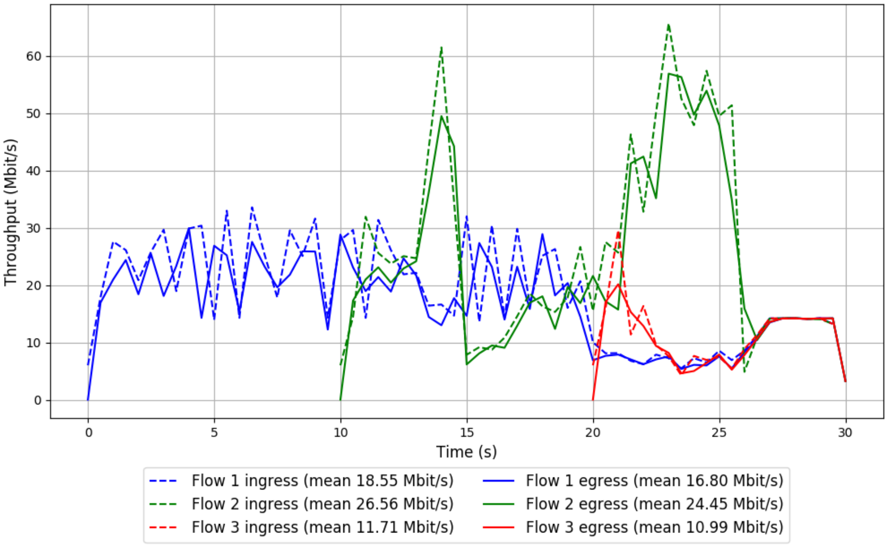


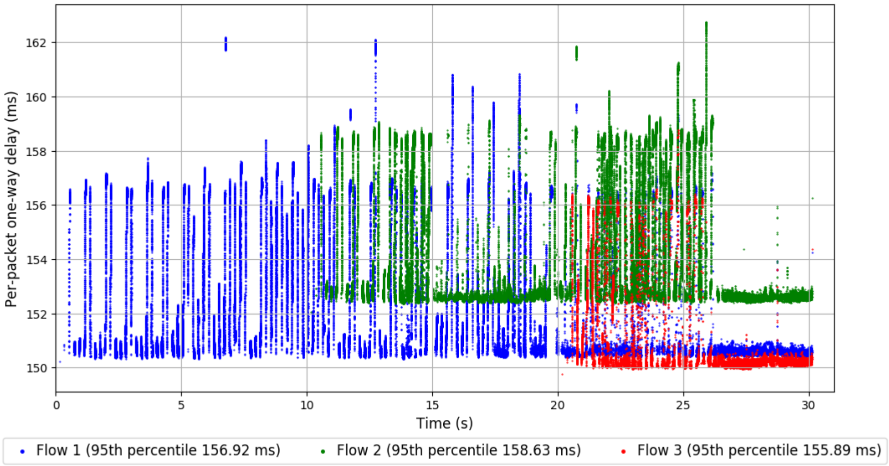
```
Run 3: Statistics of TaoVA-100x

Start at: 2018-04-03 22:15:43
End at: 2018-04-03 22:16:13
Local clock offset: 10.665 ms
Remote clock offset: -3.35 ms

# Below is generated by plot.py at 2018-04-04 01:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.73 Mbit/s
95th percentile per-packet one-way delay: 158.448 ms
Loss rate: 8.44%
-- Flow 1:
Average throughput: 16.80 Mbit/s
95th percentile per-packet one-way delay: 156.921 ms
Loss rate: 9.43%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 158.631 ms
Loss rate: 7.93%
-- Flow 3:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 155.893 ms
Loss rate: 6.08%
```

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



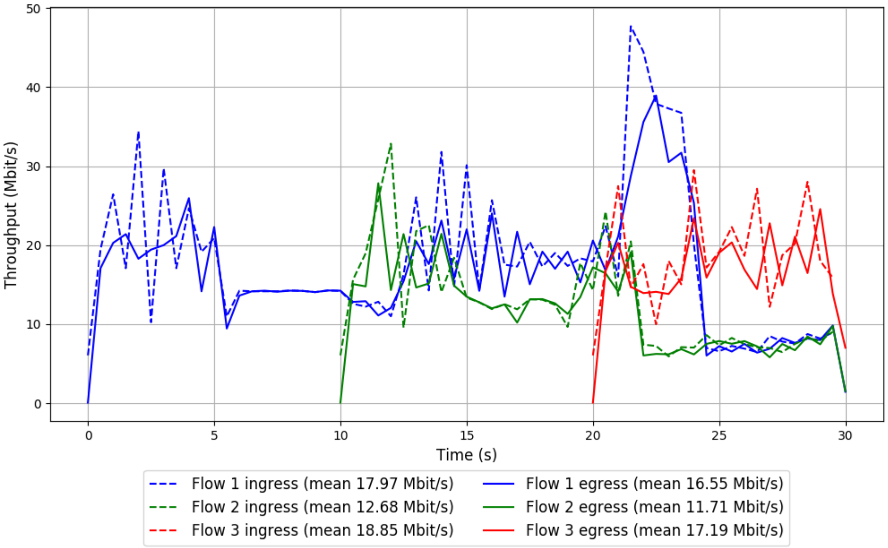


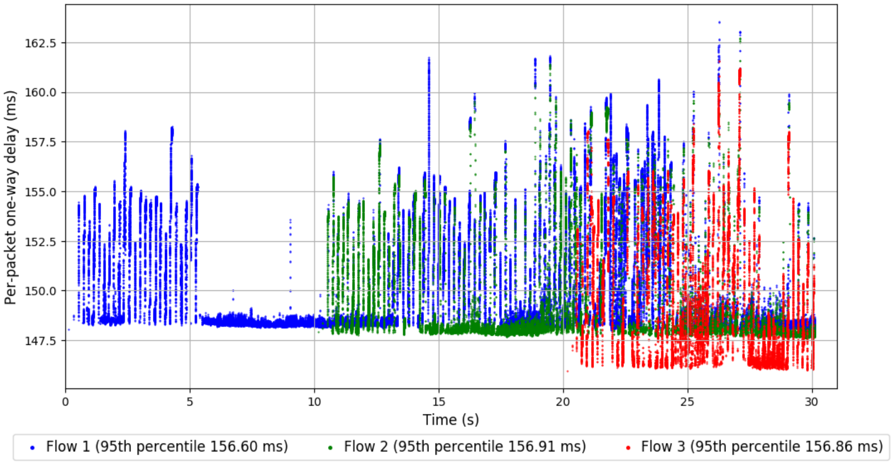
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-04-03 22:40:06
End at: 2018-04-03 22:40:36
Local clock offset: 6.704 ms
Remote clock offset: 5.135 ms

# Below is generated by plot.py at 2018-04-04 01:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.02 Mbit/s
95th percentile per-packet one-way delay: 156.683 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 16.55 Mbit/s
95th percentile per-packet one-way delay: 156.598 ms
Loss rate: 7.92%
-- Flow 2:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 156.913 ms
Loss rate: 7.66%
-- Flow 3:
Average throughput: 17.19 Mbit/s
95th percentile per-packet one-way delay: 156.862 ms
Loss rate: 8.74%
```

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



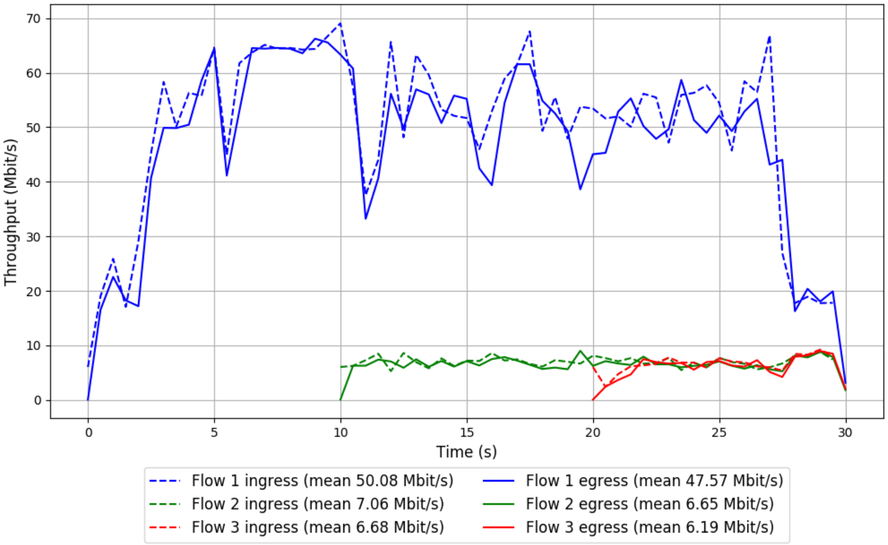


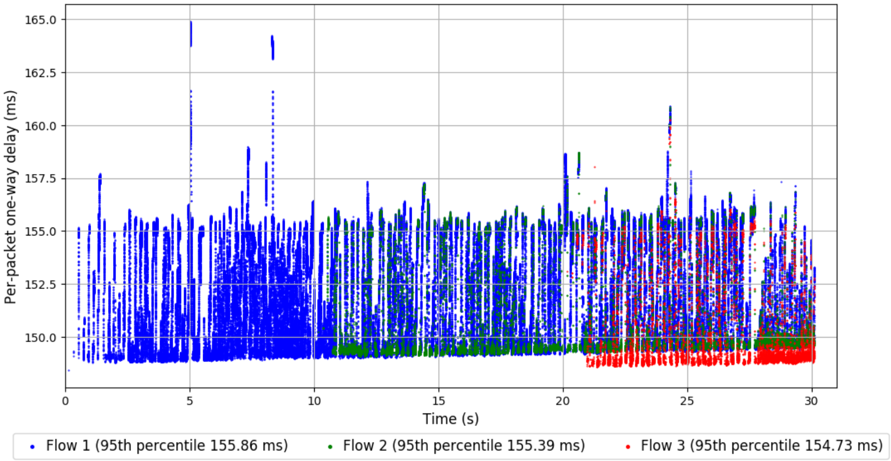
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-04-03 23:04:47
End at: 2018-04-03 23:05:17
Local clock offset: 6.339 ms
Remote clock offset: 8.515 ms

# Below is generated by plot.py at 2018-04-04 01:45:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.03 Mbit/s
95th percentile per-packet one-way delay: 155.812 ms
Loss rate: 5.16%
-- Flow 1:
Average throughput: 47.57 Mbit/s
95th percentile per-packet one-way delay: 155.857 ms
Loss rate: 5.01%
-- Flow 2:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 155.392 ms
Loss rate: 5.81%
-- Flow 3:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 154.732 ms
Loss rate: 7.33%
```

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



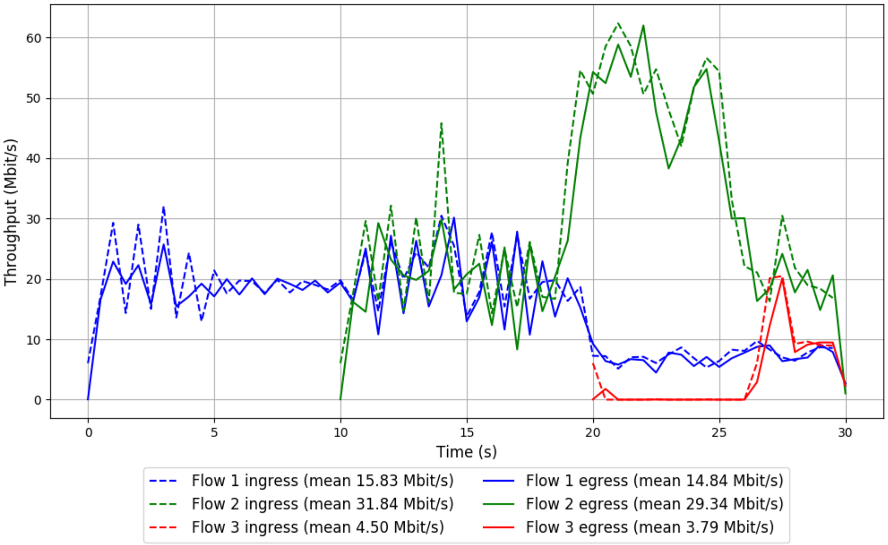


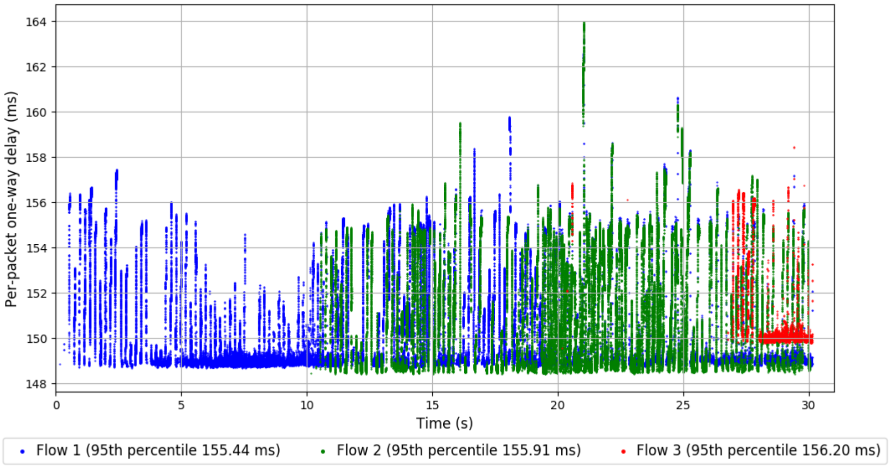
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-04-03 23:29:33
End at: 2018-04-03 23:30:03
Local clock offset: 6.378 ms
Remote clock offset: -5.423 ms

# Below is generated by plot.py at 2018-04-04 01:45:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.57 Mbit/s
95th percentile per-packet one-way delay: 155.775 ms
Loss rate: 7.51%
-- Flow 1:
Average throughput: 14.84 Mbit/s
95th percentile per-packet one-way delay: 155.444 ms
Loss rate: 6.25%
-- Flow 2:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 155.905 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 156.202 ms
Loss rate: 15.92%
```

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



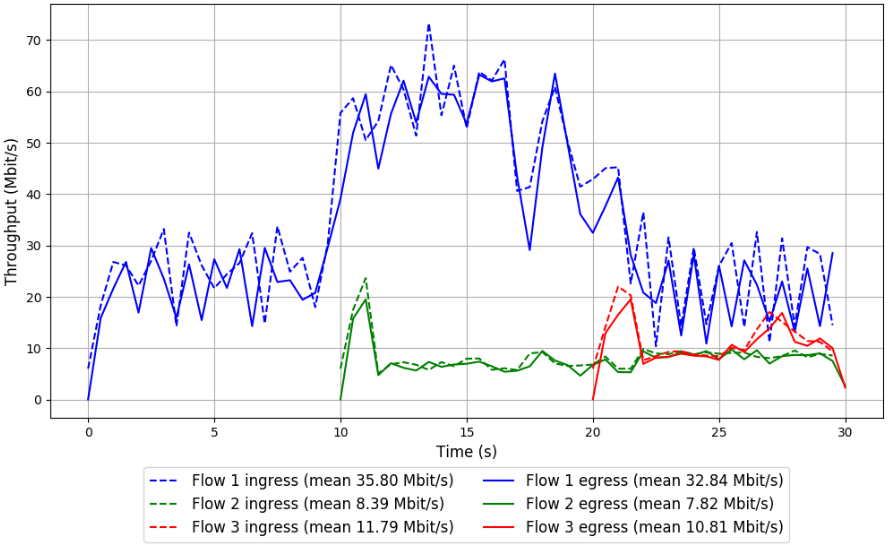


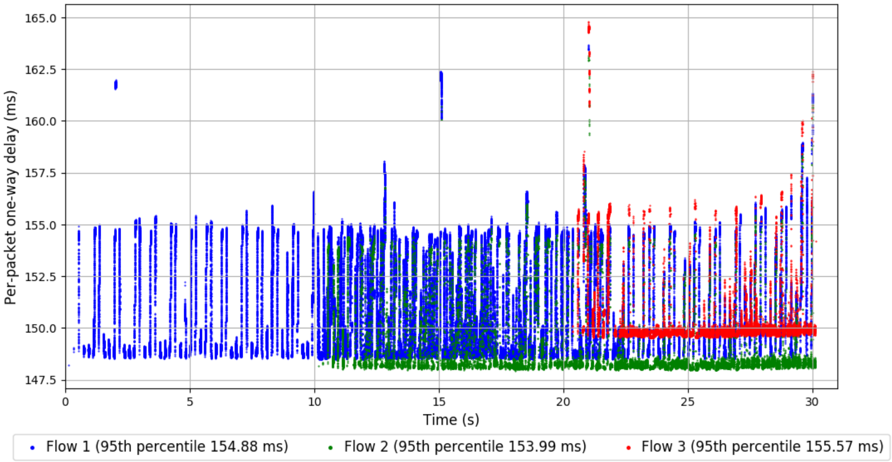
```
Run 7: Statistics of TaoVA-100x

Start at: 2018-04-03 23:53:59
End at: 2018-04-03 23:54:29
Local clock offset: 6.251 ms
Remote clock offset: -2.983 ms

# Below is generated by plot.py at 2018-04-04 01:45:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.50 Mbit/s
95th percentile per-packet one-way delay: 154.860 ms
Loss rate: 8.05%
-- Flow 1:
Average throughput: 32.84 Mbit/s
95th percentile per-packet one-way delay: 154.880 ms
Loss rate: 8.21%
-- Flow 2:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 153.987 ms
Loss rate: 6.83%
-- Flow 3:
Average throughput: 10.81 Mbit/s
95th percentile per-packet one-way delay: 155.568 ms
Loss rate: 8.31%
```

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



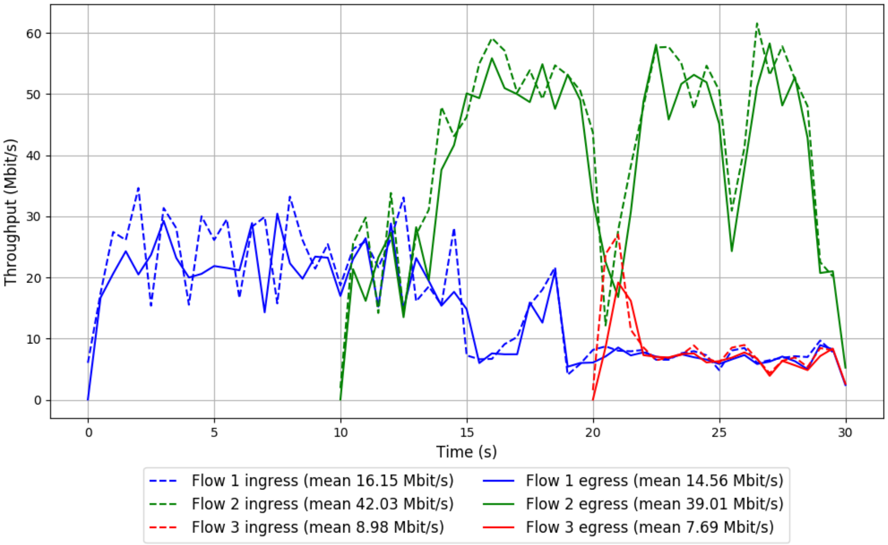


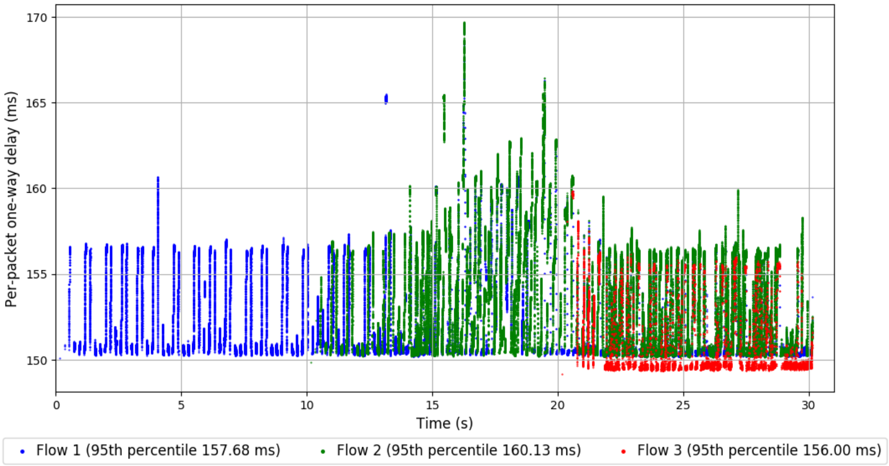
```
Run 8: Statistics of TaoVA-100x

Start at: 2018-04-04 00:19:13
End at: 2018-04-04 00:19:43
Local clock offset: 9.789 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2018-04-04 01:46:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.10 Mbit/s
95th percentile per-packet one-way delay: 159.325 ms
Loss rate: 8.54%
-- Flow 1:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 157.682 ms
Loss rate: 9.81%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 160.126 ms
Loss rate: 7.19%
-- Flow 3:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 155.995 ms
Loss rate: 14.33%
```

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



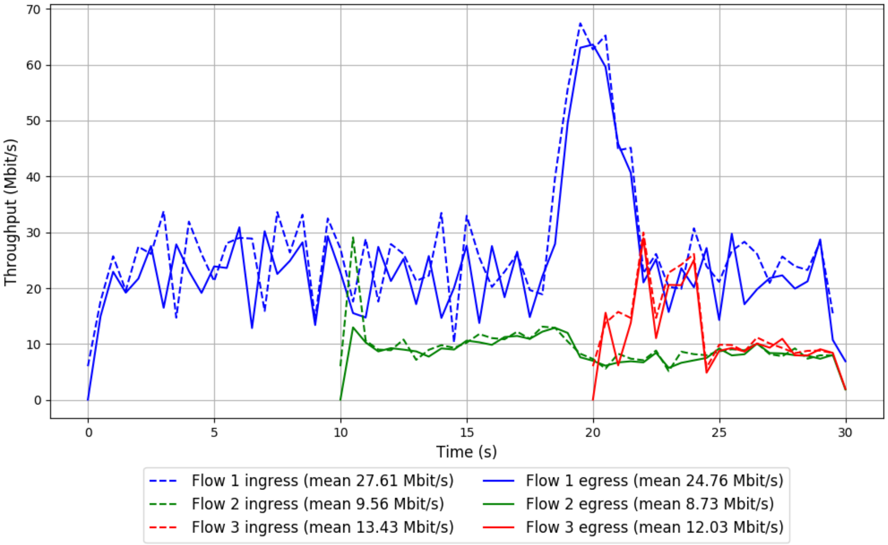


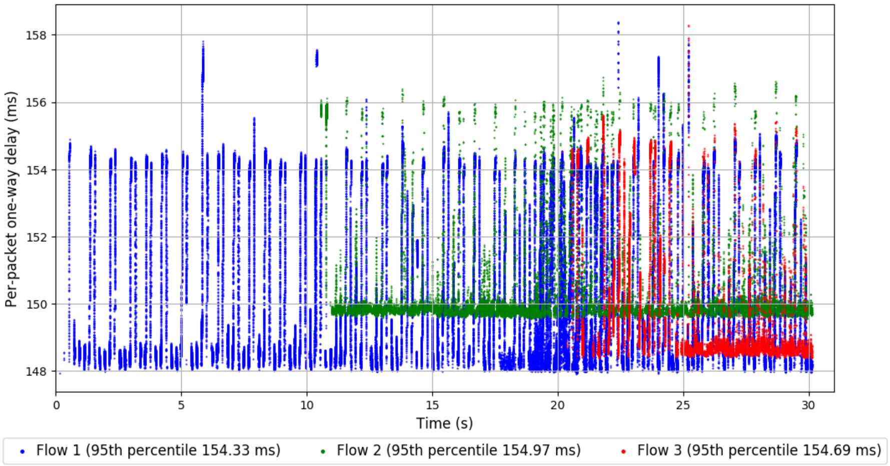
```
Run 9: Statistics of TaoVA-100x

Start at: 2018-04-04 00:43:53
End at: 2018-04-04 00:44:23
Local clock offset: 10.25 ms
Remote clock offset: 3.25 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.56 Mbit/s
95th percentile per-packet one-way delay: 154.399 ms
Loss rate: 10.06%
-- Flow 1:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 154.331 ms
Loss rate: 10.33%
-- Flow 2:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 154.967 ms
Loss rate: 8.65%
-- Flow 3:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 154.688 ms
Loss rate: 10.42%
```

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



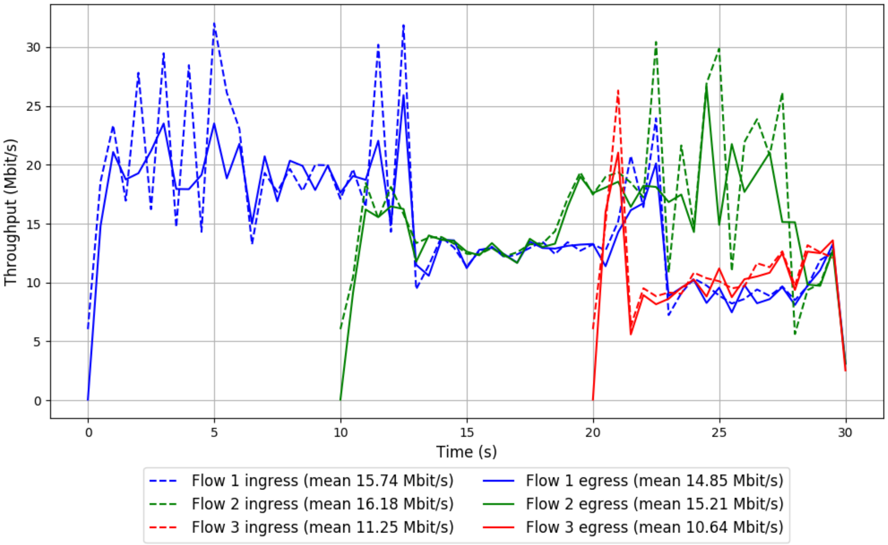


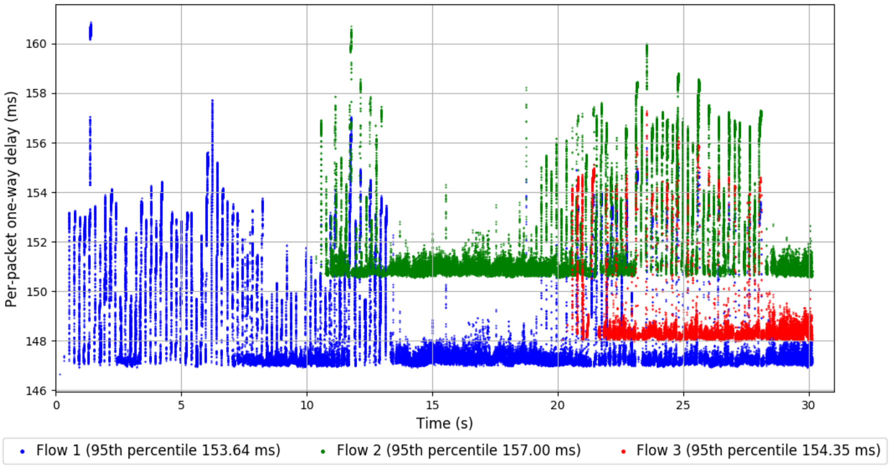
```
Run 10: Statistics of TaoVA-100x

Start at: 2018-04-04 01:08:48
End at: 2018-04-04 01:09:18
Local clock offset: 9.688 ms
Remote clock offset: -2.22 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.50 Mbit/s
95th percentile per-packet one-way delay: 155.972 ms
Loss rate: 5.77%
-- Flow 1:
Average throughput: 14.85 Mbit/s
95th percentile per-packet one-way delay: 153.637 ms
Loss rate: 5.67%
-- Flow 2:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 156.998 ms
Loss rate: 6.04%
-- Flow 3:
Average throughput: 10.64 Mbit/s
95th percentile per-packet one-way delay: 154.352 ms
Loss rate: 5.43%
```

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



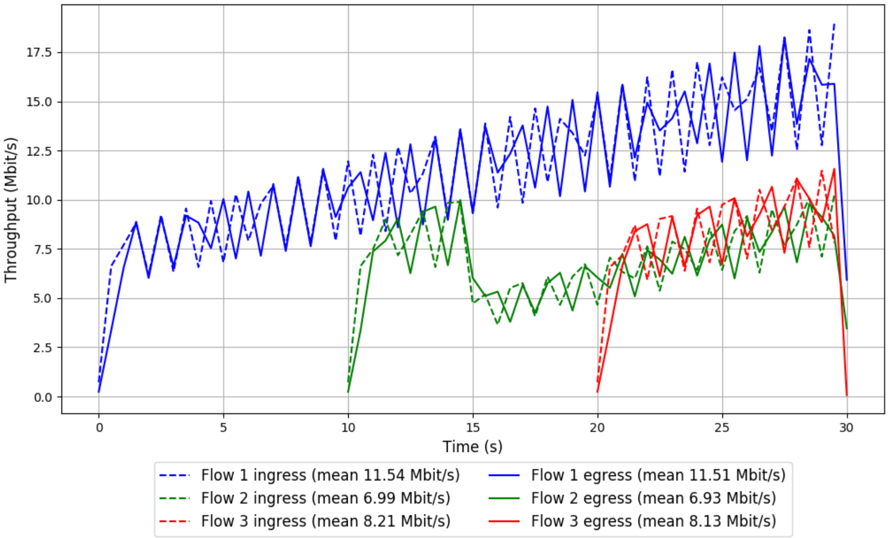


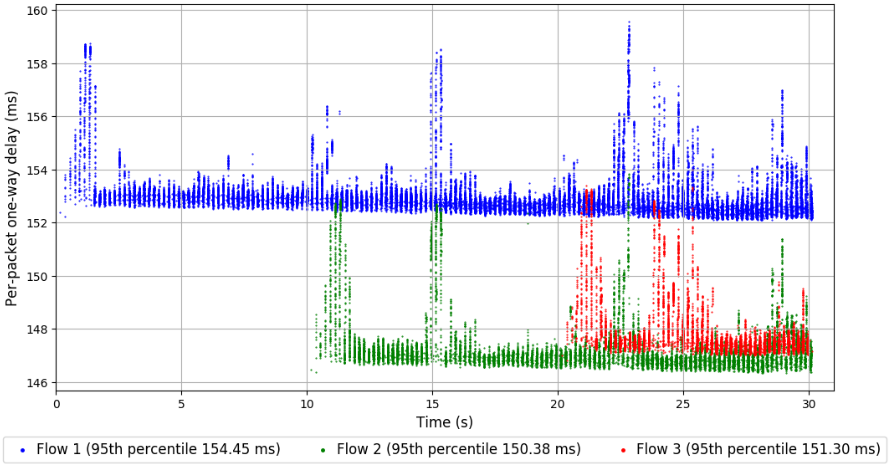
```
Run 1: Statistics of TCP Vegas

Start at: 2018-04-03 21:22:57
End at: 2018-04-03 21:23:27
Local clock offset: 5.978 ms
Remote clock offset: -8.182 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 153.795 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 154.448 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 150.384 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 151.297 ms
Loss rate: 0.98%
```

Run 1: Report of TCP Vegas — Data Link



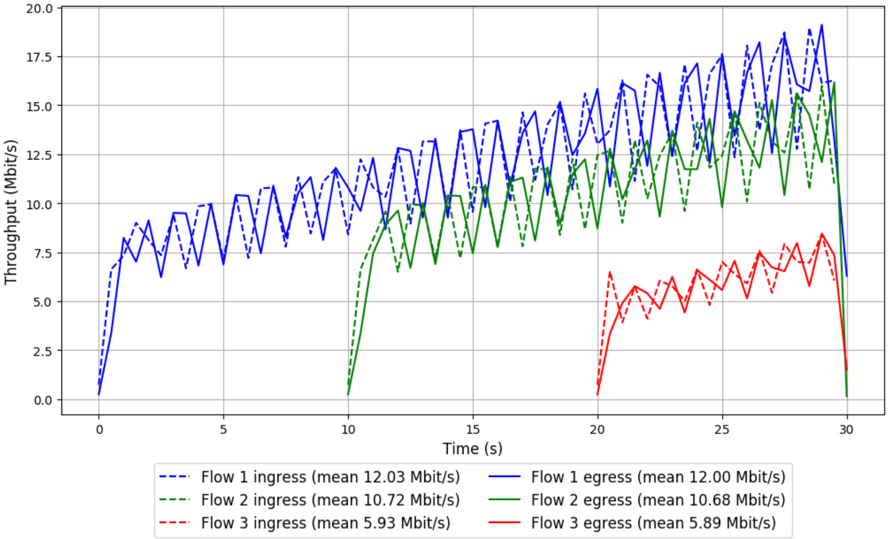


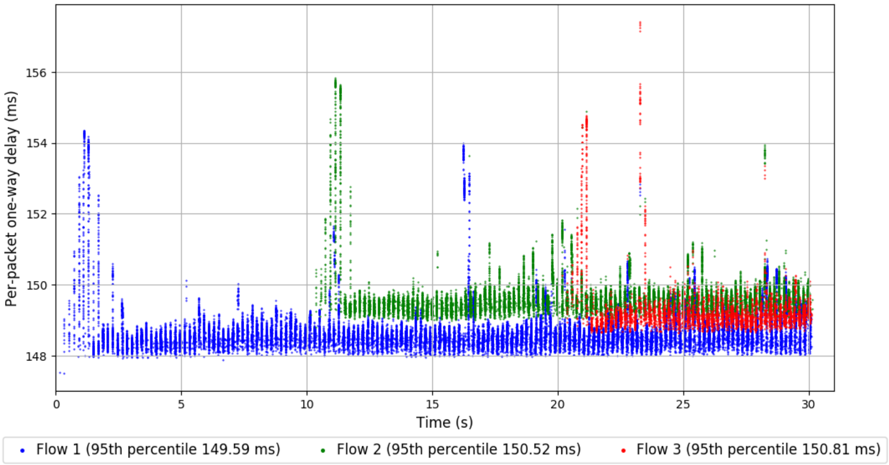
Run 2: Statistics of TCP Vegas

```
Start at: 2018-04-03 21:47:19
End at: 2018-04-03 21:47:49
Local clock offset: 6.603 ms
Remote clock offset: 2.721 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.06 Mbit/s
95th percentile per-packet one-way delay: 150.146 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 149.586 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 150.516 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 150.809 ms
Loss rate: 0.67%
```

Run 2: Report of TCP Vegas — Data Link



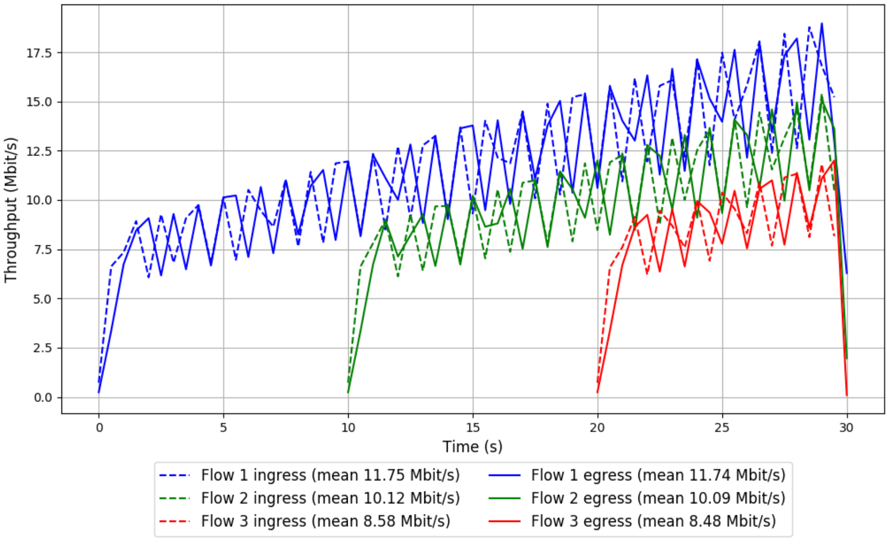


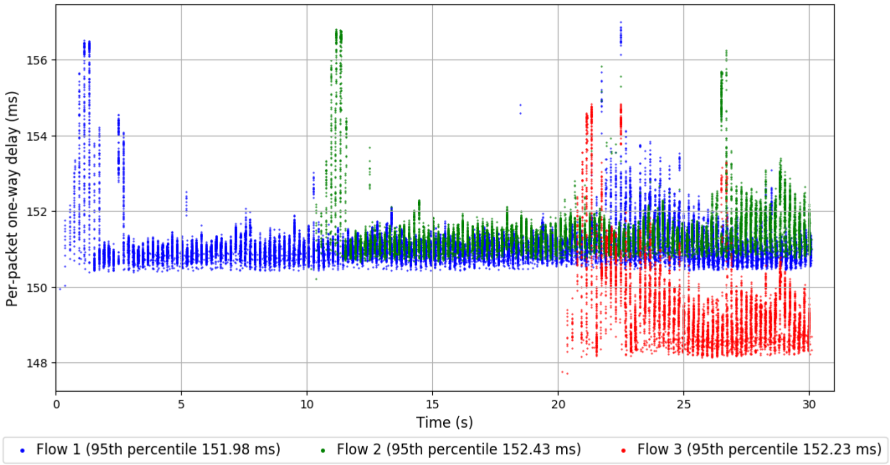
```
Run 3: Statistics of TCP Vegas

