Pantheon Report

Generated at 2018-07-10 07:19:19 (UTC).

Data path: AWS Brazil 1 Ethernet (*local*) →Brazil Ethernet (*remote*).

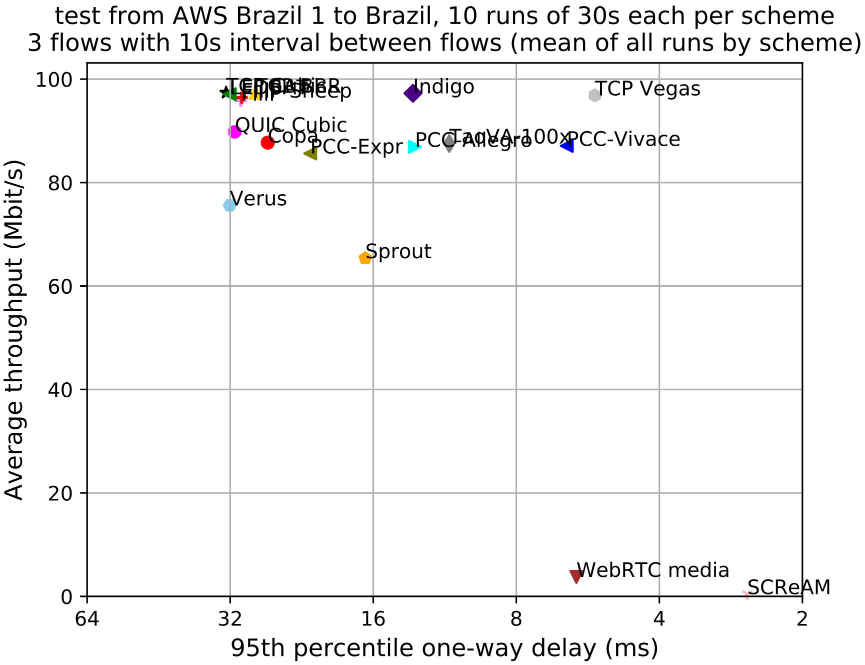
Repeated the test of 17 congestion control schemes 10 times.

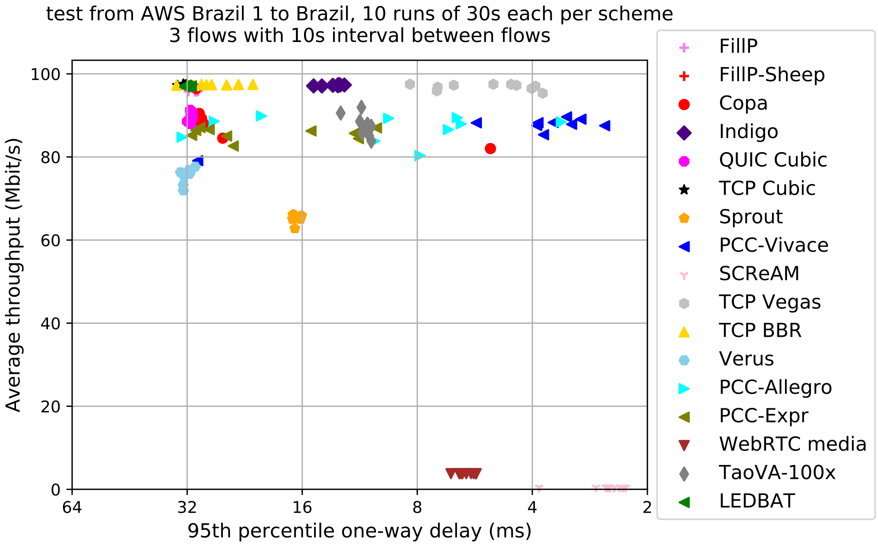
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

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

```
Git summary:
branch: master @ 9250dbeec7fb57193cdff1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 37162fe9af85249aeccac061c93e75640ef710b5
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

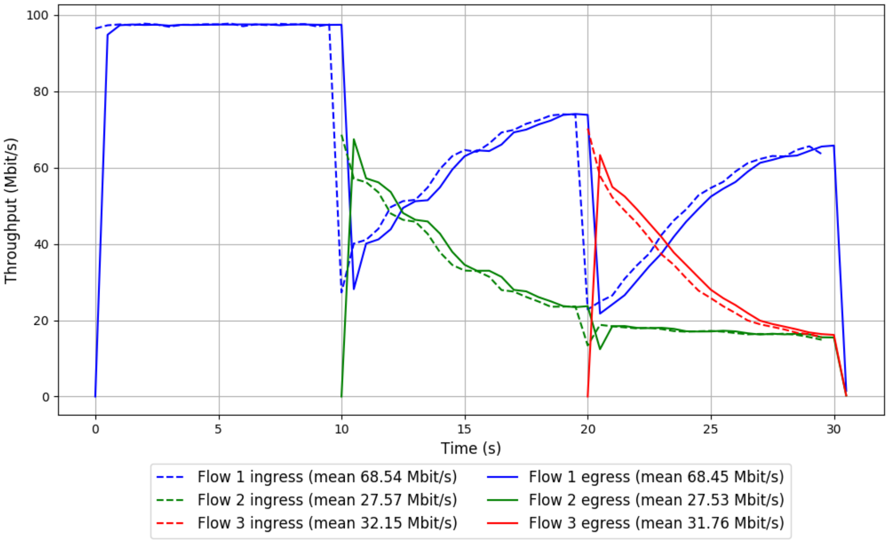

test from AWS Brazil 1 to Brazil, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
20
40
60
80
100
64
32
16
8
4
2
FillP-Sheep
Indigo
TCP Vegas
QUIC Cubic
Copa
PCC-Expr
PCC-Allegro
TaoVA-100x
PCC-Vivace
Verus
Sprout
WebRTC media
SCReAM

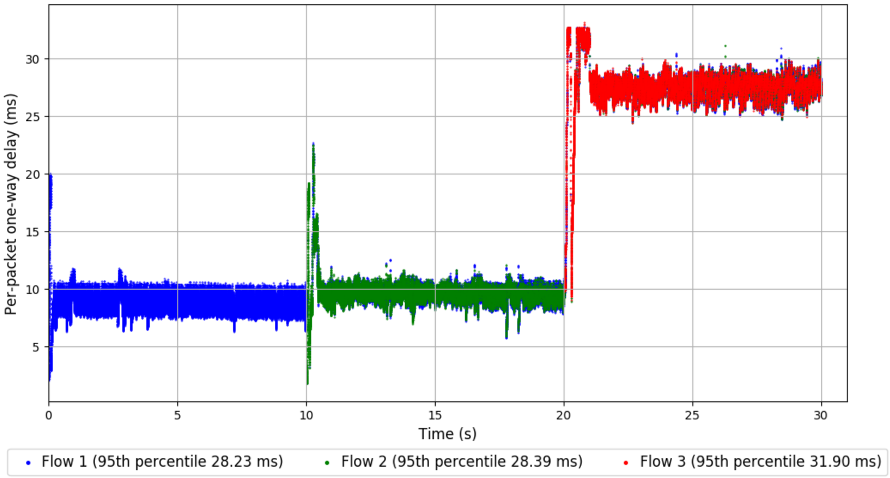

test from AWS Brazil 1 to Brazil, 10 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
20
40
60
80
100
64
32
16
8
4
2
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	67.63	32.33	24.58	28.19	27.85	31.31	0.39	0.35	1.88
Copa	10	52.40	37.64	30.83	25.15	27.23	27.87	0.01	0.01	0.02
TCP Cubic	10	64.38	34.81	29.62	32.48	32.74	32.88	0.03	0.08	0.13
FillP	10	53.70	46.54	33.81	30.31	30.43	30.45	12.23	22.35	24.59
FillP-Sheep	10	59.08	40.00	32.56	30.23	30.28	30.28	17.64	30.32	34.32
Indigo	10	46.75	44.05	65.22	11.06	13.38	13.84	0.00	0.00	0.00
LEDBAT	10	62.16	37.62	29.80	31.98	32.16	32.25	0.03	0.06	0.08
PCC-Allegro	10	71.08	17.88	11.90	11.43	13.91	16.48	0.04	0.11	0.23
PCC-Expr	10	53.74	34.33	27.42	22.58	19.30	21.31	0.38	0.14	0.17
QUIC Cubic	10	57.53	34.79	27.80	31.17	31.39	31.60	0.13	0.17	0.23
SCReAM	10	0.22	0.22	0.22	2.62	2.59	2.58	0.00	0.00	0.00
Sprout	10	33.89	32.36	30.16	15.37	16.52	19.08	0.00	0.00	0.00
TaoVA-100x	10	52.24	27.56	51.02	10.61	11.93	9.34	0.03	0.21	0.04
TCP Vegas	10	52.91	42.87	46.28	8.21	4.43	4.56	0.00	0.00	0.00
Verus	10	45.18	31.15	29.33	30.27	32.12	32.94	9.25	13.80	28.12
PCC-Vivace	10	55.53	35.17	24.73	5.92	7.28	5.94	0.02	0.02	0.00
WebRTC media	10	1.99	1.32	0.46	5.79	5.88	7.15	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-07-10 03:47:28
End at: 2018-07-10 03:47:58
Local clock offset: -2.28 ms
Remote clock offset: -1.556 ms

# Below is generated by plot.py at 2018-07-10 06:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 28.484 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 68.45 Mbit/s
95th percentile per-packet one-way delay: 28.227 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 27.53 Mbit/s
95th percentile per-packet one-way delay: 28.385 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 31.76 Mbit/s
95th percentile per-packet one-way delay: 31.896 ms
Loss rate: 1.06%
```

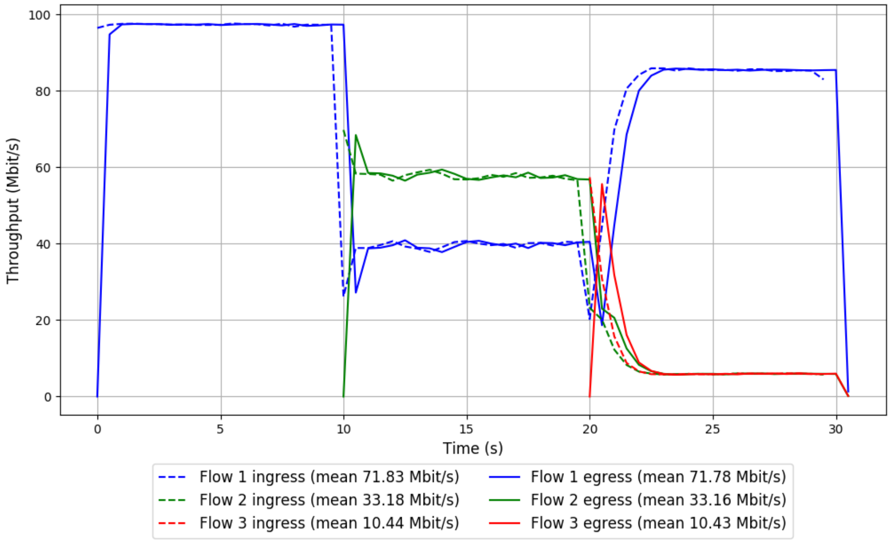
Run 1: Report of TCP BBR — Data Link

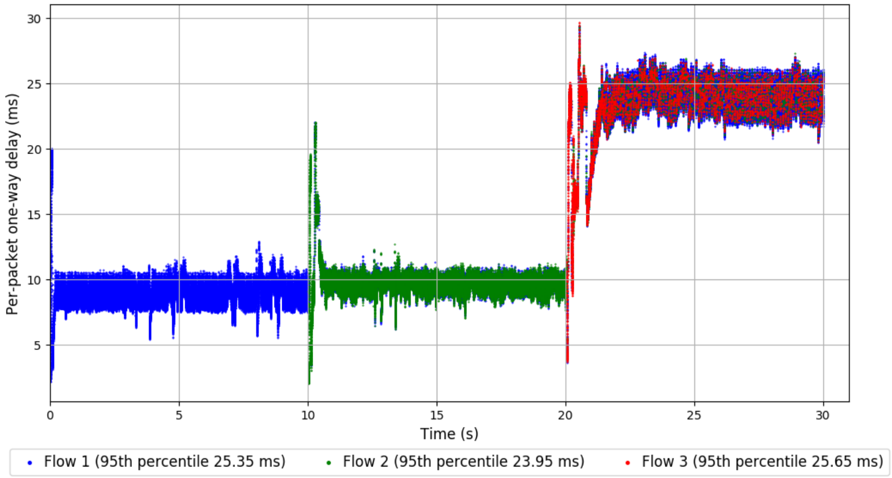




```
Run 2: Statistics of TCP BBR

Start at: 2018-07-10 04:06:39
End at: 2018-07-10 04:07:09
Local clock offset: -2.212 ms
Remote clock offset: 16.111 ms

# Below is generated by plot.py at 2018-07-10 06:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 25.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 25.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.16 Mbit/s
95th percentile per-packet one-way delay: 23.948 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.43 Mbit/s
95th percentile per-packet one-way delay: 25.651 ms
Loss rate: 0.00%
```

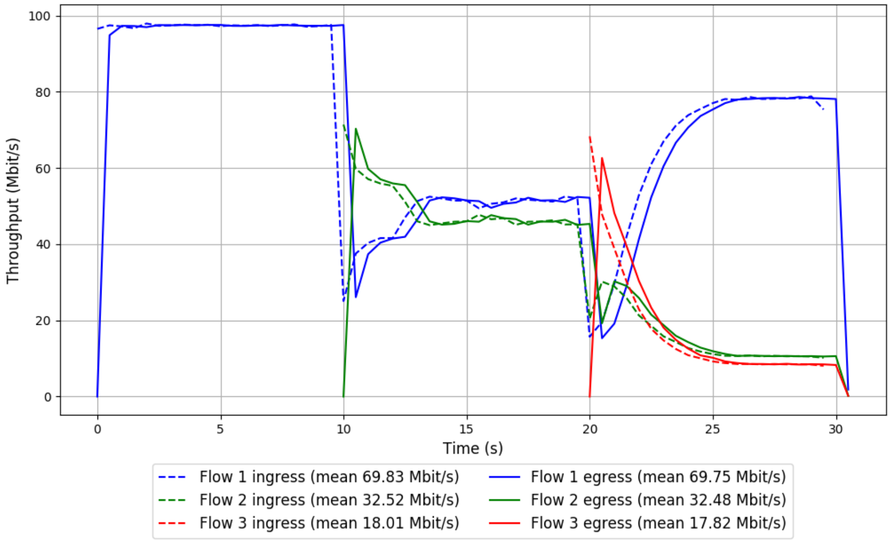
Run 2: Report of TCP BBR — Data Link

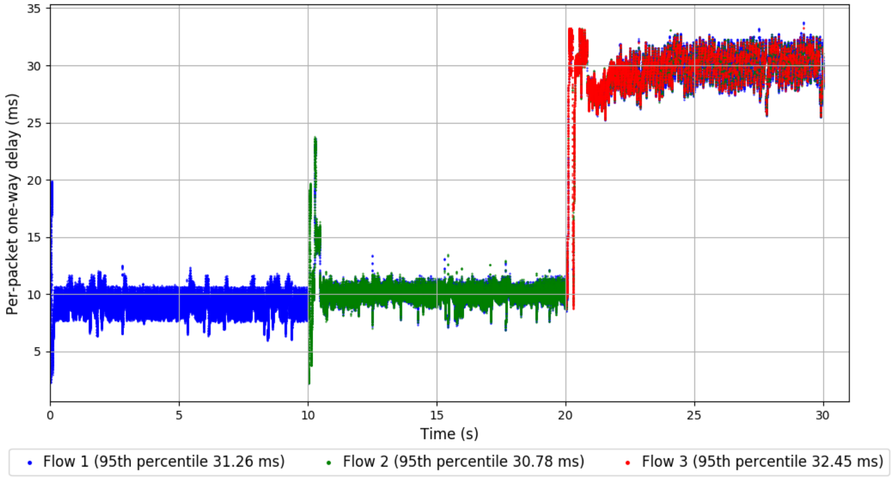




```
Run 3: Statistics of TCP BBR

Start at: 2018-07-10 04:25:51
End at: 2018-07-10 04:26:21
Local clock offset: -2.101 ms
Remote clock offset: 24.166 ms

# Below is generated by plot.py at 2018-07-10 06:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 31.279 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 69.75 Mbit/s
95th percentile per-packet one-way delay: 31.260 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 30.783 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 17.82 Mbit/s
95th percentile per-packet one-way delay: 32.450 ms
Loss rate: 0.85%
```

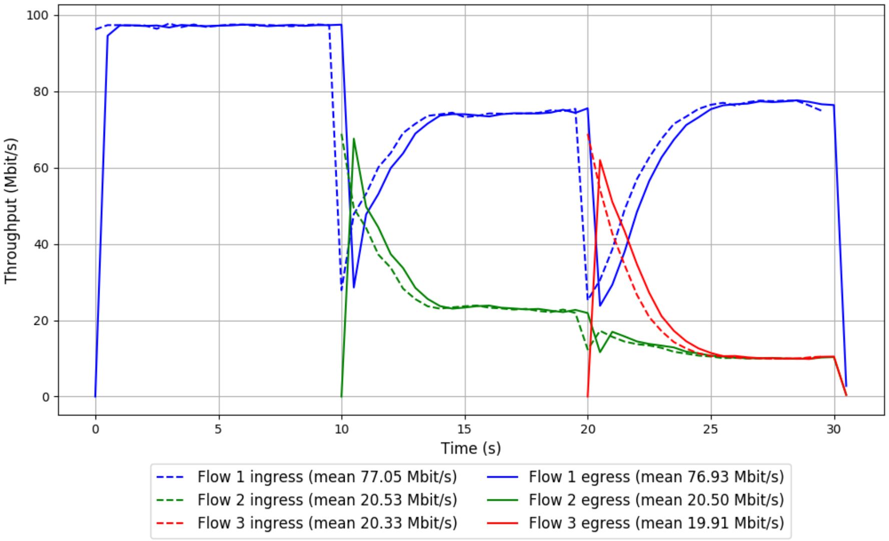
Run 3: Report of TCP BBR — Data Link

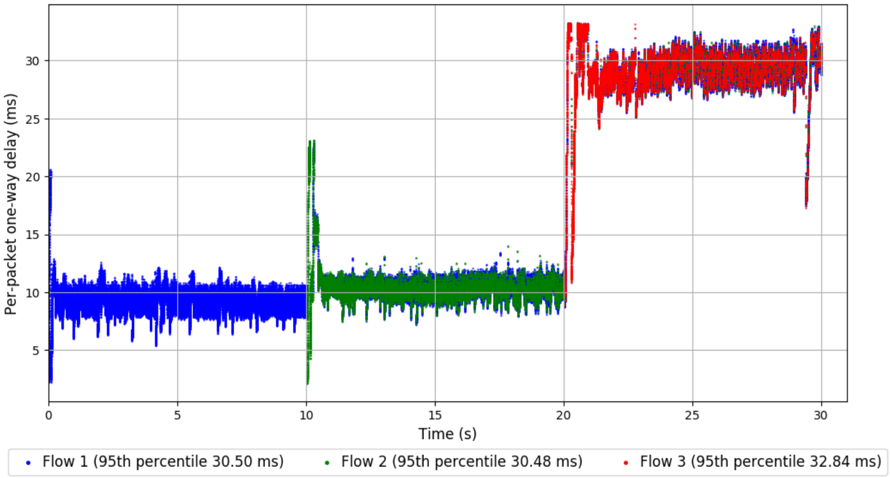




```
Run 4: Statistics of TCP BBR

Start at: 2018-07-10 04:45:04
End at: 2018-07-10 04:45:34
Local clock offset: -2.006 ms
Remote clock offset: 31.088 ms

# Below is generated by plot.py at 2018-07-10 06:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 30.700 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 76.93 Mbit/s
95th percentile per-packet one-way delay: 30.501 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 20.50 Mbit/s
95th percentile per-packet one-way delay: 30.484 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 19.91 Mbit/s
95th percentile per-packet one-way delay: 32.836 ms
Loss rate: 1.85%
```

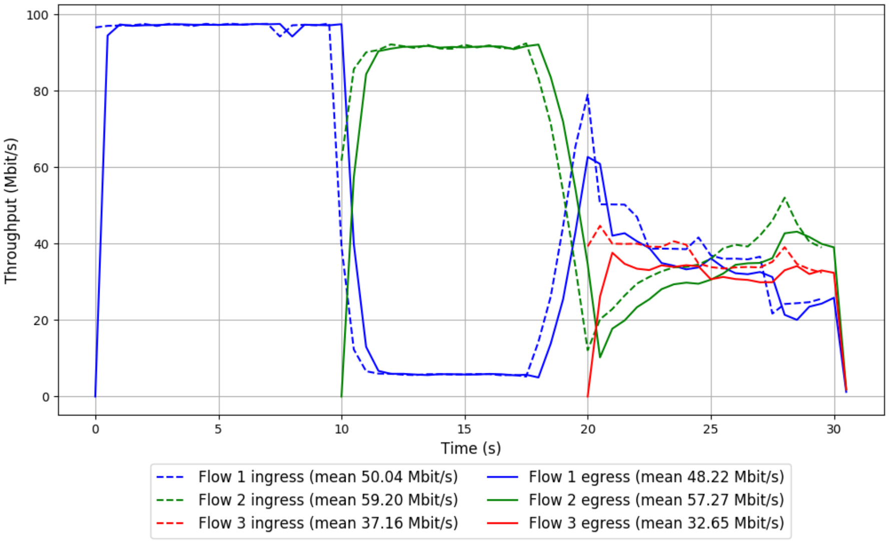
Run 4: Report of TCP BBR — Data Link

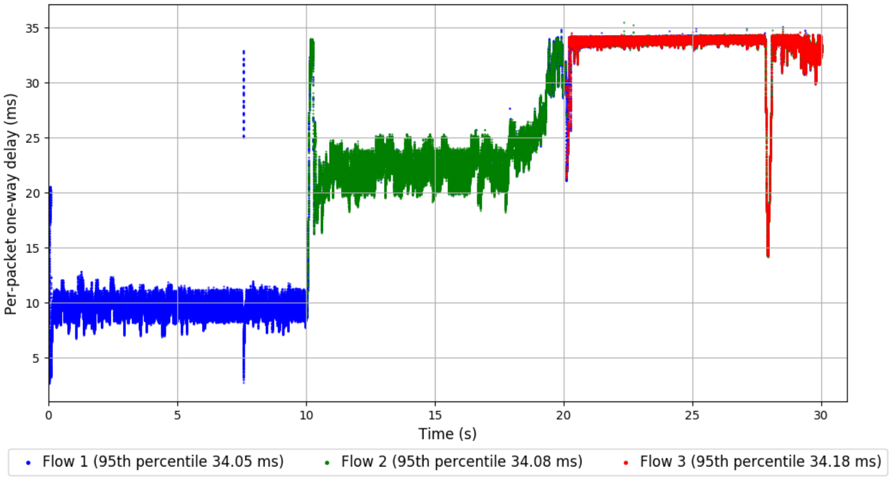




```
Run 5: Statistics of TCP BBR

Start at: 2018-07-10 05:04:15
End at: 2018-07-10 05:04:45
Local clock offset: -2.032 ms
Remote clock offset: 8.708 ms

# Below is generated by plot.py at 2018-07-10 06:53:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 34.096 ms
Loss rate: 4.42%
-- Flow 1:
Average throughput: 48.22 Mbit/s
95th percentile per-packet one-way delay: 34.046 ms
Loss rate: 3.53%
-- Flow 2:
Average throughput: 57.27 Mbit/s
95th percentile per-packet one-way delay: 34.082 ms
Loss rate: 3.15%
-- Flow 3:
Average throughput: 32.65 Mbit/s
95th percentile per-packet one-way delay: 34.182 ms
Loss rate: 12.12%
```

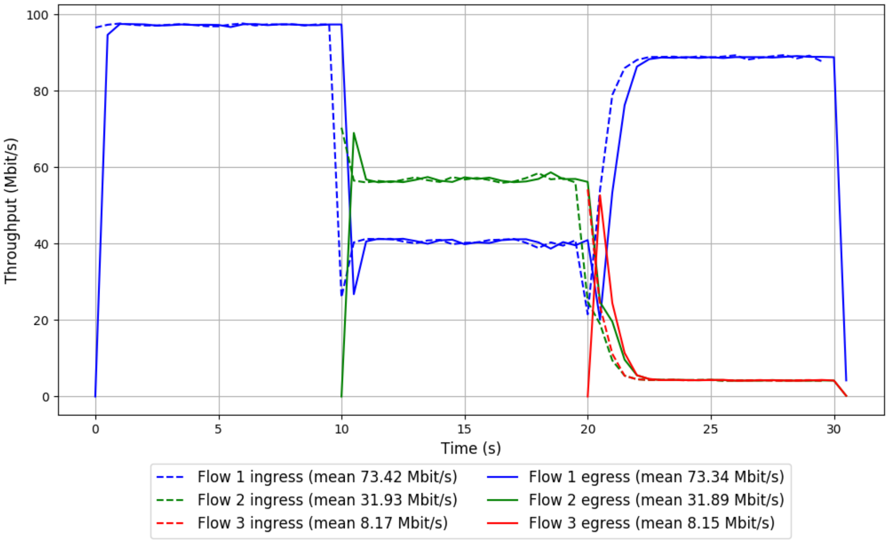
Run 5: Report of TCP BBR — Data Link

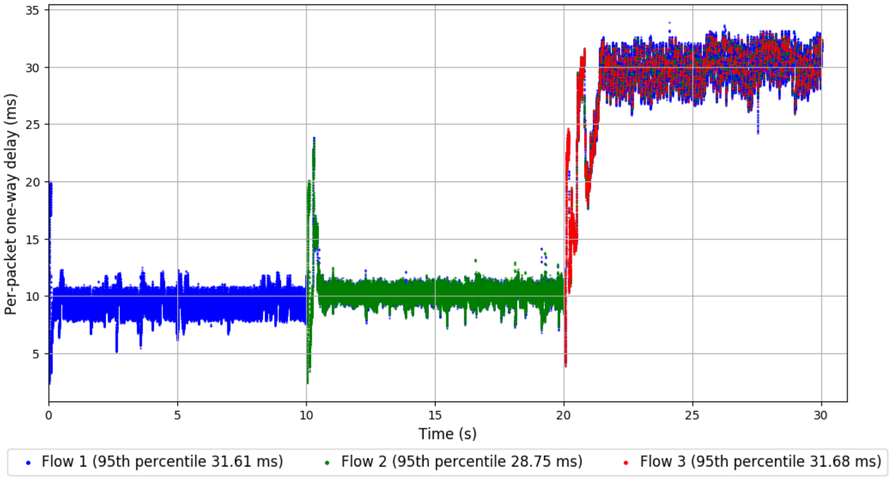




```
Run 6: Statistics of TCP BBR

Start at: 2018-07-10 05:23:27
End at: 2018-07-10 05:23:57
Local clock offset: -1.928 ms
Remote clock offset: -3.188 ms

# Below is generated by plot.py at 2018-07-10 06:53:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.30 Mbit/s
95th percentile per-packet one-way delay: 31.448 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 73.34 Mbit/s
95th percentile per-packet one-way delay: 31.612 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 31.89 Mbit/s
95th percentile per-packet one-way delay: 28.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 31.681 ms
Loss rate: 0.01%
```

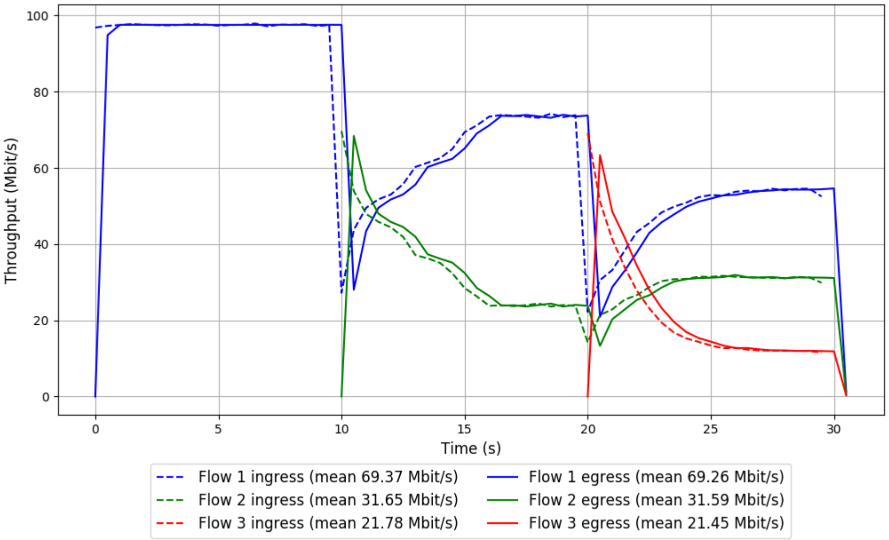
Run 6: Report of TCP BBR — Data Link

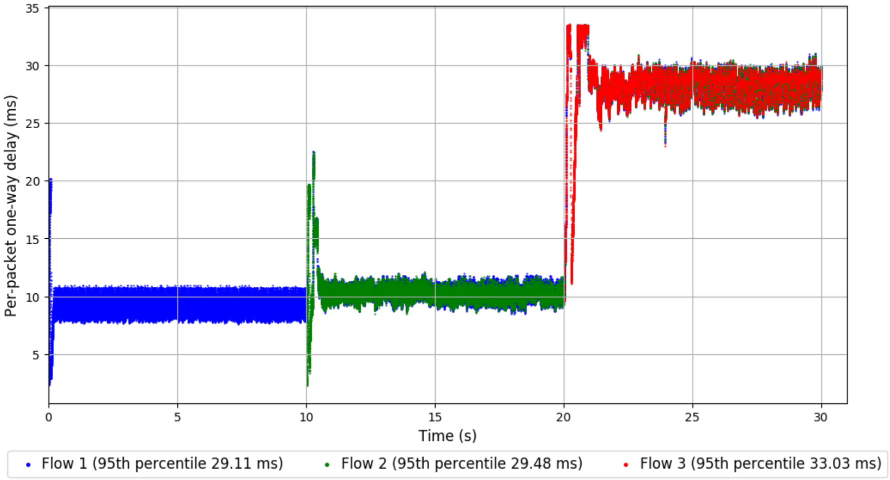




```
Run 7: Statistics of TCP BBR

Start at: 2018-07-10 05:42:44
End at: 2018-07-10 05:43:14
Local clock offset: -1.726 ms
Remote clock offset: -4.548 ms

# Below is generated by plot.py at 2018-07-10 06:53:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 29.376 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 69.26 Mbit/s
95th percentile per-packet one-way delay: 29.108 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 29.480 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 33.027 ms
Loss rate: 1.37%
```

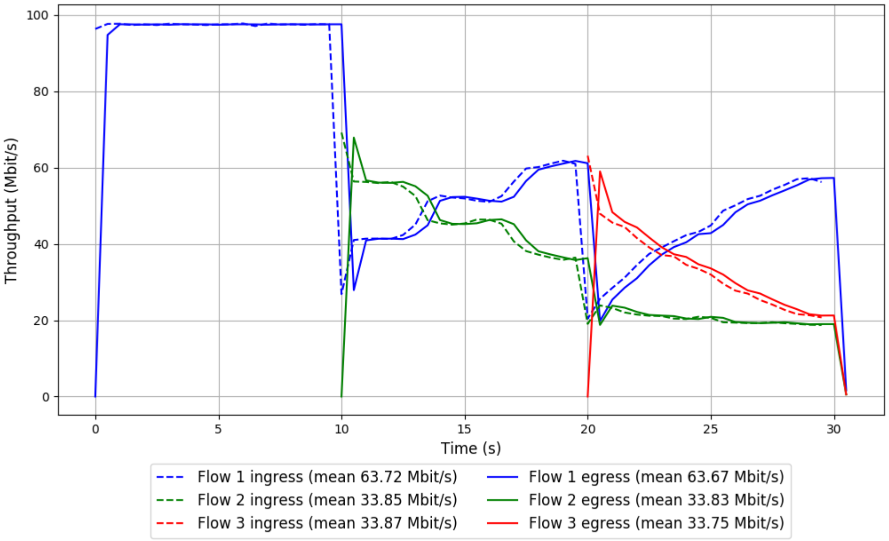
Run 7: Report of TCP BBR — Data Link

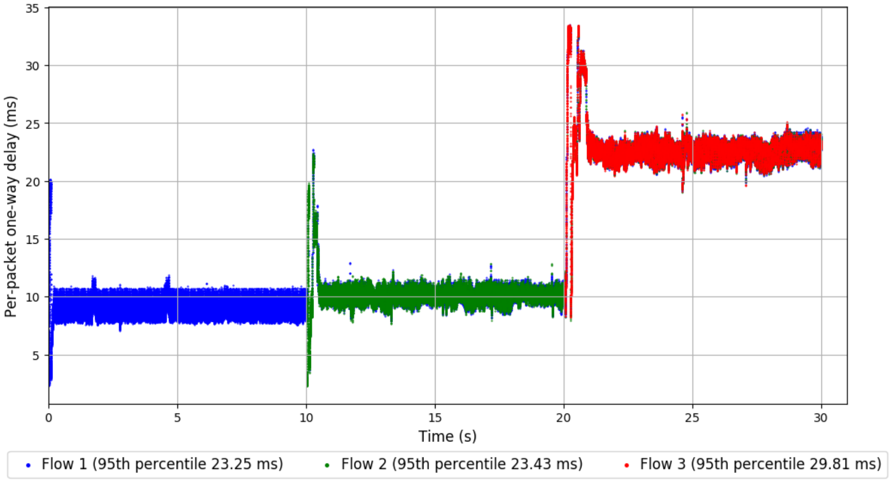




```
Run 8: Statistics of TCP BBR

Start at: 2018-07-10 06:01:56
End at: 2018-07-10 06:02:26
Local clock offset: -1.573 ms
Remote clock offset: -7.393 ms

# Below is generated by plot.py at 2018-07-10 06:53:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 23.493 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 63.67 Mbit/s
95th percentile per-packet one-way delay: 23.253 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 23.426 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 33.75 Mbit/s
95th percentile per-packet one-way delay: 29.806 ms
Loss rate: 0.25%
```

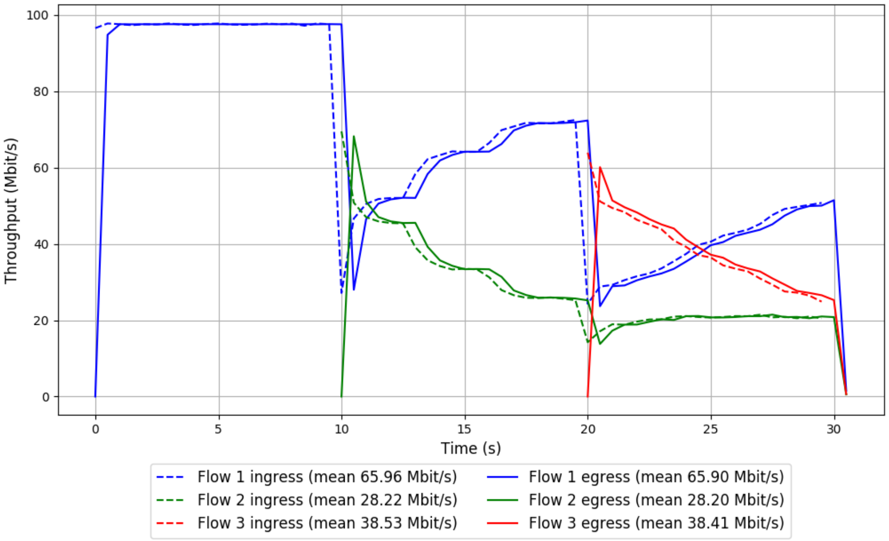
Run 8: Report of TCP BBR — Data Link

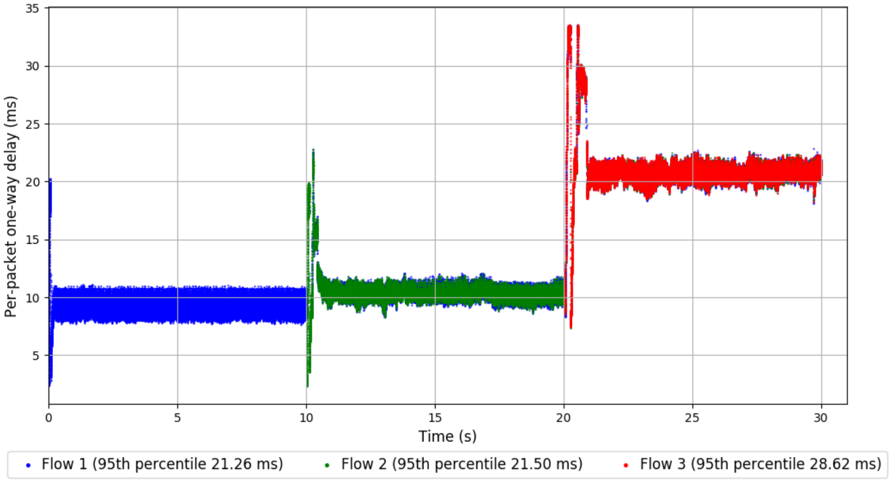




```
Run 9: Statistics of TCP BBR

Start at: 2018-07-10 06:21:07
End at: 2018-07-10 06:21:37
Local clock offset: -1.309 ms
Remote clock offset: -9.506 ms

# Below is generated by plot.py at 2018-07-10 06:54:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 21.526 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 65.90 Mbit/s
95th percentile per-packet one-way delay: 21.262 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 28.20 Mbit/s
95th percentile per-packet one-way delay: 21.495 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 28.620 ms
Loss rate: 0.17%
```

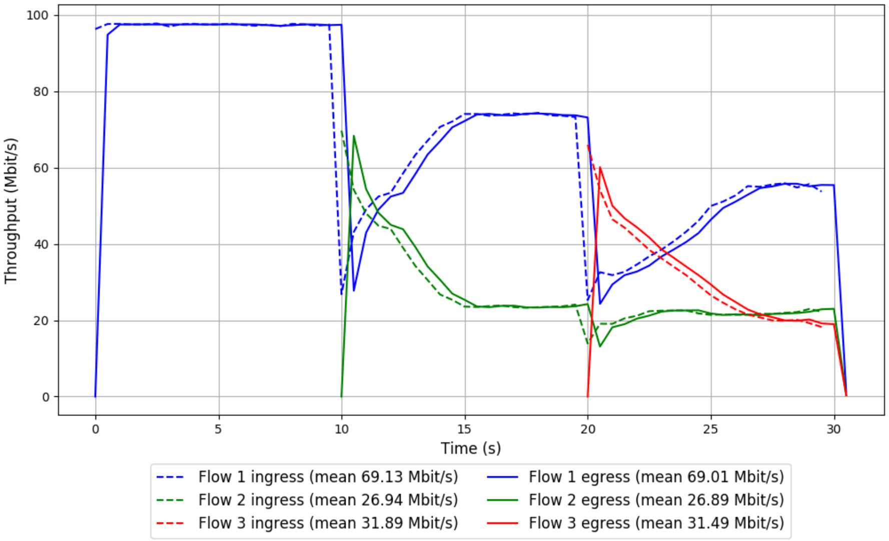
Run 9: Report of TCP BBR — Data Link

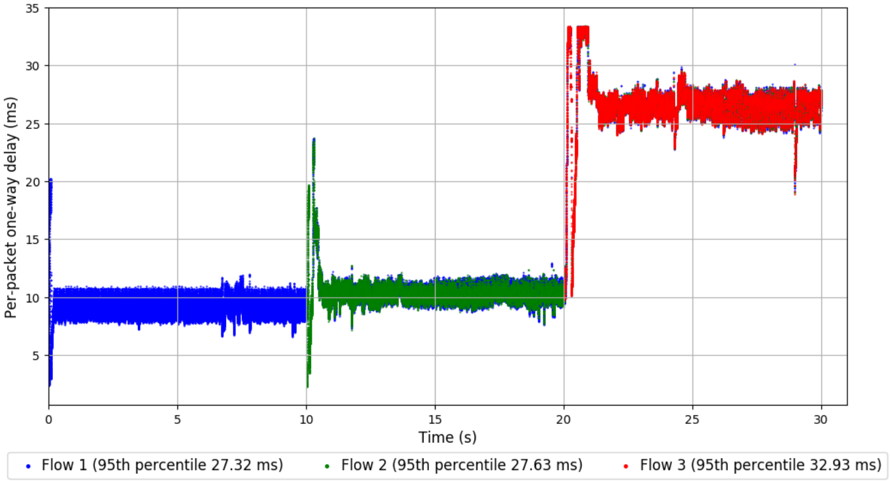




```
Run 10: Statistics of TCP BBR

Start at: 2018-07-10 06:40:19
End at: 2018-07-10 06:40:49
Local clock offset: -1.119 ms
Remote clock offset: -9.663 ms

# Below is generated by plot.py at 2018-07-10 06:54:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 27.638 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 69.01 Mbit/s
95th percentile per-packet one-way delay: 27.319 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 26.89 Mbit/s
95th percentile per-packet one-way delay: 27.629 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 31.49 Mbit/s
95th percentile per-packet one-way delay: 32.929 ms
Loss rate: 1.12%
```

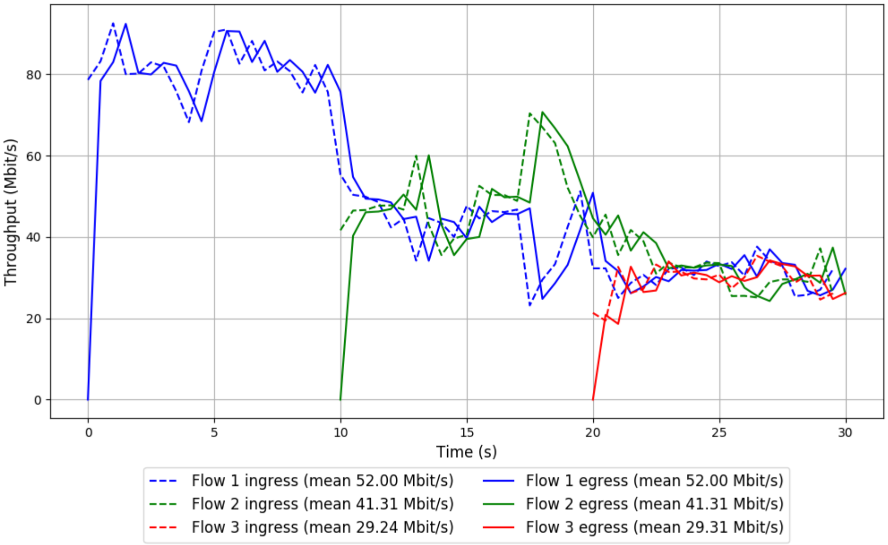
Run 10: Report of TCP BBR — Data Link

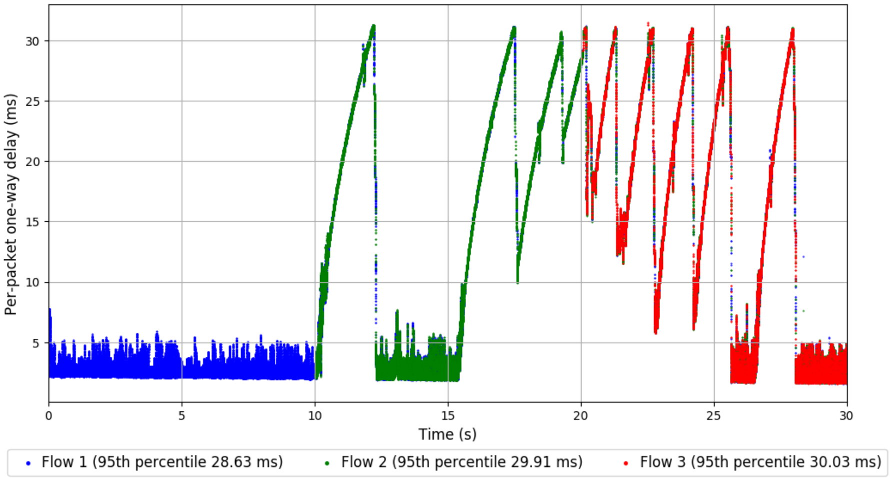




```
Run 1: Statistics of Copa

Start at: 2018-07-10 03:53:08
End at: 2018-07-10 03:53:38
Local clock offset: -2.255 ms
Remote clock offset: 6.375 ms

# Below is generated by plot.py at 2018-07-10 06:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.24 Mbit/s
95th percentile per-packet one-way delay: 29.333 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.00 Mbit/s
95th percentile per-packet one-way delay: 28.628 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 41.31 Mbit/s
95th percentile per-packet one-way delay: 29.909 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 29.31 Mbit/s
95th percentile per-packet one-way delay: 30.028 ms
Loss rate: 0.04%
```

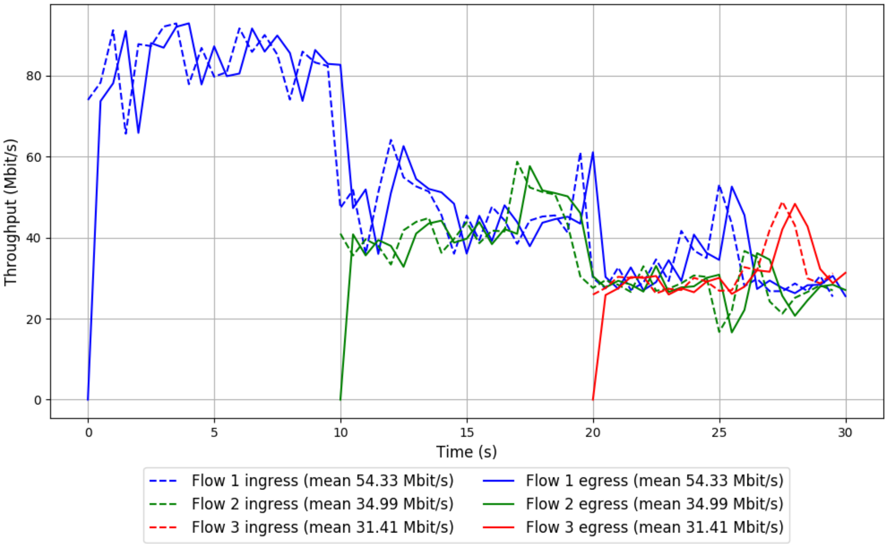
Run 1: Report of Copa — Data Link

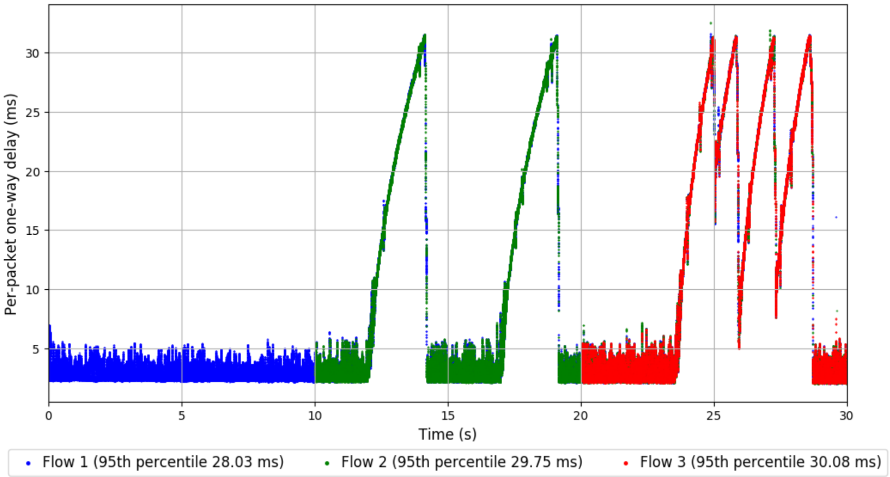




```
Run 2: Statistics of Copa

Start at: 2018-07-10 04:12:20
End at: 2018-07-10 04:12:50
Local clock offset: -2.186 ms
Remote clock offset: 18.852 ms

# Below is generated by plot.py at 2018-07-10 06:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.07 Mbit/s
95th percentile per-packet one-way delay: 29.022 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.33 Mbit/s
95th percentile per-packet one-way delay: 28.031 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.99 Mbit/s
95th percentile per-packet one-way delay: 29.750 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 31.41 Mbit/s
95th percentile per-packet one-way delay: 30.083 ms
Loss rate: 0.01%
```

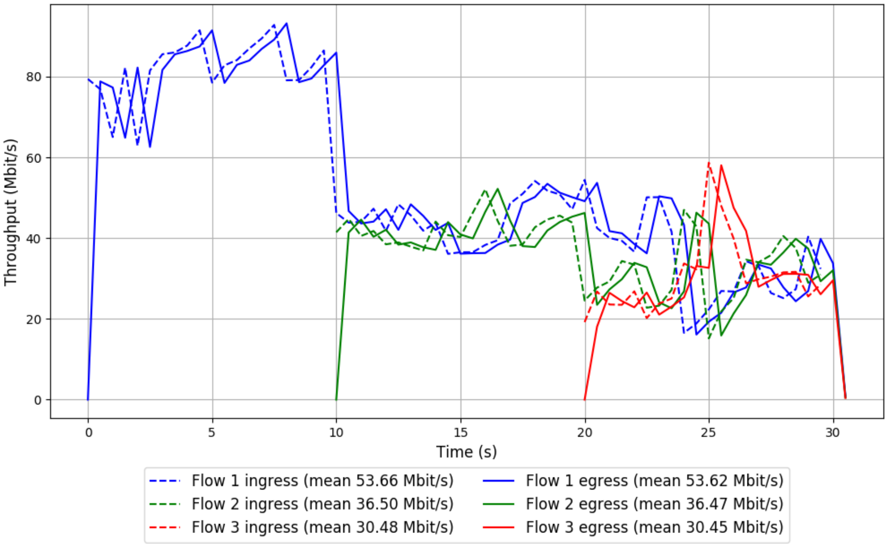
Run 2: Report of Copa — Data Link

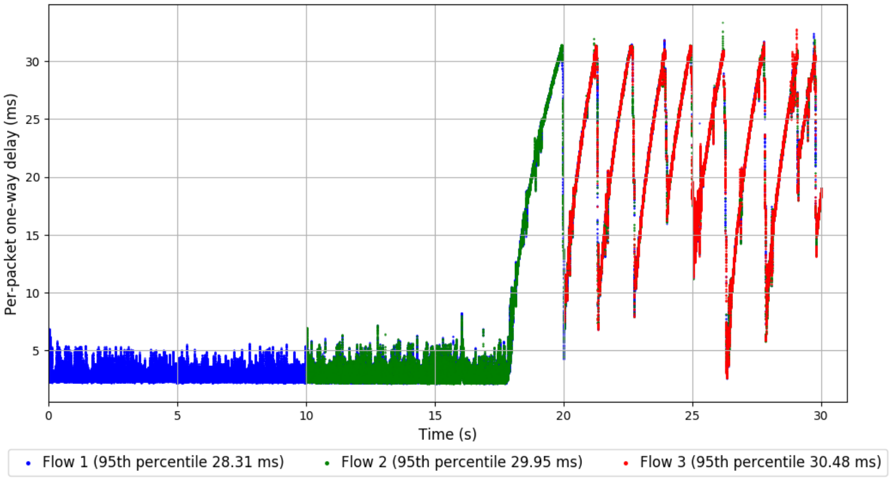




```
Run 3: Statistics of Copa

Start at: 2018-07-10 04:31:32
End at: 2018-07-10 04:32:02
Local clock offset: -2.093 ms
Remote clock offset: 26.24 ms

# Below is generated by plot.py at 2018-07-10 06:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 29.414 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 53.62 Mbit/s
95th percentile per-packet one-way delay: 28.310 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 29.952 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 30.481 ms
Loss rate: 0.02%
```

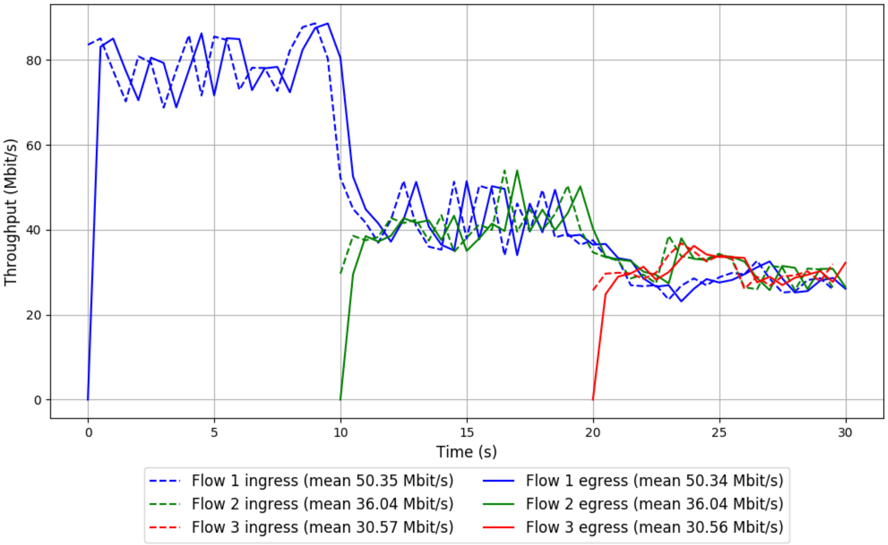
Run 3: Report of Copa — Data Link

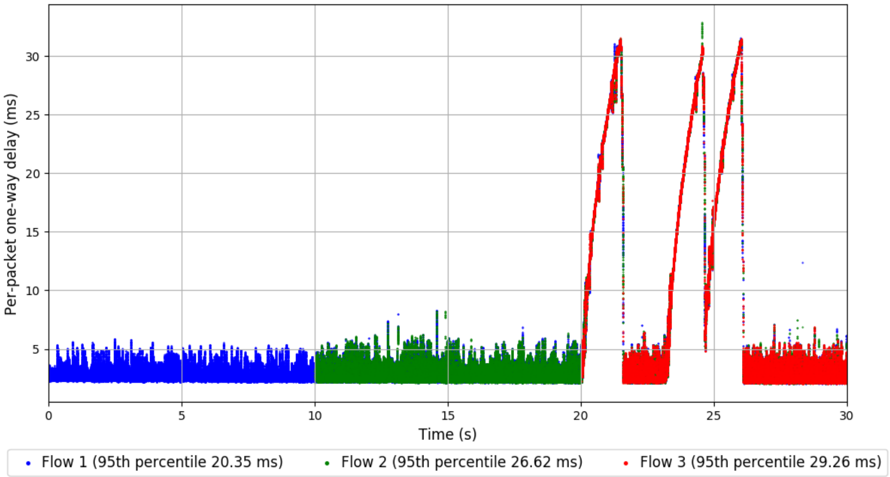




```
Run 4: Statistics of Copa

Start at: 2018-07-10 04:50:44
End at: 2018-07-10 04:51:14
Local clock offset: -1.999 ms
Remote clock offset: 33.16 ms

# Below is generated by plot.py at 2018-07-10 06:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.51 Mbit/s
95th percentile per-packet one-way delay: 25.823 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 20.350 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.04 Mbit/s
95th percentile per-packet one-way delay: 26.616 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 29.260 ms
Loss rate: 0.01%
```

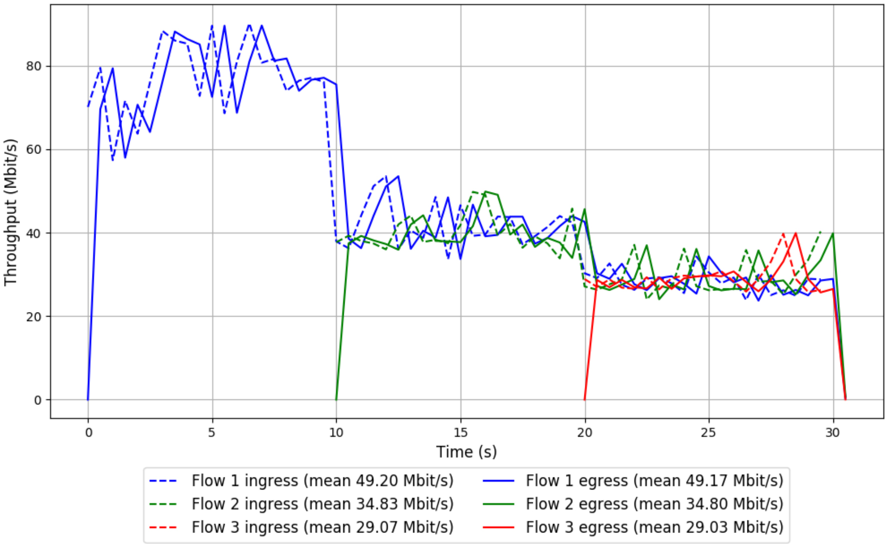
Run 4: Report of Copa — Data Link

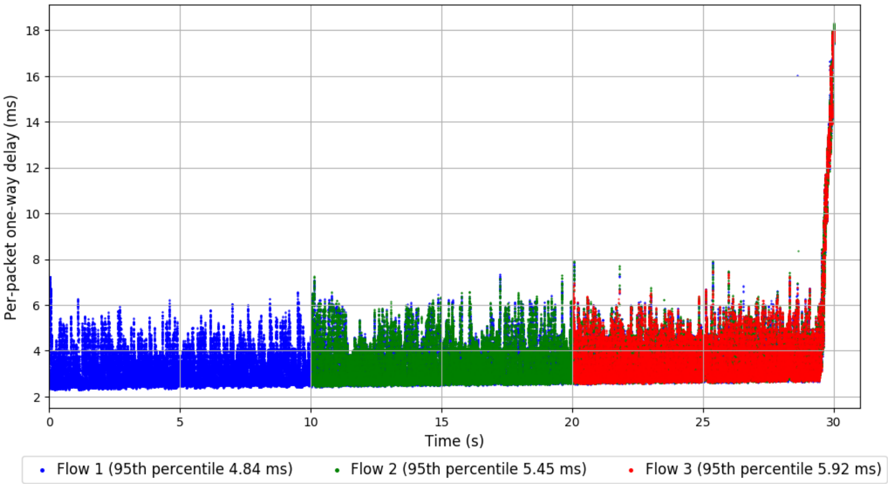




```
Run 5: Statistics of Copa

Start at: 2018-07-10 05:09:56
End at: 2018-07-10 05:10:26
Local clock offset: -1.989 ms
Remote clock offset: 3.166 ms

# Below is generated by plot.py at 2018-07-10 06:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.02 Mbit/s
95th percentile per-packet one-way delay: 5.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.17 Mbit/s
95th percentile per-packet one-way delay: 4.840 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.80 Mbit/s
95th percentile per-packet one-way delay: 5.453 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.03 Mbit/s
95th percentile per-packet one-way delay: 5.921 ms
Loss rate: 0.00%
```

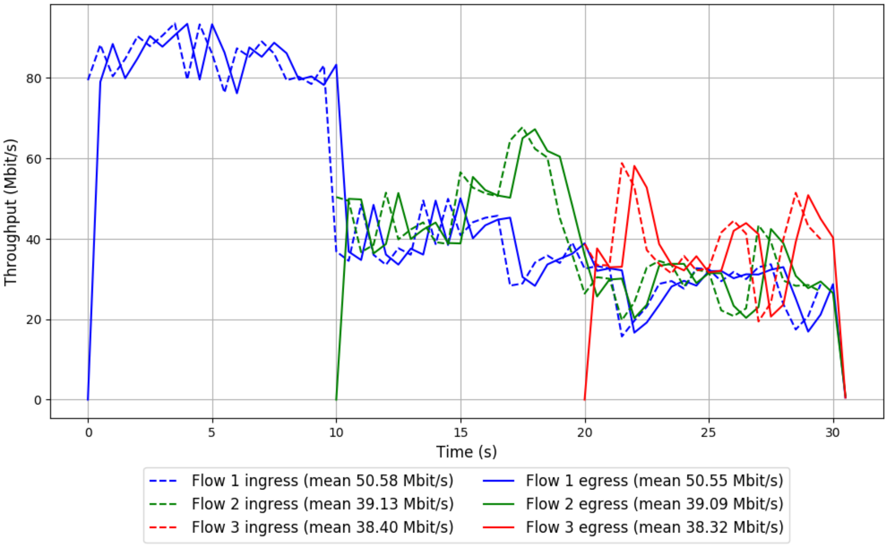
Run 5: Report of Copa — Data Link

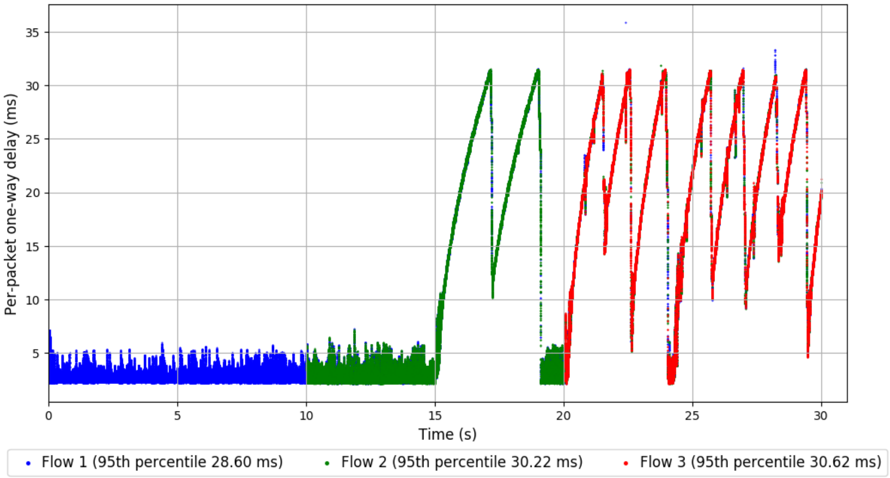




```
Run 6: Statistics of Copa

Start at: 2018-07-10 05:29:08
End at: 2018-07-10 05:29:38
Local clock offset: -1.867 ms
Remote clock offset: -4.125 ms

# Below is generated by plot.py at 2018-07-10 06:55:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.35 Mbit/s
95th percentile per-packet one-way delay: 29.851 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.55 Mbit/s
95th percentile per-packet one-way delay: 28.603 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 39.09 Mbit/s
95th percentile per-packet one-way delay: 30.216 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 30.624 ms
Loss rate: 0.02%
```

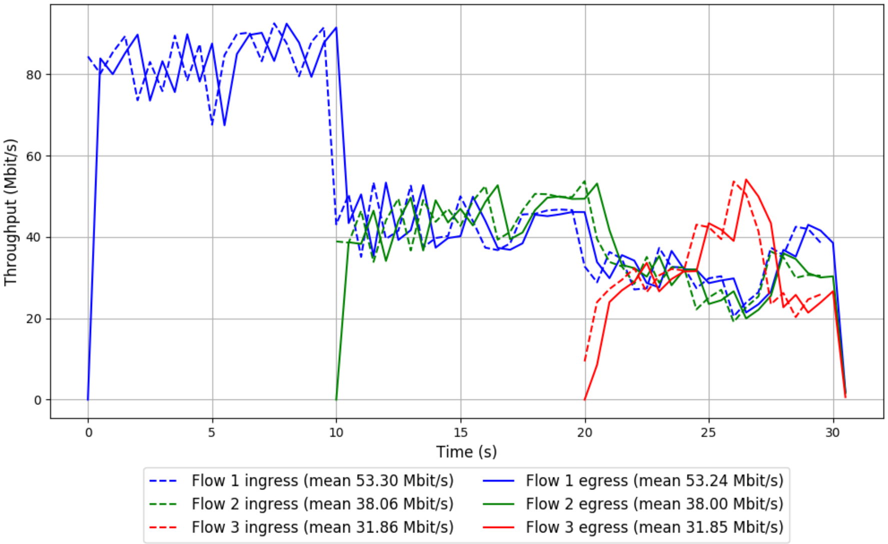
Run 6: Report of Copa — Data Link

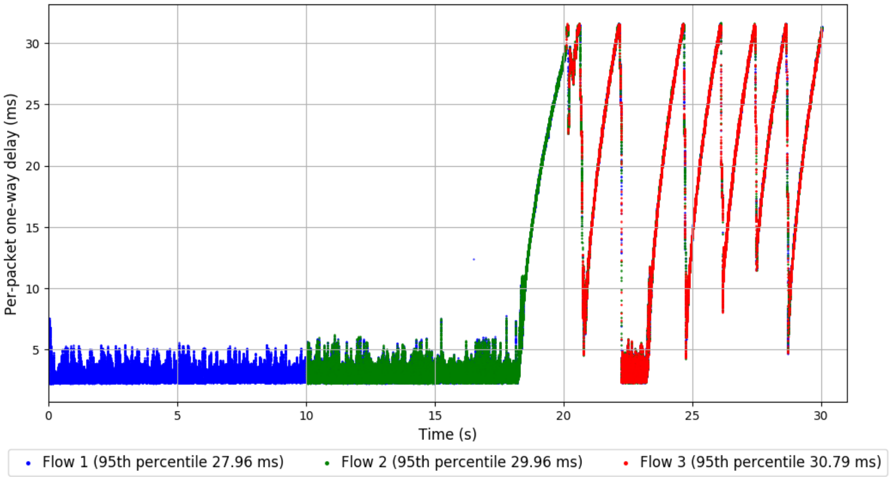




```
Run 7: Statistics of Copa

Start at: 2018-07-10 05:48:25
End at: 2018-07-10 05:48:55
Local clock offset: -1.69 ms
Remote clock offset: -5.396 ms

# Below is generated by plot.py at 2018-07-10 06:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.13 Mbit/s
95th percentile per-packet one-way delay: 29.452 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.24 Mbit/s
95th percentile per-packet one-way delay: 27.962 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 29.957 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 31.85 Mbit/s
95th percentile per-packet one-way delay: 30.793 ms
Loss rate: 0.02%
```

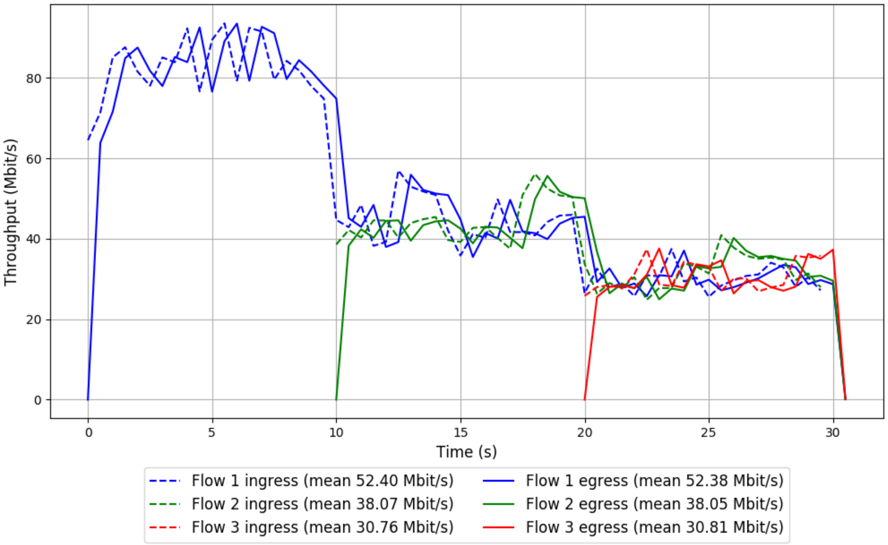
Run 7: Report of Copa — Data Link

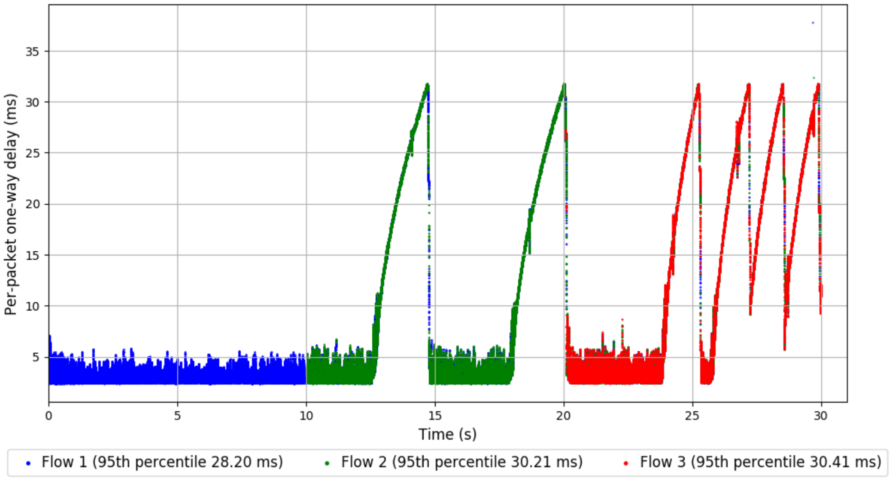




```
Run 8: Statistics of Copa

Start at: 2018-07-10 06:07:37
End at: 2018-07-10 06:08:07
Local clock offset: -1.557 ms
Remote clock offset: -7.791 ms

# Below is generated by plot.py at 2018-07-10 06:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 29.439 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.38 Mbit/s
95th percentile per-packet one-way delay: 28.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.05 Mbit/s
95th percentile per-packet one-way delay: 30.208 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 30.413 ms
Loss rate: 0.02%
```

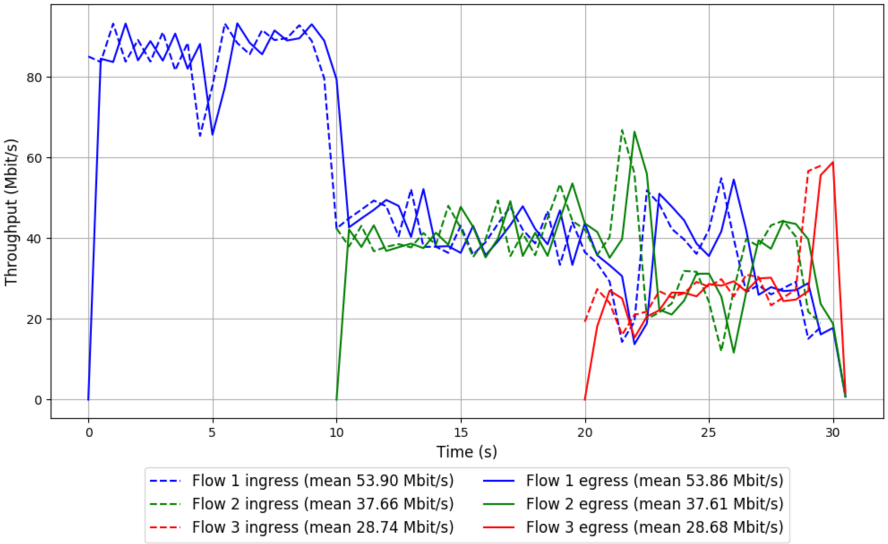
Run 8: Report of Copa — Data Link

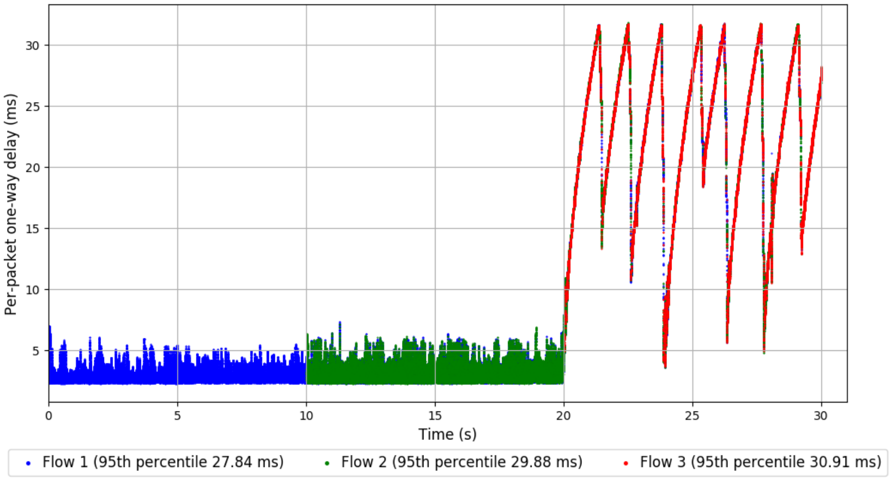




```
Run 9: Statistics of Copa

Start at: 2018-07-10 06:26:48
End at: 2018-07-10 06:27:18
Local clock offset: -1.266 ms
Remote clock offset: -10.371 ms

# Below is generated by plot.py at 2018-07-10 06:57:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.46 Mbit/s
95th percentile per-packet one-way delay: 29.529 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.86 Mbit/s
95th percentile per-packet one-way delay: 27.839 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 37.61 Mbit/s
95th percentile per-packet one-way delay: 29.875 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.68 Mbit/s
95th percentile per-packet one-way delay: 30.908 ms
Loss rate: 0.02%
```

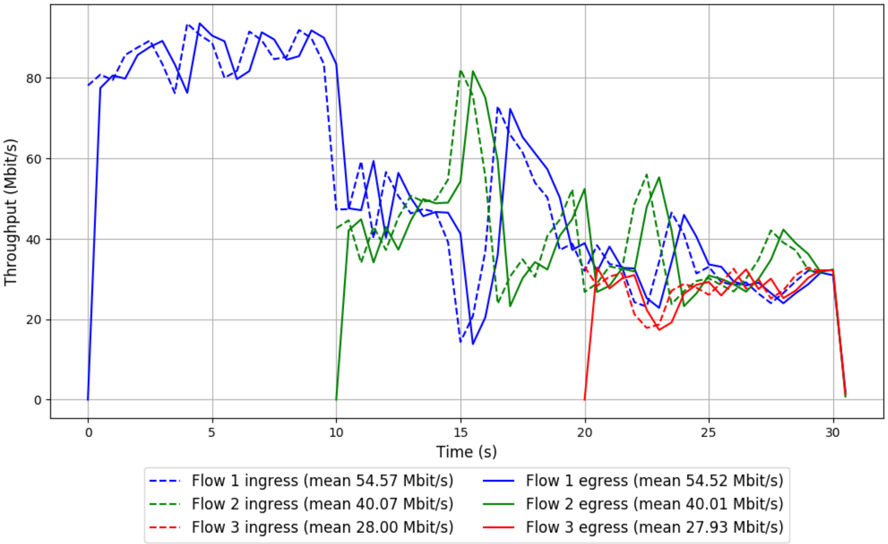
Run 9: Report of Copa — Data Link

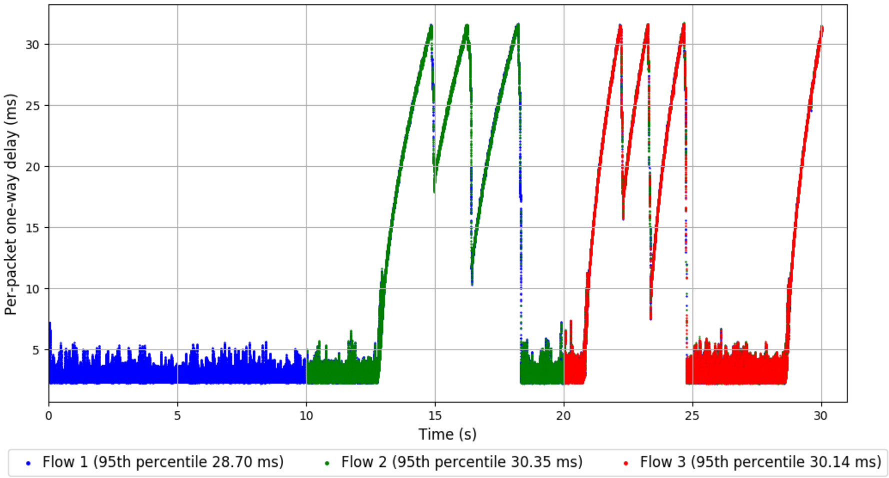




```
Run 10: Statistics of Copa

Start at: 2018-07-10 06:45:59
End at: 2018-07-10 06:46:29
Local clock offset: -1.012 ms
Remote clock offset: -8.724 ms

# Below is generated by plot.py at 2018-07-10 06:57:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.47 Mbit/s
95th percentile per-packet one-way delay: 29.750 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.52 Mbit/s
95th percentile per-packet one-way delay: 28.703 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 30.353 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 27.93 Mbit/s
95th percentile per-packet one-way delay: 30.142 ms
Loss rate: 0.01%
```

