Pantheon Report

Generated at 2017-09-22 06:27:25 (UTC).

Data path: GCE Sydney Ethernet (*remote*) →GCE Iowa Ethernet (*local*).

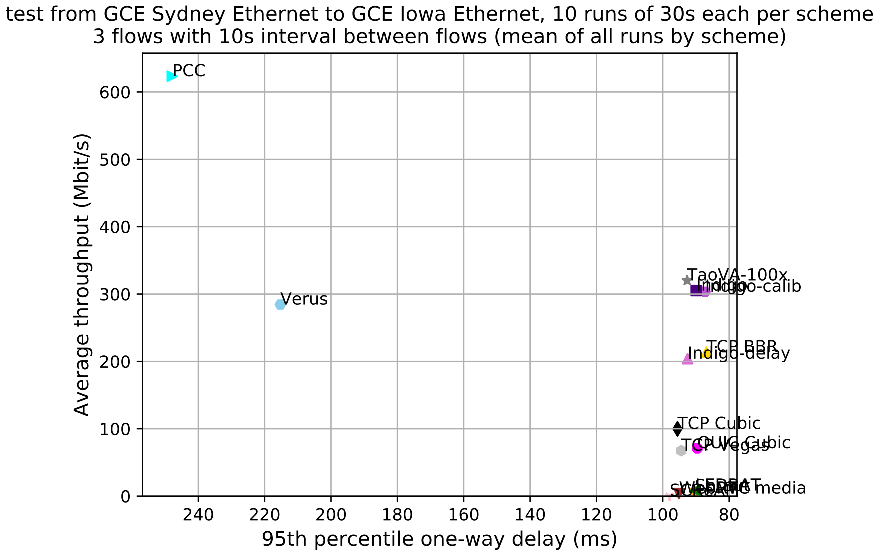
Repeated the test of 14 congestion control schemes 10 times.

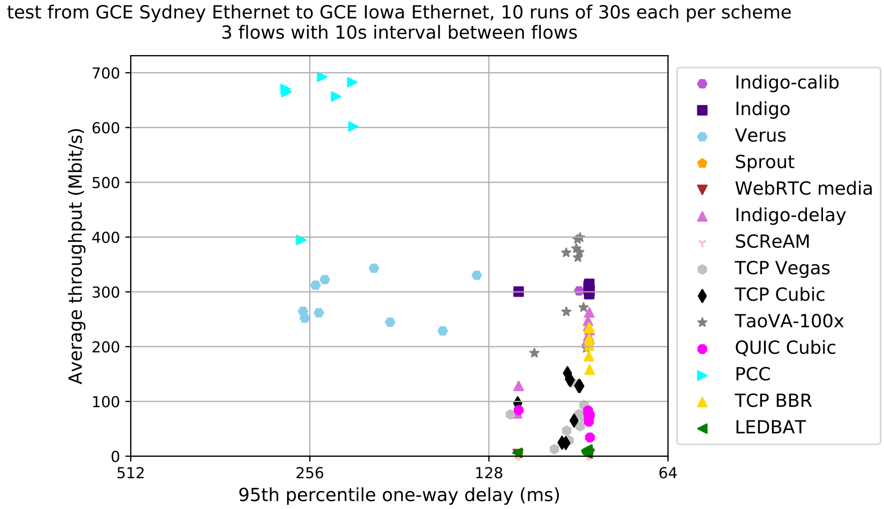
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: indigos @ 46c7c812d4acb71eea4f5fb0b03b3657cea3062f
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```


test from GCE Sydney Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
100
200
300
400
500
600
240
220
200
180
160
140
120
100
80
PCC
Verus
TaoVA-100x
Indigo
Indigo-calib
TCP BBR
Indigo-delay
TCP Cubic
QUIC Cubic
TCP Vegas
SCReAM
WebRTC media
Sprout
LEDBAT


test from GCE Sydney Ethernet to GCE Iowa Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows
Average throughput (Mbit/s)
95th percentile one-way delay (ms)
0
100
200
300
400
500
600
700
512
256
128
64
Indigo-calib
Indigo
Verus
Sprout
WebRTC media
Indigo-delay
SCReAM
TCP Vegas
TCP Cubic
TaoVA-100x
QUIC Cubic
PCC
TCP BBR
LEDBAT

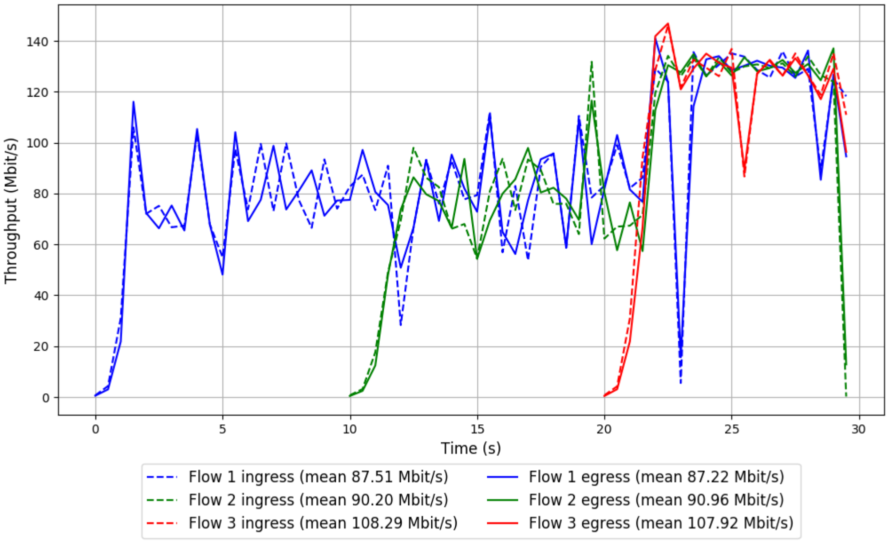
		mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
scheme	# runs	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	109.71	106.75	101.45	86.84	86.81	86.84	0.60	0.77	2.21
TCP Cubic	9	50.61	48.05	57.23	648.06	94.48	96.06	0.50	1.06	1.76
LEDBAT	10	5.38	3.32	2.16	90.26	90.18	90.08	1.31	1.56	3.50
PCC	7	399.17	277.05	108.97	251.53	191.50	175.44	6.36	3.55	4.74
QUIC Cubic	10	39.49	33.81	28.52	89.47	86.79	86.79	0.48	1.15	2.82
SCReAM	10	0.22	0.21	0.22	89.63	95.04	92.28	0.51	0.84	1.66
WebRTC media	10	2.15	1.28	0.40	92.39	89.54	89.48	0.71	1.04	3.15
Sprout	9	3.80	3.96	3.22	90.38	90.33	87.25	0.97	1.15	2.84
TaoVA-100x	10	157.21	184.14	164.06	94.82	92.53	97.79	0.74	1.01	1.96
TCP Vegas	10	32.41	29.18	47.97	98.23	93.24	91.64	0.57	0.95	1.58
Verus	9	181.72	124.86	61.85	211.72	179.01	166.10	7.49	2.97	5.00
Indigo	9	162.64	151.72	126.12	89.84	87.13	86.81	0.61	0.90	2.05
Indigo-calib	10	163.96	149.24	126.67	87.04	89.86	89.52	0.55	0.81	1.89
Indigo-delay	10	108.90	109.05	71.46	92.46	89.99	89.70	0.62	1.04	2.69

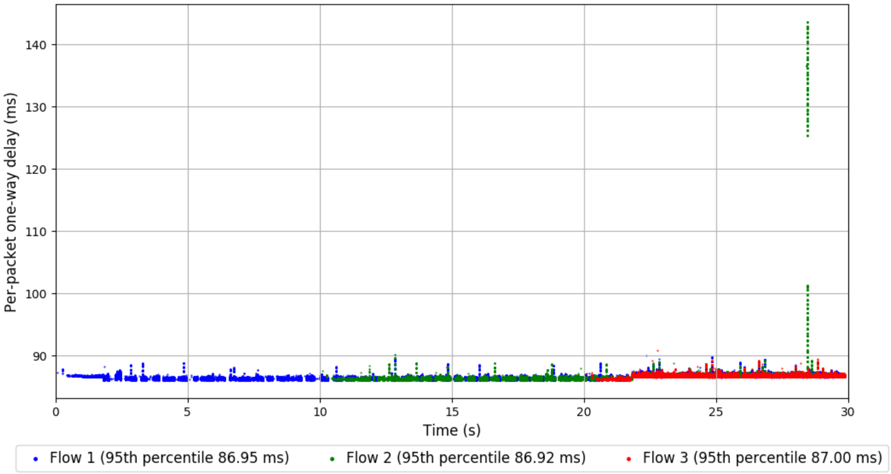
```
Run 1: Statistics of TCP BBR

Start at: 2017-09-22 00:59:27
End at: 2017-09-22 00:59:57

# Below is generated by plot.py at 2017-09-22 05:28:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.55 Mbit/s
95th percentile per-packet one-way delay: 86.954 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 87.22 Mbit/s
95th percentile per-packet one-way delay: 86.950 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 86.920 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 107.92 Mbit/s
95th percentile per-packet one-way delay: 87.000 ms
Loss rate: 2.12%
```

Run 1: Report of TCP BBR — Data Link



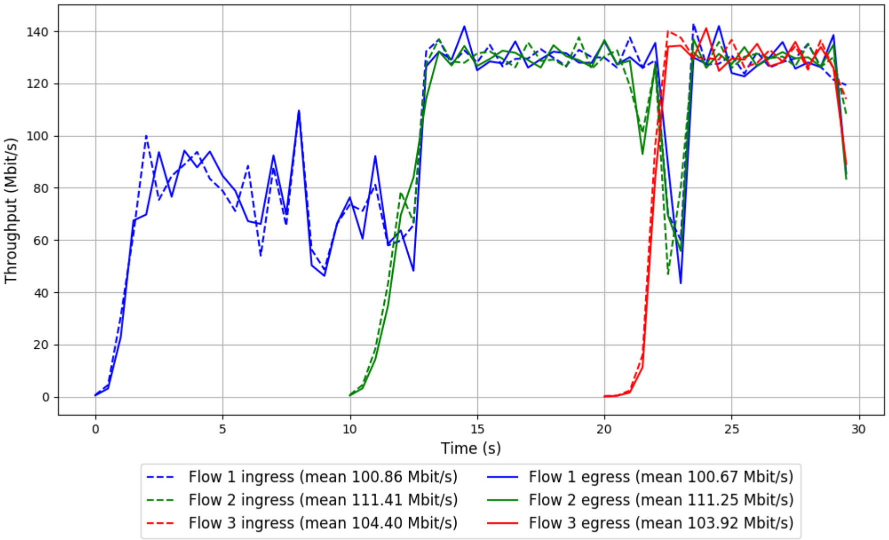


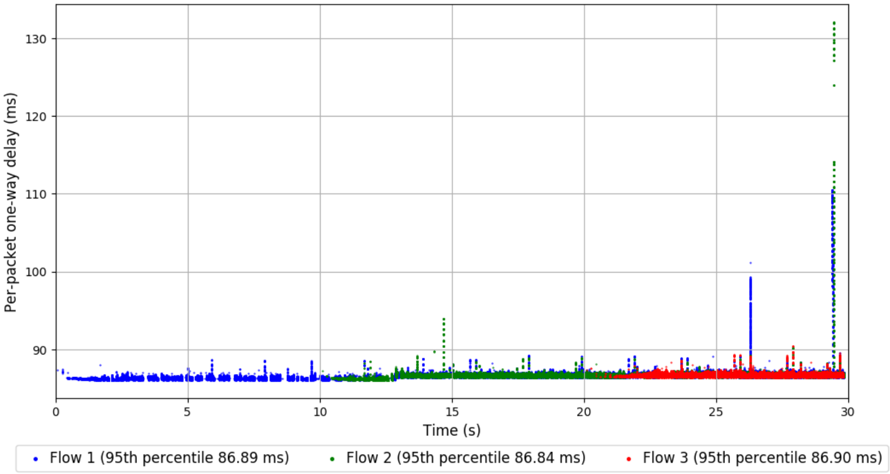
```
Run 2: Statistics of TCP BBR

Start at: 2017-09-22 01:13:35
End at: 2017-09-22 01:14:05

# Below is generated by plot.py at 2017-09-22 05:29:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.48 Mbit/s
95th percentile per-packet one-way delay: 86.876 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 100.67 Mbit/s
95th percentile per-packet one-way delay: 86.887 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 111.25 Mbit/s
95th percentile per-packet one-way delay: 86.842 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 103.92 Mbit/s
95th percentile per-packet one-way delay: 86.904 ms
Loss rate: 2.32%
```

Run 2: Report of TCP BBR — Data Link



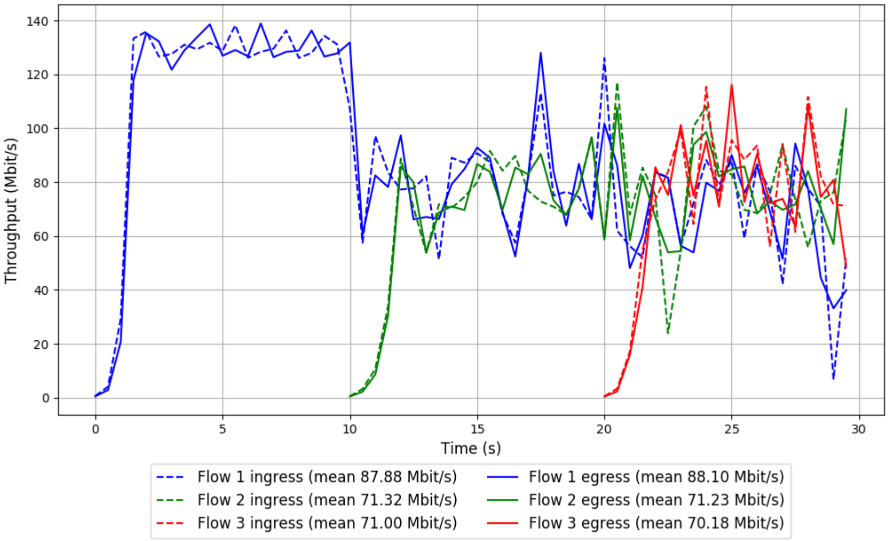


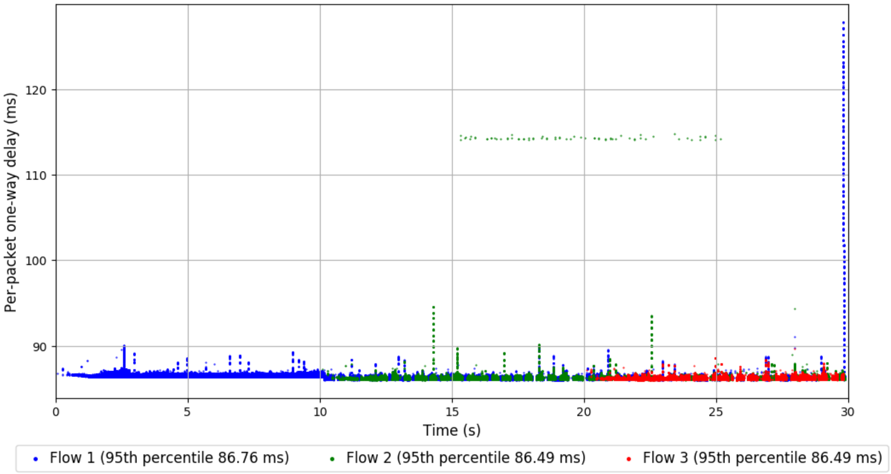
```
Run 3: Statistics of TCP BBR

Start at: 2017-09-22 01:29:18
End at: 2017-09-22 01:29:48

# Below is generated by plot.py at 2017-09-22 05:29:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 158.25 Mbit/s
95th percentile per-packet one-way delay: 86.703 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 86.756 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 71.23 Mbit/s
95th percentile per-packet one-way delay: 86.492 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 70.18 Mbit/s
95th percentile per-packet one-way delay: 86.488 ms
Loss rate: 3.31%
```

Run 3: Report of TCP BBR — Data Link



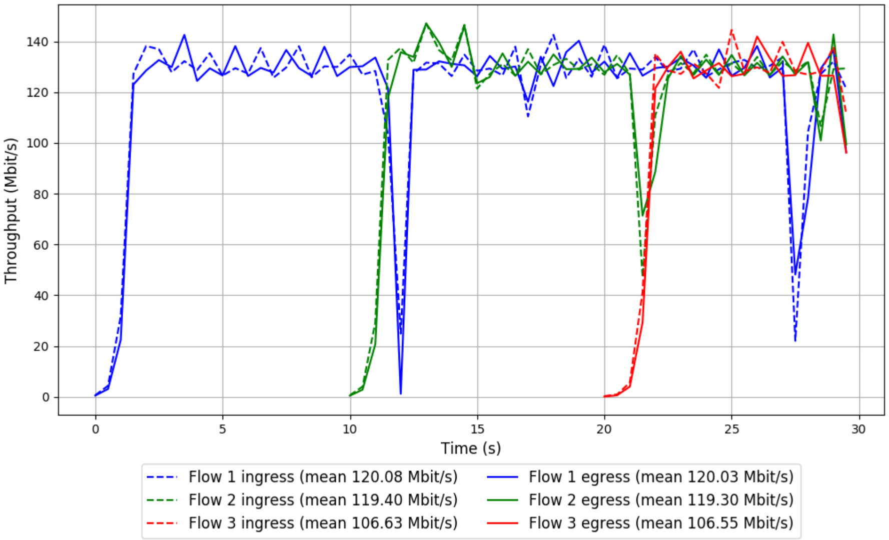


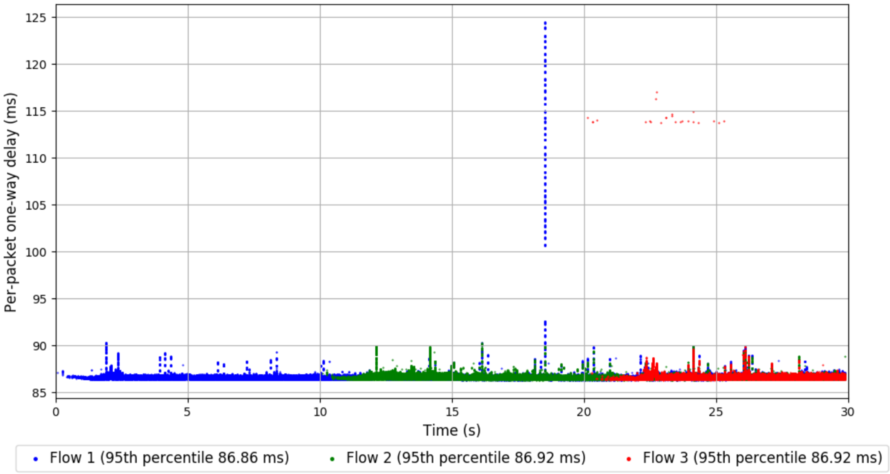
```
Run 4: Statistics of TCP BBR

Start at: 2017-09-22 01:43:13
End at: 2017-09-22 01:43:43

# Below is generated by plot.py at 2017-09-22 05:29:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.09 Mbit/s
95th percentile per-packet one-way delay: 86.890 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 120.03 Mbit/s
95th percentile per-packet one-way delay: 86.862 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 119.30 Mbit/s
95th percentile per-packet one-way delay: 86.920 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 106.55 Mbit/s
95th percentile per-packet one-way delay: 86.921 ms
Loss rate: 2.10%
```

Run 4: Report of TCP BBR — Data Link



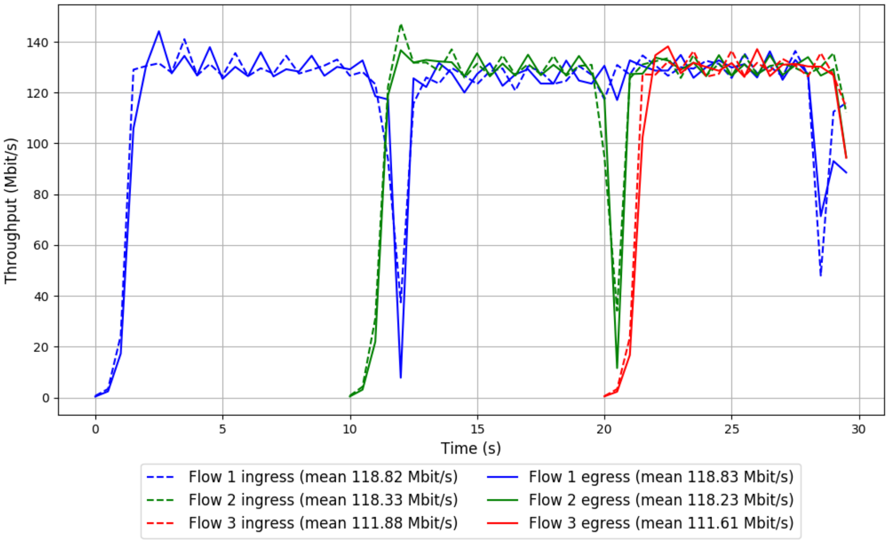


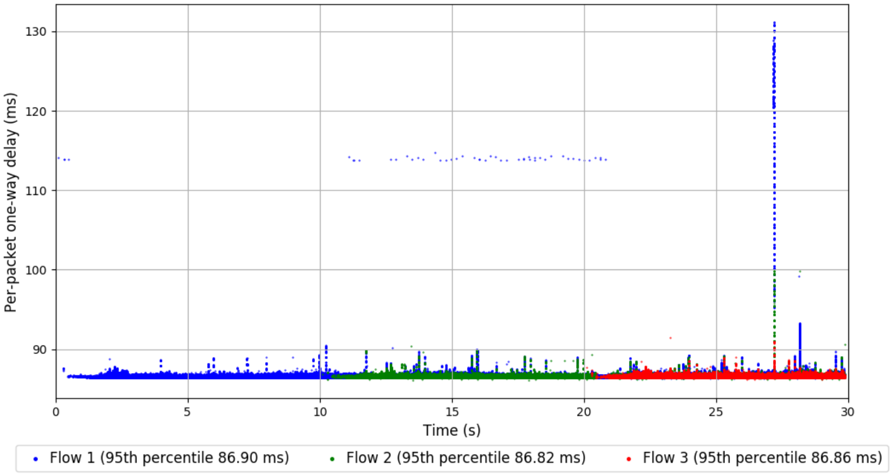
```
Run 5: Statistics of TCP BBR

Start at: 2017-09-22 01:56:47
End at: 2017-09-22 01:57:17

# Below is generated by plot.py at 2017-09-22 05:29:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.91 Mbit/s
95th percentile per-packet one-way delay: 86.872 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 118.83 Mbit/s
95th percentile per-packet one-way delay: 86.903 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 118.23 Mbit/s
95th percentile per-packet one-way delay: 86.822 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 111.61 Mbit/s
95th percentile per-packet one-way delay: 86.865 ms
Loss rate: 2.00%
```

Run 5: Report of TCP BBR — Data Link



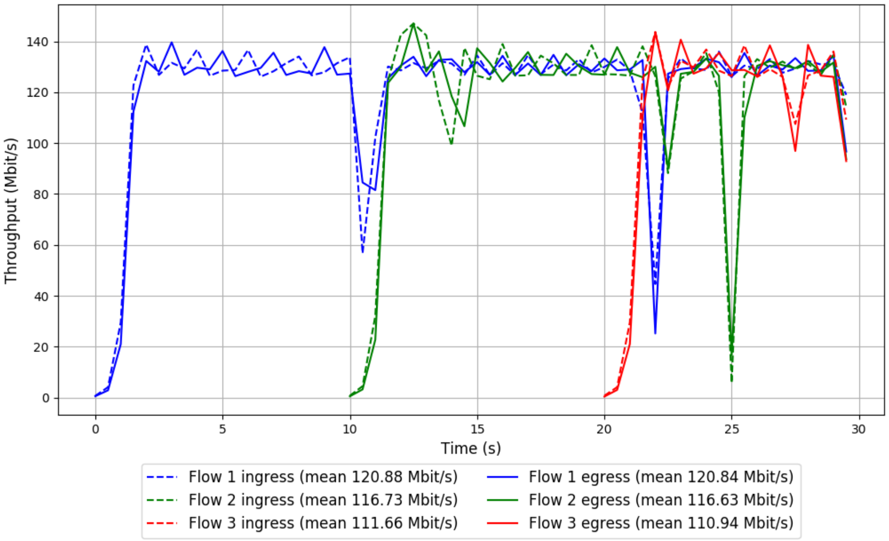


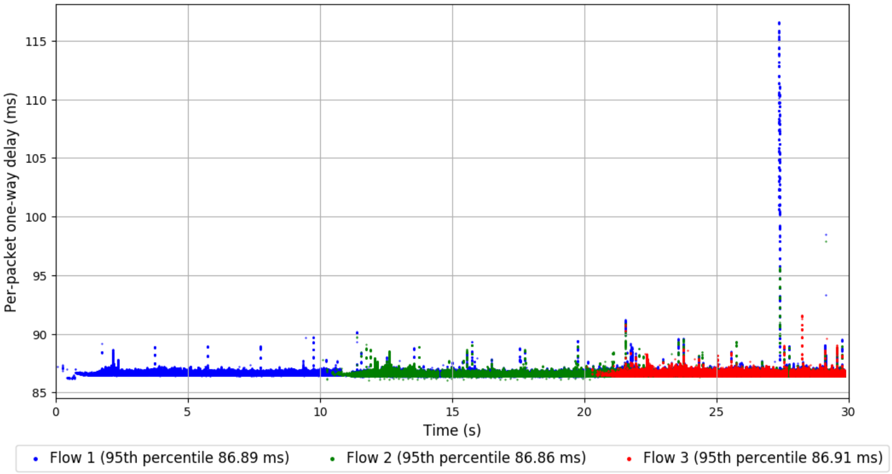
```
Run 6: Statistics of TCP BBR

Start at: 2017-09-22 02:11:08
End at: 2017-09-22 02:11:38

# Below is generated by plot.py at 2017-09-22 05:29:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.56 Mbit/s
95th percentile per-packet one-way delay: 86.882 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 120.84 Mbit/s
95th percentile per-packet one-way delay: 86.886 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 116.63 Mbit/s
95th percentile per-packet one-way delay: 86.859 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 110.94 Mbit/s
95th percentile per-packet one-way delay: 86.907 ms
Loss rate: 2.02%
```

Run 6: Report of TCP BBR — Data Link



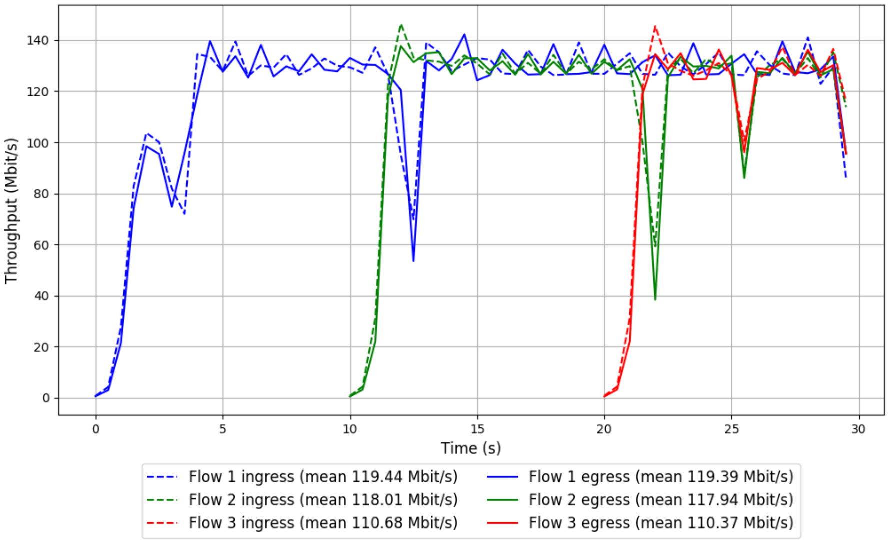


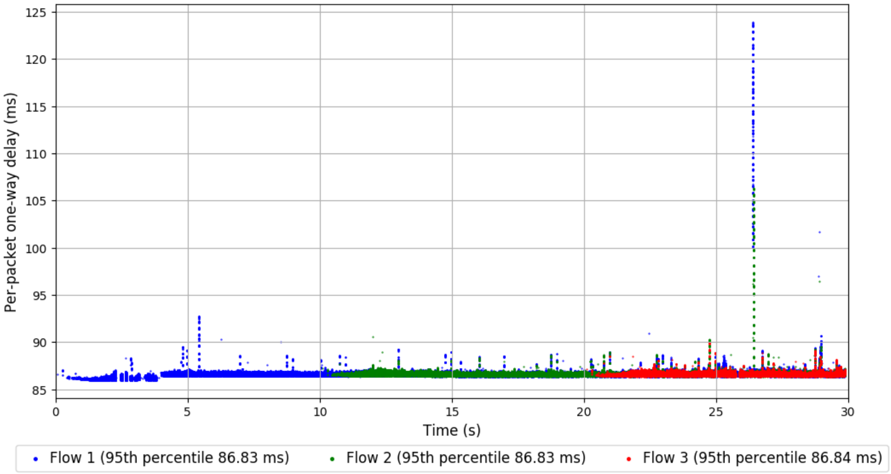
```
Run 7: Statistics of TCP BBR

Start at: 2017-09-22 02:25:34
End at: 2017-09-22 02:26:04

# Below is generated by plot.py at 2017-09-22 05:29:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.81 Mbit/s
95th percentile per-packet one-way delay: 86.832 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 119.39 Mbit/s
95th percentile per-packet one-way delay: 86.833 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 117.94 Mbit/s
95th percentile per-packet one-way delay: 86.828 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 110.37 Mbit/s
95th percentile per-packet one-way delay: 86.838 ms
Loss rate: 2.03%
```

Run 7: Report of TCP BBR — Data Link



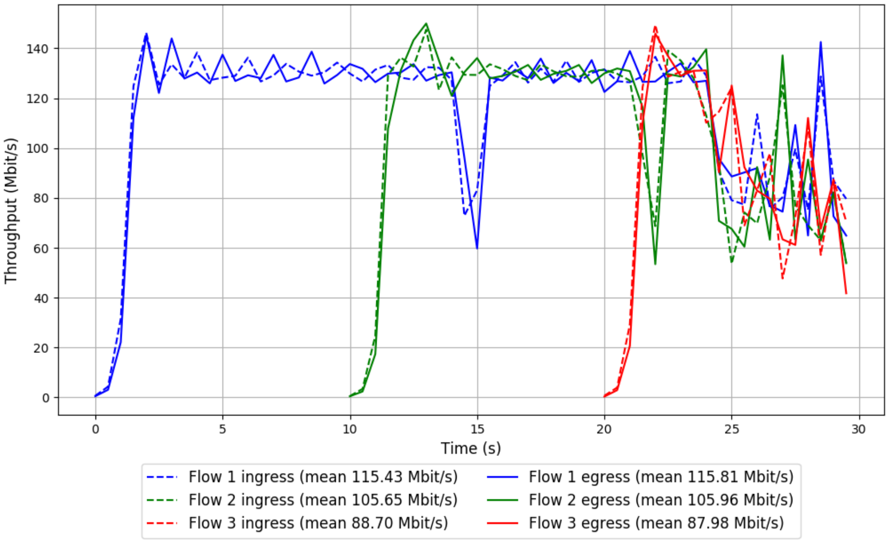


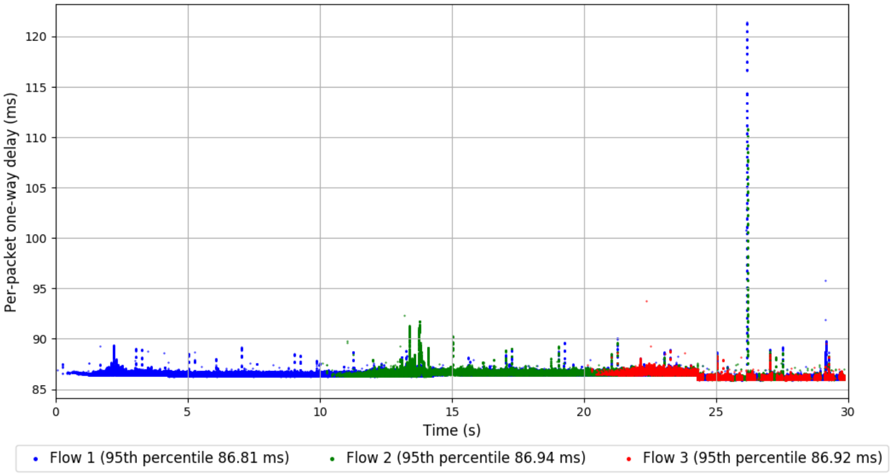
```
Run 8: Statistics of TCP BBR

Start at: 2017-09-22 02:39:14
End at: 2017-09-22 02:39:44

# Below is generated by plot.py at 2017-09-22 05:29:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.46 Mbit/s
95th percentile per-packet one-way delay: 86.870 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 115.81 Mbit/s
95th percentile per-packet one-way delay: 86.812 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 105.96 Mbit/s
95th percentile per-packet one-way delay: 86.940 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 87.98 Mbit/s
95th percentile per-packet one-way delay: 86.916 ms
Loss rate: 1.69%
```

Run 8: Report of TCP BBR — Data Link



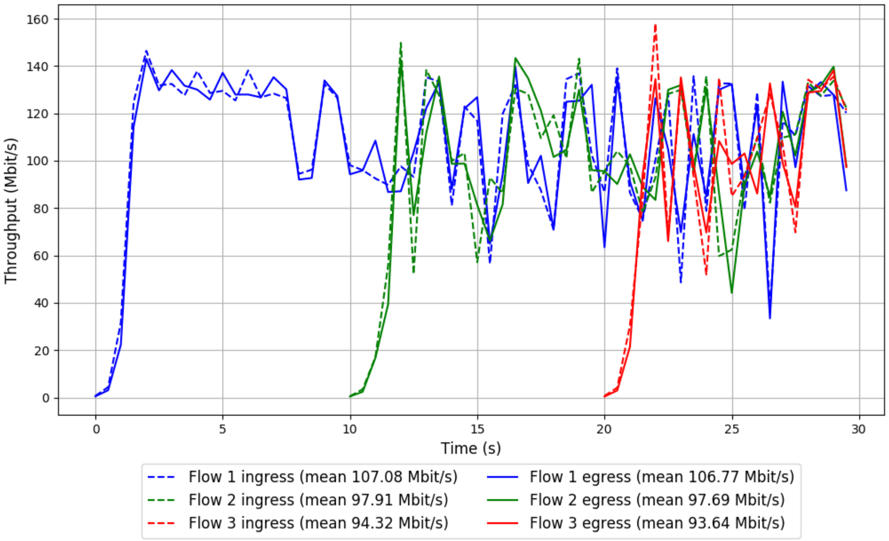


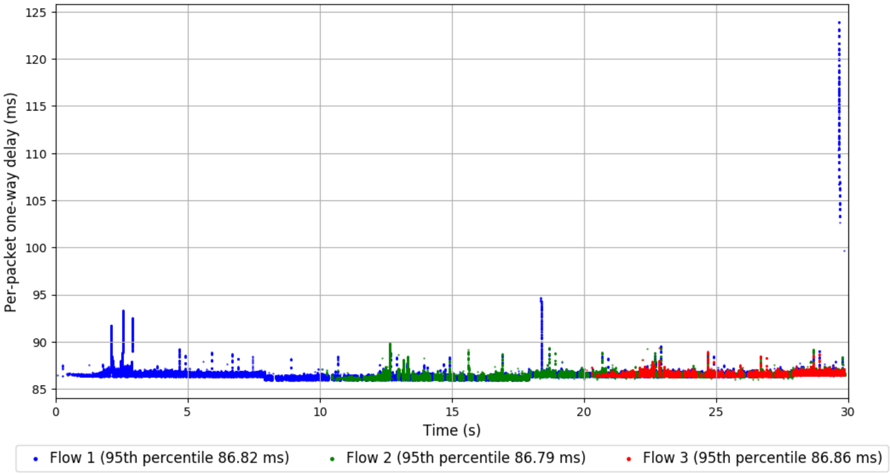
```
Run 9: Statistics of TCP BBR

Start at: 2017-09-22 02:53:40
End at: 2017-09-22 02:54:10

# Below is generated by plot.py at 2017-09-22 05:32:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.25 Mbit/s
95th percentile per-packet one-way delay: 86.817 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 106.77 Mbit/s
95th percentile per-packet one-way delay: 86.818 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 97.69 Mbit/s
95th percentile per-packet one-way delay: 86.791 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 93.64 Mbit/s
95th percentile per-packet one-way delay: 86.855 ms
Loss rate: 2.53%
```

Run 9: Report of TCP BBR — Data Link



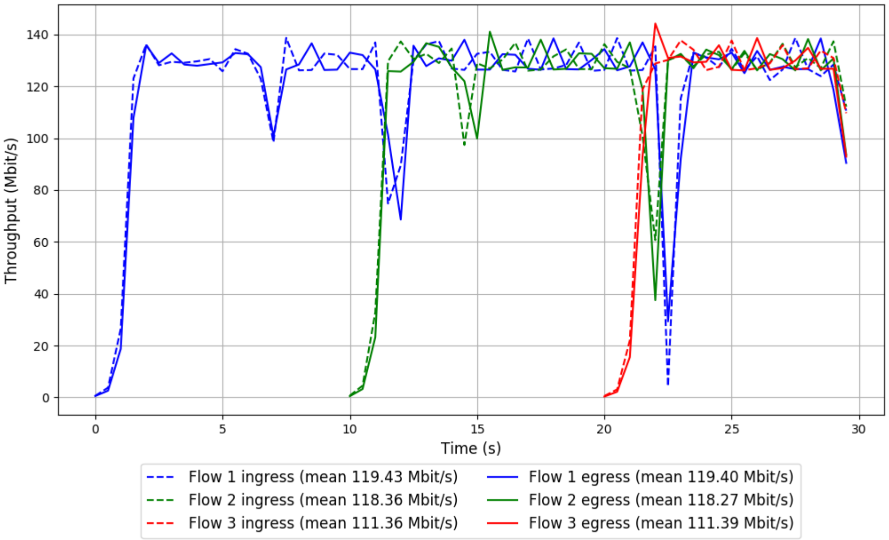


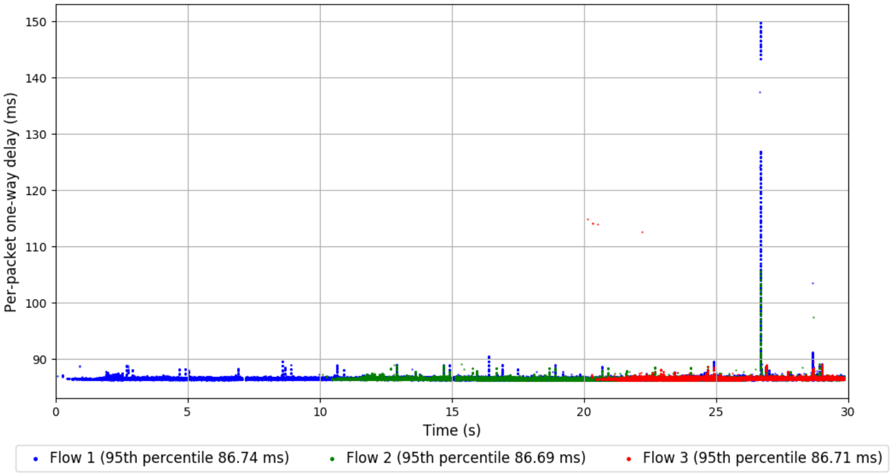
```
Run 10: Statistics of TCP BBR

Start at: 2017-09-22 03:07:02
End at: 2017-09-22 03:07:32

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.32 Mbit/s
95th percentile per-packet one-way delay: 86.721 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 119.40 Mbit/s
95th percentile per-packet one-way delay: 86.739 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 118.27 Mbit/s
95th percentile per-packet one-way delay: 86.692 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 111.39 Mbit/s
95th percentile per-packet one-way delay: 86.711 ms
Loss rate: 2.01%
```

Run 10: Report of TCP BBR — Data Link



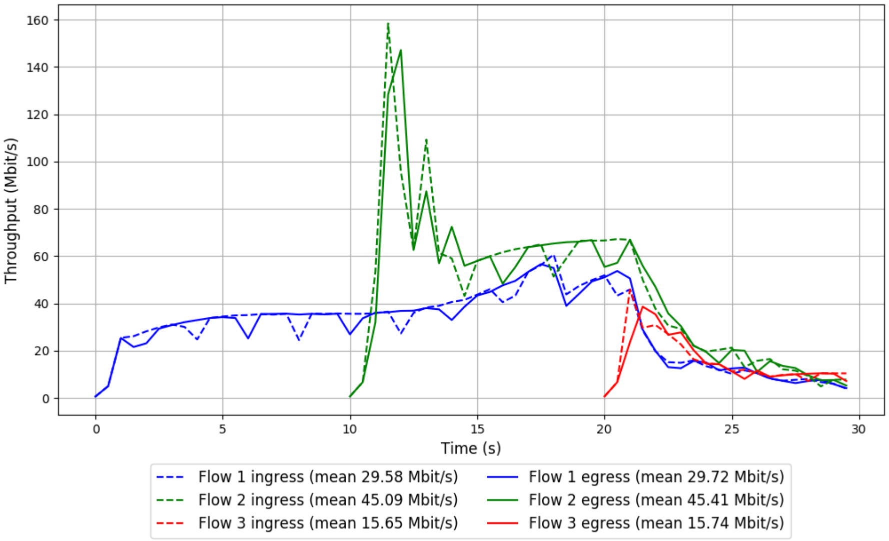


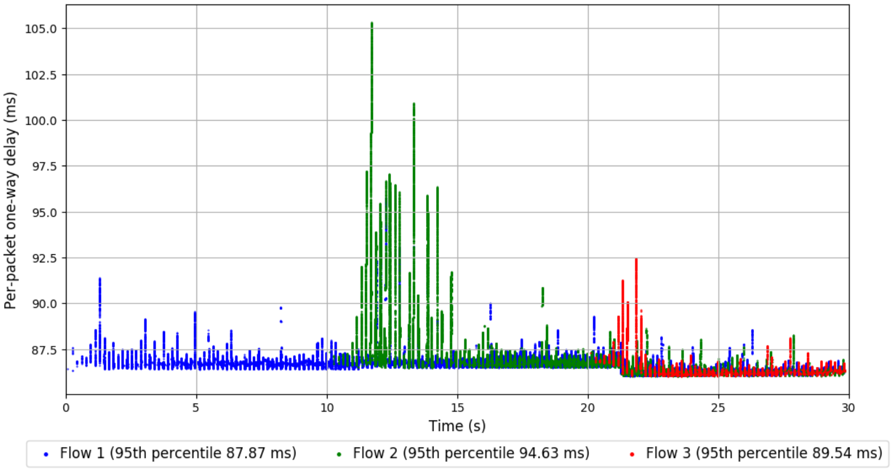
```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-22 01:03:07
End at: 2017-09-22 01:03:37

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.99 Mbit/s
95th percentile per-packet one-way delay: 92.050 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 29.72 Mbit/s
95th percentile per-packet one-way delay: 87.871 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 45.41 Mbit/s
95th percentile per-packet one-way delay: 94.633 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 15.74 Mbit/s
95th percentile per-packet one-way delay: 89.540 ms
Loss rate: 1.19%
```

Run 1: Report of TCP Cubic — Data Link



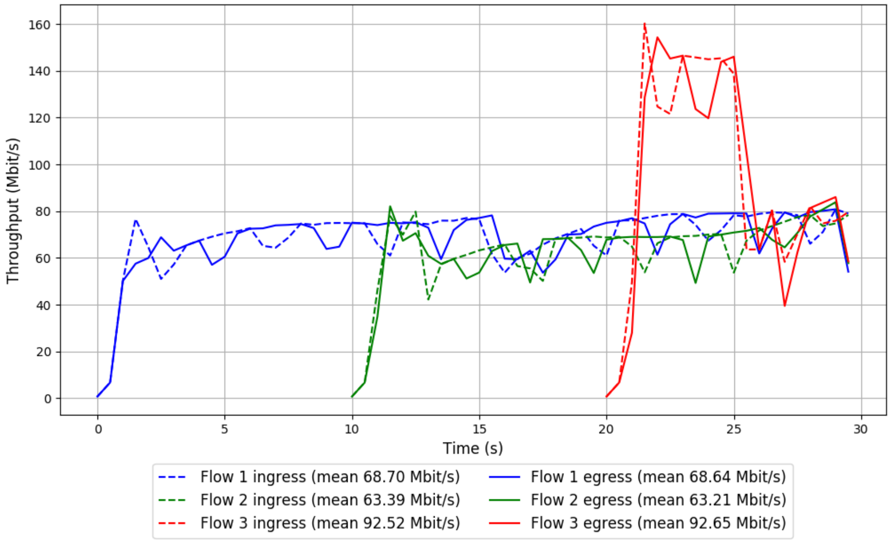


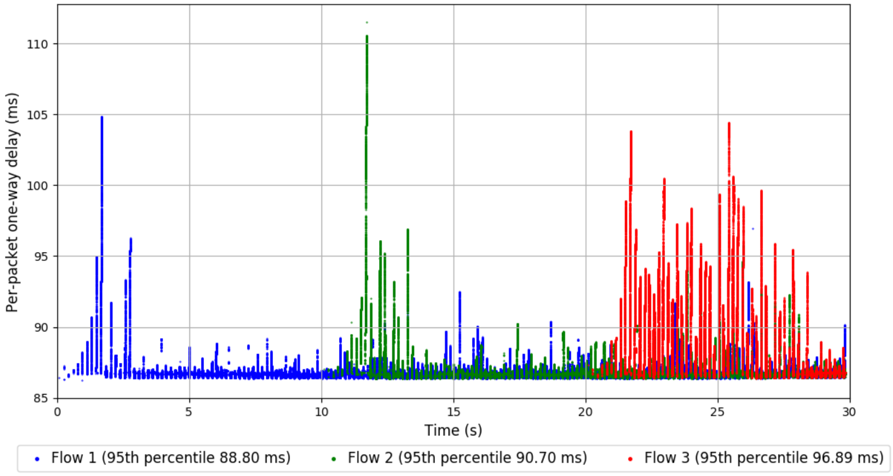
```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-22 01:17:41
End at: 2017-09-22 01:18:11

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.88 Mbit/s
95th percentile per-packet one-way delay: 93.742 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 68.64 Mbit/s
95th percentile per-packet one-way delay: 88.797 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 90.696 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 96.890 ms
Loss rate: 1.62%
```

Run 2: Report of TCP Cubic — Data Link



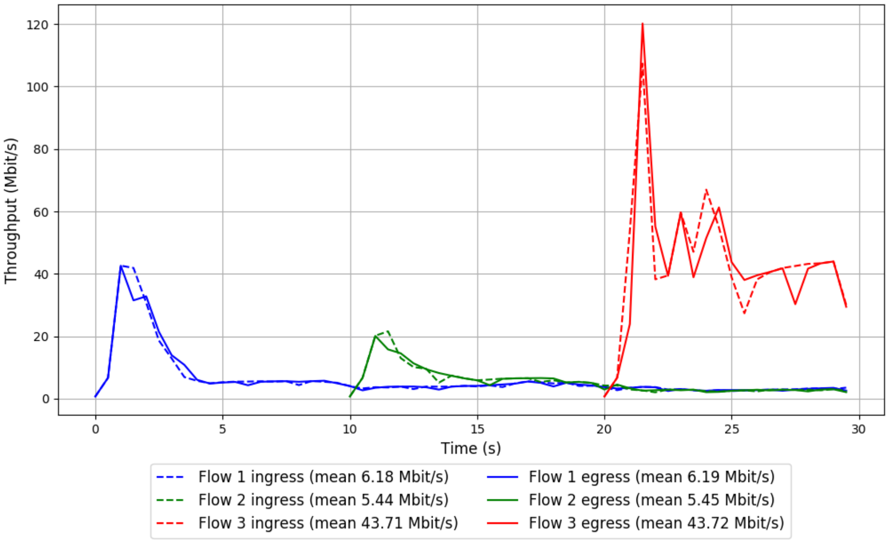


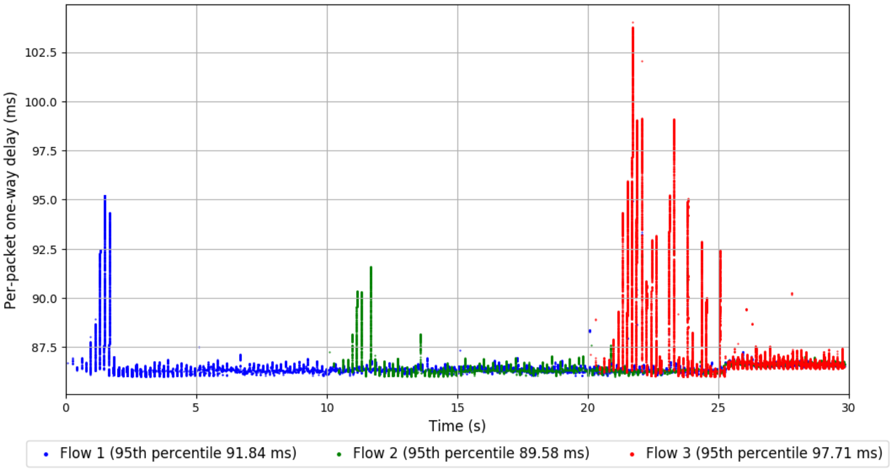
```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-22 01:32:33
End at: 2017-09-22 01:33:03

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.08 Mbit/s
95th percentile per-packet one-way delay: 95.061 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 91.840 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 5.45 Mbit/s
95th percentile per-packet one-way delay: 89.580 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 43.72 Mbit/s
95th percentile per-packet one-way delay: 97.708 ms
Loss rate: 1.73%
```

Run 3: Report of TCP Cubic — Data Link



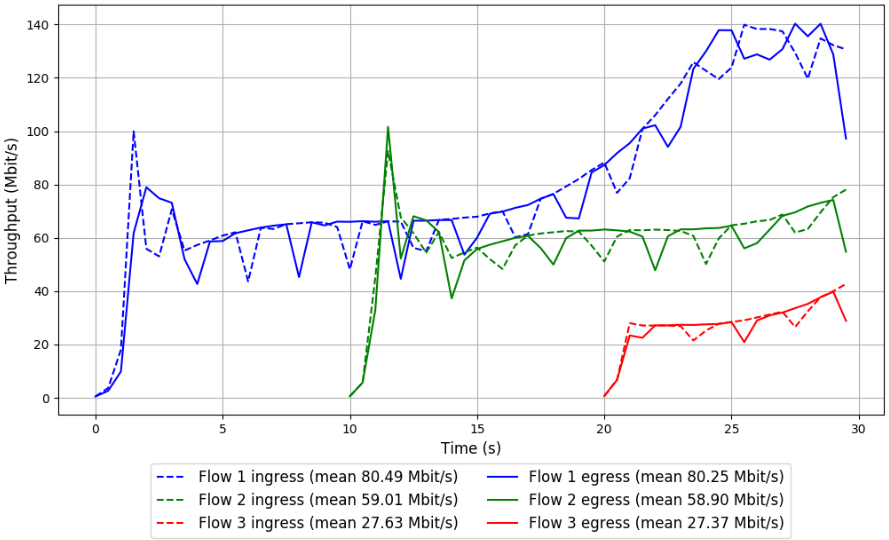


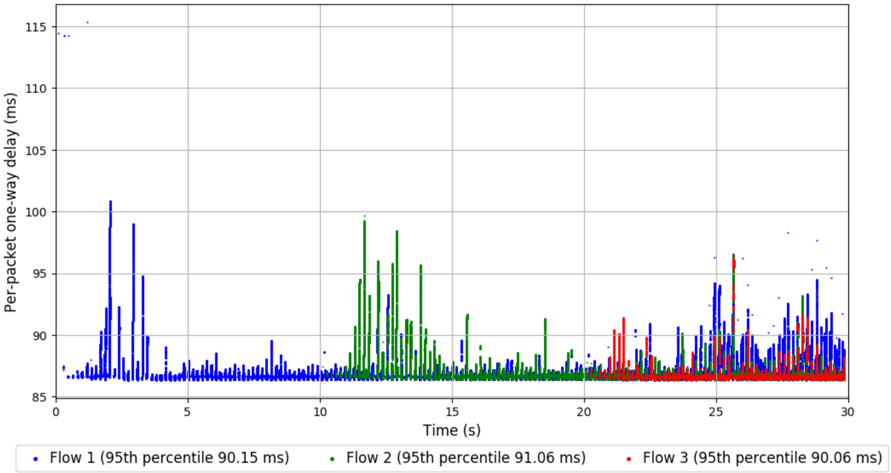
```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-22 01:46:37
End at: 2017-09-22 01:47:07

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 128.34 Mbit/s
95th percentile per-packet one-way delay: 90.409 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 80.25 Mbit/s
95th percentile per-packet one-way delay: 90.149 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 91.065 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 27.37 Mbit/s
95th percentile per-packet one-way delay: 90.061 ms
Loss rate: 2.70%
```

Run 4: Report of TCP Cubic — Data Link



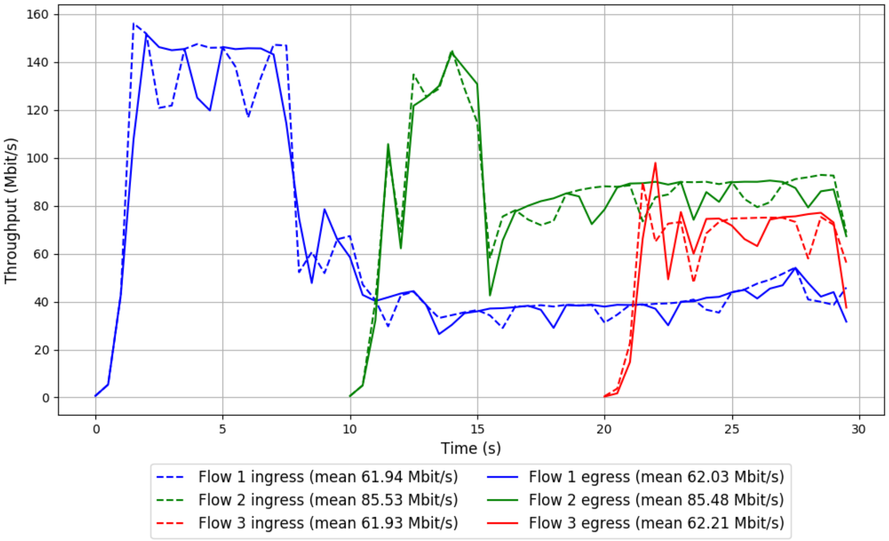


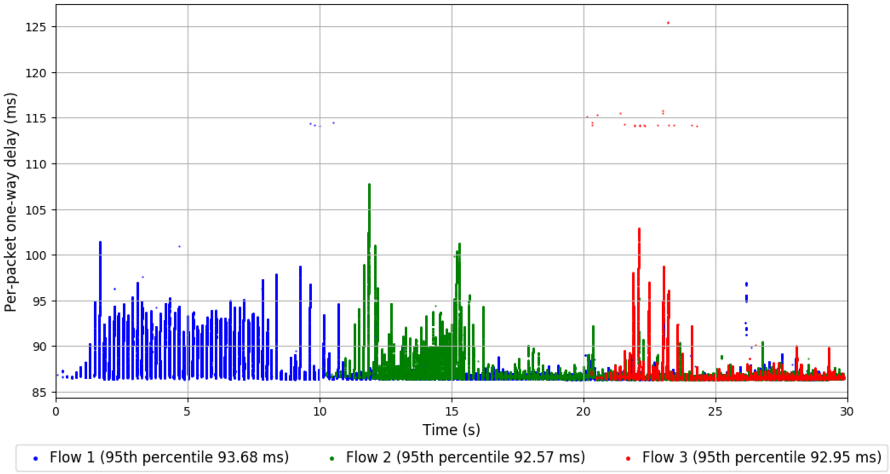
```
Run 5: Statistics of TCP Cubic

Start at: 2017-09-22 02:00:19
End at: 2017-09-22 02:00:49

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.03 Mbit/s
95th percentile per-packet one-way delay: 93.432 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 62.03 Mbit/s
95th percentile per-packet one-way delay: 93.679 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 85.48 Mbit/s
95th percentile per-packet one-way delay: 92.573 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 62.21 Mbit/s
95th percentile per-packet one-way delay: 92.948 ms
Loss rate: 1.59%
```

Run 5: Report of TCP Cubic — Data Link



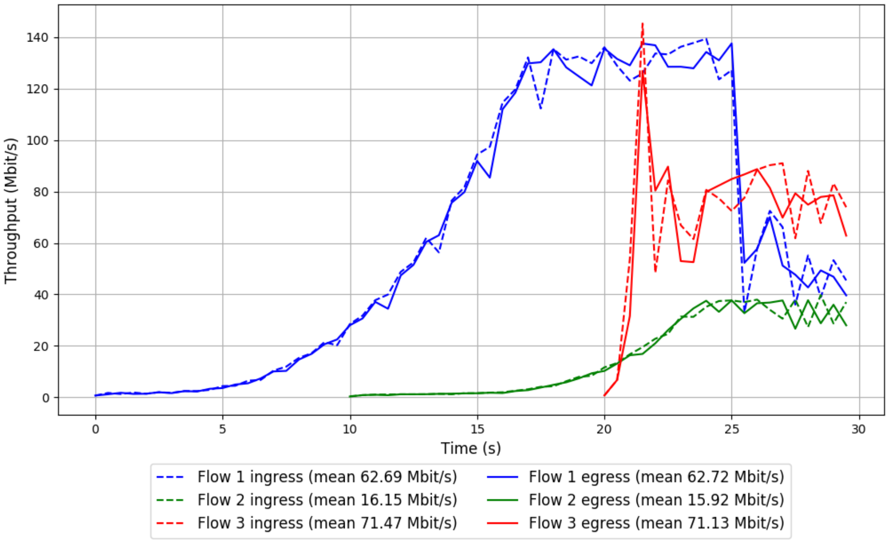


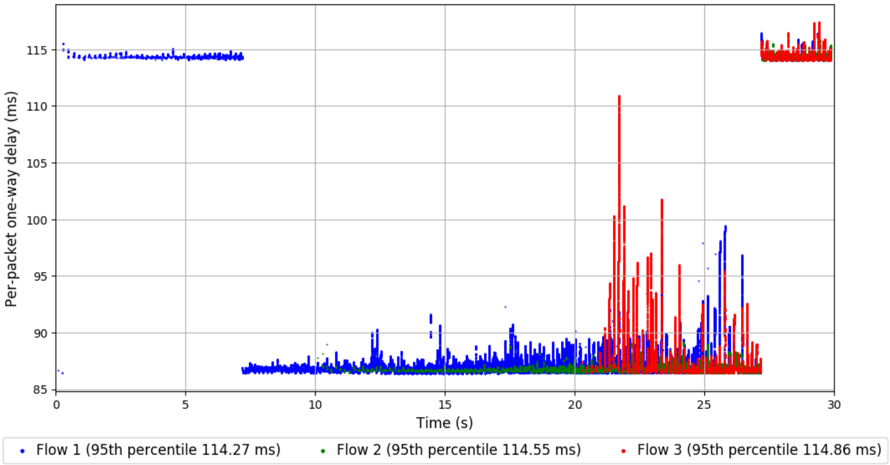
```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-22 02:14:21
End at: 2017-09-22 02:14:51

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.60 Mbit/s
95th percentile per-packet one-way delay: 114.499 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 114.268 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 15.92 Mbit/s
95th percentile per-packet one-way delay: 114.554 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 71.13 Mbit/s
95th percentile per-packet one-way delay: 114.863 ms
Loss rate: 2.22%
```

