Pantheon Report

Generated at 2019-07-18 15:22:11 (UTC).

Data path: GCE London on `ens4` (*remote*) →GCE Sydney on `ens4` (*local*).

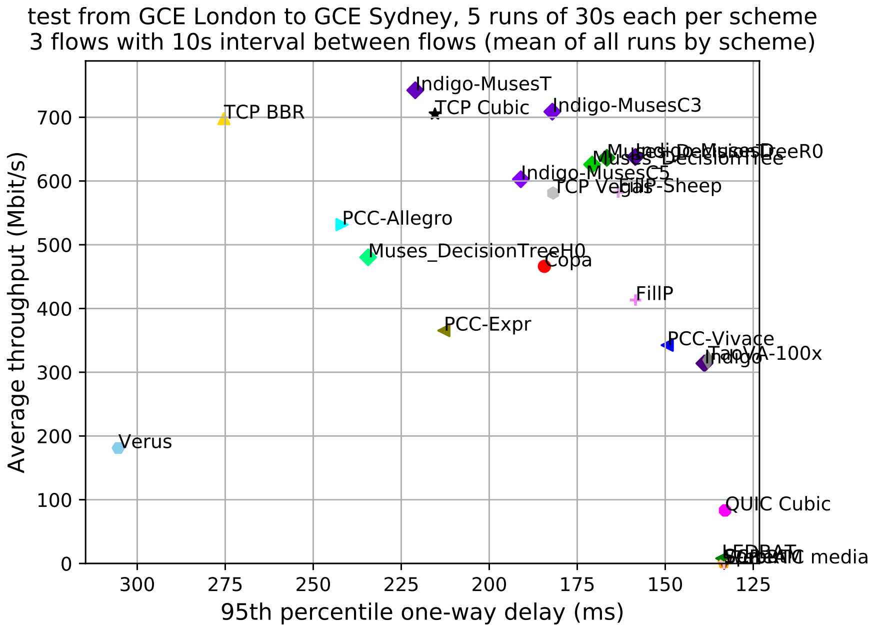
Repeated the test of 24 congestion control schemes 5 times.

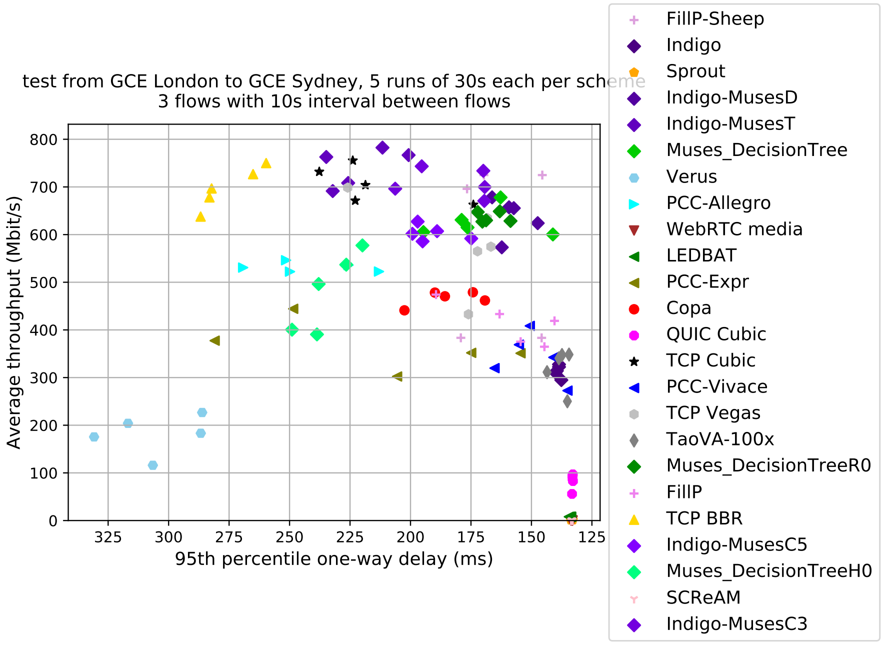
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

```
System info:
Linux 4.15.0-1036-gcp
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 @ de42328552b3776a75a932a94dfafd722537b0ec
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 @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
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
```

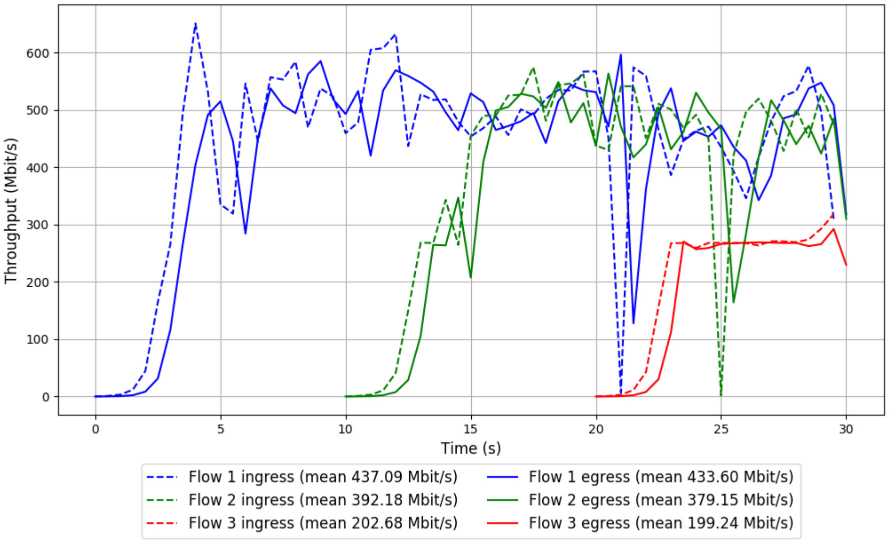

test from GCE London to GCE Sydney, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
100
200
300
400
500
600
700
300
275
250
225
200
175
150
125
Indigo-MusesT
TCP Cubic
Indigo-MusesC3
TCP BBR
Muses_DecisionTree
Indigo-MusesD
Muses_DecisionTreeR0
Indigo-MusesC5
TCP Vegas
FillP-Sheep
PCC-Allegro
Muses_DecisionTreeH0
Copa
FillP
PCC-Expr
PCC-Vivace
TaoVA-100x
Indigo
Verus
QUIC Cubic
LEDBAT
WebRTC media

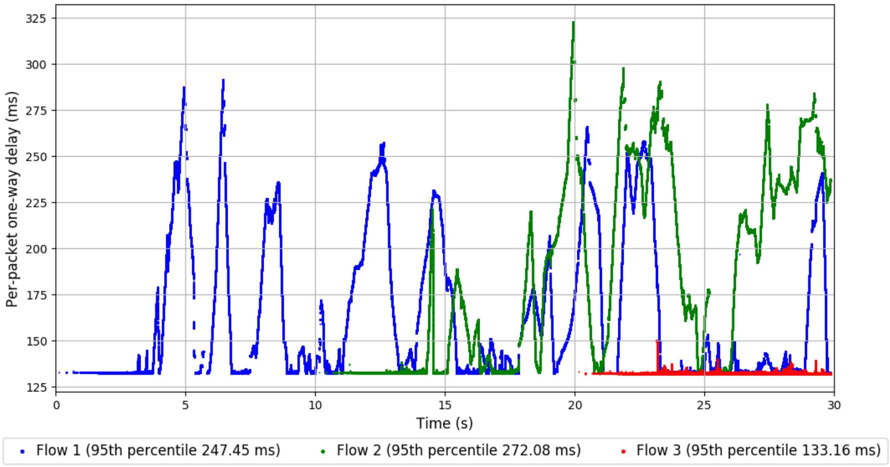

test from GCE London to GCE Sydney, 5 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
100
200
300
400
500
600
700
800
325
300
275
250
225
200
175
150
125
FillP-Sheep
Indigo
Sprout
Indigo-MusesD
Indigo-MusesT
Muses_DecisionTree
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	400.06	342.24	217.17	274.82	260.23	174.46	4.22	3.44	6.00
Copa	5	259.79	222.89	179.85	174.93	191.86	205.32	0.96	1.53	3.80
TCP Cubic	5	414.05	348.27	183.78	212.55	212.53	171.47	1.15	1.80	4.75
FillP	5	117.49	331.23	235.78	175.54	138.64	138.93	1.10	1.43	3.54
FillP-Sheep	5	304.18	311.46	222.23	183.71	138.34	137.71	1.81	1.60	3.41
Indigo	5	166.96	153.23	137.12	138.14	140.26	139.83	1.00	1.51	3.31
Indigo-MusesC3	5	429.45	344.37	249.88	183.85	182.97	141.39	0.94	1.66	5.51
Indigo-MusesC5	5	363.76	340.67	86.45	199.78	175.25	133.55	1.00	1.98	5.67
Indigo-MusesD	5	396.49	337.19	106.61	158.90	161.11	135.63	1.12	1.83	5.20
Indigo-MusesT	5	462.72	382.83	143.46	232.33	204.29	135.98	1.81	1.65	4.46
LEDBAT	5	5.22	3.40	1.65	133.87	134.89	133.49	1.79	2.71	5.41
Muses_DecisionTree	5	390.75	295.35	130.64	174.16	169.60	138.47	1.11	1.91	6.94
Muses_DecisionTreeH0	5	269.23	266.08	117.18	244.62	211.71	138.87	4.22	2.88	7.01
Muses_DecisionTreeR0	5	397.93	302.47	127.55	172.23	149.03	164.72	1.07	1.98	8.05
PCC-Allegro	5	288.09	260.75	218.96	215.36	229.11	297.31	2.38	3.69	8.65
PCC-Expr	5	202.82	179.13	135.73	190.45	202.05	237.51	2.50	2.66	9.84
QUIC Cubic	5	42.31	44.65	33.73	132.77	133.04	132.75	1.37	1.84	3.82
SCReAM	5	0.15	0.16	0.16	133.15	133.14	133.17	0.88	1.40	2.44
Sprout	5	0.63	0.67	0.60	133.29	133.27	133.09	0.85	1.29	3.03
TaoVA-100x	5	184.16	136.94	137.04	136.41	137.61	150.40	1.00	1.58	4.03
TCP Vegas	5	331.92	262.74	229.64	173.84	184.94	192.12	0.74	1.91	3.86
Verus	5	114.10	78.87	46.51	269.54	277.17	182.60	5.33	5.54	6.58
PCC-Vivace	5	212.89	155.55	82.14	161.19	136.15	160.49	1.47	2.67	5.43
WebRTC media	5	0.05	0.05	0.05	133.08	133.02	133.03	0.01	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-18 09:12:46
End at: 2019-07-18 09:13:16
Local clock offset: -0.122 ms
Remote clock offset: 0.239 ms

# Below is generated by plot.py at 2019-07-18 13:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.02 Mbit/s
95th percentile per-packet one-way delay: 259.671 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 433.60 Mbit/s
95th percentile per-packet one-way delay: 247.453 ms
Loss rate: 1.68%
-- Flow 2:
Average throughput: 379.15 Mbit/s
95th percentile per-packet one-way delay: 272.078 ms
Loss rate: 4.61%
-- Flow 3:
Average throughput: 199.24 Mbit/s
95th percentile per-packet one-way delay: 133.160 ms
Loss rate: 4.33%
```

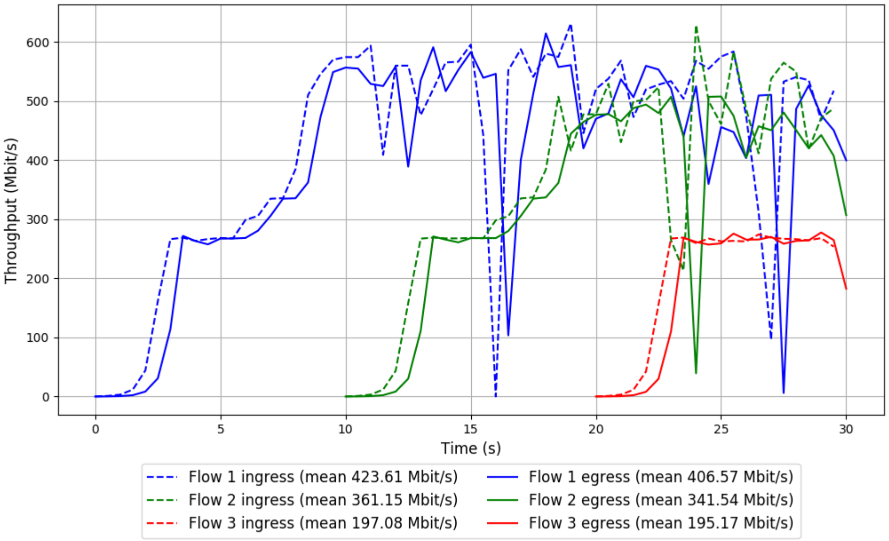
Run 1: Report of TCP BBR — Data Link

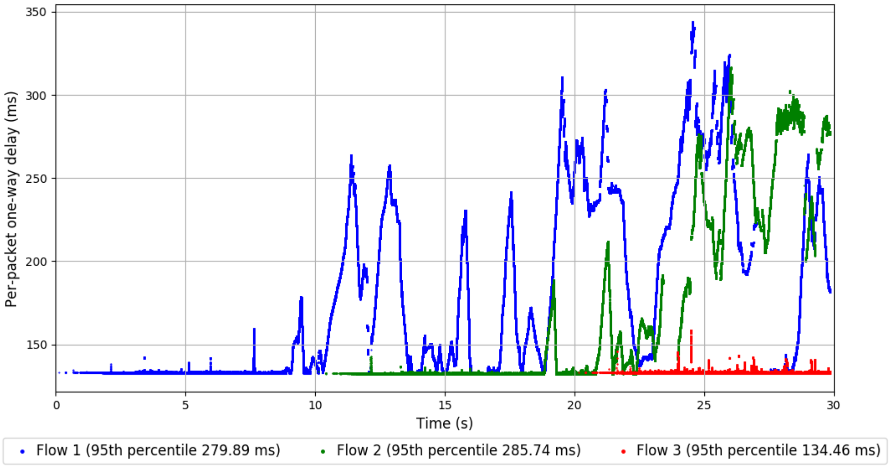




```
Run 2: Statistics of TCP BBR

Start at: 2019-07-18 09:56:21
End at: 2019-07-18 09:56:51
Local clock offset: -0.148 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2019-07-18 13:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.77 Mbit/s
95th percentile per-packet one-way delay: 282.233 ms
Loss rate: 5.36%
-- Flow 1:
Average throughput: 406.57 Mbit/s
95th percentile per-packet one-way delay: 279.892 ms
Loss rate: 4.88%
-- Flow 2:
Average throughput: 341.54 Mbit/s
95th percentile per-packet one-way delay: 285.737 ms
Loss rate: 6.69%
-- Flow 3:
Average throughput: 195.17 Mbit/s
95th percentile per-packet one-way delay: 134.458 ms
Loss rate: 3.61%
```

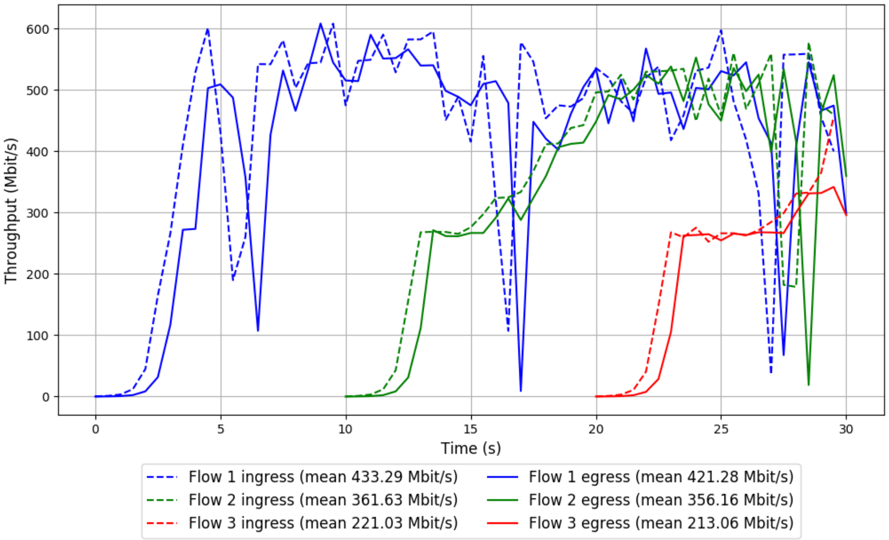
Run 2: Report of TCP BBR — Data Link

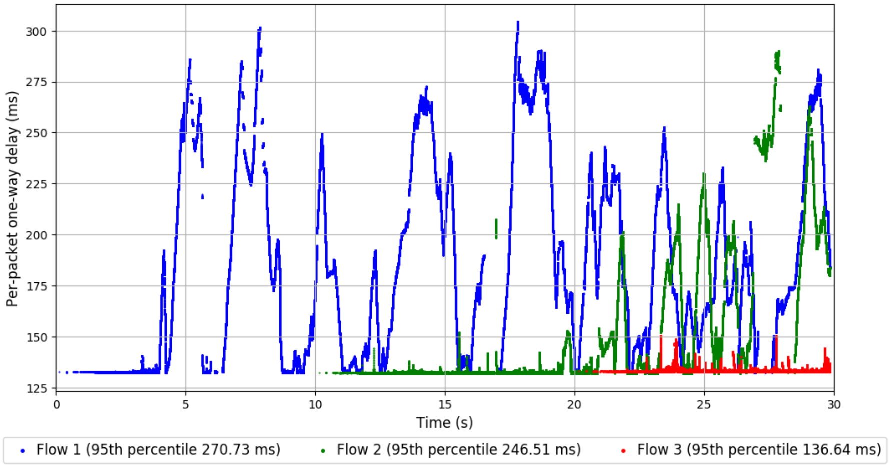




```
Run 3: Statistics of TCP BBR

Start at: 2019-07-18 10:39:41
End at: 2019-07-18 10:40:11
Local clock offset: -0.196 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2019-07-18 13:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 726.82 Mbit/s
95th percentile per-packet one-way delay: 265.067 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 421.28 Mbit/s
95th percentile per-packet one-way delay: 270.728 ms
Loss rate: 3.63%
-- Flow 2:
Average throughput: 356.16 Mbit/s
95th percentile per-packet one-way delay: 246.507 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 213.06 Mbit/s
95th percentile per-packet one-way delay: 136.642 ms
Loss rate: 6.20%
```

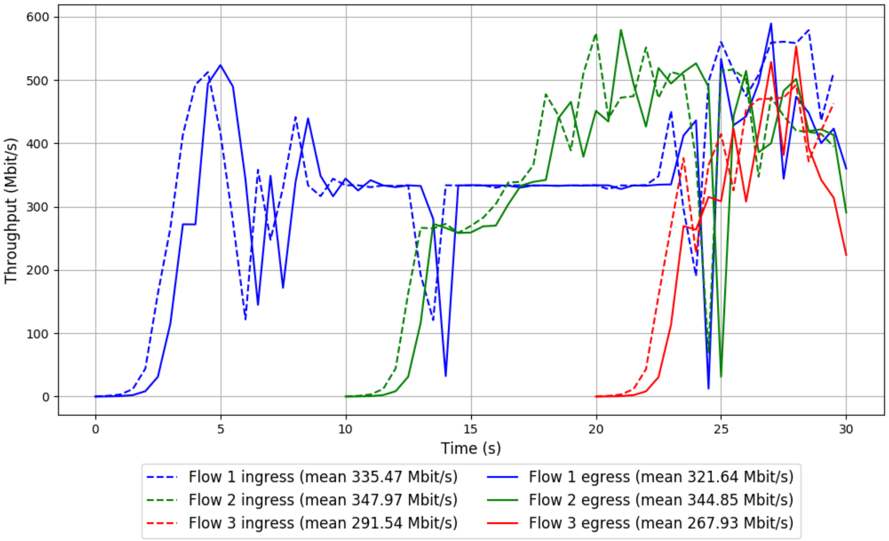
Run 3: Report of TCP BBR — Data Link

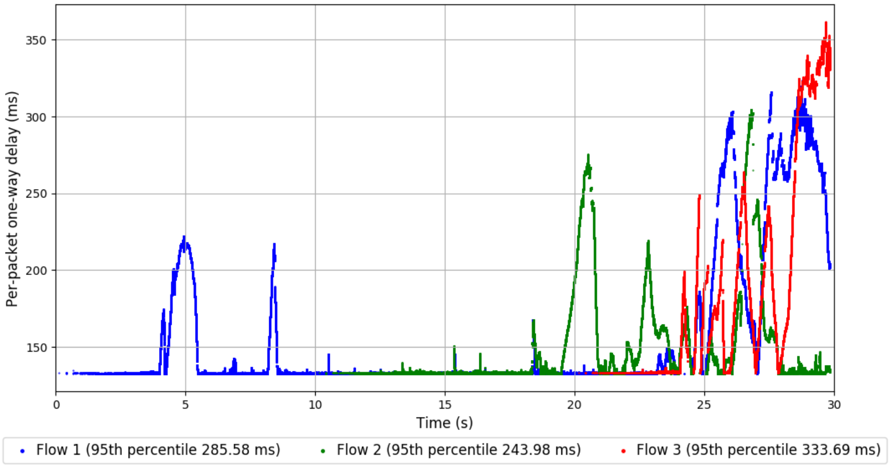




```
Run 4: Statistics of TCP BBR

Start at: 2019-07-18 11:23:21
End at: 2019-07-18 11:23:51
Local clock offset: 0.033 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-07-18 13:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 637.77 Mbit/s
95th percentile per-packet one-way delay: 286.761 ms
Loss rate: 4.82%
-- Flow 1:
Average throughput: 321.64 Mbit/s
95th percentile per-packet one-way delay: 285.580 ms
Loss rate: 4.97%
-- Flow 2:
Average throughput: 344.85 Mbit/s
95th percentile per-packet one-way delay: 243.980 ms
Loss rate: 2.22%
-- Flow 3:
Average throughput: 267.93 Mbit/s
95th percentile per-packet one-way delay: 333.693 ms
Loss rate: 10.55%
```

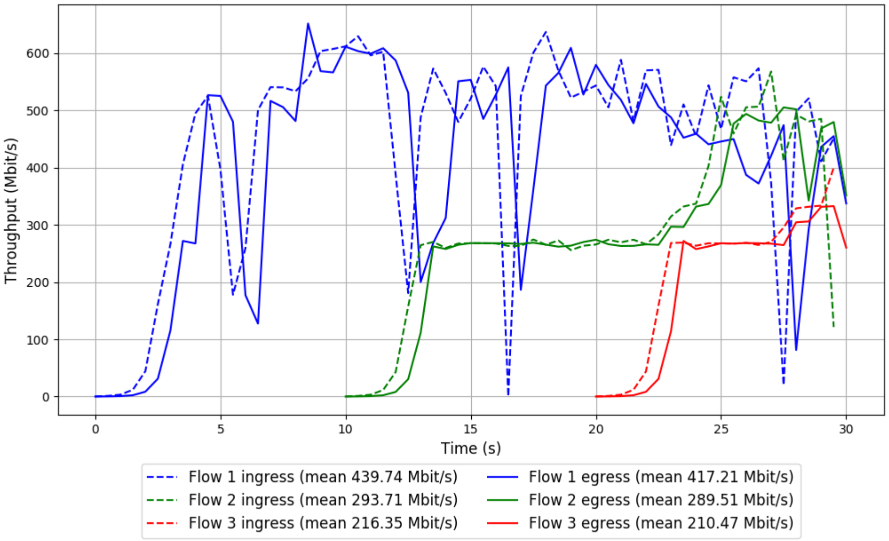
Run 4: Report of TCP BBR — Data Link

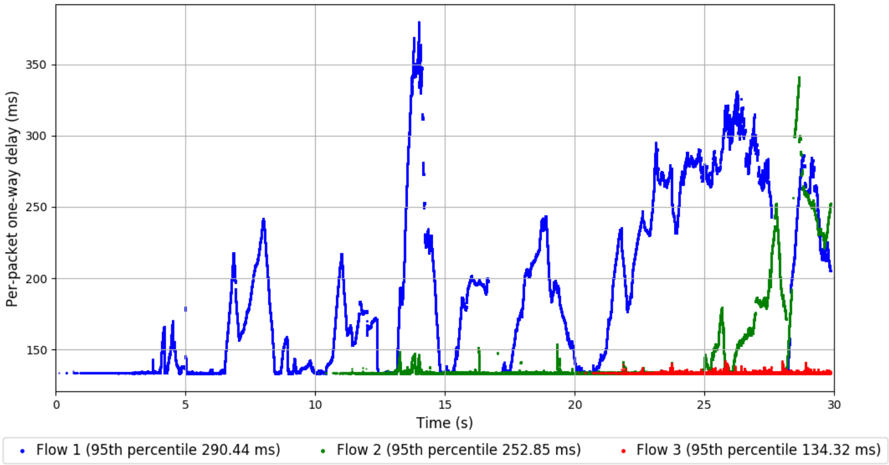




```
Run 5: Statistics of TCP BBR

Start at: 2019-07-18 12:07:23
End at: 2019-07-18 12:07:53
Local clock offset: 0.141 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-07-18 13:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 678.04 Mbit/s
95th percentile per-packet one-way delay: 283.111 ms
Loss rate: 4.50%
-- Flow 1:
Average throughput: 417.21 Mbit/s
95th percentile per-packet one-way delay: 290.442 ms
Loss rate: 5.96%
-- Flow 2:
Average throughput: 289.51 Mbit/s
95th percentile per-packet one-way delay: 252.854 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 210.47 Mbit/s
95th percentile per-packet one-way delay: 134.325 ms
Loss rate: 5.32%
```

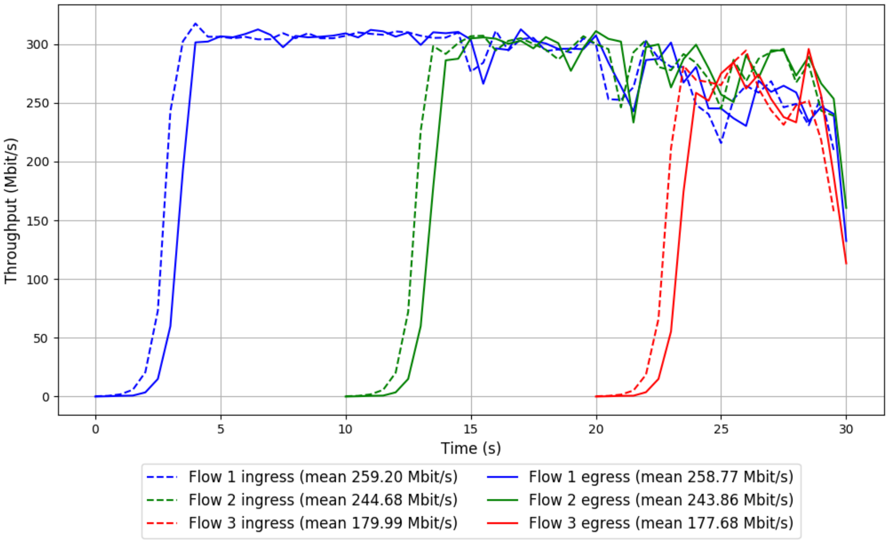
Run 5: Report of TCP BBR — Data Link

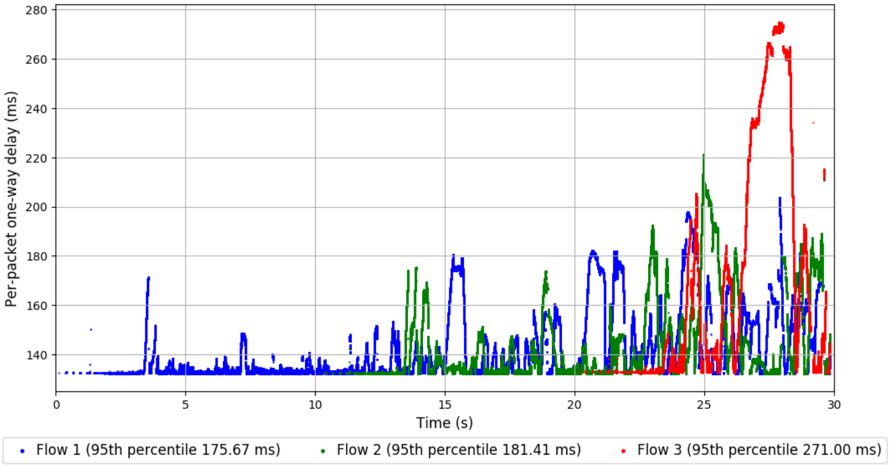




```
Run 1: Statistics of Copa

Start at: 2019-07-18 09:14:58
End at: 2019-07-18 09:15:28
Local clock offset: 0.209 ms
Remote clock offset: 0.196 ms

# Below is generated by plot.py at 2019-07-18 13:07:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.28 Mbit/s
95th percentile per-packet one-way delay: 189.906 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 258.77 Mbit/s
95th percentile per-packet one-way delay: 175.673 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 243.86 Mbit/s
95th percentile per-packet one-way delay: 181.405 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 177.68 Mbit/s
95th percentile per-packet one-way delay: 271.005 ms
Loss rate: 4.06%
```

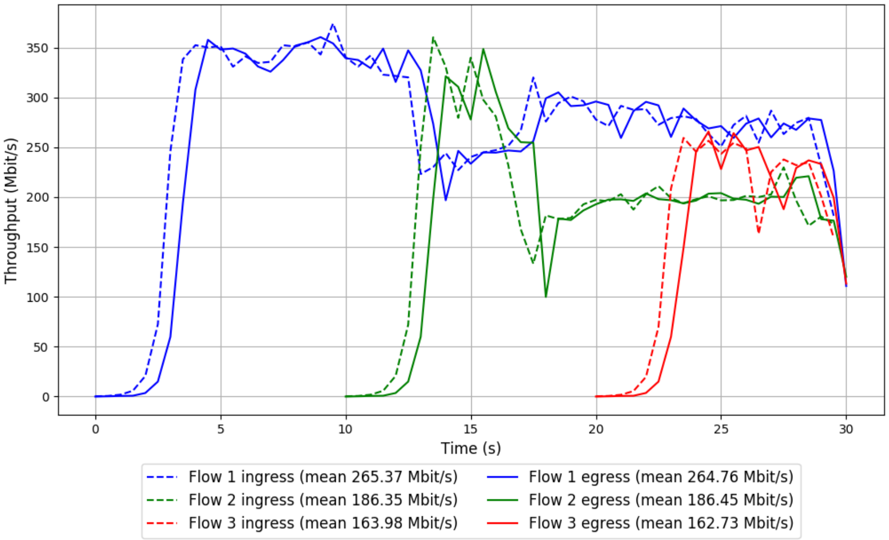
Run 1: Report of Copa — Data Link

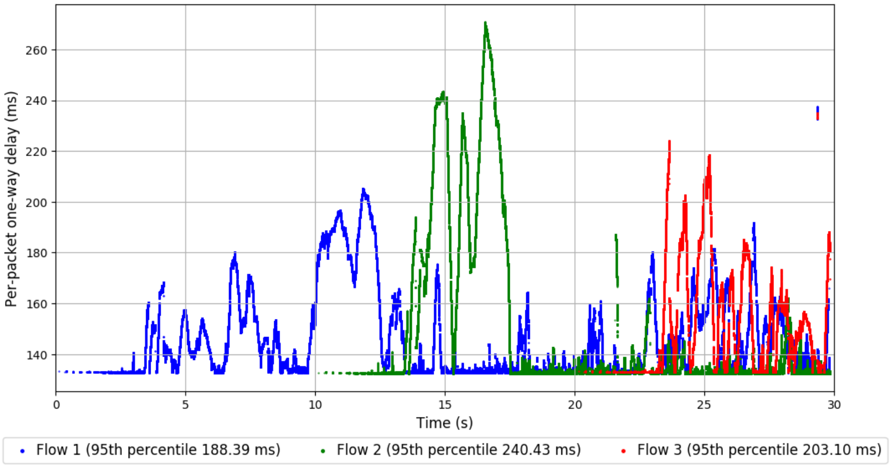




```
Run 2: Statistics of Copa

Start at: 2019-07-18 09:58:28
End at: 2019-07-18 09:58:58
Local clock offset: -0.071 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-07-18 13:07:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 441.09 Mbit/s
95th percentile per-packet one-way delay: 202.511 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 264.76 Mbit/s
95th percentile per-packet one-way delay: 188.391 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 186.45 Mbit/s
95th percentile per-packet one-way delay: 240.427 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 162.73 Mbit/s
95th percentile per-packet one-way delay: 203.103 ms
Loss rate: 3.61%
```

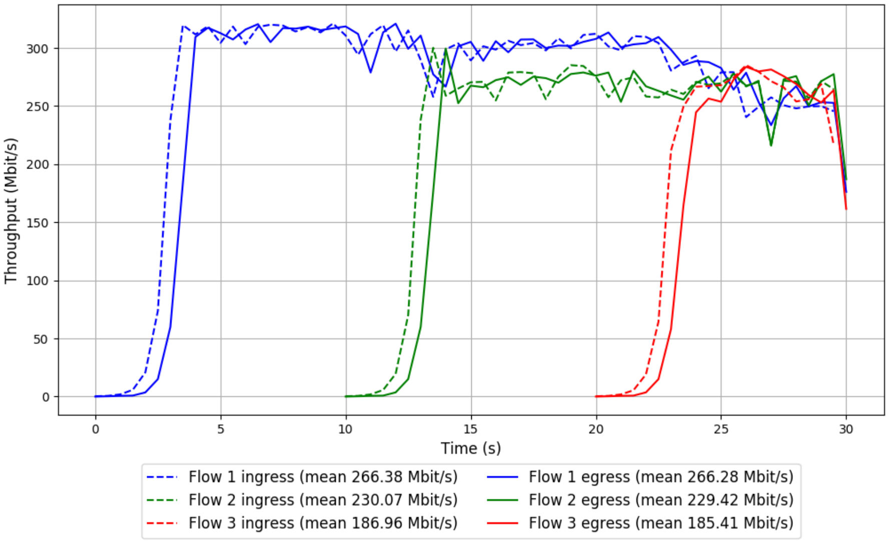
Run 2: Report of Copa — Data Link

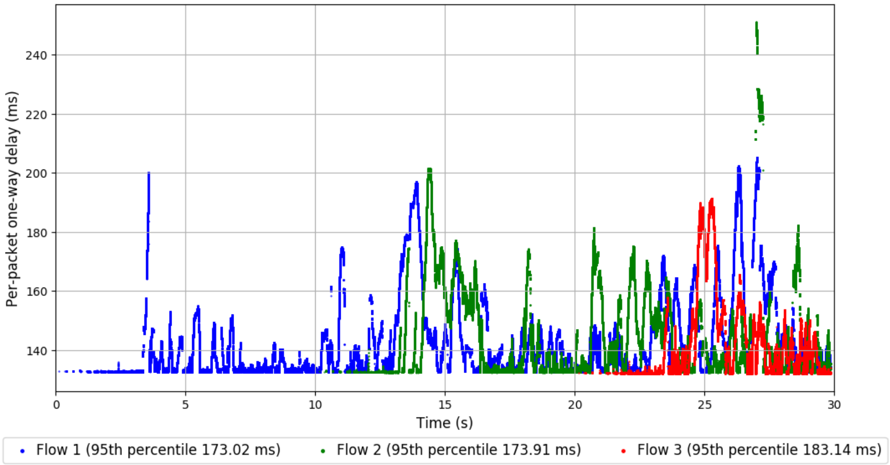




```
Run 3: Statistics of Copa

Start at: 2019-07-18 10:41:50
End at: 2019-07-18 10:42:20
Local clock offset: -0.299 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-07-18 13:07:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.98 Mbit/s
95th percentile per-packet one-way delay: 174.210 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 266.28 Mbit/s
95th percentile per-packet one-way delay: 173.021 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 229.42 Mbit/s
95th percentile per-packet one-way delay: 173.913 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 185.41 Mbit/s
95th percentile per-packet one-way delay: 183.142 ms
Loss rate: 3.45%
```

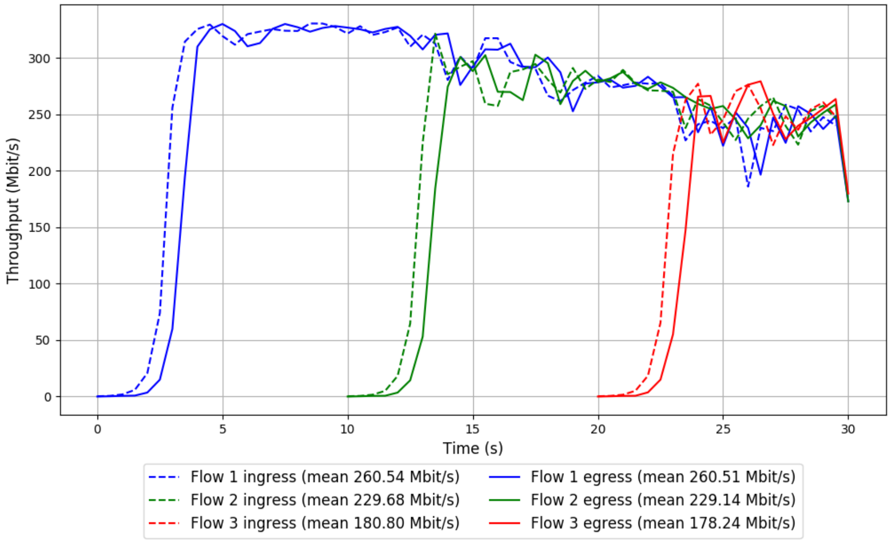
Run 3: Report of Copa — Data Link

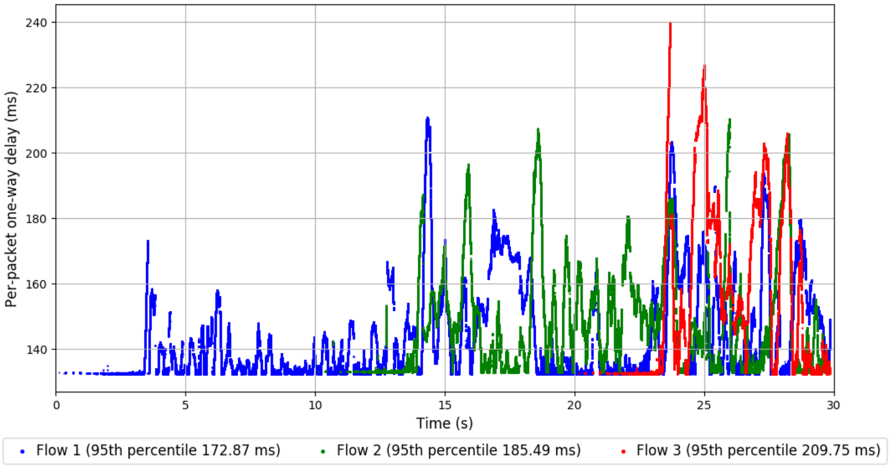




```
Run 4: Statistics of Copa

Start at: 2019-07-18 11:25:26
End at: 2019-07-18 11:25:56
Local clock offset: 0.604 ms
Remote clock offset: 0.287 ms

# Below is generated by plot.py at 2019-07-18 13:20:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.53 Mbit/s
95th percentile per-packet one-way delay: 185.776 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 260.51 Mbit/s
95th percentile per-packet one-way delay: 172.872 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 229.14 Mbit/s
95th percentile per-packet one-way delay: 185.487 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 178.24 Mbit/s
95th percentile per-packet one-way delay: 209.747 ms
Loss rate: 4.05%
```

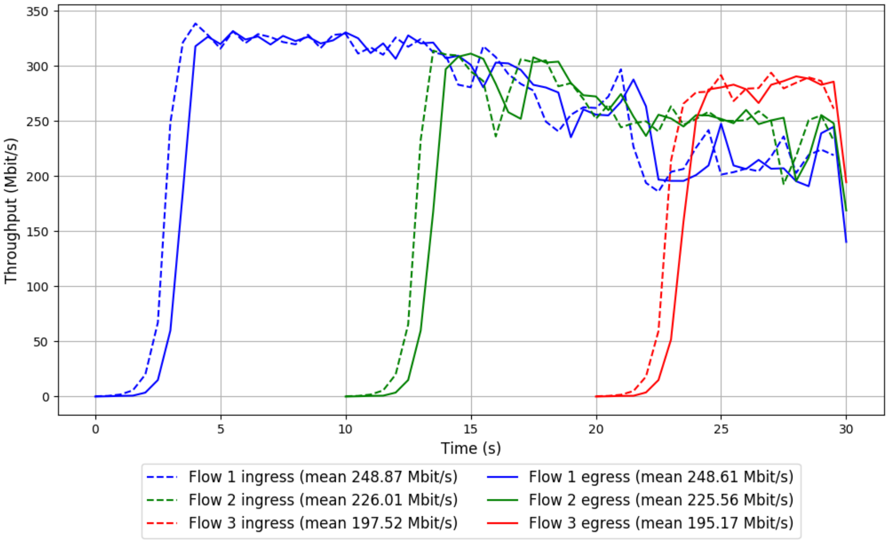
Run 4: Report of Copa — Data Link

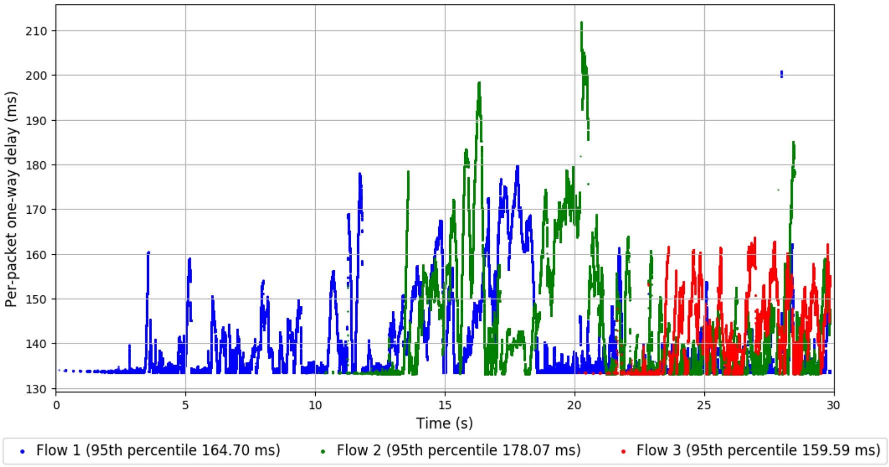




```
Run 5: Statistics of Copa

Start at: 2019-07-18 12:09:30
End at: 2019-07-18 12:10:00
Local clock offset: 0.322 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-07-18 13:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.79 Mbit/s
95th percentile per-packet one-way delay: 169.231 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 248.61 Mbit/s
95th percentile per-packet one-way delay: 164.699 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 225.56 Mbit/s
95th percentile per-packet one-way delay: 178.073 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 195.17 Mbit/s
95th percentile per-packet one-way delay: 159.585 ms
Loss rate: 3.84%
```

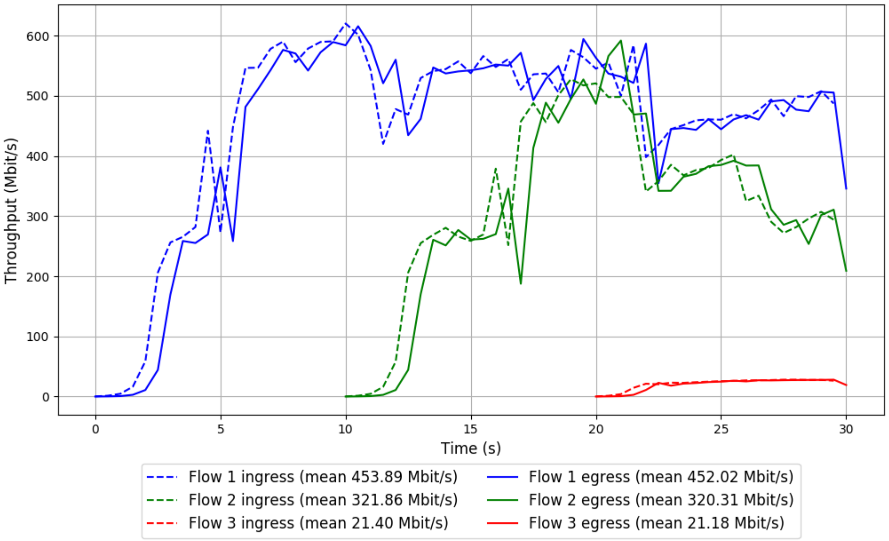
Run 5: Report of Copa — Data Link

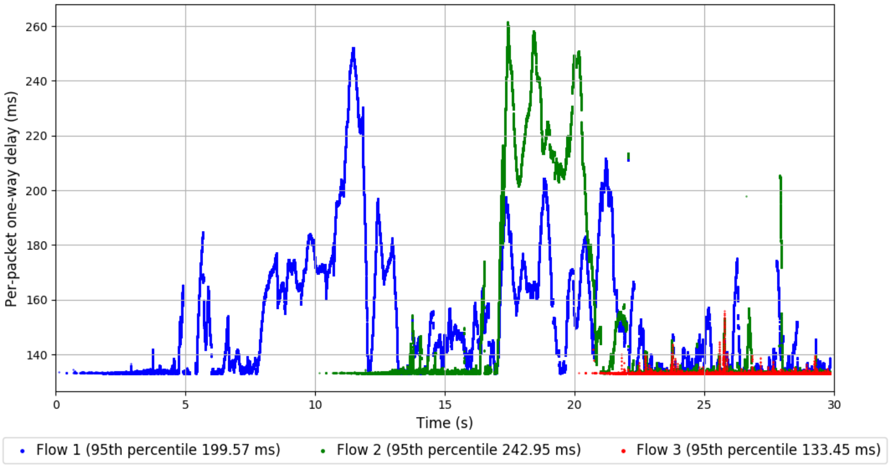




```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-18 09:30:36
End at: 2019-07-18 09:31:06
Local clock offset: 0.171 ms
Remote clock offset: -0.158 ms

# Below is generated by plot.py at 2019-07-18 13:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 671.34 Mbit/s
95th percentile per-packet one-way delay: 222.849 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 452.02 Mbit/s
95th percentile per-packet one-way delay: 199.575 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 320.31 Mbit/s
95th percentile per-packet one-way delay: 242.951 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 133.449 ms
Loss rate: 3.72%
```

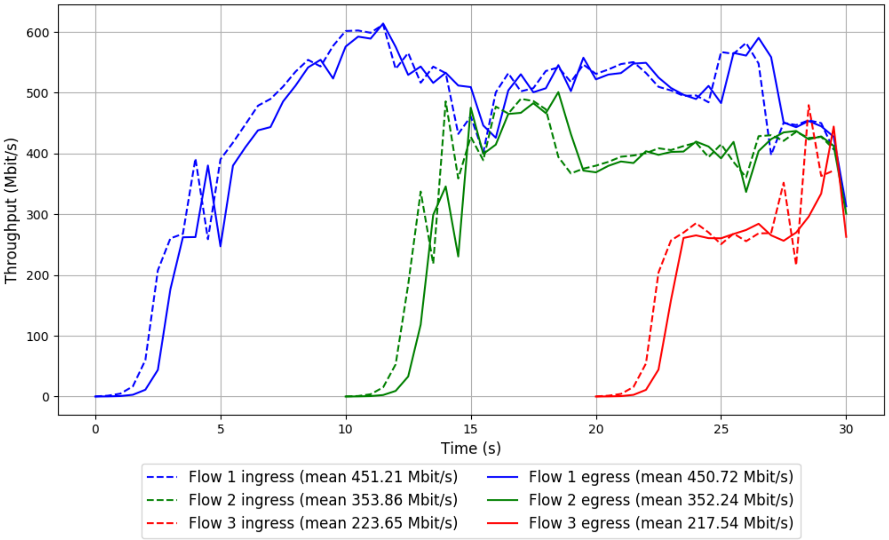
Run 1: Report of TCP Cubic — Data Link

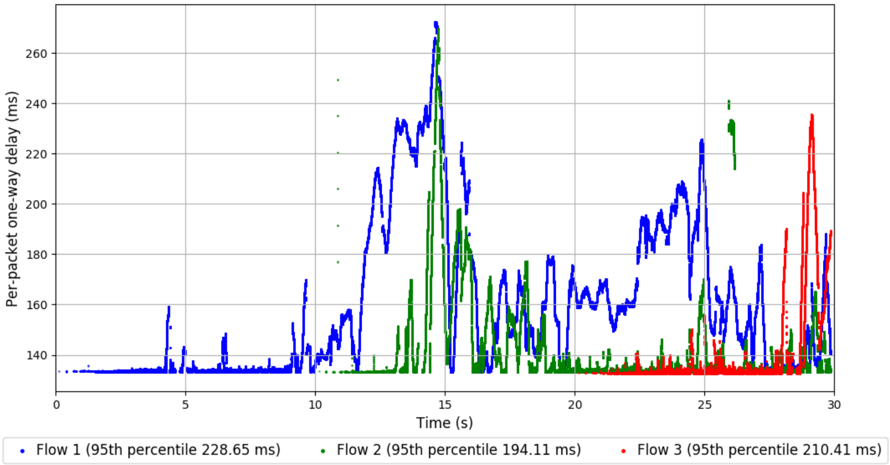




```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-18 10:14:17
End at: 2019-07-18 10:14:47
Local clock offset: 0.303 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-07-18 13:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 755.32 Mbit/s
95th percentile per-packet one-way delay: 223.861 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 450.72 Mbit/s
95th percentile per-packet one-way delay: 228.652 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 352.24 Mbit/s
95th percentile per-packet one-way delay: 194.113 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 217.54 Mbit/s
95th percentile per-packet one-way delay: 210.411 ms
Loss rate: 5.31%
```

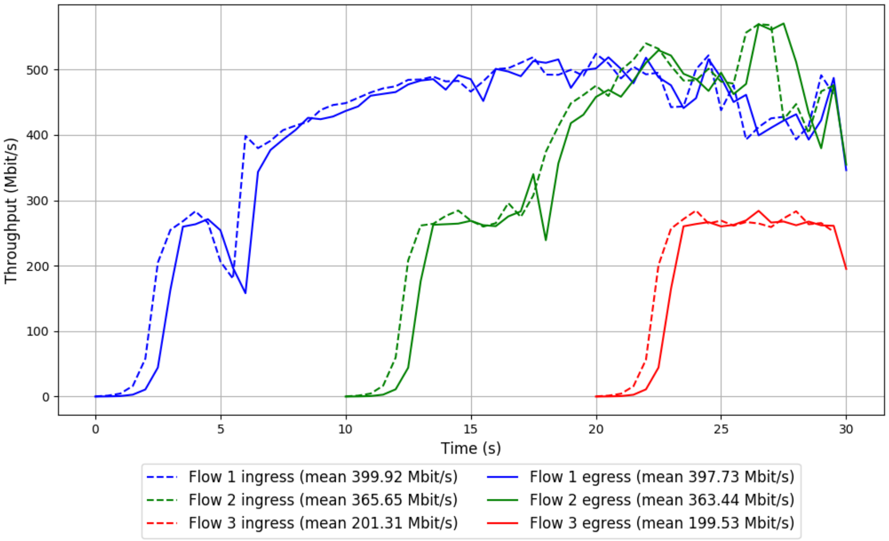
Run 2: Report of TCP Cubic — Data Link

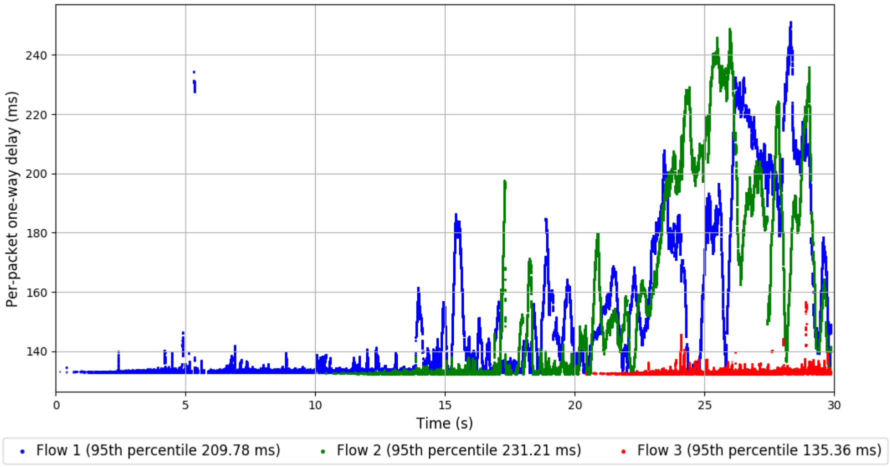




