Pantheon Report

Generated at 2019-01-25 04:25:48 (UTC).

Data path: AWS California 1 on `ens5` (*local*) →Stanford on `eno1` (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

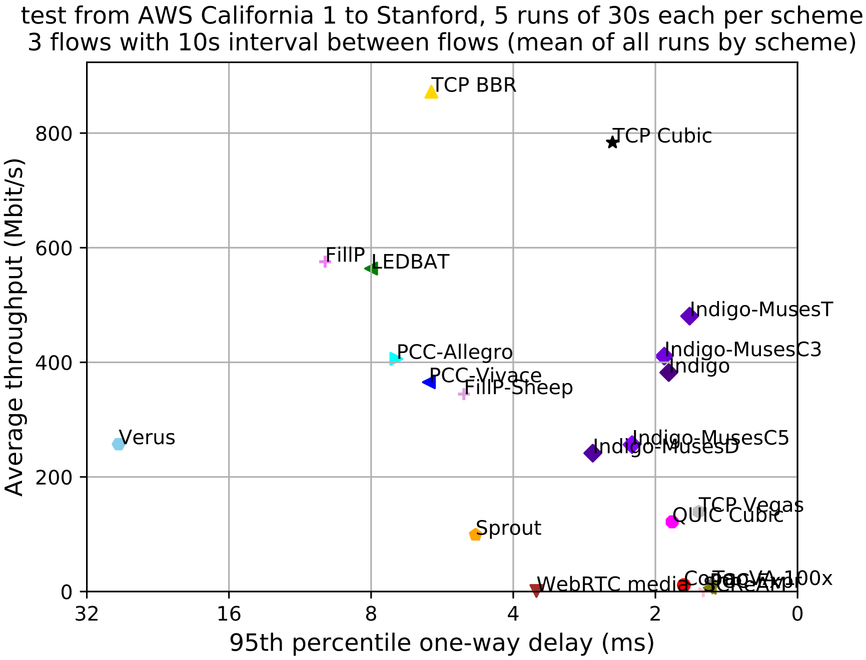
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

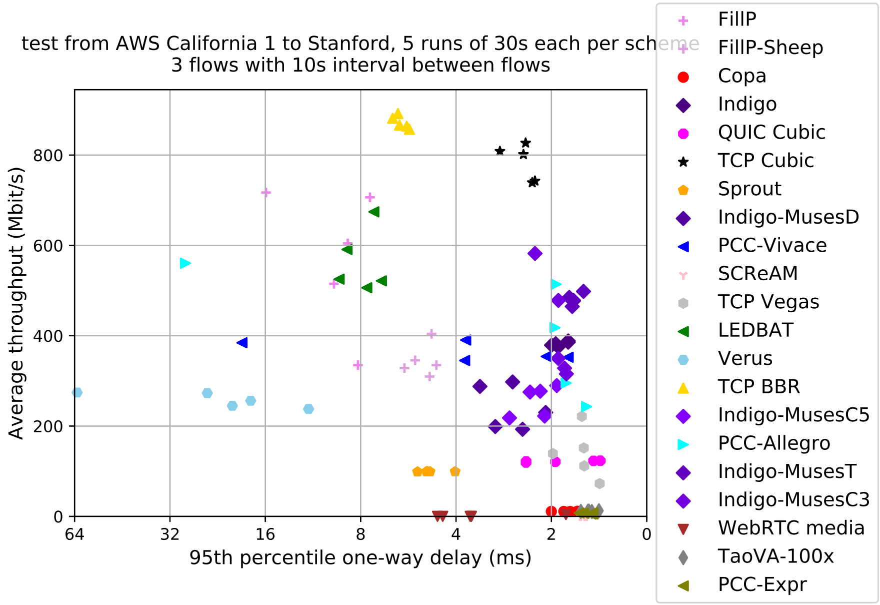
NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

```
System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

```
Git summary:
branch: muses @ 0b8e9a949603c3842368430acf469eec3b941f9f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ d9c5ea33091330aca25ecd105ab2db6d34d5c40d
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```

```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

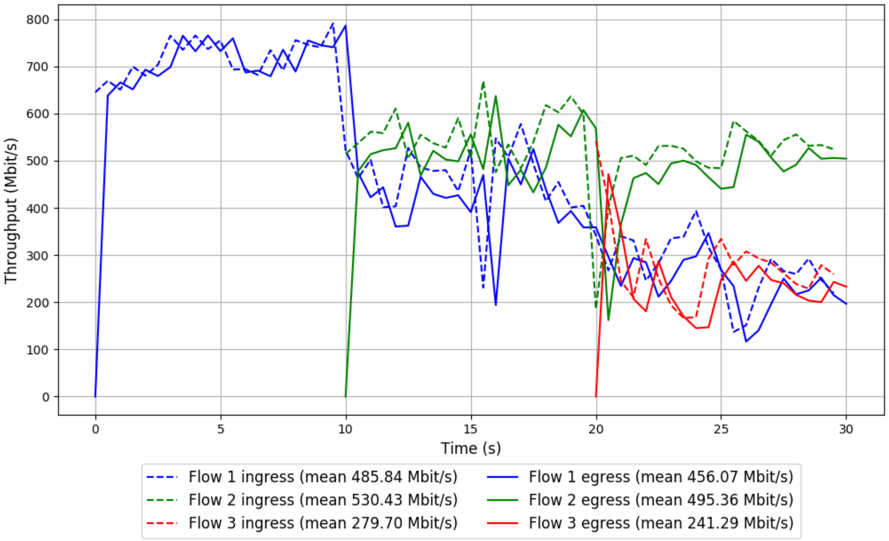

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
32
16
8
4
2
0
TCP BBR
TCP Cubic
FillP
LEDBAT
Indigo-MusesT
Indigo-MusesC3
Indigo
PCC-Allegro
PCC-Vivace
FillP-Sheep
Verus
Indigo-MusesC5
Indigo-MusesD
TCP Vegas
QUIC Cubic
Sprout
WebRTC media
Copa
TaoVA-100x
SCReAM
PCC-Expr

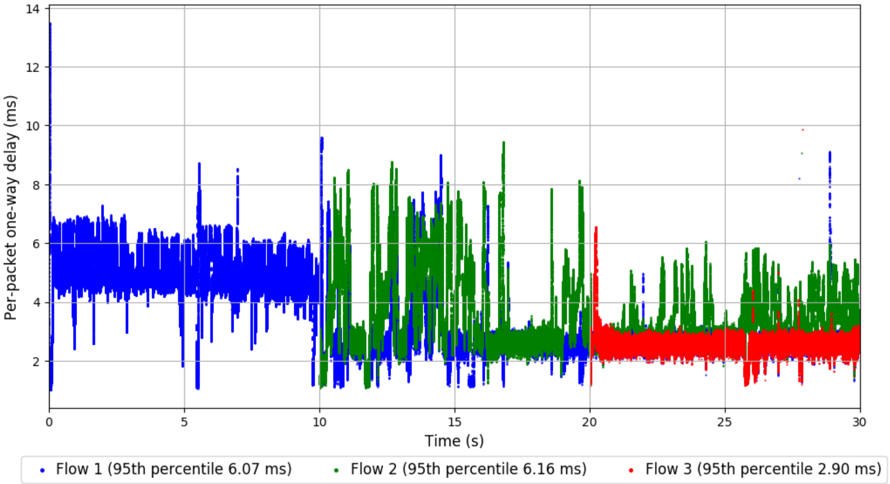

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
200
400
600
800
64
32
16
8
4
2
0
FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
Indigo-MusesD
PCC-Vivace
SCReAM
TCP Vegas
LEDBAT
Verus
TCP BBR
Indigo-MusesC5
PCC-Allegro
Indigo-MusesT
Indigo-MusesC3
WebRTC media
TaoVA-100x
PCC-Expr

		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	485.14	414.65	333.28	5.87	6.22	4.08	5.30	9.07	11.77
Copa	5	7.48	4.34	5.48	1.60	1.69	1.59	51.03	48.01	53.32
TCP Cubic	5	438.65	363.80	308.48	3.28	2.16	2.19	0.14	0.14	0.14
FillP	5	392.85	216.68	116.31	11.80	3.87	3.73	9.63	16.20	12.41
FillP-Sheep	5	302.53	47.57	31.55	5.35	2.26	2.60	3.47	3.22	5.19
Indigo	5	197.61	188.62	183.48	1.63	1.82	2.20	0.03	0.03	0.04
Indigo-MusesC3	5	212.81	215.73	193.62	1.79	1.86	1.97	0.09	0.12	0.15
Indigo-MusesC5	5	104.42	140.70	190.79	1.59	2.64	2.26	0.07	0.20	0.16
Indigo-MusesD	5	106.48	120.54	187.90	1.94	3.20	2.86	0.10	0.12	0.40
Indigo-MusesT	5	265.38	236.46	209.77	1.44	1.51	1.73	0.06	0.06	0.10
LEDBAT	5	312.67	269.70	236.31	8.59	6.51	7.34	0.21	0.30	0.42
PCC-Allegro	5	135.37	276.27	263.86	1.68	7.98	1.97	0.16	0.18	0.33
PCC-Expr	5	0.74	6.58	6.66	1.18	1.24	1.21	85.71	19.03	15.77
QUIC Cubic	5	65.32	60.45	49.21	1.18	1.45	4.22	0.01	0.01	0.01
SCReAM	5	0.22	0.22	0.22	1.32	1.33	1.36	0.00	0.00	0.07
Sprout	5	49.76	49.63	49.40	4.73	4.86	4.86	0.23	0.31	0.27
TaoVA-100x	5	5.92	4.71	8.32	1.21	1.19	1.15	57.07	21.09	47.98
TCP Vegas	5	70.96	57.26	90.66	1.24	1.21	1.79	0.02	0.03	0.05
Verus	5	132.66	124.99	125.69	23.62	17.69	46.01	4.63	6.01	6.28
PCC-Vivace	5	198.74	195.97	109.68	1.59	18.45	6.59	0.09	0.16	0.26
WebRTC media	5	0.47	0.32	0.14	3.02	3.29	4.17	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-25 01:33:33
End at: 2019-01-25 01:34:03
Local clock offset: -3.029 ms
Remote clock offset: 3.547 ms

# Below is generated by plot.py at 2019-01-25 03:49:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 866.29 Mbit/s
95th percentile per-packet one-way delay: 6.033 ms
Loss rate: 7.07%
-- Flow 1:
Average throughput: 456.07 Mbit/s
95th percentile per-packet one-way delay: 6.066 ms
Loss rate: 6.12%
-- Flow 2:
Average throughput: 495.36 Mbit/s
95th percentile per-packet one-way delay: 6.155 ms
Loss rate: 6.61%
-- Flow 3:
Average throughput: 241.29 Mbit/s
95th percentile per-packet one-way delay: 2.905 ms
Loss rate: 13.73%
```

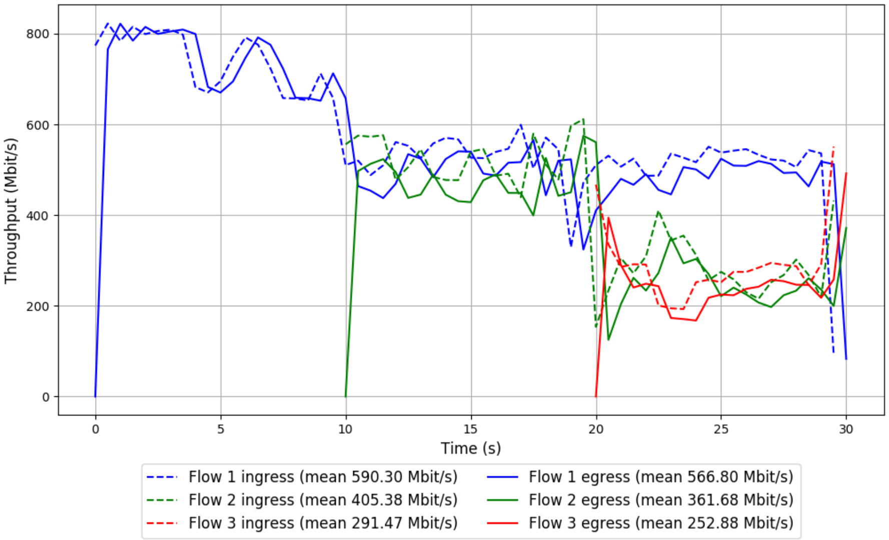
Run 1: Report of TCP BBR — Data Link

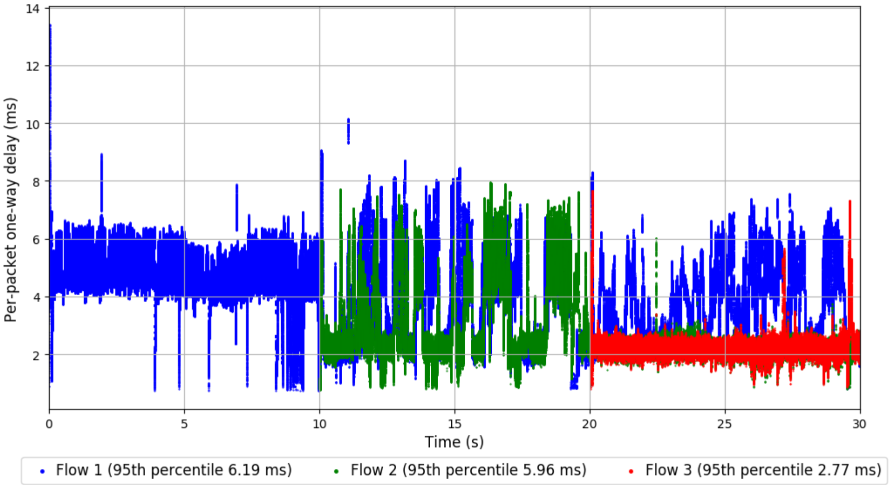




```
Run 2: Statistics of TCP BBR

Start at: 2019-01-25 02:03:10
End at: 2019-01-25 02:03:40
Local clock offset: 1.551 ms
Remote clock offset: 0.133 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 891.88 Mbit/s
95th percentile per-packet one-way delay: 6.103 ms
Loss rate: 6.83%
-- Flow 1:
Average throughput: 566.80 Mbit/s
95th percentile per-packet one-way delay: 6.186 ms
Loss rate: 3.98%
-- Flow 2:
Average throughput: 361.68 Mbit/s
95th percentile per-packet one-way delay: 5.956 ms
Loss rate: 10.77%
-- Flow 3:
Average throughput: 252.88 Mbit/s
95th percentile per-packet one-way delay: 2.774 ms
Loss rate: 13.24%
```

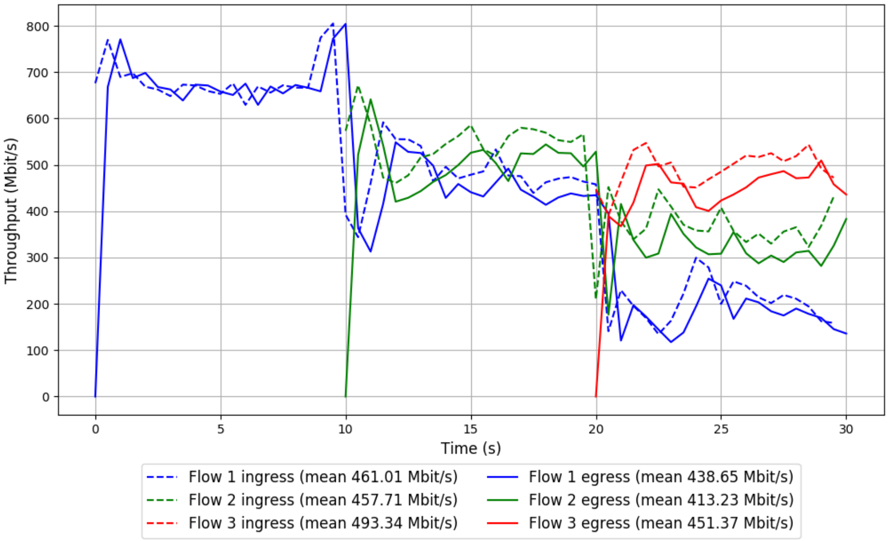
Run 2: Report of TCP BBR — Data Link

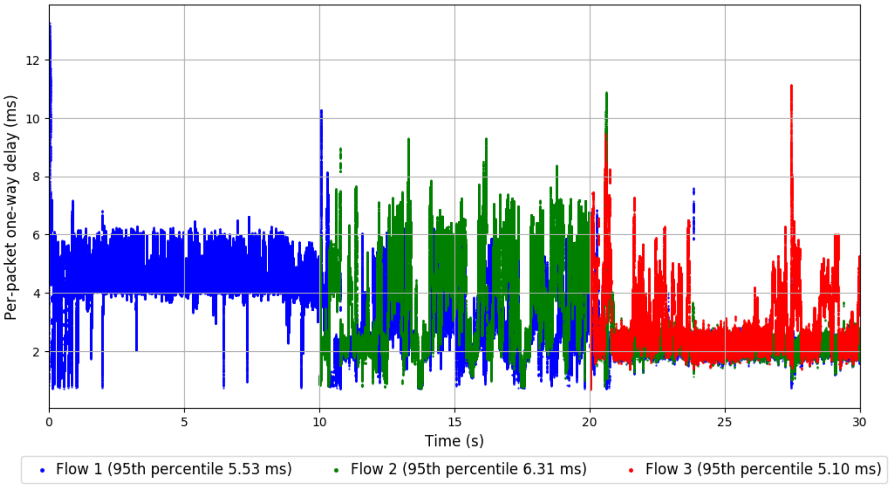




```
Run 3: Statistics of TCP BBR

Start at: 2019-01-25 02:32:28
End at: 2019-01-25 02:32:58
Local clock offset: 1.361 ms
Remote clock offset: -0.836 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.00 Mbit/s
95th percentile per-packet one-way delay: 5.724 ms
Loss rate: 7.08%
-- Flow 1:
Average throughput: 438.65 Mbit/s
95th percentile per-packet one-way delay: 5.534 ms
Loss rate: 4.84%
-- Flow 2:
Average throughput: 413.23 Mbit/s
95th percentile per-packet one-way delay: 6.309 ms
Loss rate: 9.71%
-- Flow 3:
Average throughput: 451.37 Mbit/s
95th percentile per-packet one-way delay: 5.100 ms
Loss rate: 8.50%
```

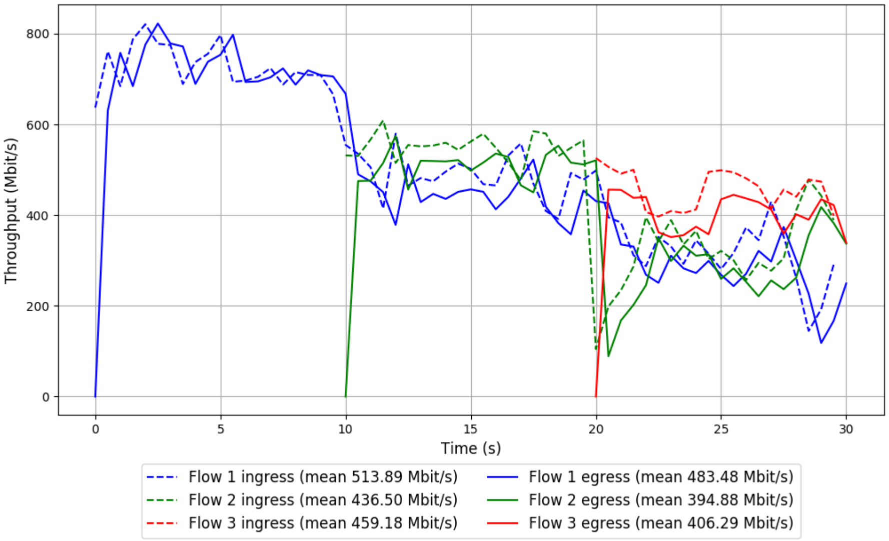
Run 3: Report of TCP BBR — Data Link

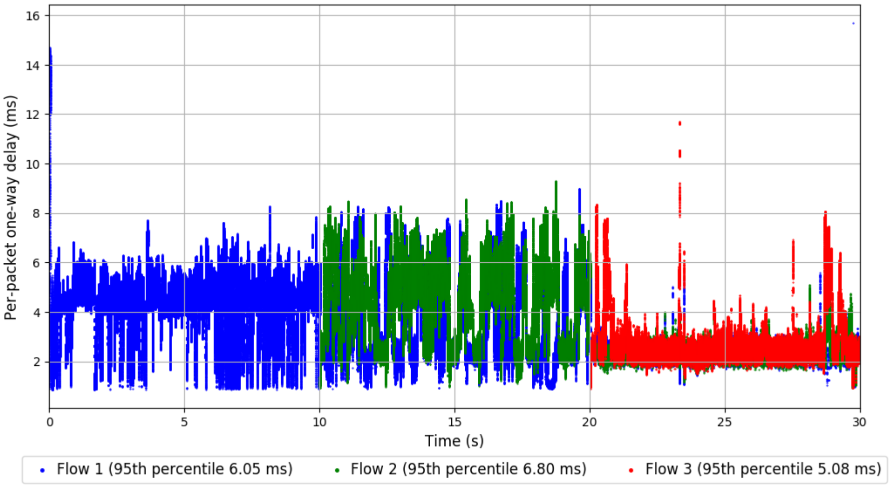




```
Run 4: Statistics of TCP BBR

Start at: 2019-01-25 03:02:12
End at: 2019-01-25 03:02:42
Local clock offset: 2.07 ms
Remote clock offset: -0.591 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 881.54 Mbit/s
95th percentile per-packet one-way delay: 6.339 ms
Loss rate: 7.90%
-- Flow 1:
Average throughput: 483.48 Mbit/s
95th percentile per-packet one-way delay: 6.047 ms
Loss rate: 5.91%
-- Flow 2:
Average throughput: 394.88 Mbit/s
95th percentile per-packet one-way delay: 6.805 ms
Loss rate: 9.53%
-- Flow 3:
Average throughput: 406.29 Mbit/s
95th percentile per-packet one-way delay: 5.081 ms
Loss rate: 11.51%
```

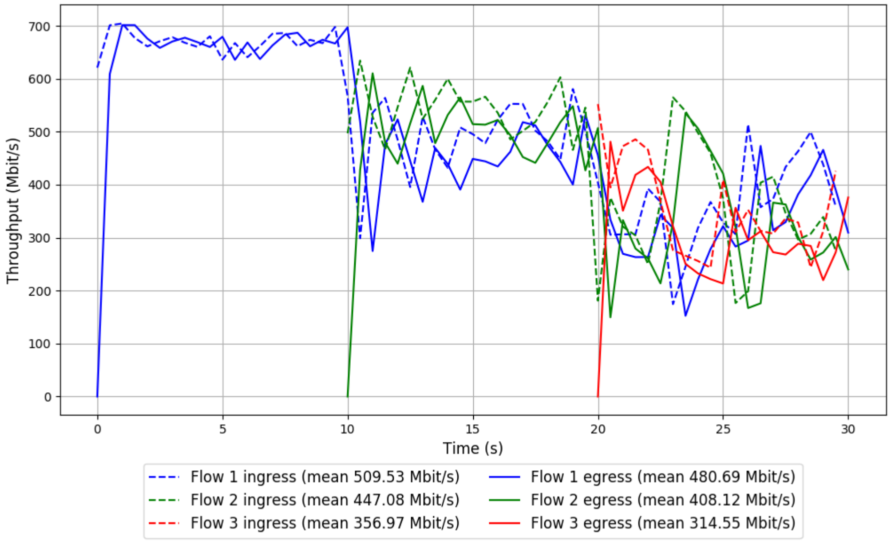
Run 4: Report of TCP BBR — Data Link

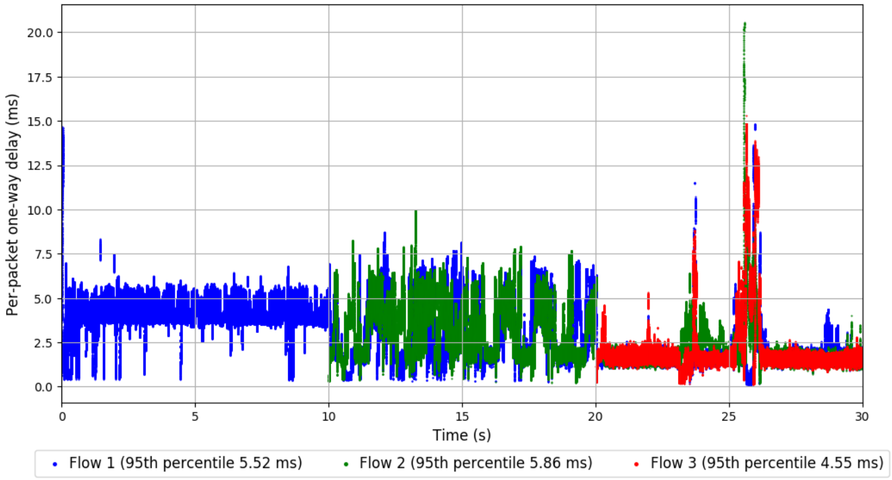




```
Run 5: Statistics of TCP BBR

Start at: 2019-01-25 03:31:53
End at: 2019-01-25 03:32:23
Local clock offset: 2.864 ms
Remote clock offset: -0.369 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.18 Mbit/s
95th percentile per-packet one-way delay: 5.615 ms
Loss rate: 7.44%
-- Flow 1:
Average throughput: 480.69 Mbit/s
95th percentile per-packet one-way delay: 5.520 ms
Loss rate: 5.66%
-- Flow 2:
Average throughput: 408.12 Mbit/s
95th percentile per-packet one-way delay: 5.863 ms
Loss rate: 8.71%
-- Flow 3:
Average throughput: 314.55 Mbit/s
95th percentile per-packet one-way delay: 4.546 ms
Loss rate: 11.89%
```

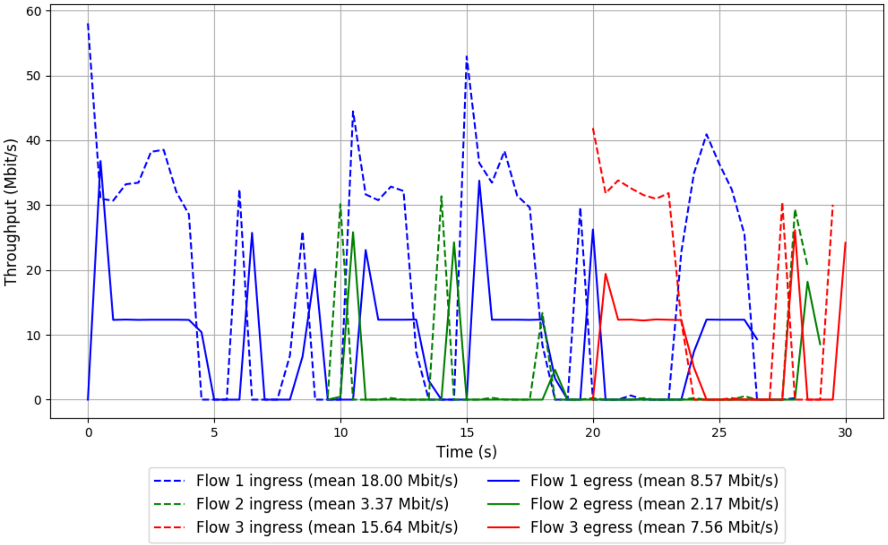
Run 5: Report of TCP BBR — Data Link

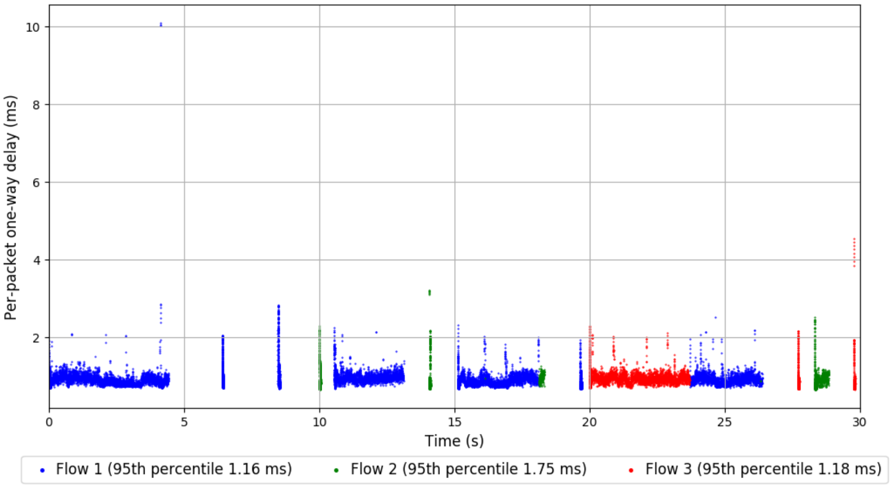




```
Run 1: Statistics of Copa

Start at: 2019-01-25 01:12:34
End at: 2019-01-25 01:13:04
Local clock offset: -4.242 ms
Remote clock offset: -0.439 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.44 Mbit/s
95th percentile per-packet one-way delay: 1.195 ms
Loss rate: 53.14%
-- Flow 1:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 1.157 ms
Loss rate: 55.76%
-- Flow 2:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 1.754 ms
Loss rate: 35.55%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 1.176 ms
Loss rate: 51.68%
```

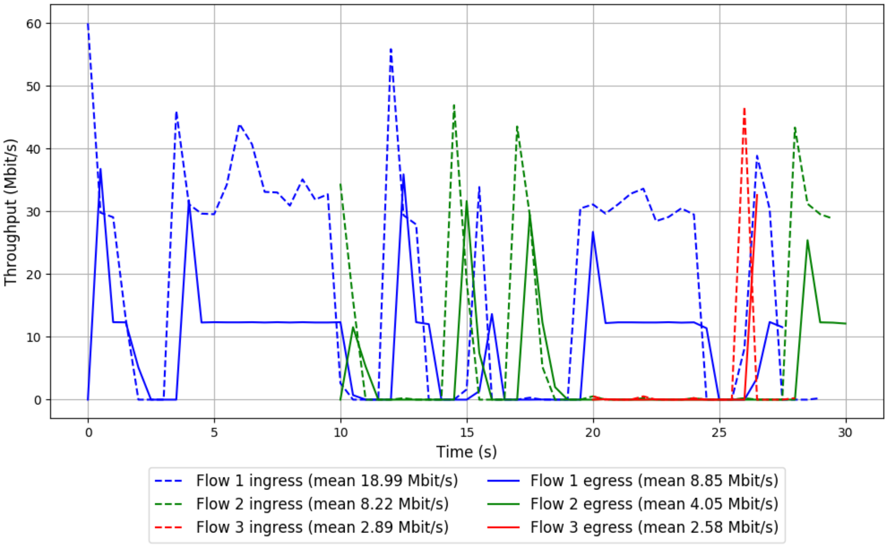
Run 1: Report of Copa — Data Link

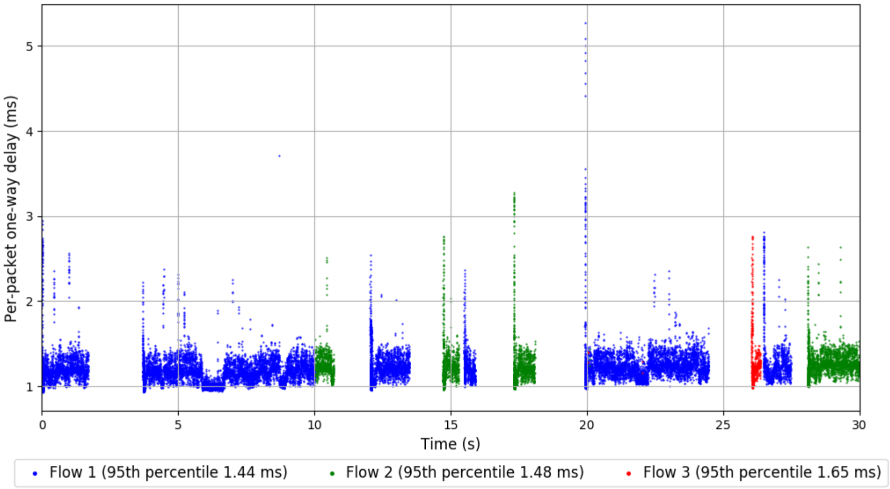




```
Run 2: Statistics of Copa

Start at: 2019-01-25 01:42:12
End at: 2019-01-25 01:42:42
Local clock offset: -0.238 ms
Remote clock offset: 4.343 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 1.455 ms
Loss rate: 54.51%
-- Flow 1:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 1.442 ms
Loss rate: 56.57%
-- Flow 2:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 1.475 ms
Loss rate: 50.75%
-- Flow 3:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 1.649 ms
Loss rate: 32.17%
```

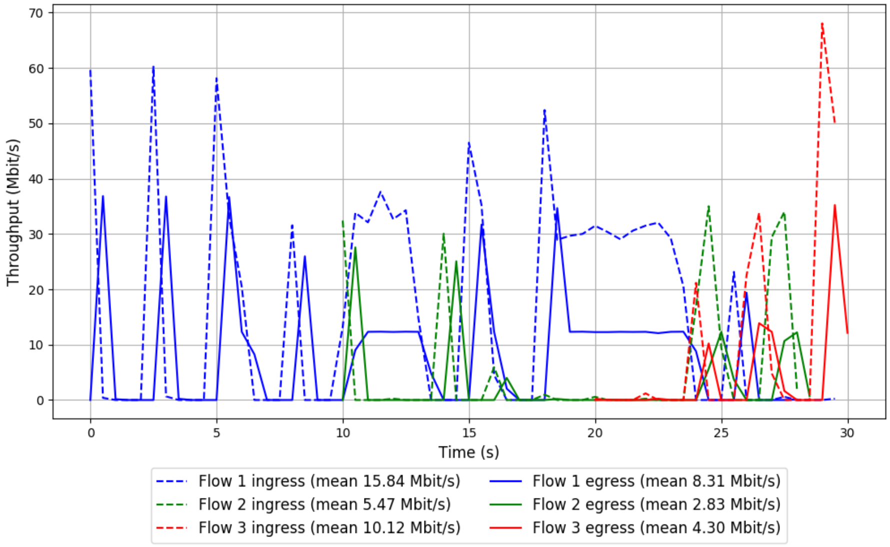
Run 2: Report of Copa — Data Link

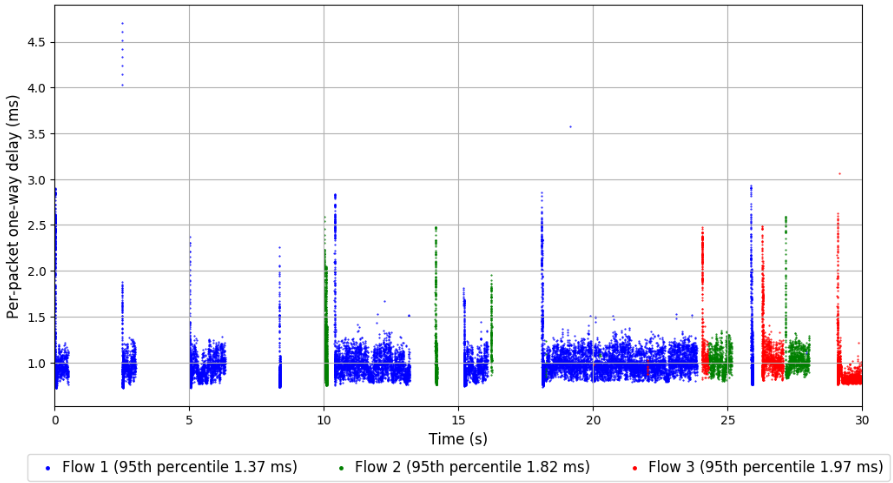




```
Run 3: Statistics of Copa

Start at: 2019-01-25 02:11:49
End at: 2019-01-25 02:12:19
Local clock offset: 1.177 ms
Remote clock offset: -0.795 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 1.607 ms
Loss rate: 51.59%
-- Flow 1:
Average throughput: 8.31 Mbit/s
95th percentile per-packet one-way delay: 1.366 ms
Loss rate: 51.02%
-- Flow 2:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 1.819 ms
Loss rate: 48.18%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 1.973 ms
Loss rate: 57.55%
```

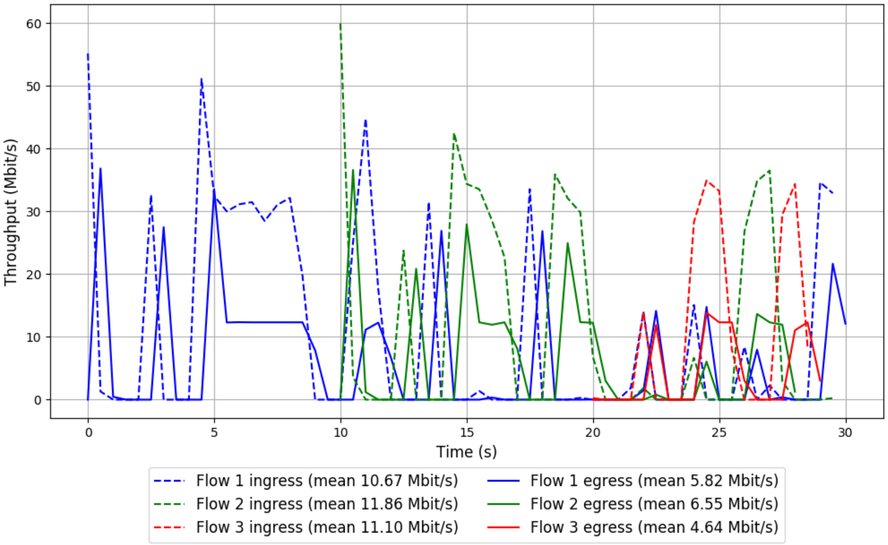
Run 3: Report of Copa — Data Link

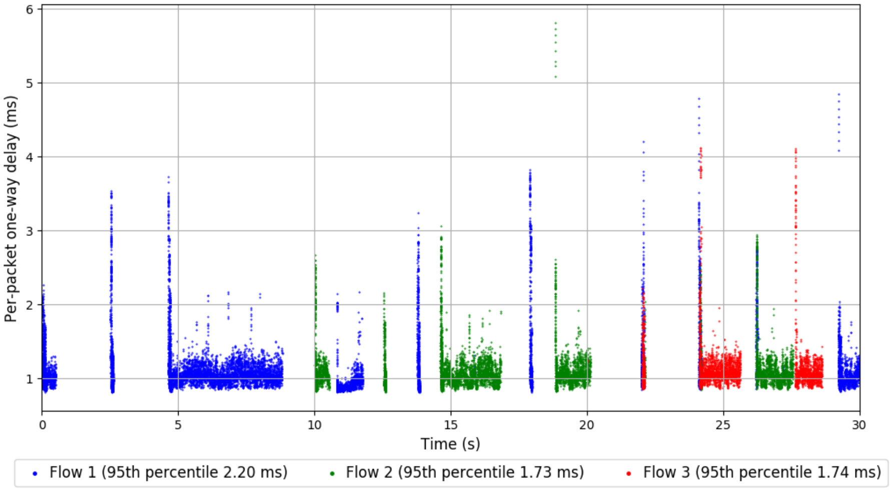




```
Run 4: Statistics of Copa

Start at: 2019-01-25 02:41:07
End at: 2019-01-25 02:41:37
Local clock offset: 1.267 ms
Remote clock offset: -0.732 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.98 Mbit/s
95th percentile per-packet one-way delay: 2.001 ms
Loss rate: 49.10%
-- Flow 1:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 2.198 ms
Loss rate: 45.44%
-- Flow 2:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 1.726 ms
Loss rate: 50.39%
-- Flow 3:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 1.744 ms
Loss rate: 58.20%
```

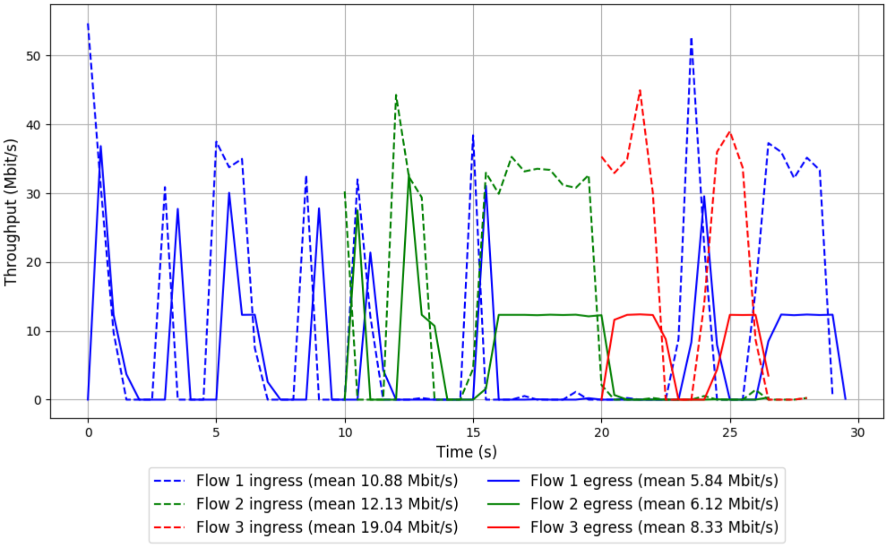
Run 4: Report of Copa — Data Link

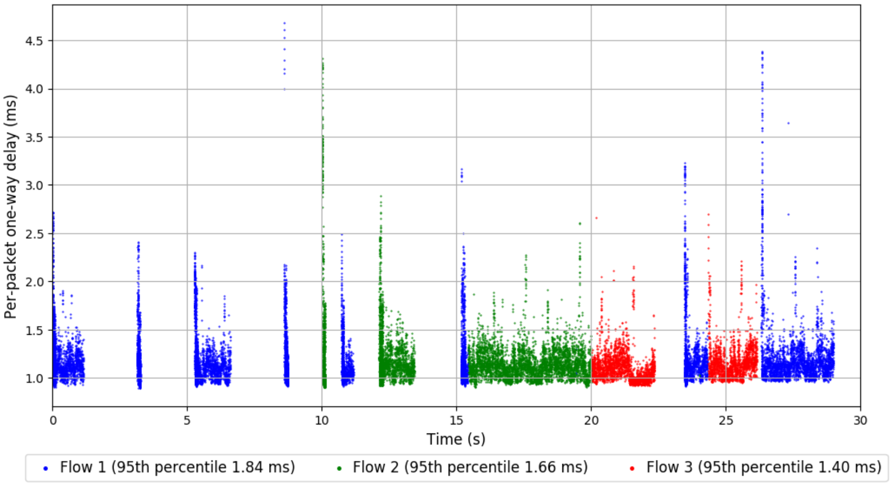




```
Run 5: Statistics of Copa

Start at: 2019-01-25 03:10:57
End at: 2019-01-25 03:11:27
Local clock offset: 3.253 ms
Remote clock offset: -0.264 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 1.740 ms
Loss rate: 53.78%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 1.841 ms
Loss rate: 46.34%
-- Flow 2:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 1.659 ms
Loss rate: 55.16%
-- Flow 3:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 1.397 ms
Loss rate: 67.00%
```

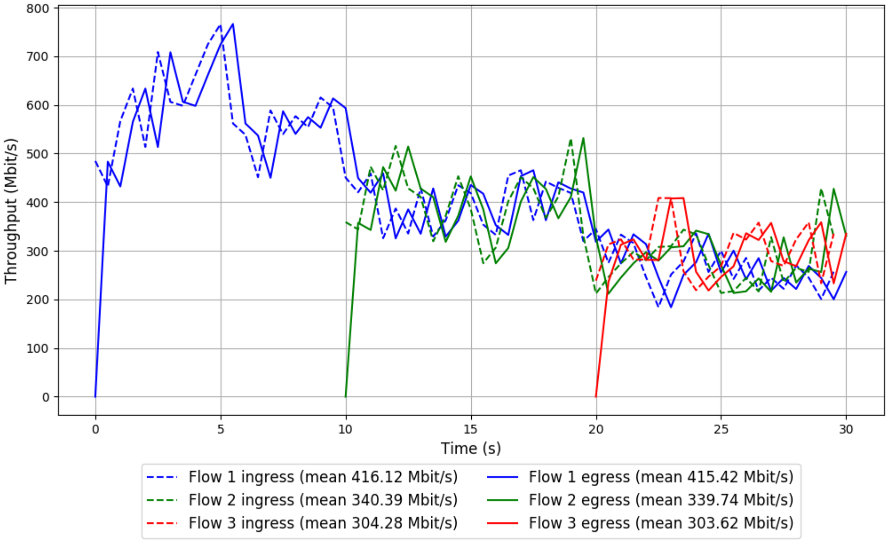
Run 5: Report of Copa — Data Link

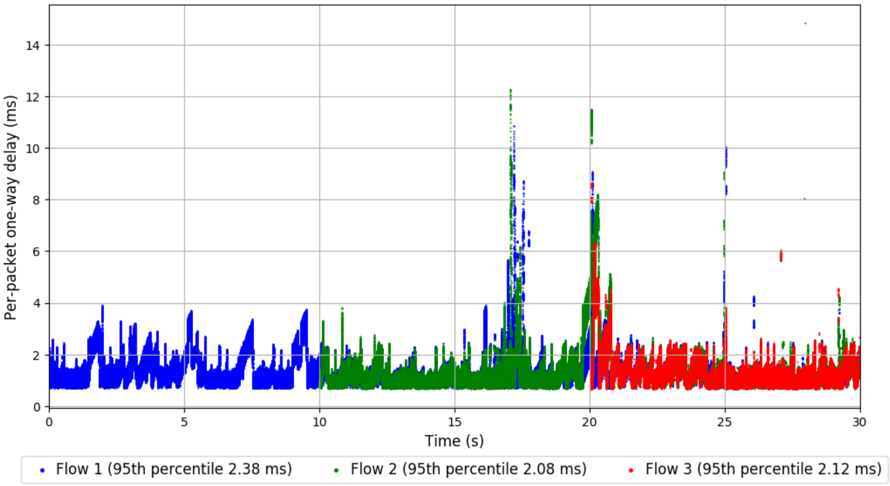




```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-25 01:06:58
End at: 2019-01-25 01:07:28
Local clock offset: -3.977 ms
Remote clock offset: -0.419 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 742.65 Mbit/s
95th percentile per-packet one-way delay: 2.254 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 415.42 Mbit/s
95th percentile per-packet one-way delay: 2.381 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 339.74 Mbit/s
95th percentile per-packet one-way delay: 2.076 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 303.62 Mbit/s
95th percentile per-packet one-way delay: 2.118 ms
Loss rate: 0.21%
```

