Pantheon Report

Generated at 2017-10-12 09:13:42 (UTC).

Data path: GCE Tokyo Ethernet (*remote*) →GCE London Ethernet (*local*).

Repeated the test of 14 congestion control schemes 10 times.

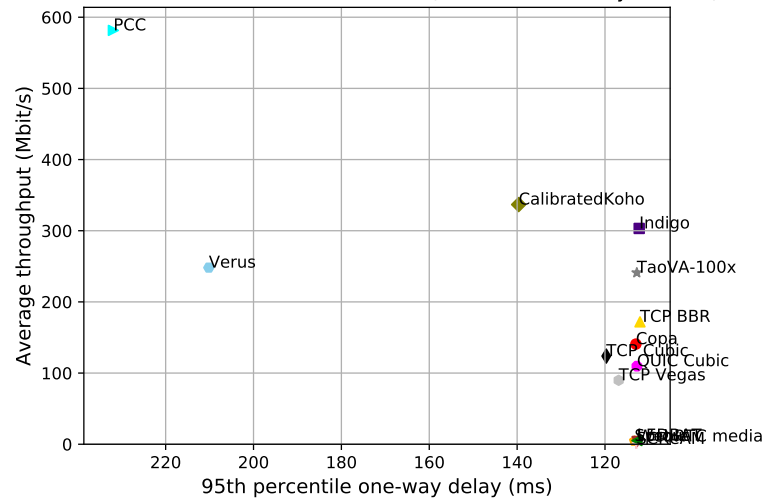Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

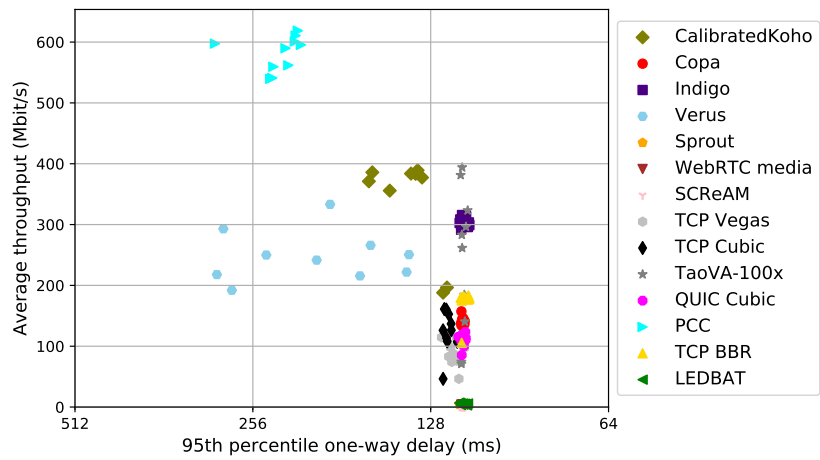Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: indigos @ 45998d6404be7c5106956530acb9cfc43bd06e7d
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 Tokyo Ethernet to GCE London Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE Tokyo Ethernet to GCE London Ethernet, 10 runs of 30s each per scheme
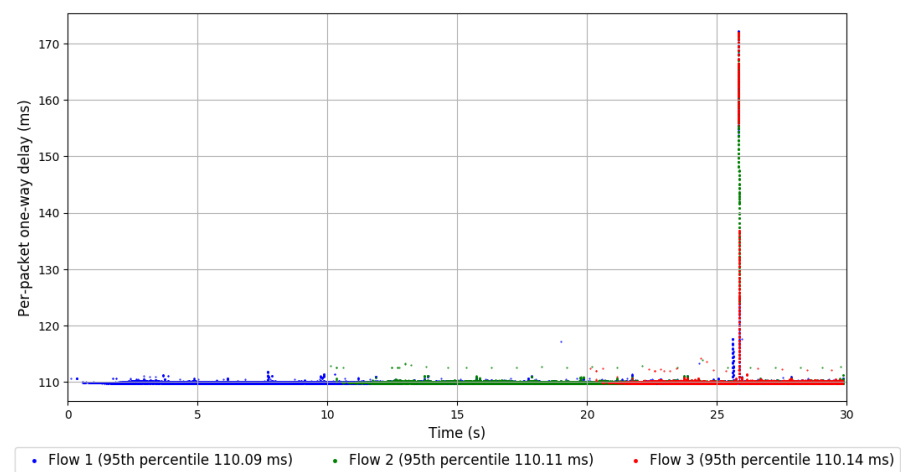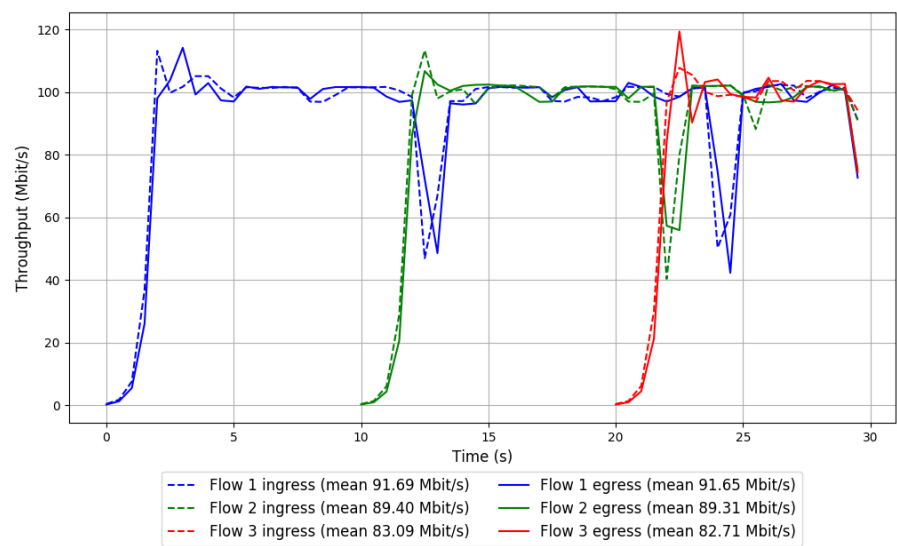### 3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	85.04	90.06	83.98	591.58	112.03	112.08	0.72	1.21	2.80
TCP Cubic	10	64.79	62.28	54.89	118.84	118.71	119.67	0.78	1.13	2.65
LEDBAT	10	2.40	3.37	1.74	112.74	112.72	112.58	1.37	2.11	4.13
PCC	10	527.85	66.45	29.80	232.43	223.13	227.02	4.04	3.34	4.97
QUIC Cubic	10	60.31	54.16	41.82	111.95	111.34	111.96	0.61	1.01	2.62
SCReAM	10	0.21	0.22	0.20	112.23	112.00	111.87	0.66	1.07	2.17
WebRTC media	10	2.11	1.30	0.47	111.87	112.05	112.42	0.94	1.32	3.82
Sprout	10	2.40	2.40	1.69	113.21	113.60	113.10	0.90	1.41	3.26
TaoVA-100x	10	134.52	122.45	102.10	112.55	112.72	113.96	0.86	1.32	4.55
TCP Vegas	10	48.30	44.41	37.18	116.19	116.79	115.53	0.66	1.03	2.54
Verus	10	162.93	102.16	55.94	195.38	201.26	172.12	2.23	3.42	2.81
Copa	10	80.82	70.18	54.25	112.69	112.43	113.03	0.74	1.29	3.48
CalibratedKoho	9	222.58	159.75	8.27	1088.47	145.68	129.65	0.66	2.62	6.46
Indigo	10	162.70	151.80	124.47	111.95	112.49	112.64	0.72	1.10	2.95

```
Run 1: Statistics of TCP BBR

Start at: 2017-10-12 03:39:13
End at: 2017-10-12 03:39:43

# Below is generated by plot.py at 2017-10-12 08:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.93 Mbit/s
95th percentile per-packet one-way delay: 110.106 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 91.65 Mbit/s
95th percentile per-packet one-way delay: 110.093 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 89.31 Mbit/s
95th percentile per-packet one-way delay: 110.107 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 82.71 Mbit/s
95th percentile per-packet one-way delay: 110.140 ms
Loss rate: 2.76%
```
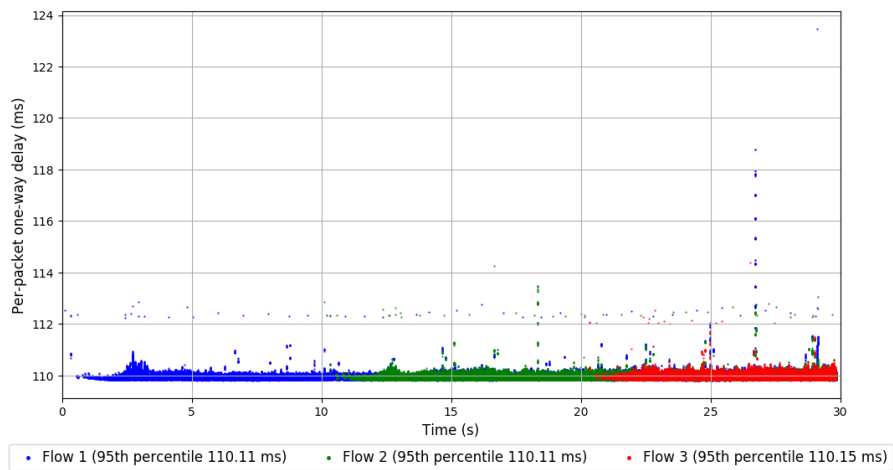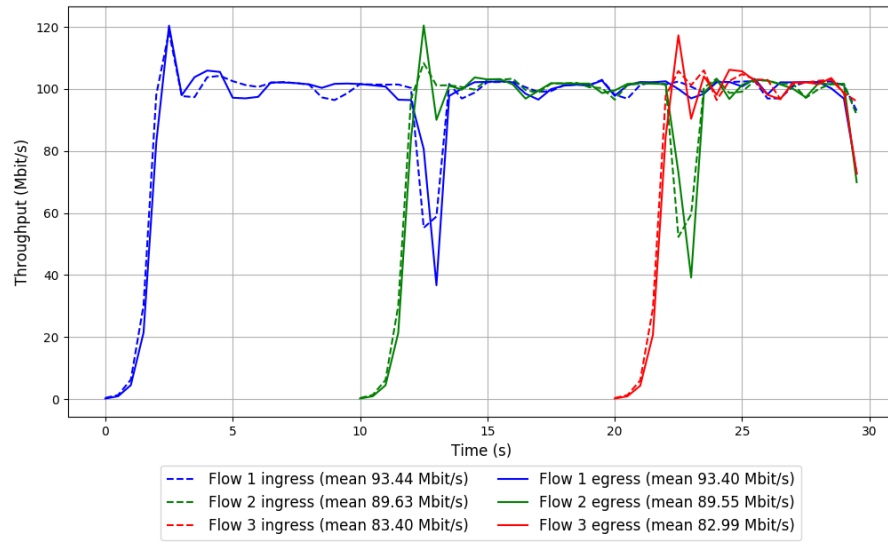
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 91.69 Mbit/s)   Flow 1 egress (mean 91.65 Mbit/s)
Flow 2 ingress (mean 89.40 Mbit/s)   Flow 2 egress (mean 89.31 Mbit/s)
Flow 3 ingress (mean 83.09 Mbit/s)   Flow 3 egress (mean 82.71 Mbit/s)

Flow 1 (95th percentile 110.09 ms)   Flow 2 (95th percentile 110.11 ms)   Flow 3 (95th percentile 110.14 ms)

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```
Run 2: Statistics of TCP BBR

Start at: 2017-10-12 03:52:50
End at: 2017-10-12 03:53:20

# Below is generated by plot.py at 2017-10-12 08:19:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.88 Mbit/s
95th percentile per-packet one-way delay: 110.116 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 93.40 Mbit/s
95th percentile per-packet one-way delay: 110.112 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 89.55 Mbit/s
95th percentile per-packet one-way delay: 110.105 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 110.147 ms
Loss rate: 2.87%
```
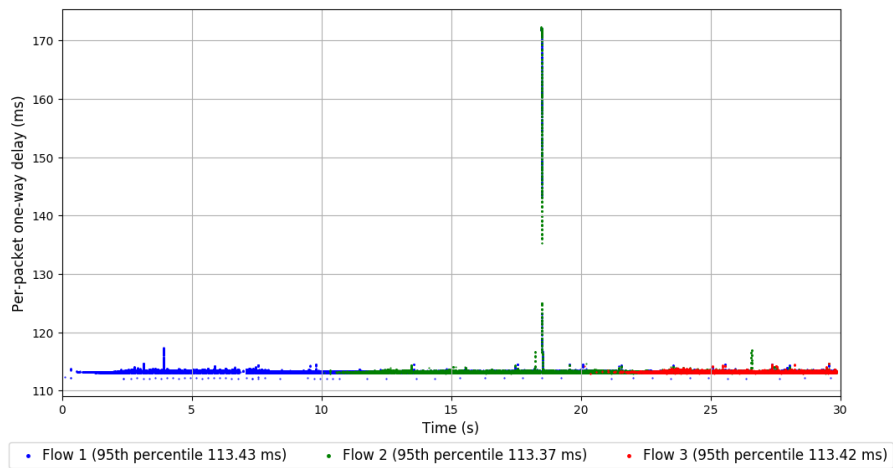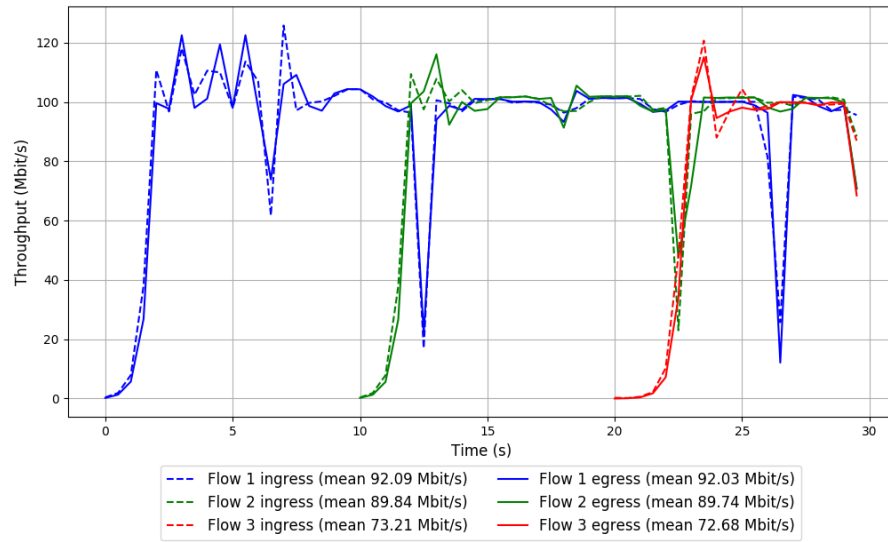
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 93.44 Mbit/s)   Flow 1 egress (mean 93.40 Mbit/s)
Flow 2 ingress (mean 89.63 Mbit/s)   Flow 2 egress (mean 89.55 Mbit/s)
Flow 3 ingress (mean 83.40 Mbit/s)   Flow 3 egress (mean 82.99 Mbit/s)

Flow 1 (95th percentile 110.11 ms)   Flow 2 (95th percentile 110.11 ms)   Flow 3 (95th percentile 110.15 ms)

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Run 3: Statistics of TCP BBR

Start at: 2017-10-12 04:06:23
End at: 2017-10-12 04:06:53

# Below is generated by plot.py at 2017-10-12 08:19:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.23 Mbit/s
95th percentile per-packet one-way delay: 113.412 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 113.430 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 89.74 Mbit/s
95th percentile per-packet one-way delay: 113.372 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 72.68 Mbit/s
95th percentile per-packet one-way delay: 113.421 ms
Loss rate: 2.97%
```
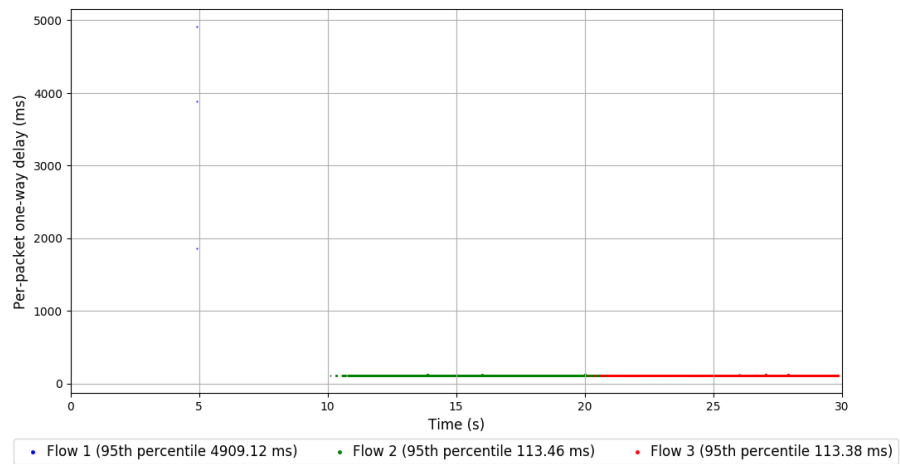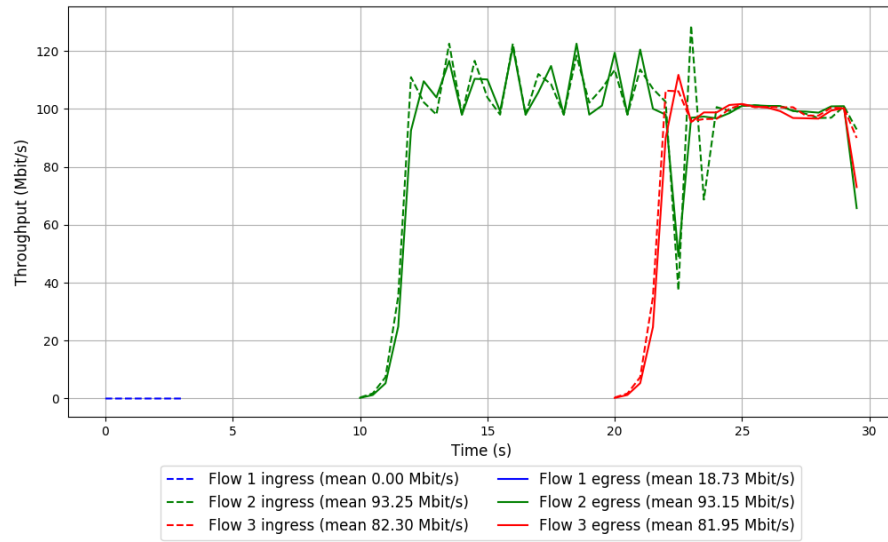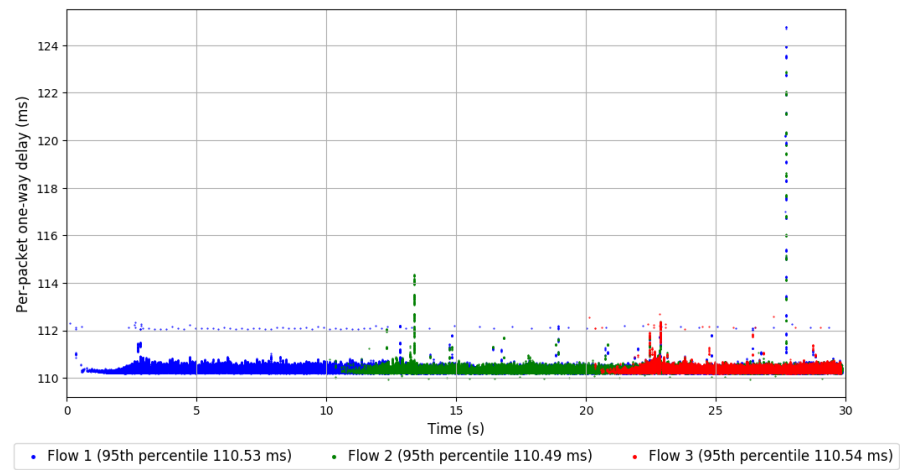
Run 3: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 92.09 Mbit/s) —— Flow 1 egress (mean 92.03 Mbit/s)
- - - Flow 2 ingress (mean 89.84 Mbit/s) —— Flow 2 egress (mean 89.74 Mbit/s)
- - - Flow 3 ingress (mean 73.21 Mbit/s) —— Flow 3 egress (mean 72.68 Mbit/s)

• Flow 1 (95th percentile 113.43 ms)   • Flow 2 (95th percentile 113.37 ms)   • Flow 3 (95th percentile 113.42 ms)

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Run 4: Statistics of TCP BBR

Start at: 2017-10-12 04:20:17
End at: 2017-10-12 04:20:47

# Below is generated by plot.py at 2017-10-12 08:19:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.61 Mbit/s
95th percentile per-packet one-way delay: 113.441 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 18.73 Mbit/s
95th percentile per-packet one-way delay: 4909.119 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 93.15 Mbit/s
95th percentile per-packet one-way delay: 113.457 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 81.95 Mbit/s
95th percentile per-packet one-way delay: 113.376 ms
Loss rate: 2.64%
```
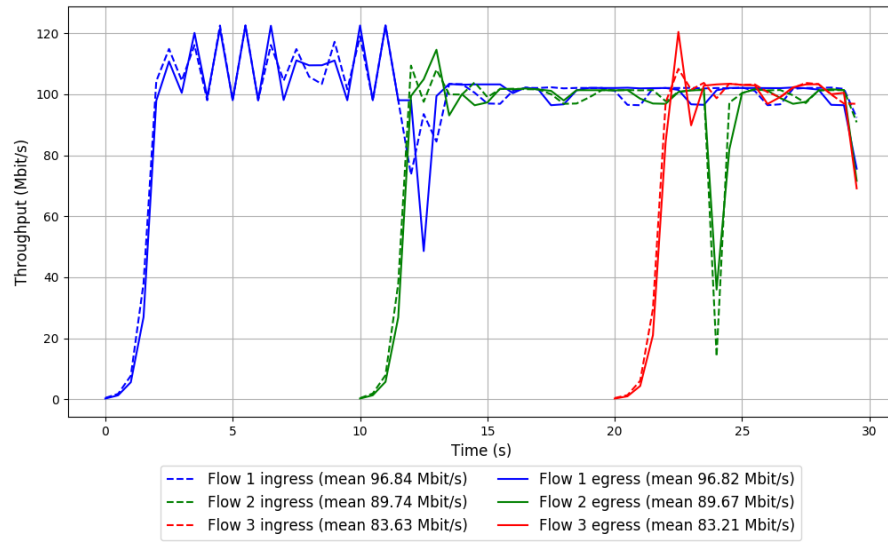
Run 4: Report of TCP BBR — Data Link

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Run 5: Statistics of TCP BBR

Start at: 2017-10-12 04:34:00
End at: 2017-10-12 04:34:30


# Below is generated by plot.py at 2017-10-12 08:19:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.40 Mbit/s
95th percentile per-packet one-way delay: 110.517 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 96.82 Mbit/s
95th percentile per-packet one-way delay: 110.526 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 89.67 Mbit/s
95th percentile per-packet one-way delay: 110.488 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 83.21 Mbit/s
95th percentile per-packet one-way delay: 110.538 ms
Loss rate: 2.92%
```
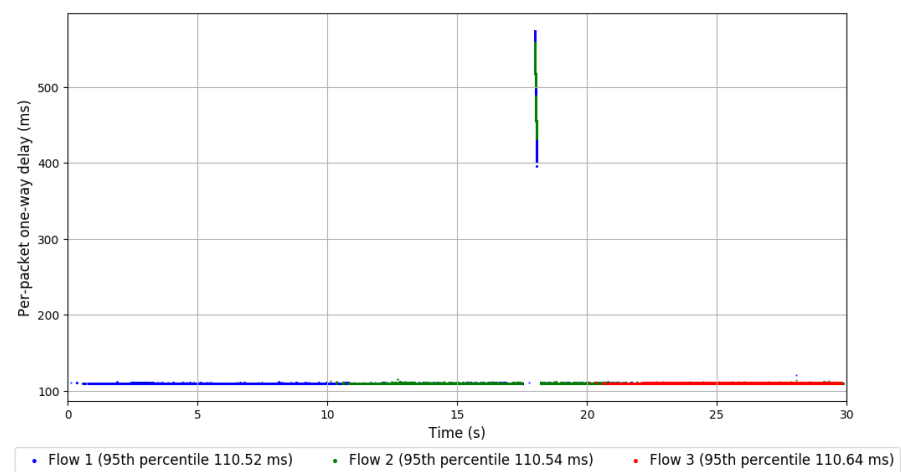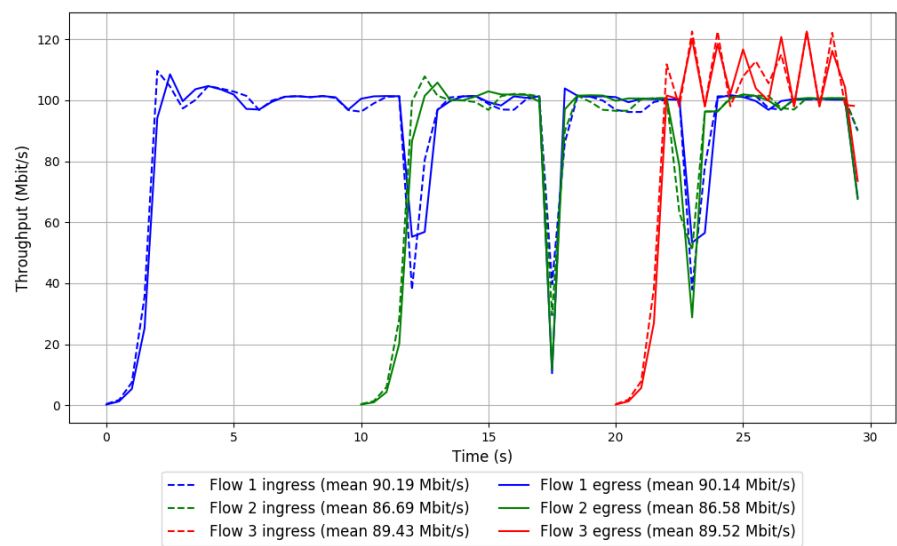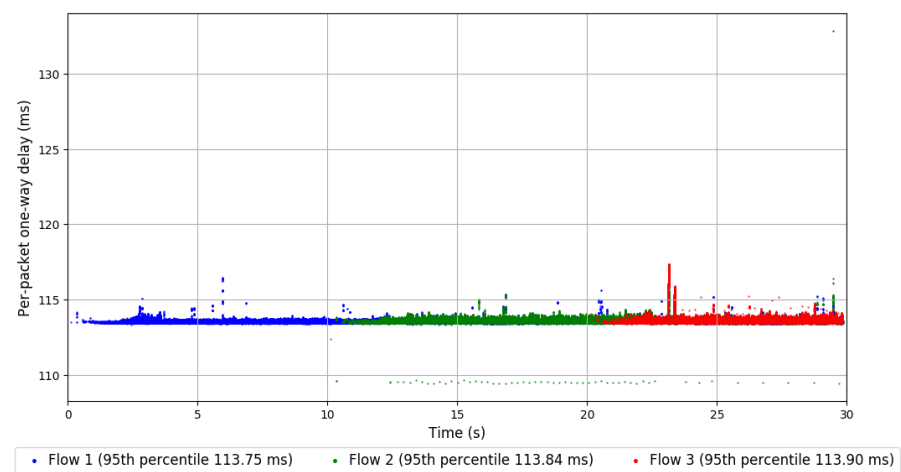
Run 5: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 96.84 Mbit/s) —— Flow 1 egress (mean 96.82 Mbit/s)
- - - Flow 2 ingress (mean 89.74 Mbit/s) —— Flow 2 egress (mean 89.67 Mbit/s)
- - - Flow 3 ingress (mean 83.63 Mbit/s) —— Flow 3 egress (mean 83.21 Mbit/s)

- Flow 1 (95th percentile 110.53 ms) • Flow 2 (95th percentile 110.49 ms) • Flow 3 (95th percentile 110.54 ms)

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```
Run 6: Statistics of TCP BBR

Start at: 2017-10-12 04:47:22
End at: 2017-10-12 04:47:52

# Below is generated by plot.py at 2017-10-12 08:19:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 176.63 Mbit/s
95th percentile per-packet one-way delay: 110.562 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 90.14 Mbit/s
95th percentile per-packet one-way delay: 110.515 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 110.540 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 89.52 Mbit/s
95th percentile per-packet one-way delay: 110.640 ms
Loss rate: 2.76%
```
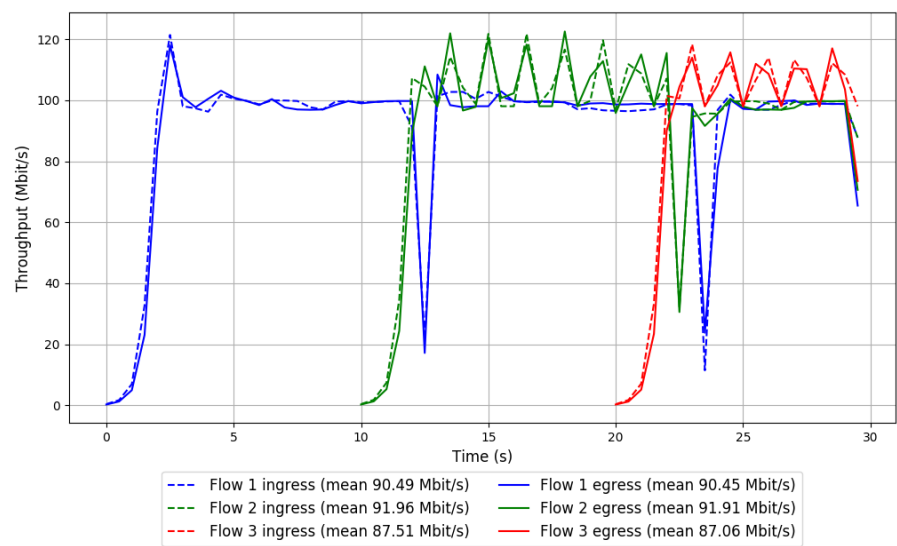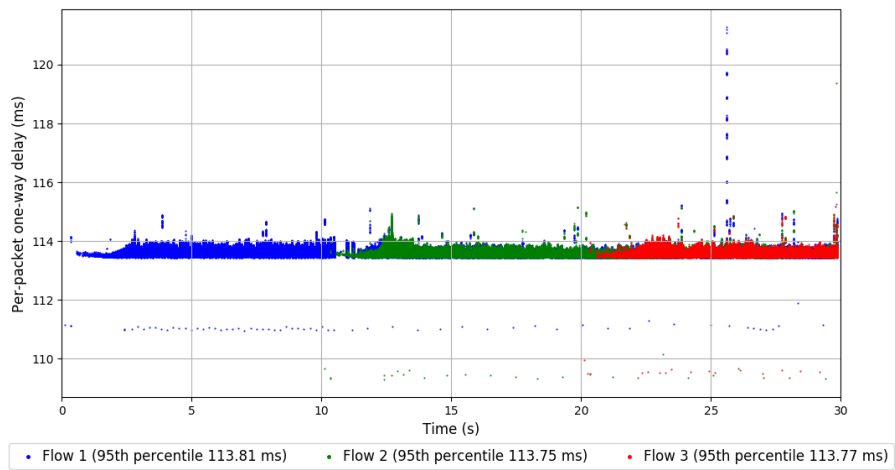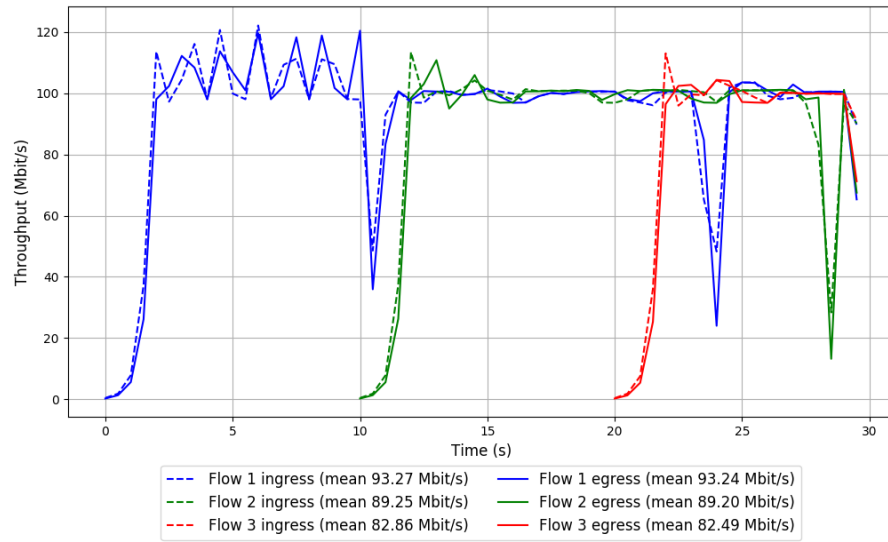
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 90.19 Mbit/s)   Flow 1 egress (mean 90.14 Mbit/s)
Flow 2 ingress (mean 86.69 Mbit/s)   Flow 2 egress (mean 86.58 Mbit/s)
Flow 3 ingress (mean 89.43 Mbit/s)   Flow 3 egress (mean 89.52 Mbit/s)

• Flow 1 (95th percentile 110.52 ms)   • Flow 2 (95th percentile 110.54 ms)   • Flow 3 (95th percentile 110.64 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-10-12 05:01:06
End at: 2017-10-12 05:01:36

# Below is generated by plot.py at 2017-10-12 08:19:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.77 Mbit/s
95th percentile per-packet one-way delay: 113.810 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 90.45 Mbit/s
95th percentile per-packet one-way delay: 113.746 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 91.91 Mbit/s
95th percentile per-packet one-way delay: 113.839 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 87.06 Mbit/s
95th percentile per-packet one-way delay: 113.900 ms
Loss rate: 2.82%
```
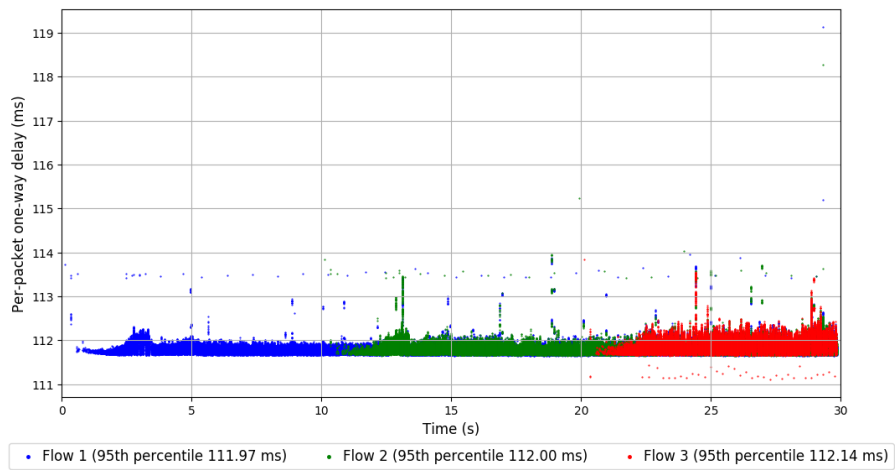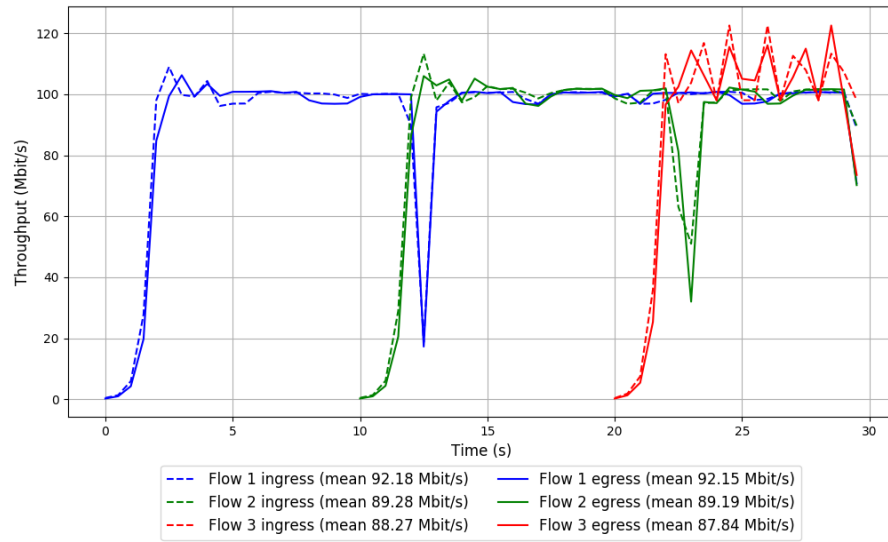
Run 7: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 90.49 Mbit/s)   —— Flow 1 egress (mean 90.45 Mbit/s)
- - - Flow 2 ingress (mean 91.96 Mbit/s)   —— Flow 2 egress (mean 91.91 Mbit/s)
- - - Flow 3 ingress (mean 87.51 Mbit/s)   —— Flow 3 egress (mean 87.06 Mbit/s)

- Flow 1 (95th percentile 113.75 ms)   • Flow 2 (95th percentile 113.84 ms)   • Flow 3 (95th percentile 113.90 ms)

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```
Run 8: Statistics of TCP BBR

Start at: 2017-10-12 05:14:41
End at: 2017-10-12 05:15:11


# Below is generated by plot.py at 2017-10-12 08:19:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.37 Mbit/s
95th percentile per-packet one-way delay: 113.795 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 113.815 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 89.20 Mbit/s
95th percentile per-packet one-way delay: 113.755 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 82.49 Mbit/s
95th percentile per-packet one-way delay: 113.767 ms
Loss rate: 2.67%
```
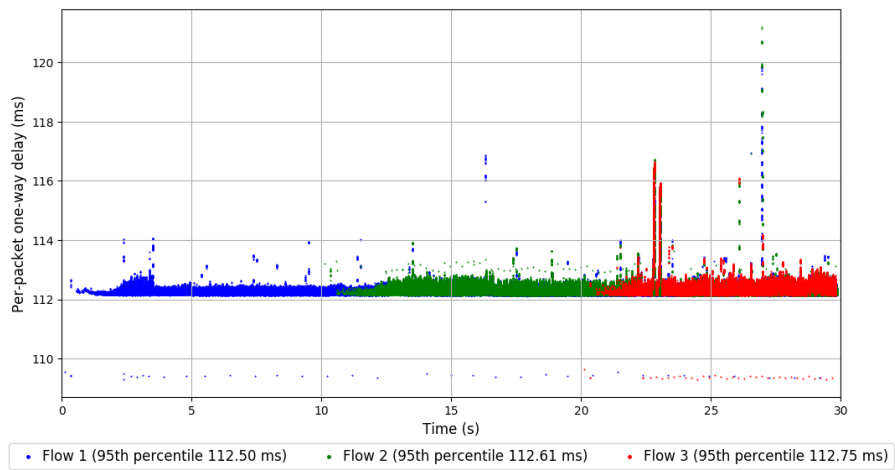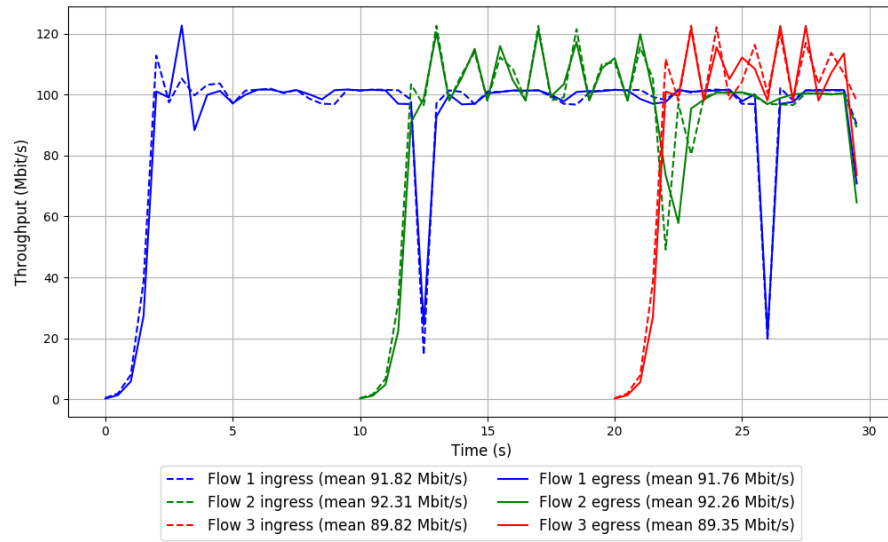
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 93.27 Mbit/s)   Flow 1 egress (mean 93.24 Mbit/s)
Flow 2 ingress (mean 89.25 Mbit/s)   Flow 2 egress (mean 89.20 Mbit/s)
Flow 3 ingress (mean 82.86 Mbit/s)   Flow 3 egress (mean 82.49 Mbit/s)

Flow 1 (95th percentile 113.81 ms)   Flow 2 (95th percentile 113.75 ms)   Flow 3 (95th percentile 113.77 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-10-12 05:27:56
End at: 2017-10-12 05:28:26

# Below is generated by plot.py at 2017-10-12 08:21:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.95 Mbit/s
95th percentile per-packet one-way delay: 112.029 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 92.15 Mbit/s
95th percentile per-packet one-way delay: 111.970 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 89.19 Mbit/s
95th percentile per-packet one-way delay: 112.003 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 112.139 ms
Loss rate: 2.80%
```
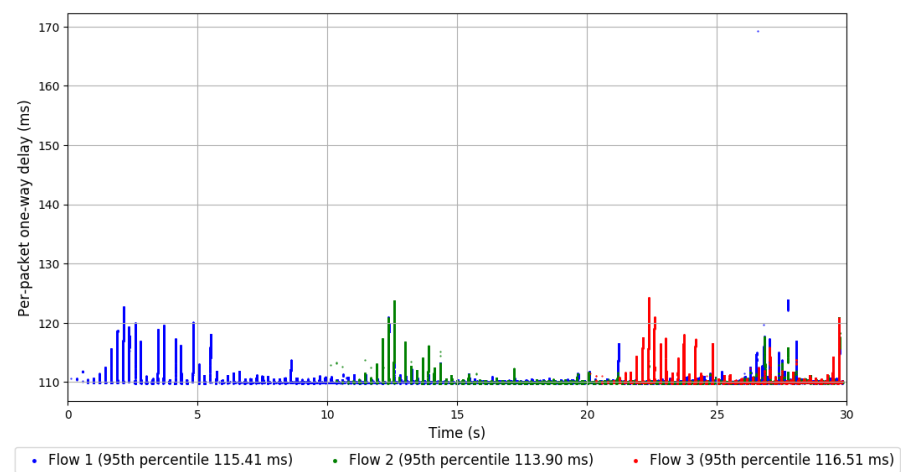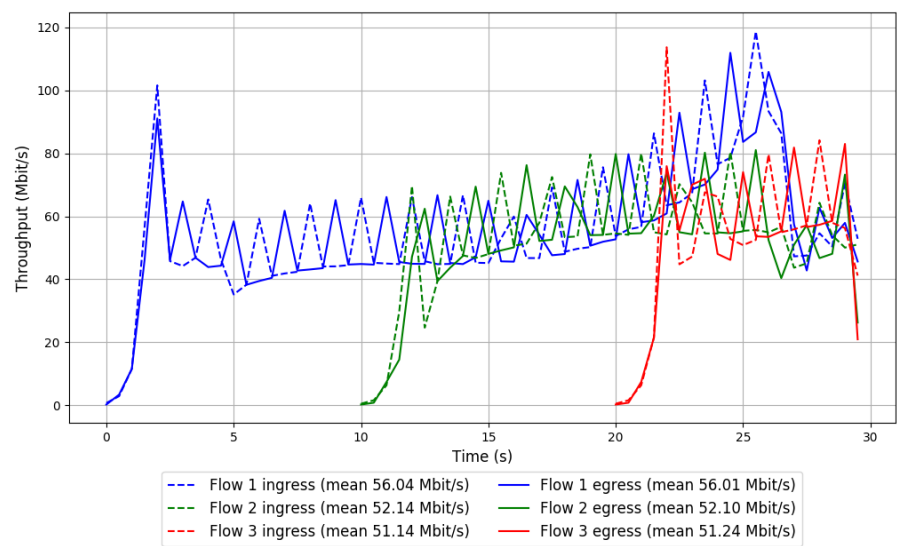
Run 9: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 92.18 Mbit/s) —— Flow 1 egress (mean 92.15 Mbit/s)
- - - Flow 2 ingress (mean 89.28 Mbit/s) —— Flow 2 egress (mean 89.19 Mbit/s)
- - - Flow 3 ingress (mean 88.27 Mbit/s) —— Flow 3 egress (mean 87.84 Mbit/s)