Run 6: Report of TCP Cubic — Data Link

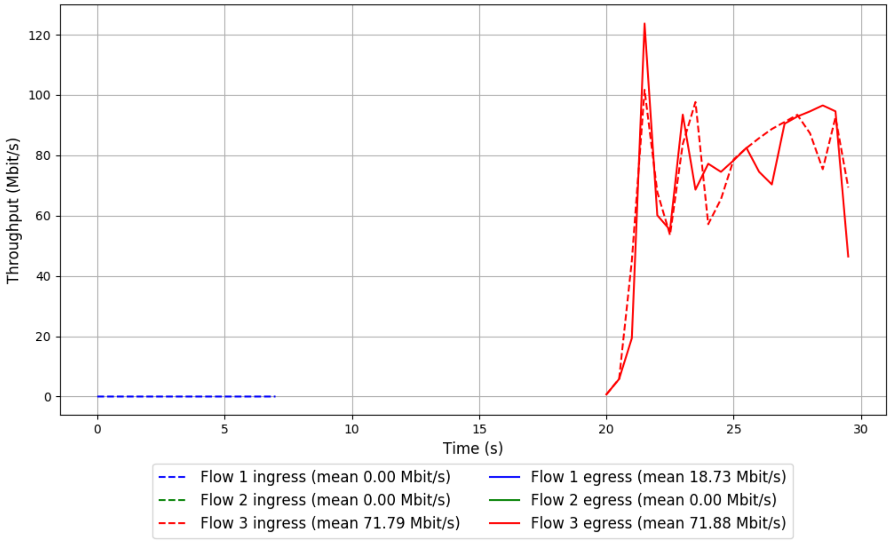


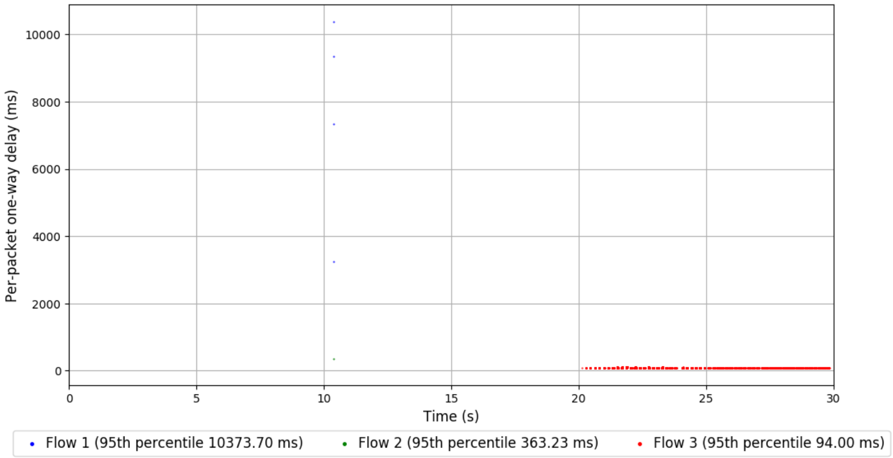


Run 7: Statistics of TCP Cubic

Start at: 2017-09-22 02:28:29
End at: 2017-09-22 02:28:59

Run 7: Report of TCP Cubic — Data Link



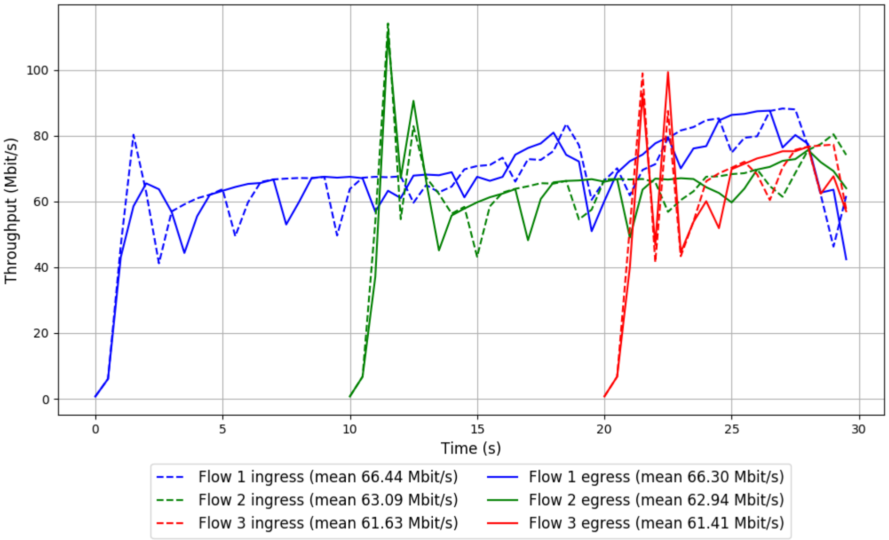


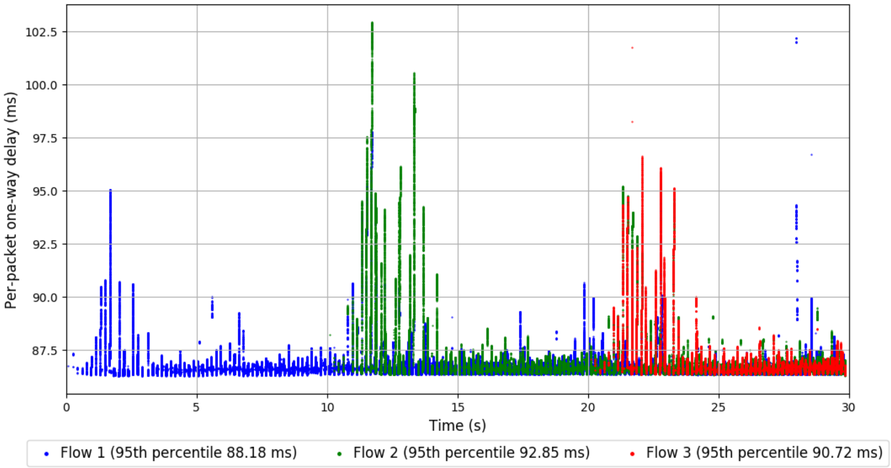
```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-22 02:42:49
End at: 2017-09-22 02:43:19

# Below is generated by plot.py at 2017-09-22 05:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 128.16 Mbit/s
95th percentile per-packet one-way delay: 90.043 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 66.30 Mbit/s
95th percentile per-packet one-way delay: 88.178 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 92.849 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 61.41 Mbit/s
95th percentile per-packet one-way delay: 90.716 ms
Loss rate: 2.11%
```

Run 8: Report of TCP Cubic — Data Link



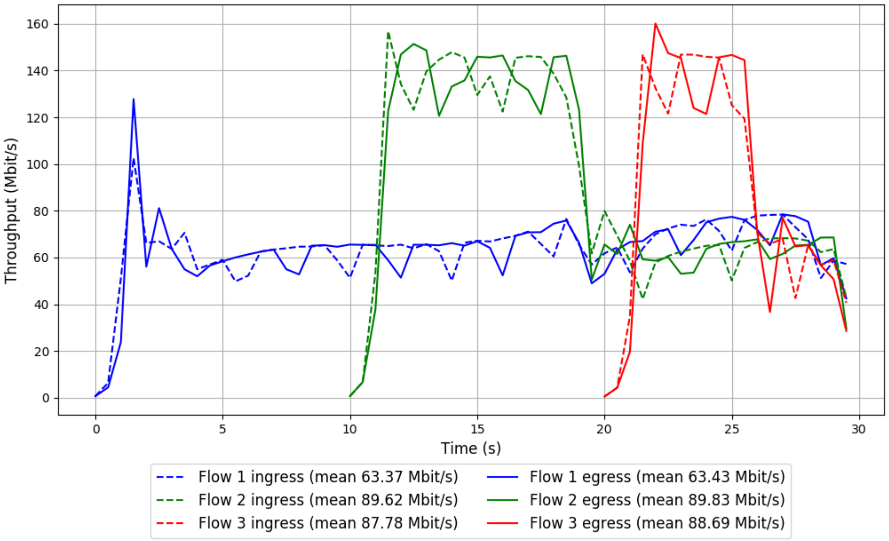


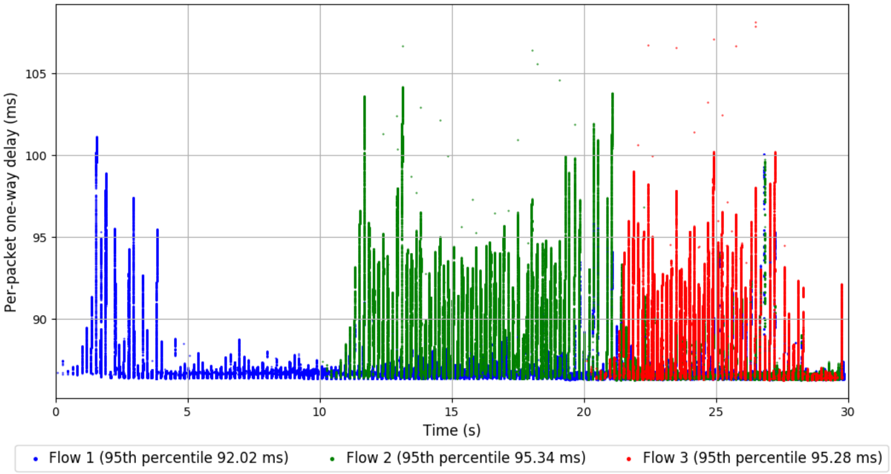
```
Run 9: Statistics of TCP Cubic

Start at: 2017-09-22 02:56:49
End at: 2017-09-22 02:57:19

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.57 Mbit/s
95th percentile per-packet one-way delay: 94.446 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 63.43 Mbit/s
95th percentile per-packet one-way delay: 92.016 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 89.83 Mbit/s
95th percentile per-packet one-way delay: 95.337 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 88.69 Mbit/s
95th percentile per-packet one-way delay: 95.280 ms
Loss rate: 1.18%
```

Run 9: Report of TCP Cubic — Data Link



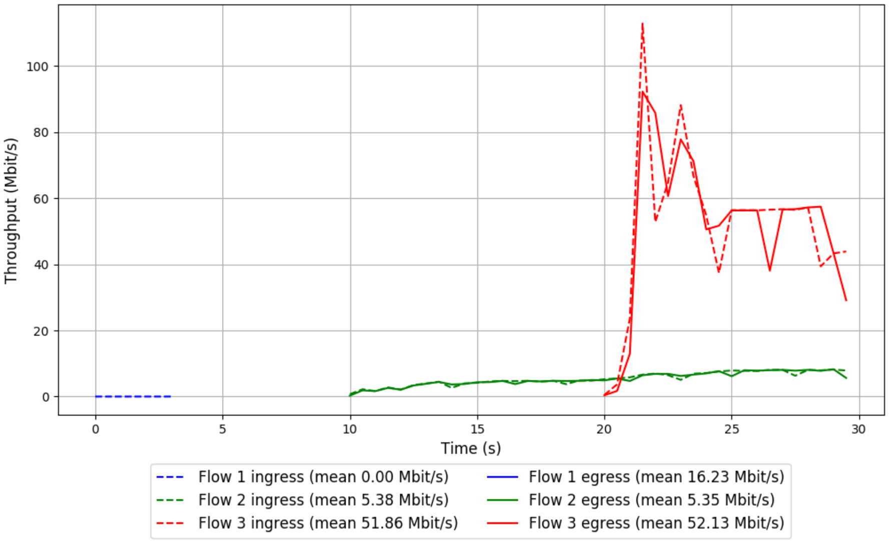


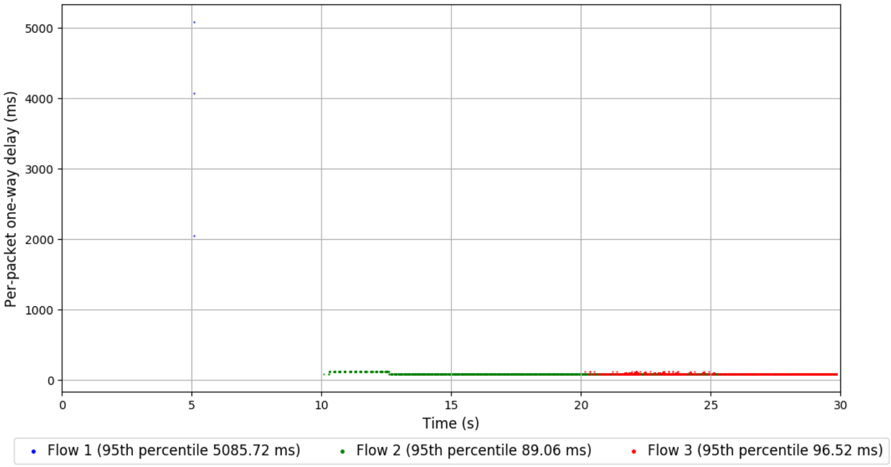
```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-22 03:09:56
End at: 2017-09-22 03:10:26

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 96.453 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 16.23 Mbit/s
95th percentile per-packet one-way delay: 5085.715 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 89.060 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 52.13 Mbit/s
95th percentile per-packet one-way delay: 96.517 ms
Loss rate: 1.51%
```

Run 10: Report of TCP Cubic — Data Link



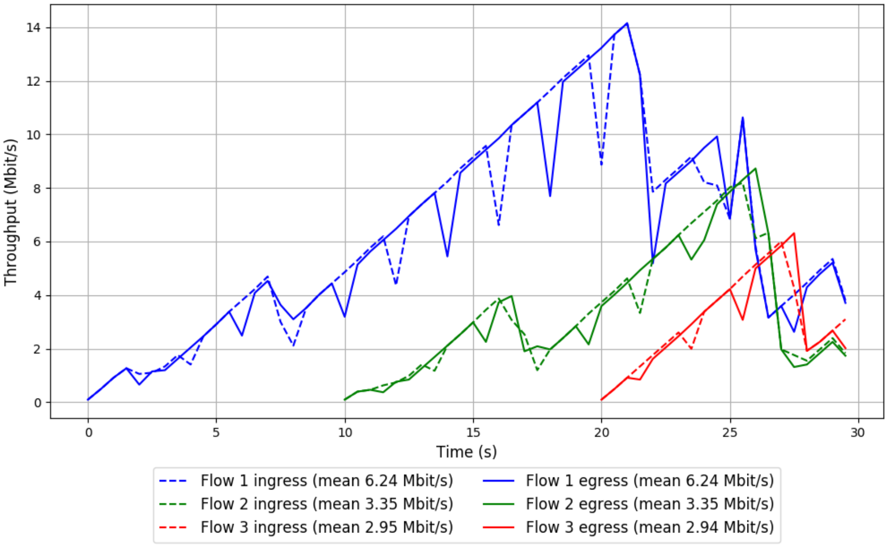


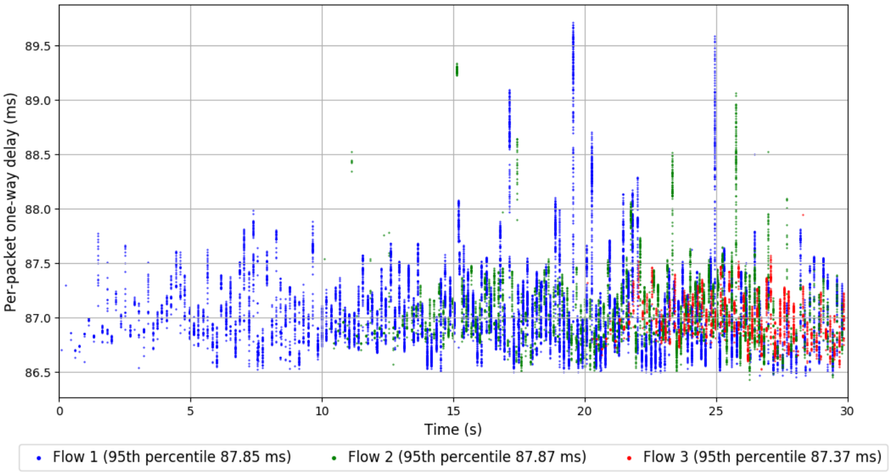
```
Run 1: Statistics of LEDBAT

Start at: 2017-09-22 00:56:52
End at: 2017-09-22 00:57:22

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 87.801 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 87.853 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 87.871 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 87.366 ms
Loss rate: 1.89%
```

Run 1: Report of LEDBAT — Data Link



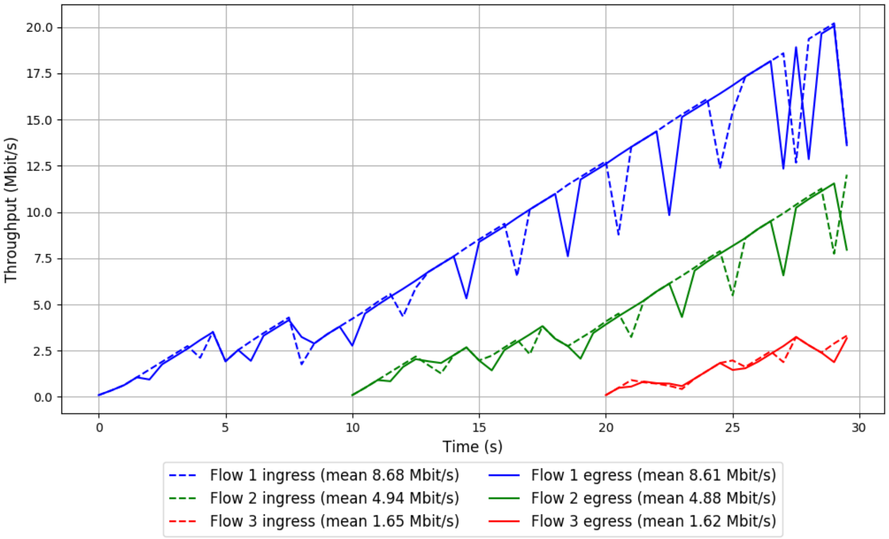


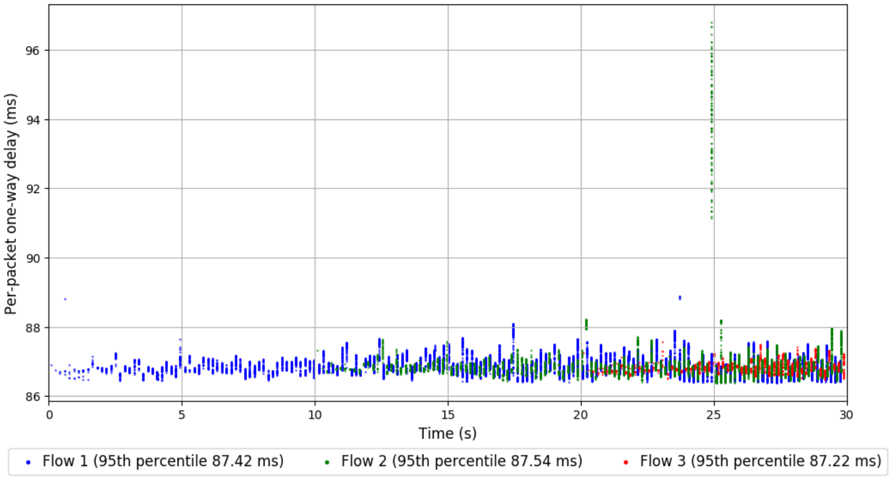
```
Run 2: Statistics of LEDBAT

Start at: 2017-09-22 01:11:03
End at: 2017-09-22 01:11:33

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.33 Mbit/s
95th percentile per-packet one-way delay: 87.427 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 87.421 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 87.538 ms
Loss rate: 2.07%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 87.220 ms
Loss rate: 3.50%
```

Run 2: Report of LEDBAT — Data Link



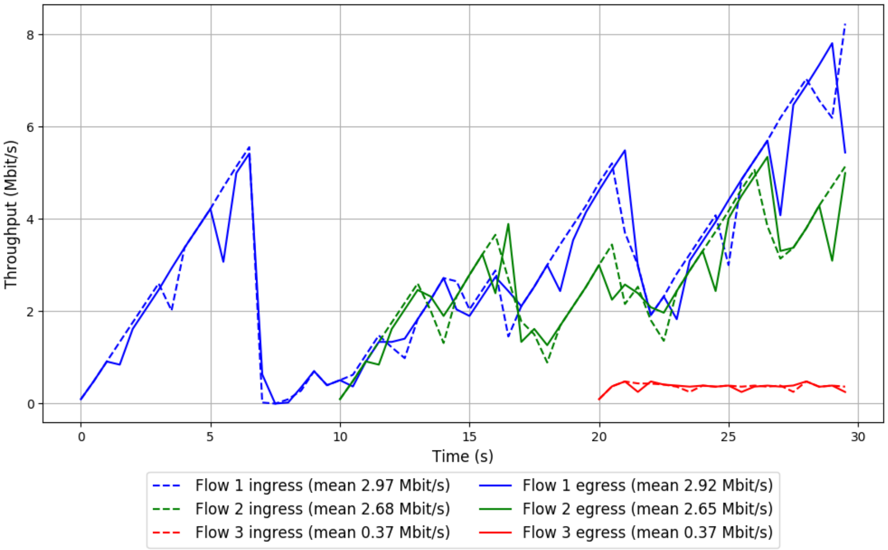


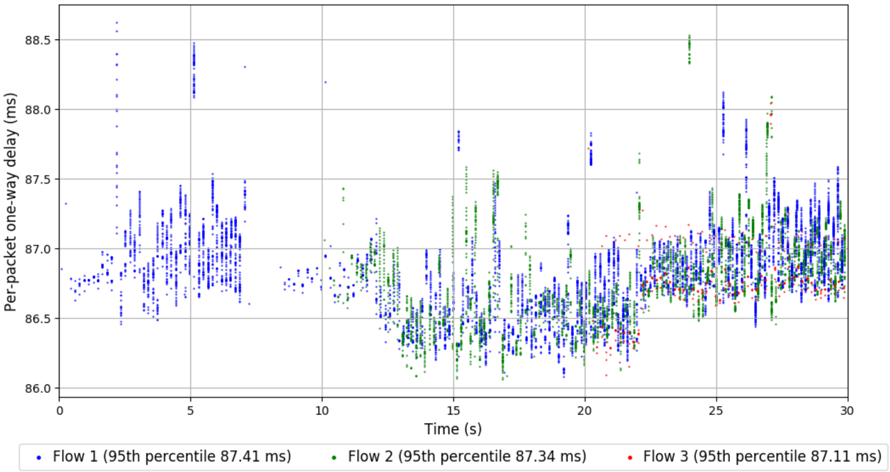
```
Run 3: Statistics of LEDBAT

Start at: 2017-09-22 01:26:56
End at: 2017-09-22 01:27:26

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 87.380 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 87.409 ms
Loss rate: 2.34%
-- Flow 2:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 87.338 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 87.110 ms
Loss rate: 1.56%
```

Run 3: Report of LEDBAT — Data Link



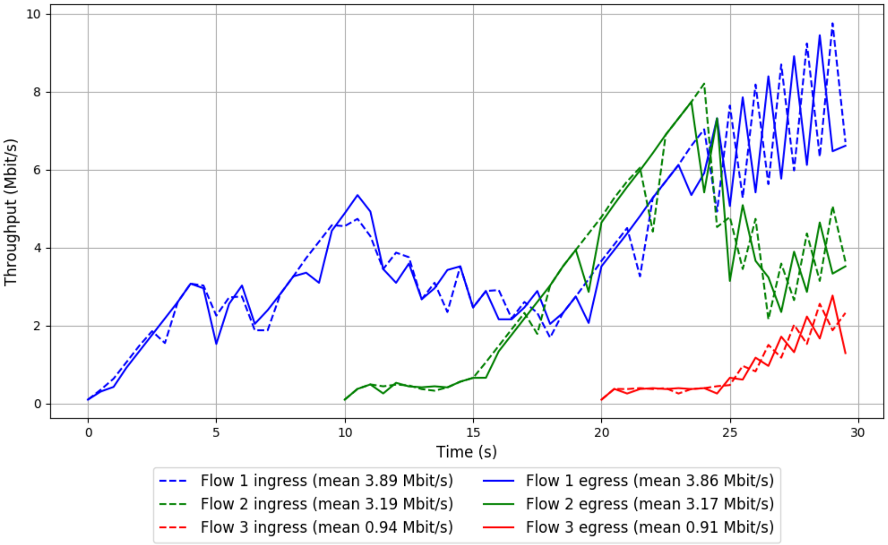


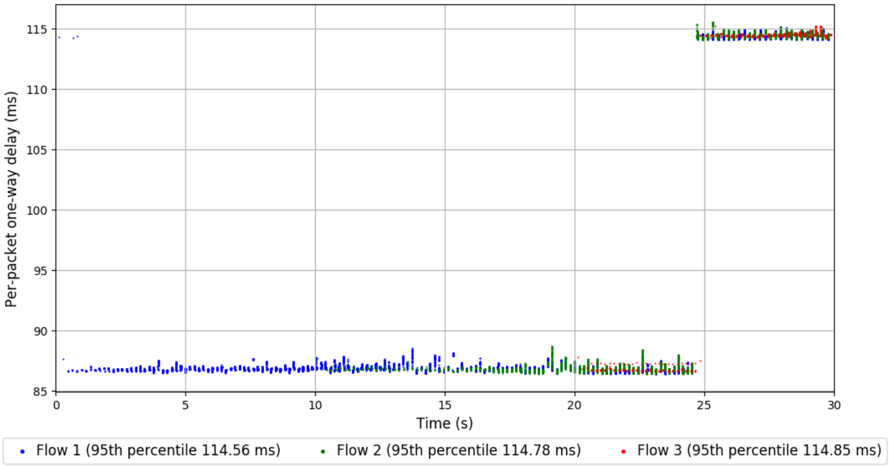
```
Run 4: Statistics of LEDBAT

Start at: 2017-09-22 01:40:14
End at: 2017-09-22 01:40:44

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 114.672 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 114.562 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 114.776 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 114.853 ms
Loss rate: 5.53%
```

Run 4: Report of LEDBAT — Data Link



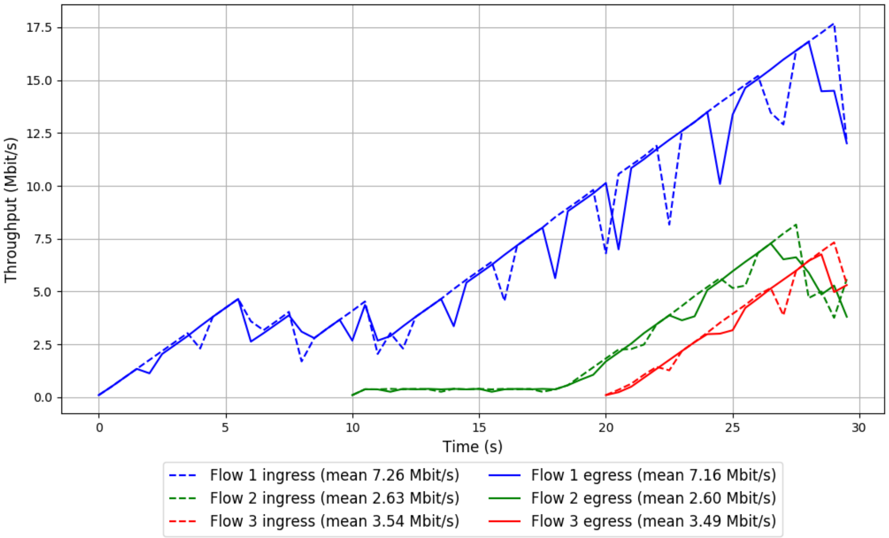


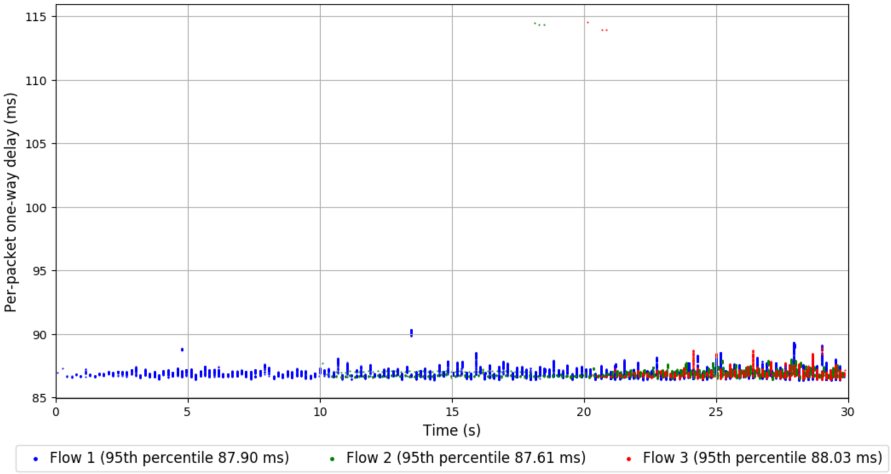
```
Run 5: Statistics of LEDBAT

Start at: 2017-09-22 01:54:00
End at: 2017-09-22 01:54:30

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 87.828 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 7.16 Mbit/s
95th percentile per-packet one-way delay: 87.902 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 87.613 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 88.031 ms
Loss rate: 3.60%
```

Run 5: Report of LEDBAT — Data Link



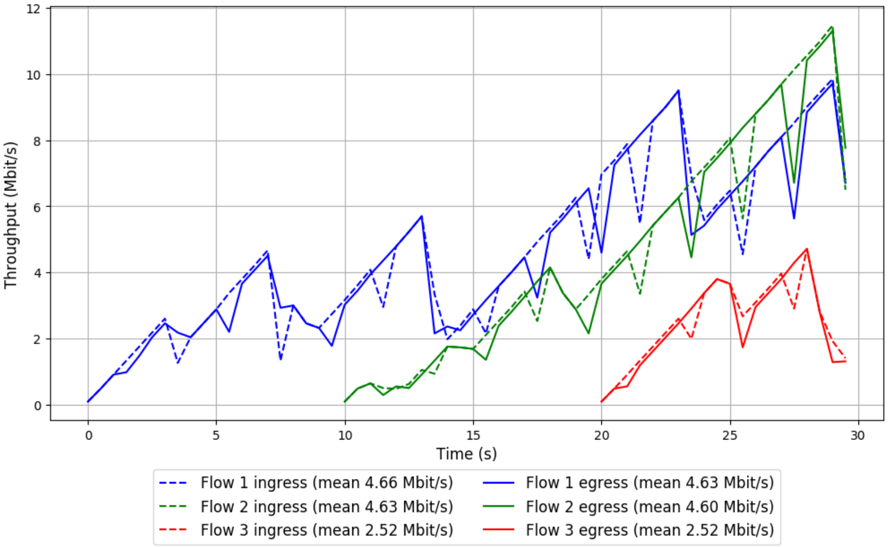


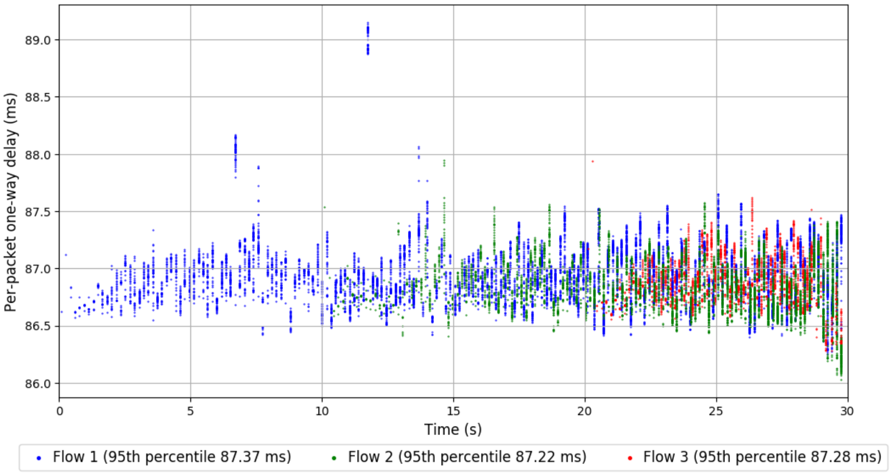
```
Run 6: Statistics of LEDBAT

Start at: 2017-09-22 02:08:29
End at: 2017-09-22 02:08:59

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 87.323 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 4.63 Mbit/s
95th percentile per-packet one-way delay: 87.369 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 87.225 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 87.282 ms
Loss rate: 1.52%
```

Run 6: Report of LEDBAT — Data Link



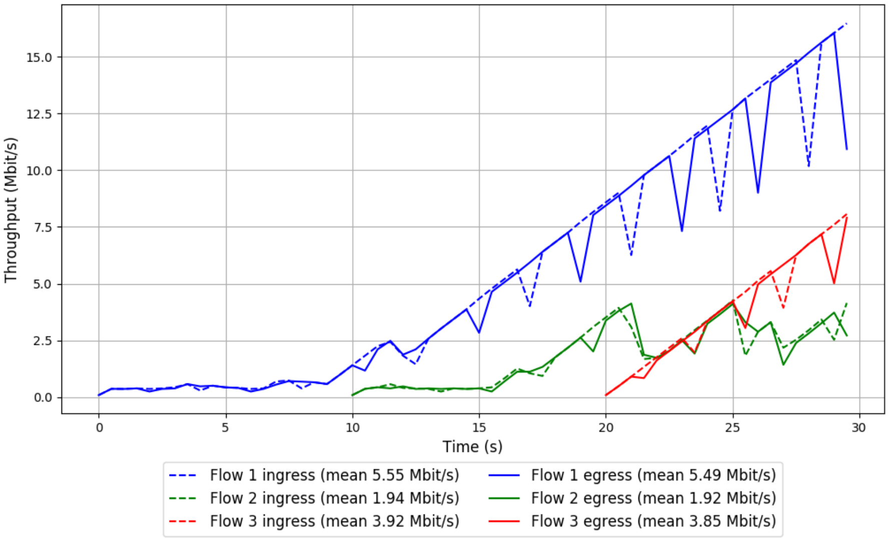


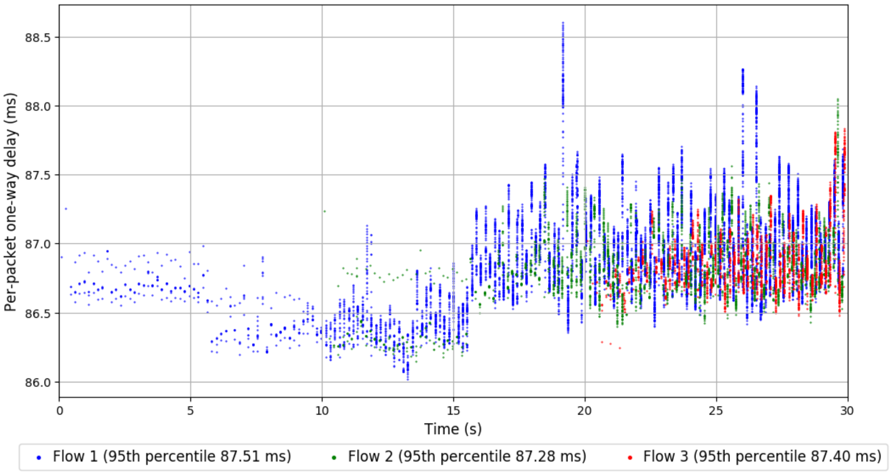
```
Run 7: Statistics of LEDBAT

Start at: 2017-09-22 02:22:53
End at: 2017-09-22 02:23:23

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 87.489 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 87.512 ms
Loss rate: 1.68%
-- Flow 2:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 87.284 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 87.397 ms
Loss rate: 3.52%
```

Run 7: Report of LEDBAT — Data Link



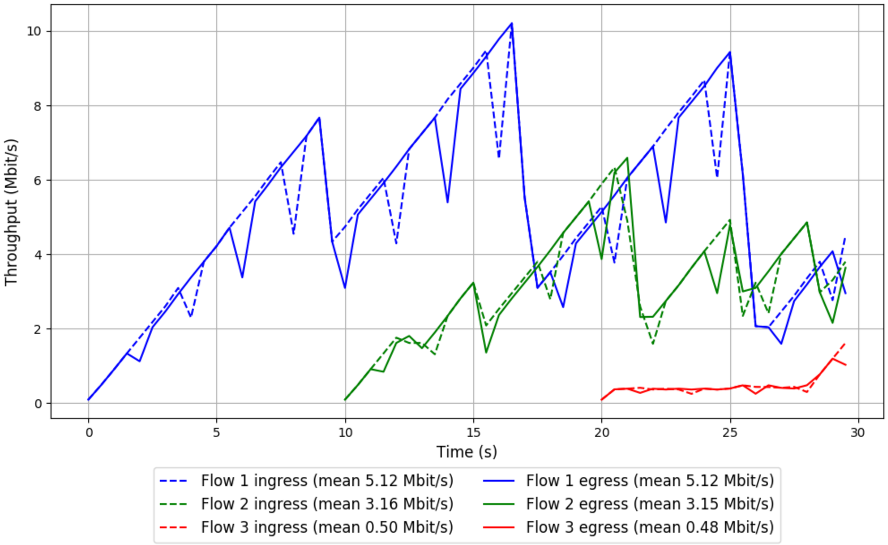


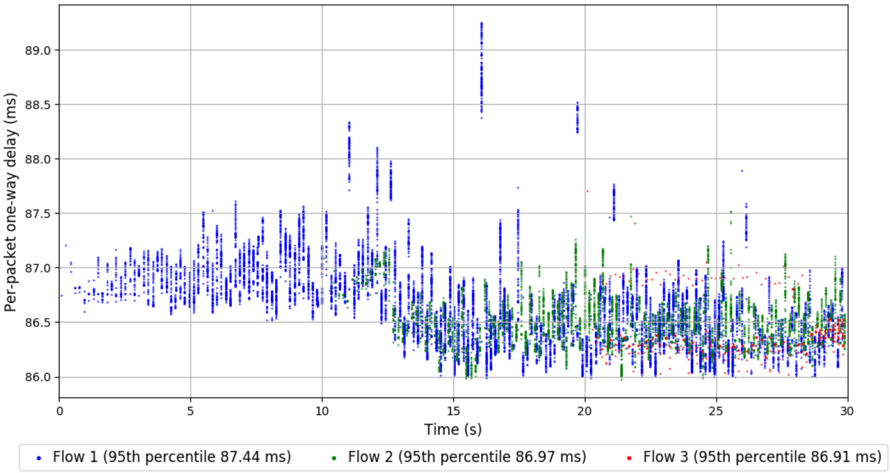
```
Run 8: Statistics of LEDBAT

Start at: 2017-09-22 02:36:36
End at: 2017-09-22 02:37:06

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.35 Mbit/s
95th percentile per-packet one-way delay: 87.313 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 5.12 Mbit/s
95th percentile per-packet one-way delay: 87.442 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 3.15 Mbit/s
95th percentile per-packet one-way delay: 86.966 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 86.909 ms
Loss rate: 5.93%
```

Run 8: Report of LEDBAT — Data Link



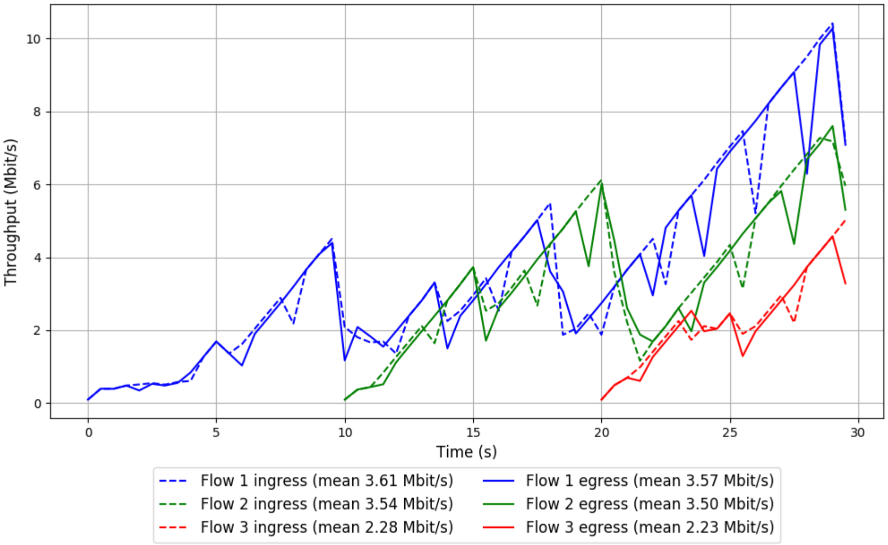


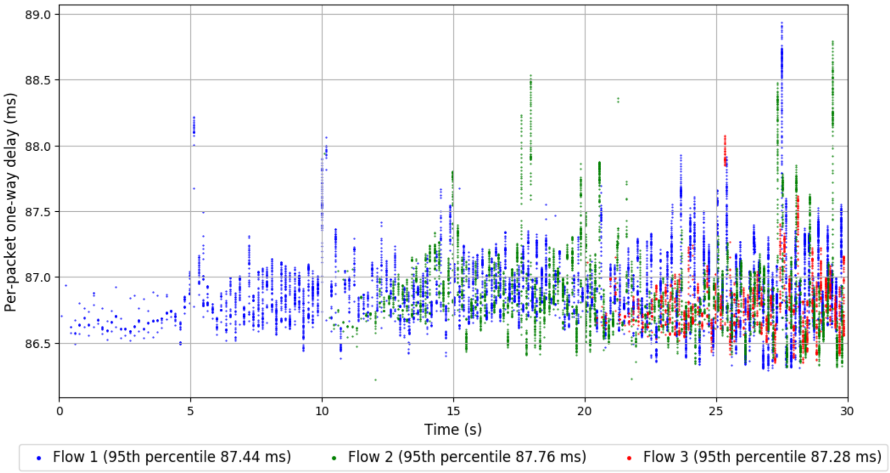
```
Run 9: Statistics of LEDBAT

Start at: 2017-09-22 02:51:07
End at: 2017-09-22 02:51:37

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 87.546 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 87.438 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 87.758 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 87.277 ms
Loss rate: 4.14%
```

Run 9: Report of LEDBAT — Data Link



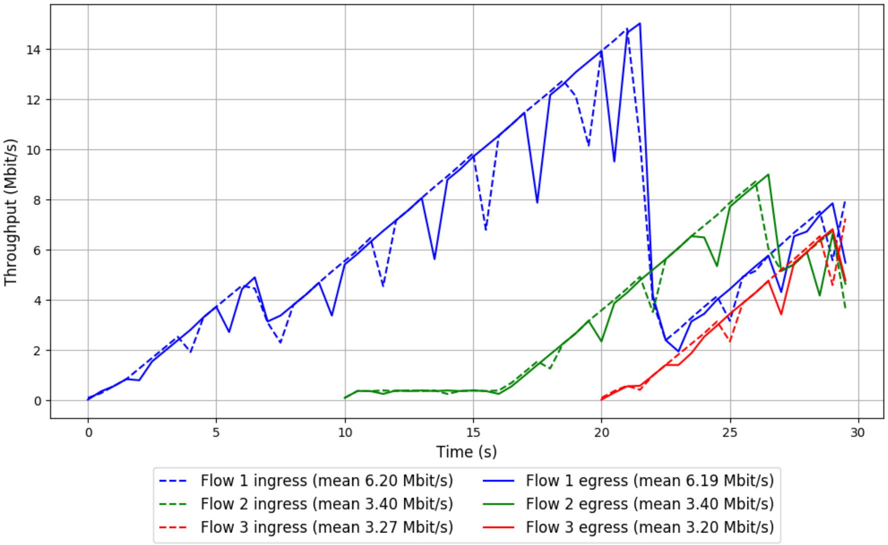


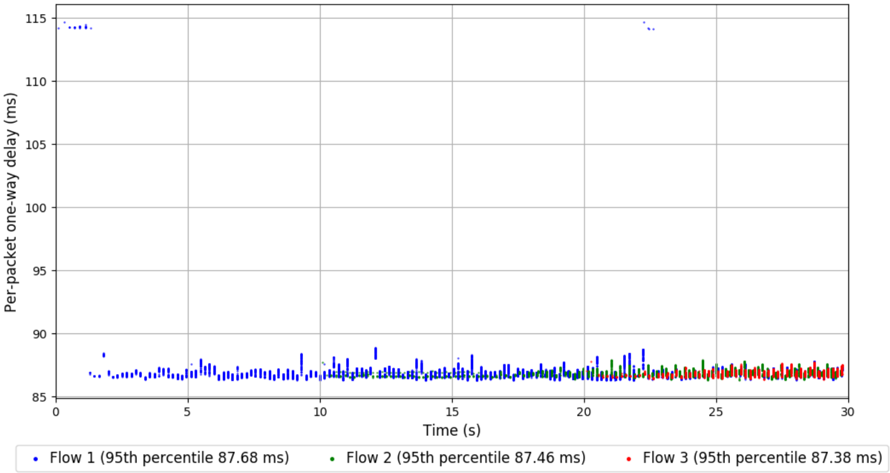
```
Run 10: Statistics of LEDBAT

Start at: 2017-09-22 03:04:27
End at: 2017-09-22 03:04:57

# Below is generated by plot.py at 2017-09-22 05:33:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 87.543 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 87.679 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 87.464 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 87.378 ms
Loss rate: 3.83%
```

Run 10: Report of LEDBAT — Data Link



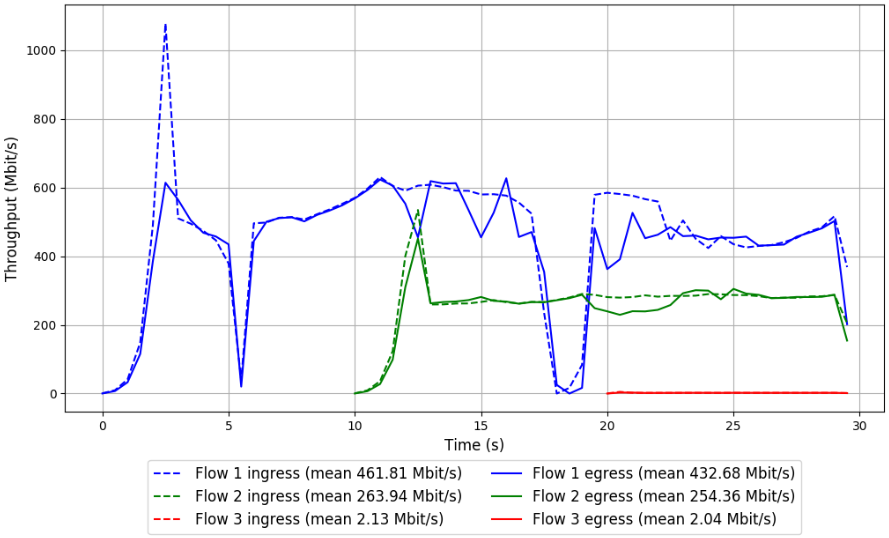


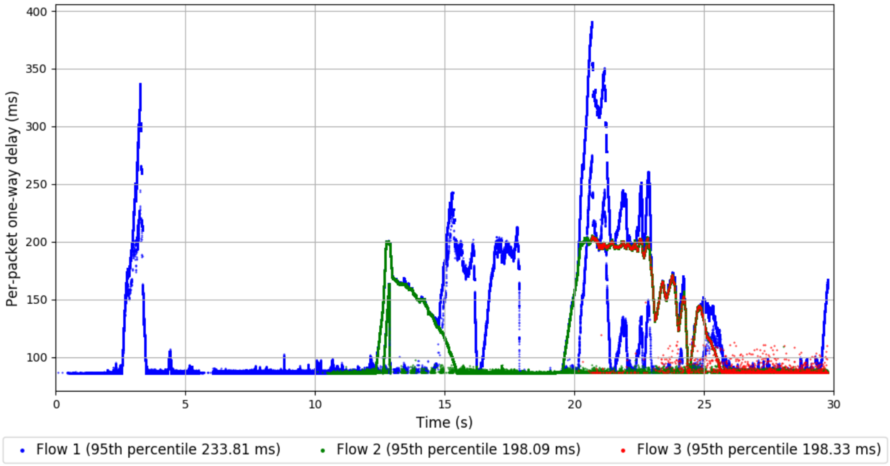
```
Run 1: Statistics of PCC

Start at: 2017-09-22 00:53:09
End at: 2017-09-22 00:53:39

# Below is generated by plot.py at 2017-09-22 05:43:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 601.88 Mbit/s
95th percentile per-packet one-way delay: 216.212 ms
Loss rate: 6.20%
-- Flow 1:
Average throughput: 432.68 Mbit/s
95th percentile per-packet one-way delay: 233.807 ms
Loss rate: 6.85%
-- Flow 2:
Average throughput: 254.36 Mbit/s
95th percentile per-packet one-way delay: 198.089 ms
Loss rate: 4.47%
-- Flow 3:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 198.334 ms
Loss rate: 5.78%
```

Run 1: Report of PCC — Data Link

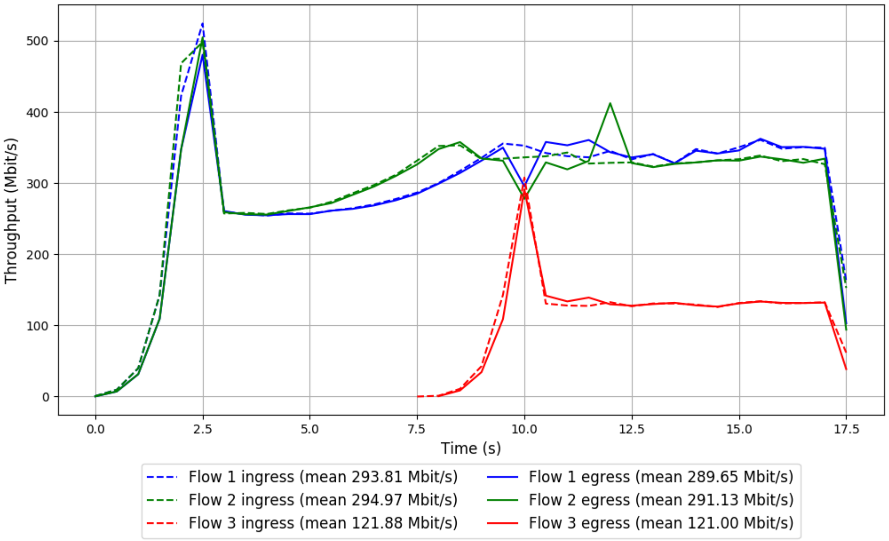


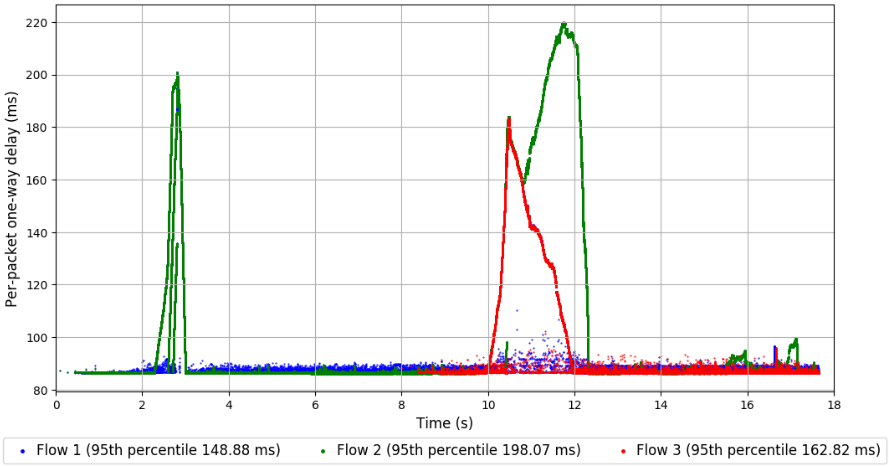


```
Run 2: Statistics of PCC

Start at: 2017-09-22 01:07:20
End at: 2017-09-22 01:07:50
```

Run 2: Report of PCC — Data Link



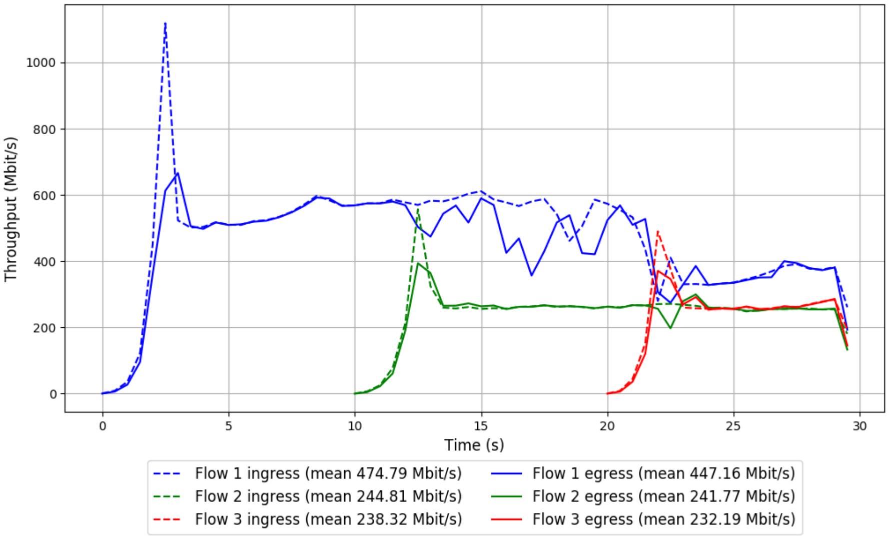


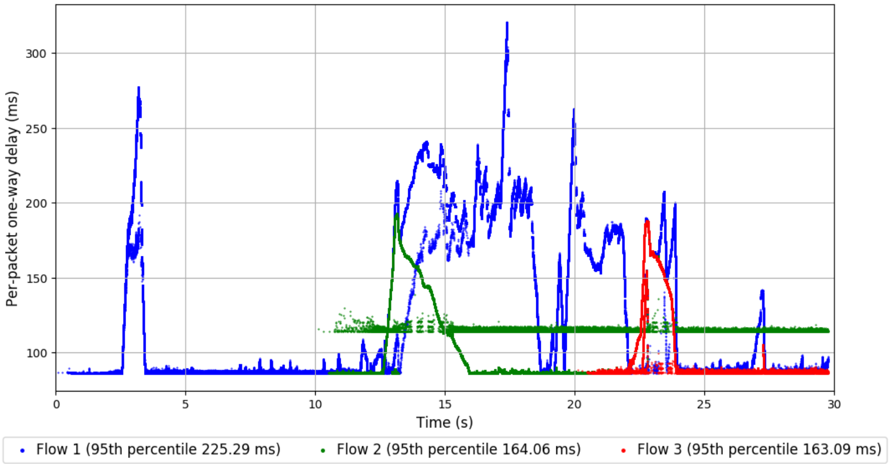
```
Run 3: Statistics of PCC

Start at: 2017-09-22 01:22:44
End at: 2017-09-22 01:23:14

# Below is generated by plot.py at 2017-09-22 05:44:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 682.61 Mbit/s
95th percentile per-packet one-way delay: 217.166 ms
Loss rate: 5.21%
-- Flow 1:
Average throughput: 447.16 Mbit/s
95th percentile per-packet one-way delay: 225.292 ms
Loss rate: 6.37%
-- Flow 2:
Average throughput: 241.77 Mbit/s
95th percentile per-packet one-way delay: 164.064 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 232.19 Mbit/s
95th percentile per-packet one-way delay: 163.087 ms
Loss rate: 4.31%
```

Run 3: Report of PCC — Data Link

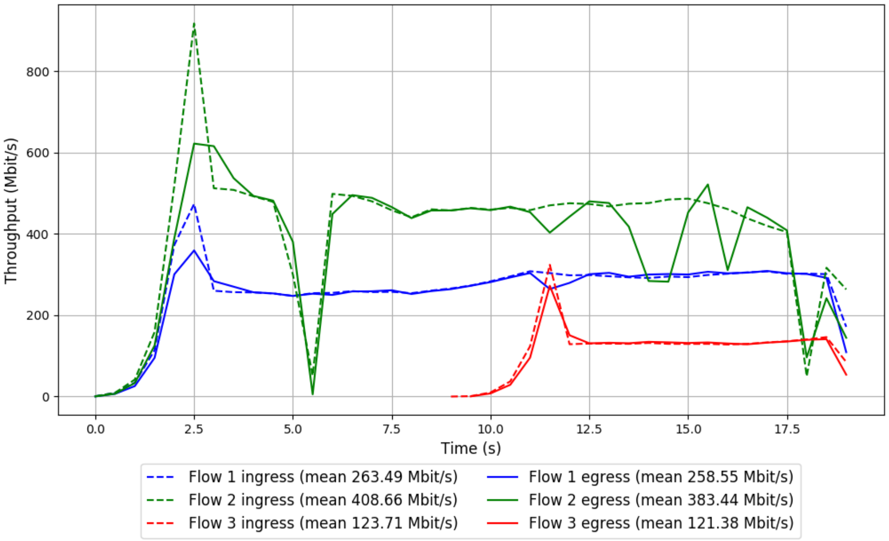


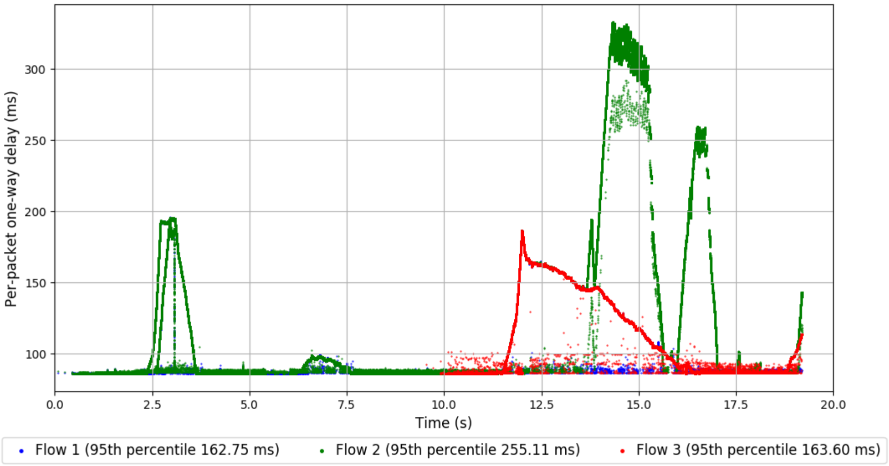


```
Run 4: Statistics of PCC

Start at: 2017-09-22 01:36:41
End at: 2017-09-22 01:37:11
```