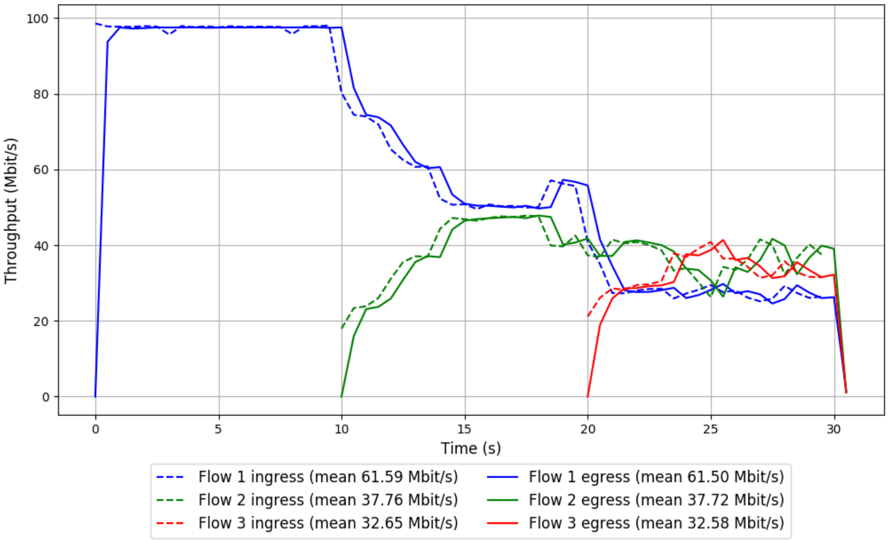
Run 10: Report of Copa — Data Link

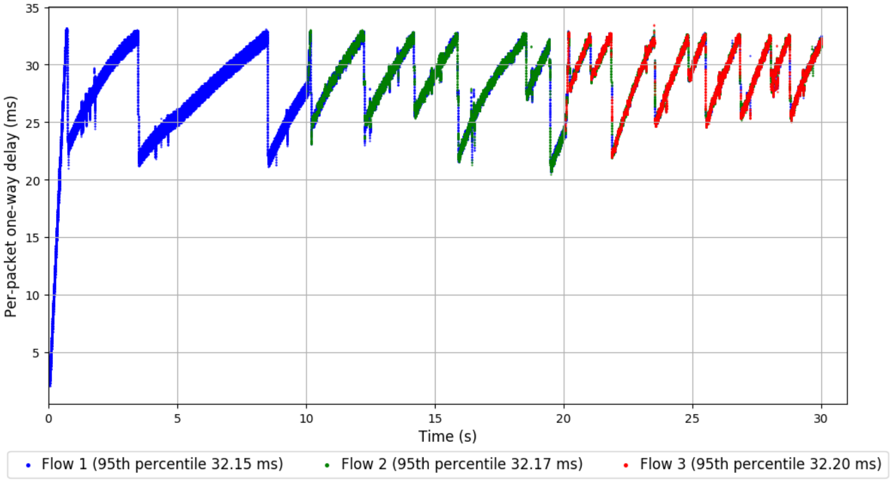




```
Run 1: Statistics of TCP Cubic

Start at: 2018-07-10 03:55:22
End at: 2018-07-10 03:55:52
Local clock offset: -2.322 ms
Remote clock offset: 8.468 ms

# Below is generated by plot.py at 2018-07-10 06:57:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 32.165 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 61.50 Mbit/s
95th percentile per-packet one-way delay: 32.148 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 37.72 Mbit/s
95th percentile per-packet one-way delay: 32.174 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 32.201 ms
Loss rate: 0.11%
```

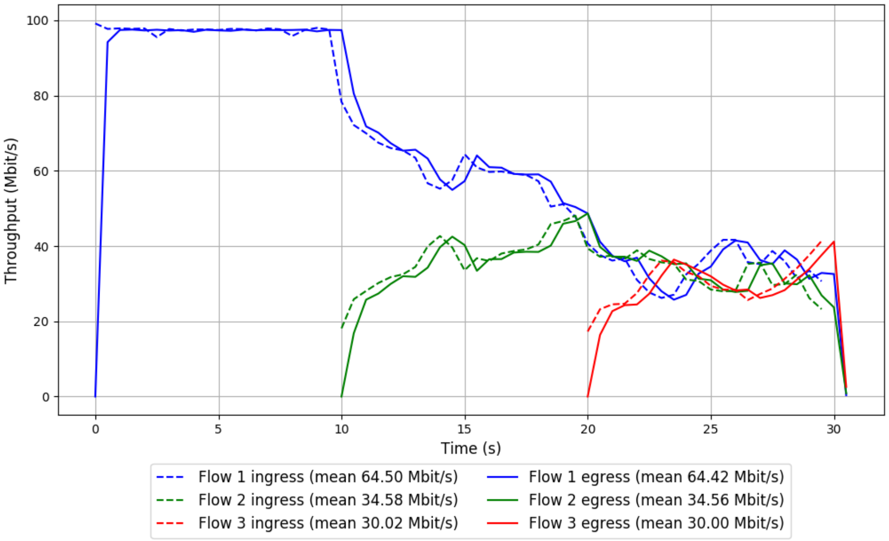
Run 1: Report of TCP Cubic — Data Link

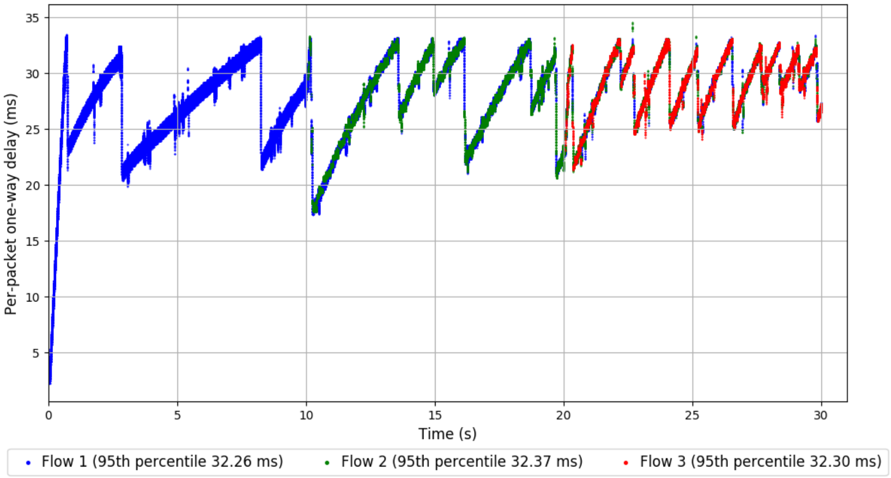




```
Run 2: Statistics of TCP Cubic

Start at: 2018-07-10 04:14:34
End at: 2018-07-10 04:15:04
Local clock offset: -2.22 ms
Remote clock offset: 19.73 ms

# Below is generated by plot.py at 2018-07-10 06:57:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.36 Mbit/s
95th percentile per-packet one-way delay: 32.308 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.42 Mbit/s
95th percentile per-packet one-way delay: 32.262 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.56 Mbit/s
95th percentile per-packet one-way delay: 32.368 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 32.302 ms
Loss rate: 0.02%
```

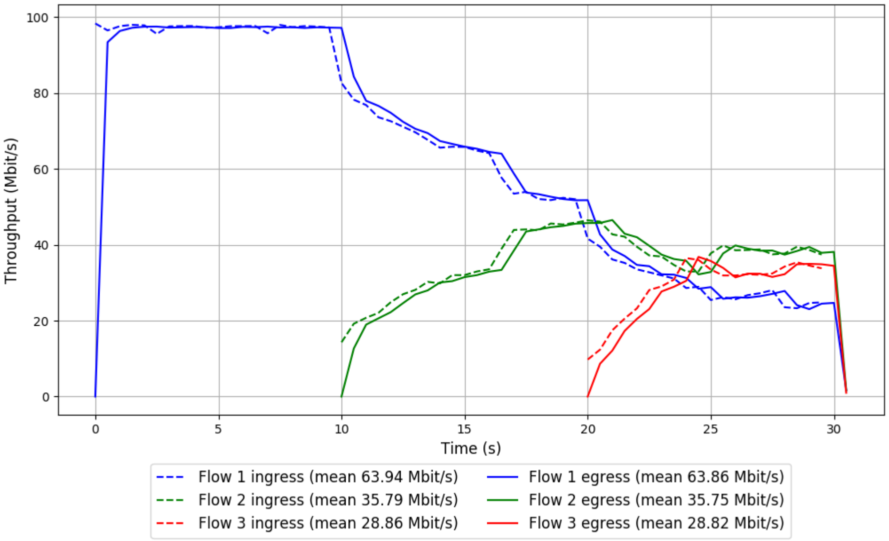
Run 2: Report of TCP Cubic — Data Link

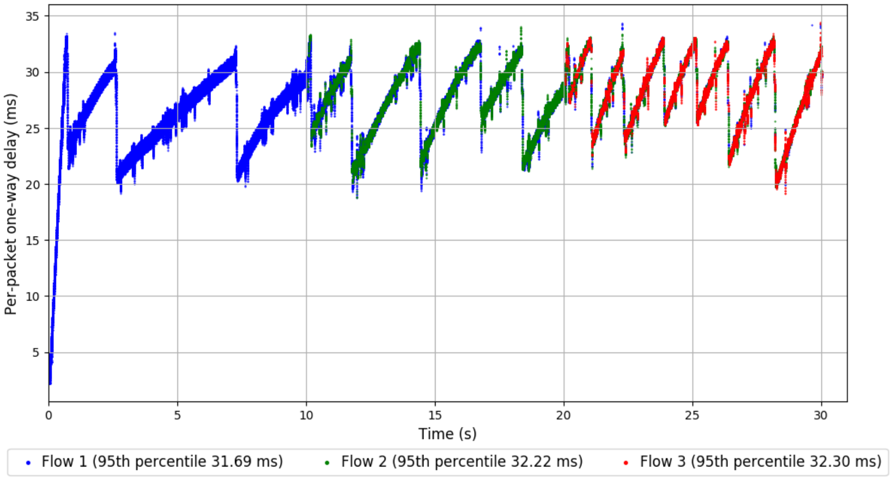




```
Run 3: Statistics of TCP Cubic

Start at: 2018-07-10 04:33:46
End at: 2018-07-10 04:34:16
Local clock offset: -2.135 ms
Remote clock offset: 26.98 ms

# Below is generated by plot.py at 2018-07-10 06:57:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 31.997 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 63.86 Mbit/s
95th percentile per-packet one-way delay: 31.688 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 32.223 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 32.297 ms
Loss rate: 0.10%
```

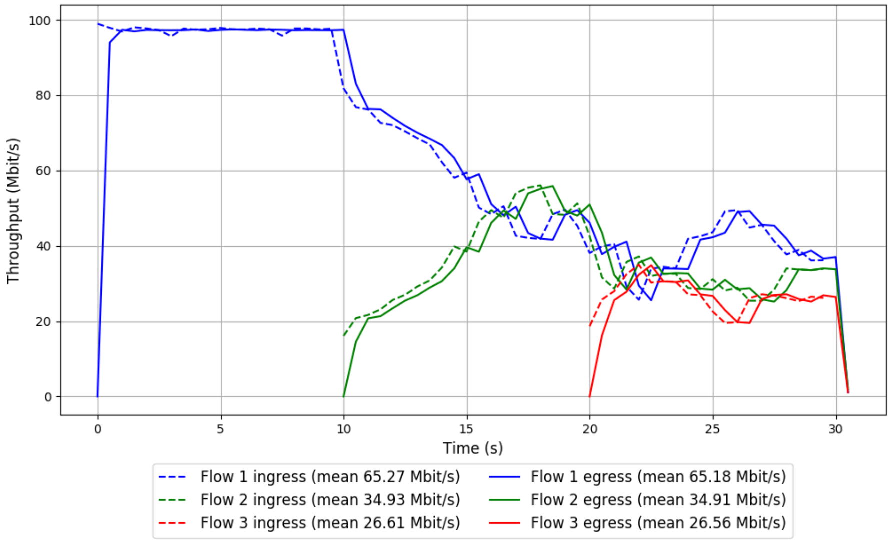
Run 3: Report of TCP Cubic — Data Link

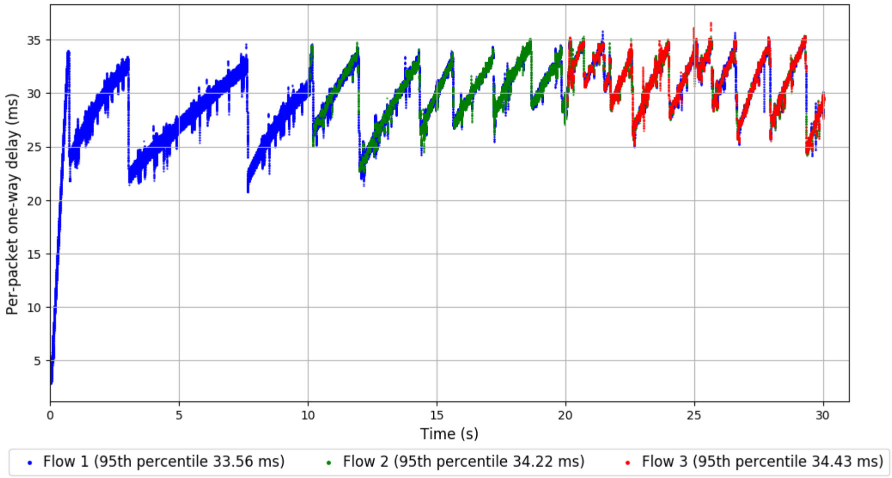




```
Run 4: Statistics of TCP Cubic

Start at: 2018-07-10 04:52:58
End at: 2018-07-10 04:53:28
Local clock offset: -2.024 ms
Remote clock offset: 33.916 ms

# Below is generated by plot.py at 2018-07-10 06:57:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 33.948 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 65.18 Mbit/s
95th percentile per-packet one-way delay: 33.559 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 34.91 Mbit/s
95th percentile per-packet one-way delay: 34.215 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 26.56 Mbit/s
95th percentile per-packet one-way delay: 34.431 ms
Loss rate: 0.21%
```

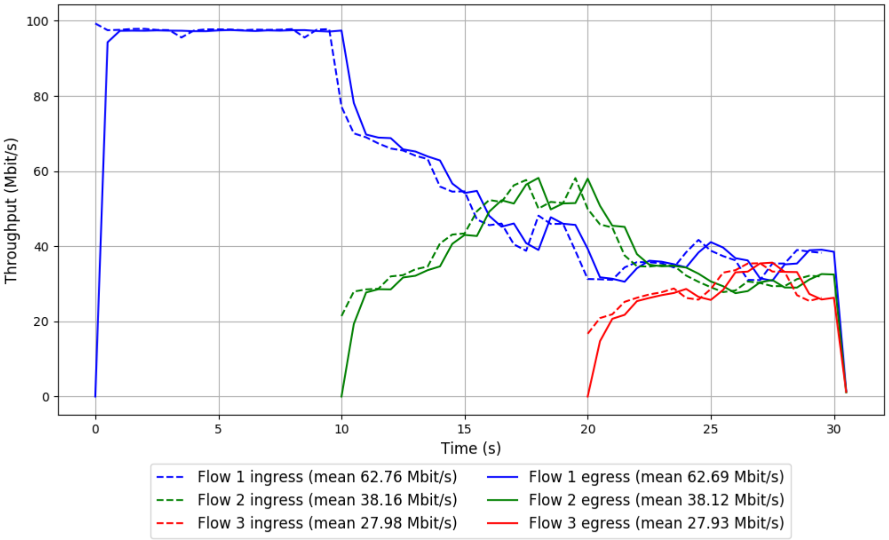
Run 4: Report of TCP Cubic — Data Link

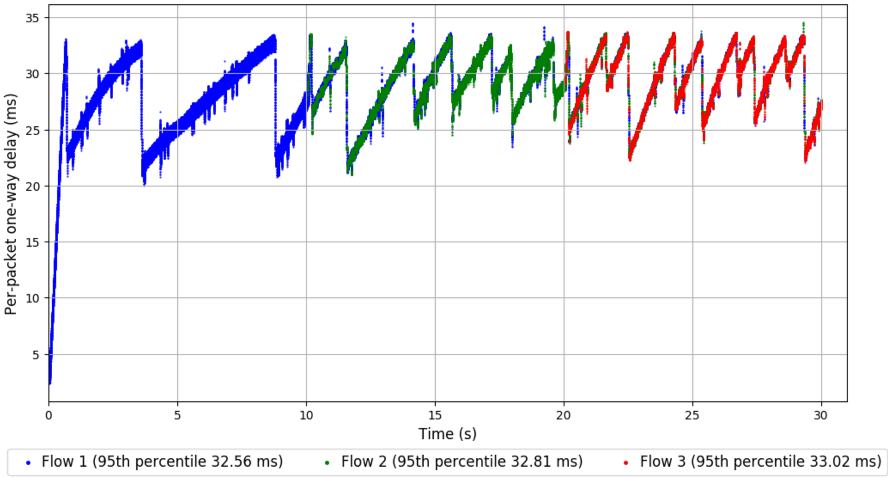




```
Run 5: Statistics of TCP Cubic

Start at: 2018-07-10 05:12:10
End at: 2018-07-10 05:12:40
Local clock offset: -2.045 ms
Remote clock offset: 1.682 ms

# Below is generated by plot.py at 2018-07-10 06:58:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 32.682 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 62.69 Mbit/s
95th percentile per-packet one-way delay: 32.565 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.12 Mbit/s
95th percentile per-packet one-way delay: 32.814 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 27.93 Mbit/s
95th percentile per-packet one-way delay: 33.015 ms
Loss rate: 0.19%
```

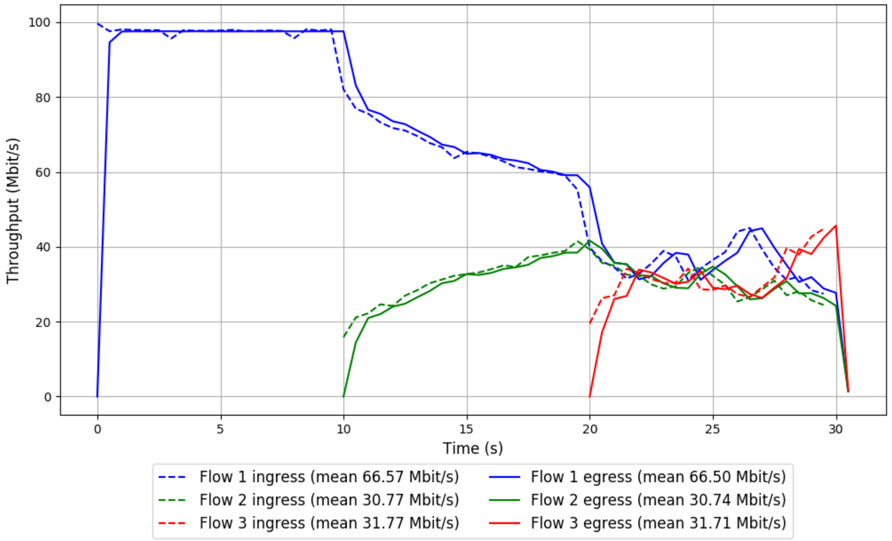
Run 5: Report of TCP Cubic — Data Link

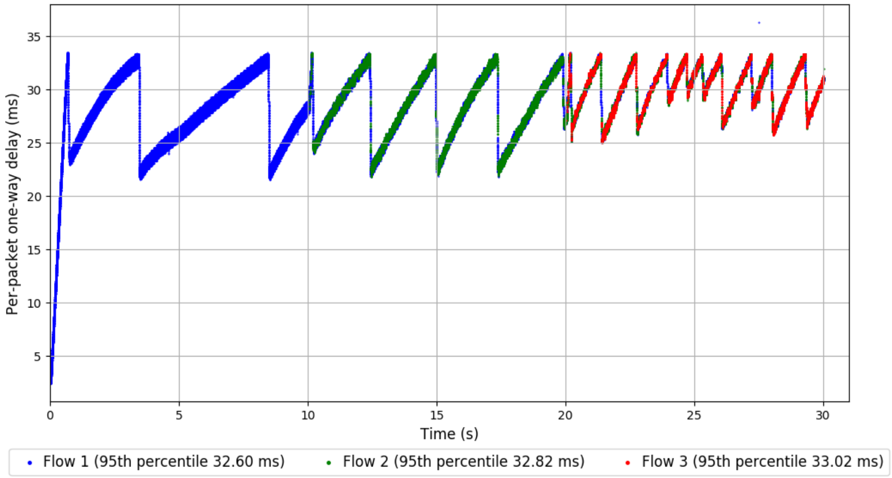




```
Run 6: Statistics of TCP Cubic

Start at: 2018-07-10 05:31:22
End at: 2018-07-10 05:31:52
Local clock offset: -1.85 ms
Remote clock offset: -3.808 ms

# Below is generated by plot.py at 2018-07-10 06:58:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.778 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 66.50 Mbit/s
95th percentile per-packet one-way delay: 32.597 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 30.74 Mbit/s
95th percentile per-packet one-way delay: 32.818 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 31.71 Mbit/s
95th percentile per-packet one-way delay: 33.020 ms
Loss rate: 0.14%
```

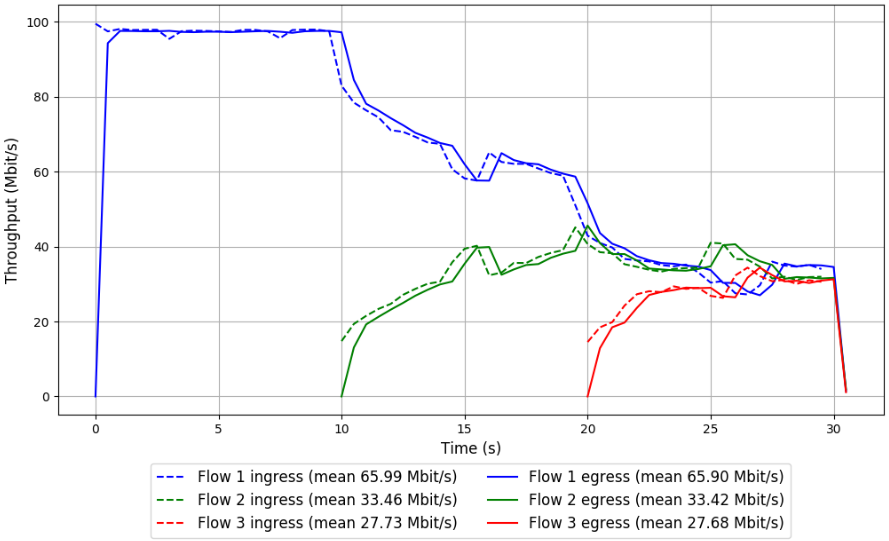
Run 6: Report of TCP Cubic — Data Link

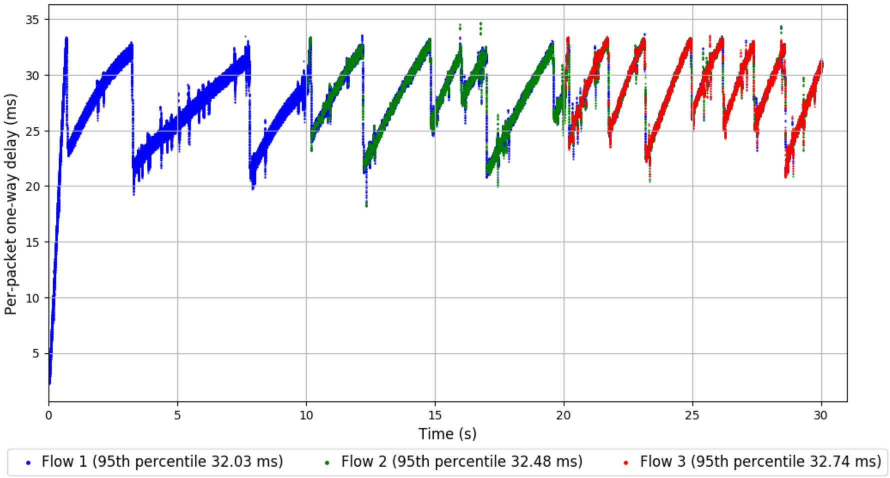




```
Run 7: Statistics of TCP Cubic

Start at: 2018-07-10 05:50:39
End at: 2018-07-10 05:51:09
Local clock offset: -1.659 ms
Remote clock offset: -5.679 ms

# Below is generated by plot.py at 2018-07-10 06:58:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 32.255 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 65.90 Mbit/s
95th percentile per-packet one-way delay: 32.030 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 32.479 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 27.68 Mbit/s
95th percentile per-packet one-way delay: 32.740 ms
Loss rate: 0.17%
```

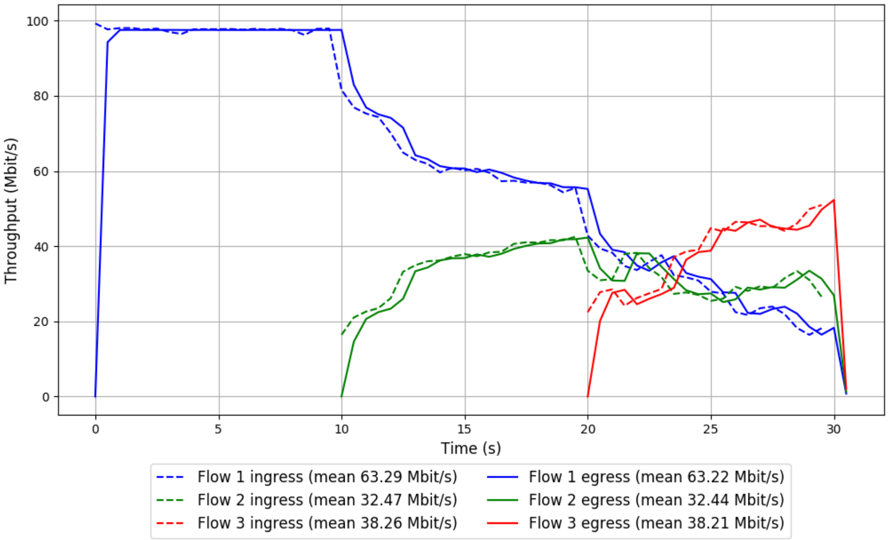
Run 7: Report of TCP Cubic — Data Link

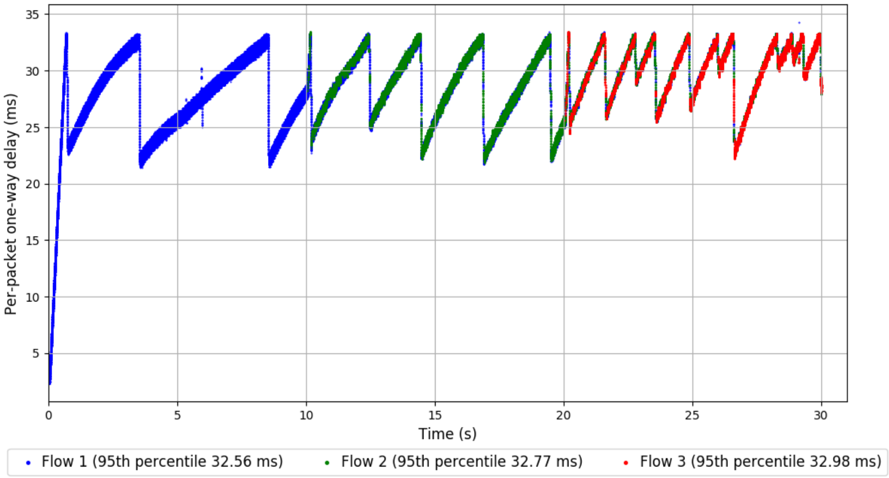




```
Run 8: Statistics of TCP Cubic

Start at: 2018-07-10 06:09:51
End at: 2018-07-10 06:10:21
Local clock offset: -1.472 ms
Remote clock offset: -8.106 ms

# Below is generated by plot.py at 2018-07-10 06:58:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.723 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 63.22 Mbit/s
95th percentile per-packet one-way delay: 32.556 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 32.773 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 38.21 Mbit/s
95th percentile per-packet one-way delay: 32.975 ms
Loss rate: 0.09%
```

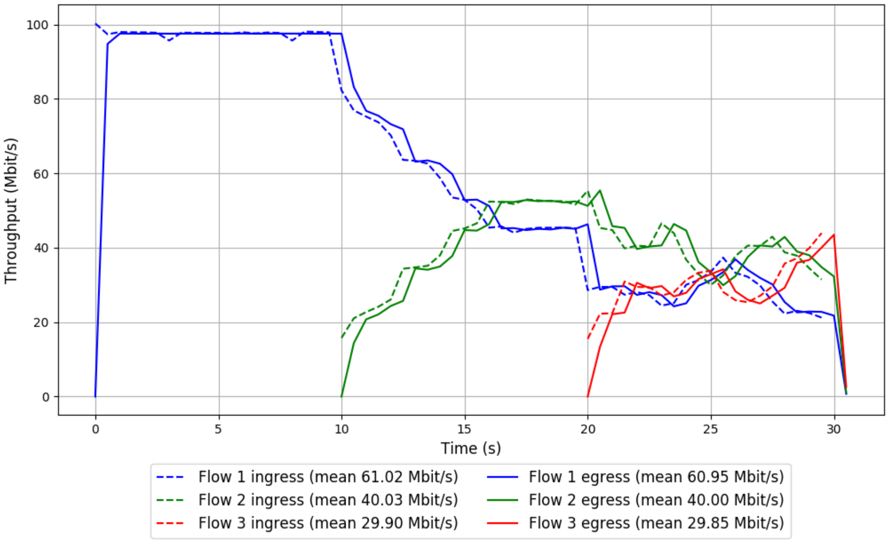
Run 8: Report of TCP Cubic — Data Link

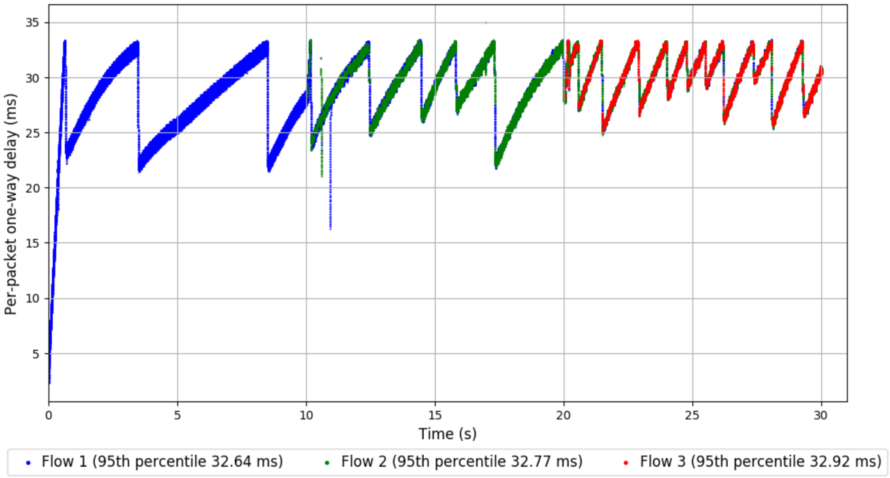




```
Run 9: Statistics of TCP Cubic

Start at: 2018-07-10 06:29:02
End at: 2018-07-10 06:29:32
Local clock offset: -1.246 ms
Remote clock offset: -10.748 ms

# Below is generated by plot.py at 2018-07-10 06:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 32.722 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 60.95 Mbit/s
95th percentile per-packet one-way delay: 32.637 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.00 Mbit/s
95th percentile per-packet one-way delay: 32.770 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.85 Mbit/s
95th percentile per-packet one-way delay: 32.923 ms
Loss rate: 0.14%
```

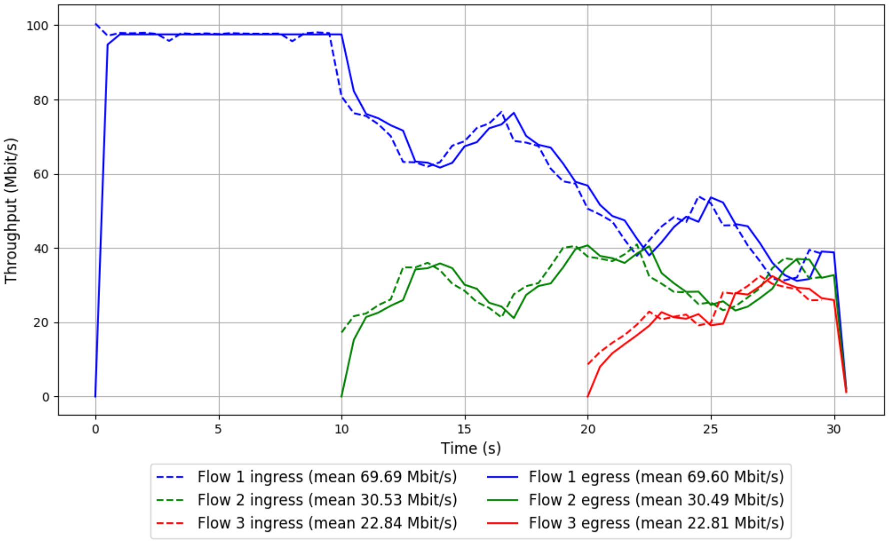
Run 9: Report of TCP Cubic — Data Link

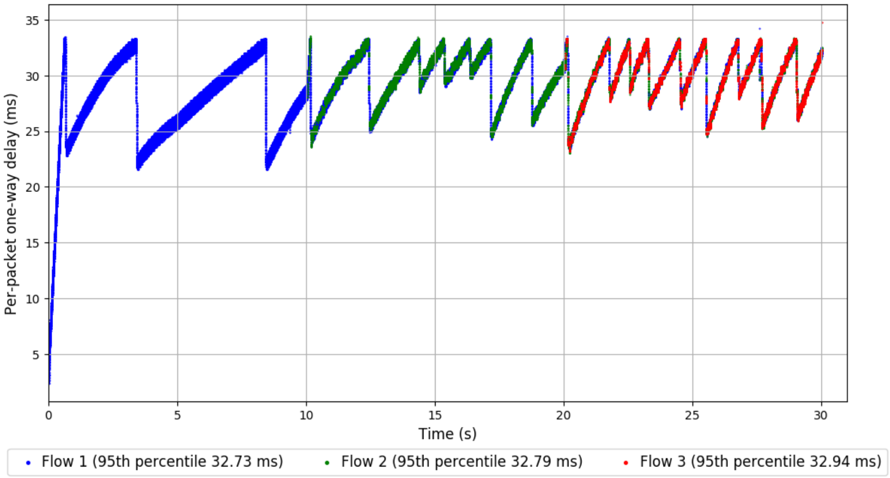




```
Run 10: Statistics of TCP Cubic

Start at: 2018-07-10 06:48:14
End at: 2018-07-10 06:48:44
Local clock offset: -1.038 ms
Remote clock offset: -8.541 ms

# Below is generated by plot.py at 2018-07-10 06:58:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.751 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 69.60 Mbit/s
95th percentile per-packet one-way delay: 32.728 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 32.787 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 22.81 Mbit/s
95th percentile per-packet one-way delay: 32.940 ms
Loss rate: 0.10%
```

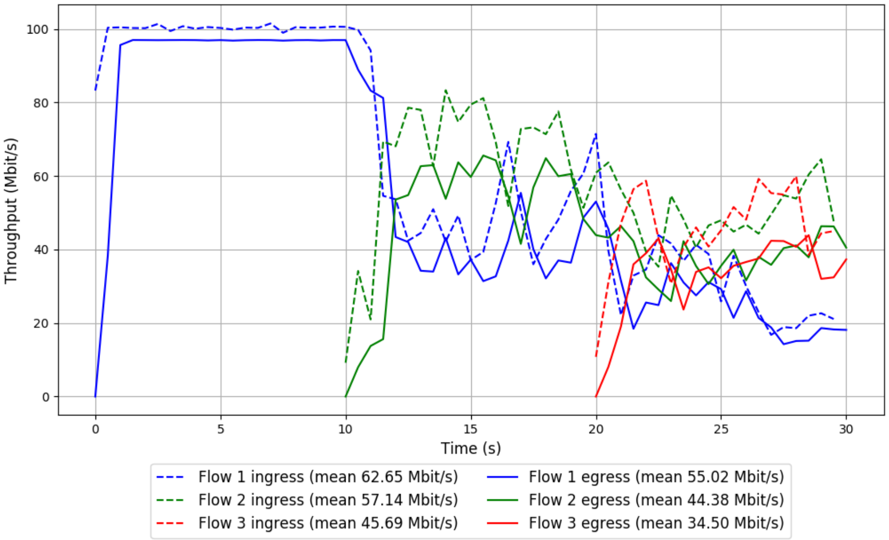
Run 10: Report of TCP Cubic — Data Link

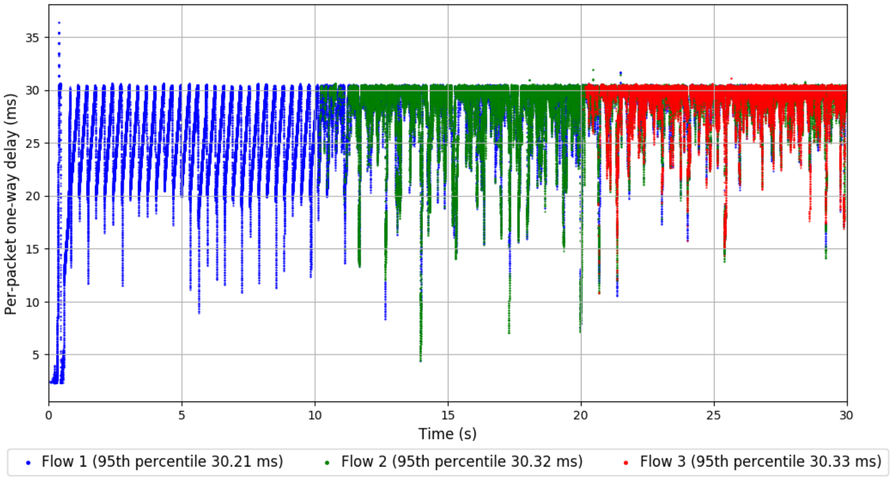




```
Run 1: Statistics of FillP

Start at: 2018-07-10 03:37:18
End at: 2018-07-10 03:37:48
Local clock offset: -2.172 ms
Remote clock offset: -7.164 ms

# Below is generated by plot.py at 2018-07-10 06:59:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 30.281 ms
Loss rate: 17.08%
-- Flow 1:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 30.212 ms
Loss rate: 12.11%
-- Flow 2:
Average throughput: 44.38 Mbit/s
95th percentile per-packet one-way delay: 30.315 ms
Loss rate: 22.33%
-- Flow 3:
Average throughput: 34.50 Mbit/s
95th percentile per-packet one-way delay: 30.328 ms
Loss rate: 24.49%
```

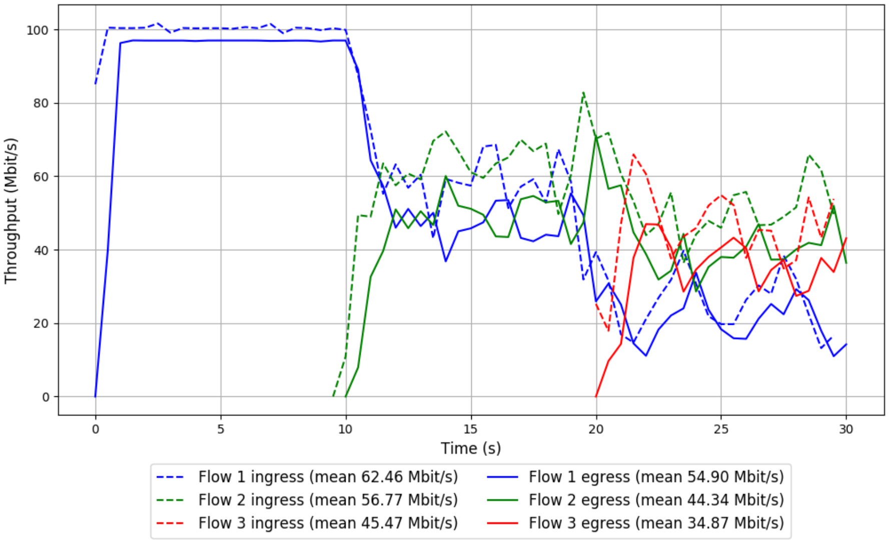
Run 1: Report of FillP — Data Link

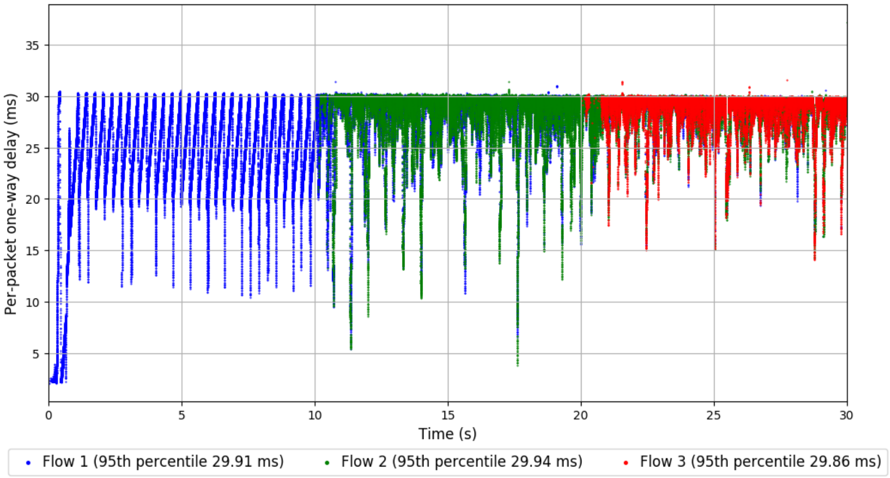




```
Run 2: Statistics of FillP

Start at: 2018-07-10 03:56:30
End at: 2018-07-10 03:57:00
Local clock offset: -2.331 ms
Remote clock offset: 9.552 ms

# Below is generated by plot.py at 2018-07-10 06:59:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 29.914 ms
Loss rate: 16.72%
-- Flow 1:
Average throughput: 54.90 Mbit/s
95th percentile per-packet one-way delay: 29.908 ms
Loss rate: 12.02%
-- Flow 2:
Average throughput: 44.34 Mbit/s
95th percentile per-packet one-way delay: 29.942 ms
Loss rate: 21.85%
-- Flow 3:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 29.864 ms
Loss rate: 23.32%
```

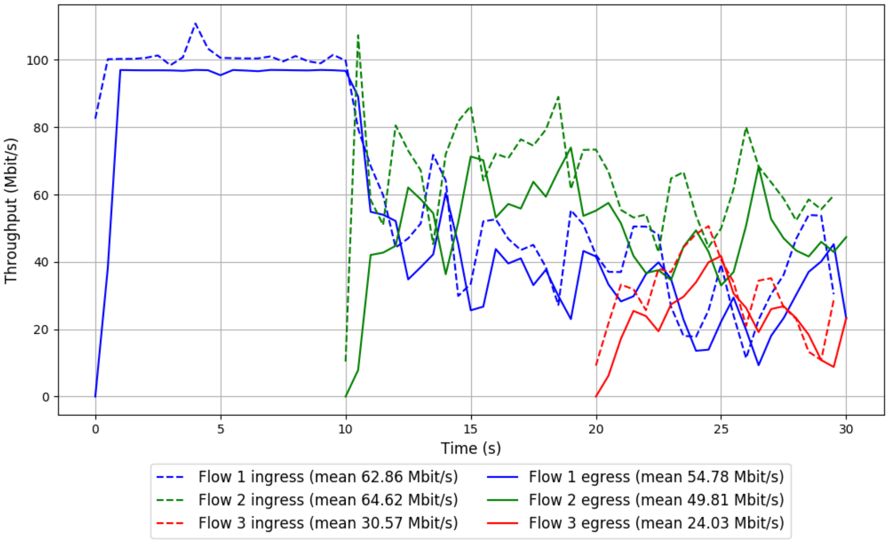
Run 2: Report of FillP — Data Link

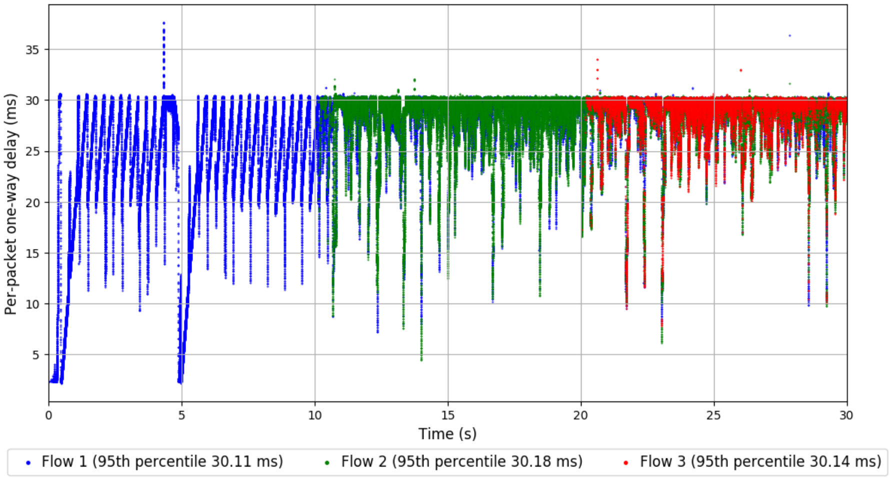




```
Run 3: Statistics of FillP

Start at: 2018-07-10 04:15:41
End at: 2018-07-10 04:16:11
Local clock offset: -2.153 ms
Remote clock offset: 20.27 ms

# Below is generated by plot.py at 2018-07-10 06:59:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.88 Mbit/s
95th percentile per-packet one-way delay: 30.147 ms
Loss rate: 17.28%
-- Flow 1:
Average throughput: 54.78 Mbit/s
95th percentile per-packet one-way delay: 30.113 ms
Loss rate: 12.78%
-- Flow 2:
Average throughput: 49.81 Mbit/s
95th percentile per-packet one-way delay: 30.182 ms
Loss rate: 22.90%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 30.138 ms
Loss rate: 21.30%
```

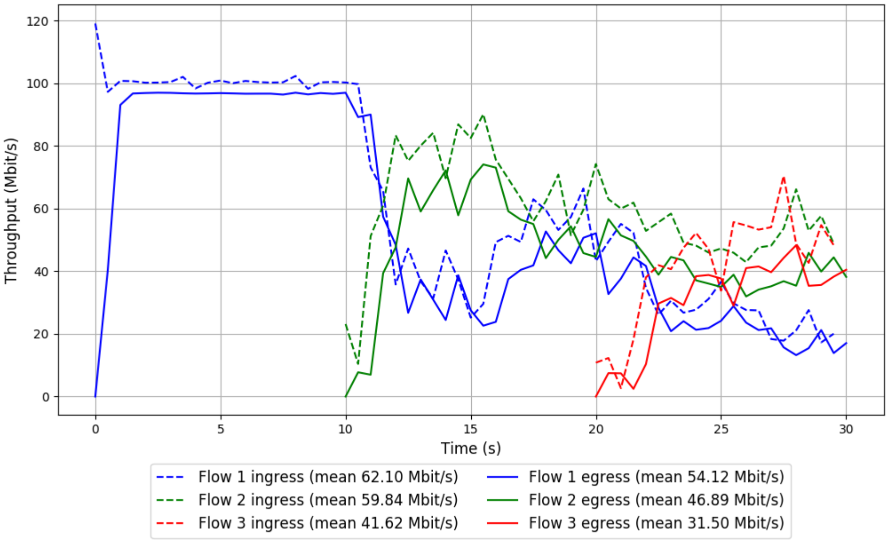
Run 3: Report of FillP — Data Link

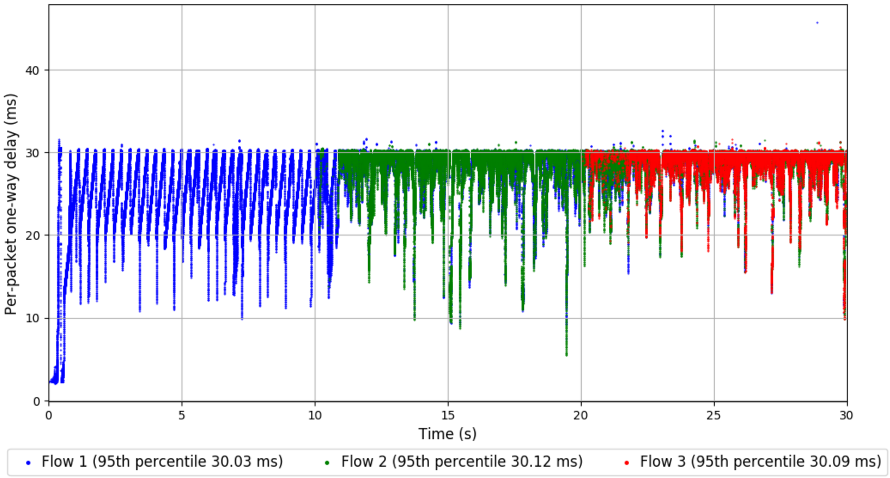




```
Run 4: Statistics of FillP

Start at: 2018-07-10 04:34:54
End at: 2018-07-10 04:35:24
Local clock offset: -2.064 ms
Remote clock offset: 27.422 ms

# Below is generated by plot.py at 2018-07-10 06:59:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 30.077 ms
Loss rate: 17.20%
-- Flow 1:
Average throughput: 54.12 Mbit/s
95th percentile per-packet one-way delay: 30.029 ms
Loss rate: 12.78%
-- Flow 2:
Average throughput: 46.89 Mbit/s
95th percentile per-packet one-way delay: 30.120 ms
Loss rate: 21.63%
-- Flow 3:
Average throughput: 31.50 Mbit/s
95th percentile per-packet one-way delay: 30.094 ms
Loss rate: 24.32%
```

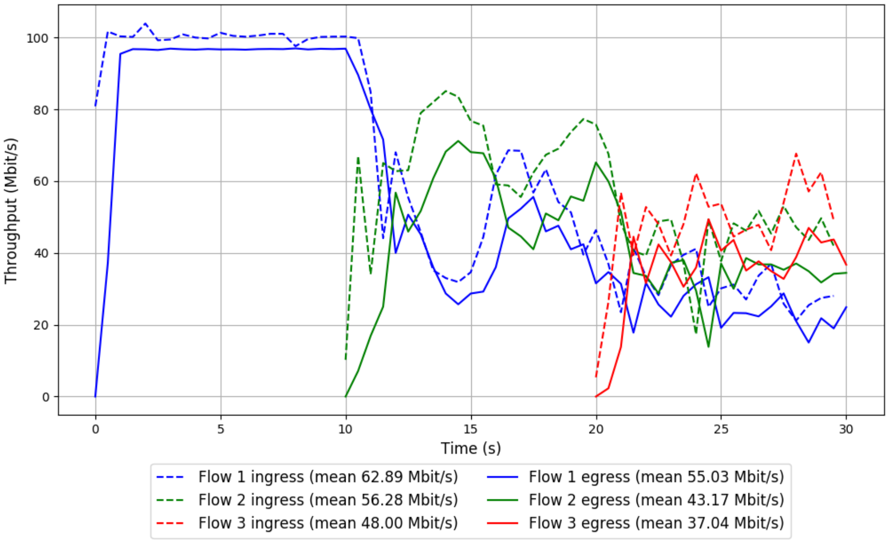
Run 4: Report of FillP — Data Link

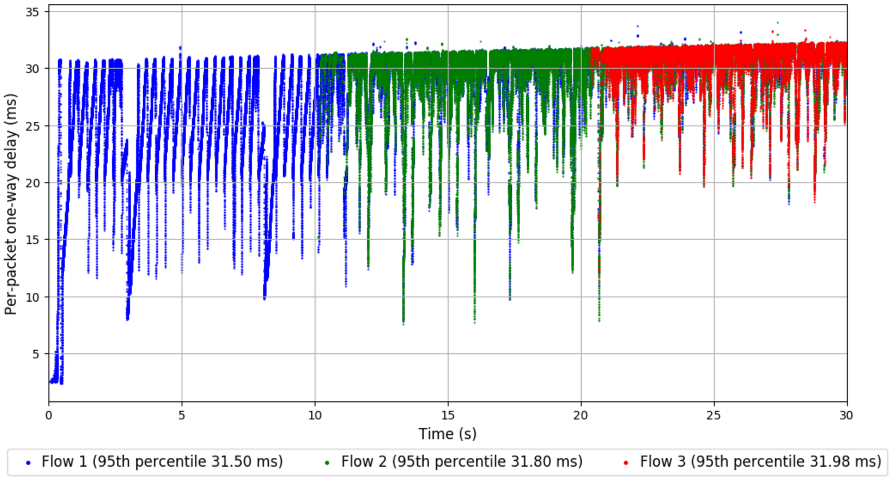




```
Run 5: Statistics of FillP

Start at: 2018-07-10 04:54:06
End at: 2018-07-10 04:54:36
Local clock offset: -2.005 ms
Remote clock offset: 29.513 ms

# Below is generated by plot.py at 2018-07-10 06:59:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 31.763 ms
Loss rate: 17.56%
-- Flow 1:
Average throughput: 55.03 Mbit/s
95th percentile per-packet one-way delay: 31.500 ms
Loss rate: 12.41%
-- Flow 2:
Average throughput: 43.17 Mbit/s
95th percentile per-packet one-way delay: 31.802 ms
Loss rate: 23.30%
-- Flow 3:
Average throughput: 37.04 Mbit/s
95th percentile per-packet one-way delay: 31.976 ms
Loss rate: 24.40%
```

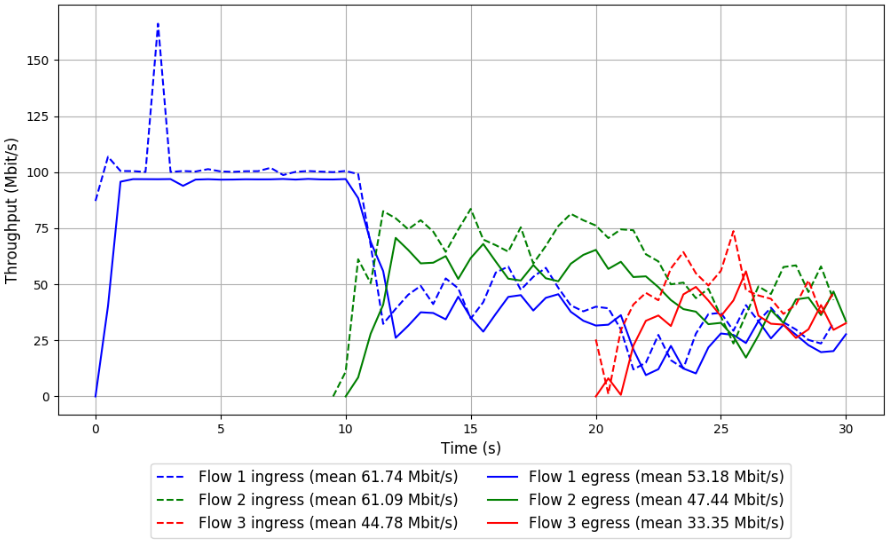
Run 5: Report of FillP — Data Link

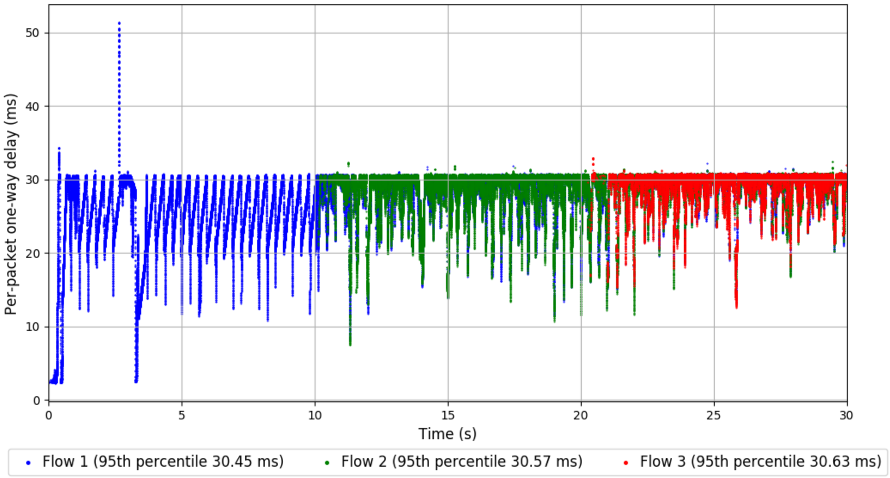




```
Run 6: Statistics of FillP

Start at: 2018-07-10 05:13:18
End at: 2018-07-10 05:13:48
Local clock offset: -1.958 ms
Remote clock offset: 1.069 ms

# Below is generated by plot.py at 2018-07-10 06:59:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 30.533 ms
Loss rate: 18.23%
-- Flow 1:
Average throughput: 53.18 Mbit/s
95th percentile per-packet one-way delay: 30.448 ms
Loss rate: 13.80%
-- Flow 2:
Average throughput: 47.44 Mbit/s
95th percentile per-packet one-way delay: 30.571 ms
Loss rate: 22.31%
-- Flow 3:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 30.632 ms
Loss rate: 25.48%
```

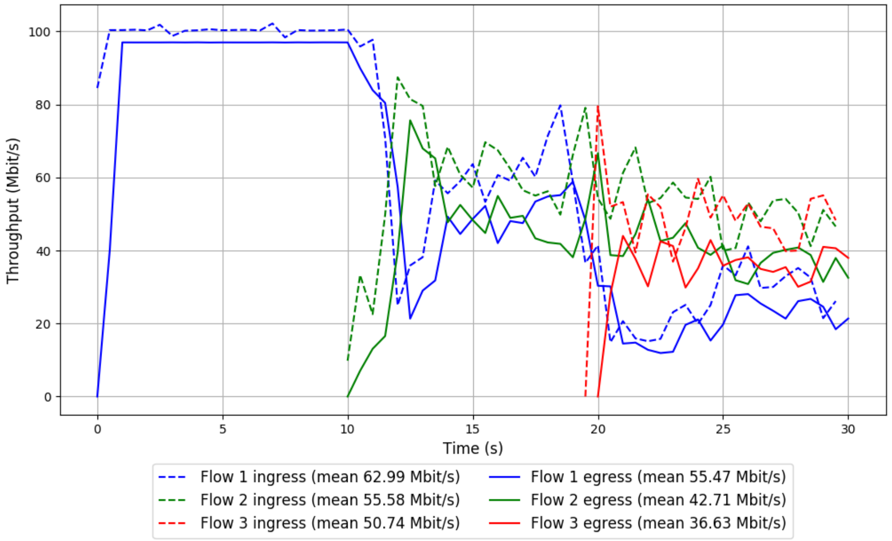
Run 6: Report of FillP — Data Link

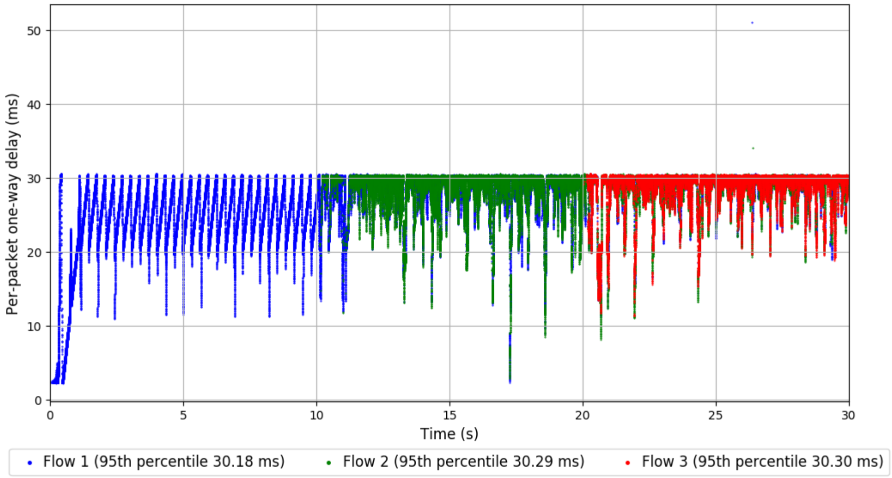




```
Run 7: Statistics of FillP

Start at: 2018-07-10 05:32:30
End at: 2018-07-10 05:33:00
Local clock offset: -1.773 ms
Remote clock offset: -3.854 ms

# Below is generated by plot.py at 2018-07-10 06:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.03 Mbit/s
95th percentile per-packet one-way delay: 30.252 ms
Loss rate: 17.74%
-- Flow 1:
Average throughput: 55.47 Mbit/s
95th percentile per-packet one-way delay: 30.185 ms
Loss rate: 11.86%
-- Flow 2:
Average throughput: 42.71 Mbit/s
95th percentile per-packet one-way delay: 30.288 ms
Loss rate: 23.16%
-- Flow 3:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 30.299 ms
Loss rate: 27.81%
```

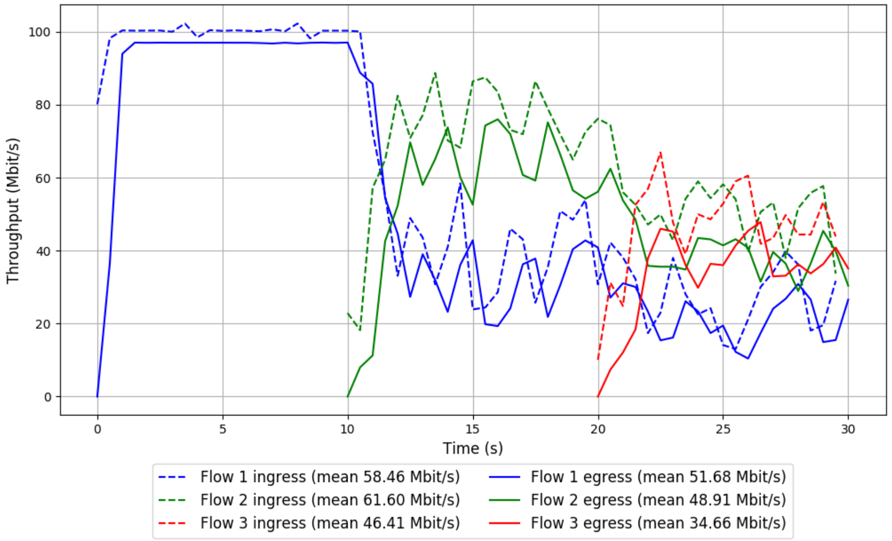
Run 7: Report of FillP — Data Link

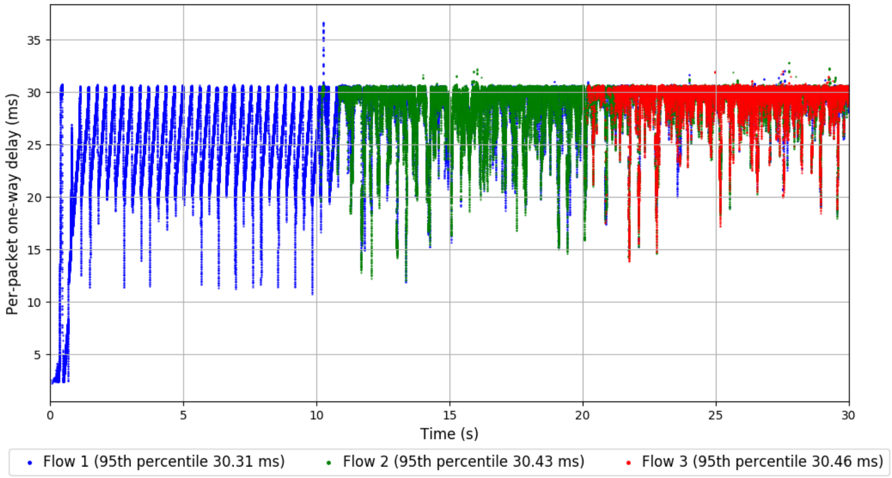




```
Run 8: Statistics of FillP

Start at: 2018-07-10 05:51:47
End at: 2018-07-10 05:52:17
Local clock offset: -1.74 ms
Remote clock offset: -5.839 ms

# Below is generated by plot.py at 2018-07-10 07:00:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 30.391 ms
Loss rate: 16.61%
-- Flow 1:
Average throughput: 51.68 Mbit/s
95th percentile per-packet one-way delay: 30.314 ms
Loss rate: 11.53%
-- Flow 2:
Average throughput: 48.91 Mbit/s
95th percentile per-packet one-way delay: 30.433 ms
Loss rate: 20.58%
-- Flow 3:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 30.462 ms
Loss rate: 25.30%
```

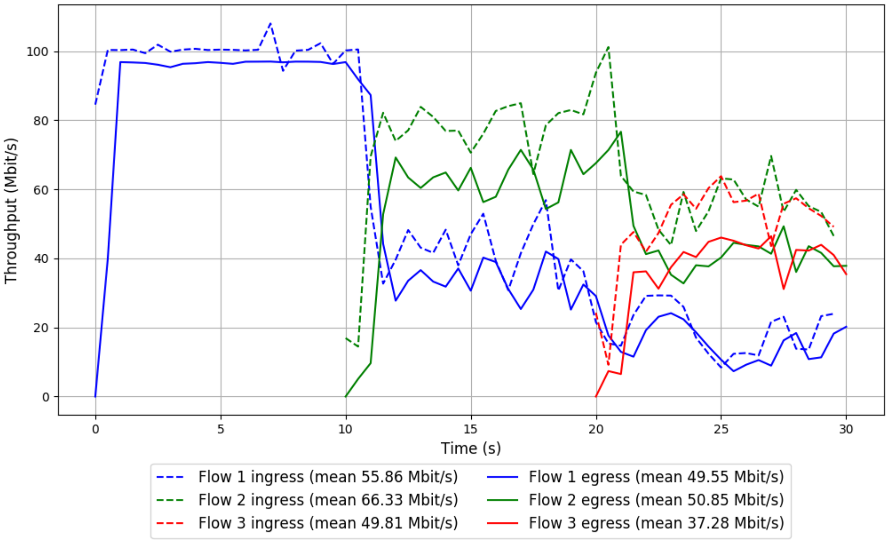
Run 8: Report of FillP — Data Link

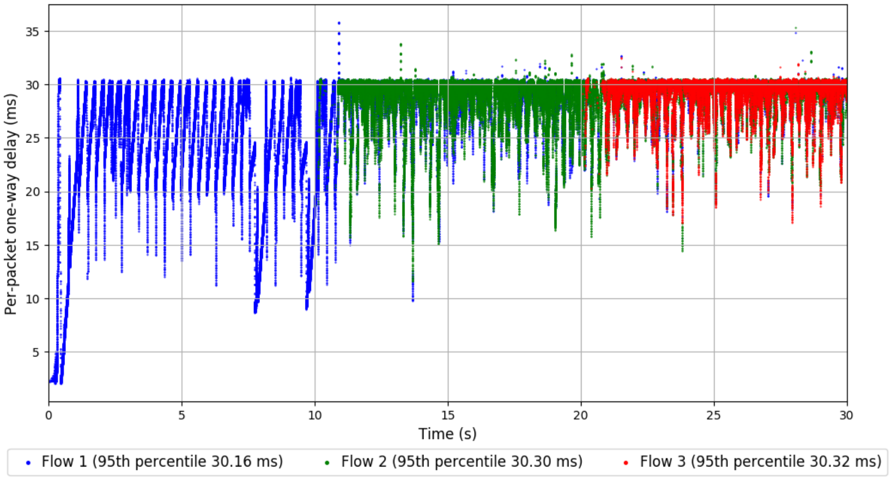




```
Run 9: Statistics of FillP

Start at: 2018-07-10 06:10:58
End at: 2018-07-10 06:11:28
Local clock offset: -1.446 ms
Remote clock offset: -8.261 ms

# Below is generated by plot.py at 2018-07-10 07:01:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 30.254 ms
Loss rate: 17.77%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 30.159 ms
Loss rate: 11.22%
-- Flow 2:
Average throughput: 50.85 Mbit/s
95th percentile per-packet one-way delay: 30.296 ms
Loss rate: 23.30%
-- Flow 3:
Average throughput: 37.28 Mbit/s
95th percentile per-packet one-way delay: 30.318 ms
Loss rate: 25.14%
```

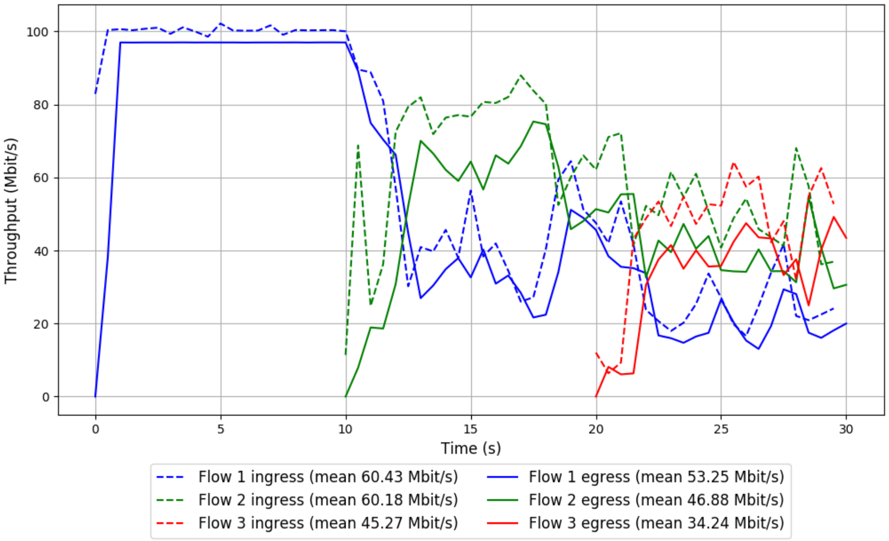
Run 9: Report of FillP — Data Link

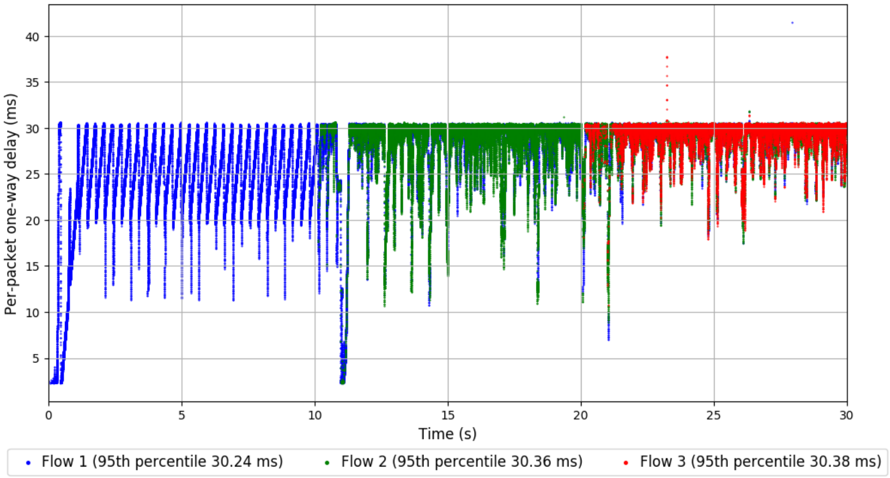




```
Run 10: Statistics of FillP

Start at: 2018-07-10 06:30:09
End at: 2018-07-10 06:30:39
Local clock offset: -1.228 ms
Remote clock offset: -10.884 ms

# Below is generated by plot.py at 2018-07-10 07:01:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.81 Mbit/s
95th percentile per-packet one-way delay: 30.317 ms
Loss rate: 17.00%
-- Flow 1:
Average throughput: 53.25 Mbit/s
95th percentile per-packet one-way delay: 30.241 ms
Loss rate: 11.80%
-- Flow 2:
Average throughput: 46.88 Mbit/s
95th percentile per-packet one-way delay: 30.355 ms
Loss rate: 22.09%
-- Flow 3:
Average throughput: 34.24 Mbit/s
95th percentile per-packet one-way delay: 30.383 ms
Loss rate: 24.33%
```

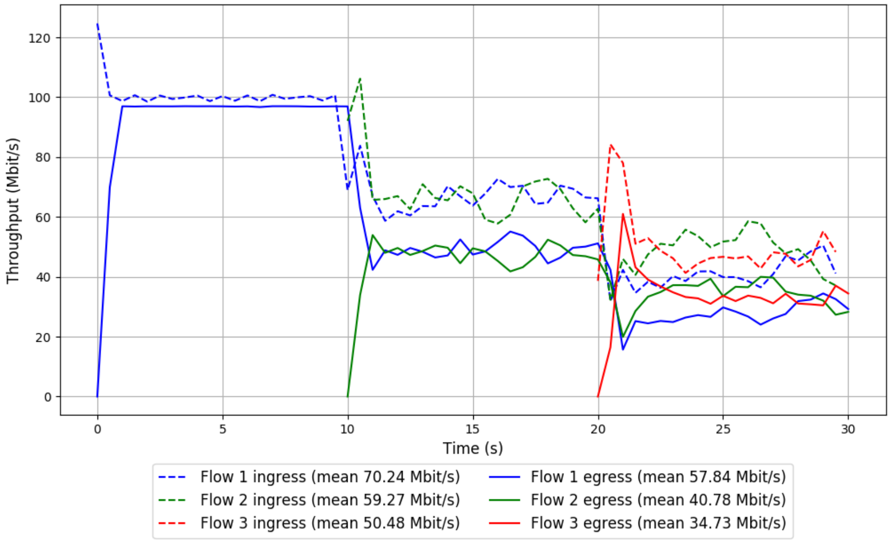
Run 10: Report of FillP — Data Link

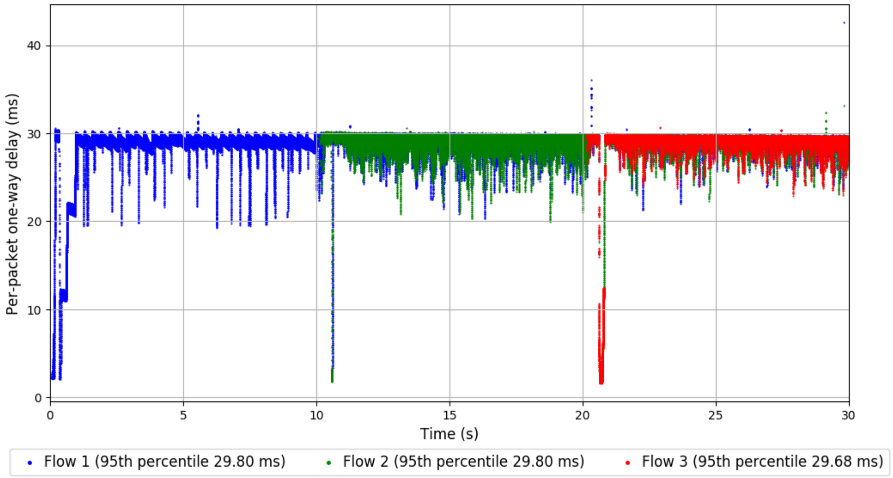




```
Run 1: Statistics of FillP-Sheep

Start at: 2018-07-10 03:52:00
End at: 2018-07-10 03:52:30
Local clock offset: -2.255 ms
Remote clock offset: 5.024 ms

# Below is generated by plot.py at 2018-07-10 07:01:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 29.790 ms
Loss rate: 23.64%
-- Flow 1:
Average throughput: 57.84 Mbit/s
95th percentile per-packet one-way delay: 29.805 ms
Loss rate: 17.58%
-- Flow 2:
Average throughput: 40.78 Mbit/s
95th percentile per-packet one-way delay: 29.805 ms
Loss rate: 31.19%
-- Flow 3:
Average throughput: 34.73 Mbit/s
95th percentile per-packet one-way delay: 29.682 ms
Loss rate: 31.20%
```