- Flow 1 (95th percentile 111.97 ms)　　• Flow 2 (95th percentile 112.00 ms)　　• Flow 3 (95th percentile 112.14 ms)

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```
Run 10: Statistics of TCP BBR

Start at: 2017-10-12 05:41:49
End at: 2017-10-12 05:42:19


# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.02 Mbit/s
95th percentile per-packet one-way delay: 112.591 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 91.76 Mbit/s
95th percentile per-packet one-way delay: 112.505 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 92.26 Mbit/s
95th percentile per-packet one-way delay: 112.608 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 89.35 Mbit/s
95th percentile per-packet one-way delay: 112.746 ms
Loss rate: 2.76%
```
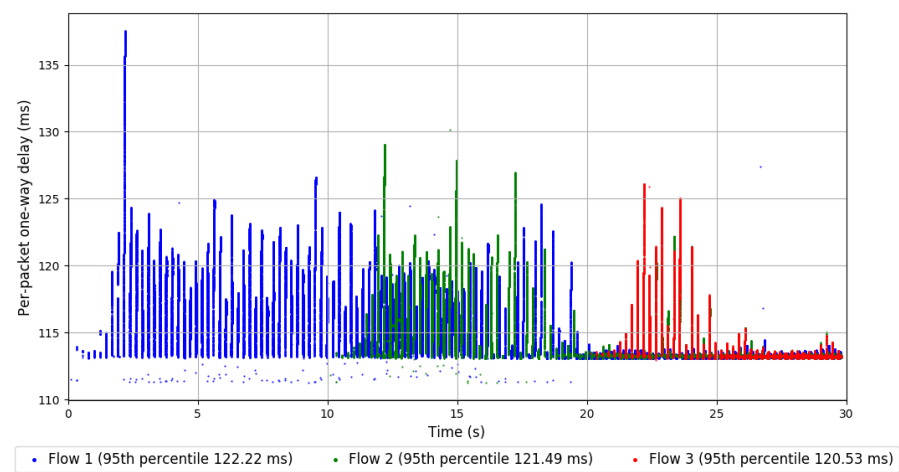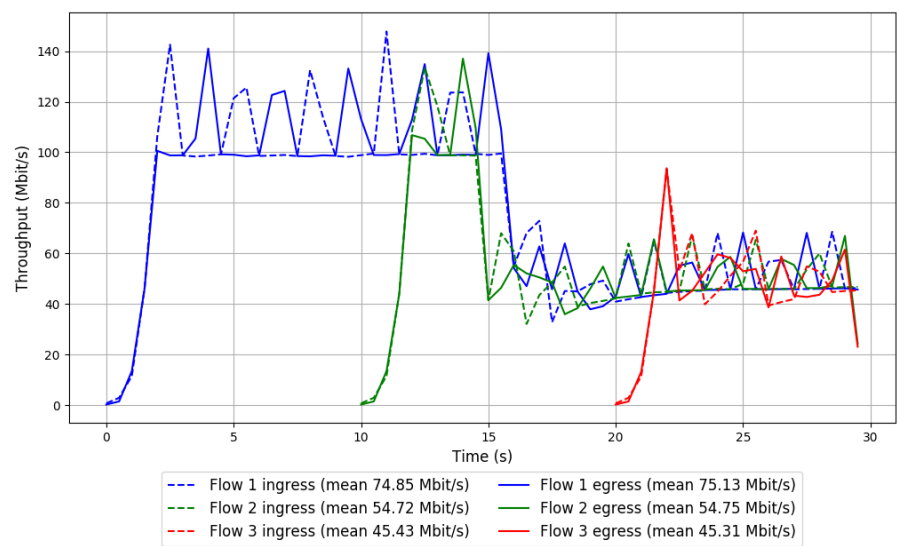
Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-10-12 03:47:15
End at: 2017-10-12 03:47:45

# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.22 Mbit/s
95th percentile per-packet one-way delay: 115.415 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 115.406 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 52.10 Mbit/s
95th percentile per-packet one-way delay: 113.899 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 51.24 Mbit/s
95th percentile per-packet one-way delay: 116.511 ms
Loss rate: 2.06%
```
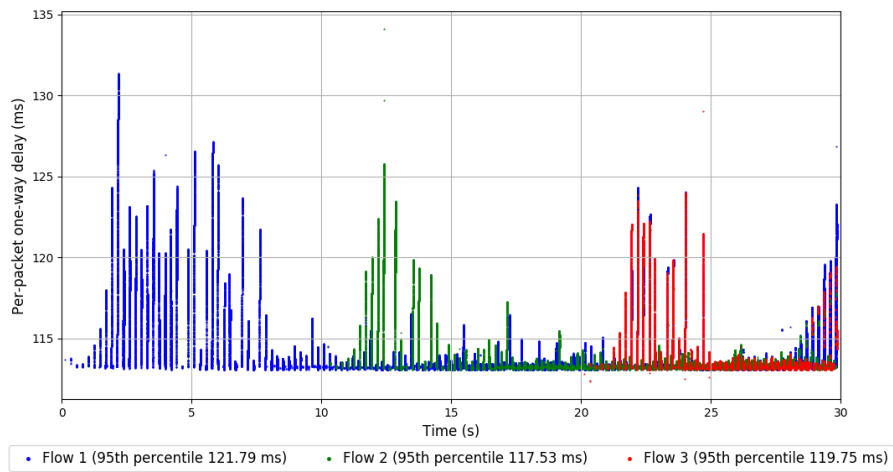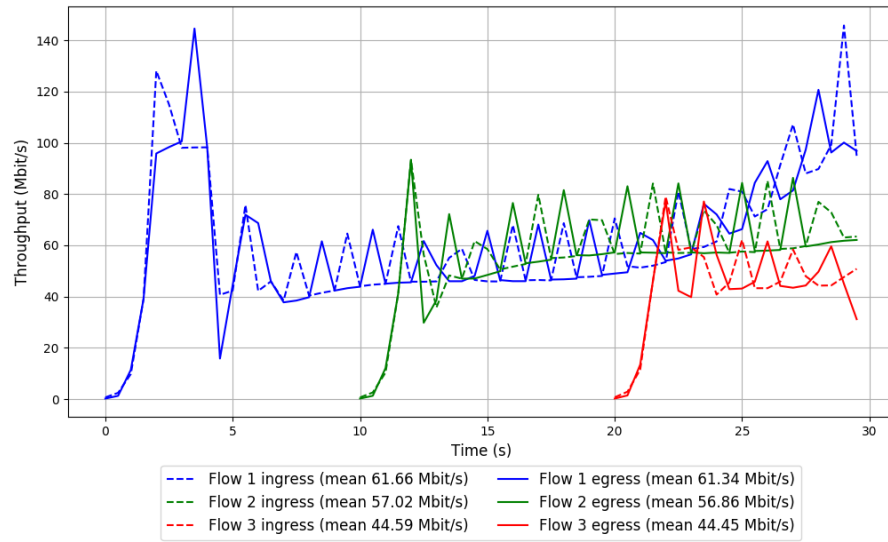
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-10-12 04:00:50
End at: 2017-10-12 04:01:20


# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.09 Mbit/s
95th percentile per-packet one-way delay: 121.974 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 75.13 Mbit/s
95th percentile per-packet one-way delay: 122.220 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 54.75 Mbit/s
95th percentile per-packet one-way delay: 121.491 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 45.31 Mbit/s
95th percentile per-packet one-way delay: 120.530 ms
Loss rate: 2.53%
```
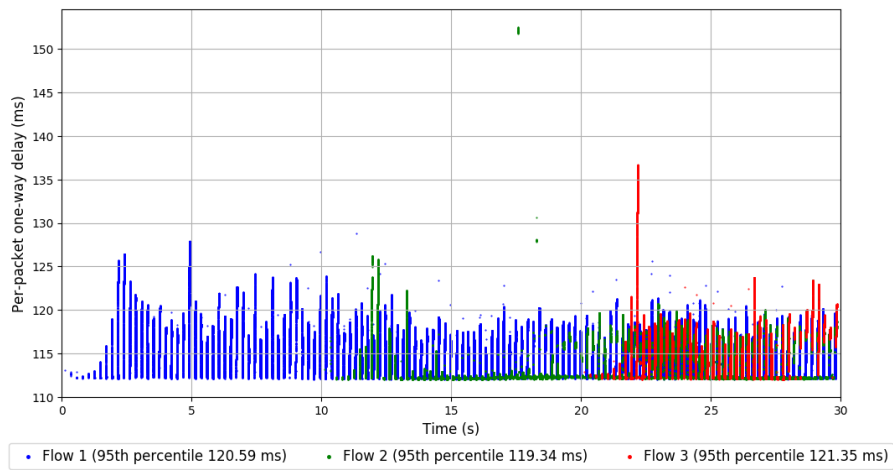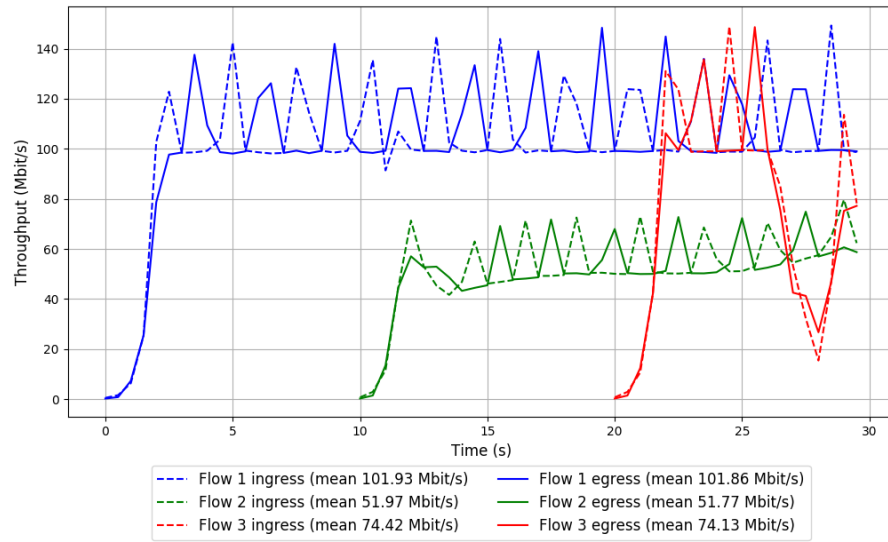
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 74.85 Mbit/s)   Flow 1 egress (mean 75.13 Mbit/s)
Flow 2 ingress (mean 54.72 Mbit/s)   Flow 2 egress (mean 54.75 Mbit/s)
Flow 3 ingress (mean 45.43 Mbit/s)   Flow 3 egress (mean 45.31 Mbit/s)

Flow 1 (95th percentile 122.22 ms)   Flow 2 (95th percentile 121.49 ms)   Flow 3 (95th percentile 120.53 ms)

27

```
Run 3: Statistics of TCP Cubic

Start at: 2017-10-12 04:14:43
End at: 2017-10-12 04:15:13


# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.58 Mbit/s
95th percentile per-packet one-way delay: 120.360 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 61.34 Mbit/s
95th percentile per-packet one-way delay: 121.786 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 56.86 Mbit/s
95th percentile per-packet one-way delay: 117.534 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 44.45 Mbit/s
95th percentile per-packet one-way delay: 119.754 ms
Loss rate: 2.54%
```
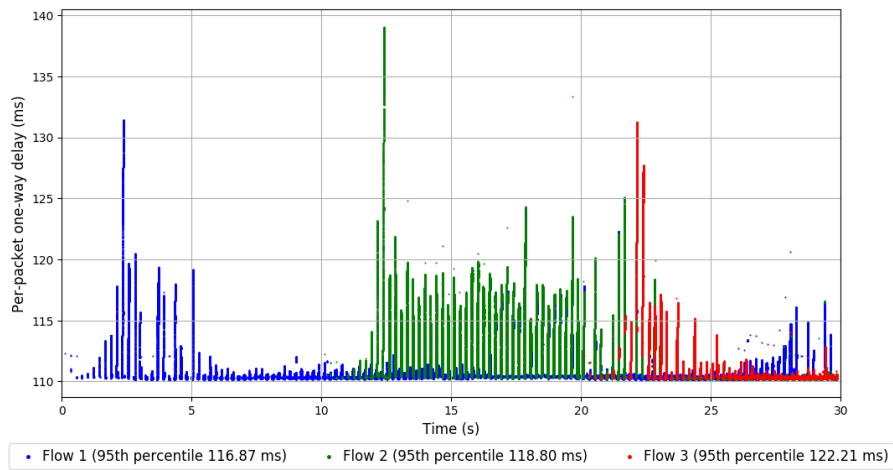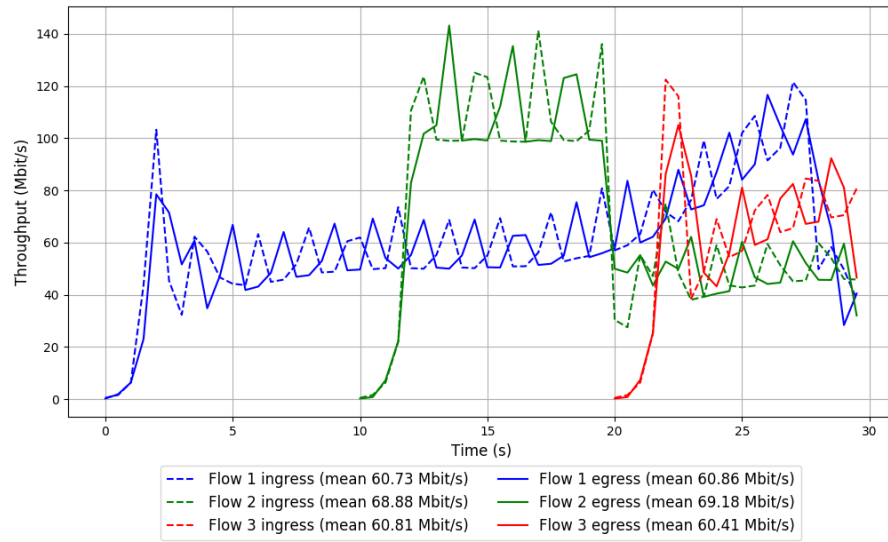
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-10-12 04:28:23
End at: 2017-10-12 04:28:53

# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.28 Mbit/s
95th percentile per-packet one-way delay: 120.442 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 101.86 Mbit/s
95th percentile per-packet one-way delay: 120.589 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 51.77 Mbit/s
95th percentile per-packet one-way delay: 119.336 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 74.13 Mbit/s
95th percentile per-packet one-way delay: 121.353 ms
Loss rate: 2.66%
```
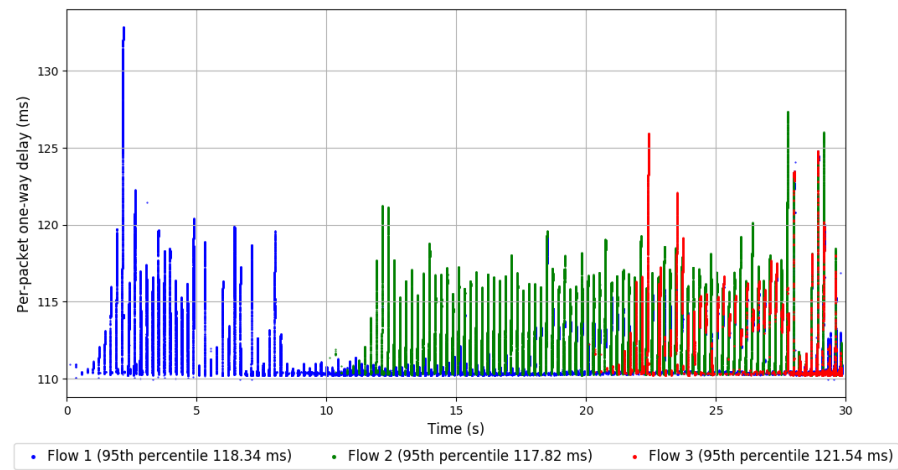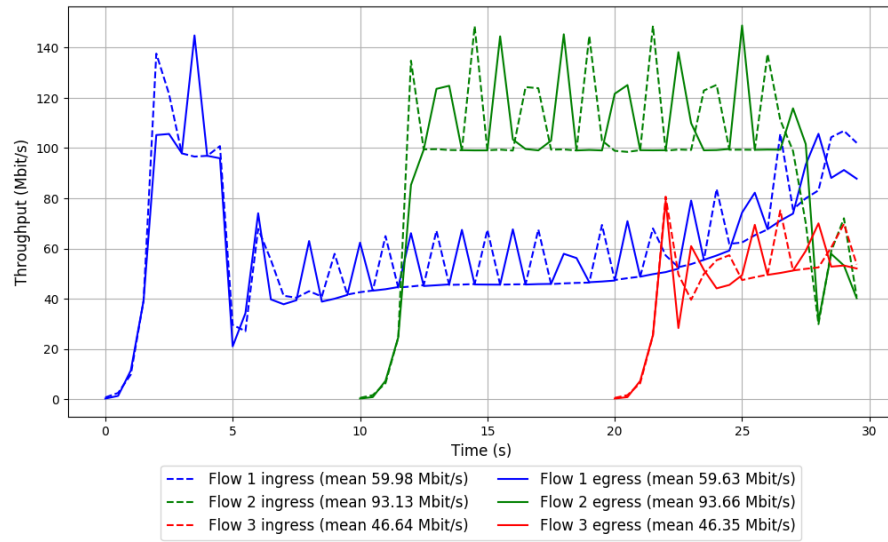
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2017-10-12 04:41:48
End at: 2017-10-12 04:42:18


# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.38 Mbit/s
95th percentile per-packet one-way delay: 118.105 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 60.86 Mbit/s
95th percentile per-packet one-way delay: 116.866 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 69.18 Mbit/s
95th percentile per-packet one-way delay: 118.797 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 60.41 Mbit/s
95th percentile per-packet one-way delay: 122.214 ms
Loss rate: 2.87%
```
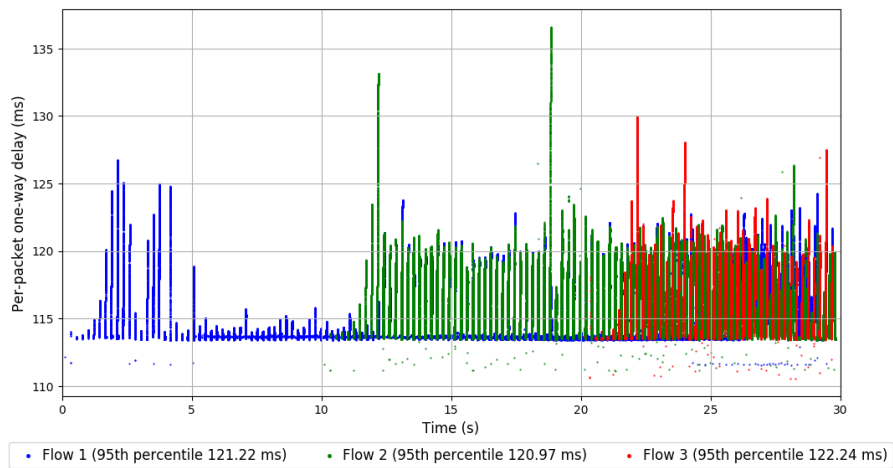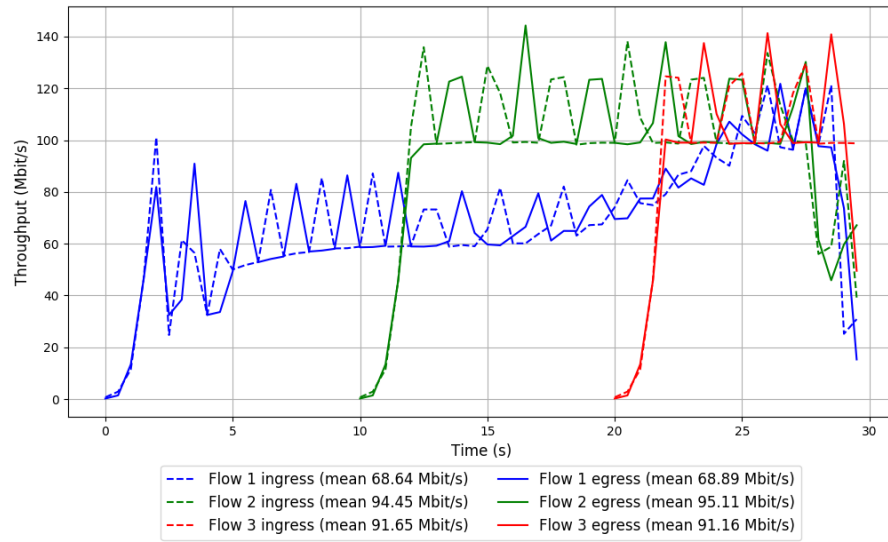
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 60.73 Mbit/s)   Flow 1 egress (mean 60.86 Mbit/s)
Flow 2 ingress (mean 68.88 Mbit/s)   Flow 2 egress (mean 69.18 Mbit/s)
Flow 3 ingress (mean 60.81 Mbit/s)   Flow 3 egress (mean 60.41 Mbit/s)

Flow 1 (95th percentile 116.87 ms)   Flow 2 (95th percentile 118.80 ms)   Flow 3 (95th percentile 122.21 ms)

```
Run 6: Statistics of TCP Cubic

Start at: 2017-10-12 04:55:32
End at: 2017-10-12 04:56:02

# Below is generated by plot.py at 2017-10-12 08:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.85 Mbit/s
95th percentile per-packet one-way delay: 118.201 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 59.63 Mbit/s
95th percentile per-packet one-way delay: 118.340 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 93.66 Mbit/s
95th percentile per-packet one-way delay: 117.821 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 46.35 Mbit/s
95th percentile per-packet one-way delay: 121.544 ms
Loss rate: 2.86%
```
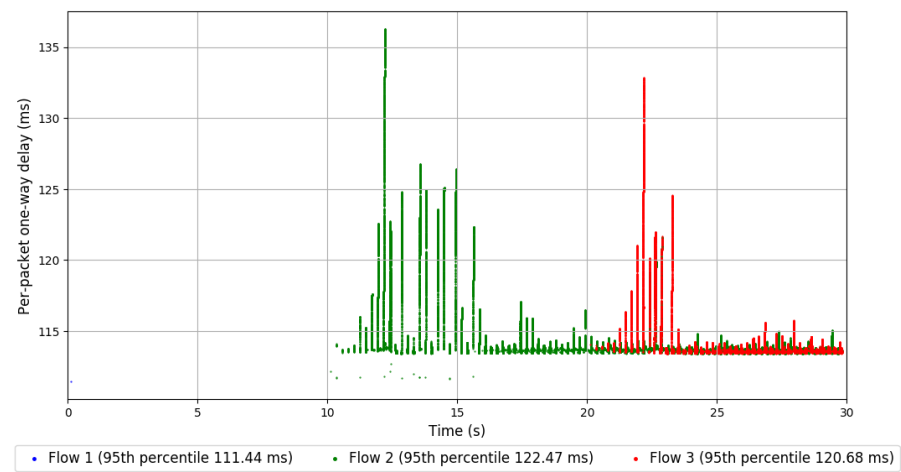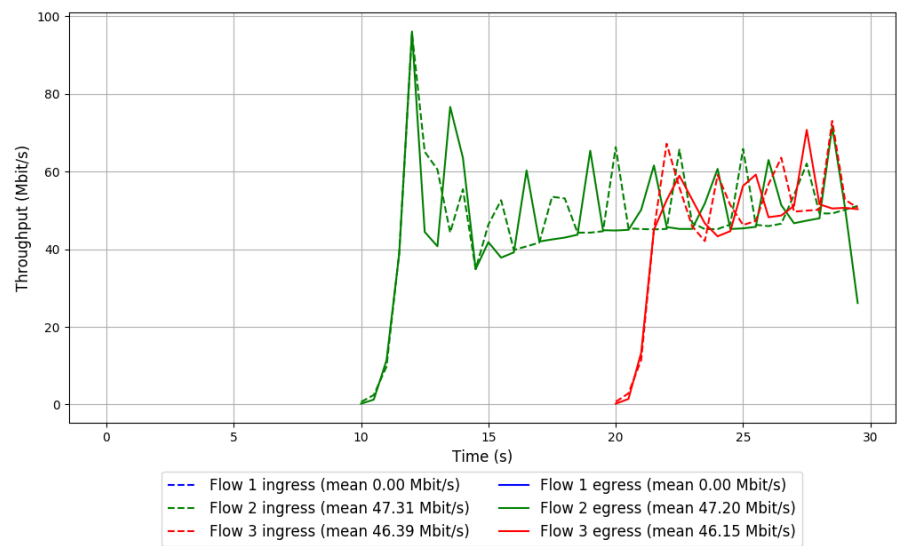
Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 59.98 Mbit/s) — Flow 1 egress (mean 59.63 Mbit/s)
Flow 2 ingress (mean 93.13 Mbit/s) — Flow 2 egress (mean 93.66 Mbit/s)
Flow 3 ingress (mean 46.64 Mbit/s) — Flow 3 egress (mean 46.35 Mbit/s)

Flow 1 (95th percentile 118.34 ms) • Flow 2 (95th percentile 117.82 ms) • Flow 3 (95th percentile 121.54 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-10-12 05:09:03
End at: 2017-10-12 05:09:33


# Below is generated by plot.py at 2017-10-12 08:24:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.07 Mbit/s
95th percentile per-packet one-way delay: 121.367 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 68.89 Mbit/s
95th percentile per-packet one-way delay: 121.224 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 120.975 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 91.16 Mbit/s
95th percentile per-packet one-way delay: 122.244 ms
Loss rate: 2.74%
```
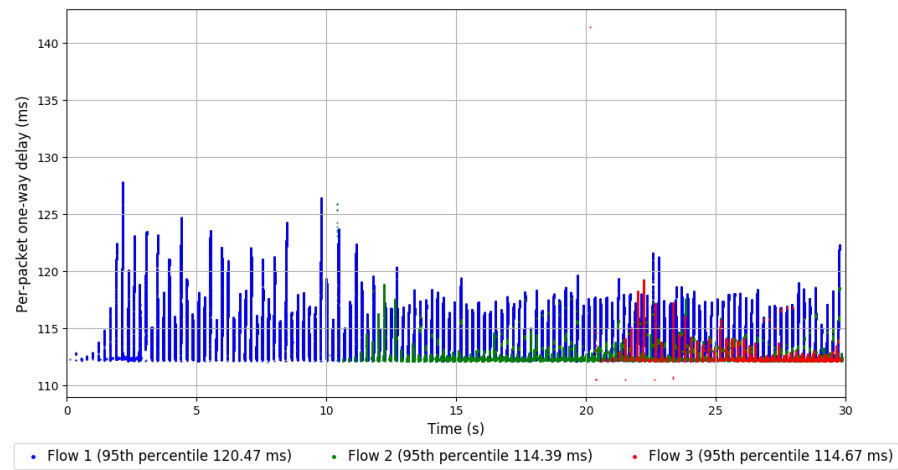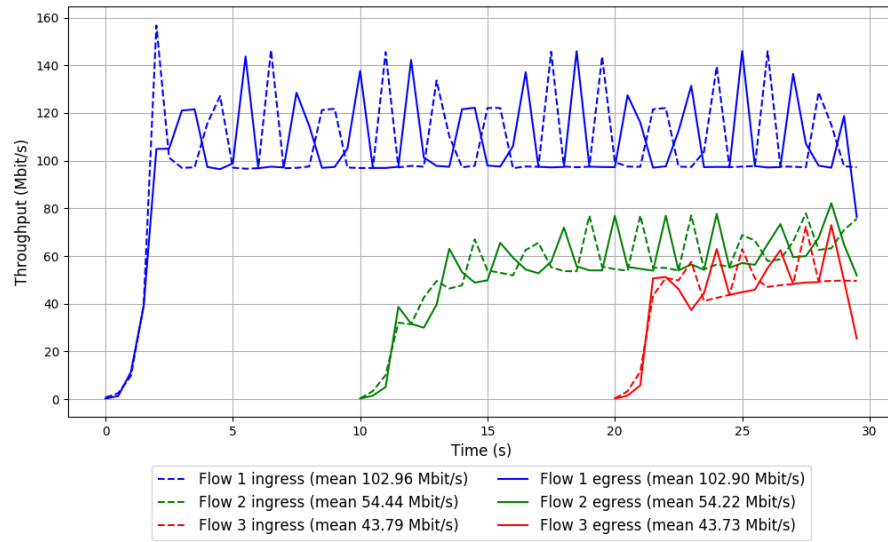
Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 68.64 Mbit/s)   Flow 1 egress (mean 68.89 Mbit/s)
Flow 2 ingress (mean 94.45 Mbit/s)   Flow 2 egress (mean 95.11 Mbit/s)
Flow 3 ingress (mean 91.65 Mbit/s)   Flow 3 egress (mean 91.16 Mbit/s)

Flow 1 (95th percentile 121.22 ms)   Flow 2 (95th percentile 120.97 ms)   Flow 3 (95th percentile 122.24 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2017-10-12 05:22:27
End at: 2017-10-12 05:22:57


# Below is generated by plot.py at 2017-10-12 08:24:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.35 Mbit/s
95th percentile per-packet one-way delay: 121.953 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 111.436 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: 122.467 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 46.15 Mbit/s
95th percentile per-packet one-way delay: 120.679 ms
Loss rate: 2.75%
```
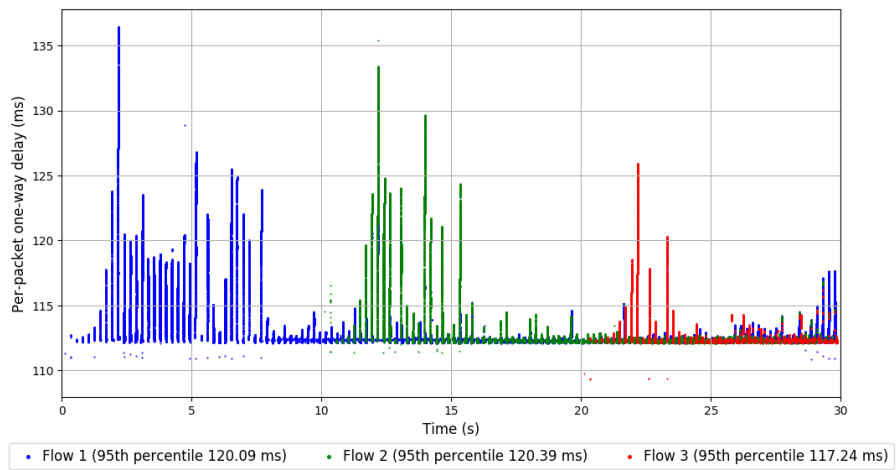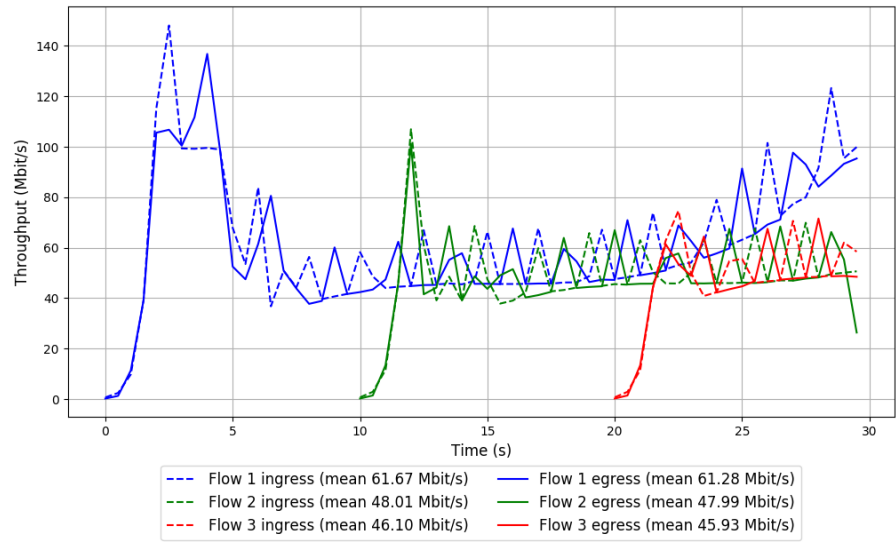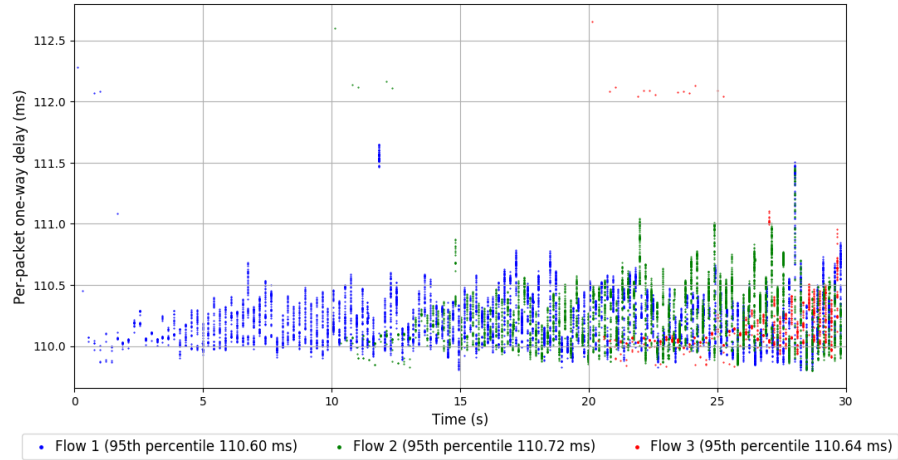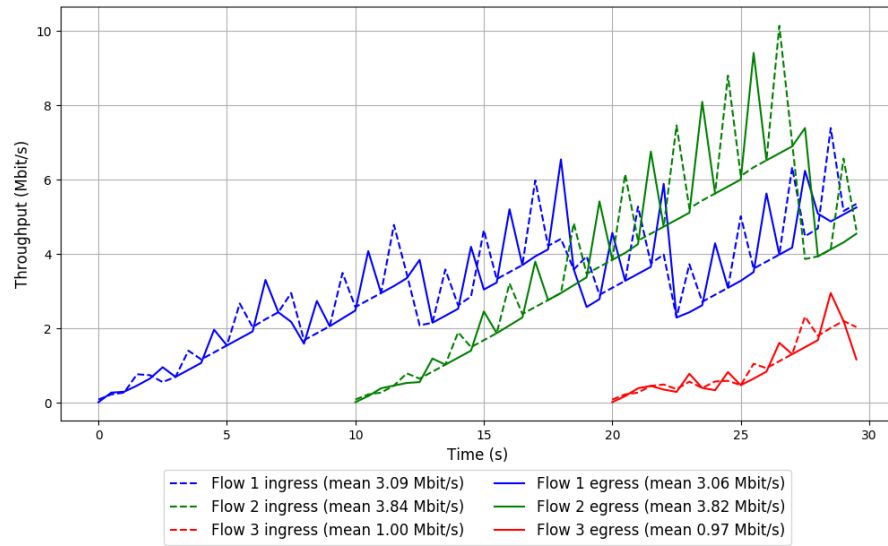
Run 8: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) ---- Flow 1 egress (mean 0.00 Mbit/s) ——
Flow 2 ingress (mean 47.31 Mbit/s) ---- Flow 2 egress (mean 47.20 Mbit/s) ——
Flow 3 ingress (mean 46.39 Mbit/s) ---- Flow 3 egress (mean 46.15 Mbit/s) ——

Flow 1 (95th percentile 111.44 ms) • Flow 2 (95th percentile 122.47 ms) • Flow 3 (95th percentile 120.68 ms)
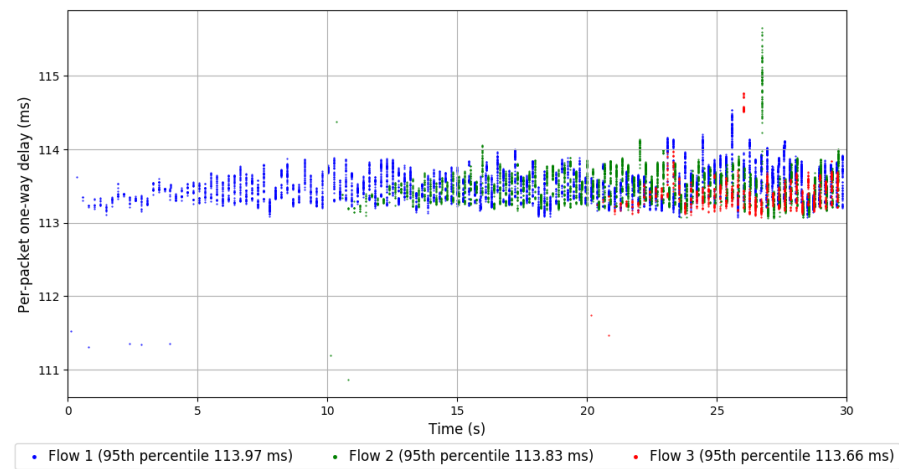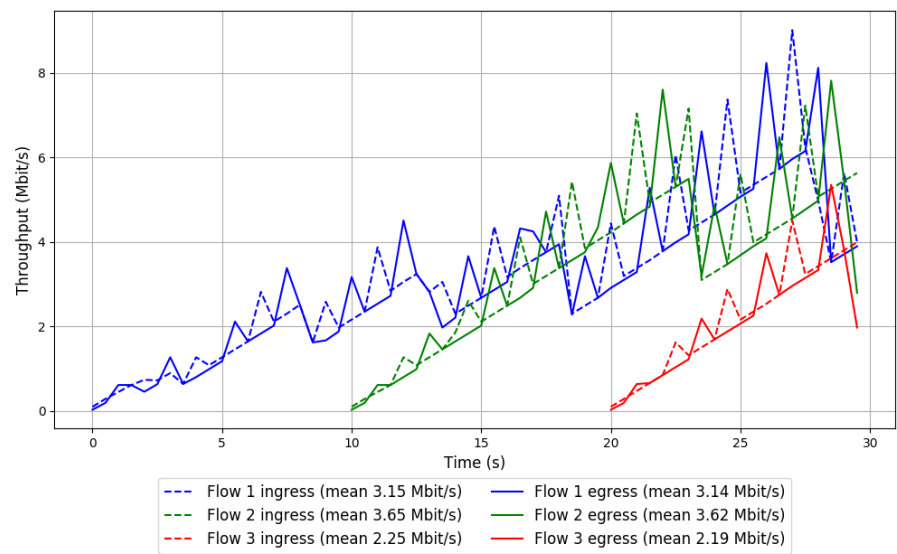
```
Run 9: Statistics of TCP Cubic