Run 4: Report of PCC — Data Link



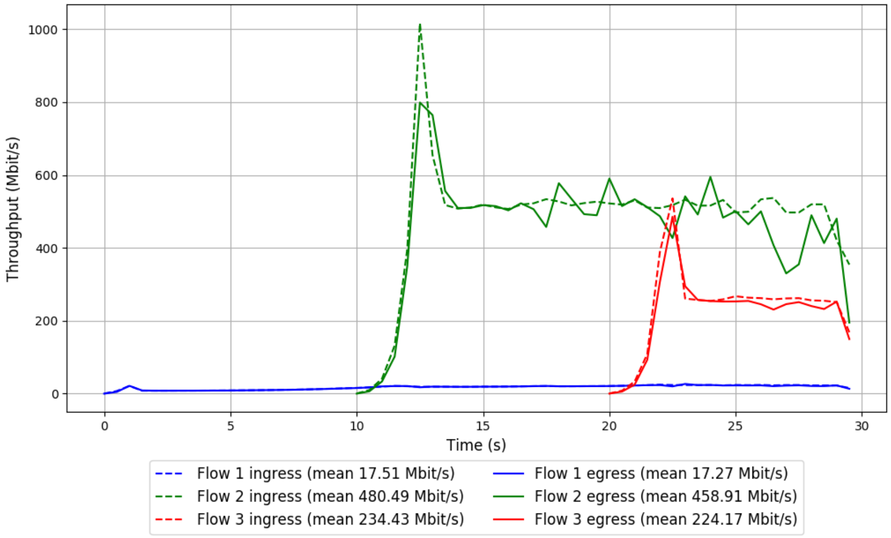


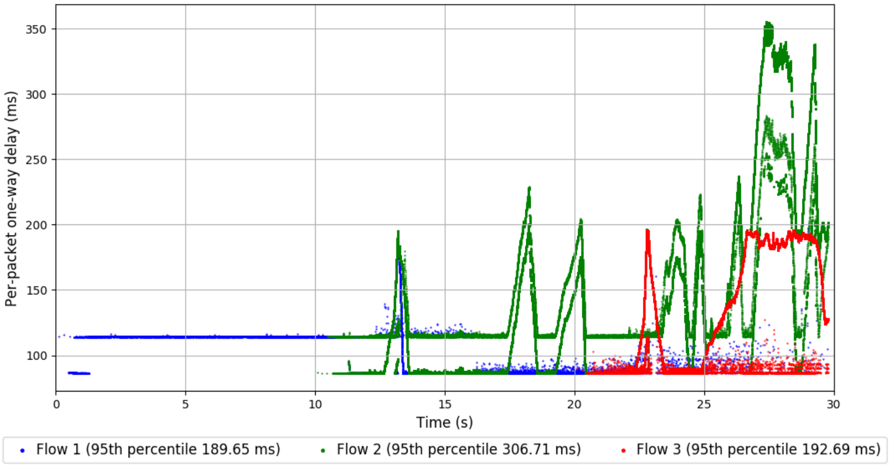
```
Run 5: Statistics of PCC

Start at: 2017-09-22 01:50:37
End at: 2017-09-22 01:51:07

# Below is generated by plot.py at 2017-09-22 05:44:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.73 Mbit/s
95th percentile per-packet one-way delay: 264.562 ms
Loss rate: 5.33%
-- Flow 1:
Average throughput: 17.27 Mbit/s
95th percentile per-packet one-way delay: 189.647 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 458.91 Mbit/s
95th percentile per-packet one-way delay: 306.715 ms
Loss rate: 5.33%
-- Flow 3:
Average throughput: 224.17 Mbit/s
95th percentile per-packet one-way delay: 192.693 ms
Loss rate: 6.12%
```

Run 5: Report of PCC — Data Link



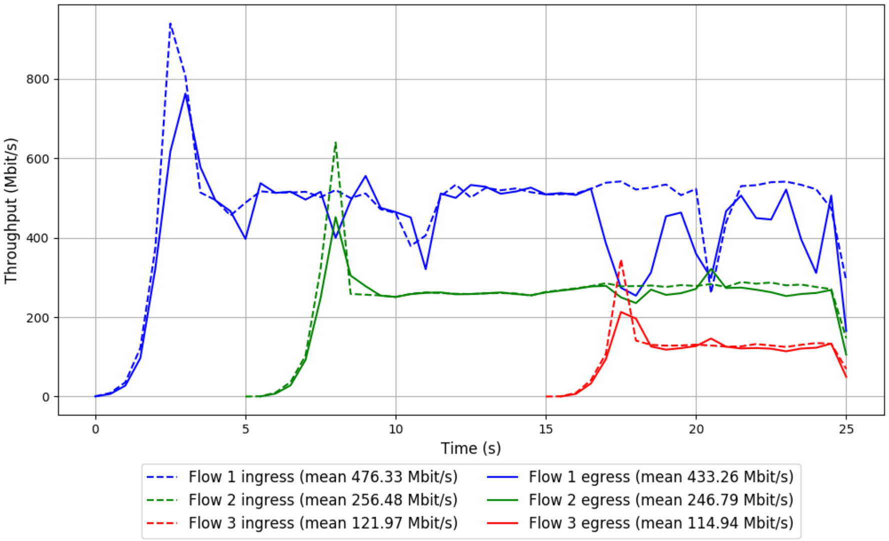


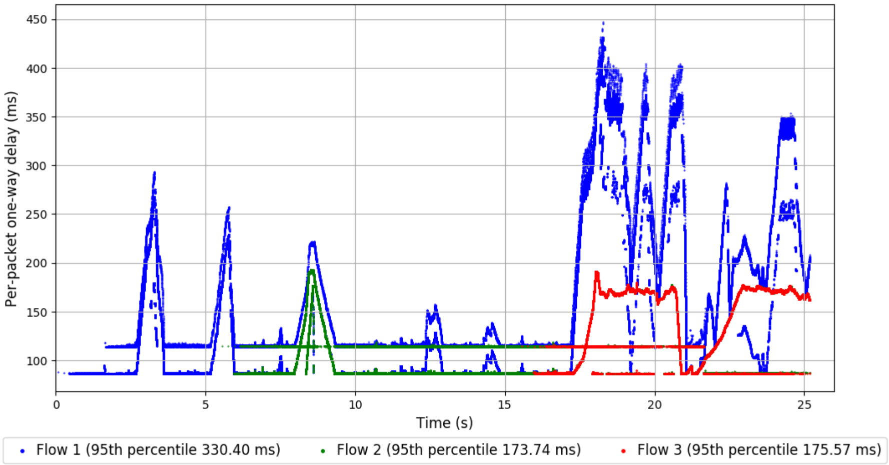
```
Run 6: Statistics of PCC

Start at: 2017-09-22 02:04:22
End at: 2017-09-22 02:04:52

# Below is generated by plot.py at 2017-09-22 05:44:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 670.33 Mbit/s
95th percentile per-packet one-way delay: 281.175 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 433.26 Mbit/s
95th percentile per-packet one-way delay: 330.405 ms
Loss rate: 9.67%
-- Flow 2:
Average throughput: 246.79 Mbit/s
95th percentile per-packet one-way delay: 173.735 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 114.94 Mbit/s
95th percentile per-packet one-way delay: 175.574 ms
Loss rate: 7.69%
```

Run 6: Report of PCC — Data Link



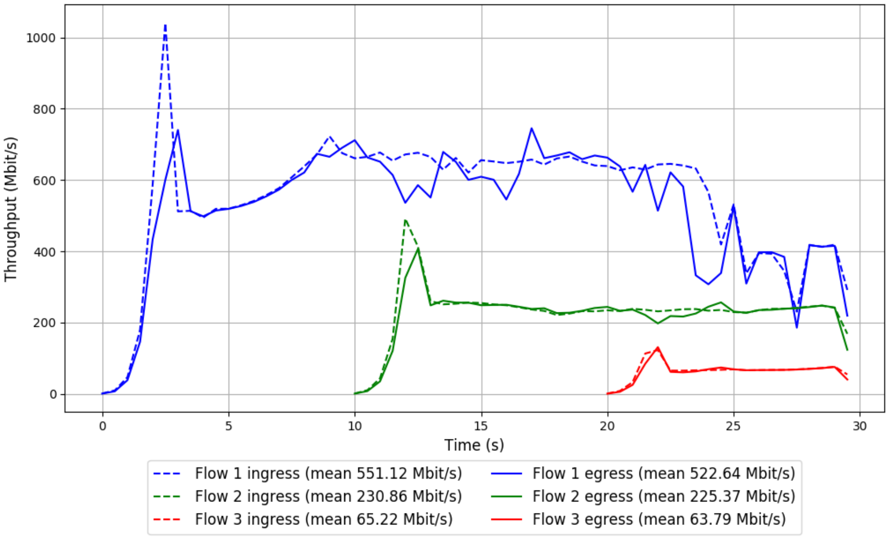


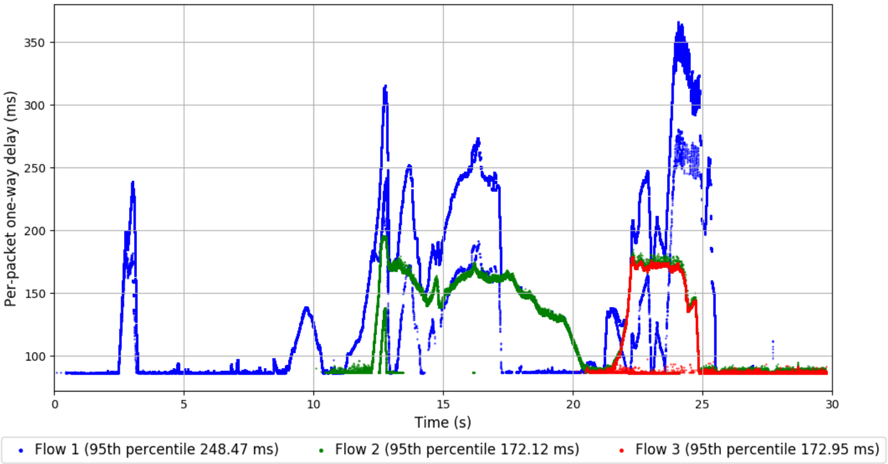
```
Run 7: Statistics of PCC

Start at: 2017-09-22 02:18:56
End at: 2017-09-22 02:19:26

# Below is generated by plot.py at 2017-09-22 05:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 692.59 Mbit/s
95th percentile per-packet one-way delay: 244.070 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 522.64 Mbit/s
95th percentile per-packet one-way delay: 248.473 ms
Loss rate: 5.73%
-- Flow 2:
Average throughput: 225.37 Mbit/s
95th percentile per-packet one-way delay: 172.116 ms
Loss rate: 3.26%
-- Flow 3:
Average throughput: 63.79 Mbit/s
95th percentile per-packet one-way delay: 172.950 ms
Loss rate: 3.90%
```

Run 7: Report of PCC — Data Link



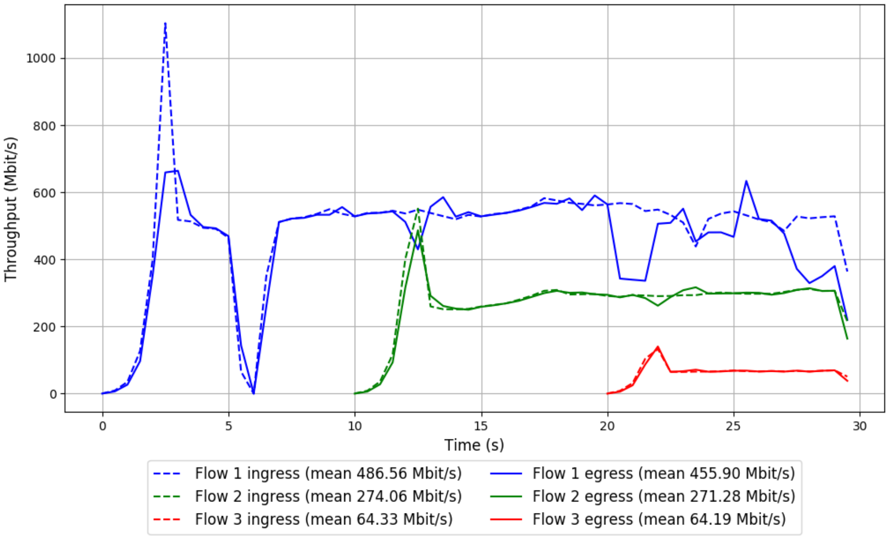


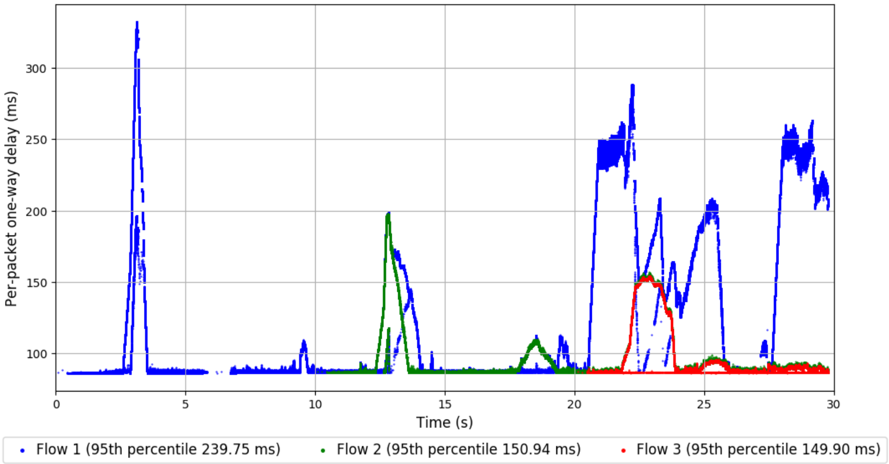
```
Run 8: Statistics of PCC

Start at: 2017-09-22 02:32:51
End at: 2017-09-22 02:33:21

# Below is generated by plot.py at 2017-09-22 05:46:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 656.56 Mbit/s
95th percentile per-packet one-way delay: 231.239 ms
Loss rate: 5.39%
-- Flow 1:
Average throughput: 455.90 Mbit/s
95th percentile per-packet one-way delay: 239.746 ms
Loss rate: 6.85%
-- Flow 2:
Average throughput: 271.28 Mbit/s
95th percentile per-packet one-way delay: 150.940 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 64.19 Mbit/s
95th percentile per-packet one-way delay: 149.903 ms
Loss rate: 1.97%
```

Run 8: Report of PCC — Data Link



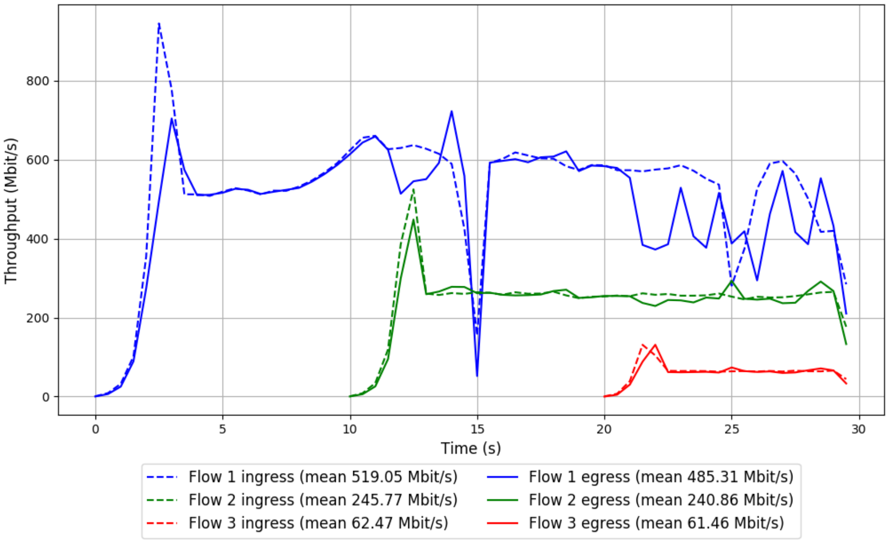


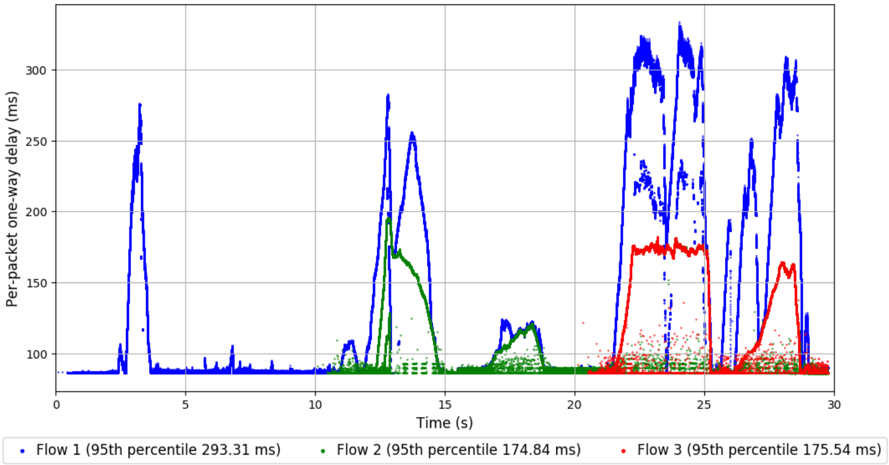
```
Run 9: Statistics of PCC

Start at: 2017-09-22 02:47:20
End at: 2017-09-22 02:47:50

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 664.86 Mbit/s
95th percentile per-packet one-way delay: 280.340 ms
Loss rate: 5.97%
-- Flow 1:
Average throughput: 485.31 Mbit/s
95th percentile per-packet one-way delay: 293.315 ms
Loss rate: 7.05%
-- Flow 2:
Average throughput: 240.86 Mbit/s
95th percentile per-packet one-way delay: 174.842 ms
Loss rate: 2.88%
-- Flow 3:
Average throughput: 61.46 Mbit/s
95th percentile per-packet one-way delay: 175.538 ms
Loss rate: 3.41%
```

Run 9: Report of PCC — Data Link

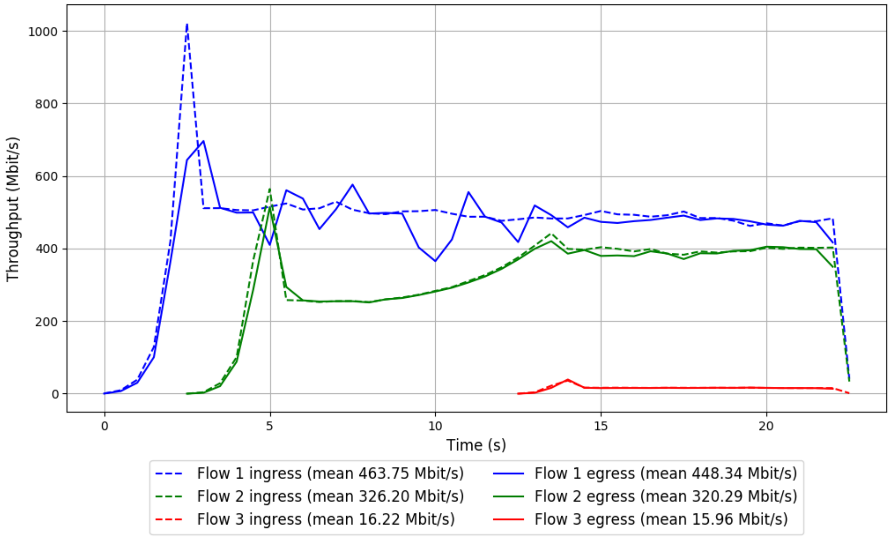


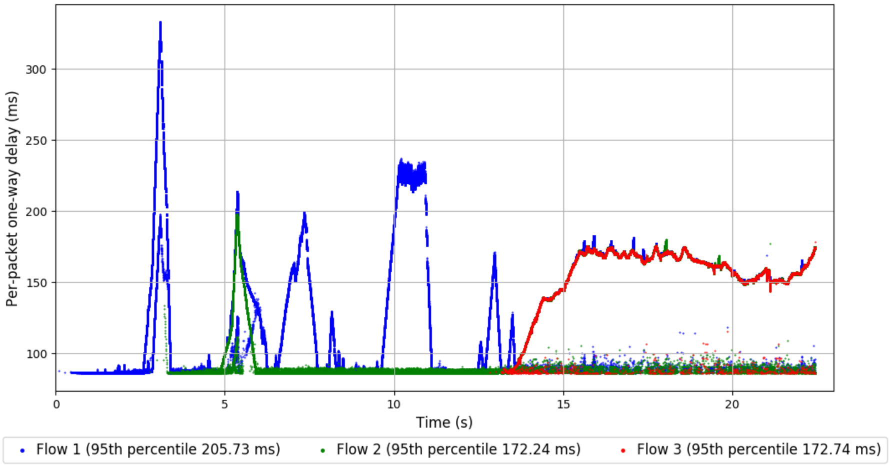


```
Run 10: Statistics of PCC

Start at: 2017-09-22 03:00:48
End at: 2017-09-22 03:01:19
```

Run 10: Report of PCC — Data Link



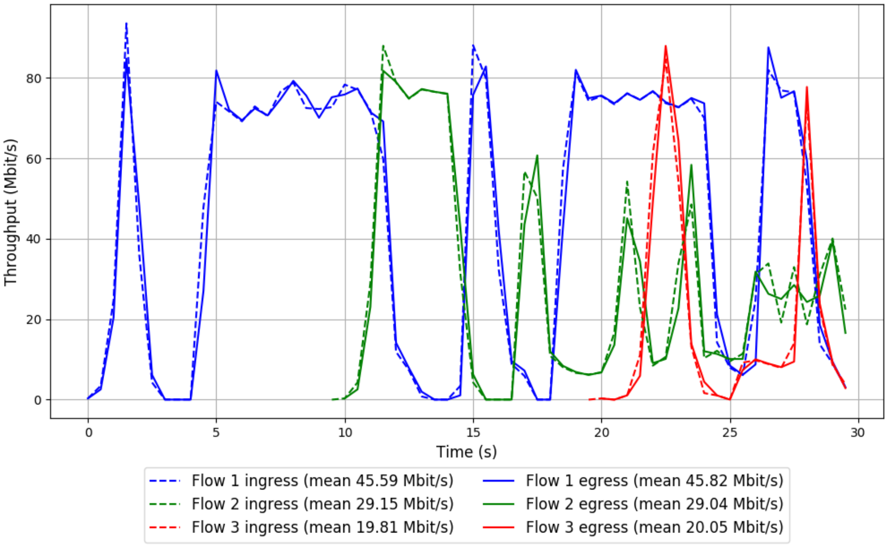


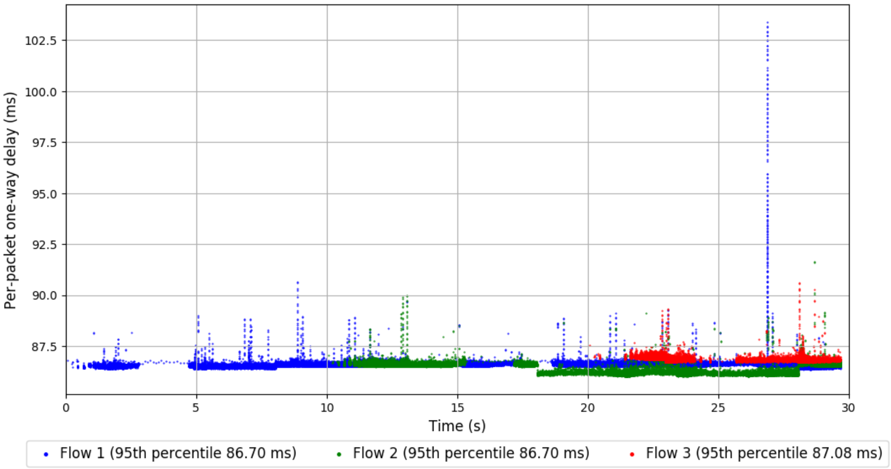
```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-22 00:52:20
End at: 2017-09-22 00:52:50

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.58 Mbit/s
95th percentile per-packet one-way delay: 86.875 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 86.696 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 29.04 Mbit/s
95th percentile per-packet one-way delay: 86.696 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 20.05 Mbit/s
95th percentile per-packet one-way delay: 87.079 ms
Loss rate: 0.59%
```

Run 1: Report of QUIC Cubic — Data Link



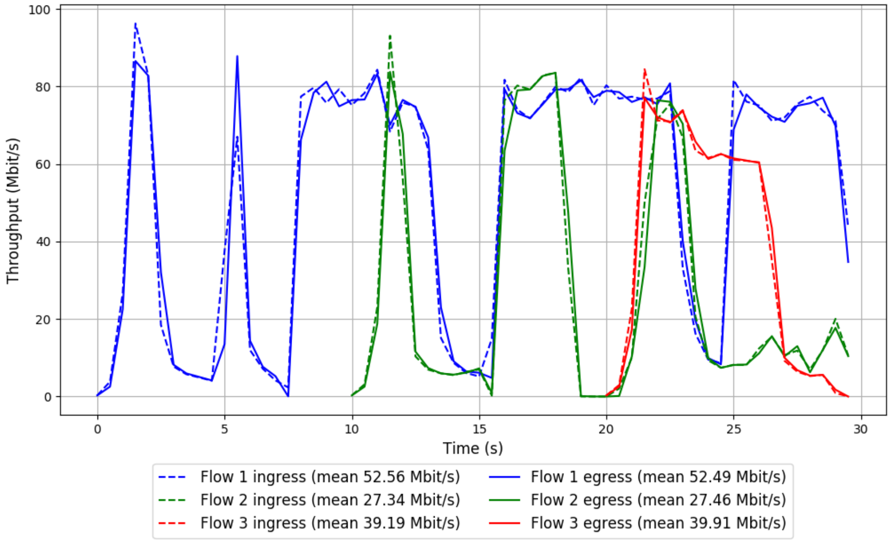


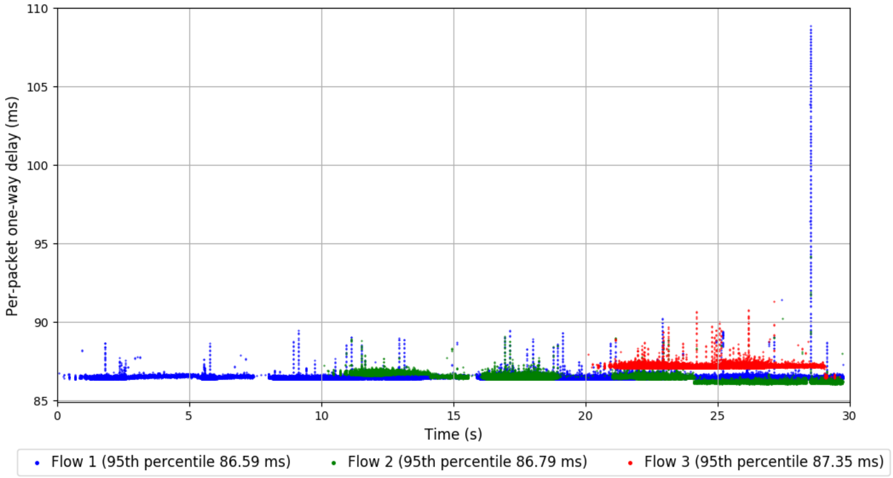
```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-22 01:06:24
End at: 2017-09-22 01:06:54

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.49 Mbit/s
95th percentile per-packet one-way delay: 87.210 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 52.49 Mbit/s
95th percentile per-packet one-way delay: 86.595 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 27.46 Mbit/s
95th percentile per-packet one-way delay: 86.788 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 87.352 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link



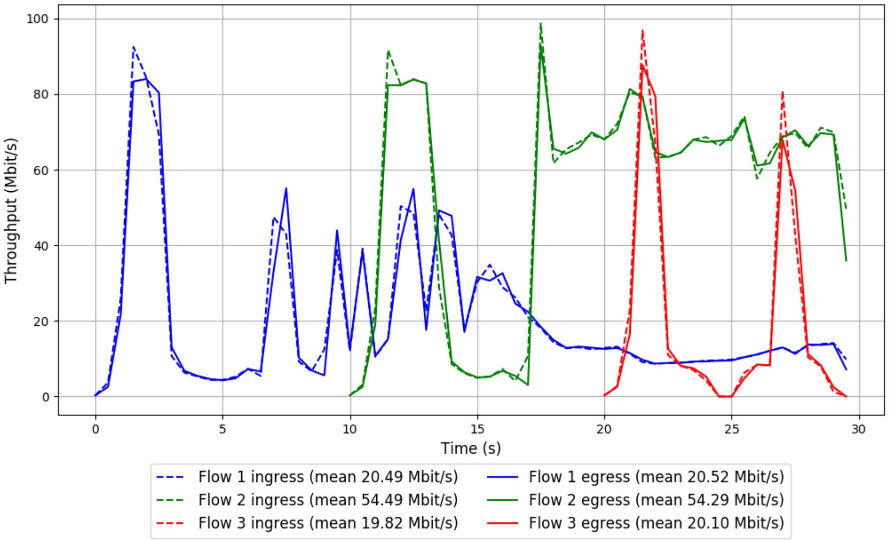


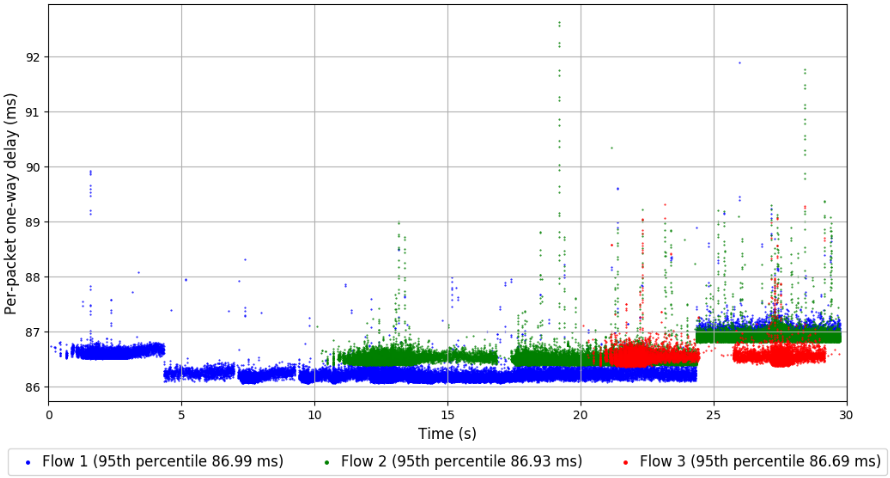
```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-22 01:21:54
End at: 2017-09-22 01:22:24

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.99 Mbit/s
95th percentile per-packet one-way delay: 86.944 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 86.991 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 54.29 Mbit/s
95th percentile per-packet one-way delay: 86.931 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 20.10 Mbit/s
95th percentile per-packet one-way delay: 86.686 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link



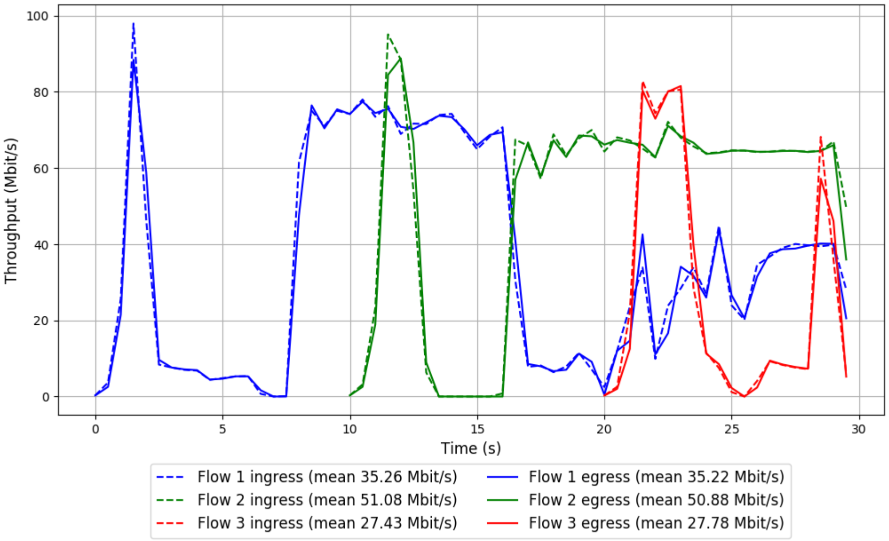


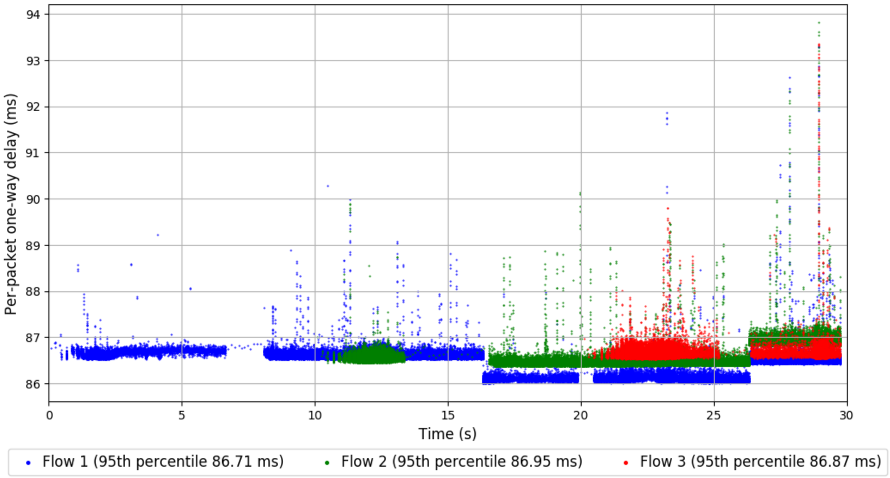
```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-22 01:35:52
End at: 2017-09-22 01:36:22

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.95 Mbit/s
95th percentile per-packet one-way delay: 86.898 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 35.22 Mbit/s
95th percentile per-packet one-way delay: 86.706 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 50.88 Mbit/s
95th percentile per-packet one-way delay: 86.952 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 27.78 Mbit/s
95th percentile per-packet one-way delay: 86.873 ms
Loss rate: 0.52%
```

Run 4: Report of QUIC Cubic — Data Link



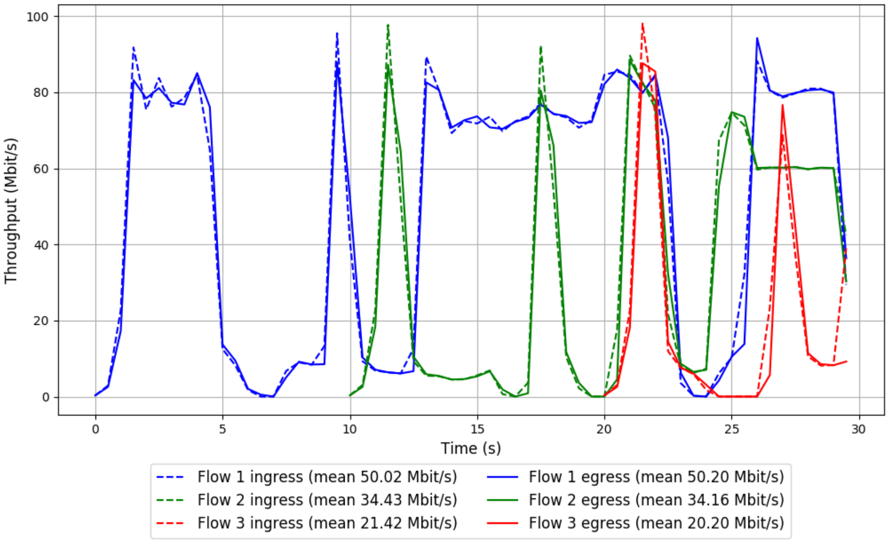


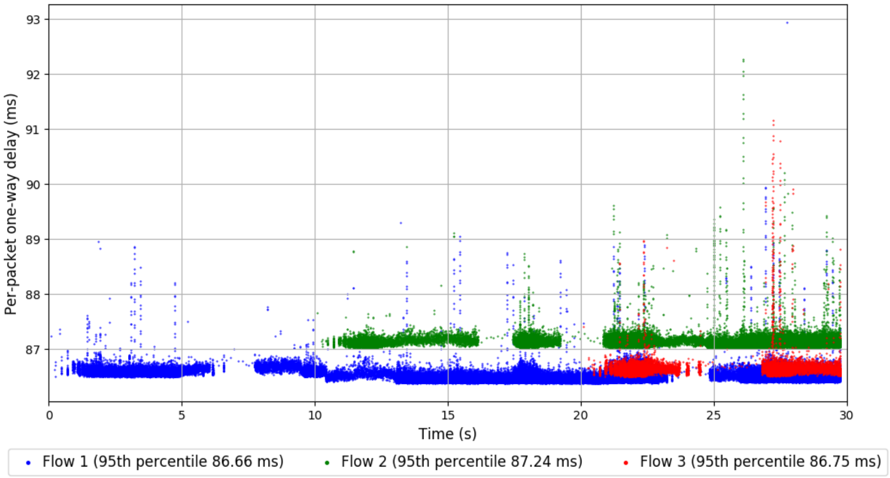
```
Run 5: Statistics of QUIC Cubic

Start at: 2017-09-22 01:49:48
End at: 2017-09-22 01:50:18

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.39 Mbit/s
95th percentile per-packet one-way delay: 87.166 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 86.657 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 34.16 Mbit/s
95th percentile per-packet one-way delay: 87.237 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 86.753 ms
Loss rate: 7.38%
```

Run 5: Report of QUIC Cubic — Data Link



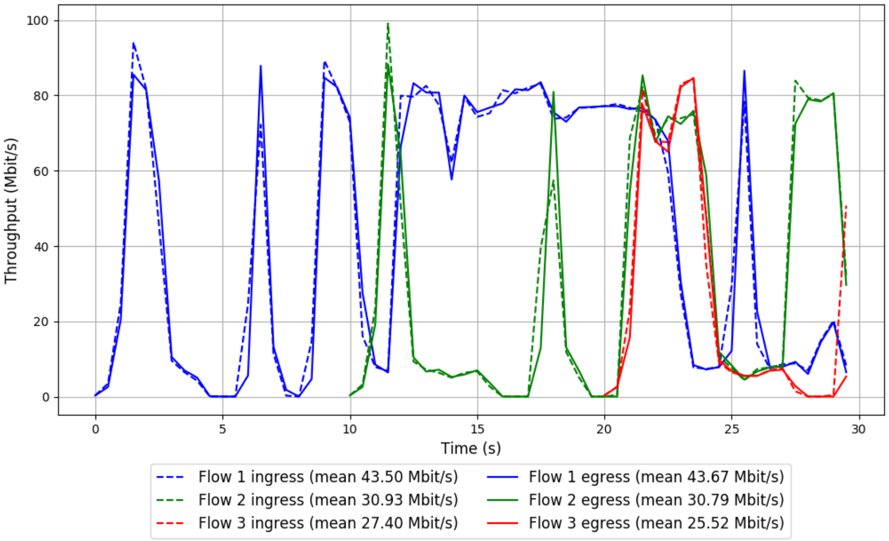


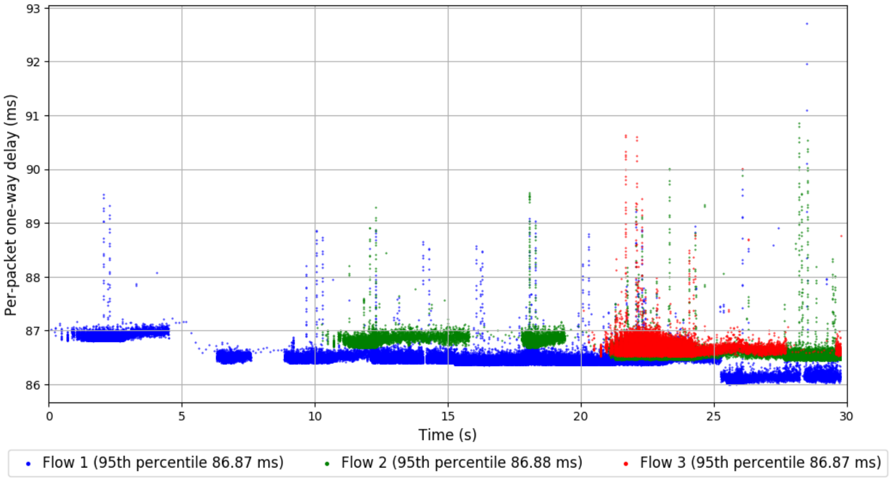
```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-22 02:03:33
End at: 2017-09-22 02:04:03

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 86.872 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 86.871 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 86.876 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 25.52 Mbit/s
95th percentile per-packet one-way delay: 86.873 ms
Loss rate: 8.50%
```

Run 6: Report of QUIC Cubic — Data Link



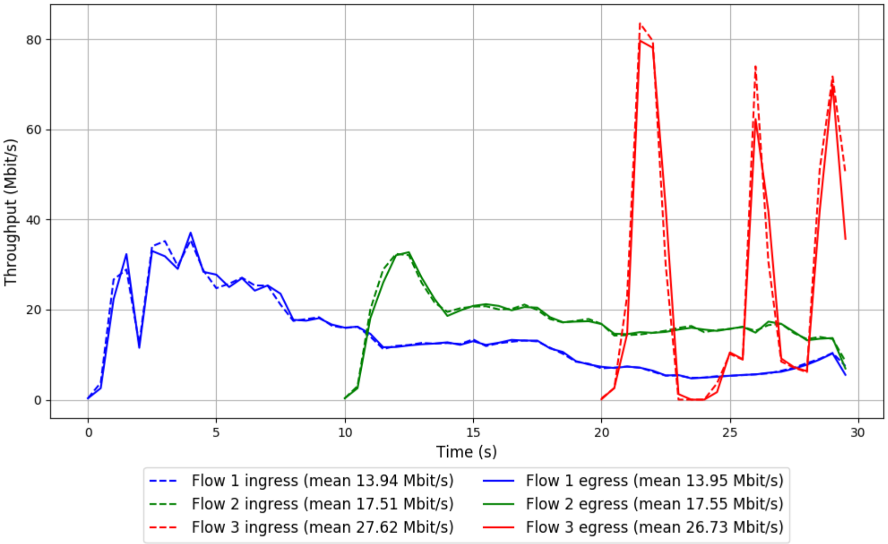


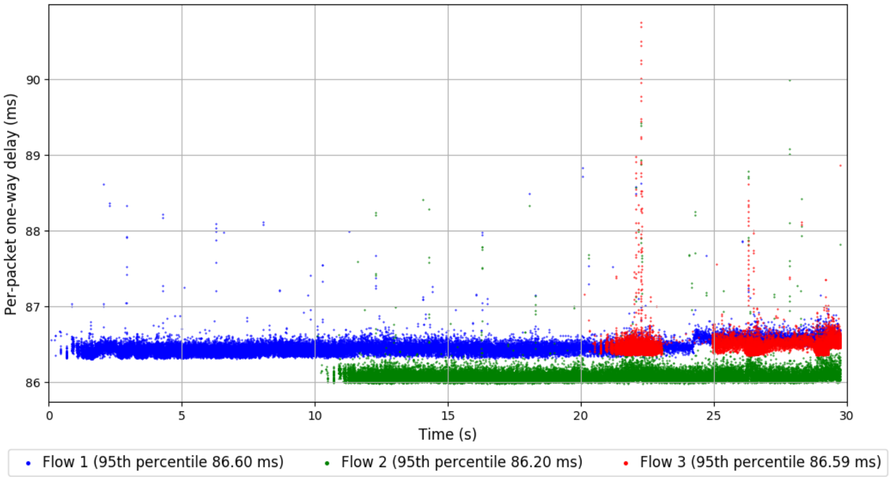
```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-22 02:18:09
End at: 2017-09-22 02:18:39

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 86.574 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 13.95 Mbit/s
95th percentile per-packet one-way delay: 86.602 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 17.55 Mbit/s
95th percentile per-packet one-way delay: 86.203 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 26.73 Mbit/s
95th percentile per-packet one-way delay: 86.590 ms
Loss rate: 4.90%
```

Run 7: Report of QUIC Cubic — Data Link



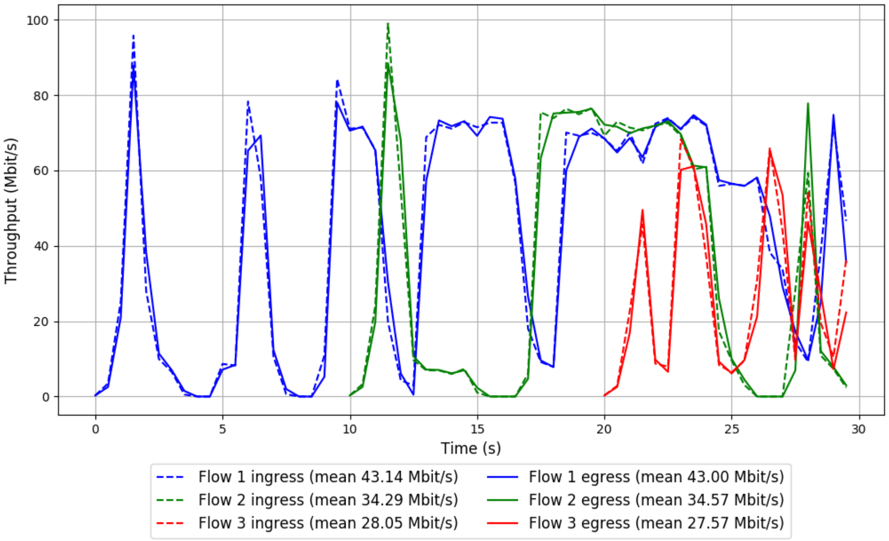


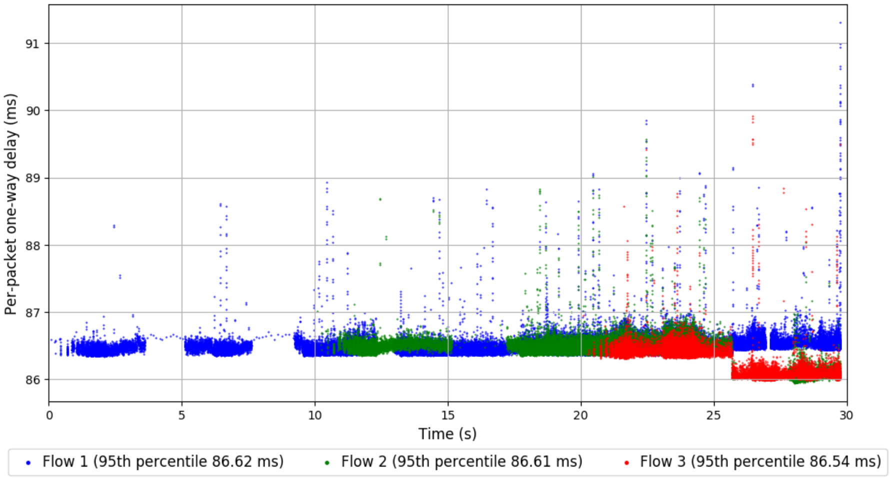
```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-22 02:32:03
End at: 2017-09-22 02:32:33

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.87 Mbit/s
95th percentile per-packet one-way delay: 86.607 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 43.00 Mbit/s
95th percentile per-packet one-way delay: 86.618 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 34.57 Mbit/s
95th percentile per-packet one-way delay: 86.609 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 27.57 Mbit/s
95th percentile per-packet one-way delay: 86.536 ms
Loss rate: 3.42%
```

Run 8: Report of QUIC Cubic — Data Link



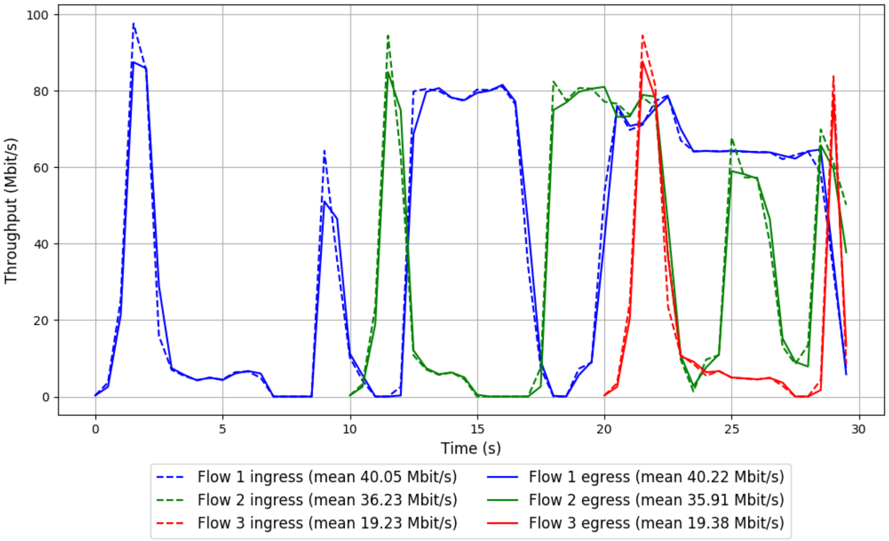


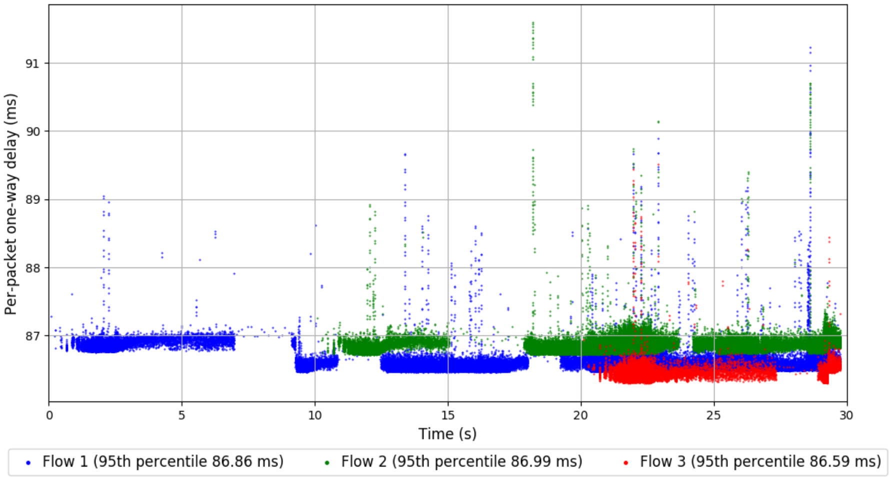
```
Run 9: Statistics of QUIC Cubic

Start at: 2017-09-22 02:46:29
End at: 2017-09-22 02:46:59

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.32 Mbit/s
95th percentile per-packet one-way delay: 86.926 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 40.22 Mbit/s
95th percentile per-packet one-way delay: 86.865 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 35.91 Mbit/s
95th percentile per-packet one-way delay: 86.989 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 19.38 Mbit/s
95th percentile per-packet one-way delay: 86.595 ms
Loss rate: 0.99%
```

Run 9: Report of QUIC Cubic — Data Link



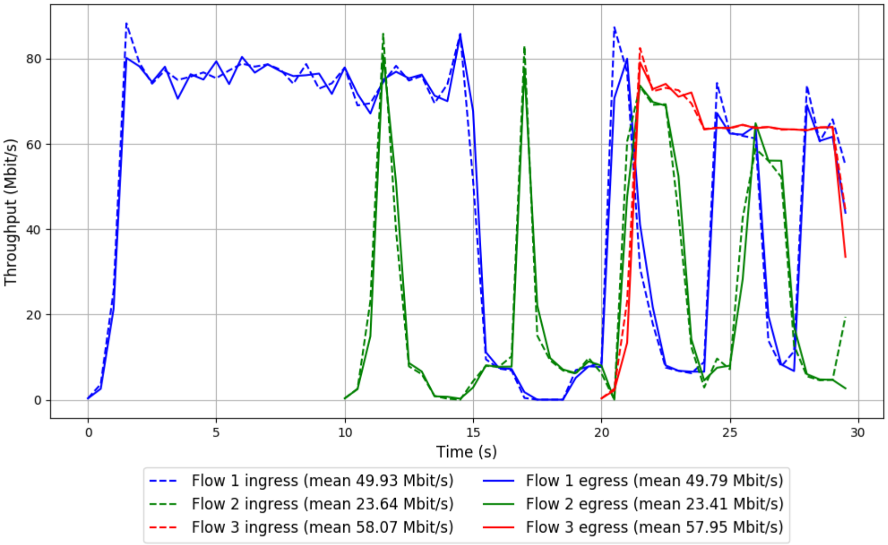


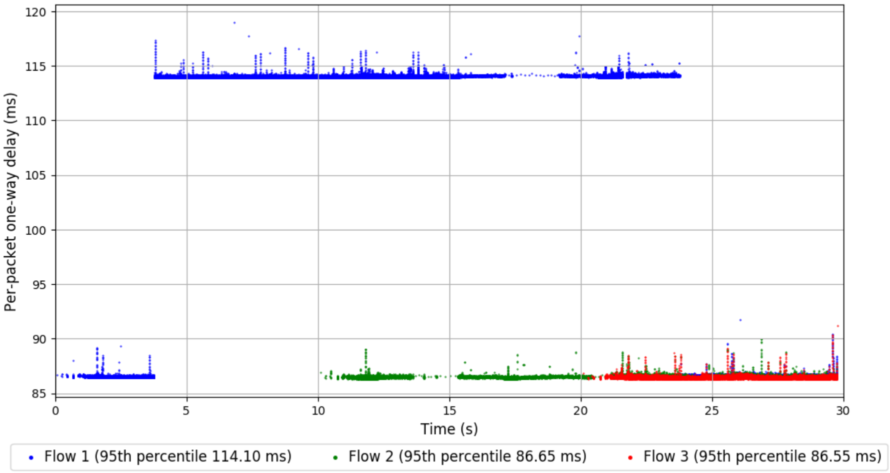
```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-22 02:59:59
End at: 2017-09-22 03:00:29

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 114.069 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 49.79 Mbit/s
95th percentile per-packet one-way delay: 114.098 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 23.41 Mbit/s
95th percentile per-packet one-way delay: 86.650 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 57.95 Mbit/s
95th percentile per-packet one-way delay: 86.552 ms
Loss rate: 1.93%
```

Run 10: Report of QUIC Cubic — Data Link



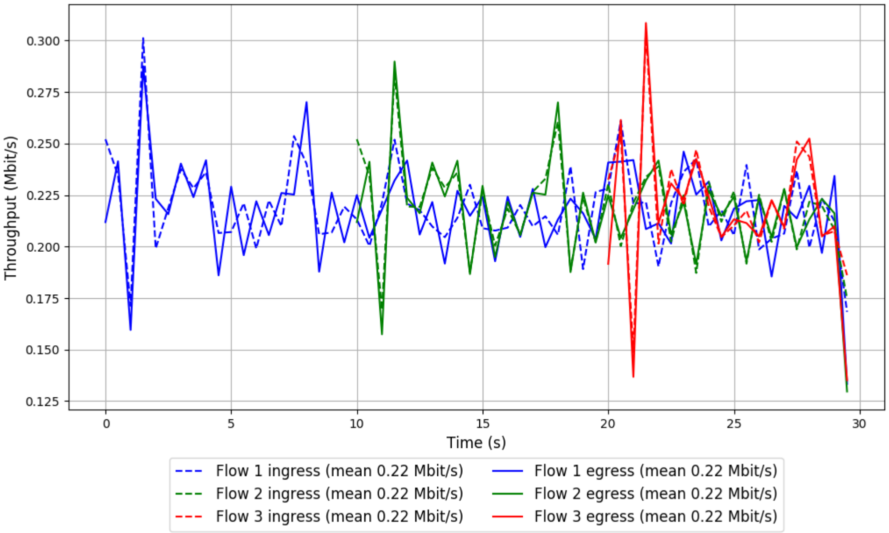


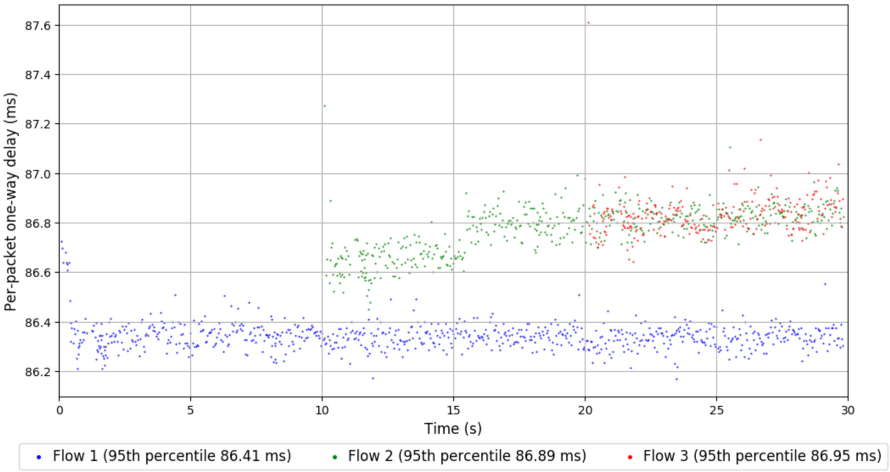
```
Run 1: Statistics of SCReAM

Start at: 2017-09-22 00:58:43
End at: 2017-09-22 00:59:13

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.886 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.412 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.891 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.955 ms
Loss rate: 1.88%
```