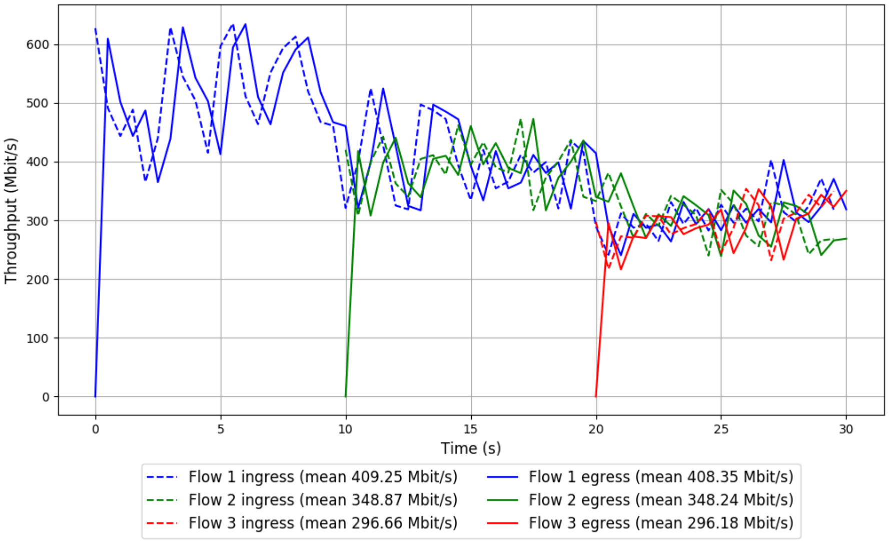
Run 1: Report of TCP Cubic — Data Link

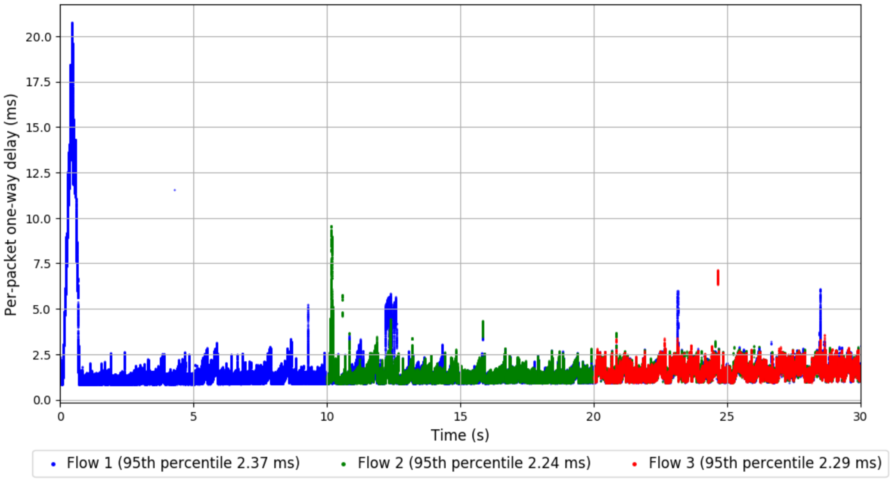




```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-25 01:36:36
End at: 2019-01-25 01:37:06
Local clock offset: -1.663 ms
Remote clock offset: 3.863 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 739.00 Mbit/s
95th percentile per-packet one-way delay: 2.299 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 408.35 Mbit/s
95th percentile per-packet one-way delay: 2.368 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 348.24 Mbit/s
95th percentile per-packet one-way delay: 2.239 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 296.18 Mbit/s
95th percentile per-packet one-way delay: 2.292 ms
Loss rate: 0.16%
```

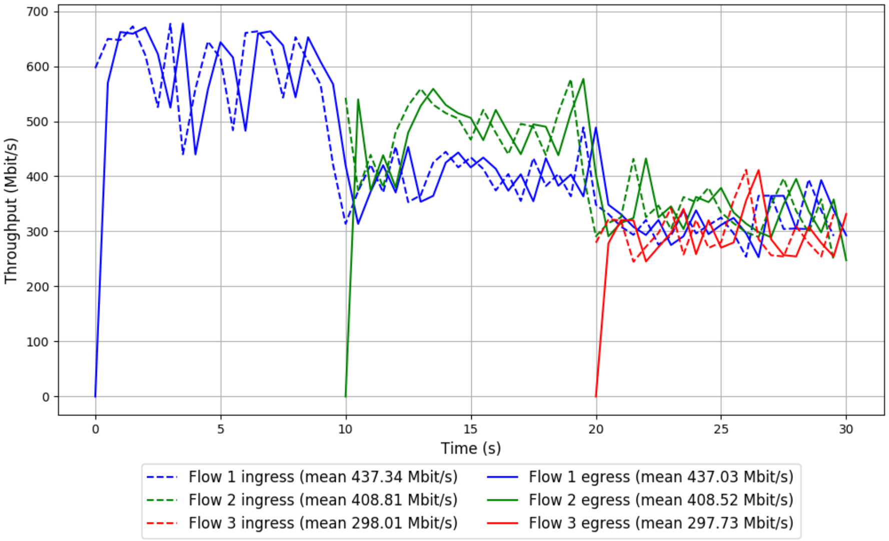
Run 2: Report of TCP Cubic — Data Link

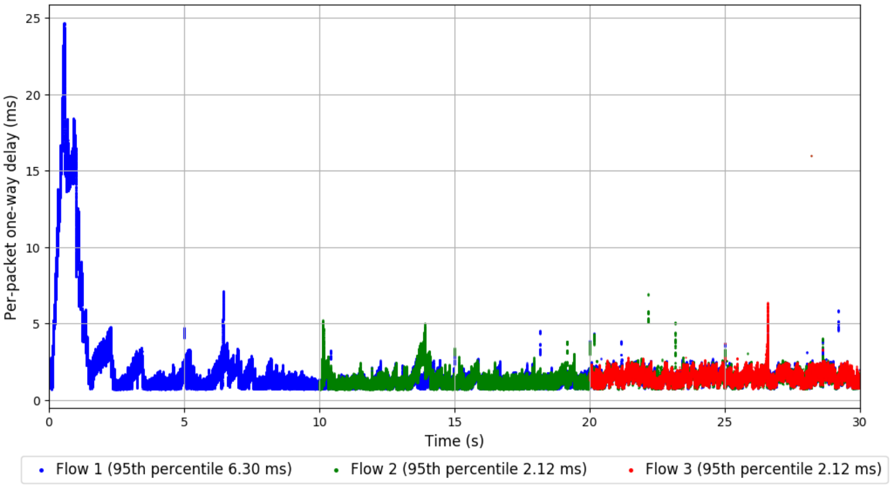




```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-25 02:06:14
End at: 2019-01-25 02:06:44
Local clock offset: 1.321 ms
Remote clock offset: -0.301 ms

# Below is generated by plot.py at 2019-01-25 03:49:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 808.30 Mbit/s
95th percentile per-packet one-way delay: 2.908 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 437.03 Mbit/s
95th percentile per-packet one-way delay: 6.303 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 408.52 Mbit/s
95th percentile per-packet one-way delay: 2.123 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 297.73 Mbit/s
95th percentile per-packet one-way delay: 2.125 ms
Loss rate: 0.09%
```

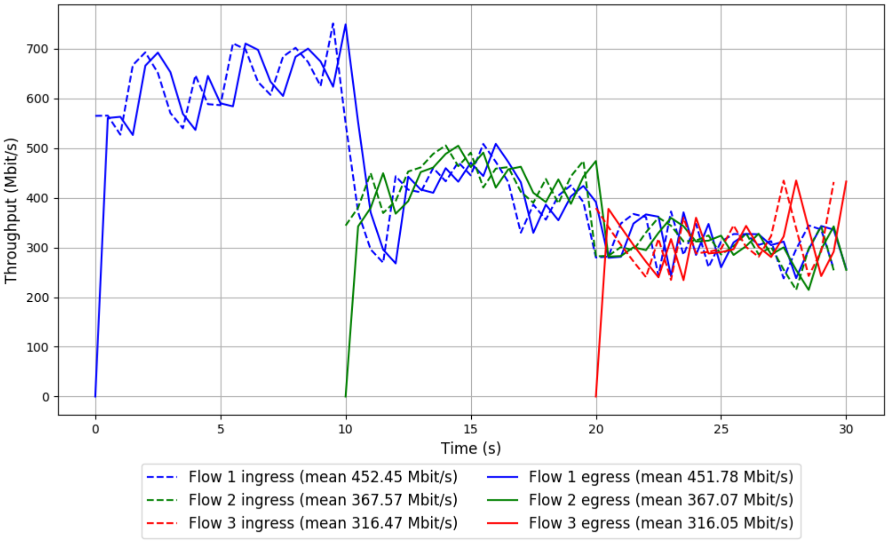
Run 3: Report of TCP Cubic — Data Link

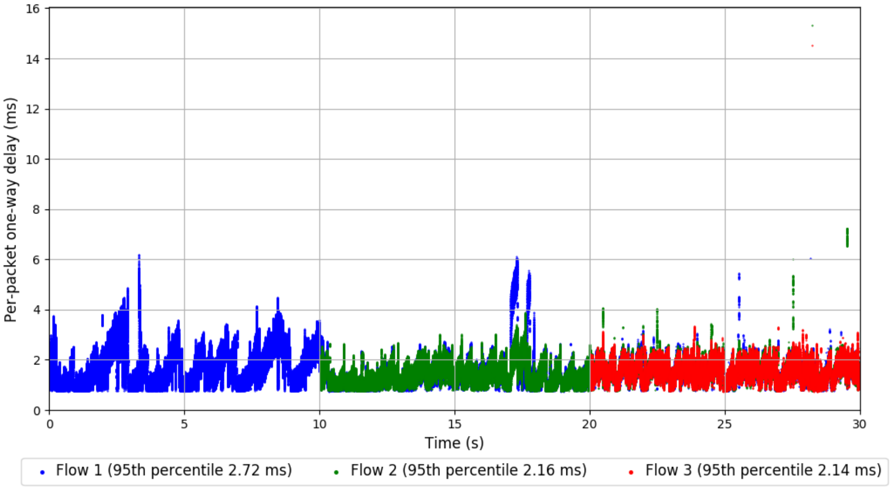




```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-25 02:35:31
End at: 2019-01-25 02:36:01
Local clock offset: 1.297 ms
Remote clock offset: -0.737 ms

# Below is generated by plot.py at 2019-01-25 03:56:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 801.40 Mbit/s
95th percentile per-packet one-way delay: 2.451 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 451.78 Mbit/s
95th percentile per-packet one-way delay: 2.721 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 367.07 Mbit/s
95th percentile per-packet one-way delay: 2.158 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 316.05 Mbit/s
95th percentile per-packet one-way delay: 2.143 ms
Loss rate: 0.13%
```

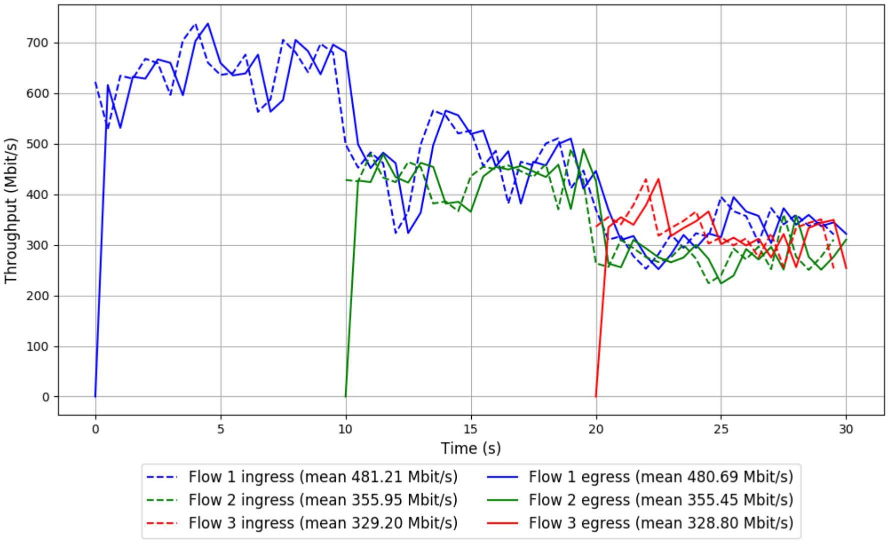
Run 4: Report of TCP Cubic — Data Link

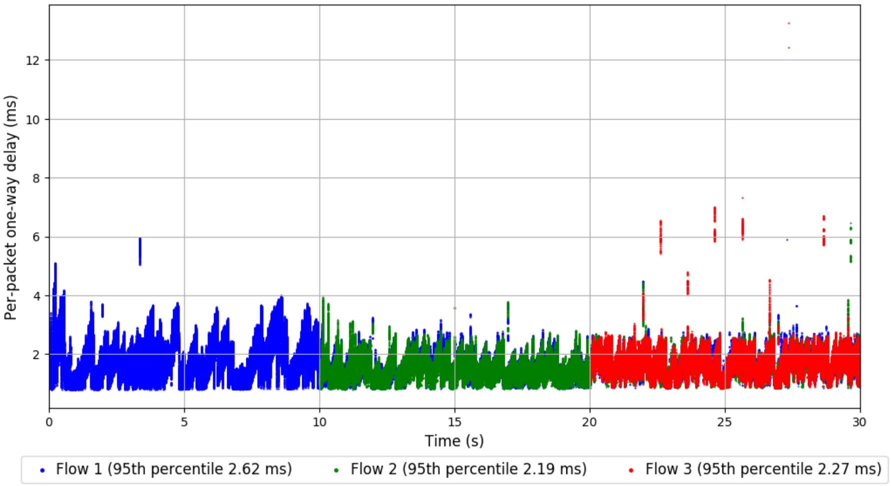




```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-25 03:05:15
End at: 2019-01-25 03:05:45
Local clock offset: 2.589 ms
Remote clock offset: -0.466 ms

# Below is generated by plot.py at 2019-01-25 03:57:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 826.81 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 480.69 Mbit/s
95th percentile per-packet one-way delay: 2.616 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 355.45 Mbit/s
95th percentile per-packet one-way delay: 2.195 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 328.80 Mbit/s
95th percentile per-packet one-way delay: 2.270 ms
Loss rate: 0.12%
```

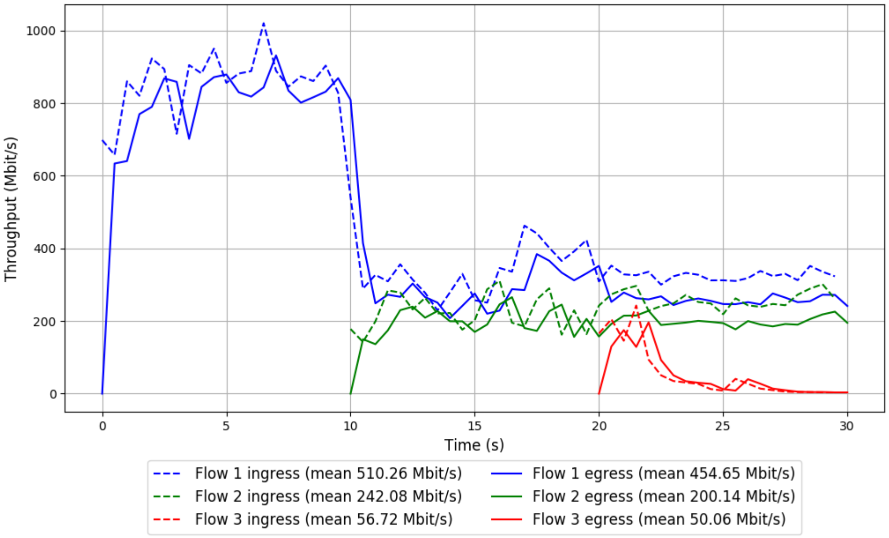
Run 5: Report of TCP Cubic — Data Link

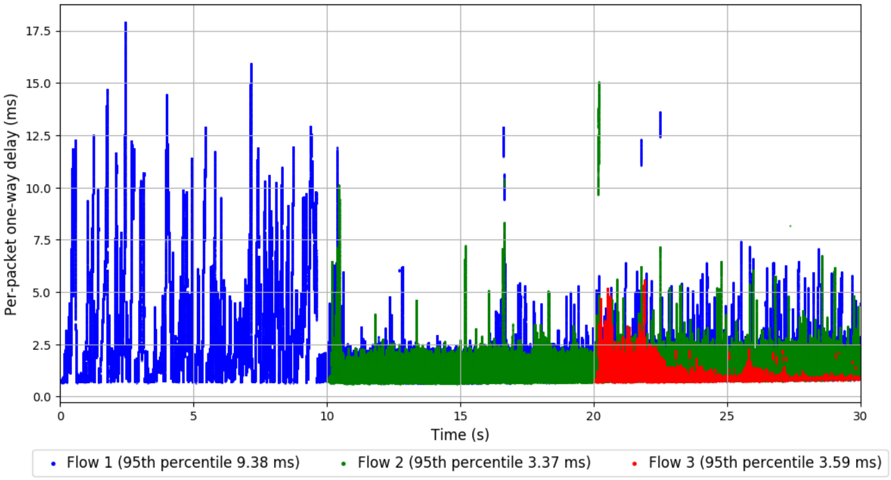




```
Run 1: Statistics of FillP

Start at: 2019-01-25 01:29:09
End at: 2019-01-25 01:29:39
Local clock offset: -4.996 ms
Remote clock offset: 3.128 ms

# Below is generated by plot.py at 2019-01-25 03:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 604.43 Mbit/s
95th percentile per-packet one-way delay: 8.789 ms
Loss rate: 12.41%
-- Flow 1:
Average throughput: 454.65 Mbit/s
95th percentile per-packet one-way delay: 9.379 ms
Loss rate: 10.89%
-- Flow 2:
Average throughput: 200.14 Mbit/s
95th percentile per-packet one-way delay: 3.372 ms
Loss rate: 17.32%
-- Flow 3:
Average throughput: 50.06 Mbit/s
95th percentile per-packet one-way delay: 3.587 ms
Loss rate: 11.74%
```

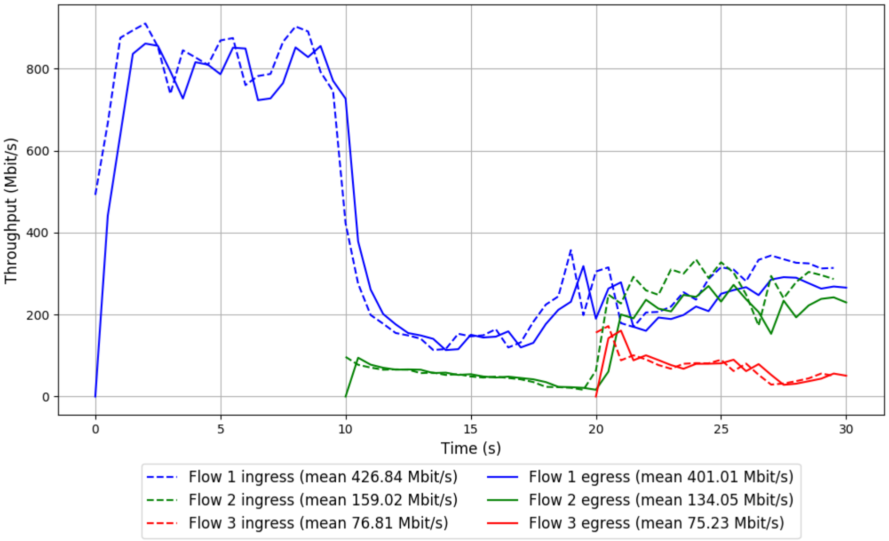
Run 1: Report of FillP — Data Link

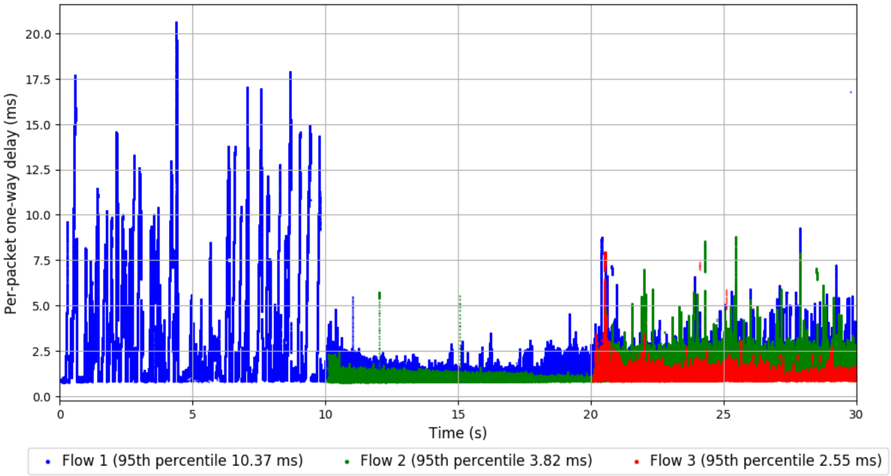




```
Run 2: Statistics of FillP

Start at: 2019-01-25 01:58:44
End at: 2019-01-25 01:59:14
Local clock offset: 1.834 ms
Remote clock offset: 0.795 ms

# Below is generated by plot.py at 2019-01-25 03:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 515.03 Mbit/s
95th percentile per-packet one-way delay: 9.714 ms
Loss rate: 7.70%
-- Flow 1:
Average throughput: 401.01 Mbit/s
95th percentile per-packet one-way delay: 10.373 ms
Loss rate: 6.05%
-- Flow 2:
Average throughput: 134.05 Mbit/s
95th percentile per-packet one-way delay: 3.822 ms
Loss rate: 15.71%
-- Flow 3:
Average throughput: 75.23 Mbit/s
95th percentile per-packet one-way delay: 2.547 ms
Loss rate: 2.05%
```

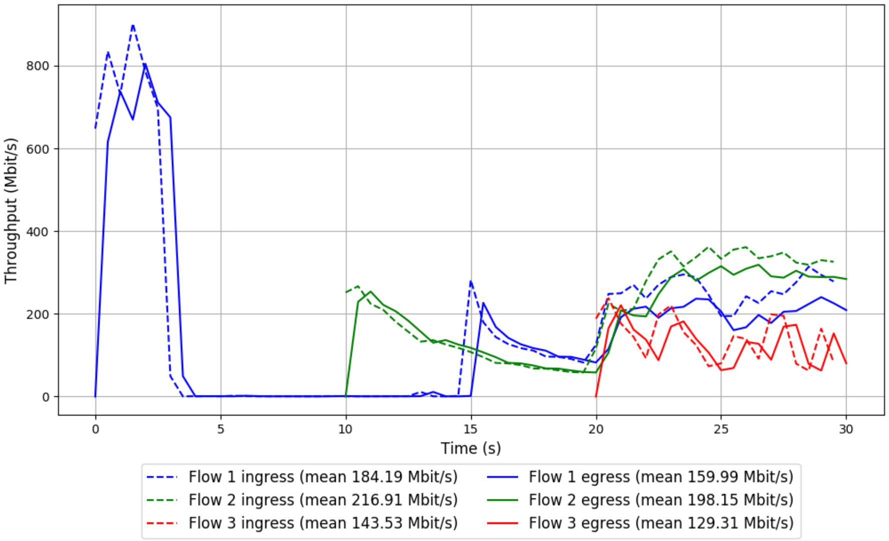
Run 2: Report of FillP — Data Link

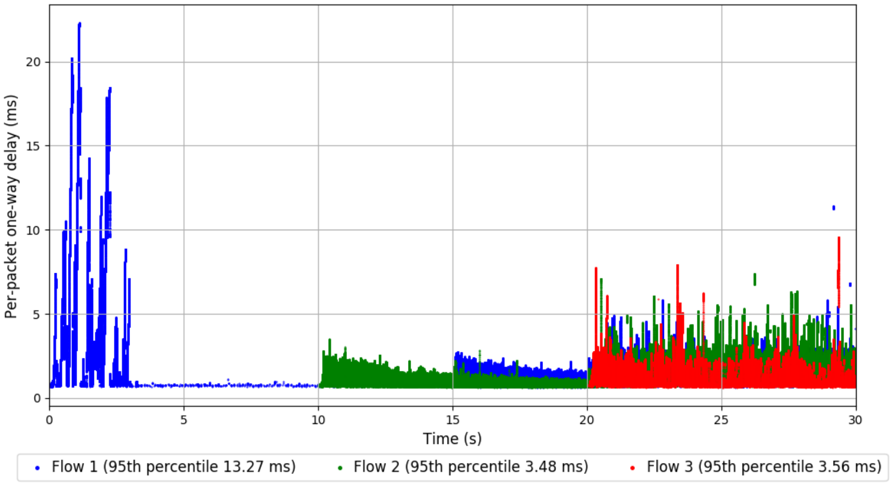




```
Run 3: Statistics of FillP

Start at: 2019-01-25 02:28:14
End at: 2019-01-25 02:28:44
Local clock offset: 1.431 ms
Remote clock offset: -1.007 ms

# Below is generated by plot.py at 2019-01-25 03:57:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.82 Mbit/s
95th percentile per-packet one-way delay: 8.160 ms
Loss rate: 11.00%
-- Flow 1:
Average throughput: 159.99 Mbit/s
95th percentile per-packet one-way delay: 13.268 ms
Loss rate: 13.13%
-- Flow 2:
Average throughput: 198.15 Mbit/s
95th percentile per-packet one-way delay: 3.475 ms
Loss rate: 8.64%
-- Flow 3:
Average throughput: 129.31 Mbit/s
95th percentile per-packet one-way delay: 3.557 ms
Loss rate: 9.91%
```

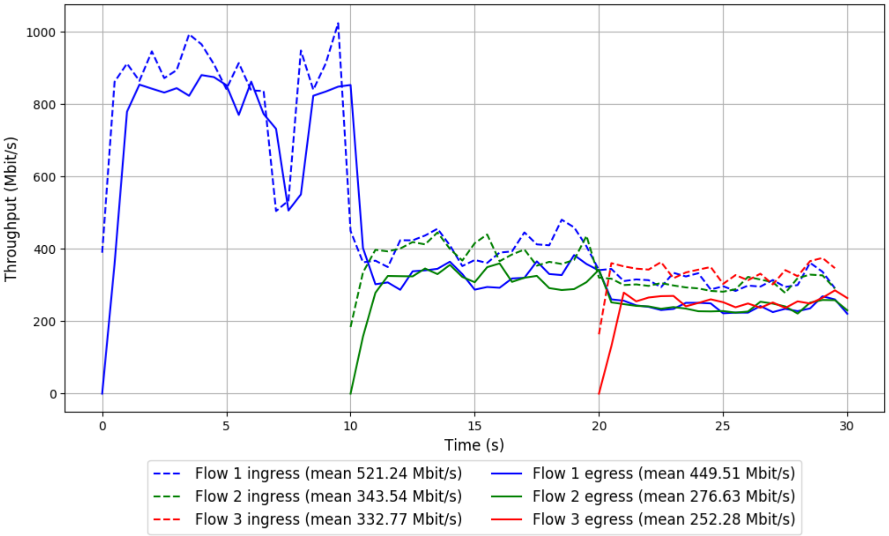
Run 3: Report of FillP — Data Link

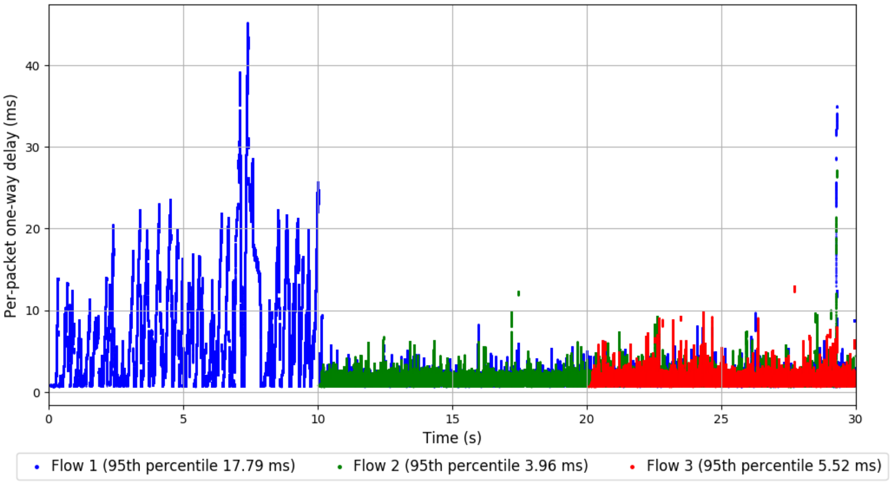




```
Run 4: Statistics of FillP

Start at: 2019-01-25 02:57:41
End at: 2019-01-25 02:58:11
Local clock offset: 1.522 ms
Remote clock offset: -0.94 ms

# Below is generated by plot.py at 2019-01-25 03:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 717.09 Mbit/s
95th percentile per-packet one-way delay: 15.917 ms
Loss rate: 16.61%
-- Flow 1:
Average throughput: 449.51 Mbit/s
95th percentile per-packet one-way delay: 17.790 ms
Loss rate: 13.76%
-- Flow 2:
Average throughput: 276.63 Mbit/s
95th percentile per-packet one-way delay: 3.955 ms
Loss rate: 19.46%
-- Flow 3:
Average throughput: 252.28 Mbit/s
95th percentile per-packet one-way delay: 5.522 ms
Loss rate: 24.19%
```

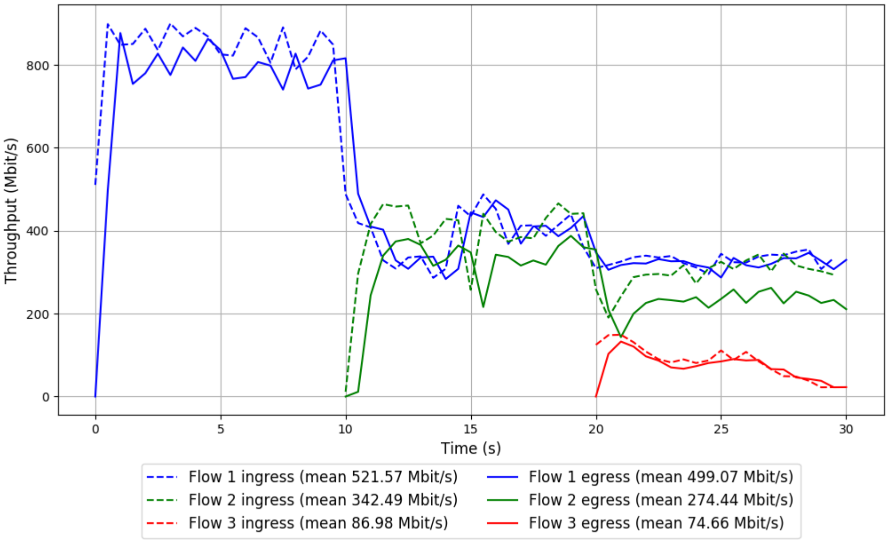
Run 4: Report of FillP — Data Link

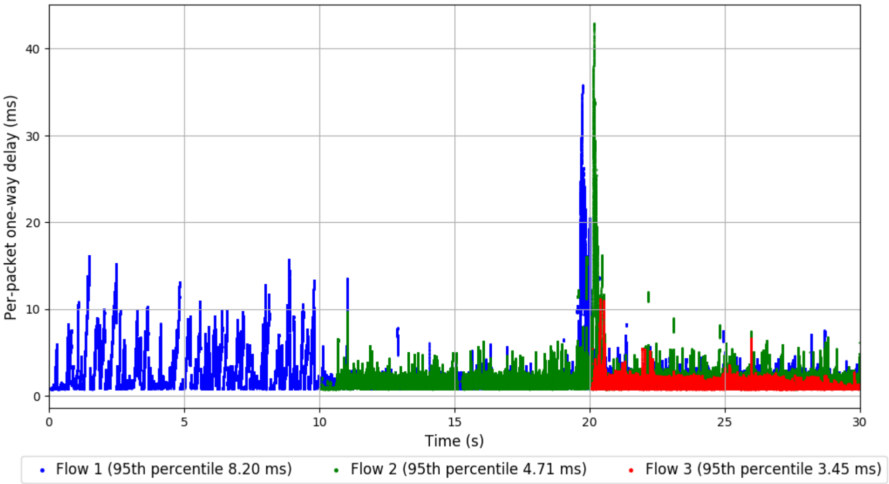




```
Run 5: Statistics of FillP

Start at: 2019-01-25 03:27:28
End at: 2019-01-25 03:27:58
Local clock offset: 4.402 ms
Remote clock offset: -0.375 ms

# Below is generated by plot.py at 2019-01-25 03:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.42 Mbit/s
95th percentile per-packet one-way delay: 7.478 ms
Loss rate: 9.23%
-- Flow 1:
Average throughput: 499.07 Mbit/s
95th percentile per-packet one-way delay: 8.203 ms
Loss rate: 4.31%
-- Flow 2:
Average throughput: 274.44 Mbit/s
95th percentile per-packet one-way delay: 4.708 ms
Loss rate: 19.86%
-- Flow 3:
Average throughput: 74.66 Mbit/s
95th percentile per-packet one-way delay: 3.453 ms
Loss rate: 14.17%
```

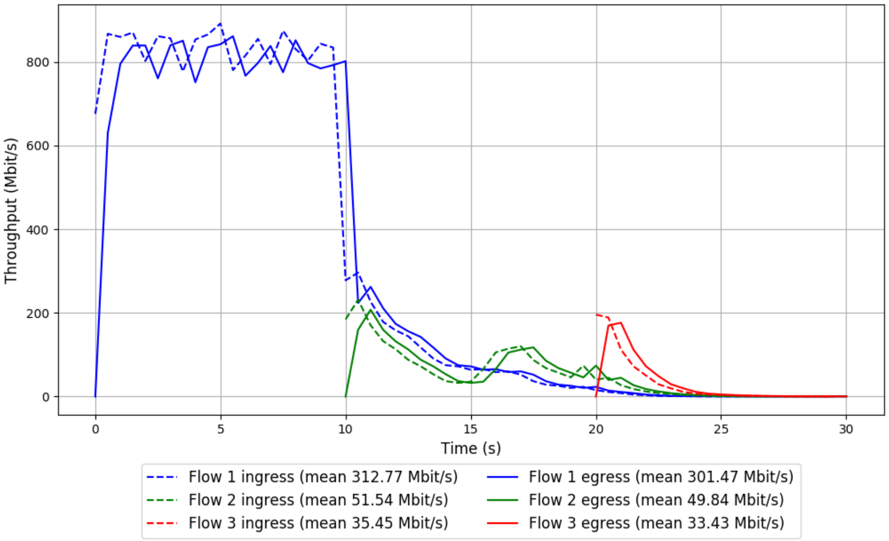
Run 5: Report of FillP — Data Link

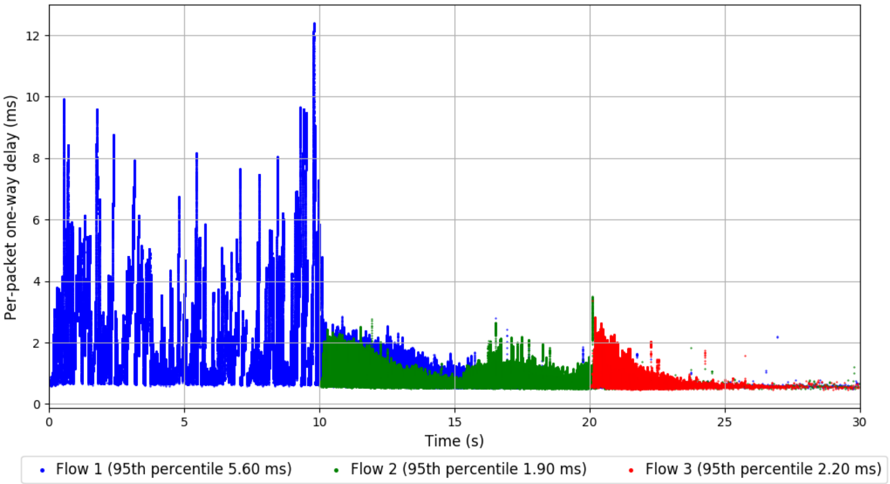




```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-25 01:20:41
End at: 2019-01-25 01:21:11
Local clock offset: -4.619 ms
Remote clock offset: 1.675 ms

# Below is generated by plot.py at 2019-01-25 03:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.61 Mbit/s
95th percentile per-packet one-way delay: 5.385 ms
Loss rate: 3.65%
-- Flow 1:
Average throughput: 301.47 Mbit/s
95th percentile per-packet one-way delay: 5.603 ms
Loss rate: 3.61%
-- Flow 2:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 1.902 ms
Loss rate: 3.30%
-- Flow 3:
Average throughput: 33.43 Mbit/s
95th percentile per-packet one-way delay: 2.204 ms
Loss rate: 5.69%
```

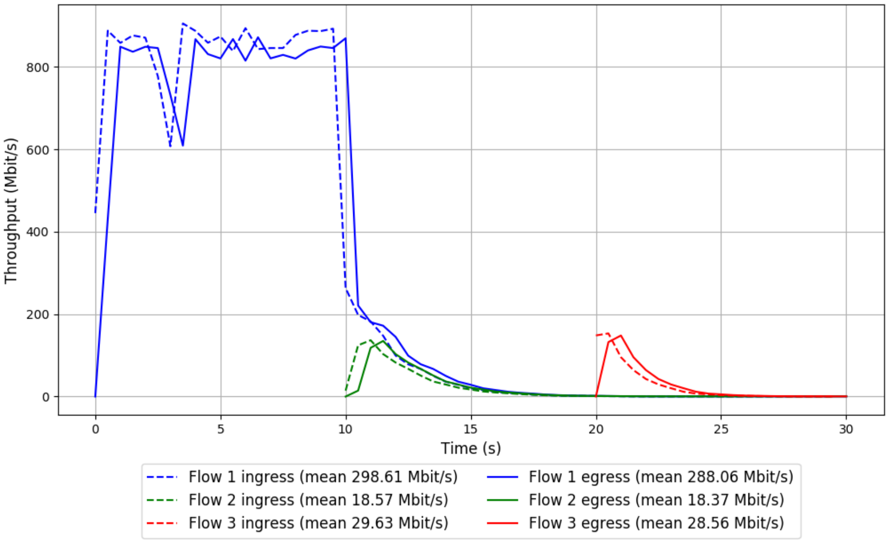
Run 1: Report of FillP-Sheep — Data Link

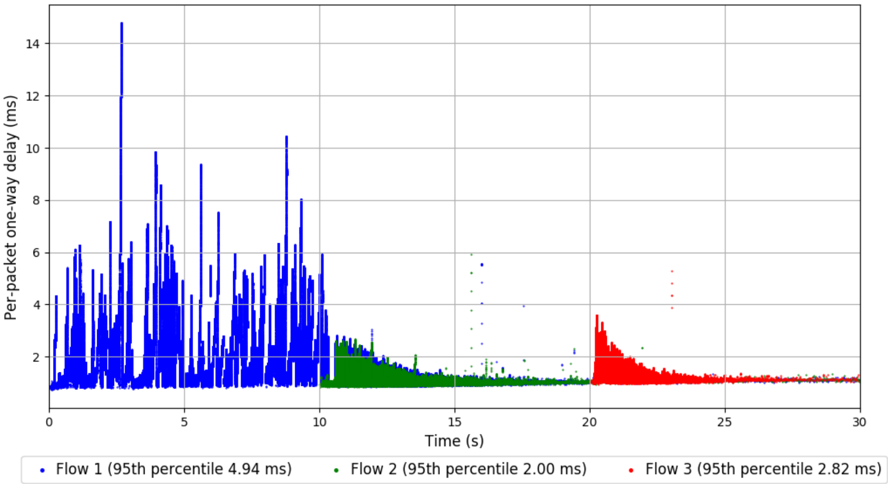




```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-25 01:50:22
End at: 2019-01-25 01:50:52
Local clock offset: 1.039 ms
Remote clock offset: 3.297 ms

# Below is generated by plot.py at 2019-01-25 03:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.63 Mbit/s
95th percentile per-packet one-way delay: 4.846 ms
Loss rate: 3.44%
-- Flow 1:
Average throughput: 288.06 Mbit/s
95th percentile per-packet one-way delay: 4.936 ms
Loss rate: 3.53%
-- Flow 2:
Average throughput: 18.37 Mbit/s
95th percentile per-packet one-way delay: 1.997 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 28.56 Mbit/s
95th percentile per-packet one-way delay: 2.820 ms
Loss rate: 3.61%
```

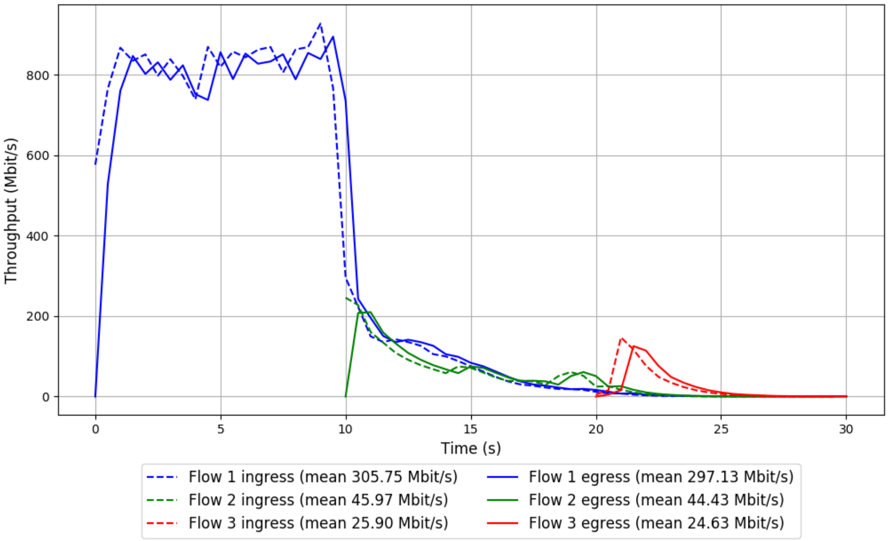
Run 2: Report of FillP-Sheep — Data Link

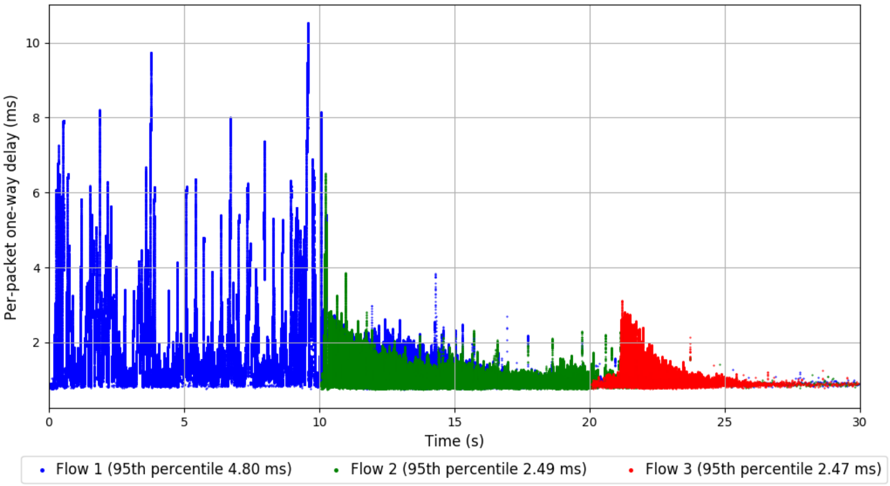




```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-25 02:19:53
End at: 2019-01-25 02:20:23
Local clock offset: 1.212 ms
Remote clock offset: -1.336 ms

# Below is generated by plot.py at 2019-01-25 03:59:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.85 Mbit/s
95th percentile per-packet one-way delay: 4.614 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 297.13 Mbit/s
95th percentile per-packet one-way delay: 4.799 ms
Loss rate: 2.82%
-- Flow 2:
Average throughput: 44.43 Mbit/s
95th percentile per-packet one-way delay: 2.493 ms
Loss rate: 3.35%
-- Flow 3:
Average throughput: 24.63 Mbit/s
95th percentile per-packet one-way delay: 2.468 ms
Loss rate: 4.90%
```

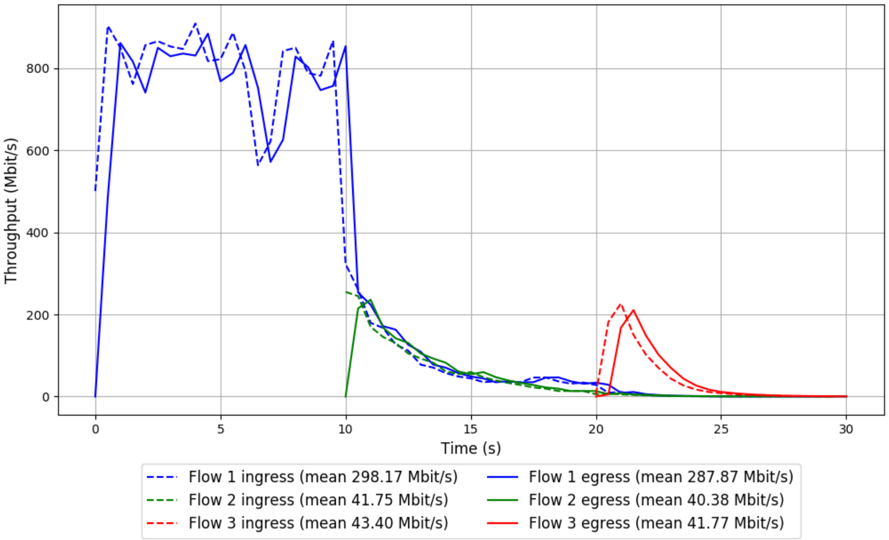
Run 3: Report of FillP-Sheep — Data Link

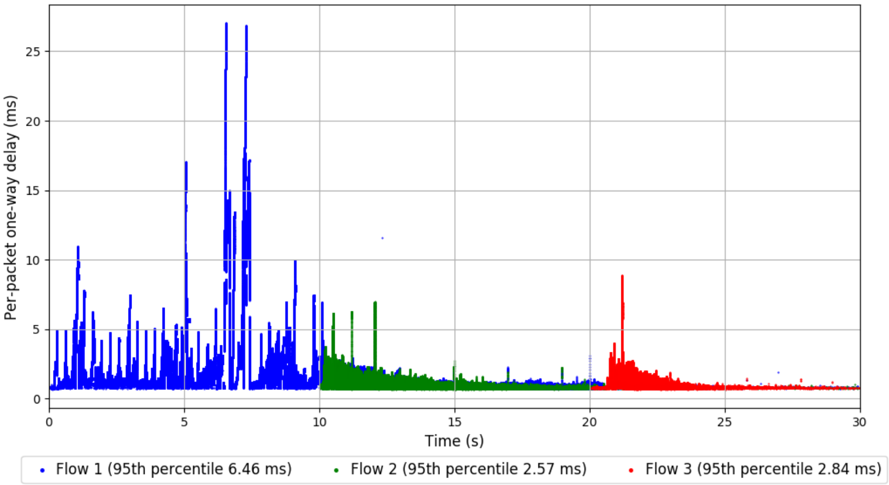




```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-25 02:49:12
End at: 2019-01-25 02:49:42
Local clock offset: 1.361 ms
Remote clock offset: -0.997 ms

# Below is generated by plot.py at 2019-01-25 04:00:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.37 Mbit/s
95th percentile per-packet one-way delay: 5.819 ms
Loss rate: 3.45%
-- Flow 1:
Average throughput: 287.87 Mbit/s
95th percentile per-packet one-way delay: 6.463 ms
Loss rate: 3.46%
-- Flow 2:
Average throughput: 40.38 Mbit/s
95th percentile per-packet one-way delay: 2.570 ms
Loss rate: 3.28%
-- Flow 3:
Average throughput: 41.77 Mbit/s
95th percentile per-packet one-way delay: 2.843 ms
Loss rate: 3.77%
```