Start at: 2018-04-03 22:11:37
End at: 2018-04-03 22:12:07
Local clock offset: 10.526 ms
Remote clock offset: -2.765 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.26 Mbit/s
95th percentile per-packet one-way delay: 152.189 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 151.984 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 152.432 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 152.229 ms
Loss rate: 1.20%
```

Run 3: Report of TCP Vegas — Data Link



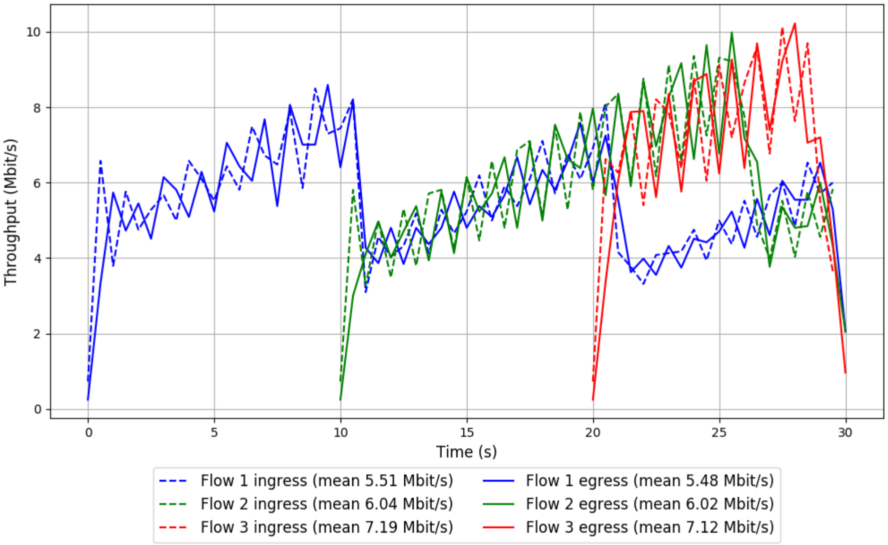


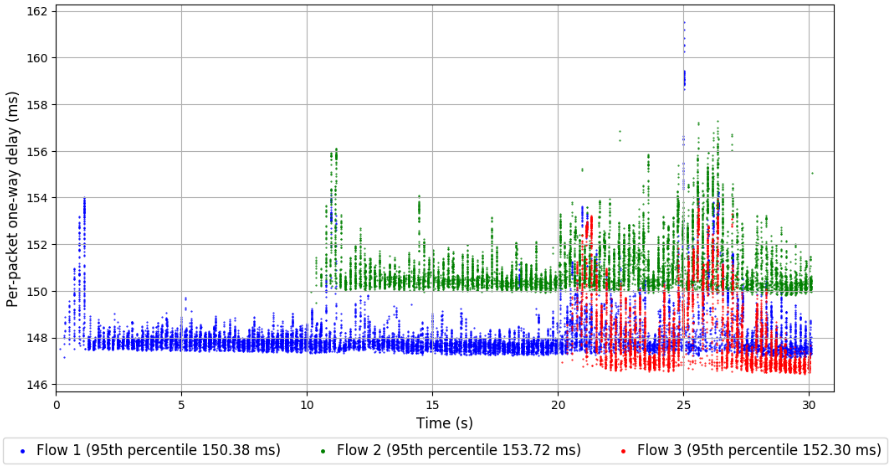
```
Run 4: Statistics of TCP Vegas

Start at: 2018-04-03 22:36:05
End at: 2018-04-03 22:36:35
Local clock offset: 7.001 ms
Remote clock offset: 2.894 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 152.712 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 5.48 Mbit/s
95th percentile per-packet one-way delay: 150.376 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 6.02 Mbit/s
95th percentile per-packet one-way delay: 153.716 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 7.12 Mbit/s
95th percentile per-packet one-way delay: 152.301 ms
Loss rate: 0.96%
```

Run 4: Report of TCP Vegas — Data Link



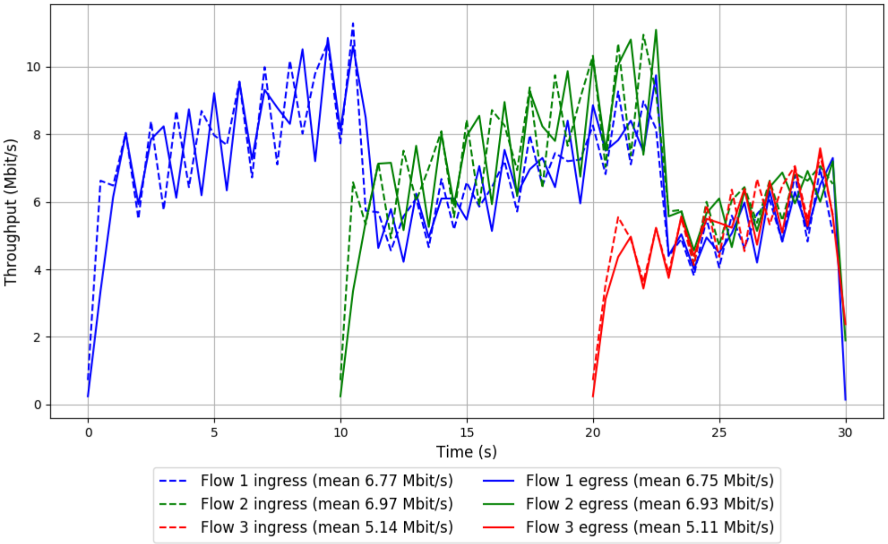


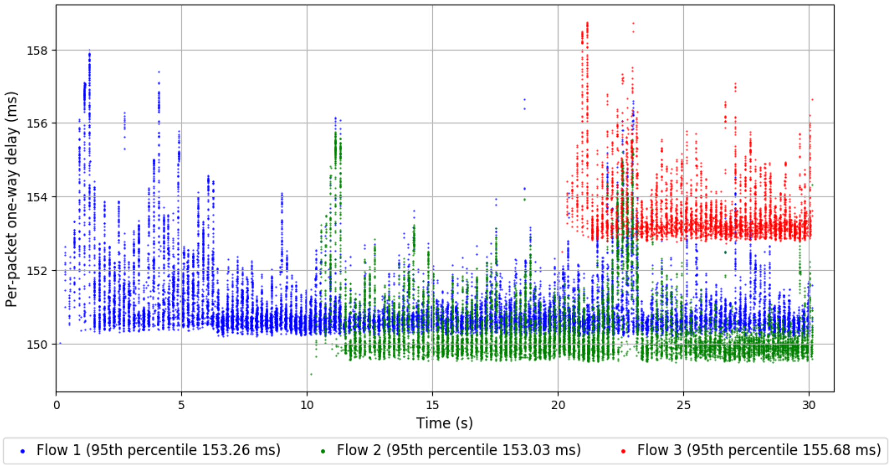
```
Run 5: Statistics of TCP Vegas

Start at: 2018-04-03 23:00:28
End at: 2018-04-03 23:00:58
Local clock offset: 6.349 ms
Remote clock offset: 10.638 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 154.088 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 153.259 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 153.034 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 155.680 ms
Loss rate: 0.47%
```

Run 5: Report of TCP Vegas — Data Link



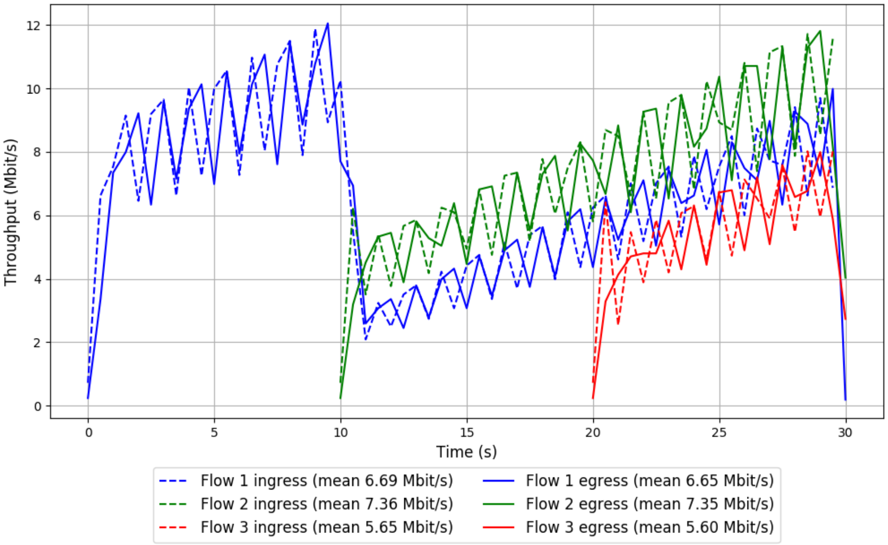


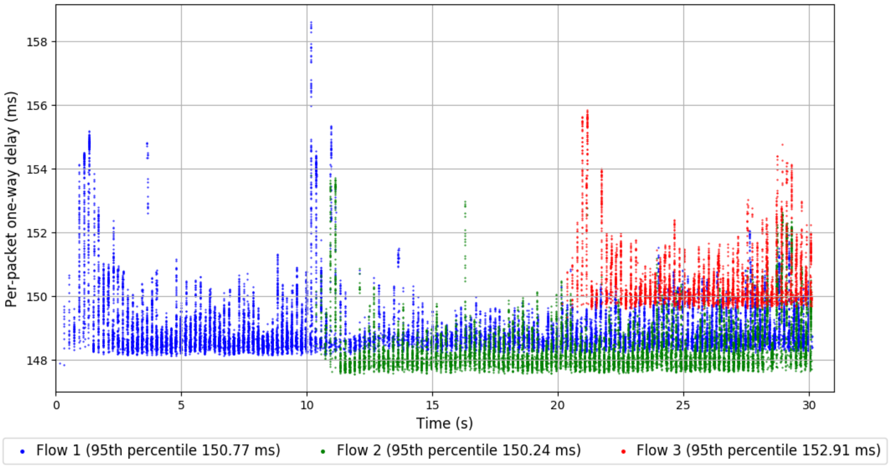
```
Run 6: Statistics of TCP Vegas

Start at: 2018-04-03 23:25:32
End at: 2018-04-03 23:26:02
Local clock offset: 6.487 ms
Remote clock offset: -4.379 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.38 Mbit/s
95th percentile per-packet one-way delay: 151.321 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 150.769 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 7.35 Mbit/s
95th percentile per-packet one-way delay: 150.239 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 152.910 ms
Loss rate: 0.88%
```

Run 6: Report of TCP Vegas — Data Link



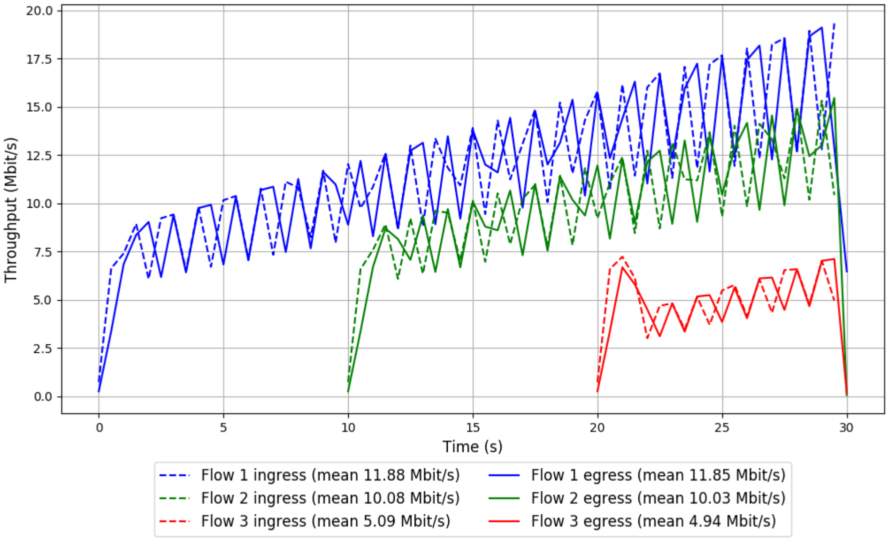


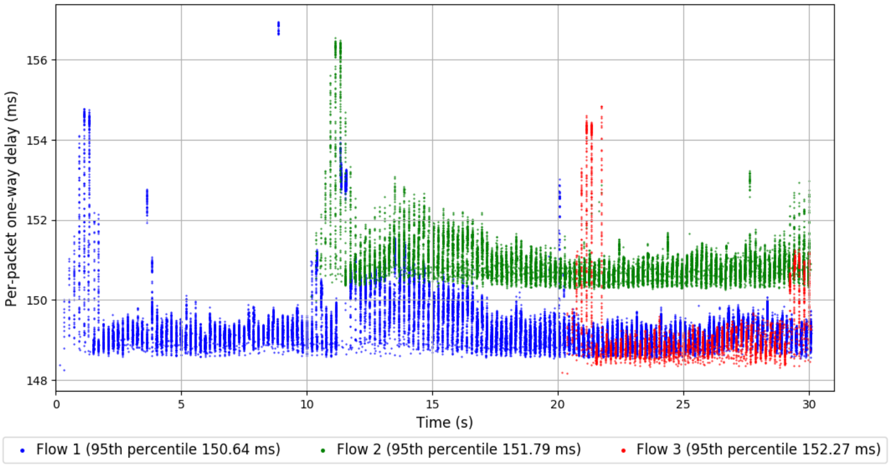
```
Run 7: Statistics of TCP Vegas

Start at: 2018-04-03 23:49:44
End at: 2018-04-03 23:50:14
Local clock offset: 6.498 ms
Remote clock offset: -3.23 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.16 Mbit/s
95th percentile per-packet one-way delay: 151.478 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 150.640 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 10.03 Mbit/s
95th percentile per-packet one-way delay: 151.789 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 152.273 ms
Loss rate: 3.07%
```

Run 7: Report of TCP Vegas — Data Link



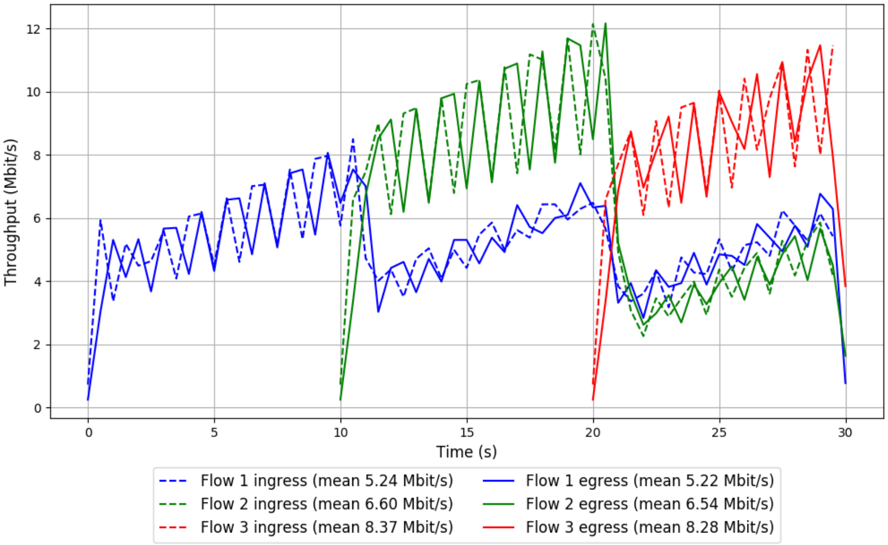


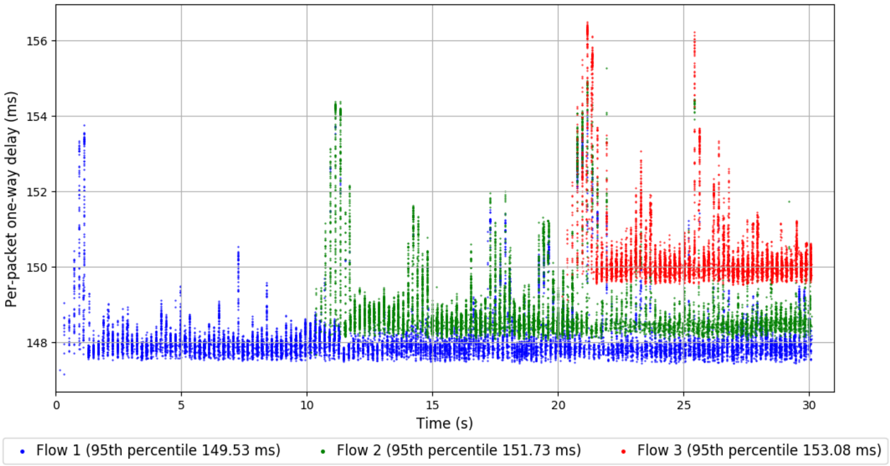
```
Run 8: Statistics of TCP Vegas

Start at: 2018-04-04 00:14:58
End at: 2018-04-04 00:15:28
Local clock offset: 9.229 ms
Remote clock offset: -1.613 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.32 Mbit/s
95th percentile per-packet one-way delay: 151.426 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 149.530 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 151.732 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 153.077 ms
Loss rate: 0.97%
```

Run 8: Report of TCP Vegas — Data Link



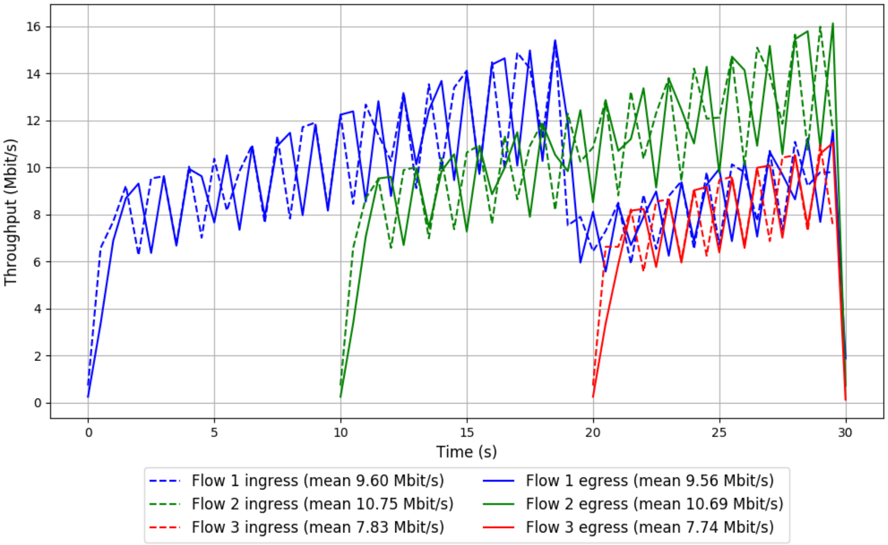


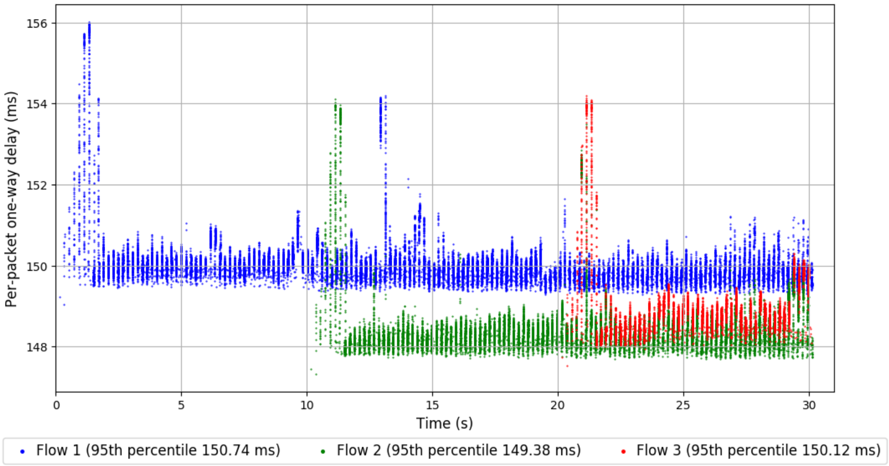
```
Run 9: Statistics of TCP Vegas

Start at: 2018-04-04 00:39:27
End at: 2018-04-04 00:39:57
Local clock offset: 10.821 ms
Remote clock offset: 2.943 ms

# Below is generated by plot.py at 2018-04-04 01:46:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.25 Mbit/s
95th percentile per-packet one-way delay: 150.541 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 150.740 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 10.69 Mbit/s
95th percentile per-packet one-way delay: 149.378 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 7.74 Mbit/s
95th percentile per-packet one-way delay: 150.120 ms
Loss rate: 1.14%
```

Run 9: Report of TCP Vegas — Data Link





Run 10: Statistics of TCP Vegas

```
/home/ubuntu/pantheon_data/2018-04-03T21-07-AWS-Korea-to-China-10-runs-3-flows/vegas_stats_r
```

Run 10: Report of TCP Vegas — Data Link

Figure is missing

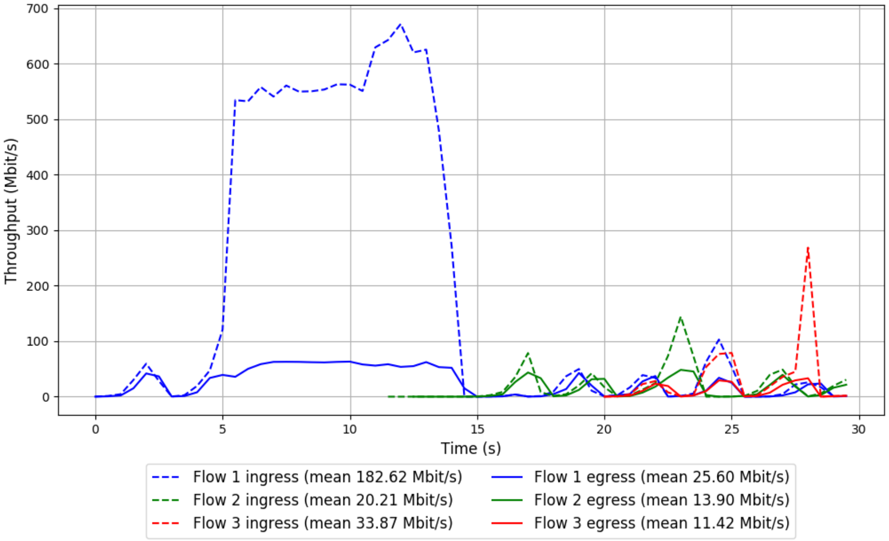
Figure is missing

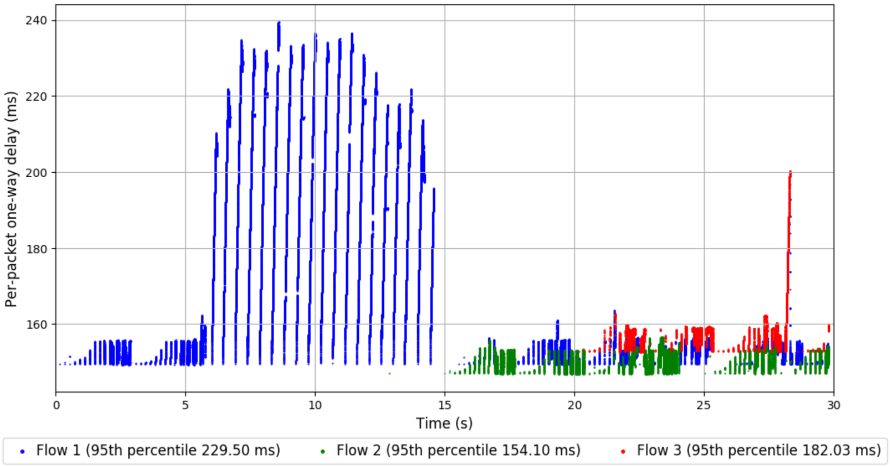
```
Run 1: Statistics of Verus

Start at: 2018-04-03 21:13:16
End at: 2018-04-03 21:13:46
Local clock offset: 5.946 ms
Remote clock offset: -10.202 ms

# Below is generated by plot.py at 2018-04-04 01:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 227.273 ms
Loss rate: 81.89%
-- Flow 1:
Average throughput: 25.60 Mbit/s
95th percentile per-packet one-way delay: 229.495 ms
Loss rate: 85.98%
-- Flow 2:
Average throughput: 13.90 Mbit/s
95th percentile per-packet one-way delay: 154.099 ms
Loss rate: 35.03%
-- Flow 3:
Average throughput: 11.42 Mbit/s
95th percentile per-packet one-way delay: 182.035 ms
Loss rate: 66.26%
```

Run 1: Report of Verus — Data Link



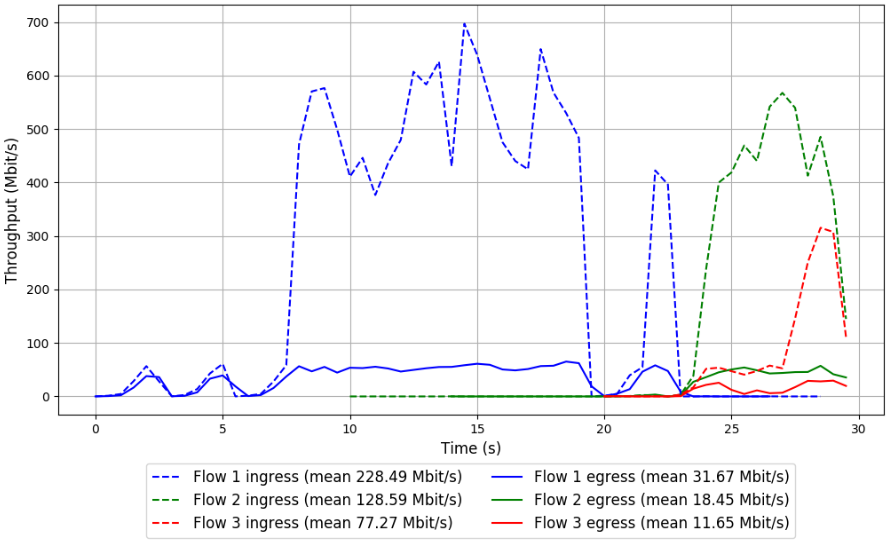


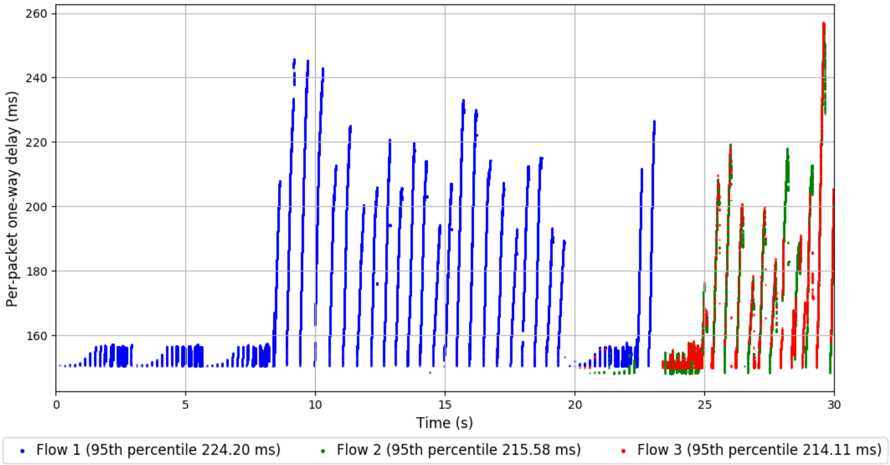
```
Run 2: Statistics of Verus

Start at: 2018-04-03 21:37:45
End at: 2018-04-03 21:38:15
Local clock offset: 6.365 ms
Remote clock offset: 0.985 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 222.626 ms
Loss rate: 87.35%
-- Flow 1:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 224.200 ms
Loss rate: 87.17%
-- Flow 2:
Average throughput: 18.45 Mbit/s
95th percentile per-packet one-way delay: 215.577 ms
Loss rate: 88.56%
-- Flow 3:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 214.107 ms
Loss rate: 84.84%
```

Run 2: Report of Verus — Data Link



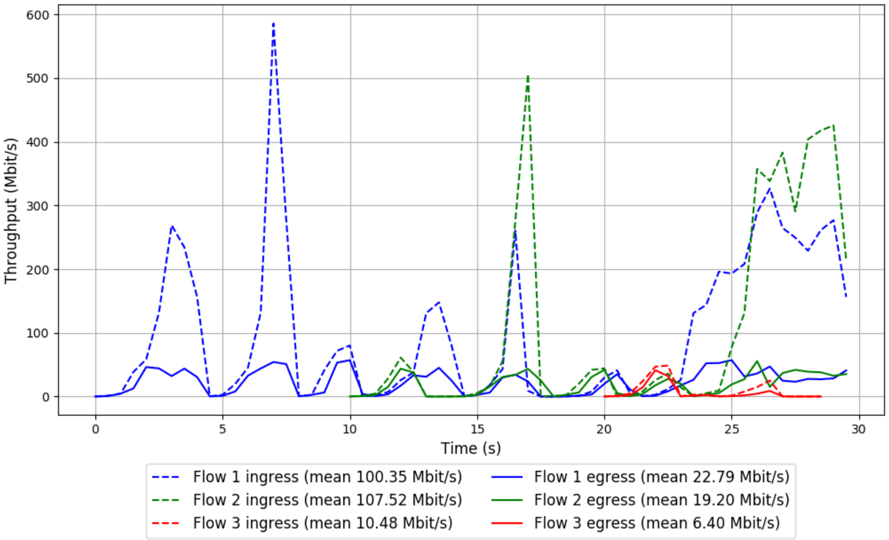


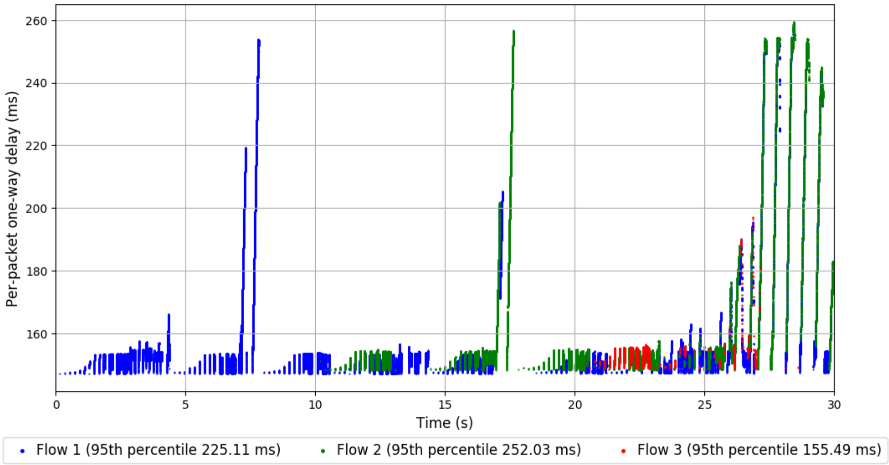
```
Run 3: Statistics of Verus

Start at: 2018-04-03 22:02:07
End at: 2018-04-03 22:02:37
Local clock offset: 9.609 ms
Remote clock offset: -0.462 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.38 Mbit/s
95th percentile per-packet one-way delay: 241.837 ms
Loss rate: 78.57%
-- Flow 1:
Average throughput: 22.79 Mbit/s
95th percentile per-packet one-way delay: 225.109 ms
Loss rate: 77.26%
-- Flow 2:
Average throughput: 19.20 Mbit/s
95th percentile per-packet one-way delay: 252.028 ms
Loss rate: 82.11%
-- Flow 3:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 155.486 ms
Loss rate: 38.36%
```

Run 3: Report of Verus — Data Link



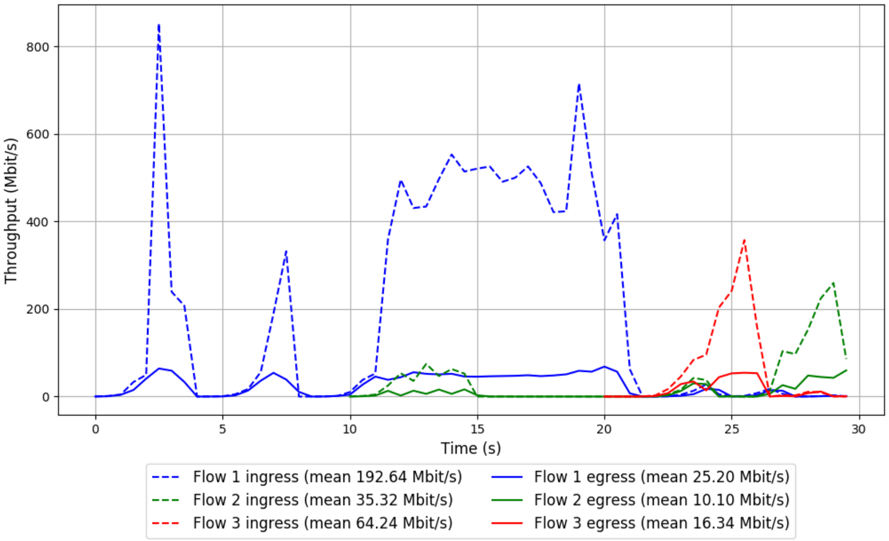


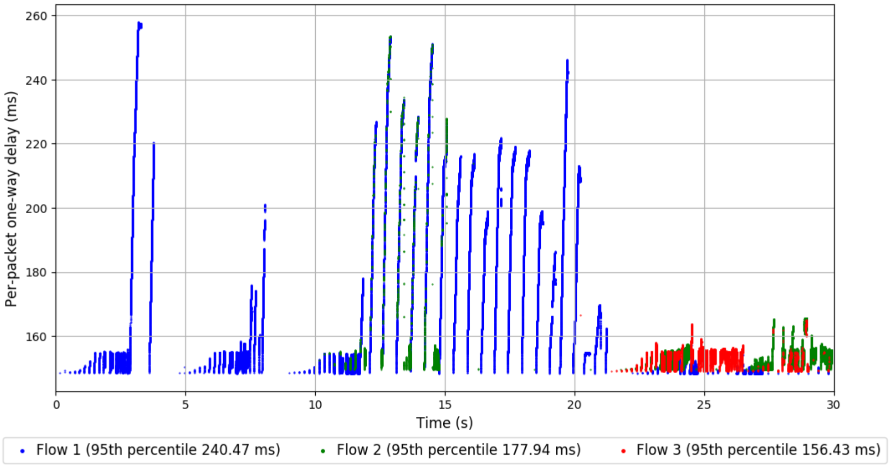
```
Run 4: Statistics of Verus

Start at: 2018-04-03 22:26:24
End at: 2018-04-03 22:26:54
Local clock offset: 8.641 ms
Remote clock offset: -4.565 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.04 Mbit/s
95th percentile per-packet one-way delay: 231.181 ms
Loss rate: 84.30%
-- Flow 1:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 240.469 ms
Loss rate: 86.92%
-- Flow 2:
Average throughput: 10.10 Mbit/s
95th percentile per-packet one-way delay: 177.943 ms
Loss rate: 71.39%
-- Flow 3:
Average throughput: 16.34 Mbit/s
95th percentile per-packet one-way delay: 156.434 ms
Loss rate: 74.60%
```

Run 4: Report of Verus — Data Link



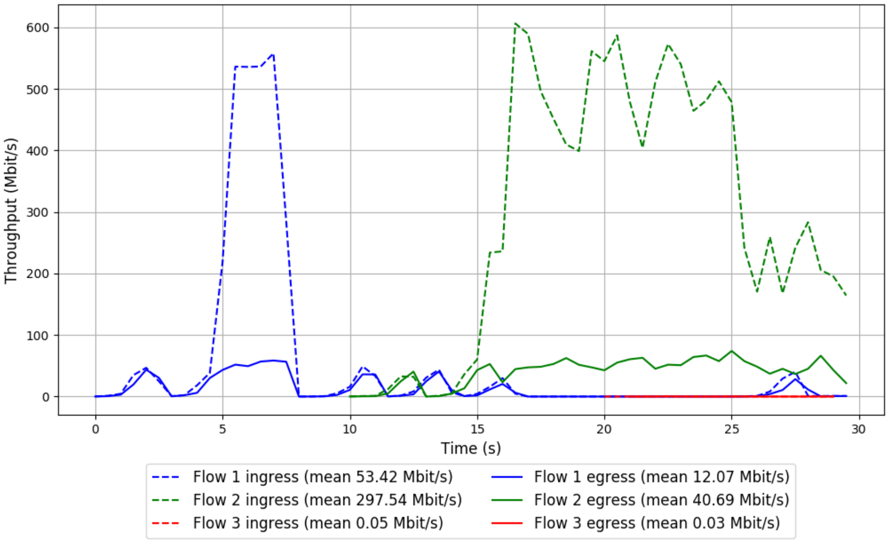


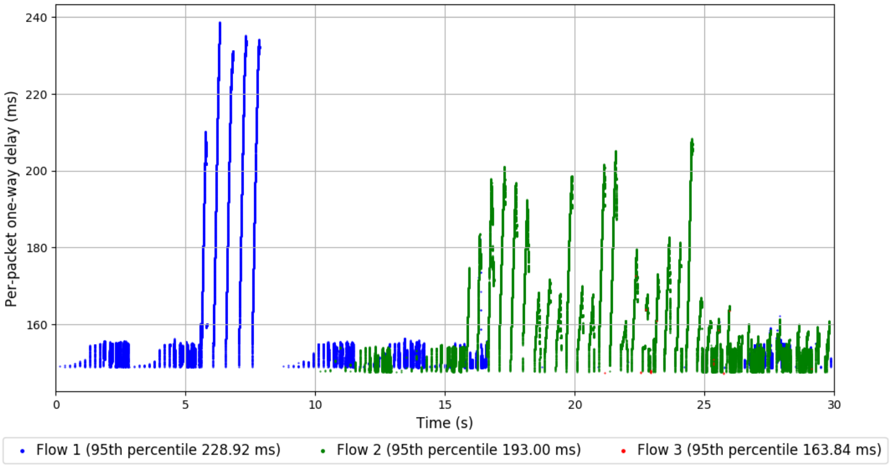
```
Run 5: Statistics of Verus