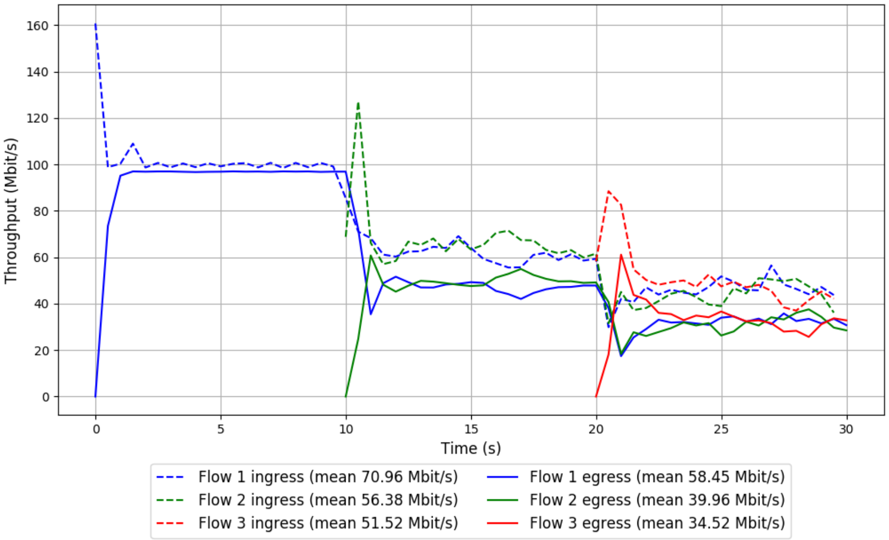
Run 1: Report of FillP-Sheep — Data Link

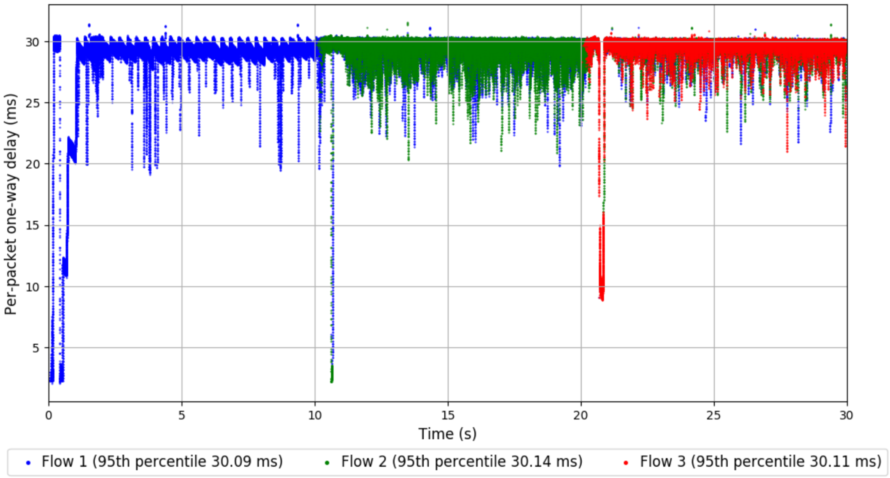




```
Run 2: Statistics of FillP-Sheep

Start at: 2018-07-10 04:11:12
End at: 2018-07-10 04:11:42
Local clock offset: -2.208 ms
Remote clock offset: 18.286 ms

# Below is generated by plot.py at 2018-07-10 07:01:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.47 Mbit/s
95th percentile per-packet one-way delay: 30.109 ms
Loss rate: 23.11%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 30.089 ms
Loss rate: 17.55%
-- Flow 2:
Average throughput: 39.96 Mbit/s
95th percentile per-packet one-way delay: 30.139 ms
Loss rate: 29.13%
-- Flow 3:
Average throughput: 34.52 Mbit/s
95th percentile per-packet one-way delay: 30.114 ms
Loss rate: 32.99%
```

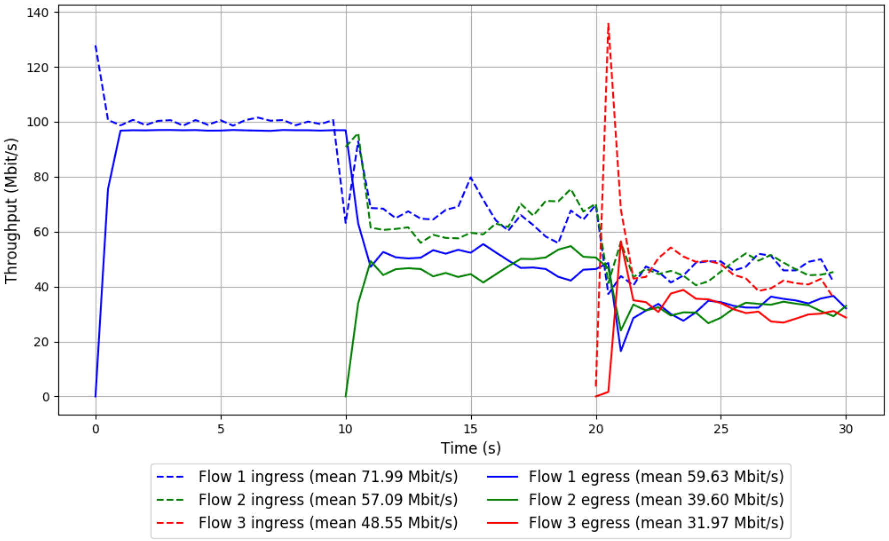
Run 2: Report of FillP-Sheep — Data Link

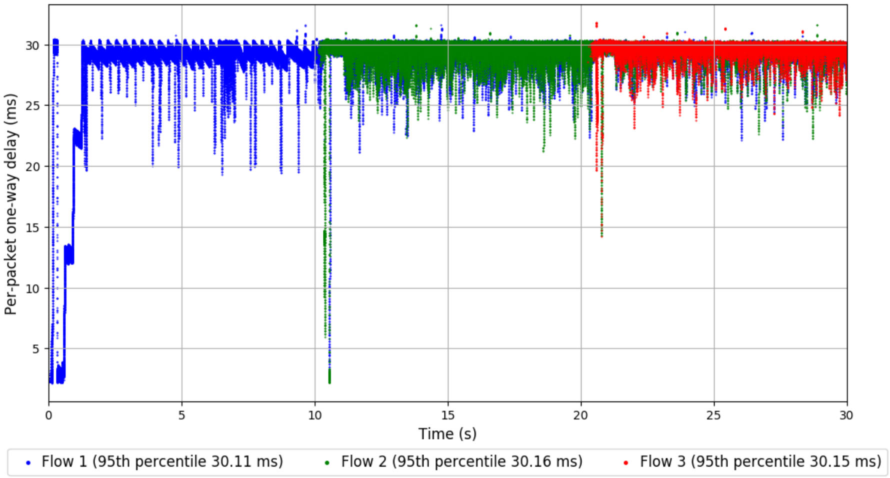




```
Run 3: Statistics of FillP-Sheep

Start at: 2018-07-10 04:30:24
End at: 2018-07-10 04:30:54
Local clock offset: -2.1 ms
Remote clock offset: 25.803 ms

# Below is generated by plot.py at 2018-07-10 07:01:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 30.133 ms
Loss rate: 23.35%
-- Flow 1:
Average throughput: 59.63 Mbit/s
95th percentile per-packet one-way delay: 30.106 ms
Loss rate: 17.10%
-- Flow 2:
Average throughput: 39.60 Mbit/s
95th percentile per-packet one-way delay: 30.164 ms
Loss rate: 30.64%
-- Flow 3:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 30.149 ms
Loss rate: 34.15%
```

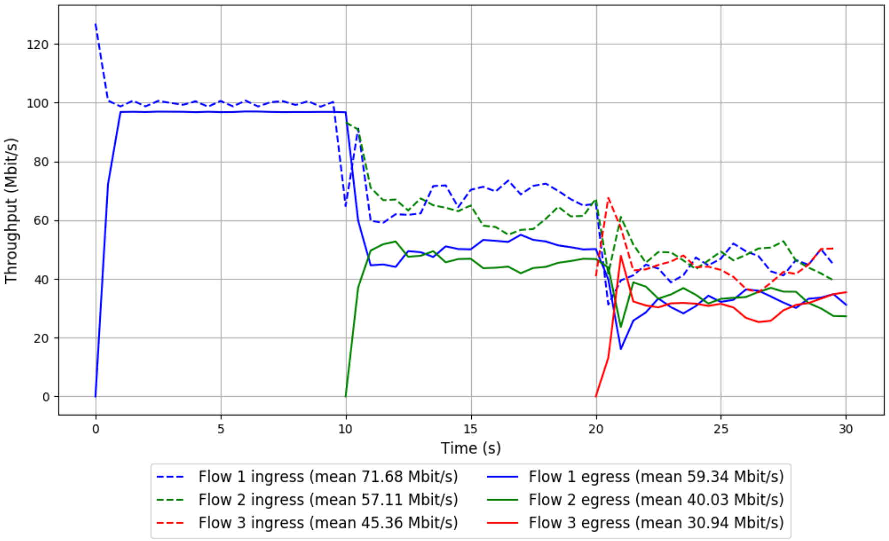
Run 3: Report of FillP-Sheep — Data Link

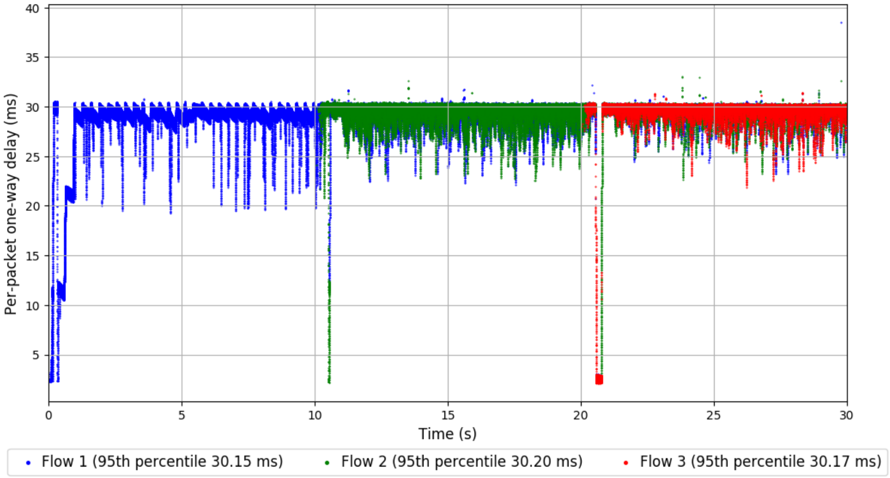




```
Run 4: Statistics of FillP-Sheep

Start at: 2018-07-10 04:49:36
End at: 2018-07-10 04:50:06
Local clock offset: -2.006 ms
Remote clock offset: 32.754 ms

# Below is generated by plot.py at 2018-07-10 07:01:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 30.170 ms
Loss rate: 22.80%
-- Flow 1:
Average throughput: 59.34 Mbit/s
95th percentile per-packet one-way delay: 30.146 ms
Loss rate: 17.14%
-- Flow 2:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 30.200 ms
Loss rate: 29.92%
-- Flow 3:
Average throughput: 30.94 Mbit/s
95th percentile per-packet one-way delay: 30.174 ms
Loss rate: 31.78%
```

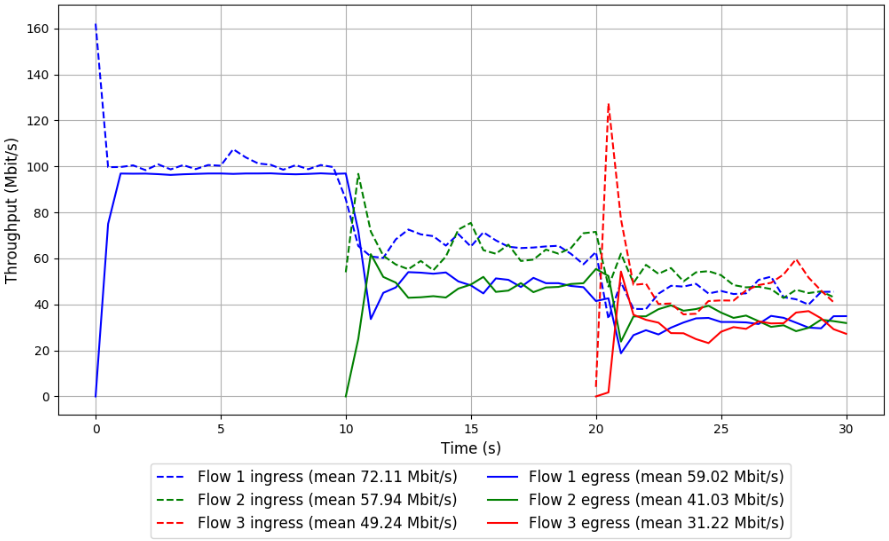
Run 4: Report of FillP-Sheep — Data Link

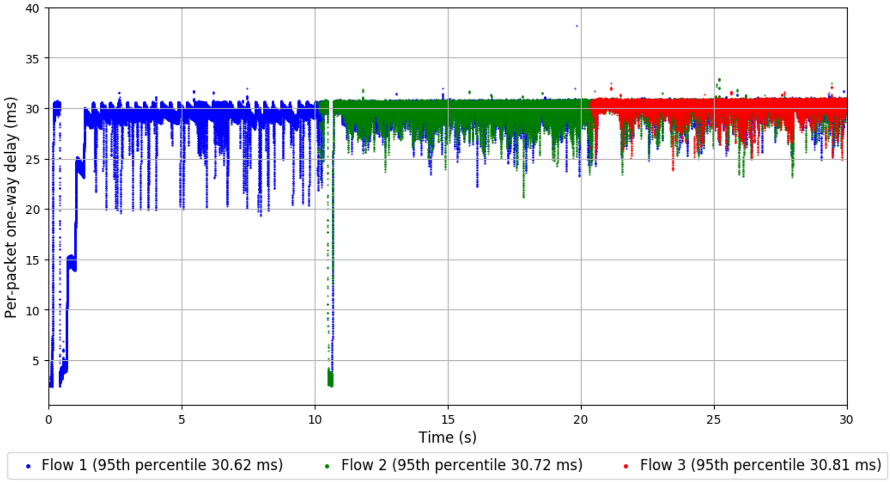




```
Run 5: Statistics of FillP-Sheep

Start at: 2018-07-10 05:08:48
End at: 2018-07-10 05:09:18
Local clock offset: -1.995 ms
Remote clock offset: 4.076 ms

# Below is generated by plot.py at 2018-07-10 07:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.44 Mbit/s
95th percentile per-packet one-way delay: 30.695 ms
Loss rate: 24.00%
-- Flow 1:
Average throughput: 59.02 Mbit/s
95th percentile per-packet one-way delay: 30.625 ms
Loss rate: 18.08%
-- Flow 2:
Average throughput: 41.03 Mbit/s
95th percentile per-packet one-way delay: 30.722 ms
Loss rate: 29.19%
-- Flow 3:
Average throughput: 31.22 Mbit/s
95th percentile per-packet one-way delay: 30.807 ms
Loss rate: 37.88%
```

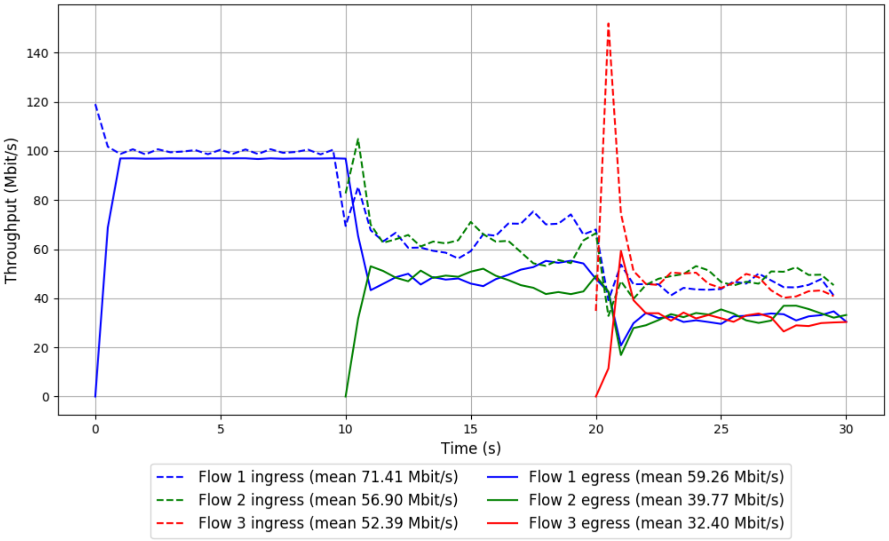
Run 5: Report of FillP-Sheep — Data Link

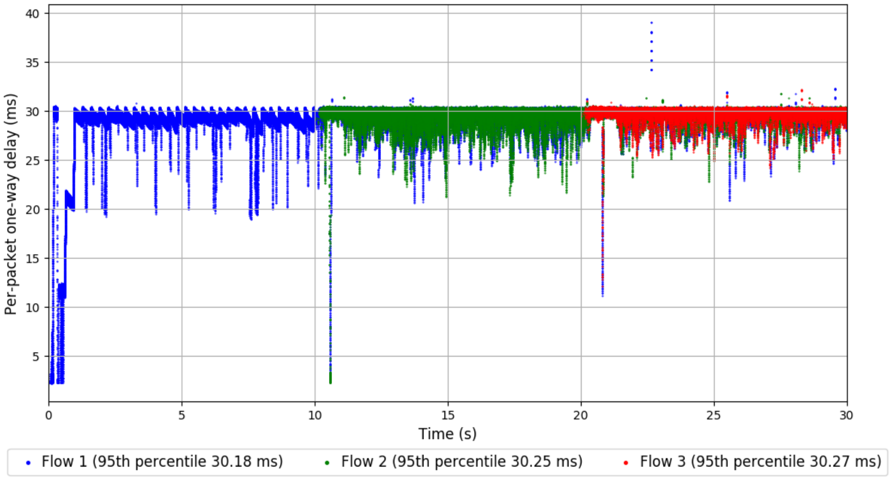




```
Run 6: Statistics of FillP-Sheep

Start at: 2018-07-10 05:28:00
End at: 2018-07-10 05:28:30
Local clock offset: -1.82 ms
Remote clock offset: -4.151 ms

# Below is generated by plot.py at 2018-07-10 07:01:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.45 Mbit/s
95th percentile per-packet one-way delay: 30.223 ms
Loss rate: 23.78%
-- Flow 1:
Average throughput: 59.26 Mbit/s
95th percentile per-packet one-way delay: 30.185 ms
Loss rate: 16.94%
-- Flow 2:
Average throughput: 39.77 Mbit/s
95th percentile per-packet one-way delay: 30.251 ms
Loss rate: 30.10%
-- Flow 3:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 30.265 ms
Loss rate: 38.14%
```

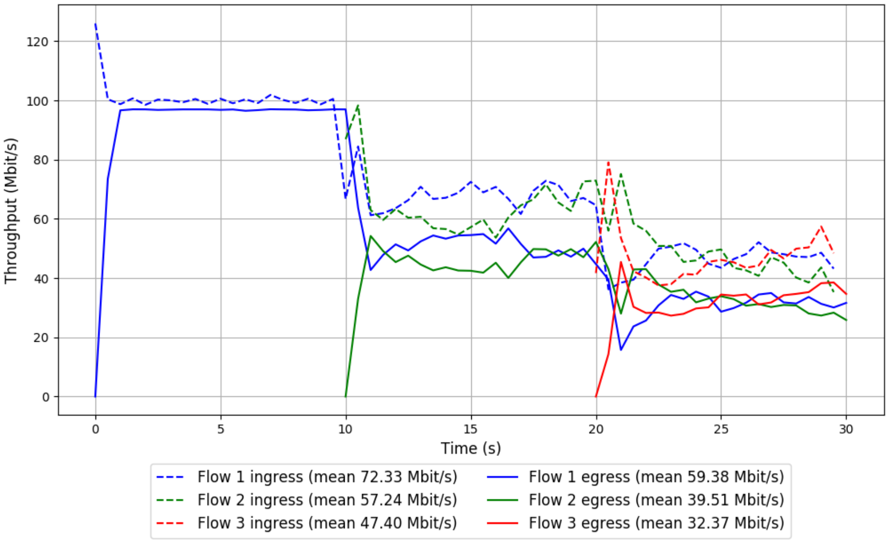
Run 6: Report of FillP-Sheep — Data Link

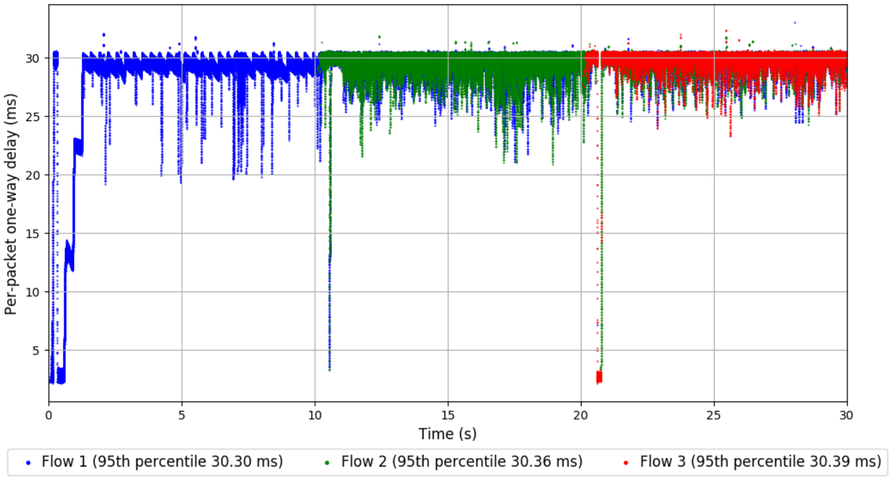




```
Run 7: Statistics of FillP-Sheep

Start at: 2018-07-10 05:47:16
End at: 2018-07-10 05:47:46
Local clock offset: -1.687 ms
Remote clock offset: -5.171 ms

# Below is generated by plot.py at 2018-07-10 07:02:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.38 Mbit/s
95th percentile per-packet one-way delay: 30.336 ms
Loss rate: 23.53%
-- Flow 1:
Average throughput: 59.38 Mbit/s
95th percentile per-packet one-way delay: 30.298 ms
Loss rate: 17.83%
-- Flow 2:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 30.364 ms
Loss rate: 30.98%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 30.386 ms
Loss rate: 31.70%
```

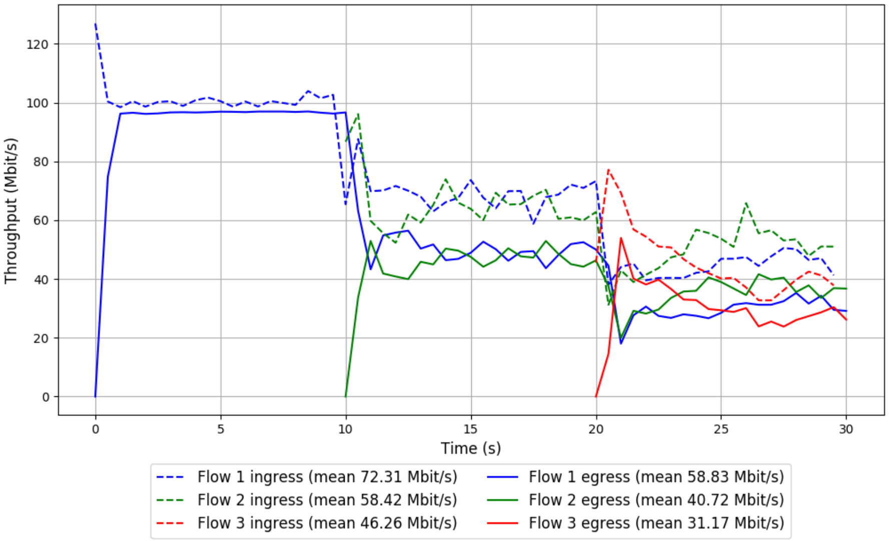
Run 7: Report of FillP-Sheep — Data Link

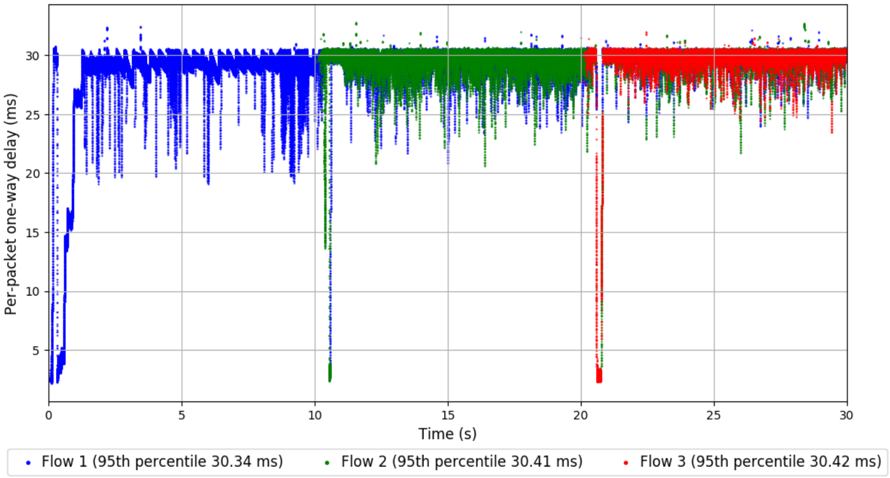




```
Run 8: Statistics of FillP-Sheep

Start at: 2018-07-10 06:06:29
End at: 2018-07-10 06:06:59
Local clock offset: -1.512 ms
Remote clock offset: -7.688 ms

# Below is generated by plot.py at 2018-07-10 07:02:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.24 Mbit/s
95th percentile per-packet one-way delay: 30.375 ms
Loss rate: 23.87%
-- Flow 1:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 30.336 ms
Loss rate: 18.57%
-- Flow 2:
Average throughput: 40.72 Mbit/s
95th percentile per-packet one-way delay: 30.409 ms
Loss rate: 30.28%
-- Flow 3:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 30.417 ms
Loss rate: 32.61%
```

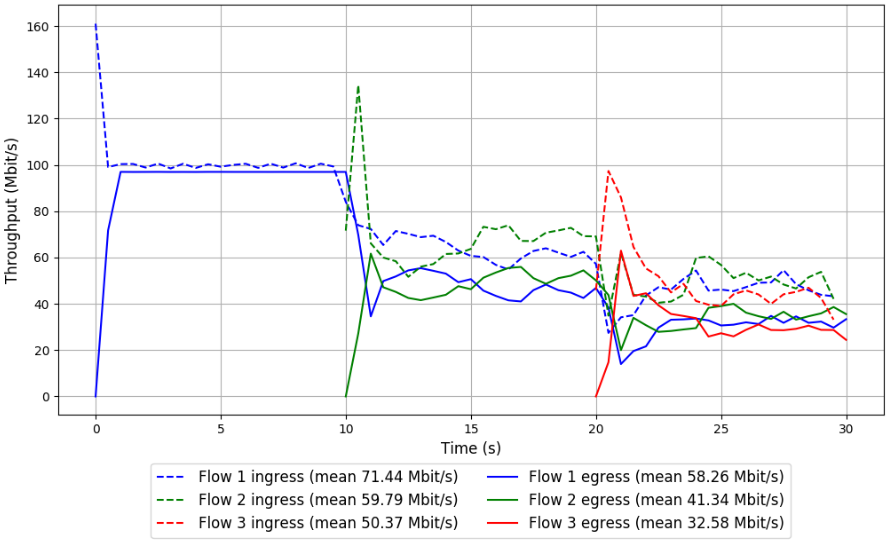
Run 8: Report of FillP-Sheep — Data Link

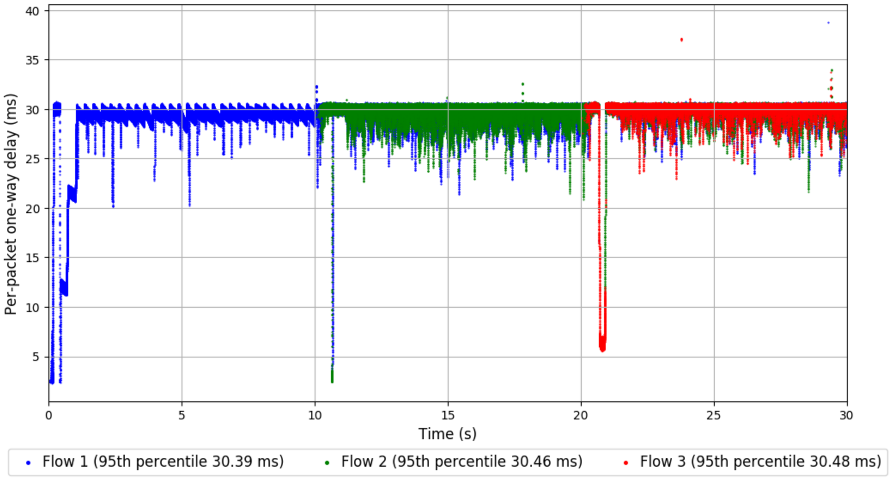




```
Run 9: Statistics of FillP-Sheep

Start at: 2018-07-10 06:25:40
End at: 2018-07-10 06:26:10
Local clock offset: -1.276 ms
Remote clock offset: -10.141 ms

# Below is generated by plot.py at 2018-07-10 07:03:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.55 Mbit/s
95th percentile per-packet one-way delay: 30.432 ms
Loss rate: 24.47%
-- Flow 1:
Average throughput: 58.26 Mbit/s
95th percentile per-packet one-way delay: 30.390 ms
Loss rate: 18.38%
-- Flow 2:
Average throughput: 41.34 Mbit/s
95th percentile per-packet one-way delay: 30.459 ms
Loss rate: 30.86%
-- Flow 3:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 30.483 ms
Loss rate: 35.31%
```

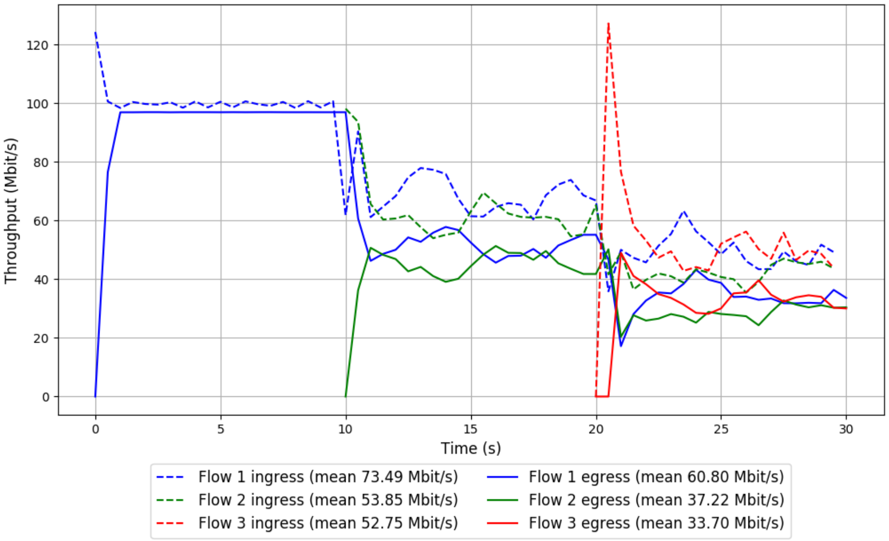
Run 9: Report of FillP-Sheep — Data Link

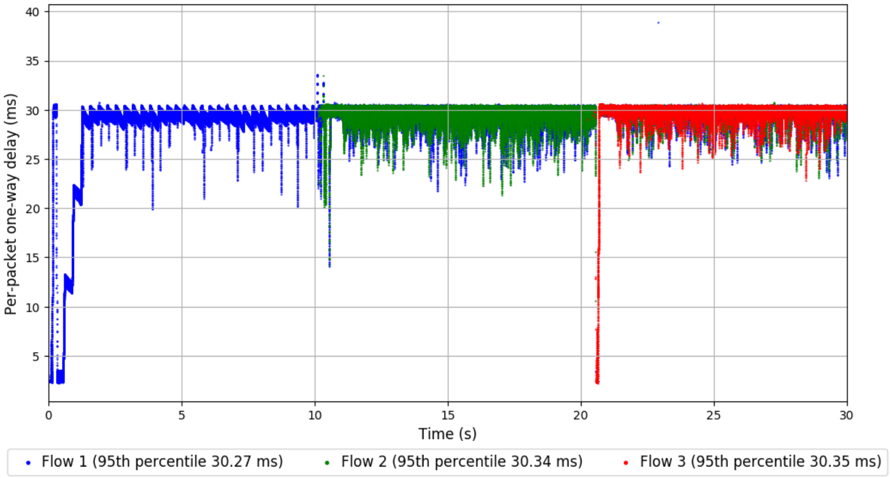




```
Run 10: Statistics of FillP-Sheep

Start at: 2018-07-10 06:44:51
End at: 2018-07-10 06:45:21
Local clock offset: -1.104 ms
Remote clock offset: -8.884 ms

# Below is generated by plot.py at 2018-07-10 07:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.47 Mbit/s
95th percentile per-packet one-way delay: 30.312 ms
Loss rate: 23.84%
-- Flow 1:
Average throughput: 60.80 Mbit/s
95th percentile per-packet one-way delay: 30.274 ms
Loss rate: 17.19%
-- Flow 2:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 30.336 ms
Loss rate: 30.87%
-- Flow 3:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 30.352 ms
Loss rate: 37.40%
```

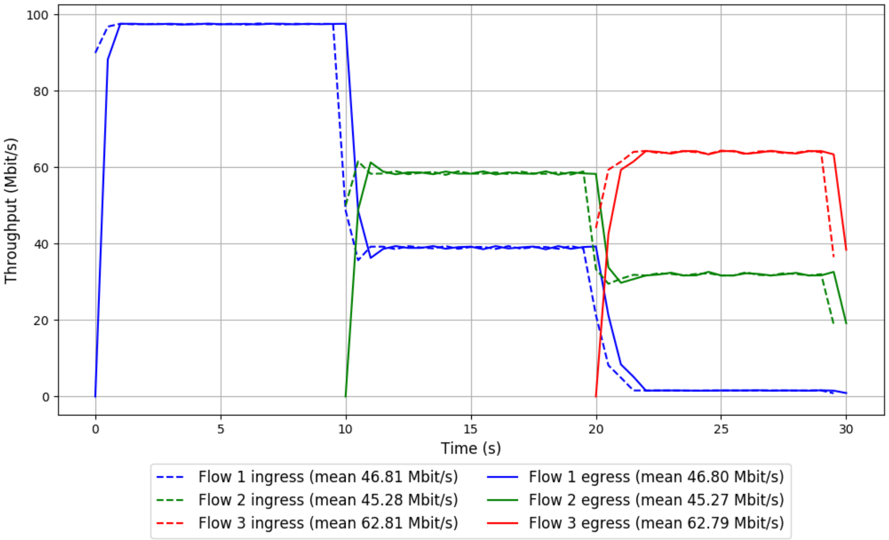
Run 10: Report of FillP-Sheep — Data Link

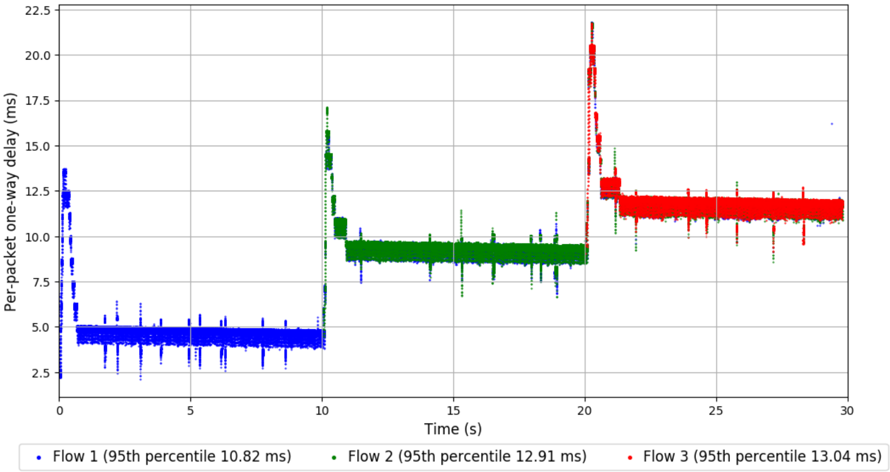




```
Run 1: Statistics of Indigo

Start at: 2018-07-10 03:48:35
End at: 2018-07-10 03:49:05
Local clock offset: -2.241 ms
Remote clock offset: 0.454 ms

# Below is generated by plot.py at 2018-07-10 07:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 12.414 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.80 Mbit/s
95th percentile per-packet one-way delay: 10.816 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.27 Mbit/s
95th percentile per-packet one-way delay: 12.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.79 Mbit/s
95th percentile per-packet one-way delay: 13.040 ms
Loss rate: 0.00%
```

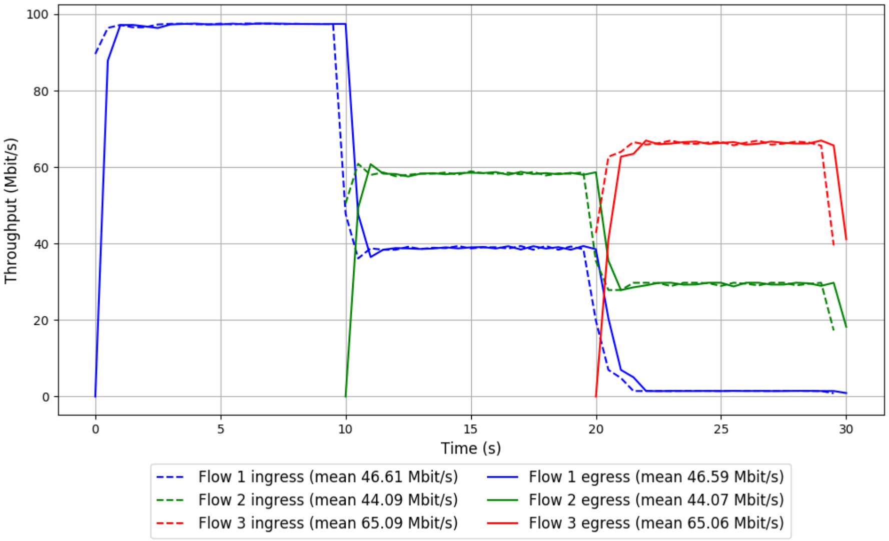
Run 1: Report of Indigo — Data Link

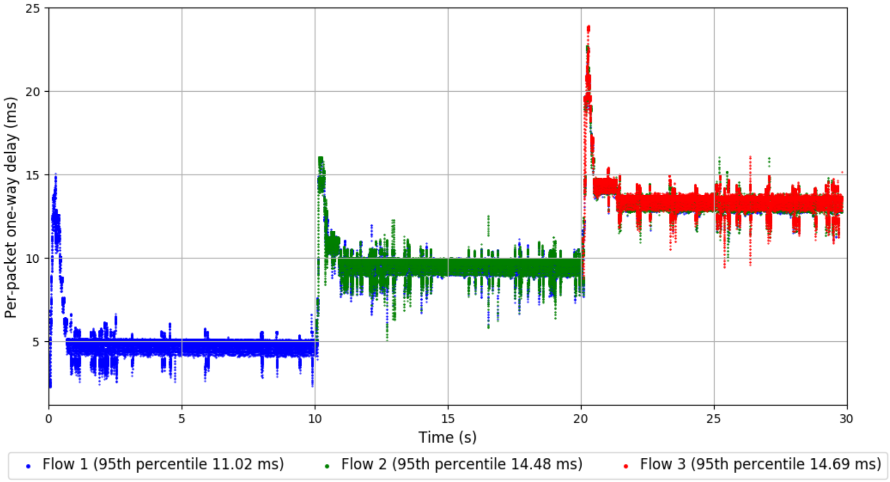




```
Run 2: Statistics of Indigo

Start at: 2018-07-10 04:07:47
End at: 2018-07-10 04:08:17
Local clock offset: -2.276 ms
Remote clock offset: 16.704 ms

# Below is generated by plot.py at 2018-07-10 07:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.08 Mbit/s
95th percentile per-packet one-way delay: 14.213 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.59 Mbit/s
95th percentile per-packet one-way delay: 11.017 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.07 Mbit/s
95th percentile per-packet one-way delay: 14.483 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.06 Mbit/s
95th percentile per-packet one-way delay: 14.689 ms
Loss rate: 0.00%
```

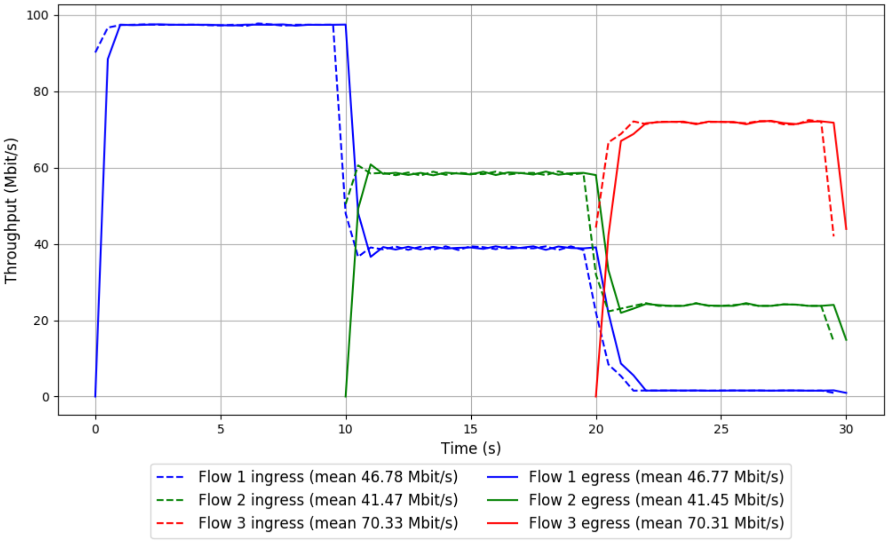
Run 2: Report of Indigo — Data Link

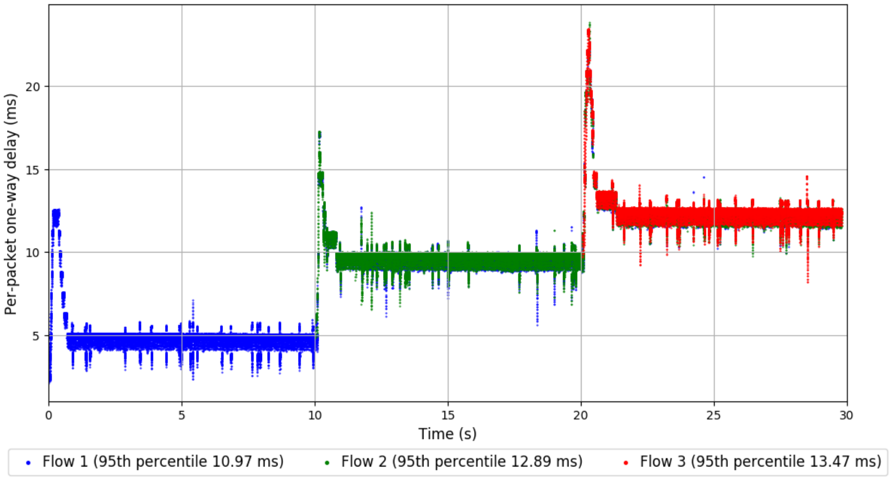




```
Run 3: Statistics of Indigo

Start at: 2018-07-10 04:26:59
End at: 2018-07-10 04:27:29
Local clock offset: -2.11 ms
Remote clock offset: 24.54 ms

# Below is generated by plot.py at 2018-07-10 07:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.24 Mbit/s
95th percentile per-packet one-way delay: 12.913 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 10.966 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.45 Mbit/s
95th percentile per-packet one-way delay: 12.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.31 Mbit/s
95th percentile per-packet one-way delay: 13.475 ms
Loss rate: 0.00%
```

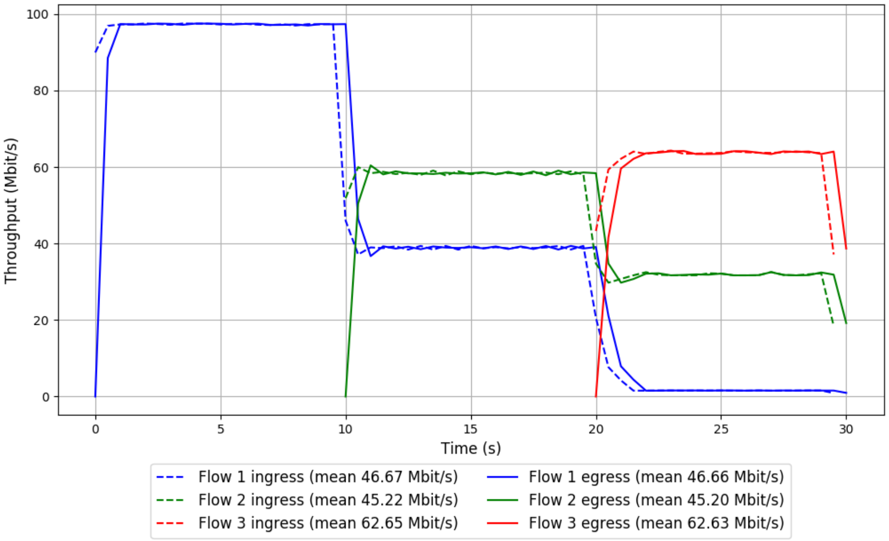
Run 3: Report of Indigo — Data Link

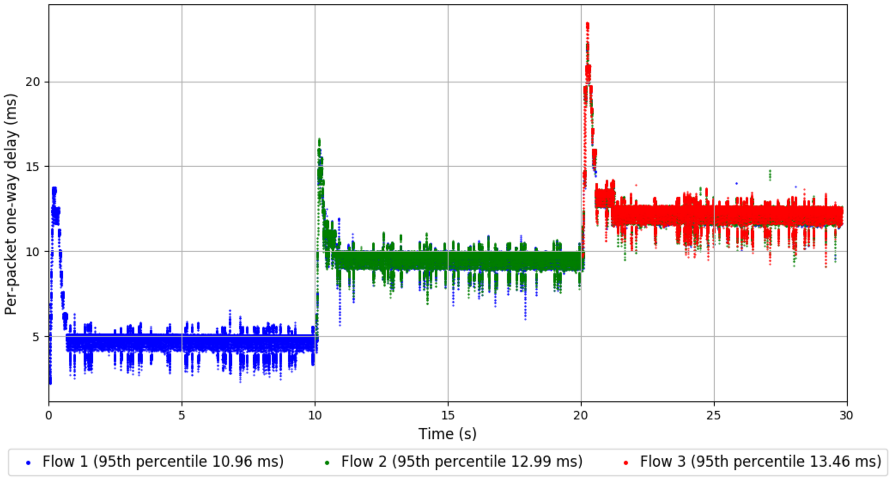




```
Run 4: Statistics of Indigo

Start at: 2018-07-10 04:46:11
End at: 2018-07-10 04:46:41
Local clock offset: -2.012 ms
Remote clock offset: 31.478 ms

# Below is generated by plot.py at 2018-07-10 07:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 12.909 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.66 Mbit/s
95th percentile per-packet one-way delay: 10.961 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 12.990 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.63 Mbit/s
95th percentile per-packet one-way delay: 13.458 ms
Loss rate: 0.00%
```

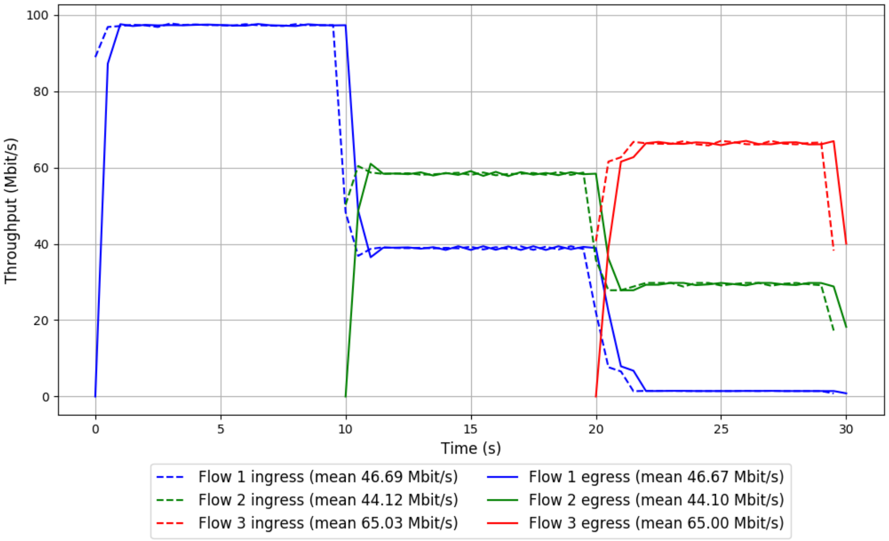
Run 4: Report of Indigo — Data Link

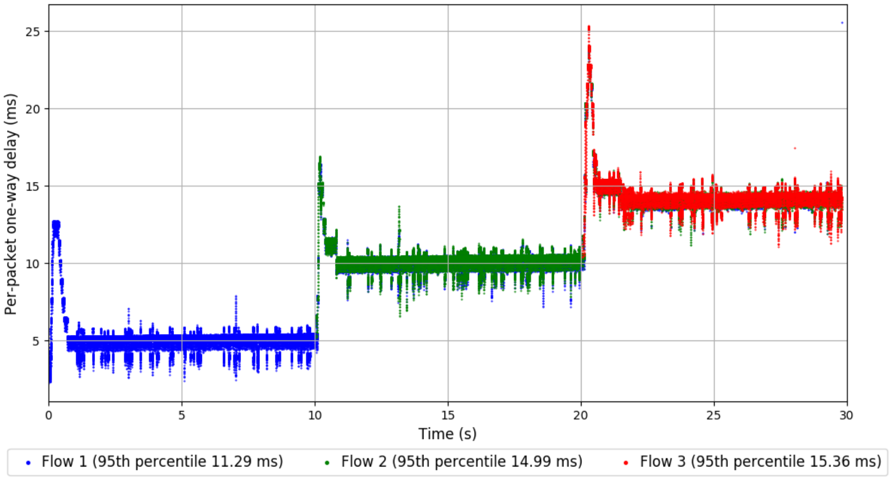




```
Run 5: Statistics of Indigo

Start at: 2018-07-10 05:05:23
End at: 2018-07-10 05:05:53
Local clock offset: -2.018 ms
Remote clock offset: 7.14 ms

# Below is generated by plot.py at 2018-07-10 07:03:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.10 Mbit/s
95th percentile per-packet one-way delay: 14.942 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 11.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.10 Mbit/s
95th percentile per-packet one-way delay: 14.989 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.00 Mbit/s
95th percentile per-packet one-way delay: 15.356 ms
Loss rate: 0.00%
```

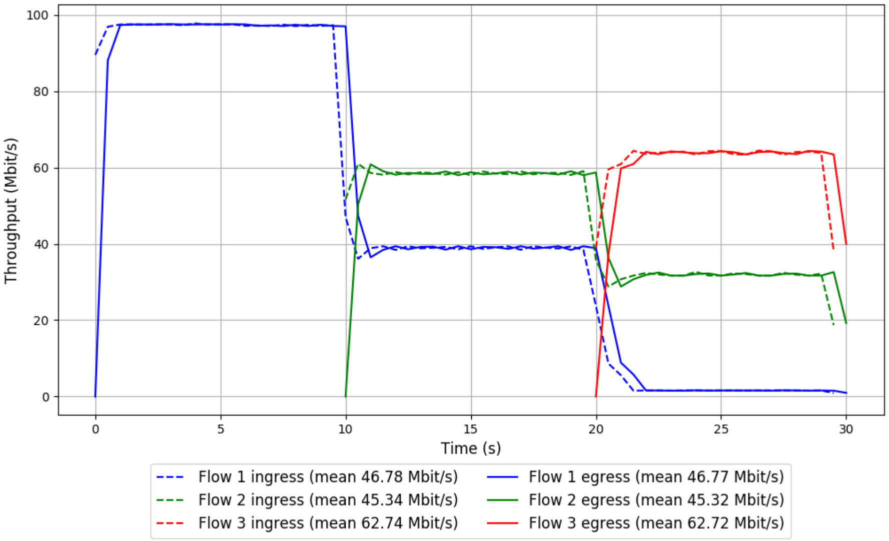
Run 5: Report of Indigo — Data Link

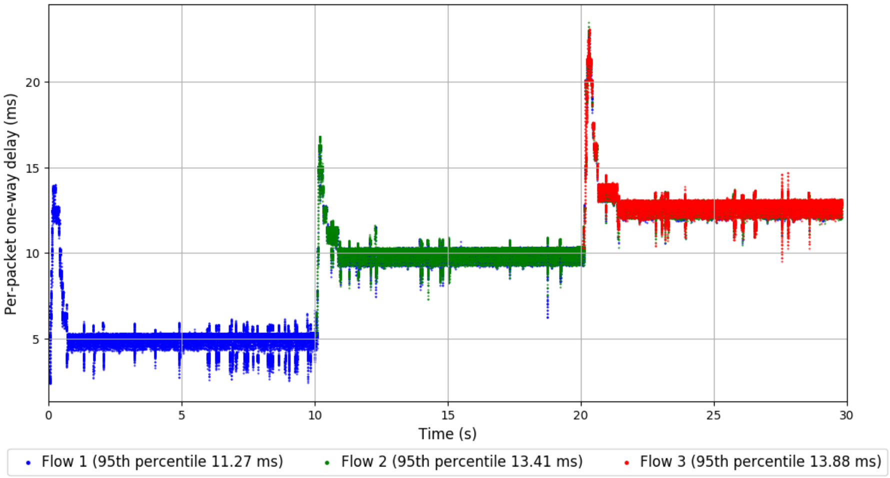




```
Run 6: Statistics of Indigo

Start at: 2018-07-10 05:24:35
End at: 2018-07-10 05:25:05
Local clock offset: -1.862 ms
Remote clock offset: -3.462 ms

# Below is generated by plot.py at 2018-07-10 07:03:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.25 Mbit/s
95th percentile per-packet one-way delay: 13.304 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 11.271 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.32 Mbit/s
95th percentile per-packet one-way delay: 13.408 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 13.876 ms
Loss rate: 0.00%
```

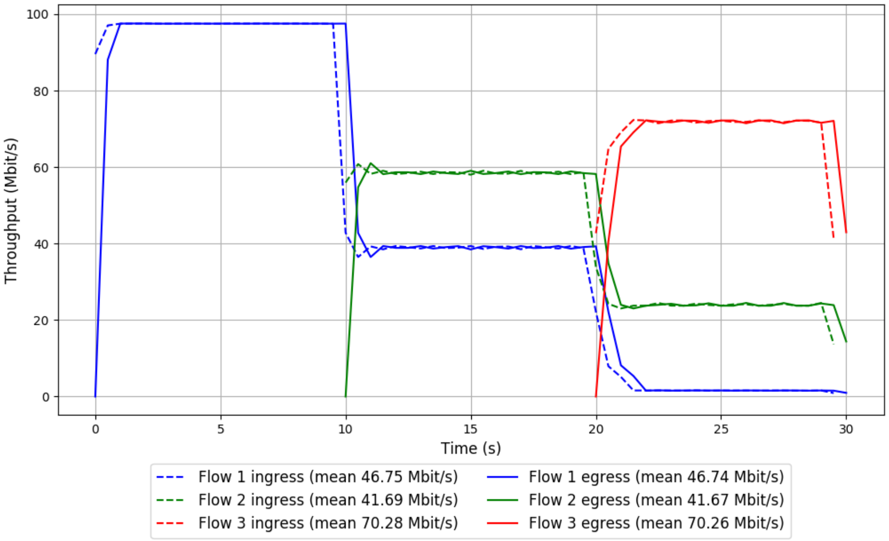
Run 6: Report of Indigo — Data Link

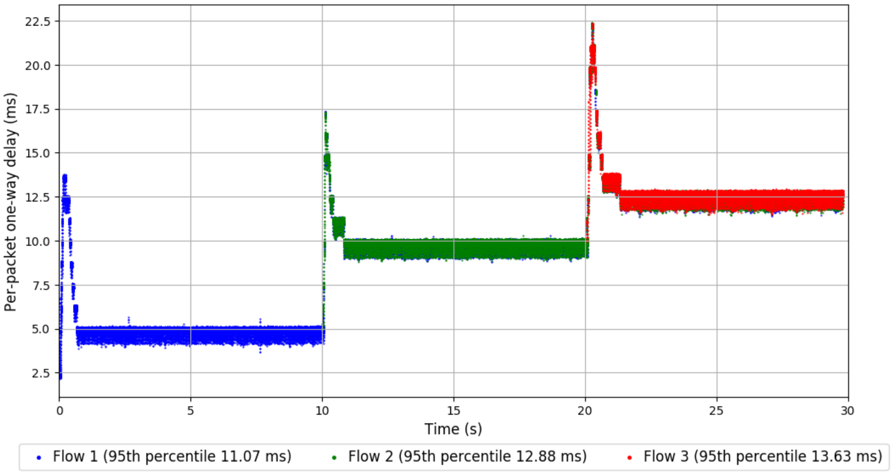




```
Run 7: Statistics of Indigo

Start at: 2018-07-10 05:43:52
End at: 2018-07-10 05:44:22
Local clock offset: -1.687 ms
Remote clock offset: -4.766 ms

# Below is generated by plot.py at 2018-07-10 07:04:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 12.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.74 Mbit/s
95th percentile per-packet one-way delay: 11.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.67 Mbit/s
95th percentile per-packet one-way delay: 12.875 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.26 Mbit/s
95th percentile per-packet one-way delay: 13.633 ms
Loss rate: 0.00%
```

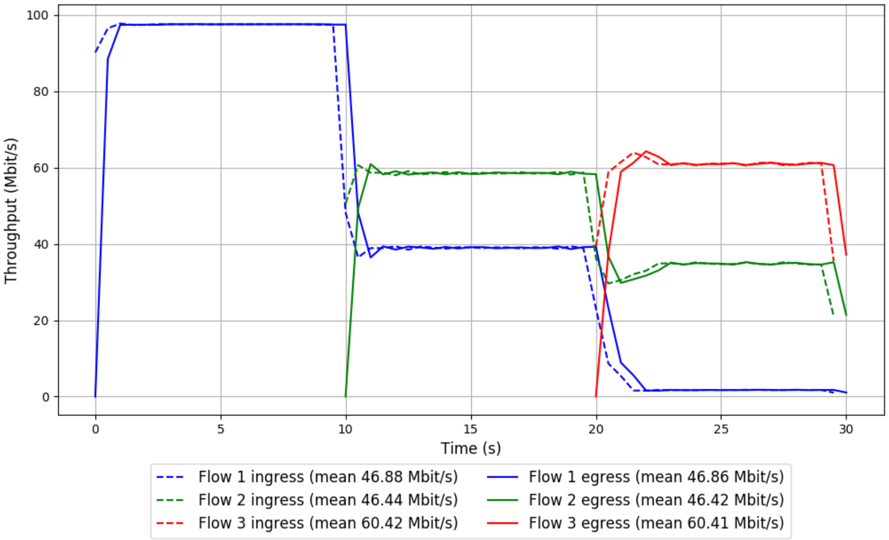
Run 7: Report of Indigo — Data Link

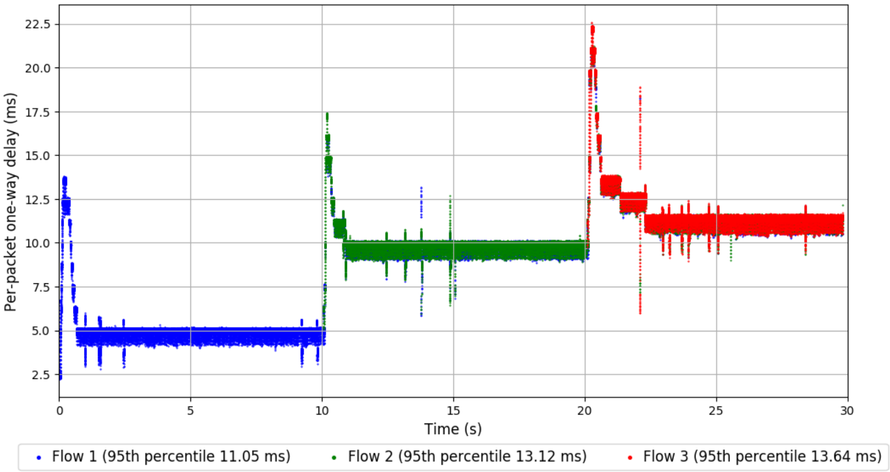




```
Run 8: Statistics of Indigo

Start at: 2018-07-10 06:03:04
End at: 2018-07-10 06:03:34
Local clock offset: -1.568 ms
Remote clock offset: -7.527 ms

# Below is generated by plot.py at 2018-07-10 07:04:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 12.822 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.86 Mbit/s
95th percentile per-packet one-way delay: 11.053 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.42 Mbit/s
95th percentile per-packet one-way delay: 13.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.41 Mbit/s
95th percentile per-packet one-way delay: 13.644 ms
Loss rate: 0.00%
```

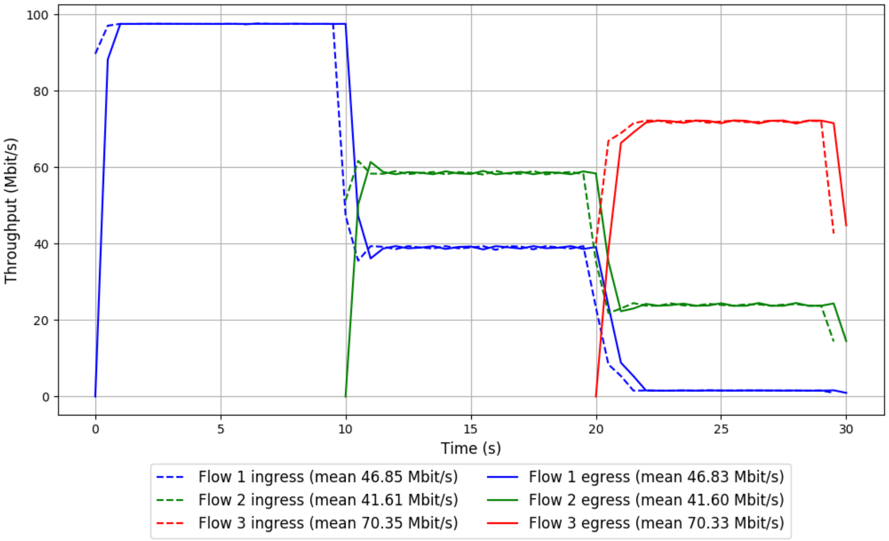
Run 8: Report of Indigo — Data Link

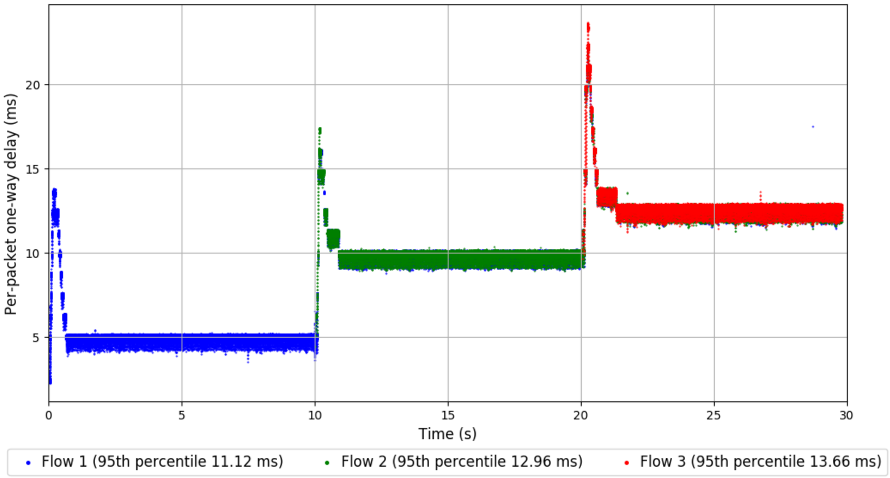




```
Run 9: Statistics of Indigo

Start at: 2018-07-10 06:22:15
End at: 2018-07-10 06:22:45
Local clock offset: -1.306 ms
Remote clock offset: -9.748 ms

# Below is generated by plot.py at 2018-07-10 07:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.896 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.83 Mbit/s
95th percentile per-packet one-way delay: 11.117 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.60 Mbit/s
95th percentile per-packet one-way delay: 12.965 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.33 Mbit/s
95th percentile per-packet one-way delay: 13.663 ms
Loss rate: 0.00%
```

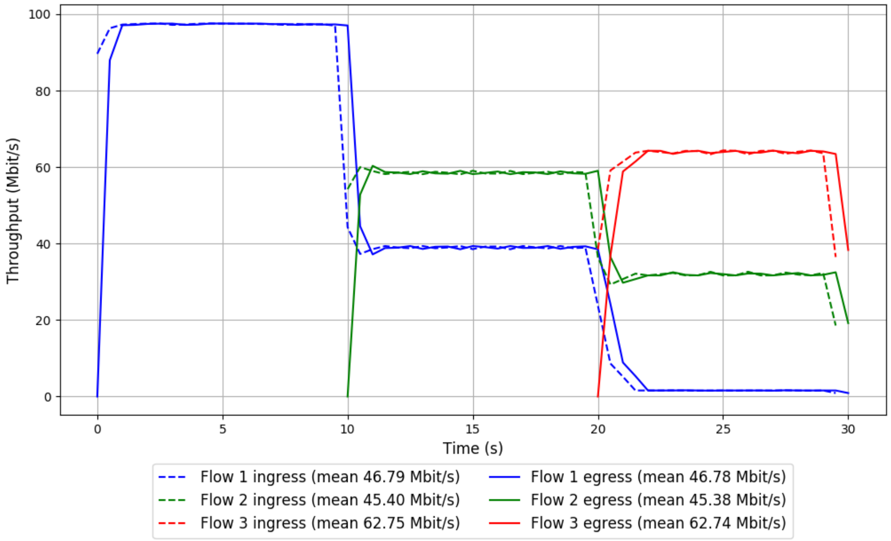
Run 9: Report of Indigo — Data Link

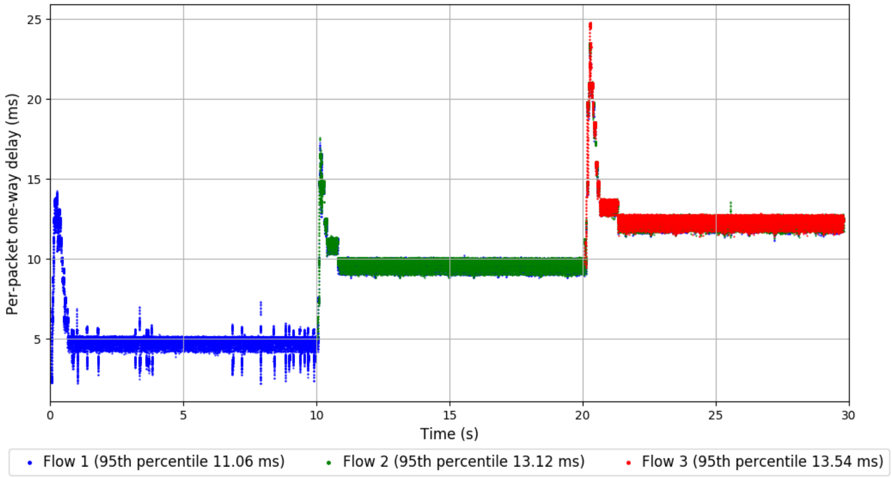




```
Run 10: Statistics of Indigo

Start at: 2018-07-10 06:41:27
End at: 2018-07-10 06:41:57
Local clock offset: -1.118 ms
Remote clock offset: -9.489 ms

# Below is generated by plot.py at 2018-07-10 07:04:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 12.730 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.78 Mbit/s
95th percentile per-packet one-way delay: 11.059 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 13.120 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.74 Mbit/s
95th percentile per-packet one-way delay: 13.544 ms
Loss rate: 0.00%
```

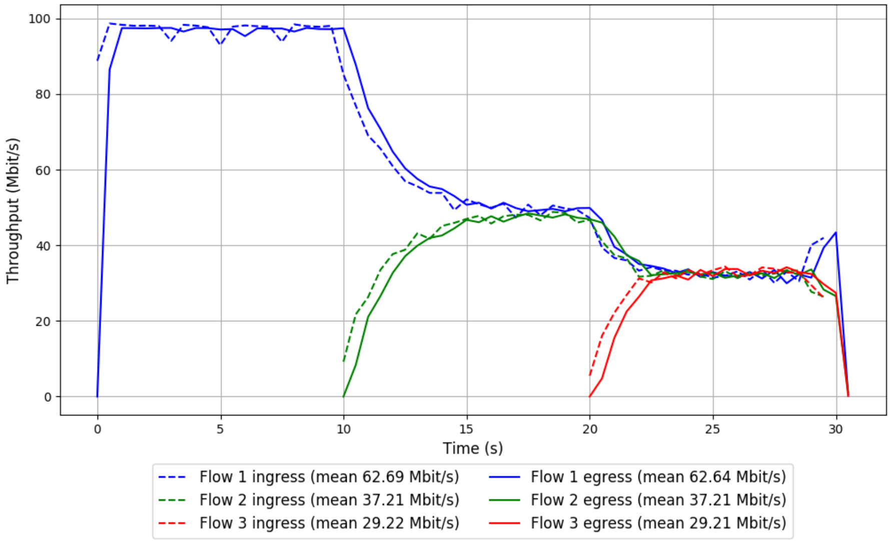
Run 10: Report of Indigo — Data Link

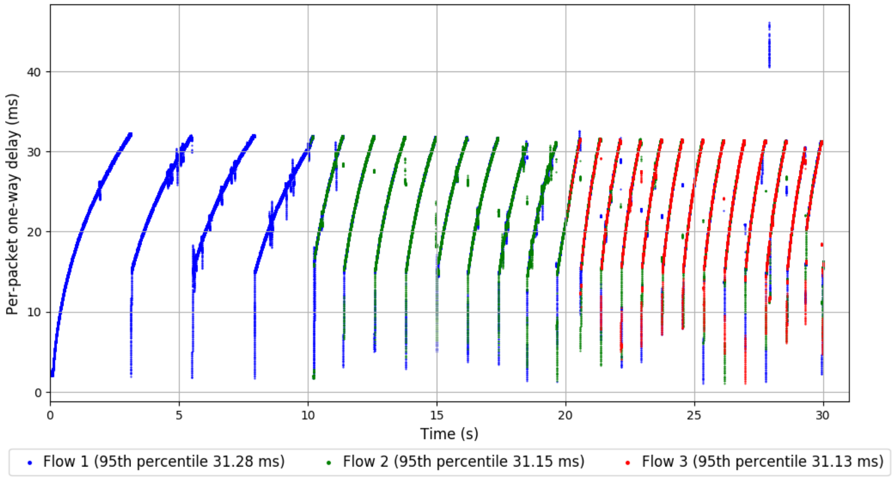




```
Run 1: Statistics of LEDBAT

Start at: 2018-07-10 03:45:12
End at: 2018-07-10 03:45:43
Local clock offset: -2.201 ms
Remote clock offset: -6.064 ms

# Below is generated by plot.py at 2018-07-10 07:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 31.211 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 62.64 Mbit/s
95th percentile per-packet one-way delay: 31.276 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 31.150 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.21 Mbit/s
95th percentile per-packet one-way delay: 31.126 ms
Loss rate: 0.10%
```

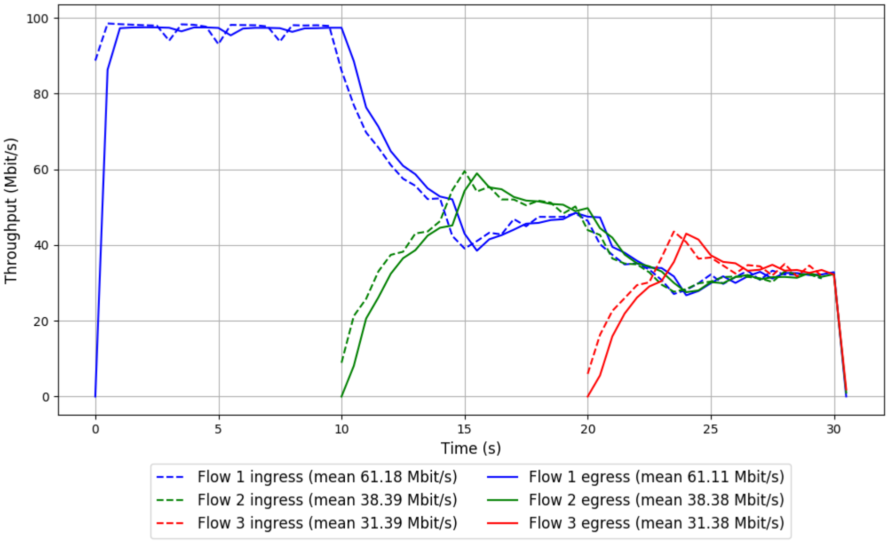
Run 1: Report of LEDBAT — Data Link

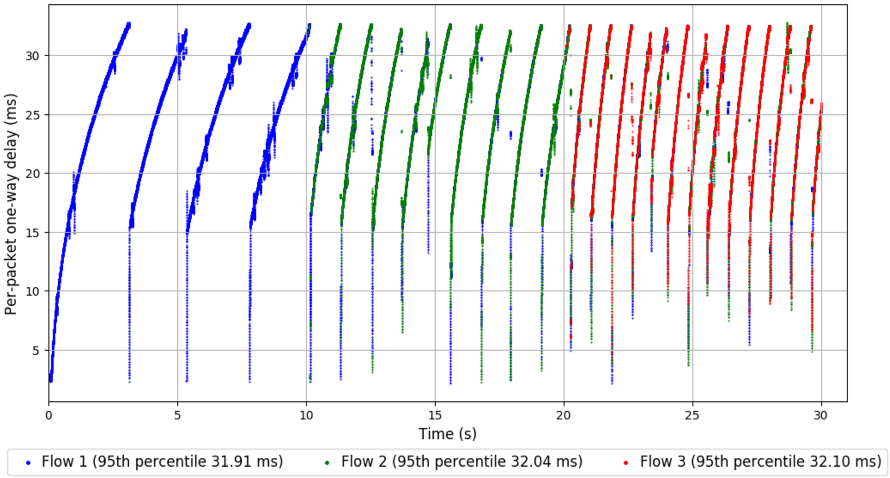




```
Run 2: Statistics of LEDBAT

Start at: 2018-07-10 04:04:24
End at: 2018-07-10 04:04:54
Local clock offset: -2.315 ms
Remote clock offset: 15.021 ms

# Below is generated by plot.py at 2018-07-10 07:04:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.08 Mbit/s
95th percentile per-packet one-way delay: 31.975 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.11 Mbit/s
95th percentile per-packet one-way delay: 31.915 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.38 Mbit/s
95th percentile per-packet one-way delay: 32.039 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 32.100 ms
Loss rate: 0.09%
```

