Pantheon Report

Generated at 2019-07-12 19:15:41 (UTC).

Data path: Mexico on `em1` (*remote*) →AWS California 2 on `ens5` (*local*).

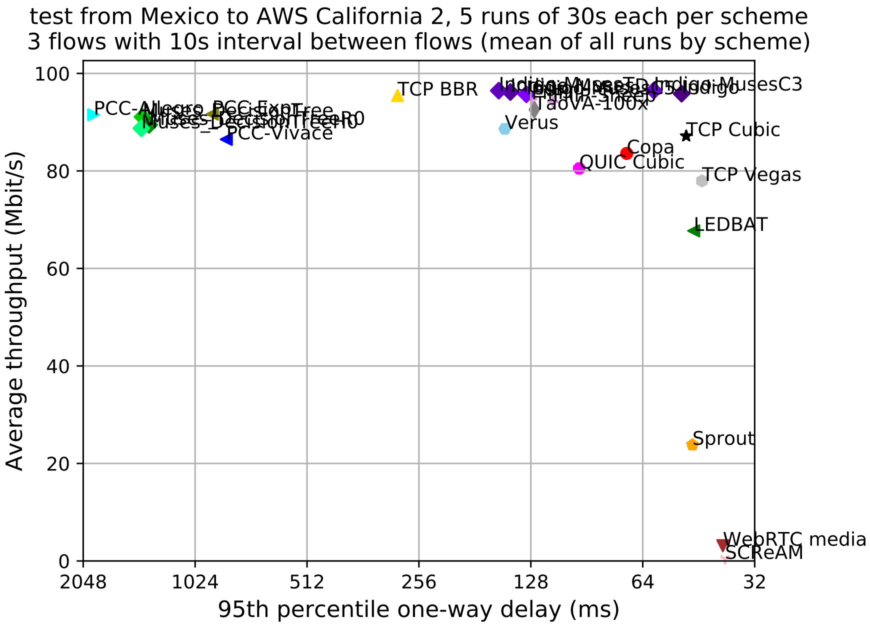
Repeated the test of 24 congestion control schemes 5 times.

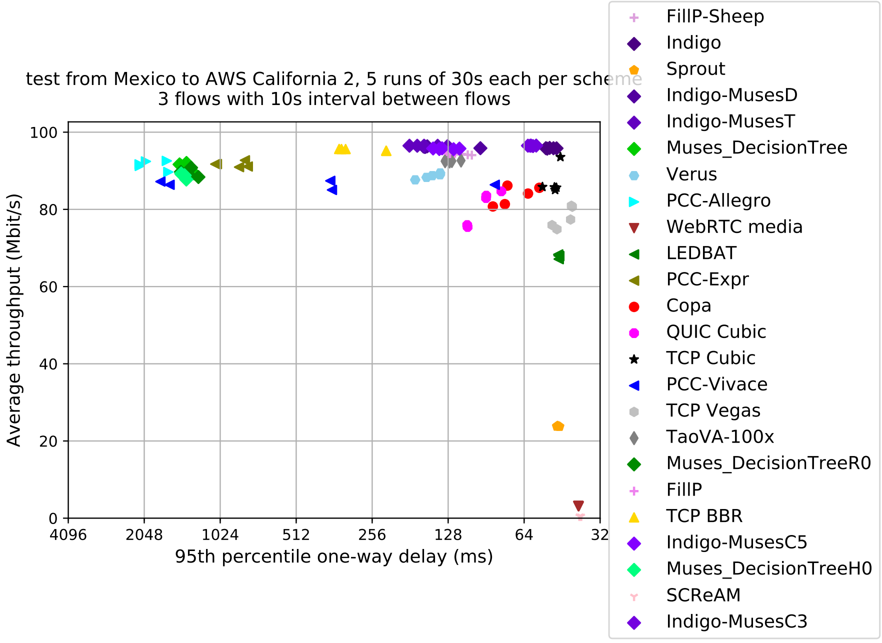
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

```
System info:
Linux 4.15.0-1041-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 @ 2076e1149a241f3edb4365d686df32342bf9561f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 8bb93ffff2b107204a92d8b72449fc0c55e15f00
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
```

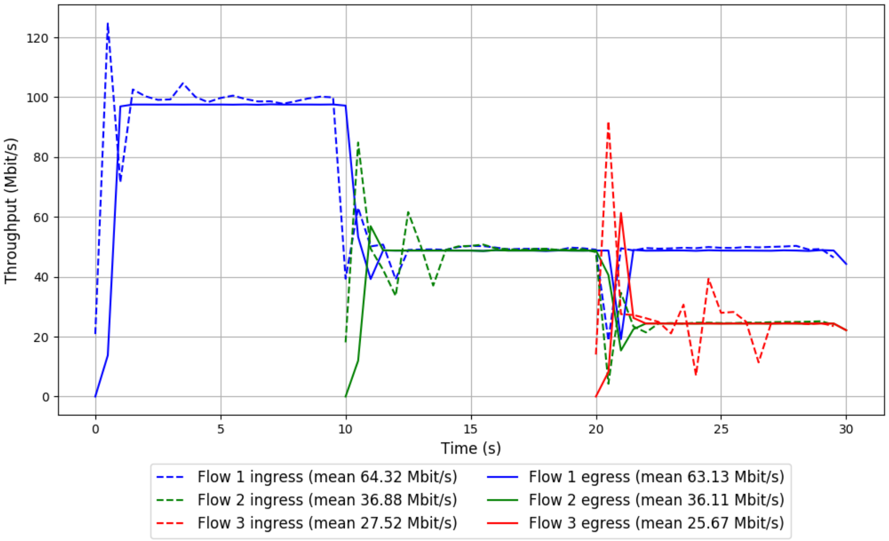

test from Mexico to AWS California 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
20
40
60
80
100
2048
1024
512
256
128
64
32
PCC-Allegro
PCC-Expr
Muses_DecisionTree
Muses_DecisionTreeR0
Muses_DecisionTreeH0
PCC-Vivace
TCP BBR
Indigo-MusesC3
Indigo
TaoVA-100x
FillP-Sheep
Verus
TCP Cubic
Copa
QUIC Cubic
TCP Vegas
LEDBAT
Sprout
WebRTC media
SCReAM

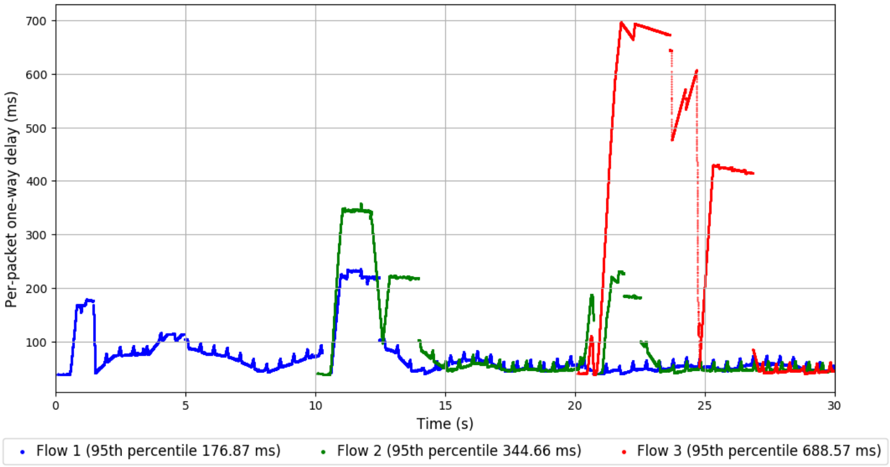

test from Mexico to AWS California 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
20
40
60
80
100
4096
2048
1024
512
256
128
64
32
FillP-Sheep
Indigo
Sprout
Indigo-MusesD
Indigo-MusesT
Muses_DecisionTree
Verus
PCC-Allegro
WebRTC media
LEDBAT
PCC-Expr
Copa
QUIC Cubic
TCP Cubic
PCC-Vivace
TCP Vegas
TaoVA-100x
Muses_DecisionTreeR0
FillP
TCP BBR
Indigo-MusesC5
Muses_DecisionTreeH0
SCReAM
Indigo-MusesC3

		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	58.09	39.81	32.87	193.82	278.95	519.00	1.56	1.94	4.37
Copa	5	52.82	33.40	25.78	89.20	49.99	64.46	0.16	0.30	0.78
TCP Cubic	5	50.83	37.80	33.72	52.03	46.03	54.82	0.25	0.31	0.68
FillP	5	55.90	40.09	36.76	112.42	137.40	107.81	0.47	3.33	2.48
FillP-Sheep	5	55.60	40.83	34.55	109.36	102.49	122.92	0.29	0.59	1.29
Indigo	5	60.07	36.12	36.04	50.26	51.44	49.05	0.17	0.35	0.75
Indigo-MusesC3	5	61.86	40.46	29.77	56.34	63.78	75.61	0.21	0.49	0.97
Indigo-MusesC5	5	59.90	43.46	26.56	97.42	141.26	140.04	0.87	3.43	6.73
Indigo-MusesD	5	60.80	40.36	32.18	143.56	142.13	69.23	6.75	9.62	1.79
Indigo-MusesT	5	60.65	42.29	29.61	128.85	194.18	199.13	2.07	4.25	5.57
LEDBAT	5	40.74	30.08	20.99	46.65	46.91	46.24	0.17	0.38	1.03
Muses_DecisionTree	5	48.91	40.67	47.27	890.02	1193.48	1675.62	0.61	2.78	10.19
Muses_DecisionTreeH0	5	49.50	39.70	39.90	889.44	1408.34	1867.09	1.08	3.89	21.52
Muses_DecisionTreeR0	5	45.03	42.22	50.80	872.64	1248.93	1580.93	1.52	3.56	6.78
PCC-Allegro	5	57.76	36.03	29.87	1938.18	1961.36	424.59	14.25	15.51	4.55
PCC-Expr	5	55.03	39.31	31.90	901.48	656.54	204.93	33.13	9.17	2.54
QUIC Cubic	5	47.46	35.28	29.19	75.56	120.37	160.72	0.20	0.52	1.05
SCReAM	5	0.21	0.21	0.22	38.47	38.42	38.44	0.21	0.40	0.64
Sprout	5	11.99	11.96	11.80	46.40	47.25	48.42	0.26	0.20	0.74
TaoVA-100x	5	55.96	37.14	35.84	114.41	132.51	141.77	0.66	1.32	2.50
TCP Vegas	5	42.90	35.66	34.22	48.41	43.22	43.72	0.18	0.27	0.73
Verus	5	54.50	36.92	28.97	147.16	163.33	220.19	0.32	0.66	1.44
PCC-Vivace	5	54.81	34.94	25.68	822.00	507.65	281.35	2.09	4.66	4.21
WebRTC media	5	1.77	0.98	0.40	38.95	38.95	39.13	0.13	0.23	0.73

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-12 16:22:09
End at: 2019-07-12 16:22:39
Local clock offset: -2.639 ms
Remote clock offset: -4.897 ms

# Below is generated by plot.py at 2019-07-12 18:59:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 345.967 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 63.13 Mbit/s
95th percentile per-packet one-way delay: 176.868 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 36.11 Mbit/s
95th percentile per-packet one-way delay: 344.663 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 25.67 Mbit/s
95th percentile per-packet one-way delay: 688.572 ms
Loss rate: 7.34%
```

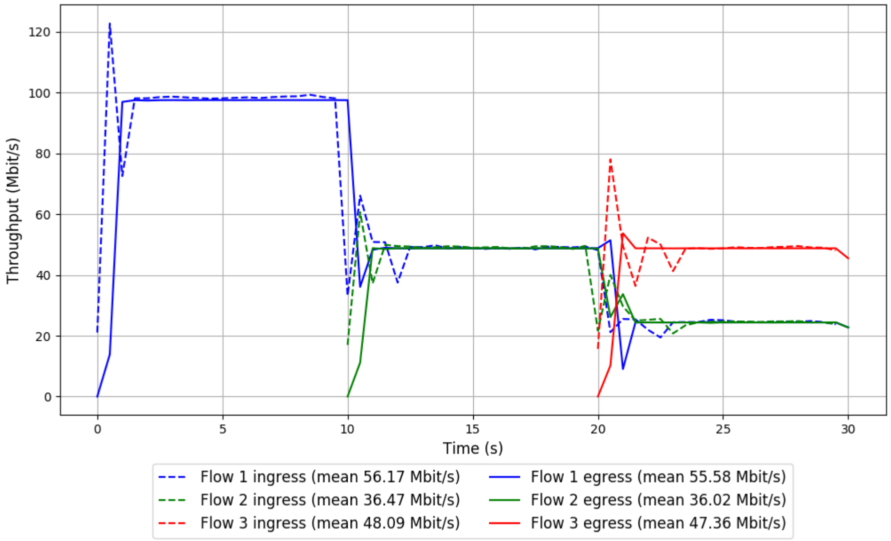
Run 1: Report of TCP BBR — Data Link

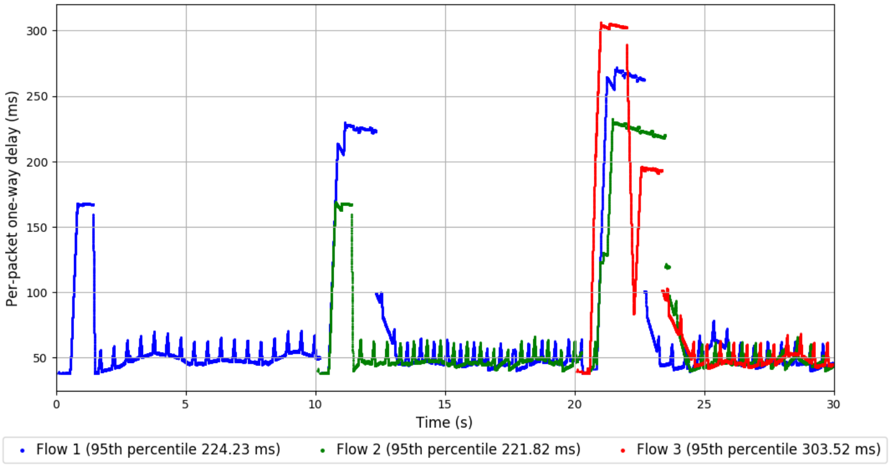




```
Run 2: Statistics of TCP BBR

Start at: 2019-07-12 16:58:59
End at: 2019-07-12 16:59:29
Local clock offset: -3.452 ms
Remote clock offset: -3.182 ms

# Below is generated by plot.py at 2019-07-12 18:59:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.22 Mbit/s
95th percentile per-packet one-way delay: 225.407 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 55.58 Mbit/s
95th percentile per-packet one-way delay: 224.233 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 36.02 Mbit/s
95th percentile per-packet one-way delay: 221.822 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 47.36 Mbit/s
95th percentile per-packet one-way delay: 303.520 ms
Loss rate: 2.15%
```

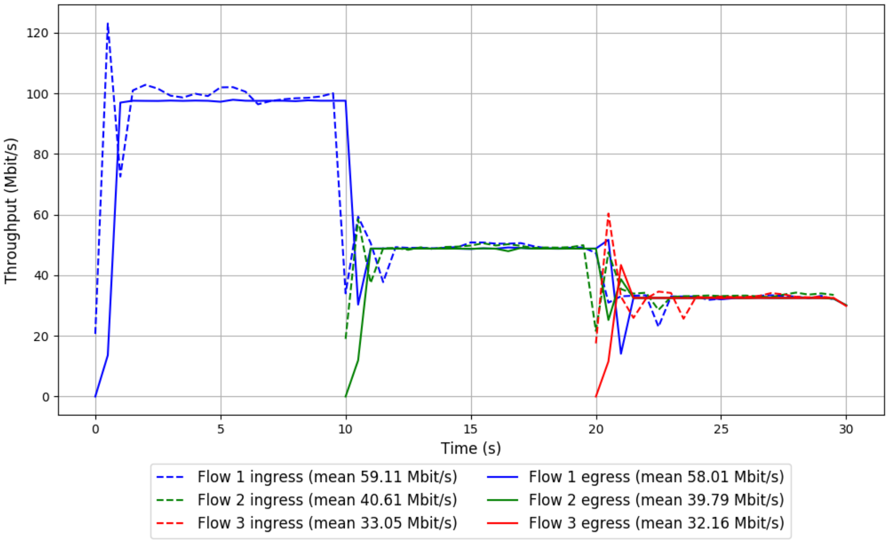
Run 2: Report of TCP BBR — Data Link

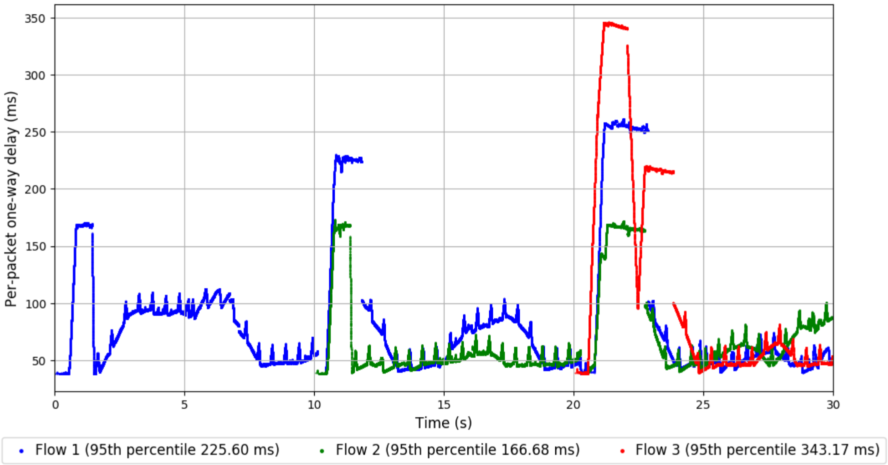




```
Run 3: Statistics of TCP BBR

Start at: 2019-07-12 17:33:59
End at: 2019-07-12 17:34:29
Local clock offset: 9.495 ms
Remote clock offset: -2.315 ms

# Below is generated by plot.py at 2019-07-12 18:59:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 224.922 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 58.01 Mbit/s
95th percentile per-packet one-way delay: 225.596 ms
Loss rate: 2.07%
-- Flow 2:
Average throughput: 39.79 Mbit/s
95th percentile per-packet one-way delay: 166.684 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 343.172 ms
Loss rate: 3.32%
```

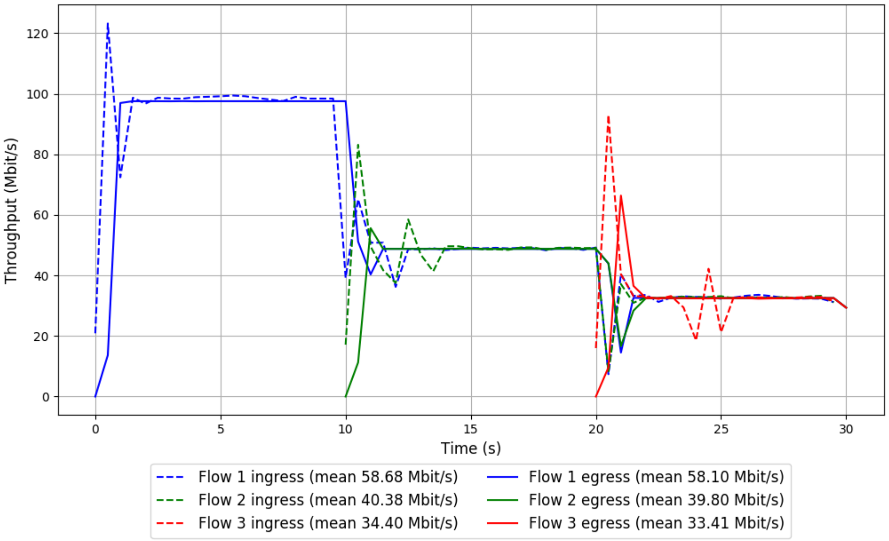
Run 3: Report of TCP BBR — Data Link

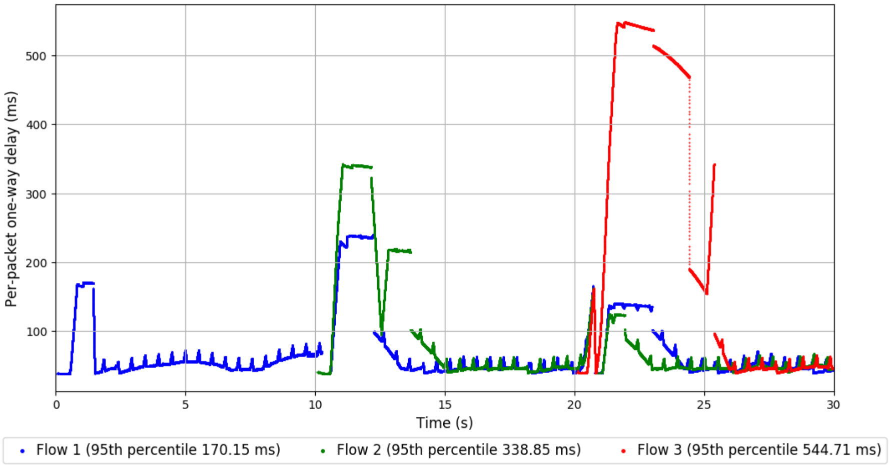




```
Run 4: Statistics of TCP BBR

Start at: 2019-07-12 18:12:47
End at: 2019-07-12 18:13:17
Local clock offset: 9.592 ms
Remote clock offset: -1.402 ms

# Below is generated by plot.py at 2019-07-12 18:59:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 338.756 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 170.151 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 39.80 Mbit/s
95th percentile per-packet one-way delay: 338.854 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 33.41 Mbit/s
95th percentile per-packet one-way delay: 544.710 ms
Loss rate: 3.51%
```

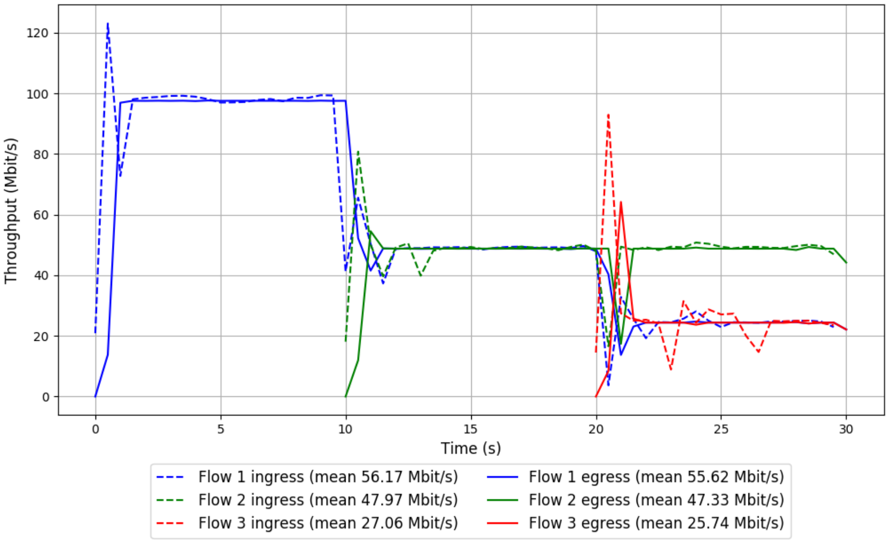
Run 4: Report of TCP BBR — Data Link

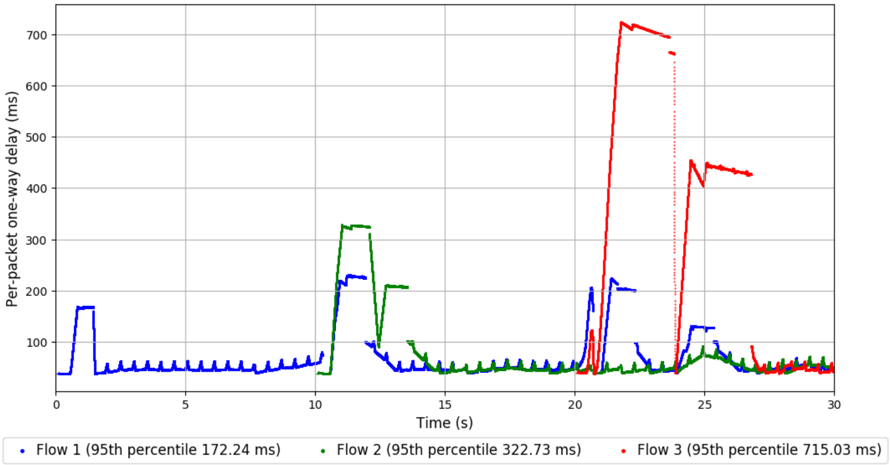




```
Run 5: Statistics of TCP BBR

Start at: 2019-07-12 18:46:58
End at: 2019-07-12 18:47:28
Local clock offset: 8.669 ms
Remote clock offset: -1.003 ms

# Below is generated by plot.py at 2019-07-12 18:59:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 326.179 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 55.62 Mbit/s
95th percentile per-packet one-way delay: 172.244 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 47.33 Mbit/s
95th percentile per-packet one-way delay: 322.732 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 25.74 Mbit/s
95th percentile per-packet one-way delay: 715.033 ms
Loss rate: 5.53%
```

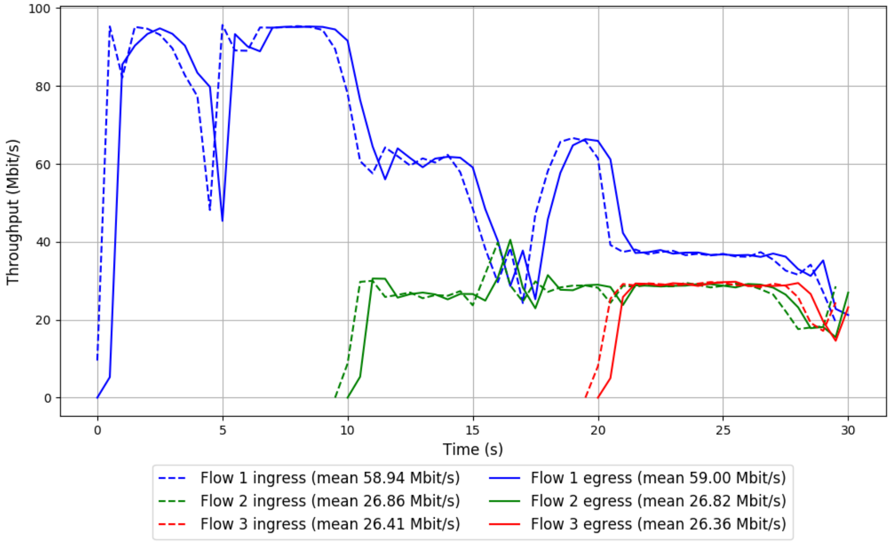
Run 5: Report of TCP BBR — Data Link

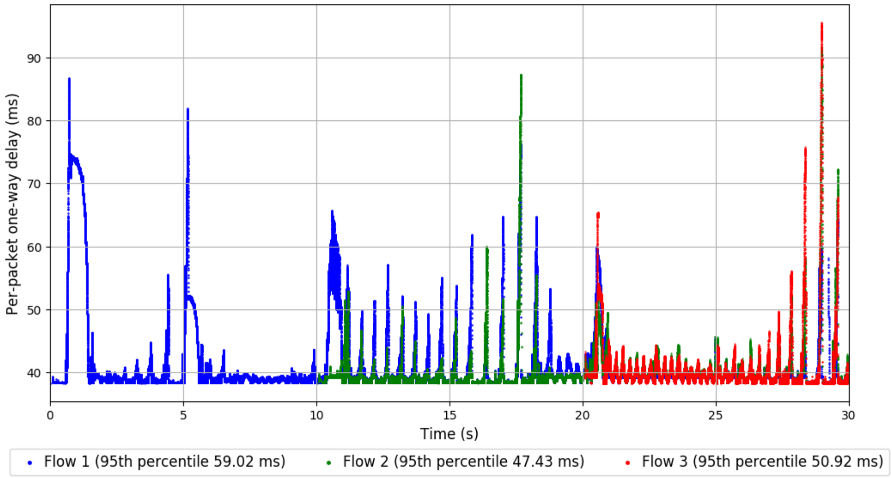




```
Run 1: Statistics of Copa

Start at: 2019-07-12 16:26:32
End at: 2019-07-12 16:27:02
Local clock offset: -2.744 ms
Remote clock offset: -4.63 ms

# Below is generated by plot.py at 2019-07-12 19:00:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 55.708 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 59.021 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 26.82 Mbit/s
95th percentile per-packet one-way delay: 47.434 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 50.922 ms
Loss rate: 0.83%
```

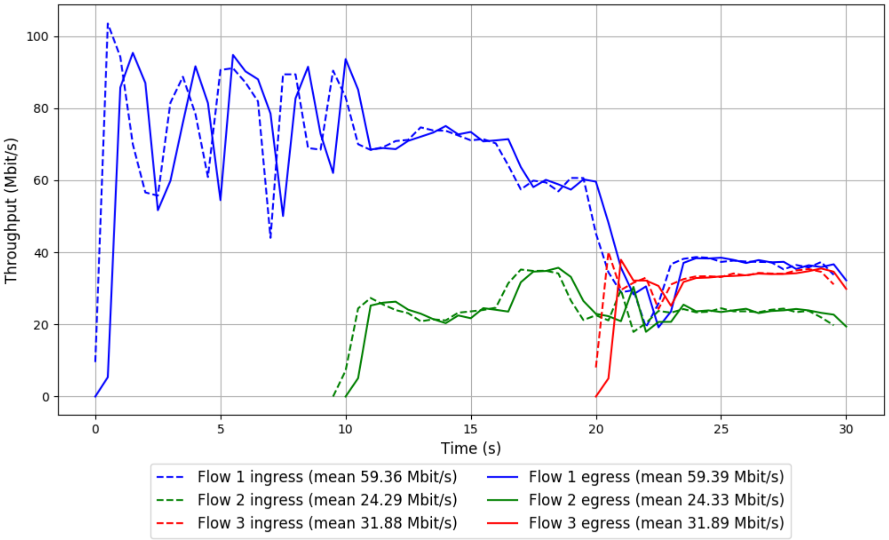
Run 1: Report of Copa — Data Link

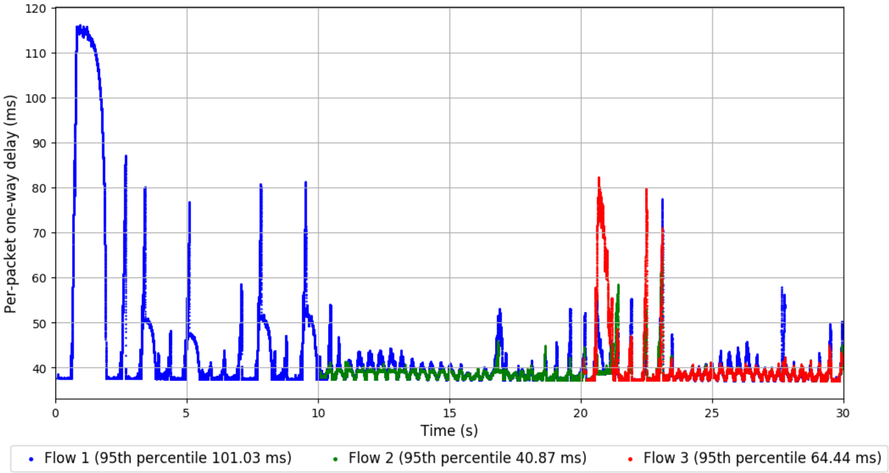




```
Run 2: Statistics of Copa

Start at: 2019-07-12 17:03:32
End at: 2019-07-12 17:04:02
Local clock offset: -3.329 ms
Remote clock offset: -3.064 ms

# Below is generated by plot.py at 2019-07-12 19:00:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.15 Mbit/s
95th percentile per-packet one-way delay: 74.550 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 59.39 Mbit/s
95th percentile per-packet one-way delay: 101.026 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 40.871 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 31.89 Mbit/s
95th percentile per-packet one-way delay: 64.443 ms
Loss rate: 0.62%
```

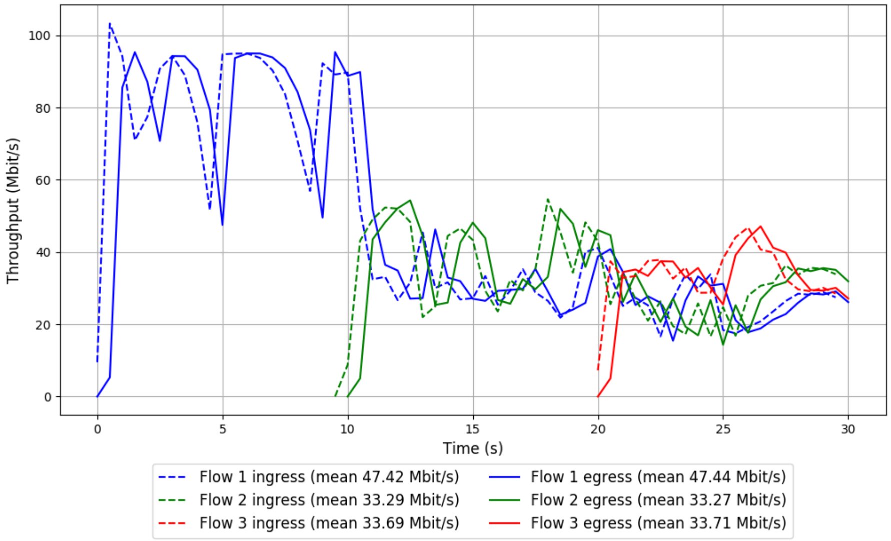
Run 2: Report of Copa — Data Link

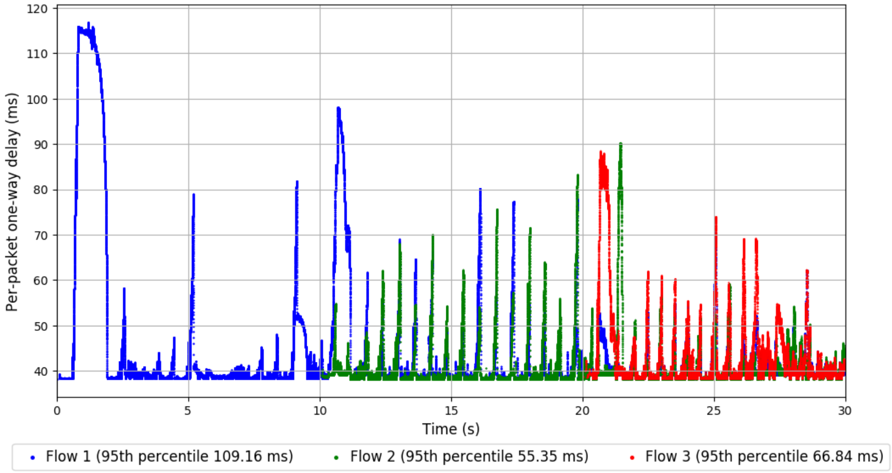




```
Run 3: Statistics of Copa

Start at: 2019-07-12 17:41:04
End at: 2019-07-12 17:41:34
Local clock offset: 9.712 ms
Remote clock offset: -2.024 ms

# Below is generated by plot.py at 2019-07-12 19:00:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.75 Mbit/s
95th percentile per-packet one-way delay: 85.115 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 47.44 Mbit/s
95th percentile per-packet one-way delay: 109.159 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 33.27 Mbit/s
95th percentile per-packet one-way delay: 55.346 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 66.840 ms
Loss rate: 0.58%
```

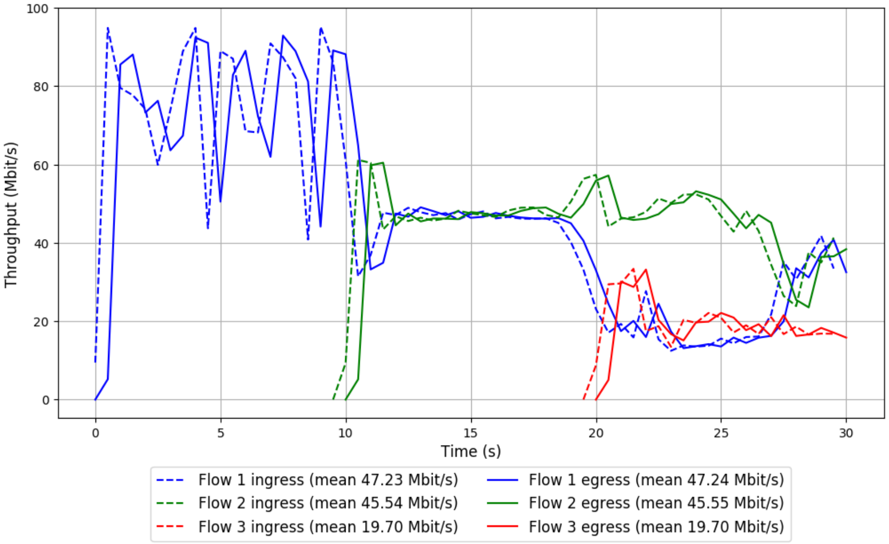
Run 3: Report of Copa — Data Link

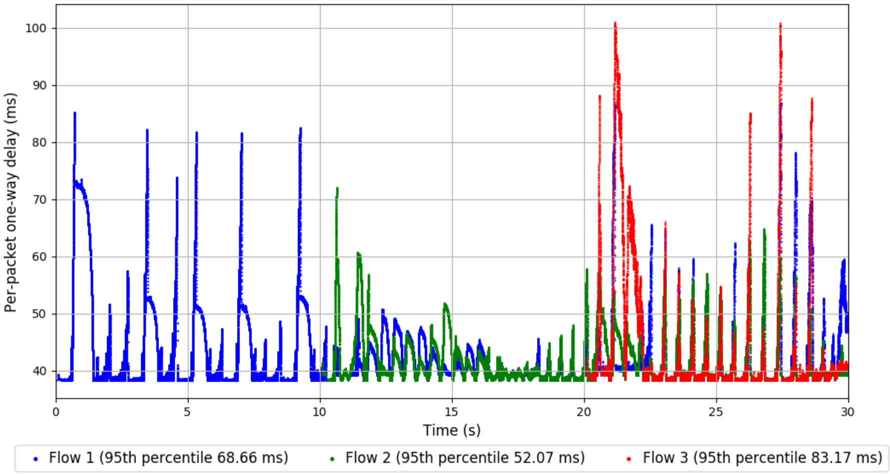




```
Run 4: Statistics of Copa

Start at: 2019-07-12 18:17:15
End at: 2019-07-12 18:17:45
Local clock offset: 9.649 ms
Remote clock offset: -1.247 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.10 Mbit/s
95th percentile per-packet one-way delay: 61.762 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 47.24 Mbit/s
95th percentile per-packet one-way delay: 68.663 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 52.067 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 19.70 Mbit/s
95th percentile per-packet one-way delay: 83.168 ms
Loss rate: 0.65%
```

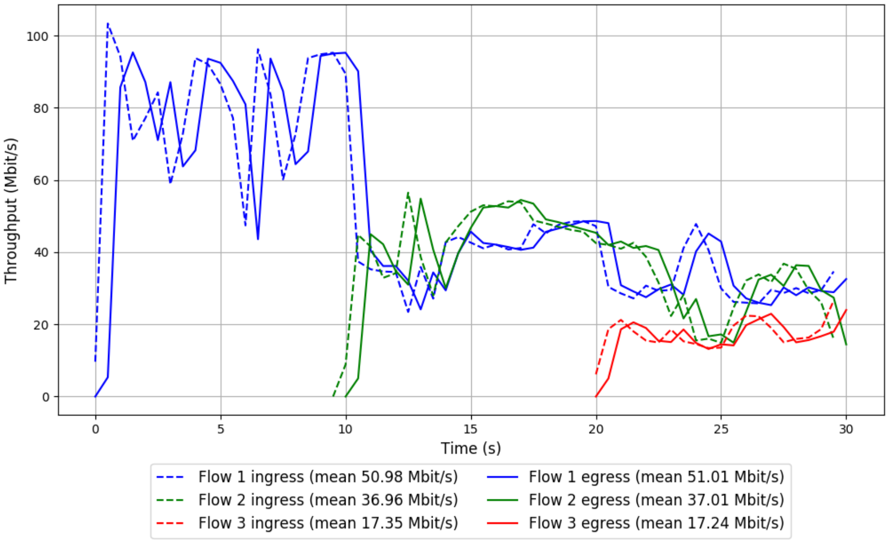
Run 4: Report of Copa — Data Link

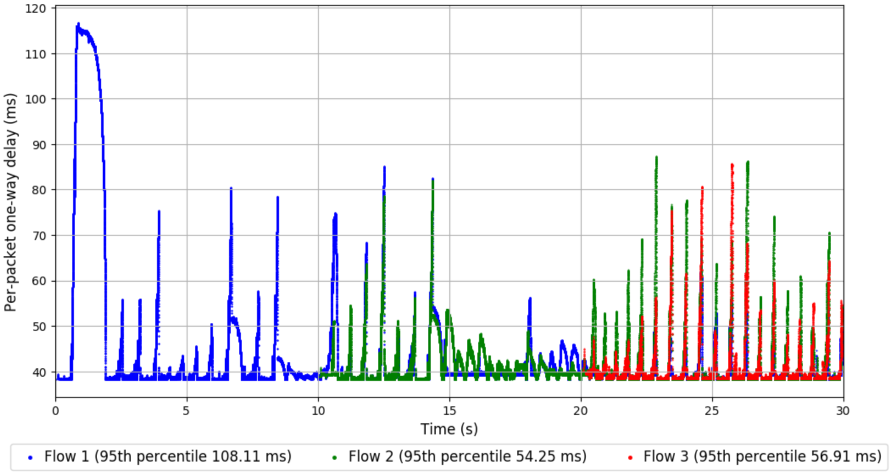




```
Run 5: Statistics of Copa

Start at: 2019-07-12 18:51:32
End at: 2019-07-12 18:52:02
Local clock offset: 8.694 ms
Remote clock offset: -0.907 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.36 Mbit/s
95th percentile per-packet one-way delay: 76.292 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 51.01 Mbit/s
95th percentile per-packet one-way delay: 108.110 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 37.01 Mbit/s
95th percentile per-packet one-way delay: 54.249 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 17.24 Mbit/s
95th percentile per-packet one-way delay: 56.912 ms
Loss rate: 1.24%
```

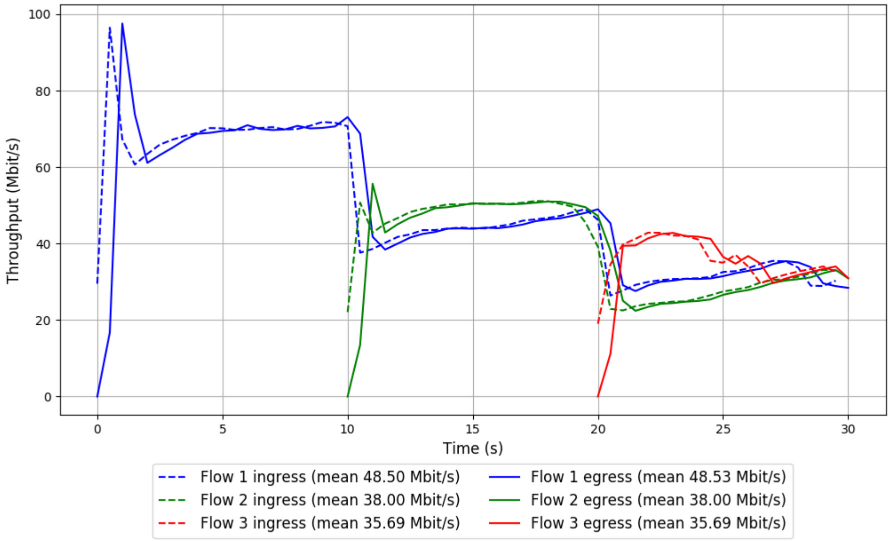
Run 5: Report of Copa — Data Link

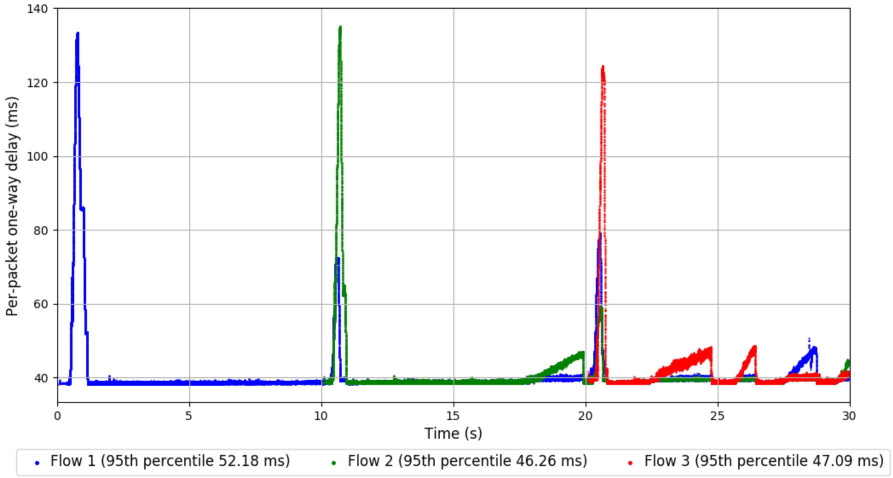




```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-12 16:23:34
End at: 2019-07-12 16:24:04
Local clock offset: -2.68 ms
Remote clock offset: -4.831 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.63 Mbit/s
95th percentile per-packet one-way delay: 47.675 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 48.53 Mbit/s
95th percentile per-packet one-way delay: 52.178 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 46.264 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 35.69 Mbit/s
95th percentile per-packet one-way delay: 47.088 ms
Loss rate: 0.64%
```

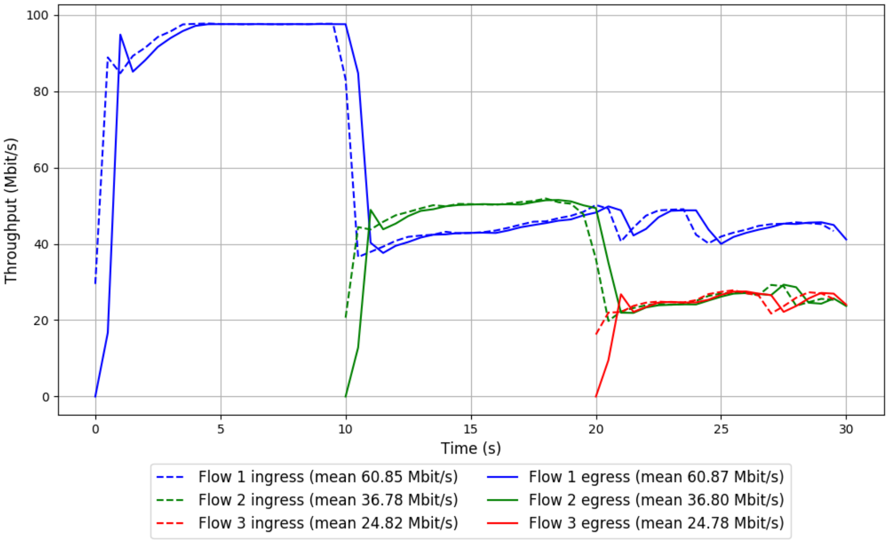
Run 1: Report of TCP Cubic — Data Link

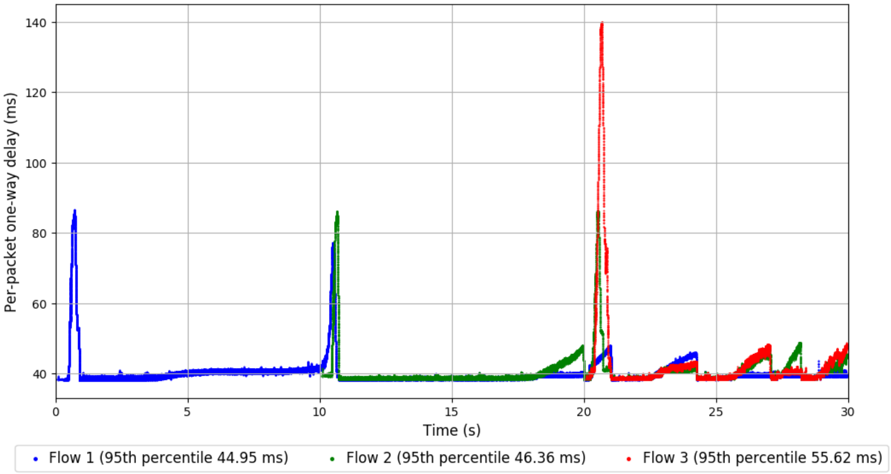




```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-12 17:00:31
End at: 2019-07-12 17:01:01
Local clock offset: -3.466 ms
Remote clock offset: -3.167 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.56 Mbit/s
95th percentile per-packet one-way delay: 45.952 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 60.87 Mbit/s
95th percentile per-packet one-way delay: 44.953 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 36.80 Mbit/s
95th percentile per-packet one-way delay: 46.363 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 24.78 Mbit/s
95th percentile per-packet one-way delay: 55.616 ms
Loss rate: 0.81%
```

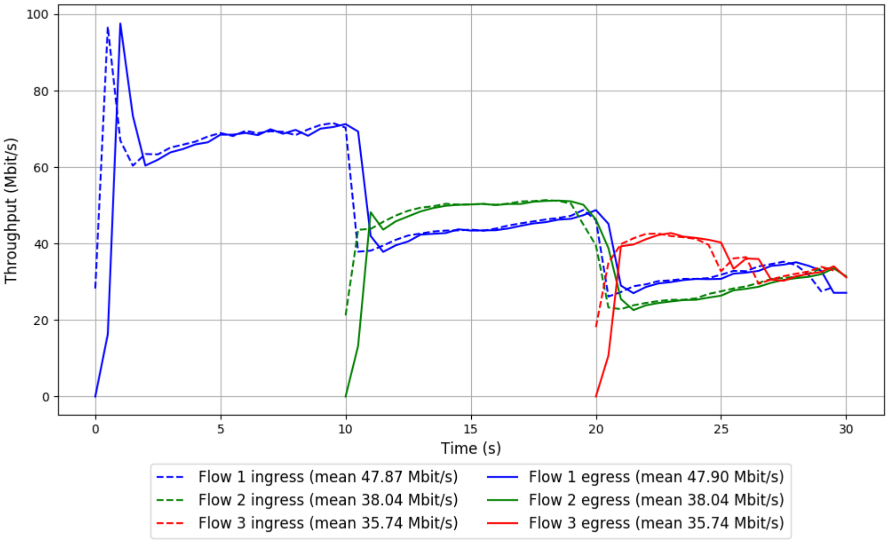
Run 2: Report of TCP Cubic — Data Link

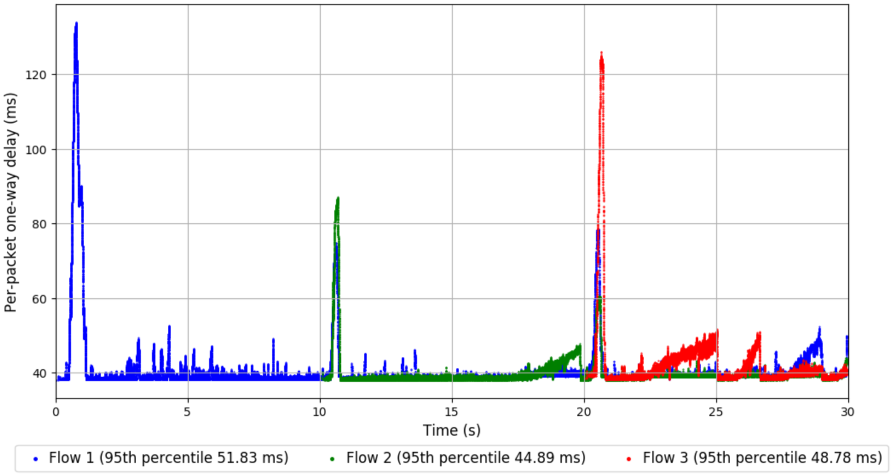