Start at: 2018-04-03 22:50:45
End at: 2018-04-03 22:51:15
Local clock offset: 6.201 ms
Remote clock offset: 8.964 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 205.607 ms
Loss rate: 84.41%
-- Flow 1:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 228.923 ms
Loss rate: 77.41%
-- Flow 2:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 192.996 ms
Loss rate: 86.32%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 163.836 ms
Loss rate: 48.78%
```

Run 5: Report of Verus — Data Link



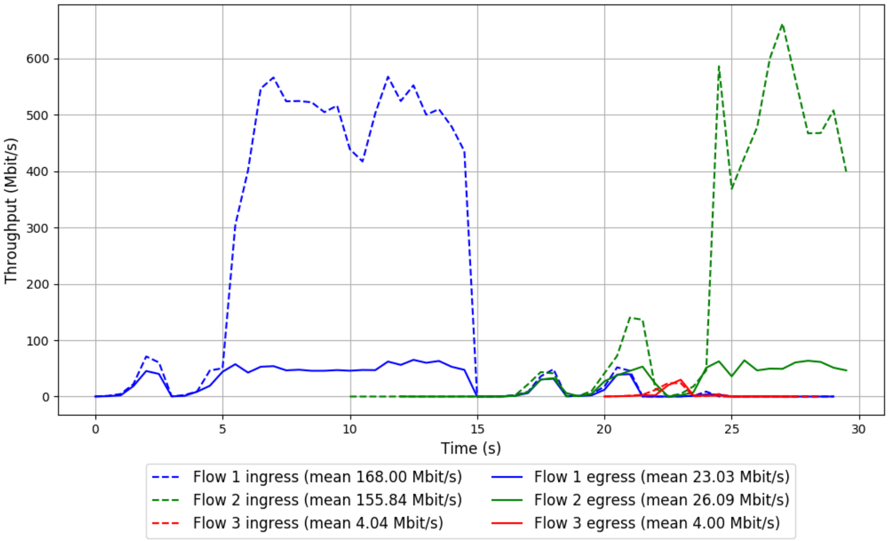


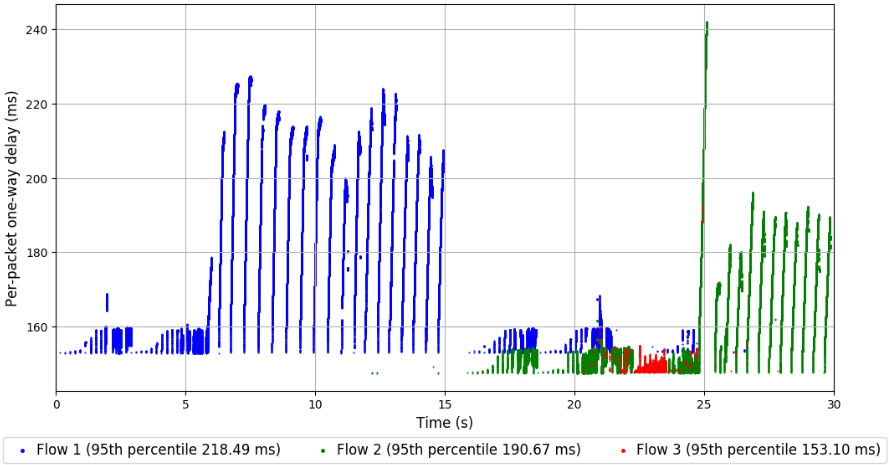
```
Run 6: Statistics of Verus

Start at: 2018-04-03 23:15:52
End at: 2018-04-03 23:16:22
Local clock offset: 6.442 ms
Remote clock offset: -0.852 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 216.287 ms
Loss rate: 85.51%
-- Flow 1:
Average throughput: 23.03 Mbit/s
95th percentile per-packet one-way delay: 218.494 ms
Loss rate: 86.38%
-- Flow 2:
Average throughput: 26.09 Mbit/s
95th percentile per-packet one-way delay: 190.668 ms
Loss rate: 84.94%
-- Flow 3:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 153.104 ms
Loss rate: 13.79%
```

Run 6: Report of Verus — Data Link



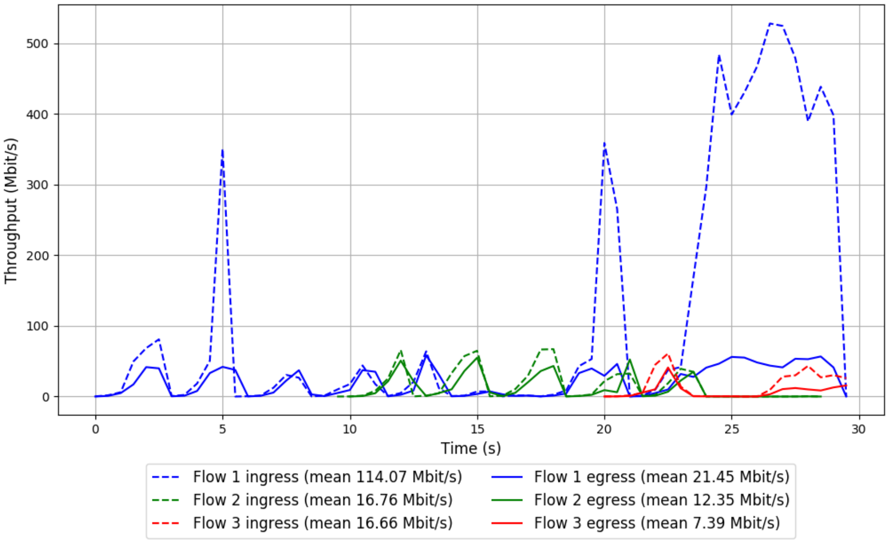


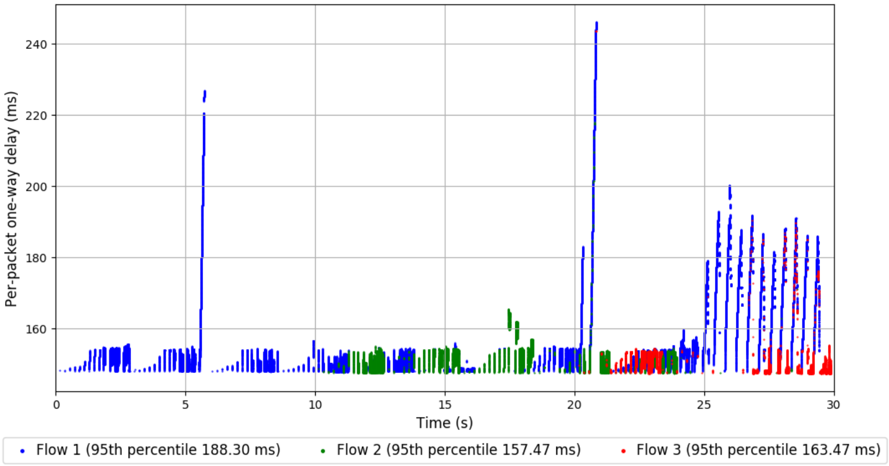
```
Run 7: Statistics of Verus

Start at: 2018-04-03 23:40:13
End at: 2018-04-03 23:40:43
Local clock offset: 6.357 ms
Remote clock offset: -5.414 ms

# Below is generated by plot.py at 2018-04-04 01:47:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.39 Mbit/s
95th percentile per-packet one-way delay: 185.118 ms
Loss rate: 75.73%
-- Flow 1:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 188.296 ms
Loss rate: 81.20%
-- Flow 2:
Average throughput: 12.35 Mbit/s
95th percentile per-packet one-way delay: 157.472 ms
Loss rate: 27.10%
-- Flow 3:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 163.467 ms
Loss rate: 55.63%
```

Run 7: Report of Verus — Data Link



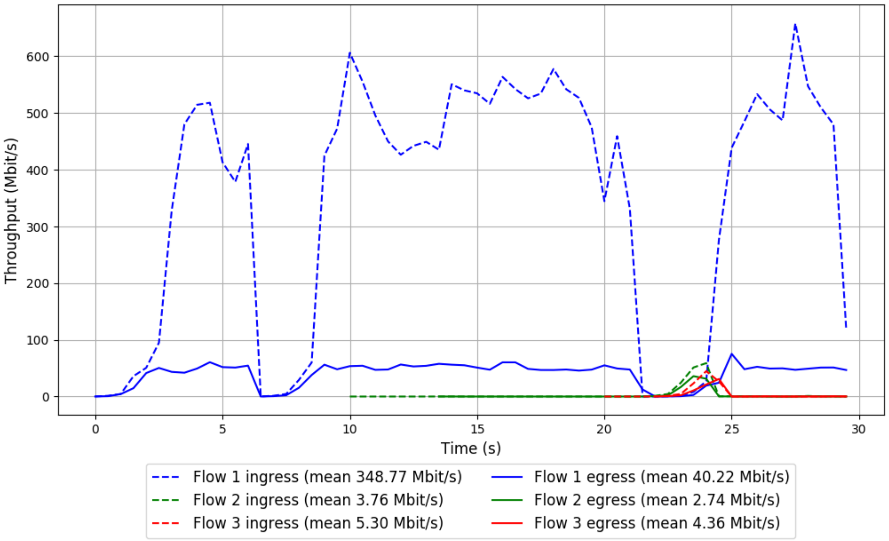


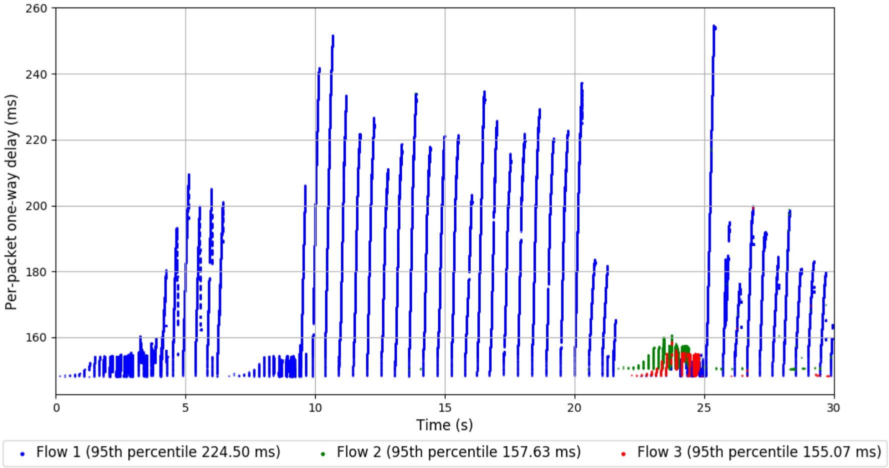
```
Run 8: Statistics of Verus

Start at: 2018-04-04 00:05:09
End at: 2018-04-04 00:05:39
Local clock offset: 7.013 ms
Remote clock offset: -3.26 ms

# Below is generated by plot.py at 2018-04-04 01:48:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 223.951 ms
Loss rate: 87.86%
-- Flow 1:
Average throughput: 40.22 Mbit/s
95th percentile per-packet one-way delay: 224.497 ms
Loss rate: 88.46%
-- Flow 2:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 157.627 ms
Loss rate: 38.40%
-- Flow 3:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 155.067 ms
Loss rate: 34.82%
```

Run 8: Report of Verus — Data Link



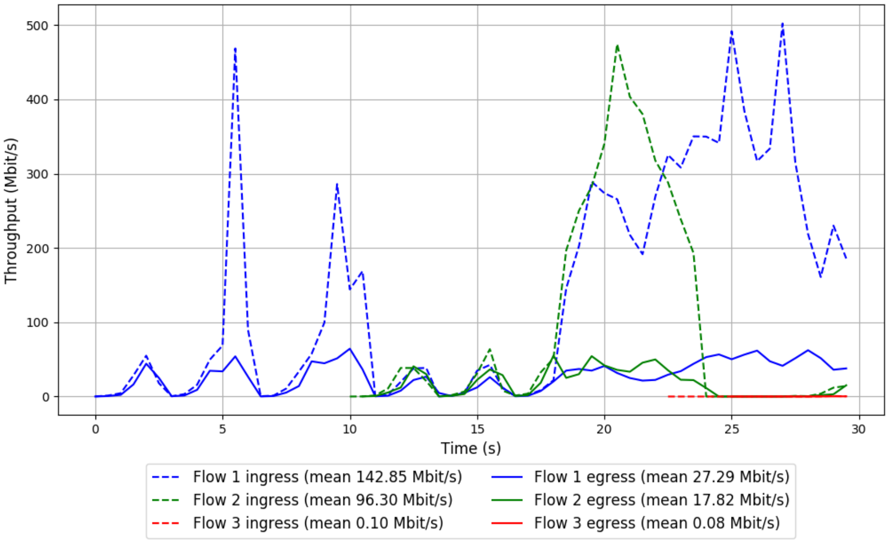


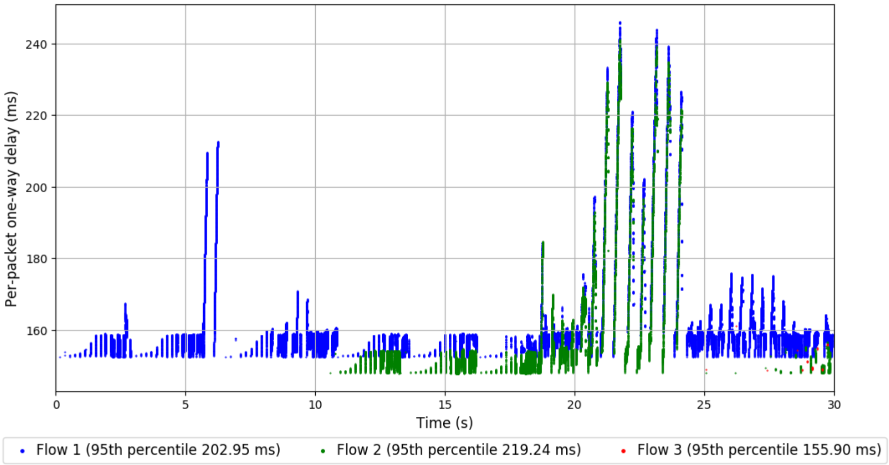
```
Run 9: Statistics of Verus

Start at: 2018-04-04 00:29:56
End at: 2018-04-04 00:30:26
Local clock offset: 10.784 ms
Remote clock offset: 2.073 ms

# Below is generated by plot.py at 2018-04-04 01:48:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.83 Mbit/s
95th percentile per-packet one-way delay: 209.804 ms
Loss rate: 81.07%
-- Flow 1:
Average throughput: 27.29 Mbit/s
95th percentile per-packet one-way delay: 202.950 ms
Loss rate: 80.89%
-- Flow 2:
Average throughput: 17.82 Mbit/s
95th percentile per-packet one-way delay: 219.242 ms
Loss rate: 81.49%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 155.900 ms
Loss rate: 45.76%
```

Run 9: Report of Verus — Data Link



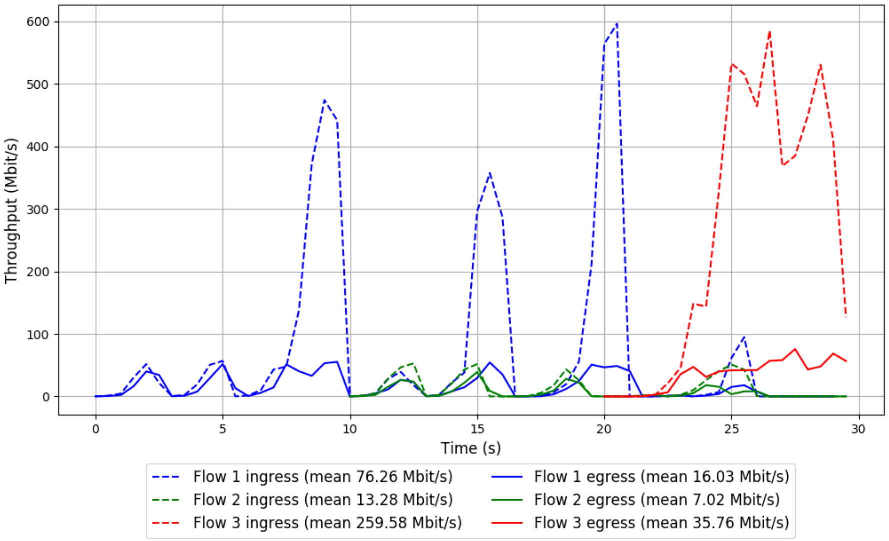


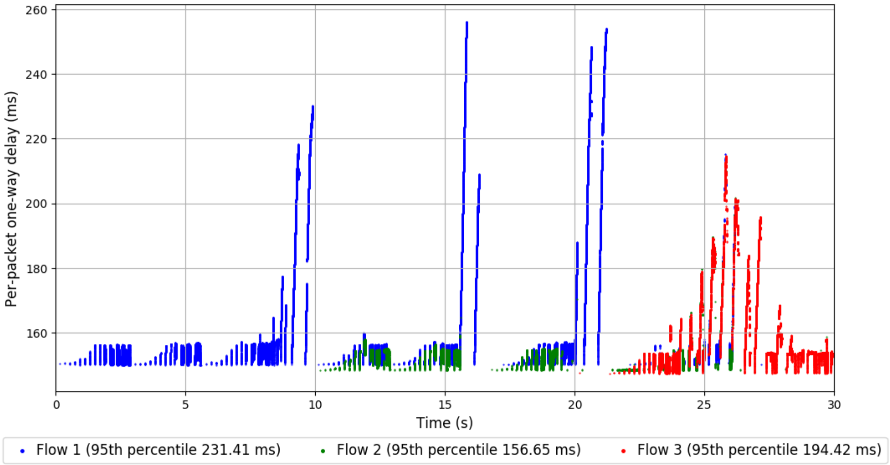
```
Run 10: Statistics of Verus

Start at: 2018-04-04 00:54:35
End at: 2018-04-04 00:55:05
Local clock offset: 9.882 ms
Remote clock offset: -0.234 ms

# Below is generated by plot.py at 2018-04-04 01:48:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.02 Mbit/s
95th percentile per-packet one-way delay: 217.838 ms
Loss rate: 81.05%
-- Flow 1:
Average throughput: 16.03 Mbit/s
95th percentile per-packet one-way delay: 231.414 ms
Loss rate: 79.12%
-- Flow 2:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 156.649 ms
Loss rate: 47.65%
-- Flow 3:
Average throughput: 35.76 Mbit/s
95th percentile per-packet one-way delay: 194.420 ms
Loss rate: 86.22%
```

Run 10: Report of Verus — Data Link



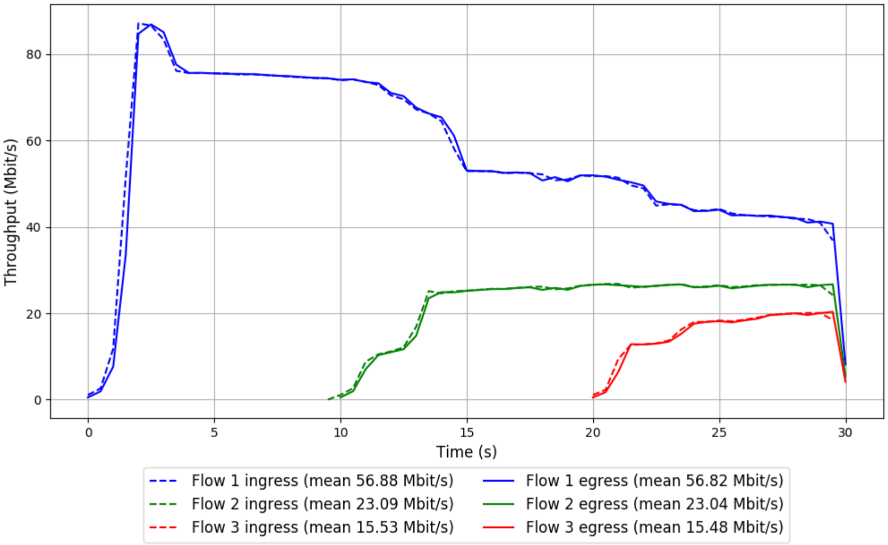


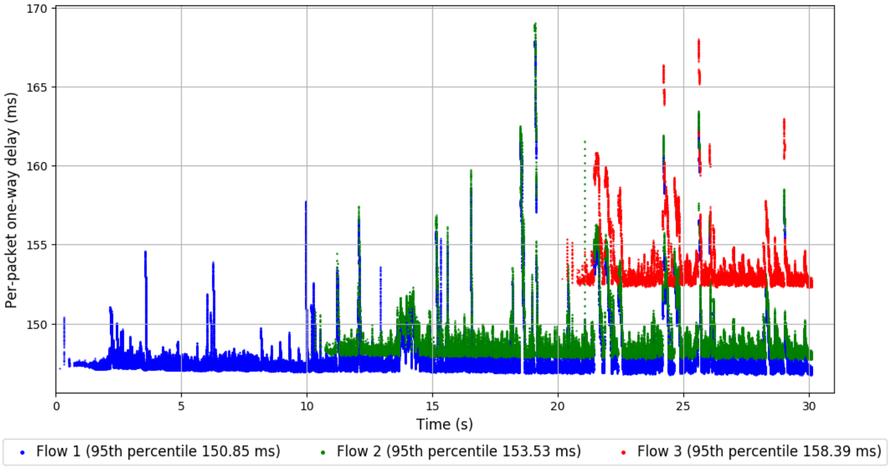
```
Run 1: Statistics of Copa

Start at: 2018-04-03 21:25:37
End at: 2018-04-03 21:26:07
Local clock offset: 5.966 ms
Remote clock offset: -5.334 ms

# Below is generated by plot.py at 2018-04-04 01:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.32 Mbit/s
95th percentile per-packet one-way delay: 153.359 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 150.855 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 153.531 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 15.48 Mbit/s
95th percentile per-packet one-way delay: 158.386 ms
Loss rate: 0.38%
```

Run 1: Report of Copa — Data Link



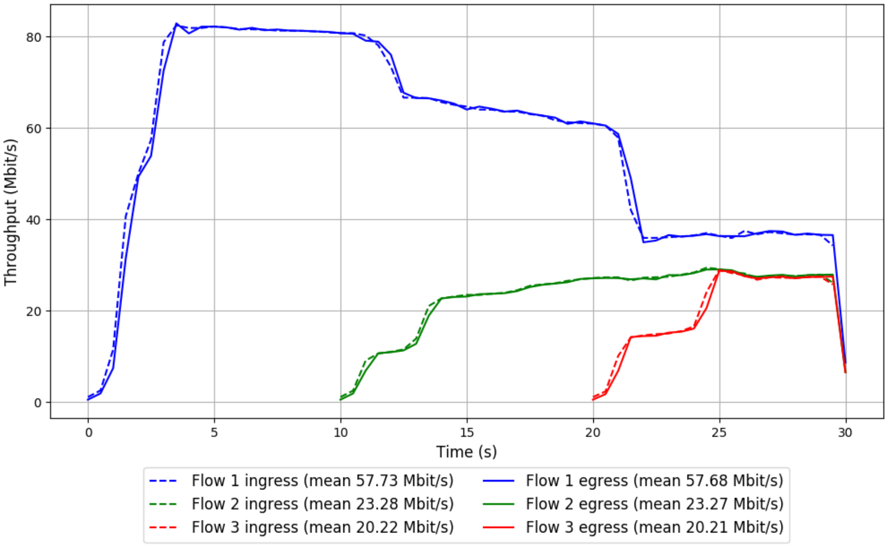


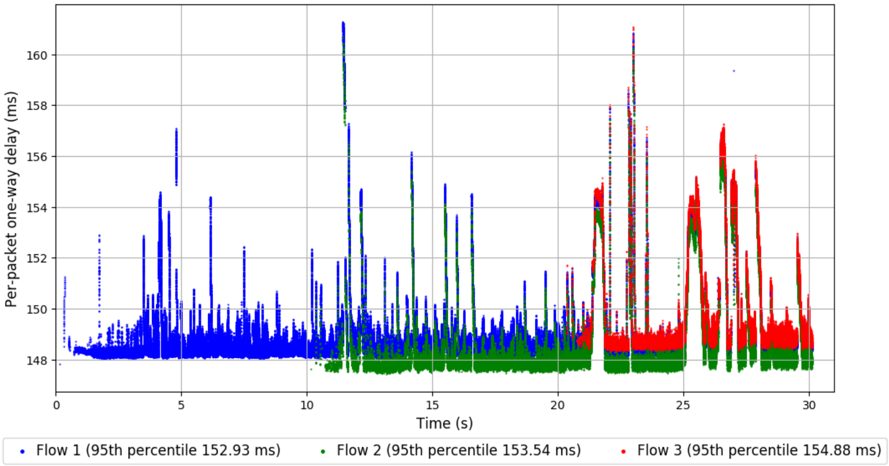
```
Run 2: Statistics of Copa

Start at: 2018-04-03 21:50:00
End at: 2018-04-03 21:50:30
Local clock offset: 7.449 ms
Remote clock offset: 2.992 ms

# Below is generated by plot.py at 2018-04-04 01:49:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.89 Mbit/s
95th percentile per-packet one-way delay: 153.614 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 57.68 Mbit/s
95th percentile per-packet one-way delay: 152.932 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 153.539 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 20.21 Mbit/s
95th percentile per-packet one-way delay: 154.876 ms
Loss rate: 0.04%
```

Run 2: Report of Copa — Data Link



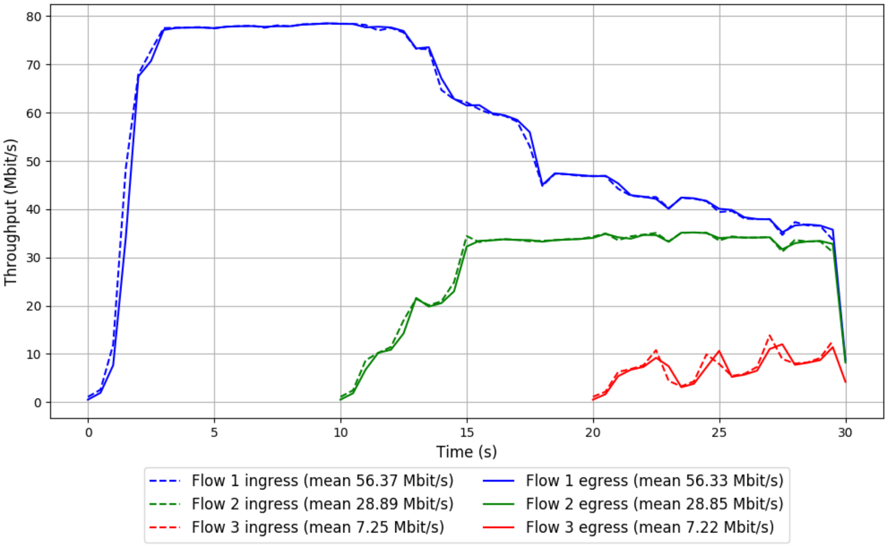


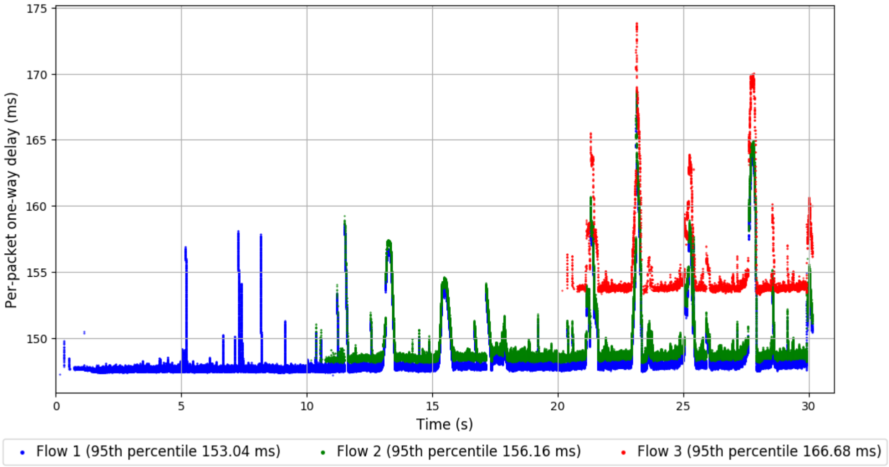
```
Run 3: Statistics of Copa

Start at: 2018-04-03 22:14:18
End at: 2018-04-03 22:14:48
Local clock offset: 10.499 ms
Remote clock offset: -3.226 ms

# Below is generated by plot.py at 2018-04-04 01:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.92 Mbit/s
95th percentile per-packet one-way delay: 154.526 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 153.036 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 28.85 Mbit/s
95th percentile per-packet one-way delay: 156.165 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 166.675 ms
Loss rate: 0.29%
```

Run 3: Report of Copa — Data Link



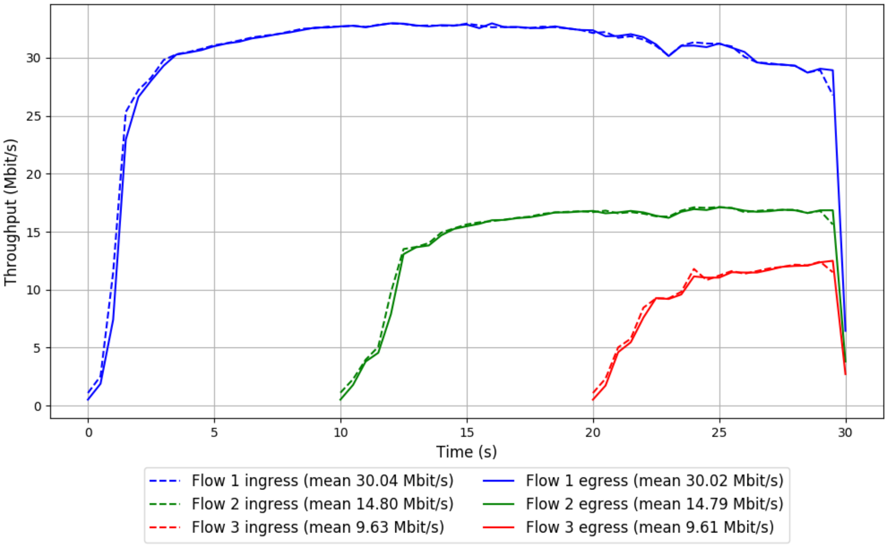


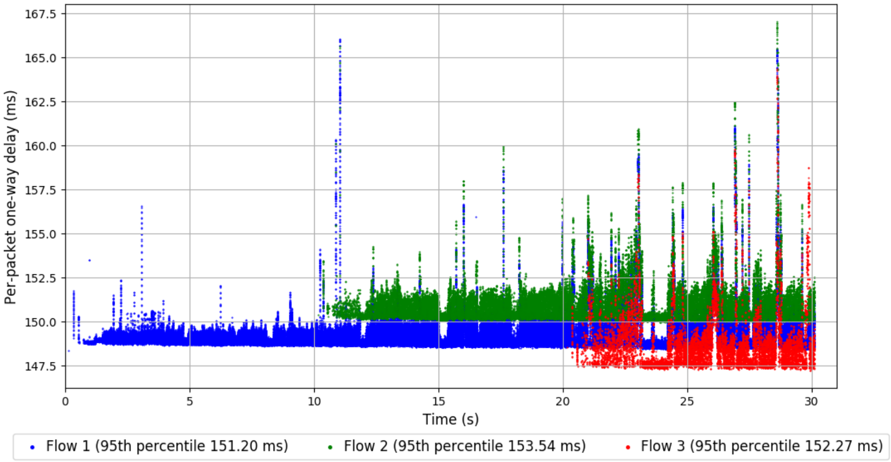
```
Run 4: Statistics of Copa

Start at: 2018-04-03 22:38:45
End at: 2018-04-03 22:39:15
Local clock offset: 6.776 ms
Remote clock offset: 4.635 ms

# Below is generated by plot.py at 2018-04-04 01:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.06 Mbit/s
95th percentile per-packet one-way delay: 152.165 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 30.02 Mbit/s
95th percentile per-packet one-way delay: 151.204 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 153.543 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 152.268 ms
Loss rate: 0.19%
```

Run 4: Report of Copa — Data Link



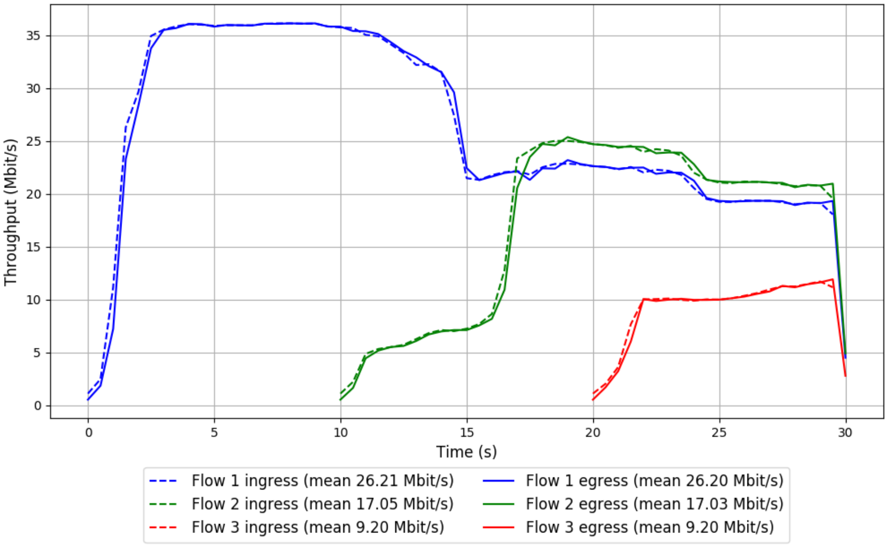


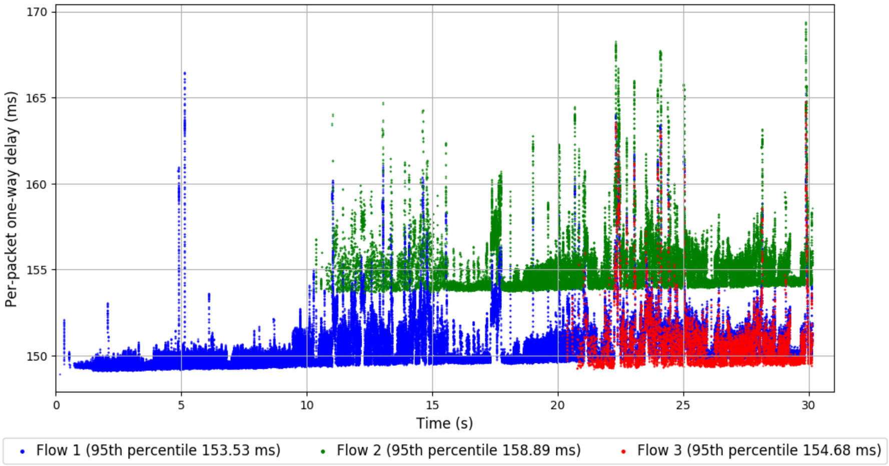
```
Run 5: Statistics of Copa

Start at: 2018-04-03 23:03:17
End at: 2018-04-03 23:03:47
Local clock offset: 6.427 ms
Remote clock offset: 10.998 ms

