Pantheon Report

Generated at 2018-06-30 19:57:16 (UTC).

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

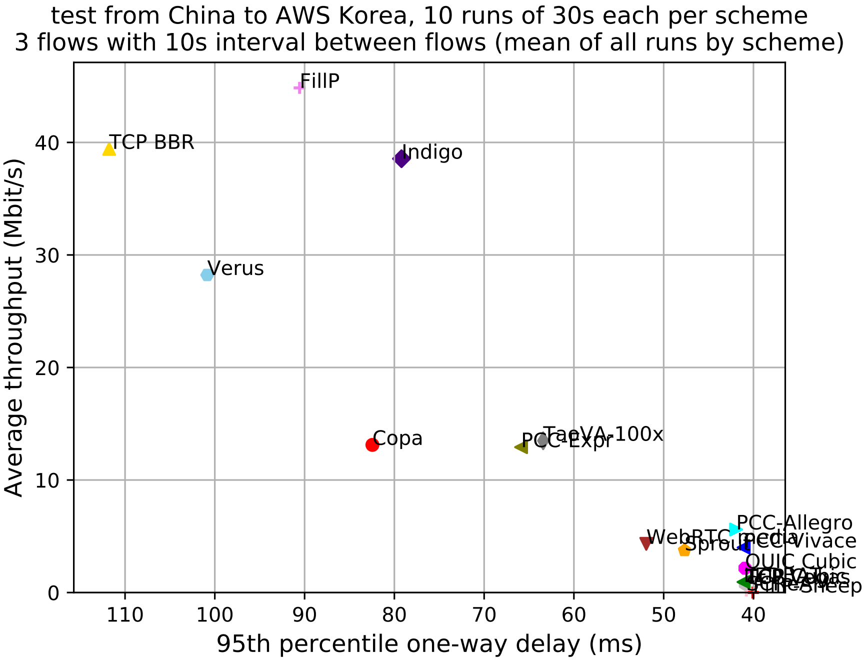
Repeated the test of 17 congestion control schemes 10 times.

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

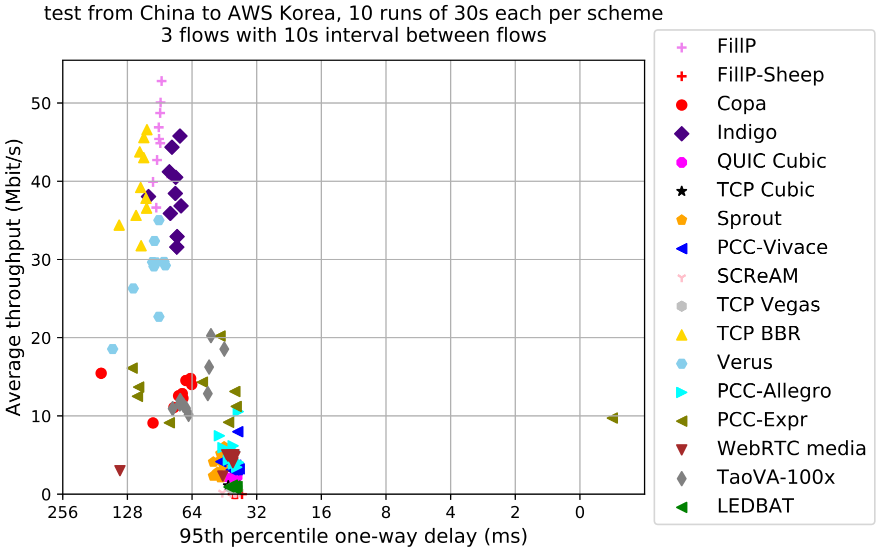
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

```
Git summary:
branch: master @ 715dc5f09d172e419699f6f17f1cb4c45064f212
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 30060ab034deb3424347f5cc3db86198eac35d2a
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```



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

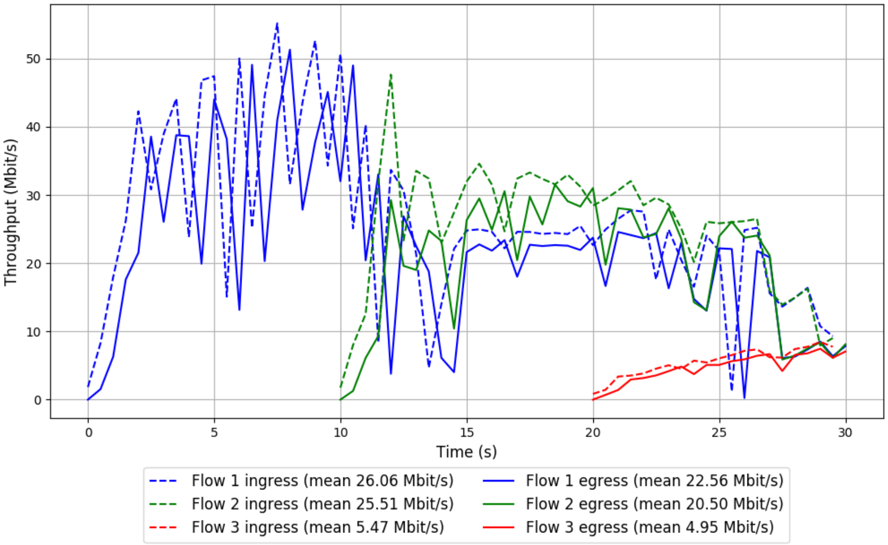


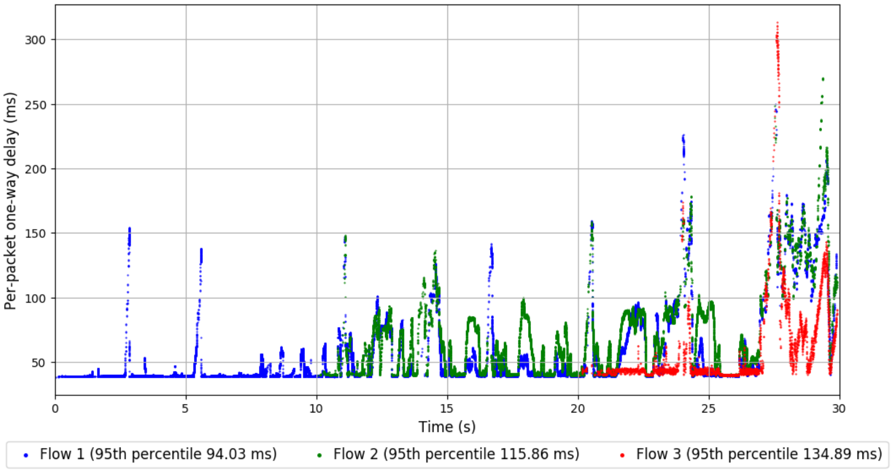
test from China to AWS Korea, 10 runs of 30s each per scheme
3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s) flow 1	flow 2	flow 3	mean 95th-%ile delay (ms) flow 1	flow 2	flow 3	mean loss rate (%) flow 1	flow 2	flow 3
TCP BBR	10	23.62	17.65	12.51	106.63	113.00	126.54	13.72	15.49	12.83
Copa	10	6.68	6.90	6.71	83.28	82.98	86.29	18.41	17.66	16.32
TCP Cubic	10	0.42	0.41	0.47	40.58	40.84	40.77	7.65	8.50	8.10
FillP	10	27.40	18.89	14.95	86.06	92.62	97.67	23.13	26.09	28.71
FillP-Sheep	10	0.00	0.00	0.00	40.52	40.15	39.85	0.20	0.61	3.06
Indigo	10	27.03	12.02	10.92	77.82	68.52	72.75	41.06	13.18	11.11
LEDBAT	10	0.45	0.49	0.52	41.10	40.74	41.04	8.29	7.78	8.15
PCC-Allegro	10	2.63	3.25	2.49	41.35	41.63	45.90	8.39	8.45	8.94
PCC-Expr	10	5.83	7.47	6.49	56.77	64.74	90.28	8.64	9.25	10.47
QUIC Cubic	10	1.03	1.13	1.18	40.66	40.83	41.14	7.85	8.09	8.31
SCReAM	10	0.09	0.09	0.11	40.66	40.33	40.87	3.61	4.65	5.41
Sprout	10	1.44	2.48	2.04	45.50	47.45	46.72	7.83	8.35	8.25
TaoVA-100x	10	7.62	6.04	6.00	57.98	68.63	77.29	9.86	12.04	14.71
TCP Vegas	10	0.37	0.41	0.41	40.70	40.98	41.23	8.23	7.92	9.35
Verus	10	18.57	11.25	7.08	90.68	114.24	113.81	41.95	26.67	25.07
PCC-Vivace	10	1.84	2.23	2.07	41.28	40.80	41.05	7.90	8.15	8.41
WebRTC media	10	2.39	1.47	0.48	51.70	51.77	52.49	6.17	6.36	7.36

```
Run 1: Statistics of TCP BBR

Start at: 2018-06-30 14:14:06
End at: 2018-06-30 14:14:36
Local clock offset: -0.26 ms
Remote clock offset: -9.09 ms

# Below is generated by plot.py at 2018-06-30 19:52:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.81 Mbit/s
95th percentile per-packet one-way delay: 104.868 ms
Loss rate: 16.04%
-- Flow 1:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 94.032 ms
Loss rate: 13.78%
-- Flow 2:
Average throughput: 20.50 Mbit/s
95th percentile per-packet one-way delay: 115.865 ms
Loss rate: 20.10%
-- Flow 3:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 134.888 ms
Loss rate: 10.58%
```

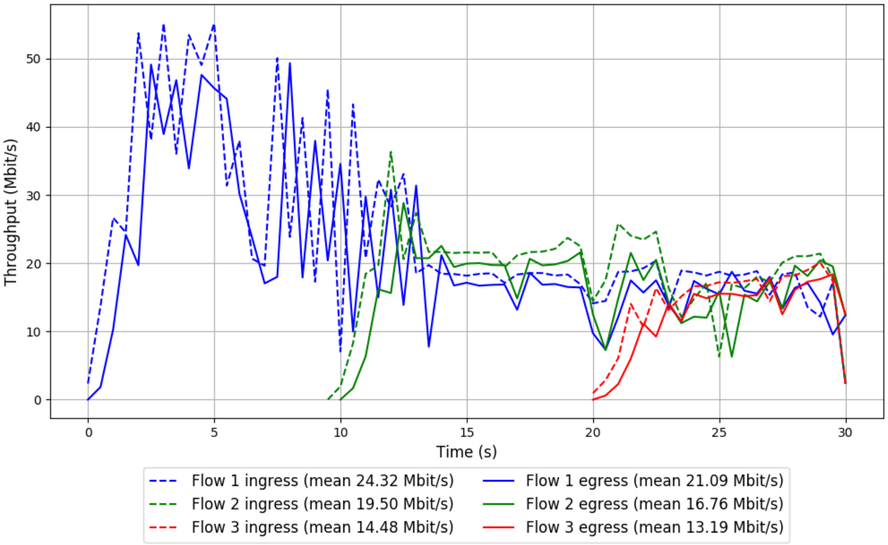
Run 1: Report of TCP BBR — Data Link

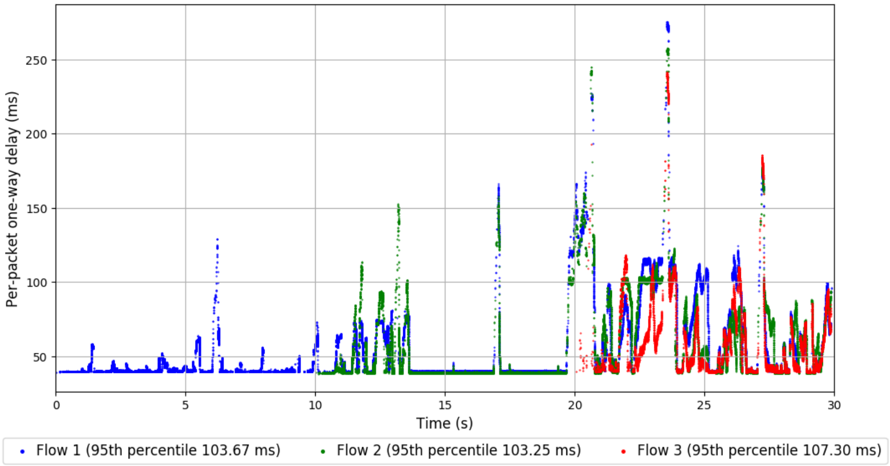




```
Run 2: Statistics of TCP BBR

Start at: 2018-06-30 14:48:37
End at: 2018-06-30 14:49:07
Local clock offset: 0.509 ms
Remote clock offset: -10.775 ms

# Below is generated by plot.py at 2018-06-30 19:52:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.56 Mbit/s
95th percentile per-packet one-way delay: 104.182 ms
Loss rate: 13.98%
-- Flow 1:
Average throughput: 21.09 Mbit/s
95th percentile per-packet one-way delay: 103.668 ms
Loss rate: 13.93%
-- Flow 2:
Average throughput: 16.76 Mbit/s
95th percentile per-packet one-way delay: 103.252 ms
Loss rate: 15.13%
-- Flow 3:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 107.302 ms
Loss rate: 11.11%
```

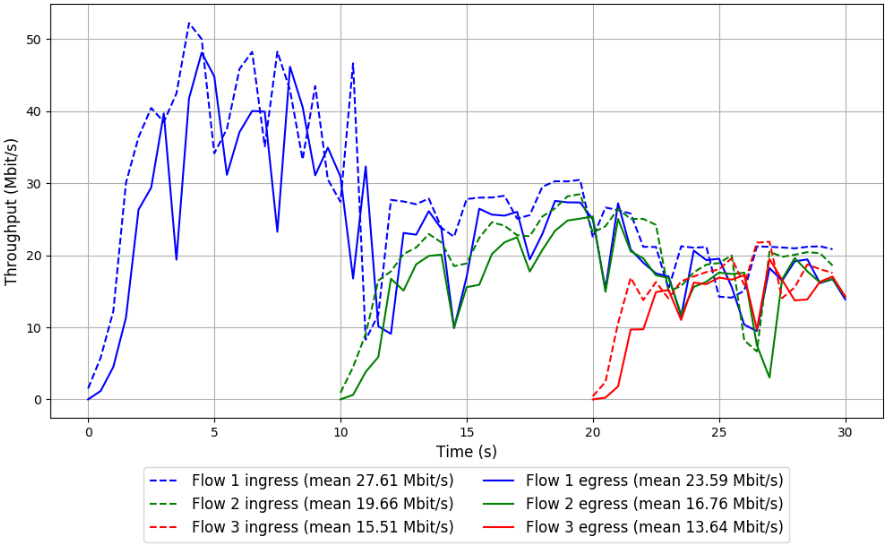
Run 2: Report of TCP BBR — Data Link

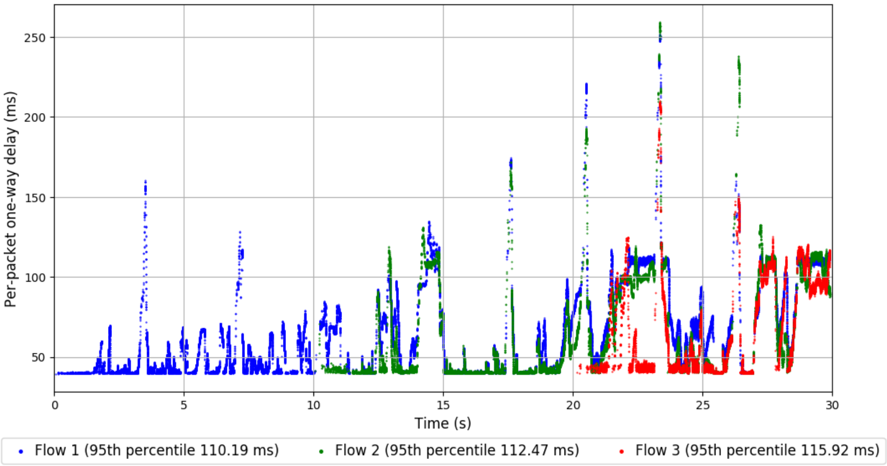




```
Run 3: Statistics of TCP BBR

Start at: 2018-06-30 15:22:50
End at: 2018-06-30 15:23:20
Local clock offset: 4.897 ms
Remote clock offset: -11.114 ms

# Below is generated by plot.py at 2018-06-30 19:52:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 111.057 ms
Loss rate: 14.79%
-- Flow 1:
Average throughput: 23.59 Mbit/s
95th percentile per-packet one-way delay: 110.190 ms
Loss rate: 14.91%
-- Flow 2:
Average throughput: 16.76 Mbit/s
95th percentile per-packet one-way delay: 112.466 ms
Loss rate: 15.20%
-- Flow 3:
Average throughput: 13.64 Mbit/s
95th percentile per-packet one-way delay: 115.917 ms
Loss rate: 13.08%
```

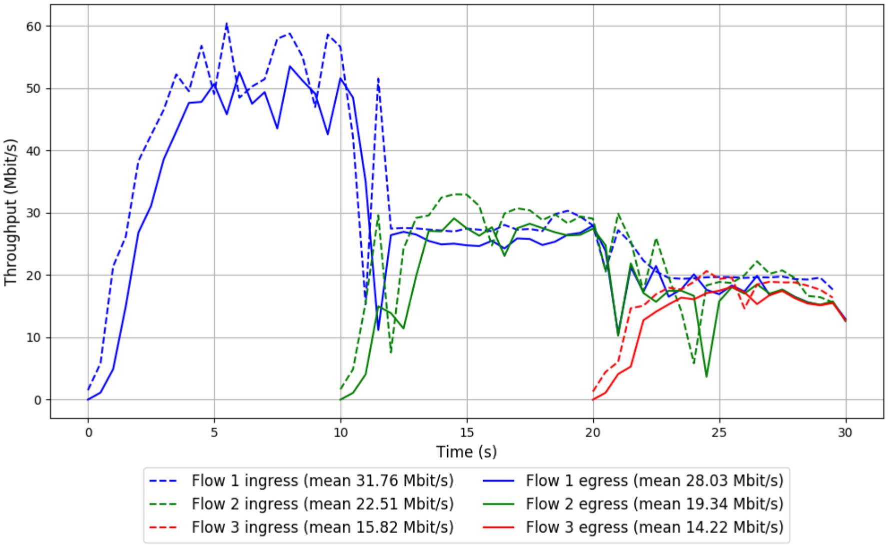
Run 3: Report of TCP BBR — Data Link

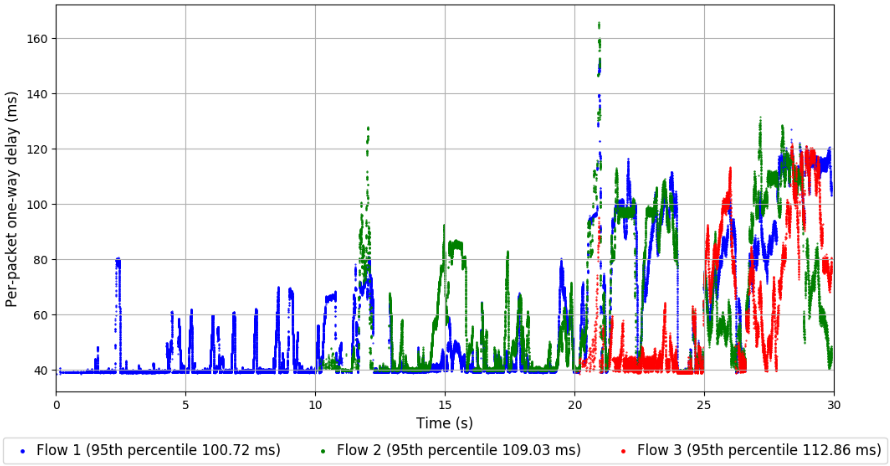




```
Run 4: Statistics of TCP BBR

Start at: 2018-06-30 15:57:34
End at: 2018-06-30 15:58:04
Local clock offset: 6.503 ms
Remote clock offset: -10.097 ms

# Below is generated by plot.py at 2018-06-30 19:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.57 Mbit/s
95th percentile per-packet one-way delay: 107.328 ms
Loss rate: 12.67%
-- Flow 1:
Average throughput: 28.03 Mbit/s
95th percentile per-packet one-way delay: 100.722 ms
Loss rate: 12.04%
-- Flow 2:
Average throughput: 19.34 Mbit/s
95th percentile per-packet one-way delay: 109.026 ms
Loss rate: 14.55%
-- Flow 3:
Average throughput: 14.22 Mbit/s
95th percentile per-packet one-way delay: 112.862 ms
Loss rate: 11.10%
```

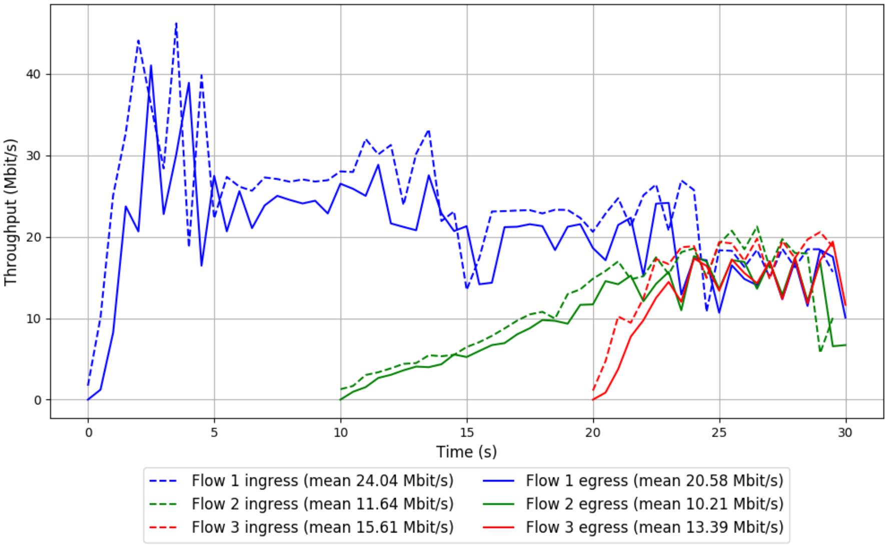
Run 4: Report of TCP BBR — Data Link

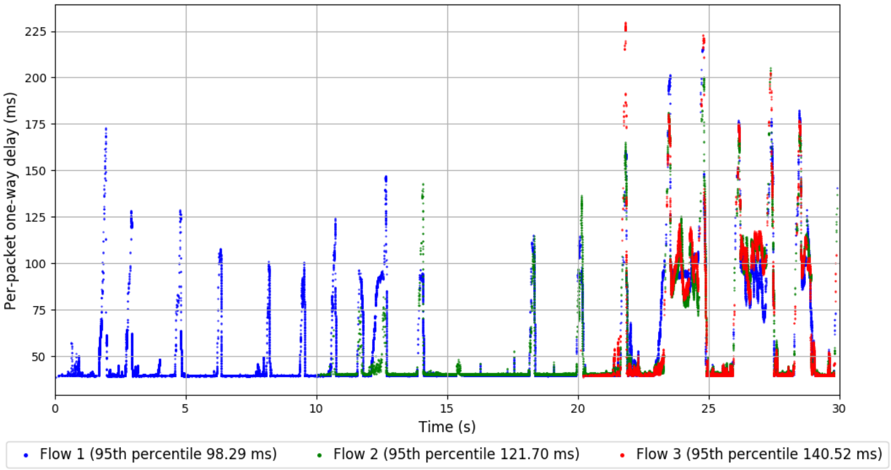




```
Run 5: Statistics of TCP BBR

Start at: 2018-06-30 16:30:34
End at: 2018-06-30 16:31:04
Local clock offset: -3.03 ms
Remote clock offset: -9.962 ms

# Below is generated by plot.py at 2018-06-30 19:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.75 Mbit/s
95th percentile per-packet one-way delay: 110.471 ms
Loss rate: 14.43%
-- Flow 1:
Average throughput: 20.58 Mbit/s
95th percentile per-packet one-way delay: 98.294 ms
Loss rate: 14.70%
-- Flow 2:
Average throughput: 10.21 Mbit/s
95th percentile per-packet one-way delay: 121.704 ms
Loss rate: 12.80%
-- Flow 3:
Average throughput: 13.39 Mbit/s
95th percentile per-packet one-way delay: 140.520 ms
Loss rate: 15.61%
```

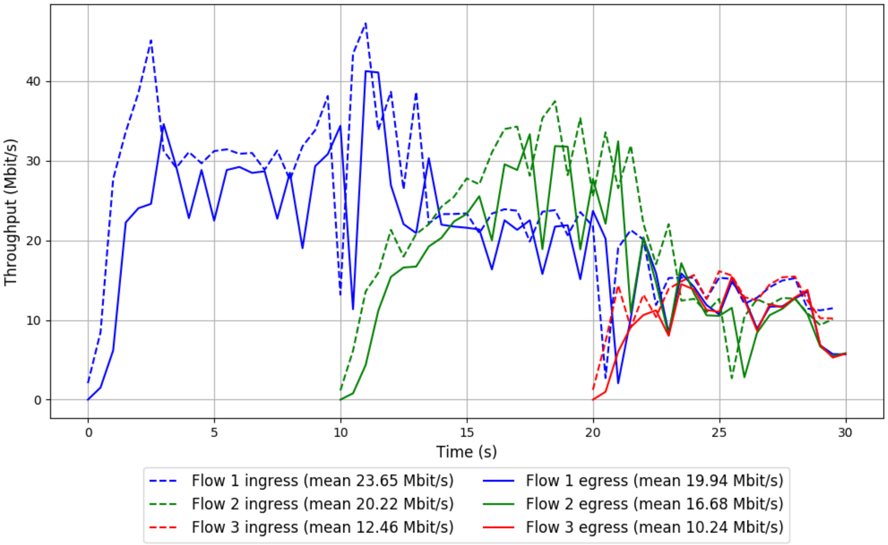
Run 5: Report of TCP BBR — Data Link

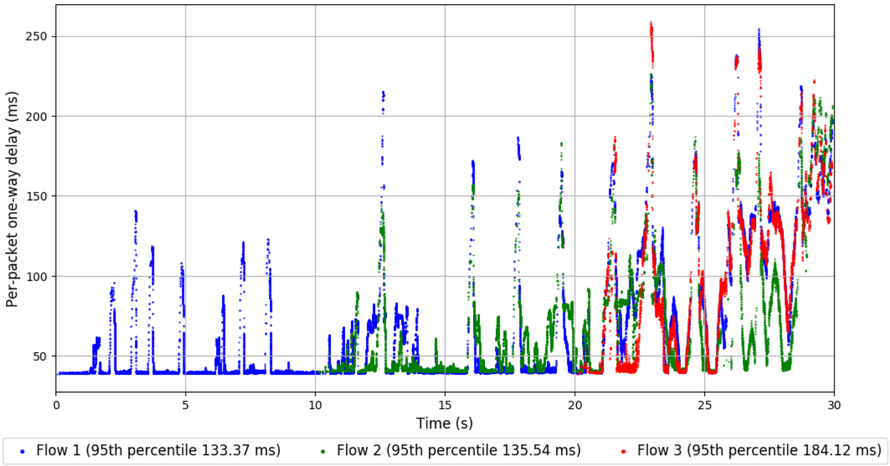




```
Run 6: Statistics of TCP BBR

Start at: 2018-06-30 17:03:22
End at: 2018-06-30 17:03:52
Local clock offset: -7.844 ms
Remote clock offset: -10.363 ms

# Below is generated by plot.py at 2018-06-30 19:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.40 Mbit/s
95th percentile per-packet one-way delay: 139.797 ms
Loss rate: 16.90%
-- Flow 1:
Average throughput: 19.94 Mbit/s
95th percentile per-packet one-way delay: 133.372 ms
Loss rate: 15.98%
-- Flow 2:
Average throughput: 16.68 Mbit/s
95th percentile per-packet one-way delay: 135.545 ms
Loss rate: 17.96%
-- Flow 3:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 184.121 ms
Loss rate: 18.73%
```

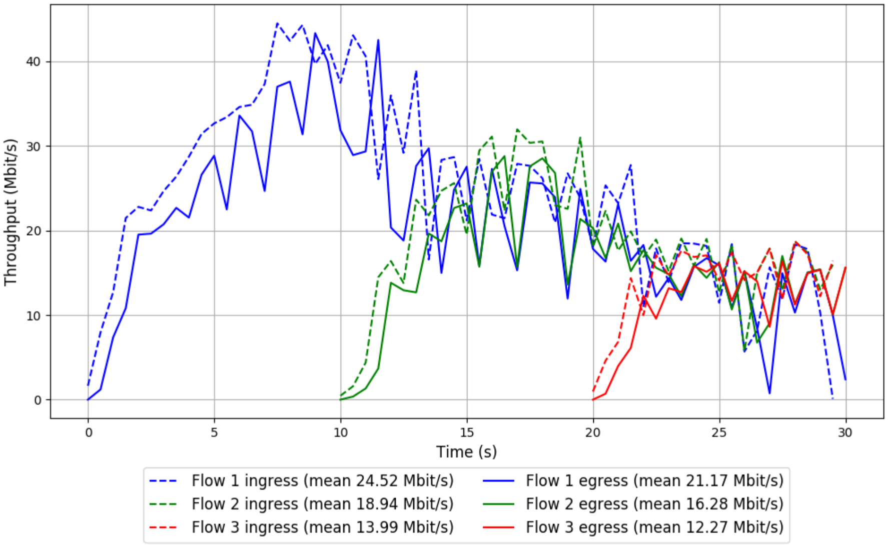
Run 6: Report of TCP BBR — Data Link

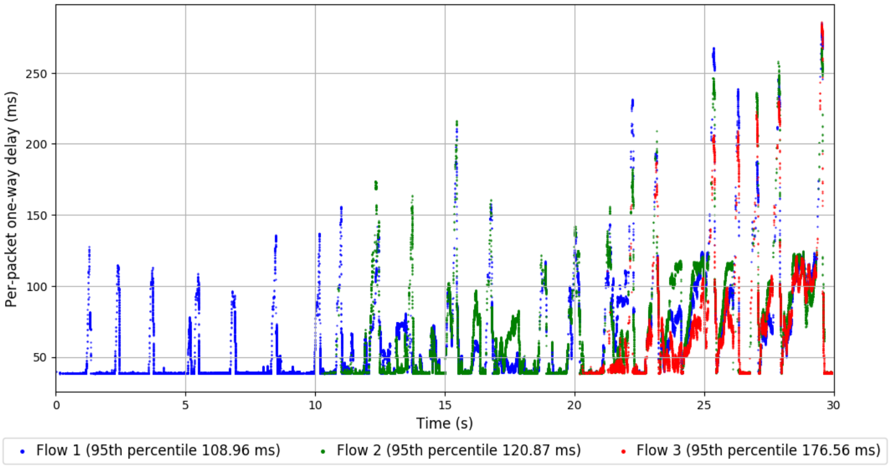




```
Run 7: Statistics of TCP BBR

Start at: 2018-06-30 17:36:39
End at: 2018-06-30 17:37:09
Local clock offset: -0.099 ms
Remote clock offset: -7.861 ms

# Below is generated by plot.py at 2018-06-30 19:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.63 Mbit/s
95th percentile per-packet one-way delay: 116.638 ms
Loss rate: 14.54%
-- Flow 1:
Average throughput: 21.17 Mbit/s
95th percentile per-packet one-way delay: 108.961 ms
Loss rate: 14.79%
-- Flow 2:
Average throughput: 16.28 Mbit/s
95th percentile per-packet one-way delay: 120.870 ms
Loss rate: 14.53%
-- Flow 3:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 176.565 ms
Loss rate: 13.23%
```

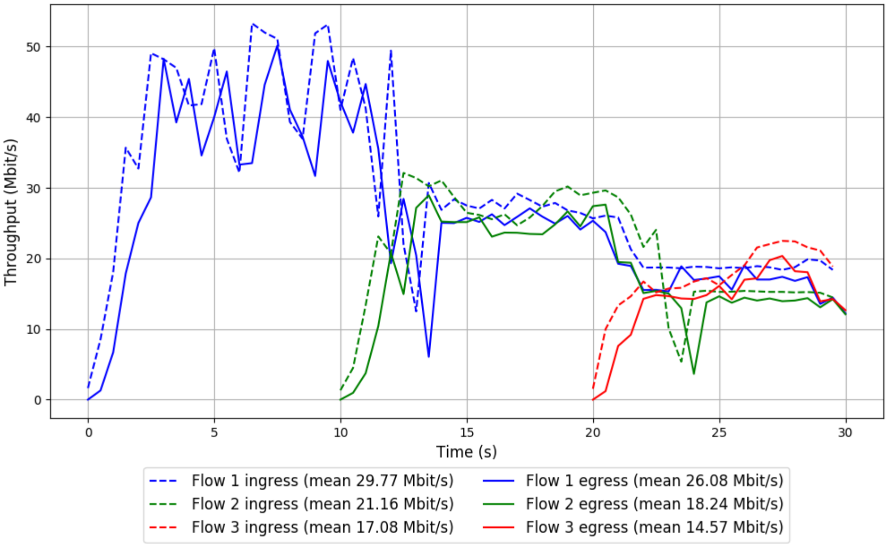
Run 7: Report of TCP BBR — Data Link

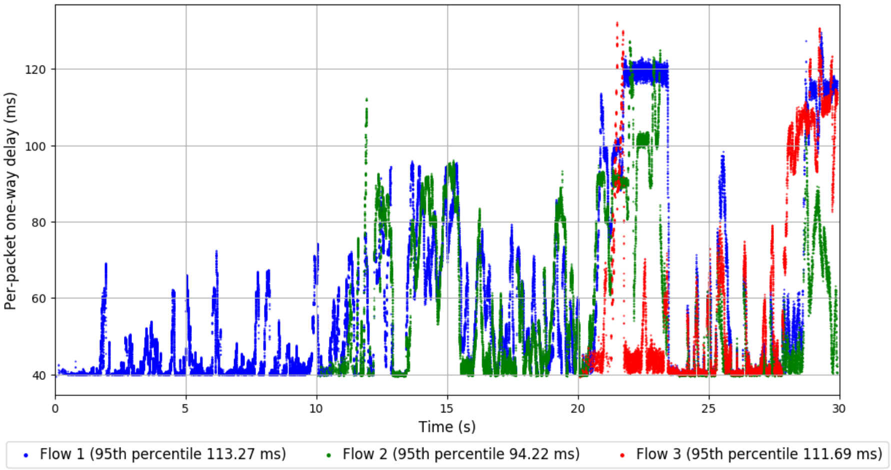




```
Run 8: Statistics of TCP BBR

Start at: 2018-06-30 18:10:38
End at: 2018-06-30 18:11:08
Local clock offset: 6.202 ms
Remote clock offset: -7.547 ms

# Below is generated by plot.py at 2018-06-30 19:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.01 Mbit/s
95th percentile per-packet one-way delay: 107.444 ms
Loss rate: 13.44%
-- Flow 1:
Average throughput: 26.08 Mbit/s
95th percentile per-packet one-way delay: 113.271 ms
Loss rate: 12.63%
-- Flow 2:
Average throughput: 18.24 Mbit/s
95th percentile per-packet one-way delay: 94.221 ms
Loss rate: 14.27%
-- Flow 3:
Average throughput: 14.57 Mbit/s
95th percentile per-packet one-way delay: 111.686 ms
Loss rate: 15.61%
```

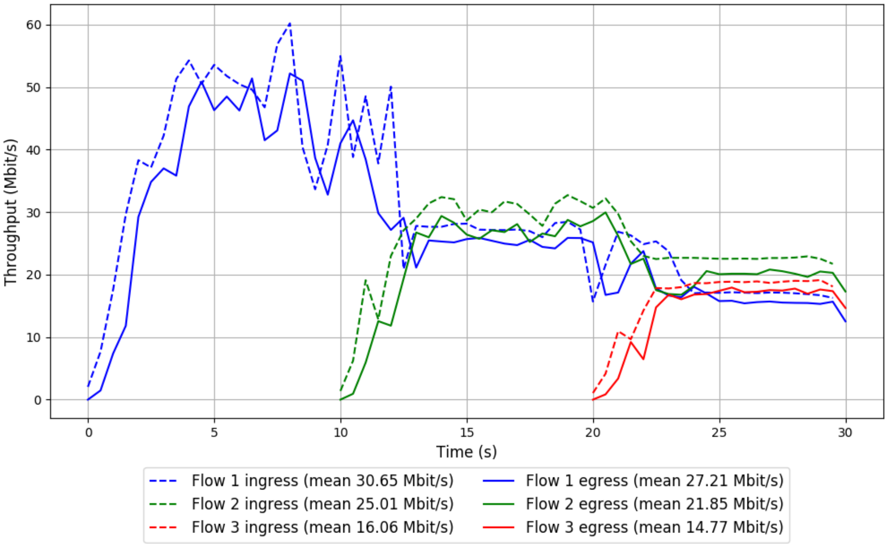
Run 8: Report of TCP BBR — Data Link

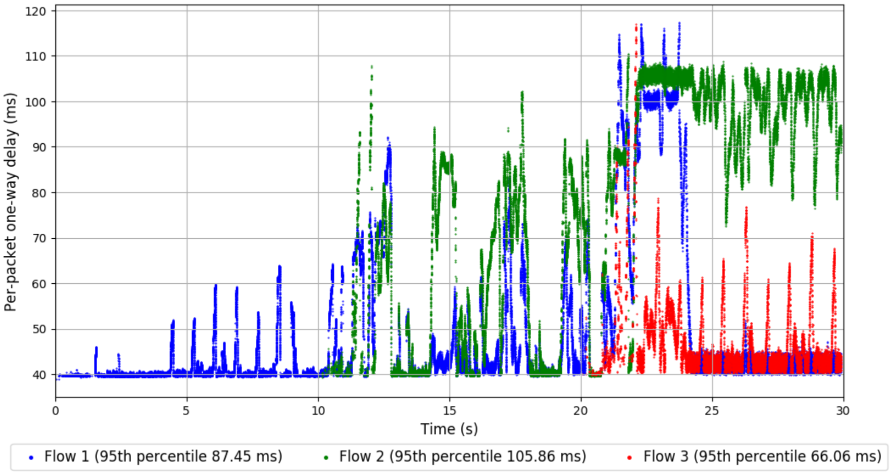




```
Run 9: Statistics of TCP BBR

Start at: 2018-06-30 18:43:32
End at: 2018-06-30 18:44:02
Local clock offset: 5.235 ms
Remote clock offset: -8.743 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.59 Mbit/s
95th percentile per-packet one-way delay: 103.790 ms
Loss rate: 11.80%
-- Flow 1:
Average throughput: 27.21 Mbit/s
95th percentile per-packet one-way delay: 87.451 ms
Loss rate: 11.56%
-- Flow 2:
Average throughput: 21.85 Mbit/s
95th percentile per-packet one-way delay: 105.860 ms
Loss rate: 13.13%
-- Flow 3:
Average throughput: 14.77 Mbit/s
95th percentile per-packet one-way delay: 66.061 ms
Loss rate: 9.04%
```

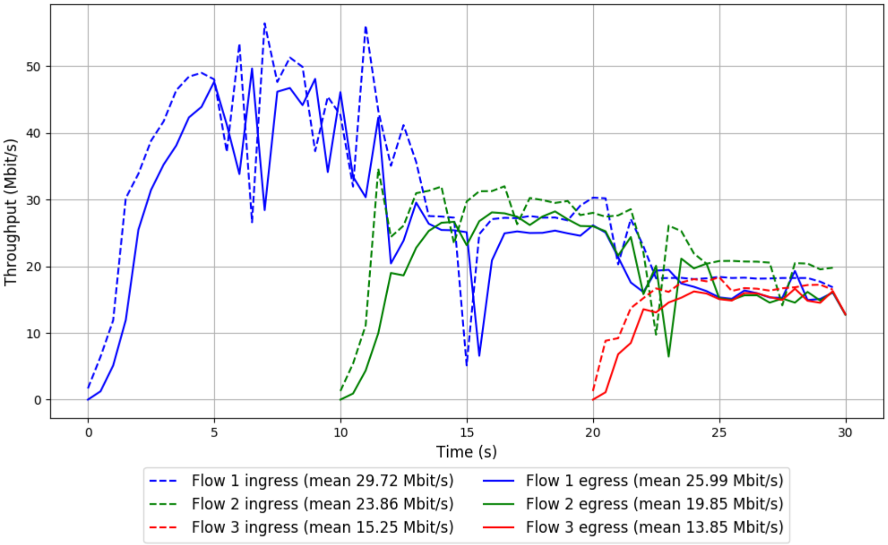
Run 9: Report of TCP BBR — Data Link

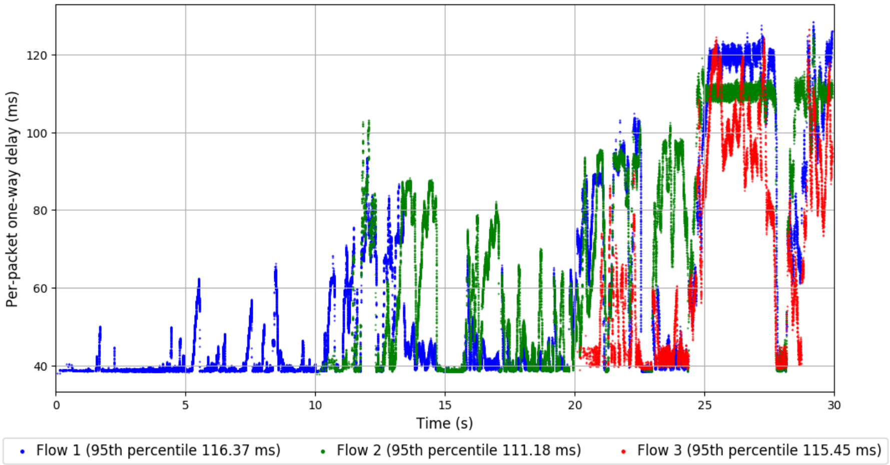




```
Run 10: Statistics of TCP BBR

Start at: 2018-06-30 19:18:42
End at: 2018-06-30 19:19:12
Local clock offset: 2.043 ms
Remote clock offset: -8.559 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 112.120 ms
Loss rate: 13.96%
-- Flow 1:
Average throughput: 25.99 Mbit/s
95th percentile per-packet one-way delay: 116.366 ms
Loss rate: 12.84%
-- Flow 2:
Average throughput: 19.85 Mbit/s
95th percentile per-packet one-way delay: 111.183 ms
Loss rate: 17.24%
-- Flow 3:
Average throughput: 13.85 Mbit/s
95th percentile per-packet one-way delay: 115.453 ms
Loss rate: 10.23%
```

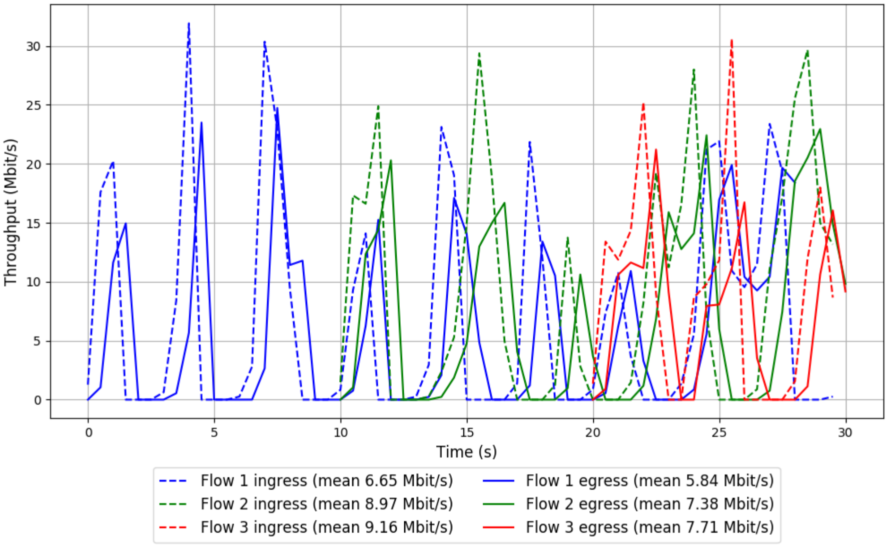
Run 10: Report of TCP BBR — Data Link

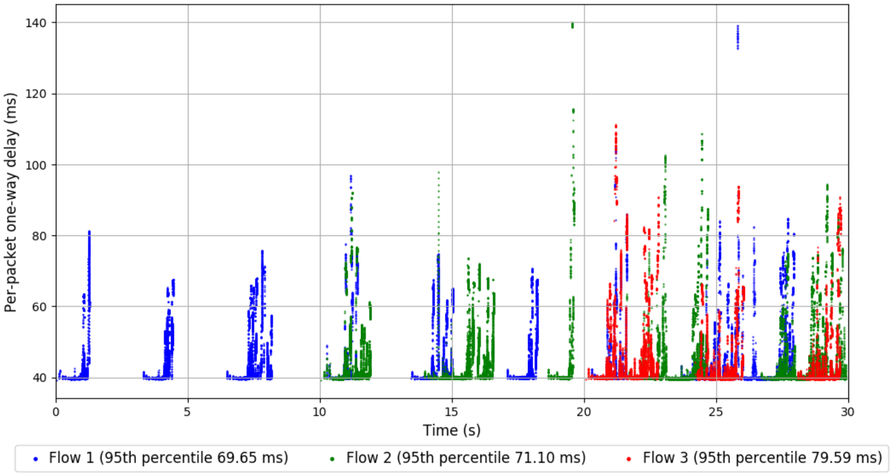




```
Run 1: Statistics of Copa

Start at: 2018-06-30 14:10:36
End at: 2018-06-30 14:11:06
Local clock offset: 0.213 ms
Remote clock offset: -8.554 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.86 Mbit/s
95th percentile per-packet one-way delay: 71.077 ms
Loss rate: 17.66%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 69.646 ms
Loss rate: 18.14%
-- Flow 2:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 71.103 ms
Loss rate: 18.23%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 79.593 ms
Loss rate: 15.44%
```

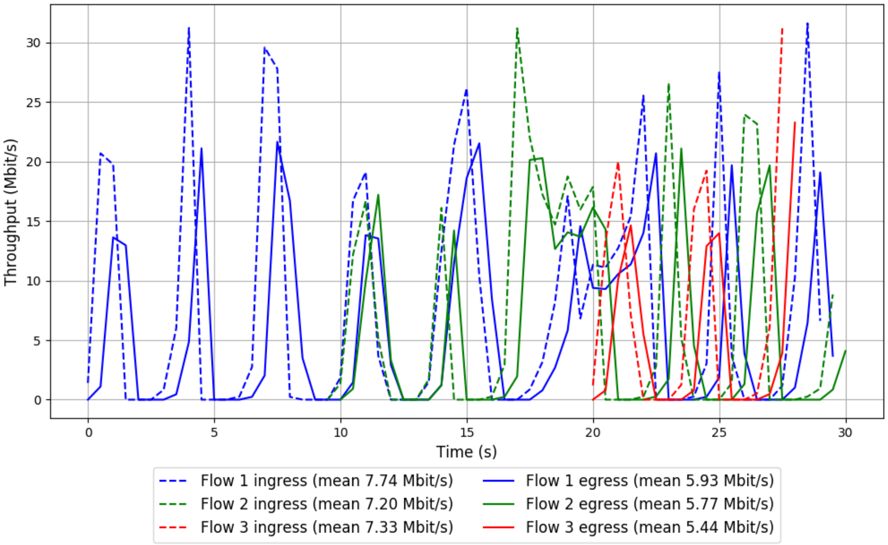
Run 1: Report of Copa — Data Link

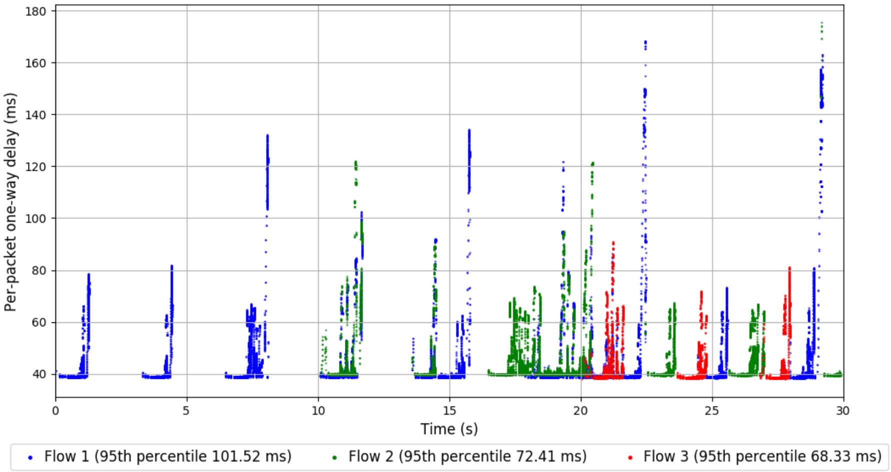




```
Run 2: Statistics of Copa

Start at: 2018-06-30 14:45:18
End at: 2018-06-30 14:45:48
Local clock offset: -1.19 ms
Remote clock offset: -10.697 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 77.773 ms
Loss rate: 22.43%
-- Flow 1:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 101.522 ms
Loss rate: 23.06%
-- Flow 2:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 72.411 ms
Loss rate: 20.20%
-- Flow 3:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 68.335 ms
Loss rate: 25.51%
```

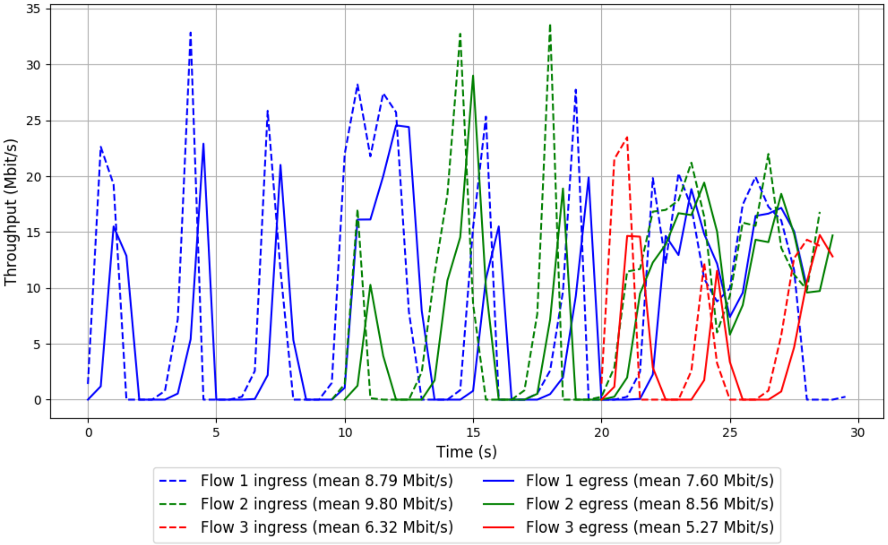
Run 2: Report of Copa — Data Link

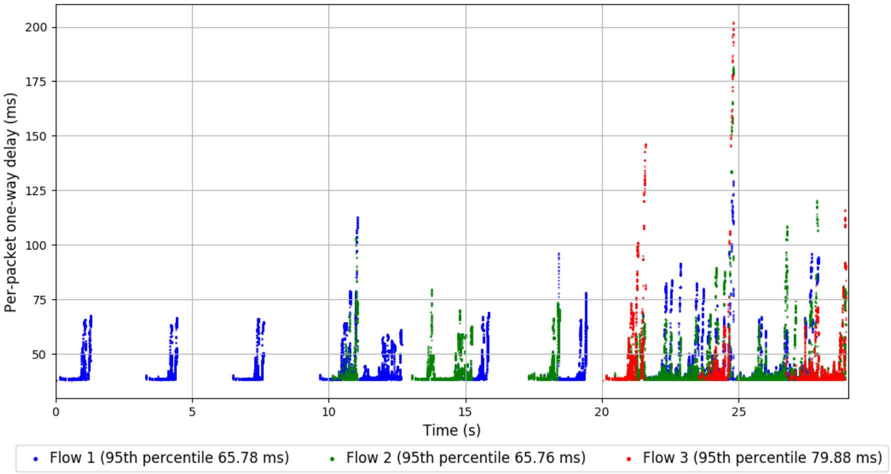




```
Run 3: Statistics of Copa

Start at: 2018-06-30 15:19:15
End at: 2018-06-30 15:19:45
Local clock offset: 4.822 ms
Remote clock offset: -11.22 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 66.659 ms
Loss rate: 16.49%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 65.780 ms
Loss rate: 19.30%
-- Flow 2:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 65.760 ms
Loss rate: 12.52%
-- Flow 3:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 79.875 ms
Loss rate: 16.45%
```

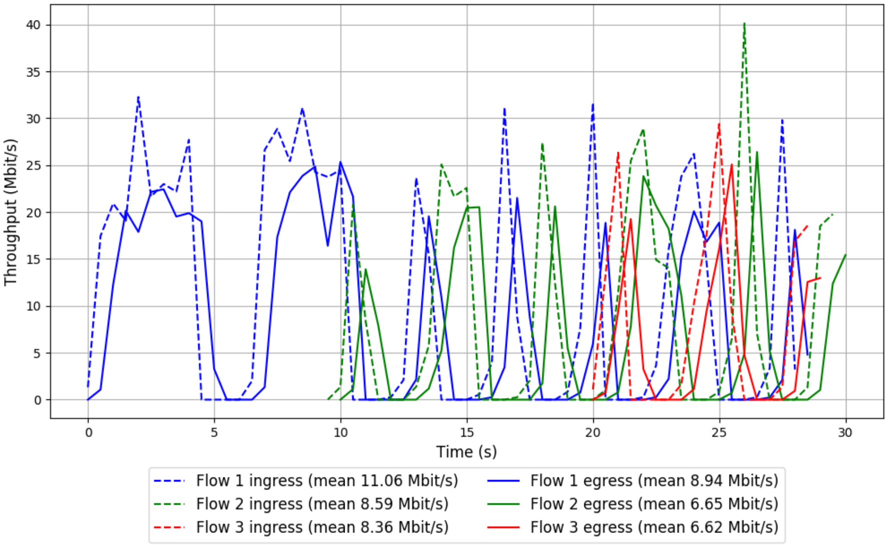
Run 3: Report of Copa — Data Link

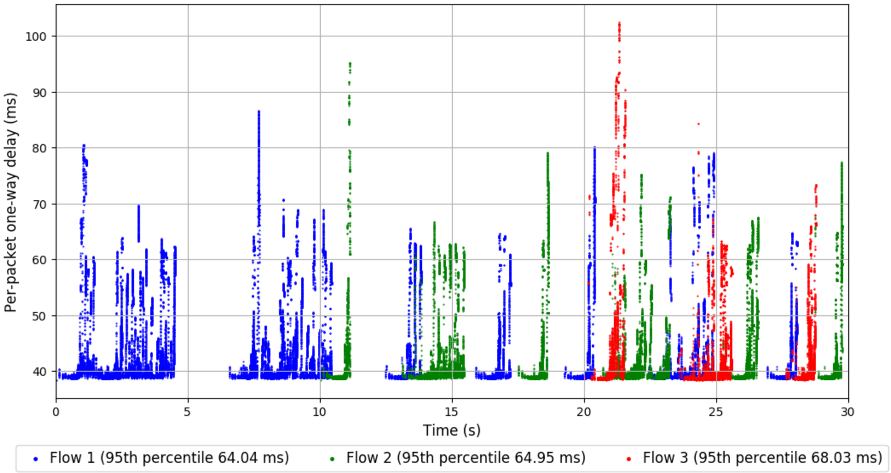




```
Run 4: Statistics of Copa

Start at: 2018-06-30 15:54:07
End at: 2018-06-30 15:54:37
Local clock offset: 6.265 ms
Remote clock offset: -10.263 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 65.001 ms
Loss rate: 20.30%
-- Flow 1:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 64.036 ms
Loss rate: 19.06%
-- Flow 2:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 64.952 ms
Loss rate: 22.44%
-- Flow 3:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 68.030 ms
Loss rate: 20.62%
```

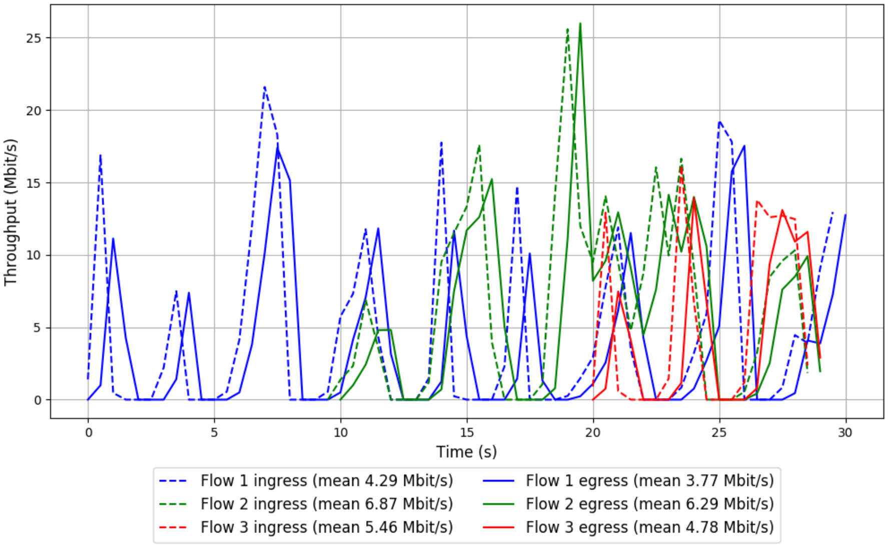
Run 4: Report of Copa — Data Link

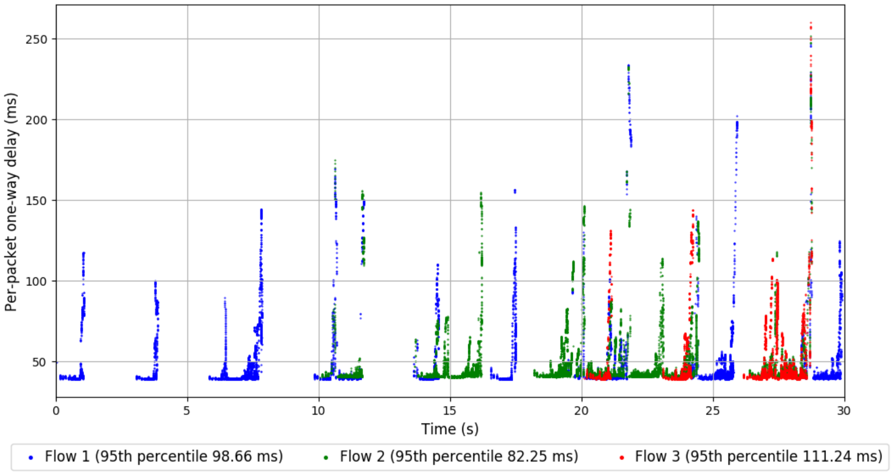




```
Run 5: Statistics of Copa

Start at: 2018-06-30 16:27:21
End at: 2018-06-30 16:27:51
Local clock offset: -1.965 ms
Remote clock offset: -9.891 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 97.251 ms
Loss rate: 10.59%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 98.658 ms
Loss rate: 12.57%
-- Flow 2:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 82.250 ms
Loss rate: 8.16%
-- Flow 3:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 111.239 ms
Loss rate: 11.80%
```

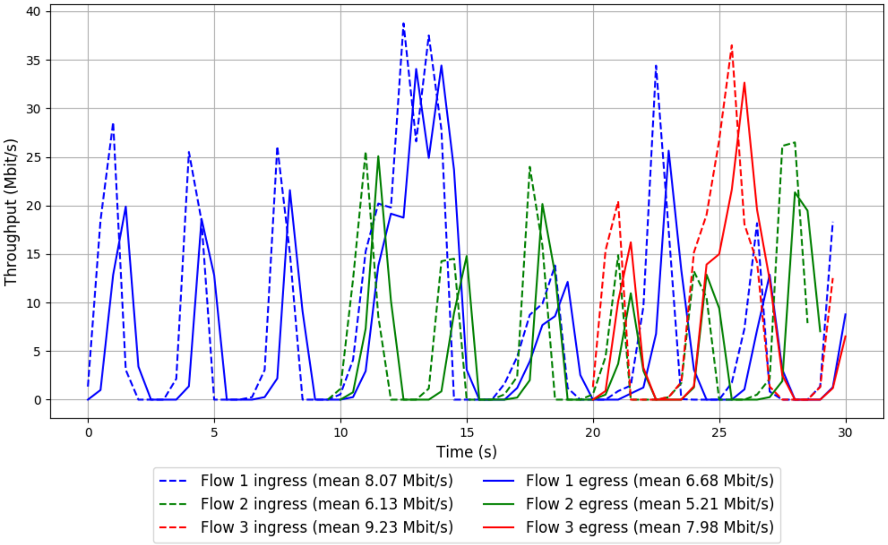
Run 5: Report of Copa — Data Link

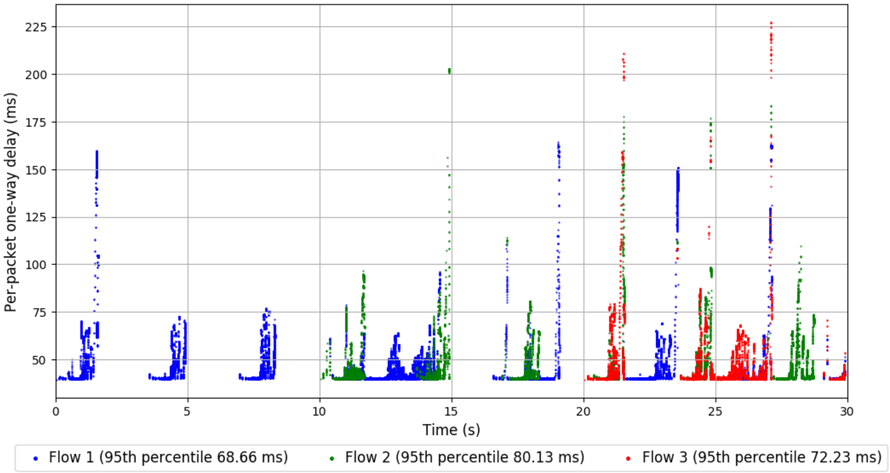




```
Run 6: Statistics of Copa

Start at: 2018-06-30 16:59:57
End at: 2018-06-30 17:00:27
Local clock offset: -7.544 ms
Remote clock offset: -10.672 ms

# Below is generated by plot.py at 2018-06-30 19:52:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 73.912 ms
Loss rate: 16.22%
-- Flow 1:
Average throughput: 6.68 Mbit/s
95th percentile per-packet one-way delay: 68.655 ms
Loss rate: 17.49%
-- Flow 2:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 80.133 ms
Loss rate: 14.88%
-- Flow 3:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 72.231 ms
Loss rate: 14.57%
```

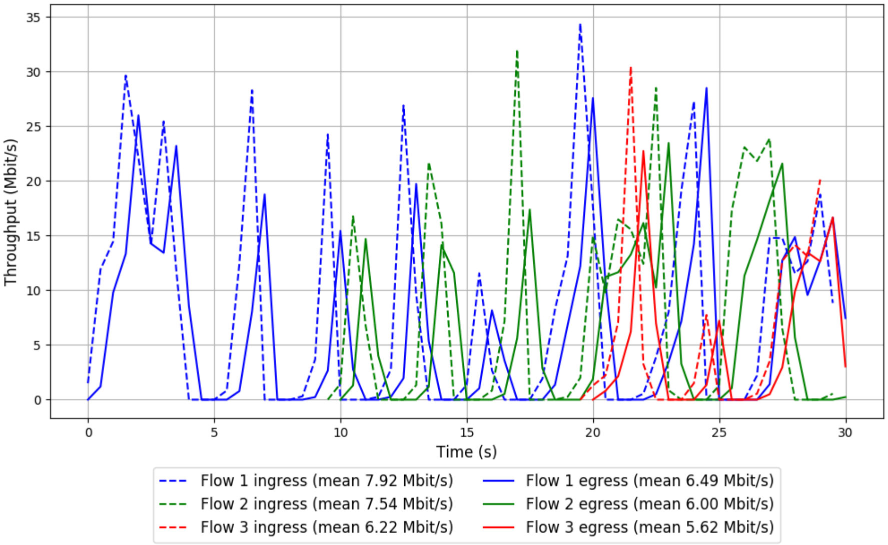
Run 6: Report of Copa — Data Link

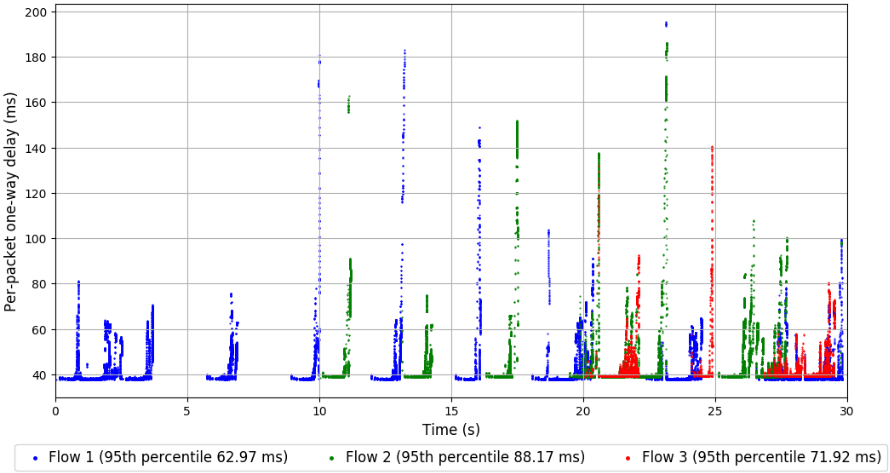




```
Run 7: Statistics of Copa

Start at: 2018-06-30 17:33:10
End at: 2018-06-30 17:33:40
Local clock offset: -0.784 ms
Remote clock offset: -7.888 ms

# Below is generated by plot.py at 2018-06-30 19:52:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 70.575 ms
Loss rate: 18.04%
-- Flow 1:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 62.972 ms
Loss rate: 18.43%
-- Flow 2:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 88.173 ms
Loss rate: 20.80%
-- Flow 3:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 71.925 ms
Loss rate: 9.46%
```

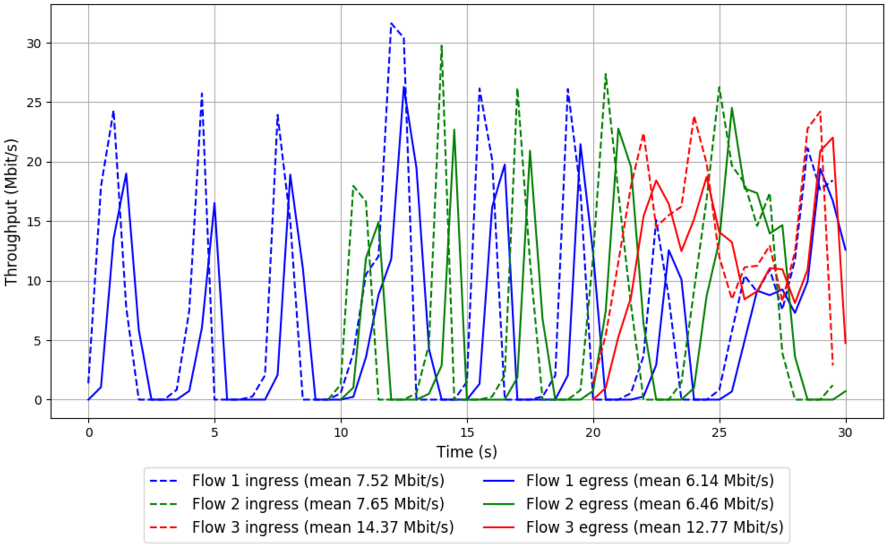
Run 7: Report of Copa — Data Link

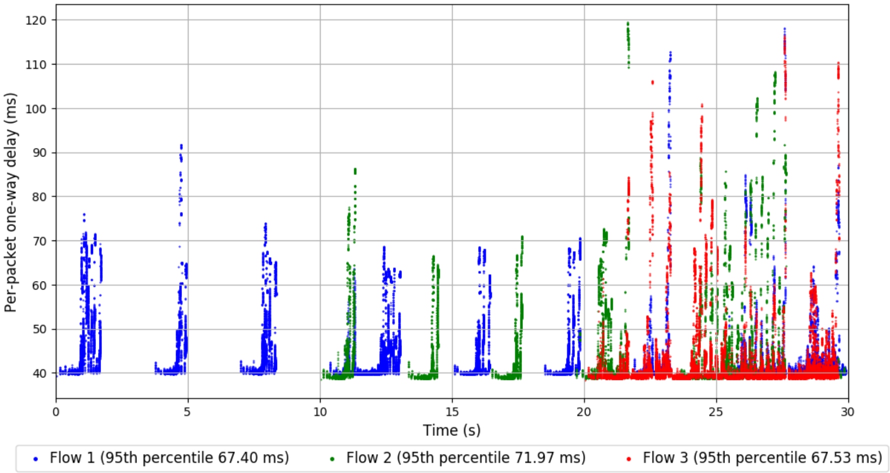




```
Run 8: Statistics of Copa

Start at: 2018-06-30 18:07:00
End at: 2018-06-30 18:07:30
Local clock offset: 5.721 ms
Remote clock offset: -7.571 ms

# Below is generated by plot.py at 2018-06-30 19:52:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.53 Mbit/s
95th percentile per-packet one-way delay: 68.368 ms
Loss rate: 15.84%
-- Flow 1:
Average throughput: 6.14 Mbit/s
95th percentile per-packet one-way delay: 67.403 ms
Loss rate: 18.64%
-- Flow 2:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 71.975 ms
Loss rate: 16.17%
-- Flow 3:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 67.525 ms
Loss rate: 10.88%
```

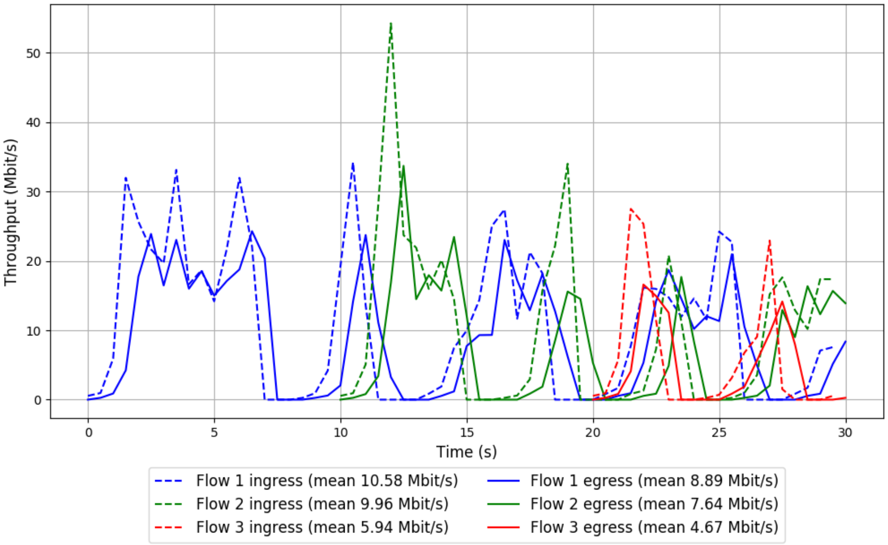
Run 8: Report of Copa — Data Link

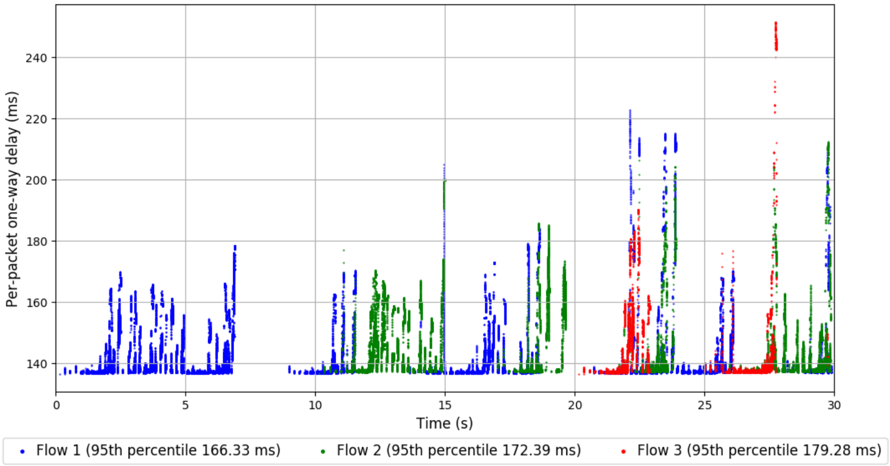




```
Run 9: Statistics of Copa

Start at: 2018-06-30 18:40:39
End at: 2018-06-30 18:41:09
Local clock offset: 5.304 ms
Remote clock offset: -8.744 ms