```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-12 17:36:10
End at: 2019-07-12 17:36:40
Local clock offset: 9.446 ms
Remote clock offset: -2.115 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.04 Mbit/s
95th percentile per-packet one-way delay: 48.233 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 47.90 Mbit/s
95th percentile per-packet one-way delay: 51.833 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 44.886 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 35.74 Mbit/s
95th percentile per-packet one-way delay: 48.785 ms
Loss rate: 0.63%
```

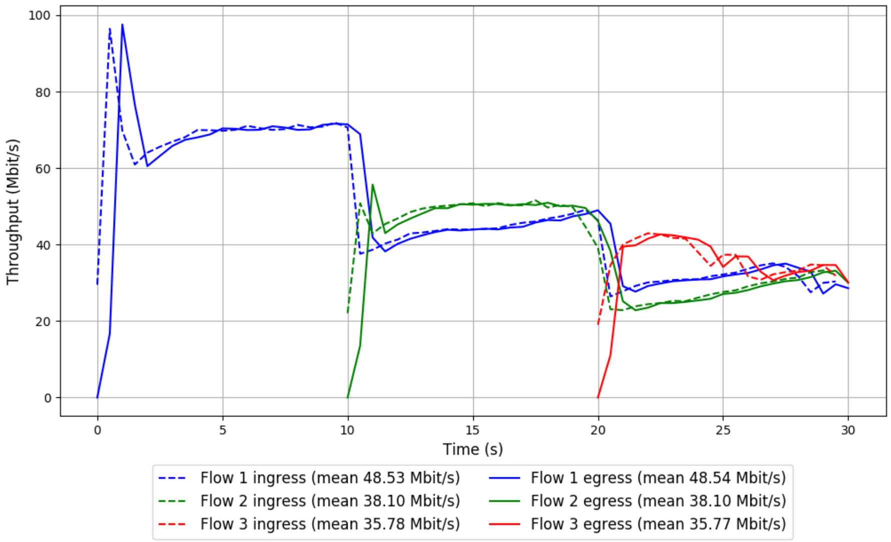
Run 3: Report of TCP Cubic — Data Link

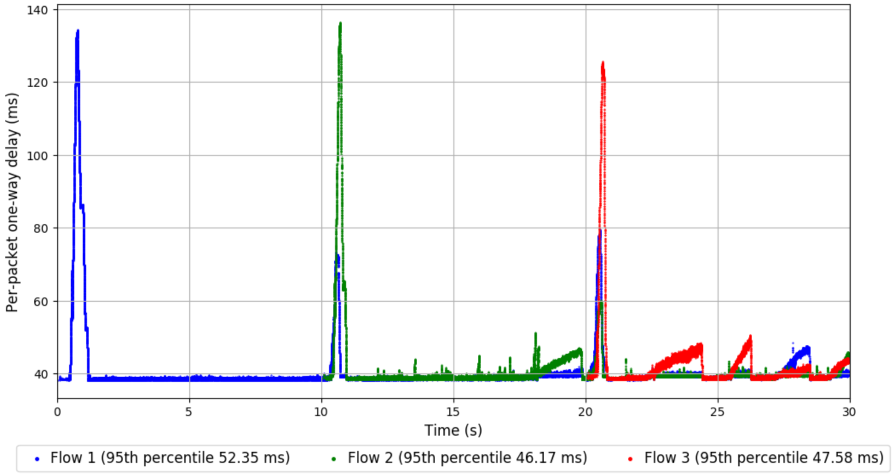




```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-12 18:14:25
End at: 2019-07-12 18:14:55
Local clock offset: 9.613 ms
Remote clock offset: -1.308 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.73 Mbit/s
95th percentile per-packet one-way delay: 48.530 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 48.54 Mbit/s
95th percentile per-packet one-way delay: 52.351 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 38.10 Mbit/s
95th percentile per-packet one-way delay: 46.167 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 47.583 ms
Loss rate: 0.65%
```

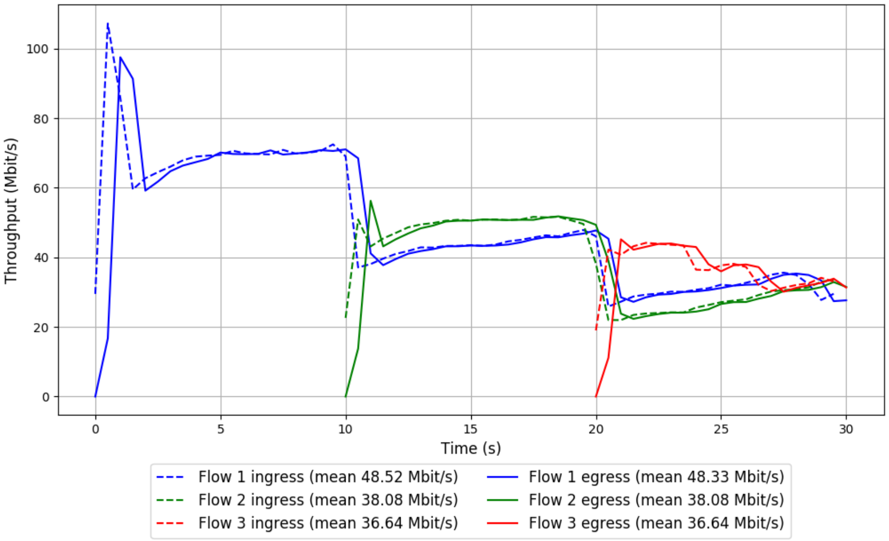
Run 4: Report of TCP Cubic — Data Link

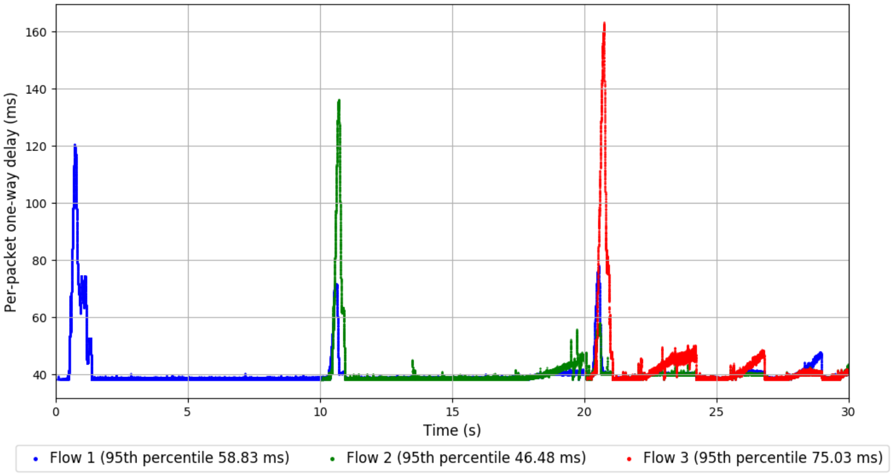




```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-12 18:48:27
End at: 2019-07-12 18:48:57
Local clock offset: 8.664 ms
Remote clock offset: -0.869 ms

# Below is generated by plot.py at 2019-07-12 19:01:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.82 Mbit/s
95th percentile per-packet one-way delay: 54.153 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 48.33 Mbit/s
95th percentile per-packet one-way delay: 58.830 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 38.08 Mbit/s
95th percentile per-packet one-way delay: 46.481 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 36.64 Mbit/s
95th percentile per-packet one-way delay: 75.029 ms
Loss rate: 0.65%
```

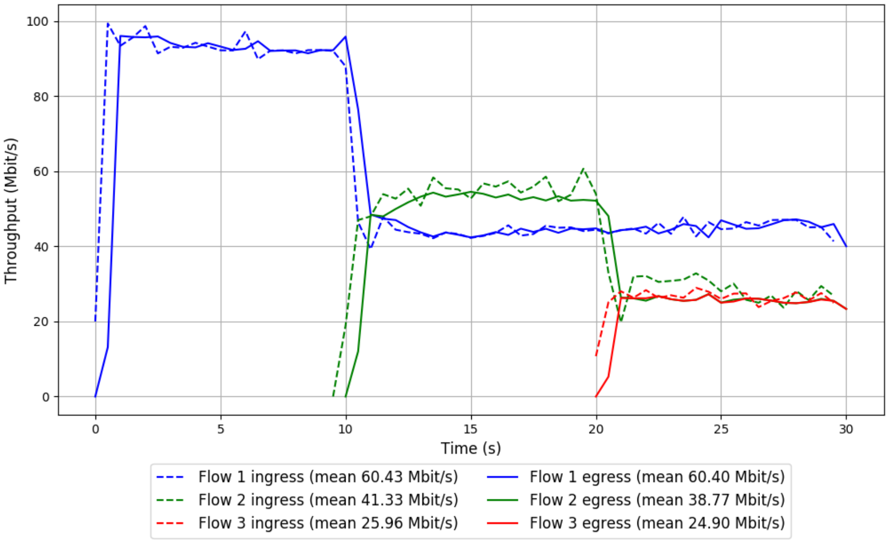
Run 5: Report of TCP Cubic — Data Link

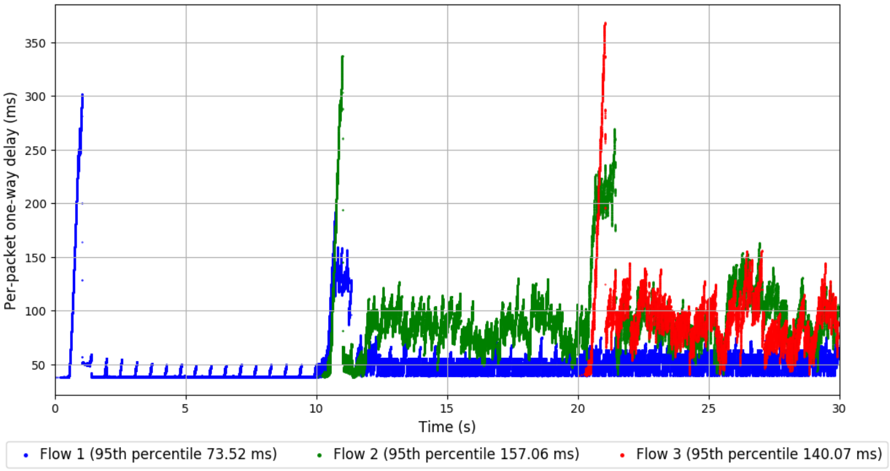




```
Run 1: Statistics of FillP

Start at: 2019-07-12 16:00:39
End at: 2019-07-12 16:01:09
Local clock offset: 0.406 ms
Remote clock offset: -6.085 ms

# Below is generated by plot.py at 2019-07-12 19:01:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.46 Mbit/s
95th percentile per-packet one-way delay: 125.719 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 60.40 Mbit/s
95th percentile per-packet one-way delay: 73.517 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 38.77 Mbit/s
95th percentile per-packet one-way delay: 157.056 ms
Loss rate: 6.46%
-- Flow 3:
Average throughput: 24.90 Mbit/s
95th percentile per-packet one-way delay: 140.068 ms
Loss rate: 4.71%
```

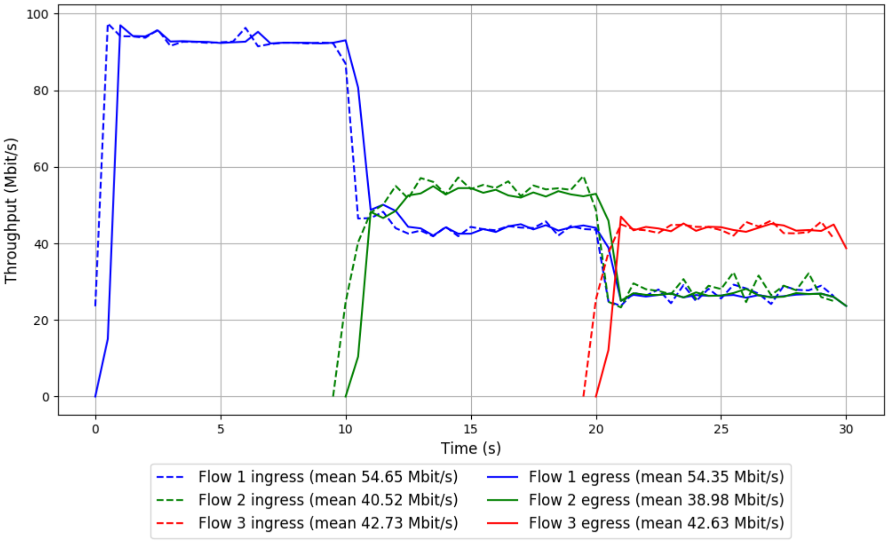
Run 1: Report of FillP — Data Link

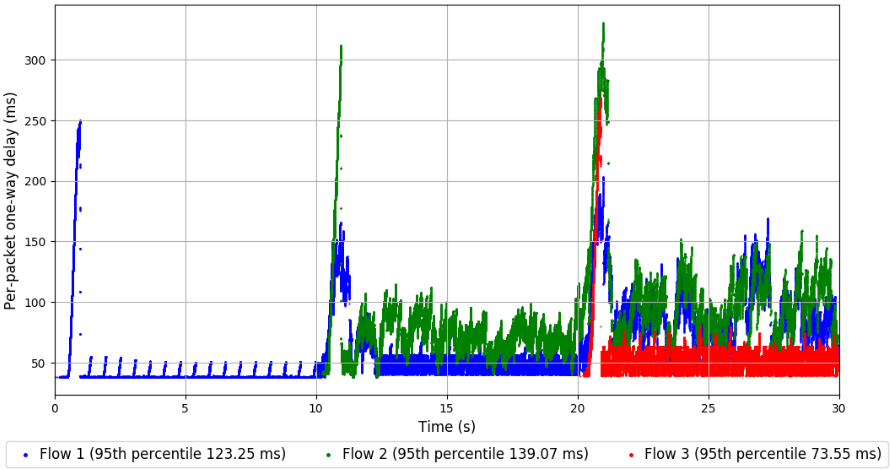




```
Run 2: Statistics of FillP

Start at: 2019-07-12 16:33:37
End at: 2019-07-12 16:34:07
Local clock offset: -2.994 ms
Remote clock offset: -4.193 ms

# Below is generated by plot.py at 2019-07-12 19:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.43 Mbit/s
95th percentile per-packet one-way delay: 127.747 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 54.35 Mbit/s
95th percentile per-packet one-way delay: 123.247 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 38.98 Mbit/s
95th percentile per-packet one-way delay: 139.068 ms
Loss rate: 4.01%
-- Flow 3:
Average throughput: 42.63 Mbit/s
95th percentile per-packet one-way delay: 73.553 ms
Loss rate: 0.88%
```

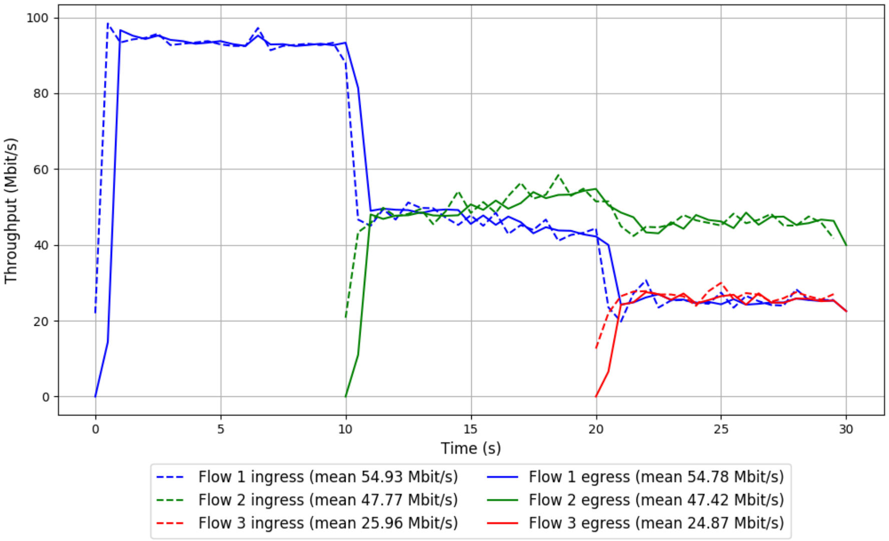
Run 2: Report of FillP — Data Link

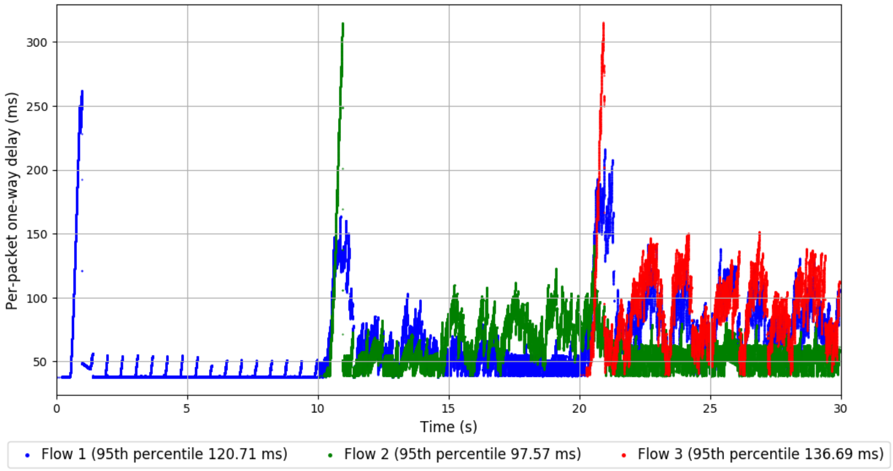




```
Run 3: Statistics of FillP

Start at: 2019-07-12 17:11:09
End at: 2019-07-12 17:11:39
Local clock offset: 3.586 ms
Remote clock offset: -2.833 ms

# Below is generated by plot.py at 2019-07-12 19:01:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 120.271 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 54.78 Mbit/s
95th percentile per-packet one-way delay: 120.706 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 47.42 Mbit/s
95th percentile per-packet one-way delay: 97.573 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 24.87 Mbit/s
95th percentile per-packet one-way delay: 136.688 ms
Loss rate: 4.67%
```

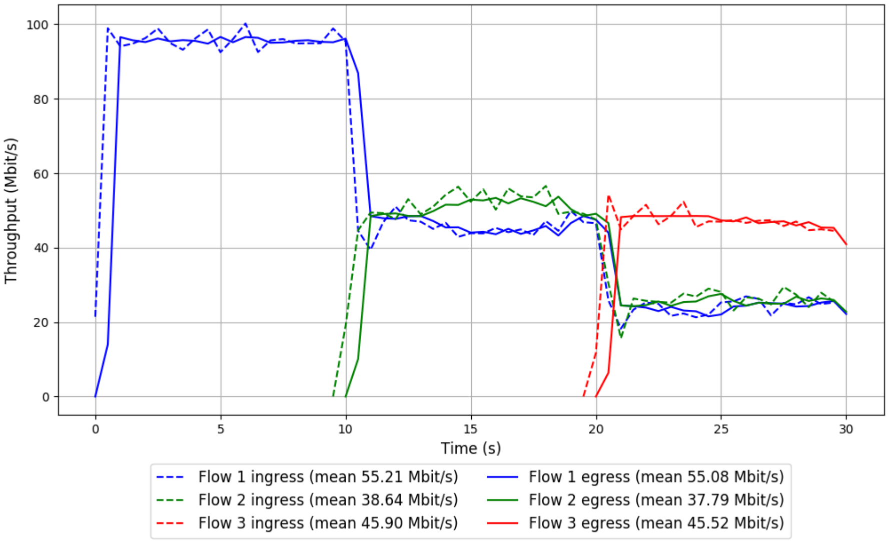
Run 3: Report of FillP — Data Link

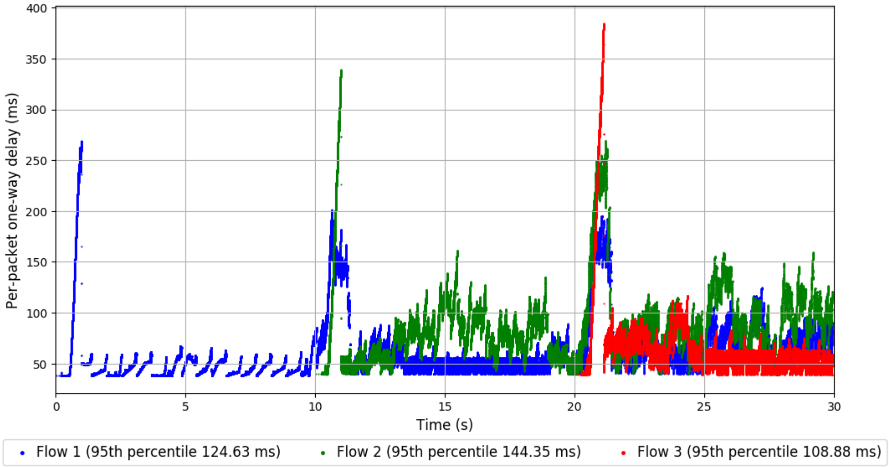




```
Run 4: Statistics of FillP

Start at: 2019-07-12 17:50:16
End at: 2019-07-12 17:50:46
Local clock offset: 10.481 ms
Remote clock offset: -1.97 ms

# Below is generated by plot.py at 2019-07-12 19:01:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 134.916 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 55.08 Mbit/s
95th percentile per-packet one-way delay: 124.629 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 37.79 Mbit/s
95th percentile per-packet one-way delay: 144.349 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 45.52 Mbit/s
95th percentile per-packet one-way delay: 108.883 ms
Loss rate: 1.30%
```

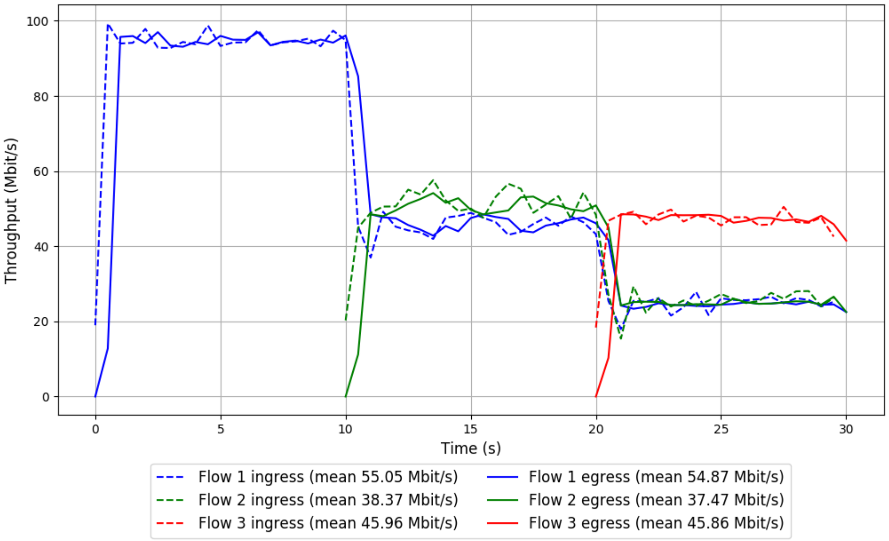
Run 4: Report of FillP — Data Link

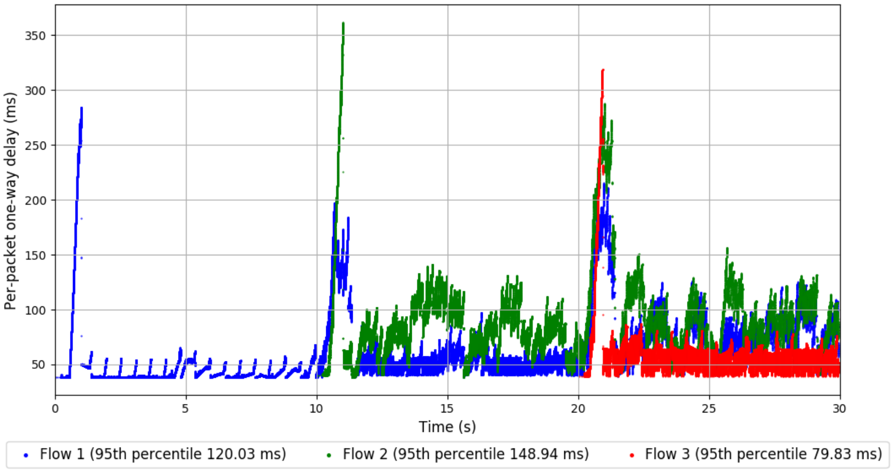




```
Run 5: Statistics of FillP

Start at: 2019-07-12 18:24:34
End at: 2019-07-12 18:25:04
Local clock offset: 9.979 ms
Remote clock offset: -1.02 ms

# Below is generated by plot.py at 2019-07-12 19:02:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.98 Mbit/s
95th percentile per-packet one-way delay: 129.187 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 54.87 Mbit/s
95th percentile per-packet one-way delay: 120.026 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 37.47 Mbit/s
95th percentile per-packet one-way delay: 148.935 ms
Loss rate: 2.66%
-- Flow 3:
Average throughput: 45.86 Mbit/s
95th percentile per-packet one-way delay: 79.835 ms
Loss rate: 0.83%
```

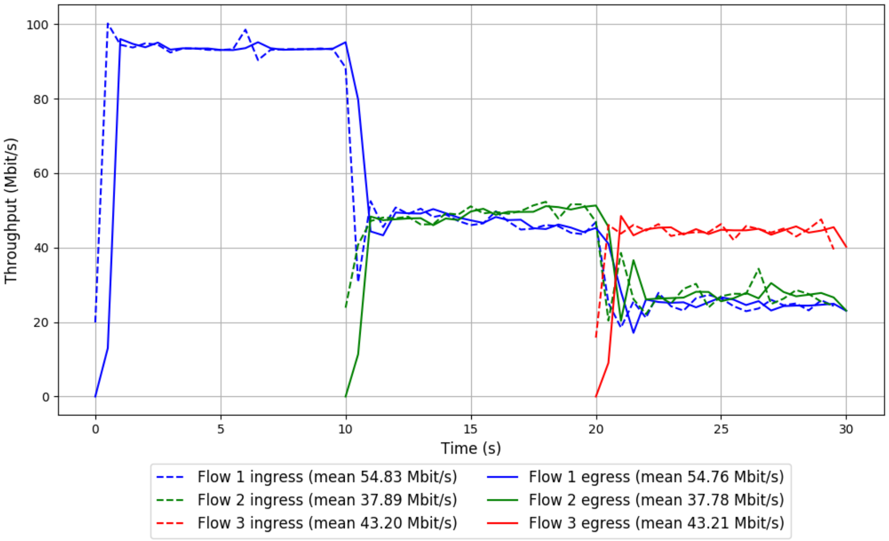
Run 5: Report of FillP — Data Link

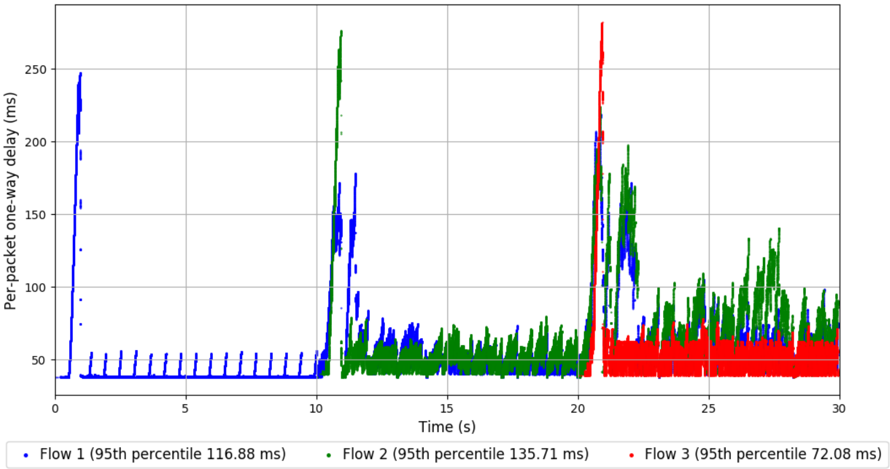




```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-12 16:18:18
End at: 2019-07-12 16:18:48
Local clock offset: -2.453 ms
Remote clock offset: -5.096 ms

# Below is generated by plot.py at 2019-07-12 19:02:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.20 Mbit/s
95th percentile per-packet one-way delay: 121.264 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 54.76 Mbit/s
95th percentile per-packet one-way delay: 116.878 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 37.78 Mbit/s
95th percentile per-packet one-way delay: 135.705 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 43.21 Mbit/s
95th percentile per-packet one-way delay: 72.082 ms
Loss rate: 0.63%
```

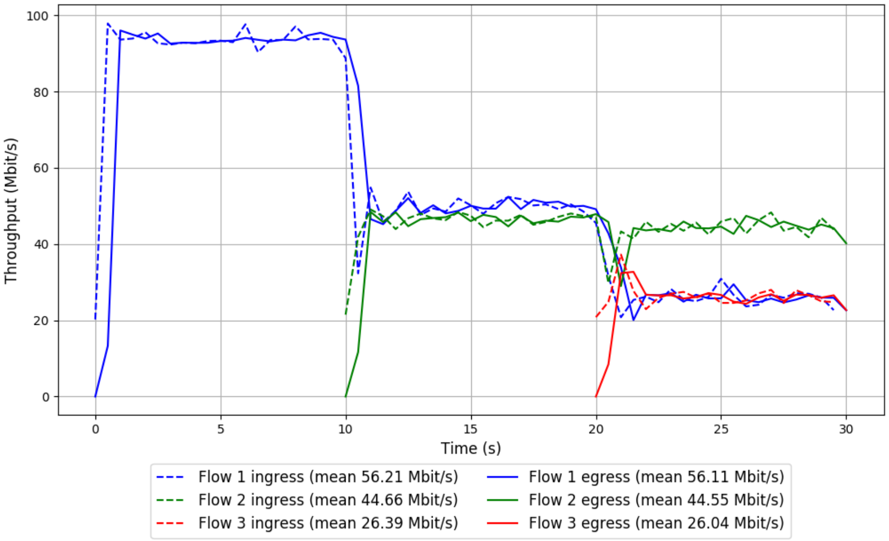
Run 1: Report of FillP-Sheep — Data Link

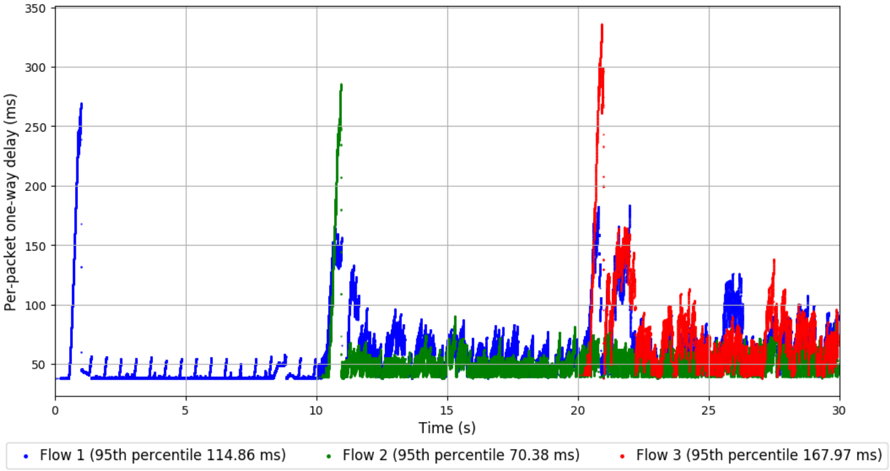




```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-12 16:54:26
End at: 2019-07-12 16:54:56
Local clock offset: -3.384 ms
Remote clock offset: -3.312 ms

# Below is generated by plot.py at 2019-07-12 19:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 113.058 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 56.11 Mbit/s
95th percentile per-packet one-way delay: 114.861 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 44.55 Mbit/s
95th percentile per-packet one-way delay: 70.382 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 26.04 Mbit/s
95th percentile per-packet one-way delay: 167.967 ms
Loss rate: 1.97%
```

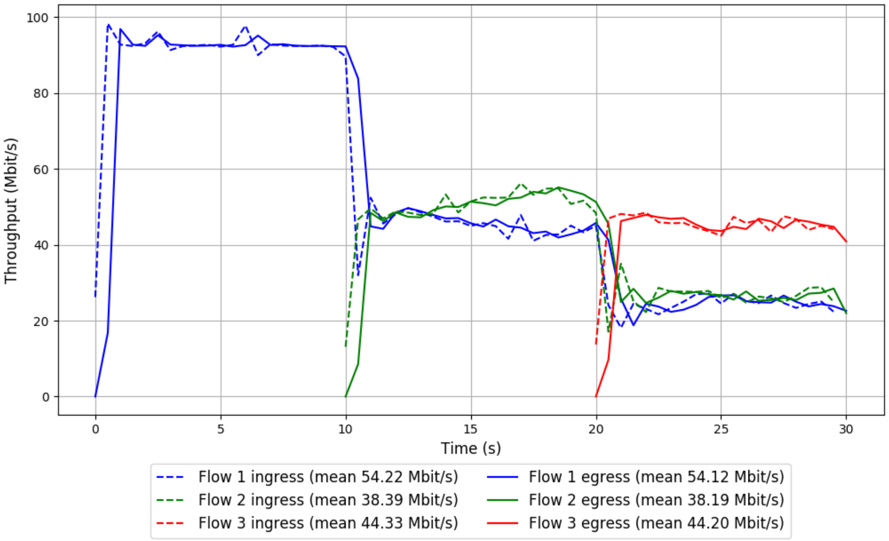
Run 2: Report of FillP-Sheep — Data Link

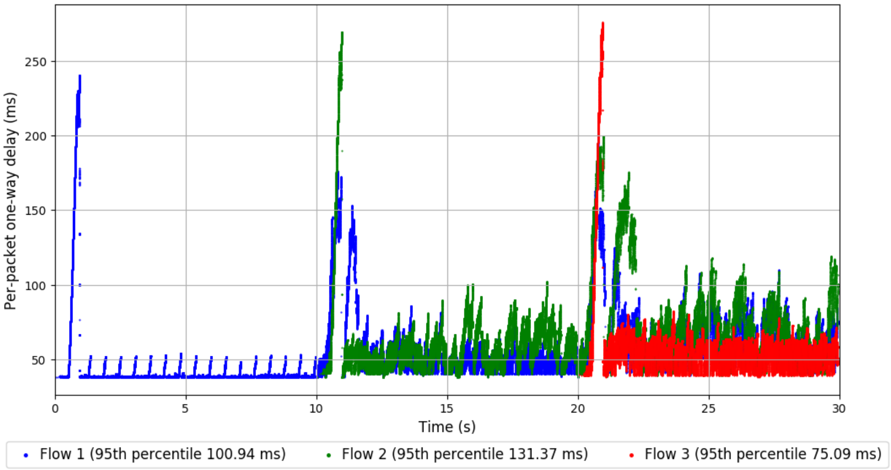




```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-12 17:29:36
End at: 2019-07-12 17:30:06
Local clock offset: 9.815 ms
Remote clock offset: -2.208 ms

# Below is generated by plot.py at 2019-07-12 19:02:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.15 Mbit/s
95th percentile per-packet one-way delay: 107.066 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 54.12 Mbit/s
95th percentile per-packet one-way delay: 100.945 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 38.19 Mbit/s
95th percentile per-packet one-way delay: 131.369 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 44.20 Mbit/s
95th percentile per-packet one-way delay: 75.089 ms
Loss rate: 0.95%
```

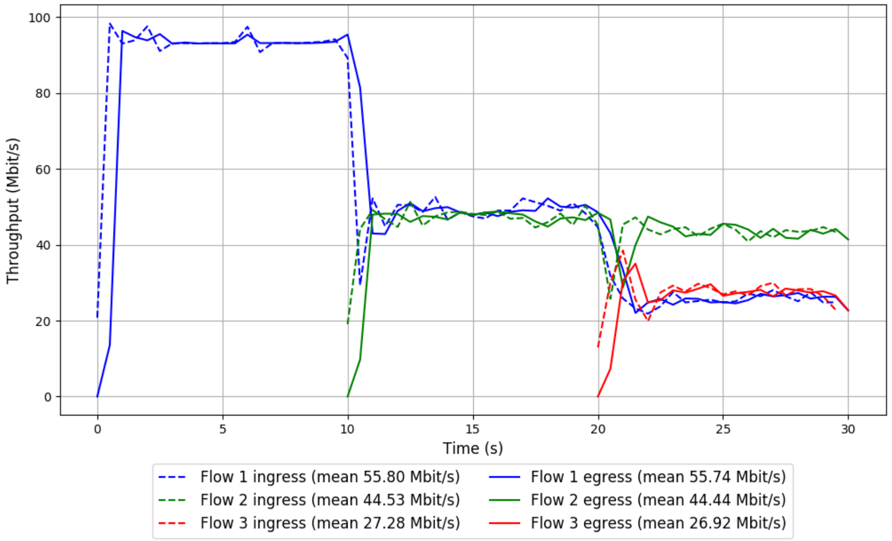
Run 3: Report of FillP-Sheep — Data Link

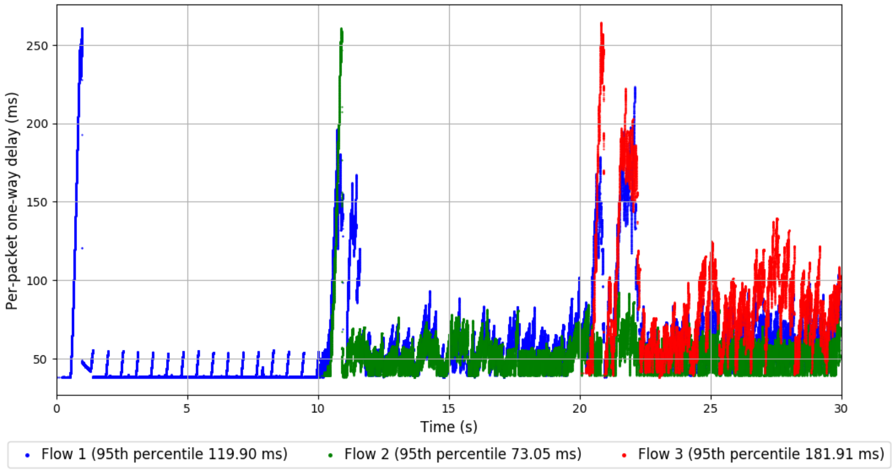




```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-12 18:08:55
End at: 2019-07-12 18:09:25
Local clock offset: 9.745 ms
Remote clock offset: -1.508 ms

# Below is generated by plot.py at 2019-07-12 19:03:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.23 Mbit/s
95th percentile per-packet one-way delay: 113.963 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 55.74 Mbit/s
95th percentile per-packet one-way delay: 119.898 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 44.44 Mbit/s
95th percentile per-packet one-way delay: 73.047 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 26.92 Mbit/s
95th percentile per-packet one-way delay: 181.912 ms
Loss rate: 1.72%
```

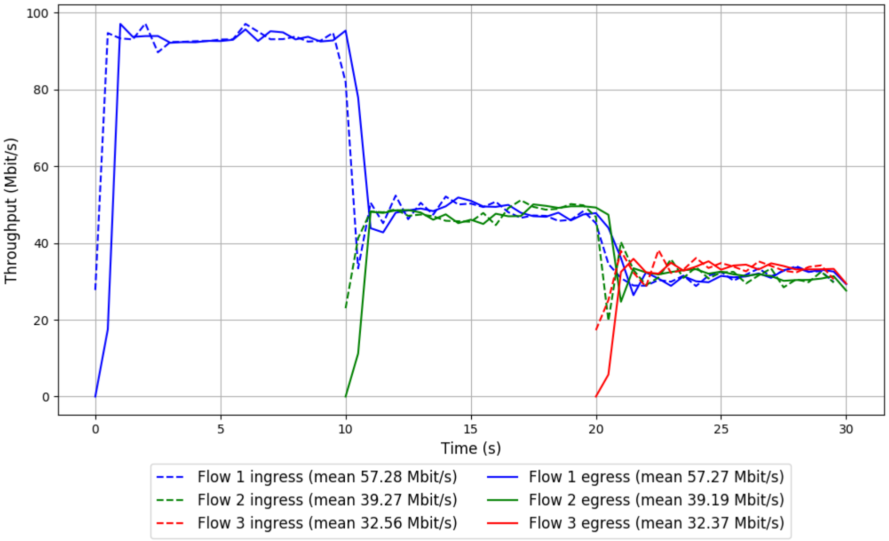
Run 4: Report of FillP-Sheep — Data Link

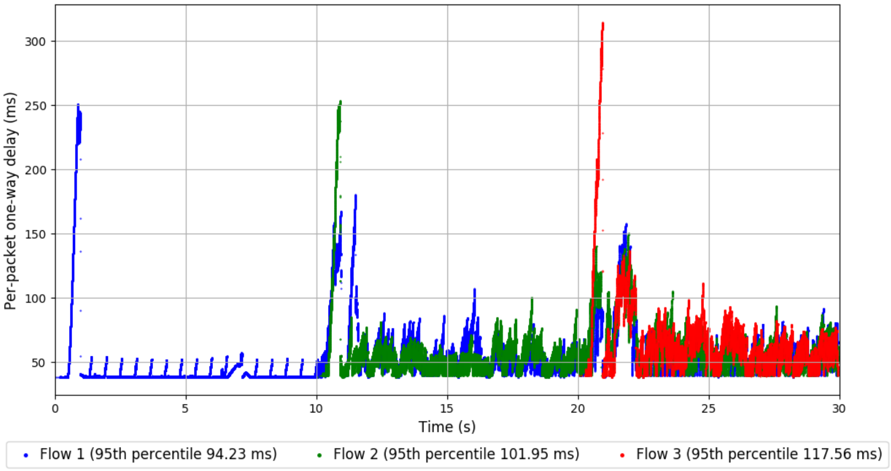




```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-12 18:42:49
End at: 2019-07-12 18:43:19
Local clock offset: 8.702 ms
Remote clock offset: -1.058 ms

# Below is generated by plot.py at 2019-07-12 19:03:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.05 Mbit/s
95th percentile per-packet one-way delay: 103.126 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 57.27 Mbit/s
95th percentile per-packet one-way delay: 94.230 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 101.953 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 117.556 ms
Loss rate: 1.19%
```

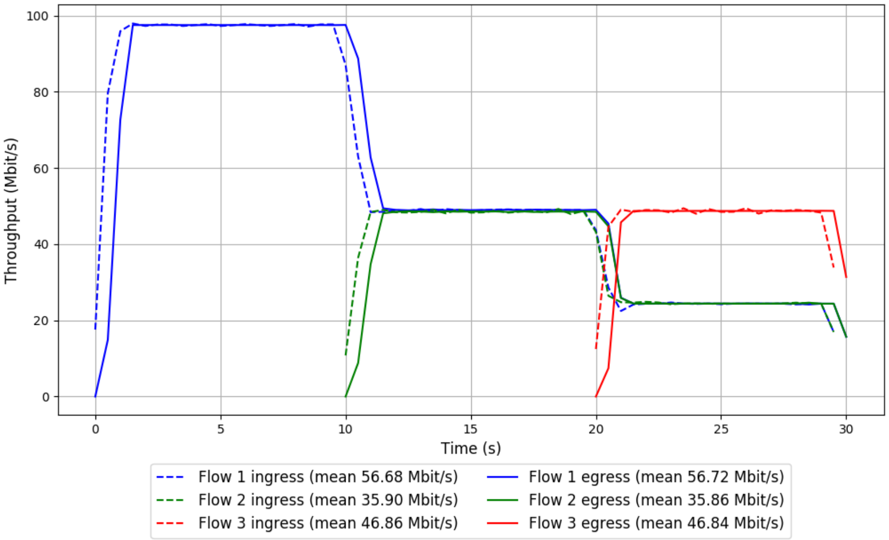
Run 5: Report of FillP-Sheep — Data Link

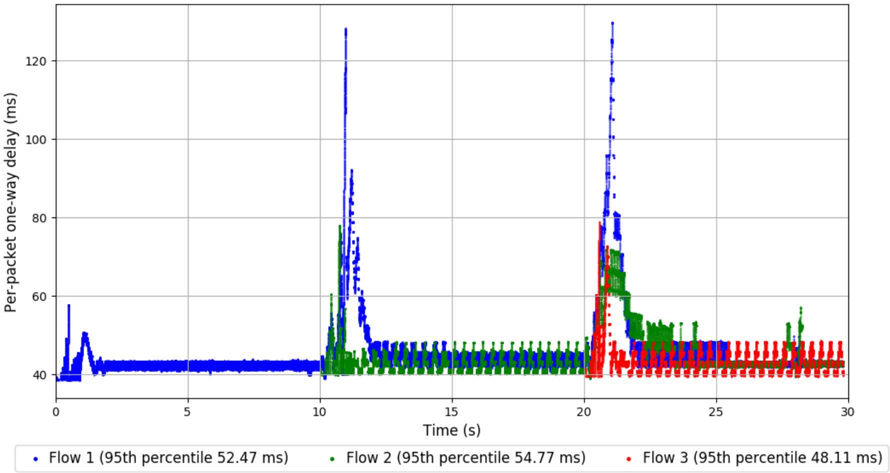




```
Run 1: Statistics of Indigo

Start at: 2019-07-12 16:12:38
End at: 2019-07-12 16:13:08
Local clock offset: -1.995 ms
Remote clock offset: -5.56 ms

# Below is generated by plot.py at 2019-07-12 19:03:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 52.496 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 52.470 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 35.86 Mbit/s
95th percentile per-packet one-way delay: 54.770 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 48.109 ms
Loss rate: 0.71%
```

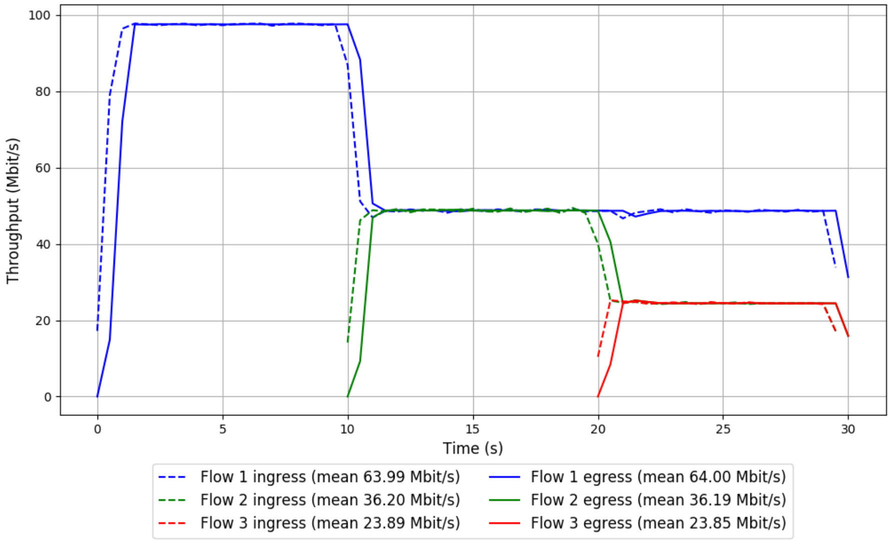
Run 1: Report of Indigo — Data Link

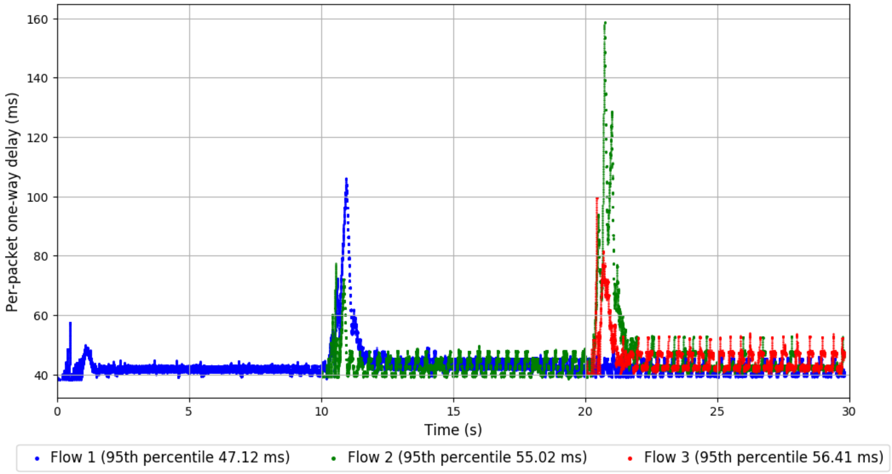




```
Run 2: Statistics of Indigo

Start at: 2019-07-12 16:47:42
End at: 2019-07-12 16:48:12
Local clock offset: -3.286 ms
Remote clock offset: -3.571 ms

# Below is generated by plot.py at 2019-07-12 19:03:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.84 Mbit/s
95th percentile per-packet one-way delay: 48.974 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 47.124 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 36.19 Mbit/s
95th percentile per-packet one-way delay: 55.020 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 56.415 ms
Loss rate: 0.87%
```

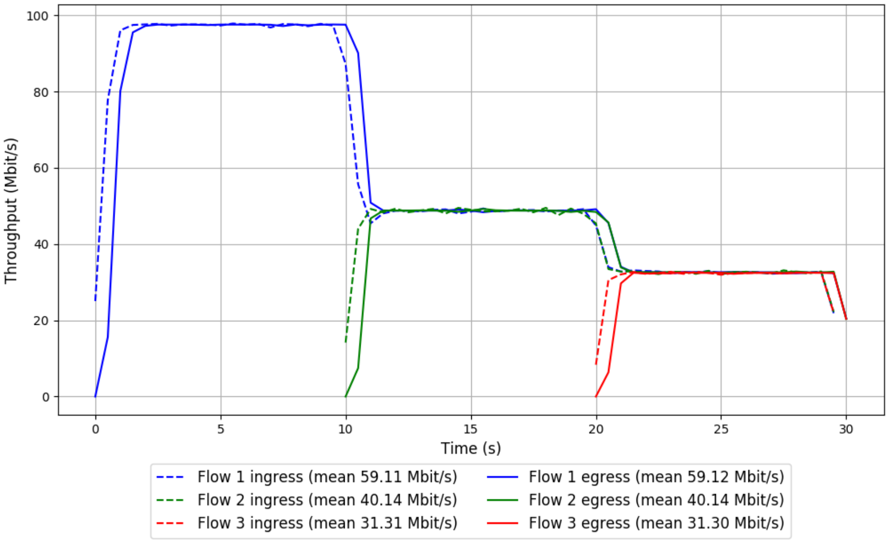
Run 2: Report of Indigo — Data Link

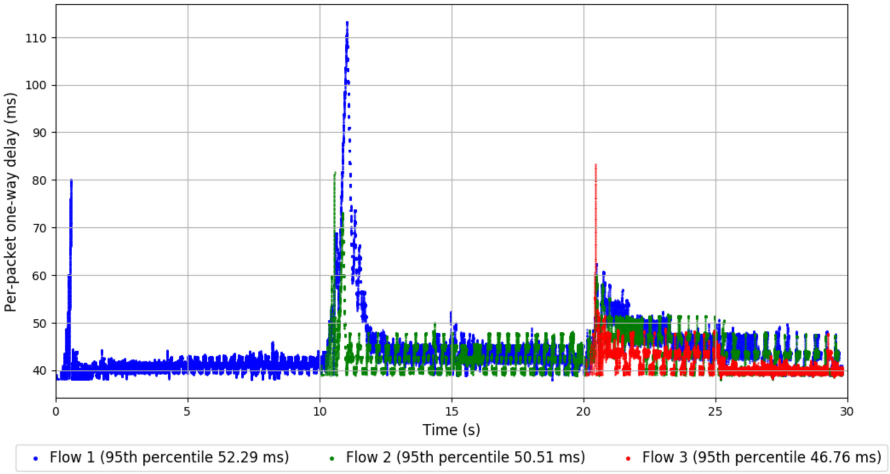




```
Run 3: Statistics of Indigo

Start at: 2019-07-12 17:23:25
End at: 2019-07-12 17:23:55
Local clock offset: 8.557 ms
Remote clock offset: -2.402 ms

# Below is generated by plot.py at 2019-07-12 19:03:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 50.710 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 59.12 Mbit/s
95th percentile per-packet one-way delay: 52.287 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 50.508 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 46.760 ms
Loss rate: 0.70%
```

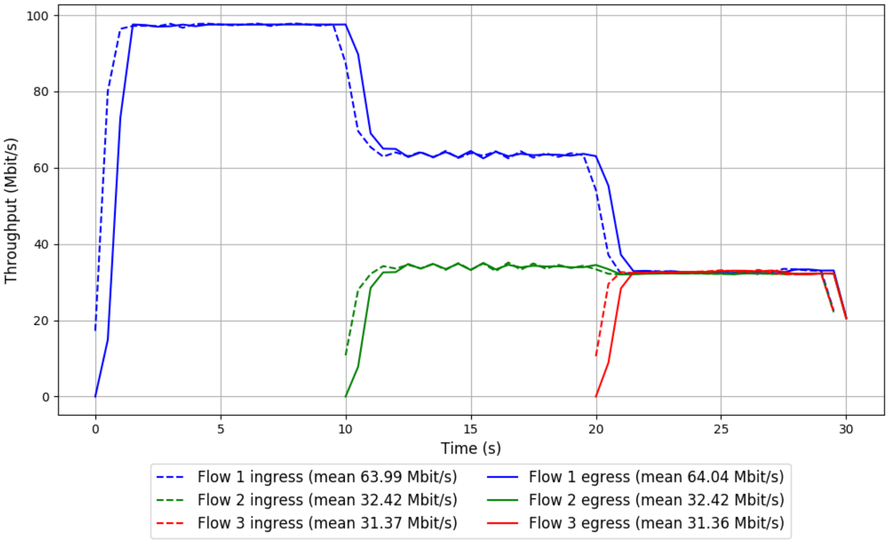
Run 3: Report of Indigo — Data Link

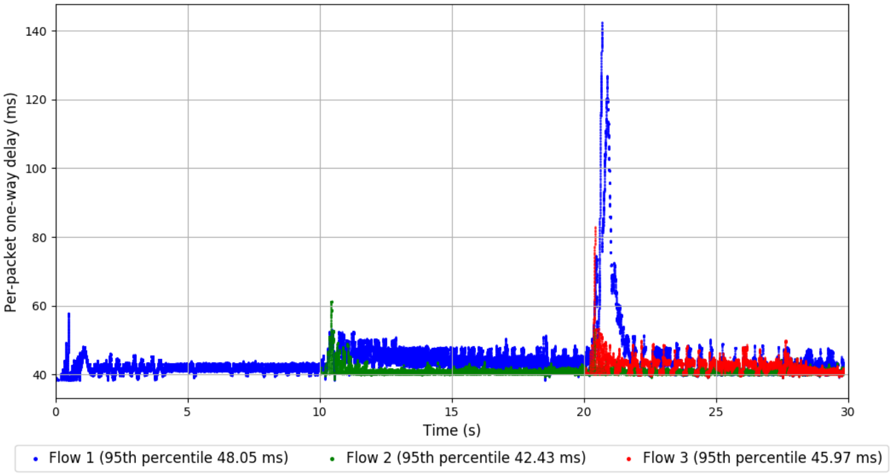