Run 1: Report of SCReAM — Data Link



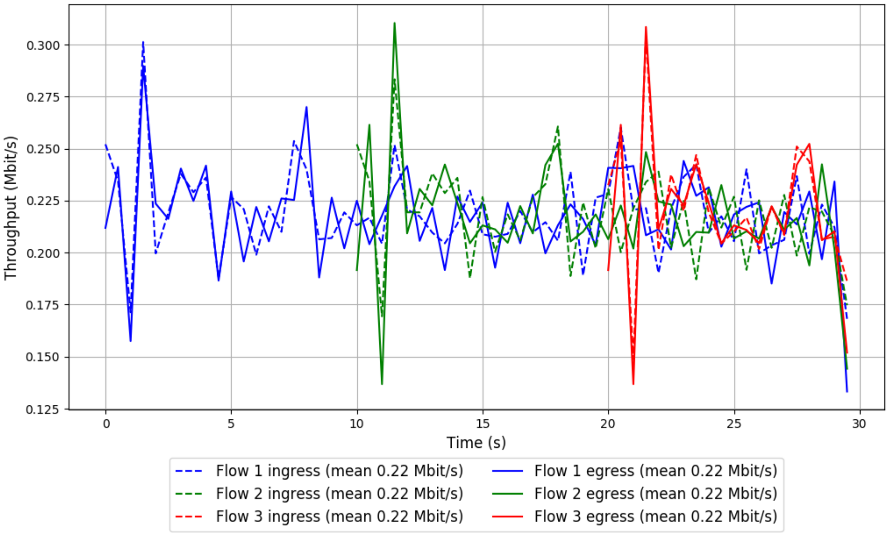


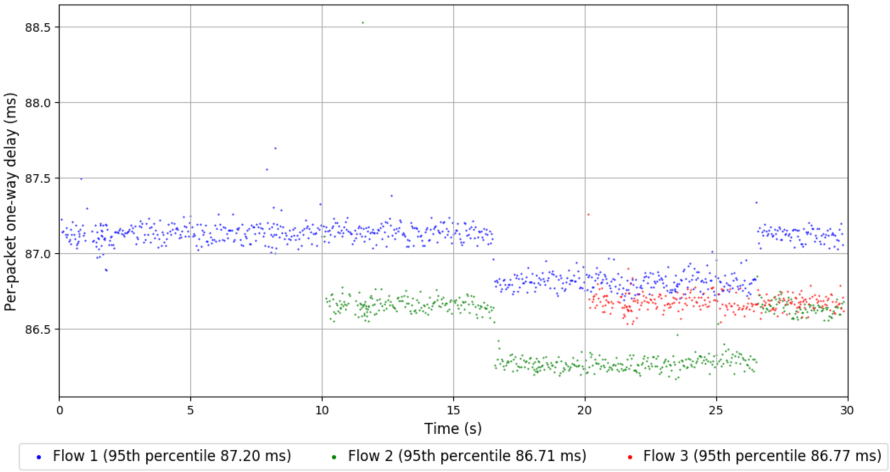
```
Run 2: Statistics of SCReAM

Start at: 2017-09-22 01:12:52
End at: 2017-09-22 01:13:22

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 87.181 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.201 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.711 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.765 ms
Loss rate: 1.50%
```

Run 2: Report of SCReAM — Data Link



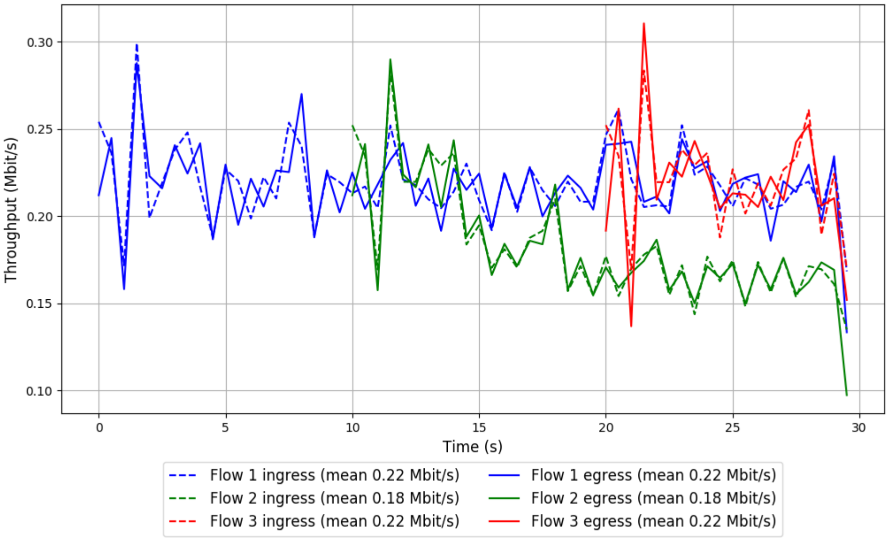


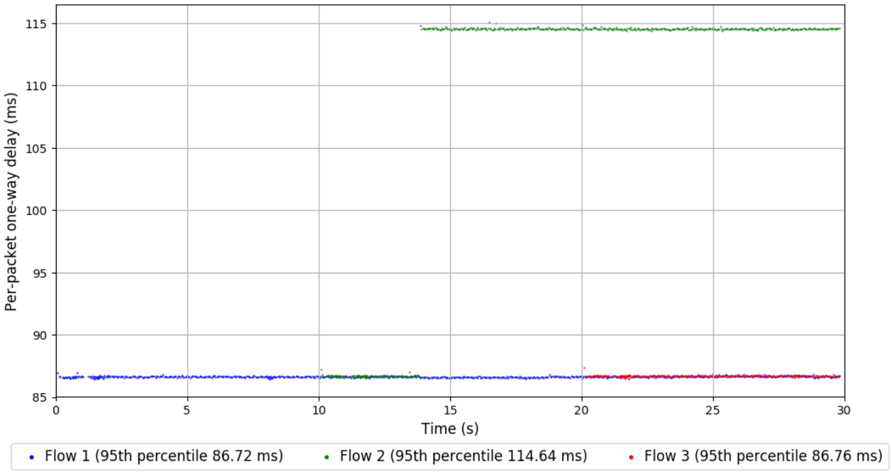
```
Run 3: Statistics of SCReAM

Start at: 2017-09-22 01:28:34
End at: 2017-09-22 01:29:04

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 114.584 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.722 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 114.635 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.763 ms
Loss rate: 1.50%
```

Run 3: Report of SCReAM — Data Link



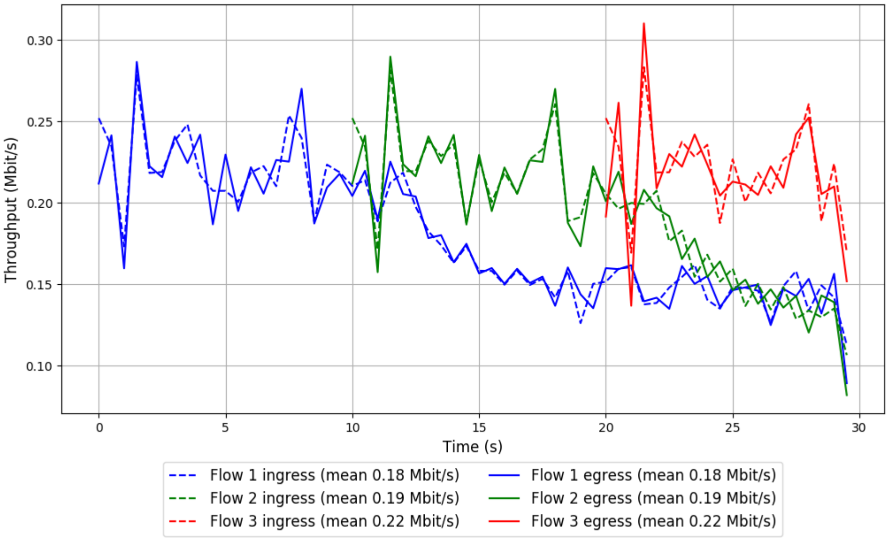


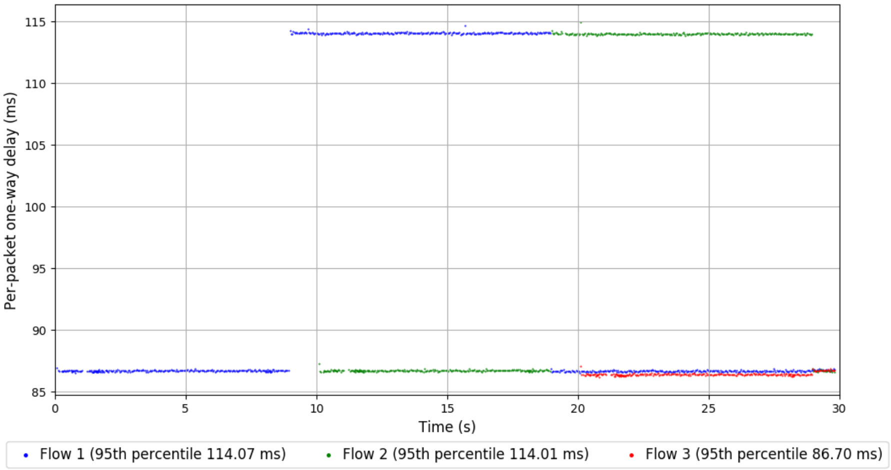
```
Run 4: Statistics of SCReAM

Start at: 2017-09-22 01:42:29
End at: 2017-09-22 01:42:59

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 114.053 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 114.071 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 114.011 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.697 ms
Loss rate: 1.50%
```

Run 4: Report of SCReAM — Data Link



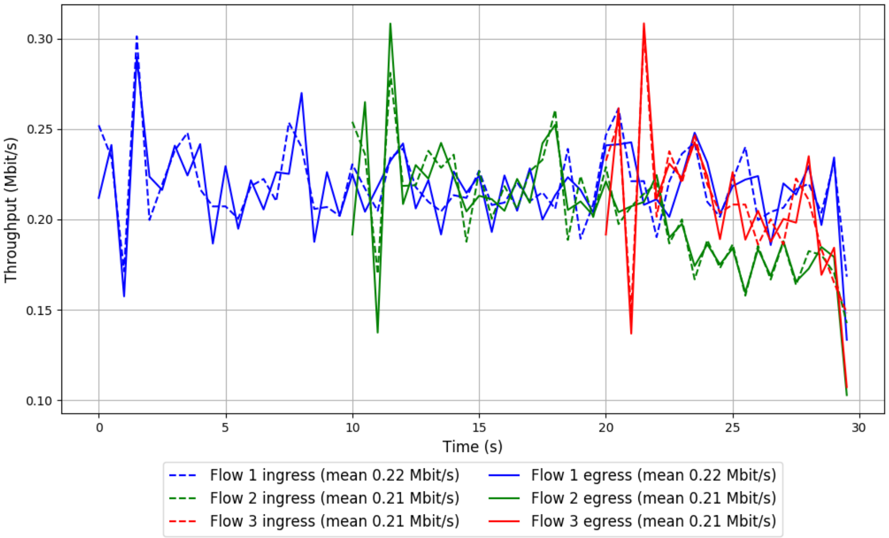


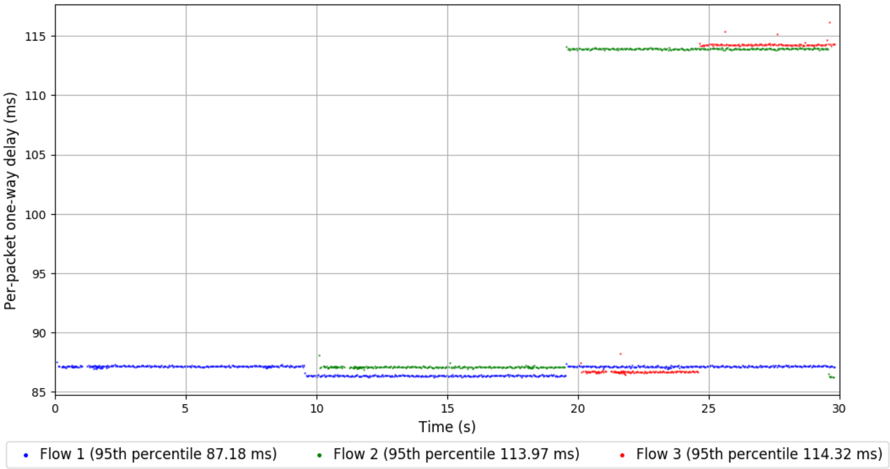
```
Run 5: Statistics of SCReAM

Start at: 2017-09-22 01:56:04
End at: 2017-09-22 01:56:34

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 114.258 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.184 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.972 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 114.318 ms
Loss rate: 1.59%
```

Run 5: Report of SCReAM — Data Link



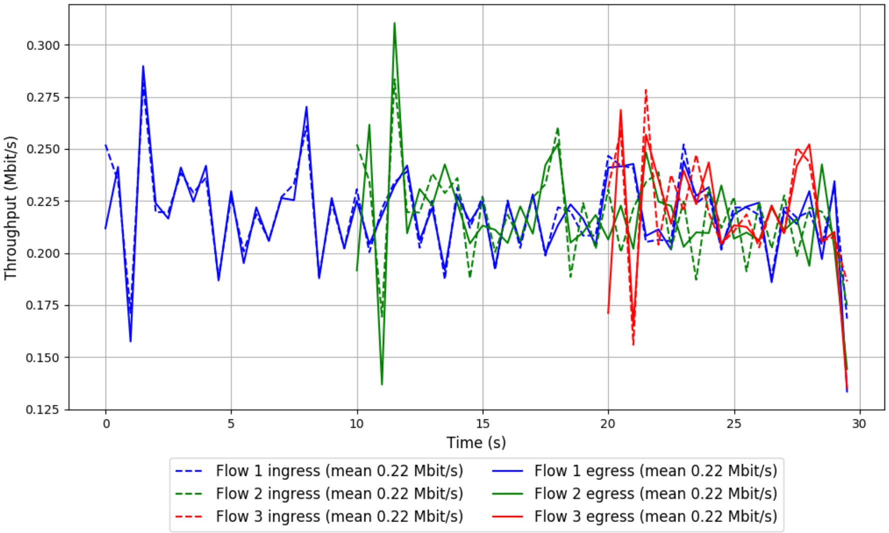


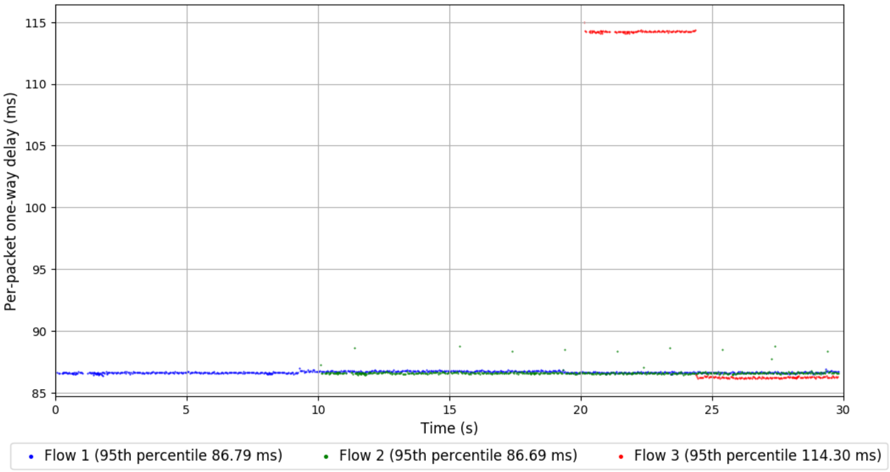
```
Run 6: Statistics of SCReAM

Start at: 2017-09-22 02:10:24
End at: 2017-09-22 02:10:54

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 114.215 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.790 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.688 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 114.295 ms
Loss rate: 1.89%
```

Run 6: Report of SCReAM — Data Link



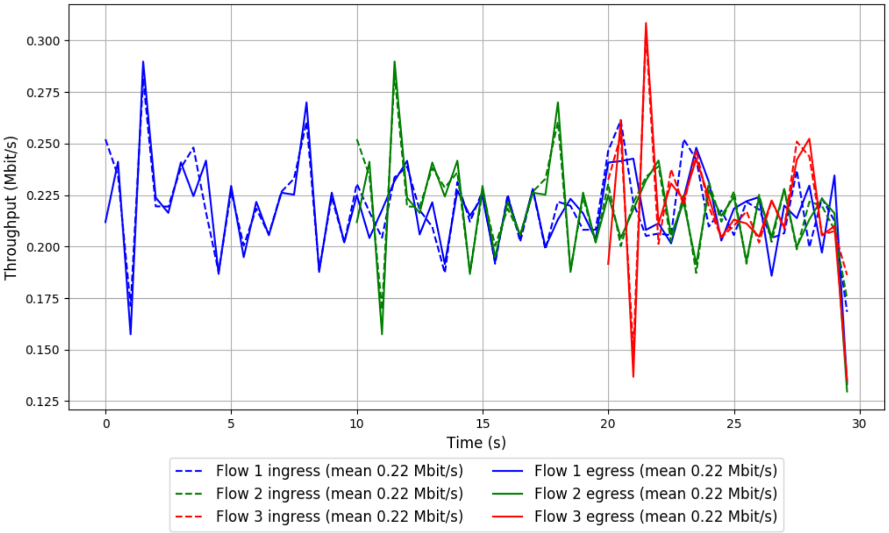


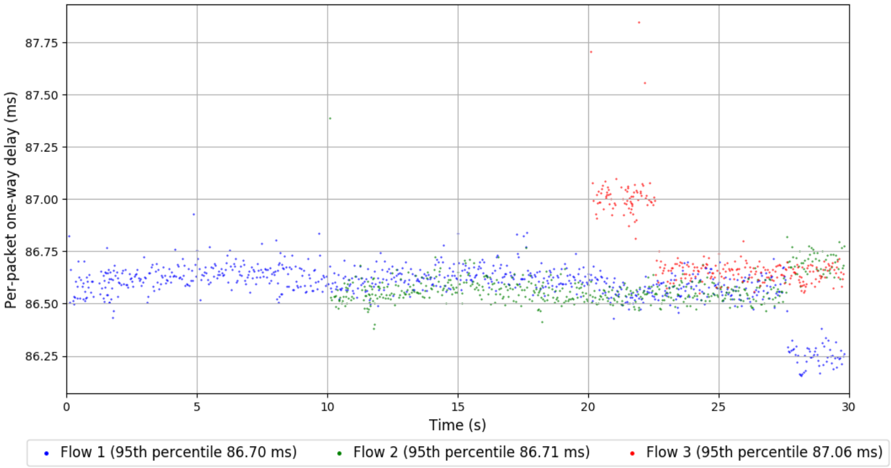
```
Run 7: Statistics of SCReAM

Start at: 2017-09-22 02:24:51
End at: 2017-09-22 02:25:21

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.873 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.704 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.713 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.057 ms
Loss rate: 1.88%
```

Run 7: Report of SCReAM — Data Link



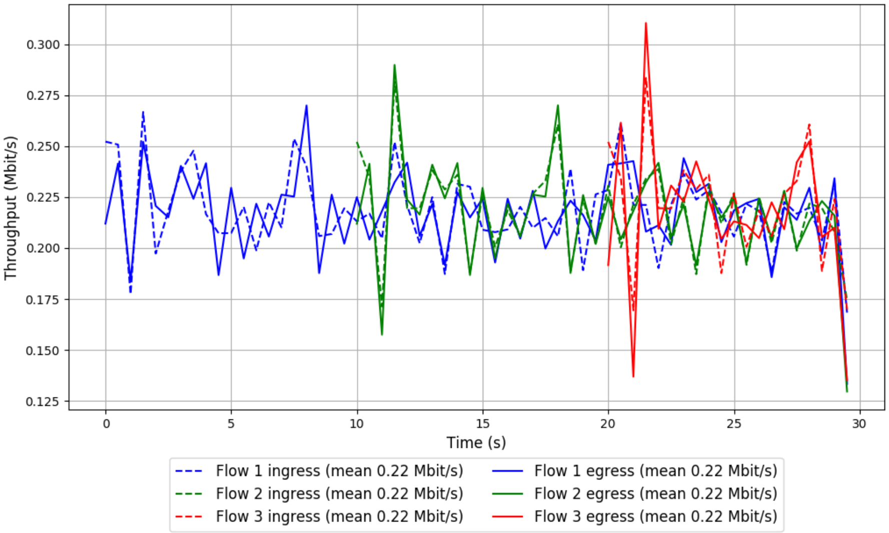


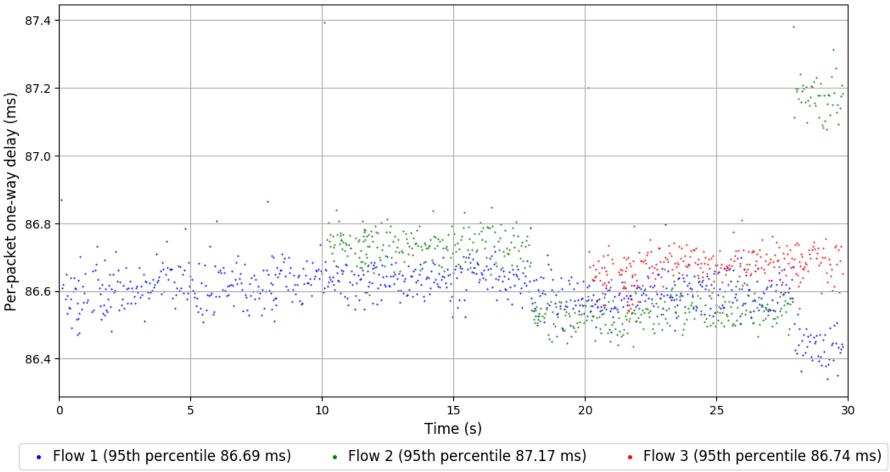
```
Run 8: Statistics of SCReAM

Start at: 2017-09-22 02:38:30
End at: 2017-09-22 02:39:00

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.788 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.685 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.175 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.737 ms
Loss rate: 1.88%
```

Run 8: Report of SCReAM — Data Link



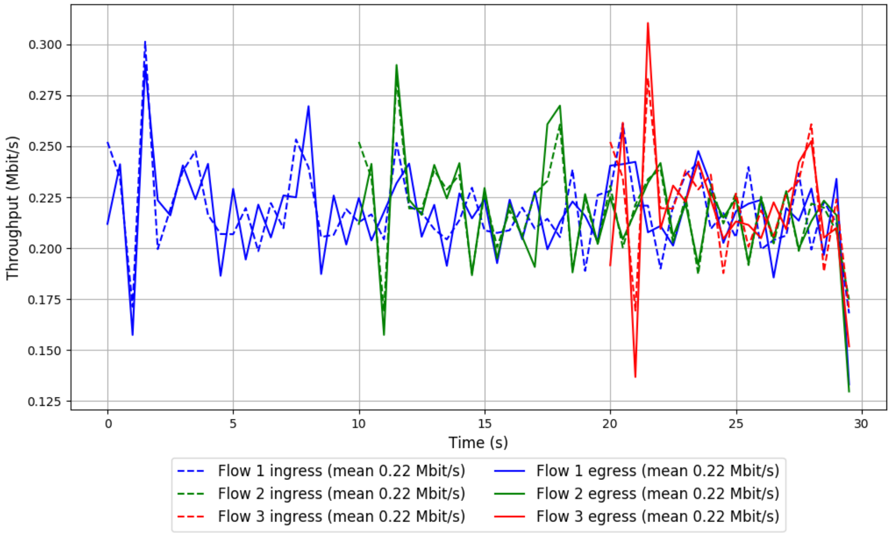


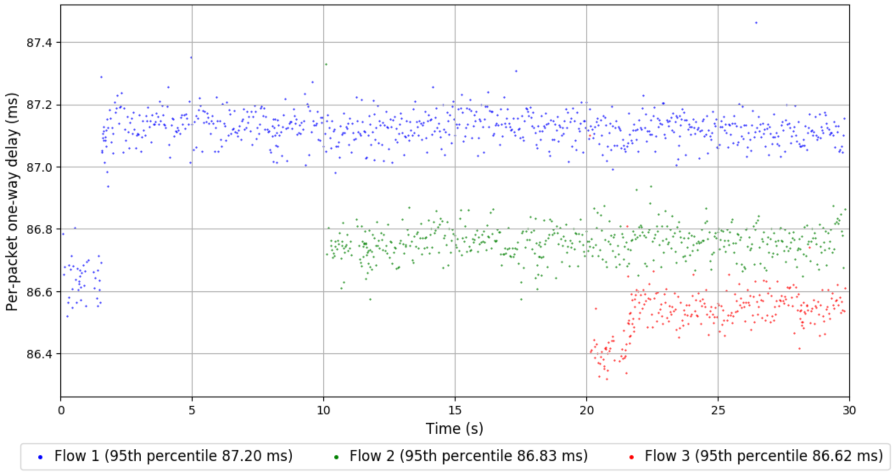
```
Run 9: Statistics of SCReAM

Start at: 2017-09-22 02:52:57
End at: 2017-09-22 02:53:27

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 87.183 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.197 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.833 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.622 ms
Loss rate: 1.50%
```

Run 9: Report of SCReAM — Data Link



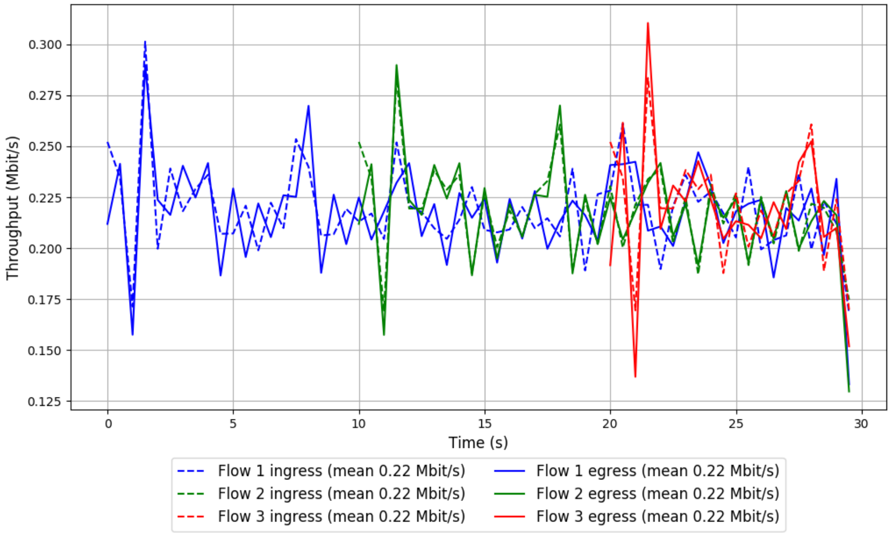


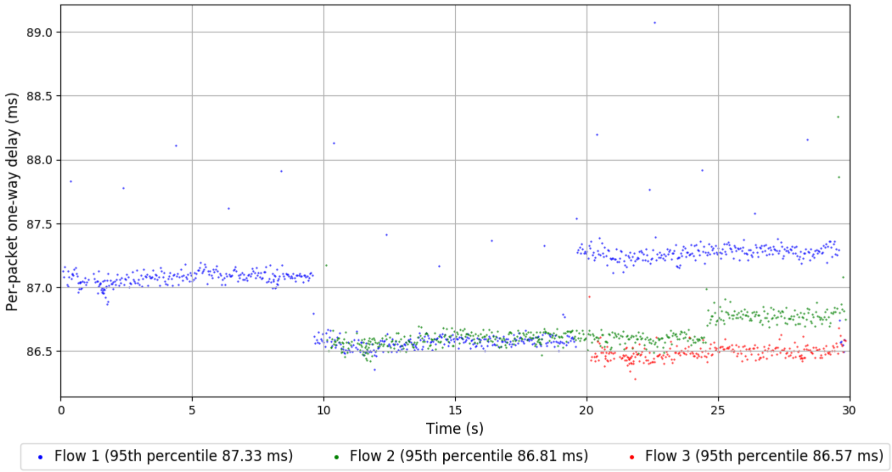
```
Run 10: Statistics of SCReAM

Start at: 2017-09-22 03:06:19
End at: 2017-09-22 03:06:49

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 87.301 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.329 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.812 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.571 ms
Loss rate: 1.50%
```

Run 10: Report of SCReAM — Data Link



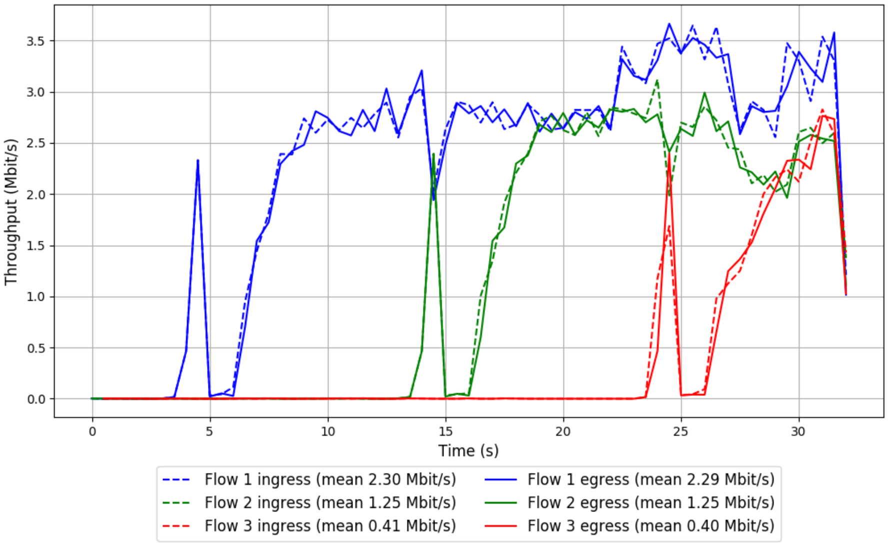


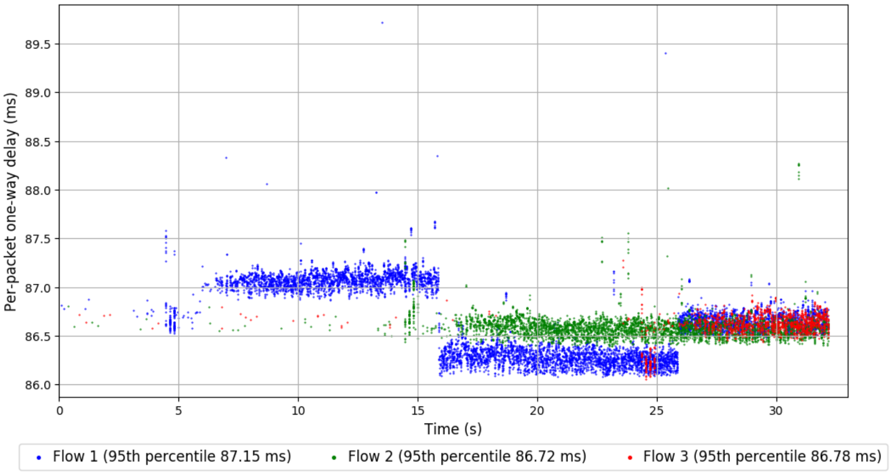
```
Run 1: Statistics of WebRTC media

Start at: 2017-09-22 00:55:05
End at: 2017-09-22 00:55:35

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 87.122 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 87.152 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 86.721 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 86.776 ms
Loss rate: 3.15%
```

Run 1: Report of WebRTC media — Data Link



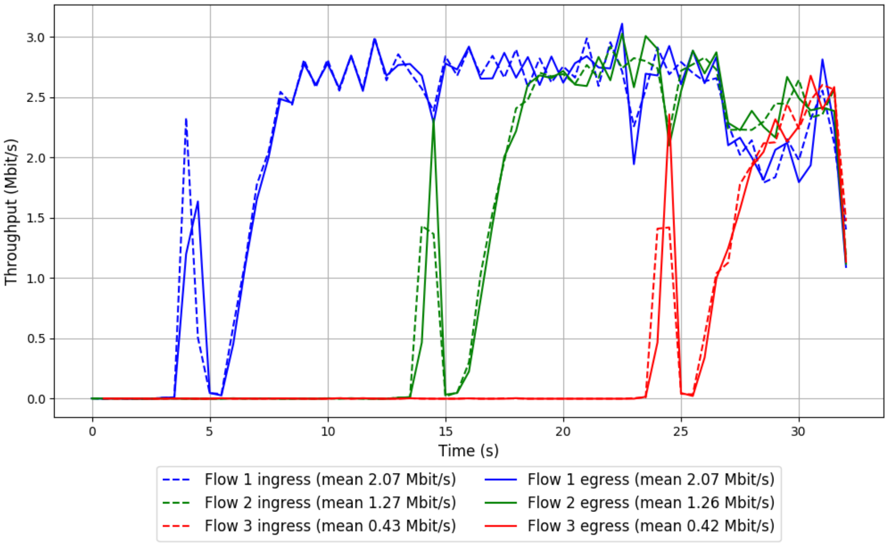


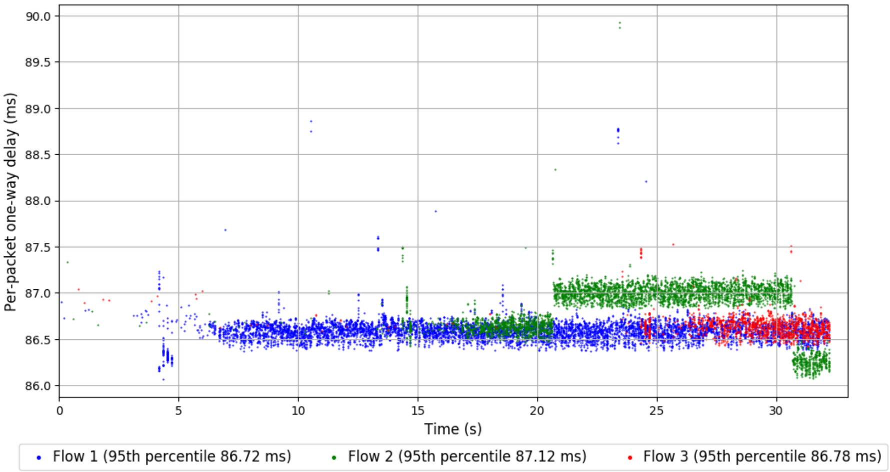
```
Run 2: Statistics of WebRTC media

Start at: 2017-09-22 01:09:15
End at: 2017-09-22 01:09:45

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 87.075 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 86.715 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 87.117 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 86.781 ms
Loss rate: 3.03%
```

Run 2: Report of WebRTC media — Data Link



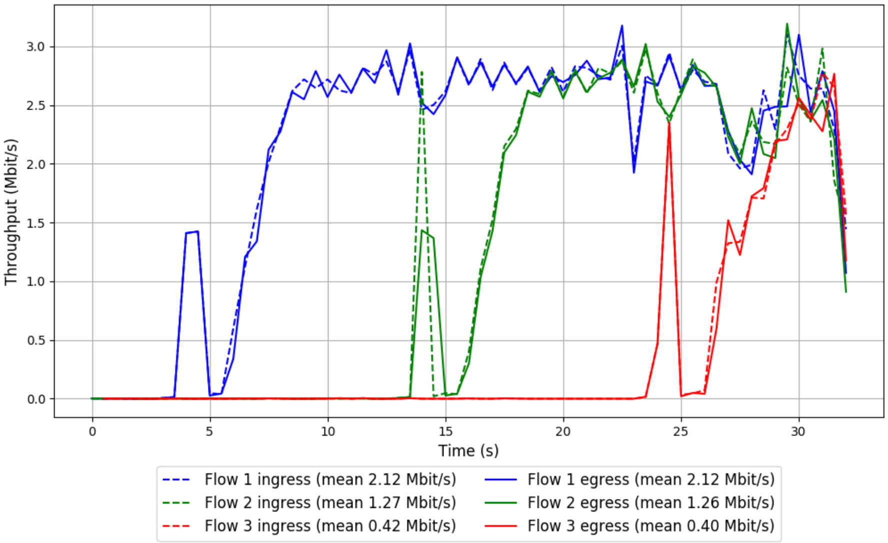


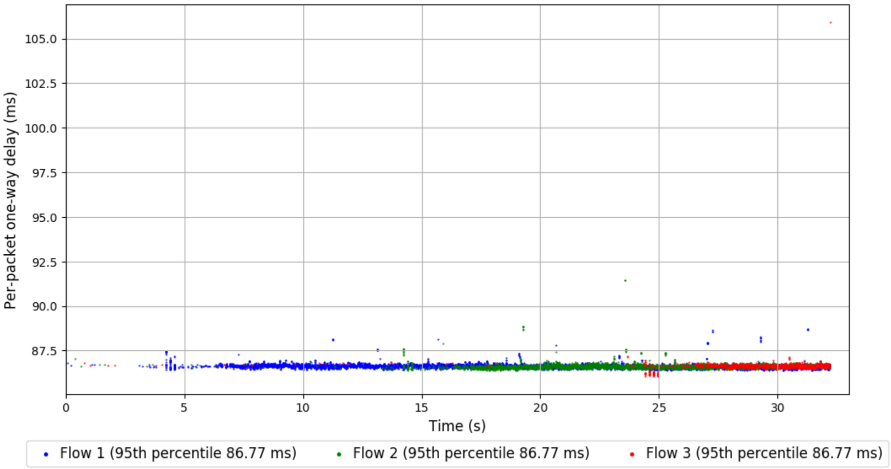
```
Run 3: Statistics of WebRTC media

Start at: 2017-09-22 01:24:56
End at: 2017-09-22 01:25:26

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 86.772 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 86.773 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 86.770 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 86.772 ms
Loss rate: 3.78%
```

Run 3: Report of WebRTC media — Data Link



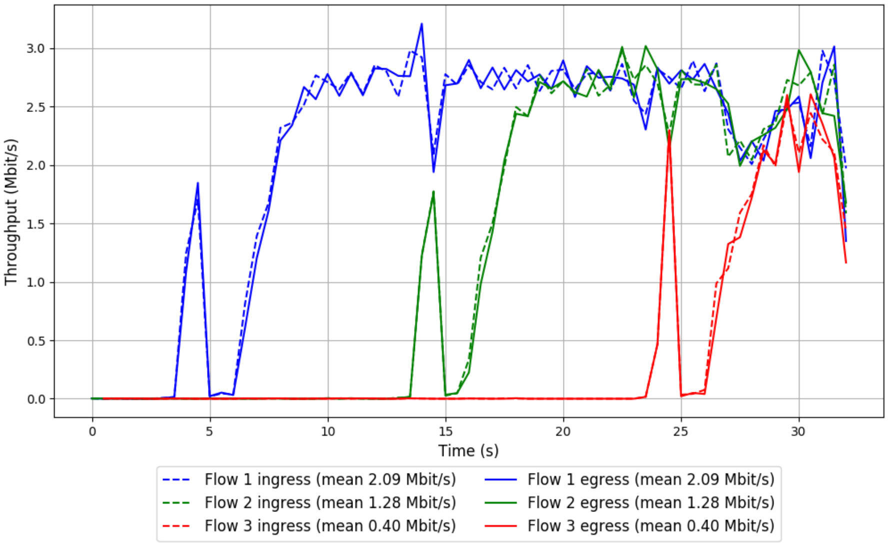


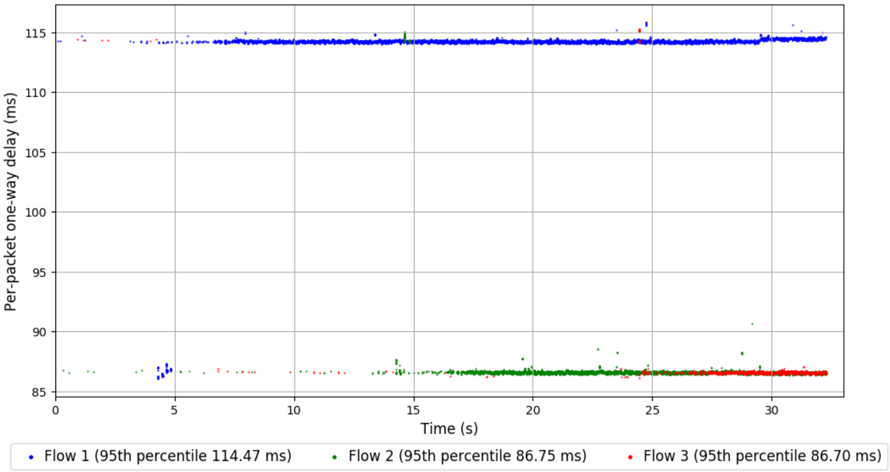
```
Run 4: Statistics of WebRTC media

Start at: 2017-09-22 01:38:36
End at: 2017-09-22 01:39:06

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 114.412 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 114.469 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 86.752 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 86.702 ms
Loss rate: 2.03%
```

Run 4: Report of WebRTC media — Data Link



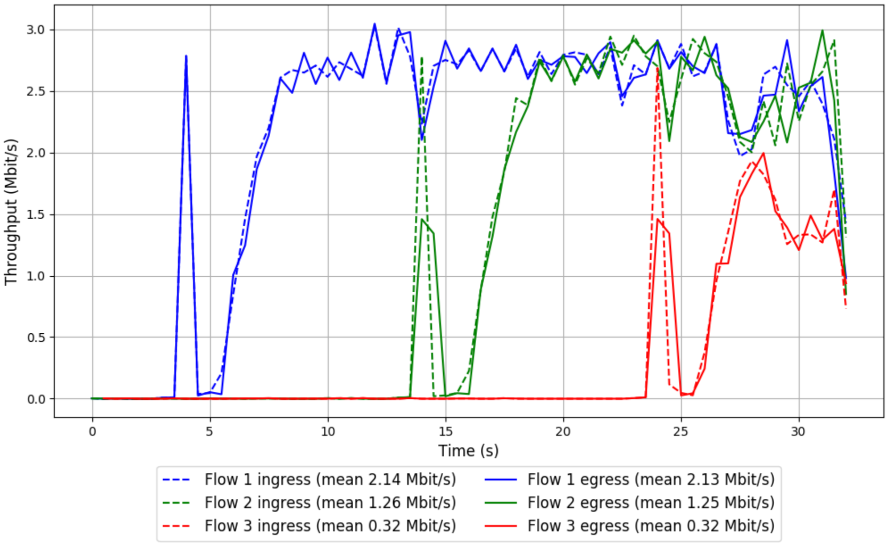


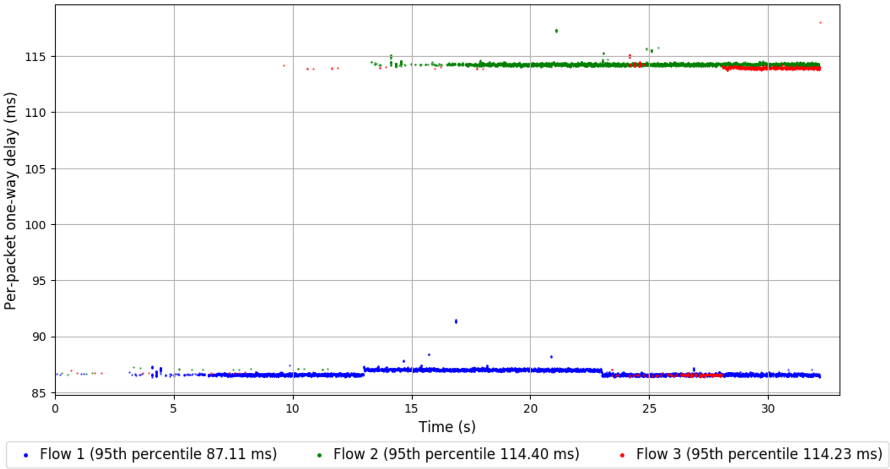
```
Run 5: Statistics of WebRTC media

Start at: 2017-09-22 01:52:23
End at: 2017-09-22 01:52:53

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.69 Mbit/s
95th percentile per-packet one-way delay: 114.341 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 87.110 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 114.397 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 114.233 ms
Loss rate: 1.64%
```

Run 5: Report of WebRTC media — Data Link



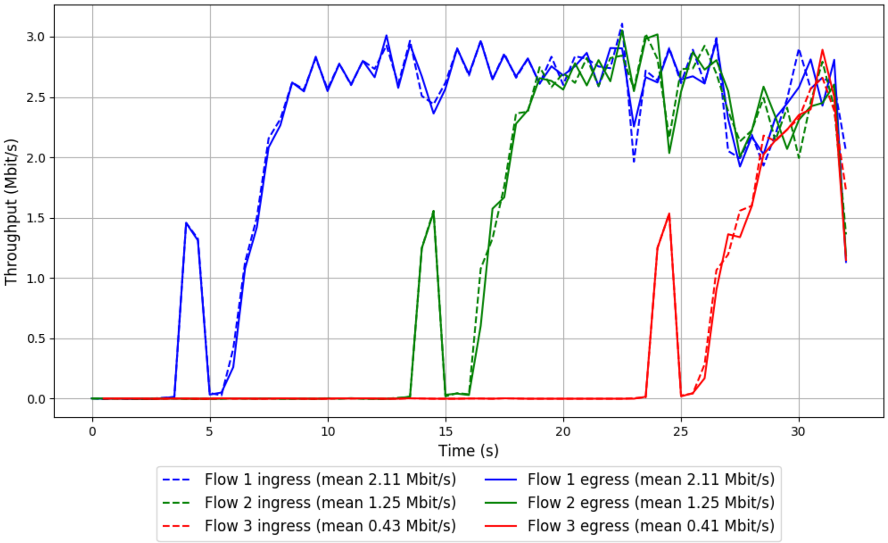


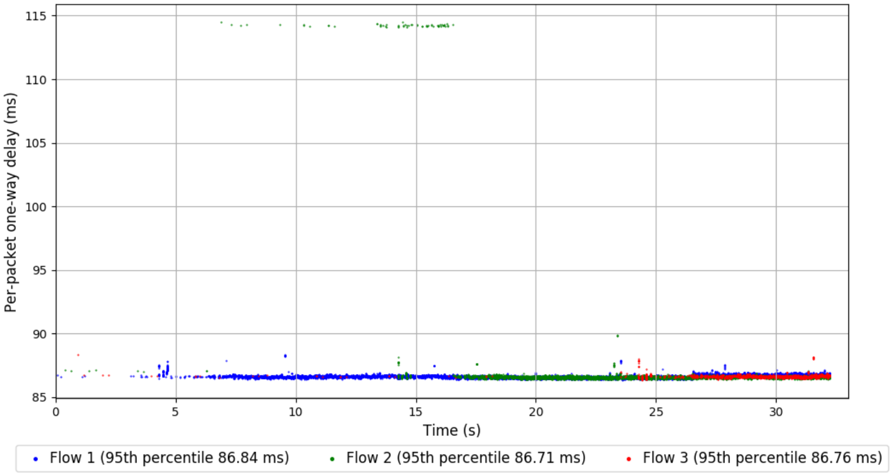
```
Run 6: Statistics of WebRTC media

Start at: 2017-09-22 02:06:24
End at: 2017-09-22 02:06:54

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 86.813 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 86.839 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 86.714 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 86.760 ms
Loss rate: 3.22%
```

Run 6: Report of WebRTC media — Data Link



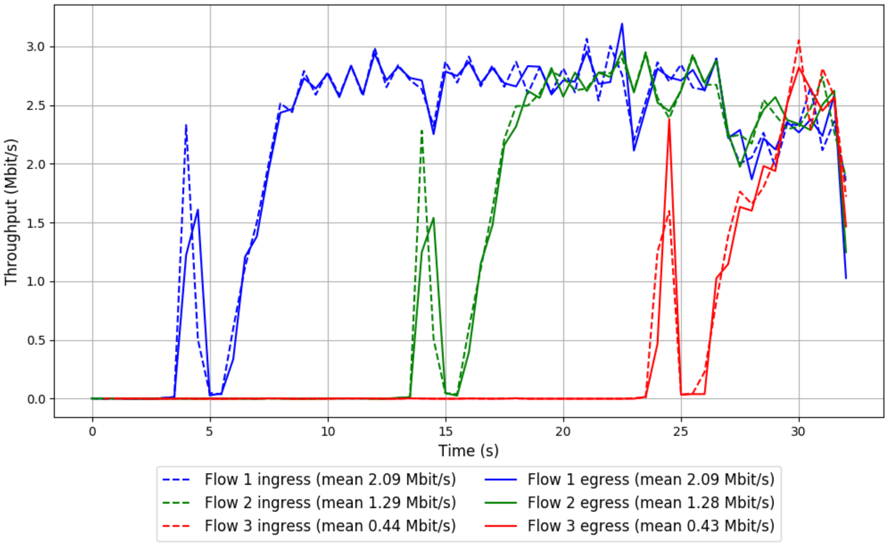


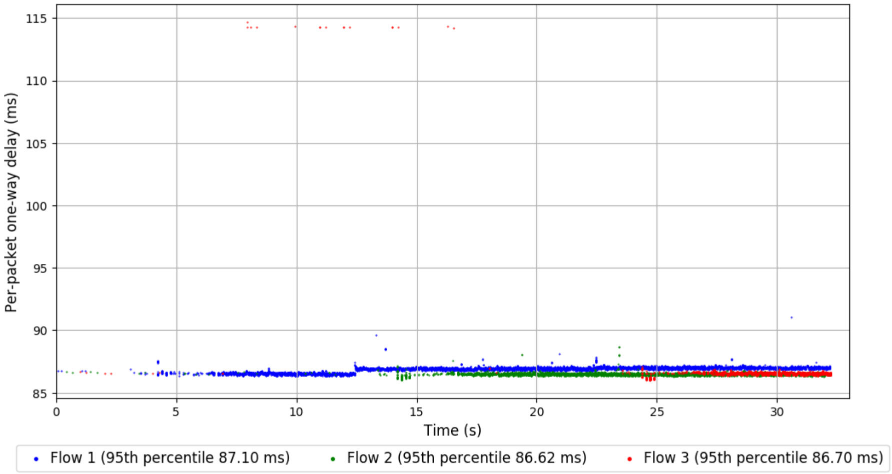
```
Run 7: Statistics of WebRTC media

Start at: 2017-09-22 02:20:58
End at: 2017-09-22 02:21:28

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 87.066 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 87.098 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 86.618 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 86.703 ms
Loss rate: 3.11%
```

Run 7: Report of WebRTC media — Data Link



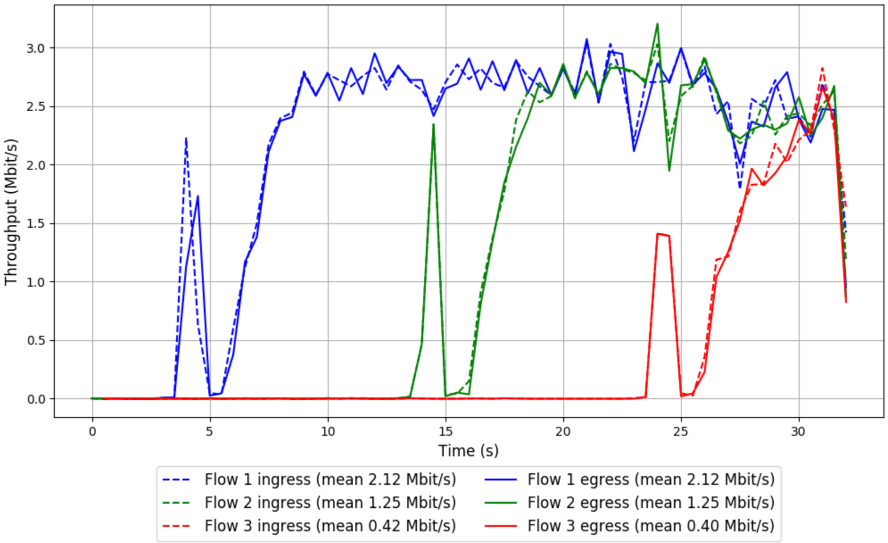


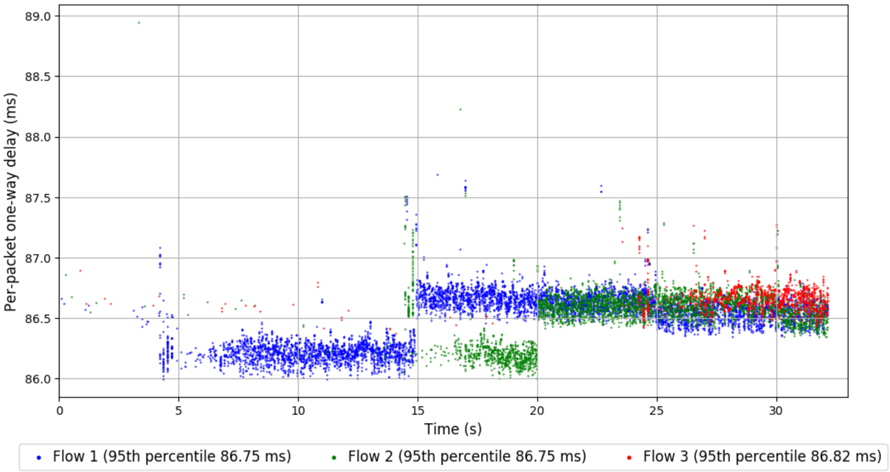
```
Run 8: Statistics of WebRTC media

Start at: 2017-09-22 02:34:51
End at: 2017-09-22 02:35:21

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 86.758 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 86.749 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 86.745 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 86.824 ms
Loss rate: 4.30%
```

Run 8: Report of WebRTC media — Data Link



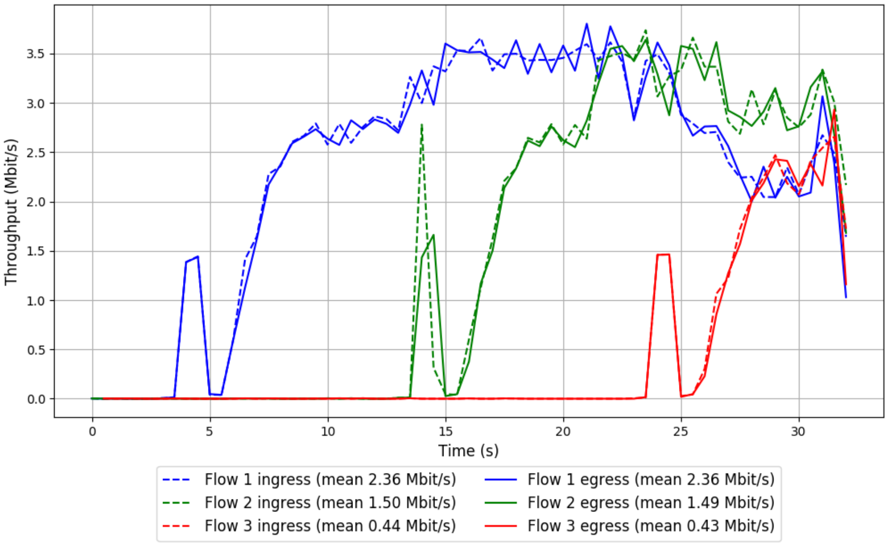


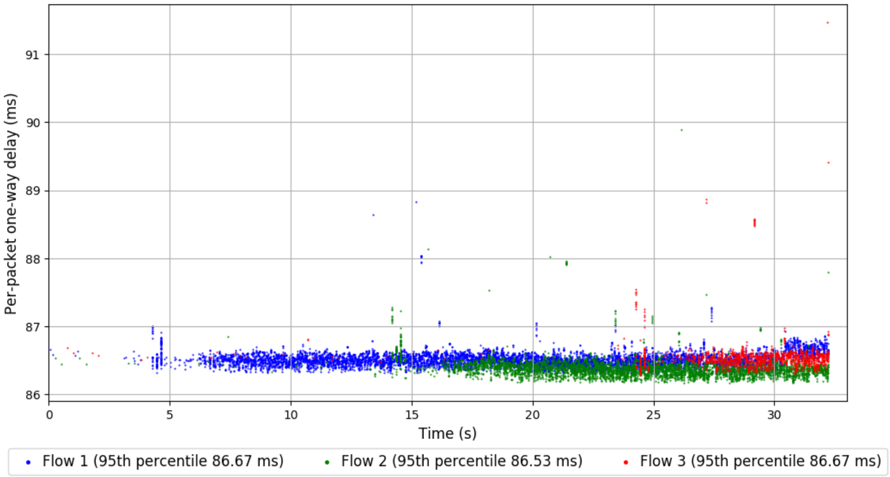
```
Run 9: Statistics of WebRTC media

Start at: 2017-09-22 02:49:20
End at: 2017-09-22 02:49:50

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 86.647 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 86.675 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 86.532 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 86.667 ms
Loss rate: 3.29%
```

Run 9: Report of WebRTC media — Data Link



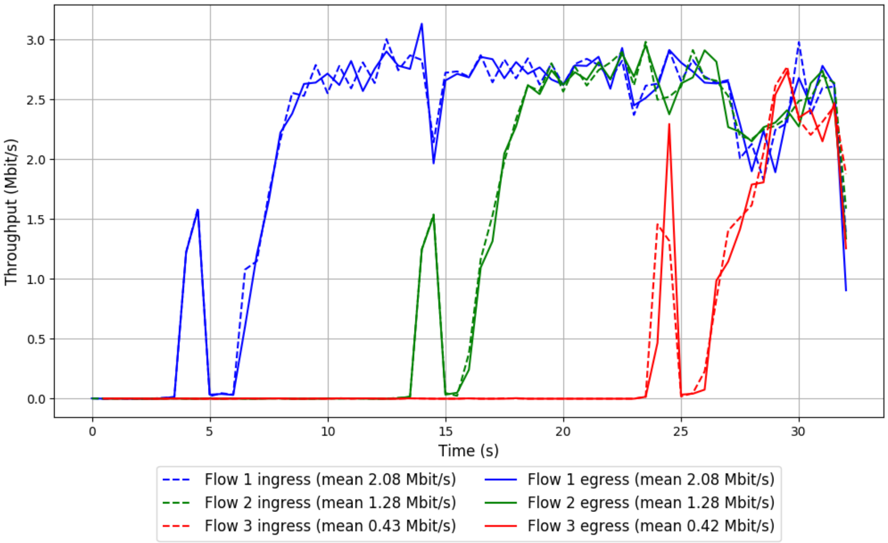


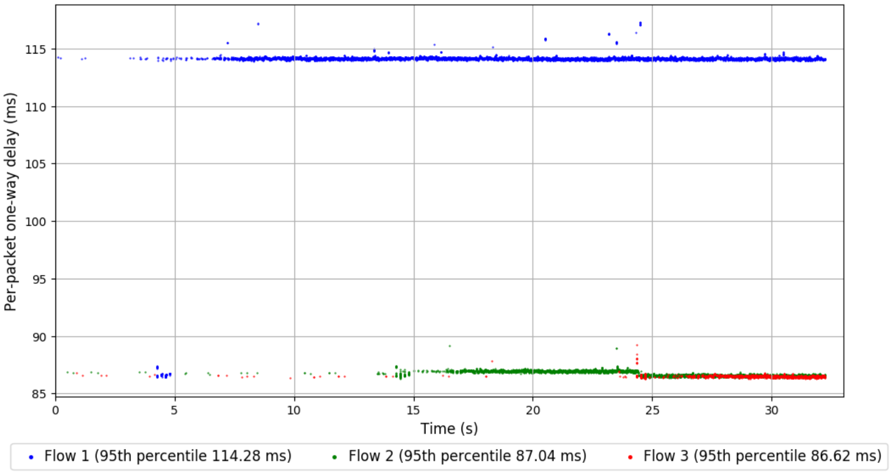
```
Run 10: Statistics of WebRTC media

Start at: 2017-09-22 03:02:41
End at: 2017-09-22 03:03:11

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 114.247 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 114.276 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 87.043 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 86.622 ms
Loss rate: 3.99%
```