# Below is generated by plot.py at 2018-06-30 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 169.602 ms
Loss rate: 19.97%
-- Flow 1:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 166.328 ms
Loss rate: 16.65%
-- Flow 2:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 172.393 ms
Loss rate: 24.38%
-- Flow 3:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 179.278 ms
Loss rate: 23.00%
```

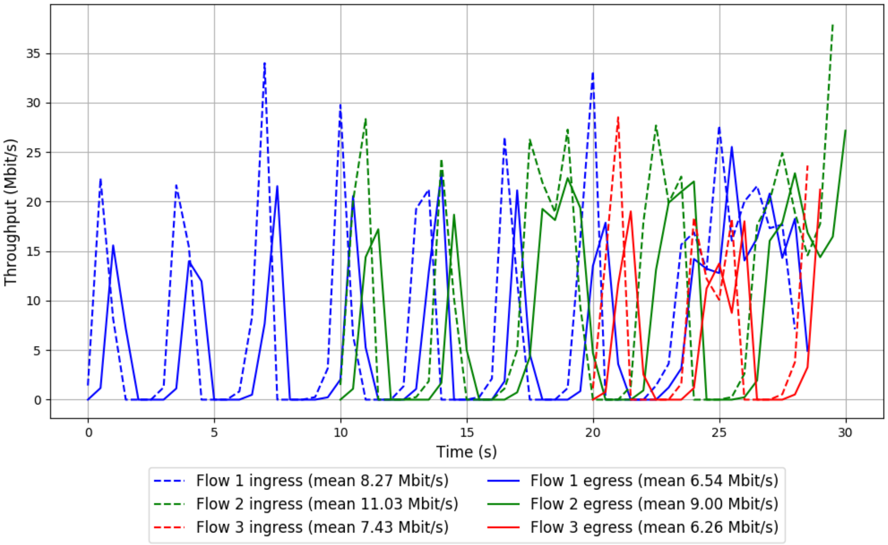
Run 9: Report of Copa — Data Link

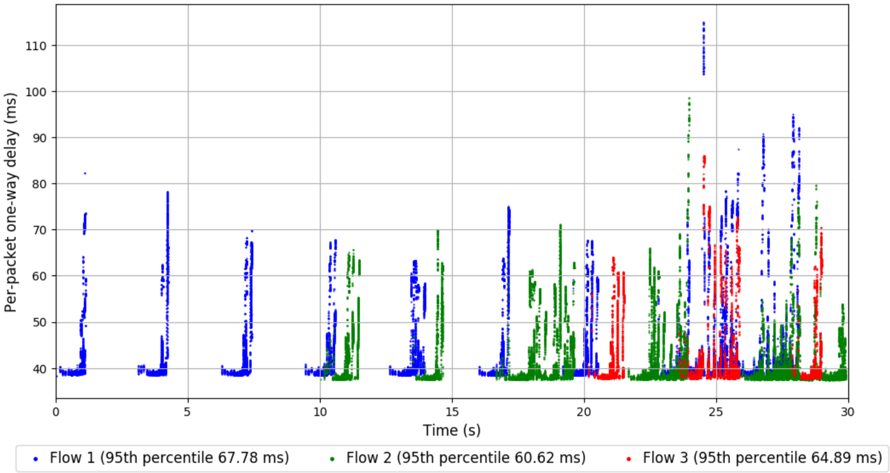




```
Run 10: Statistics of Copa

Start at: 2018-06-30 19:15:11
End at: 2018-06-30 19:15:41
Local clock offset: 1.079 ms
Remote clock offset: -8.568 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.02 Mbit/s
95th percentile per-packet one-way delay: 64.244 ms
Loss rate: 19.26%
-- Flow 1:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 67.777 ms
Loss rate: 20.80%
-- Flow 2:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 60.622 ms
Loss rate: 18.78%
-- Flow 3:
Average throughput: 6.26 Mbit/s
95th percentile per-packet one-way delay: 64.892 ms
Loss rate: 15.47%
```

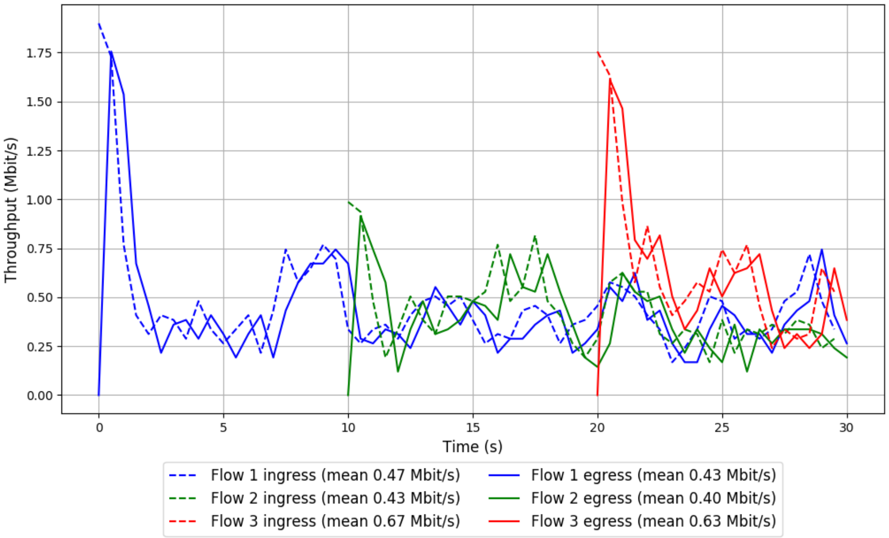
Run 10: Report of Copa — Data Link

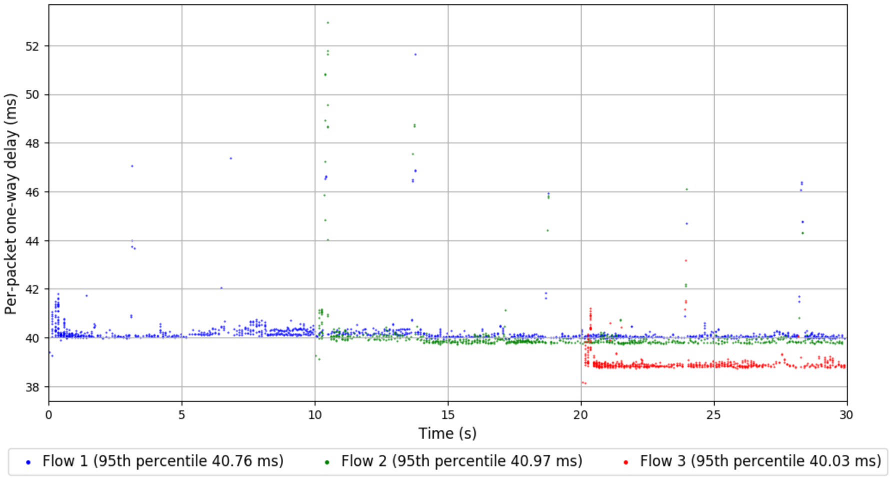




```
Run 1: Statistics of TCP Cubic

Start at: 2018-06-30 14:12:45
End at: 2018-06-30 14:13:15
Local clock offset: 0.006 ms
Remote clock offset: -8.86 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 40.699 ms
Loss rate: 7.47%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 40.756 ms
Loss rate: 7.13%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 40.966 ms
Loss rate: 8.36%
-- Flow 3:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 40.034 ms
Loss rate: 7.04%
```

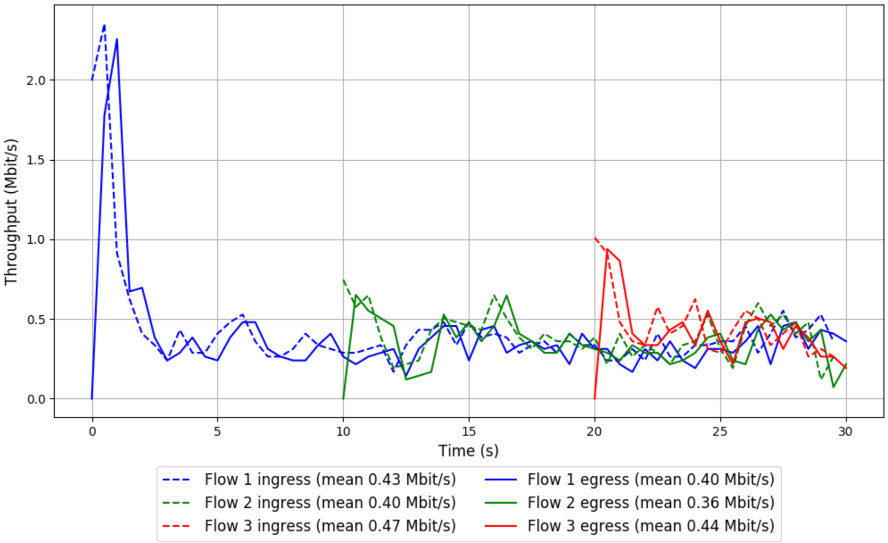
Run 1: Report of TCP Cubic — Data Link

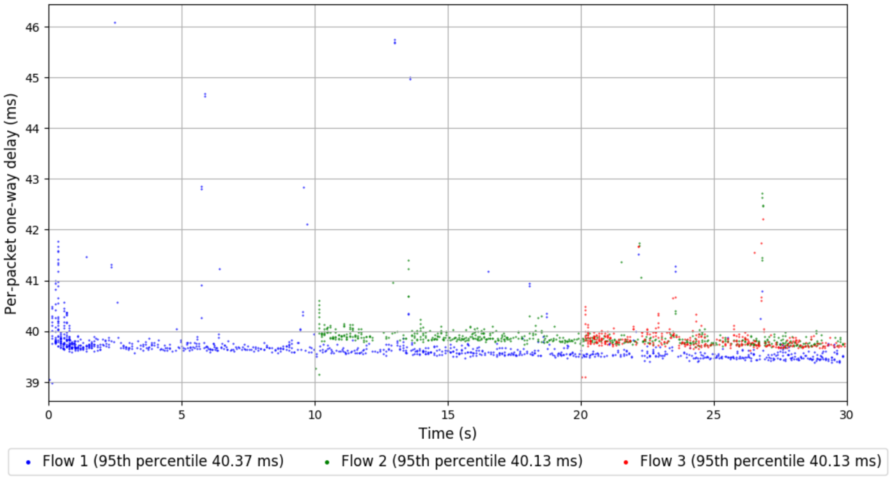




```
Run 2: Statistics of TCP Cubic

Start at: 2018-06-30 14:47:17
End at: 2018-06-30 14:47:47
Local clock offset: -0.065 ms
Remote clock offset: -10.761 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 40.283 ms
Loss rate: 8.65%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 40.370 ms
Loss rate: 8.39%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 40.129 ms
Loss rate: 9.60%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 40.133 ms
Loss rate: 7.73%
```

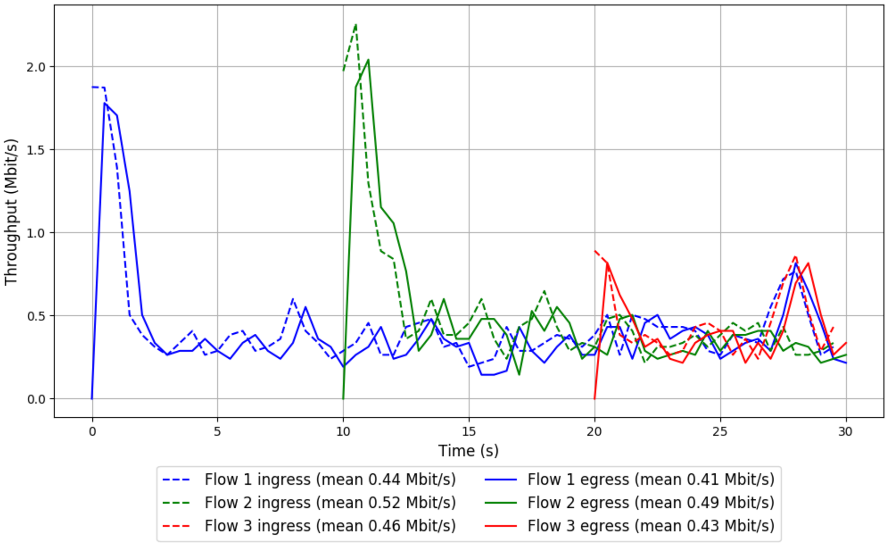
Run 2: Report of TCP Cubic — Data Link

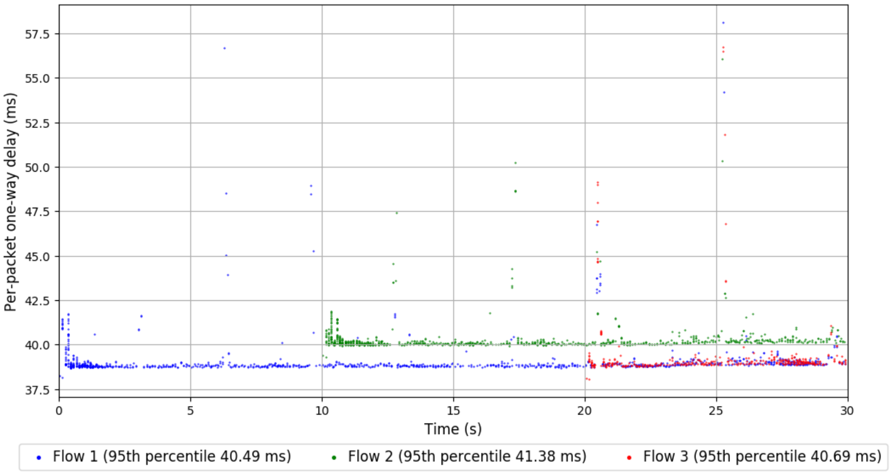




```
Run 3: Statistics of TCP Cubic

Start at: 2018-06-30 15:21:31
End at: 2018-06-30 15:22:01
Local clock offset: 4.882 ms
Remote clock offset: -11.268 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 40.922 ms
Loss rate: 7.66%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 40.487 ms
Loss rate: 8.24%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 41.379 ms
Loss rate: 6.80%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 40.693 ms
Loss rate: 7.89%
```

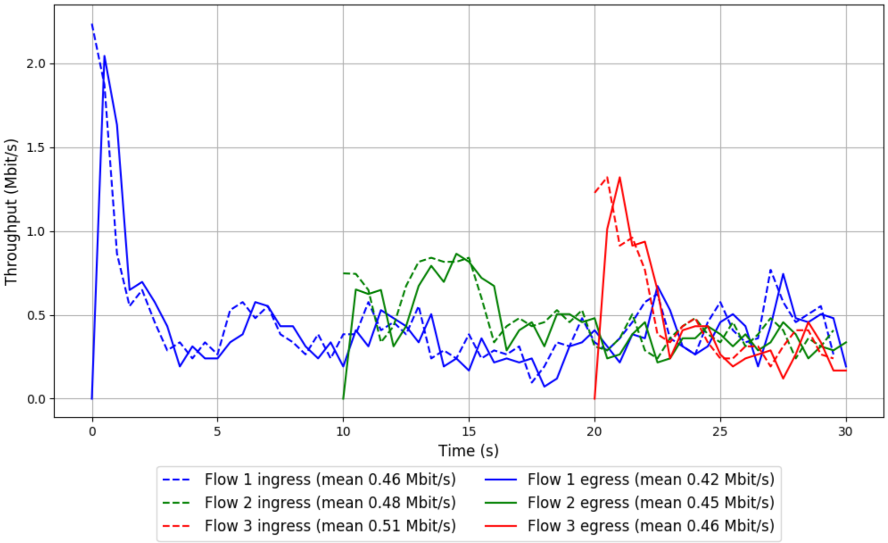
Run 3: Report of TCP Cubic — Data Link

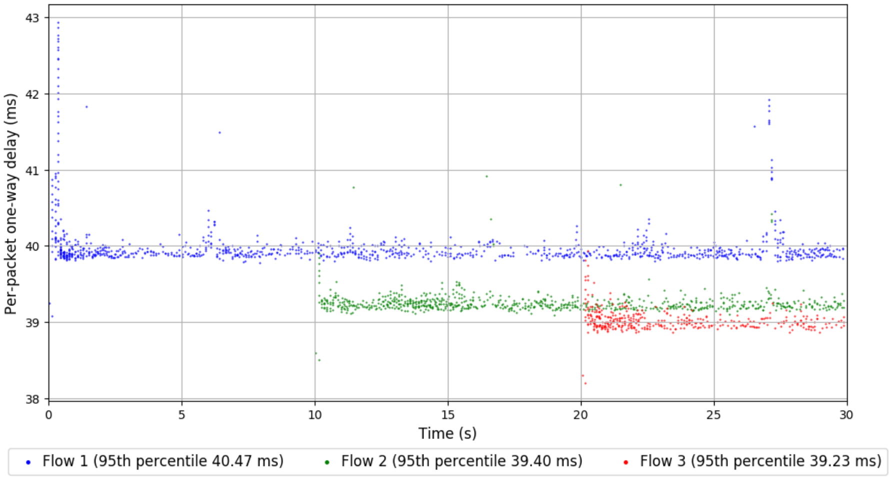




```
Run 4: Statistics of TCP Cubic

Start at: 2018-06-30 15:56:15
End at: 2018-06-30 15:56:45
Local clock offset: 6.509 ms
Remote clock offset: -10.17 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 40.128 ms
Loss rate: 8.15%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 40.473 ms
Loss rate: 8.47%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 39.401 ms
Loss rate: 6.84%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 39.234 ms
Loss rate: 9.76%
```

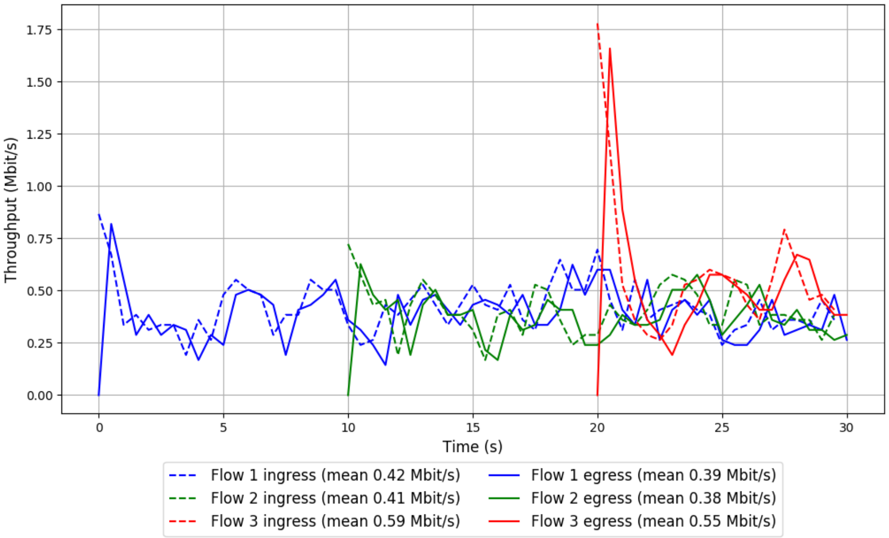
Run 4: Report of TCP Cubic — Data Link

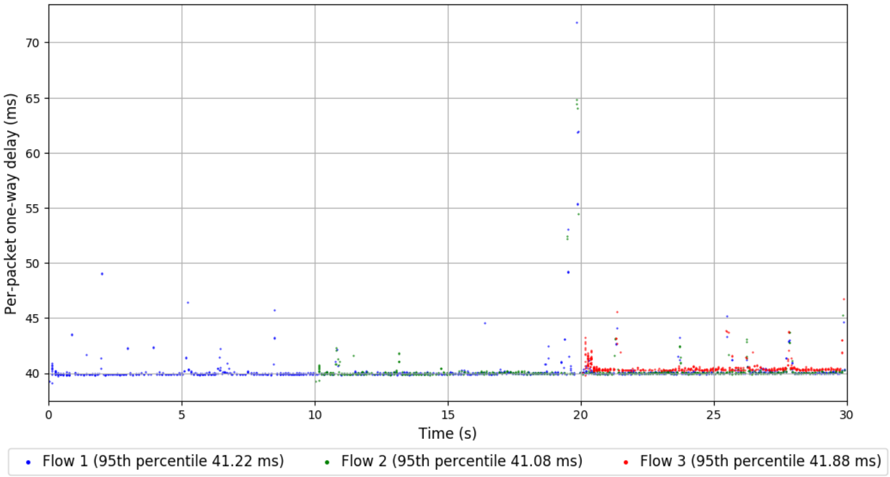




```
Run 5: Statistics of TCP Cubic

Start at: 2018-06-30 16:29:14
End at: 2018-06-30 16:29:44
Local clock offset: -2.717 ms
Remote clock offset: -9.808 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 41.451 ms
Loss rate: 7.13%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 41.222 ms
Loss rate: 6.84%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 41.080 ms
Loss rate: 7.37%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 41.884 ms
Loss rate: 7.42%
```

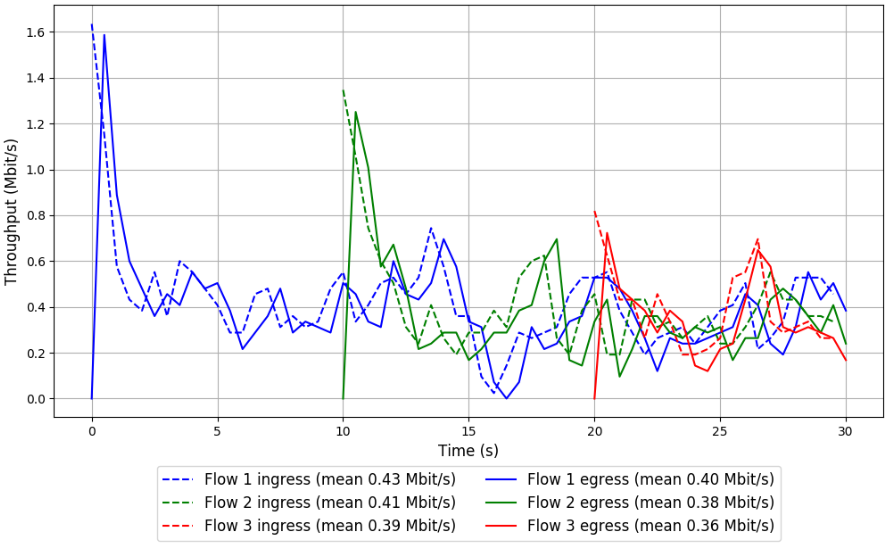
Run 5: Report of TCP Cubic — Data Link

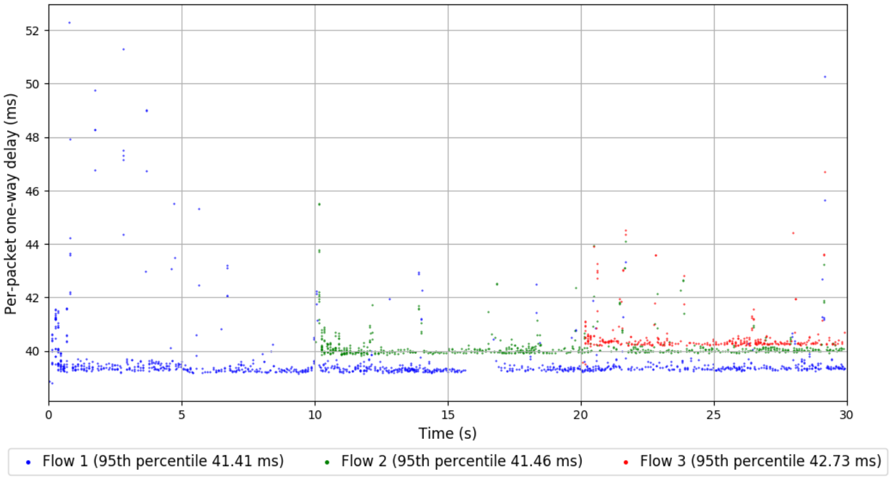




```
Run 6: Statistics of TCP Cubic

Start at: 2018-06-30 17:02:02
End at: 2018-06-30 17:02:32
Local clock offset: -7.706 ms
Remote clock offset: -10.573 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 41.574 ms
Loss rate: 8.40%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 41.415 ms
Loss rate: 7.47%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 41.462 ms
Loss rate: 9.17%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 42.727 ms
Loss rate: 9.84%
```

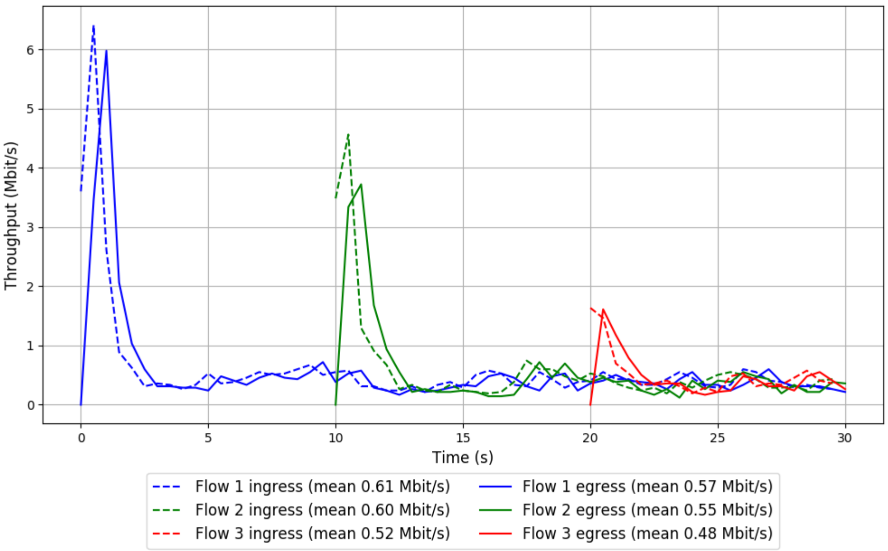
Run 6: Report of TCP Cubic — Data Link

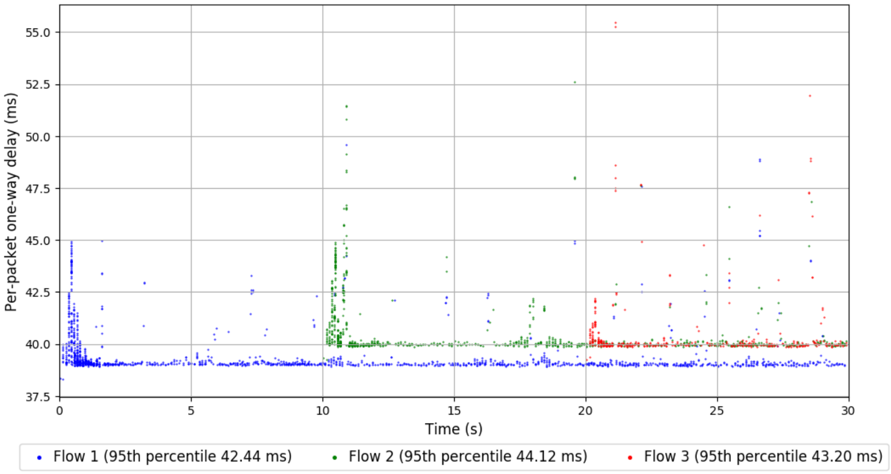




```
Run 7: Statistics of TCP Cubic

Start at: 2018-06-30 17:35:17
End at: 2018-06-30 17:35:47
Local clock offset: -0.387 ms
Remote clock offset: -8.206 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 43.404 ms
Loss rate: 7.69%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 42.444 ms
Loss rate: 7.36%
-- Flow 2:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 44.122 ms
Loss rate: 8.16%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 43.202 ms
Loss rate: 7.73%
```

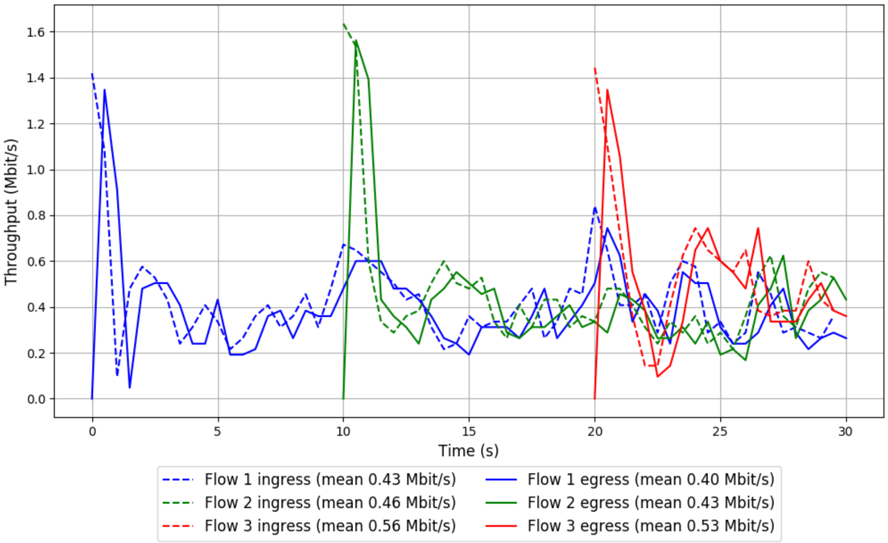
Run 7: Report of TCP Cubic — Data Link

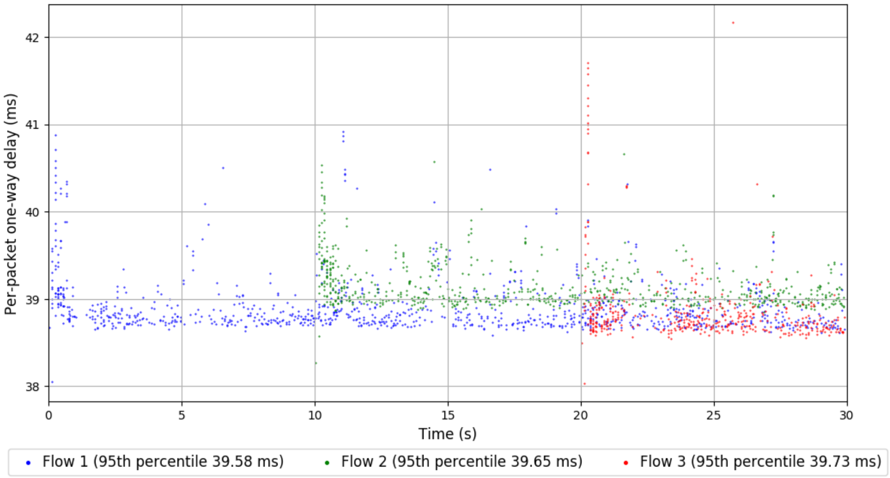




```
Run 8: Statistics of TCP Cubic

Start at: 2018-06-30 18:09:17
End at: 2018-06-30 18:09:47
Local clock offset: 5.947 ms
Remote clock offset: -7.444 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 39.646 ms
Loss rate: 7.73%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 39.579 ms
Loss rate: 8.26%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 39.651 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 39.735 ms
Loss rate: 6.29%
```

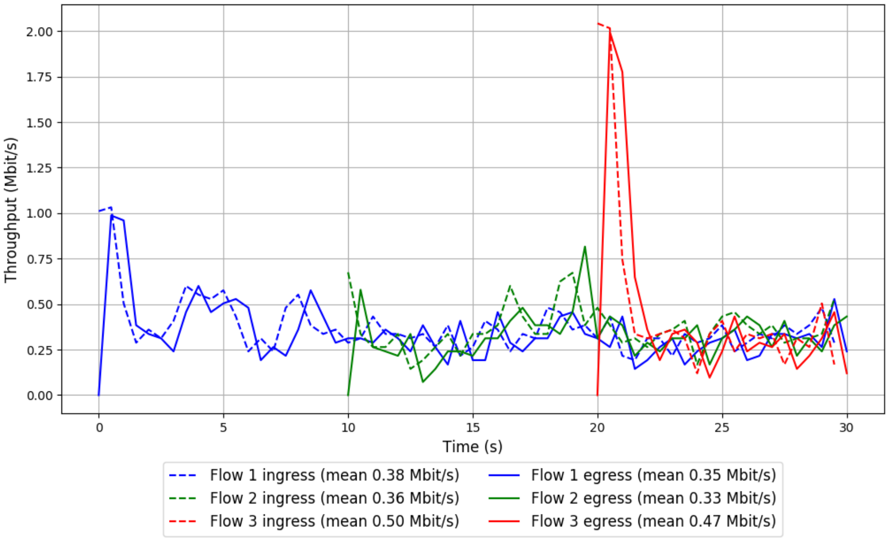
Run 8: Report of TCP Cubic — Data Link

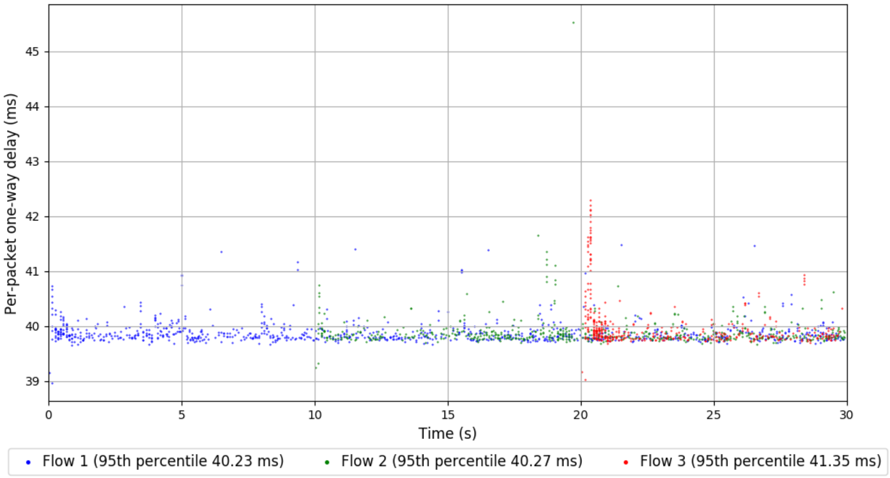




```
Run 9: Statistics of TCP Cubic

Start at: 2018-06-30 18:42:13
End at: 2018-06-30 18:42:43
Local clock offset: 5.326 ms
Remote clock offset: -8.771 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 40.404 ms
Loss rate: 8.49%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 40.230 ms
Loss rate: 7.94%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 40.271 ms
Loss rate: 9.22%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 41.349 ms
Loss rate: 8.67%
```

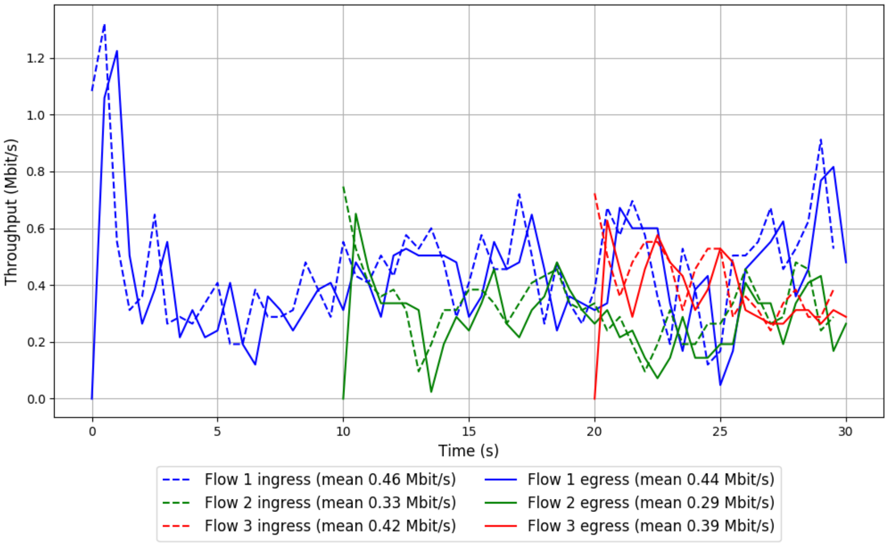
Run 9: Report of TCP Cubic — Data Link

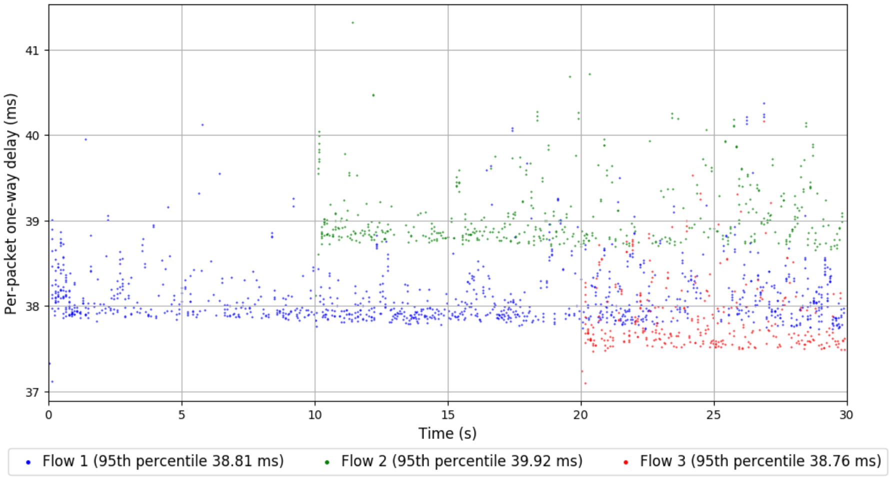




```
Run 10: Statistics of TCP Cubic

Start at: 2018-06-30 19:17:23
End at: 2018-06-30 19:17:53
Local clock offset: 1.447 ms
Remote clock offset: -8.566 ms

# Below is generated by plot.py at 2018-06-30 19:52:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 39.461 ms
Loss rate: 8.14%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 38.809 ms
Loss rate: 6.38%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 39.925 ms
Loss rate: 11.60%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 38.759 ms
Loss rate: 8.62%
```

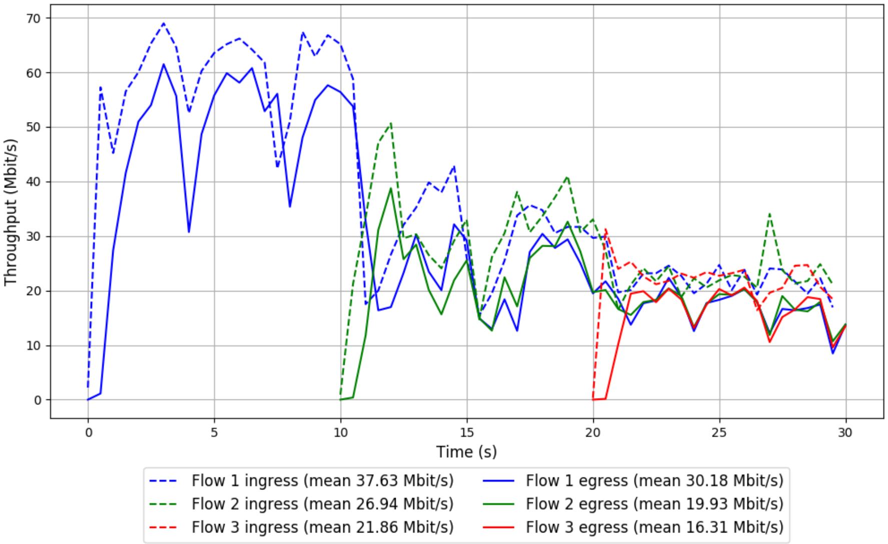
Run 10: Report of TCP Cubic — Data Link

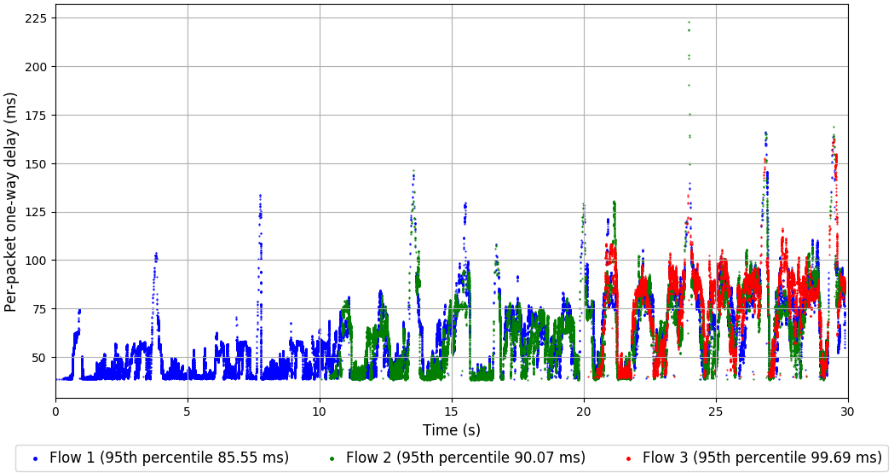




```
Run 1: Statistics of FillP

Start at: 2018-06-30 14:17:16
End at: 2018-06-30 14:17:46
Local clock offset: -0.263 ms
Remote clock offset: -9.477 ms

# Below is generated by plot.py at 2018-06-30 19:53:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.71 Mbit/s
95th percentile per-packet one-way delay: 90.108 ms
Loss rate: 22.58%
-- Flow 1:
Average throughput: 30.18 Mbit/s
95th percentile per-packet one-way delay: 85.547 ms
Loss rate: 20.07%
-- Flow 2:
Average throughput: 19.93 Mbit/s
95th percentile per-packet one-way delay: 90.071 ms
Loss rate: 26.40%
-- Flow 3:
Average throughput: 16.31 Mbit/s
95th percentile per-packet one-way delay: 99.695 ms
Loss rate: 26.18%
```

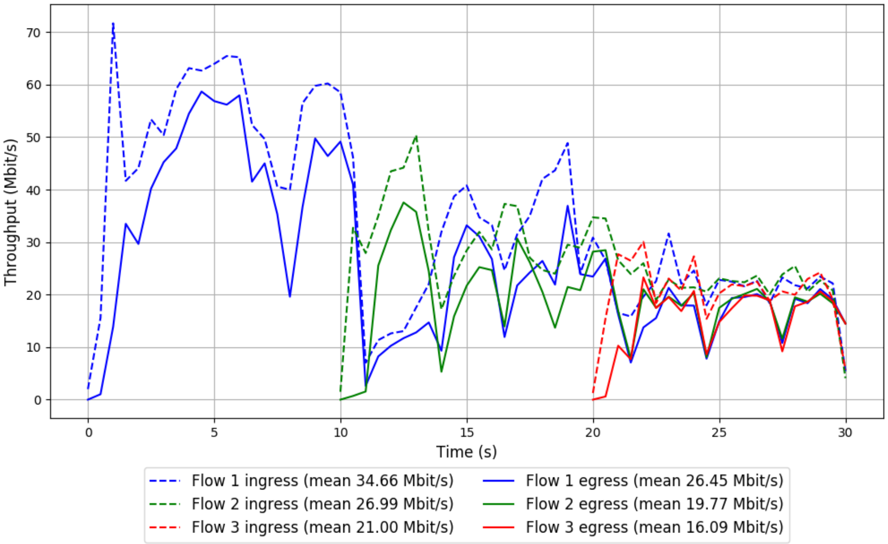
Run 1: Report of FillP — Data Link

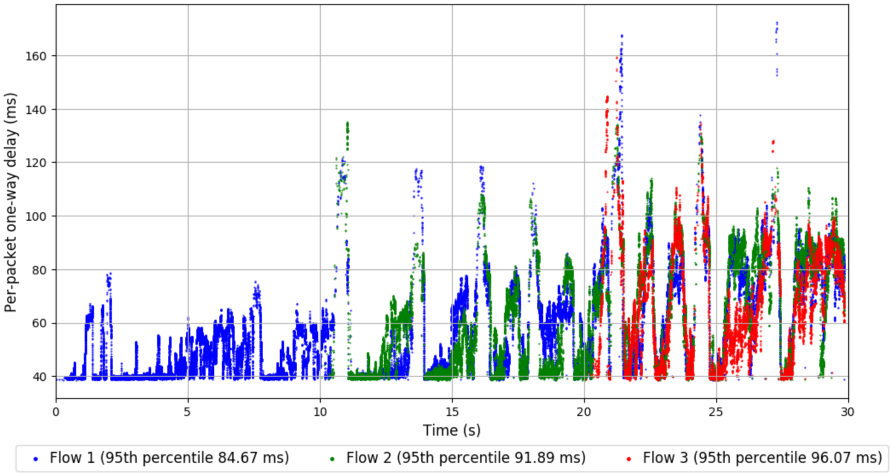




```
Run 2: Statistics of FillP

Start at: 2018-06-30 14:51:48
End at: 2018-06-30 14:52:18
Local clock offset: 1.548 ms
Remote clock offset: -10.476 ms

# Below is generated by plot.py at 2018-06-30 19:53:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.86 Mbit/s
95th percentile per-packet one-way delay: 89.963 ms
Loss rate: 25.58%
-- Flow 1:
Average throughput: 26.45 Mbit/s
95th percentile per-packet one-way delay: 84.670 ms
Loss rate: 24.41%
-- Flow 2:
Average throughput: 19.77 Mbit/s
95th percentile per-packet one-way delay: 91.887 ms
Loss rate: 27.83%
-- Flow 3:
Average throughput: 16.09 Mbit/s
95th percentile per-packet one-way delay: 96.067 ms
Loss rate: 25.60%
```

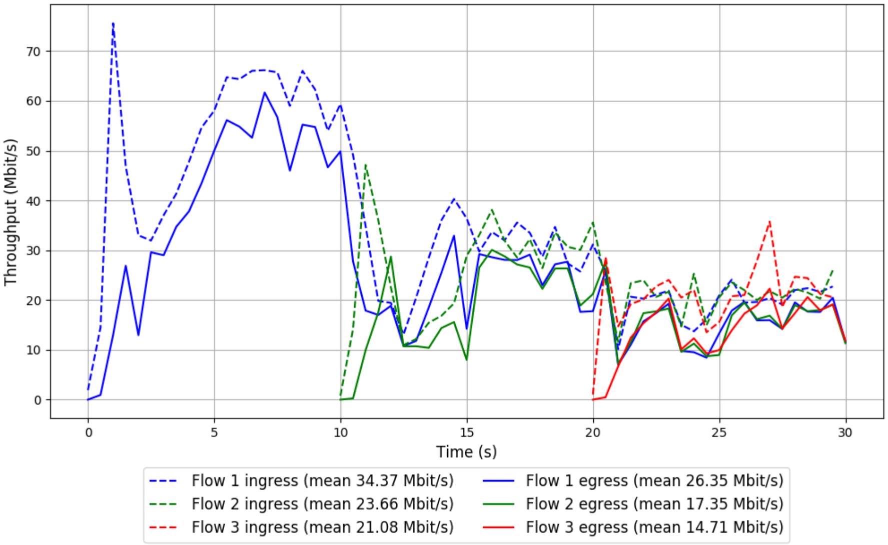
Run 2: Report of FillP — Data Link

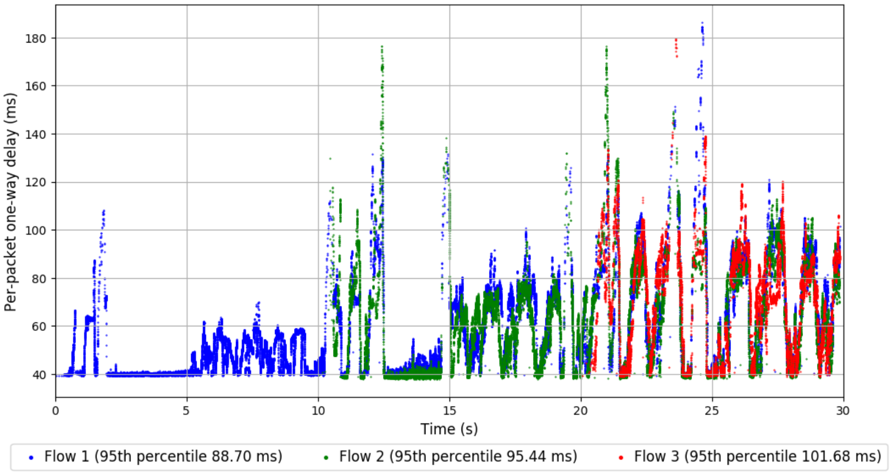




```
Run 3: Statistics of FillP

Start at: 2018-06-30 15:26:04
End at: 2018-06-30 15:26:34
Local clock offset: 5.05 ms
Remote clock offset: -10.797 ms

# Below is generated by plot.py at 2018-06-30 19:53:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 93.125 ms
Loss rate: 25.44%
-- Flow 1:
Average throughput: 26.35 Mbit/s
95th percentile per-packet one-way delay: 88.698 ms
Loss rate: 23.59%
-- Flow 2:
Average throughput: 17.35 Mbit/s
95th percentile per-packet one-way delay: 95.445 ms
Loss rate: 27.06%
-- Flow 3:
Average throughput: 14.71 Mbit/s
95th percentile per-packet one-way delay: 101.682 ms
Loss rate: 30.94%
```

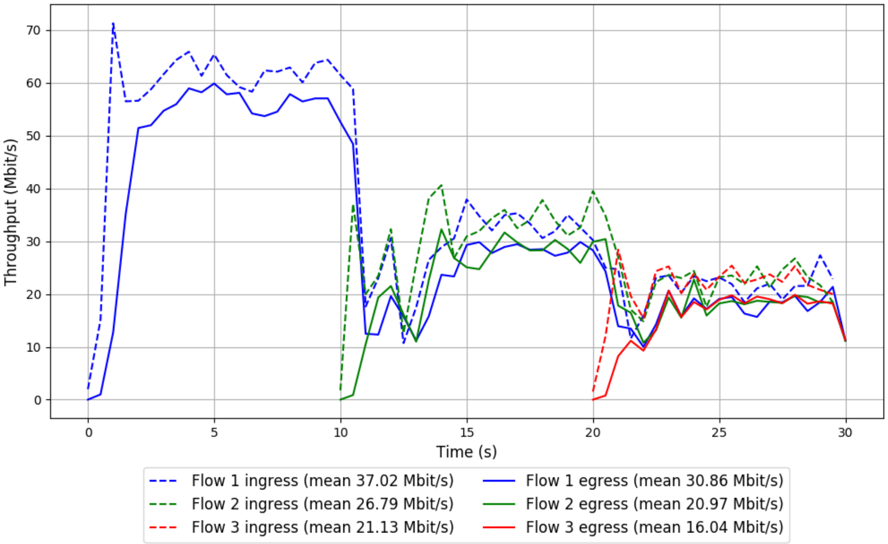
Run 3: Report of FillP — Data Link

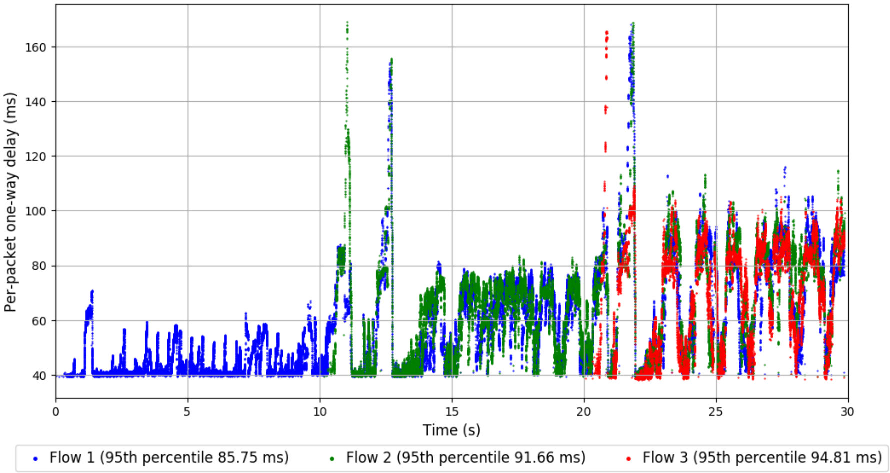




```
Run 4: Statistics of FillP

Start at: 2018-06-30 16:01:07
End at: 2018-06-30 16:01:37
Local clock offset: 6.665 ms
Remote clock offset: -9.988 ms

# Below is generated by plot.py at 2018-06-30 19:53:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.06 Mbit/s
95th percentile per-packet one-way delay: 89.683 ms
Loss rate: 19.33%
-- Flow 1:
Average throughput: 30.86 Mbit/s
95th percentile per-packet one-way delay: 85.745 ms
Loss rate: 16.93%
-- Flow 2:
Average throughput: 20.97 Mbit/s
95th percentile per-packet one-way delay: 91.659 ms
Loss rate: 22.11%
-- Flow 3:
Average throughput: 16.04 Mbit/s
95th percentile per-packet one-way delay: 94.810 ms
Loss rate: 24.92%
```

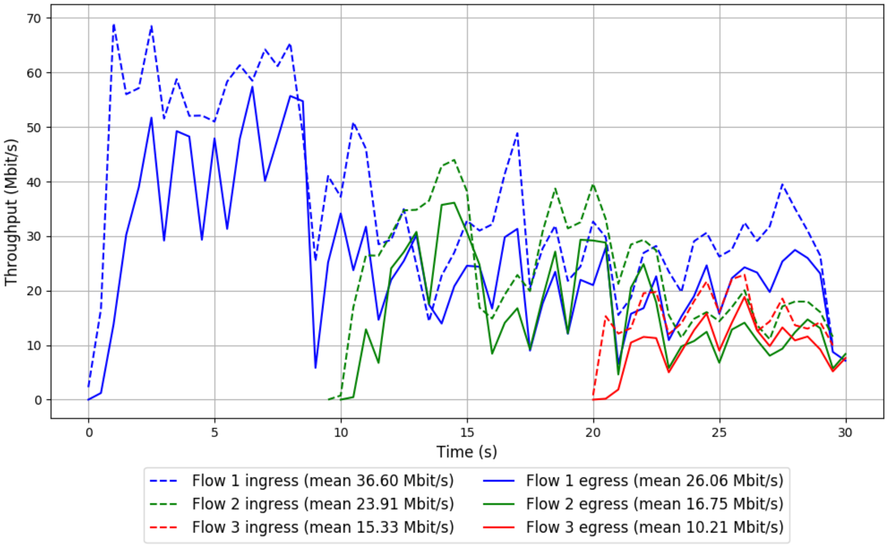
Run 4: Report of FillP — Data Link

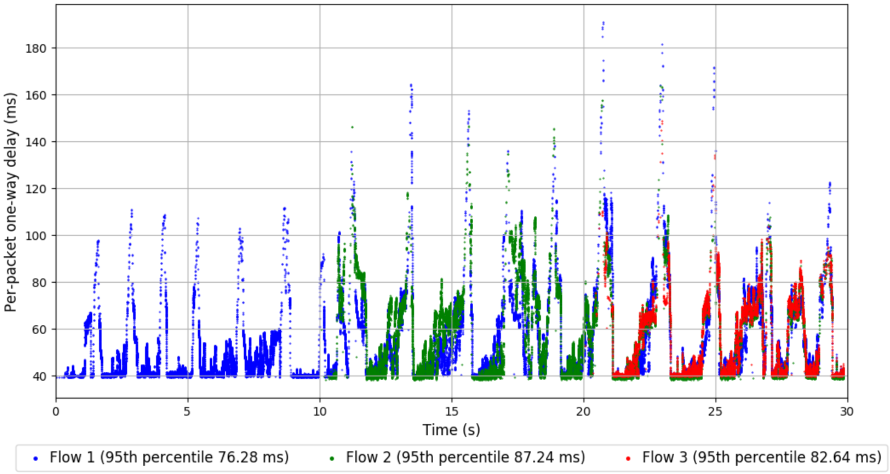




```
Run 5: Statistics of FillP

Start at: 2018-06-30 16:33:31
End at: 2018-06-30 16:34:01
Local clock offset: -4.16 ms
Remote clock offset: -10.101 ms

# Below is generated by plot.py at 2018-06-30 19:53:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.53 Mbit/s
95th percentile per-packet one-way delay: 80.214 ms
Loss rate: 29.87%
-- Flow 1:
Average throughput: 26.06 Mbit/s
95th percentile per-packet one-way delay: 76.284 ms
Loss rate: 29.06%
-- Flow 2:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 87.238 ms
Loss rate: 30.37%
-- Flow 3:
Average throughput: 10.21 Mbit/s
95th percentile per-packet one-way delay: 82.638 ms
Loss rate: 34.19%
```

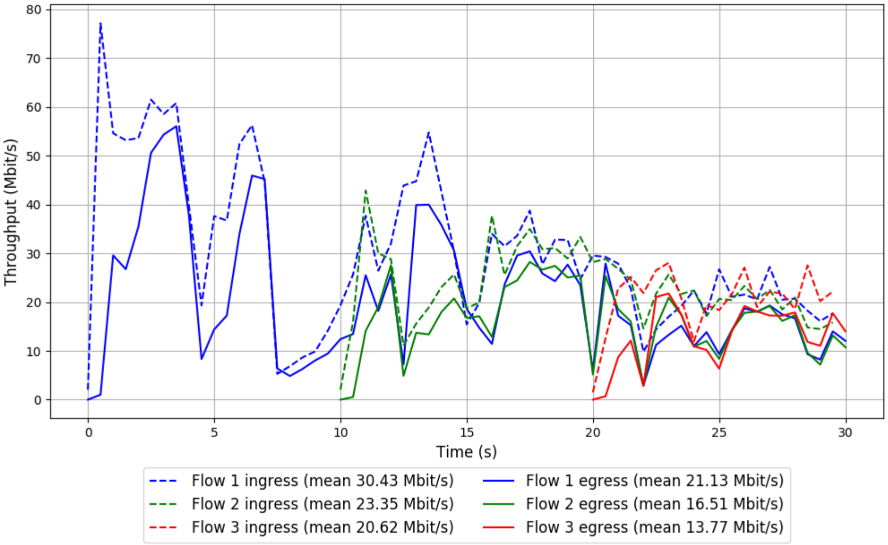
Run 5: Report of FillP — Data Link

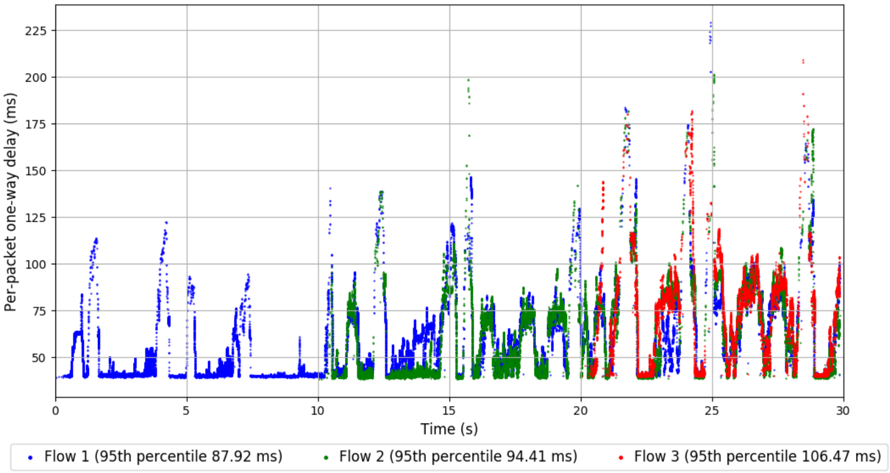




```
Run 6: Statistics of FillP

Start at: 2018-06-30 17:06:29
End at: 2018-06-30 17:06:59
Local clock offset: -8.136 ms
Remote clock offset: -9.719 ms

# Below is generated by plot.py at 2018-06-30 19:53:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 93.912 ms
Loss rate: 30.85%
-- Flow 1:
Average throughput: 21.13 Mbit/s
95th percentile per-packet one-way delay: 87.922 ms
Loss rate: 30.79%
-- Flow 2:
Average throughput: 16.51 Mbit/s
95th percentile per-packet one-way delay: 94.412 ms
Loss rate: 29.62%
-- Flow 3:
Average throughput: 13.77 Mbit/s
95th percentile per-packet one-way delay: 106.465 ms
Loss rate: 33.91%
```

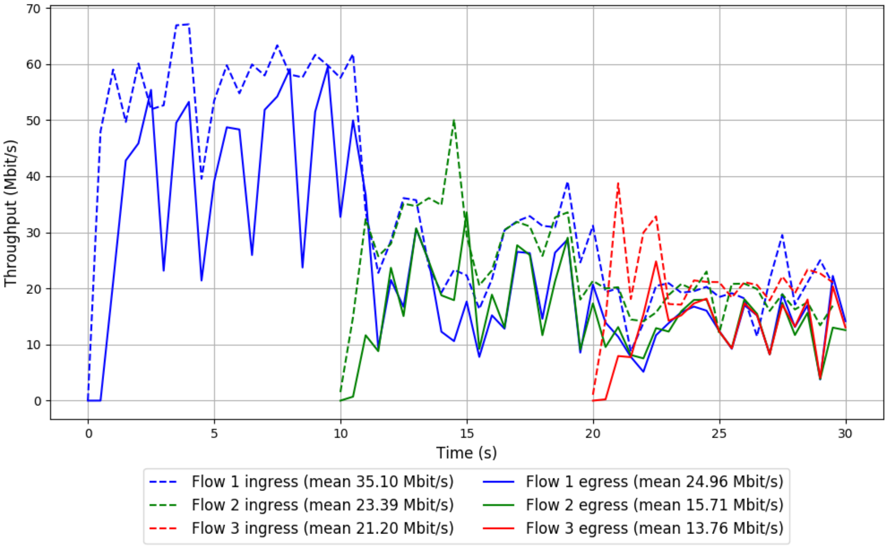
Run 6: Report of FillP — Data Link

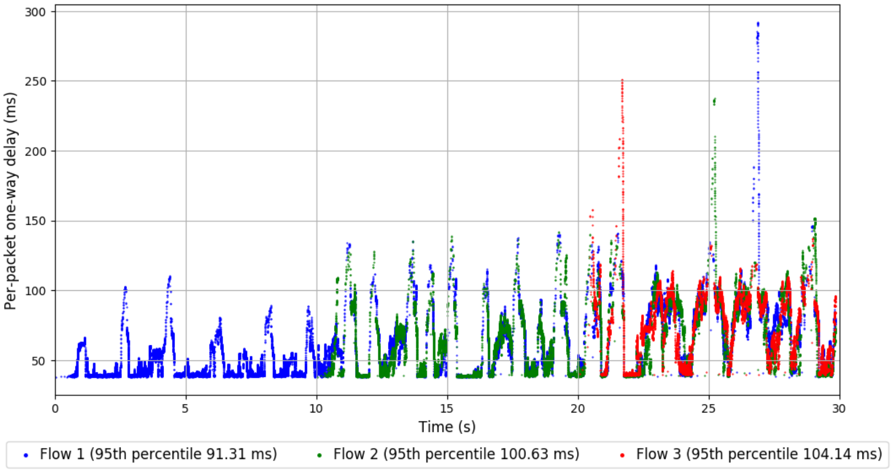




```
Run 7: Statistics of FillP

Start at: 2018-06-30 17:39:44
End at: 2018-06-30 17:40:14
Local clock offset: -0.088 ms
Remote clock offset: -7.738 ms

# Below is generated by plot.py at 2018-06-30 19:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 97.250 ms
Loss rate: 31.04%
-- Flow 1:
Average throughput: 24.96 Mbit/s
95th percentile per-packet one-way delay: 91.311 ms
Loss rate: 29.14%
-- Flow 2:
Average throughput: 15.71 Mbit/s
95th percentile per-packet one-way delay: 100.627 ms
Loss rate: 33.17%
-- Flow 3:
Average throughput: 13.76 Mbit/s
95th percentile per-packet one-way delay: 104.140 ms
Loss rate: 35.81%
```

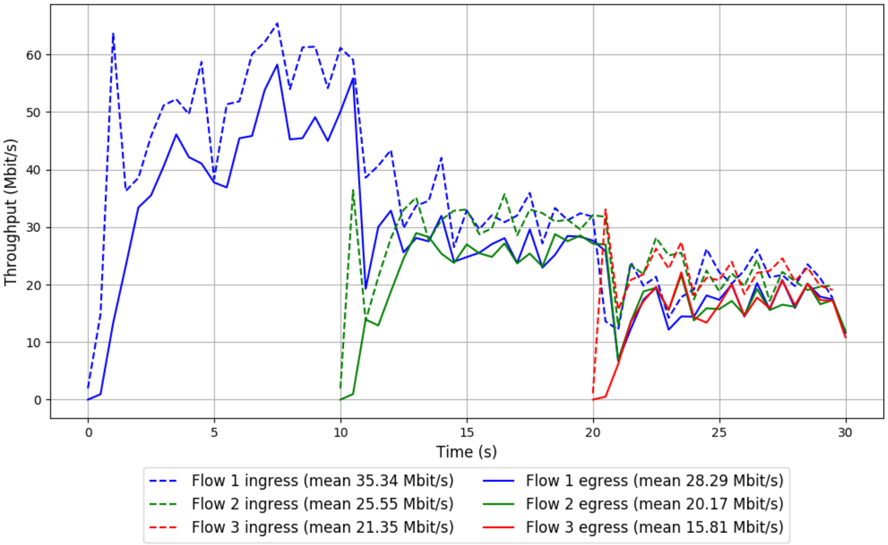
Run 7: Report of FillP — Data Link

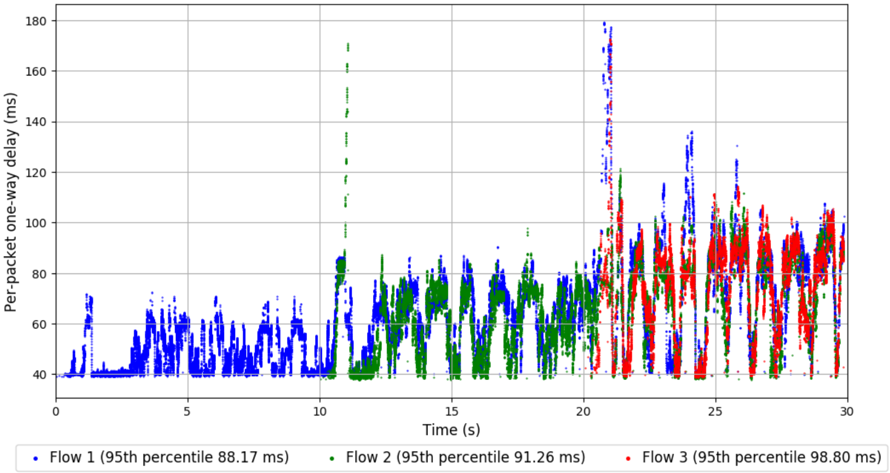




```
Run 8: Statistics of FillP

Start at: 2018-06-30 18:14:05
End at: 2018-06-30 18:14:35
Local clock offset: 6.289 ms
Remote clock offset: -7.906 ms

# Below is generated by plot.py at 2018-06-30 19:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.89 Mbit/s
95th percentile per-packet one-way delay: 91.439 ms
Loss rate: 21.35%
-- Flow 1:
Average throughput: 28.29 Mbit/s
95th percentile per-packet one-way delay: 88.175 ms
Loss rate: 20.21%
-- Flow 2:
Average throughput: 20.17 Mbit/s
95th percentile per-packet one-way delay: 91.260 ms
Loss rate: 21.48%
-- Flow 3:
Average throughput: 15.81 Mbit/s
95th percentile per-packet one-way delay: 98.800 ms
Loss rate: 26.74%
```

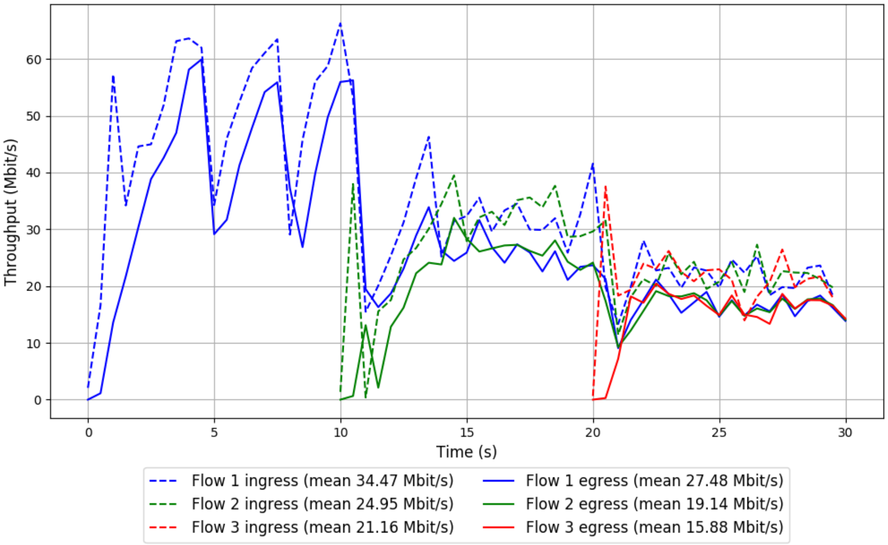
Run 8: Report of FillP — Data Link

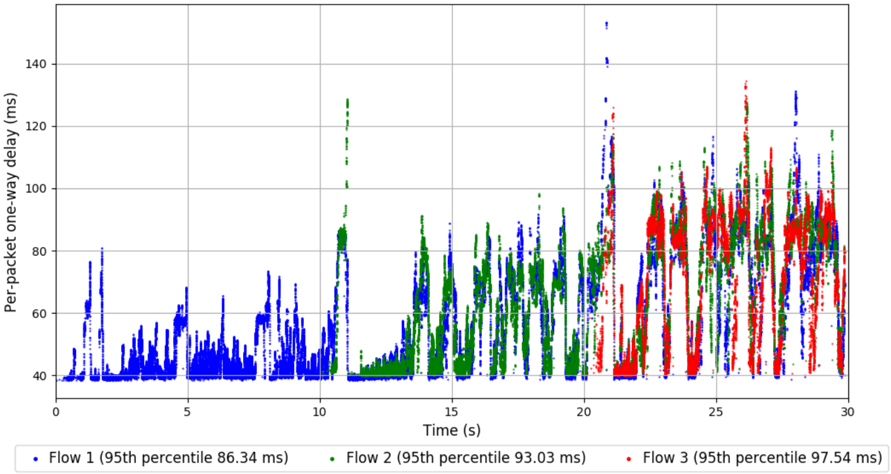




```
Run 9: Statistics of FillP

Start at: 2018-06-30 18:47:17
End at: 2018-06-30 18:47:47
Local clock offset: 4.547 ms
Remote clock offset: -8.709 ms

# Below is generated by plot.py at 2018-06-30 19:54:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.40 Mbit/s
95th percentile per-packet one-way delay: 91.144 ms
Loss rate: 22.09%
-- Flow 1:
Average throughput: 27.48 Mbit/s
95th percentile per-packet one-way delay: 86.342 ms
Loss rate: 20.55%
-- Flow 2:
Average throughput: 19.14 Mbit/s
95th percentile per-packet one-way delay: 93.032 ms
Loss rate: 23.72%
-- Flow 3:
Average throughput: 15.88 Mbit/s
95th percentile per-packet one-way delay: 97.537 ms
Loss rate: 25.79%
```

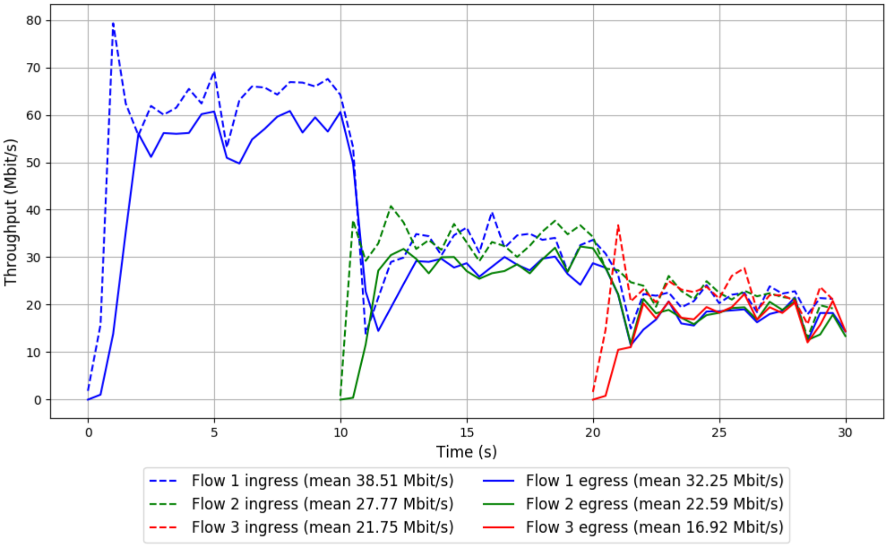
Run 9: Report of FillP — Data Link

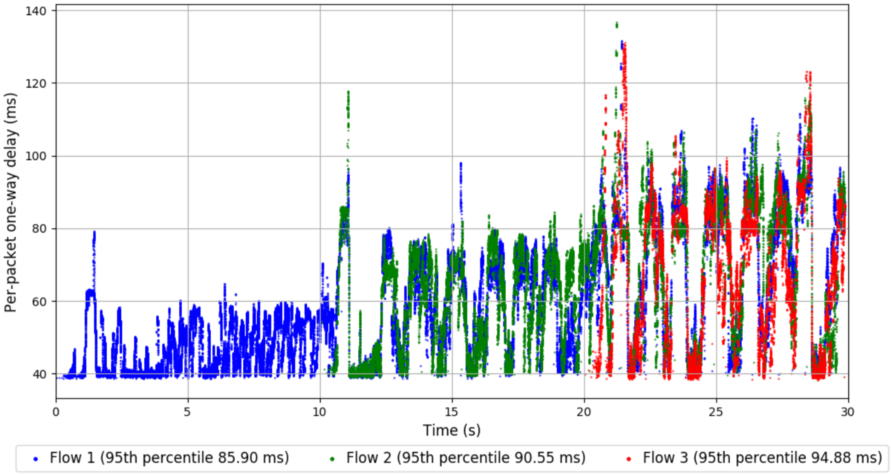




```
Run 10: Statistics of FillP

Start at: 2018-06-30 19:22:15
End at: 2018-06-30 19:22:45
Local clock offset: 2.751 ms
Remote clock offset: -9.017 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.80 Mbit/s
95th percentile per-packet one-way delay: 88.701 ms
Loss rate: 18.02%
-- Flow 1:
Average throughput: 32.25 Mbit/s
95th percentile per-packet one-way delay: 85.904 ms
Loss rate: 16.55%
-- Flow 2:
Average throughput: 22.59 Mbit/s
95th percentile per-packet one-way delay: 90.547 ms
Loss rate: 19.13%
-- Flow 3:
Average throughput: 16.92 Mbit/s
95th percentile per-packet one-way delay: 94.878 ms
Loss rate: 23.02%
```

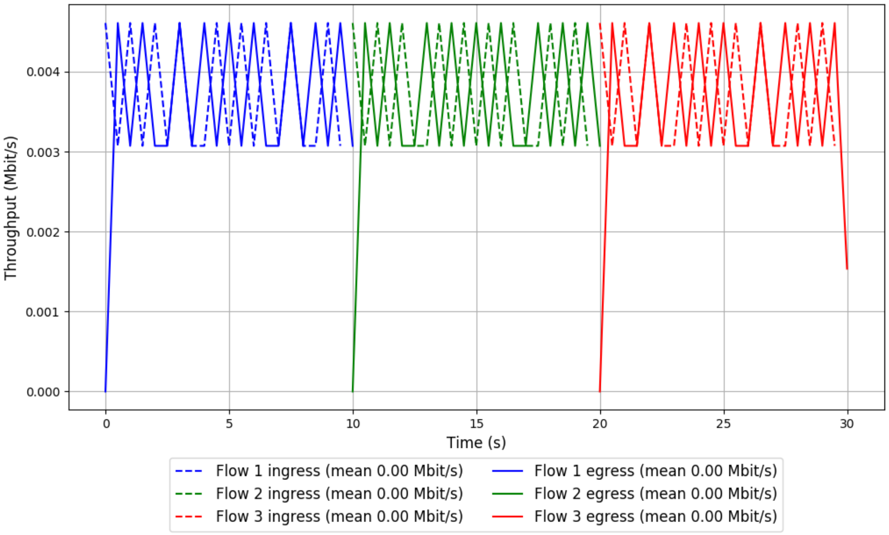
Run 10: Report of FillP — Data Link

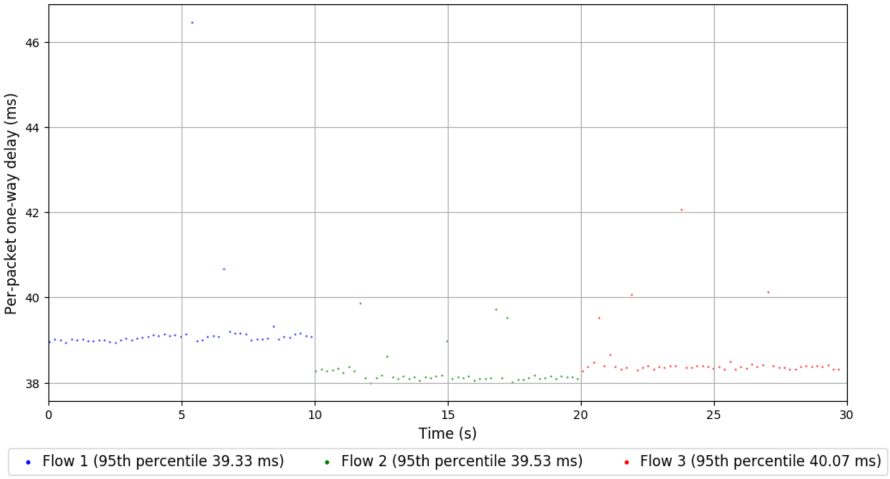