```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-18 10:57:53
End at: 2019-07-18 10:58:23
Local clock offset: 0.034 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-07-18 13:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 703.90 Mbit/s
95th percentile per-packet one-way delay: 218.621 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 397.73 Mbit/s
95th percentile per-packet one-way delay: 209.785 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 363.44 Mbit/s
95th percentile per-packet one-way delay: 231.211 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 199.53 Mbit/s
95th percentile per-packet one-way delay: 135.357 ms
Loss rate: 3.53%
```

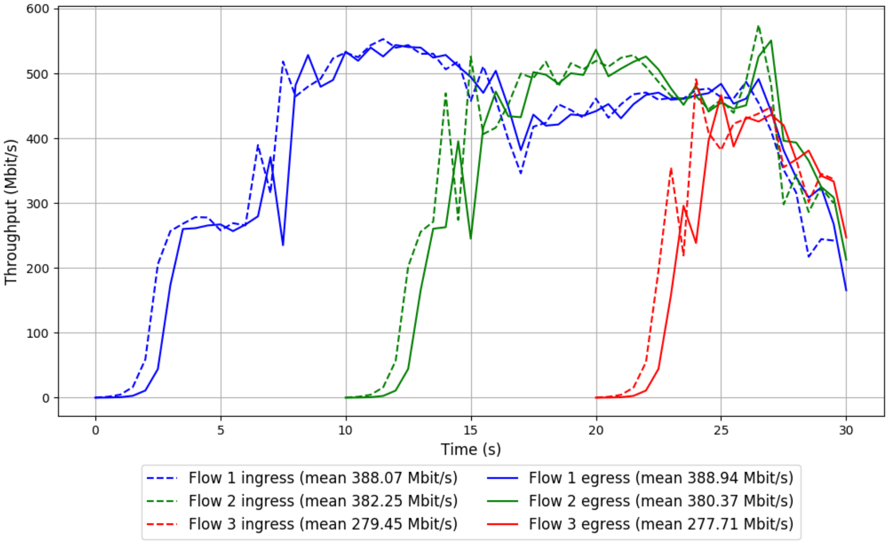
Run 3: Report of TCP Cubic — Data Link

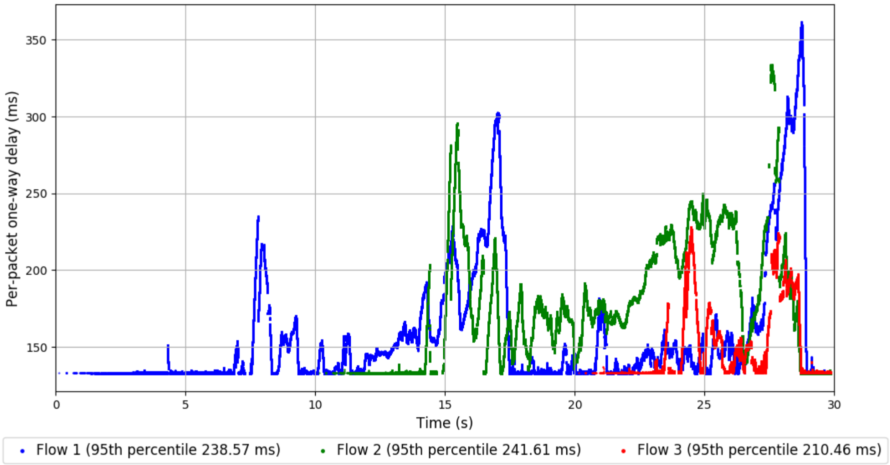




```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-18 11:41:11
End at: 2019-07-18 11:41:41
Local clock offset: 0.205 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-07-18 13:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 731.83 Mbit/s
95th percentile per-packet one-way delay: 237.716 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 388.94 Mbit/s
95th percentile per-packet one-way delay: 238.574 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 380.37 Mbit/s
95th percentile per-packet one-way delay: 241.606 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 277.71 Mbit/s
95th percentile per-packet one-way delay: 210.460 ms
Loss rate: 3.32%
```

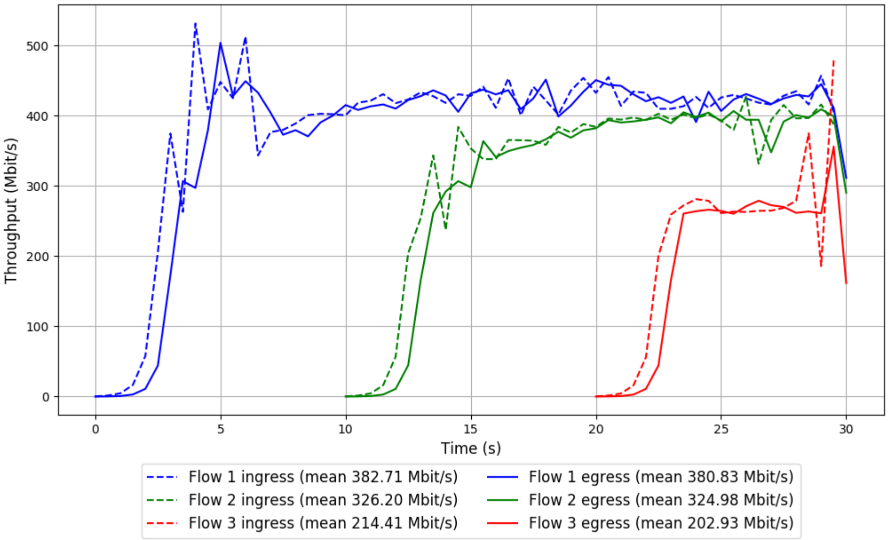
Run 4: Report of TCP Cubic — Data Link

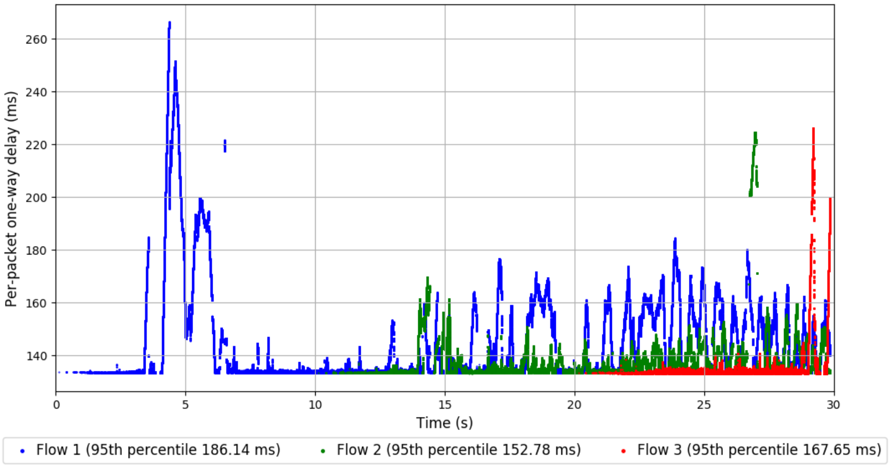




```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-18 12:25:21
End at: 2019-07-18 12:25:51
Local clock offset: 0.21 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-07-18 13:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 662.62 Mbit/s
95th percentile per-packet one-way delay: 174.015 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 380.83 Mbit/s
95th percentile per-packet one-way delay: 186.140 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 324.98 Mbit/s
95th percentile per-packet one-way delay: 152.783 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 202.93 Mbit/s
95th percentile per-packet one-way delay: 167.653 ms
Loss rate: 7.88%
```

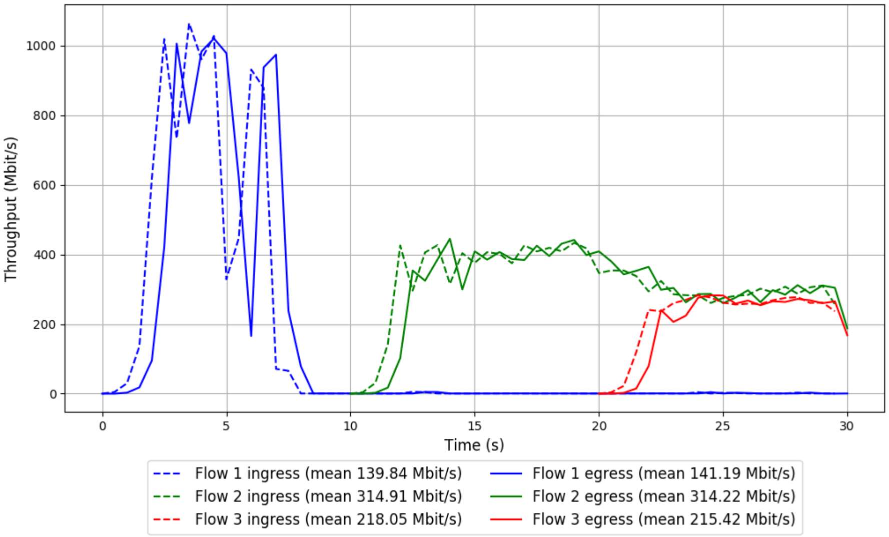
Run 5: Report of TCP Cubic — Data Link

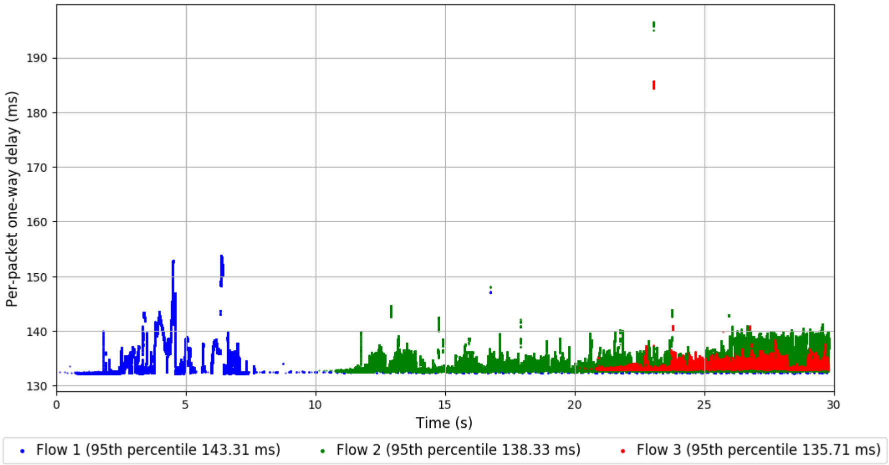




```
Run 1: Statistics of FillP

Start at: 2019-07-18 09:11:05
End at: 2019-07-18 09:11:35
Local clock offset: 0.14 ms
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2019-07-18 13:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.97 Mbit/s
95th percentile per-packet one-way delay: 140.467 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 141.19 Mbit/s
95th percentile per-packet one-way delay: 143.312 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 314.22 Mbit/s
95th percentile per-packet one-way delay: 138.330 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 215.42 Mbit/s
95th percentile per-packet one-way delay: 135.709 ms
Loss rate: 4.06%
```

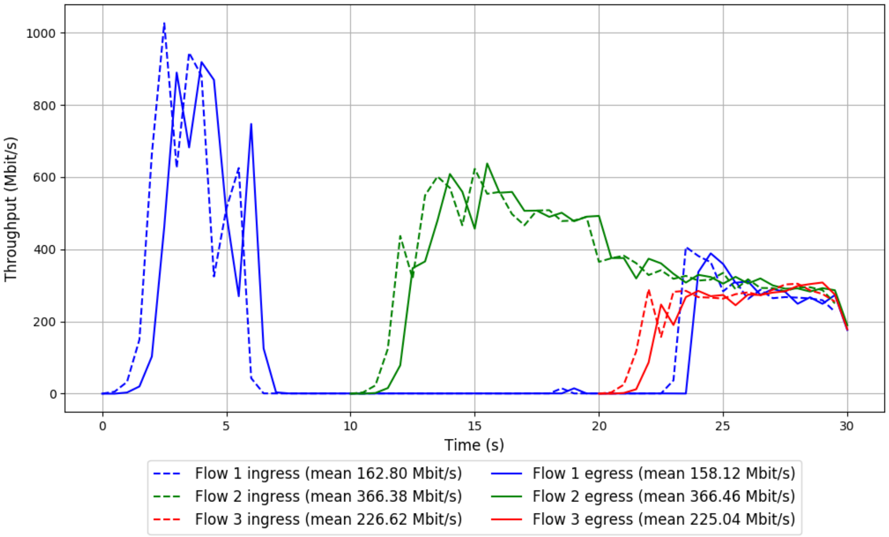
Run 1: Report of FillP — Data Link

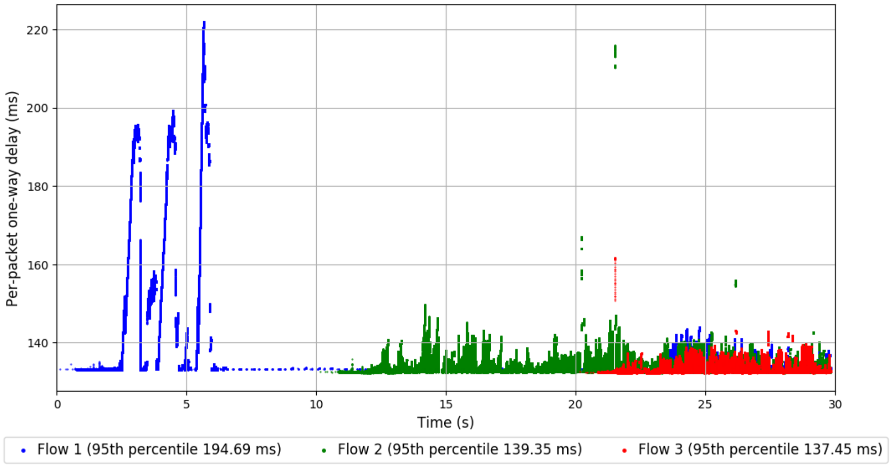




```
Run 2: Statistics of FillP

Start at: 2019-07-18 09:54:36
End at: 2019-07-18 09:55:06
Local clock offset: -0.126 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-07-18 13:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.07 Mbit/s
95th percentile per-packet one-way delay: 189.448 ms
Loss rate: 2.45%
-- Flow 1:
Average throughput: 158.12 Mbit/s
95th percentile per-packet one-way delay: 194.690 ms
Loss rate: 3.68%
-- Flow 2:
Average throughput: 366.46 Mbit/s
95th percentile per-packet one-way delay: 139.355 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 225.04 Mbit/s
95th percentile per-packet one-way delay: 137.451 ms
Loss rate: 3.22%
```

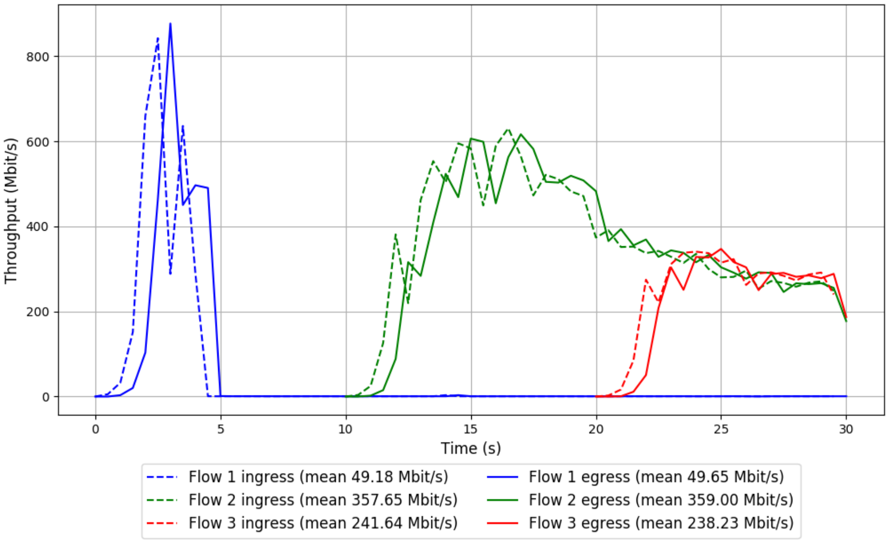
Run 2: Report of FillP — Data Link

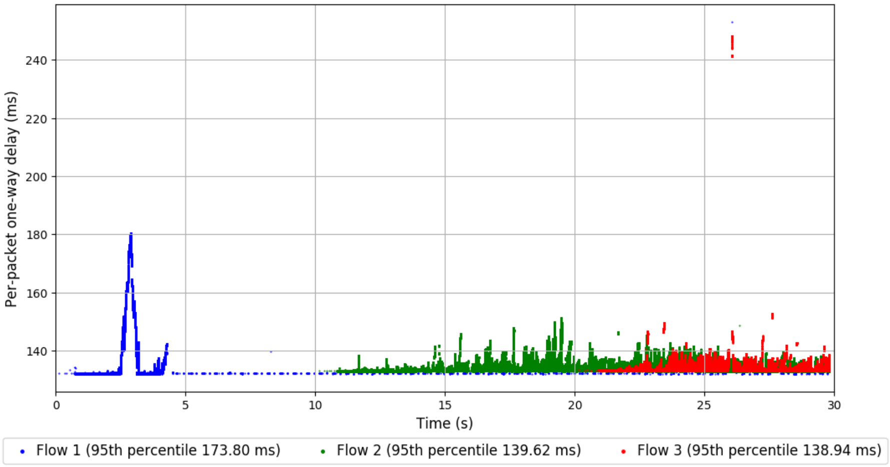




```
Run 3: Statistics of FillP

Start at: 2019-07-18 10:38:02
End at: 2019-07-18 10:38:32
Local clock offset: -0.129 ms
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2019-07-18 13:28:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 364.73 Mbit/s
95th percentile per-packet one-way delay: 144.631 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 49.65 Mbit/s
95th percentile per-packet one-way delay: 173.797 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 359.00 Mbit/s
95th percentile per-packet one-way delay: 139.623 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 238.23 Mbit/s
95th percentile per-packet one-way delay: 138.935 ms
Loss rate: 3.92%
```

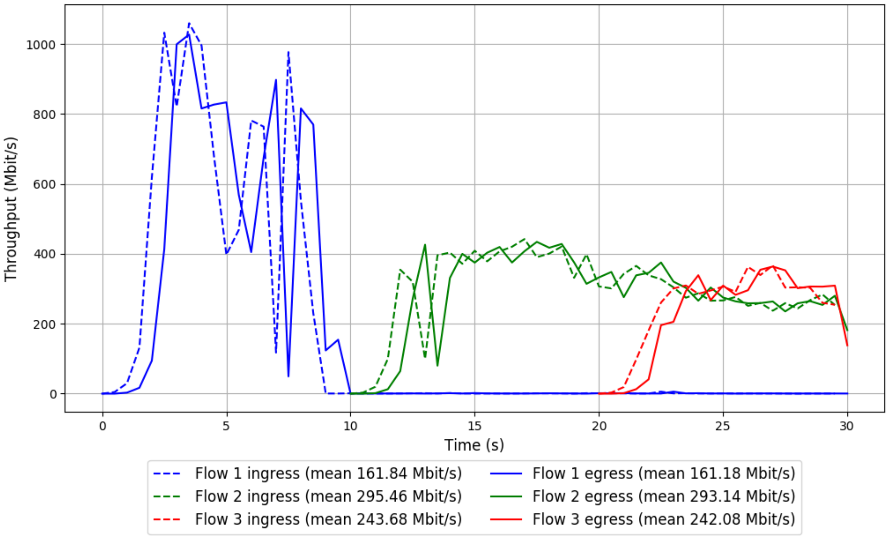
Run 3: Report of FillP — Data Link

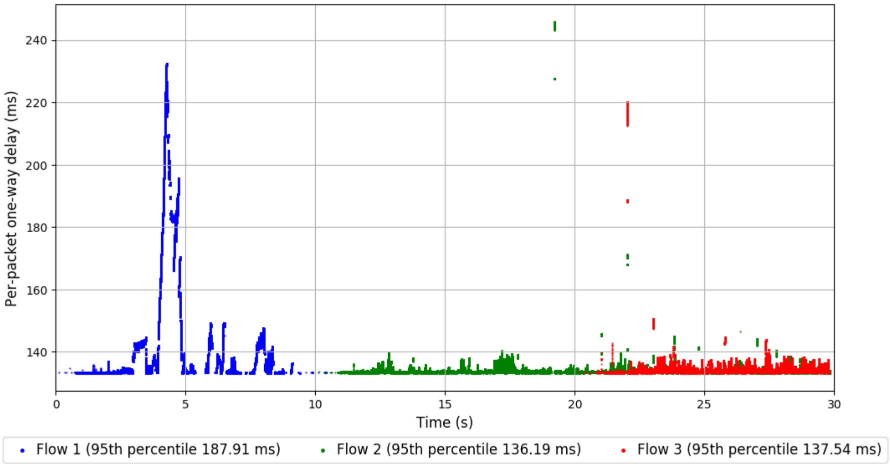




```
Run 4: Statistics of FillP

Start at: 2019-07-18 11:21:39
End at: 2019-07-18 11:22:09
Local clock offset: 0.562 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-07-18 13:28:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.30 Mbit/s
95th percentile per-packet one-way delay: 163.180 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 161.18 Mbit/s
95th percentile per-packet one-way delay: 187.914 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 293.14 Mbit/s
95th percentile per-packet one-way delay: 136.188 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 242.08 Mbit/s
95th percentile per-packet one-way delay: 137.539 ms
Loss rate: 3.45%
```

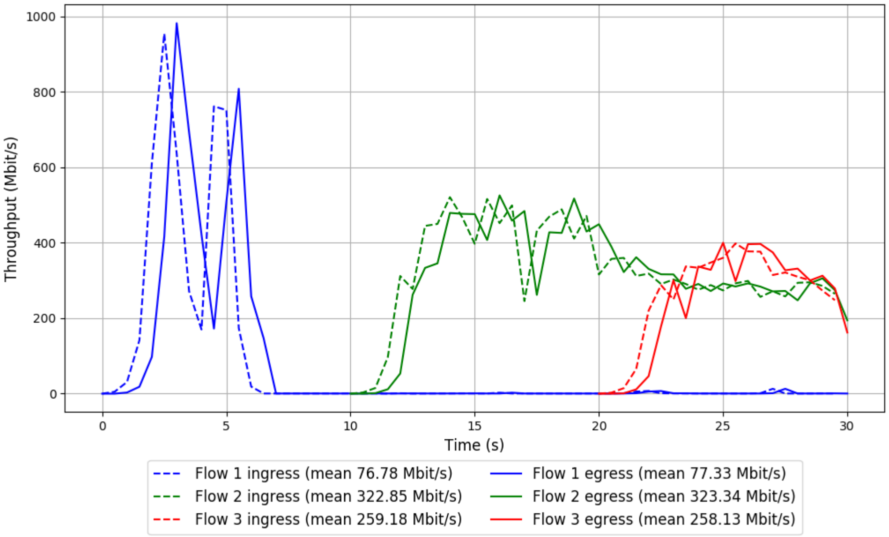
Run 4: Report of FillP — Data Link

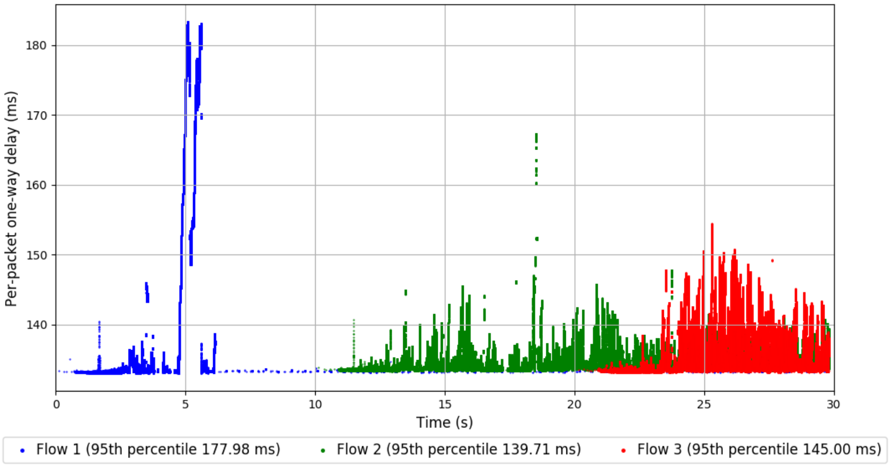




```
Run 5: Statistics of FillP

Start at: 2019-07-18 12:05:43
End at: 2019-07-18 12:06:13
Local clock offset: 0.187 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2019-07-18 13:28:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.34 Mbit/s
95th percentile per-packet one-way delay: 154.472 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 77.33 Mbit/s
95th percentile per-packet one-way delay: 177.980 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 323.34 Mbit/s
95th percentile per-packet one-way delay: 139.714 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 258.13 Mbit/s
95th percentile per-packet one-way delay: 145.001 ms
Loss rate: 3.06%
```

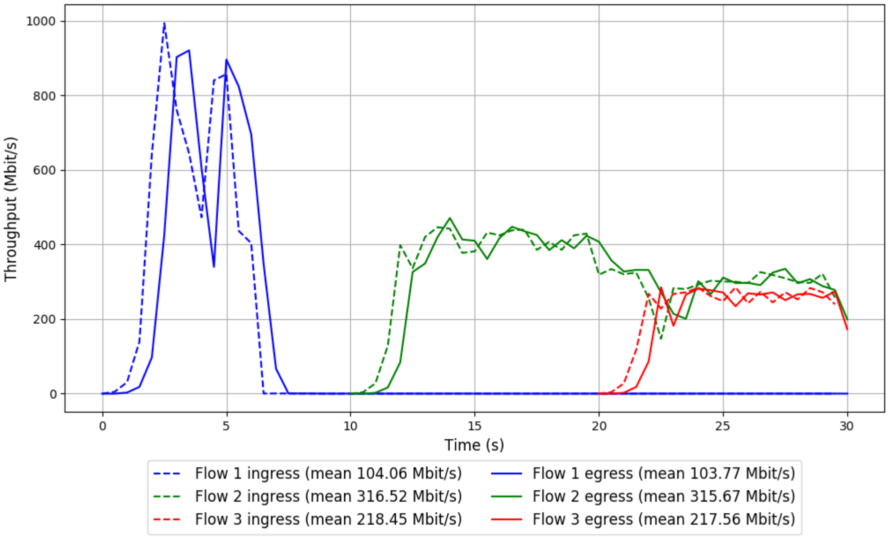
Run 5: Report of FillP — Data Link

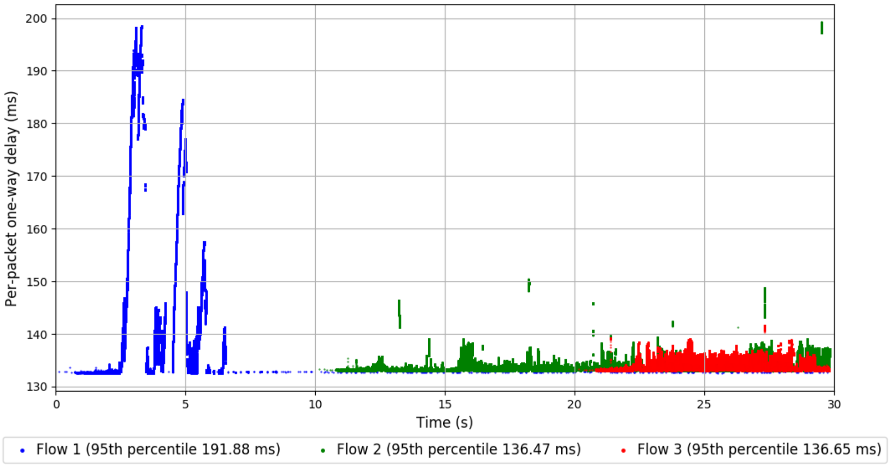




```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-18 08:57:58
End at: 2019-07-18 08:58:28
Local clock offset: -0.025 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2019-07-18 13:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.41 Mbit/s
95th percentile per-packet one-way delay: 179.189 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 103.77 Mbit/s
95th percentile per-packet one-way delay: 191.883 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 315.67 Mbit/s
95th percentile per-packet one-way delay: 136.473 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 217.56 Mbit/s
95th percentile per-packet one-way delay: 136.646 ms
Loss rate: 3.29%
```

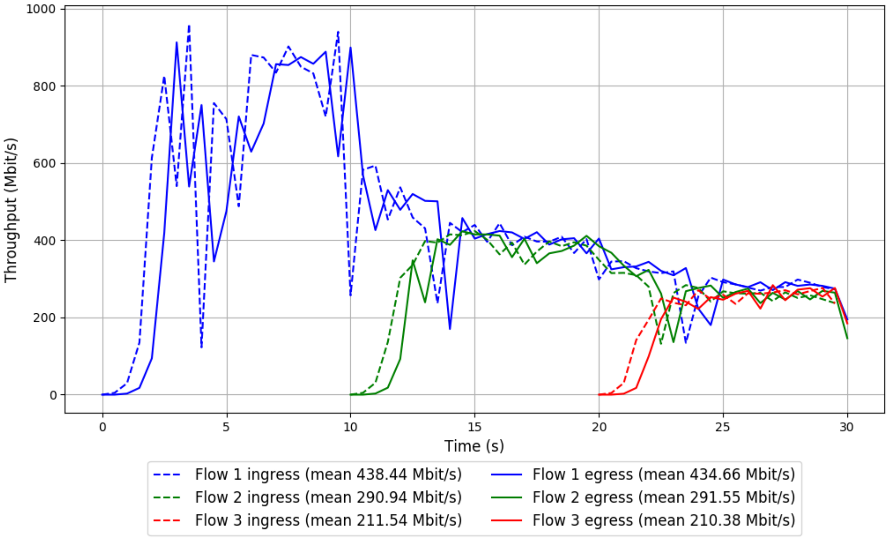
Run 1: Report of FillP-Sheep — Data Link

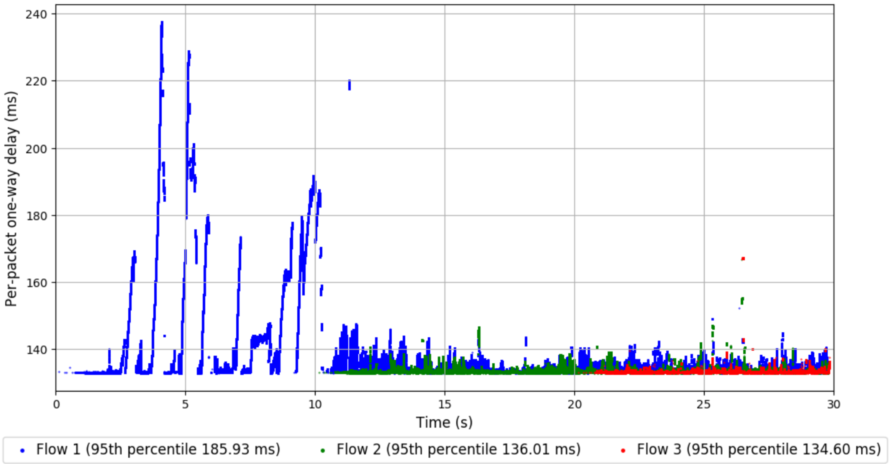




```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-18 09:41:17
End at: 2019-07-18 09:41:47
Local clock offset: -0.042 ms
Remote clock offset: -0.161 ms

# Below is generated by plot.py at 2019-07-18 13:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 695.99 Mbit/s
95th percentile per-packet one-way delay: 176.617 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 434.66 Mbit/s
95th percentile per-packet one-way delay: 185.929 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 291.55 Mbit/s
95th percentile per-packet one-way delay: 136.015 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 210.38 Mbit/s
95th percentile per-packet one-way delay: 134.599 ms
Loss rate: 3.08%
```

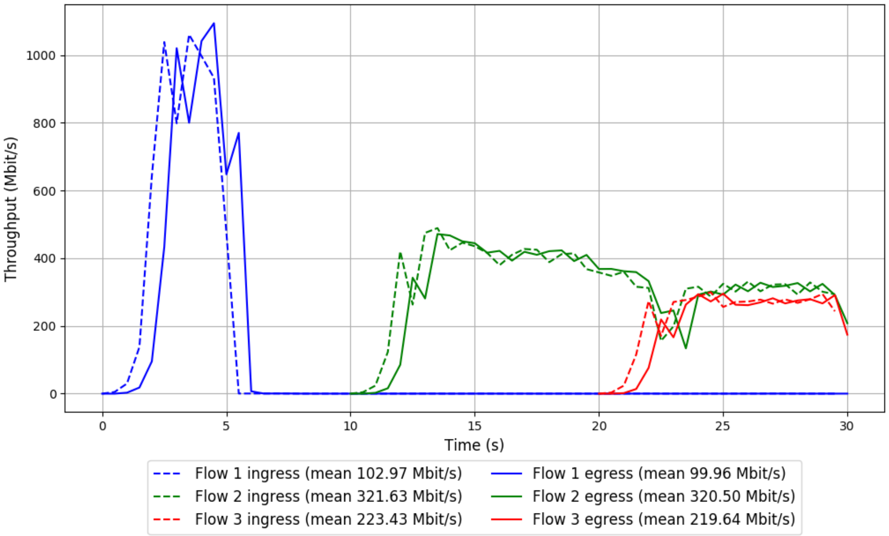
Run 2: Report of FillP-Sheep — Data Link

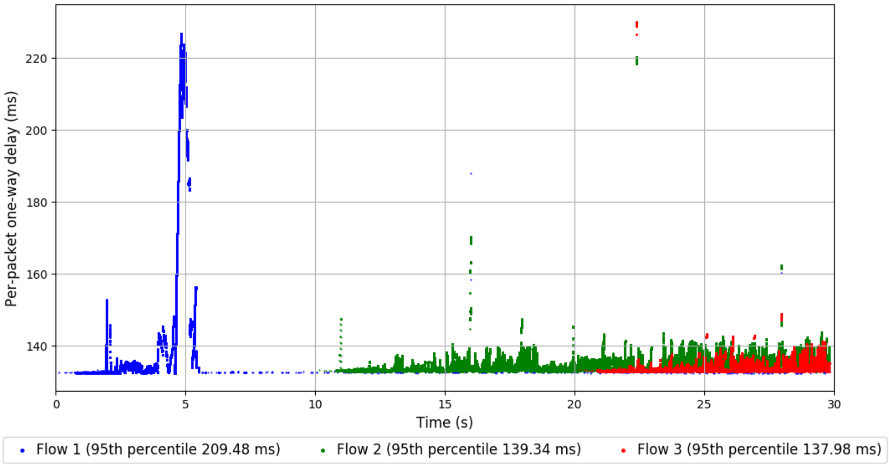




```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-18 10:25:05
End at: 2019-07-18 10:25:35
Local clock offset: -0.019 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-07-18 13:37:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.32 Mbit/s
95th percentile per-packet one-way delay: 145.786 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 99.96 Mbit/s
95th percentile per-packet one-way delay: 209.476 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 320.50 Mbit/s
95th percentile per-packet one-way delay: 139.335 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 219.64 Mbit/s
95th percentile per-packet one-way delay: 137.984 ms
Loss rate: 4.42%
```

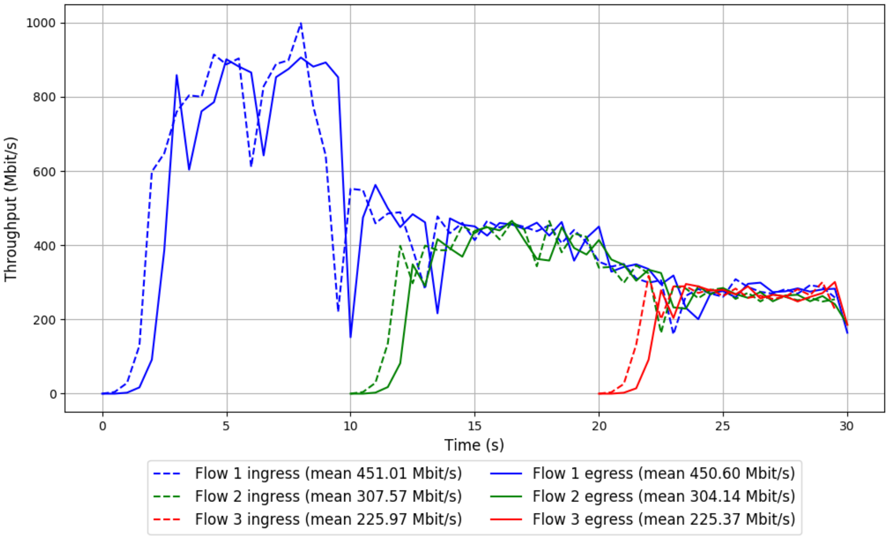
Run 3: Report of FillP-Sheep — Data Link

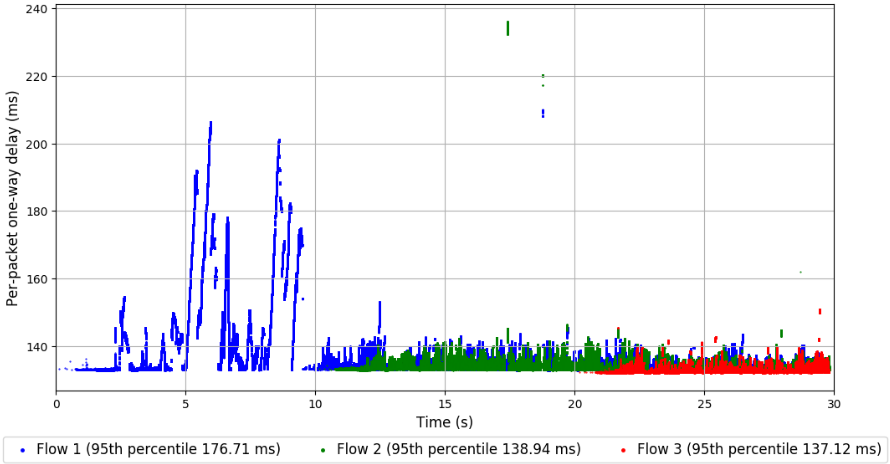




```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-18 11:08:39
End at: 2019-07-18 11:09:09
Local clock offset: 0.396 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2019-07-18 13:38:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.89 Mbit/s
95th percentile per-packet one-way delay: 169.656 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 450.60 Mbit/s
95th percentile per-packet one-way delay: 176.711 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 304.14 Mbit/s
95th percentile per-packet one-way delay: 138.943 ms
Loss rate: 2.37%
-- Flow 3:
Average throughput: 225.37 Mbit/s
95th percentile per-packet one-way delay: 137.118 ms
Loss rate: 2.86%
```

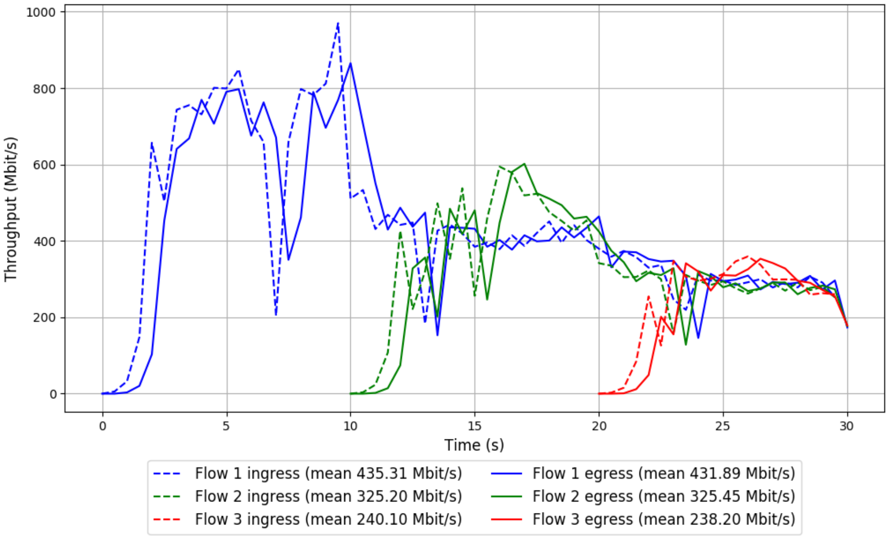
Run 4: Report of FillP-Sheep — Data Link

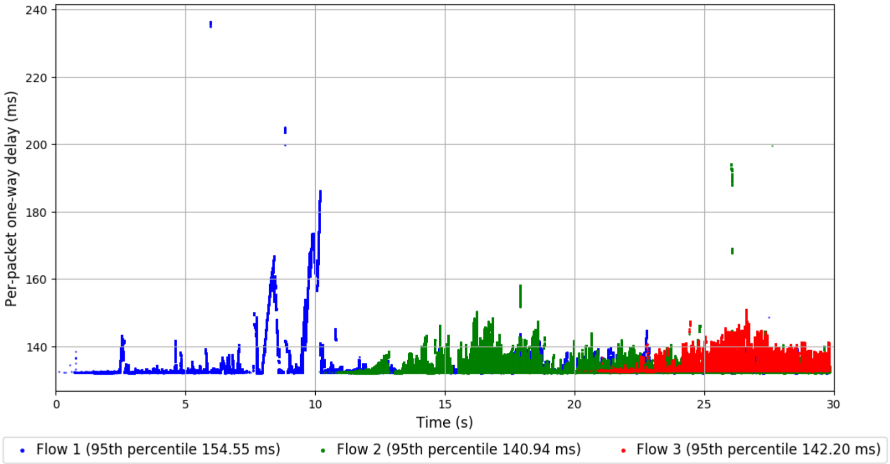




```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-18 11:51:52
End at: 2019-07-18 11:52:22
Local clock offset: 0.057 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.89 Mbit/s
95th percentile per-packet one-way delay: 145.517 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 431.89 Mbit/s
95th percentile per-packet one-way delay: 154.550 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 325.45 Mbit/s
95th percentile per-packet one-way delay: 140.941 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 238.20 Mbit/s
95th percentile per-packet one-way delay: 142.200 ms
Loss rate: 3.38%
```

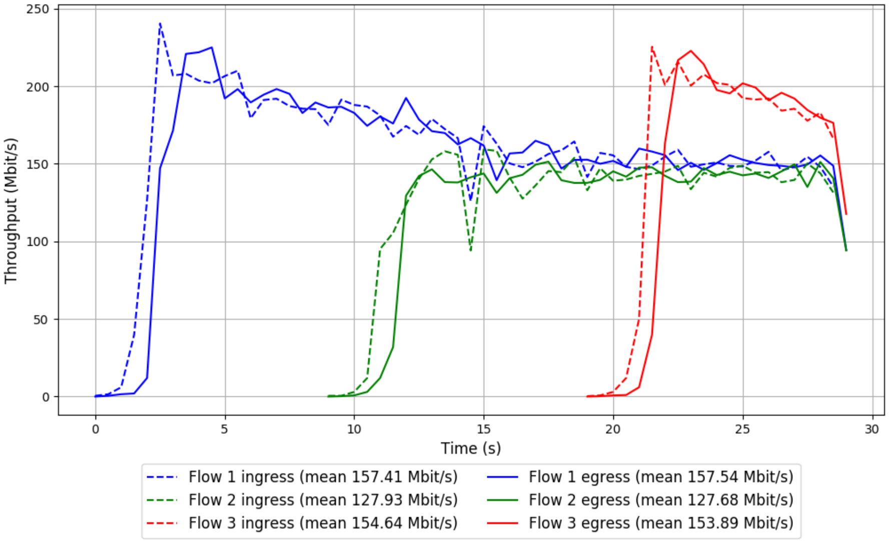
Run 5: Report of FillP-Sheep — Data Link

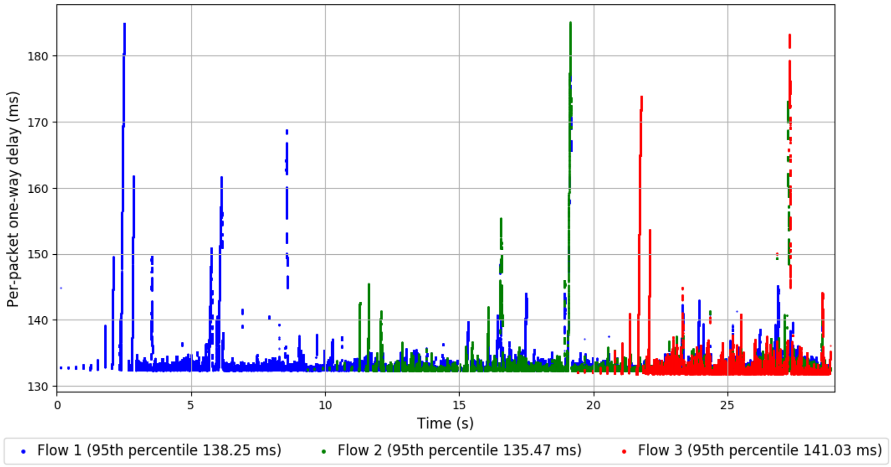




```
Run 1: Statistics of Indigo

Start at: 2019-07-18 09:09:12
End at: 2019-07-18 09:09:42
Local clock offset: -0.565 ms
Remote clock offset: -0.143 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.76 Mbit/s
95th percentile per-packet one-way delay: 137.638 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 157.54 Mbit/s
95th percentile per-packet one-way delay: 138.251 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 127.68 Mbit/s
95th percentile per-packet one-way delay: 135.472 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 153.89 Mbit/s
95th percentile per-packet one-way delay: 141.030 ms
Loss rate: 3.20%
```

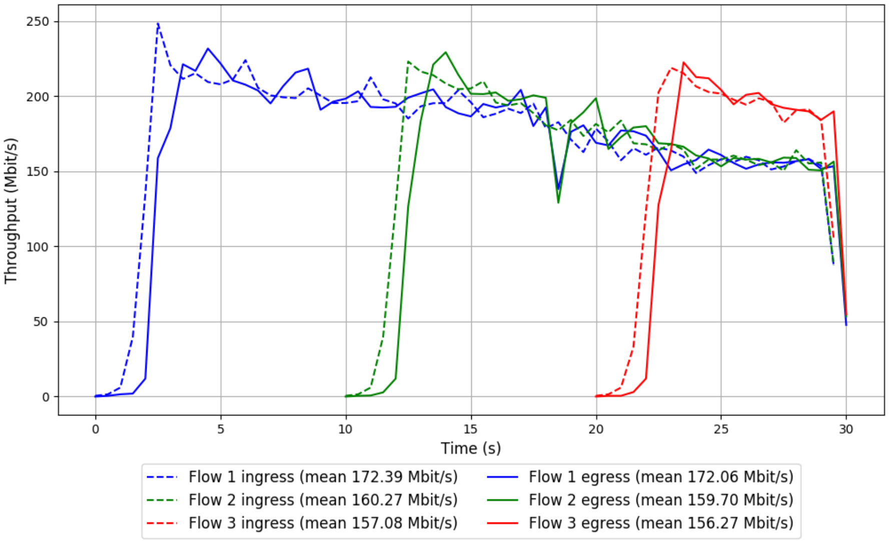
Run 1: Report of Indigo — Data Link

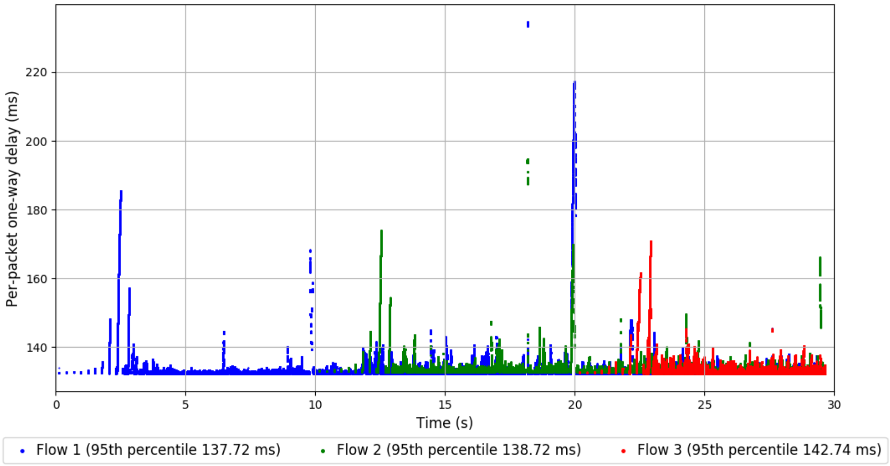




```
Run 2: Statistics of Indigo

Start at: 2019-07-18 09:52:39
End at: 2019-07-18 09:53:09
Local clock offset: -0.128 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.55 Mbit/s
95th percentile per-packet one-way delay: 138.615 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 172.06 Mbit/s
95th percentile per-packet one-way delay: 137.723 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 159.70 Mbit/s
95th percentile per-packet one-way delay: 138.717 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 156.27 Mbit/s
95th percentile per-packet one-way delay: 142.739 ms
Loss rate: 3.23%
```

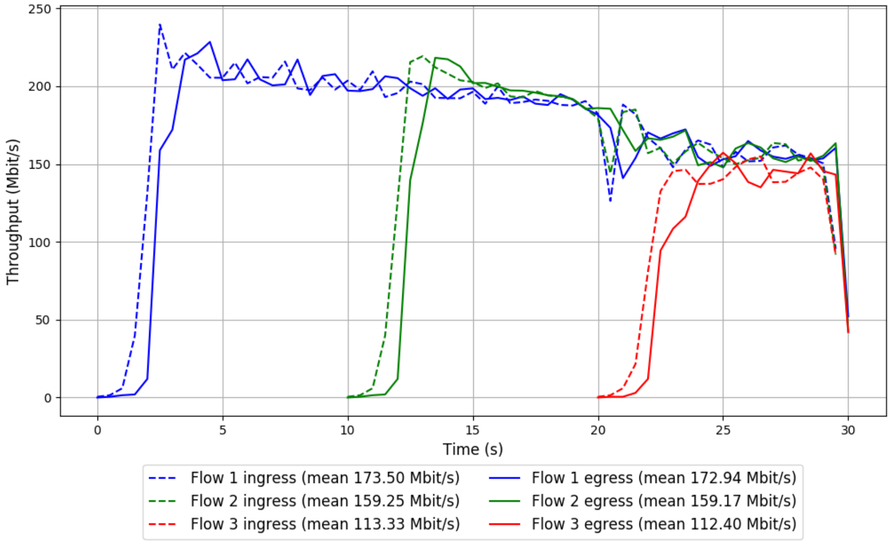
Run 2: Report of Indigo — Data Link

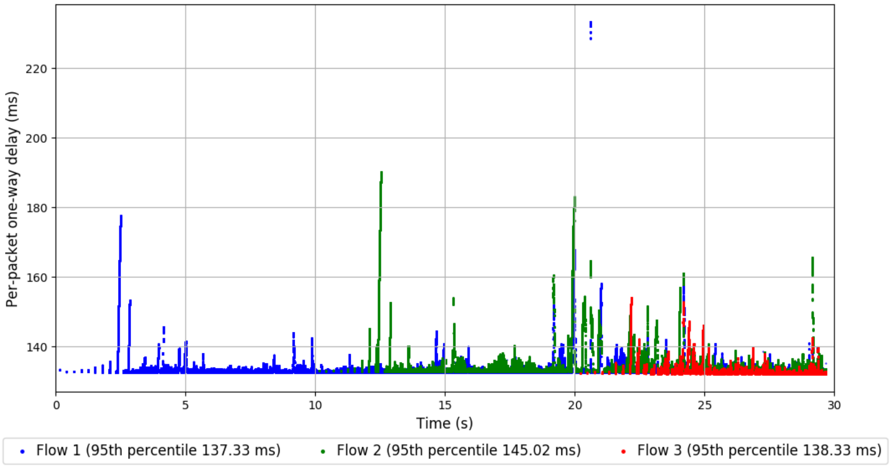