```
Run 4: Statistics of Indigo

Start at: 2019-07-12 18:02:55
End at: 2019-07-12 18:03:25
Local clock offset: 10.412 ms
Remote clock offset: -1.614 ms

# Below is generated by plot.py at 2019-07-12 19:03:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 47.612 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 64.04 Mbit/s
95th percentile per-packet one-way delay: 48.048 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 42.427 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 45.969 ms
Loss rate: 0.70%
```

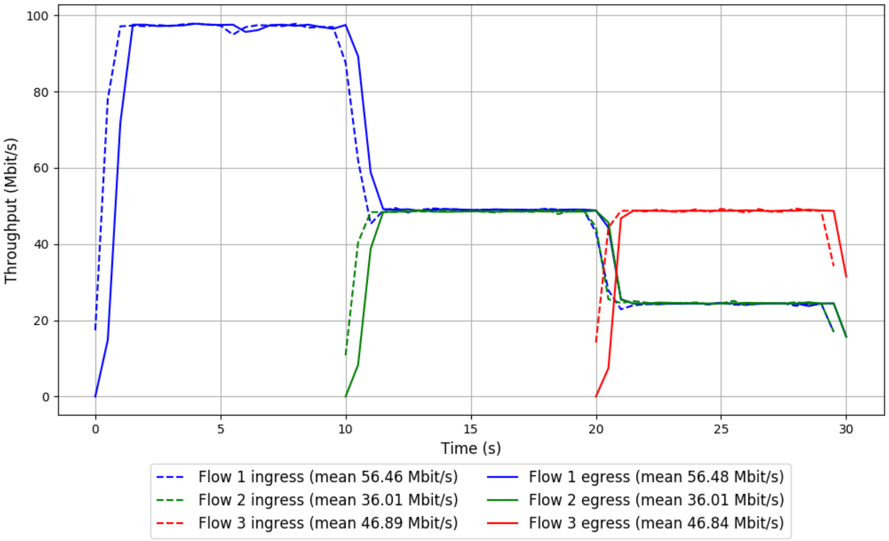
Run 4: Report of Indigo — Data Link

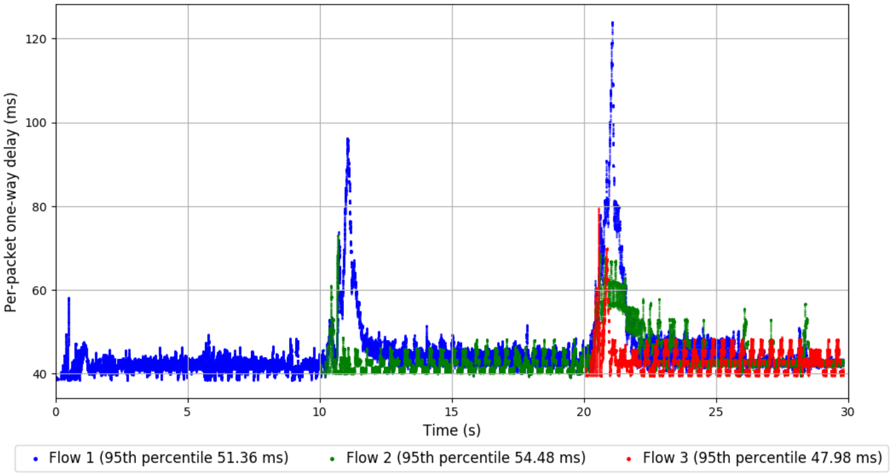




```
Run 5: Statistics of Indigo

Start at: 2019-07-12 18:37:04
End at: 2019-07-12 18:37:34
Local clock offset: 8.962 ms
Remote clock offset: -0.9 ms

# Below is generated by plot.py at 2019-07-12 19:03:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 51.827 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 56.48 Mbit/s
95th percentile per-packet one-way delay: 51.358 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 54.481 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 47.979 ms
Loss rate: 0.76%
```

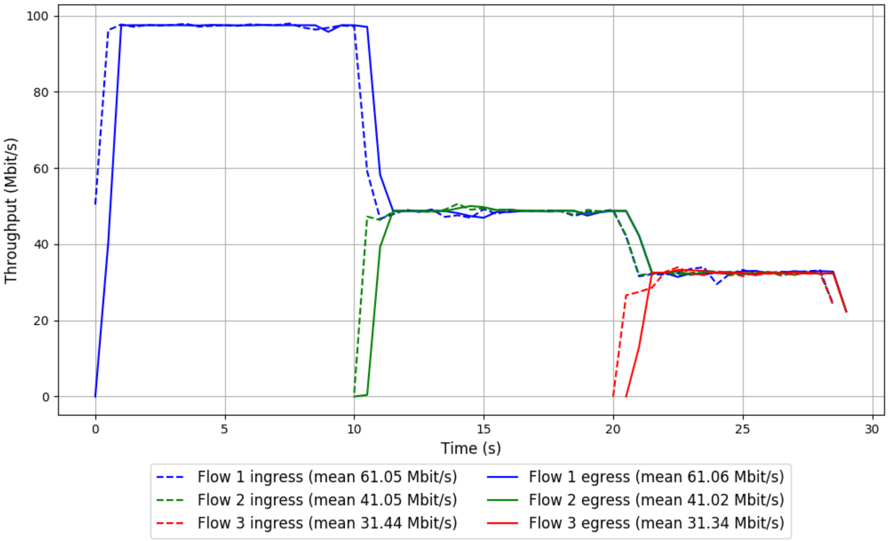
Run 5: Report of Indigo — Data Link

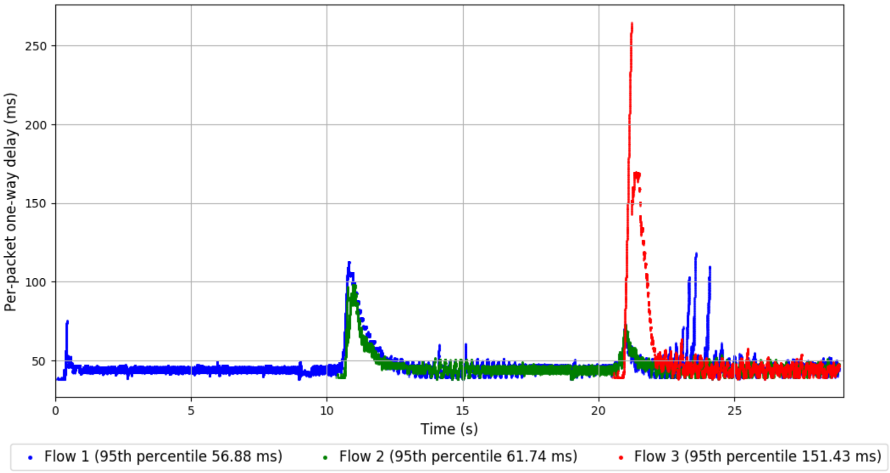




```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-12 15:57:56
End at: 2019-07-12 15:58:26
Local clock offset: 1.11 ms
Remote clock offset: -6.197 ms

# Below is generated by plot.py at 2019-07-12 19:03:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.50 Mbit/s
95th percentile per-packet one-way delay: 61.823 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 61.06 Mbit/s
95th percentile per-packet one-way delay: 56.885 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 41.02 Mbit/s
95th percentile per-packet one-way delay: 61.736 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 151.426 ms
Loss rate: 1.07%
```

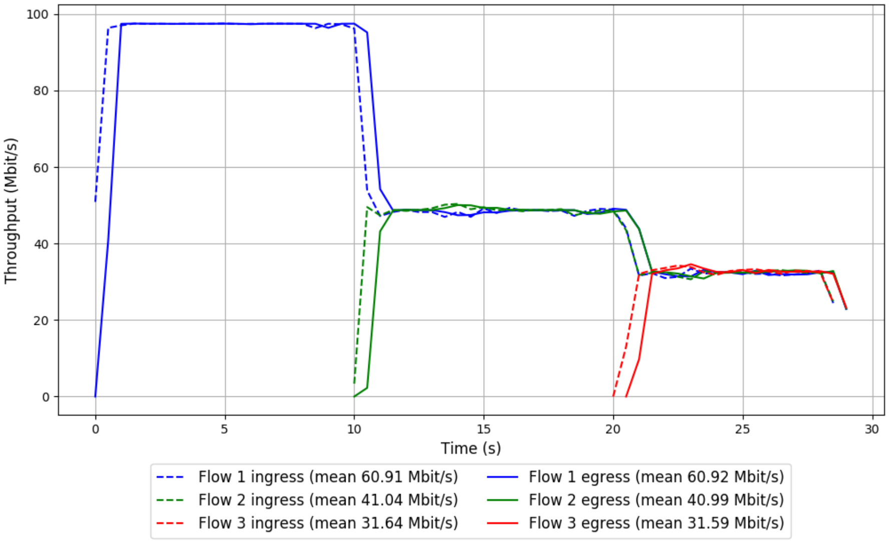
Run 1: Report of Indigo-MusesC3 — Data Link

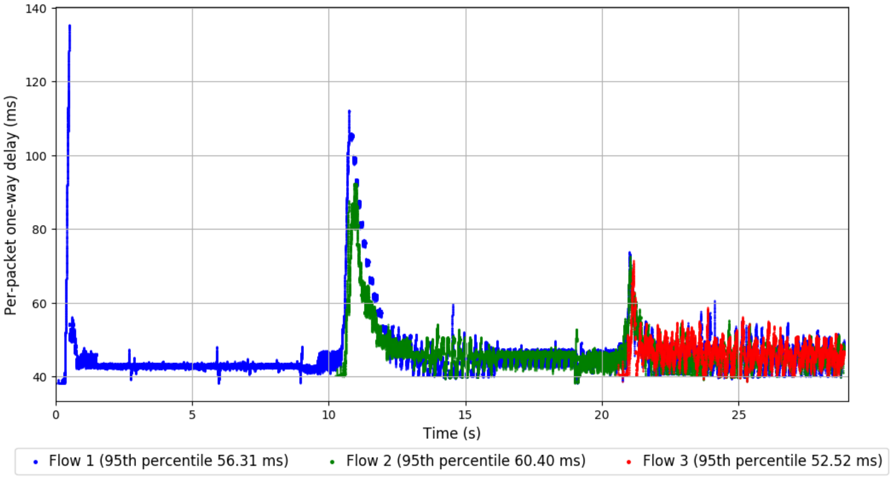




```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-12 16:30:54
End at: 2019-07-12 16:31:24
Local clock offset: -2.892 ms
Remote clock offset: -4.407 ms

# Below is generated by plot.py at 2019-07-12 19:04:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 57.318 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 60.92 Mbit/s
95th percentile per-packet one-way delay: 56.311 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 40.99 Mbit/s
95th percentile per-packet one-way delay: 60.400 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 52.516 ms
Loss rate: 0.93%
```

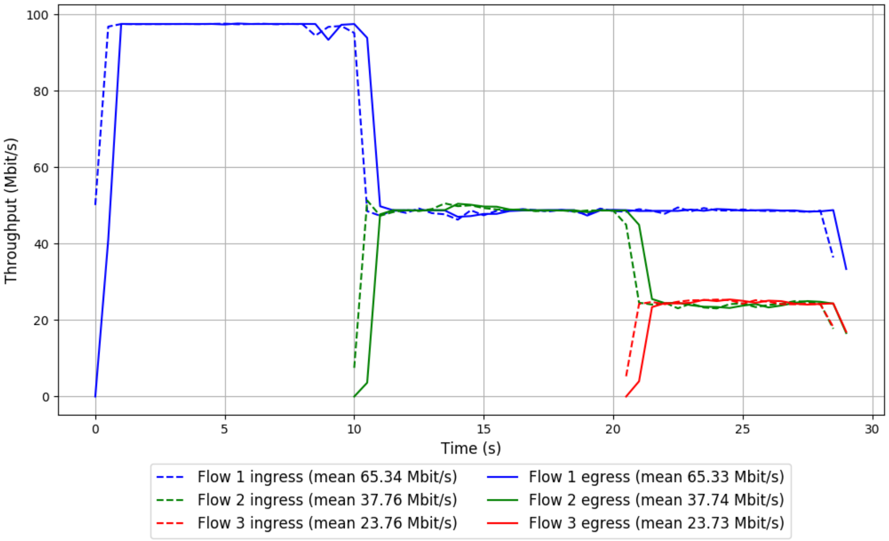
Run 2: Report of Indigo-MusesC3 — Data Link

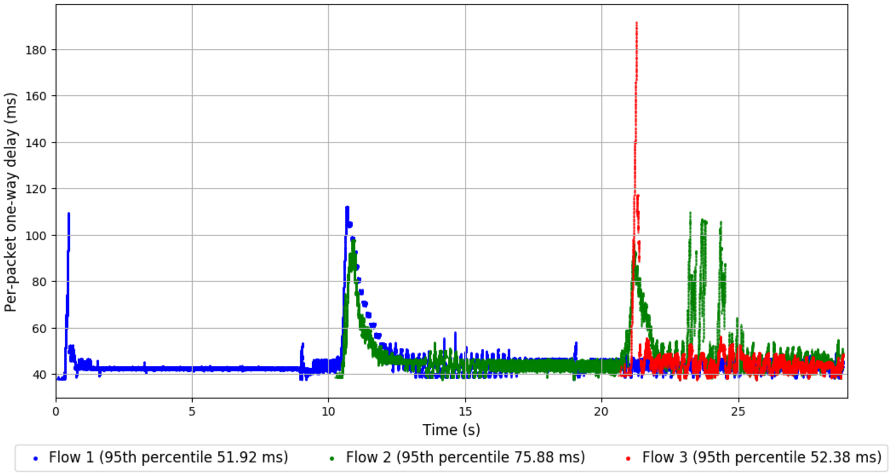




```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-12 17:08:23
End at: 2019-07-12 17:08:53
Local clock offset: 1.587 ms
Remote clock offset: -2.879 ms

# Below is generated by plot.py at 2019-07-12 19:04:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 60.592 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 65.33 Mbit/s
95th percentile per-packet one-way delay: 51.917 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 75.884 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 23.73 Mbit/s
95th percentile per-packet one-way delay: 52.383 ms
Loss rate: 0.91%
```

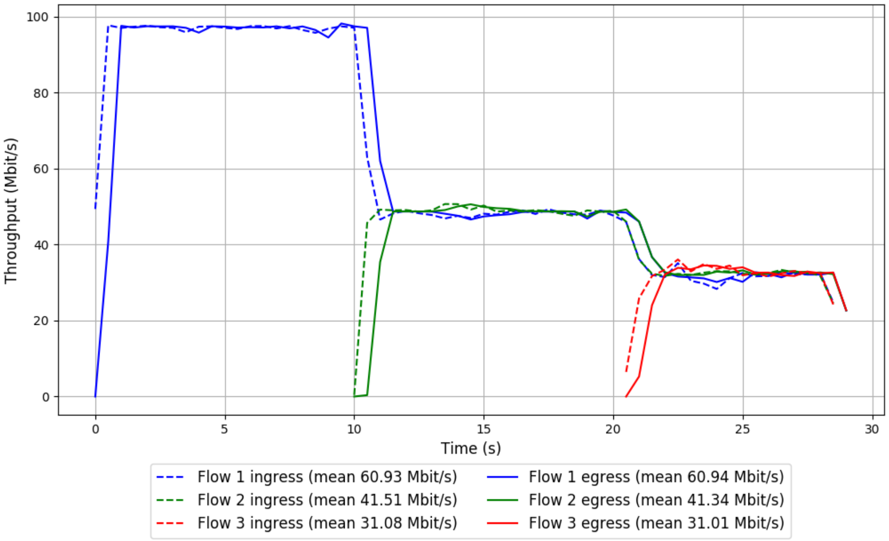
Run 3: Report of Indigo-MusesC3 — Data Link

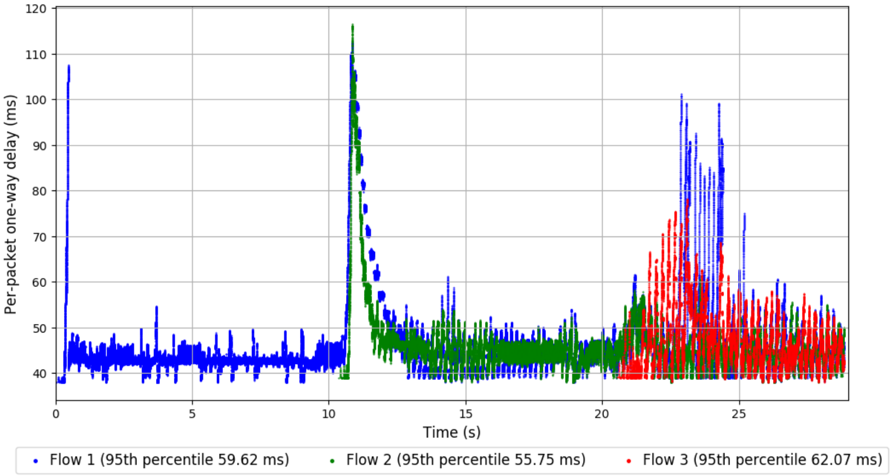




```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-12 17:46:47
End at: 2019-07-12 17:47:17
Local clock offset: 10.128 ms
Remote clock offset: -1.898 ms

# Below is generated by plot.py at 2019-07-12 19:04:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.40 Mbit/s
95th percentile per-packet one-way delay: 59.014 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 59.625 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 41.34 Mbit/s
95th percentile per-packet one-way delay: 55.746 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 31.01 Mbit/s
95th percentile per-packet one-way delay: 62.071 ms
Loss rate: 0.96%
```

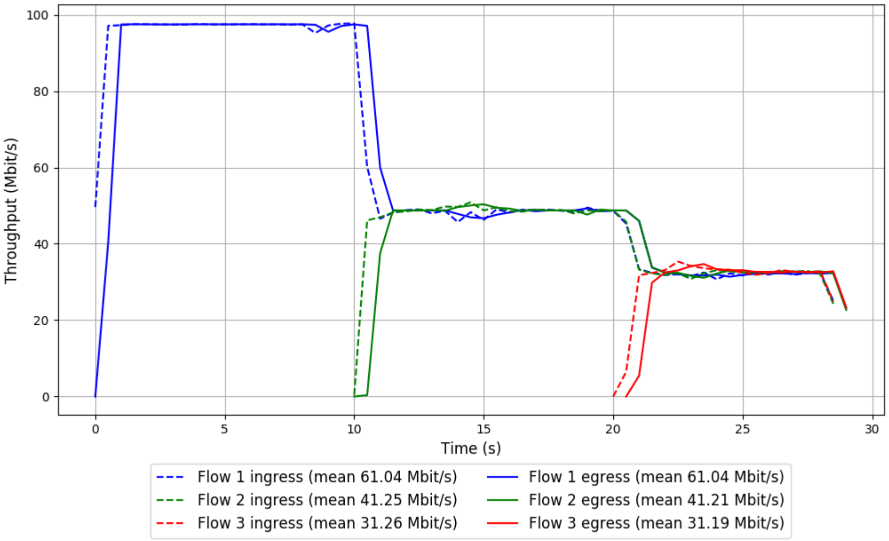
Run 4: Report of Indigo-MusesC3 — Data Link

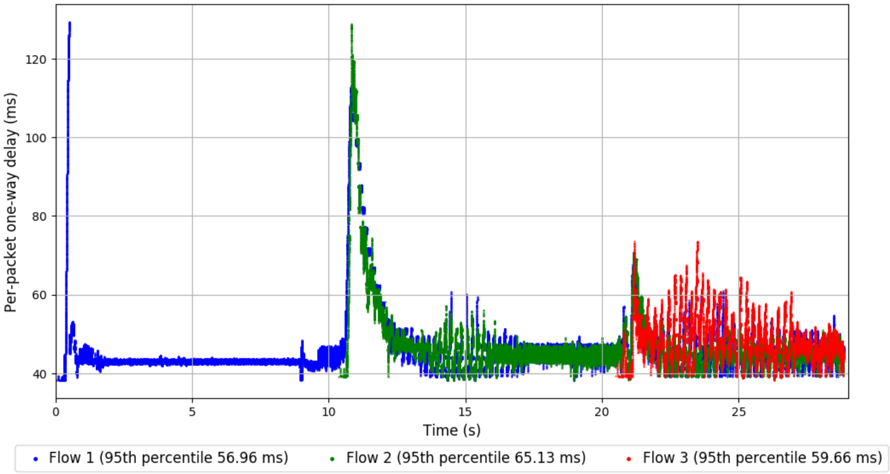




```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-12 18:21:41
End at: 2019-07-12 18:22:11
Local clock offset: 9.818 ms
Remote clock offset: -1.141 ms

# Below is generated by plot.py at 2019-07-12 19:04:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 60.079 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 61.04 Mbit/s
95th percentile per-packet one-way delay: 56.962 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 41.21 Mbit/s
95th percentile per-packet one-way delay: 65.128 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 59.658 ms
Loss rate: 1.00%
```

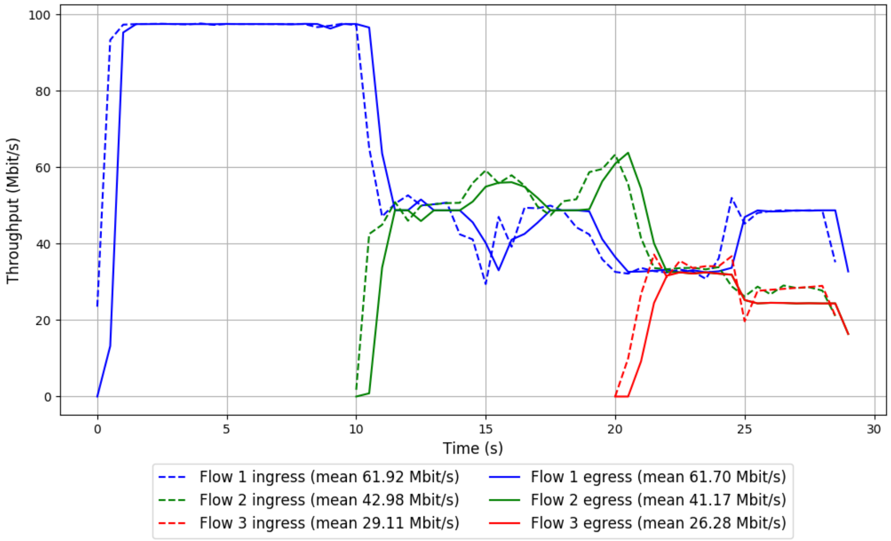
Run 5: Report of Indigo-MusesC3 — Data Link

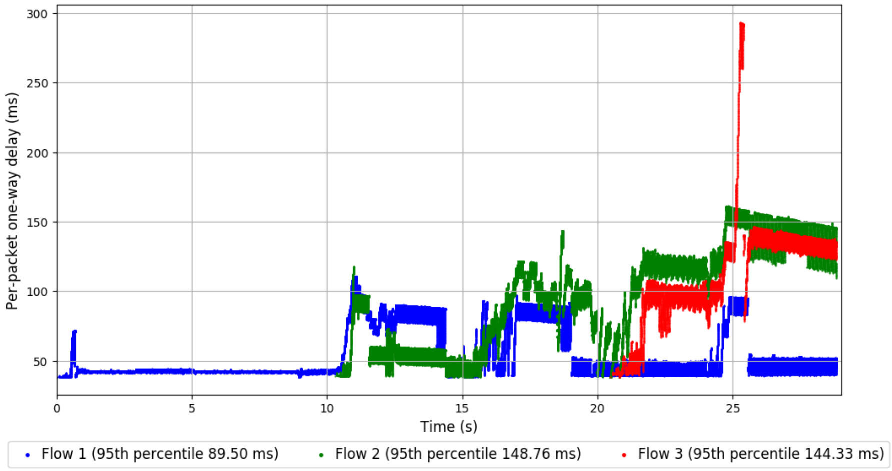




```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-12 16:16:57
End at: 2019-07-12 16:17:27
Local clock offset: -2.342 ms
Remote clock offset: -5.242 ms

# Below is generated by plot.py at 2019-07-12 19:04:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 135.287 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 61.70 Mbit/s
95th percentile per-packet one-way delay: 89.500 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 41.17 Mbit/s
95th percentile per-packet one-way delay: 148.764 ms
Loss rate: 4.43%
-- Flow 3:
Average throughput: 26.28 Mbit/s
95th percentile per-packet one-way delay: 144.330 ms
Loss rate: 10.38%
```

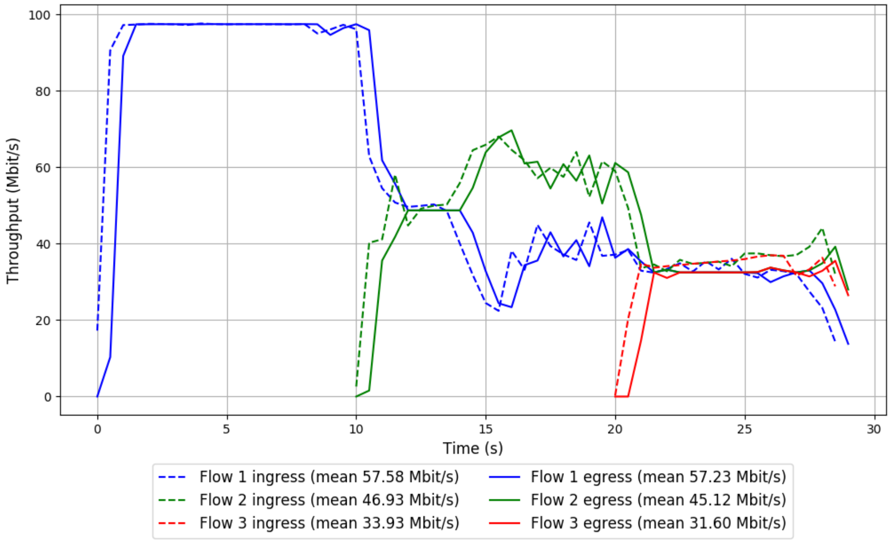
Run 1: Report of Indigo-MusesC5 — Data Link

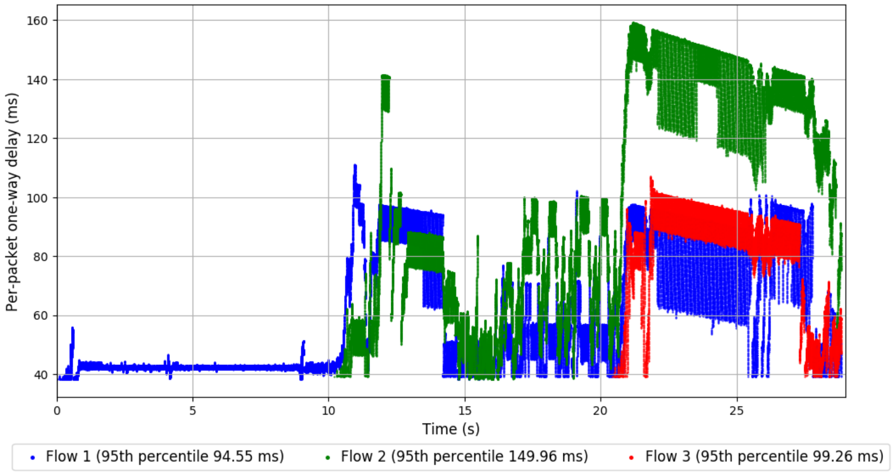




```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-12 16:52:50
End at: 2019-07-12 16:53:20
Local clock offset: -3.38 ms
Remote clock offset: -3.456 ms

# Below is generated by plot.py at 2019-07-12 19:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 138.775 ms
Loss rate: 2.51%
-- Flow 1:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 94.546 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 45.12 Mbit/s
95th percentile per-packet one-way delay: 149.959 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 31.60 Mbit/s
95th percentile per-packet one-way delay: 99.263 ms
Loss rate: 7.57%
```

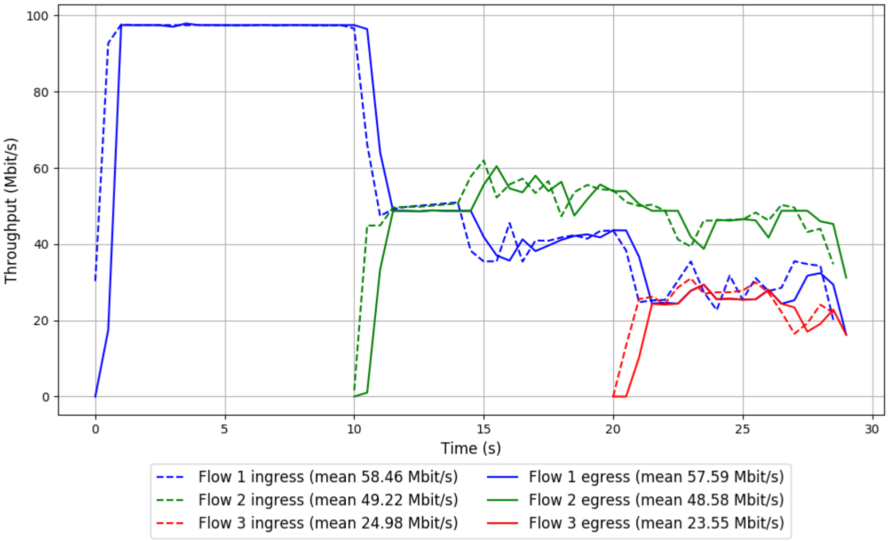
Run 2: Report of Indigo-MusesC5 — Data Link

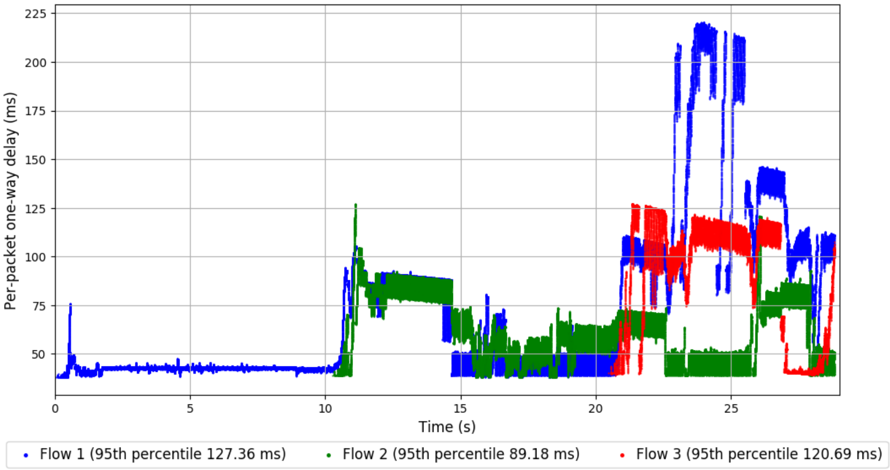




```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-12 17:27:56
End at: 2019-07-12 17:28:26
Local clock offset: 9.654 ms
Remote clock offset: -2.269 ms

# Below is generated by plot.py at 2019-07-12 19:04:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 115.464 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 57.59 Mbit/s
95th percentile per-packet one-way delay: 127.361 ms
Loss rate: 1.66%
-- Flow 2:
Average throughput: 48.58 Mbit/s
95th percentile per-packet one-way delay: 89.179 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 23.55 Mbit/s
95th percentile per-packet one-way delay: 120.689 ms
Loss rate: 6.38%
```

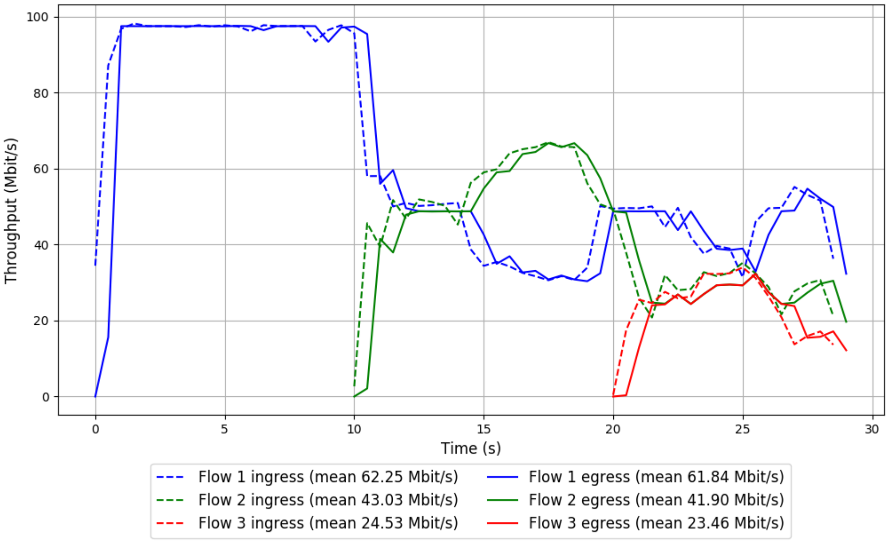
Run 3: Report of Indigo-MusesC5 — Data Link

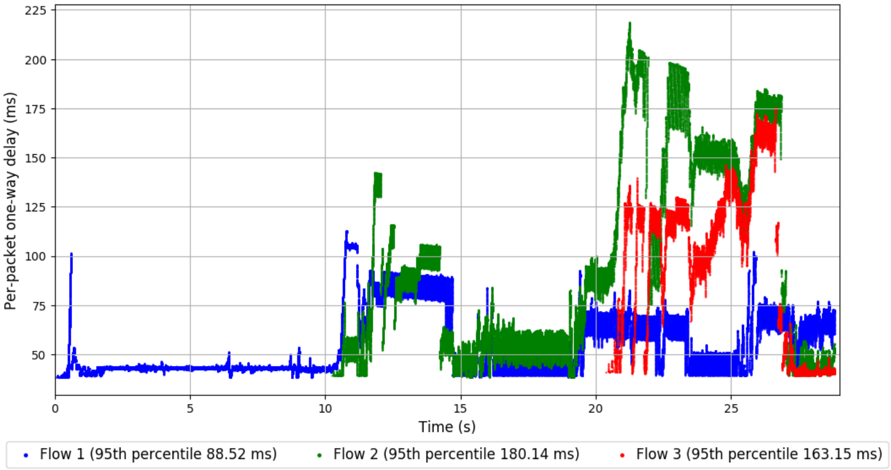




```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-12 18:07:33
End at: 2019-07-12 18:08:03
Local clock offset: 9.833 ms
Remote clock offset: -1.602 ms

# Below is generated by plot.py at 2019-07-12 19:05:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 146.819 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 61.84 Mbit/s
95th percentile per-packet one-way delay: 88.518 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 41.90 Mbit/s
95th percentile per-packet one-way delay: 180.142 ms
Loss rate: 2.96%
-- Flow 3:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 163.153 ms
Loss rate: 5.10%
```

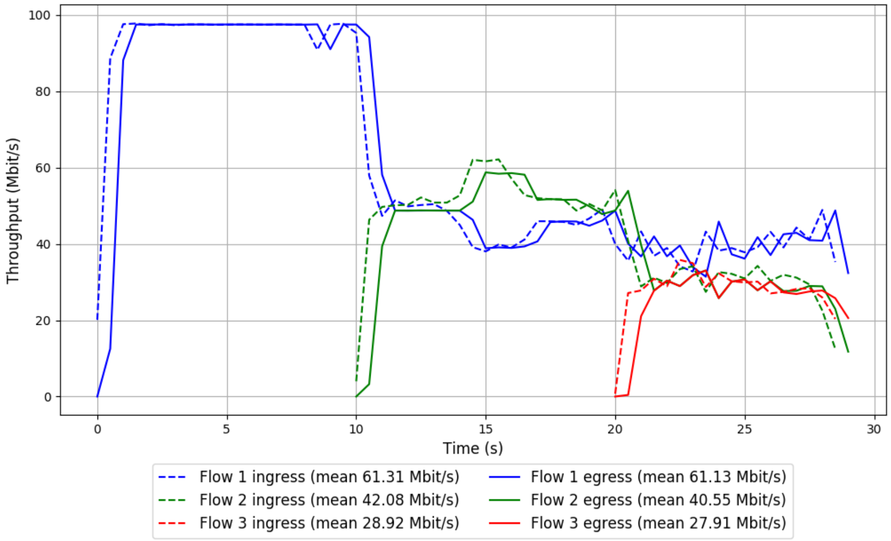
Run 4: Report of Indigo-MusesC5 — Data Link

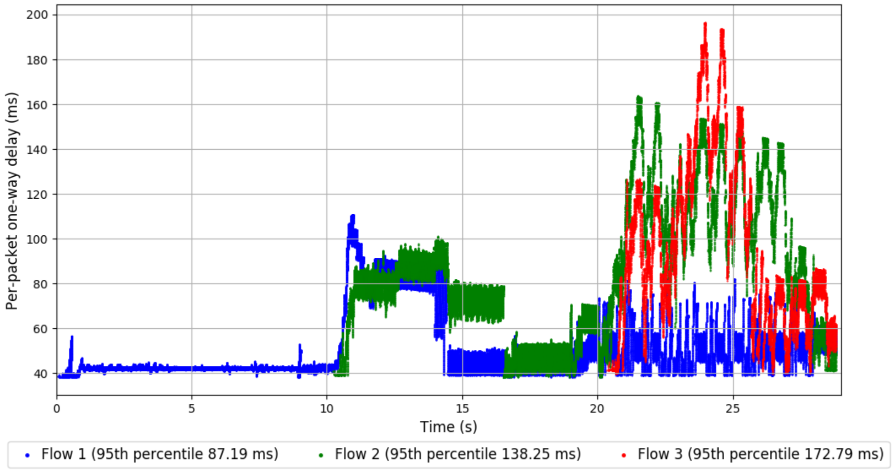




```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-12 18:41:23
End at: 2019-07-12 18:41:53
Local clock offset: 8.731 ms
Remote clock offset: -0.953 ms

# Below is generated by plot.py at 2019-07-12 19:05:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.58 Mbit/s
95th percentile per-packet one-way delay: 121.836 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 61.13 Mbit/s
95th percentile per-packet one-way delay: 87.190 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 138.253 ms
Loss rate: 3.96%
-- Flow 3:
Average throughput: 27.91 Mbit/s
95th percentile per-packet one-way delay: 172.789 ms
Loss rate: 4.23%
```

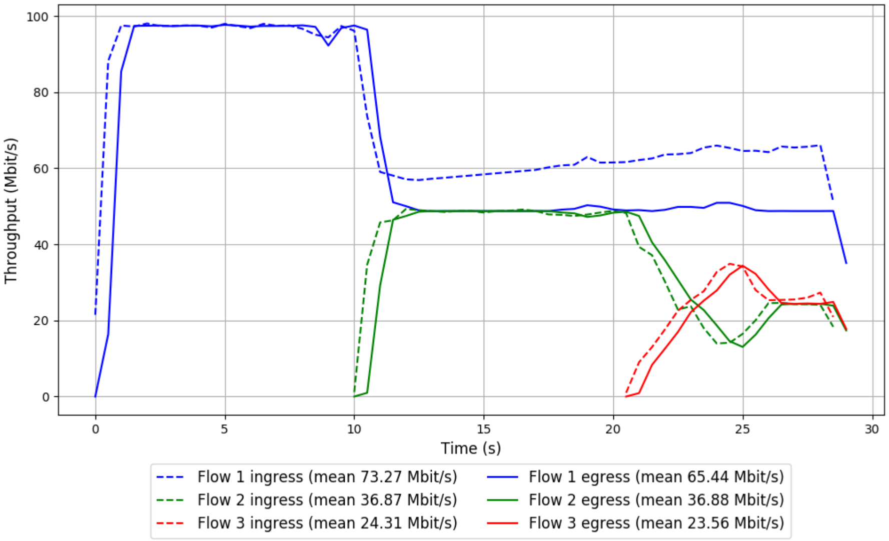
Run 5: Report of Indigo-MusesC5 — Data Link

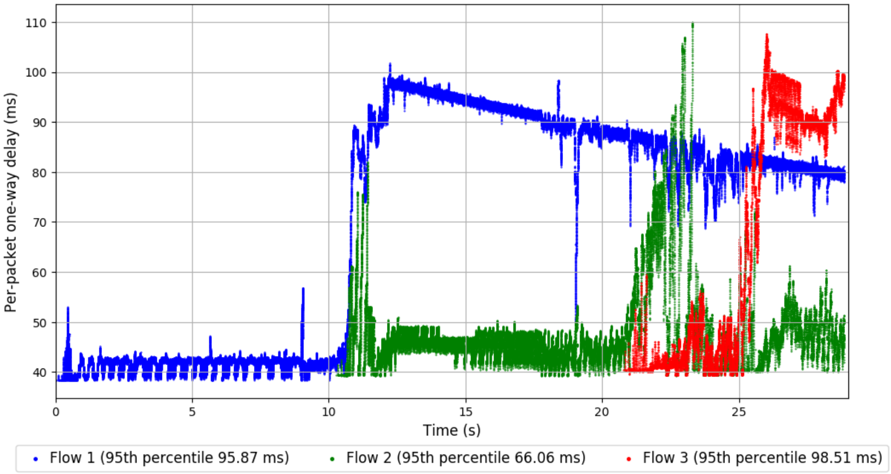




```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-12 16:14:01
End at: 2019-07-12 16:14:31
Local clock offset: -2.157 ms
Remote clock offset: -5.481 ms

# Below is generated by plot.py at 2019-07-12 19:05:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 95.381 ms
Loss rate: 8.00%
-- Flow 1:
Average throughput: 65.44 Mbit/s
95th percentile per-packet one-way delay: 95.867 ms
Loss rate: 10.88%
-- Flow 2:
Average throughput: 36.88 Mbit/s
95th percentile per-packet one-way delay: 66.062 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 98.508 ms
Loss rate: 3.85%
```

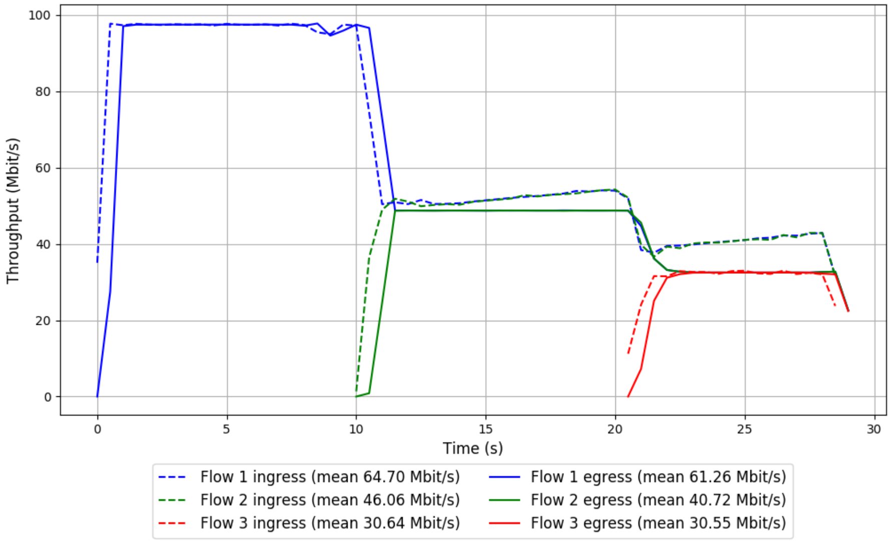
Run 1: Report of Indigo-MusesD — Data Link

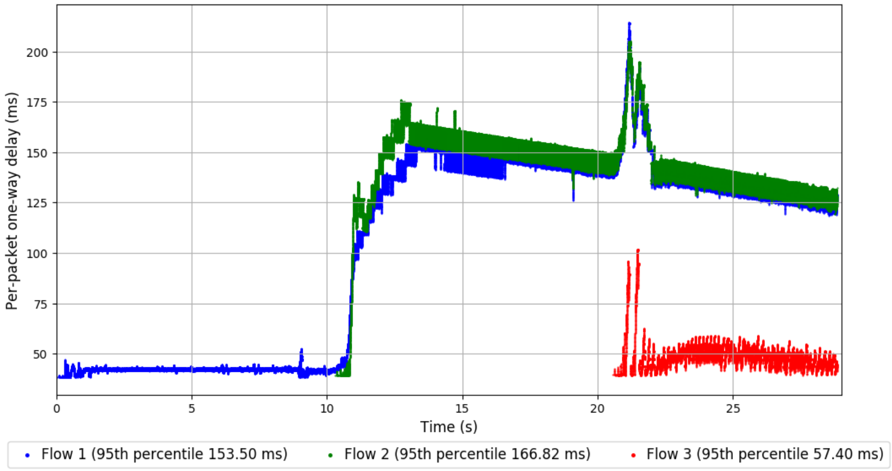




```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-12 16:49:31
End at: 2019-07-12 16:50:01
Local clock offset: -3.29 ms
Remote clock offset: -3.671 ms

# Below is generated by plot.py at 2019-07-12 19:05:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.28 Mbit/s
95th percentile per-packet one-way delay: 160.337 ms
Loss rate: 6.96%
-- Flow 1:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 153.498 ms
Loss rate: 5.52%
-- Flow 2:
Average throughput: 40.72 Mbit/s
95th percentile per-packet one-way delay: 166.821 ms
Loss rate: 11.88%
-- Flow 3:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 57.398 ms
Loss rate: 1.03%
```

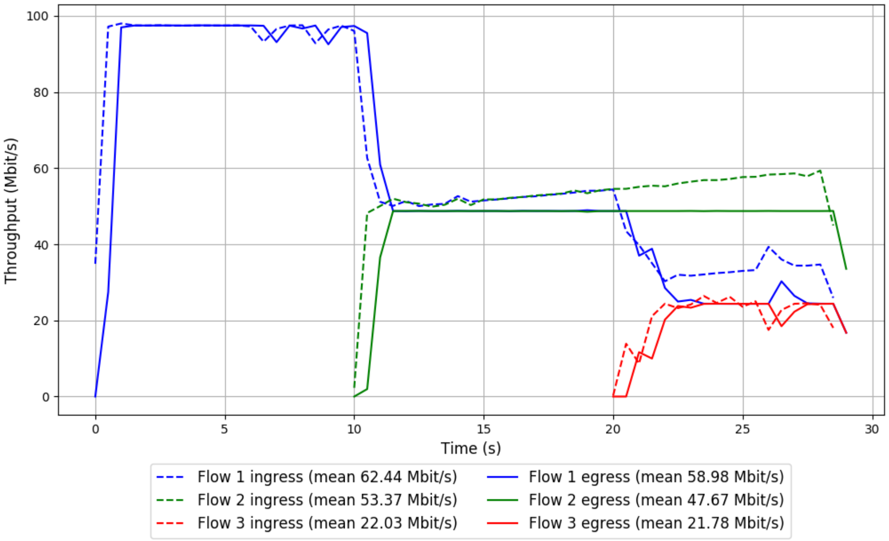
Run 2: Report of Indigo-MusesD — Data Link

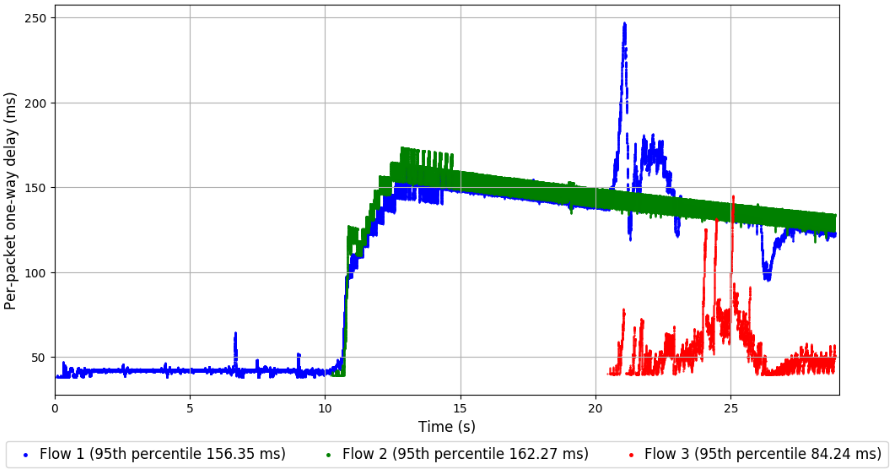




```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-12 17:24:49
End at: 2019-07-12 17:25:19
Local clock offset: 8.95 ms
Remote clock offset: -2.394 ms

# Below is generated by plot.py at 2019-07-12 19:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 158.698 ms
Loss rate: 7.25%
-- Flow 1:
Average throughput: 58.98 Mbit/s
95th percentile per-packet one-way delay: 156.353 ms
Loss rate: 5.75%
-- Flow 2:
Average throughput: 47.67 Mbit/s
95th percentile per-packet one-way delay: 162.272 ms
Loss rate: 10.98%
-- Flow 3:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 84.238 ms
Loss rate: 1.91%
```

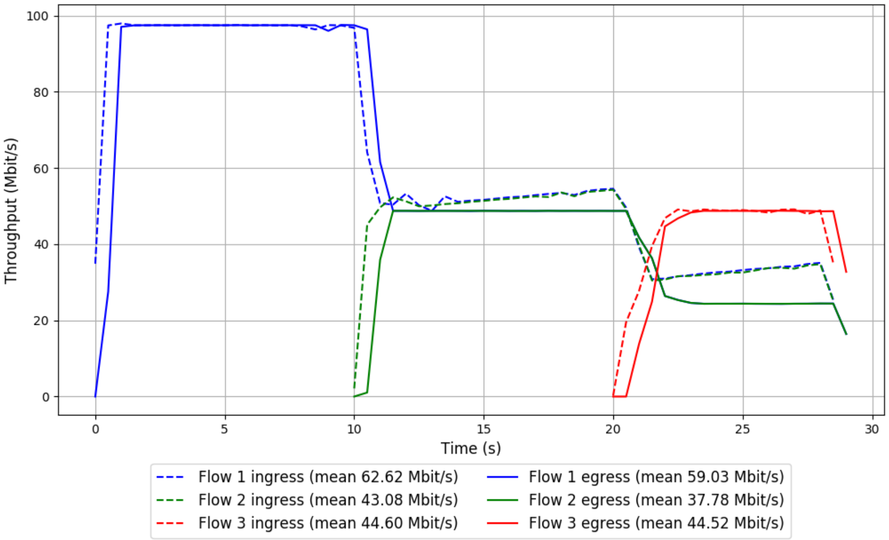
Run 3: Report of Indigo-MusesD — Data Link

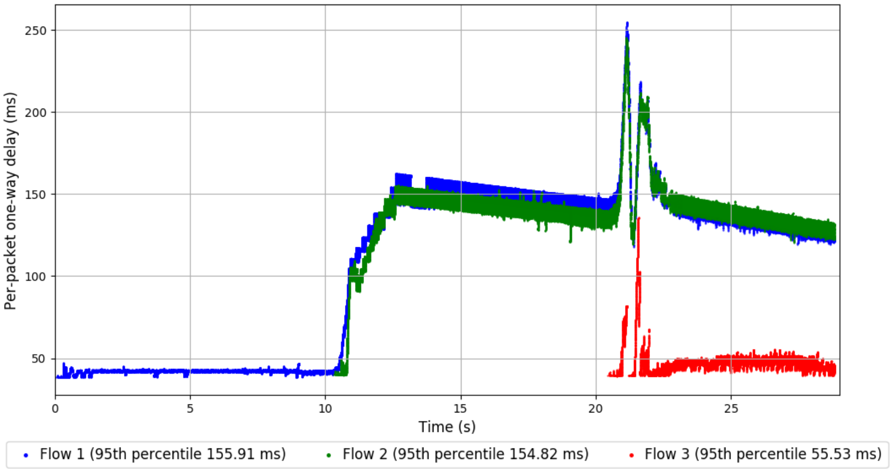