# Below is generated by plot.py at 2018-04-04 01:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.59 Mbit/s
95th percentile per-packet one-way delay: 156.612 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 26.20 Mbit/s
95th percentile per-packet one-way delay: 153.527 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 17.03 Mbit/s
95th percentile per-packet one-way delay: 158.886 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 154.679 ms
Loss rate: 0.01%
```

Run 5: Report of Copa — Data Link



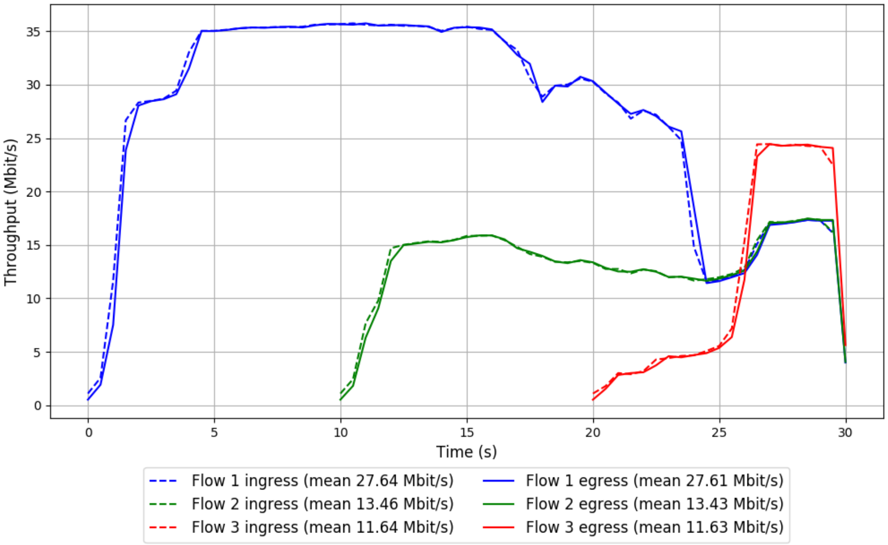


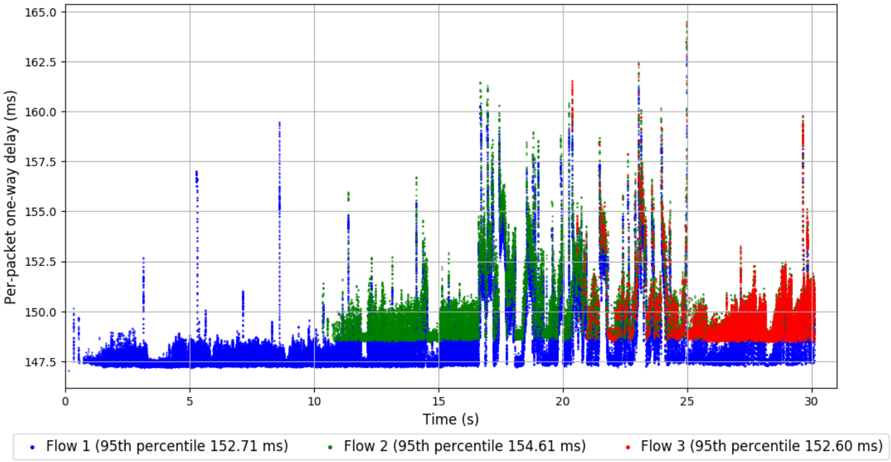
```
Run 6: Statistics of Copa

Start at: 2018-04-03 23:28:12
End at: 2018-04-03 23:28:42
Local clock offset: 6.469 ms
Remote clock offset: -5.188 ms

# Below is generated by plot.py at 2018-04-04 01:49:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.42 Mbit/s
95th percentile per-packet one-way delay: 153.346 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 152.710 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 154.614 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 152.602 ms
Loss rate: 0.06%
```

Run 6: Report of Copa — Data Link



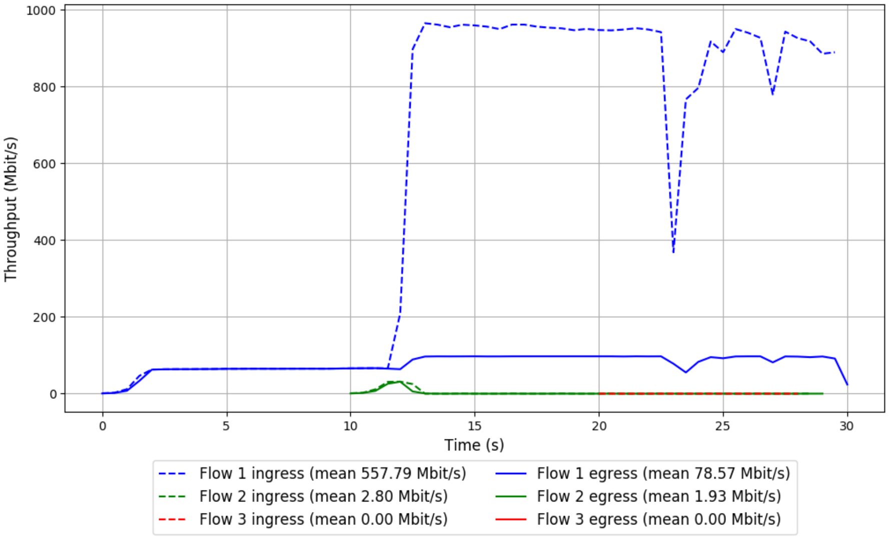


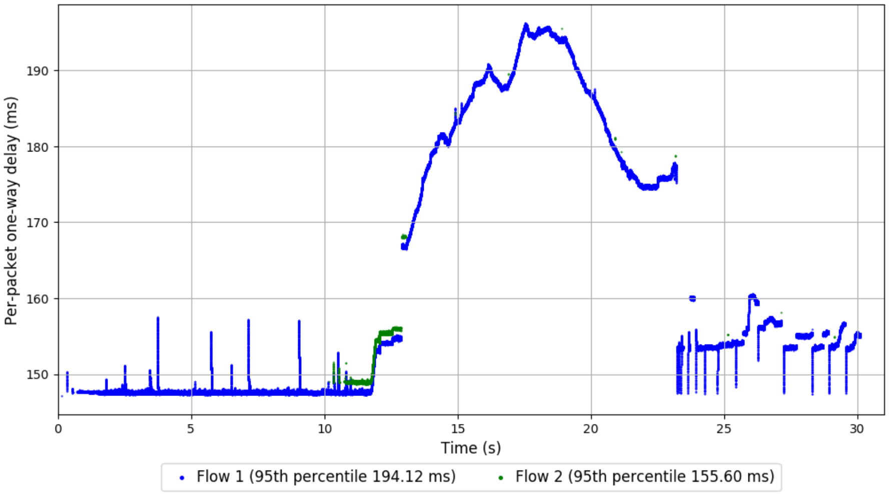
```
Run 7: Statistics of Copa

Start at: 2018-04-03 23:52:25
End at: 2018-04-03 23:52:55
Local clock offset: 6.203 ms
Remote clock offset: -3.049 ms

# Below is generated by plot.py at 2018-04-04 01:53:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.79 Mbit/s
95th percentile per-packet one-way delay: 194.084 ms
Loss rate: 85.74%
-- Flow 1:
Average throughput: 78.57 Mbit/s
95th percentile per-packet one-way delay: 194.118 ms
Loss rate: 85.91%
-- Flow 2:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 155.601 ms
Loss rate: 30.99%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 7: Report of Copa — Data Link



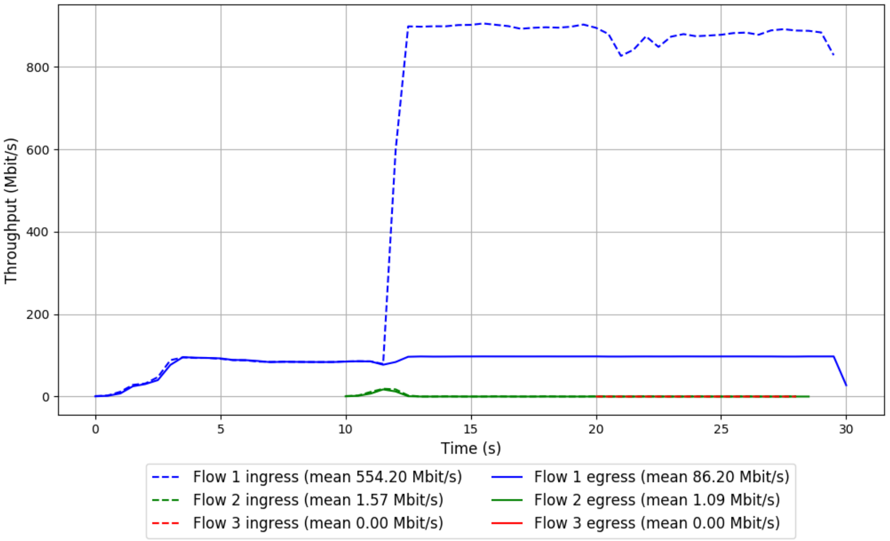


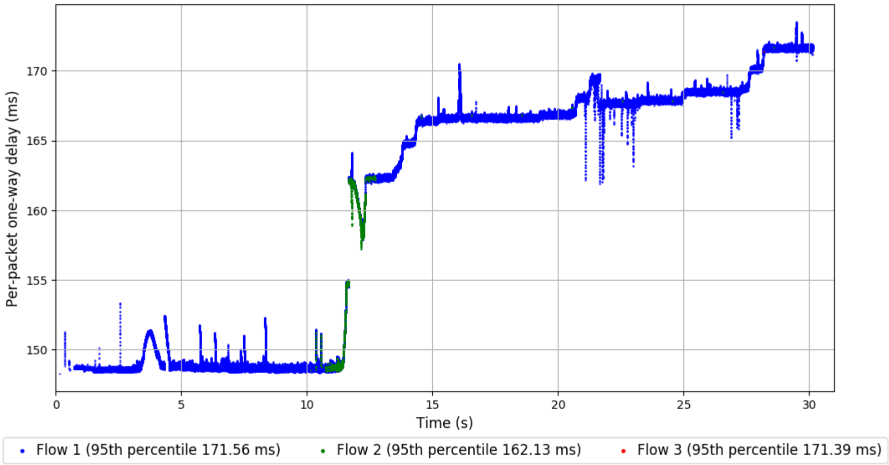
```
Run 8: Statistics of Copa

Start at: 2018-04-04 00:17:39
End at: 2018-04-04 00:18:09
Local clock offset: 9.512 ms
Remote clock offset: -0.475 ms

# Below is generated by plot.py at 2018-04-04 01:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.87 Mbit/s
95th percentile per-packet one-way delay: 171.559 ms
Loss rate: 84.34%
-- Flow 1:
Average throughput: 86.20 Mbit/s
95th percentile per-packet one-way delay: 171.563 ms
Loss rate: 84.43%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 162.131 ms
Loss rate: 30.23%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 171.394 ms
Loss rate: 80.00%
```

Run 8: Report of Copa — Data Link



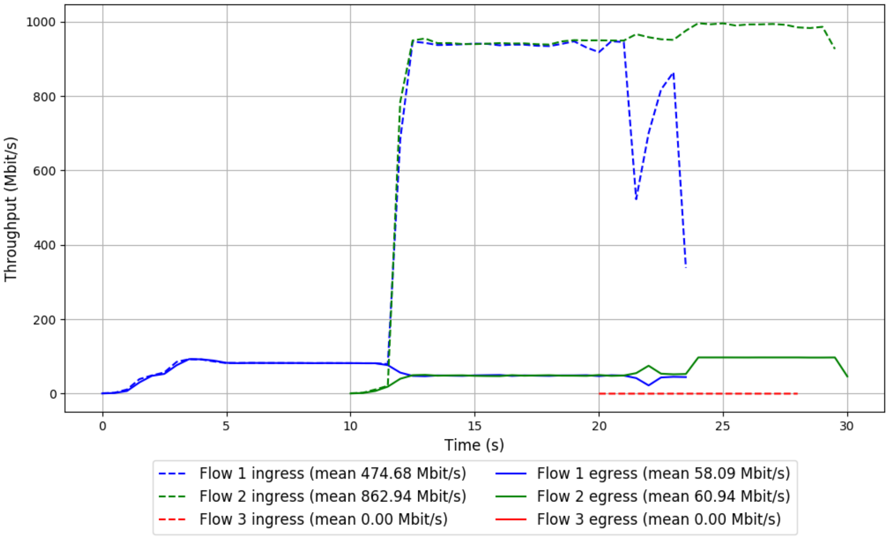


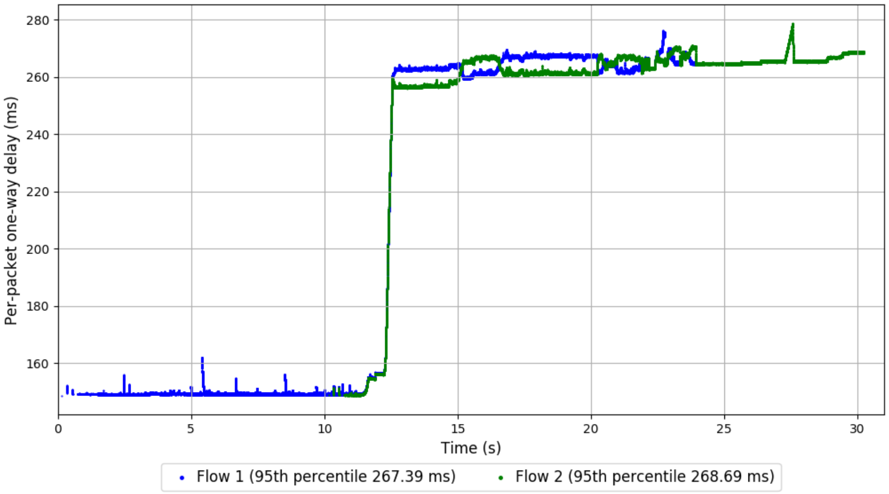
```
Run 9: Statistics of Copa

Start at: 2018-04-04 00:42:09
End at: 2018-04-04 00:42:39
Local clock offset: 10.311 ms
Remote clock offset: 3.182 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.60 Mbit/s
95th percentile per-packet one-way delay: 268.111 ms
Loss rate: 90.85%
-- Flow 1:
Average throughput: 58.09 Mbit/s
95th percentile per-packet one-way delay: 267.390 ms
Loss rate: 87.70%
-- Flow 2:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 268.690 ms
Loss rate: 92.90%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 9: Report of Copa — Data Link



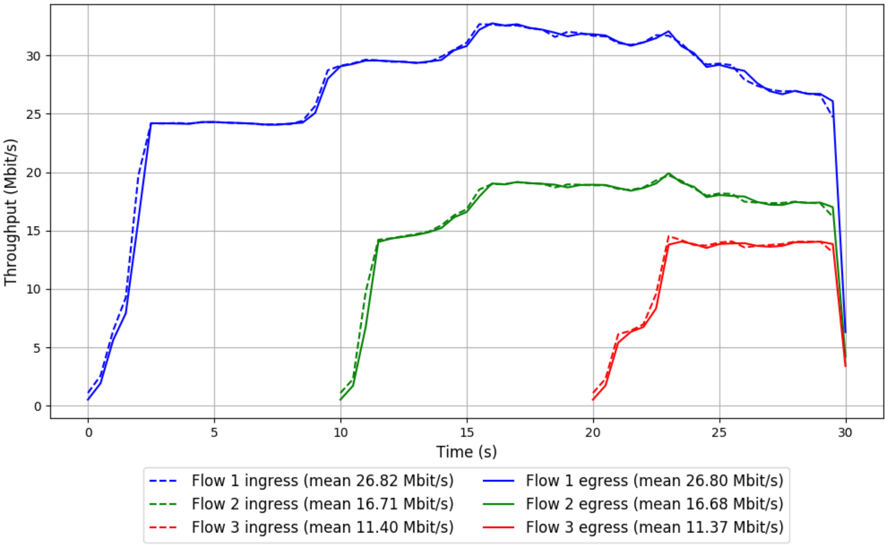


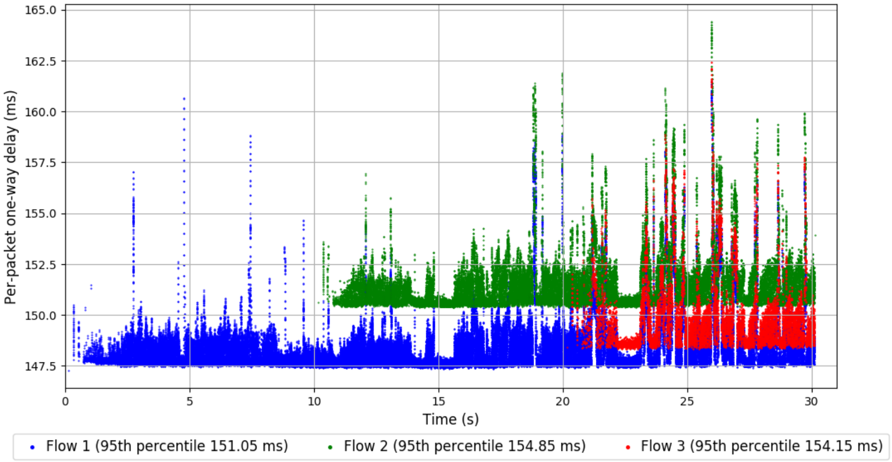
```
Run 10: Statistics of Copa

Start at: 2018-04-04 01:07:27
End at: 2018-04-04 01:07:57
Local clock offset: 9.73 ms
Remote clock offset: -1.942 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.67 Mbit/s
95th percentile per-packet one-way delay: 153.093 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 26.80 Mbit/s
95th percentile per-packet one-way delay: 151.053 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 16.68 Mbit/s
95th percentile per-packet one-way delay: 154.850 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 154.150 ms
Loss rate: 0.31%
```

Run 10: Report of Copa — Data Link



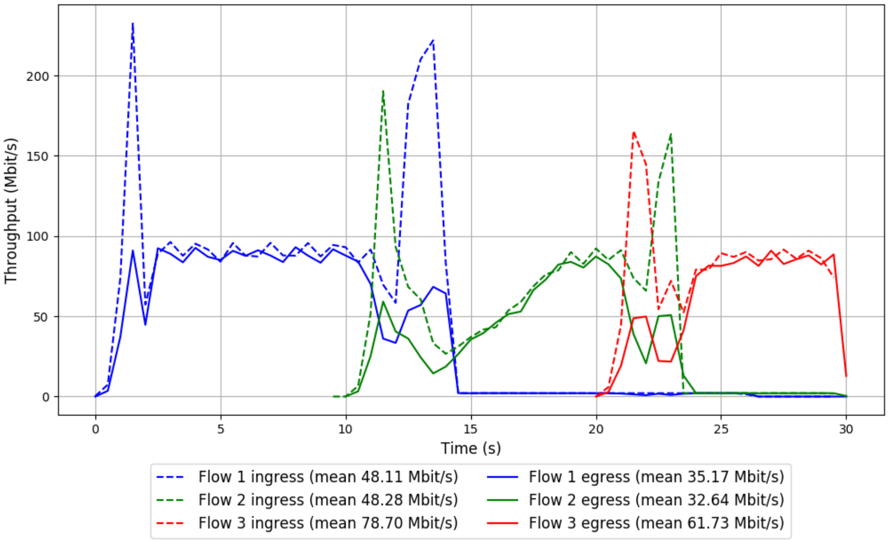


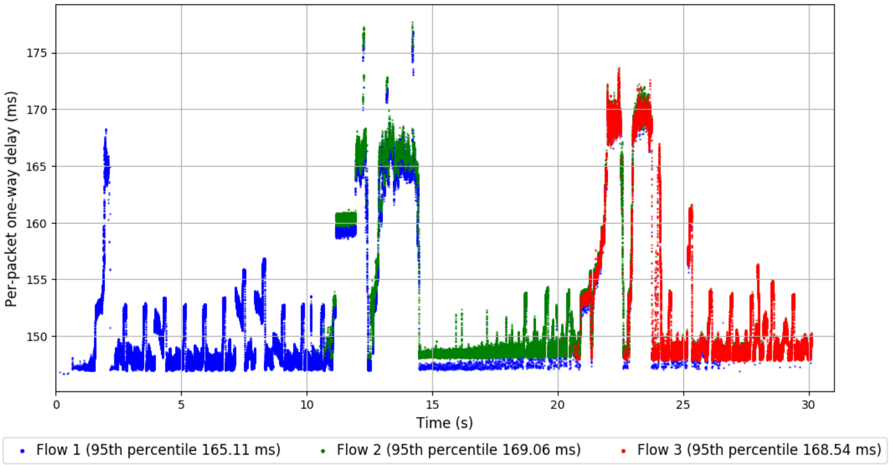
```
Run 1: Statistics of FillP

Start at: 2018-04-03 21:16:07
End at: 2018-04-03 21:16:37
Local clock offset: 5.913 ms
Remote clock offset: -10.61 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.33 Mbit/s
95th percentile per-packet one-way delay: 166.866 ms
Loss rate: 27.25%
-- Flow 1:
Average throughput: 35.17 Mbit/s
95th percentile per-packet one-way delay: 165.107 ms
Loss rate: 26.90%
-- Flow 2:
Average throughput: 32.64 Mbit/s
95th percentile per-packet one-way delay: 169.060 ms
Loss rate: 32.39%
-- Flow 3:
Average throughput: 61.73 Mbit/s
95th percentile per-packet one-way delay: 168.539 ms
Loss rate: 21.56%
```

Run 1: Report of FillP — Data Link



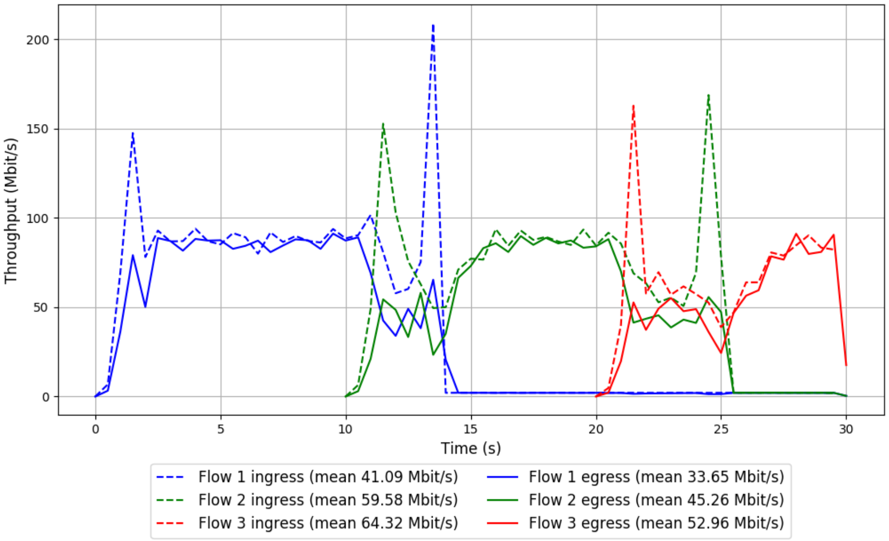


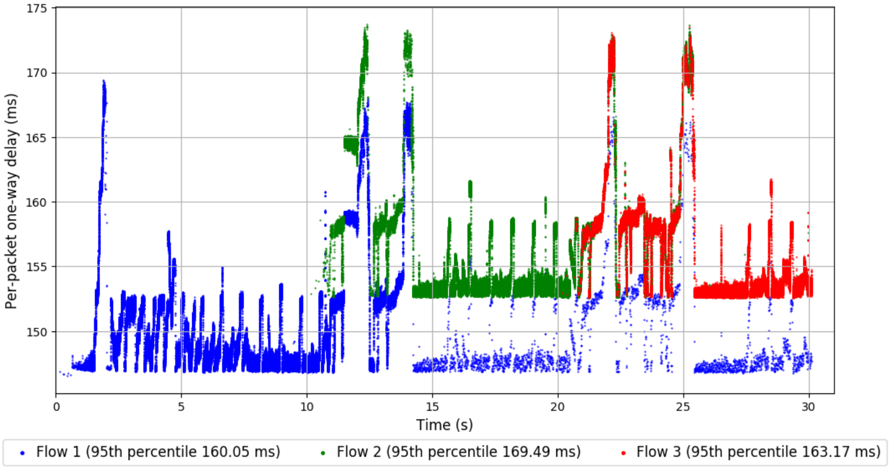
```
Run 2: Statistics of FillP

Start at: 2018-04-03 21:40:31
End at: 2018-04-03 21:41:01
Local clock offset: 6.191 ms
Remote clock offset: 1.652 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.31 Mbit/s
95th percentile per-packet one-way delay: 164.912 ms
Loss rate: 20.33%
-- Flow 1:
Average throughput: 33.65 Mbit/s
95th percentile per-packet one-way delay: 160.047 ms
Loss rate: 18.10%
-- Flow 2:
Average throughput: 45.26 Mbit/s
95th percentile per-packet one-way delay: 169.492 ms
Loss rate: 24.06%
-- Flow 3:
Average throughput: 52.96 Mbit/s
95th percentile per-packet one-way delay: 163.171 ms
Loss rate: 17.68%
```

Run 2: Report of FillP — Data Link



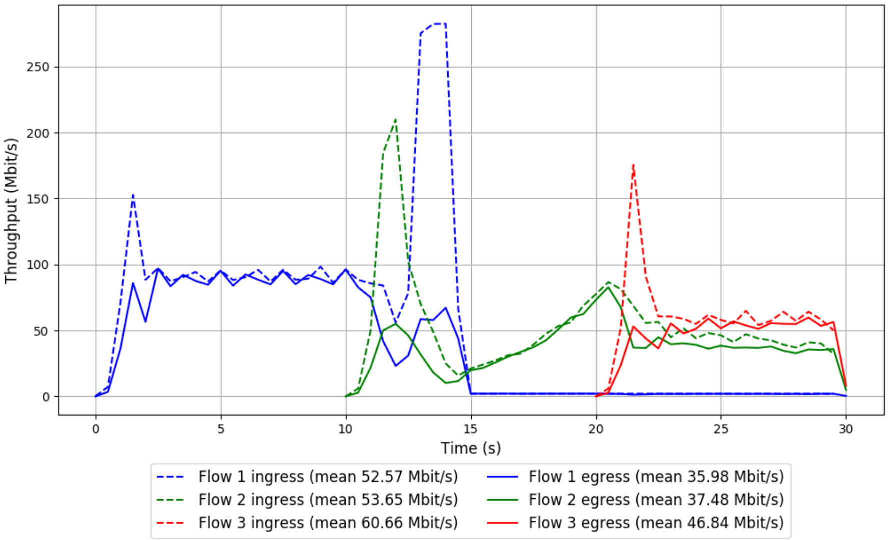


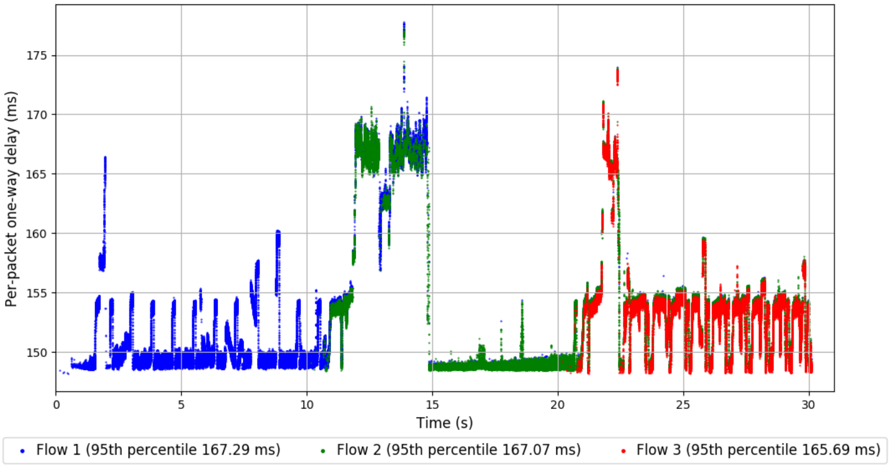
```
Run 3: Statistics of FillP

Start at: 2018-04-03 22:04:50
End at: 2018-04-03 22:05:20
Local clock offset: 9.889 ms
Remote clock offset: -1.315 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.46 Mbit/s
95th percentile per-packet one-way delay: 166.984 ms
Loss rate: 29.46%
-- Flow 1:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 167.293 ms
Loss rate: 31.56%
-- Flow 2:
Average throughput: 37.48 Mbit/s
95th percentile per-packet one-way delay: 167.068 ms
Loss rate: 30.13%
-- Flow 3:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 165.691 ms
Loss rate: 22.79%
```

Run 3: Report of FillP — Data Link



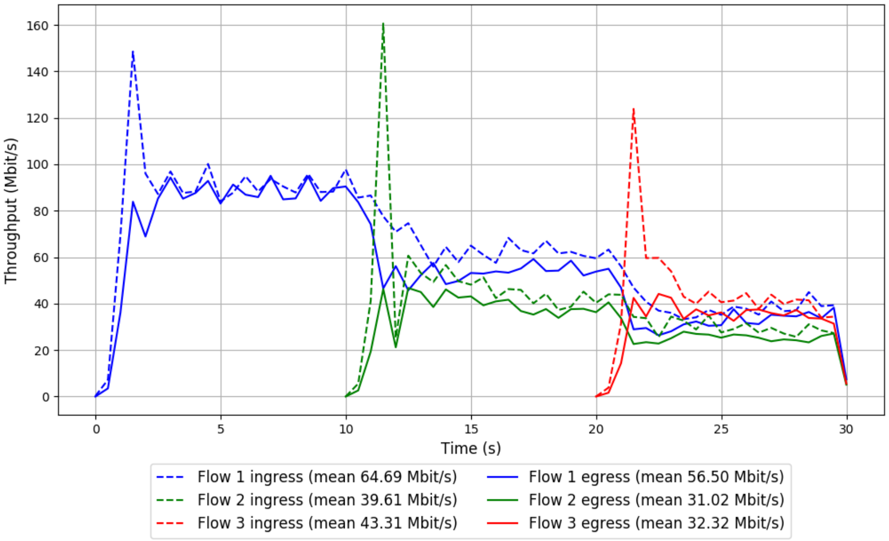


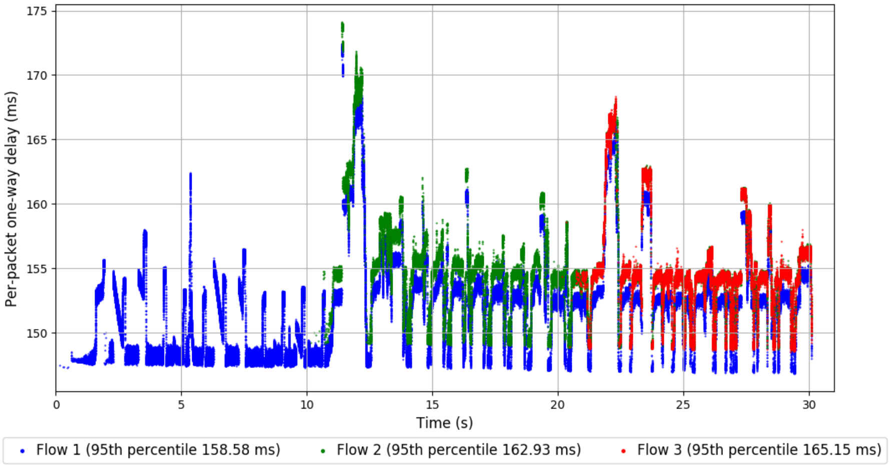
```
Run 4: Statistics of FillP

Start at: 2018-04-03 22:29:16
End at: 2018-04-03 22:29:46
Local clock offset: 7.885 ms
Remote clock offset: -4.485 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.85 Mbit/s
95th percentile per-packet one-way delay: 160.990 ms
Loss rate: 16.66%
-- Flow 1:
Average throughput: 56.50 Mbit/s
95th percentile per-packet one-way delay: 158.576 ms
Loss rate: 12.66%
-- Flow 2:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 162.925 ms
Loss rate: 21.69%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 165.146 ms
Loss rate: 25.39%
```

Run 4: Report of FillP — Data Link



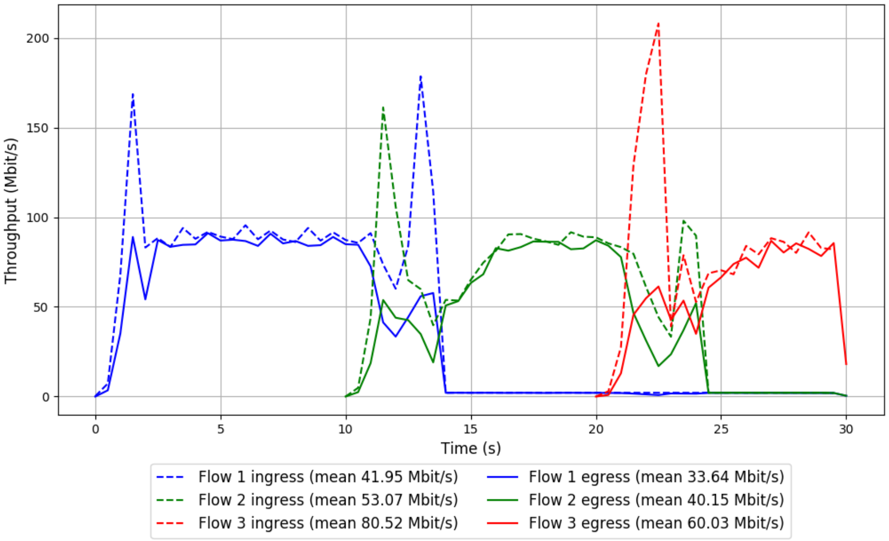


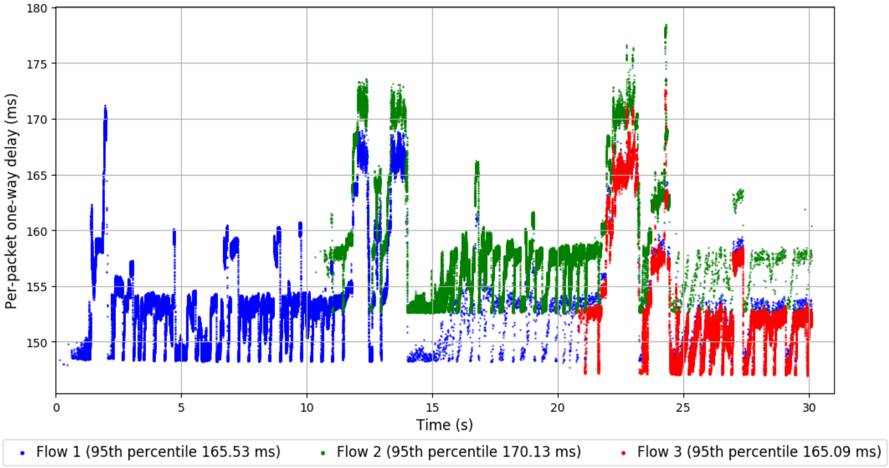
```
Run 5: Statistics of FillP

Start at: 2018-04-03 22:53:28
End at: 2018-04-03 22:53:58
Local clock offset: 6.012 ms
Remote clock offset: 9.433 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.96 Mbit/s
95th percentile per-packet one-way delay: 166.231 ms
Loss rate: 23.07%
-- Flow 1:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 165.525 ms
Loss rate: 19.78%
-- Flow 2:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 170.128 ms
Loss rate: 24.31%
-- Flow 3:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 165.093 ms
Loss rate: 26.60%
```

Run 5: Report of FillP — Data Link



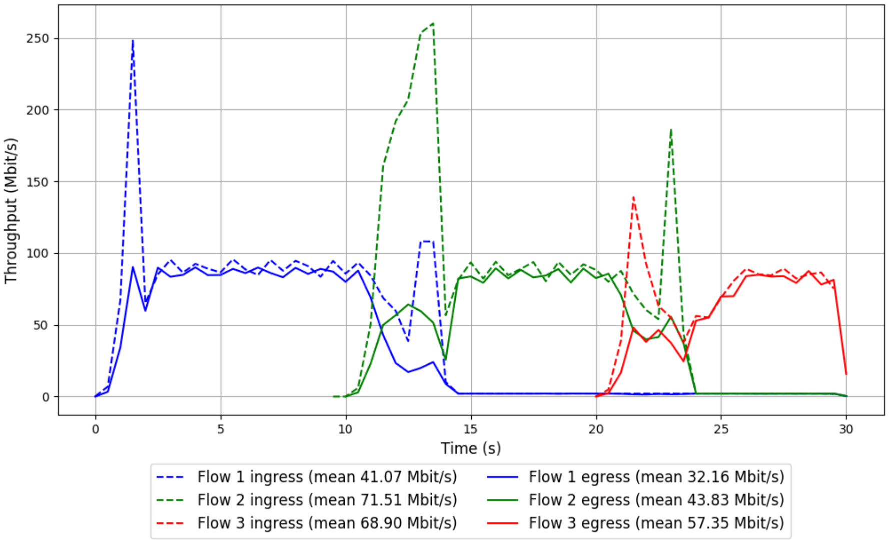


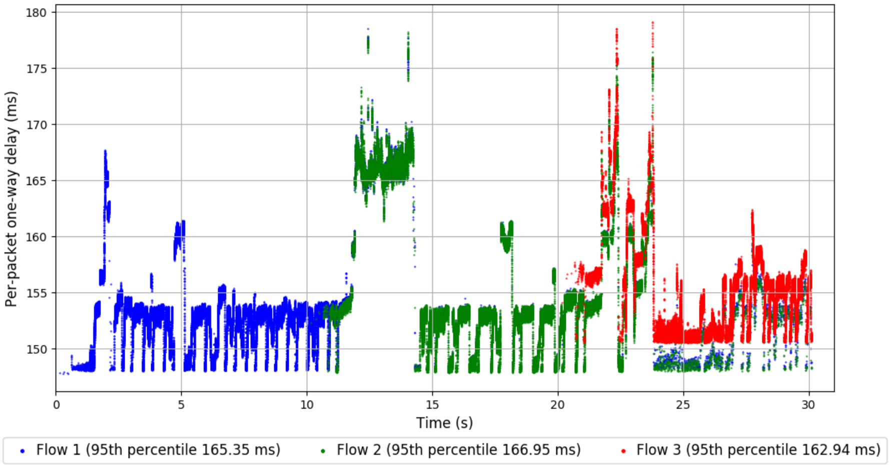
```
Run 6: Statistics of FillP