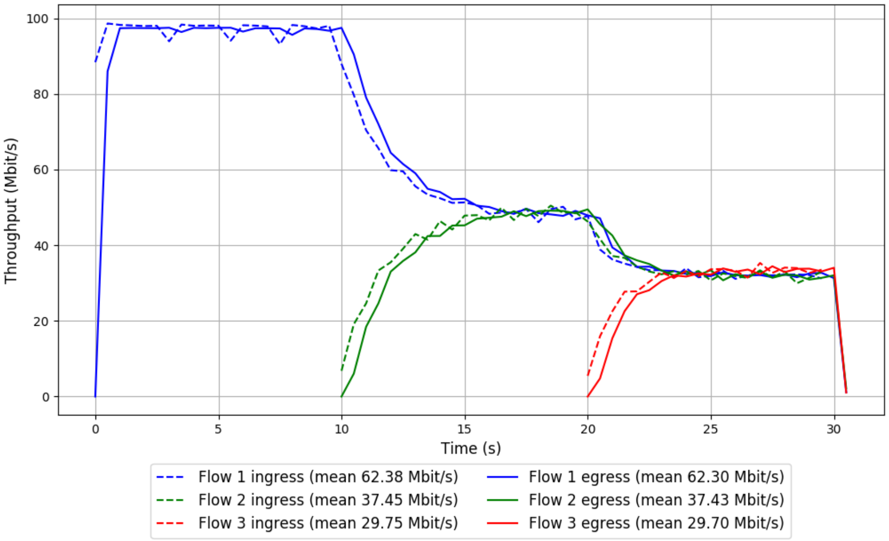
Run 2: Report of LEDBAT — Data Link

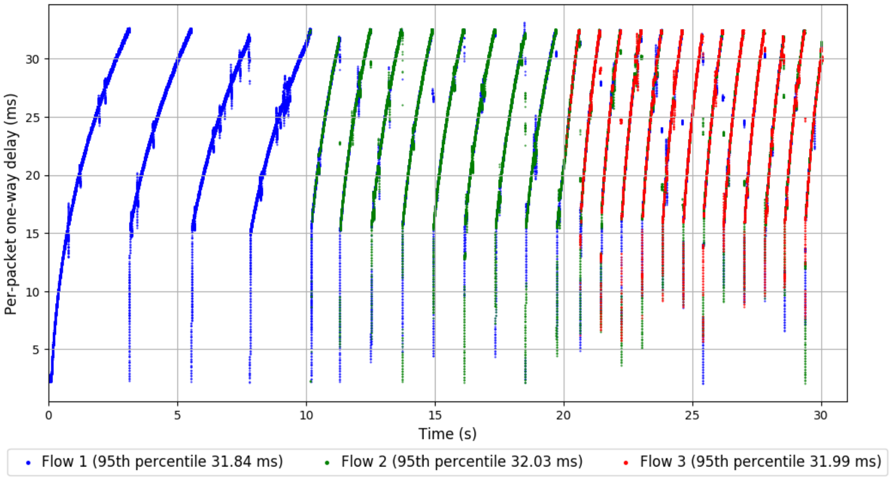




```
Run 3: Statistics of LEDBAT

Start at: 2018-07-10 04:23:36
End at: 2018-07-10 04:24:06
Local clock offset: -2.112 ms
Remote clock offset: 23.291 ms

# Below is generated by plot.py at 2018-07-10 07:05:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 31.937 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.30 Mbit/s
95th percentile per-packet one-way delay: 31.838 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.43 Mbit/s
95th percentile per-packet one-way delay: 32.029 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.70 Mbit/s
95th percentile per-packet one-way delay: 31.988 ms
Loss rate: 0.08%
```

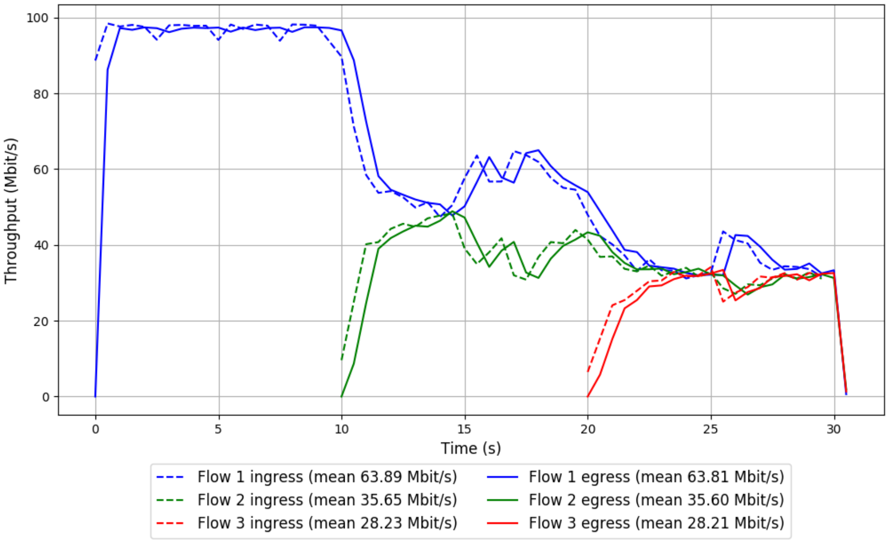
Run 3: Report of LEDBAT — Data Link

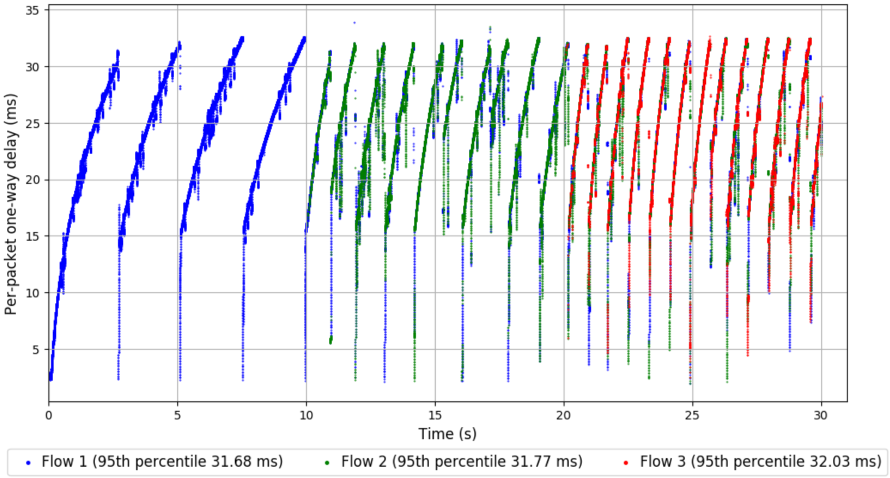




```
Run 4: Statistics of LEDBAT

Start at: 2018-07-10 04:42:48
End at: 2018-07-10 04:43:18
Local clock offset: -2.017 ms
Remote clock offset: 30.3 ms

# Below is generated by plot.py at 2018-07-10 07:05:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 31.755 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 63.81 Mbit/s
95th percentile per-packet one-way delay: 31.675 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 35.60 Mbit/s
95th percentile per-packet one-way delay: 31.766 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 28.21 Mbit/s
95th percentile per-packet one-way delay: 32.034 ms
Loss rate: 0.11%
```

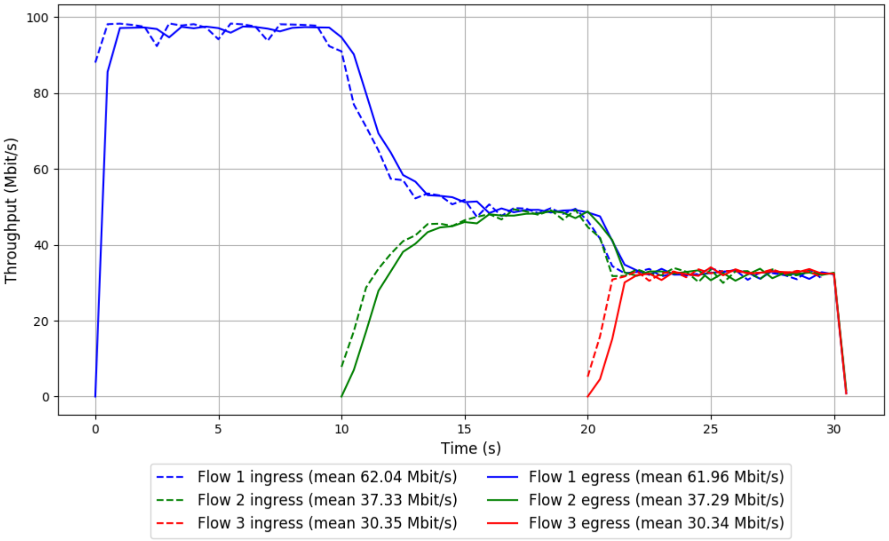
Run 4: Report of LEDBAT — Data Link

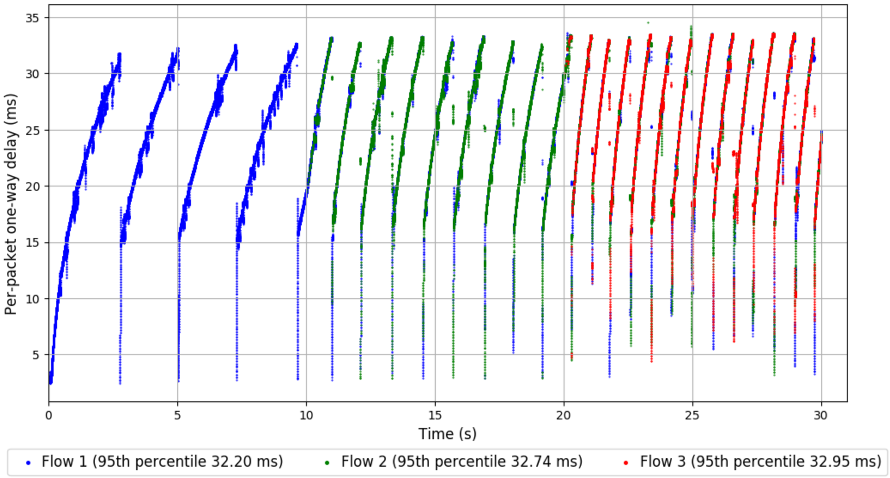




```
Run 5: Statistics of LEDBAT

Start at: 2018-07-10 05:02:00
End at: 2018-07-10 05:02:30
Local clock offset: -2.022 ms
Remote clock offset: 11.497 ms

# Below is generated by plot.py at 2018-07-10 07:05:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 32.504 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 61.96 Mbit/s
95th percentile per-packet one-way delay: 32.197 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 37.29 Mbit/s
95th percentile per-packet one-way delay: 32.737 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 32.946 ms
Loss rate: 0.08%
```

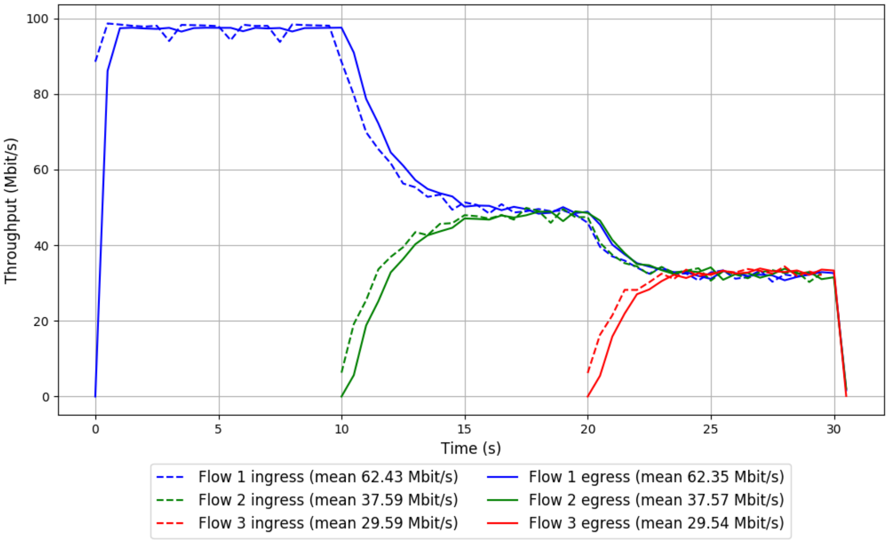
Run 5: Report of LEDBAT — Data Link

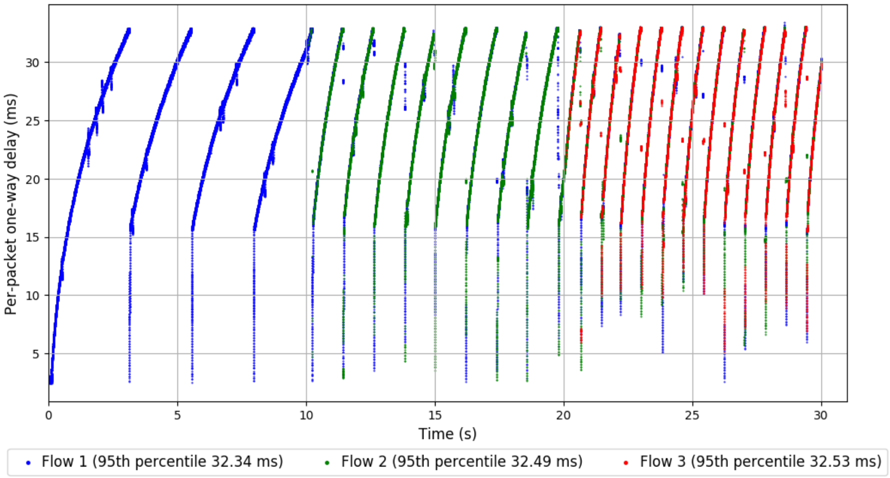




```
Run 6: Statistics of LEDBAT

Start at: 2018-07-10 05:21:12
End at: 2018-07-10 05:21:42
Local clock offset: -1.957 ms
Remote clock offset: -2.353 ms

# Below is generated by plot.py at 2018-07-10 07:05:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 32.412 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.35 Mbit/s
95th percentile per-packet one-way delay: 32.341 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.57 Mbit/s
95th percentile per-packet one-way delay: 32.493 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.54 Mbit/s
95th percentile per-packet one-way delay: 32.531 ms
Loss rate: 0.08%
```

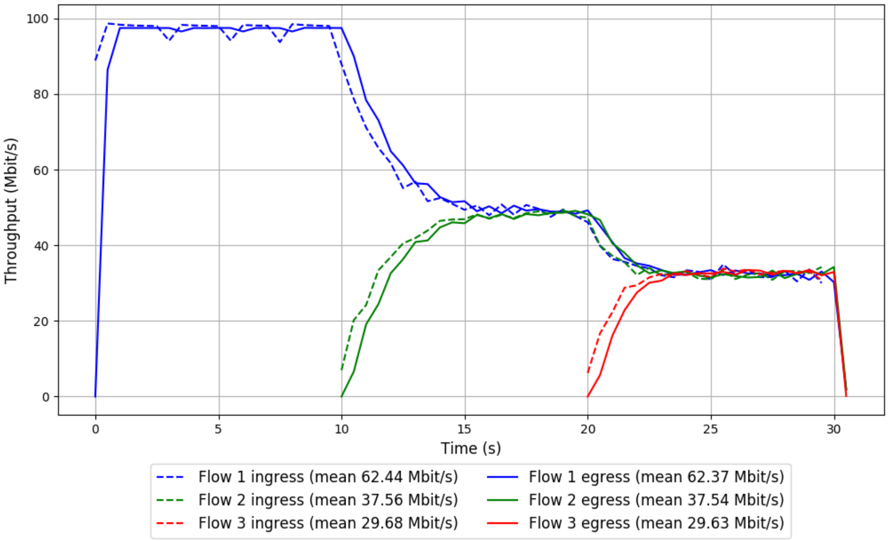
Run 6: Report of LEDBAT — Data Link

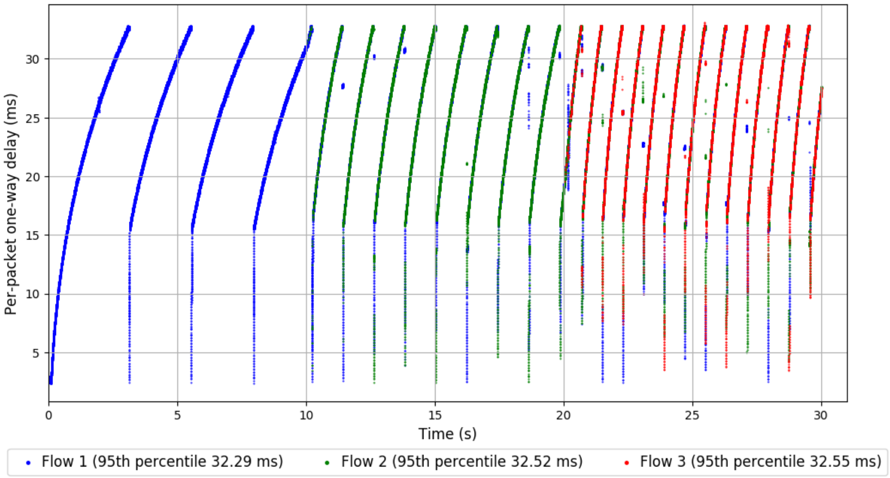




```
Run 7: Statistics of LEDBAT

Start at: 2018-07-10 05:40:29
End at: 2018-07-10 05:40:59
Local clock offset: -1.765 ms
Remote clock offset: -4.254 ms

# Below is generated by plot.py at 2018-07-10 07:05:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.19 Mbit/s
95th percentile per-packet one-way delay: 32.330 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.37 Mbit/s
95th percentile per-packet one-way delay: 32.287 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 32.524 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.63 Mbit/s
95th percentile per-packet one-way delay: 32.551 ms
Loss rate: 0.09%
```

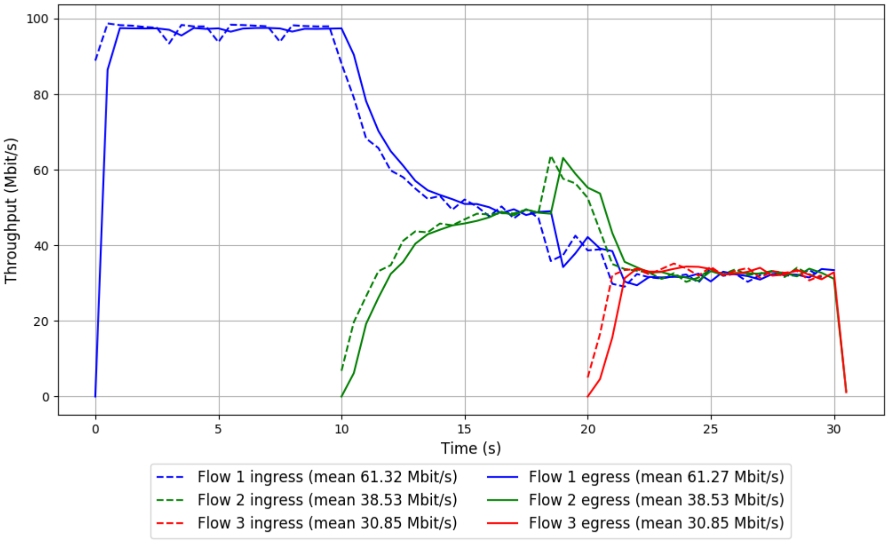
Run 7: Report of LEDBAT — Data Link

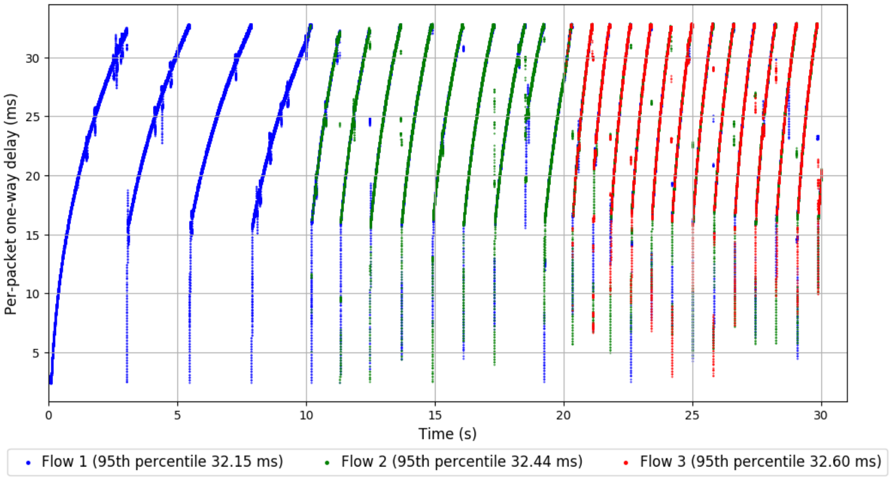




```
Run 8: Statistics of LEDBAT

Start at: 2018-07-10 05:59:41
End at: 2018-07-10 06:00:11
Local clock offset: -1.675 ms
Remote clock offset: -7.094 ms

# Below is generated by plot.py at 2018-07-10 07:05:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.12 Mbit/s
95th percentile per-packet one-way delay: 32.330 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.27 Mbit/s
95th percentile per-packet one-way delay: 32.146 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.53 Mbit/s
95th percentile per-packet one-way delay: 32.441 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.85 Mbit/s
95th percentile per-packet one-way delay: 32.599 ms
Loss rate: 0.08%
```

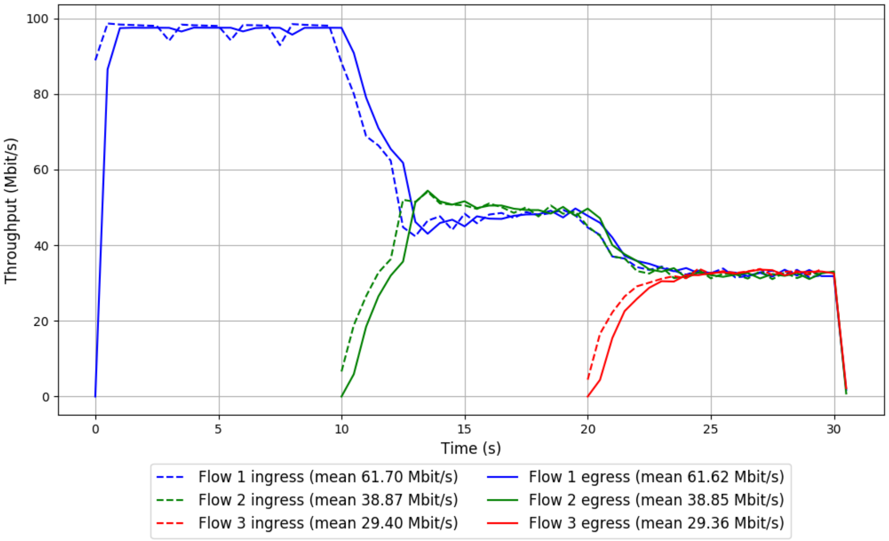
Run 8: Report of LEDBAT — Data Link

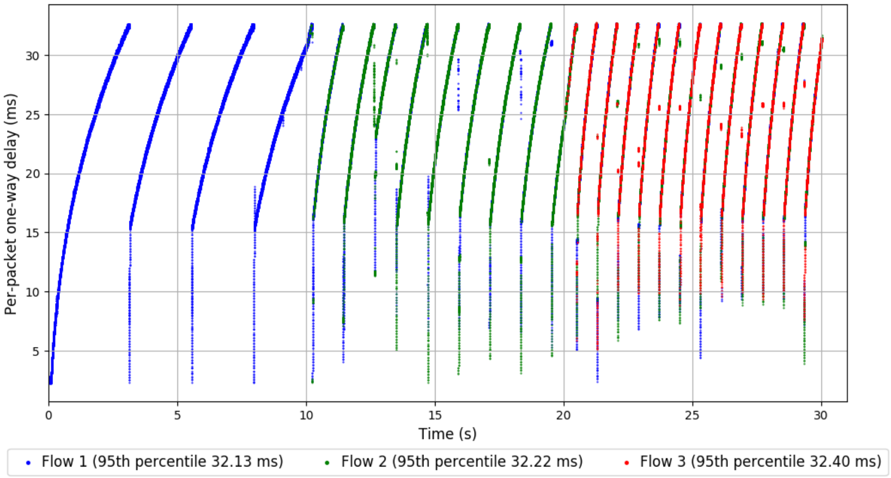




```
Run 9: Statistics of LEDBAT

Start at: 2018-07-10 06:18:52
End at: 2018-07-10 06:19:22
Local clock offset: -1.352 ms
Remote clock offset: -9.302 ms

# Below is generated by plot.py at 2018-07-10 07:05:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.20 Mbit/s
95th percentile per-packet one-way delay: 32.178 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.62 Mbit/s
95th percentile per-packet one-way delay: 32.135 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 32.216 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 29.36 Mbit/s
95th percentile per-packet one-way delay: 32.402 ms
Loss rate: 0.06%
```

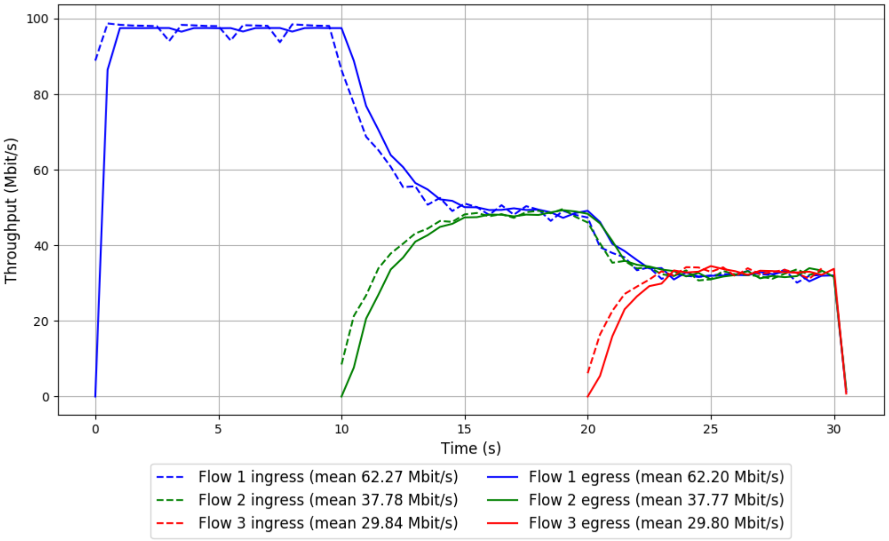
Run 9: Report of LEDBAT — Data Link

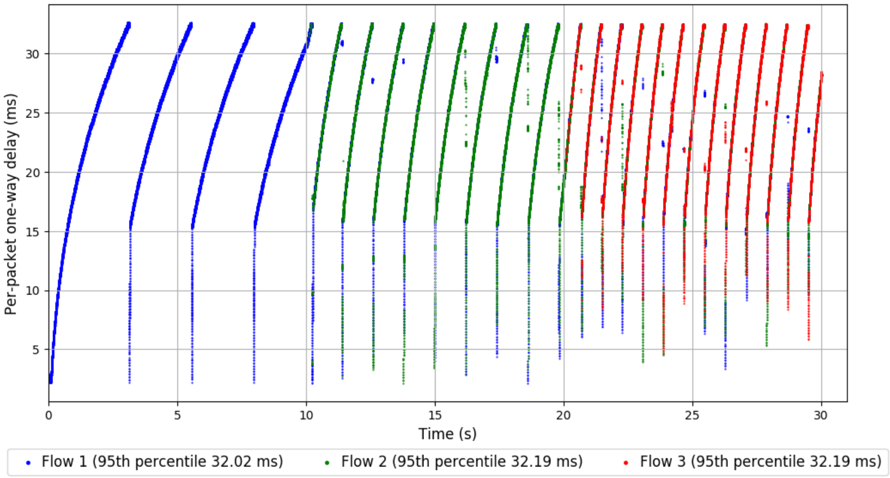




```
Run 10: Statistics of LEDBAT

Start at: 2018-07-10 06:38:04
End at: 2018-07-10 06:38:34
Local clock offset: -1.165 ms
Remote clock offset: -10.468 ms

# Below is generated by plot.py at 2018-07-10 07:05:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.071 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.20 Mbit/s
95th percentile per-packet one-way delay: 32.024 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.77 Mbit/s
95th percentile per-packet one-way delay: 32.190 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.80 Mbit/s
95th percentile per-packet one-way delay: 32.191 ms
Loss rate: 0.08%
```

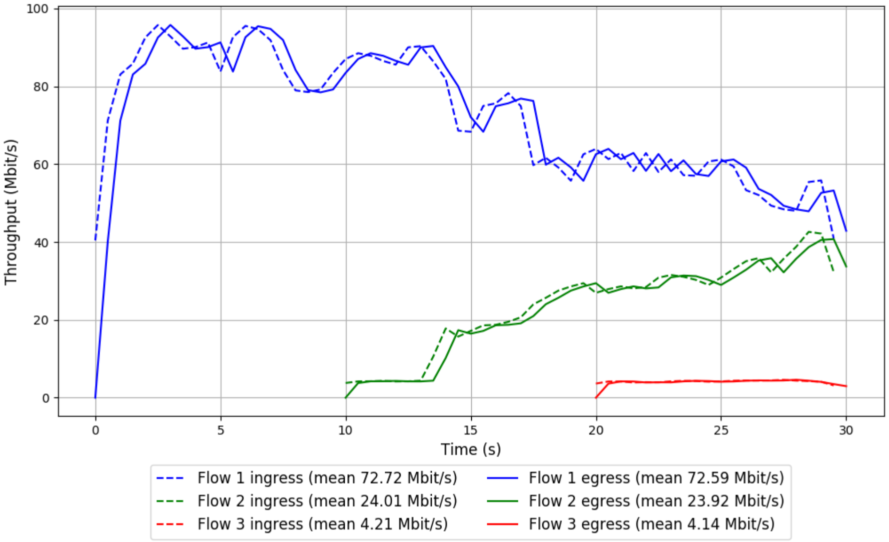
Run 10: Report of LEDBAT — Data Link

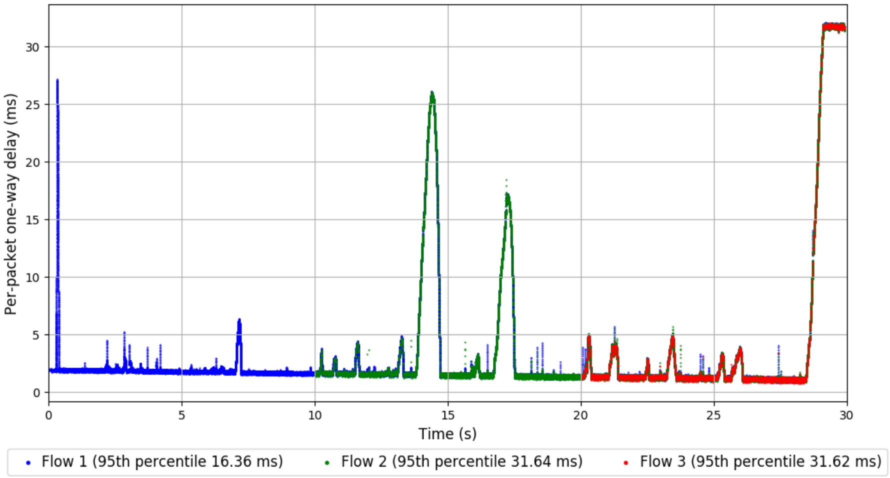




```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-10 03:46:21
End at: 2018-07-10 03:46:51
Local clock offset: -2.21 ms
Remote clock offset: -3.882 ms

# Below is generated by plot.py at 2018-07-10 07:06:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.87 Mbit/s
95th percentile per-packet one-way delay: 20.448 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 16.364 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 23.92 Mbit/s
95th percentile per-packet one-way delay: 31.635 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 31.616 ms
Loss rate: 1.21%
```

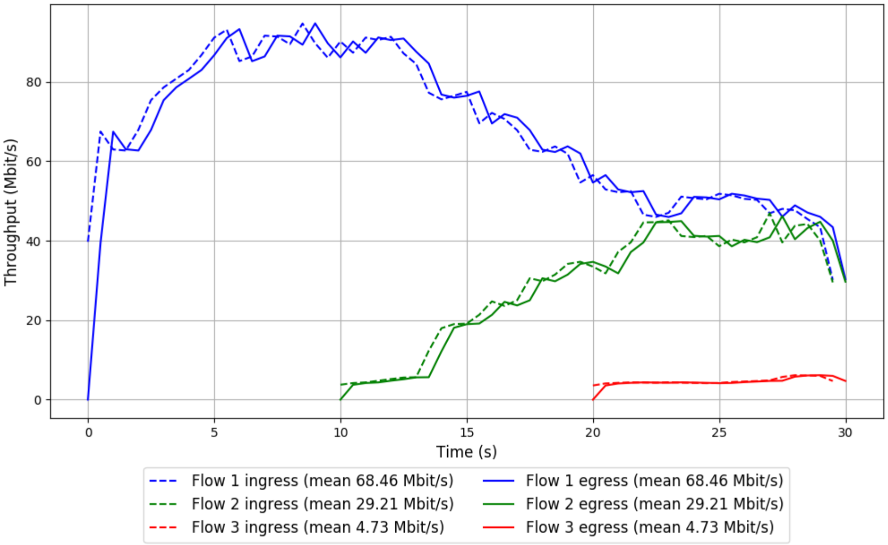
Run 1: Report of PCC-Allegro — Data Link

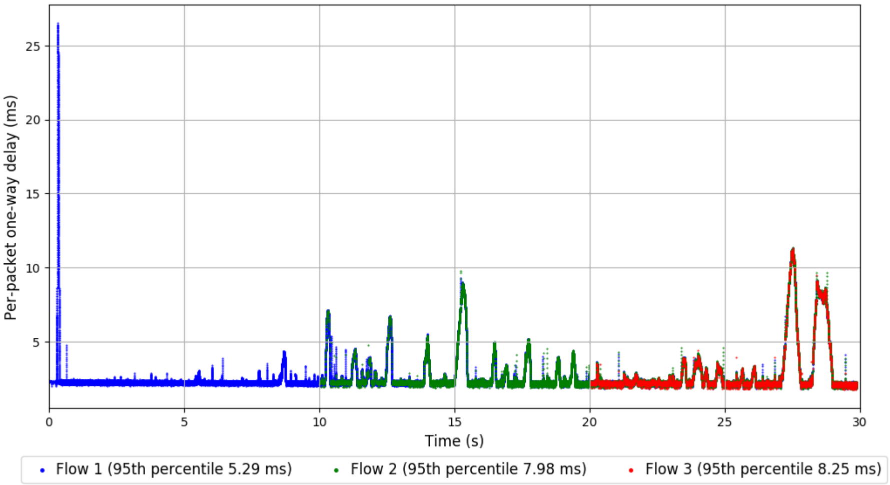




```
Run 2: Statistics of PCC-Allegro

Start at: 2018-07-10 04:05:33
End at: 2018-07-10 04:06:03
Local clock offset: -2.239 ms
Remote clock offset: 15.534 ms

# Below is generated by plot.py at 2018-07-10 07:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.44 Mbit/s
95th percentile per-packet one-way delay: 6.284 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.46 Mbit/s
95th percentile per-packet one-way delay: 5.291 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.21 Mbit/s
95th percentile per-packet one-way delay: 7.982 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.73 Mbit/s
95th percentile per-packet one-way delay: 8.253 ms
Loss rate: 0.00%
```

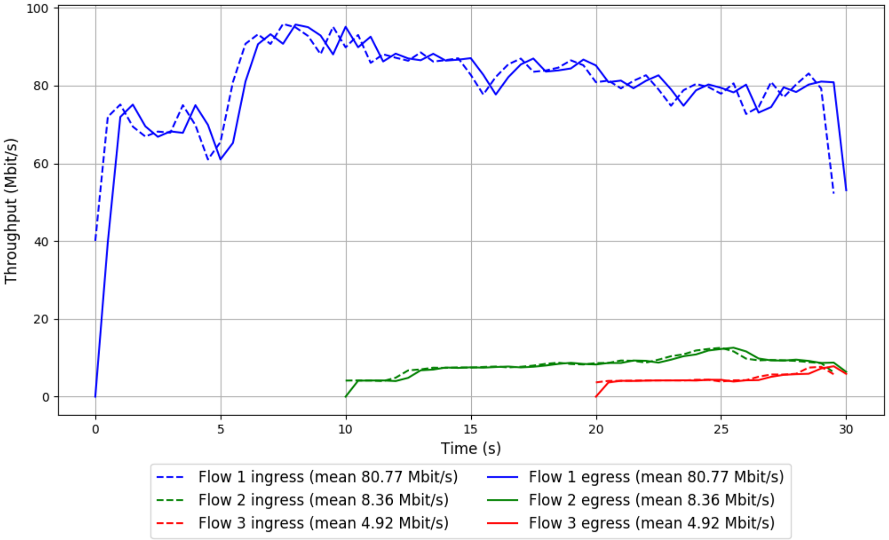
Run 2: Report of PCC-Allegro — Data Link

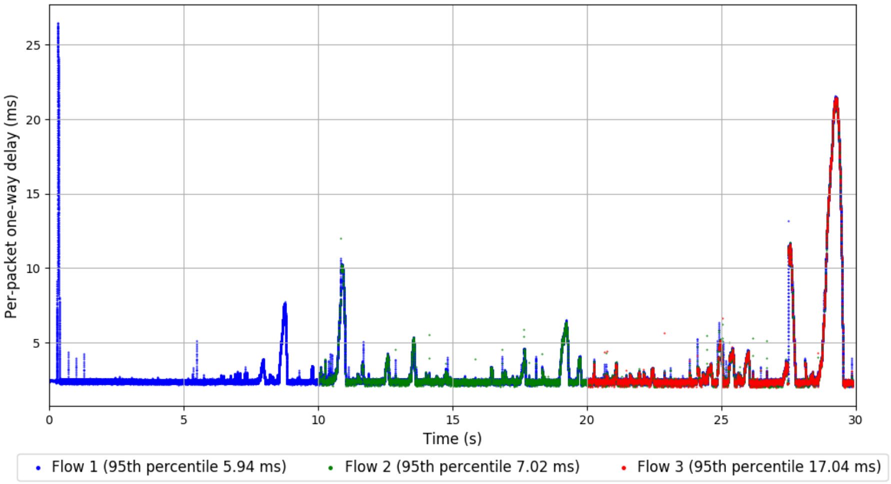




```
Run 3: Statistics of PCC-Allegro

Start at: 2018-07-10 04:24:45
End at: 2018-07-10 04:25:15
Local clock offset: -2.179 ms
Remote clock offset: 23.718 ms

# Below is generated by plot.py at 2018-07-10 07:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.95 Mbit/s
95th percentile per-packet one-way delay: 6.141 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.77 Mbit/s
95th percentile per-packet one-way delay: 5.944 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 7.019 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 17.039 ms
Loss rate: 0.00%
```

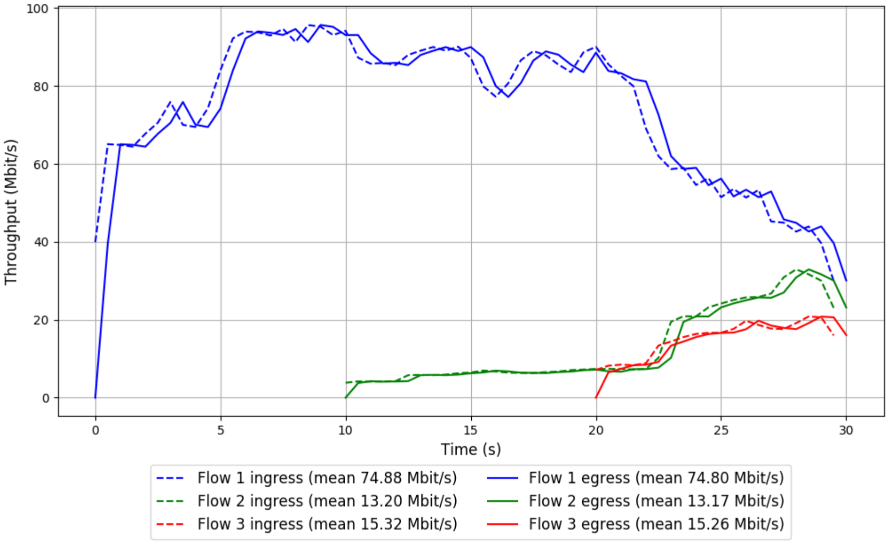
Run 3: Report of PCC-Allegro — Data Link

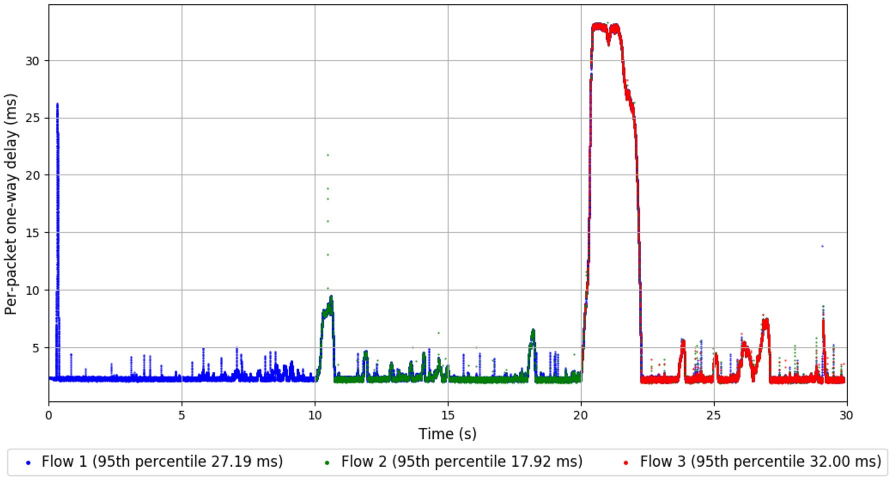




```
Run 4: Statistics of PCC-Allegro

Start at: 2018-07-10 04:43:57
End at: 2018-07-10 04:44:27
Local clock offset: -2.005 ms
Remote clock offset: 30.625 ms

# Below is generated by plot.py at 2018-07-10 07:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 27.187 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 74.80 Mbit/s
95th percentile per-packet one-way delay: 27.191 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 13.17 Mbit/s
95th percentile per-packet one-way delay: 17.919 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 15.26 Mbit/s
95th percentile per-packet one-way delay: 32.004 ms
Loss rate: 0.35%
```

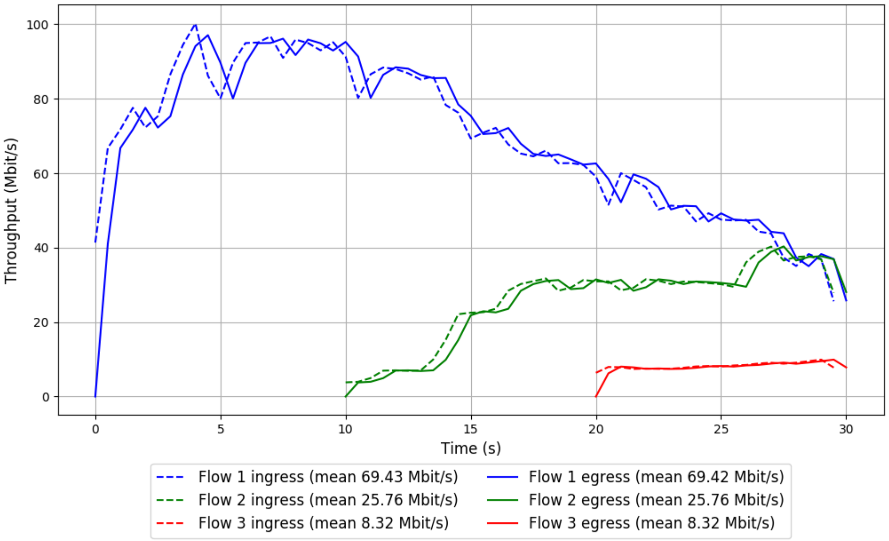
Run 4: Report of PCC-Allegro — Data Link

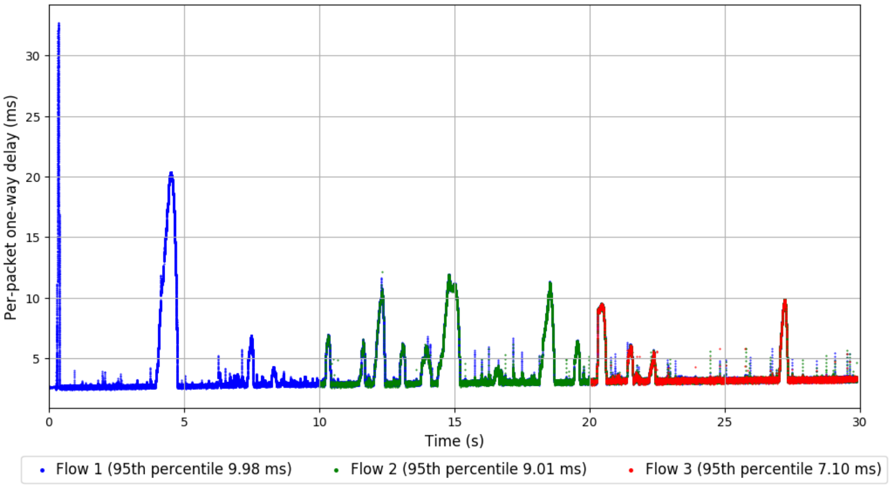




```
Run 5: Statistics of PCC-Allegro

Start at: 2018-07-10 05:03:09
End at: 2018-07-10 05:03:39
Local clock offset: -2.026 ms
Remote clock offset: 9.906 ms

# Below is generated by plot.py at 2018-07-10 07:06:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 9.506 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.42 Mbit/s
95th percentile per-packet one-way delay: 9.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.76 Mbit/s
95th percentile per-packet one-way delay: 9.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 7.102 ms
Loss rate: 0.00%
```

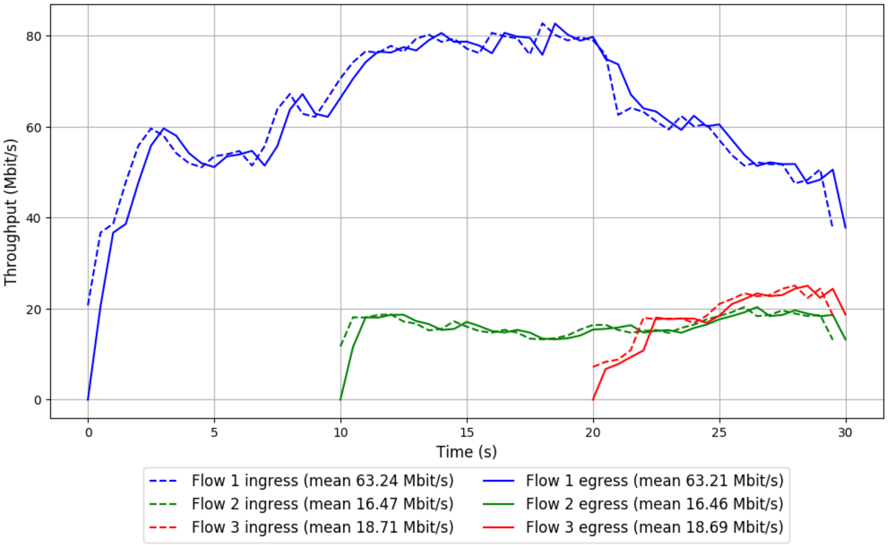
Run 5: Report of PCC-Allegro — Data Link

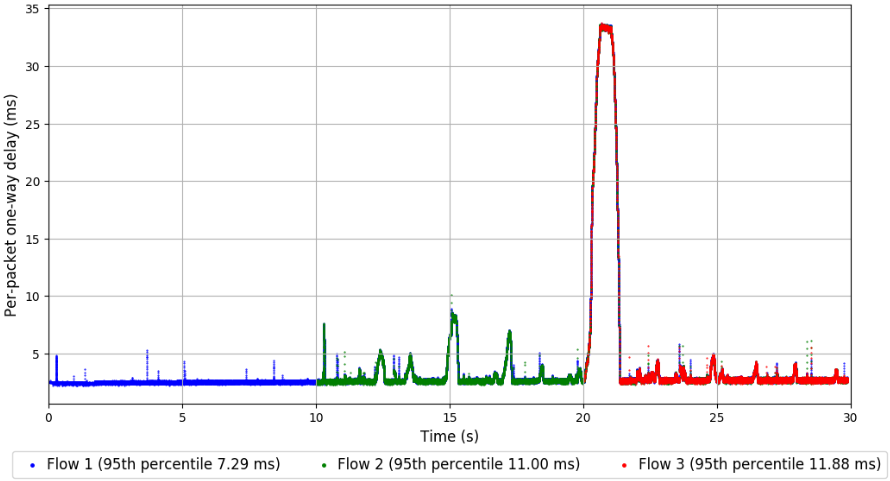




```
Run 6: Statistics of PCC-Allegro

Start at: 2018-07-10 05:22:21
End at: 2018-07-10 05:22:51
Local clock offset: -1.921 ms
Remote clock offset: -2.787 ms

# Below is generated by plot.py at 2018-07-10 07:06:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.32 Mbit/s
95th percentile per-packet one-way delay: 7.873 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 7.287 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 16.46 Mbit/s
95th percentile per-packet one-way delay: 11.001 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 18.69 Mbit/s
95th percentile per-packet one-way delay: 11.878 ms
Loss rate: 0.11%
```

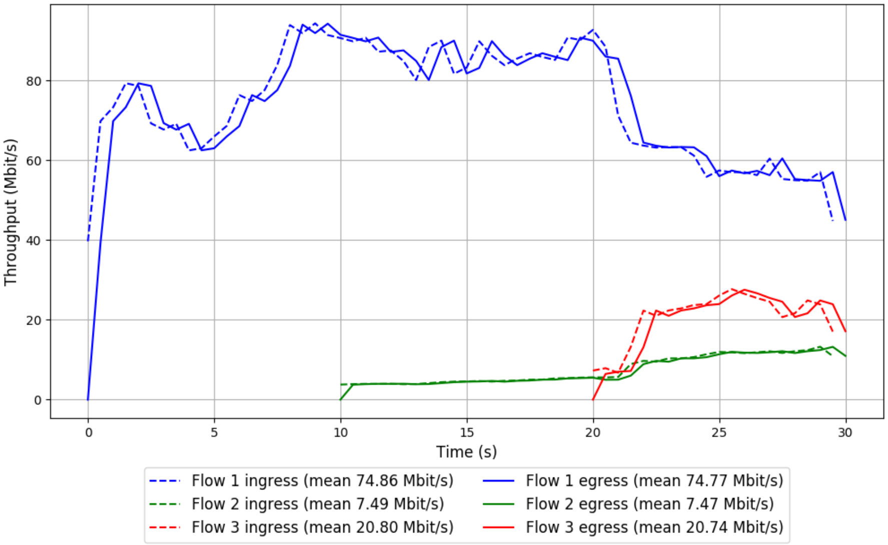
Run 6: Report of PCC-Allegro — Data Link

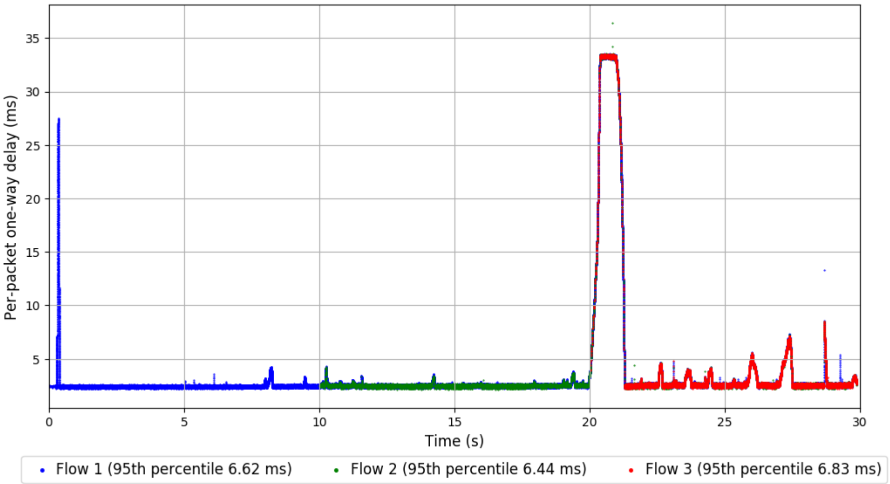




```
Run 7: Statistics of PCC-Allegro

Start at: 2018-07-10 05:41:38
End at: 2018-07-10 05:42:08
Local clock offset: -1.718 ms
Remote clock offset: -4.412 ms

# Below is generated by plot.py at 2018-07-10 07:06:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 6.631 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 74.77 Mbit/s
95th percentile per-packet one-way delay: 6.623 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 6.437 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 20.74 Mbit/s
95th percentile per-packet one-way delay: 6.832 ms
Loss rate: 0.31%
```

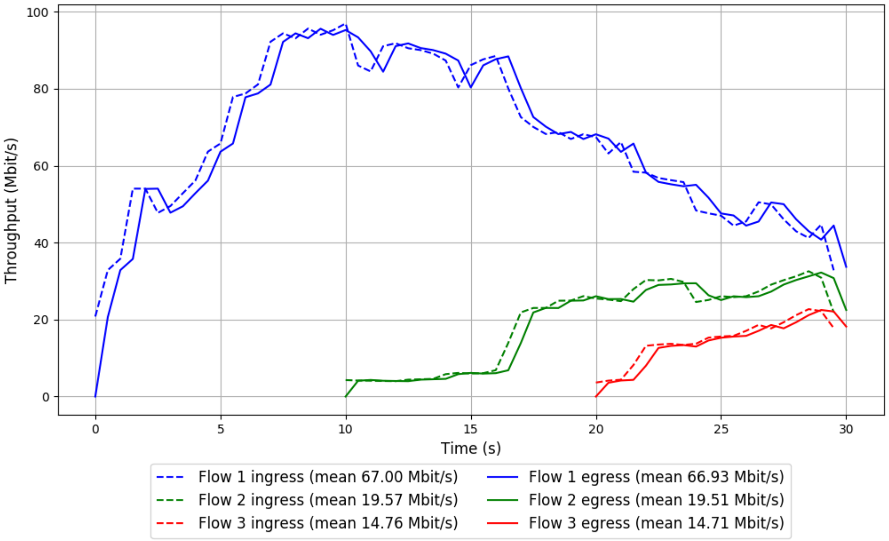
Run 7: Report of PCC-Allegro — Data Link

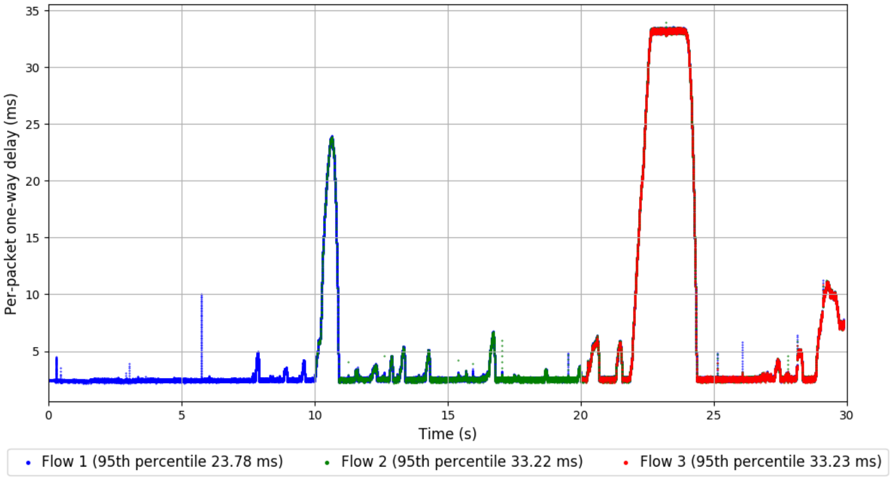




```
Run 8: Statistics of PCC-Allegro

Start at: 2018-07-10 06:00:50
End at: 2018-07-10 06:01:20
Local clock offset: -1.584 ms
Remote clock offset: -7.28 ms

# Below is generated by plot.py at 2018-07-10 07:06:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.76 Mbit/s
95th percentile per-packet one-way delay: 32.982 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 66.93 Mbit/s
95th percentile per-packet one-way delay: 23.779 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 19.51 Mbit/s
95th percentile per-packet one-way delay: 33.216 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 14.71 Mbit/s
95th percentile per-packet one-way delay: 33.235 ms
Loss rate: 0.34%
```

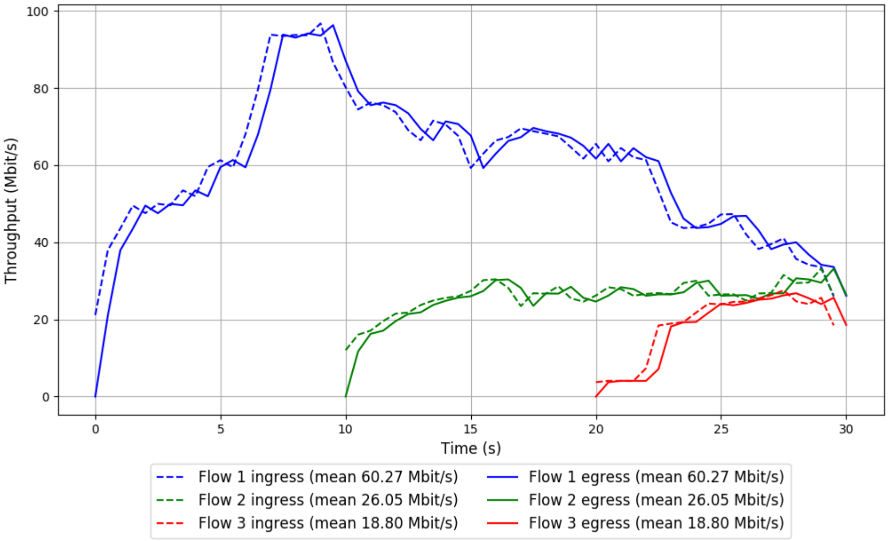
Run 8: Report of PCC-Allegro — Data Link

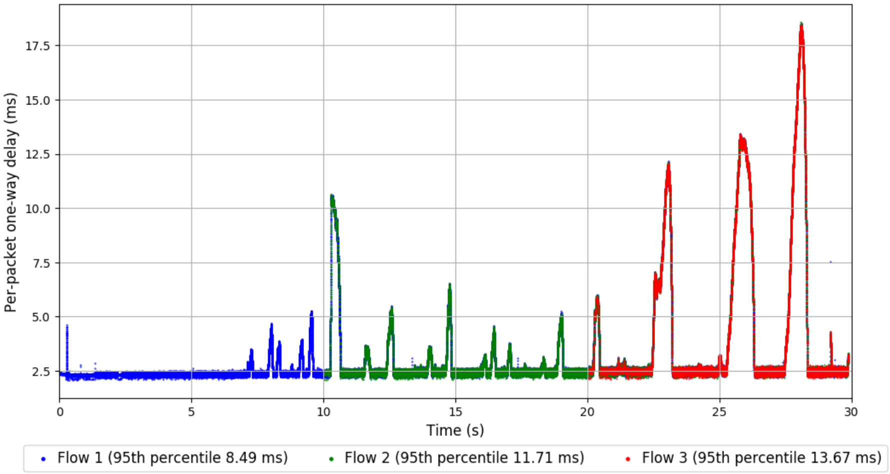




```
Run 9: Statistics of PCC-Allegro

Start at: 2018-07-10 06:20:01
End at: 2018-07-10 06:20:31
Local clock offset: -1.322 ms
Remote clock offset: -9.439 ms

# Below is generated by plot.py at 2018-07-10 07:07:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.80 Mbit/s
95th percentile per-packet one-way delay: 10.335 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.27 Mbit/s
95th percentile per-packet one-way delay: 8.490 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.05 Mbit/s
95th percentile per-packet one-way delay: 11.708 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.80 Mbit/s
95th percentile per-packet one-way delay: 13.667 ms
Loss rate: 0.00%
```

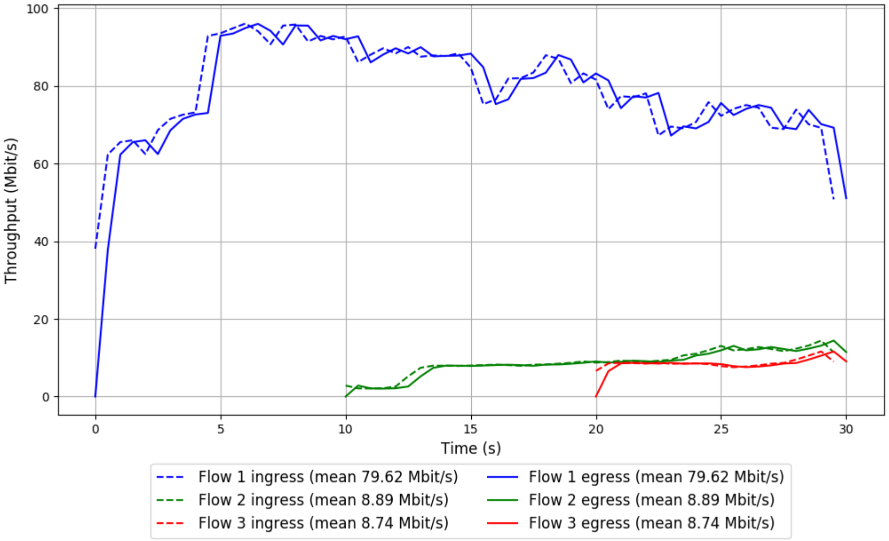
Run 9: Report of PCC-Allegro — Data Link

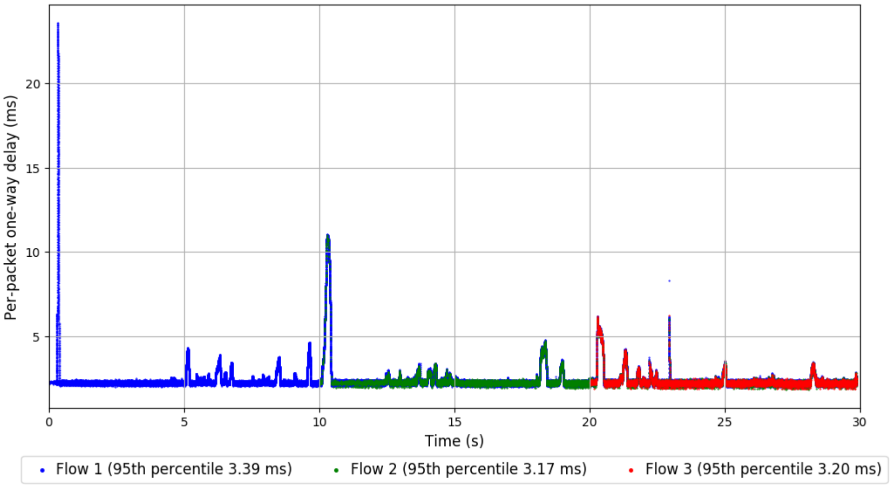




```
Run 10: Statistics of PCC-Allegro

Start at: 2018-07-10 06:39:13
End at: 2018-07-10 06:39:43
Local clock offset: -1.156 ms
Remote clock offset: -10.123 ms

# Below is generated by plot.py at 2018-07-10 07:07:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.42 Mbit/s
95th percentile per-packet one-way delay: 3.360 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.62 Mbit/s
95th percentile per-packet one-way delay: 3.388 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 3.169 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.74 Mbit/s
95th percentile per-packet one-way delay: 3.203 ms
Loss rate: 0.00%
```

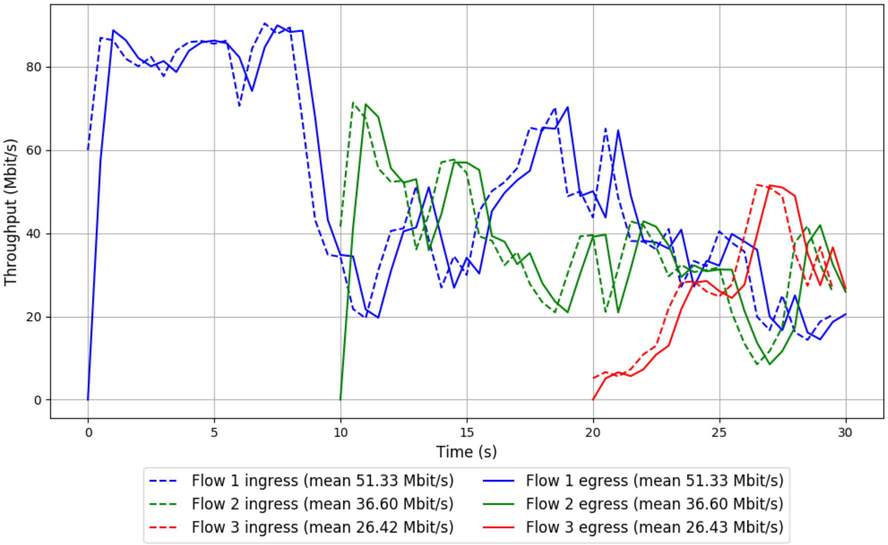
Run 10: Report of PCC-Allegro — Data Link

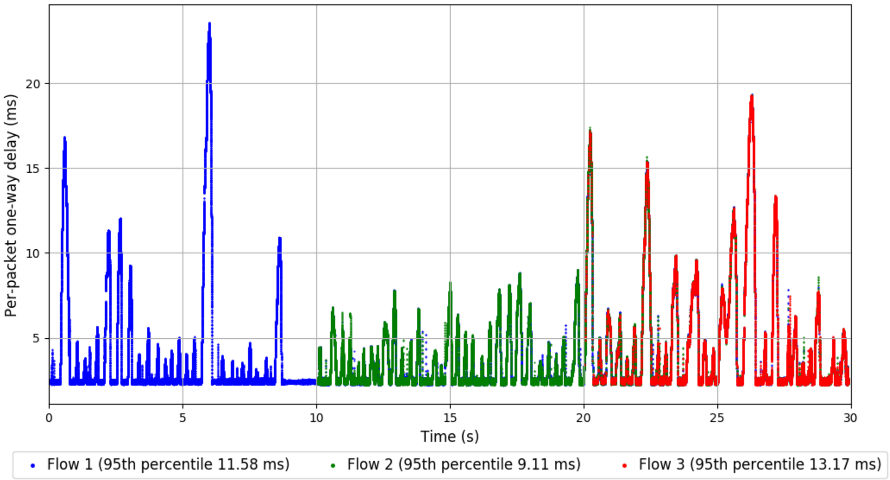




```
Run 1: Statistics of PCC-Expr

Start at: 2018-07-10 03:42:55
End at: 2018-07-10 03:43:25
Local clock offset: -2.199 ms
Remote clock offset: -7.246 ms

# Below is generated by plot.py at 2018-07-10 07:08:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.41 Mbit/s
95th percentile per-packet one-way delay: 11.406 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 11.584 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 9.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.43 Mbit/s
95th percentile per-packet one-way delay: 13.174 ms
Loss rate: 0.00%
```

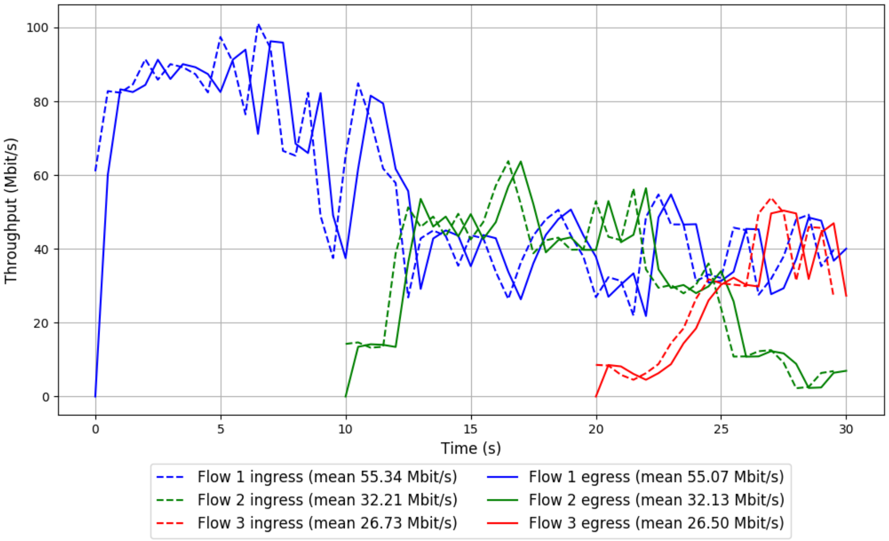
Run 1: Report of PCC-Expr — Data Link

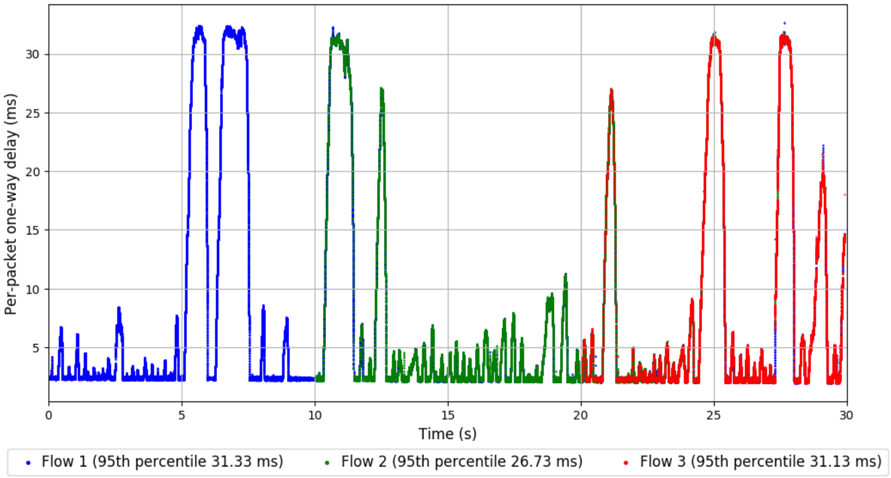




```
Run 2: Statistics of PCC-Expr

Start at: 2018-07-10 04:02:07
End at: 2018-07-10 04:02:37
Local clock offset: -2.264 ms
Remote clock offset: 13.707 ms

# Below is generated by plot.py at 2018-07-10 07:08:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.20 Mbit/s
95th percentile per-packet one-way delay: 31.148 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 55.07 Mbit/s
95th percentile per-packet one-way delay: 31.329 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 32.13 Mbit/s
95th percentile per-packet one-way delay: 26.727 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 26.50 Mbit/s
95th percentile per-packet one-way delay: 31.129 ms
Loss rate: 0.71%
```

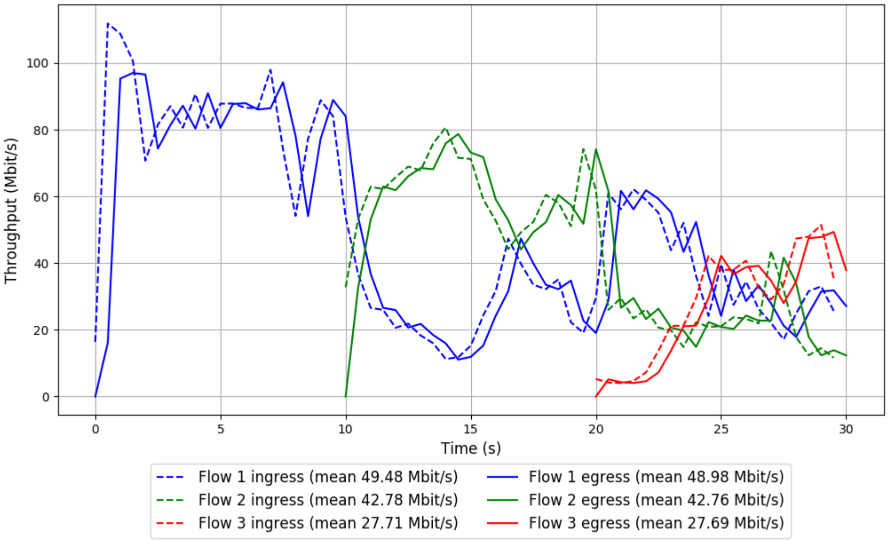
Run 2: Report of PCC-Expr — Data Link

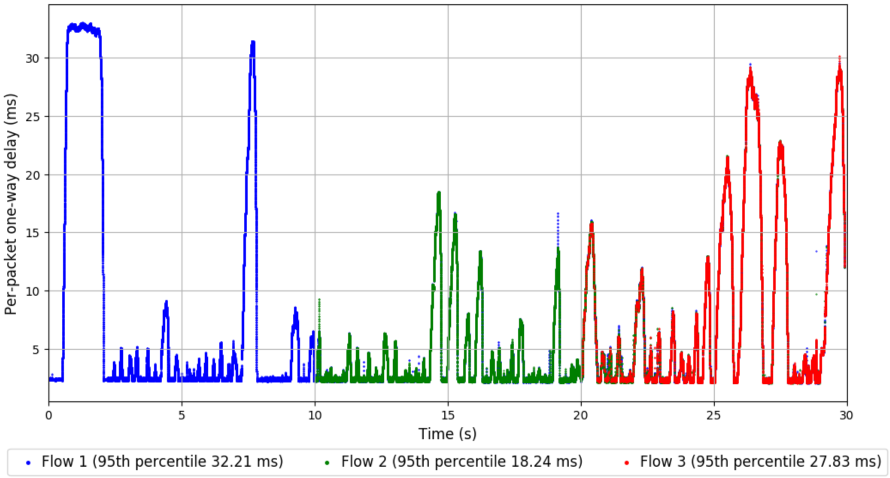




```
Run 3: Statistics of PCC-Expr

Start at: 2018-07-10 04:21:19
End at: 2018-07-10 04:21:49
Local clock offset: -2.2 ms
Remote clock offset: 22.417 ms

# Below is generated by plot.py at 2018-07-10 07:08:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 28.023 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 48.98 Mbit/s
95th percentile per-packet one-way delay: 32.214 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 42.76 Mbit/s
95th percentile per-packet one-way delay: 18.244 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.69 Mbit/s
95th percentile per-packet one-way delay: 27.834 ms
Loss rate: 0.00%
```