```
Run 1: Statistics of FillP-Sheep

Start at: 2018-06-30 14:28:50
End at: 2018-06-30 14:29:20
Local clock offset: -0.763 ms
Remote clock offset: -10.201 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.532 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.325 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.532 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.067 ms
Loss rate: 2.04%
```

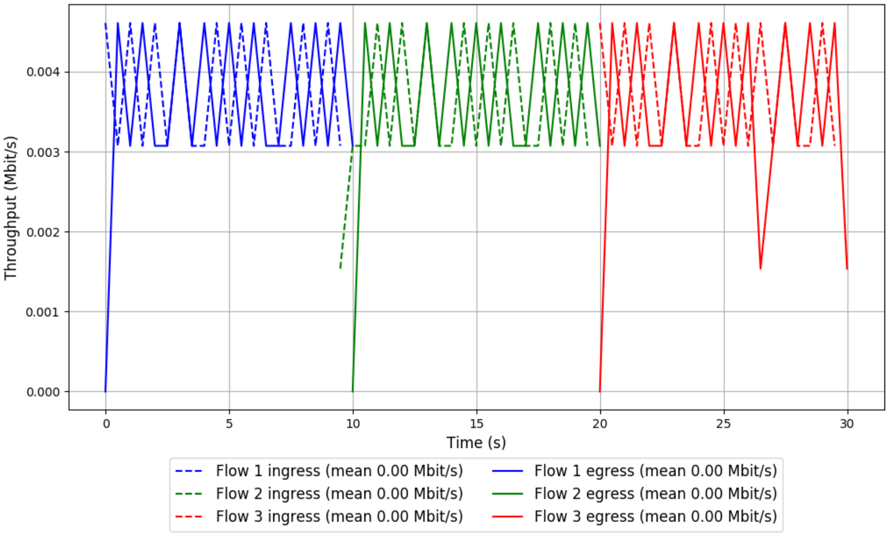
Run 1: Report of FillP-Sheep — Data Link

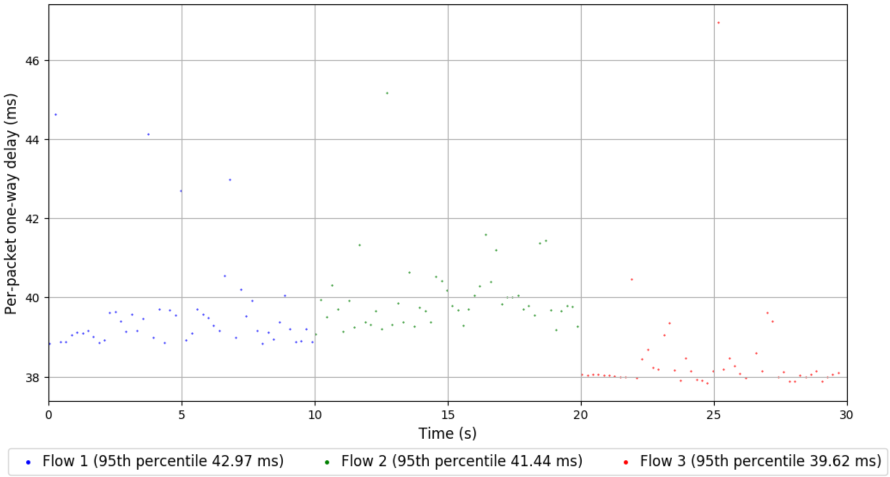




```
Run 2: Statistics of FillP-Sheep

Start at: 2018-06-30 15:02:41
End at: 2018-06-30 15:03:11
Local clock offset: 3.758 ms
Remote clock offset: -11.096 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.438 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 42.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.623 ms
Loss rate: 4.08%
```

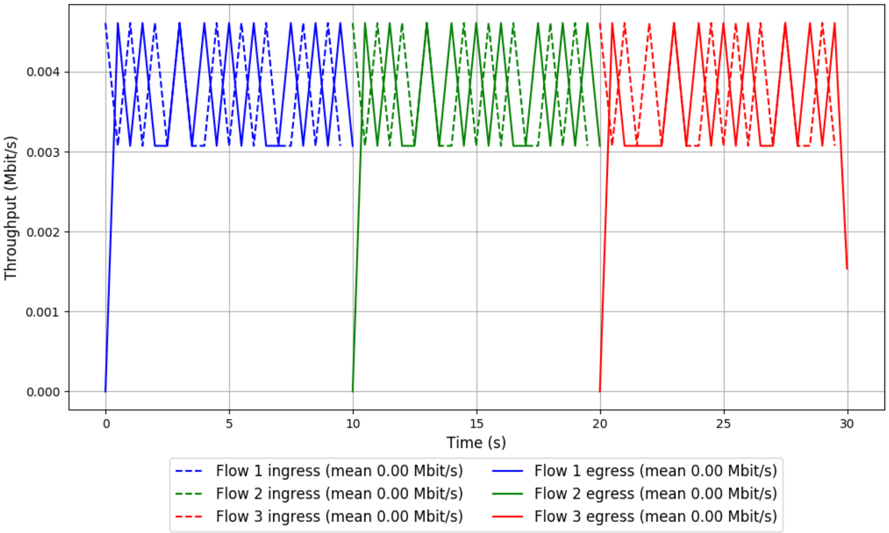
Run 2: Report of FillP-Sheep — Data Link

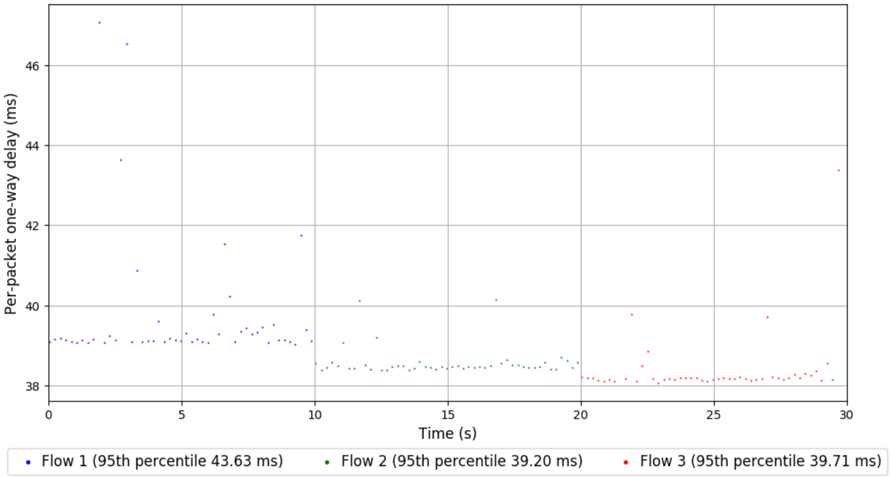




```
Run 3: Statistics of FillP-Sheep

Start at: 2018-06-30 15:37:16
End at: 2018-06-30 15:37:46
Local clock offset: 5.48 ms
Remote clock offset: -10.429 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.225 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 43.632 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.203 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.709 ms
Loss rate: 4.08%
```

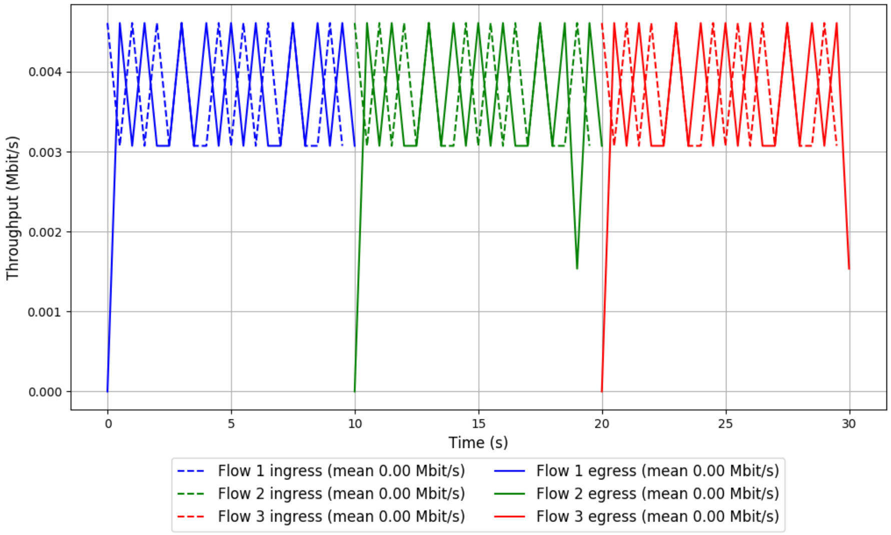
Run 3: Report of FillP-Sheep — Data Link

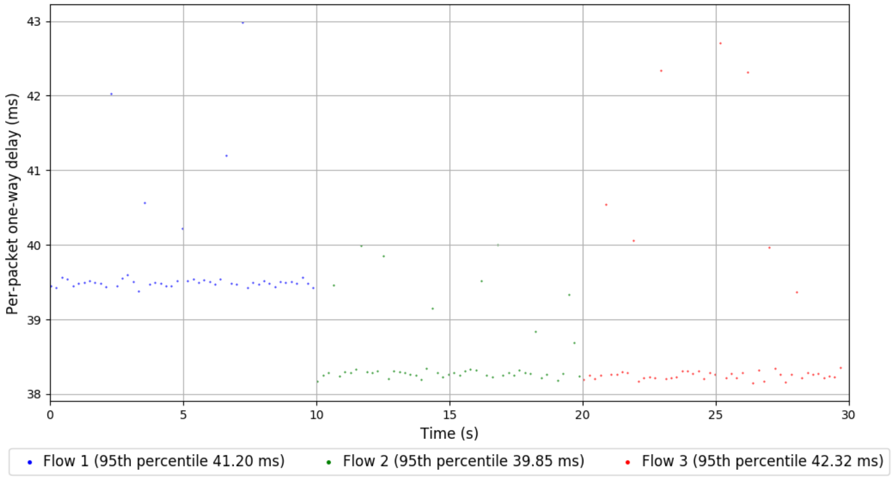




```
Run 4: Statistics of FillP-Sheep

Start at: 2018-06-30 16:11:19
End at: 2018-06-30 16:11:49
Local clock offset: 7.057 ms
Remote clock offset: -9.946 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.544 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.202 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.847 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 42.318 ms
Loss rate: 2.04%
```

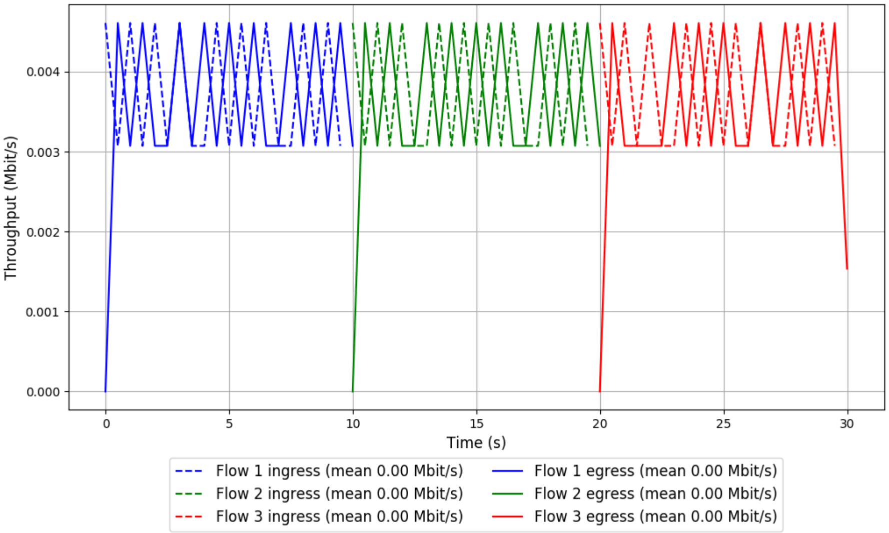
Run 4: Report of FillP-Sheep — Data Link

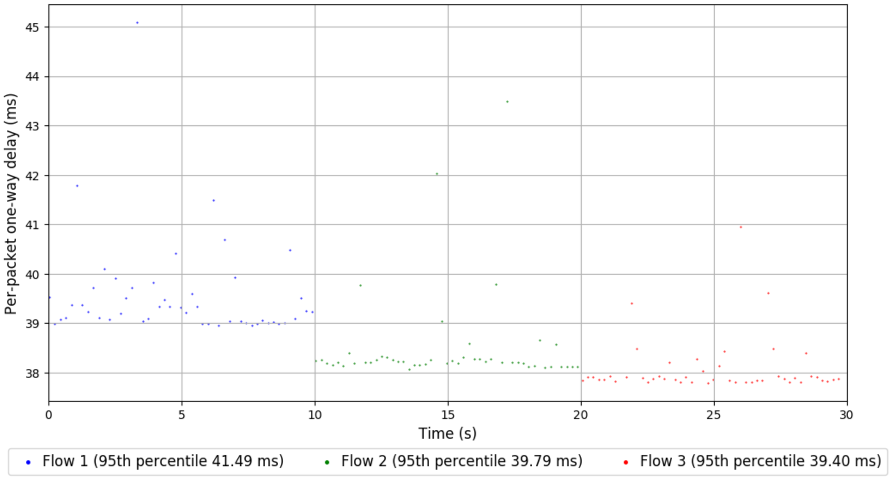




```
Run 5: Statistics of FillP-Sheep

Start at: 2018-06-30 16:43:49
End at: 2018-06-30 16:44:19
Local clock offset: -6.23 ms
Remote clock offset: -10.115 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.477 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.786 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.404 ms
Loss rate: 4.08%
```

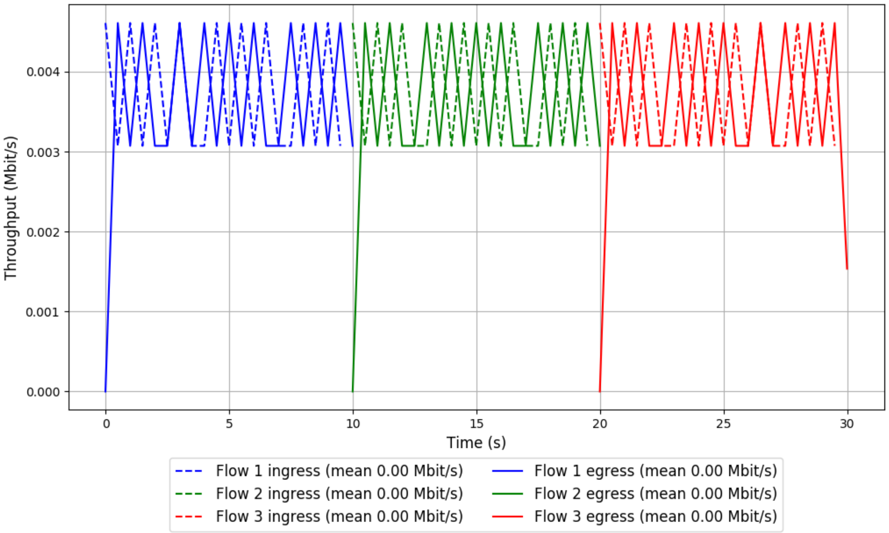
Run 5: Report of FillP-Sheep — Data Link

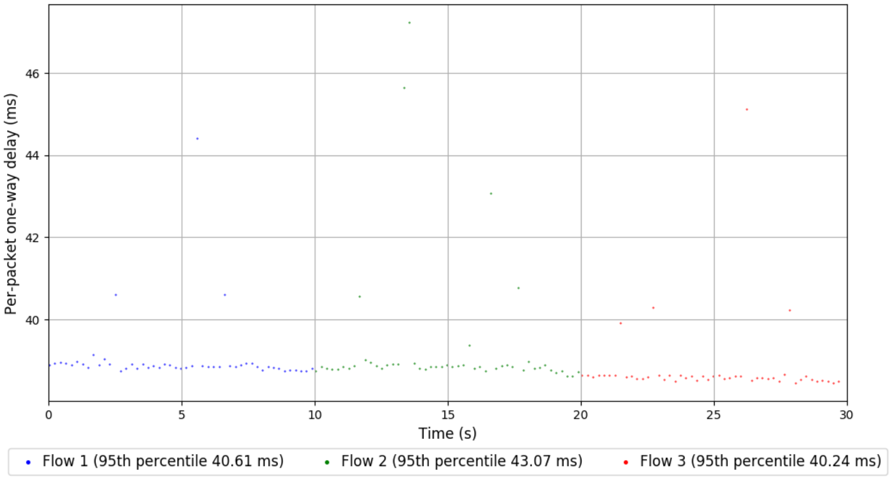




```
Run 6: Statistics of FillP-Sheep

Start at: 2018-06-30 17:16:49
End at: 2018-06-30 17:17:19
Local clock offset: -7.688 ms
Remote clock offset: -8.866 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.612 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 43.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.236 ms
Loss rate: 2.04%
```

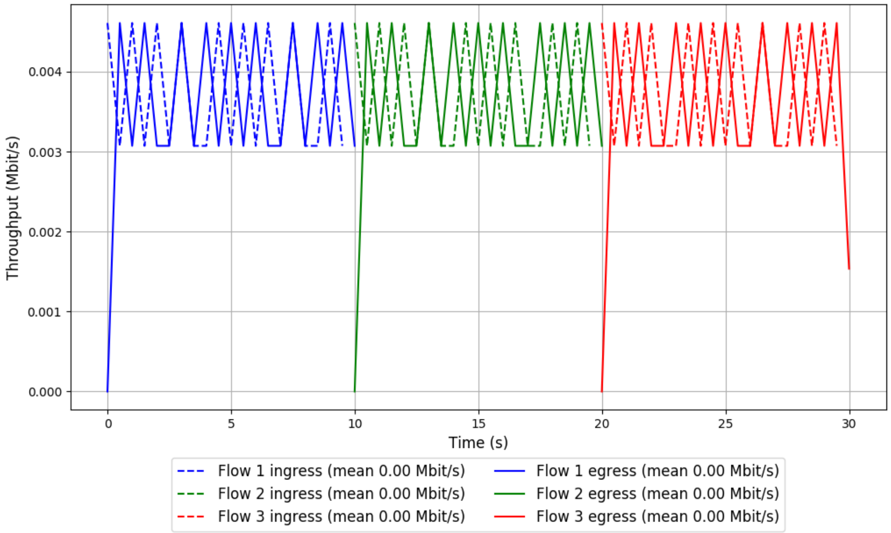
Run 6: Report of FillP-Sheep — Data Link

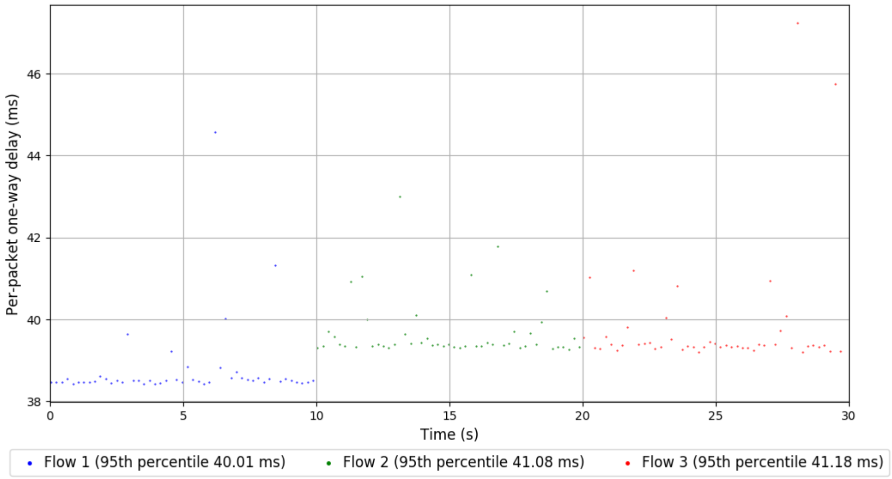




```
Run 7: Statistics of FillP-Sheep

Start at: 2018-06-30 17:50:20
End at: 2018-06-30 17:50:50
Local clock offset: 2.715 ms
Remote clock offset: -7.897 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.080 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.013 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.080 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 41.183 ms
Loss rate: 2.04%
```

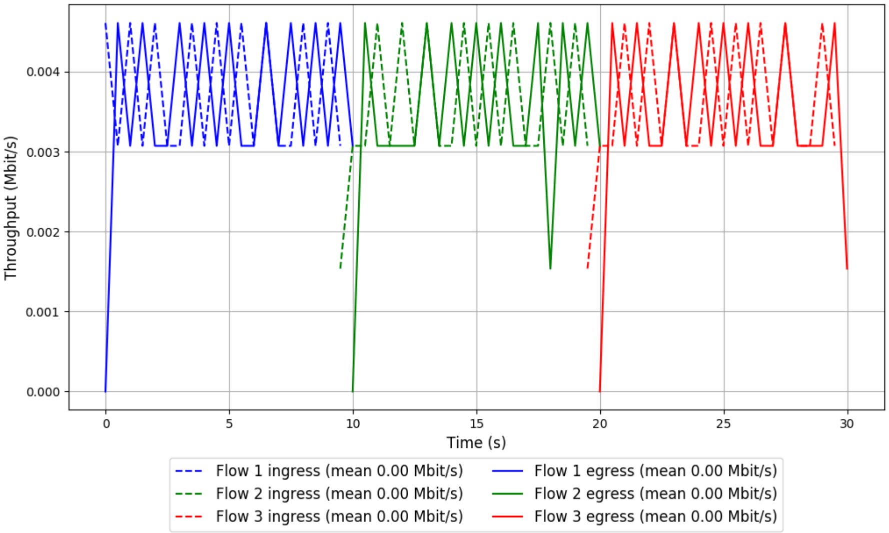
Run 7: Report of FillP-Sheep — Data Link

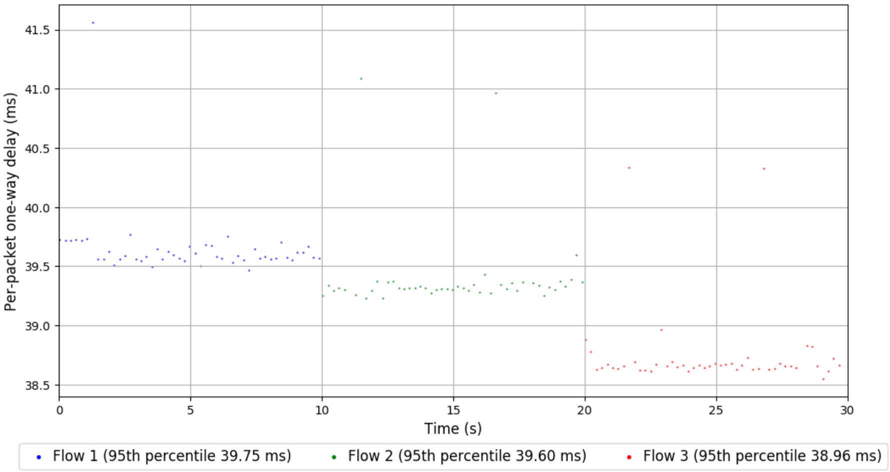




```
Run 8: Statistics of FillP-Sheep

Start at: 2018-06-30 18:25:10
End at: 2018-06-30 18:25:40
Local clock offset: 5.457 ms
Remote clock offset: -8.537 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.730 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.754 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.596 ms
Loss rate: 4.08%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 38.964 ms
Loss rate: 4.08%
```

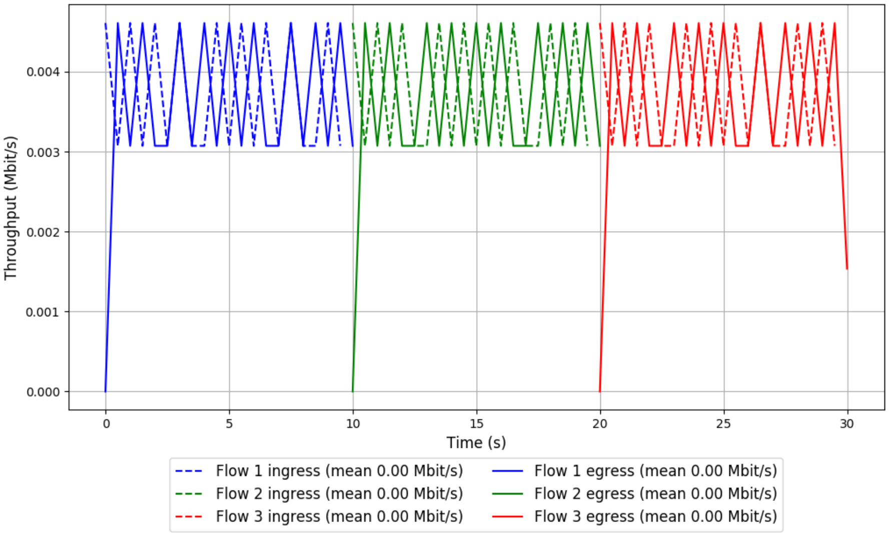
Run 8: Report of FillP-Sheep — Data Link

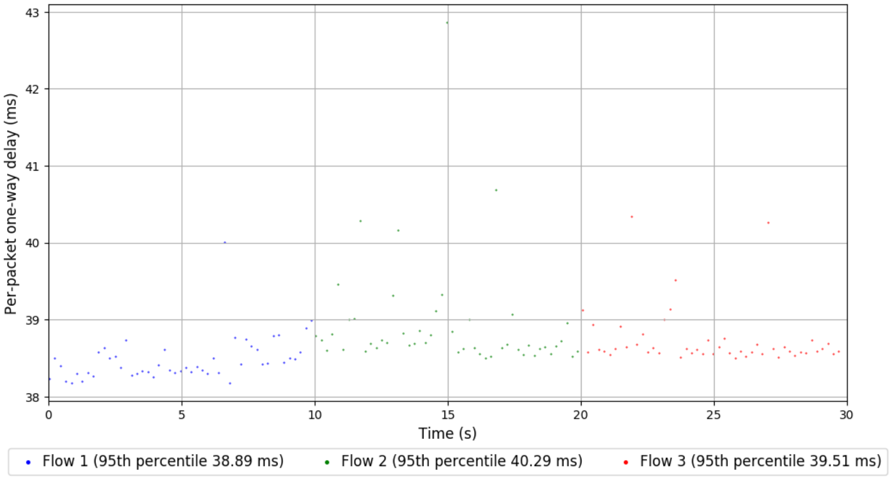




```
Run 9: Statistics of FillP-Sheep

Start at: 2018-06-30 18:57:55
End at: 2018-06-30 18:58:25
Local clock offset: 2.032 ms
Remote clock offset: -8.503 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.510 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 38.886 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 40.290 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.510 ms
Loss rate: 2.04%
```

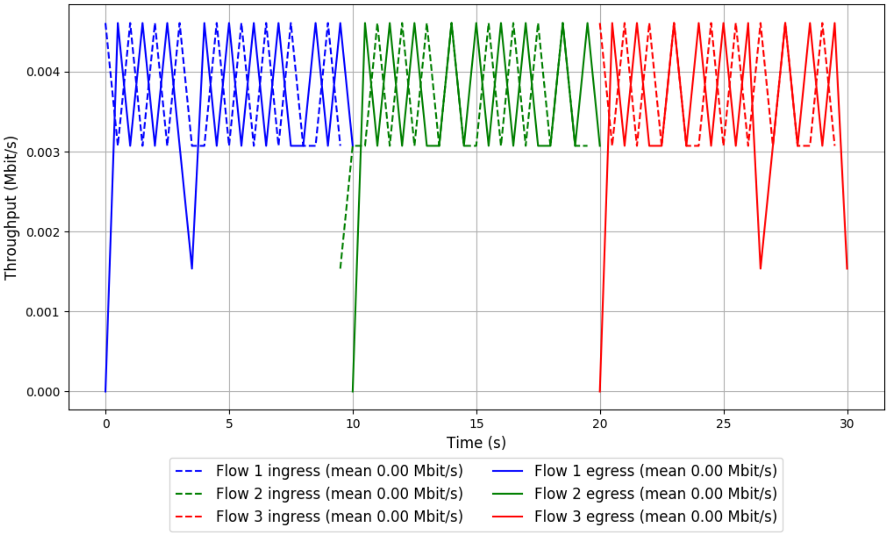
Run 9: Report of FillP-Sheep — Data Link

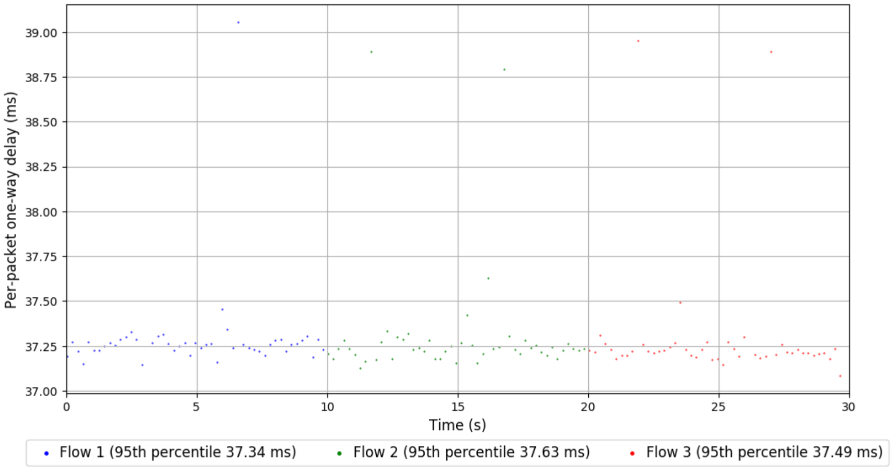




```
Run 10: Statistics of FillP-Sheep

Start at: 2018-06-30 19:33:40
End at: 2018-06-30 19:34:10
Local clock offset: 4.009 ms
Remote clock offset: -8.537 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 37.457 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 37.341 ms
Loss rate: 2.04%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 37.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 37.491 ms
Loss rate: 4.08%
```

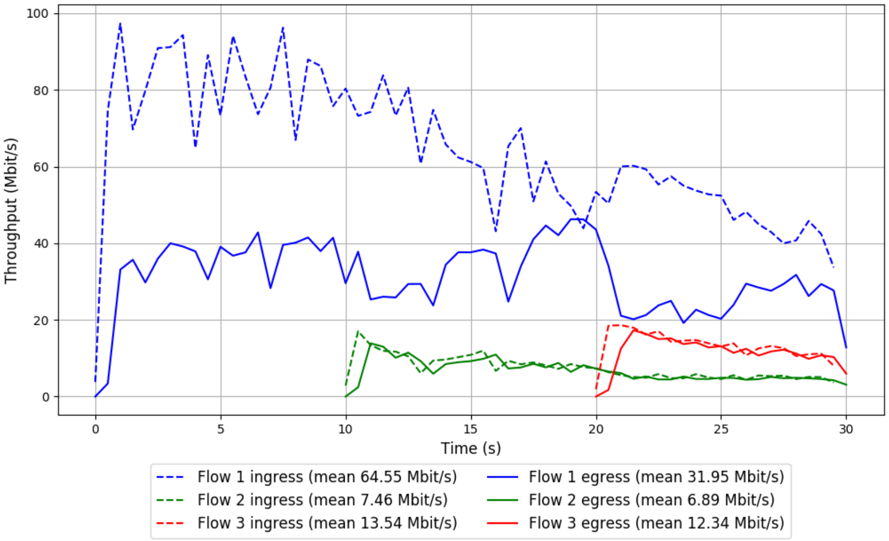
Run 10: Report of FillP-Sheep — Data Link

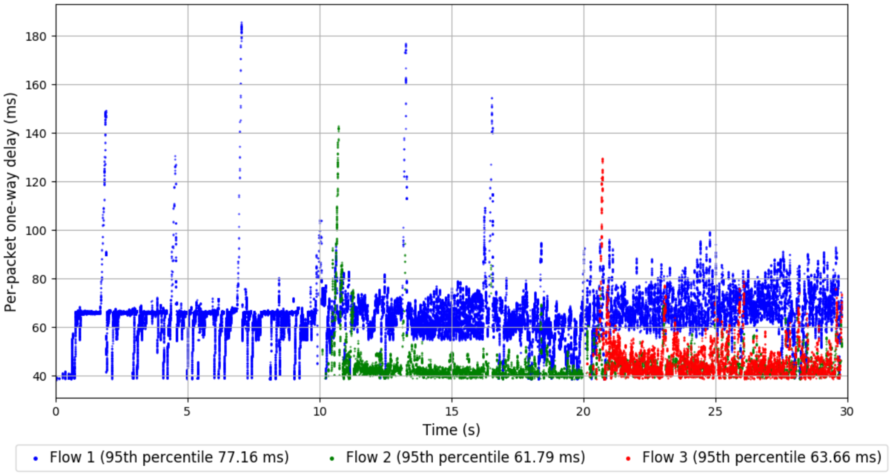




```
Run 1: Statistics of Indigo

Start at: 2018-06-30 14:20:44
End at: 2018-06-30 14:21:14
Local clock offset: -0.364 ms
Remote clock offset: -9.416 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 76.260 ms
Loss rate: 45.41%
-- Flow 1:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 77.155 ms
Loss rate: 50.70%
-- Flow 2:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 61.793 ms
Loss rate: 8.16%
-- Flow 3:
Average throughput: 12.34 Mbit/s
95th percentile per-packet one-way delay: 63.661 ms
Loss rate: 9.89%
```

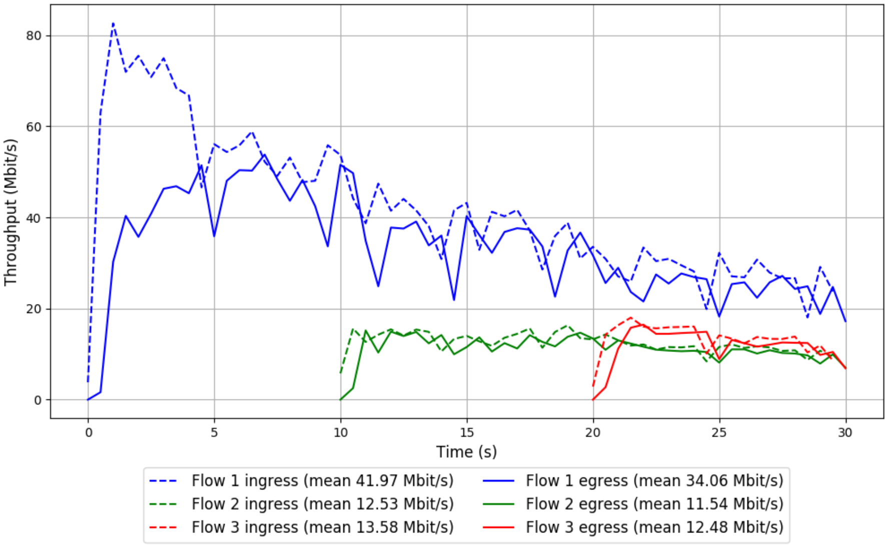
Run 1: Report of Indigo — Data Link

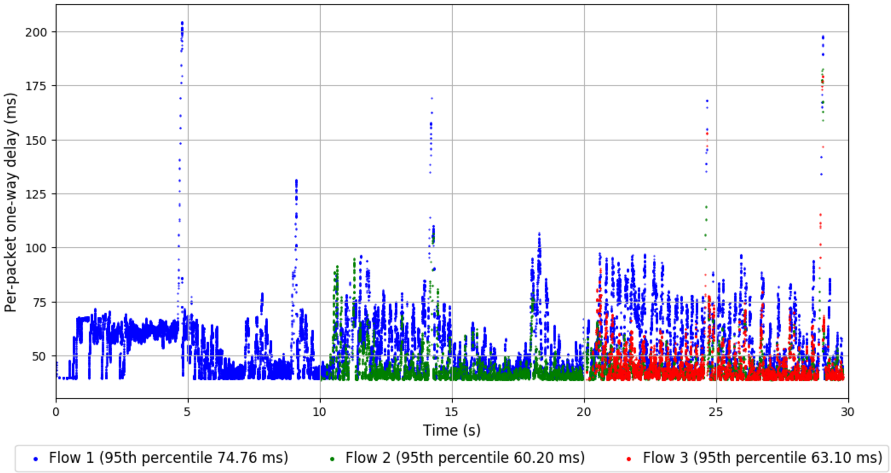




```
Run 2: Statistics of Indigo

Start at: 2018-06-30 14:55:21
End at: 2018-06-30 14:55:51
Local clock offset: 2.669 ms
Remote clock offset: -10.881 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 72.857 ms
Loss rate: 16.69%
-- Flow 1:
Average throughput: 34.06 Mbit/s
95th percentile per-packet one-way delay: 74.757 ms
Loss rate: 19.14%
-- Flow 2:
Average throughput: 11.54 Mbit/s
95th percentile per-packet one-way delay: 60.202 ms
Loss rate: 8.40%
-- Flow 3:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 63.101 ms
Loss rate: 9.07%
```

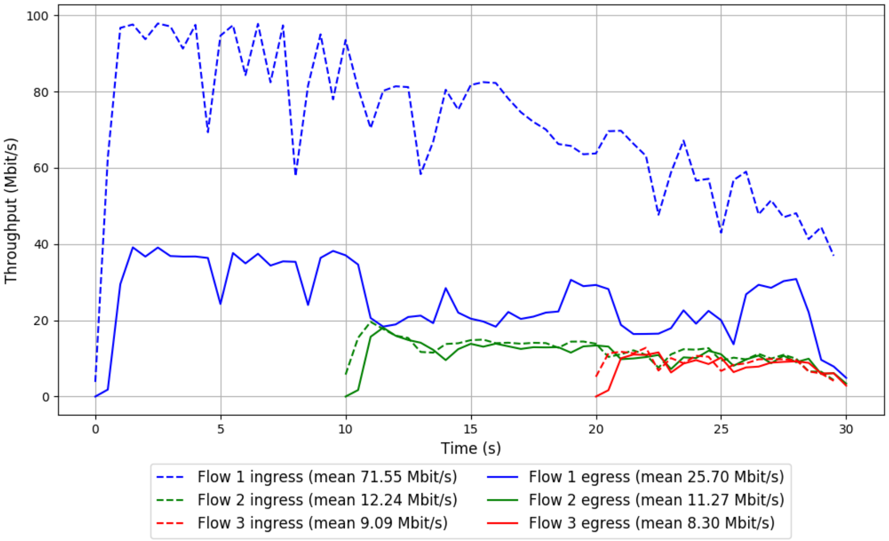
Run 2: Report of Indigo — Data Link

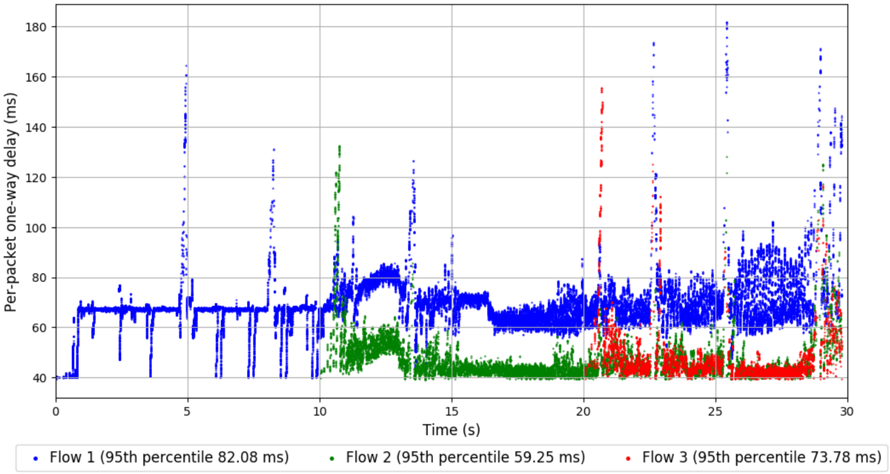




```
Run 3: Statistics of Indigo

Start at: 2018-06-30 15:29:28
End at: 2018-06-30 15:29:58
Local clock offset: 5.217 ms
Remote clock offset: -10.616 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 80.775 ms
Loss rate: 56.75%
-- Flow 1:
Average throughput: 25.70 Mbit/s
95th percentile per-packet one-way delay: 82.084 ms
Loss rate: 64.21%
-- Flow 2:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 59.251 ms
Loss rate: 8.32%
-- Flow 3:
Average throughput: 8.30 Mbit/s
95th percentile per-packet one-way delay: 73.779 ms
Loss rate: 9.59%
```

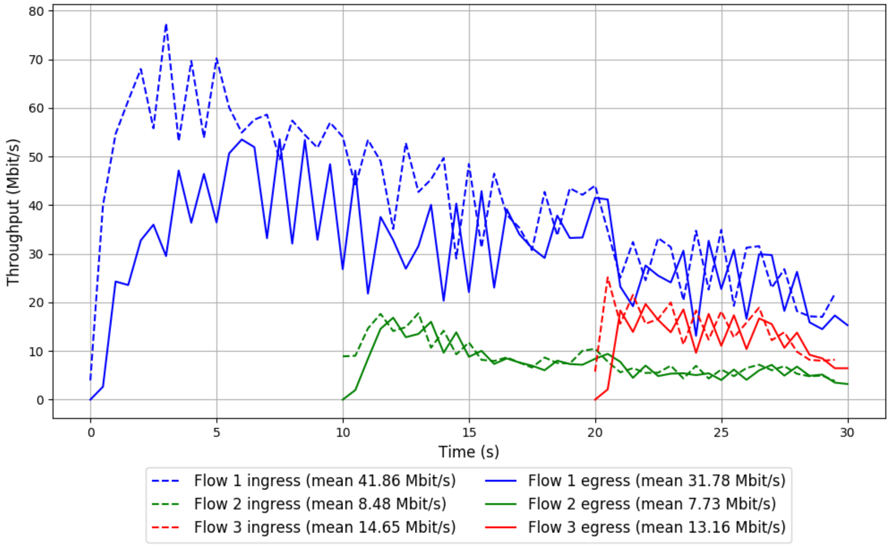
Run 3: Report of Indigo — Data Link

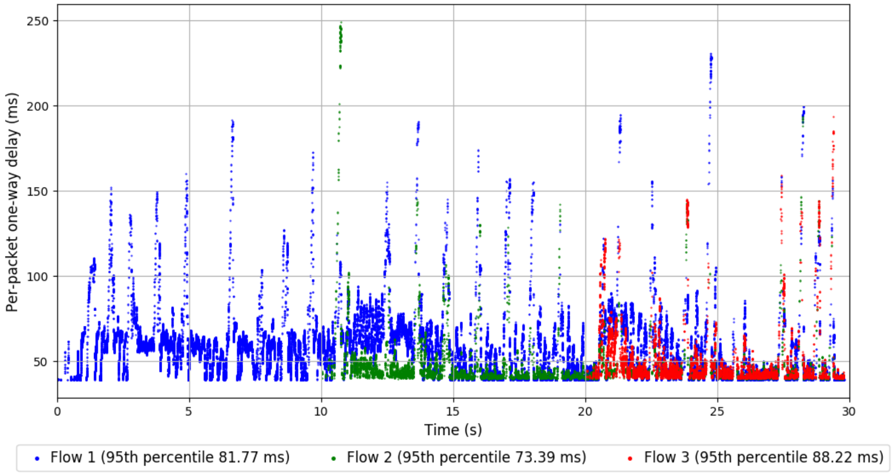




```
Run 4: Statistics of Indigo

Start at: 2018-06-30 16:04:27
End at: 2018-06-30 16:04:58
Local clock offset: 6.549 ms
Remote clock offset: -10.016 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.20 Mbit/s
95th percentile per-packet one-way delay: 81.628 ms
Loss rate: 21.51%
-- Flow 1:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 81.773 ms
Loss rate: 24.34%
-- Flow 2:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 73.391 ms
Loss rate: 9.40%
-- Flow 3:
Average throughput: 13.16 Mbit/s
95th percentile per-packet one-way delay: 88.223 ms
Loss rate: 11.15%
```

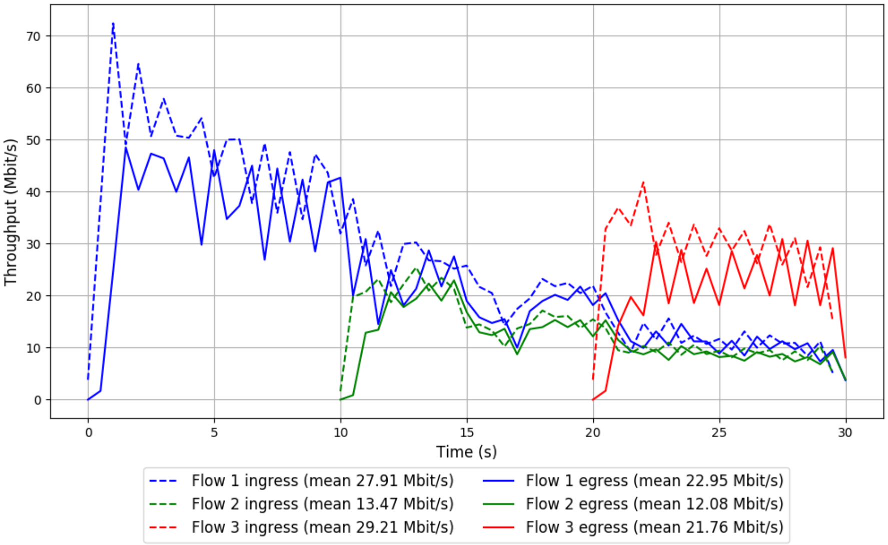
Run 4: Report of Indigo — Data Link

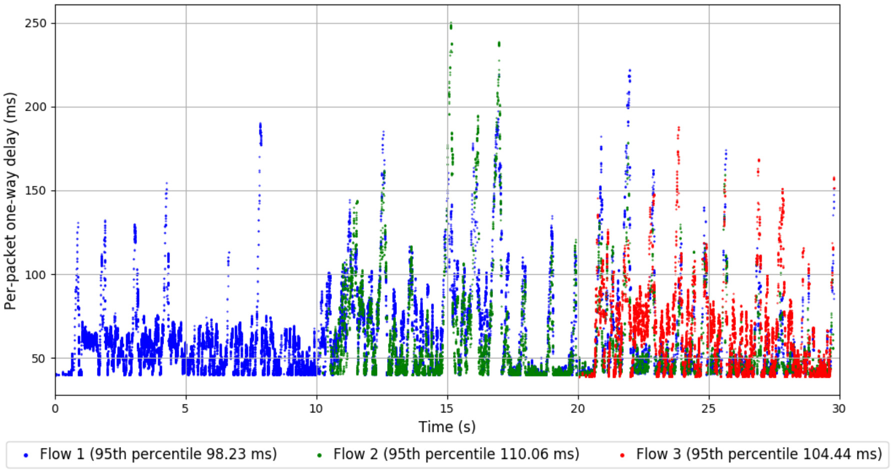




```
Run 5: Statistics of Indigo

Start at: 2018-06-30 16:36:57
End at: 2018-06-30 16:37:27
Local clock offset: -4.859 ms
Remote clock offset: -9.915 ms

# Below is generated by plot.py at 2018-06-30 19:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 102.067 ms
Loss rate: 18.38%
-- Flow 1:
Average throughput: 22.95 Mbit/s
95th percentile per-packet one-way delay: 98.234 ms
Loss rate: 18.06%
-- Flow 2:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 110.056 ms
Loss rate: 10.85%
-- Flow 3:
Average throughput: 21.76 Mbit/s
95th percentile per-packet one-way delay: 104.437 ms
Loss rate: 26.28%
```

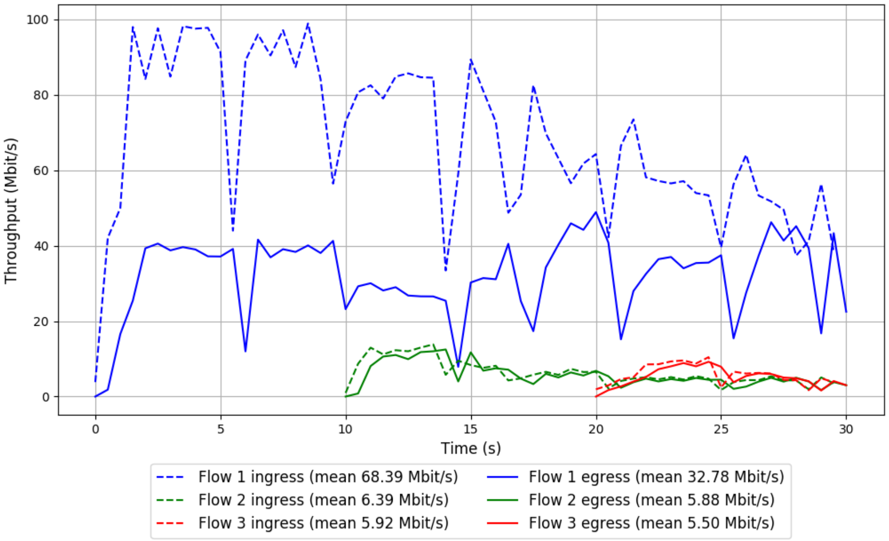
Run 5: Report of Indigo — Data Link

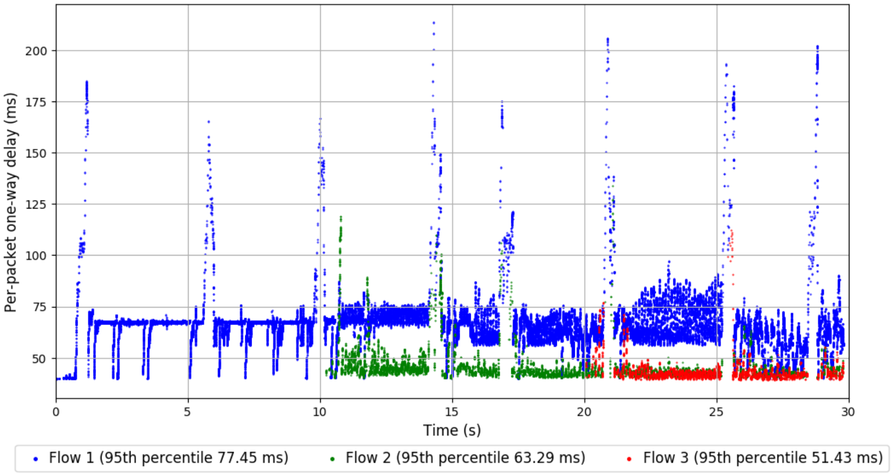




```
Run 6: Statistics of Indigo

Start at: 2018-06-30 17:09:42
End at: 2018-06-30 17:10:12
Local clock offset: -8.459 ms
Remote clock offset: -9.391 ms

# Below is generated by plot.py at 2018-06-30 19:54:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.43 Mbit/s
95th percentile per-packet one-way delay: 76.565 ms
Loss rate: 48.63%
-- Flow 1:
Average throughput: 32.78 Mbit/s
95th percentile per-packet one-way delay: 77.454 ms
Loss rate: 52.25%
-- Flow 2:
Average throughput: 5.88 Mbit/s
95th percentile per-packet one-way delay: 63.286 ms
Loss rate: 8.51%
-- Flow 3:
Average throughput: 5.50 Mbit/s
95th percentile per-packet one-way delay: 51.427 ms
Loss rate: 8.17%
```

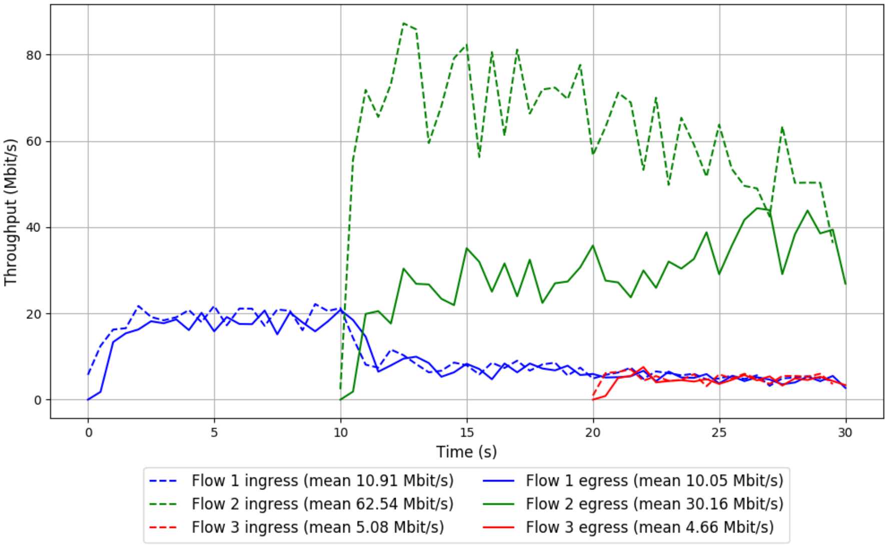
Run 6: Report of Indigo — Data Link

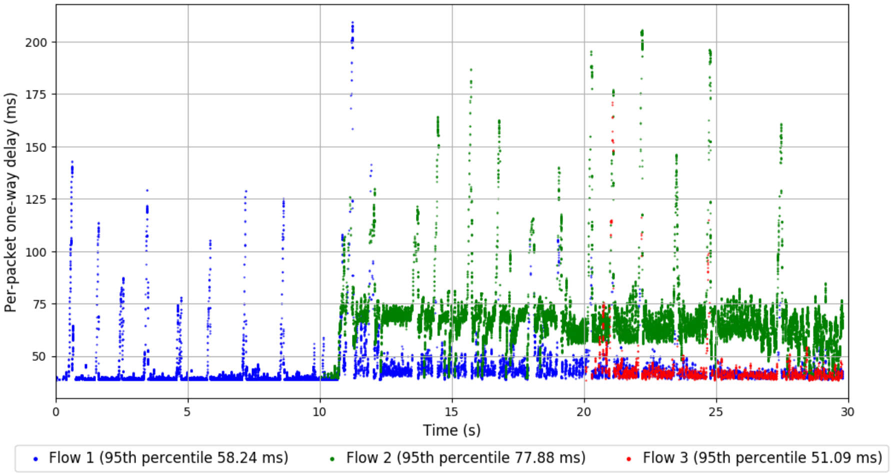




```
Run 7: Statistics of Indigo

Start at: 2018-06-30 17:43:10
End at: 2018-06-30 17:43:40
Local clock offset: 0.077 ms
Remote clock offset: -8.046 ms

# Below is generated by plot.py at 2018-06-30 19:54:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 75.386 ms
Loss rate: 41.92%
-- Flow 1:
Average throughput: 10.05 Mbit/s
95th percentile per-packet one-way delay: 58.243 ms
Loss rate: 8.24%
-- Flow 2:
Average throughput: 30.16 Mbit/s
95th percentile per-packet one-way delay: 77.881 ms
Loss rate: 52.06%
-- Flow 3:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 51.088 ms
Loss rate: 9.24%
```

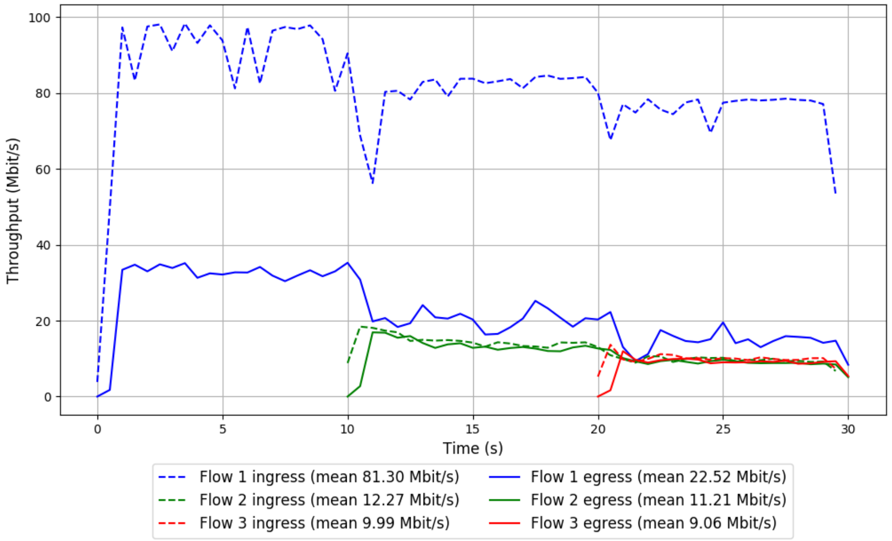
Run 7: Report of Indigo — Data Link

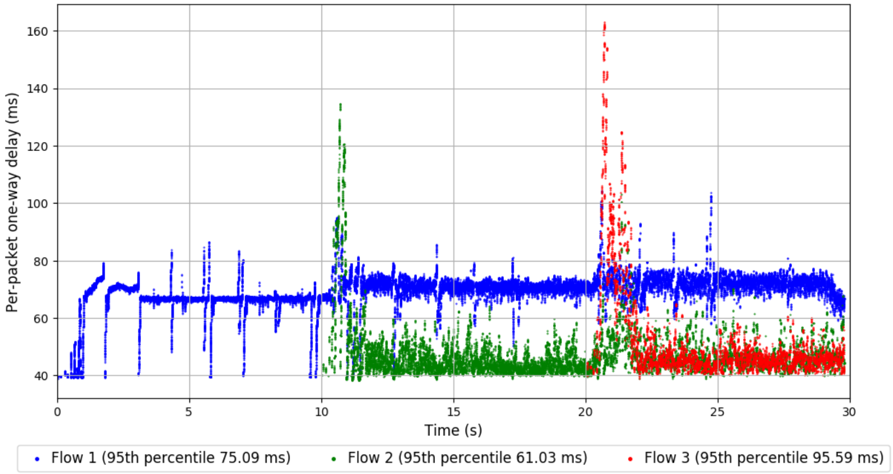




```
Run 8: Statistics of Indigo

Start at: 2018-06-30 18:17:23
End at: 2018-06-30 18:17:53
Local clock offset: 5.997 ms
Remote clock offset: -7.889 ms

# Below is generated by plot.py at 2018-06-30 19:54:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 75.111 ms
Loss rate: 64.62%
-- Flow 1:
Average throughput: 22.52 Mbit/s
95th percentile per-packet one-way delay: 75.090 ms
Loss rate: 72.39%
-- Flow 2:
Average throughput: 11.21 Mbit/s
95th percentile per-packet one-way delay: 61.029 ms
Loss rate: 9.11%
-- Flow 3:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 95.592 ms
Loss rate: 10.28%
```

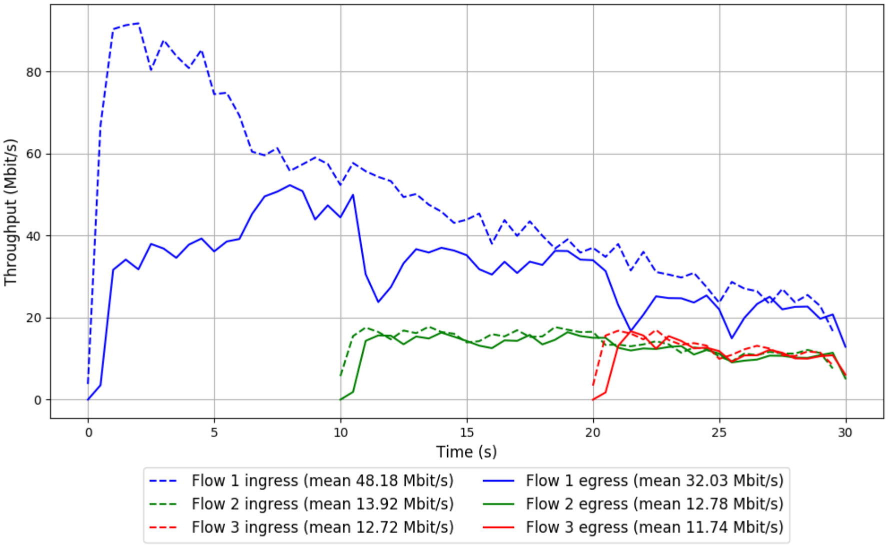
Run 8: Report of Indigo — Data Link

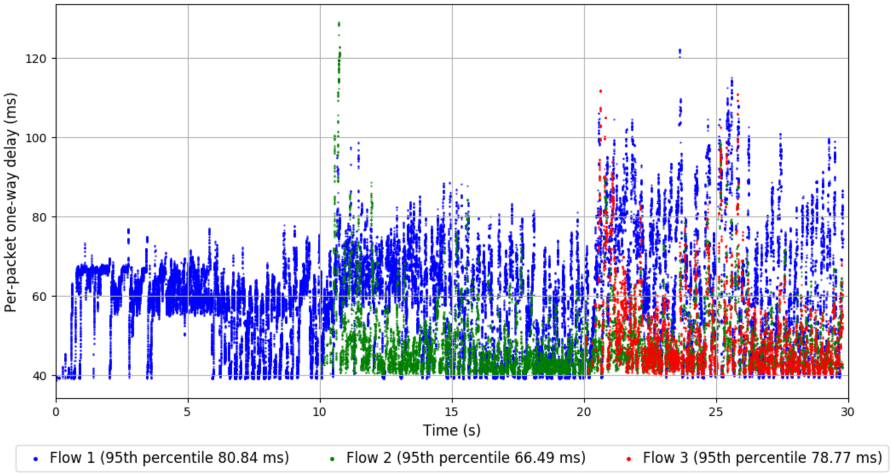




```
Run 9: Statistics of Indigo

Start at: 2018-06-30 18:50:41
End at: 2018-06-30 18:51:11
Local clock offset: 3.442 ms
Remote clock offset: -8.738 ms

# Below is generated by plot.py at 2018-06-30 19:54:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.35 Mbit/s
95th percentile per-packet one-way delay: 79.383 ms
Loss rate: 28.28%
-- Flow 1:
Average throughput: 32.03 Mbit/s
95th percentile per-packet one-way delay: 80.841 ms
Loss rate: 33.75%
-- Flow 2:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 66.490 ms
Loss rate: 8.69%
-- Flow 3:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 78.770 ms
Loss rate: 8.76%
```

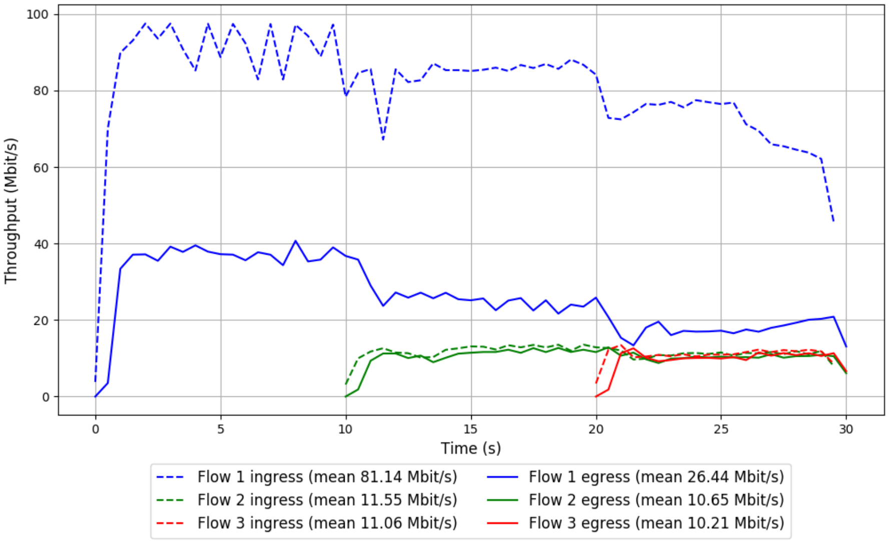
Run 9: Report of Indigo — Data Link

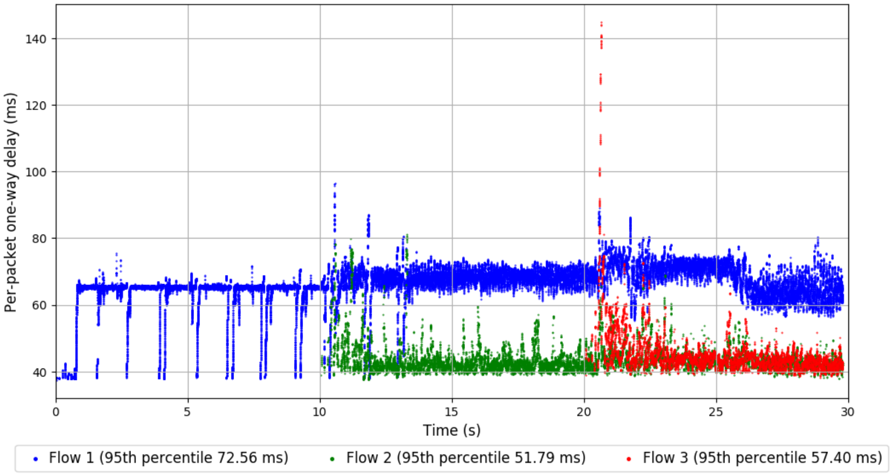




```
Run 10: Statistics of Indigo

Start at: 2018-06-30 19:25:49
End at: 2018-06-30 19:26:19
Local clock offset: 3.117 ms
Remote clock offset: -8.549 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.84 Mbit/s
95th percentile per-packet one-way delay: 72.011 ms
Loss rate: 60.29%
-- Flow 1:
Average throughput: 26.44 Mbit/s
95th percentile per-packet one-way delay: 72.564 ms
Loss rate: 67.53%
-- Flow 2:
Average throughput: 10.65 Mbit/s
95th percentile per-packet one-way delay: 51.789 ms
Loss rate: 8.25%
-- Flow 3:
Average throughput: 10.21 Mbit/s
95th percentile per-packet one-way delay: 57.404 ms
Loss rate: 8.69%
```

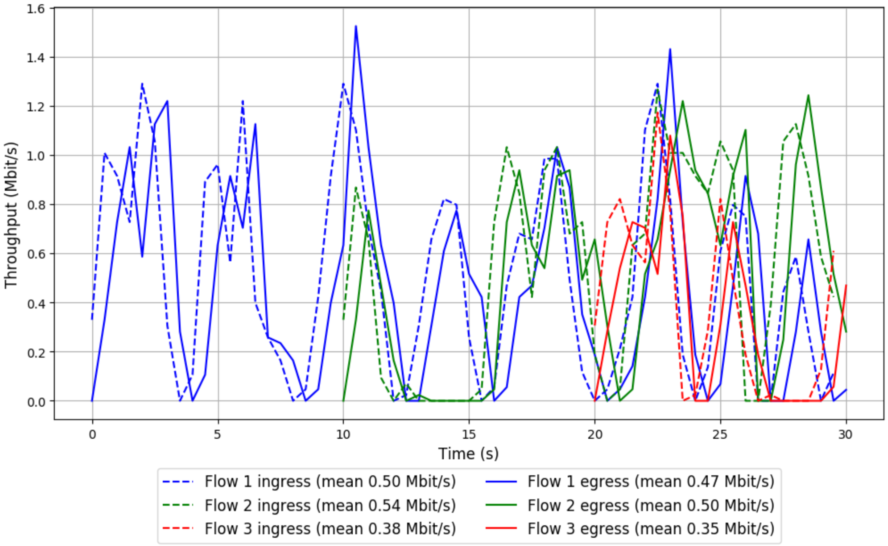
Run 10: Report of Indigo — Data Link

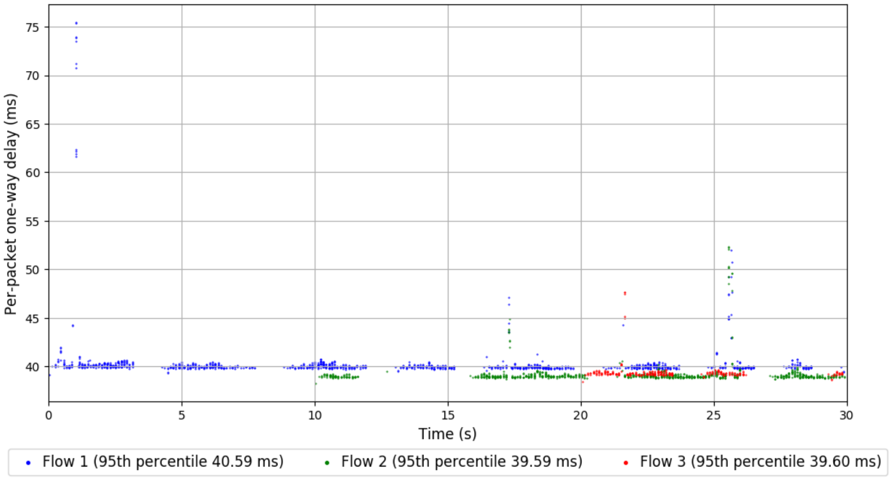




```
Run 1: Statistics of LEDBAT

Start at: 2018-06-30 14:32:57
End at: 2018-06-30 14:33:27
Local clock offset: -0.77 ms
Remote clock offset: -10.397 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 40.439 ms
Loss rate: 7.82%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 40.591 ms
Loss rate: 7.36%
-- Flow 2:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 39.586 ms
Loss rate: 7.73%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 39.596 ms
Loss rate: 9.92%
```

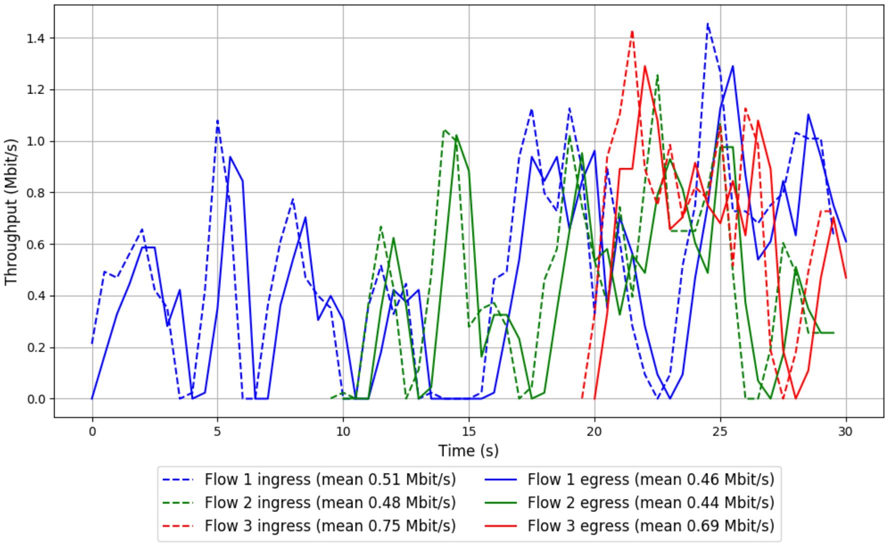
Run 1: Report of LEDBAT — Data Link

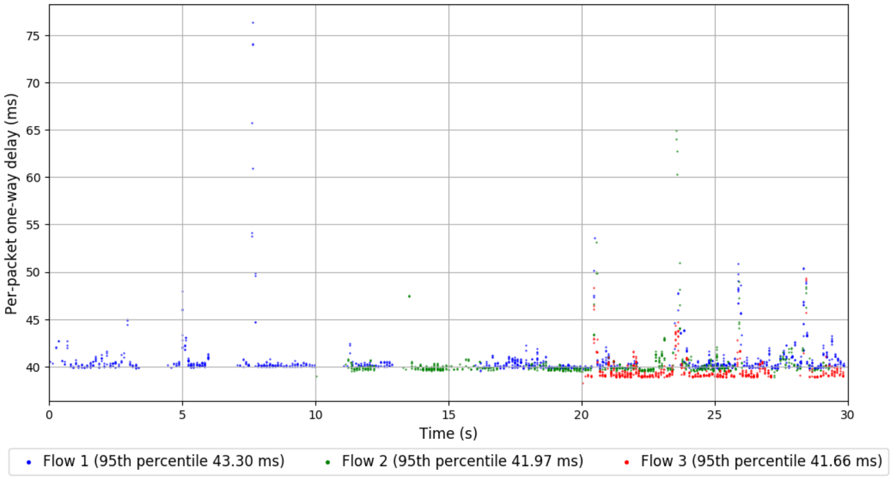