Start at: 2018-04-03 23:18:44
End at: 2018-04-03 23:19:14
Local clock offset: 6.443 ms
Remote clock offset: -2.17 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.36 Mbit/s
95th percentile per-packet one-way delay: 166.159 ms
Loss rate: 27.96%
-- Flow 1:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 165.346 ms
Loss rate: 21.70%
-- Flow 2:
Average throughput: 43.83 Mbit/s
95th percentile per-packet one-way delay: 166.947 ms
Loss rate: 38.72%
-- Flow 3:
Average throughput: 57.35 Mbit/s
95th percentile per-packet one-way delay: 162.945 ms
Loss rate: 16.79%
```

Run 6: Report of FillP — Data Link



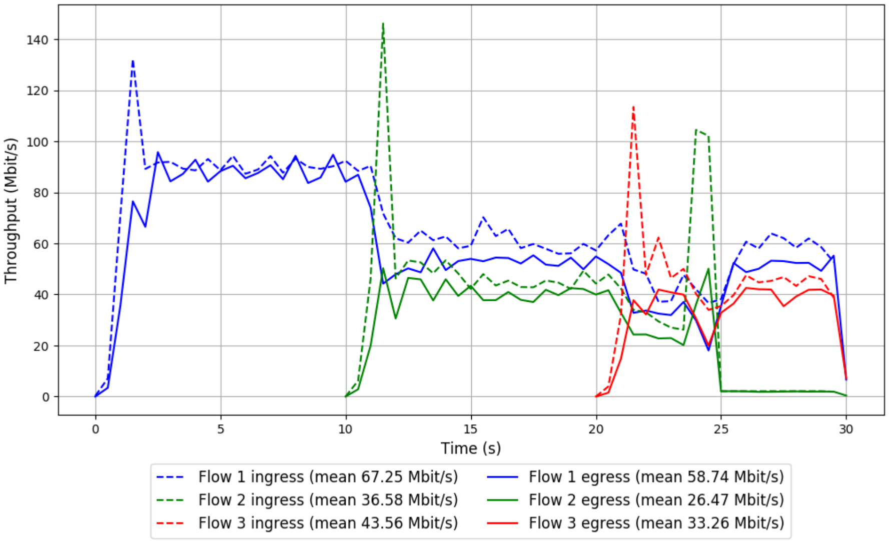


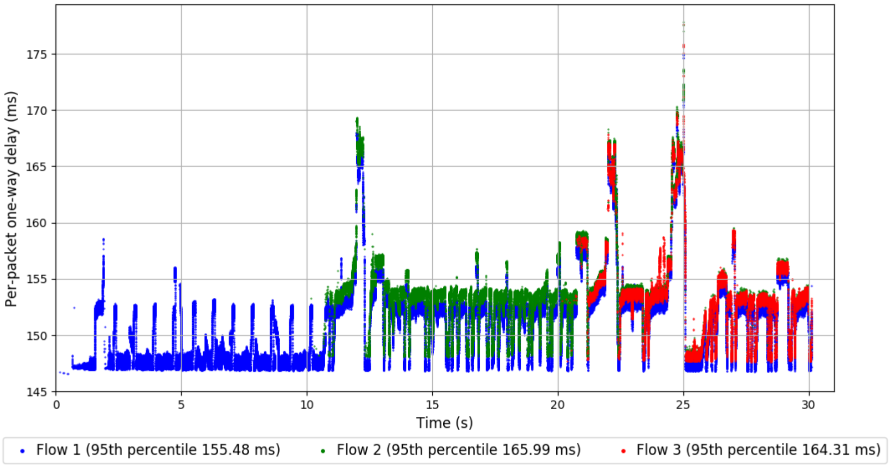
```
Run 7: Statistics of FillP

Start at: 2018-04-03 23:42:55
End at: 2018-04-03 23:43:25
Local clock offset: 6.429 ms
Remote clock offset: -4.426 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.37 Mbit/s
95th percentile per-packet one-way delay: 158.130 ms
Loss rate: 17.59%
-- Flow 1:
Average throughput: 58.74 Mbit/s
95th percentile per-packet one-way delay: 155.477 ms
Loss rate: 12.64%
-- Flow 2:
Average throughput: 26.47 Mbit/s
95th percentile per-packet one-way delay: 165.989 ms
Loss rate: 27.64%
-- Flow 3:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 164.305 ms
Loss rate: 23.65%
```

Run 7: Report of FillP — Data Link



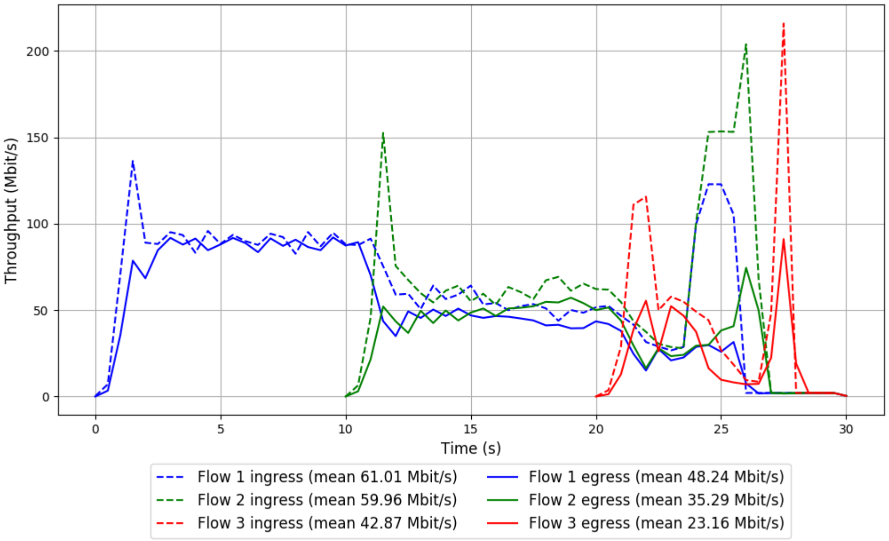


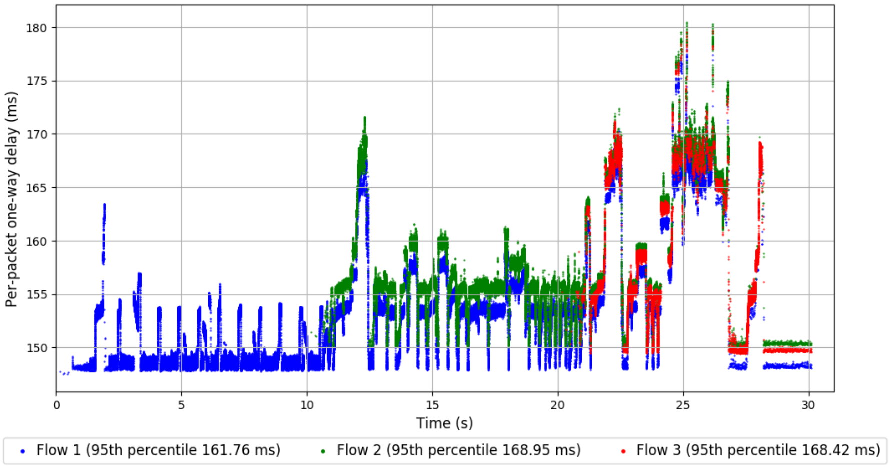
```
Run 8: Statistics of FillP

Start at: 2018-04-04 00:07:57
End at: 2018-04-04 00:08:27
Local clock offset: 7.762 ms
Remote clock offset: -3.338 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.38 Mbit/s
95th percentile per-packet one-way delay: 167.423 ms
Loss rate: 31.03%
-- Flow 1:
Average throughput: 48.24 Mbit/s
95th percentile per-packet one-way delay: 161.763 ms
Loss rate: 20.93%
-- Flow 2:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 168.954 ms
Loss rate: 41.15%
-- Flow 3:
Average throughput: 23.16 Mbit/s
95th percentile per-packet one-way delay: 168.423 ms
Loss rate: 46.01%
```

Run 8: Report of FillP — Data Link



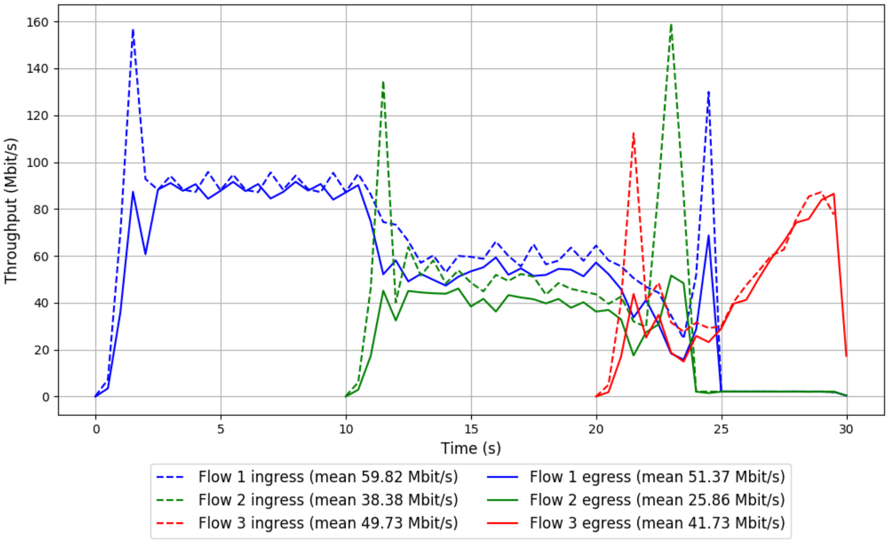


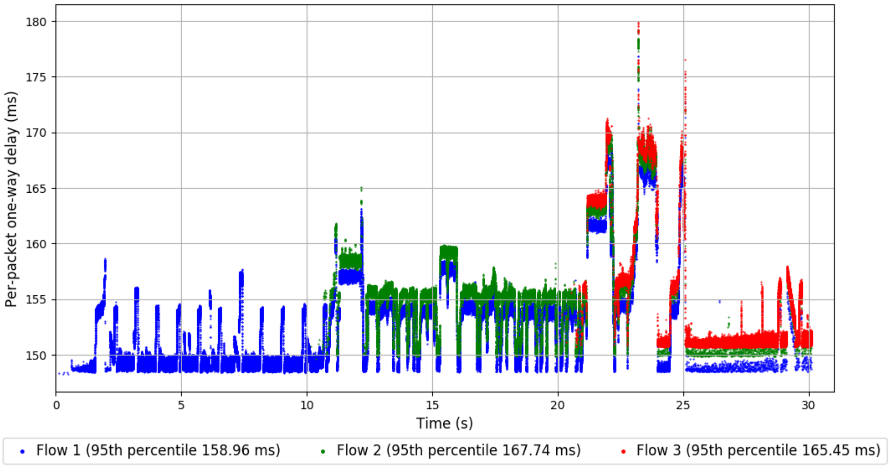
```
Run 9: Statistics of FillP

Start at: 2018-04-04 00:32:40
End at: 2018-04-04 00:33:10
Local clock offset: 10.734 ms
Remote clock offset: 2.364 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.40 Mbit/s
95th percentile per-packet one-way delay: 163.440 ms
Loss rate: 19.09%
-- Flow 1:
Average throughput: 51.37 Mbit/s
95th percentile per-packet one-way delay: 158.961 ms
Loss rate: 14.13%
-- Flow 2:
Average throughput: 25.86 Mbit/s
95th percentile per-packet one-way delay: 167.736 ms
Loss rate: 32.62%
-- Flow 3:
Average throughput: 41.73 Mbit/s
95th percentile per-packet one-way delay: 165.447 ms
Loss rate: 16.11%
```

Run 9: Report of FillP — Data Link



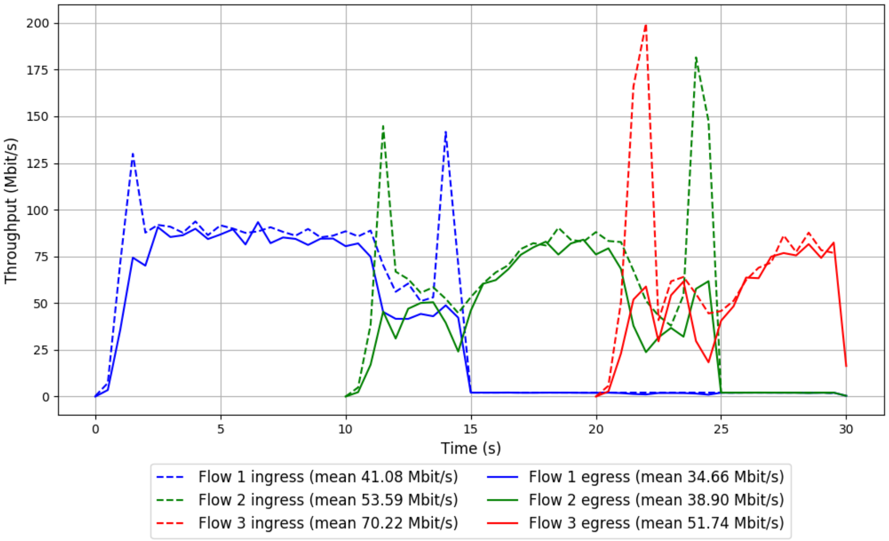


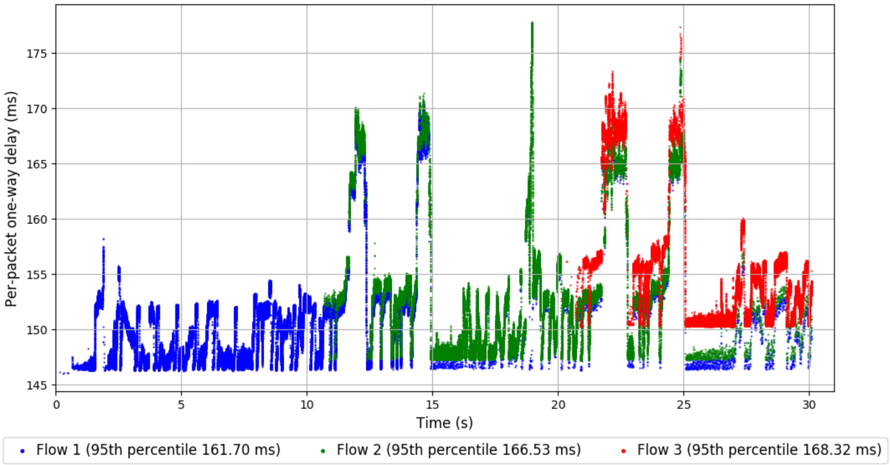
```
Run 10: Statistics of FillP

Start at: 2018-04-04 00:57:17
End at: 2018-04-04 00:57:47
Local clock offset: 9.81 ms
Remote clock offset: -0.71 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.69 Mbit/s
95th percentile per-packet one-way delay: 166.746 ms
Loss rate: 22.31%
-- Flow 1:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 161.702 ms
Loss rate: 15.63%
-- Flow 2:
Average throughput: 38.90 Mbit/s
95th percentile per-packet one-way delay: 166.531 ms
Loss rate: 27.40%
-- Flow 3:
Average throughput: 51.74 Mbit/s
95th percentile per-packet one-way delay: 168.318 ms
Loss rate: 26.30%
```

Run 10: Report of FillP — Data Link



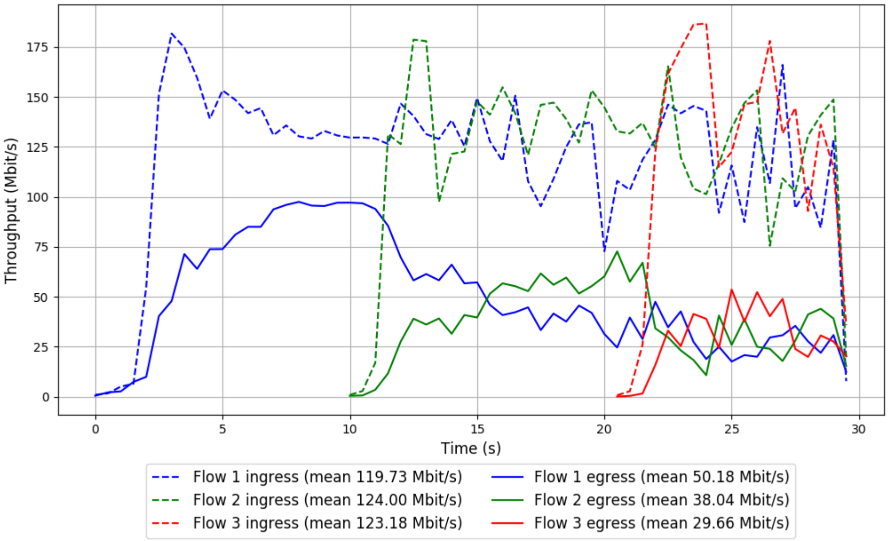


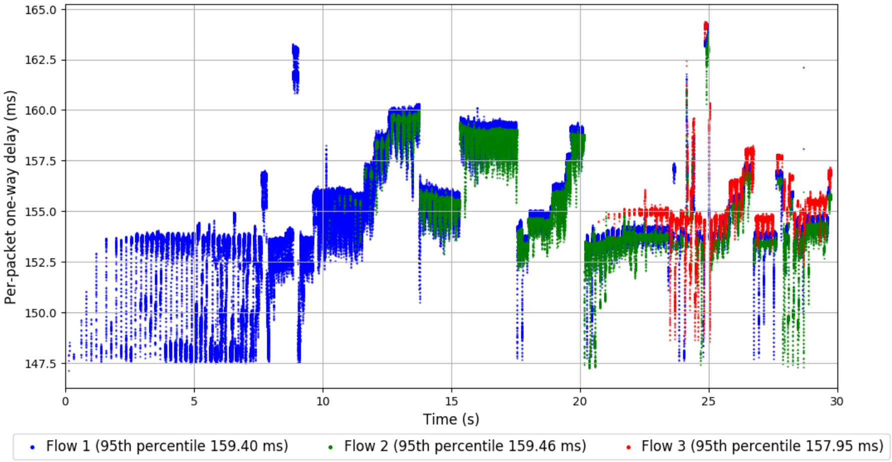
```
Run 1: Statistics of Indigo-1-32

Start at: 2018-04-03 21:09:15
End at: 2018-04-03 21:09:45
Local clock offset: 5.706 ms
Remote clock offset: -9.511 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.16 Mbit/s
95th percentile per-packet one-way delay: 159.378 ms
Loss rate: 64.74%
-- Flow 1:
Average throughput: 50.18 Mbit/s
95th percentile per-packet one-way delay: 159.401 ms
Loss rate: 58.08%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 159.458 ms
Loss rate: 69.32%
-- Flow 3:
Average throughput: 29.66 Mbit/s
95th percentile per-packet one-way delay: 157.948 ms
Loss rate: 75.92%
```

Run 1: Report of Indigo-1-32 — Data Link



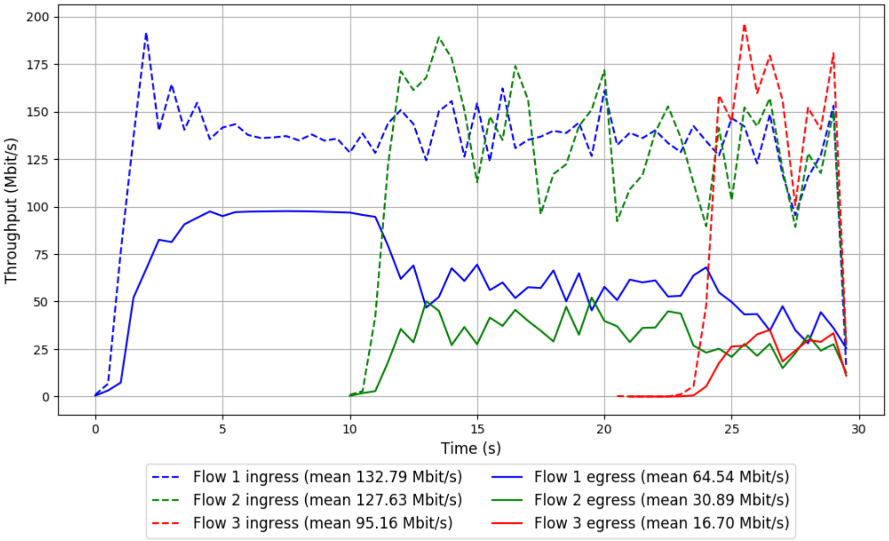


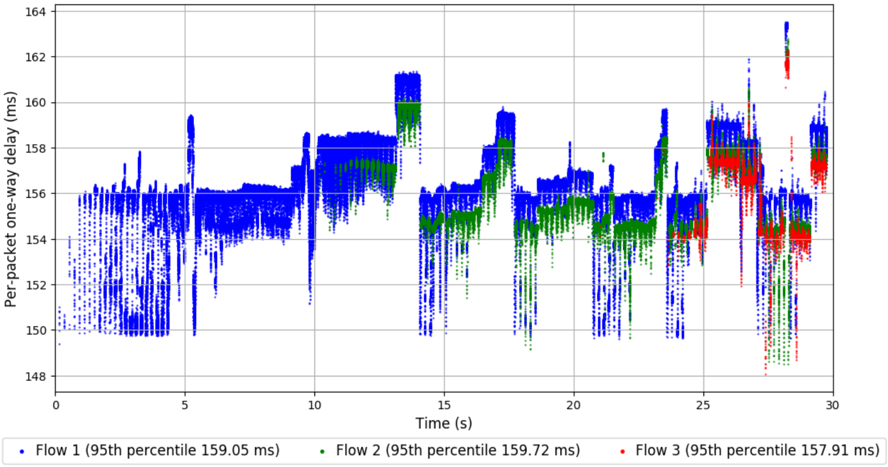
```
Run 2: Statistics of Indigo-1-32

Start at: 2018-04-03 21:33:42
End at: 2018-04-03 21:34:12
Local clock offset: 6.194 ms
Remote clock offset: -0.221 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.82 Mbit/s
95th percentile per-packet one-way delay: 159.112 ms
Loss rate: 63.32%
-- Flow 1:
Average throughput: 64.54 Mbit/s
95th percentile per-packet one-way delay: 159.049 ms
Loss rate: 51.38%
-- Flow 2:
Average throughput: 30.89 Mbit/s
95th percentile per-packet one-way delay: 159.723 ms
Loss rate: 75.80%
-- Flow 3:
Average throughput: 16.70 Mbit/s
95th percentile per-packet one-way delay: 157.905 ms
Loss rate: 82.44%
```

Run 2: Report of Indigo-1-32 — Data Link



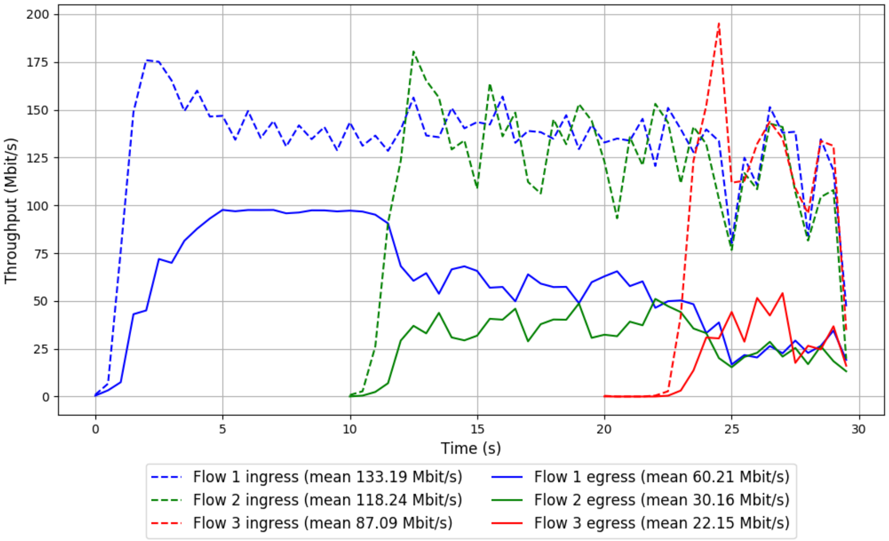


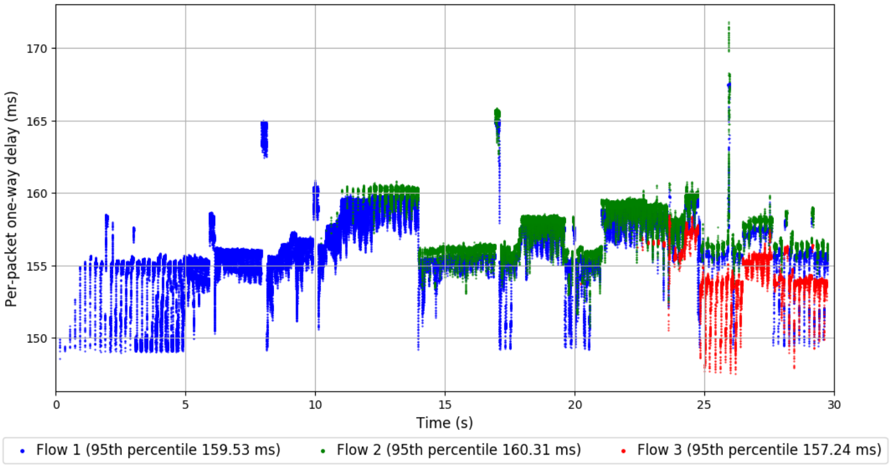
```
Run 3: Statistics of Indigo-1-32

Start at: 2018-04-03 21:58:05
End at: 2018-04-03 21:58:35
Local clock offset: 9.178 ms
Remote clock offset: 1.384 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.23 Mbit/s
95th percentile per-packet one-way delay: 159.772 ms
Loss rate: 63.53%
-- Flow 1:
Average throughput: 60.21 Mbit/s
95th percentile per-packet one-way delay: 159.530 ms
Loss rate: 54.78%
-- Flow 2:
Average throughput: 30.16 Mbit/s
95th percentile per-packet one-way delay: 160.314 ms
Loss rate: 74.50%
-- Flow 3:
Average throughput: 22.15 Mbit/s
95th percentile per-packet one-way delay: 157.242 ms
Loss rate: 74.56%
```

Run 3: Report of Indigo-1-32 — Data Link



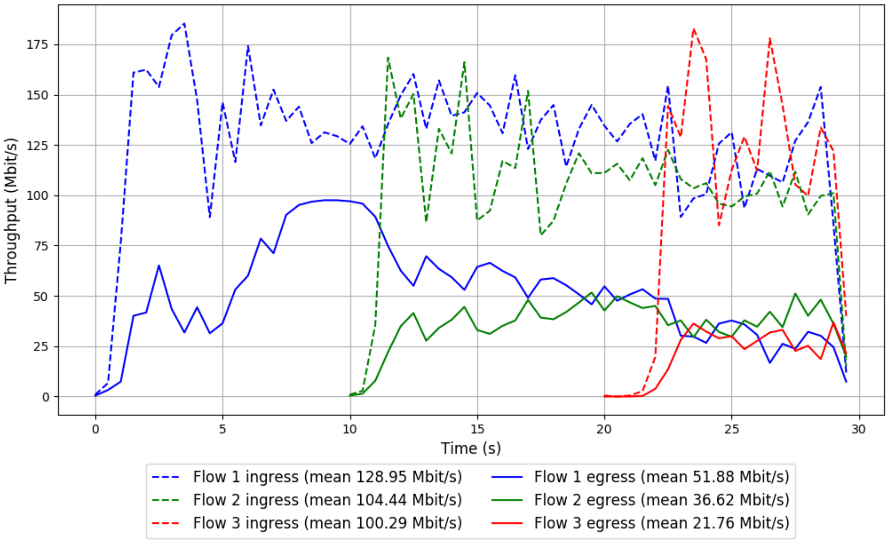


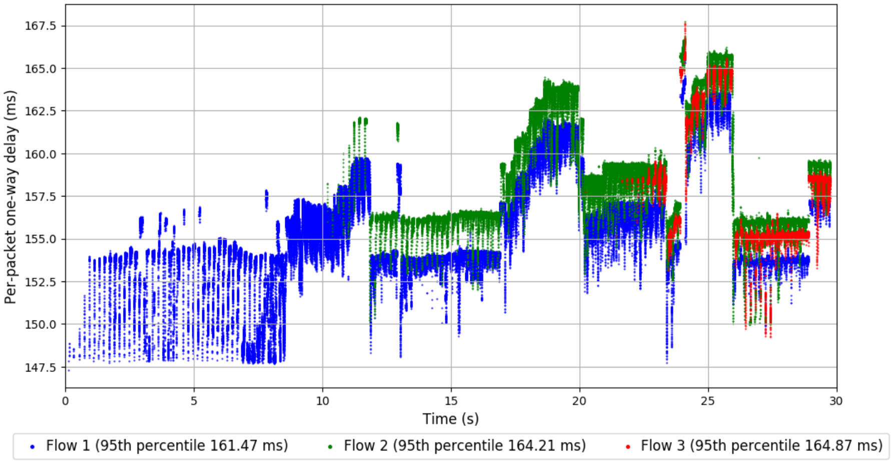
```
Run 4: Statistics of Indigo-1-32

Start at: 2018-04-03 22:22:22
End at: 2018-04-03 22:22:52
Local clock offset: 10.204 ms
Remote clock offset: -4.165 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 163.419 ms
Loss rate: 63.91%
-- Flow 1:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 161.471 ms
Loss rate: 59.76%
-- Flow 2:
Average throughput: 36.62 Mbit/s
95th percentile per-packet one-way delay: 164.211 ms
Loss rate: 64.93%
-- Flow 3:
Average throughput: 21.76 Mbit/s
95th percentile per-packet one-way delay: 164.871 ms
Loss rate: 78.30%
```

Run 4: Report of Indigo-1-32 — Data Link



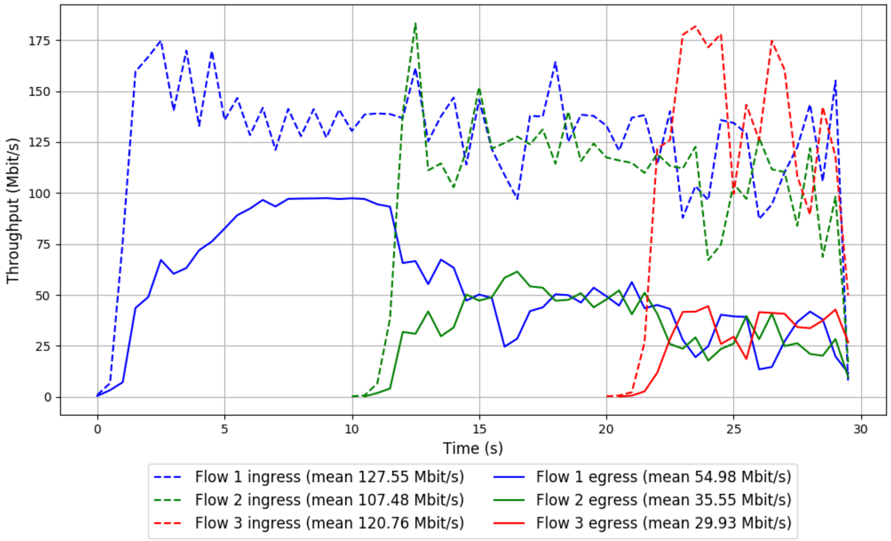


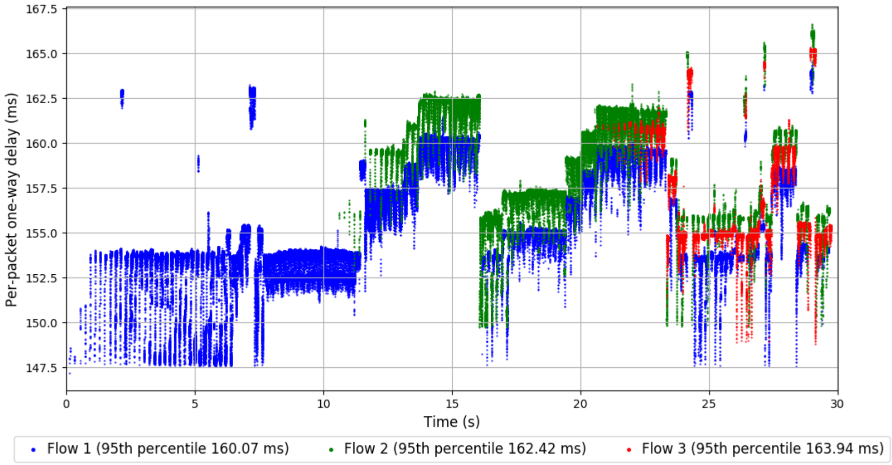
```
Run 5: Statistics of Indigo-1-32

Start at: 2018-04-03 22:46:44
End at: 2018-04-03 22:47:14
Local clock offset: 6.301 ms
Remote clock offset: 7.921 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.92 Mbit/s
95th percentile per-packet one-way delay: 162.019 ms
Loss rate: 62.78%
-- Flow 1:
Average throughput: 54.98 Mbit/s
95th percentile per-packet one-way delay: 160.072 ms
Loss rate: 56.89%
-- Flow 2:
Average throughput: 35.55 Mbit/s
95th percentile per-packet one-way delay: 162.416 ms
Loss rate: 66.93%
-- Flow 3:
Average throughput: 29.93 Mbit/s
95th percentile per-packet one-way delay: 163.938 ms
Loss rate: 75.23%
```

Run 5: Report of Indigo-1-32 — Data Link



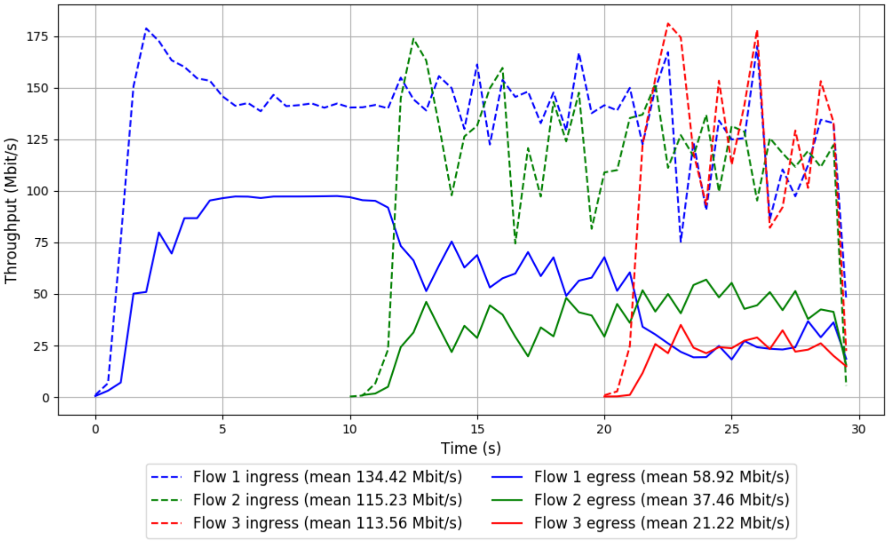


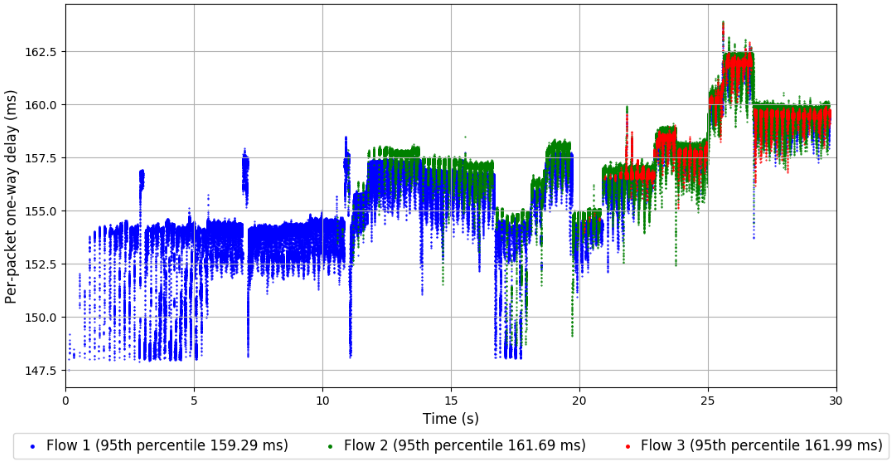
```
Run 6: Statistics of Indigo-1-32