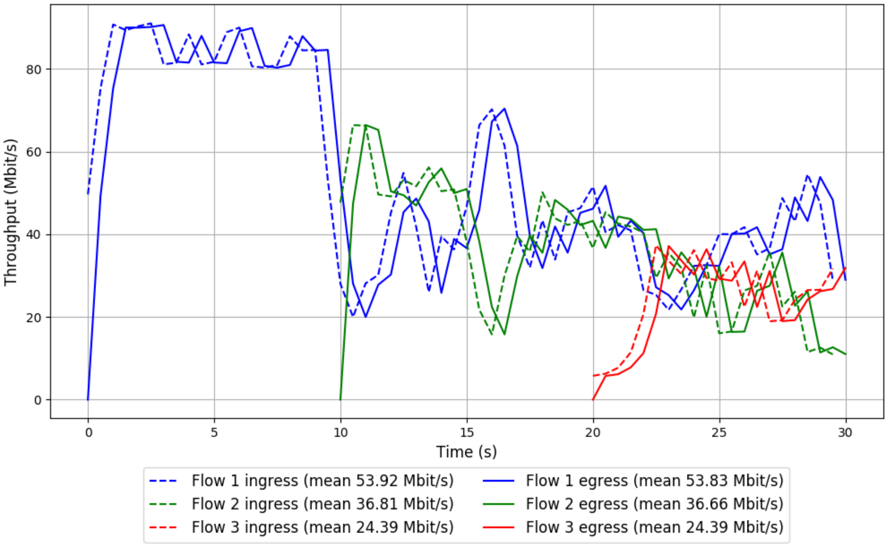
Run 3: Report of PCC-Expr — Data Link

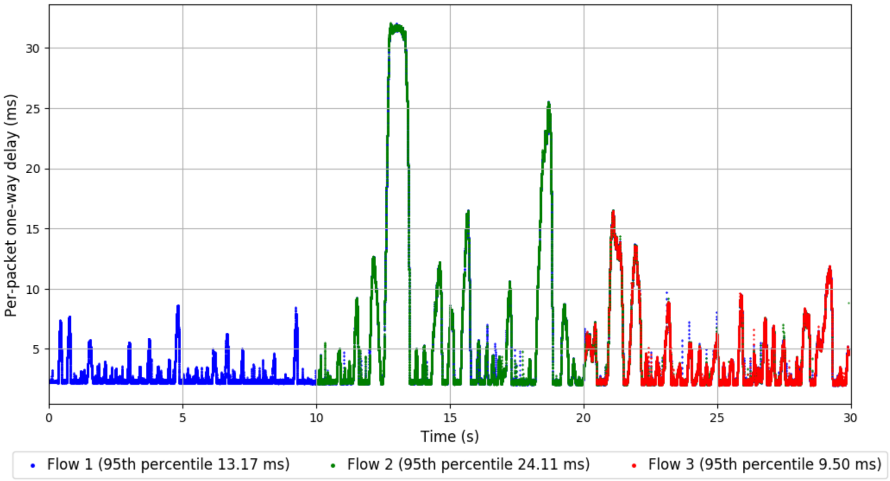




```
Run 4: Statistics of PCC-Expr

Start at: 2018-07-10 04:40:31
End at: 2018-07-10 04:41:01
Local clock offset: -2.033 ms
Remote clock offset: 29.411 ms

# Below is generated by plot.py at 2018-07-10 07:08:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.26 Mbit/s
95th percentile per-packet one-way delay: 15.178 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 53.83 Mbit/s
95th percentile per-packet one-way delay: 13.167 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 36.66 Mbit/s
95th percentile per-packet one-way delay: 24.105 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 9.500 ms
Loss rate: 0.00%
```

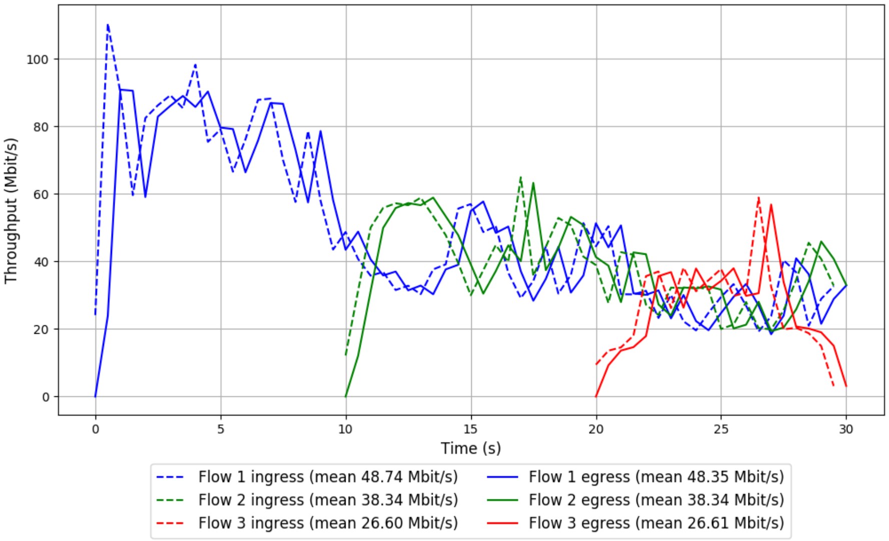
Run 4: Report of PCC-Expr — Data Link

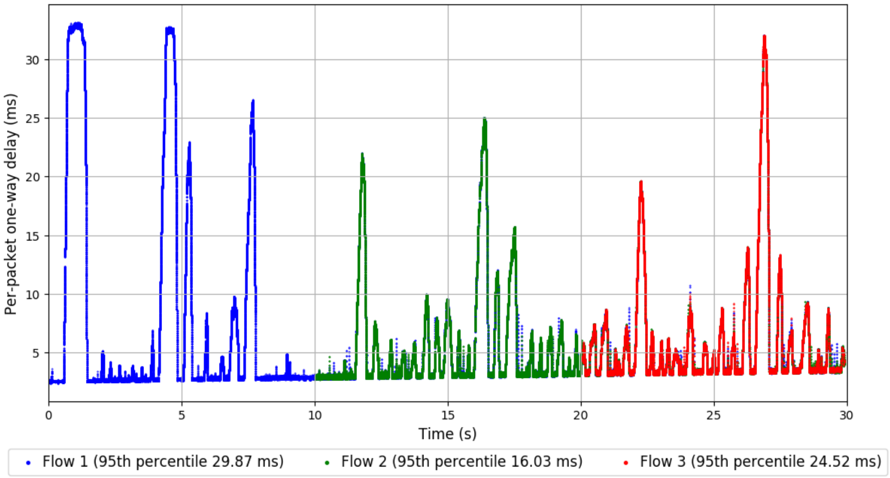




```
Run 5: Statistics of PCC-Expr

Start at: 2018-07-10 04:59:43
End at: 2018-07-10 05:00:13
Local clock offset: -2.039 ms
Remote clock offset: 15.184 ms

# Below is generated by plot.py at 2018-07-10 07:08:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.63 Mbit/s
95th percentile per-packet one-way delay: 24.247 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 48.35 Mbit/s
95th percentile per-packet one-way delay: 29.874 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 38.34 Mbit/s
95th percentile per-packet one-way delay: 16.026 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.61 Mbit/s
95th percentile per-packet one-way delay: 24.521 ms
Loss rate: 0.00%
```

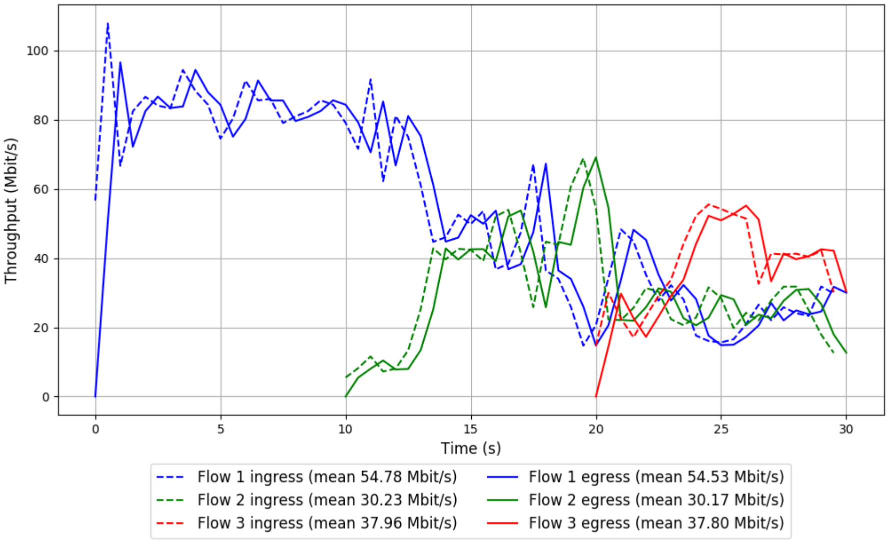
Run 5: Report of PCC-Expr — Data Link

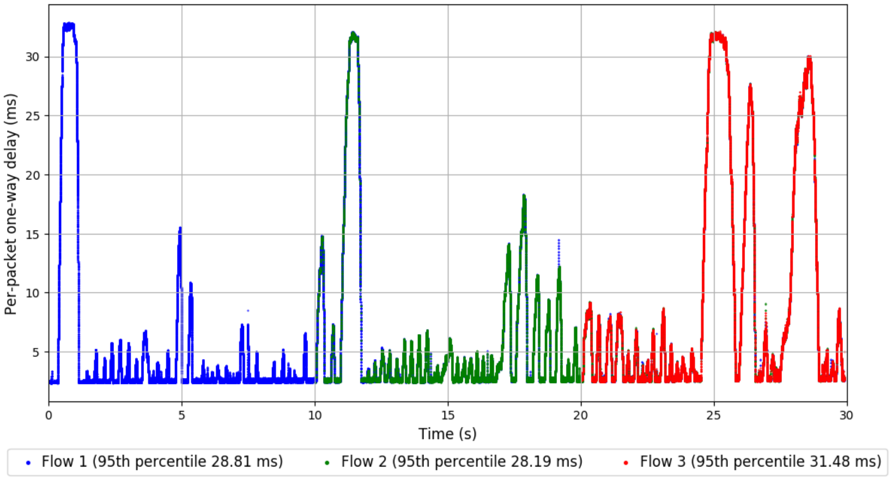




```
Run 6: Statistics of PCC-Expr

Start at: 2018-07-10 05:18:55
End at: 2018-07-10 05:19:25
Local clock offset: -1.91 ms
Remote clock offset: -1.524 ms

# Below is generated by plot.py at 2018-07-10 07:08:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.07 Mbit/s
95th percentile per-packet one-way delay: 29.613 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 28.810 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 28.191 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 37.80 Mbit/s
95th percentile per-packet one-way delay: 31.476 ms
Loss rate: 0.40%
```

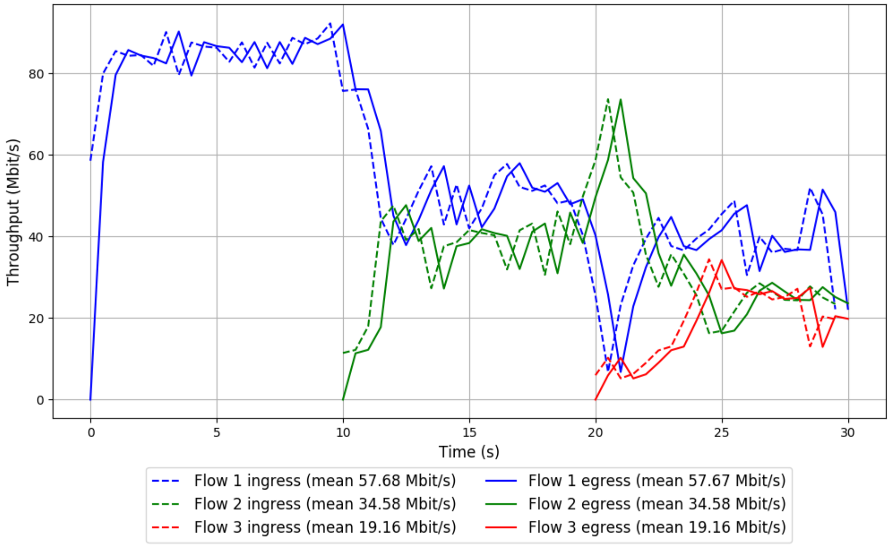
Run 6: Report of PCC-Expr — Data Link

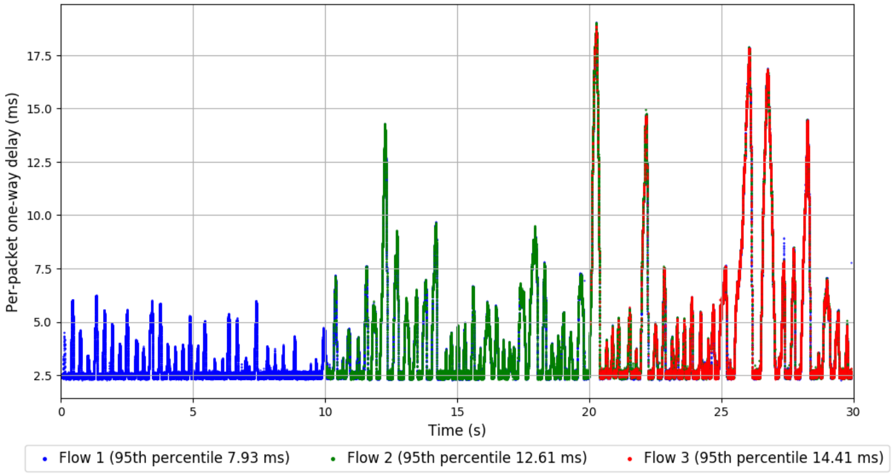




```
Run 7: Statistics of PCC-Expr

Start at: 2018-07-10 05:38:11
End at: 2018-07-10 05:38:41
Local clock offset: -1.73 ms
Remote clock offset: -4.024 ms

# Below is generated by plot.py at 2018-07-10 07:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.00 Mbit/s
95th percentile per-packet one-way delay: 10.230 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 7.929 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.58 Mbit/s
95th percentile per-packet one-way delay: 12.605 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.16 Mbit/s
95th percentile per-packet one-way delay: 14.413 ms
Loss rate: 0.00%
```

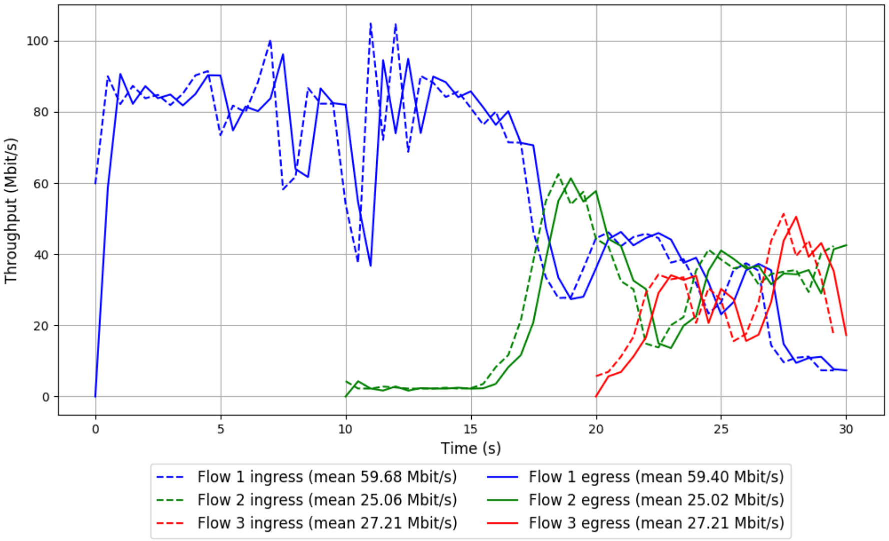
Run 7: Report of PCC-Expr — Data Link

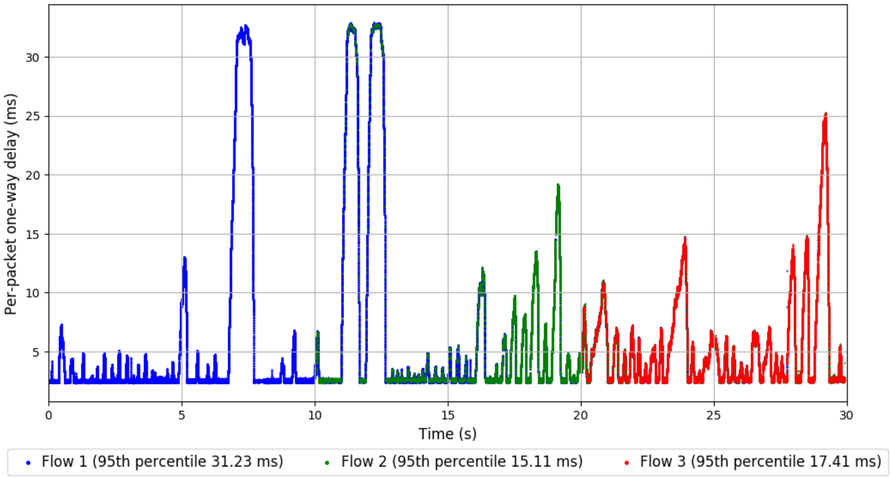




```
Run 8: Statistics of PCC-Expr

Start at: 2018-07-10 05:57:24
End at: 2018-07-10 05:57:54
Local clock offset: -1.641 ms
Remote clock offset: -6.707 ms

# Below is generated by plot.py at 2018-07-10 07:09:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.02 Mbit/s
95th percentile per-packet one-way delay: 25.233 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 59.40 Mbit/s
95th percentile per-packet one-way delay: 31.231 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 25.02 Mbit/s
95th percentile per-packet one-way delay: 15.110 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 27.21 Mbit/s
95th percentile per-packet one-way delay: 17.409 ms
Loss rate: 0.00%
```

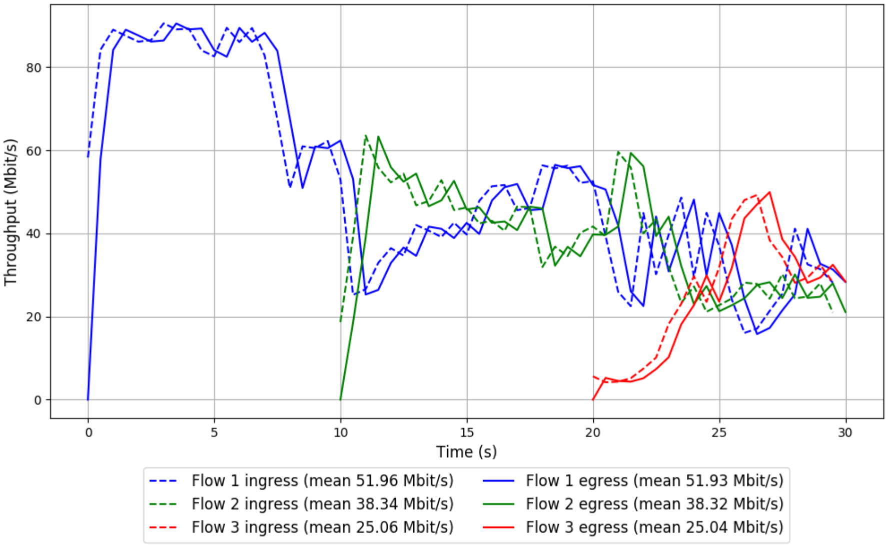
Run 8: Report of PCC-Expr — Data Link

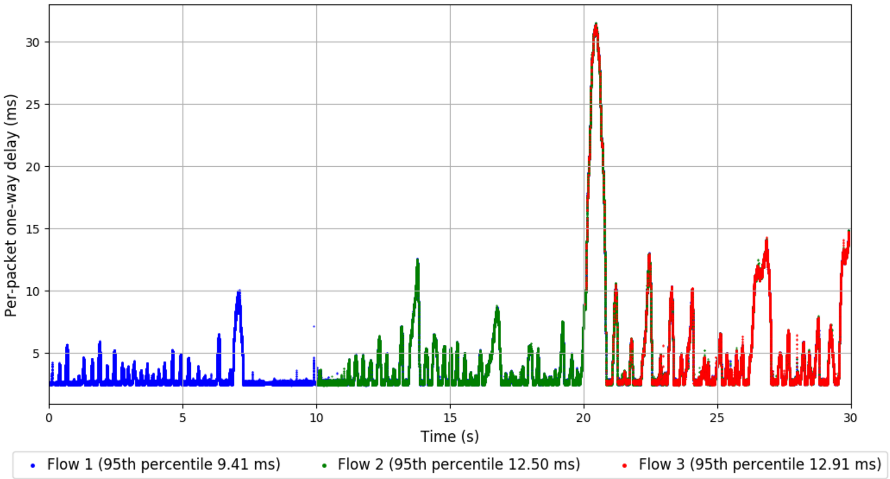




```
Run 9: Statistics of PCC-Expr

Start at: 2018-07-10 06:16:35
End at: 2018-07-10 06:17:05
Local clock offset: -1.439 ms
Remote clock offset: -8.86 ms

# Below is generated by plot.py at 2018-07-10 07:10:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.69 Mbit/s
95th percentile per-packet one-way delay: 11.693 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 51.93 Mbit/s
95th percentile per-packet one-way delay: 9.410 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 12.496 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 25.04 Mbit/s
95th percentile per-packet one-way delay: 12.908 ms
Loss rate: 0.01%
```

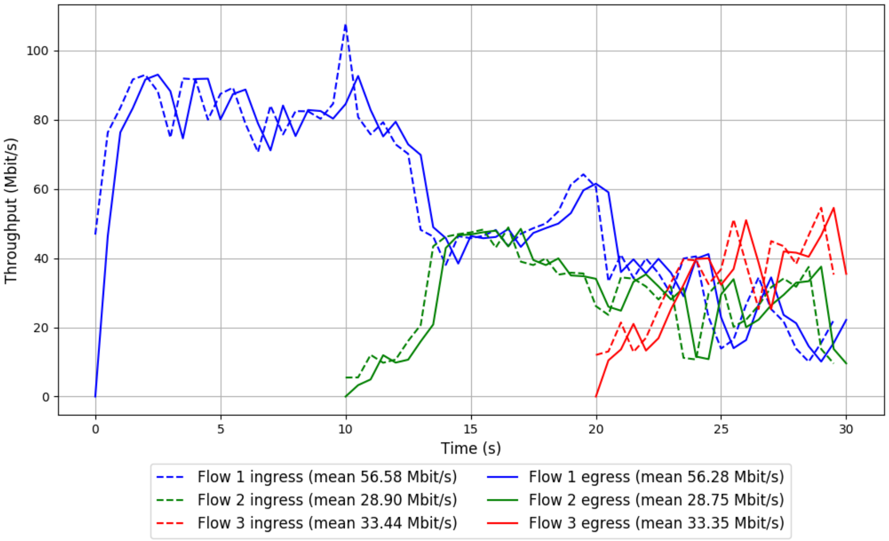
Run 9: Report of PCC-Expr — Data Link

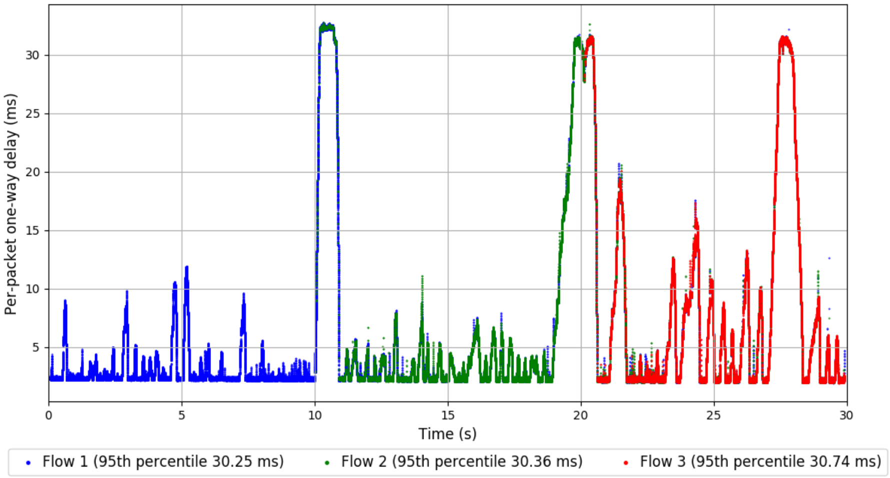




```
Run 10: Statistics of PCC-Expr

Start at: 2018-07-10 06:35:46
End at: 2018-07-10 06:36:16
Local clock offset: -1.255 ms
Remote clock offset: -11.526 ms

# Below is generated by plot.py at 2018-07-10 07:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.38 Mbit/s
95th percentile per-packet one-way delay: 30.393 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 56.28 Mbit/s
95th percentile per-packet one-way delay: 30.252 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 28.75 Mbit/s
95th percentile per-packet one-way delay: 30.360 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 30.744 ms
Loss rate: 0.56%
```

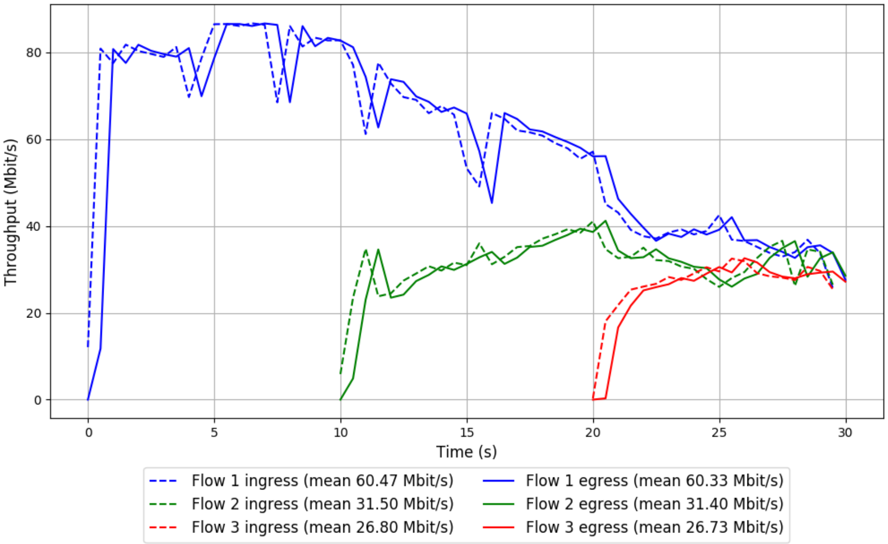
Run 10: Report of PCC-Expr — Data Link

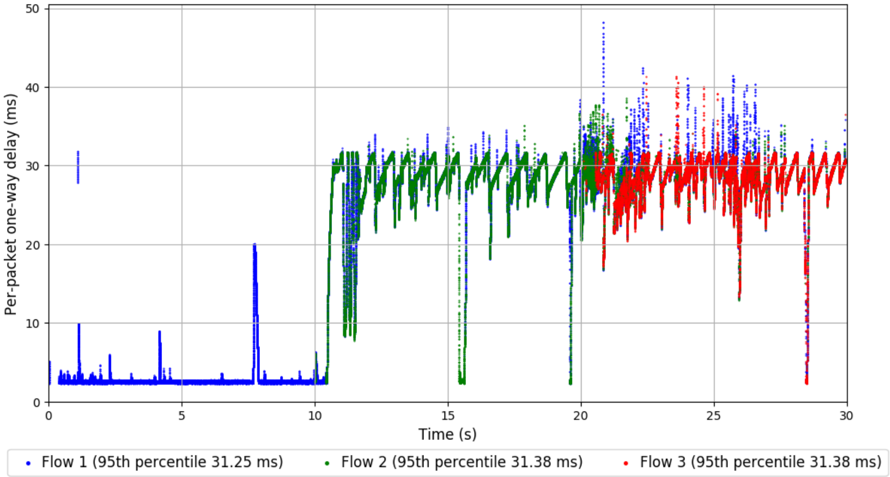




```
Run 1: Statistics of QUIC Cubic

Start at: 2018-07-10 03:44:05
End at: 2018-07-10 03:44:35
Local clock offset: -2.265 ms
Remote clock offset: -7.224 ms

# Below is generated by plot.py at 2018-07-10 07:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.99 Mbit/s
95th percentile per-packet one-way delay: 31.306 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 60.33 Mbit/s
95th percentile per-packet one-way delay: 31.253 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 31.40 Mbit/s
95th percentile per-packet one-way delay: 31.384 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 26.73 Mbit/s
95th percentile per-packet one-way delay: 31.384 ms
Loss rate: 0.22%
```

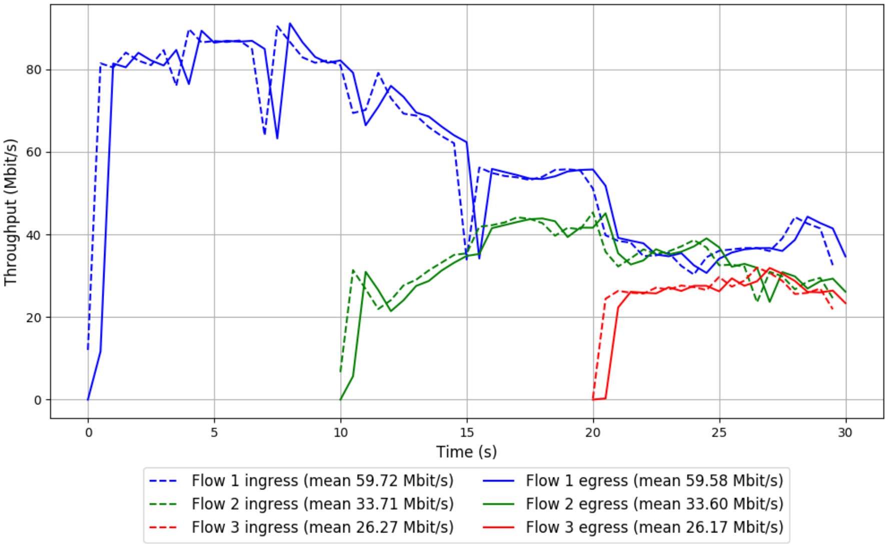
Run 1: Report of QUIC Cubic — Data Link

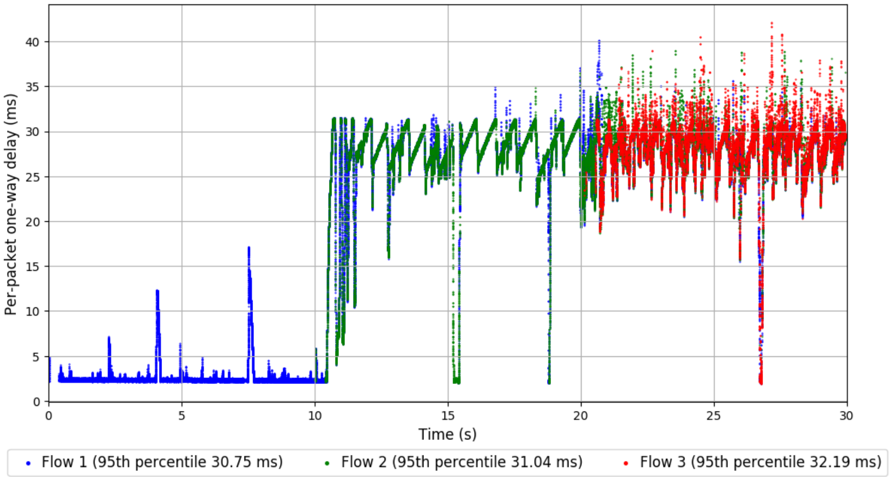




```
Run 2: Statistics of QUIC Cubic

Start at: 2018-07-10 04:03:17
End at: 2018-07-10 04:03:47
Local clock offset: -2.299 ms
Remote clock offset: 14.283 ms

# Below is generated by plot.py at 2018-07-10 07:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.51 Mbit/s
95th percentile per-packet one-way delay: 30.950 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 59.58 Mbit/s
95th percentile per-packet one-way delay: 30.751 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 33.60 Mbit/s
95th percentile per-packet one-way delay: 31.037 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 26.17 Mbit/s
95th percentile per-packet one-way delay: 32.191 ms
Loss rate: 0.30%
```

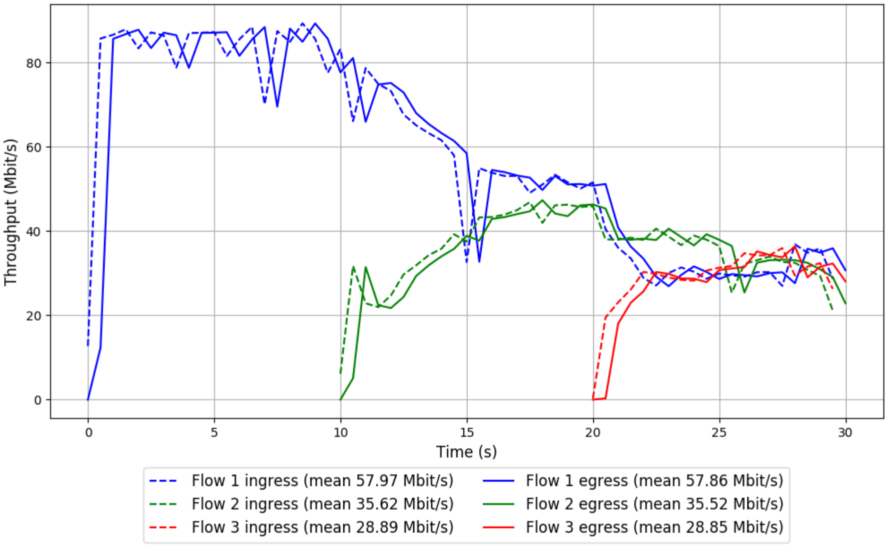
Run 2: Report of QUIC Cubic — Data Link

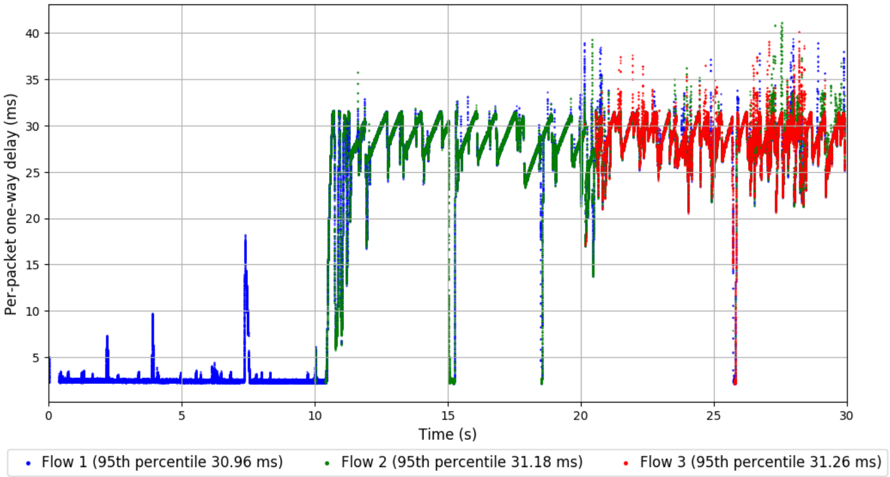




```
Run 3: Statistics of QUIC Cubic

Start at: 2018-07-10 04:22:29
End at: 2018-07-10 04:22:59
Local clock offset: -2.13 ms
Remote clock offset: 22.939 ms

# Below is generated by plot.py at 2018-07-10 07:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 31.097 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 57.86 Mbit/s
95th percentile per-packet one-way delay: 30.960 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 31.177 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 28.85 Mbit/s
95th percentile per-packet one-way delay: 31.263 ms
Loss rate: 0.15%
```

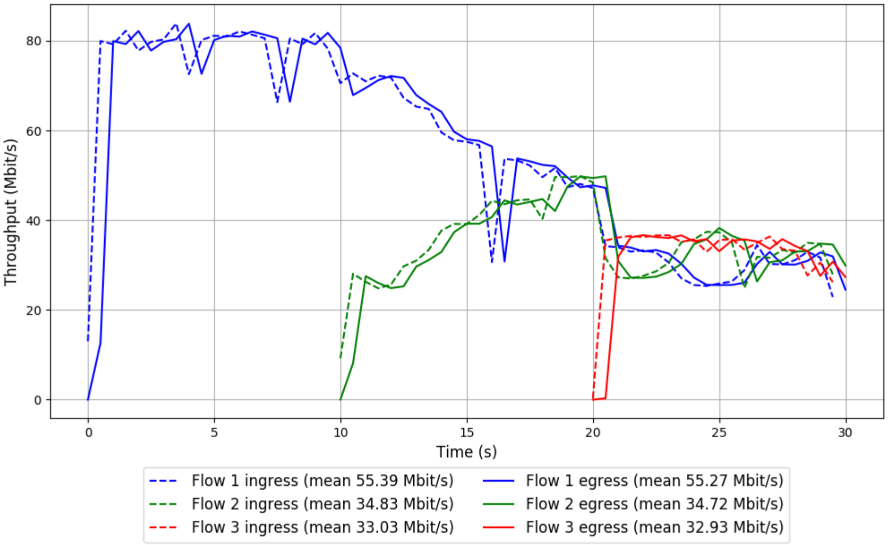
Run 3: Report of QUIC Cubic — Data Link

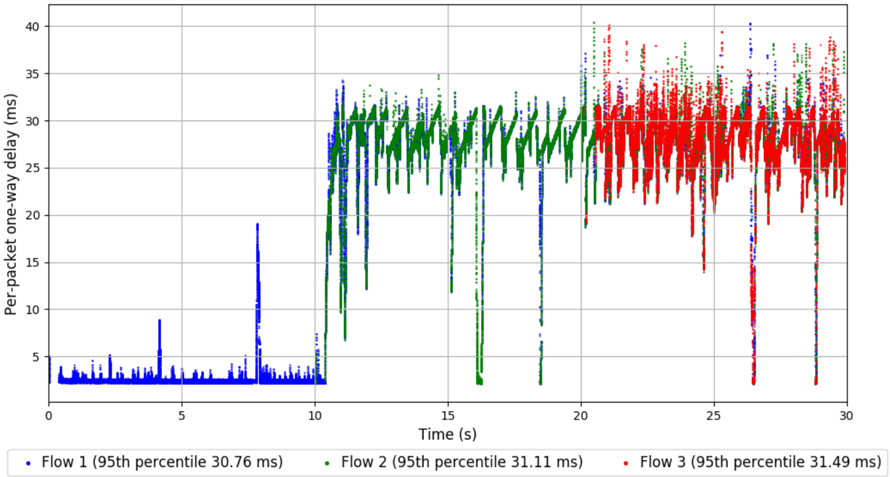




```
Run 4: Statistics of QUIC Cubic

Start at: 2018-07-10 04:41:41
End at: 2018-07-10 04:42:11
Local clock offset: -2.098 ms
Remote clock offset: 29.881 ms

# Below is generated by plot.py at 2018-07-10 07:10:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.18 Mbit/s
95th percentile per-packet one-way delay: 30.993 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 55.27 Mbit/s
95th percentile per-packet one-way delay: 30.759 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 31.110 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 31.489 ms
Loss rate: 0.34%
```

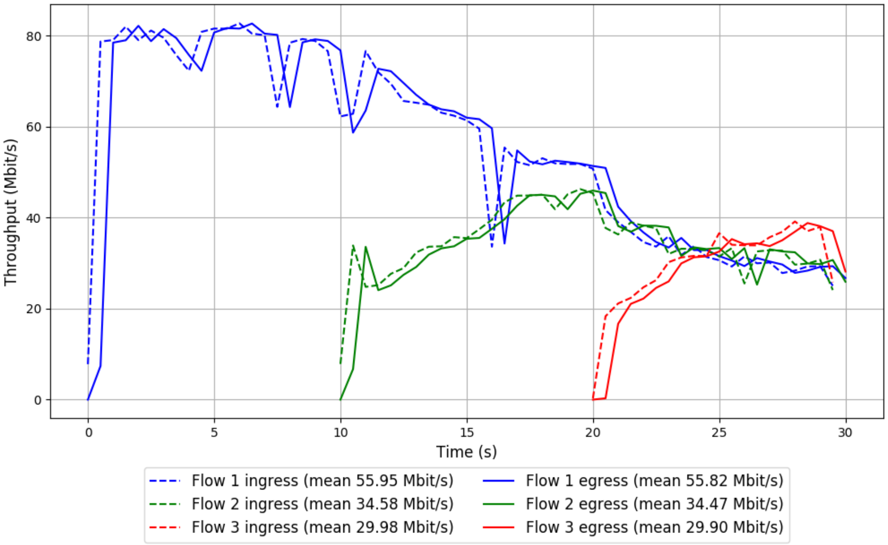
Run 4: Report of QUIC Cubic — Data Link

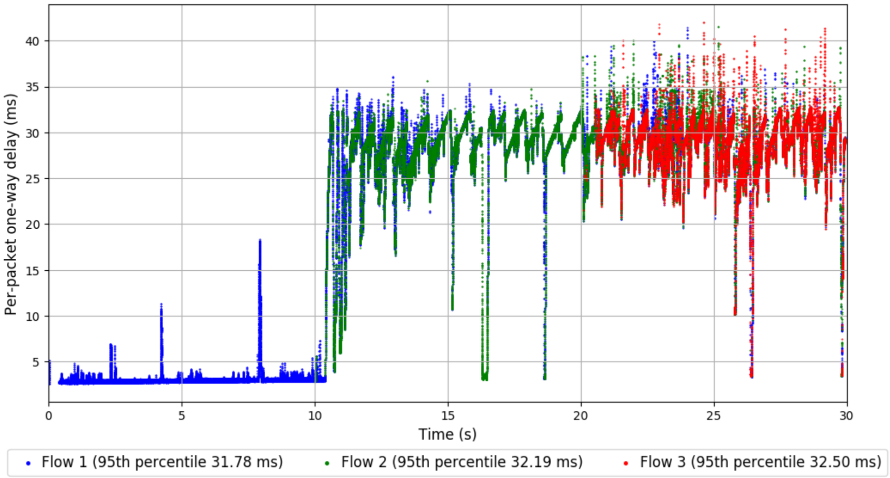




```
Run 5: Statistics of QUIC Cubic

Start at: 2018-07-10 05:00:53
End at: 2018-07-10 05:01:23
Local clock offset: -2.036 ms
Remote clock offset: 13.365 ms

# Below is generated by plot.py at 2018-07-10 07:10:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.57 Mbit/s
95th percentile per-packet one-way delay: 32.015 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 55.82 Mbit/s
95th percentile per-packet one-way delay: 31.777 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 34.47 Mbit/s
95th percentile per-packet one-way delay: 32.185 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 32.499 ms
Loss rate: 0.18%
```

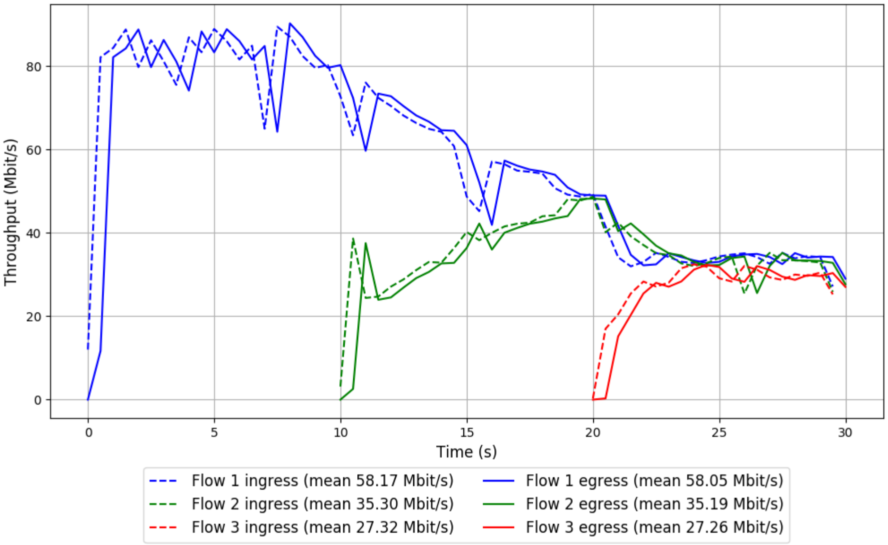
Run 5: Report of QUIC Cubic — Data Link

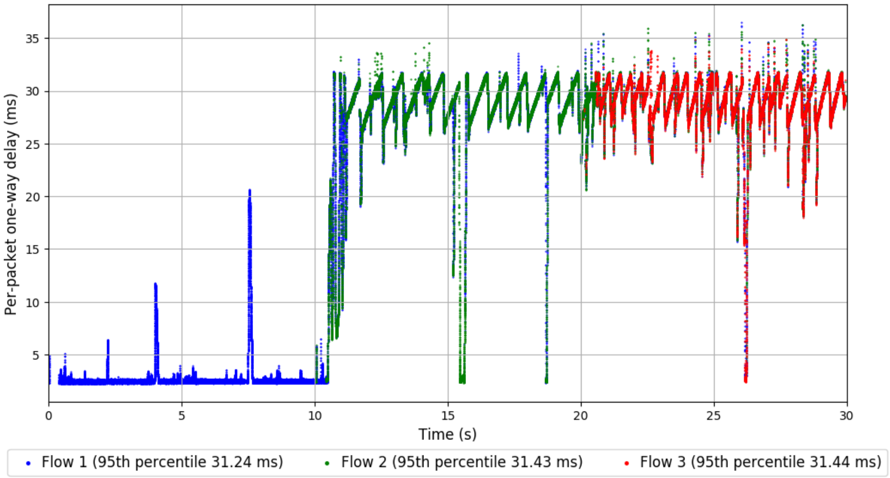




```
Run 6: Statistics of QUIC Cubic

Start at: 2018-07-10 05:20:05
End at: 2018-07-10 05:20:35
Local clock offset: -1.884 ms
Remote clock offset: -2.041 ms

# Below is generated by plot.py at 2018-07-10 07:10:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.40 Mbit/s
95th percentile per-packet one-way delay: 31.324 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 58.05 Mbit/s
95th percentile per-packet one-way delay: 31.244 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 35.19 Mbit/s
95th percentile per-packet one-way delay: 31.435 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 31.441 ms
Loss rate: 0.19%
```

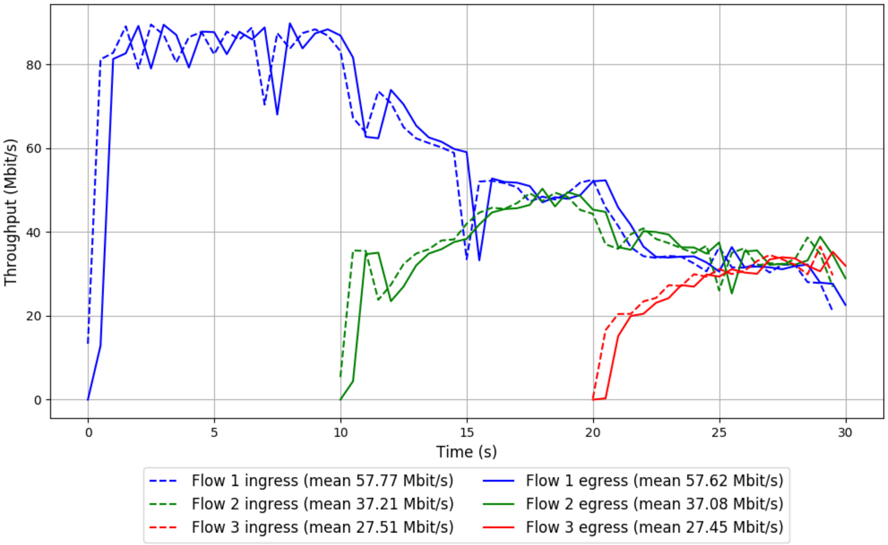
Run 6: Report of QUIC Cubic — Data Link

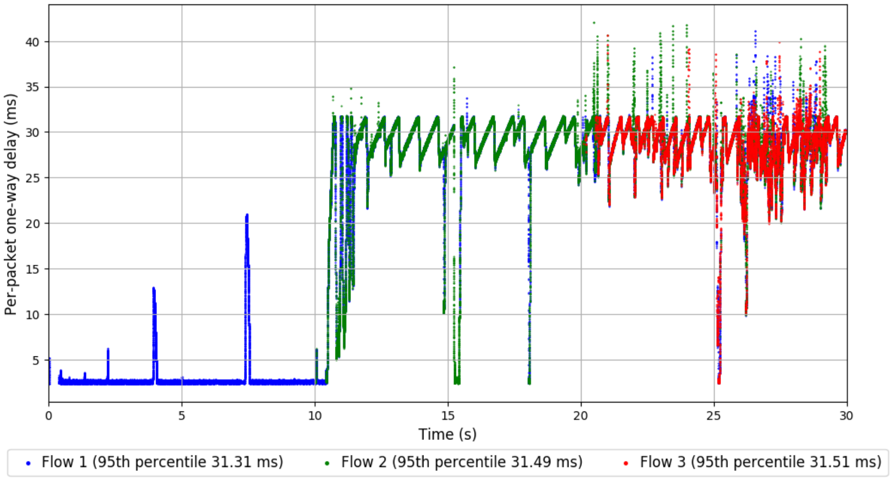




```
Run 7: Statistics of QUIC Cubic

Start at: 2018-07-10 05:39:21
End at: 2018-07-10 05:39:52
Local clock offset: -1.789 ms
Remote clock offset: -4.16 ms

# Below is generated by plot.py at 2018-07-10 07:10:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.30 Mbit/s
95th percentile per-packet one-way delay: 31.396 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 57.62 Mbit/s
95th percentile per-packet one-way delay: 31.313 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 31.486 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 27.45 Mbit/s
95th percentile per-packet one-way delay: 31.507 ms
Loss rate: 0.22%
```

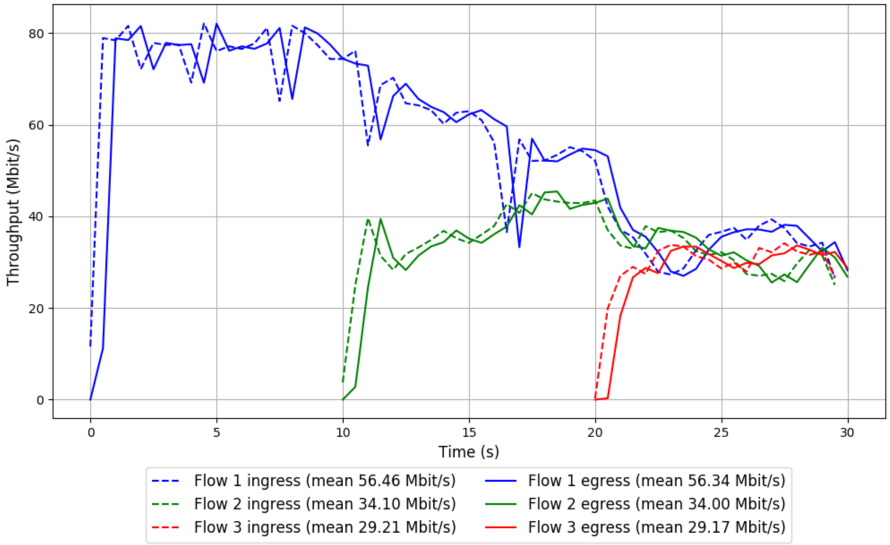
Run 7: Report of QUIC Cubic — Data Link

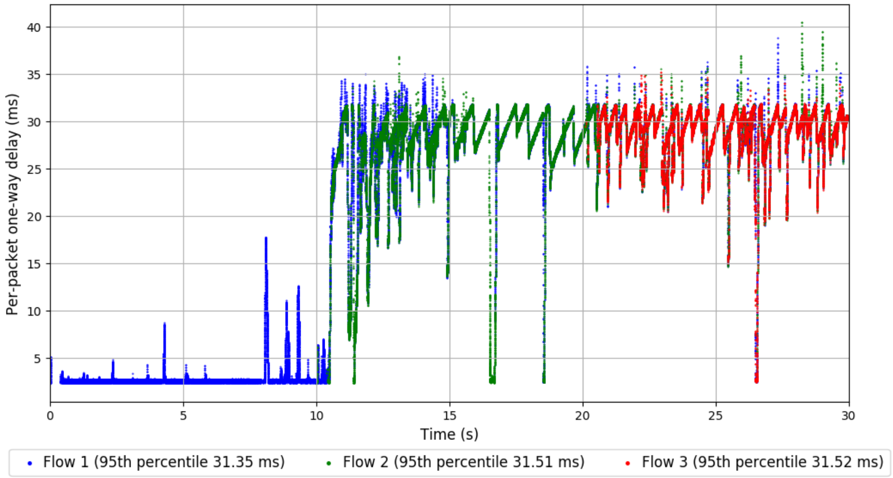




```
Run 8: Statistics of QUIC Cubic

Start at: 2018-07-10 05:58:34
End at: 2018-07-10 05:59:04
Local clock offset: -1.682 ms
Remote clock offset: -6.87 ms

# Below is generated by plot.py at 2018-07-10 07:11:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.54 Mbit/s
95th percentile per-packet one-way delay: 31.421 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 56.34 Mbit/s
95th percentile per-packet one-way delay: 31.349 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 34.00 Mbit/s
95th percentile per-packet one-way delay: 31.511 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 29.17 Mbit/s
95th percentile per-packet one-way delay: 31.523 ms
Loss rate: 0.14%
```

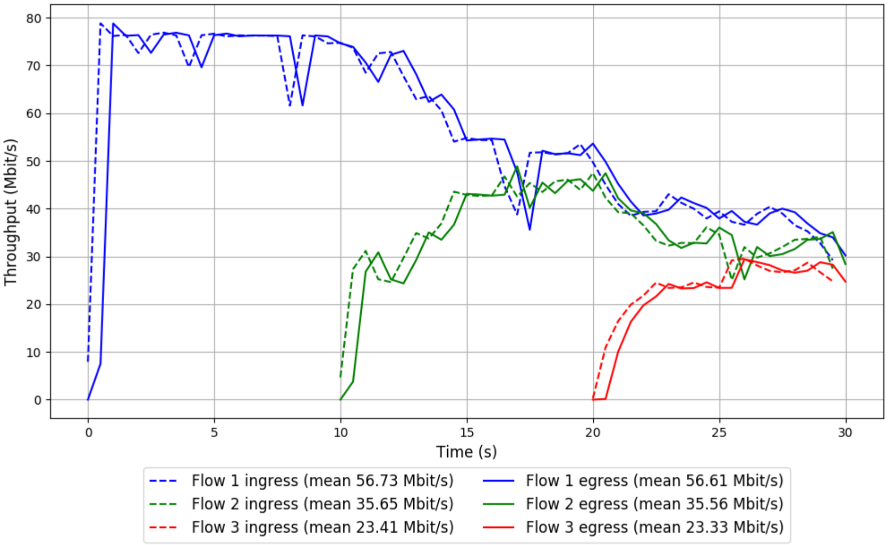
Run 8: Report of QUIC Cubic — Data Link

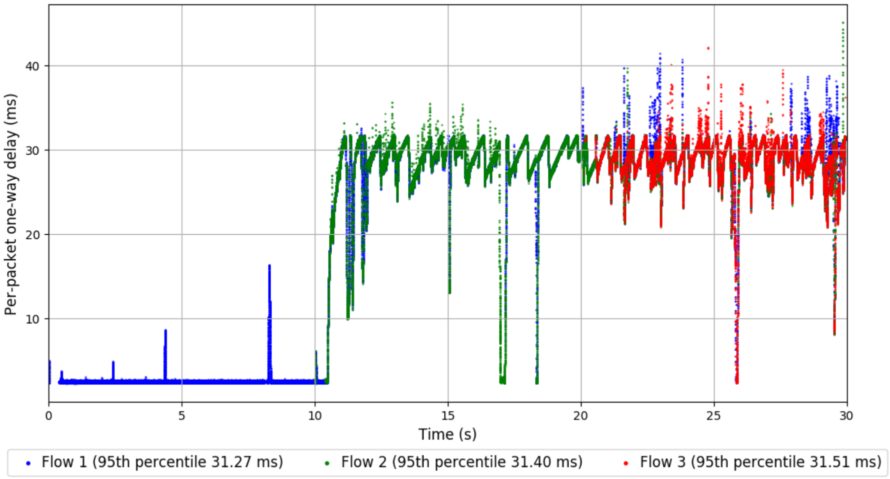




```
Run 9: Statistics of QUIC Cubic

Start at: 2018-07-10 06:17:45
End at: 2018-07-10 06:18:15
Local clock offset: -1.37 ms
Remote clock offset: -9.042 ms

# Below is generated by plot.py at 2018-07-10 07:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.93 Mbit/s
95th percentile per-packet one-way delay: 31.338 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 56.61 Mbit/s
95th percentile per-packet one-way delay: 31.275 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 35.56 Mbit/s
95th percentile per-packet one-way delay: 31.403 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 31.512 ms
Loss rate: 0.25%
```

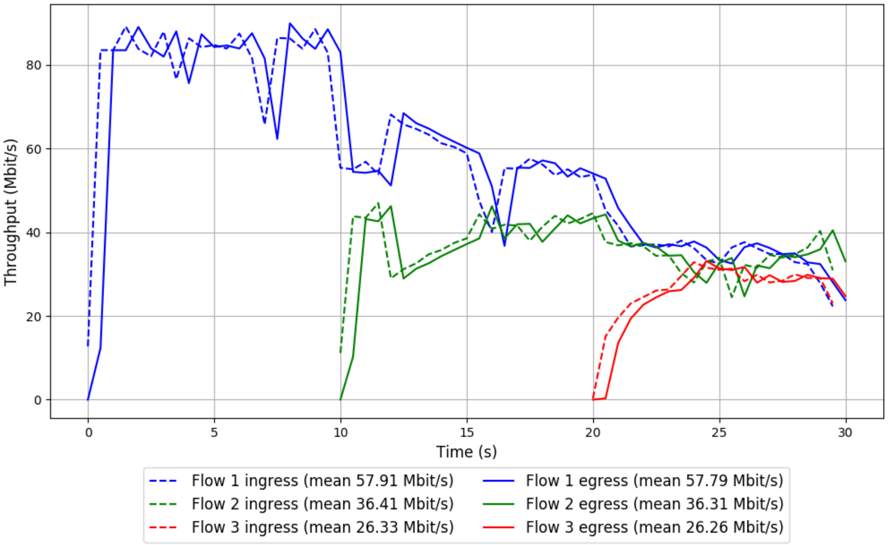
Run 9: Report of QUIC Cubic — Data Link

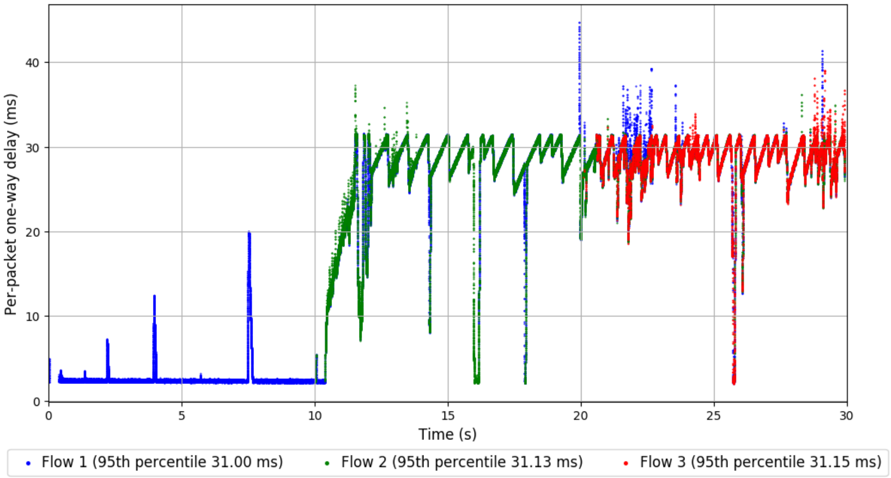




```
Run 10: Statistics of QUIC Cubic

Start at: 2018-07-10 06:36:56
End at: 2018-07-10 06:37:26
Local clock offset: -1.25 ms
Remote clock offset: -10.935 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 31.070 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 57.79 Mbit/s
95th percentile per-packet one-way delay: 31.005 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 31.126 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 31.152 ms
Loss rate: 0.27%
```

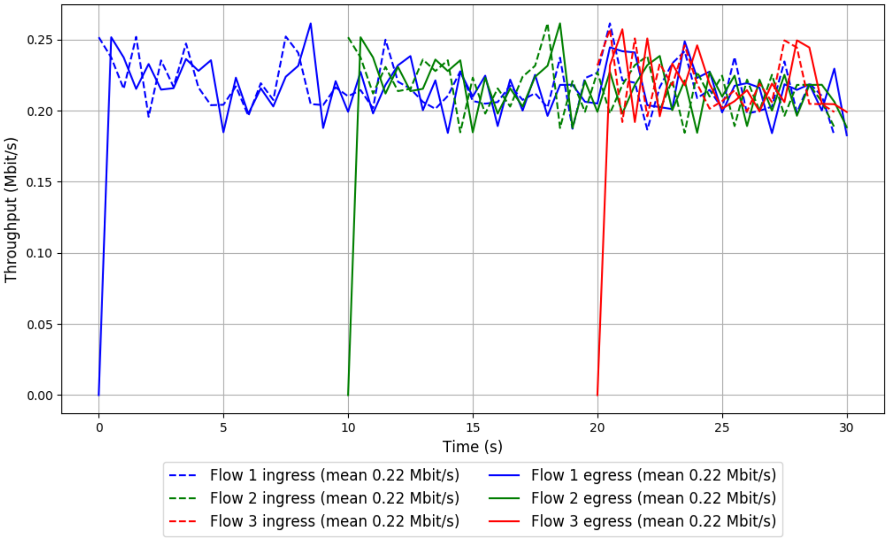
Run 10: Report of QUIC Cubic — Data Link

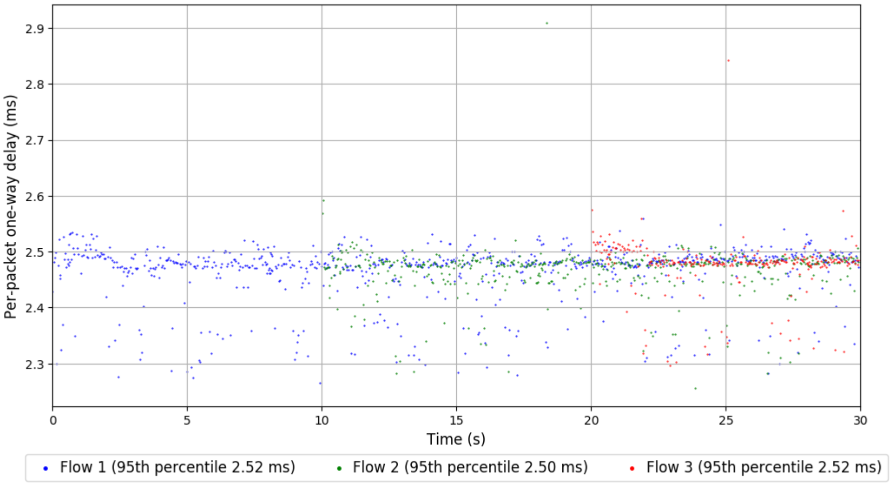




```
Run 1: Statistics of SCReAM

Start at: 2018-07-10 03:41:51
End at: 2018-07-10 03:42:21
Local clock offset: -2.27 ms
Remote clock offset: -7.217 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.512 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.515 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.499 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.517 ms
Loss rate: 0.00%
```

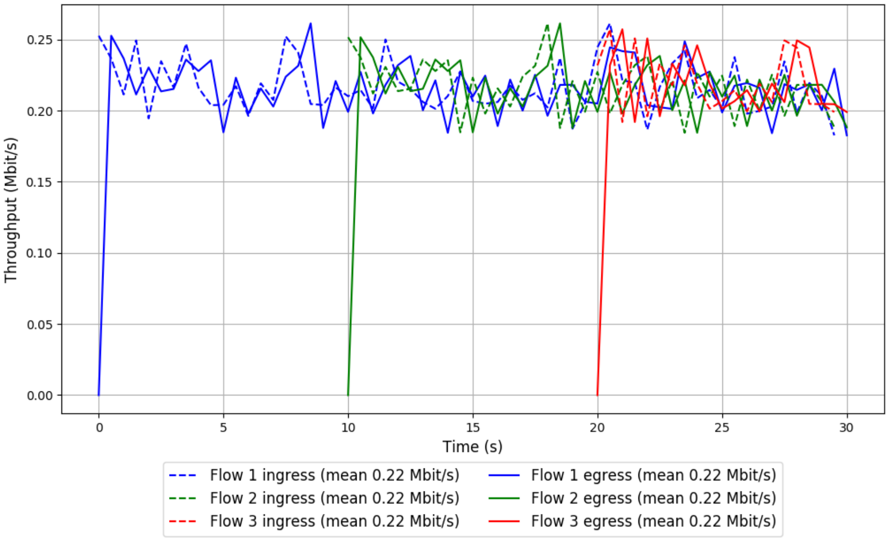
Run 1: Report of SCReAM — Data Link

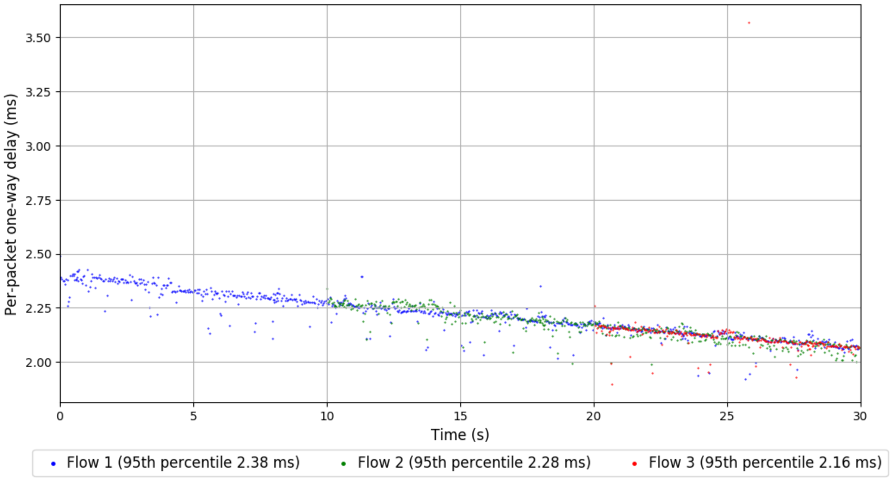




```
Run 2: Statistics of SCReAM

Start at: 2018-07-10 04:01:03
End at: 2018-07-10 04:01:33
Local clock offset: -2.34 ms
Remote clock offset: 12.939 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.365 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.276 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.164 ms
Loss rate: 0.00%
```

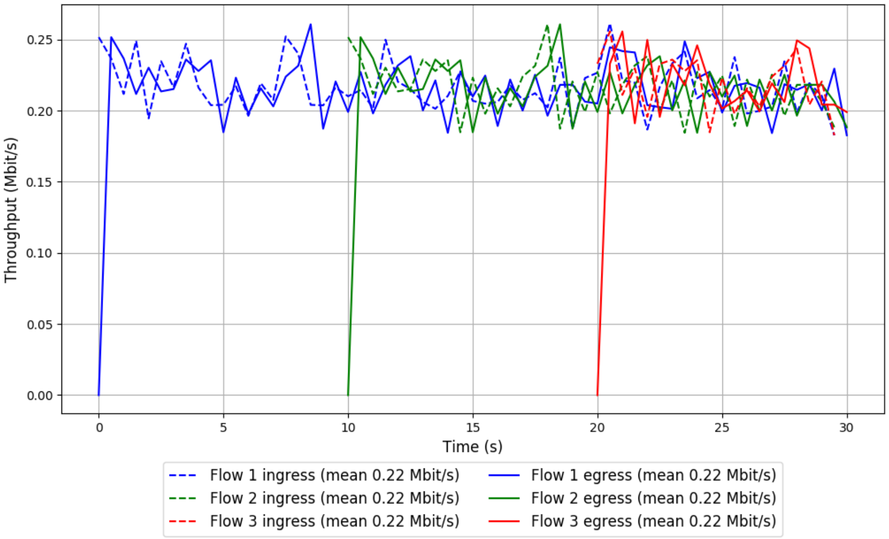
Run 2: Report of SCReAM — Data Link

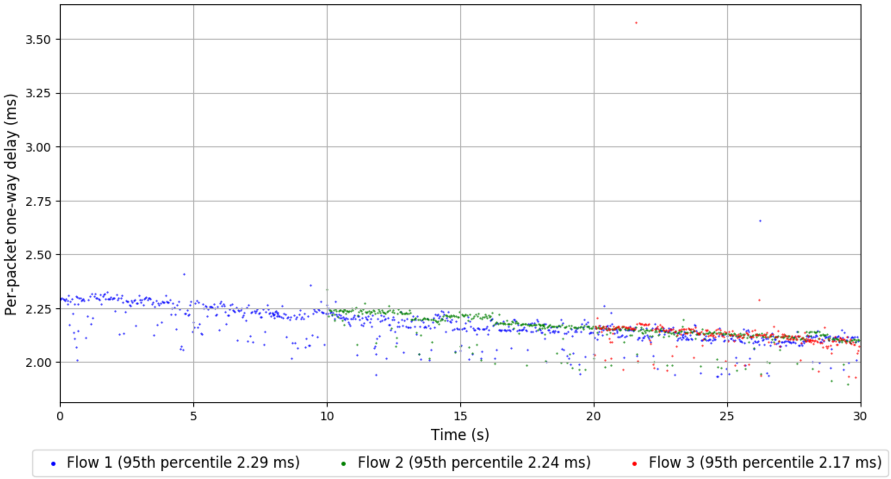




```
Run 3: Statistics of SCReAM

Start at: 2018-07-10 04:20:15
End at: 2018-07-10 04:20:45
Local clock offset: -2.13 ms
Remote clock offset: 21.957 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.280 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.294 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.239 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.174 ms
Loss rate: 0.00%
```

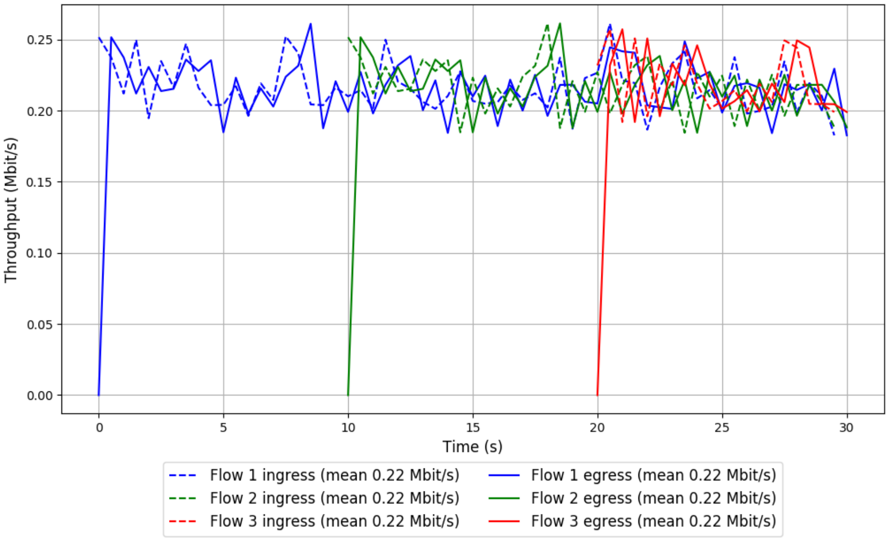
Run 3: Report of SCReAM — Data Link

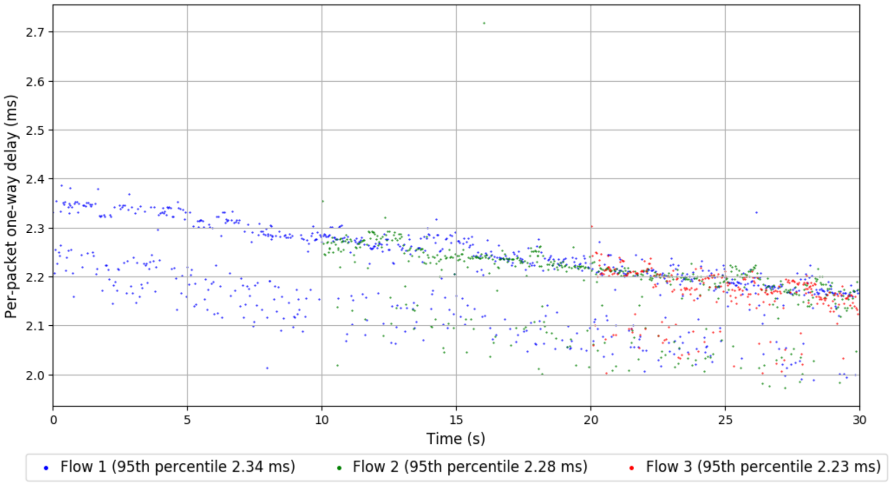




```
Run 4: Statistics of SCReAM

Start at: 2018-07-10 04:39:27
End at: 2018-07-10 04:39:57
Local clock offset: -2.04 ms
Remote clock offset: 29.062 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.320 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.341 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.278 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.231 ms
Loss rate: 0.00%
```

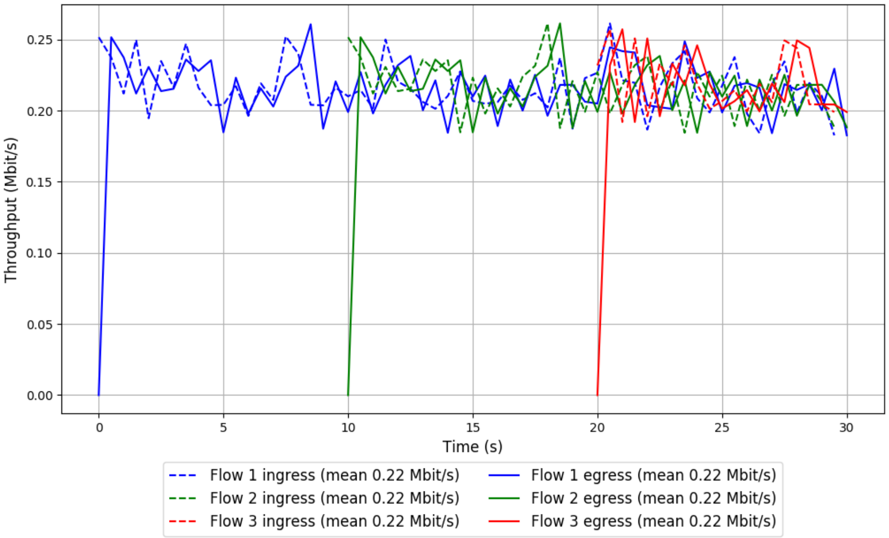
Run 4: Report of SCReAM — Data Link

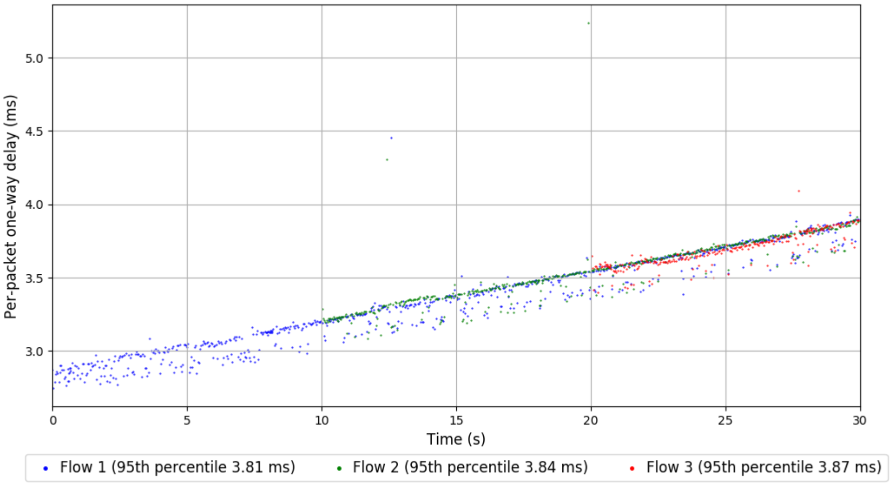




```
Run 5: Statistics of SCReAM

Start at: 2018-07-10 04:58:39
End at: 2018-07-10 04:59:09
Local clock offset: -2.017 ms
Remote clock offset: 17.608 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 3.840 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.811 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.840 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.866 ms
Loss rate: 0.00%
```