```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-12 18:04:34
End at: 2019-07-12 18:05:04
Local clock offset: 10.134 ms
Remote clock offset: -1.559 ms

# Below is generated by plot.py at 2019-07-12 19:06:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.34 Mbit/s
95th percentile per-packet one-way delay: 154.809 ms
Loss rate: 7.09%
-- Flow 1:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 155.914 ms
Loss rate: 5.92%
-- Flow 2:
Average throughput: 37.78 Mbit/s
95th percentile per-packet one-way delay: 154.819 ms
Loss rate: 12.62%
-- Flow 3:
Average throughput: 44.52 Mbit/s
95th percentile per-packet one-way delay: 55.527 ms
Loss rate: 0.94%
```

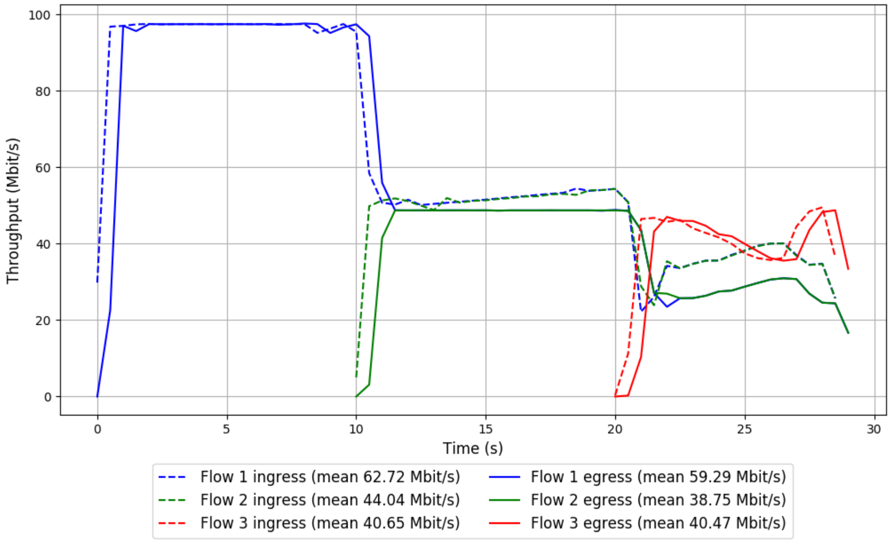
Run 4: Report of Indigo-MusesD — Data Link

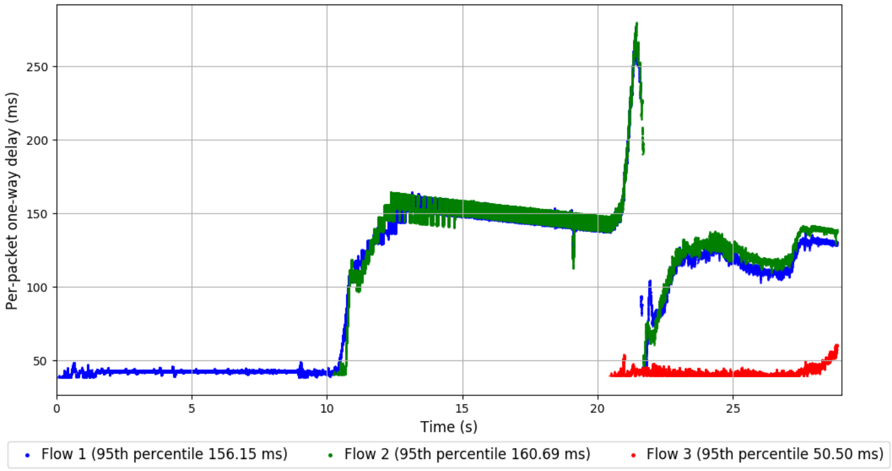




```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-12 18:38:40
End at: 2019-07-12 18:39:10
Local clock offset: 8.856 ms
Remote clock offset: -0.939 ms

# Below is generated by plot.py at 2019-07-12 19:06:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.20 Mbit/s
95th percentile per-packet one-way delay: 157.311 ms
Loss rate: 6.99%
-- Flow 1:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 156.145 ms
Loss rate: 5.67%
-- Flow 2:
Average throughput: 38.75 Mbit/s
95th percentile per-packet one-way delay: 160.693 ms
Loss rate: 12.32%
-- Flow 3:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 50.499 ms
Loss rate: 1.20%
```

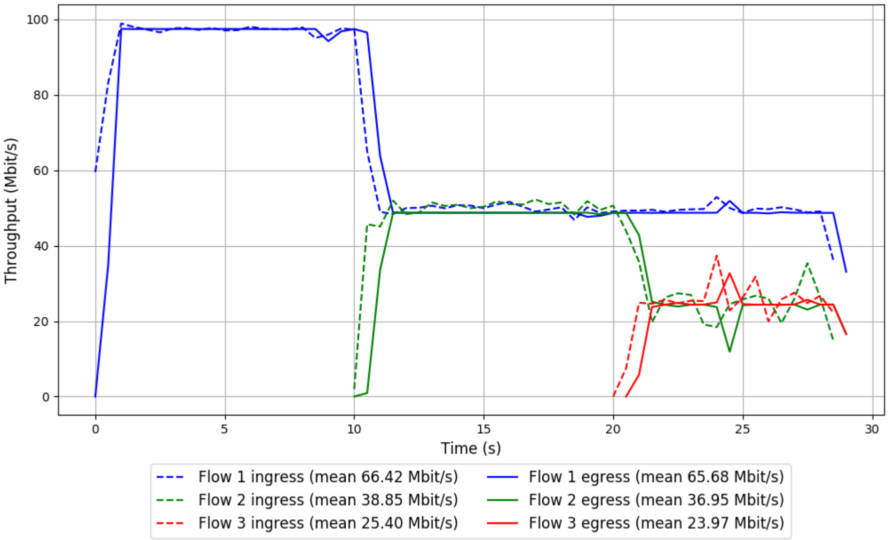
Run 5: Report of Indigo-MusesD — Data Link

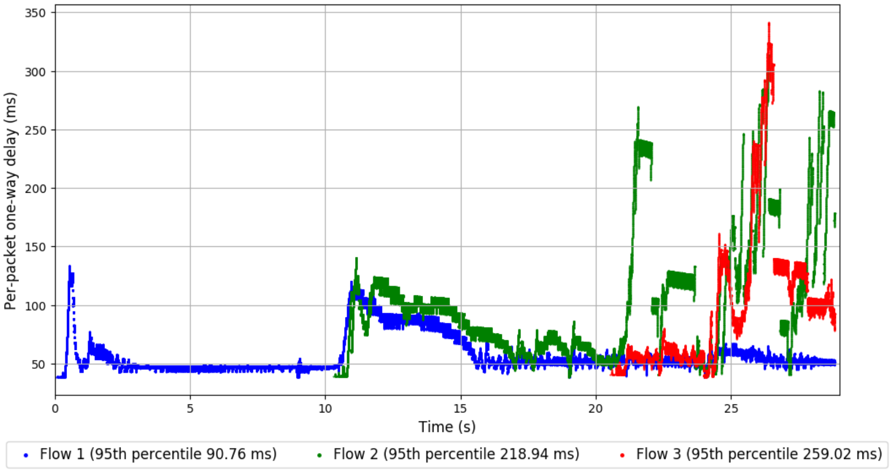




```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-12 16:06:56
End at: 2019-07-12 16:07:26
Local clock offset: -1.226 ms
Remote clock offset: -5.902 ms

# Below is generated by plot.py at 2019-07-12 19:06:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 128.694 ms
Loss rate: 2.66%
-- Flow 1:
Average throughput: 65.68 Mbit/s
95th percentile per-packet one-way delay: 90.756 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 36.95 Mbit/s
95th percentile per-packet one-way delay: 218.938 ms
Loss rate: 5.20%
-- Flow 3:
Average throughput: 23.97 Mbit/s
95th percentile per-packet one-way delay: 259.018 ms
Loss rate: 5.97%
```

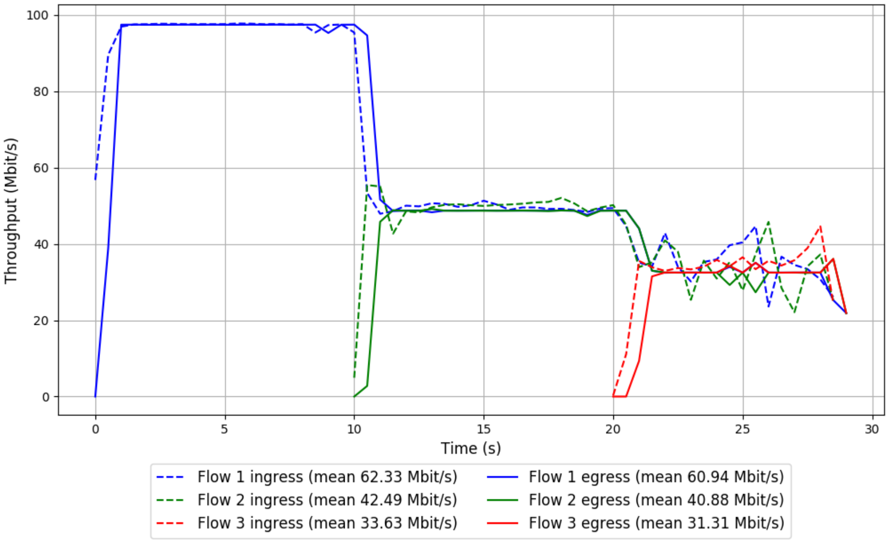
Run 1: Report of Indigo-MusesT — Data Link

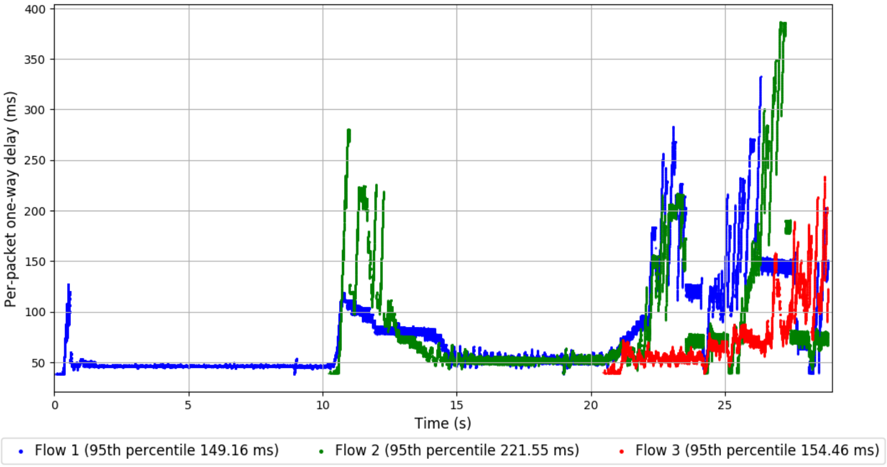




```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-12 16:40:29
End at: 2019-07-12 16:40:59
Local clock offset: -3.109 ms
Remote clock offset: -3.883 ms

# Below is generated by plot.py at 2019-07-12 19:06:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 182.182 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 149.160 ms
Loss rate: 2.30%
-- Flow 2:
Average throughput: 40.88 Mbit/s
95th percentile per-packet one-way delay: 221.554 ms
Loss rate: 4.11%
-- Flow 3:
Average throughput: 31.31 Mbit/s
95th percentile per-packet one-way delay: 154.463 ms
Loss rate: 7.51%
```

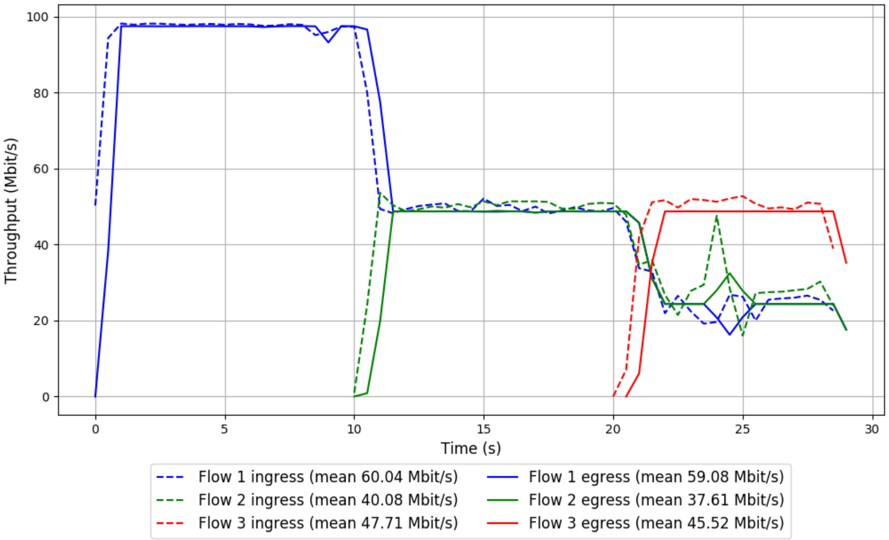
Run 2: Report of Indigo-MusesT — Data Link

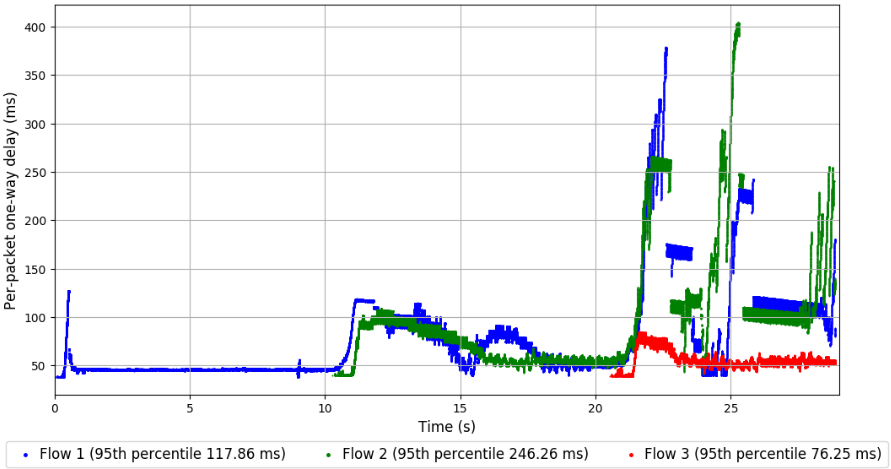




```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-12 17:17:34
End at: 2019-07-12 17:18:04
Local clock offset: 6.643 ms
Remote clock offset: -2.579 ms

# Below is generated by plot.py at 2019-07-12 19:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.48 Mbit/s
95th percentile per-packet one-way delay: 140.882 ms
Loss rate: 3.51%
-- Flow 1:
Average throughput: 59.08 Mbit/s
95th percentile per-packet one-way delay: 117.857 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 37.61 Mbit/s
95th percentile per-packet one-way delay: 246.261 ms
Loss rate: 6.50%
-- Flow 3:
Average throughput: 45.52 Mbit/s
95th percentile per-packet one-way delay: 76.246 ms
Loss rate: 5.32%
```

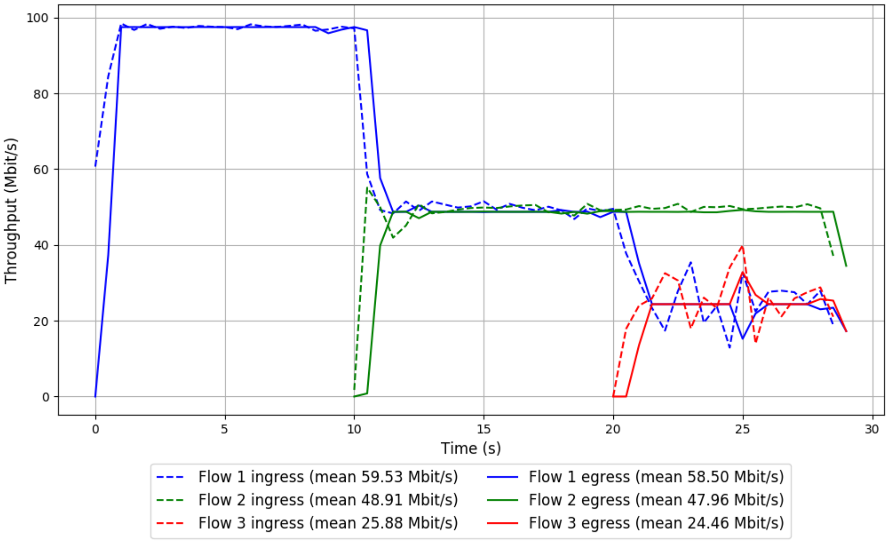
Run 3: Report of Indigo-MusesT — Data Link

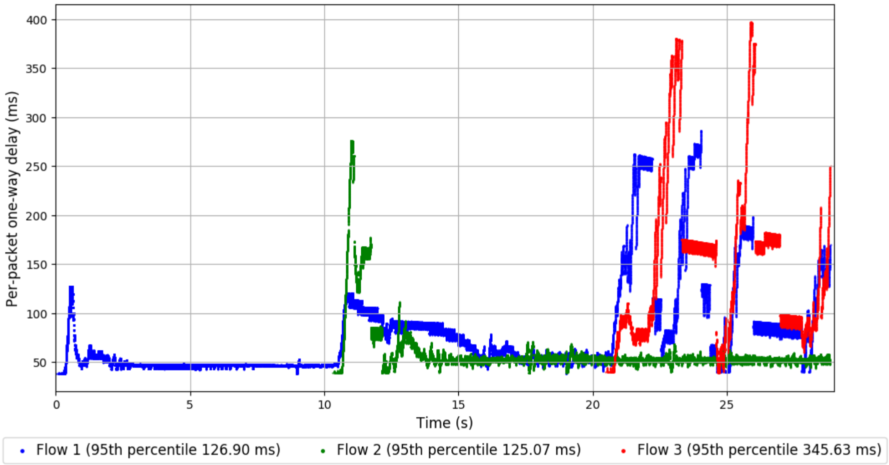




```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-12 17:56:52
End at: 2019-07-12 17:57:22
Local clock offset: 11.264 ms
Remote clock offset: -1.816 ms

# Below is generated by plot.py at 2019-07-12 19:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.48 Mbit/s
95th percentile per-packet one-way delay: 169.678 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 58.50 Mbit/s
95th percentile per-packet one-way delay: 126.902 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 47.96 Mbit/s
95th percentile per-packet one-way delay: 125.071 ms
Loss rate: 2.28%
-- Flow 3:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 345.628 ms
Loss rate: 6.22%
```

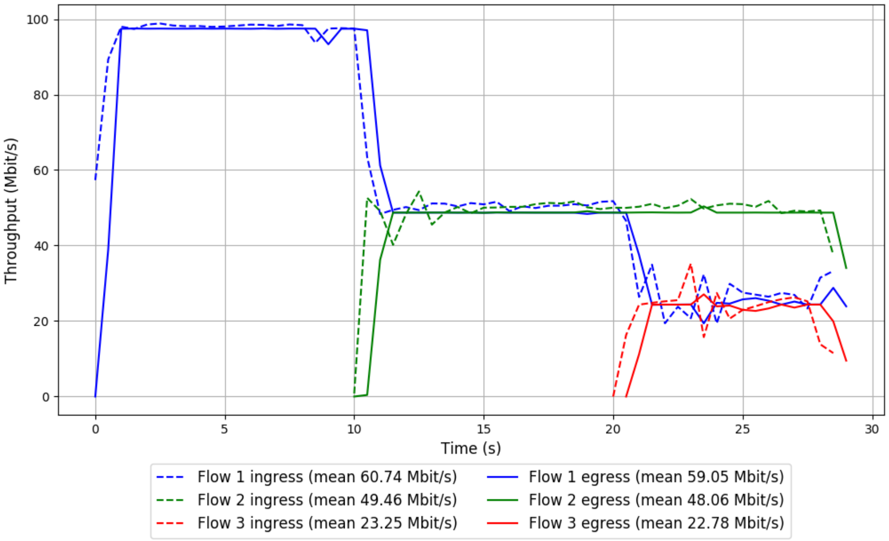
Run 4: Report of Indigo-MusesT — Data Link

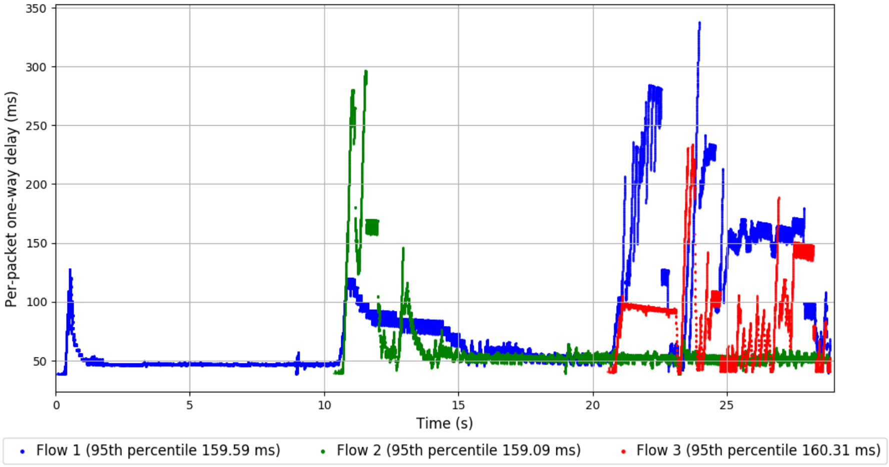




```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-12 18:31:20
End at: 2019-07-12 18:31:50
Local clock offset: 9.685 ms
Remote clock offset: -0.902 ms

# Below is generated by plot.py at 2019-07-12 19:06:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 159.455 ms
Loss rate: 3.02%
-- Flow 1:
Average throughput: 59.05 Mbit/s
95th percentile per-packet one-way delay: 159.591 ms
Loss rate: 2.97%
-- Flow 2:
Average throughput: 48.06 Mbit/s
95th percentile per-packet one-way delay: 159.087 ms
Loss rate: 3.16%
-- Flow 3:
Average throughput: 22.78 Mbit/s
95th percentile per-packet one-way delay: 160.313 ms
Loss rate: 2.83%
```

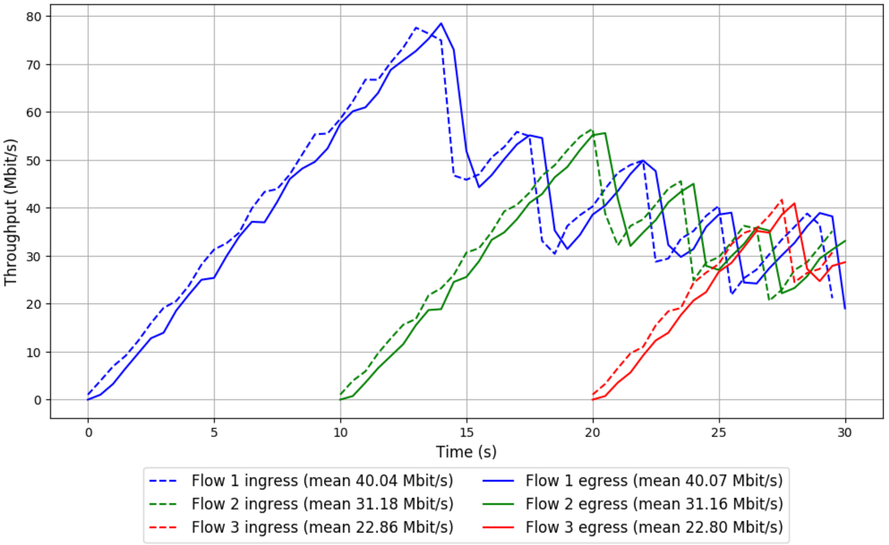
Run 5: Report of Indigo-MusesT — Data Link

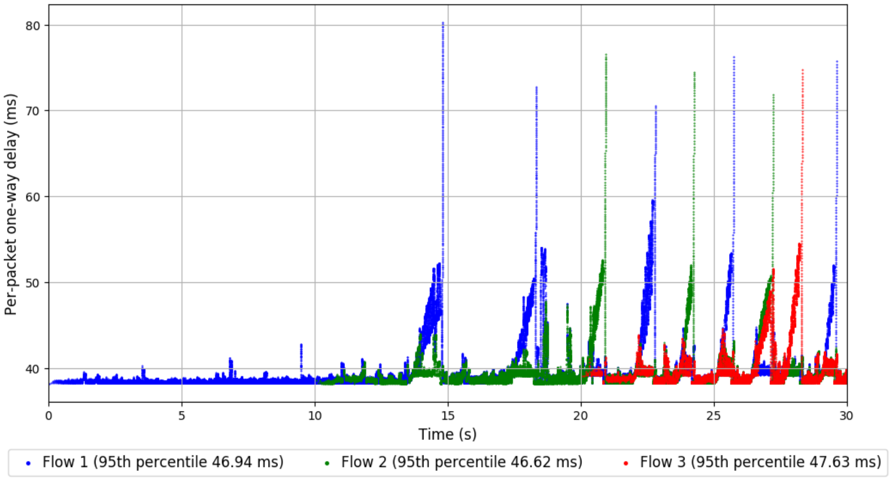




```
Run 1: Statistics of LEDBAT

Start at: 2019-07-12 16:11:22
End at: 2019-07-12 16:11:52
Local clock offset: -1.897 ms
Remote clock offset: -5.471 ms

# Below is generated by plot.py at 2019-07-12 19:06:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.34 Mbit/s
95th percentile per-packet one-way delay: 46.897 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 40.07 Mbit/s
95th percentile per-packet one-way delay: 46.936 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 31.16 Mbit/s
95th percentile per-packet one-way delay: 46.622 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 22.80 Mbit/s
95th percentile per-packet one-way delay: 47.626 ms
Loss rate: 0.93%
```

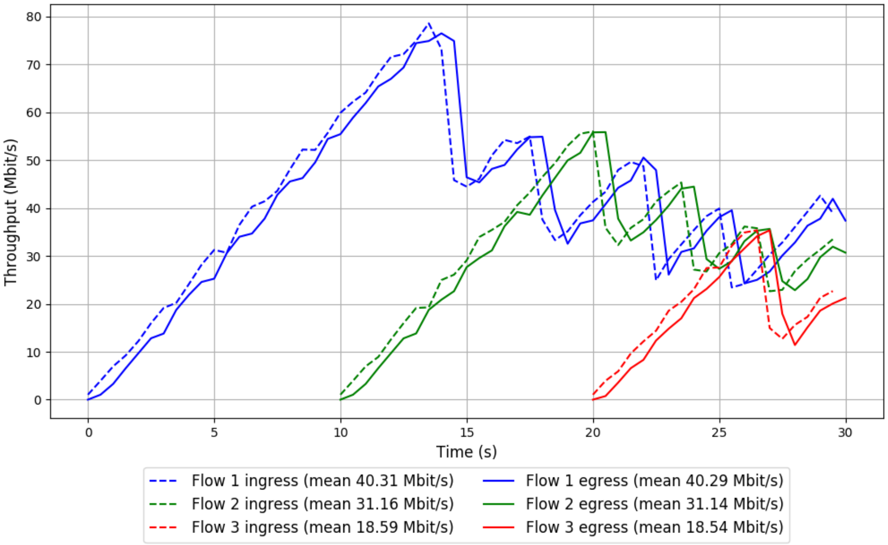
Run 1: Report of LEDBAT — Data Link

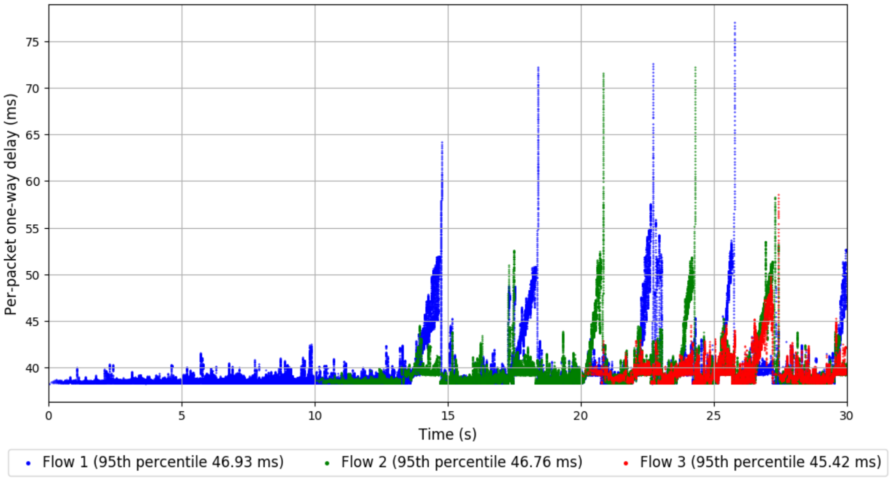




```
Run 2: Statistics of LEDBAT

Start at: 2019-07-12 16:45:52
End at: 2019-07-12 16:46:22
Local clock offset: -3.235 ms
Remote clock offset: -3.667 ms

# Below is generated by plot.py at 2019-07-12 19:07:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.16 Mbit/s
95th percentile per-packet one-way delay: 46.659 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 46.933 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 46.763 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 18.54 Mbit/s
95th percentile per-packet one-way delay: 45.420 ms
Loss rate: 0.92%
```

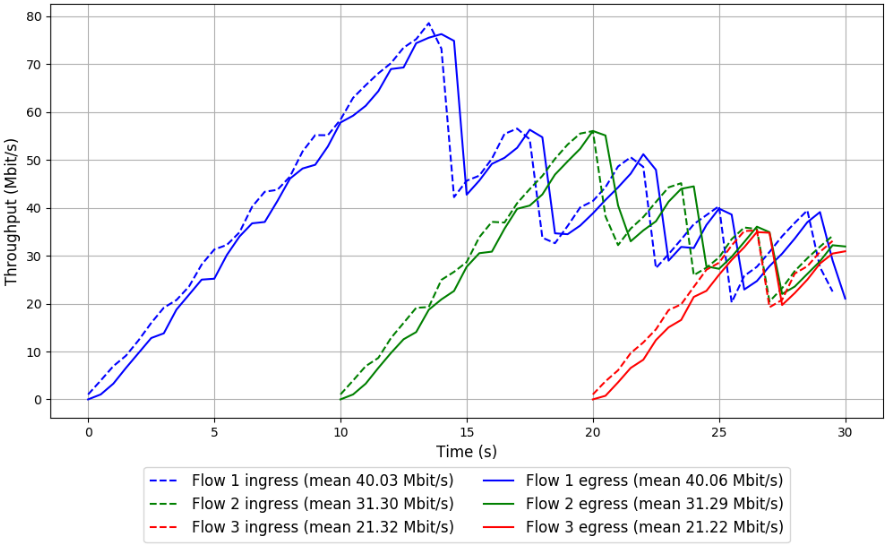
Run 2: Report of LEDBAT — Data Link

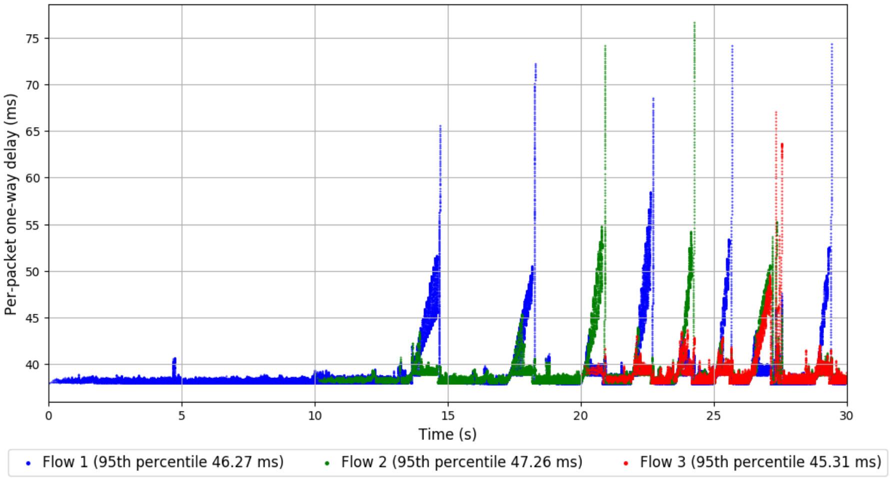




```
Run 3: Statistics of LEDBAT

Start at: 2019-07-12 17:22:01
End at: 2019-07-12 17:22:31
Local clock offset: 8.123 ms
Remote clock offset: -2.452 ms

# Below is generated by plot.py at 2019-07-12 19:07:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.89 Mbit/s
95th percentile per-packet one-way delay: 46.424 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 46.269 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.29 Mbit/s
95th percentile per-packet one-way delay: 47.260 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 21.22 Mbit/s
95th percentile per-packet one-way delay: 45.312 ms
Loss rate: 1.10%
```

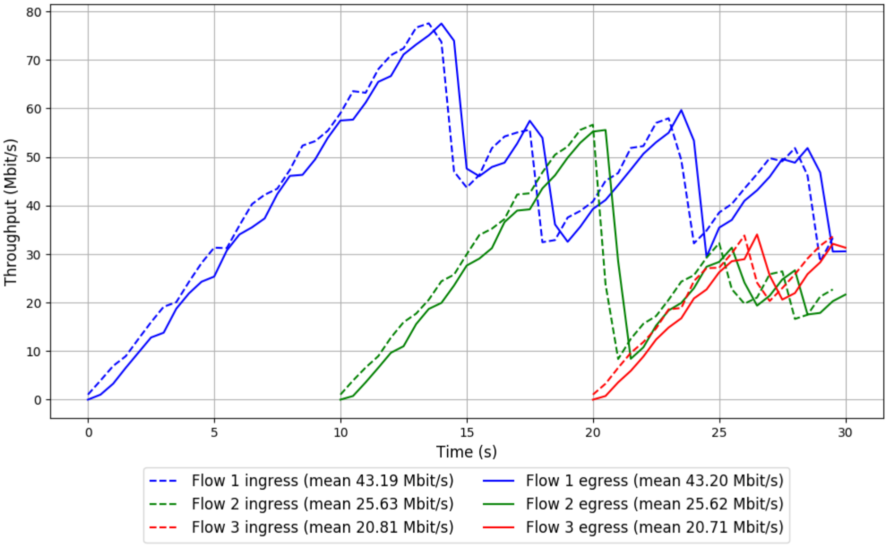
Run 3: Report of LEDBAT — Data Link

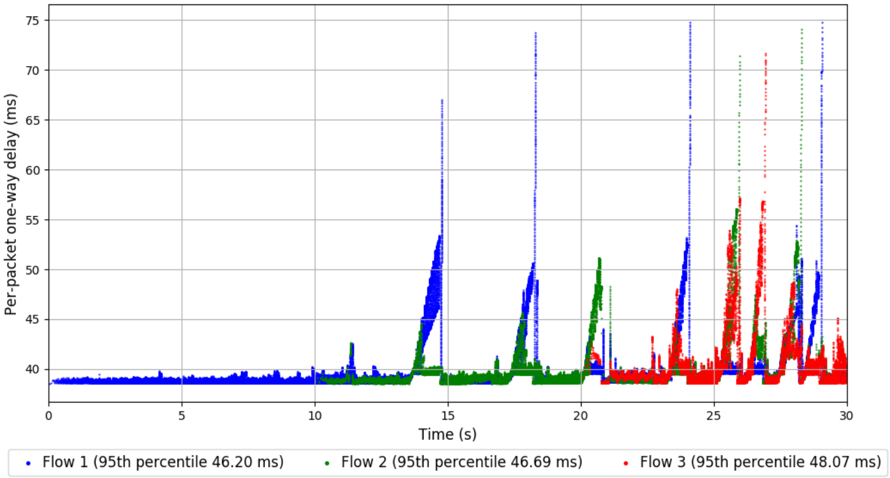




```
Run 4: Statistics of LEDBAT

Start at: 2019-07-12 18:01:27
End at: 2019-07-12 18:01:57
Local clock offset: 10.747 ms
Remote clock offset: -1.688 ms

# Below is generated by plot.py at 2019-07-12 19:07:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.11 Mbit/s
95th percentile per-packet one-way delay: 46.680 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 46.200 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 25.62 Mbit/s
95th percentile per-packet one-way delay: 46.691 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 48.066 ms
Loss rate: 1.13%
```

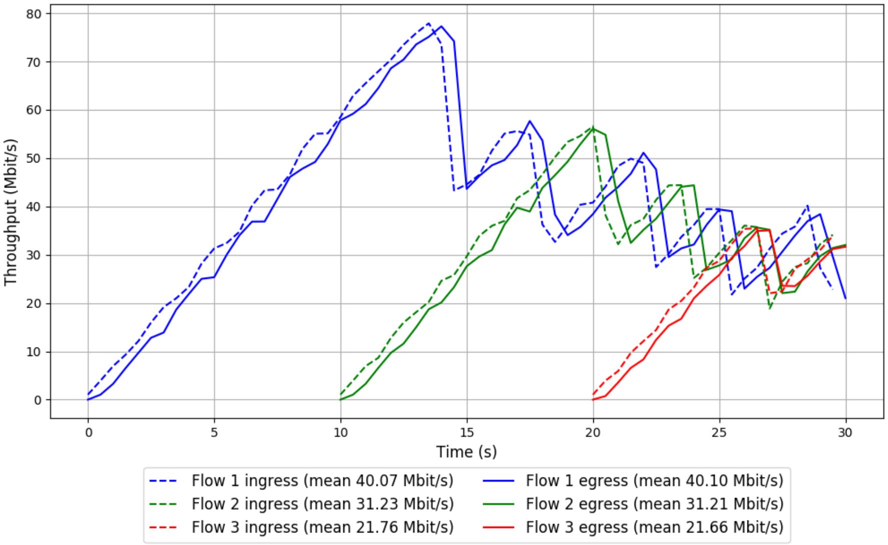
Run 4: Report of LEDBAT — Data Link

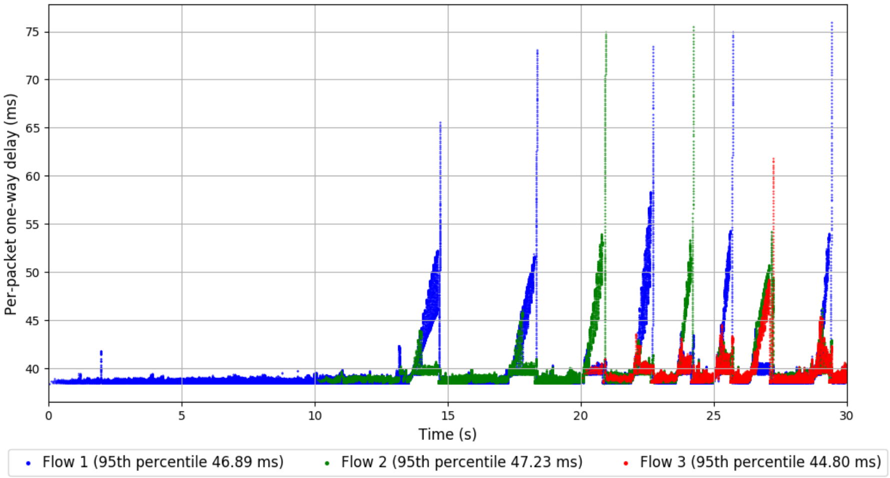




```
Run 5: Statistics of LEDBAT

Start at: 2019-07-12 18:35:42
End at: 2019-07-12 18:36:12
Local clock offset: 9.089 ms
Remote clock offset: -0.987 ms

# Below is generated by plot.py at 2019-07-12 19:07:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.03 Mbit/s
95th percentile per-packet one-way delay: 46.786 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 40.10 Mbit/s
95th percentile per-packet one-way delay: 46.891 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.21 Mbit/s
95th percentile per-packet one-way delay: 47.227 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 21.66 Mbit/s
95th percentile per-packet one-way delay: 44.798 ms
Loss rate: 1.08%
```

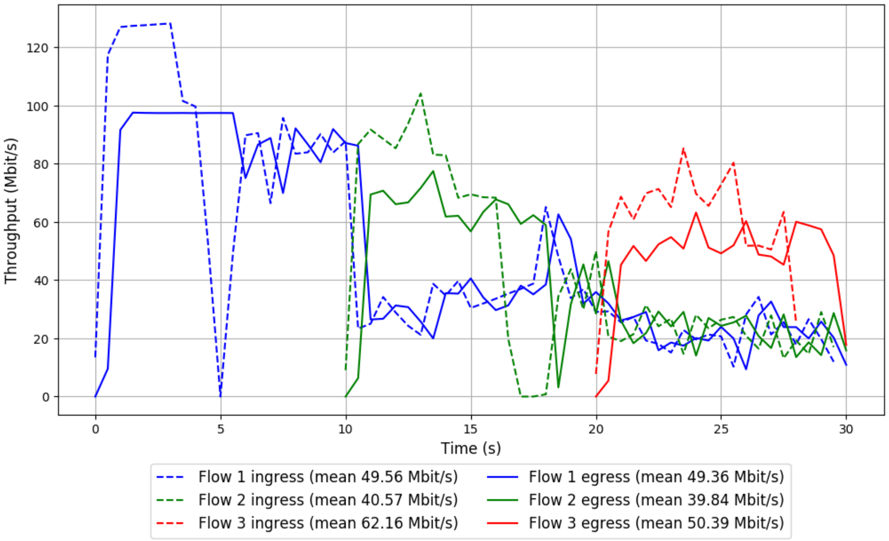
Run 5: Report of LEDBAT — Data Link

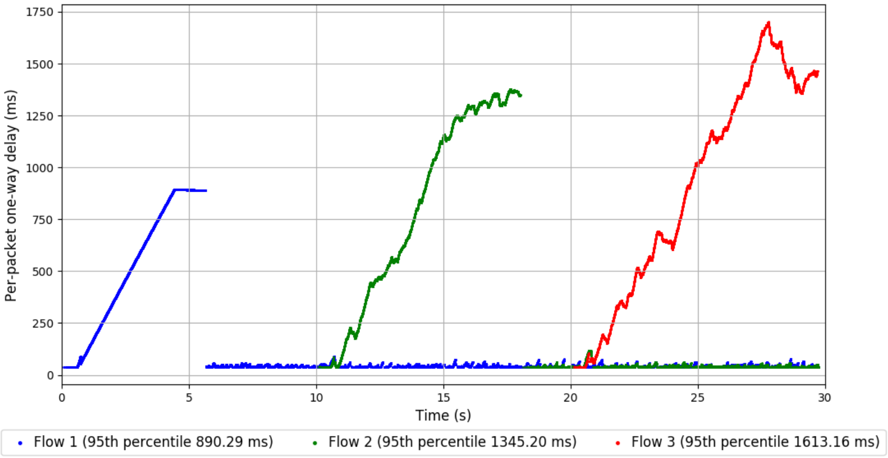




```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 16:19:39
End at: 2019-07-12 16:20:09
Local clock offset: -2.514 ms
Remote clock offset: -5.046 ms

# Below is generated by plot.py at 2019-07-12 19:07:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 1393.095 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 49.36 Mbit/s
95th percentile per-packet one-way delay: 890.294 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 39.84 Mbit/s
95th percentile per-packet one-way delay: 1345.200 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 50.39 Mbit/s
95th percentile per-packet one-way delay: 1613.165 ms
Loss rate: 4.84%
```

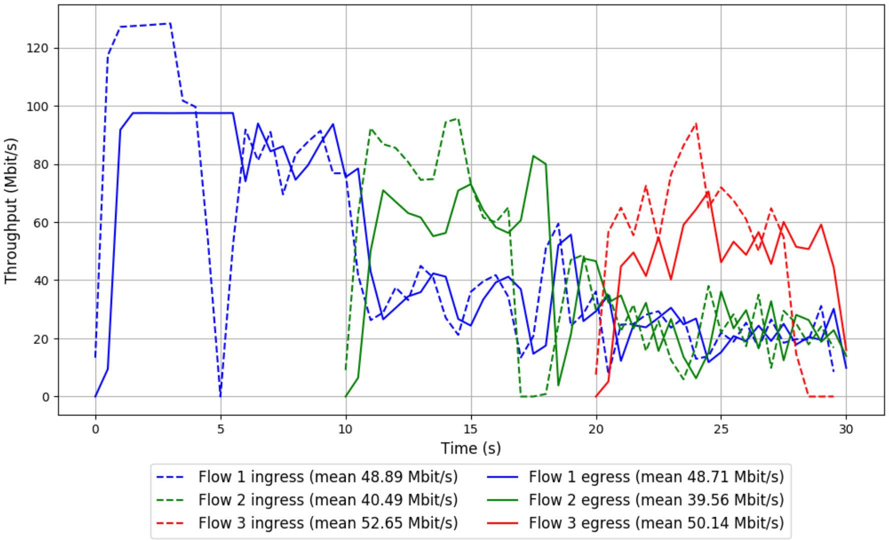
Run 1: Report of Muses_DecisionTree — Data Link

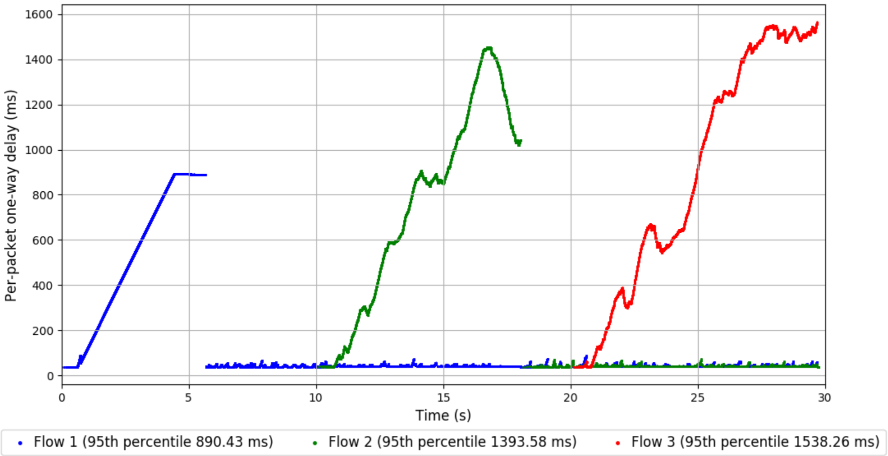




```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 16:56:09
End at: 2019-07-12 16:56:39
Local clock offset: -3.384 ms
Remote clock offset: -3.273 ms

# Below is generated by plot.py at 2019-07-12 19:07:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.09 Mbit/s
95th percentile per-packet one-way delay: 1451.120 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 48.71 Mbit/s
95th percentile per-packet one-way delay: 890.435 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 1393.584 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 50.14 Mbit/s
95th percentile per-packet one-way delay: 1538.263 ms
Loss rate: 5.41%
```

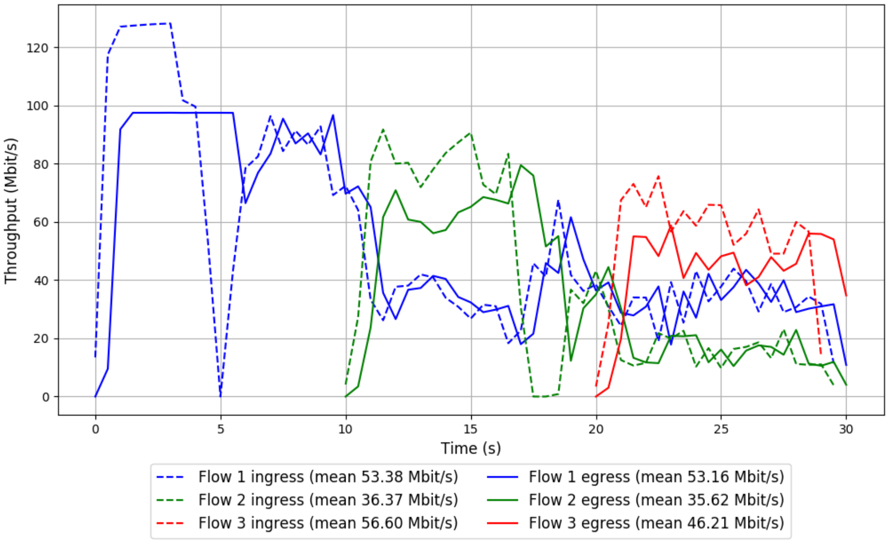
Run 2: Report of Muses_DecisionTree — Data Link

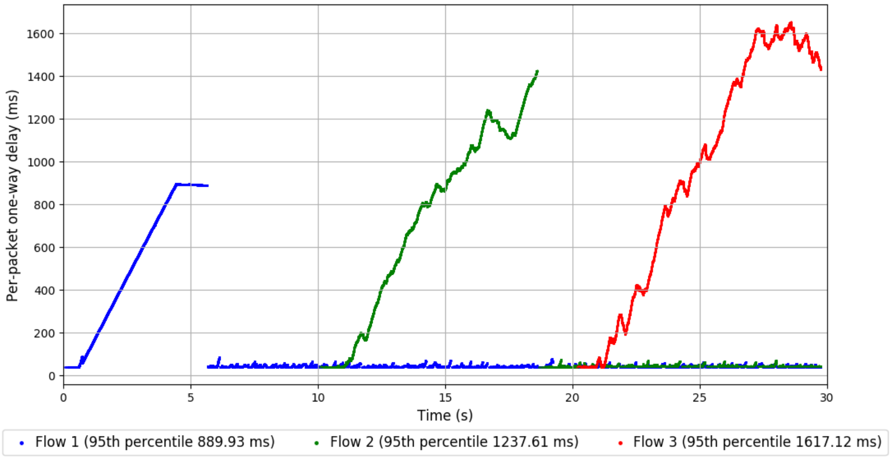




```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 17:31:05
End at: 2019-07-12 17:31:35
Local clock offset: 9.597 ms
Remote clock offset: -2.212 ms

# Below is generated by plot.py at 2019-07-12 19:07:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.65 Mbit/s
95th percentile per-packet one-way delay: 1483.869 ms
Loss rate: 3.33%
-- Flow 1:
Average throughput: 53.16 Mbit/s
95th percentile per-packet one-way delay: 889.929 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 35.62 Mbit/s
95th percentile per-packet one-way delay: 1237.610 ms
Loss rate: 2.39%
-- Flow 3:
Average throughput: 46.21 Mbit/s
95th percentile per-packet one-way delay: 1617.117 ms
Loss rate: 13.10%
```

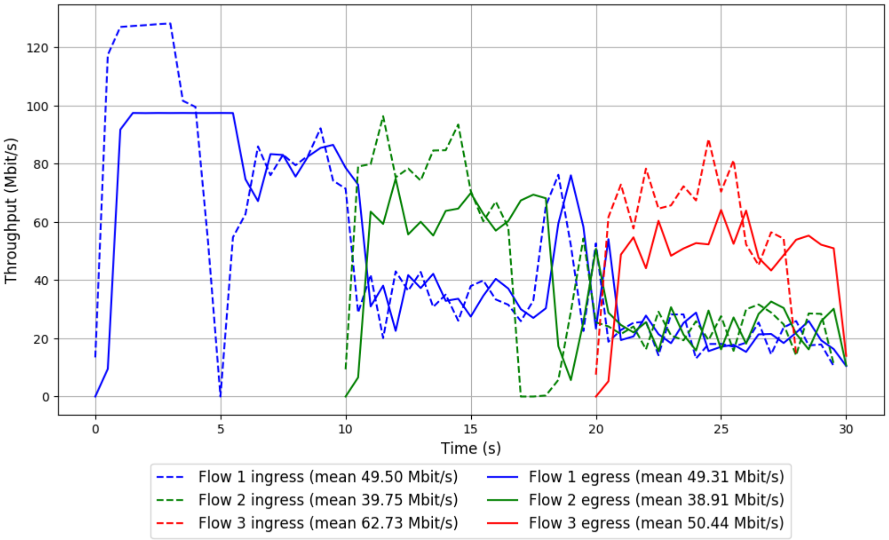
Run 3: Report of Muses_DecisionTree — Data Link

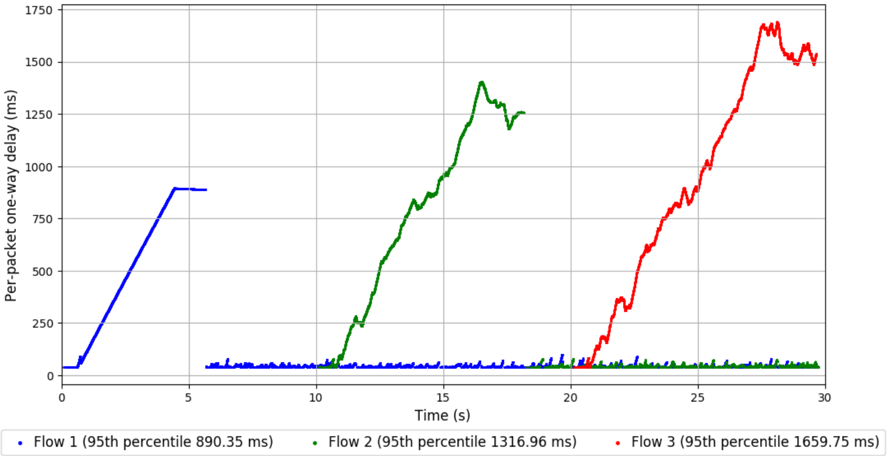