Start at: 2018-04-03 23:11:44
End at: 2018-04-03 23:12:14
Local clock offset: 6.405 ms
Remote clock offset: 1.5 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.95 Mbit/s
95th percentile per-packet one-way delay: 160.286 ms
Loss rate: 63.34%
-- Flow 1:
Average throughput: 58.92 Mbit/s
95th percentile per-packet one-way delay: 159.286 ms
Loss rate: 56.15%
-- Flow 2:
Average throughput: 37.46 Mbit/s
95th percentile per-packet one-way delay: 161.685 ms
Loss rate: 67.48%
-- Flow 3:
Average throughput: 21.22 Mbit/s
95th percentile per-packet one-way delay: 161.993 ms
Loss rate: 81.31%
```

Run 6: Report of Indigo-1-32 — Data Link



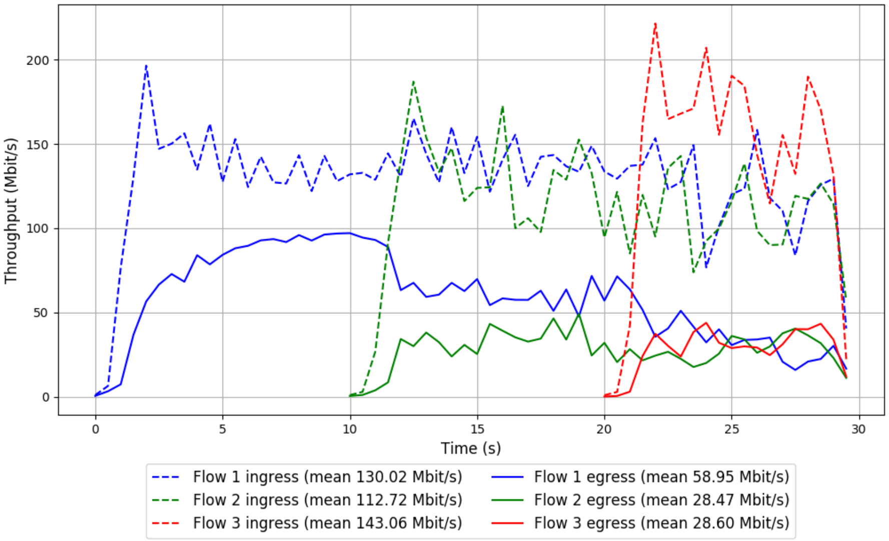


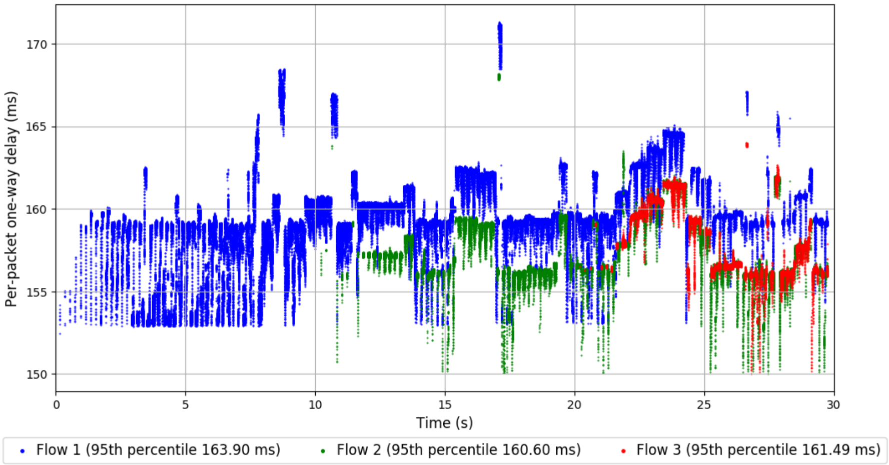
```
Run 7: Statistics of Indigo-1-32

Start at: 2018-04-03 23:36:12
End at: 2018-04-03 23:36:42
Local clock offset: 6.312 ms
Remote clock offset: -6.93 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.96 Mbit/s
95th percentile per-packet one-way delay: 162.610 ms
Loss rate: 65.29%
-- Flow 1:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 163.904 ms
Loss rate: 54.65%
-- Flow 2:
Average throughput: 28.47 Mbit/s
95th percentile per-packet one-way delay: 160.599 ms
Loss rate: 74.74%
-- Flow 3:
Average throughput: 28.60 Mbit/s
95th percentile per-packet one-way delay: 161.487 ms
Loss rate: 80.01%
```

Run 7: Report of Indigo-1-32 — Data Link





Run 8: Statistics of Indigo-1-32

/home/ubuntu/pantheon_data/2018-04-03T21-07-AWS-Korea-to-China-10-runs-3-flows/indigo_1_32_s

Run 8: Report of Indigo-1-32 — Data Link

Figure is missing

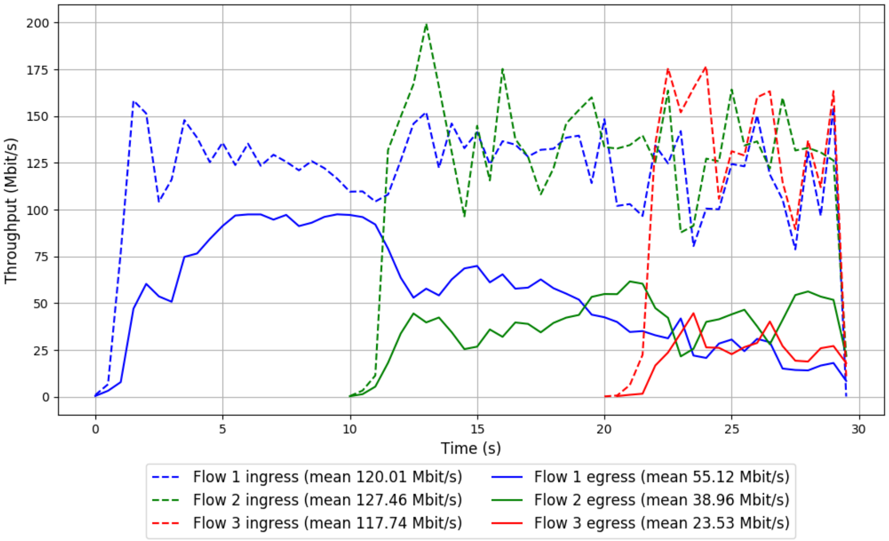
Figure is missing

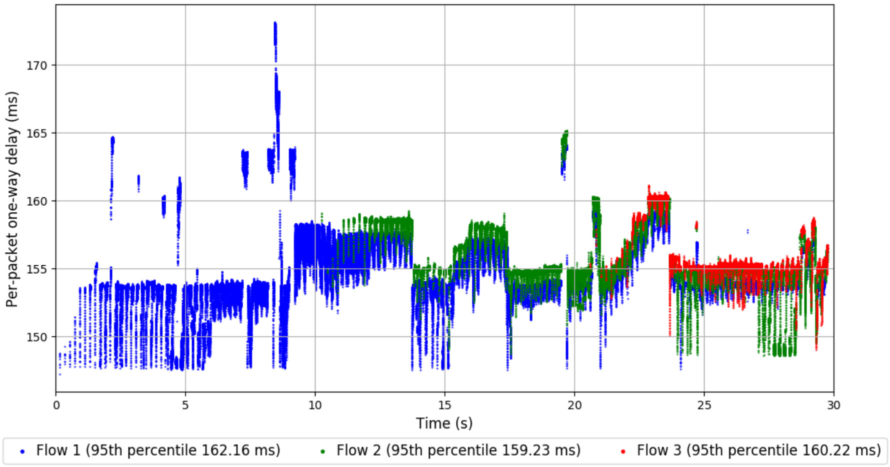
```
Run 9: Statistics of Indigo-1-32

Start at: 2018-04-04 00:25:54
End at: 2018-04-04 00:26:24
Local clock offset: 10.242 ms
Remote clock offset: 1.486 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 160.147 ms
Loss rate: 63.37%
-- Flow 1:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 162.158 ms
Loss rate: 54.06%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 159.227 ms
Loss rate: 69.43%
-- Flow 3:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 160.217 ms
Loss rate: 80.01%
```

Run 9: Report of Indigo-1-32 — Data Link

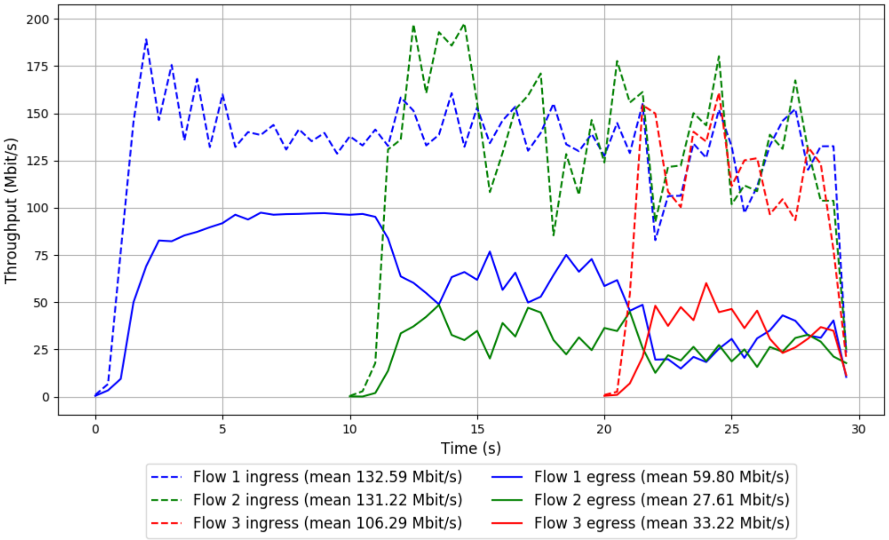


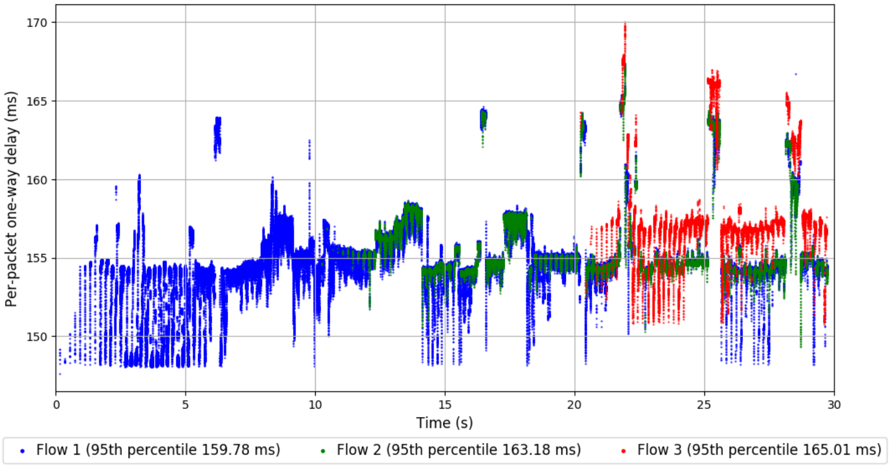


```
Run 10: Statistics of Indigo-1-32

Start at: 2018-04-04 00:50:33
End at: 2018-04-04 00:51:03
Local clock offset: 9.713 ms
Remote clock offset: 0.952 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.63 Mbit/s
95th percentile per-packet one-way delay: 162.375 ms
Loss rate: 64.98%
-- Flow 1:
Average throughput: 59.80 Mbit/s
95th percentile per-packet one-way delay: 159.784 ms
Loss rate: 54.89%
-- Flow 2:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 163.182 ms
Loss rate: 78.96%
-- Flow 3:
Average throughput: 33.22 Mbit/s
95th percentile per-packet one-way delay: 165.014 ms
Loss rate: 68.77%
```


200
175
150
125
100
75
50
25
0
Throughput (Mbit/s)
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 132.59 Mbit/s)
Flow 2 ingress (mean 131.22 Mbit/s)
Flow 3 ingress (mean 106.29 Mbit/s)
Flow 1 egress (mean 59.80 Mbit/s)
Flow 2 egress (mean 27.61 Mbit/s)
Flow 3 egress (mean 33.22 Mbit/s)

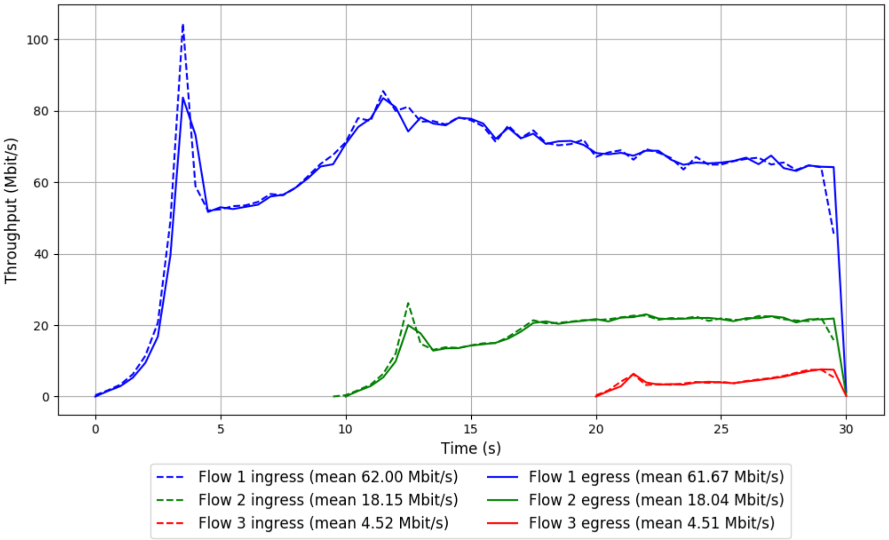

170
165
160
155
150
Per-packet one-way delay (ms)
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 159.78 ms)
Flow 2 (95th percentile 163.18 ms)
Flow 3 (95th percentile 165.01 ms)

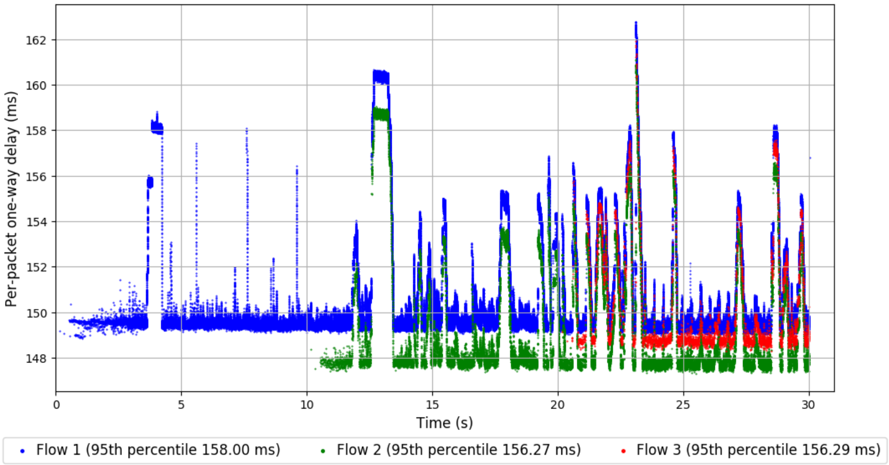
```
Run 1: Statistics of Vivace-latency

Start at: 2018-04-03 21:28:23
End at: 2018-04-03 21:28:53
Local clock offset: 6.152 ms
Remote clock offset: -3.053 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.15 Mbit/s
95th percentile per-packet one-way delay: 157.945 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 61.67 Mbit/s
95th percentile per-packet one-way delay: 158.003 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 18.04 Mbit/s
95th percentile per-packet one-way delay: 156.274 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 156.289 ms
Loss rate: 0.14%
```

Run 1: Report of Vivace-latency — Data Link



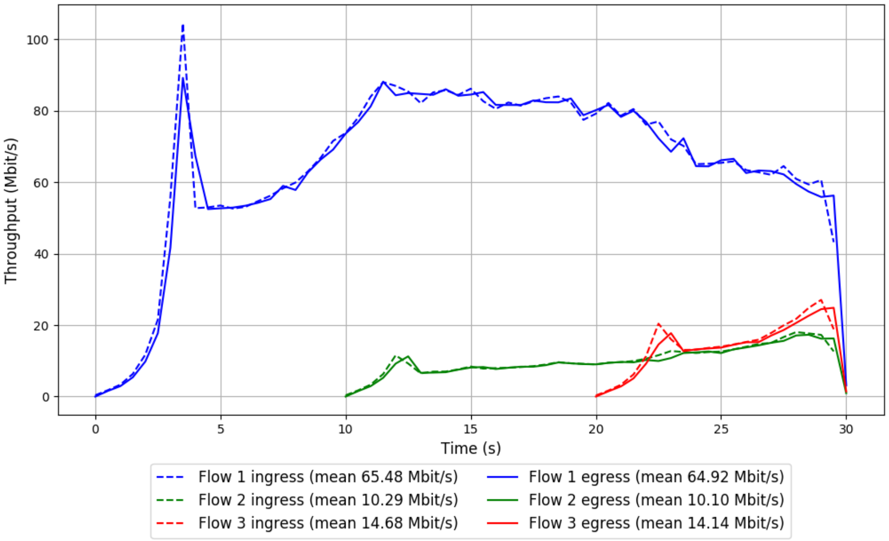


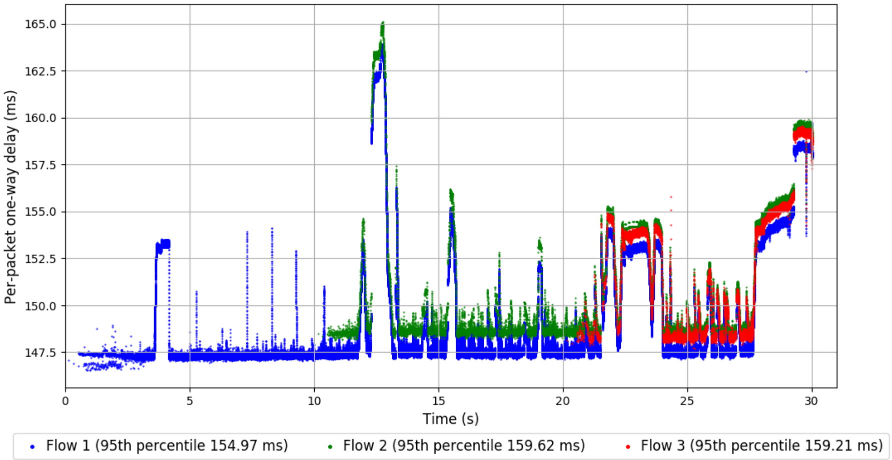
```
Run 2: Statistics of Vivace-latency

Start at: 2018-04-03 21:52:46
End at: 2018-04-03 21:53:16
Local clock offset: 8.183 ms
Remote clock offset: 3.336 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.29 Mbit/s
95th percentile per-packet one-way delay: 158.323 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 64.92 Mbit/s
95th percentile per-packet one-way delay: 154.966 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 10.10 Mbit/s
95th percentile per-packet one-way delay: 159.617 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 14.14 Mbit/s
95th percentile per-packet one-way delay: 159.205 ms
Loss rate: 3.58%
```

Run 2: Report of Vivace-latency — Data Link



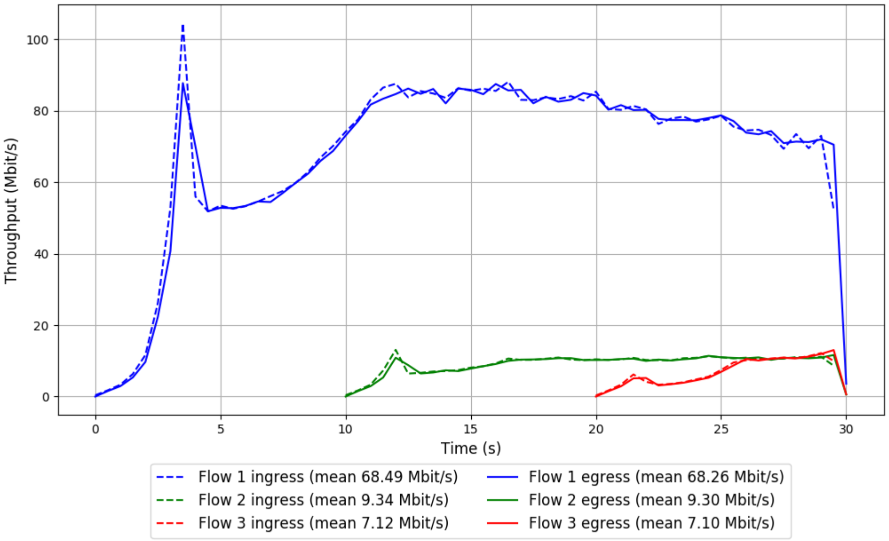


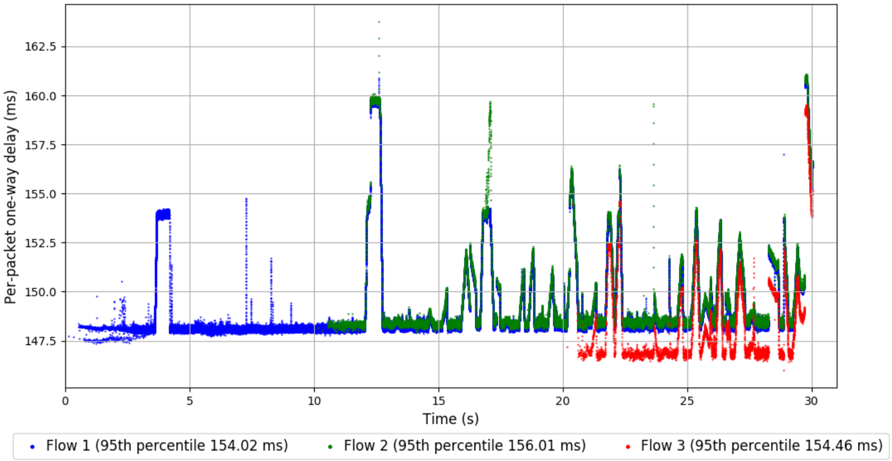
```
Run 3: Statistics of Vivace-latency

Start at: 2018-04-03 22:17:03
End at: 2018-04-03 22:17:33
Local clock offset: 10.761 ms
Remote clock offset: -3.574 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.79 Mbit/s
95th percentile per-packet one-way delay: 154.053 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 68.26 Mbit/s
95th percentile per-packet one-way delay: 154.019 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 156.011 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 154.455 ms
Loss rate: 0.13%
```

Run 3: Report of Vivace-latency — Data Link



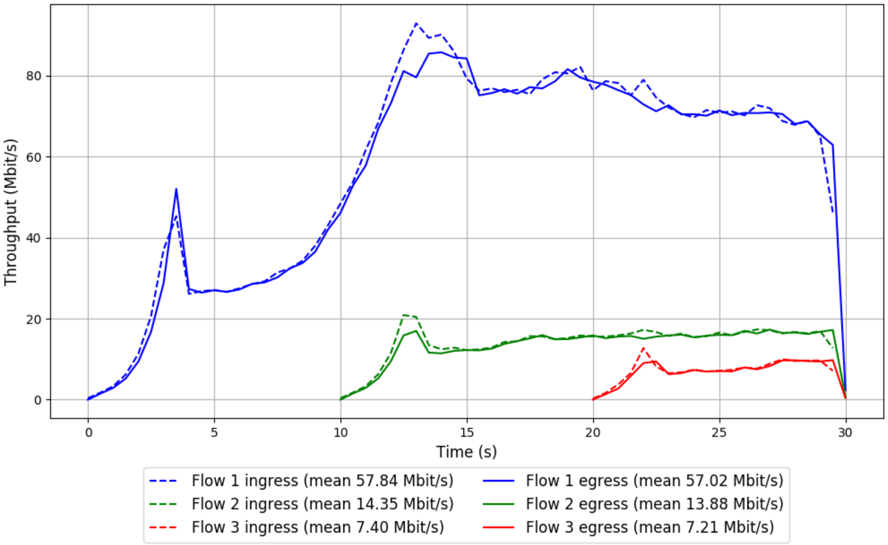


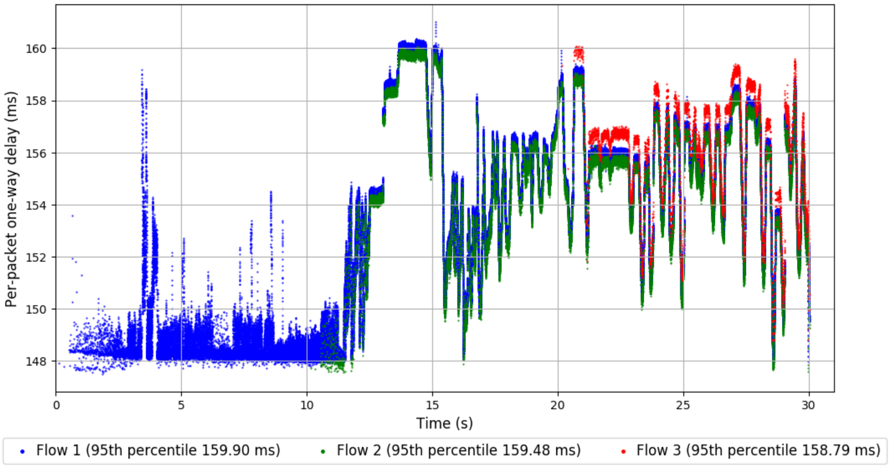
```
Run 4: Statistics of Vivace-latency

Start at: 2018-04-03 22:41:26
End at: 2018-04-03 22:41:56
Local clock offset: 6.664 ms
Remote clock offset: 5.941 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.63 Mbit/s
95th percentile per-packet one-way delay: 159.822 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 57.02 Mbit/s
95th percentile per-packet one-way delay: 159.901 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 13.88 Mbit/s
95th percentile per-packet one-way delay: 159.484 ms
Loss rate: 3.29%
-- Flow 3:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 158.793 ms
Loss rate: 2.61%
```

Run 4: Report of Vivace-latency — Data Link



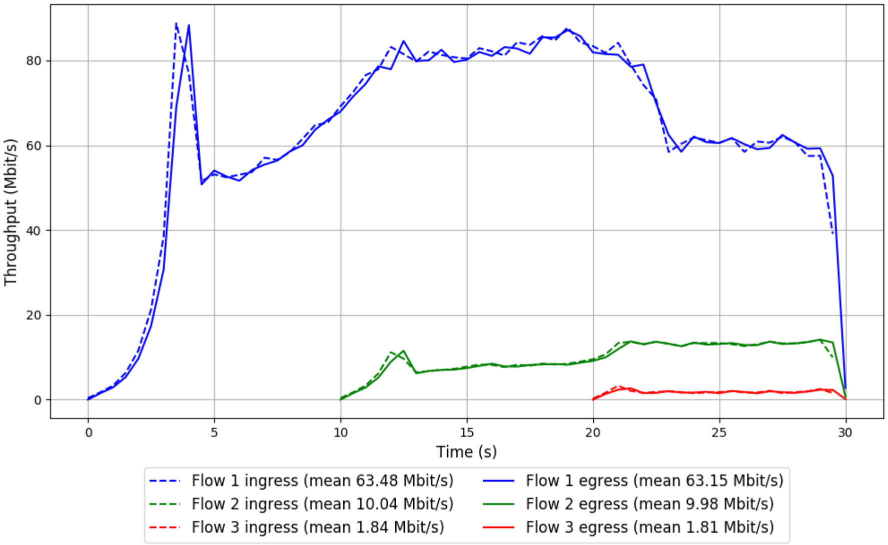


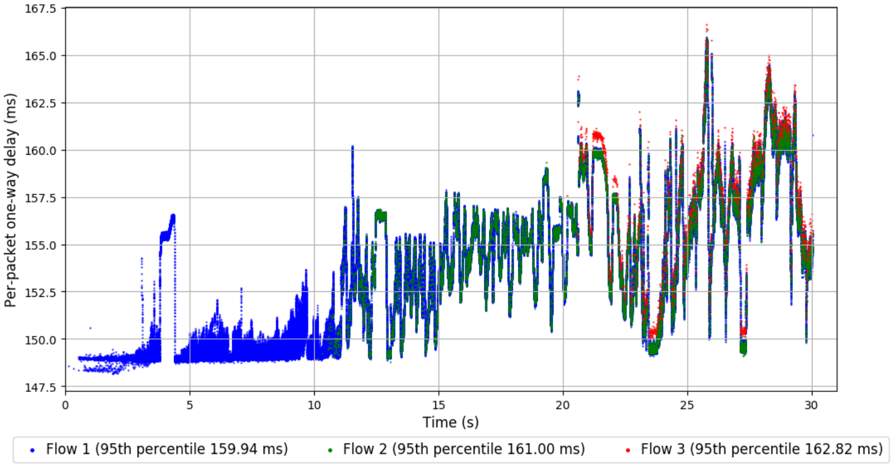
```
Run 5: Statistics of Vivace-latency

Start at: 2018-04-03 23:06:12
End at: 2018-04-03 23:06:42
Local clock offset: 6.493 ms
Remote clock offset: 6.856 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.38 Mbit/s
95th percentile per-packet one-way delay: 160.117 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 63.15 Mbit/s
95th percentile per-packet one-way delay: 159.936 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 9.98 Mbit/s
95th percentile per-packet one-way delay: 160.997 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 162.824 ms
Loss rate: 1.67%
```

Run 5: Report of Vivace-latency — Data Link



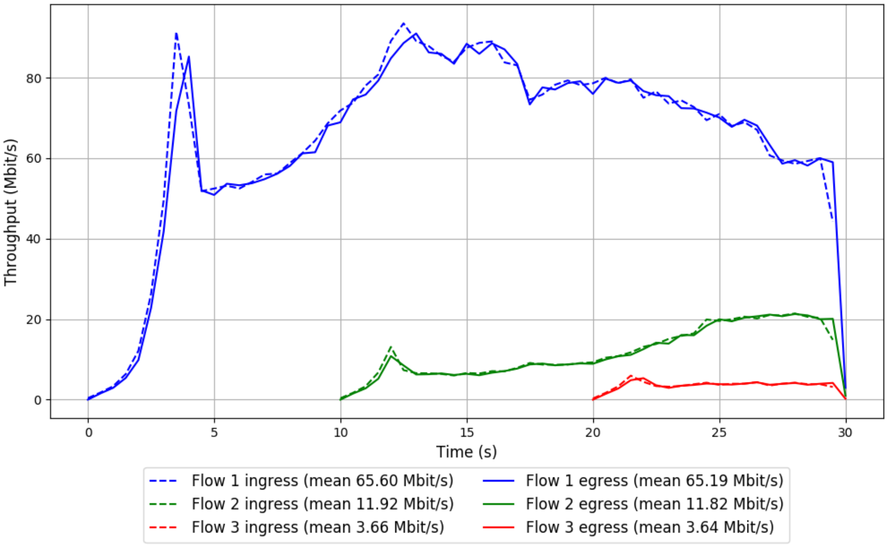


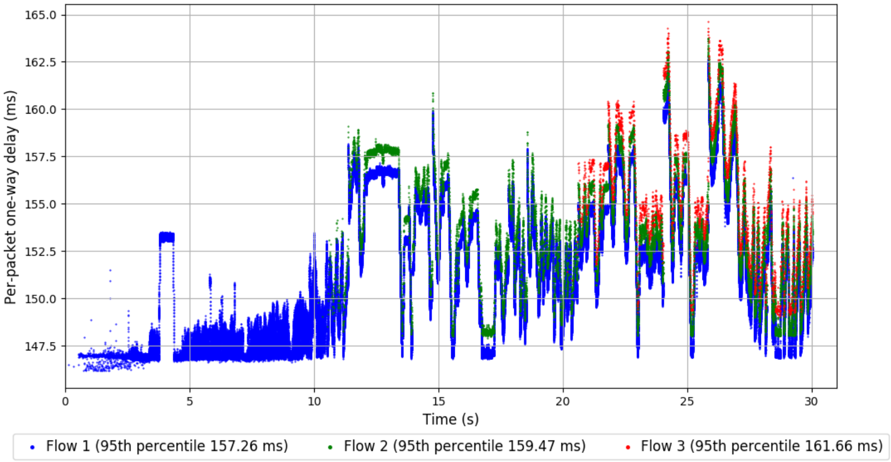
```
Run 6: Statistics of Vivace-latency

Start at: 2018-04-03 23:30:53
End at: 2018-04-03 23:31:23
Local clock offset: 6.542 ms
Remote clock offset: -5.737 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.24 Mbit/s
95th percentile per-packet one-way delay: 157.770 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 65.19 Mbit/s
95th percentile per-packet one-way delay: 157.257 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 159.467 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 161.655 ms
Loss rate: 0.62%
```

Run 6: Report of Vivace-latency — Data Link



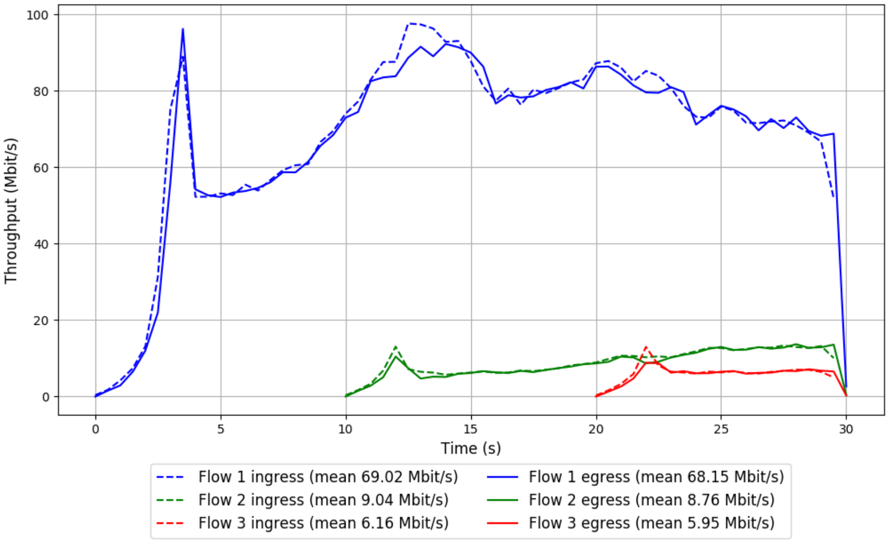


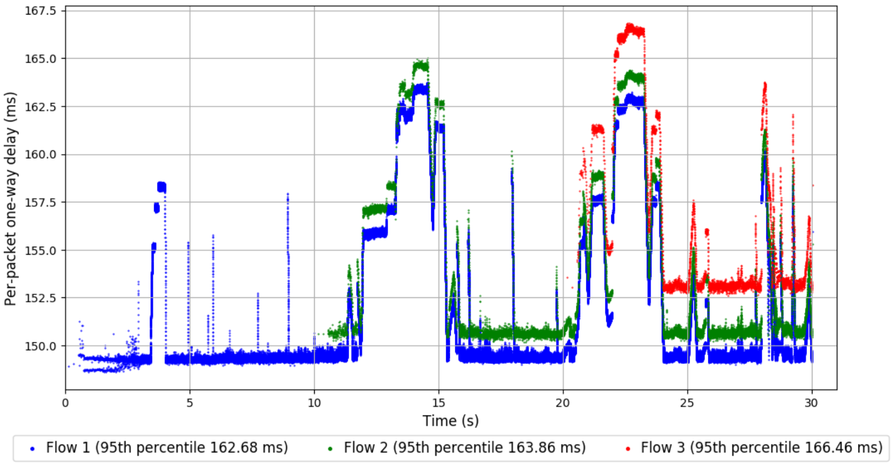
```
Run 7: Statistics of Vivace-latency

Start at: 2018-04-03 23:55:20
End at: 2018-04-03 23:55:50
Local clock offset: 6.185 ms
Remote clock offset: -2.936 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.94 Mbit/s
95th percentile per-packet one-way delay: 162.766 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 68.15 Mbit/s
95th percentile per-packet one-way delay: 162.676 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 163.858 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 166.455 ms
Loss rate: 3.43%
```

Run 7: Report of Vivace-latency — Data Link



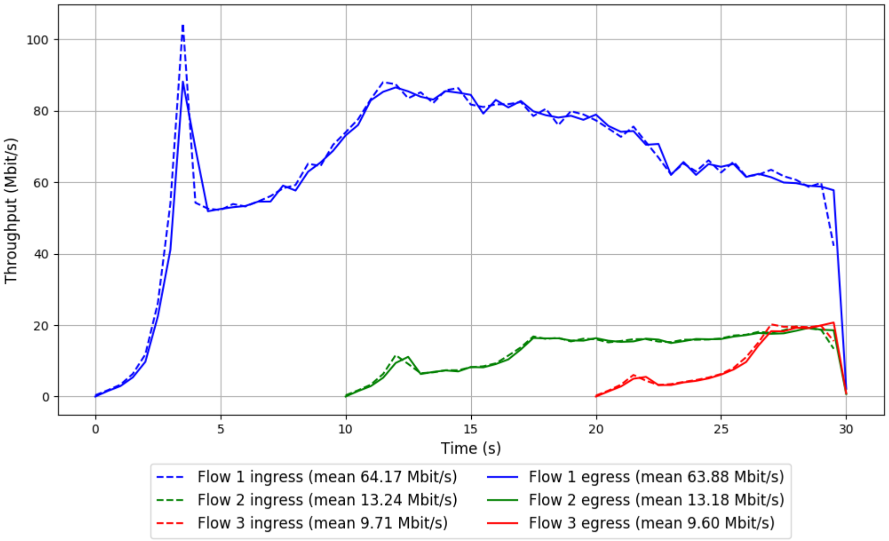


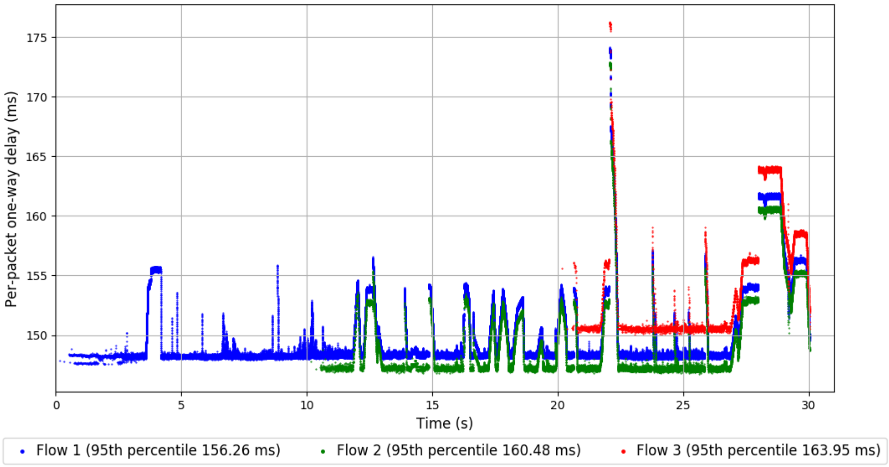
```
Run 8: Statistics of Vivace-latency