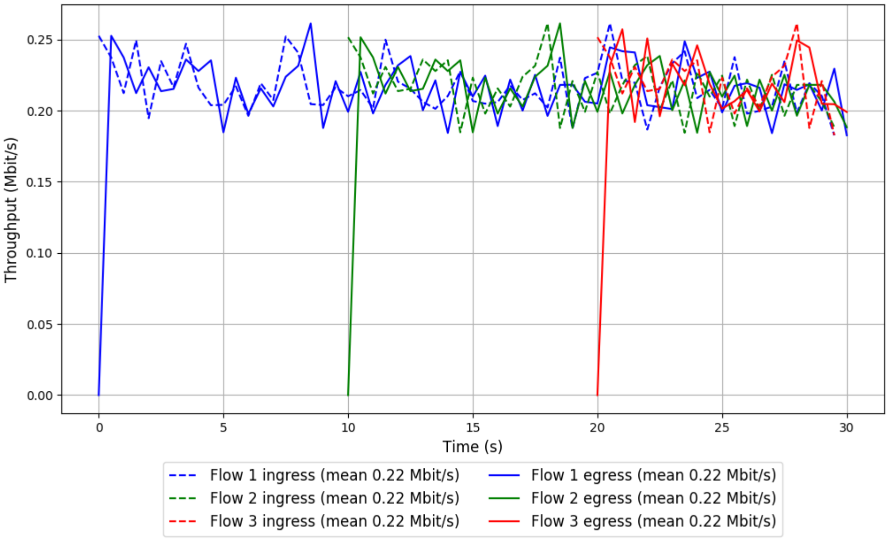
Run 5: Report of SCReAM — Data Link

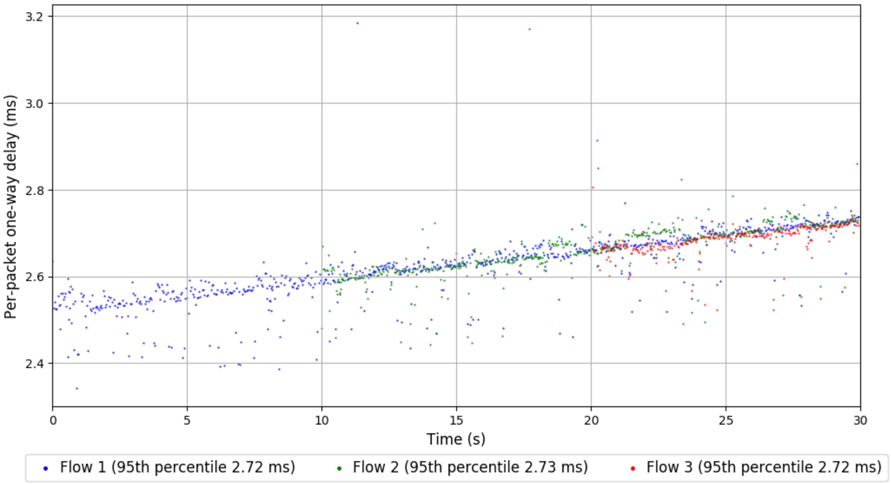




```
Run 6: Statistics of SCReAM

Start at: 2018-07-10 05:17:51
End at: 2018-07-10 05:18:21
Local clock offset: -1.92 ms
Remote clock offset: -1.06 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.727 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.723 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.734 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.723 ms
Loss rate: 0.00%
```

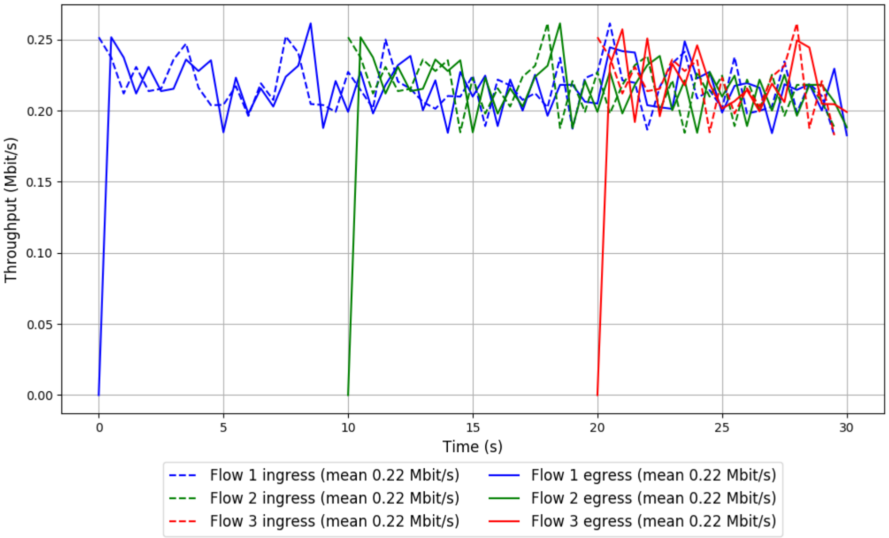
Run 6: Report of SCReAM — Data Link

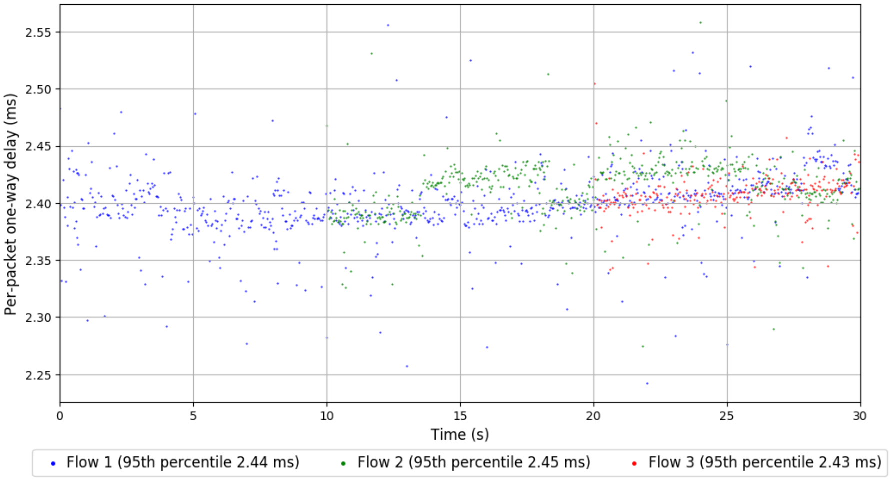




```
Run 7: Statistics of SCReAM

Start at: 2018-07-10 05:37:03
End at: 2018-07-10 05:37:33
Local clock offset: -1.722 ms
Remote clock offset: -4.003 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.441 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.441 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.446 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.432 ms
Loss rate: 0.00%
```

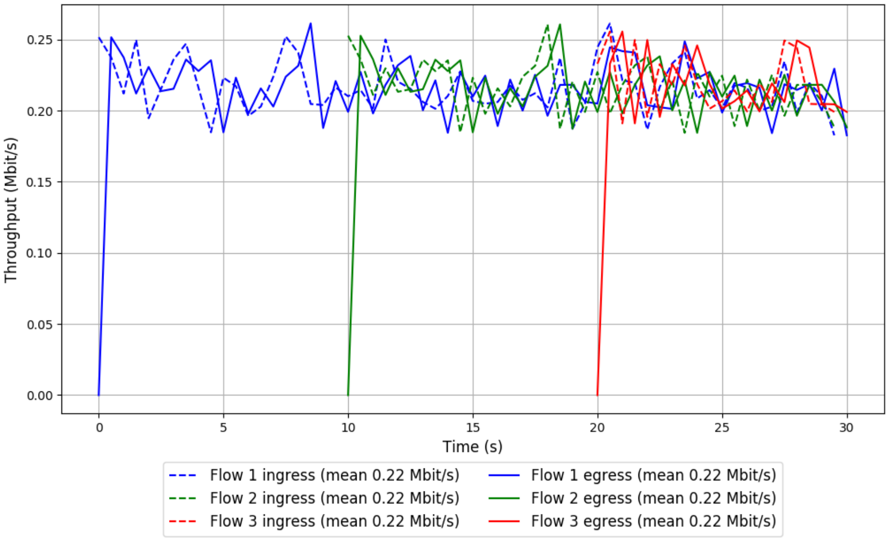
Run 7: Report of SCReAM — Data Link

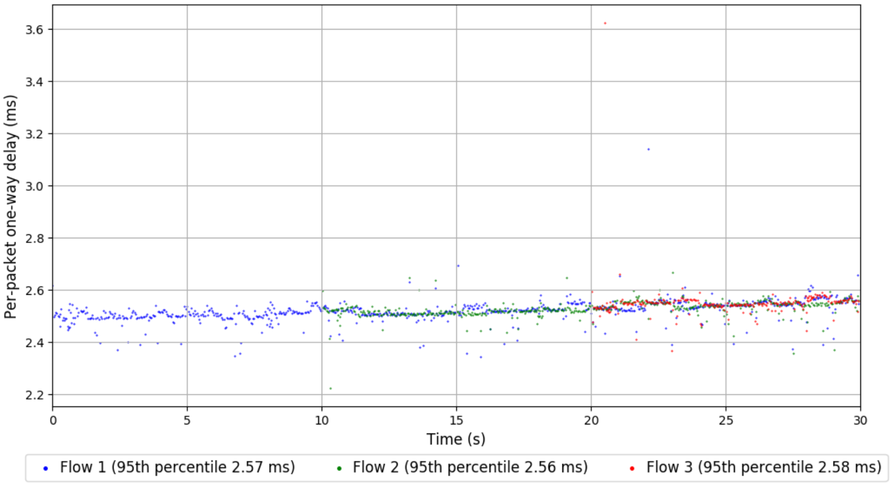




```
Run 8: Statistics of SCReAM

Start at: 2018-07-10 05:56:20
End at: 2018-07-10 05:56:50
Local clock offset: -1.634 ms
Remote clock offset: -6.504 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.568 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.564 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.578 ms
Loss rate: 0.00%
```

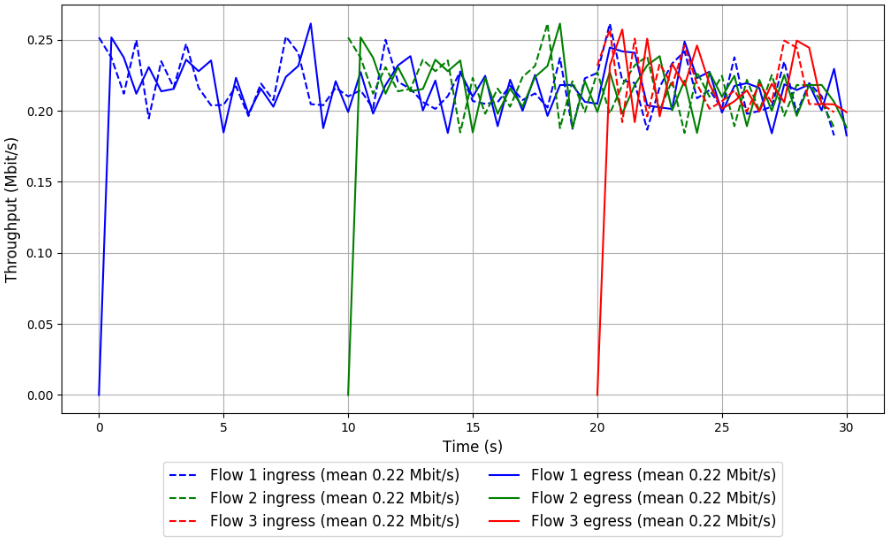
Run 8: Report of SCReAM — Data Link

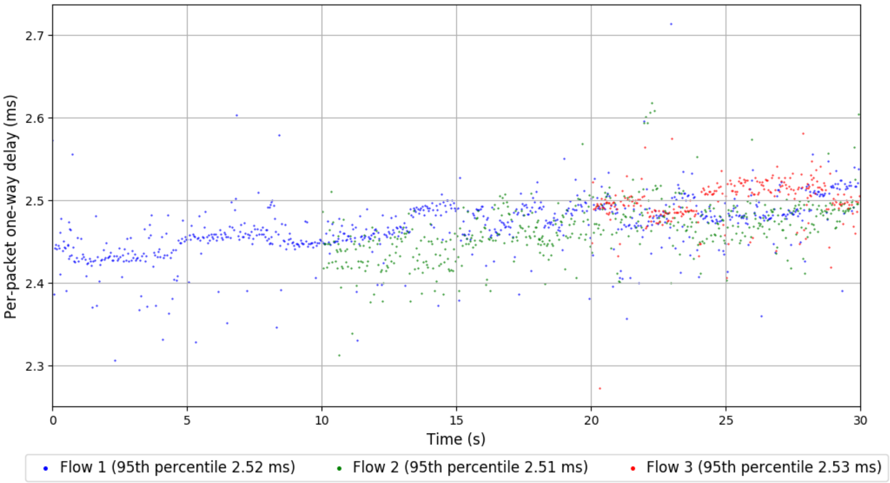




```
Run 9: Statistics of SCReAM

Start at: 2018-07-10 06:15:31
End at: 2018-07-10 06:16:01
Local clock offset: -1.392 ms
Remote clock offset: -8.755 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.517 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.510 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.530 ms
Loss rate: 0.00%
```

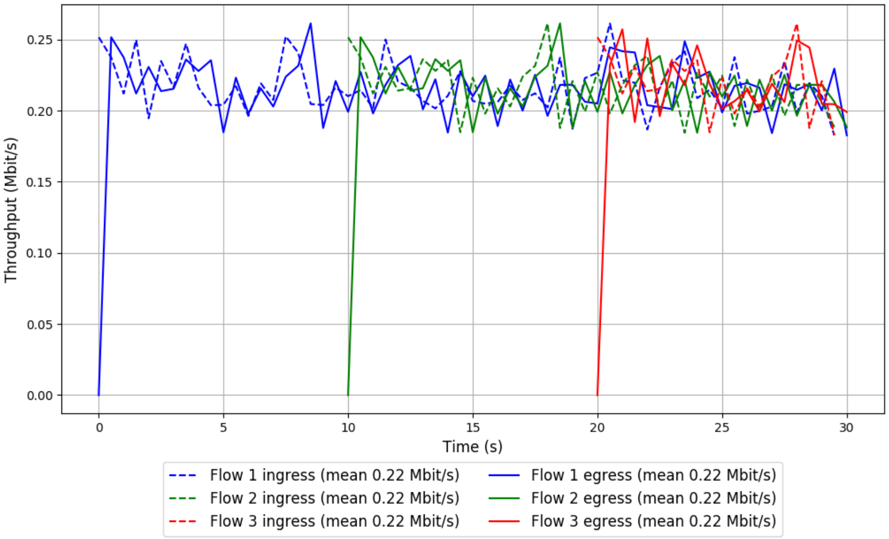
Run 9: Report of SCReAM — Data Link

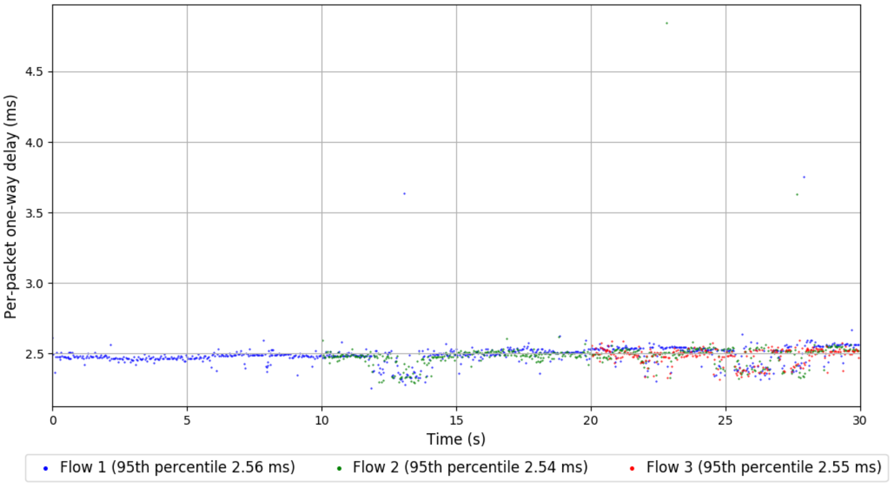




```
Run 10: Statistics of SCReAM

Start at: 2018-07-10 06:34:43
End at: 2018-07-10 06:35:13
Local clock offset: -1.193 ms
Remote clock offset: -11.507 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.554 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.562 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.545 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.548 ms
Loss rate: 0.00%
```

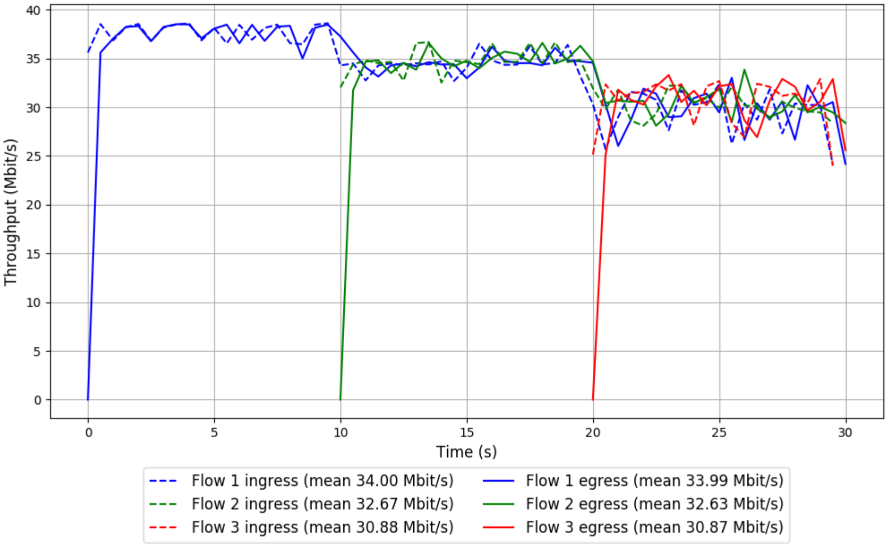
Run 10: Report of SCReAM — Data Link

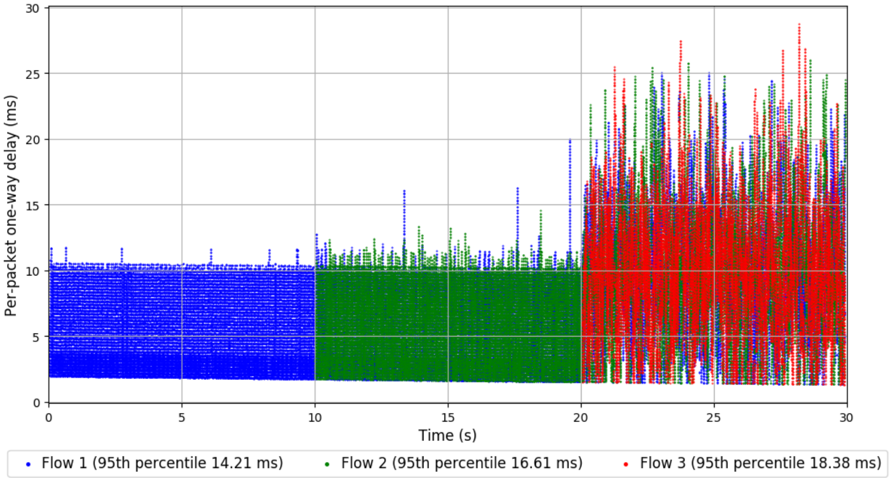




```
Run 1: Statistics of Sprout

Start at: 2018-07-10 03:50:53
End at: 2018-07-10 03:51:23
Local clock offset: -2.248 ms
Remote clock offset: 3.544 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.89 Mbit/s
95th percentile per-packet one-way delay: 16.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.99 Mbit/s
95th percentile per-packet one-way delay: 14.206 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.63 Mbit/s
95th percentile per-packet one-way delay: 16.613 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.87 Mbit/s
95th percentile per-packet one-way delay: 18.377 ms
Loss rate: 0.00%
```

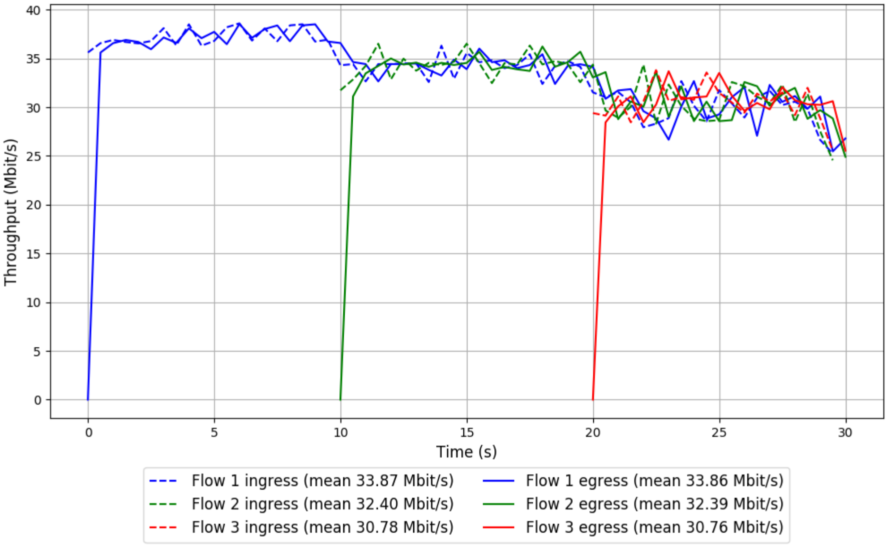
Run 1: Report of Sprout — Data Link

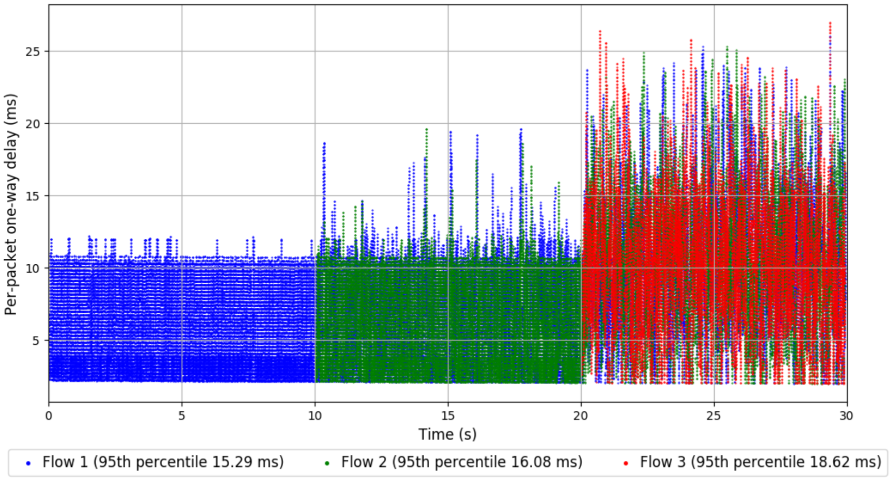




```
Run 2: Statistics of Sprout

Start at: 2018-07-10 04:10:04
End at: 2018-07-10 04:10:34
Local clock offset: -2.199 ms
Remote clock offset: 17.795 ms

# Below is generated by plot.py at 2018-07-10 07:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.57 Mbit/s
95th percentile per-packet one-way delay: 16.295 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.86 Mbit/s
95th percentile per-packet one-way delay: 15.290 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.39 Mbit/s
95th percentile per-packet one-way delay: 16.077 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.76 Mbit/s
95th percentile per-packet one-way delay: 18.622 ms
Loss rate: 0.00%
```

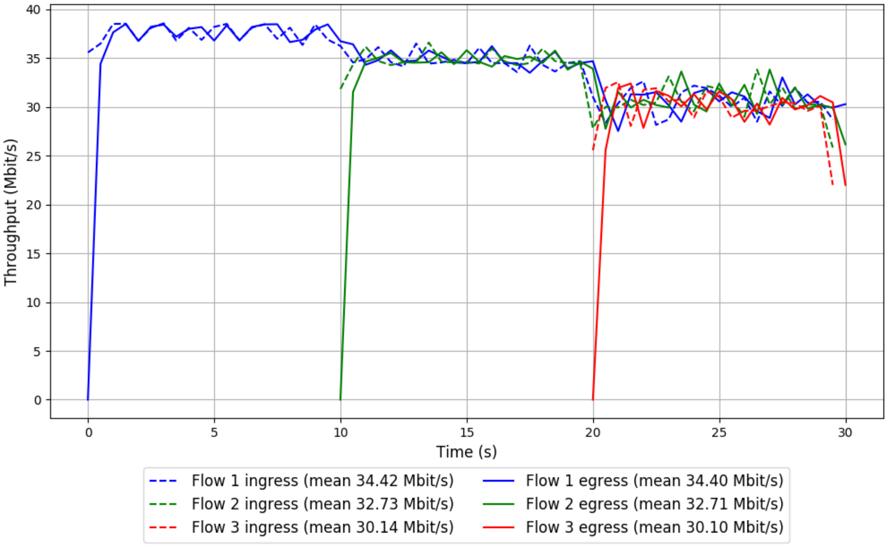
Run 2: Report of Sprout — Data Link

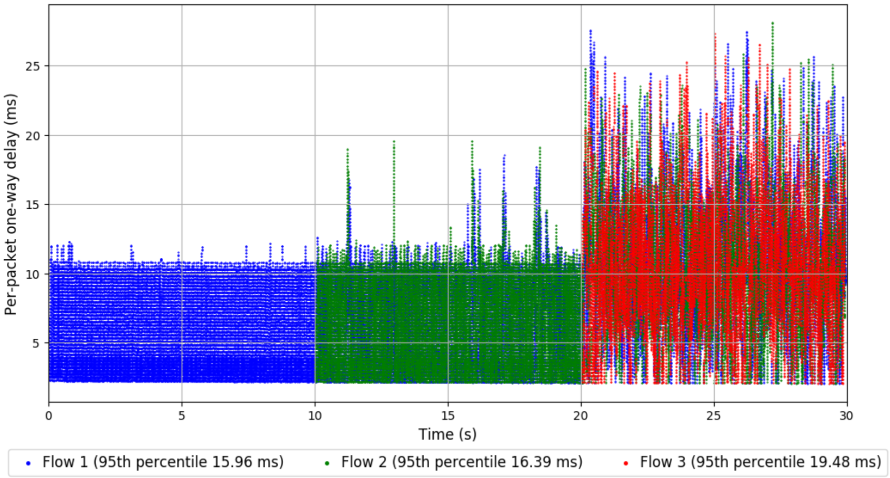




```
Run 3: Statistics of Sprout

Start at: 2018-07-10 04:29:17
End at: 2018-07-10 04:29:47
Local clock offset: -2.11 ms
Remote clock offset: 25.435 ms

# Below is generated by plot.py at 2018-07-10 07:11:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.11 Mbit/s
95th percentile per-packet one-way delay: 16.930 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.40 Mbit/s
95th percentile per-packet one-way delay: 15.964 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.71 Mbit/s
95th percentile per-packet one-way delay: 16.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 19.482 ms
Loss rate: 0.00%
```

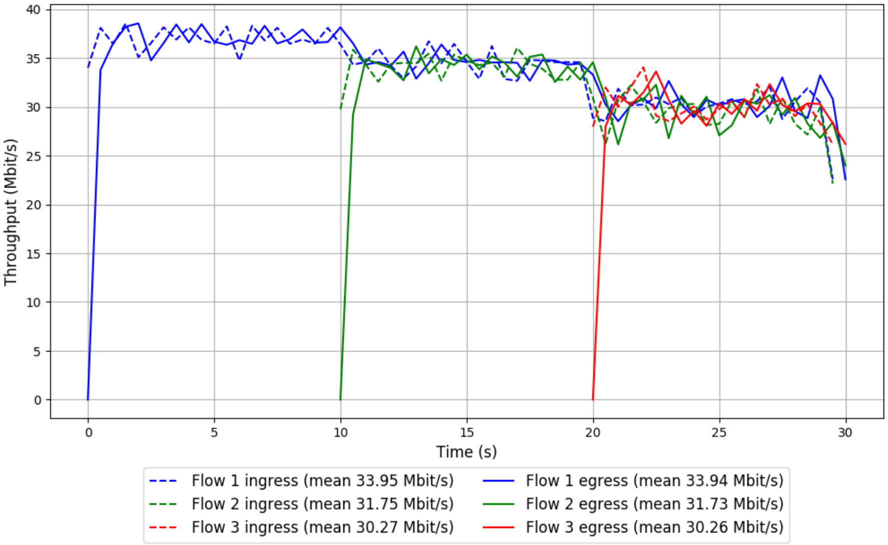
Run 3: Report of Sprout — Data Link

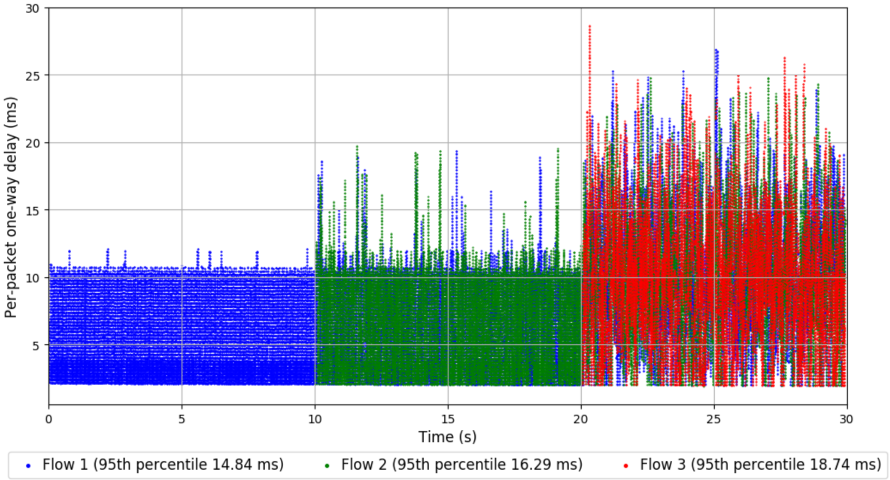




```
Run 4: Statistics of Sprout

Start at: 2018-07-10 04:48:29
End at: 2018-07-10 04:48:59
Local clock offset: -2.003 ms
Remote clock offset: 32.264 ms

# Below is generated by plot.py at 2018-07-10 07:11:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.04 Mbit/s
95th percentile per-packet one-way delay: 16.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.94 Mbit/s
95th percentile per-packet one-way delay: 14.839 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.73 Mbit/s
95th percentile per-packet one-way delay: 16.285 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 18.737 ms
Loss rate: 0.00%
```

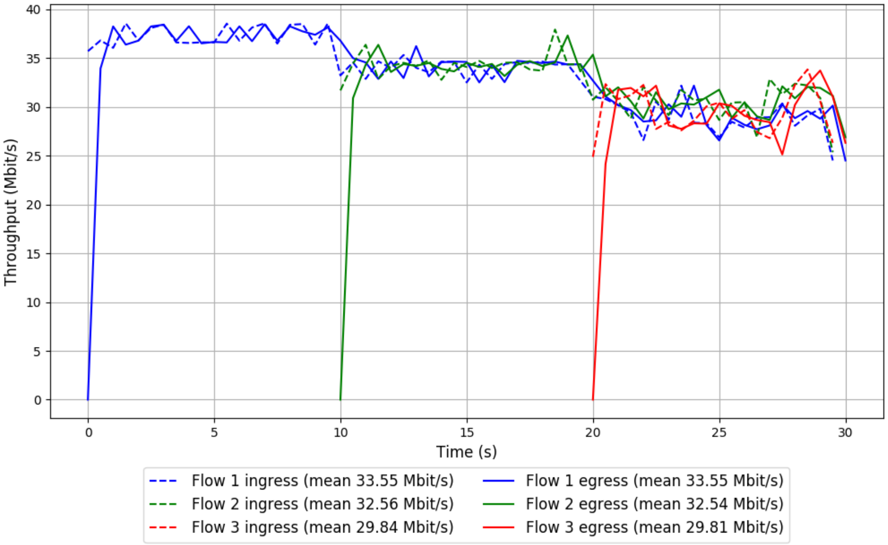
Run 4: Report of Sprout — Data Link

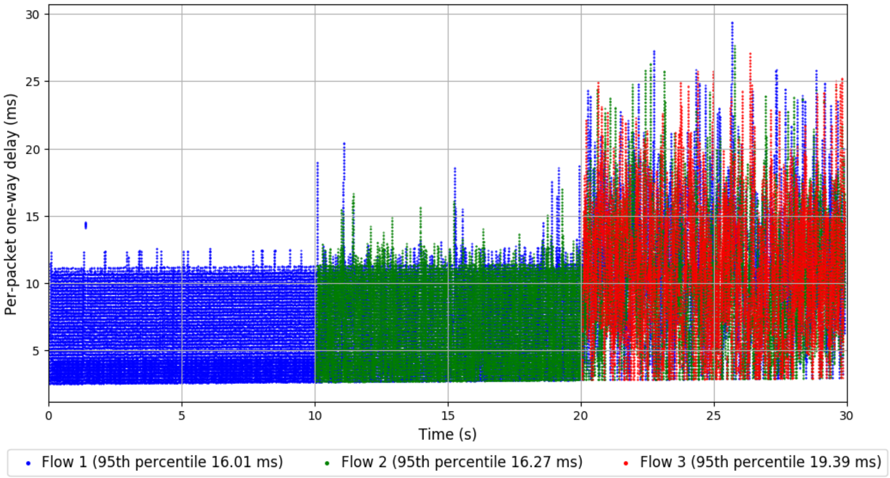




```
Run 5: Statistics of Sprout

Start at: 2018-07-10 05:07:41
End at: 2018-07-10 05:08:11
Local clock offset: -2.071 ms
Remote clock offset: 5.084 ms

# Below is generated by plot.py at 2018-07-10 07:11:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.04 Mbit/s
95th percentile per-packet one-way delay: 16.960 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.55 Mbit/s
95th percentile per-packet one-way delay: 16.009 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 16.265 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.81 Mbit/s
95th percentile per-packet one-way delay: 19.390 ms
Loss rate: 0.00%
```

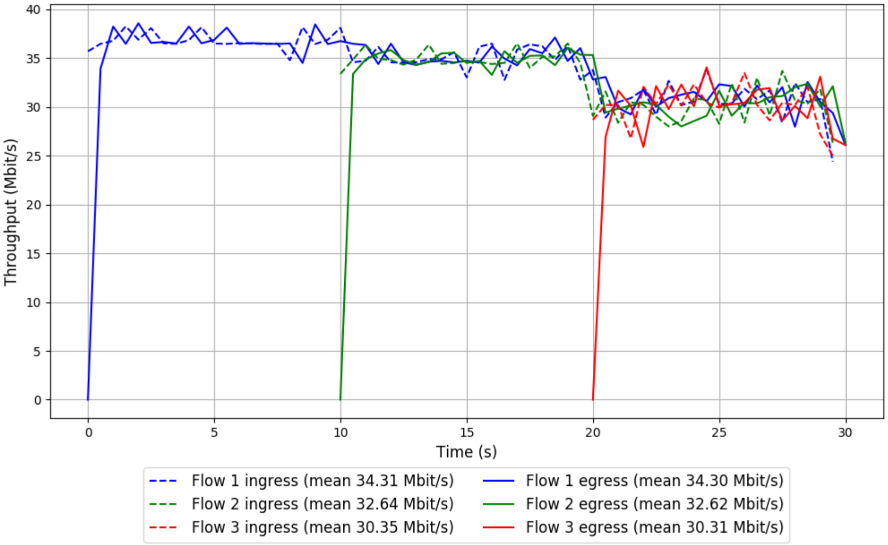
Run 5: Report of Sprout — Data Link

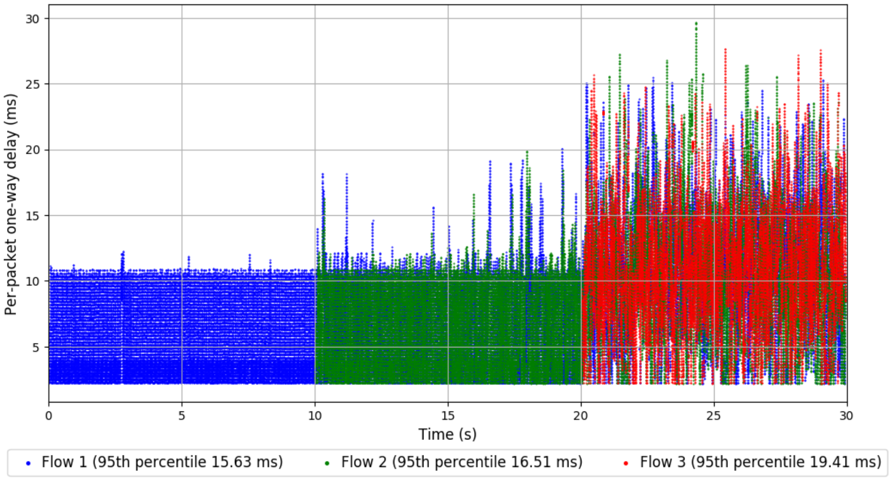




```
Run 6: Statistics of Sprout

Start at: 2018-07-10 05:26:52
End at: 2018-07-10 05:27:22
Local clock offset: -1.886 ms
Remote clock offset: -4.296 ms

# Below is generated by plot.py at 2018-07-10 07:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.01 Mbit/s
95th percentile per-packet one-way delay: 16.794 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.30 Mbit/s
95th percentile per-packet one-way delay: 15.628 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.62 Mbit/s
95th percentile per-packet one-way delay: 16.513 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.31 Mbit/s
95th percentile per-packet one-way delay: 19.413 ms
Loss rate: 0.00%
```

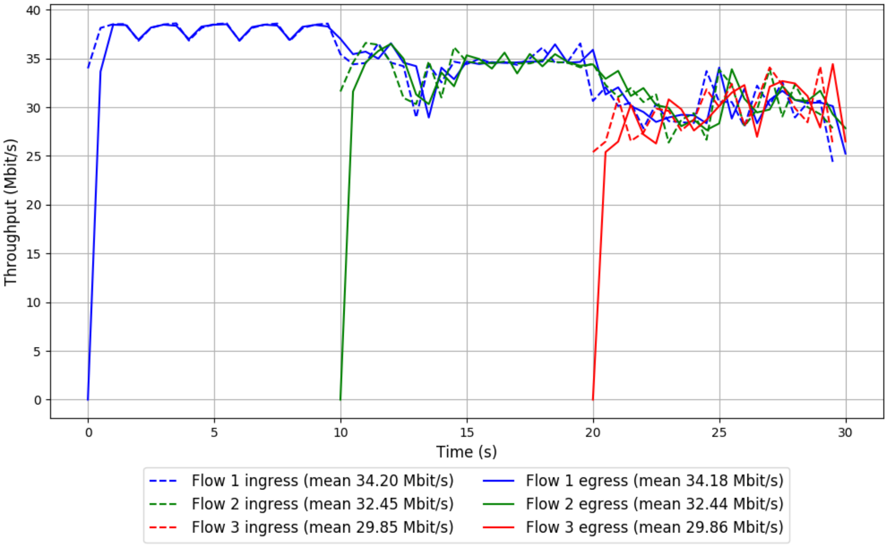
Run 6: Report of Sprout — Data Link

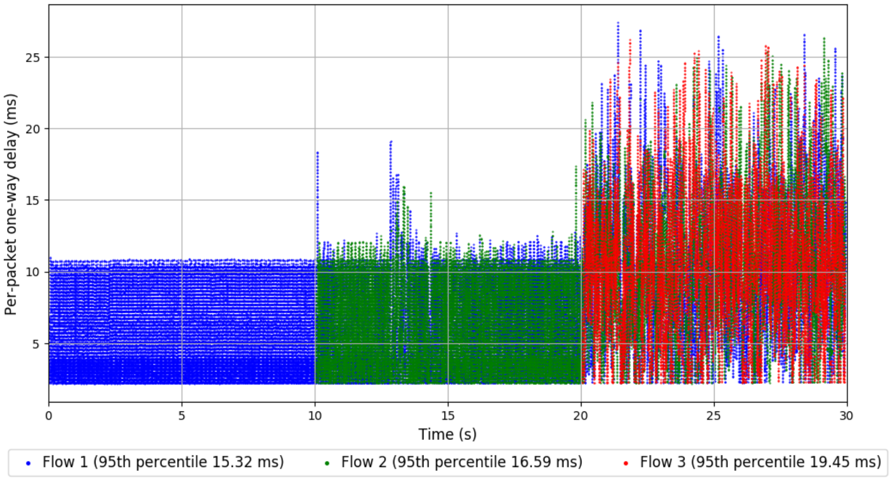




```
Run 7: Statistics of Sprout

Start at: 2018-07-10 05:46:09
End at: 2018-07-10 05:46:39
Local clock offset: -1.689 ms
Remote clock offset: -5.045 ms

# Below is generated by plot.py at 2018-07-10 07:12:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.63 Mbit/s
95th percentile per-packet one-way delay: 16.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.18 Mbit/s
95th percentile per-packet one-way delay: 15.322 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 16.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.86 Mbit/s
95th percentile per-packet one-way delay: 19.453 ms
Loss rate: 0.00%
```

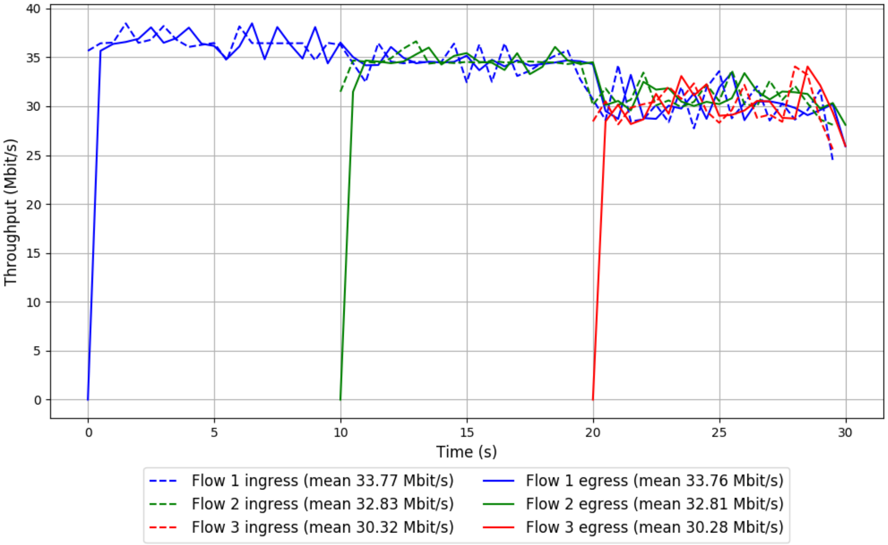
Run 7: Report of Sprout — Data Link

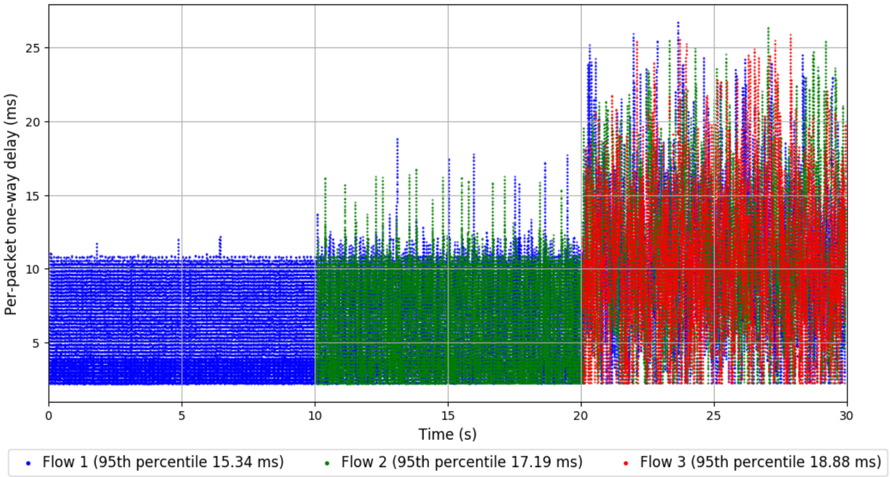




```
Run 8: Statistics of Sprout

Start at: 2018-07-10 06:05:21
End at: 2018-07-10 06:05:51
Local clock offset: -1.516 ms
Remote clock offset: -7.672 ms

# Below is generated by plot.py at 2018-07-10 07:12:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.59 Mbit/s
95th percentile per-packet one-way delay: 16.832 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.76 Mbit/s
95th percentile per-packet one-way delay: 15.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 17.194 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.28 Mbit/s
95th percentile per-packet one-way delay: 18.878 ms
Loss rate: 0.00%
```

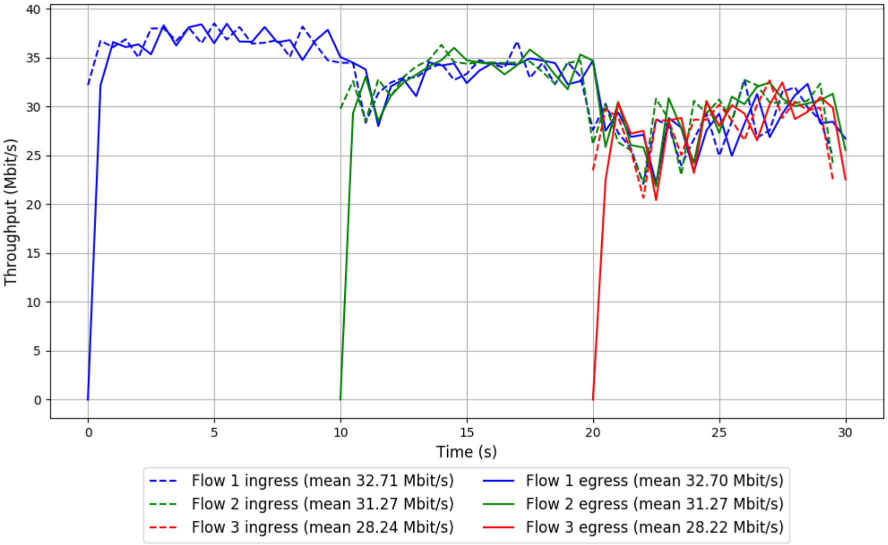
Run 8: Report of Sprout — Data Link

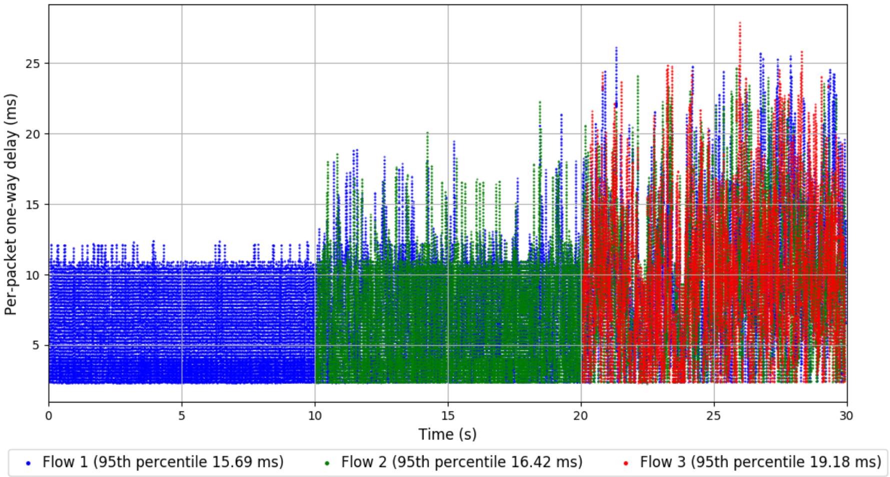




```
Run 9: Statistics of Sprout

Start at: 2018-07-10 06:24:33
End at: 2018-07-10 06:25:03
Local clock offset: -1.276 ms
Remote clock offset: -9.993 ms

# Below is generated by plot.py at 2018-07-10 07:12:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.80 Mbit/s
95th percentile per-packet one-way delay: 16.730 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.70 Mbit/s
95th percentile per-packet one-way delay: 15.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.27 Mbit/s
95th percentile per-packet one-way delay: 16.416 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.22 Mbit/s
95th percentile per-packet one-way delay: 19.182 ms
Loss rate: 0.00%
```

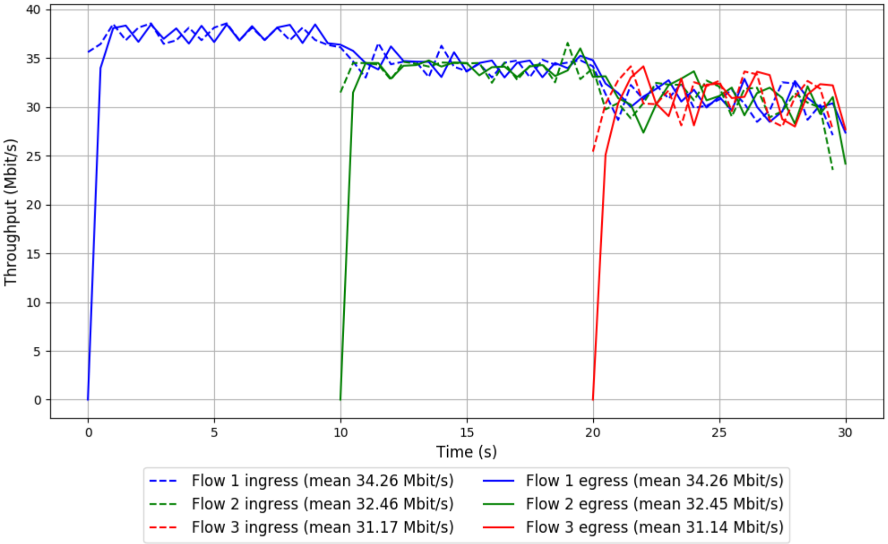
Run 9: Report of Sprout — Data Link

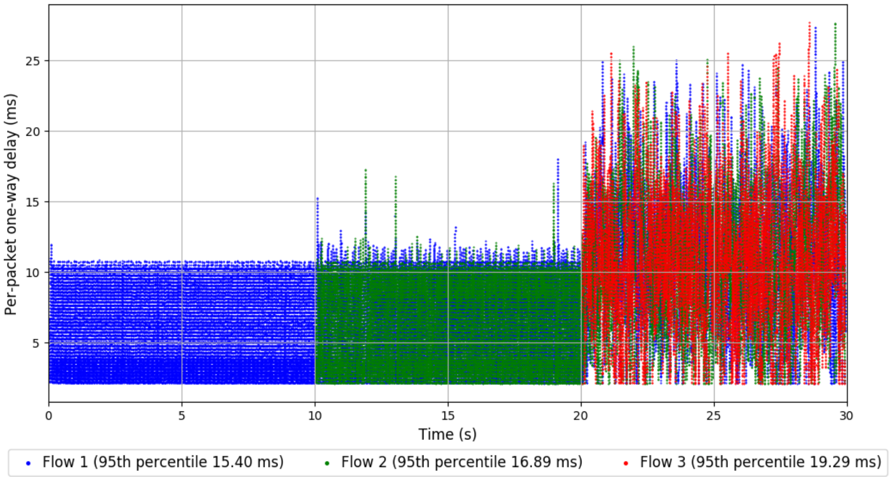




```
Run 10: Statistics of Sprout

Start at: 2018-07-10 06:43:44
End at: 2018-07-10 06:44:14
Local clock offset: -1.058 ms
Remote clock offset: -9.101 ms

# Below is generated by plot.py at 2018-07-10 07:12:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.13 Mbit/s
95th percentile per-packet one-way delay: 16.830 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.26 Mbit/s
95th percentile per-packet one-way delay: 15.397 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.45 Mbit/s
95th percentile per-packet one-way delay: 16.885 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 19.292 ms
Loss rate: 0.00%
```

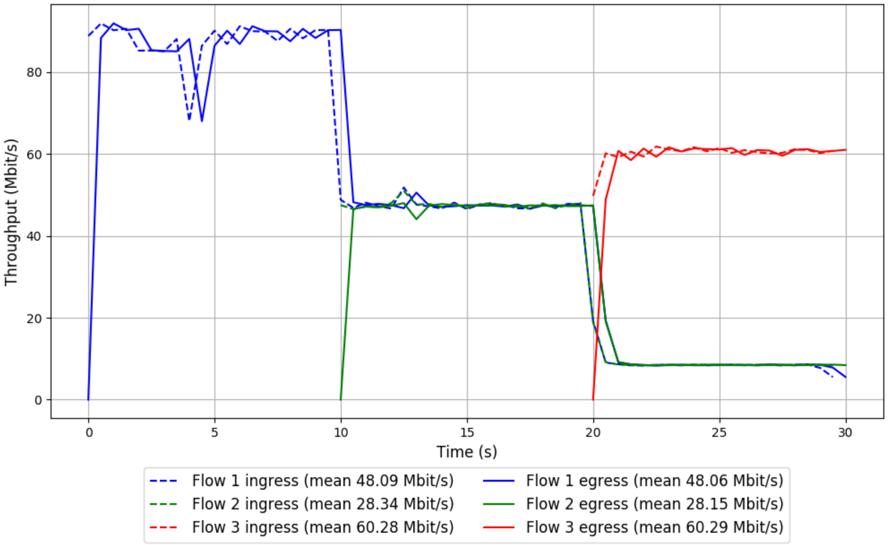
Run 10: Report of Sprout — Data Link

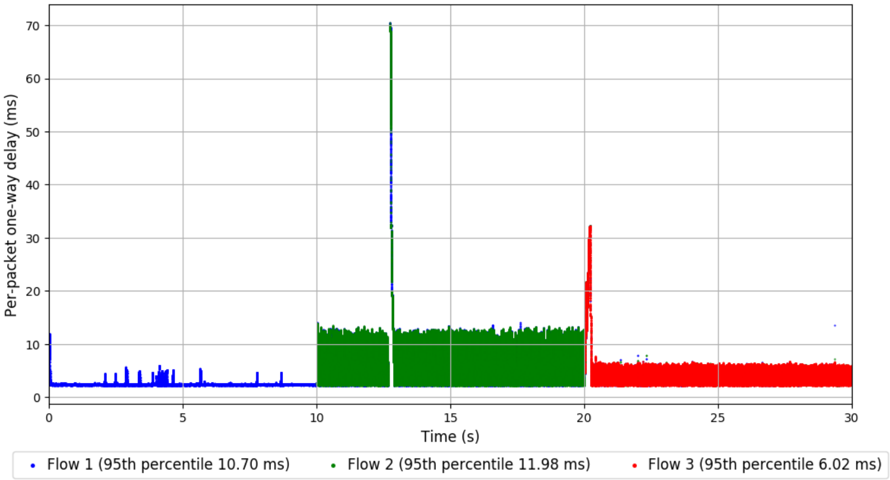




```
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-10 03:38:26
End at: 2018-07-10 03:38:56
Local clock offset: -2.179 ms
Remote clock offset: -7.195 ms

# Below is generated by plot.py at 2018-07-10 07:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.85 Mbit/s
95th percentile per-packet one-way delay: 10.998 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 48.06 Mbit/s
95th percentile per-packet one-way delay: 10.699 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 28.15 Mbit/s
95th percentile per-packet one-way delay: 11.980 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 60.29 Mbit/s
95th percentile per-packet one-way delay: 6.018 ms
Loss rate: 0.01%
```

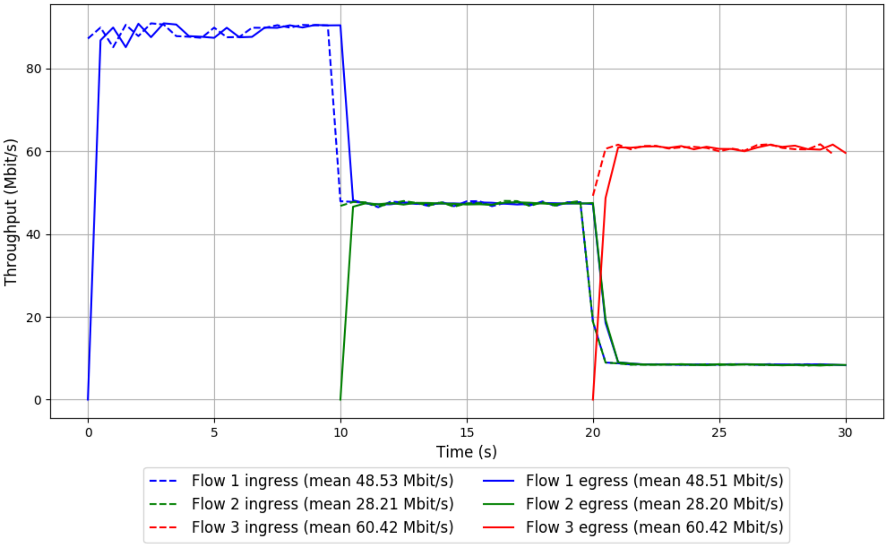
Run 1: Report of TaoVA-100x — Data Link

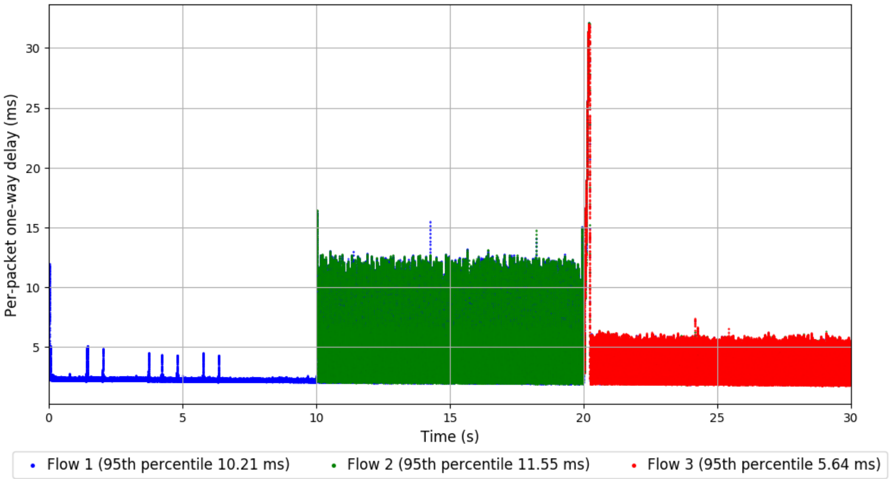




```
Run 2: Statistics of TaoVA-100x

Start at: 2018-07-10 03:57:38
End at: 2018-07-10 03:58:08
Local clock offset: -2.294 ms
Remote clock offset: 10.546 ms

# Below is generated by plot.py at 2018-07-10 07:13:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.38 Mbit/s
95th percentile per-packet one-way delay: 10.549 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 10.210 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 28.20 Mbit/s
95th percentile per-packet one-way delay: 11.554 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 60.42 Mbit/s
95th percentile per-packet one-way delay: 5.643 ms
Loss rate: 0.01%
```

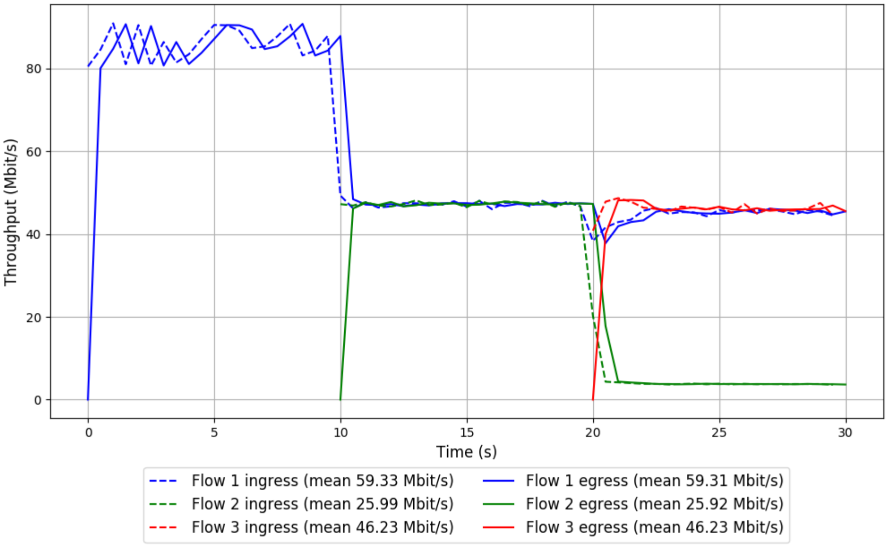
Run 2: Report of TaoVA-100x — Data Link

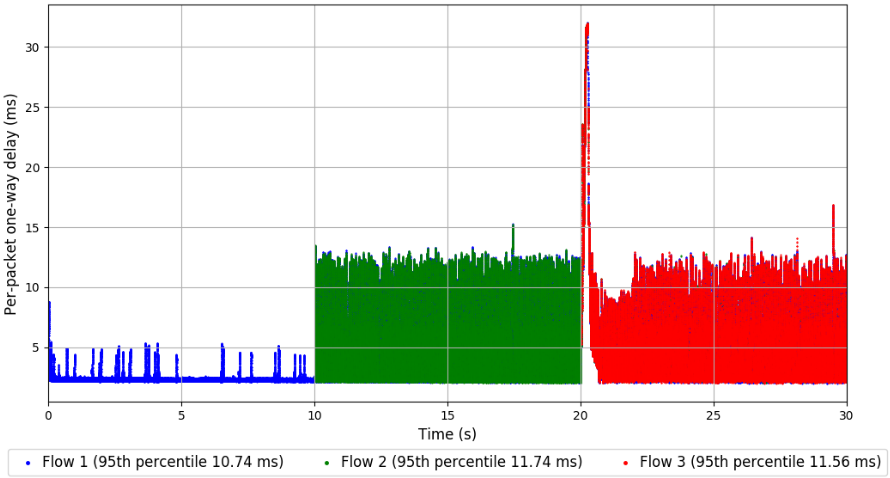




```
Run 3: Statistics of TaoVA-100x

Start at: 2018-07-10 04:16:49
End at: 2018-07-10 04:17:19
Local clock offset: -2.163 ms
Remote clock offset: 20.644 ms

# Below is generated by plot.py at 2018-07-10 07:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.94 Mbit/s
95th percentile per-packet one-way delay: 11.201 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 10.736 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 25.92 Mbit/s
95th percentile per-packet one-way delay: 11.736 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 46.23 Mbit/s
95th percentile per-packet one-way delay: 11.564 ms
Loss rate: 0.04%
```

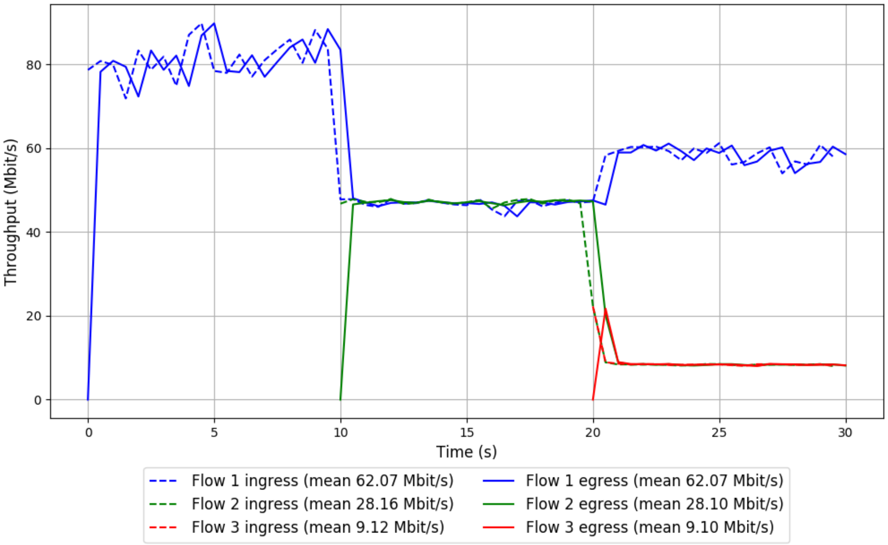
Run 3: Report of TaoVA-100x — Data Link

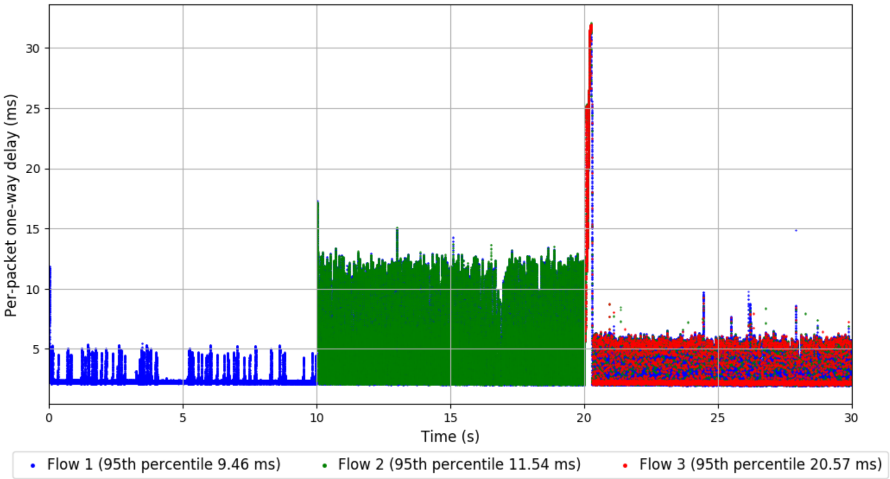




```
Run 4: Statistics of TaoVA-100x

Start at: 2018-07-10 04:36:01
End at: 2018-07-10 04:36:31
Local clock offset: -2.051 ms
Remote clock offset: 27.782 ms

# Below is generated by plot.py at 2018-07-10 07:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.81 Mbit/s
95th percentile per-packet one-way delay: 10.554 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 62.07 Mbit/s
95th percentile per-packet one-way delay: 9.463 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.10 Mbit/s
95th percentile per-packet one-way delay: 11.538 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 20.574 ms
Loss rate: 0.25%
```

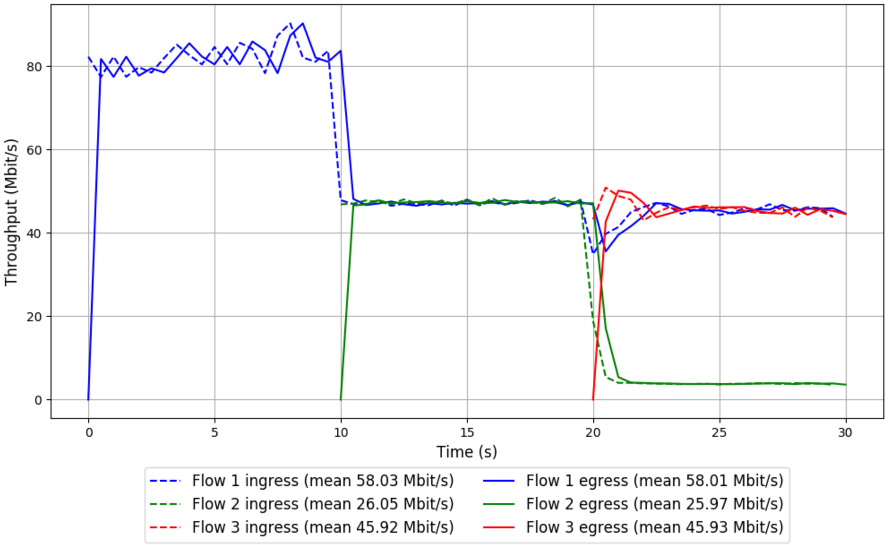
Run 4: Report of TaoVA-100x — Data Link

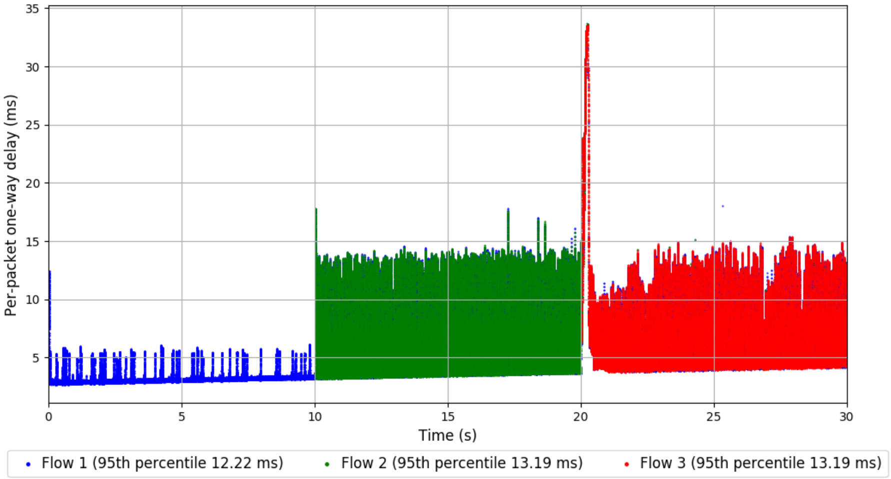




```
Run 5: Statistics of TaoVA-100x

Start at: 2018-07-10 04:55:13
End at: 2018-07-10 04:55:43
Local clock offset: -2.002 ms
Remote clock offset: 26.146 ms

# Below is generated by plot.py at 2018-07-10 07:14:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.57 Mbit/s
95th percentile per-packet one-way delay: 12.691 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 58.01 Mbit/s
95th percentile per-packet one-way delay: 12.221 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 25.97 Mbit/s
95th percentile per-packet one-way delay: 13.186 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 13.191 ms
Loss rate: 0.01%
```

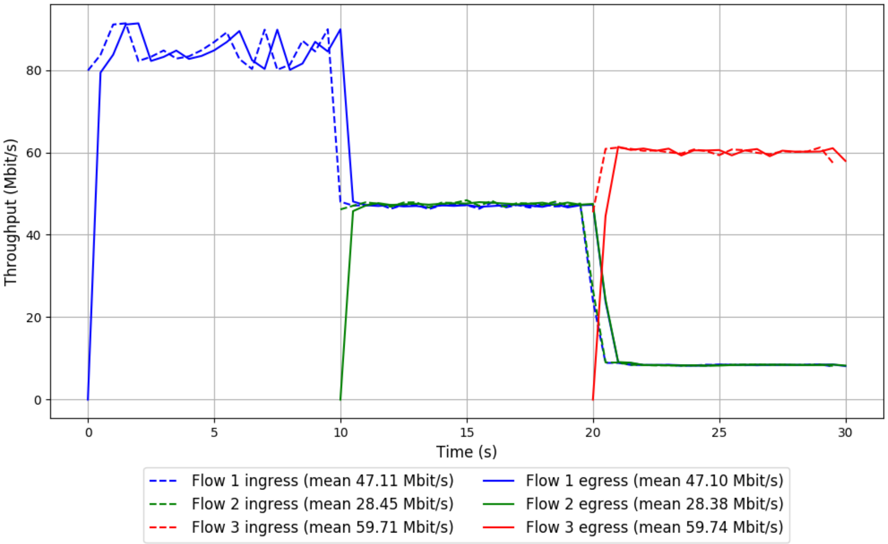
Run 5: Report of TaoVA-100x — Data Link

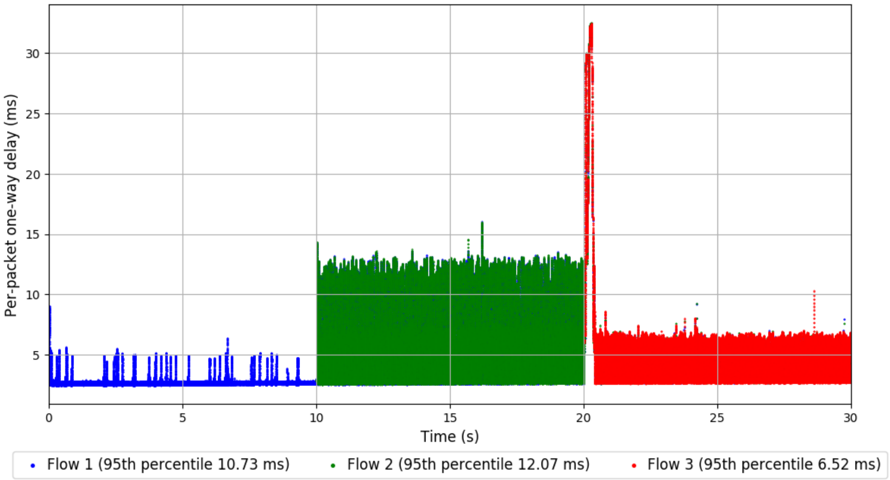




```
Run 6: Statistics of TaoVA-100x

Start at: 2018-07-10 05:14:26
End at: 2018-07-10 05:14:56
Local clock offset: -1.948 ms
Remote clock offset: 0.583 ms

# Below is generated by plot.py at 2018-07-10 07:14:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.83 Mbit/s
95th percentile per-packet one-way delay: 11.146 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 10.732 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 28.38 Mbit/s
95th percentile per-packet one-way delay: 12.066 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 59.74 Mbit/s
95th percentile per-packet one-way delay: 6.524 ms
Loss rate: 0.02%
```

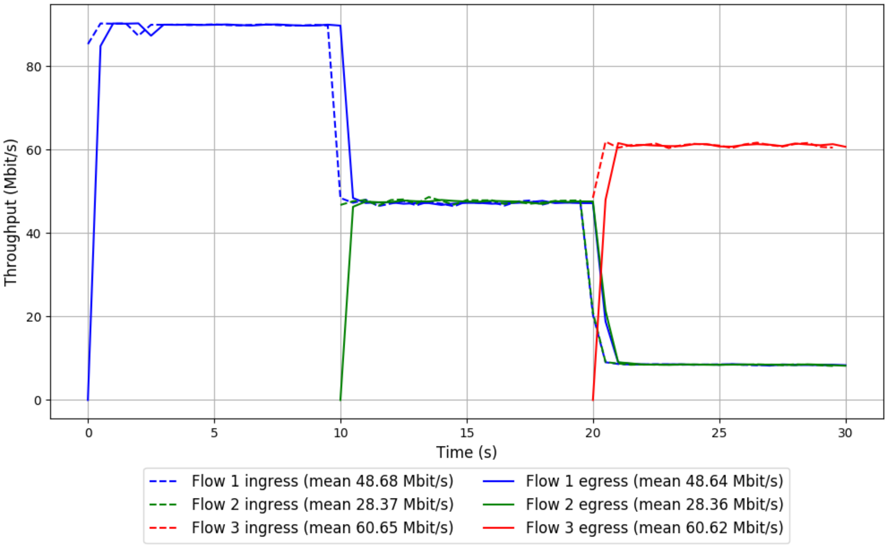
Run 6: Report of TaoVA-100x — Data Link

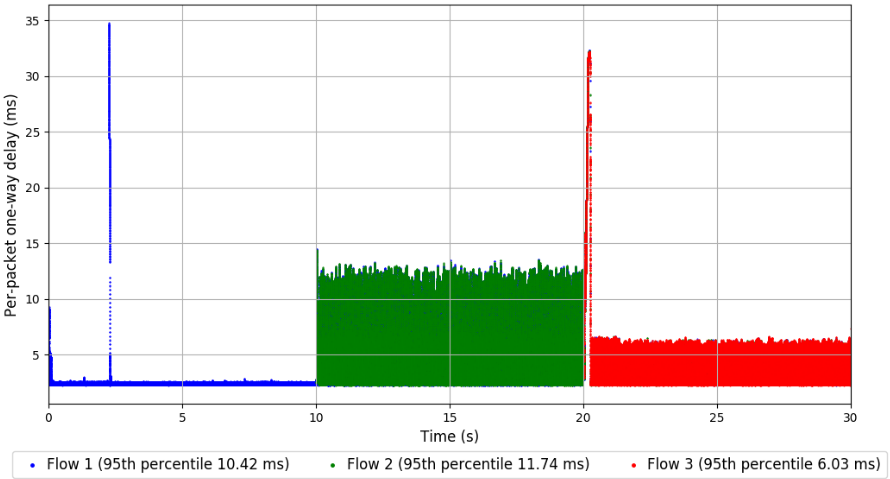




```
Run 7: Statistics of TaoVA-100x

Start at: 2018-07-10 05:33:37
End at: 2018-07-10 05:34:07
Local clock offset: -1.775 ms
Remote clock offset: -3.848 ms

# Below is generated by plot.py at 2018-07-10 07:14:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.68 Mbit/s
95th percentile per-packet one-way delay: 10.752 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 48.64 Mbit/s
95th percentile per-packet one-way delay: 10.422 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 11.736 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 60.62 Mbit/s
95th percentile per-packet one-way delay: 6.031 ms
Loss rate: 0.01%
```