```
Run 3: Statistics of Indigo

Start at: 2019-07-18 10:36:07
End at: 2019-07-18 10:36:37
Local clock offset: 0.012 ms
Remote clock offset: 0.269 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.21 Mbit/s
95th percentile per-packet one-way delay: 139.489 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 172.94 Mbit/s
95th percentile per-packet one-way delay: 137.330 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 159.17 Mbit/s
95th percentile per-packet one-way delay: 145.023 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 112.40 Mbit/s
95th percentile per-packet one-way delay: 138.329 ms
Loss rate: 3.54%
```

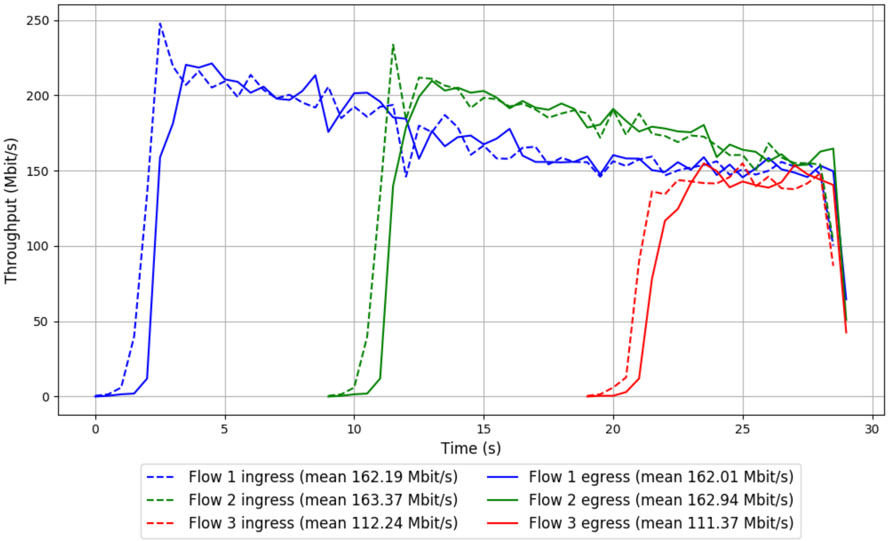
Run 3: Report of Indigo — Data Link

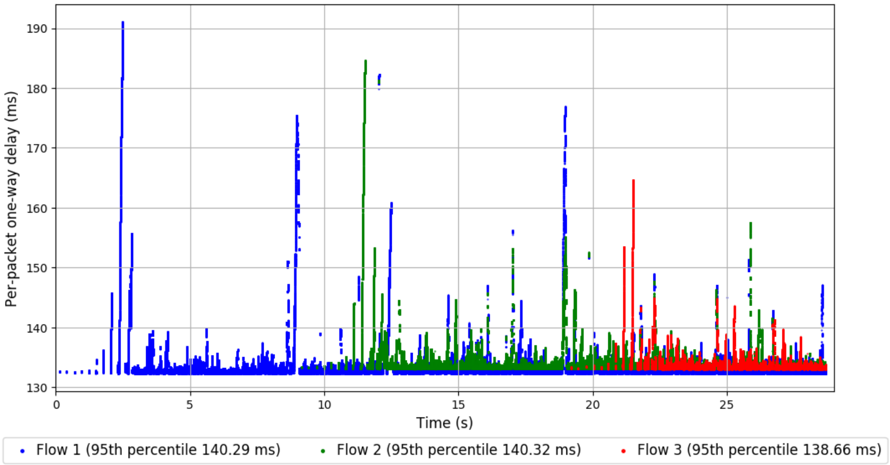




```
Run 4: Statistics of Indigo

Start at: 2019-07-18 11:19:45
End at: 2019-07-18 11:20:15
Local clock offset: 0.486 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.47 Mbit/s
95th percentile per-packet one-way delay: 140.048 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 162.01 Mbit/s
95th percentile per-packet one-way delay: 140.286 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 162.94 Mbit/s
95th percentile per-packet one-way delay: 140.324 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 111.37 Mbit/s
95th percentile per-packet one-way delay: 138.663 ms
Loss rate: 3.49%
```

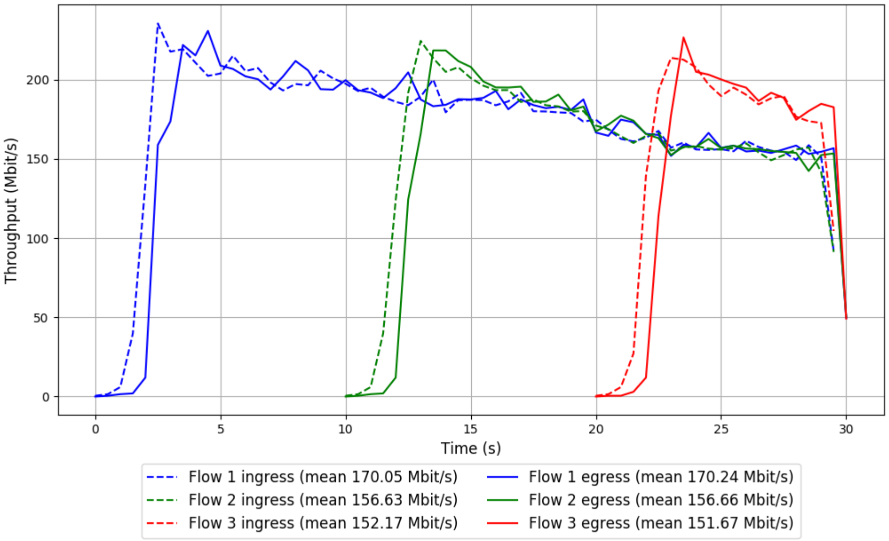
Run 4: Report of Indigo — Data Link

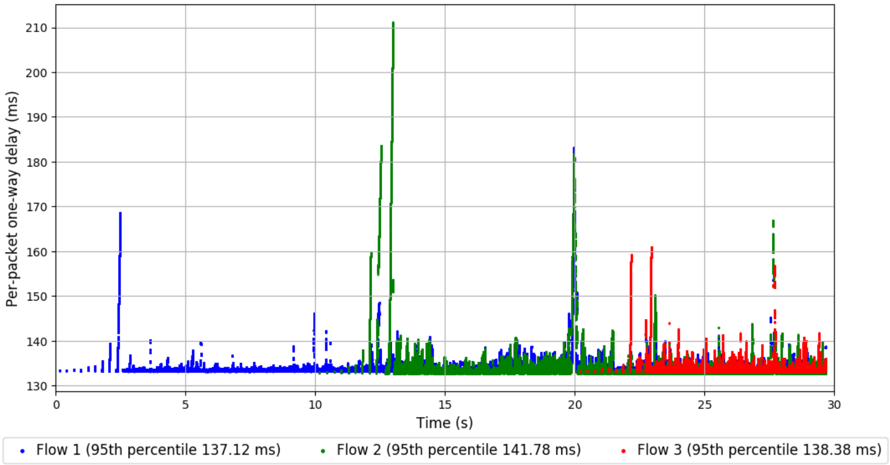




```
Run 5: Statistics of Indigo

Start at: 2019-07-18 12:03:47
End at: 2019-07-18 12:04:17
Local clock offset: 0.376 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-07-18 13:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.34 Mbit/s
95th percentile per-packet one-way delay: 138.604 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 170.24 Mbit/s
95th percentile per-packet one-way delay: 137.123 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 156.66 Mbit/s
95th percentile per-packet one-way delay: 141.785 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 151.67 Mbit/s
95th percentile per-packet one-way delay: 138.384 ms
Loss rate: 3.07%
```

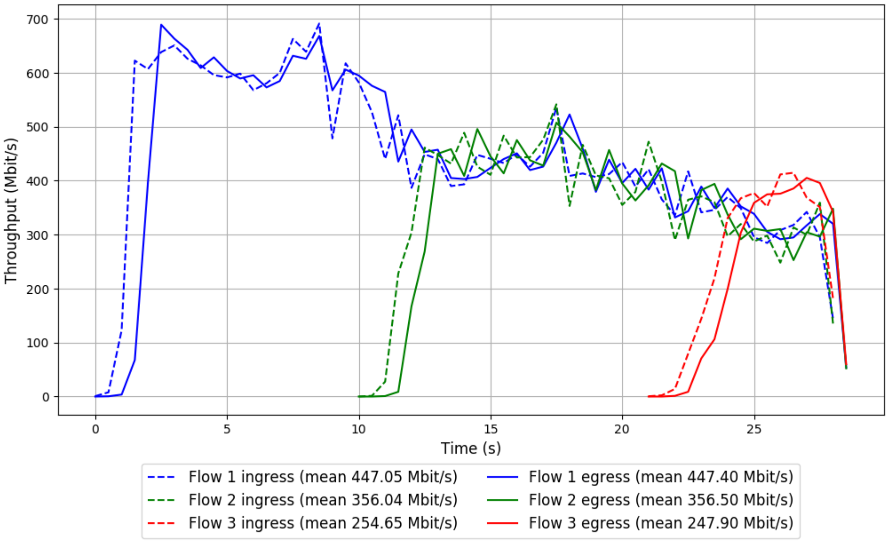
Run 5: Report of Indigo — Data Link

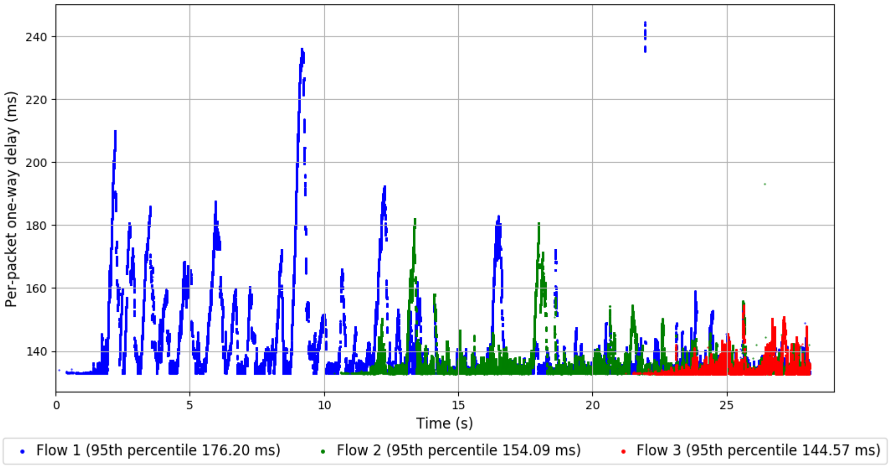




```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-18 09:28:34
End at: 2019-07-18 09:29:04
Local clock offset: -0.059 ms
Remote clock offset: -0.204 ms

# Below is generated by plot.py at 2019-07-18 13:51:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 733.83 Mbit/s
95th percentile per-packet one-way delay: 169.896 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 447.40 Mbit/s
95th percentile per-packet one-way delay: 176.198 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 356.50 Mbit/s
95th percentile per-packet one-way delay: 154.086 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 247.90 Mbit/s
95th percentile per-packet one-way delay: 144.570 ms
Loss rate: 6.25%
```

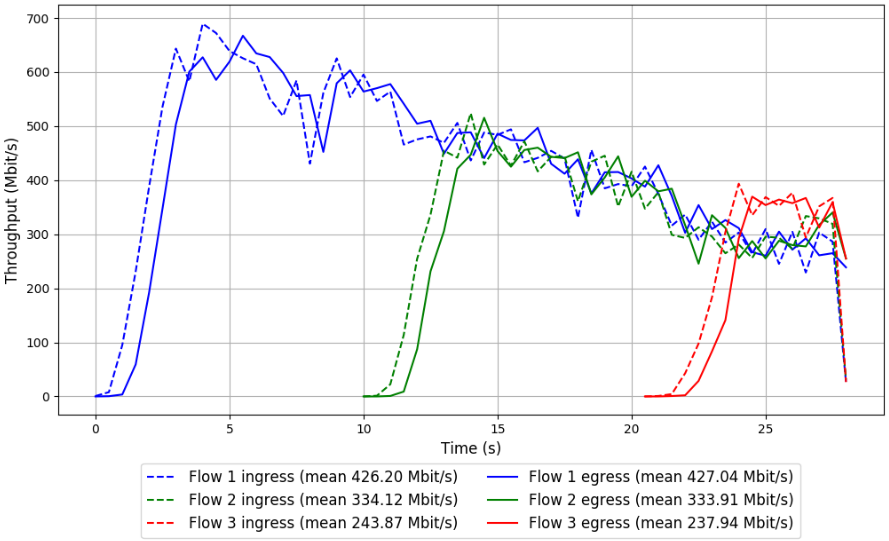
Run 1: Report of Indigo-MusesC3 — Data Link

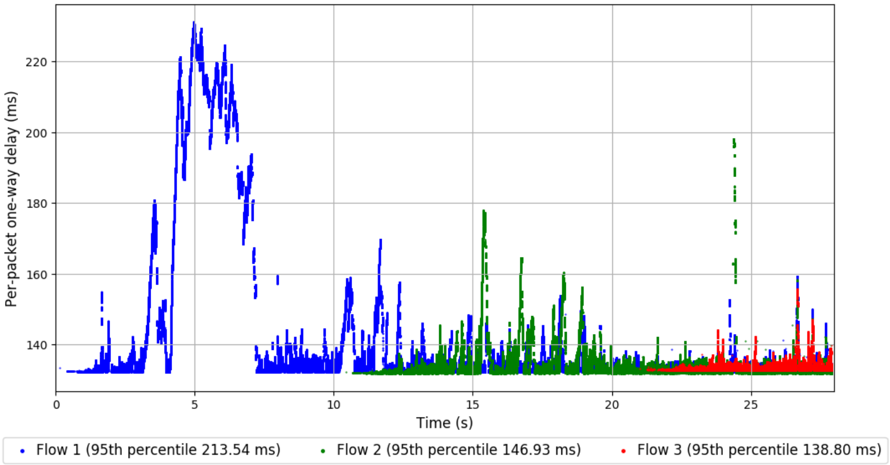




```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-18 10:12:18
End at: 2019-07-18 10:12:48
Local clock offset: -0.146 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-07-18 13:51:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.32 Mbit/s
95th percentile per-packet one-way delay: 206.320 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 427.04 Mbit/s
95th percentile per-packet one-way delay: 213.537 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 333.91 Mbit/s
95th percentile per-packet one-way delay: 146.927 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 237.94 Mbit/s
95th percentile per-packet one-way delay: 138.799 ms
Loss rate: 6.04%
```

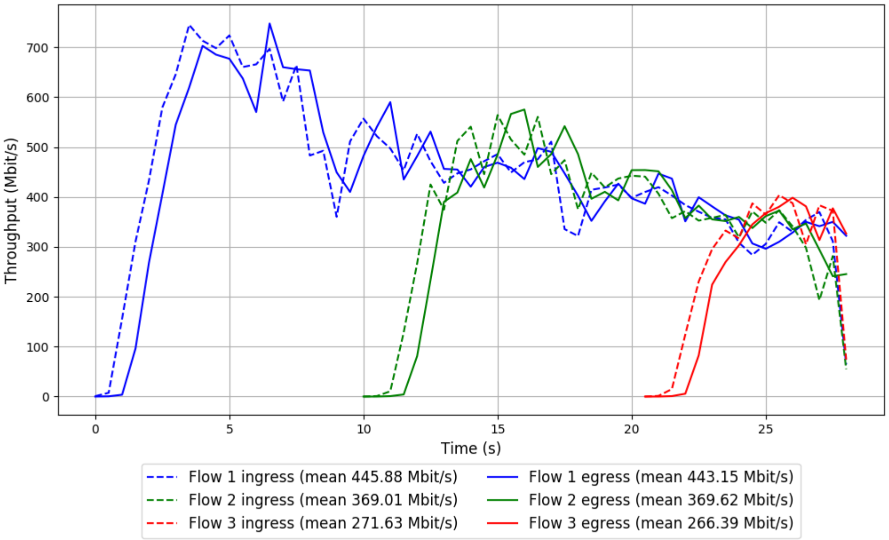
Run 2: Report of Indigo-MusesC3 — Data Link

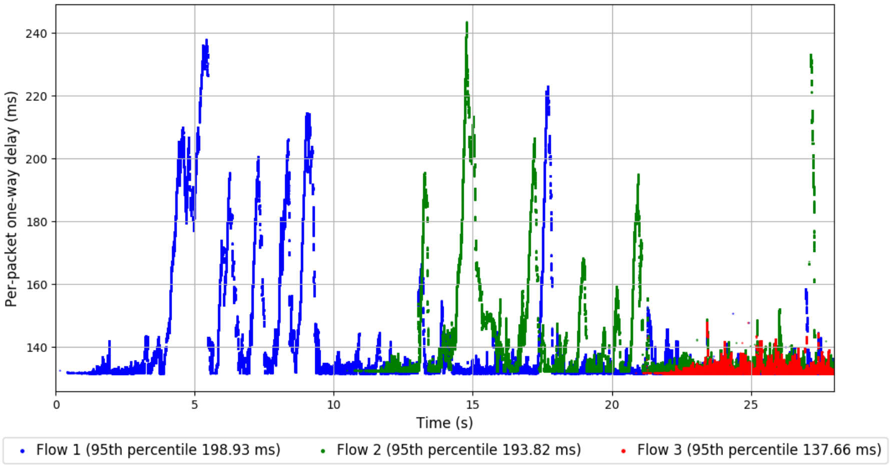




```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-18 10:55:51
End at: 2019-07-18 10:56:21
Local clock offset: -0.355 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-07-18 13:53:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 743.27 Mbit/s
95th percentile per-packet one-way delay: 195.361 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 443.15 Mbit/s
95th percentile per-packet one-way delay: 198.929 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 369.62 Mbit/s
95th percentile per-packet one-way delay: 193.821 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 266.39 Mbit/s
95th percentile per-packet one-way delay: 137.665 ms
Loss rate: 5.45%
```

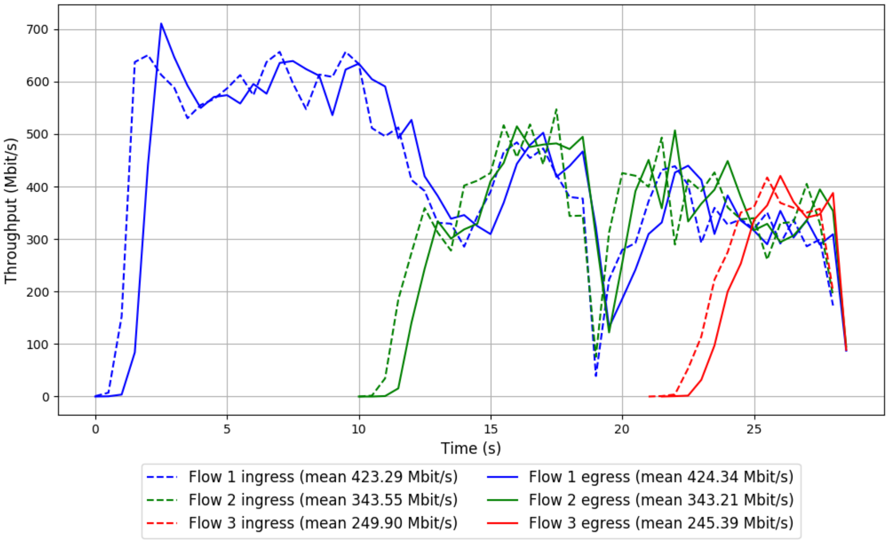
Run 3: Report of Indigo-MusesC3 — Data Link

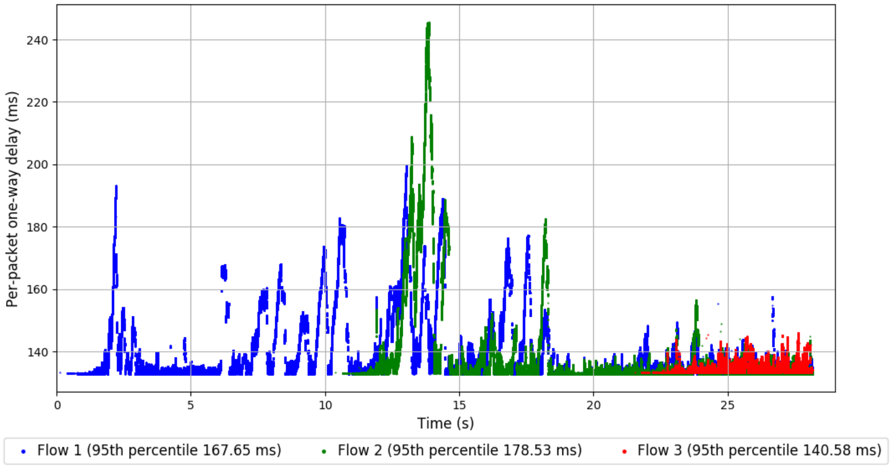




```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-18 11:39:12
End at: 2019-07-18 11:39:42
Local clock offset: 0.67 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2019-07-18 13:53:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 699.85 Mbit/s
95th percentile per-packet one-way delay: 169.311 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 424.34 Mbit/s
95th percentile per-packet one-way delay: 167.654 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 343.21 Mbit/s
95th percentile per-packet one-way delay: 178.534 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 245.39 Mbit/s
95th percentile per-packet one-way delay: 140.578 ms
Loss rate: 5.64%
```

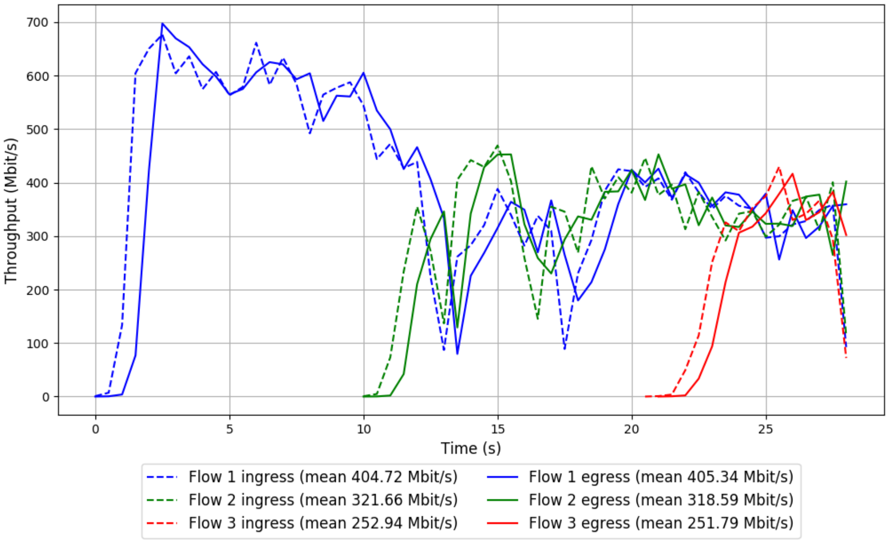
Run 4: Report of Indigo-MusesC3 — Data Link

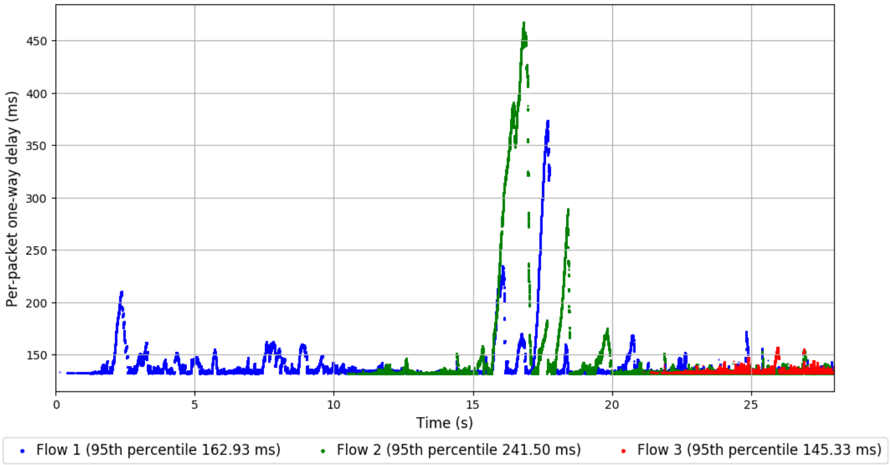




```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-18 12:23:23
End at: 2019-07-18 12:23:53
Local clock offset: -0.235 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-07-18 13:53:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 670.68 Mbit/s
95th percentile per-packet one-way delay: 169.490 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 405.34 Mbit/s
95th percentile per-packet one-way delay: 162.926 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 318.59 Mbit/s
95th percentile per-packet one-way delay: 241.503 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 251.79 Mbit/s
95th percentile per-packet one-way delay: 145.331 ms
Loss rate: 4.17%
```

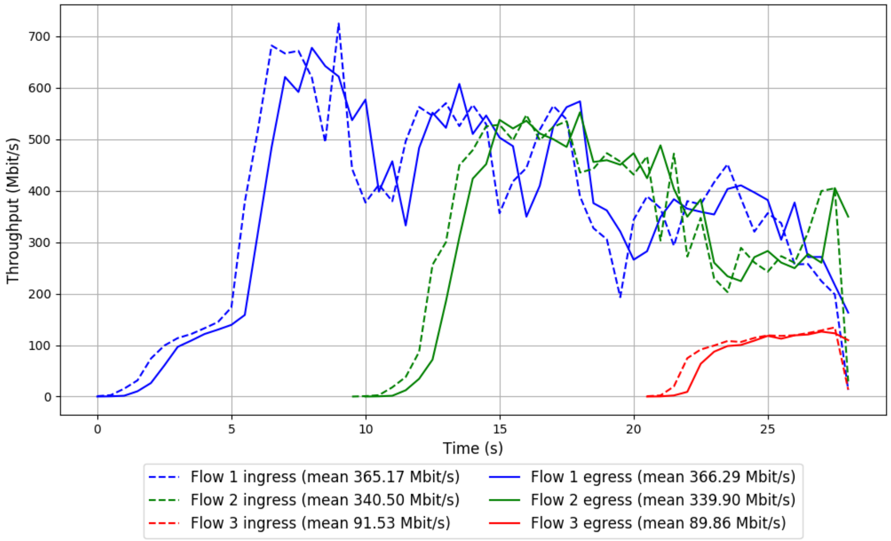
Run 5: Report of Indigo-MusesC3 — Data Link

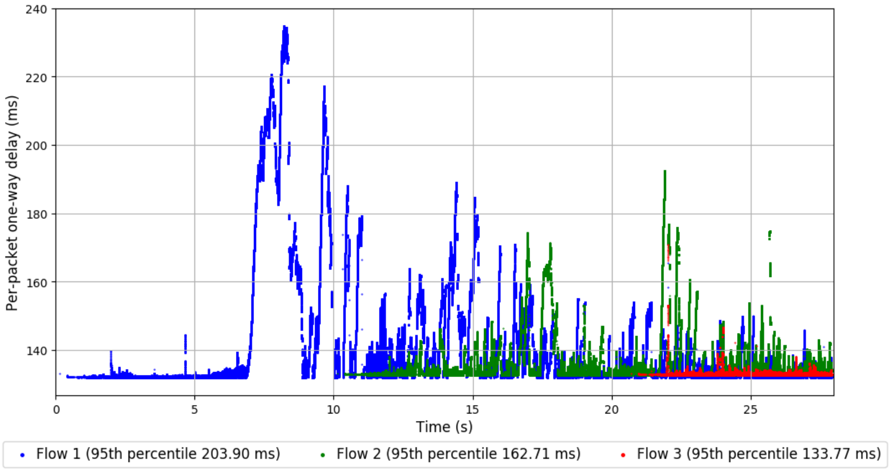




```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-18 09:05:16
End at: 2019-07-18 09:05:46
Local clock offset: -0.168 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-07-18 13:53:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 607.20 Mbit/s
95th percentile per-packet one-way delay: 189.016 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 366.29 Mbit/s
95th percentile per-packet one-way delay: 203.902 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 339.90 Mbit/s
95th percentile per-packet one-way delay: 162.709 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 89.86 Mbit/s
95th percentile per-packet one-way delay: 133.771 ms
Loss rate: 5.32%
```

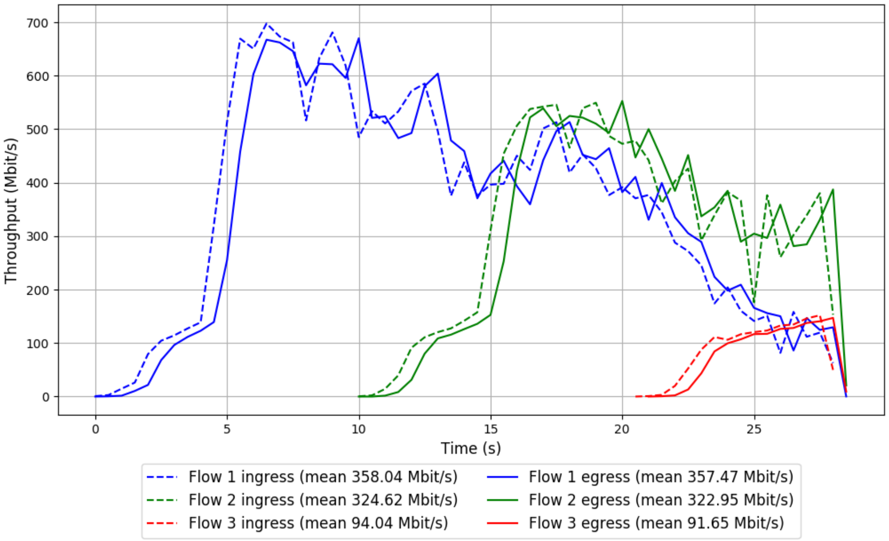
Run 1: Report of Indigo-MusesC5 — Data Link

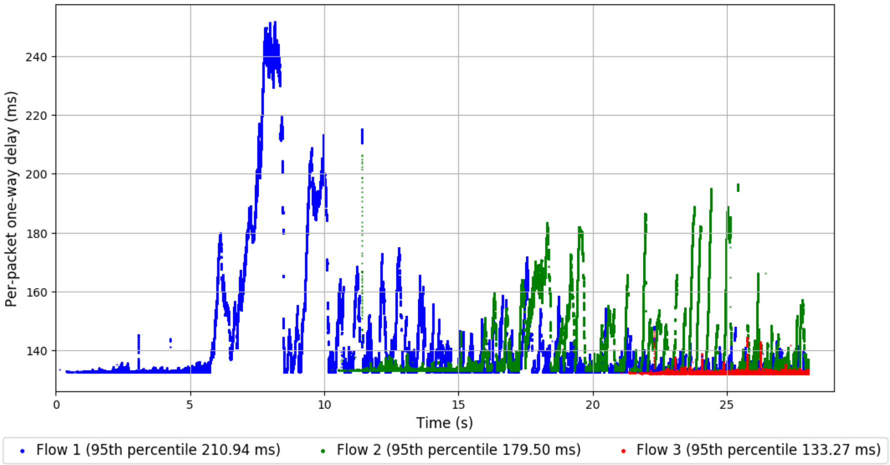




```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-18 09:48:45
End at: 2019-07-18 09:49:15
Local clock offset: 0.23 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-07-18 13:53:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.75 Mbit/s
95th percentile per-packet one-way delay: 194.993 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 357.47 Mbit/s
95th percentile per-packet one-way delay: 210.937 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 322.95 Mbit/s
95th percentile per-packet one-way delay: 179.497 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 91.65 Mbit/s
95th percentile per-packet one-way delay: 133.267 ms
Loss rate: 6.14%
```

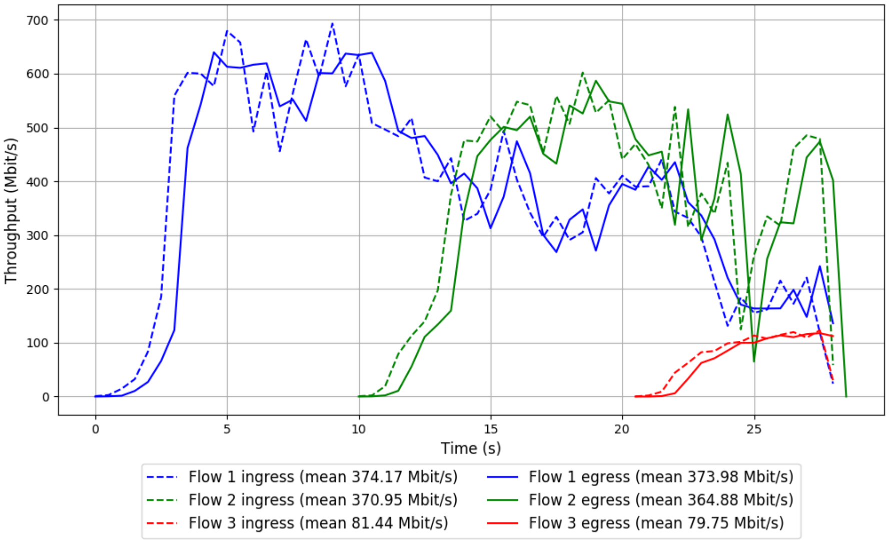
Run 2: Report of Indigo-MusesC5 — Data Link

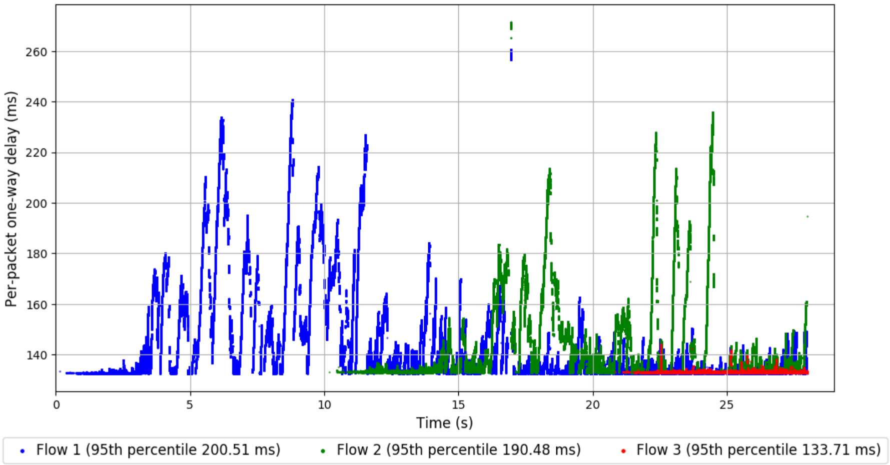




```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-18 10:32:09
End at: 2019-07-18 10:32:39
Local clock offset: -0.109 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2019-07-18 13:56:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 627.27 Mbit/s
95th percentile per-packet one-way delay: 197.042 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 373.98 Mbit/s
95th percentile per-packet one-way delay: 200.513 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 364.88 Mbit/s
95th percentile per-packet one-way delay: 190.477 ms
Loss rate: 2.92%
-- Flow 3:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 133.711 ms
Loss rate: 5.57%
```

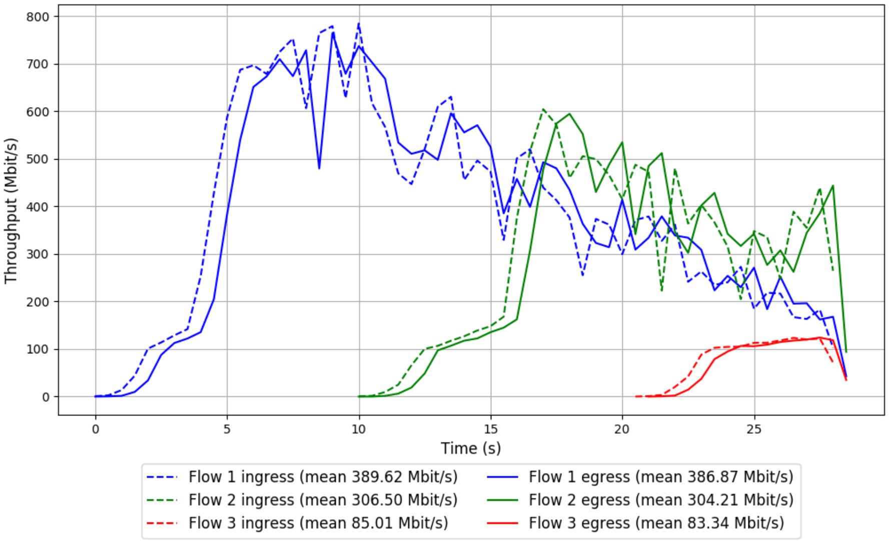
Run 3: Report of Indigo-MusesC5 — Data Link

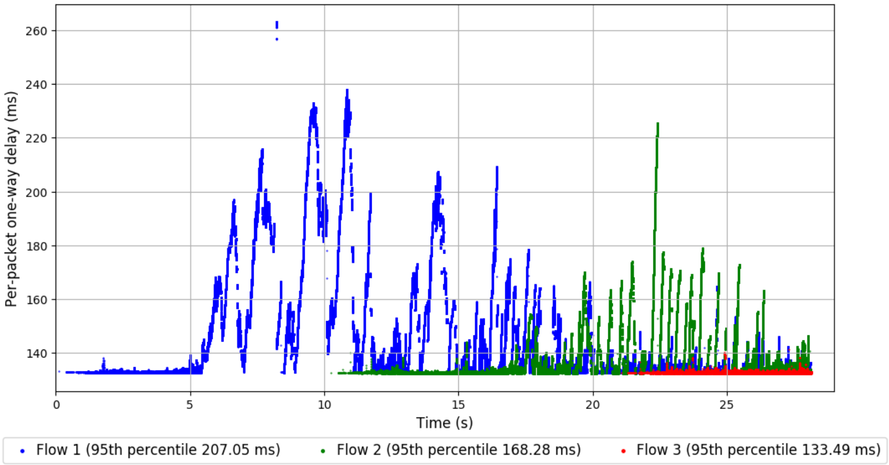




```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-18 11:15:48
End at: 2019-07-18 11:16:18
Local clock offset: -0.239 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-07-18 14:02:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 601.66 Mbit/s
95th percentile per-packet one-way delay: 199.198 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 386.87 Mbit/s
95th percentile per-packet one-way delay: 207.048 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 304.21 Mbit/s
95th percentile per-packet one-way delay: 168.278 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 83.34 Mbit/s
95th percentile per-packet one-way delay: 133.487 ms
Loss rate: 5.54%
```

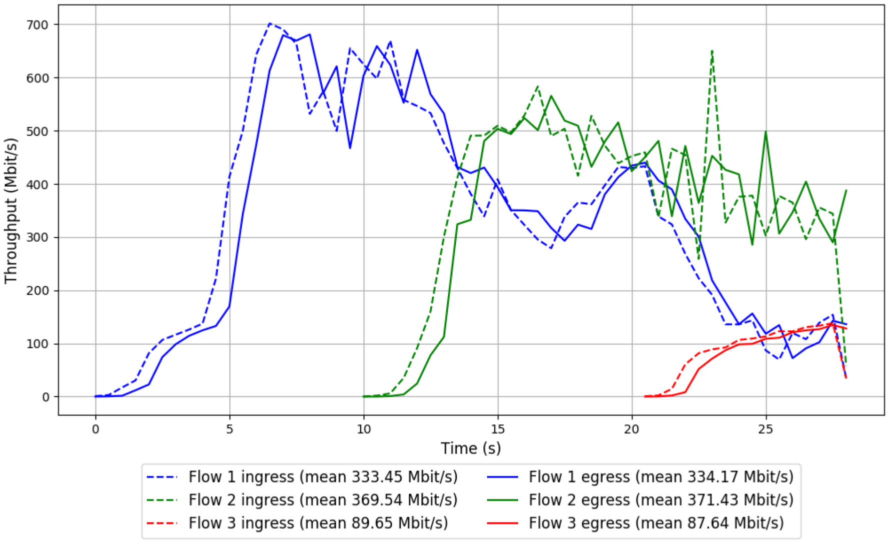
Run 4: Report of Indigo-MusesC5 — Data Link

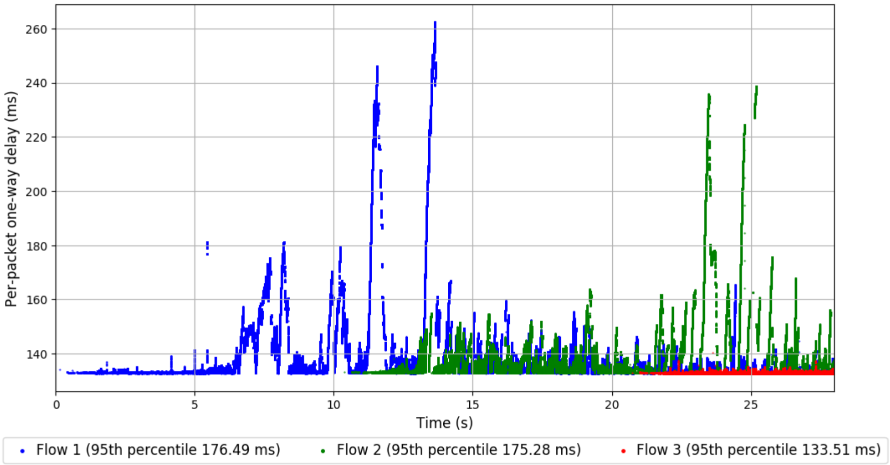




```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-18 11:59:50
End at: 2019-07-18 12:00:20
Local clock offset: -0.115 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-07-18 14:02:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 591.76 Mbit/s
95th percentile per-packet one-way delay: 174.887 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 334.17 Mbit/s
95th percentile per-packet one-way delay: 176.486 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 371.43 Mbit/s
95th percentile per-packet one-way delay: 175.281 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 87.64 Mbit/s
95th percentile per-packet one-way delay: 133.513 ms
Loss rate: 5.78%
```

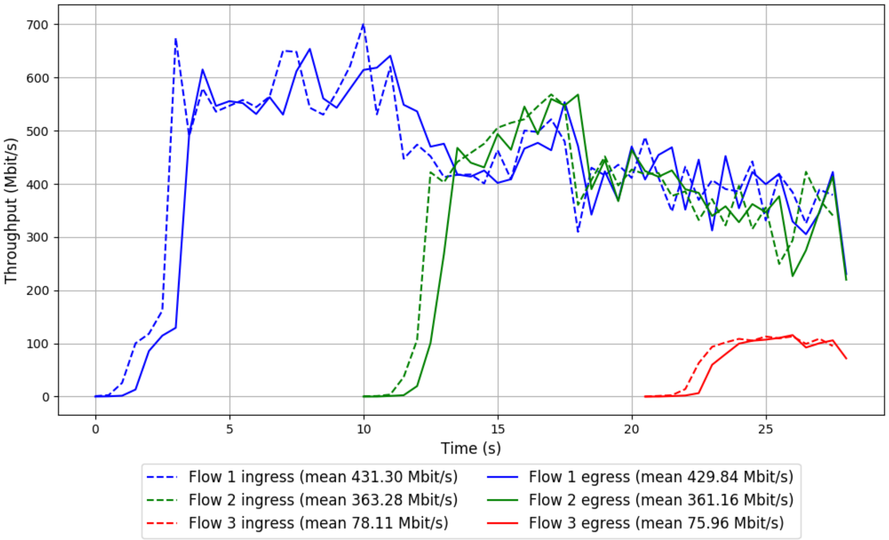
Run 5: Report of Indigo-MusesC5 — Data Link

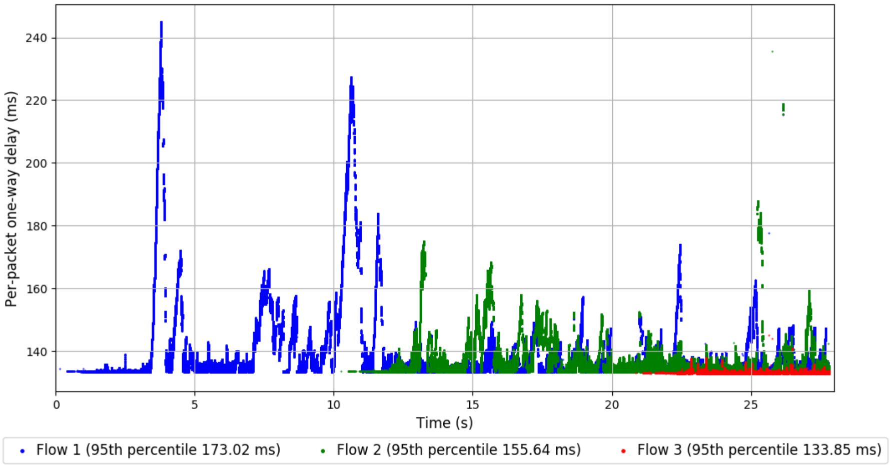




```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-18 08:56:00
End at: 2019-07-18 08:56:30
Local clock offset: 0.262 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-07-18 14:04:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 678.16 Mbit/s
95th percentile per-packet one-way delay: 166.265 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 429.84 Mbit/s
95th percentile per-packet one-way delay: 173.016 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 361.16 Mbit/s
95th percentile per-packet one-way delay: 155.643 ms
Loss rate: 2.06%
-- Flow 3:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 133.853 ms
Loss rate: 6.38%
```

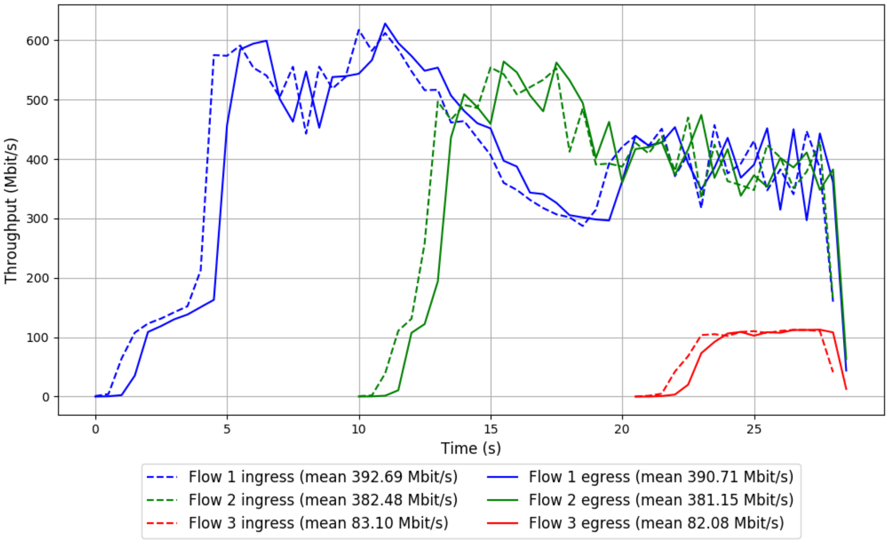
Run 1: Report of Indigo-MusesD — Data Link

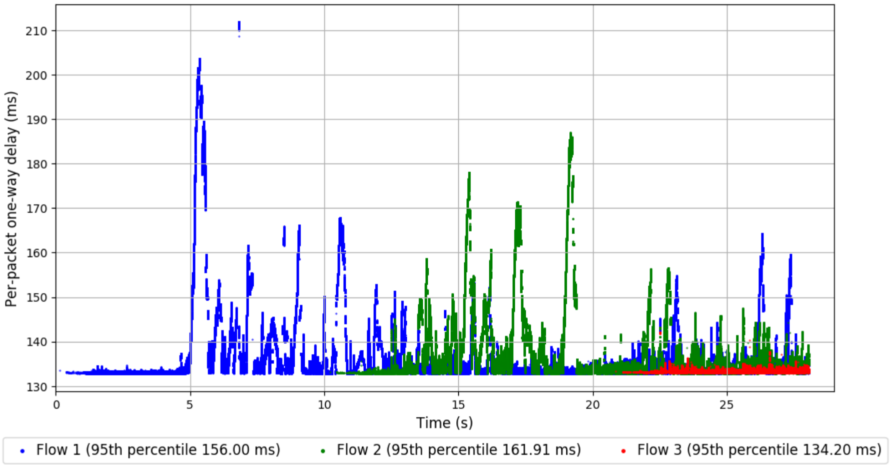




```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-18 09:39:19
End at: 2019-07-18 09:39:49
Local clock offset: -0.113 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-07-18 14:05:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 655.46 Mbit/s
95th percentile per-packet one-way delay: 157.304 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 390.71 Mbit/s
95th percentile per-packet one-way delay: 155.995 ms
Loss rate: 1.44%
-- Flow 2:
Average throughput: 381.15 Mbit/s
95th percentile per-packet one-way delay: 161.905 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 82.08 Mbit/s
95th percentile per-packet one-way delay: 134.196 ms
Loss rate: 4.75%
```

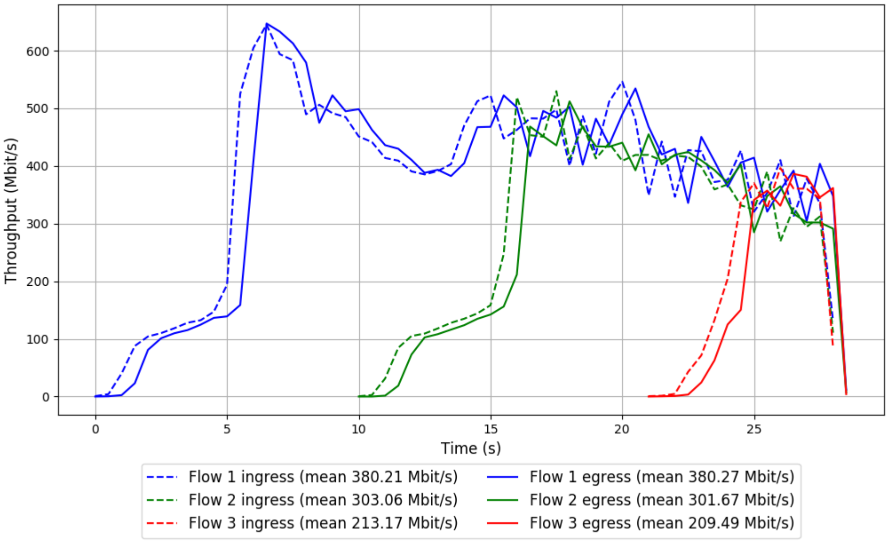
Run 2: Report of Indigo-MusesD — Data Link

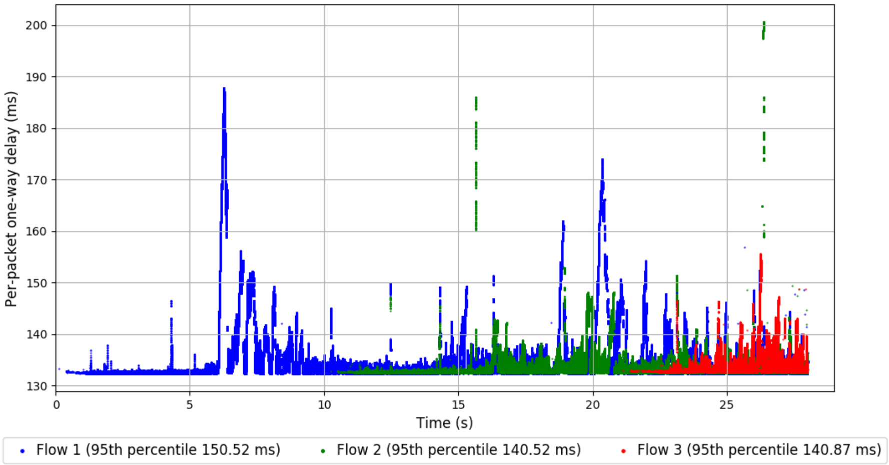