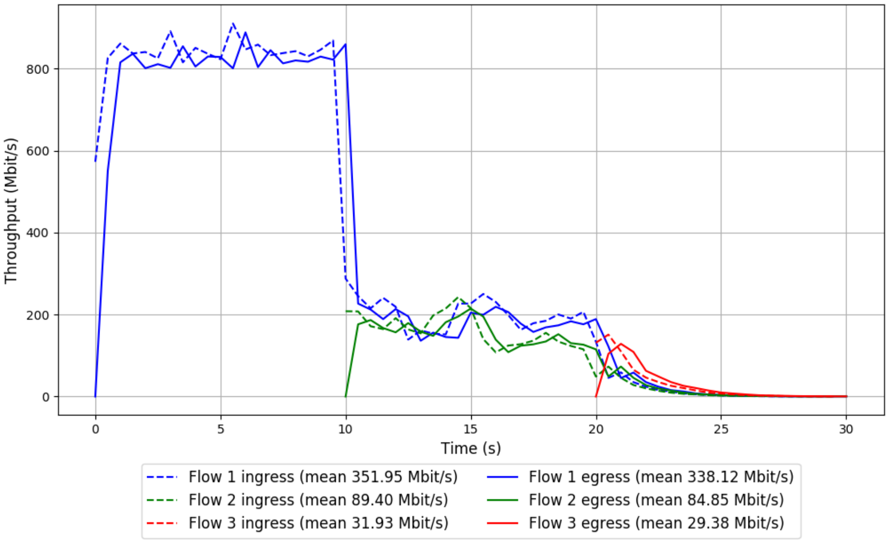
Run 4: Report of FillP-Sheep — Data Link

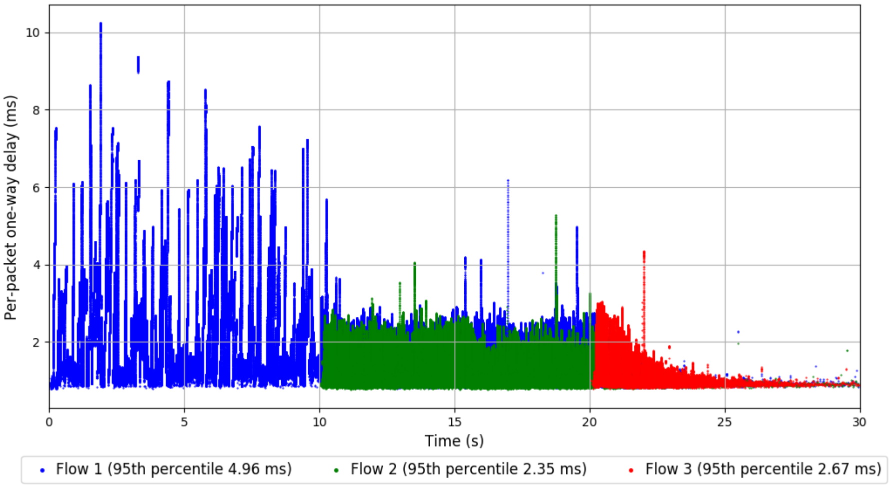




```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-25 03:19:05
End at: 2019-01-25 03:19:35
Local clock offset: 3.893 ms
Remote clock offset: -0.321 ms

# Below is generated by plot.py at 2019-01-25 04:02:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 404.12 Mbit/s
95th percentile per-packet one-way delay: 4.779 ms
Loss rate: 4.20%
-- Flow 1:
Average throughput: 338.12 Mbit/s
95th percentile per-packet one-way delay: 4.962 ms
Loss rate: 3.93%
-- Flow 2:
Average throughput: 84.85 Mbit/s
95th percentile per-packet one-way delay: 2.349 ms
Loss rate: 5.10%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 2.672 ms
Loss rate: 8.00%
```

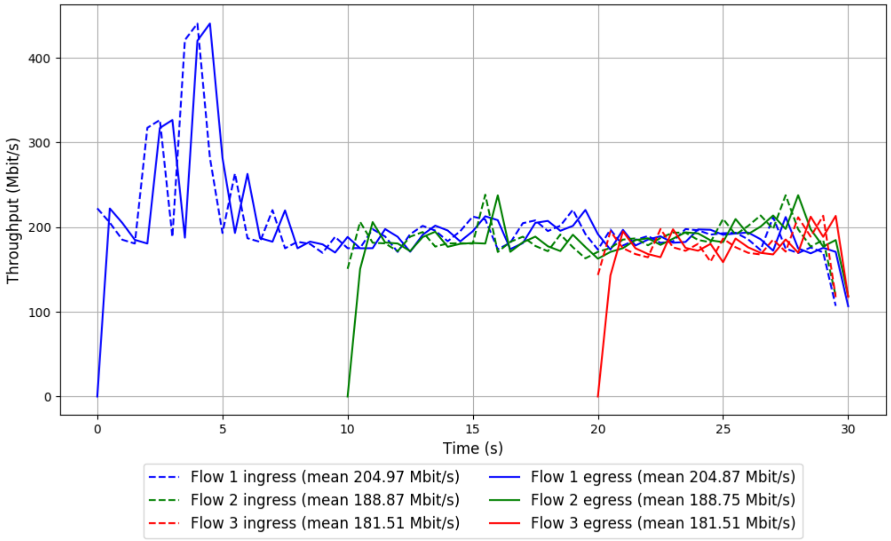
Run 5: Report of FillP-Sheep — Data Link

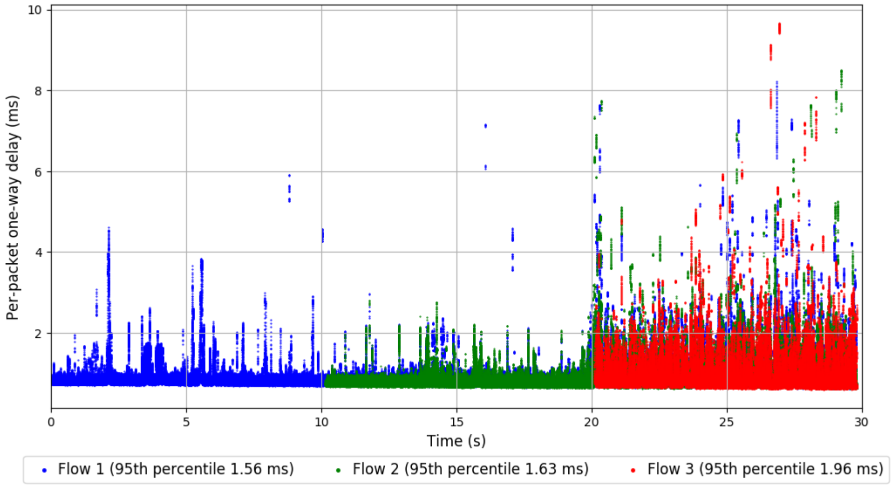




```
Run 1: Statistics of Indigo

Start at: 2019-01-25 01:25:04
End at: 2019-01-25 01:25:34
Local clock offset: -4.797 ms
Remote clock offset: 2.572 ms

# Below is generated by plot.py at 2019-01-25 04:02:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.38 Mbit/s
95th percentile per-packet one-way delay: 1.647 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 204.87 Mbit/s
95th percentile per-packet one-way delay: 1.564 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 188.75 Mbit/s
95th percentile per-packet one-way delay: 1.629 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 181.51 Mbit/s
95th percentile per-packet one-way delay: 1.962 ms
Loss rate: 0.07%
```

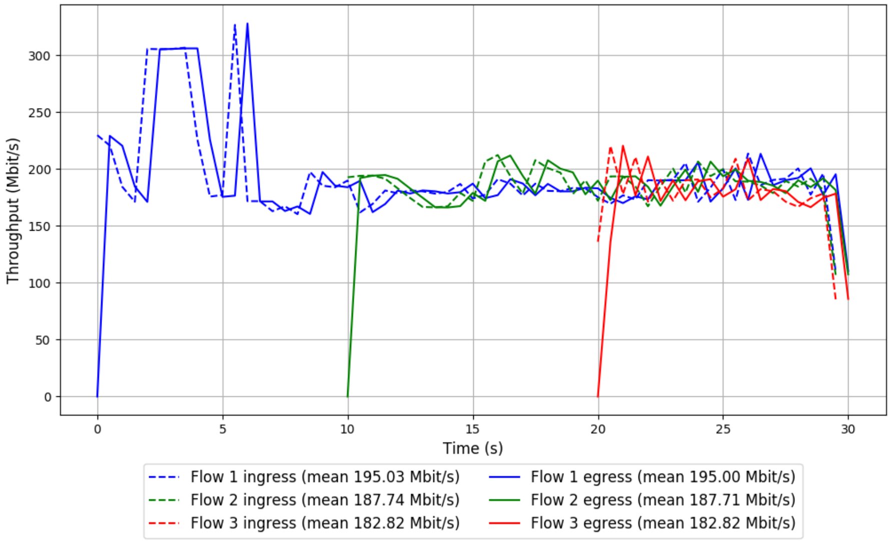
Run 1: Report of Indigo — Data Link

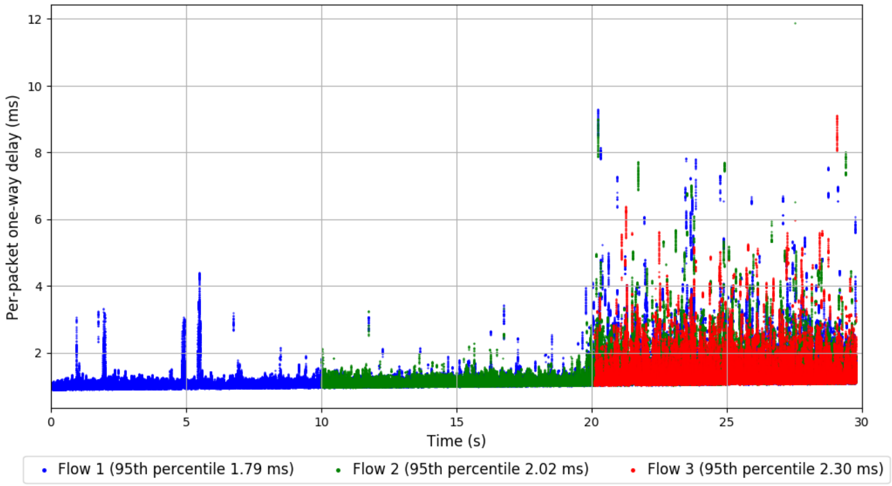




```
Run 2: Statistics of Indigo

Start at: 2019-01-25 01:54:39
End at: 2019-01-25 01:55:09
Local clock offset: 1.499 ms
Remote clock offset: 1.849 ms

# Below is generated by plot.py at 2019-01-25 04:02:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.07 Mbit/s
95th percentile per-packet one-way delay: 1.997 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 195.00 Mbit/s
95th percentile per-packet one-way delay: 1.793 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 187.71 Mbit/s
95th percentile per-packet one-way delay: 2.021 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 182.82 Mbit/s
95th percentile per-packet one-way delay: 2.304 ms
Loss rate: 0.01%
```

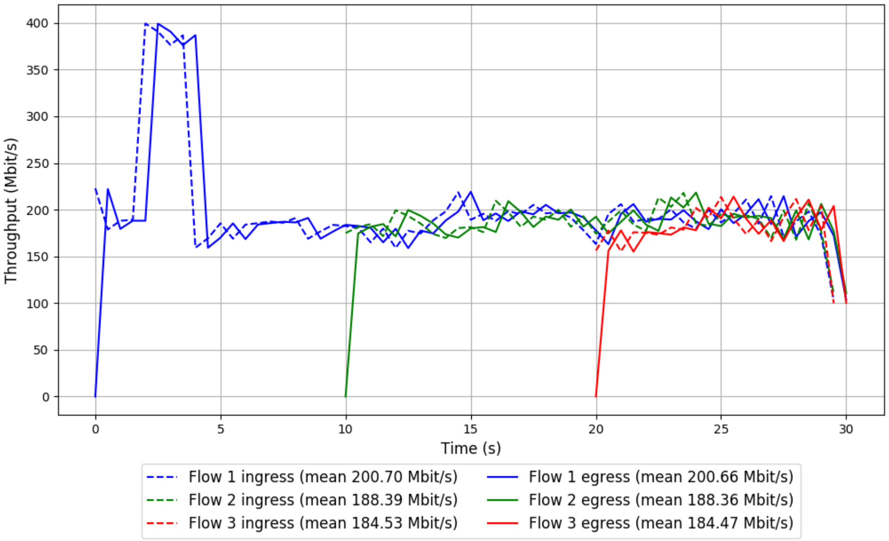
Run 2: Report of Indigo — Data Link

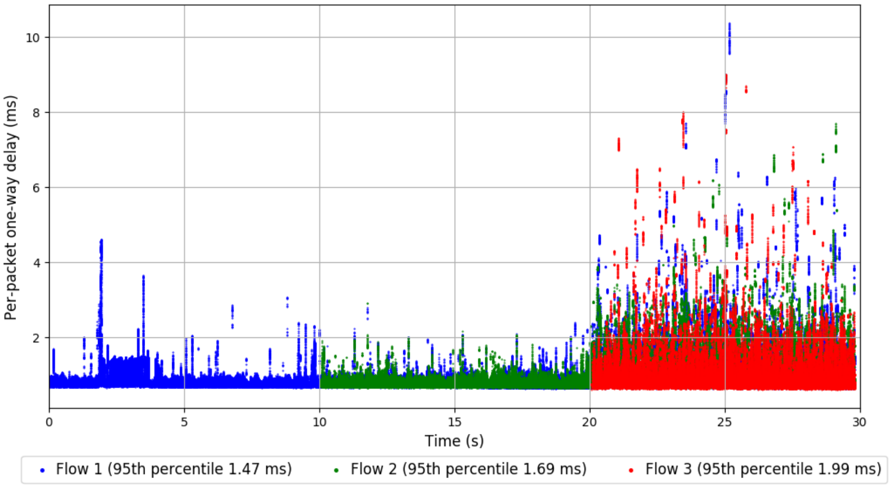




```
Run 3: Statistics of Indigo

Start at: 2019-01-25 02:24:10
End at: 2019-01-25 02:24:40
Local clock offset: 1.3 ms
Remote clock offset: -1.327 ms

# Below is generated by plot.py at 2019-01-25 04:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.69 Mbit/s
95th percentile per-packet one-way delay: 1.647 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 200.66 Mbit/s
95th percentile per-packet one-way delay: 1.467 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 188.36 Mbit/s
95th percentile per-packet one-way delay: 1.692 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 184.47 Mbit/s
95th percentile per-packet one-way delay: 1.989 ms
Loss rate: 0.04%
```

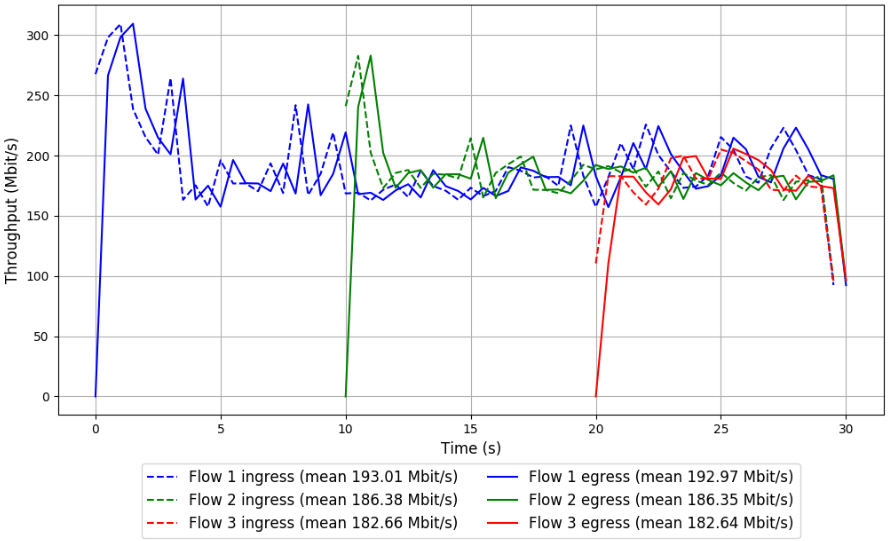
Run 3: Report of Indigo — Data Link

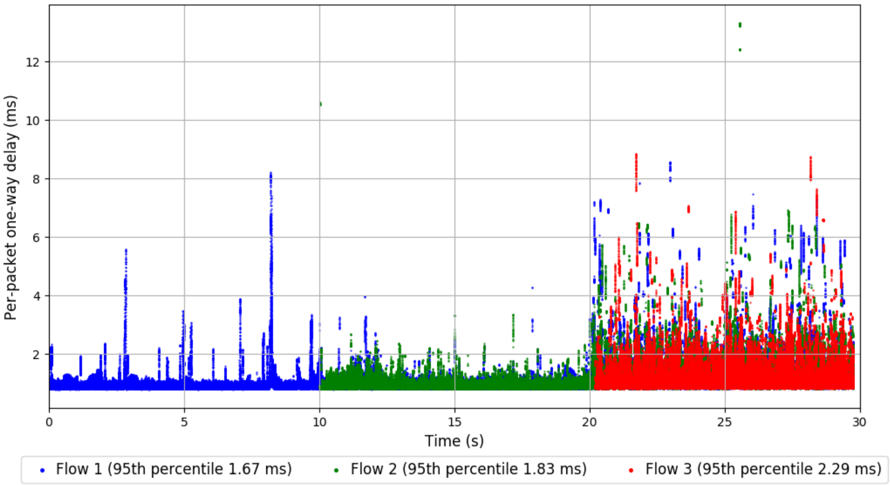




```
Run 4: Statistics of Indigo

Start at: 2019-01-25 02:53:37
End at: 2019-01-25 02:54:07
Local clock offset: 1.433 ms
Remote clock offset: -1.004 ms

# Below is generated by plot.py at 2019-01-25 04:02:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.39 Mbit/s
95th percentile per-packet one-way delay: 1.857 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 192.97 Mbit/s
95th percentile per-packet one-way delay: 1.672 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 186.35 Mbit/s
95th percentile per-packet one-way delay: 1.829 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 182.64 Mbit/s
95th percentile per-packet one-way delay: 2.288 ms
Loss rate: 0.01%
```

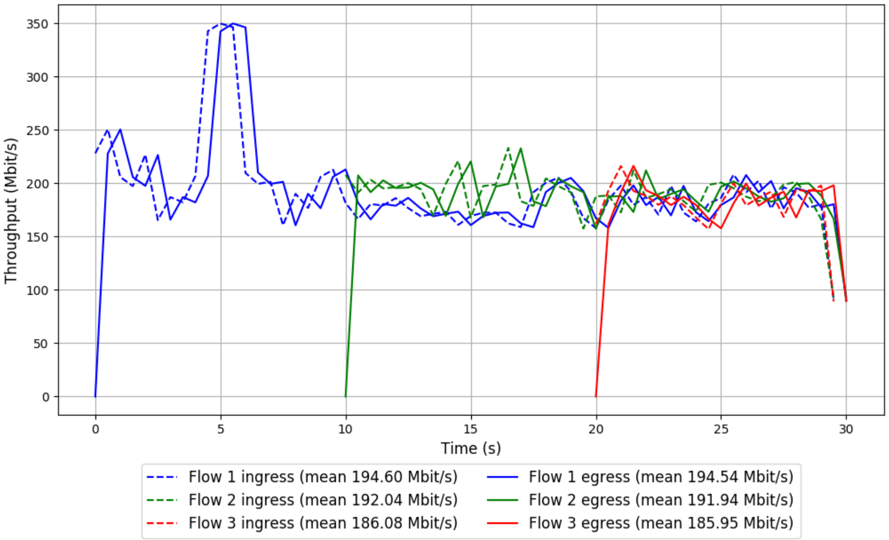
Run 4: Report of Indigo — Data Link

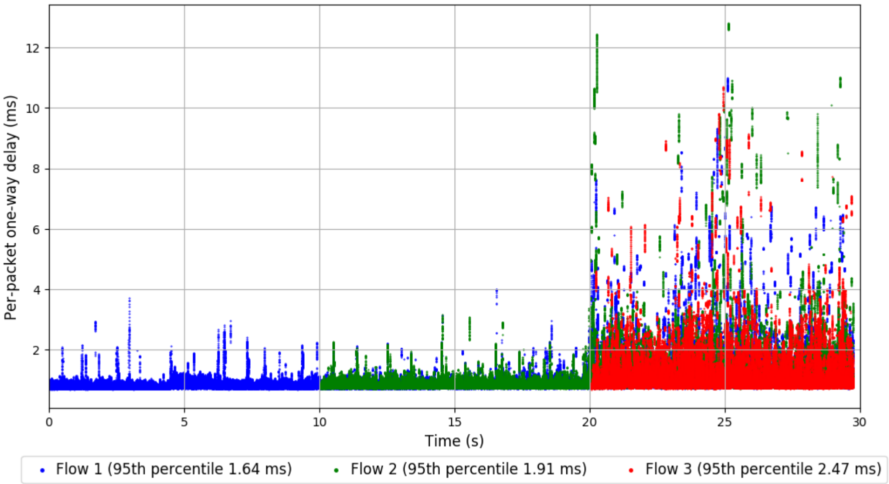




```
Run 5: Statistics of Indigo

Start at: 2019-01-25 03:23:24
End at: 2019-01-25 03:23:54
Local clock offset: 4.167 ms
Remote clock offset: -0.45 ms

# Below is generated by plot.py at 2019-01-25 04:03:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.32 Mbit/s
95th percentile per-packet one-way delay: 1.910 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 194.54 Mbit/s
95th percentile per-packet one-way delay: 1.641 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 191.94 Mbit/s
95th percentile per-packet one-way delay: 1.914 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 185.95 Mbit/s
95th percentile per-packet one-way delay: 2.471 ms
Loss rate: 0.06%
```

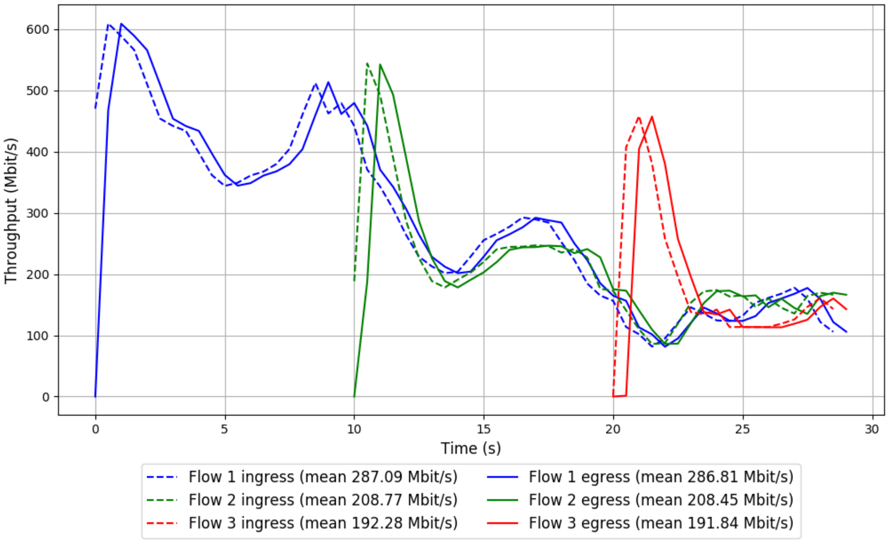
Run 5: Report of Indigo — Data Link

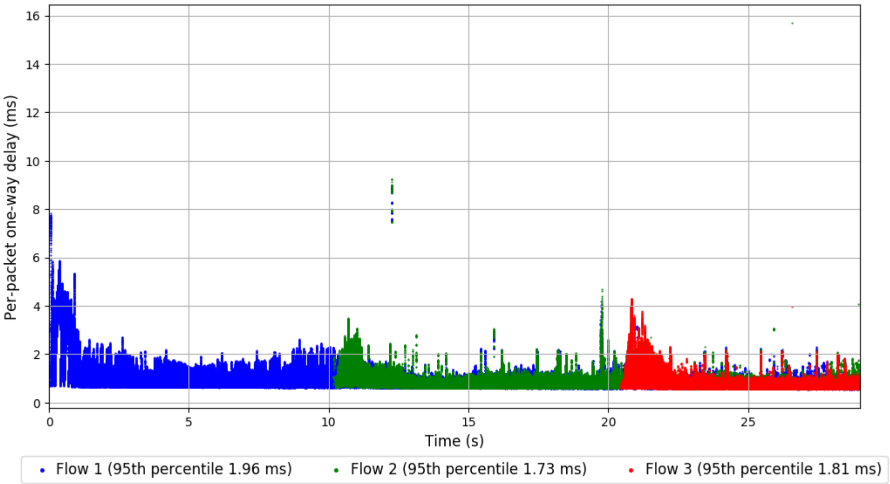




```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-25 01:23:35
End at: 2019-01-25 01:24:05
Local clock offset: -4.741 ms
Remote clock offset: 2.259 ms

# Below is generated by plot.py at 2019-01-25 04:04:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.22 Mbit/s
95th percentile per-packet one-way delay: 1.854 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 286.81 Mbit/s
95th percentile per-packet one-way delay: 1.961 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 208.45 Mbit/s
95th percentile per-packet one-way delay: 1.729 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 191.84 Mbit/s
95th percentile per-packet one-way delay: 1.806 ms
Loss rate: 0.23%
```

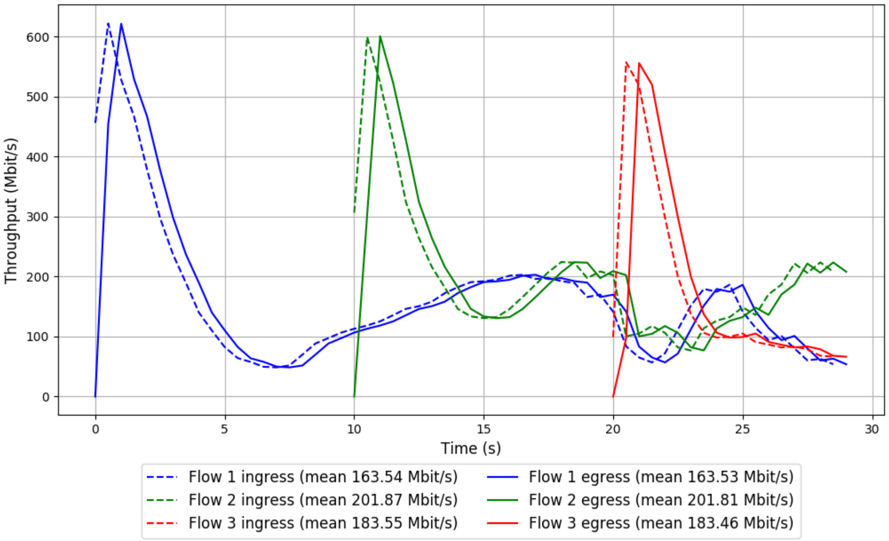
Run 1: Report of Indigo-MusesC3 — Data Link

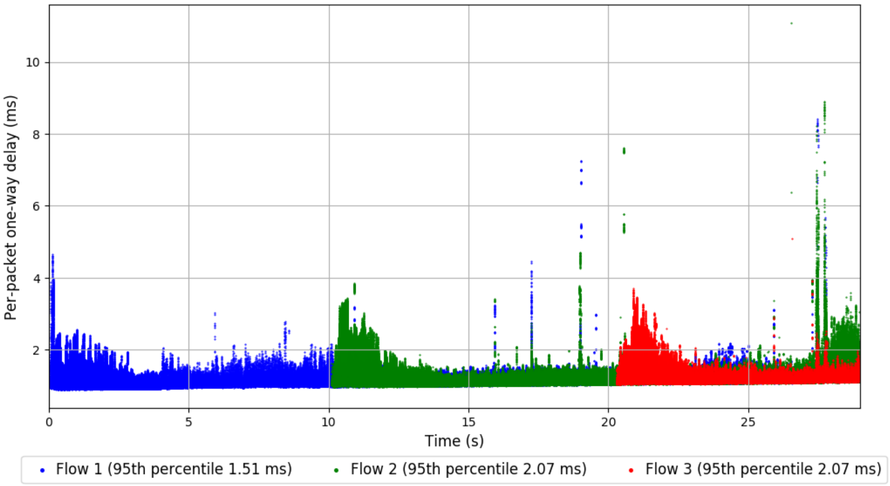




```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-25 01:53:14
End at: 2019-01-25 01:53:44
Local clock offset: 1.372 ms
Remote clock offset: 2.291 ms

# Below is generated by plot.py at 2019-01-25 04:04:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.78 Mbit/s
95th percentile per-packet one-way delay: 1.857 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 163.53 Mbit/s
95th percentile per-packet one-way delay: 1.508 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 201.81 Mbit/s
95th percentile per-packet one-way delay: 2.070 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 183.46 Mbit/s
95th percentile per-packet one-way delay: 2.067 ms
Loss rate: 0.04%
```

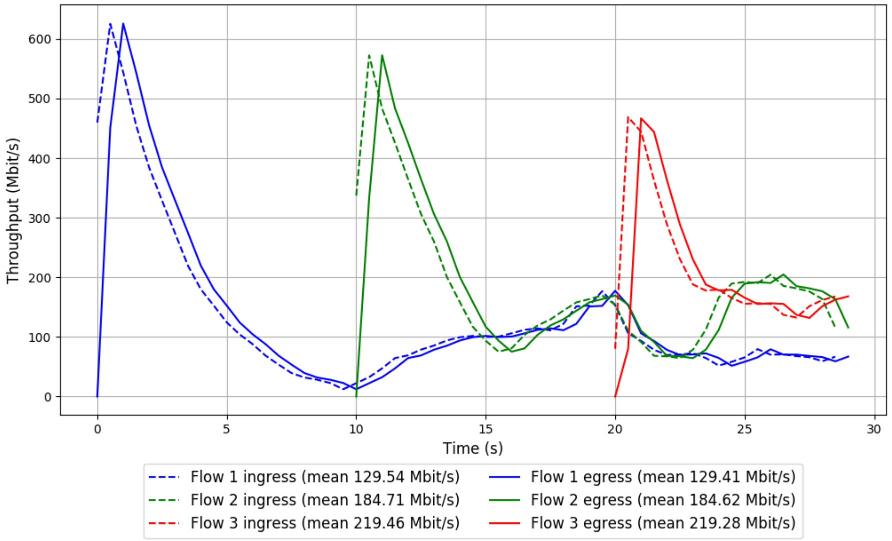
Run 2: Report of Indigo-MusesC3 — Data Link

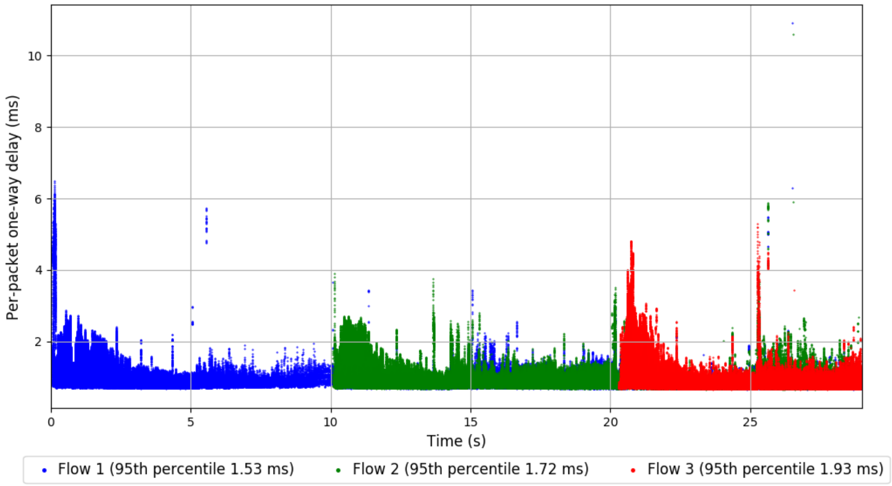




```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-25 02:22:46
End at: 2019-01-25 02:23:16
Local clock offset: 1.274 ms
Remote clock offset: -1.426 ms

# Below is generated by plot.py at 2019-01-25 04:04:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.39 Mbit/s
95th percentile per-packet one-way delay: 1.686 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 129.41 Mbit/s
95th percentile per-packet one-way delay: 1.532 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 184.62 Mbit/s
95th percentile per-packet one-way delay: 1.715 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 219.28 Mbit/s
95th percentile per-packet one-way delay: 1.930 ms
Loss rate: 0.07%
```

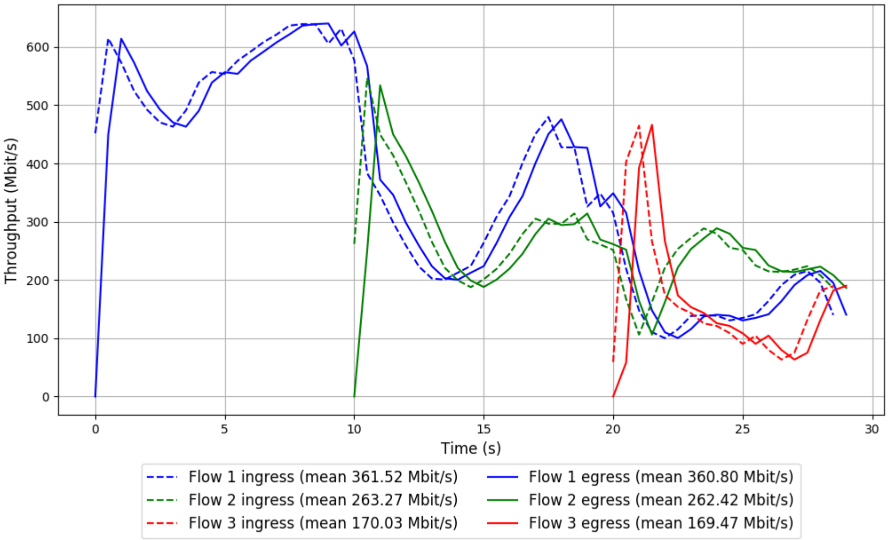
Run 3: Report of Indigo-MusesC3 — Data Link

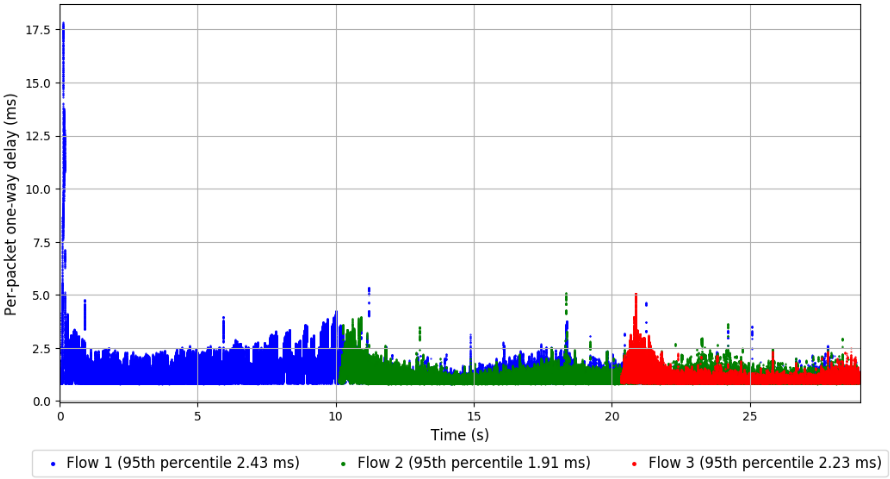




```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-25 02:52:04
End at: 2019-01-25 02:52:34
Local clock offset: 1.397 ms
Remote clock offset: -0.973 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 582.08 Mbit/s
95th percentile per-packet one-way delay: 2.253 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 360.80 Mbit/s
95th percentile per-packet one-way delay: 2.428 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 262.42 Mbit/s
95th percentile per-packet one-way delay: 1.911 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 169.47 Mbit/s
95th percentile per-packet one-way delay: 2.233 ms
Loss rate: 0.33%
```

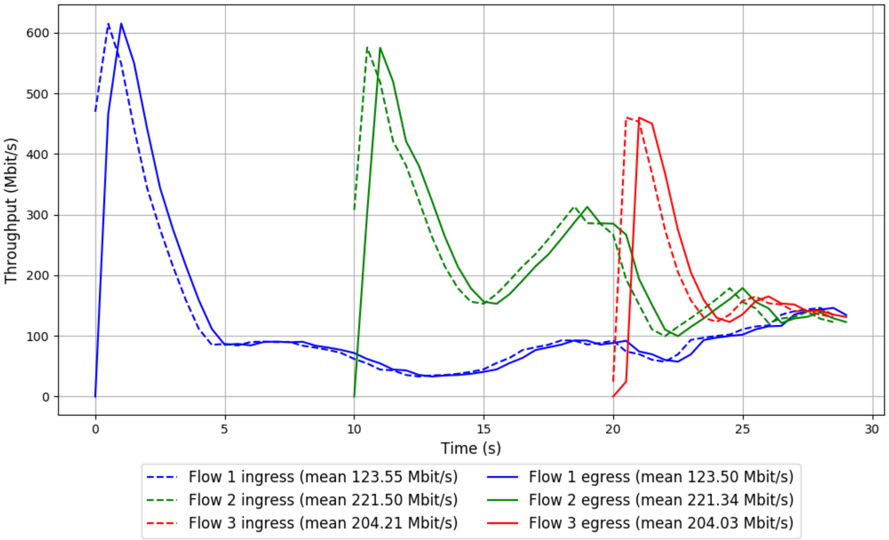
Run 4: Report of Indigo-MusesC3 — Data Link

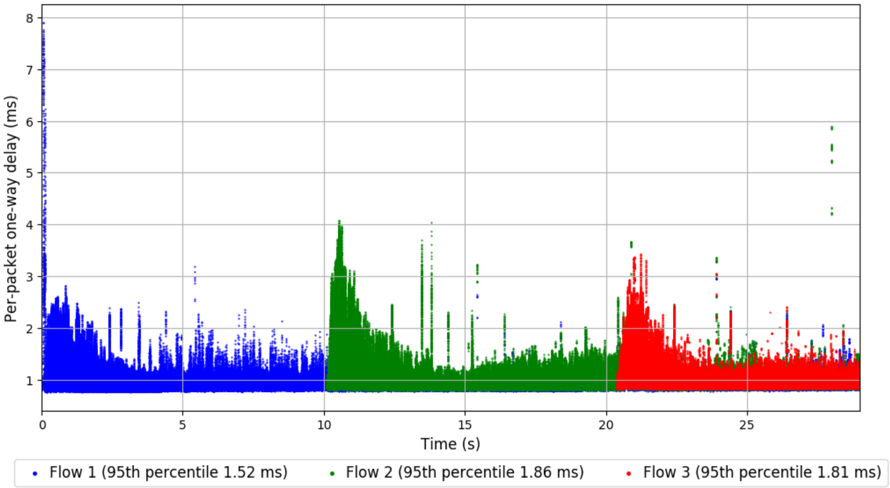




```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-25 03:21:59
End at: 2019-01-25 03:22:29
Local clock offset: 4.061 ms
Remote clock offset: -0.385 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.19 Mbit/s
95th percentile per-packet one-way delay: 1.724 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 123.50 Mbit/s
95th percentile per-packet one-way delay: 1.516 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 221.34 Mbit/s
95th percentile per-packet one-way delay: 1.861 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 204.03 Mbit/s
95th percentile per-packet one-way delay: 1.811 ms
Loss rate: 0.08%
```

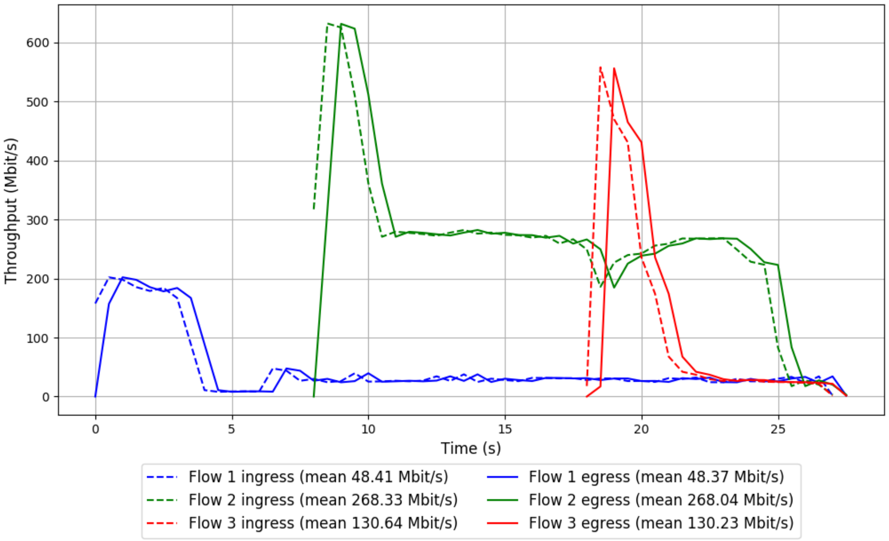
Run 5: Report of Indigo-MusesC3 — Data Link

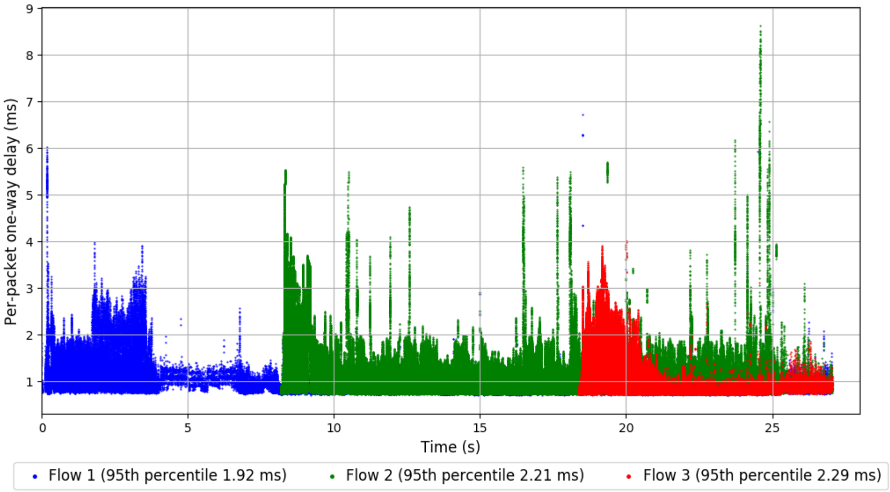




```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-25 01:08:37
End at: 2019-01-25 01:09:07
Local clock offset: -4.03 ms
Remote clock offset: -0.354 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.13 Mbit/s
95th percentile per-packet one-way delay: 2.169 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 48.37 Mbit/s
95th percentile per-packet one-way delay: 1.916 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 268.04 Mbit/s
95th percentile per-packet one-way delay: 2.208 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 130.23 Mbit/s
95th percentile per-packet one-way delay: 2.291 ms
Loss rate: 0.31%
```

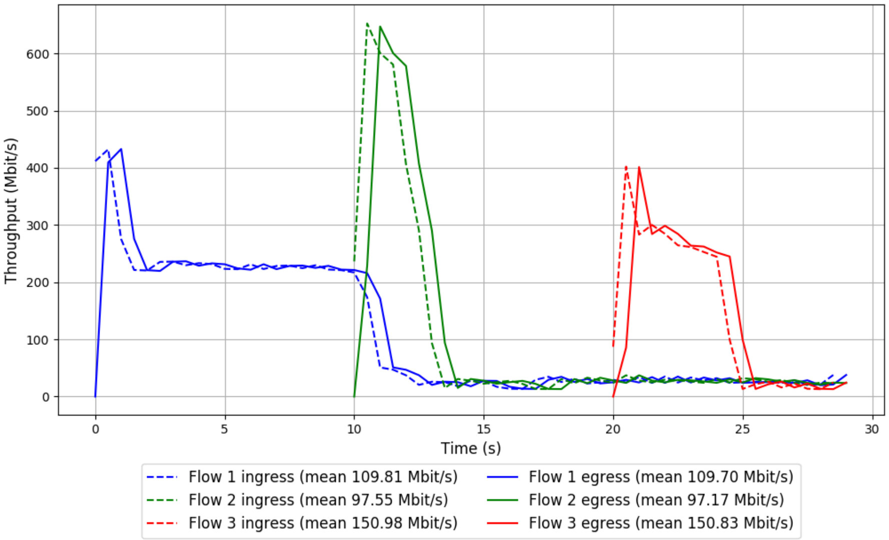
Run 1: Report of Indigo-MusesC5 — Data Link

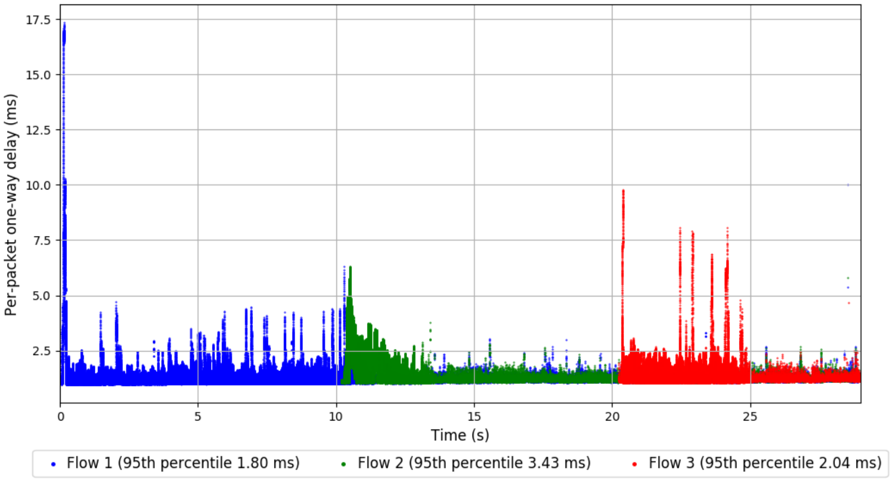




```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-25 01:38:14
End at: 2019-01-25 01:38:44
Local clock offset: -1.217 ms
Remote clock offset: 4.065 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.99 Mbit/s
95th percentile per-packet one-way delay: 2.712 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 109.70 Mbit/s
95th percentile per-packet one-way delay: 1.805 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 97.17 Mbit/s
95th percentile per-packet one-way delay: 3.431 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 150.83 Mbit/s
95th percentile per-packet one-way delay: 2.040 ms
Loss rate: 0.10%
```