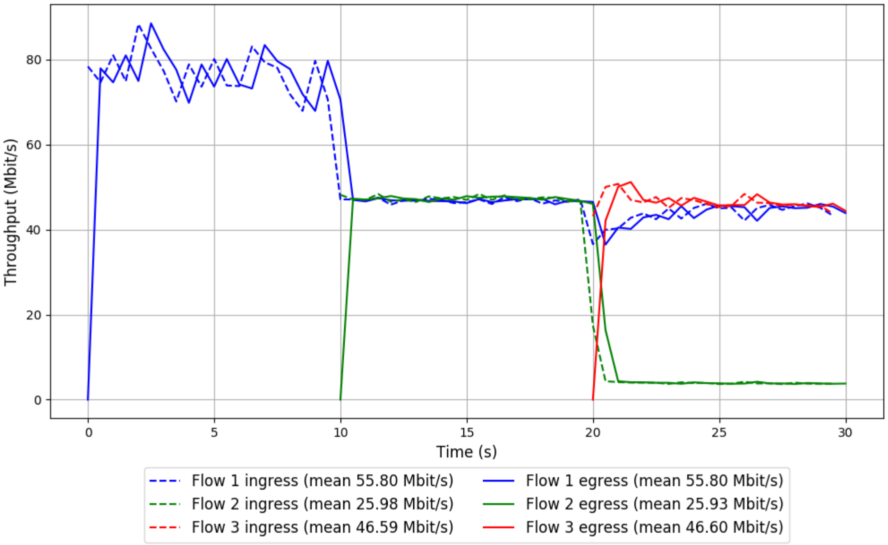
Run 7: Report of TaoVA-100x — Data Link

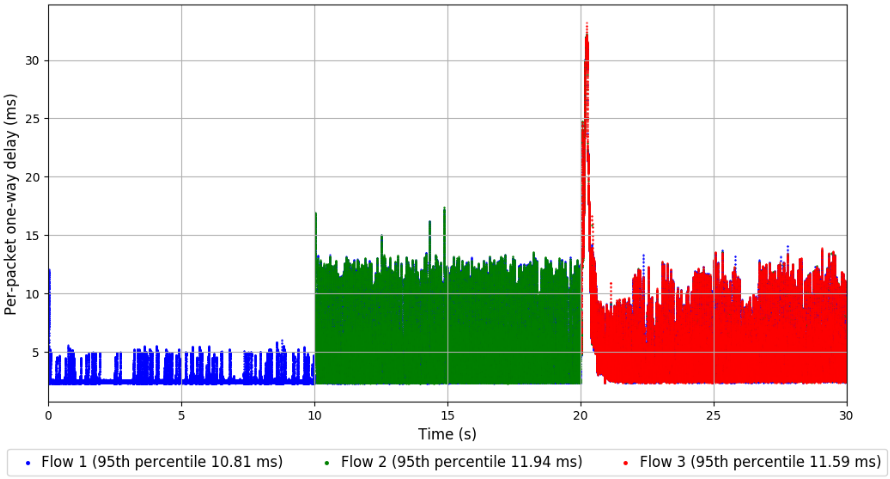




```
Run 8: Statistics of TaoVA-100x

Start at: 2018-07-10 05:52:54
End at: 2018-07-10 05:53:24
Local clock offset: -1.648 ms
Remote clock offset: -6.0 ms

# Below is generated by plot.py at 2018-07-10 07:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.56 Mbit/s
95th percentile per-packet one-way delay: 11.307 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 55.80 Mbit/s
95th percentile per-packet one-way delay: 10.814 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 25.93 Mbit/s
95th percentile per-packet one-way delay: 11.940 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 46.60 Mbit/s
95th percentile per-packet one-way delay: 11.590 ms
Loss rate: 0.01%
```

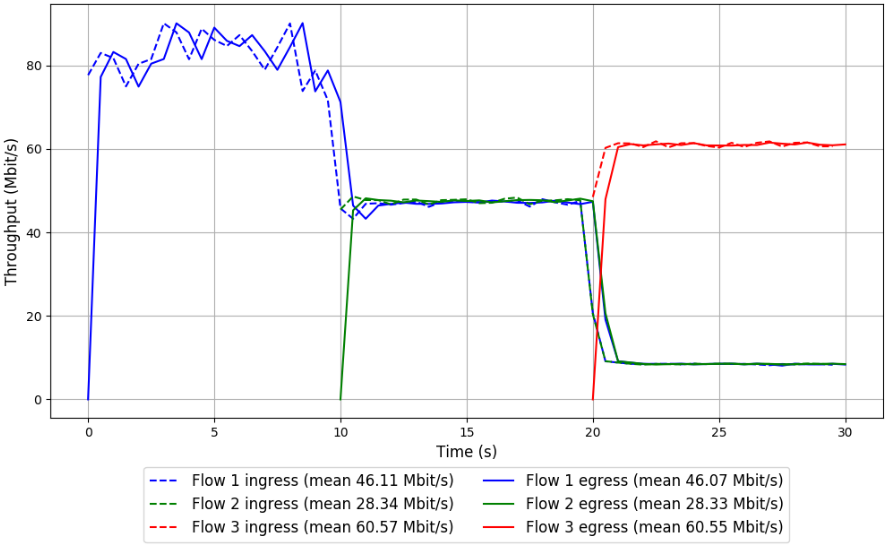
Run 8: Report of TaoVA-100x — Data Link

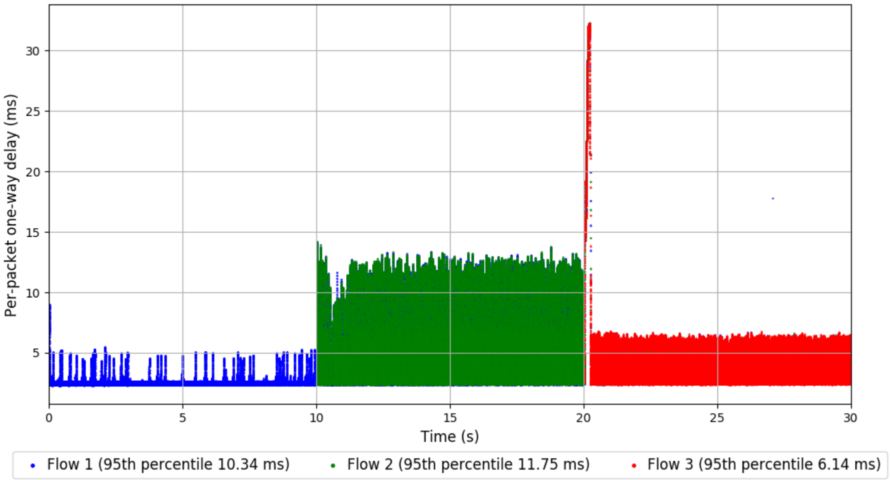




```
Run 9: Statistics of TaoVA-100x

Start at: 2018-07-10 06:12:06
End at: 2018-07-10 06:12:36
Local clock offset: -1.43 ms
Remote clock offset: -8.28 ms

# Below is generated by plot.py at 2018-07-10 07:15:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.07 Mbit/s
95th percentile per-packet one-way delay: 10.682 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 46.07 Mbit/s
95th percentile per-packet one-way delay: 10.337 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 28.33 Mbit/s
95th percentile per-packet one-way delay: 11.746 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 60.55 Mbit/s
95th percentile per-packet one-way delay: 6.136 ms
Loss rate: 0.01%
```

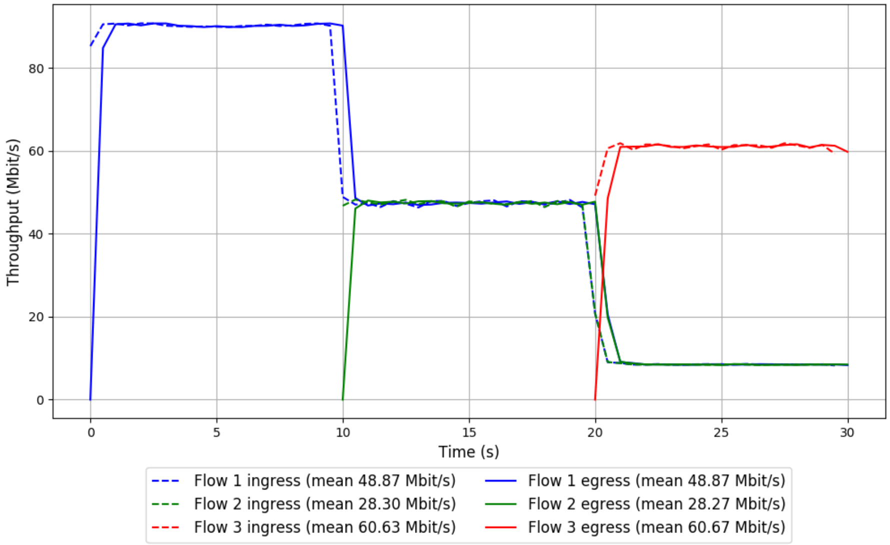
Run 9: Report of TaoVA-100x — Data Link

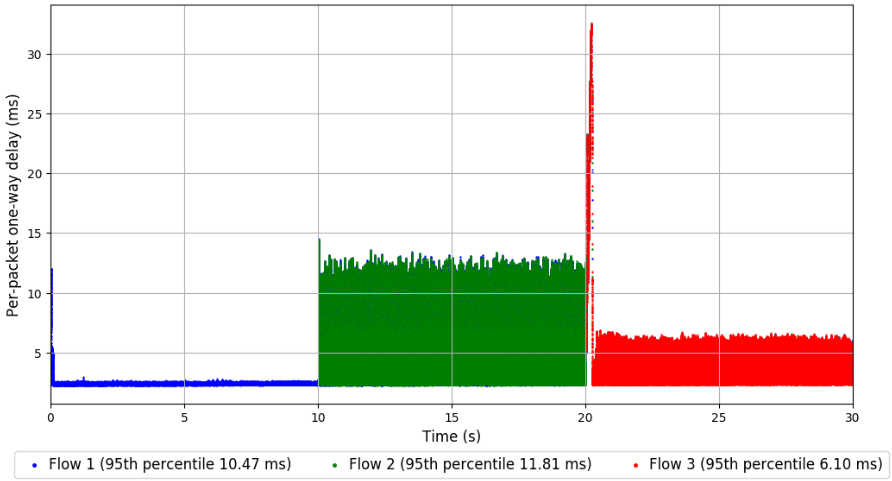




```
Run 10: Statistics of TaoVA-100x

Start at: 2018-07-10 06:31:17
End at: 2018-07-10 06:31:47
Local clock offset: -1.228 ms
Remote clock offset: -11.054 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 10.815 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 48.87 Mbit/s
95th percentile per-packet one-way delay: 10.473 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 28.27 Mbit/s
95th percentile per-packet one-way delay: 11.812 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 6.100 ms
Loss rate: 0.01%
```

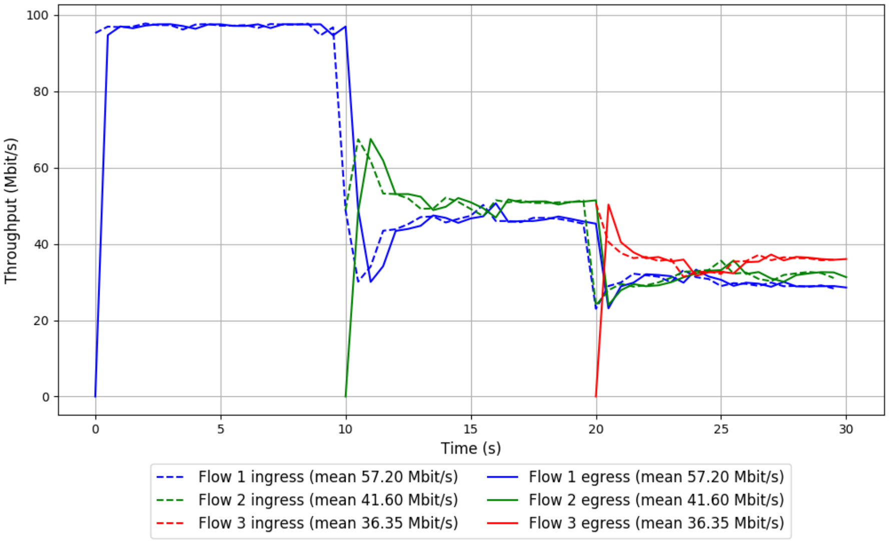
Run 10: Report of TaoVA-100x — Data Link

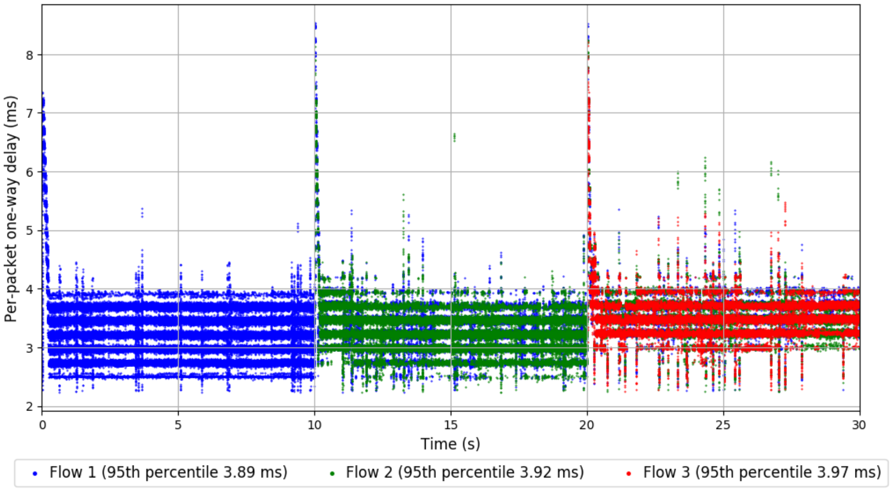




```
Run 1: Statistics of TCP Vegas

Start at: 2018-07-10 03:40:44
End at: 2018-07-10 03:41:14
Local clock offset: -2.21 ms
Remote clock offset: -7.21 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.03 Mbit/s
95th percentile per-packet one-way delay: 3.926 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.20 Mbit/s
95th percentile per-packet one-way delay: 3.892 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.60 Mbit/s
95th percentile per-packet one-way delay: 3.924 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.35 Mbit/s
95th percentile per-packet one-way delay: 3.973 ms
Loss rate: 0.00%
```

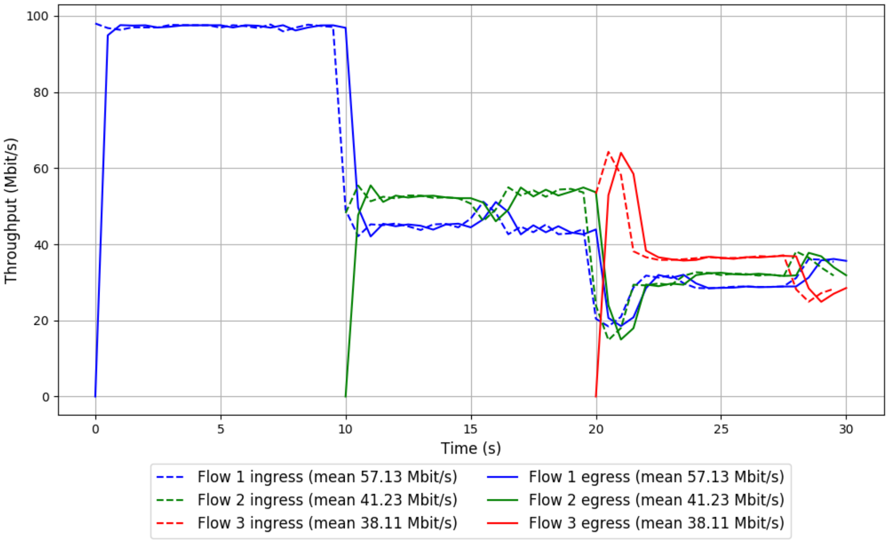
Run 1: Report of TCP Vegas — Data Link

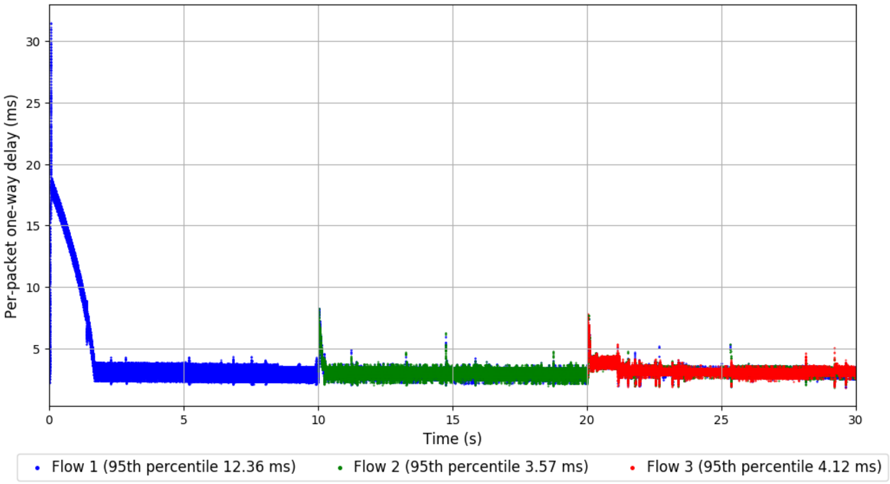




```
Run 2: Statistics of TCP Vegas

Start at: 2018-07-10 03:59:56
End at: 2018-07-10 04:00:26
Local clock offset: -2.268 ms
Remote clock offset: 12.215 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.26 Mbit/s
95th percentile per-packet one-way delay: 6.420 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 12.357 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.23 Mbit/s
95th percentile per-packet one-way delay: 3.574 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.11 Mbit/s
95th percentile per-packet one-way delay: 4.120 ms
Loss rate: 0.00%
```

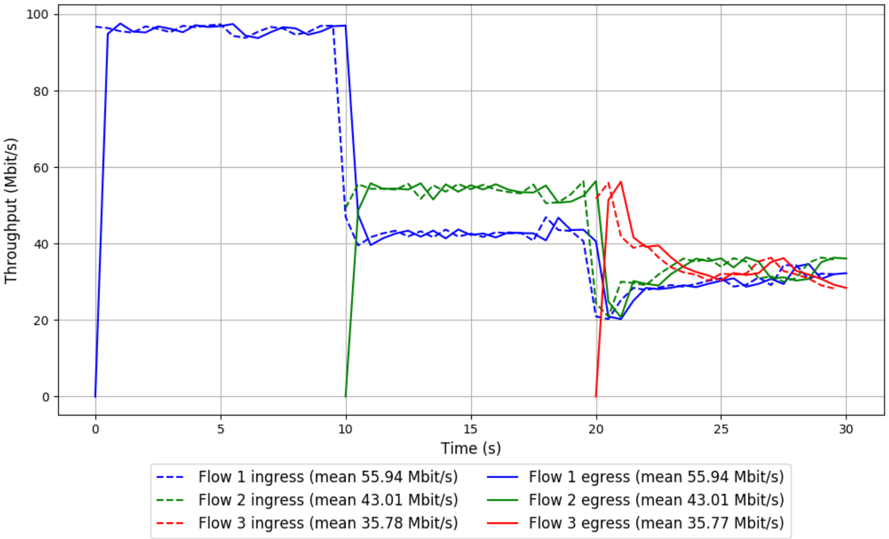
Run 2: Report of TCP Vegas — Data Link

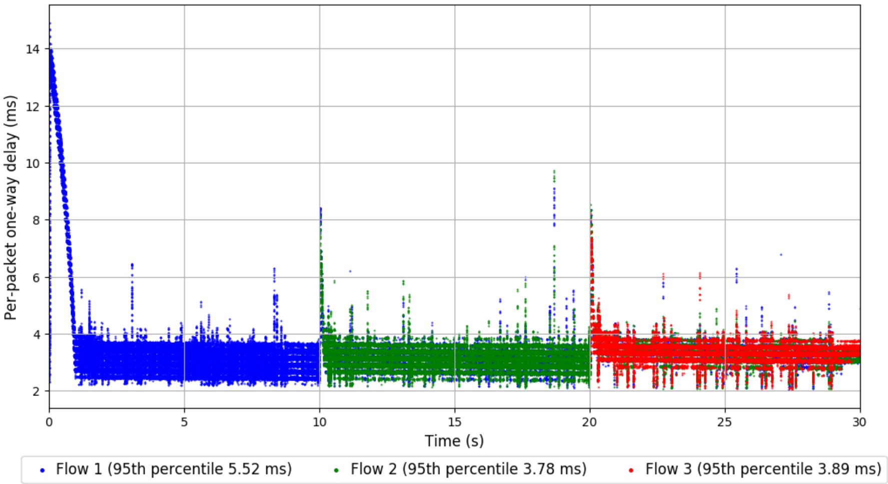




```
Run 3: Statistics of TCP Vegas

Start at: 2018-07-10 04:19:07
End at: 2018-07-10 04:19:37
Local clock offset: -2.134 ms
Remote clock offset: 21.637 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.48 Mbit/s
95th percentile per-packet one-way delay: 4.018 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 5.518 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.01 Mbit/s
95th percentile per-packet one-way delay: 3.783 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 3.887 ms
Loss rate: 0.00%
```

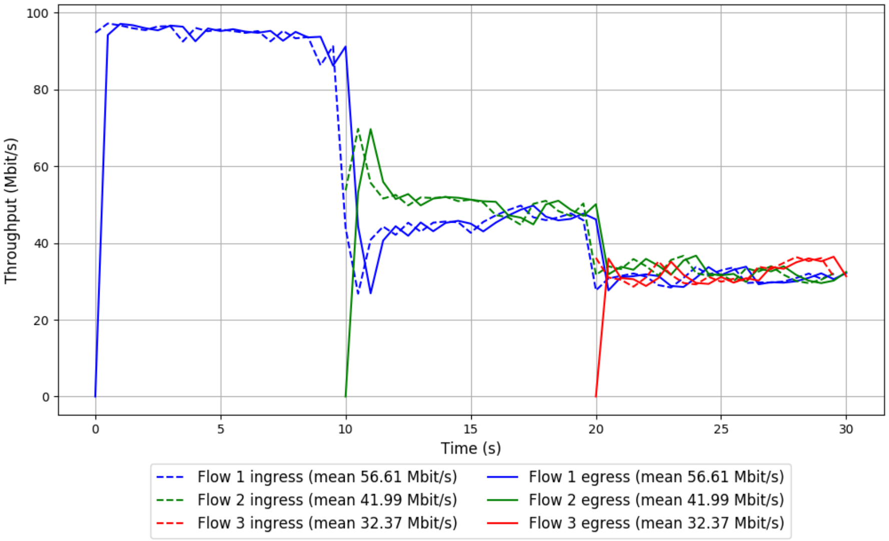
Run 3: Report of TCP Vegas — Data Link

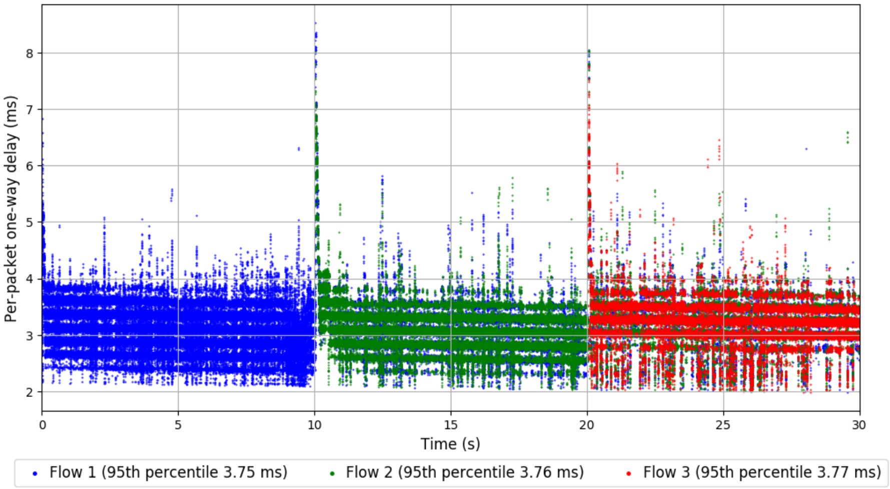




```
Run 4: Statistics of TCP Vegas

Start at: 2018-07-10 04:38:19
End at: 2018-07-10 04:38:50
Local clock offset: -2.109 ms
Remote clock offset: 28.584 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.34 Mbit/s
95th percentile per-packet one-way delay: 3.759 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.61 Mbit/s
95th percentile per-packet one-way delay: 3.749 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.99 Mbit/s
95th percentile per-packet one-way delay: 3.764 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 3.770 ms
Loss rate: 0.00%
```

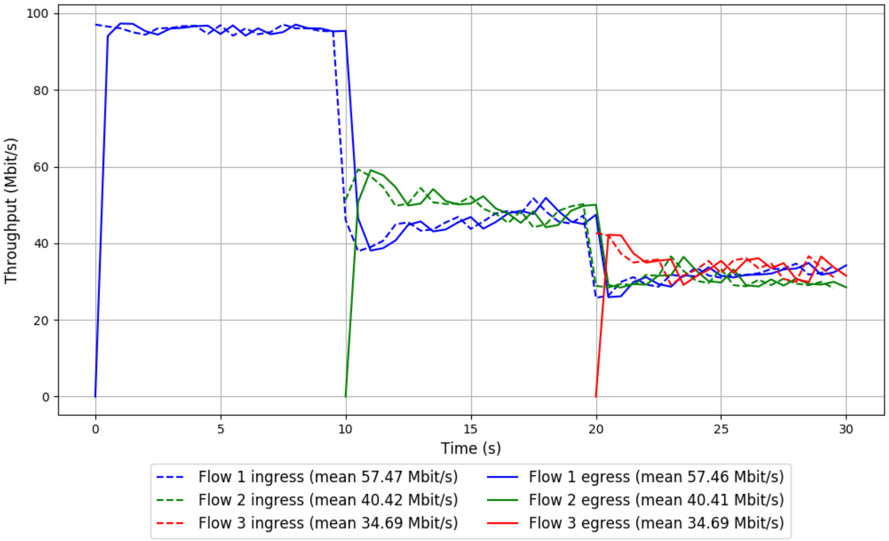
Run 4: Report of TCP Vegas — Data Link

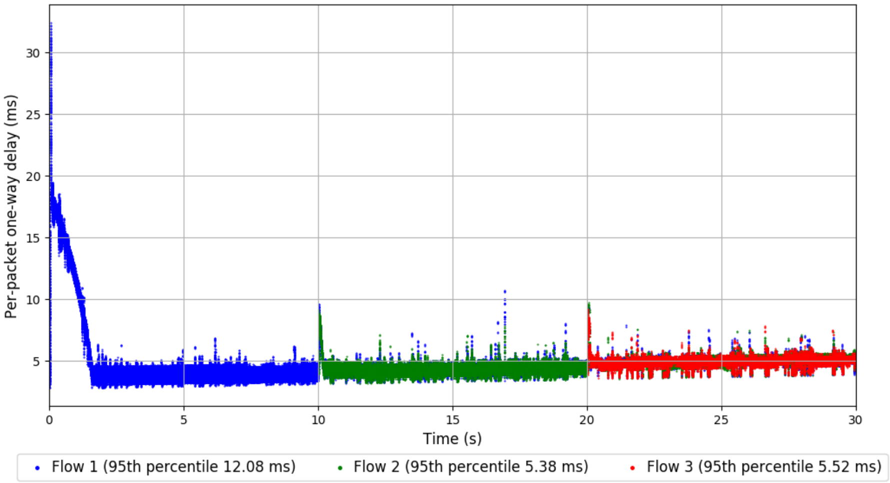




```
Run 5: Statistics of TCP Vegas

Start at: 2018-07-10 04:57:32
End at: 2018-07-10 04:58:02
Local clock offset: -2.0 ms
Remote clock offset: 20.173 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.90 Mbit/s
95th percentile per-packet one-way delay: 7.109 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 12.079 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.41 Mbit/s
95th percentile per-packet one-way delay: 5.381 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.69 Mbit/s
95th percentile per-packet one-way delay: 5.516 ms
Loss rate: 0.00%
```

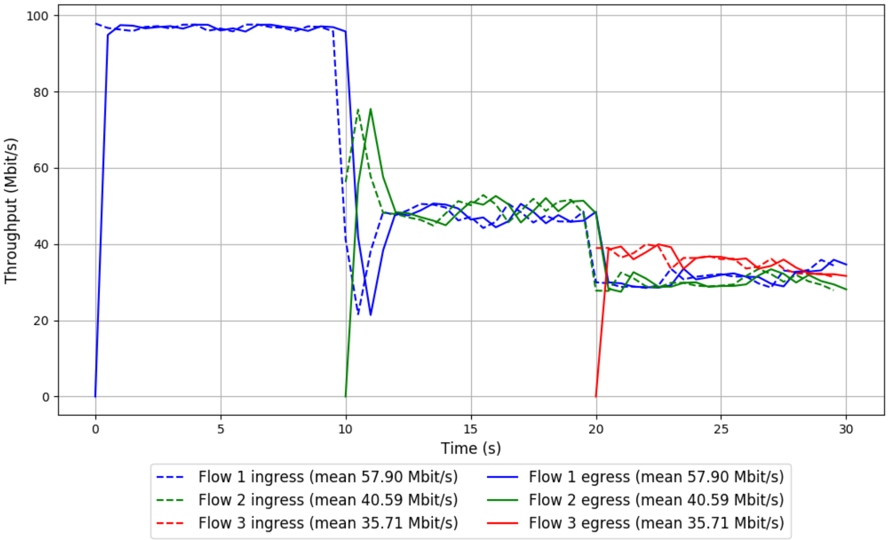
Run 5: Report of TCP Vegas — Data Link

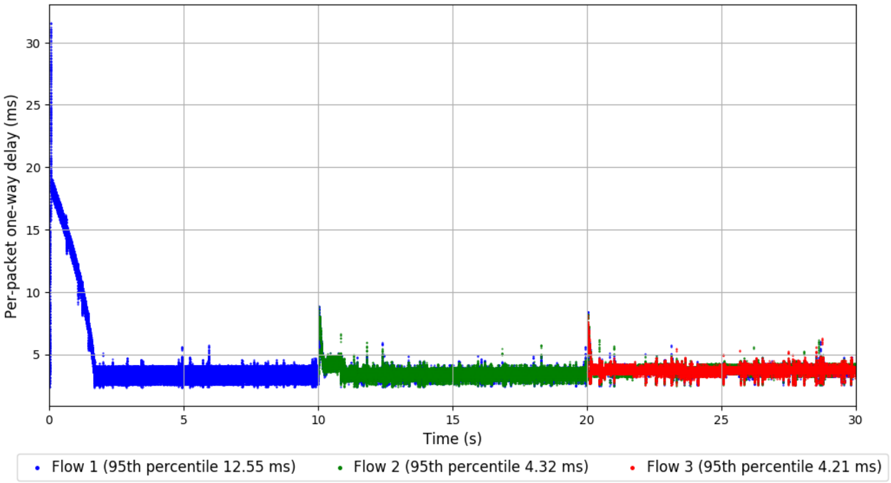




```
Run 6: Statistics of TCP Vegas

Start at: 2018-07-10 05:16:43
End at: 2018-07-10 05:17:13
Local clock offset: -1.931 ms
Remote clock offset: -0.628 ms

# Below is generated by plot.py at 2018-07-10 07:15:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 7.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.90 Mbit/s
95th percentile per-packet one-way delay: 12.550 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.59 Mbit/s
95th percentile per-packet one-way delay: 4.324 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.71 Mbit/s
95th percentile per-packet one-way delay: 4.209 ms
Loss rate: 0.00%
```

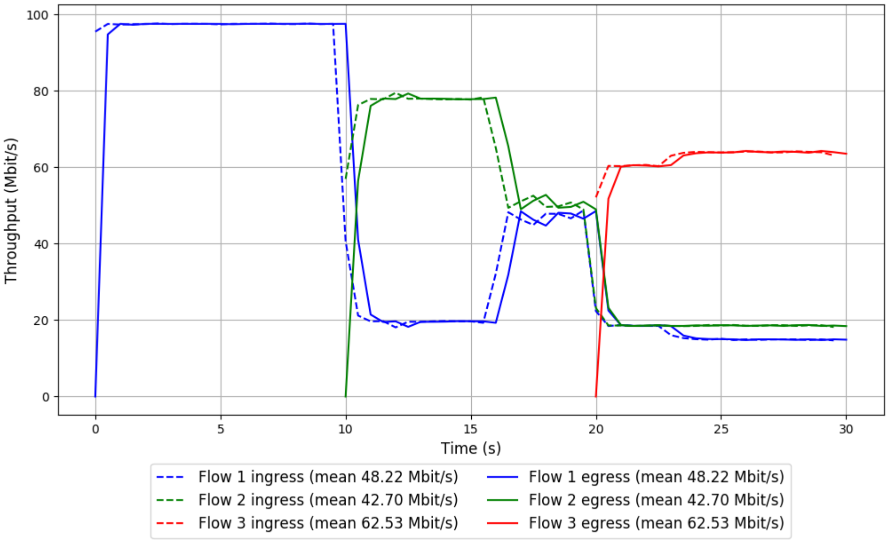
Run 6: Report of TCP Vegas — Data Link

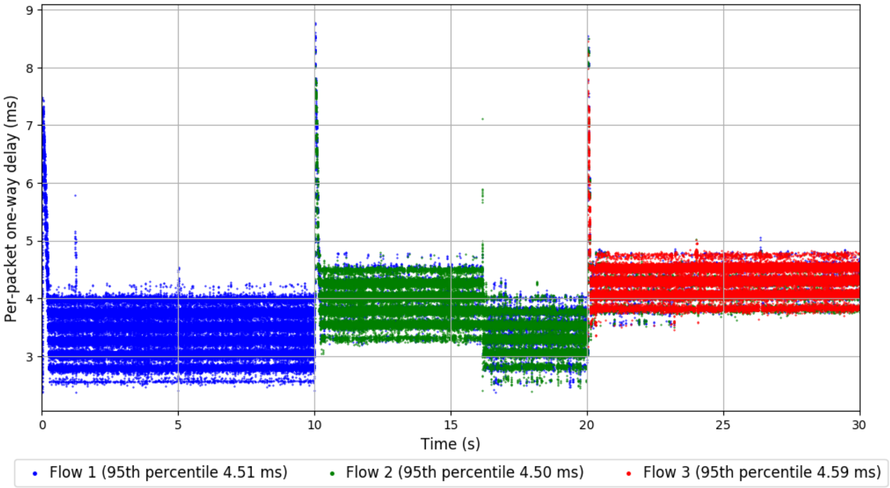




```
Run 7: Statistics of TCP Vegas

Start at: 2018-07-10 05:35:55
End at: 2018-07-10 05:36:25
Local clock offset: -1.799 ms
Remote clock offset: -3.921 ms

# Below is generated by plot.py at 2018-07-10 07:16:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 4.547 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.22 Mbit/s
95th percentile per-packet one-way delay: 4.507 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 4.502 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.53 Mbit/s
95th percentile per-packet one-way delay: 4.586 ms
Loss rate: 0.00%
```

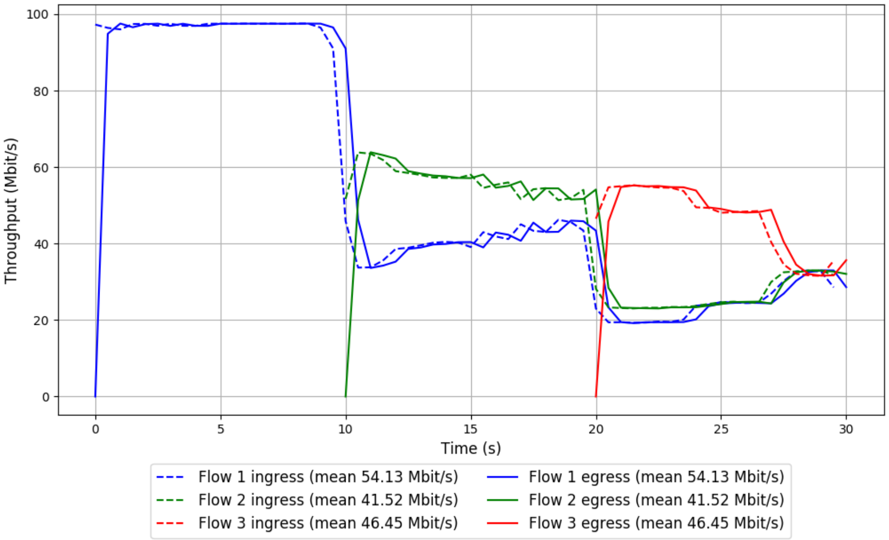
Run 7: Report of TCP Vegas — Data Link

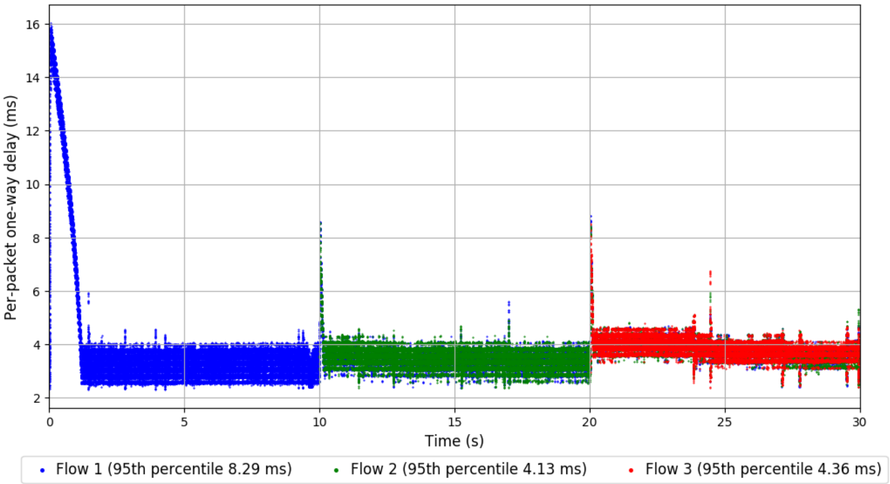




```
Run 8: Statistics of TCP Vegas

Start at: 2018-07-10 05:55:12
End at: 2018-07-10 05:55:42
Local clock offset: -1.621 ms
Remote clock offset: -6.304 ms

# Below is generated by plot.py at 2018-07-10 07:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.25 Mbit/s
95th percentile per-packet one-way delay: 4.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.13 Mbit/s
95th percentile per-packet one-way delay: 8.294 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.52 Mbit/s
95th percentile per-packet one-way delay: 4.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 4.360 ms
Loss rate: 0.00%
```

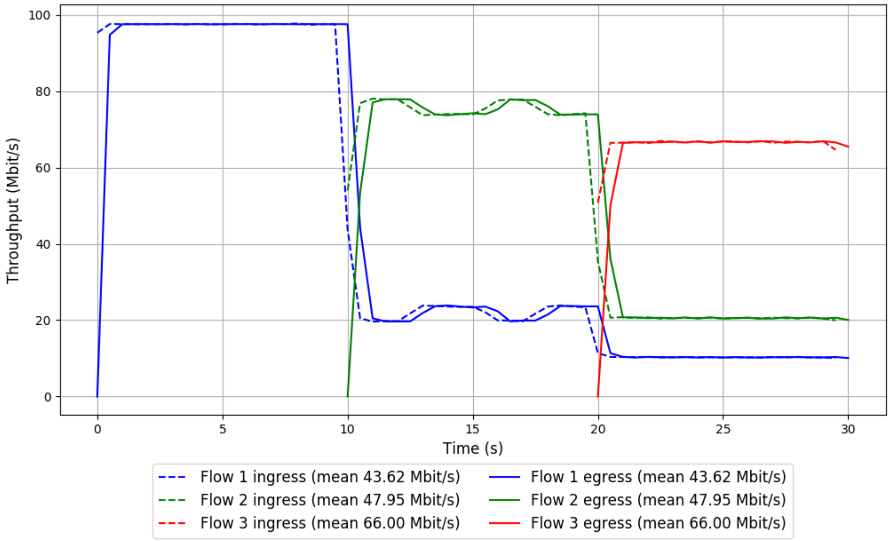
Run 8: Report of TCP Vegas — Data Link

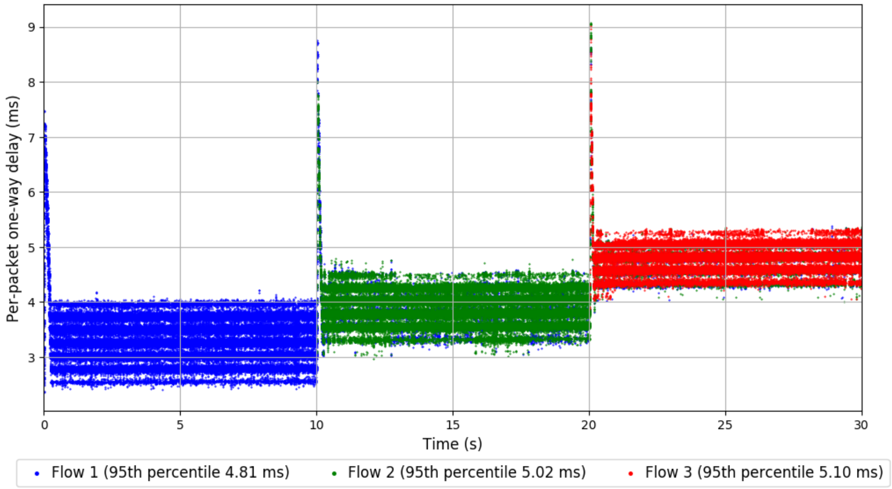




```
Run 9: Statistics of TCP Vegas

Start at: 2018-07-10 06:14:24
End at: 2018-07-10 06:14:54
Local clock offset: -1.41 ms
Remote clock offset: -8.592 ms

# Below is generated by plot.py at 2018-07-10 07:16:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 5.059 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.62 Mbit/s
95th percentile per-packet one-way delay: 4.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.95 Mbit/s
95th percentile per-packet one-way delay: 5.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 66.00 Mbit/s
95th percentile per-packet one-way delay: 5.102 ms
Loss rate: 0.00%
```

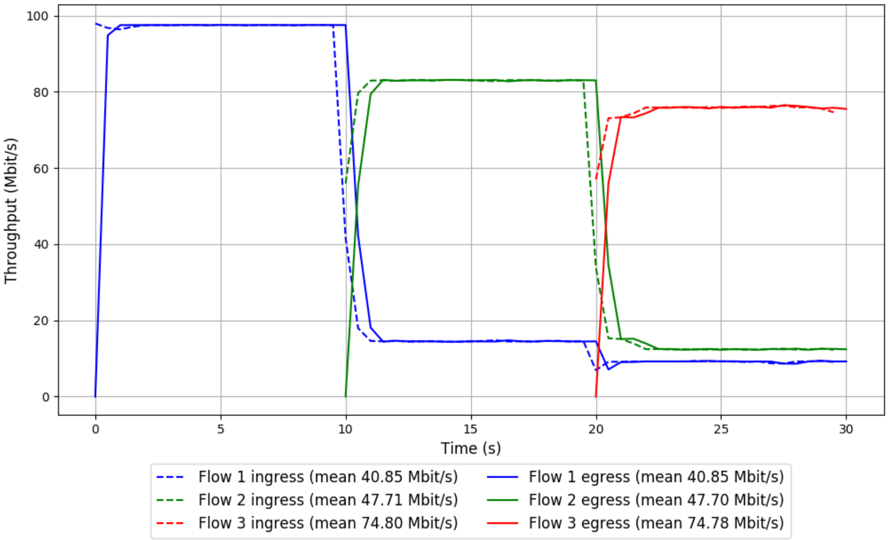
Run 9: Report of TCP Vegas — Data Link

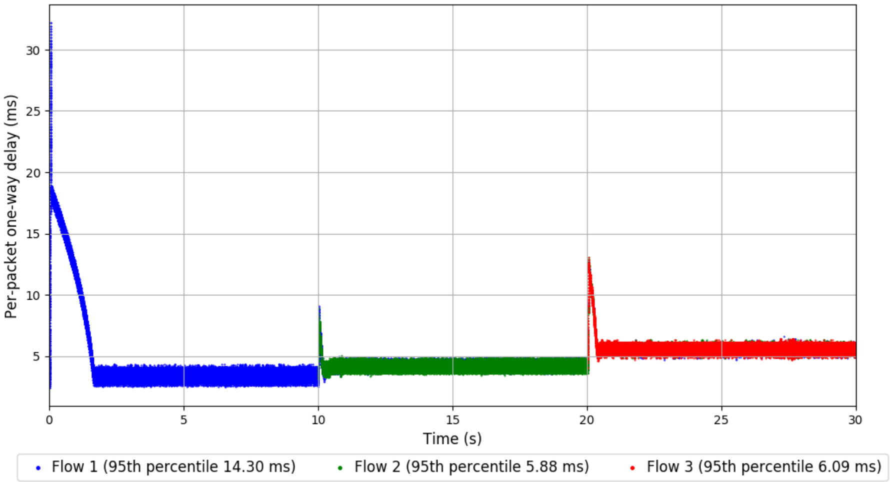




```
Run 10: Statistics of TCP Vegas

Start at: 2018-07-10 06:33:35
End at: 2018-07-10 06:34:05
Local clock offset: -1.215 ms
Remote clock offset: -11.318 ms

# Below is generated by plot.py at 2018-07-10 07:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 8.358 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.85 Mbit/s
95th percentile per-packet one-way delay: 14.303 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.70 Mbit/s
95th percentile per-packet one-way delay: 5.881 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.78 Mbit/s
95th percentile per-packet one-way delay: 6.090 ms
Loss rate: 0.00%
```

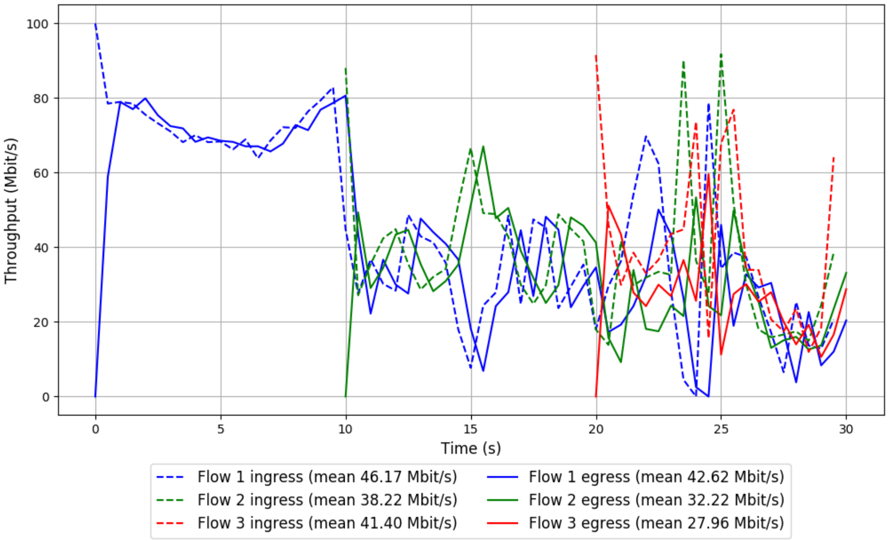
Run 10: Report of TCP Vegas — Data Link

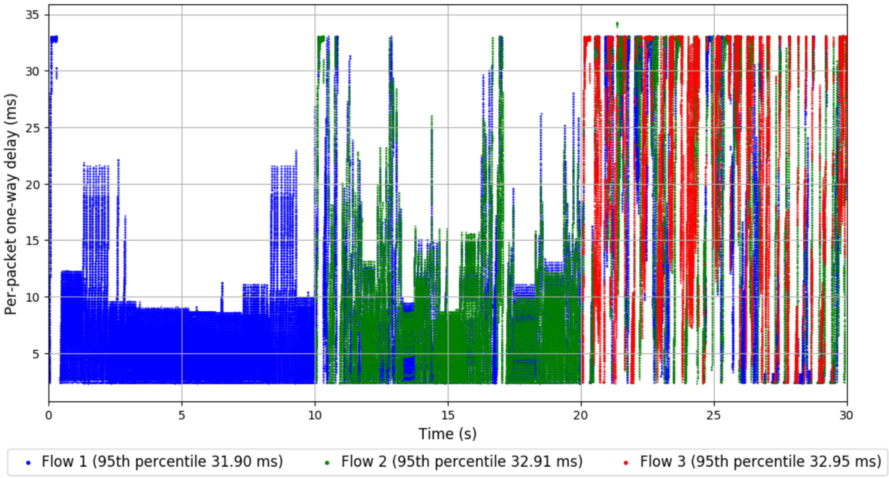




```
Run 1: Statistics of Verus

Start at: 2018-07-10 03:39:36
End at: 2018-07-10 03:40:06
Local clock offset: -2.255 ms
Remote clock offset: -7.142 ms

# Below is generated by plot.py at 2018-07-10 07:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.29 Mbit/s
95th percentile per-packet one-way delay: 32.774 ms
Loss rate: 13.97%
-- Flow 1:
Average throughput: 42.62 Mbit/s
95th percentile per-packet one-way delay: 31.903 ms
Loss rate: 7.64%
-- Flow 2:
Average throughput: 32.22 Mbit/s
95th percentile per-packet one-way delay: 32.908 ms
Loss rate: 15.60%
-- Flow 3:
Average throughput: 27.96 Mbit/s
95th percentile per-packet one-way delay: 32.948 ms
Loss rate: 32.26%
```

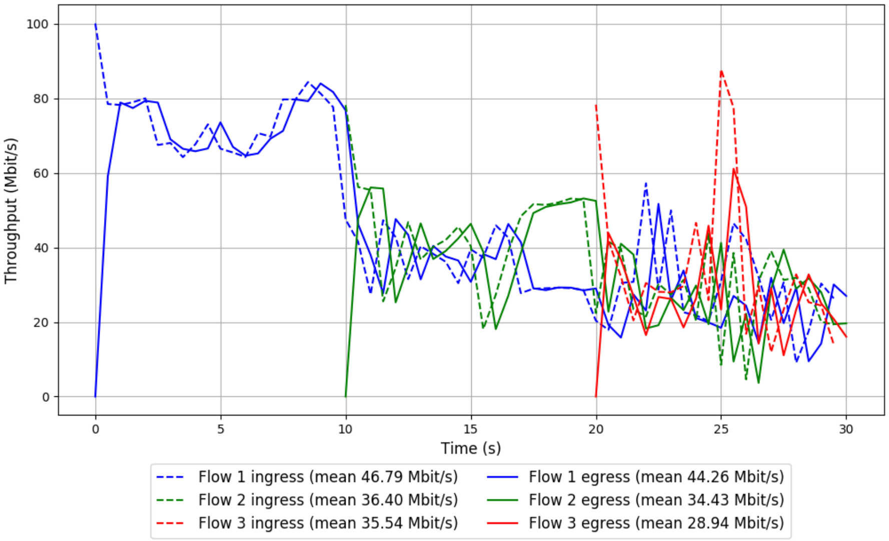
Run 1: Report of Verus — Data Link

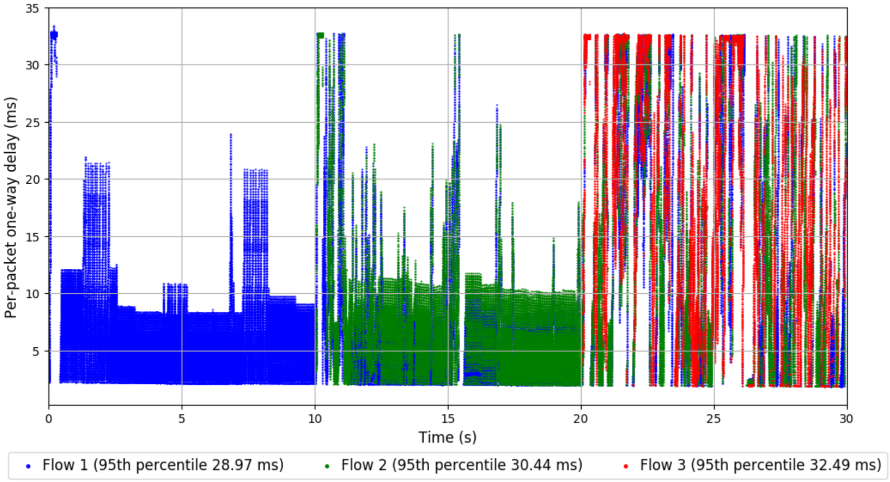




```
Run 2: Statistics of Verus

Start at: 2018-07-10 03:58:48
End at: 2018-07-10 03:59:18
Local clock offset: -2.288 ms
Remote clock offset: 11.423 ms

# Below is generated by plot.py at 2018-07-10 07:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.76 Mbit/s
95th percentile per-packet one-way delay: 31.476 ms
Loss rate: 7.18%
-- Flow 1:
Average throughput: 44.26 Mbit/s
95th percentile per-packet one-way delay: 28.967 ms
Loss rate: 5.34%
-- Flow 2:
Average throughput: 34.43 Mbit/s
95th percentile per-packet one-way delay: 30.436 ms
Loss rate: 5.28%
-- Flow 3:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 32.494 ms
Loss rate: 18.39%
```

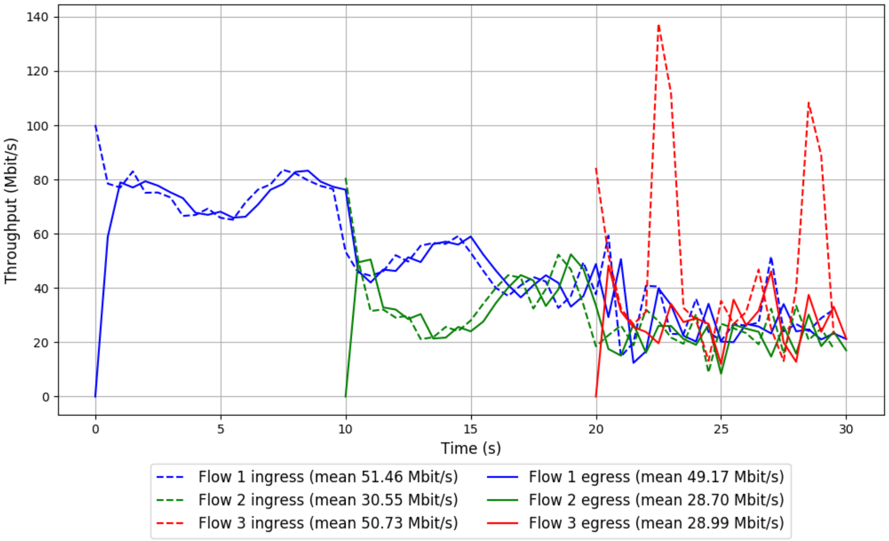
Run 2: Report of Verus — Data Link

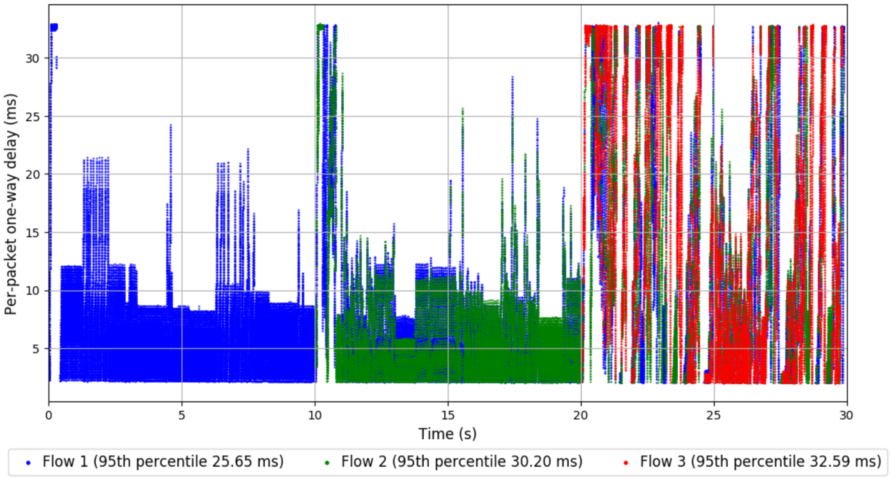




```
Run 3: Statistics of Verus

Start at: 2018-07-10 04:17:59
End at: 2018-07-10 04:18:29
Local clock offset: -2.163 ms
Remote clock offset: 21.102 ms

# Below is generated by plot.py at 2018-07-10 07:16:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.66 Mbit/s
95th percentile per-packet one-way delay: 30.478 ms
Loss rate: 11.92%
-- Flow 1:
Average throughput: 49.17 Mbit/s
95th percentile per-packet one-way delay: 25.653 ms
Loss rate: 4.36%
-- Flow 2:
Average throughput: 28.70 Mbit/s
95th percentile per-packet one-way delay: 30.200 ms
Loss rate: 5.96%
-- Flow 3:
Average throughput: 28.99 Mbit/s
95th percentile per-packet one-way delay: 32.589 ms
Loss rate: 42.71%
```

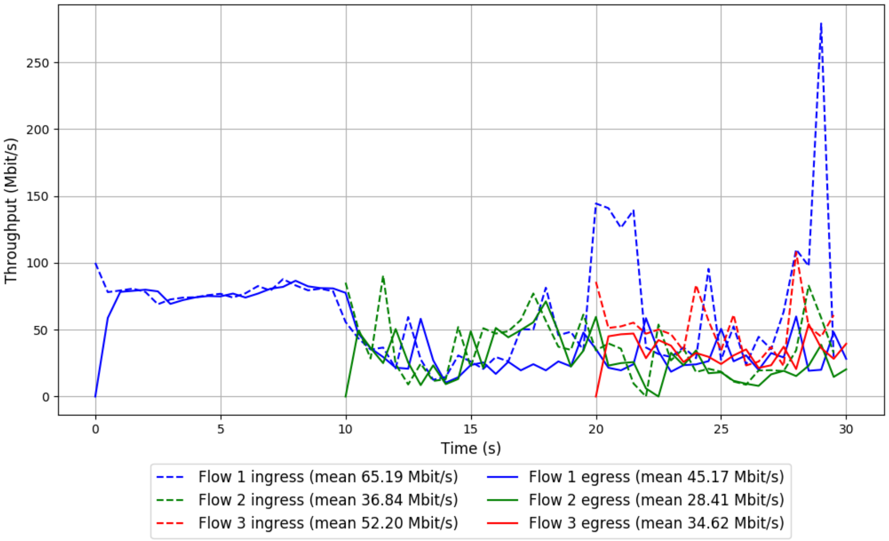
Run 3: Report of Verus — Data Link

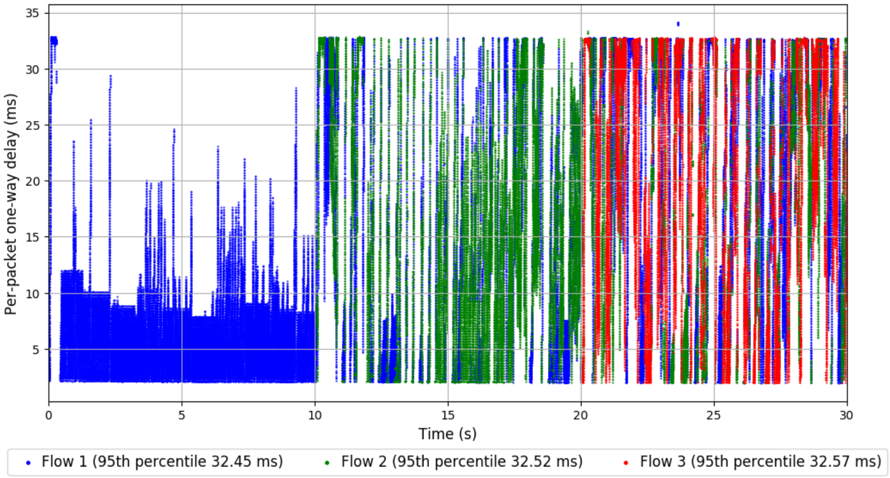




```
Run 4: Statistics of Verus

Start at: 2018-07-10 04:37:11
End at: 2018-07-10 04:37:41
Local clock offset: -2.045 ms
Remote clock offset: 28.196 ms

# Below is generated by plot.py at 2018-07-10 07:17:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.50 Mbit/s
95th percentile per-packet one-way delay: 32.511 ms
Loss rate: 29.32%
-- Flow 1:
Average throughput: 45.17 Mbit/s
95th percentile per-packet one-way delay: 32.445 ms
Loss rate: 30.65%
-- Flow 2:
Average throughput: 28.41 Mbit/s
95th percentile per-packet one-way delay: 32.520 ms
Loss rate: 22.76%
-- Flow 3:
Average throughput: 34.62 Mbit/s
95th percentile per-packet one-way delay: 32.570 ms
Loss rate: 33.55%
```

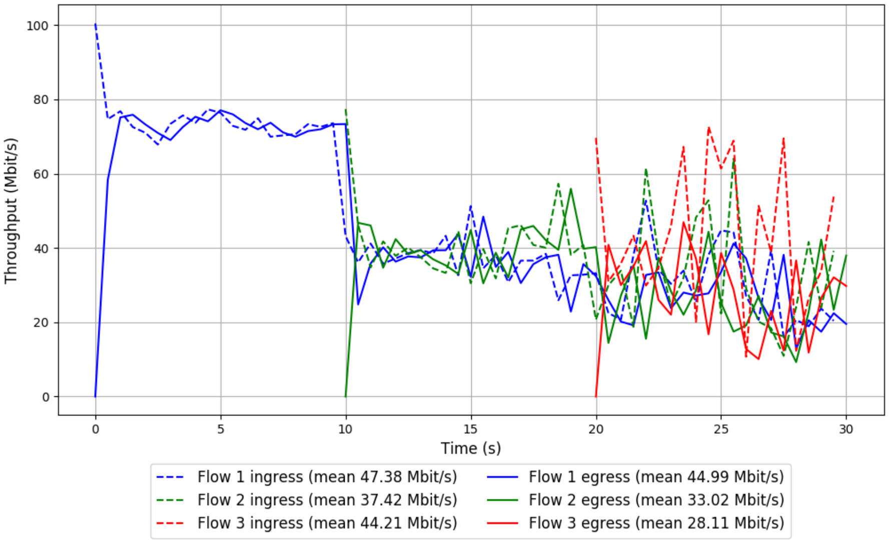
Run 4: Report of Verus — Data Link

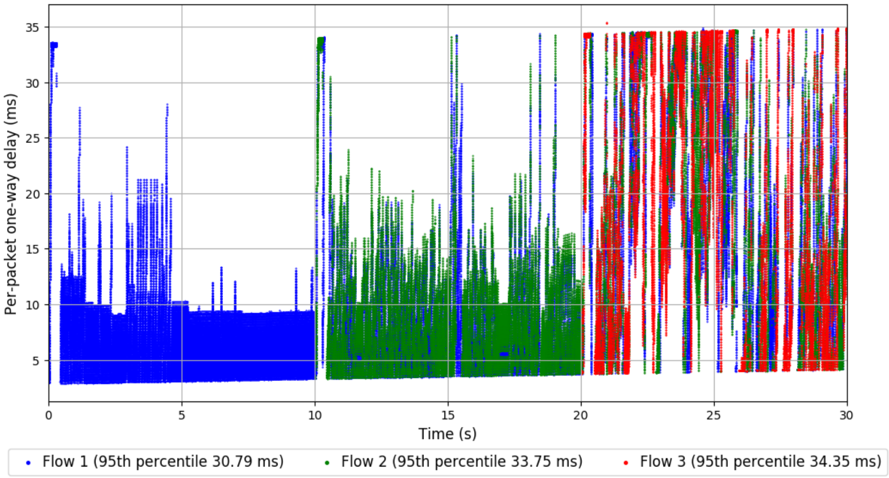




```
Run 5: Statistics of Verus

Start at: 2018-07-10 04:56:24
End at: 2018-07-10 04:56:54
Local clock offset: -2.012 ms
Remote clock offset: 23.034 ms

# Below is generated by plot.py at 2018-07-10 07:17:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.30 Mbit/s
95th percentile per-packet one-way delay: 33.317 ms
Loss rate: 12.13%
-- Flow 1:
Average throughput: 44.99 Mbit/s
95th percentile per-packet one-way delay: 30.792 ms
Loss rate: 4.93%
-- Flow 2:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 33.753 ms
Loss rate: 11.66%
-- Flow 3:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 34.352 ms
Loss rate: 36.26%
```

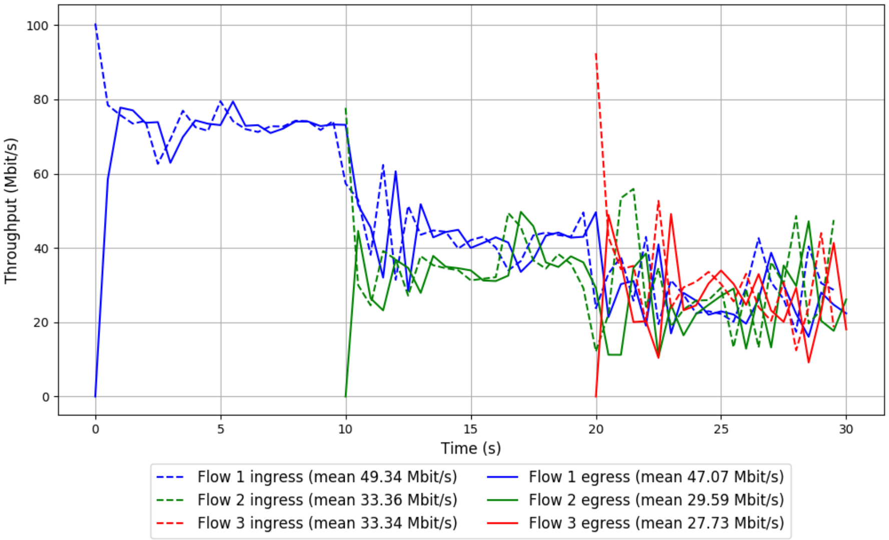
Run 5: Report of Verus — Data Link

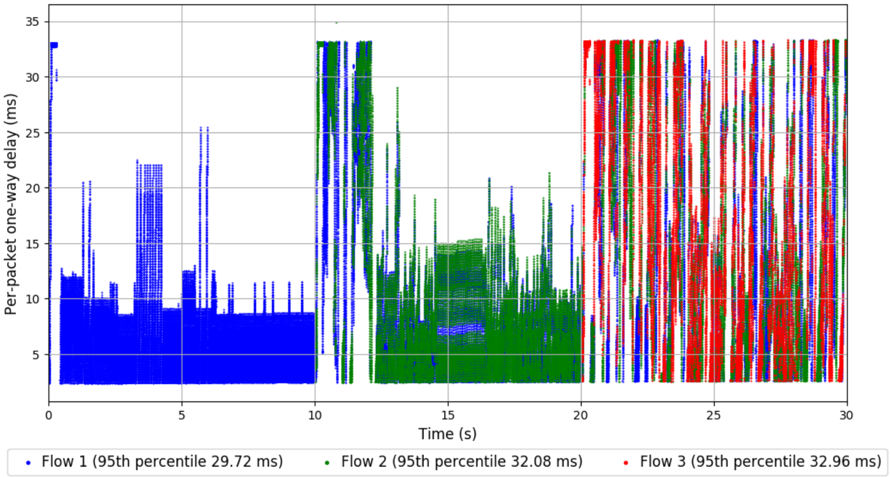




```
Run 6: Statistics of Verus

Start at: 2018-07-10 05:15:36
End at: 2018-07-10 05:16:06
Local clock offset: -1.947 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-07-10 07:17:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 31.564 ms
Loss rate: 7.90%
-- Flow 1:
Average throughput: 47.07 Mbit/s
95th percentile per-packet one-way delay: 29.722 ms
Loss rate: 4.49%
-- Flow 2:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 32.083 ms
Loss rate: 11.15%
-- Flow 3:
Average throughput: 27.73 Mbit/s
95th percentile per-packet one-way delay: 32.961 ms
Loss rate: 16.63%
```

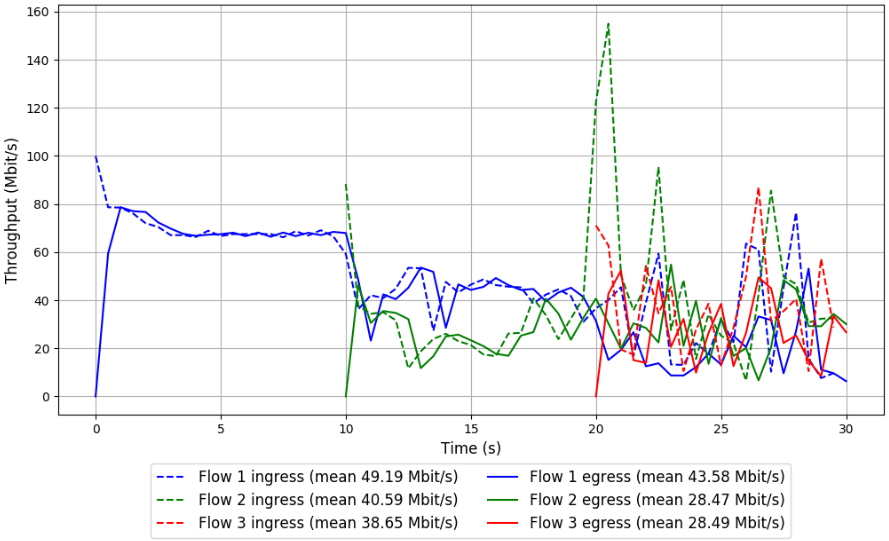
Run 6: Report of Verus — Data Link

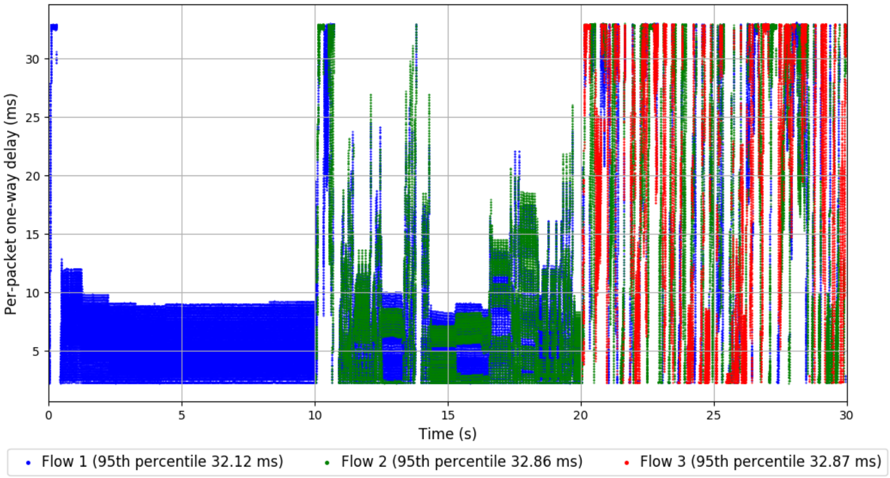




```
Run 7: Statistics of Verus

Start at: 2018-07-10 05:34:47
End at: 2018-07-10 05:35:17
Local clock offset: -1.777 ms
Remote clock offset: -3.887 ms

# Below is generated by plot.py at 2018-07-10 07:17:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.94 Mbit/s
95th percentile per-packet one-way delay: 32.739 ms
Loss rate: 19.09%
-- Flow 1:
Average throughput: 43.58 Mbit/s
95th percentile per-packet one-way delay: 32.124 ms
Loss rate: 11.41%
-- Flow 2:
Average throughput: 28.47 Mbit/s
95th percentile per-packet one-way delay: 32.862 ms
Loss rate: 29.79%
-- Flow 3:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 32.873 ms
Loss rate: 26.11%
```

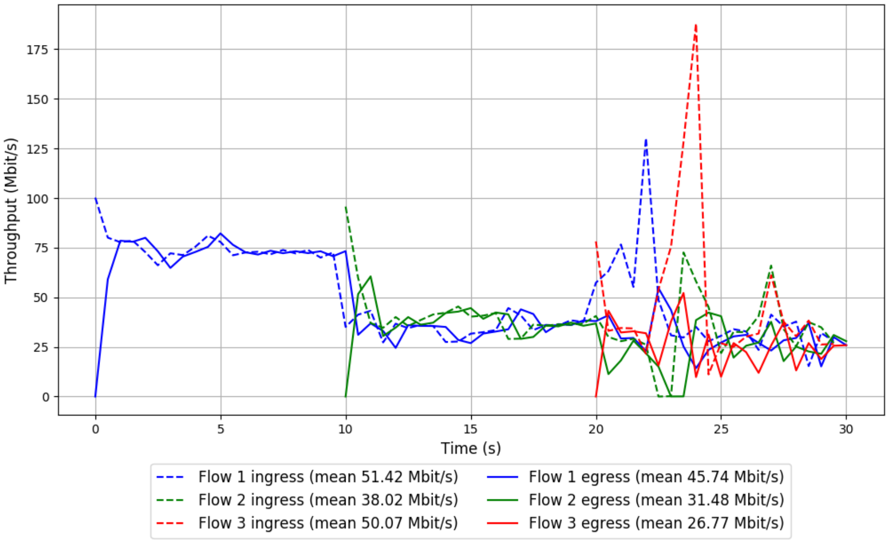
Run 7: Report of Verus — Data Link

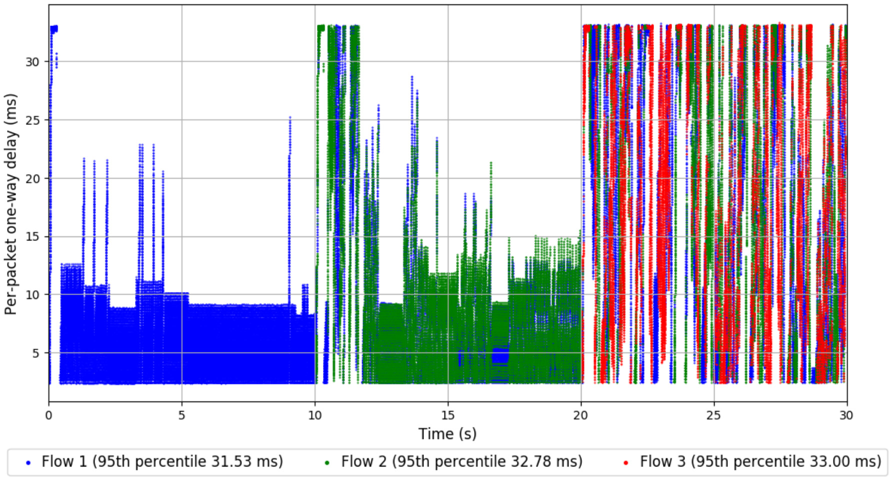




```
Run 8: Statistics of Verus

Start at: 2018-07-10 05:54:04
End at: 2018-07-10 05:54:34
Local clock offset: -1.64 ms
Remote clock offset: -6.113 ms

# Below is generated by plot.py at 2018-07-10 07:17:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.56 Mbit/s
95th percentile per-packet one-way delay: 32.703 ms
Loss rate: 18.95%
-- Flow 1:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 31.531 ms
Loss rate: 10.99%
-- Flow 2:
Average throughput: 31.48 Mbit/s
95th percentile per-packet one-way delay: 32.777 ms
Loss rate: 17.12%
-- Flow 3:
Average throughput: 26.77 Mbit/s
95th percentile per-packet one-way delay: 33.002 ms
Loss rate: 46.42%
```