```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-18 10:23:10
End at: 2019-07-18 10:23:40
Local clock offset: -0.533 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2019-07-18 14:05:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 623.99 Mbit/s
95th percentile per-packet one-way delay: 147.410 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 380.27 Mbit/s
95th percentile per-packet one-way delay: 150.522 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 301.67 Mbit/s
95th percentile per-packet one-way delay: 140.517 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 209.49 Mbit/s
95th percentile per-packet one-way delay: 140.865 ms
Loss rate: 5.35%
```

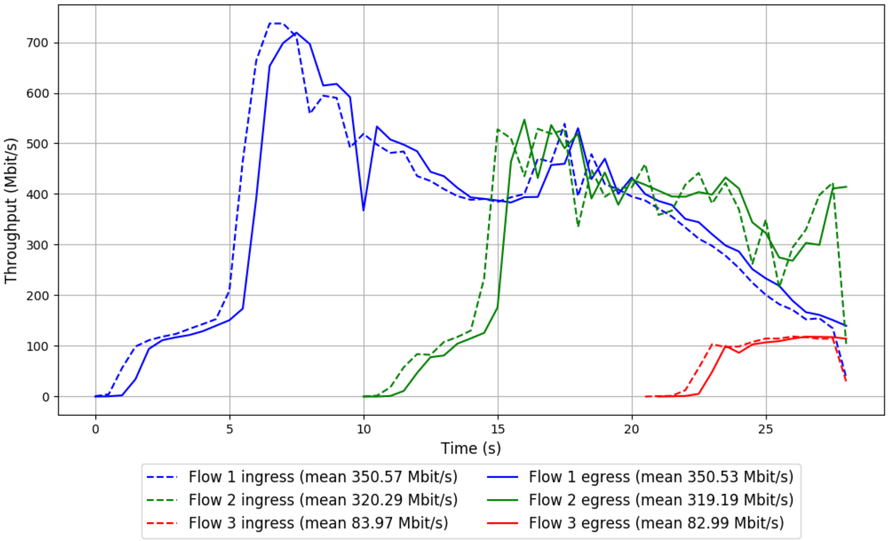
Run 3: Report of Indigo-MusesD — Data Link

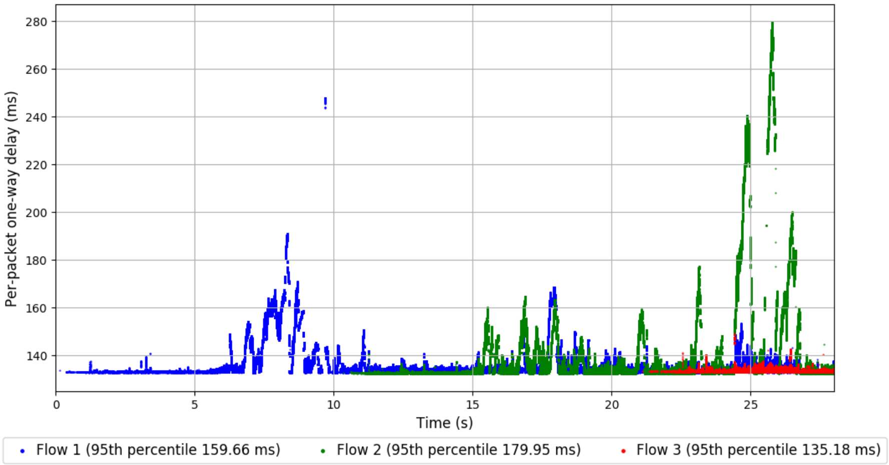




```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-18 11:06:46
End at: 2019-07-18 11:07:16
Local clock offset: 0.154 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-07-18 14:05:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 573.24 Mbit/s
95th percentile per-packet one-way delay: 162.262 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 350.53 Mbit/s
95th percentile per-packet one-way delay: 159.656 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 319.19 Mbit/s
95th percentile per-packet one-way delay: 179.954 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 135.179 ms
Loss rate: 4.84%
```

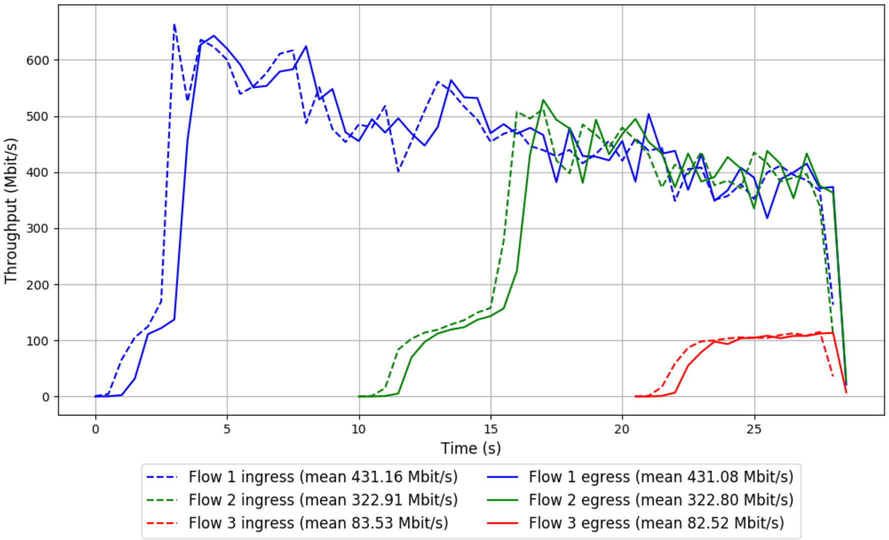
Run 4: Report of Indigo-MusesD — Data Link

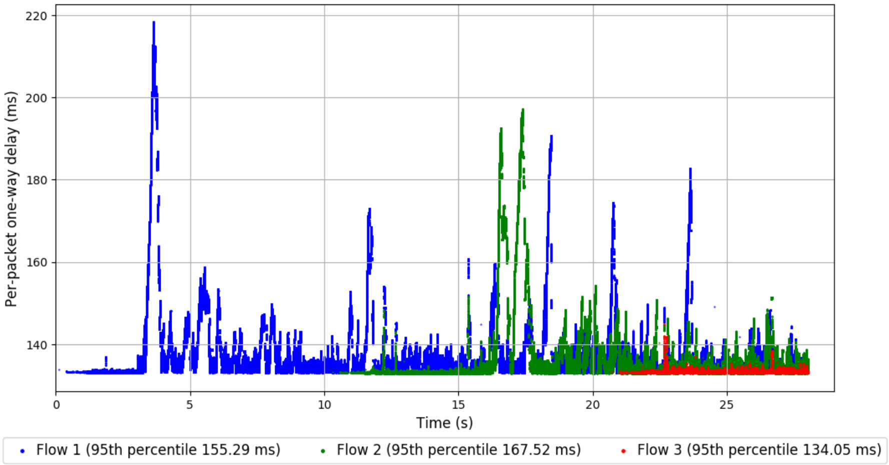




```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-18 11:49:55
End at: 2019-07-18 11:50:25
Local clock offset: 0.506 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-07-18 14:06:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 657.30 Mbit/s
95th percentile per-packet one-way delay: 159.276 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 431.08 Mbit/s
95th percentile per-packet one-way delay: 155.290 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 322.80 Mbit/s
95th percentile per-packet one-way delay: 167.522 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 82.52 Mbit/s
95th percentile per-packet one-way delay: 134.047 ms
Loss rate: 4.69%
```

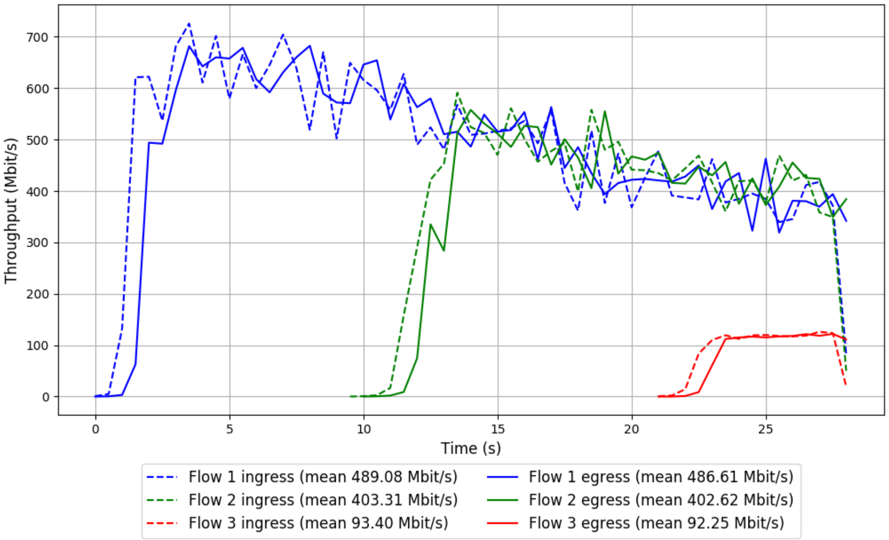
Run 5: Report of Indigo-MusesD — Data Link

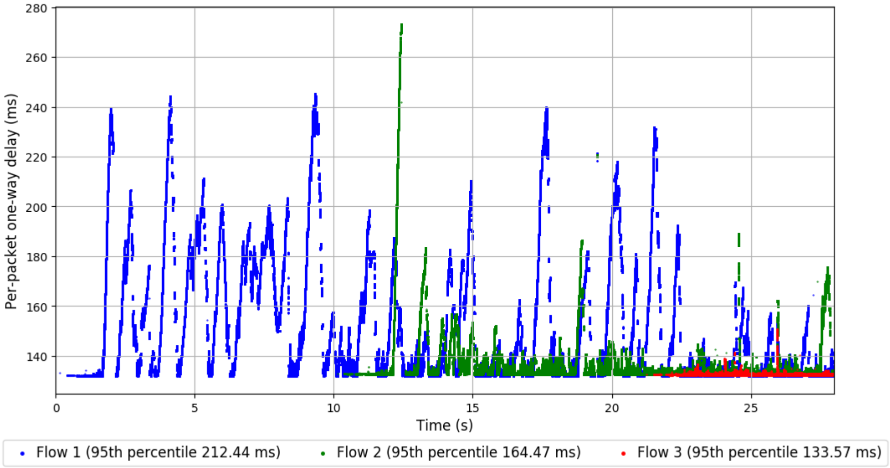




```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-18 09:32:36
End at: 2019-07-18 09:33:06
Local clock offset: -0.492 ms
Remote clock offset: -0.172 ms

# Below is generated by plot.py at 2019-07-18 14:10:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.78 Mbit/s
95th percentile per-packet one-way delay: 200.777 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 486.61 Mbit/s
95th percentile per-packet one-way delay: 212.438 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 402.62 Mbit/s
95th percentile per-packet one-way delay: 164.473 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 133.566 ms
Loss rate: 5.10%
```

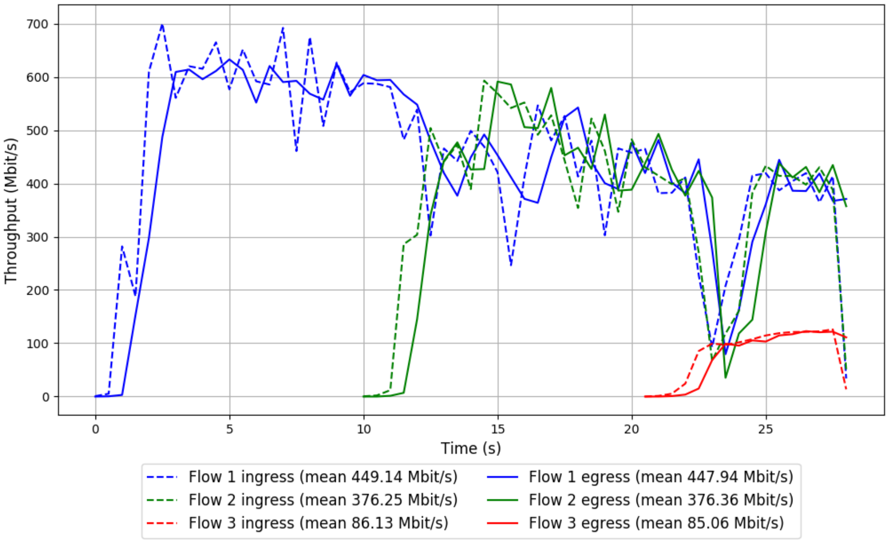
Run 1: Report of Indigo-MusesT — Data Link

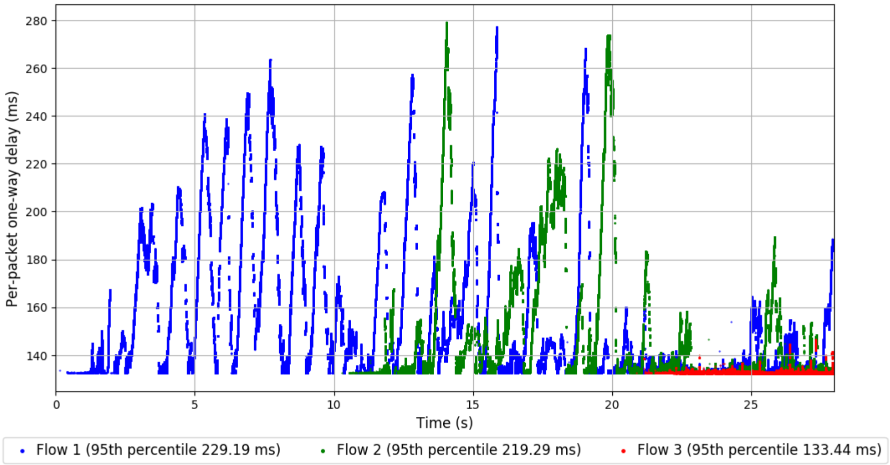




```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-18 10:16:24
End at: 2019-07-18 10:16:54
Local clock offset: -0.525 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-07-18 14:16:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 708.27 Mbit/s
95th percentile per-packet one-way delay: 225.767 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 447.94 Mbit/s
95th percentile per-packet one-way delay: 229.185 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 376.36 Mbit/s
95th percentile per-packet one-way delay: 219.289 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 85.06 Mbit/s
95th percentile per-packet one-way delay: 133.443 ms
Loss rate: 4.83%
```

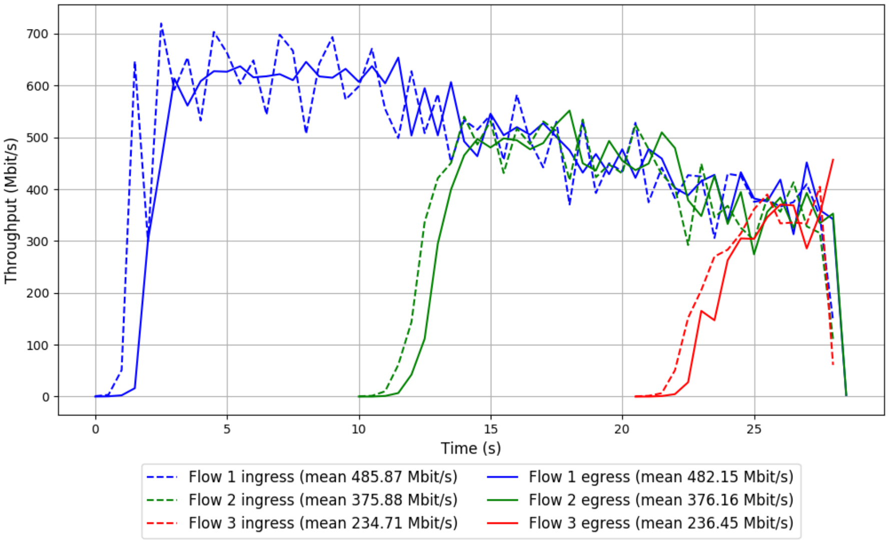
Run 2: Report of Indigo-MusesT — Data Link

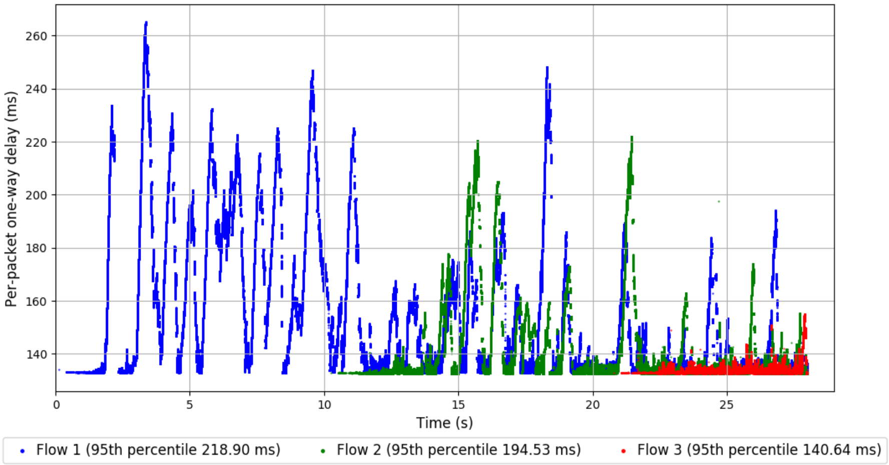




```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-18 10:59:56
End at: 2019-07-18 11:00:26
Local clock offset: -0.083 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2019-07-18 14:17:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 782.44 Mbit/s
95th percentile per-packet one-way delay: 211.583 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 482.15 Mbit/s
95th percentile per-packet one-way delay: 218.901 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 376.16 Mbit/s
95th percentile per-packet one-way delay: 194.527 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 236.45 Mbit/s
95th percentile per-packet one-way delay: 140.638 ms
Loss rate: 3.07%
```

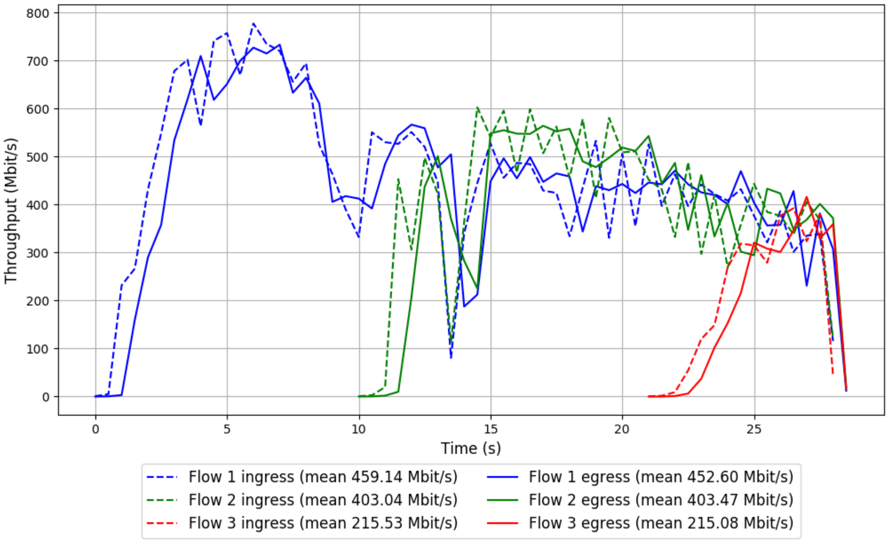
Run 3: Report of Indigo-MusesT — Data Link

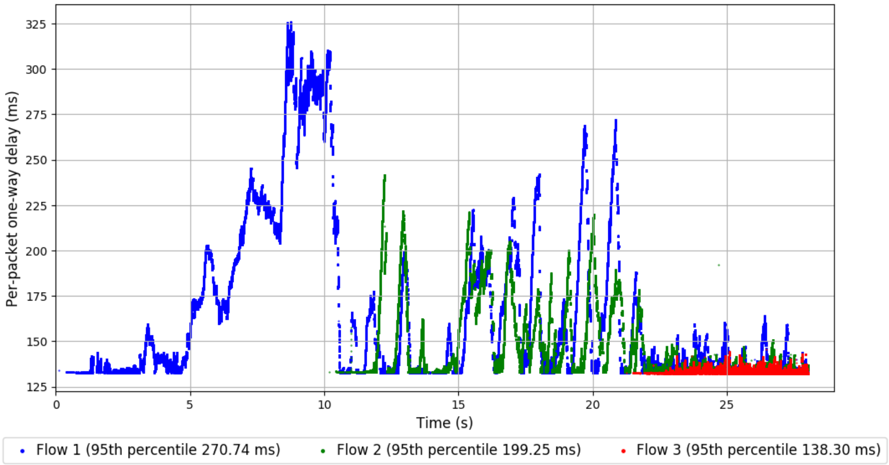




```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-18 11:43:18
End at: 2019-07-18 11:43:48
Local clock offset: 0.187 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 762.84 Mbit/s
95th percentile per-packet one-way delay: 234.820 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 452.60 Mbit/s
95th percentile per-packet one-way delay: 270.741 ms
Loss rate: 2.36%
-- Flow 2:
Average throughput: 403.47 Mbit/s
95th percentile per-packet one-way delay: 199.253 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 215.08 Mbit/s
95th percentile per-packet one-way delay: 138.300 ms
Loss rate: 3.97%
```

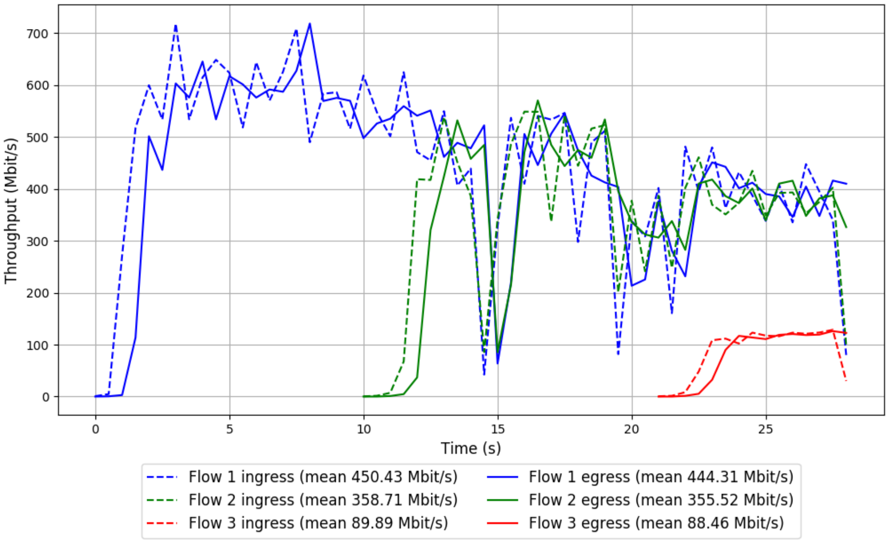
Run 4: Report of Indigo-MusesT — Data Link

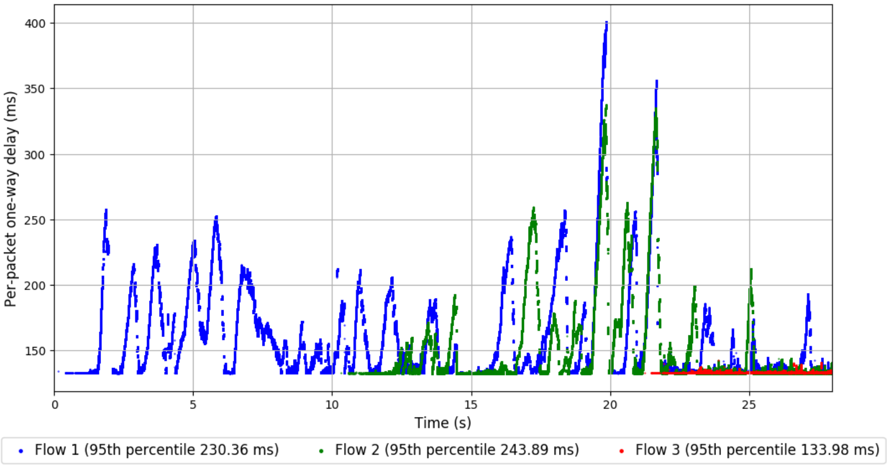




```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-18 12:27:22
End at: 2019-07-18 12:27:52
Local clock offset: -0.617 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 691.38 Mbit/s
95th percentile per-packet one-way delay: 232.148 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 444.31 Mbit/s
95th percentile per-packet one-way delay: 230.362 ms
Loss rate: 2.30%
-- Flow 2:
Average throughput: 355.52 Mbit/s
95th percentile per-packet one-way delay: 243.893 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 88.46 Mbit/s
95th percentile per-packet one-way delay: 133.977 ms
Loss rate: 5.34%
```

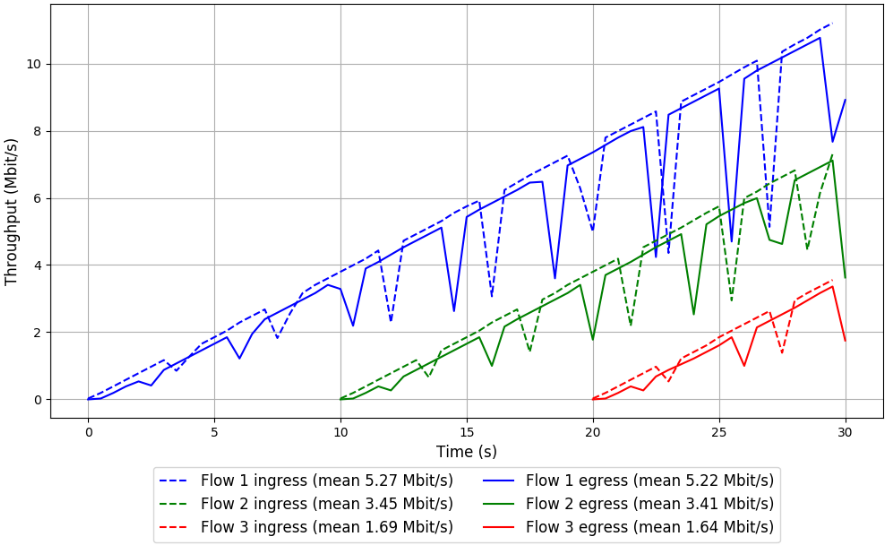
Run 5: Report of Indigo-MusesT — Data Link

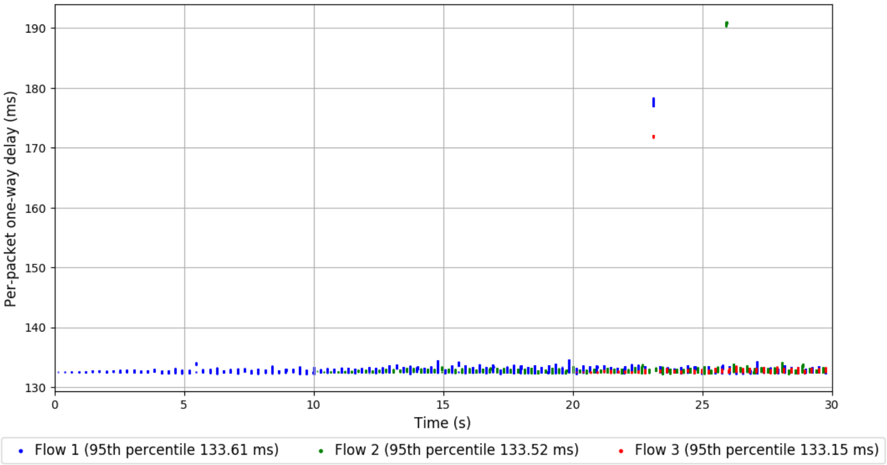




```
Run 1: Statistics of LEDBAT

Start at: 2019-07-18 09:36:35
End at: 2019-07-18 09:37:05
Local clock offset: -0.486 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 133.565 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 133.613 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 133.523 ms
Loss rate: 2.69%
-- Flow 3:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 133.147 ms
Loss rate: 5.41%
```

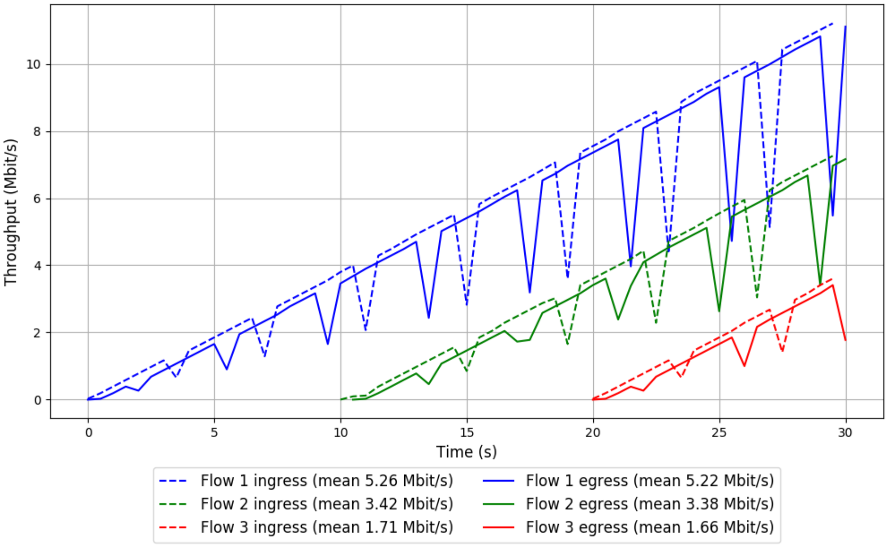
Run 1: Report of LEDBAT — Data Link

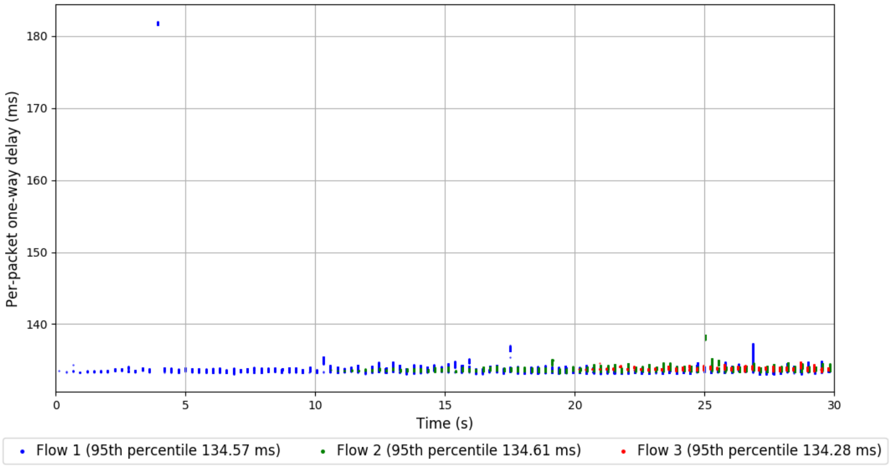




```
Run 2: Statistics of LEDBAT

Start at: 2019-07-18 10:20:24
End at: 2019-07-18 10:20:54
Local clock offset: 0.301 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 134.548 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 134.570 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 134.609 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 134.276 ms
Loss rate: 5.40%
```

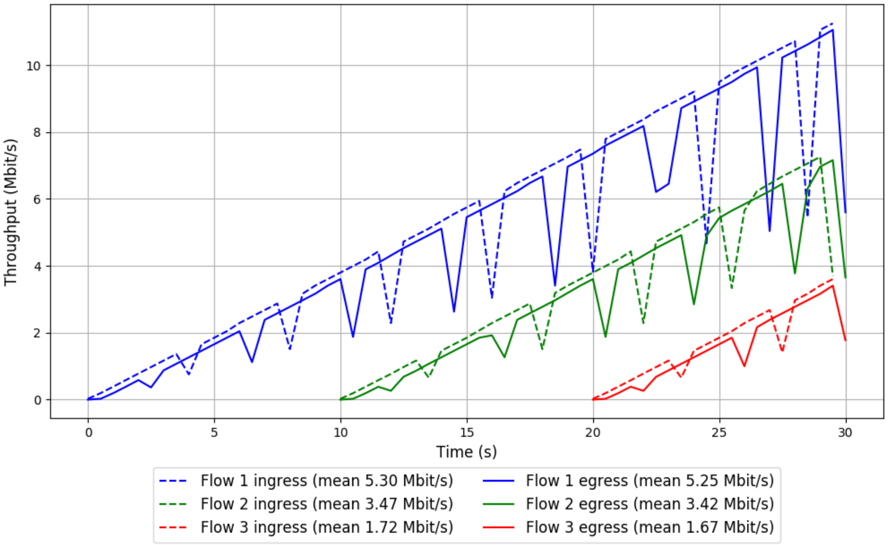
Run 2: Report of LEDBAT — Data Link

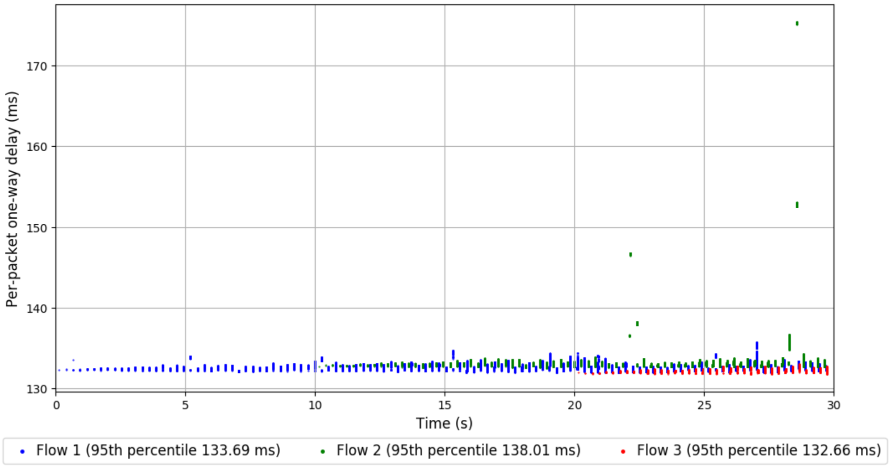




```
Run 3: Statistics of LEDBAT

Start at: 2019-07-18 11:03:59
End at: 2019-07-18 11:04:29
Local clock offset: -0.216 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.04 Mbit/s
95th percentile per-packet one-way delay: 133.941 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 5.25 Mbit/s
95th percentile per-packet one-way delay: 133.694 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 138.013 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 132.659 ms
Loss rate: 5.40%
```

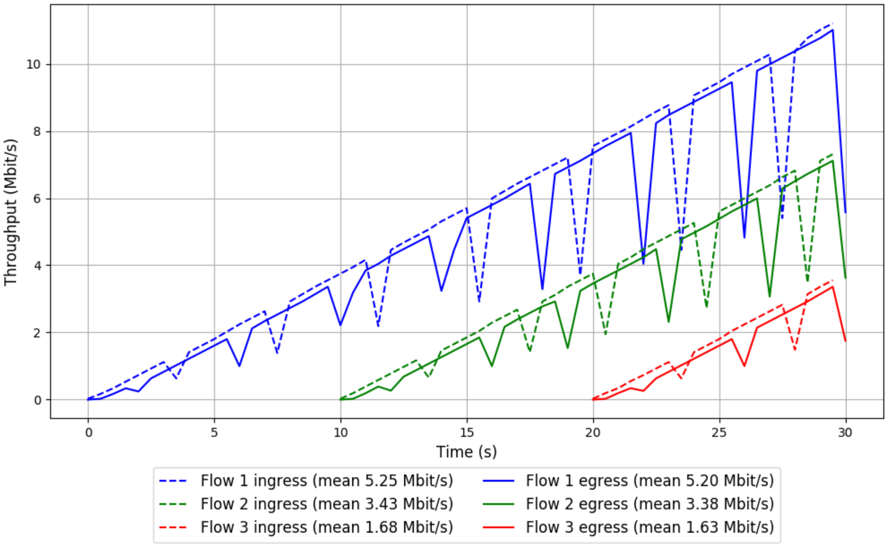
Run 3: Report of LEDBAT — Data Link

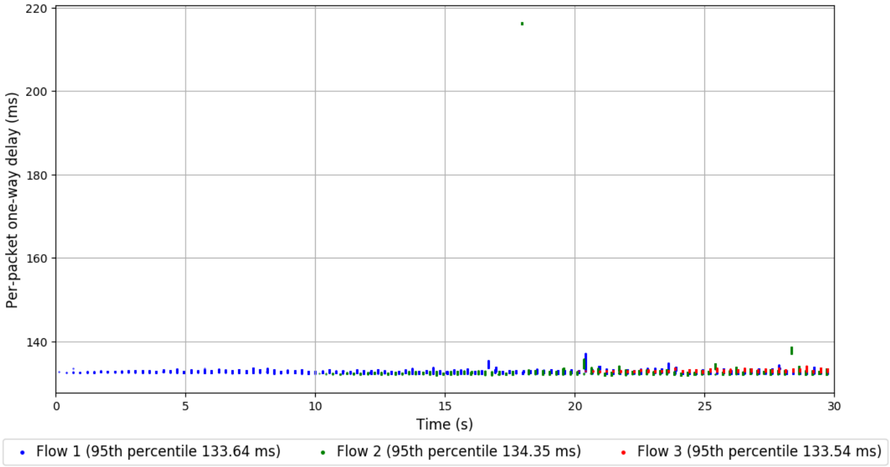




```
Run 4: Statistics of LEDBAT

Start at: 2019-07-18 11:47:10
End at: 2019-07-18 11:47:40
Local clock offset: -0.138 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 133.758 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 133.639 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 134.355 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 133.537 ms
Loss rate: 5.45%
```

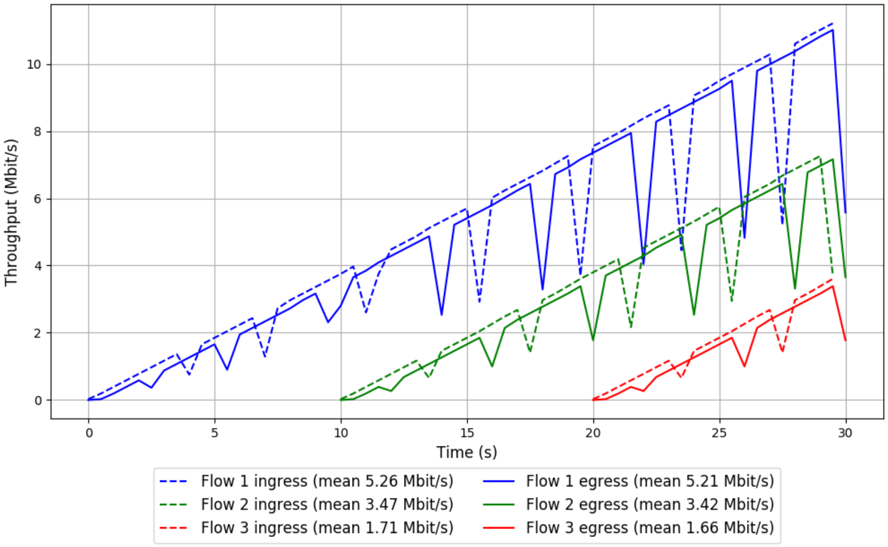
Run 4: Report of LEDBAT — Data Link

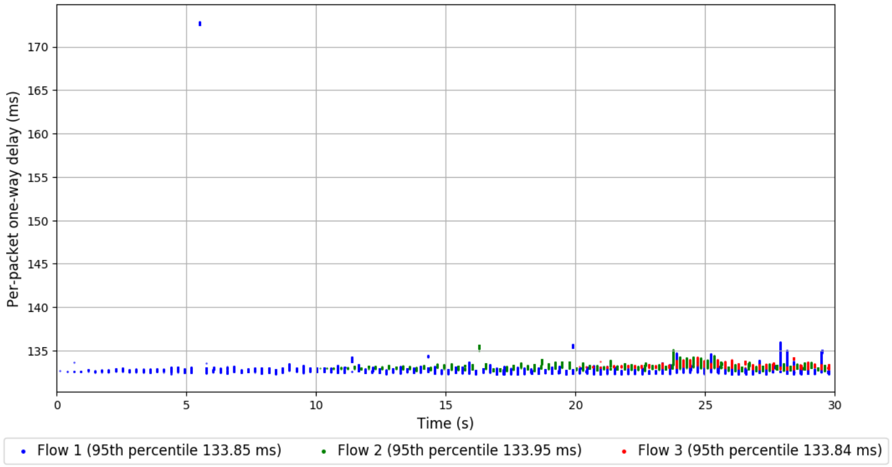




```
Run 5: Statistics of LEDBAT

Start at: 2019-07-18 12:31:22
End at: 2019-07-18 12:31:52
Local clock offset: -0.21 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 133.914 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 133.849 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 133.950 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 133.845 ms
Loss rate: 5.41%
```

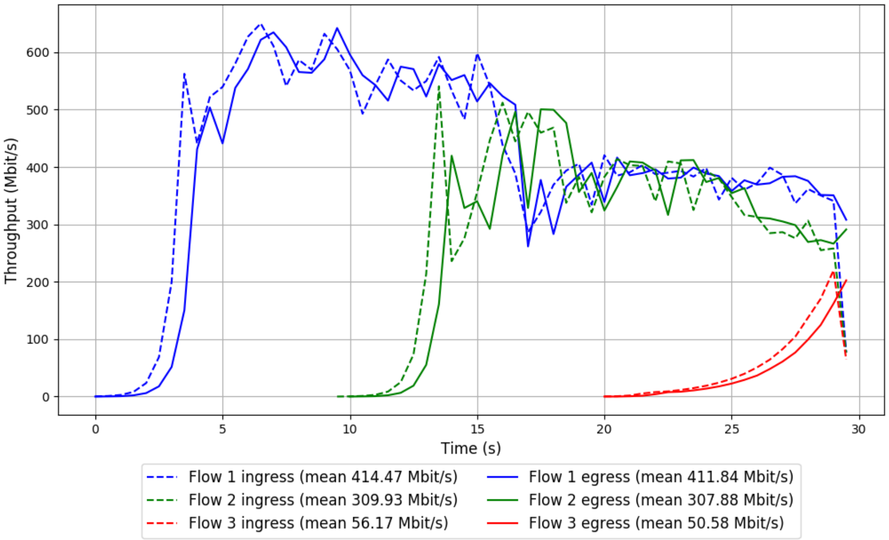
Run 5: Report of LEDBAT — Data Link

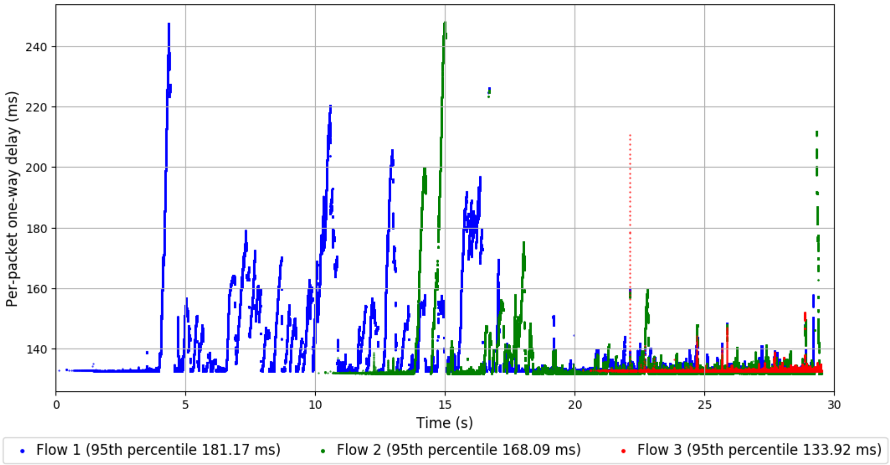




```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 09:17:11
End at: 2019-07-18 09:17:41
Local clock offset: -0.27 ms
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2019-07-18 14:18:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 630.82 Mbit/s
95th percentile per-packet one-way delay: 178.860 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 411.84 Mbit/s
95th percentile per-packet one-way delay: 181.169 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 307.88 Mbit/s
95th percentile per-packet one-way delay: 168.094 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 133.920 ms
Loss rate: 12.50%
```

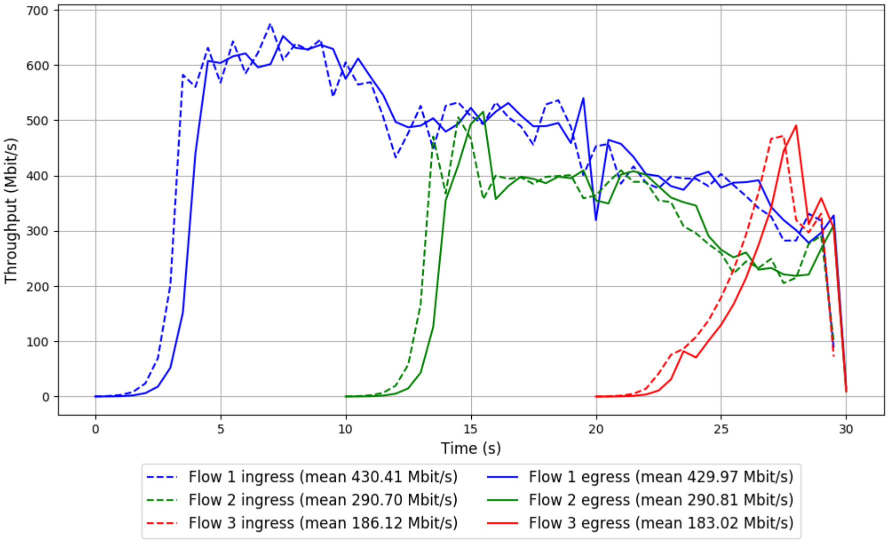
Run 1: Report of Muses_DecisionTree — Data Link

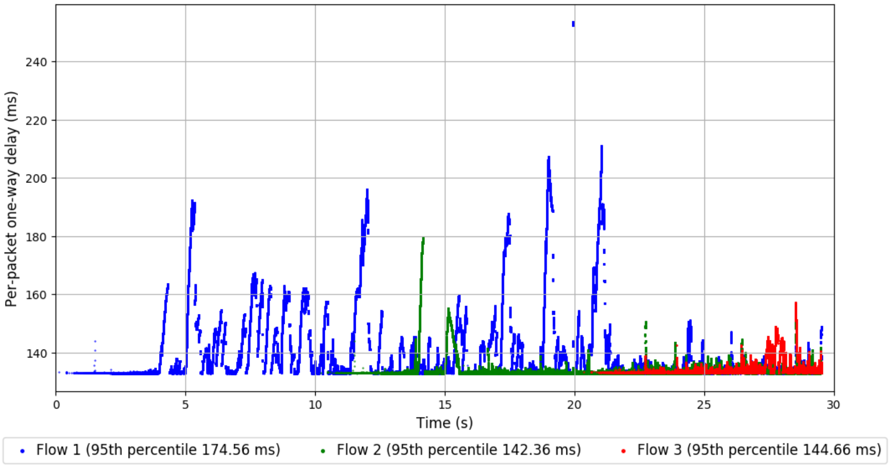




```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 10:00:38
End at: 2019-07-18 10:01:08
Local clock offset: -0.159 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-07-18 14:19:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 677.96 Mbit/s
95th percentile per-packet one-way delay: 162.763 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 429.97 Mbit/s
95th percentile per-packet one-way delay: 174.565 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 290.81 Mbit/s
95th percentile per-packet one-way delay: 142.357 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 183.02 Mbit/s
95th percentile per-packet one-way delay: 144.660 ms
Loss rate: 4.35%
```

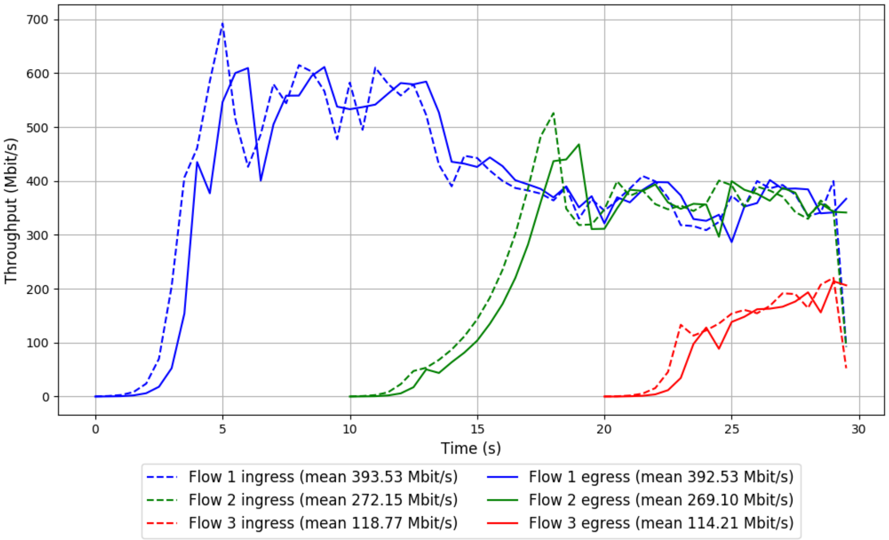
Run 2: Report of Muses_DecisionTree — Data Link

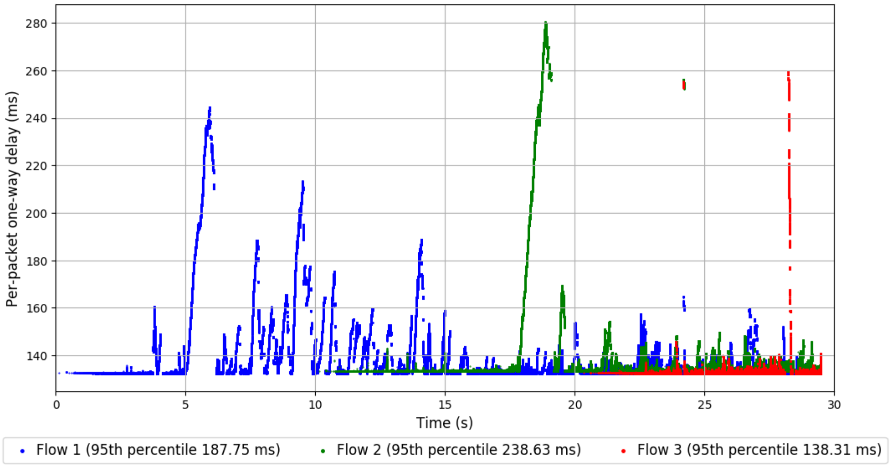




```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 10:44:03
End at: 2019-07-18 10:44:33
Local clock offset: 0.275 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2019-07-18 14:19:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.26 Mbit/s
95th percentile per-packet one-way delay: 194.655 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 392.53 Mbit/s
95th percentile per-packet one-way delay: 187.748 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 269.10 Mbit/s
95th percentile per-packet one-way delay: 238.635 ms
Loss rate: 2.53%
-- Flow 3:
Average throughput: 114.21 Mbit/s
95th percentile per-packet one-way delay: 138.309 ms
Loss rate: 6.55%
```

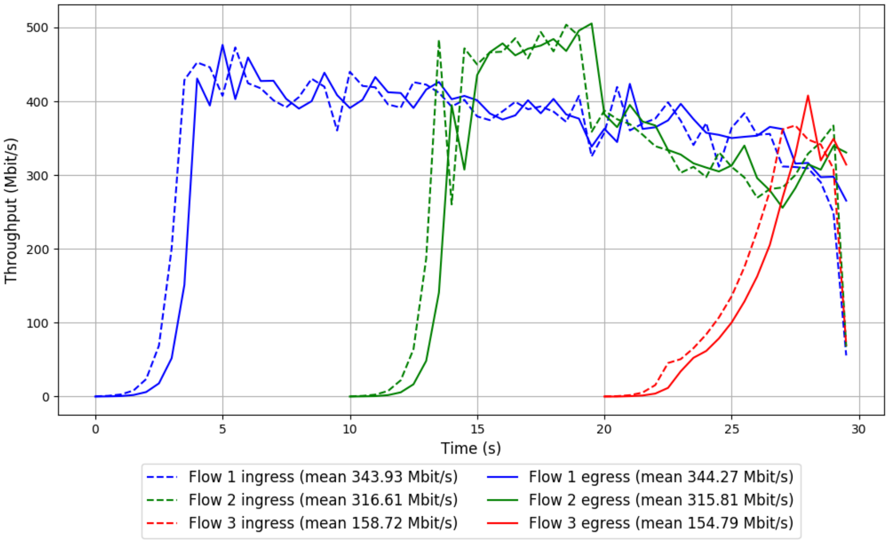
Run 3: Report of Muses_DecisionTree — Data Link

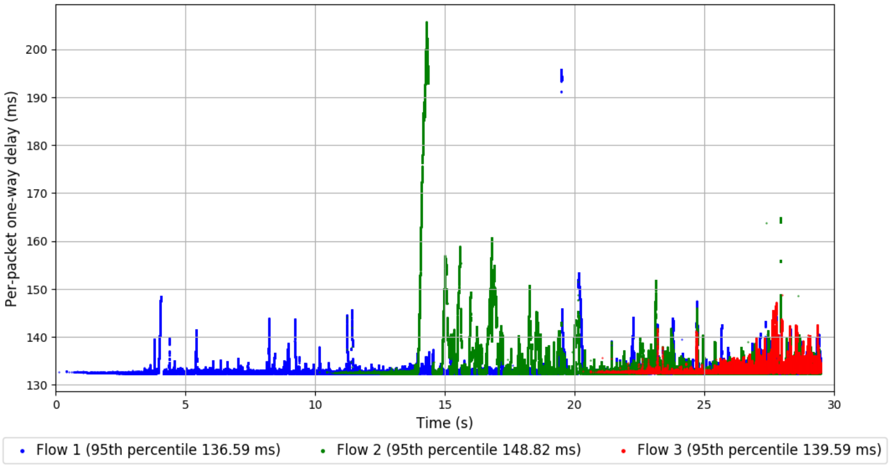