Start at: 2017-10-12 05:36:11
End at: 2017-10-12 05:36:41


# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.75 Mbit/s
95th percentile per-packet one-way delay: 119.347 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 102.90 Mbit/s
95th percentile per-packet one-way delay: 120.468 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 54.22 Mbit/s
95th percentile per-packet one-way delay: 114.392 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 43.73 Mbit/s
95th percentile per-packet one-way delay: 114.675 ms
Loss rate: 2.85%
```

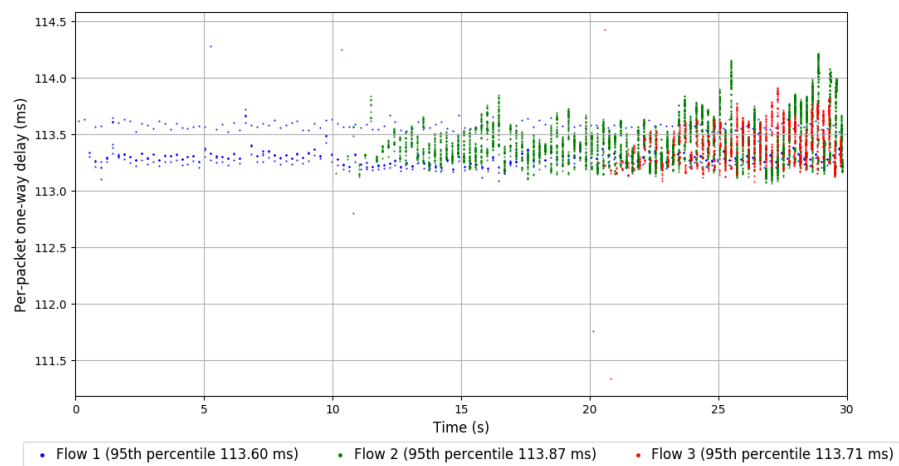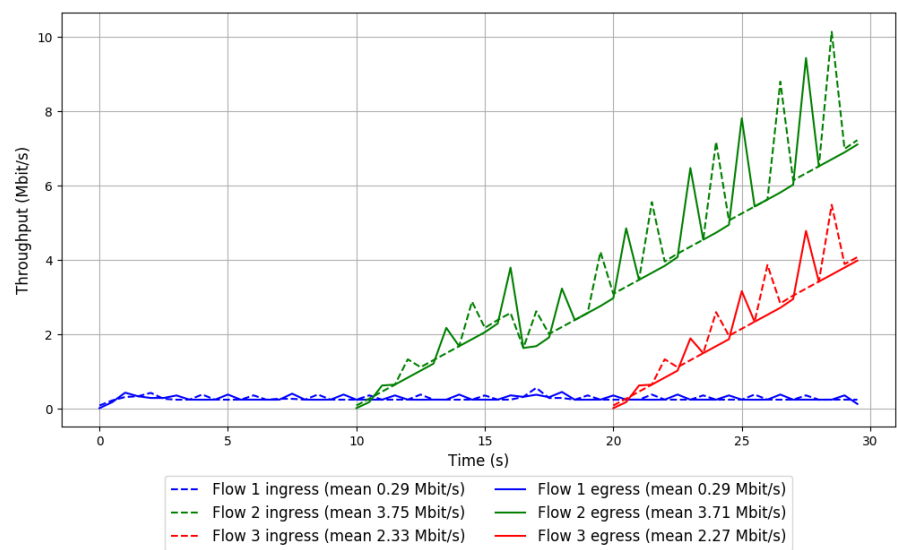# Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2017-10-12 05:49:53
End at: 2017-10-12 05:50:23


# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.06 Mbit/s
95th percentile per-packet one-way delay: 119.995 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 61.28 Mbit/s
95th percentile per-packet one-way delay: 120.093 ms
Loss rate: 1.37%
-- Flow 2:
Average throughput: 47.99 Mbit/s
95th percentile per-packet one-way delay: 120.390 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 117.242 ms
Loss rate: 2.60%
```

Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 61.67 Mbit/s)   Flow 1 egress (mean 61.28 Mbit/s)
Flow 2 ingress (mean 48.01 Mbit/s)   Flow 2 egress (mean 47.99 Mbit/s)
Flow 3 ingress (mean 46.10 Mbit/s)   Flow 3 egress (mean 45.93 Mbit/s)

Flow 1 (95th percentile 120.09 ms)   Flow 2 (95th percentile 120.39 ms)   Flow 3 (95th percentile 117.24 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2017-10-12 03:45:42
End at: 2017-10-12 03:46:12

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.91 Mbit/s
95th percentile per-packet one-way delay: 110.673 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 110.601 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 110.722 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 110.641 ms
Loss rate: 4.47%
```
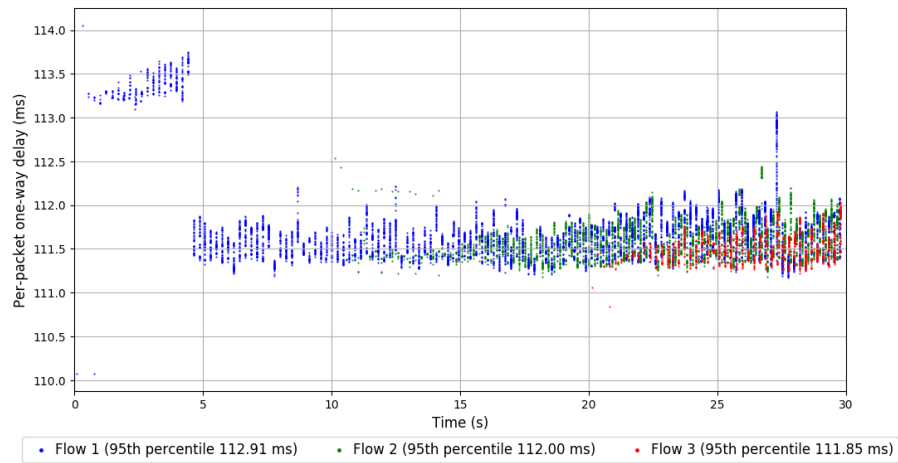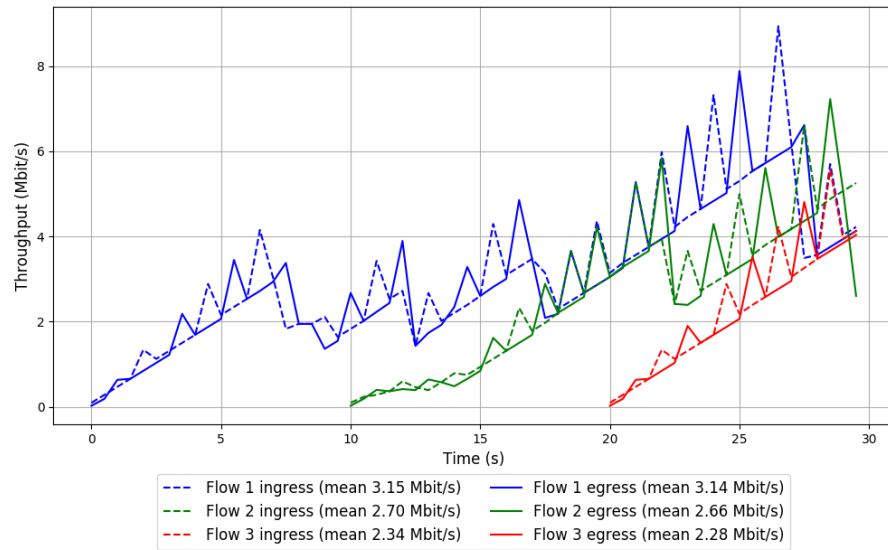
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 3.09 Mbit/s) --- Flow 1 egress (mean 3.06 Mbit/s)
Flow 2 ingress (mean 3.84 Mbit/s) --- Flow 2 egress (mean 3.82 Mbit/s)
Flow 3 ingress (mean 1.00 Mbit/s) --- Flow 3 egress (mean 0.97 Mbit/s)

• Flow 1 (95th percentile 110.60 ms)   • Flow 2 (95th percentile 110.72 ms)   • Flow 3 (95th percentile 110.64 ms)

45

```
Run 2: Statistics of LEDBAT

Start at: 2017-10-12 03:59:17
End at: 2017-10-12 03:59:47

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 113.889 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 113.968 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 113.833 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 113.657 ms
Loss rate: 4.62%
```
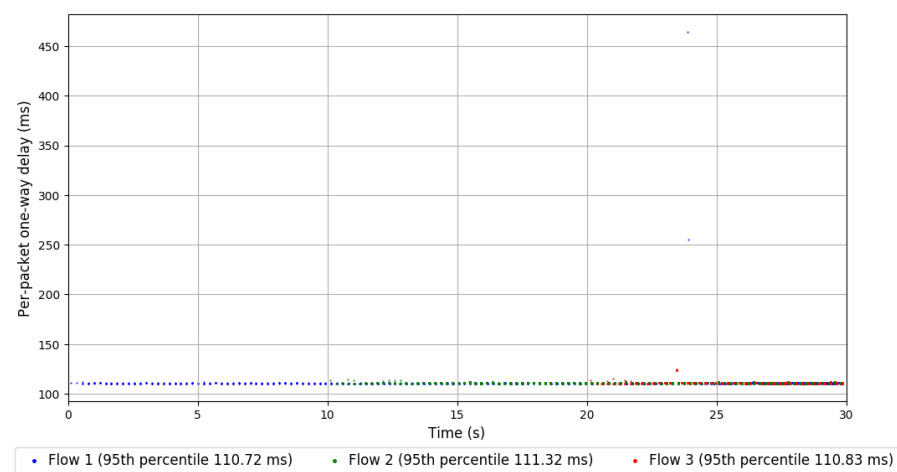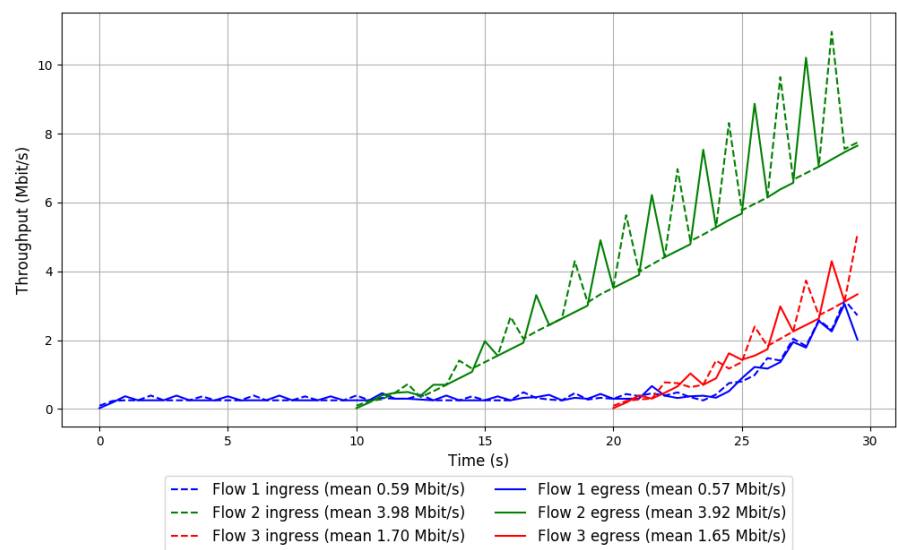
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-10-12 04:13:10
End at: 2017-10-12 04:13:40

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 113.811 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 113.604 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 113.868 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 113.713 ms
Loss rate: 4.51%
```
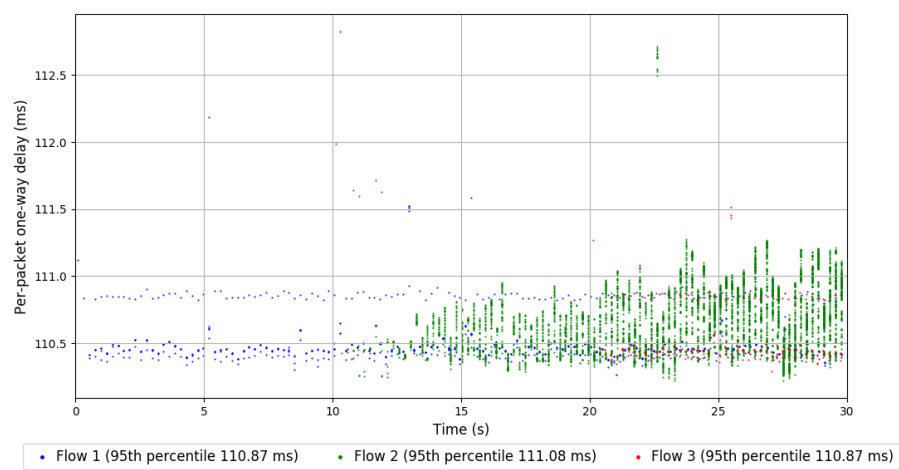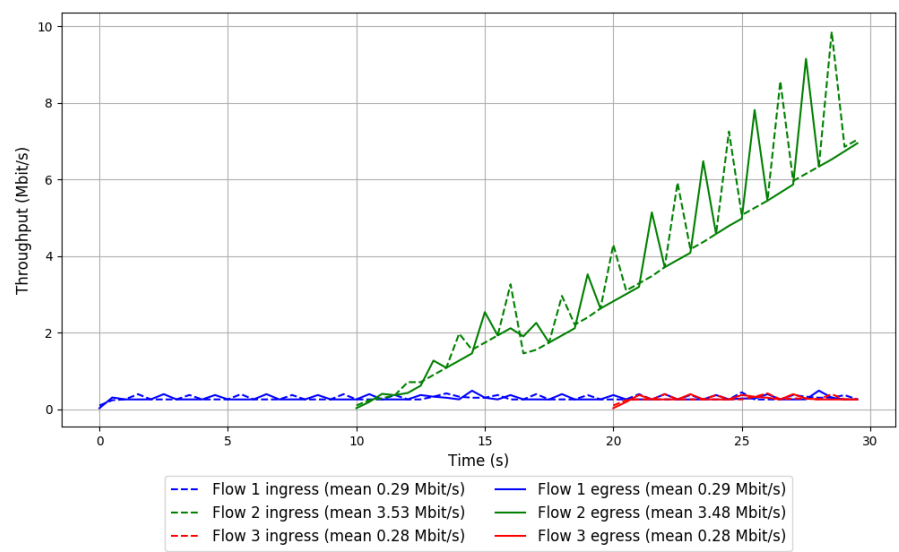
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.29 Mbit/s) --- Flow 1 egress (mean 0.29 Mbit/s)
Flow 2 ingress (mean 3.75 Mbit/s) --- Flow 2 egress (mean 3.71 Mbit/s)
Flow 3 ingress (mean 2.33 Mbit/s) --- Flow 3 egress (mean 2.27 Mbit/s)

Flow 1 (95th percentile 113.60 ms) • Flow 2 (95th percentile 113.87 ms) • Flow 3 (95th percentile 113.71 ms)

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```
Run 4: Statistics of LEDBAT

Start at: 2017-10-12 04:26:50
End at: 2017-10-12 04:27:20

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 112.067 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 112.910 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 111.995 ms
Loss rate: 2.49%
-- Flow 3:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 111.848 ms
Loss rate: 4.52%
```
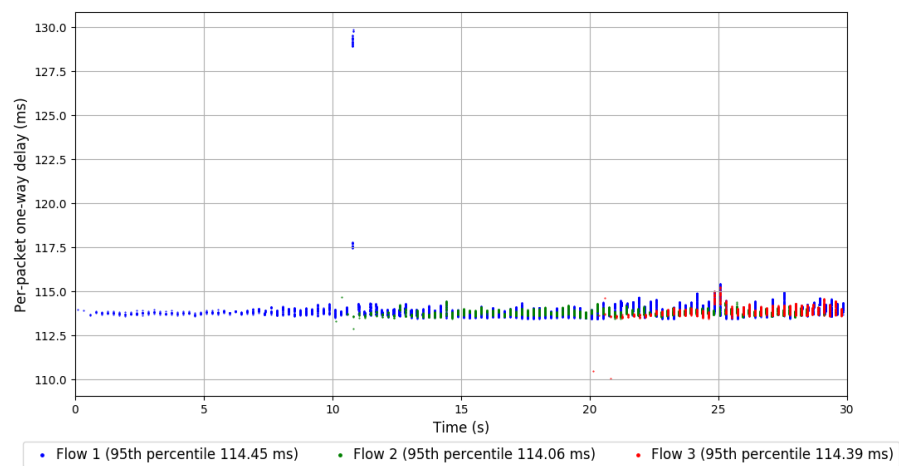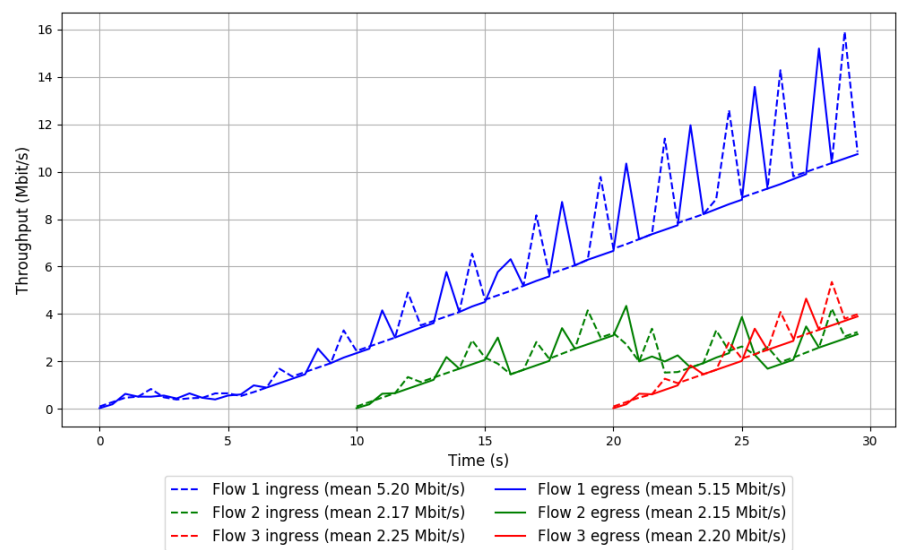
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-10-12 04:40:15
End at: 2017-10-12 04:40:45


# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 111.198 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 110.718 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 111.319 ms
Loss rate: 2.46%
-- Flow 3:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 110.830 ms
Loss rate: 5.14%
```
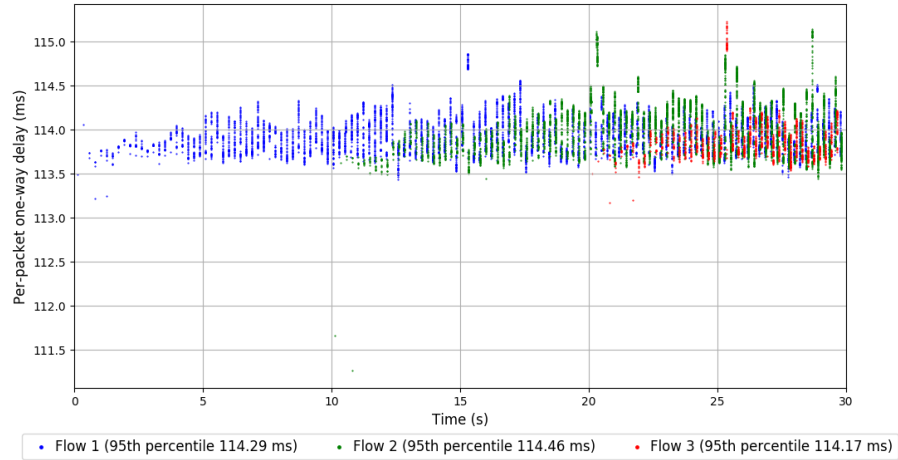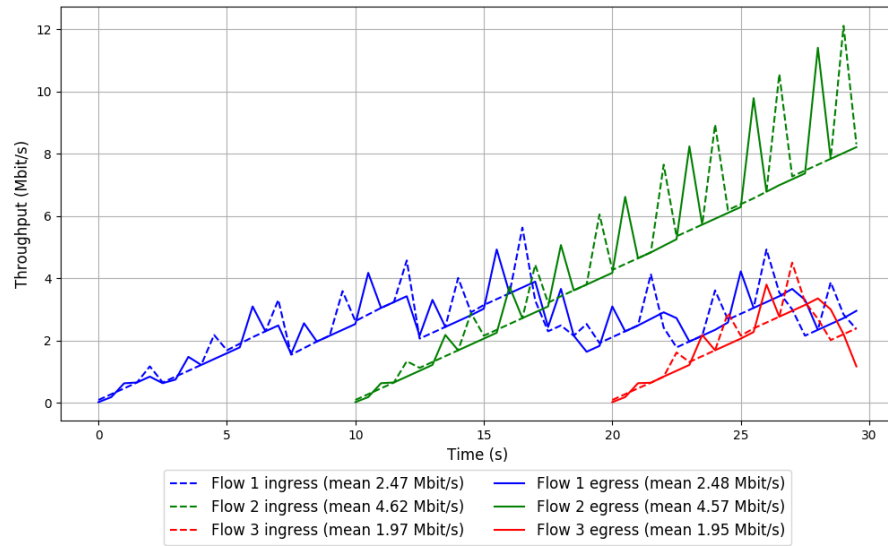
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.59 Mbit/s) — Flow 1 egress (mean 0.57 Mbit/s)
Flow 2 ingress (mean 3.98 Mbit/s) — Flow 2 egress (mean 3.92 Mbit/s)
Flow 3 ingress (mean 1.70 Mbit/s) — Flow 3 egress (mean 1.65 Mbit/s)

Flow 1 (95th percentile 110.72 ms) • Flow 2 (95th percentile 111.32 ms) • Flow 3 (95th percentile 110.83 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2017-10-12 04:53:59
End at: 2017-10-12 04:54:29

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 111.071 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 110.869 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 111.085 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 110.868 ms
Loss rate: 2.48%
```
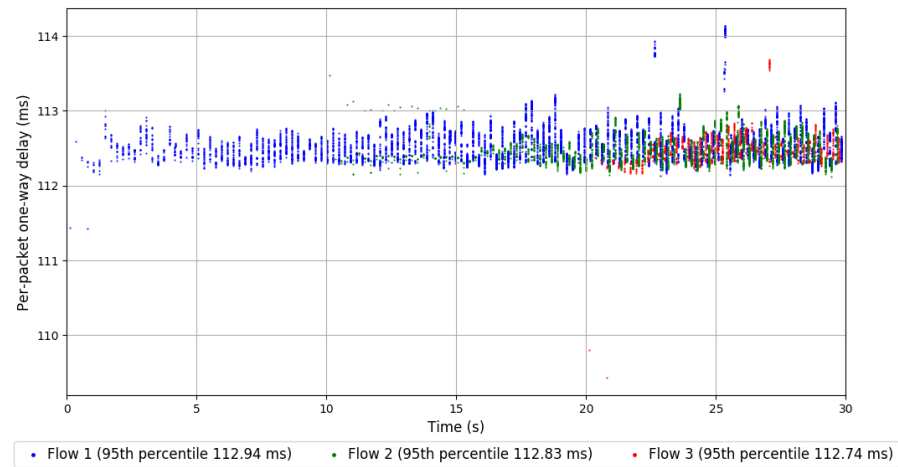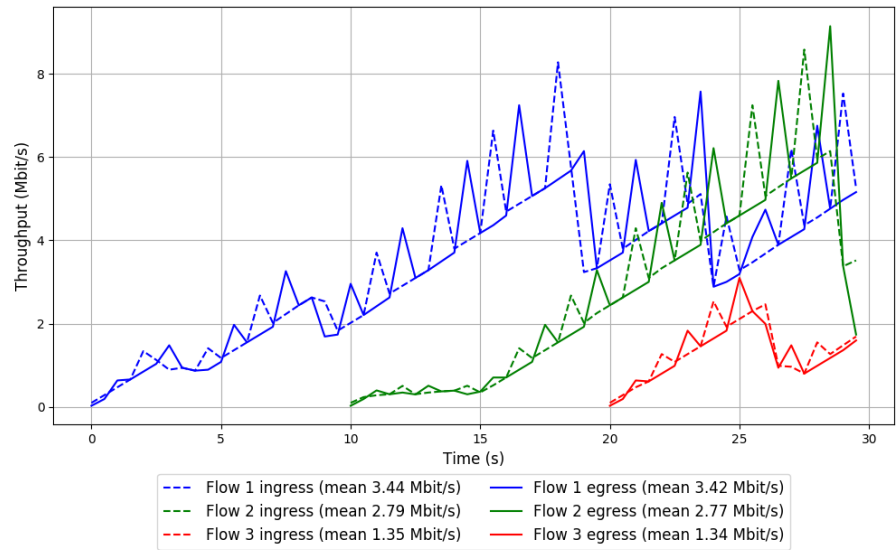
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-10-12 05:07:30
End at: 2017-10-12 05:08:00

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 114.408 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 5.15 Mbit/s
95th percentile per-packet one-way delay: 114.453 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 114.060 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 114.391 ms
Loss rate: 4.53%
```
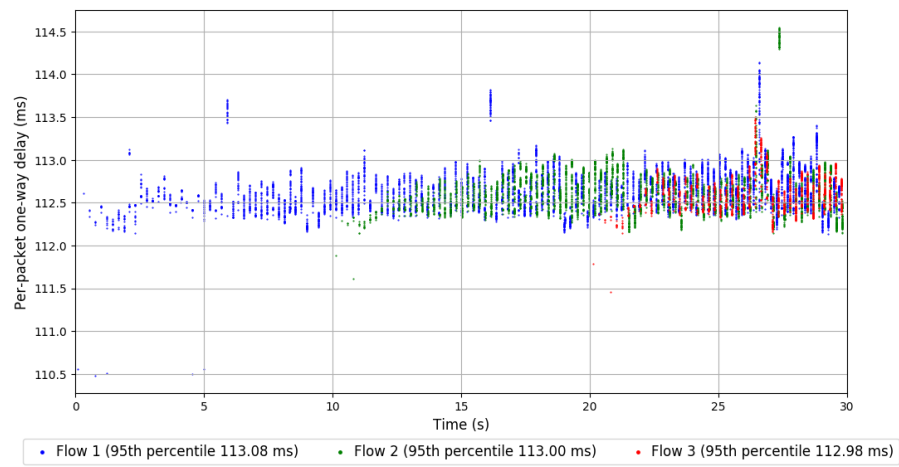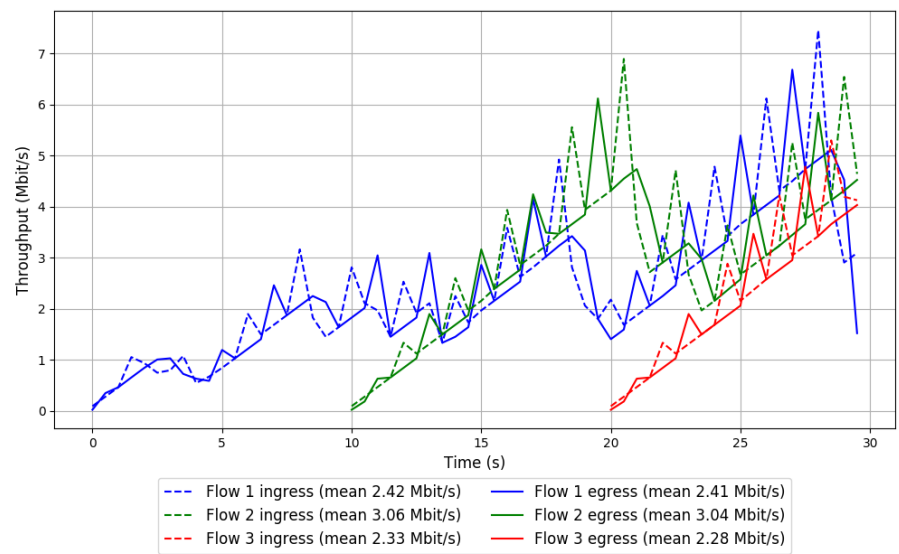
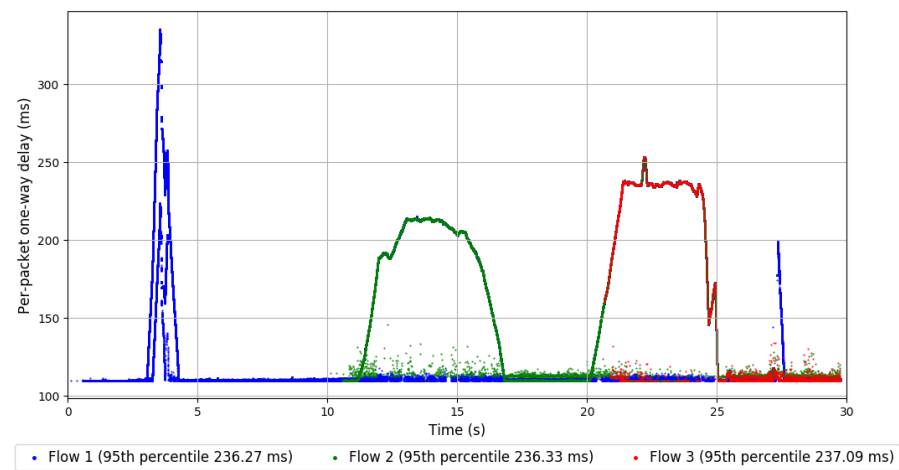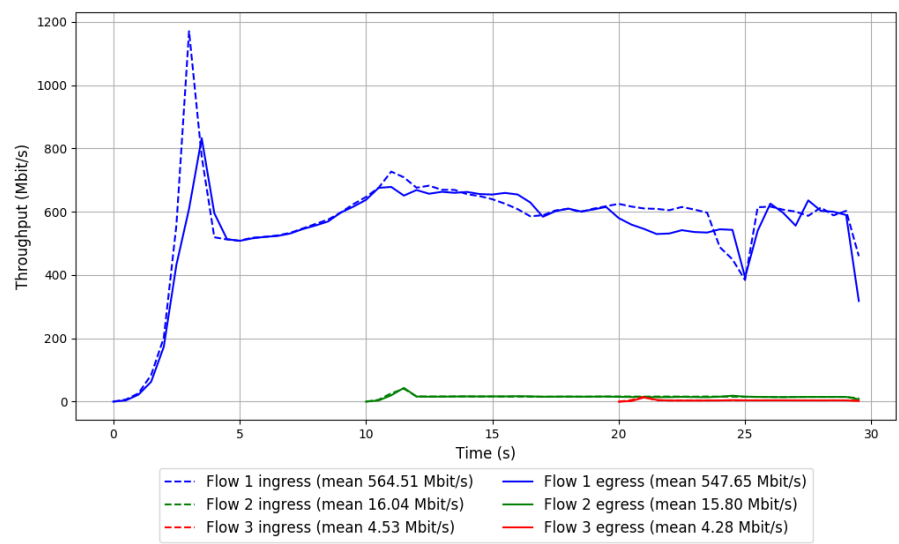# Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-10-12 05:20:54
End at: 2017-10-12 05:21:24

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 114.390 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 114.292 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 4.57 Mbit/s
95th percentile per-packet one-way delay: 114.460 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 114.173 ms
Loss rate: 3.19%
```

Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.47 Mbit/s) --- Flow 1 egress (mean 2.48 Mbit/s)
Flow 2 ingress (mean 4.62 Mbit/s) --- Flow 2 egress (mean 4.57 Mbit/s)
Flow 3 ingress (mean 1.97 Mbit/s) --- Flow 3 egress (mean 1.95 Mbit/s)

Flow 1 (95th percentile 114.29 ms) • Flow 2 (95th percentile 114.46 ms) • Flow 3 (95th percentile 114.17 ms)

```
Run 9: Statistics of LEDBAT

Start at: 2017-10-12 05:34:38
End at: 2017-10-12 05:35:08

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 112.906 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 112.936 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 112.828 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 112.743 ms
Loss rate: 3.27%
```
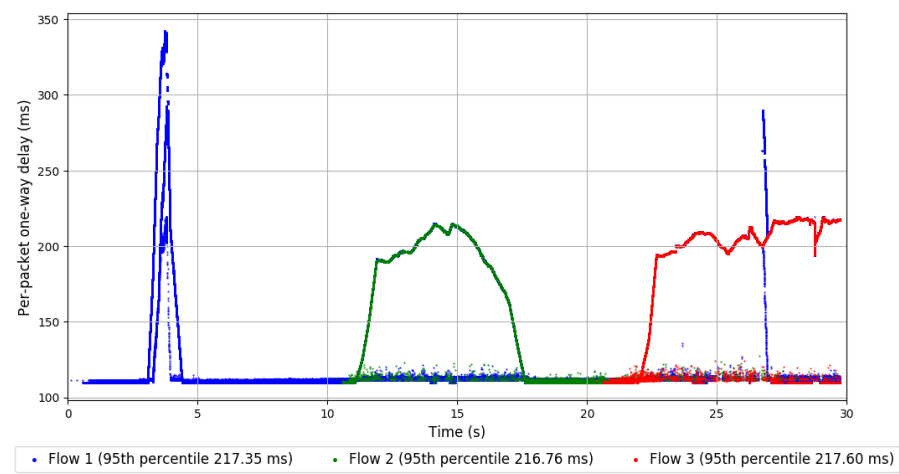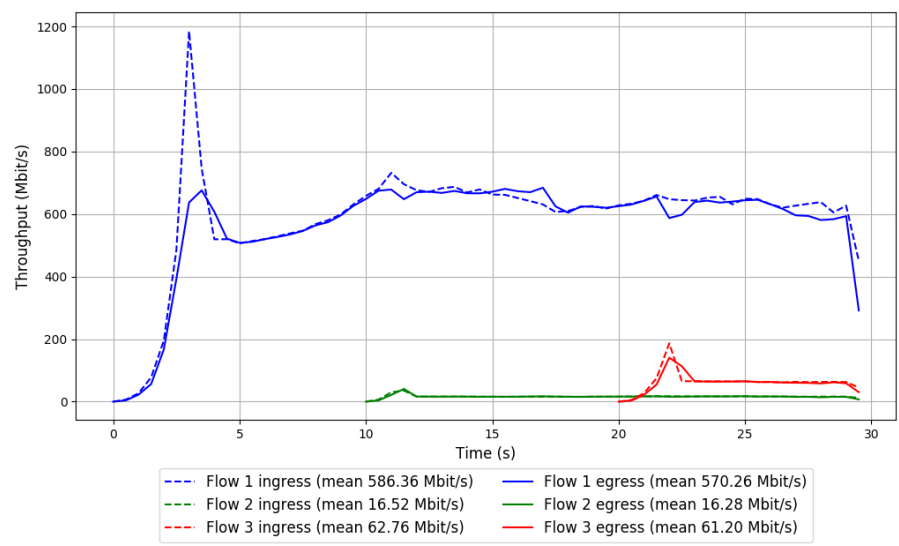
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-10-12 05:48:20
End at: 2017-10-12 05:48:50

# Below is generated by plot.py at 2017-10-12 08:24:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.16 Mbit/s
95th percentile per-packet one-way delay: 113.028 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 113.079 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 113.004 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 112.977 ms
Loss rate: 4.54%
```
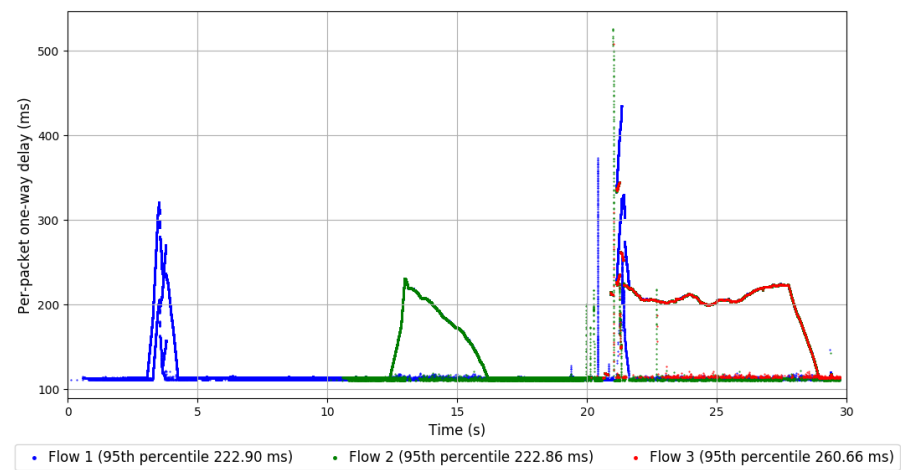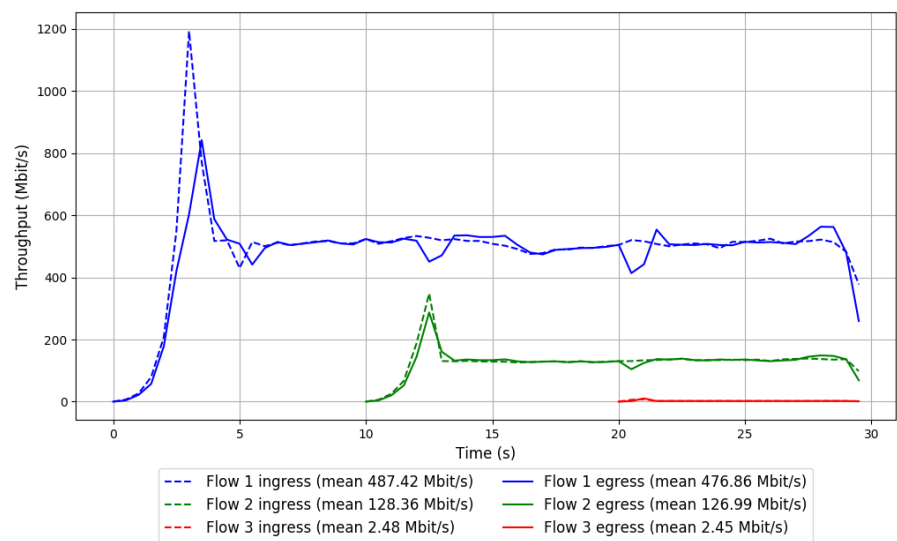
Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.42 Mbit/s)   Flow 1 egress (mean 2.41 Mbit/s)
Flow 2 ingress (mean 3.06 Mbit/s)   Flow 2 egress (mean 3.04 Mbit/s)
Flow 3 ingress (mean 2.33 Mbit/s)   Flow 3 egress (mean 2.28 Mbit/s)