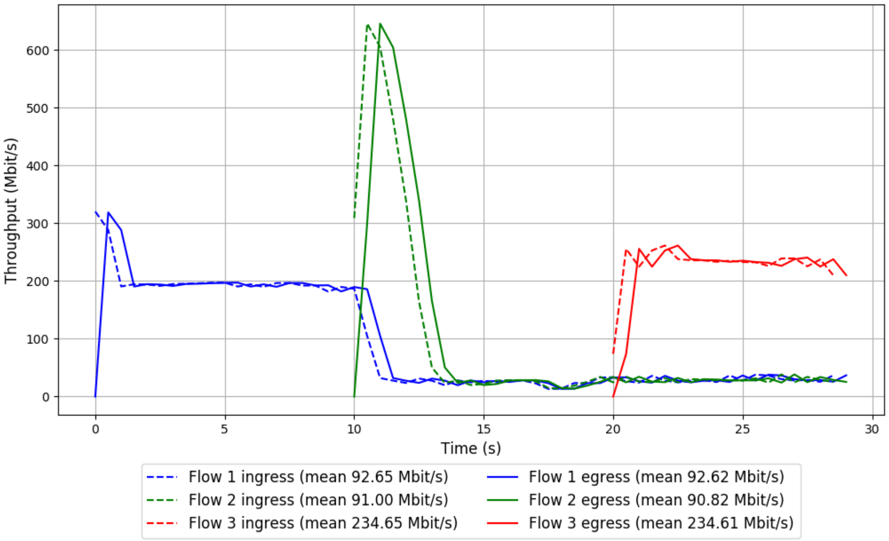
Run 2: Report of Indigo-MusesC5 — Data Link

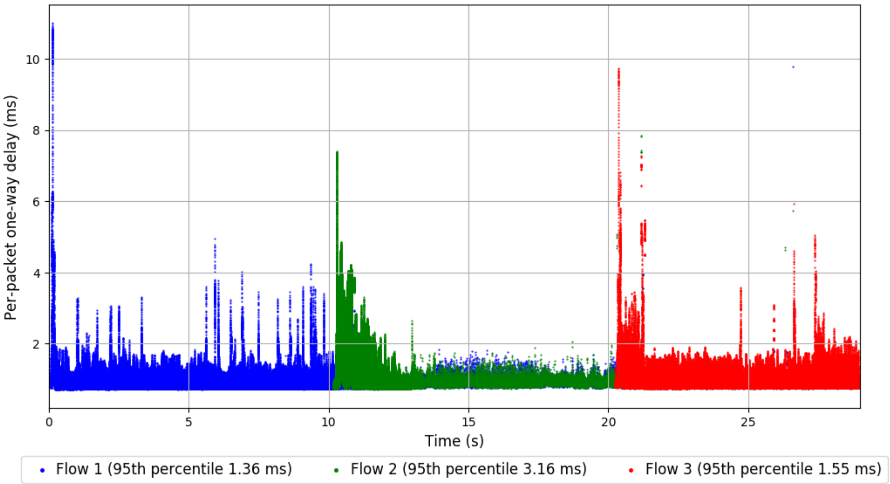




```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-25 02:07:54
End at: 2019-01-25 02:08:24
Local clock offset: 1.251 ms
Remote clock offset: -0.451 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 222.15 Mbit/s
95th percentile per-packet one-way delay: 2.101 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 1.362 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 90.82 Mbit/s
95th percentile per-packet one-way delay: 3.159 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 234.61 Mbit/s
95th percentile per-packet one-way delay: 1.554 ms
Loss rate: 0.02%
```

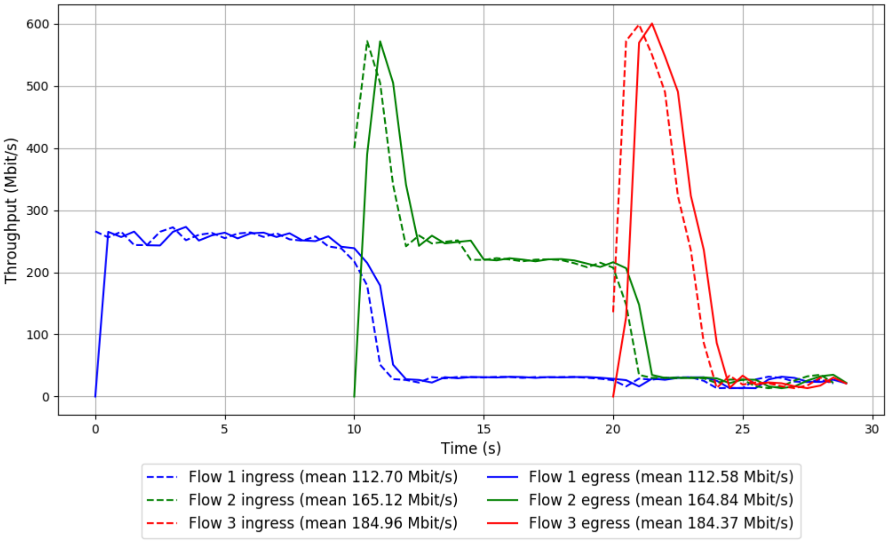
Run 3: Report of Indigo-MusesC5 — Data Link

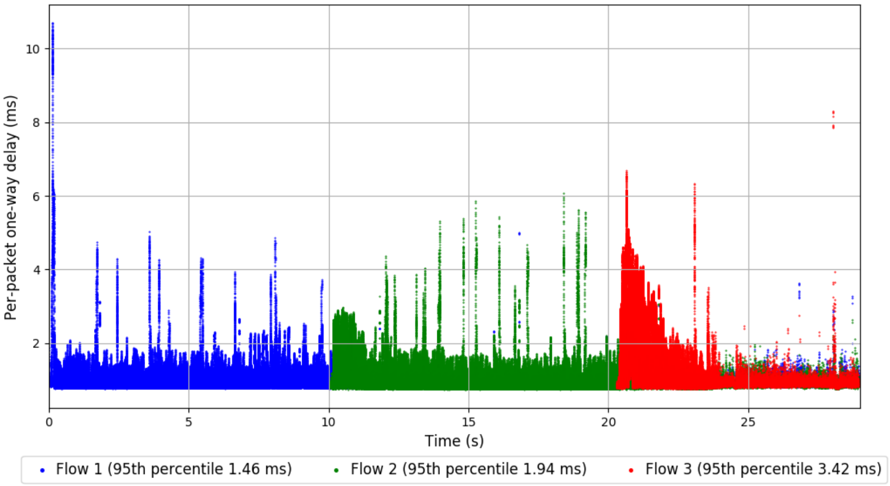




```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-25 02:37:11
End at: 2019-01-25 02:37:41
Local clock offset: 1.269 ms
Remote clock offset: -0.738 ms

# Below is generated by plot.py at 2019-01-25 04:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 275.29 Mbit/s
95th percentile per-packet one-way delay: 2.336 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 112.58 Mbit/s
95th percentile per-packet one-way delay: 1.460 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 164.84 Mbit/s
95th percentile per-packet one-way delay: 1.936 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 184.37 Mbit/s
95th percentile per-packet one-way delay: 3.421 ms
Loss rate: 0.31%
```

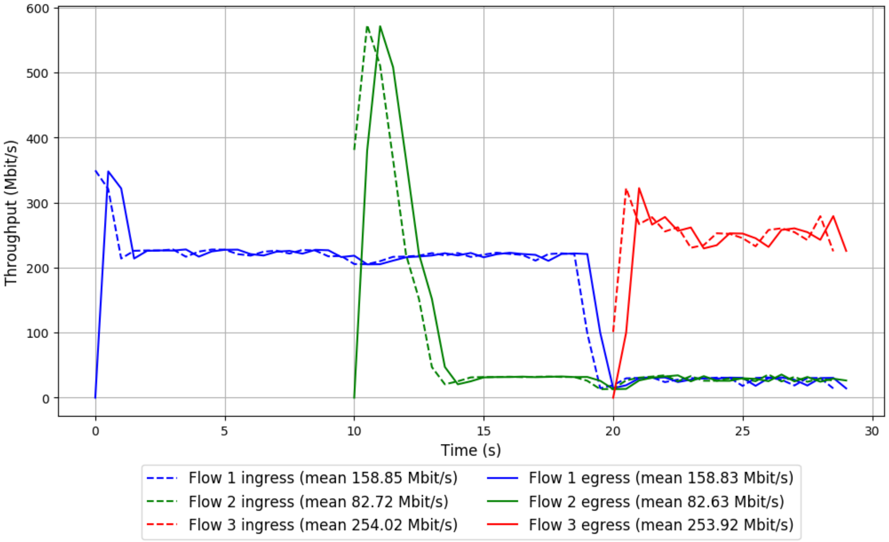
Run 4: Report of Indigo-MusesC5 — Data Link

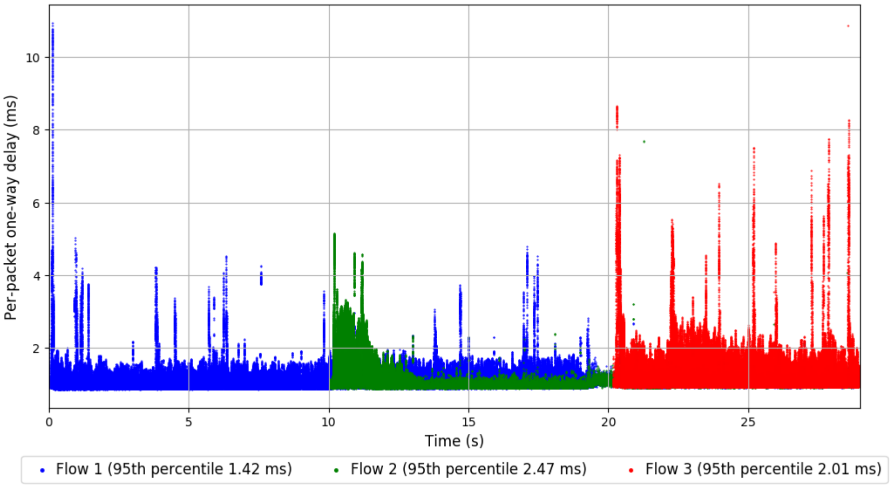




```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-25 03:06:56
End at: 2019-01-25 03:07:26
Local clock offset: 2.789 ms
Remote clock offset: -0.38 ms

# Below is generated by plot.py at 2019-01-25 04:07:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 289.63 Mbit/s
95th percentile per-packet one-way delay: 1.888 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 158.83 Mbit/s
95th percentile per-packet one-way delay: 1.423 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 82.63 Mbit/s
95th percentile per-packet one-way delay: 2.474 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 253.92 Mbit/s
95th percentile per-packet one-way delay: 2.010 ms
Loss rate: 0.04%
```

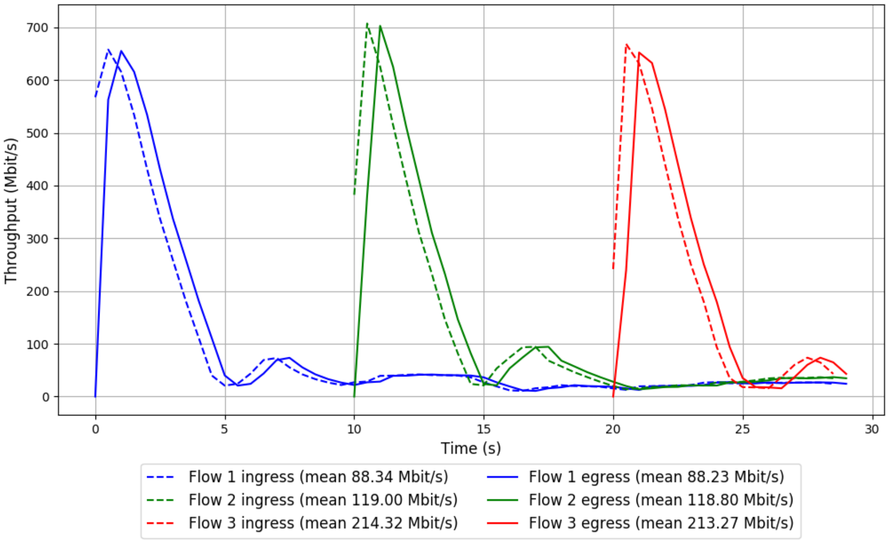
Run 5: Report of Indigo-MusesC5 — Data Link

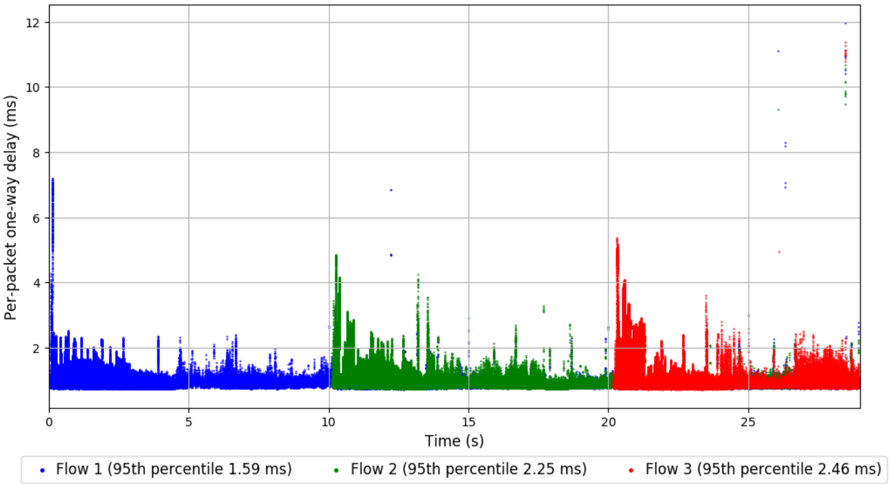




```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-25 01:09:59
End at: 2019-01-25 01:10:29
Local clock offset: -4.121 ms
Remote clock offset: -0.373 ms

# Below is generated by plot.py at 2019-01-25 04:07:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.08 Mbit/s
95th percentile per-packet one-way delay: 2.085 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 88.23 Mbit/s
95th percentile per-packet one-way delay: 1.591 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 118.80 Mbit/s
95th percentile per-packet one-way delay: 2.250 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 213.27 Mbit/s
95th percentile per-packet one-way delay: 2.456 ms
Loss rate: 0.49%
```

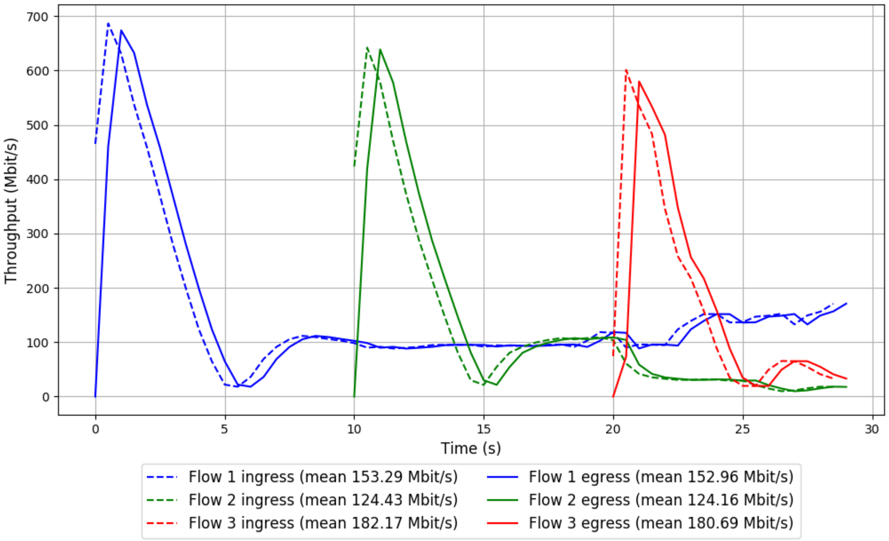
Run 1: Report of Indigo-MusesD — Data Link

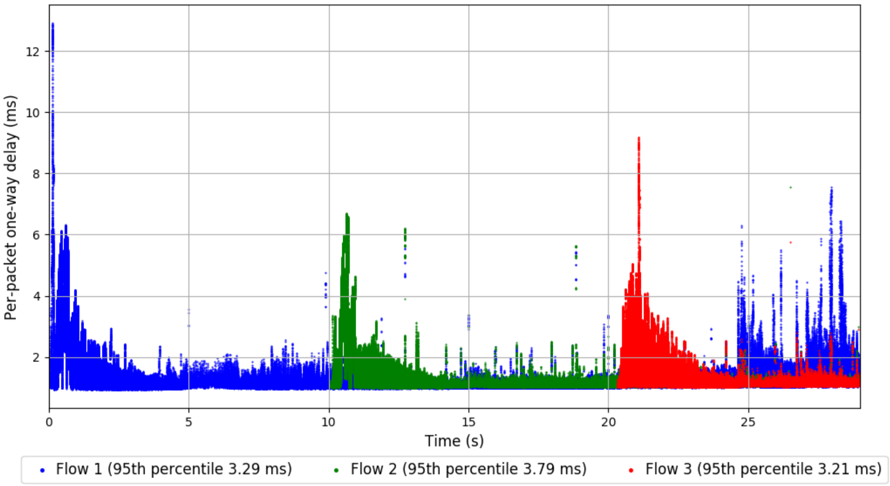




```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-25 01:39:35
End at: 2019-01-25 01:40:05
Local clock offset: -0.828 ms
Remote clock offset: 4.174 ms

# Below is generated by plot.py at 2019-01-25 04:08:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.73 Mbit/s
95th percentile per-packet one-way delay: 3.362 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 152.96 Mbit/s
95th percentile per-packet one-way delay: 3.290 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 124.16 Mbit/s
95th percentile per-packet one-way delay: 3.785 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 180.69 Mbit/s
95th percentile per-packet one-way delay: 3.209 ms
Loss rate: 0.79%
```

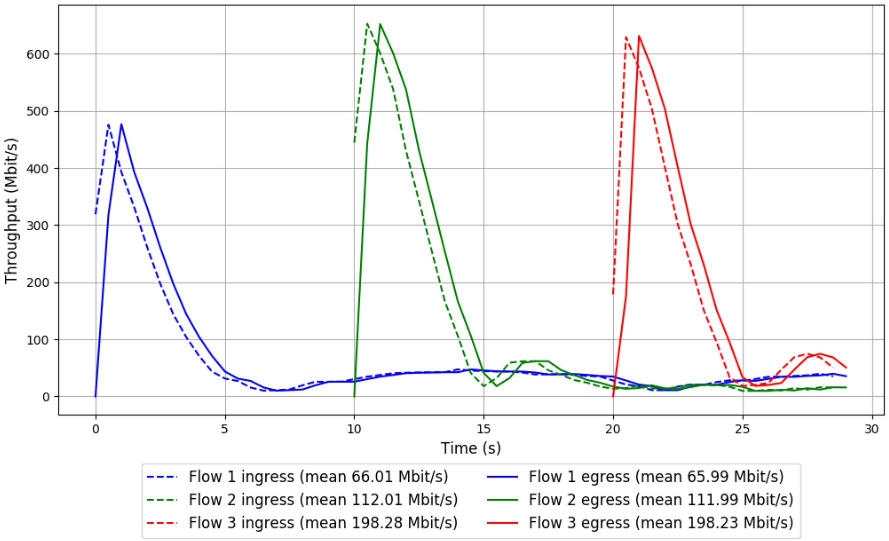
Run 2: Report of Indigo-MusesD — Data Link

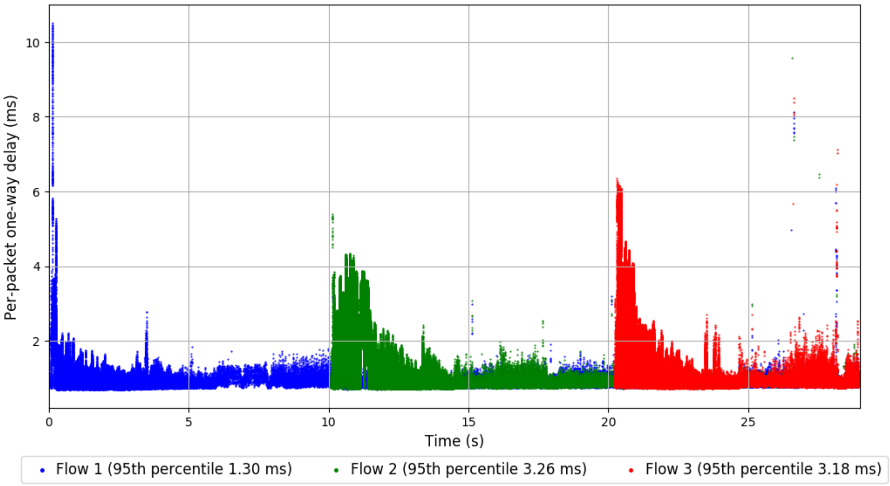




```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-25 02:09:15
End at: 2019-01-25 02:09:45
Local clock offset: 1.223 ms
Remote clock offset: -0.586 ms

# Below is generated by plot.py at 2019-01-25 04:08:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.95 Mbit/s
95th percentile per-packet one-way delay: 3.007 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 65.99 Mbit/s
95th percentile per-packet one-way delay: 1.301 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 111.99 Mbit/s
95th percentile per-packet one-way delay: 3.260 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 198.23 Mbit/s
95th percentile per-packet one-way delay: 3.184 ms
Loss rate: 0.03%
```

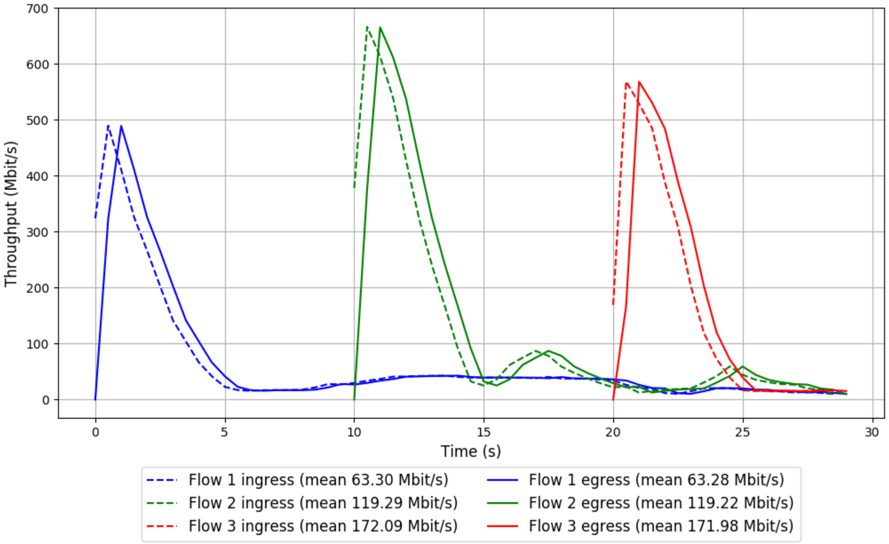
Run 3: Report of Indigo-MusesD — Data Link

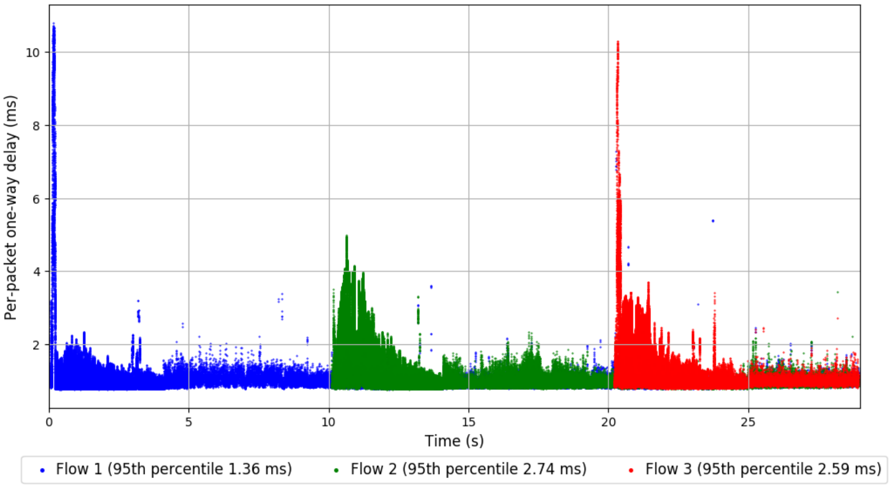




```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-25 02:38:34
End at: 2019-01-25 02:39:04
Local clock offset: 1.27 ms
Remote clock offset: -0.716 ms

# Below is generated by plot.py at 2019-01-25 04:08:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 192.86 Mbit/s
95th percentile per-packet one-way delay: 2.466 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 63.28 Mbit/s
95th percentile per-packet one-way delay: 1.356 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 119.22 Mbit/s
95th percentile per-packet one-way delay: 2.742 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 171.98 Mbit/s
95th percentile per-packet one-way delay: 2.588 ms
Loss rate: 0.06%
```

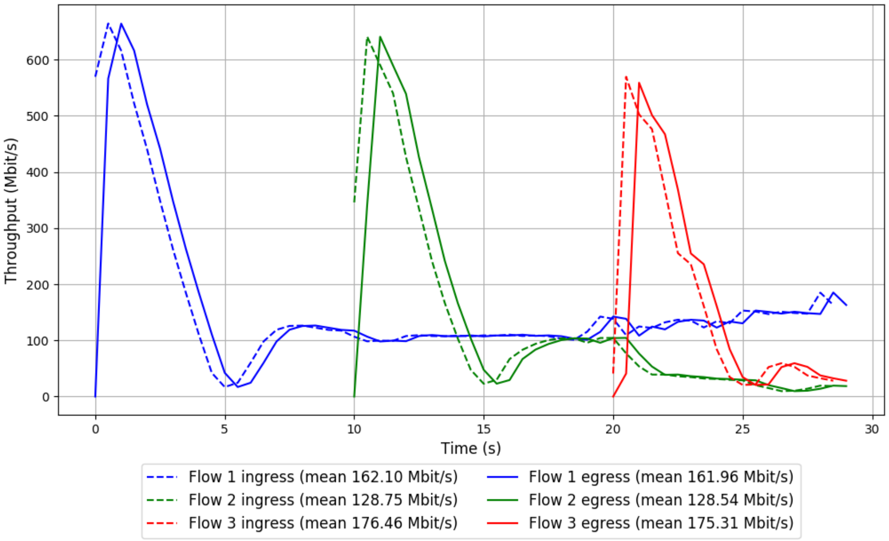
Run 4: Report of Indigo-MusesD — Data Link

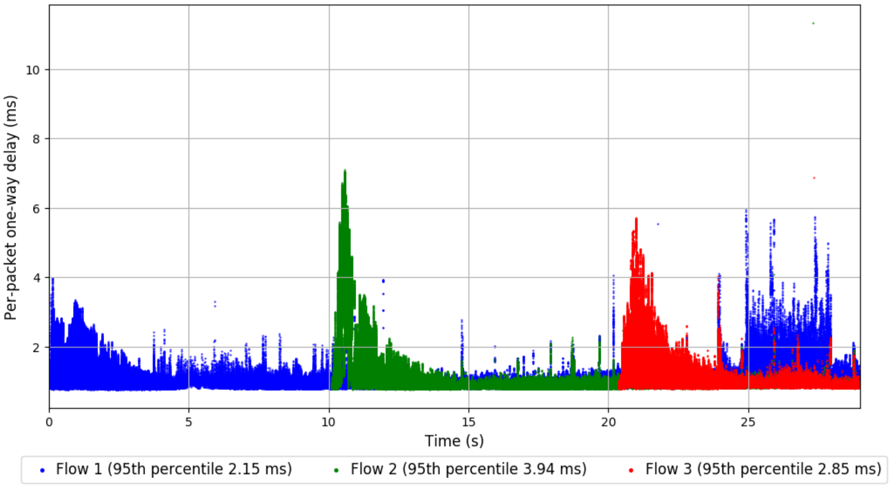




```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-25 03:08:19
End at: 2019-01-25 03:08:49
Local clock offset: 2.973 ms
Remote clock offset: -0.416 ms

# Below is generated by plot.py at 2019-01-25 04:09:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.63 Mbit/s
95th percentile per-packet one-way delay: 2.651 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 161.96 Mbit/s
95th percentile per-packet one-way delay: 2.155 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 128.54 Mbit/s
95th percentile per-packet one-way delay: 3.941 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 175.31 Mbit/s
95th percentile per-packet one-way delay: 2.854 ms
Loss rate: 0.65%
```

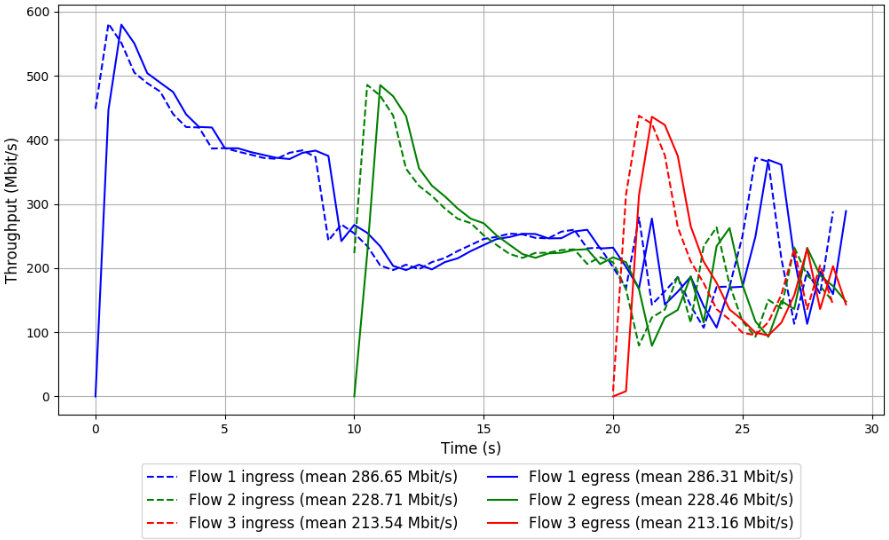
Run 5: Report of Indigo-MusesD — Data Link

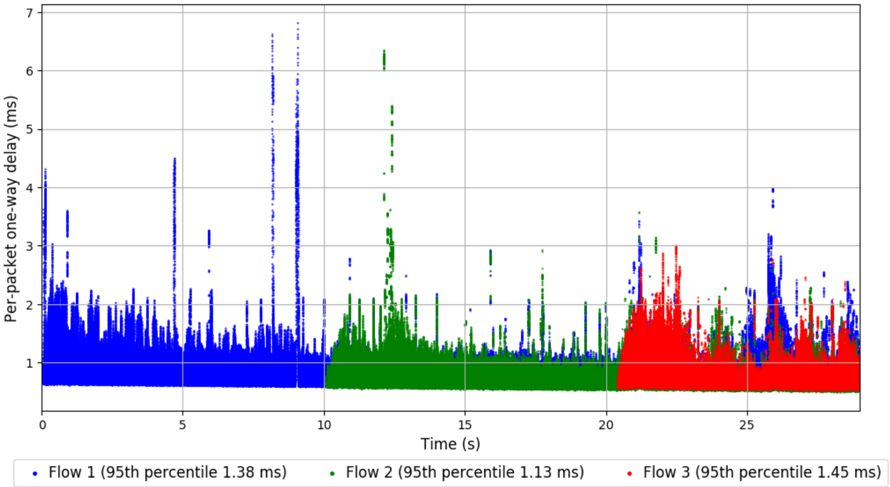




```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-25 01:22:05
End at: 2019-01-25 01:22:35
Local clock offset: -4.676 ms
Remote clock offset: 1.948 ms

# Below is generated by plot.py at 2019-01-25 04:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 498.16 Mbit/s
95th percentile per-packet one-way delay: 1.327 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 286.31 Mbit/s
95th percentile per-packet one-way delay: 1.381 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 228.46 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 213.16 Mbit/s
95th percentile per-packet one-way delay: 1.450 ms
Loss rate: 0.17%
```

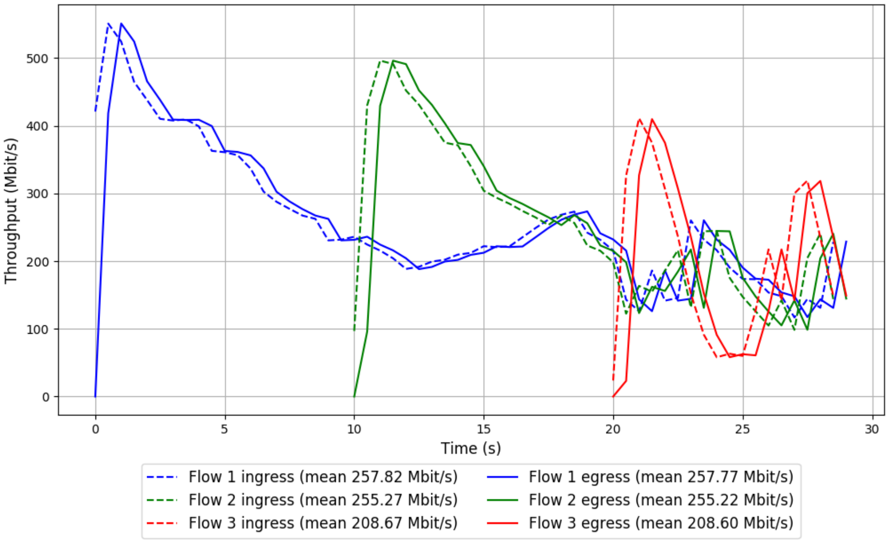
Run 1: Report of Indigo-MusesT — Data Link

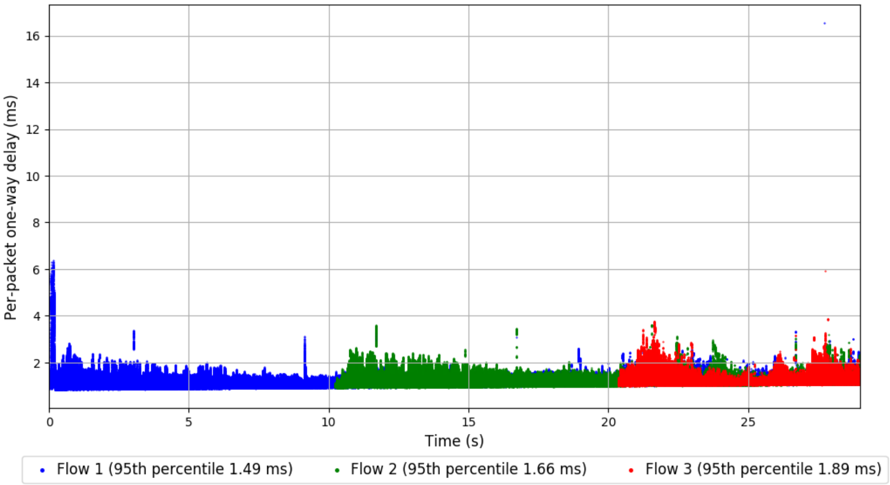




```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-25 01:51:45
End at: 2019-01-25 01:52:15
Local clock offset: 1.221 ms
Remote clock offset: 2.753 ms

# Below is generated by plot.py at 2019-01-25 04:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 484.87 Mbit/s
95th percentile per-packet one-way delay: 1.626 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 257.77 Mbit/s
95th percentile per-packet one-way delay: 1.486 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 255.22 Mbit/s
95th percentile per-packet one-way delay: 1.657 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 208.60 Mbit/s
95th percentile per-packet one-way delay: 1.893 ms
Loss rate: 0.03%
```

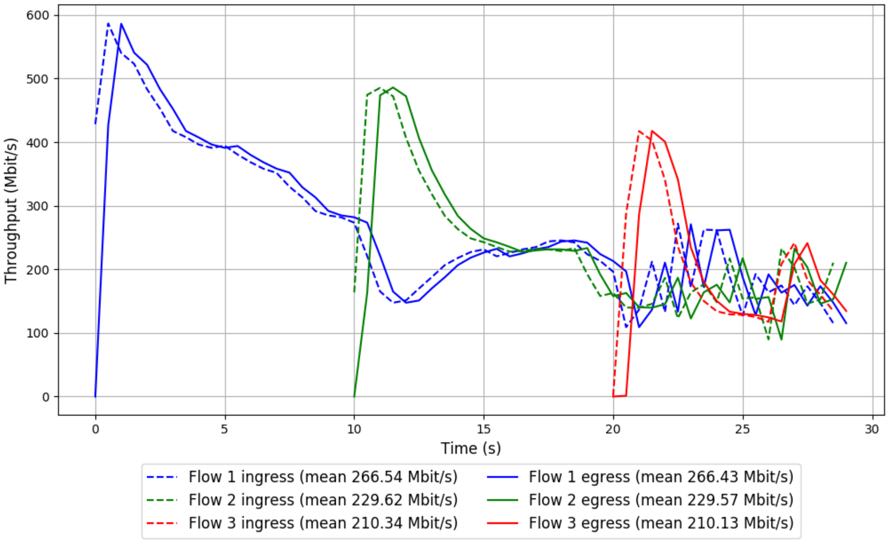
Run 2: Report of Indigo-MusesT — Data Link

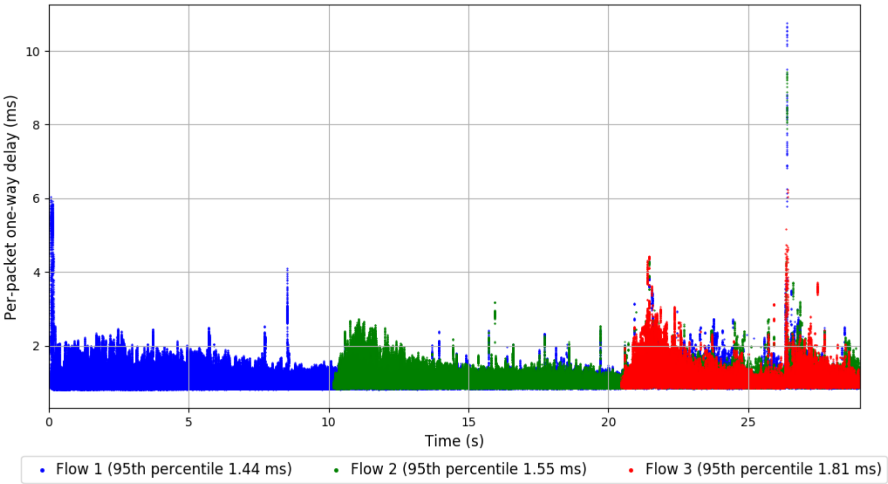




```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-25 02:21:16
End at: 2019-01-25 02:21:46
Local clock offset: 1.238 ms
Remote clock offset: -1.396 ms

# Below is generated by plot.py at 2019-01-25 04:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.02 Mbit/s
95th percentile per-packet one-way delay: 1.538 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 266.43 Mbit/s
95th percentile per-packet one-way delay: 1.442 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 229.57 Mbit/s
95th percentile per-packet one-way delay: 1.553 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 210.13 Mbit/s
95th percentile per-packet one-way delay: 1.811 ms
Loss rate: 0.10%
```

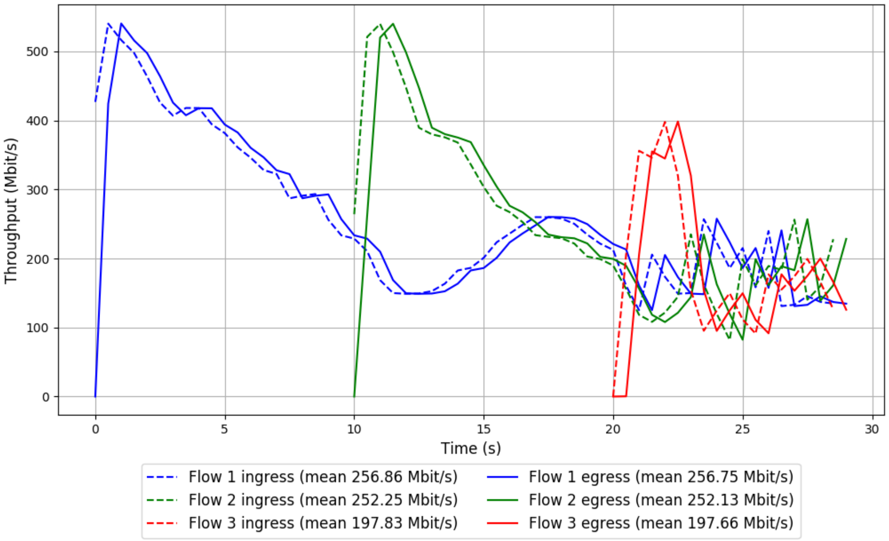
Run 3: Report of Indigo-MusesT — Data Link

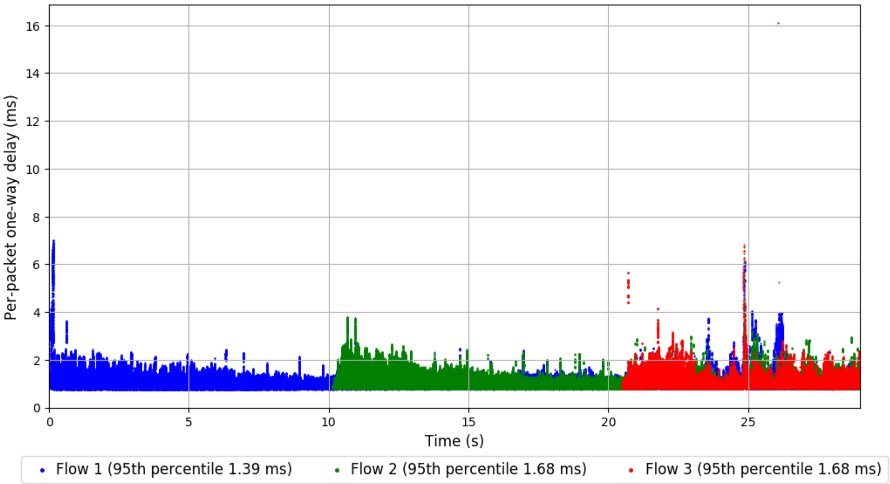




```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-25 02:50:35
End at: 2019-01-25 02:51:05
Local clock offset: 1.387 ms
Remote clock offset: -0.977 ms

# Below is generated by plot.py at 2019-01-25 04:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.32 Mbit/s
95th percentile per-packet one-way delay: 1.538 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 256.75 Mbit/s
95th percentile per-packet one-way delay: 1.393 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 252.13 Mbit/s
95th percentile per-packet one-way delay: 1.677 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 197.66 Mbit/s
95th percentile per-packet one-way delay: 1.676 ms
Loss rate: 0.08%
```

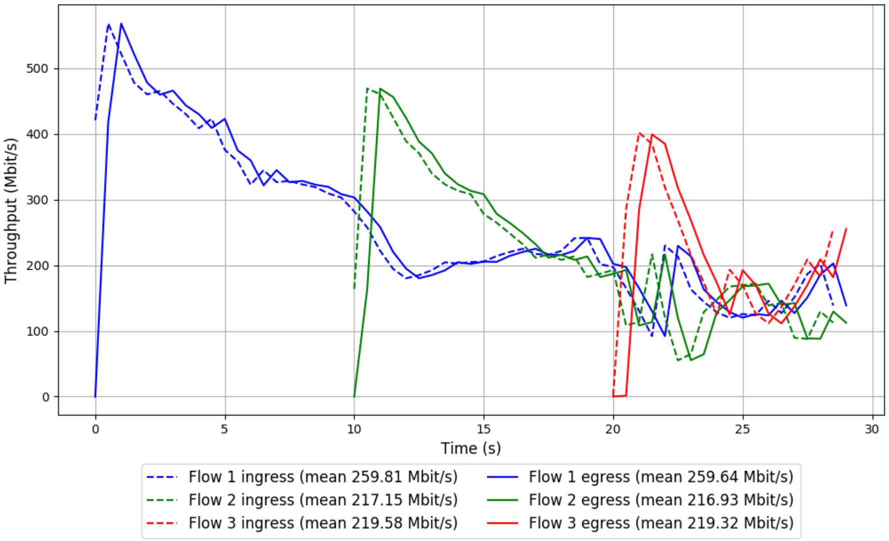
Run 4: Report of Indigo-MusesT — Data Link

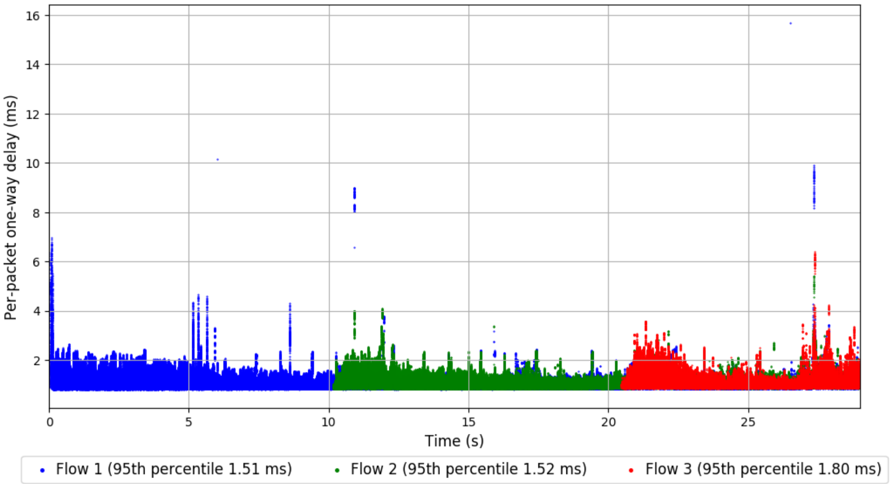




```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-25 03:20:30
End at: 2019-01-25 03:21:00
Local clock offset: 3.973 ms
Remote clock offset: -0.361 ms

# Below is generated by plot.py at 2019-01-25 04:12:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 464.72 Mbit/s
95th percentile per-packet one-way delay: 1.563 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 259.64 Mbit/s
95th percentile per-packet one-way delay: 1.509 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 216.93 Mbit/s
95th percentile per-packet one-way delay: 1.519 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 219.32 Mbit/s
95th percentile per-packet one-way delay: 1.797 ms
Loss rate: 0.12%
```

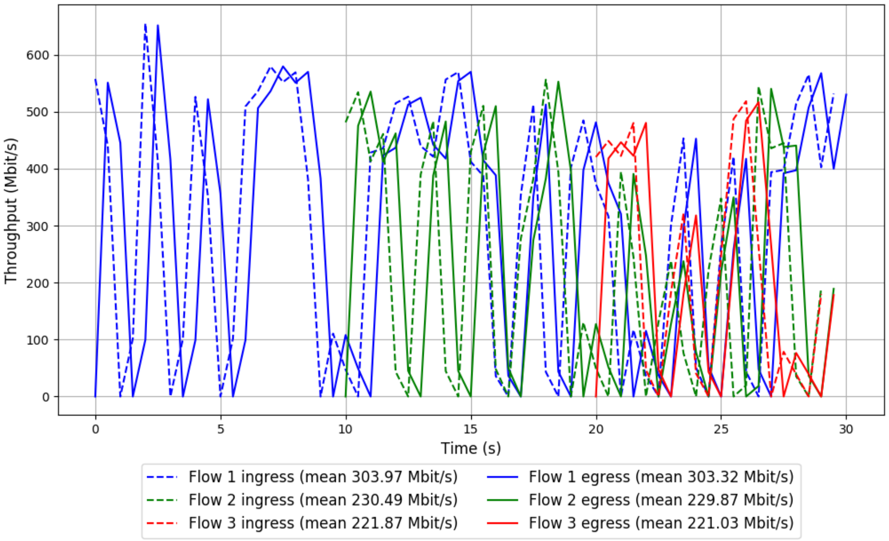
Run 5: Report of Indigo-MusesT — Data Link