```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 11:27:38
End at: 2019-07-18 11:28:08
Local clock offset: -0.045 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2019-07-18 14:23:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 600.29 Mbit/s
95th percentile per-packet one-way delay: 141.128 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 344.27 Mbit/s
95th percentile per-packet one-way delay: 136.586 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 315.81 Mbit/s
95th percentile per-packet one-way delay: 148.818 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 154.79 Mbit/s
95th percentile per-packet one-way delay: 139.587 ms
Loss rate: 5.23%
```

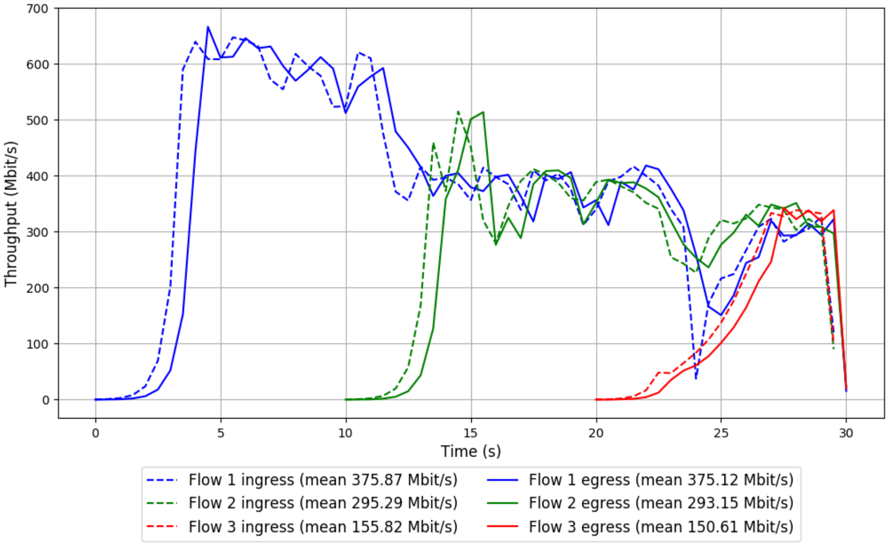
Run 4: Report of Muses_DecisionTree — Data Link

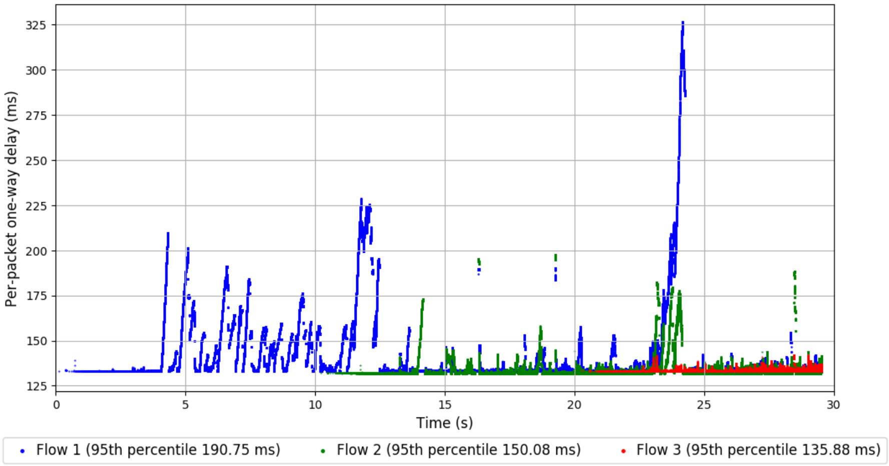




```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 12:11:41
End at: 2019-07-18 12:12:11
Local clock offset: -0.195 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-07-18 14:28:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 614.90 Mbit/s
95th percentile per-packet one-way delay: 176.417 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 375.12 Mbit/s
95th percentile per-packet one-way delay: 190.755 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 293.15 Mbit/s
95th percentile per-packet one-way delay: 150.077 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 150.61 Mbit/s
95th percentile per-packet one-way delay: 135.875 ms
Loss rate: 6.07%
```

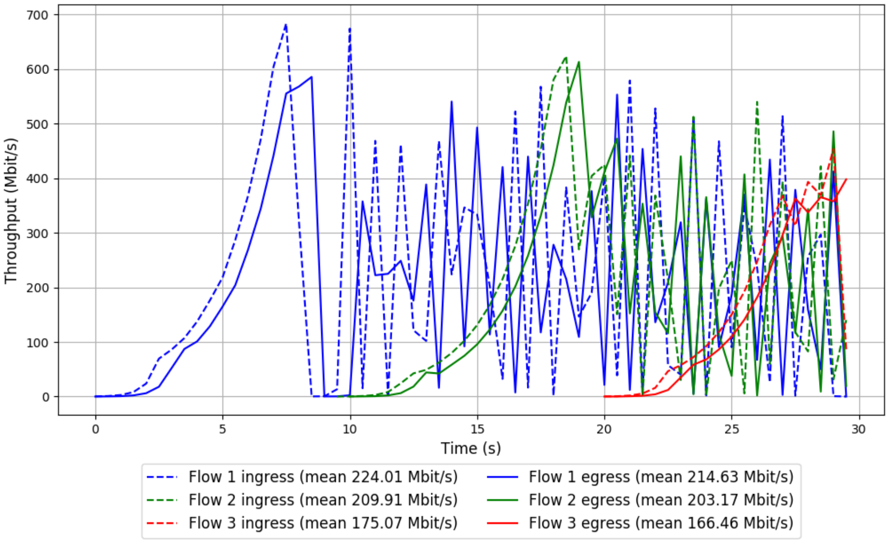
Run 5: Report of Muses_DecisionTree — Data Link

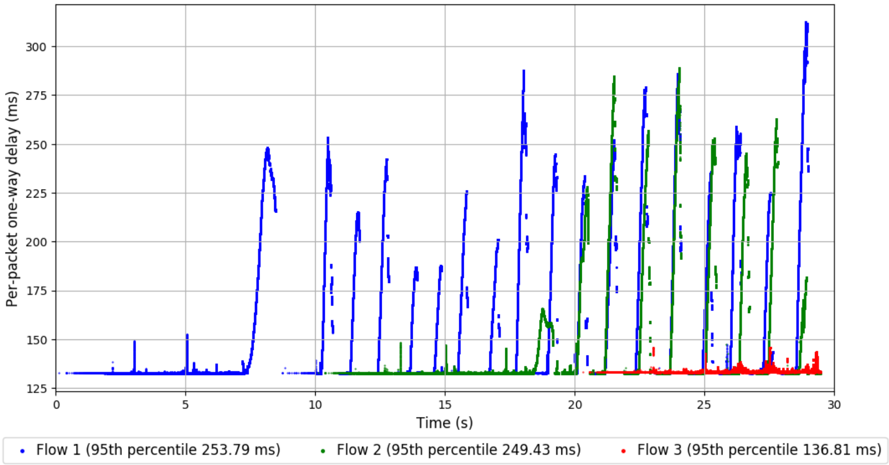




```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 09:20:56
End at: 2019-07-18 09:21:26
Local clock offset: 0.098 ms
Remote clock offset: -0.159 ms

# Below is generated by plot.py at 2019-07-18 14:28:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.46 Mbit/s
95th percentile per-packet one-way delay: 248.978 ms
Loss rate: 5.22%
-- Flow 1:
Average throughput: 214.63 Mbit/s
95th percentile per-packet one-way delay: 253.788 ms
Loss rate: 5.05%
-- Flow 2:
Average throughput: 203.17 Mbit/s
95th percentile per-packet one-way delay: 249.425 ms
Loss rate: 4.52%
-- Flow 3:
Average throughput: 166.46 Mbit/s
95th percentile per-packet one-way delay: 136.810 ms
Loss rate: 7.62%
```

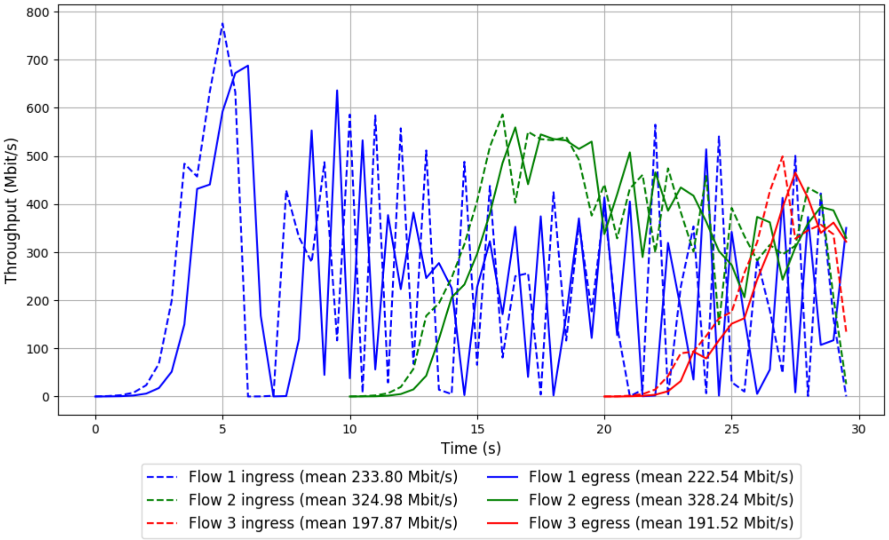
Run 1: Report of Muses_DecisionTreeH0 — Data Link

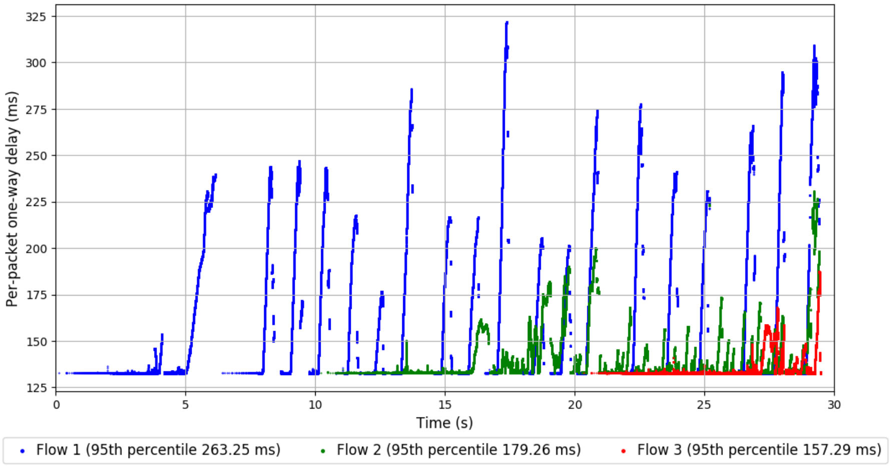




```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 10:04:32
End at: 2019-07-18 10:05:02
Local clock offset: -0.267 ms
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2019-07-18 14:28:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 496.28 Mbit/s
95th percentile per-packet one-way delay: 237.965 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 222.54 Mbit/s
95th percentile per-packet one-way delay: 263.251 ms
Loss rate: 5.90%
-- Flow 2:
Average throughput: 328.24 Mbit/s
95th percentile per-packet one-way delay: 179.265 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 191.52 Mbit/s
95th percentile per-packet one-way delay: 157.292 ms
Loss rate: 5.95%
```

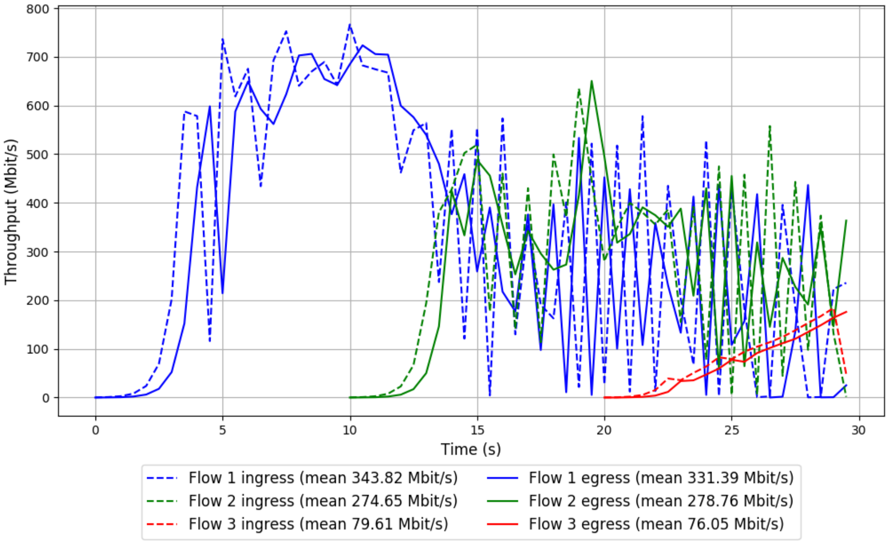
Run 2: Report of Muses_DecisionTreeH0 — Data Link

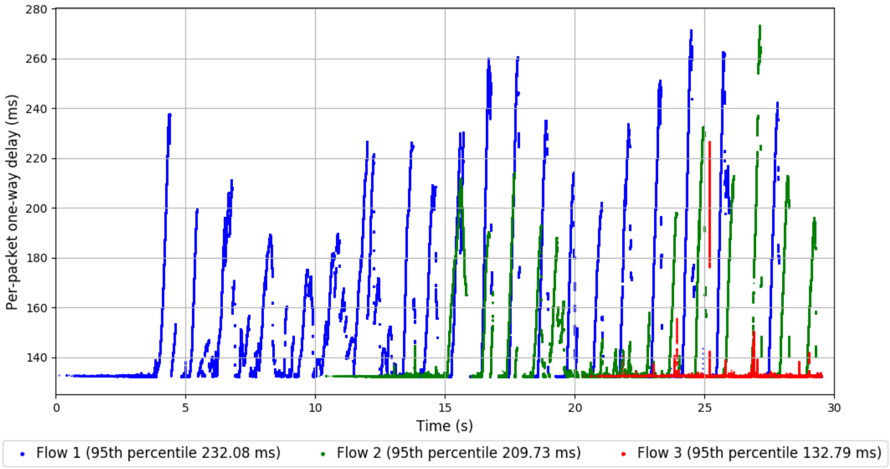




```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 10:48:02
End at: 2019-07-18 10:48:32
Local clock offset: -0.202 ms
Remote clock offset: 0.275 ms

# Below is generated by plot.py at 2019-07-18 14:29:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.86 Mbit/s
95th percentile per-packet one-way delay: 226.555 ms
Loss rate: 3.42%
-- Flow 1:
Average throughput: 331.39 Mbit/s
95th percentile per-packet one-way delay: 232.079 ms
Loss rate: 4.48%
-- Flow 2:
Average throughput: 278.76 Mbit/s
95th percentile per-packet one-way delay: 209.732 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 76.05 Mbit/s
95th percentile per-packet one-way delay: 132.788 ms
Loss rate: 7.19%
```

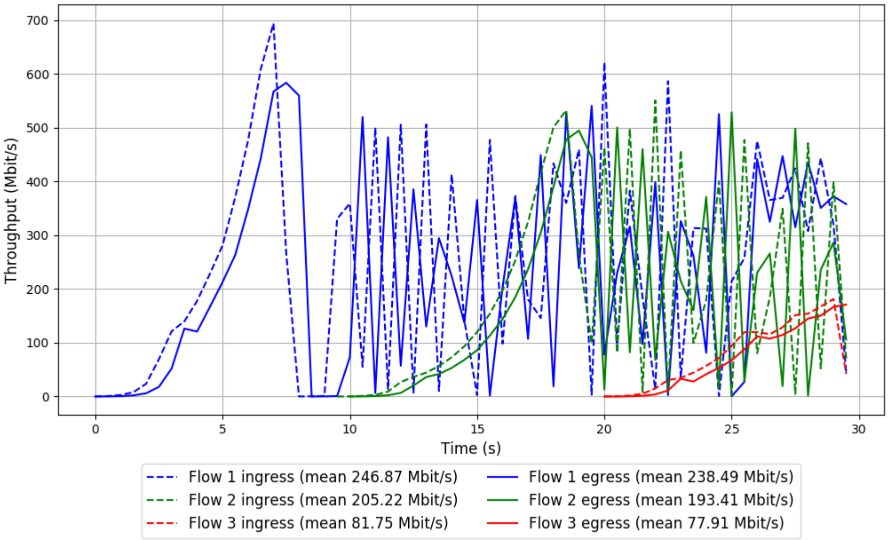
Run 3: Report of Muses_DecisionTreeH0 — Data Link

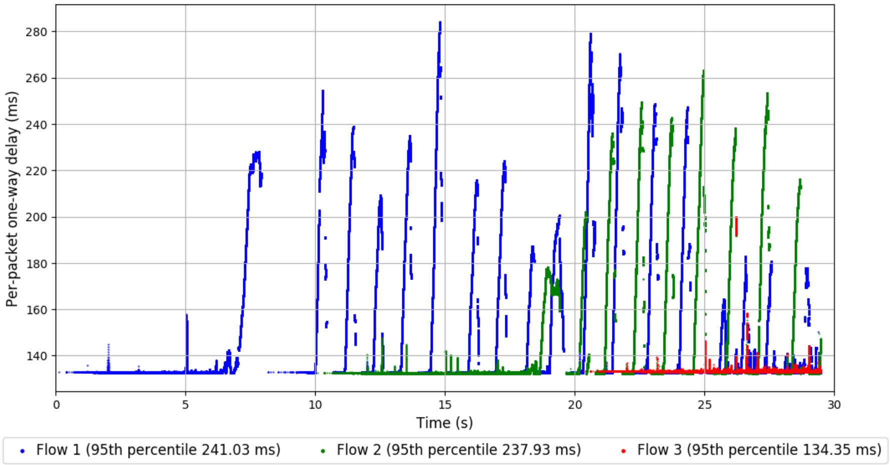




```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 11:31:34
End at: 2019-07-18 11:32:04
Local clock offset: 0.515 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2019-07-18 14:29:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.57 Mbit/s
95th percentile per-packet one-way delay: 238.666 ms
Loss rate: 5.29%
-- Flow 1:
Average throughput: 238.49 Mbit/s
95th percentile per-packet one-way delay: 241.028 ms
Loss rate: 4.27%
-- Flow 2:
Average throughput: 193.41 Mbit/s
95th percentile per-packet one-way delay: 237.928 ms
Loss rate: 6.75%
-- Flow 3:
Average throughput: 77.91 Mbit/s
95th percentile per-packet one-way delay: 134.350 ms
Loss rate: 7.39%
```

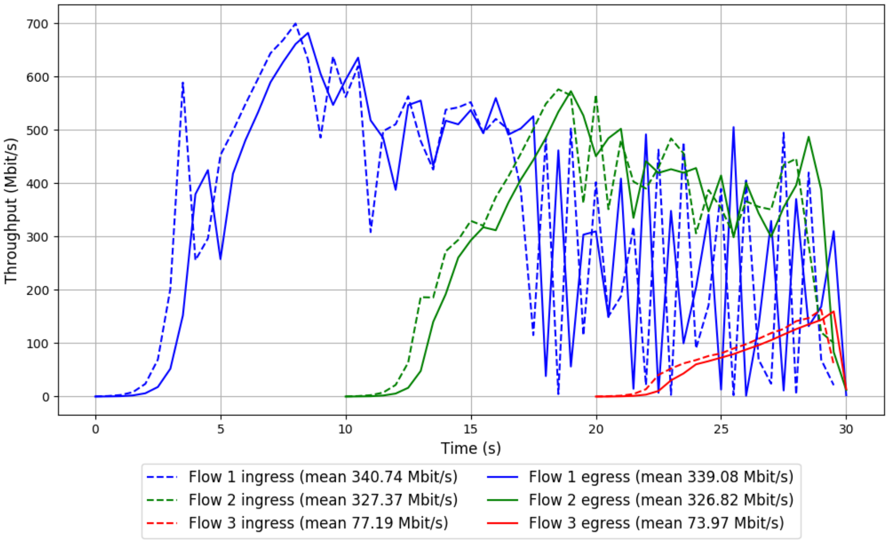
Run 4: Report of Muses_DecisionTreeH0 — Data Link

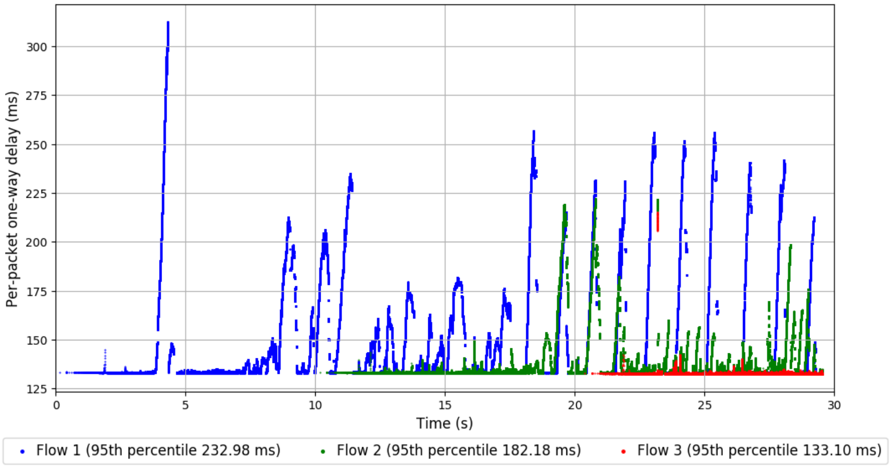




```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 12:15:34
End at: 2019-07-18 12:16:04
Local clock offset: 0.055 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2019-07-18 14:30:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 577.30 Mbit/s
95th percentile per-packet one-way delay: 219.864 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 339.08 Mbit/s
95th percentile per-packet one-way delay: 232.979 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 326.82 Mbit/s
95th percentile per-packet one-way delay: 182.176 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 73.97 Mbit/s
95th percentile per-packet one-way delay: 133.101 ms
Loss rate: 6.90%
```

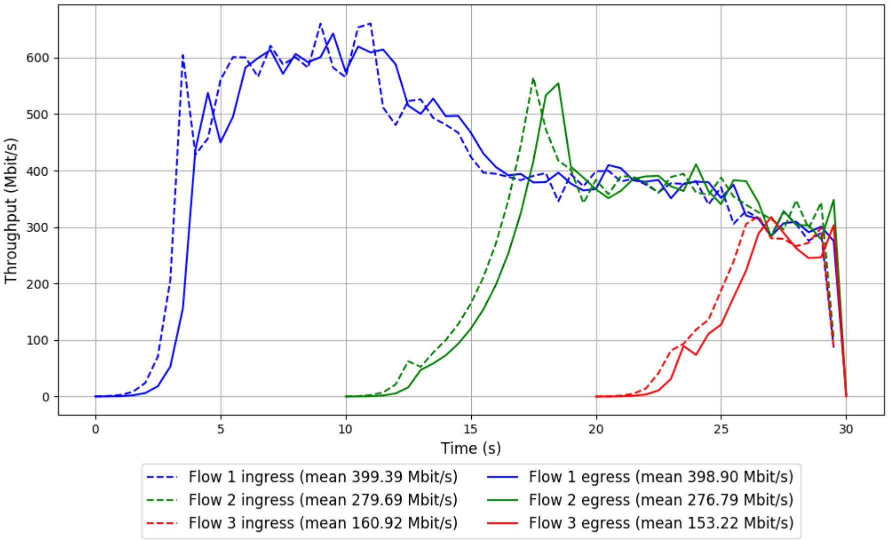
Run 5: Report of Muses_DecisionTreeH0 — Data Link

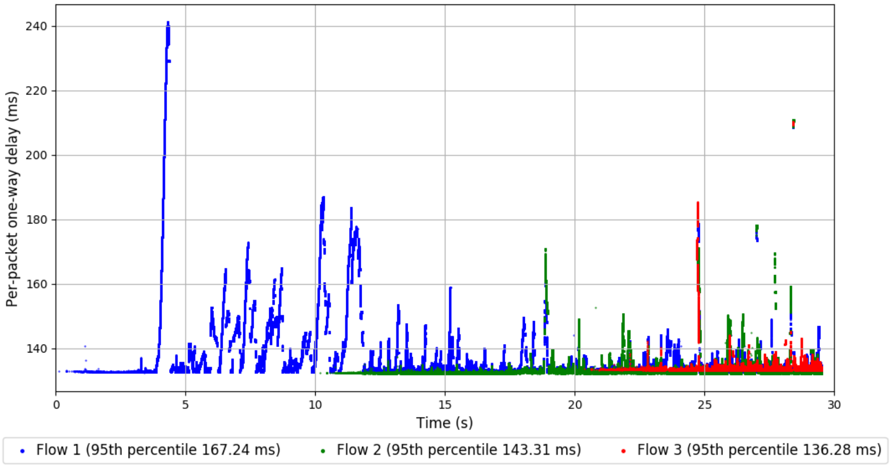




```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 09:23:59
End at: 2019-07-18 09:24:29
Local clock offset: -0.207 ms
Remote clock offset: -0.522 ms

# Below is generated by plot.py at 2019-07-18 14:32:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 628.59 Mbit/s
95th percentile per-packet one-way delay: 158.657 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 398.90 Mbit/s
95th percentile per-packet one-way delay: 167.239 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 276.79 Mbit/s
95th percentile per-packet one-way delay: 143.307 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 153.22 Mbit/s
95th percentile per-packet one-way delay: 136.283 ms
Loss rate: 7.45%
```

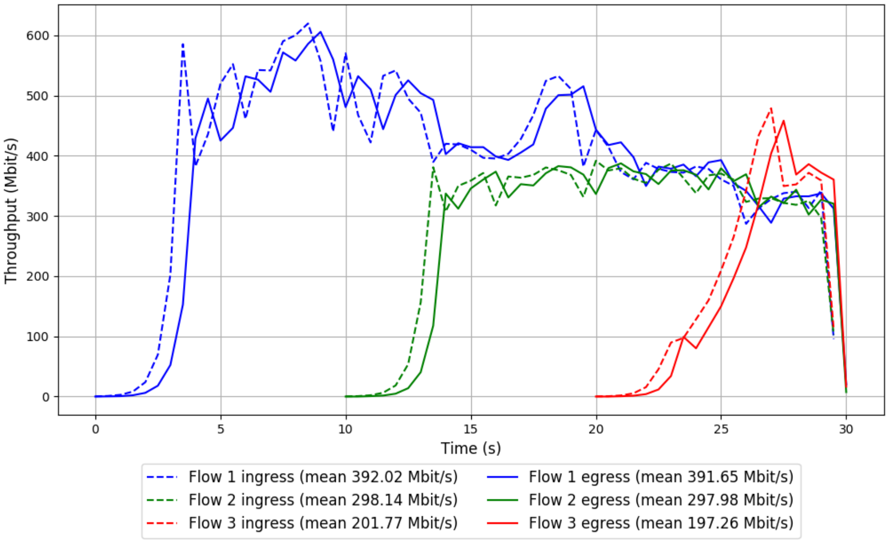
Run 1: Report of Muses_DecisionTreeR0 — Data Link

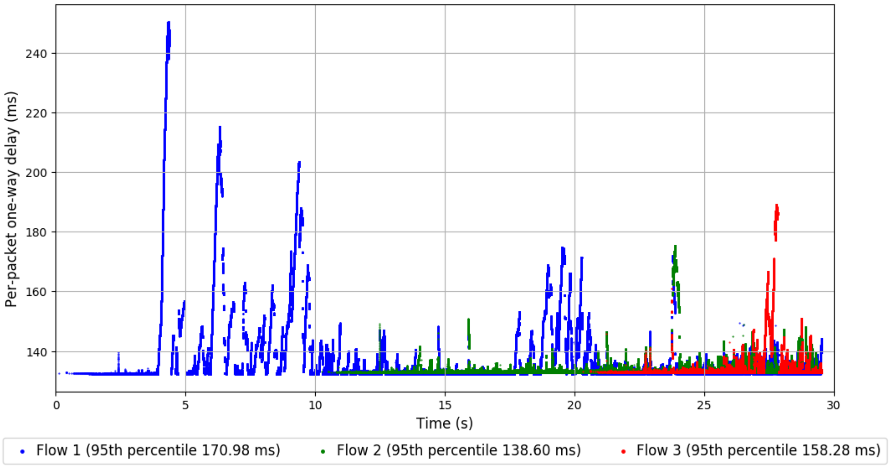




```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 10:07:41
End at: 2019-07-18 10:08:11
Local clock offset: -0.128 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2019-07-18 14:37:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 648.77 Mbit/s
95th percentile per-packet one-way delay: 163.096 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 391.65 Mbit/s
95th percentile per-packet one-way delay: 170.977 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 297.98 Mbit/s
95th percentile per-packet one-way delay: 138.602 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 197.26 Mbit/s
95th percentile per-packet one-way delay: 158.281 ms
Loss rate: 5.00%
```

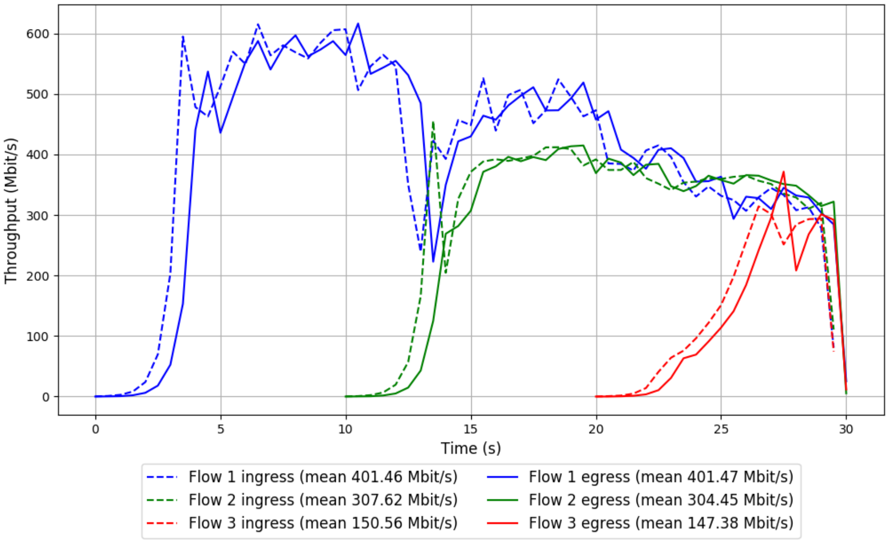
Run 2: Report of Muses_DecisionTreeR0 — Data Link

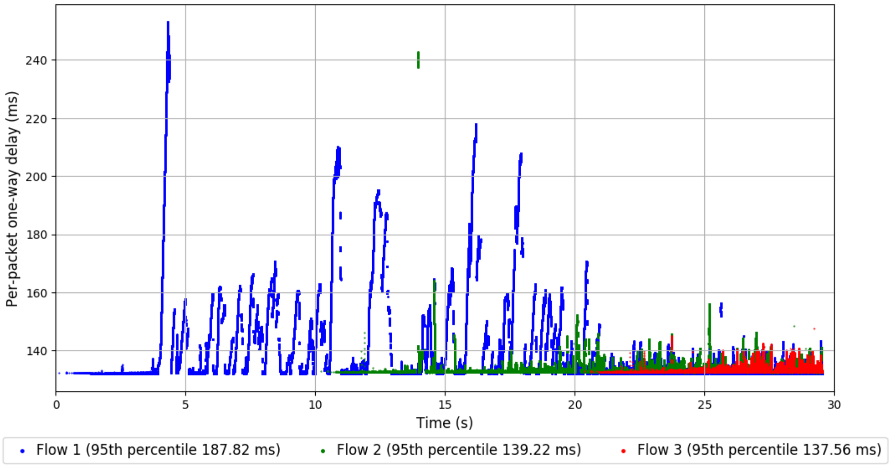




```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 10:51:14
End at: 2019-07-18 10:51:44
Local clock offset: -0.238 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-07-18 14:38:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 647.31 Mbit/s
95th percentile per-packet one-way delay: 172.206 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 401.47 Mbit/s
95th percentile per-packet one-way delay: 187.818 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 304.45 Mbit/s
95th percentile per-packet one-way delay: 139.215 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 147.38 Mbit/s
95th percentile per-packet one-way delay: 137.563 ms
Loss rate: 4.88%
```

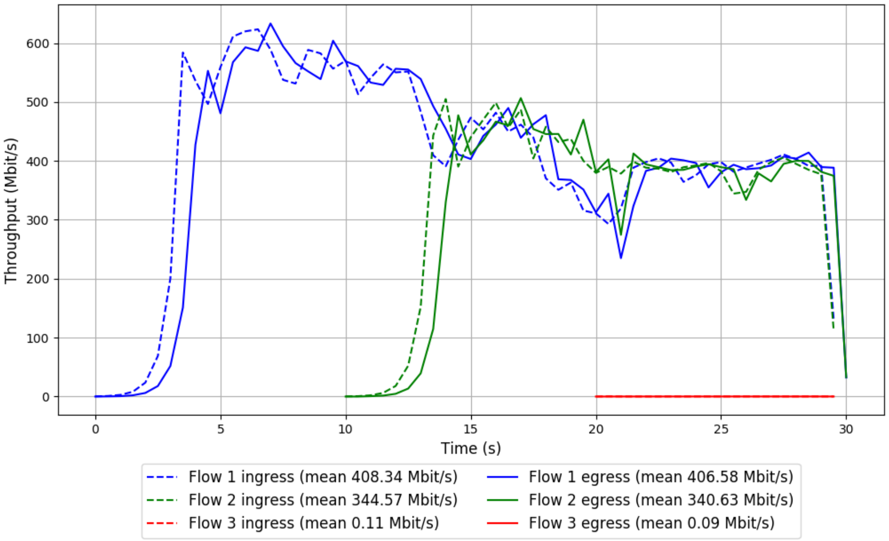
Run 3: Report of Muses_DecisionTreeR0 — Data Link

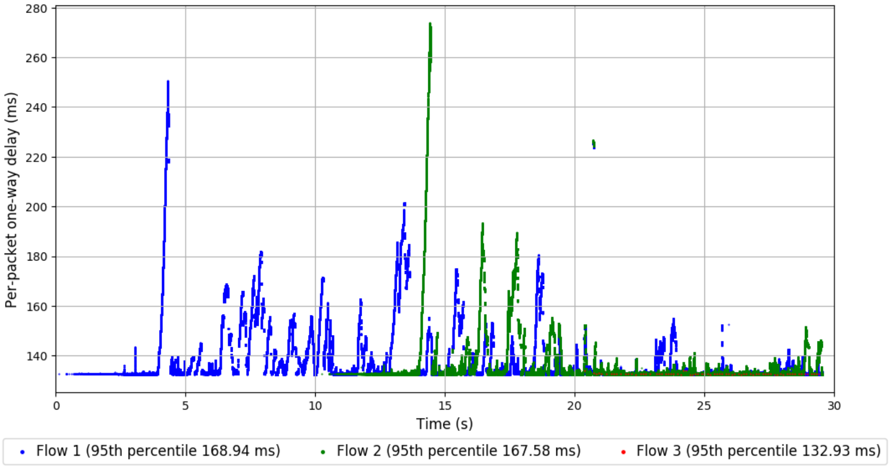




```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 11:34:37
End at: 2019-07-18 11:35:07
Local clock offset: -0.155 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-07-18 14:38:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 629.90 Mbit/s
95th percentile per-packet one-way delay: 168.761 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 406.58 Mbit/s
95th percentile per-packet one-way delay: 168.945 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 340.63 Mbit/s
95th percentile per-packet one-way delay: 167.580 ms
Loss rate: 2.48%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 132.934 ms
Loss rate: 15.29%
```

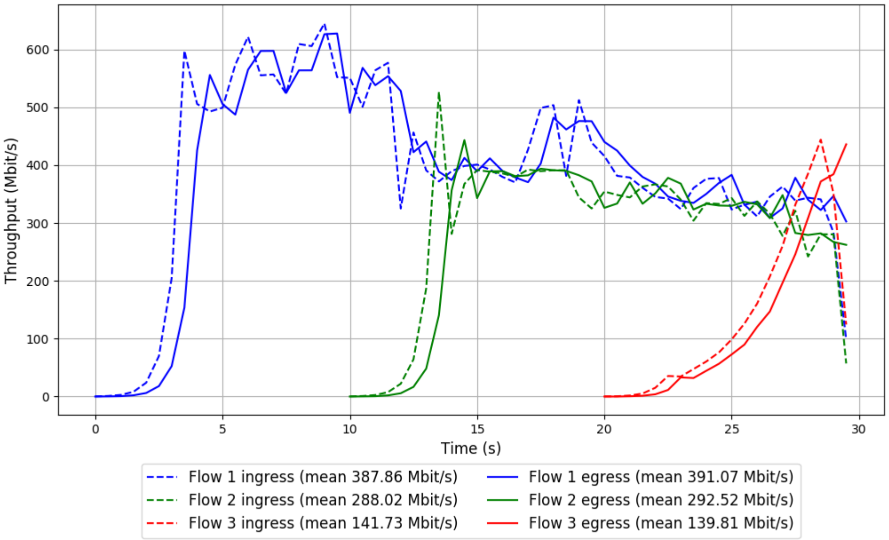
Run 4: Report of Muses_DecisionTreeR0 — Data Link

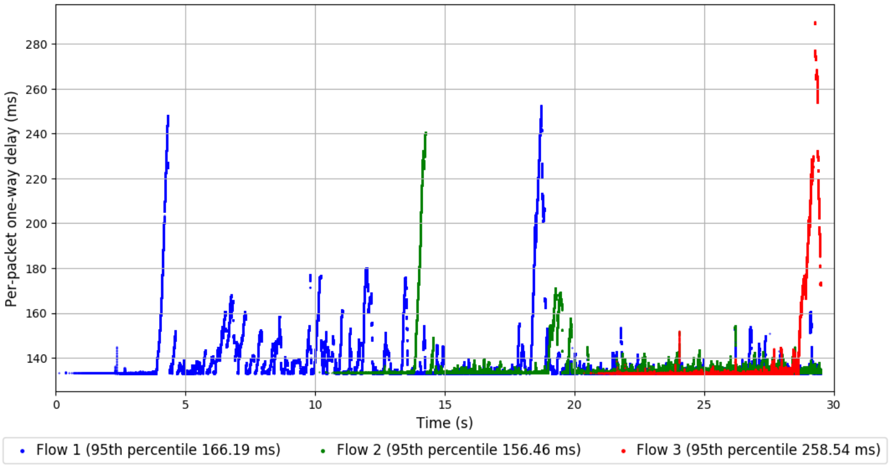




```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 12:18:48
End at: 2019-07-18 12:19:18
Local clock offset: 0.1 ms
Remote clock offset: -0.1 ms

# Below is generated by plot.py at 2019-07-18 14:39:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 627.18 Mbit/s
95th percentile per-packet one-way delay: 170.278 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 391.07 Mbit/s
95th percentile per-packet one-way delay: 166.194 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 292.52 Mbit/s
95th percentile per-packet one-way delay: 156.460 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 139.81 Mbit/s
95th percentile per-packet one-way delay: 258.538 ms
Loss rate: 7.61%
```

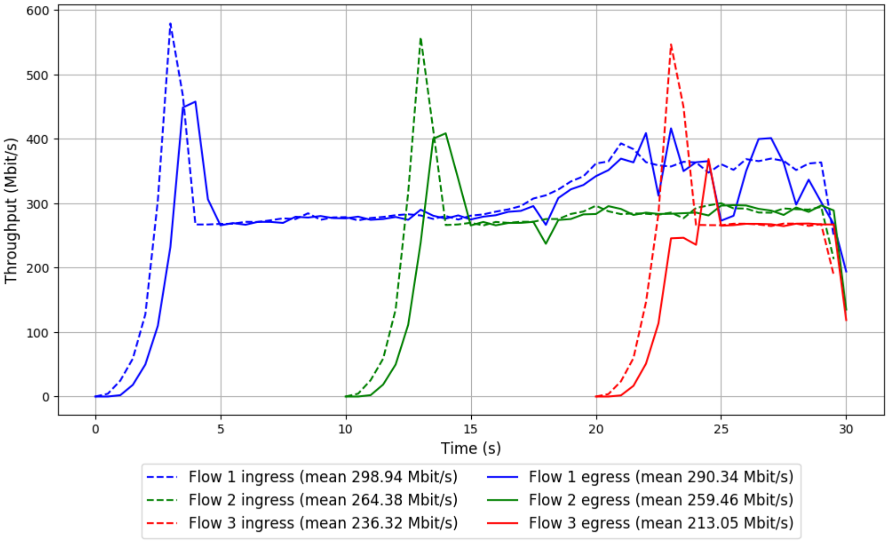
Run 5: Report of Muses_DecisionTreeR0 — Data Link

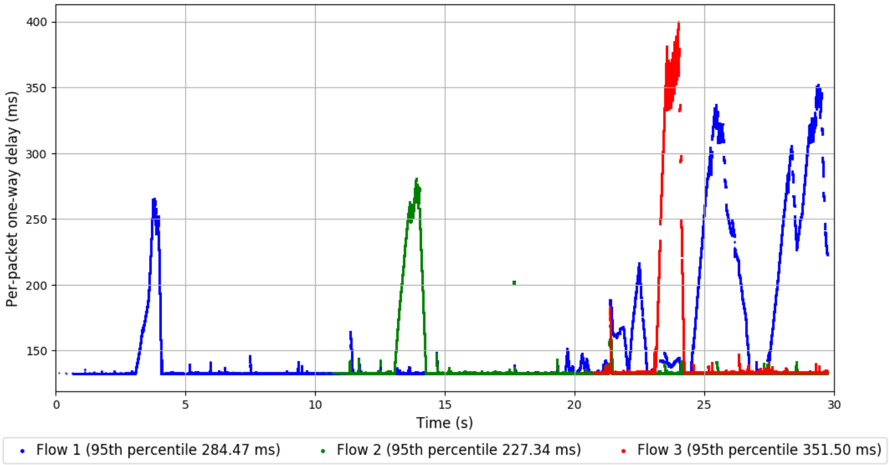




```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-18 09:07:10
End at: 2019-07-18 09:07:40
Local clock offset: 0.289 ms
Remote clock offset: -0.142 ms

# Below is generated by plot.py at 2019-07-18 14:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.78 Mbit/s
95th percentile per-packet one-way delay: 269.178 ms
Loss rate: 4.76%
-- Flow 1:
Average throughput: 290.34 Mbit/s
95th percentile per-packet one-way delay: 284.471 ms
Loss rate: 3.74%
-- Flow 2:
Average throughput: 259.46 Mbit/s
95th percentile per-packet one-way delay: 227.338 ms
Loss rate: 3.17%
-- Flow 3:
Average throughput: 213.05 Mbit/s
95th percentile per-packet one-way delay: 351.500 ms
Loss rate: 12.28%
```

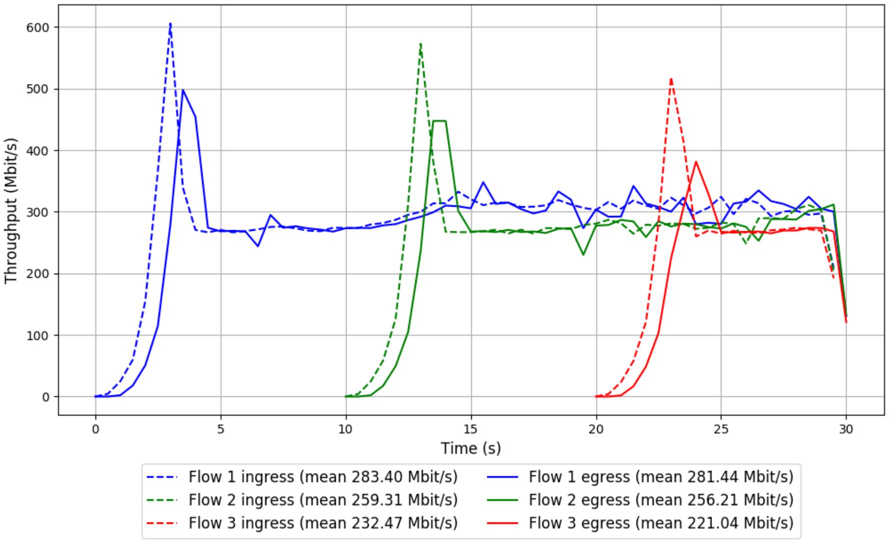
Run 1: Report of PCC-Allegro — Data Link

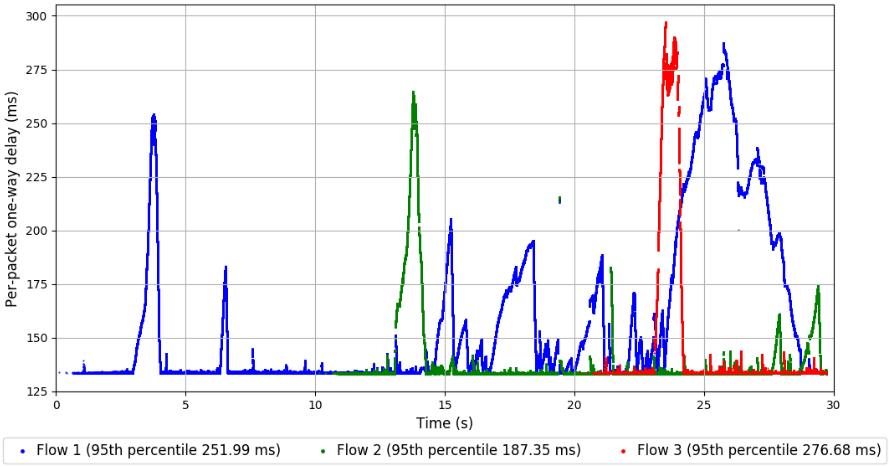




```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-18 09:50:38
End at: 2019-07-18 09:51:08
Local clock offset: 0.098 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2019-07-18 14:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.28 Mbit/s
95th percentile per-packet one-way delay: 249.812 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 281.44 Mbit/s
95th percentile per-packet one-way delay: 251.988 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 256.21 Mbit/s
95th percentile per-packet one-way delay: 187.349 ms
Loss rate: 2.53%
-- Flow 3:
Average throughput: 221.04 Mbit/s
95th percentile per-packet one-way delay: 276.683 ms
Loss rate: 7.50%
```

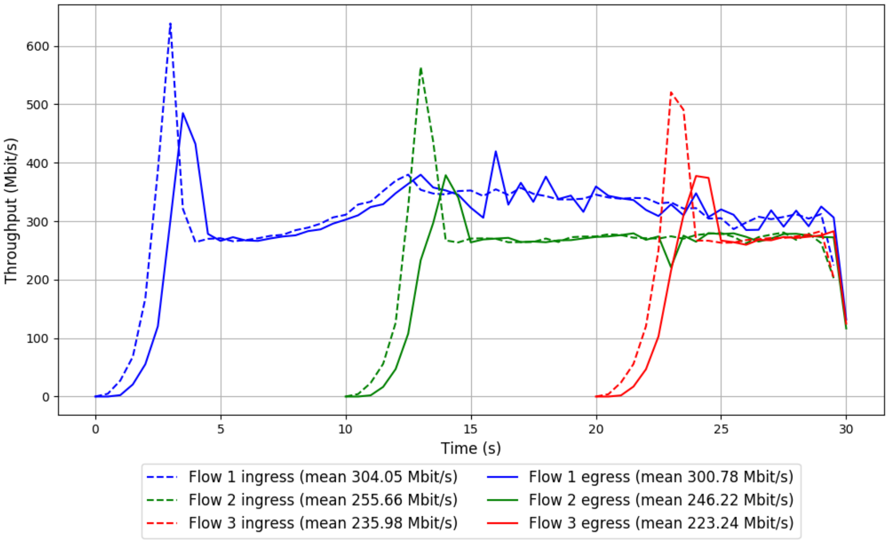
Run 2: Report of PCC-Allegro — Data Link

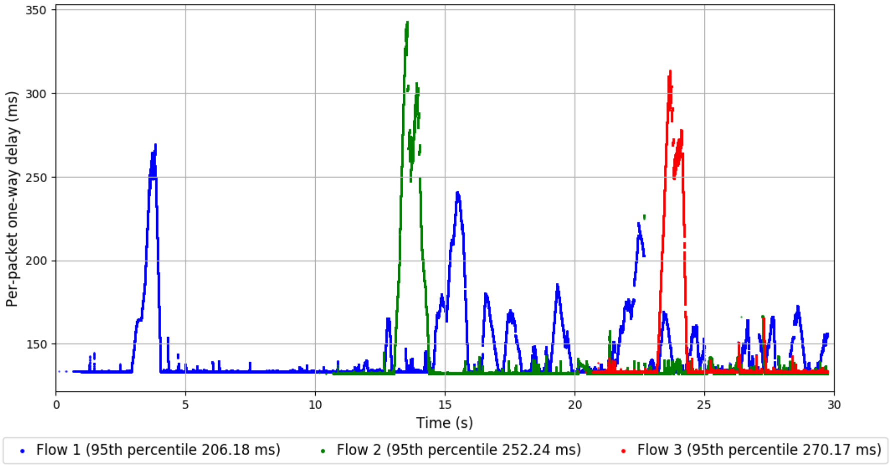




```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-18 10:34:05
End at: 2019-07-18 10:34:35
Local clock offset: 0.131 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-07-18 14:50:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 535.91 Mbit/s
95th percentile per-packet one-way delay: 225.615 ms
Loss rate: 3.73%
-- Flow 1:
Average throughput: 300.78 Mbit/s
95th percentile per-packet one-way delay: 206.179 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 246.22 Mbit/s
95th percentile per-packet one-way delay: 252.237 ms
Loss rate: 4.97%
-- Flow 3:
Average throughput: 223.24 Mbit/s
95th percentile per-packet one-way delay: 270.170 ms
Loss rate: 7.96%
```

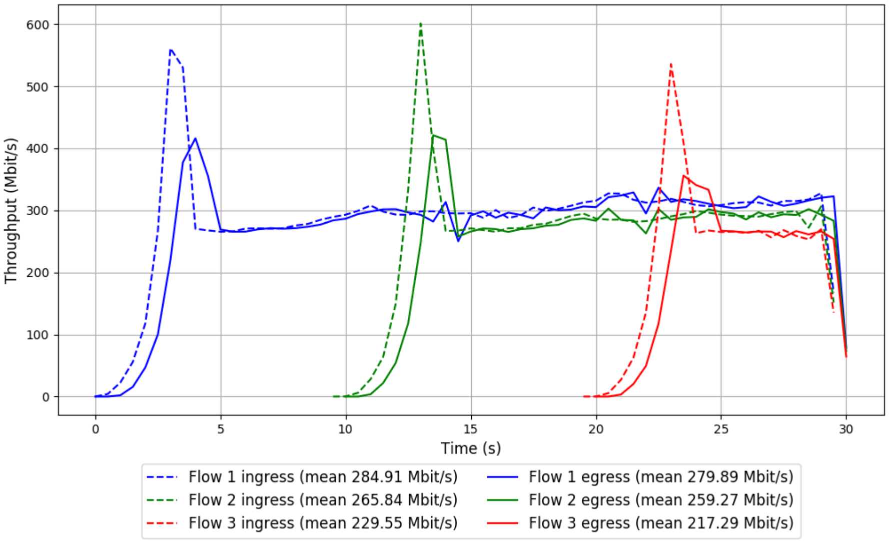
Run 3: Report of PCC-Allegro — Data Link

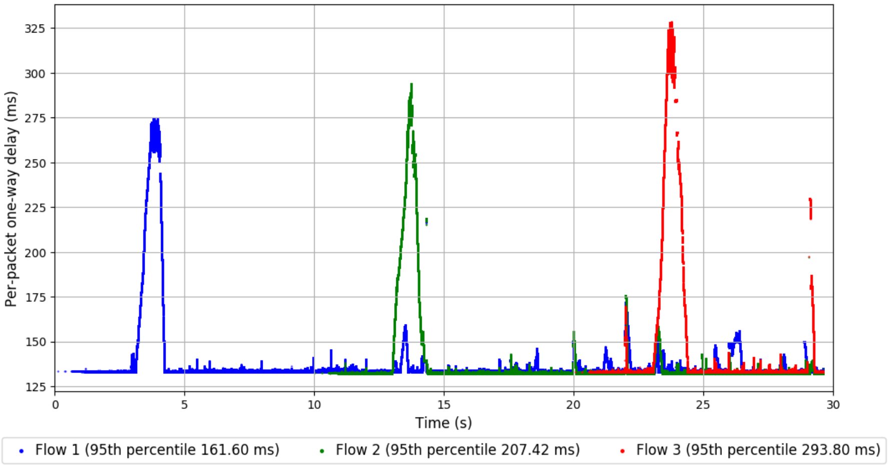