Flow 1 (95th percentile 113.08 ms)   Flow 2 (95th percentile 113.00 ms)   Flow 3 (95th percentile 112.98 ms)

```
Run 1: Statistics of PCC

Start at: 2017-10-12 03:42:11
End at: 2017-10-12 03:42:41


# Below is generated by plot.py at 2017-10-12 08:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 559.47 Mbit/s
95th percentile per-packet one-way delay: 236.284 ms
Loss rate: 3.69%
-- Flow 1:
Average throughput: 547.65 Mbit/s
95th percentile per-packet one-way delay: 236.271 ms
Loss rate: 3.70%
-- Flow 2:
Average throughput: 15.80 Mbit/s
95th percentile per-packet one-way delay: 236.334 ms
Loss rate: 2.64%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 237.090 ms
Loss rate: 7.48%
```
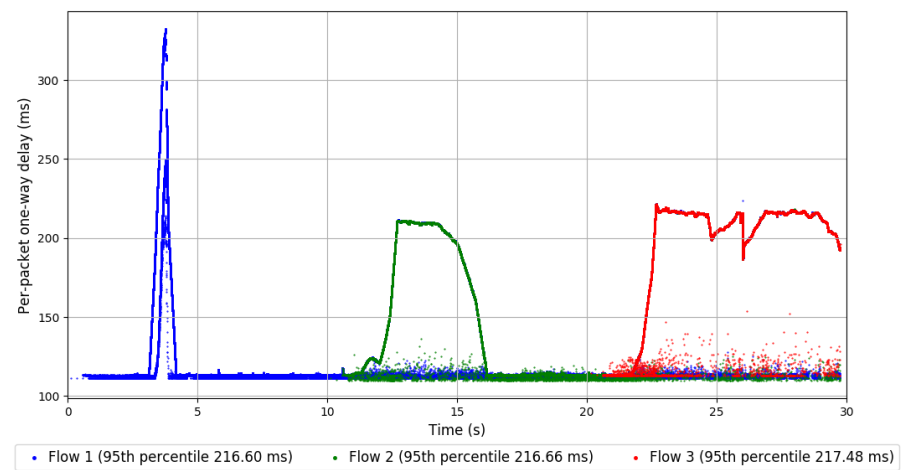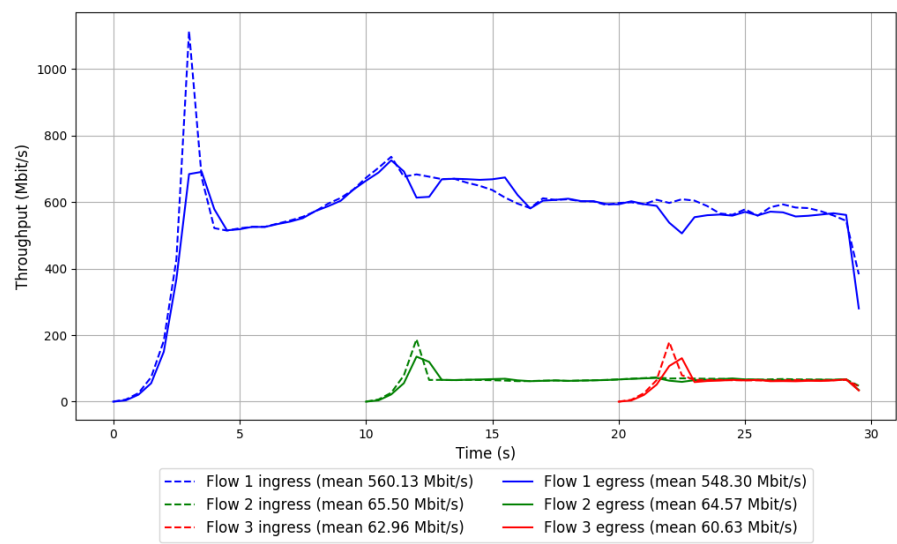
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 564.51 Mbit/s) --- Flow 1 egress (mean 547.65 Mbit/s)
Flow 2 ingress (mean 16.04 Mbit/s) --- Flow 2 egress (mean 15.80 Mbit/s)
Flow 3 ingress (mean 4.53 Mbit/s) --- Flow 3 egress (mean 4.28 Mbit/s)

Flow 1 (95th percentile 236.27 ms) Flow 2 (95th percentile 236.33 ms) Flow 3 (95th percentile 237.09 ms)

```
Run 2: Statistics of PCC

Start at: 2017-10-12 03:55:45
End at: 2017-10-12 03:56:15


# Below is generated by plot.py at 2017-10-12 08:32:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 600.81 Mbit/s
95th percentile per-packet one-way delay: 217.361 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 570.26 Mbit/s
95th percentile per-packet one-way delay: 217.354 ms
Loss rate: 3.47%
-- Flow 2:
Average throughput: 16.28 Mbit/s
95th percentile per-packet one-way delay: 216.762 ms
Loss rate: 2.56%
-- Flow 3:
Average throughput: 61.20 Mbit/s
95th percentile per-packet one-way delay: 217.604 ms
Loss rate: 4.72%
```
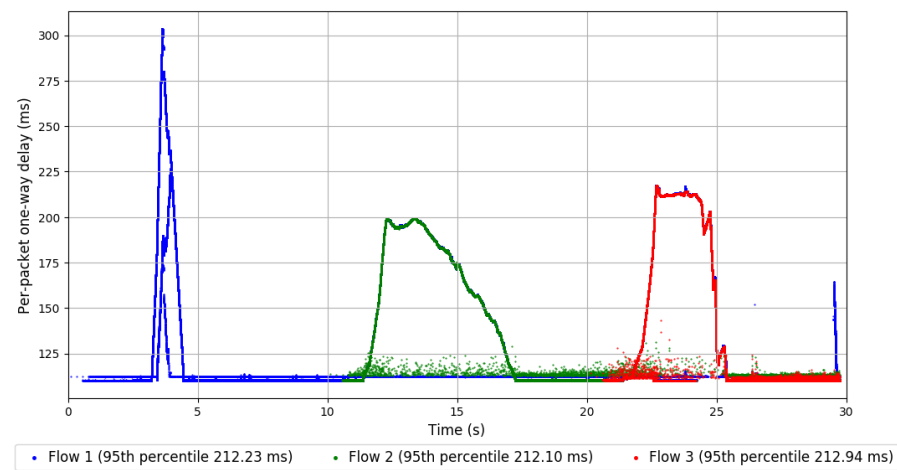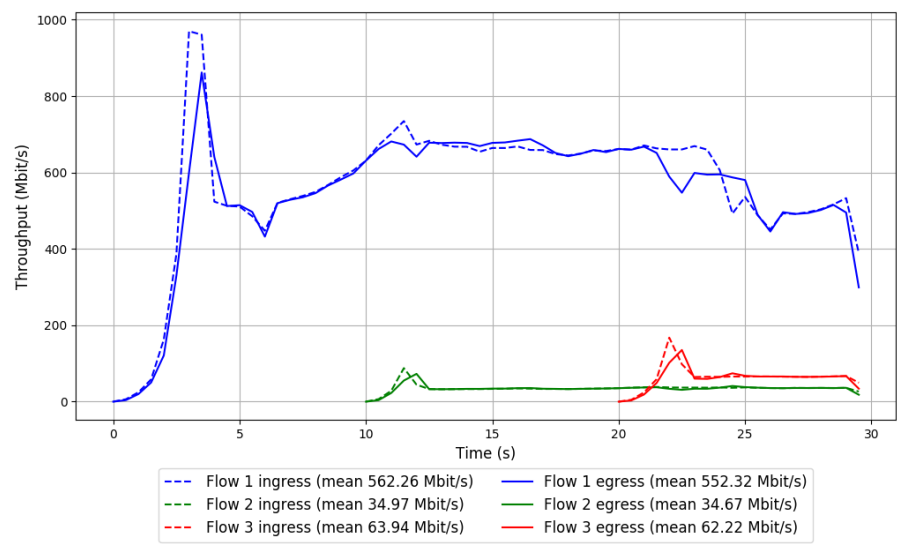
Run 2: Report of PCC — Data Link

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```
Run 3: Statistics of PCC

Start at: 2017-10-12 04:09:19
End at: 2017-10-12 04:09:49


# Below is generated by plot.py at 2017-10-12 08:32:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.78 Mbit/s
95th percentile per-packet one-way delay: 222.894 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 476.86 Mbit/s
95th percentile per-packet one-way delay: 222.895 ms
Loss rate: 2.89%
-- Flow 2:
Average throughput: 126.99 Mbit/s
95th percentile per-packet one-way delay: 222.857 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 260.660 ms
Loss rate: 3.52%
```
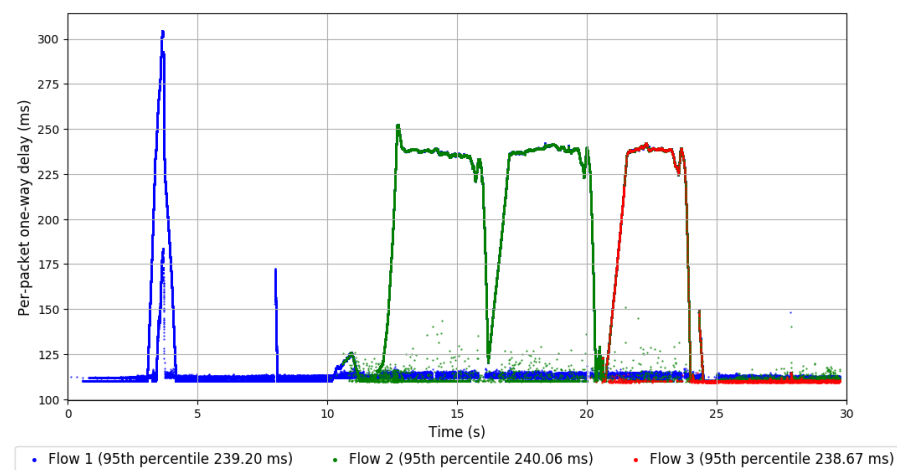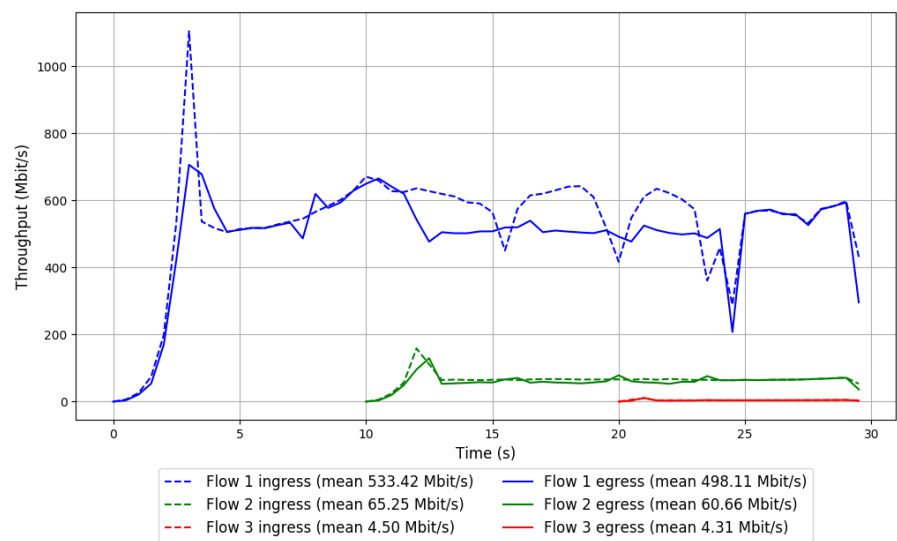
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 487.42 Mbit/s)   Flow 1 egress (mean 476.86 Mbit/s)
Flow 2 ingress (mean 128.36 Mbit/s)   Flow 2 egress (mean 126.99 Mbit/s)
Flow 3 ingress (mean 2.48 Mbit/s)   Flow 3 egress (mean 2.45 Mbit/s)

Flow 1 (95th percentile 222.90 ms)   Flow 2 (95th percentile 222.86 ms)   Flow 3 (95th percentile 260.66 ms)

```
Run 4: Statistics of PCC

Start at: 2017-10-12 04:23:08
End at: 2017-10-12 04:23:38

# Below is generated by plot.py at 2017-10-12 08:32:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 610.63 Mbit/s
95th percentile per-packet one-way delay: 216.672 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 548.30 Mbit/s
95th percentile per-packet one-way delay: 216.604 ms
Loss rate: 2.84%
-- Flow 2:
Average throughput: 64.57 Mbit/s
95th percentile per-packet one-way delay: 216.660 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 60.63 Mbit/s
95th percentile per-packet one-way delay: 217.483 ms
Loss rate: 5.87%
```
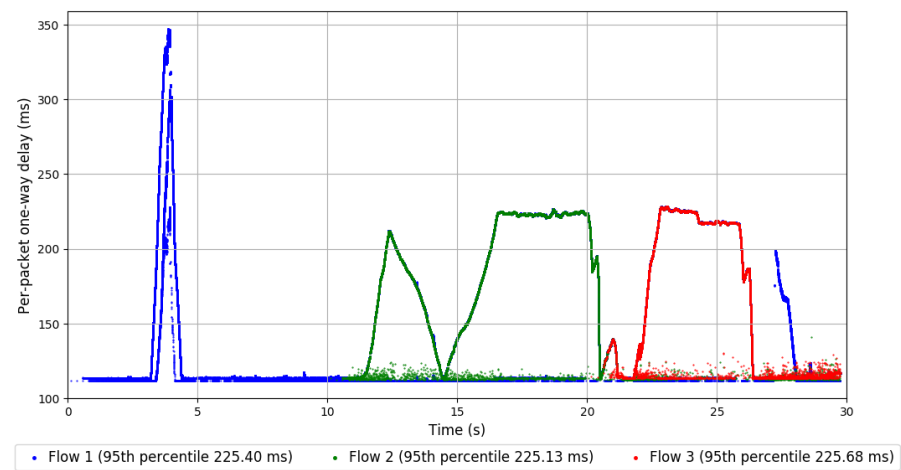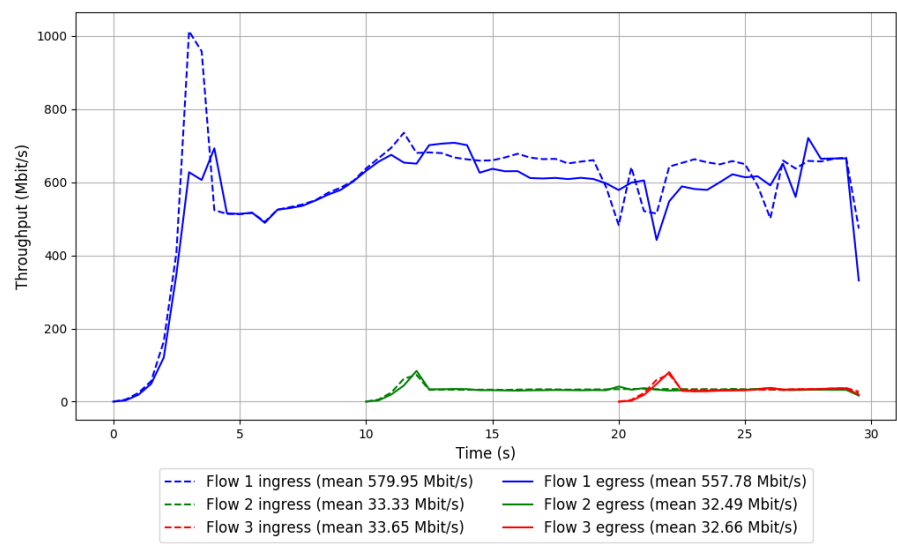
Run 4: Report of PCC — Data Link

Flow 1 ingress (mean 560.13 Mbit/s) ---- Flow 1 egress (mean 548.30 Mbit/s) ----
Flow 2 ingress (mean 65.50 Mbit/s) ---- Flow 2 egress (mean 64.57 Mbit/s) ----
Flow 3 ingress (mean 62.96 Mbit/s) ---- Flow 3 egress (mean 60.63 Mbit/s) ----

Flow 1 (95th percentile 216.60 ms)   Flow 2 (95th percentile 216.66 ms)   Flow 3 (95th percentile 217.48 ms)

71

```
Run 5: Statistics of PCC

Start at: 2017-10-12 04:36:58
End at: 2017-10-12 04:37:28


# Below is generated by plot.py at 2017-10-12 08:33:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 595.40 Mbit/s
95th percentile per-packet one-way delay: 212.270 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 552.32 Mbit/s
95th percentile per-packet one-way delay: 212.230 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 34.67 Mbit/s
95th percentile per-packet one-way delay: 212.096 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 62.22 Mbit/s
95th percentile per-packet one-way delay: 212.943 ms
Loss rate: 4.91%
```
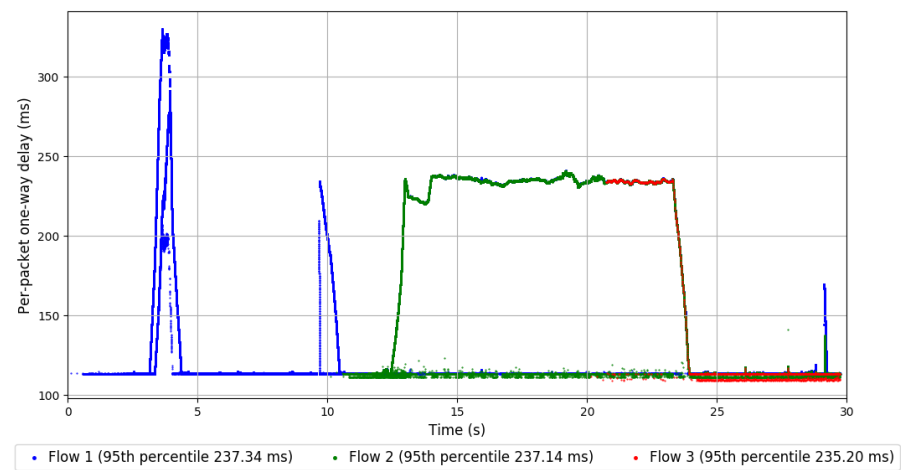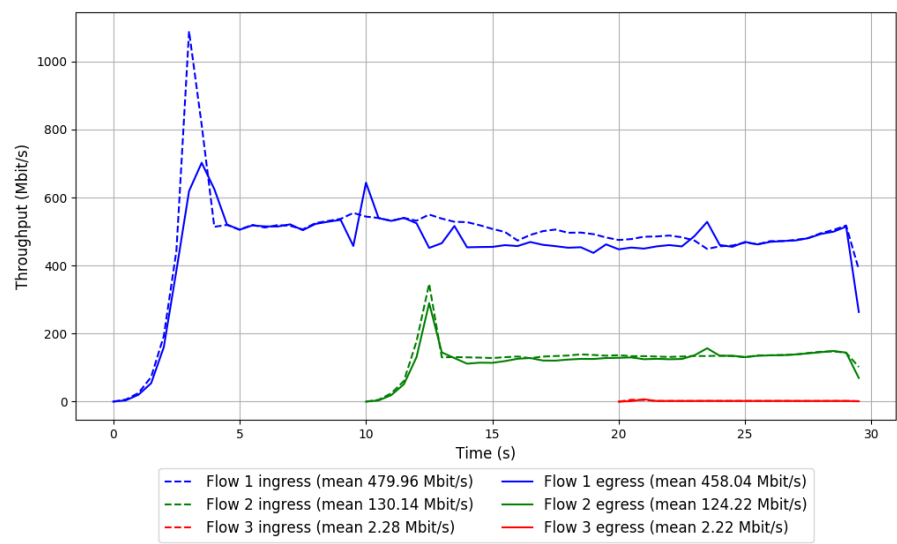
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 562.26 Mbit/s)   Flow 1 egress (mean 552.32 Mbit/s)
Flow 2 ingress (mean 34.97 Mbit/s)   Flow 2 egress (mean 34.67 Mbit/s)
Flow 3 ingress (mean 63.94 Mbit/s)   Flow 3 egress (mean 62.22 Mbit/s)

Flow 1 (95th percentile 212.23 ms)   Flow 2 (95th percentile 212.10 ms)   Flow 3 (95th percentile 212.94 ms)

Run 6: Statistics of PCC

Start at: 2017-10-12 04:50:16
End at: 2017-10-12 04:50:46

Below is generated by plot.py at 2017-10-12 08:33:12
Datalink statistics
-- Total of 3 flows:
Average throughput: 539.67 Mbit/s
95th percentile per-packet one-way delay: 239.239 ms
Loss rate: 7.37%
-- Flow 1:
Average throughput: 498.11 Mbit/s
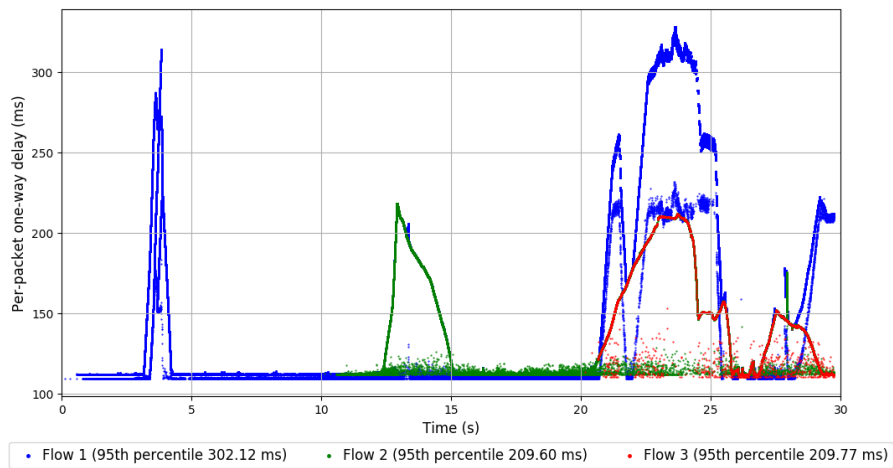95th percentile per-packet one-way delay: 239.203 ms
Loss rate: 7.32%
-- Flow 2:
Average throughput: 60.66 Mbit/s
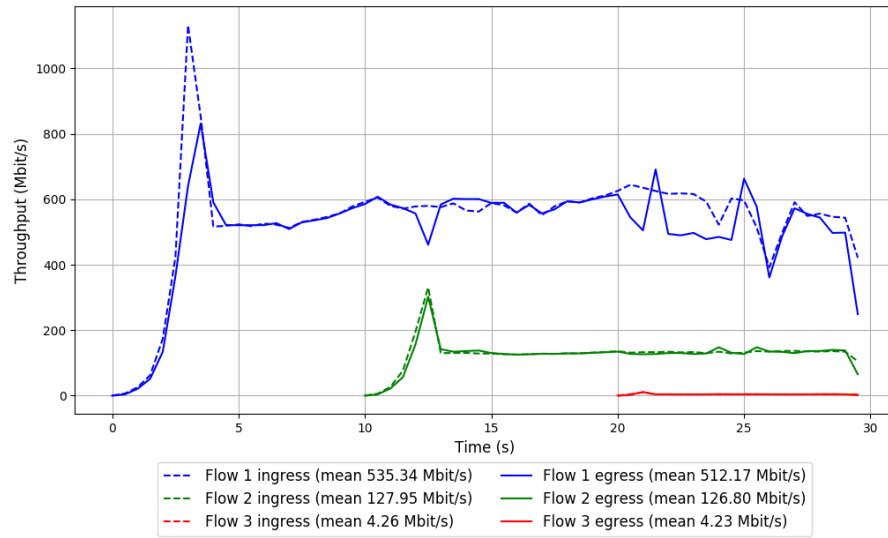95th percentile per-packet one-way delay: 240.058 ms
Loss rate: 8.07%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 238.672 ms
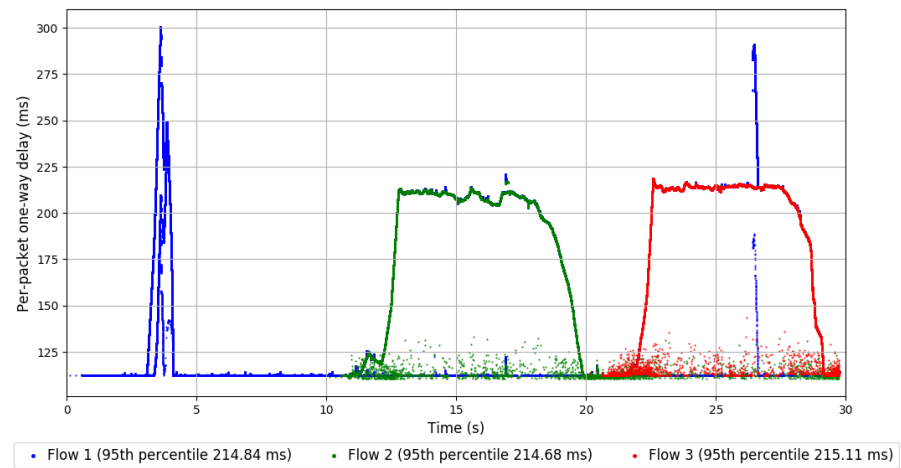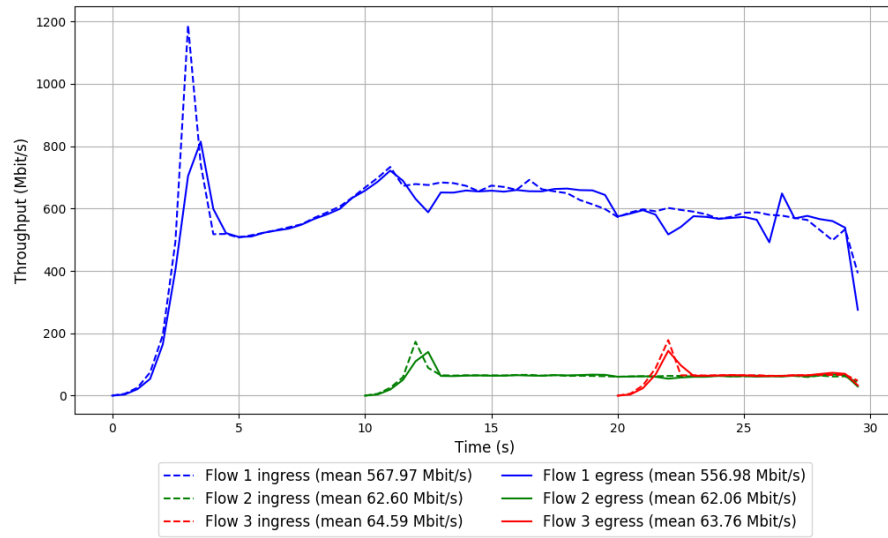Loss rate: 6.37%

Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 533.42 Mbit/s)   Flow 1 egress (mean 498.11 Mbit/s)
Flow 2 ingress (mean 65.25 Mbit/s)   Flow 2 egress (mean 60.66 Mbit/s)
Flow 3 ingress (mean 4.50 Mbit/s)   Flow 3 egress (mean 4.31 Mbit/s)

Flow 1 (95th percentile 239.20 ms)   Flow 2 (95th percentile 240.06 ms)   Flow 3 (95th percentile 238.67 ms)

75

```
Run 7: Statistics of PCC

Start at: 2017-10-12 05:04:06
End at: 2017-10-12 05:04:36


# Below is generated by plot.py at 2017-10-12 08:34:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 589.84 Mbit/s
95th percentile per-packet one-way delay: 225.399 ms
Loss rate: 4.52%
-- Flow 1:
Average throughput: 557.78 Mbit/s
95th percentile per-packet one-way delay: 225.399 ms
Loss rate: 4.54%
-- Flow 2:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 225.131 ms
Loss rate: 3.62%
-- Flow 3:
Average throughput: 32.66 Mbit/s
95th percentile per-packet one-way delay: 225.682 ms
Loss rate: 5.16%
```
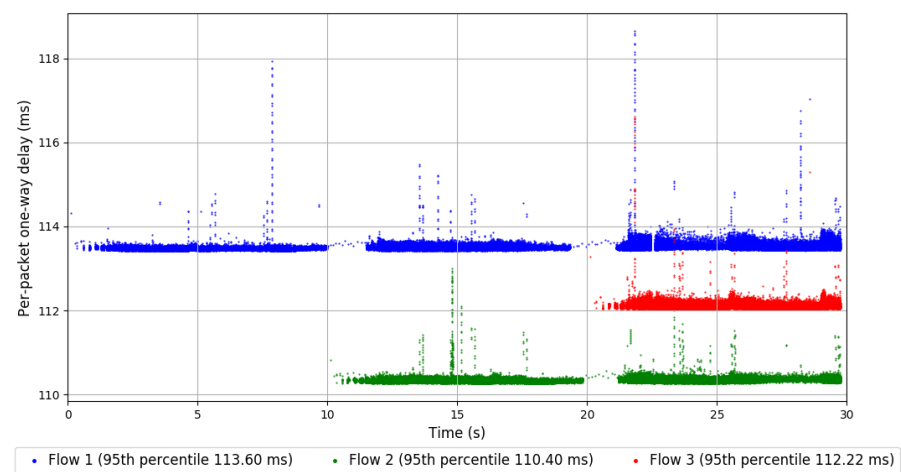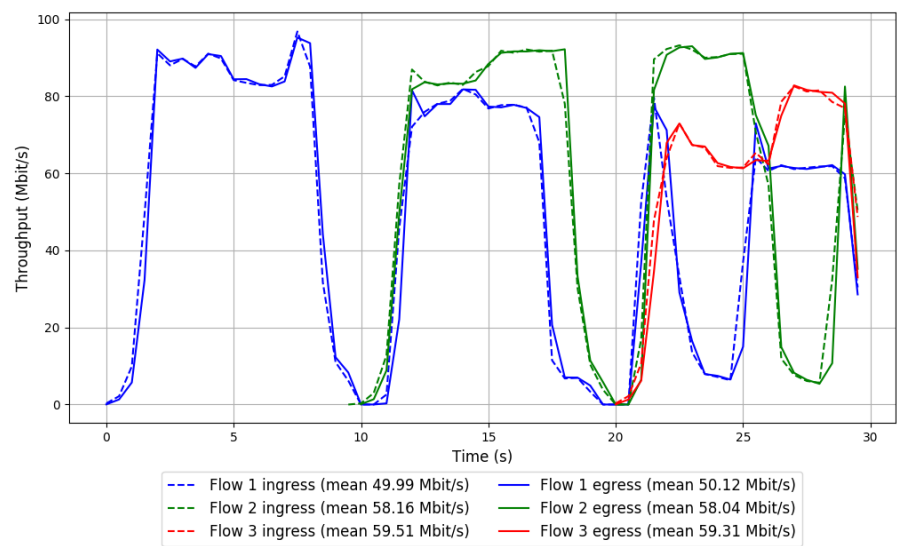
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2017-10-12 05:17:32
End at: 2017-10-12 05:18:02


# Below is generated by plot.py at 2017-10-12 08:34:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 541.01 Mbit/s
95th percentile per-packet one-way delay: 237.306 ms
Loss rate: 5.35%
-- Flow 1:
Average throughput: 458.04 Mbit/s
95th percentile per-packet one-way delay: 237.343 ms
Loss rate: 5.29%
-- Flow 2:
Average throughput: 124.22 Mbit/s
95th percentile per-packet one-way delay: 237.137 ms
Loss rate: 5.66%
-- Flow 3:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 235.203 ms
Loss rate: 5.06%
```
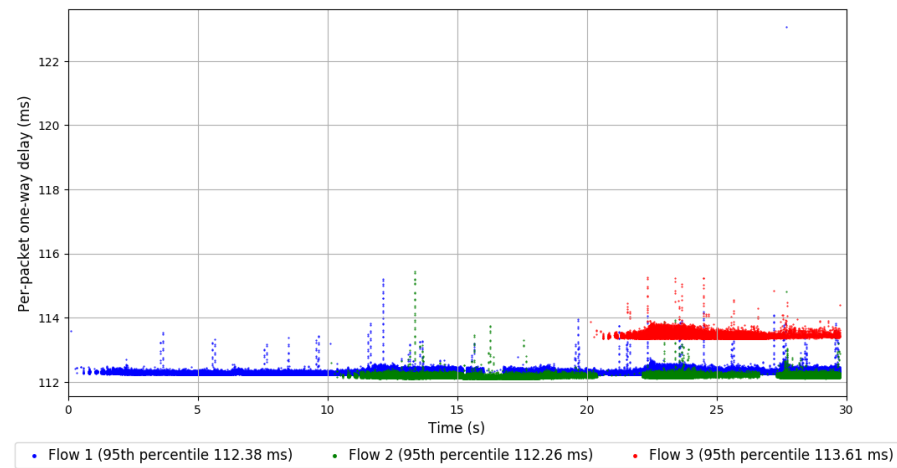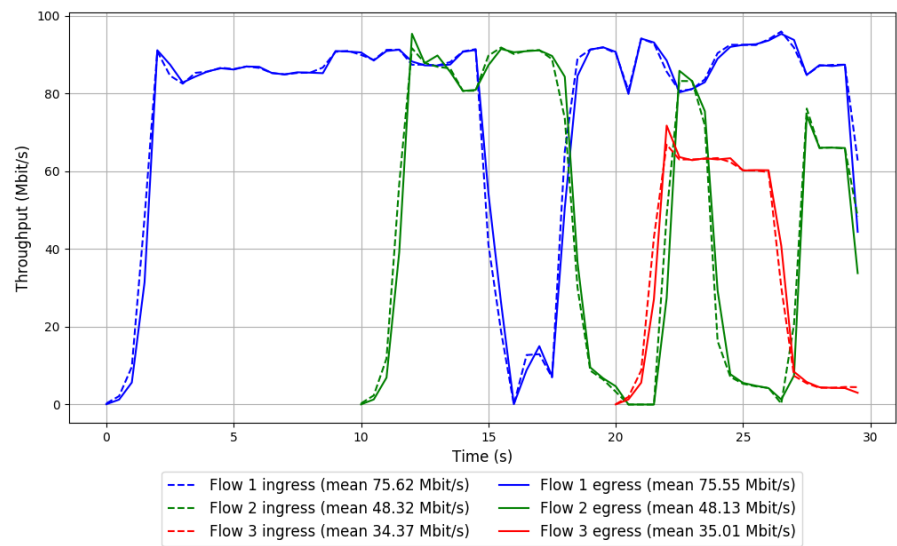
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 479.96 Mbit/s) — Flow 1 egress (mean 458.04 Mbit/s)
Flow 2 ingress (mean 130.14 Mbit/s) — Flow 2 egress (mean 124.22 Mbit/s)
Flow 3 ingress (mean 2.28 Mbit/s) — Flow 3 egress (mean 2.22 Mbit/s)

Flow 1 (95th percentile 237.34 ms)   Flow 2 (95th percentile 237.14 ms)   Flow 3 (95th percentile 235.20 ms)

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```
Run 9: Statistics of PCC

Start at: 2017-10-12 05:30:59
End at: 2017-10-12 05:31:29


# Below is generated by plot.py at 2017-10-12 08:43:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.47 Mbit/s
95th percentile per-packet one-way delay: 296.717 ms
Loss rate: 4.72%
-- Flow 1:
Average throughput: 512.17 Mbit/s
95th percentile per-packet one-way delay: 302.124 ms
Loss rate: 5.13%
-- Flow 2:
Average throughput: 126.80 Mbit/s
95th percentile per-packet one-way delay: 209.604 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 209.770 ms
Loss rate: 3.08%
```
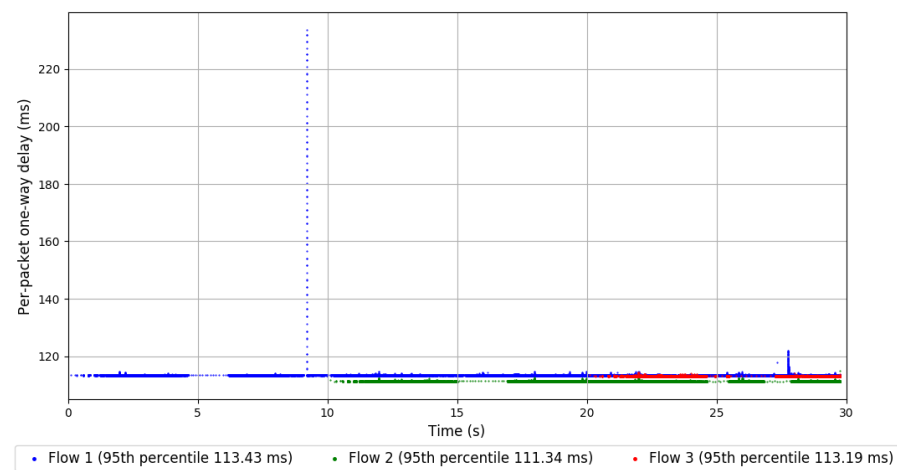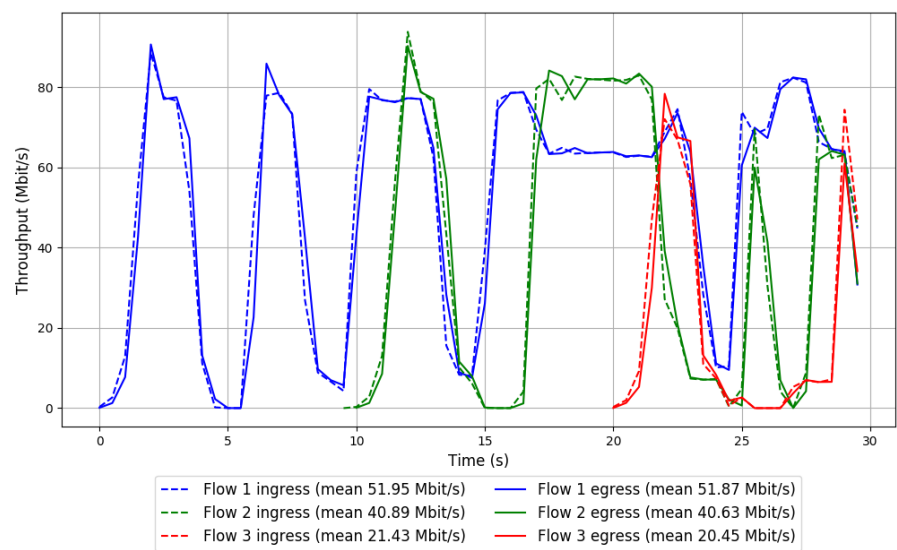
Run 9: Report of PCC — Data Link

- - - Flow 1 ingress (mean 535.34 Mbit/s)   —— Flow 1 egress (mean 512.17 Mbit/s)
- - - Flow 2 ingress (mean 127.95 Mbit/s)   —— Flow 2 egress (mean 126.80 Mbit/s)
- - - Flow 3 ingress (mean 4.26 Mbit/s)   —— Flow 3 egress (mean 4.23 Mbit/s)

- Flow 1 (95th percentile 302.12 ms)   • Flow 2 (95th percentile 209.60 ms)   • Flow 3 (95th percentile 209.77 ms)