Start at: 2018-04-04 00:20:35
End at: 2018-04-04 00:21:05
Local clock offset: 9.846 ms
Remote clock offset: 0.377 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.80 Mbit/s
95th percentile per-packet one-way delay: 159.020 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 63.88 Mbit/s
95th percentile per-packet one-way delay: 156.264 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 13.18 Mbit/s
95th percentile per-packet one-way delay: 160.476 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 163.954 ms
Loss rate: 1.23%
```

Run 8: Report of Vivace-latency — Data Link



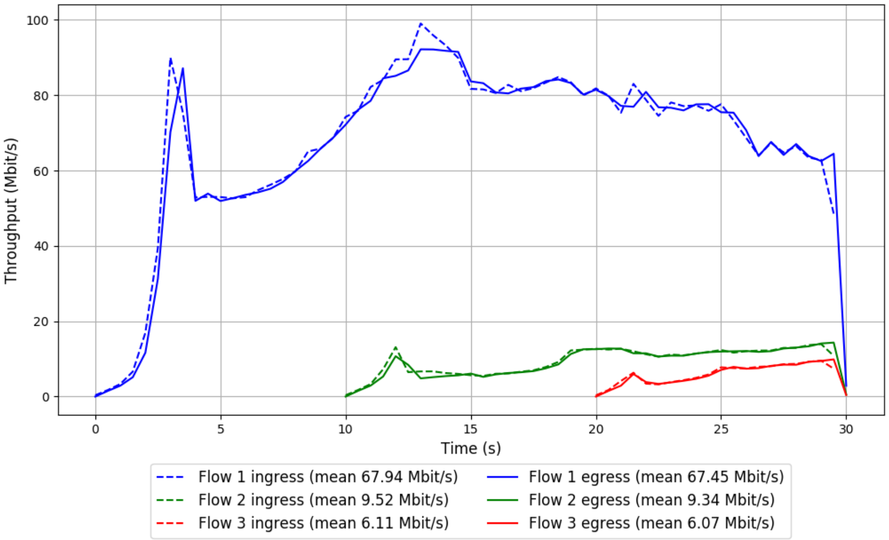


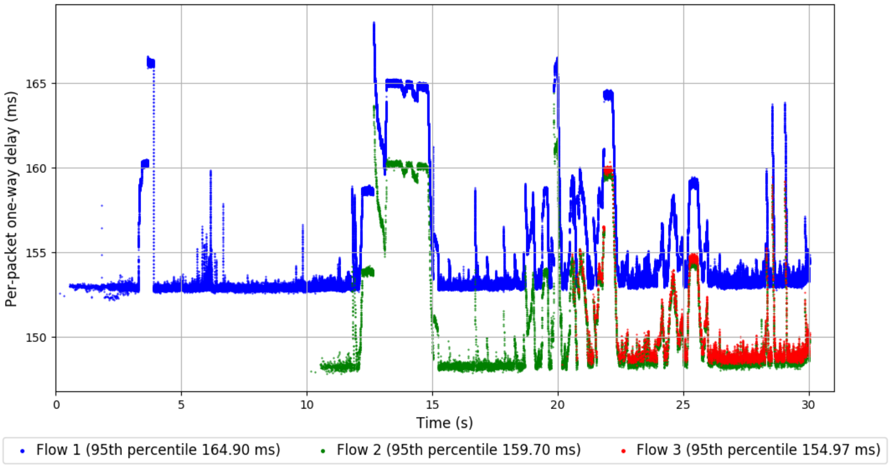
```
Run 9: Statistics of Vivace-latency

Start at: 2018-04-04 00:45:13
End at: 2018-04-04 00:45:43
Local clock offset: 9.998 ms
Remote clock offset: 3.333 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.66 Mbit/s
95th percentile per-packet one-way delay: 164.857 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 67.45 Mbit/s
95th percentile per-packet one-way delay: 164.900 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 159.700 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 6.07 Mbit/s
95th percentile per-packet one-way delay: 154.971 ms
Loss rate: 0.59%
```

Run 9: Report of Vivace-latency — Data Link



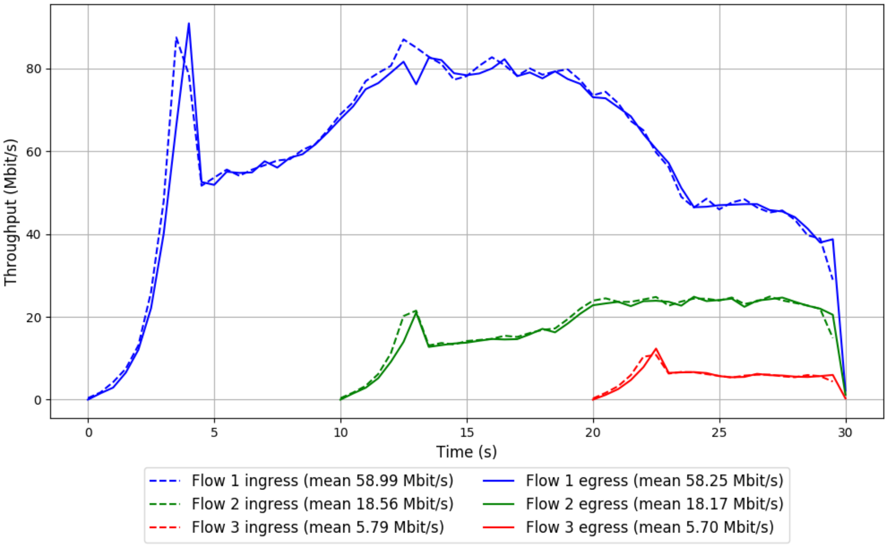


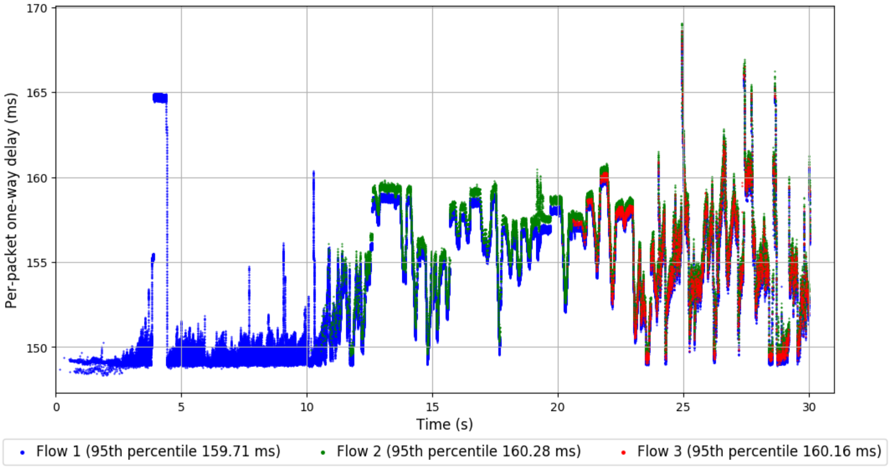
```
Run 10: Statistics of Vivace-latency

Start at: 2018-04-04 01:10:08
End at: 2018-04-04 01:10:38
Local clock offset: 9.693 ms
Remote clock offset: -2.191 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.22 Mbit/s
95th percentile per-packet one-way delay: 159.804 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 159.707 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 18.17 Mbit/s
95th percentile per-packet one-way delay: 160.279 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 160.159 ms
Loss rate: 1.54%
```

Run 10: Report of Vivace-latency — Data Link



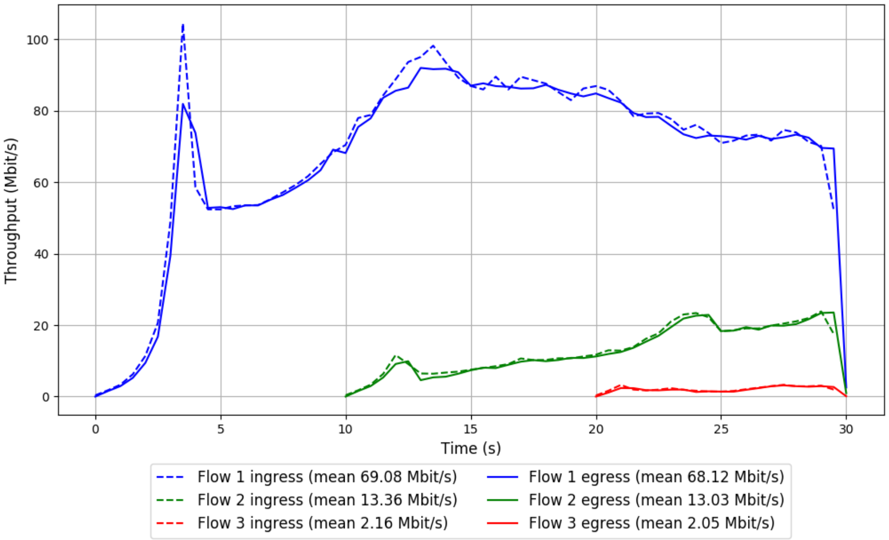


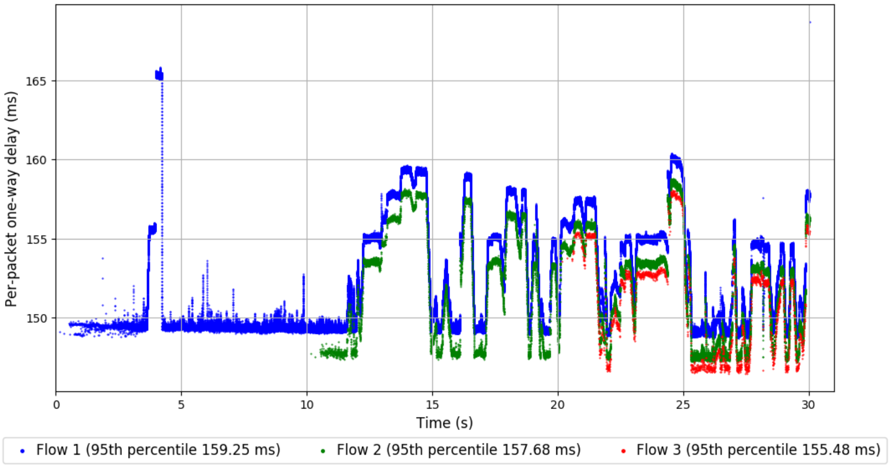
```
Run 1: Statistics of Vivace-loss

Start at: 2018-04-03 21:21:33
End at: 2018-04-03 21:22:03
Local clock offset: 6.184 ms
Remote clock offset: -10.027 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.46 Mbit/s
95th percentile per-packet one-way delay: 159.178 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 68.12 Mbit/s
95th percentile per-packet one-way delay: 159.246 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 13.03 Mbit/s
95th percentile per-packet one-way delay: 157.680 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 155.480 ms
Loss rate: 4.96%
```

Run 1: Report of Vivace-loss — Data Link



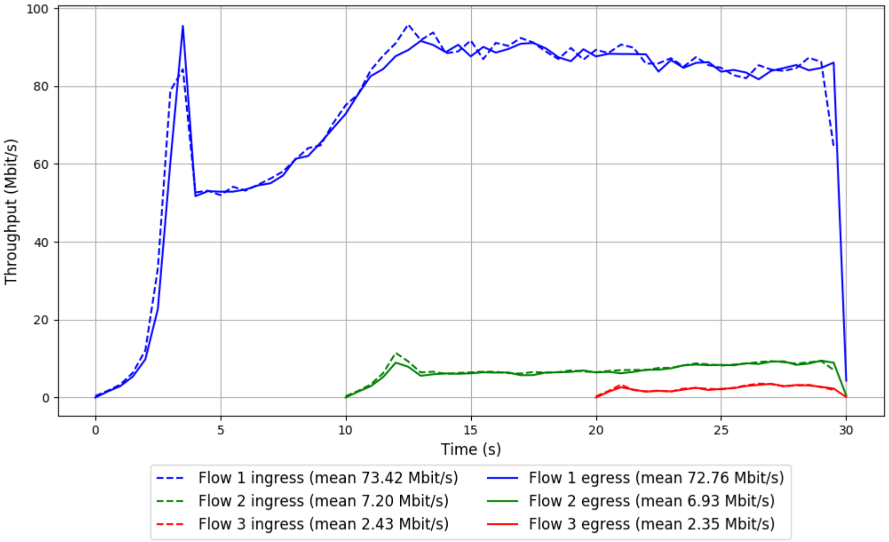


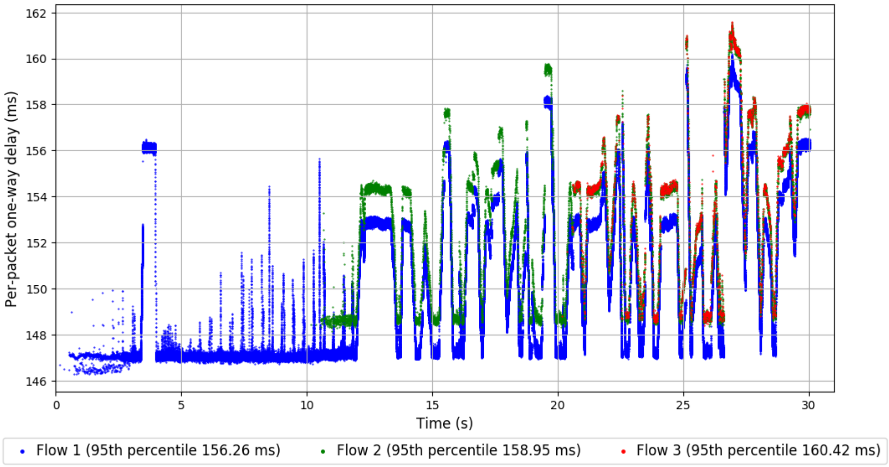
```
Run 2: Statistics of Vivace-loss

Start at: 2018-04-03 21:45:56
End at: 2018-04-03 21:46:26
Local clock offset: 6.423 ms
Remote clock offset: 2.632 ms

# Below is generated by plot.py at 2018-04-04 01:57:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.14 Mbit/s
95th percentile per-packet one-way delay: 156.395 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 72.76 Mbit/s
95th percentile per-packet one-way delay: 156.260 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 158.952 ms
Loss rate: 3.63%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 160.418 ms
Loss rate: 3.31%
```

Run 2: Report of Vivace-loss — Data Link



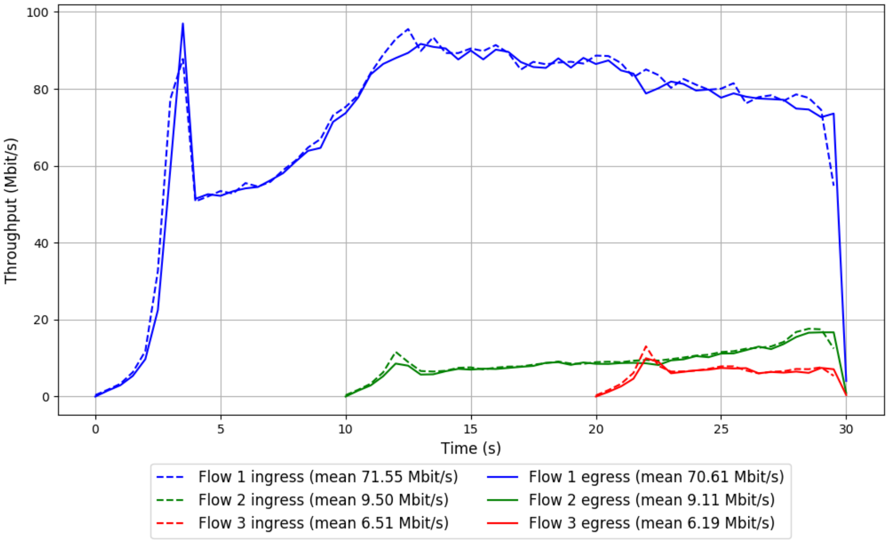


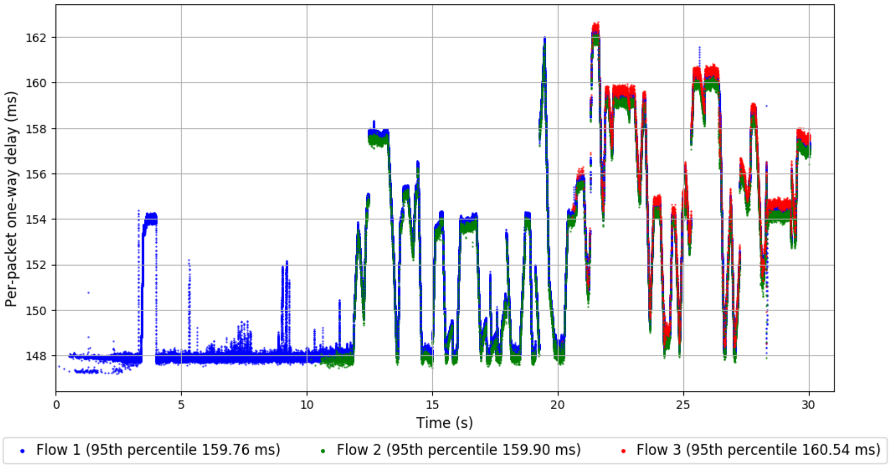
```
Run 3: Statistics of Vivace-loss

Start at: 2018-04-03 22:10:14
End at: 2018-04-03 22:10:44
Local clock offset: 10.292 ms
Remote clock offset: -2.583 ms

# Below is generated by plot.py at 2018-04-04 01:58:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.71 Mbit/s
95th percentile per-packet one-way delay: 159.919 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 70.61 Mbit/s
95th percentile per-packet one-way delay: 159.763 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 9.11 Mbit/s
95th percentile per-packet one-way delay: 159.904 ms
Loss rate: 4.05%
-- Flow 3:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 160.539 ms
Loss rate: 4.80%
```

Run 3: Report of Vivace-loss — Data Link



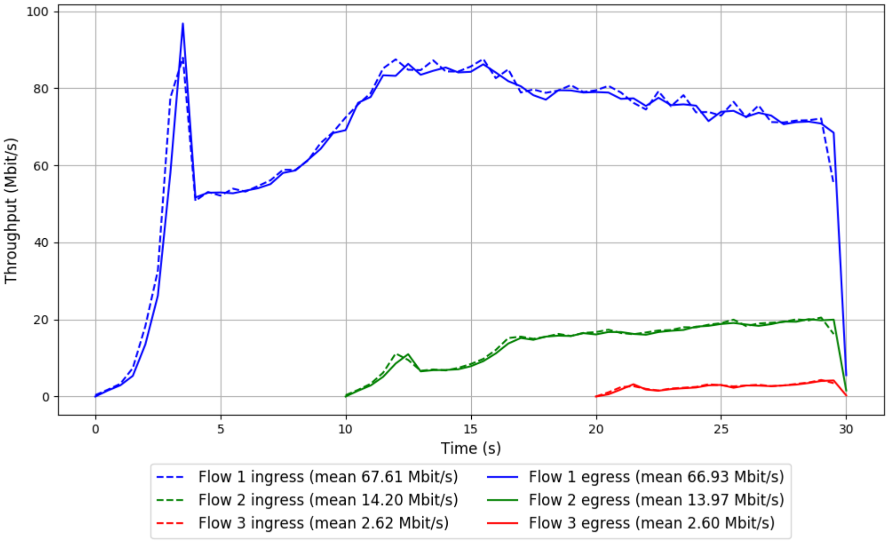


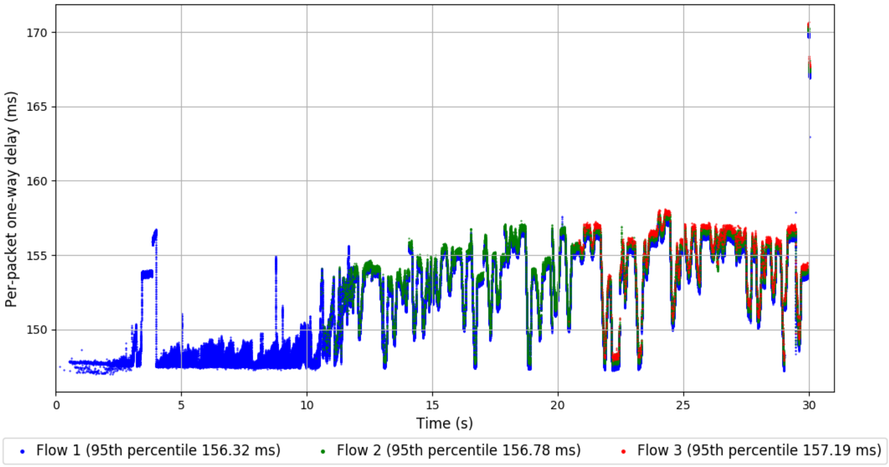
```
Run 4: Statistics of Vivace-loss

Start at: 2018-04-03 22:34:42
End at: 2018-04-03 22:35:12
Local clock offset: 7.213 ms
Remote clock offset: 1.796 ms

# Below is generated by plot.py at 2018-04-04 01:58:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.06 Mbit/s
95th percentile per-packet one-way delay: 156.438 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 66.93 Mbit/s
95th percentile per-packet one-way delay: 156.321 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 13.97 Mbit/s
95th percentile per-packet one-way delay: 156.782 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 157.186 ms
Loss rate: 3.10%
```

Run 4: Report of Vivace-loss — Data Link



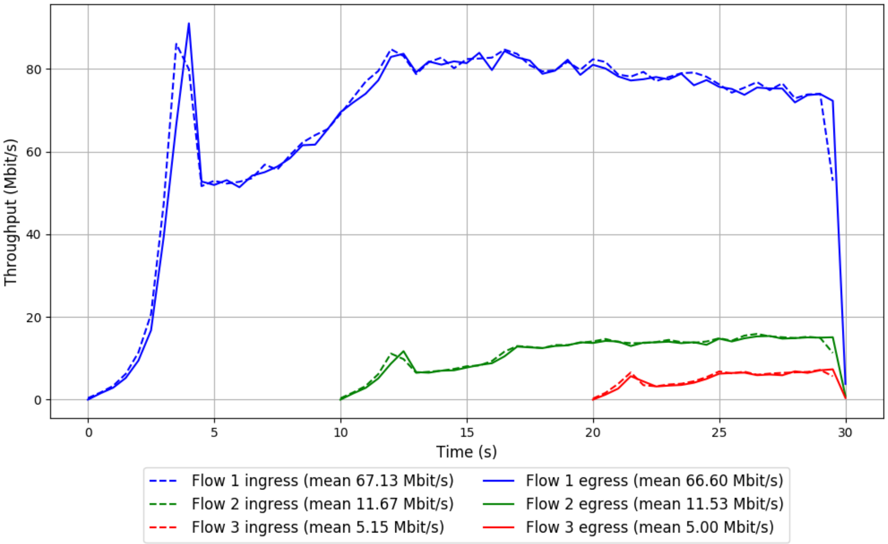


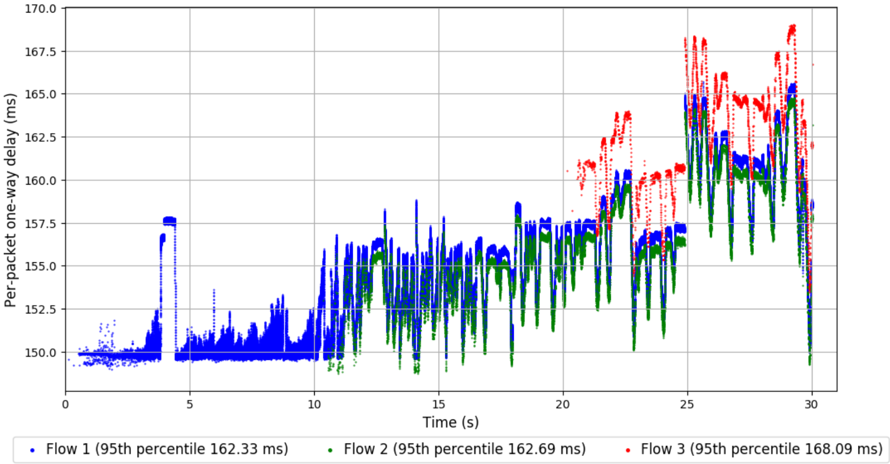
```
Run 5: Statistics of Vivace-loss

Start at: 2018-04-03 22:59:01
End at: 2018-04-03 22:59:31
Local clock offset: 6.25 ms
Remote clock offset: 10.578 ms

# Below is generated by plot.py at 2018-04-04 01:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.90 Mbit/s
95th percentile per-packet one-way delay: 162.770 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 66.60 Mbit/s
95th percentile per-packet one-way delay: 162.329 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 11.53 Mbit/s
95th percentile per-packet one-way delay: 162.692 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 168.093 ms
Loss rate: 2.78%
```

Run 5: Report of Vivace-loss — Data Link



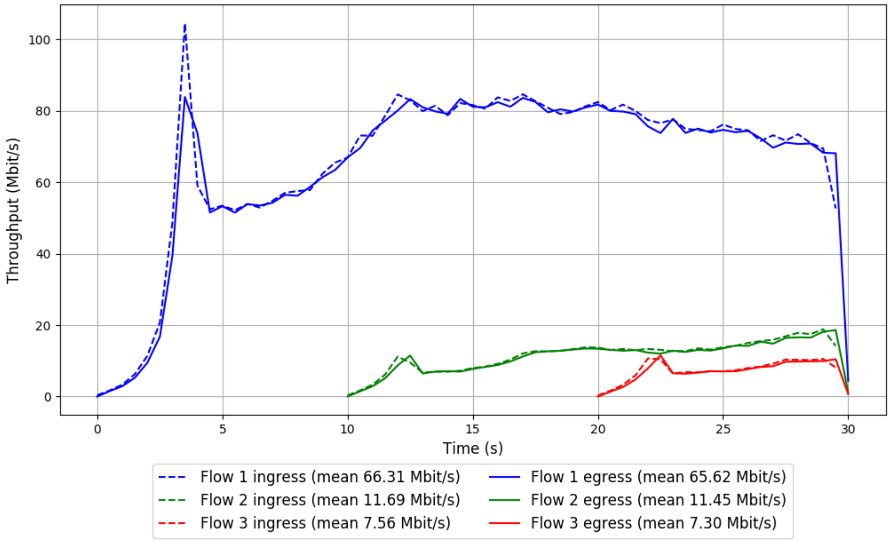


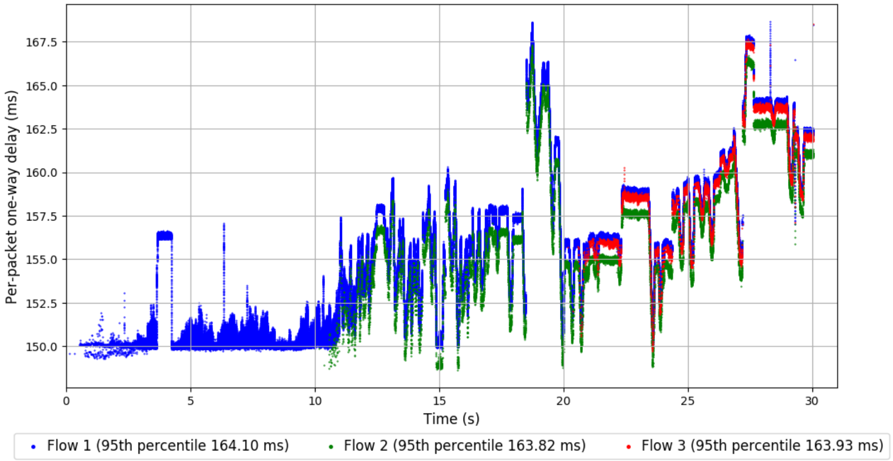
```
Run 6: Statistics of Vivace-loss

Start at: 2018-04-03 23:24:09
End at: 2018-04-03 23:24:39
Local clock offset: 6.411 ms
Remote clock offset: -4.038 ms

# Below is generated by plot.py at 2018-04-04 01:58:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.64 Mbit/s
95th percentile per-packet one-way delay: 164.091 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 65.62 Mbit/s
95th percentile per-packet one-way delay: 164.097 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 11.45 Mbit/s
95th percentile per-packet one-way delay: 163.821 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 7.30 Mbit/s
95th percentile per-packet one-way delay: 163.929 ms
Loss rate: 3.36%
```

Run 6: Report of Vivace-loss — Data Link



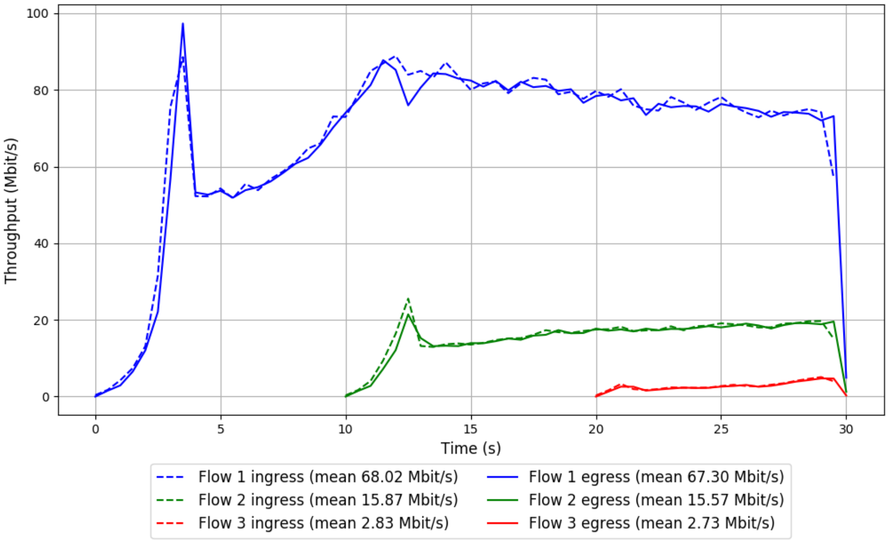


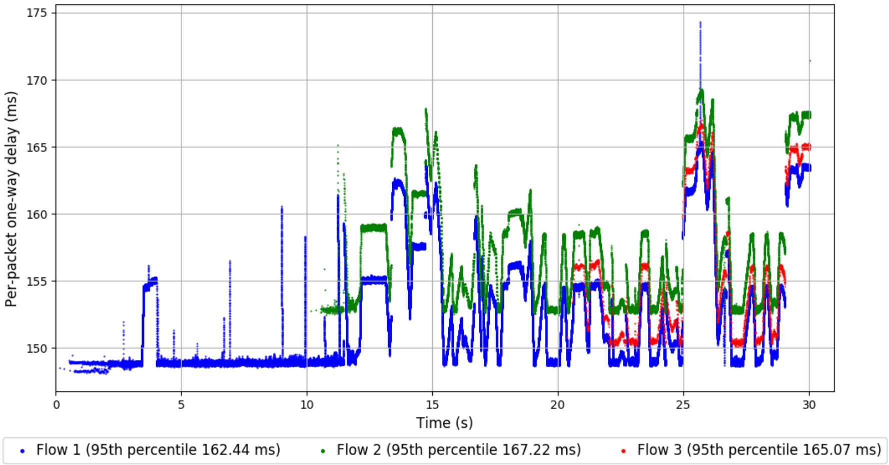
```
Run 7: Statistics of Vivace-loss

Start at: 2018-04-03 23:48:21
End at: 2018-04-03 23:48:51
Local clock offset: 6.305 ms
Remote clock offset: -3.461 ms

# Below is generated by plot.py at 2018-04-04 01:58:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.54 Mbit/s
95th percentile per-packet one-way delay: 163.360 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 67.30 Mbit/s
95th percentile per-packet one-way delay: 162.444 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 15.57 Mbit/s
95th percentile per-packet one-way delay: 167.221 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 165.067 ms
Loss rate: 3.55%
```

Run 7: Report of Vivace-loss — Data Link



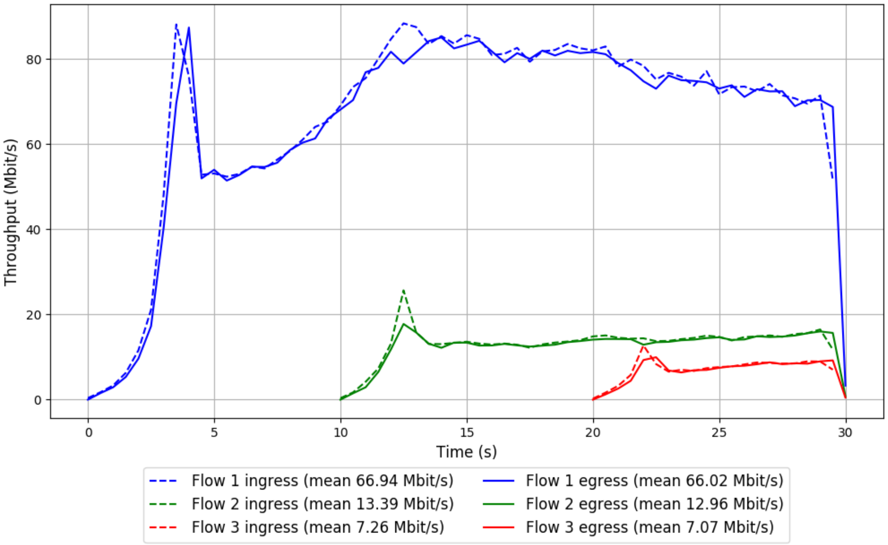


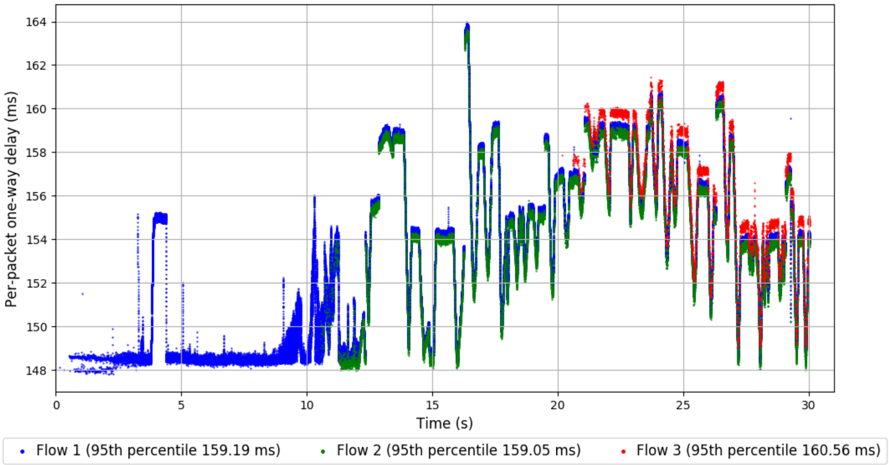
```
Run 8: Statistics of Vivace-loss

Start at: 2018-04-04 00:13:34
End at: 2018-04-04 00:14:04
Local clock offset: 9.025 ms
Remote clock offset: -2.429 ms

# Below is generated by plot.py at 2018-04-04 01:59:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.97 Mbit/s
95th percentile per-packet one-way delay: 159.228 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 66.02 Mbit/s
95th percentile per-packet one-way delay: 159.189 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 159.049 ms
Loss rate: 3.18%
-- Flow 3:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 160.557 ms
Loss rate: 2.64%
```

Run 8: Report of Vivace-loss — Data Link



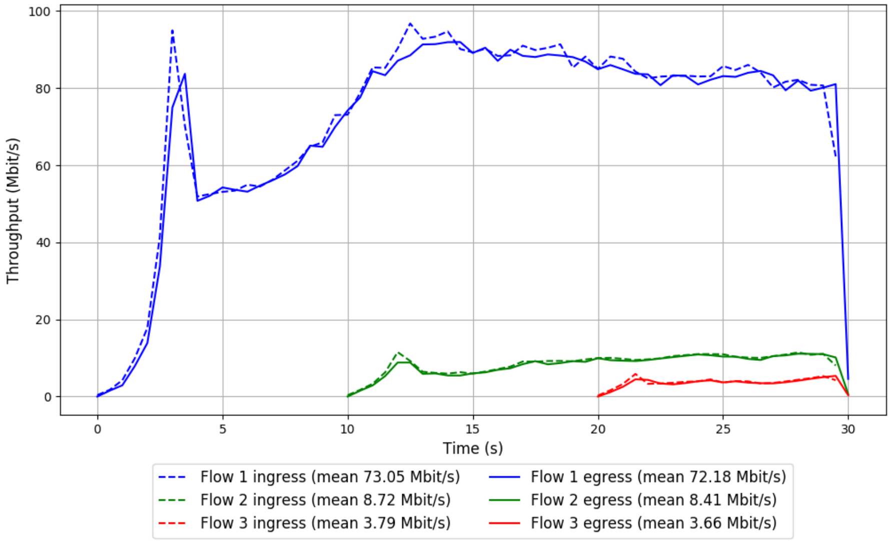


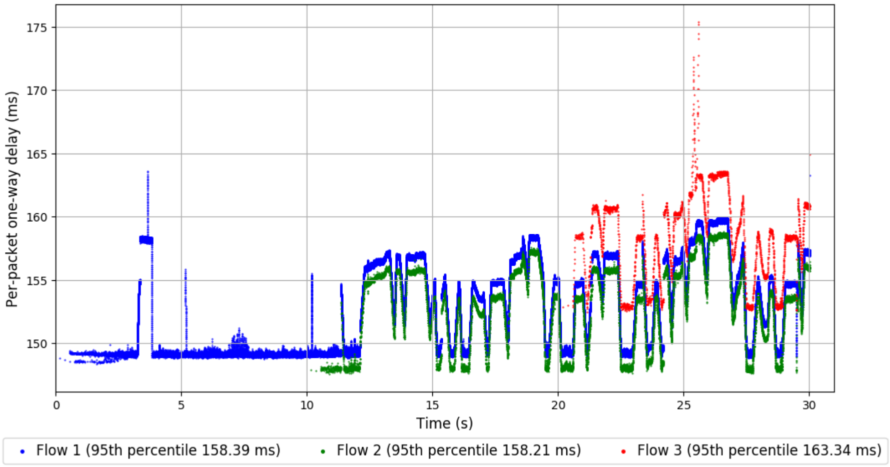
```
Run 9: Statistics of Vivace-loss