Run 10: Report of WebRTC media — Data Link



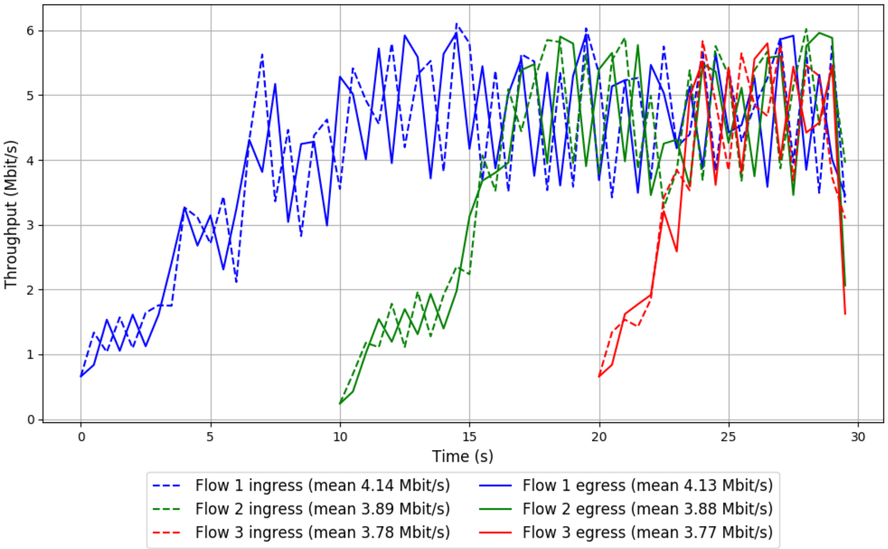


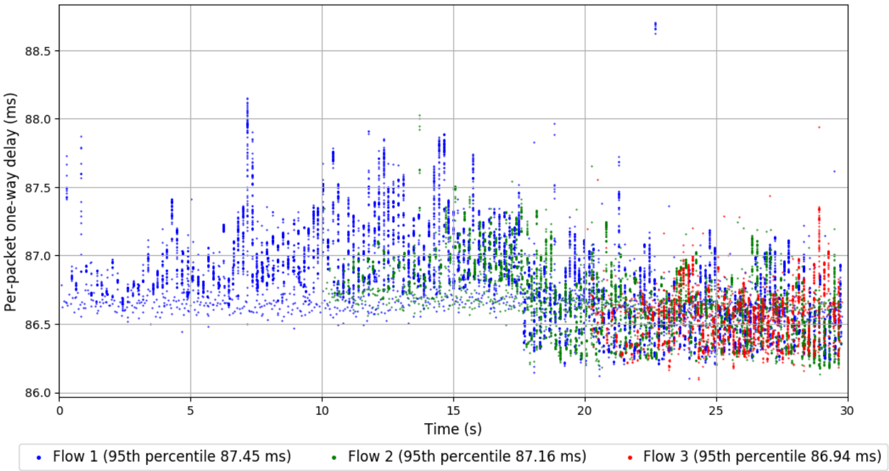
```
Run 1: Statistics of Sprout

Start at: 2017-09-22 00:54:21
End at: 2017-09-22 00:54:51

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 87.311 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 87.453 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 87.161 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 86.939 ms
Loss rate: 2.05%
```

Run 1: Report of Sprout — Data Link



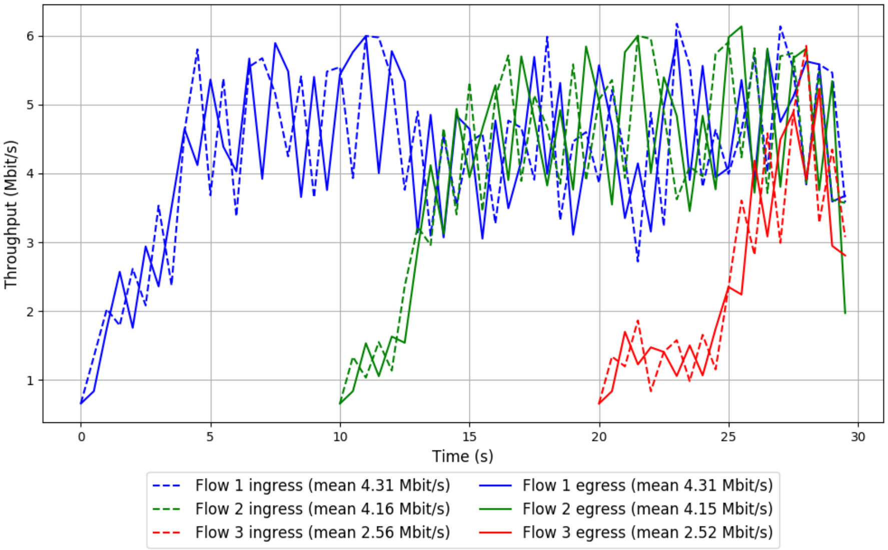


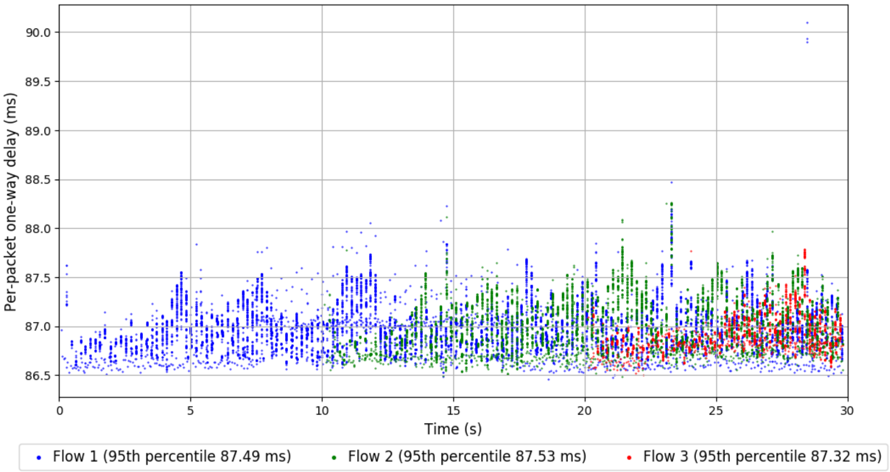
```
Run 2: Statistics of Sprout

Start at: 2017-09-22 01:08:31
End at: 2017-09-22 01:09:01

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 87.493 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 87.486 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 87.526 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 87.317 ms
Loss rate: 3.31%
```

Run 2: Report of Sprout — Data Link



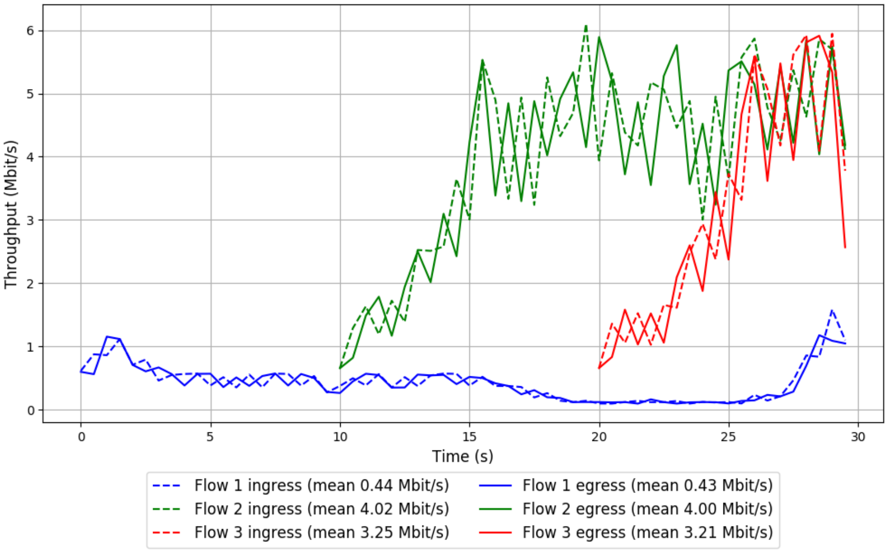


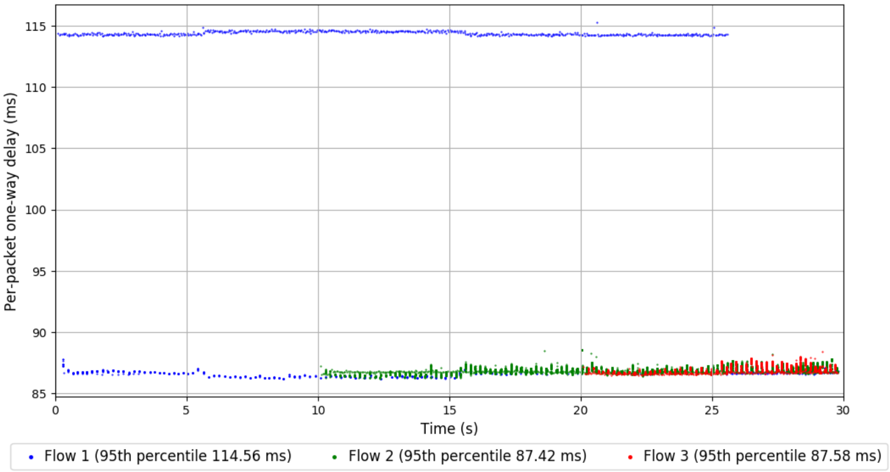
```
Run 3: Statistics of Sprout

Start at: 2017-09-22 01:24:13
End at: 2017-09-22 01:24:43

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 114.180 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 114.565 ms
Loss rate: 2.19%
-- Flow 2:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 87.418 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 87.580 ms
Loss rate: 3.08%
```

Run 3: Report of Sprout — Data Link



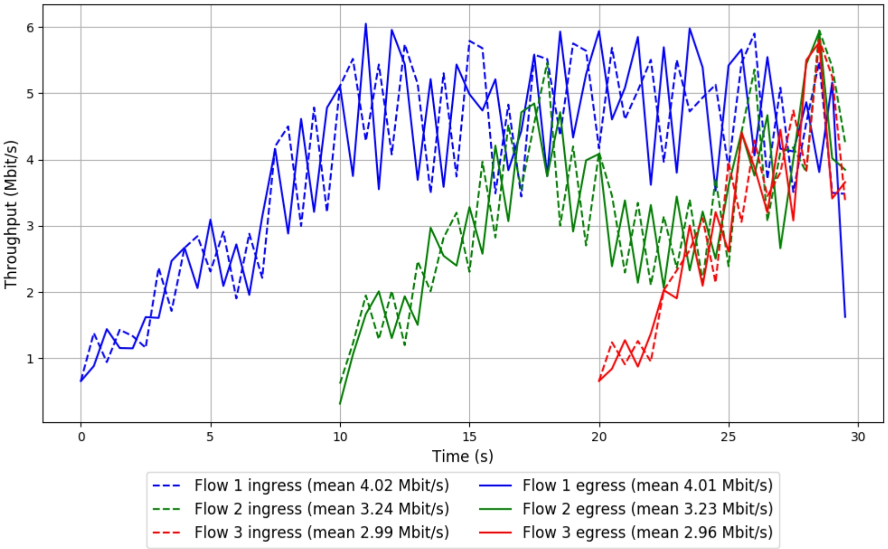


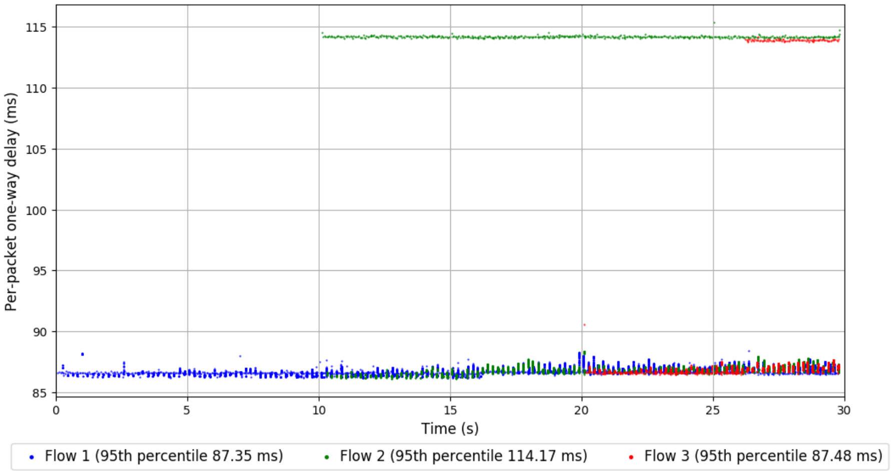
```
Run 4: Statistics of Sprout

Start at: 2017-09-22 01:37:52
End at: 2017-09-22 01:38:22

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 87.612 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 87.349 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 114.172 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 87.477 ms
Loss rate: 2.73%
```

Run 4: Report of Sprout — Data Link

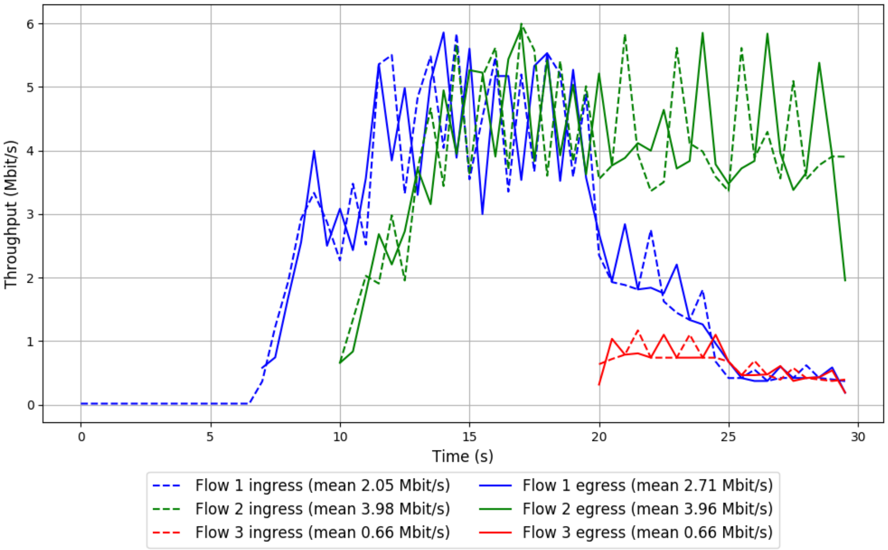


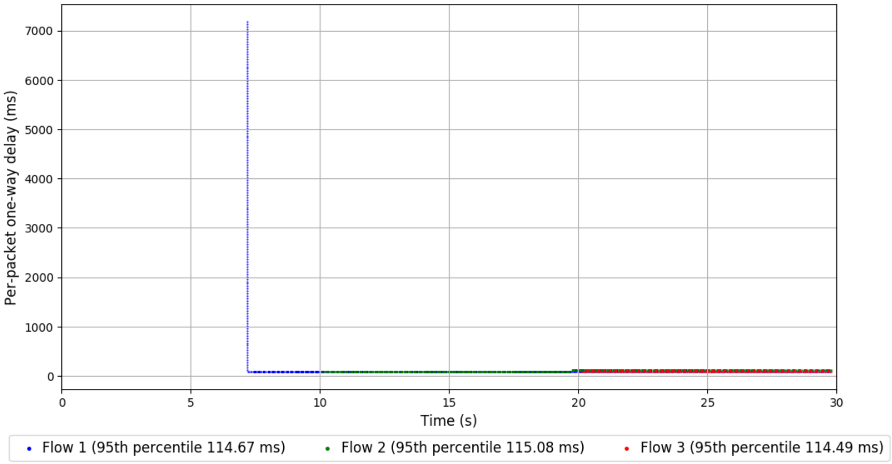


```
Run 5: Statistics of Sprout

Start at: 2017-09-22 01:51:39
End at: 2017-09-22 01:52:09
```

Run 5: Report of Sprout — Data Link



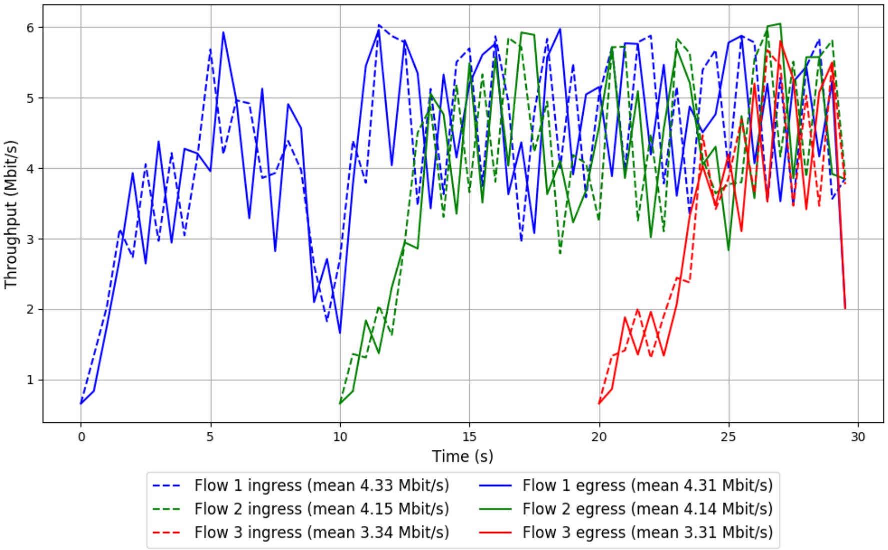


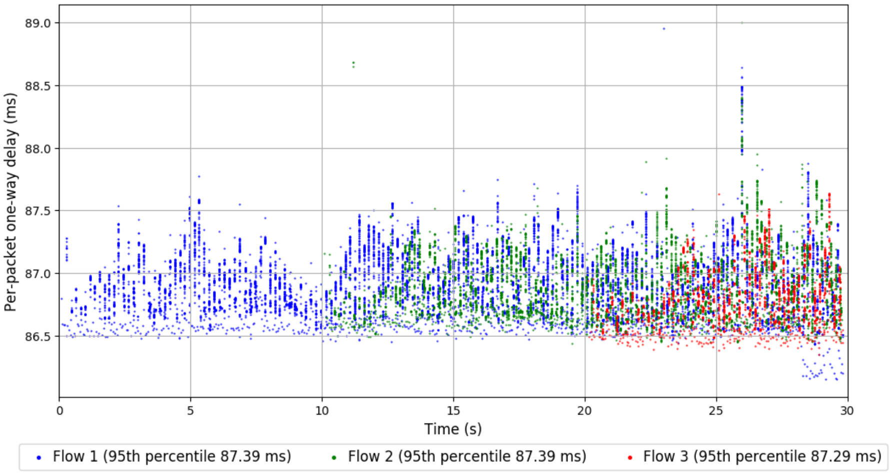
```
Run 6: Statistics of Sprout

Start at: 2017-09-22 02:05:40
End at: 2017-09-22 02:06:10

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 87.380 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 87.390 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 87.393 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 87.290 ms
Loss rate: 2.78%
```

Run 6: Report of Sprout — Data Link



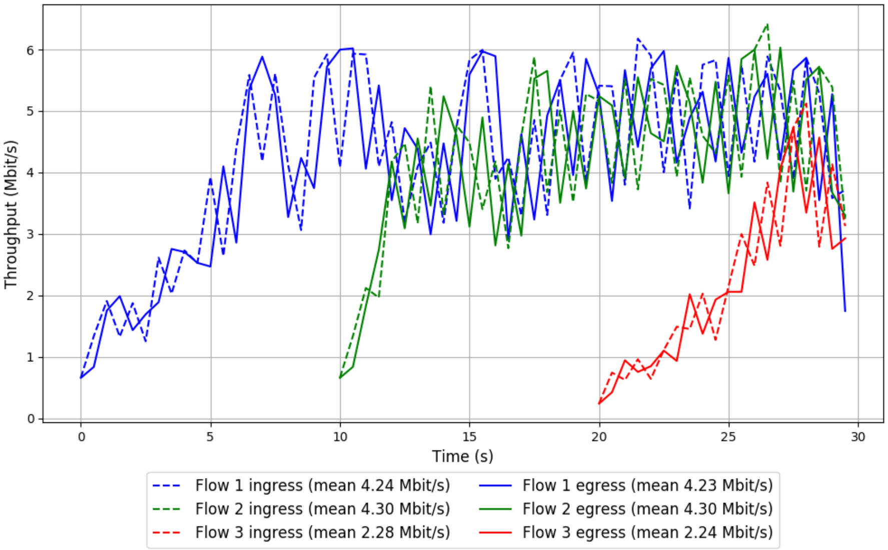


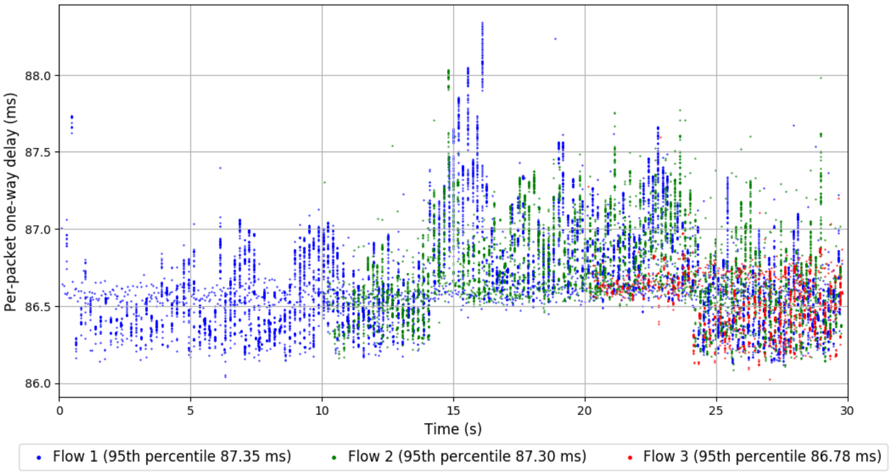
```
Run 7: Statistics of Sprout

Start at: 2017-09-22 02:20:14
End at: 2017-09-22 02:20:44

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 87.306 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 87.352 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 87.296 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 86.780 ms
Loss rate: 3.53%
```

Run 7: Report of Sprout — Data Link



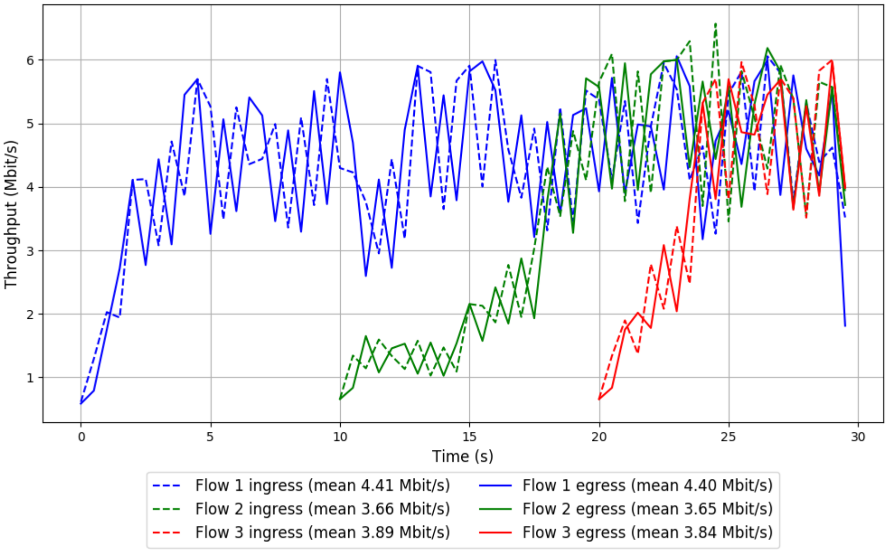


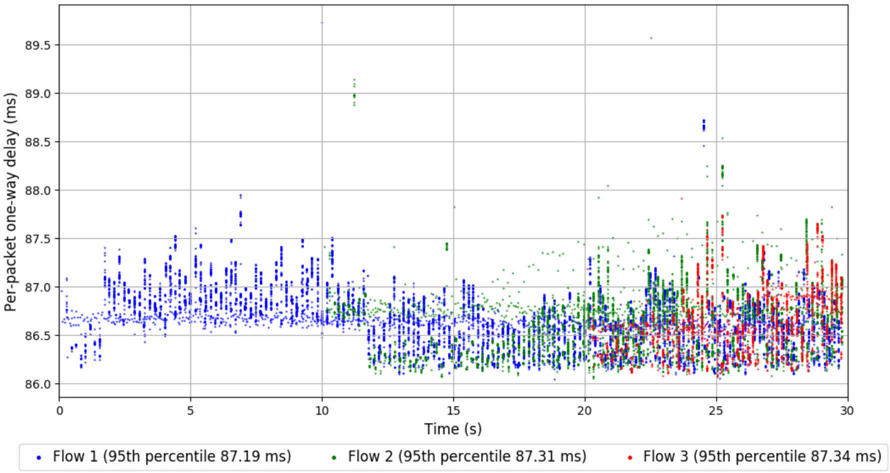
```
Run 8: Statistics of Sprout

Start at: 2017-09-22 02:34:07
End at: 2017-09-22 02:34:37

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.06 Mbit/s
95th percentile per-packet one-way delay: 87.254 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 87.189 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 87.310 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 87.343 ms
Loss rate: 2.61%
```

Run 8: Report of Sprout — Data Link



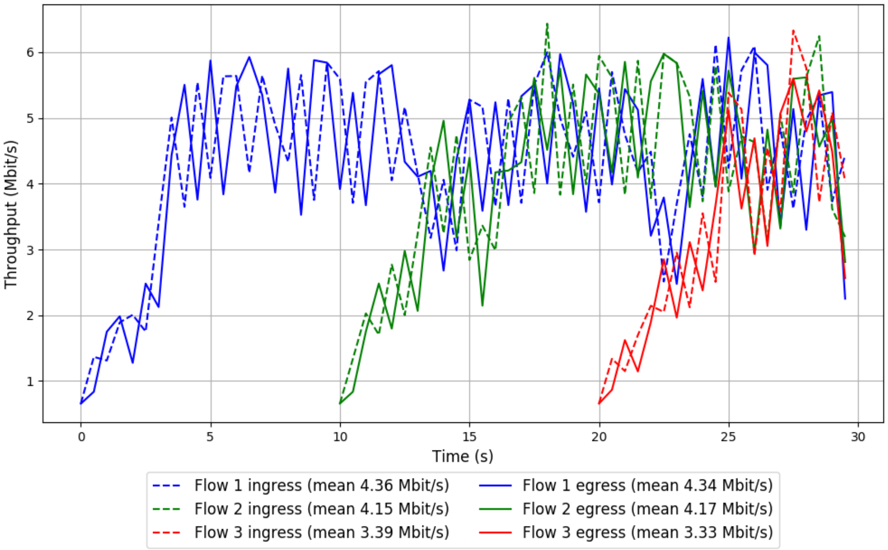


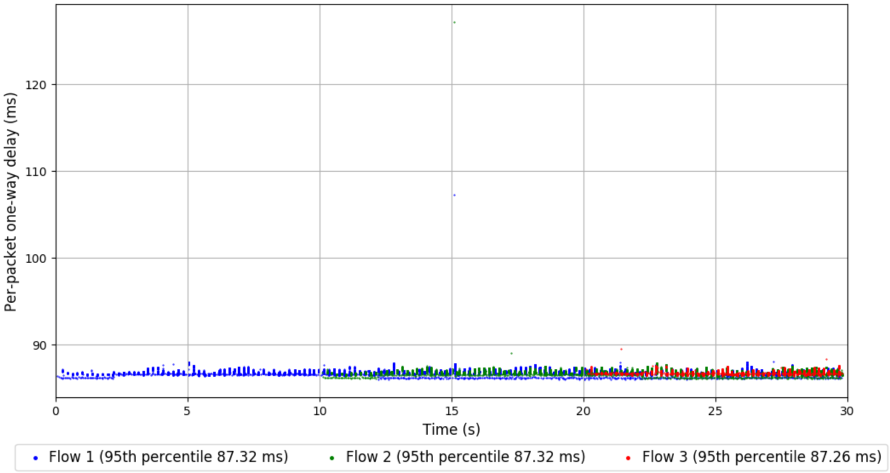
```
Run 9: Statistics of Sprout

Start at: 2017-09-22 02:48:36
End at: 2017-09-22 02:49:06

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 87.315 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 87.322 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 87.321 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 87.262 ms
Loss rate: 3.11%
```

Run 9: Report of Sprout — Data Link



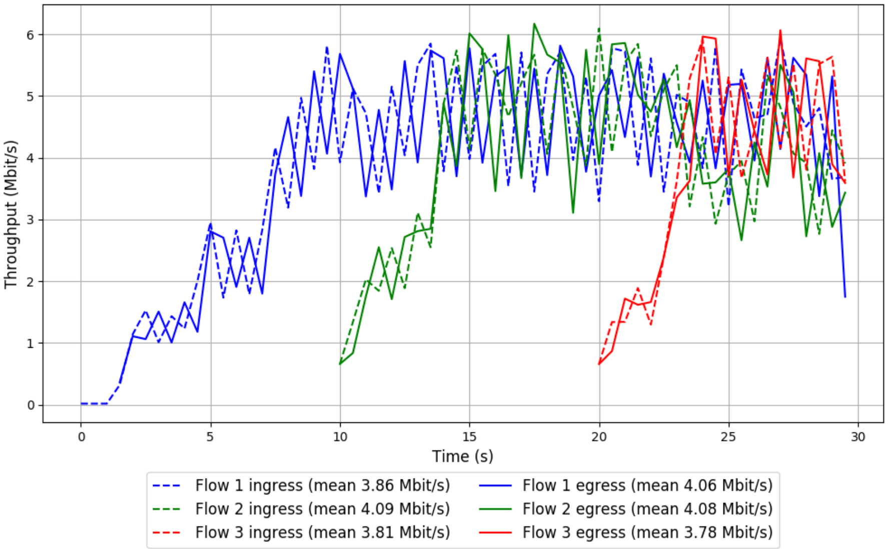


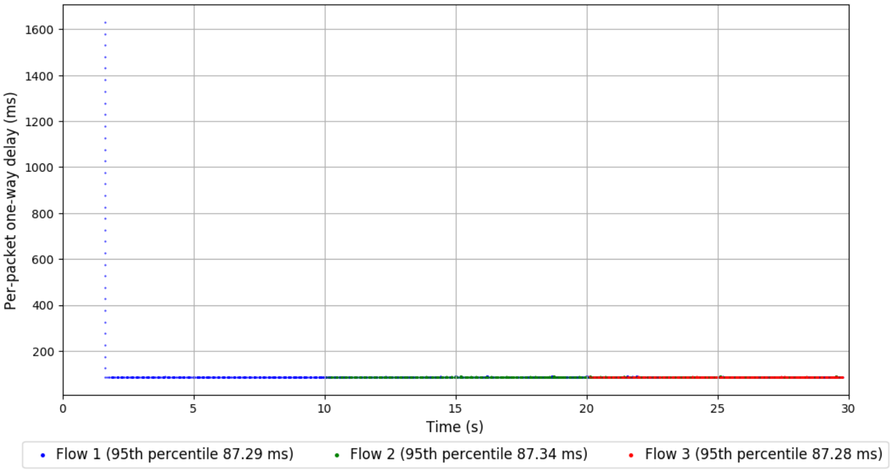
```
Run 10: Statistics of Sprout

Start at: 2017-09-22 03:01:57
End at: 2017-09-22 03:02:27

# Below is generated by plot.py at 2017-09-22 05:52:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 87.308 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 87.289 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 87.341 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 87.277 ms
Loss rate: 2.35%
```

Run 10: Report of Sprout — Data Link



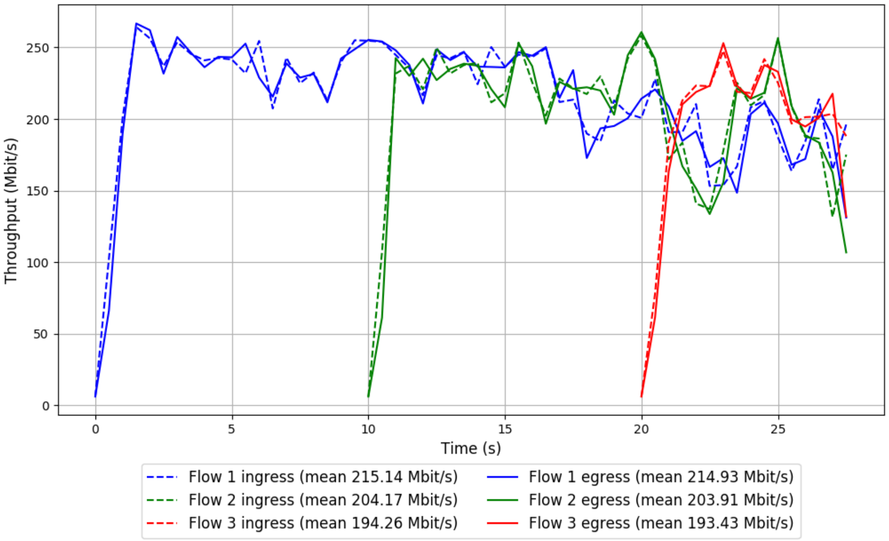


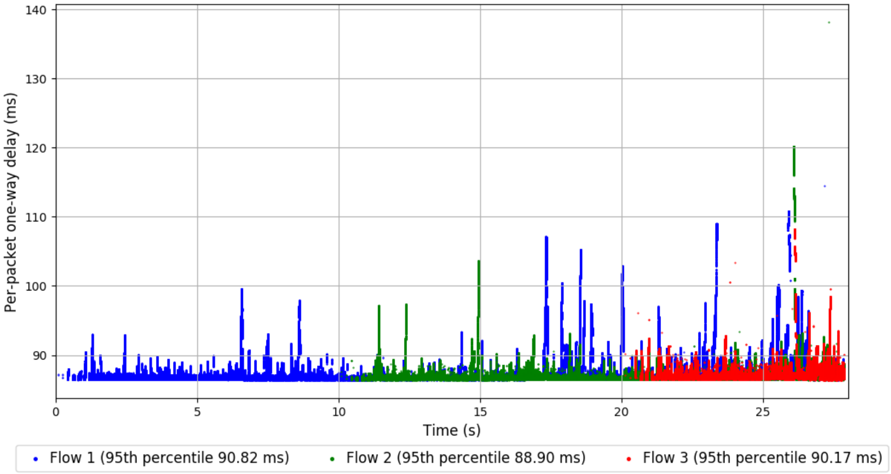
```
Run 1: Statistics of TaoVA-100x

Start at: 2017-09-22 01:01:10
End at: 2017-09-22 01:01:40

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.19 Mbit/s
95th percentile per-packet one-way delay: 89.945 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 214.93 Mbit/s
95th percentile per-packet one-way delay: 90.817 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 203.91 Mbit/s
95th percentile per-packet one-way delay: 88.904 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 193.43 Mbit/s
95th percentile per-packet one-way delay: 90.173 ms
Loss rate: 2.65%
```

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



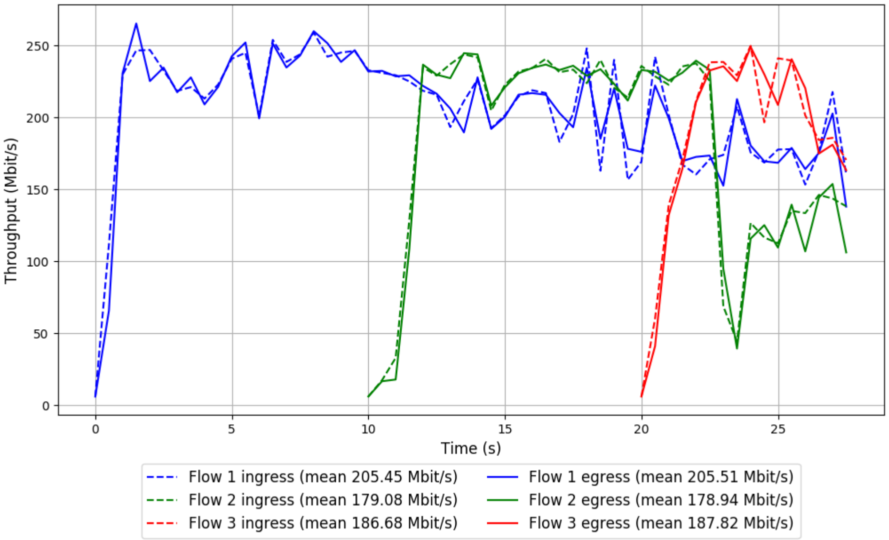


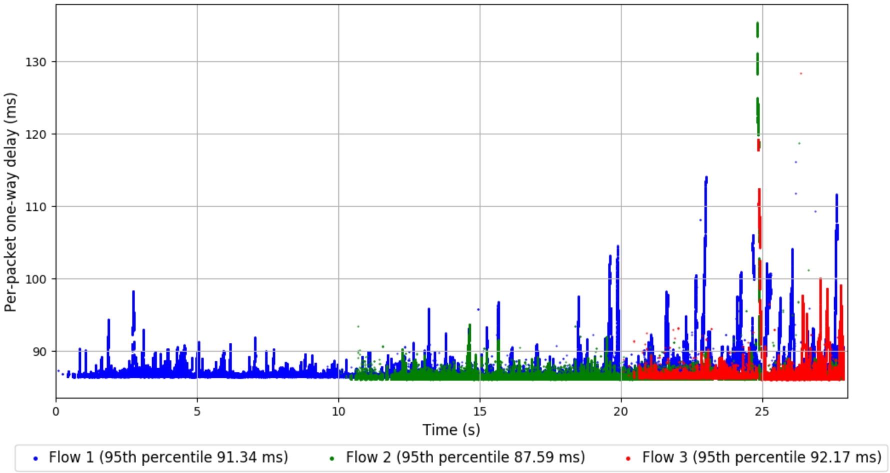
```
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-22 01:15:26
End at: 2017-09-22 01:15:56

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.41 Mbit/s
95th percentile per-packet one-way delay: 90.192 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 205.51 Mbit/s
95th percentile per-packet one-way delay: 91.337 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 178.94 Mbit/s
95th percentile per-packet one-way delay: 87.593 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 187.82 Mbit/s
95th percentile per-packet one-way delay: 92.174 ms
Loss rate: 1.61%
```

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



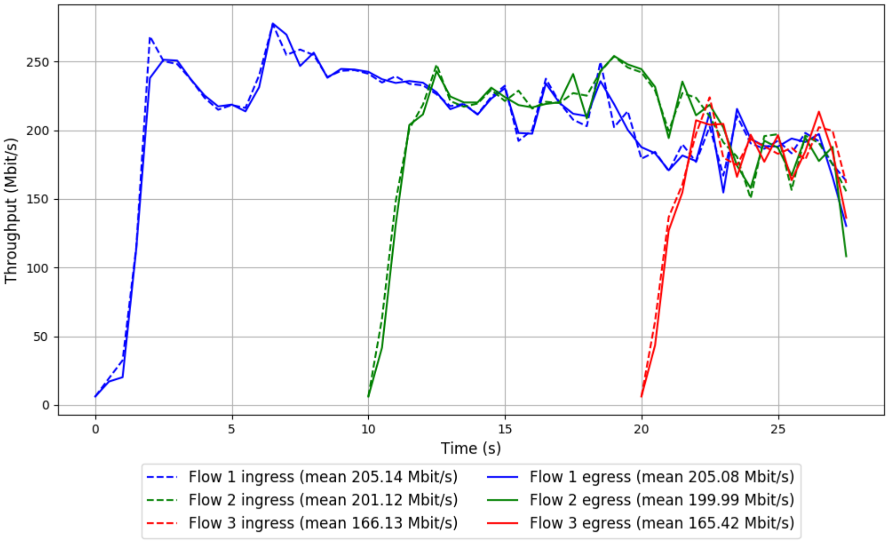


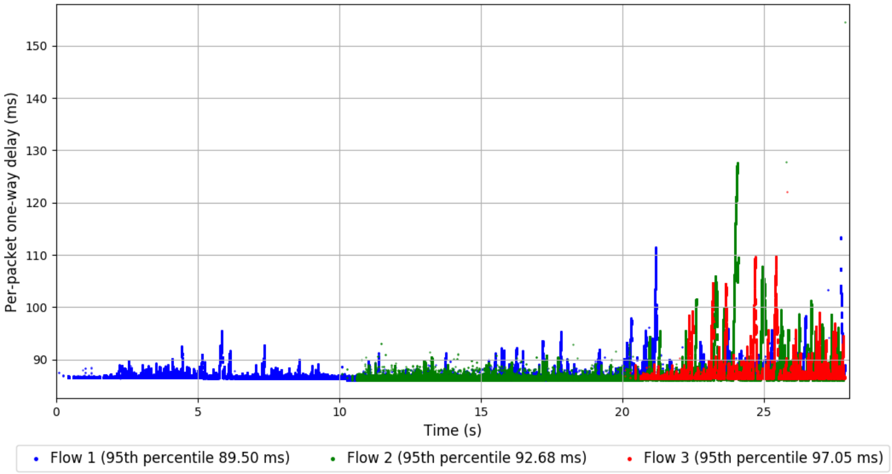
```
Run 3: Statistics of TaoVA-100x

Start at: 2017-09-22 01:31:06
End at: 2017-09-22 01:31:36

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.03 Mbit/s
95th percentile per-packet one-way delay: 91.250 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 205.08 Mbit/s
95th percentile per-packet one-way delay: 89.497 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 199.99 Mbit/s
95th percentile per-packet one-way delay: 92.683 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 165.42 Mbit/s
95th percentile per-packet one-way delay: 97.049 ms
Loss rate: 2.60%
```

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



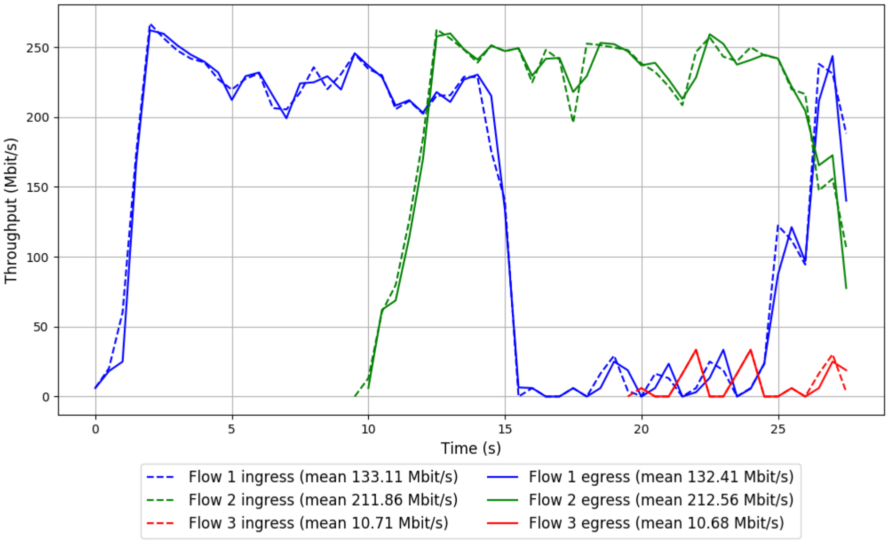


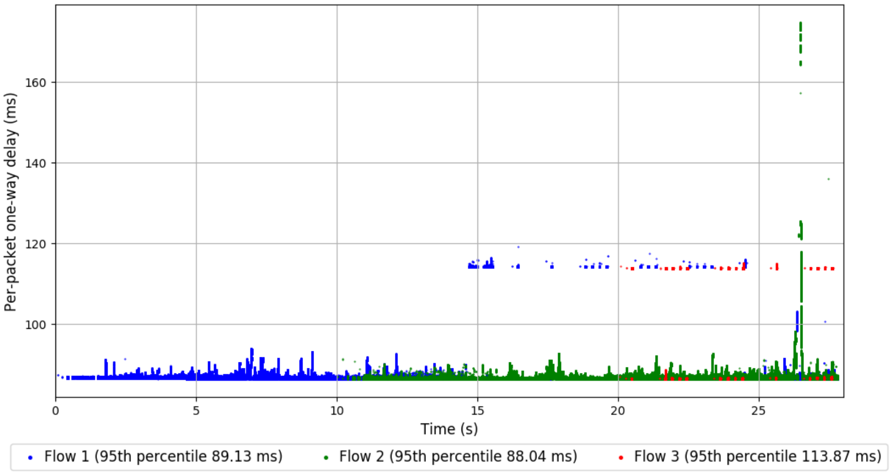
```
Run 4: Statistics of TaoVA-100x

Start at: 2017-09-22 01:45:22
End at: 2017-09-22 01:45:52

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.56 Mbit/s
95th percentile per-packet one-way delay: 88.733 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 132.41 Mbit/s
95th percentile per-packet one-way delay: 89.133 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 212.56 Mbit/s
95th percentile per-packet one-way delay: 88.036 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 113.874 ms
Loss rate: 0.00%
```

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



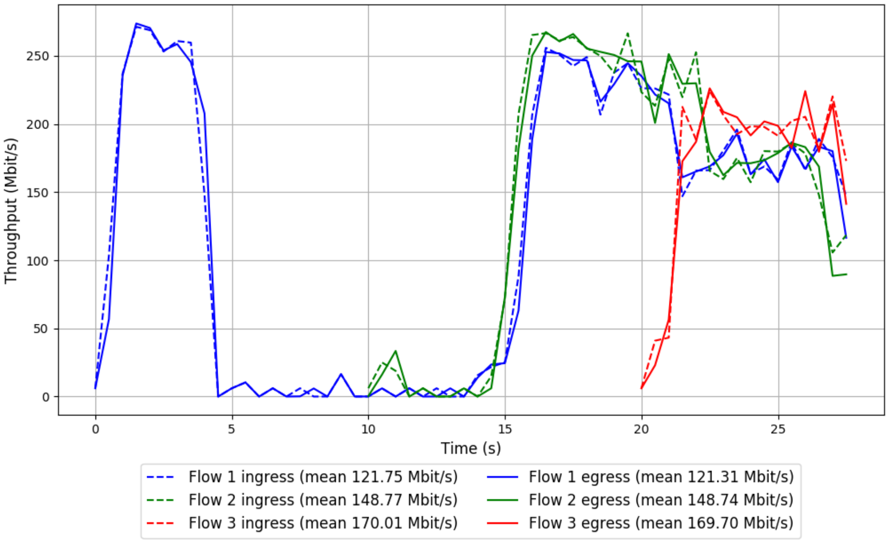


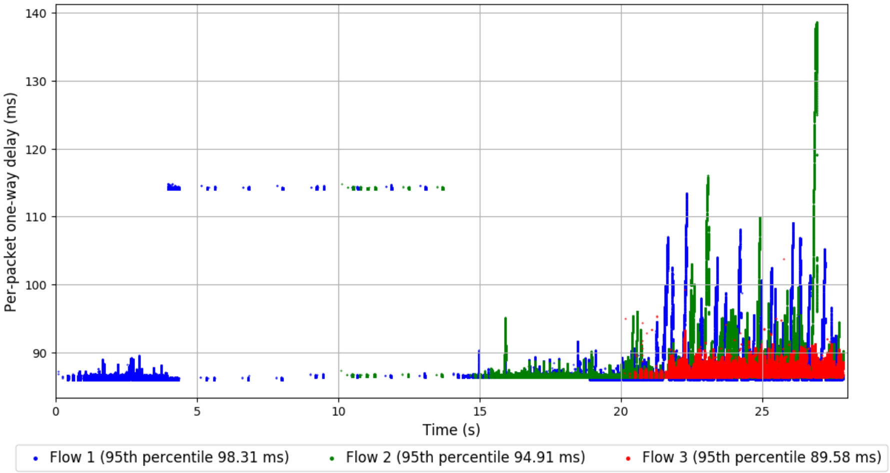
```
Run 5: Statistics of TaoVA-100x

Start at: 2017-09-22 01:59:02
End at: 2017-09-22 01:59:32

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.62 Mbit/s
95th percentile per-packet one-way delay: 94.861 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 121.31 Mbit/s
95th percentile per-packet one-way delay: 98.305 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 148.74 Mbit/s
95th percentile per-packet one-way delay: 94.914 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 169.70 Mbit/s
95th percentile per-packet one-way delay: 89.579 ms
Loss rate: 2.40%
```

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



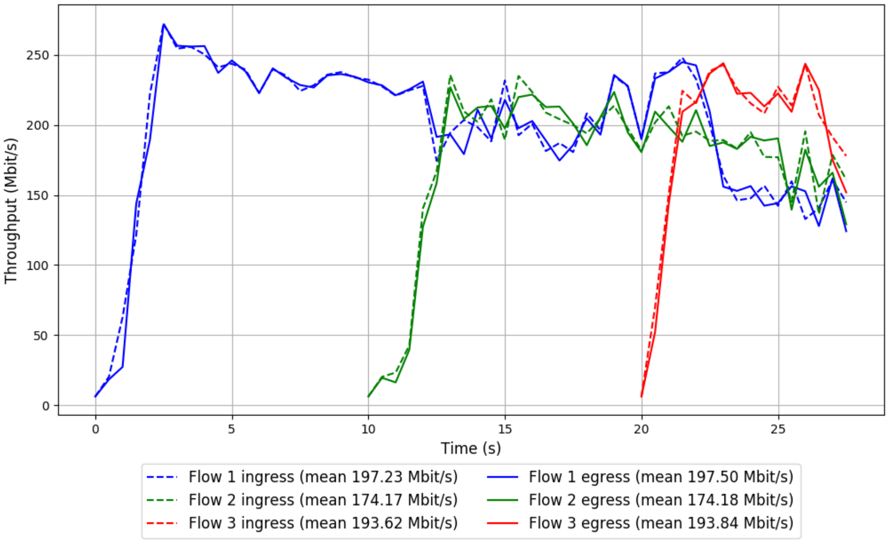


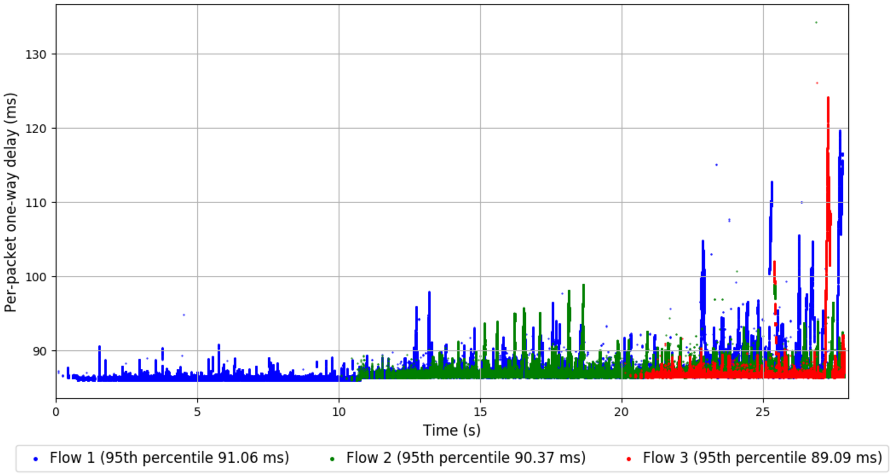
```
Run 6: Statistics of TaoVA-100x

Start at: 2017-09-22 02:12:56
End at: 2017-09-22 02:13:26

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.75 Mbit/s
95th percentile per-packet one-way delay: 90.695 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 197.50 Mbit/s
95th percentile per-packet one-way delay: 91.055 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 174.18 Mbit/s
95th percentile per-packet one-way delay: 90.370 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 193.84 Mbit/s
95th percentile per-packet one-way delay: 89.089 ms
Loss rate: 2.09%
```

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



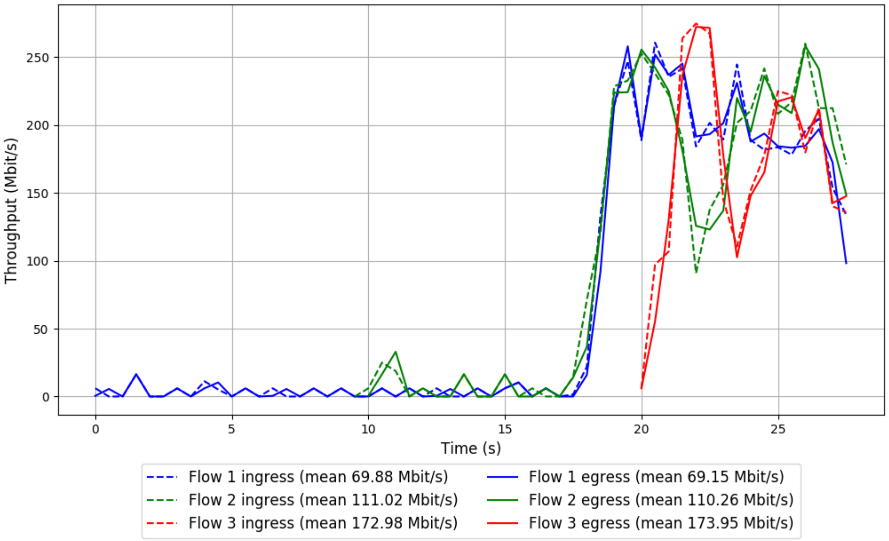


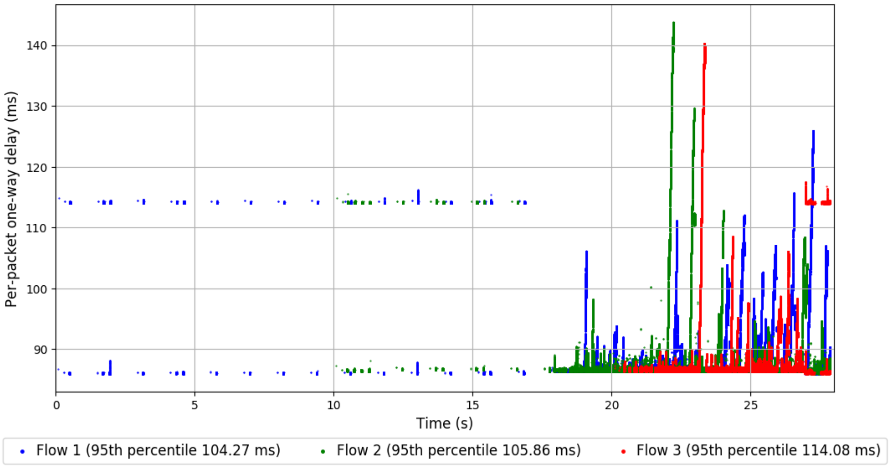
```
Run 7: Statistics of TaoVA-100x

Start at: 2017-09-22 02:27:19
End at: 2017-09-22 02:27:49

# Below is generated by plot.py at 2017-09-22 05:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.26 Mbit/s
95th percentile per-packet one-way delay: 107.329 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 69.15 Mbit/s
95th percentile per-packet one-way delay: 104.267 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 110.26 Mbit/s
95th percentile per-packet one-way delay: 105.864 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 173.95 Mbit/s
95th percentile per-packet one-way delay: 114.076 ms
Loss rate: 0.80%
```

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



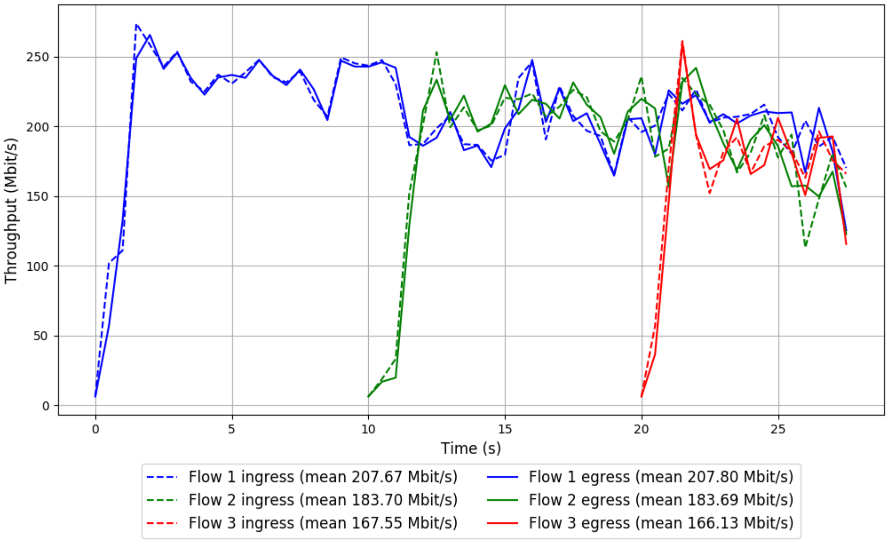


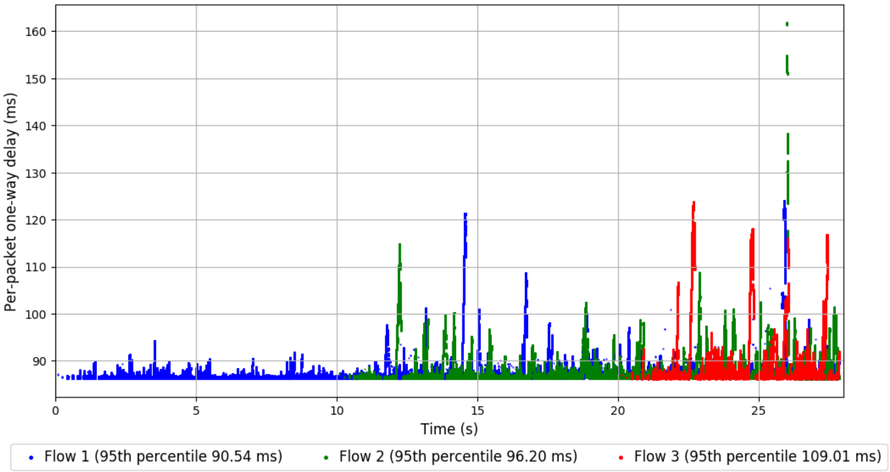
```
Run 8: Statistics of TaoVA-100x

Start at: 2017-09-22 02:41:00
End at: 2017-09-22 02:41:30

# Below is generated by plot.py at 2017-09-22 06:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.51 Mbit/s
95th percentile per-packet one-way delay: 94.910 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 207.80 Mbit/s
95th percentile per-packet one-way delay: 90.540 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 183.69 Mbit/s
95th percentile per-packet one-way delay: 96.202 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 166.13 Mbit/s
95th percentile per-packet one-way delay: 109.008 ms
Loss rate: 2.75%
```