```
Run 10: Statistics of PCC

Start at: 2017-10-12 05:44:45
End at: 2017-10-12 05:45:15


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 618.76 Mbit/s
95th percentile per-packet one-way delay: 214.837 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 556.98 Mbit/s
95th percentile per-packet one-way delay: 214.838 ms
Loss rate: 2.67%
-- Flow 2:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 214.679 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 63.76 Mbit/s
95th percentile per-packet one-way delay: 215.110 ms
Loss rate: 3.53%
```
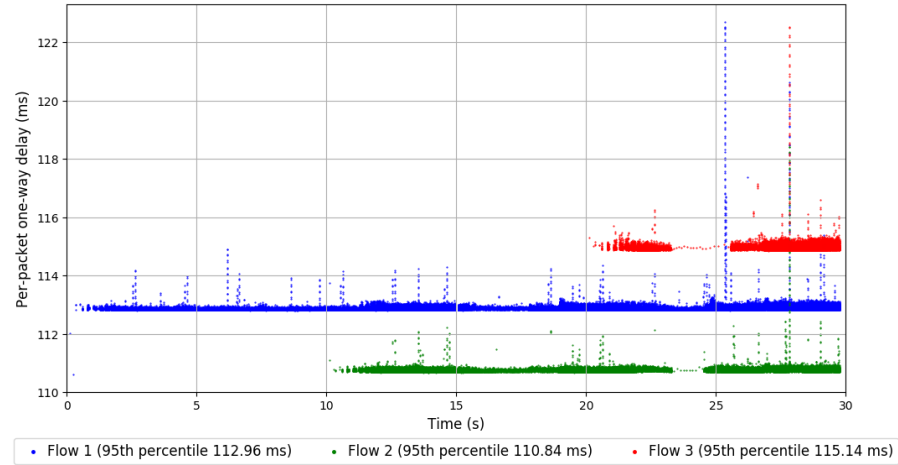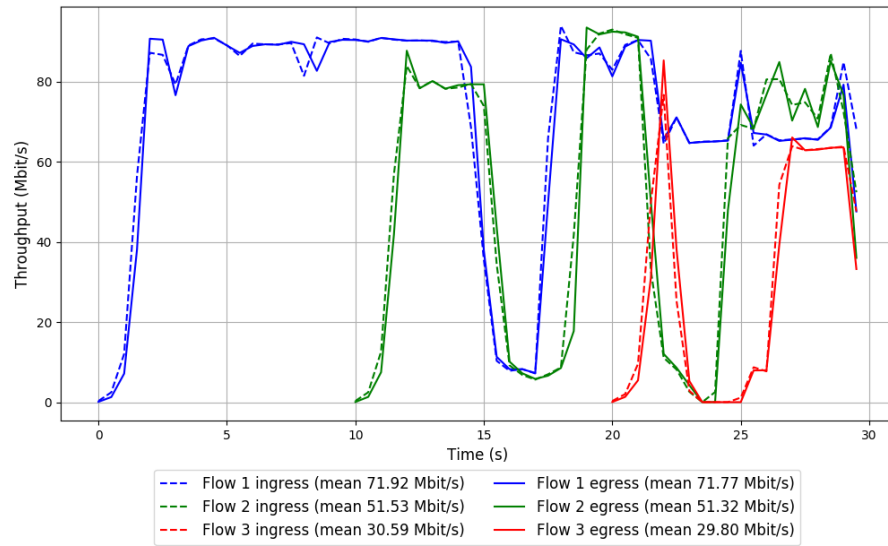
Run 10: Report of PCC — Data Link

Flow 1 ingress (mean 567.97 Mbit/s)   Flow 1 egress (mean 556.98 Mbit/s)
Flow 2 ingress (mean 62.60 Mbit/s)   Flow 2 egress (mean 62.06 Mbit/s)
Flow 3 ingress (mean 64.59 Mbit/s)   Flow 3 egress (mean 63.76 Mbit/s)

Flow 1 (95th percentile 214.84 ms)   Flow 2 (95th percentile 214.68 ms)   Flow 3 (95th percentile 215.11 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2017-10-12 03:38:19
End at: 2017-10-12 03:38:49

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.86 Mbit/s
95th percentile per-packet one-way delay: 113.548 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 113.597 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 58.04 Mbit/s
95th percentile per-packet one-way delay: 110.400 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 112.216 ms
Loss rate: 2.60%
```
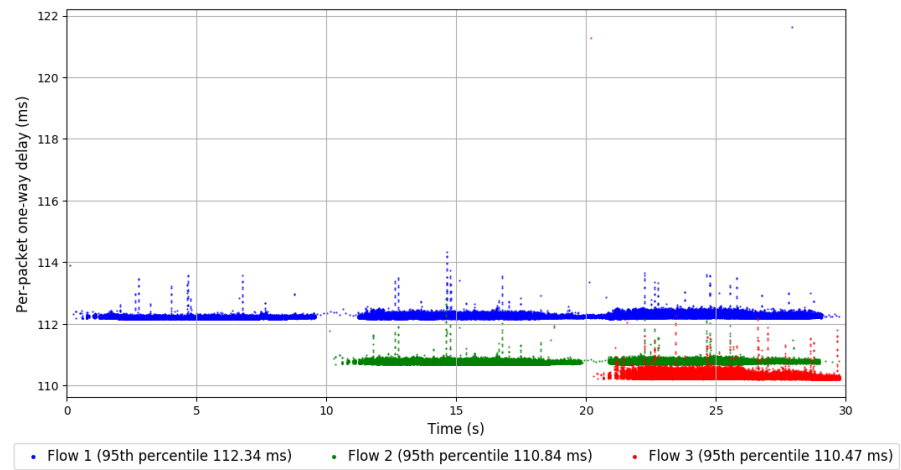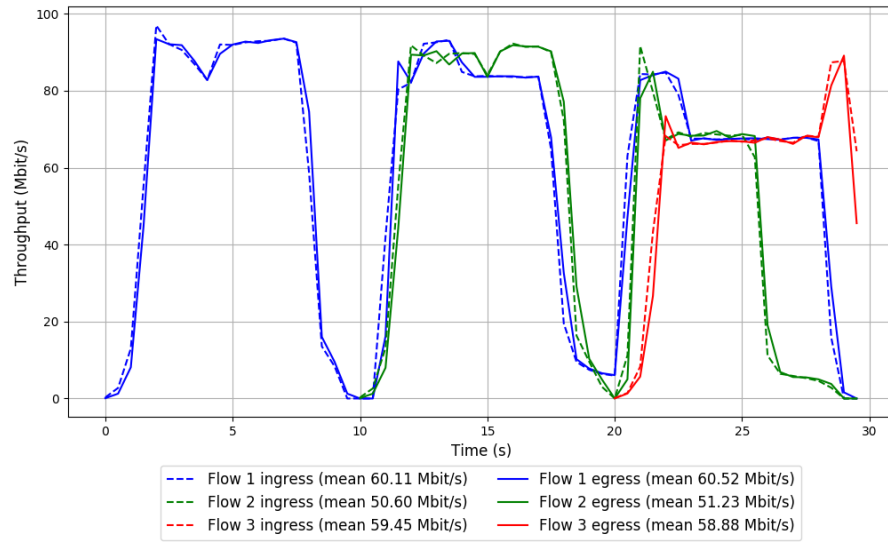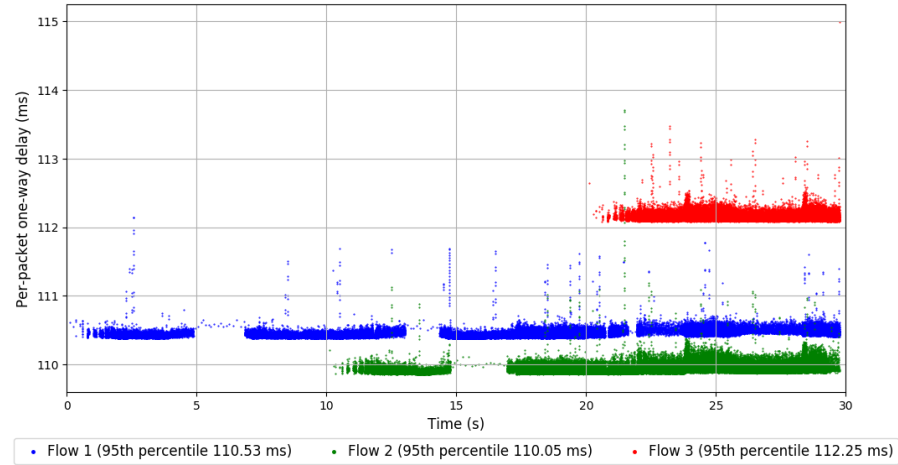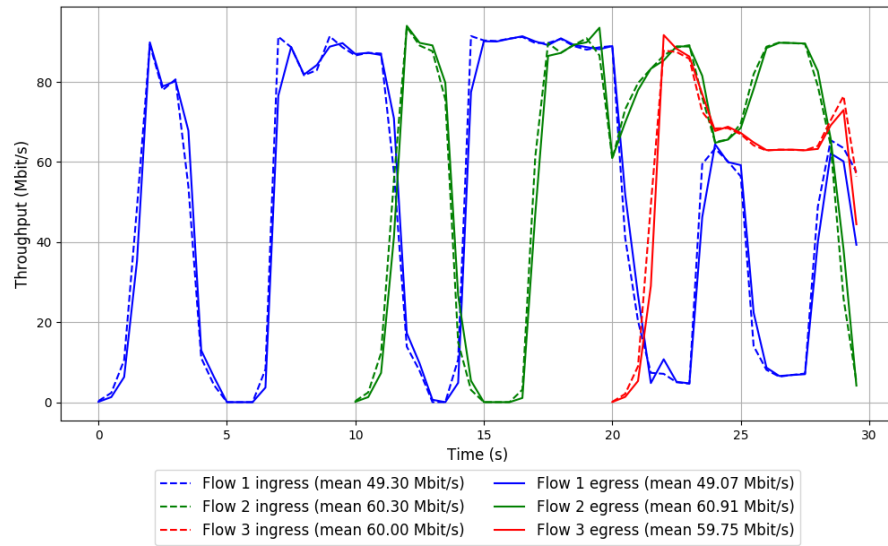
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-10-12 03:51:55
End at: 2017-10-12 03:52:25

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.78 Mbit/s
95th percentile per-packet one-way delay: 113.420 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 75.55 Mbit/s
95th percentile per-packet one-way delay: 112.384 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 112.256 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 113.606 ms
Loss rate: 0.40%
```

Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 75.62 Mbit/s) ——— Flow 1 egress (mean 75.55 Mbit/s)
- - - Flow 2 ingress (mean 48.32 Mbit/s) ——— Flow 2 egress (mean 48.13 Mbit/s)
- - - Flow 3 ingress (mean 34.37 Mbit/s) ——— Flow 3 egress (mean 35.01 Mbit/s)

- Flow 1 (95th percentile 112.38 ms) • Flow 2 (95th percentile 112.26 ms) • Flow 3 (95th percentile 113.61 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-10-12 04:05:31
End at: 2017-10-12 04:06:01

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 113.406 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 51.87 Mbit/s
95th percentile per-packet one-way delay: 113.429 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 40.63 Mbit/s
95th percentile per-packet one-way delay: 111.338 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 20.45 Mbit/s
95th percentile per-packet one-way delay: 113.187 ms
Loss rate: 6.71%
```
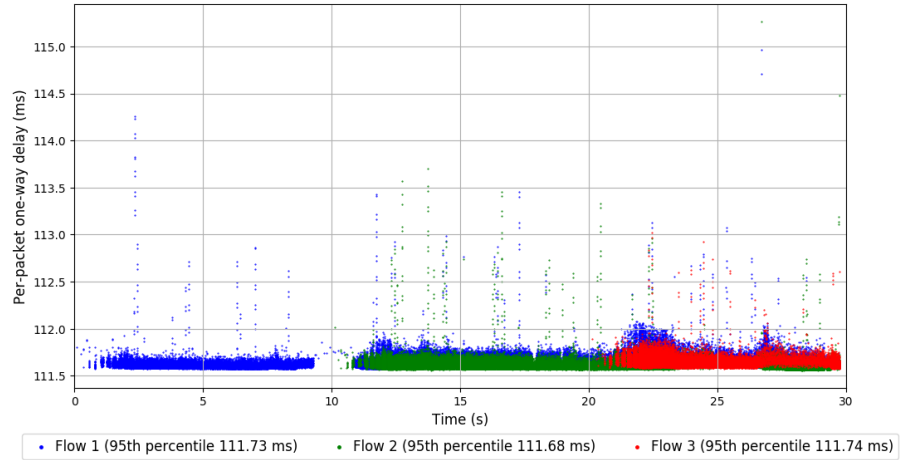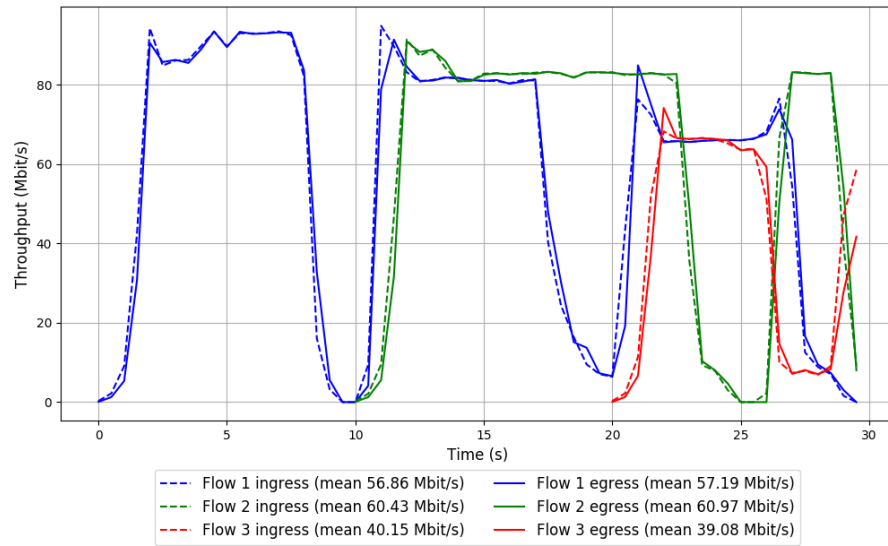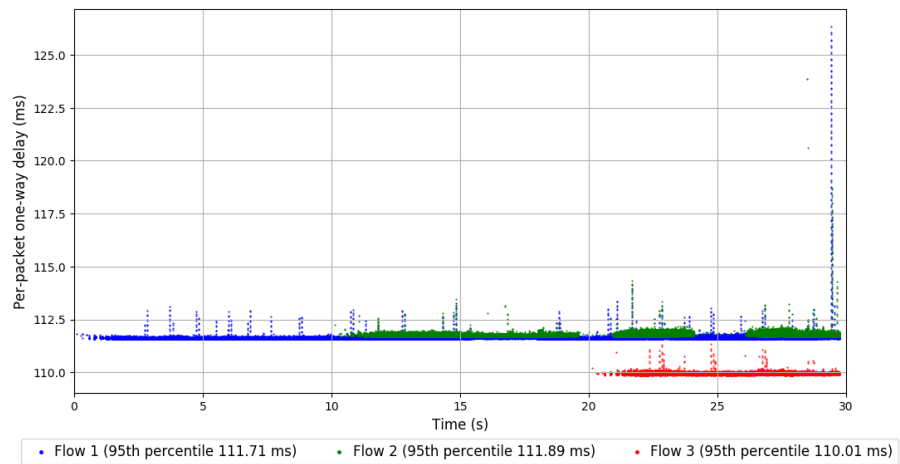
Run 3: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 51.95 Mbit/s) —— Flow 1 egress (mean 51.87 Mbit/s)
- - - Flow 2 ingress (mean 40.89 Mbit/s) —— Flow 2 egress (mean 40.63 Mbit/s)
- - - Flow 3 ingress (mean 21.43 Mbit/s) —— Flow 3 egress (mean 20.45 Mbit/s)

- Flow 1 (95th percentile 113.43 ms) • Flow 2 (95th percentile 111.34 ms) • Flow 3 (95th percentile 113.19 ms)

89

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-10-12 04:19:22
End at: 2017-10-12 04:19:52

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.43 Mbit/s
95th percentile per-packet one-way delay: 114.932 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 112.964 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 51.32 Mbit/s
95th percentile per-packet one-way delay: 110.841 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 29.80 Mbit/s
95th percentile per-packet one-way delay: 115.136 ms
Loss rate: 4.83%
```
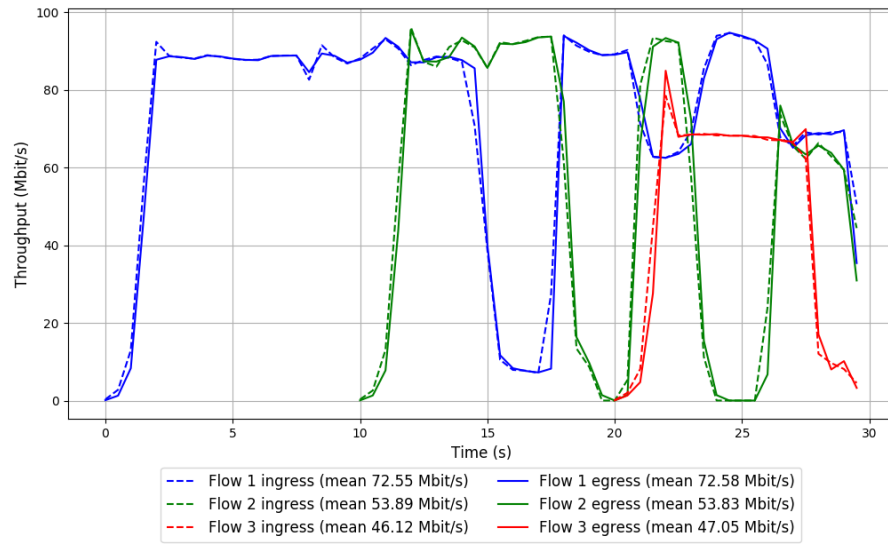
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 71.92 Mbit/s)   Flow 1 egress (mean 71.77 Mbit/s)
Flow 2 ingress (mean 51.53 Mbit/s)   Flow 2 egress (mean 51.32 Mbit/s)
Flow 3 ingress (mean 30.59 Mbit/s)   Flow 3 egress (mean 29.80 Mbit/s)

Flow 1 (95th percentile 112.96 ms)   Flow 2 (95th percentile 110.84 ms)   Flow 3 (95th percentile 115.14 ms)

91

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-10-12 04:33:06
End at: 2017-10-12 04:33:36


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.37 Mbit/s
95th percentile per-packet one-way delay: 112.308 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 60.52 Mbit/s
95th percentile per-packet one-way delay: 112.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.23 Mbit/s
95th percentile per-packet one-way delay: 110.840 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 58.88 Mbit/s
95th percentile per-packet one-way delay: 110.465 ms
Loss rate: 3.30%
```
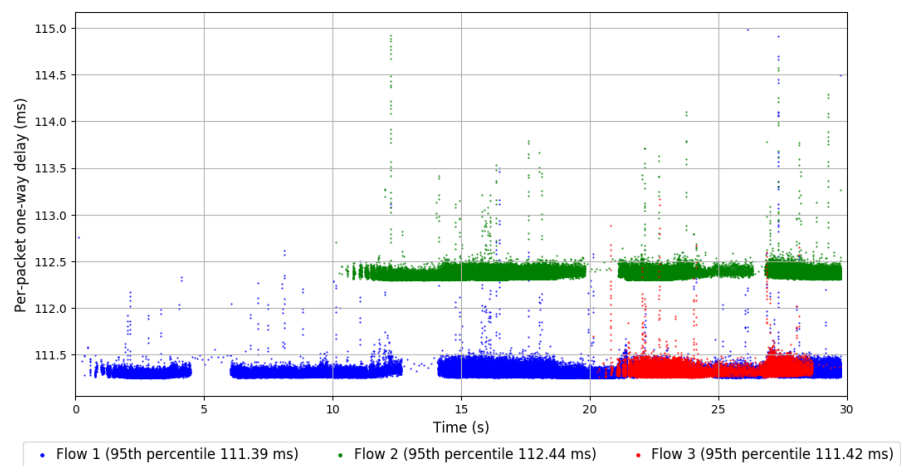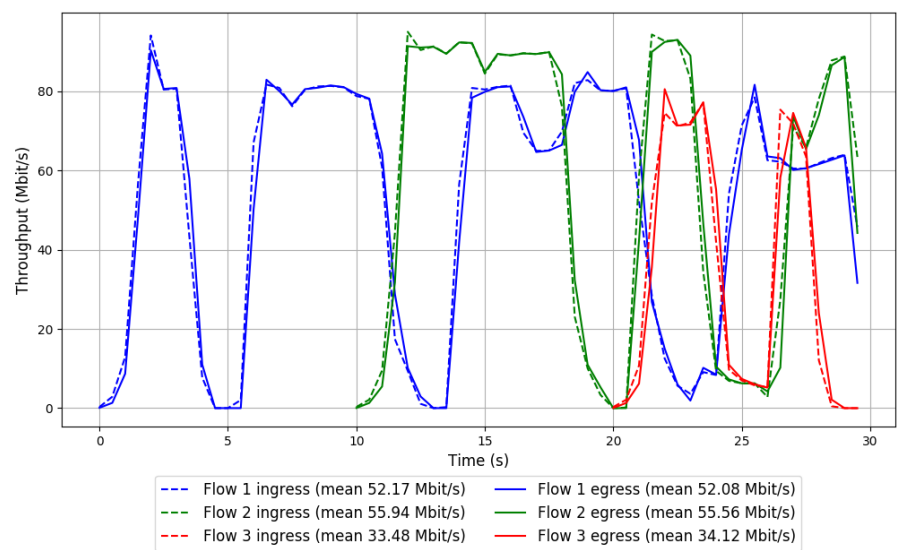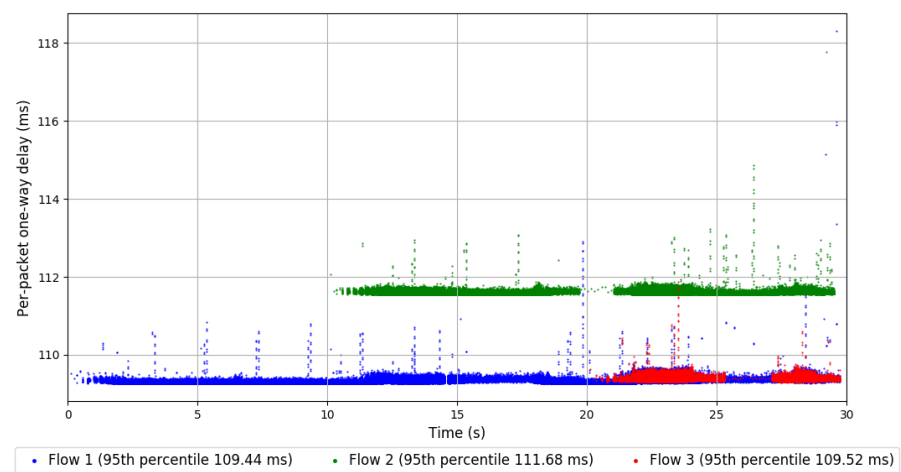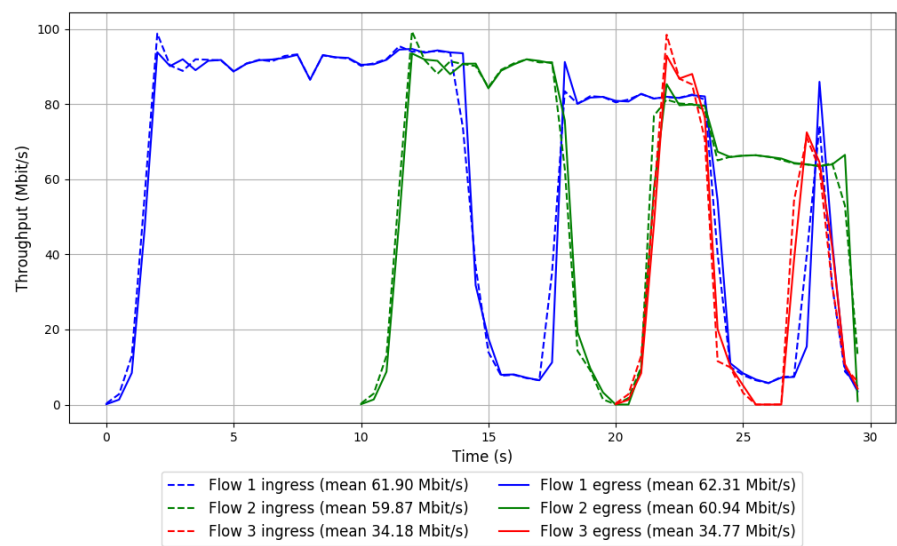
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 60.11 Mbit/s) --- Flow 1 egress (mean 60.52 Mbit/s)
Flow 2 ingress (mean 50.60 Mbit/s) --- Flow 2 egress (mean 51.23 Mbit/s)
Flow 3 ingress (mean 59.45 Mbit/s) --- Flow 3 egress (mean 58.88 Mbit/s)

Flow 1 (95th percentile 112.34 ms)   Flow 2 (95th percentile 110.84 ms)   Flow 3 (95th percentile 110.47 ms)

93

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-10-12 04:46:28
End at: 2017-10-12 04:46:58

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.80 Mbit/s
95th percentile per-packet one-way delay: 112.172 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 49.07 Mbit/s
95th percentile per-packet one-way delay: 110.529 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 60.91 Mbit/s
95th percentile per-packet one-way delay: 110.051 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 59.75 Mbit/s
95th percentile per-packet one-way delay: 112.252 ms
Loss rate: 2.67%
```

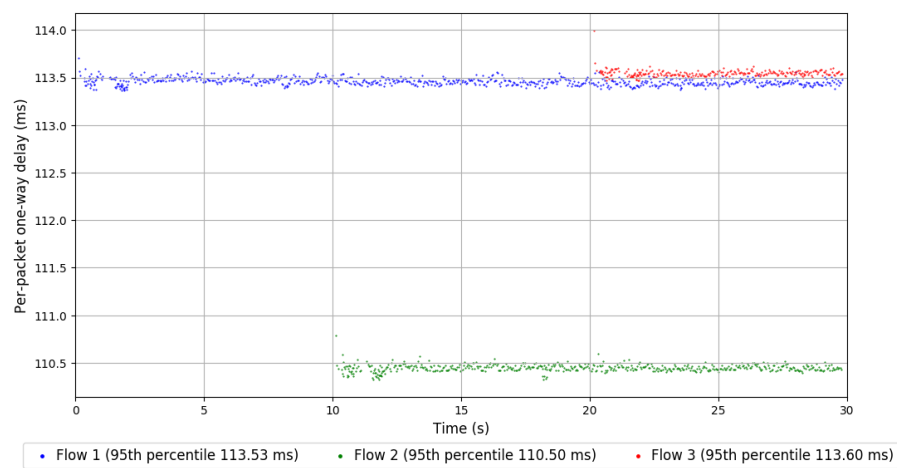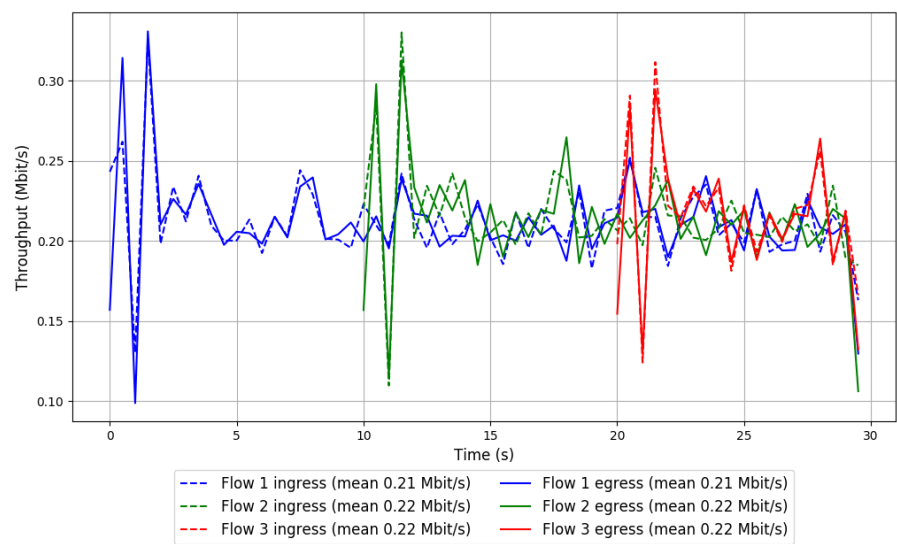Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.30 Mbit/s) Flow 1 egress (mean 49.07 Mbit/s)
Flow 2 ingress (mean 60.30 Mbit/s) Flow 2 egress (mean 60.91 Mbit/s)
Flow 3 ingress (mean 60.00 Mbit/s) Flow 3 egress (mean 59.75 Mbit/s)

Flow 1 (95th percentile 110.53 ms)   Flow 2 (95th percentile 110.05 ms)   Flow 3 (95th percentile 112.25 ms)
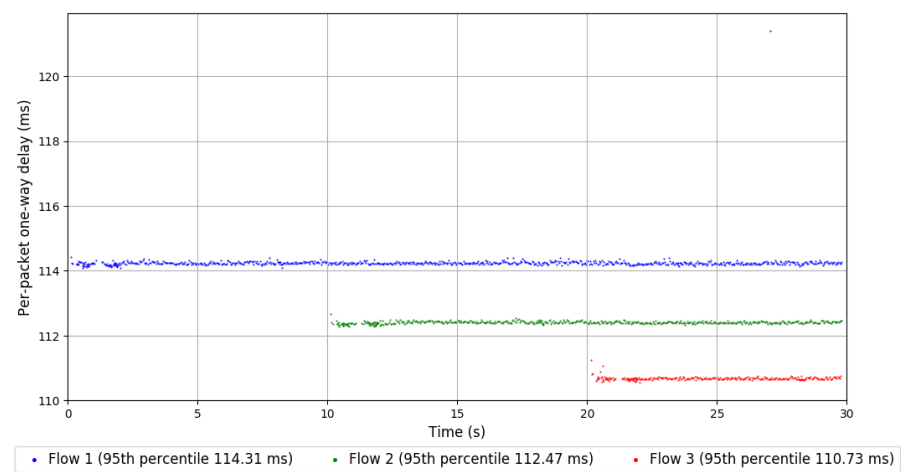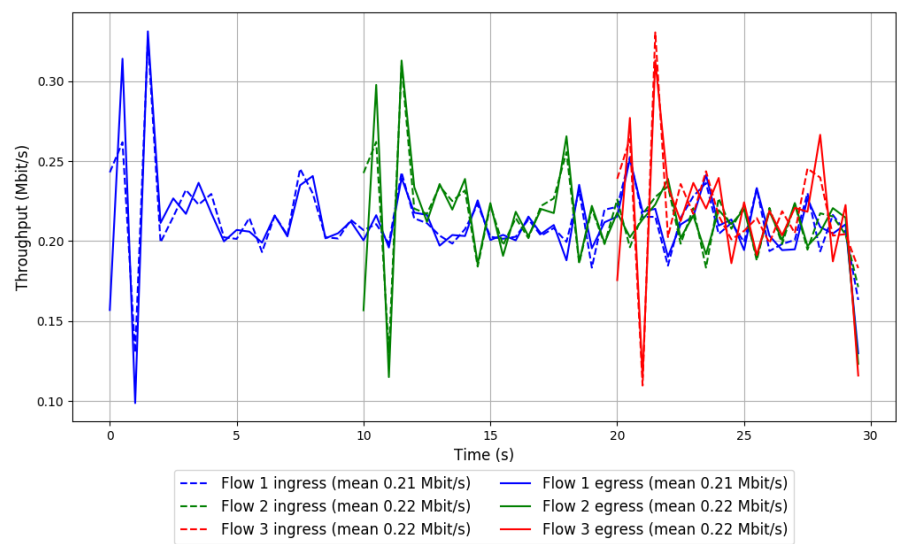
```
Run 7: Statistics of QUIC Cubic

Start at: 2017-10-12 05:00:12
End at: 2017-10-12 05:00:42

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.16 Mbit/s
95th percentile per-packet one-way delay: 111.713 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 57.19 Mbit/s
95th percentile per-packet one-way delay: 111.726 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.97 Mbit/s
95th percentile per-packet one-way delay: 111.681 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 111.740 ms
Loss rate: 4.86%
```

Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-10-12 05:13:46
End at: 2017-10-12 05:14:16


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.50 Mbit/s
95th percentile per-packet one-way delay: 111.814 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 72.58 Mbit/s
95th percentile per-packet one-way delay: 111.714 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 53.83 Mbit/s
95th percentile per-packet one-way delay: 111.895 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 47.05 Mbit/s
95th percentile per-packet one-way delay: 110.013 ms
Loss rate: 0.29%
```
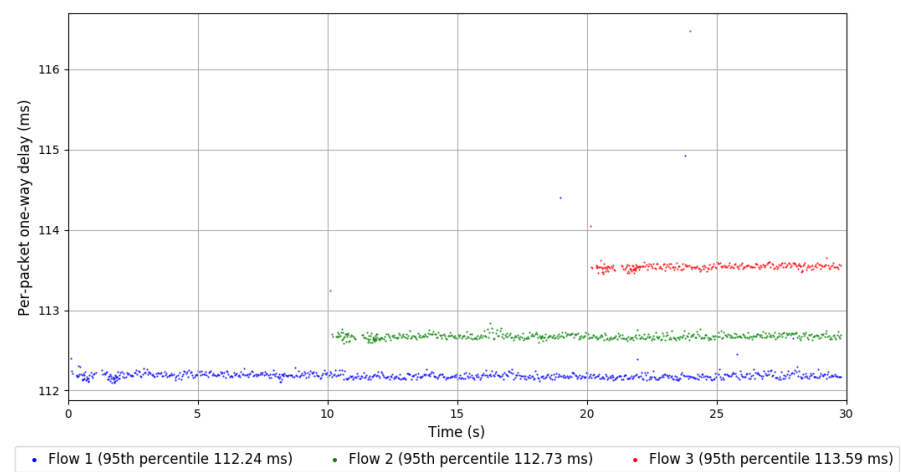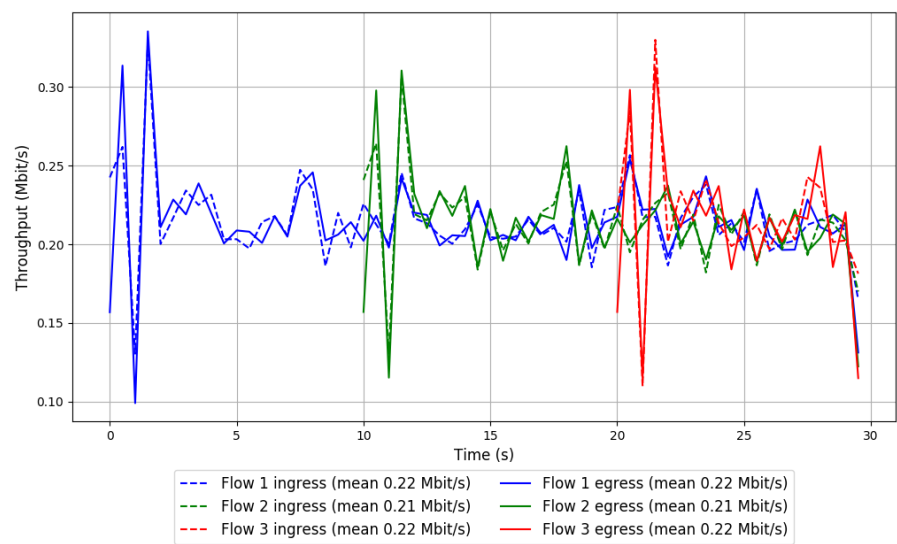
Run 8: Report of QUIC Cubic — Data Link

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-10-12 05:27:03
End at: 2017-10-12 05:27:33


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.89 Mbit/s
95th percentile per-packet one-way delay: 112.403 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 52.08 Mbit/s
95th percentile per-packet one-way delay: 111.387 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 55.56 Mbit/s
95th percentile per-packet one-way delay: 112.436 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 111.419 ms
Loss rate: 0.00%
```
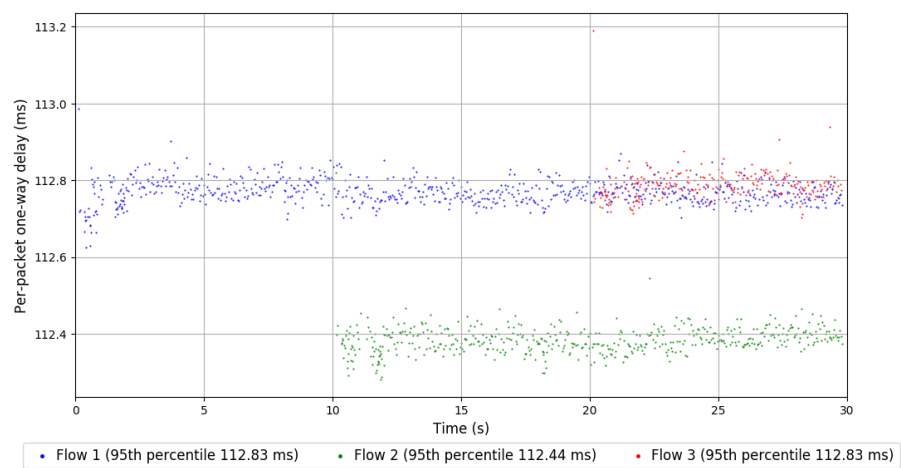
Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-10-12 05:40:55
End at: 2017-10-12 05:41:25


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.49 Mbit/s
95th percentile per-packet one-way delay: 111.639 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 62.31 Mbit/s
95th percentile per-packet one-way delay: 109.435 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 111.681 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 34.77 Mbit/s
95th percentile per-packet one-way delay: 109.518 ms
Loss rate: 0.54%
```
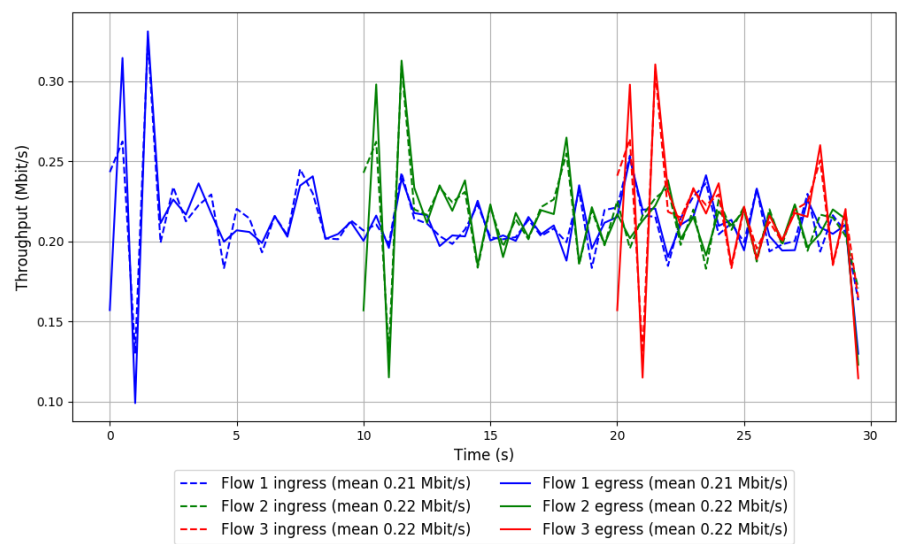
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2017-10-12 03:35:35
End at: 2017-10-12 03:36:05

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 113.561 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.529 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.501 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.597 ms
Loss rate: 1.91%
```
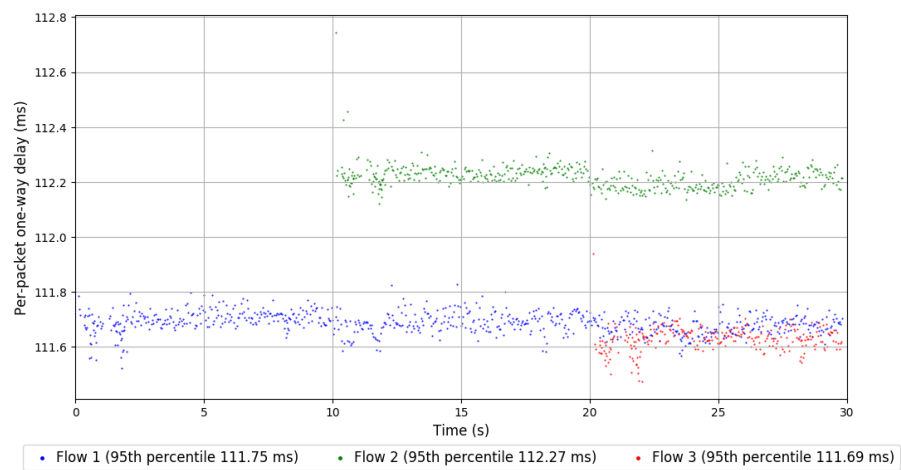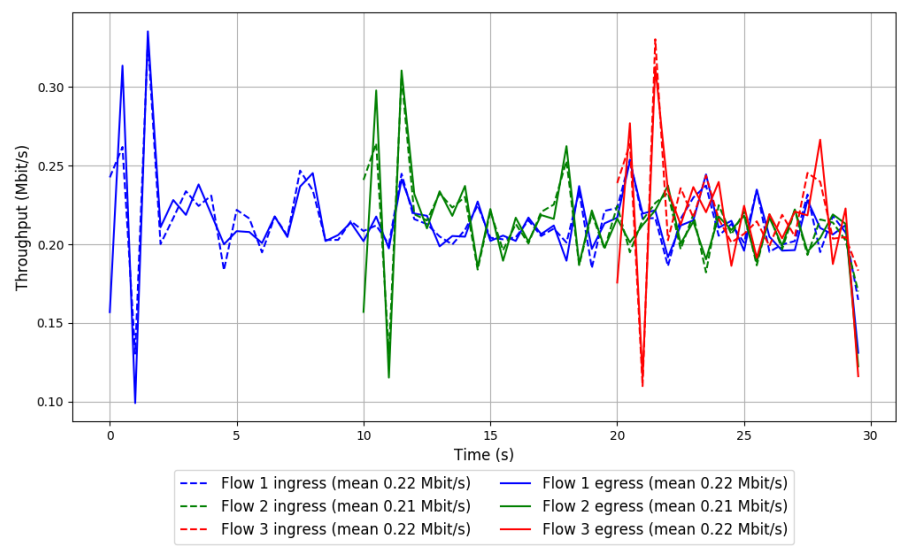
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) — Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s) — Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) — Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 113.53 ms) • Flow 2 (95th percentile 110.50 ms) • Flow 3 (95th percentile 113.60 ms)