```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 18:10:15
End at: 2019-07-12 18:10:45
Local clock offset: 9.687 ms
Remote clock offset: -1.562 ms

# Below is generated by plot.py at 2019-07-12 19:07:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 1462.799 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 49.31 Mbit/s
95th percentile per-packet one-way delay: 890.347 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 38.91 Mbit/s
95th percentile per-packet one-way delay: 1316.958 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 50.44 Mbit/s
95th percentile per-packet one-way delay: 1659.747 ms
Loss rate: 4.64%
```

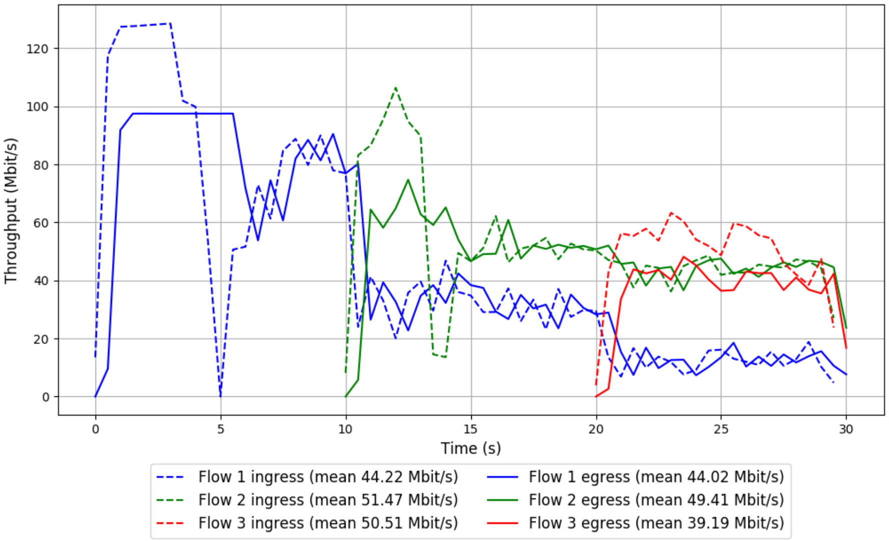
Run 4: Report of Muses_DecisionTree — Data Link

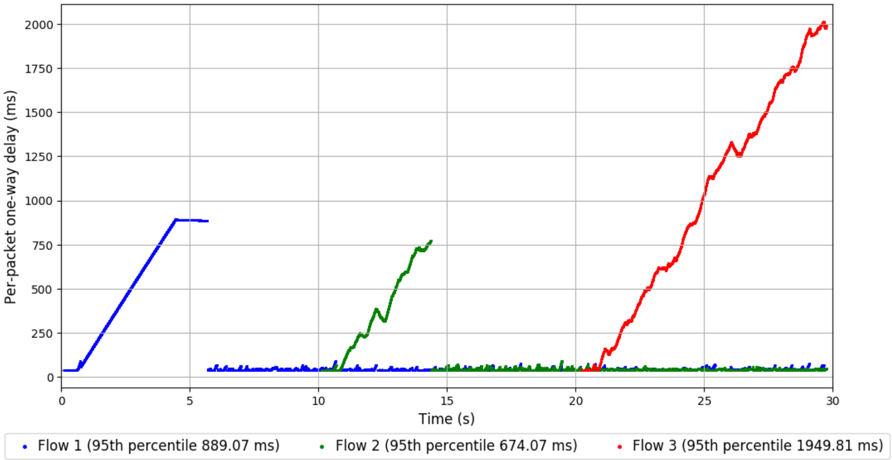




```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 18:44:15
End at: 2019-07-12 18:44:45
Local clock offset: 8.717 ms
Remote clock offset: -0.889 ms

# Below is generated by plot.py at 2019-07-12 19:08:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.33 Mbit/s
95th percentile per-packet one-way delay: 1301.165 ms
Loss rate: 5.84%
-- Flow 1:
Average throughput: 44.02 Mbit/s
95th percentile per-packet one-way delay: 889.074 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 674.065 ms
Loss rate: 4.33%
-- Flow 3:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 1949.813 ms
Loss rate: 22.96%
```

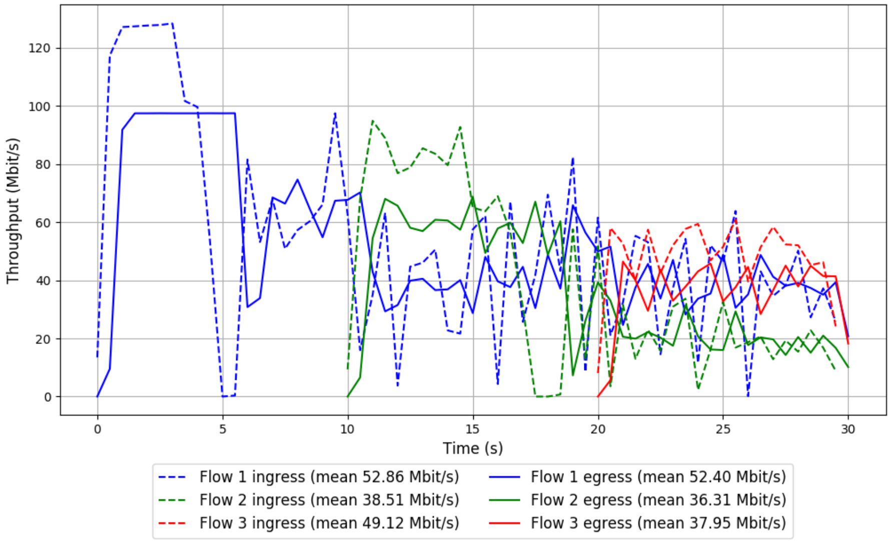
Run 5: Report of Muses_DecisionTree — Data Link

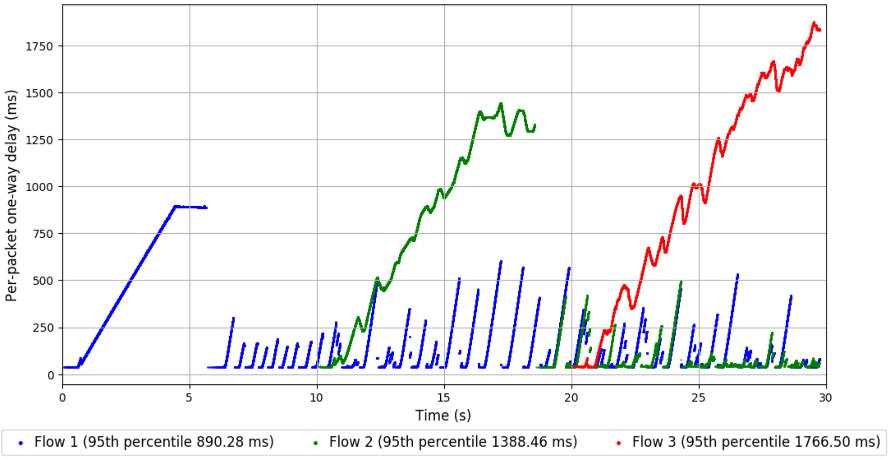




```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 15:59:13
End at: 2019-07-12 15:59:43
Local clock offset: 0.909 ms
Remote clock offset: -6.15 ms

# Below is generated by plot.py at 2019-07-12 19:08:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.78 Mbit/s
95th percentile per-packet one-way delay: 1416.119 ms
Loss rate: 6.20%
-- Flow 1:
Average throughput: 52.40 Mbit/s
95th percentile per-packet one-way delay: 890.281 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 1388.457 ms
Loss rate: 6.07%
-- Flow 3:
Average throughput: 37.95 Mbit/s
95th percentile per-packet one-way delay: 1766.501 ms
Loss rate: 23.26%
```

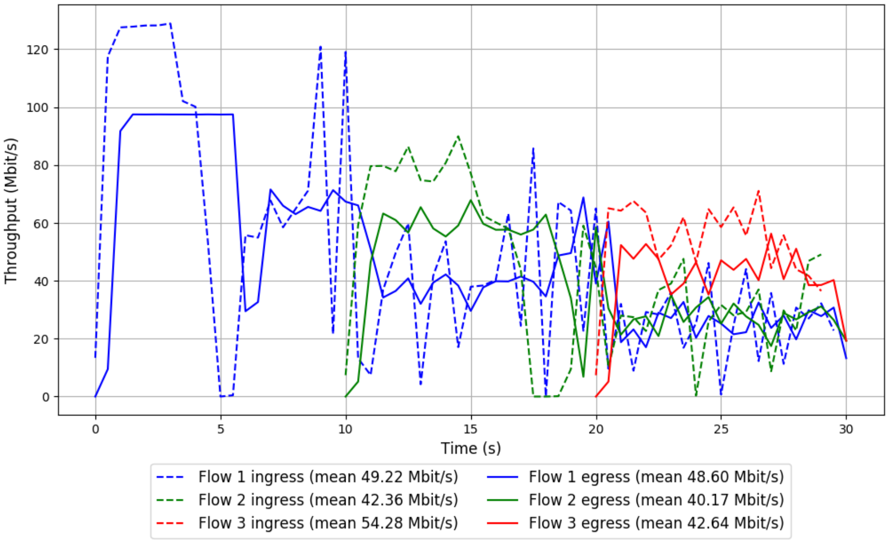
Run 1: Report of Muses_DecisionTreeH0 — Data Link

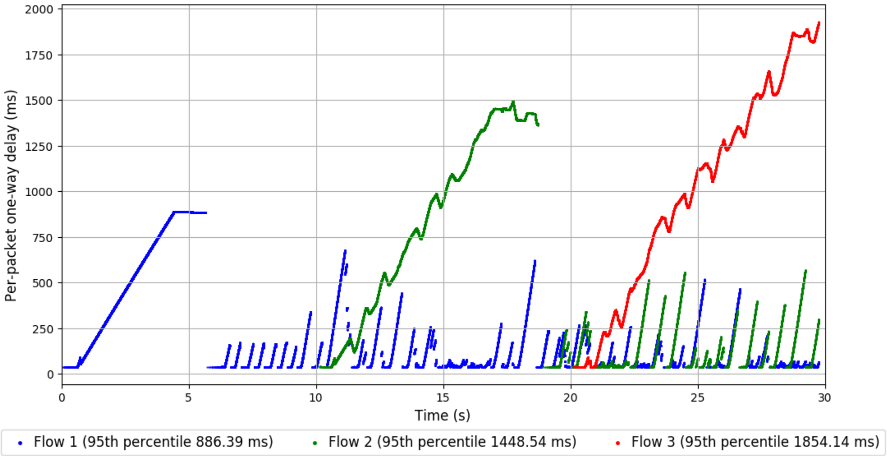




```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 16:32:14
End at: 2019-07-12 16:32:44
Local clock offset: -2.926 ms
Remote clock offset: -4.215 ms

# Below is generated by plot.py at 2019-07-12 19:08:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.04 Mbit/s
95th percentile per-packet one-way delay: 1453.415 ms
Loss rate: 5.26%
-- Flow 1:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 886.391 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 1448.540 ms
Loss rate: 4.01%
-- Flow 3:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 1854.145 ms
Loss rate: 18.64%
```

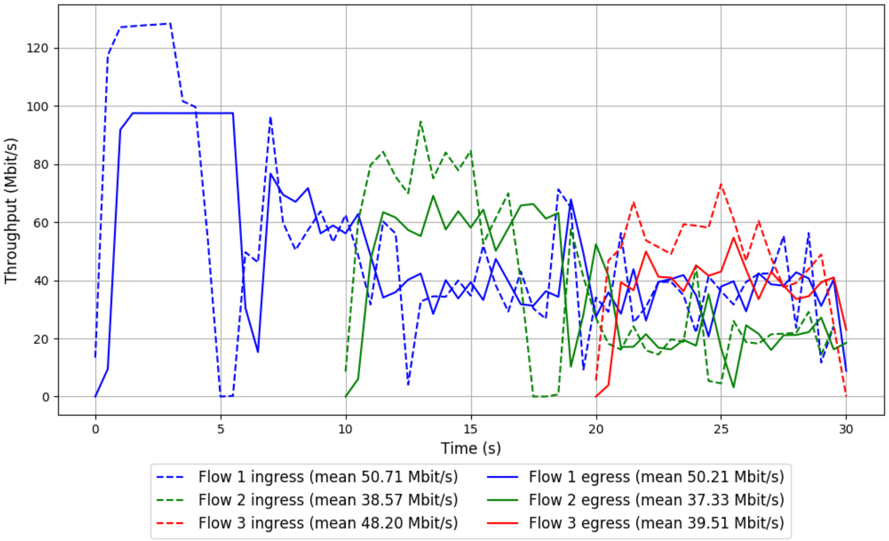
Run 2: Report of Muses_DecisionTreeH0 — Data Link

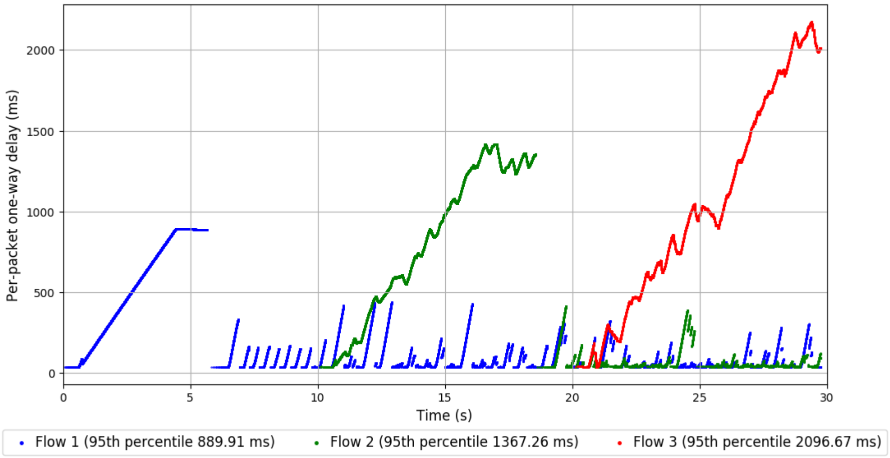




```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 17:09:46
End at: 2019-07-12 17:10:16
Local clock offset: 2.68 ms
Remote clock offset: -2.934 ms

# Below is generated by plot.py at 2019-07-12 19:08:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.73 Mbit/s
95th percentile per-packet one-way delay: 1395.037 ms
Loss rate: 5.62%
-- Flow 1:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 889.912 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 37.33 Mbit/s
95th percentile per-packet one-way delay: 1367.263 ms
Loss rate: 3.47%
-- Flow 3:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 2096.669 ms
Loss rate: 22.55%
```

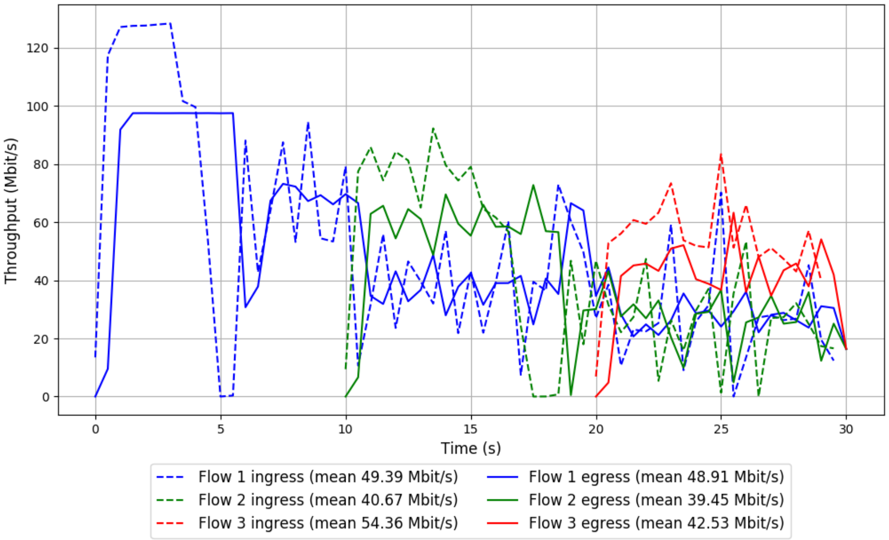
Run 3: Report of Muses_DecisionTreeH0 — Data Link

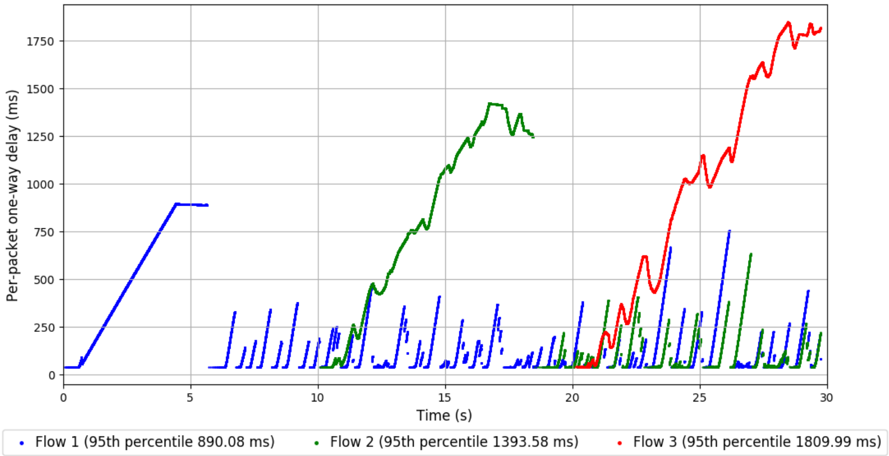




```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 17:48:30
End at: 2019-07-12 17:49:00
Local clock offset: 10.303 ms
Remote clock offset: -1.925 ms

# Below is generated by plot.py at 2019-07-12 19:08:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.85 Mbit/s
95th percentile per-packet one-way delay: 1419.073 ms
Loss rate: 4.83%
-- Flow 1:
Average throughput: 48.91 Mbit/s
95th percentile per-packet one-way delay: 890.079 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 1393.581 ms
Loss rate: 2.95%
-- Flow 3:
Average throughput: 42.53 Mbit/s
95th percentile per-packet one-way delay: 1809.994 ms
Loss rate: 19.23%
```

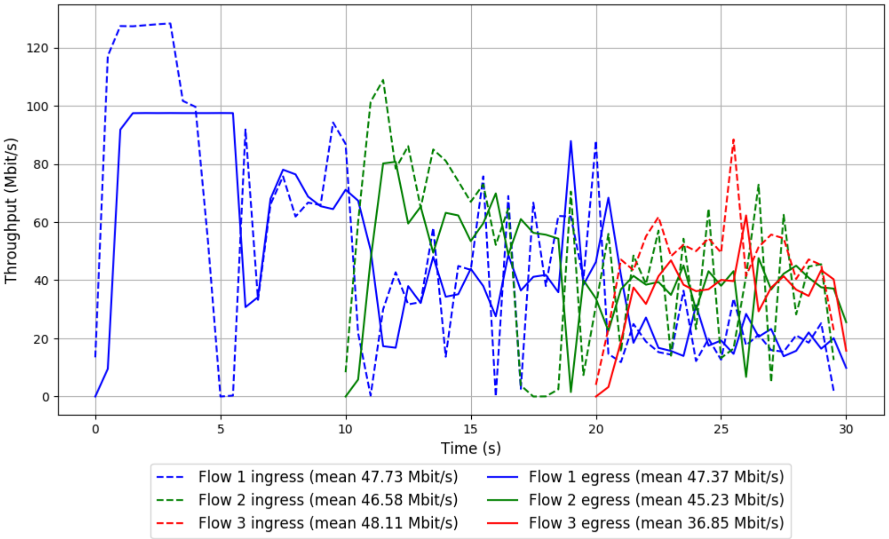
Run 4: Report of Muses_DecisionTreeH0 — Data Link

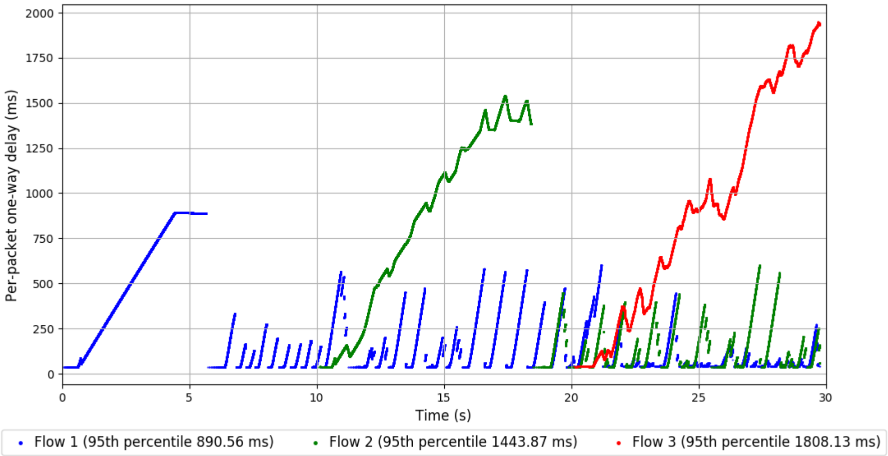




```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 18:23:07
End at: 2019-07-12 18:23:37
Local clock offset: 9.901 ms
Remote clock offset: -1.13 ms

# Below is generated by plot.py at 2019-07-12 19:08:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 1461.519 ms
Loss rate: 5.41%
-- Flow 1:
Average throughput: 47.37 Mbit/s
95th percentile per-packet one-way delay: 890.560 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 45.23 Mbit/s
95th percentile per-packet one-way delay: 1443.869 ms
Loss rate: 2.96%
-- Flow 3:
Average throughput: 36.85 Mbit/s
95th percentile per-packet one-way delay: 1808.128 ms
Loss rate: 23.91%
```

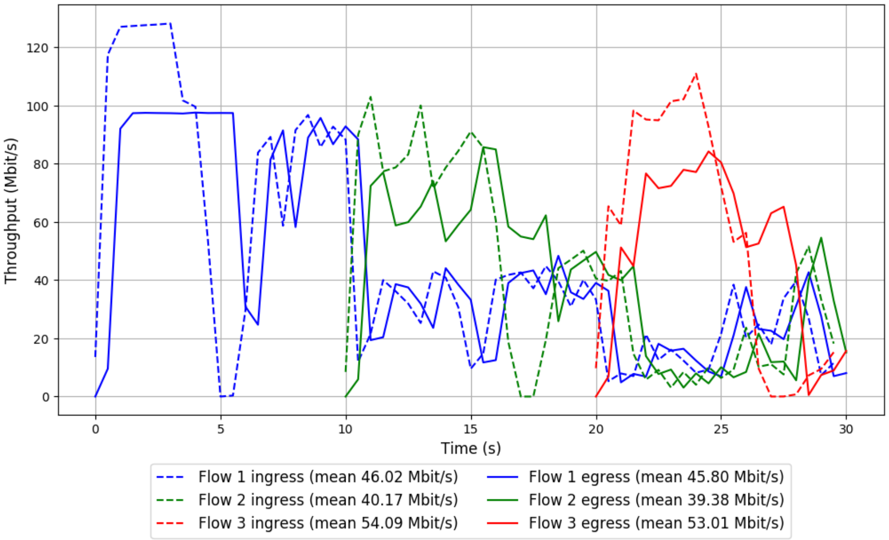
Run 5: Report of Muses_DecisionTreeH0 — Data Link

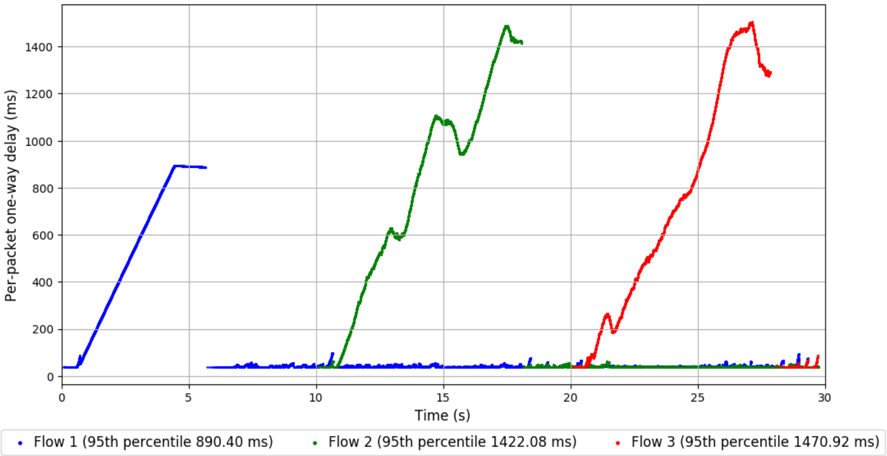




```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 16:29:29
End at: 2019-07-12 16:29:59
Local clock offset: -2.871 ms
Remote clock offset: -4.502 ms

# Below is generated by plot.py at 2019-07-12 19:09:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.08 Mbit/s
95th percentile per-packet one-way delay: 1377.371 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 890.402 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 1422.078 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 53.01 Mbit/s
95th percentile per-packet one-way delay: 1470.923 ms
Loss rate: 2.91%
```

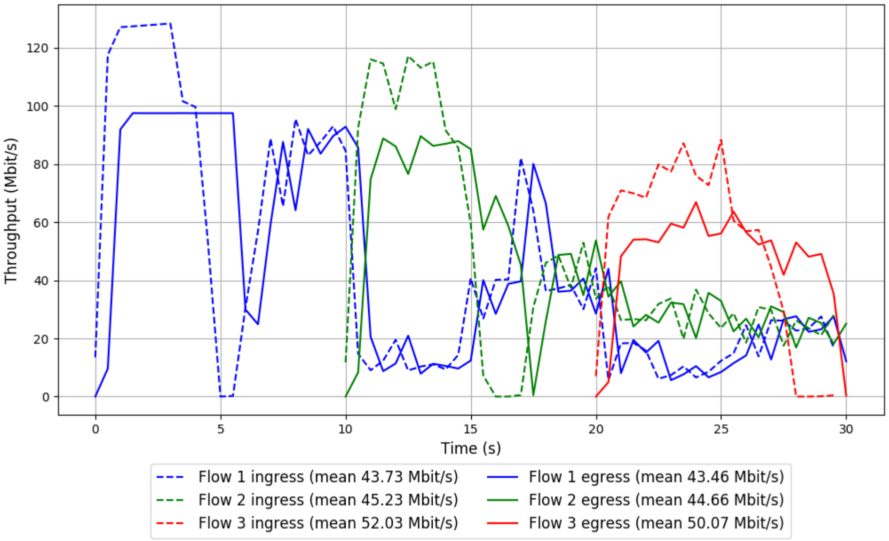
Run 1: Report of Muses_DecisionTreeR0 — Data Link

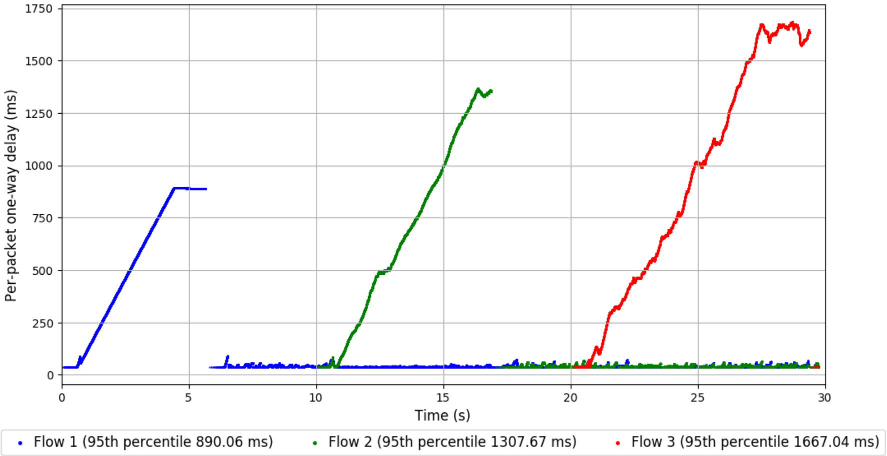




```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 17:07:00
End at: 2019-07-12 17:07:30
Local clock offset: 0.444 ms
Remote clock offset: -2.89 ms

# Below is generated by plot.py at 2019-07-12 19:09:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 1378.414 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 43.46 Mbit/s
95th percentile per-packet one-way delay: 890.059 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 44.66 Mbit/s
95th percentile per-packet one-way delay: 1307.671 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 50.07 Mbit/s
95th percentile per-packet one-way delay: 1667.044 ms
Loss rate: 4.42%
```

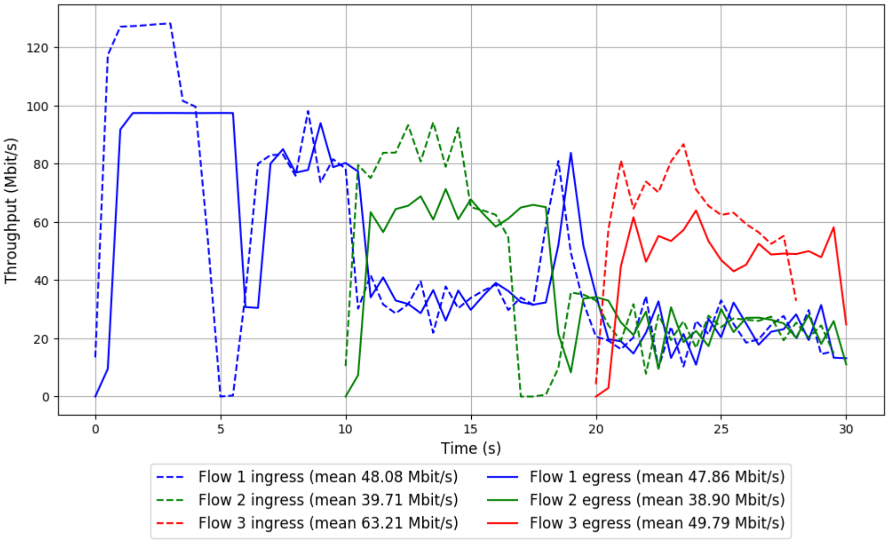
Run 2: Report of Muses_DecisionTreeR0 — Data Link

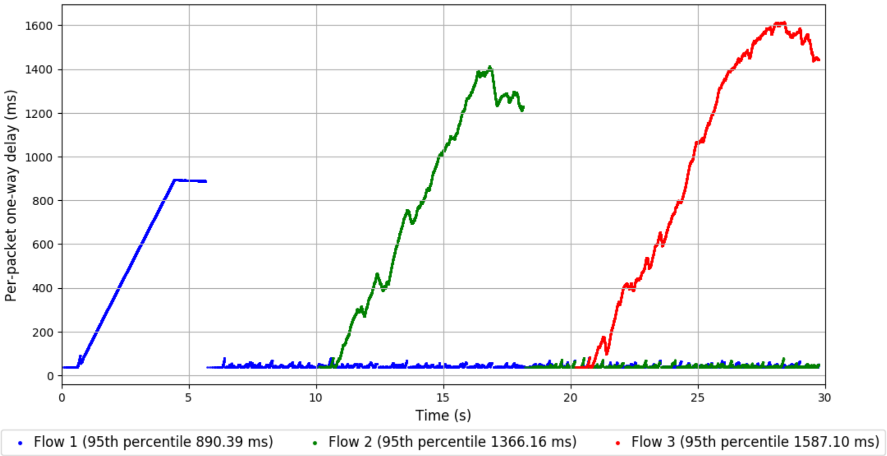




```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 17:45:09
End at: 2019-07-12 17:45:39
Local clock offset: 10.005 ms
Remote clock offset: -1.979 ms

# Below is generated by plot.py at 2019-07-12 19:09:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 1465.977 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 47.86 Mbit/s
95th percentile per-packet one-way delay: 890.386 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 38.90 Mbit/s
95th percentile per-packet one-way delay: 1366.165 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 49.79 Mbit/s
95th percentile per-packet one-way delay: 1587.101 ms
Loss rate: 8.01%
```

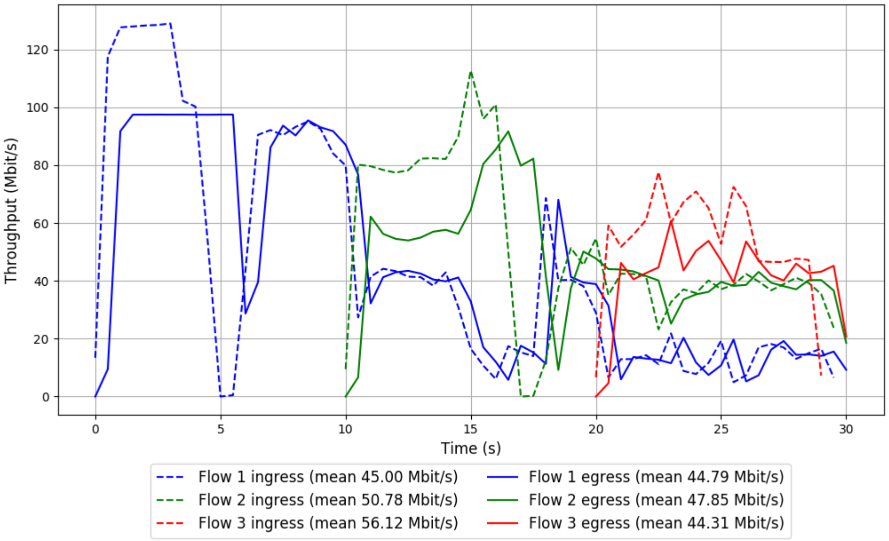
Run 3: Report of Muses_DecisionTreeR0 — Data Link

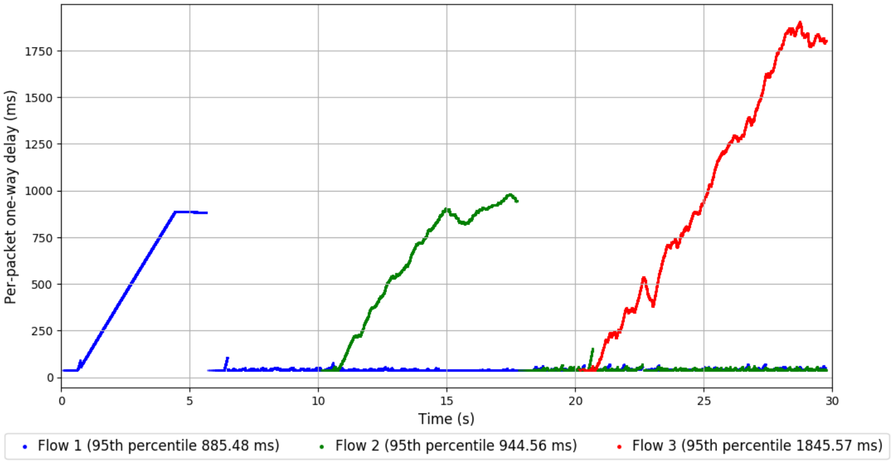




```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 18:20:18
End at: 2019-07-12 18:20:48
Local clock offset: 9.773 ms
Remote clock offset: -1.127 ms

# Below is generated by plot.py at 2019-07-12 19:09:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.80 Mbit/s
95th percentile per-packet one-way delay: 1335.703 ms
Loss rate: 5.23%
-- Flow 1:
Average throughput: 44.79 Mbit/s
95th percentile per-packet one-way delay: 885.480 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 47.85 Mbit/s
95th percentile per-packet one-way delay: 944.556 ms
Loss rate: 6.08%
-- Flow 3:
Average throughput: 44.31 Mbit/s
95th percentile per-packet one-way delay: 1845.574 ms
Loss rate: 15.31%
```

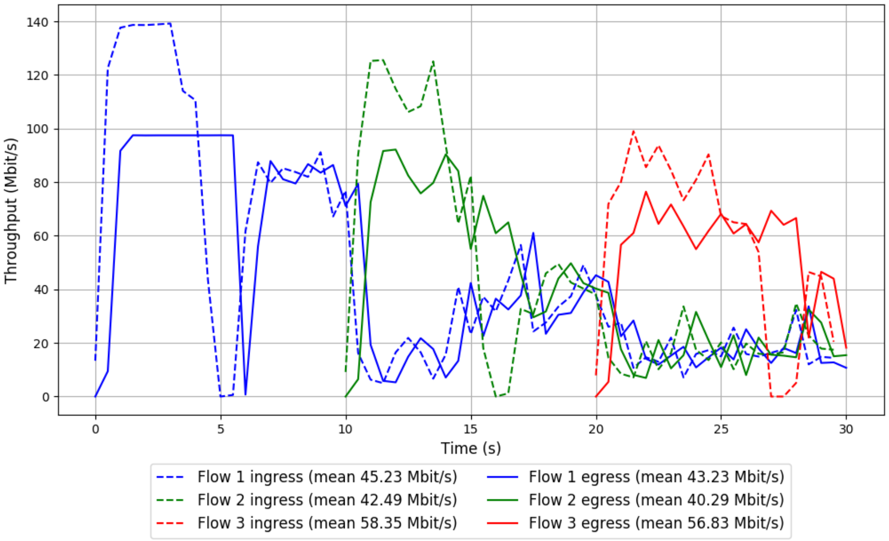
Run 4: Report of Muses_DecisionTreeR0 — Data Link

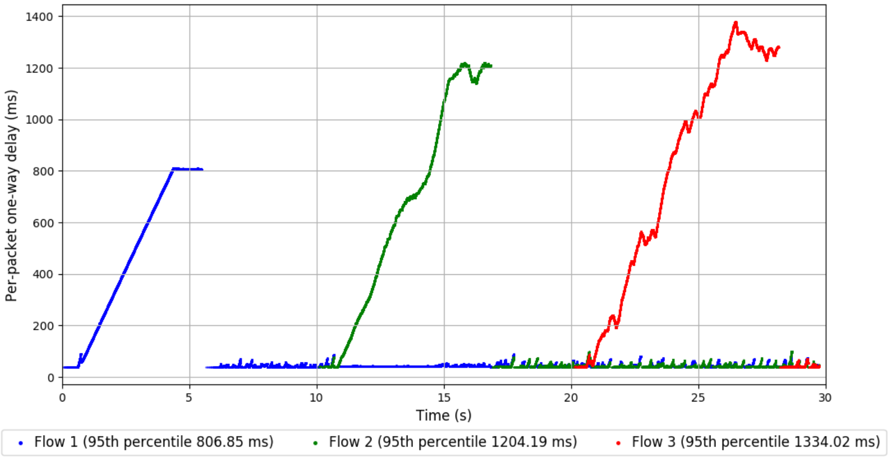




```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 18:54:50
End at: 2019-07-12 18:55:20
Local clock offset: 8.741 ms
Remote clock offset: -0.989 ms

# Below is generated by plot.py at 2019-07-12 19:09:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 1249.324 ms
Loss rate: 4.60%
-- Flow 1:
Average throughput: 43.23 Mbit/s
95th percentile per-packet one-way delay: 806.853 ms
Loss rate: 4.62%
-- Flow 2:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 1204.188 ms
Loss rate: 5.48%
-- Flow 3:
Average throughput: 56.83 Mbit/s
95th percentile per-packet one-way delay: 1334.017 ms
Loss rate: 3.26%
```

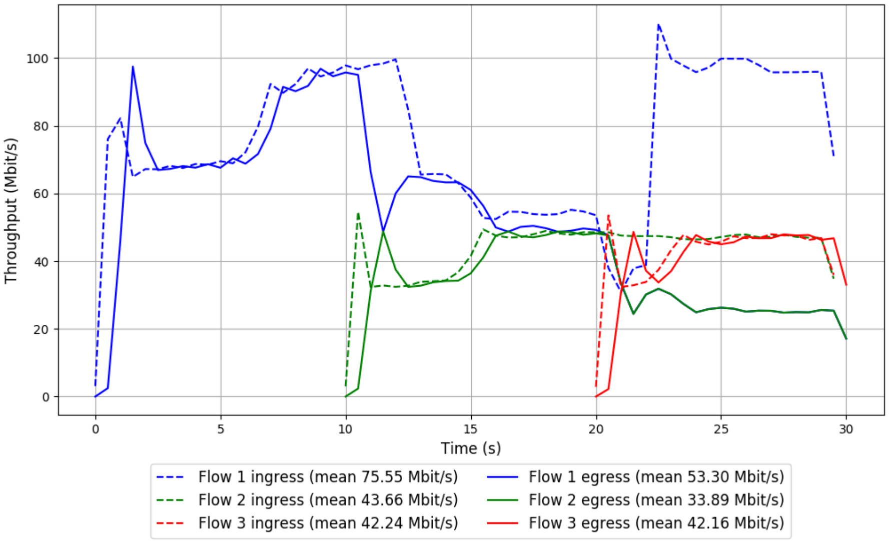
Run 5: Report of Muses_DecisionTreeR0 — Data Link

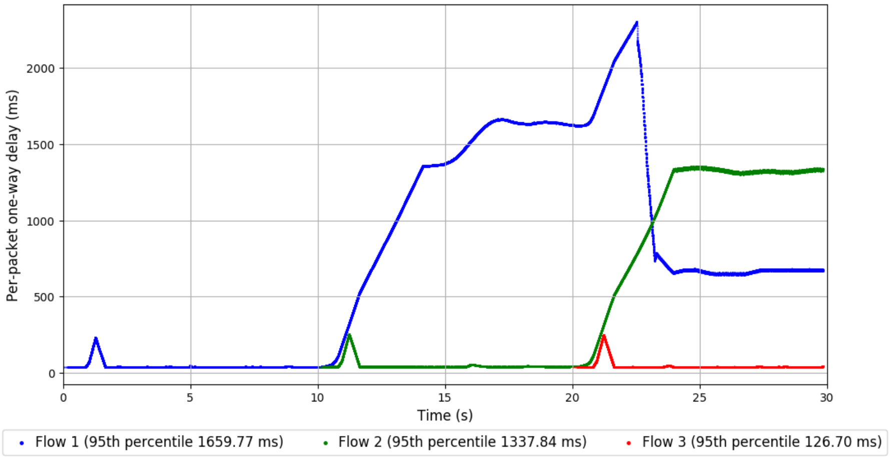




```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-12 16:04:24
End at: 2019-07-12 16:04:54
Local clock offset: -0.701 ms
Remote clock offset: -5.945 ms

# Below is generated by plot.py at 2019-07-12 19:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.68 Mbit/s
95th percentile per-packet one-way delay: 1644.286 ms
Loss rate: 24.50%
-- Flow 1:
Average throughput: 53.30 Mbit/s
95th percentile per-packet one-way delay: 1659.768 ms
Loss rate: 29.60%
-- Flow 2:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 1337.836 ms
Loss rate: 22.62%
-- Flow 3:
Average throughput: 42.16 Mbit/s
95th percentile per-packet one-way delay: 126.704 ms
Loss rate: 0.85%
```

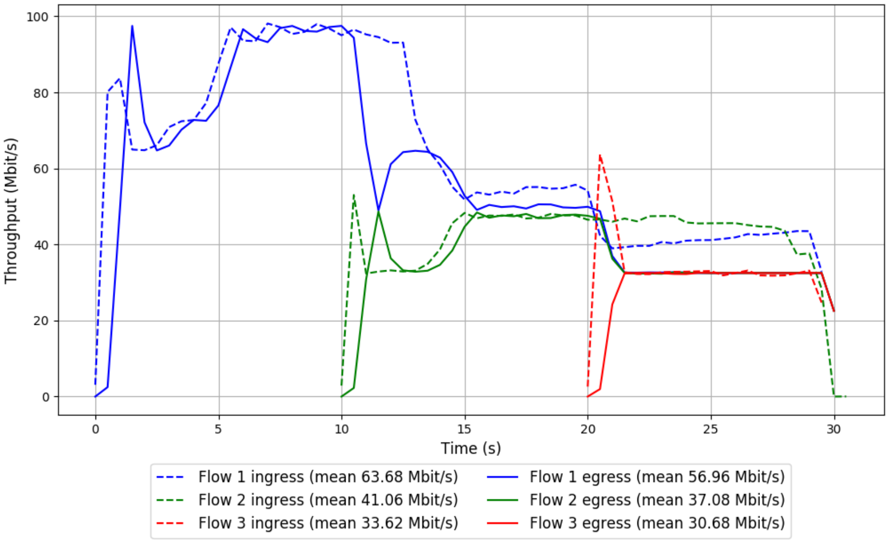
Run 1: Report of PCC-Allegro — Data Link

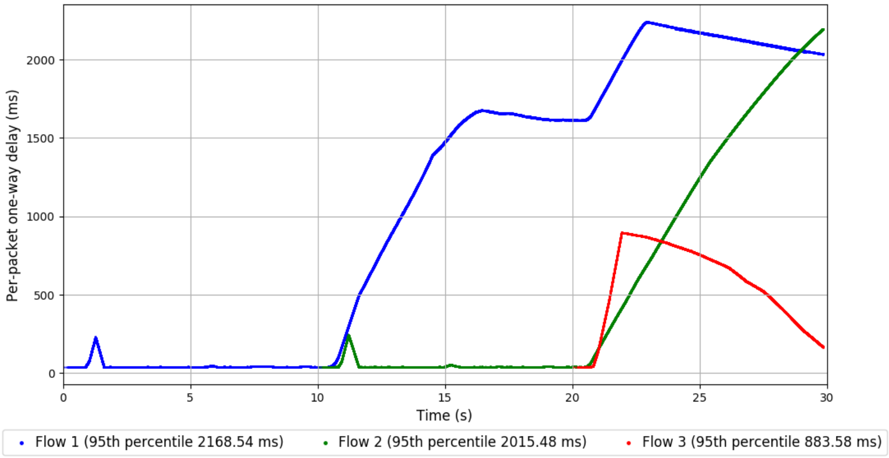




```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-12 16:37:45
End at: 2019-07-12 16:38:15
Local clock offset: -3.039 ms
Remote clock offset: -4.045 ms

# Below is generated by plot.py at 2019-07-12 19:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.67 Mbit/s
95th percentile per-packet one-way delay: 2137.085 ms
Loss rate: 11.37%
-- Flow 1:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 2168.539 ms
Loss rate: 10.74%
-- Flow 2:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 2015.482 ms
Loss rate: 13.56%
-- Flow 3:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 883.583 ms
Loss rate: 9.33%
```

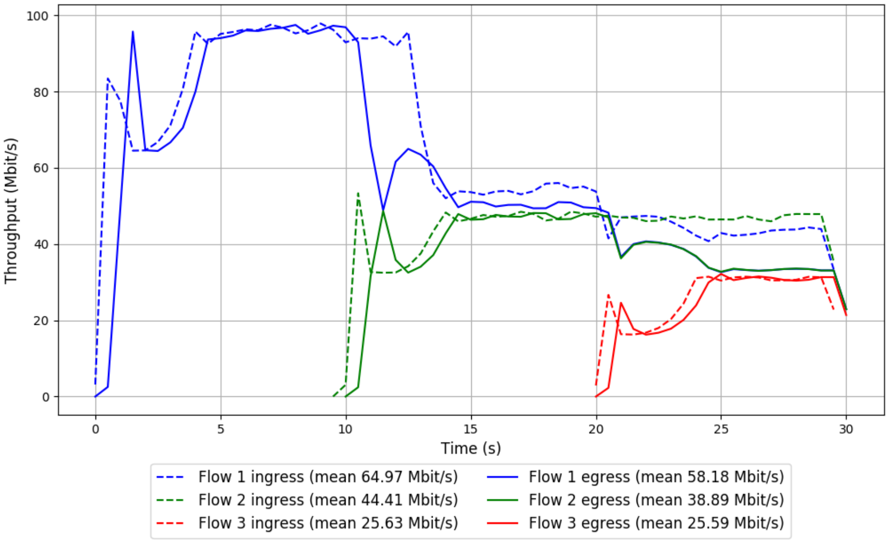
Run 2: Report of PCC-Allegro — Data Link

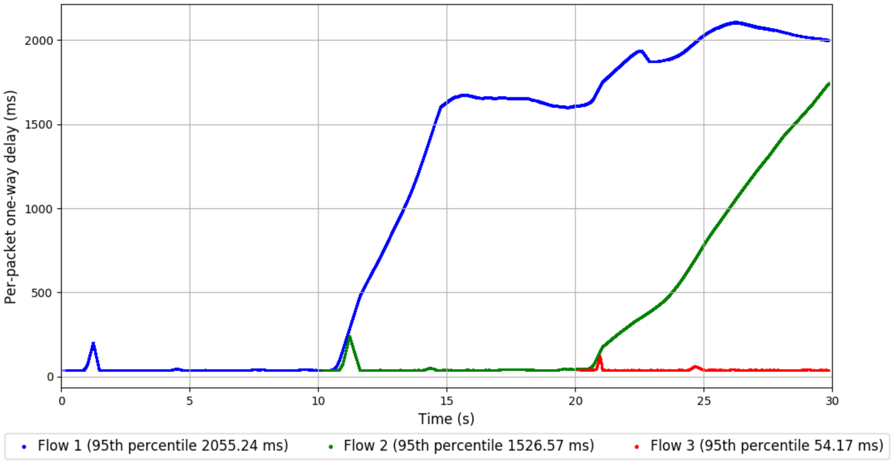




```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-12 17:14:56
End at: 2019-07-12 17:15:26
Local clock offset: 5.602 ms
Remote clock offset: -2.834 ms

# Below is generated by plot.py at 2019-07-12 19:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 2016.405 ms
Loss rate: 10.42%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 2055.235 ms
Loss rate: 10.64%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 1526.570 ms
Loss rate: 12.69%
-- Flow 3:
Average throughput: 25.59 Mbit/s
95th percentile per-packet one-way delay: 54.175 ms
Loss rate: 0.82%
```

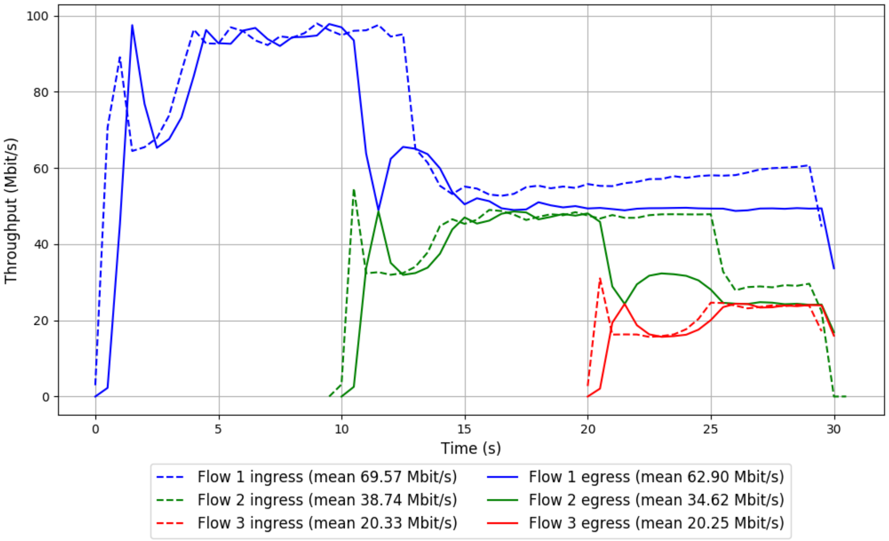
Run 3: Report of PCC-Allegro — Data Link

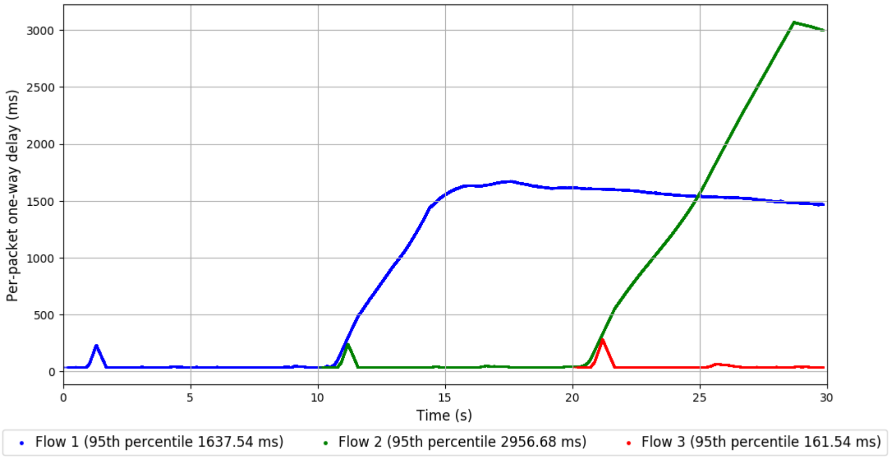