Start at: 2018-04-04 00:38:04
End at: 2018-04-04 00:38:34
Local clock offset: 10.869 ms
Remote clock offset: 2.808 ms

# Below is generated by plot.py at 2018-04-04 01:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.97 Mbit/s
95th percentile per-packet one-way delay: 158.482 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 72.18 Mbit/s
95th percentile per-packet one-way delay: 158.389 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.41 Mbit/s
95th percentile per-packet one-way delay: 158.209 ms
Loss rate: 3.43%
-- Flow 3:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 163.344 ms
Loss rate: 3.56%
```

Run 9: Report of Vivace-loss — Data Link





Run 10: Statistics of Vivace-loss

/home/ubuntu/pantheon_data/2018-04-03T21-07-AWS-Korea-to-China-10-runs-3-flows/vivace_loss_s

Run 10: Report of Vivace-loss — Data Link

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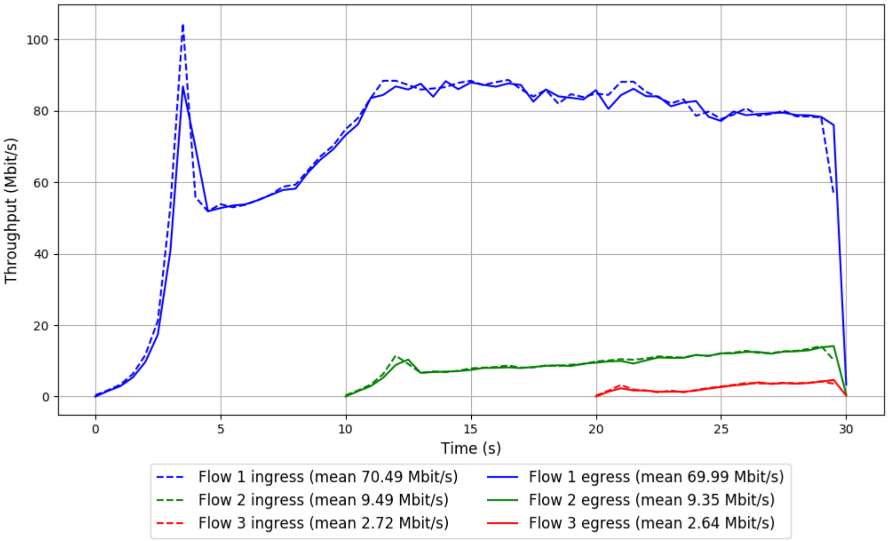
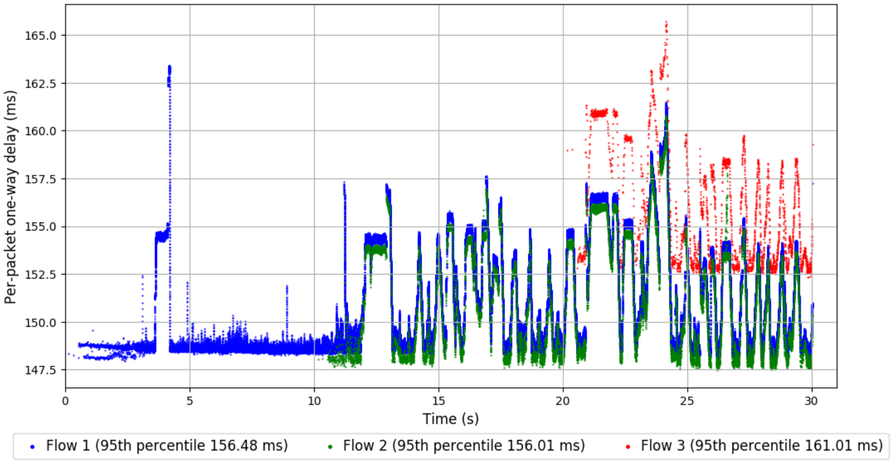
Figure is missing

```
Run 1: Statistics of Vivace-LTE

Start at: 2018-04-03 21:24:14
End at: 2018-04-03 21:24:44
Local clock offset: 5.965 ms
Remote clock offset: -6.611 ms

# Below is generated by plot.py at 2018-04-04 01:59:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 156.498 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 69.99 Mbit/s
95th percentile per-packet one-way delay: 156.479 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 156.010 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 161.009 ms
Loss rate: 2.84%
```

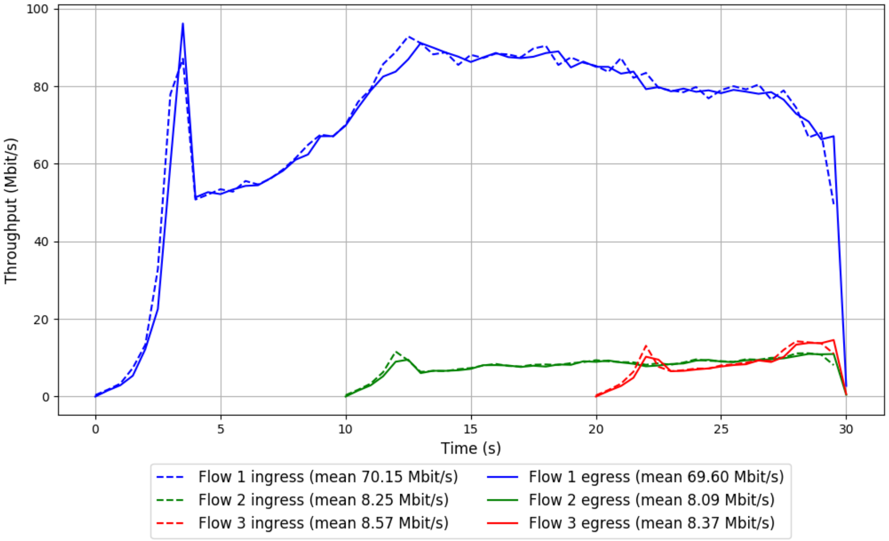
Run 1: Report of Vivace-LTE — Data Link

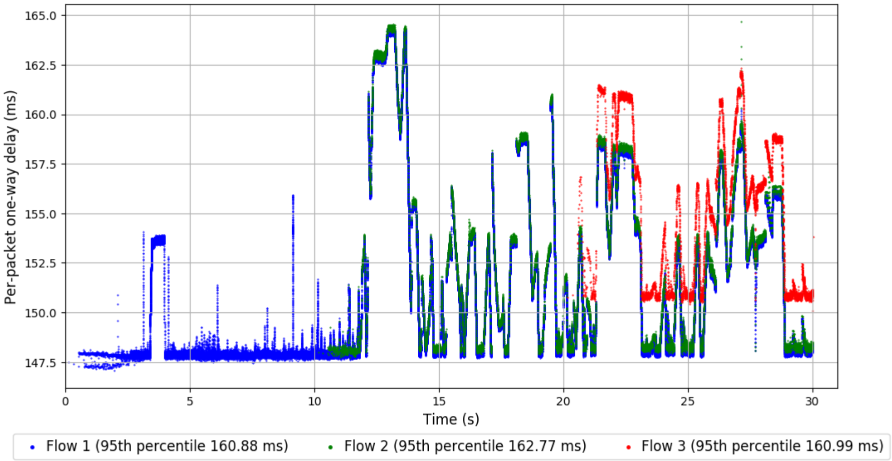




```
Run 2: Statistics of Vivace-LTE

Start at: 2018-04-03 21:48:37
End at: 2018-04-03 21:49:07
Local clock offset: 7.097 ms
Remote clock offset: 2.935 ms

# Below is generated by plot.py at 2018-04-04 01:59:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.72 Mbit/s
95th percentile per-packet one-way delay: 161.005 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 69.60 Mbit/s
95th percentile per-packet one-way delay: 160.879 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 162.767 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 160.985 ms
Loss rate: 2.29%
```

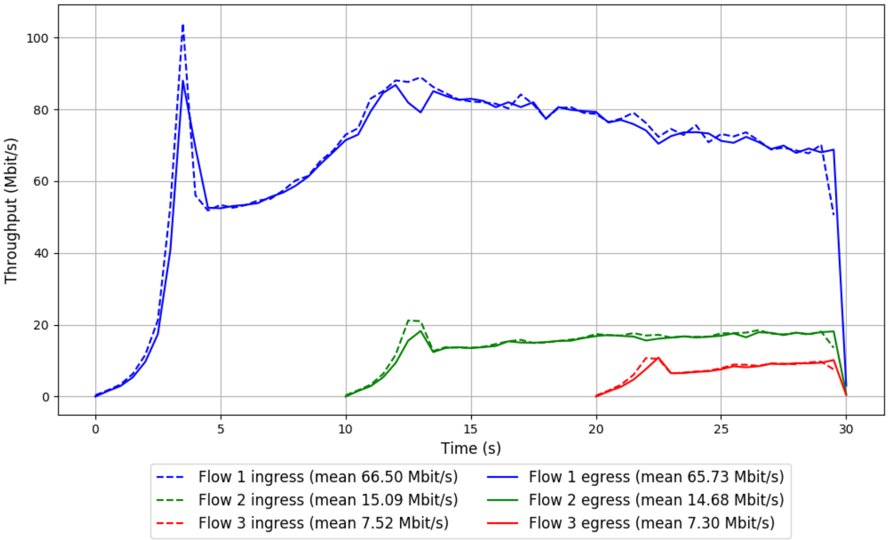
Run 2: Report of Vivace-LTE — Data Link

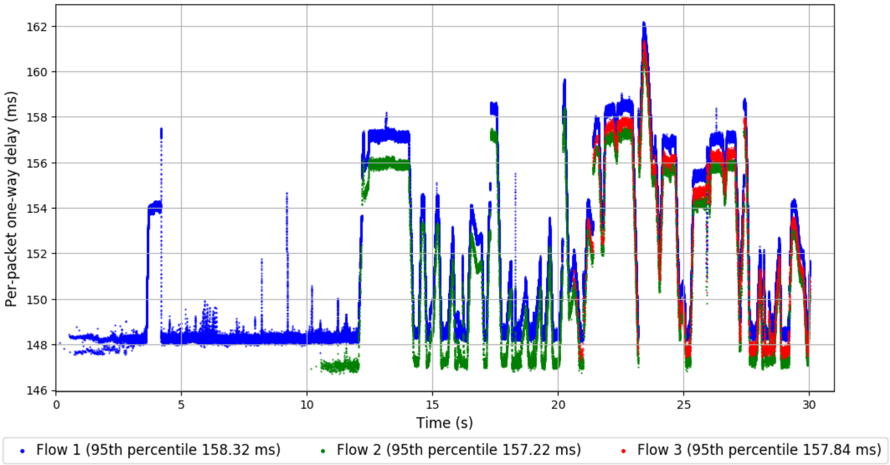




```
Run 3: Statistics of Vivace-LTE

Start at: 2018-04-03 22:12:55
End at: 2018-04-03 22:13:25
Local clock offset: 10.717 ms
Remote clock offset: -3.039 ms

# Below is generated by plot.py at 2018-04-04 01:59:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.89 Mbit/s
95th percentile per-packet one-way delay: 158.262 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 65.73 Mbit/s
95th percentile per-packet one-way delay: 158.317 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 14.68 Mbit/s
95th percentile per-packet one-way delay: 157.215 ms
Loss rate: 2.71%
-- Flow 3:
Average throughput: 7.30 Mbit/s
95th percentile per-packet one-way delay: 157.836 ms
Loss rate: 2.94%
```

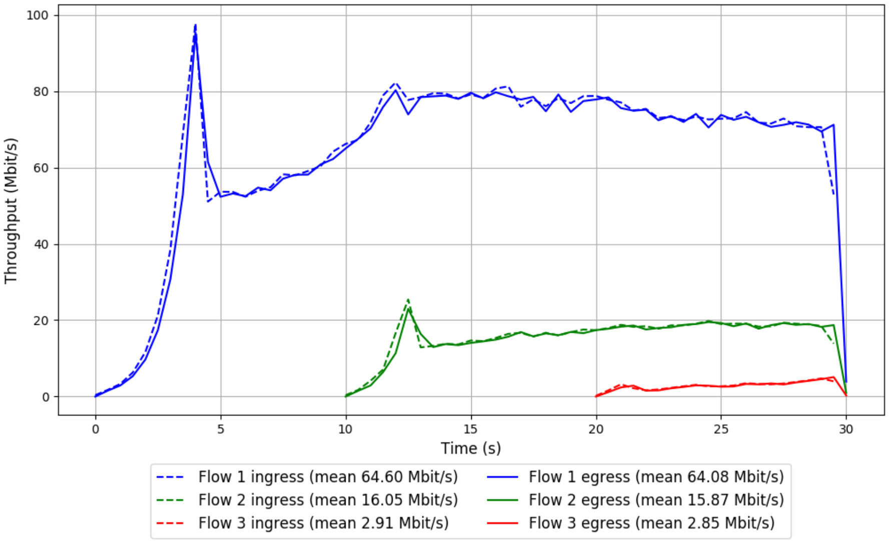
Run 3: Report of Vivace-LTE — Data Link

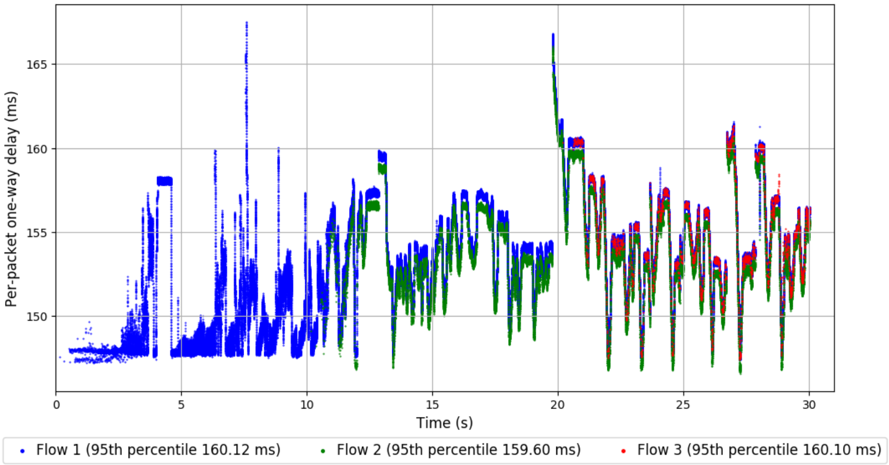




```
Run 4: Statistics of Vivace-LTE

Start at: 2018-04-03 22:37:22
End at: 2018-04-03 22:37:52
Local clock offset: 6.755 ms
Remote clock offset: 3.741 ms

# Below is generated by plot.py at 2018-04-04 01:59:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.57 Mbit/s
95th percentile per-packet one-way delay: 160.026 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 64.08 Mbit/s
95th percentile per-packet one-way delay: 160.116 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 15.87 Mbit/s
95th percentile per-packet one-way delay: 159.602 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 160.101 ms
Loss rate: 1.93%
```

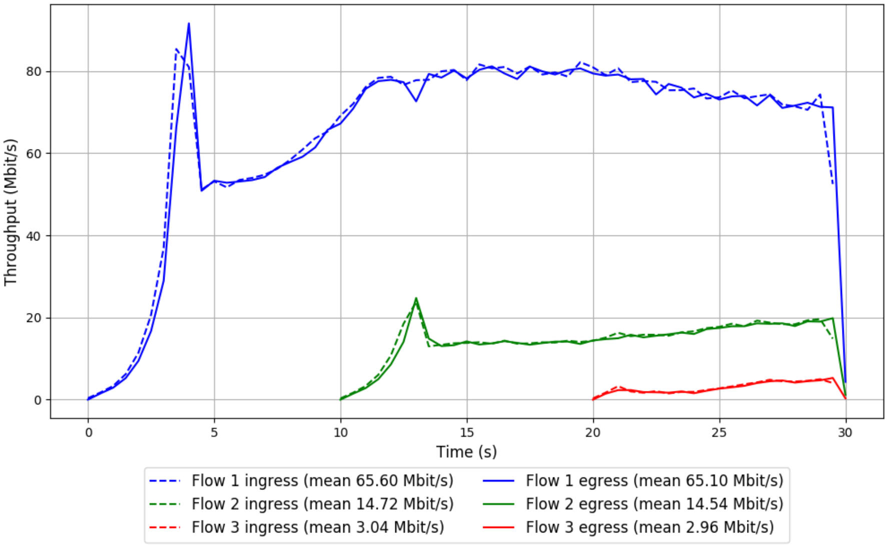
Run 4: Report of Vivace-LTE — Data Link

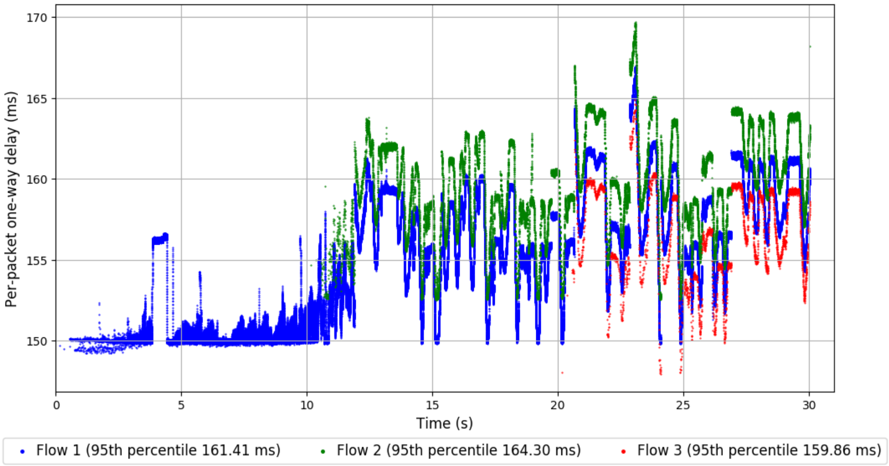




```
Run 5: Statistics of Vivace-LTE

Start at: 2018-04-03 23:01:46
End at: 2018-04-03 23:02:16
Local clock offset: 6.413 ms
Remote clock offset: 10.866 ms

# Below is generated by plot.py at 2018-04-04 01:59:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.73 Mbit/s
95th percentile per-packet one-way delay: 162.066 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 161.414 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 164.300 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 159.861 ms
Loss rate: 2.64%
```

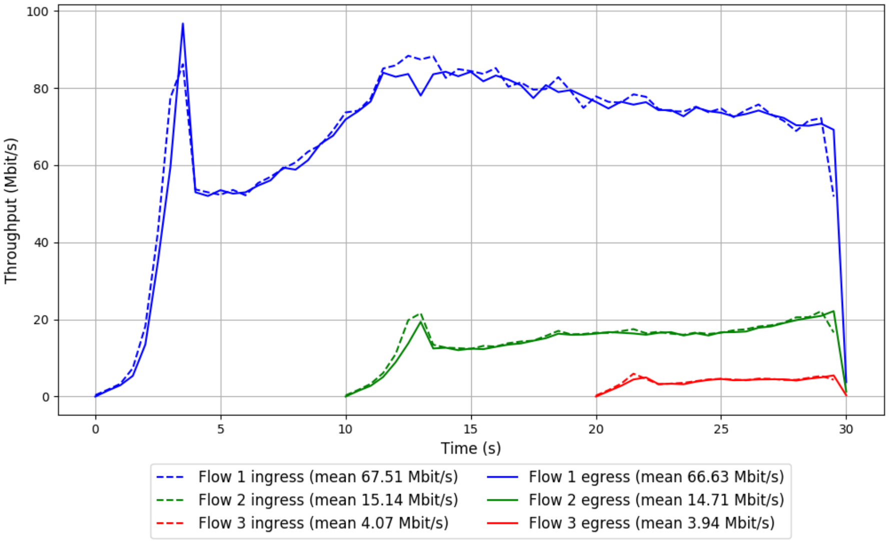
Run 5: Report of Vivace-LTE — Data Link

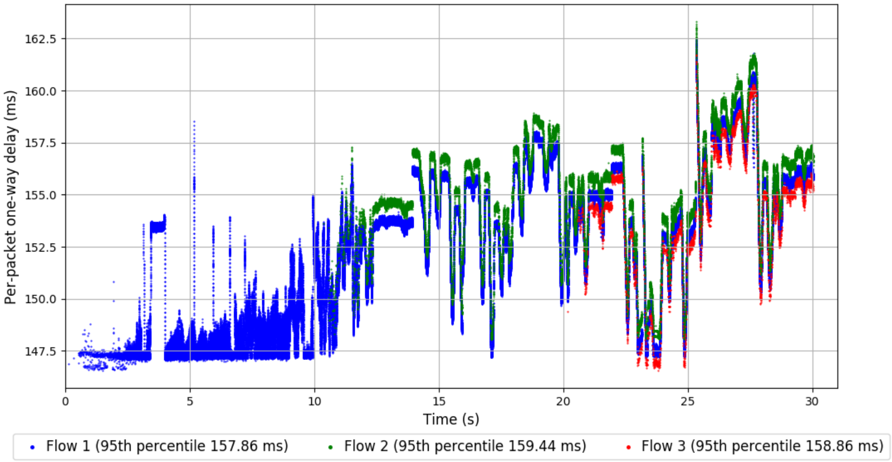




```
Run 6: Statistics of Vivace-LTE

Start at: 2018-04-03 23:26:49
End at: 2018-04-03 23:27:19
Local clock offset: 6.621 ms
Remote clock offset: -4.74 ms

# Below is generated by plot.py at 2018-04-04 01:59:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.71 Mbit/s
95th percentile per-packet one-way delay: 158.339 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 66.63 Mbit/s
95th percentile per-packet one-way delay: 157.859 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 14.71 Mbit/s
95th percentile per-packet one-way delay: 159.440 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 158.863 ms
Loss rate: 3.11%
```

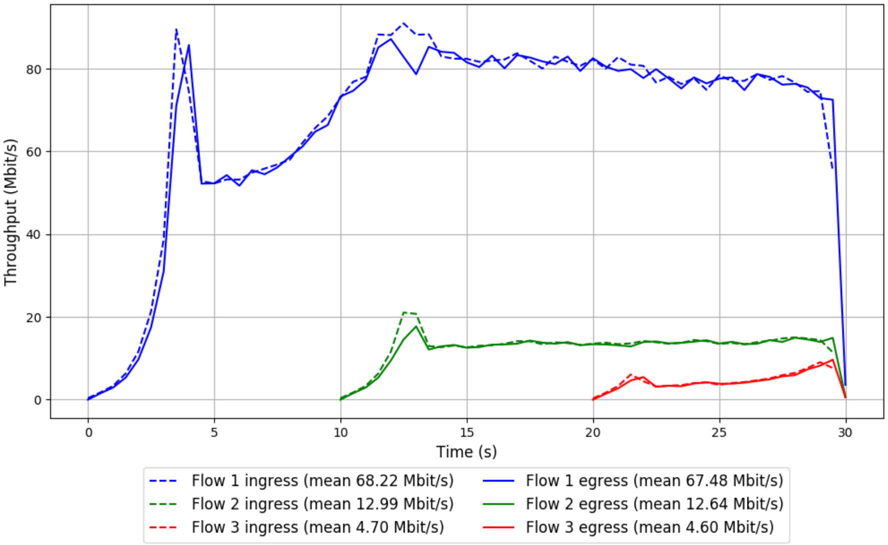
Run 6: Report of Vivace-LTE — Data Link

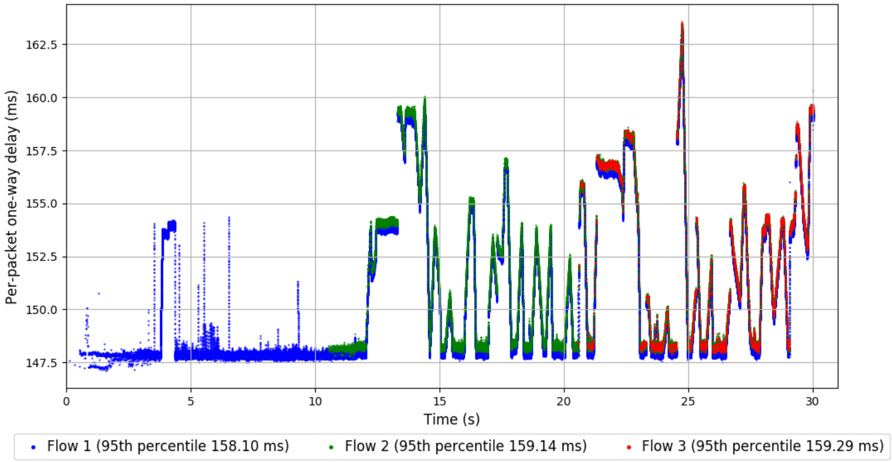




```
Run 7: Statistics of Vivace-LTE

Start at: 2018-04-03 23:51:02
End at: 2018-04-03 23:51:32
Local clock offset: 6.498 ms
Remote clock offset: -3.148 ms

# Below is generated by plot.py at 2018-04-04 02:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.40 Mbit/s
95th percentile per-packet one-way delay: 158.260 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 67.48 Mbit/s
95th percentile per-packet one-way delay: 158.104 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 12.64 Mbit/s
95th percentile per-packet one-way delay: 159.137 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 159.286 ms
Loss rate: 1.97%
```

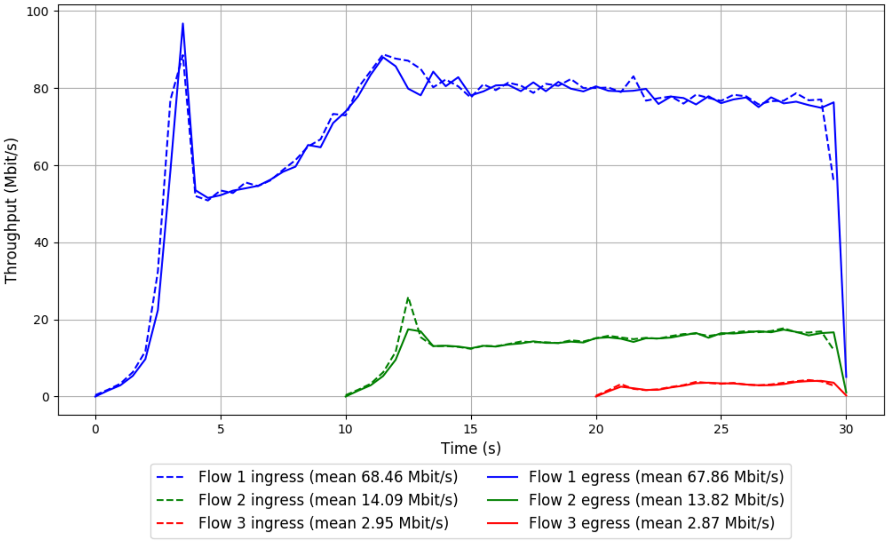
Run 7: Report of Vivace-LTE — Data Link

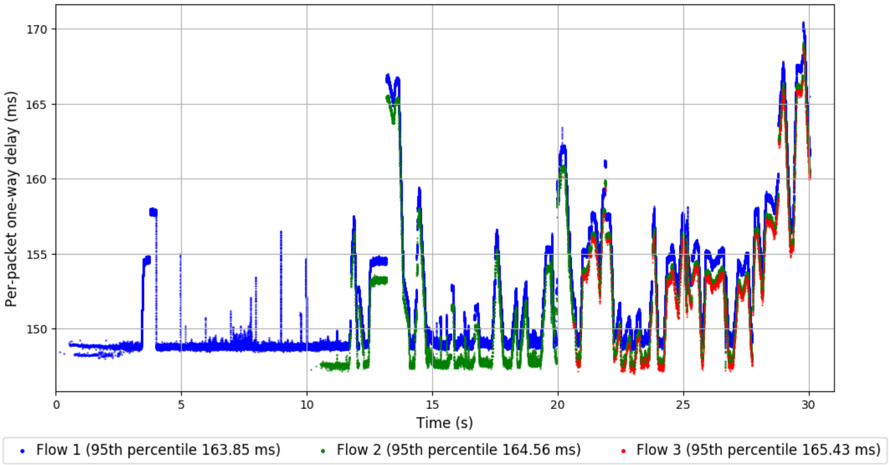




```
Run 8: Statistics of Vivace-LTE

Start at: 2018-04-04 00:16:16
End at: 2018-04-04 00:16:46
Local clock offset: 9.456 ms
Remote clock offset: -1.063 ms

# Below is generated by plot.py at 2018-04-04 02:00:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.00 Mbit/s
95th percentile per-packet one-way delay: 164.038 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 67.86 Mbit/s
95th percentile per-packet one-way delay: 163.854 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 13.82 Mbit/s
95th percentile per-packet one-way delay: 164.558 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 165.426 ms
Loss rate: 2.53%
```

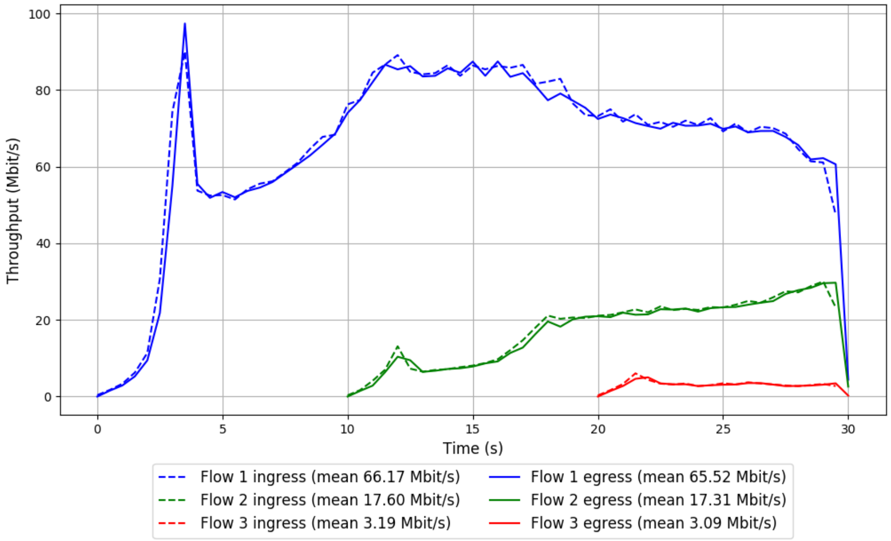
Run 8: Report of Vivace-LTE — Data Link

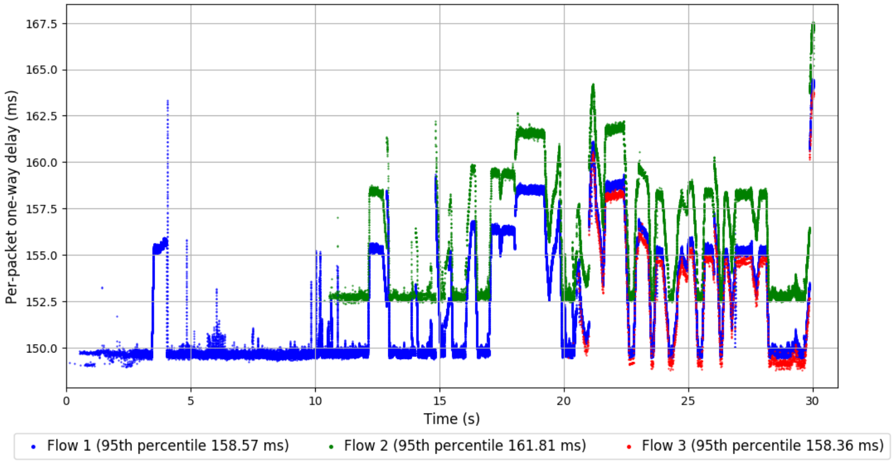




```
Run 9: Statistics of Vivace-LTE

Start at: 2018-04-04 00:40:45
End at: 2018-04-04 00:41:15
Local clock offset: 10.737 ms
Remote clock offset: 3.074 ms

# Below is generated by plot.py at 2018-04-04 02:00:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.05 Mbit/s
95th percentile per-packet one-way delay: 158.901 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 65.52 Mbit/s
95th percentile per-packet one-way delay: 158.571 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 17.31 Mbit/s
95th percentile per-packet one-way delay: 161.806 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 158.357 ms
Loss rate: 3.00%
```

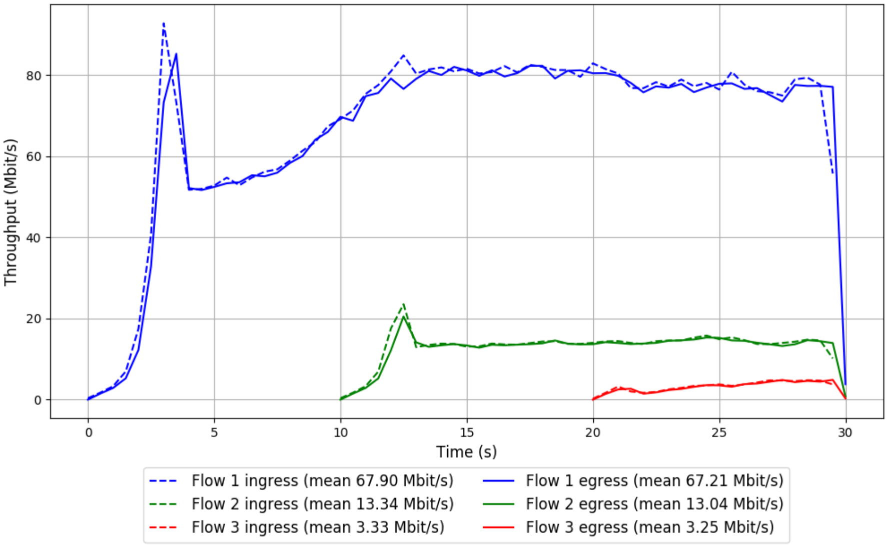
Run 9: Report of Vivace-LTE — Data Link



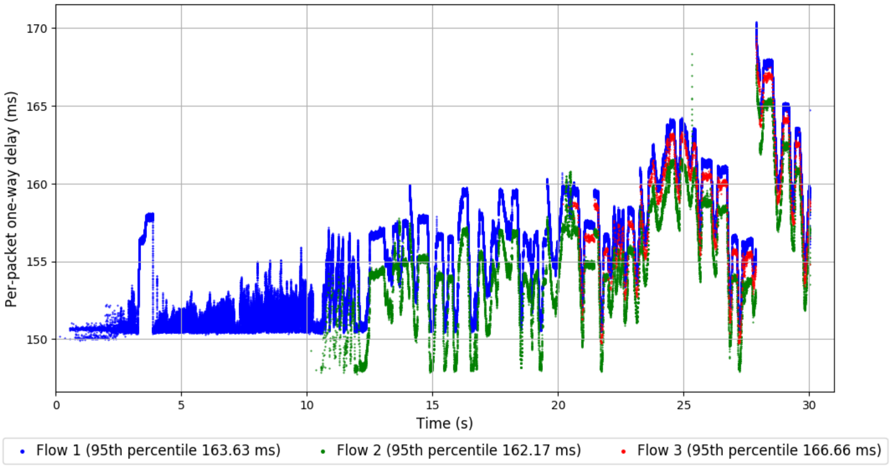


```
Run 10: Statistics of Vivace-LTE

Start at: 2018-04-04 01:06:03
End at: 2018-04-04 01:06:33
Local clock offset: 9.643 ms
Remote clock offset: -1.907 ms

# Below is generated by plot.py at 2018-04-04 02:00:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.95 Mbit/s
95th percentile per-packet one-way delay: 163.578 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 67.21 Mbit/s
95th percentile per-packet one-way delay: 163.632 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 162.166 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 166.664 ms
Loss rate: 2.42%
```

Run 10: Report of Vivace-LTE — Data Link



Throughput (Mbit/s)
0
20
40
60
80
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 67.90 Mbit/s)
Flow 2 ingress (mean 13.34 Mbit/s)
Flow 3 ingress (mean 3.33 Mbit/s)
Flow 1 egress (mean 67.21 Mbit/s)
Flow 2 egress (mean 13.04 Mbit/s)
Flow 3 egress (mean 3.25 Mbit/s)



Per-packet one-way delay (ms)
150
155
160
165
170
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 163.63 ms)
Flow 2 (95th percentile 162.17 ms)
Flow 3 (95th percentile 166.66 ms)