```
Run 2: Statistics of SCReAM

Start at: 2017-10-12 03:49:12
End at: 2017-10-12 03:49:42

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 114.290 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 114.308 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.468 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.732 ms
Loss rate: 2.26%
```
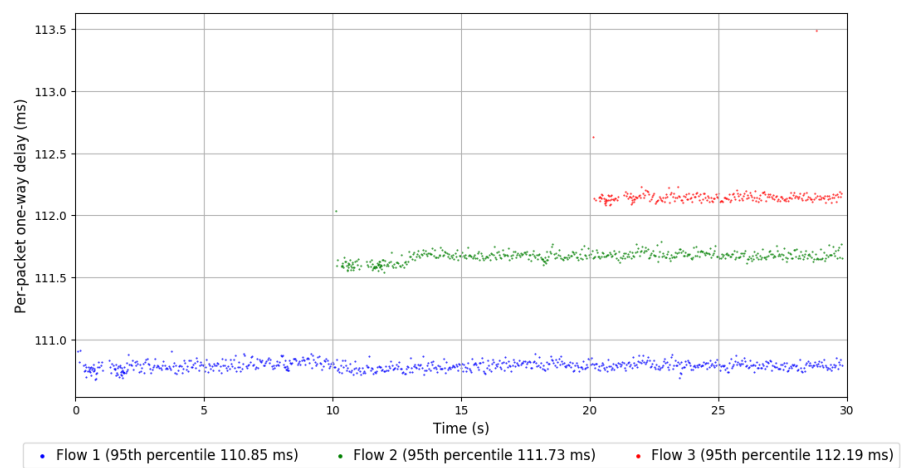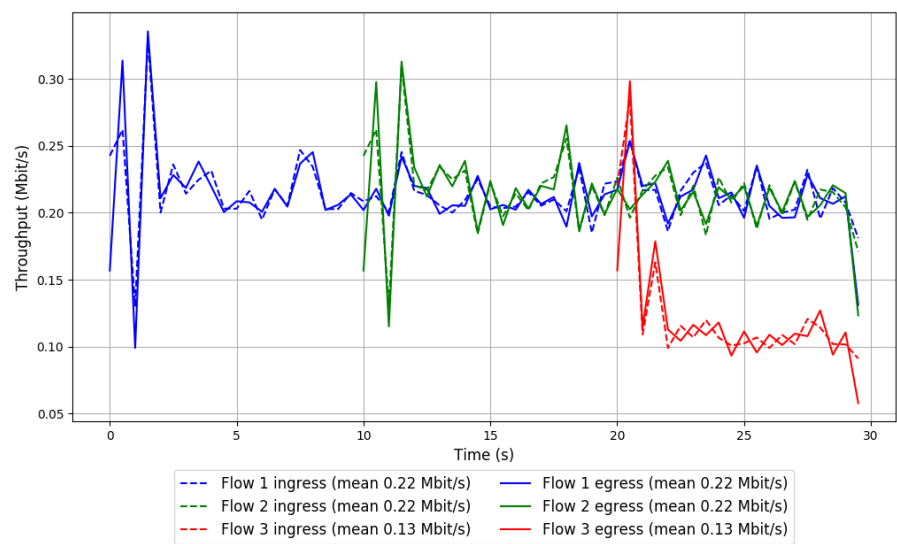
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-10-12 04:02:47
End at: 2017-10-12 04:03:17

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 113.557 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.244 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.727 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.590 ms
Loss rate: 2.25%
```
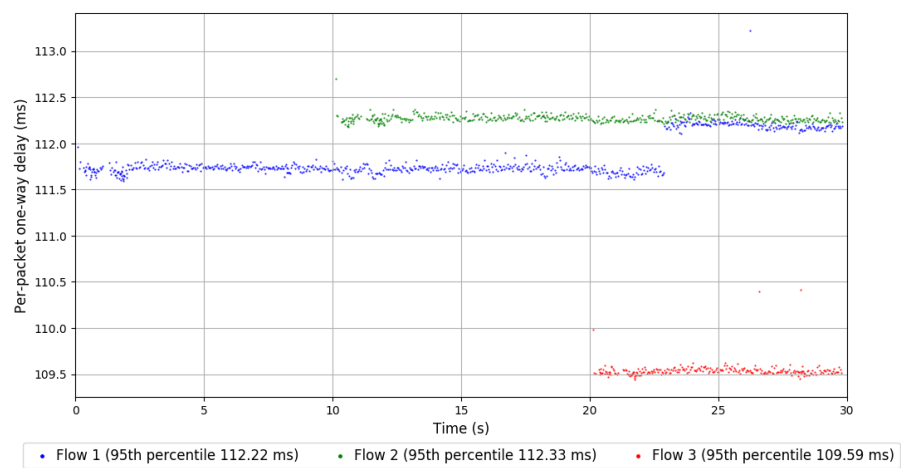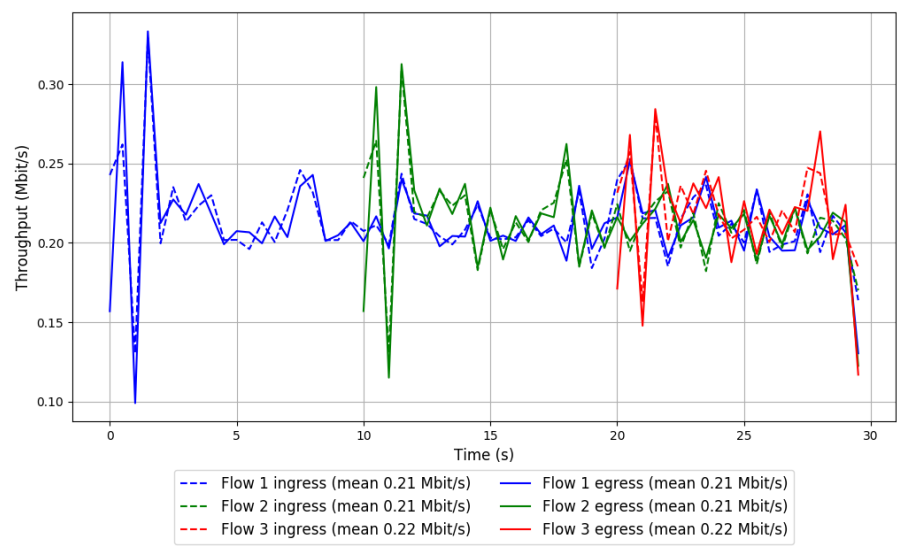
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2017-10-12 04:16:39
End at: 2017-10-12 04:17:09

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.819 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.826 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.435 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.830 ms
Loss rate: 2.25%
```
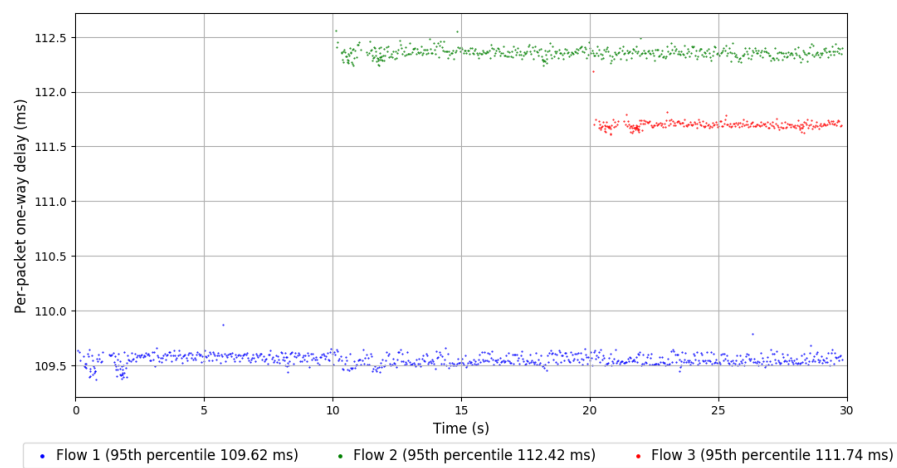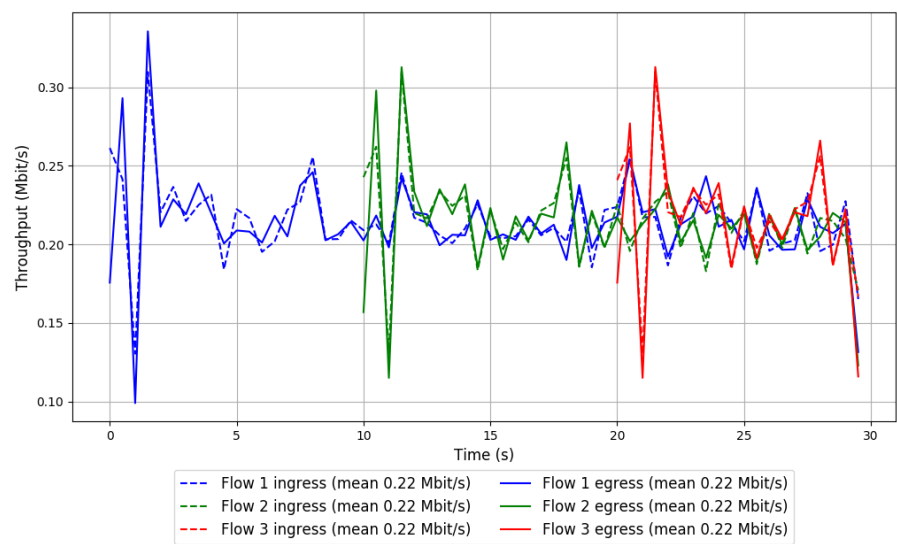
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-10-12 04:30:23
End at: 2017-10-12 04:30:53

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.251 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.747 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.271 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.685 ms
Loss rate: 2.26%
```
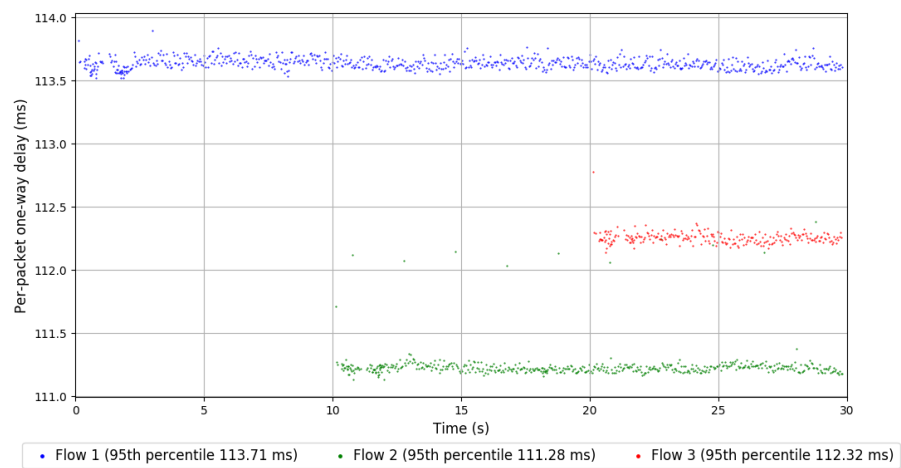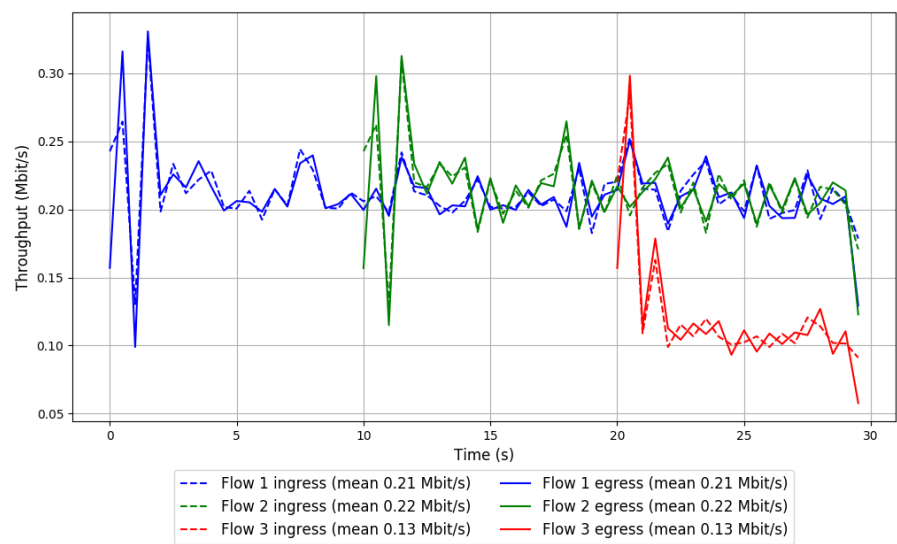
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.21 Mbit/s)   Flow 2 egress (mean 0.21 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)   Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 111.75 ms)   Flow 2 (95th percentile 112.27 ms)   Flow 3 (95th percentile 111.69 ms)
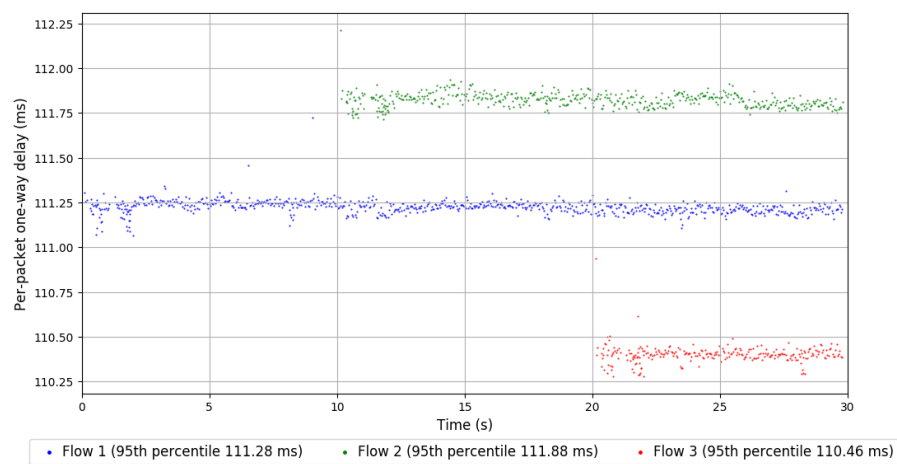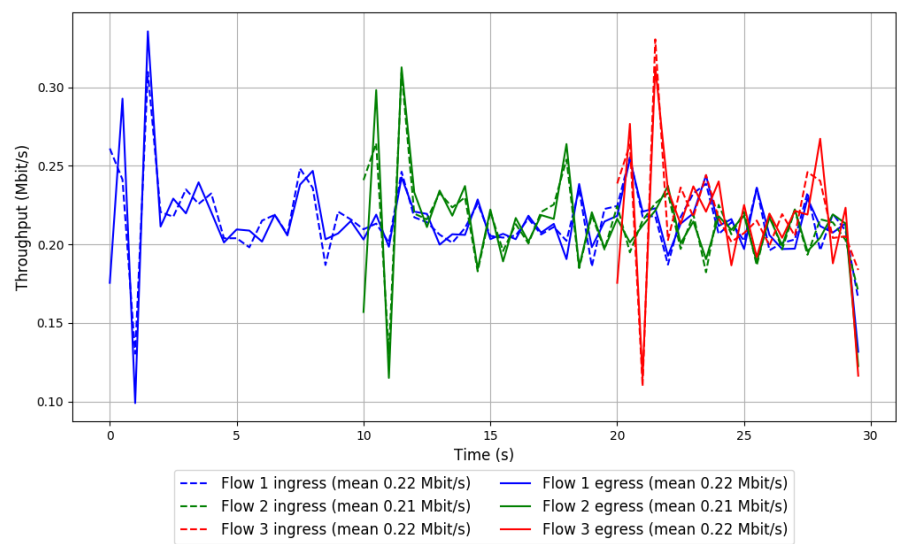
```
Run 6: Statistics of SCReAM

Start at: 2017-10-12 04:43:44
End at: 2017-10-12 04:44:14


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 112.156 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.848 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.730 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 112.189 ms
Loss rate: 1.99%
```
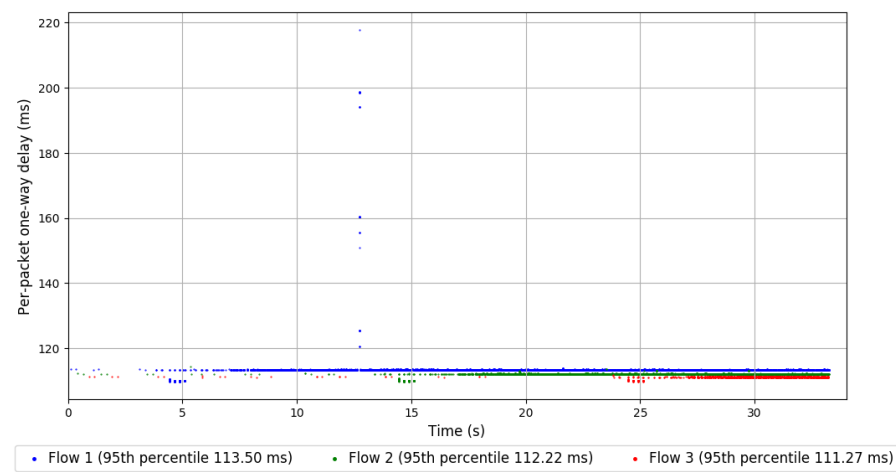
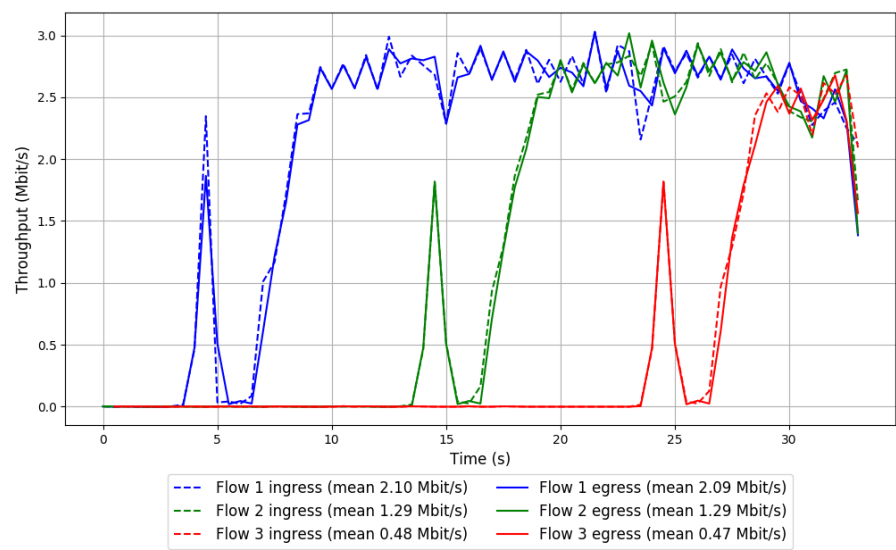# Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-10-12 04:57:29
End at: 2017-10-12 04:57:59

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.307 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.222 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.329 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.592 ms
Loss rate: 2.27%
```

Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-10-12 05:11:02
End at: 2017-10-12 05:11:32

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.397 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.624 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.422 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.742 ms
Loss rate: 2.26%
```
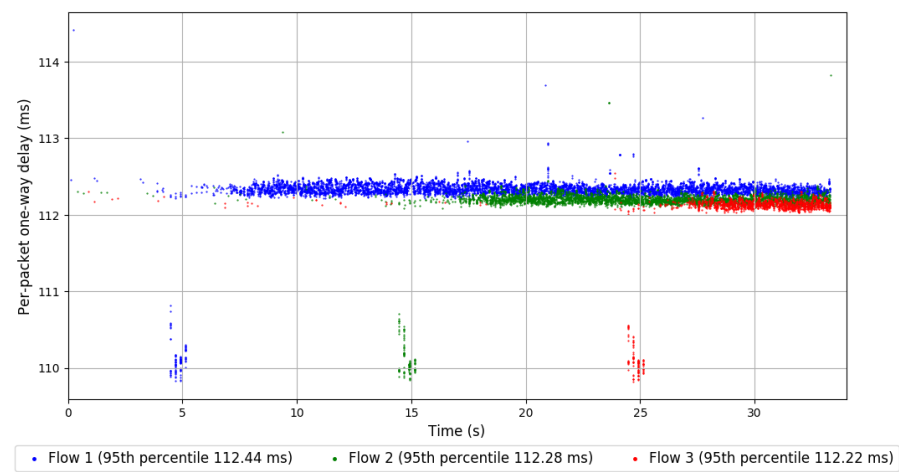
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2017-10-12 05:24:18
End at: 2017-10-12 05:24:48

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 113.694 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.711 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.283 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 112.319 ms
Loss rate: 1.99%
```
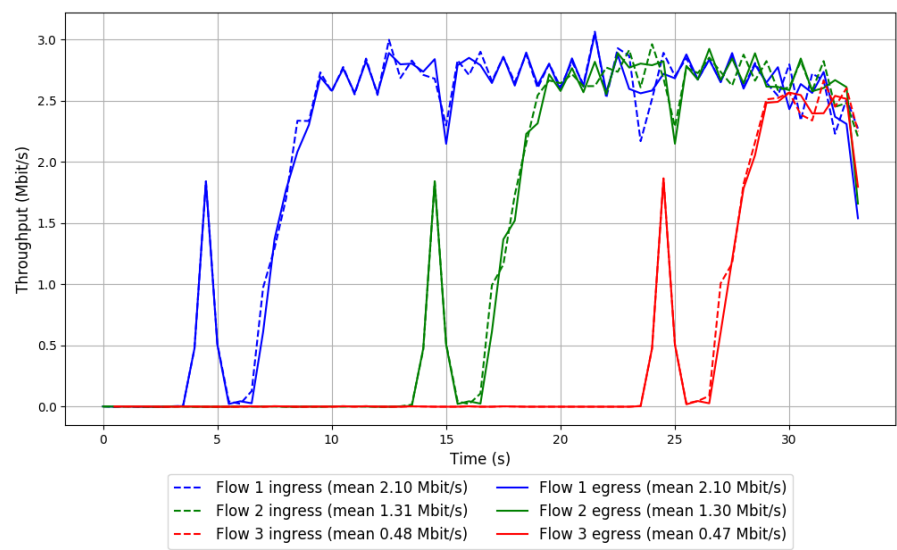
Run 9: Report of SCReAM — Data Link

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```
Run 10: Statistics of SCReAM

Start at: 2017-10-12 05:38:11
End at: 2017-10-12 05:38:41

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.860 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.276 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.883 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.457 ms
Loss rate: 2.26%
```
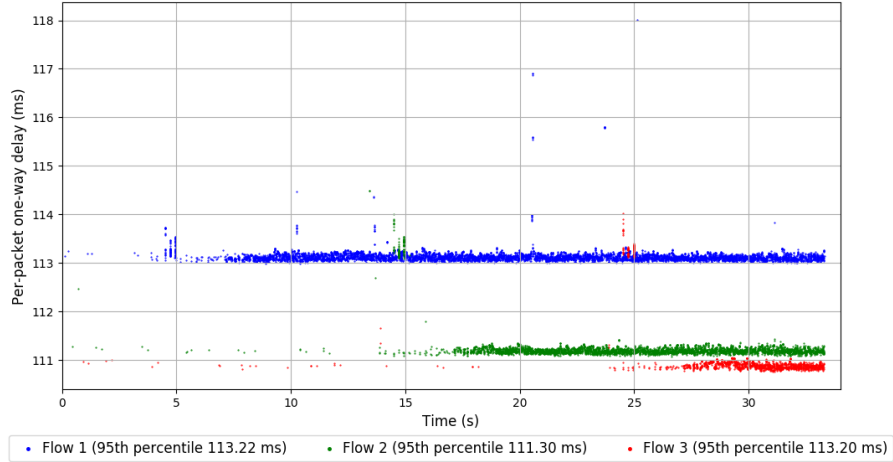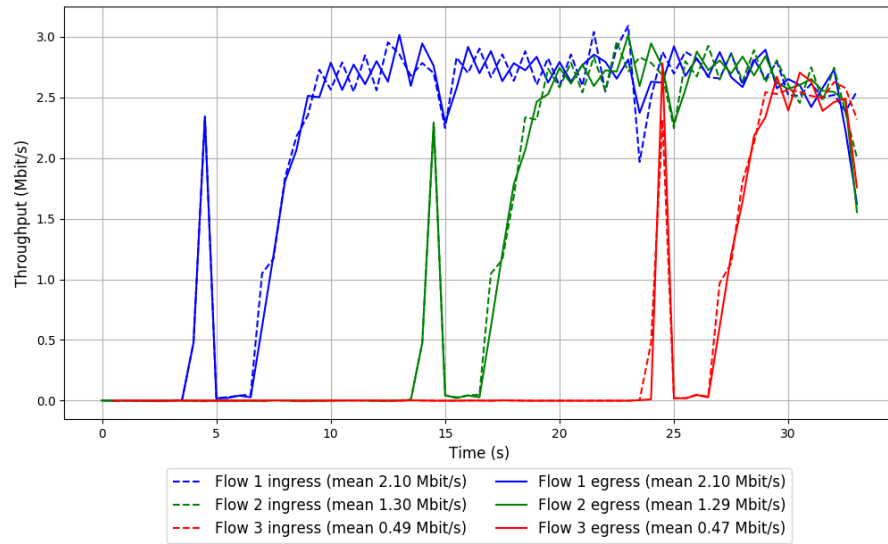
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2017-10-12 03:37:33
End at: 2017-10-12 03:38:03

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 113.478 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 113.497 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 112.220 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 111.269 ms
Loss rate: 4.27%
```
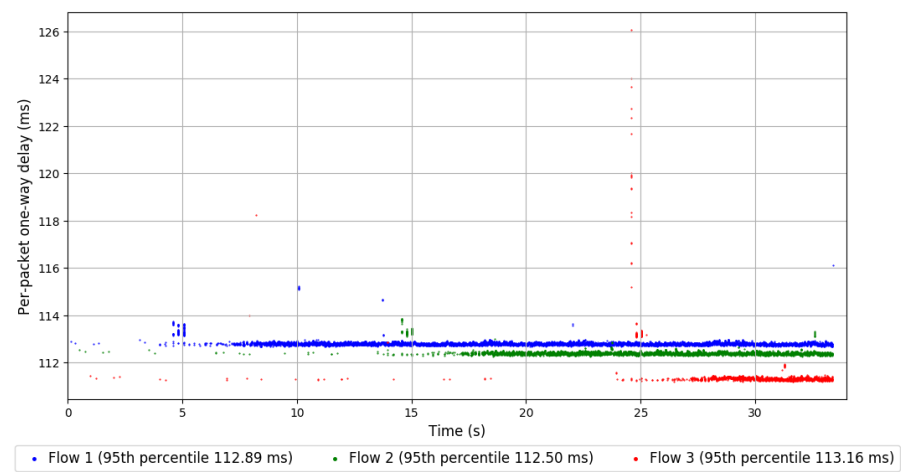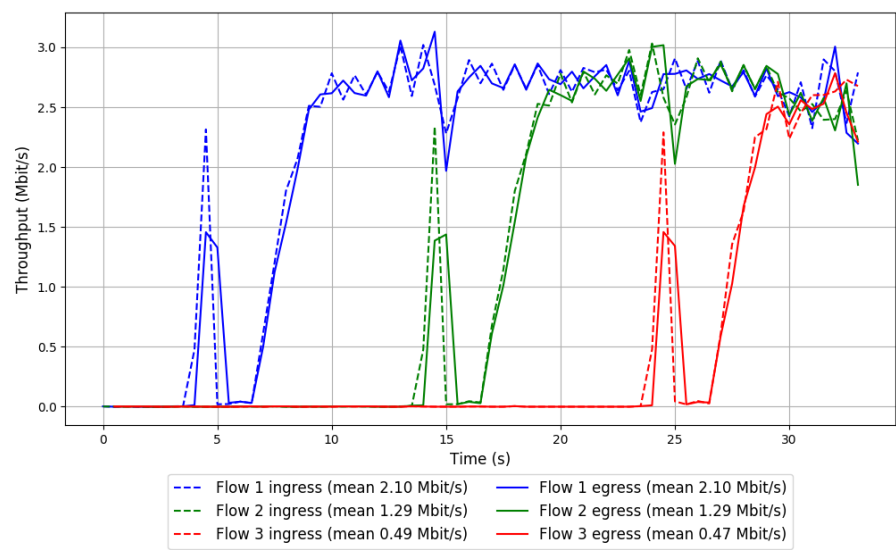
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-10-12 03:51:09
End at: 2017-10-12 03:51:39

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 112.417 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 112.438 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 112.281 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 112.217 ms
Loss rate: 3.61%
```
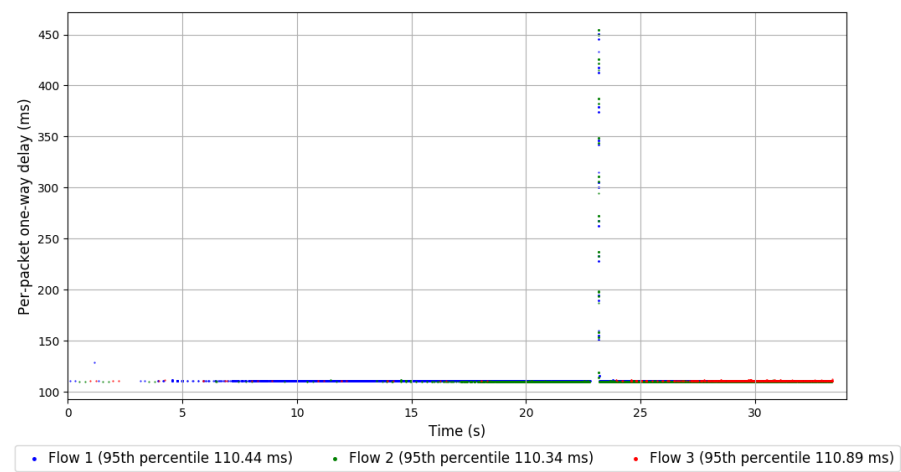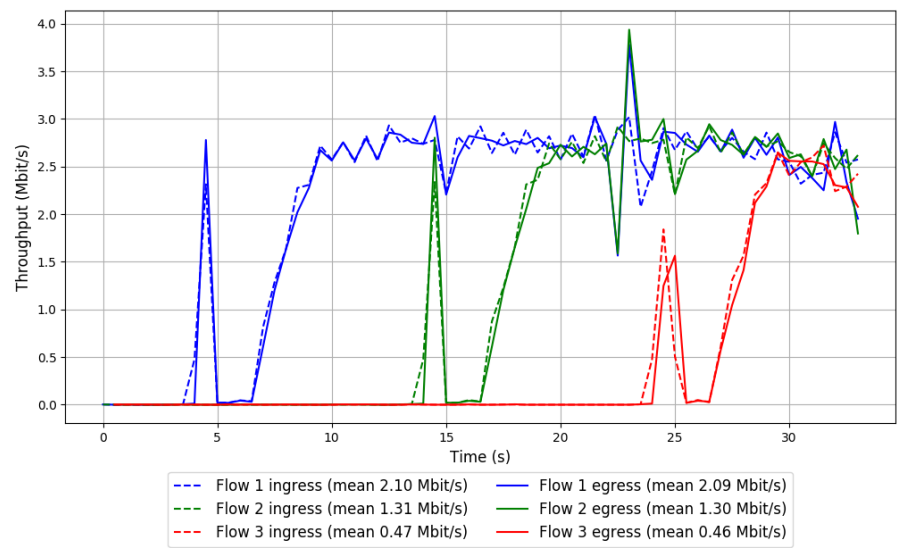
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-10-12 04:04:44
End at: 2017-10-12 04:05:14

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 113.212 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 113.222 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 111.301 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 113.201 ms
Loss rate: 4.05%
```
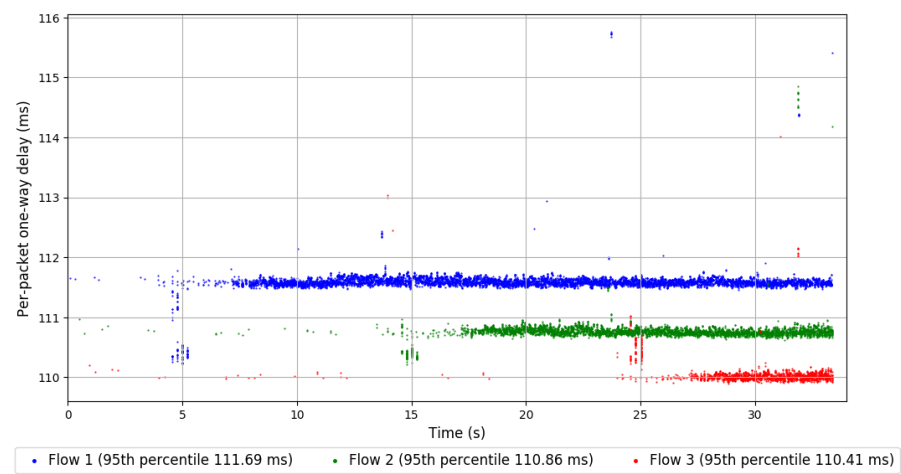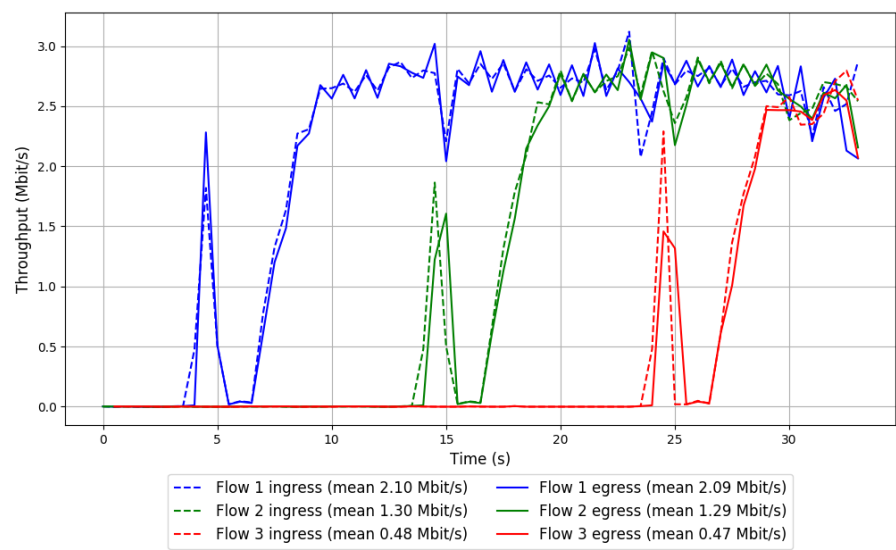
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-10-12 04:18:36
End at: 2017-10-12 04:19:06


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 112.883 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 112.890 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 112.501 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 113.155 ms
Loss rate: 3.75%
```
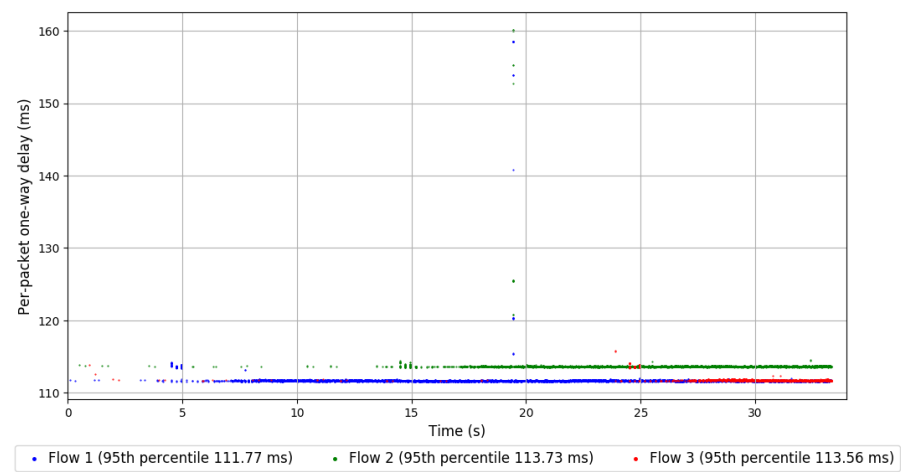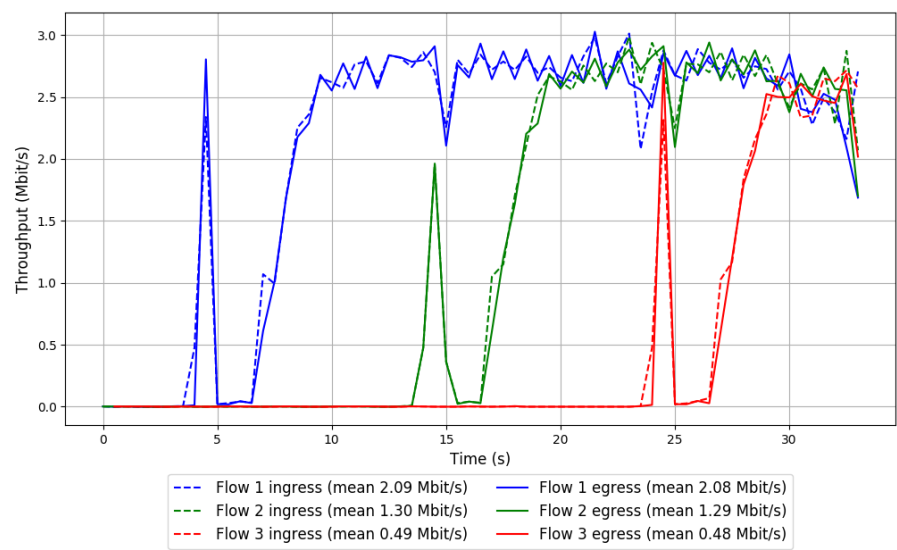
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-10-12 04:32:20
End at: 2017-10-12 04:32:50

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 110.824 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 110.445 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 110.345 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 110.886 ms
Loss rate: 3.07%
```

Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-10-12 04:45:42
End at: 2017-10-12 04:46:12

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 111.668 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 111.687 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 110.861 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 110.414 ms
Loss rate: 3.90%
```
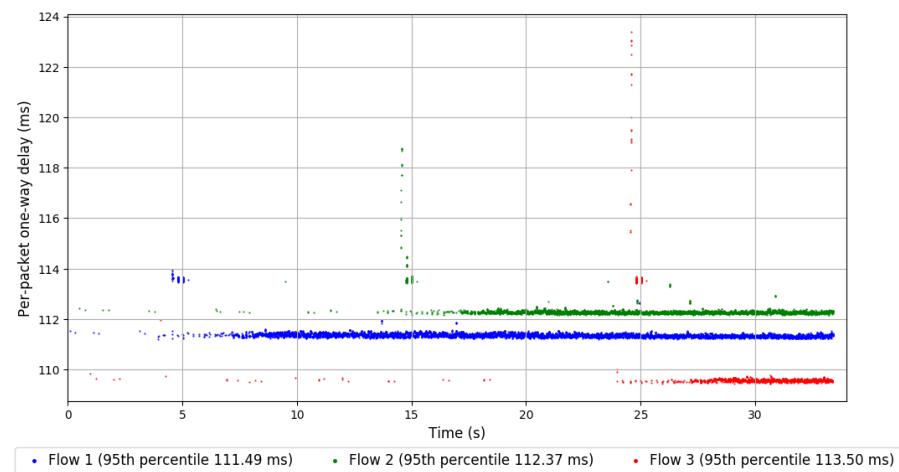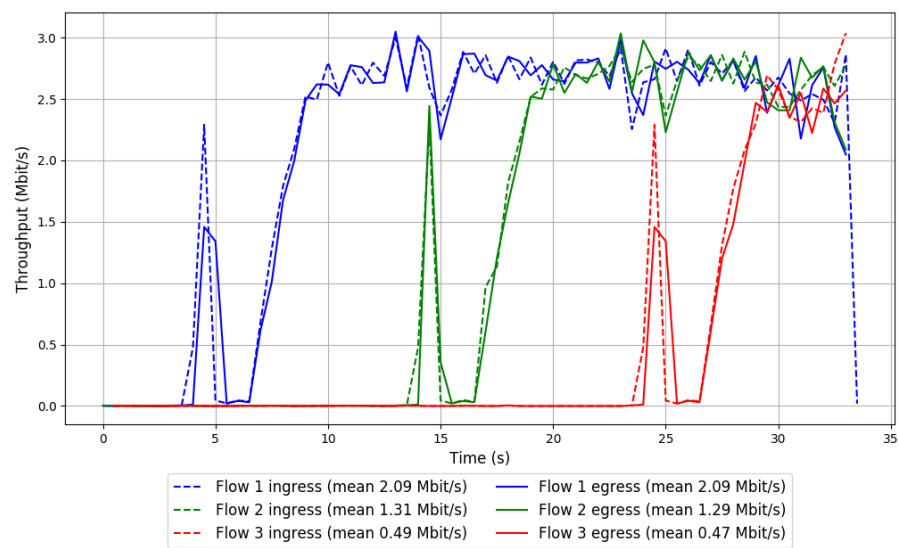
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-10-12 04:59:26
End at: 2017-10-12 04:59:56