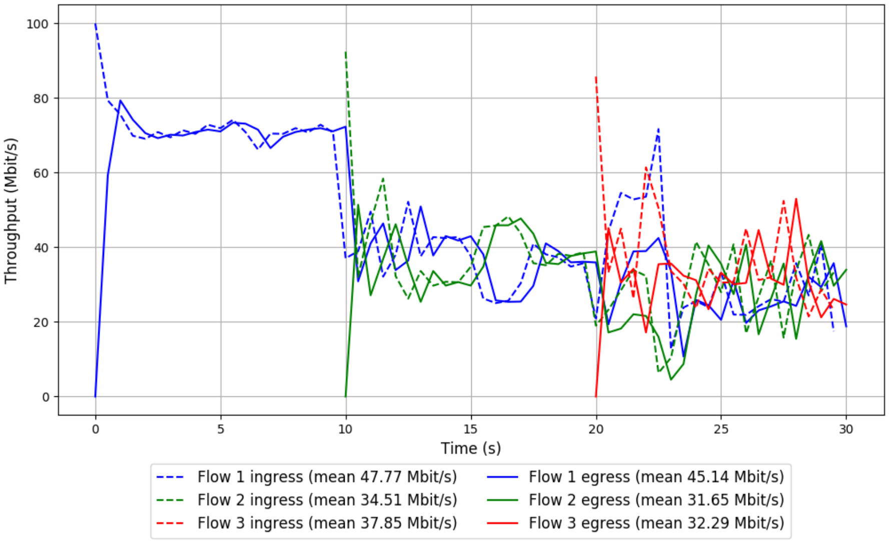
Run 8: Report of Verus — Data Link

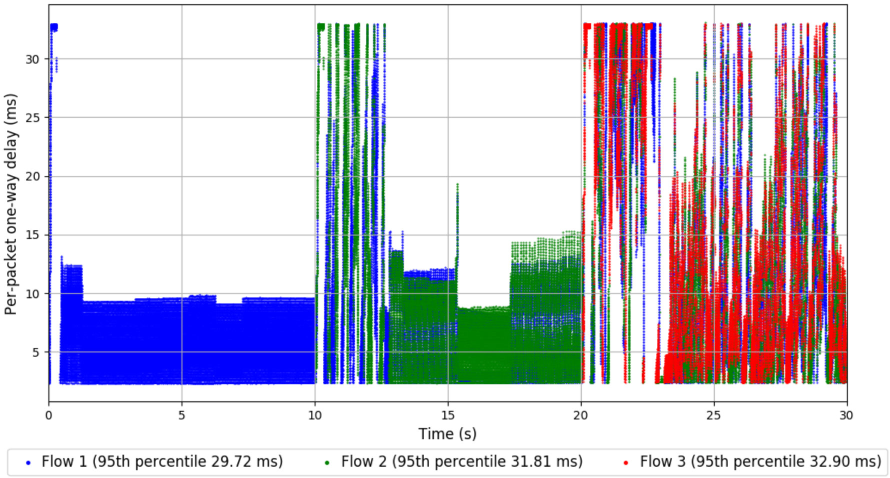




```
Run 9: Statistics of Verus

Start at: 2018-07-10 06:13:16
End at: 2018-07-10 06:13:46
Local clock offset: -1.426 ms
Remote clock offset: -8.479 ms

# Below is generated by plot.py at 2018-07-10 07:17:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.89 Mbit/s
95th percentile per-packet one-way delay: 31.624 ms
Loss rate: 7.66%
-- Flow 1:
Average throughput: 45.14 Mbit/s
95th percentile per-packet one-way delay: 29.719 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 31.65 Mbit/s
95th percentile per-packet one-way delay: 31.806 ms
Loss rate: 8.30%
-- Flow 3:
Average throughput: 32.29 Mbit/s
95th percentile per-packet one-way delay: 32.898 ms
Loss rate: 14.69%
```

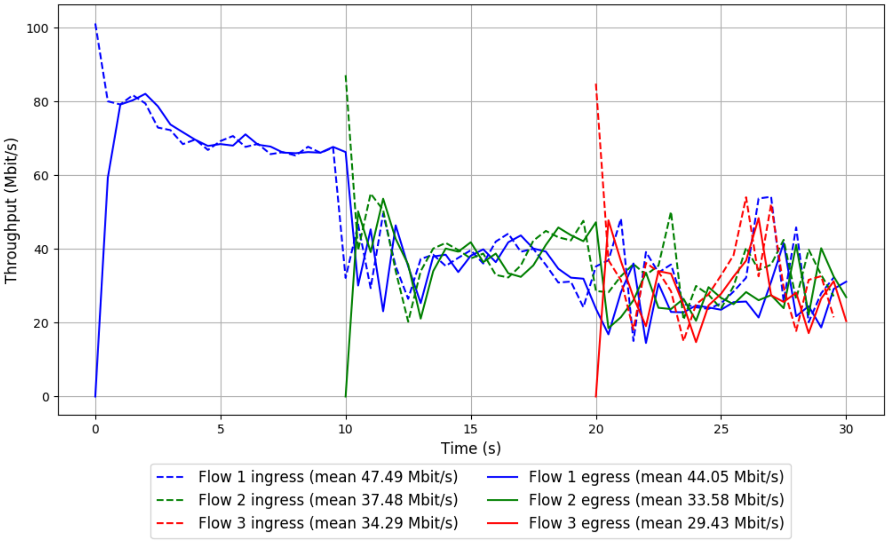
Run 9: Report of Verus — Data Link

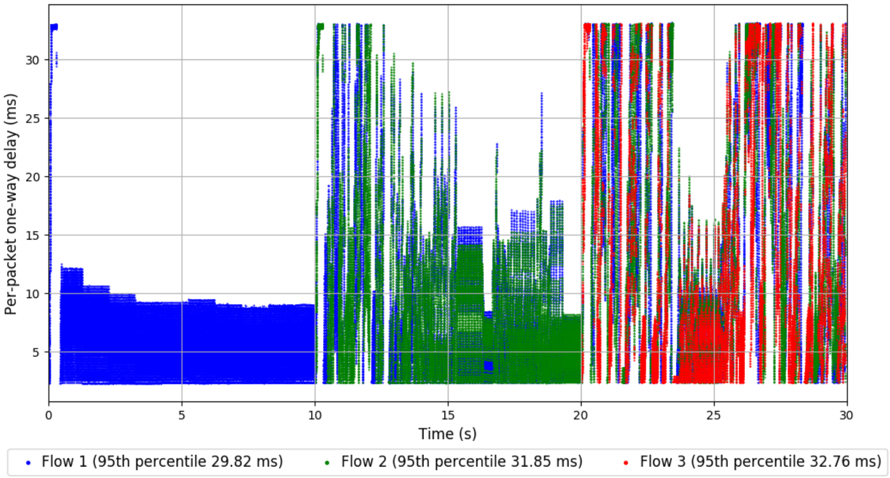




```
Run 10: Statistics of Verus

Start at: 2018-07-10 06:32:27
End at: 2018-07-10 06:32:57
Local clock offset: -1.222 ms
Remote clock offset: -11.214 ms

# Below is generated by plot.py at 2018-07-10 07:17:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.15 Mbit/s
95th percentile per-packet one-way delay: 31.438 ms
Loss rate: 9.07%
-- Flow 1:
Average throughput: 44.05 Mbit/s
95th percentile per-packet one-way delay: 29.823 ms
Loss rate: 7.15%
-- Flow 2:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 31.854 ms
Loss rate: 10.40%
-- Flow 3:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 32.760 ms
Loss rate: 14.18%
```

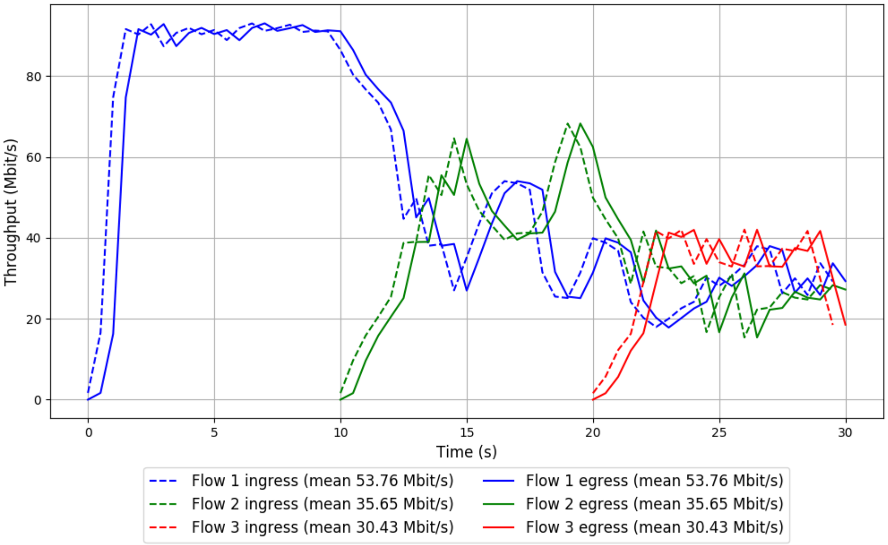
Run 10: Report of Verus — Data Link

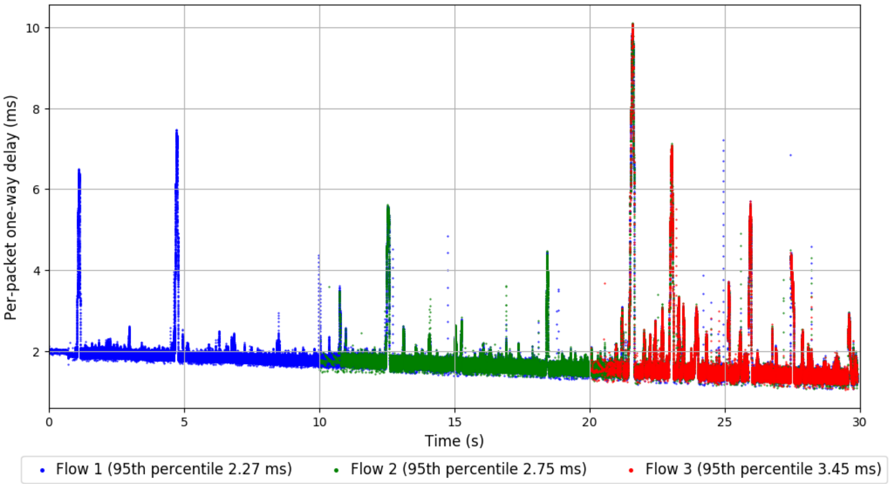




```
Run 1: Statistics of PCC-Vivace

Start at: 2018-07-10 03:49:44
End at: 2018-07-10 03:50:14
Local clock offset: -2.24 ms
Remote clock offset: 1.878 ms

# Below is generated by plot.py at 2018-07-10 07:18:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.52 Mbit/s
95th percentile per-packet one-way delay: 2.588 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 2.275 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.65 Mbit/s
95th percentile per-packet one-way delay: 2.747 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.43 Mbit/s
95th percentile per-packet one-way delay: 3.453 ms
Loss rate: 0.00%
```

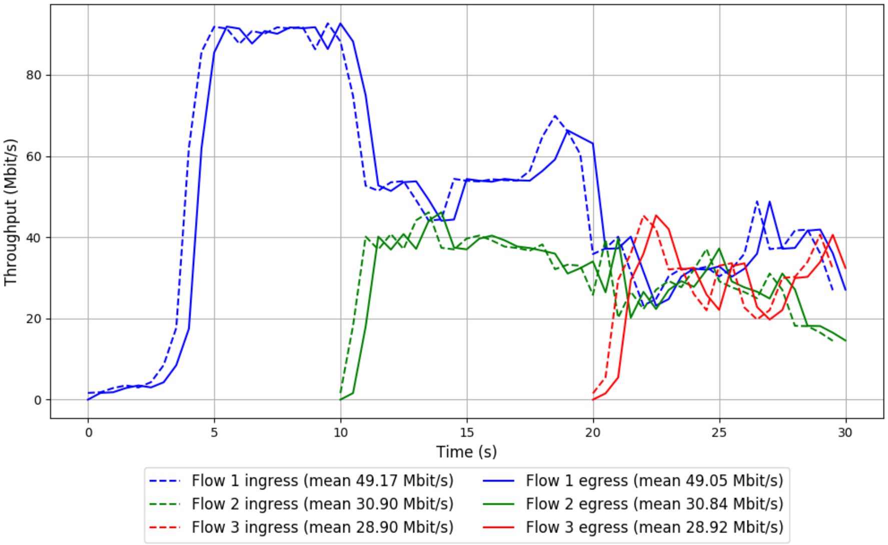
Run 1: Report of PCC-Vivace — Data Link

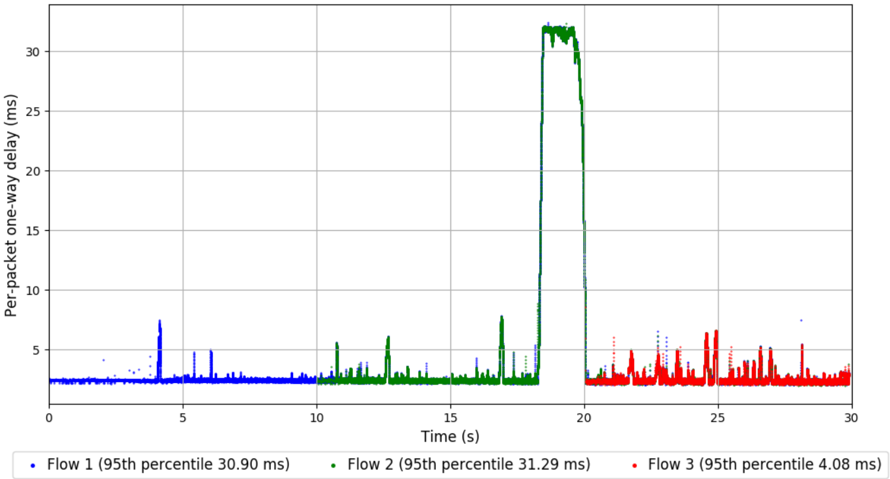




```
Run 2: Statistics of PCC-Vivace

Start at: 2018-07-10 04:08:56
End at: 2018-07-10 04:09:26
Local clock offset: -2.279 ms
Remote clock offset: 17.306 ms

# Below is generated by plot.py at 2018-07-10 07:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.11 Mbit/s
95th percentile per-packet one-way delay: 30.039 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 49.05 Mbit/s
95th percentile per-packet one-way delay: 30.903 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 30.84 Mbit/s
95th percentile per-packet one-way delay: 31.288 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 28.92 Mbit/s
95th percentile per-packet one-way delay: 4.081 ms
Loss rate: 0.00%
```

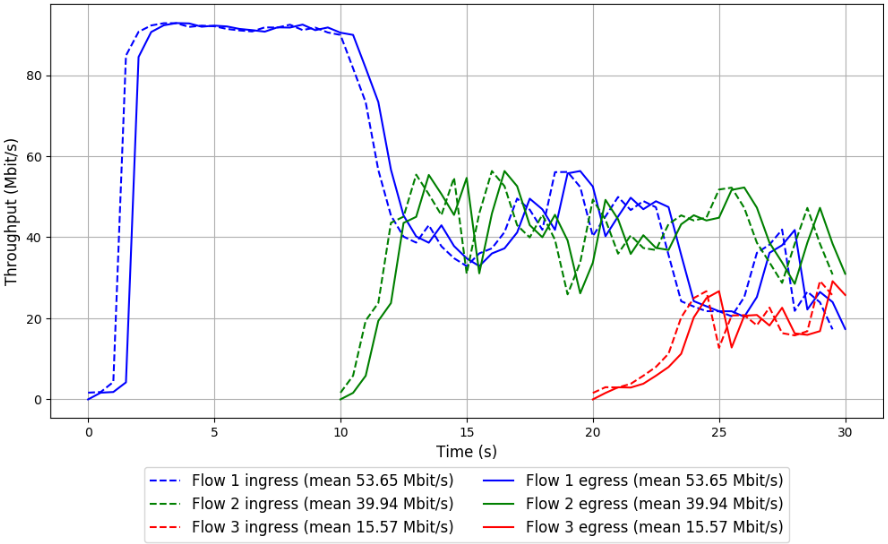
Run 2: Report of PCC-Vivace — Data Link

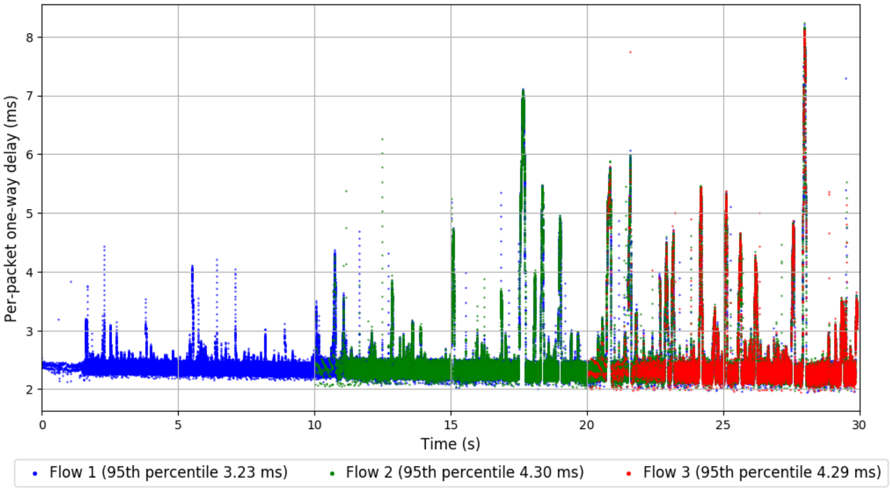




```
Run 3: Statistics of PCC-Vivace

Start at: 2018-07-10 04:28:08
End at: 2018-07-10 04:28:38
Local clock offset: -2.091 ms
Remote clock offset: 25.039 ms

# Below is generated by plot.py at 2018-07-10 07:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.35 Mbit/s
95th percentile per-packet one-way delay: 3.741 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.65 Mbit/s
95th percentile per-packet one-way delay: 3.226 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.94 Mbit/s
95th percentile per-packet one-way delay: 4.303 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.57 Mbit/s
95th percentile per-packet one-way delay: 4.293 ms
Loss rate: 0.00%
```

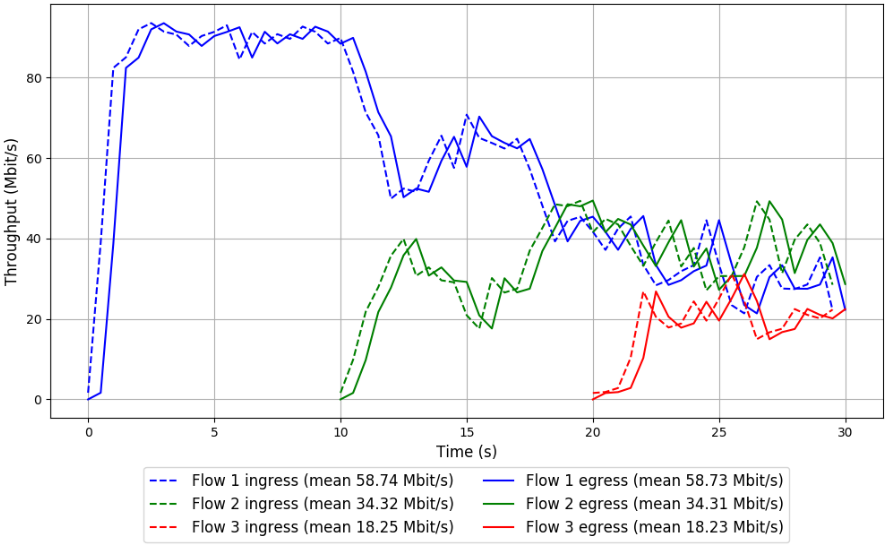
Run 3: Report of PCC-Vivace — Data Link

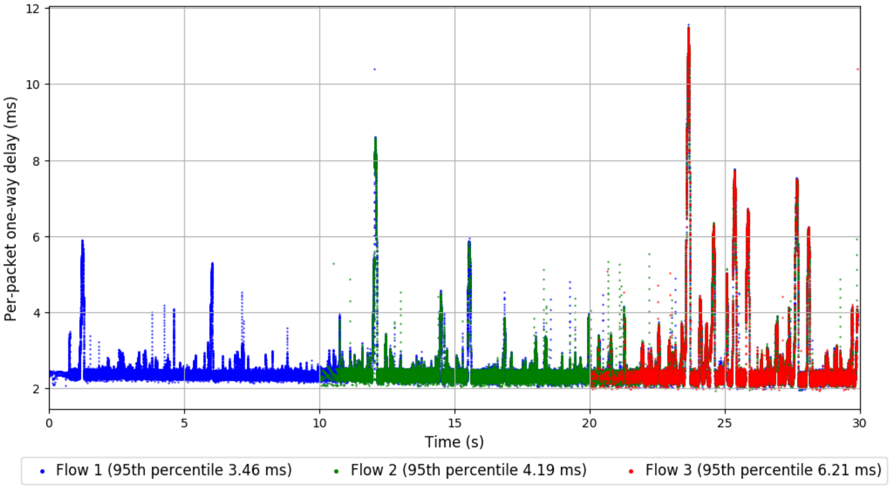




```
Run 4: Statistics of PCC-Vivace

Start at: 2018-07-10 04:47:20
End at: 2018-07-10 04:47:50
Local clock offset: -1.997 ms
Remote clock offset: 31.962 ms

# Below is generated by plot.py at 2018-07-10 07:18:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.56 Mbit/s
95th percentile per-packet one-way delay: 3.896 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.73 Mbit/s
95th percentile per-packet one-way delay: 3.462 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.31 Mbit/s
95th percentile per-packet one-way delay: 4.187 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.23 Mbit/s
95th percentile per-packet one-way delay: 6.215 ms
Loss rate: 0.00%
```

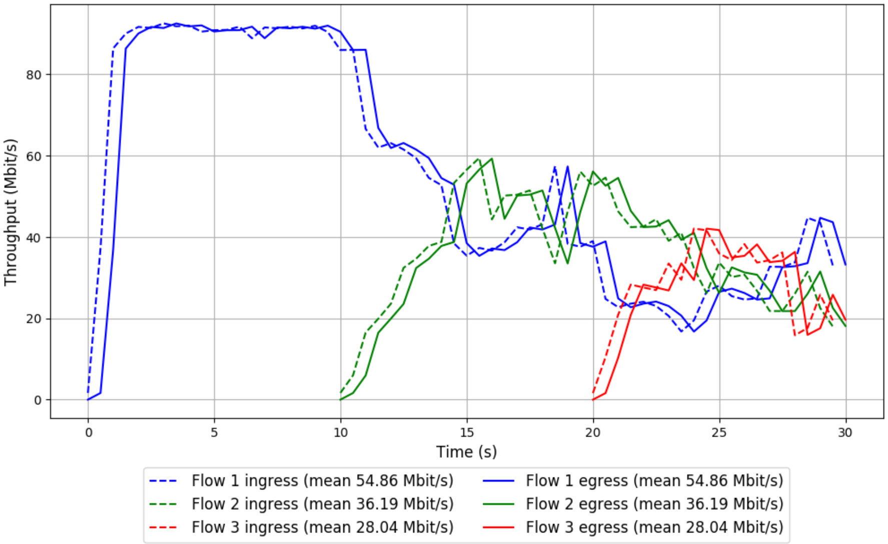
Run 4: Report of PCC-Vivace — Data Link

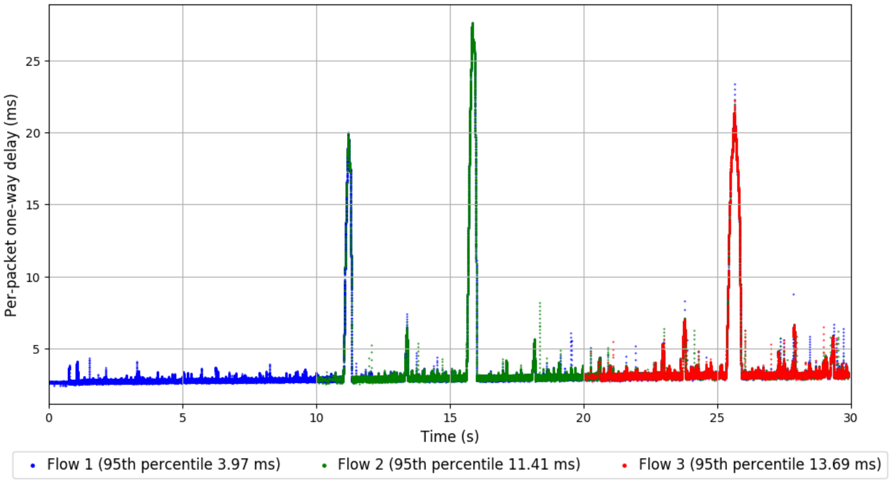




```
Run 5: Statistics of PCC-Vivace

Start at: 2018-07-10 05:06:32
End at: 2018-07-10 05:07:02
Local clock offset: -2.085 ms
Remote clock offset: 6.131 ms

# Below is generated by plot.py at 2018-07-10 07:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.21 Mbit/s
95th percentile per-packet one-way delay: 5.607 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.86 Mbit/s
95th percentile per-packet one-way delay: 3.966 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.19 Mbit/s
95th percentile per-packet one-way delay: 11.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.04 Mbit/s
95th percentile per-packet one-way delay: 13.687 ms
Loss rate: 0.00%
```

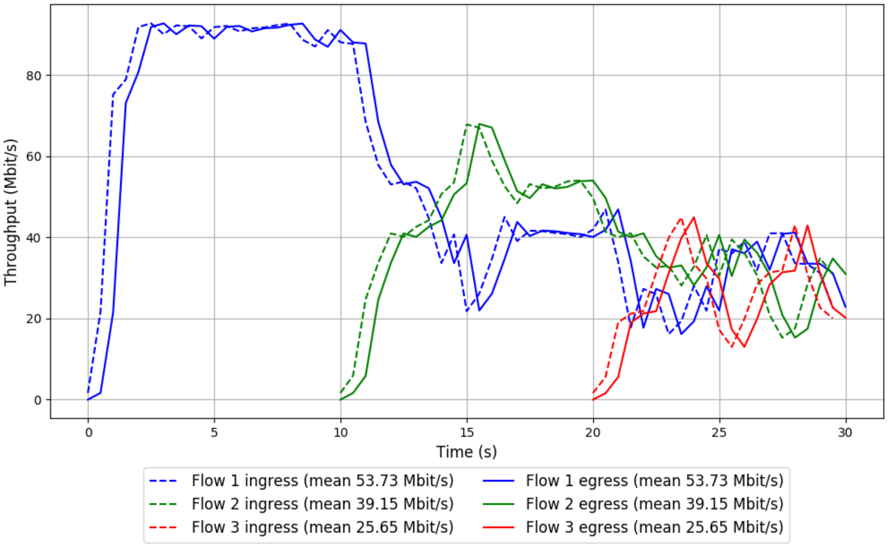
Run 5: Report of PCC-Vivace — Data Link

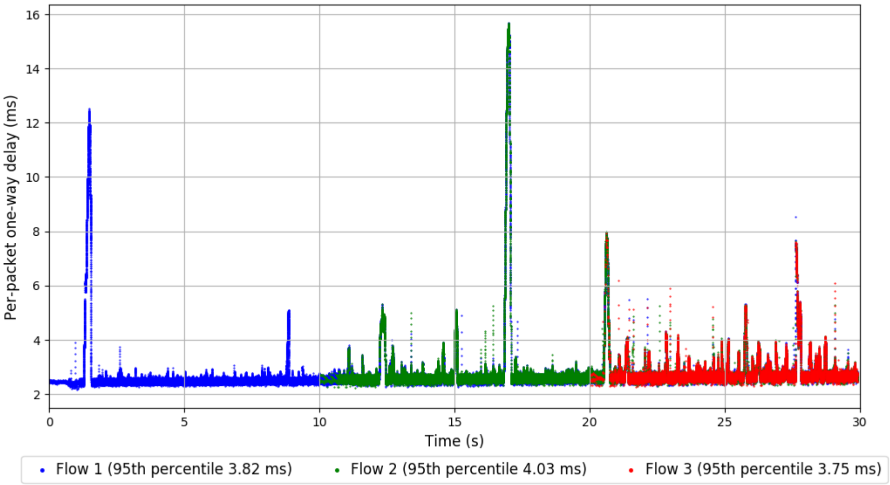




```
Run 6: Statistics of PCC-Vivace

Start at: 2018-07-10 05:25:43
End at: 2018-07-10 05:26:13
Local clock offset: -1.851 ms
Remote clock offset: -3.852 ms

# Below is generated by plot.py at 2018-07-10 07:19:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 3.866 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.73 Mbit/s
95th percentile per-packet one-way delay: 3.818 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.15 Mbit/s
95th percentile per-packet one-way delay: 4.031 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 3.753 ms
Loss rate: 0.00%
```

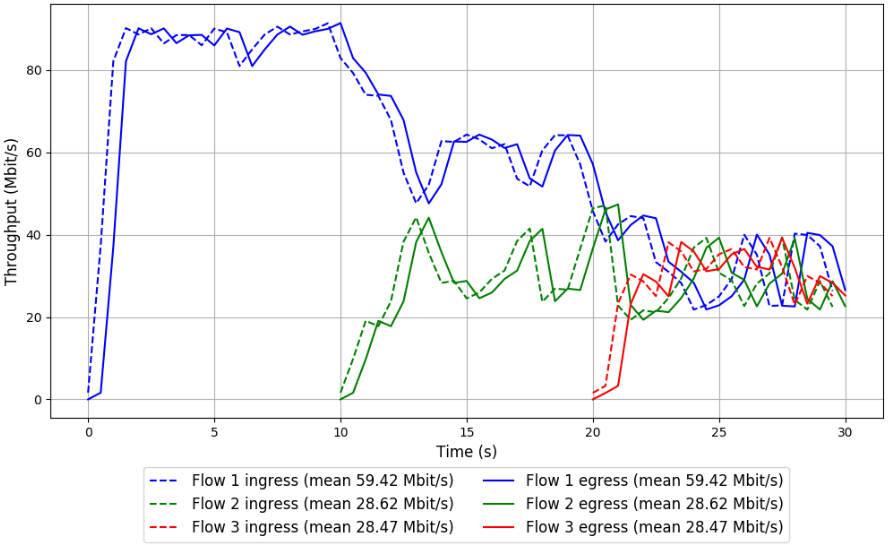
Run 6: Report of PCC-Vivace — Data Link

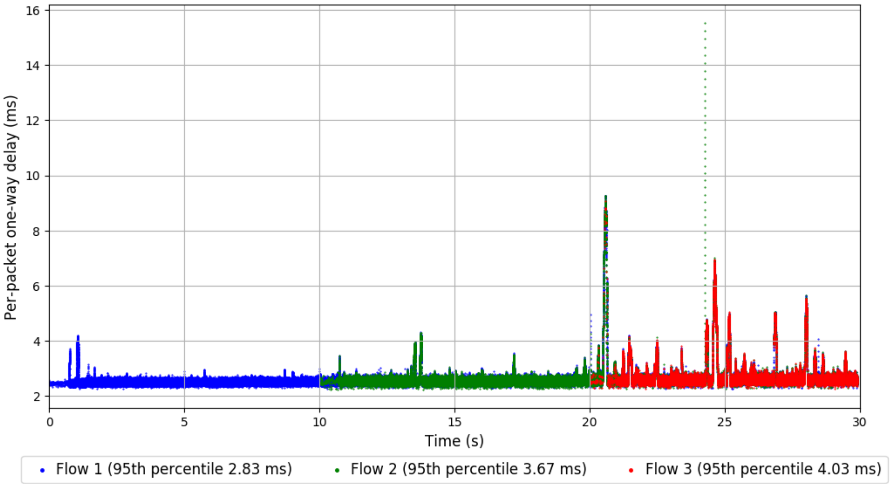




```
Run 7: Statistics of PCC-Vivace

Start at: 2018-07-10 05:45:00
End at: 2018-07-10 05:45:30
Local clock offset: -1.763 ms
Remote clock offset: -4.837 ms

# Below is generated by plot.py at 2018-07-10 07:19:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 3.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.42 Mbit/s
95th percentile per-packet one-way delay: 2.828 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.62 Mbit/s
95th percentile per-packet one-way delay: 3.666 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.47 Mbit/s
95th percentile per-packet one-way delay: 4.027 ms
Loss rate: 0.00%
```

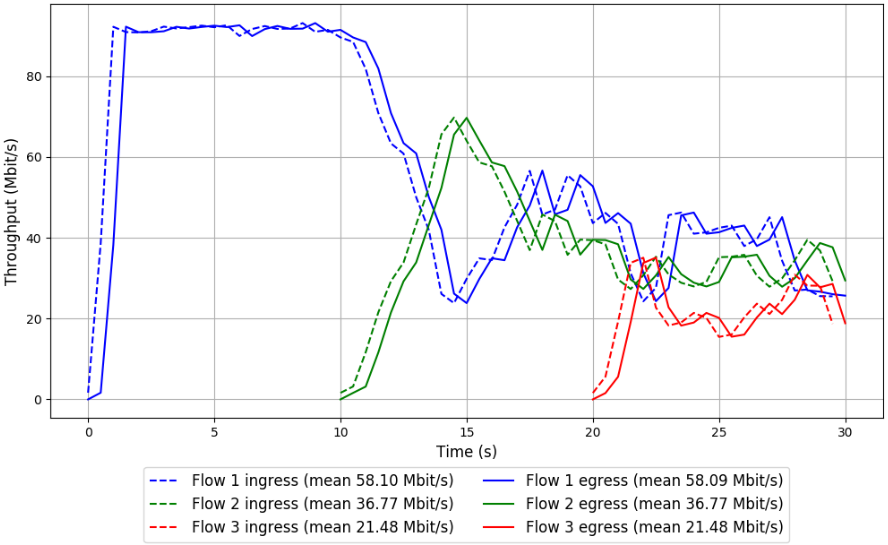
Run 7: Report of PCC-Vivace — Data Link

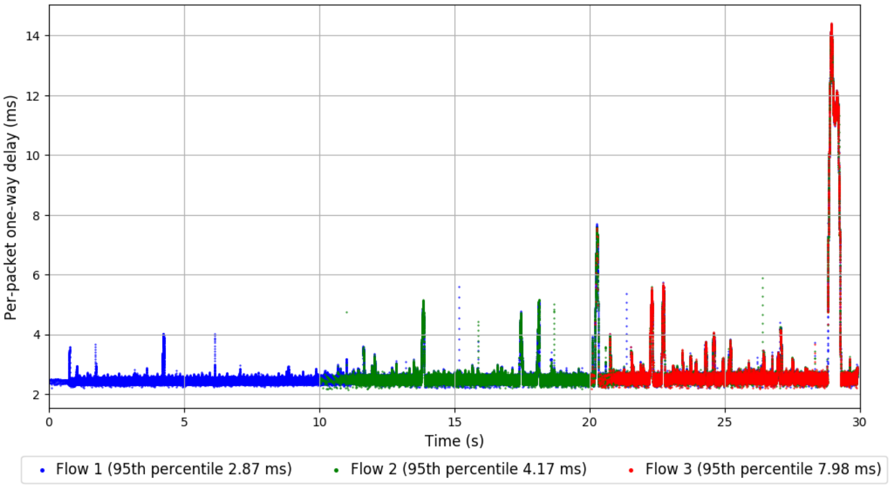




```
Run 8: Statistics of PCC-Vivace

Start at: 2018-07-10 06:04:12
End at: 2018-07-10 06:04:42
Local clock offset: -1.554 ms
Remote clock offset: -7.525 ms

# Below is generated by plot.py at 2018-07-10 07:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.64 Mbit/s
95th percentile per-packet one-way delay: 3.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.09 Mbit/s
95th percentile per-packet one-way delay: 2.872 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 4.174 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 7.982 ms
Loss rate: 0.00%
```

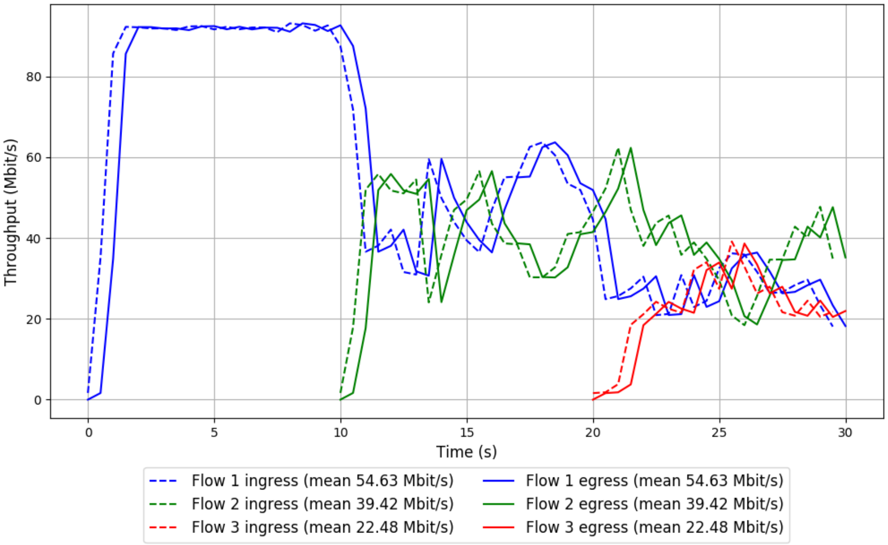
Run 8: Report of PCC-Vivace — Data Link

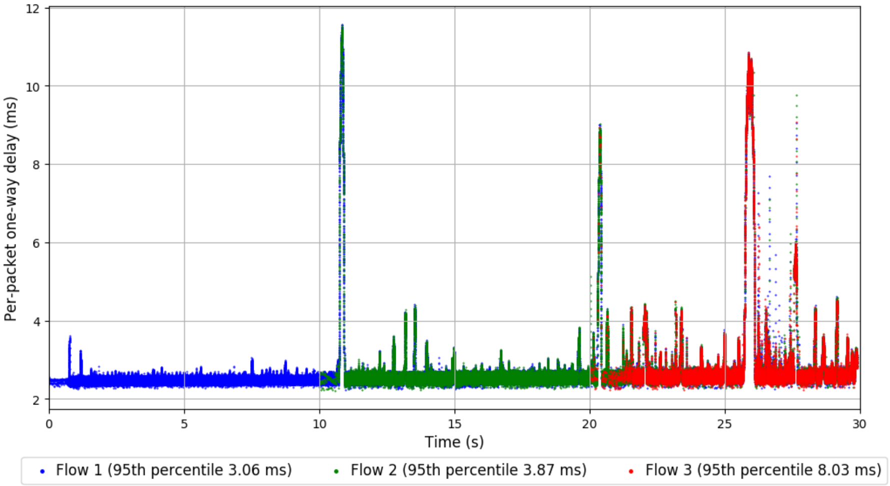




```
Run 9: Statistics of PCC-Vivace

Start at: 2018-07-10 06:23:24
End at: 2018-07-10 06:23:54
Local clock offset: -1.302 ms
Remote clock offset: -9.814 ms

# Below is generated by plot.py at 2018-07-10 07:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 3.528 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.63 Mbit/s
95th percentile per-packet one-way delay: 3.060 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.42 Mbit/s
95th percentile per-packet one-way delay: 3.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.48 Mbit/s
95th percentile per-packet one-way delay: 8.027 ms
Loss rate: 0.00%
```

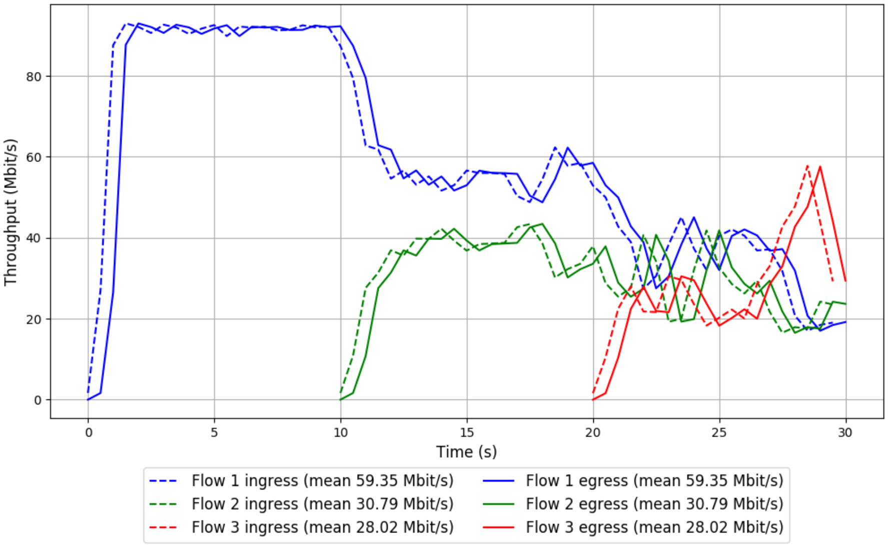
Run 9: Report of PCC-Vivace — Data Link

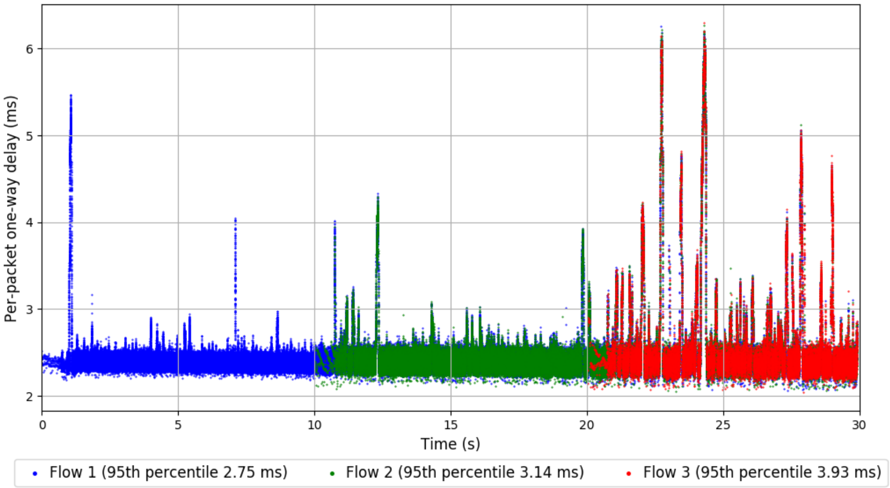




```
Run 10: Statistics of PCC-Vivace

Start at: 2018-07-10 06:42:35
End at: 2018-07-10 06:43:05
Local clock offset: -1.088 ms
Remote clock offset: -9.198 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.09 Mbit/s
95th percentile per-packet one-way delay: 2.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.35 Mbit/s
95th percentile per-packet one-way delay: 2.751 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 3.137 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.02 Mbit/s
95th percentile per-packet one-way delay: 3.927 ms
Loss rate: 0.00%
```

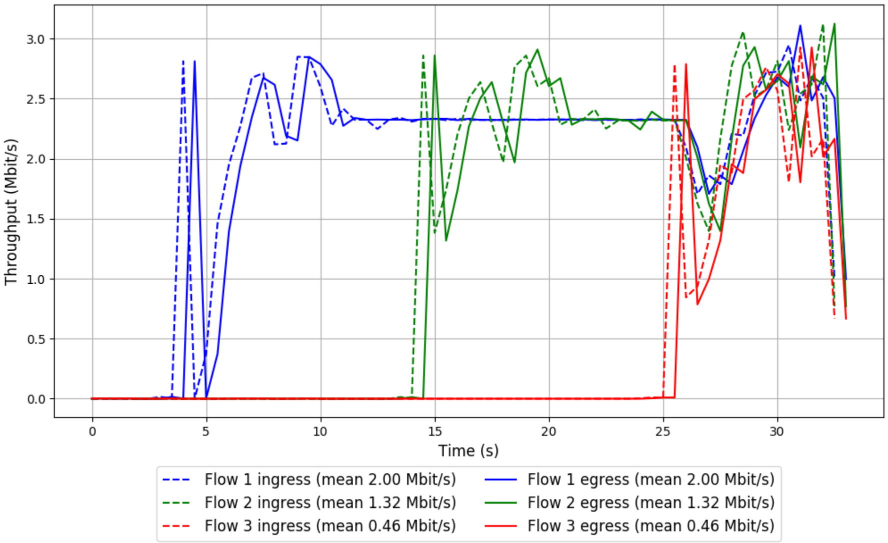
Run 10: Report of PCC-Vivace — Data Link

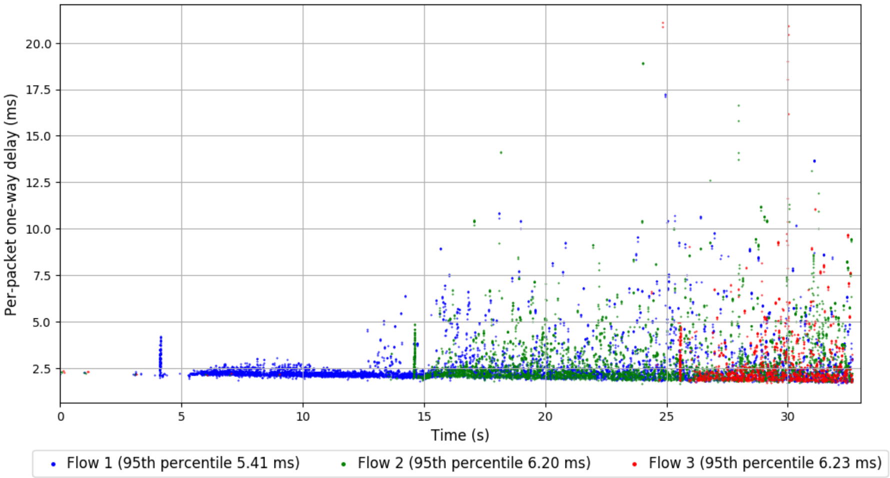




```
Run 1: Statistics of WebRTC media

Start at: 2018-07-10 03:54:18
End at: 2018-07-10 03:54:48
Local clock offset: -2.246 ms
Remote clock offset: 7.534 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 5.787 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 5.411 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 6.202 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 6.229 ms
Loss rate: 0.00%
```

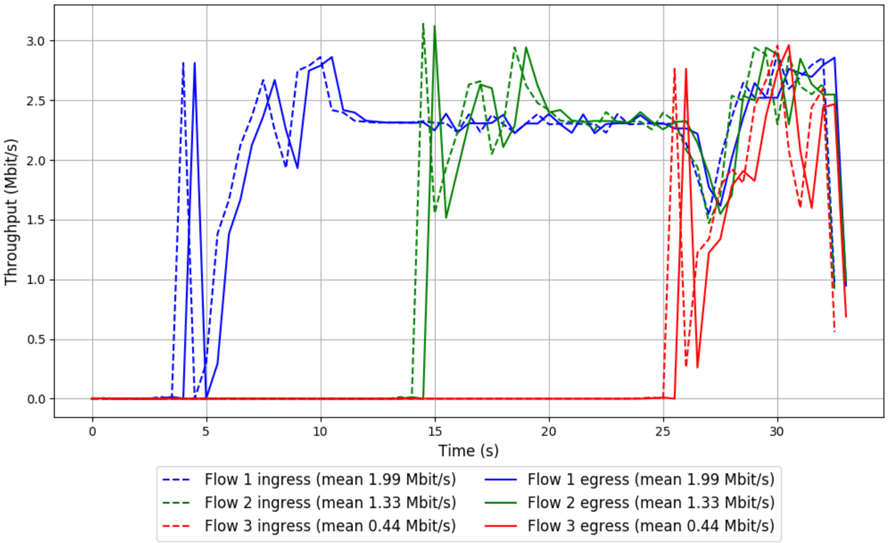
Run 1: Report of WebRTC media — Data Link

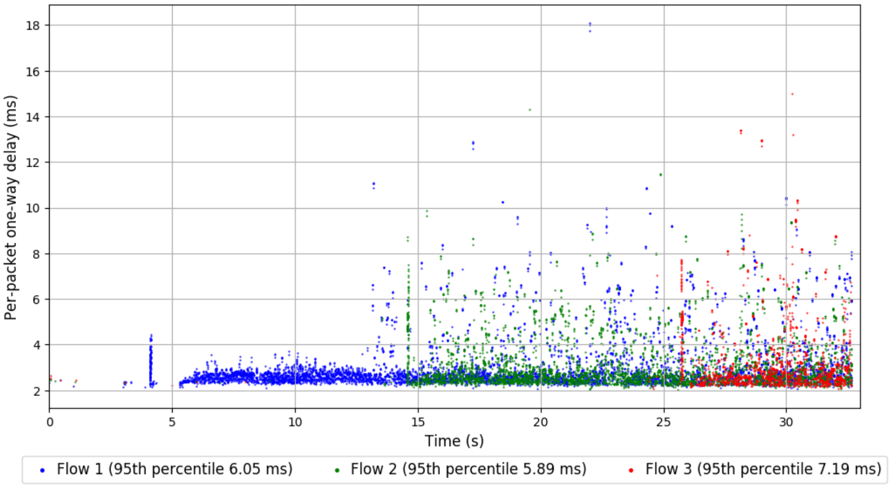




```
Run 2: Statistics of WebRTC media

Start at: 2018-07-10 04:13:30
End at: 2018-07-10 04:14:00
Local clock offset: -2.192 ms
Remote clock offset: 19.313 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 6.096 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 6.048 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 5.894 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 7.187 ms
Loss rate: 0.00%
```

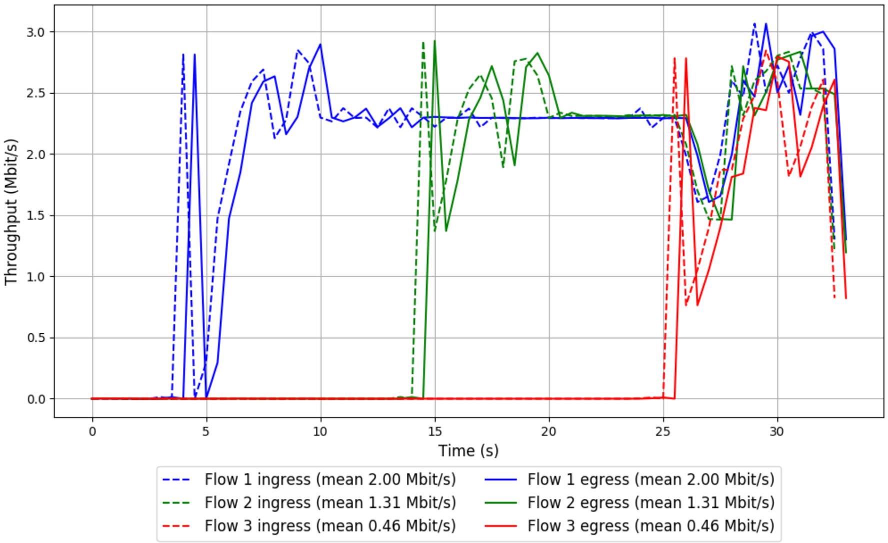
Run 2: Report of WebRTC media — Data Link

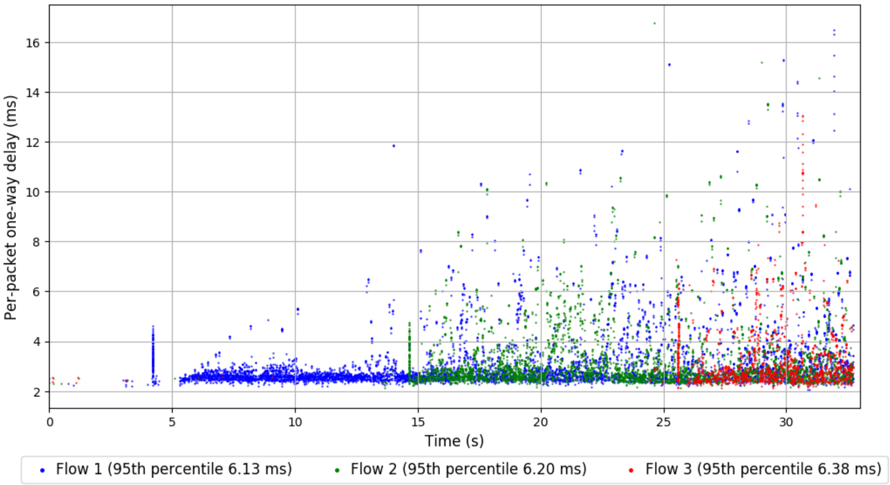




```
Run 3: Statistics of WebRTC media

Start at: 2018-07-10 04:32:42
End at: 2018-07-10 04:33:12
Local clock offset: -2.154 ms
Remote clock offset: 26.703 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 6.210 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 6.131 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 6.201 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 6.382 ms
Loss rate: 0.00%
```

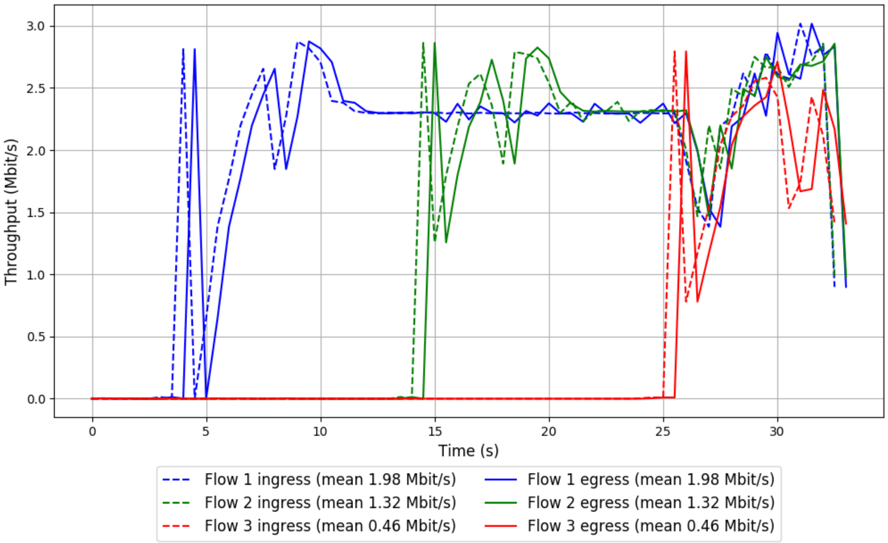
Run 3: Report of WebRTC media — Data Link

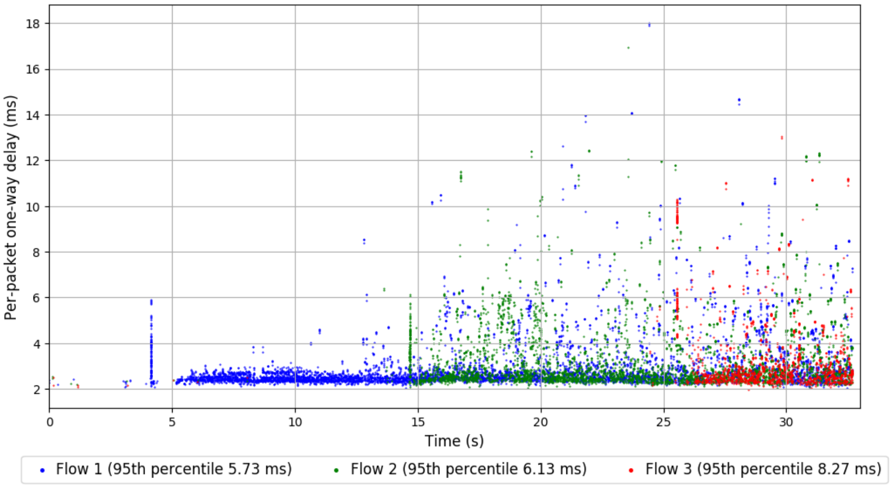




```
Run 4: Statistics of WebRTC media

Start at: 2018-07-10 04:51:54
End at: 2018-07-10 04:52:24
Local clock offset: -2.01 ms
Remote clock offset: 33.57 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 6.116 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 5.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 6.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 8.271 ms
Loss rate: 0.00%
```

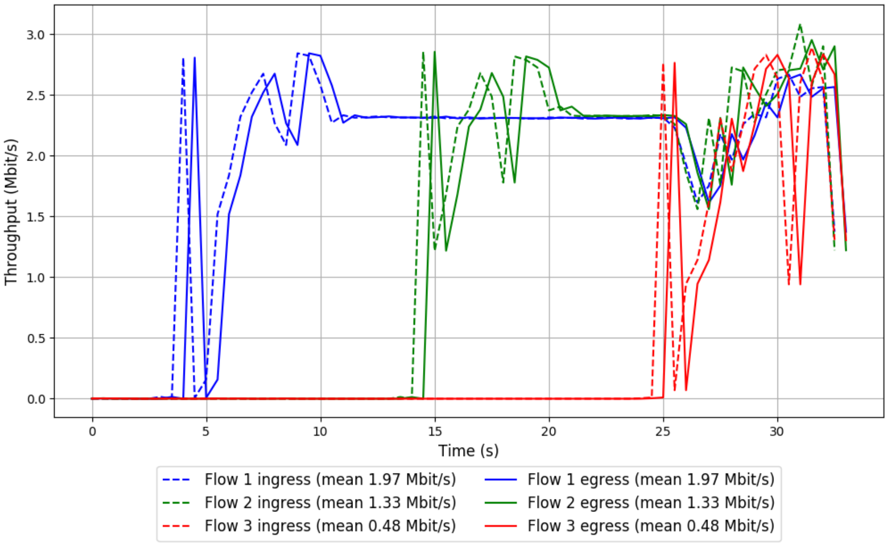
Run 4: Report of WebRTC media — Data Link

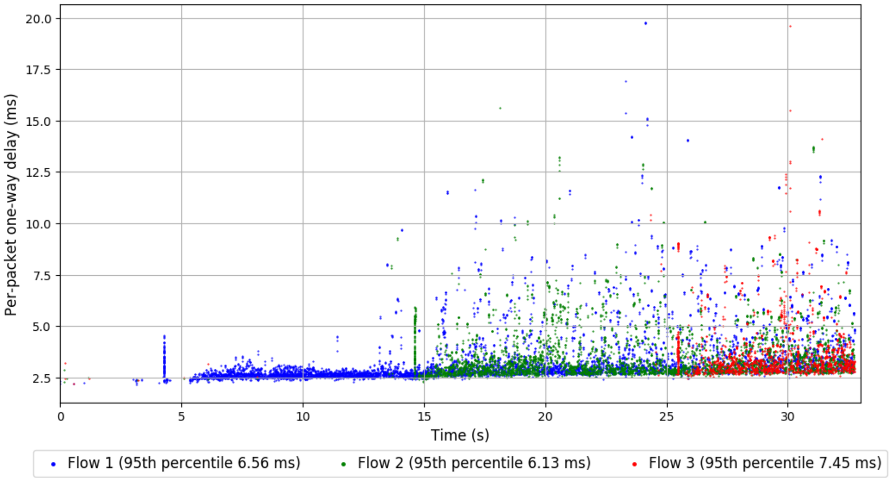




```
Run 5: Statistics of WebRTC media

Start at: 2018-07-10 05:11:06
End at: 2018-07-10 05:11:36
Local clock offset: -1.986 ms
Remote clock offset: 2.311 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 6.532 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 6.556 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 6.135 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 7.449 ms
Loss rate: 0.00%
```

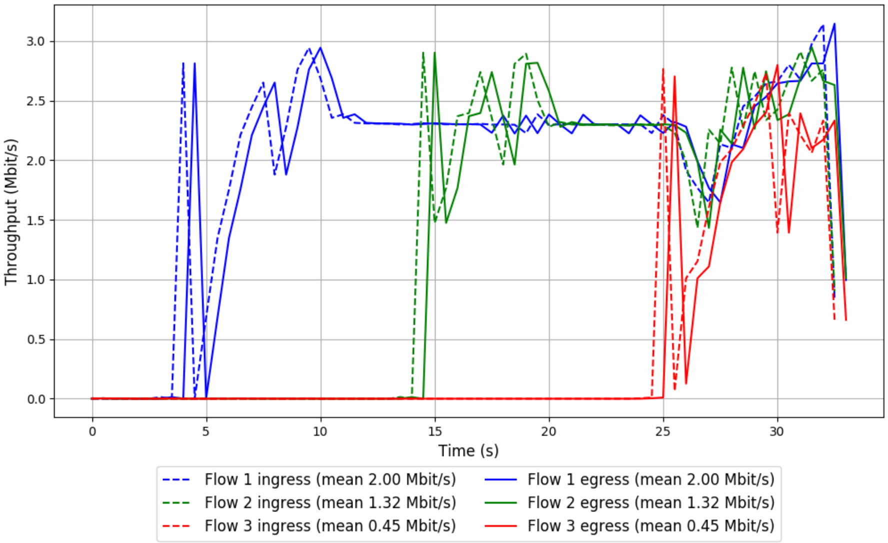
Run 5: Report of WebRTC media — Data Link

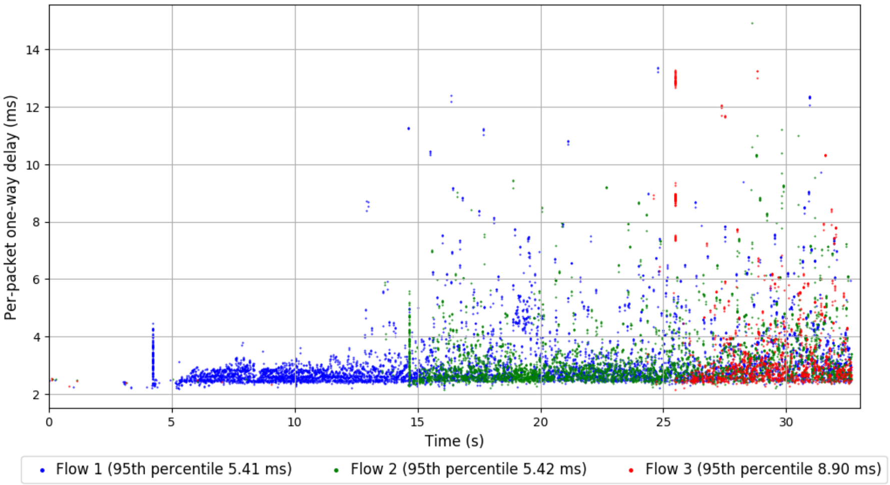




```
Run 6: Statistics of WebRTC media

Start at: 2018-07-10 05:30:18
End at: 2018-07-10 05:30:48
Local clock offset: -1.854 ms
Remote clock offset: -3.908 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 5.955 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 5.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 5.417 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 8.898 ms
Loss rate: 0.00%
```

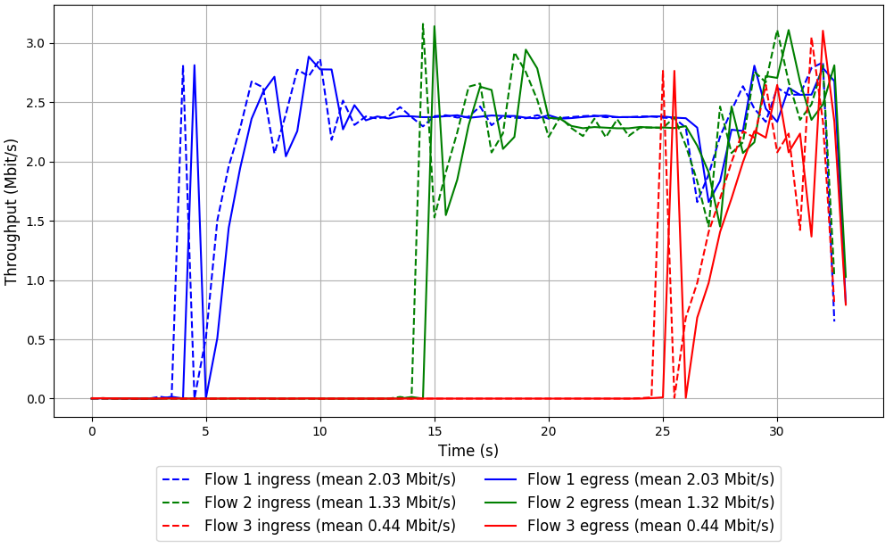
Run 6: Report of WebRTC media — Data Link

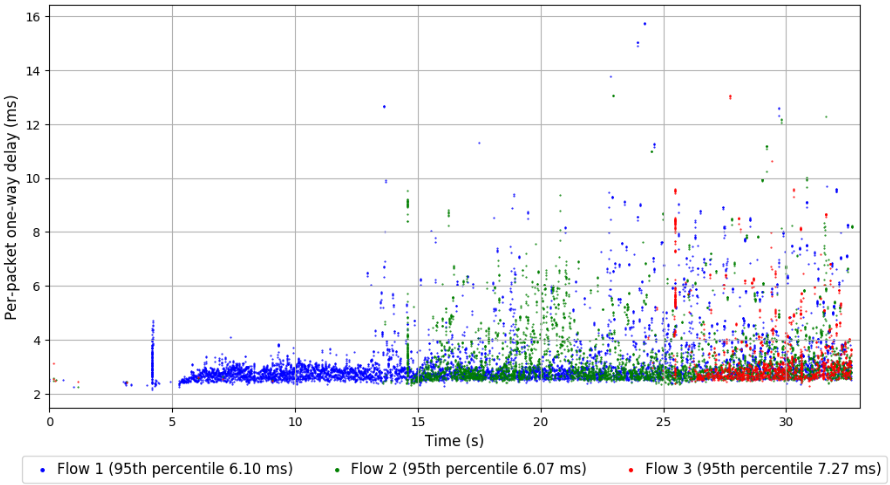




```
Run 7: Statistics of WebRTC media

Start at: 2018-07-10 05:49:35
End at: 2018-07-10 05:50:05
Local clock offset: -1.729 ms
Remote clock offset: -5.513 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 6.179 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 6.098 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 6.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 7.268 ms
Loss rate: 0.00%
```

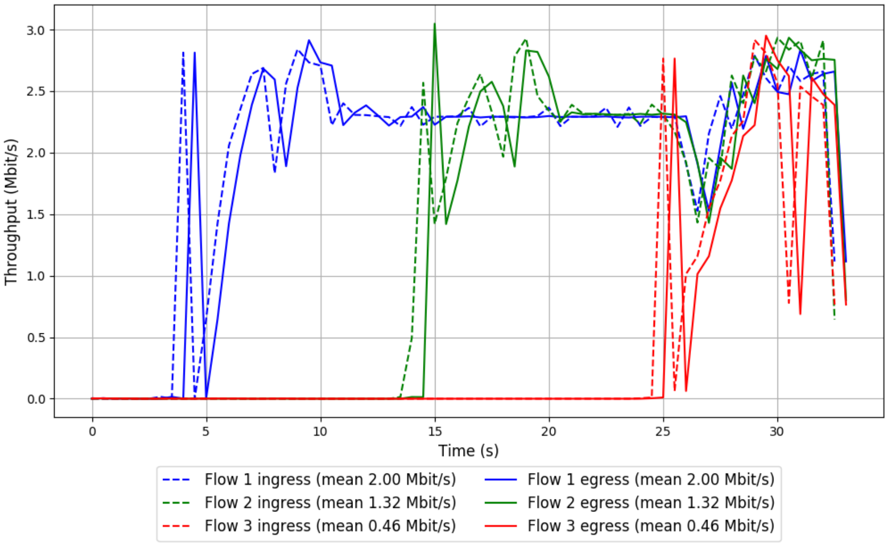
Run 7: Report of WebRTC media — Data Link

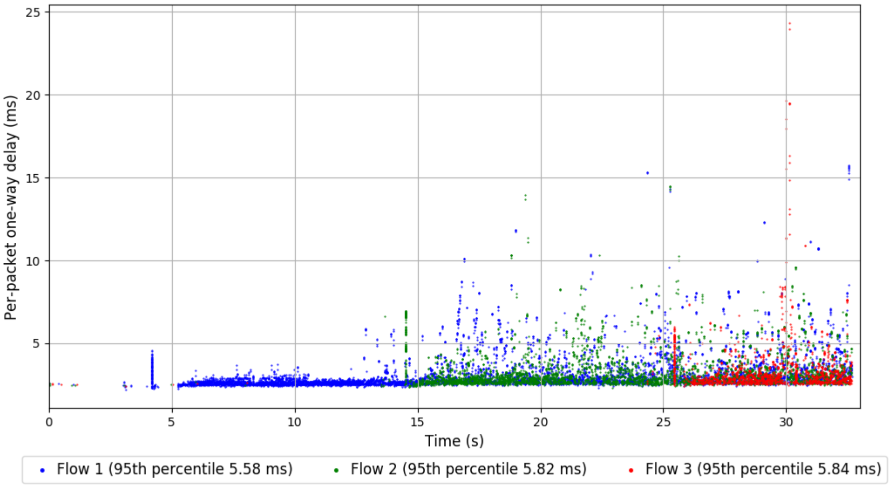




```
Run 8: Statistics of WebRTC media

Start at: 2018-07-10 06:08:47
End at: 2018-07-10 06:09:17
Local clock offset: -1.486 ms
Remote clock offset: -7.905 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 5.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 5.581 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 5.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 5.840 ms
Loss rate: 0.00%
```

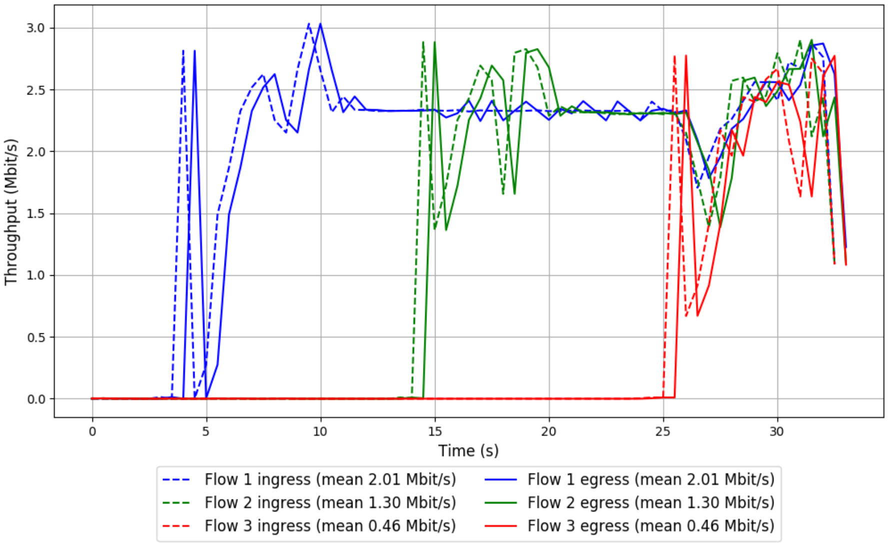
Run 8: Report of WebRTC media — Data Link

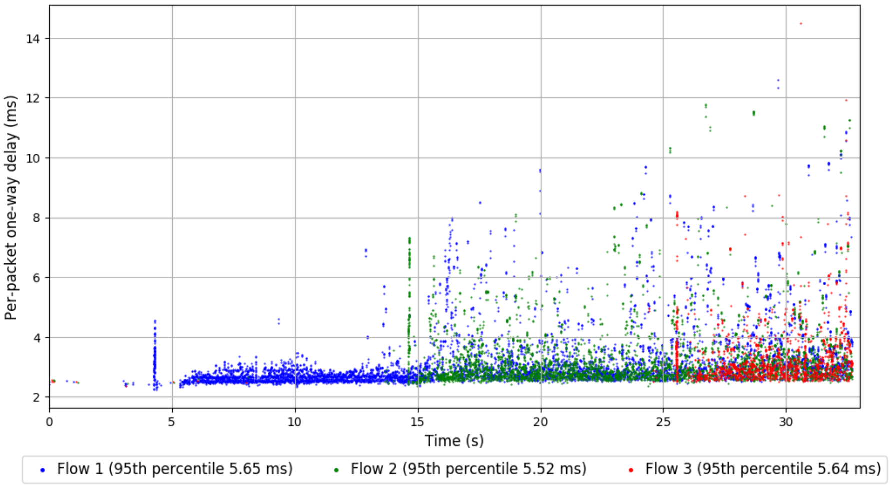




```
Run 9: Statistics of WebRTC media

Start at: 2018-07-10 06:27:58
End at: 2018-07-10 06:28:28
Local clock offset: -1.251 ms
Remote clock offset: -10.472 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 5.611 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 5.651 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 5.519 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 5.643 ms
Loss rate: 0.00%
```

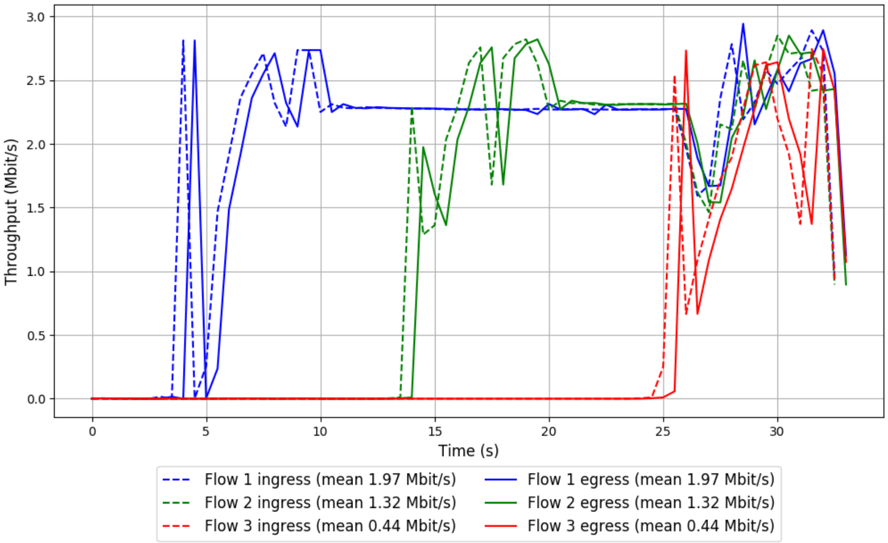
Run 9: Report of WebRTC media — Data Link



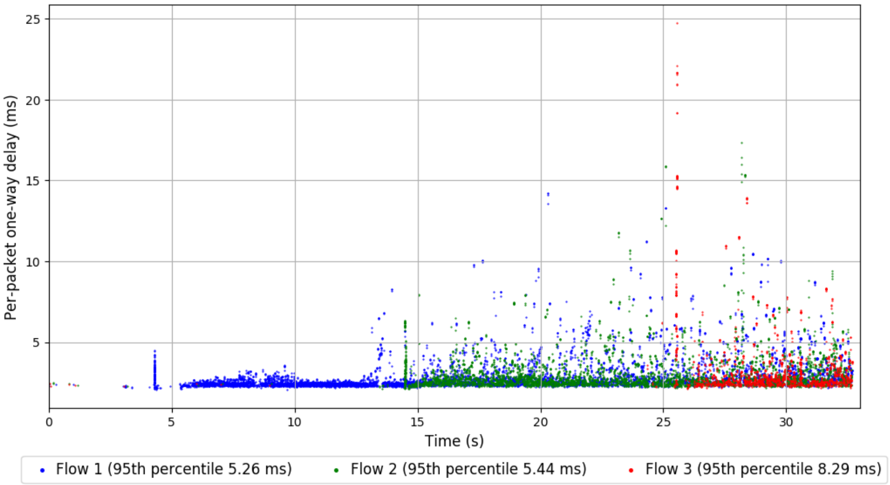


```
Run 10: Statistics of WebRTC media

Start at: 2018-07-10 06:47:10
End at: 2018-07-10 06:47:40
Local clock offset: -0.986 ms
Remote clock offset: -8.73 ms

# Below is generated by plot.py at 2018-07-10 07:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 5.621 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 5.257 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 5.437 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 8.287 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link



Throughput (Mbit/s)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 1.97 Mbit/s)
Flow 2 ingress (mean 1.32 Mbit/s)
Flow 3 ingress (mean 0.44 Mbit/s)
Flow 1 egress (mean 1.97 Mbit/s)
Flow 2 egress (mean 1.32 Mbit/s)
Flow 3 egress (mean 0.44 Mbit/s)



Per-packet one-way delay (ms)
25
20
15
10
5
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 5.26 ms)
Flow 2 (95th percentile 5.44 ms)
Flow 3 (95th percentile 8.29 ms)