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



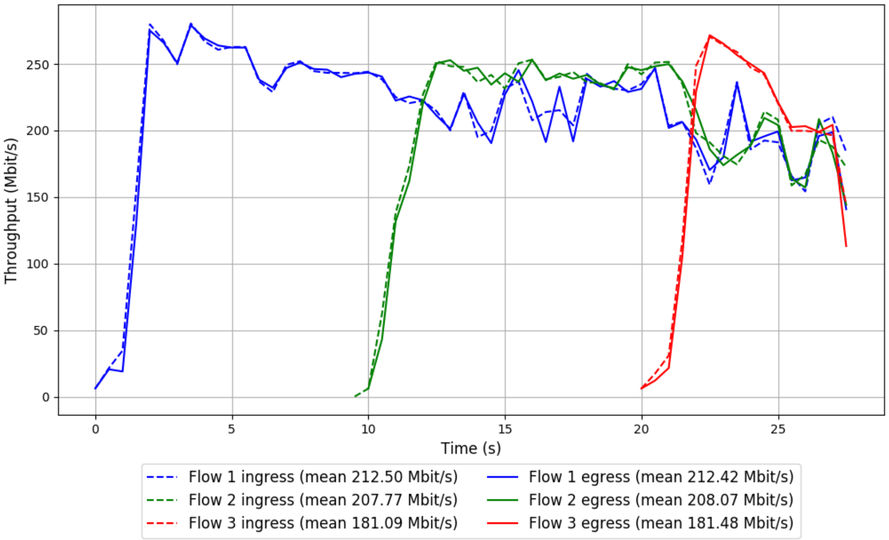


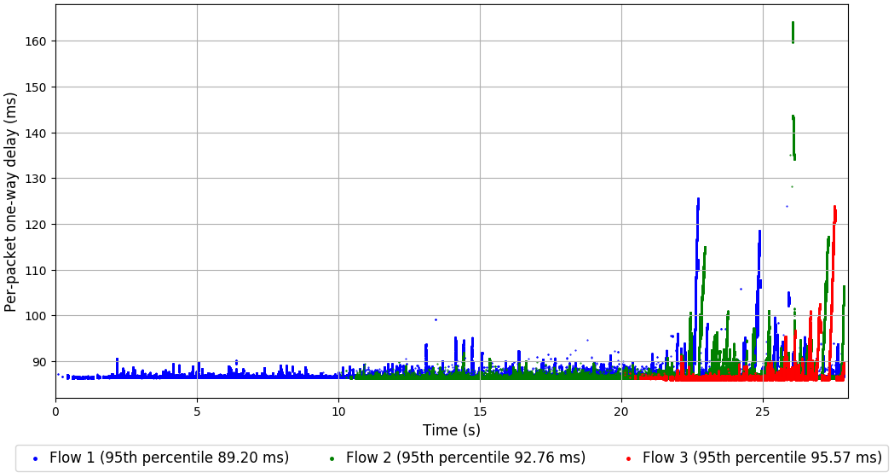
```
Run 9: Statistics of TaoVA-100x

Start at: 2017-09-22 02:55:25
End at: 2017-09-22 02:55:55

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.06 Mbit/s
95th percentile per-packet one-way delay: 90.847 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 212.42 Mbit/s
95th percentile per-packet one-way delay: 89.201 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 208.07 Mbit/s
95th percentile per-packet one-way delay: 92.761 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 181.48 Mbit/s
95th percentile per-packet one-way delay: 95.571 ms
Loss rate: 2.02%
```

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



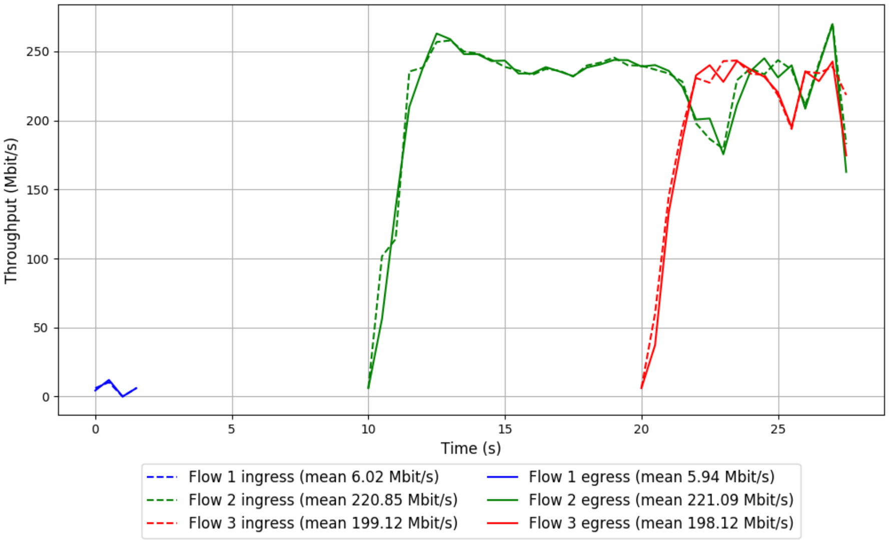


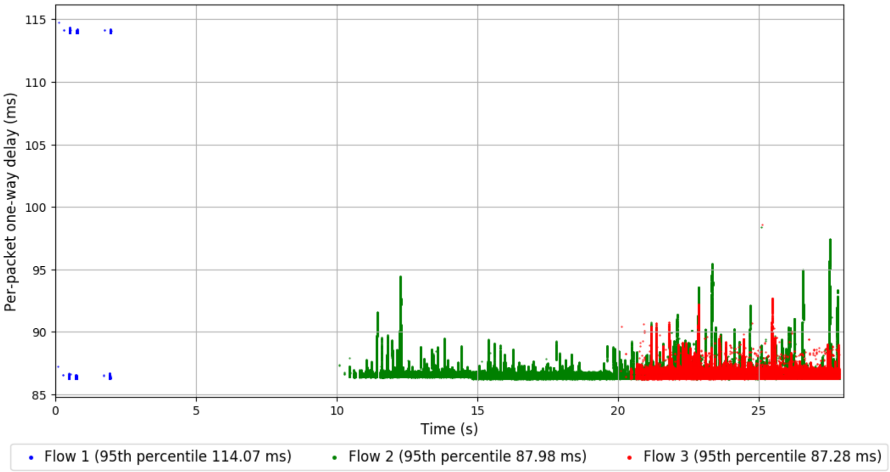
```
Run 10: Statistics of TaoVA-100x

Start at: 2017-09-22 03:08:52
End at: 2017-09-22 03:09:22

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.15 Mbit/s
95th percentile per-packet one-way delay: 87.797 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 114.073 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 221.09 Mbit/s
95th percentile per-packet one-way delay: 87.985 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 198.12 Mbit/s
95th percentile per-packet one-way delay: 87.275 ms
Loss rate: 2.69%
```

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



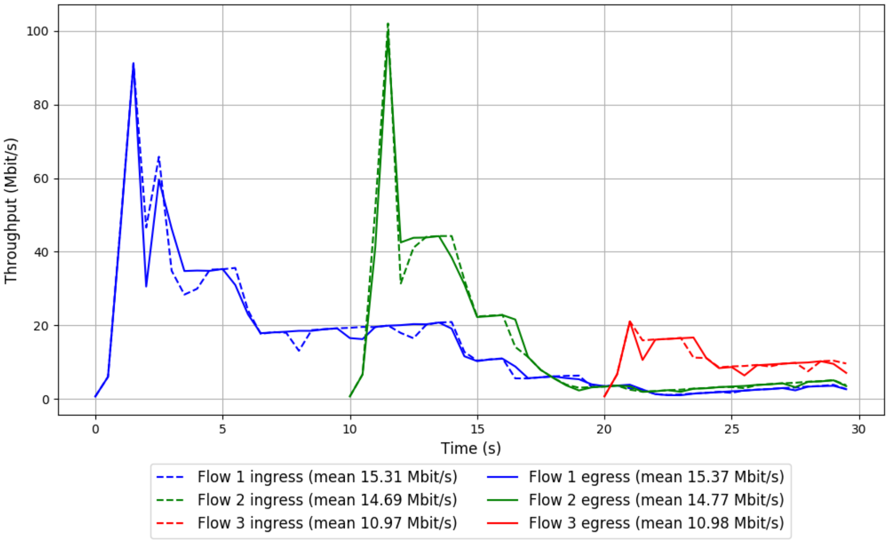


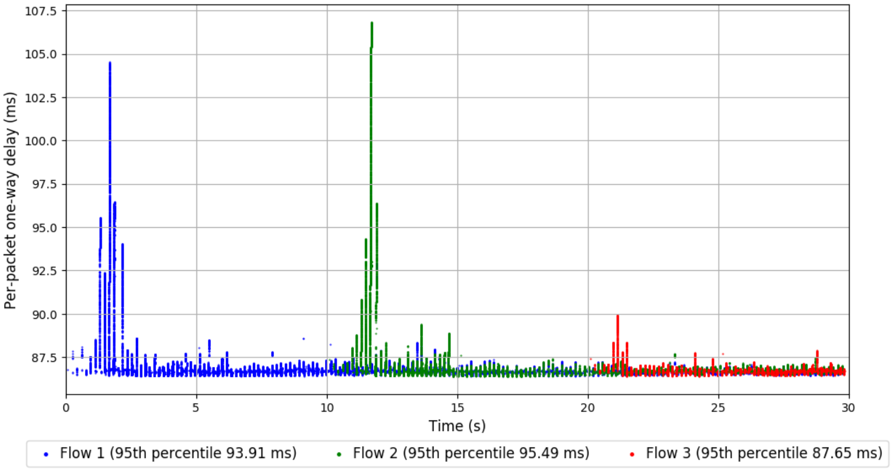
```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-22 01:00:24
End at: 2017-09-22 01:00:54

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.72 Mbit/s
95th percentile per-packet one-way delay: 93.876 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 15.37 Mbit/s
95th percentile per-packet one-way delay: 93.911 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 14.77 Mbit/s
95th percentile per-packet one-way delay: 95.489 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 10.98 Mbit/s
95th percentile per-packet one-way delay: 87.649 ms
Loss rate: 1.65%
```

Run 1: Report of TCP Vegas — Data Link



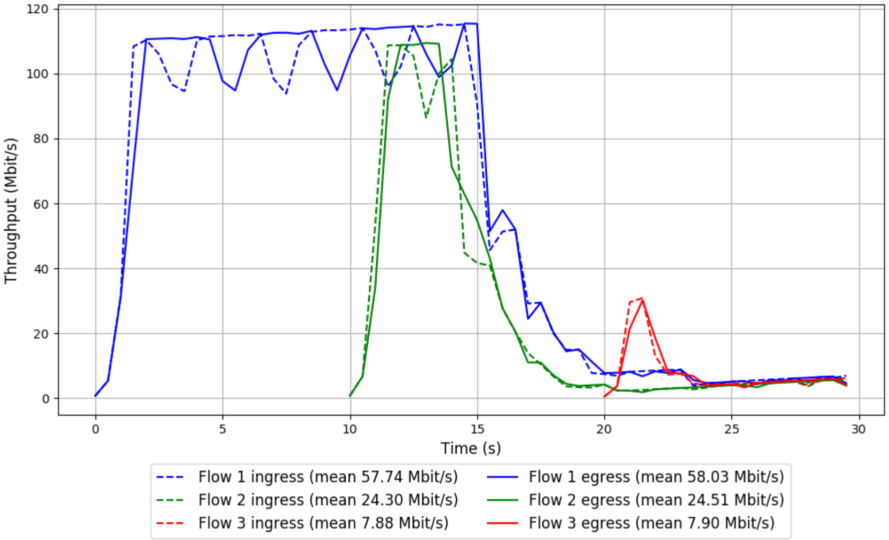


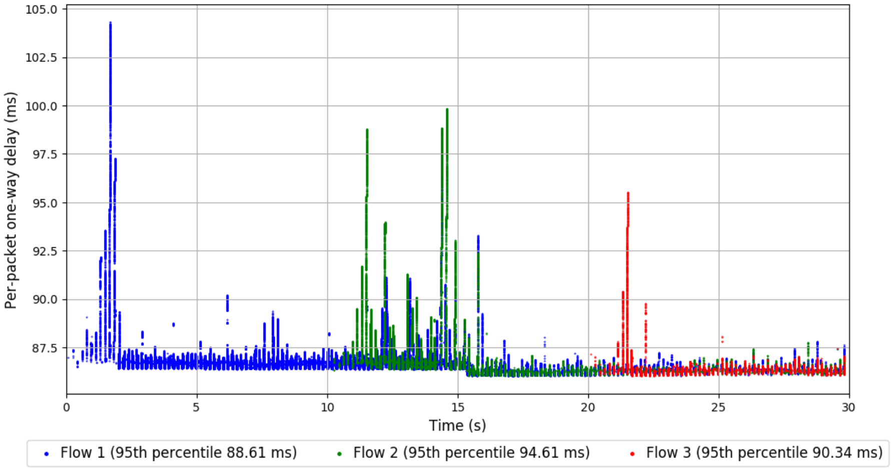
```
Run 2: Statistics of TCP Vegas

Start at: 2017-09-22 01:14:33
End at: 2017-09-22 01:15:03

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.86 Mbit/s
95th percentile per-packet one-way delay: 90.271 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 88.615 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 94.610 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 90.337 ms
Loss rate: 1.46%
```

Run 2: Report of TCP Vegas — Data Link



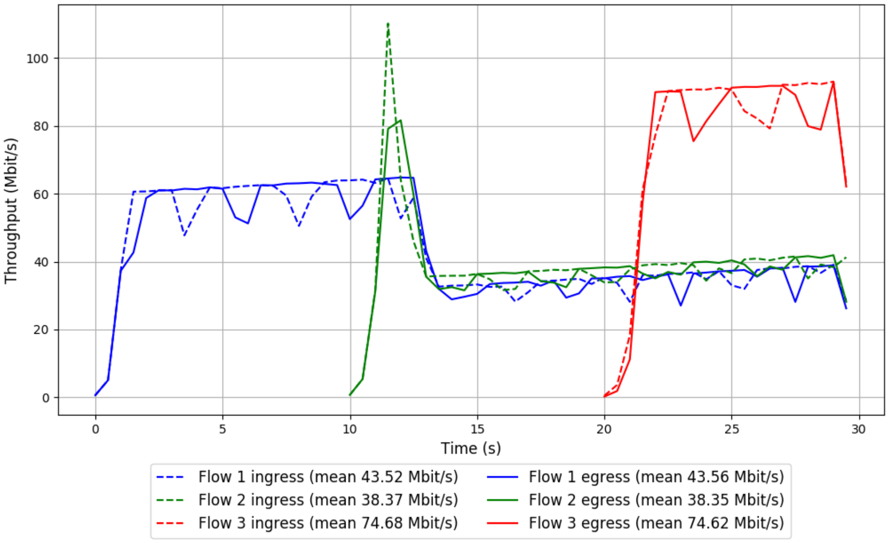


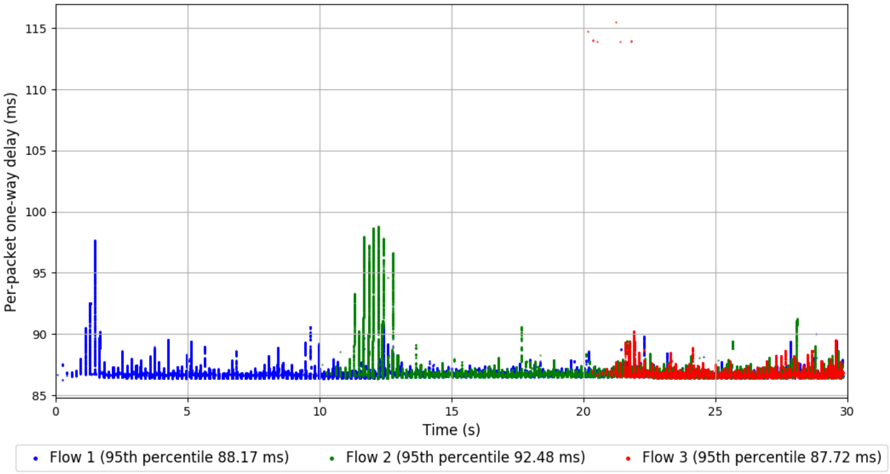
```
Run 3: Statistics of TCP Vegas

Start at: 2017-09-22 01:30:16
End at: 2017-09-22 01:30:46

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.27 Mbit/s
95th percentile per-packet one-way delay: 88.592 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 43.56 Mbit/s
95th percentile per-packet one-way delay: 88.165 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 38.35 Mbit/s
95th percentile per-packet one-way delay: 92.484 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 74.62 Mbit/s
95th percentile per-packet one-way delay: 87.718 ms
Loss rate: 2.11%
```

Run 3: Report of TCP Vegas — Data Link



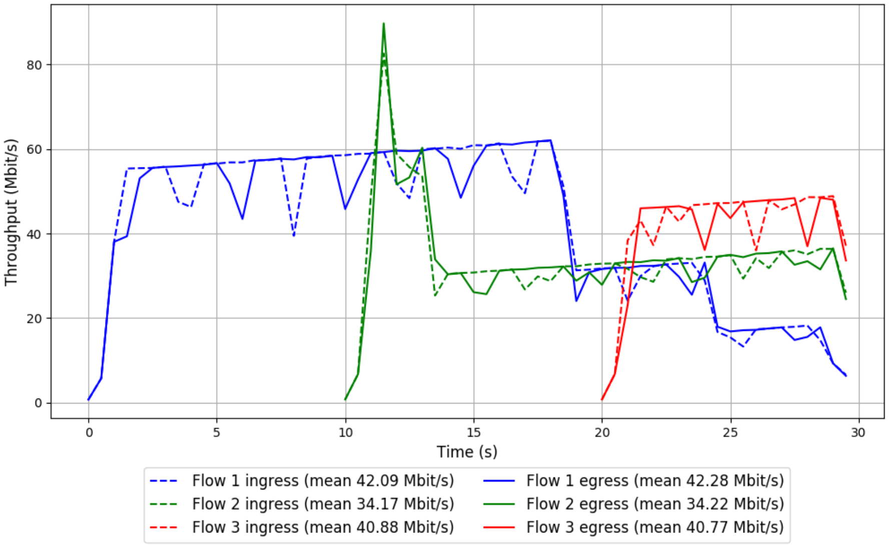


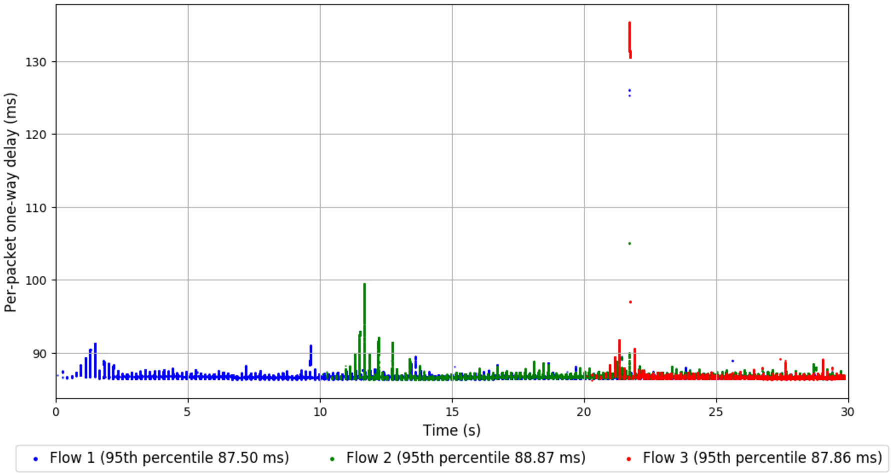
```
Run 4: Statistics of TCP Vegas

Start at: 2017-09-22 01:44:32
End at: 2017-09-22 01:45:02

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.21 Mbit/s
95th percentile per-packet one-way delay: 87.875 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 42.28 Mbit/s
95th percentile per-packet one-way delay: 87.503 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 34.22 Mbit/s
95th percentile per-packet one-way delay: 88.870 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 87.859 ms
Loss rate: 2.02%
```

Run 4: Report of TCP Vegas — Data Link



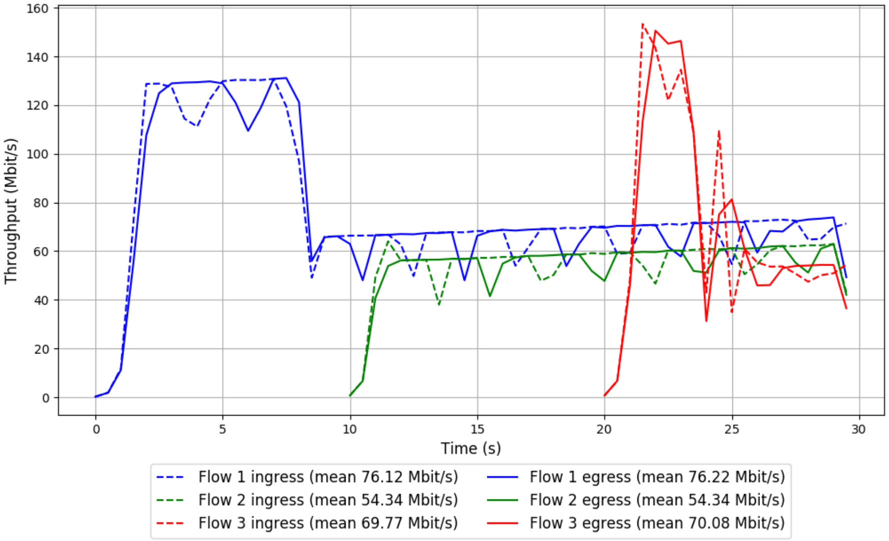


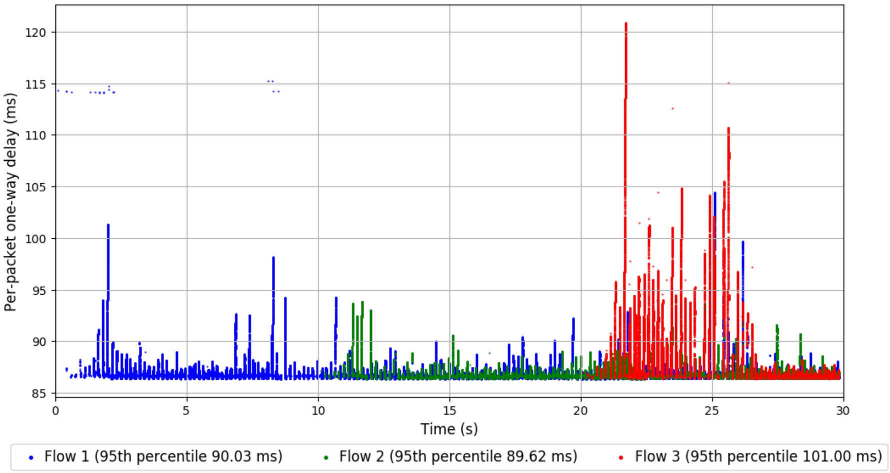
```
Run 5: Statistics of TCP Vegas

Start at: 2017-09-22 01:57:56
End at: 2017-09-22 01:58:26

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.27 Mbit/s
95th percentile per-packet one-way delay: 92.852 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 76.22 Mbit/s
95th percentile per-packet one-way delay: 90.026 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 54.34 Mbit/s
95th percentile per-packet one-way delay: 89.623 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 70.08 Mbit/s
95th percentile per-packet one-way delay: 100.997 ms
Loss rate: 1.32%
```

Run 5: Report of TCP Vegas — Data Link



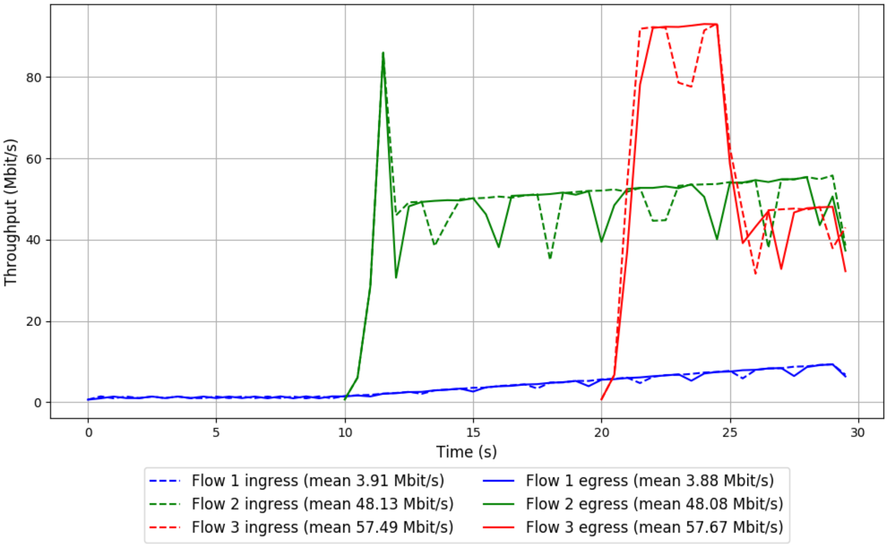


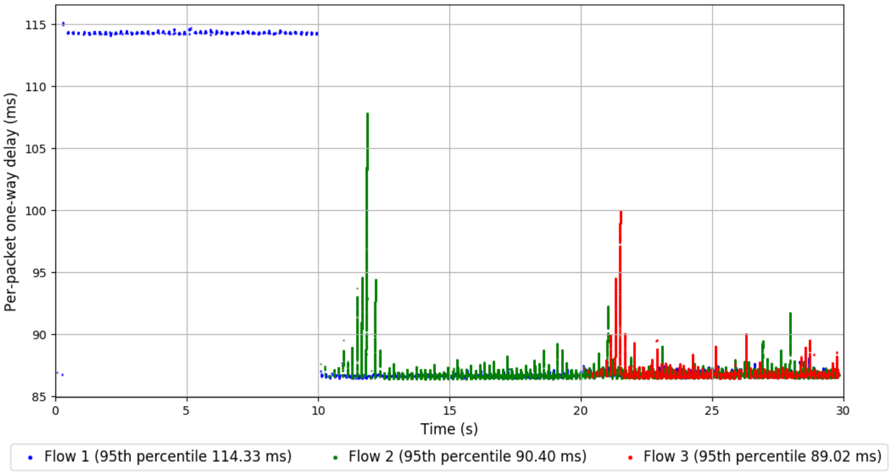
```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-22 02:12:08
End at: 2017-09-22 02:12:38

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.63 Mbit/s
95th percentile per-packet one-way delay: 89.874 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 114.333 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 48.08 Mbit/s
95th percentile per-packet one-way delay: 90.401 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 89.023 ms
Loss rate: 1.44%
```

Run 6: Report of TCP Vegas — Data Link



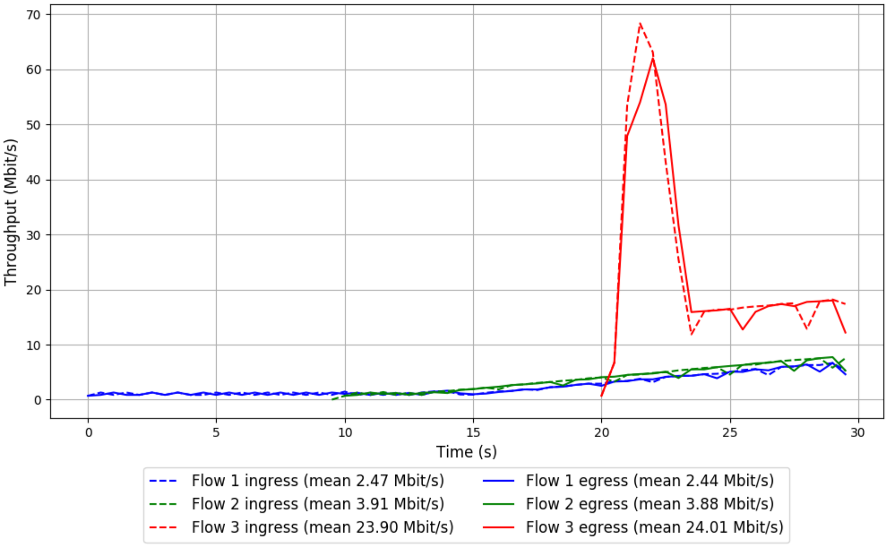


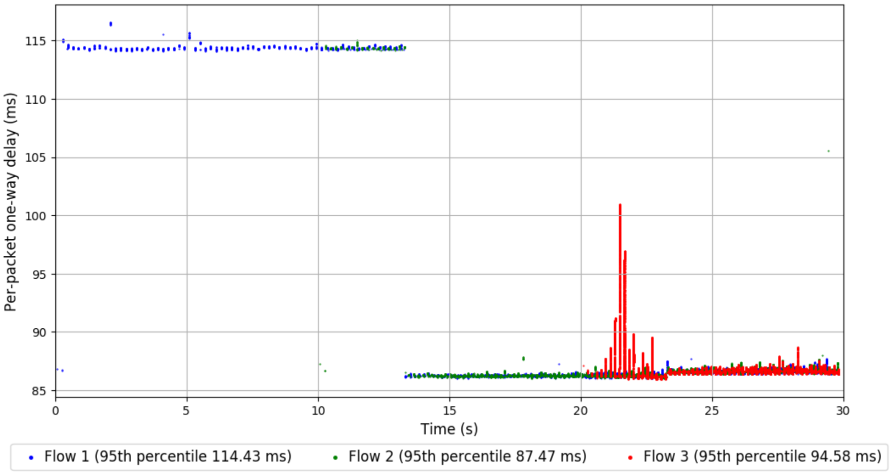
```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-22 02:26:35
End at: 2017-09-22 02:27:05

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 99.342 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 114.432 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 87.474 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 24.01 Mbit/s
95th percentile per-packet one-way delay: 94.579 ms
Loss rate: 1.32%
```

Run 7: Report of TCP Vegas — Data Link



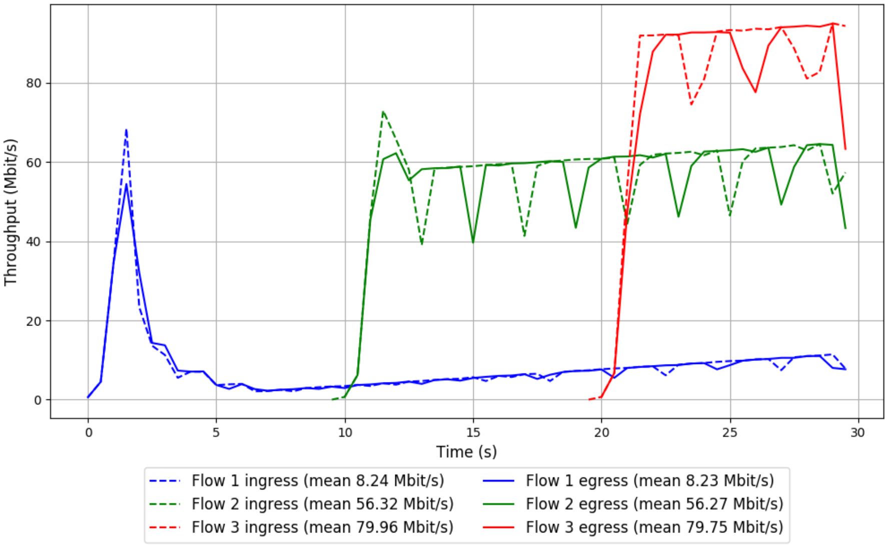


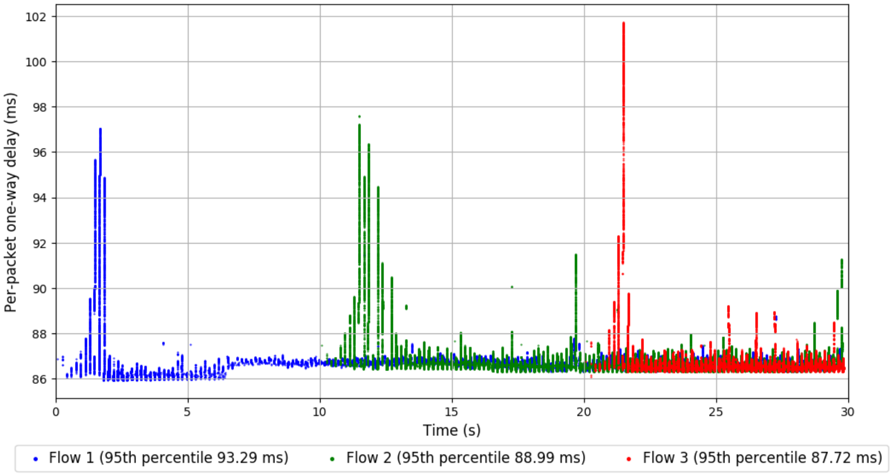
```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-22 02:40:12
End at: 2017-09-22 02:40:42

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.68 Mbit/s
95th percentile per-packet one-way delay: 88.948 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 93.287 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 56.27 Mbit/s
95th percentile per-packet one-way delay: 88.992 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 87.720 ms
Loss rate: 2.00%
```

Run 8: Report of TCP Vegas — Data Link



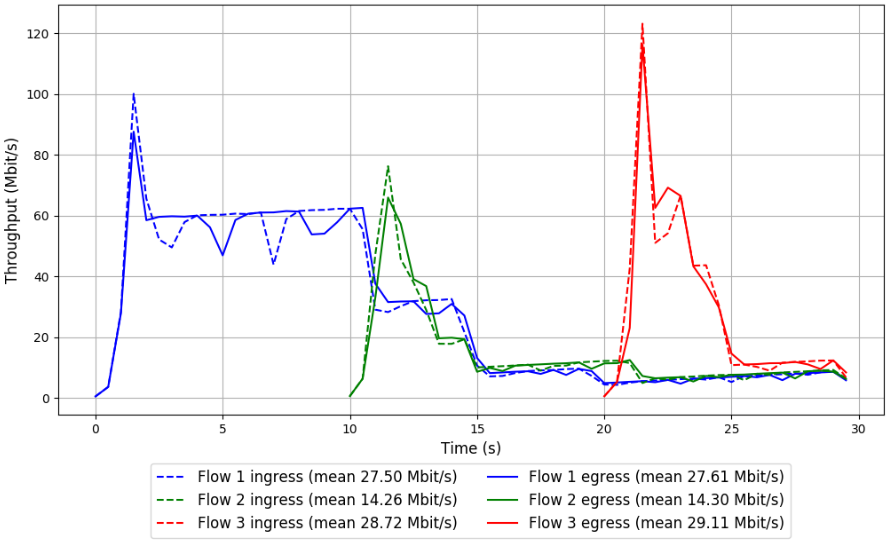


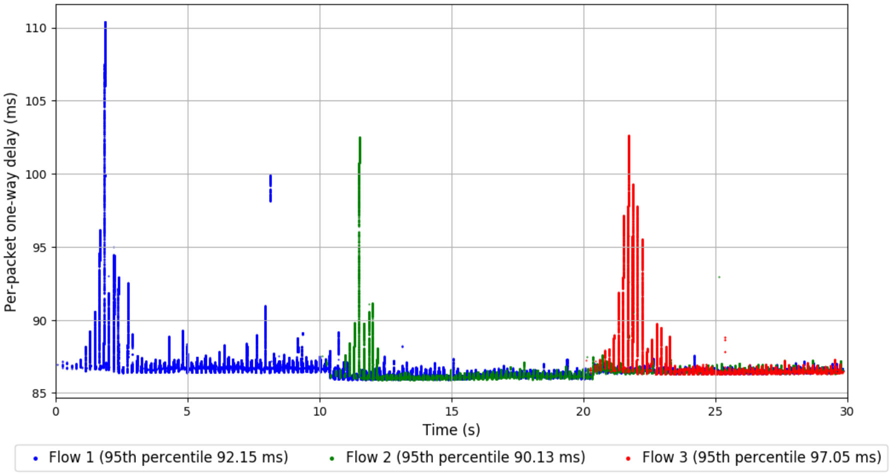
```
Run 9: Statistics of TCP Vegas

Start at: 2017-09-22 02:54:38
End at: 2017-09-22 02:55:08

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.63 Mbit/s
95th percentile per-packet one-way delay: 94.726 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 92.148 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 14.30 Mbit/s
95th percentile per-packet one-way delay: 90.130 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 97.053 ms
Loss rate: 0.43%
```

Run 9: Report of TCP Vegas — Data Link



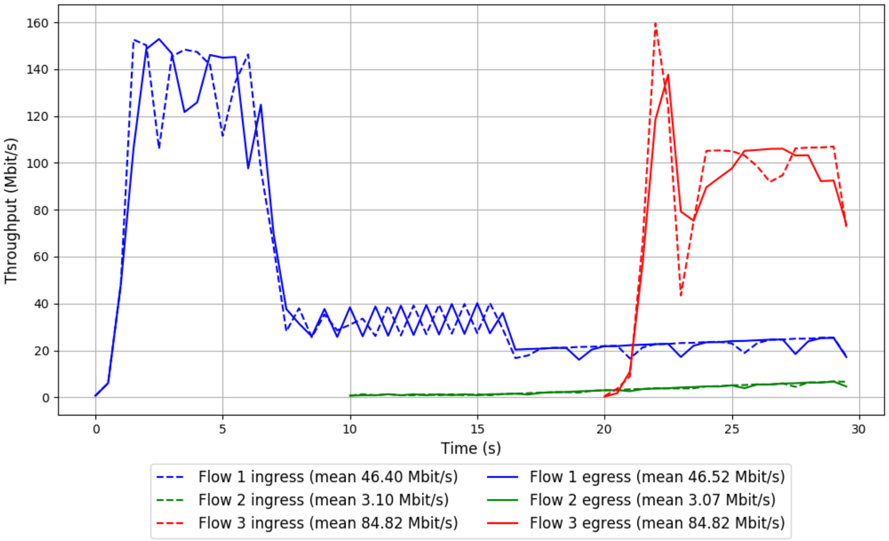


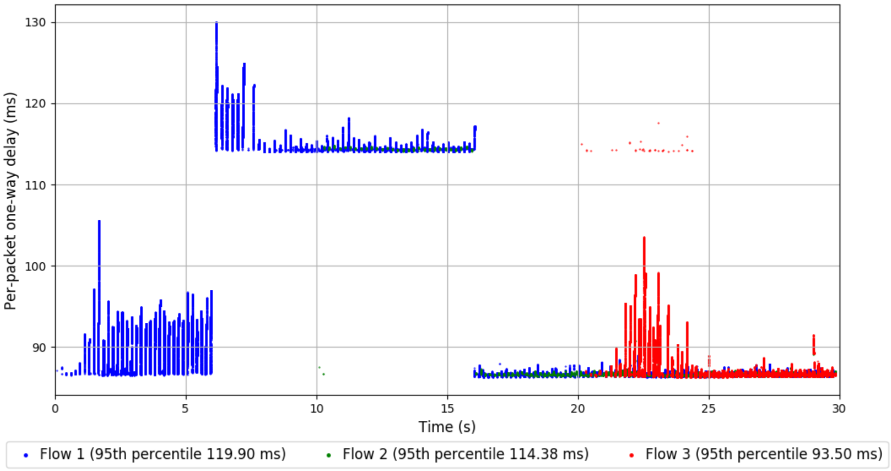
```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-22 03:08:02
End at: 2017-09-22 03:08:32

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.21 Mbit/s
95th percentile per-packet one-way delay: 117.792 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 46.52 Mbit/s
95th percentile per-packet one-way delay: 119.903 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 114.376 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 84.82 Mbit/s
95th percentile per-packet one-way delay: 93.497 ms
Loss rate: 2.04%
```

Run 10: Report of TCP Vegas — Data Link



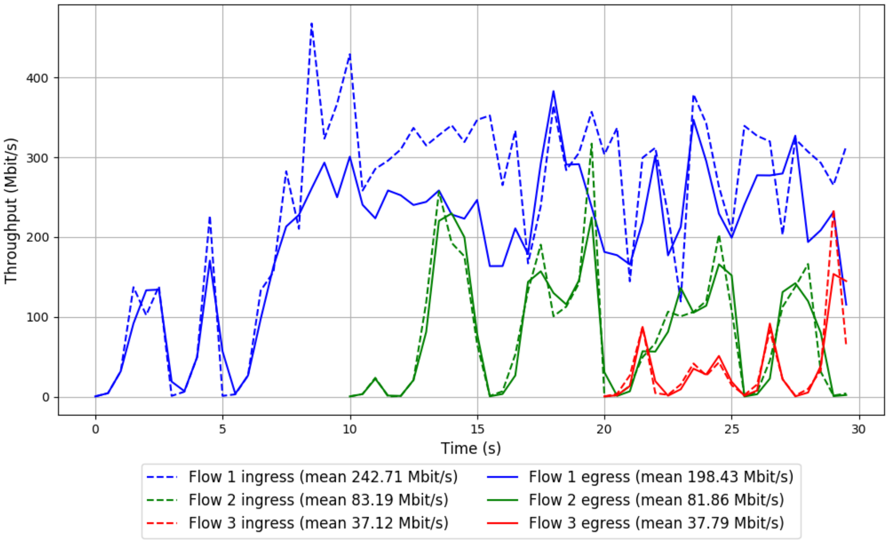


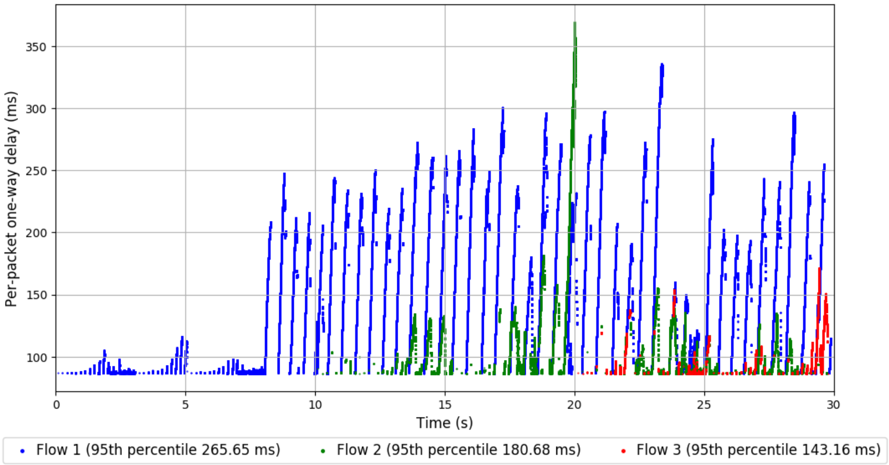
```
Run 1: Statistics of Verus

Start at: 2017-09-22 00:57:37
End at: 2017-09-22 00:58:07

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.60 Mbit/s
95th percentile per-packet one-way delay: 262.814 ms
Loss rate: 15.05%
-- Flow 1:
Average throughput: 198.43 Mbit/s
95th percentile per-packet one-way delay: 265.650 ms
Loss rate: 18.65%
-- Flow 2:
Average throughput: 81.86 Mbit/s
95th percentile per-packet one-way delay: 180.681 ms
Loss rate: 2.49%
-- Flow 3:
Average throughput: 37.79 Mbit/s
95th percentile per-packet one-way delay: 143.163 ms
Loss rate: 0.01%
```

Run 1: Report of Verus — Data Link



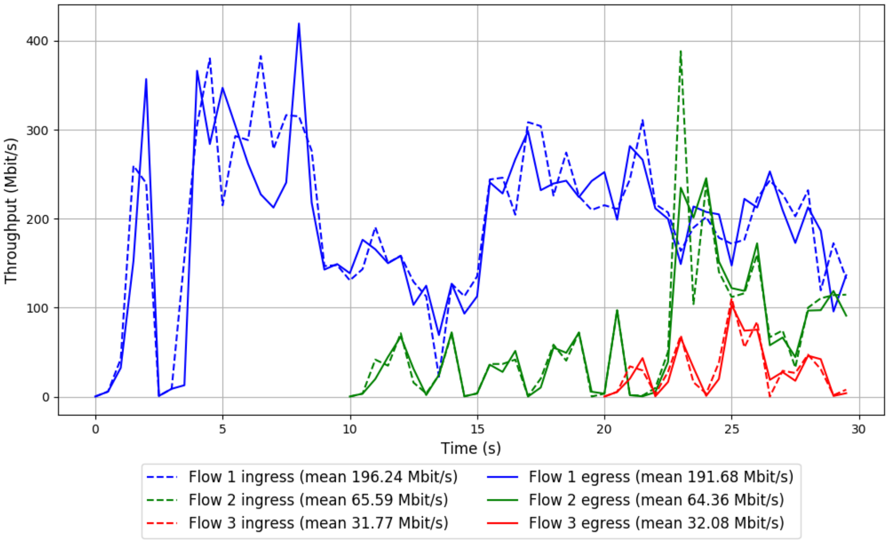


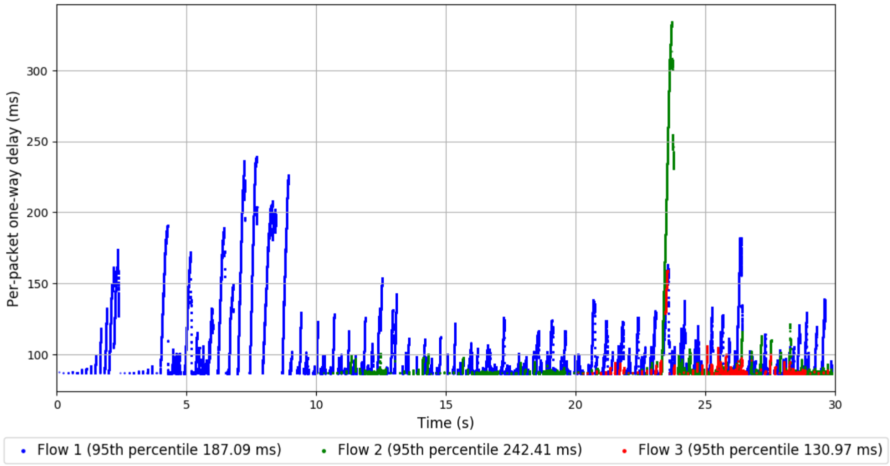
```
Run 2: Statistics of Verus

Start at: 2017-09-22 01:11:48
End at: 2017-09-22 01:12:18

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.69 Mbit/s
95th percentile per-packet one-way delay: 187.632 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 191.68 Mbit/s
95th percentile per-packet one-way delay: 187.093 ms
Loss rate: 2.89%
-- Flow 2:
Average throughput: 64.36 Mbit/s
95th percentile per-packet one-way delay: 242.412 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 130.972 ms
Loss rate: 0.81%
```

Run 2: Report of Verus — Data Link

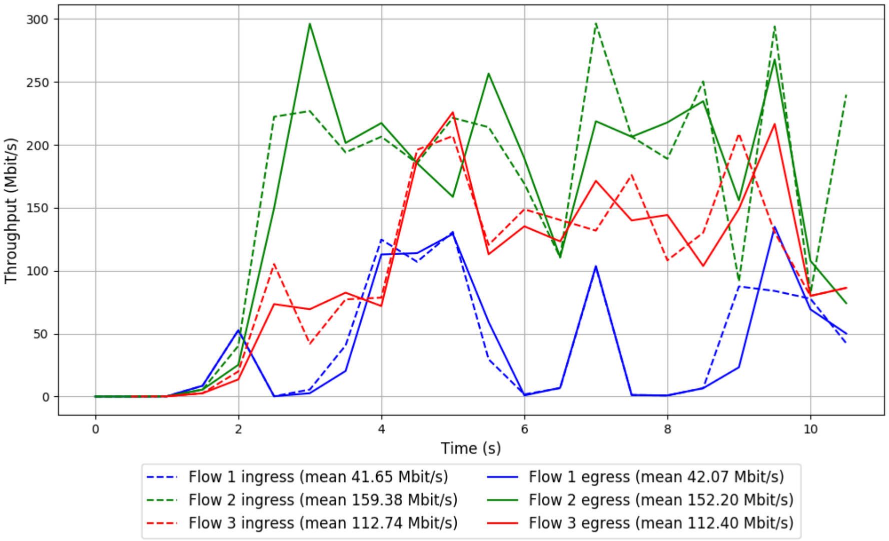


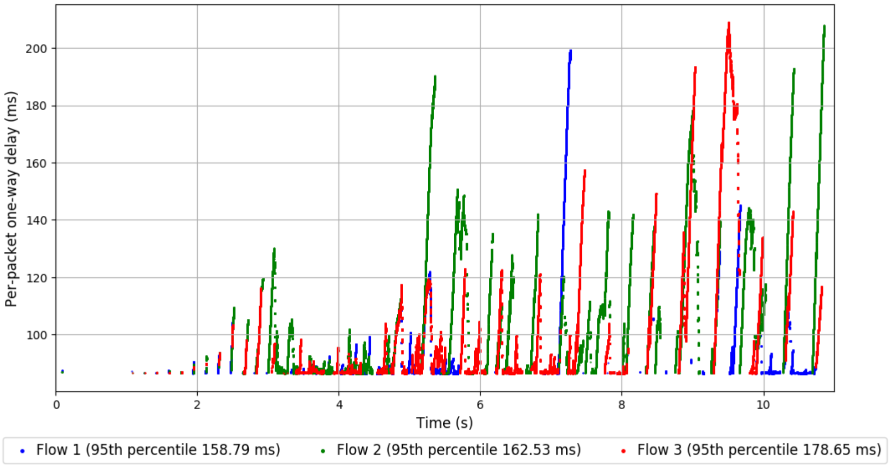


```
Run 3: Statistics of Verus

Start at: 2017-09-22 01:27:40
End at: 2017-09-22 01:28:10
```

Run 3: Report of Verus — Data Link



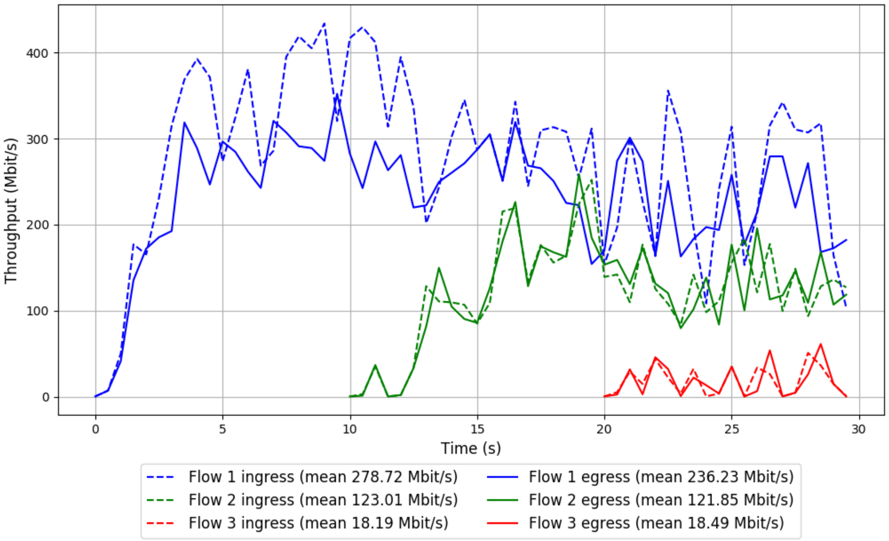


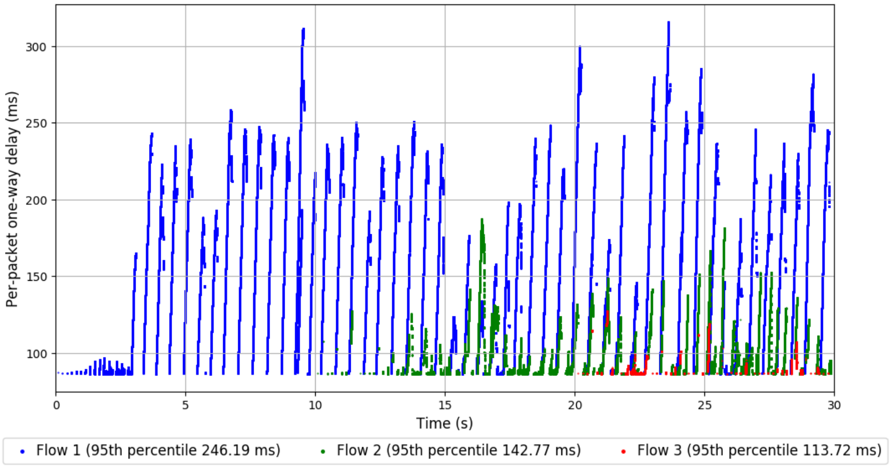
```
Run 4: Statistics of Verus

Start at: 2017-09-22 01:40:58
End at: 2017-09-22 01:41:28

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.48 Mbit/s
95th percentile per-packet one-way delay: 241.532 ms
Loss rate: 12.39%
-- Flow 1:
Average throughput: 236.23 Mbit/s
95th percentile per-packet one-way delay: 246.191 ms
Loss rate: 15.96%
-- Flow 2:
Average throughput: 121.85 Mbit/s
95th percentile per-packet one-way delay: 142.766 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 18.49 Mbit/s
95th percentile per-packet one-way delay: 113.721 ms
Loss rate: 0.16%
```

Run 4: Report of Verus — Data Link



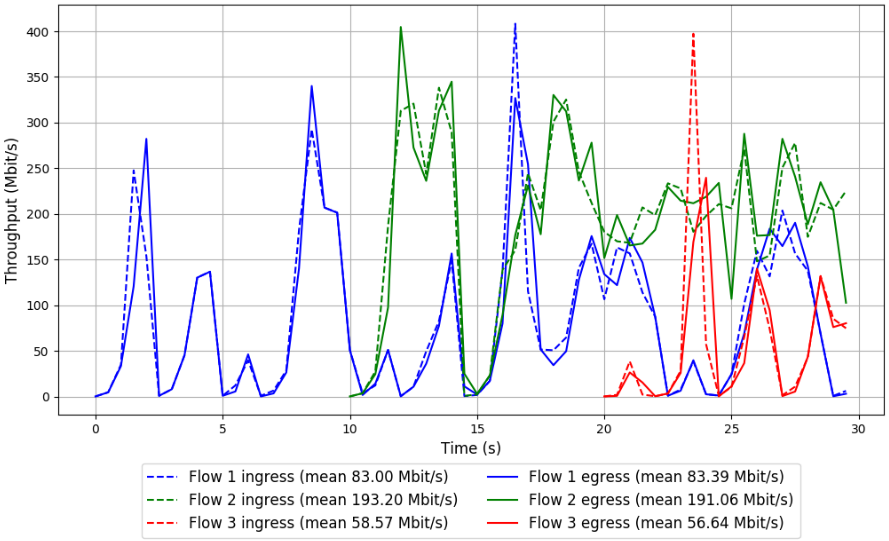


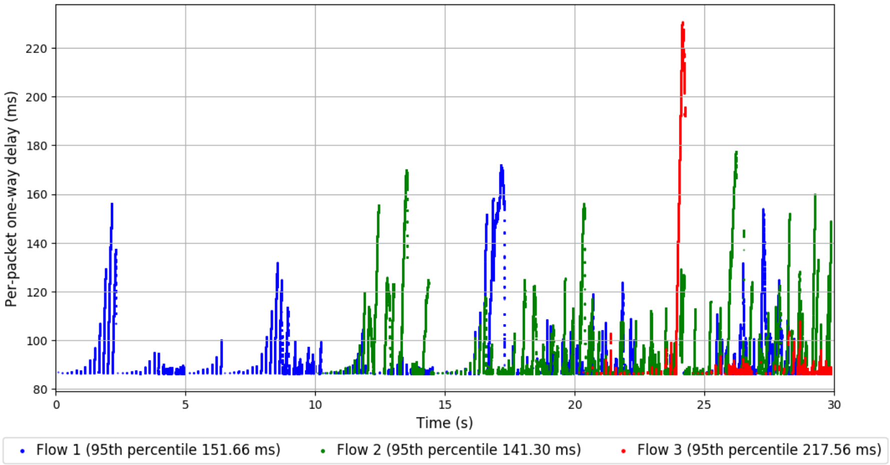
```
Run 5: Statistics of Verus

Start at: 2017-09-22 01:54:45
End at: 2017-09-22 01:55:15

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.75 Mbit/s
95th percentile per-packet one-way delay: 153.057 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 83.39 Mbit/s
95th percentile per-packet one-way delay: 151.661 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 191.06 Mbit/s
95th percentile per-packet one-way delay: 141.297 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 56.64 Mbit/s
95th percentile per-packet one-way delay: 217.558 ms
Loss rate: 5.00%
```

Run 5: Report of Verus — Data Link



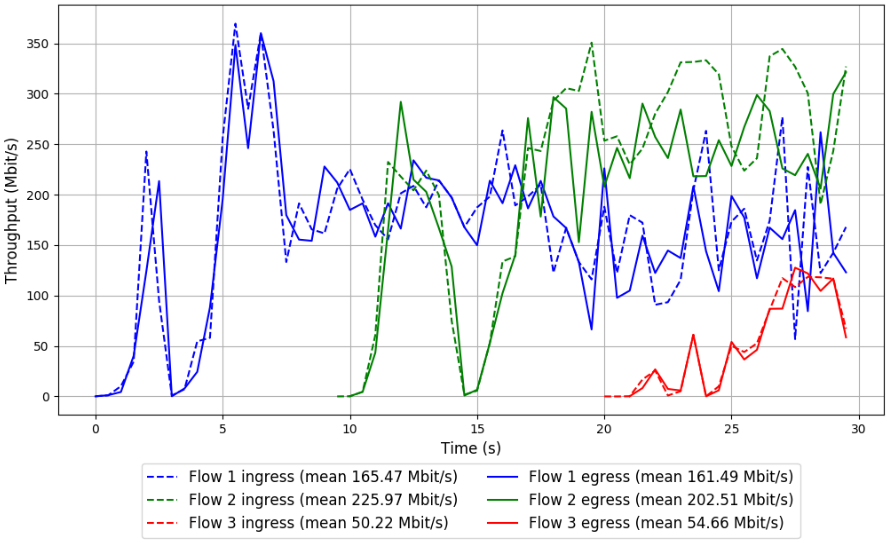


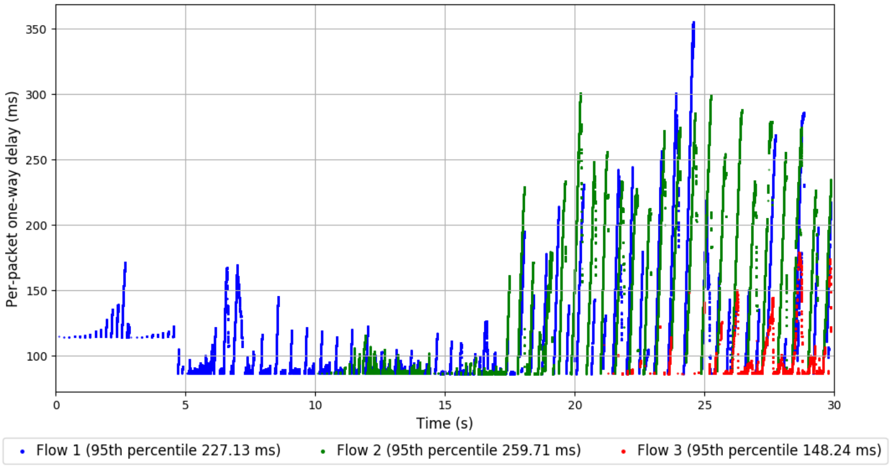
```
Run 6: Statistics of Verus

Start at: 2017-09-22 02:09:14
End at: 2017-09-22 02:09:44

# Below is generated by plot.py at 2017-09-22 06:08:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.20 Mbit/s
95th percentile per-packet one-way delay: 250.330 ms
Loss rate: 6.05%
-- Flow 1:
Average throughput: 161.49 Mbit/s
95th percentile per-packet one-way delay: 227.126 ms
Loss rate: 2.16%
-- Flow 2:
Average throughput: 202.51 Mbit/s
95th percentile per-packet one-way delay: 259.712 ms
Loss rate: 10.53%
-- Flow 3:
Average throughput: 54.66 Mbit/s
95th percentile per-packet one-way delay: 148.241 ms
Loss rate: 4.23%
```