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 113.686 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 111.770 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 113.726 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 113.559 ms
Loss rate: 3.77%
```
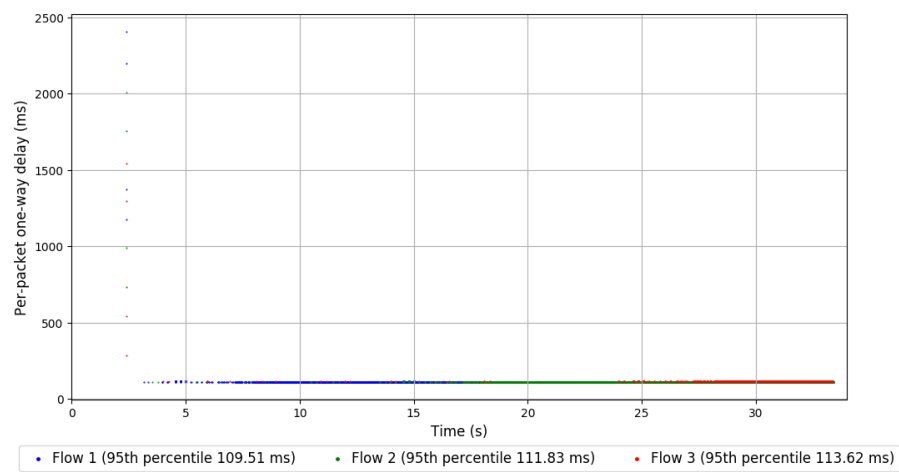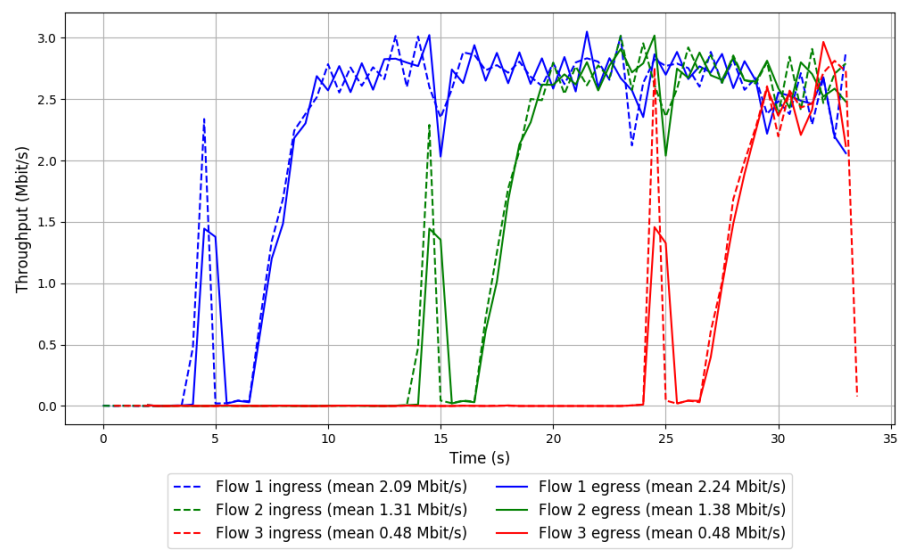
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-10-12 05:13:00
End at: 2017-10-12 05:13:30


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 112.334 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 111.489 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 112.372 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 113.503 ms
Loss rate: 3.85%
```
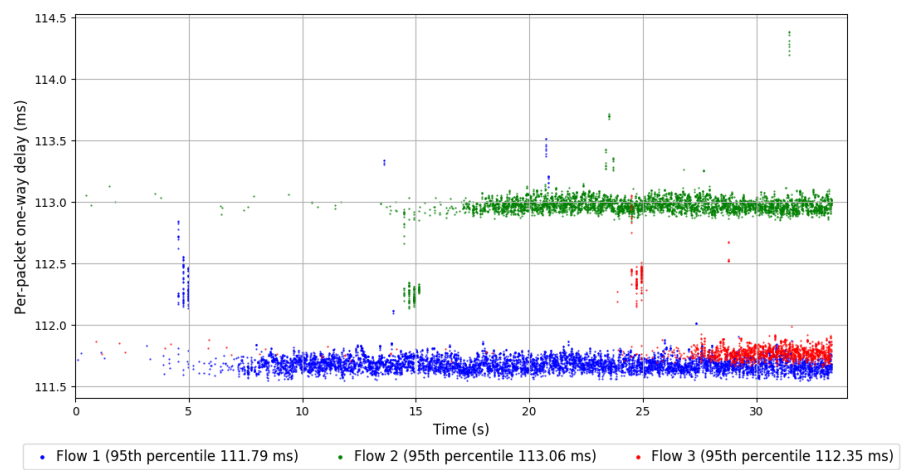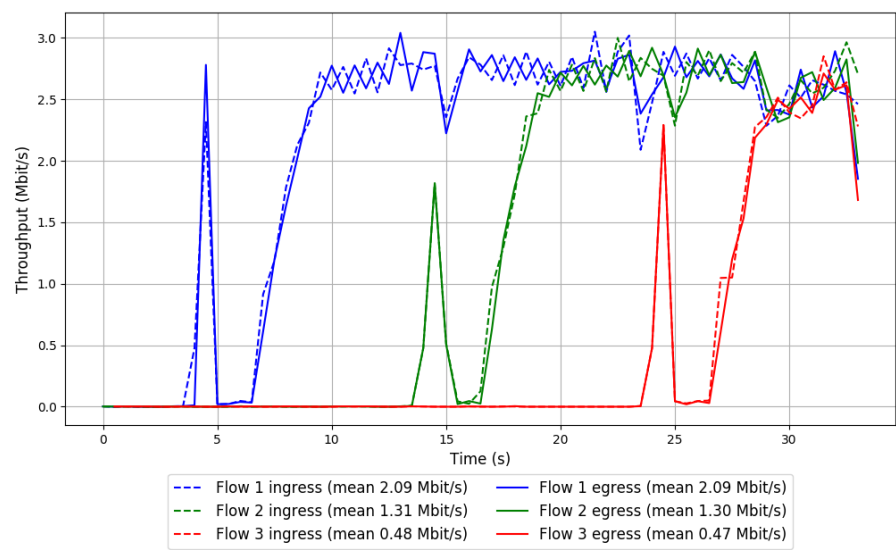
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-10-12 05:26:16
End at: 2017-10-12 05:26:46

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 113.229 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 109.508 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 111.830 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 113.624 ms
Loss rate: 3.95%
```
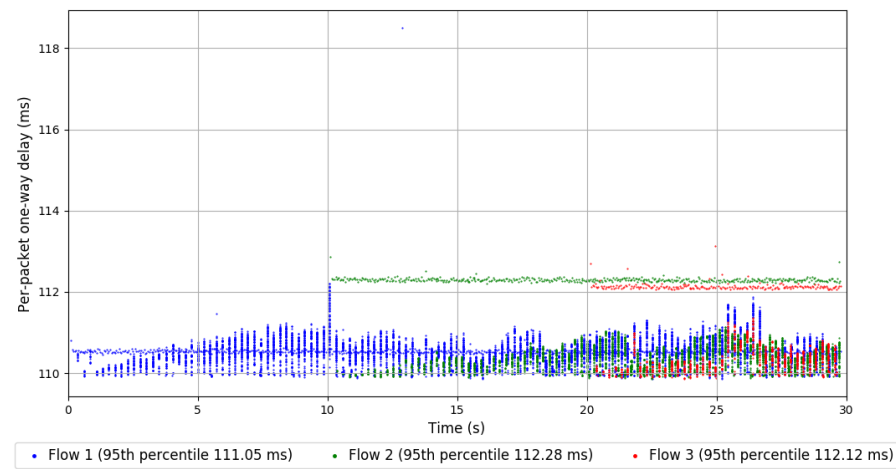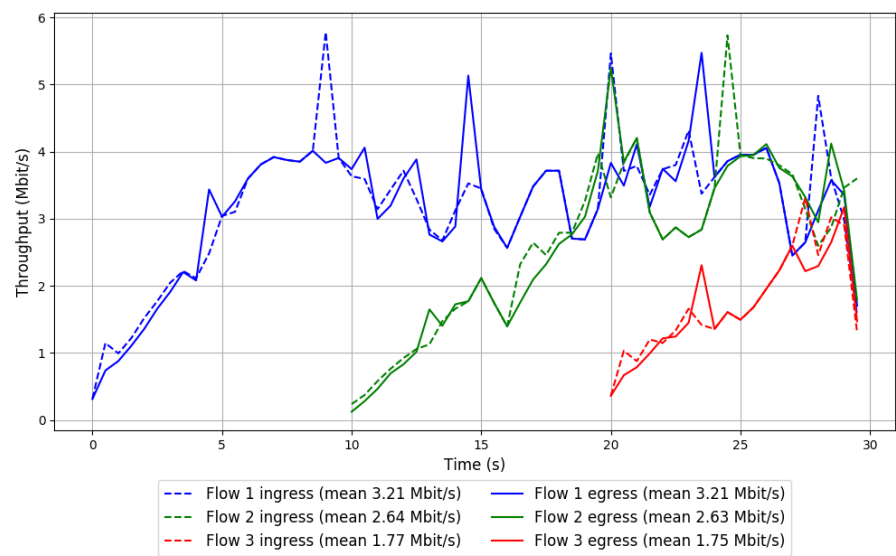
Run 9: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.09 Mbit/s) --- Flow 1 egress (mean 2.24 Mbit/s)
Flow 2 ingress (mean 1.31 Mbit/s) --- Flow 2 egress (mean 1.38 Mbit/s)
Flow 3 ingress (mean 0.48 Mbit/s) --- Flow 3 egress (mean 0.48 Mbit/s)

Flow 1 (95th percentile 109.51 ms) • Flow 2 (95th percentile 111.83 ms) • Flow 3 (95th percentile 113.62 ms)

```
Run 10: Statistics of WebRTC media

Start at: 2017-10-12 05:40:09
End at: 2017-10-12 05:40:39


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 113.033 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 111.787 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 113.064 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 112.352 ms
Loss rate: 3.95%
```
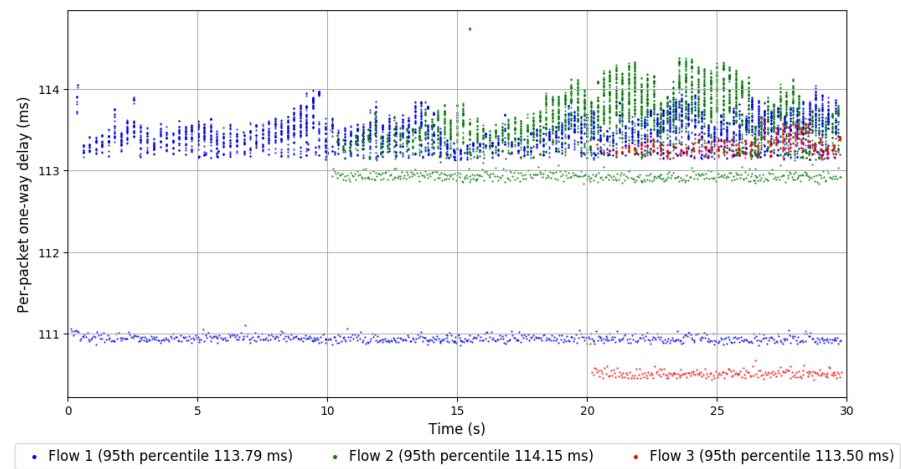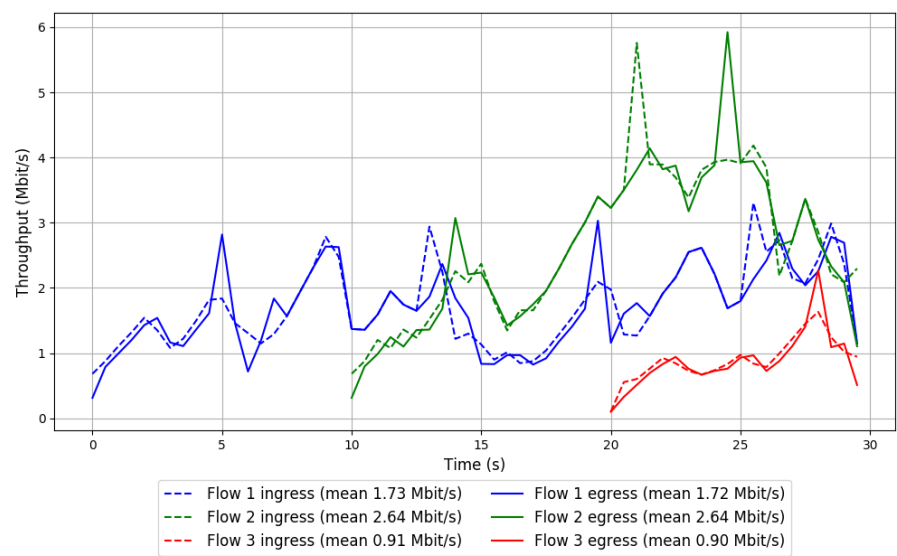
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2017-10-12 03:46:29
End at: 2017-10-12 03:46:59

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 111.508 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 111.048 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 112.282 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 112.123 ms
Loss rate: 3.44%
```
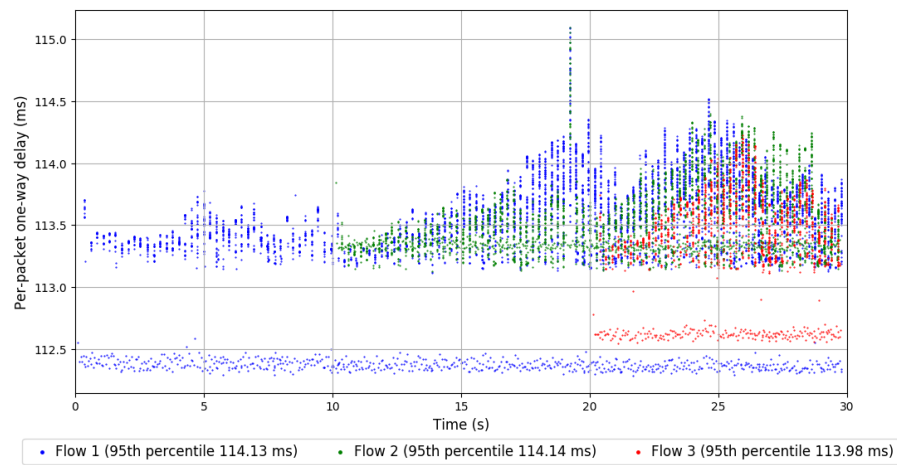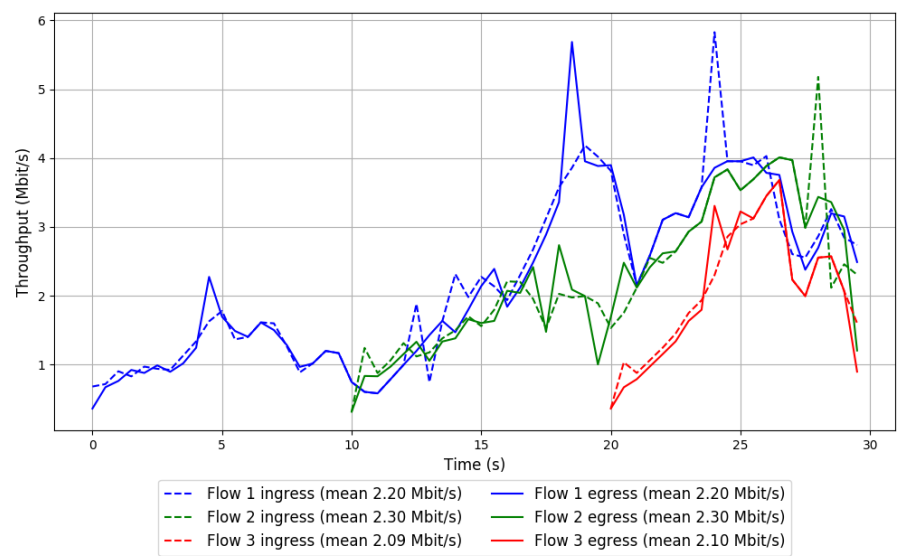
Run 1: Report of Sprout — Data Link

- Flow 1 ingress (mean 3.21 Mbit/s)
- Flow 1 egress (mean 3.21 Mbit/s)
- Flow 2 ingress (mean 2.64 Mbit/s)
- Flow 2 egress (mean 2.63 Mbit/s)
- Flow 3 ingress (mean 1.77 Mbit/s)
- Flow 3 egress (mean 1.75 Mbit/s)

- Flow 1 (95th percentile 111.05 ms)
- Flow 2 (95th percentile 112.28 ms)
- Flow 3 (95th percentile 112.12 ms)

```
Run 2: Statistics of Sprout

Start at: 2017-10-12 04:00:04
End at: 2017-10-12 04:00:34


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 114.042 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 113.789 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 114.150 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 113.503 ms
Loss rate: 2.84%
```
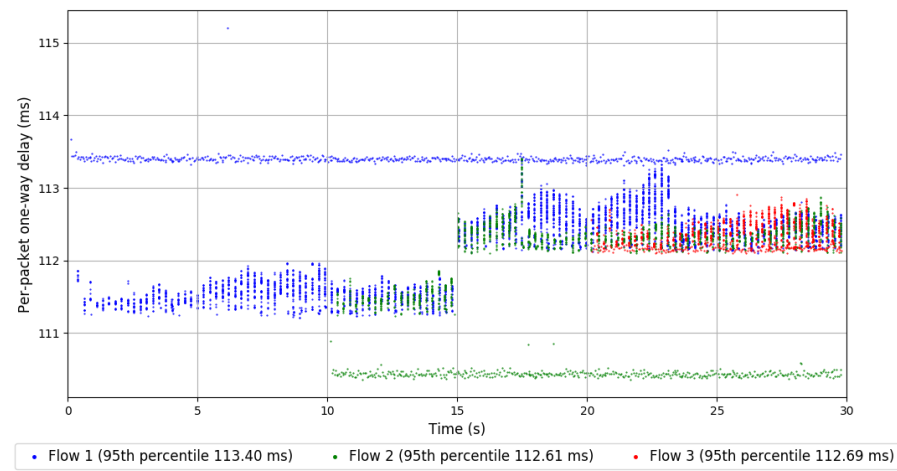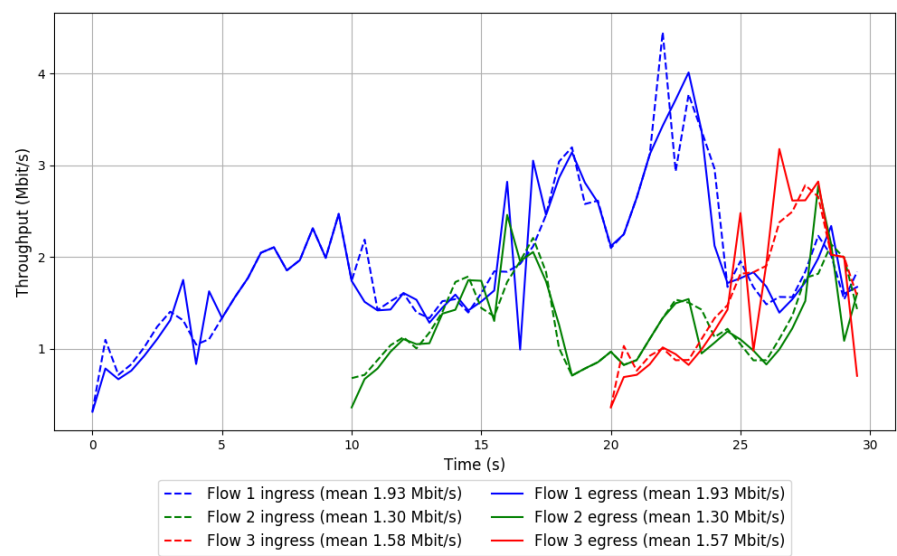
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-10-12 04:13:56
End at: 2017-10-12 04:14:26


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 114.116 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 114.133 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 114.142 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 113.979 ms
Loss rate: 1.72%
```
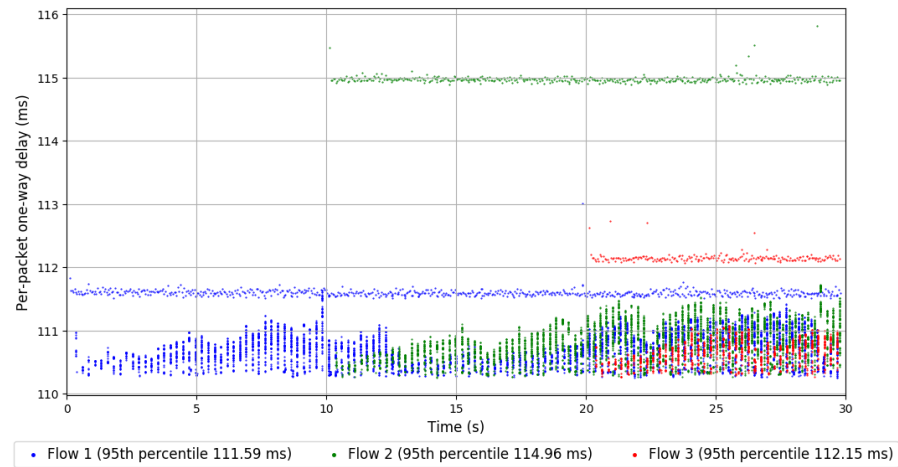
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-10-12 04:27:37
End at: 2017-10-12 04:28:07

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 113.381 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 113.402 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 112.610 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 112.695 ms
Loss rate: 2.79%
```
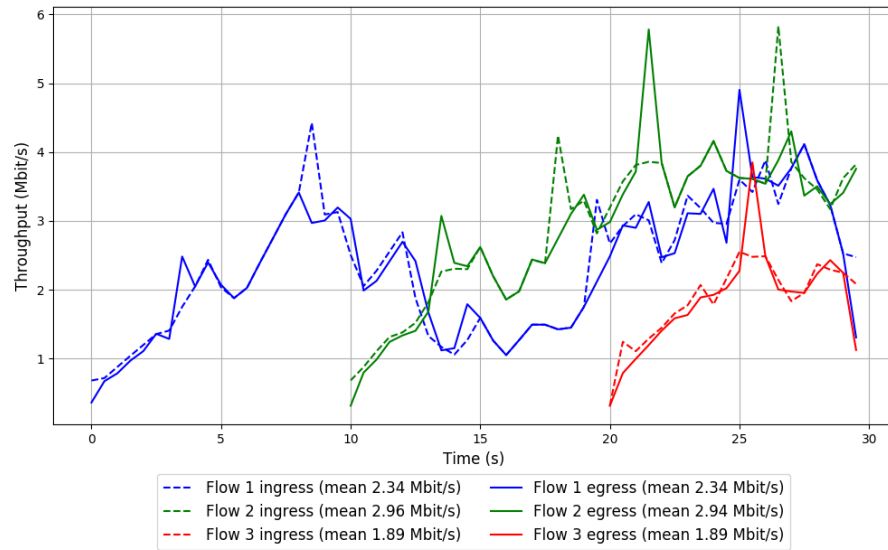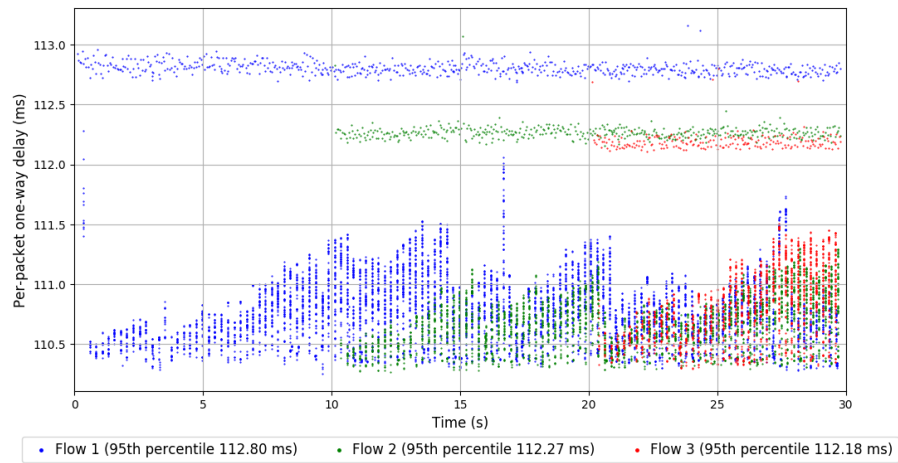
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-10-12 04:41:02
End at: 2017-10-12 04:41:32


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 111.694 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 111.594 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 114.960 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 112.150 ms
Loss rate: 2.58%
```
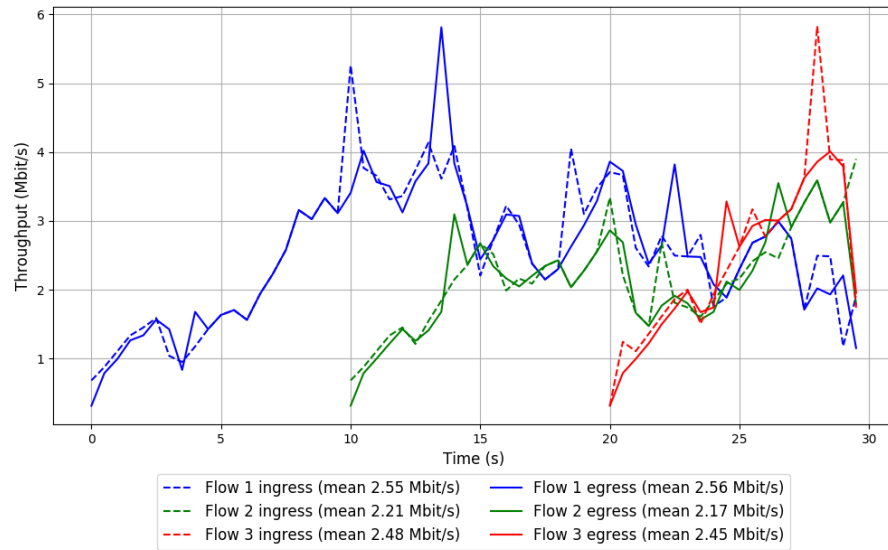
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-10-12 04:54:45
End at: 2017-10-12 04:55:15


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 112.716 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 112.802 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 112.269 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 112.177 ms
Loss rate: 3.54%
```
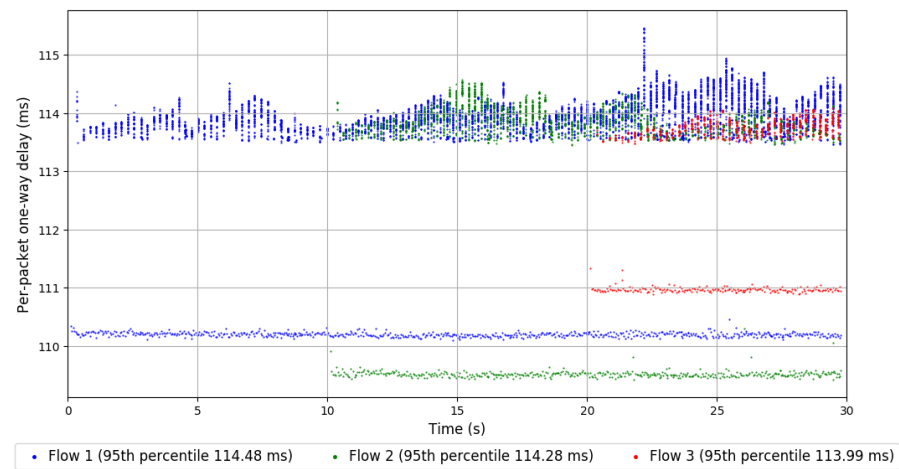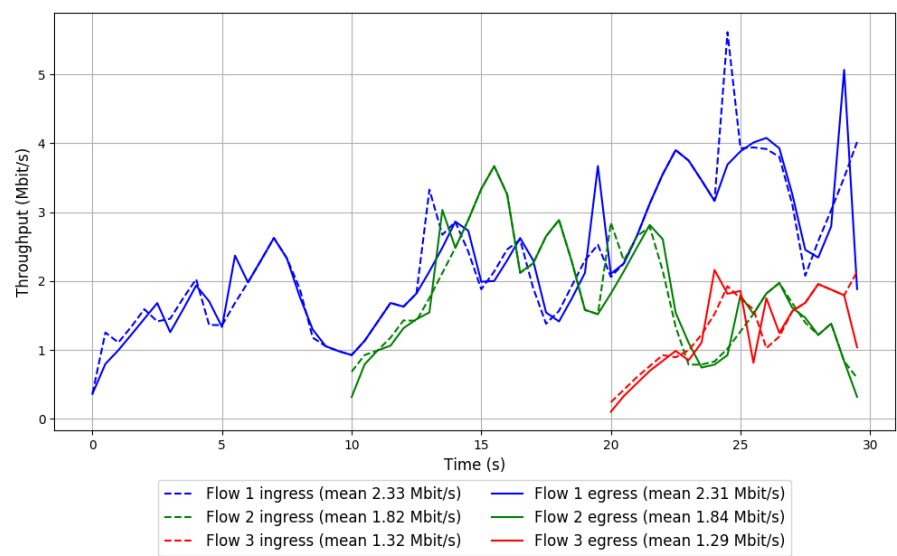
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-10-12 05:08:17
End at: 2017-10-12 05:08:47


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 114.407 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 114.481 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 114.285 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 113.994 ms
Loss rate: 4.23%
```
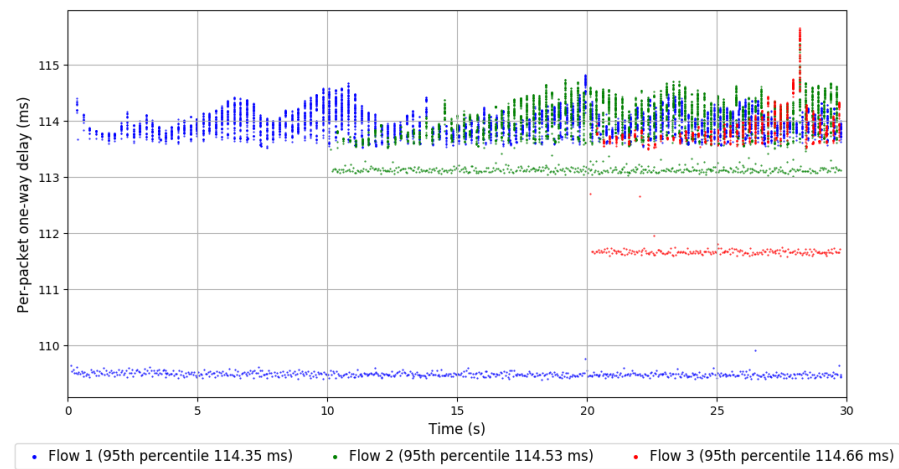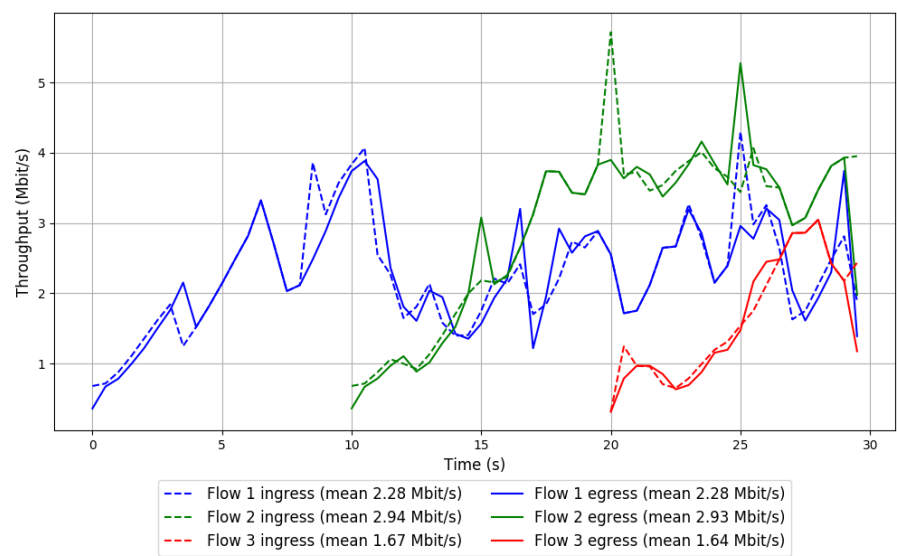
Run 7: Report of Sprout — Data Link

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```
Run 8: Statistics of Sprout

Start at: 2017-10-12 05:21:41
End at: 2017-10-12 05:22:11


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.75 Mbit/s
95th percentile per-packet one-way delay: 114.480 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 114.347 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 114.531 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 114.656 ms
Loss rate: 3.85%
```
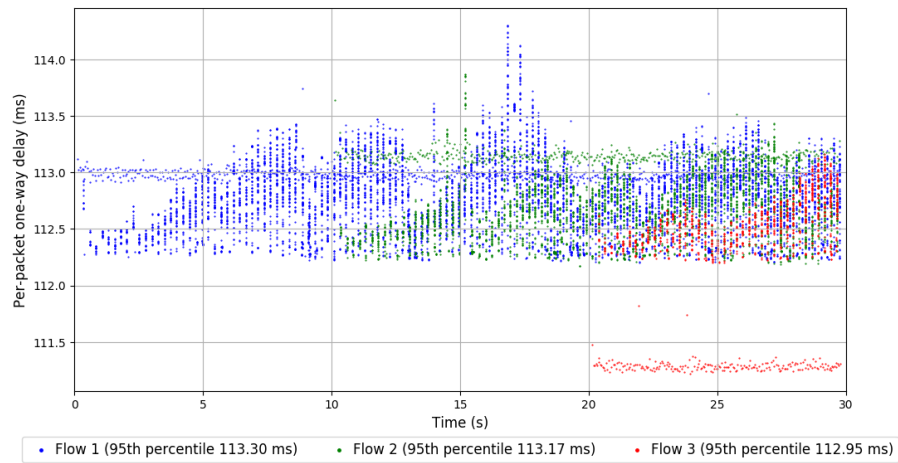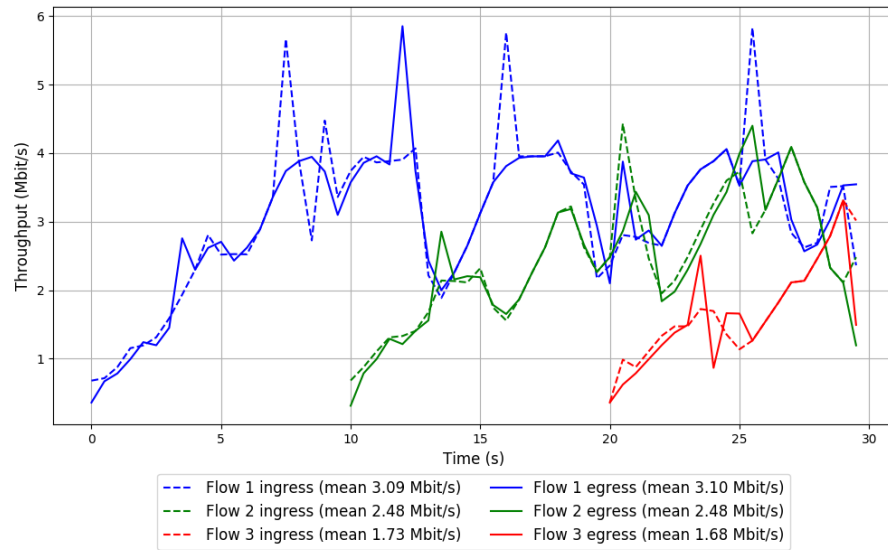
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-10-12 05:35:25
End at: 2017-10-12 05:35:55


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 113.241 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 113.301 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 113.172 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 112.955 ms
Loss rate: 4.49%
```

Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-10-12 05:49:06
End at: 2017-10-12 05:49:36


# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 113.332 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 113.248 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 113.584 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 112.800 ms
Loss rate: 3.13%
```
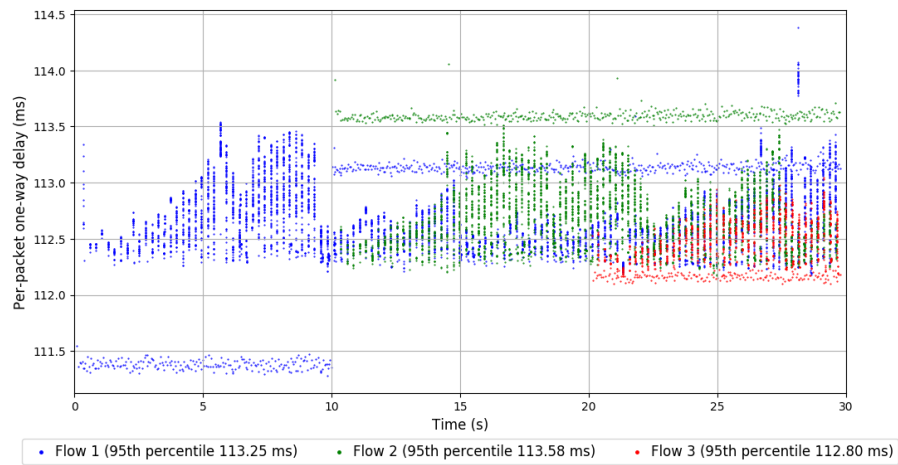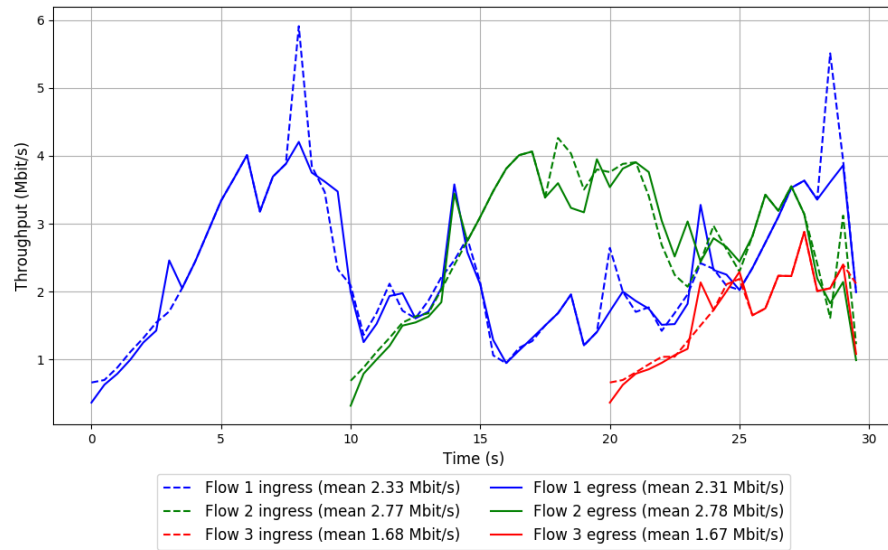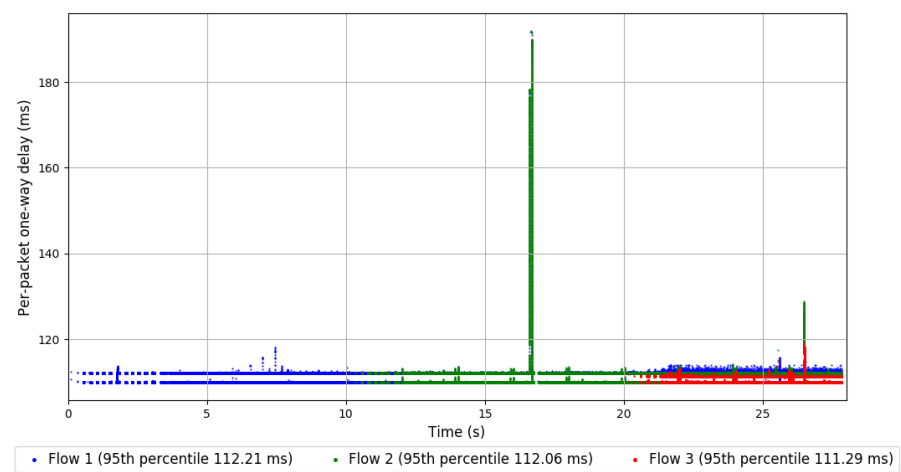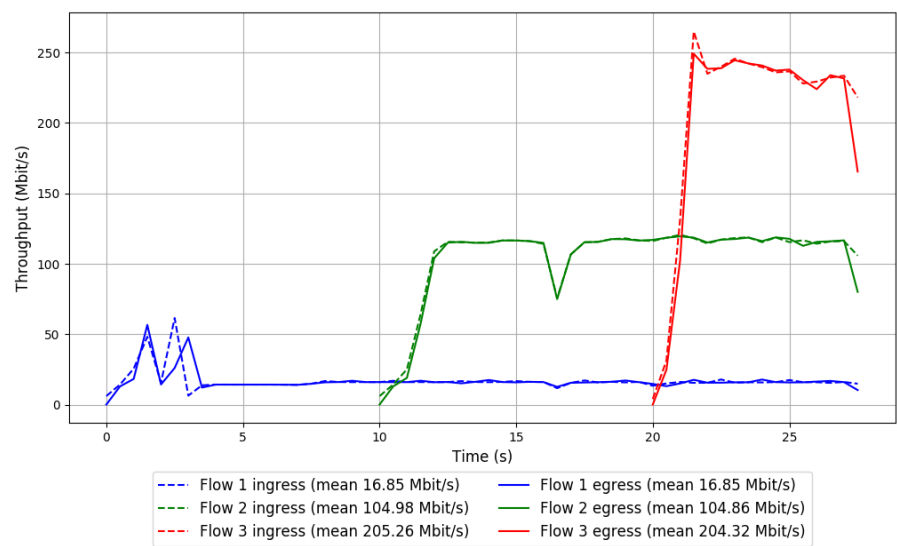
Run 10: Report of Sprout — Data Link