```
Run 2: Statistics of LEDBAT

Start at: 2018-06-30 15:06:48
End at: 2018-06-30 15:07:18
Local clock offset: 4.222 ms
Remote clock offset: -11.257 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 42.836 ms
Loss rate: 8.62%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 43.301 ms
Loss rate: 8.87%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 41.974 ms
Loss rate: 8.87%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 41.658 ms
Loss rate: 7.81%
```

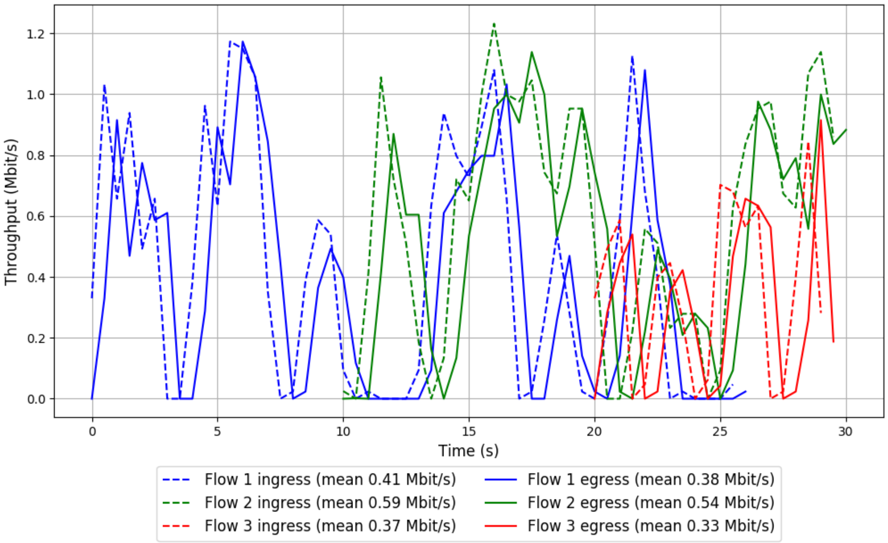
Run 2: Report of LEDBAT — Data Link

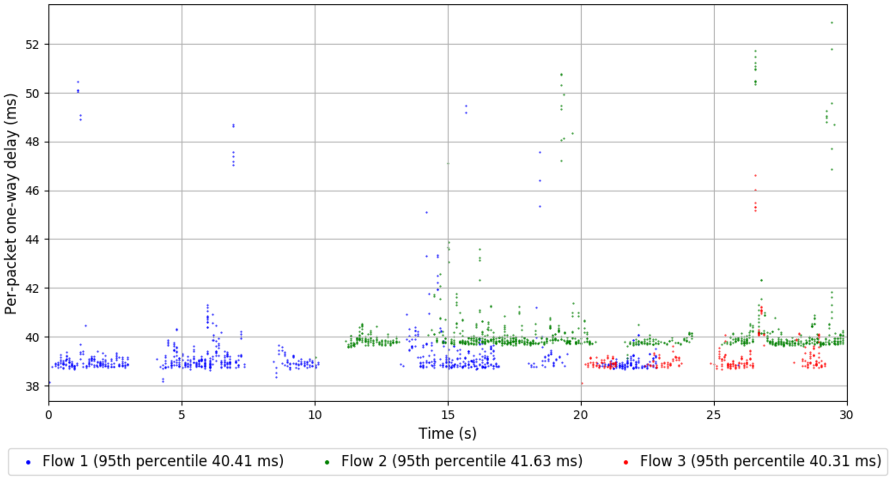




```
Run 3: Statistics of LEDBAT

Start at: 2018-06-30 15:41:26
End at: 2018-06-30 15:41:56
Local clock offset: 5.446 ms
Remote clock offset: -10.278 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 41.053 ms
Loss rate: 8.85%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 40.407 ms
Loss rate: 9.37%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 41.634 ms
Loss rate: 7.93%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 40.306 ms
Loss rate: 10.37%
```

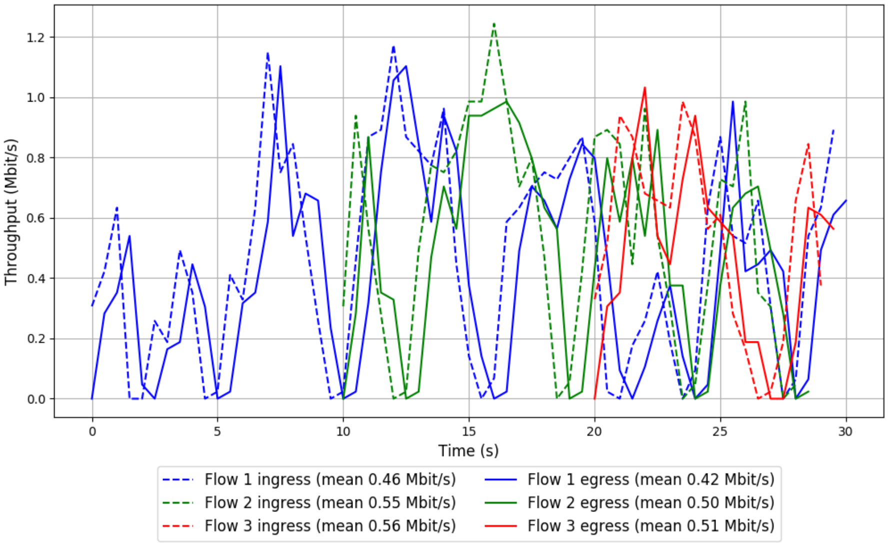
Run 3: Report of LEDBAT — Data Link

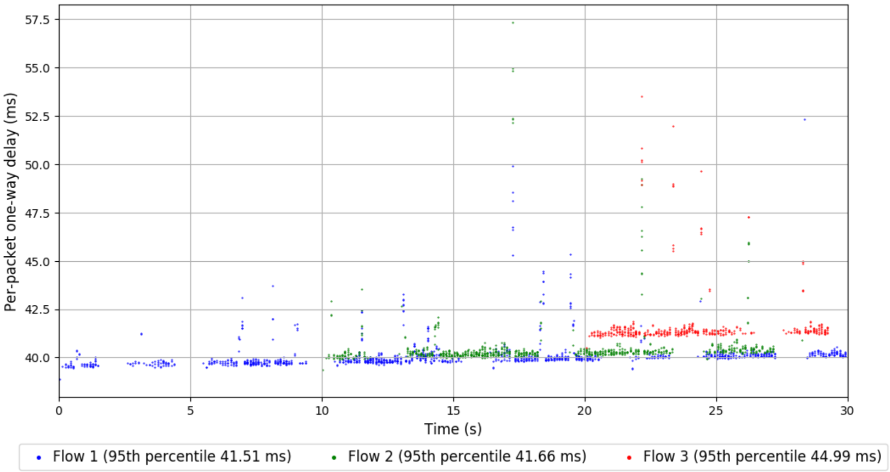




```
Run 4: Statistics of LEDBAT

Start at: 2018-06-30 16:15:23
End at: 2018-06-30 16:15:53
Local clock offset: 7.172 ms
Remote clock offset: -9.935 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 41.721 ms
Loss rate: 8.57%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 41.509 ms
Loss rate: 8.69%
-- Flow 2:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 41.659 ms
Loss rate: 8.21%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 44.991 ms
Loss rate: 8.98%
```

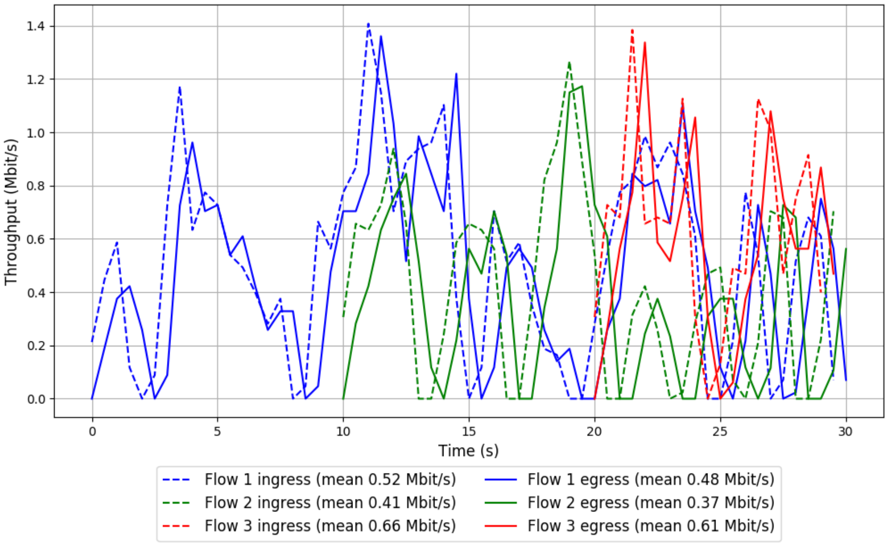
Run 4: Report of LEDBAT — Data Link

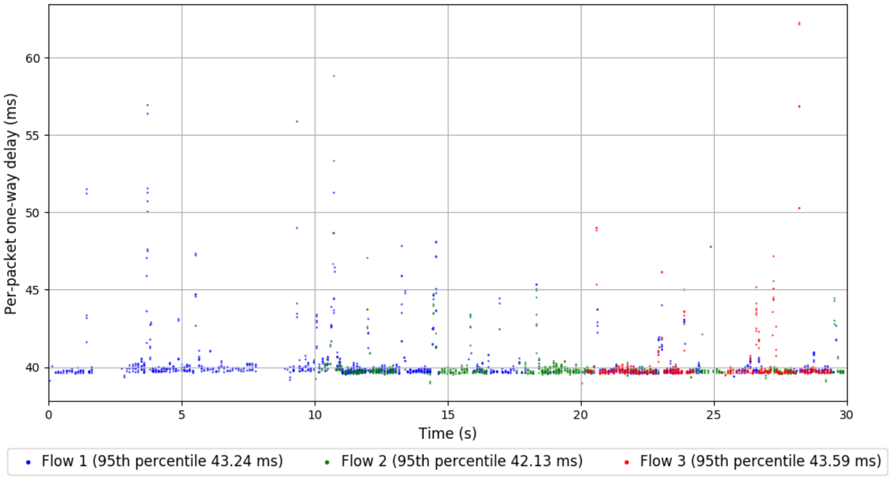




```
Run 5: Statistics of LEDBAT

Start at: 2018-06-30 16:47:56
End at: 2018-06-30 16:48:26
Local clock offset: -6.639 ms
Remote clock offset: -10.503 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 43.089 ms
Loss rate: 8.02%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 43.241 ms
Loss rate: 7.92%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 42.129 ms
Loss rate: 8.92%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 43.594 ms
Loss rate: 7.07%
```

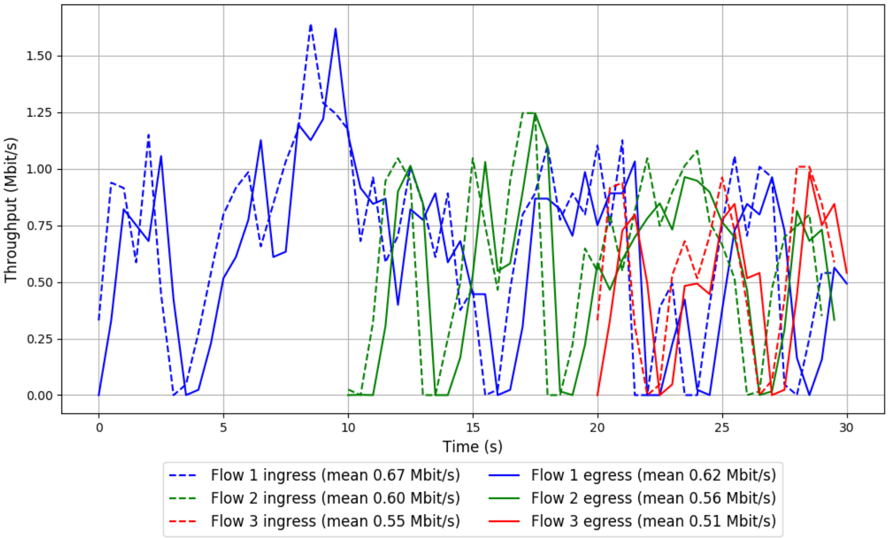
Run 5: Report of LEDBAT — Data Link

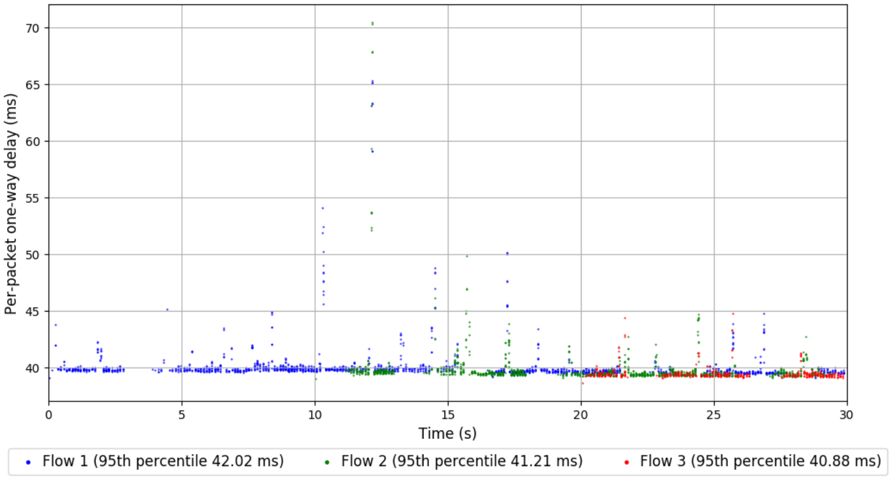




```
Run 6: Statistics of LEDBAT

Start at: 2018-06-30 17:20:52
End at: 2018-06-30 17:21:22
Local clock offset: -4.645 ms
Remote clock offset: -8.685 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 41.560 ms
Loss rate: 6.92%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 42.022 ms
Loss rate: 6.98%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 41.213 ms
Loss rate: 6.13%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 40.877 ms
Loss rate: 8.33%
```

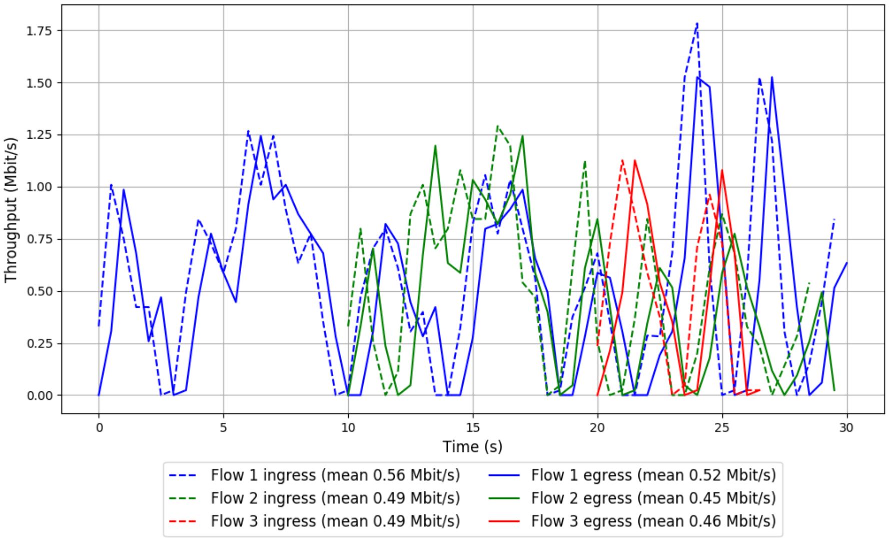
Run 6: Report of LEDBAT — Data Link

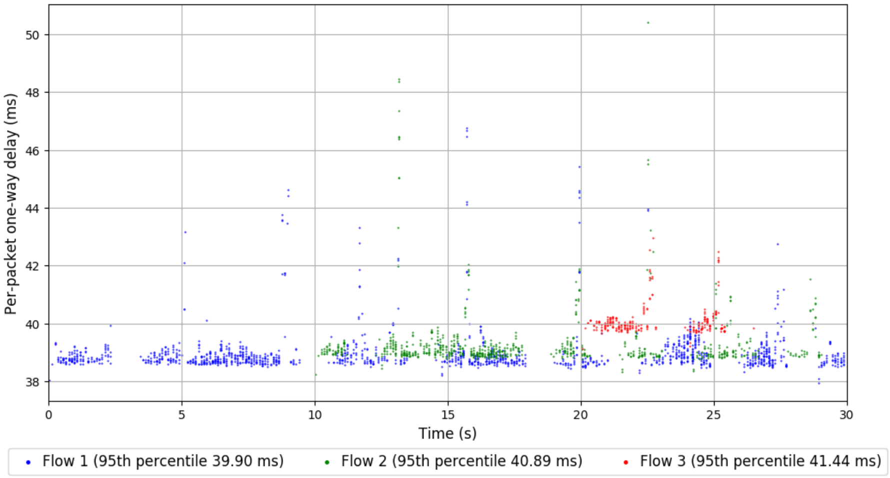




```
Run 7: Statistics of LEDBAT

Start at: 2018-06-30 17:54:29
End at: 2018-06-30 17:54:59
Local clock offset: 3.704 ms
Remote clock offset: -7.806 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 40.524 ms
Loss rate: 7.58%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 39.902 ms
Loss rate: 7.33%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 40.890 ms
Loss rate: 8.25%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 41.442 ms
Loss rate: 6.95%
```

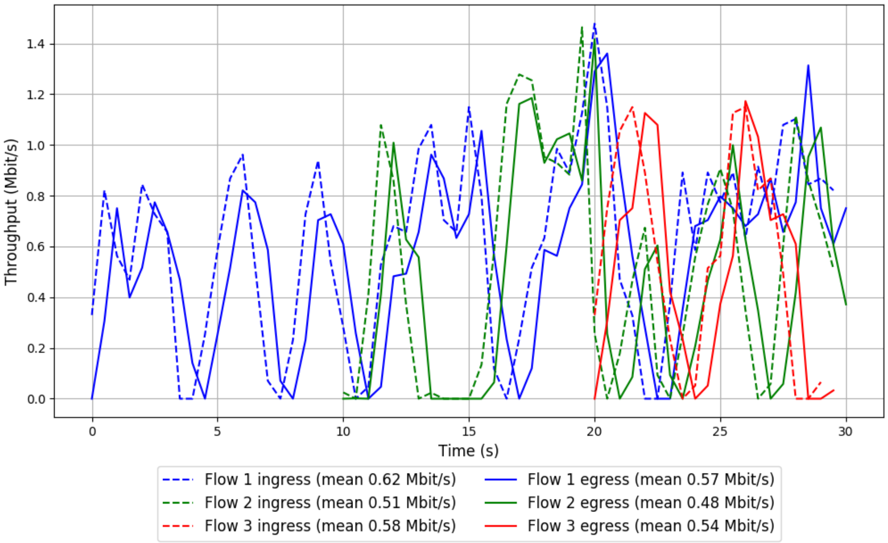
Run 7: Report of LEDBAT — Data Link

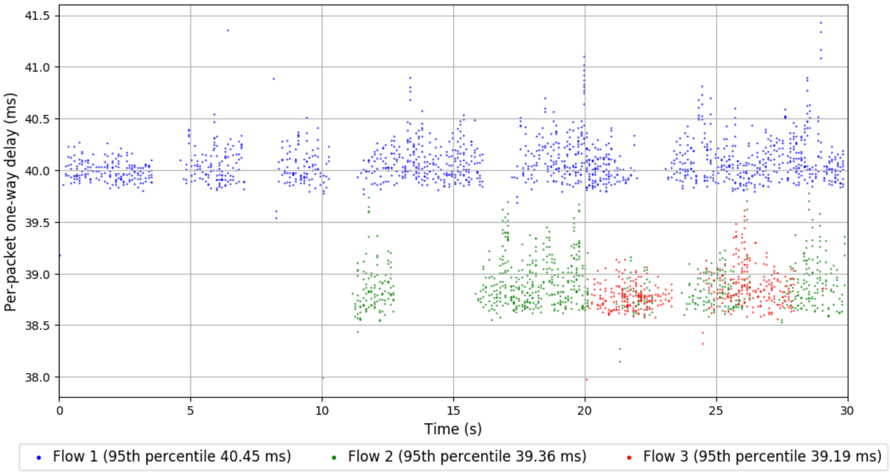




```
Run 8: Statistics of LEDBAT

Start at: 2018-06-30 18:29:14
End at: 2018-06-30 18:29:44
Local clock offset: 5.079 ms
Remote clock offset: -8.659 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 40.337 ms
Loss rate: 7.40%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 40.453 ms
Loss rate: 8.18%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 39.359 ms
Loss rate: 6.34%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 39.190 ms
Loss rate: 6.72%
```

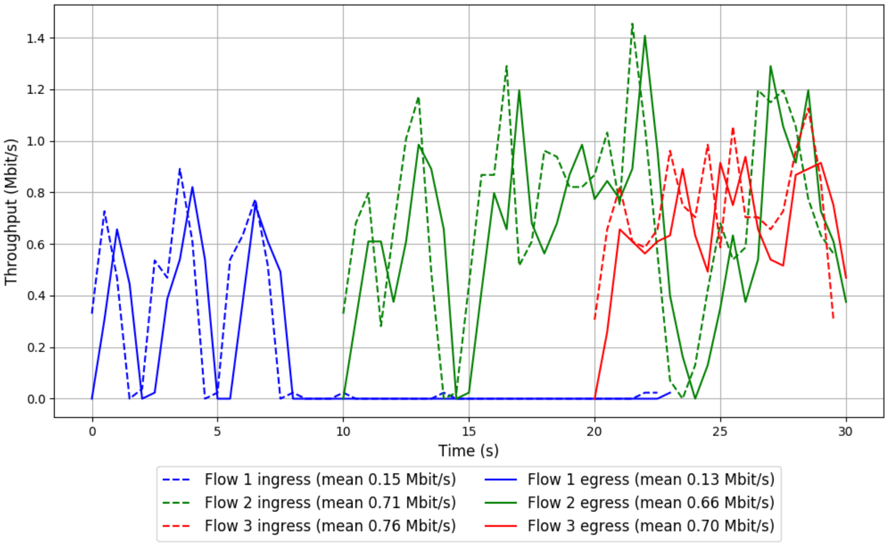
Run 8: Report of LEDBAT — Data Link

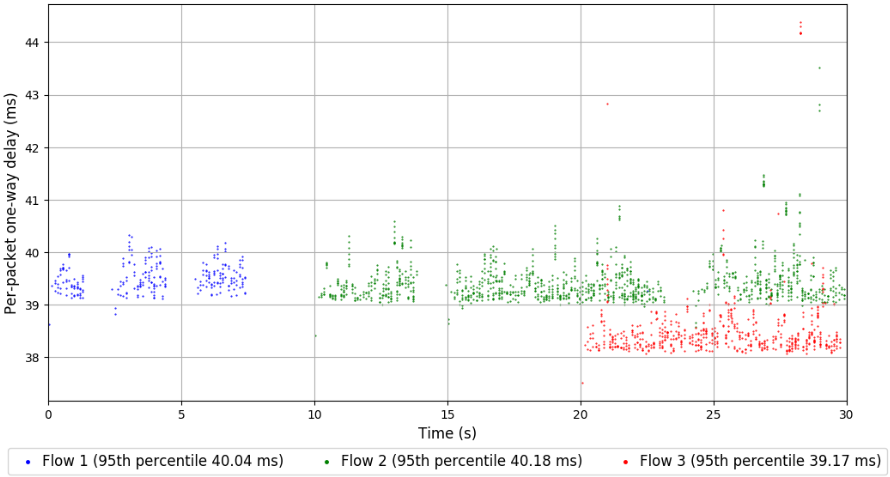




```
Run 9: Statistics of LEDBAT

Start at: 2018-06-30 19:02:03
End at: 2018-06-30 19:02:33
Local clock offset: 1.659 ms
Remote clock offset: -8.479 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 40.073 ms
Loss rate: 7.70%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 40.040 ms
Loss rate: 10.54%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 40.177 ms
Loss rate: 6.96%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 39.169 ms
Loss rate: 7.81%
```

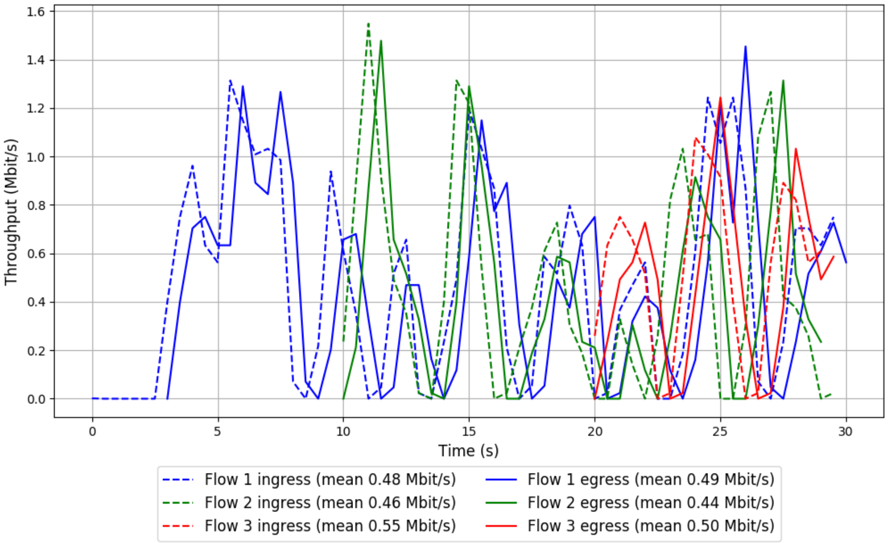
Run 9: Report of LEDBAT — Data Link

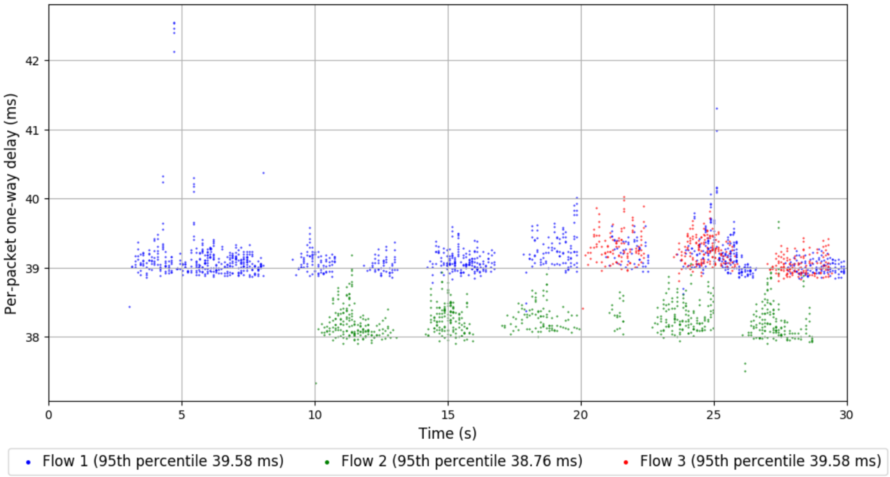




```
Run 10: Statistics of LEDBAT

Start at: 2018-06-30 19:38:02
End at: 2018-06-30 19:38:32
Local clock offset: 4.228 ms
Remote clock offset: -8.561 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 39.497 ms
Loss rate: 7.92%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 39.583 ms
Loss rate: 7.69%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 38.759 ms
Loss rate: 8.47%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 39.577 ms
Loss rate: 7.58%
```

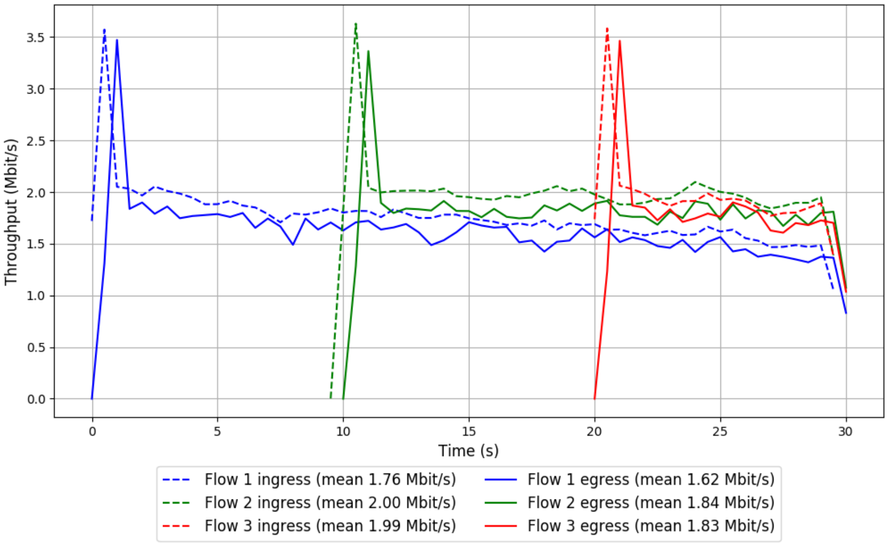
Run 10: Report of LEDBAT — Data Link

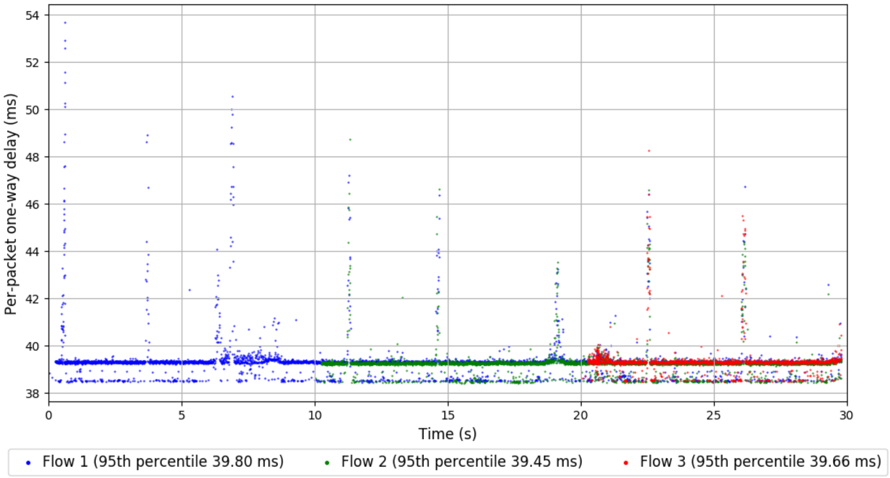




```
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-30 14:34:17
End at: 2018-06-30 14:34:47
Local clock offset: -0.961 ms
Remote clock offset: -10.114 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.44 Mbit/s
95th percentile per-packet one-way delay: 39.634 ms
Loss rate: 8.55%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 39.802 ms
Loss rate: 8.21%
-- Flow 2:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 39.448 ms
Loss rate: 8.82%
-- Flow 3:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 39.657 ms
Loss rate: 8.90%
```

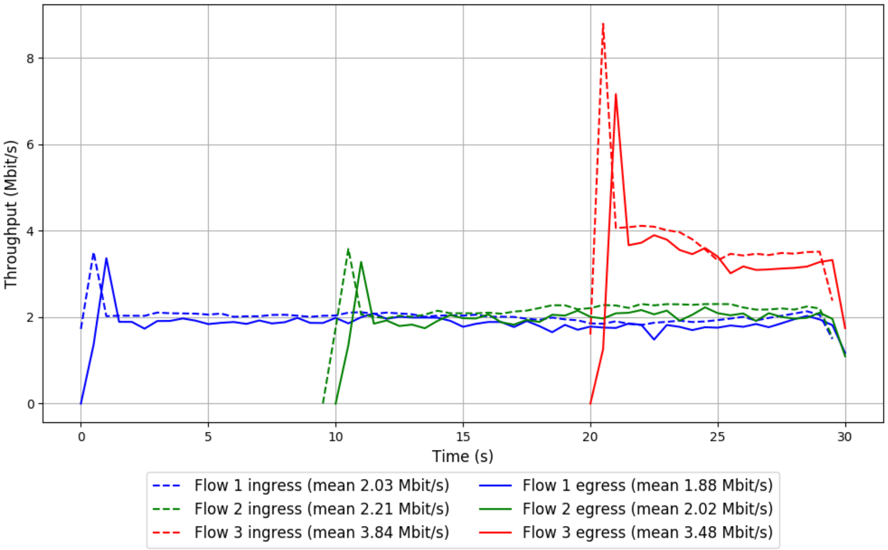
Run 1: Report of PCC-Allegro — Data Link

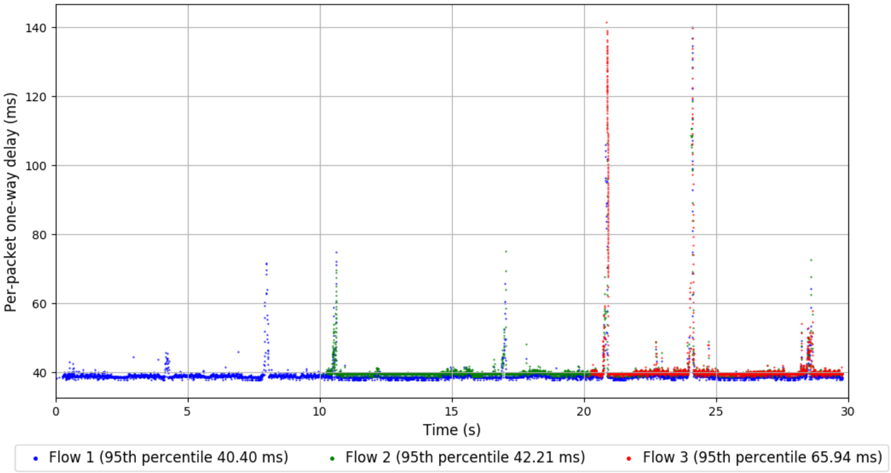




```
Run 2: Statistics of PCC-Allegro

Start at: 2018-06-30 15:08:07
End at: 2018-06-30 15:08:37
Local clock offset: 4.393 ms
Remote clock offset: -11.279 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 43.351 ms
Loss rate: 8.79%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 40.402 ms
Loss rate: 7.57%
-- Flow 2:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 42.206 ms
Loss rate: 9.09%
-- Flow 3:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 65.942 ms
Loss rate: 10.41%
```

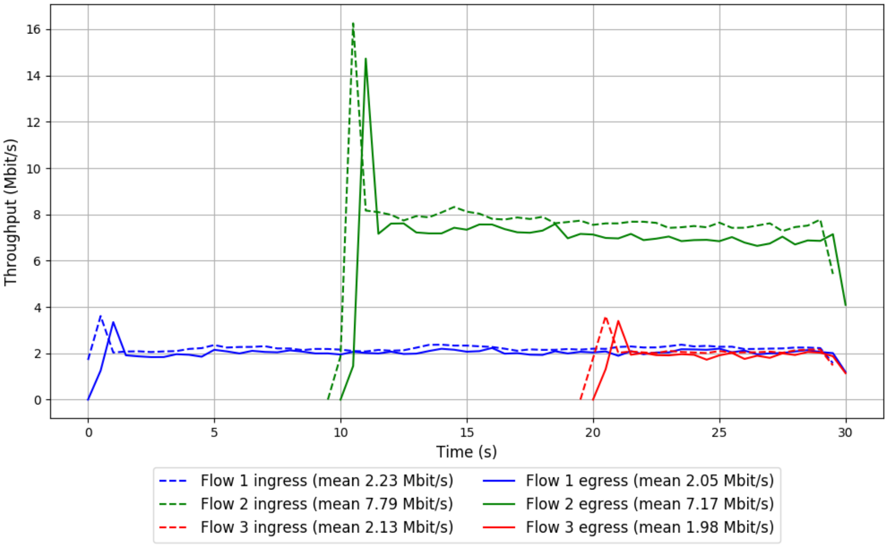
Run 2: Report of PCC-Allegro — Data Link

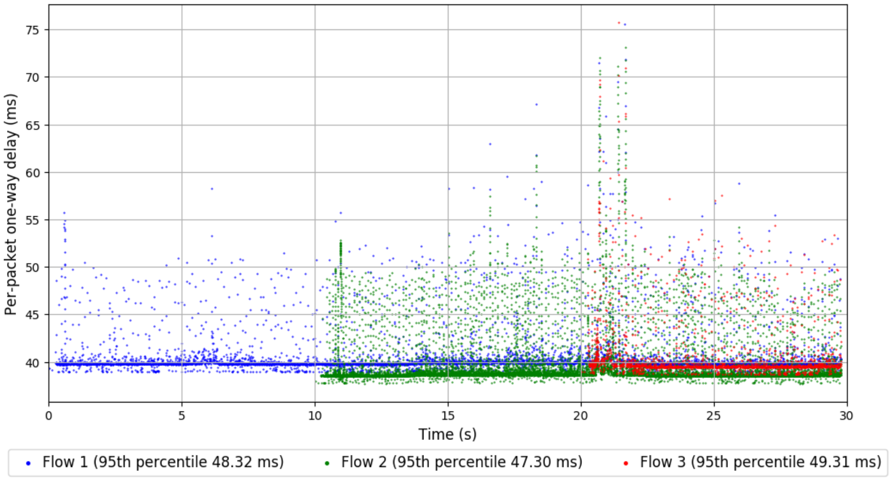




```
Run 3: Statistics of PCC-Allegro

Start at: 2018-06-30 15:42:45
End at: 2018-06-30 15:43:15
Local clock offset: 5.749 ms
Remote clock offset: -10.082 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 47.739 ms
Loss rate: 8.39%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 48.323 ms
Loss rate: 8.46%
-- Flow 2:
Average throughput: 7.17 Mbit/s
95th percentile per-packet one-way delay: 47.295 ms
Loss rate: 8.39%
-- Flow 3:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 49.312 ms
Loss rate: 8.20%
```

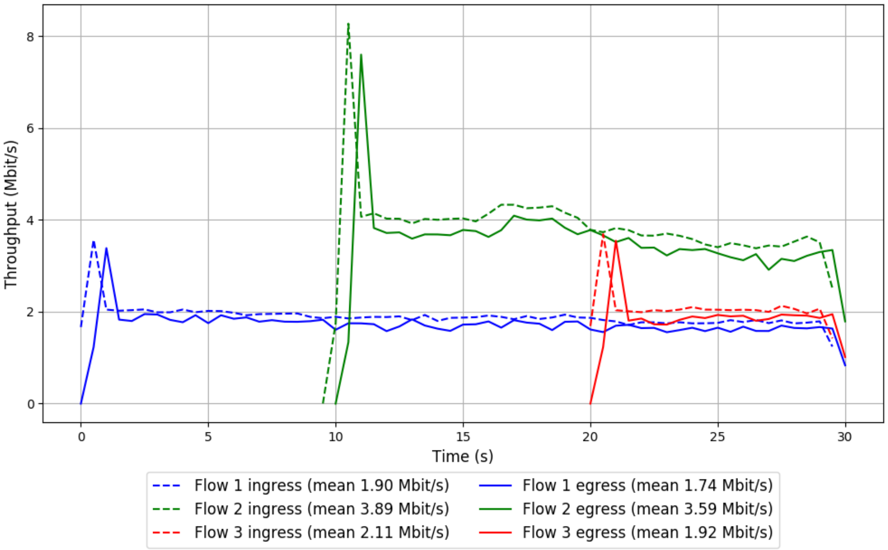
Run 3: Report of PCC-Allegro — Data Link

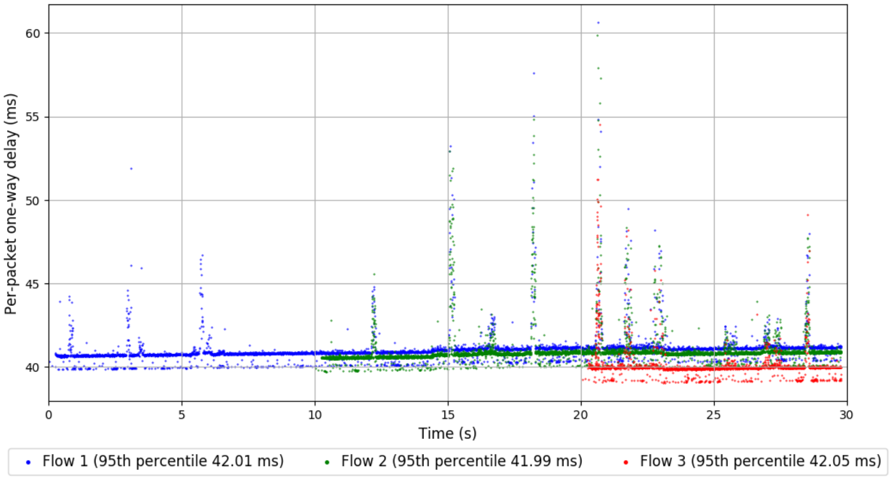




```
Run 4: Statistics of PCC-Allegro

Start at: 2018-06-30 16:16:44
End at: 2018-06-30 16:17:14
Local clock offset: 5.607 ms
Remote clock offset: -9.886 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.75 Mbit/s
95th percentile per-packet one-way delay: 42.009 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 42.011 ms
Loss rate: 8.78%
-- Flow 2:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 41.993 ms
Loss rate: 8.38%
-- Flow 3:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 42.045 ms
Loss rate: 9.62%
```

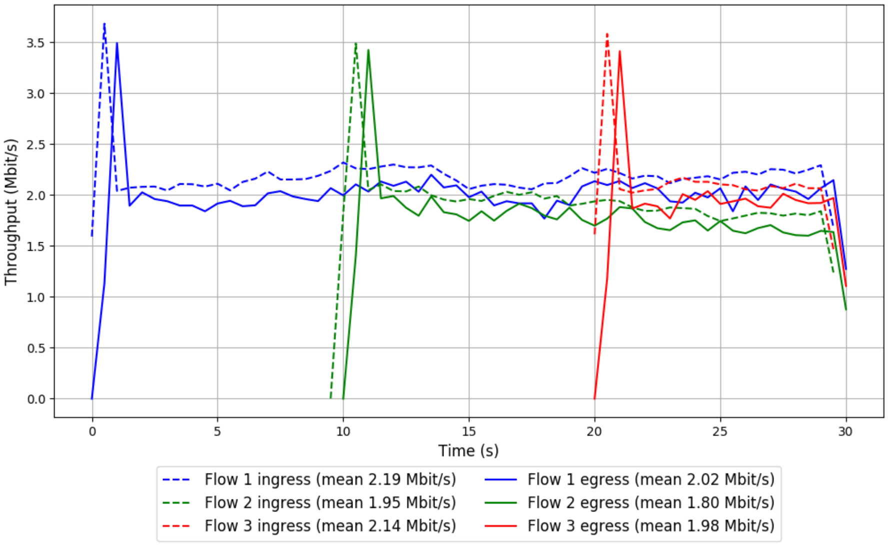
Run 4: Report of PCC-Allegro — Data Link

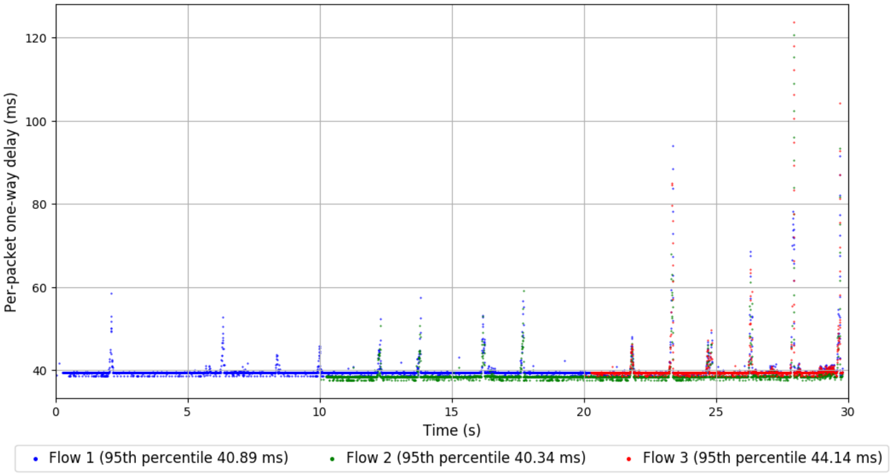




```
Run 5: Statistics of PCC-Allegro

Start at: 2018-06-30 16:49:15
End at: 2018-06-30 16:49:45
Local clock offset: -6.61 ms
Remote clock offset: -10.181 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 41.097 ms
Loss rate: 8.30%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 40.894 ms
Loss rate: 8.20%
-- Flow 2:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 40.340 ms
Loss rate: 8.31%
-- Flow 3:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 44.137 ms
Loss rate: 8.58%
```

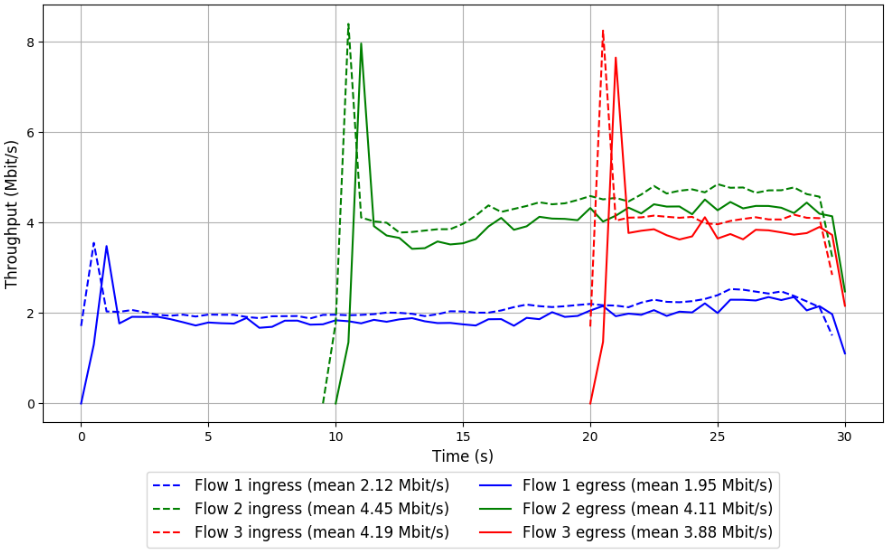
Run 5: Report of PCC-Allegro — Data Link

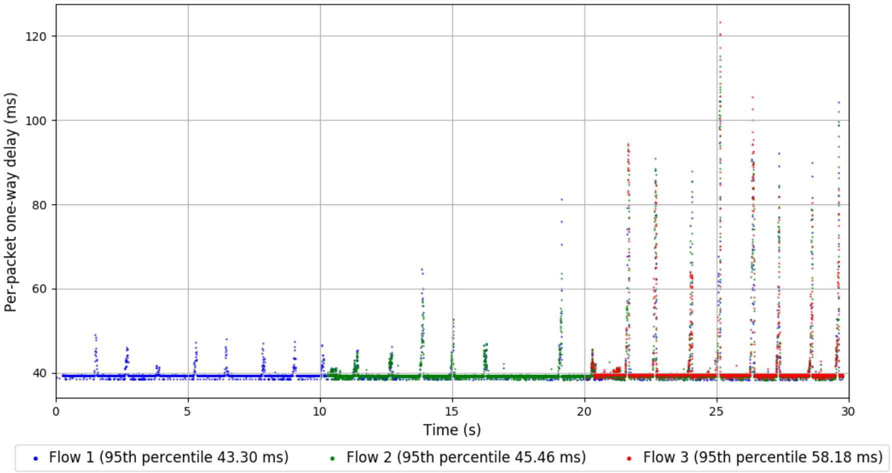




```
Run 6: Statistics of PCC-Allegro

Start at: 2018-06-30 17:22:14
End at: 2018-06-30 17:22:44
Local clock offset: -4.069 ms
Remote clock offset: -8.673 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 45.938 ms
Loss rate: 8.35%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 43.299 ms
Loss rate: 8.67%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 45.463 ms
Loss rate: 8.11%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 58.182 ms
Loss rate: 8.38%
```

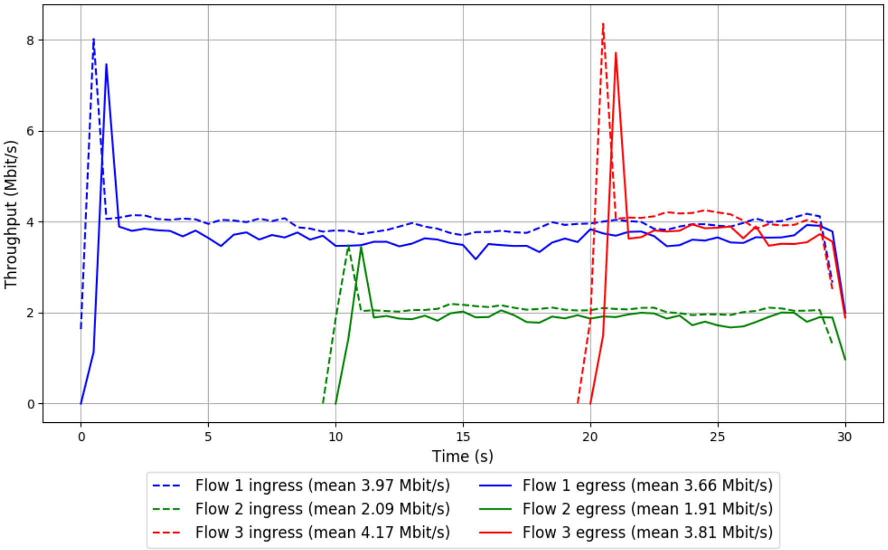
Run 6: Report of PCC-Allegro — Data Link

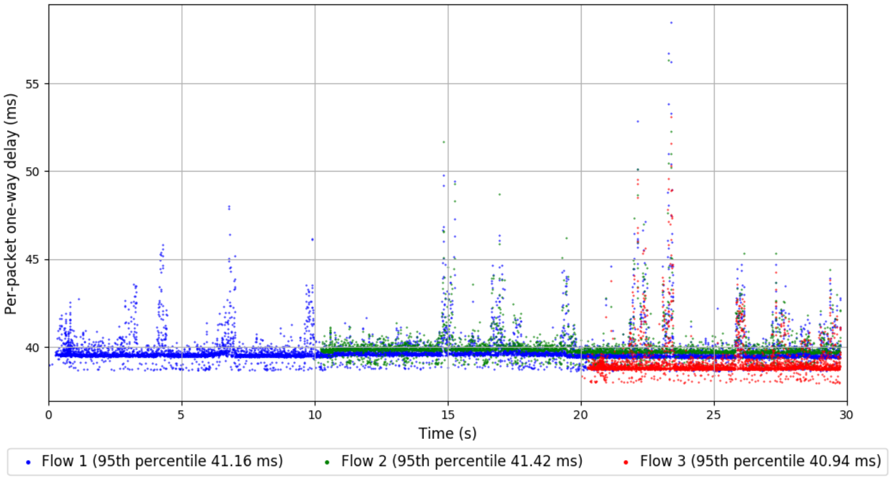




```
Run 7: Statistics of PCC-Allegro

Start at: 2018-06-30 17:55:49
End at: 2018-06-30 17:56:20
Local clock offset: 3.912 ms
Remote clock offset: -7.815 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 41.199 ms
Loss rate: 8.62%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 41.164 ms
Loss rate: 8.22%
-- Flow 2:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 41.419 ms
Loss rate: 8.93%
-- Flow 3:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 40.941 ms
Loss rate: 9.45%
```

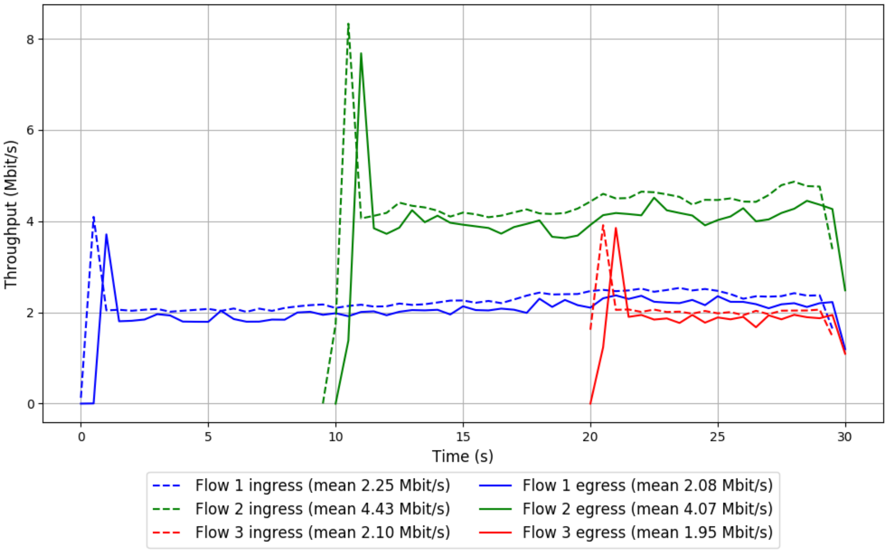
Run 7: Report of PCC-Allegro — Data Link

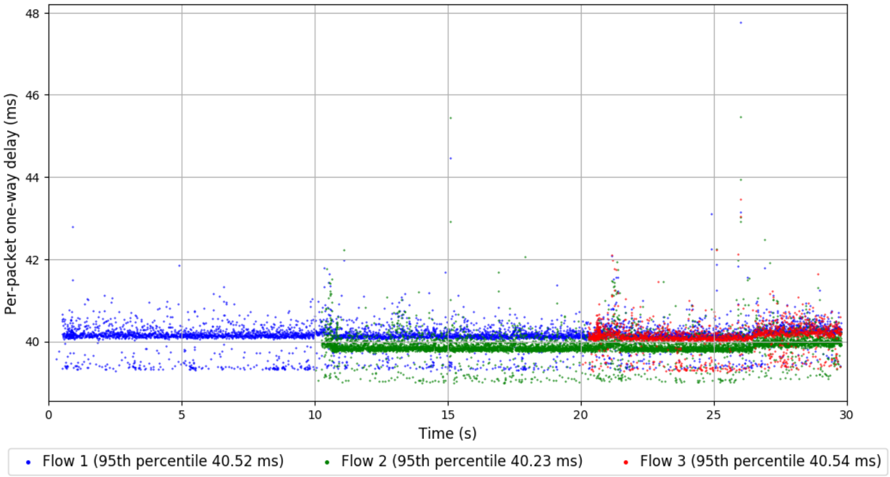




```
Run 8: Statistics of PCC-Allegro

Start at: 2018-06-30 18:30:36
End at: 2018-06-30 18:31:06
Local clock offset: 5.286 ms
Remote clock offset: -8.71 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.45 Mbit/s
95th percentile per-packet one-way delay: 40.442 ms
Loss rate: 8.55%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 40.519 ms
Loss rate: 8.78%
-- Flow 2:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 40.233 ms
Loss rate: 8.48%
-- Flow 3:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 40.539 ms
Loss rate: 8.10%
```

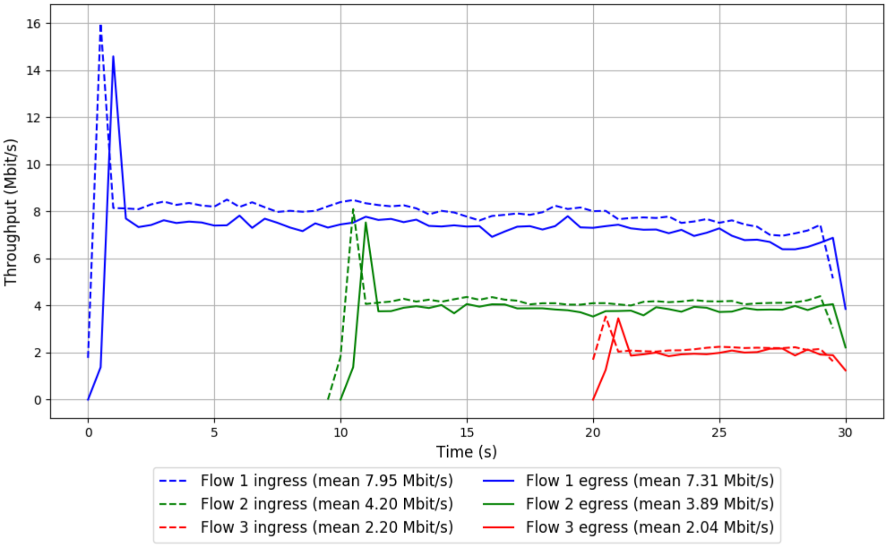
Run 8: Report of PCC-Allegro — Data Link

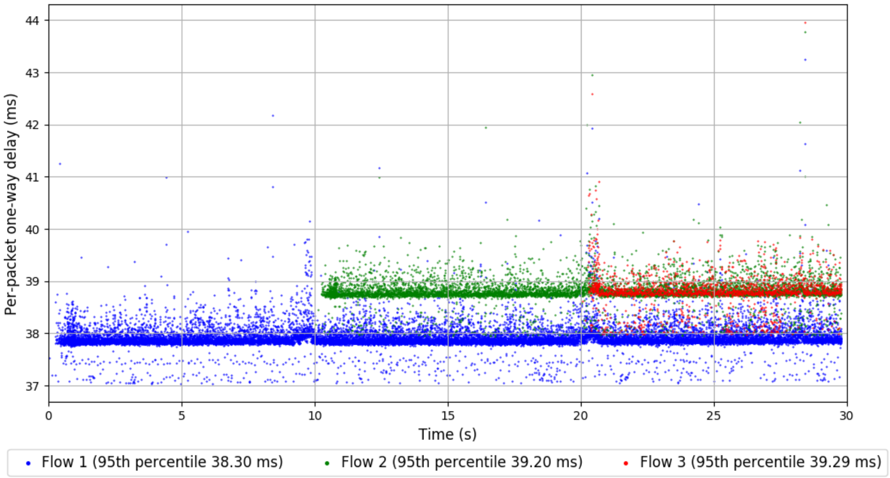




```
Run 9: Statistics of PCC-Allegro

Start at: 2018-06-30 19:03:22
End at: 2018-06-30 19:03:52
Local clock offset: 1.461 ms
Remote clock offset: -8.572 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.55 Mbit/s
95th percentile per-packet one-way delay: 38.973 ms
Loss rate: 8.29%
-- Flow 1:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 38.295 ms
Loss rate: 8.37%
-- Flow 2:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 39.197 ms
Loss rate: 7.98%
-- Flow 3:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 39.294 ms
Loss rate: 8.55%
```

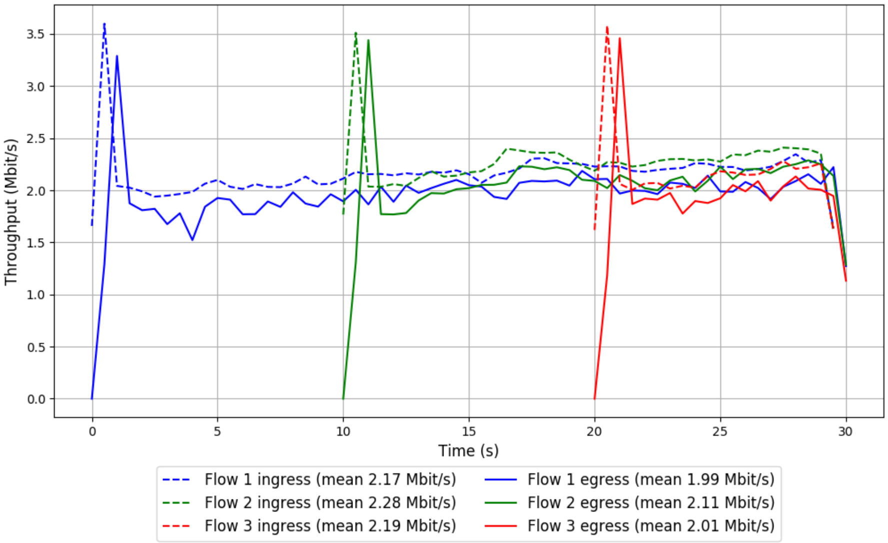
Run 9: Report of PCC-Allegro — Data Link

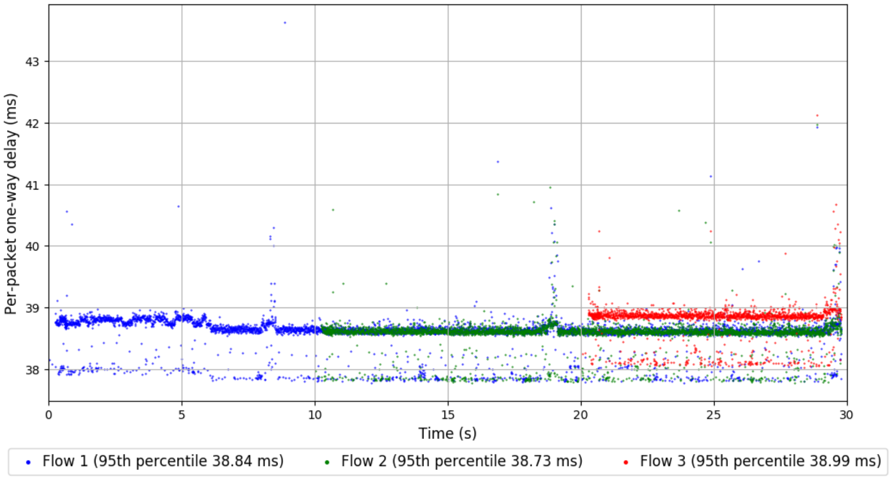




```
Run 10: Statistics of PCC-Allegro

Start at: 2018-06-30 19:39:22
End at: 2018-06-30 19:39:52
Local clock offset: 4.258 ms
Remote clock offset: -8.601 ms

# Below is generated by plot.py at 2018-06-30 19:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 38.900 ms
Loss rate: 8.54%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 38.836 ms
Loss rate: 8.68%
-- Flow 2:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 38.730 ms
Loss rate: 8.00%
-- Flow 3:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 38.993 ms
Loss rate: 9.23%
```

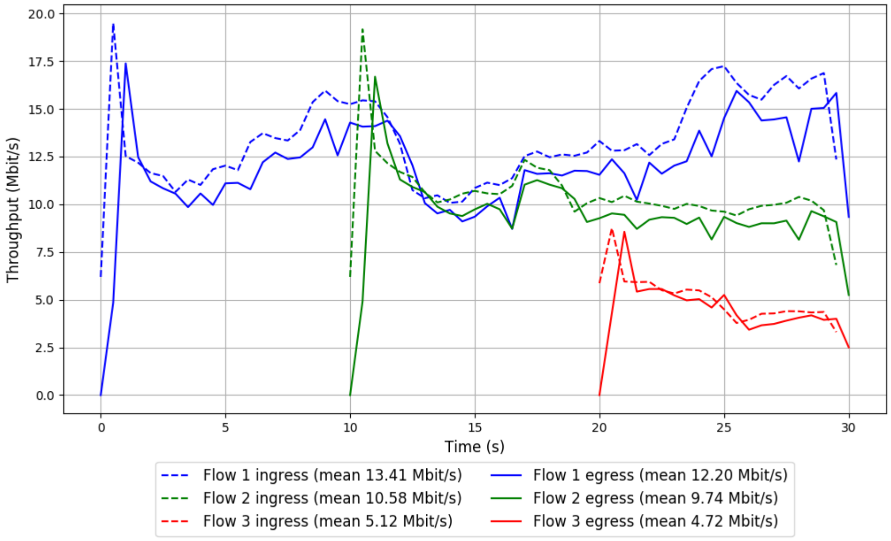
Run 10: Report of PCC-Allegro — Data Link

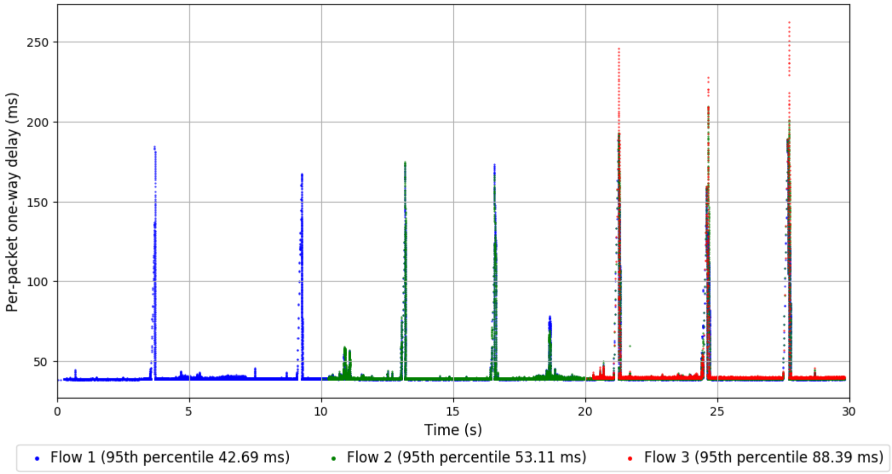




```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-30 14:24:50
End at: 2018-06-30 14:25:20
Local clock offset: -0.363 ms
Remote clock offset: -10.023 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.21 Mbit/s
95th percentile per-packet one-way delay: 47.388 ms
Loss rate: 9.03%
-- Flow 1:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 42.686 ms
Loss rate: 9.38%
-- Flow 2:
Average throughput: 9.74 Mbit/s
95th percentile per-packet one-way delay: 53.114 ms
Loss rate: 8.43%
-- Flow 3:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 88.391 ms
Loss rate: 8.81%
```

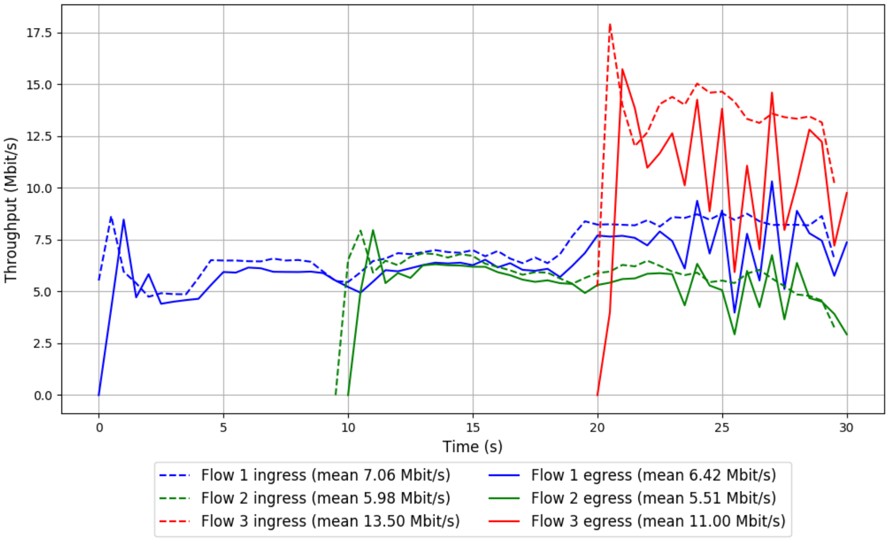
Run 1: Report of PCC-Expr — Data Link

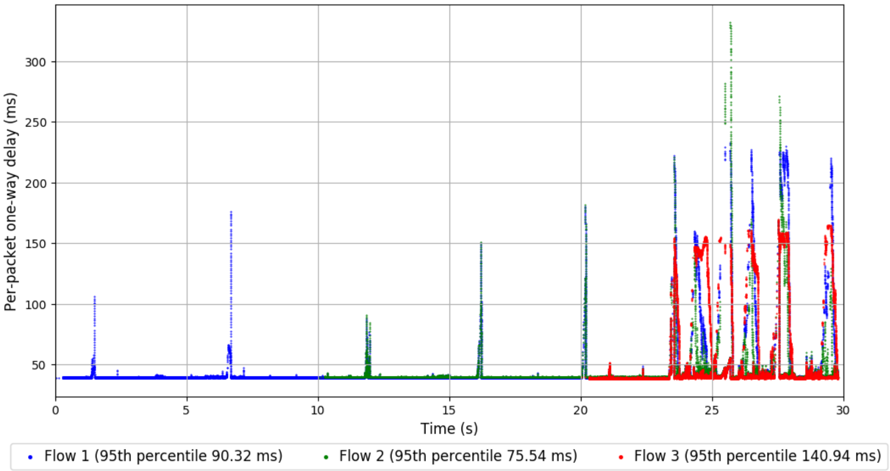




```
Run 2: Statistics of PCC-Expr

Start at: 2018-06-30 14:59:08
End at: 2018-06-30 14:59:38
Local clock offset: 3.521 ms
Remote clock offset: -10.714 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 113.437 ms
Loss rate: 12.05%
-- Flow 1:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 90.322 ms
Loss rate: 9.50%
-- Flow 2:
Average throughput: 5.51 Mbit/s
95th percentile per-packet one-way delay: 75.537 ms
Loss rate: 8.36%
-- Flow 3:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 140.942 ms
Loss rate: 19.39%
```

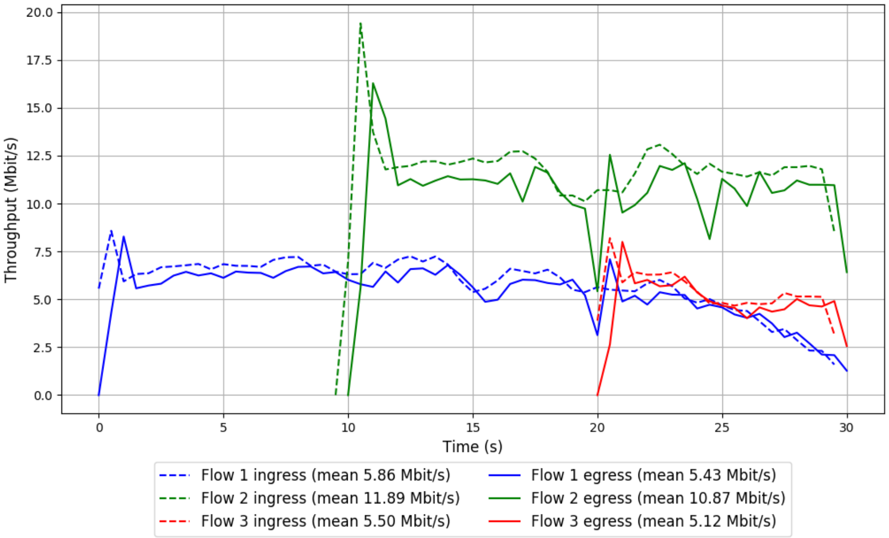
Run 2: Report of PCC-Expr — Data Link

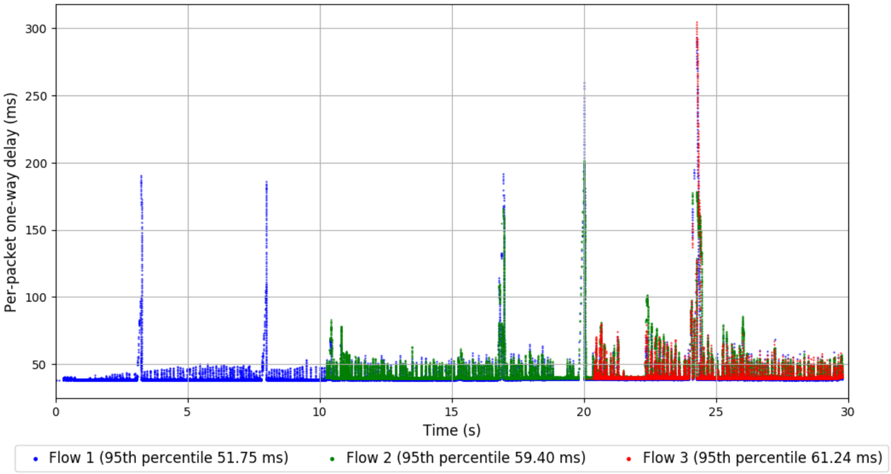




```
Run 3: Statistics of PCC-Expr

Start at: 2018-06-30 15:33:41
End at: 2018-06-30 15:34:11
Local clock offset: 5.341 ms
Remote clock offset: -10.514 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.31 Mbit/s
95th percentile per-packet one-way delay: 57.277 ms
Loss rate: 8.43%
-- Flow 1:
Average throughput: 5.43 Mbit/s
95th percentile per-packet one-way delay: 51.753 ms
Loss rate: 7.70%
-- Flow 2:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 59.401 ms
Loss rate: 9.09%
-- Flow 3:
Average throughput: 5.12 Mbit/s
95th percentile per-packet one-way delay: 61.241 ms
Loss rate: 7.88%
```

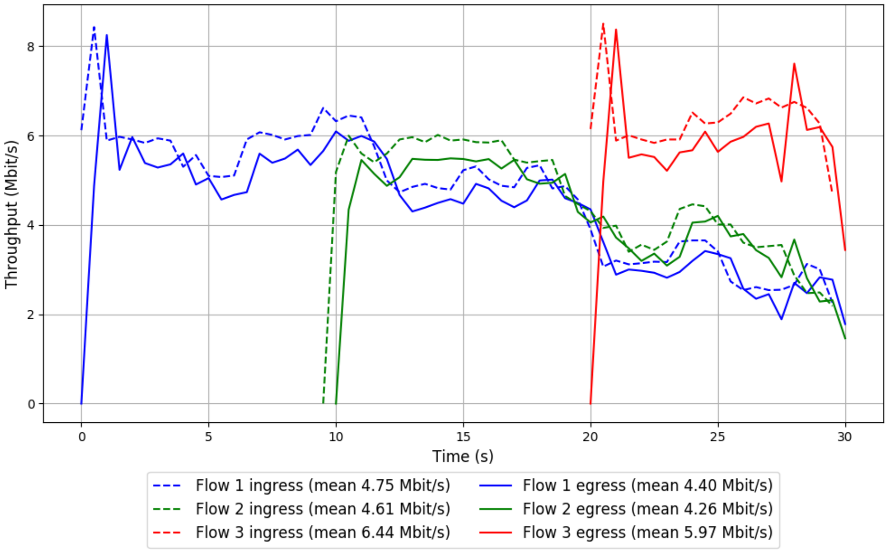
Run 3: Report of PCC-Expr — Data Link

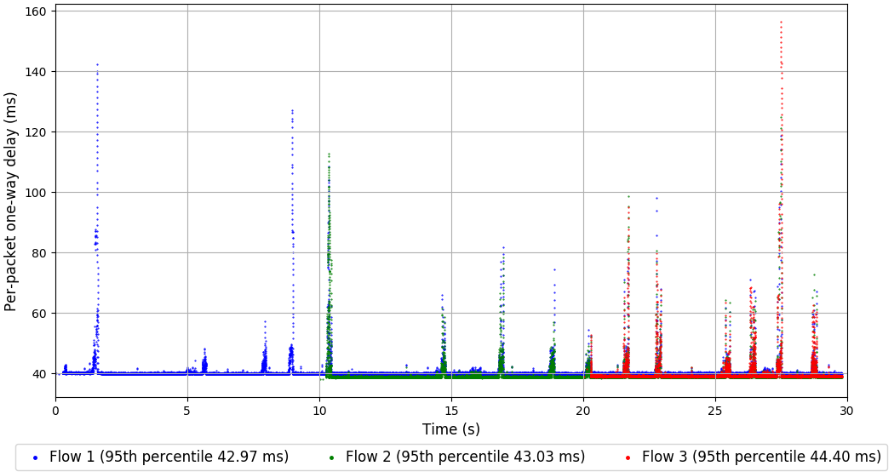