```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-18 11:17:43
End at: 2019-07-18 11:18:13
Local clock offset: 0.339 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-07-18 14:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.49 Mbit/s
95th percentile per-packet one-way delay: 213.021 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 279.89 Mbit/s
95th percentile per-packet one-way delay: 161.602 ms
Loss rate: 2.64%
-- Flow 2:
Average throughput: 259.27 Mbit/s
95th percentile per-packet one-way delay: 207.422 ms
Loss rate: 3.78%
-- Flow 3:
Average throughput: 217.29 Mbit/s
95th percentile per-packet one-way delay: 293.795 ms
Loss rate: 7.90%
```

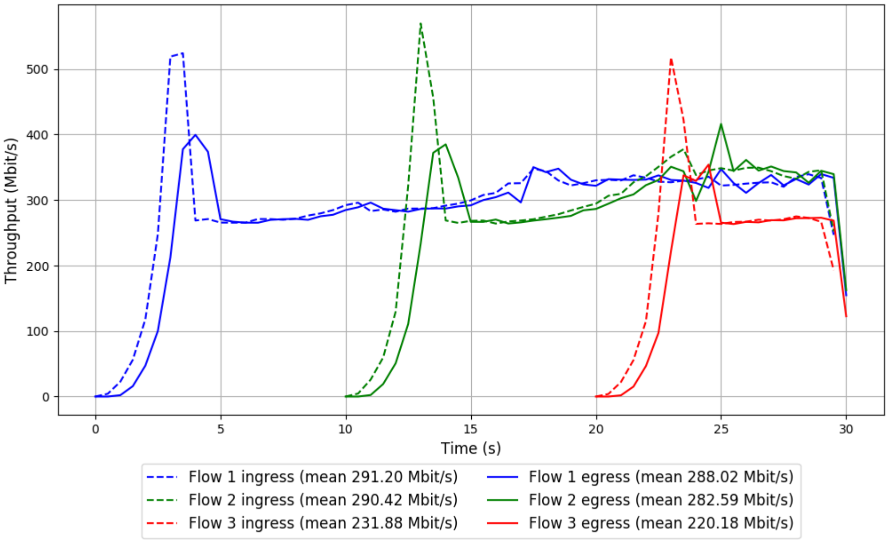
Run 4: Report of PCC-Allegro — Data Link

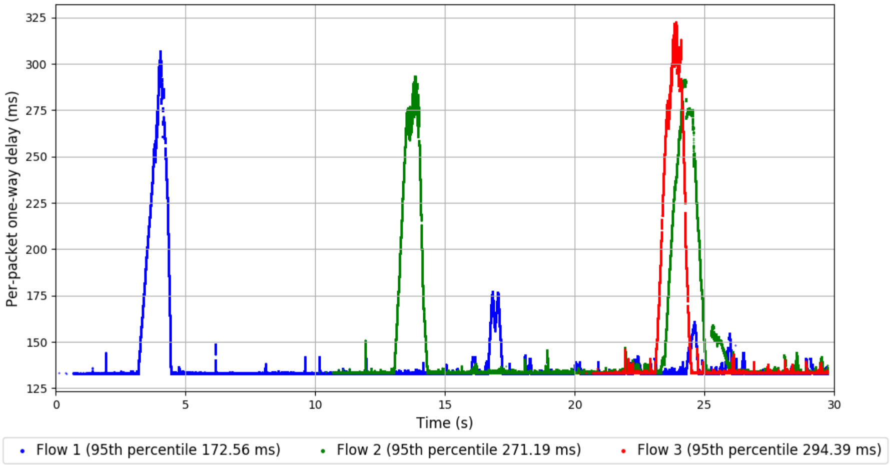




```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-18 12:01:44
End at: 2019-07-18 12:02:14
Local clock offset: 0.086 ms
Remote clock offset: -0.47 ms

# Below is generated by plot.py at 2019-07-18 14:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 546.21 Mbit/s
95th percentile per-packet one-way delay: 251.436 ms
Loss rate: 3.43%
-- Flow 1:
Average throughput: 288.02 Mbit/s
95th percentile per-packet one-way delay: 172.558 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 282.59 Mbit/s
95th percentile per-packet one-way delay: 271.185 ms
Loss rate: 3.99%
-- Flow 3:
Average throughput: 220.18 Mbit/s
95th percentile per-packet one-way delay: 294.392 ms
Loss rate: 7.61%
```

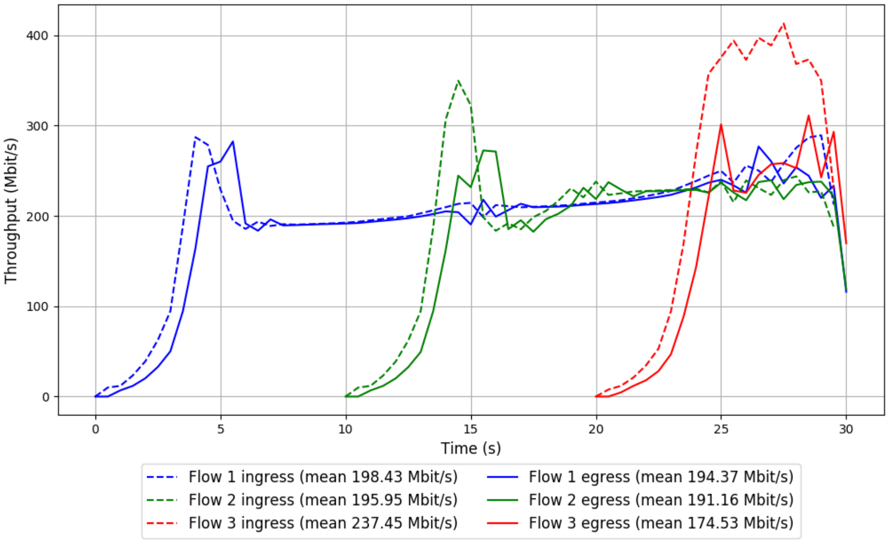
Run 5: Report of PCC-Allegro — Data Link

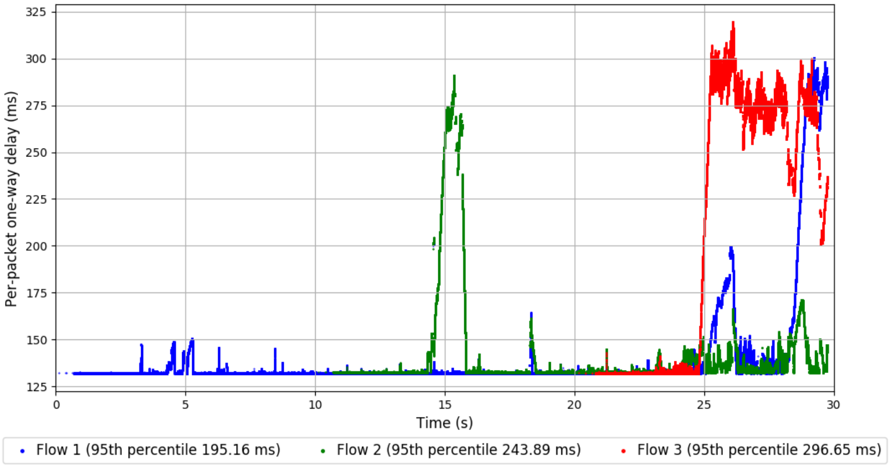




```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-18 09:03:13
End at: 2019-07-18 09:03:43
Local clock offset: -0.467 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2019-07-18 14:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.43 Mbit/s
95th percentile per-packet one-way delay: 280.965 ms
Loss rate: 8.10%
-- Flow 1:
Average throughput: 194.37 Mbit/s
95th percentile per-packet one-way delay: 195.163 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 191.16 Mbit/s
95th percentile per-packet one-way delay: 243.893 ms
Loss rate: 3.75%
-- Flow 3:
Average throughput: 174.53 Mbit/s
95th percentile per-packet one-way delay: 296.653 ms
Loss rate: 28.48%
```

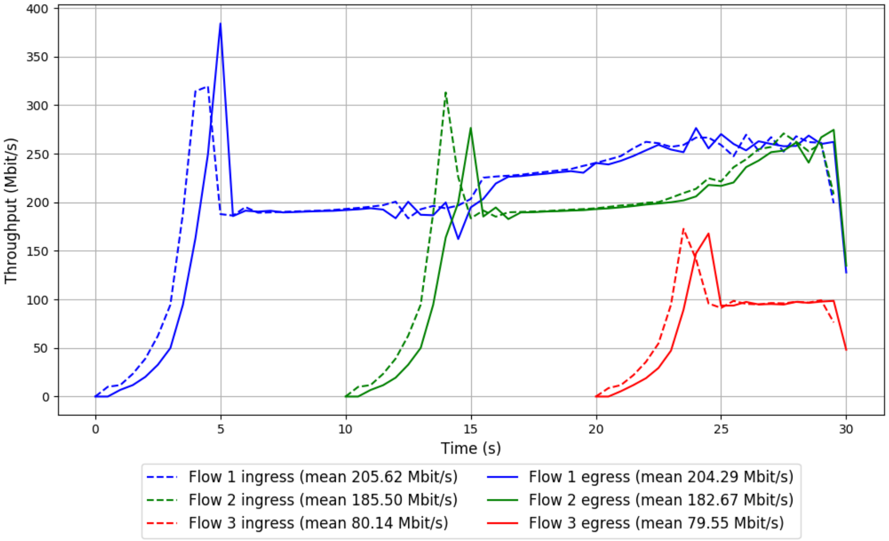
Run 1: Report of PCC-Expr — Data Link

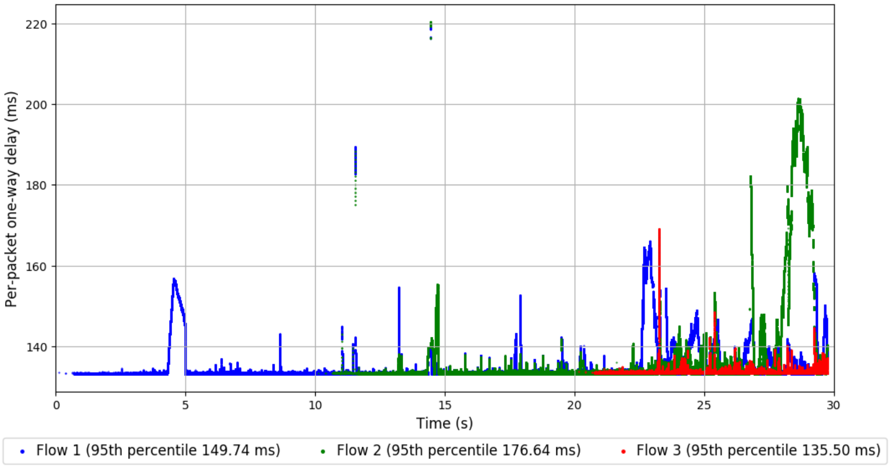




```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-18 09:46:46
End at: 2019-07-18 09:47:16
Local clock offset: 0.18 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2019-07-18 14:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.00 Mbit/s
95th percentile per-packet one-way delay: 154.518 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 204.29 Mbit/s
95th percentile per-packet one-way delay: 149.742 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 182.67 Mbit/s
95th percentile per-packet one-way delay: 176.638 ms
Loss rate: 2.84%
-- Flow 3:
Average throughput: 79.55 Mbit/s
95th percentile per-packet one-way delay: 135.502 ms
Loss rate: 3.43%
```

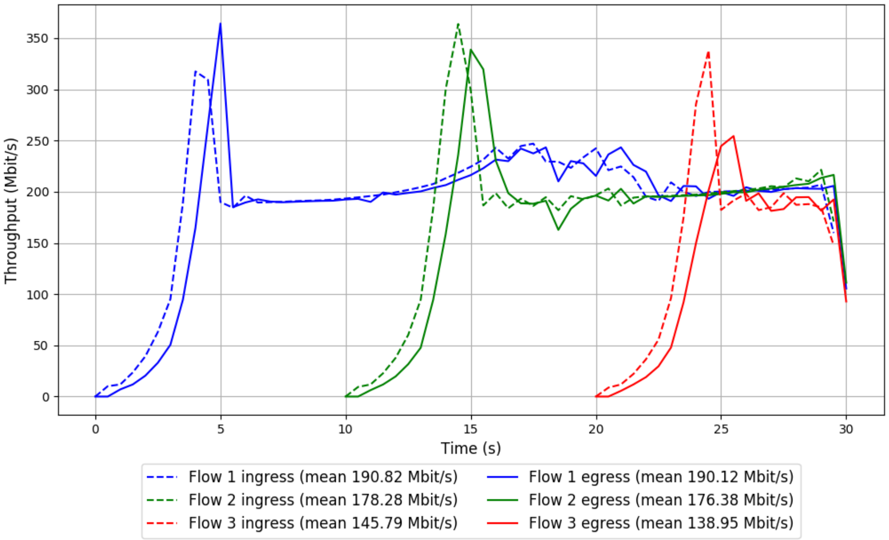
Run 2: Report of PCC-Expr — Data Link

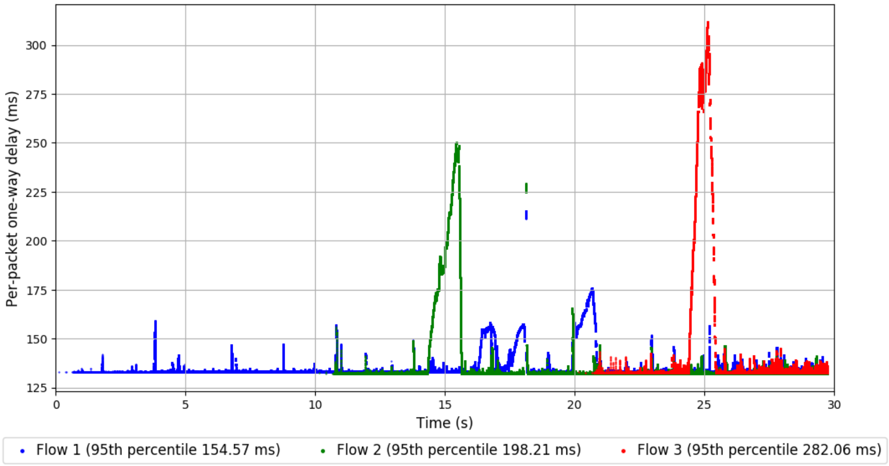




```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-18 10:30:10
End at: 2019-07-18 10:30:40
Local clock offset: -0.359 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-07-18 14:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.89 Mbit/s
95th percentile per-packet one-way delay: 174.909 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 190.12 Mbit/s
95th percentile per-packet one-way delay: 154.567 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 176.38 Mbit/s
95th percentile per-packet one-way delay: 198.206 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 138.95 Mbit/s
95th percentile per-packet one-way delay: 282.065 ms
Loss rate: 7.23%
```

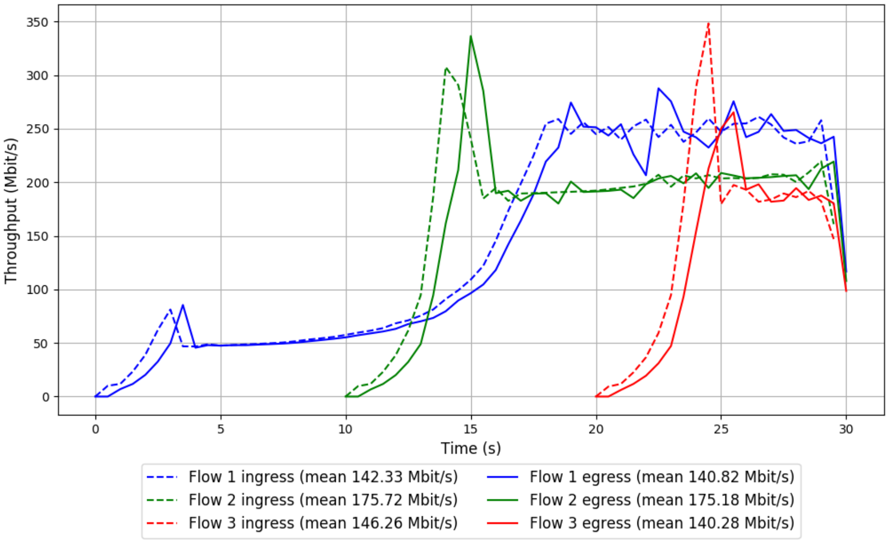
Run 3: Report of PCC-Expr — Data Link

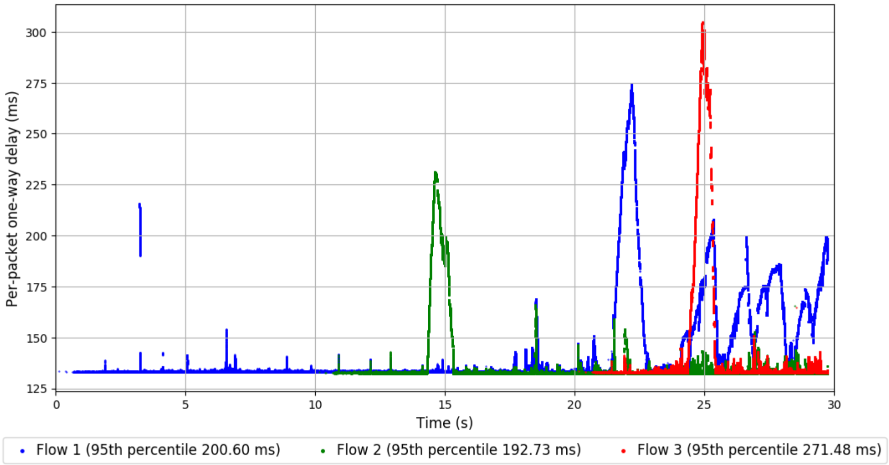




```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-18 11:13:54
End at: 2019-07-18 11:14:24
Local clock offset: 0.174 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-07-18 14:59:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.24 Mbit/s
95th percentile per-packet one-way delay: 205.550 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 140.82 Mbit/s
95th percentile per-packet one-way delay: 200.604 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 175.18 Mbit/s
95th percentile per-packet one-way delay: 192.734 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 140.28 Mbit/s
95th percentile per-packet one-way delay: 271.478 ms
Loss rate: 6.68%
```

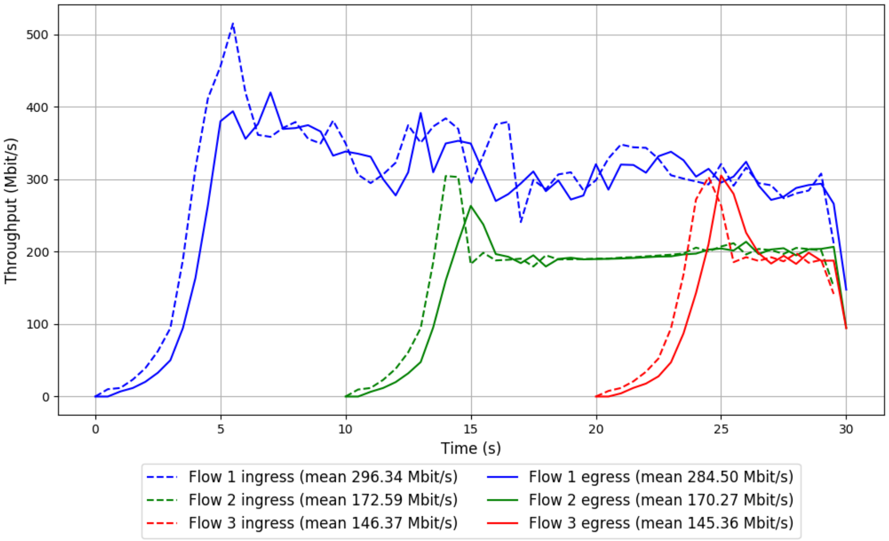
Run 4: Report of PCC-Expr — Data Link

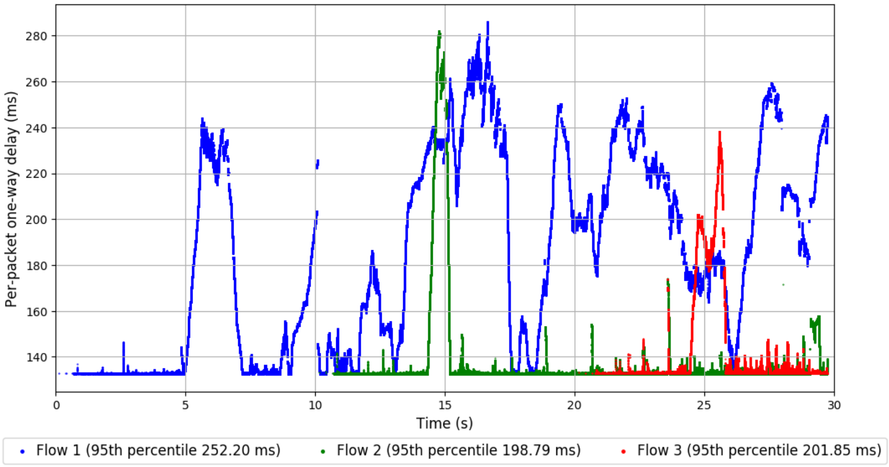




```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-18 11:57:24
End at: 2019-07-18 11:57:54
Local clock offset: -0.16 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2019-07-18 15:06:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 444.28 Mbit/s
95th percentile per-packet one-way delay: 248.502 ms
Loss rate: 4.16%
-- Flow 1:
Average throughput: 284.50 Mbit/s
95th percentile per-packet one-way delay: 252.198 ms
Loss rate: 4.86%
-- Flow 2:
Average throughput: 170.27 Mbit/s
95th percentile per-packet one-way delay: 198.791 ms
Loss rate: 2.67%
-- Flow 3:
Average throughput: 145.36 Mbit/s
95th percentile per-packet one-way delay: 201.848 ms
Loss rate: 3.39%
```

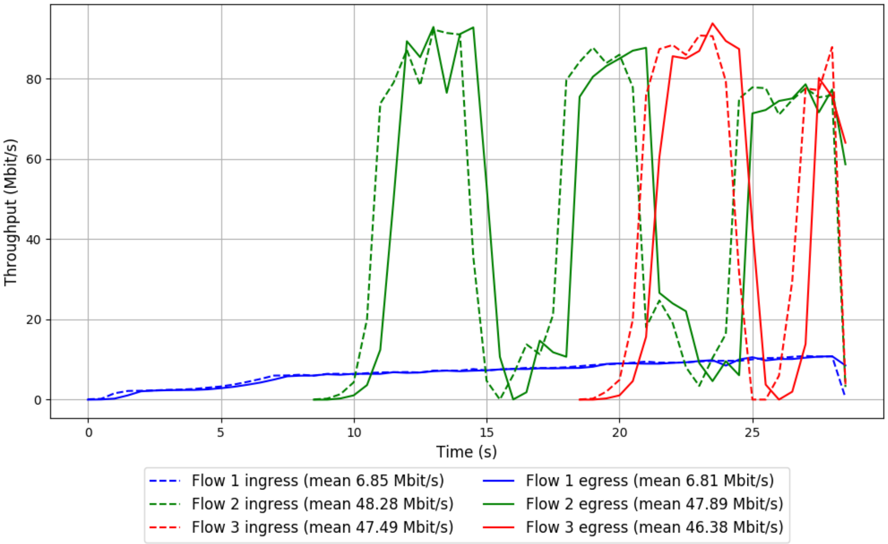
Run 5: Report of PCC-Expr — Data Link

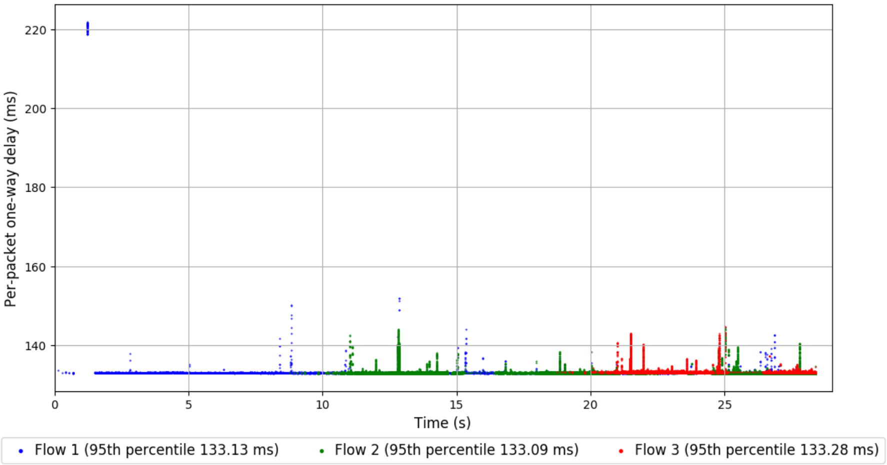




```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-18 09:37:55
End at: 2019-07-18 09:38:25
Local clock offset: 0.107 ms
Remote clock offset: -0.152 ms

# Below is generated by plot.py at 2019-07-18 15:06:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.84 Mbit/s
95th percentile per-packet one-way delay: 133.215 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 133.130 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 47.89 Mbit/s
95th percentile per-packet one-way delay: 133.085 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 46.38 Mbit/s
95th percentile per-packet one-way delay: 133.282 ms
Loss rate: 4.95%
```

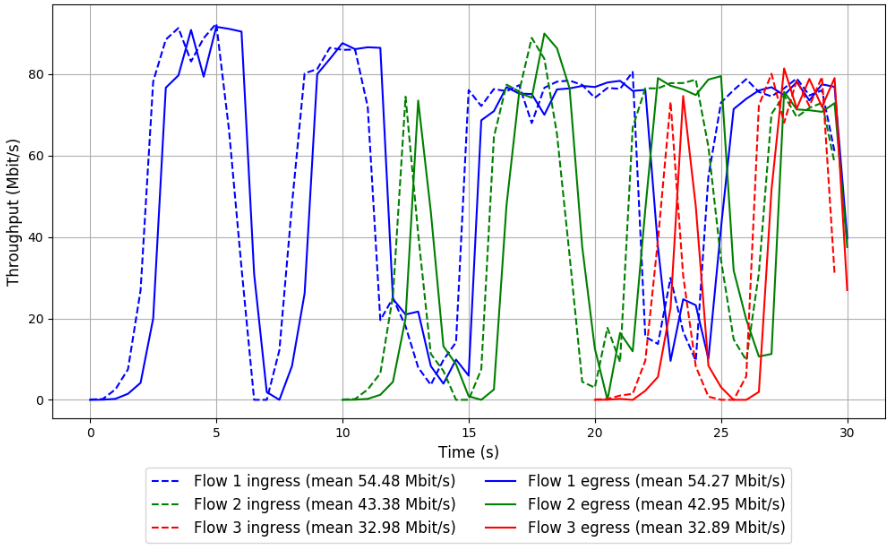
Run 1: Report of QUIC Cubic — Data Link

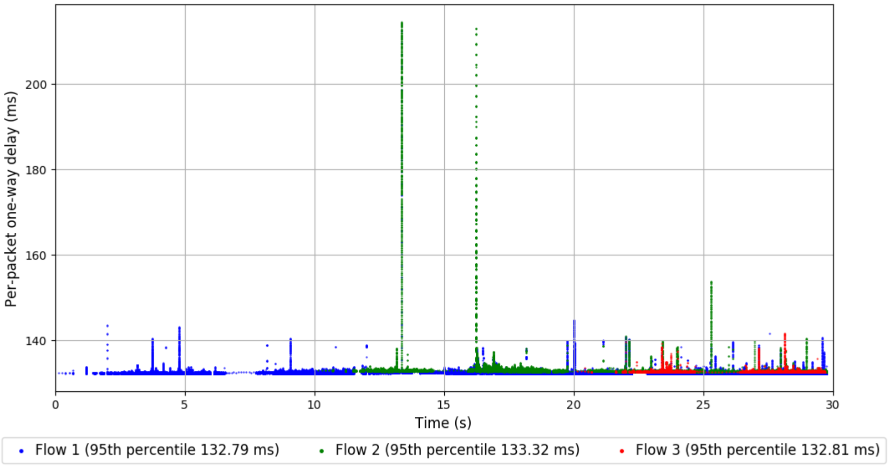




```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-18 10:21:44
End at: 2019-07-18 10:22:14
Local clock offset: -0.123 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2019-07-18 15:06:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 133.077 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 54.27 Mbit/s
95th percentile per-packet one-way delay: 132.793 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 42.95 Mbit/s
95th percentile per-packet one-way delay: 133.318 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 32.89 Mbit/s
95th percentile per-packet one-way delay: 132.807 ms
Loss rate: 3.66%
```

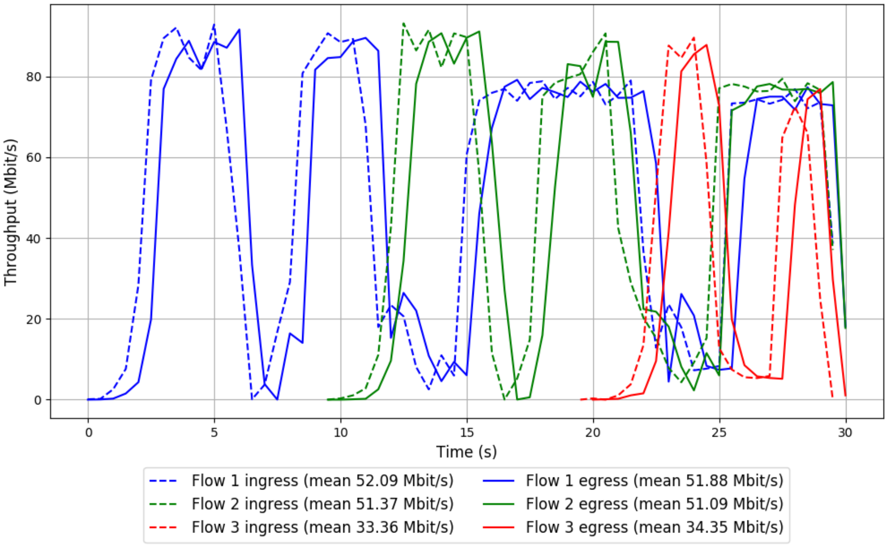
Run 2: Report of QUIC Cubic — Data Link

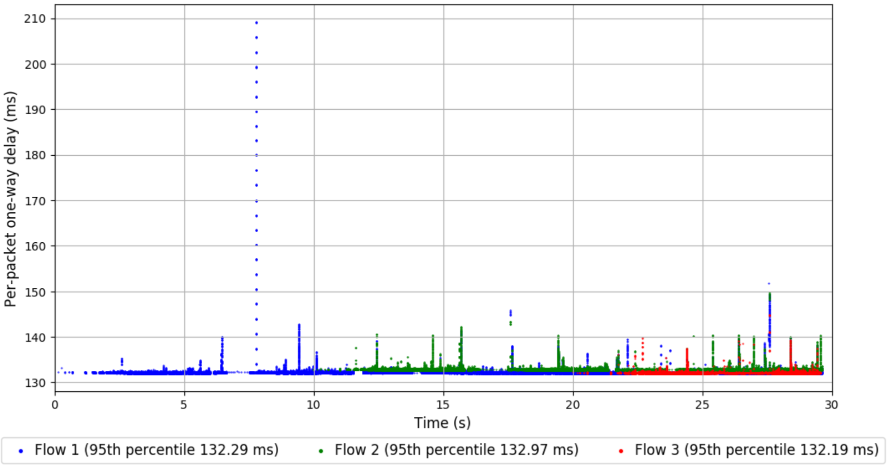




```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-18 11:05:20
End at: 2019-07-18 11:05:50
Local clock offset: 0.144 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-07-18 15:06:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.00 Mbit/s
95th percentile per-packet one-way delay: 132.892 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 132.288 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 51.09 Mbit/s
95th percentile per-packet one-way delay: 132.974 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 34.35 Mbit/s
95th percentile per-packet one-way delay: 132.193 ms
Loss rate: 0.00%
```

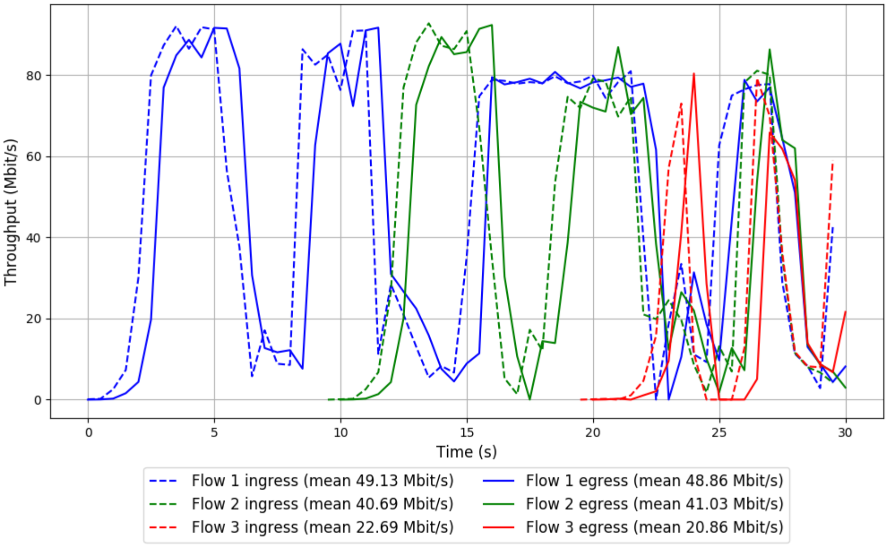
Run 3: Report of QUIC Cubic — Data Link

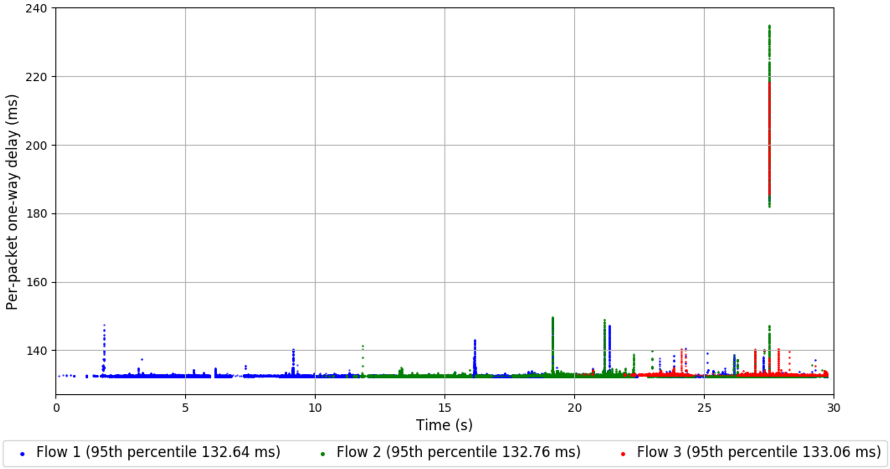




```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-18 11:48:30
End at: 2019-07-18 11:49:00
Local clock offset: 0.281 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.81 Mbit/s
95th percentile per-packet one-way delay: 132.839 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 48.86 Mbit/s
95th percentile per-packet one-way delay: 132.641 ms
Loss rate: 1.44%
-- Flow 2:
Average throughput: 41.03 Mbit/s
95th percentile per-packet one-way delay: 132.756 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 20.86 Mbit/s
95th percentile per-packet one-way delay: 133.056 ms
Loss rate: 10.51%
```

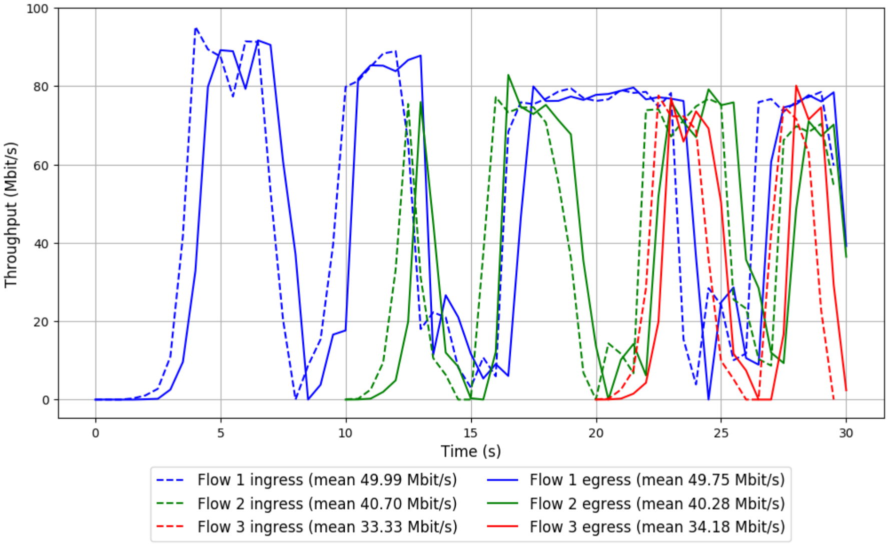
Run 4: Report of QUIC Cubic — Data Link

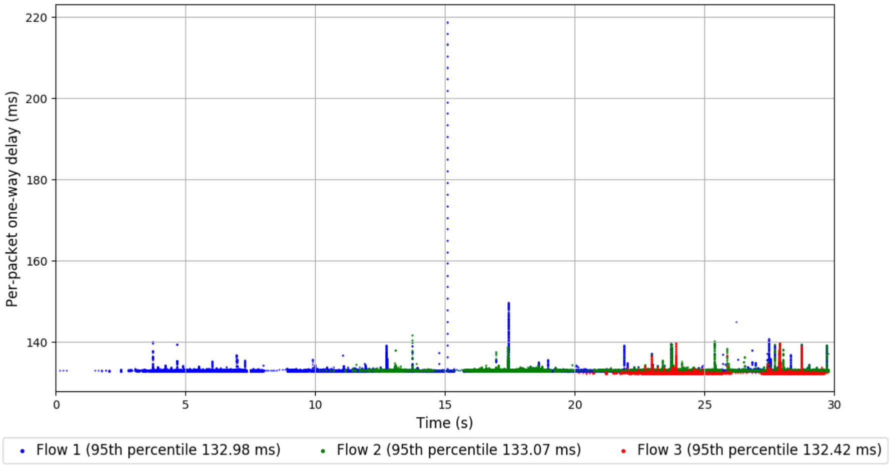




```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-18 12:32:43
End at: 2019-07-18 12:33:13
Local clock offset: -0.406 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.48 Mbit/s
95th percentile per-packet one-way delay: 133.017 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 49.75 Mbit/s
95th percentile per-packet one-way delay: 132.983 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 133.070 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 34.18 Mbit/s
95th percentile per-packet one-way delay: 132.421 ms
Loss rate: 0.00%
```

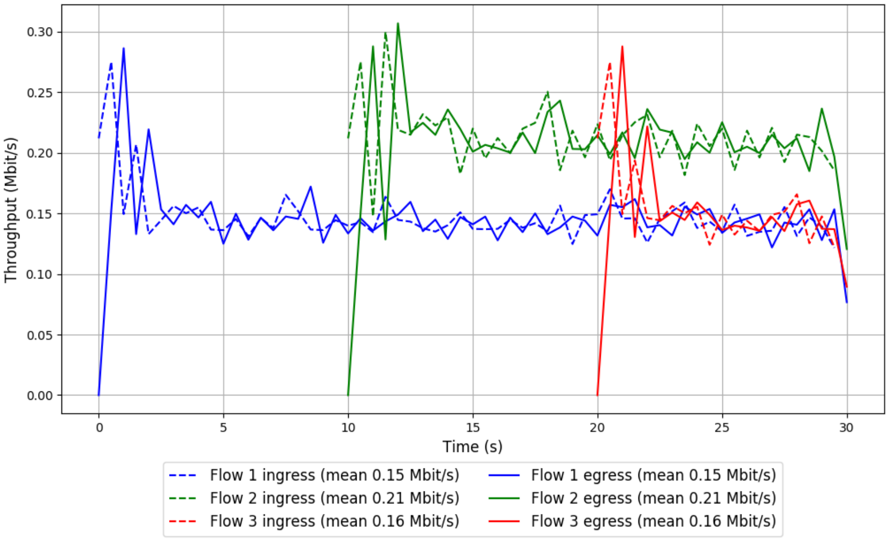
Run 5: Report of QUIC Cubic — Data Link

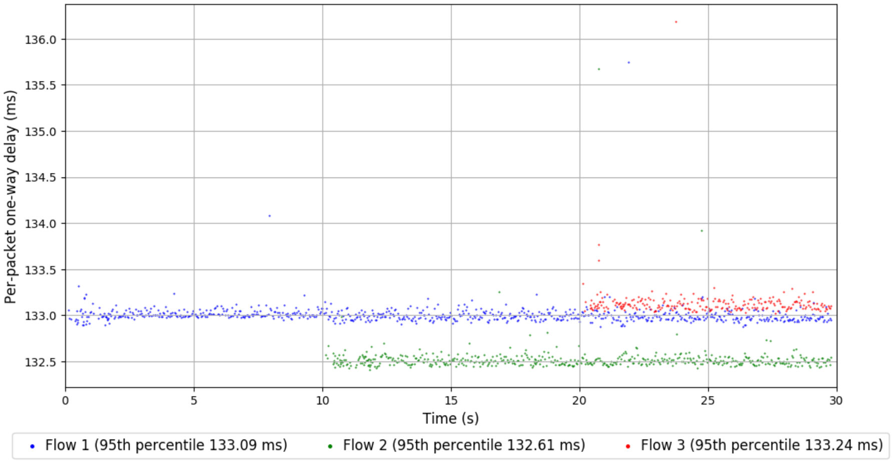




```
Run 1: Statistics of SCReAM

Start at: 2019-07-18 09:22:41
End at: 2019-07-18 09:23:11
Local clock offset: -0.077 ms
Remote clock offset: -0.142 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 133.157 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.092 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 132.608 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.235 ms
Loss rate: 2.44%
```

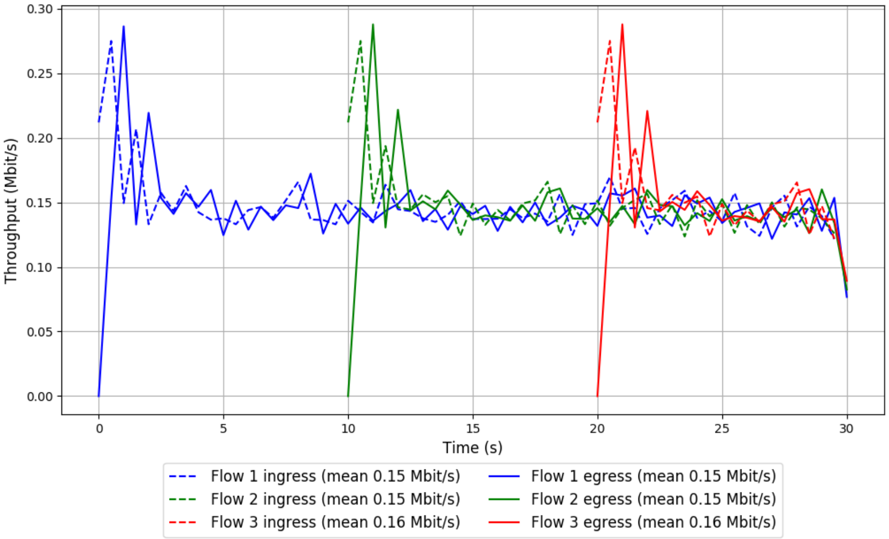
Run 1: Report of SCReAM — Data Link

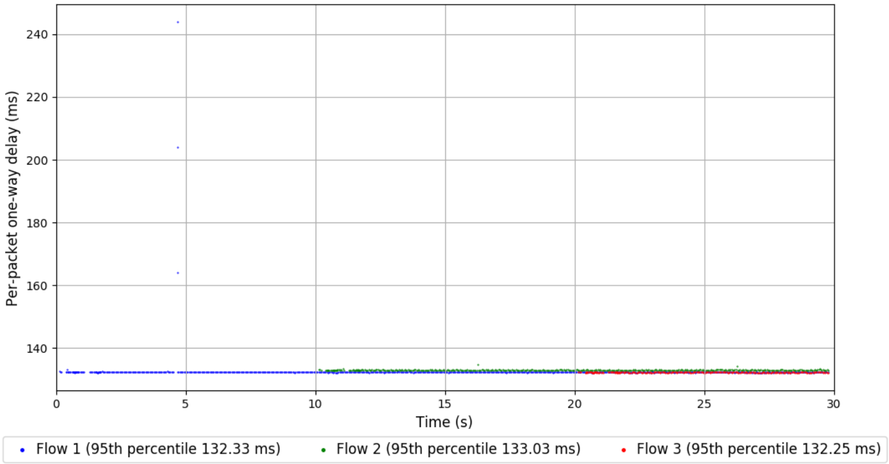




```
Run 2: Statistics of SCReAM

Start at: 2019-07-18 10:06:23
End at: 2019-07-18 10:06:53
Local clock offset: -0.496 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 132.975 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.332 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.032 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 132.251 ms
Loss rate: 2.45%
```

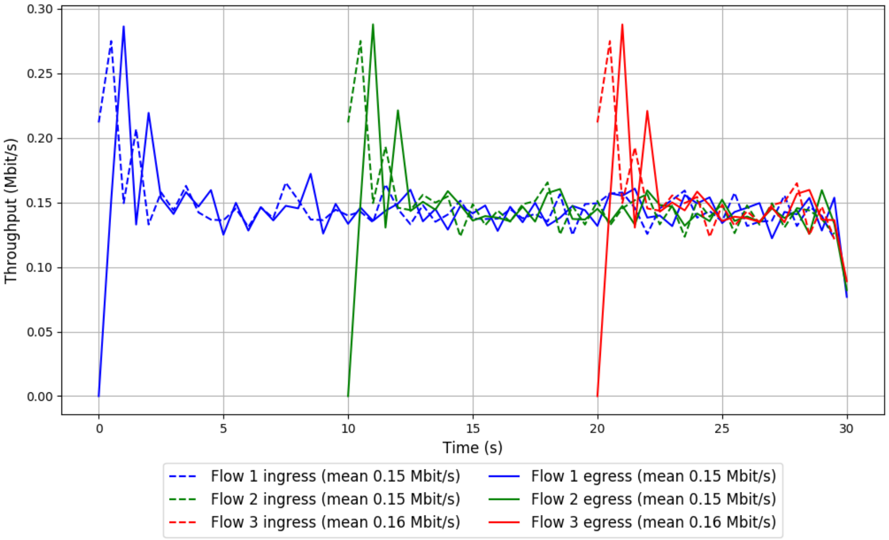
Run 2: Report of SCReAM — Data Link

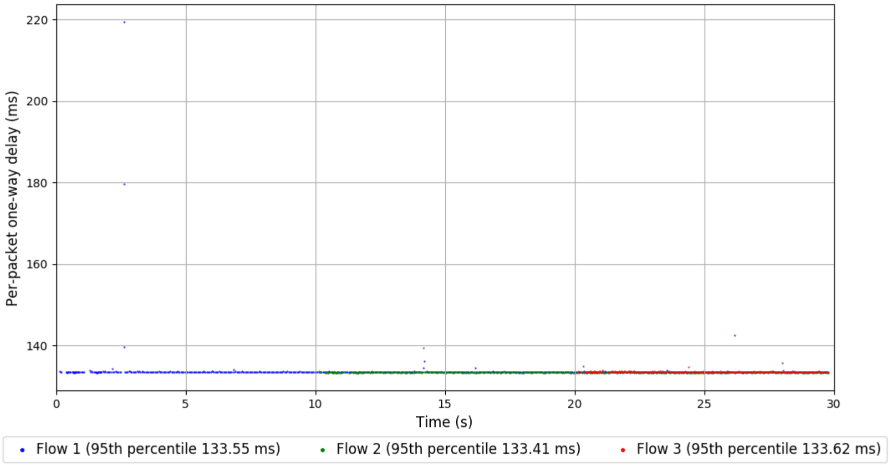




```
Run 3: Statistics of SCReAM

Start at: 2019-07-18 10:49:55
End at: 2019-07-18 10:50:25
Local clock offset: 0.39 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.556 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.547 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.413 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.624 ms
Loss rate: 2.44%
```

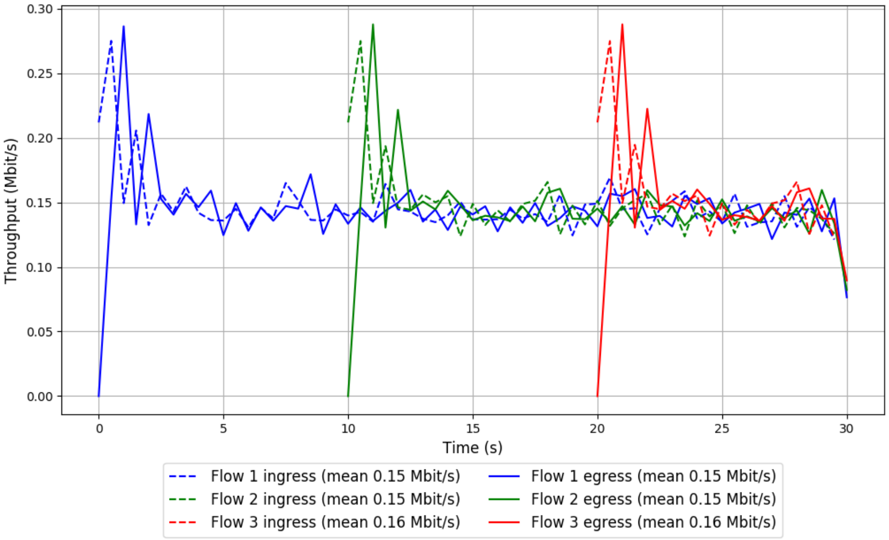
Run 3: Report of SCReAM — Data Link

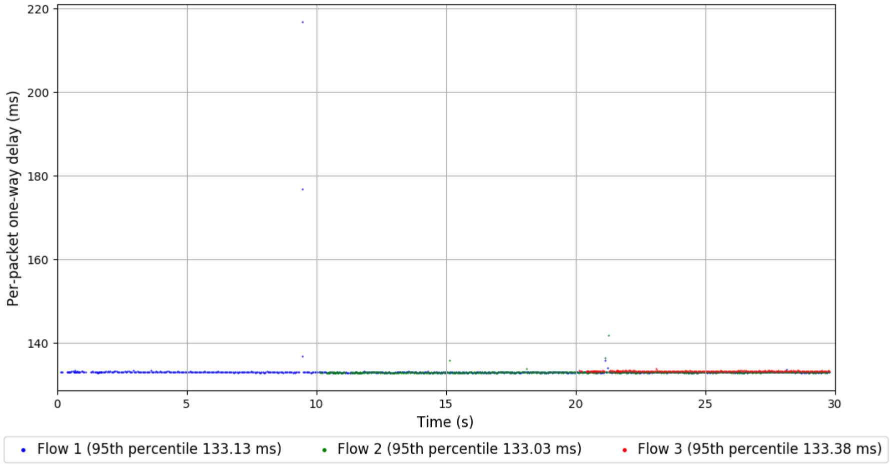