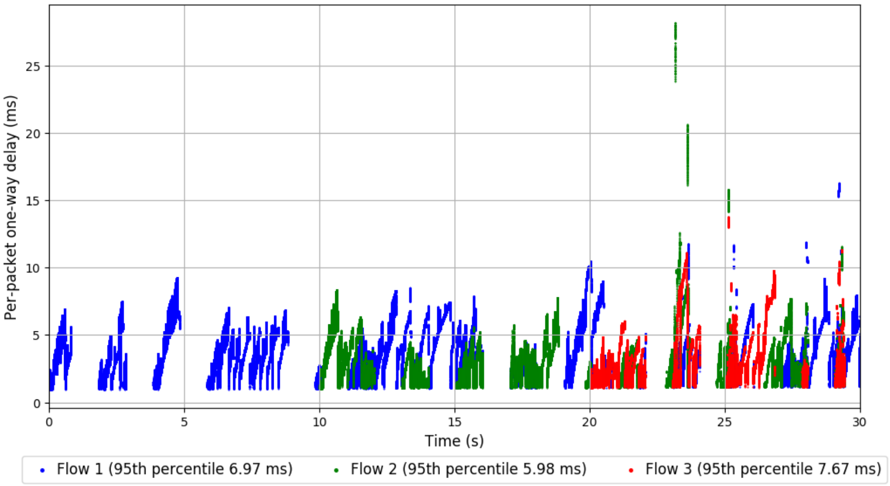




```
Run 1: Statistics of LEDBAT

Start at: 2019-01-25 01:31:56
End at: 2019-01-25 01:32:26
Local clock offset: -3.746 ms
Remote clock offset: 3.397 ms

# Below is generated by plot.py at 2019-01-25 04:14:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.52 Mbit/s
95th percentile per-packet one-way delay: 6.883 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 303.32 Mbit/s
95th percentile per-packet one-way delay: 6.972 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 229.87 Mbit/s
95th percentile per-packet one-way delay: 5.980 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 221.03 Mbit/s
95th percentile per-packet one-way delay: 7.665 ms
Loss rate: 0.38%
```

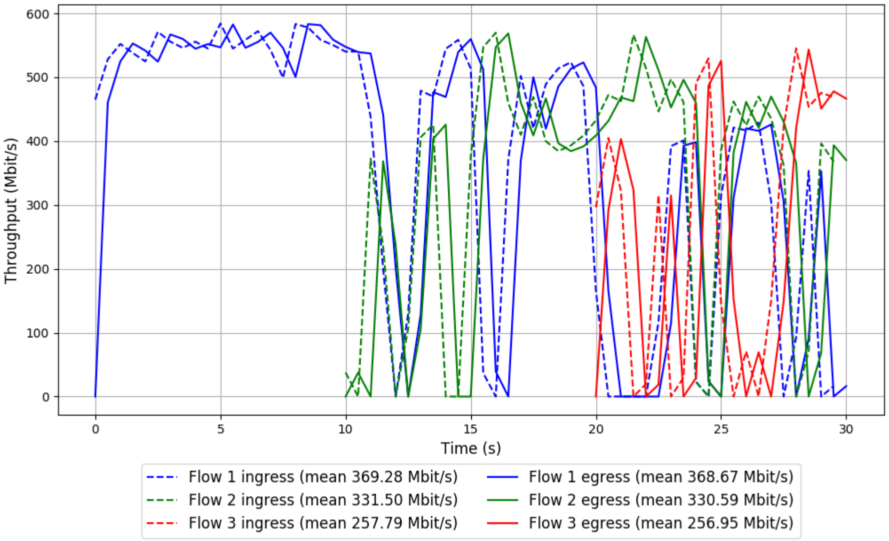
Run 1: Report of LEDBAT — Data Link

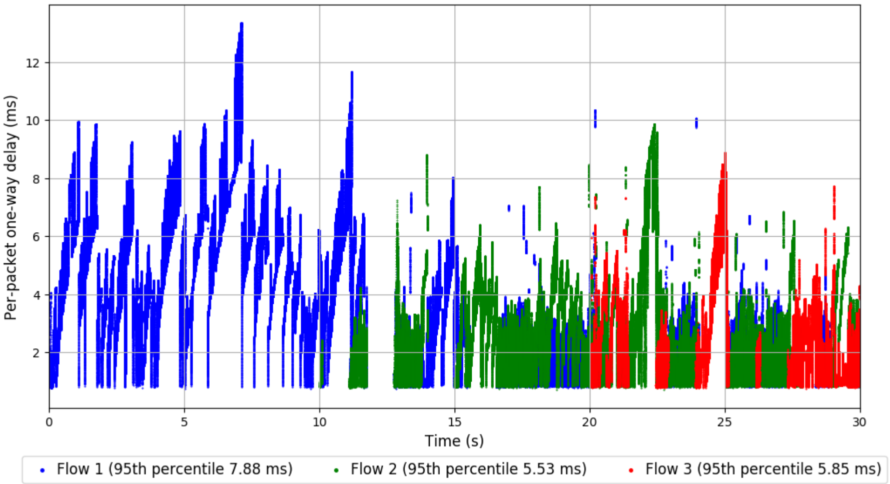




```
Run 2: Statistics of LEDBAT

Start at: 2019-01-25 02:01:27
End at: 2019-01-25 02:01:57
Local clock offset: 1.737 ms
Remote clock offset: 0.435 ms

# Below is generated by plot.py at 2019-01-25 04:15:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 674.31 Mbit/s
95th percentile per-packet one-way delay: 7.272 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 368.67 Mbit/s
95th percentile per-packet one-way delay: 7.884 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 330.59 Mbit/s
95th percentile per-packet one-way delay: 5.531 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 256.95 Mbit/s
95th percentile per-packet one-way delay: 5.852 ms
Loss rate: 0.33%
```

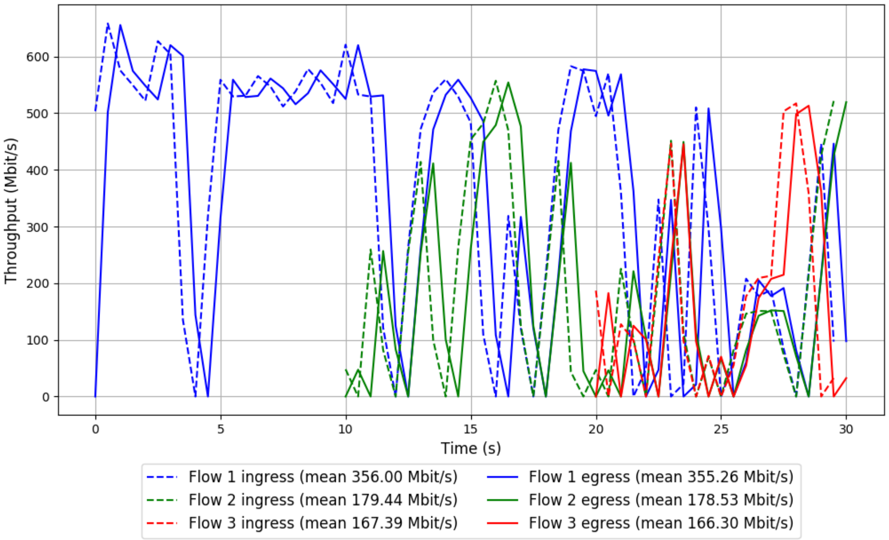
Run 2: Report of LEDBAT — Data Link

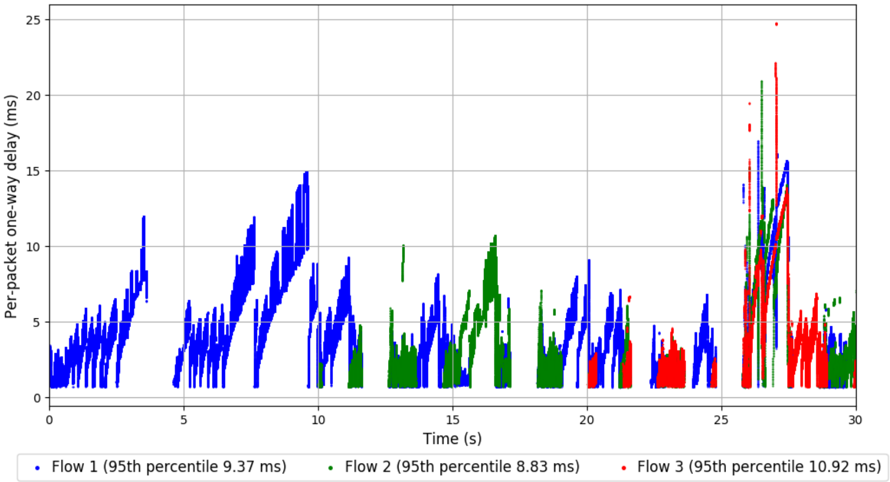




```
Run 3: Statistics of LEDBAT

Start at: 2019-01-25 02:30:52
End at: 2019-01-25 02:31:22
Local clock offset: 1.419 ms
Remote clock offset: -0.877 ms

# Below is generated by plot.py at 2019-01-25 04:15:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.23 Mbit/s
95th percentile per-packet one-way delay: 9.361 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 355.26 Mbit/s
95th percentile per-packet one-way delay: 9.368 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 178.53 Mbit/s
95th percentile per-packet one-way delay: 8.828 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 166.30 Mbit/s
95th percentile per-packet one-way delay: 10.920 ms
Loss rate: 0.65%
```

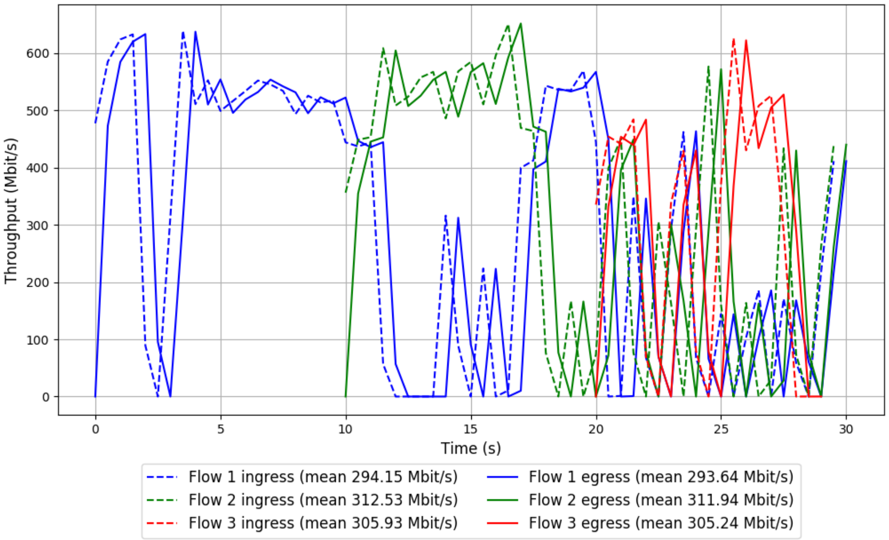
Run 3: Report of LEDBAT — Data Link

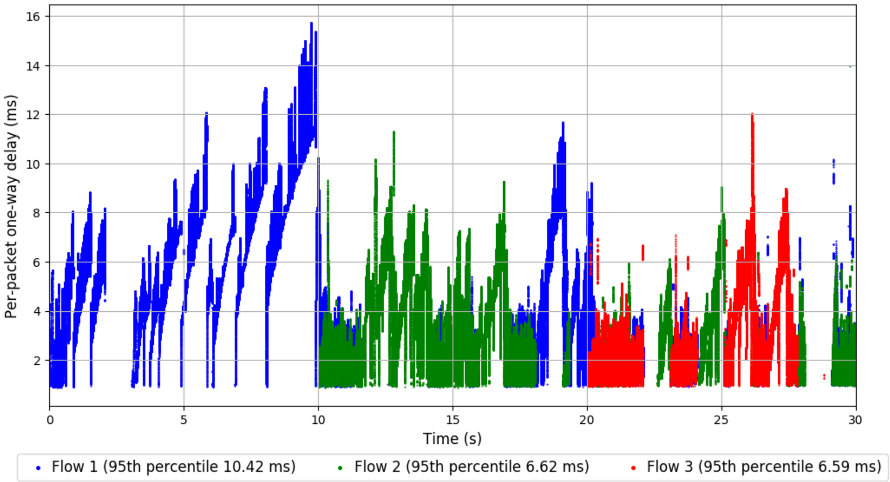




```
Run 4: Statistics of LEDBAT

Start at: 2019-01-25 03:00:33
End at: 2019-01-25 03:01:03
Local clock offset: 1.727 ms
Remote clock offset: -0.655 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 590.94 Mbit/s
95th percentile per-packet one-way delay: 8.838 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 293.64 Mbit/s
95th percentile per-packet one-way delay: 10.422 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 311.94 Mbit/s
95th percentile per-packet one-way delay: 6.621 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 305.24 Mbit/s
95th percentile per-packet one-way delay: 6.588 ms
Loss rate: 0.22%
```

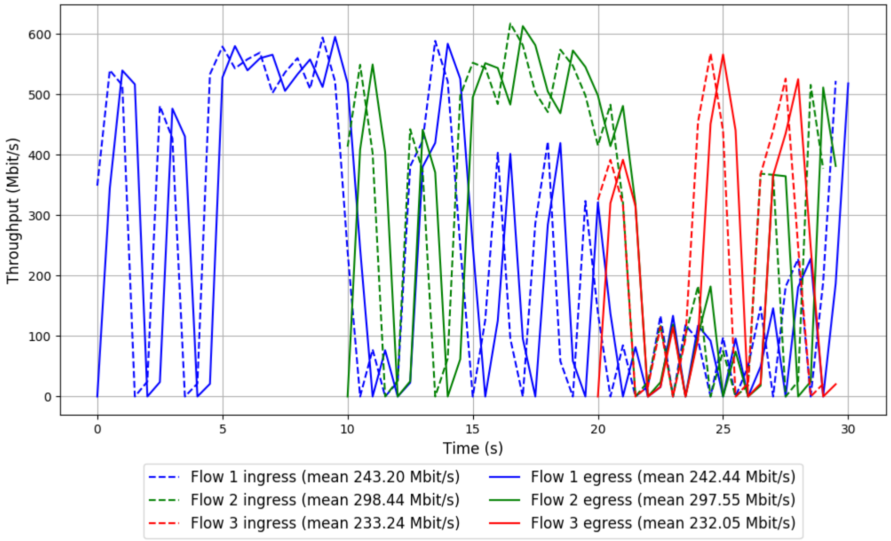
Run 4: Report of LEDBAT — Data Link

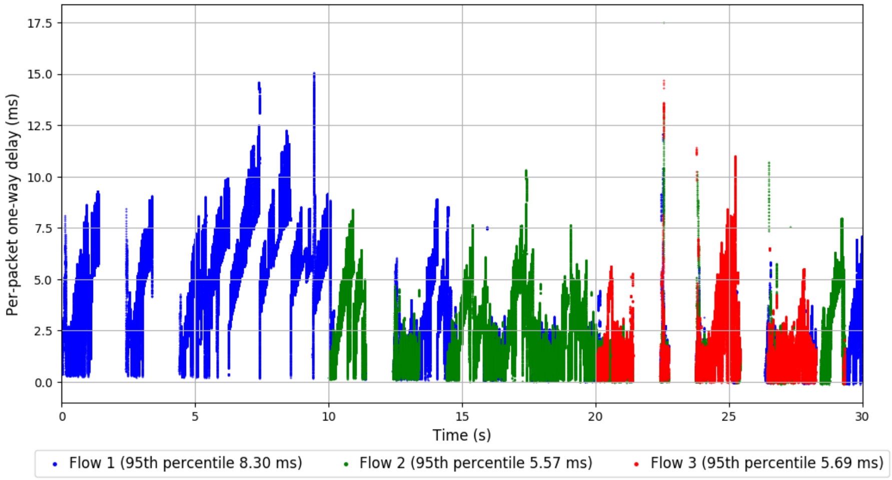




```
Run 5: Statistics of LEDBAT

Start at: 2019-01-25 03:30:18
End at: 2019-01-25 03:30:48
Local clock offset: 4.208 ms
Remote clock offset: -0.369 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 506.25 Mbit/s
95th percentile per-packet one-way delay: 7.655 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 242.44 Mbit/s
95th percentile per-packet one-way delay: 8.304 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 297.55 Mbit/s
95th percentile per-packet one-way delay: 5.568 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 232.05 Mbit/s
95th percentile per-packet one-way delay: 5.694 ms
Loss rate: 0.51%
```

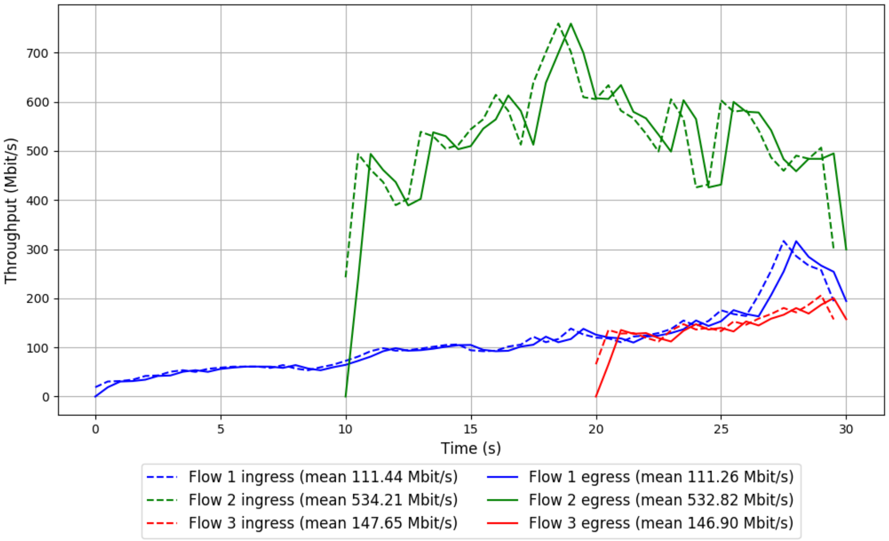
Run 5: Report of LEDBAT — Data Link

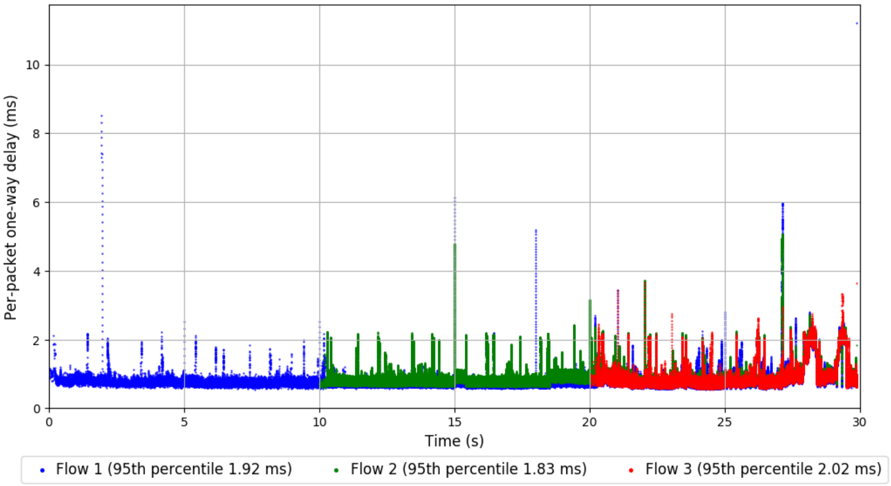




```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-25 01:19:15
End at: 2019-01-25 01:19:45
Local clock offset: -4.543 ms
Remote clock offset: 1.397 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 514.01 Mbit/s
95th percentile per-packet one-way delay: 1.901 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 111.26 Mbit/s
95th percentile per-packet one-way delay: 1.920 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 532.82 Mbit/s
95th percentile per-packet one-way delay: 1.828 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 146.90 Mbit/s
95th percentile per-packet one-way delay: 2.019 ms
Loss rate: 0.48%
```

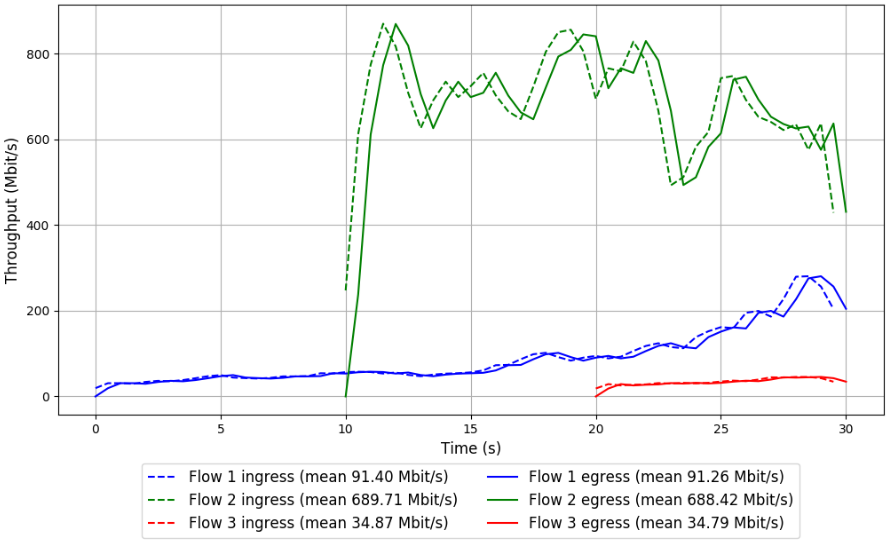
Run 1: Report of PCC-Allegro — Data Link

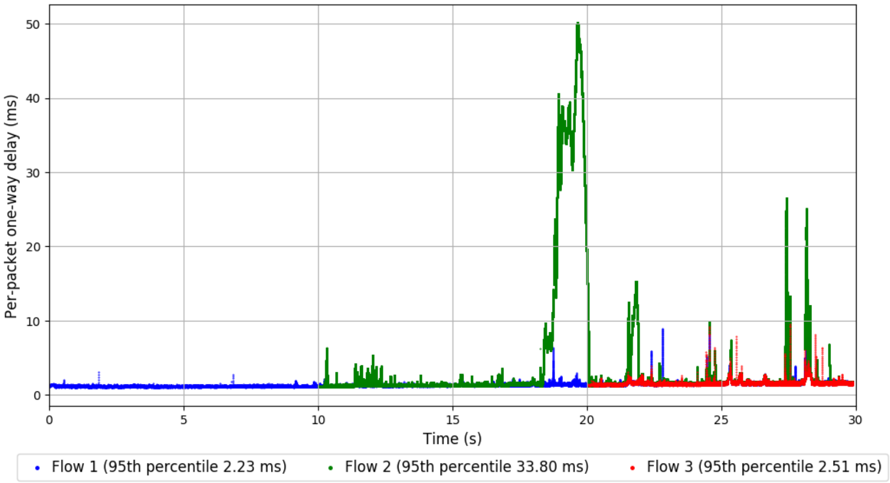




```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-25 01:48:55
End at: 2019-01-25 01:49:25
Local clock offset: 0.884 ms
Remote clock offset: 4.165 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 560.46 Mbit/s
95th percentile per-packet one-way delay: 28.579 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 2.233 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 688.42 Mbit/s
95th percentile per-packet one-way delay: 33.795 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 2.513 ms
Loss rate: 0.22%
```

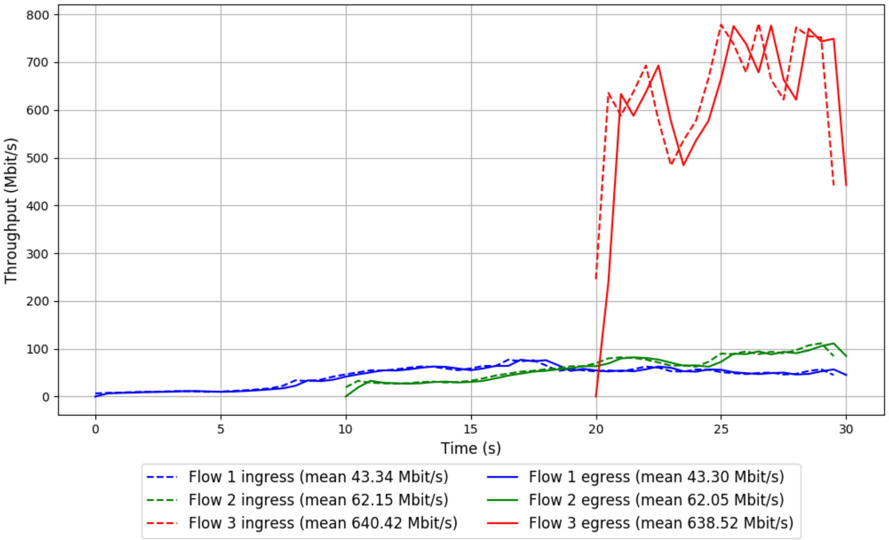
Run 2: Report of PCC-Allegro — Data Link

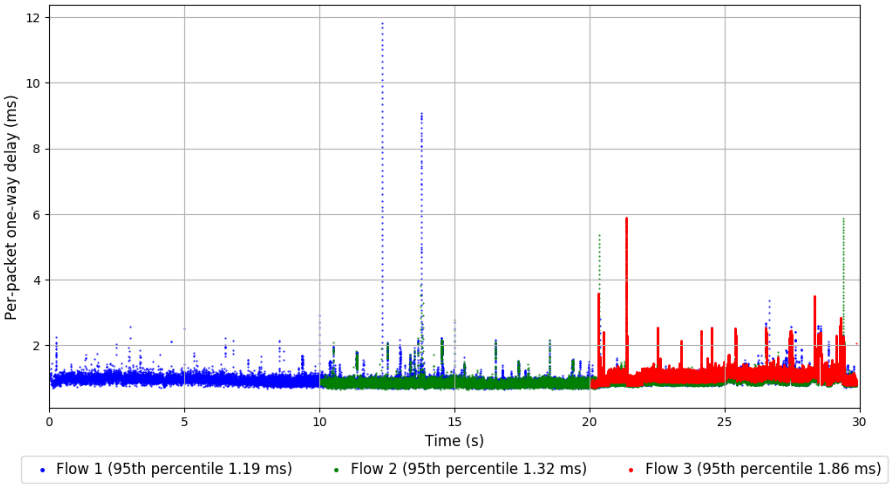




```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-25 02:18:32
End at: 2019-01-25 02:19:02
Local clock offset: 1.19 ms
Remote clock offset: -1.31 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.23 Mbit/s
95th percentile per-packet one-way delay: 1.691 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 43.30 Mbit/s
95th percentile per-packet one-way delay: 1.188 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 62.05 Mbit/s
95th percentile per-packet one-way delay: 1.322 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 638.52 Mbit/s
95th percentile per-packet one-way delay: 1.865 ms
Loss rate: 0.28%
```

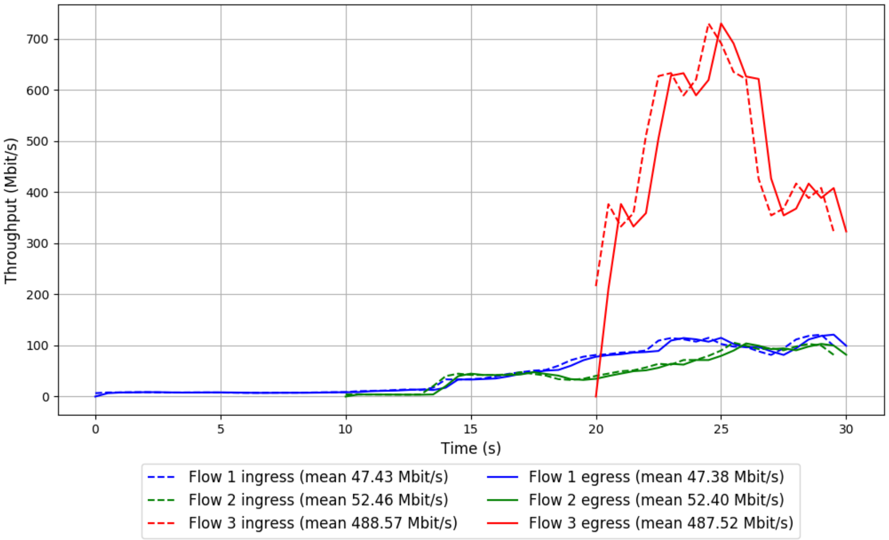
Run 3: Report of PCC-Allegro — Data Link

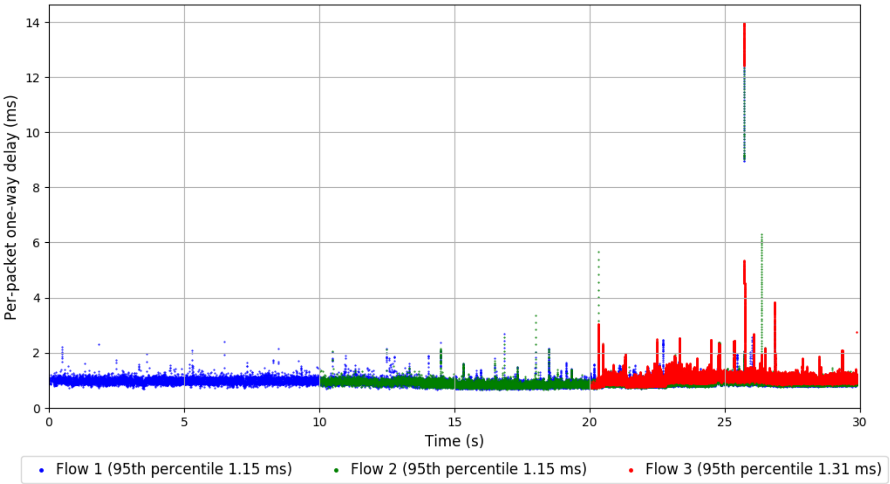




```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-25 02:47:52
End at: 2019-01-25 02:48:22
Local clock offset: 1.332 ms
Remote clock offset: -0.948 ms

# Below is generated by plot.py at 2019-01-25 04:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.04 Mbit/s
95th percentile per-packet one-way delay: 1.261 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 47.38 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 52.40 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 487.52 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 0.19%
```

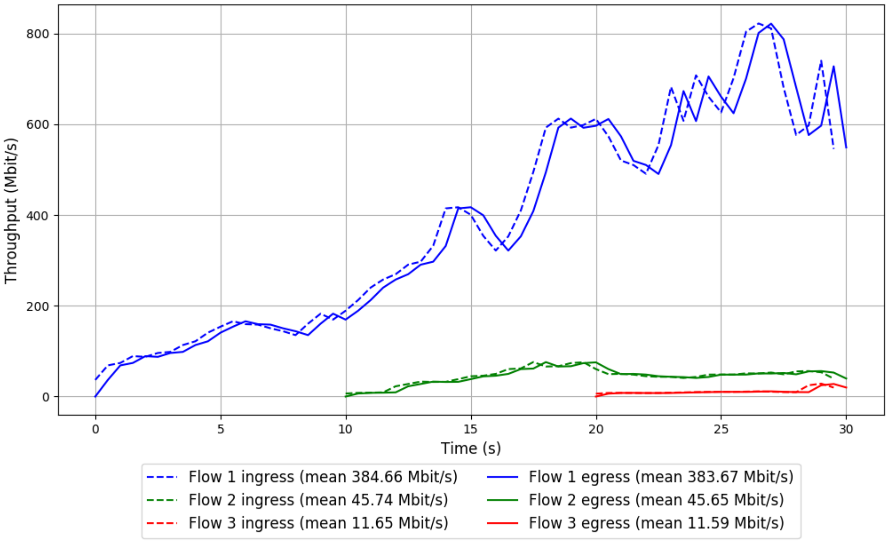
Run 4: Report of PCC-Allegro — Data Link

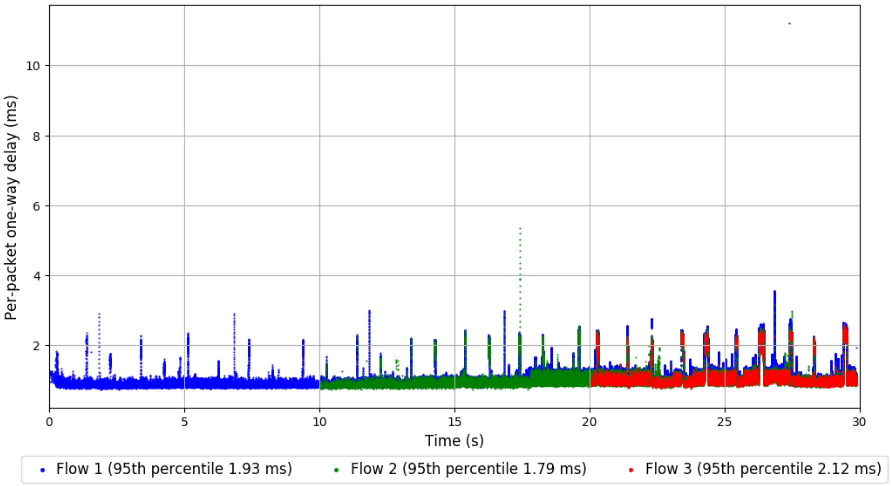




```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-25 03:17:41
End at: 2019-01-25 03:18:11
Local clock offset: 3.779 ms
Remote clock offset: -0.361 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.84 Mbit/s
95th percentile per-packet one-way delay: 1.923 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 383.67 Mbit/s
95th percentile per-packet one-way delay: 1.929 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 45.65 Mbit/s
95th percentile per-packet one-way delay: 1.794 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 11.59 Mbit/s
95th percentile per-packet one-way delay: 2.121 ms
Loss rate: 0.47%
```

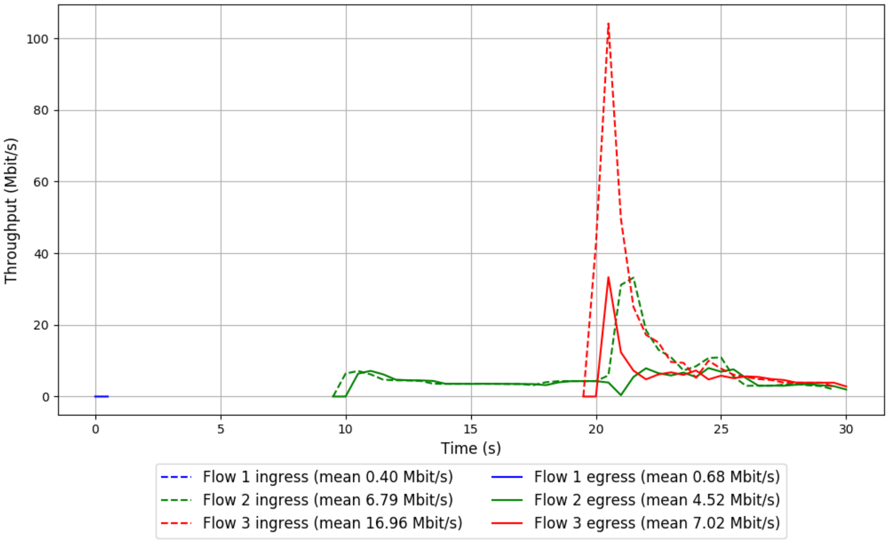
Run 5: Report of PCC-Allegro — Data Link

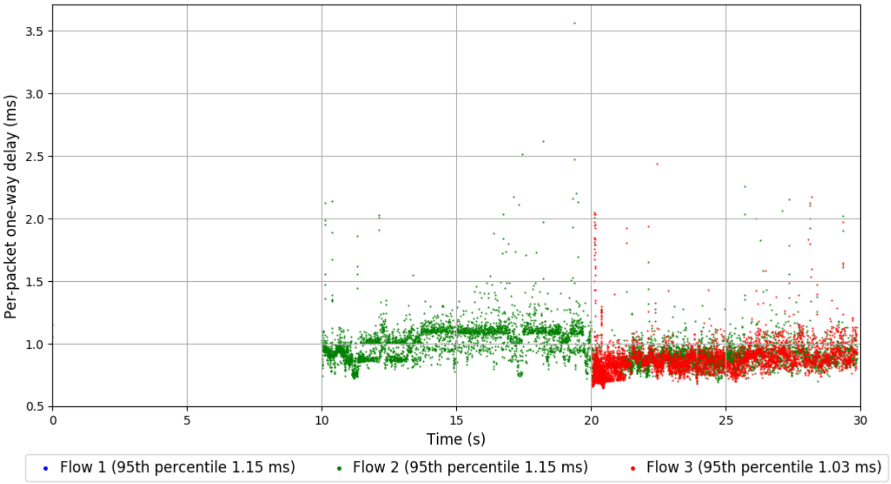




```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-25 01:05:44
End at: 2019-01-25 01:06:14
Local clock offset: -3.912 ms
Remote clock offset: -0.444 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 1.127 ms
Loss rate: 47.39%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 33.46%
-- Flow 3:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 1.031 ms
Loss rate: 58.63%
```

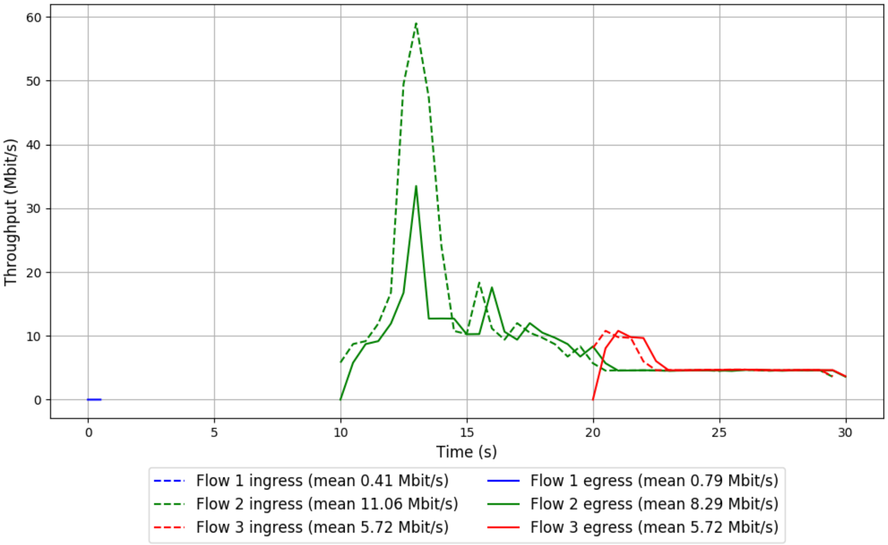
Run 1: Report of PCC-Expr — Data Link

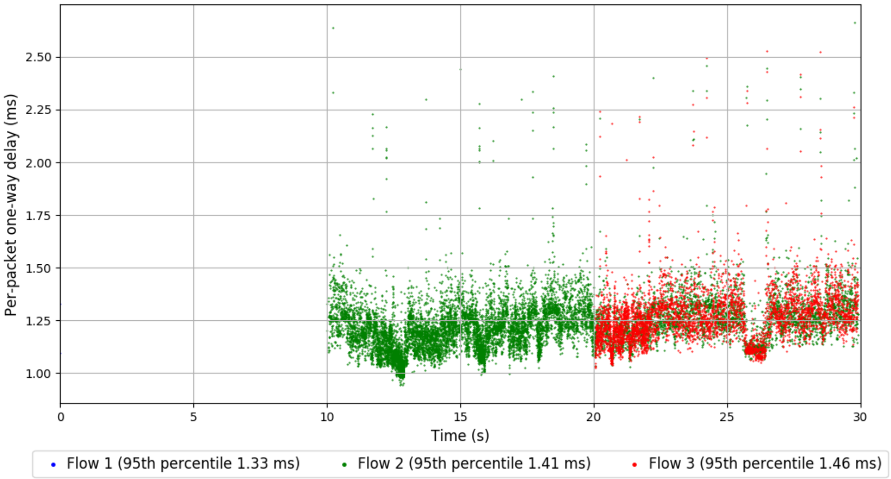




```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-25 01:35:22
End at: 2019-01-25 01:35:52
Local clock offset: -2.192 ms
Remote clock offset: 3.73 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.41 Mbit/s
95th percentile per-packet one-way delay: 1.421 ms
Loss rate: 19.92%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 1.326 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 1.406 ms
Loss rate: 25.02%
-- Flow 3:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 1.458 ms
Loss rate: 0.04%
```

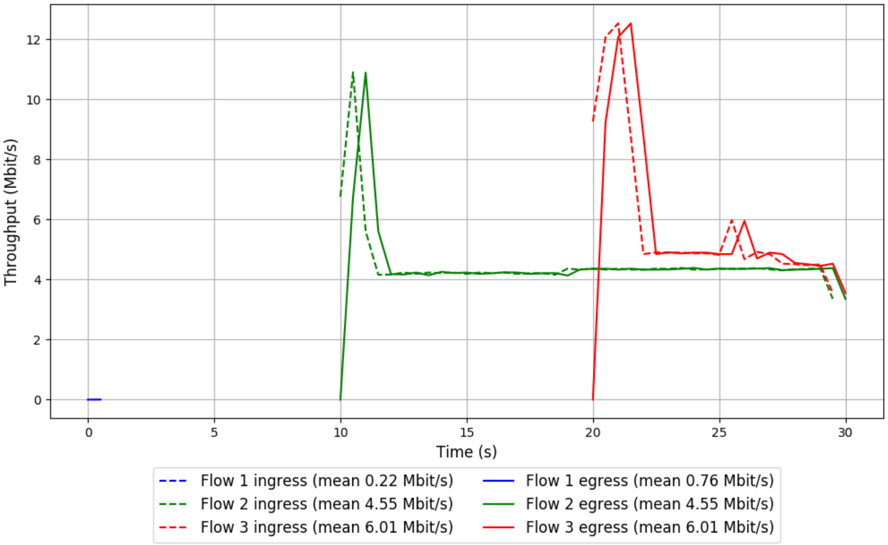
Run 2: Report of PCC-Expr — Data Link

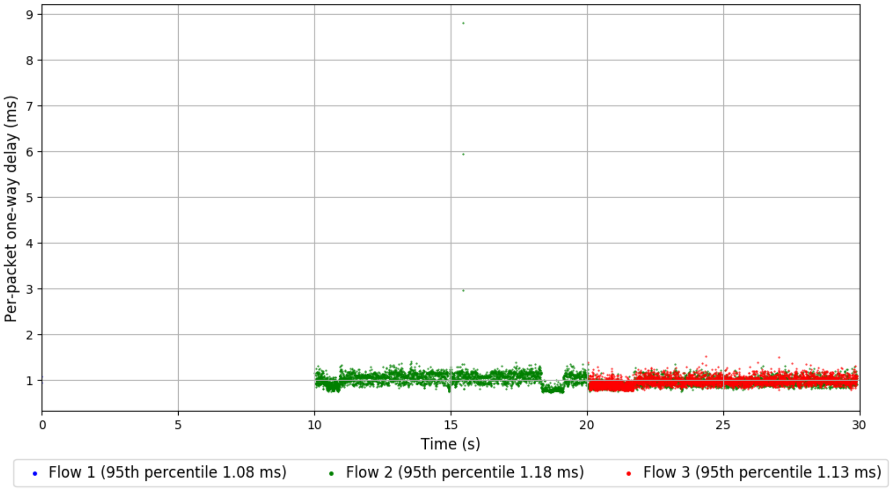




```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-25 02:05:00
End at: 2019-01-25 02:05:30
Local clock offset: 1.415 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1.081 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.00%
```

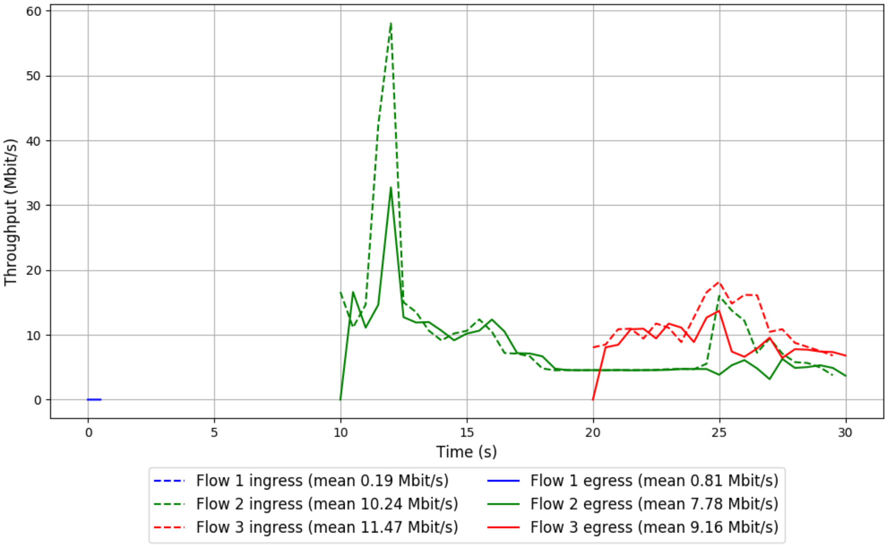
Run 3: Report of PCC-Expr — Data Link

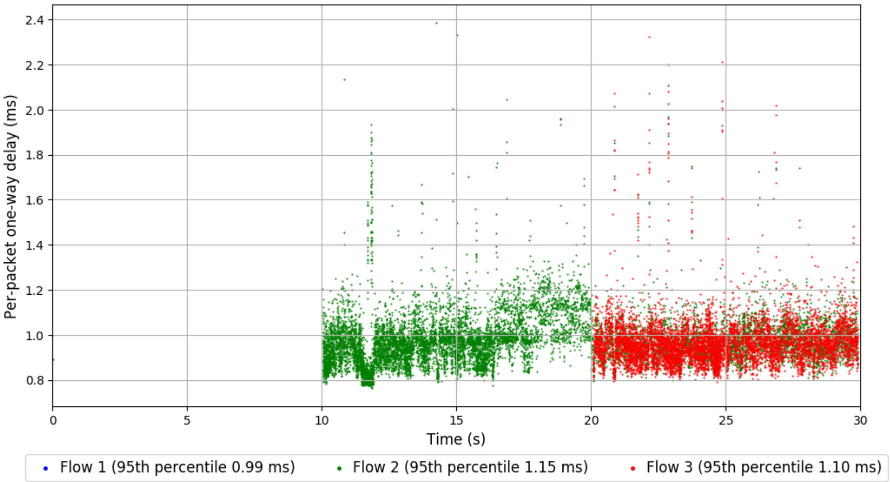




```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-25 02:34:17
End at: 2019-01-25 02:34:47
Local clock offset: 1.319 ms
Remote clock offset: -0.729 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 22.64%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 1.150 ms
Loss rate: 24.00%
-- Flow 3:
Average throughput: 9.16 Mbit/s
95th percentile per-packet one-way delay: 1.096 ms
Loss rate: 20.18%
```