```
Run 4: Statistics of PCC-Expr

Start at: 2018-06-30 16:08:05
End at: 2018-06-30 16:08:35
Local clock offset: 6.918 ms
Remote clock offset: -9.928 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.19 Mbit/s
95th percentile per-packet one-way delay: 43.257 ms
Loss rate: 7.97%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 42.971 ms
Loss rate: 7.71%
-- Flow 2:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 43.028 ms
Loss rate: 8.18%
-- Flow 3:
Average throughput: 5.97 Mbit/s
95th percentile per-packet one-way delay: 44.399 ms
Loss rate: 8.26%
```

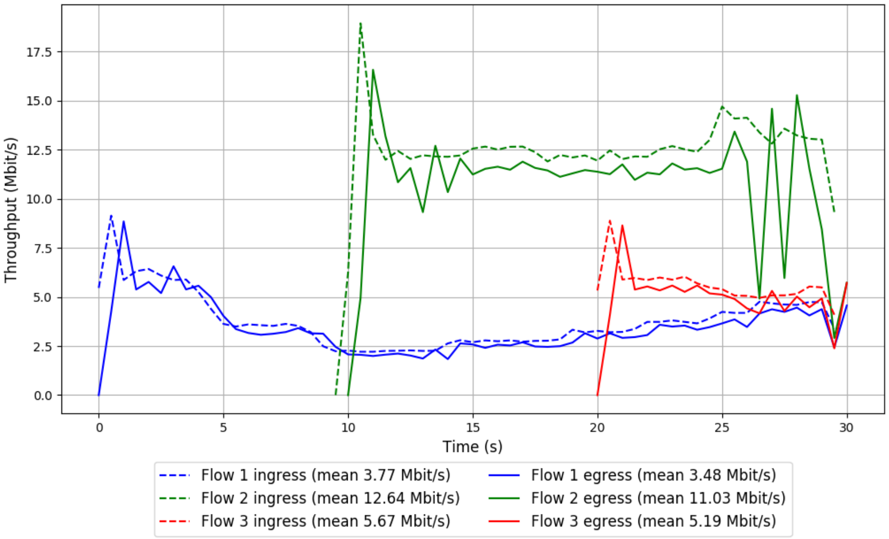
Run 4: Report of PCC-Expr — Data Link

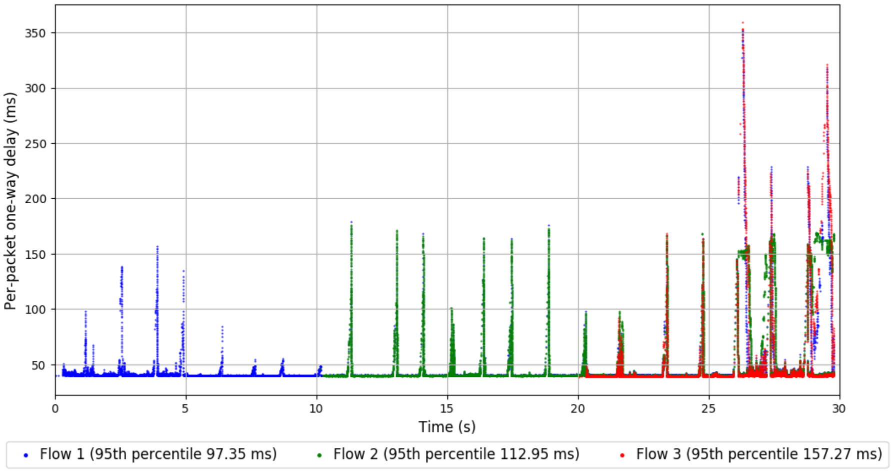




```
Run 5: Statistics of PCC-Expr

Start at: 2018-06-30 16:40:16
End at: 2018-06-30 16:40:46
Local clock offset: -5.535 ms
Remote clock offset: -10.377 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 114.944 ms
Loss rate: 11.32%
-- Flow 1:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 97.351 ms
Loss rate: 8.11%
-- Flow 2:
Average throughput: 11.03 Mbit/s
95th percentile per-packet one-way delay: 112.952 ms
Loss rate: 13.16%
-- Flow 3:
Average throughput: 5.19 Mbit/s
95th percentile per-packet one-way delay: 157.270 ms
Loss rate: 9.50%
```

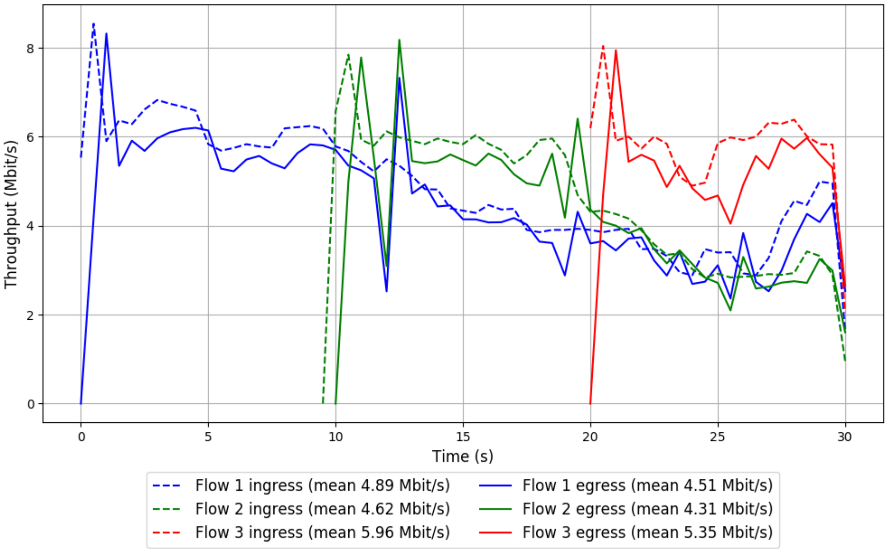
Run 5: Report of PCC-Expr — Data Link

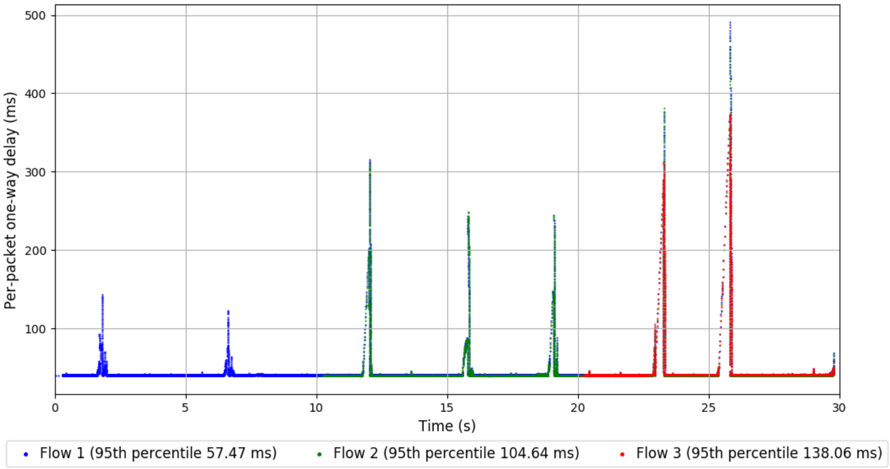




```
Run 6: Statistics of PCC-Expr

Start at: 2018-06-30 17:13:37
End at: 2018-06-30 17:14:07
Local clock offset: -8.871 ms
Remote clock offset: -9.054 ms

# Below is generated by plot.py at 2018-06-30 19:55:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.12 Mbit/s
95th percentile per-packet one-way delay: 81.645 ms
Loss rate: 9.87%
-- Flow 1:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 57.465 ms
Loss rate: 9.04%
-- Flow 2:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 104.637 ms
Loss rate: 8.65%
-- Flow 3:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 138.062 ms
Loss rate: 13.77%
```

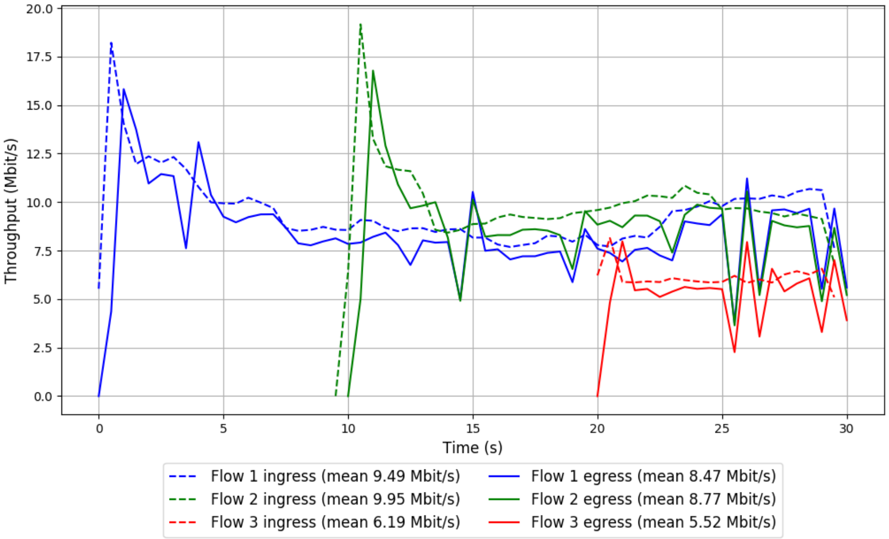
Run 6: Report of PCC-Expr — Data Link

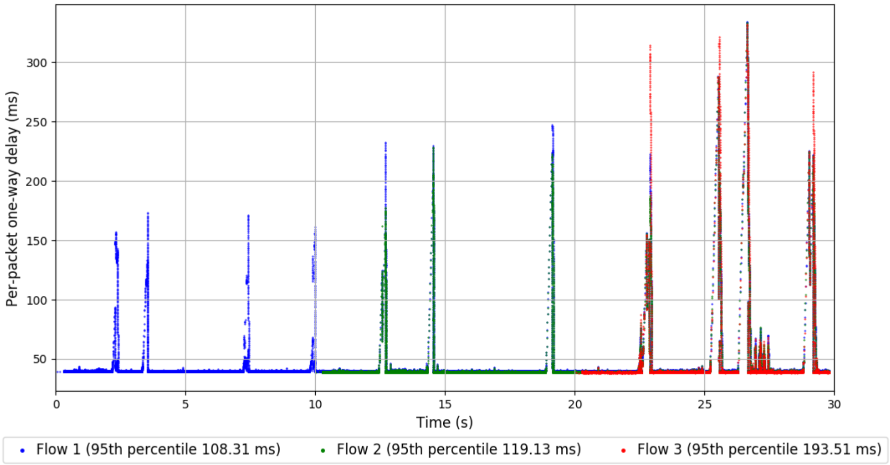




```
Run 7: Statistics of PCC-Expr

Start at: 2018-06-30 17:46:38
End at: 2018-06-30 17:47:08
Local clock offset: 0.971 ms
Remote clock offset: -7.964 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.11 Mbit/s
95th percentile per-packet one-way delay: 121.641 ms
Loss rate: 11.57%
-- Flow 1:
Average throughput: 8.47 Mbit/s
95th percentile per-packet one-way delay: 108.305 ms
Loss rate: 11.01%
-- Flow 2:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 119.132 ms
Loss rate: 12.32%
-- Flow 3:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 193.509 ms
Loss rate: 11.71%
```

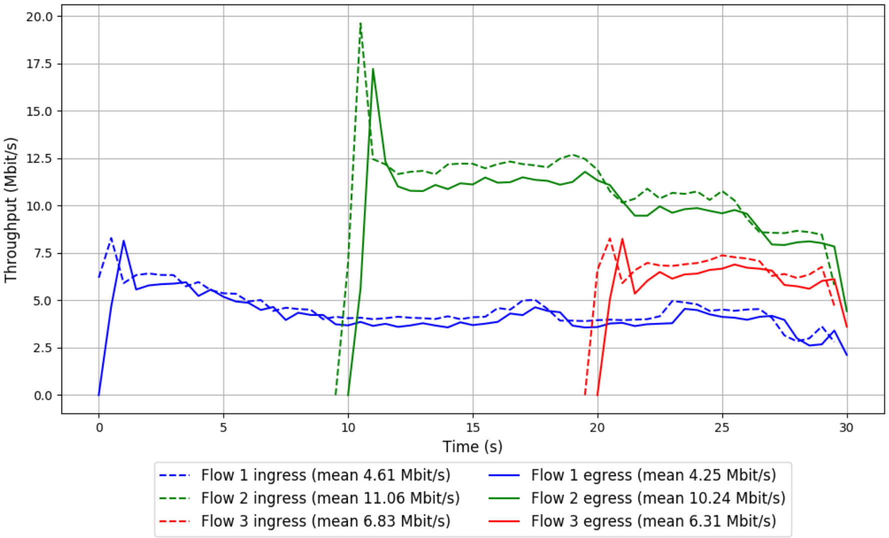
Run 7: Report of PCC-Expr — Data Link

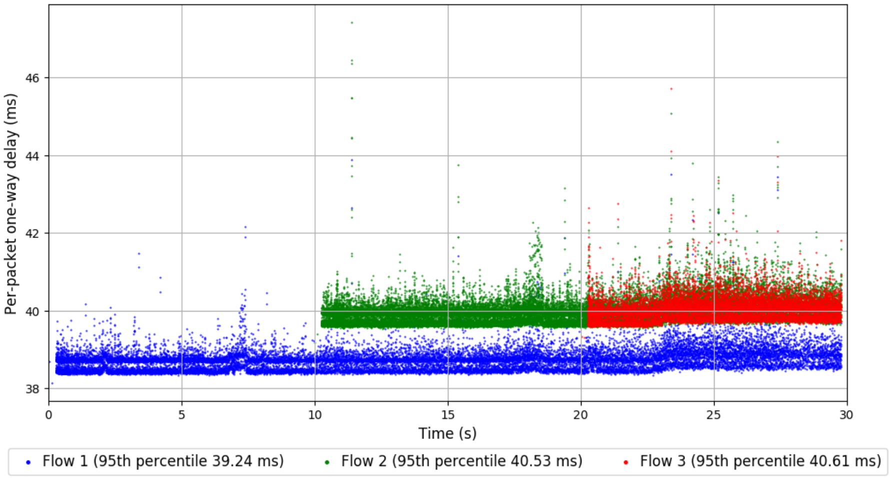




```
Run 8: Statistics of PCC-Expr

Start at: 2018-06-30 18:21:39
End at: 2018-06-30 18:22:09
Local clock offset: 5.441 ms
Remote clock offset: -8.409 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.13 Mbit/s
95th percentile per-packet one-way delay: 40.442 ms
Loss rate: 8.07%
-- Flow 1:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 39.237 ms
Loss rate: 8.09%
-- Flow 2:
Average throughput: 10.24 Mbit/s
95th percentile per-packet one-way delay: 40.529 ms
Loss rate: 7.92%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 40.613 ms
Loss rate: 8.52%
```

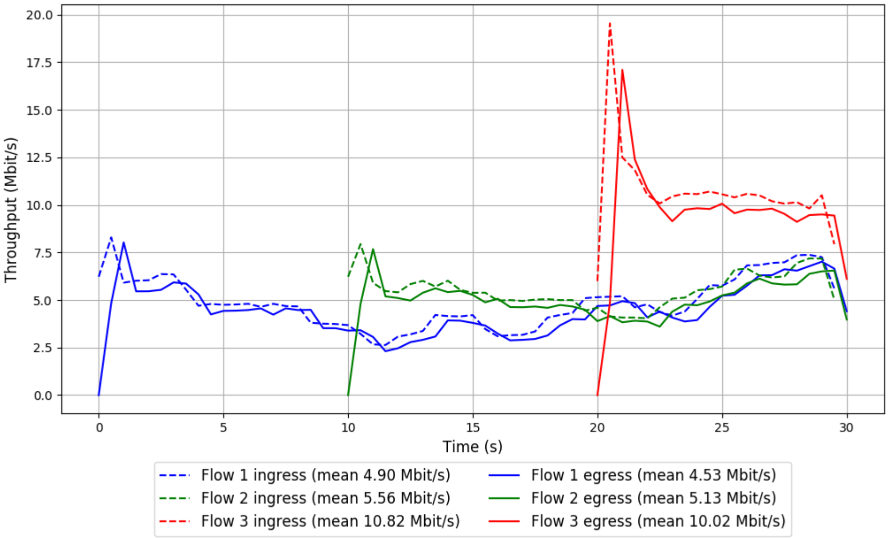
Run 8: Report of PCC-Expr — Data Link

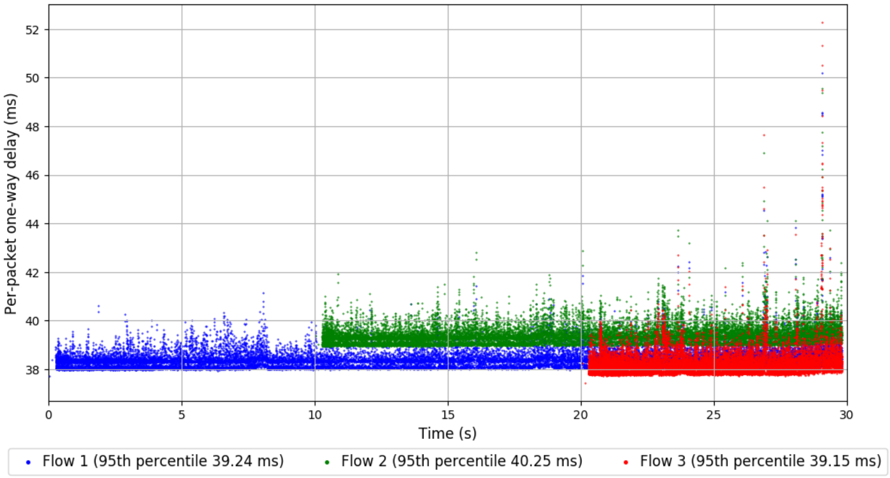




```
Run 9: Statistics of PCC-Expr

Start at: 2018-06-30 18:54:35
End at: 2018-06-30 18:55:05
Local clock offset: 2.606 ms
Remote clock offset: -8.468 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.22 Mbit/s
95th percentile per-packet one-way delay: 39.850 ms
Loss rate: 8.12%
-- Flow 1:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 39.245 ms
Loss rate: 7.85%
-- Flow 2:
Average throughput: 5.13 Mbit/s
95th percentile per-packet one-way delay: 40.251 ms
Loss rate: 8.25%
-- Flow 3:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 39.145 ms
Loss rate: 8.36%
```

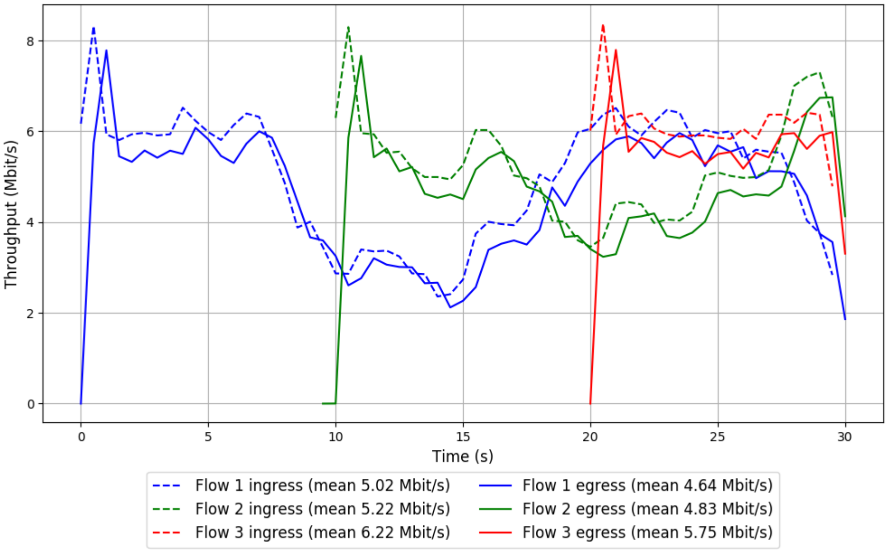
Run 9: Report of PCC-Expr — Data Link

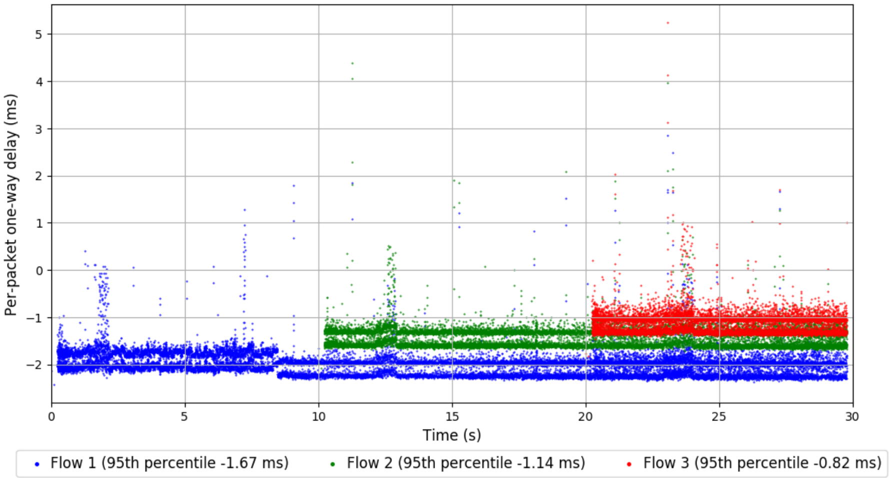




```
Run 10: Statistics of PCC-Expr

Start at: 2018-06-30 19:30:20
End at: 2018-06-30 19:30:50
Local clock offset: 3.75 ms
Remote clock offset: 31.528 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: -1.002 ms
Loss rate: 8.14%
-- Flow 1:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: -1.669 ms
Loss rate: 8.01%
-- Flow 2:
Average throughput: 4.83 Mbit/s
95th percentile per-packet one-way delay: -1.143 ms
Loss rate: 8.10%
-- Flow 3:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: -0.819 ms
Loss rate: 8.54%
```

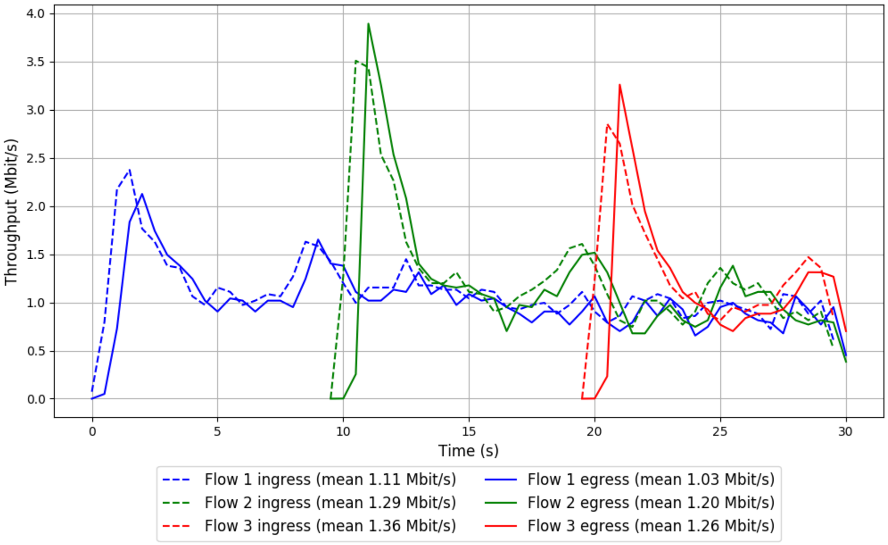
Run 10: Report of PCC-Expr — Data Link

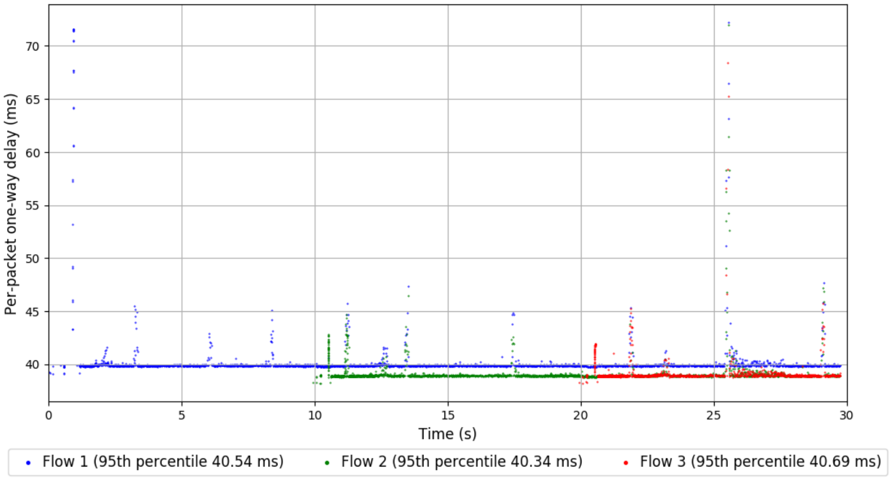




```
Run 1: Statistics of QUIC Cubic

Start at: 2018-06-30 14:39:19
End at: 2018-06-30 14:39:49
Local clock offset: -1.073 ms
Remote clock offset: -10.64 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 40.505 ms
Loss rate: 7.71%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 40.540 ms
Loss rate: 7.74%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 40.339 ms
Loss rate: 7.35%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 40.693 ms
Loss rate: 8.33%
```

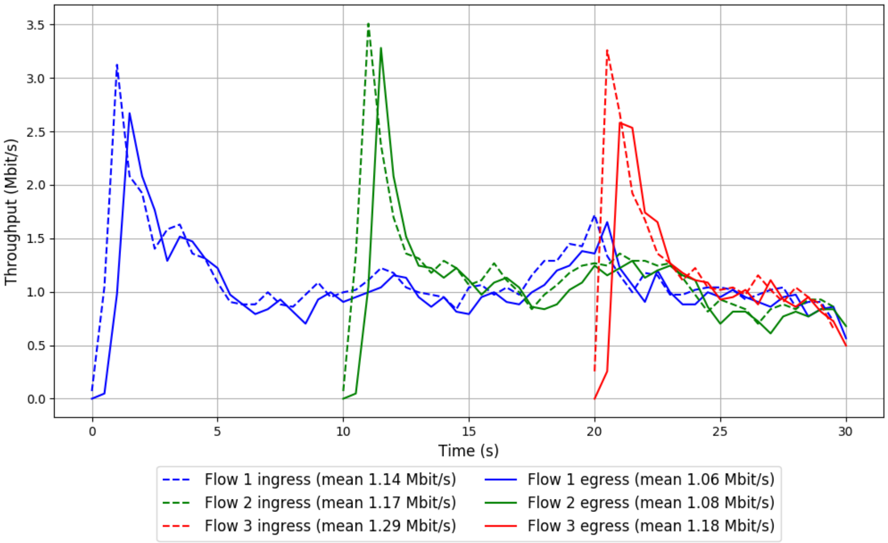
Run 1: Report of QUIC Cubic — Data Link

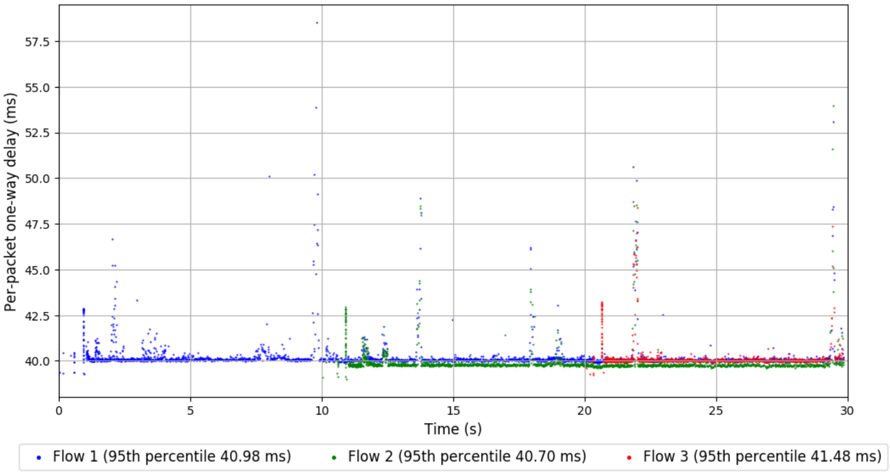




```
Run 2: Statistics of QUIC Cubic

Start at: 2018-06-30 15:13:03
End at: 2018-06-30 15:13:33
Local clock offset: 4.718 ms
Remote clock offset: -11.466 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 40.945 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 40.981 ms
Loss rate: 7.12%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 40.701 ms
Loss rate: 8.34%
-- Flow 3:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 41.476 ms
Loss rate: 9.26%
```

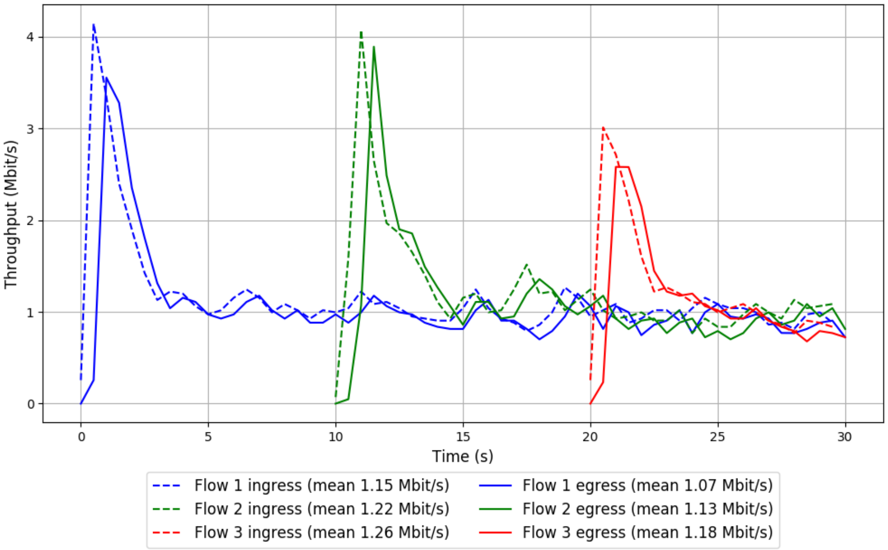
Run 2: Report of QUIC Cubic — Data Link

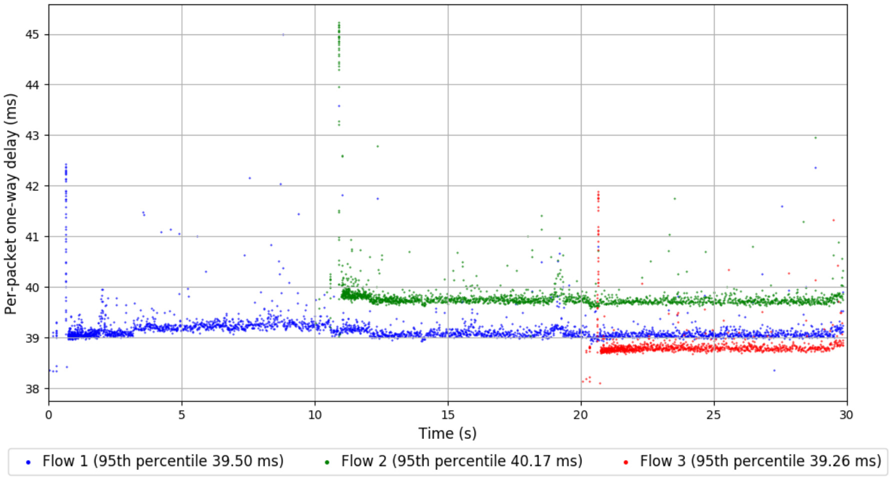




```
Run 3: Statistics of QUIC Cubic

Start at: 2018-06-30 15:47:55
End at: 2018-06-30 15:48:25
Local clock offset: 5.888 ms
Remote clock offset: -10.394 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 39.932 ms
Loss rate: 7.59%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 39.498 ms
Loss rate: 7.42%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 40.171 ms
Loss rate: 7.82%
-- Flow 3:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 39.258 ms
Loss rate: 7.61%
```

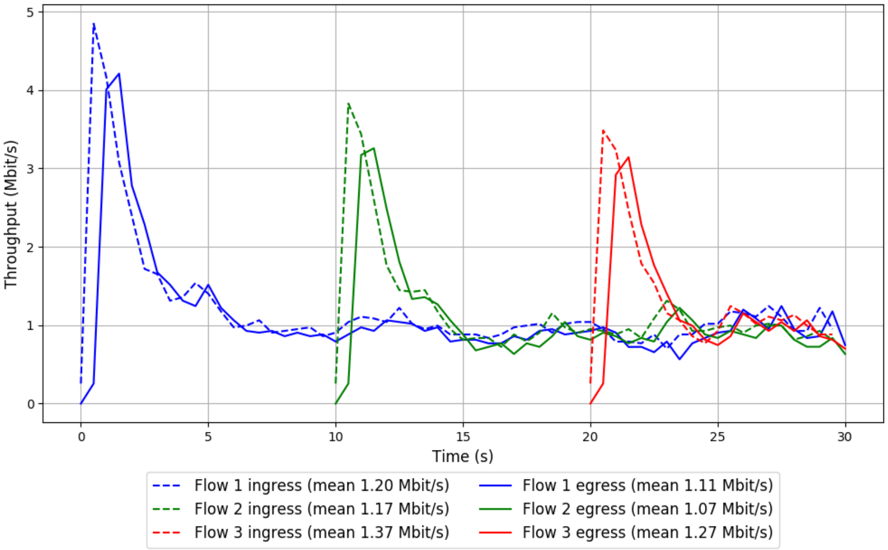
Run 3: Report of QUIC Cubic — Data Link

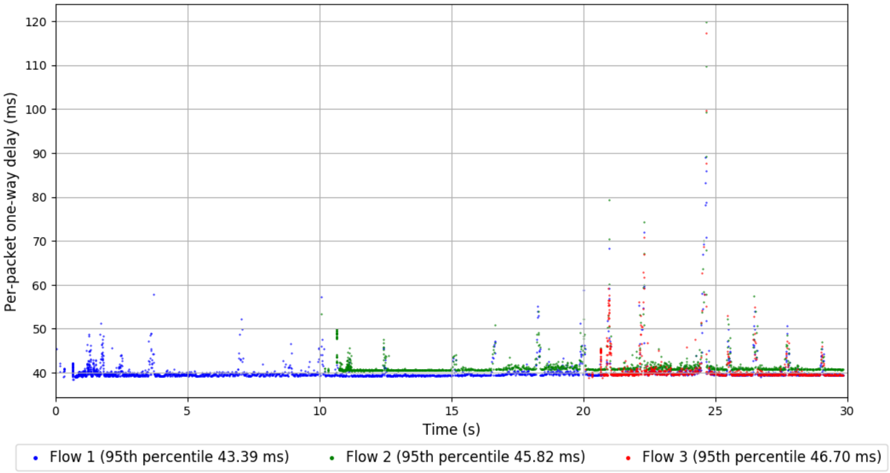




```
Run 4: Statistics of QUIC Cubic

Start at: 2018-06-30 16:21:42
End at: 2018-06-30 16:22:12
Local clock offset: 1.125 ms
Remote clock offset: -9.818 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 45.032 ms
Loss rate: 8.35%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 43.386 ms
Loss rate: 8.04%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 45.821 ms
Loss rate: 8.86%
-- Flow 3:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 46.702 ms
Loss rate: 8.29%
```

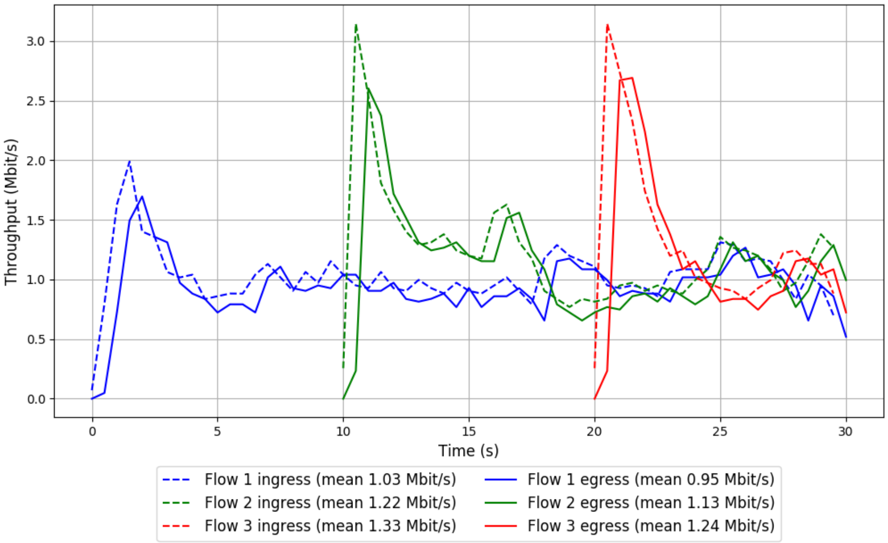
Run 4: Report of QUIC Cubic — Data Link

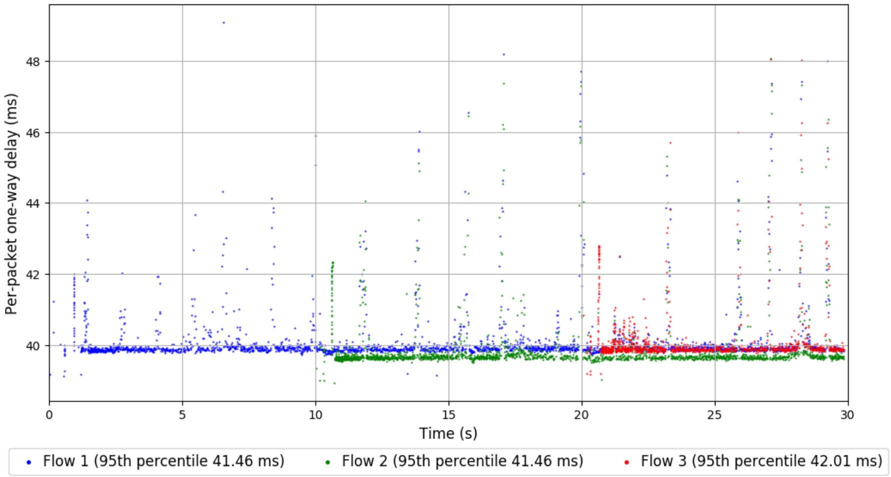




```
Run 5: Statistics of QUIC Cubic

Start at: 2018-06-30 16:54:13
End at: 2018-06-30 16:54:43
Local clock offset: -6.909 ms
Remote clock offset: -10.325 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 41.570 ms
Loss rate: 7.93%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 41.457 ms
Loss rate: 8.30%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 41.456 ms
Loss rate: 7.56%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 42.006 ms
Loss rate: 7.75%
```

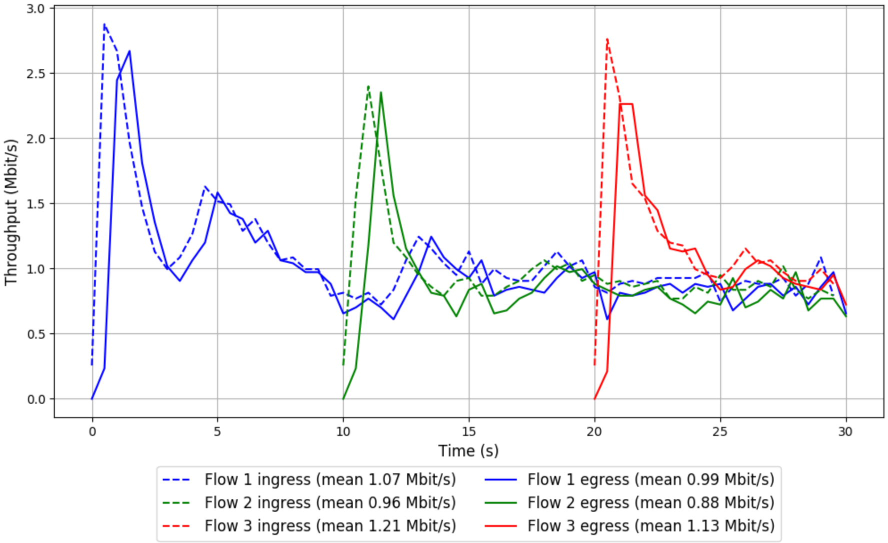
Run 5: Report of QUIC Cubic — Data Link

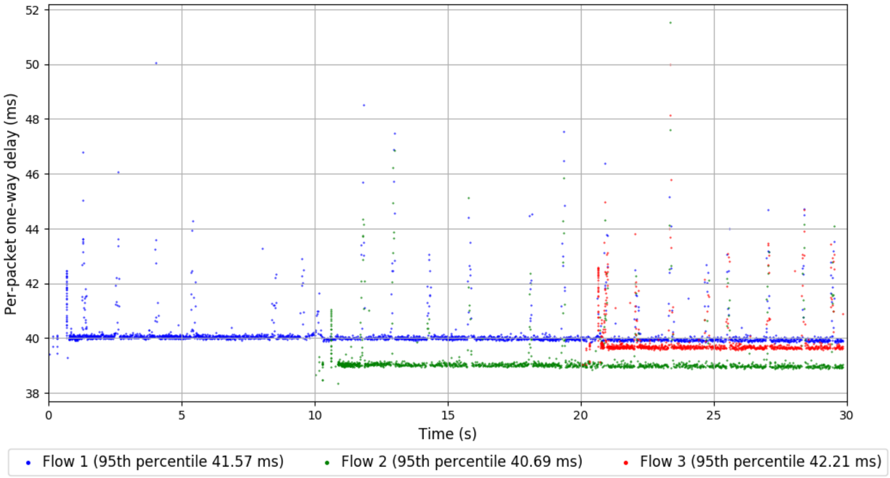




```
Run 6: Statistics of QUIC Cubic

Start at: 2018-06-30 17:27:11
End at: 2018-06-30 17:27:41
Local clock offset: -1.804 ms
Remote clock offset: -8.49 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 41.533 ms
Loss rate: 8.34%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 41.570 ms
Loss rate: 7.84%
-- Flow 2:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 40.689 ms
Loss rate: 9.45%
-- Flow 3:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 42.214 ms
Loss rate: 7.92%
```

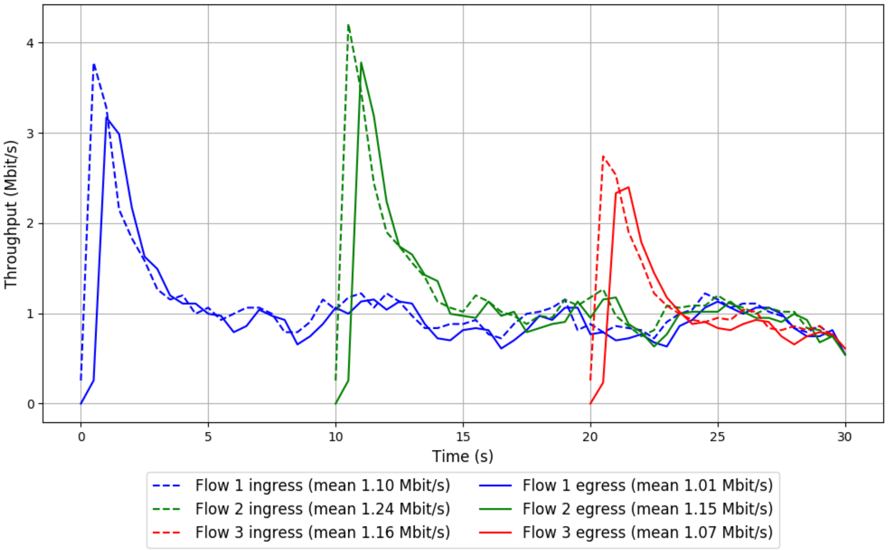
Run 6: Report of QUIC Cubic — Data Link

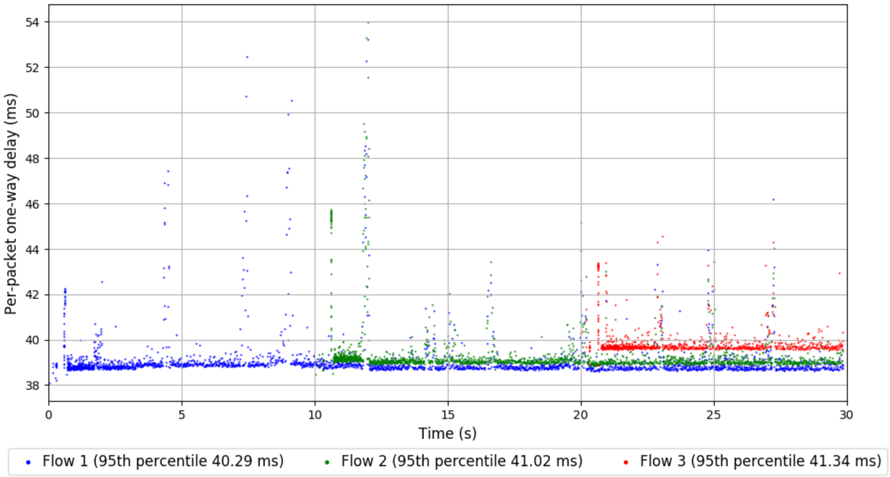




```
Run 7: Statistics of QUIC Cubic

Start at: 2018-06-30 18:00:57
End at: 2018-06-30 18:01:27
Local clock offset: 4.952 ms
Remote clock offset: -7.728 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 40.763 ms
Loss rate: 8.24%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 40.286 ms
Loss rate: 7.86%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 41.024 ms
Loss rate: 8.22%
-- Flow 3:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 41.338 ms
Loss rate: 9.34%
```

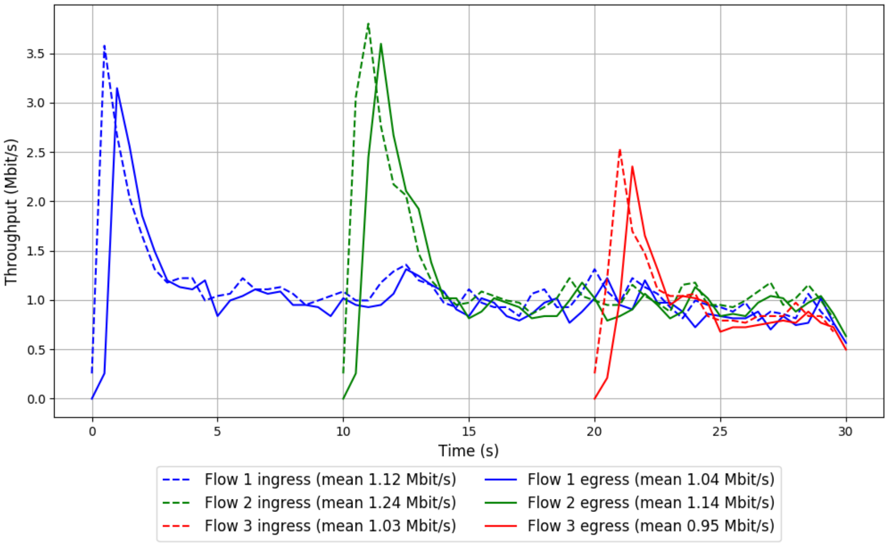
Run 7: Report of QUIC Cubic — Data Link

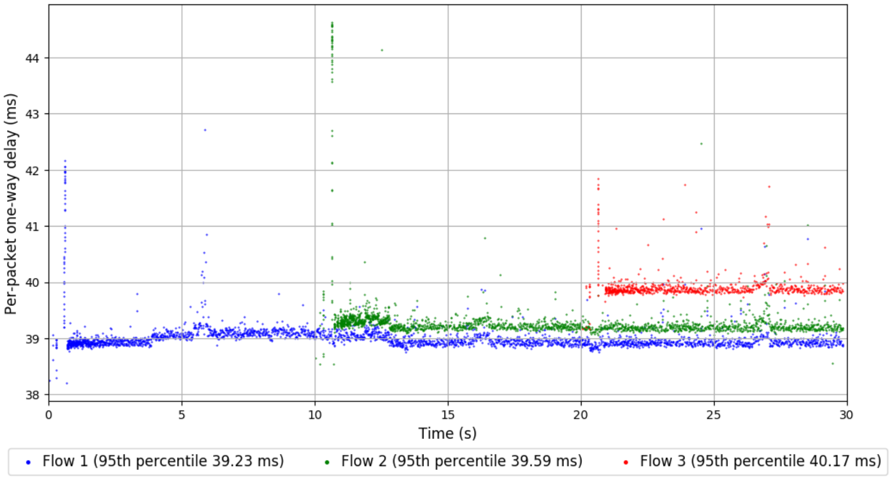




```
Run 8: Statistics of QUIC Cubic

Start at: 2018-06-30 18:35:58
End at: 2018-06-30 18:36:28
Local clock offset: 5.314 ms
Remote clock offset: -8.761 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 39.934 ms
Loss rate: 8.37%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 39.229 ms
Loss rate: 8.05%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 39.585 ms
Loss rate: 8.46%
-- Flow 3:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 40.175 ms
Loss rate: 9.18%
```

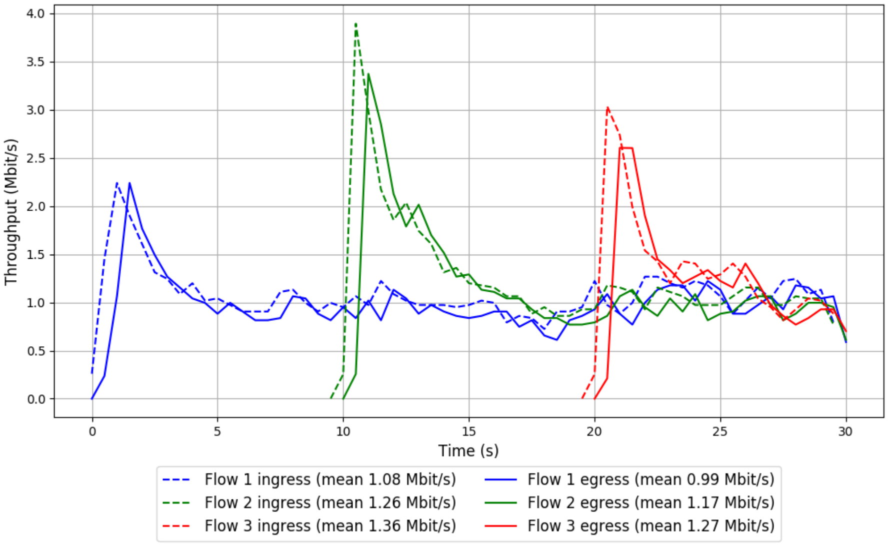
Run 8: Report of QUIC Cubic — Data Link

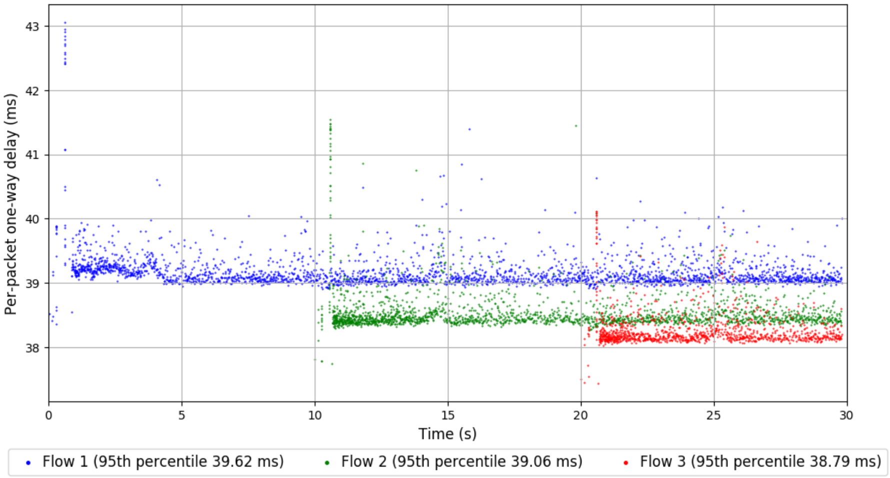




```
Run 9: Statistics of QUIC Cubic

Start at: 2018-06-30 19:09:07
End at: 2018-06-30 19:09:37
Local clock offset: 1.339 ms
Remote clock offset: -8.613 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 39.460 ms
Loss rate: 7.88%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 39.620 ms
Loss rate: 8.27%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 39.059 ms
Loss rate: 7.58%
-- Flow 3:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 38.789 ms
Loss rate: 7.49%
```

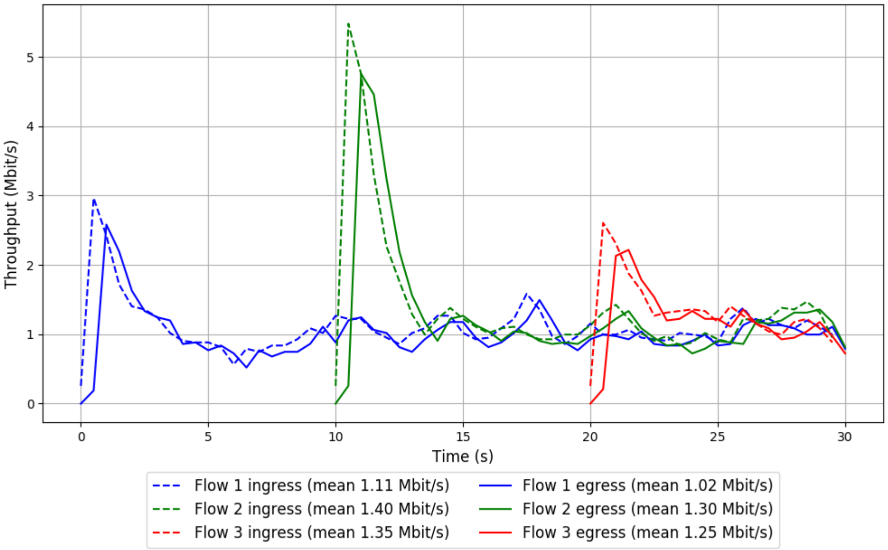
Run 9: Report of QUIC Cubic — Data Link

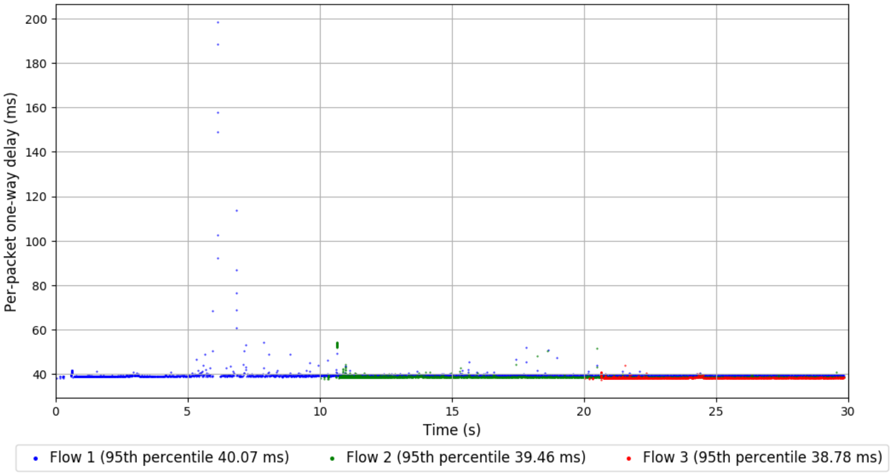




```
Run 10: Statistics of QUIC Cubic

Start at: 2018-06-30 19:45:09
End at: 2018-06-30 19:45:39
Local clock offset: 4.706 ms
Remote clock offset: -8.647 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 39.758 ms
Loss rate: 7.64%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 40.074 ms
Loss rate: 7.86%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 39.460 ms
Loss rate: 7.27%
-- Flow 3:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 38.783 ms
Loss rate: 7.90%
```

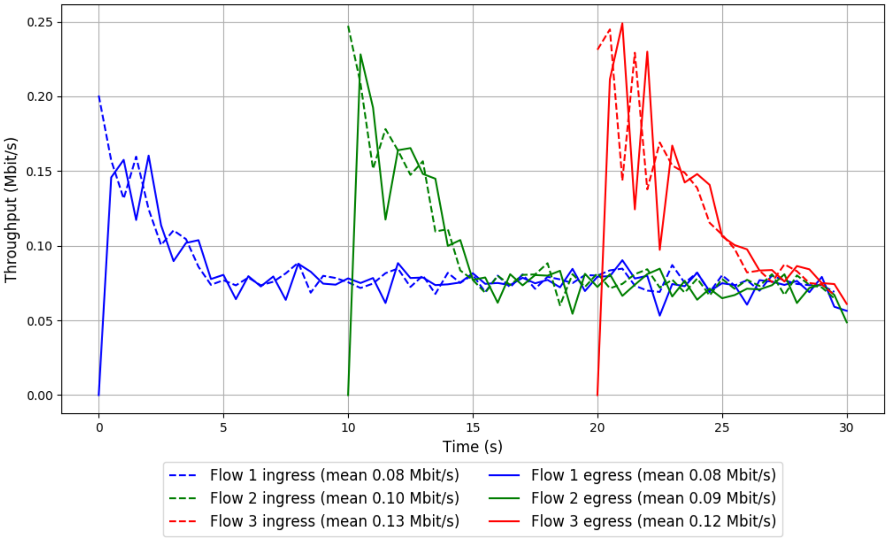
Run 10: Report of QUIC Cubic — Data Link

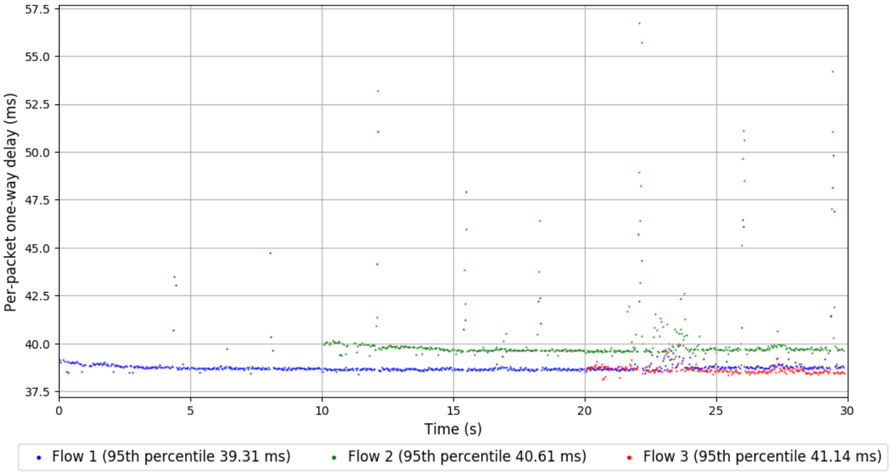




```
Run 1: Statistics of SCReAM

Start at: 2018-06-30 14:27:30
End at: 2018-06-30 14:28:00
Local clock offset: -0.578 ms
Remote clock offset: -10.167 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 40.352 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 39.312 ms
Loss rate: 3.76%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 40.607 ms
Loss rate: 5.48%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 41.140 ms
Loss rate: 4.20%
```

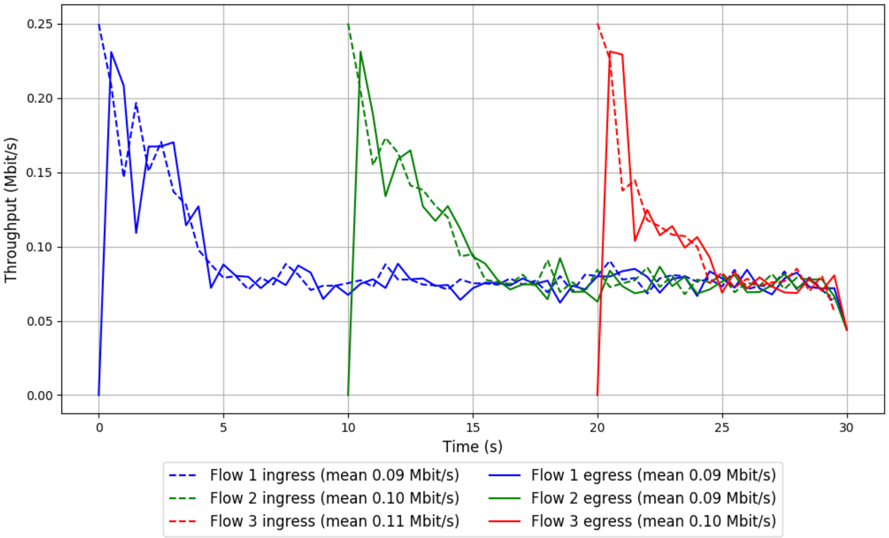
Run 1: Report of SCReAM — Data Link

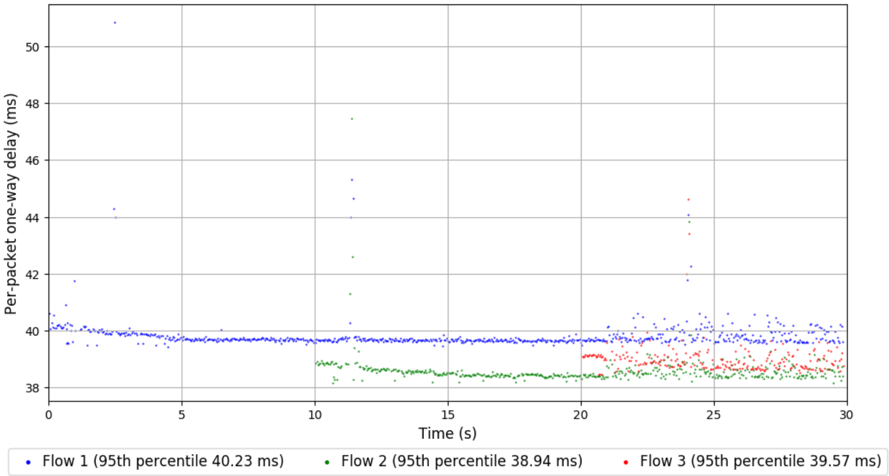




```
Run 2: Statistics of SCReAM

Start at: 2018-06-30 15:01:23
End at: 2018-06-30 15:01:53
Local clock offset: 3.883 ms
Remote clock offset: -11.104 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 40.119 ms
Loss rate: 4.57%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 40.225 ms
Loss rate: 3.42%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 38.941 ms
Loss rate: 5.20%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 39.571 ms
Loss rate: 6.34%
```

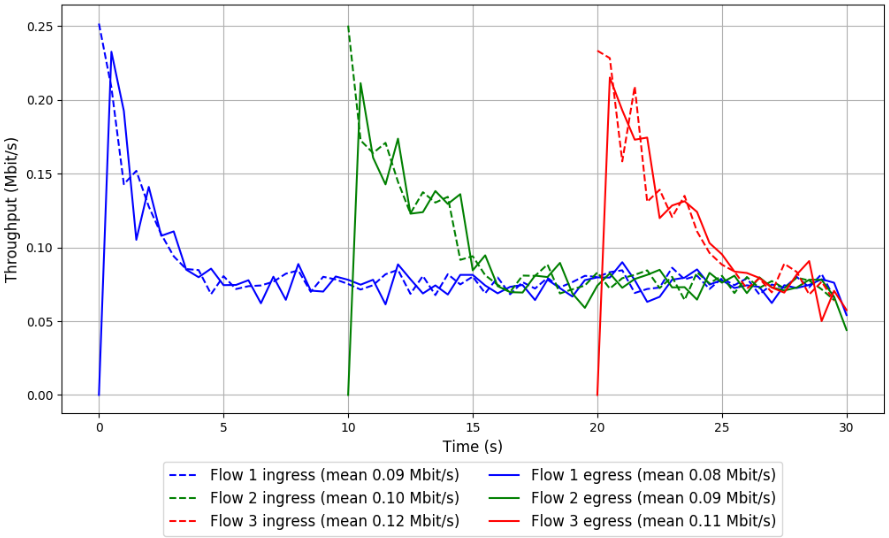
Run 2: Report of SCReAM — Data Link

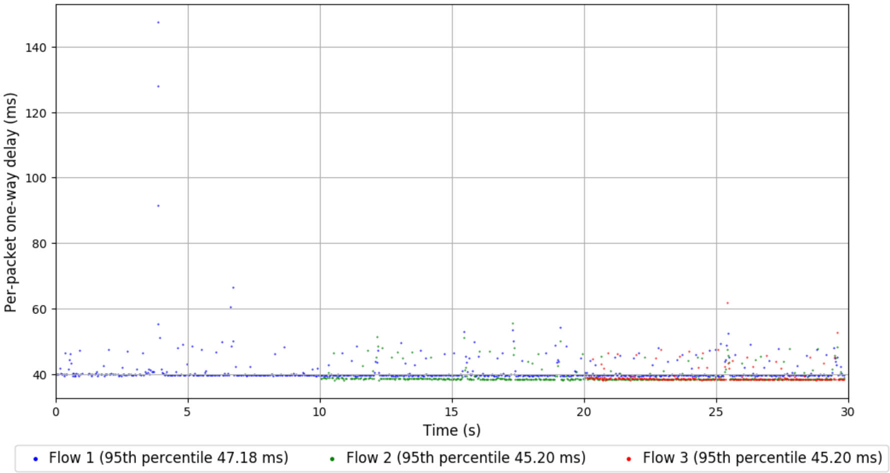




```
Run 3: Statistics of SCReAM

Start at: 2018-06-30 15:35:58
End at: 2018-06-30 15:36:28
Local clock offset: 5.419 ms
Remote clock offset: -10.444 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 46.252 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 47.179 ms
Loss rate: 4.05%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 45.195 ms
Loss rate: 4.14%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 45.195 ms
Loss rate: 5.98%
```

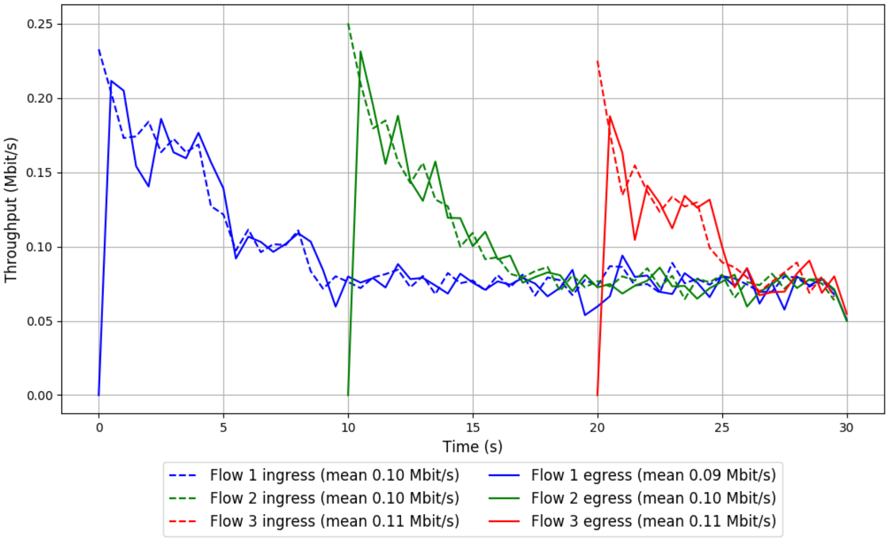
Run 3: Report of SCReAM — Data Link

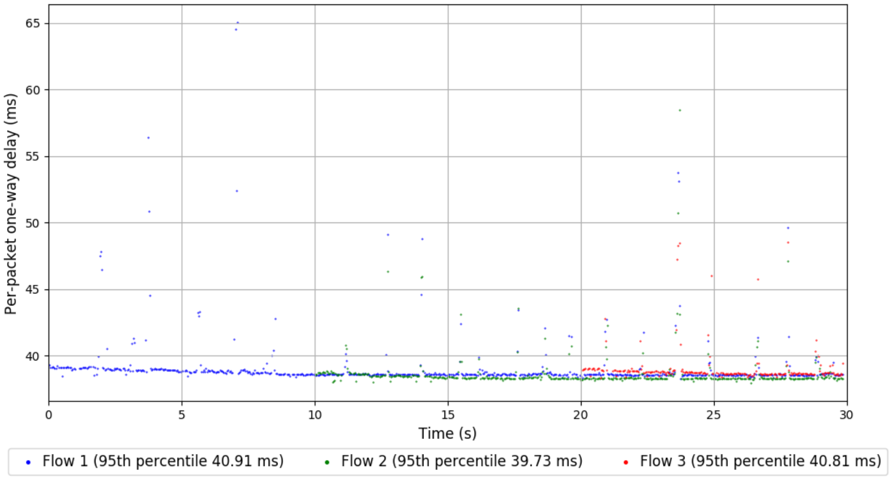




```
Run 4: Statistics of SCReAM

Start at: 2018-06-30 16:09:59
End at: 2018-06-30 16:10:29
Local clock offset: 6.97 ms
Remote clock offset: -9.882 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 40.335 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 40.908 ms
Loss rate: 3.62%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 39.734 ms
Loss rate: 4.10%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 40.814 ms
Loss rate: 7.10%
```

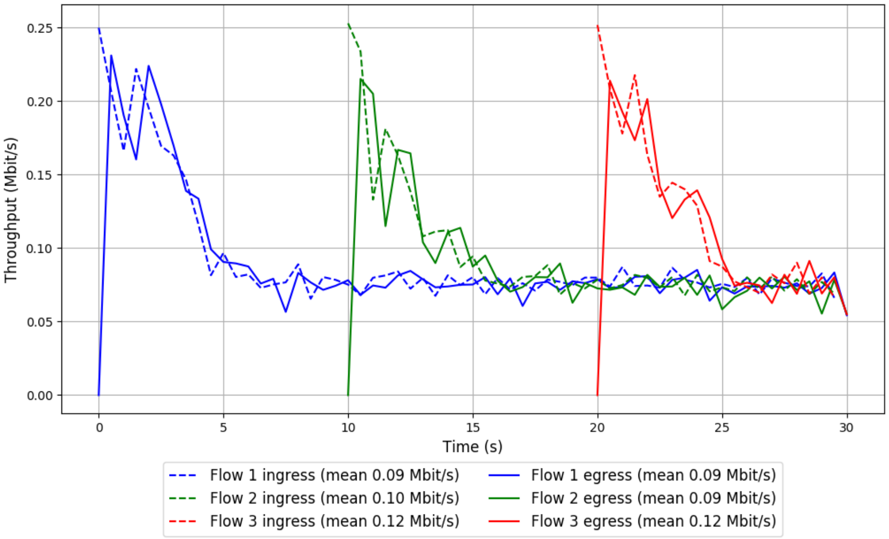
Run 4: Report of SCReAM — Data Link

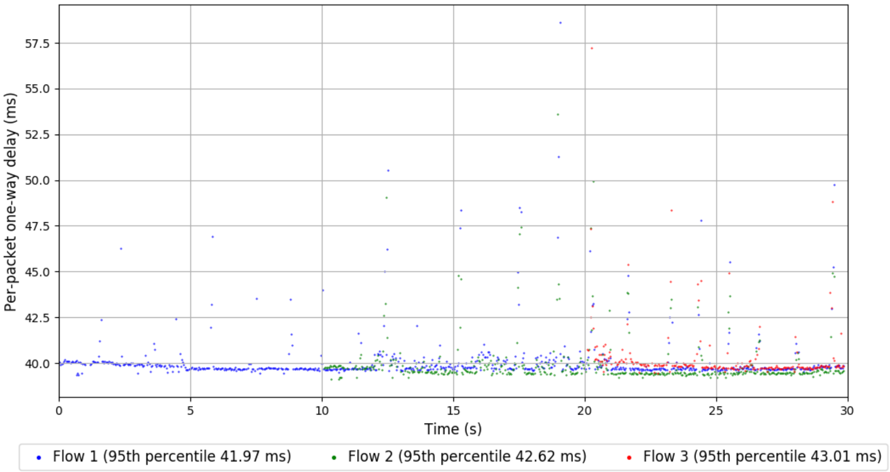




```
Run 5: Statistics of SCReAM

Start at: 2018-06-30 16:42:30
End at: 2018-06-30 16:43:00
Local clock offset: -5.901 ms
Remote clock offset: -10.406 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 42.240 ms
Loss rate: 4.78%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 41.970 ms
Loss rate: 3.13%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 42.620 ms
Loss rate: 5.87%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 43.013 ms
Loss rate: 6.85%
```

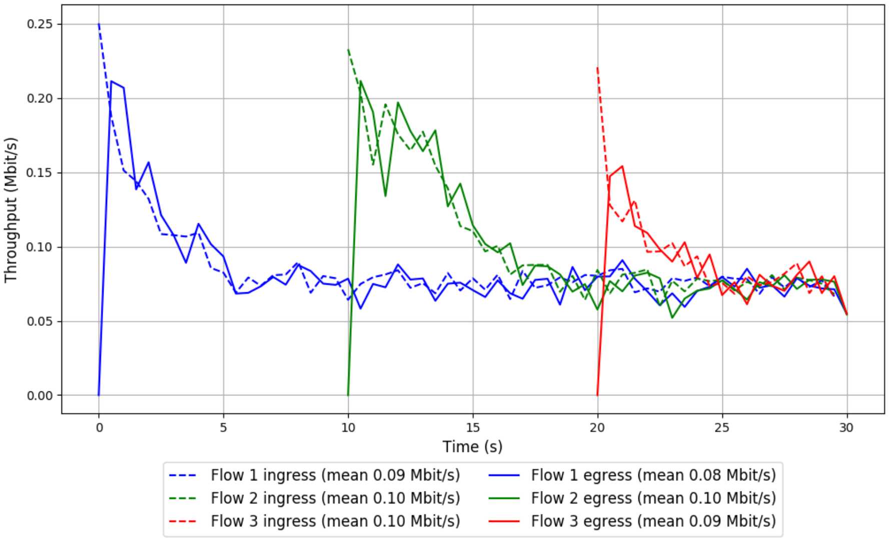
Run 5: Report of SCReAM — Data Link

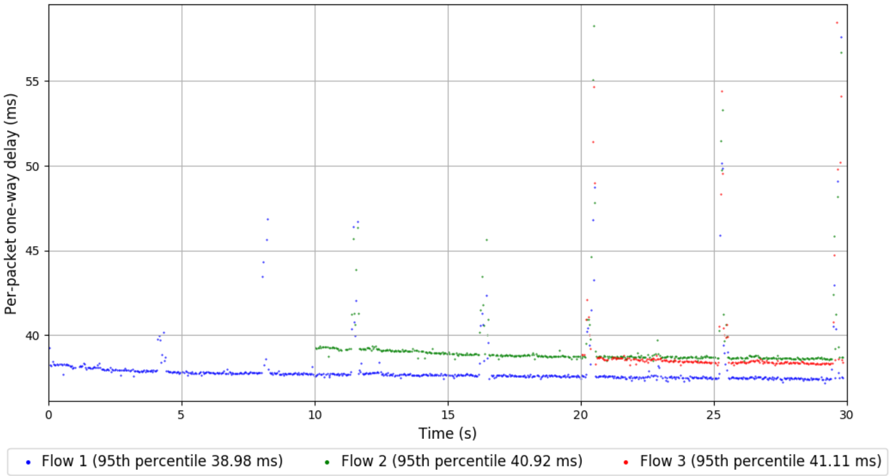