```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-12 17:54:20
End at: 2019-07-12 17:54:50
Local clock offset: 10.939 ms
Remote clock offset: -1.737 ms

# Below is generated by plot.py at 2019-07-12 19:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.56 Mbit/s
95th percentile per-packet one-way delay: 1666.646 ms
Loss rate: 10.45%
-- Flow 1:
Average throughput: 62.90 Mbit/s
95th percentile per-packet one-way delay: 1637.544 ms
Loss rate: 9.77%
-- Flow 2:
Average throughput: 34.62 Mbit/s
95th percentile per-packet one-way delay: 2956.678 ms
Loss rate: 14.54%
-- Flow 3:
Average throughput: 20.25 Mbit/s
95th percentile per-packet one-way delay: 161.544 ms
Loss rate: 1.08%
```

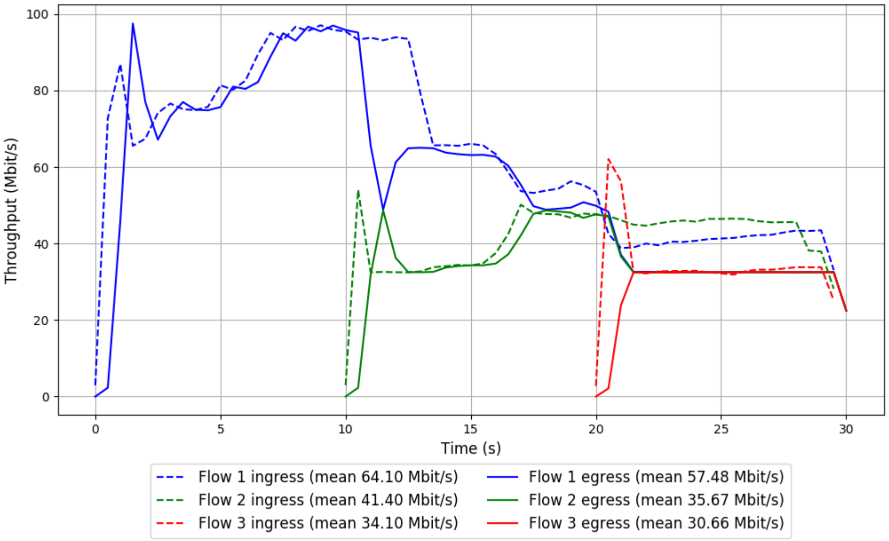
Run 4: Report of PCC-Allegro — Data Link

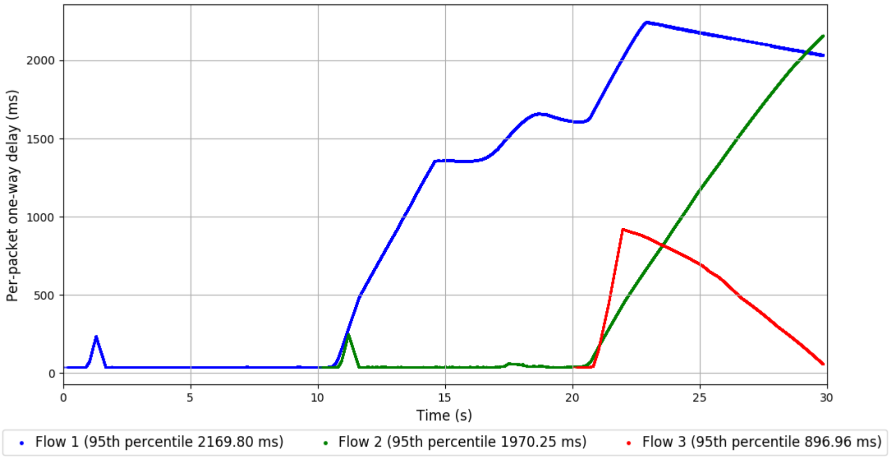




```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-12 18:28:42
End at: 2019-07-12 18:29:12
Local clock offset: 10.178 ms
Remote clock offset: -0.926 ms

# Below is generated by plot.py at 2019-07-12 19:10:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 2133.226 ms
Loss rate: 11.50%
-- Flow 1:
Average throughput: 57.48 Mbit/s
95th percentile per-packet one-way delay: 2169.795 ms
Loss rate: 10.51%
-- Flow 2:
Average throughput: 35.67 Mbit/s
95th percentile per-packet one-way delay: 1970.251 ms
Loss rate: 14.12%
-- Flow 3:
Average throughput: 30.66 Mbit/s
95th percentile per-packet one-way delay: 896.963 ms
Loss rate: 10.69%
```

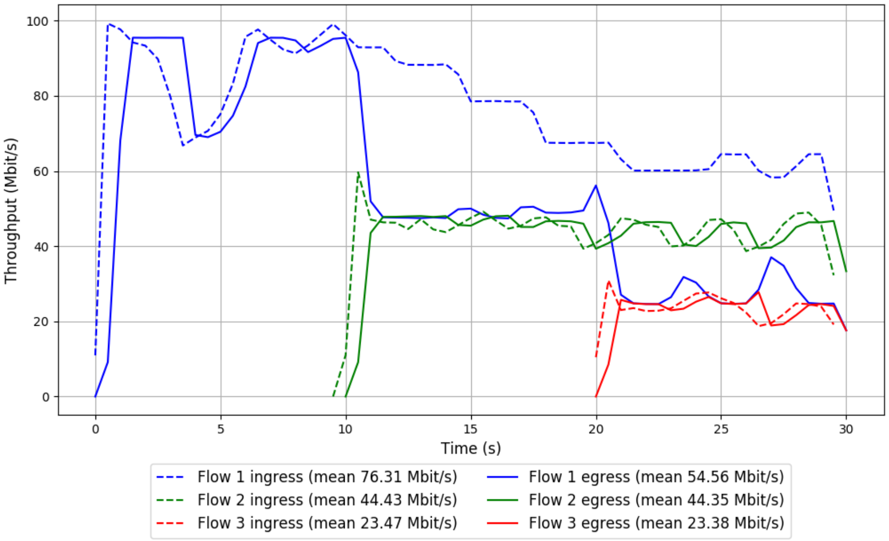
Run 5: Report of PCC-Allegro — Data Link

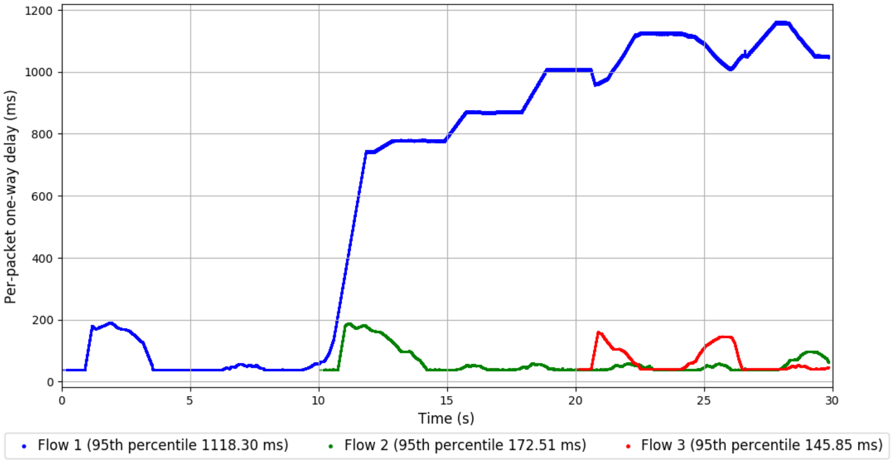




```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-12 16:09:45
End at: 2019-07-12 16:10:15
Local clock offset: -1.645 ms
Remote clock offset: -5.576 ms

# Below is generated by plot.py at 2019-07-12 19:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.73 Mbit/s
95th percentile per-packet one-way delay: 1071.735 ms
Loss rate: 19.44%
-- Flow 1:
Average throughput: 54.56 Mbit/s
95th percentile per-packet one-way delay: 1118.301 ms
Loss rate: 28.65%
-- Flow 2:
Average throughput: 44.35 Mbit/s
95th percentile per-packet one-way delay: 172.506 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 23.38 Mbit/s
95th percentile per-packet one-way delay: 145.855 ms
Loss rate: 1.04%
```

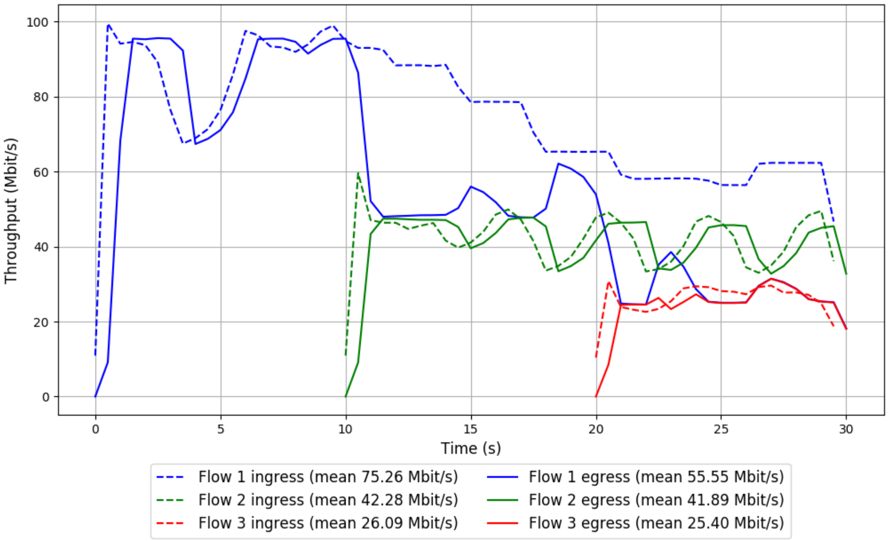
Run 1: Report of PCC-Expr — Data Link

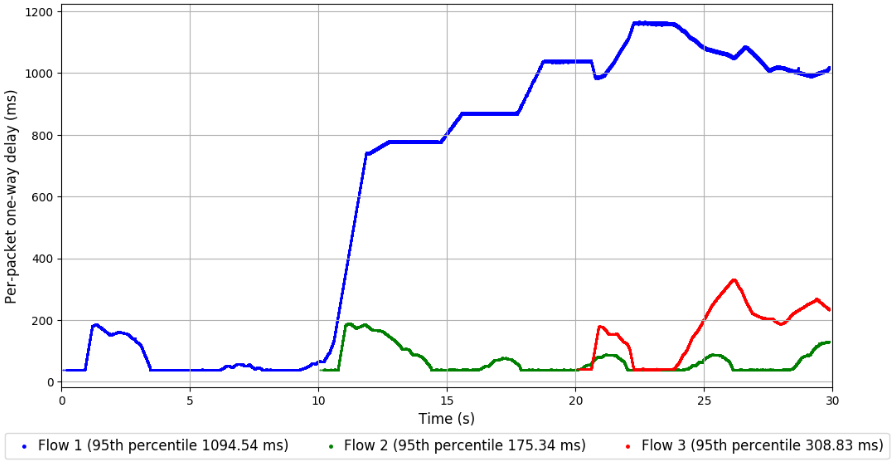




```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-12 16:43:37
End at: 2019-07-12 16:44:07
Local clock offset: -3.18 ms
Remote clock offset: -3.645 ms

# Below is generated by plot.py at 2019-07-12 19:11:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.74 Mbit/s
95th percentile per-packet one-way delay: 1055.411 ms
Loss rate: 18.27%
-- Flow 1:
Average throughput: 55.55 Mbit/s
95th percentile per-packet one-way delay: 1094.539 ms
Loss rate: 26.35%
-- Flow 2:
Average throughput: 41.89 Mbit/s
95th percentile per-packet one-way delay: 175.344 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 25.40 Mbit/s
95th percentile per-packet one-way delay: 308.832 ms
Loss rate: 3.25%
```

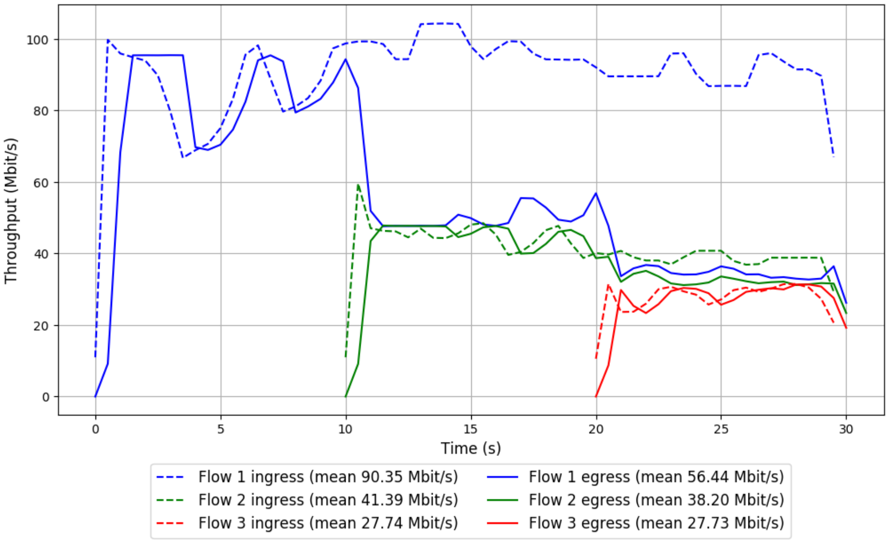
Run 2: Report of PCC-Expr — Data Link

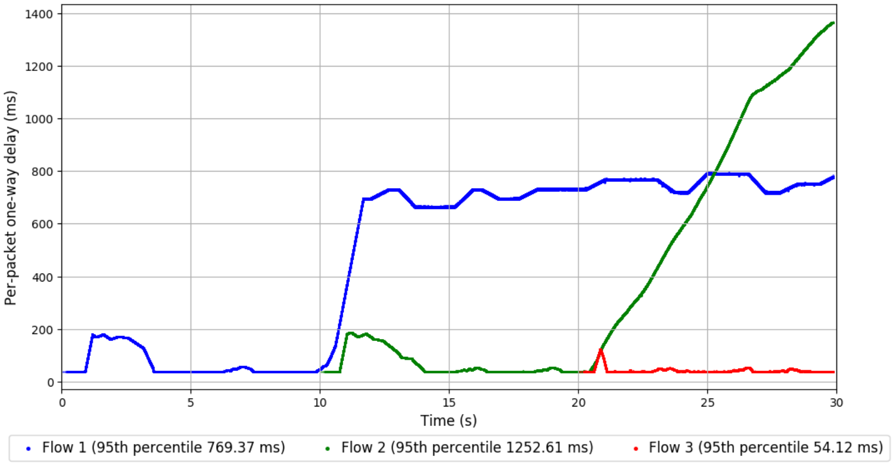




```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-12 17:20:23
End at: 2019-07-12 17:20:53
Local clock offset: 7.646 ms
Remote clock offset: -2.582 ms

# Below is generated by plot.py at 2019-07-12 19:11:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 862.499 ms
Loss rate: 28.56%
-- Flow 1:
Average throughput: 56.44 Mbit/s
95th percentile per-packet one-way delay: 769.372 ms
Loss rate: 37.65%
-- Flow 2:
Average throughput: 38.20 Mbit/s
95th percentile per-packet one-way delay: 1252.605 ms
Loss rate: 8.00%
-- Flow 3:
Average throughput: 27.73 Mbit/s
95th percentile per-packet one-way delay: 54.125 ms
Loss rate: 0.68%
```

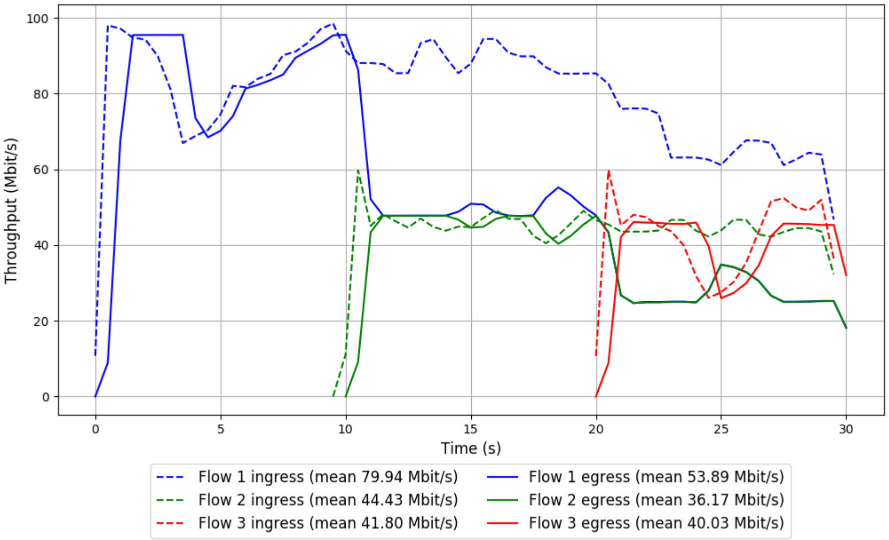
Run 3: Report of PCC-Expr — Data Link

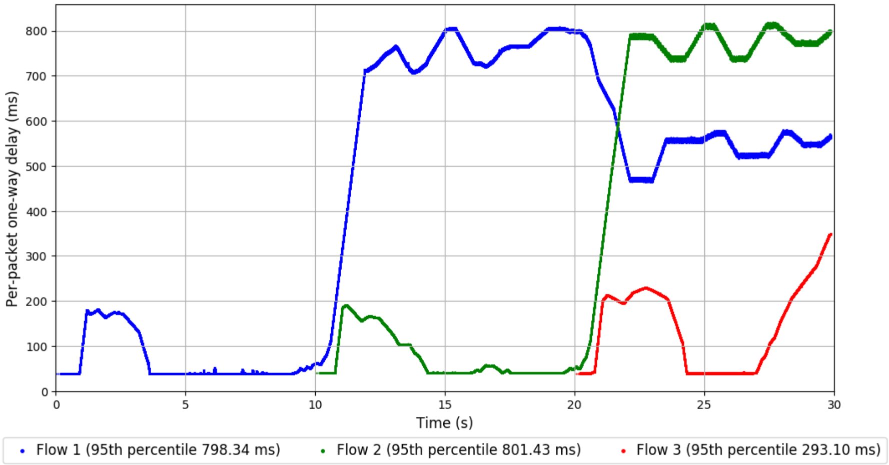




```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-12 17:59:46
End at: 2019-07-12 18:00:16
Local clock offset: 11.177 ms
Remote clock offset: -1.67 ms

# Below is generated by plot.py at 2019-07-12 19:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 796.270 ms
Loss rate: 26.28%
-- Flow 1:
Average throughput: 53.89 Mbit/s
95th percentile per-packet one-way delay: 798.338 ms
Loss rate: 32.73%
-- Flow 2:
Average throughput: 36.17 Mbit/s
95th percentile per-packet one-way delay: 801.430 ms
Loss rate: 18.85%
-- Flow 3:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 293.095 ms
Loss rate: 4.85%
```

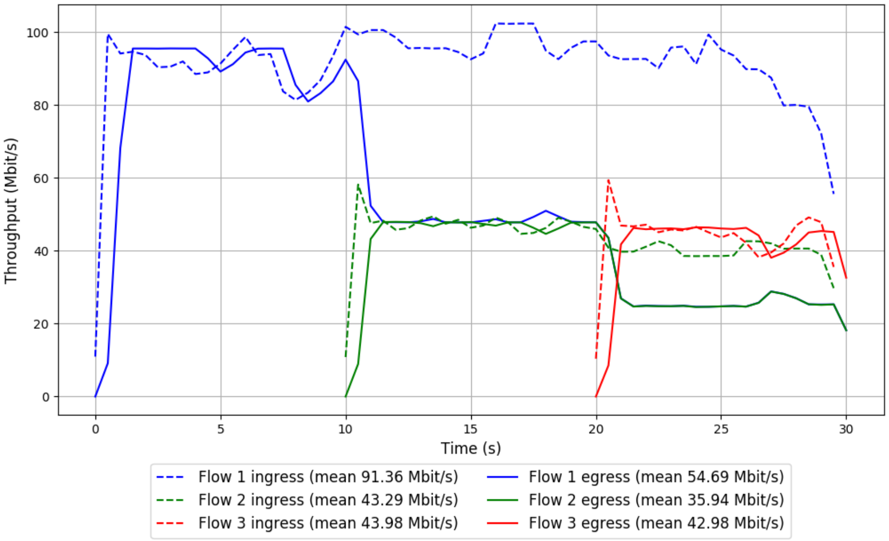
Run 4: Report of PCC-Expr — Data Link

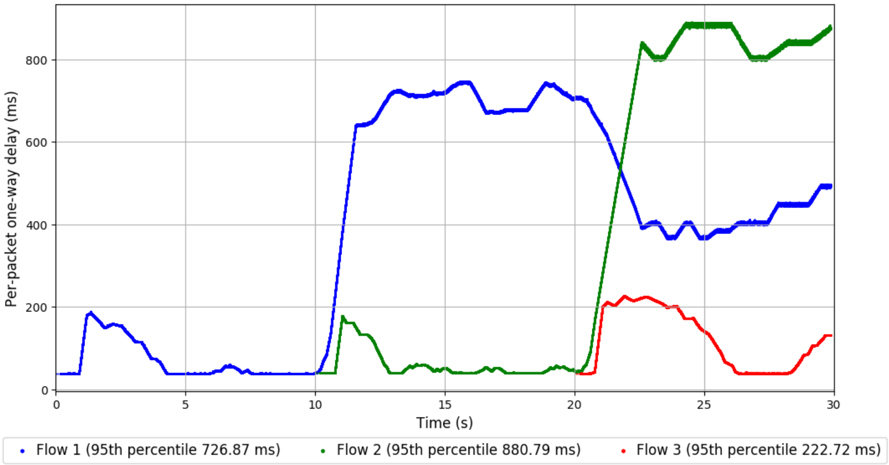




```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-12 18:34:05
End at: 2019-07-12 18:34:35
Local clock offset: 9.268 ms
Remote clock offset: -0.949 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.72 Mbit/s
95th percentile per-packet one-way delay: 817.512 ms
Loss rate: 31.31%
-- Flow 1:
Average throughput: 54.69 Mbit/s
95th percentile per-packet one-way delay: 726.868 ms
Loss rate: 40.26%
-- Flow 2:
Average throughput: 35.94 Mbit/s
95th percentile per-packet one-way delay: 880.793 ms
Loss rate: 17.24%
-- Flow 3:
Average throughput: 42.98 Mbit/s
95th percentile per-packet one-way delay: 222.719 ms
Loss rate: 2.89%
```

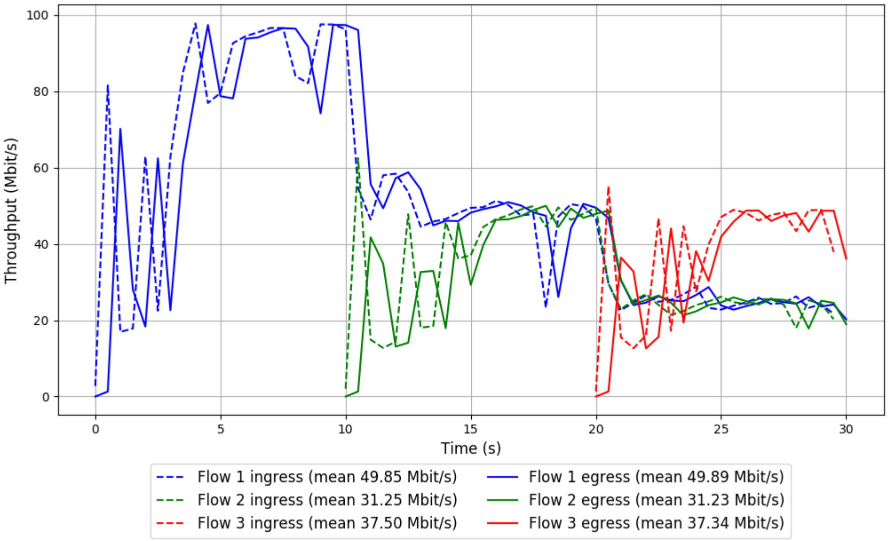
Run 5: Report of PCC-Expr — Data Link

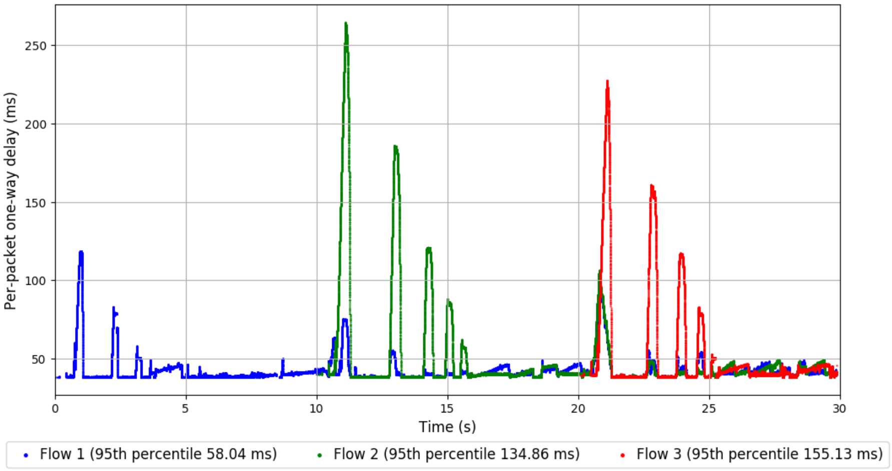




```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-12 16:15:33
End at: 2019-07-12 16:16:03
Local clock offset: -2.279 ms
Remote clock offset: -5.427 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.92 Mbit/s
95th percentile per-packet one-way delay: 90.607 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 49.89 Mbit/s
95th percentile per-packet one-way delay: 58.042 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 31.23 Mbit/s
95th percentile per-packet one-way delay: 134.856 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 37.34 Mbit/s
95th percentile per-packet one-way delay: 155.129 ms
Loss rate: 1.02%
```

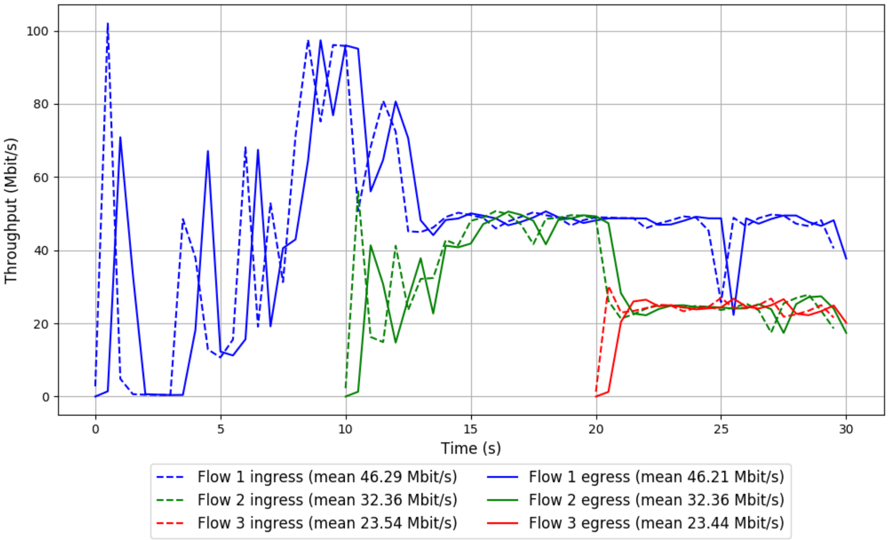
Run 1: Report of QUIC Cubic — Data Link

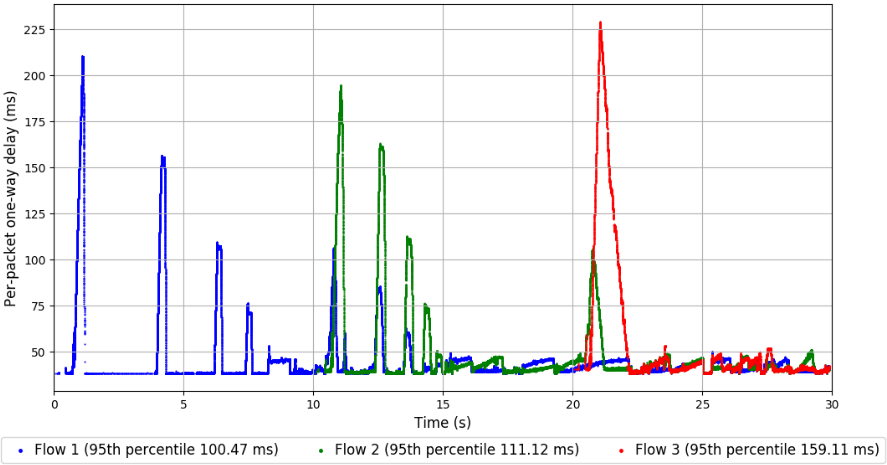




```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-12 16:51:15
End at: 2019-07-12 16:51:45
Local clock offset: -3.317 ms
Remote clock offset: -3.499 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.43 Mbit/s
95th percentile per-packet one-way delay: 107.184 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 46.21 Mbit/s
95th percentile per-packet one-way delay: 100.475 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 111.123 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 23.44 Mbit/s
95th percentile per-packet one-way delay: 159.107 ms
Loss rate: 1.06%
```

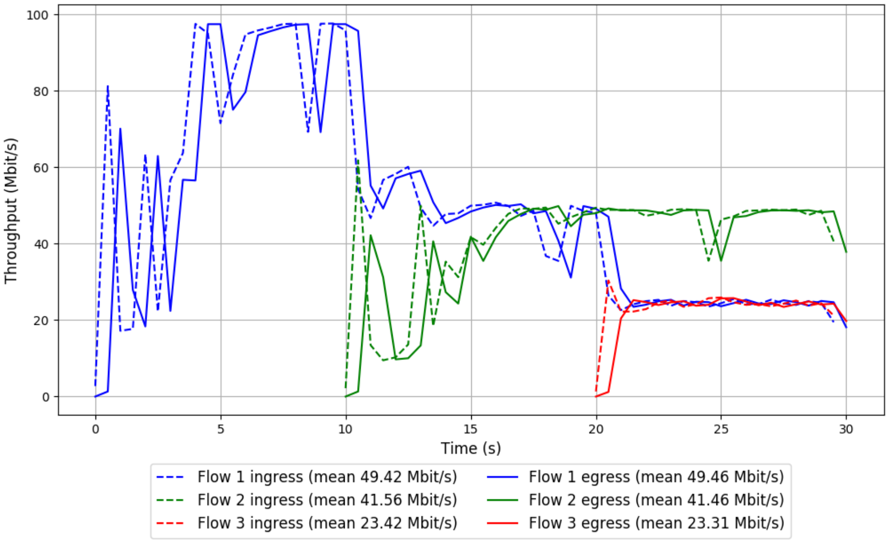
Run 2: Report of QUIC Cubic — Data Link

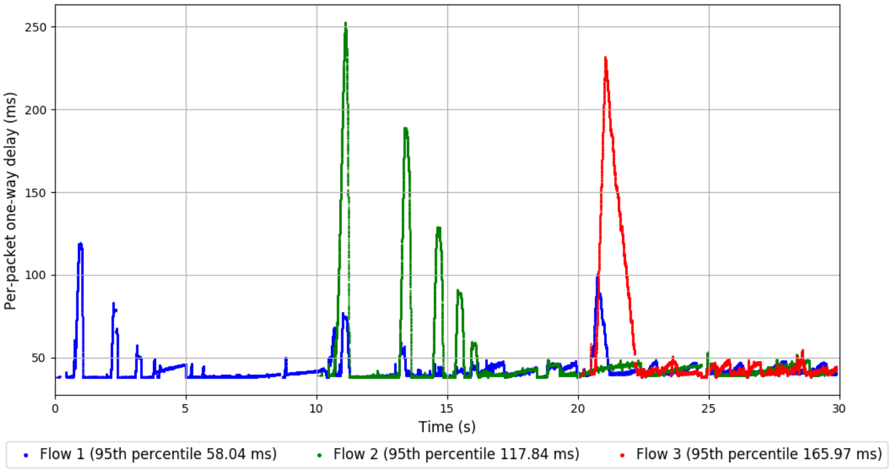




```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-12 17:26:22
End at: 2019-07-12 17:26:52
Local clock offset: 9.287 ms
Remote clock offset: -2.34 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.68 Mbit/s
95th percentile per-packet one-way delay: 78.764 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 58.036 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 41.46 Mbit/s
95th percentile per-packet one-way delay: 117.841 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 23.31 Mbit/s
95th percentile per-packet one-way delay: 165.967 ms
Loss rate: 1.11%
```

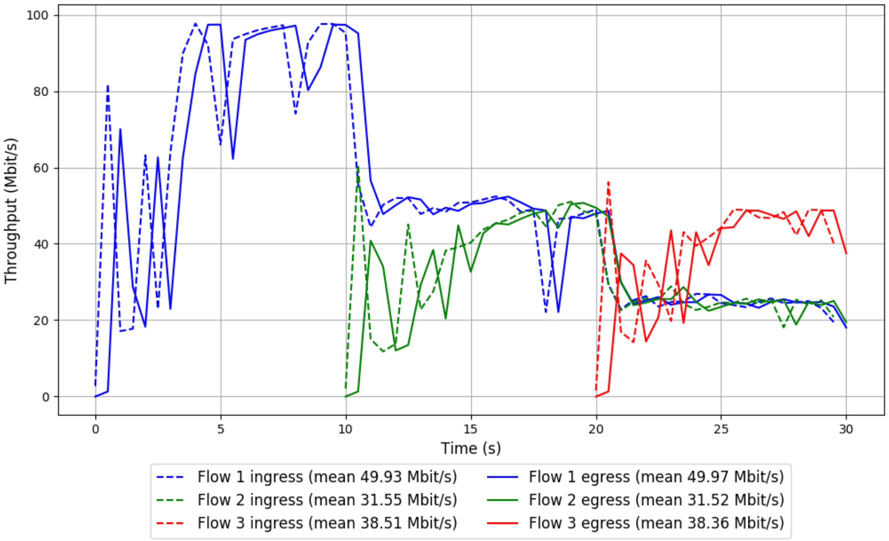
Run 3: Report of QUIC Cubic — Data Link

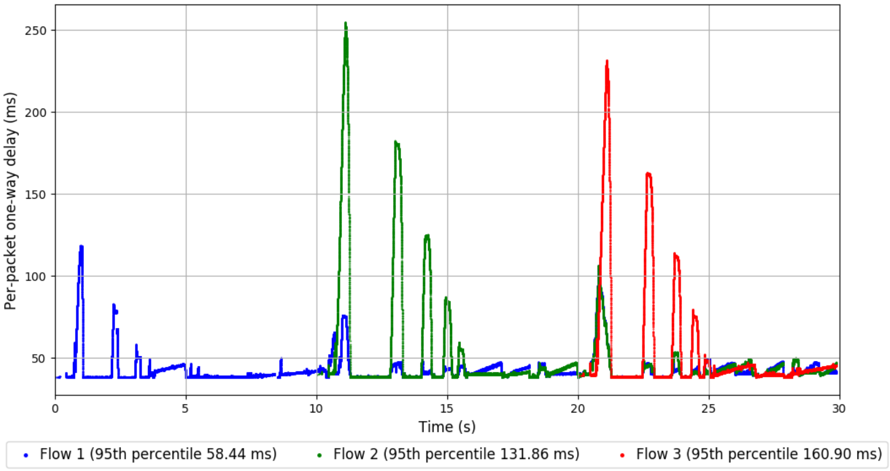




```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-12 18:06:00
End at: 2019-07-12 18:06:30
Local clock offset: 9.97 ms
Remote clock offset: -1.575 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.56 Mbit/s
95th percentile per-packet one-way delay: 90.377 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 49.97 Mbit/s
95th percentile per-packet one-way delay: 58.435 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.52 Mbit/s
95th percentile per-packet one-way delay: 131.862 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 38.36 Mbit/s
95th percentile per-packet one-way delay: 160.904 ms
Loss rate: 1.04%
```

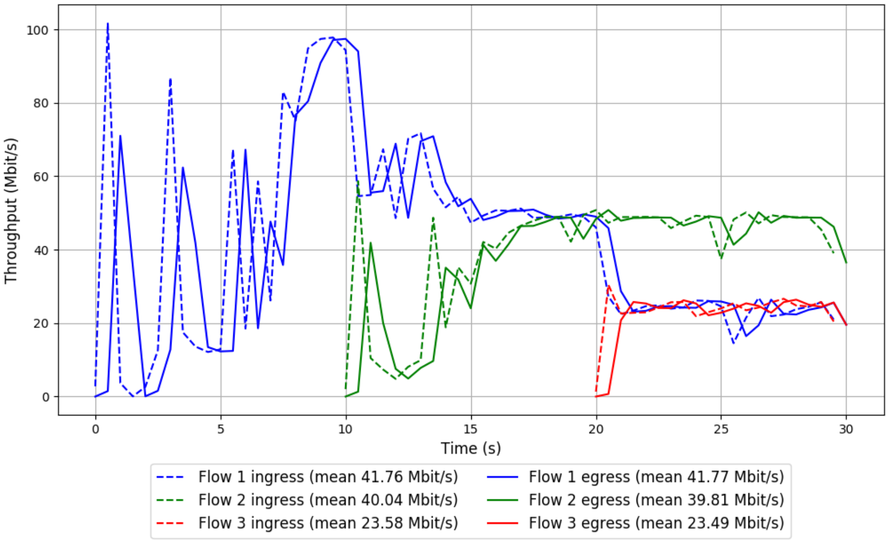
Run 4: Report of QUIC Cubic — Data Link

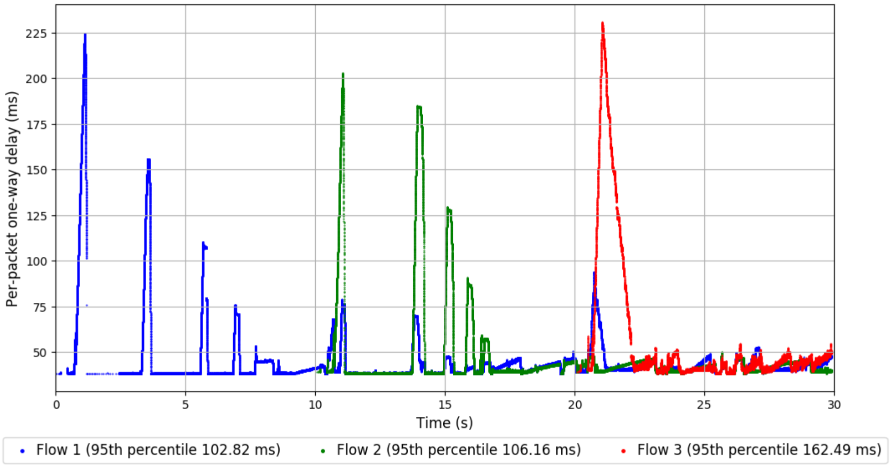




```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-12 18:40:04
End at: 2019-07-12 18:40:34
Local clock offset: 8.783 ms
Remote clock offset: -0.971 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.94 Mbit/s
95th percentile per-packet one-way delay: 107.579 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 41.77 Mbit/s
95th percentile per-packet one-way delay: 102.823 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 106.157 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 23.49 Mbit/s
95th percentile per-packet one-way delay: 162.494 ms
Loss rate: 1.03%
```

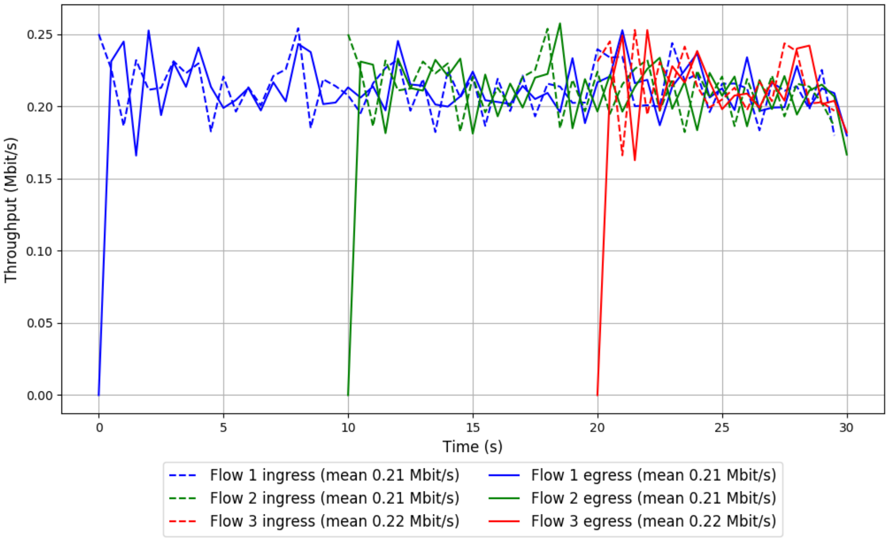
Run 5: Report of QUIC Cubic — Data Link

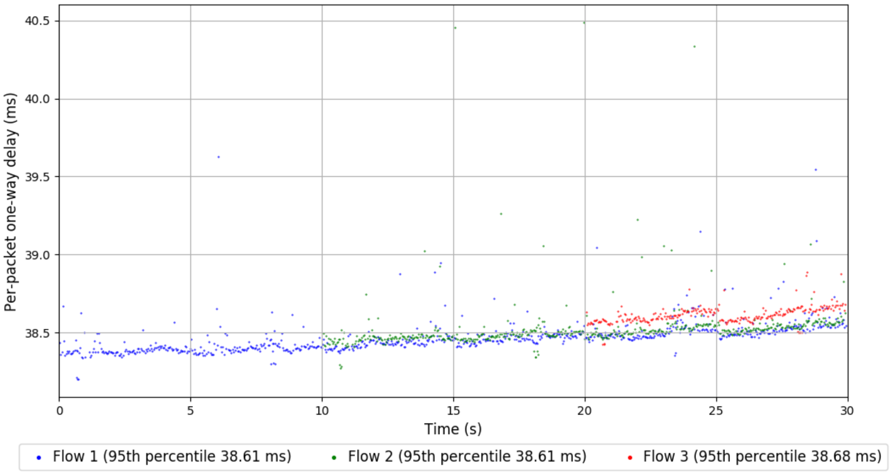




```
Run 1: Statistics of SCReAM

Start at: 2019-07-12 16:02:00
End at: 2019-07-12 16:02:30
Local clock offset: -0.032 ms
Remote clock offset: -6.033 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.660 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.608 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.611 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.677 ms
Loss rate: 0.71%
```

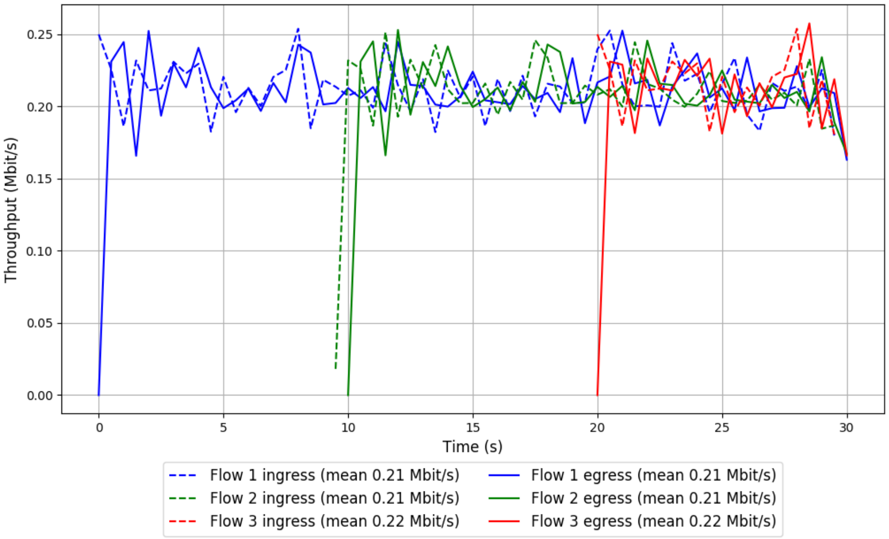
Run 1: Report of SCReAM — Data Link

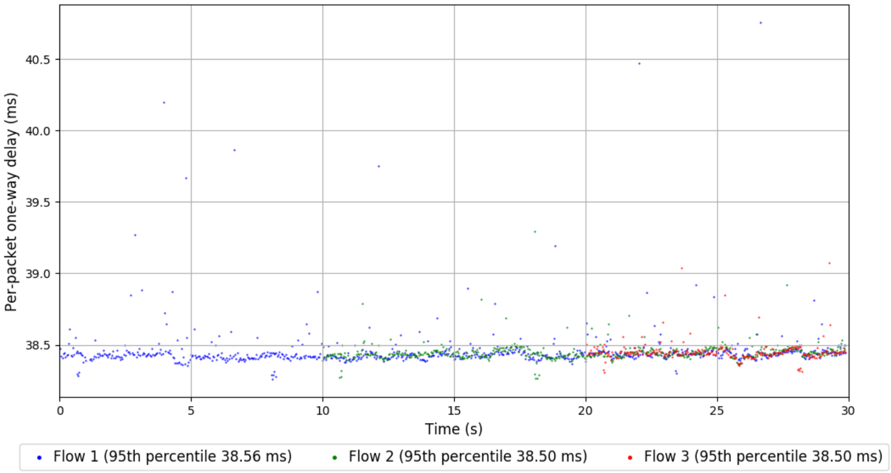




```
Run 2: Statistics of SCReAM

Start at: 2019-07-12 16:35:07
End at: 2019-07-12 16:35:37
Local clock offset: -2.968 ms
Remote clock offset: -4.197 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.528 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.558 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.504 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.503 ms
Loss rate: 0.71%
```

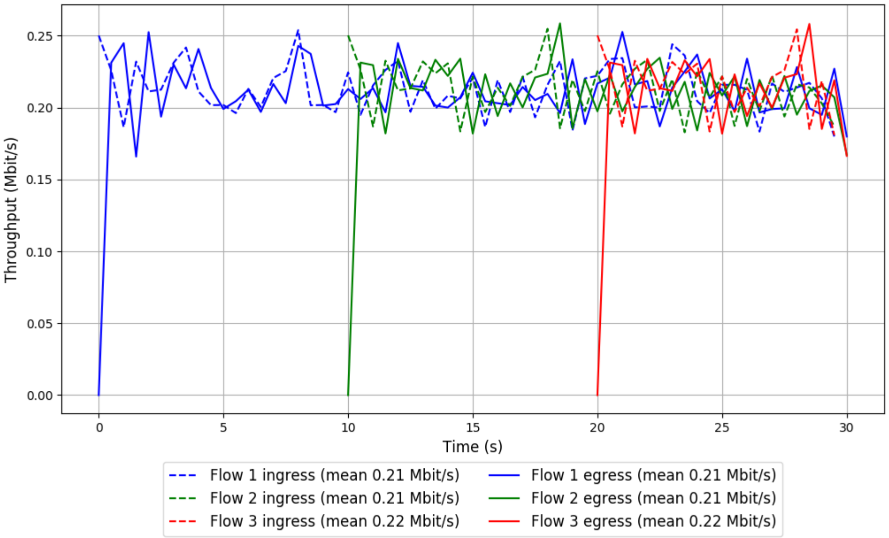
Run 2: Report of SCReAM — Data Link

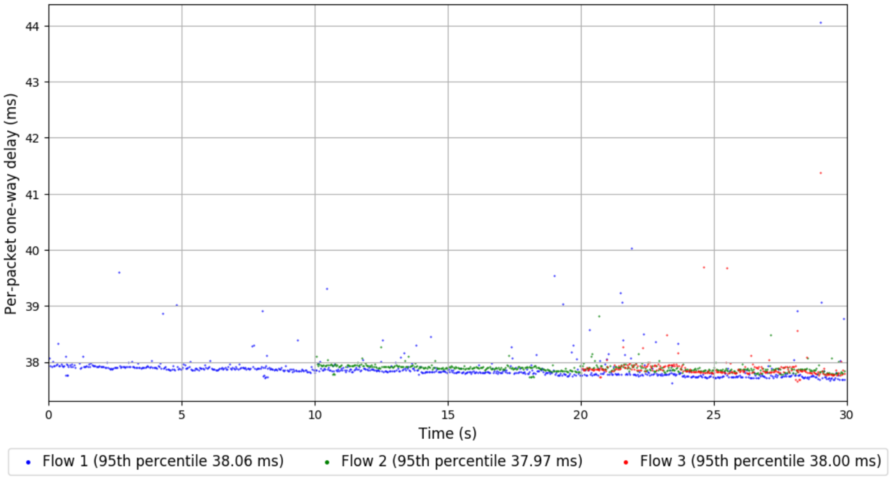




```
Run 3: Statistics of SCReAM

Start at: 2019-07-12 17:12:29
End at: 2019-07-12 17:12:59
Local clock offset: 4.306 ms
Remote clock offset: -2.811 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.018 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.064 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 37.973 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 37.999 ms
Loss rate: 0.71%
```

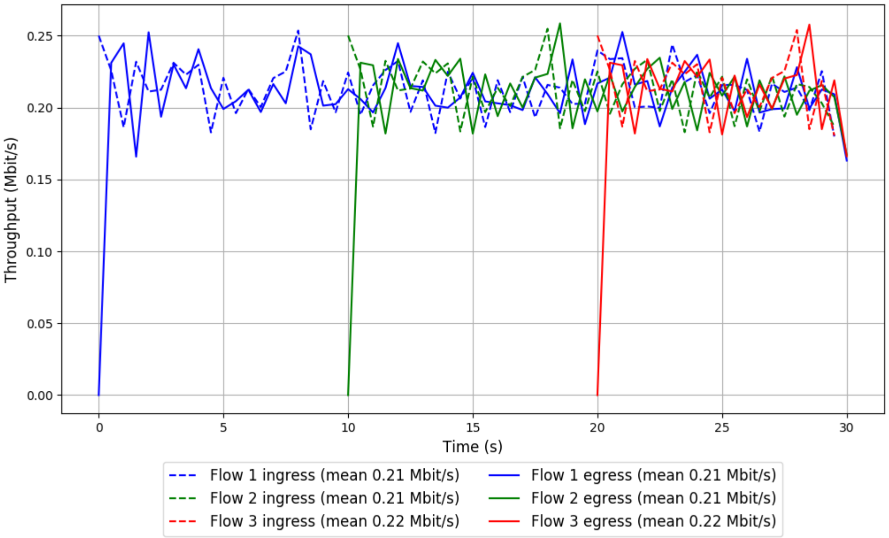
Run 3: Report of SCReAM — Data Link

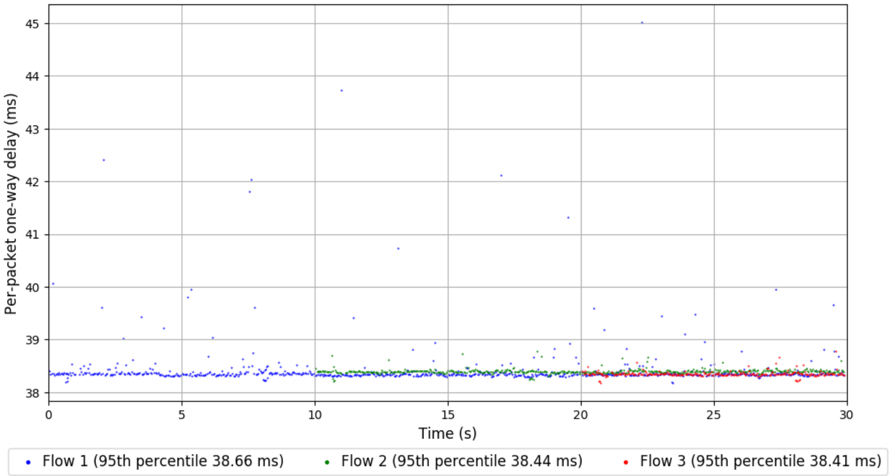