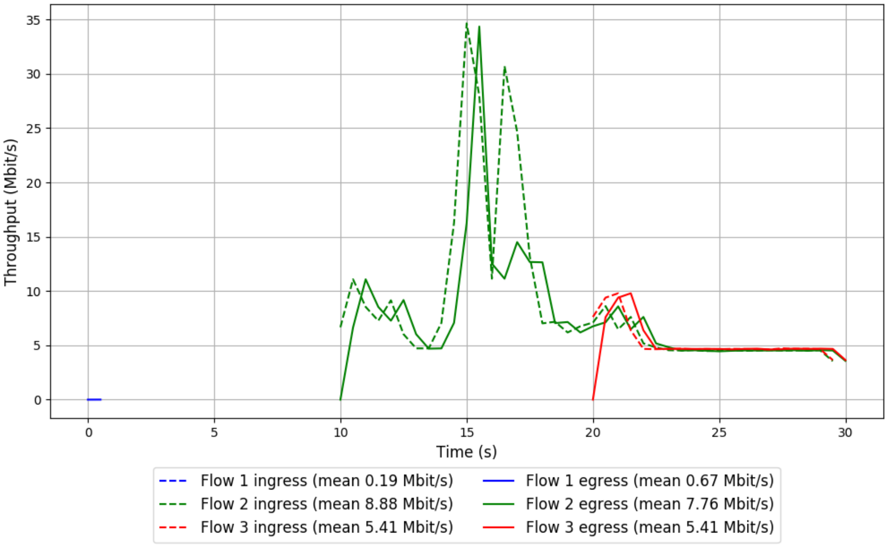
Run 4: Report of PCC-Expr — Data Link

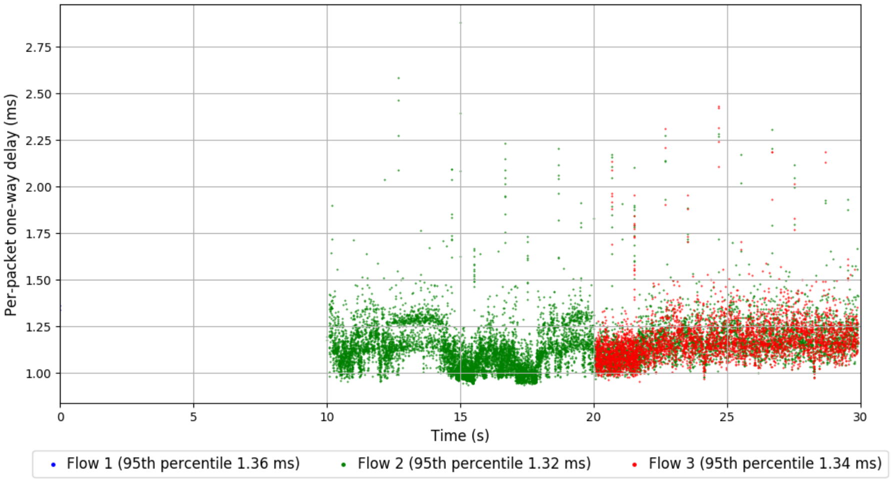




```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-25 03:04:01
End at: 2019-01-25 03:04:31
Local clock offset: 2.37 ms
Remote clock offset: -0.453 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 1.326 ms
Loss rate: 9.69%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 1.358 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 1.320 ms
Loss rate: 12.62%
-- Flow 3:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 1.336 ms
Loss rate: 0.00%
```

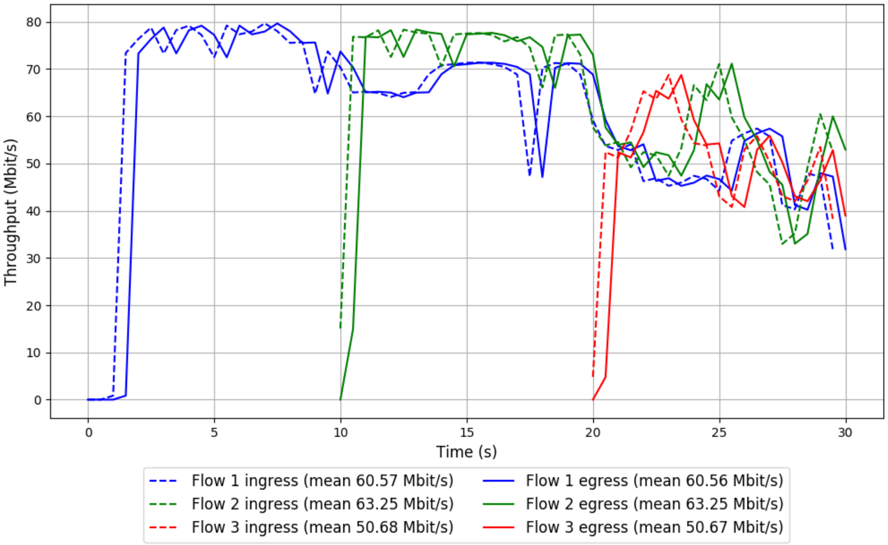
Run 5: Report of PCC-Expr — Data Link

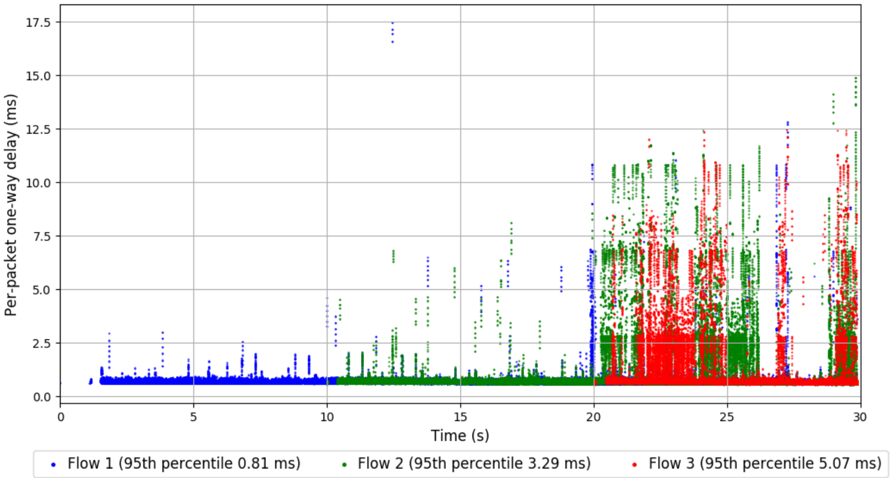




```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-25 01:27:51
End at: 2019-01-25 01:28:21
Local clock offset: -4.93 ms
Remote clock offset: 2.911 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.29 Mbit/s
95th percentile per-packet one-way delay: 2.406 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 60.56 Mbit/s
95th percentile per-packet one-way delay: 0.806 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 63.25 Mbit/s
95th percentile per-packet one-way delay: 3.290 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 50.67 Mbit/s
95th percentile per-packet one-way delay: 5.067 ms
Loss rate: 0.01%
```

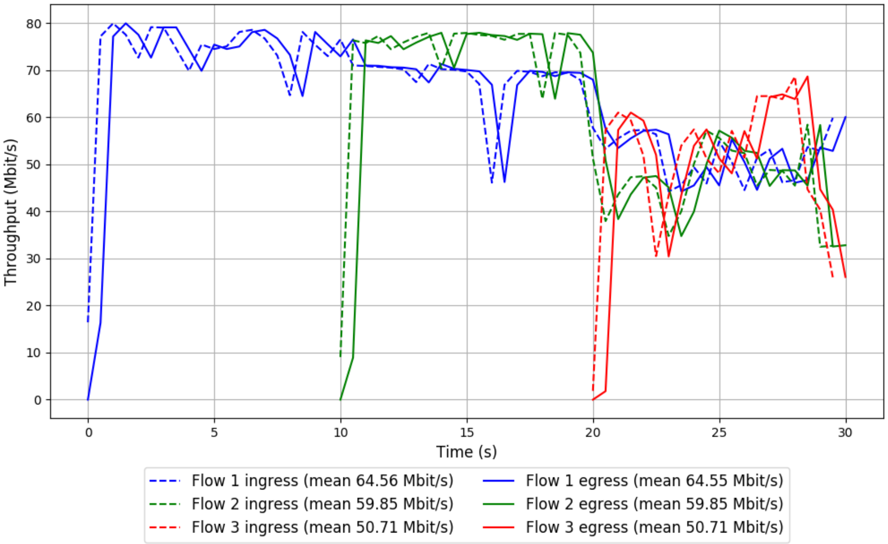
Run 1: Report of QUIC Cubic — Data Link

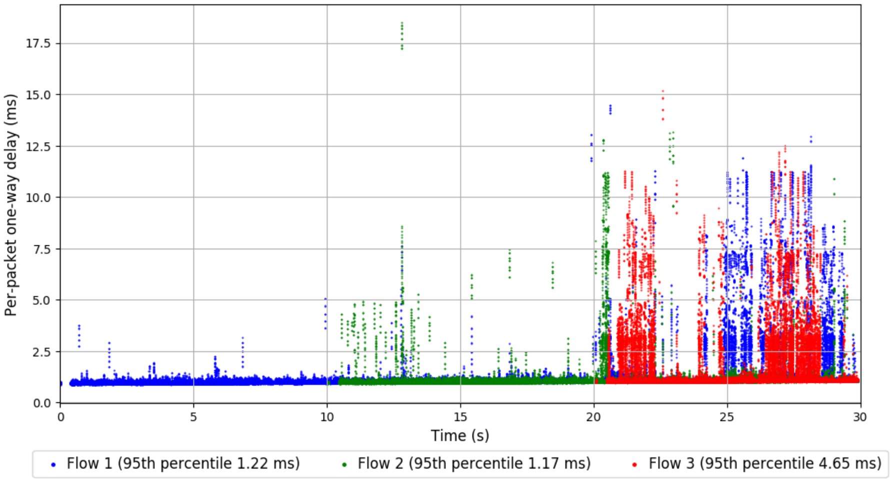




```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-25 01:57:26
End at: 2019-01-25 01:57:56
Local clock offset: 1.734 ms
Remote clock offset: 1.137 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.00 Mbit/s
95th percentile per-packet one-way delay: 1.917 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 64.55 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.71 Mbit/s
95th percentile per-packet one-way delay: 4.653 ms
Loss rate: 0.00%
```

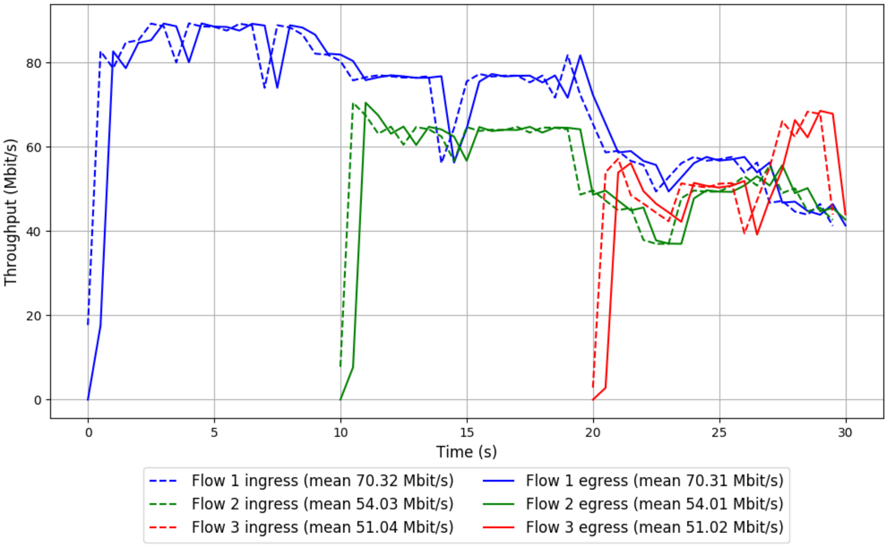
Run 2: Report of QUIC Cubic — Data Link

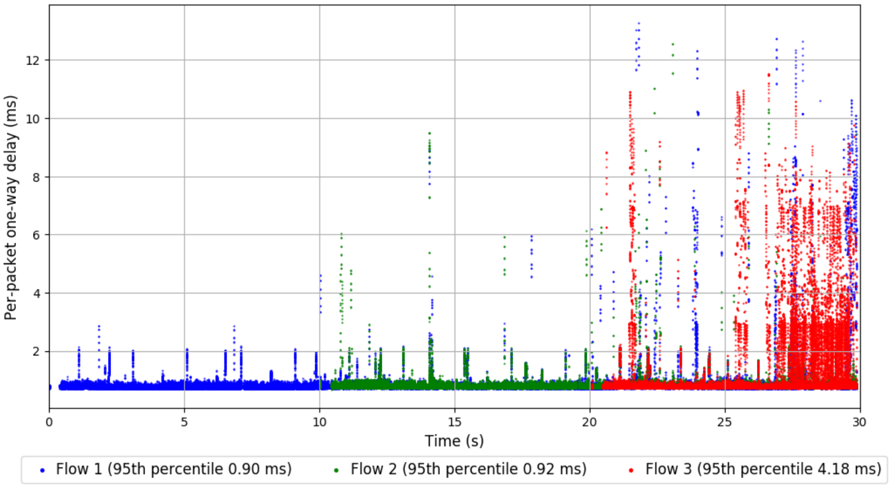




```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-25 02:26:56
End at: 2019-01-25 02:27:26
Local clock offset: 1.36 ms
Remote clock offset: -1.069 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.95 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 70.31 Mbit/s
95th percentile per-packet one-way delay: 0.902 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 54.01 Mbit/s
95th percentile per-packet one-way delay: 0.916 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 51.02 Mbit/s
95th percentile per-packet one-way delay: 4.183 ms
Loss rate: 0.02%
```

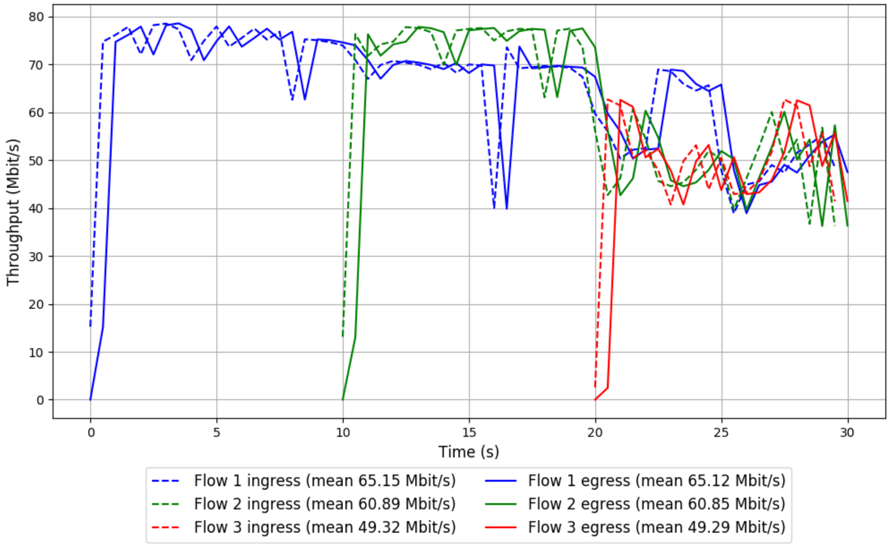
Run 3: Report of QUIC Cubic — Data Link

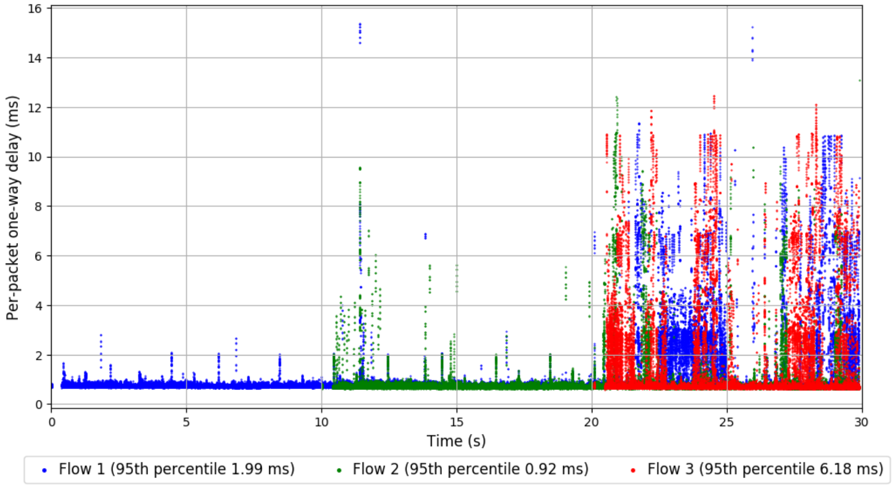




```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-25 02:56:23
End at: 2019-01-25 02:56:53
Local clock offset: 1.488 ms
Remote clock offset: -1.154 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.76 Mbit/s
95th percentile per-packet one-way delay: 2.403 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 65.12 Mbit/s
95th percentile per-packet one-way delay: 1.985 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 60.85 Mbit/s
95th percentile per-packet one-way delay: 0.917 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 49.29 Mbit/s
95th percentile per-packet one-way delay: 6.181 ms
Loss rate: 0.01%
```

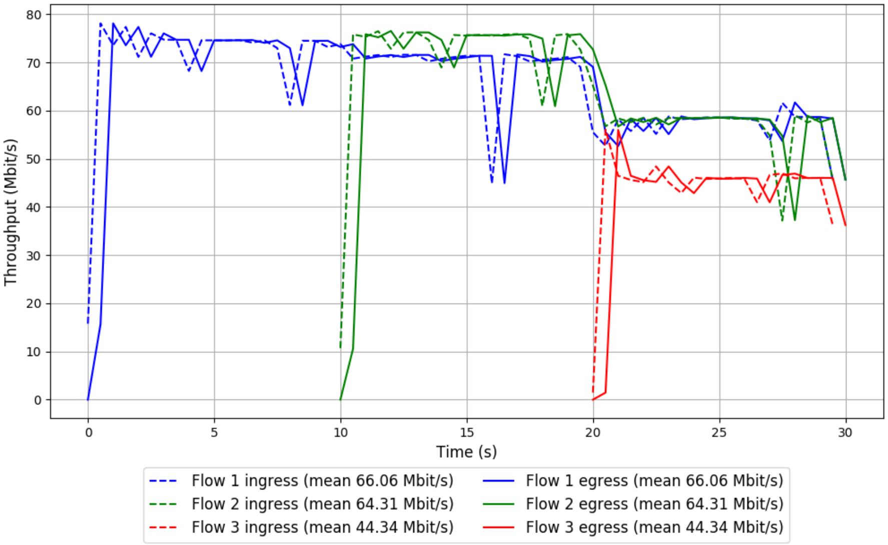
Run 4: Report of QUIC Cubic — Data Link

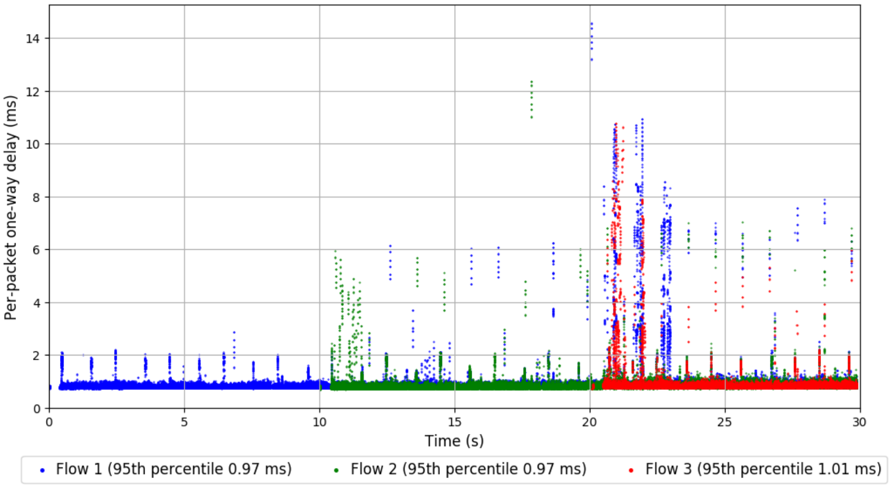




```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-25 03:26:10
End at: 2019-01-25 03:26:40
Local clock offset: 4.325 ms
Remote clock offset: -0.434 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.35 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 66.06 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 64.31 Mbit/s
95th percentile per-packet one-way delay: 0.969 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.34 Mbit/s
95th percentile per-packet one-way delay: 1.008 ms
Loss rate: 0.01%
```

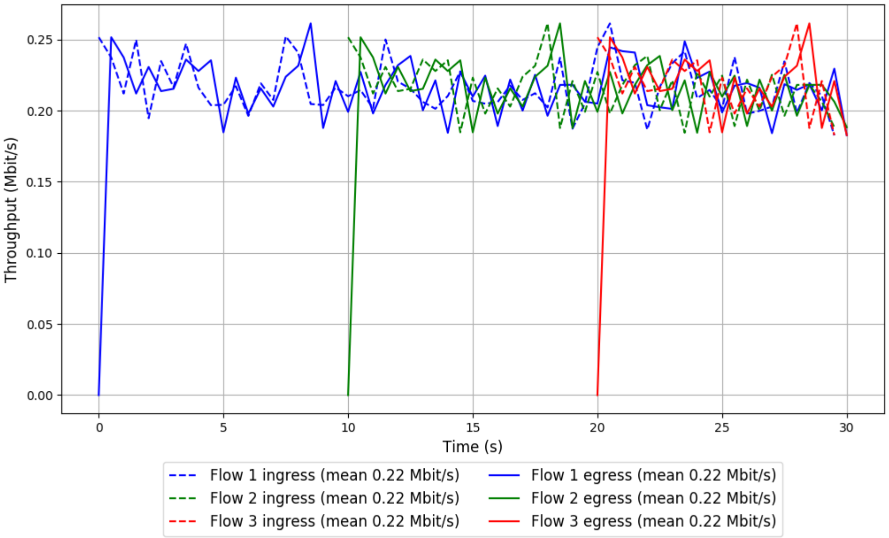
Run 5: Report of QUIC Cubic — Data Link

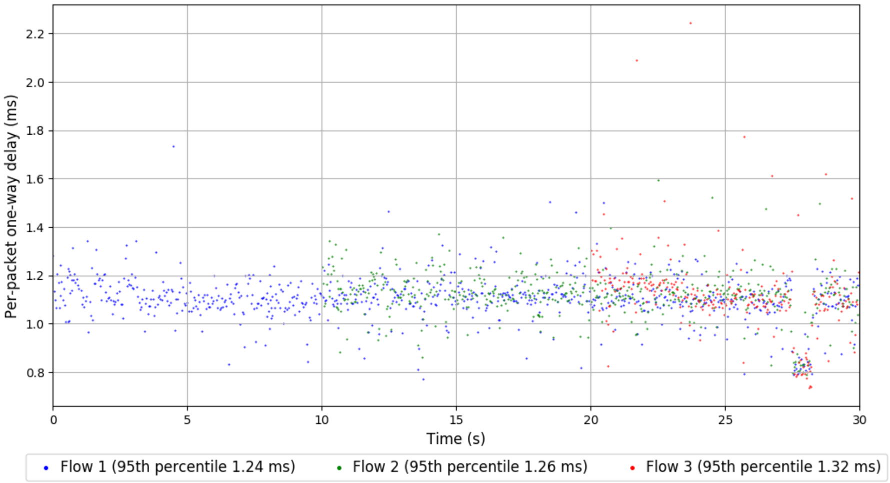




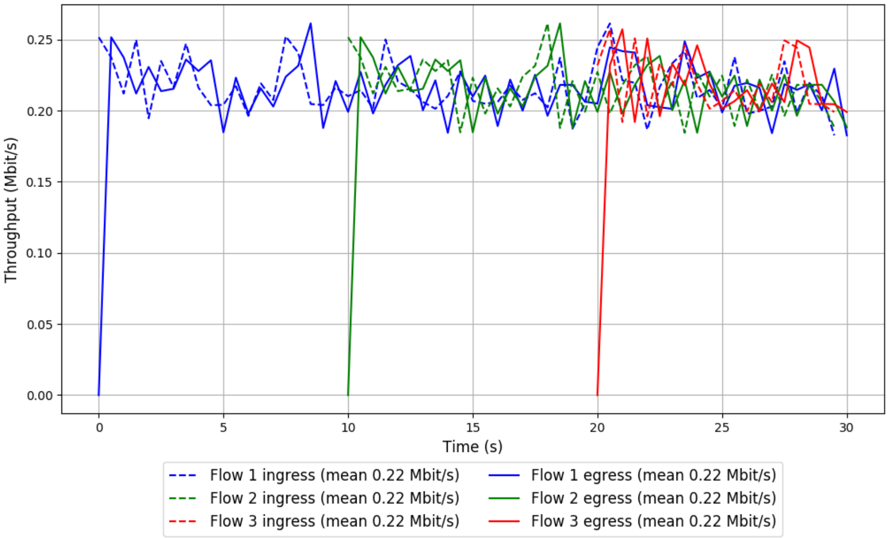
```
Run 1: Statistics of SCReAM

Start at: 2019-01-25 01:11:21
End at: 2019-01-25 01:11:51
Local clock offset: -4.192 ms
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.255 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.237 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.262 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.324 ms
Loss rate: 0.00%
```

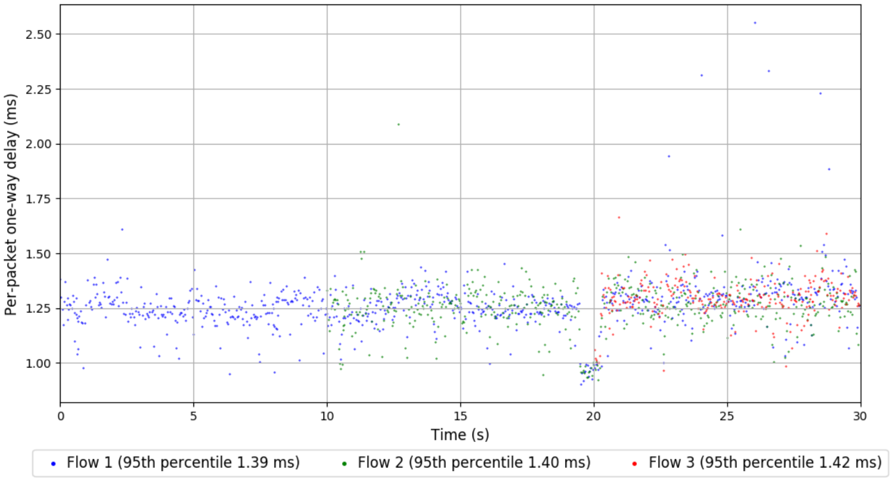
Run 1: Report of SCReAM — Data Link





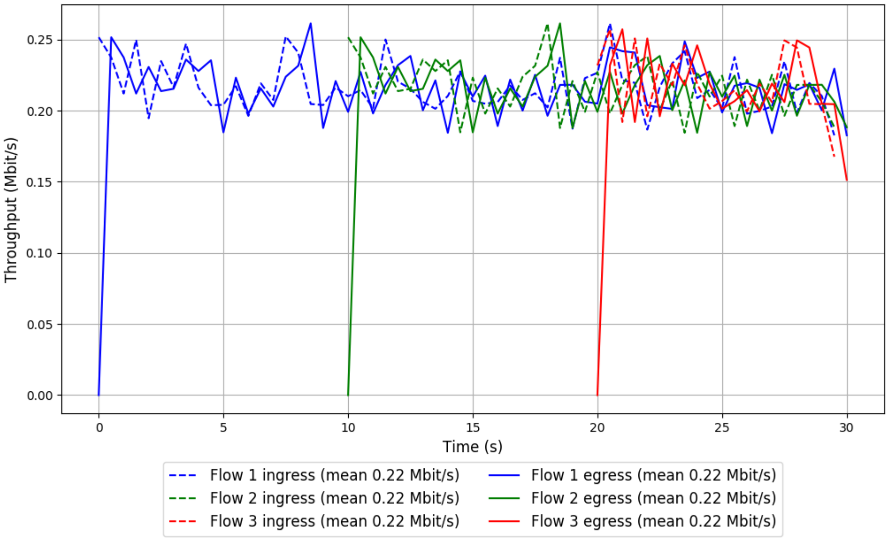
```
Run 2: Statistics of SCReAM

Start at: 2019-01-25 01:40:59
End at: 2019-01-25 01:41:29
Local clock offset: -0.499 ms
Remote clock offset: 4.198 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.399 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.388 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.400 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.417 ms
Loss rate: 0.00%
```

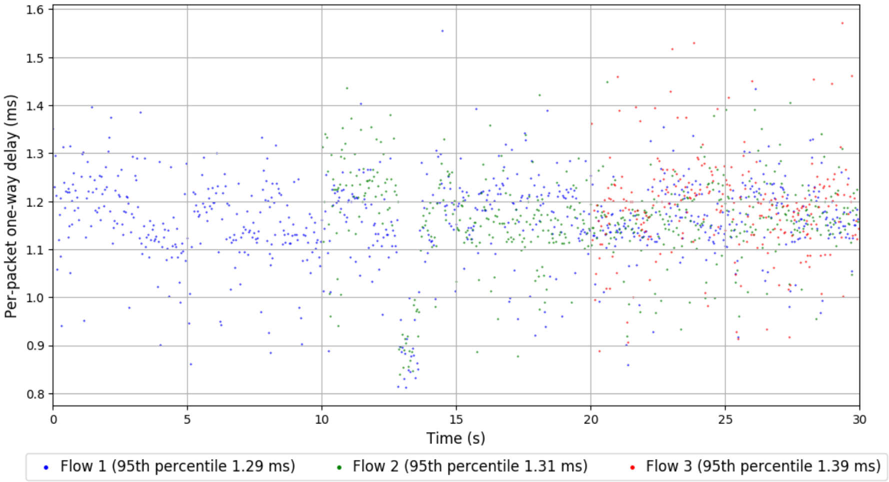

Throughput (Mbit/s)
0.25
0.20
0.15
0.10
0.05
0.00
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)
Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 egress (mean 0.22 Mbit/s)


Per-packet one-way delay (ms)
2.50
2.25
2.00
1.75
1.50
1.25
1.00
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 1.39 ms)
Flow 2 (95th percentile 1.40 ms)
Flow 3 (95th percentile 1.42 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-01-25 02:10:35
End at: 2019-01-25 02:11:05
Local clock offset: 1.191 ms
Remote clock offset: -0.646 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.291 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.314 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.389 ms
Loss rate: 0.37%
```

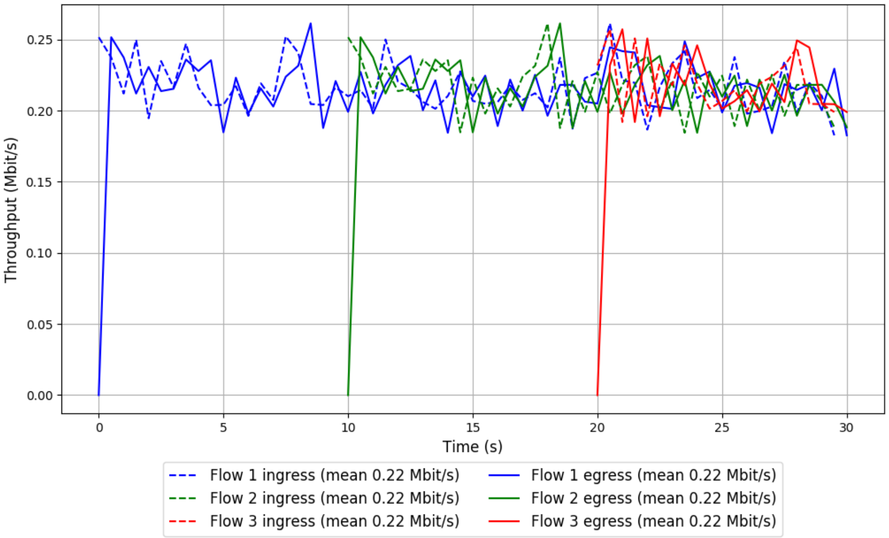
Run 3: Report of SCReAM — Data Link

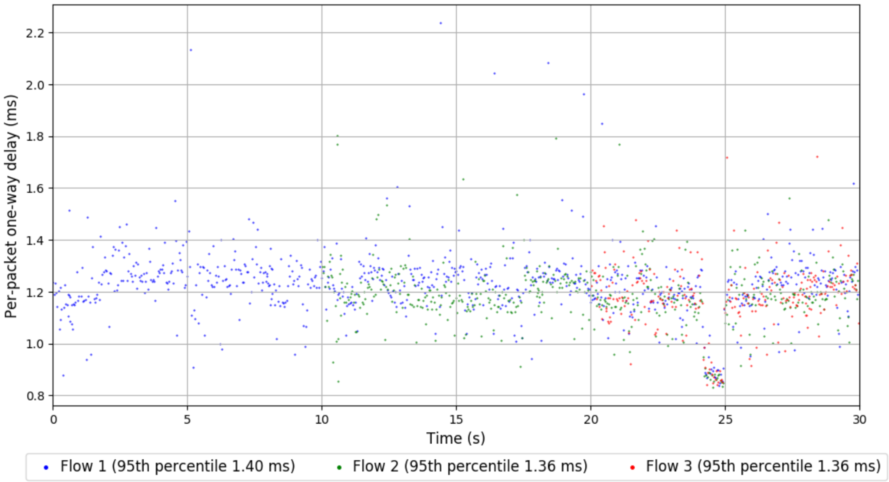




```
Run 4: Statistics of SCReAM

Start at: 2019-01-25 02:39:54
End at: 2019-01-25 02:40:24
Local clock offset: 1.273 ms
Remote clock offset: -0.696 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.379 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.399 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.359 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.00%
```

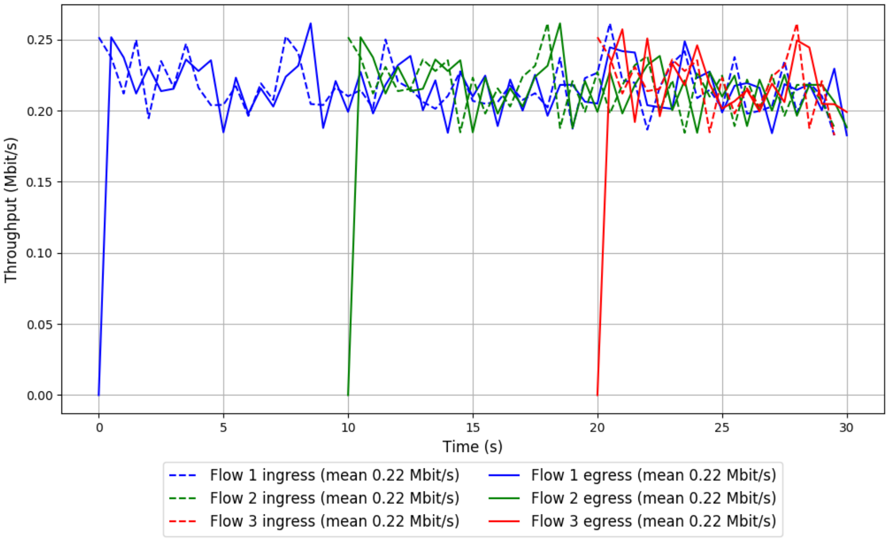
Run 4: Report of SCReAM — Data Link

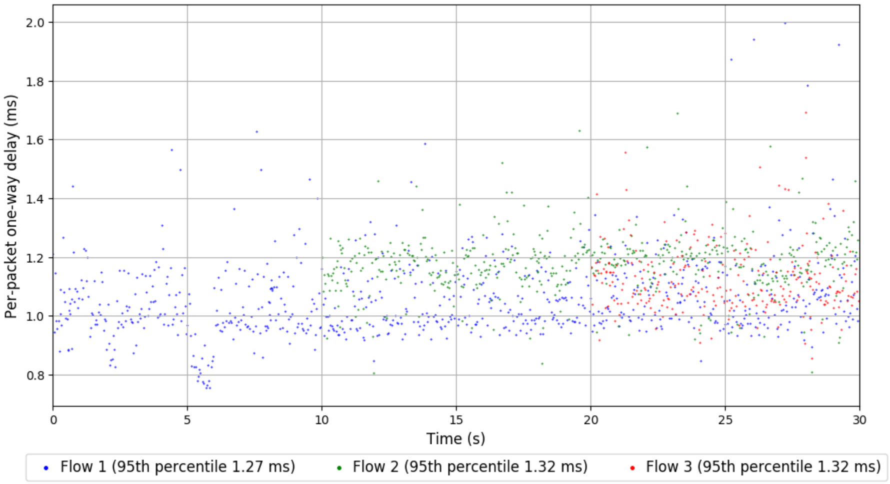




```
Run 5: Statistics of SCReAM

Start at: 2019-01-25 03:09:43
End at: 2019-01-25 03:10:13
Local clock offset: 3.121 ms
Remote clock offset: -0.412 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.296 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.268 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.321 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.325 ms
Loss rate: 0.00%
```

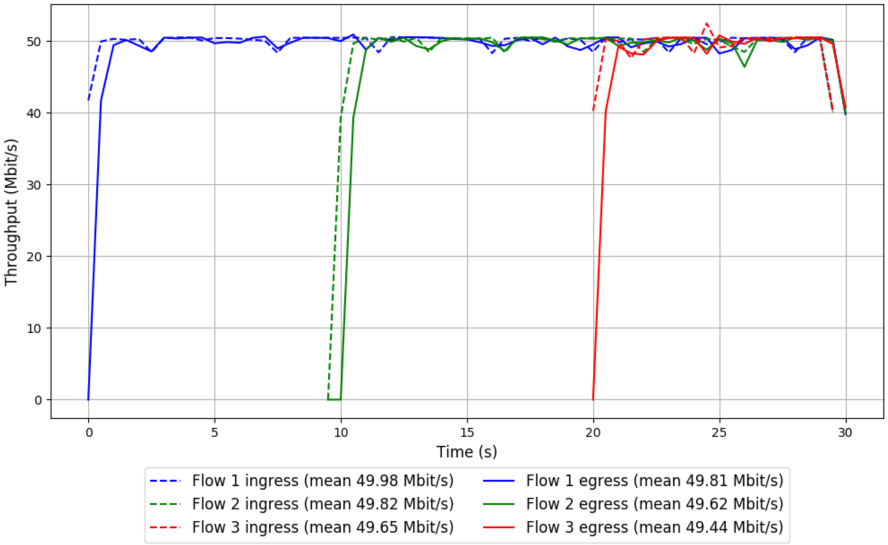
Run 5: Report of SCReAM — Data Link

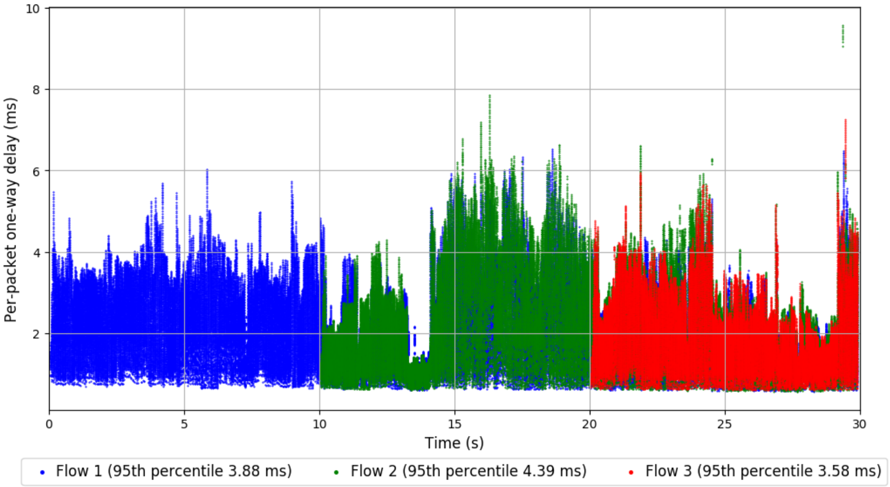




```
Run 1: Statistics of Sprout

Start at: 2019-01-25 01:26:35
End at: 2019-01-25 01:27:05
Local clock offset: -4.873 ms
Remote clock offset: 2.725 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.19 Mbit/s
95th percentile per-packet one-way delay: 4.026 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 49.81 Mbit/s
95th percentile per-packet one-way delay: 3.882 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 49.62 Mbit/s
95th percentile per-packet one-way delay: 4.391 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 3.580 ms
Loss rate: 0.38%
```

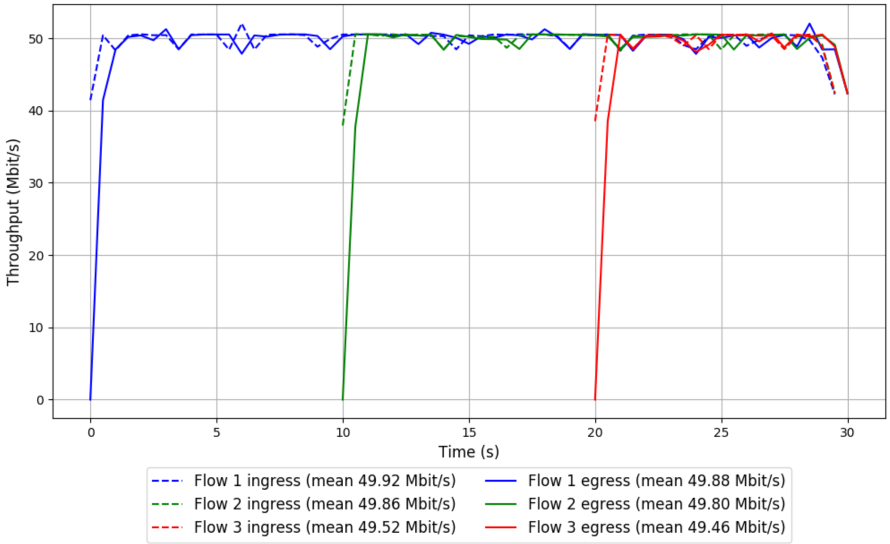
Run 1: Report of Sprout — Data Link

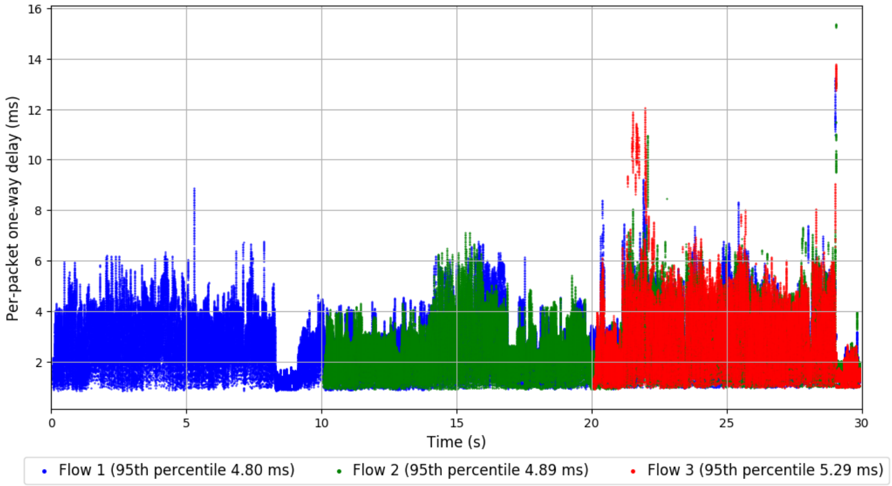




```
Run 2: Statistics of Sprout

Start at: 2019-01-25 01:56:10
End at: 2019-01-25 01:56:40
Local clock offset: 1.63 ms
Remote clock offset: 1.349 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.35 Mbit/s
95th percentile per-packet one-way delay: 4.928 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 49.88 Mbit/s
95th percentile per-packet one-way delay: 4.802 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 49.80 Mbit/s
95th percentile per-packet one-way delay: 4.889 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 5.287 ms
Loss rate: 0.11%
```

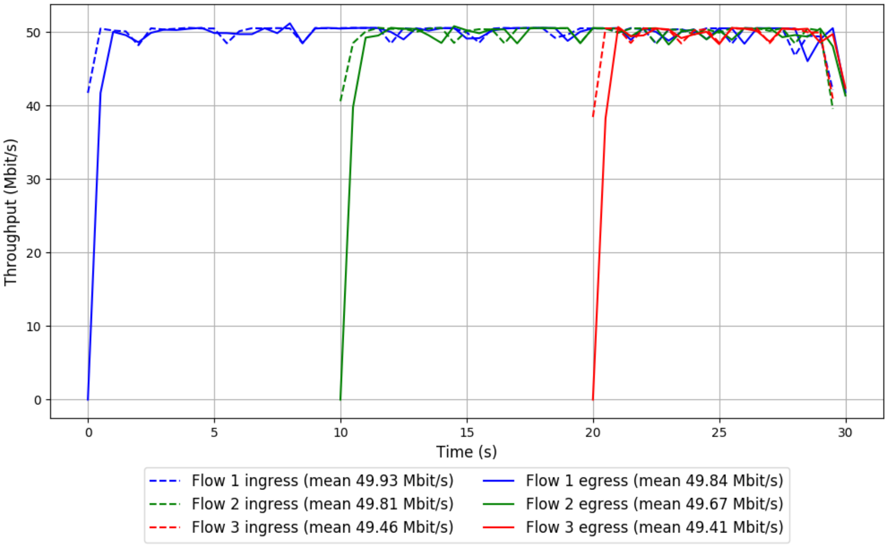
Run 2: Report of Sprout — Data Link

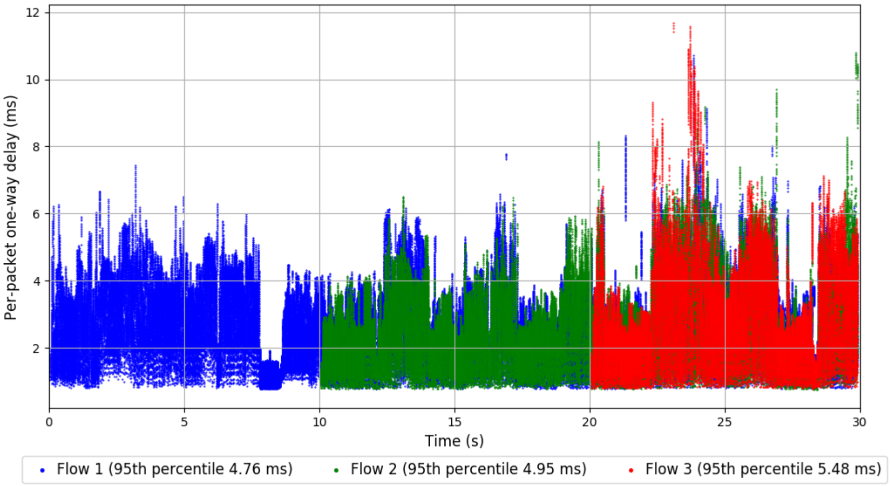




```
Run 3: Statistics of Sprout

Start at: 2019-01-25 02:25:40
End at: 2019-01-25 02:26:10
Local clock offset: 1.336 ms
Remote clock offset: -1.108 ms