```
Run 6: Statistics of SCReAM

Start at: 2018-06-30 17:15:30
End at: 2018-06-30 17:16:00
Local clock offset: -8.932 ms
Remote clock offset: -8.961 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 40.381 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 38.985 ms
Loss rate: 3.45%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 40.922 ms
Loss rate: 4.22%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 41.106 ms
Loss rate: 5.88%
```

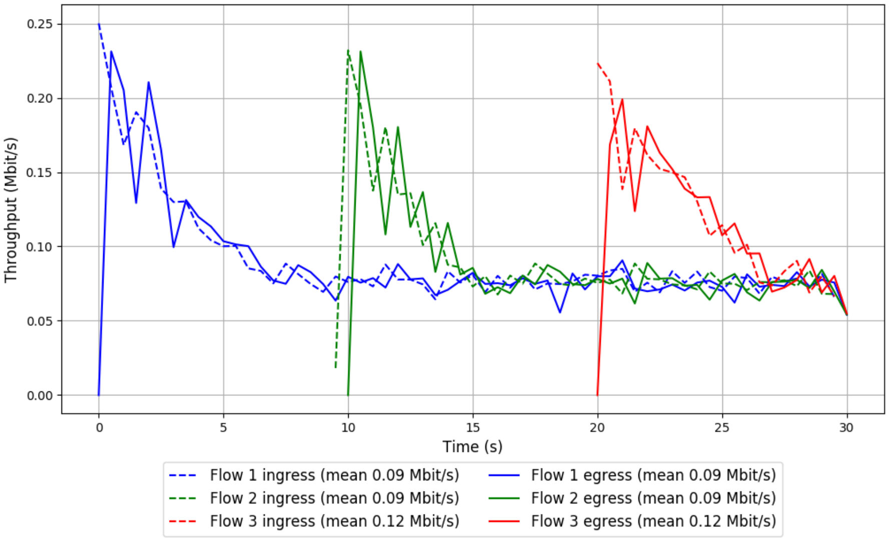
Run 6: Report of SCReAM — Data Link

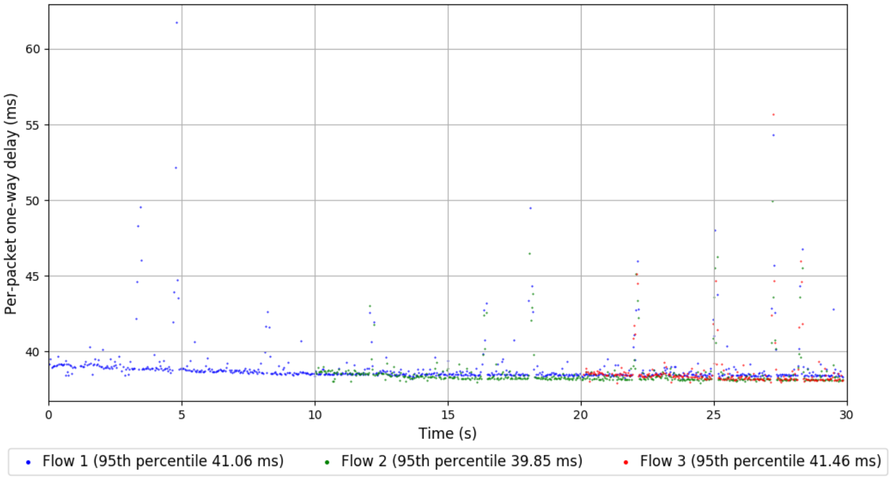




```
Run 7: Statistics of SCReAM

Start at: 2018-06-30 17:49:01
End at: 2018-06-30 17:49:31
Local clock offset: 2.217 ms
Remote clock offset: -7.875 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 40.777 ms
Loss rate: 4.01%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 41.058 ms
Loss rate: 3.28%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 39.846 ms
Loss rate: 4.28%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 41.464 ms
Loss rate: 5.27%
```

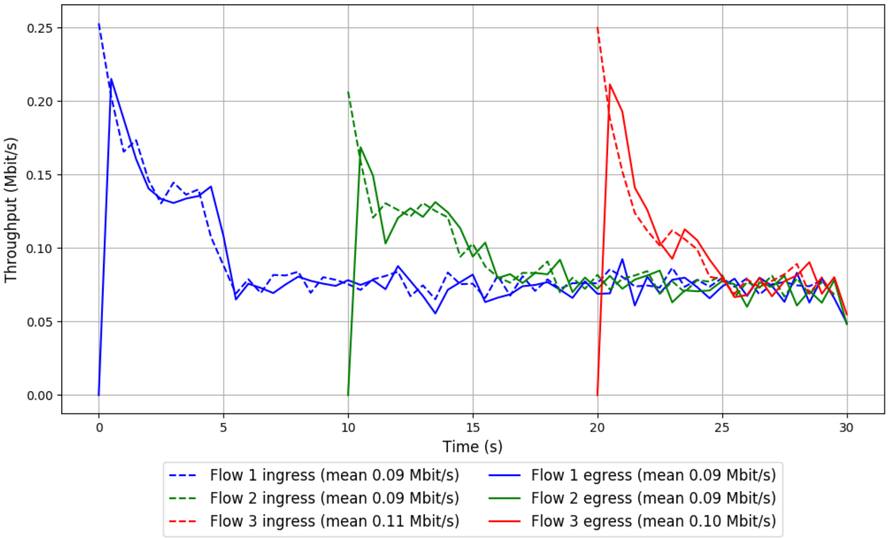
Run 7: Report of SCReAM — Data Link

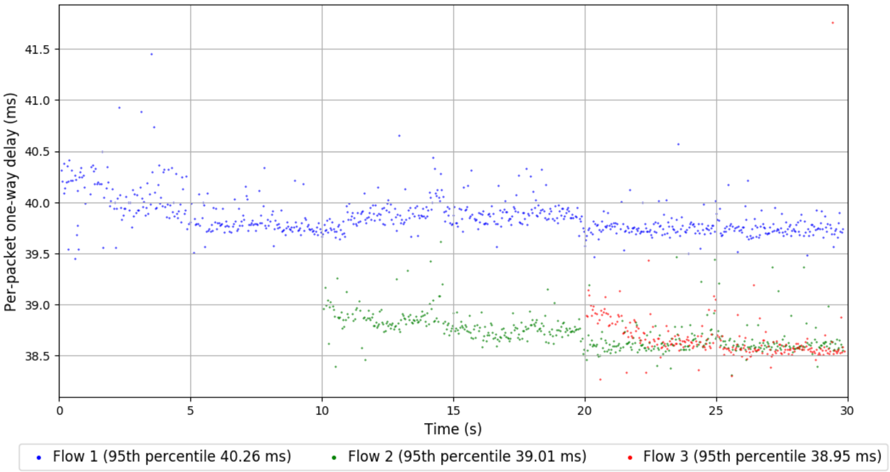




```
Run 8: Statistics of SCReAM

Start at: 2018-06-30 18:23:51
End at: 2018-06-30 18:24:21
Local clock offset: 5.54 ms
Remote clock offset: -8.52 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 40.129 ms
Loss rate: 4.72%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 40.256 ms
Loss rate: 5.07%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 39.006 ms
Loss rate: 4.27%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 38.949 ms
Loss rate: 4.63%
```

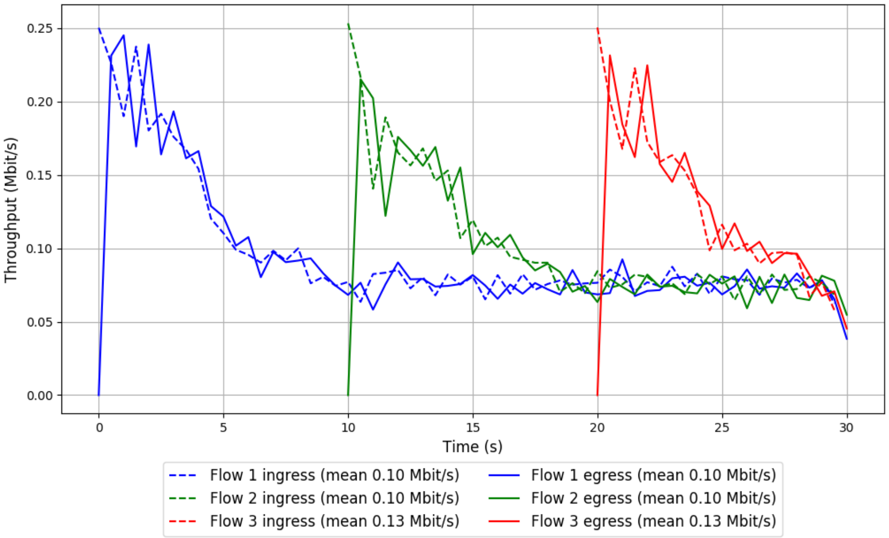
Run 8: Report of SCReAM — Data Link

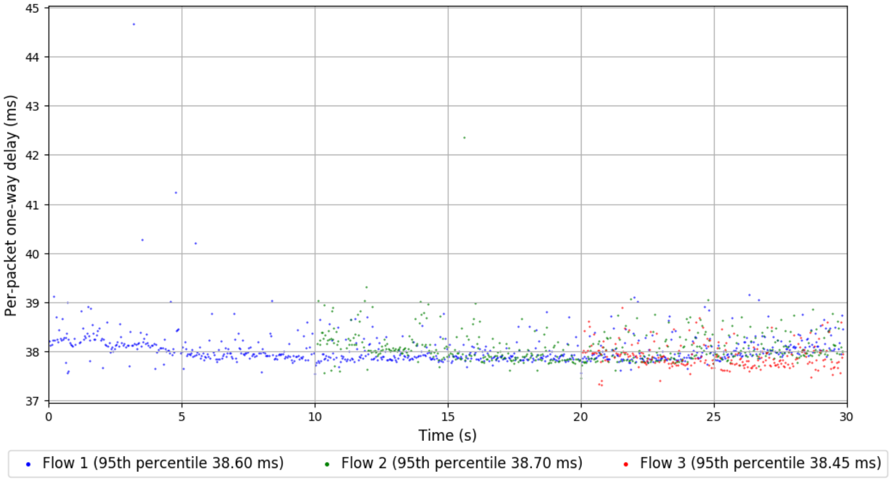




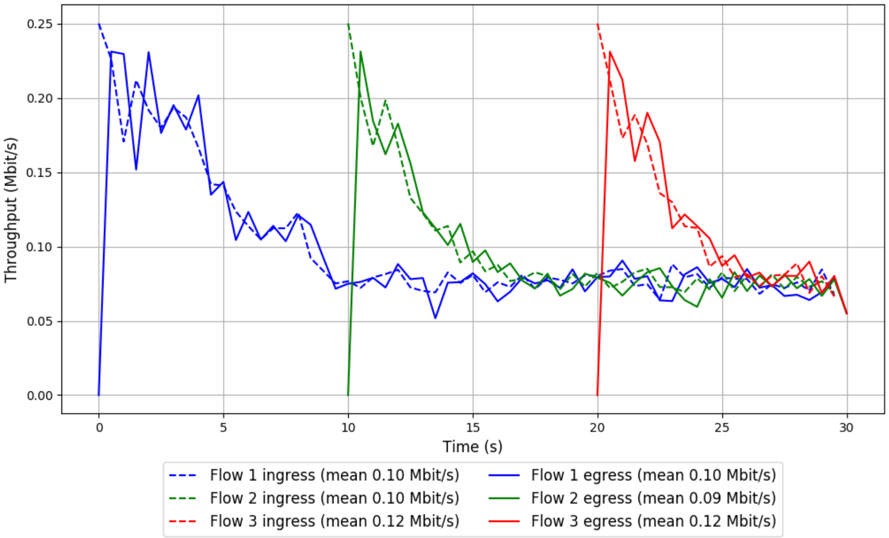
```
Run 9: Statistics of SCReAM

Start at: 2018-06-30 18:56:36
End at: 2018-06-30 18:57:06
Local clock offset: 2.189 ms
Remote clock offset: -8.511 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 38.626 ms
Loss rate: 4.06%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 38.603 ms
Loss rate: 3.42%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 38.695 ms
Loss rate: 4.71%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 38.453 ms
Loss rate: 4.47%
```

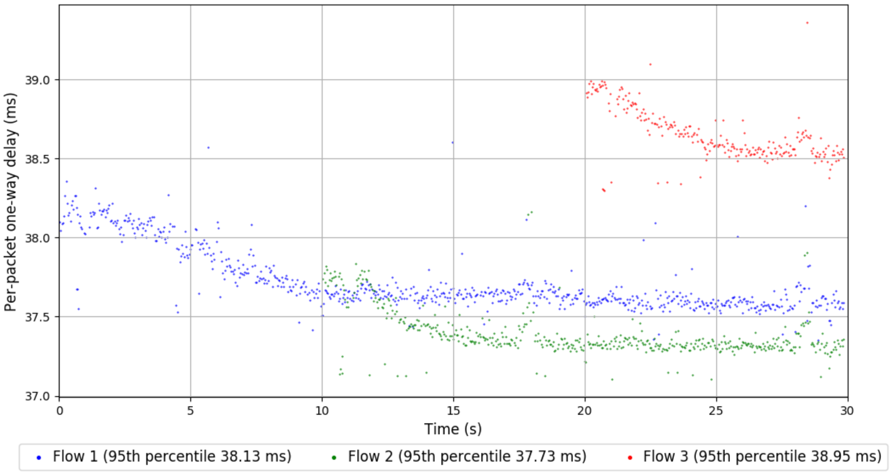
Run 9: Report of SCReAM — Data Link





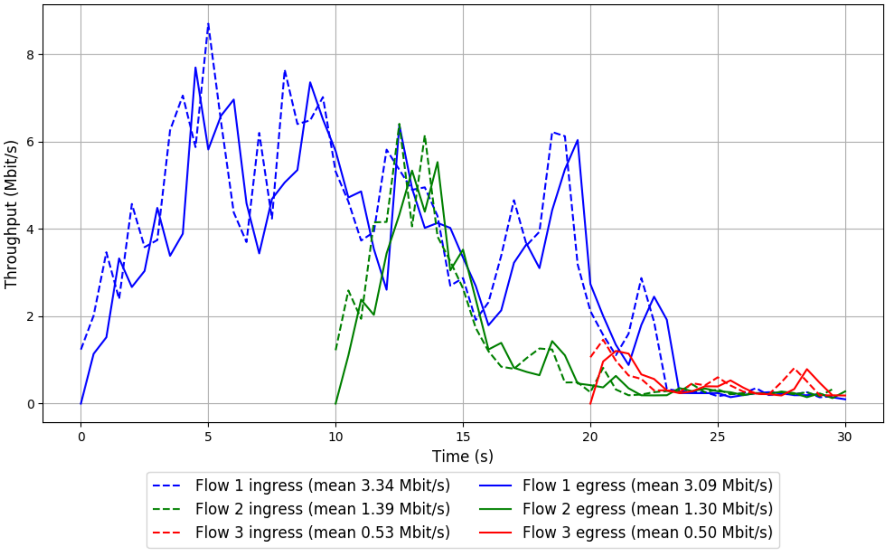
```
Run 10: Statistics of SCReAM

Start at: 2018-06-30 19:32:22
End at: 2018-06-30 19:32:52
Local clock offset: 3.786 ms
Remote clock offset: -8.633 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 38.708 ms
Loss rate: 3.41%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 38.133 ms
Loss rate: 2.90%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 37.734 ms
Loss rate: 4.23%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 38.949 ms
Loss rate: 3.36%
```

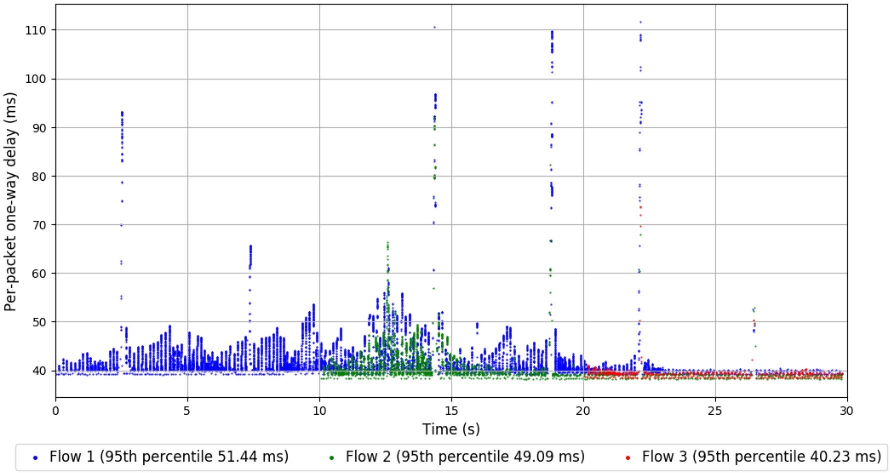

Throughput (Mbit/s)
0.25
0.20
0.15
0.10
0.05
0.00
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 0.10 Mbit/s)
Flow 2 ingress (mean 0.10 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)
Flow 1 egress (mean 0.10 Mbit/s)
Flow 2 egress (mean 0.09 Mbit/s)
Flow 3 egress (mean 0.12 Mbit/s)


Per-packet one-way delay (ms)
39.0
38.5
38.0
37.5
37.0
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 38.13 ms)
Flow 2 (95th percentile 37.73 ms)
Flow 3 (95th percentile 38.95 ms)

```
Run 1: Statistics of Sprout

Start at: 2018-06-30 14:37:44
End at: 2018-06-30 14:38:14
Local clock offset: -0.874 ms
Remote clock offset: -10.551 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 50.931 ms
Loss rate: 7.65%
-- Flow 1:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 51.443 ms
Loss rate: 7.72%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 49.091 ms
Loss rate: 7.50%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 40.233 ms
Loss rate: 7.08%
```

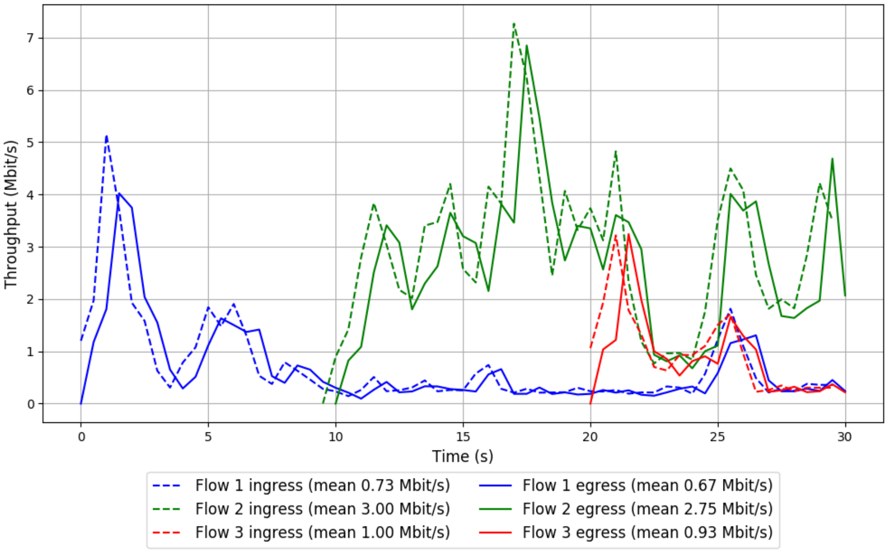
Run 1: Report of Sprout — Data Link

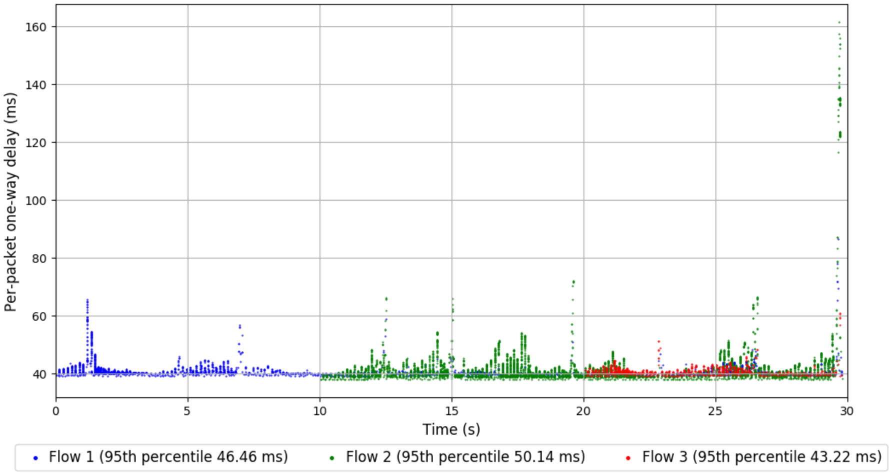




```
Run 2: Statistics of Sprout

Start at: 2018-06-30 15:11:30
End at: 2018-06-30 15:12:00
Local clock offset: 4.643 ms
Remote clock offset: -11.362 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 48.667 ms
Loss rate: 8.40%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 46.459 ms
Loss rate: 8.00%
-- Flow 2:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 50.142 ms
Loss rate: 8.61%
-- Flow 3:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 43.224 ms
Loss rate: 8.04%
```

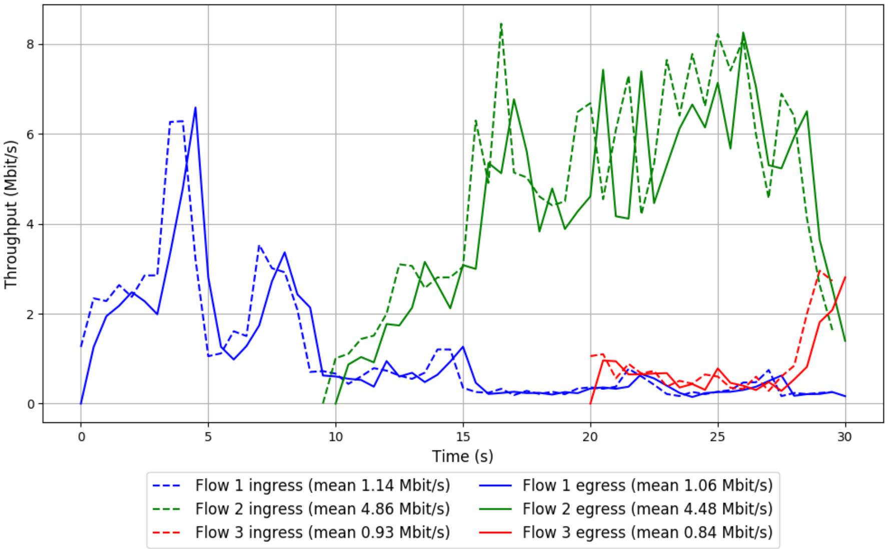
Run 2: Report of Sprout — Data Link

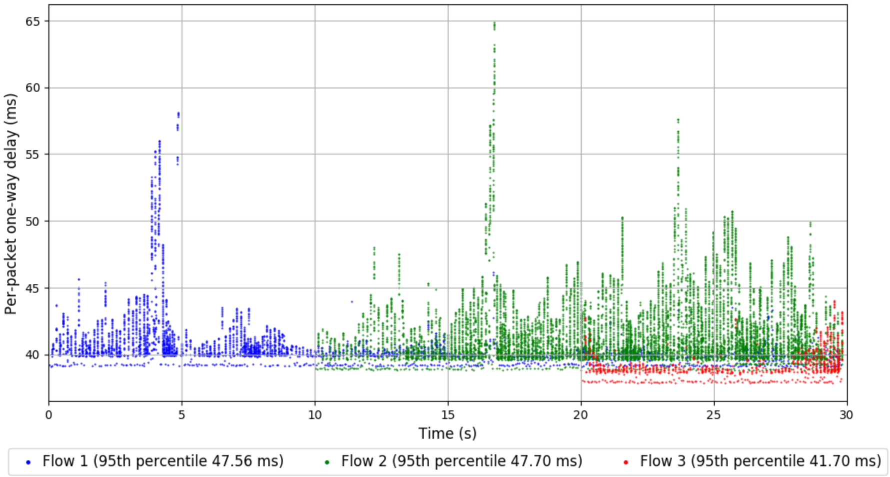




```
Run 3: Statistics of Sprout

Start at: 2018-06-30 15:46:19
End at: 2018-06-30 15:46:49
Local clock offset: 5.696 ms
Remote clock offset: -10.356 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 47.413 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 47.557 ms
Loss rate: 7.01%
-- Flow 2:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 47.700 ms
Loss rate: 8.16%
-- Flow 3:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 41.695 ms
Loss rate: 10.17%
```

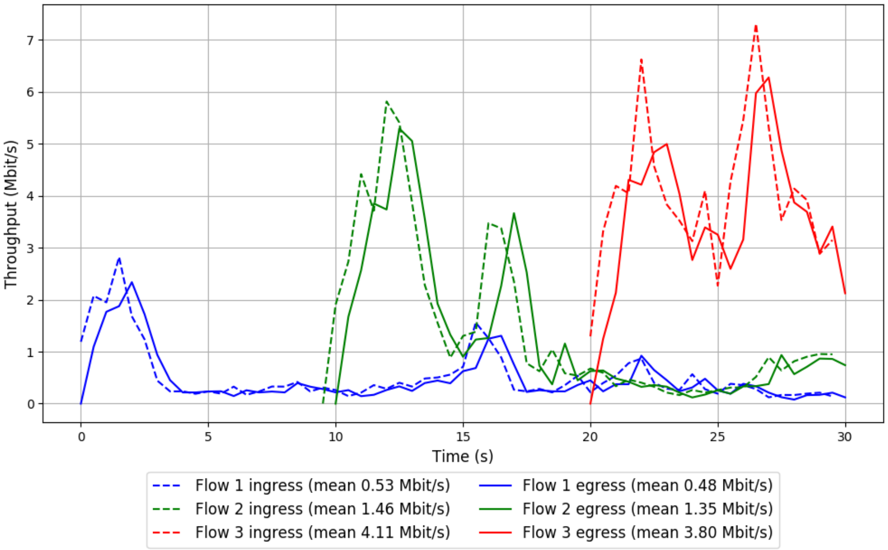
Run 3: Report of Sprout — Data Link

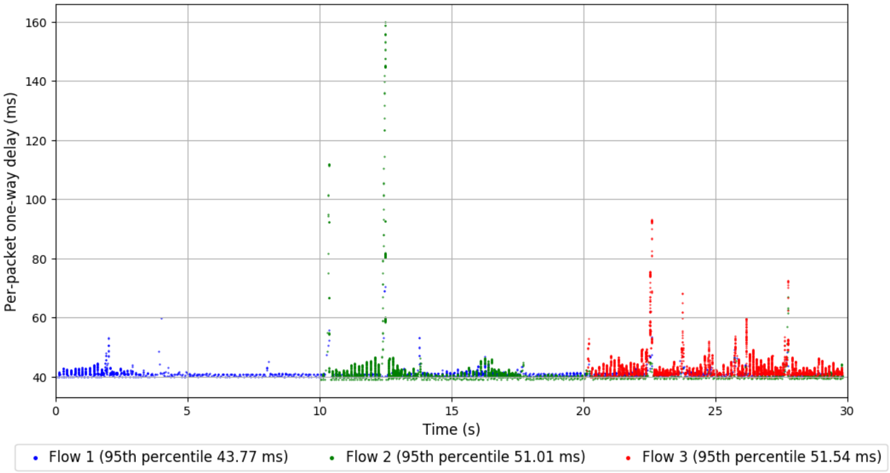




```
Run 4: Statistics of Sprout

Start at: 2018-06-30 16:20:11
End at: 2018-06-30 16:20:41
Local clock offset: 2.319 ms
Remote clock offset: -9.865 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 49.232 ms
Loss rate: 8.47%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 43.774 ms
Loss rate: 8.91%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 51.005 ms
Loss rate: 8.30%
-- Flow 3:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 51.542 ms
Loss rate: 8.42%
```

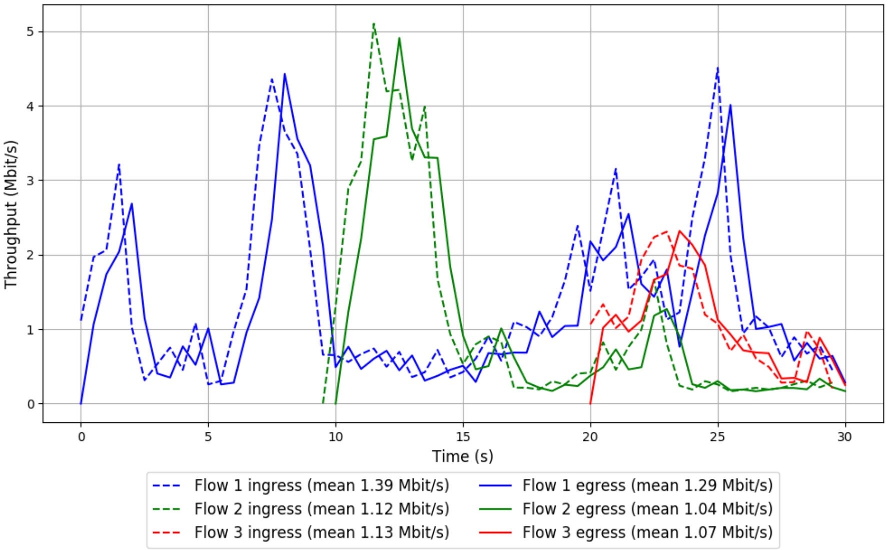
Run 4: Report of Sprout — Data Link

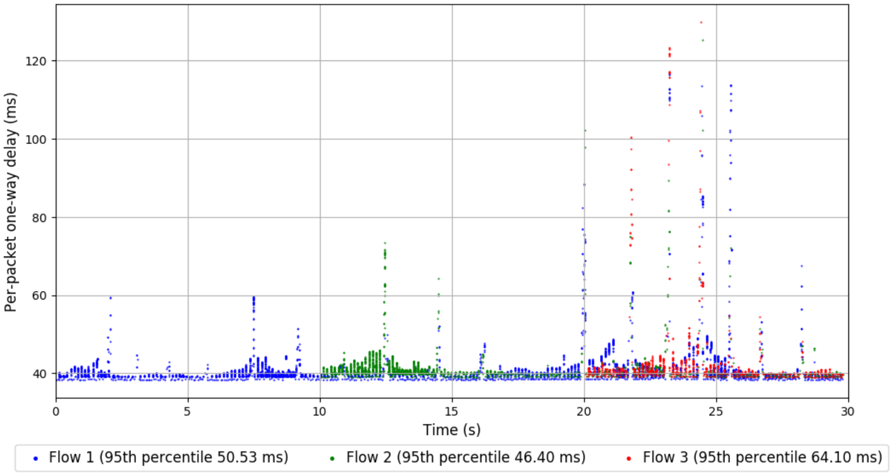




```
Run 5: Statistics of Sprout

Start at: 2018-06-30 16:52:42
End at: 2018-06-30 16:53:12
Local clock offset: -6.889 ms
Remote clock offset: -10.609 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 50.967 ms
Loss rate: 7.39%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 50.534 ms
Loss rate: 7.61%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 46.402 ms
Loss rate: 7.59%
-- Flow 3:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 64.101 ms
Loss rate: 6.18%
```

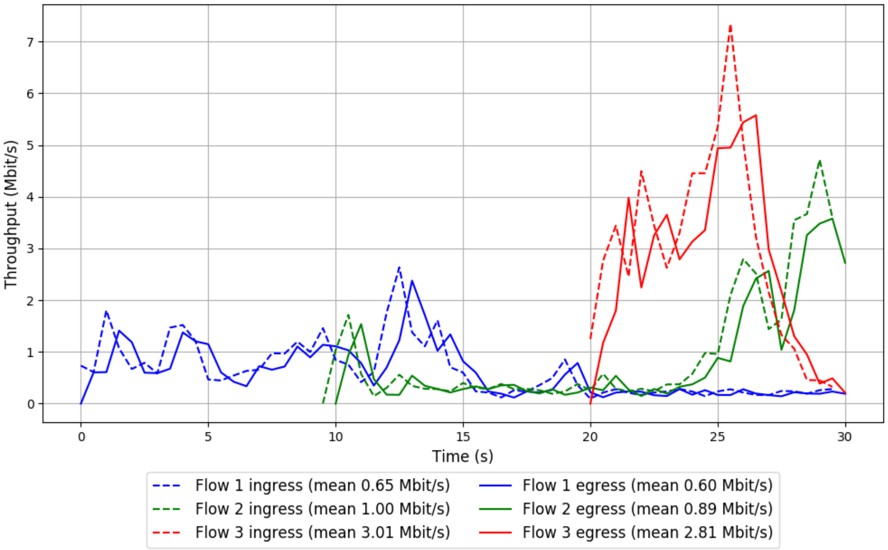
Run 5: Report of Sprout — Data Link

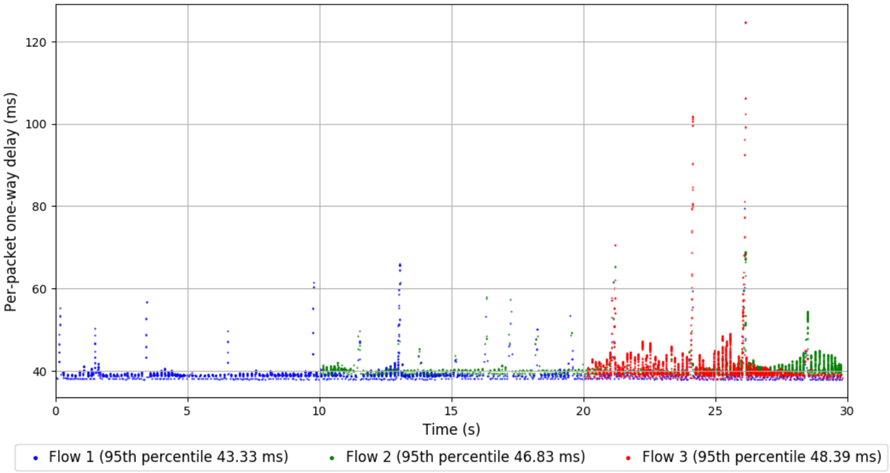




```
Run 6: Statistics of Sprout

Start at: 2018-06-30 17:25:46
End at: 2018-06-30 17:26:16
Local clock offset: -2.302 ms
Remote clock offset: -8.549 ms

# Below is generated by plot.py at 2018-06-30 19:55:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 47.125 ms
Loss rate: 8.77%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 43.334 ms
Loss rate: 7.33%
-- Flow 2:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 46.827 ms
Loss rate: 11.54%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 48.394 ms
Loss rate: 7.85%
```

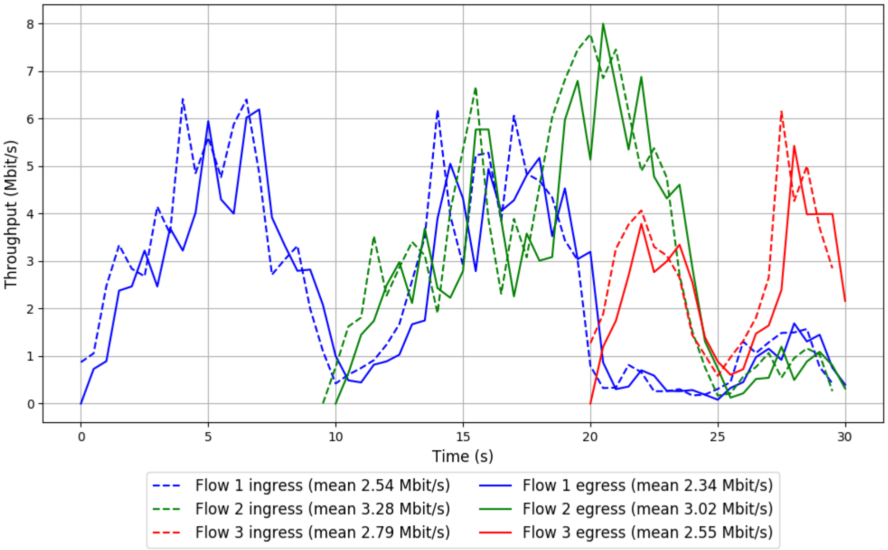
Run 6: Report of Sprout — Data Link

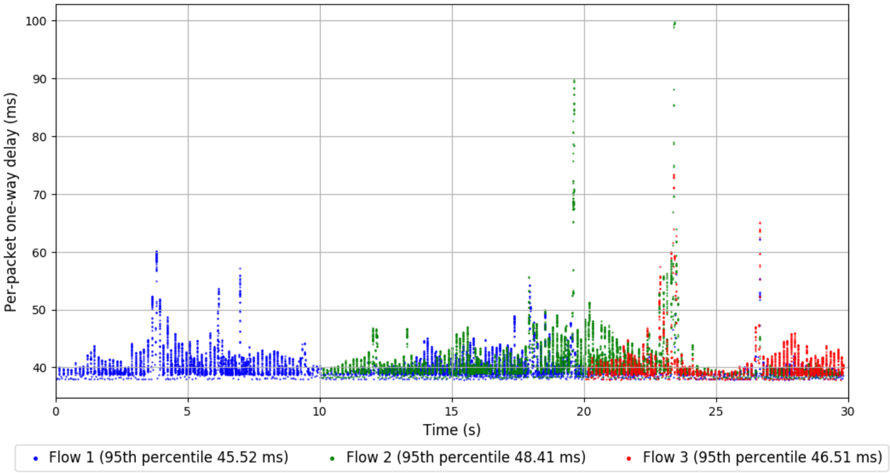




```
Run 7: Statistics of Sprout

Start at: 2018-06-30 17:59:21
End at: 2018-06-30 17:59:51
Local clock offset: 4.664 ms
Remote clock offset: -7.748 ms

# Below is generated by plot.py at 2018-06-30 19:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.18 Mbit/s
95th percentile per-packet one-way delay: 47.096 ms
Loss rate: 8.41%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 45.515 ms
Loss rate: 8.03%
-- Flow 2:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 48.408 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 46.512 ms
Loss rate: 9.65%
```

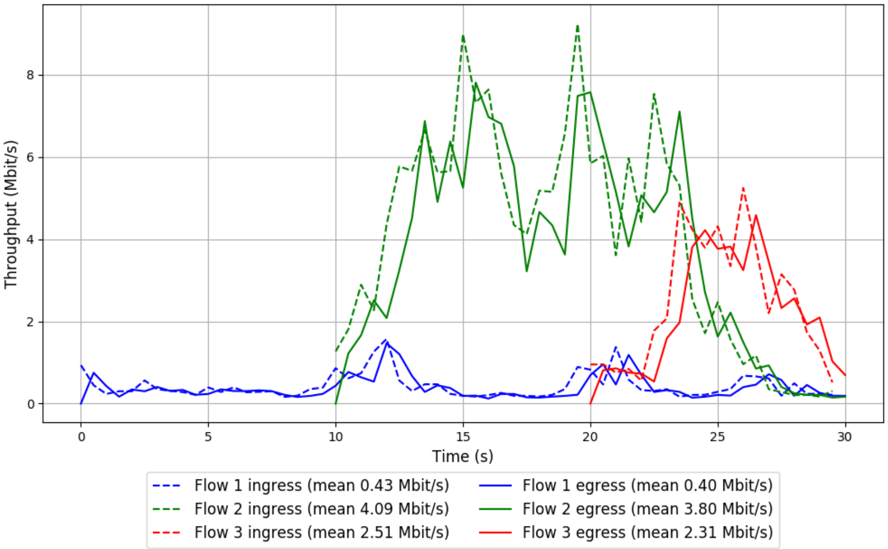
Run 7: Report of Sprout — Data Link

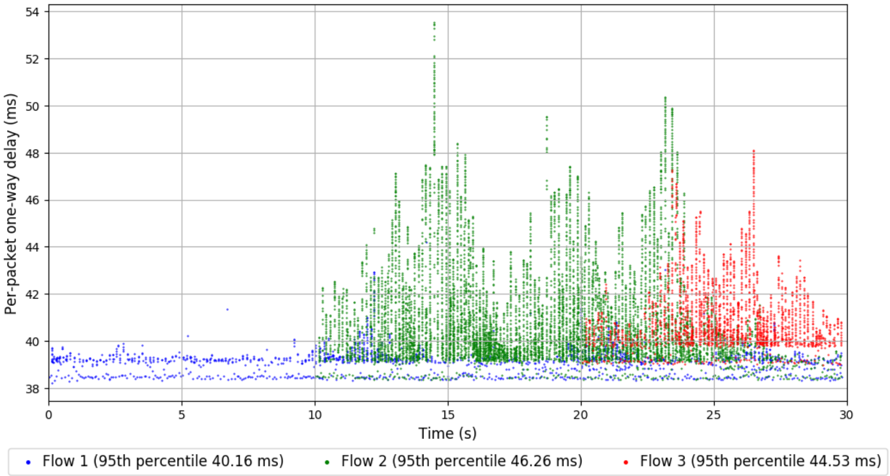




```
Run 8: Statistics of Sprout

Start at: 2018-06-30 18:34:24
End at: 2018-06-30 18:34:54
Local clock offset: 5.191 ms
Remote clock offset: -8.756 ms

# Below is generated by plot.py at 2018-06-30 19:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 45.693 ms
Loss rate: 8.08%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 40.156 ms
Loss rate: 8.23%
-- Flow 2:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 46.261 ms
Loss rate: 7.78%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 44.535 ms
Loss rate: 8.99%
```

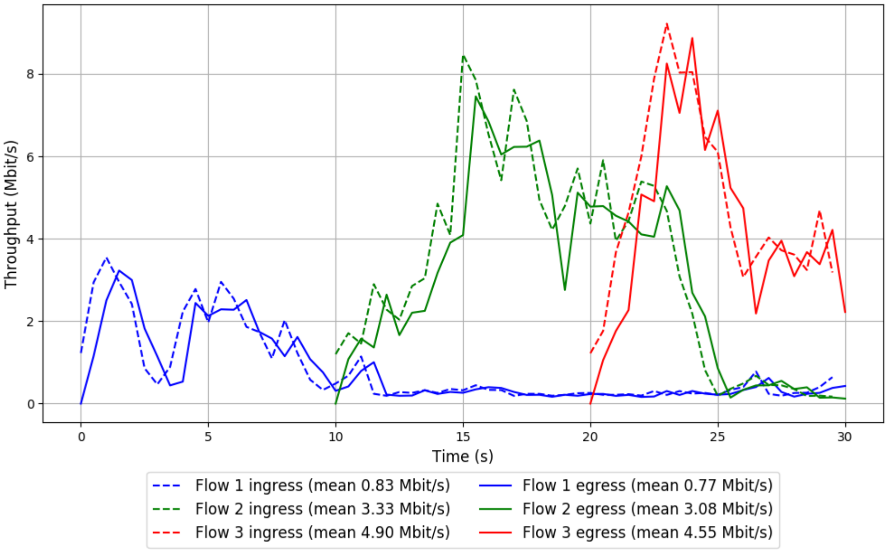
Run 8: Report of Sprout — Data Link

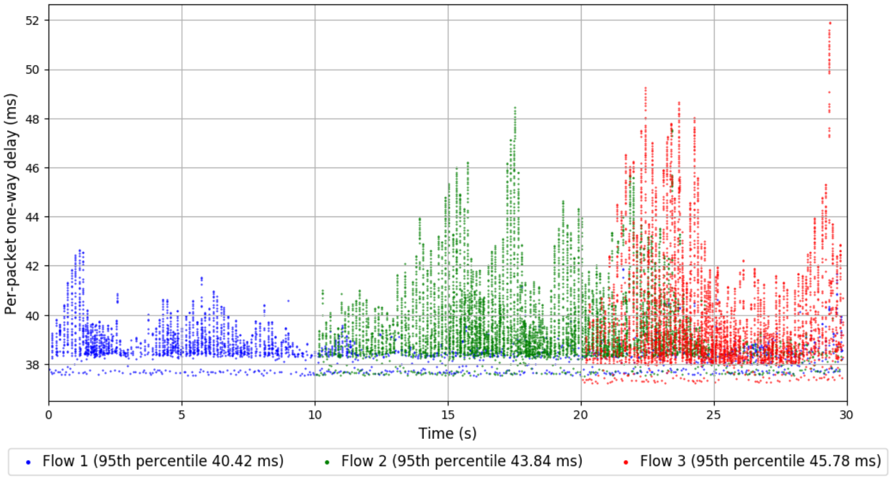




```
Run 9: Statistics of Sprout

Start at: 2018-06-30 19:07:34
End at: 2018-06-30 19:08:04
Local clock offset: 1.304 ms
Remote clock offset: -8.612 ms

# Below is generated by plot.py at 2018-06-30 19:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 44.262 ms
Loss rate: 8.11%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 40.416 ms
Loss rate: 7.83%
-- Flow 2:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 43.840 ms
Loss rate: 8.27%
-- Flow 3:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 45.781 ms
Loss rate: 8.04%
```

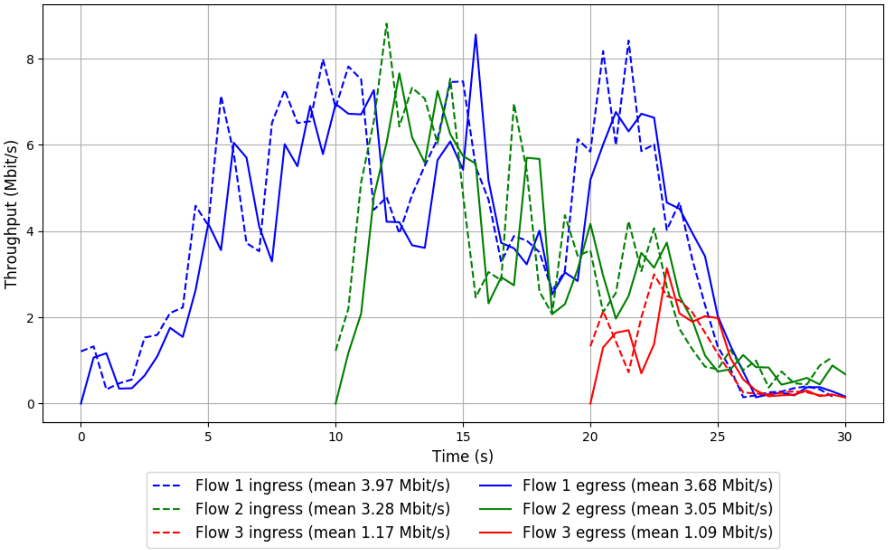
Run 9: Report of Sprout — Data Link

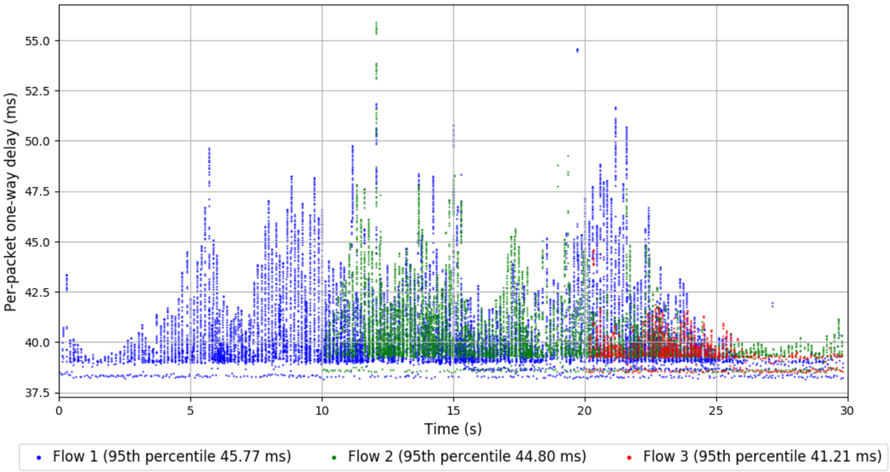




```
Run 10: Statistics of Sprout

Start at: 2018-06-30 19:43:28
End at: 2018-06-30 19:43:58
Local clock offset: 4.761 ms
Remote clock offset: -8.63 ms

# Below is generated by plot.py at 2018-06-30 19:55:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.06 Mbit/s
95th percentile per-packet one-way delay: 45.363 ms
Loss rate: 7.58%
-- Flow 1:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 45.767 ms
Loss rate: 7.62%
-- Flow 2:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 44.802 ms
Loss rate: 7.43%
-- Flow 3:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 41.213 ms
Loss rate: 8.06%
```

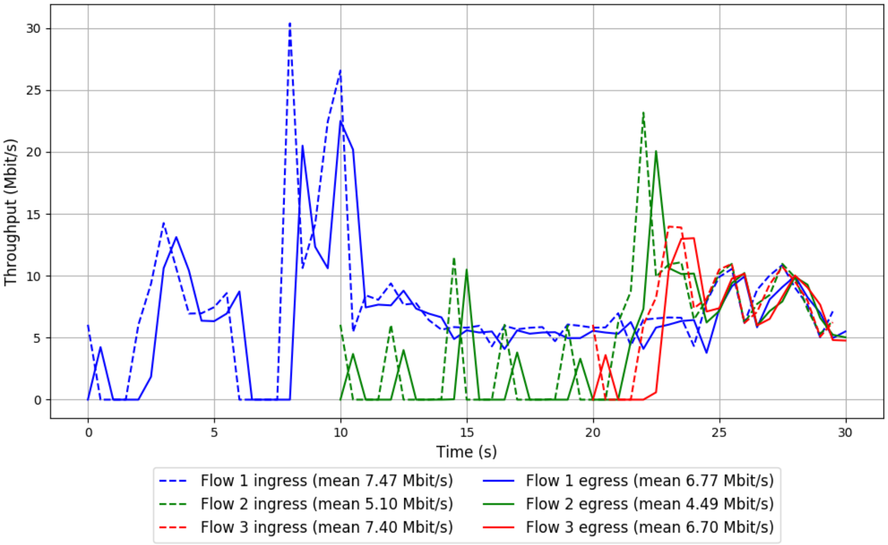
Run 10: Report of Sprout — Data Link

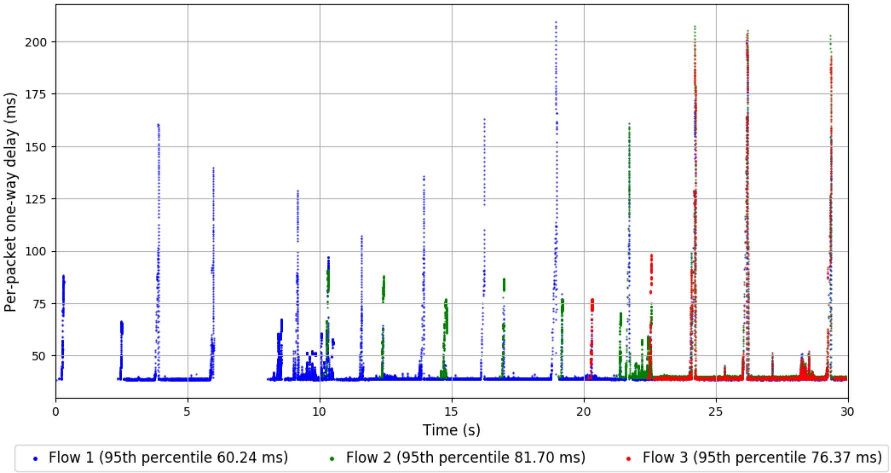




```
Run 1: Statistics of TaoVA-100x

Start at: 2018-06-30 14:35:41
End at: 2018-06-30 14:36:11
Local clock offset: -0.907 ms
Remote clock offset: -10.489 ms

# Below is generated by plot.py at 2018-06-30 19:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 72.645 ms
Loss rate: 10.47%
-- Flow 1:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 60.244 ms
Loss rate: 9.69%
-- Flow 2:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 81.700 ms
Loss rate: 12.34%
-- Flow 3:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 76.371 ms
Loss rate: 10.29%
```

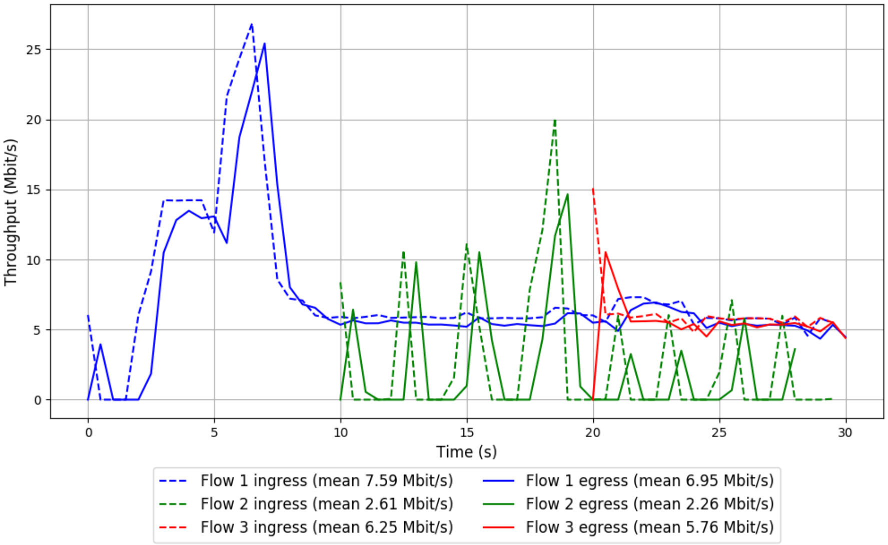
Run 1: Report of TaoVA-100x — Data Link

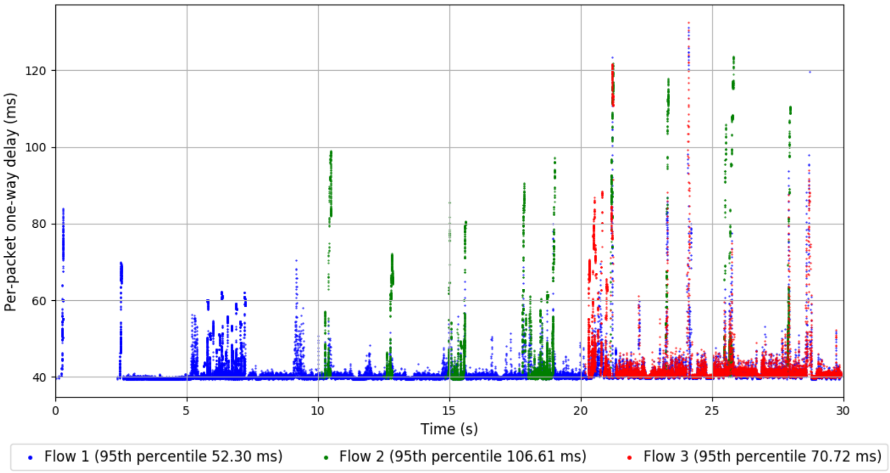




```
Run 2: Statistics of TaoVA-100x

Start at: 2018-06-30 15:09:33
End at: 2018-06-30 15:10:03
Local clock offset: 4.492 ms
Remote clock offset: -11.323 ms

# Below is generated by plot.py at 2018-06-30 19:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.20 Mbit/s
95th percentile per-packet one-way delay: 66.425 ms
Loss rate: 10.78%
-- Flow 1:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 52.298 ms
Loss rate: 8.71%
-- Flow 2:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 106.605 ms
Loss rate: 22.29%
-- Flow 3:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 70.718 ms
Loss rate: 8.69%
```

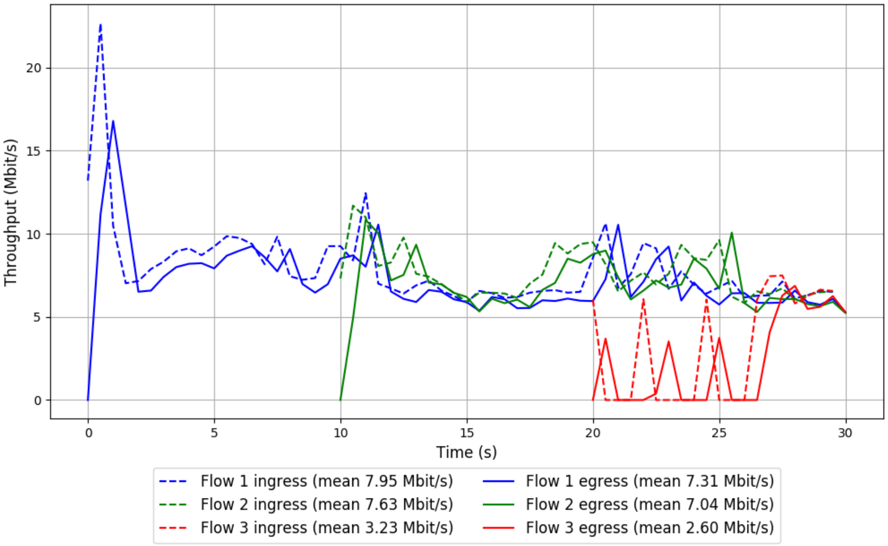
Run 2: Report of TaoVA-100x — Data Link

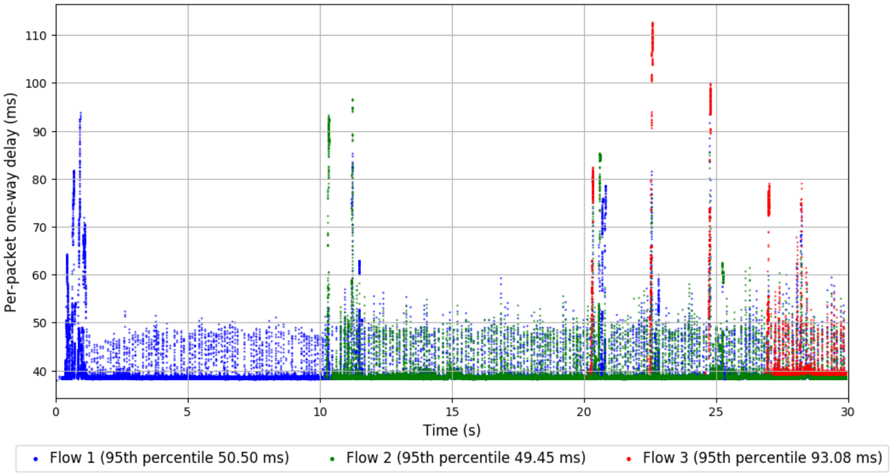




```
Run 3: Statistics of TaoVA-100x

Start at: 2018-06-30 15:44:16
End at: 2018-06-30 15:44:46
Local clock offset: 5.657 ms
Remote clock offset: -9.961 ms

# Below is generated by plot.py at 2018-06-30 19:56:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 54.045 ms
Loss rate: 9.24%
-- Flow 1:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 50.498 ms
Loss rate: 8.37%
-- Flow 2:
Average throughput: 7.04 Mbit/s
95th percentile per-packet one-way delay: 49.450 ms
Loss rate: 8.21%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 93.079 ms
Loss rate: 20.52%
```

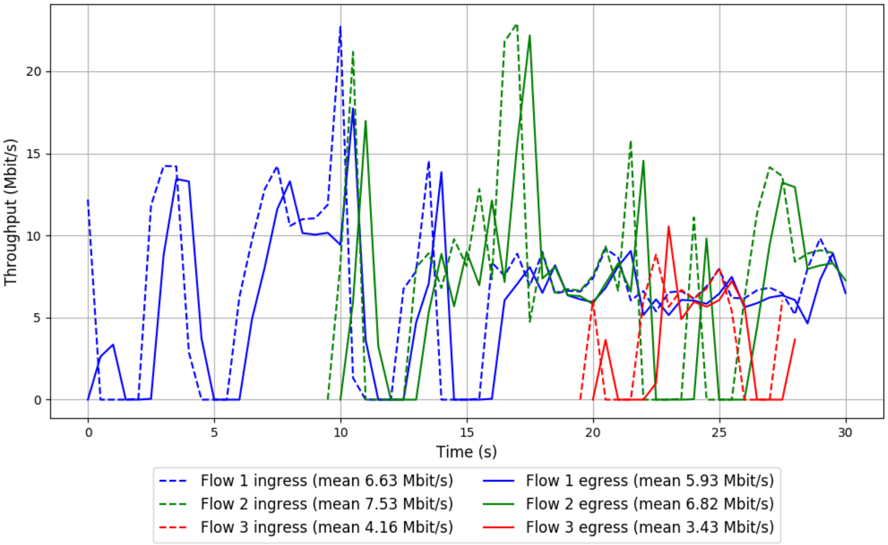
Run 3: Report of TaoVA-100x — Data Link

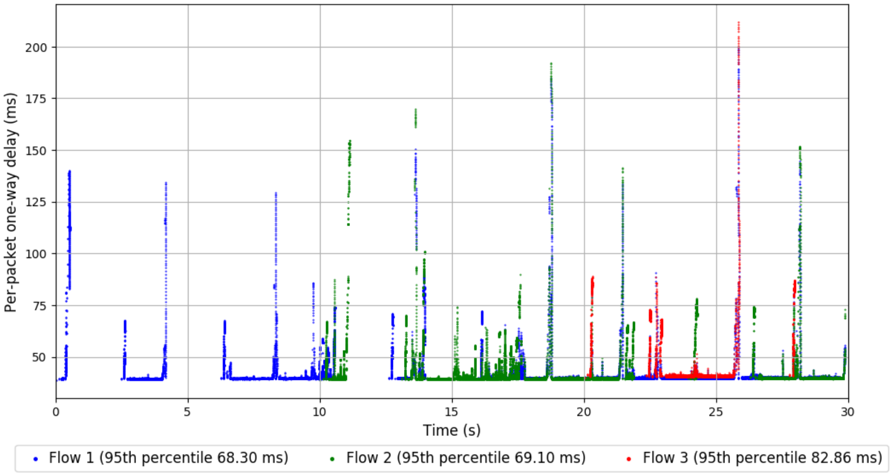




```
Run 4: Statistics of TaoVA-100x

Start at: 2018-06-30 16:18:10
End at: 2018-06-30 16:18:40
Local clock offset: 4.289 ms
Remote clock offset: -9.499 ms

# Below is generated by plot.py at 2018-06-30 19:56:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 70.230 ms
Loss rate: 11.02%
-- Flow 1:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 68.304 ms
Loss rate: 10.93%
-- Flow 2:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 69.100 ms
Loss rate: 9.82%
-- Flow 3:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 82.862 ms
Loss rate: 17.08%
```

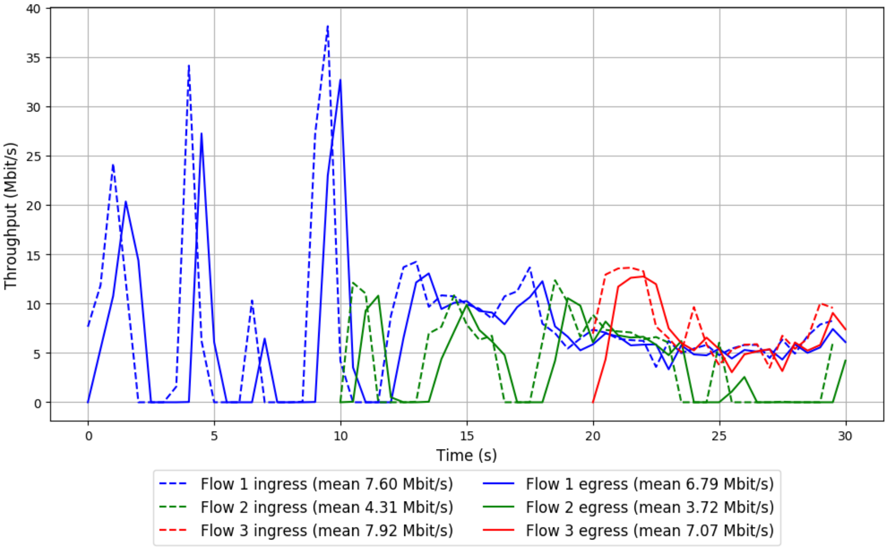
Run 4: Report of TaoVA-100x — Data Link

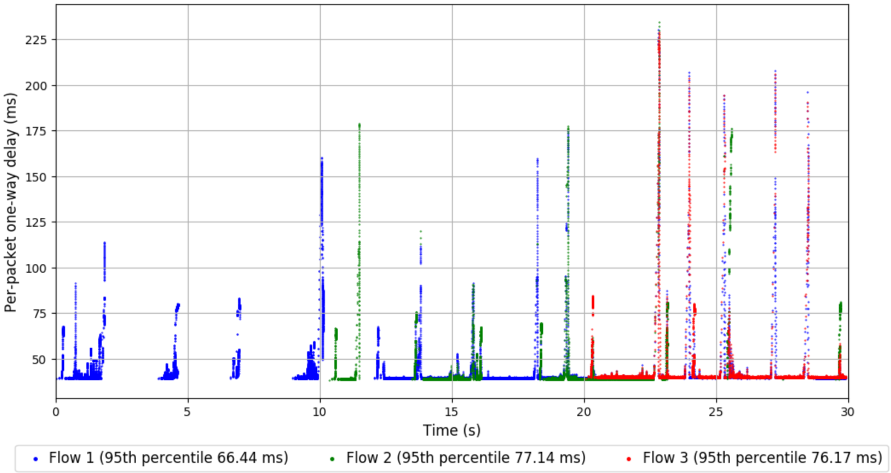




```
Run 5: Statistics of TaoVA-100x

Start at: 2018-06-30 16:50:38
End at: 2018-06-30 16:51:08
Local clock offset: -6.846 ms
Remote clock offset: -10.582 ms

# Below is generated by plot.py at 2018-06-30 19:56:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.52 Mbit/s
95th percentile per-packet one-way delay: 72.942 ms
Loss rate: 11.74%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 66.438 ms
Loss rate: 11.07%
-- Flow 2:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 77.142 ms
Loss rate: 13.64%
-- Flow 3:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 76.165 ms
Loss rate: 11.65%
```

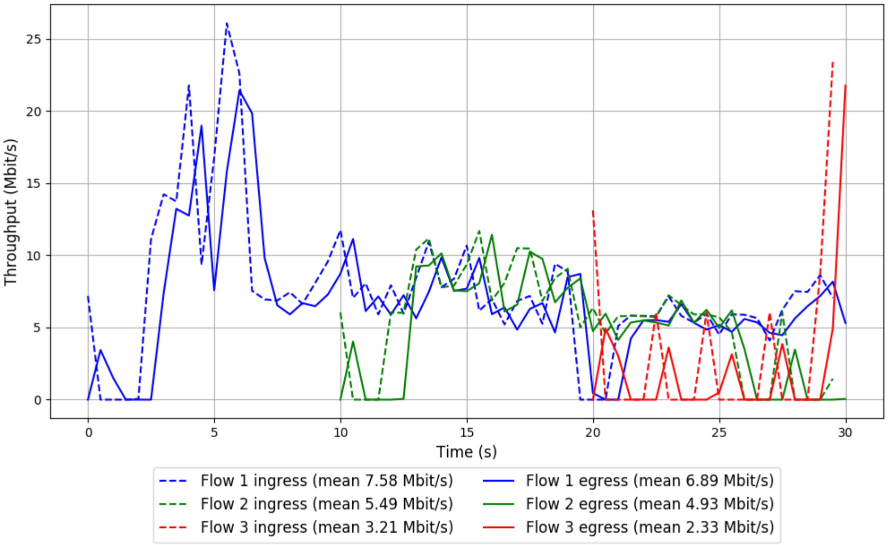
Run 5: Report of TaoVA-100x — Data Link

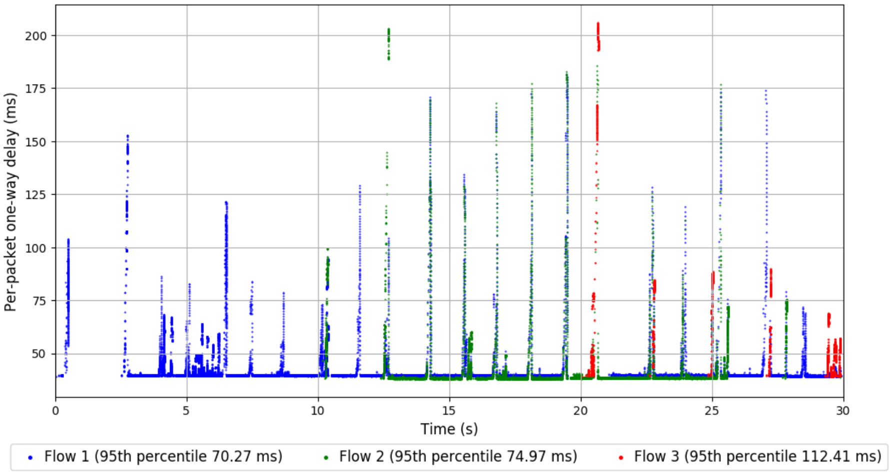




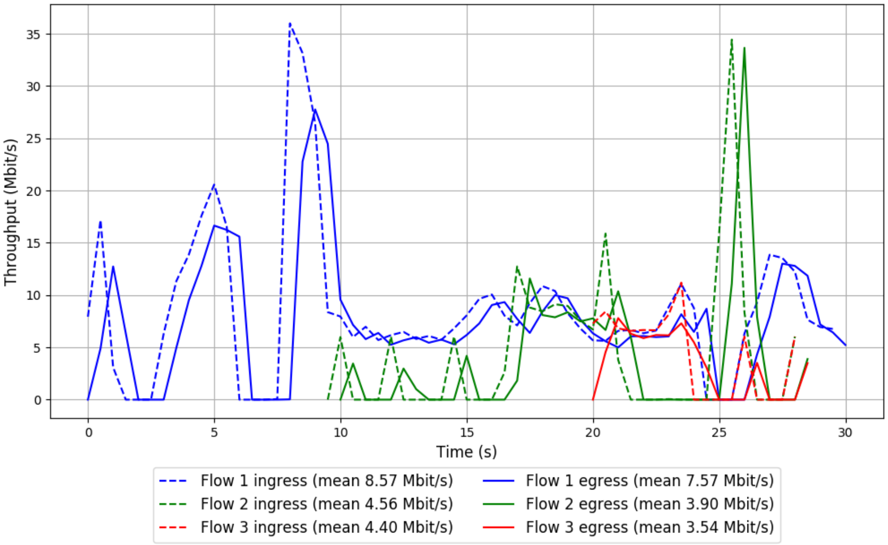
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-06-30 17:23:40
End at: 2018-06-30 17:24:10
Local clock offset: -3.381 ms
Remote clock offset: -8.602 ms

# Below is generated by plot.py at 2018-06-30 19:56:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 78.797 ms
Loss rate: 11.42%
-- Flow 1:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 70.266 ms
Loss rate: 9.48%
-- Flow 2:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 74.975 ms
Loss rate: 10.72%
-- Flow 3:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 112.406 ms
Loss rate: 27.78%
```

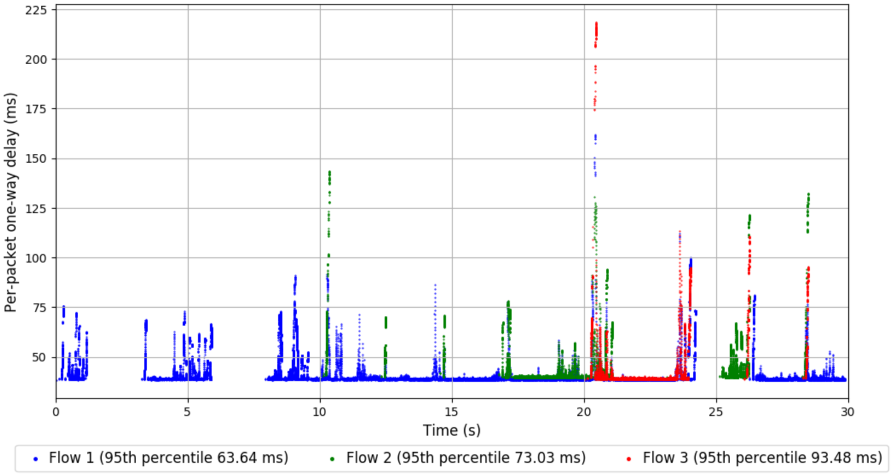
Run 6: Report of TaoVA-100x — Data Link





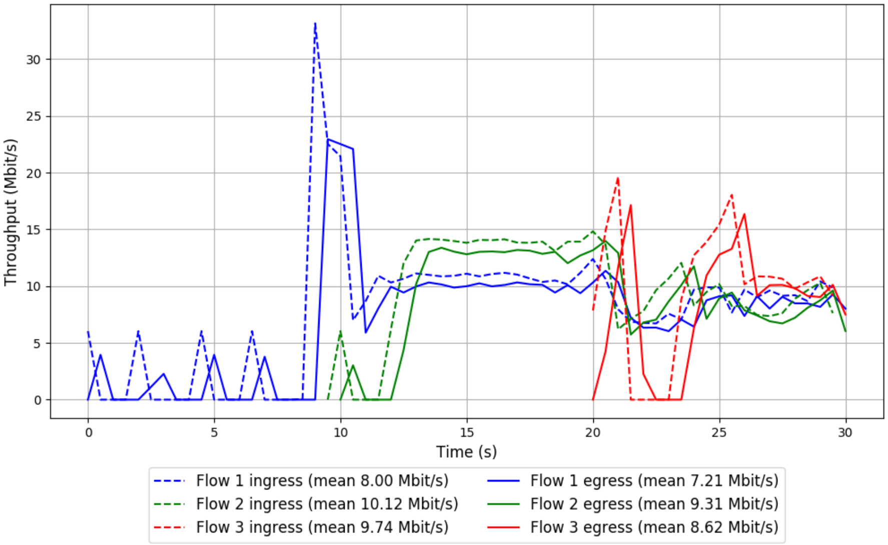
```
Run 7: Statistics of TaoVA-100x

Start at: 2018-06-30 17:57:19
End at: 2018-06-30 17:57:49
Local clock offset: 4.327 ms
Remote clock offset: -7.8 ms

# Below is generated by plot.py at 2018-06-30 19:56:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 68.299 ms
Loss rate: 13.10%
-- Flow 1:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 63.640 ms
Loss rate: 11.97%
-- Flow 2:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 73.035 ms
Loss rate: 13.97%
-- Flow 3:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 93.485 ms
Loss rate: 19.04%
```