```
Run 4: Statistics of SCReAM

Start at: 2019-07-18 11:33:18
End at: 2019-07-18 11:33:48
Local clock offset: 0.177 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.303 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.133 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.032 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.384 ms
Loss rate: 2.44%
```

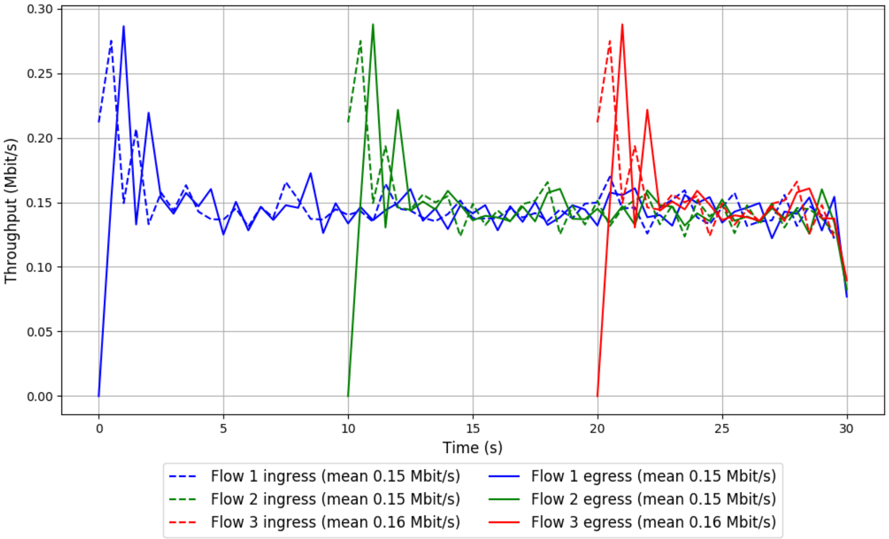
Run 4: Report of SCReAM — Data Link

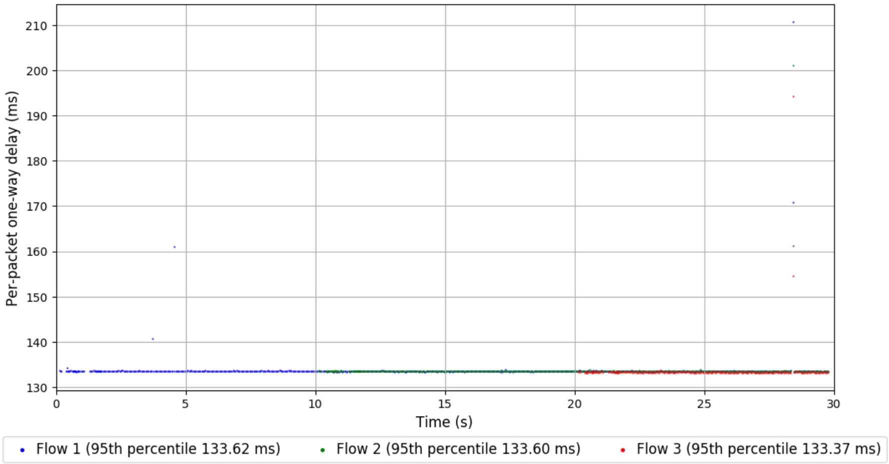




```
Run 5: Statistics of SCReAM

Start at: 2019-07-18 12:17:29
End at: 2019-07-18 12:17:59
Local clock offset: 0.104 ms
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.601 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.623 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.596 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.372 ms
Loss rate: 2.45%
```

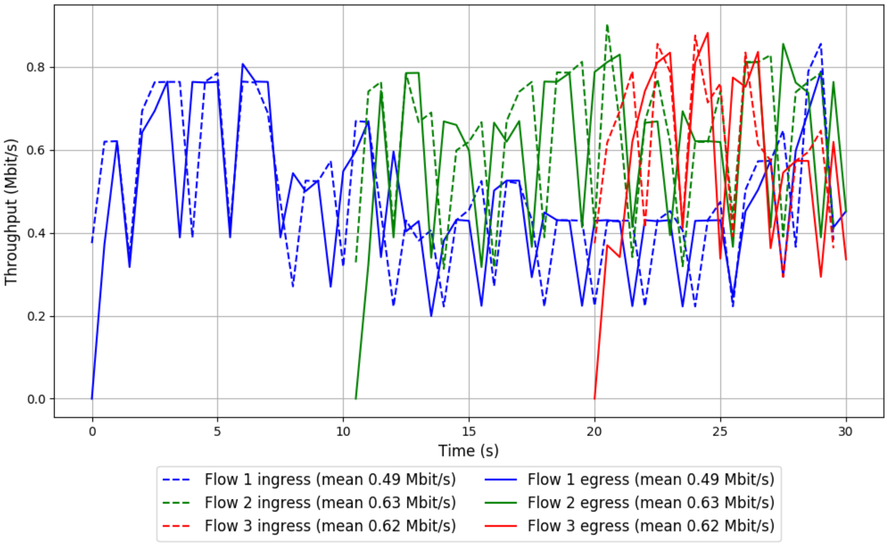
Run 5: Report of SCReAM — Data Link

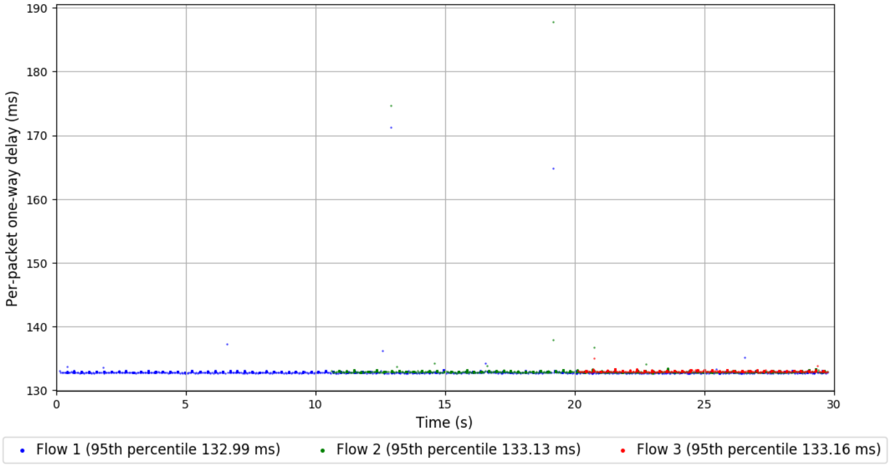




```
Run 1: Statistics of Sprout

Start at: 2019-07-18 09:27:15
End at: 2019-07-18 09:27:45
Local clock offset: -0.132 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 133.108 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 132.985 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 133.126 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 133.155 ms
Loss rate: 2.94%
```

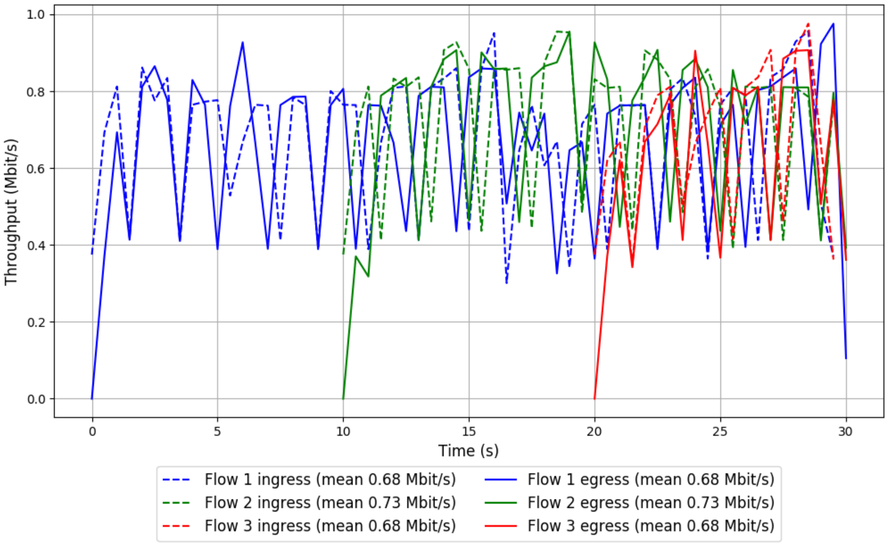
Run 1: Report of Sprout — Data Link

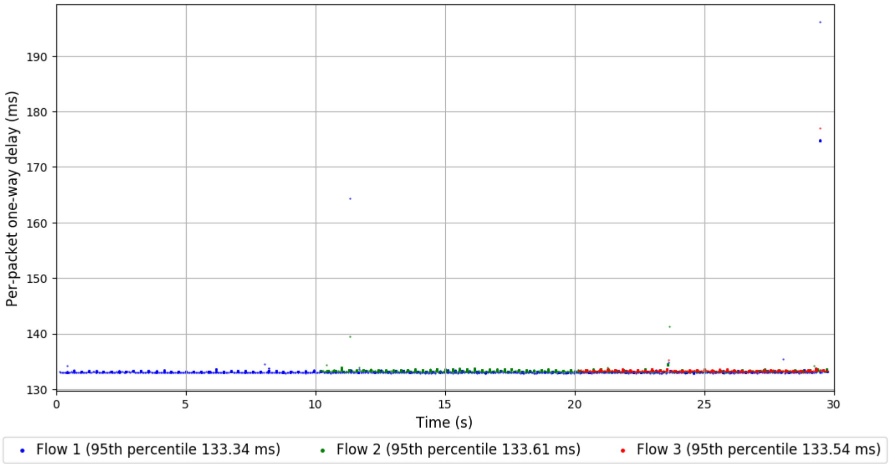




```
Run 2: Statistics of Sprout

Start at: 2019-07-18 10:10:58
End at: 2019-07-18 10:11:28
Local clock offset: -0.114 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 133.544 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.335 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 133.610 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.540 ms
Loss rate: 2.67%
```

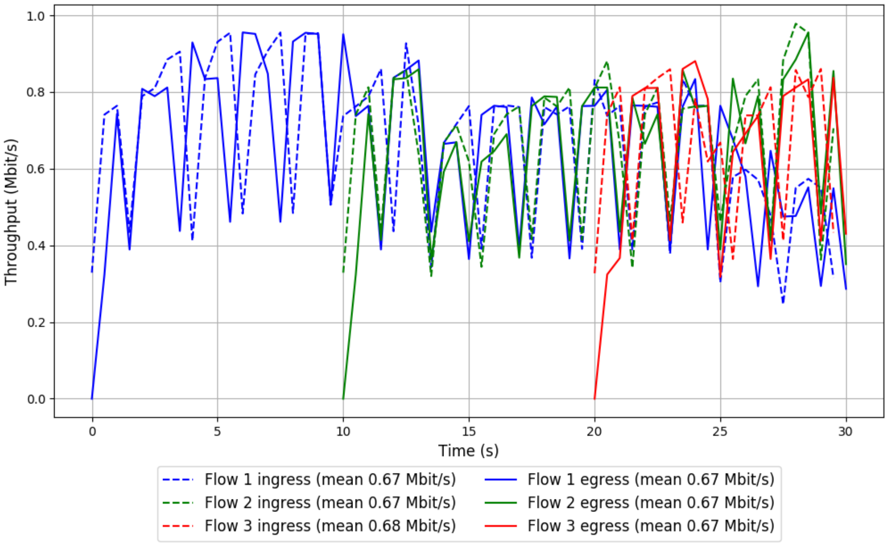
Run 2: Report of Sprout — Data Link

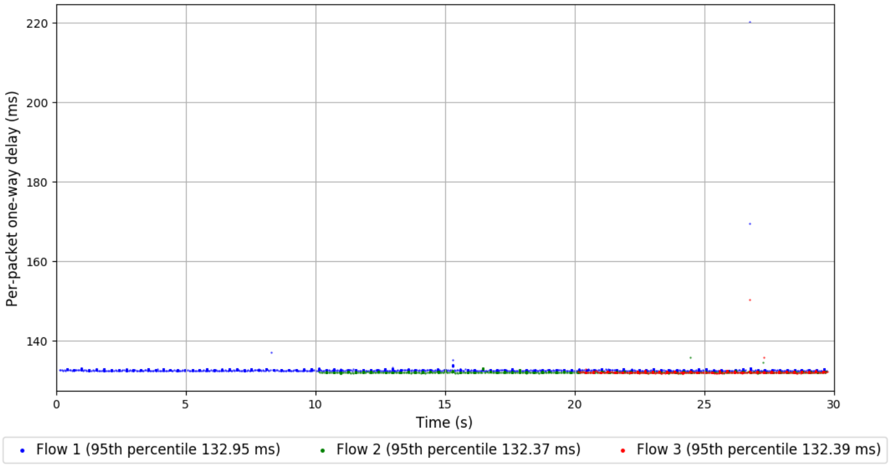




```
Run 3: Statistics of Sprout

Start at: 2019-07-18 10:54:31
End at: 2019-07-18 10:55:01
Local clock offset: -0.405 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 132.899 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.952 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.372 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.390 ms
Loss rate: 3.22%
```

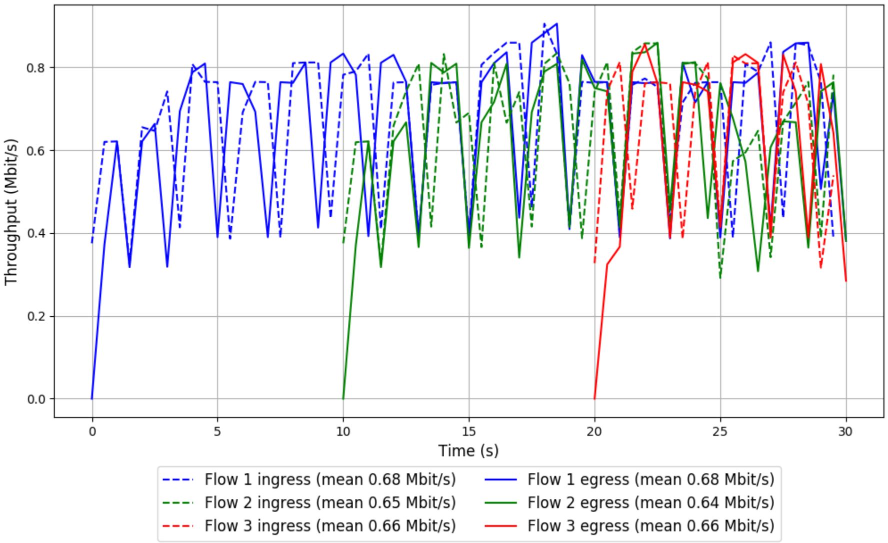
Run 3: Report of Sprout — Data Link

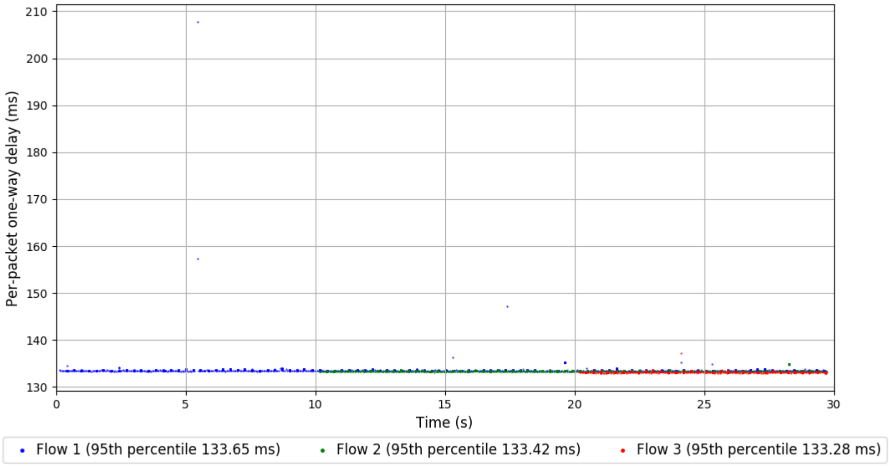




```
Run 4: Statistics of Sprout

Start at: 2019-07-18 11:37:52
End at: 2019-07-18 11:38:22
Local clock offset: 0.278 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 133.581 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.651 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 133.424 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.276 ms
Loss rate: 2.00%
```

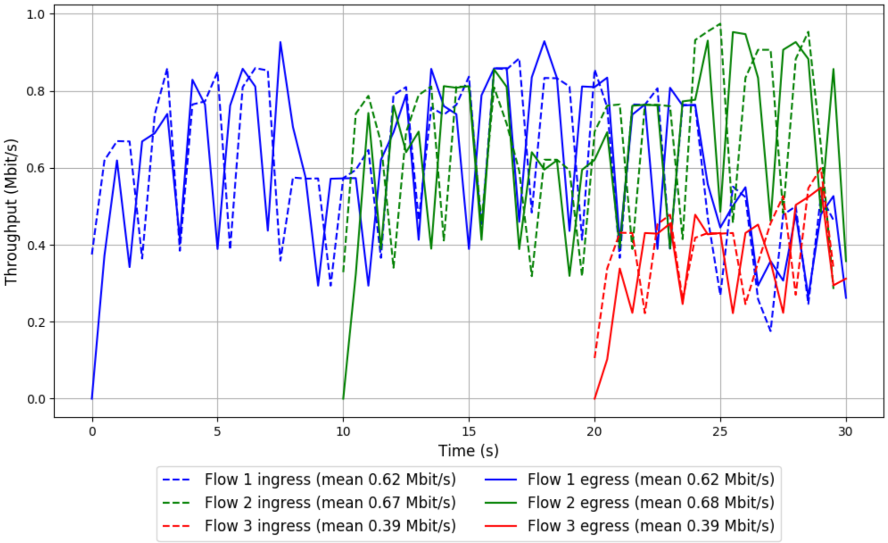
Run 4: Report of Sprout — Data Link

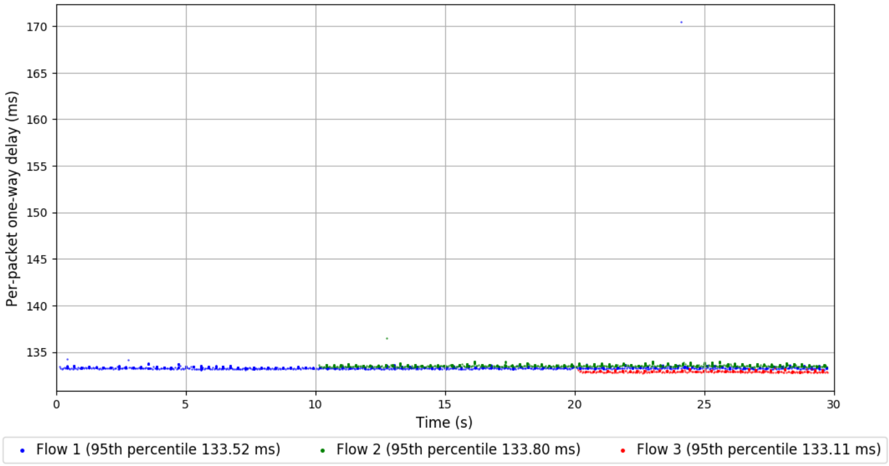




```
Run 5: Statistics of Sprout

Start at: 2019-07-18 12:22:04
End at: 2019-07-18 12:22:34
Local clock offset: 0.19 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-07-18 15:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 133.702 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 133.517 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.803 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 133.108 ms
Loss rate: 4.31%
```

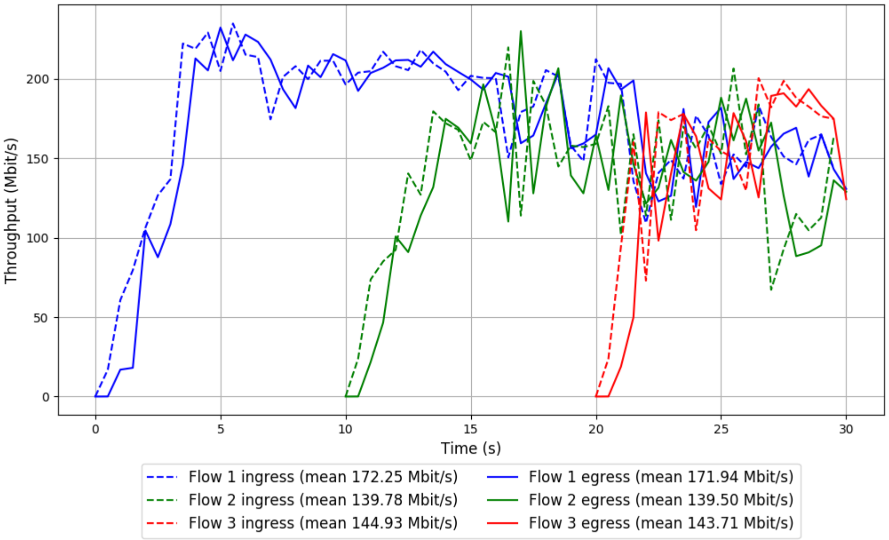
Run 5: Report of Sprout — Data Link

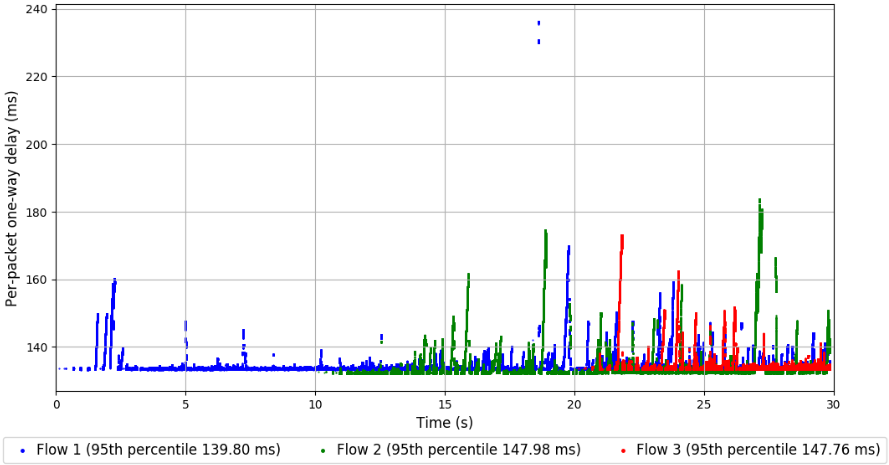




```
Run 1: Statistics of TaoVA-100x

Start at: 2019-07-18 09:34:39
End at: 2019-07-18 09:35:09
Local clock offset: 0.202 ms
Remote clock offset: -0.151 ms

# Below is generated by plot.py at 2019-07-18 15:06:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.34 Mbit/s
95th percentile per-packet one-way delay: 143.547 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 171.94 Mbit/s
95th percentile per-packet one-way delay: 139.800 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 139.50 Mbit/s
95th percentile per-packet one-way delay: 147.979 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 143.71 Mbit/s
95th percentile per-packet one-way delay: 147.759 ms
Loss rate: 3.50%
```

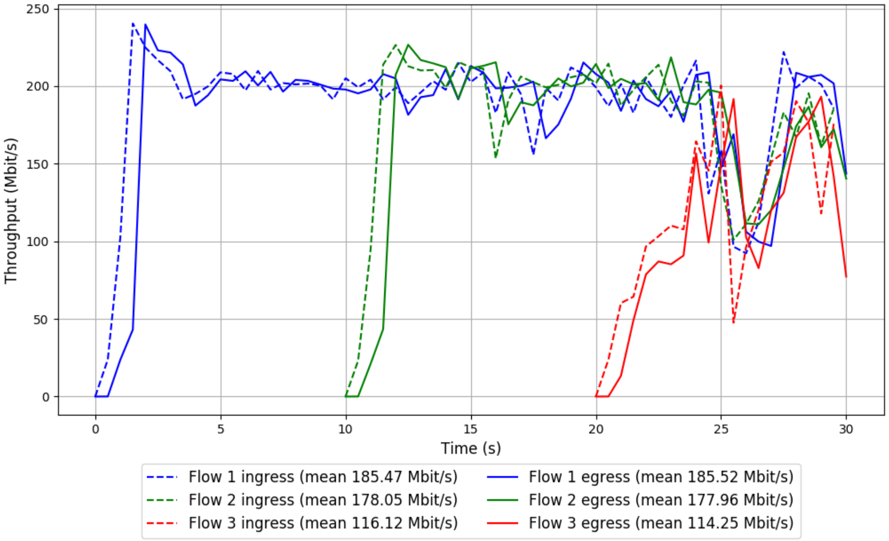
Run 1: Report of TaoVA-100x — Data Link

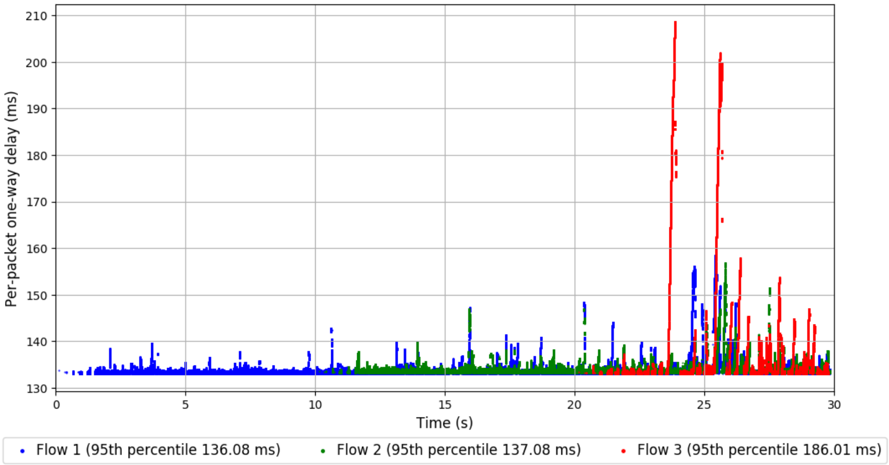




```
Run 2: Statistics of TaoVA-100x

Start at: 2019-07-18 10:18:26
End at: 2019-07-18 10:18:56
Local clock offset: 0.046 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-07-18 15:07:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.47 Mbit/s
95th percentile per-packet one-way delay: 138.655 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 185.52 Mbit/s
95th percentile per-packet one-way delay: 136.078 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 177.96 Mbit/s
95th percentile per-packet one-way delay: 137.077 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 114.25 Mbit/s
95th percentile per-packet one-way delay: 186.015 ms
Loss rate: 5.00%
```

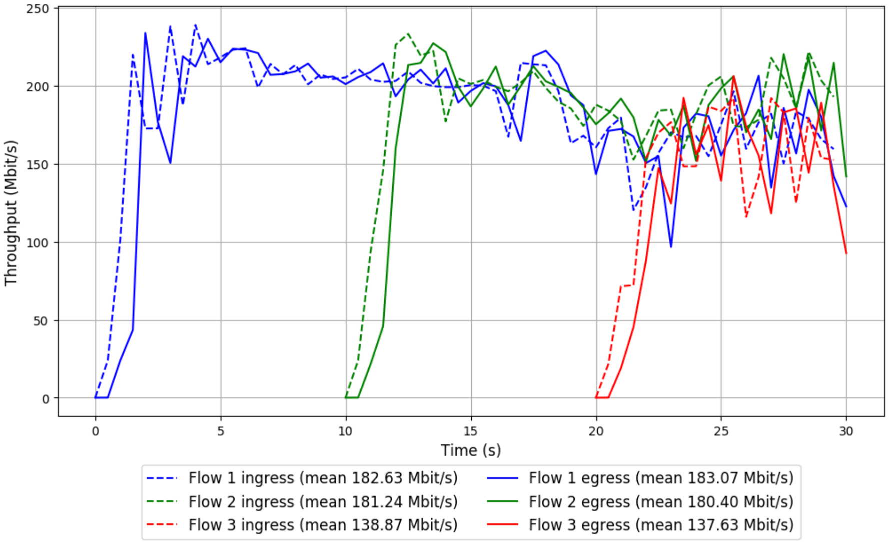
Run 2: Report of TaoVA-100x — Data Link

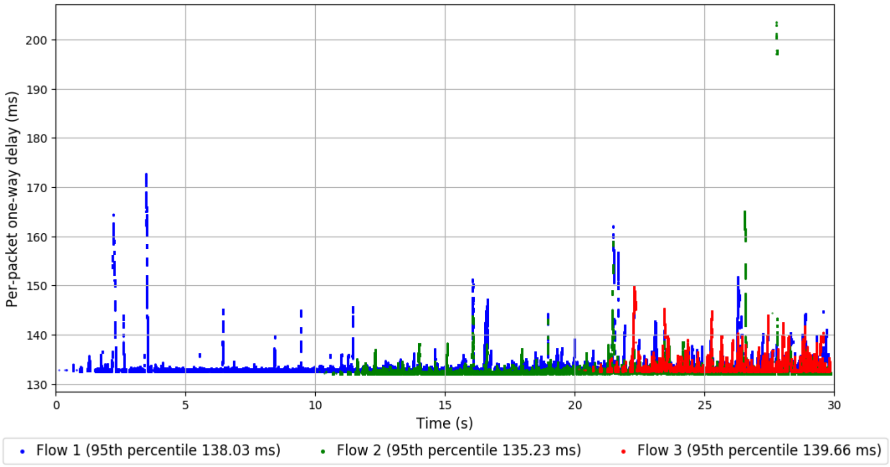




```
Run 3: Statistics of TaoVA-100x

Start at: 2019-07-18 11:02:00
End at: 2019-07-18 11:02:30
Local clock offset: -0.142 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2019-07-18 15:08:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.36 Mbit/s
95th percentile per-packet one-way delay: 137.364 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 183.07 Mbit/s
95th percentile per-packet one-way delay: 138.027 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 180.40 Mbit/s
95th percentile per-packet one-way delay: 135.231 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 137.63 Mbit/s
95th percentile per-packet one-way delay: 139.659 ms
Loss rate: 3.54%
```

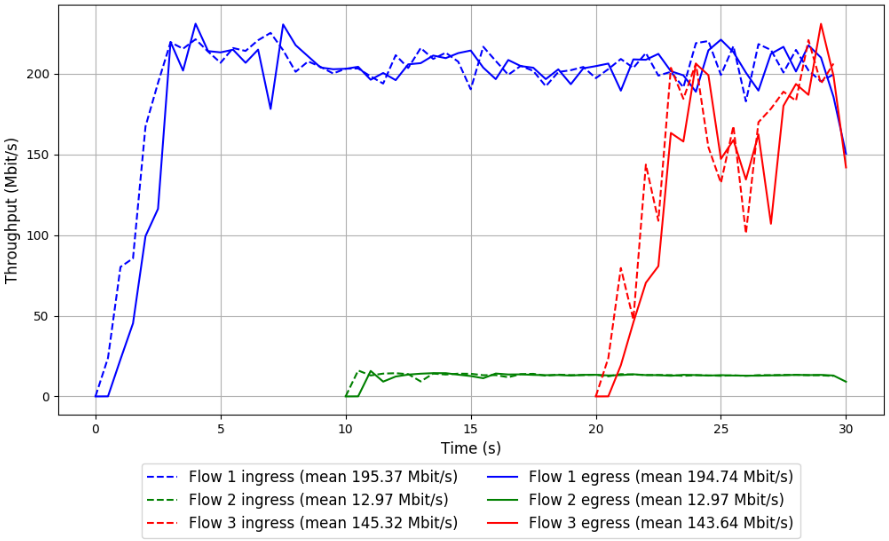
Run 3: Report of TaoVA-100x — Data Link

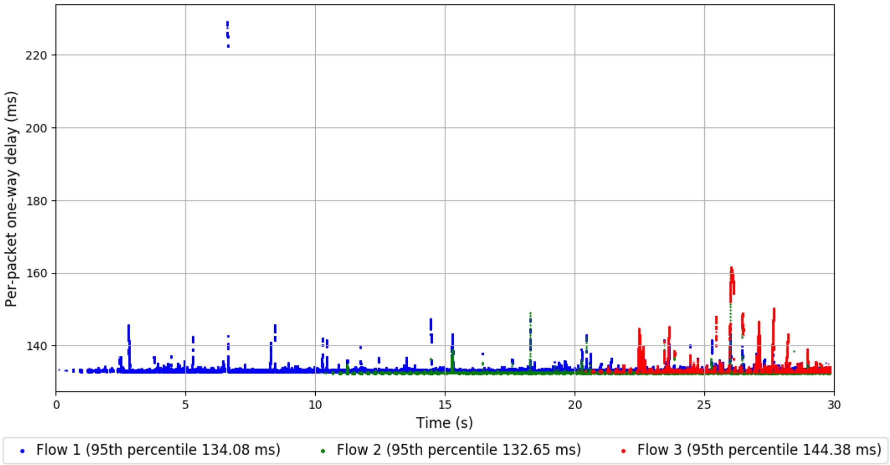




```
Run 4: Statistics of TaoVA-100x

Start at: 2019-07-18 11:45:21
End at: 2019-07-18 11:45:51
Local clock offset: 0.219 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2019-07-18 15:08:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.20 Mbit/s
95th percentile per-packet one-way delay: 135.147 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 194.74 Mbit/s
95th percentile per-packet one-way delay: 134.084 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 12.97 Mbit/s
95th percentile per-packet one-way delay: 132.651 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 143.64 Mbit/s
95th percentile per-packet one-way delay: 144.384 ms
Loss rate: 3.79%
```

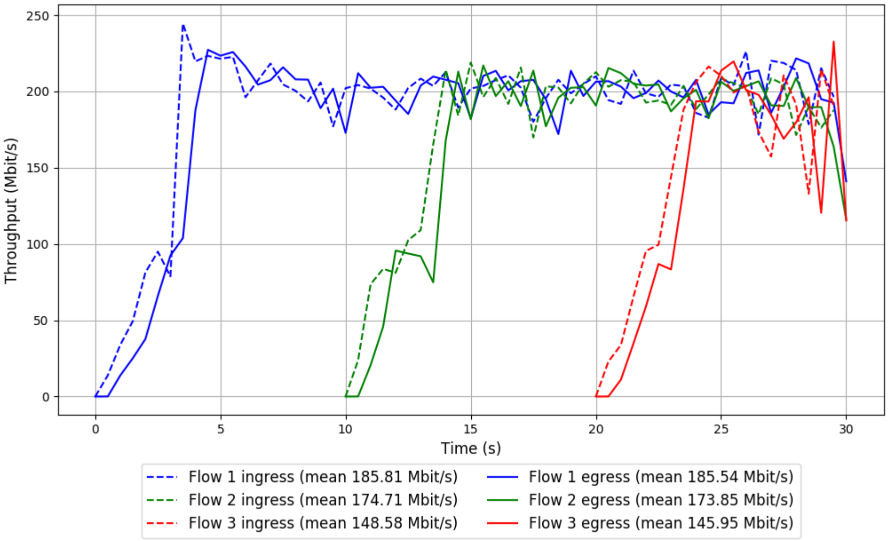
Run 4: Report of TaoVA-100x — Data Link

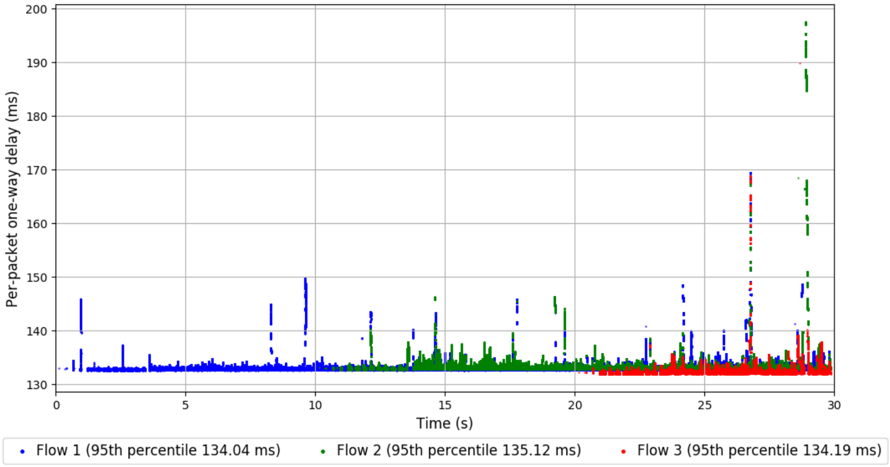




```
Run 5: Statistics of TaoVA-100x

Start at: 2019-07-18 12:29:22
End at: 2019-07-18 12:29:52
Local clock offset: -0.279 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2019-07-18 15:08:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.30 Mbit/s
95th percentile per-packet one-way delay: 134.467 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 185.54 Mbit/s
95th percentile per-packet one-way delay: 134.042 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 173.85 Mbit/s
95th percentile per-packet one-way delay: 135.122 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 145.95 Mbit/s
95th percentile per-packet one-way delay: 134.192 ms
Loss rate: 4.32%
```

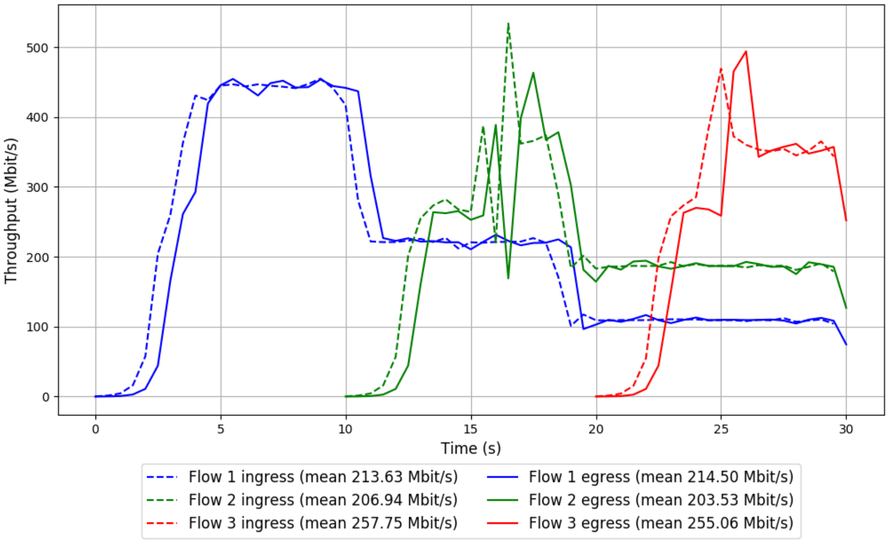
Run 5: Report of TaoVA-100x — Data Link

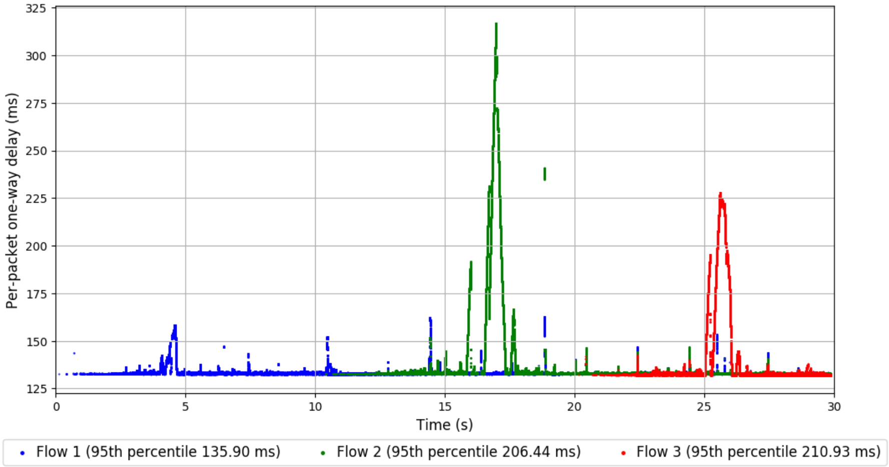




```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-18 09:19:09
End at: 2019-07-18 09:19:39
Local clock offset: -0.1 ms
Remote clock offset: 0.201 ms

# Below is generated by plot.py at 2019-07-18 15:08:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 432.79 Mbit/s
95th percentile per-packet one-way delay: 176.046 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 214.50 Mbit/s
95th percentile per-packet one-way delay: 135.904 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 203.53 Mbit/s
95th percentile per-packet one-way delay: 206.443 ms
Loss rate: 2.96%
-- Flow 3:
Average throughput: 255.06 Mbit/s
95th percentile per-packet one-way delay: 210.927 ms
Loss rate: 3.68%
```

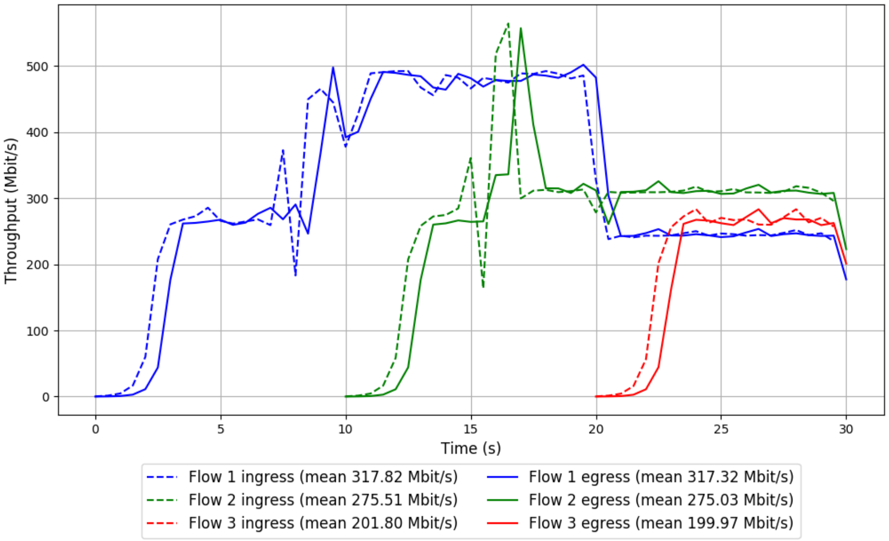
Run 1: Report of TCP Vegas — Data Link

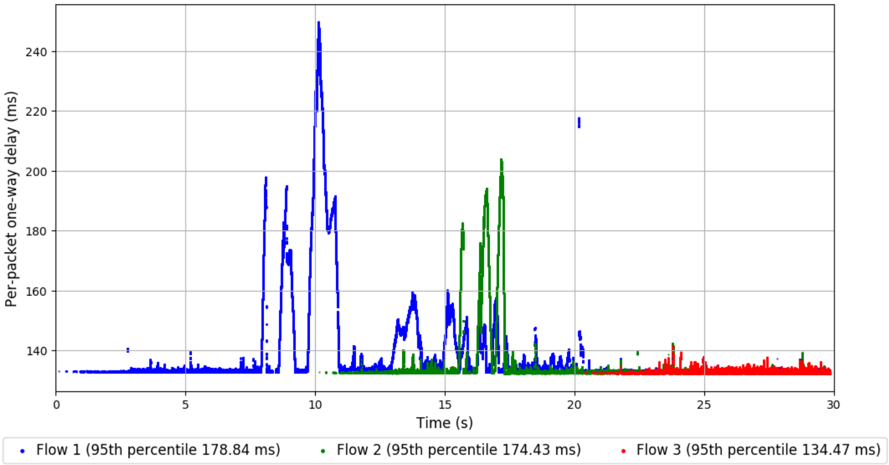




```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-18 10:02:38
End at: 2019-07-18 10:03:08
Local clock offset: -0.171 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2019-07-18 15:12:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.99 Mbit/s
95th percentile per-packet one-way delay: 172.292 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 317.32 Mbit/s
95th percentile per-packet one-way delay: 178.835 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 275.03 Mbit/s
95th percentile per-packet one-way delay: 174.426 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 199.97 Mbit/s
95th percentile per-packet one-way delay: 134.470 ms
Loss rate: 3.55%
```

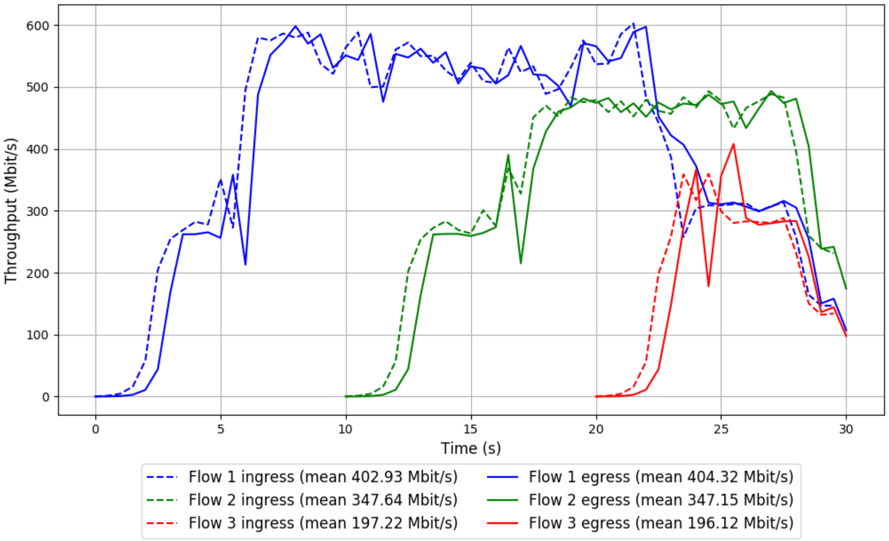
Run 2: Report of TCP Vegas — Data Link

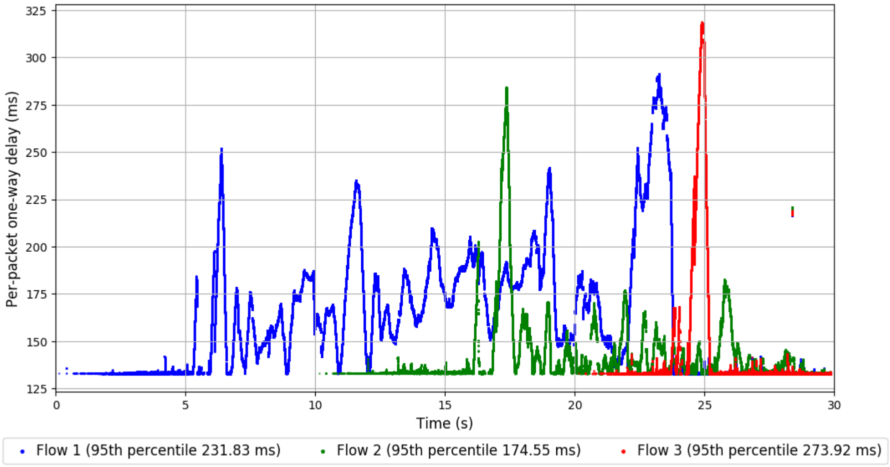




```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-18 10:45:59
End at: 2019-07-18 10:46:29
Local clock offset: -0.076 ms
Remote clock offset: -0.066 ms

# Below is generated by plot.py at 2019-07-18 15:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 698.57 Mbit/s
95th percentile per-packet one-way delay: 225.964 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 404.32 Mbit/s
95th percentile per-packet one-way delay: 231.829 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 347.15 Mbit/s
95th percentile per-packet one-way delay: 174.546 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 196.12 Mbit/s
95th percentile per-packet one-way delay: 273.918 ms
Loss rate: 3.21%
```

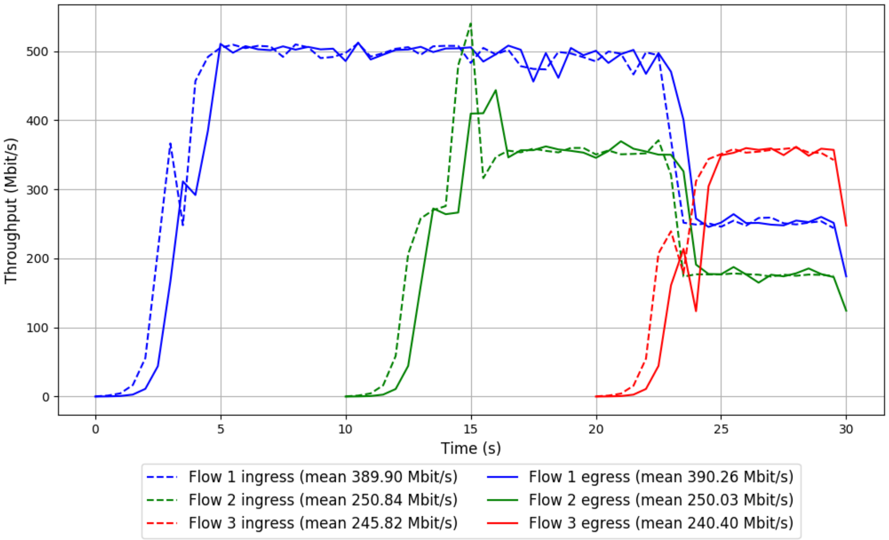
Run 3: Report of TCP Vegas — Data Link

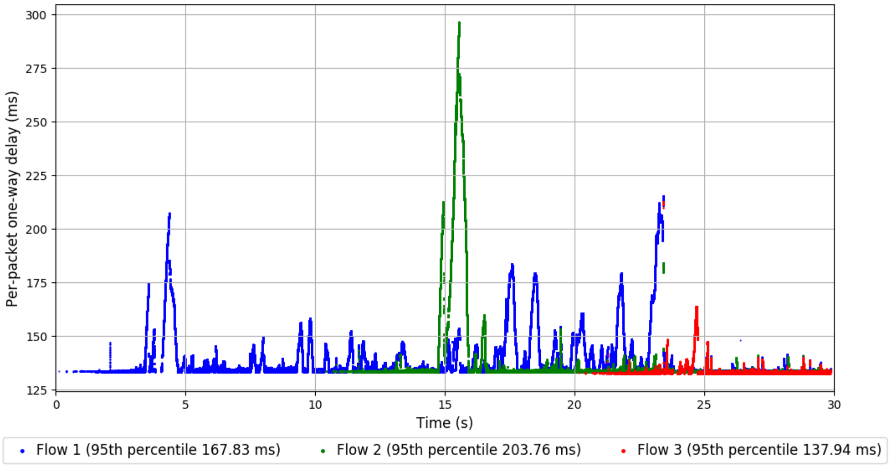




```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-18 11:29:34
End at: 2019-07-18 11:30:04
Local clock offset: 0.648 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-07-18 15:19:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 634.44 Mbit/s
95th percentile per-packet one-way delay: 168.237 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 390.26 Mbit/s
95th percentile per-packet one-way delay: 167.831 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 250.03 Mbit/s
95th percentile per-packet one-way delay: 203.765 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 240.40 Mbit/s
95th percentile per-packet one-way delay: 137.938 ms
Loss rate: 4.79%
```

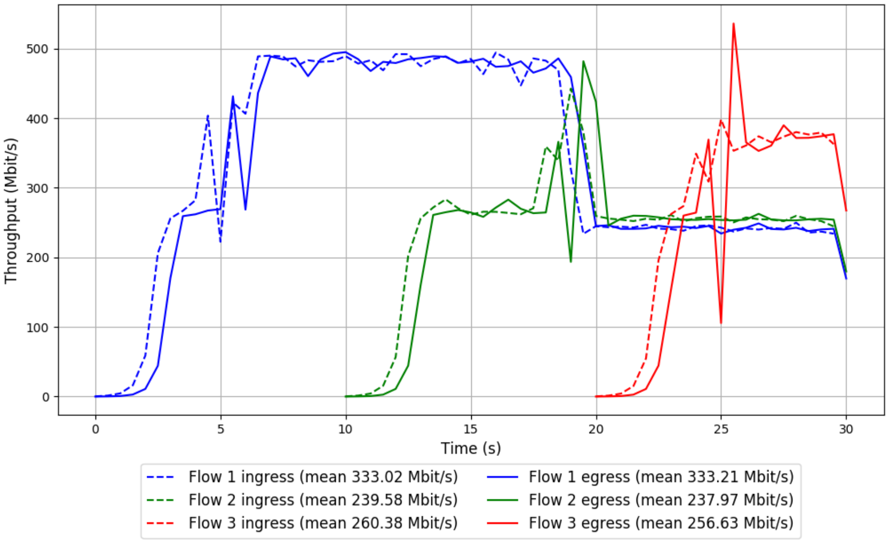
Run 4: Report of TCP Vegas — Data Link

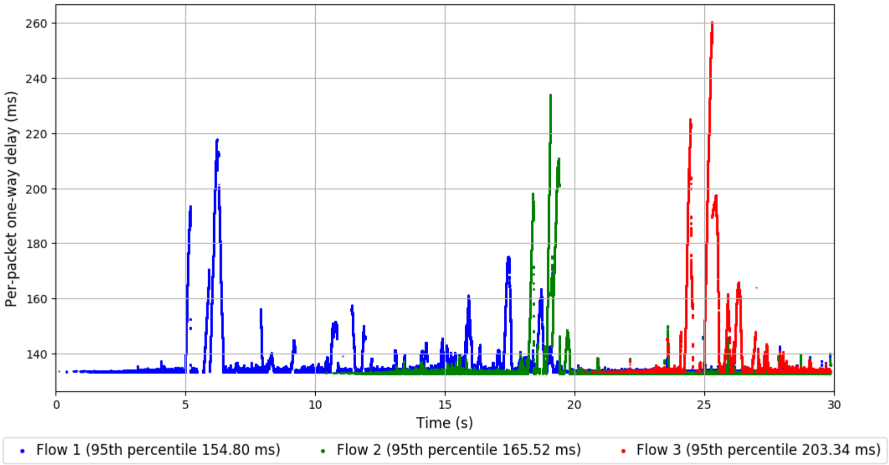