# Below is generated by plot.py at 2019-01-25 04:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.21 Mbit/s
95th percentile per-packet one-way delay: 4.957 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 4.764 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 49.67 Mbit/s
95th percentile per-packet one-way delay: 4.948 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 5.484 ms
Loss rate: 0.06%
```

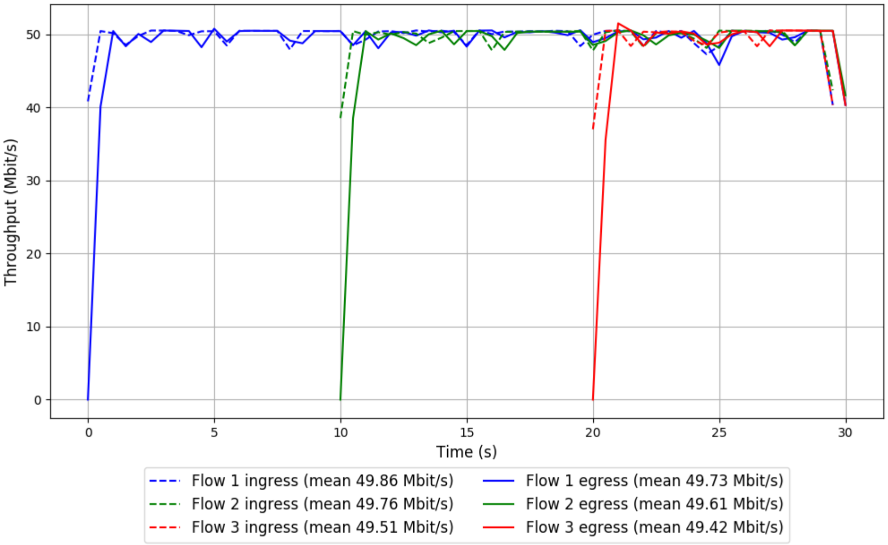
Run 3: Report of Sprout — Data Link

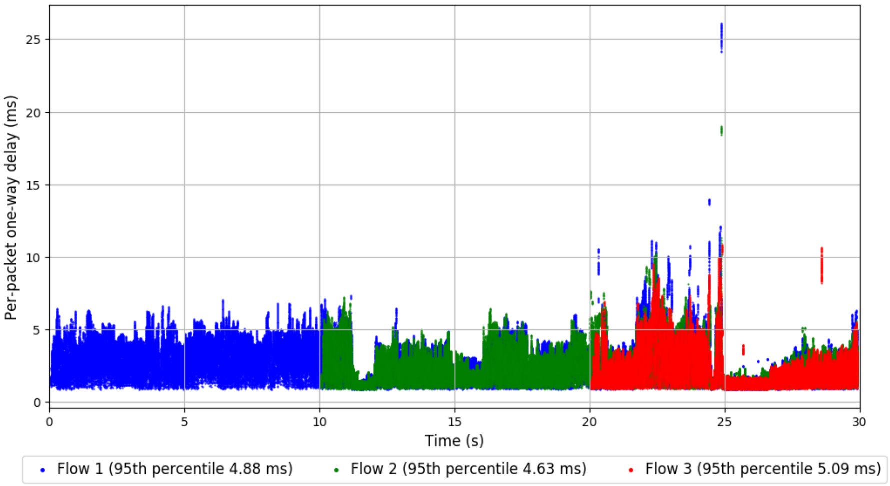




```
Run 4: Statistics of Sprout

Start at: 2019-01-25 02:55:07
End at: 2019-01-25 02:55:37
Local clock offset: 1.466 ms
Remote clock offset: -1.0 ms

# Below is generated by plot.py at 2019-01-25 04:20:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.03 Mbit/s
95th percentile per-packet one-way delay: 4.832 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 49.73 Mbit/s
95th percentile per-packet one-way delay: 4.880 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 49.61 Mbit/s
95th percentile per-packet one-way delay: 4.630 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 49.42 Mbit/s
95th percentile per-packet one-way delay: 5.095 ms
Loss rate: 0.15%
```

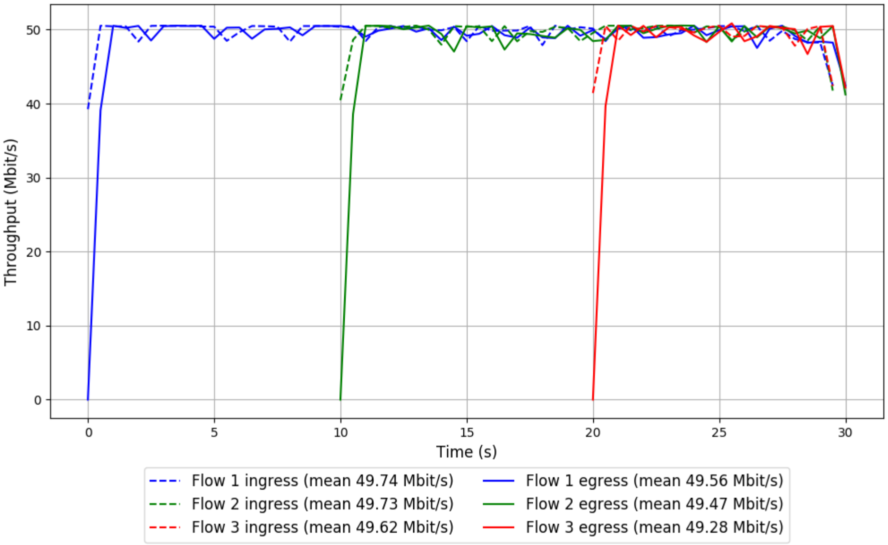
Run 4: Report of Sprout — Data Link

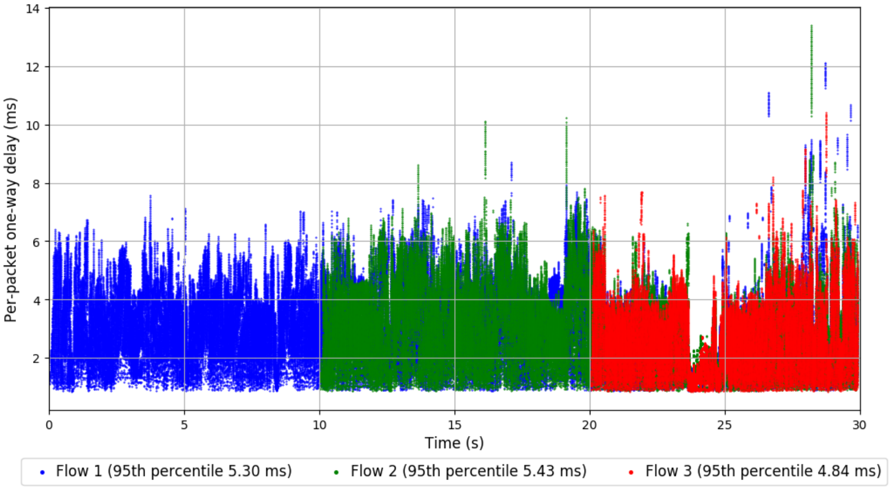




```
Run 5: Statistics of Sprout

Start at: 2019-01-25 03:24:54
End at: 2019-01-25 03:25:24
Local clock offset: 4.24 ms
Remote clock offset: -0.359 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.74 Mbit/s
95th percentile per-packet one-way delay: 5.293 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 49.56 Mbit/s
95th percentile per-packet one-way delay: 5.301 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 49.47 Mbit/s
95th percentile per-packet one-way delay: 5.431 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 49.28 Mbit/s
95th percentile per-packet one-way delay: 4.841 ms
Loss rate: 0.65%
```

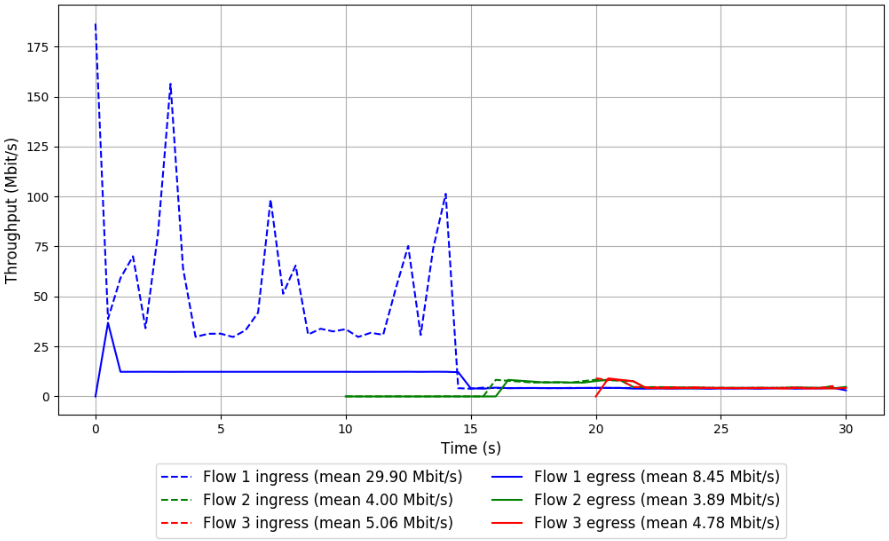
Run 5: Report of Sprout — Data Link

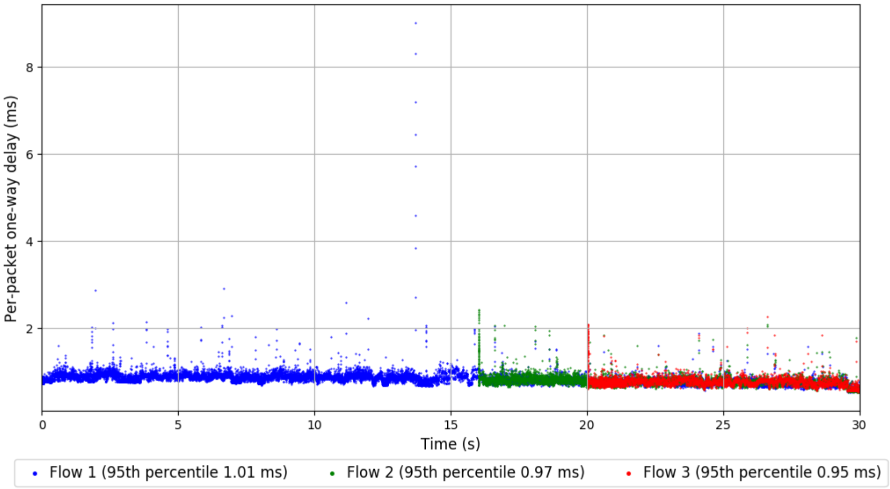




```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-25 01:13:49
End at: 2019-01-25 01:14:19
Local clock offset: -4.314 ms
Remote clock offset: -0.319 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.63 Mbit/s
95th percentile per-packet one-way delay: 1.003 ms
Loss rate: 63.14%
-- Flow 1:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 1.013 ms
Loss rate: 71.76%
-- Flow 2:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 0.968 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 0.946 ms
Loss rate: 5.54%
```

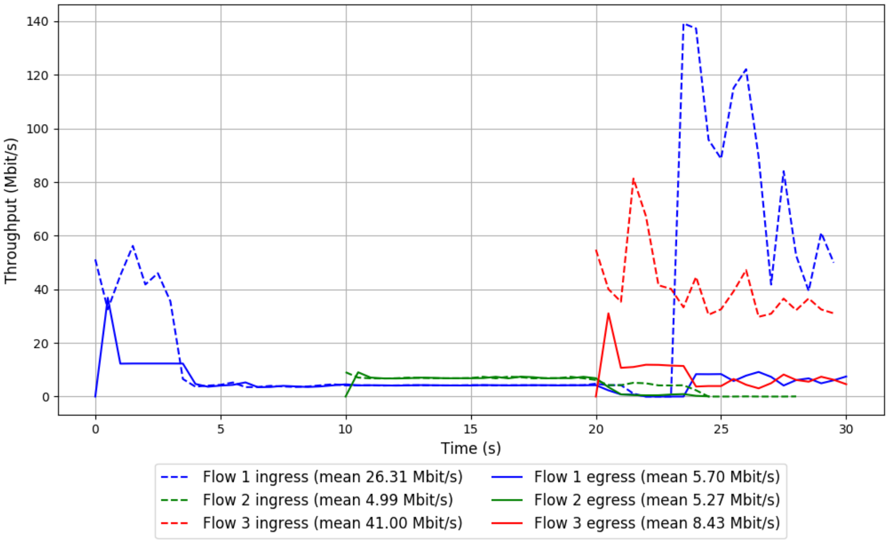
Run 1: Report of TaoVA-100x — Data Link

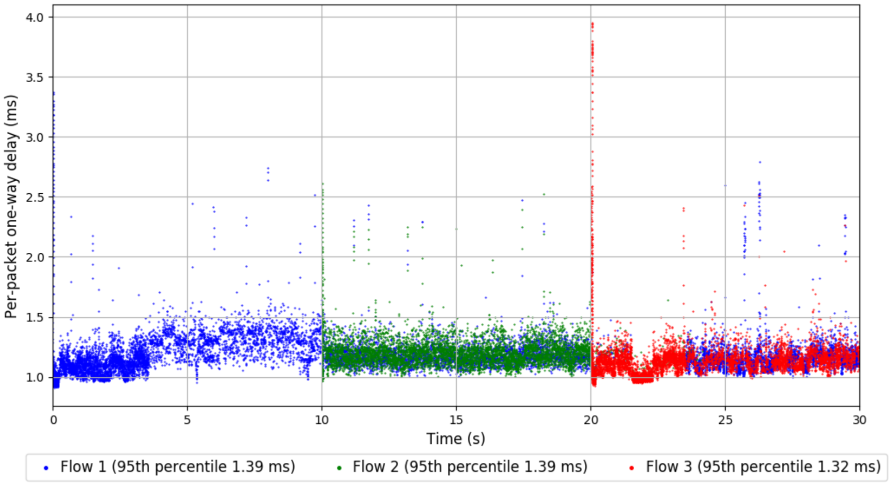




```
Run 2: Statistics of TaoVA-100x

Start at: 2019-01-25 01:43:27
End at: 2019-01-25 01:43:57
Local clock offset: 0.044 ms
Remote clock offset: 4.454 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 1.383 ms
Loss rate: 74.41%
-- Flow 1:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 1.389 ms
Loss rate: 78.32%
-- Flow 2:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 1.390 ms
Loss rate: 17.59%
-- Flow 3:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 1.316 ms
Loss rate: 79.43%
```

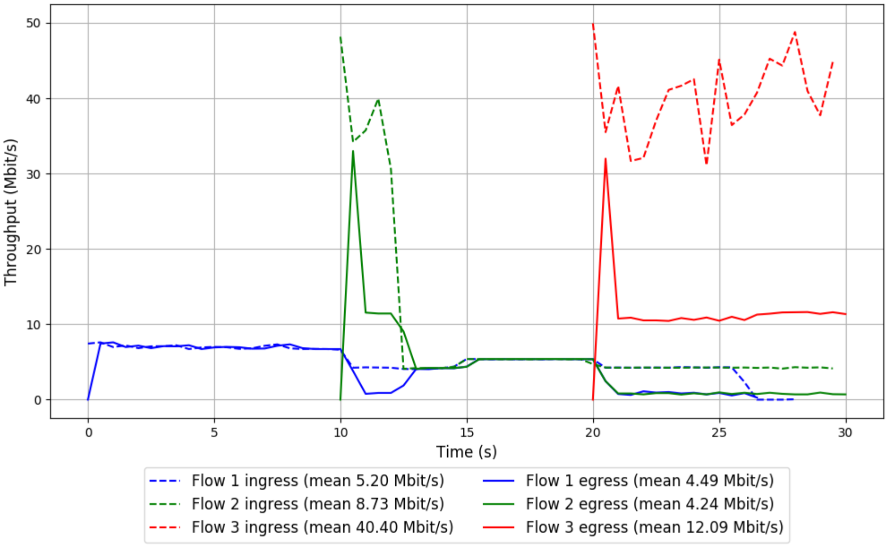
Run 2: Report of TaoVA-100x — Data Link

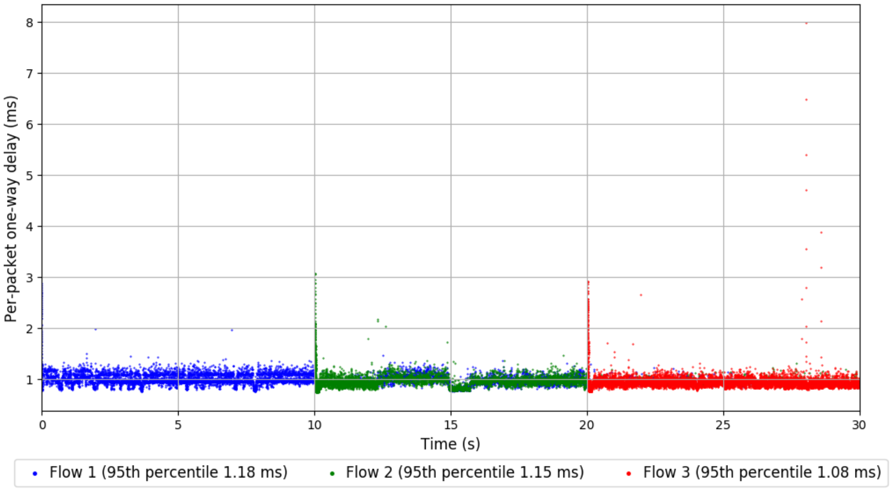




```
Run 3: Statistics of TaoVA-100x

Start at: 2019-01-25 02:13:03
End at: 2019-01-25 02:13:33
Local clock offset: 1.164 ms
Remote clock offset: -0.908 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.75 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 55.46%
-- Flow 1:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 19.86%
-- Flow 2:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 51.59%
-- Flow 3:
Average throughput: 12.09 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 70.07%
```

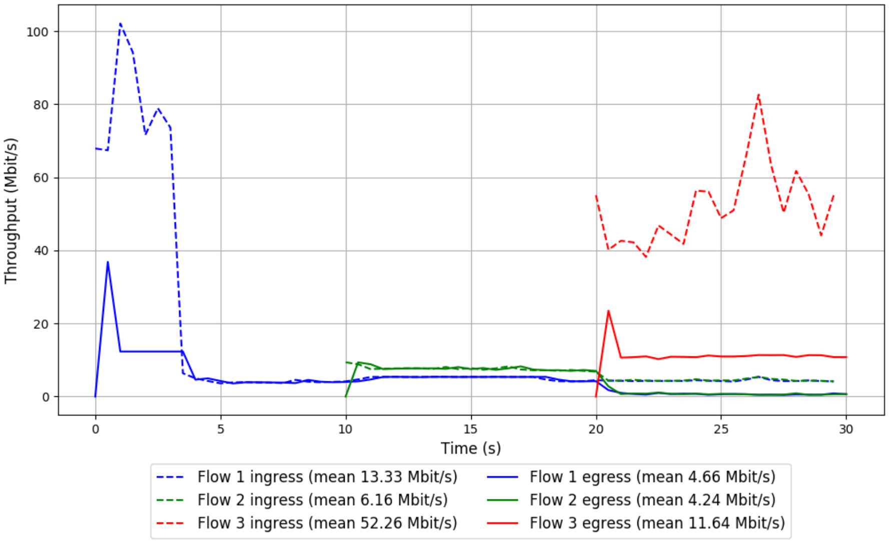
Run 3: Report of TaoVA-100x — Data Link

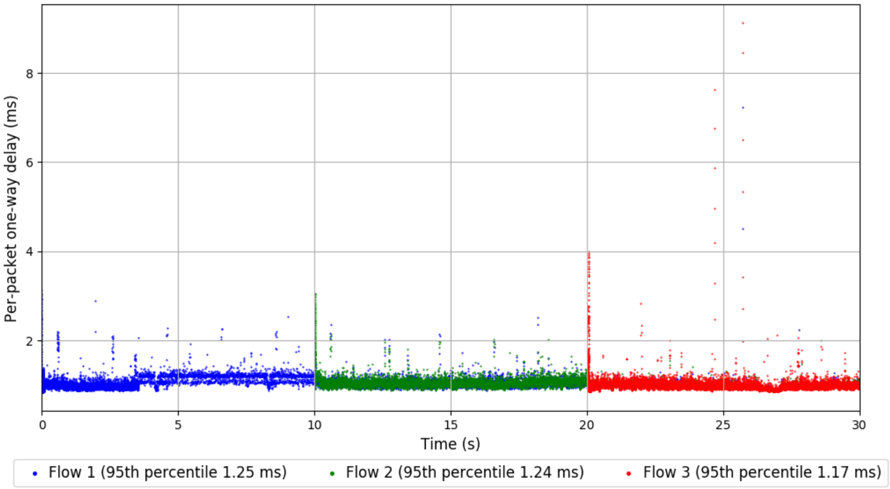




```
Run 4: Statistics of TaoVA-100x

Start at: 2019-01-25 02:42:22
End at: 2019-01-25 02:42:52
Local clock offset: 1.267 ms
Remote clock offset: -0.737 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.35 Mbit/s
95th percentile per-packet one-way delay: 1.235 ms
Loss rate: 67.38%
-- Flow 1:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 1.255 ms
Loss rate: 65.04%
-- Flow 2:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 1.237 ms
Loss rate: 31.18%
-- Flow 3:
Average throughput: 11.64 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 77.72%
```

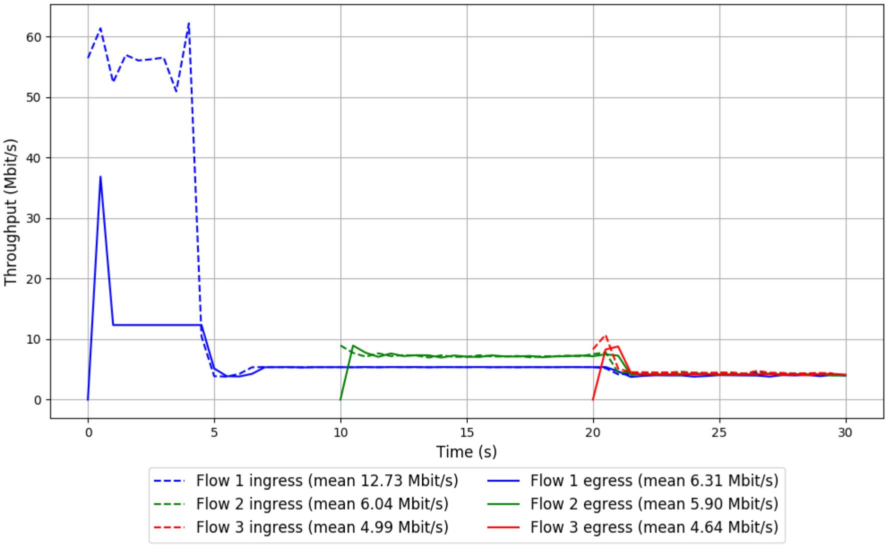
Run 4: Report of TaoVA-100x — Data Link

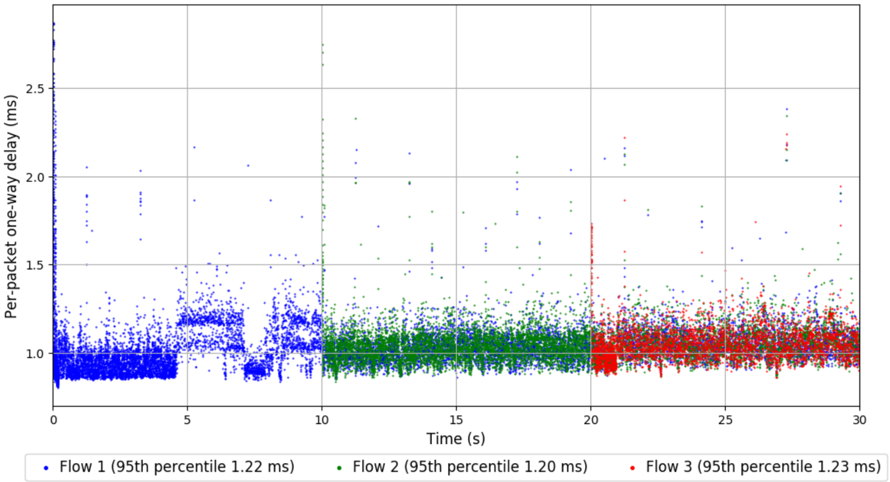




```
Run 5: Statistics of TaoVA-100x

Start at: 2019-01-25 03:12:11
End at: 2019-01-25 03:12:41
Local clock offset: 3.365 ms
Remote clock offset: -0.323 ms

# Below is generated by plot.py at 2019-01-25 04:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 35.96%
-- Flow 1:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 1.220 ms
Loss rate: 50.38%
-- Flow 2:
Average throughput: 5.90 Mbit/s
95th percentile per-packet one-way delay: 1.198 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 7.13%
```

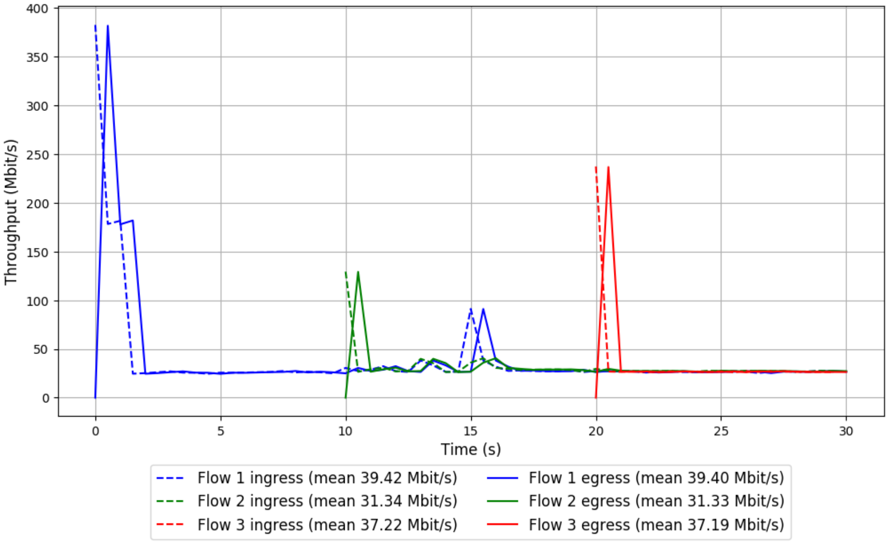
Run 5: Report of TaoVA-100x — Data Link

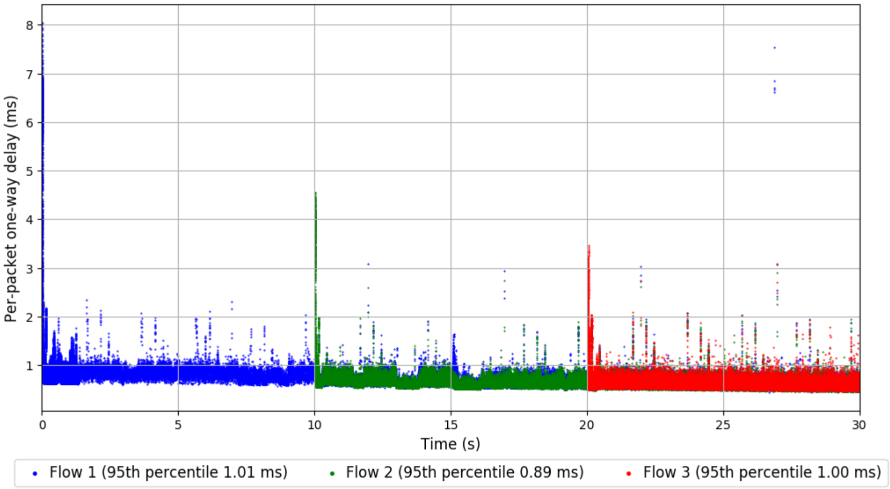




```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-25 01:15:03
End at: 2019-01-25 01:15:33
Local clock offset: -4.356 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2019-01-25 04:20:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 0.988 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 39.40 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 0.887 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 37.19 Mbit/s
95th percentile per-packet one-way delay: 1.003 ms
Loss rate: 0.09%
```

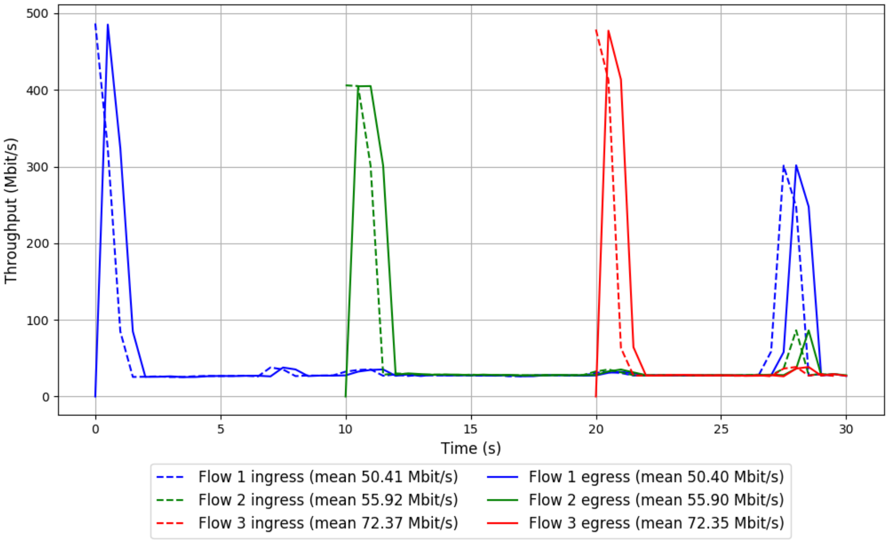
Run 1: Report of TCP Vegas — Data Link

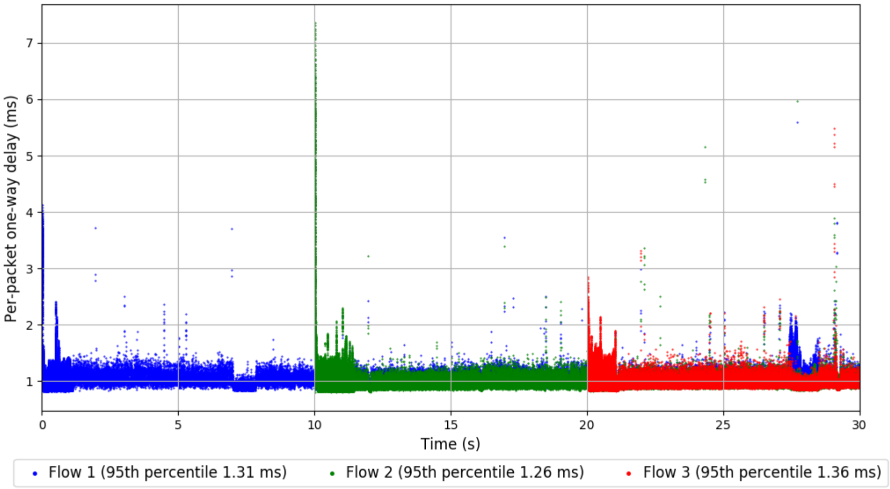




```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-25 01:44:41
End at: 2019-01-25 01:45:11
Local clock offset: 0.234 ms
Remote clock offset: 4.403 ms

# Below is generated by plot.py at 2019-01-25 04:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.70 Mbit/s
95th percentile per-packet one-way delay: 1.311 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.40 Mbit/s
95th percentile per-packet one-way delay: 1.313 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 55.90 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 72.35 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.01%
```

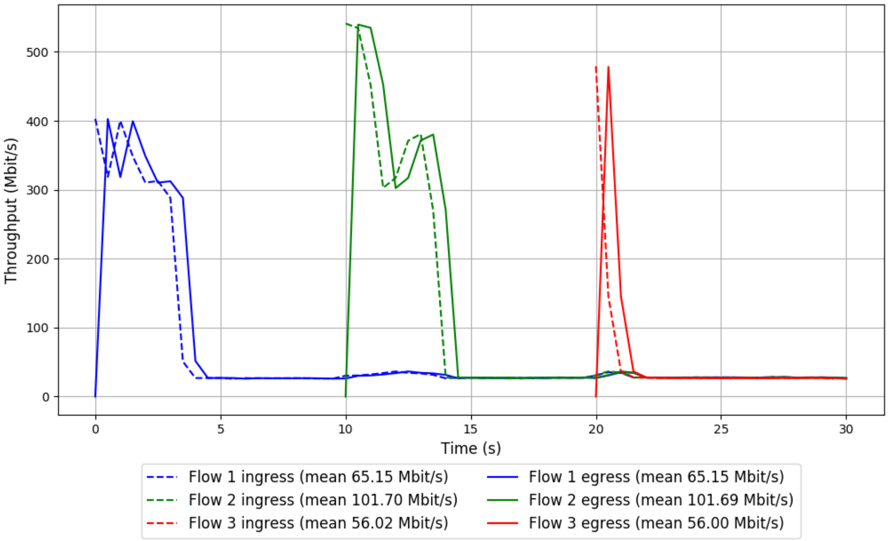
Run 2: Report of TCP Vegas — Data Link

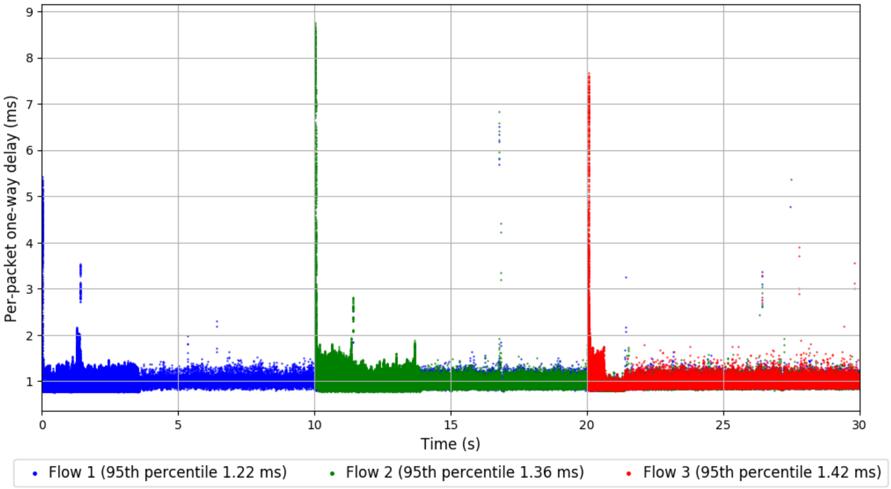




```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-25 02:14:17
End at: 2019-01-25 02:14:47
Local clock offset: 1.181 ms
Remote clock offset: -0.957 ms

# Below is generated by plot.py at 2019-01-25 04:21:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.51 Mbit/s
95th percentile per-packet one-way delay: 1.321 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 65.15 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 101.69 Mbit/s
95th percentile per-packet one-way delay: 1.361 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 56.00 Mbit/s
95th percentile per-packet one-way delay: 1.423 ms
Loss rate: 0.04%
```

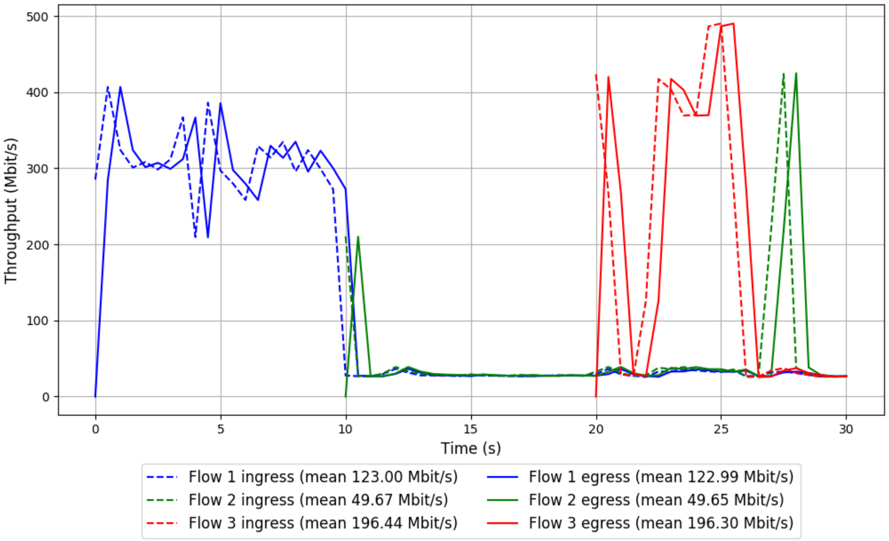
Run 3: Report of TCP Vegas — Data Link

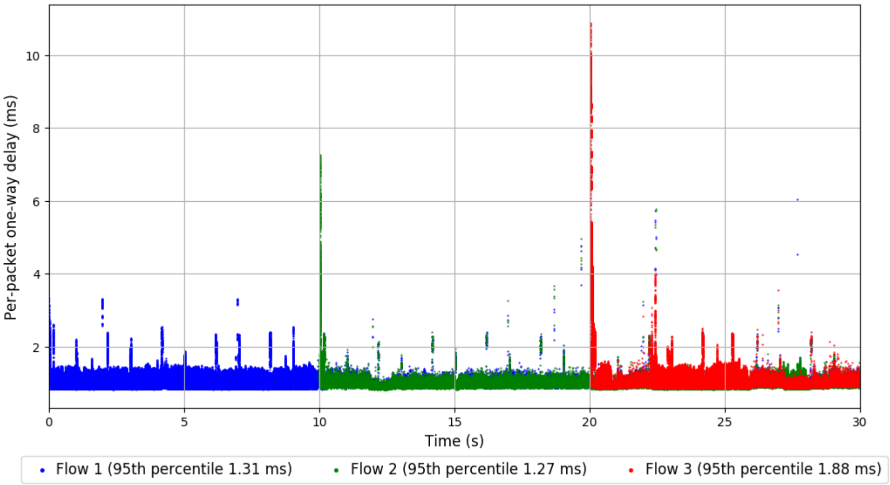




```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-25 02:43:36
End at: 2019-01-25 02:44:06
Local clock offset: 1.278 ms
Remote clock offset: -0.757 ms

# Below is generated by plot.py at 2019-01-25 04:22:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 221.33 Mbit/s
95th percentile per-packet one-way delay: 1.361 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 122.99 Mbit/s
95th percentile per-packet one-way delay: 1.312 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 49.65 Mbit/s
95th percentile per-packet one-way delay: 1.275 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 196.30 Mbit/s
95th percentile per-packet one-way delay: 1.880 ms
Loss rate: 0.07%
```

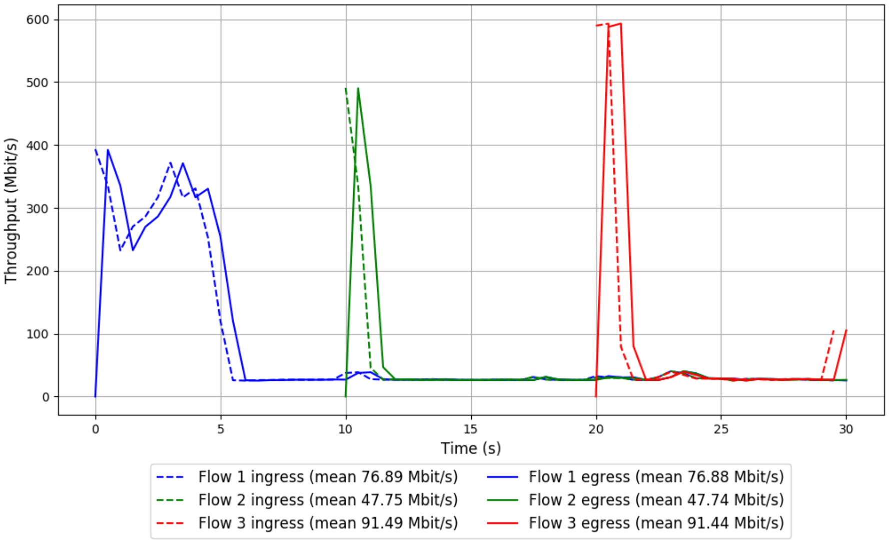
Run 4: Report of TCP Vegas — Data Link

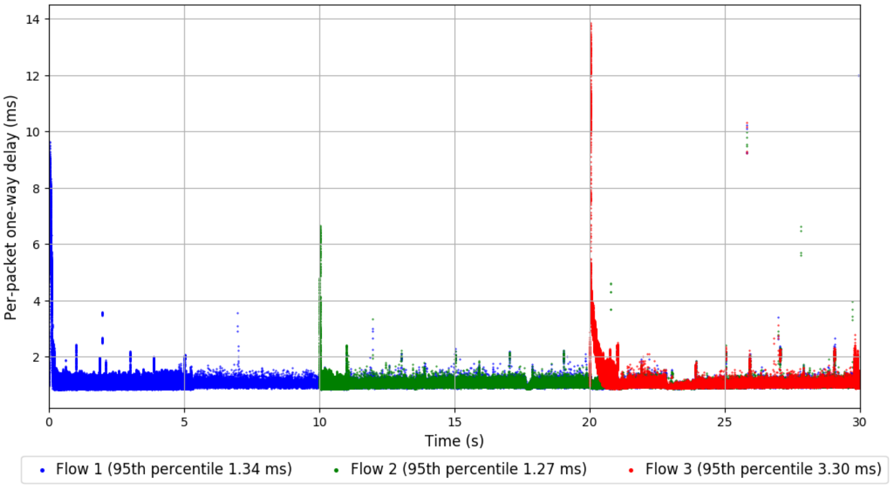




```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-25 03:13:25
End at: 2019-01-25 03:13:55
Local clock offset: 3.468 ms
Remote clock offset: -0.316 ms

# Below is generated by plot.py at 2019-01-25 04:22:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.13 Mbit/s
95th percentile per-packet one-way delay: 1.969 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 76.88 Mbit/s
95th percentile per-packet one-way delay: 1.340 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.74 Mbit/s
95th percentile per-packet one-way delay: 1.272 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 91.44 Mbit/s
95th percentile per-packet one-way delay: 3.296 ms
Loss rate: 0.05%
```

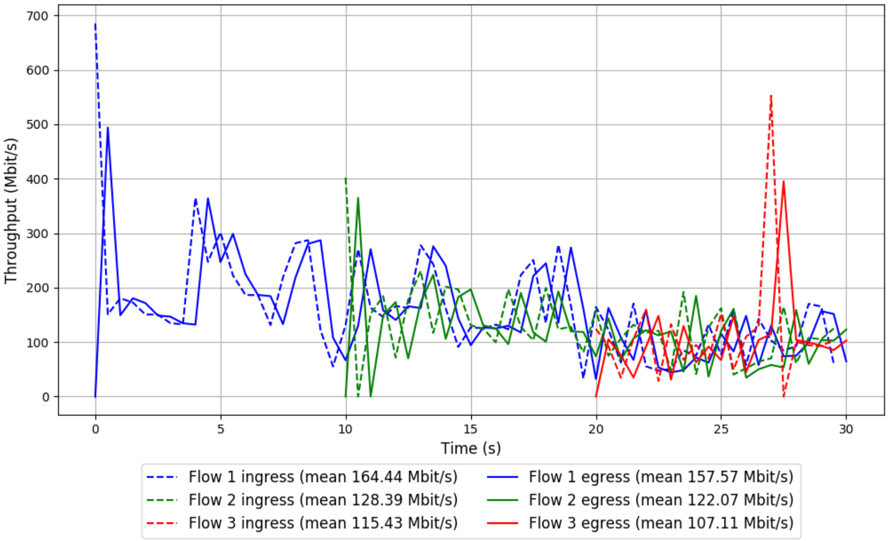
Run 5: Report of TCP Vegas — Data Link

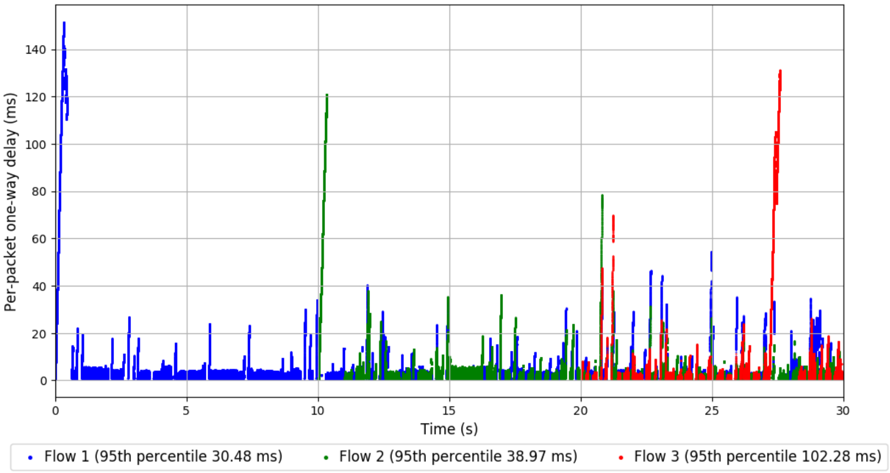




```
Run 1: Statistics of Verus

Start at: 2019-01-25 01:16:19
End at: 2019-01-25 01:16:49
Local clock offset: -4.405 ms
Remote clock offset: 0.589 ms

# Below is generated by plot.py at 2019-01-25 04:23:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 274.30 Mbit/s
95th percentile per-packet one-way delay: 62.828 ms
Loss rate: 4.79%
-- Flow 1:
Average throughput: 157.57 Mbit/s
95th percentile per-packet one-way delay: 30.478 ms
Loss rate: 4.18%
-- Flow 2:
Average throughput: 122.07 Mbit/s
95th percentile per-packet one-way delay: 38.974 ms
Loss rate: 4.92%
-- Flow 3:
Average throughput: 107.11 Mbit/s
95th percentile per-packet one-way delay: 102.284 ms
Loss rate: 7.16%
```

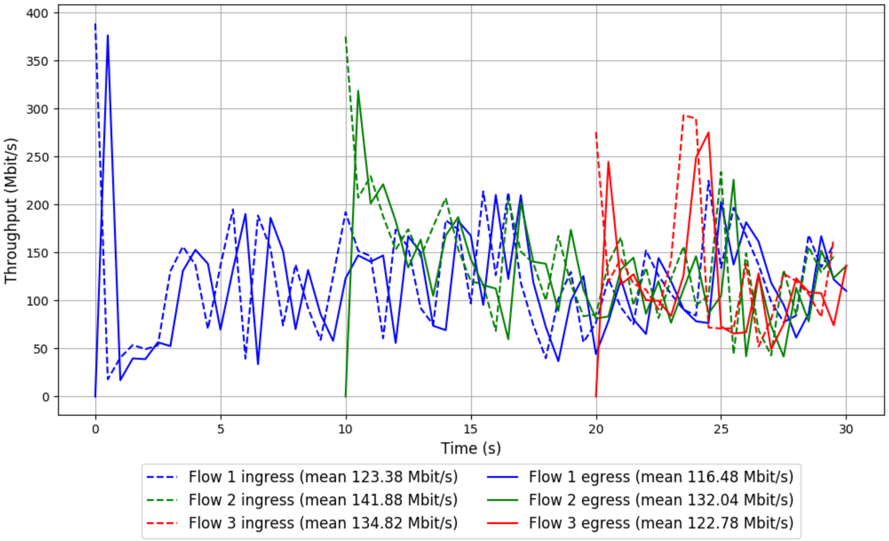
Run 1: Report of Verus — Data Link

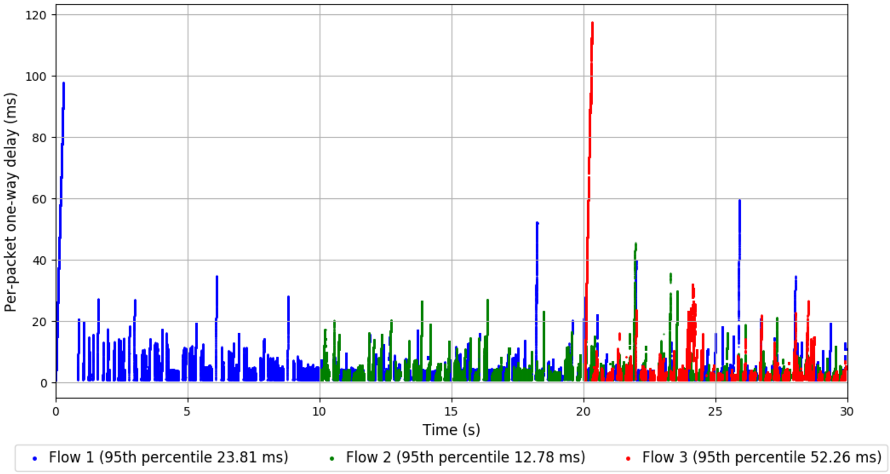