Run 6: Report of Verus — Data Link



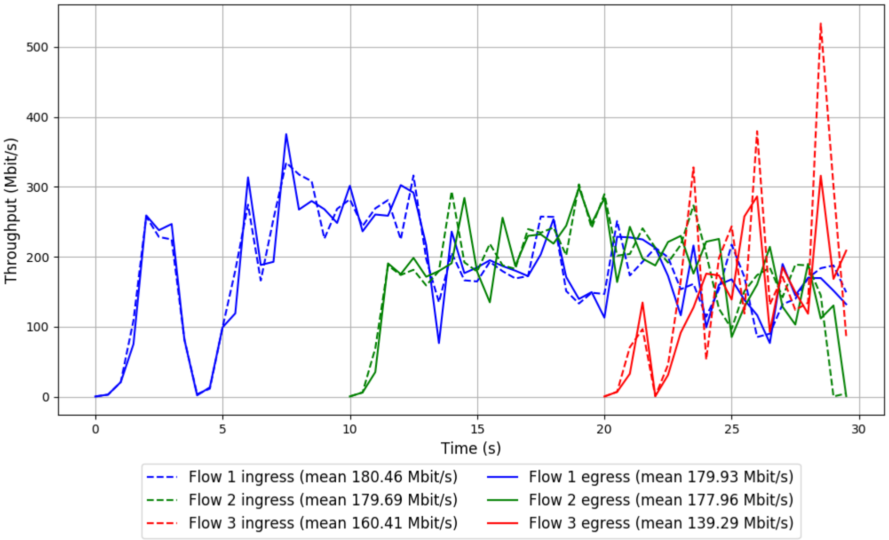


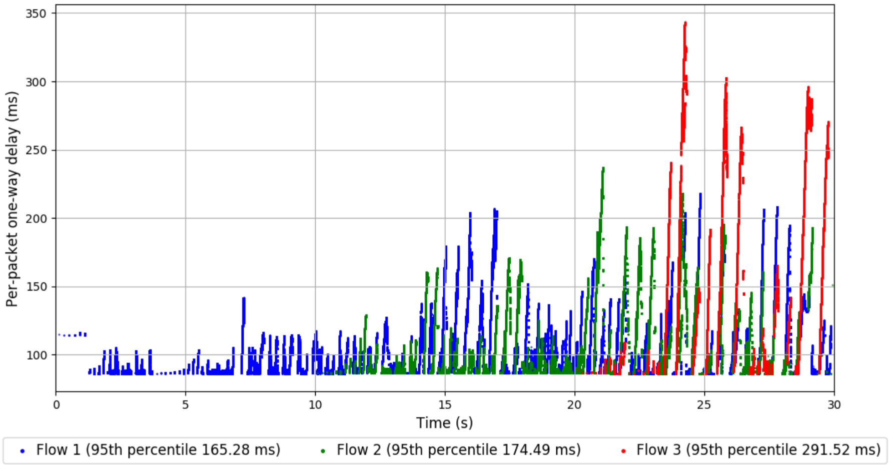
```
Run 7: Statistics of Verus

Start at: 2017-09-22 02:23:37
End at: 2017-09-22 02:24:07

# Below is generated by plot.py at 2017-09-22 06:09:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.13 Mbit/s
95th percentile per-packet one-way delay: 199.756 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 179.93 Mbit/s
95th percentile per-packet one-way delay: 165.279 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 177.96 Mbit/s
95th percentile per-packet one-way delay: 174.491 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 139.29 Mbit/s
95th percentile per-packet one-way delay: 291.521 ms
Loss rate: 15.50%
```

Run 7: Report of Verus — Data Link



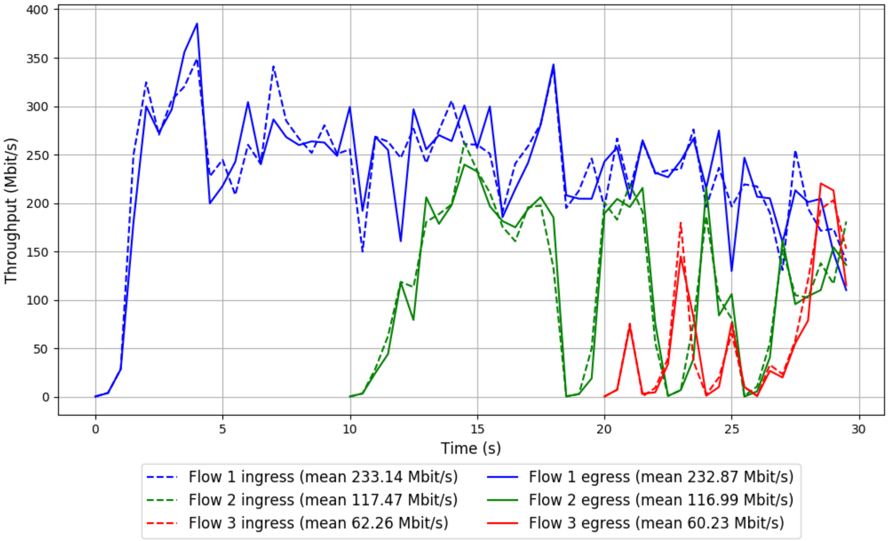


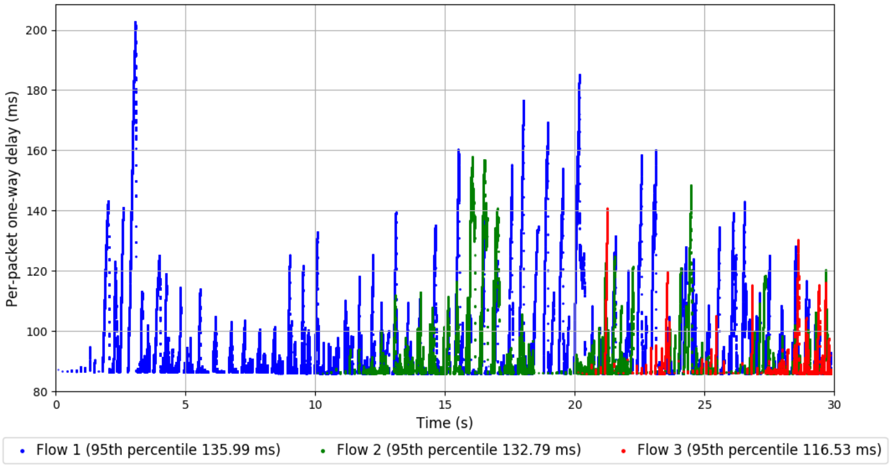
```
Run 8: Statistics of Verus

Start at: 2017-09-22 02:37:20
End at: 2017-09-22 02:37:50

# Below is generated by plot.py at 2017-09-22 06:10:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 330.26 Mbit/s
95th percentile per-packet one-way delay: 134.136 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 232.87 Mbit/s
95th percentile per-packet one-way delay: 135.990 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 116.99 Mbit/s
95th percentile per-packet one-way delay: 132.789 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 60.23 Mbit/s
95th percentile per-packet one-way delay: 116.534 ms
Loss rate: 4.53%
```

Run 8: Report of Verus — Data Link



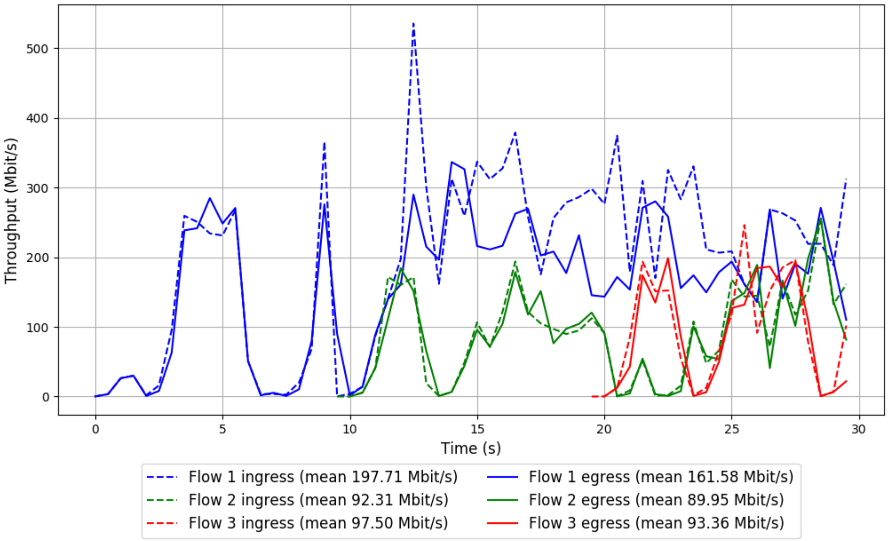


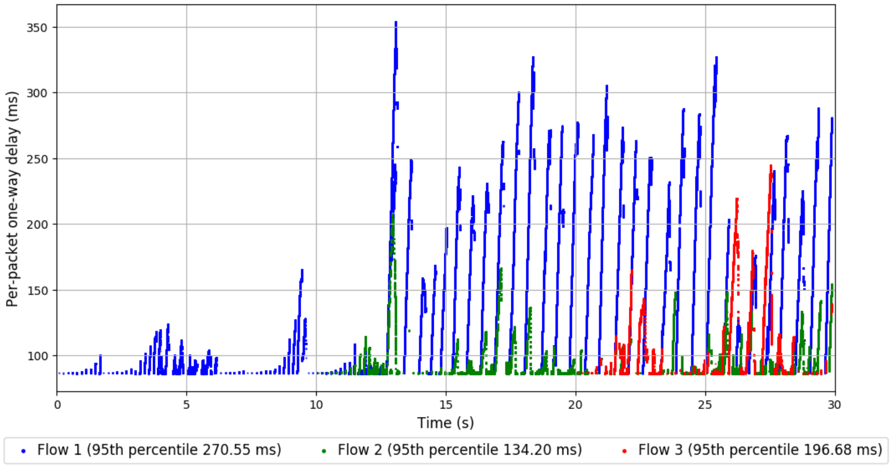
```
Run 9: Statistics of Verus

Start at: 2017-09-22 02:51:51
End at: 2017-09-22 02:52:21

# Below is generated by plot.py at 2017-09-22 06:10:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.98 Mbit/s
95th percentile per-packet one-way delay: 261.058 ms
Loss rate: 13.28%
-- Flow 1:
Average throughput: 161.58 Mbit/s
95th percentile per-packet one-way delay: 270.545 ms
Loss rate: 18.12%
-- Flow 2:
Average throughput: 89.95 Mbit/s
95th percentile per-packet one-way delay: 134.200 ms
Loss rate: 2.45%
-- Flow 3:
Average throughput: 93.36 Mbit/s
95th percentile per-packet one-way delay: 196.684 ms
Loss rate: 4.19%
```

Run 9: Report of Verus — Data Link



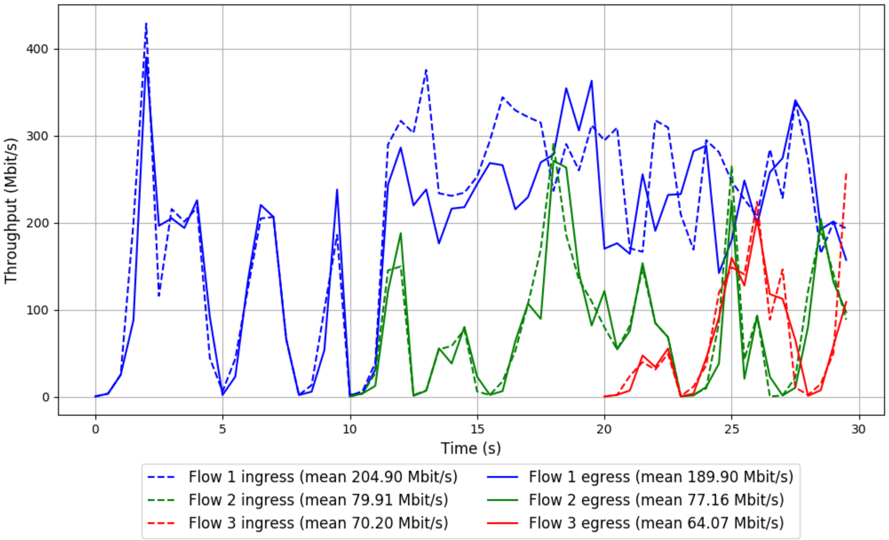


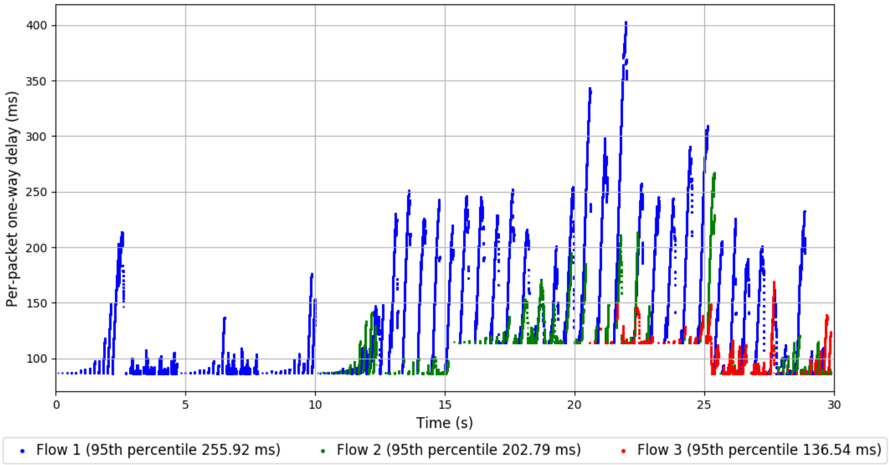
```
Run 10: Statistics of Verus

Start at: 2017-09-22 03:05:13
End at: 2017-09-22 03:05:43

# Below is generated by plot.py at 2017-09-22 06:10:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.80 Mbit/s
95th percentile per-packet one-way delay: 247.227 ms
Loss rate: 7.44%
-- Flow 1:
Average throughput: 189.90 Mbit/s
95th percentile per-packet one-way delay: 255.918 ms
Loss rate: 7.97%
-- Flow 2:
Average throughput: 77.16 Mbit/s
95th percentile per-packet one-way delay: 202.786 ms
Loss rate: 4.01%
-- Flow 3:
Average throughput: 64.07 Mbit/s
95th percentile per-packet one-way delay: 136.537 ms
Loss rate: 10.59%
```

Run 10: Report of Verus — Data Link



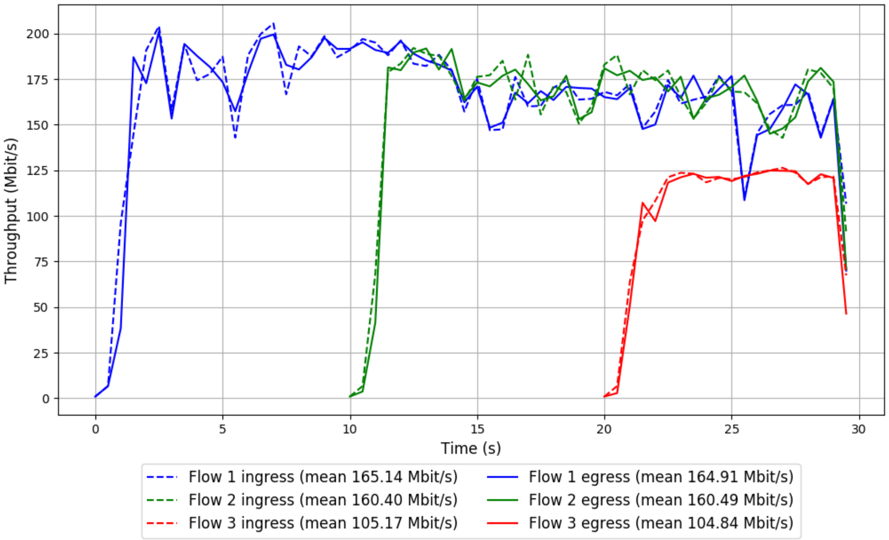


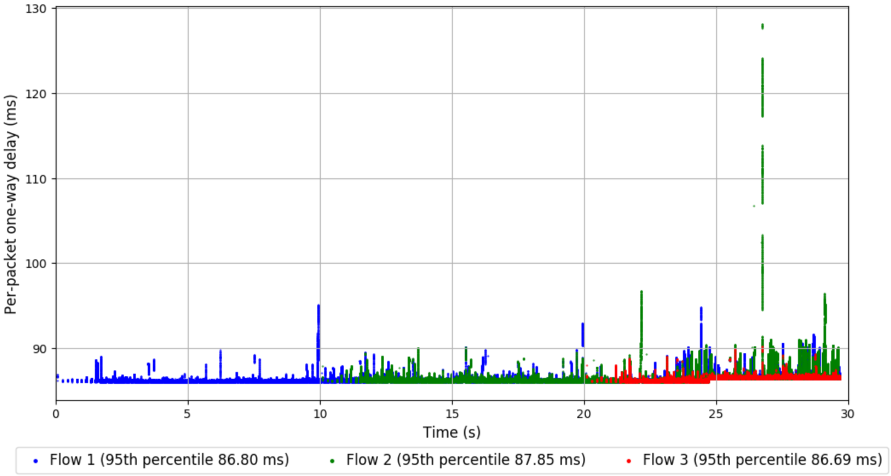
```
Run 1: Statistics of Indigo

Start at: 2017-09-22 01:05:13
End at: 2017-09-22 01:05:43

# Below is generated by plot.py at 2017-09-22 06:11:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.99 Mbit/s
95th percentile per-packet one-way delay: 87.002 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 164.91 Mbit/s
95th percentile per-packet one-way delay: 86.804 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 160.49 Mbit/s
95th percentile per-packet one-way delay: 87.853 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 104.84 Mbit/s
95th percentile per-packet one-way delay: 86.694 ms
Loss rate: 2.09%
```

Run 1: Report of Indigo — Data Link



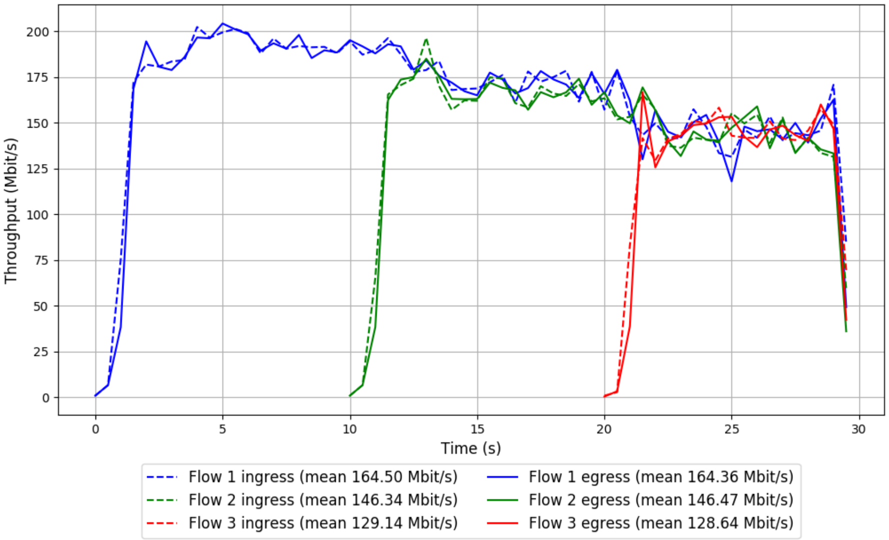


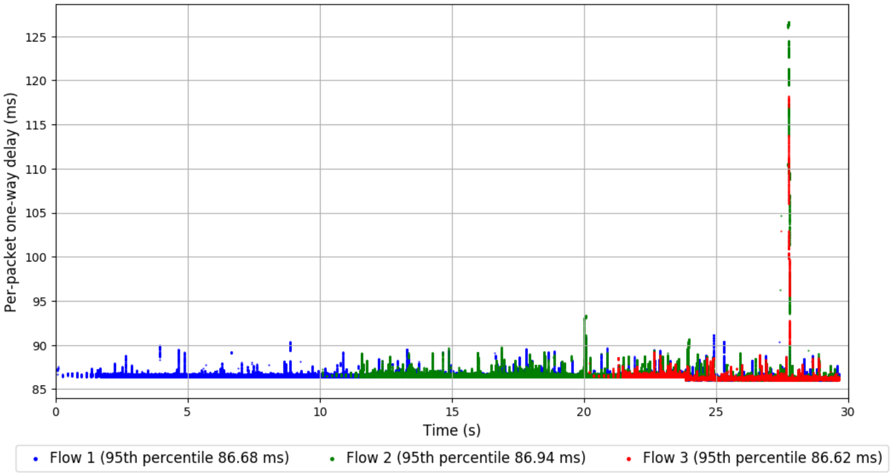
```
Run 2: Statistics of Indigo

Start at: 2017-09-22 01:20:24
End at: 2017-09-22 01:20:54

# Below is generated by plot.py at 2017-09-22 06:13:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.34 Mbit/s
95th percentile per-packet one-way delay: 86.732 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 164.36 Mbit/s
95th percentile per-packet one-way delay: 86.684 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 146.47 Mbit/s
95th percentile per-packet one-way delay: 86.942 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 128.64 Mbit/s
95th percentile per-packet one-way delay: 86.620 ms
Loss rate: 2.18%
```

Run 2: Report of Indigo — Data Link



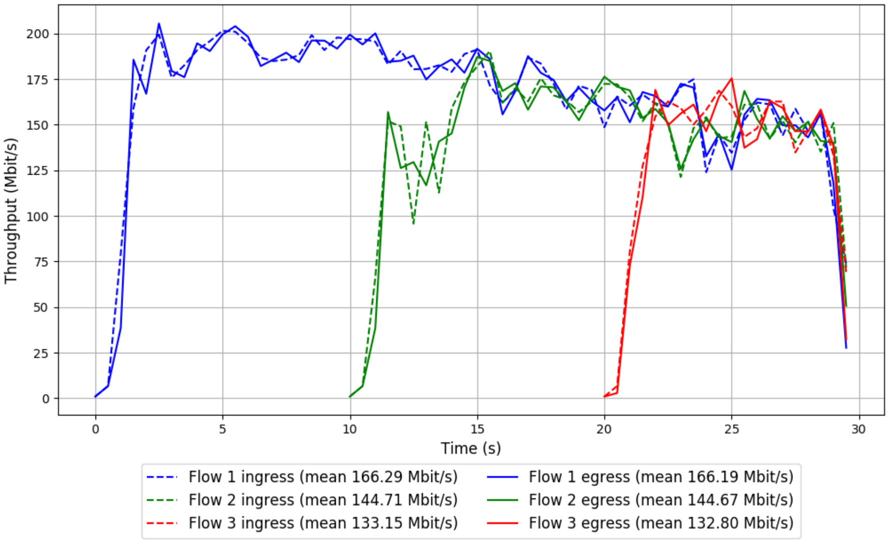


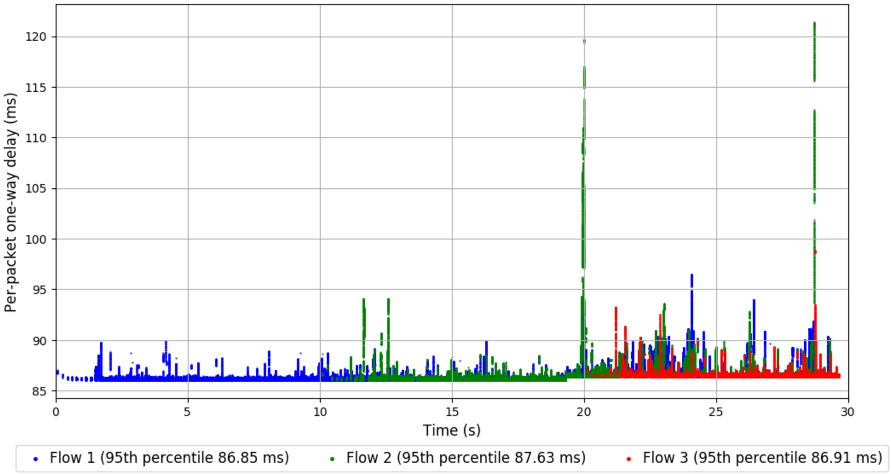
```
Run 3: Statistics of Indigo

Start at: 2017-09-22 01:34:39
End at: 2017-09-22 01:35:09

# Below is generated by plot.py at 2017-09-22 06:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.53 Mbit/s
95th percentile per-packet one-way delay: 87.037 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 166.19 Mbit/s
95th percentile per-packet one-way delay: 86.850 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 144.67 Mbit/s
95th percentile per-packet one-way delay: 87.628 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 132.80 Mbit/s
95th percentile per-packet one-way delay: 86.911 ms
Loss rate: 2.05%
```

Run 3: Report of Indigo — Data Link



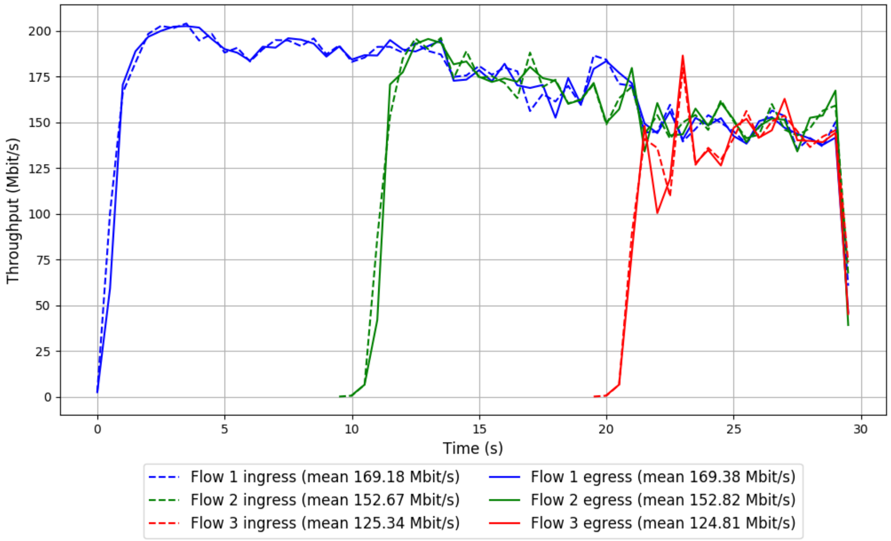


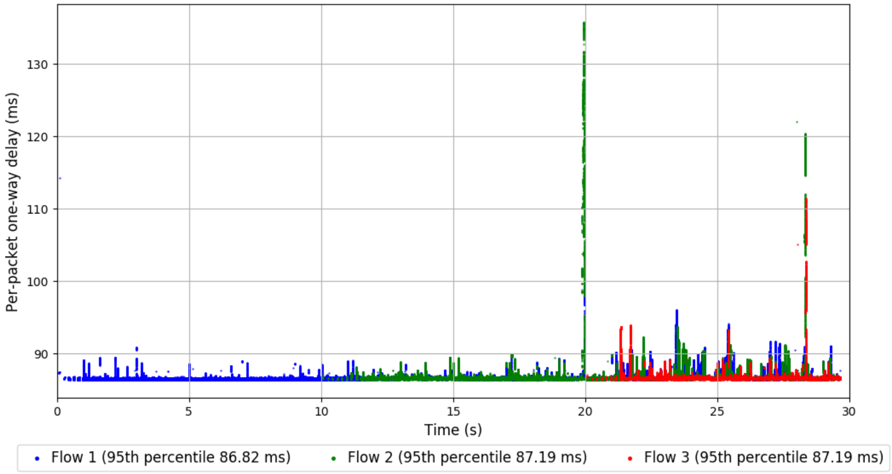
```
Run 4: Statistics of Indigo

Start at: 2017-09-22 01:48:38
End at: 2017-09-22 01:49:08

# Below is generated by plot.py at 2017-09-22 06:14:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.95 Mbit/s
95th percentile per-packet one-way delay: 86.977 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 169.38 Mbit/s
95th percentile per-packet one-way delay: 86.822 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 152.82 Mbit/s
95th percentile per-packet one-way delay: 87.189 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 124.81 Mbit/s
95th percentile per-packet one-way delay: 87.192 ms
Loss rate: 2.20%
```

Run 4: Report of Indigo — Data Link



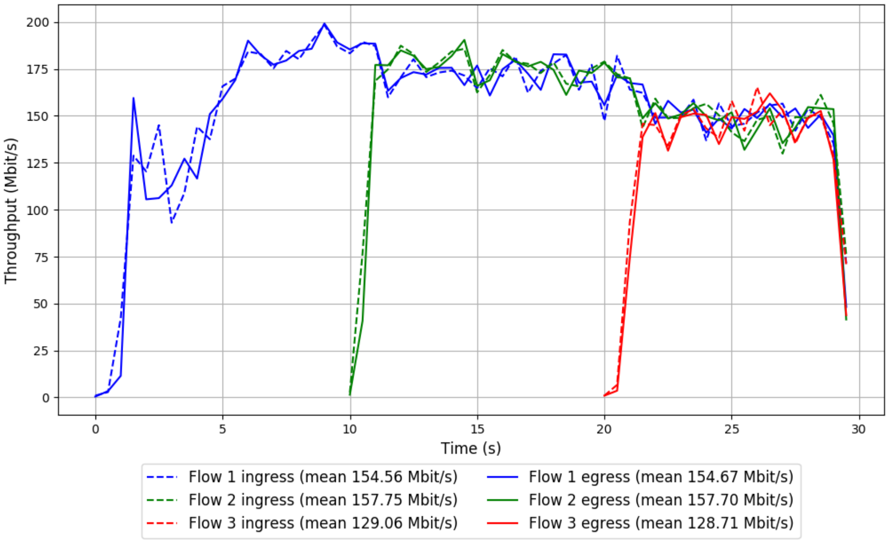


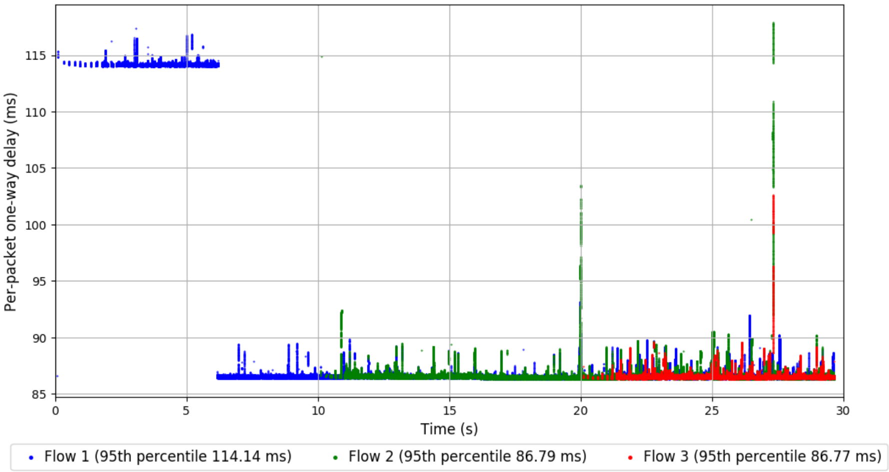
```
Run 5: Statistics of Indigo

Start at: 2017-09-22 02:02:22
End at: 2017-09-22 02:02:52

# Below is generated by plot.py at 2017-09-22 06:15:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.46 Mbit/s
95th percentile per-packet one-way delay: 114.098 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 154.67 Mbit/s
95th percentile per-packet one-way delay: 114.142 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 157.70 Mbit/s
95th percentile per-packet one-way delay: 86.794 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 128.71 Mbit/s
95th percentile per-packet one-way delay: 86.772 ms
Loss rate: 2.04%
```

Run 5: Report of Indigo — Data Link



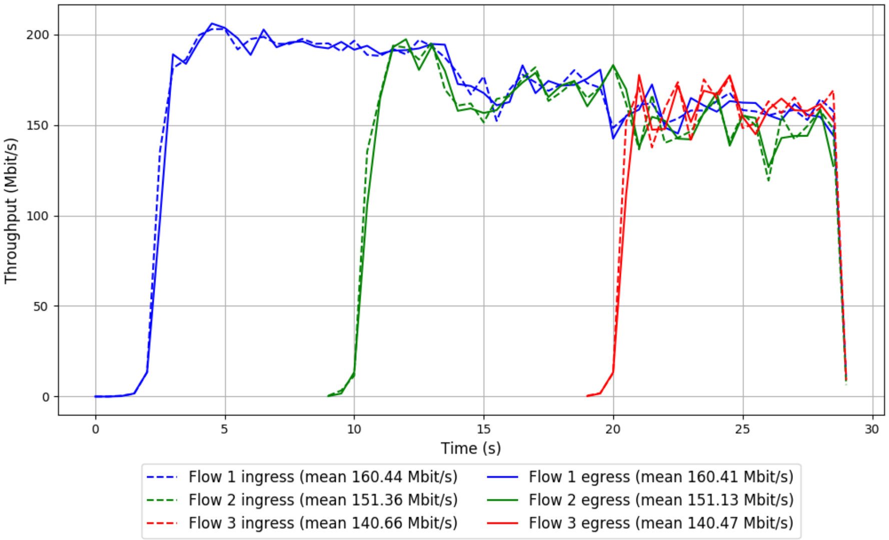


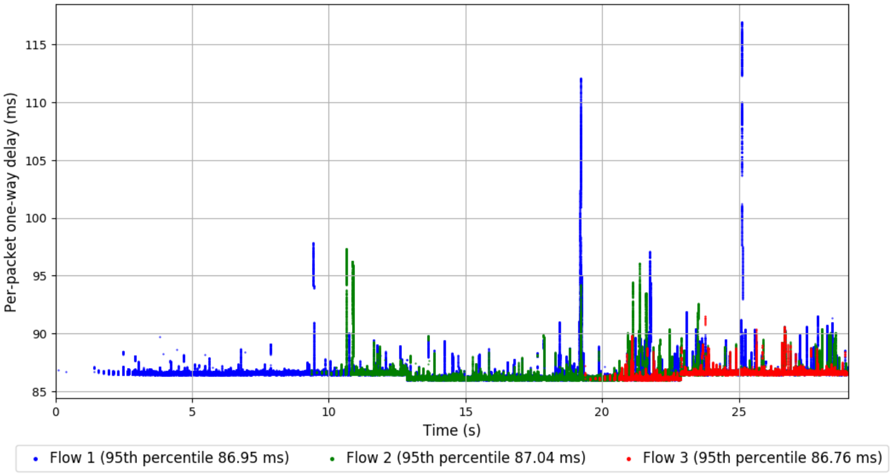
```
Run 6: Statistics of Indigo

Start at: 2017-09-22 02:16:45
End at: 2017-09-22 02:17:15

# Below is generated by plot.py at 2017-09-22 06:15:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.50 Mbit/s
95th percentile per-packet one-way delay: 86.912 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 160.41 Mbit/s
95th percentile per-packet one-way delay: 86.947 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 151.13 Mbit/s
95th percentile per-packet one-way delay: 87.037 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 140.47 Mbit/s
95th percentile per-packet one-way delay: 86.757 ms
Loss rate: 1.94%
```

Run 6: Report of Indigo — Data Link



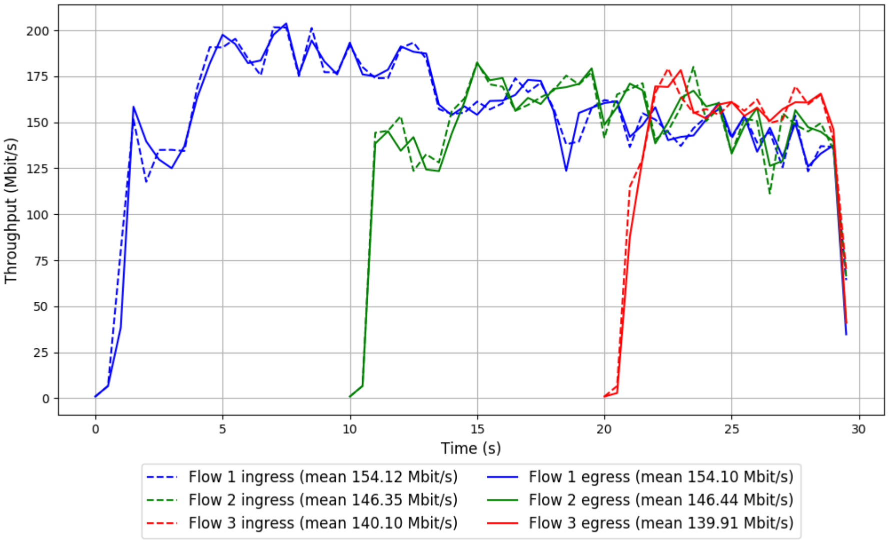


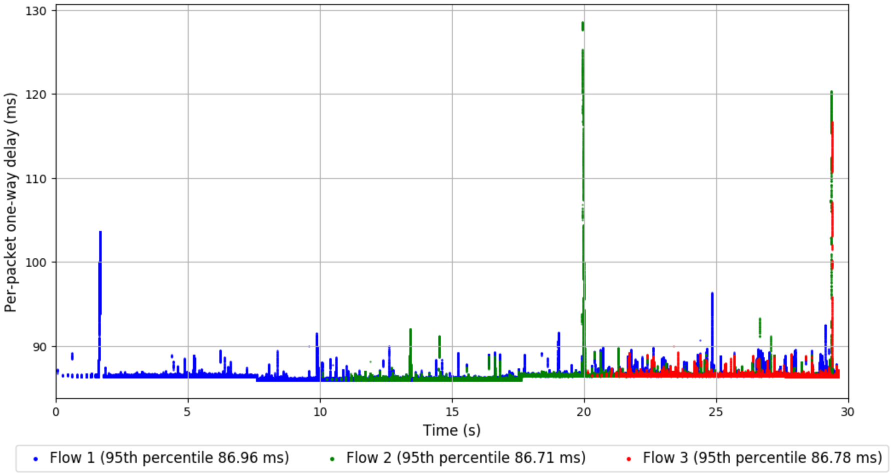
```
Run 7: Statistics of Indigo

Start at: 2017-09-22 02:30:51
End at: 2017-09-22 02:31:21

# Below is generated by plot.py at 2017-09-22 06:15:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.96 Mbit/s
95th percentile per-packet one-way delay: 86.819 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 154.10 Mbit/s
95th percentile per-packet one-way delay: 86.957 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 146.44 Mbit/s
95th percentile per-packet one-way delay: 86.706 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 139.91 Mbit/s
95th percentile per-packet one-way delay: 86.780 ms
Loss rate: 1.94%
```

Run 7: Report of Indigo — Data Link

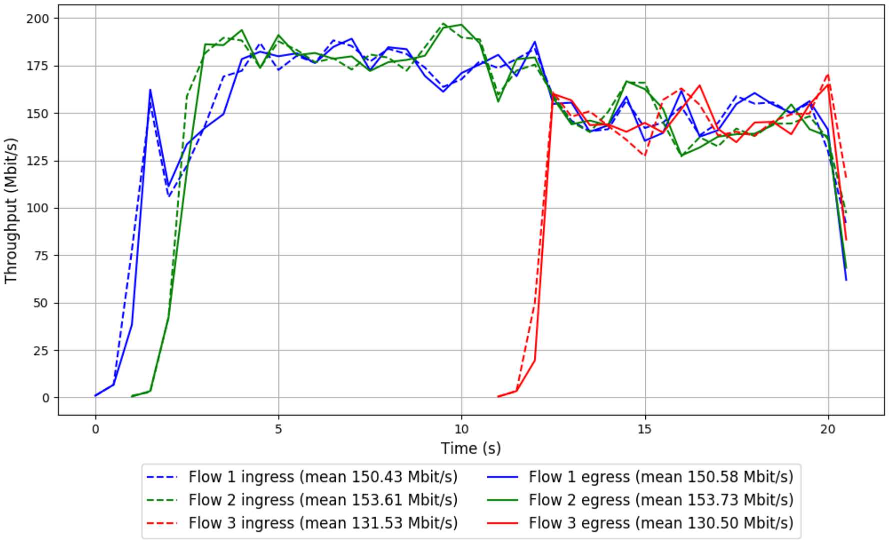


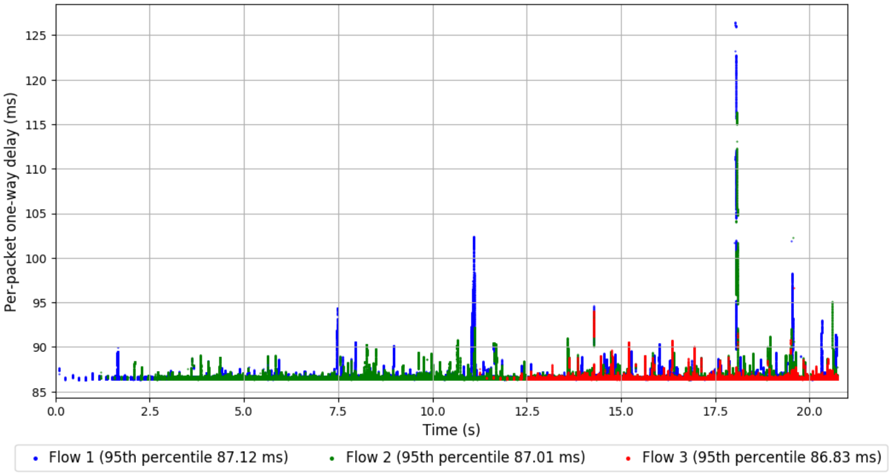


```
Run 8: Statistics of Indigo

Start at: 2017-09-22 02:45:08
End at: 2017-09-22 02:45:38
```

Run 8: Report of Indigo — Data Link



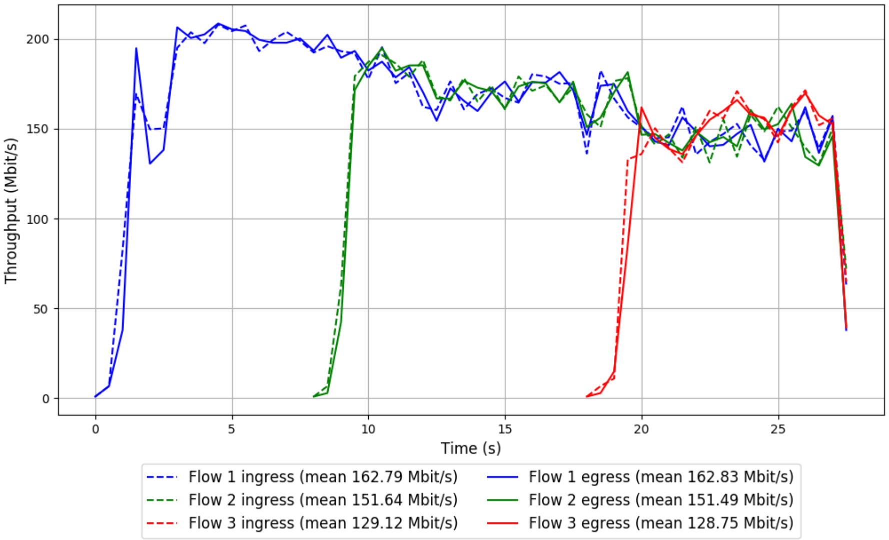


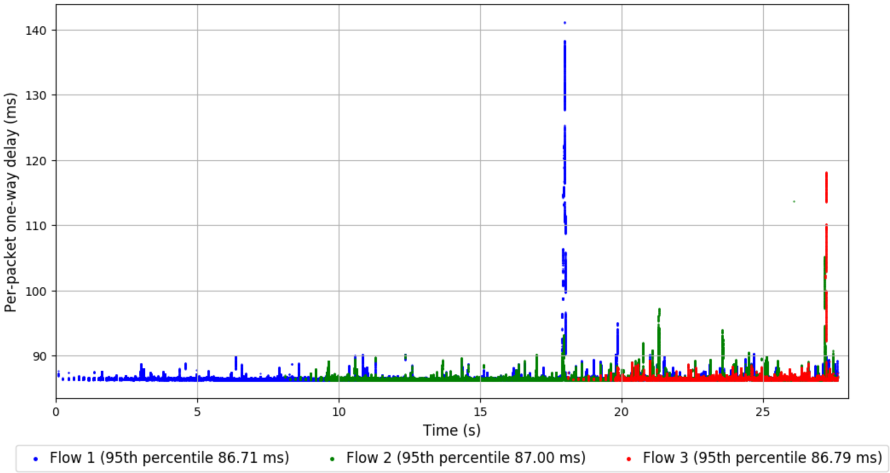
```
Run 9: Statistics of Indigo

Start at: 2017-09-22 02:58:51
End at: 2017-09-22 02:59:21

# Below is generated by plot.py at 2017-09-22 06:17:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.66 Mbit/s
95th percentile per-packet one-way delay: 86.799 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 162.83 Mbit/s
95th percentile per-packet one-way delay: 86.712 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 151.49 Mbit/s
95th percentile per-packet one-way delay: 86.999 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 128.75 Mbit/s
95th percentile per-packet one-way delay: 86.786 ms
Loss rate: 2.07%
```

Run 9: Report of Indigo — Data Link



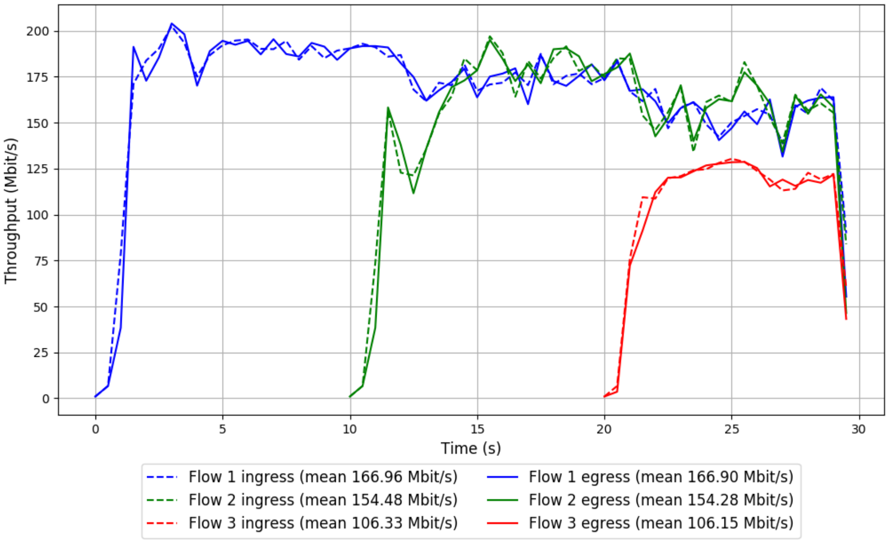


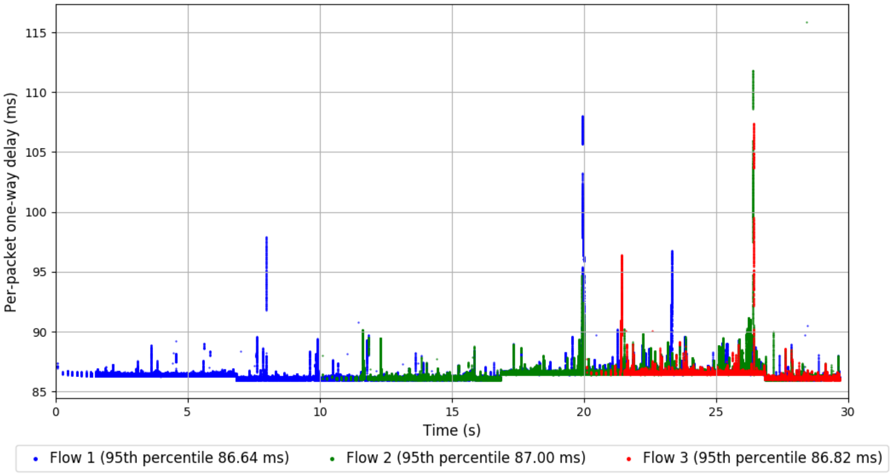
```
Run 10: Statistics of Indigo

Start at: 2017-09-22 03:11:51
End at: 2017-09-22 03:12:21

# Below is generated by plot.py at 2017-09-22 06:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.29 Mbit/s
95th percentile per-packet one-way delay: 86.750 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 166.90 Mbit/s
95th percentile per-packet one-way delay: 86.644 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 154.28 Mbit/s
95th percentile per-packet one-way delay: 87.001 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 106.15 Mbit/s
95th percentile per-packet one-way delay: 86.820 ms
Loss rate: 1.95%
```

Run 10: Report of Indigo — Data Link



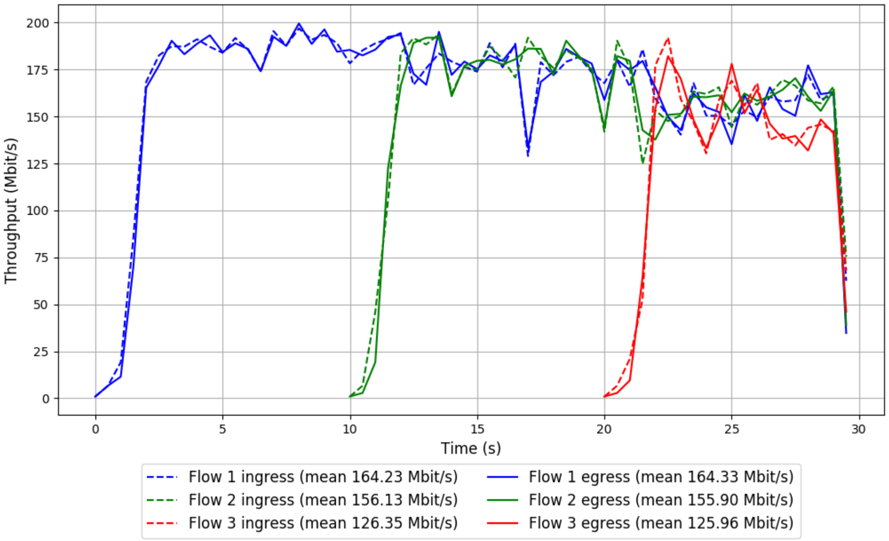


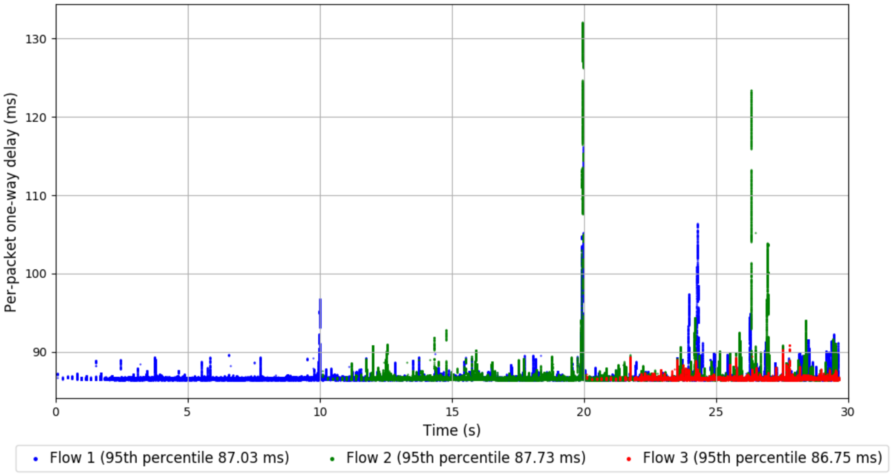
```
Run 1: Statistics of Indigo-calib

Start at: 2017-09-22 01:04:01
End at: 2017-09-22 01:04:31

# Below is generated by plot.py at 2017-09-22 06:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.91 Mbit/s
95th percentile per-packet one-way delay: 87.125 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 164.33 Mbit/s
95th percentile per-packet one-way delay: 87.033 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 155.90 Mbit/s
95th percentile per-packet one-way delay: 87.734 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 125.96 Mbit/s
95th percentile per-packet one-way delay: 86.750 ms
Loss rate: 2.11%
```

Run 1: Report of Indigo-calib — Data Link



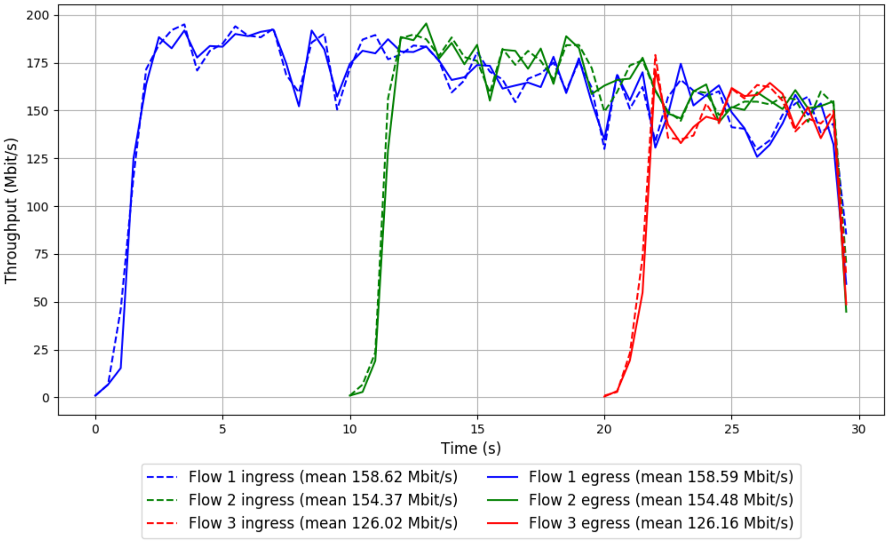


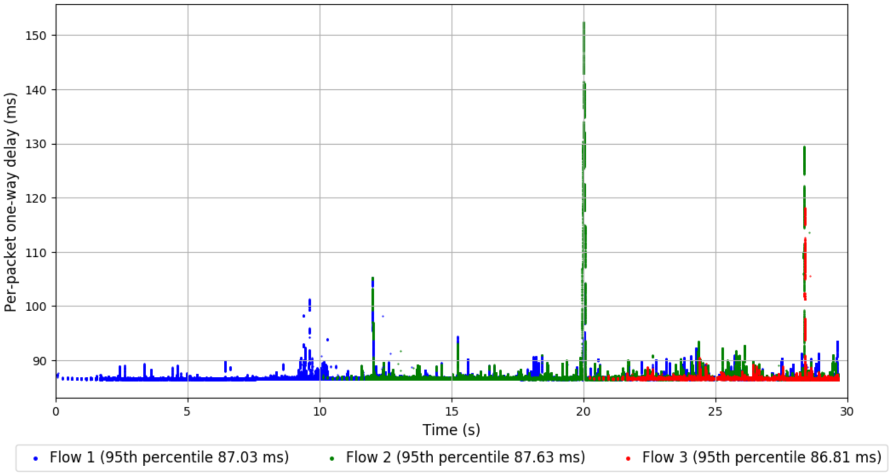
```
Run 2: Statistics of Indigo-calib

Start at: 2017-09-22 01:18:41
End at: 2017-09-22 01:19:11

# Below is generated by plot.py at 2017-09-22 06:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.91 Mbit/s
95th percentile per-packet one-way delay: 87.163 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 158.59 Mbit/s
95th percentile per-packet one-way delay: 87.028 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 154.48 Mbit/s
95th percentile per-packet one-way delay: 87.629 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 126.16 Mbit/s
95th percentile per-packet one-way delay: 86.806 ms
Loss rate: 1.68%
```

Run 2: Report of Indigo-calib — Data Link



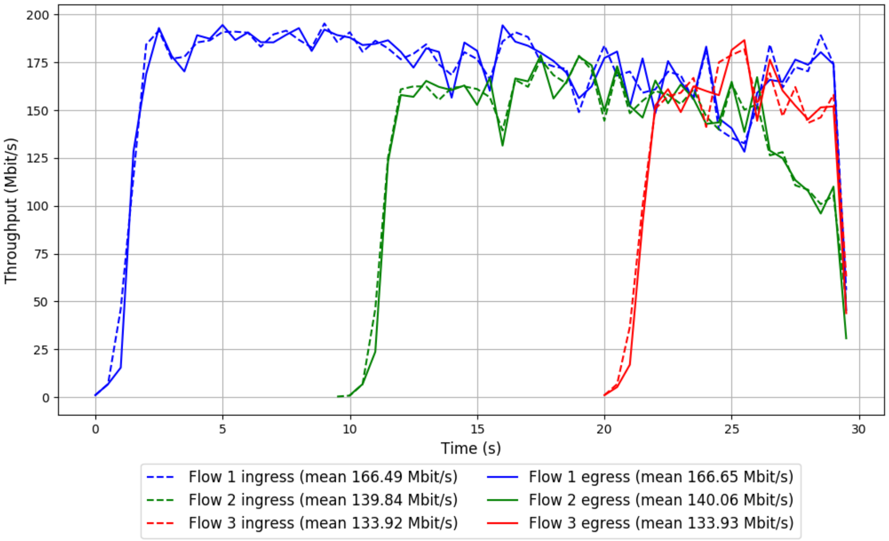


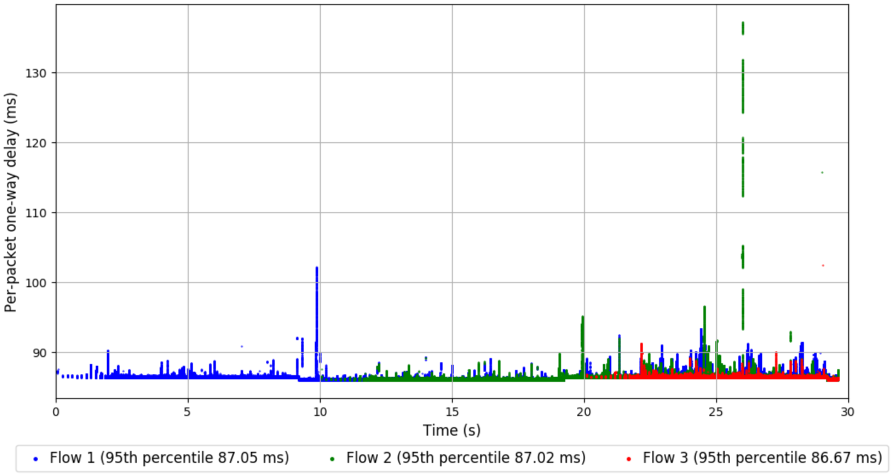
```
Run 3: Statistics of Indigo-calib

Start at: 2017-09-22 01:33:19
End at: 2017-09-22 01:33:49

# Below is generated by plot.py at 2017-09-22 06:20:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.62 Mbit/s
95th percentile per-packet one-way delay: 86.956 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 166.65 Mbit/s
95th percentile per-packet one-way delay: 87.054 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 140.06 Mbit/s
95th percentile per-packet one-way delay: 87.015 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 133.93 Mbit/s
95th percentile per-packet one-way delay: 86.670 ms
Loss rate: 1.80%
```