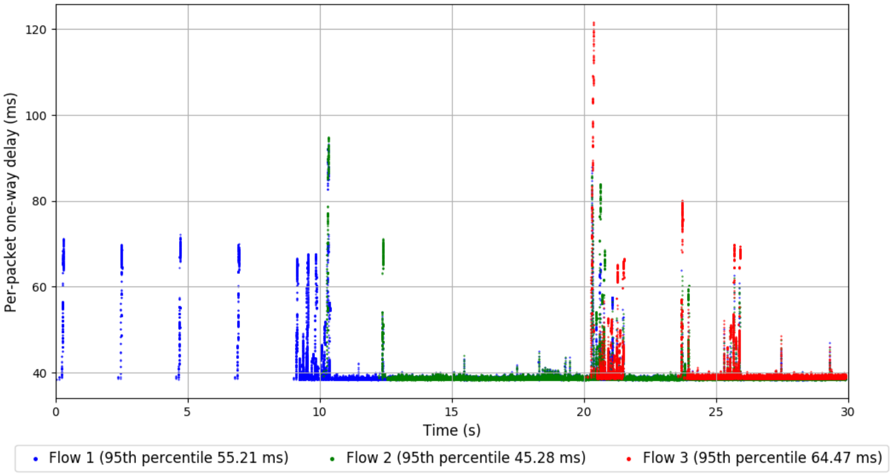

Throughput (Mbit/s)
Time (s)
0
5
10
15
20
25
30
35
Flow 1 ingress (mean 8.57 Mbit/s)
Flow 2 ingress (mean 4.56 Mbit/s)
Flow 3 ingress (mean 4.40 Mbit/s)
Flow 1 egress (mean 7.57 Mbit/s)
Flow 2 egress (mean 3.90 Mbit/s)
Flow 3 egress (mean 3.54 Mbit/s)


Per-packet one-way delay (ms)
Time (s)
50
75
100
125
150
175
200
225
0
5
10
15
20
25
30
Flow 1 (95th percentile 63.64 ms)
Flow 2 (95th percentile 73.03 ms)
Flow 3 (95th percentile 93.48 ms)

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

Start at: 2018-06-30 18:32:03
End at: 2018-06-30 18:32:33
Local clock offset: 5.043 ms
Remote clock offset: -8.718 ms

# Below is generated by plot.py at 2018-06-30 19:56:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.25 Mbit/s
95th percentile per-packet one-way delay: 53.300 ms
Loss rate: 9.97%
-- Flow 1:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 55.209 ms
Loss rate: 10.23%
-- Flow 2:
Average throughput: 9.31 Mbit/s
95th percentile per-packet one-way delay: 45.276 ms
Loss rate: 8.51%
-- Flow 3:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 64.474 ms
Loss rate: 12.38%
```

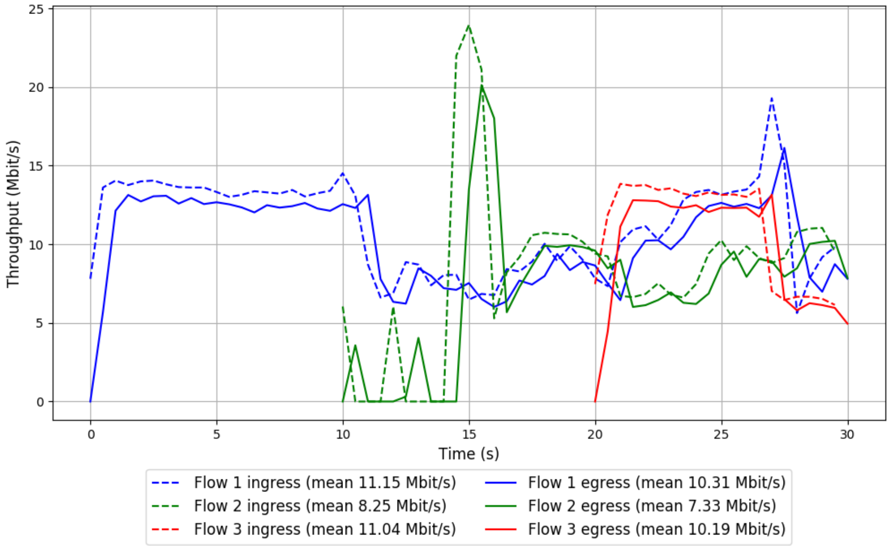
Run 8: Report of TaoVA-100x — Data Link

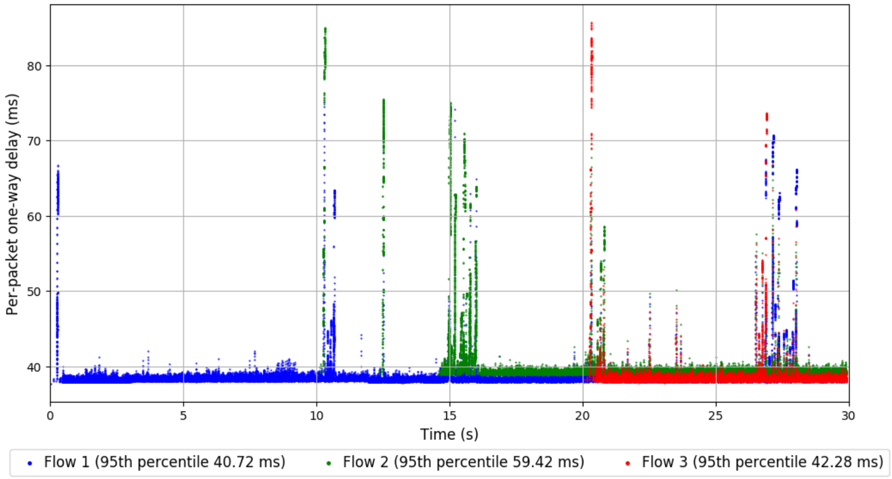




```
Run 9: Statistics of TaoVA-100x

Start at: 2018-06-30 19:04:59
End at: 2018-06-30 19:05:29
Local clock offset: 1.457 ms
Remote clock offset: -8.615 ms

# Below is generated by plot.py at 2018-06-30 19:56:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.54 Mbit/s
95th percentile per-packet one-way delay: 45.290 ms
Loss rate: 9.03%
-- Flow 1:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 40.721 ms
Loss rate: 7.88%
-- Flow 2:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 59.421 ms
Loss rate: 11.64%
-- Flow 3:
Average throughput: 10.19 Mbit/s
95th percentile per-packet one-way delay: 42.279 ms
Loss rate: 8.65%
```

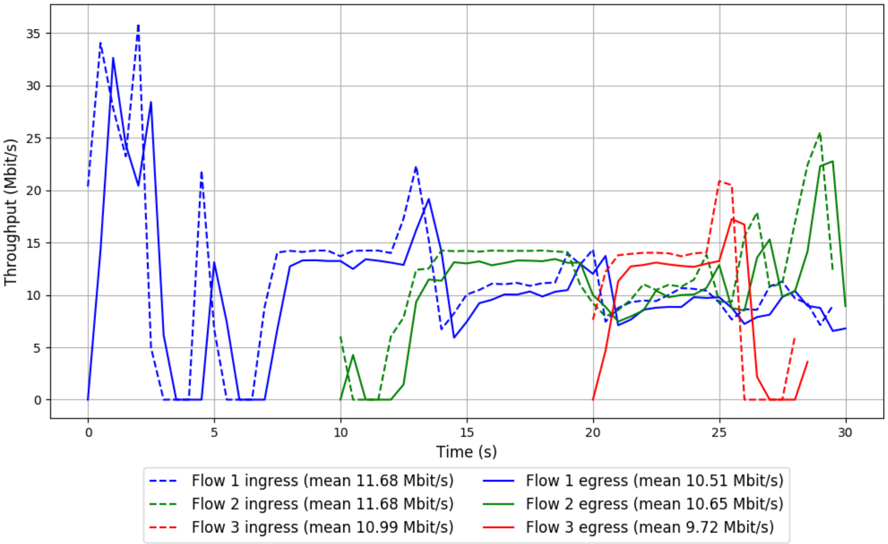
Run 9: Report of TaoVA-100x — Data Link

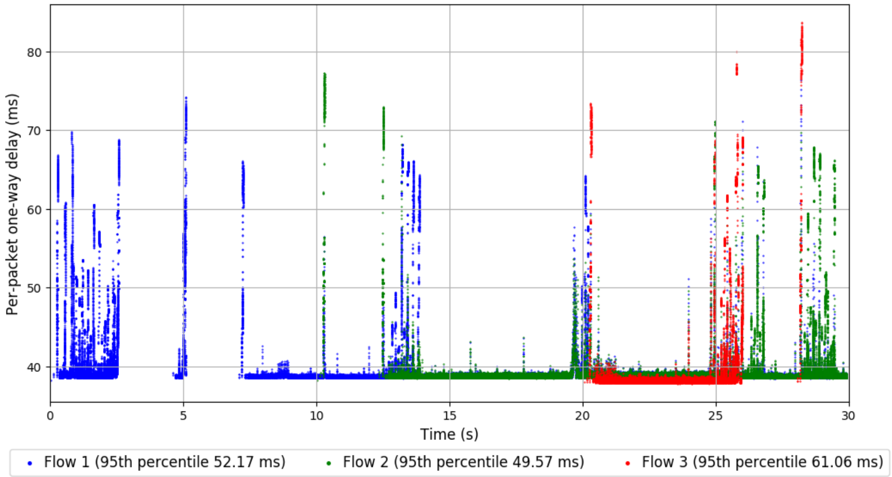




```
Run 10: Statistics of TaoVA-100x

Start at: 2018-06-30 19:40:47
End at: 2018-06-30 19:41:17
Local clock offset: 4.483 ms
Remote clock offset: -8.67 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.25 Mbit/s
95th percentile per-packet one-way delay: 52.260 ms
Loss rate: 10.05%
-- Flow 1:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 52.172 ms
Loss rate: 10.30%
-- Flow 2:
Average throughput: 10.65 Mbit/s
95th percentile per-packet one-way delay: 49.570 ms
Loss rate: 9.29%
-- Flow 3:
Average throughput: 9.72 Mbit/s
95th percentile per-packet one-way delay: 61.064 ms
Loss rate: 11.03%
```

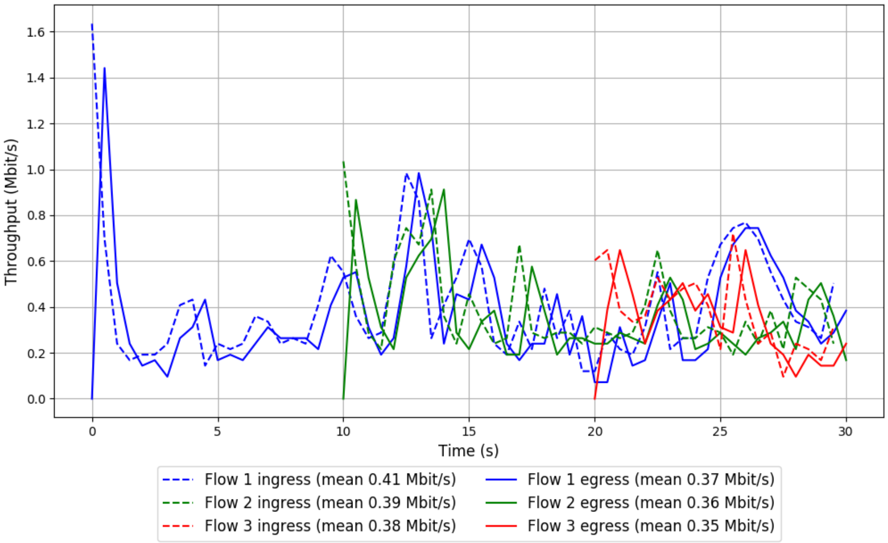
Run 10: Report of TaoVA-100x — Data Link

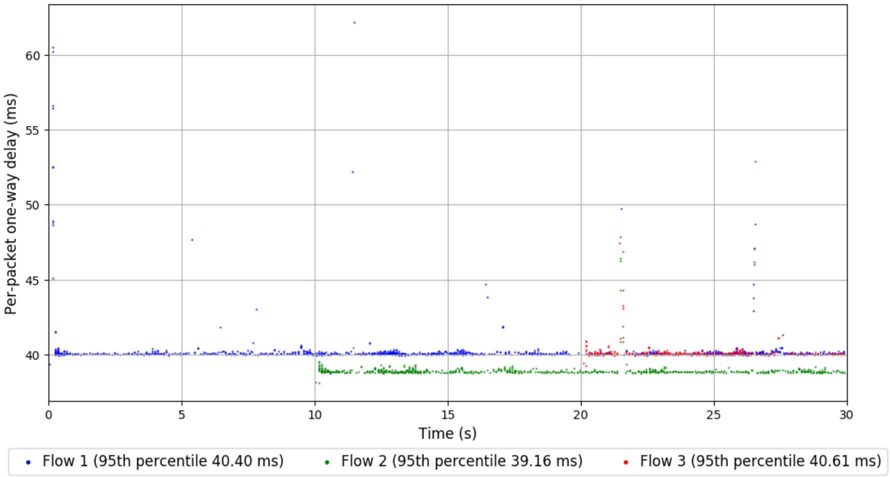




```
Run 1: Statistics of TCP Vegas

Start at: 2018-06-30 14:30:07
End at: 2018-06-30 14:30:37
Local clock offset: -0.696 ms
Remote clock offset: -10.288 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 40.331 ms
Loss rate: 9.31%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 40.400 ms
Loss rate: 9.18%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 39.155 ms
Loss rate: 8.84%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 40.612 ms
Loss rate: 10.72%
```

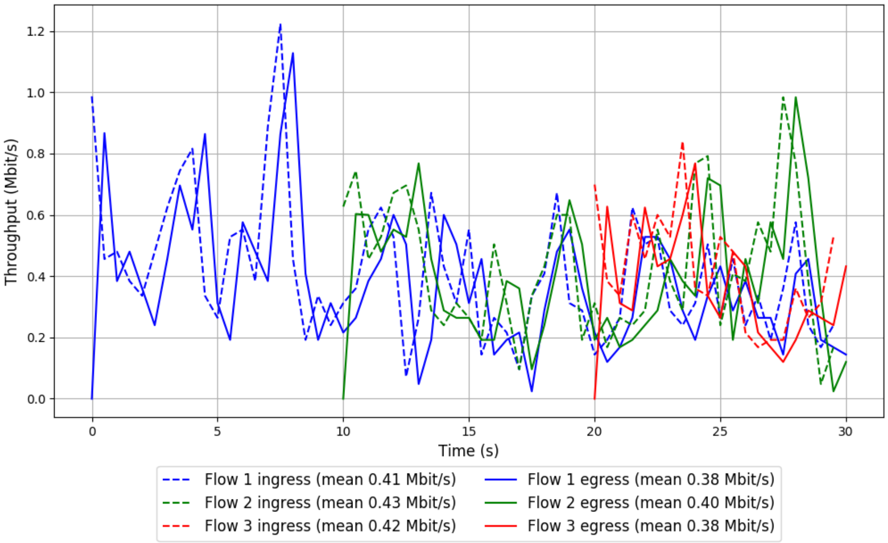
Run 1: Report of TCP Vegas — Data Link

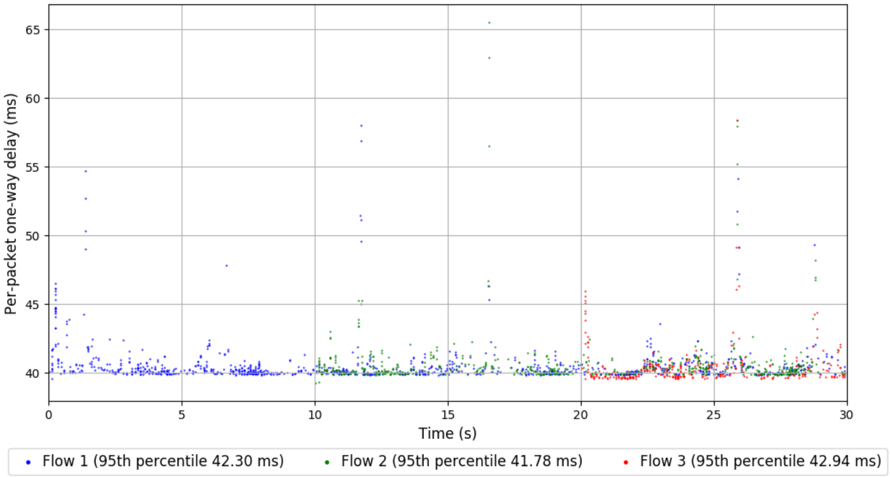




```
Run 2: Statistics of TCP Vegas

Start at: 2018-06-30 15:04:00
End at: 2018-06-30 15:04:30
Local clock offset: 4.021 ms
Remote clock offset: -11.161 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 42.175 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 42.295 ms
Loss rate: 8.13%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 41.778 ms
Loss rate: 6.86%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 42.942 ms
Loss rate: 10.03%
```

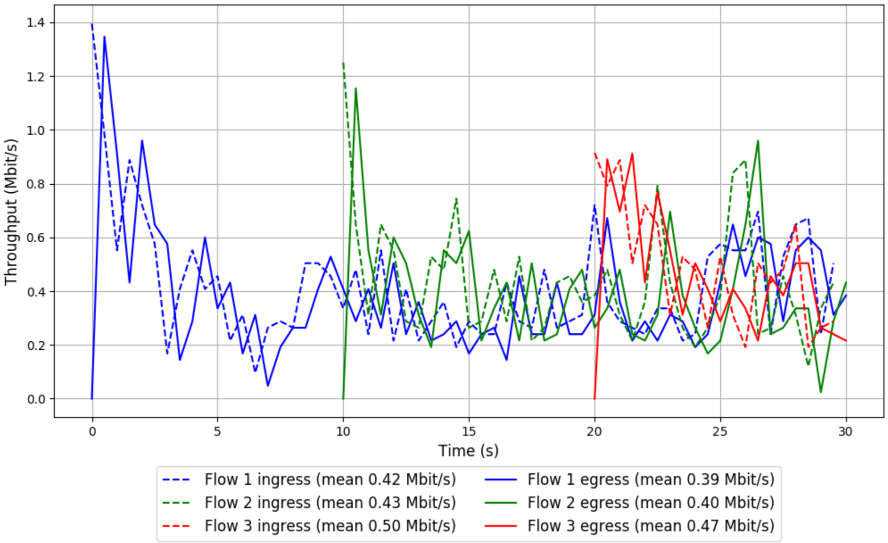
Run 2: Report of TCP Vegas — Data Link

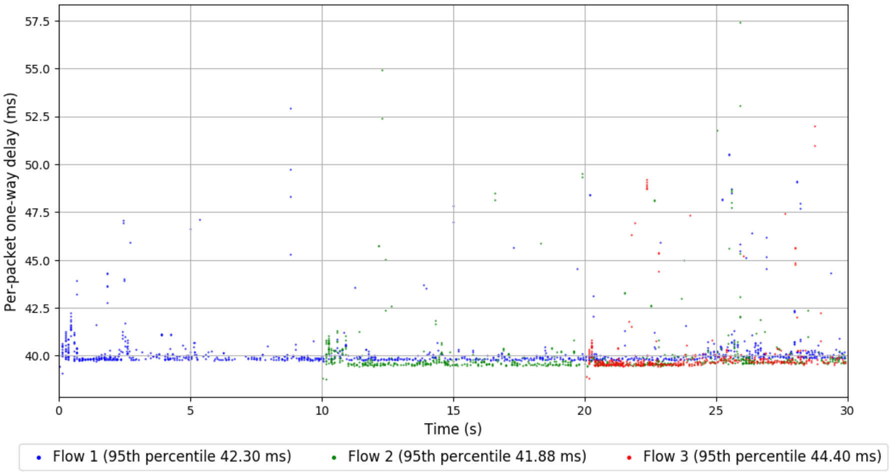




```
Run 3: Statistics of TCP Vegas

Start at: 2018-06-30 15:38:34
End at: 2018-06-30 15:39:04
Local clock offset: 5.365 ms
Remote clock offset: -10.377 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 42.238 ms
Loss rate: 7.44%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 42.305 ms
Loss rate: 7.54%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 41.883 ms
Loss rate: 8.07%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 44.397 ms
Loss rate: 6.07%
```

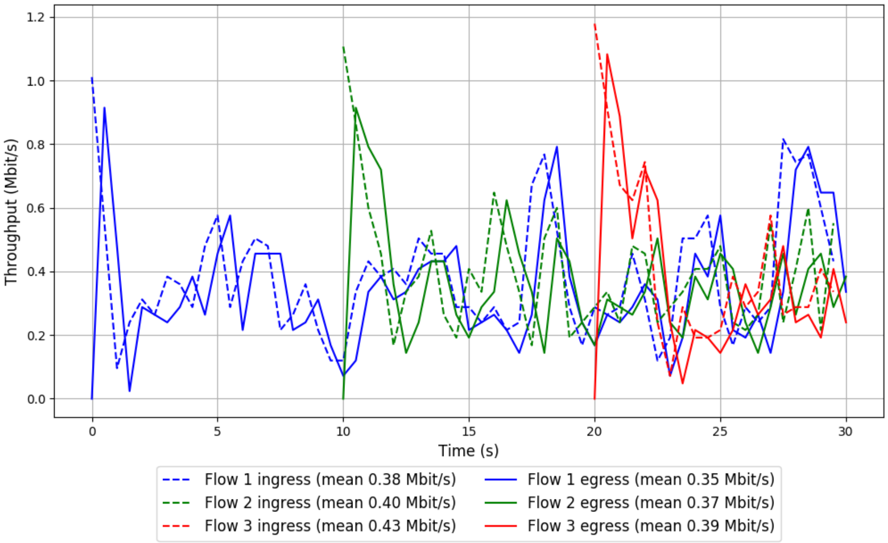
Run 3: Report of TCP Vegas — Data Link

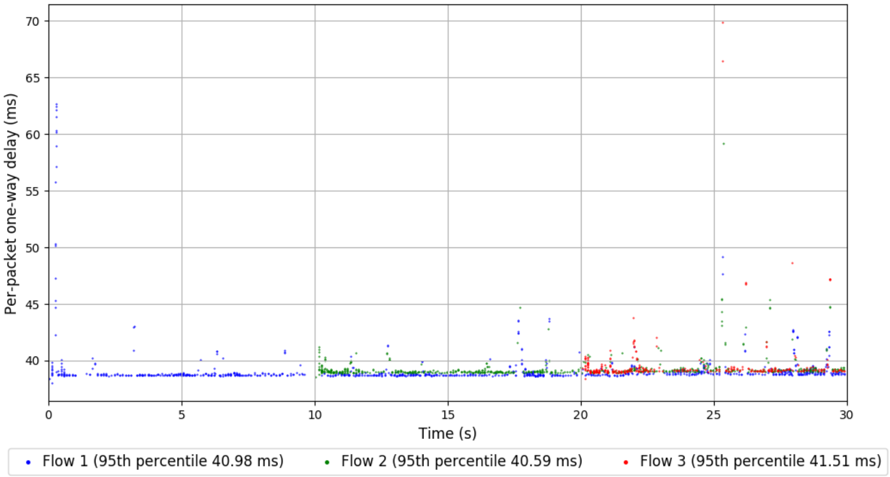




```
Run 4: Statistics of TCP Vegas

Start at: 2018-06-30 16:12:37
End at: 2018-06-30 16:13:07
Local clock offset: 6.959 ms
Remote clock offset: -9.916 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 40.981 ms
Loss rate: 9.03%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 40.981 ms
Loss rate: 8.76%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 40.589 ms
Loss rate: 8.82%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 41.510 ms
Loss rate: 10.17%
```

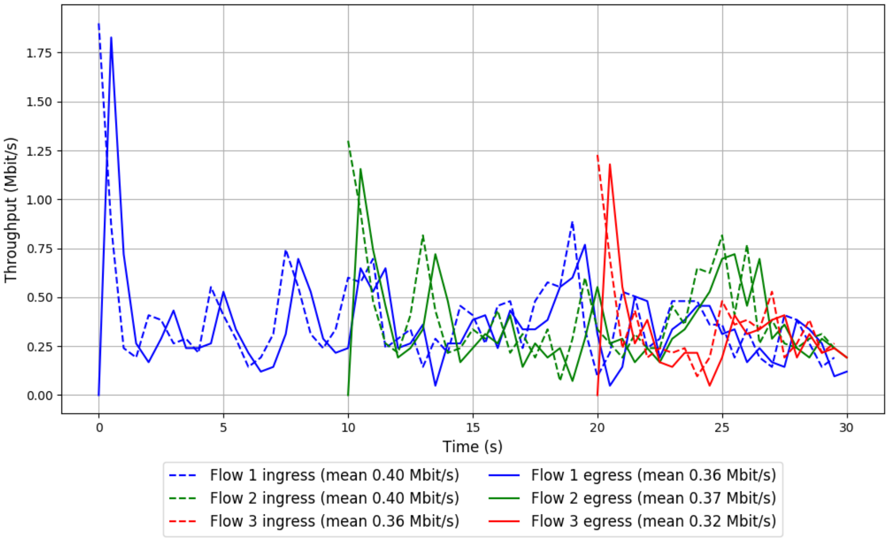
Run 4: Report of TCP Vegas — Data Link

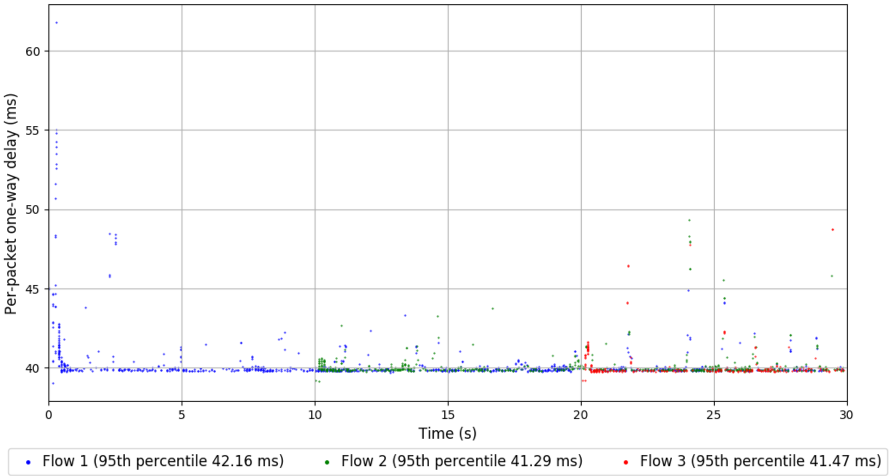




```
Run 5: Statistics of TCP Vegas

Start at: 2018-06-30 16:45:08
End at: 2018-06-30 16:45:38
Local clock offset: -6.303 ms
Remote clock offset: -10.477 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 41.770 ms
Loss rate: 9.17%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 42.165 ms
Loss rate: 8.43%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 41.288 ms
Loss rate: 9.28%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 41.467 ms
Loss rate: 11.37%
```

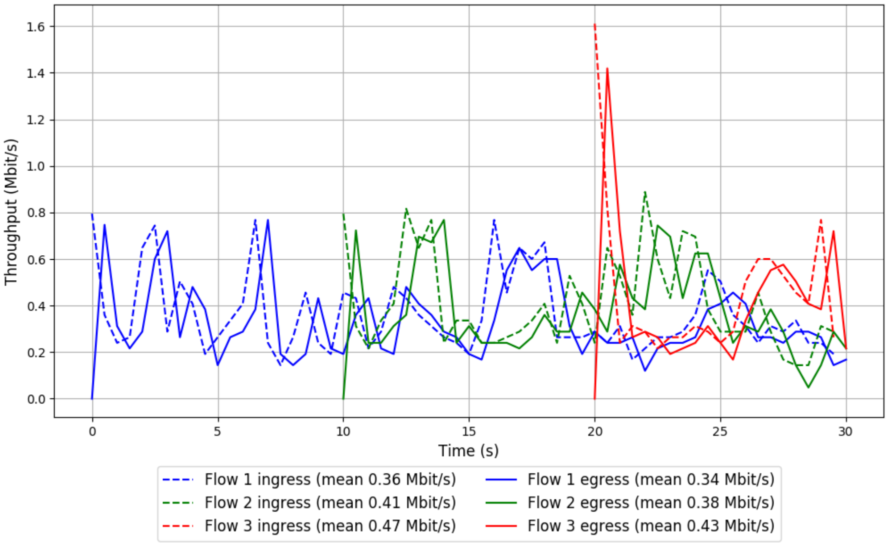
Run 5: Report of TCP Vegas — Data Link

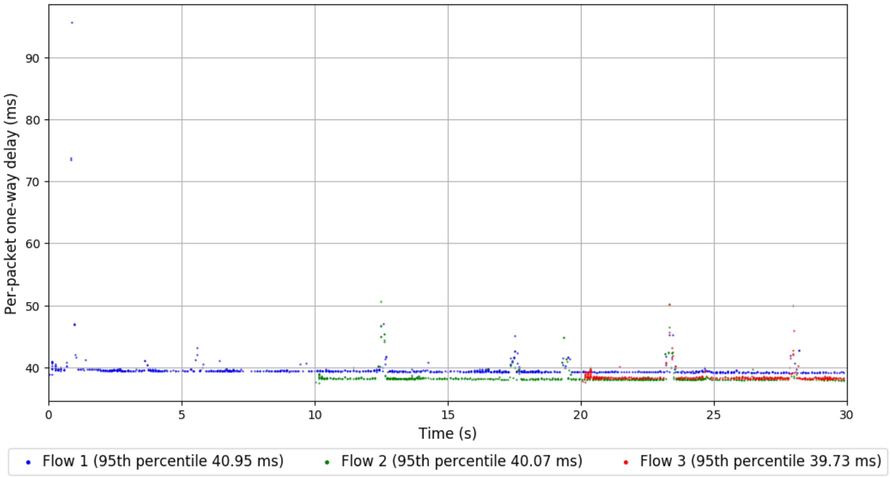




```
Run 6: Statistics of TCP Vegas

Start at: 2018-06-30 17:18:06
End at: 2018-06-30 17:18:36
Local clock offset: -6.634 ms
Remote clock offset: -8.796 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 40.555 ms
Loss rate: 7.62%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 40.950 ms
Loss rate: 7.42%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 40.066 ms
Loss rate: 7.35%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 39.730 ms
Loss rate: 8.55%
```

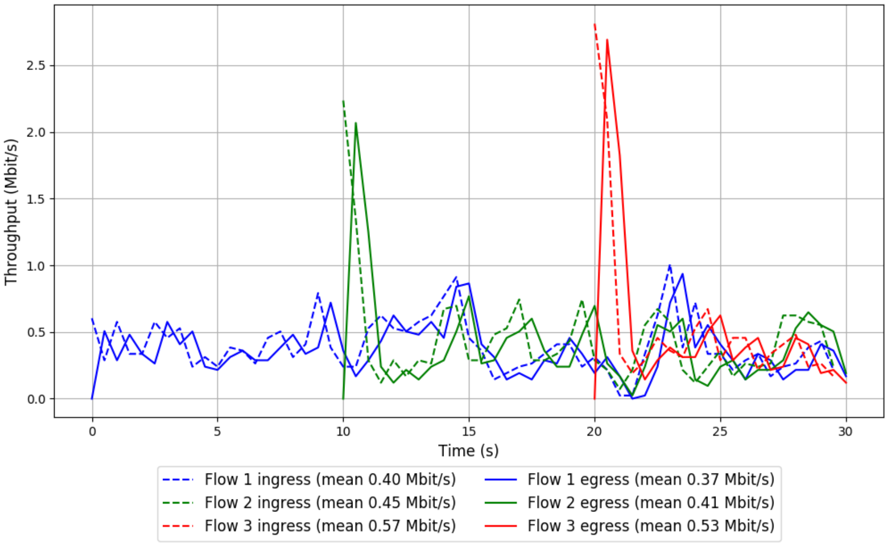
Run 6: Report of TCP Vegas — Data Link

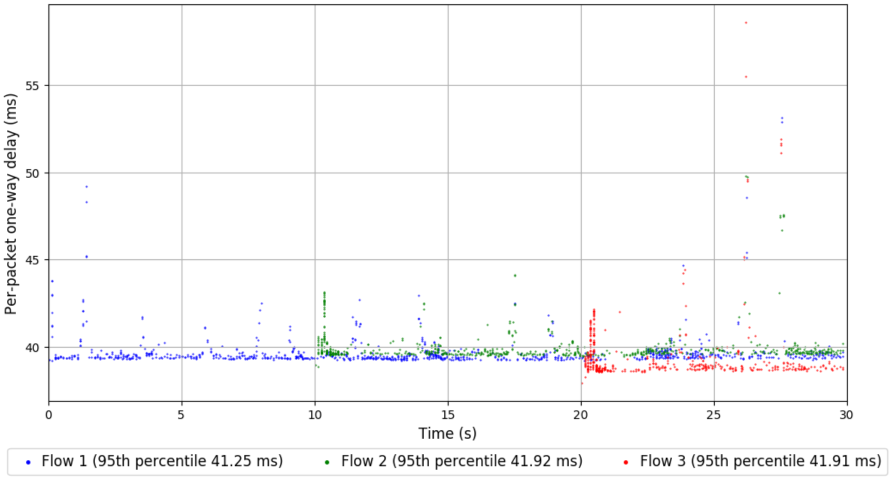




```
Run 7: Statistics of TCP Vegas

Start at: 2018-06-30 17:51:38
End at: 2018-06-30 17:52:08
Local clock offset: 3.047 ms
Remote clock offset: -7.568 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 41.494 ms
Loss rate: 7.97%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 41.253 ms
Loss rate: 7.56%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 41.916 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 41.915 ms
Loss rate: 8.24%
```

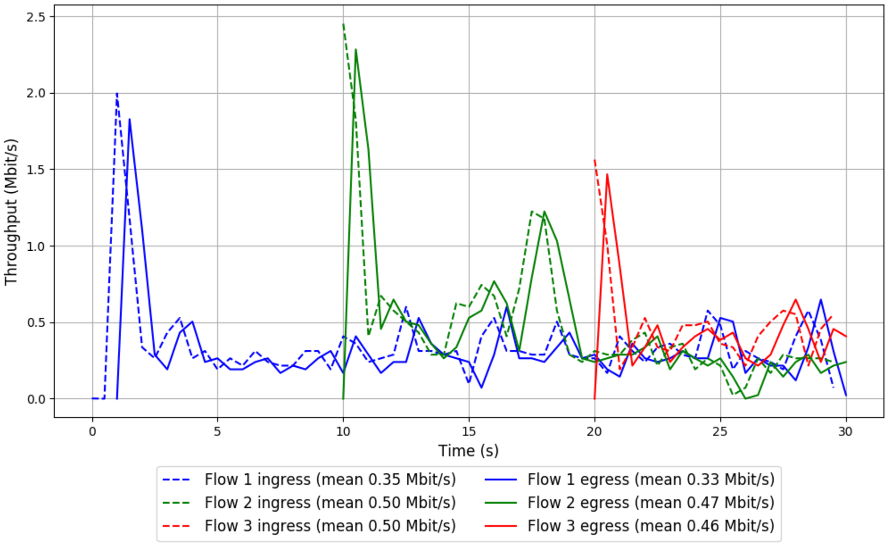
Run 7: Report of TCP Vegas — Data Link

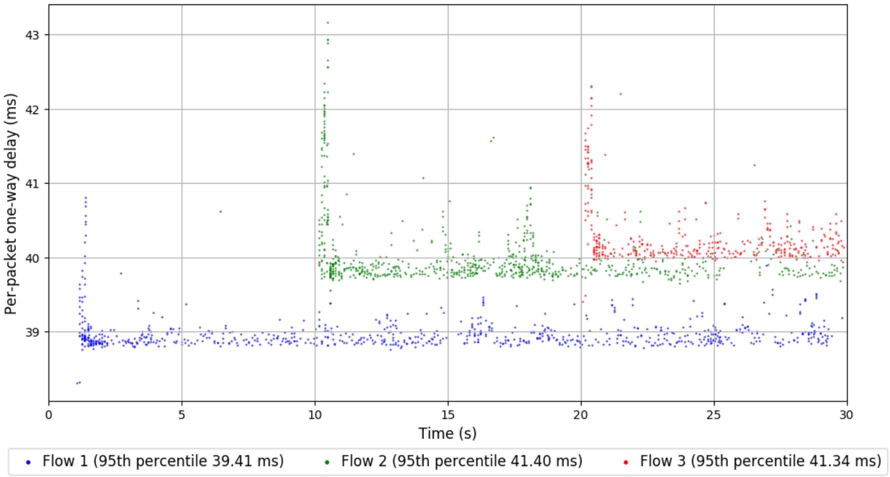




```
Run 8: Statistics of TCP Vegas

Start at: 2018-06-30 18:26:27
End at: 2018-06-30 18:26:57
Local clock offset: 5.267 ms
Remote clock offset: -8.61 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 40.802 ms
Loss rate: 8.31%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 39.405 ms
Loss rate: 9.71%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 41.402 ms
Loss rate: 6.77%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 41.338 ms
Loss rate: 8.47%
```

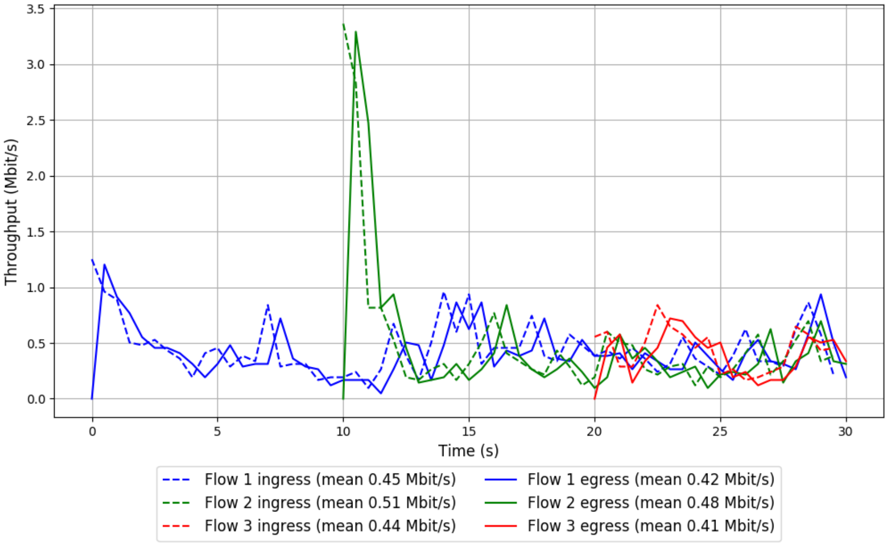
Run 8: Report of TCP Vegas — Data Link

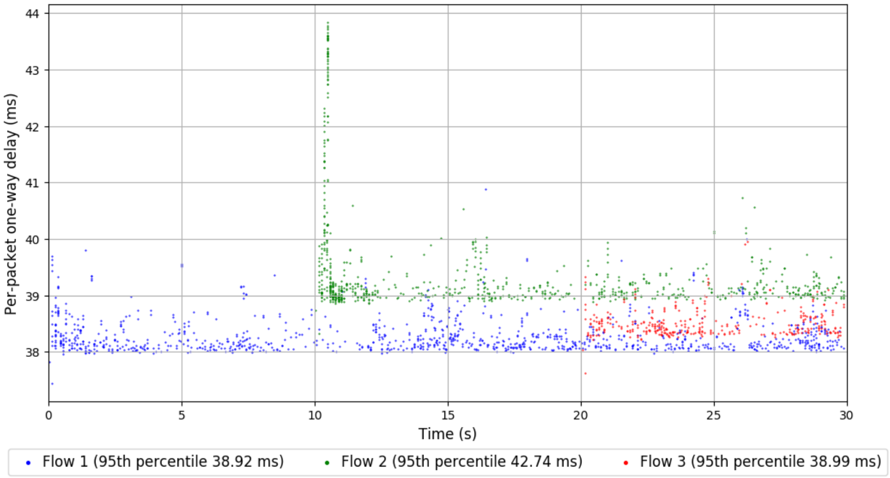




```
Run 9: Statistics of TCP Vegas

Start at: 2018-06-30 18:59:13
End at: 2018-06-30 18:59:43
Local clock offset: 1.984 ms
Remote clock offset: -8.506 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 39.913 ms
Loss rate: 7.44%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 38.925 ms
Loss rate: 7.11%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 42.740 ms
Loss rate: 7.21%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 38.995 ms
Loss rate: 9.01%
```

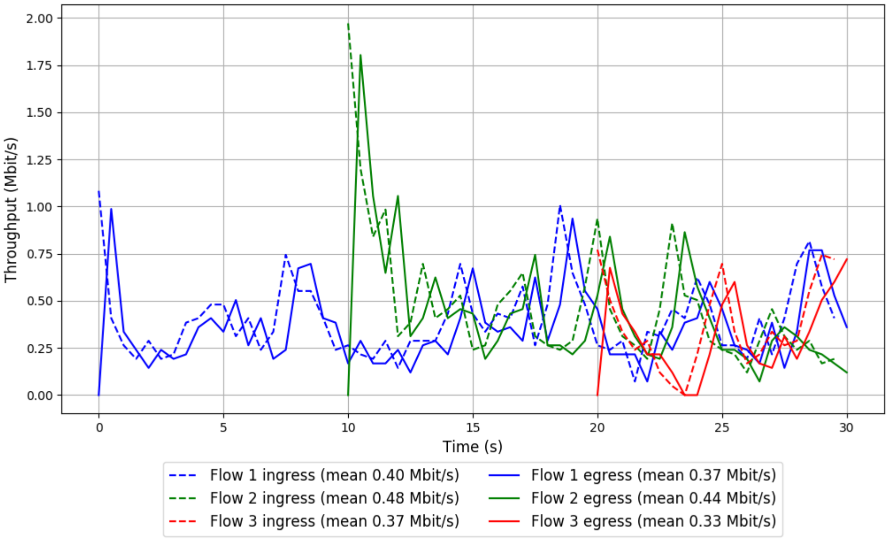
Run 9: Report of TCP Vegas — Data Link

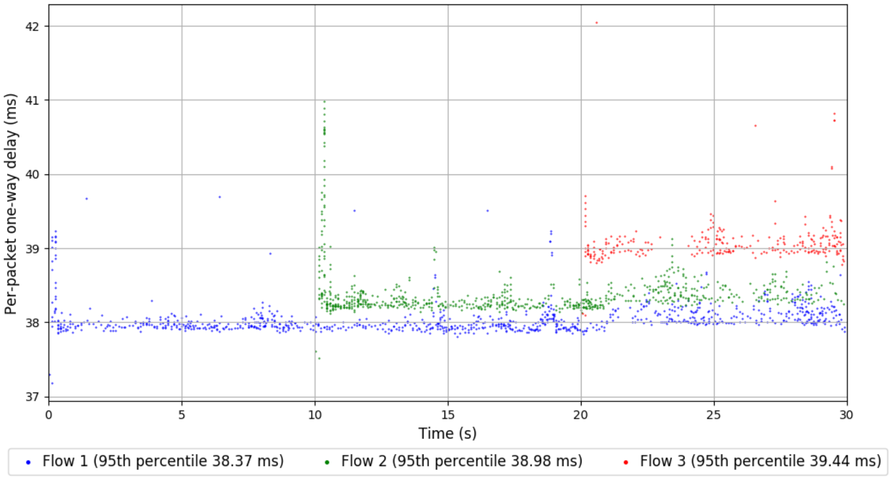




```
Run 10: Statistics of TCP Vegas

Start at: 2018-06-30 19:34:58
End at: 2018-06-30 19:35:28
Local clock offset: 4.113 ms
Remote clock offset: -8.639 ms

# Below is generated by plot.py at 2018-06-30 19:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 39.155 ms
Loss rate: 8.52%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 38.371 ms
Loss rate: 8.47%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 38.980 ms
Loss rate: 7.70%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 39.436 ms
Loss rate: 10.82%
```

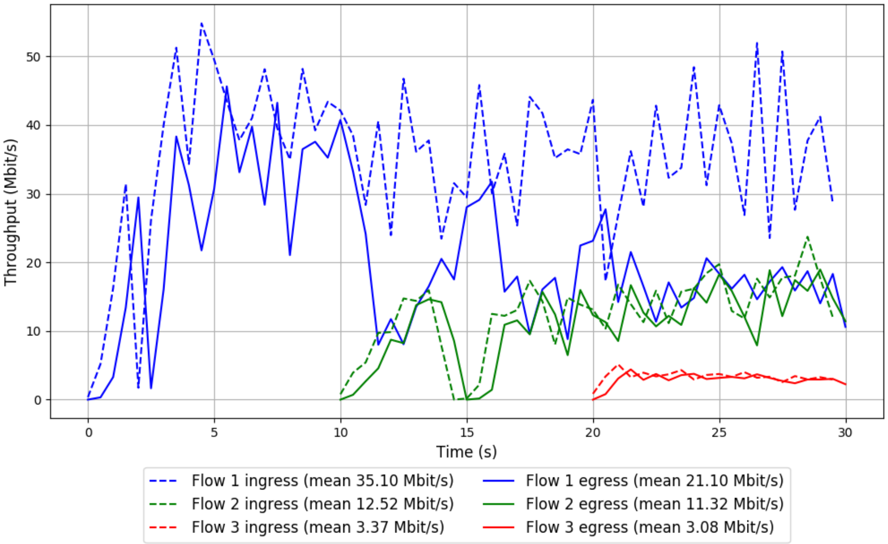
Run 10: Report of TCP Vegas — Data Link

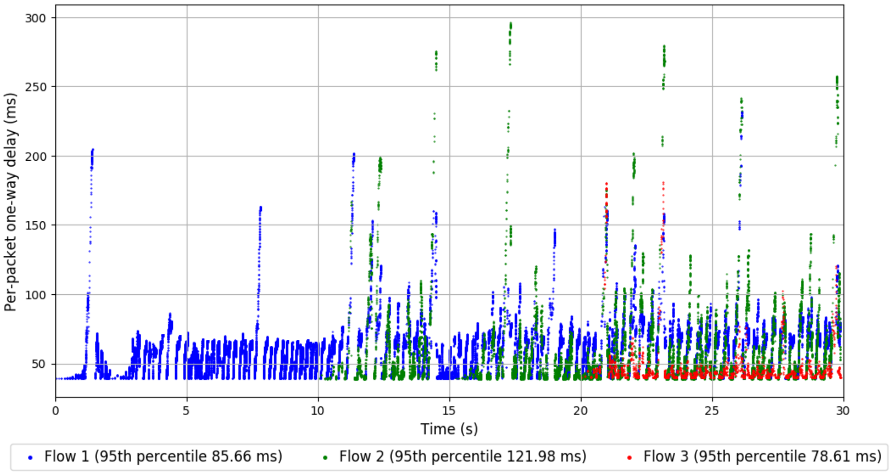




```
Run 1: Statistics of Verus

Start at: 2018-06-30 14:40:43
End at: 2018-06-30 14:41:13
Local clock offset: -1.141 ms
Remote clock offset: -10.636 ms

# Below is generated by plot.py at 2018-06-30 19:56:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.62 Mbit/s
95th percentile per-packet one-way delay: 94.222 ms
Loss rate: 33.77%
-- Flow 1:
Average throughput: 21.10 Mbit/s
95th percentile per-packet one-way delay: 85.659 ms
Loss rate: 40.16%
-- Flow 2:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 121.978 ms
Loss rate: 10.15%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 78.612 ms
Loss rate: 9.58%
```

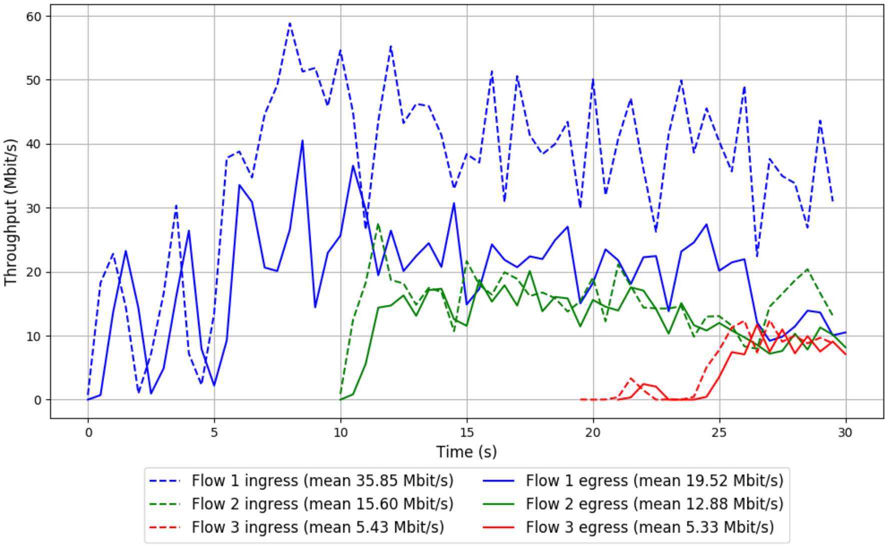
Run 1: Report of Verus — Data Link

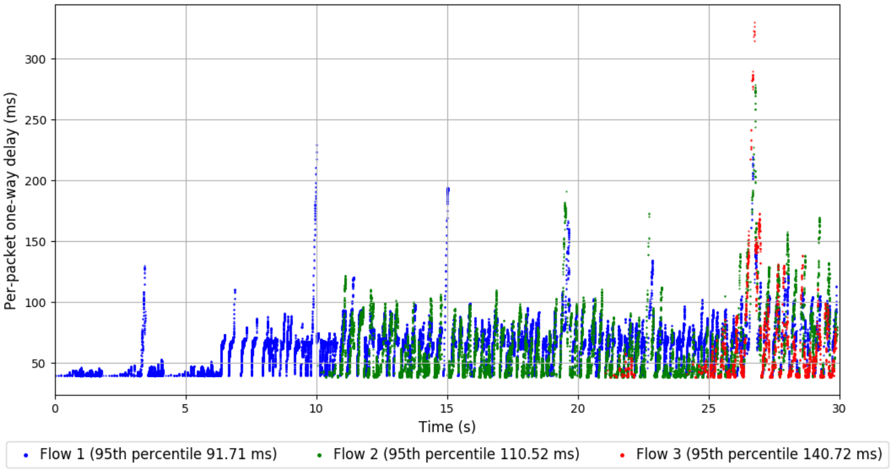




```
Run 2: Statistics of Verus

Start at: 2018-06-30 15:14:29
End at: 2018-06-30 15:14:59
Local clock offset: 4.8 ms
Remote clock offset: -11.405 ms

# Below is generated by plot.py at 2018-06-30 19:56:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.65 Mbit/s
95th percentile per-packet one-way delay: 97.733 ms
Loss rate: 38.37%
-- Flow 1:
Average throughput: 19.52 Mbit/s
95th percentile per-packet one-way delay: 91.714 ms
Loss rate: 45.69%
-- Flow 2:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 110.517 ms
Loss rate: 17.48%
-- Flow 3:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 140.722 ms
Loss rate: 12.78%
```

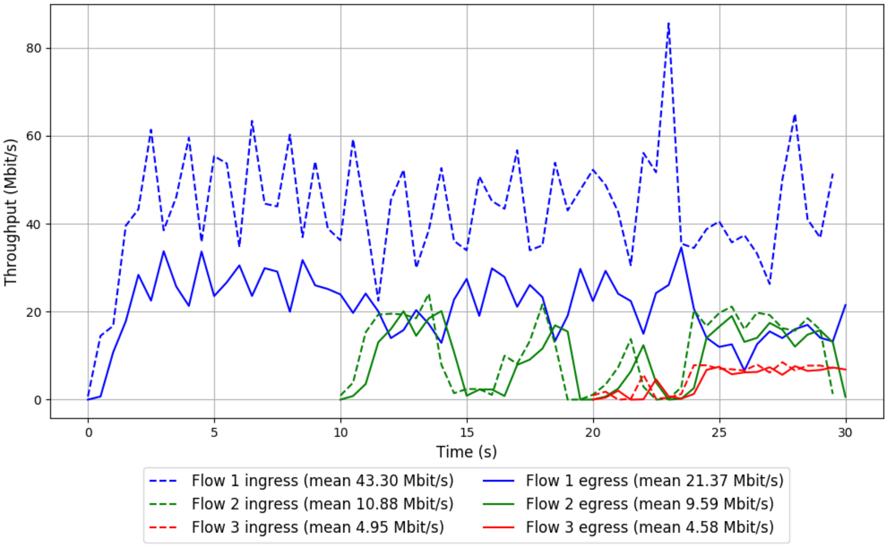
Run 2: Report of Verus — Data Link

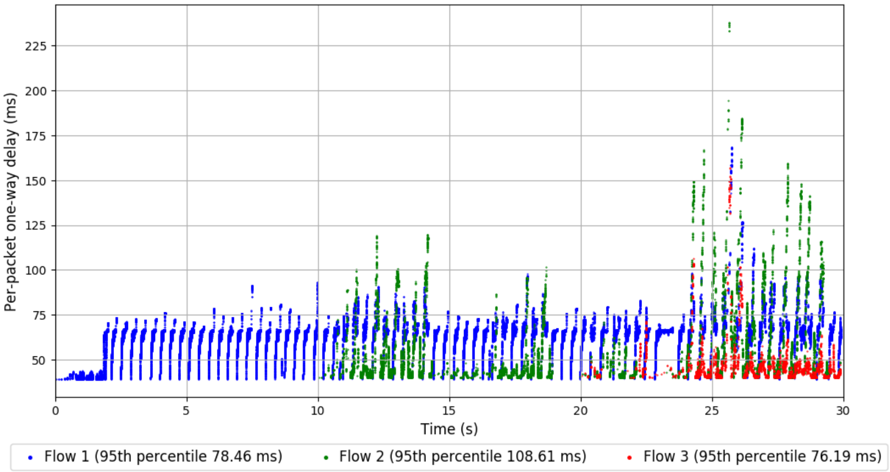




```
Run 3: Statistics of Verus

Start at: 2018-06-30 15:49:20
End at: 2018-06-30 15:49:50
Local clock offset: 6.124 ms
Remote clock offset: -10.357 ms

# Below is generated by plot.py at 2018-06-30 19:56:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.24 Mbit/s
95th percentile per-packet one-way delay: 85.219 ms
Loss rate: 44.14%
-- Flow 1:
Average throughput: 21.37 Mbit/s
95th percentile per-packet one-way delay: 78.458 ms
Loss rate: 50.79%
-- Flow 2:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 108.614 ms
Loss rate: 12.49%
-- Flow 3:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 76.186 ms
Loss rate: 8.77%
```

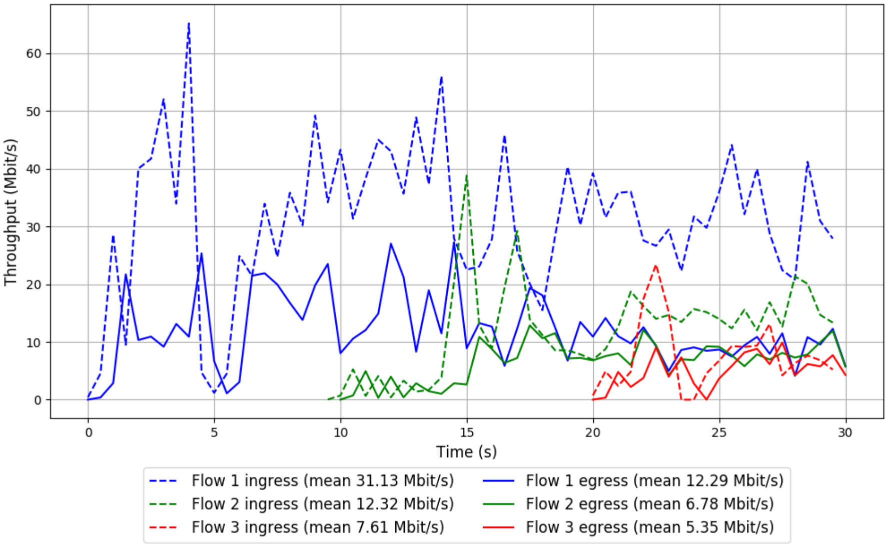
Run 3: Report of Verus — Data Link

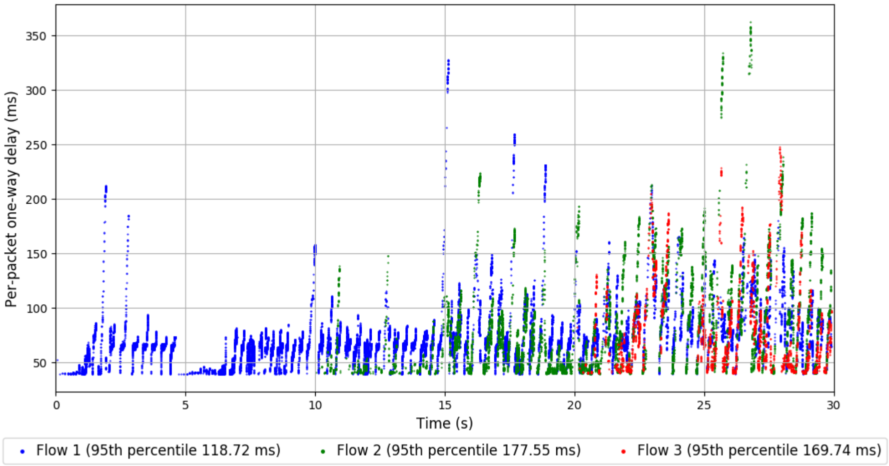




```
Run 4: Statistics of Verus

Start at: 2018-06-30 16:23:05
End at: 2018-06-30 16:23:35
Local clock offset: 0.329 ms
Remote clock offset: -9.896 ms

# Below is generated by plot.py at 2018-06-30 19:56:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.55 Mbit/s
95th percentile per-packet one-way delay: 149.954 ms
Loss rate: 55.78%
-- Flow 1:
Average throughput: 12.29 Mbit/s
95th percentile per-packet one-way delay: 118.718 ms
Loss rate: 60.63%
-- Flow 2:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 177.547 ms
Loss rate: 45.09%
-- Flow 3:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 169.742 ms
Loss rate: 30.68%
```

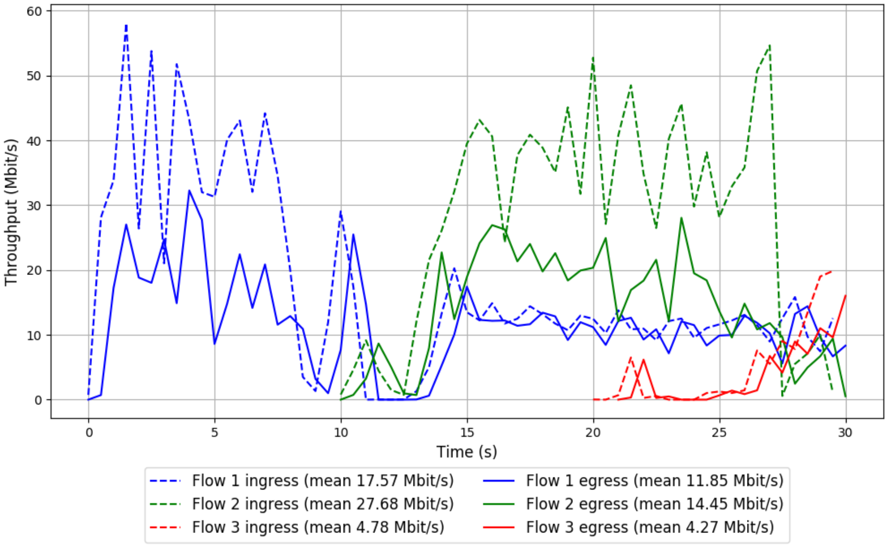
Run 4: Report of Verus — Data Link

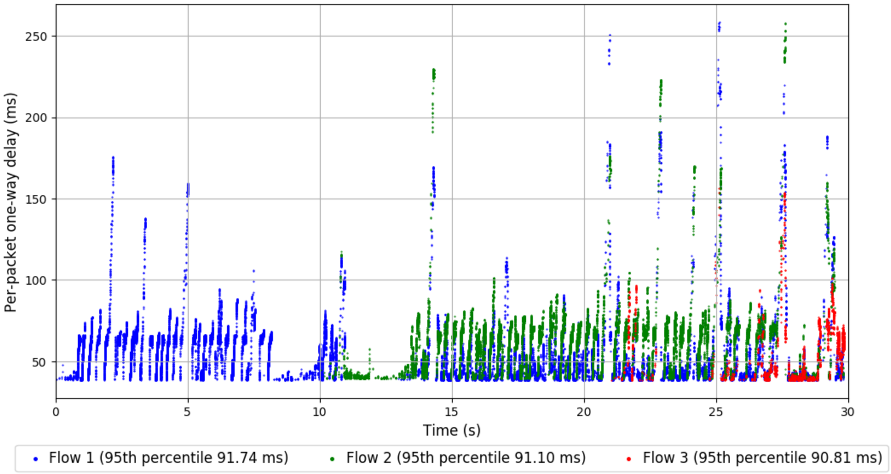




```
Run 5: Statistics of Verus

Start at: 2018-06-30 16:55:36
End at: 2018-06-30 16:56:06
Local clock offset: -7.116 ms
Remote clock offset: -10.315 ms

# Below is generated by plot.py at 2018-06-30 19:56:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.69 Mbit/s
95th percentile per-packet one-way delay: 91.320 ms
Loss rate: 39.84%
-- Flow 1:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 91.743 ms
Loss rate: 32.92%
-- Flow 2:
Average throughput: 14.45 Mbit/s
95th percentile per-packet one-way delay: 91.096 ms
Loss rate: 48.09%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 90.812 ms
Loss rate: 20.86%
```

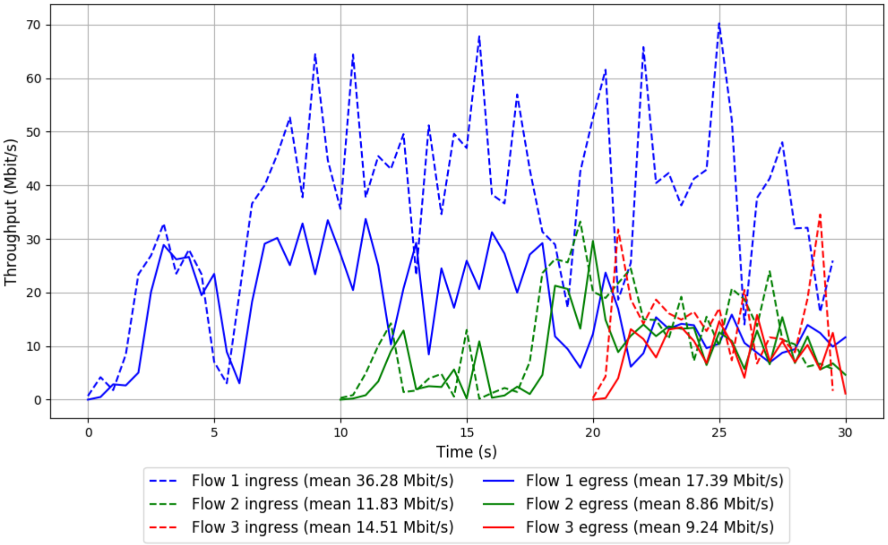
Run 5: Report of Verus — Data Link

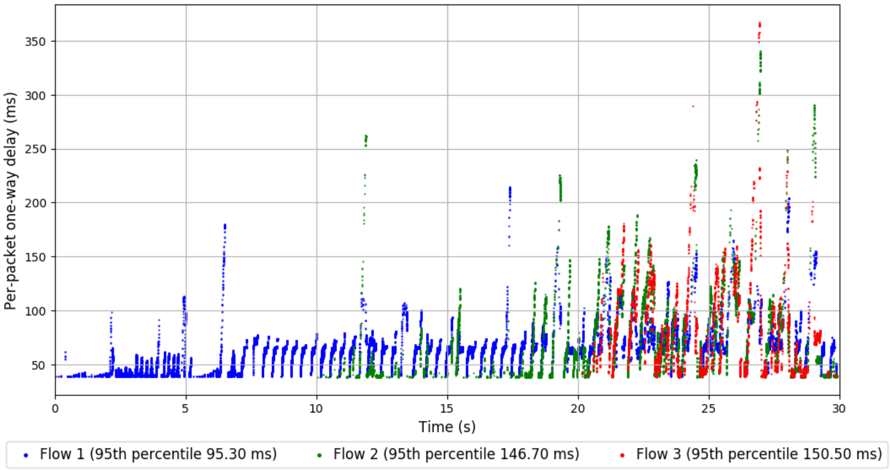




```
Run 6: Statistics of Verus

Start at: 2018-06-30 17:28:32
End at: 2018-06-30 17:29:02
Local clock offset: -1.713 ms
Remote clock offset: -8.115 ms

# Below is generated by plot.py at 2018-06-30 19:56:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.29 Mbit/s
95th percentile per-packet one-way delay: 120.207 ms
Loss rate: 46.30%
-- Flow 1:
Average throughput: 17.39 Mbit/s
95th percentile per-packet one-way delay: 95.295 ms
Loss rate: 52.08%
-- Flow 2:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 146.696 ms
Loss rate: 25.47%
-- Flow 3:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 150.496 ms
Loss rate: 37.01%
```

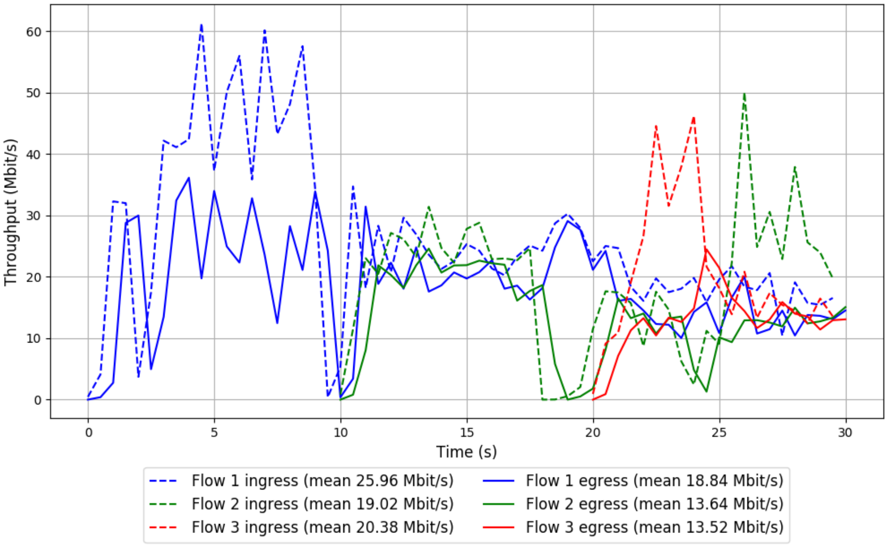
Run 6: Report of Verus — Data Link

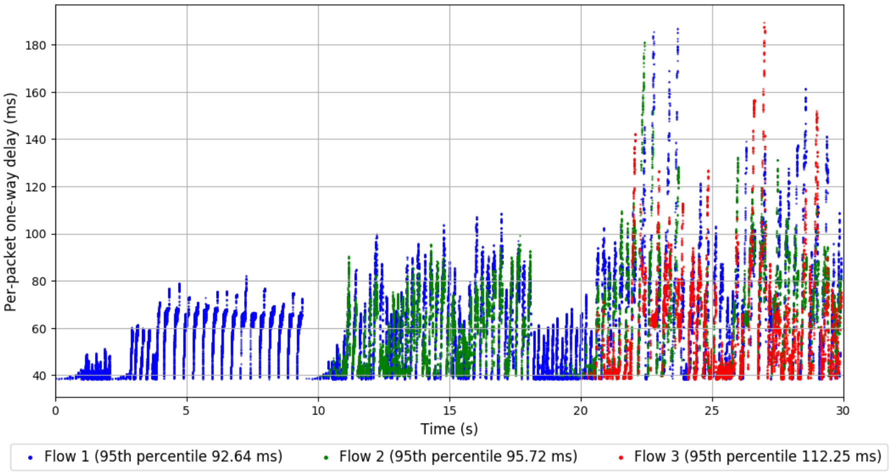




```
Run 7: Statistics of Verus

Start at: 2018-06-30 18:02:21
End at: 2018-06-30 18:02:51
Local clock offset: 4.989 ms
Remote clock offset: -7.694 ms

# Below is generated by plot.py at 2018-06-30 19:57:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 95.790 ms
Loss rate: 28.76%
-- Flow 1:
Average throughput: 18.84 Mbit/s
95th percentile per-packet one-way delay: 92.638 ms
Loss rate: 27.66%
-- Flow 2:
Average throughput: 13.64 Mbit/s
95th percentile per-packet one-way delay: 95.724 ms
Loss rate: 28.13%
-- Flow 3:
Average throughput: 13.52 Mbit/s
95th percentile per-packet one-way delay: 112.249 ms
Loss rate: 34.15%
```

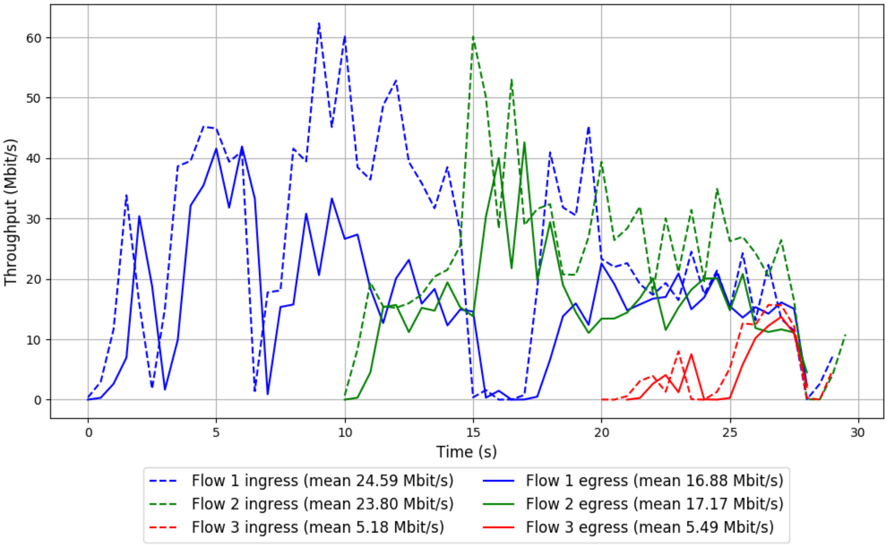
Run 7: Report of Verus — Data Link

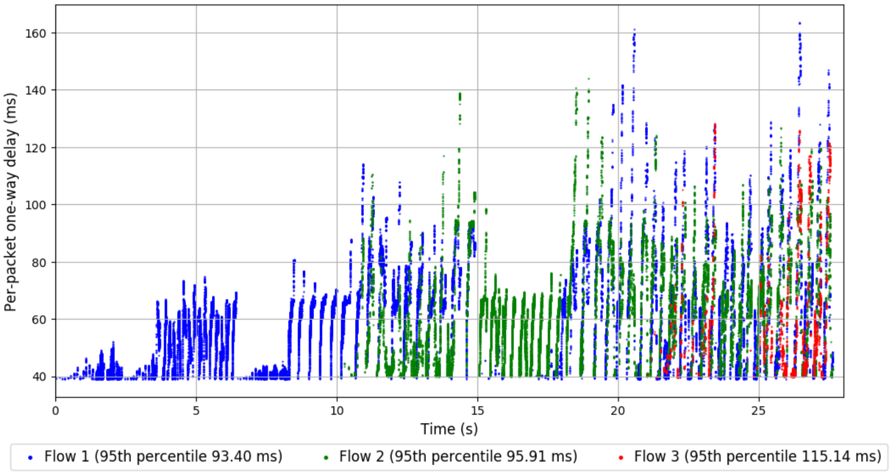




```
Run 8: Statistics of Verus

Start at: 2018-06-30 18:37:21
End at: 2018-06-30 18:37:51
Local clock offset: 5.225 ms
Remote clock offset: -8.774 ms