```
Run 2: Statistics of Verus

Start at: 2019-01-25 01:45:59
End at: 2019-01-25 01:46:29
Local clock offset: 0.469 ms
Remote clock offset: 4.566 ms

# Below is generated by plot.py at 2019-01-25 04:23:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.84 Mbit/s
95th percentile per-packet one-way delay: 20.330 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 116.48 Mbit/s
95th percentile per-packet one-way delay: 23.808 ms
Loss rate: 5.56%
-- Flow 2:
Average throughput: 132.04 Mbit/s
95th percentile per-packet one-way delay: 12.784 ms
Loss rate: 6.93%
-- Flow 3:
Average throughput: 122.78 Mbit/s
95th percentile per-packet one-way delay: 52.256 ms
Loss rate: 8.90%
```

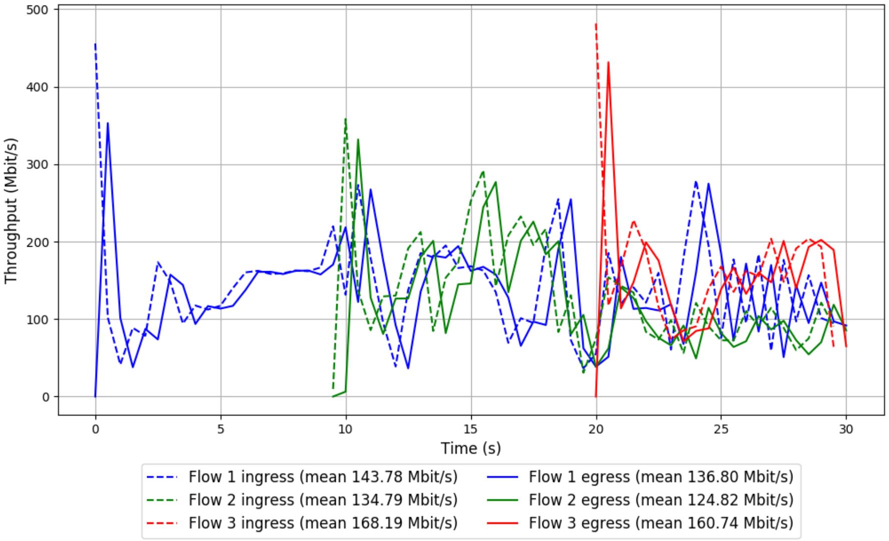
Run 2: Report of Verus — Data Link

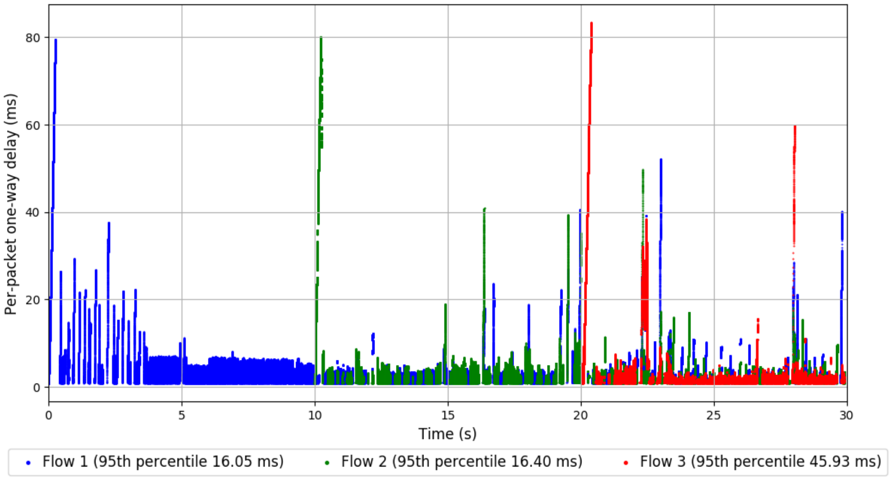




```
Run 3: Statistics of Verus

Start at: 2019-01-25 02:15:36
End at: 2019-01-25 02:16:06
Local clock offset: 1.167 ms
Remote clock offset: -0.963 ms

# Below is generated by plot.py at 2019-01-25 04:23:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.86 Mbit/s
95th percentile per-packet one-way delay: 24.397 ms
Loss rate: 5.56%
-- Flow 1:
Average throughput: 136.80 Mbit/s
95th percentile per-packet one-way delay: 16.047 ms
Loss rate: 4.85%
-- Flow 2:
Average throughput: 124.82 Mbit/s
95th percentile per-packet one-way delay: 16.404 ms
Loss rate: 7.39%
-- Flow 3:
Average throughput: 160.74 Mbit/s
95th percentile per-packet one-way delay: 45.929 ms
Loss rate: 4.42%
```

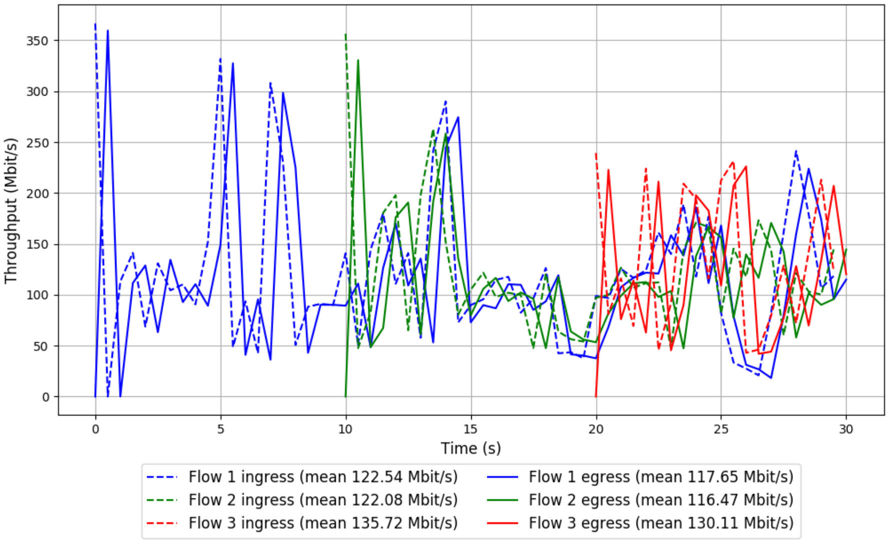
Run 3: Report of Verus — Data Link

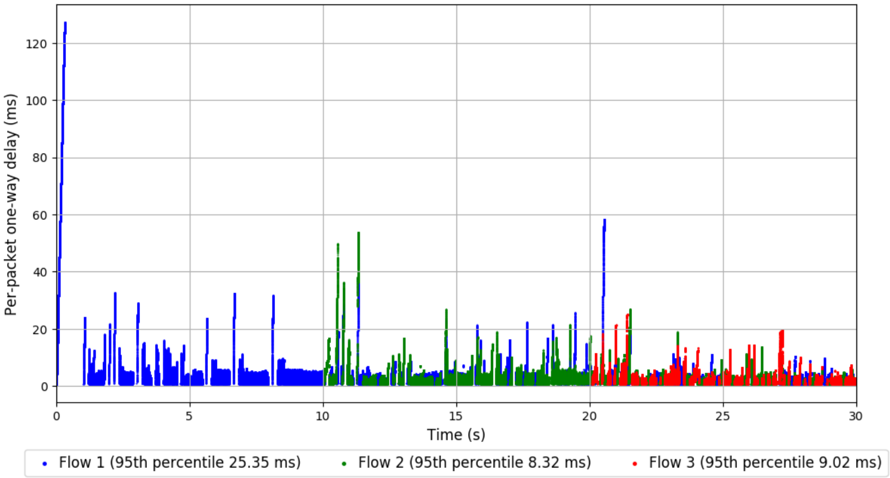




```
Run 4: Statistics of Verus

Start at: 2019-01-25 02:44:57
End at: 2019-01-25 02:45:27
Local clock offset: 1.301 ms
Remote clock offset: -0.921 ms

# Below is generated by plot.py at 2019-01-25 04:23:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.76 Mbit/s
95th percentile per-packet one-way delay: 11.682 ms
Loss rate: 4.22%
-- Flow 1:
Average throughput: 117.65 Mbit/s
95th percentile per-packet one-way delay: 25.350 ms
Loss rate: 4.00%
-- Flow 2:
Average throughput: 116.47 Mbit/s
95th percentile per-packet one-way delay: 8.325 ms
Loss rate: 4.60%
-- Flow 3:
Average throughput: 130.11 Mbit/s
95th percentile per-packet one-way delay: 9.019 ms
Loss rate: 4.14%
```

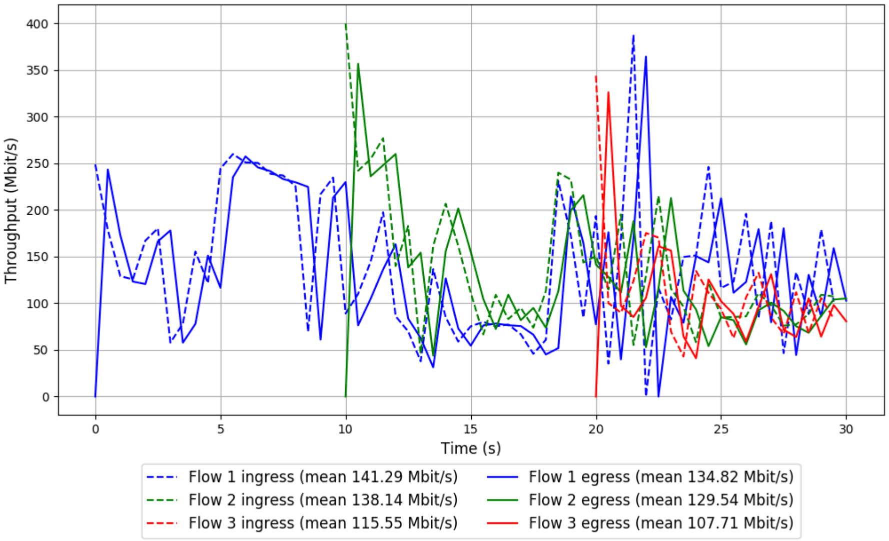
Run 4: Report of Verus — Data Link

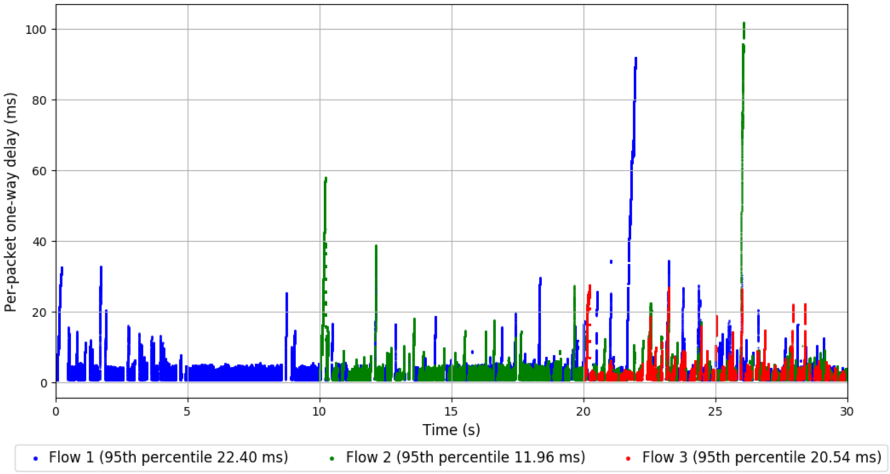




```
Run 5: Statistics of Verus

Start at: 2019-01-25 03:14:44
End at: 2019-01-25 03:15:14
Local clock offset: 3.585 ms
Remote clock offset: -0.381 ms

# Below is generated by plot.py at 2019-01-25 04:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.08 Mbit/s
95th percentile per-packet one-way delay: 17.792 ms
Loss rate: 5.44%
-- Flow 1:
Average throughput: 134.82 Mbit/s
95th percentile per-packet one-way delay: 22.397 ms
Loss rate: 4.58%
-- Flow 2:
Average throughput: 129.54 Mbit/s
95th percentile per-packet one-way delay: 11.960 ms
Loss rate: 6.22%
-- Flow 3:
Average throughput: 107.71 Mbit/s
95th percentile per-packet one-way delay: 20.544 ms
Loss rate: 6.78%
```

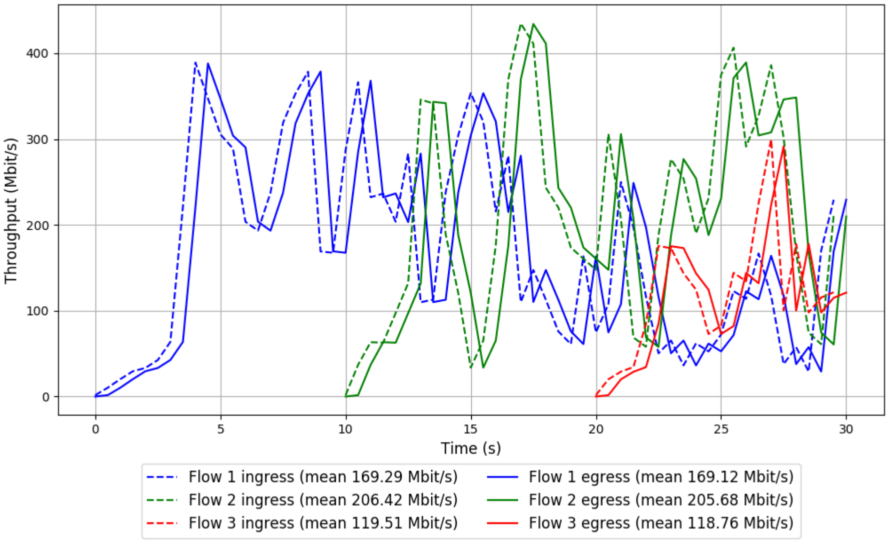
Run 5: Report of Verus — Data Link

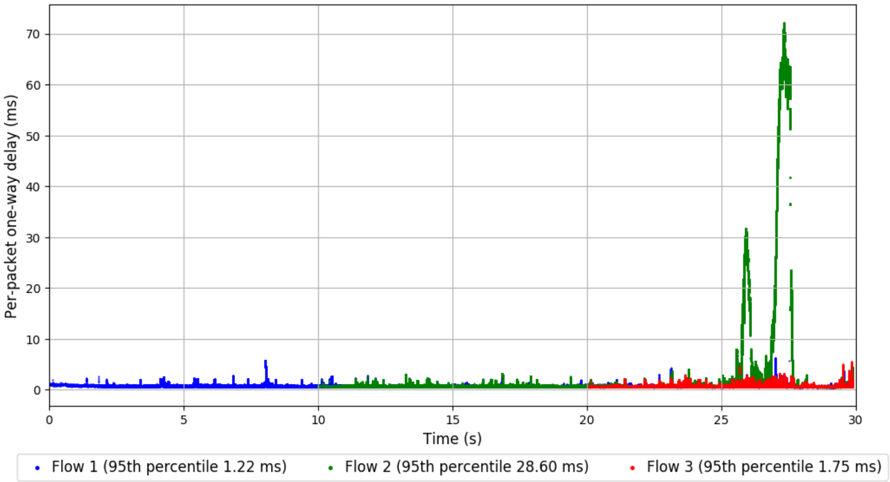




```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-25 01:17:45
End at: 2019-01-25 01:18:15
Local clock offset: -4.476 ms
Remote clock offset: 0.986 ms

# Below is generated by plot.py at 2019-01-25 04:24:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.14 Mbit/s
95th percentile per-packet one-way delay: 3.758 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 169.12 Mbit/s
95th percentile per-packet one-way delay: 1.219 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 205.68 Mbit/s
95th percentile per-packet one-way delay: 28.602 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 118.76 Mbit/s
95th percentile per-packet one-way delay: 1.747 ms
Loss rate: 0.62%
```

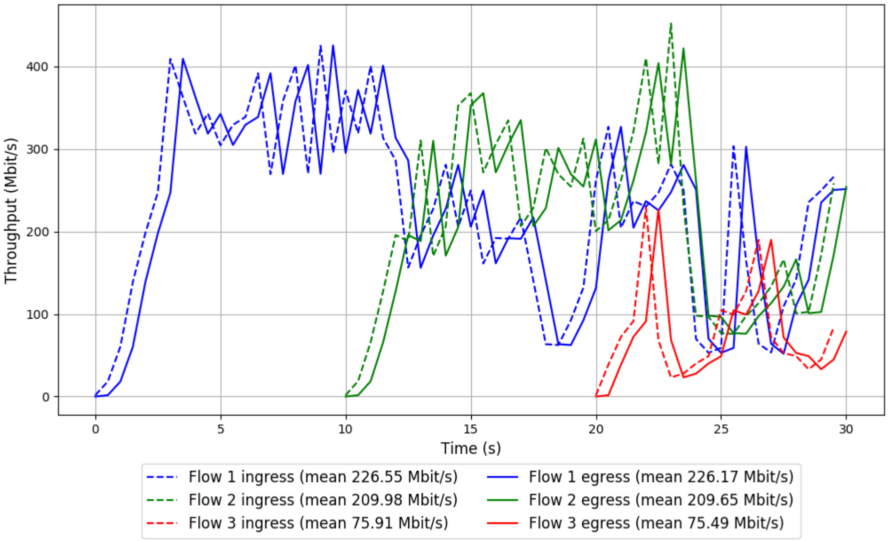
Run 1: Report of PCC-Vivace — Data Link

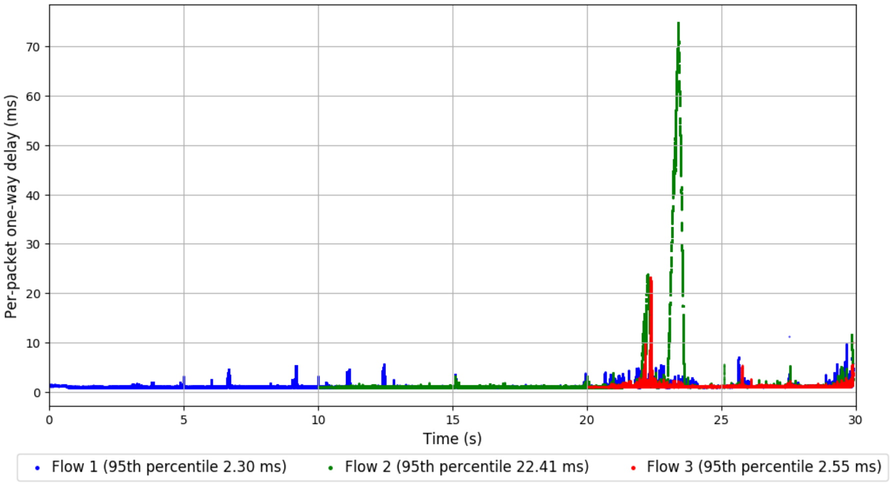




```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-25 01:47:23
End at: 2019-01-25 01:47:53
Local clock offset: 0.677 ms
Remote clock offset: 4.694 ms

# Below is generated by plot.py at 2019-01-25 04:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.44 Mbit/s
95th percentile per-packet one-way delay: 3.730 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 226.17 Mbit/s
95th percentile per-packet one-way delay: 2.302 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 209.65 Mbit/s
95th percentile per-packet one-way delay: 22.407 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 75.49 Mbit/s
95th percentile per-packet one-way delay: 2.547 ms
Loss rate: 0.48%
```

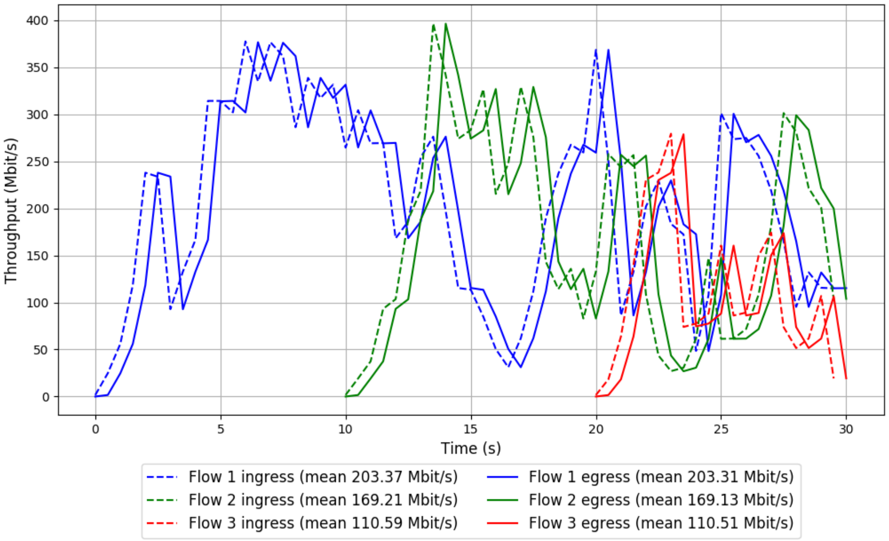
Run 2: Report of PCC-Vivace — Data Link

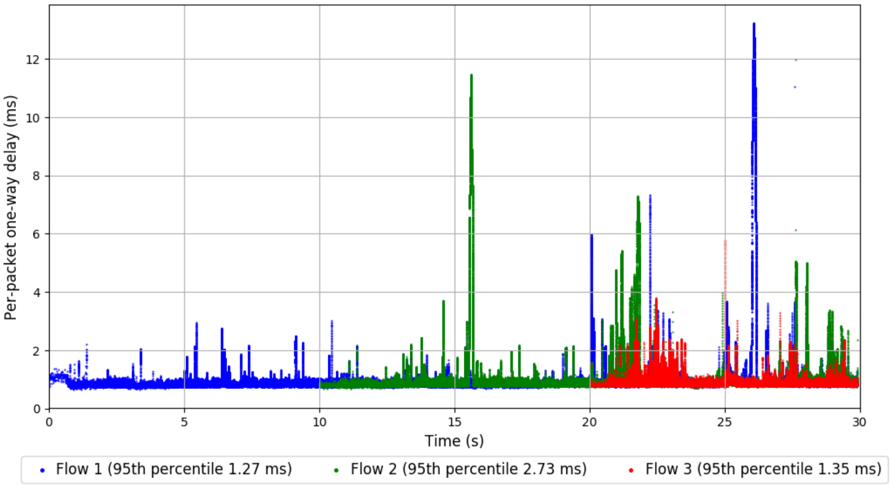




```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-25 02:17:02
End at: 2019-01-25 02:17:32
Local clock offset: 1.187 ms
Remote clock offset: -1.183 ms

# Below is generated by plot.py at 2019-01-25 04:25:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.29 Mbit/s
95th percentile per-packet one-way delay: 1.649 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 203.31 Mbit/s
95th percentile per-packet one-way delay: 1.266 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 169.13 Mbit/s
95th percentile per-packet one-way delay: 2.726 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 110.51 Mbit/s
95th percentile per-packet one-way delay: 1.354 ms
Loss rate: 0.09%
```

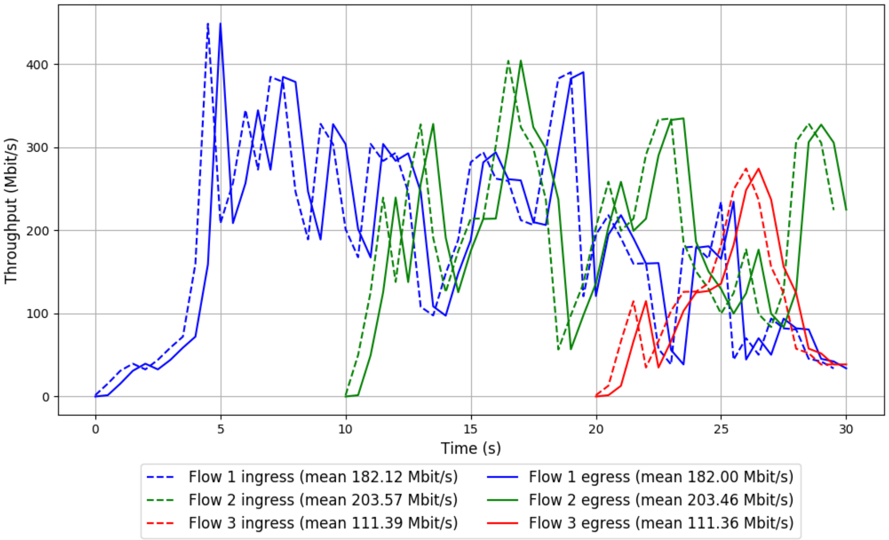
Run 3: Report of PCC-Vivace — Data Link

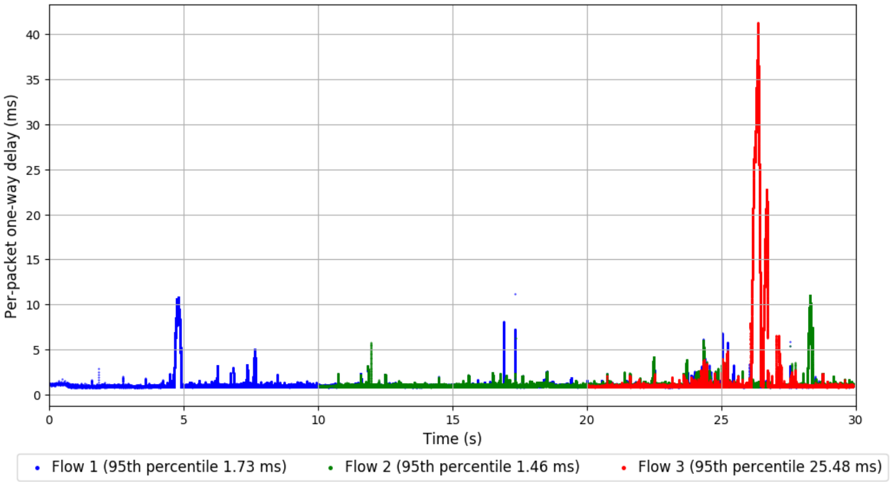




```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-25 02:46:22
End at: 2019-01-25 02:46:52
Local clock offset: 1.301 ms
Remote clock offset: -0.815 ms

# Below is generated by plot.py at 2019-01-25 04:25:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.10 Mbit/s
95th percentile per-packet one-way delay: 2.077 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 182.00 Mbit/s
95th percentile per-packet one-way delay: 1.734 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 203.46 Mbit/s
95th percentile per-packet one-way delay: 1.464 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 111.36 Mbit/s
95th percentile per-packet one-way delay: 25.483 ms
Loss rate: 0.03%
```

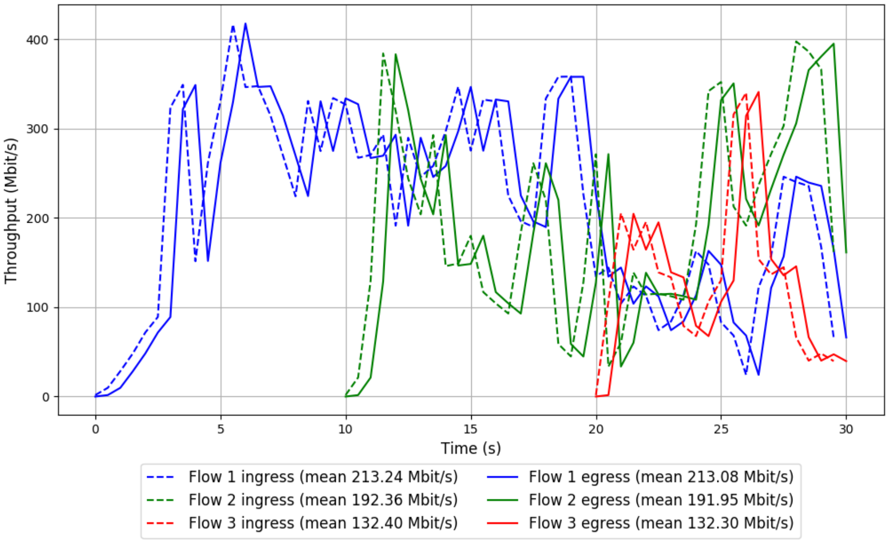
Run 4: Report of PCC-Vivace — Data Link

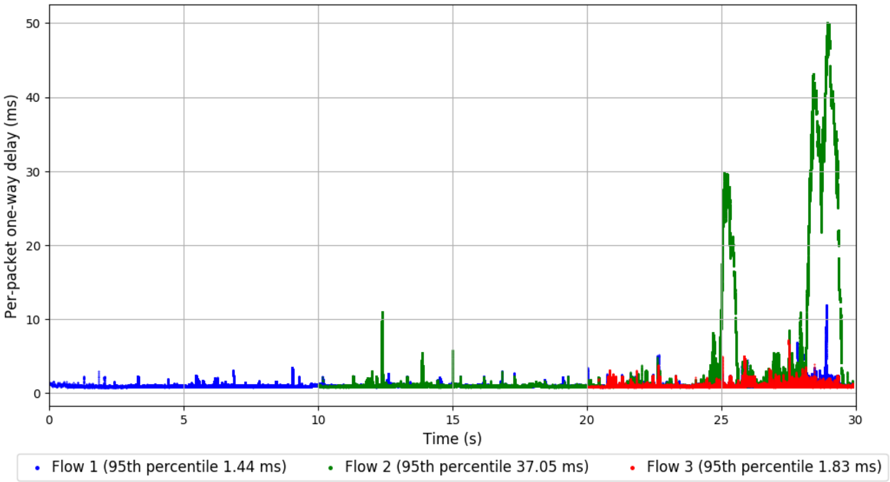




```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-25 03:16:09
End at: 2019-01-25 03:16:39
Local clock offset: 3.694 ms
Remote clock offset: -0.327 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.44 Mbit/s
95th percentile per-packet one-way delay: 18.966 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 213.08 Mbit/s
95th percentile per-packet one-way delay: 1.439 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 191.95 Mbit/s
95th percentile per-packet one-way delay: 37.052 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 132.30 Mbit/s
95th percentile per-packet one-way delay: 1.830 ms
Loss rate: 0.08%
```

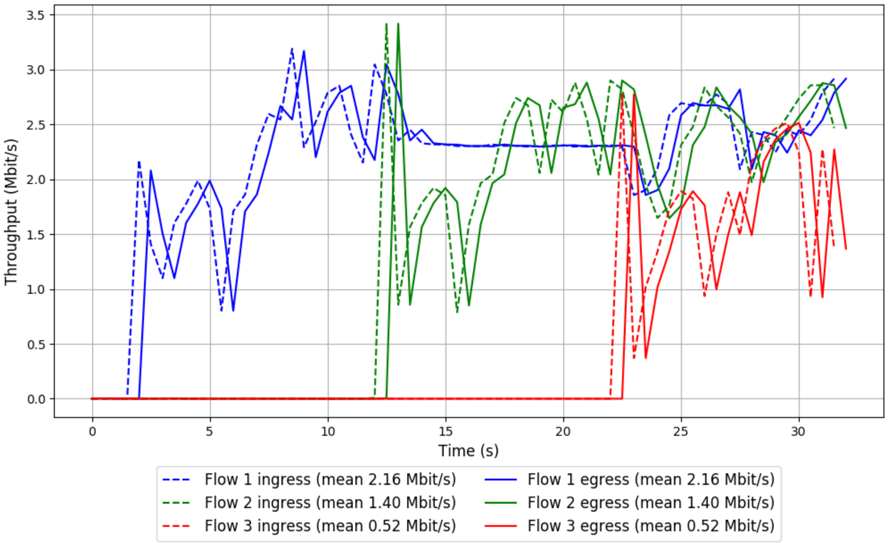
Run 5: Report of PCC-Vivace — Data Link

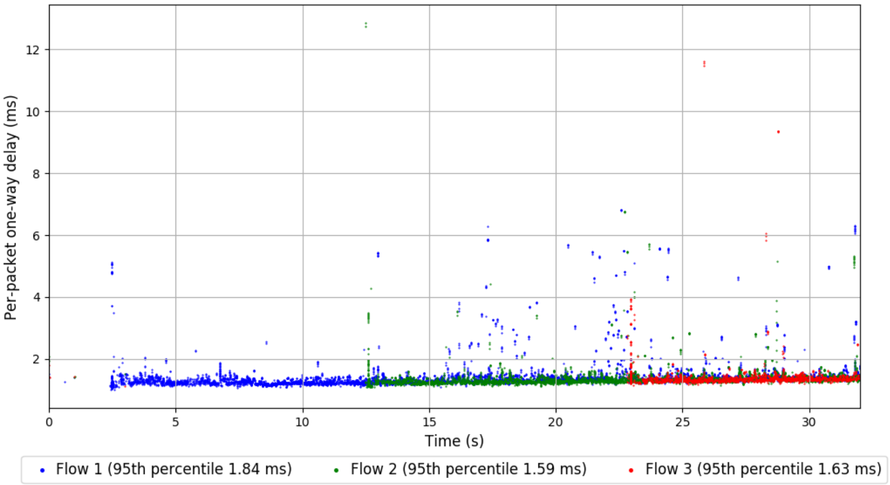




```
Run 1: Statistics of WebRTC media

Start at: 2019-01-25 01:30:42
End at: 2019-01-25 01:31:12
Local clock offset: -4.501 ms
Remote clock offset: 3.28 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 1.696 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 1.842 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 1.587 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 1.634 ms
Loss rate: 0.00%
```

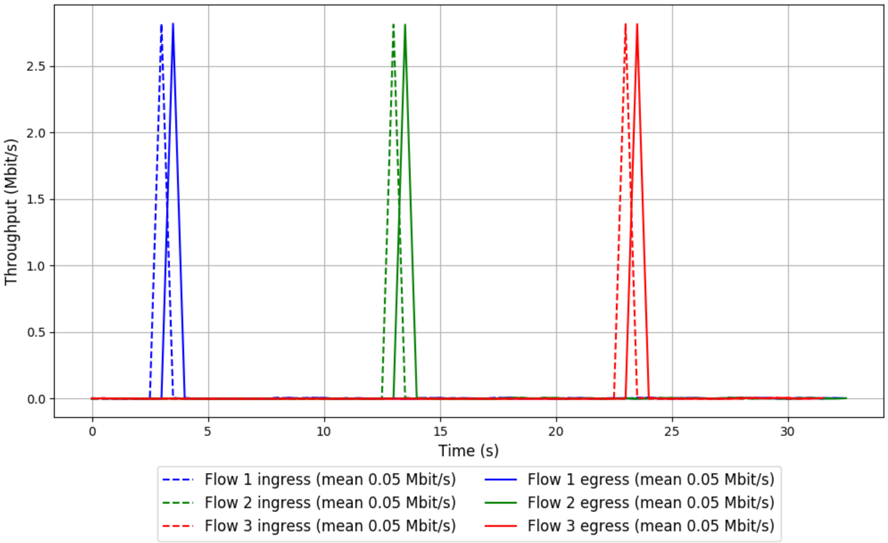
Run 1: Report of WebRTC media — Data Link

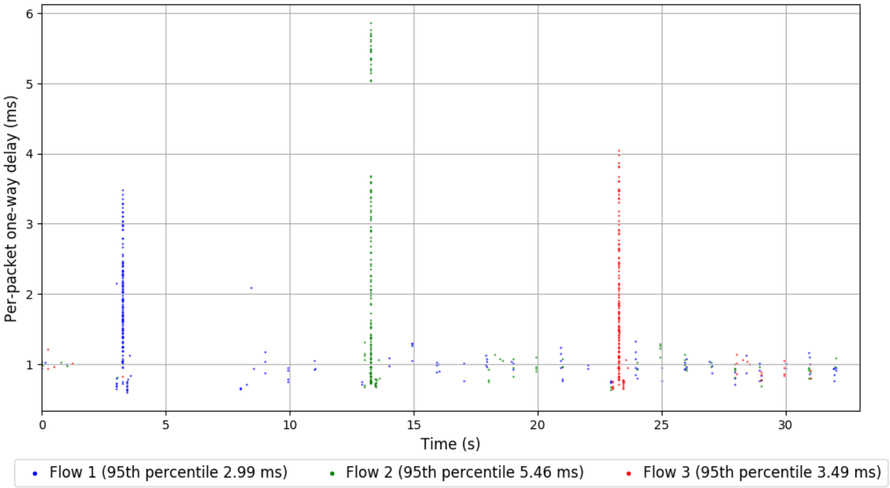




```
Run 2: Statistics of WebRTC media

Start at: 2019-01-25 02:00:13
End at: 2019-01-25 02:00:43
Local clock offset: 1.909 ms
Remote clock offset: 0.548 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.608 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.464 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.490 ms
Loss rate: 0.00%
```

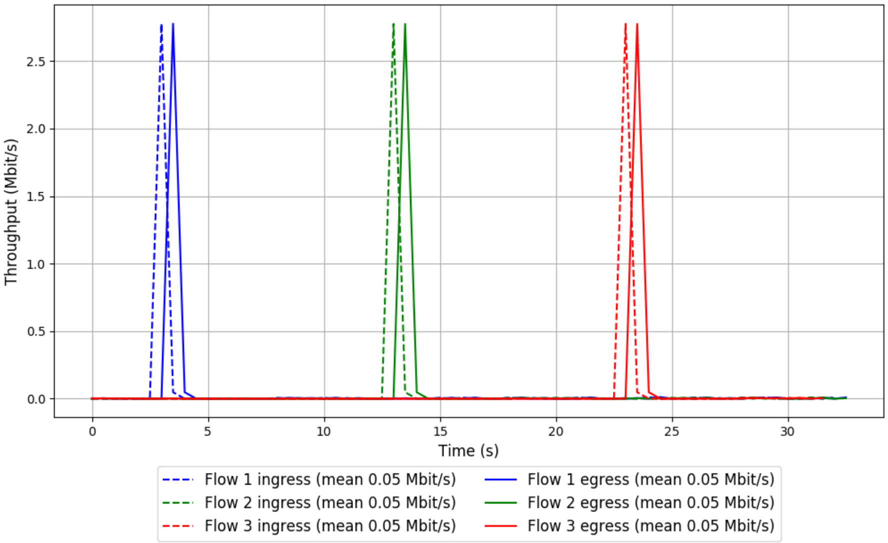
Run 2: Report of WebRTC media — Data Link

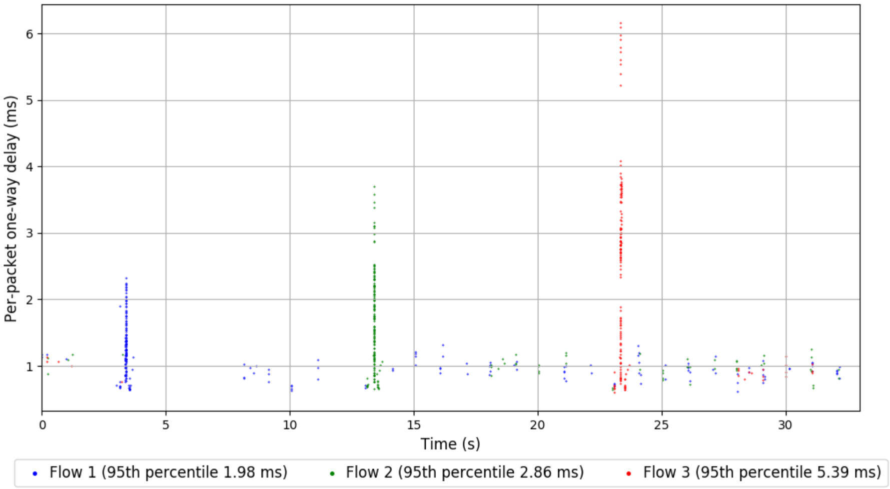




```
Run 3: Statistics of WebRTC media

Start at: 2019-01-25 02:29:38
End at: 2019-01-25 02:30:08
Local clock offset: 1.459 ms
Remote clock offset: -0.938 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.980 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.390 ms
Loss rate: 0.00%
```

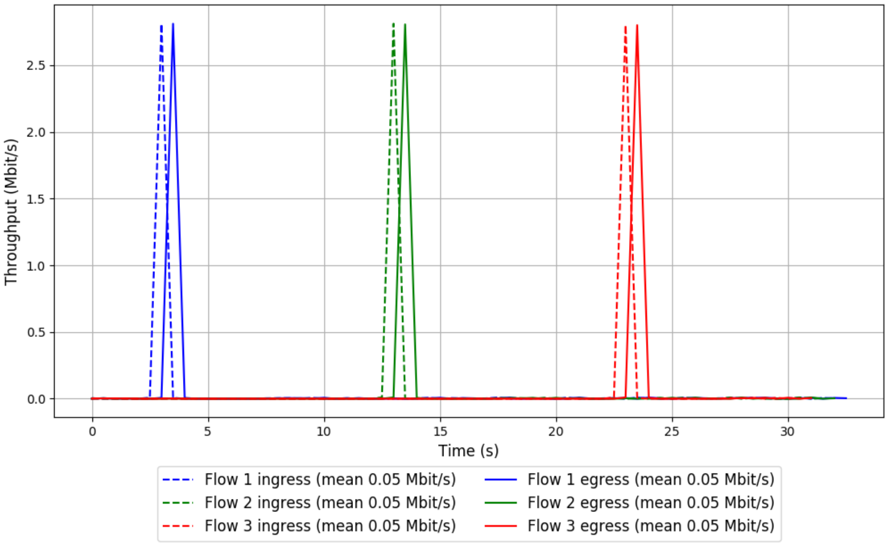
Run 3: Report of WebRTC media — Data Link

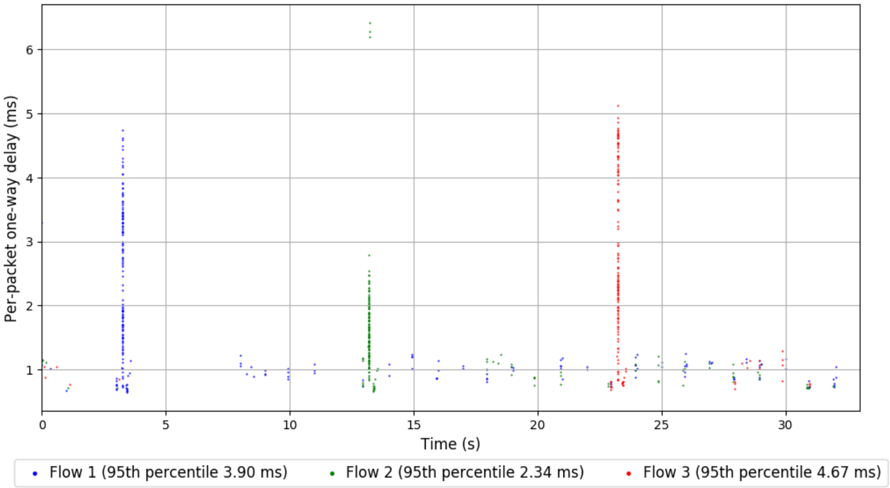




```
Run 4: Statistics of WebRTC media

Start at: 2019-01-25 02:59:20
End at: 2019-01-25 02:59:50
Local clock offset: 1.551 ms
Remote clock offset: -0.855 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.406 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.898 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.342 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.674 ms
Loss rate: 0.00%
```

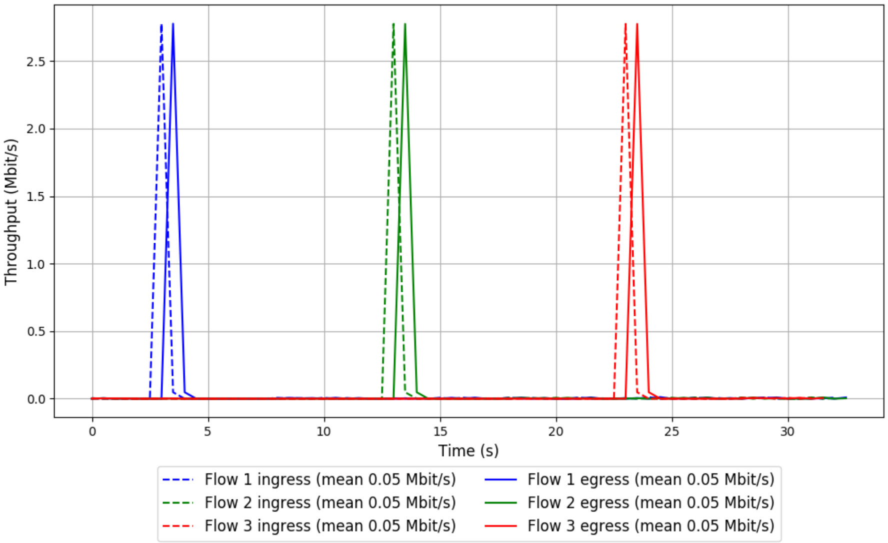
Run 4: Report of WebRTC media — Data Link



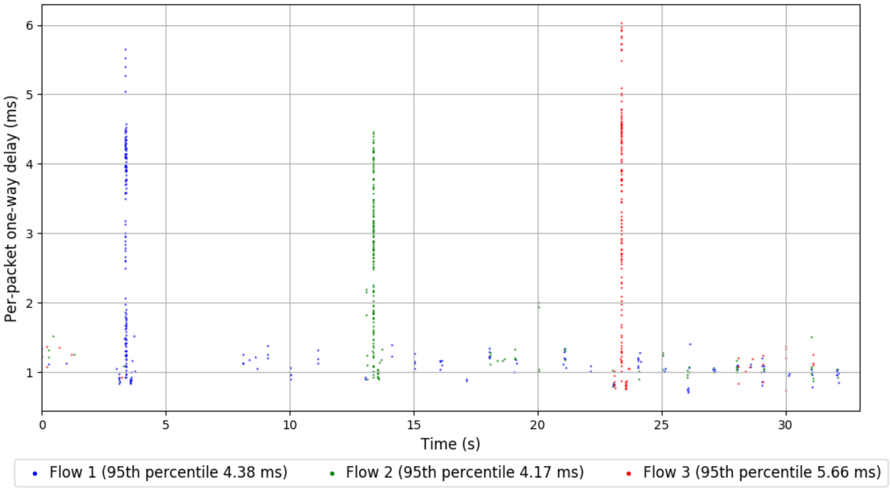


```
Run 5: Statistics of WebRTC media

Start at: 2019-01-25 03:29:04
End at: 2019-01-25 03:29:34
Local clock offset: 4.467 ms
Remote clock offset: -0.319 ms

# Below is generated by plot.py at 2019-01-25 04:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.379 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.174 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.657 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link



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



Per-packet one-way delay (ms)
1
2
3
4
5
6
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 4.38 ms)
Flow 2 (95th percentile 4.17 ms)
Flow 3 (95th percentile 5.66 ms)