```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-18 12:13:39
End at: 2019-07-18 12:14:09
Local clock offset: 0.278 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-07-18 15:19:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 574.68 Mbit/s
95th percentile per-packet one-way delay: 166.760 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 333.21 Mbit/s
95th percentile per-packet one-way delay: 154.804 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 237.97 Mbit/s
95th percentile per-packet one-way delay: 165.520 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 256.63 Mbit/s
95th percentile per-packet one-way delay: 203.336 ms
Loss rate: 4.07%
```

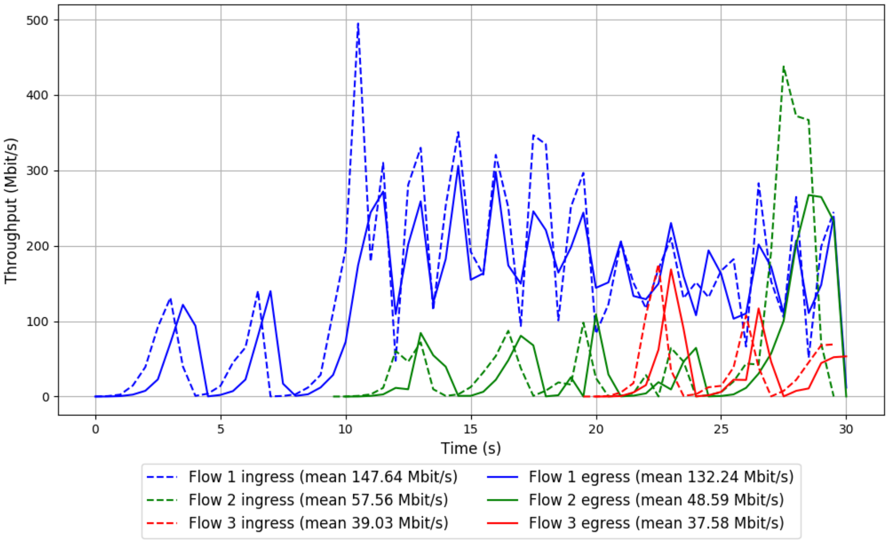
Run 5: Report of TCP Vegas — Data Link

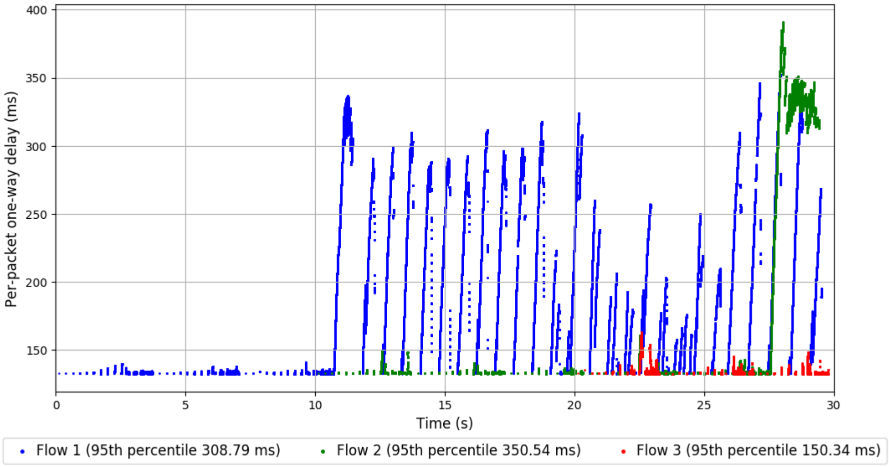




```
Run 1: Statistics of Verus

Start at: 2019-07-18 08:59:38
End at: 2019-07-18 09:00:09
Local clock offset: -0.616 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-07-18 15:19:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.50 Mbit/s
95th percentile per-packet one-way delay: 330.805 ms
Loss rate: 12.53%
-- Flow 1:
Average throughput: 132.24 Mbit/s
95th percentile per-packet one-way delay: 308.785 ms
Loss rate: 12.05%
-- Flow 2:
Average throughput: 48.59 Mbit/s
95th percentile per-packet one-way delay: 350.540 ms
Loss rate: 16.71%
-- Flow 3:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 150.336 ms
Loss rate: 5.70%
```

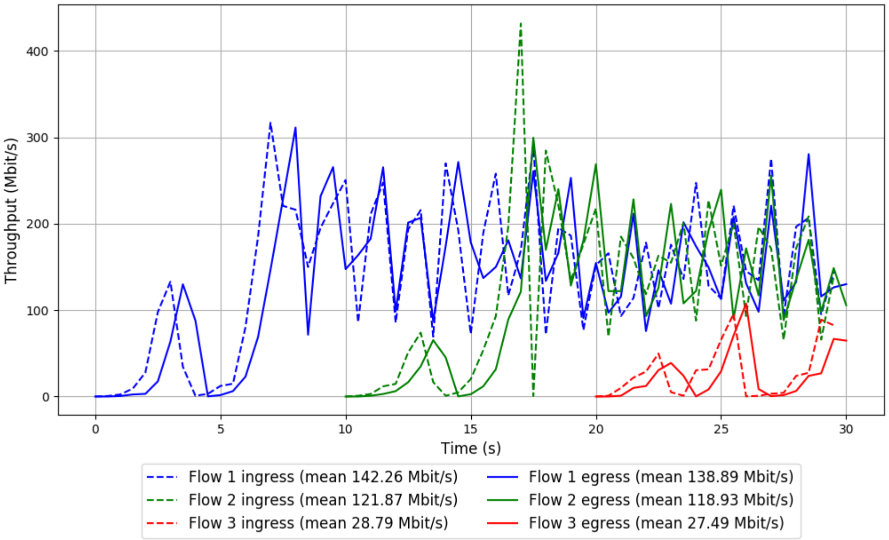
Run 1: Report of Verus — Data Link

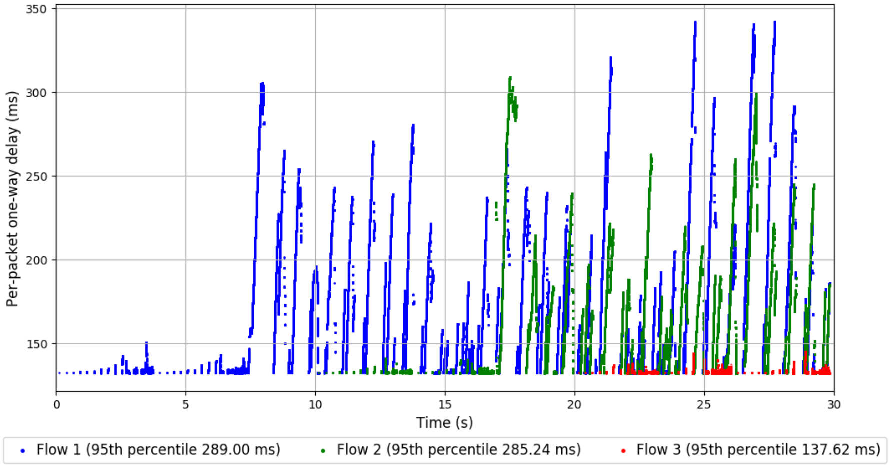




```
Run 2: Statistics of Verus

Start at: 2019-07-18 09:43:11
End at: 2019-07-18 09:43:41
Local clock offset: -0.528 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-07-18 15:19:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.70 Mbit/s
95th percentile per-packet one-way delay: 286.122 ms
Loss rate: 3.16%
-- Flow 1:
Average throughput: 138.89 Mbit/s
95th percentile per-packet one-way delay: 289.000 ms
Loss rate: 2.86%
-- Flow 2:
Average throughput: 118.93 Mbit/s
95th percentile per-packet one-way delay: 285.242 ms
Loss rate: 3.22%
-- Flow 3:
Average throughput: 27.49 Mbit/s
95th percentile per-packet one-way delay: 137.618 ms
Loss rate: 7.10%
```

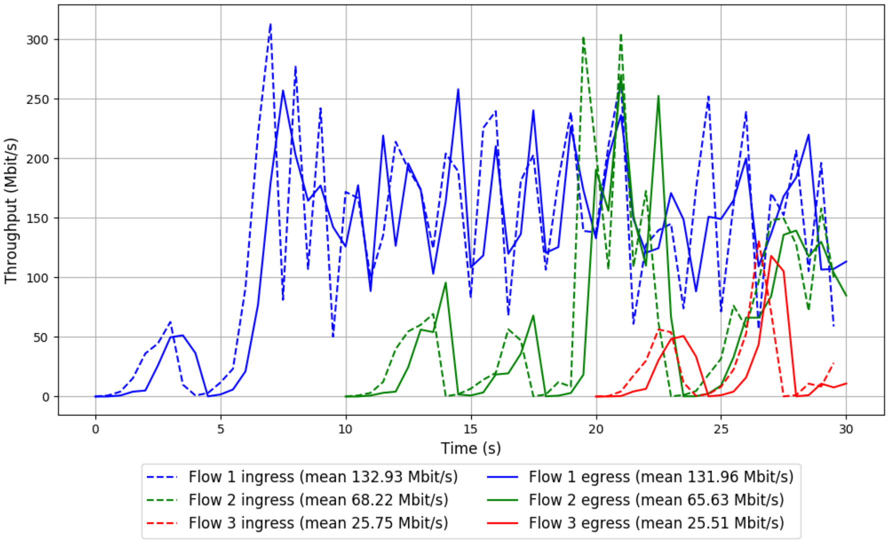
Run 2: Report of Verus — Data Link

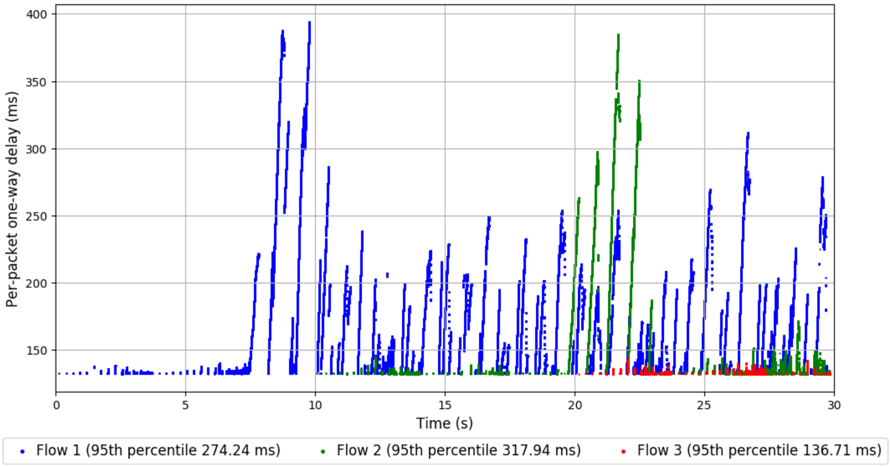




```
Run 3: Statistics of Verus

Start at: 2019-07-18 10:26:45
End at: 2019-07-18 10:27:15
Local clock offset: -0.564 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-07-18 15:19:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.18 Mbit/s
95th percentile per-packet one-way delay: 286.693 ms
Loss rate: 2.66%
-- Flow 1:
Average throughput: 131.96 Mbit/s
95th percentile per-packet one-way delay: 274.235 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 65.63 Mbit/s
95th percentile per-packet one-way delay: 317.939 ms
Loss rate: 5.06%
-- Flow 3:
Average throughput: 25.51 Mbit/s
95th percentile per-packet one-way delay: 136.712 ms
Loss rate: 3.53%
```

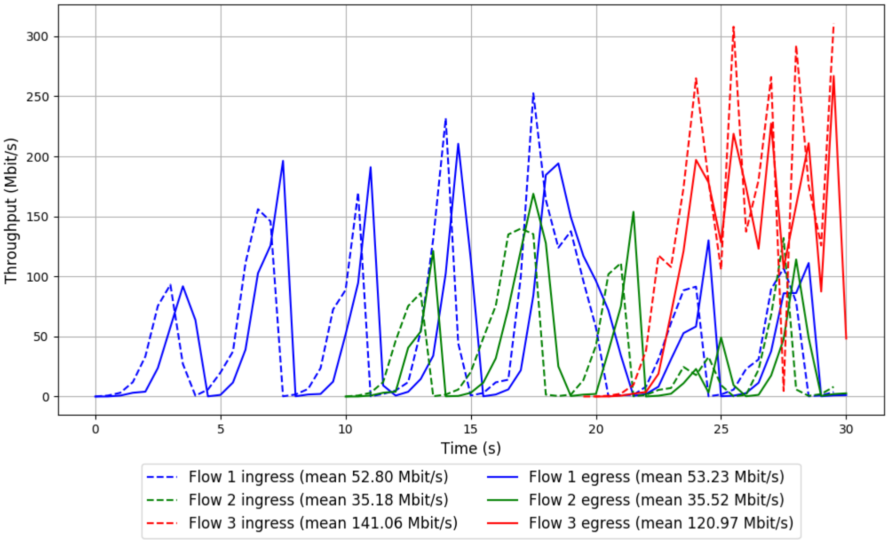
Run 3: Report of Verus — Data Link

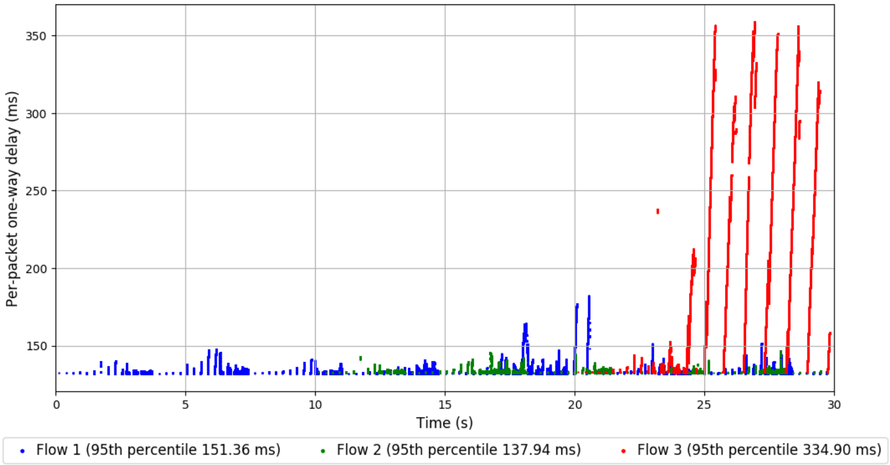




```
Run 4: Statistics of Verus

Start at: 2019-07-18 11:10:35
End at: 2019-07-18 11:11:05
Local clock offset: -0.304 ms
Remote clock offset: -0.127 ms

# Below is generated by plot.py at 2019-07-18 15:20:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.98 Mbit/s
95th percentile per-packet one-way delay: 306.513 ms
Loss rate: 6.34%
-- Flow 1:
Average throughput: 53.23 Mbit/s
95th percentile per-packet one-way delay: 151.357 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 137.943 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 120.97 Mbit/s
95th percentile per-packet one-way delay: 334.901 ms
Loss rate: 16.37%
```

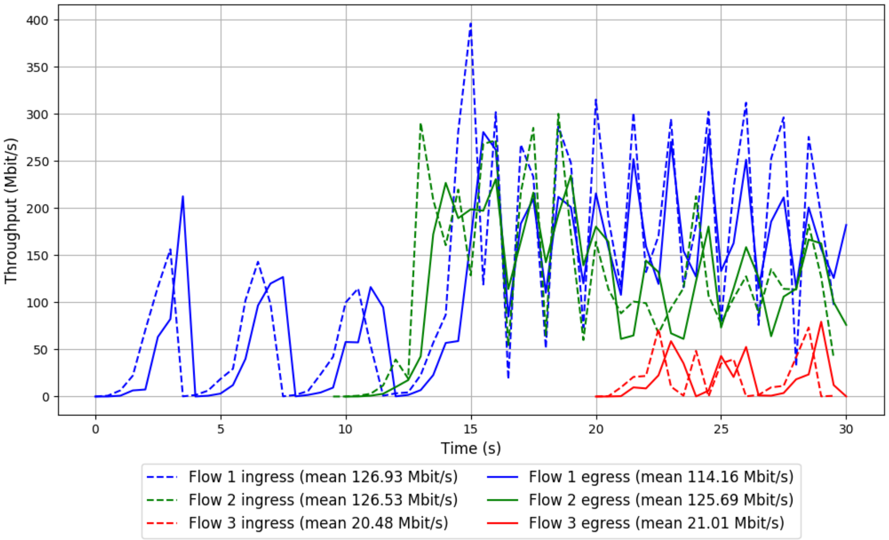
Run 4: Report of Verus — Data Link

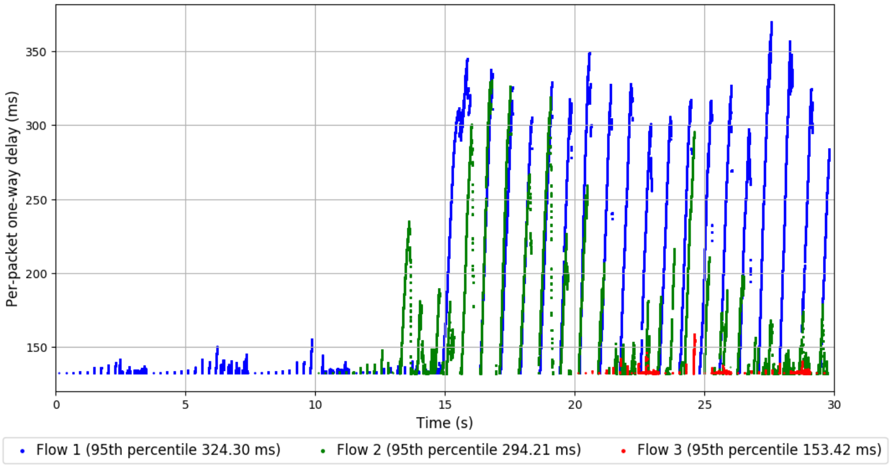




```
Run 5: Statistics of Verus

Start at: 2019-07-18 11:53:48
End at: 2019-07-18 11:54:18
Local clock offset: -0.192 ms
Remote clock offset: 0.263 ms

# Below is generated by plot.py at 2019-07-18 15:20:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.99 Mbit/s
95th percentile per-packet one-way delay: 316.788 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 114.16 Mbit/s
95th percentile per-packet one-way delay: 324.302 ms
Loss rate: 9.86%
-- Flow 2:
Average throughput: 125.69 Mbit/s
95th percentile per-packet one-way delay: 294.208 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 21.01 Mbit/s
95th percentile per-packet one-way delay: 153.421 ms
Loss rate: 0.18%
```

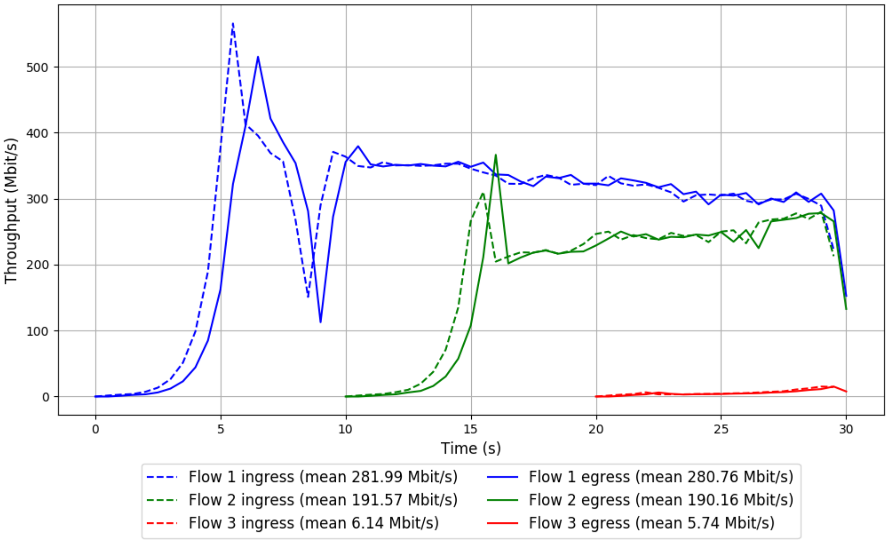
Run 5: Report of Verus — Data Link

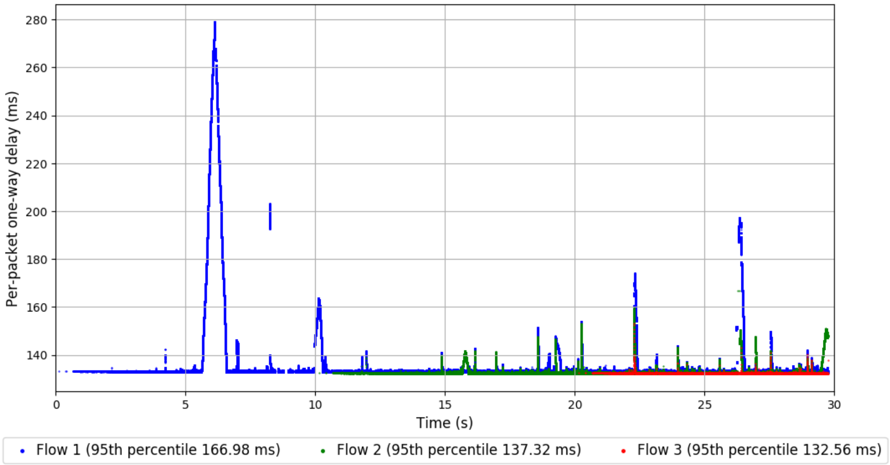




```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-18 09:01:19
End at: 2019-07-18 09:01:49
Local clock offset: -0.206 ms
Remote clock offset: -0.114 ms

# Below is generated by plot.py at 2019-07-18 15:21:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.44 Mbit/s
95th percentile per-packet one-way delay: 150.688 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 280.76 Mbit/s
95th percentile per-packet one-way delay: 166.976 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 190.16 Mbit/s
95th percentile per-packet one-way delay: 137.320 ms
Loss rate: 2.06%
-- Flow 3:
Average throughput: 5.74 Mbit/s
95th percentile per-packet one-way delay: 132.562 ms
Loss rate: 8.97%
```

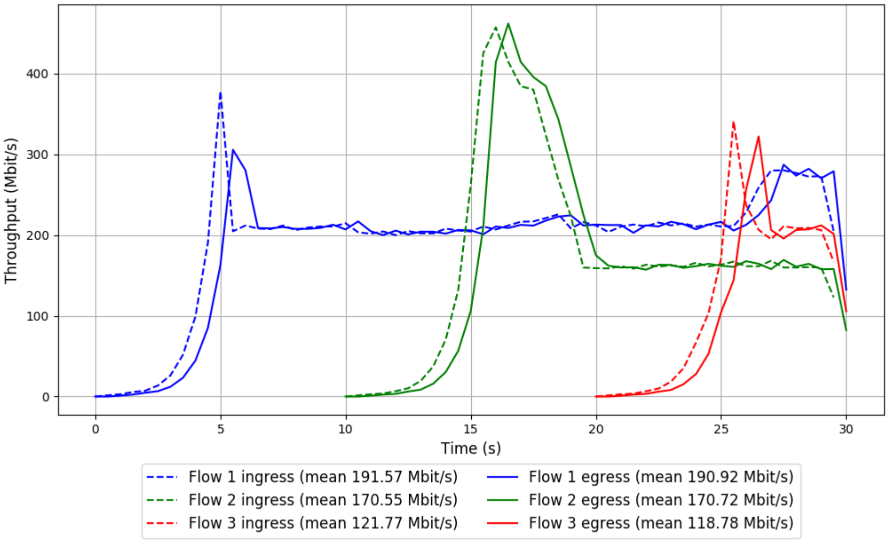
Run 1: Report of PCC-Vivace — Data Link

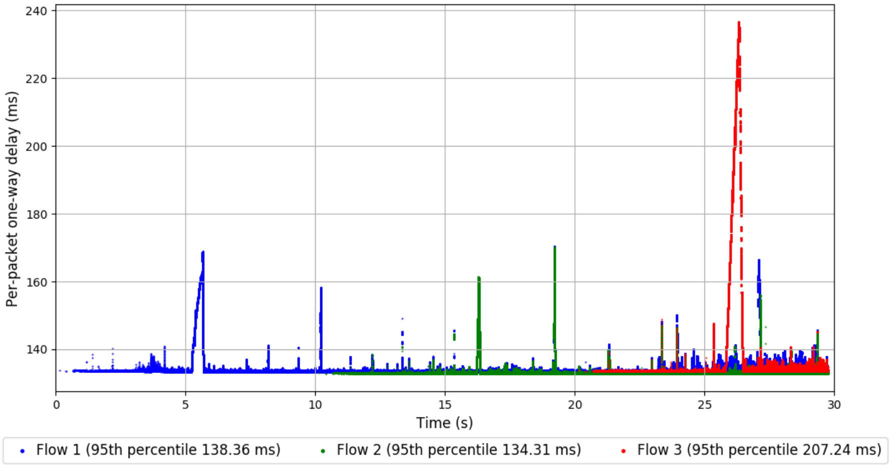




```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-18 09:44:57
End at: 2019-07-18 09:45:27
Local clock offset: 0.342 ms
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2019-07-18 15:21:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.35 Mbit/s
95th percentile per-packet one-way delay: 140.948 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 190.92 Mbit/s
95th percentile per-packet one-way delay: 138.362 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 170.72 Mbit/s
95th percentile per-packet one-way delay: 134.314 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 118.78 Mbit/s
95th percentile per-packet one-way delay: 207.244 ms
Loss rate: 5.09%
```

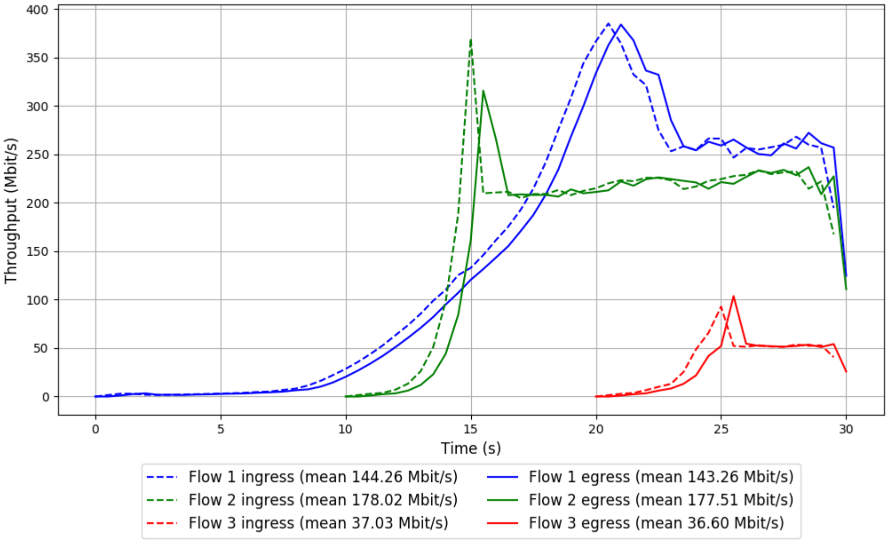
Run 2: Report of PCC-Vivace — Data Link

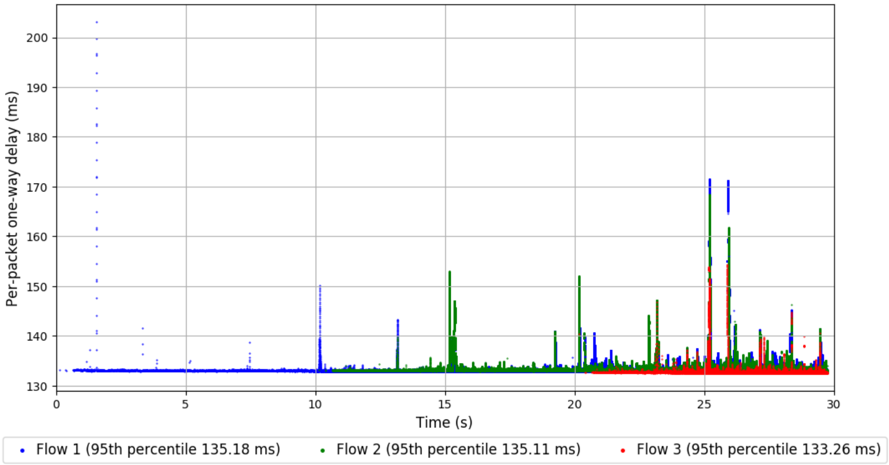




```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-18 10:28:26
End at: 2019-07-18 10:28:56
Local clock offset: 0.089 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-07-18 15:21:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.63 Mbit/s
95th percentile per-packet one-way delay: 135.101 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 143.26 Mbit/s
95th percentile per-packet one-way delay: 135.182 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 177.51 Mbit/s
95th percentile per-packet one-way delay: 135.107 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 133.265 ms
Loss rate: 3.89%
```

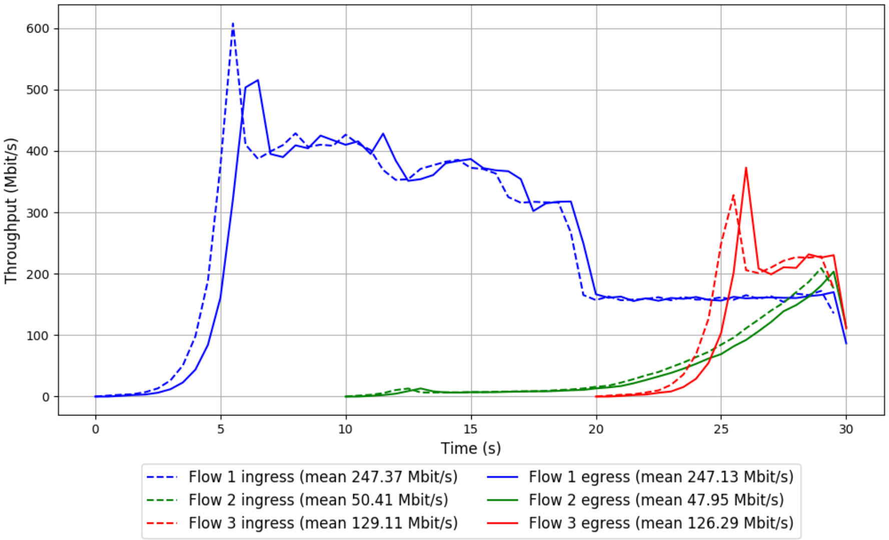
Run 3: Report of PCC-Vivace — Data Link

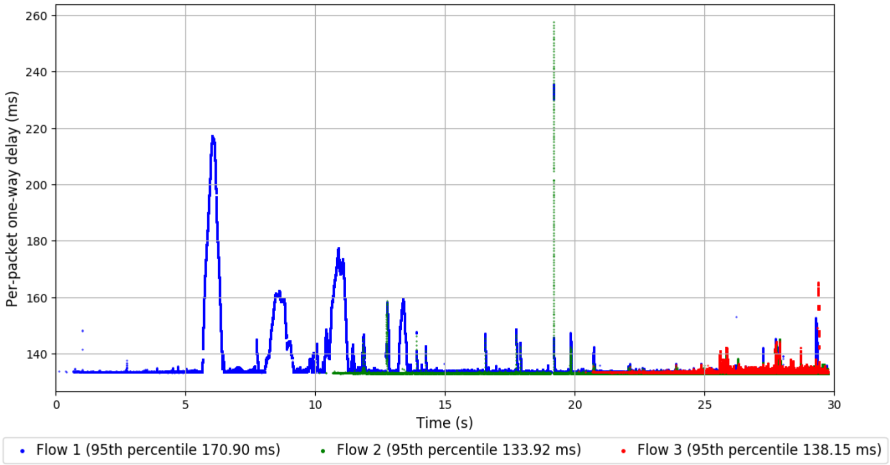




```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-18 11:12:09
End at: 2019-07-18 11:12:39
Local clock offset: 0.494 ms
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2019-07-18 15:21:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.81 Mbit/s
95th percentile per-packet one-way delay: 165.268 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 247.13 Mbit/s
95th percentile per-packet one-way delay: 170.898 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 47.95 Mbit/s
95th percentile per-packet one-way delay: 133.919 ms
Loss rate: 6.15%
-- Flow 3:
Average throughput: 126.29 Mbit/s
95th percentile per-packet one-way delay: 138.147 ms
Loss rate: 4.81%
```

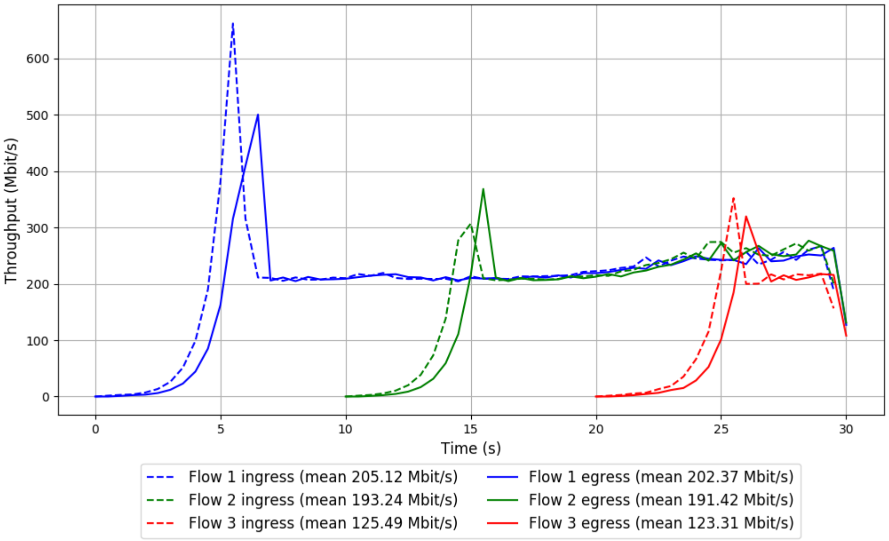
Run 4: Report of PCC-Vivace — Data Link

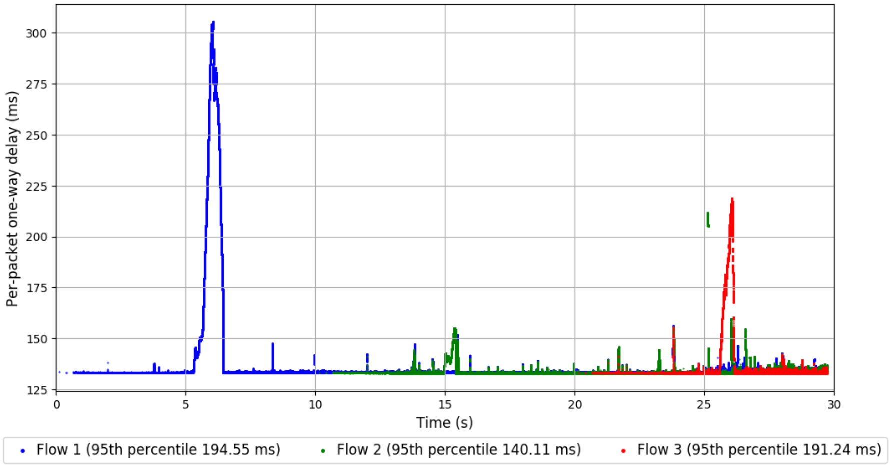




```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-18 11:55:33
End at: 2019-07-18 11:56:03
Local clock offset: 0.549 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 368.99 Mbit/s
95th percentile per-packet one-way delay: 155.190 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 202.37 Mbit/s
95th percentile per-packet one-way delay: 194.547 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 191.42 Mbit/s
95th percentile per-packet one-way delay: 140.111 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 123.31 Mbit/s
95th percentile per-packet one-way delay: 191.235 ms
Loss rate: 4.40%
```

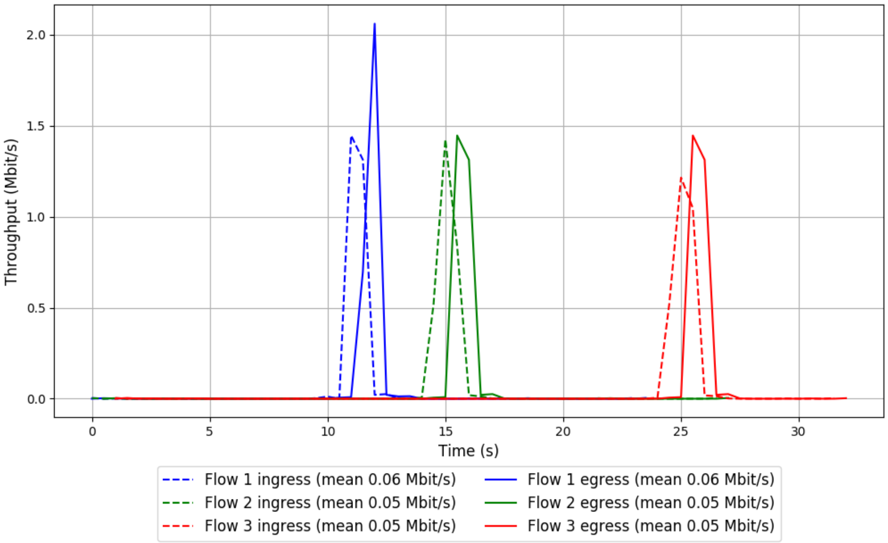
Run 5: Report of PCC-Vivace — Data Link

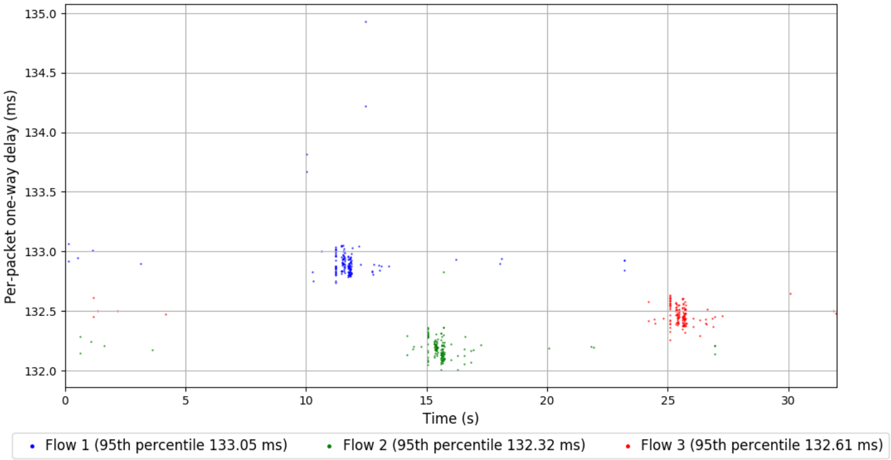




```
Run 1: Statistics of WebRTC media

Start at: 2019-07-18 09:25:57
End at: 2019-07-18 09:26:27
Local clock offset: -0.102 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 132.983 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 133.047 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.318 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.607 ms
Loss rate: 0.00%
```

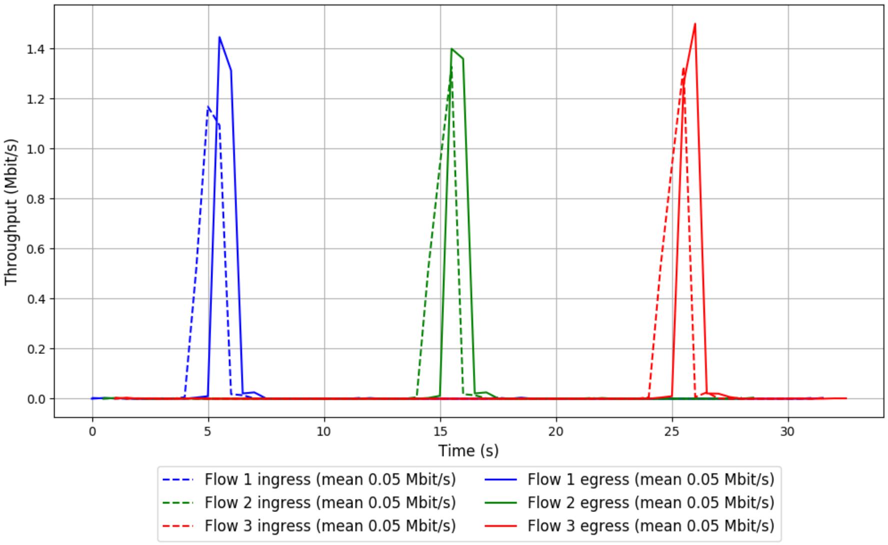
Run 1: Report of WebRTC media — Data Link

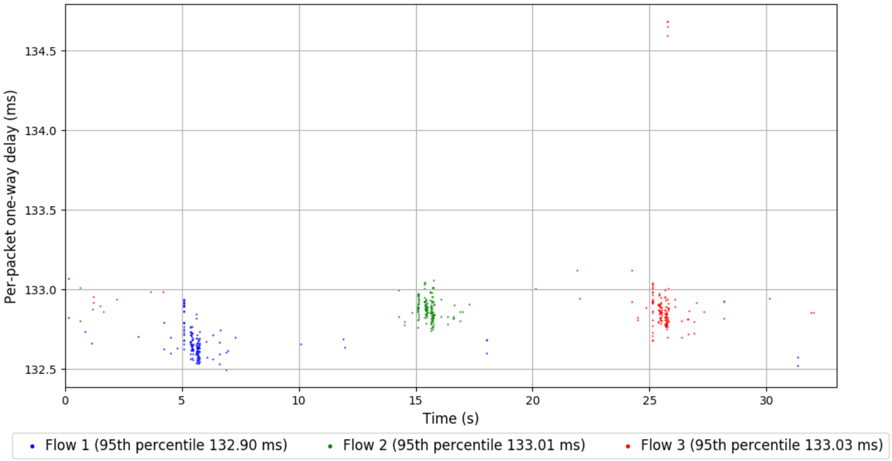




```
Run 2: Statistics of WebRTC media

Start at: 2019-07-18 10:09:40
End at: 2019-07-18 10:10:10
Local clock offset: -0.57 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.005 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.900 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.029 ms
Loss rate: 0.00%
```

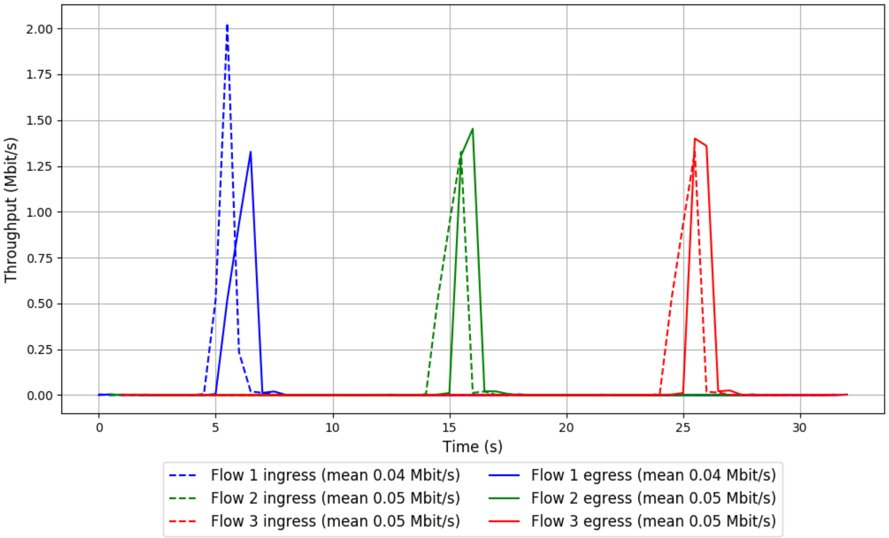
Run 2: Report of WebRTC media — Data Link

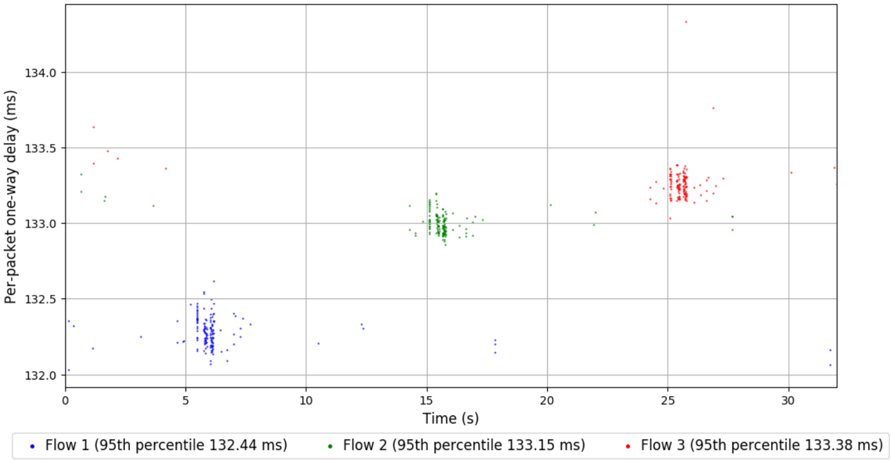




```
Run 3: Statistics of WebRTC media

Start at: 2019-07-18 10:53:13
End at: 2019-07-18 10:53:43
Local clock offset: 0.025 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.328 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 132.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.148 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.385 ms
Loss rate: 0.00%
```

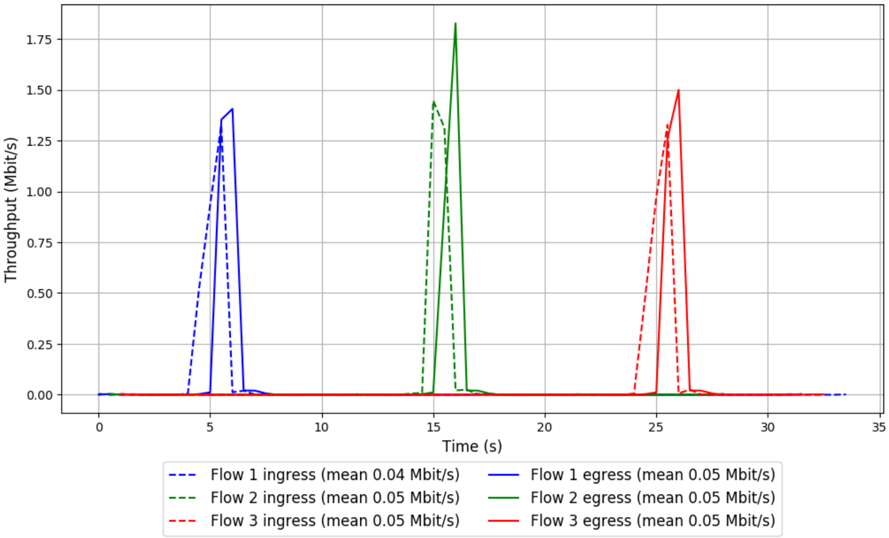
Run 3: Report of WebRTC media — Data Link

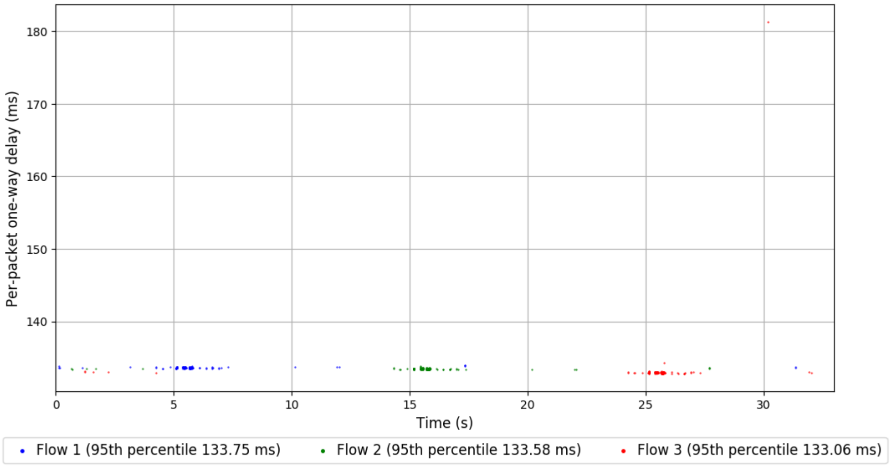




```
Run 4: Statistics of WebRTC media

Start at: 2019-07-18 11:36:34
End at: 2019-07-18 11:37:04
Local clock offset: 0.612 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.706 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.750 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.576 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.058 ms
Loss rate: 0.00%
```

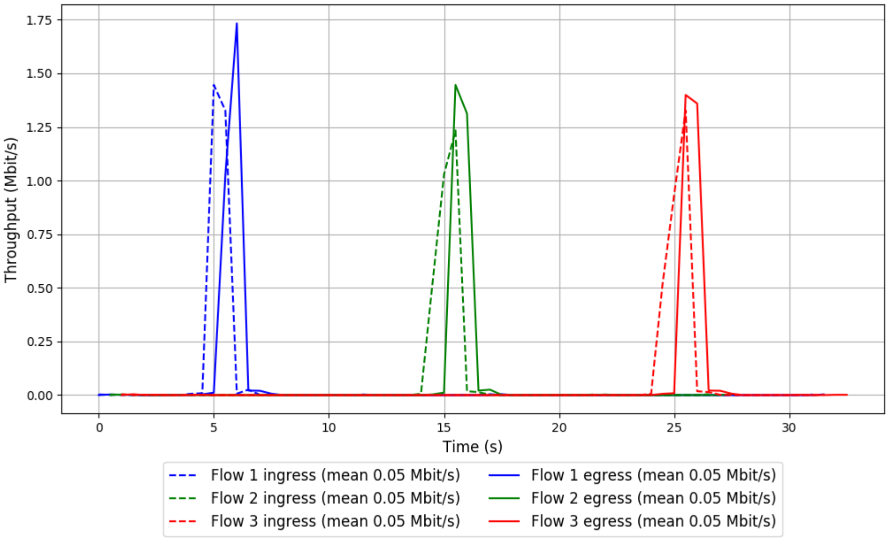
Run 4: Report of WebRTC media — Data Link



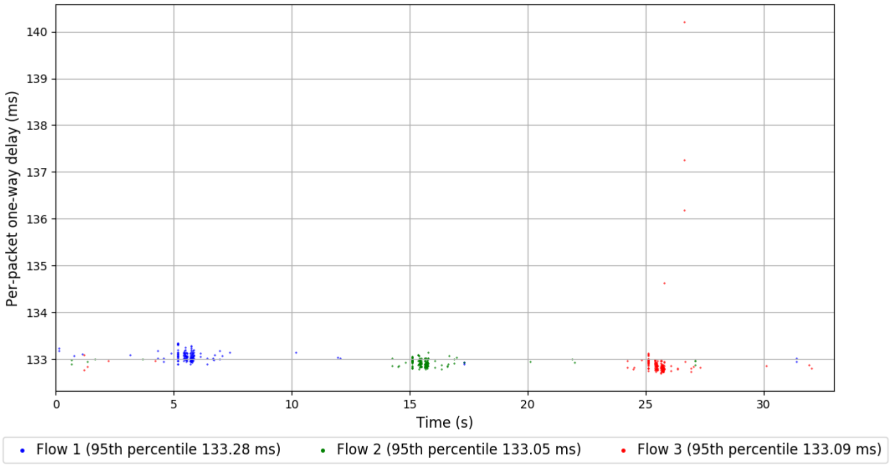


```
Run 5: Statistics of WebRTC media

Start at: 2019-07-18 12:20:46
End at: 2019-07-18 12:21:16
Local clock offset: -0.353 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-07-18 15:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.054 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.086 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link



Throughput (Mbit/s)
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
5
10
15
20
25
30
Time (s)
Flow 1 ingress (mean 0.05 Mbit/s)
Flow 2 ingress (mean 0.05 Mbit/s)
Flow 3 ingress (mean 0.05 Mbit/s)
Flow 1 egress (mean 0.05 Mbit/s)
Flow 2 egress (mean 0.05 Mbit/s)
Flow 3 egress (mean 0.05 Mbit/s)



Per-packet one-way delay (ms)
140
139
138
137
136
135
134
133
0
5
10
15
20
25
30
Time (s)
Flow 1 (95th percentile 133.28 ms)
Flow 2 (95th percentile 133.05 ms)
Flow 3 (95th percentile 133.09 ms)