Run 3: Report of Indigo-calib — Data Link



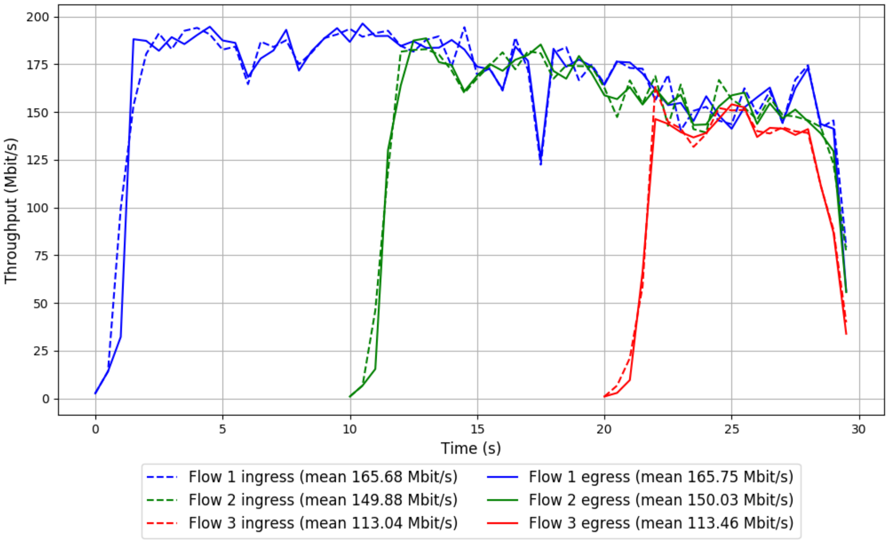


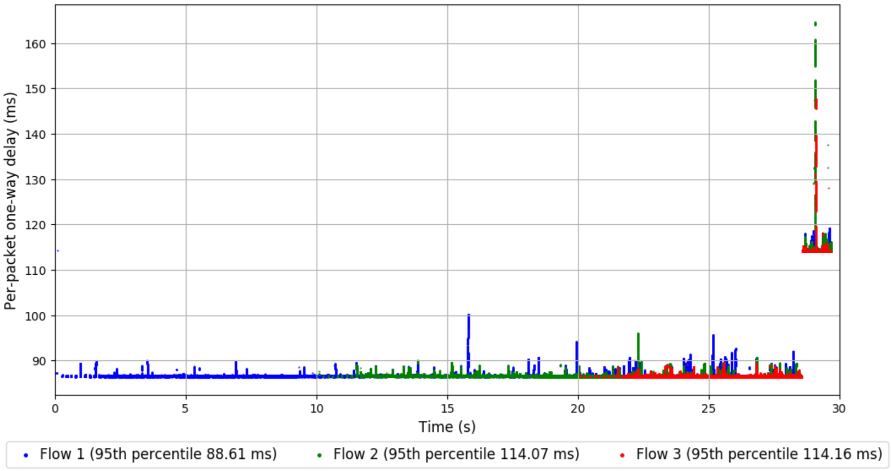
```
Run 4: Statistics of Indigo-calib

Start at: 2017-09-22 01:47:30
End at: 2017-09-22 01:48:00

# Below is generated by plot.py at 2017-09-22 06:21:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.71 Mbit/s
95th percentile per-packet one-way delay: 90.291 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 165.75 Mbit/s
95th percentile per-packet one-way delay: 88.612 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 150.03 Mbit/s
95th percentile per-packet one-way delay: 114.074 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 113.46 Mbit/s
95th percentile per-packet one-way delay: 114.161 ms
Loss rate: 1.43%
```

Run 4: Report of Indigo-calib — Data Link



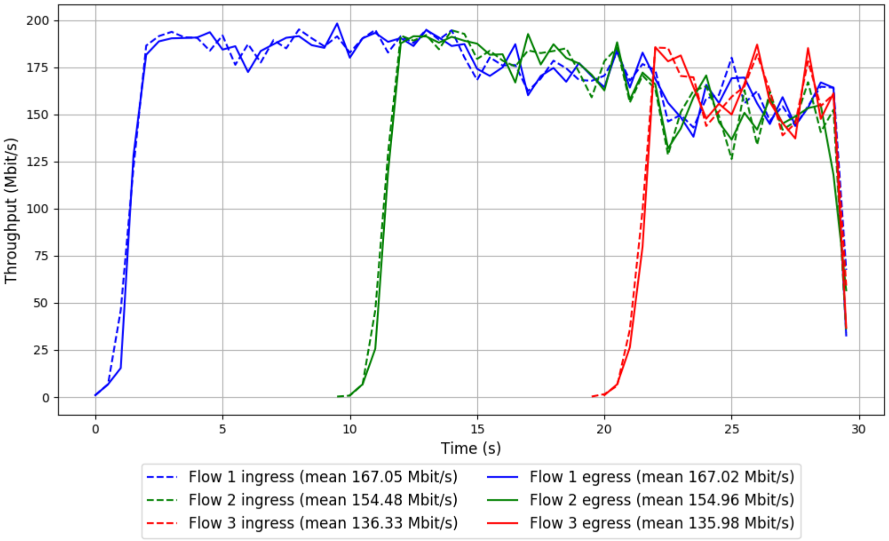


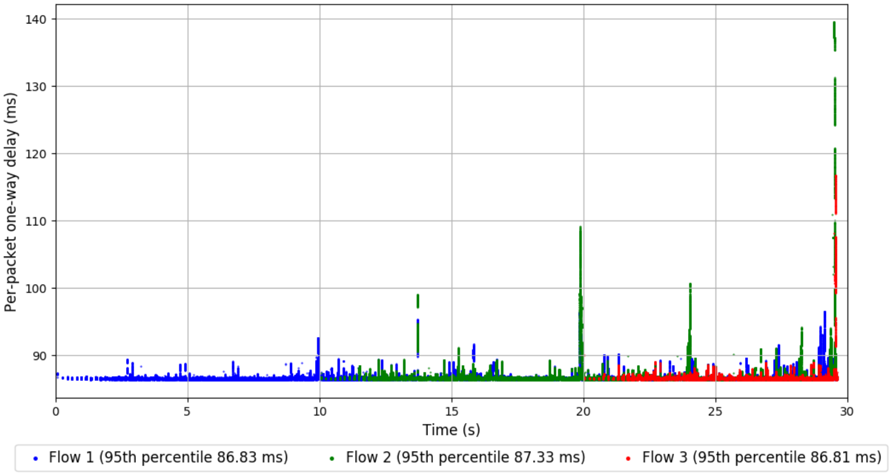
```
Run 5: Statistics of Indigo-calib

Start at: 2017-09-22 02:01:12
End at: 2017-09-22 02:01:42

# Below is generated by plot.py at 2017-09-22 06:21:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.66 Mbit/s
95th percentile per-packet one-way delay: 86.935 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 167.02 Mbit/s
95th percentile per-packet one-way delay: 86.826 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 154.96 Mbit/s
95th percentile per-packet one-way delay: 87.325 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 135.98 Mbit/s
95th percentile per-packet one-way delay: 86.805 ms
Loss rate: 2.03%
```

Run 5: Report of Indigo-calib — Data Link



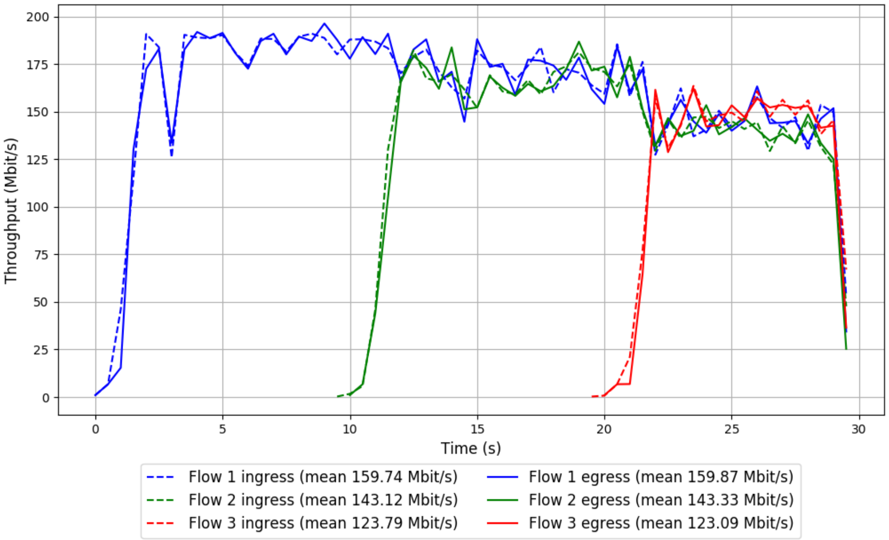


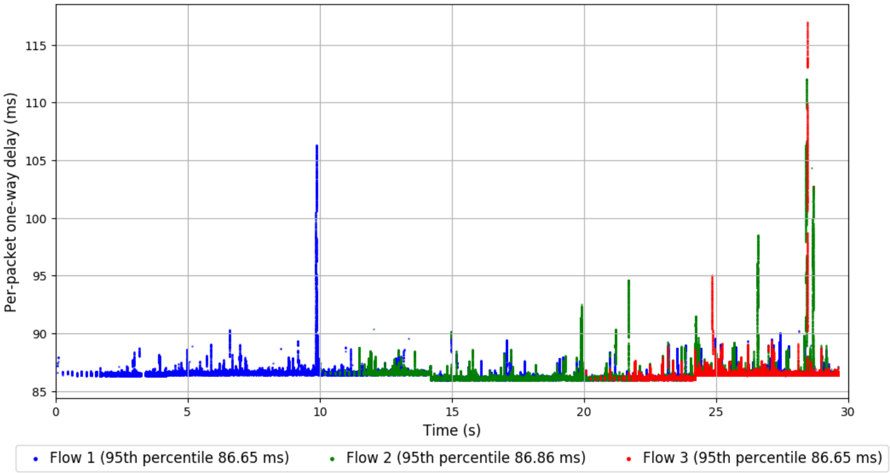
```
Run 6: Statistics of Indigo-calib

Start at: 2017-09-22 02:15:14
End at: 2017-09-22 02:15:44

# Below is generated by plot.py at 2017-09-22 06:21:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.67 Mbit/s
95th percentile per-packet one-way delay: 86.681 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 159.87 Mbit/s
95th percentile per-packet one-way delay: 86.653 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 143.33 Mbit/s
95th percentile per-packet one-way delay: 86.858 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 123.09 Mbit/s
95th percentile per-packet one-way delay: 86.648 ms
Loss rate: 2.37%
```

Run 6: Report of Indigo-calib — Data Link



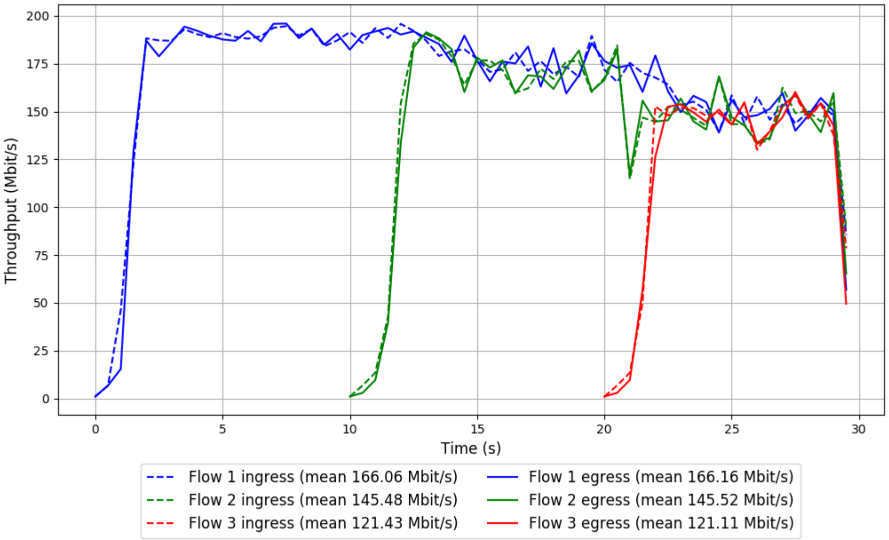


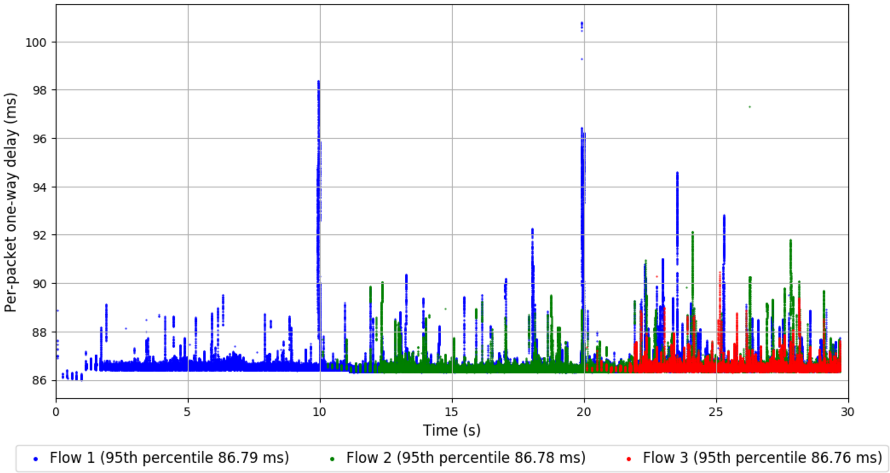
```
Run 7: Statistics of Indigo-calib

Start at: 2017-09-22 02:29:17
End at: 2017-09-22 02:29:47

# Below is generated by plot.py at 2017-09-22 06:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.58 Mbit/s
95th percentile per-packet one-way delay: 86.782 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 166.16 Mbit/s
95th percentile per-packet one-way delay: 86.794 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 145.52 Mbit/s
95th percentile per-packet one-way delay: 86.776 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 121.11 Mbit/s
95th percentile per-packet one-way delay: 86.759 ms
Loss rate: 2.06%
```

Run 7: Report of Indigo-calib — Data Link



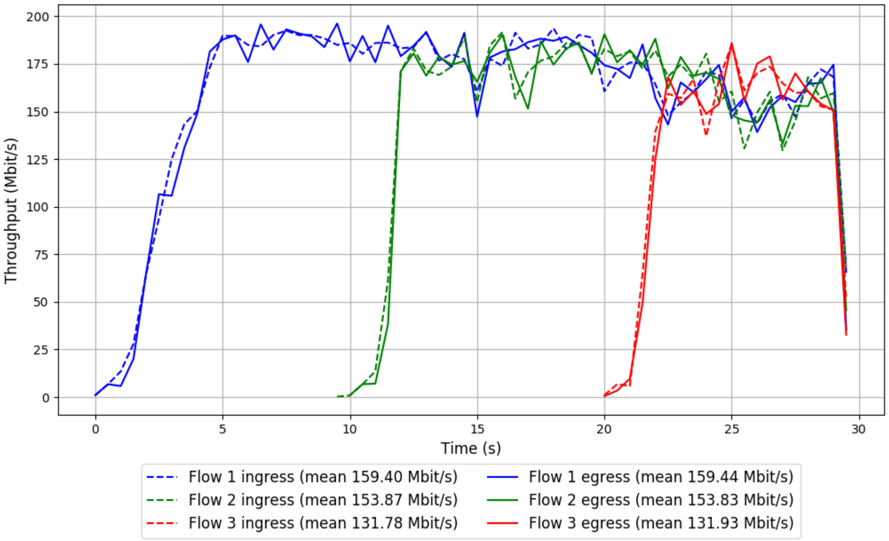


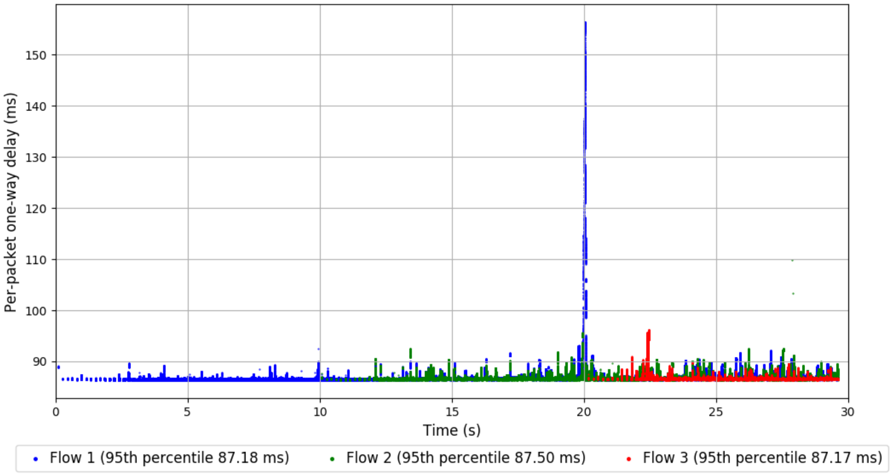
```
Run 8: Statistics of Indigo-calib

Start at: 2017-09-22 02:43:47
End at: 2017-09-22 02:44:17

# Below is generated by plot.py at 2017-09-22 06:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.42 Mbit/s
95th percentile per-packet one-way delay: 87.310 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 159.44 Mbit/s
95th percentile per-packet one-way delay: 87.176 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 153.83 Mbit/s
95th percentile per-packet one-way delay: 87.498 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 131.93 Mbit/s
95th percentile per-packet one-way delay: 87.175 ms
Loss rate: 1.69%
```

Run 8: Report of Indigo-calib — Data Link



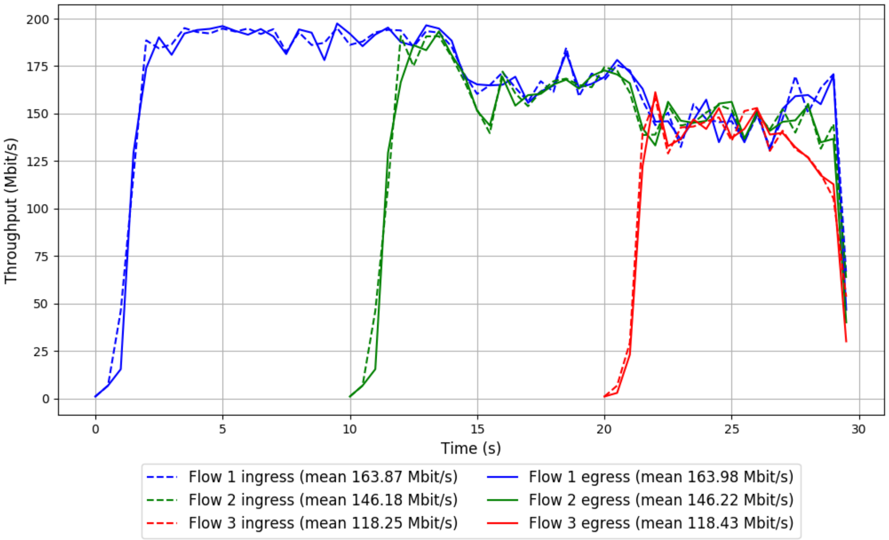


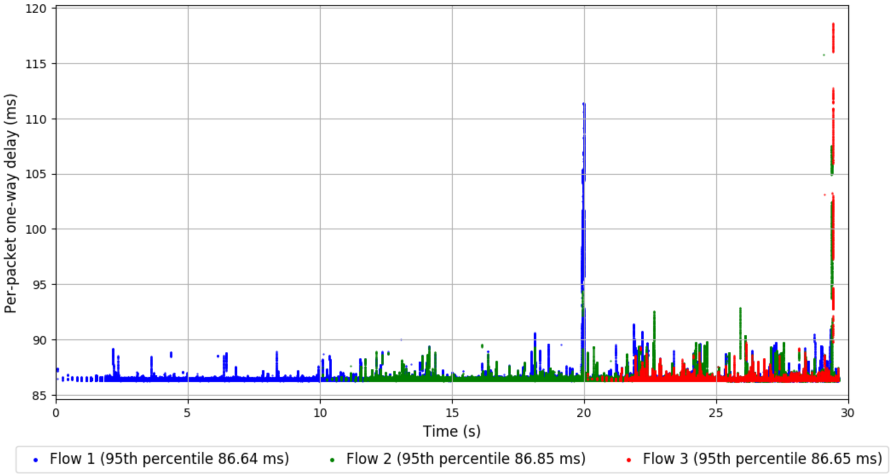
```
Run 9: Statistics of Indigo-calib

Start at: 2017-09-22 02:57:43
End at: 2017-09-22 02:58:13

# Below is generated by plot.py at 2017-09-22 06:24:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.75 Mbit/s
95th percentile per-packet one-way delay: 86.701 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 163.98 Mbit/s
95th percentile per-packet one-way delay: 86.643 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 146.22 Mbit/s
95th percentile per-packet one-way delay: 86.847 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 118.43 Mbit/s
95th percentile per-packet one-way delay: 86.652 ms
Loss rate: 1.69%
```

Run 9: Report of Indigo-calib — Data Link



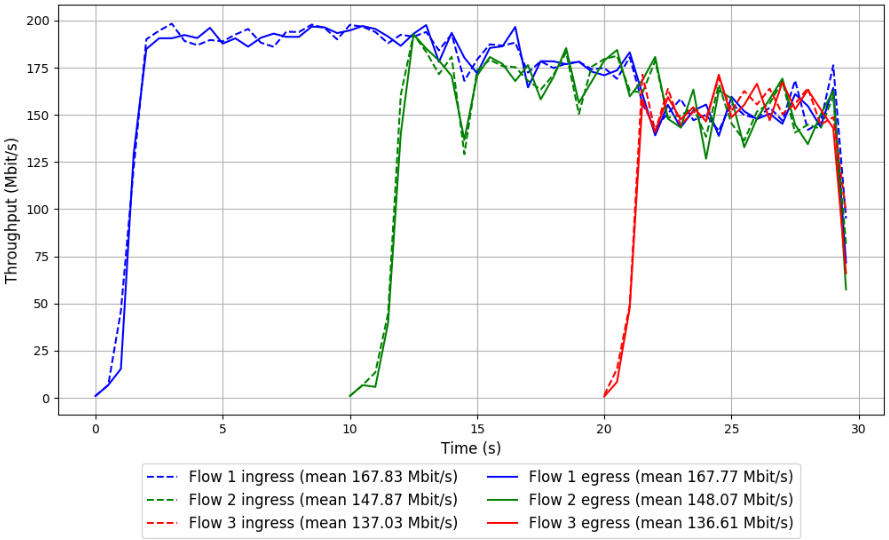


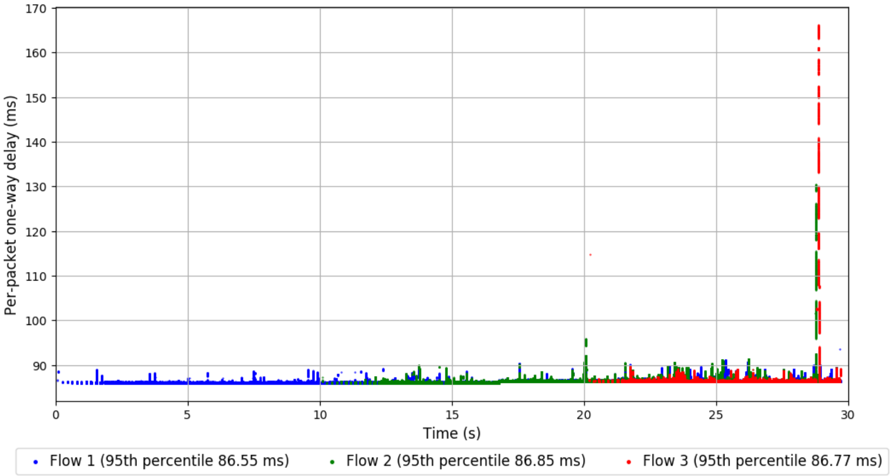
```
Run 10: Statistics of Indigo-calib

Start at: 2017-09-22 03:10:41
End at: 2017-09-22 03:11:11

# Below is generated by plot.py at 2017-09-22 06:25:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.56 Mbit/s
95th percentile per-packet one-way delay: 86.646 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 167.77 Mbit/s
95th percentile per-packet one-way delay: 86.547 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 148.07 Mbit/s
95th percentile per-packet one-way delay: 86.852 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 136.61 Mbit/s
95th percentile per-packet one-way delay: 86.765 ms
Loss rate: 2.08%
```

Run 10: Report of Indigo-calib — Data Link



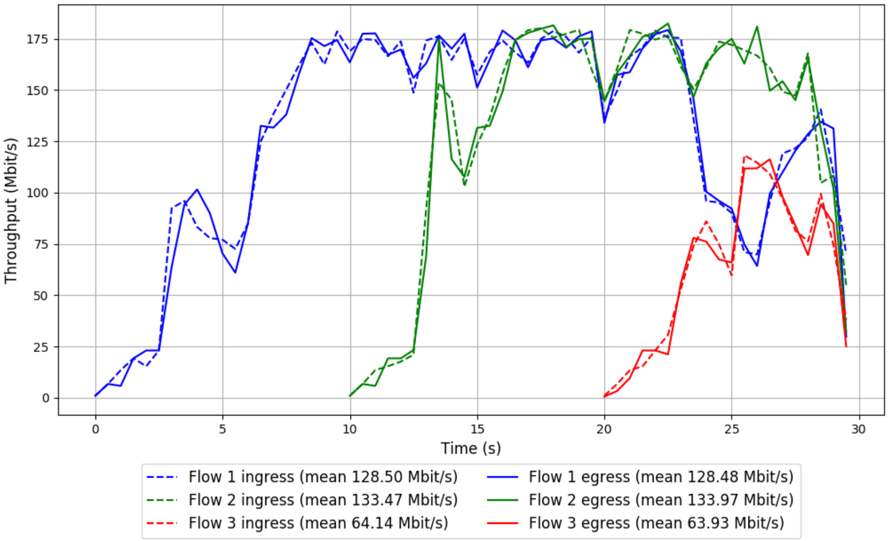


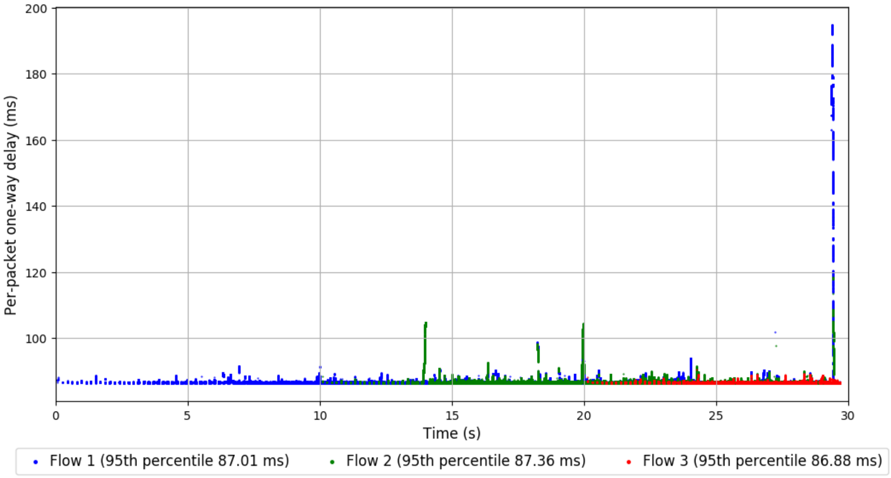
```
Run 1: Statistics of Indigo-delay

Start at: 2017-09-22 00:55:49
End at: 2017-09-22 00:56:19

# Below is generated by plot.py at 2017-09-22 06:25:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.61 Mbit/s
95th percentile per-packet one-way delay: 87.125 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 128.48 Mbit/s
95th percentile per-packet one-way delay: 87.007 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 133.97 Mbit/s
95th percentile per-packet one-way delay: 87.362 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 63.93 Mbit/s
95th percentile per-packet one-way delay: 86.876 ms
Loss rate: 2.12%
```

Run 1: Report of Indigo-delay — Data Link



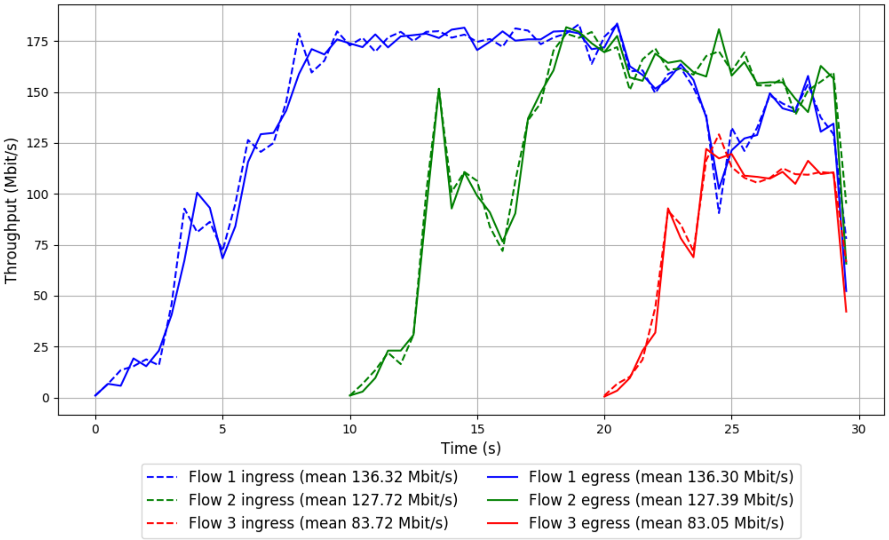


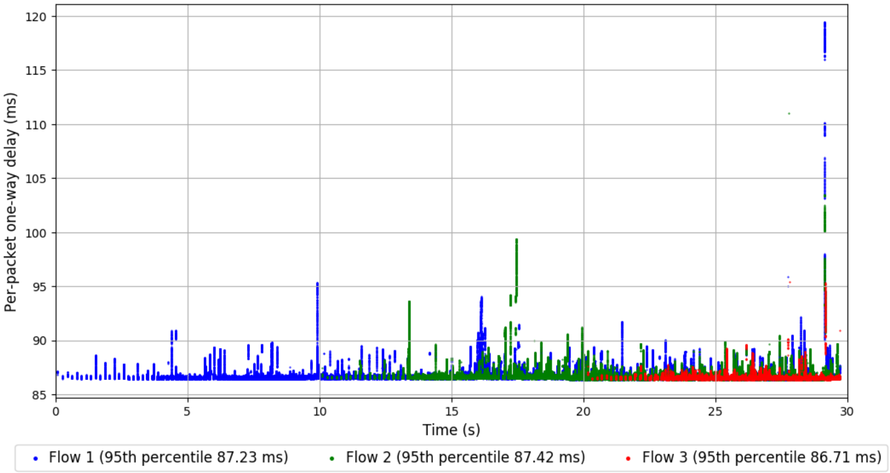
```
Run 2: Statistics of Indigo-delay

Start at: 2017-09-22 01:09:59
End at: 2017-09-22 01:10:29

# Below is generated by plot.py at 2017-09-22 06:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.34 Mbit/s
95th percentile per-packet one-way delay: 87.243 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 136.30 Mbit/s
95th percentile per-packet one-way delay: 87.234 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 127.39 Mbit/s
95th percentile per-packet one-way delay: 87.425 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 83.05 Mbit/s
95th percentile per-packet one-way delay: 86.712 ms
Loss rate: 2.55%
```

Run 2: Report of Indigo-delay — Data Link



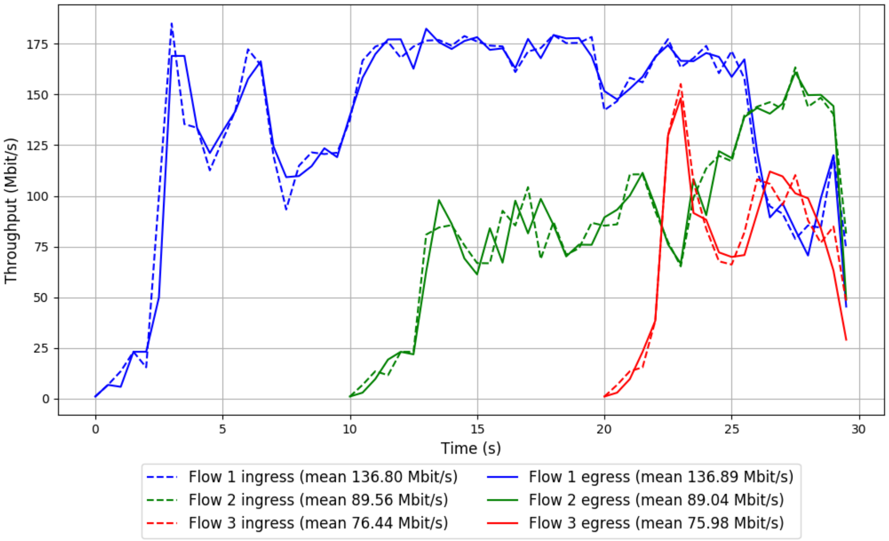


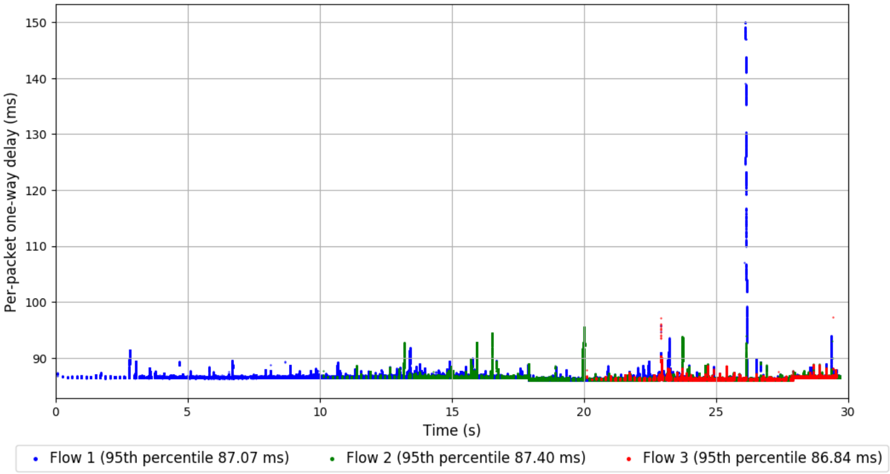
```
Run 3: Statistics of Indigo-delay

Start at: 2017-09-22 01:25:40
End at: 2017-09-22 01:26:10

# Below is generated by plot.py at 2017-09-22 06:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.95 Mbit/s
95th percentile per-packet one-way delay: 87.096 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 136.89 Mbit/s
95th percentile per-packet one-way delay: 87.068 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 89.04 Mbit/s
95th percentile per-packet one-way delay: 87.398 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 75.98 Mbit/s
95th percentile per-packet one-way delay: 86.843 ms
Loss rate: 3.28%
```

Run 3: Report of Indigo-delay — Data Link



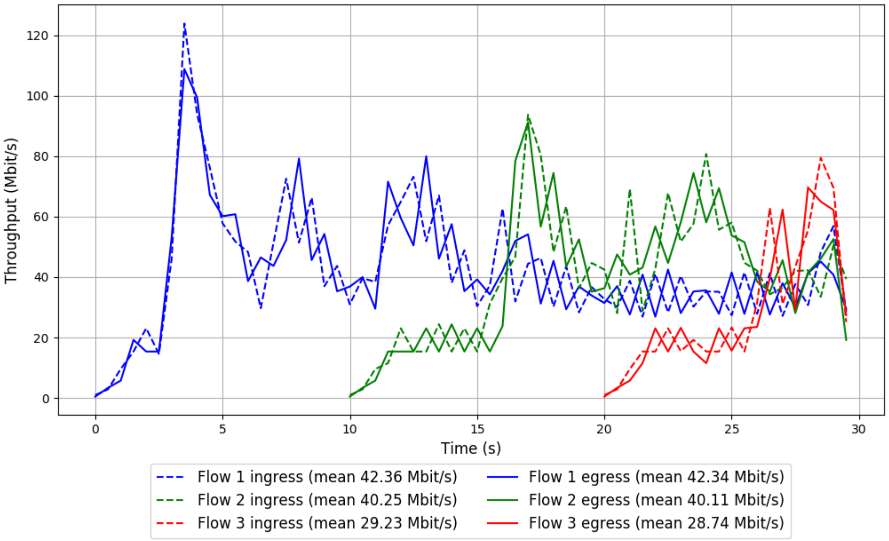


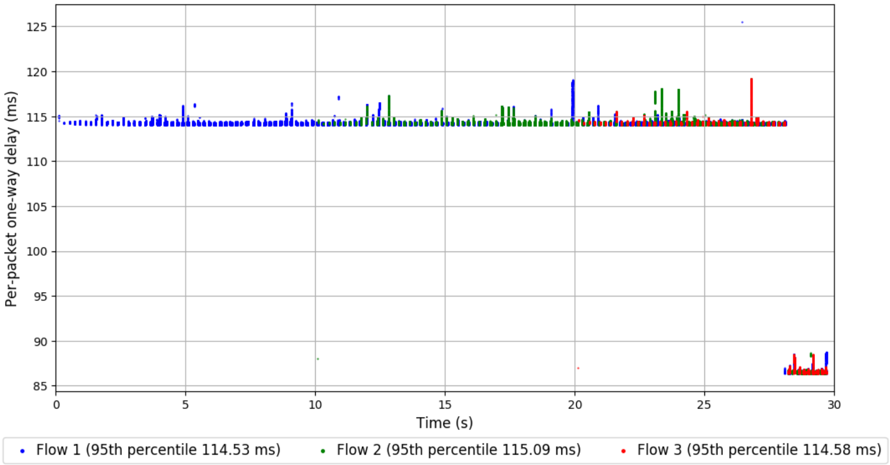
```
Run 4: Statistics of Indigo-delay

Start at: 2017-09-22 01:39:20
End at: 2017-09-22 01:39:50

# Below is generated by plot.py at 2017-09-22 06:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.14 Mbit/s
95th percentile per-packet one-way delay: 114.731 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 42.34 Mbit/s
95th percentile per-packet one-way delay: 114.531 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 40.11 Mbit/s
95th percentile per-packet one-way delay: 115.095 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 28.74 Mbit/s
95th percentile per-packet one-way delay: 114.580 ms
Loss rate: 3.44%
```

Run 4: Report of Indigo-delay — Data Link



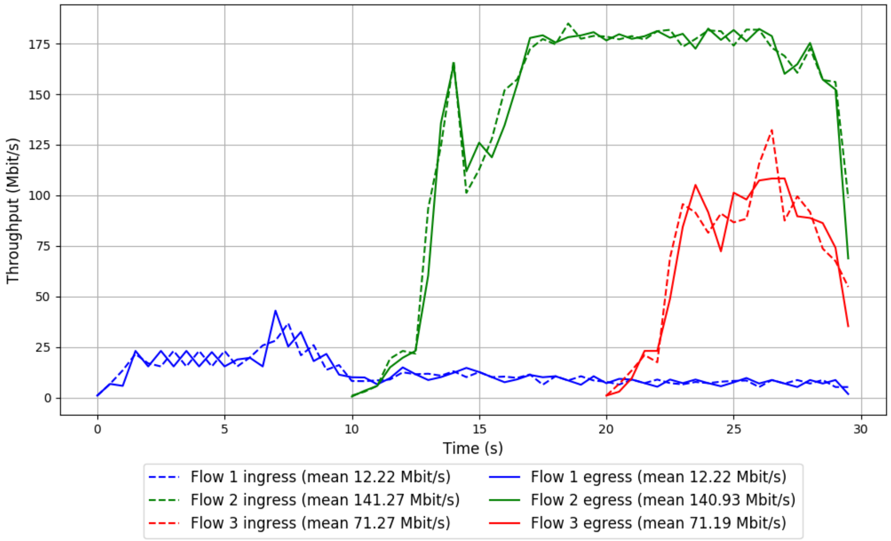


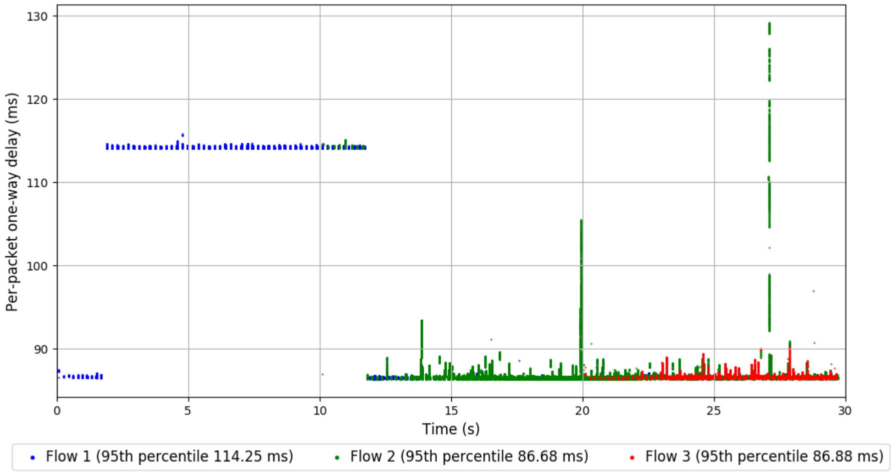
```
Run 5: Statistics of Indigo-delay

Start at: 2017-09-22 01:53:06
End at: 2017-09-22 01:53:36

# Below is generated by plot.py at 2017-09-22 06:25:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 128.36 Mbit/s
95th percentile per-packet one-way delay: 114.072 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 114.254 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 140.93 Mbit/s
95th percentile per-packet one-way delay: 86.681 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 71.19 Mbit/s
95th percentile per-packet one-way delay: 86.877 ms
Loss rate: 1.91%
```

Run 5: Report of Indigo-delay — Data Link



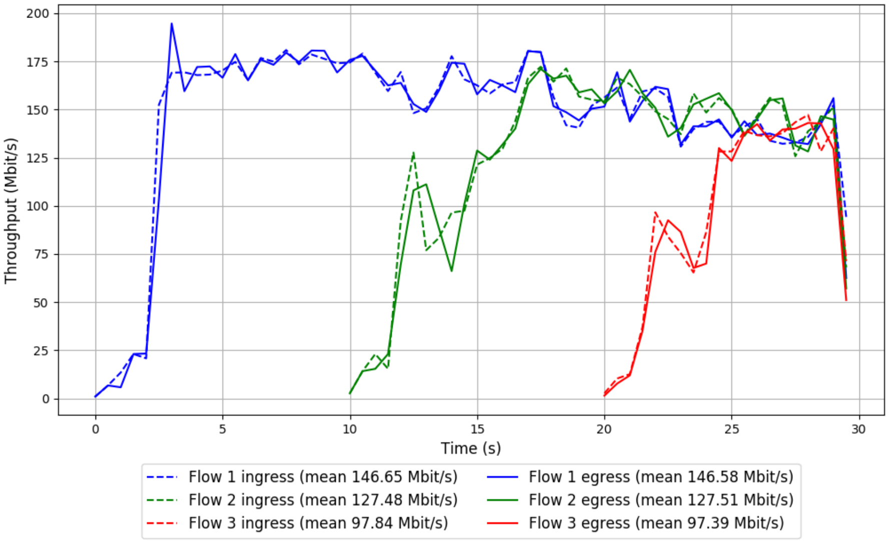


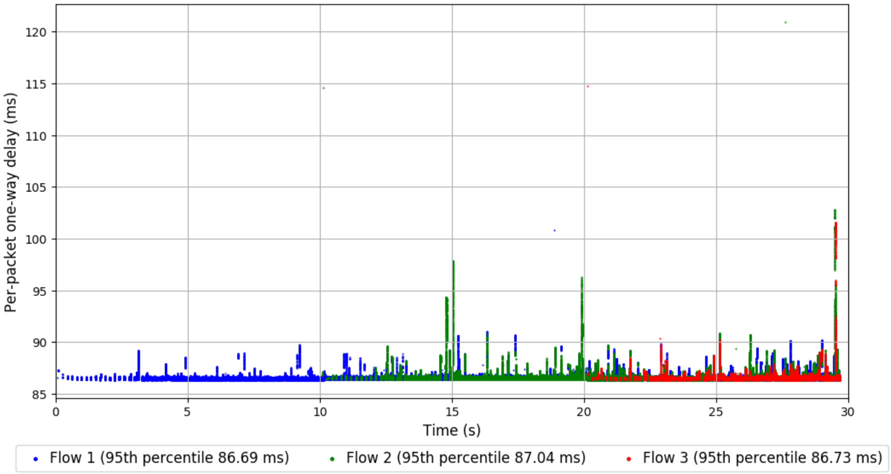
```
Run 6: Statistics of Indigo-delay

Start at: 2017-09-22 02:07:08
End at: 2017-09-22 02:07:38

# Below is generated by plot.py at 2017-09-22 06:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.40 Mbit/s
95th percentile per-packet one-way delay: 86.770 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 146.58 Mbit/s
95th percentile per-packet one-way delay: 86.690 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 127.51 Mbit/s
95th percentile per-packet one-way delay: 87.036 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 86.734 ms
Loss rate: 2.35%
```

Run 6: Report of Indigo-delay — Data Link



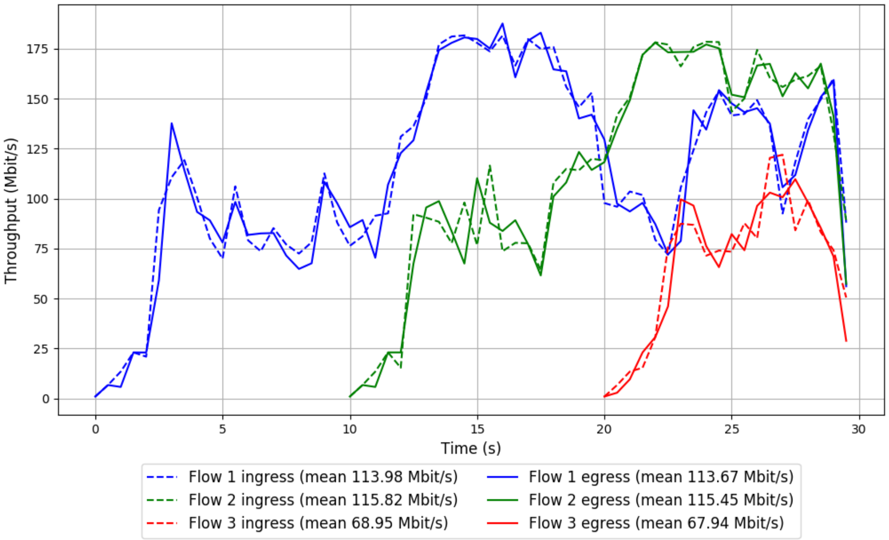


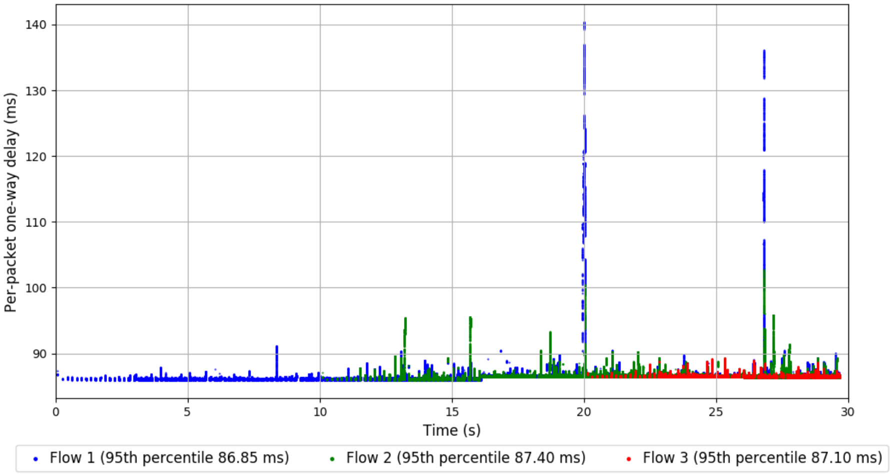
```
Run 7: Statistics of Indigo-delay

Start at: 2017-09-22 02:21:42
End at: 2017-09-22 02:22:12

# Below is generated by plot.py at 2017-09-22 06:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.04 Mbit/s
95th percentile per-packet one-way delay: 87.081 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 113.67 Mbit/s
95th percentile per-packet one-way delay: 86.853 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 115.45 Mbit/s
95th percentile per-packet one-way delay: 87.397 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 67.94 Mbit/s
95th percentile per-packet one-way delay: 87.097 ms
Loss rate: 2.78%
```

Run 7: Report of Indigo-delay — Data Link



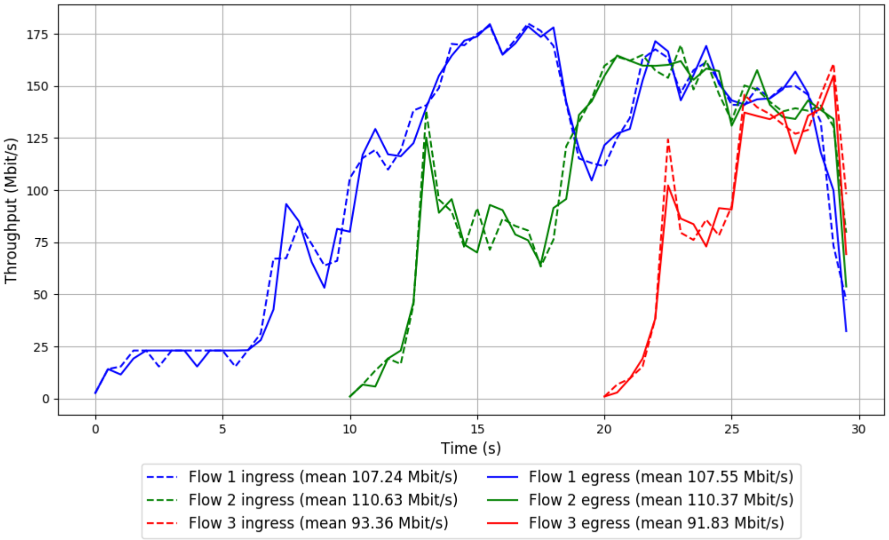


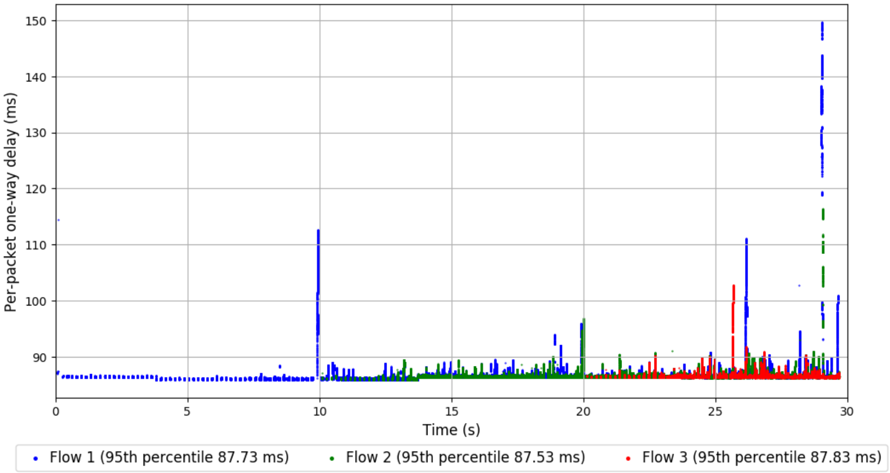
```
Run 8: Statistics of Indigo-delay

Start at: 2017-09-22 02:35:34
End at: 2017-09-22 02:36:04

# Below is generated by plot.py at 2017-09-22 06:27:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.10 Mbit/s
95th percentile per-packet one-way delay: 87.663 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 107.55 Mbit/s
95th percentile per-packet one-way delay: 87.726 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 110.37 Mbit/s
95th percentile per-packet one-way delay: 87.525 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 87.831 ms
Loss rate: 3.41%
```

Run 8: Report of Indigo-delay — Data Link



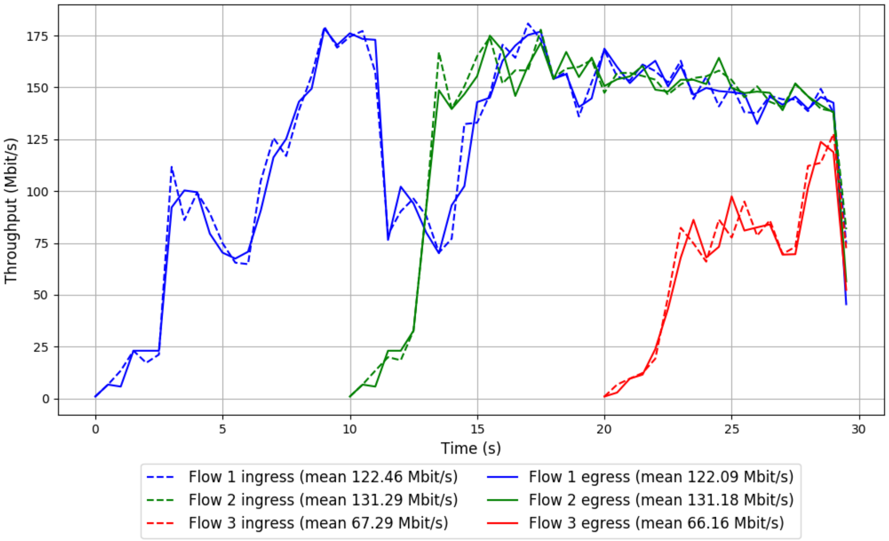


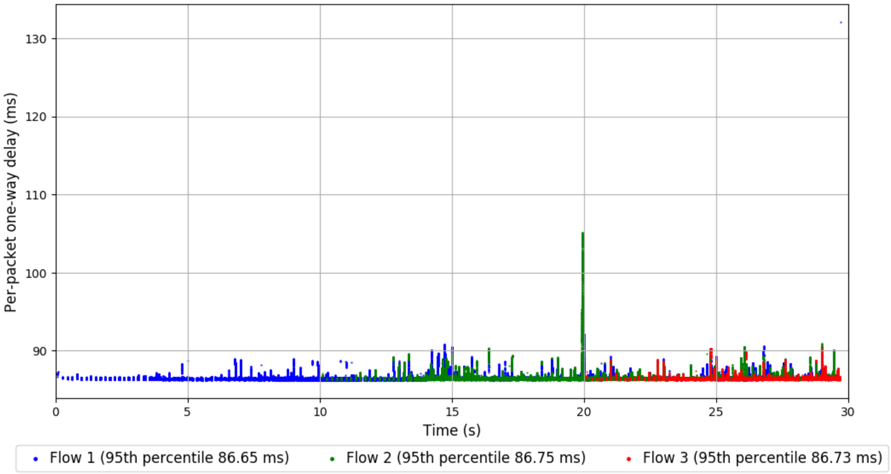
```
Run 9: Statistics of Indigo-delay

Start at: 2017-09-22 02:50:04
End at: 2017-09-22 02:50:34

# Below is generated by plot.py at 2017-09-22 06:27:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.24 Mbit/s
95th percentile per-packet one-way delay: 86.695 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 122.09 Mbit/s
95th percentile per-packet one-way delay: 86.649 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 131.18 Mbit/s
95th percentile per-packet one-way delay: 86.753 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 66.16 Mbit/s
95th percentile per-packet one-way delay: 86.732 ms
Loss rate: 3.44%
```

Run 9: Report of Indigo-delay — Data Link



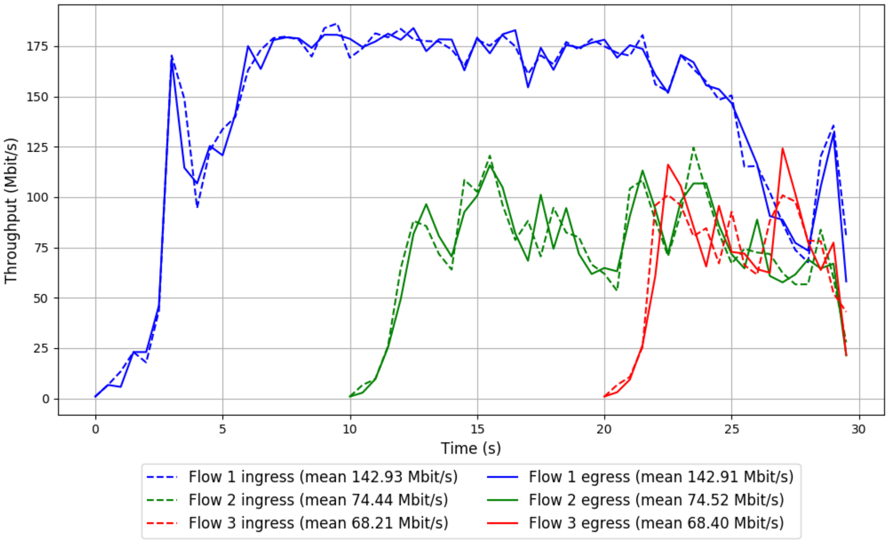


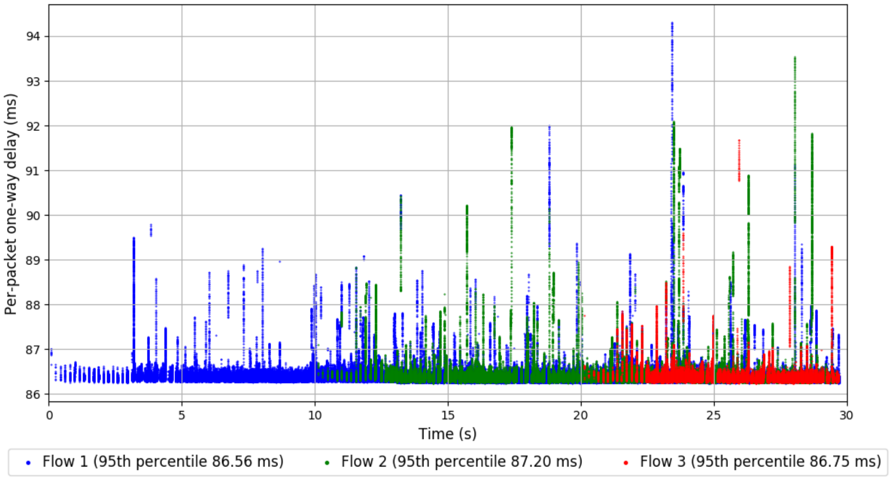
```
Run 10: Statistics of Indigo-delay

Start at: 2017-09-22 03:03:25
End at: 2017-09-22 03:03:55

# Below is generated by plot.py at 2017-09-22 06:27:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.05 Mbit/s
95th percentile per-packet one-way delay: 86.678 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 142.91 Mbit/s
95th percentile per-packet one-way delay: 86.555 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 74.52 Mbit/s
95th percentile per-packet one-way delay: 87.202 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 68.40 Mbit/s
95th percentile per-packet one-way delay: 86.749 ms
Loss rate: 1.61%
```

Run 10: Report of Indigo-delay — Data Link


Throughput (Mbit/s)
Time (s)
Flow 1 ingress (mean 142.93 Mbit/s)
Flow 1 egress (mean 142.91 Mbit/s)
Flow 2 ingress (mean 74.44 Mbit/s)
Flow 2 egress (mean 74.52 Mbit/s)
Flow 3 ingress (mean 68.21 Mbit/s)
Flow 3 egress (mean 68.40 Mbit/s)


Per-packet one-way delay (ms)
Time (s)
Flow 1 (95th percentile 86.56 ms)
Flow 2 (95th percentile 87.20 ms)
Flow 3 (95th percentile 86.75 ms)