# Below is generated by plot.py at 2018-06-30 19:57:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 96.288 ms
Loss rate: 35.67%
-- Flow 1:
Average throughput: 16.88 Mbit/s
95th percentile per-packet one-way delay: 93.404 ms
Loss rate: 35.75%
-- Flow 2:
Average throughput: 17.17 Mbit/s
95th percentile per-packet one-way delay: 95.913 ms
Loss rate: 36.46%
-- Flow 3:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 115.137 ms
Loss rate: 26.82%
```

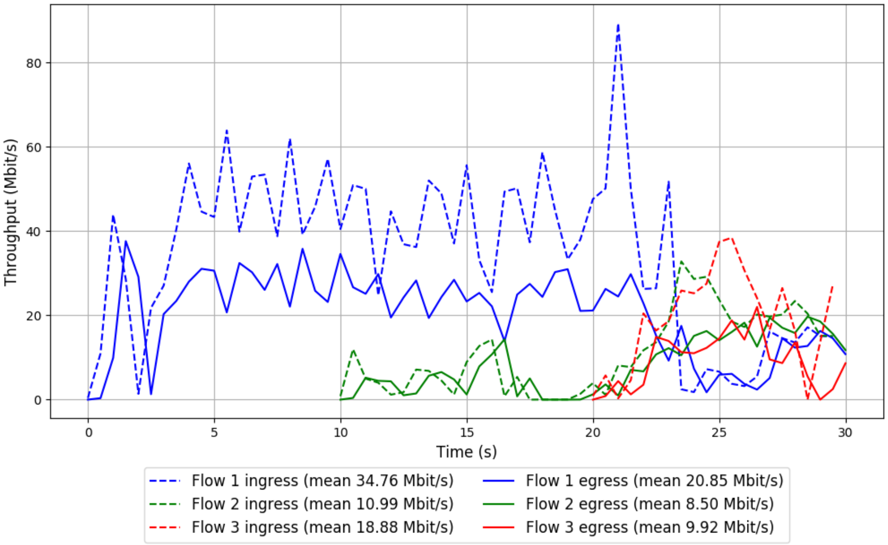
Run 8: Report of Verus — Data Link

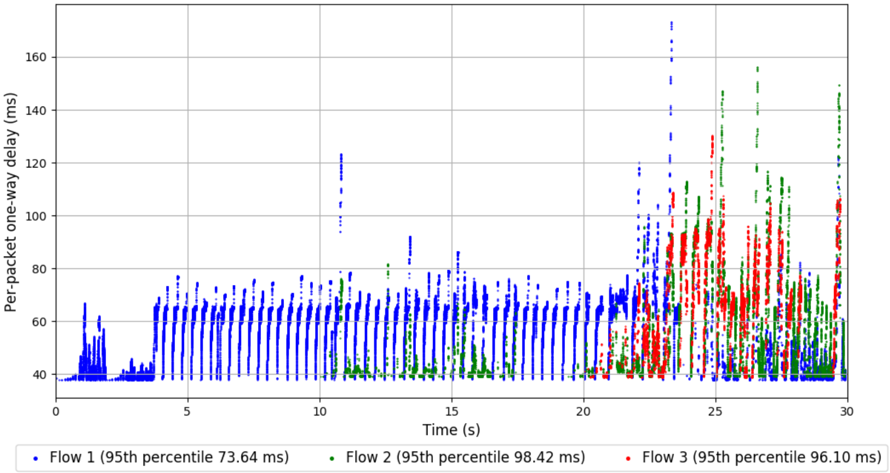




```
Run 9: Statistics of Verus

Start at: 2018-06-30 19:10:29
End at: 2018-06-30 19:10:59
Local clock offset: 1.008 ms
Remote clock offset: -8.612 ms

# Below is generated by plot.py at 2018-06-30 19:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.71 Mbit/s
95th percentile per-packet one-way delay: 86.443 ms
Loss rate: 38.78%
-- Flow 1:
Average throughput: 20.85 Mbit/s
95th percentile per-packet one-way delay: 73.643 ms
Loss rate: 40.26%
-- Flow 2:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 98.418 ms
Loss rate: 22.79%
-- Flow 3:
Average throughput: 9.92 Mbit/s
95th percentile per-packet one-way delay: 96.100 ms
Loss rate: 49.17%
```

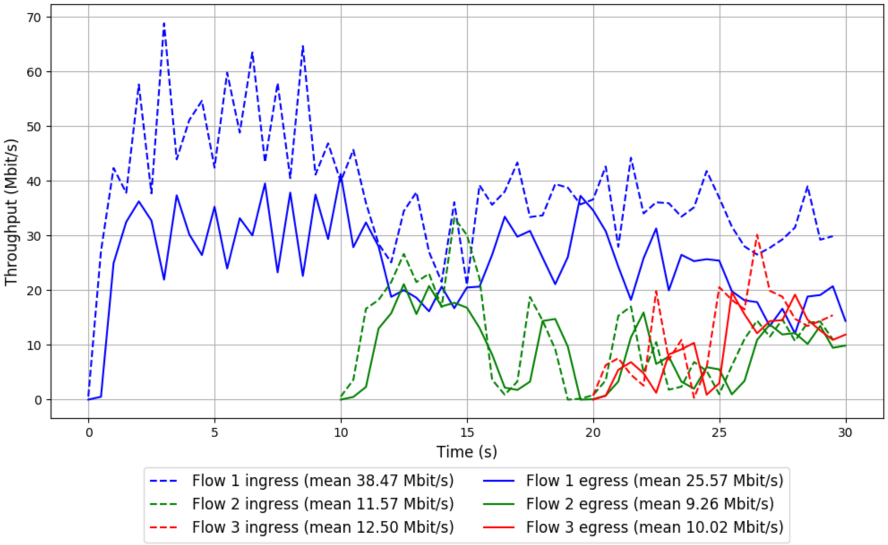
Run 9: Report of Verus — Data Link

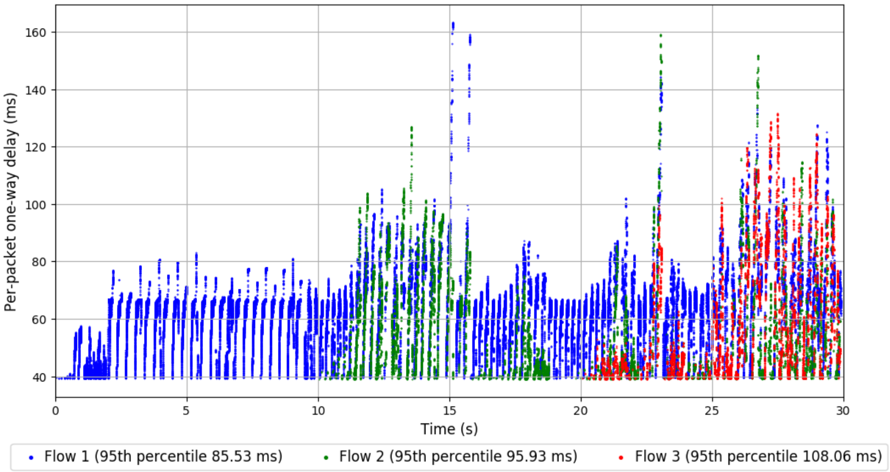




```
Run 10: Statistics of Verus

Start at: 2018-06-30 19:46:36
End at: 2018-06-30 19:47:06
Local clock offset: 4.004 ms
Remote clock offset: -8.677 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 91.300 ms
Loss rate: 30.51%
-- Flow 1:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 85.534 ms
Loss rate: 33.55%
-- Flow 2:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 95.933 ms
Loss rate: 20.56%
-- Flow 3:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 108.060 ms
Loss rate: 20.90%
```

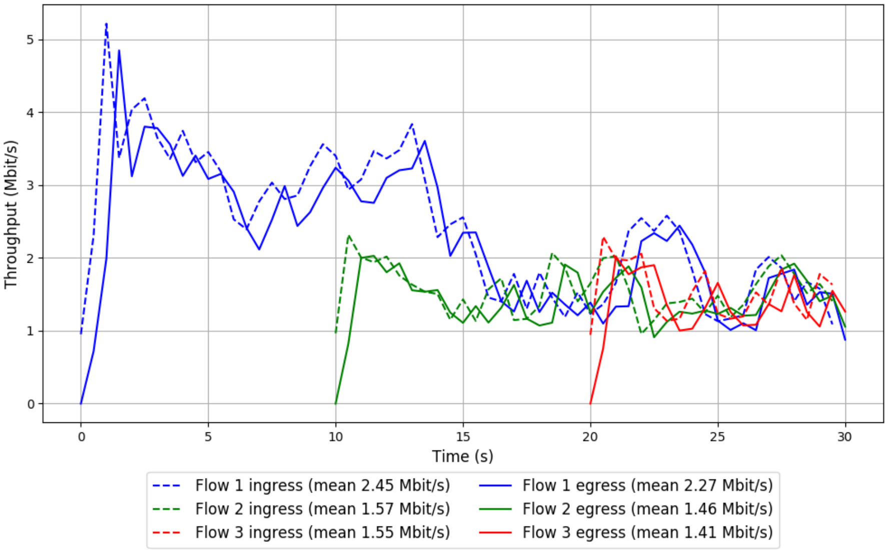
Run 10: Report of Verus — Data Link

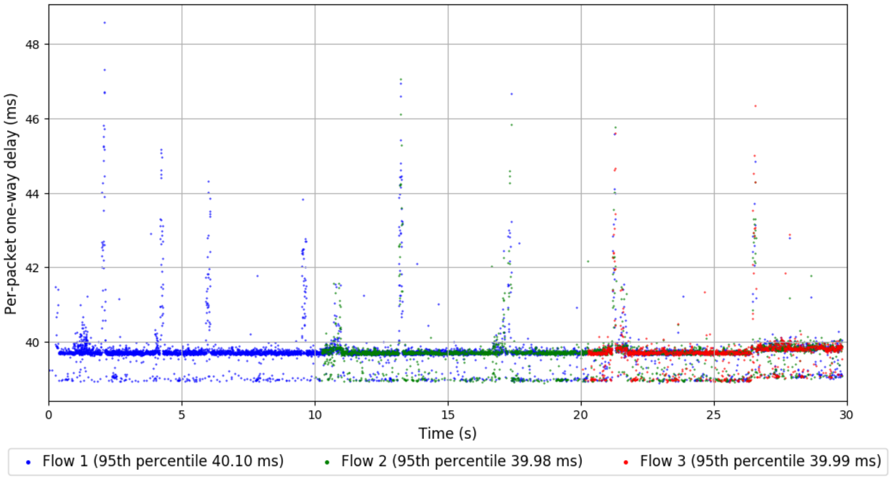




```
Run 1: Statistics of PCC-Vivace

Start at: 2018-06-30 14:31:26
End at: 2018-06-30 14:31:56
Local clock offset: -0.703 ms
Remote clock offset: -10.321 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 40.029 ms
Loss rate: 7.90%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 40.100 ms
Loss rate: 7.75%
-- Flow 2:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 39.979 ms
Loss rate: 7.52%
-- Flow 3:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 39.993 ms
Loss rate: 9.42%
```

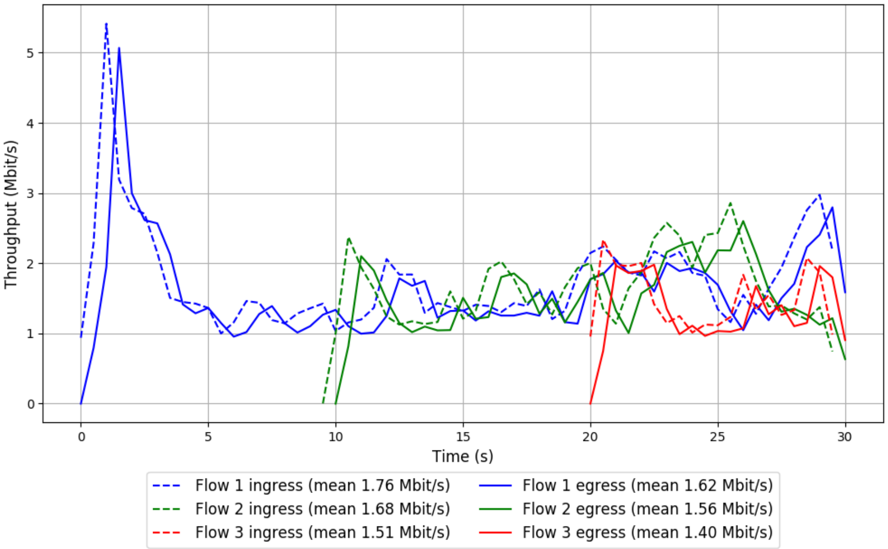
Run 1: Report of PCC-Vivace — Data Link

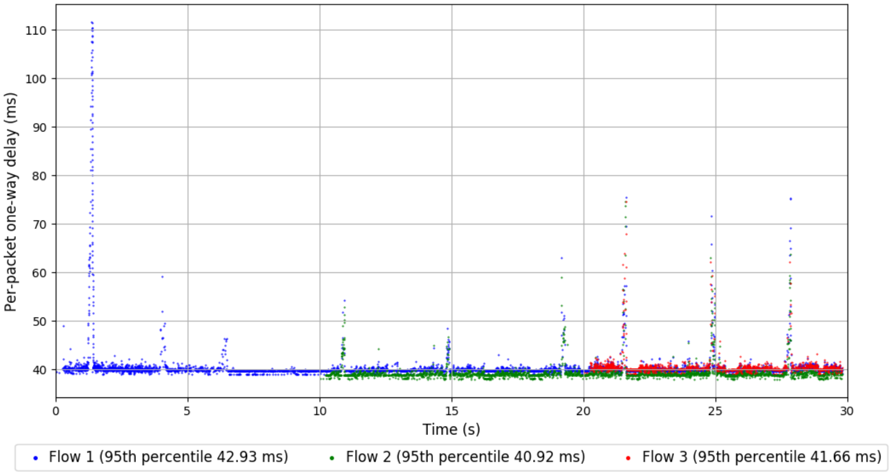




```
Run 2: Statistics of PCC-Vivace

Start at: 2018-06-30 15:05:19
End at: 2018-06-30 15:05:49
Local clock offset: 4.087 ms
Remote clock offset: -11.347 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 42.051 ms
Loss rate: 8.06%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 42.931 ms
Loss rate: 8.22%
-- Flow 2:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 40.925 ms
Loss rate: 7.63%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 41.661 ms
Loss rate: 8.45%
```

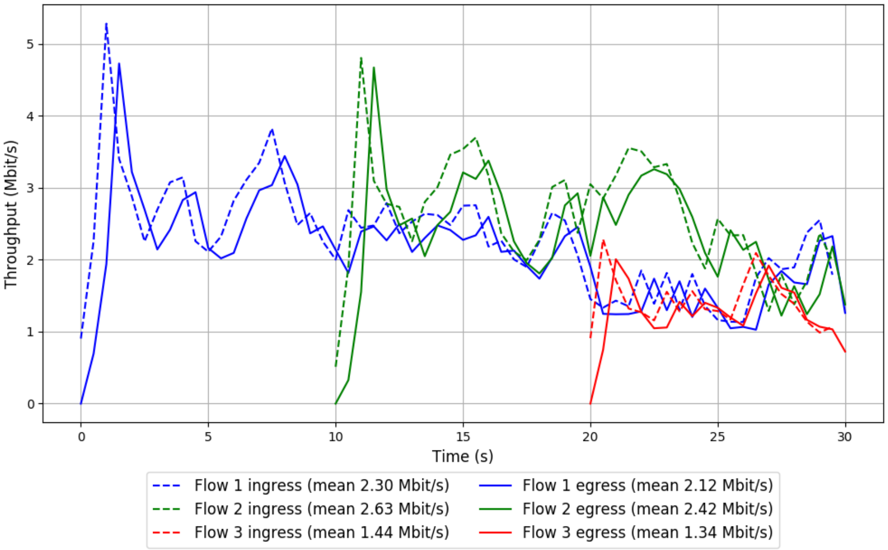
Run 2: Report of PCC-Vivace — Data Link

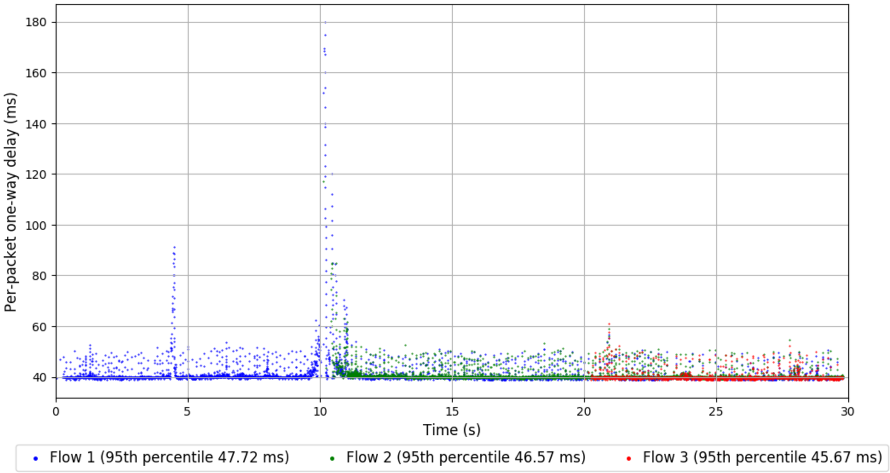




```
Run 3: Statistics of PCC-Vivace

Start at: 2018-06-30 15:39:54
End at: 2018-06-30 15:40:24
Local clock offset: 5.535 ms
Remote clock offset: -10.481 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.16 Mbit/s
95th percentile per-packet one-way delay: 46.992 ms
Loss rate: 8.35%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 47.721 ms
Loss rate: 8.10%
-- Flow 2:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 46.572 ms
Loss rate: 8.72%
-- Flow 3:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 45.672 ms
Loss rate: 8.21%
```

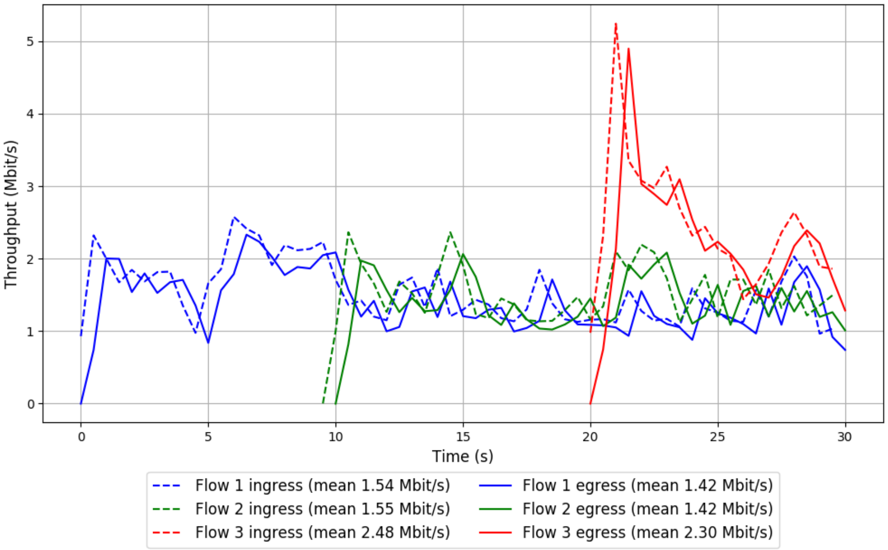
Run 3: Report of PCC-Vivace — Data Link

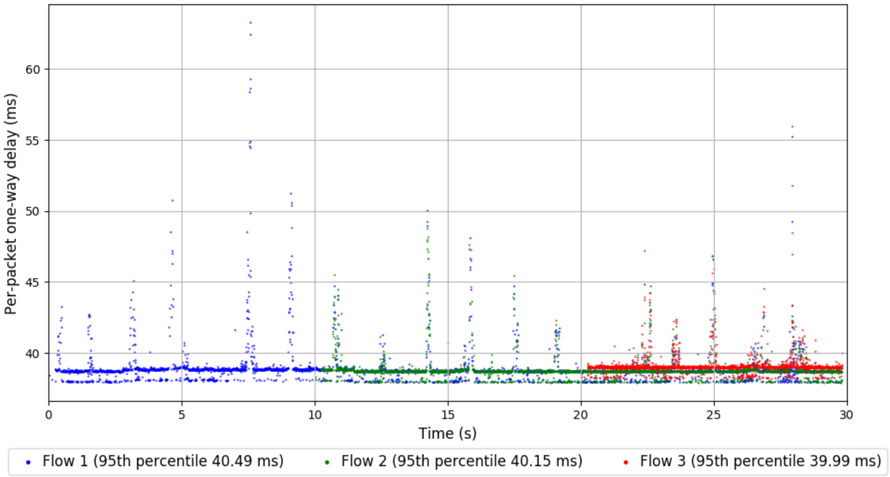




```
Run 4: Statistics of PCC-Vivace

Start at: 2018-06-30 16:13:56
End at: 2018-06-30 16:14:26
Local clock offset: 7.109 ms
Remote clock offset: -9.937 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 40.208 ms
Loss rate: 8.32%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 40.491 ms
Loss rate: 7.96%
-- Flow 2:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 40.147 ms
Loss rate: 8.84%
-- Flow 3:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 39.992 ms
Loss rate: 8.35%
```

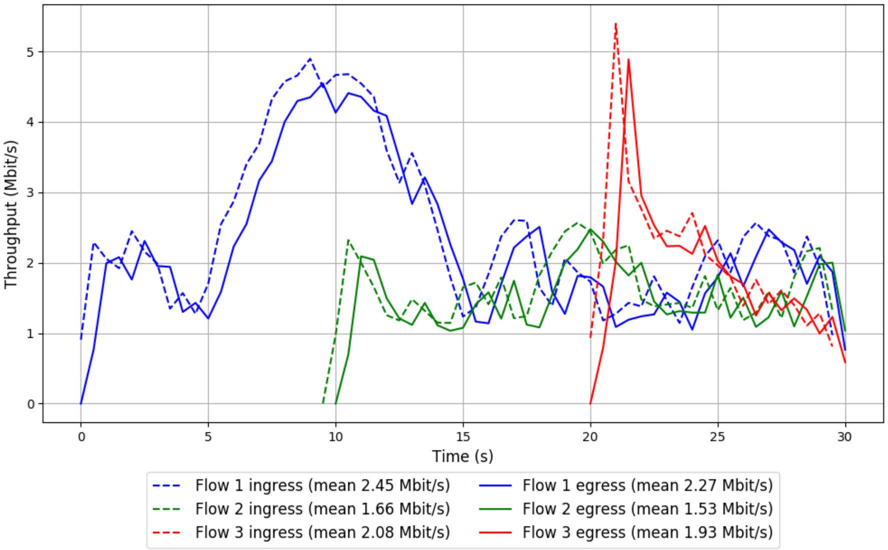
Run 4: Report of PCC-Vivace — Data Link

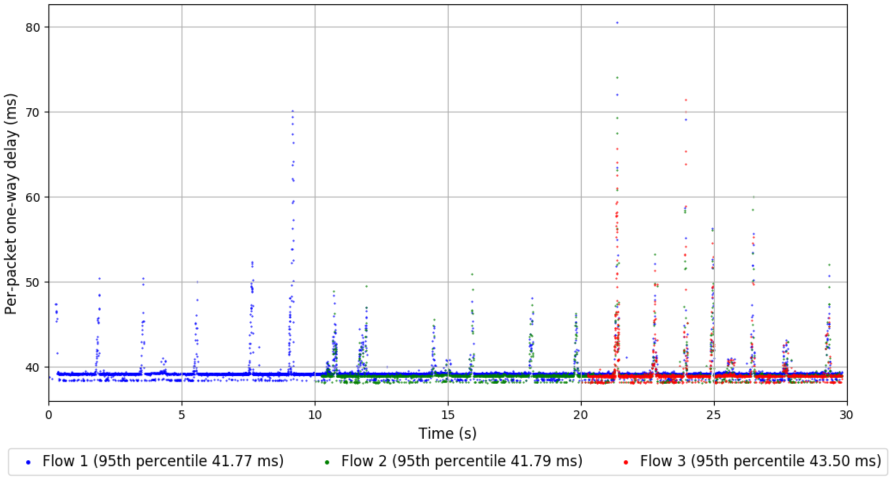




```
Run 5: Statistics of PCC-Vivace

Start at: 2018-06-30 16:46:27
End at: 2018-06-30 16:46:57
Local clock offset: -6.338 ms
Remote clock offset: -10.538 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 41.996 ms
Loss rate: 7.85%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 41.766 ms
Loss rate: 7.50%
-- Flow 2:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 41.793 ms
Loss rate: 8.29%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 43.496 ms
Loss rate: 8.41%
```

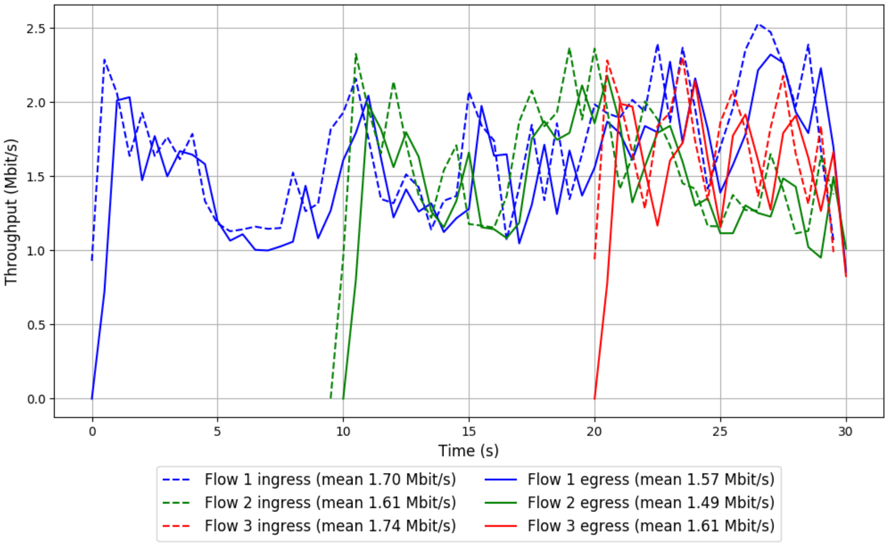
Run 5: Report of PCC-Vivace — Data Link

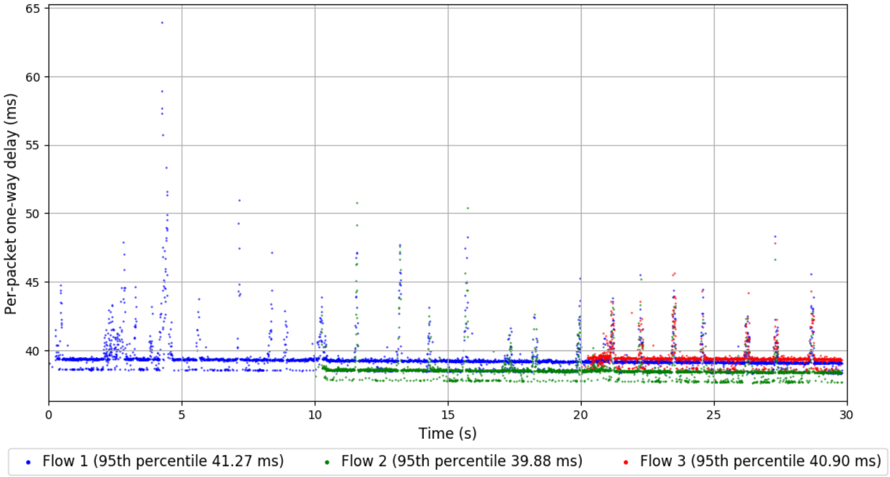




```
Run 6: Statistics of PCC-Vivace

Start at: 2018-06-30 17:19:25
End at: 2018-06-30 17:19:55
Local clock offset: -5.541 ms
Remote clock offset: -8.796 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 40.852 ms
Loss rate: 7.77%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 41.270 ms
Loss rate: 7.62%
-- Flow 2:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 39.880 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 40.896 ms
Loss rate: 8.43%
```

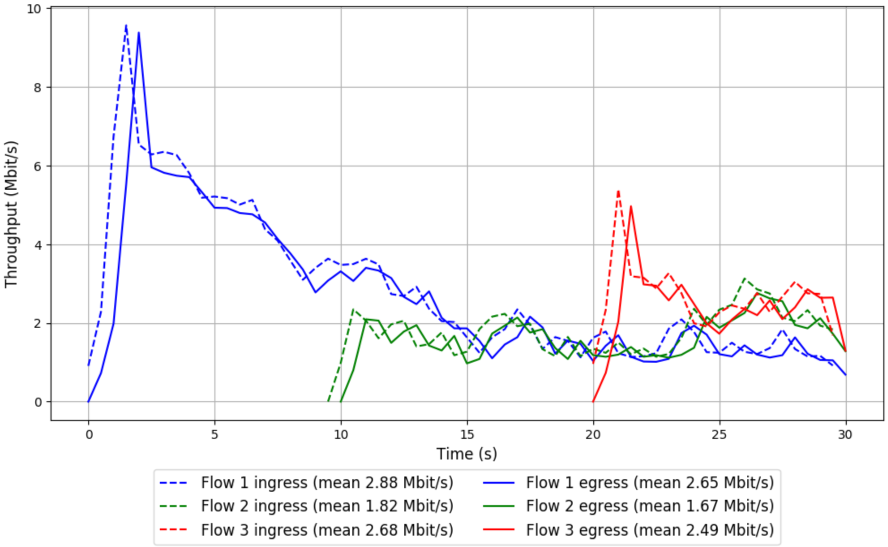
Run 6: Report of PCC-Vivace — Data Link

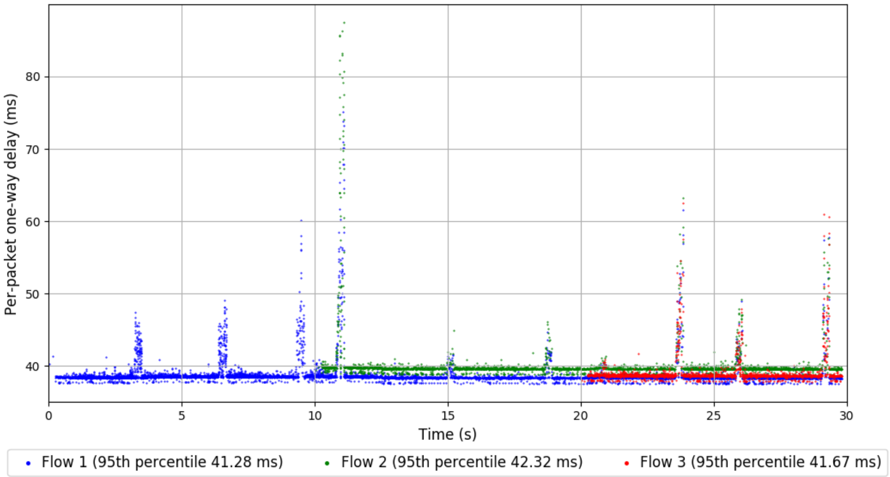




```
Run 7: Statistics of PCC-Vivace

Start at: 2018-06-30 17:52:56
End at: 2018-06-30 17:53:27
Local clock offset: 3.2 ms
Remote clock offset: -7.844 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 41.617 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 41.277 ms
Loss rate: 8.07%
-- Flow 2:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 42.324 ms
Loss rate: 8.45%
-- Flow 3:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 41.673 ms
Loss rate: 8.13%
```

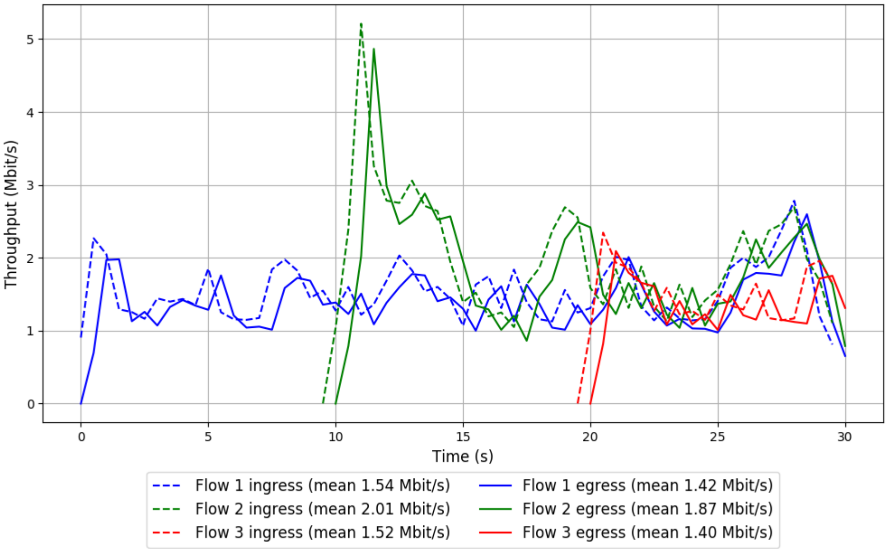
Run 7: Report of PCC-Vivace — Data Link

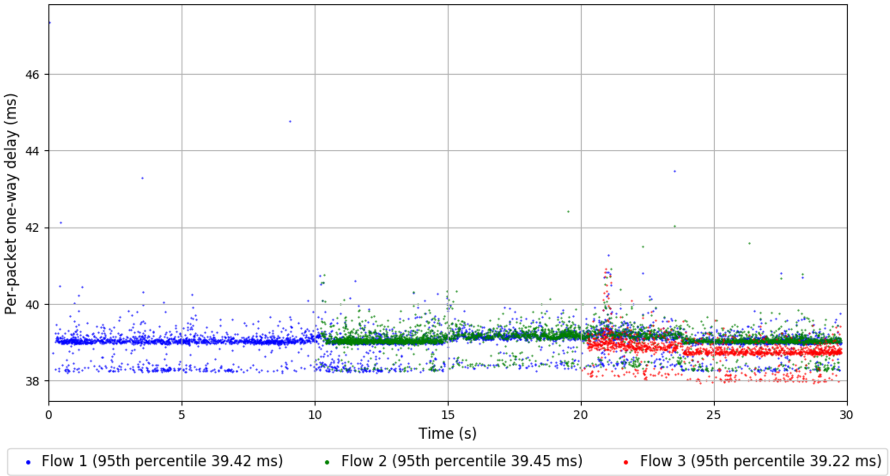




```
Run 8: Statistics of PCC-Vivace

Start at: 2018-06-30 18:27:47
End at: 2018-06-30 18:28:17
Local clock offset: 5.25 ms
Remote clock offset: -8.603 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 39.421 ms
Loss rate: 8.33%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 39.416 ms
Loss rate: 8.52%
-- Flow 2:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 39.454 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 39.216 ms
Loss rate: 9.01%
```

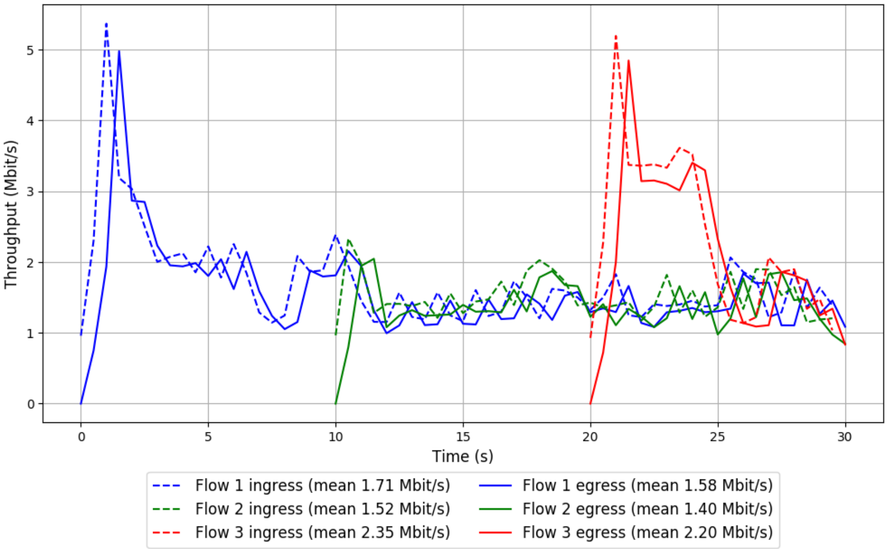
Run 8: Report of PCC-Vivace — Data Link

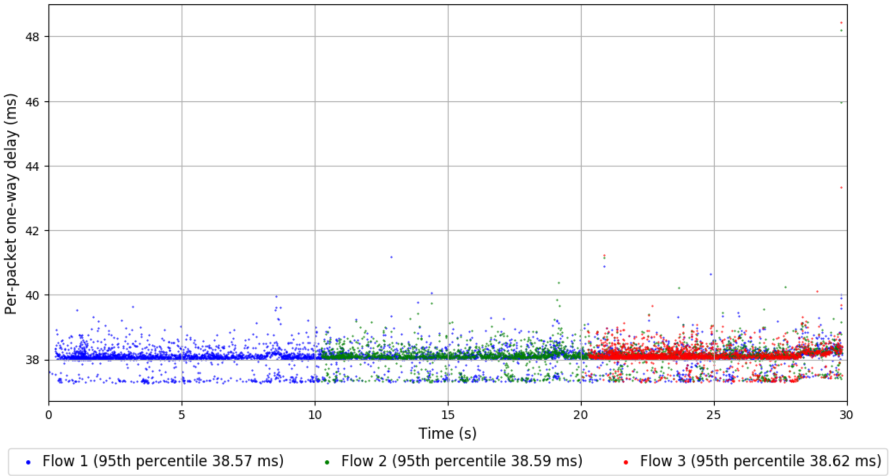




```
Run 9: Statistics of PCC-Vivace

Start at: 2018-06-30 19:00:34
End at: 2018-06-30 19:01:04
Local clock offset: 1.695 ms
Remote clock offset: -8.548 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 38.589 ms
Loss rate: 8.00%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 38.570 ms
Loss rate: 7.82%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 38.595 ms
Loss rate: 8.49%
-- Flow 3:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 38.615 ms
Loss rate: 7.77%
```

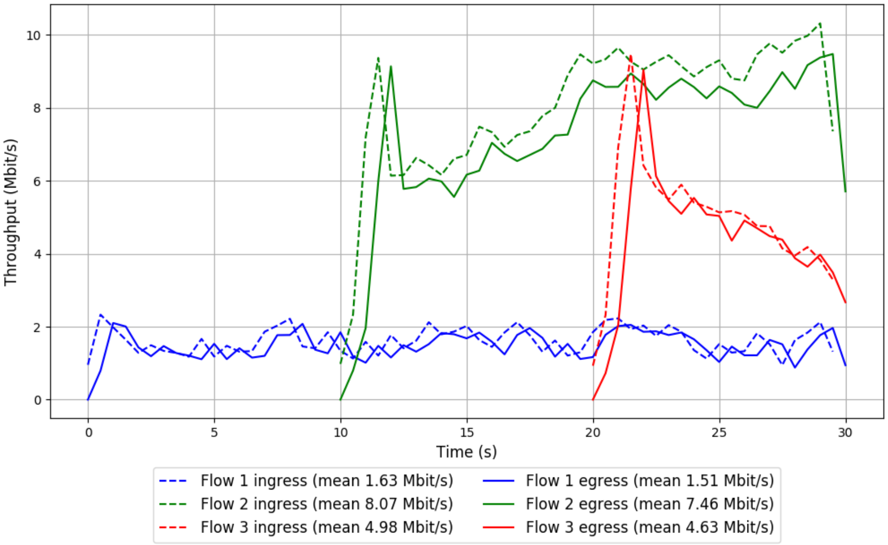
Run 9: Report of PCC-Vivace — Data Link

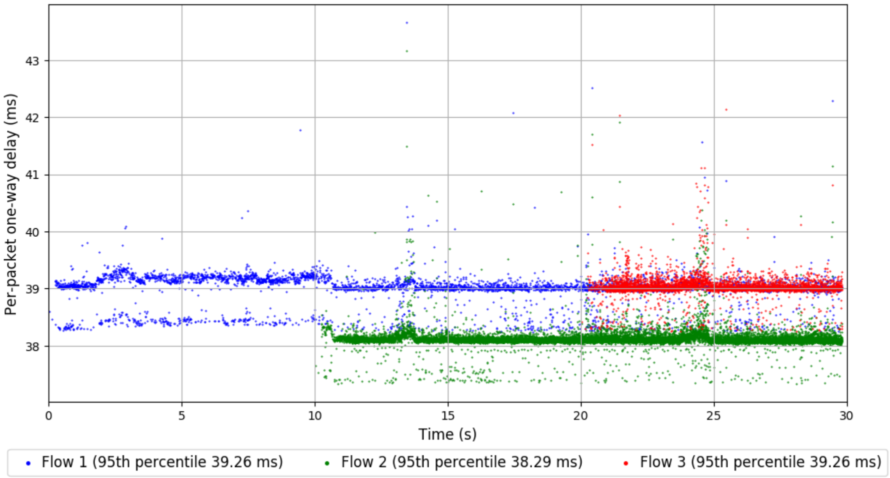




```
Run 10: Statistics of PCC-Vivace

Start at: 2018-06-30 19:36:17
End at: 2018-06-30 19:36:47
Local clock offset: 4.198 ms
Remote clock offset: -8.648 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 39.193 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 39.264 ms
Loss rate: 7.46%
-- Flow 2:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 38.286 ms
Loss rate: 8.03%
-- Flow 3:
Average throughput: 4.63 Mbit/s
95th percentile per-packet one-way delay: 39.256 ms
Loss rate: 7.97%
```

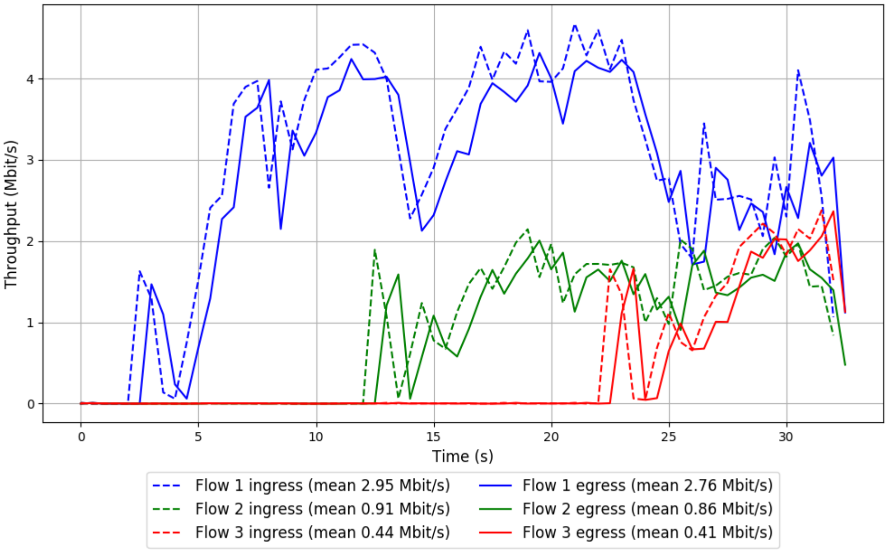
Run 10: Report of PCC-Vivace — Data Link

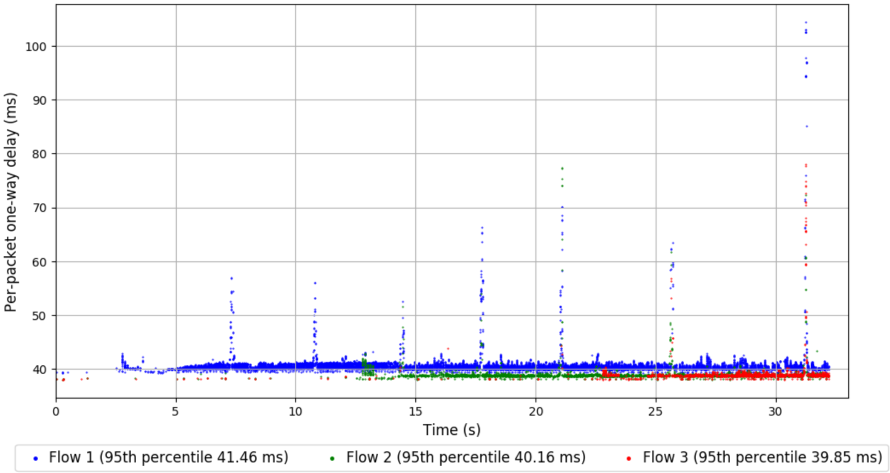




```
Run 1: Statistics of WebRTC media

Start at: 2018-06-30 14:43:50
End at: 2018-06-30 14:44:20
Local clock offset: -1.27 ms
Remote clock offset: -10.695 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 41.302 ms
Loss rate: 6.98%
-- Flow 1:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 41.460 ms
Loss rate: 7.02%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 40.163 ms
Loss rate: 6.54%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 39.852 ms
Loss rate: 7.67%
```

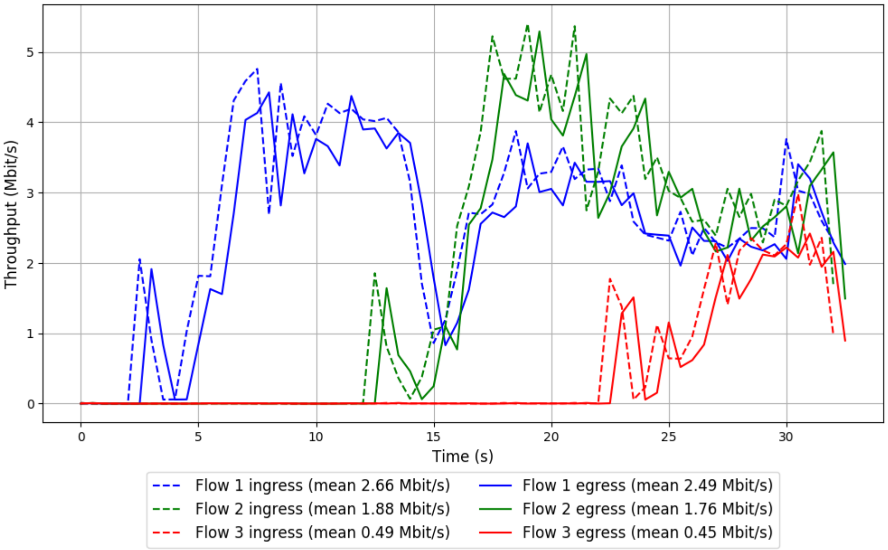
Run 1: Report of WebRTC media — Data Link

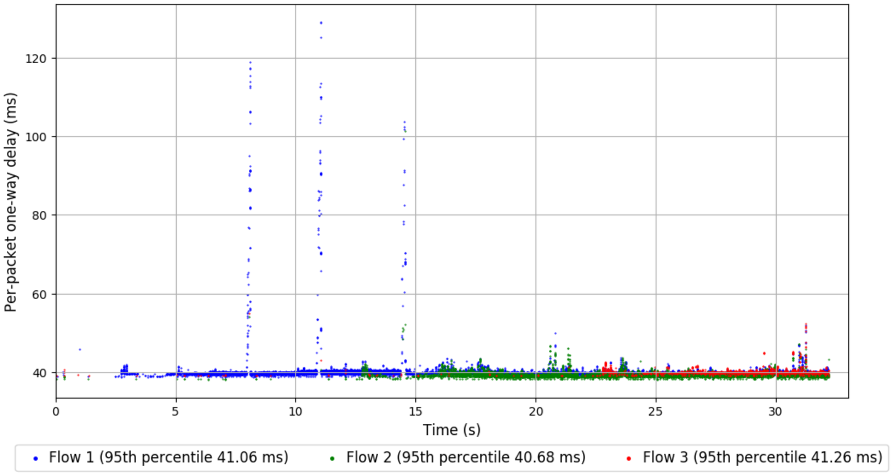




```
Run 2: Statistics of WebRTC media

Start at: 2018-06-30 15:17:46
End at: 2018-06-30 15:18:16
Local clock offset: 4.727 ms
Remote clock offset: -11.506 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 40.961 ms
Loss rate: 6.88%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 41.064 ms
Loss rate: 6.67%
-- Flow 2:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 40.676 ms
Loss rate: 6.88%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 41.261 ms
Loss rate: 8.01%
```

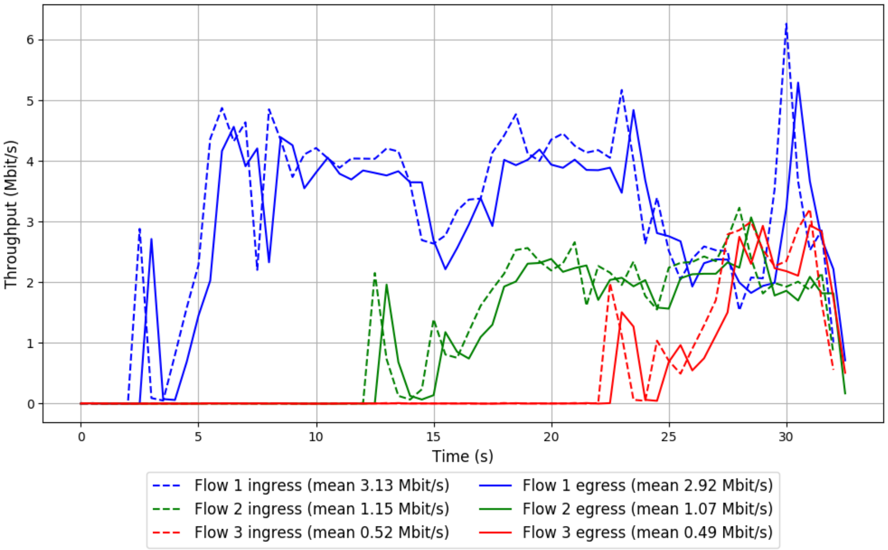
Run 2: Report of WebRTC media — Data Link

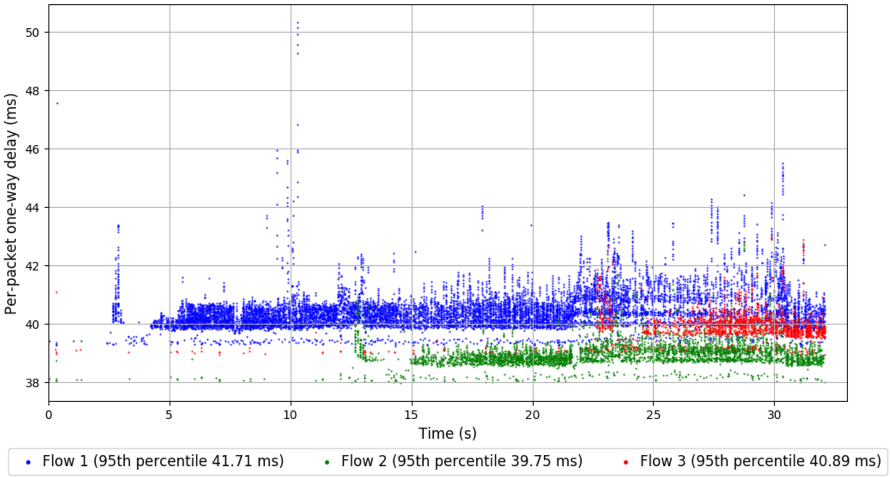




```
Run 3: Statistics of WebRTC media

Start at: 2018-06-30 15:52:39
End at: 2018-06-30 15:53:09
Local clock offset: 6.289 ms
Remote clock offset: -10.276 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 41.466 ms
Loss rate: 7.14%
-- Flow 1:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 41.708 ms
Loss rate: 7.05%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 39.749 ms
Loss rate: 7.29%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 40.892 ms
Loss rate: 7.40%
```

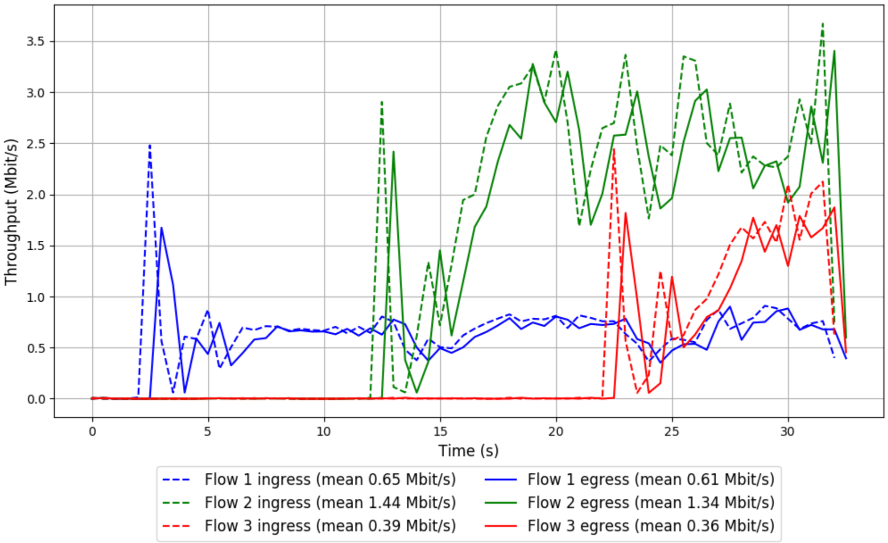
Run 3: Report of WebRTC media — Data Link

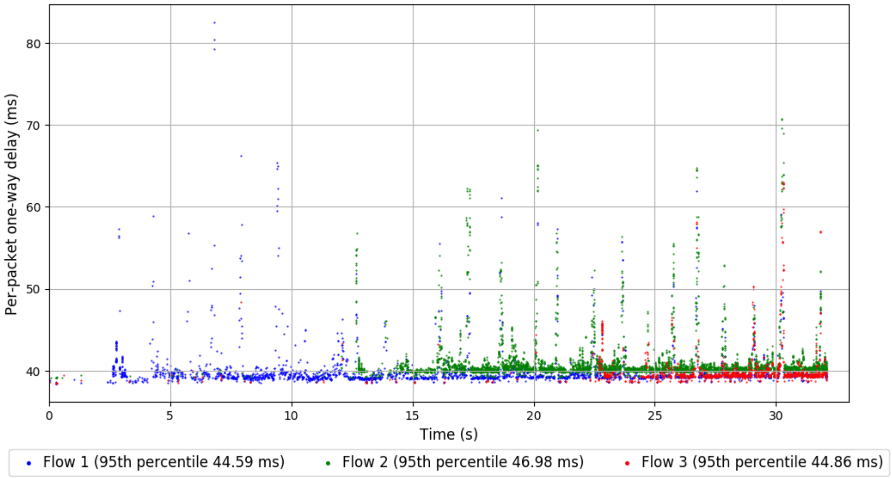




```
Run 4: Statistics of WebRTC media

Start at: 2018-06-30 16:25:59
End at: 2018-06-30 16:26:29
Local clock offset: -1.26 ms
Remote clock offset: -9.531 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 46.013 ms
Loss rate: 6.84%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 44.592 ms
Loss rate: 5.40%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 46.982 ms
Loss rate: 6.95%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 44.858 ms
Loss rate: 8.82%
```

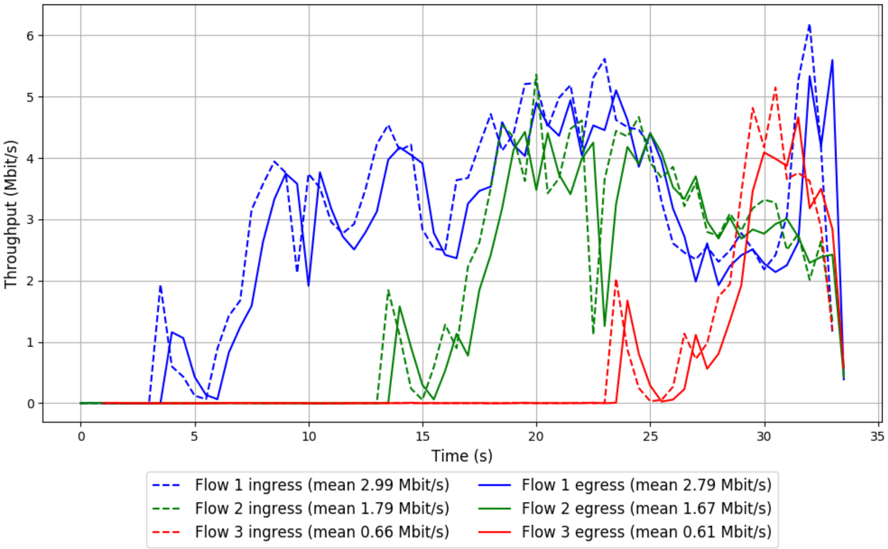
Run 4: Report of WebRTC media — Data Link

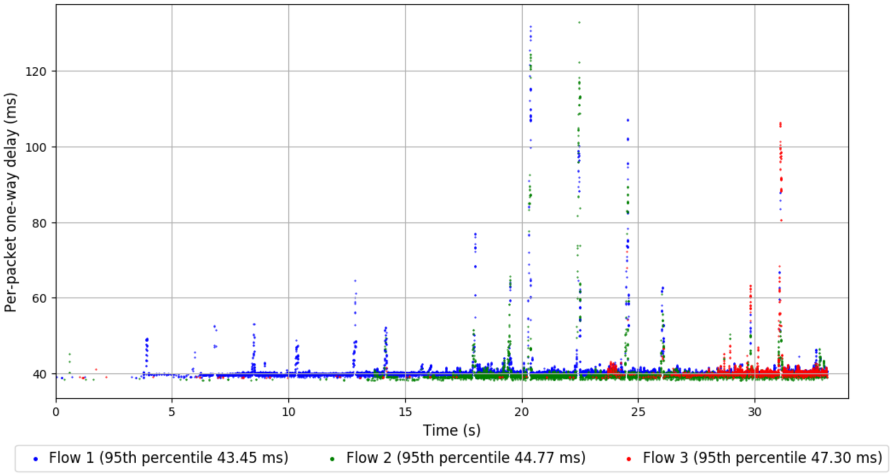




```
Run 5: Statistics of WebRTC media

Start at: 2018-06-30 16:58:29
End at: 2018-06-30 16:58:59
Local clock offset: -7.519 ms
Remote clock offset: -10.699 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.04 Mbit/s
95th percentile per-packet one-way delay: 44.123 ms
Loss rate: 7.14%
-- Flow 1:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 43.452 ms
Loss rate: 6.99%
-- Flow 2:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 44.767 ms
Loss rate: 6.85%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 47.295 ms
Loss rate: 8.62%
```

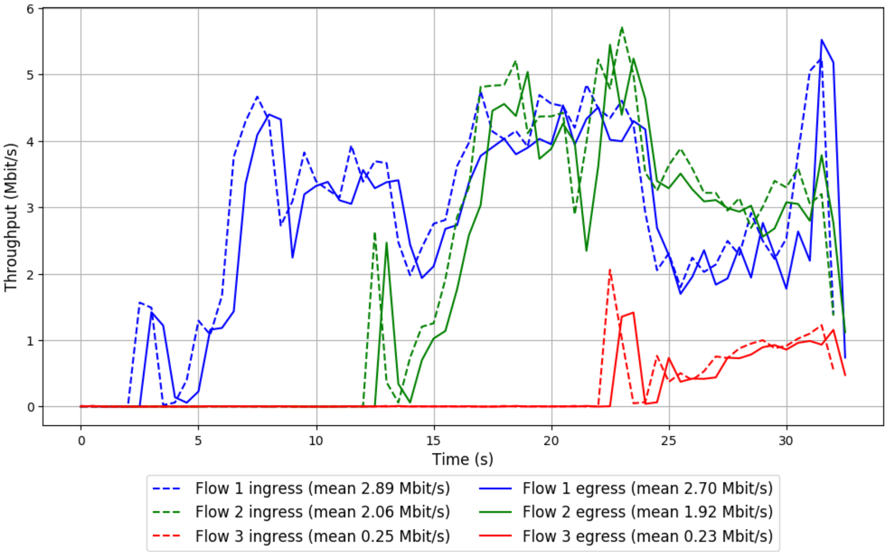
Run 5: Report of WebRTC media — Data Link

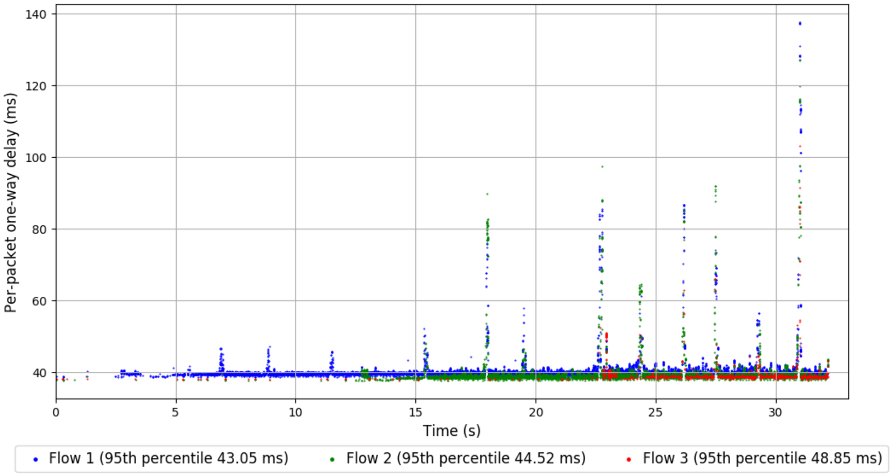




```
Run 6: Statistics of WebRTC media

Start at: 2018-06-30 17:31:40
End at: 2018-06-30 17:32:10
Local clock offset: -0.895 ms
Remote clock offset: -8.057 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.86 Mbit/s
95th percentile per-packet one-way delay: 43.519 ms
Loss rate: 6.88%
-- Flow 1:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 43.051 ms
Loss rate: 6.75%
-- Flow 2:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 44.525 ms
Loss rate: 7.08%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 48.852 ms
Loss rate: 6.83%
```

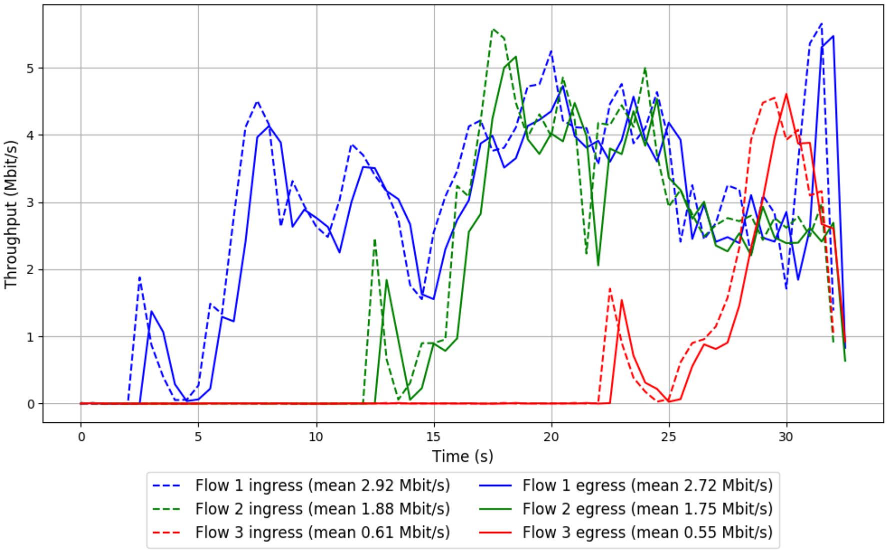
Run 6: Report of WebRTC media — Data Link

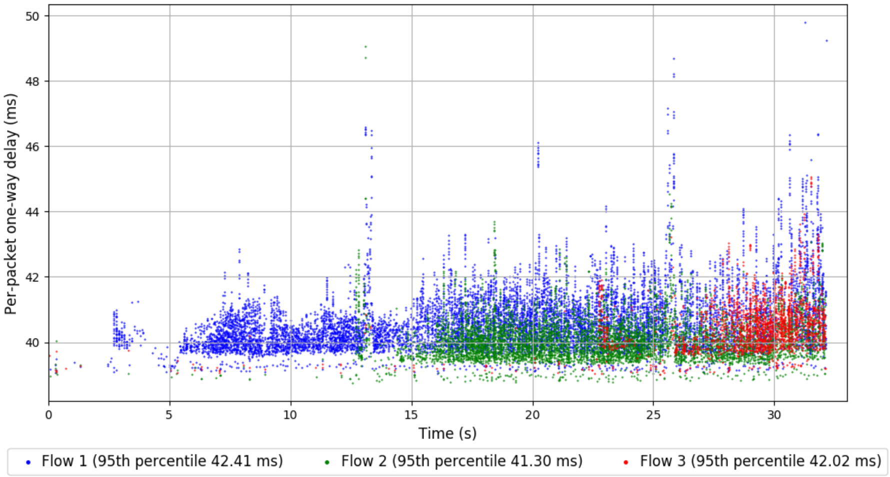




```
Run 7: Statistics of WebRTC media

Start at: 2018-06-30 18:05:33
End at: 2018-06-30 18:06:03
Local clock offset: 5.428 ms
Remote clock offset: -7.65 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 42.076 ms
Loss rate: 7.31%
-- Flow 1:
Average throughput: 2.72 Mbit/s
95th percentile per-packet one-way delay: 42.412 ms
Loss rate: 6.93%
-- Flow 2:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 41.297 ms
Loss rate: 7.23%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 42.025 ms
Loss rate: 9.36%
```

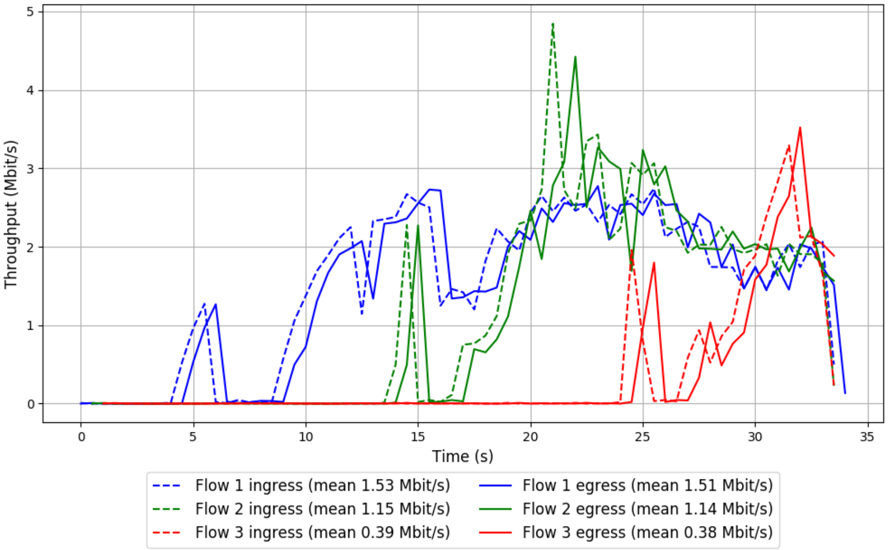
Run 7: Report of WebRTC media — Data Link

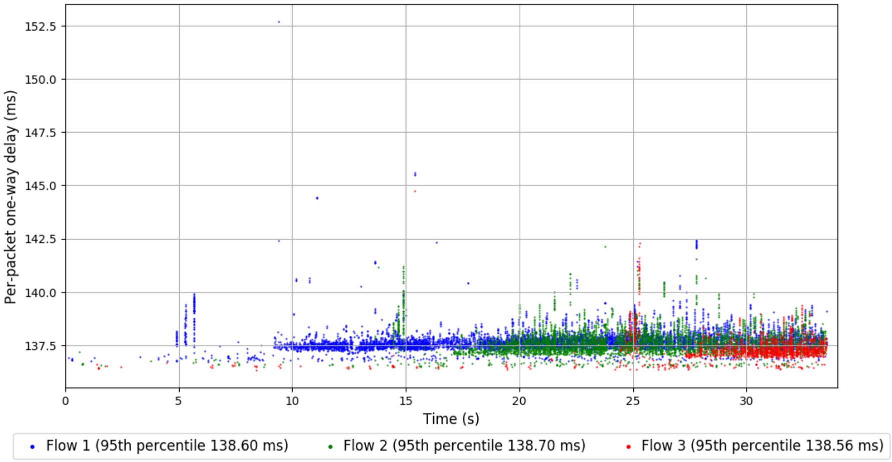




```
Run 8: Statistics of WebRTC media

Start at: 2018-06-30 18:39:16
End at: 2018-06-30 18:39:46
Local clock offset: 5.264 ms
Remote clock offset: -8.815 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 138.650 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 138.603 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 138.703 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 138.555 ms
Loss rate: 2.87%
```

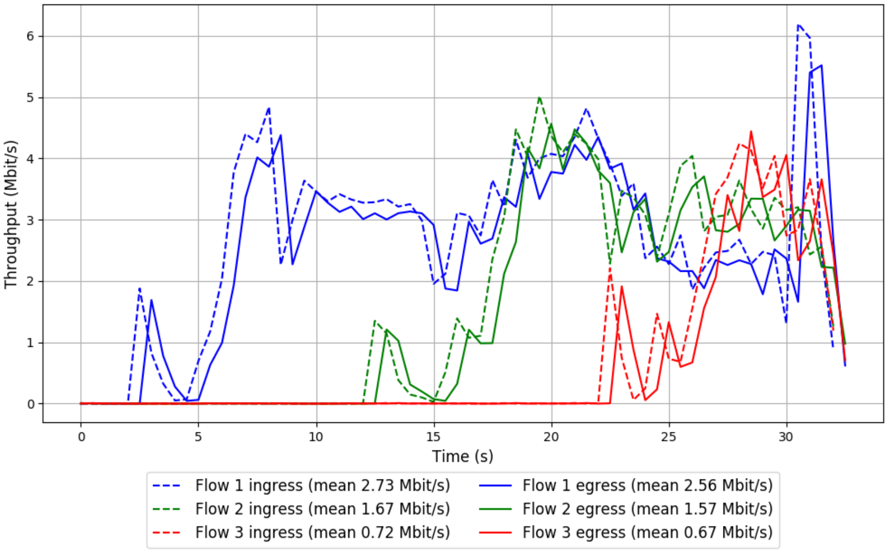
Run 8: Report of WebRTC media — Data Link

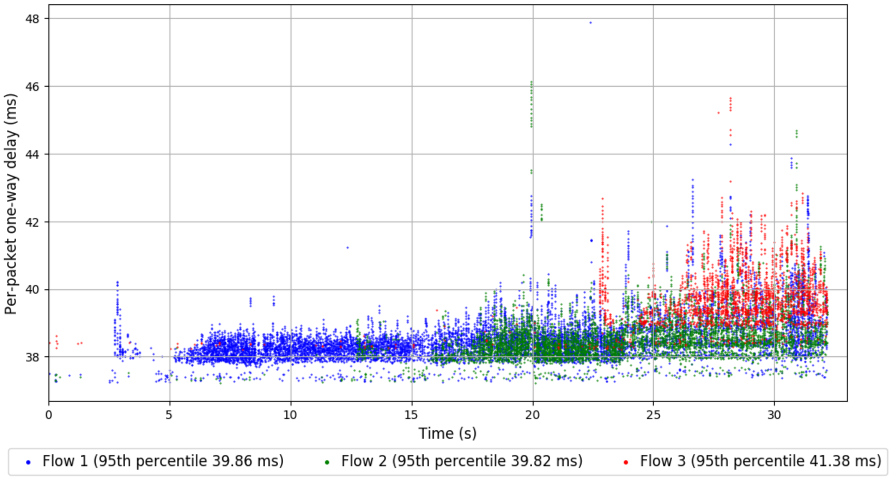




```
Run 9: Statistics of WebRTC media

Start at: 2018-06-30 19:13:41
End at: 2018-06-30 19:14:11
Local clock offset: 1.01 ms
Remote clock offset: -8.681 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 40.422 ms
Loss rate: 6.70%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 39.861 ms
Loss rate: 6.49%
-- Flow 2:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 39.818 ms
Loss rate: 6.66%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 41.379 ms
Loss rate: 7.60%
```

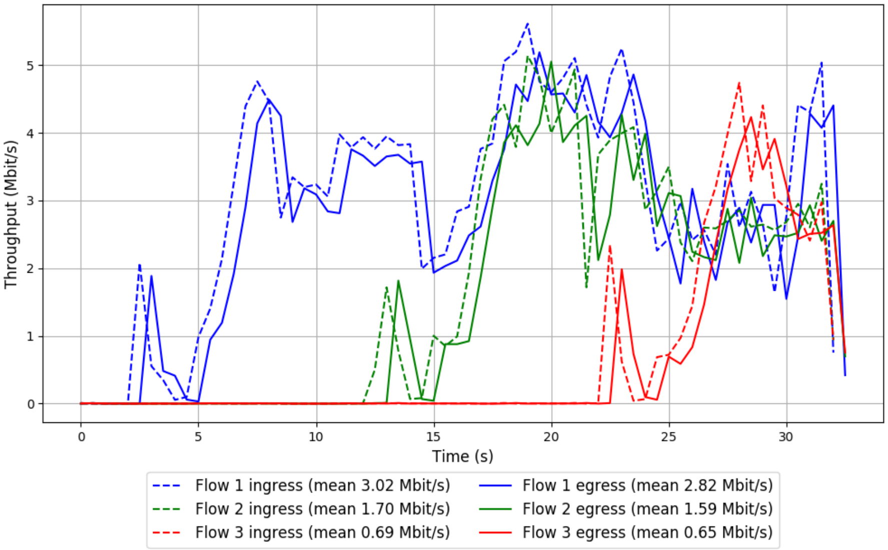
Run 9: Report of WebRTC media — Data Link



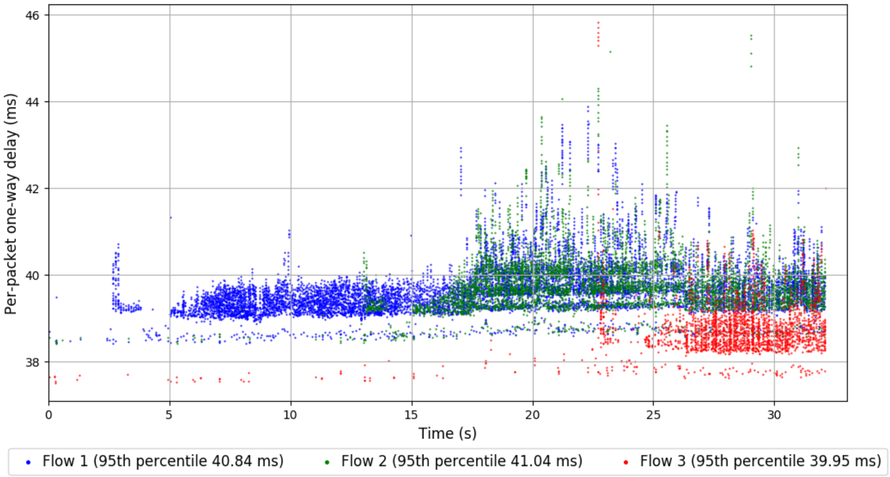


```
Run 10: Statistics of WebRTC media

Start at: 2018-06-30 19:50:04
End at: 2018-06-30 19:50:34
Local clock offset: 2.877 ms
Remote clock offset: -8.595 ms

# Below is generated by plot.py at 2018-06-30 19:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 40.853 ms
Loss rate: 6.79%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 40.840 ms
Loss rate: 6.78%
-- Flow 2:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 41.040 ms
Loss rate: 6.96%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 39.952 ms
Loss rate: 6.38%
```

Run 10: Report of WebRTC media — Data Link



Throughput (Mbit/s)
0
1
2
3
4
5
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 3.02 Mbit/s)
Flow 2 ingress (mean 1.70 Mbit/s)
Flow 3 ingress (mean 0.69 Mbit/s)
Flow 1 egress (mean 2.82 Mbit/s)
Flow 2 egress (mean 1.59 Mbit/s)
Flow 3 egress (mean 0.65 Mbit/s)



Per-packet one-way delay (ms)
38
40
42
44
46
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 40.84 ms)
Flow 2 (95th percentile 41.04 ms)
Flow 3 (95th percentile 39.95 ms)