```
Run 4: Statistics of SCReAM

Start at: 2019-07-12 17:51:46
End at: 2019-07-12 17:52:16
Local clock offset: 10.694 ms
Remote clock offset: -1.888 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.513 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.663 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.444 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.413 ms
Loss rate: 0.71%
```

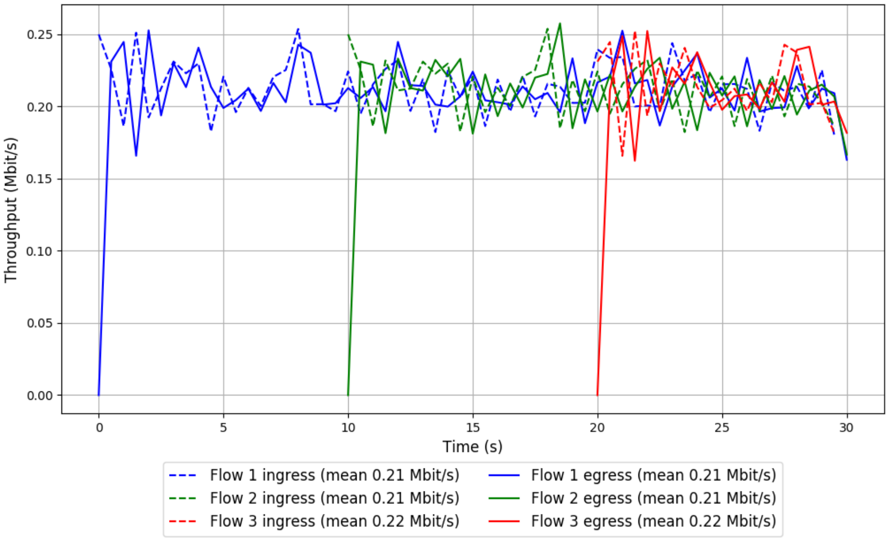
Run 4: Report of SCReAM — Data Link

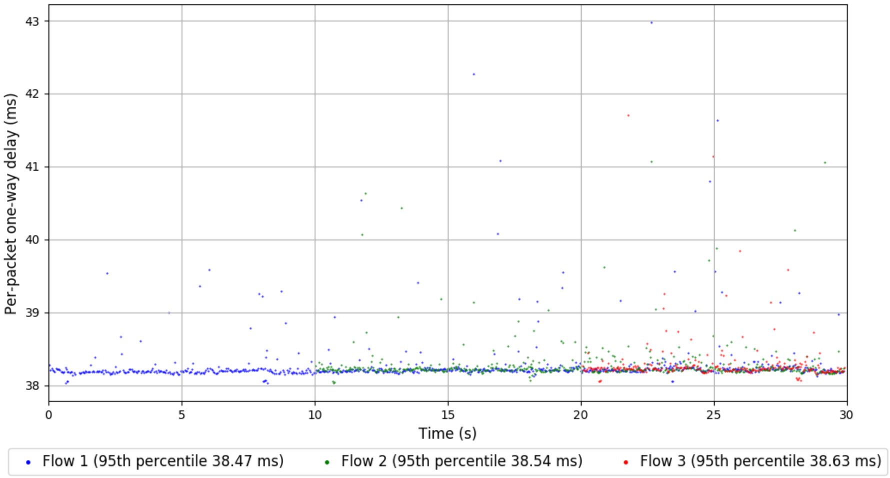




```
Run 5: Statistics of SCReAM

Start at: 2019-07-12 18:26:05
End at: 2019-07-12 18:26:35
Local clock offset: 10.051 ms
Remote clock offset: -0.873 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 38.533 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.468 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 38.544 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.626 ms
Loss rate: 0.35%
```

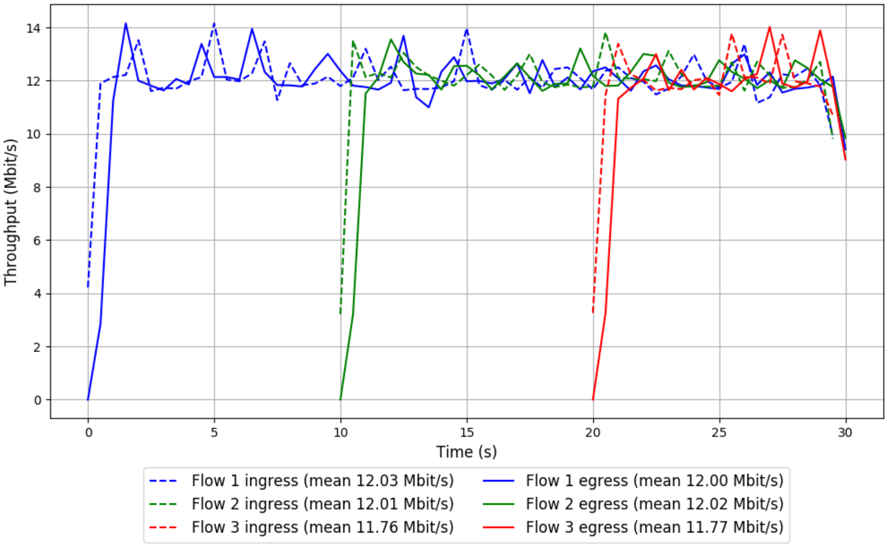
Run 5: Report of SCReAM — Data Link

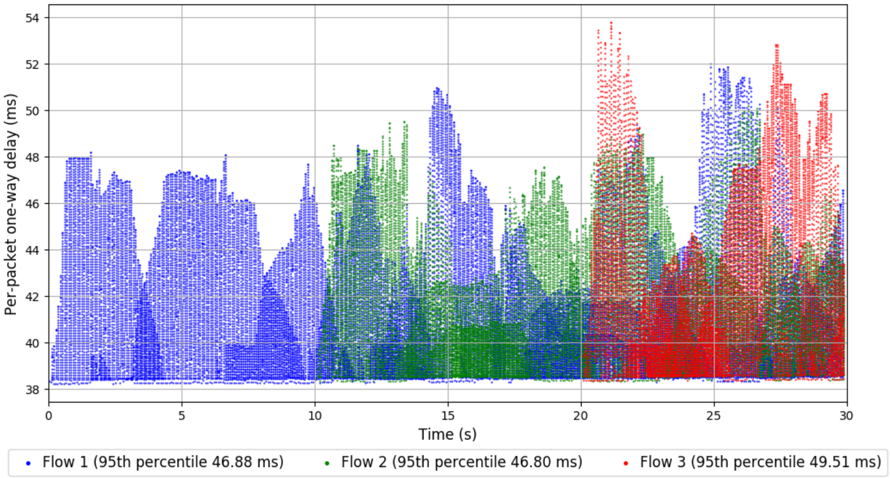




```
Run 1: Statistics of Sprout

Start at: 2019-07-12 16:05:44
End at: 2019-07-12 16:06:14
Local clock offset: -1.021 ms
Remote clock offset: -5.946 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.87 Mbit/s
95th percentile per-packet one-way delay: 47.292 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 46.881 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 12.02 Mbit/s
95th percentile per-packet one-way delay: 46.798 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 49.505 ms
Loss rate: 0.72%
```

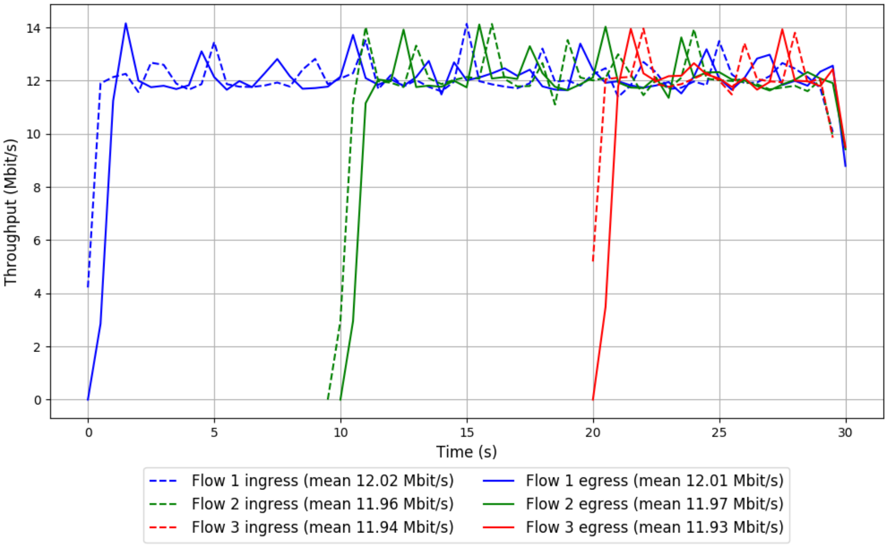
Run 1: Report of Sprout — Data Link

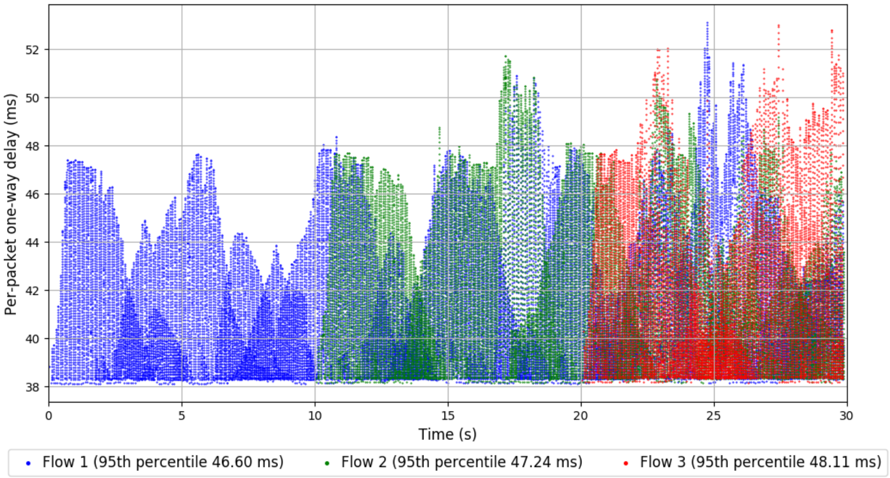




```
Run 2: Statistics of Sprout

Start at: 2019-07-12 16:39:16
End at: 2019-07-12 16:39:46
Local clock offset: -3.07 ms
Remote clock offset: -3.942 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 47.098 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 46.602 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 47.243 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 48.109 ms
Loss rate: 0.83%
```

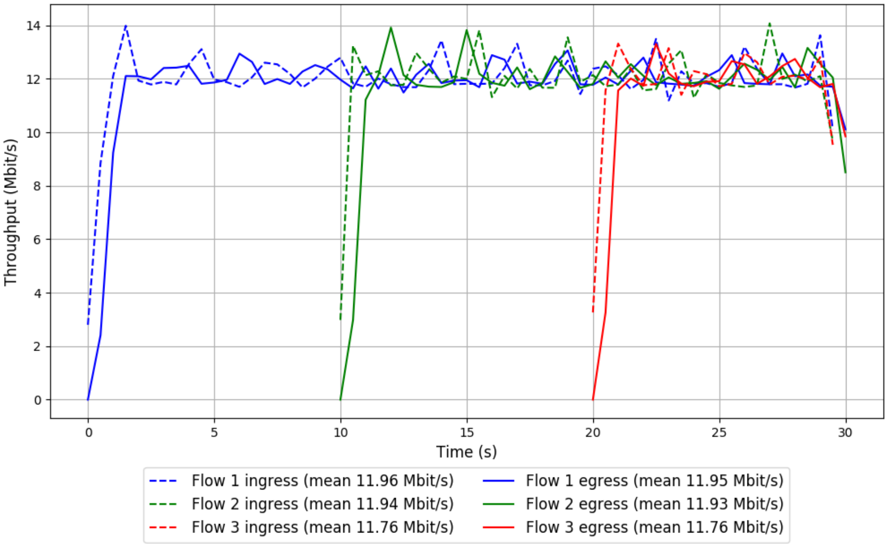
Run 2: Report of Sprout — Data Link

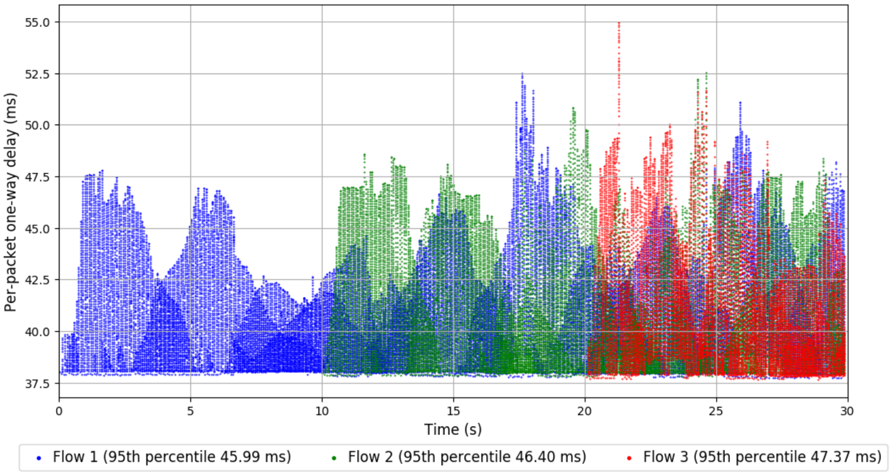




```
Run 3: Statistics of Sprout

Start at: 2019-07-12 17:16:21
End at: 2019-07-12 17:16:51
Local clock offset: 6.166 ms
Remote clock offset: -2.598 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.74 Mbit/s
95th percentile per-packet one-way delay: 46.386 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 45.990 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 46.402 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 11.76 Mbit/s
95th percentile per-packet one-way delay: 47.365 ms
Loss rate: 0.60%
```

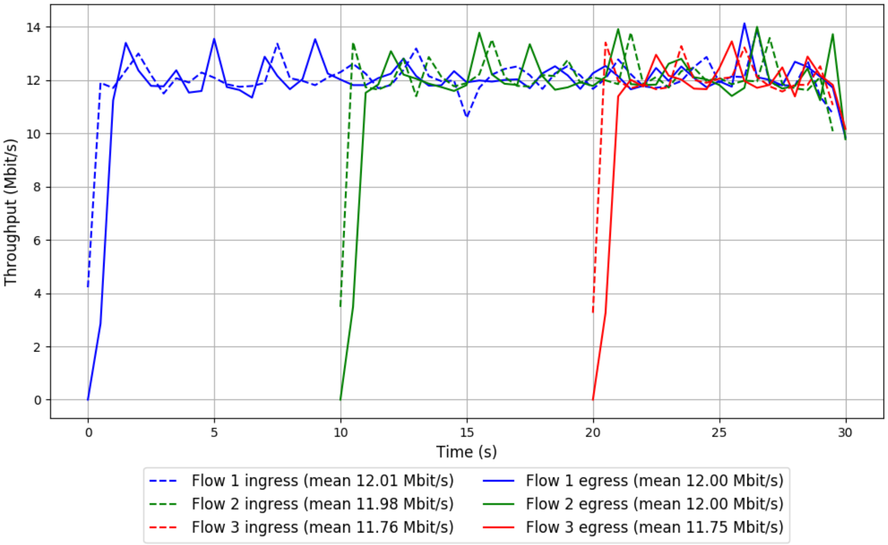
Run 3: Report of Sprout — Data Link

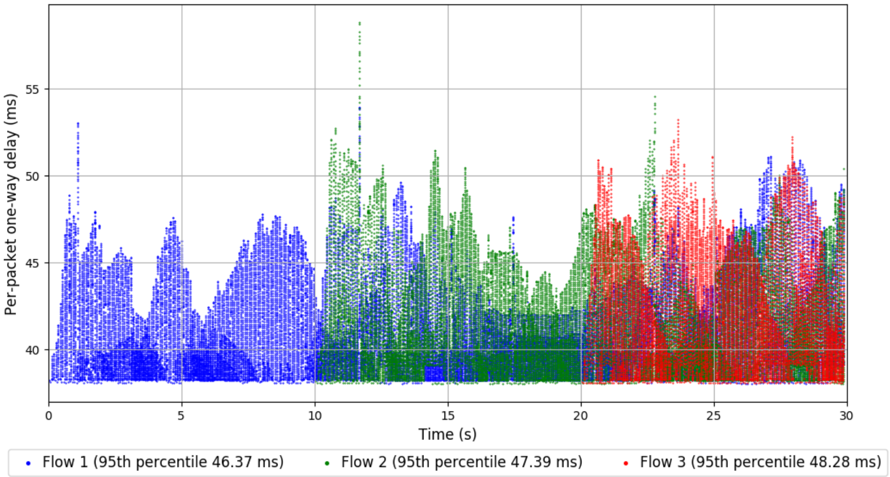




```
Run 4: Statistics of Sprout

Start at: 2019-07-12 17:55:39
End at: 2019-07-12 17:56:09
Local clock offset: 11.152 ms
Remote clock offset: -1.705 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.85 Mbit/s
95th percentile per-packet one-way delay: 47.098 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 46.371 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 47.387 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 48.278 ms
Loss rate: 0.69%
```

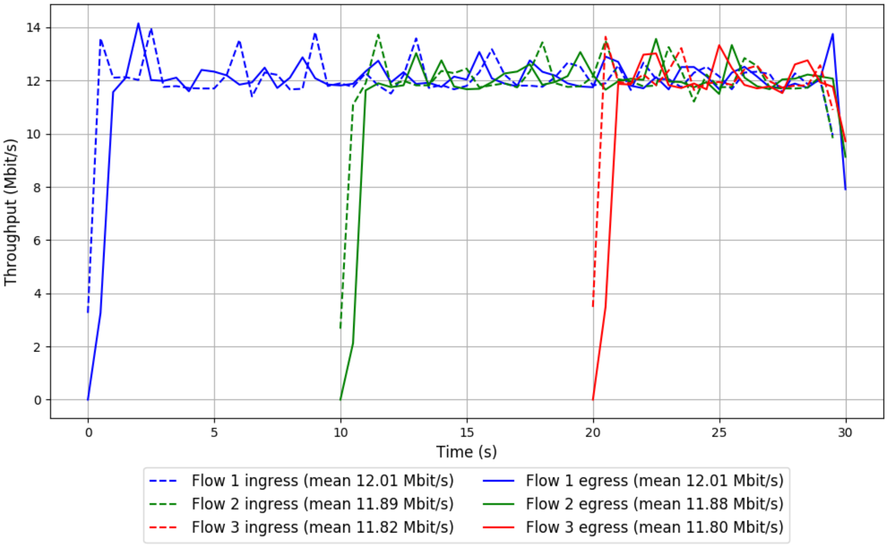
Run 4: Report of Sprout — Data Link

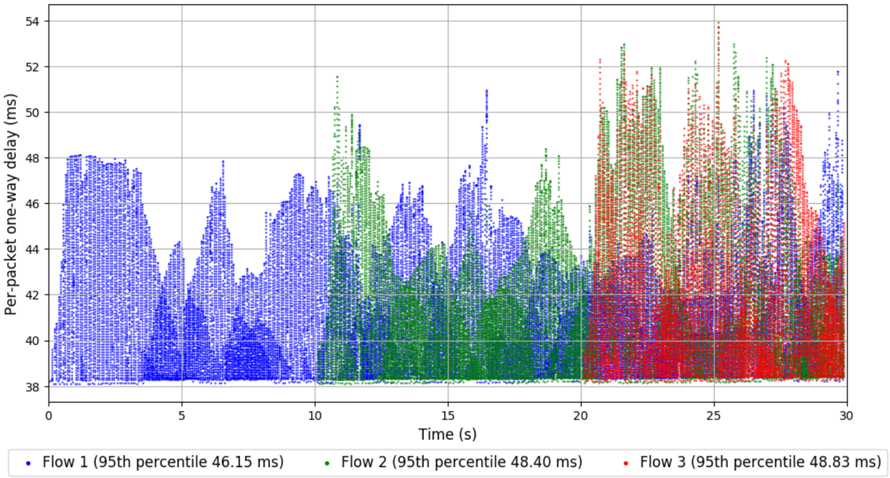




```
Run 5: Statistics of Sprout

Start at: 2019-07-12 18:30:07
End at: 2019-07-12 18:30:37
Local clock offset: 9.904 ms
Remote clock offset: -0.747 ms

# Below is generated by plot.py at 2019-07-12 19:12:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.78 Mbit/s
95th percentile per-packet one-way delay: 47.444 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 46.146 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 48.398 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 48.832 ms
Loss rate: 0.85%
```

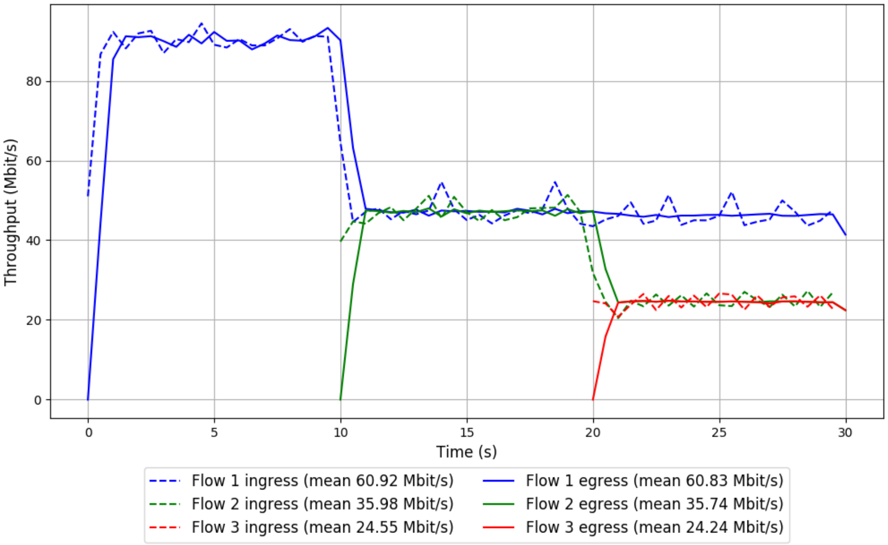
Run 5: Report of Sprout — Data Link

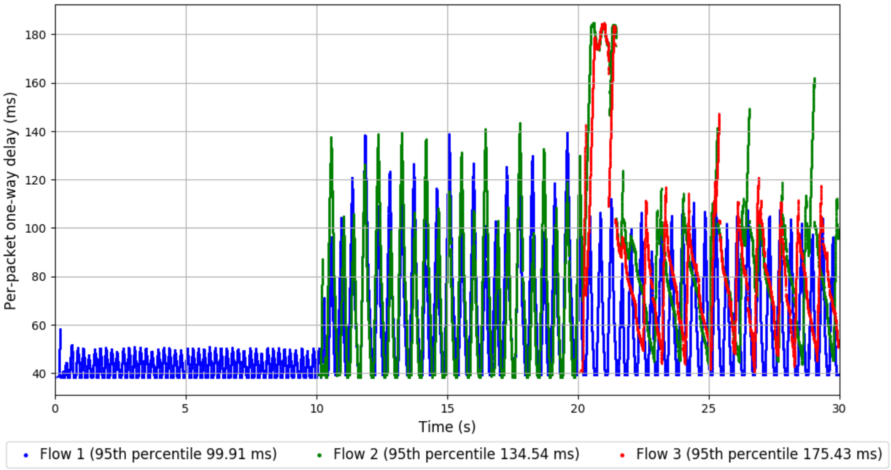




```
Run 1: Statistics of TaoVA-100x

Start at: 2019-07-12 16:24:58
End at: 2019-07-12 16:25:28
Local clock offset: -2.747 ms
Remote clock offset: -4.731 ms

# Below is generated by plot.py at 2019-07-12 19:13:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 113.782 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 60.83 Mbit/s
95th percentile per-packet one-way delay: 99.905 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 35.74 Mbit/s
95th percentile per-packet one-way delay: 134.539 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 24.24 Mbit/s
95th percentile per-packet one-way delay: 175.434 ms
Loss rate: 1.92%
```

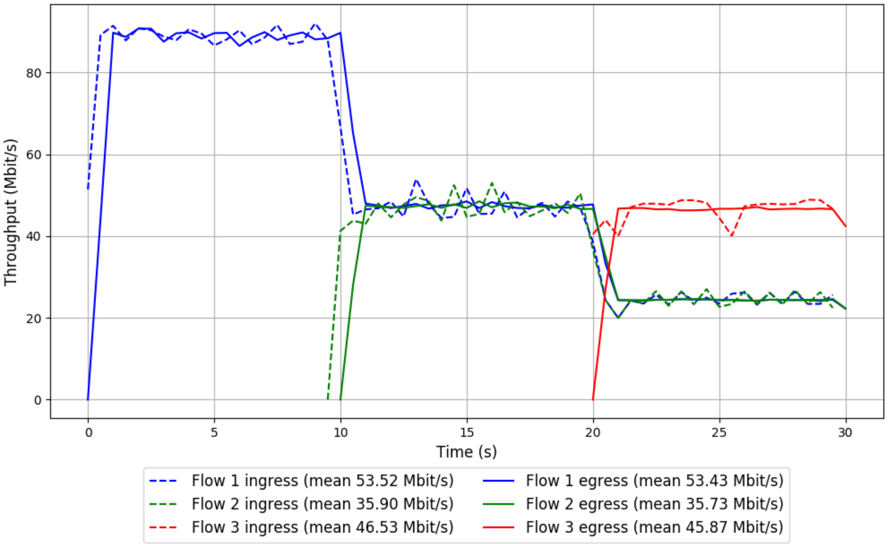
Run 1: Report of TaoVA-100x — Data Link

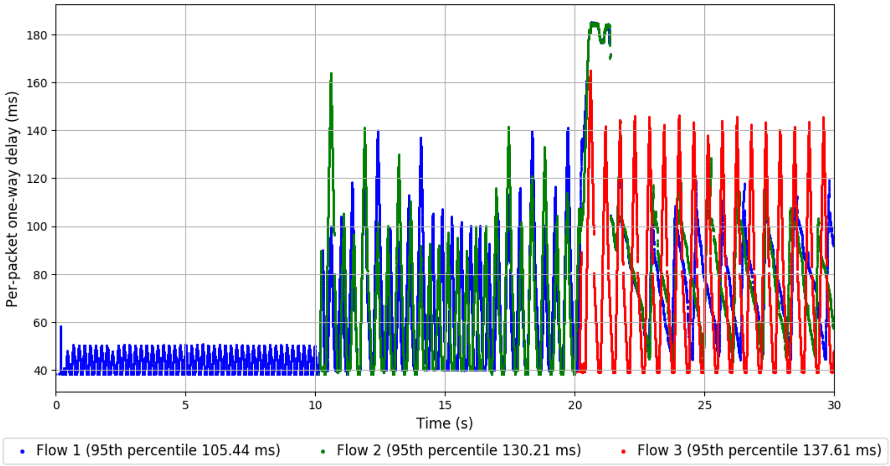




```
Run 2: Statistics of TaoVA-100x

Start at: 2019-07-12 17:01:53
End at: 2019-07-12 17:02:23
Local clock offset: -3.496 ms
Remote clock offset: -3.128 ms

# Below is generated by plot.py at 2019-07-12 19:14:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.41 Mbit/s
95th percentile per-packet one-way delay: 126.261 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 53.43 Mbit/s
95th percentile per-packet one-way delay: 105.442 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 35.73 Mbit/s
95th percentile per-packet one-way delay: 130.206 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 45.87 Mbit/s
95th percentile per-packet one-way delay: 137.607 ms
Loss rate: 2.05%
```

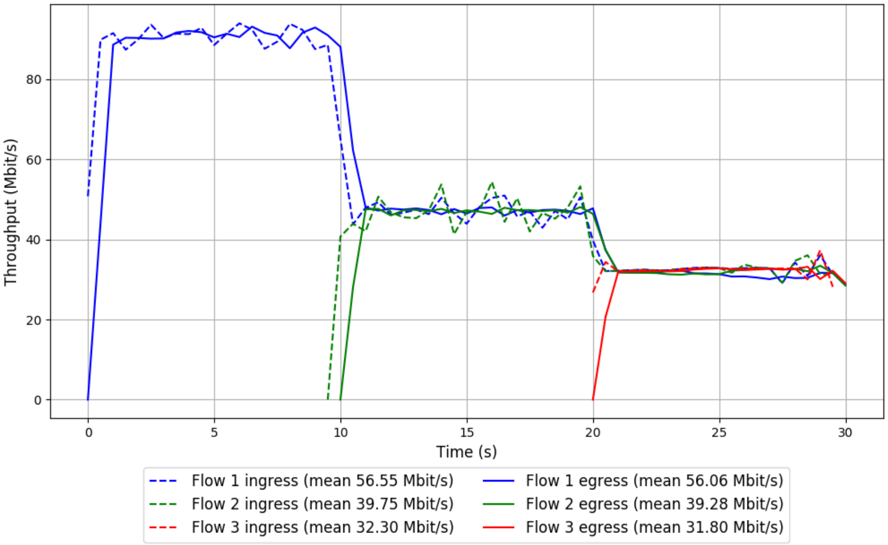
Run 2: Report of TaoVA-100x — Data Link

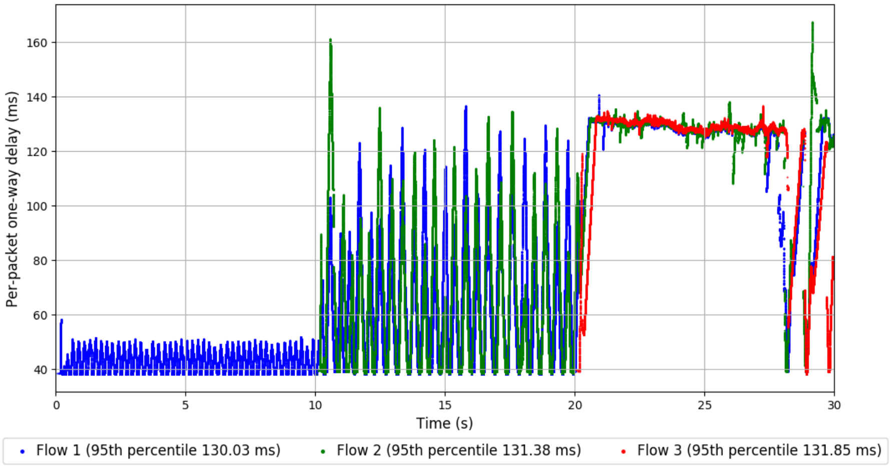




```
Run 3: Statistics of TaoVA-100x

Start at: 2019-07-12 17:38:09
End at: 2019-07-12 17:38:39
Local clock offset: 9.514 ms
Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2019-07-12 19:14:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 131.075 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 56.06 Mbit/s
95th percentile per-packet one-way delay: 130.026 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 131.381 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 31.80 Mbit/s
95th percentile per-packet one-way delay: 131.850 ms
Loss rate: 2.18%
```

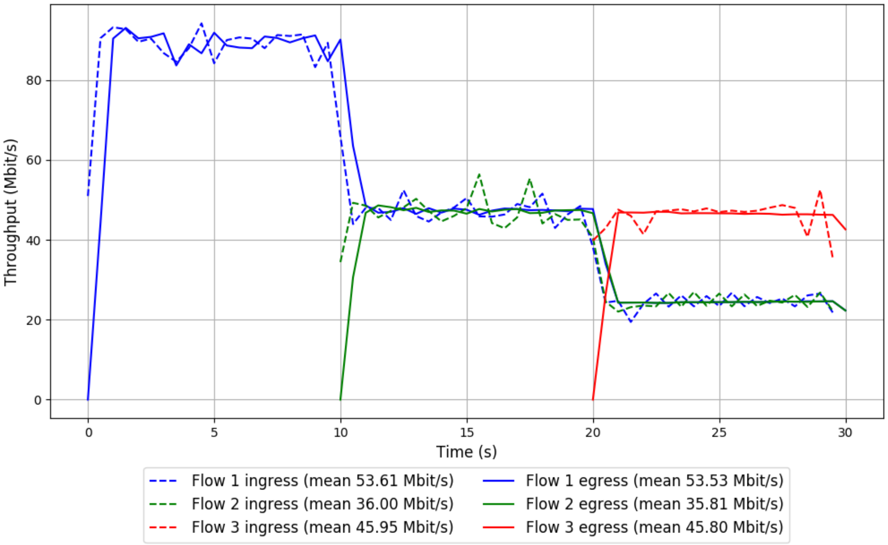
Run 3: Report of TaoVA-100x — Data Link

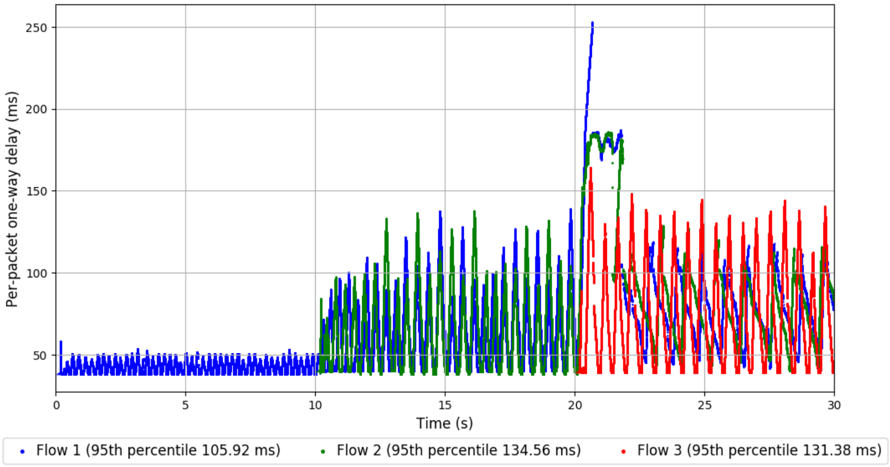




```
Run 4: Statistics of TaoVA-100x

Start at: 2019-07-12 18:15:48
End at: 2019-07-12 18:16:18
Local clock offset: 9.622 ms
Remote clock offset: -1.301 ms

# Below is generated by plot.py at 2019-07-12 19:14:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.53 Mbit/s
95th percentile per-packet one-way delay: 123.722 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 53.53 Mbit/s
95th percentile per-packet one-way delay: 105.915 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.81 Mbit/s
95th percentile per-packet one-way delay: 134.564 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 131.379 ms
Loss rate: 0.97%
```

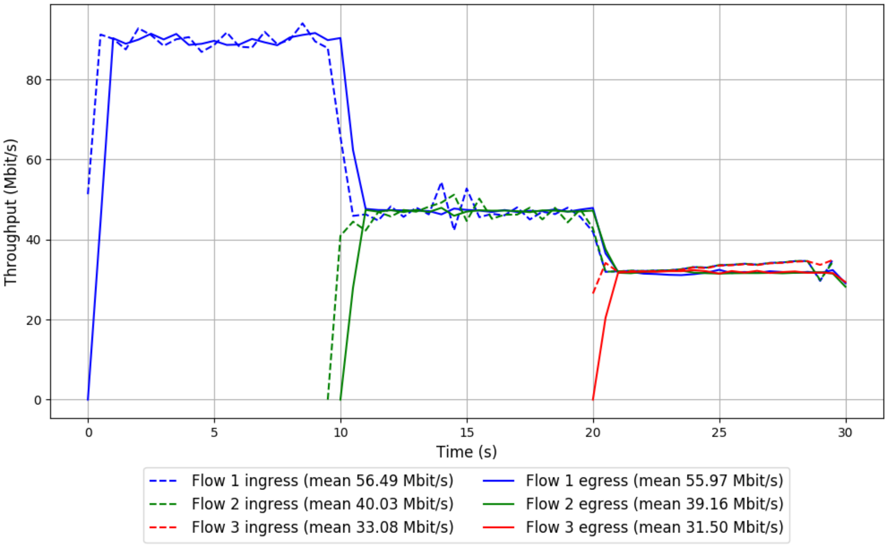
Run 4: Report of TaoVA-100x — Data Link

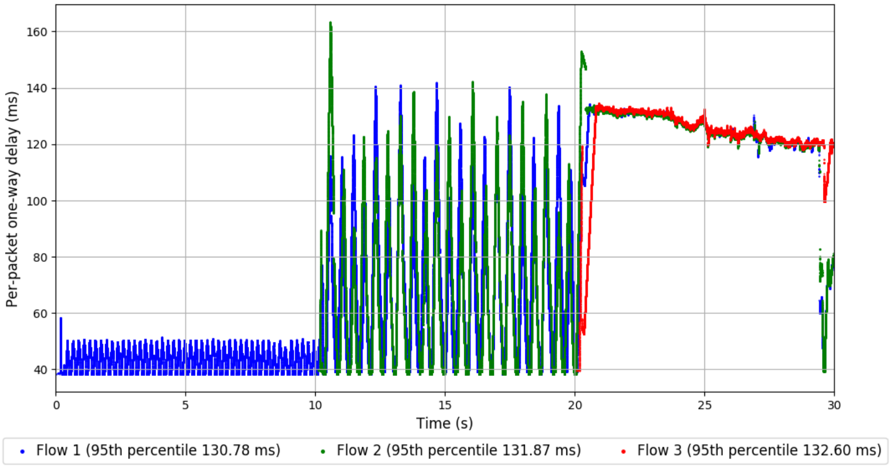




```
Run 5: Statistics of TaoVA-100x

Start at: 2019-07-12 18:49:47
End at: 2019-07-12 18:50:17
Local clock offset: 8.653 ms
Remote clock offset: -0.957 ms

# Below is generated by plot.py at 2019-07-12 19:14:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.47 Mbit/s
95th percentile per-packet one-way delay: 131.611 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 130.777 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 39.16 Mbit/s
95th percentile per-packet one-way delay: 131.871 ms
Loss rate: 2.48%
-- Flow 3:
Average throughput: 31.50 Mbit/s
95th percentile per-packet one-way delay: 132.599 ms
Loss rate: 5.38%
```

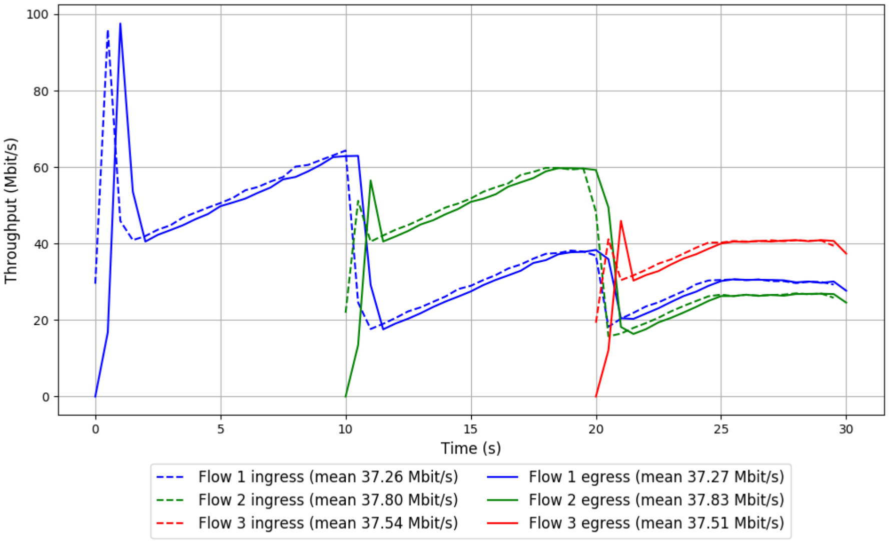
Run 5: Report of TaoVA-100x — Data Link

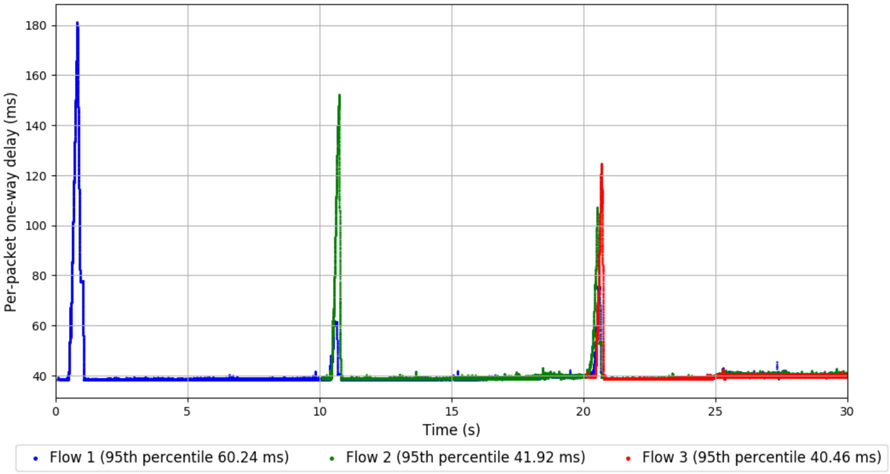




```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-12 16:03:09
End at: 2019-07-12 16:03:40
Local clock offset: -0.398 ms
Remote clock offset: -5.988 ms

# Below is generated by plot.py at 2019-07-12 19:14:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 47.426 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 37.27 Mbit/s
95th percentile per-packet one-way delay: 60.243 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 37.83 Mbit/s
95th percentile per-packet one-way delay: 41.920 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 37.51 Mbit/s
95th percentile per-packet one-way delay: 40.456 ms
Loss rate: 0.72%
```

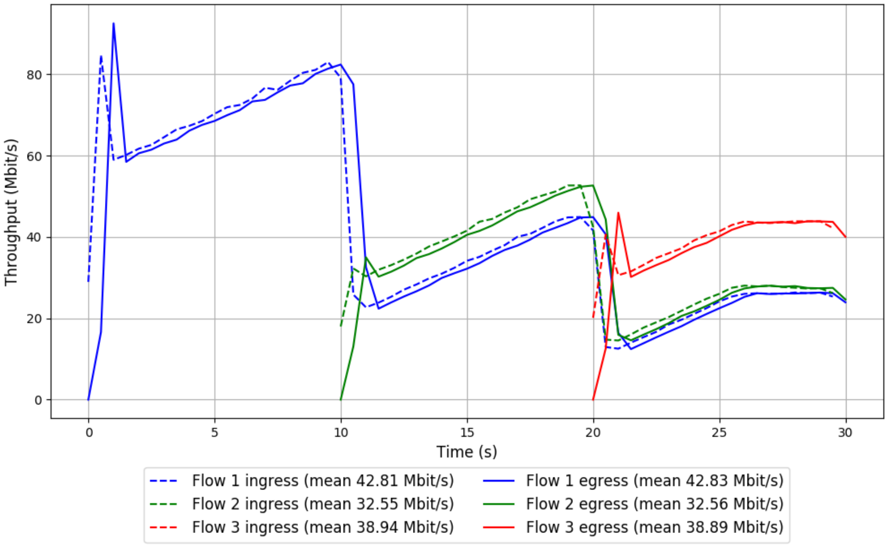
Run 1: Report of TCP Vegas — Data Link

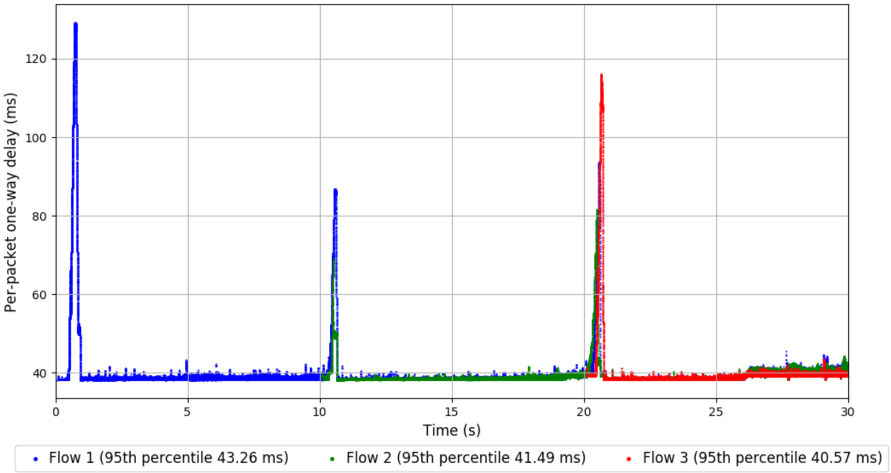




```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-12 16:36:17
End at: 2019-07-12 16:36:47
Local clock offset: -3.04 ms
Remote clock offset: -4.083 ms

# Below is generated by plot.py at 2019-07-12 19:14:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.37 Mbit/s
95th percentile per-packet one-way delay: 41.889 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 43.264 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 32.56 Mbit/s
95th percentile per-packet one-way delay: 41.495 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 40.572 ms
Loss rate: 0.76%
```

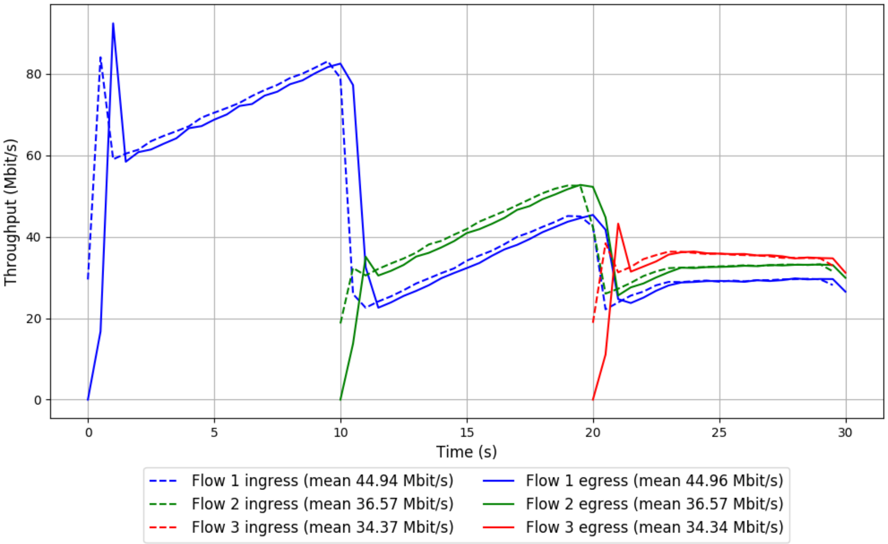
Run 2: Report of TCP Vegas — Data Link

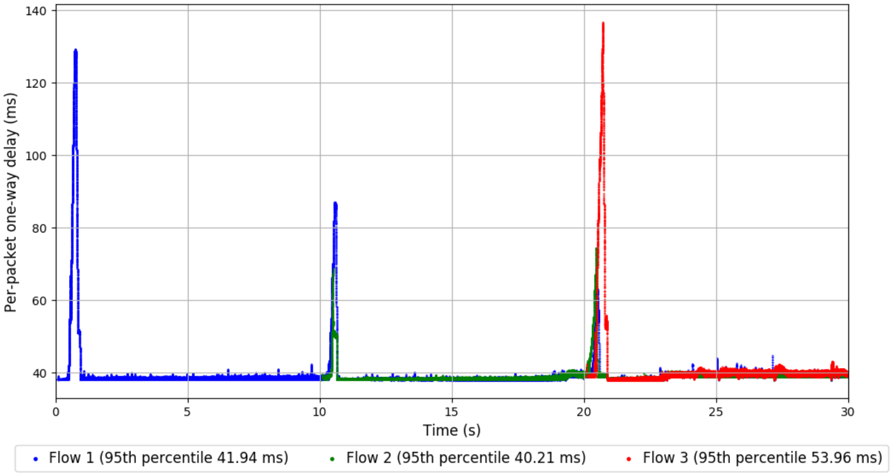




```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-12 17:13:38
End at: 2019-07-12 17:14:08
Local clock offset: 4.988 ms
Remote clock offset: -2.782 ms

# Below is generated by plot.py at 2019-07-12 19:14:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.67 Mbit/s
95th percentile per-packet one-way delay: 41.235 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 41.943 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 36.57 Mbit/s
95th percentile per-packet one-way delay: 40.210 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 34.34 Mbit/s
95th percentile per-packet one-way delay: 53.963 ms
Loss rate: 0.72%
```

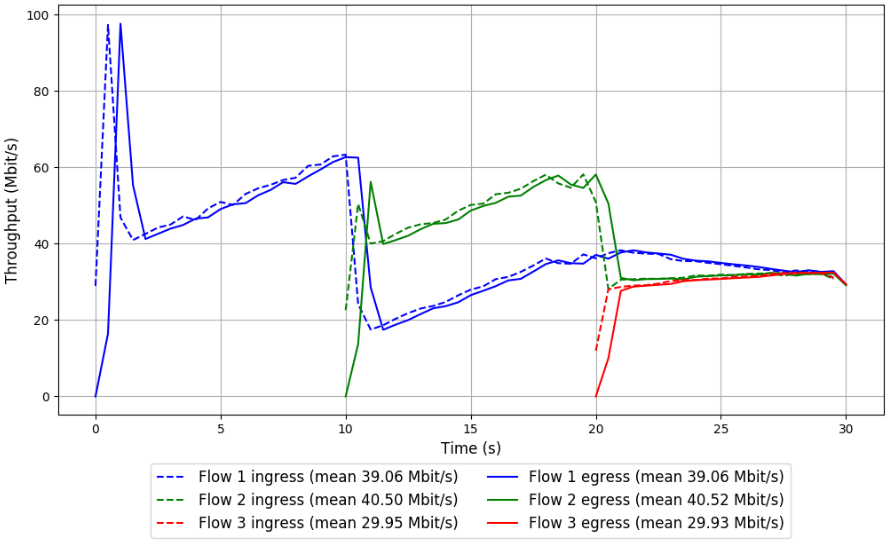
Run 3: Report of TCP Vegas — Data Link

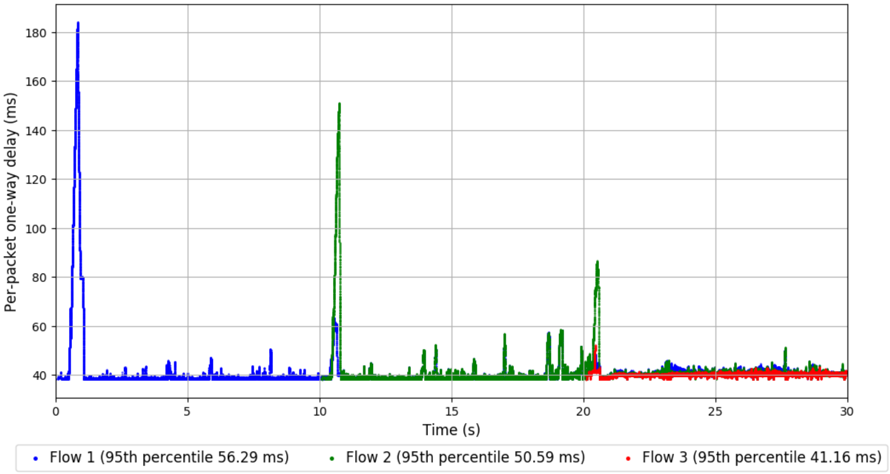




```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-12 17:52:55
End at: 2019-07-12 17:53:25
Local clock offset: 10.79 ms
Remote clock offset: -1.846 ms

# Below is generated by plot.py at 2019-07-12 19:14:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 49.606 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 39.06 Mbit/s
95th percentile per-packet one-way delay: 56.289 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 40.52 Mbit/s
95th percentile per-packet one-way delay: 50.587 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 29.93 Mbit/s
95th percentile per-packet one-way delay: 41.164 ms
Loss rate: 0.72%
```

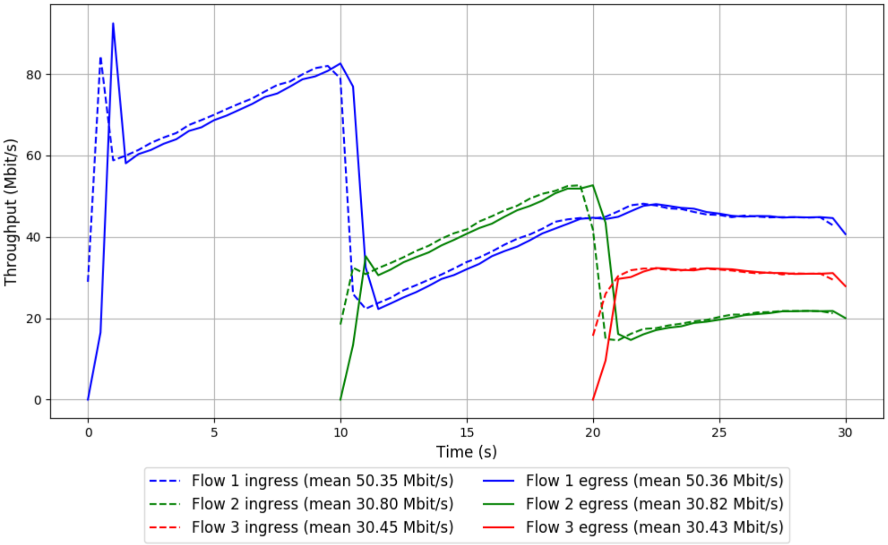
Run 4: Report of TCP Vegas — Data Link

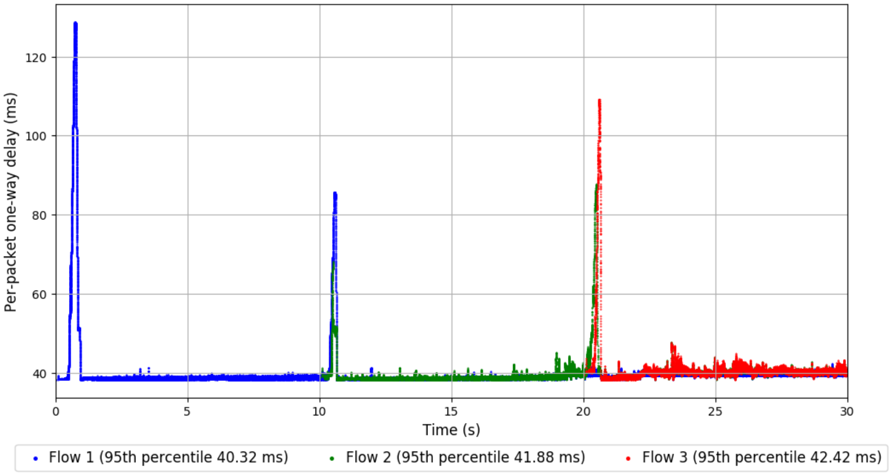




```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-12 18:27:14
End at: 2019-07-12 18:27:44
Local clock offset: 10.103 ms
Remote clock offset: -0.944 ms

# Below is generated by plot.py at 2019-07-12 19:14:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.94 Mbit/s
95th percentile per-packet one-way delay: 41.568 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 50.36 Mbit/s
95th percentile per-packet one-way delay: 40.317 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 30.82 Mbit/s
95th percentile per-packet one-way delay: 41.877 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 30.43 Mbit/s
95th percentile per-packet one-way delay: 42.424 ms
Loss rate: 0.72%
```

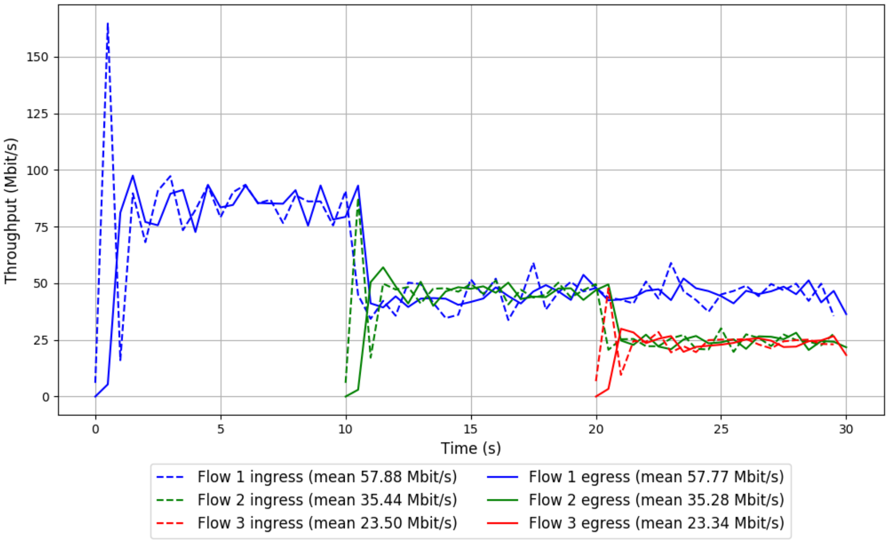
Run 5: Report of TCP Vegas — Data Link

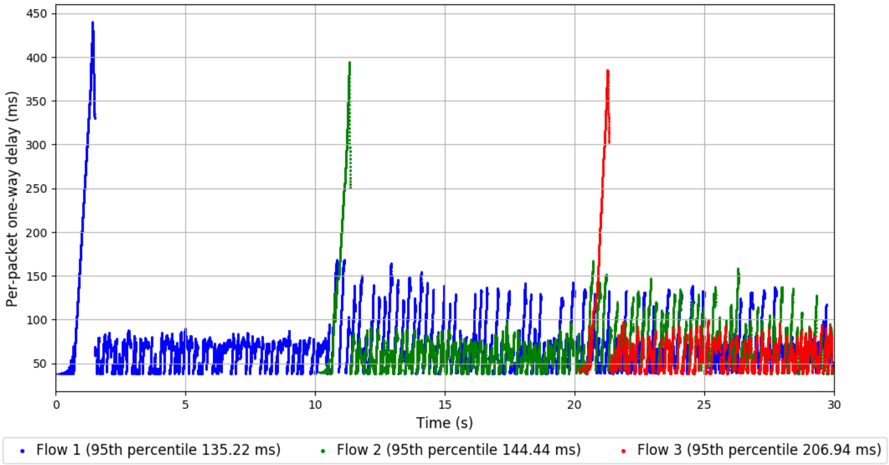




```
Run 1: Statistics of Verus

Start at: 2019-07-12 16:28:01
End at: 2019-07-12 16:28:31
Local clock offset: -2.838 ms
Remote clock offset: -4.561 ms

# Below is generated by plot.py at 2019-07-12 19:14:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.97 Mbit/s
95th percentile per-packet one-way delay: 137.825 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 57.77 Mbit/s
95th percentile per-packet one-way delay: 135.221 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 35.28 Mbit/s
95th percentile per-packet one-way delay: 144.442 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 206.935 ms
Loss rate: 1.36%
```

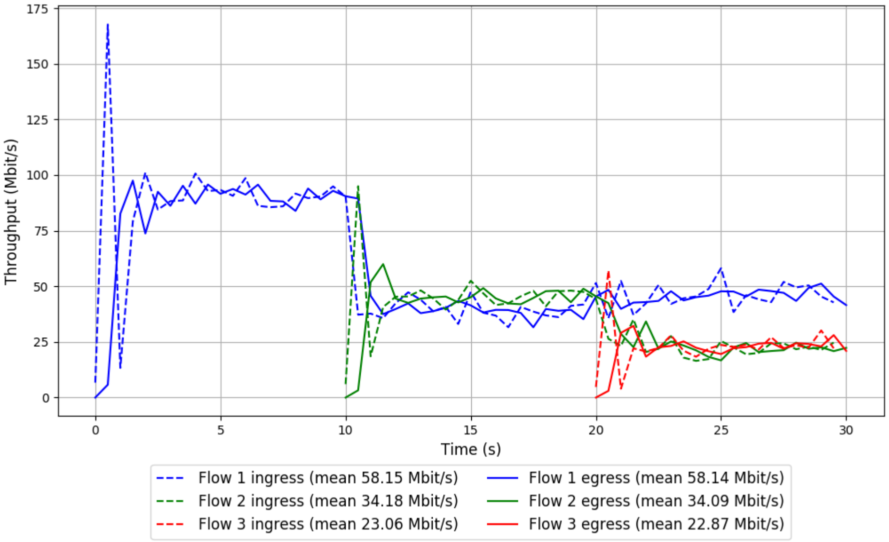
Run 1: Report of Verus — Data Link

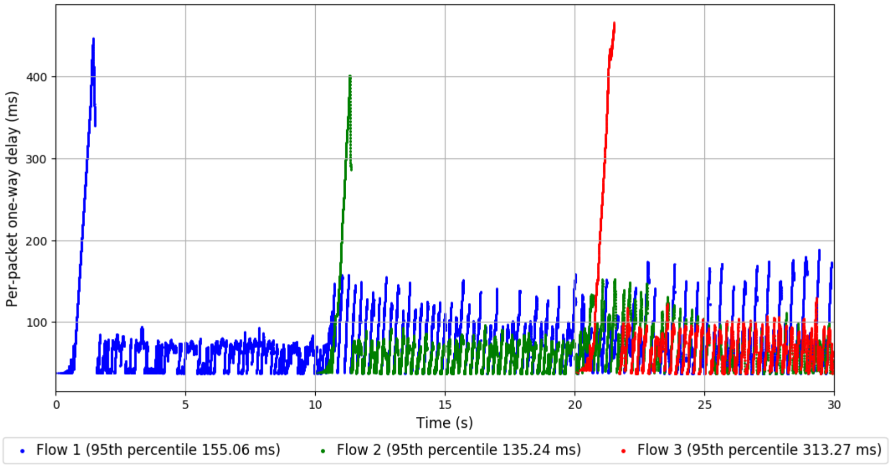




```
Run 2: Statistics of Verus

Start at: 2019-07-12 17:05:26
End at: 2019-07-12 17:05:56
Local clock offset: -1.192 ms
Remote clock offset: -2.925 ms

# Below is generated by plot.py at 2019-07-12 19:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 155.928 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 58.14 Mbit/s
95th percentile per-packet one-way delay: 155.062 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 34.09 Mbit/s
95th percentile per-packet one-way delay: 135.240 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 22.87 Mbit/s
95th percentile per-packet one-way delay: 313.266 ms
Loss rate: 1.51%
```

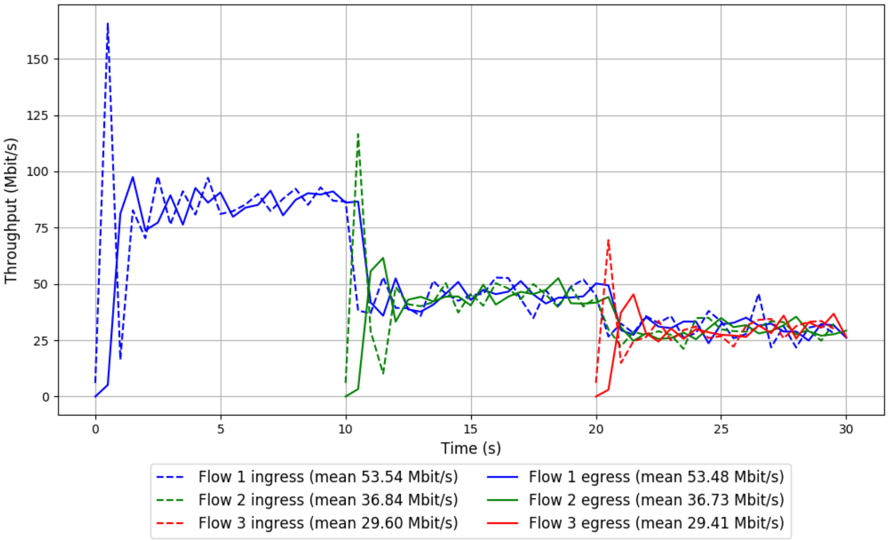
Run 2: Report of Verus — Data Link

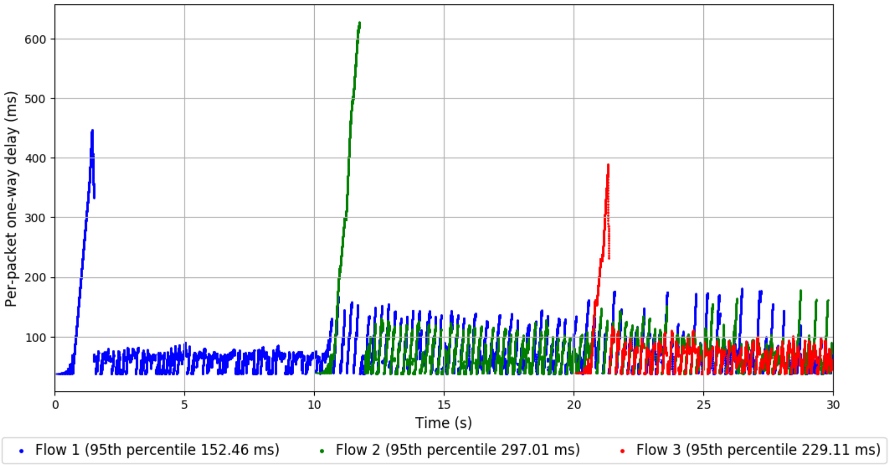




```
Run 3: Statistics of Verus

Start at: 2019-07-12 17:43:28
End at: 2019-07-12 17:43:58
Local clock offset: 9.852 ms
Remote clock offset: -2.041 ms

# Below is generated by plot.py at 2019-07-12 19:15:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.65 Mbit/s
95th percentile per-packet one-way delay: 172.899 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 53.48 Mbit/s
95th percentile per-packet one-way delay: 152.461 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 36.73 Mbit/s
95th percentile per-packet one-way delay: 297.014 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 29.41 Mbit/s
95th percentile per-packet one-way delay: 229.111 ms
Loss rate: 1.28%
```

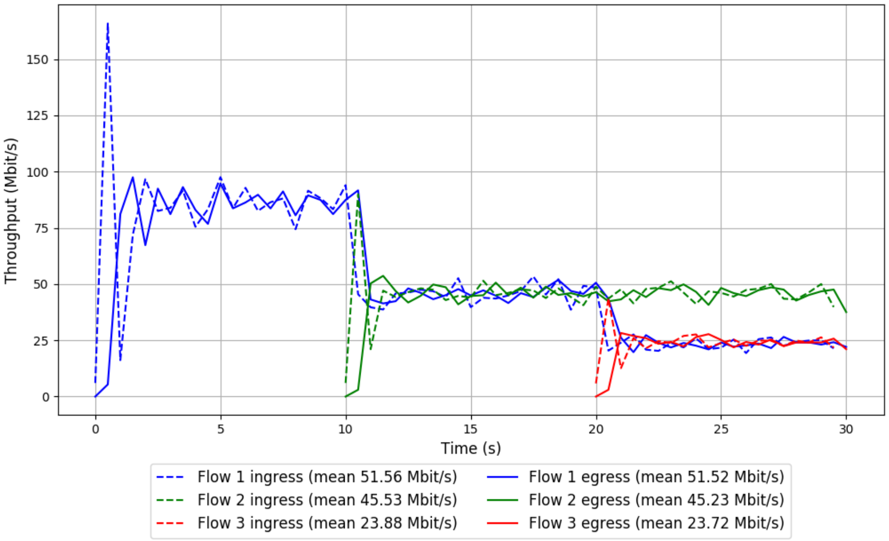
Run 3: Report of Verus — Data Link

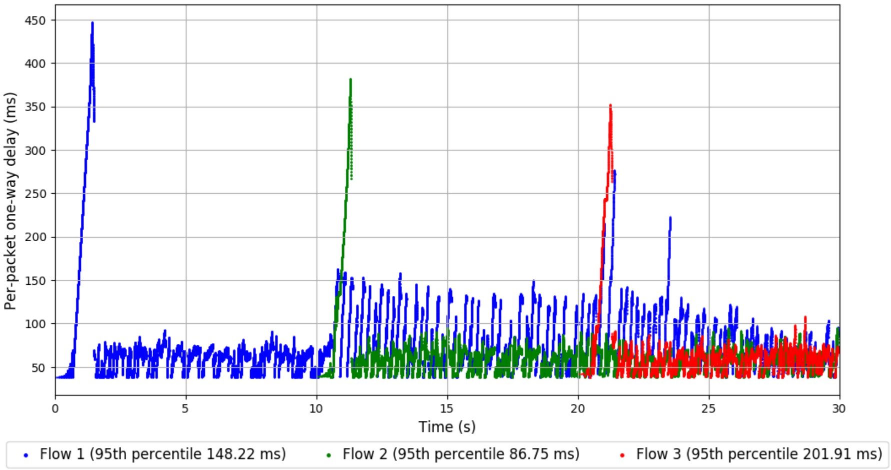




```
Run 4: Statistics of Verus

Start at: 2019-07-12 18:18:54
End at: 2019-07-12 18:19:24
Local clock offset: 9.745 ms
Remote clock offset: -1.121 ms

# Below is generated by plot.py at 2019-07-12 19:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.45 Mbit/s
95th percentile per-packet one-way delay: 137.645 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 51.52 Mbit/s
95th percentile per-packet one-way delay: 148.222 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 45.23 Mbit/s
95th percentile per-packet one-way delay: 86.748 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 201.912 ms
Loss rate: 1.24%
```

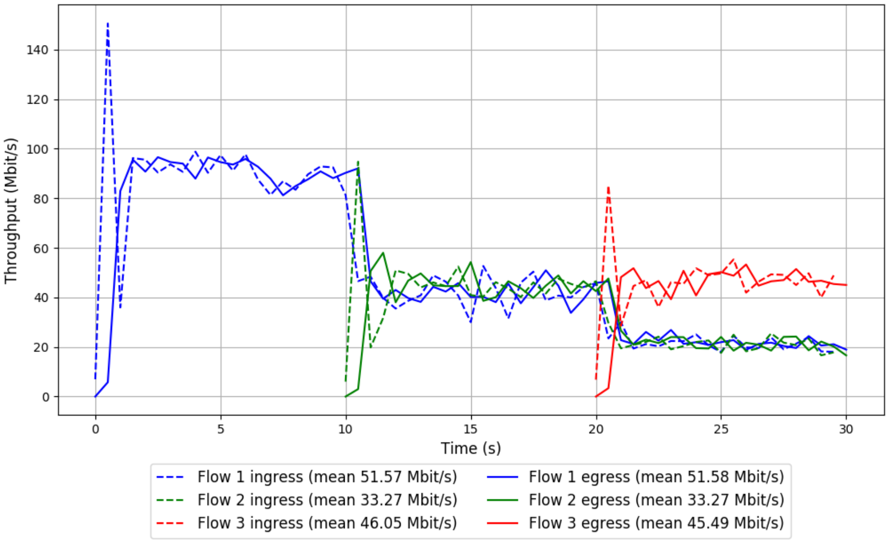
Run 4: Report of Verus — Data Link

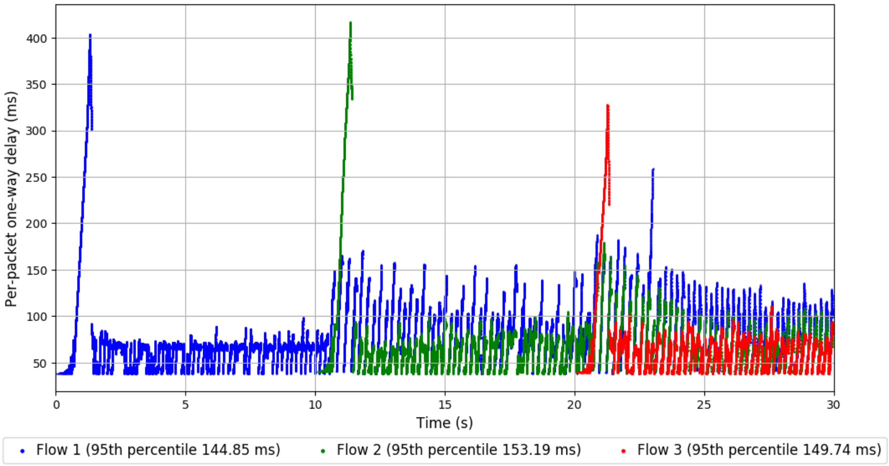




```
Run 5: Statistics of Verus

Start at: 2019-07-12 18:53:07
End at: 2019-07-12 18:53:37
Local clock offset: 8.72 ms
Remote clock offset: -0.881 ms

# Below is generated by plot.py at 2019-07-12 19:15:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.74 Mbit/s
95th percentile per-packet one-way delay: 147.853 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 144.846 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 33.27 Mbit/s
95th percentile per-packet one-way delay: 153.185 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 45.49 Mbit/s
95th percentile per-packet one-way delay: 149.736 ms
Loss rate: 1.82%
```

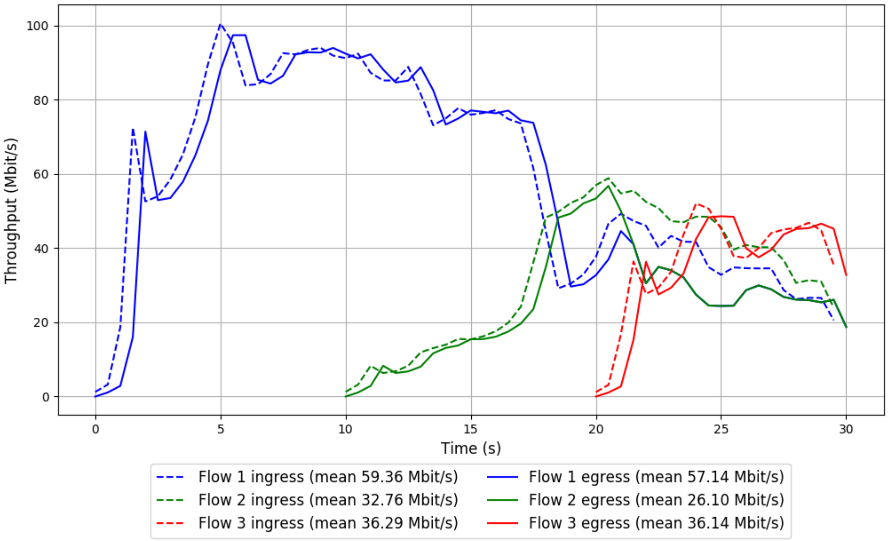
Run 5: Report of Verus — Data Link

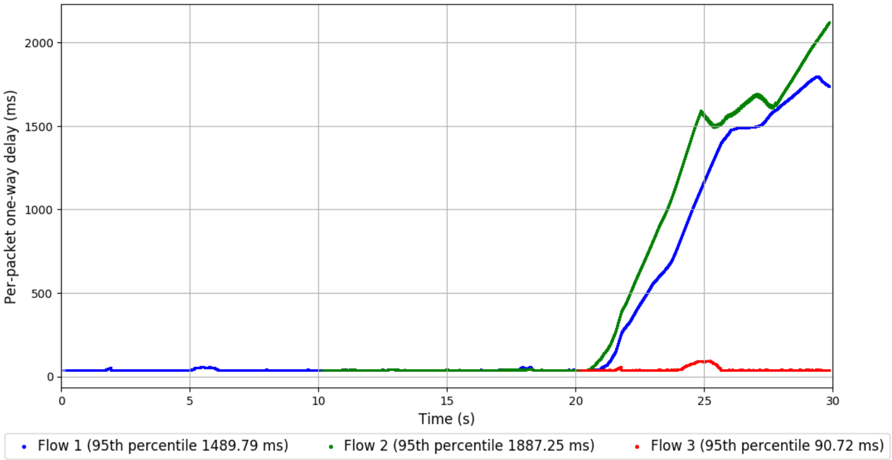




```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-12 16:08:19
End at: 2019-07-12 16:08:49
Local clock offset: -1.486 ms
Remote clock offset: -5.691 ms

# Below is generated by plot.py at 2019-07-12 19:15:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.37 Mbit/s
95th percentile per-packet one-way delay: 1625.261 ms
Loss rate: 7.46%
-- Flow 1:
Average throughput: 57.14 Mbit/s
95th percentile per-packet one-way delay: 1489.793 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 26.10 Mbit/s
95th percentile per-packet one-way delay: 1887.248 ms
Loss rate: 20.59%
-- Flow 3:
Average throughput: 36.14 Mbit/s
95th percentile per-packet one-way delay: 90.723 ms
Loss rate: 1.04%
```

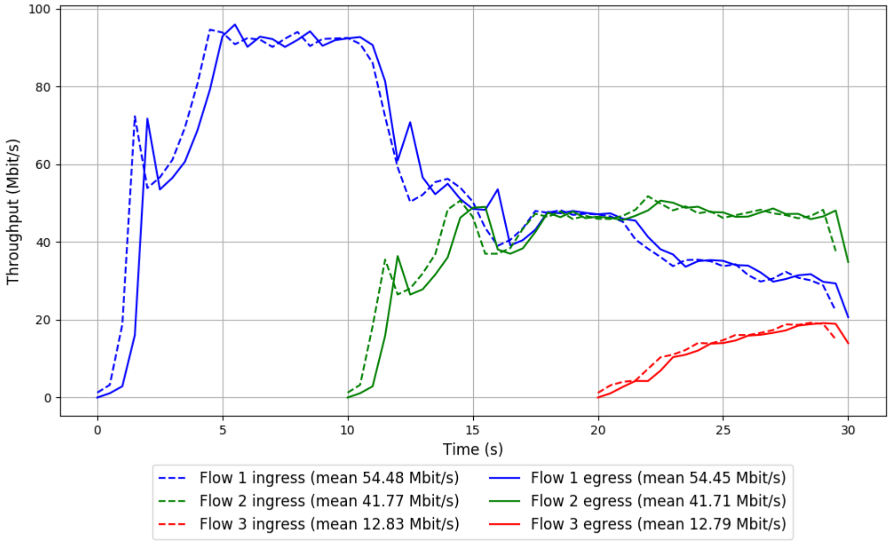
Run 1: Report of PCC-Vivace — Data Link

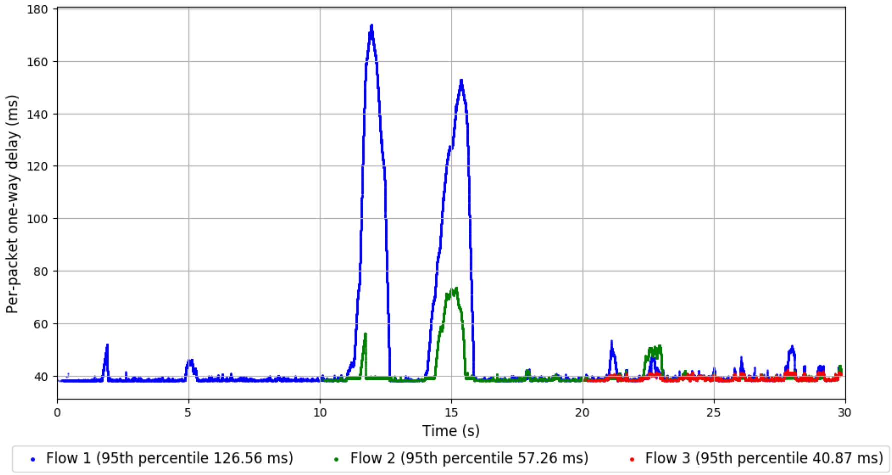




```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-12 16:41:57
End at: 2019-07-12 16:42:27
Local clock offset: -3.188 ms
Remote clock offset: -3.834 ms

# Below is generated by plot.py at 2019-07-12 19:15:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.37 Mbit/s
95th percentile per-packet one-way delay: 83.659 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 54.45 Mbit/s
95th percentile per-packet one-way delay: 126.559 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 41.71 Mbit/s
95th percentile per-packet one-way delay: 57.263 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 40.869 ms
Loss rate: 1.00%
```

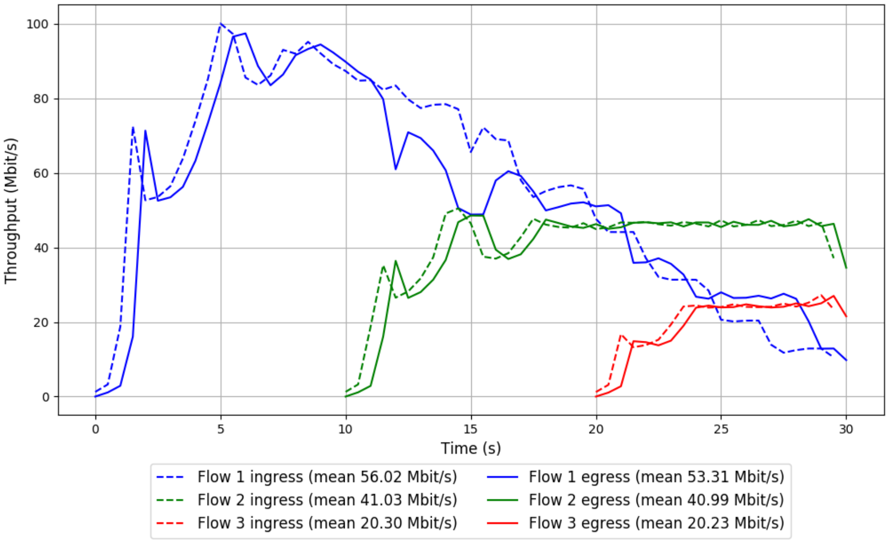
Run 2: Report of PCC-Vivace — Data Link

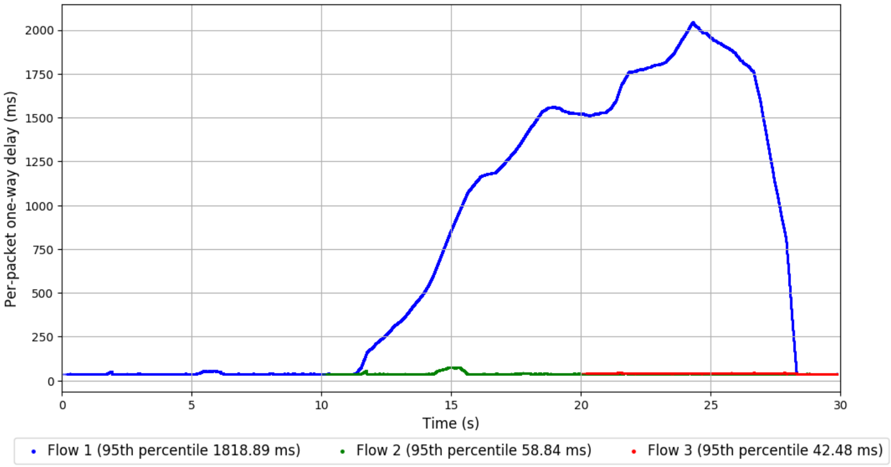




```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-12 17:18:55
End at: 2019-07-12 17:19:25
Local clock offset: 7.112 ms
Remote clock offset: -2.531 ms

# Below is generated by plot.py at 2019-07-12 19:15:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 1767.362 ms
Loss rate: 3.33%
-- Flow 1:
Average throughput: 53.31 Mbit/s
95th percentile per-packet one-way delay: 1818.889 ms
Loss rate: 5.03%
-- Flow 2:
Average throughput: 40.99 Mbit/s
95th percentile per-packet one-way delay: 58.839 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 20.23 Mbit/s
95th percentile per-packet one-way delay: 42.484 ms
Loss rate: 1.02%
```

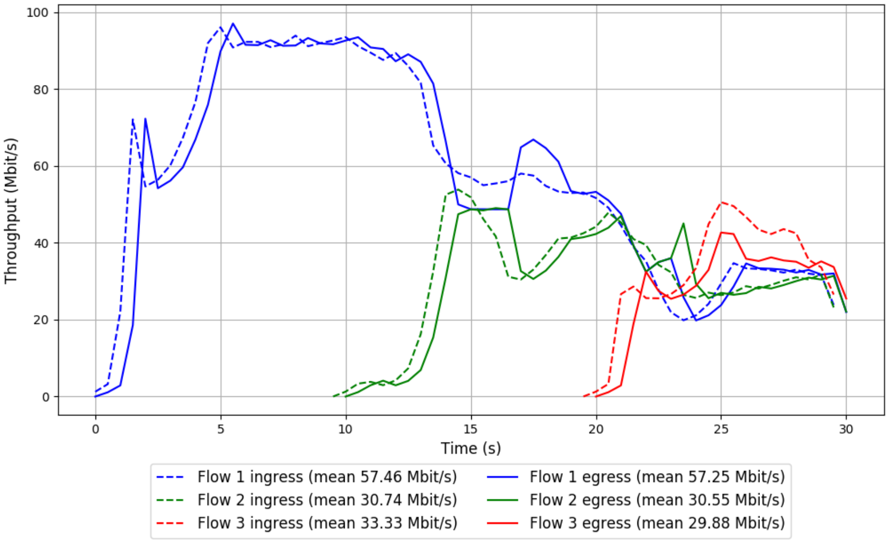
Run 3: Report of PCC-Vivace — Data Link

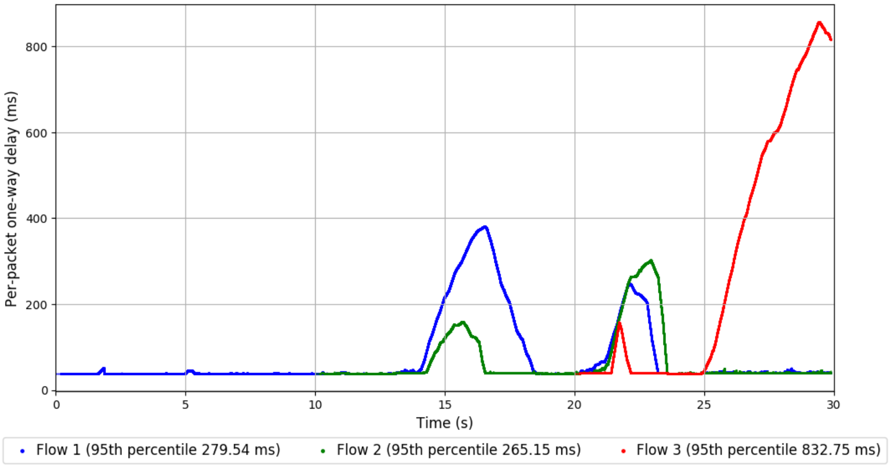




```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-12 17:58:20
End at: 2019-07-12 17:58:50
Local clock offset: 11.471 ms
Remote clock offset: -1.64 ms

# Below is generated by plot.py at 2019-07-12 19:15:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.40 Mbit/s
95th percentile per-packet one-way delay: 375.185 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 57.25 Mbit/s
95th percentile per-packet one-way delay: 279.540 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 265.150 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 29.88 Mbit/s
95th percentile per-packet one-way delay: 832.750 ms
Loss rate: 10.92%
```

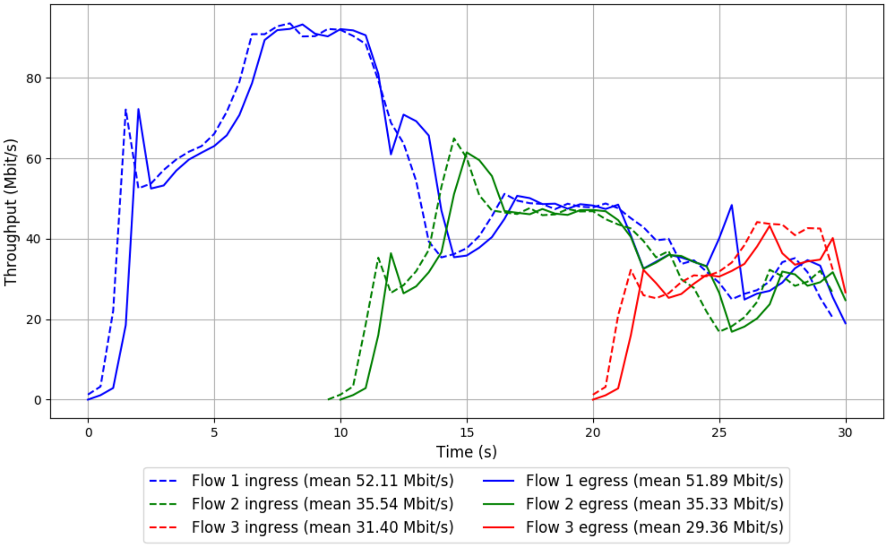
Run 4: Report of PCC-Vivace — Data Link

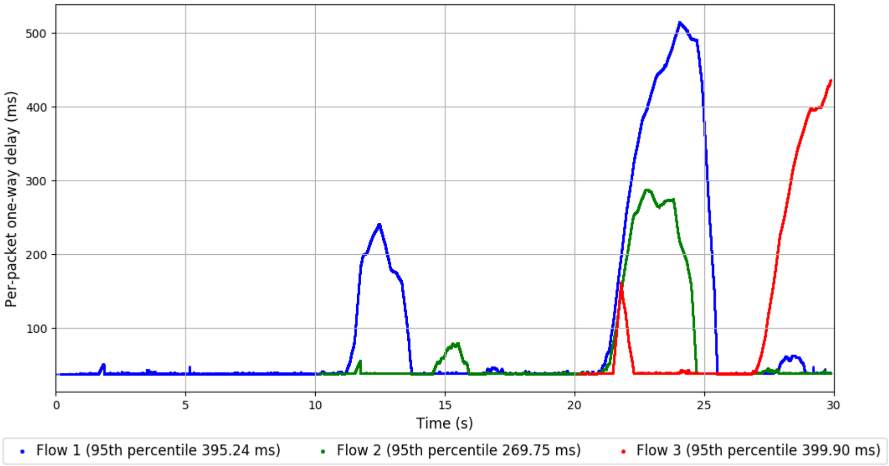




```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-12 18:32:39
End at: 2019-07-12 18:33:09
Local clock offset: 9.467 ms
Remote clock offset: -0.958 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.04 Mbit/s
95th percentile per-packet one-way delay: 369.592 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 395.243 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 35.33 Mbit/s
95th percentile per-packet one-way delay: 269.750 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 29.36 Mbit/s
95th percentile per-packet one-way delay: 399.904 ms
Loss rate: 7.09%
```

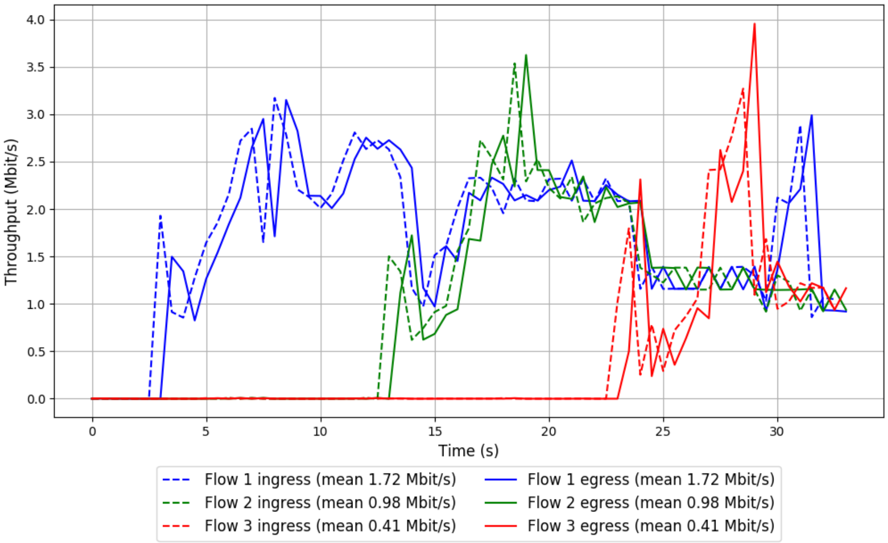
Run 5: Report of PCC-Vivace — Data Link

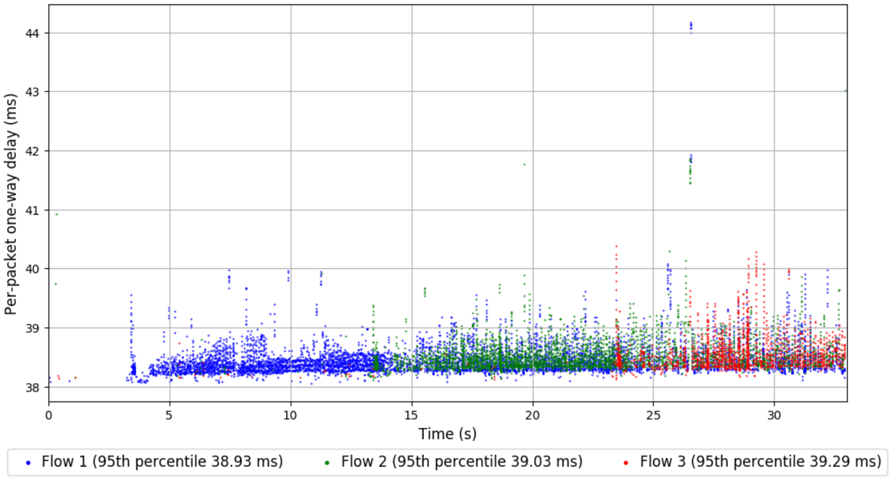




```
Run 1: Statistics of WebRTC media

Start at: 2019-07-12 16:20:59
End at: 2019-07-12 16:21:29
Local clock offset: -2.584 ms
Remote clock offset: -4.945 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 39.024 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 38.926 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 39.035 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 39.288 ms
Loss rate: 0.00%
```

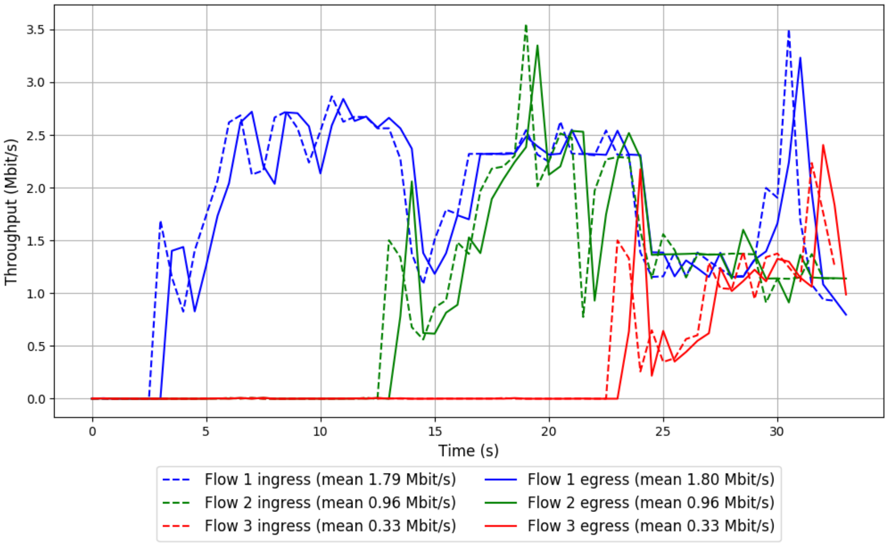
Run 1: Report of WebRTC media — Data Link

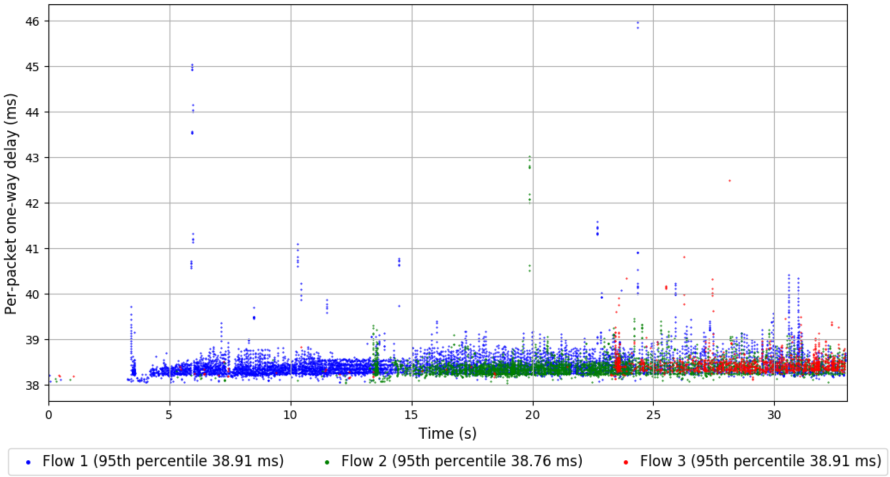




```
Run 2: Statistics of WebRTC media

Start at: 2019-07-12 16:57:48
End at: 2019-07-12 16:58:18
Local clock offset: -3.441 ms
Remote clock offset: -3.213 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 38.859 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 38.912 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 38.757 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 38.908 ms
Loss rate: 1.24%
```

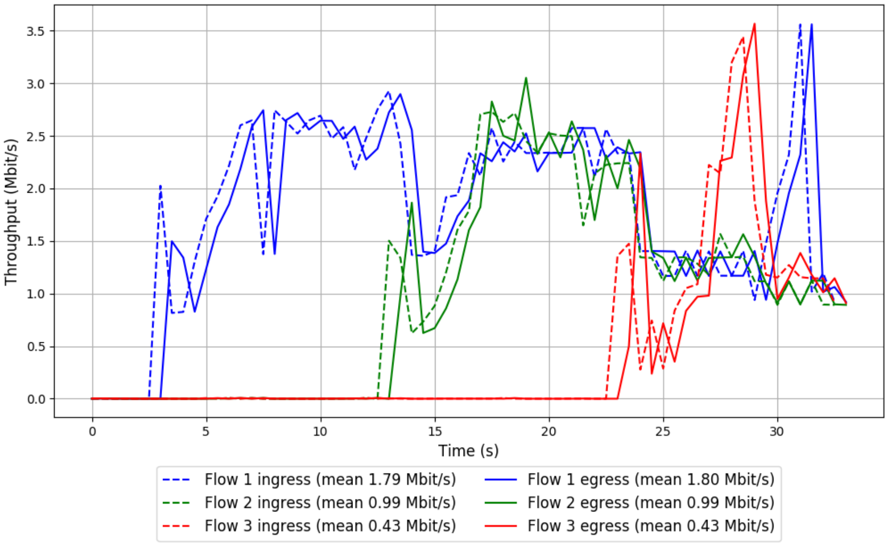
Run 2: Report of WebRTC media — Data Link

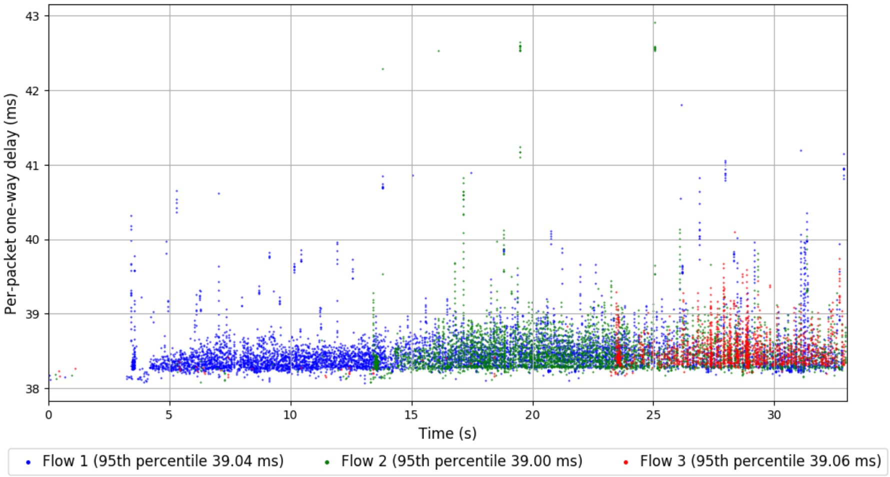




```
Run 3: Statistics of WebRTC media

Start at: 2019-07-12 17:32:48
End at: 2019-07-12 17:33:18
Local clock offset: 9.494 ms
Remote clock offset: -2.191 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 39.034 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 39.037 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 39.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 39.057 ms
Loss rate: 0.82%
```

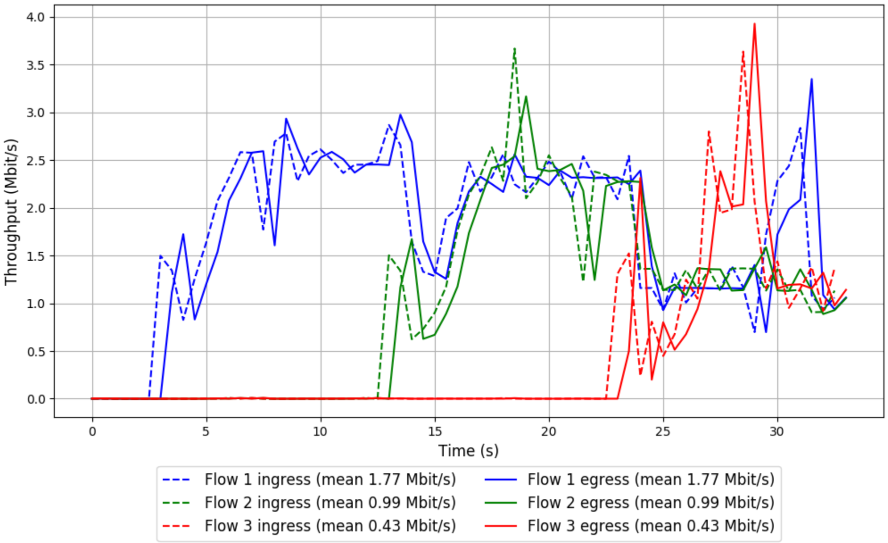
Run 3: Report of WebRTC media — Data Link

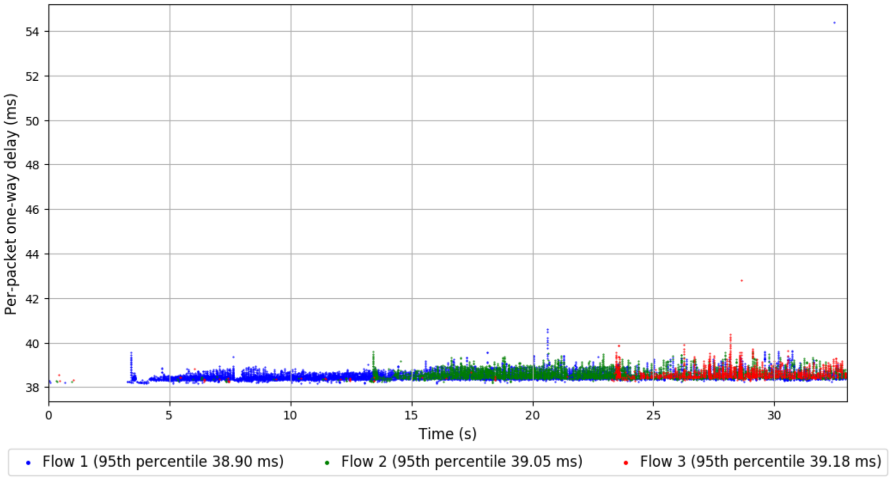




```
Run 4: Statistics of WebRTC media

Start at: 2019-07-12 18:11:37
End at: 2019-07-12 18:12:07
Local clock offset: 9.647 ms
Remote clock offset: -1.409 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 38.991 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 38.898 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 39.052 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 39.178 ms
Loss rate: 0.81%
```

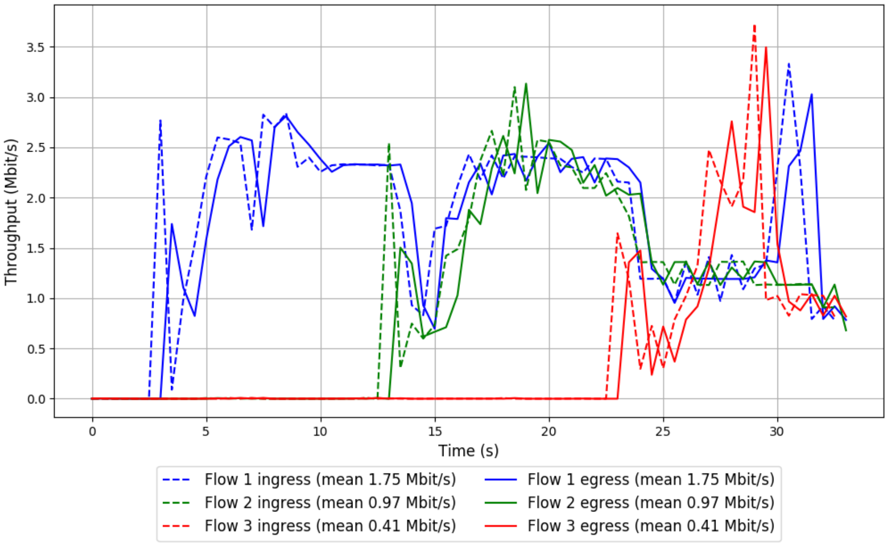
Run 4: Report of WebRTC media — Data Link



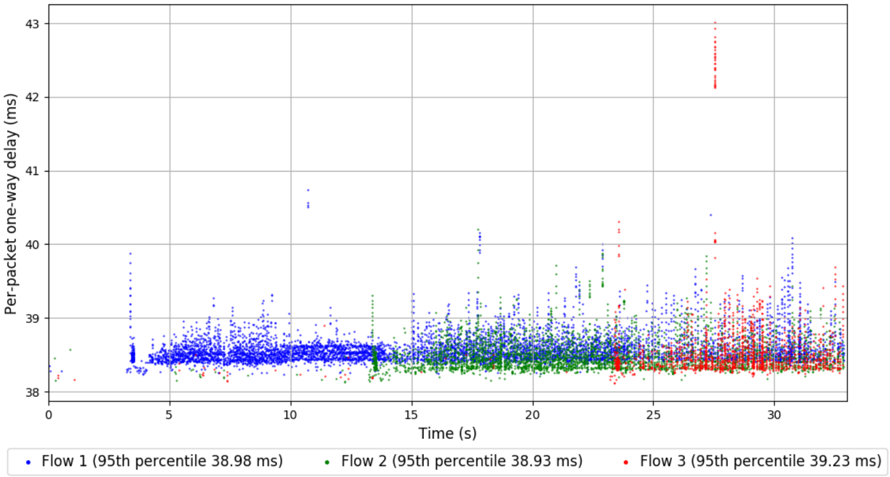


```
Run 5: Statistics of WebRTC media

Start at: 2019-07-12 18:45:47
End at: 2019-07-12 18:46:17
Local clock offset: 8.686 ms
Remote clock offset: -0.958 ms

# Below is generated by plot.py at 2019-07-12 19:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 38.990 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 38.977 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 38.927 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 39.226 ms
Loss rate: 0.77%
```

Run 5: Report of WebRTC media — Data Link



Throughput (Mbit/s)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 1.75 Mbit/s)
Flow 2 ingress (mean 0.97 Mbit/s)
Flow 3 ingress (mean 0.41 Mbit/s)
Flow 1 egress (mean 1.75 Mbit/s)
Flow 2 egress (mean 0.97 Mbit/s)
Flow 3 egress (mean 0.41 Mbit/s)



Per-packet one-way delay (ms)
43
42
41
40
39
38
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 38.98 ms)
Flow 2 (95th percentile 38.93 ms)
Flow 3 (95th percentile 39.23 ms)