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

Start at: 2017-10-12 03:43:23
End at: 2017-10-12 03:43:53

# Below is generated by plot.py at 2017-10-12 08:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.51 Mbit/s
95th percentile per-packet one-way delay: 112.062 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 16.85 Mbit/s
95th percentile per-packet one-way delay: 112.212 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 104.86 Mbit/s
95th percentile per-packet one-way delay: 112.065 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 204.32 Mbit/s
95th percentile per-packet one-way delay: 111.292 ms
Loss rate: 3.27%
```

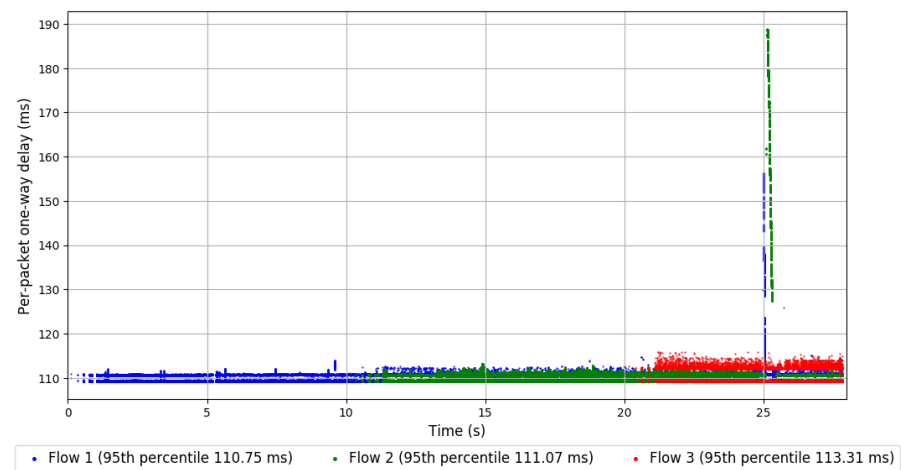# Run 1: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 16.85 Mbit/s)
- Flow 1 egress (mean 16.85 Mbit/s)
- Flow 2 ingress (mean 104.98 Mbit/s)
- Flow 2 egress (mean 104.86 Mbit/s)
- Flow 3 ingress (mean 205.26 Mbit/s)
- Flow 3 egress (mean 204.32 Mbit/s)

- Flow 1 (95th percentile 112.21 ms)
- Flow 2 (95th percentile 112.06 ms)
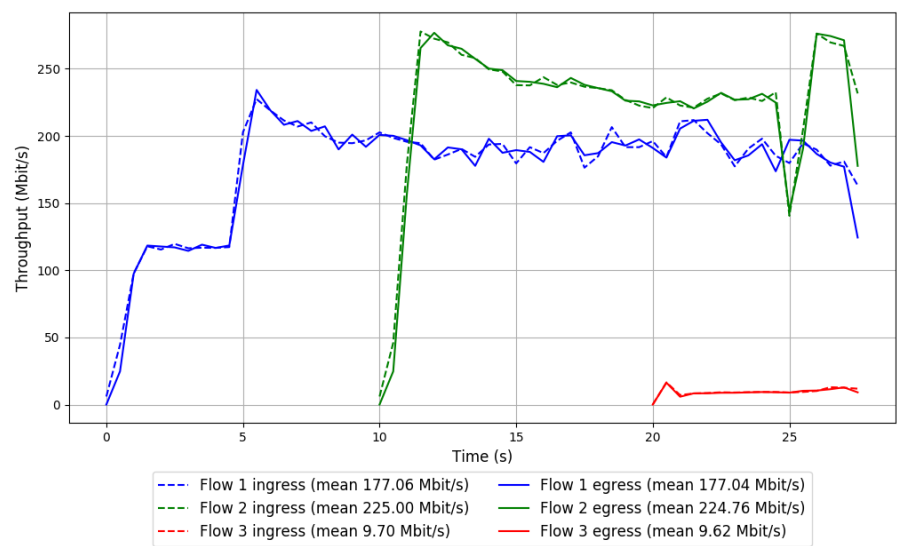- Flow 3 (95th percentile 111.29 ms)

165

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

Start at: 2017-10-12 03:56:58
End at: 2017-10-12 03:57:28

# Below is generated by plot.py at 2017-10-12 08:46:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.31 Mbit/s
95th percentile per-packet one-way delay: 110.828 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 177.04 Mbit/s
95th percentile per-packet one-way delay: 110.746 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 224.76 Mbit/s
95th percentile per-packet one-way delay: 111.074 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 113.306 ms
Loss rate: 3.59%
```

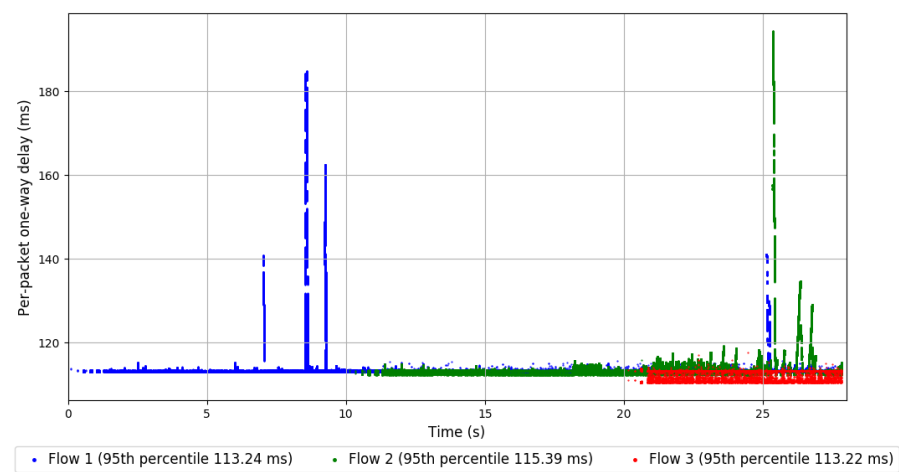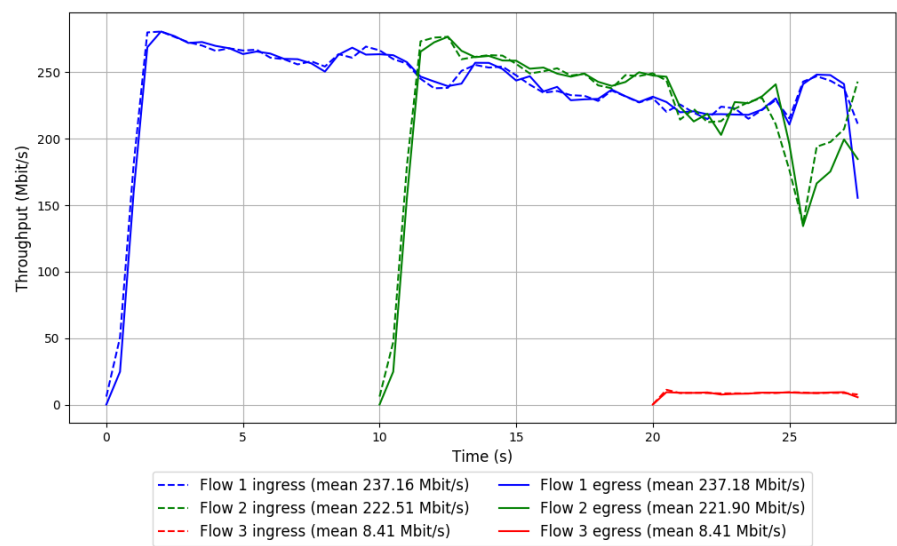# Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 177.06 Mbit/s) Flow 1 egress (mean 177.04 Mbit/s)
Flow 2 ingress (mean 225.00 Mbit/s) Flow 2 egress (mean 224.76 Mbit/s)
Flow 3 ingress (mean 9.70 Mbit/s) Flow 3 egress (mean 9.62 Mbit/s)

Flow 1 (95th percentile 110.75 ms) Flow 2 (95th percentile 111.07 ms) Flow 3 (95th percentile 113.31 ms)

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

Start at: 2017-10-12 04:10:30
End at: 2017-10-12 04:11:00

# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.35 Mbit/s
95th percentile per-packet one-way delay: 113.900 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 237.18 Mbit/s
95th percentile per-packet one-way delay: 113.242 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 221.90 Mbit/s
95th percentile per-packet one-way delay: 115.385 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 8.41 Mbit/s
95th percentile per-packet one-way delay: 113.222 ms
Loss rate: 2.86%
```
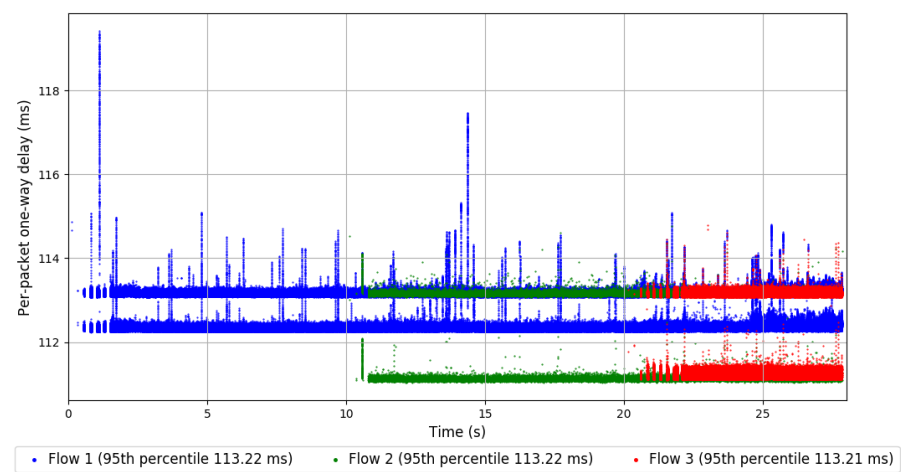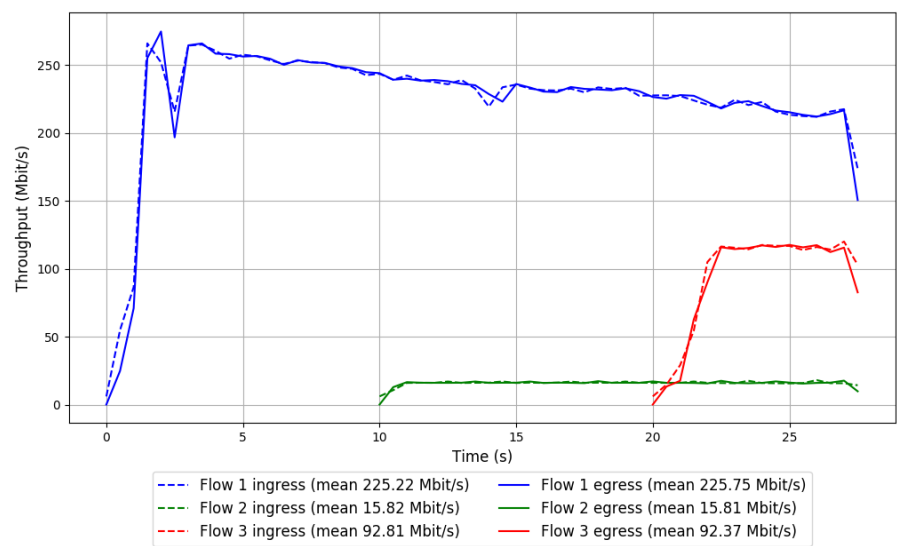
Run 3: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 237.16 Mbit/s)
- Flow 1 egress (mean 237.18 Mbit/s)
- Flow 2 ingress (mean 222.51 Mbit/s)
- Flow 2 egress (mean 221.90 Mbit/s)
- Flow 3 ingress (mean 8.41 Mbit/s)
- Flow 3 egress (mean 8.41 Mbit/s)

- Flow 1 (95th percentile 113.24 ms)
- Flow 2 (95th percentile 115.39 ms)
- Flow 3 (95th percentile 113.22 ms)

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

Start at: 2017-10-12 04:24:21
End at: 2017-10-12 04:24:51

# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.51 Mbit/s
95th percentile per-packet one-way delay: 113.218 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 225.75 Mbit/s
95th percentile per-packet one-way delay: 113.219 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 15.81 Mbit/s
95th percentile per-packet one-way delay: 113.220 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 92.37 Mbit/s
95th percentile per-packet one-way delay: 113.209 ms
Loss rate: 3.37%
```
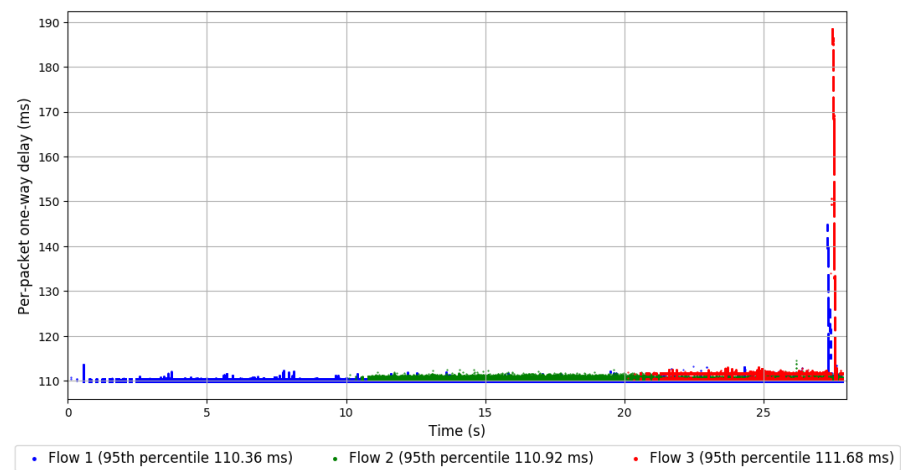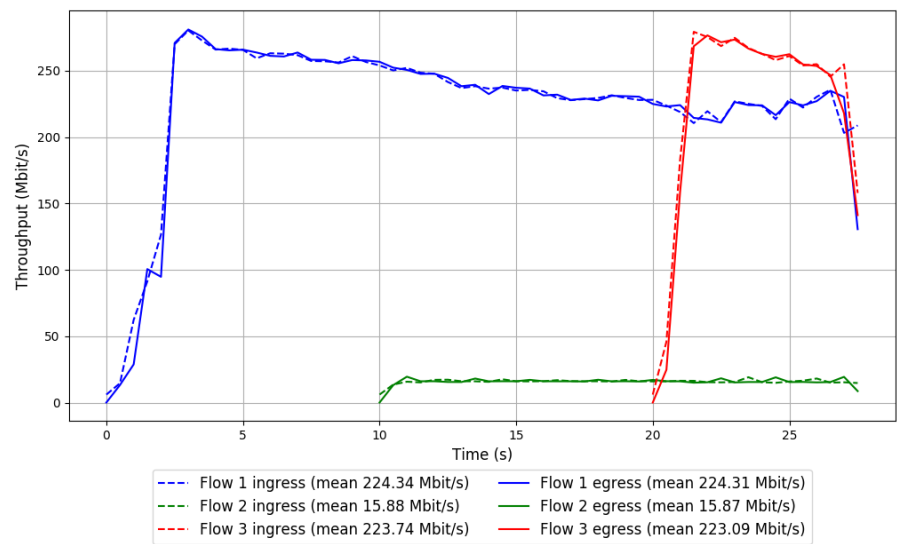
Run 4: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 225.22 Mbit/s) —— Flow 1 egress (mean 225.75 Mbit/s)
- - - Flow 2 ingress (mean 15.82 Mbit/s) —— Flow 2 egress (mean 15.81 Mbit/s)
- - - Flow 3 ingress (mean 92.81 Mbit/s) —— Flow 3 egress (mean 92.37 Mbit/s)

- Flow 1 (95th percentile 113.22 ms) - Flow 2 (95th percentile 113.22 ms) - Flow 3 (95th percentile 113.21 ms)

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

Start at: 2017-10-12 04:38:11
End at: 2017-10-12 04:38:41

# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 296.43 Mbit/s
95th percentile per-packet one-way delay: 111.560 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 224.31 Mbit/s
95th percentile per-packet one-way delay: 110.355 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 15.87 Mbit/s
95th percentile per-packet one-way delay: 110.921 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 223.09 Mbit/s
95th percentile per-packet one-way delay: 111.683 ms
Loss rate: 3.07%
```
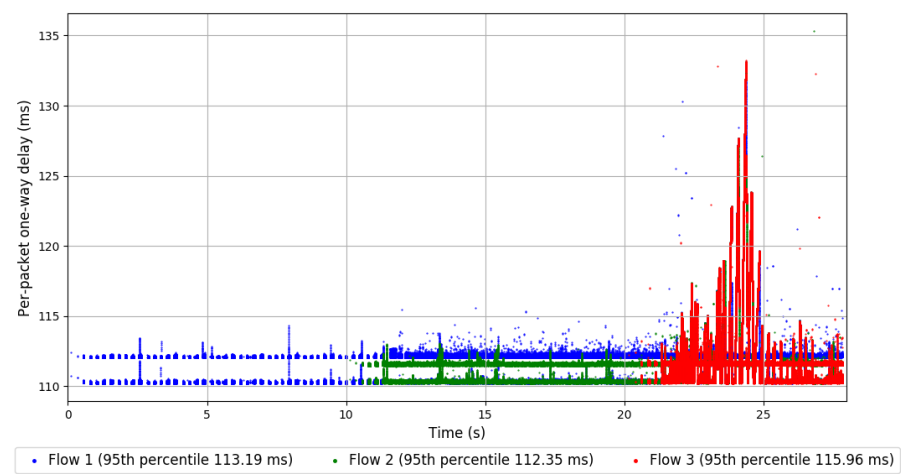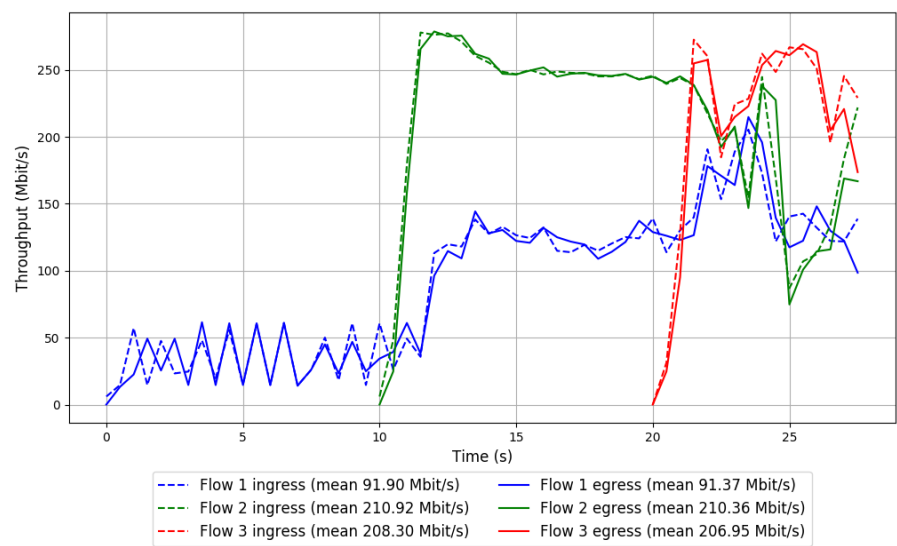
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 224.34 Mbit/s) ---- Flow 1 egress (mean 224.31 Mbit/s)
Flow 2 ingress (mean 15.88 Mbit/s) ---- Flow 2 egress (mean 15.87 Mbit/s)
Flow 3 ingress (mean 223.74 Mbit/s) ---- Flow 3 egress (mean 223.09 Mbit/s)

Flow 1 (95th percentile 110.36 ms)   Flow 2 (95th percentile 110.92 ms)   Flow 3 (95th percentile 111.68 ms)

173

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

Start at: 2017-10-12 04:51:27
End at: 2017-10-12 04:51:58

# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.13 Mbit/s
95th percentile per-packet one-way delay: 113.389 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 91.37 Mbit/s
95th percentile per-packet one-way delay: 113.195 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 210.36 Mbit/s
95th percentile per-packet one-way delay: 112.346 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 206.95 Mbit/s
95th percentile per-packet one-way delay: 115.962 ms
Loss rate: 3.41%
```
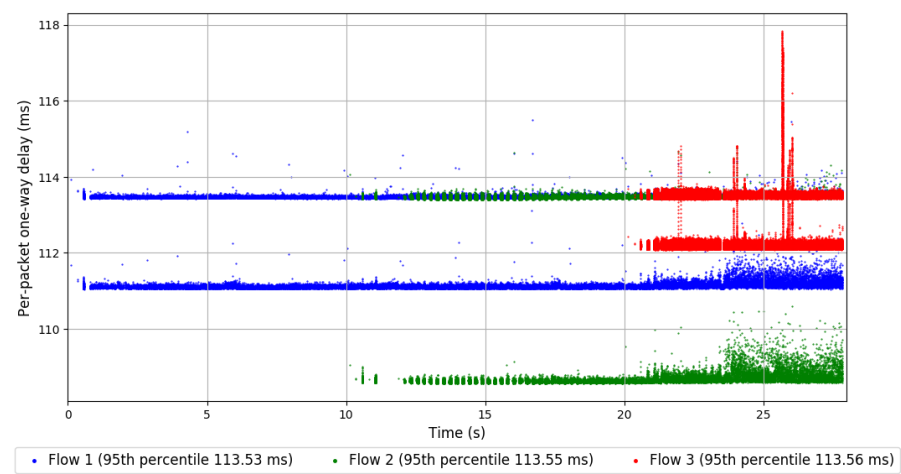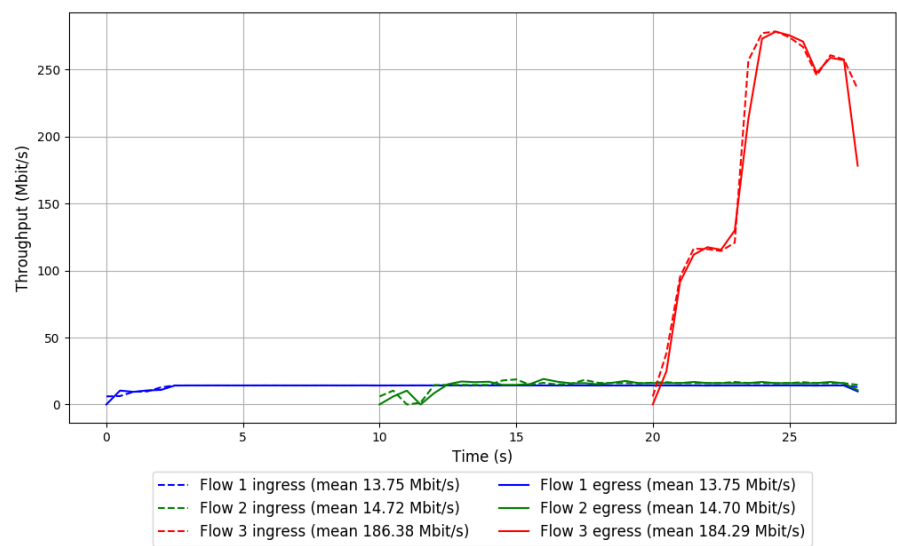
Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 91.90 Mbit/s) --- Flow 1 egress (mean 91.37 Mbit/s)
Flow 2 ingress (mean 210.92 Mbit/s) --- Flow 2 egress (mean 210.36 Mbit/s)
Flow 3 ingress (mean 208.30 Mbit/s) --- Flow 3 egress (mean 206.95 Mbit/s)

Flow 1 (95th percentile 113.19 ms)   Flow 2 (95th percentile 112.35 ms)   Flow 3 (95th percentile 115.96 ms)

175

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

Start at: 2017-10-12 05:05:19
End at: 2017-10-12 05:05:49

# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.39 Mbit/s
95th percentile per-packet one-way delay: 113.558 ms
Loss rate: 3.05%
-- Flow 1:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 113.534 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 14.70 Mbit/s
95th percentile per-packet one-way delay: 113.548 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 184.29 Mbit/s
95th percentile per-packet one-way delay: 113.563 ms
Loss rate: 3.92%
```
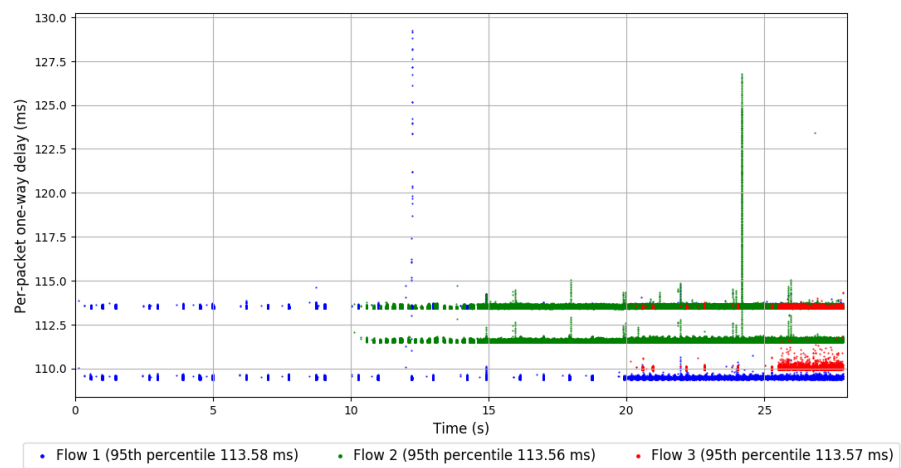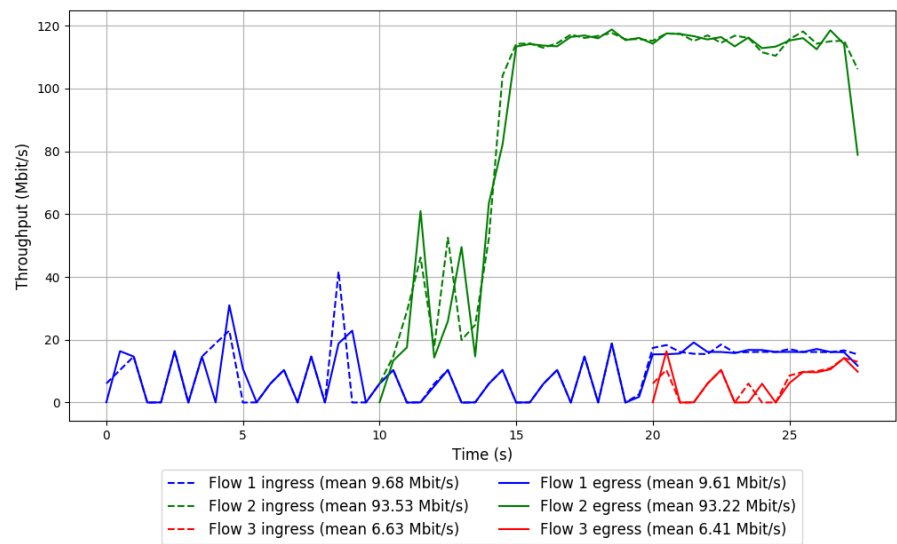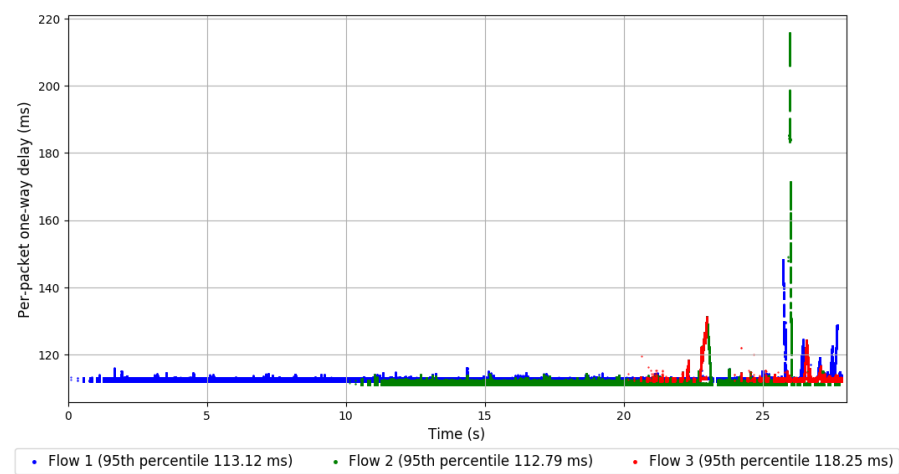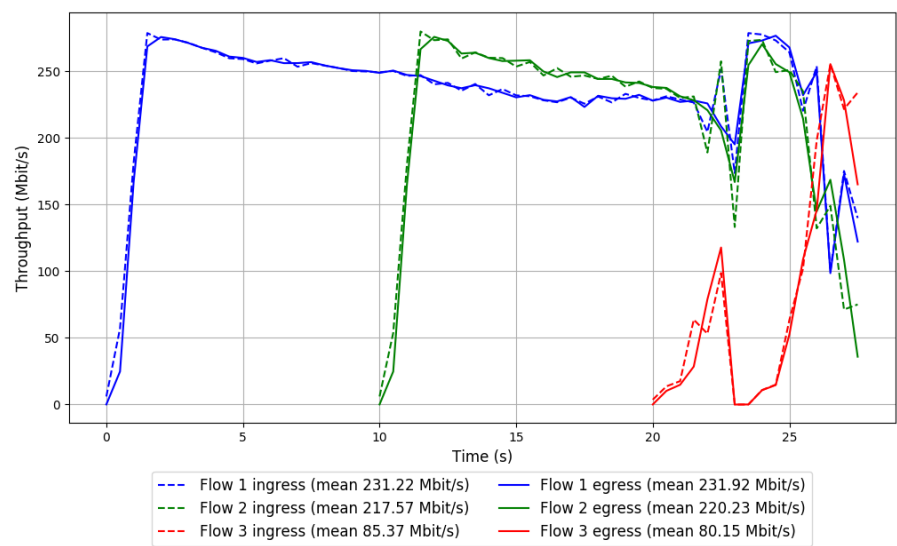
Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 13.75 Mbit/s)   Flow 1 egress (mean 13.75 Mbit/s)
Flow 2 ingress (mean 14.72 Mbit/s)   Flow 2 egress (mean 14.70 Mbit/s)
Flow 3 ingress (mean 186.38 Mbit/s)   Flow 3 egress (mean 184.29 Mbit/s)

Flow 1 (95th percentile 113.53 ms)   Flow 2 (95th percentile 113.55 ms)   Flow 3 (95th percentile 113.56 ms)
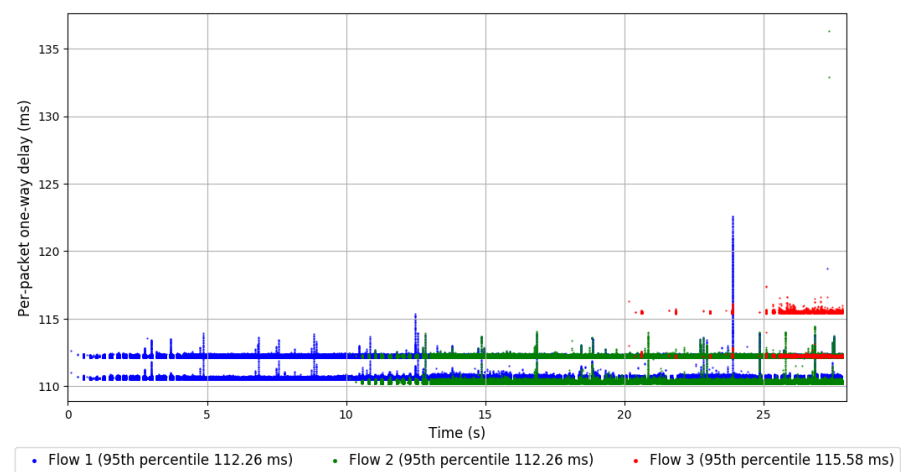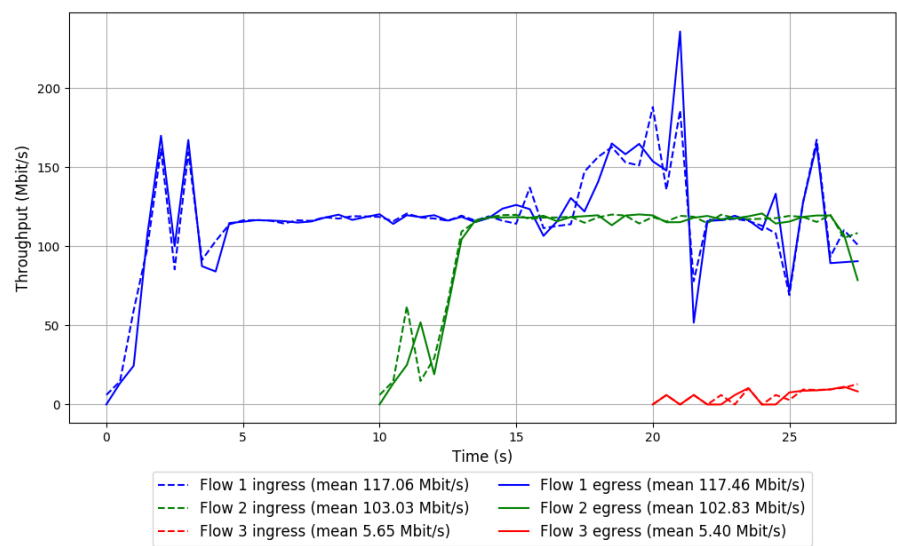
177

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

Start at: 2017-10-12 05:18:43
End at: 2017-10-12 05:19:13


# Below is generated by plot.py at 2017-10-12 08:49:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.96 Mbit/s
95th percentile per-packet one-way delay: 113.561 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 113.575 ms
Loss rate: 1.51%
-- Flow 2:
Average throughput: 93.22 Mbit/s
95th percentile per-packet one-way delay: 113.557 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 113.569 ms
Loss rate: 6.08%
```

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

- - - - Flow 1 ingress (mean 9.68 Mbit/s)   ——— Flow 1 egress (mean 9.61 Mbit/s)
- - - - Flow 2 ingress (mean 93.53 Mbit/s)   ——— Flow 2 egress (mean 93.22 Mbit/s)
- - - - Flow 3 ingress (mean 6.63 Mbit/s)   ——— Flow 3 egress (mean 6.41 Mbit/s)

- Flow 1 (95th percentile 113.58 ms)   • Flow 2 (95th percentile 113.56 ms)   • Flow 3 (95th percentile 113.57 ms)

179

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

Start at: 2017-10-12 05:32:12
End at: 2017-10-12 05:32:42

# Below is generated by plot.py at 2017-10-12 08:55:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.00 Mbit/s
95th percentile per-packet one-way delay: 113.245 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 231.92 Mbit/s
95th percentile per-packet one-way delay: 113.125 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 220.23 Mbit/s
95th percentile per-packet one-way delay: 112.789 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 80.15 Mbit/s
95th percentile per-packet one-way delay: 118.253 ms
Loss rate: 8.79%
```
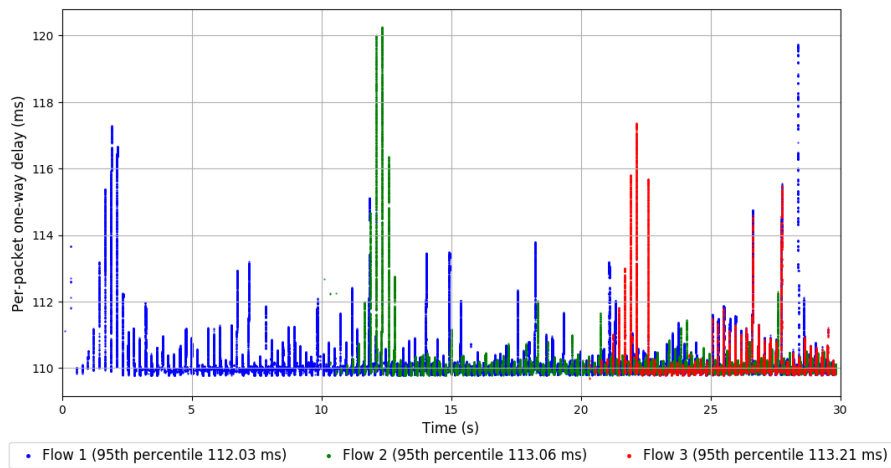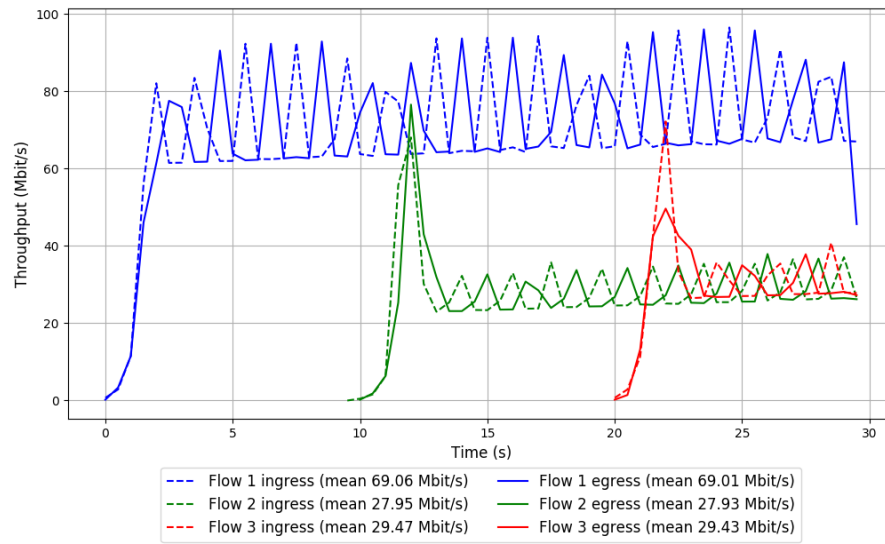
Run 9: Report of TaoVA-100x — Data Link

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

Start at: 2017-10-12 05:45:58
End at: 2017-10-12 05:46:28

# Below is generated by plot.py at 2017-10-12 08:55:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.52 Mbit/s
95th percentile per-packet one-way delay: 112.262 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 117.46 Mbit/s
95th percentile per-packet one-way delay: 112.256 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 102.83 Mbit/s
95th percentile per-packet one-way delay: 112.264 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 115.578 ms
Loss rate: 7.11%
```
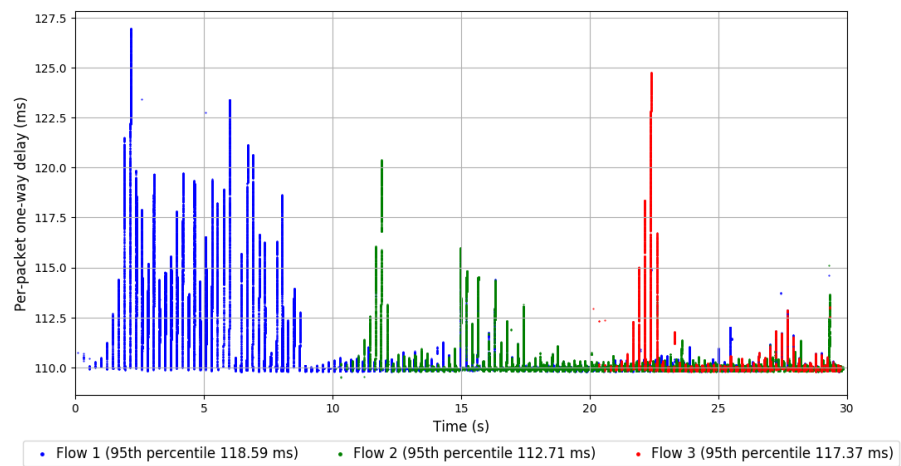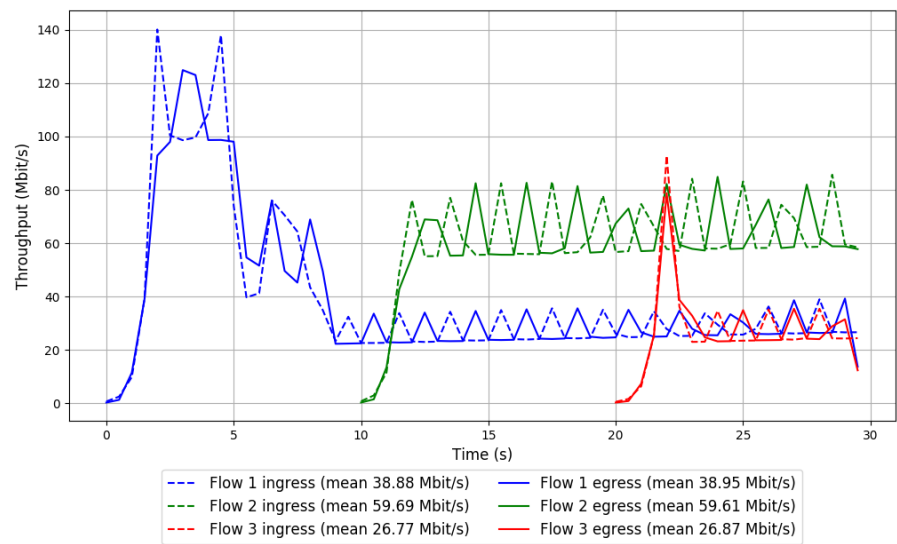
Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 117.06 Mbit/s) ---- Flow 1 egress (mean 117.46 Mbit/s)
Flow 2 ingress (mean 103.03 Mbit/s) ---- Flow 2 egress (mean 102.83 Mbit/s)
Flow 3 ingress (mean 5.65 Mbit/s) ---- Flow 3 egress (mean 5.40 Mbit/s)

Flow 1 (95th percentile 112.26 ms)   Flow 2 (95th percentile 112.26 ms)   Flow 3 (95th percentile 115.58 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2017-10-12 03:41:19
End at: 2017-10-12 03:41:49

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.12 Mbit/s
95th percentile per-packet one-way delay: 112.314 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 69.01 Mbit/s
95th percentile per-packet one-way delay: 112.032 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 27.93 Mbit/s
95th percentile per-packet one-way delay: 113.063 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 113.213 ms
Loss rate: 2.38%
```
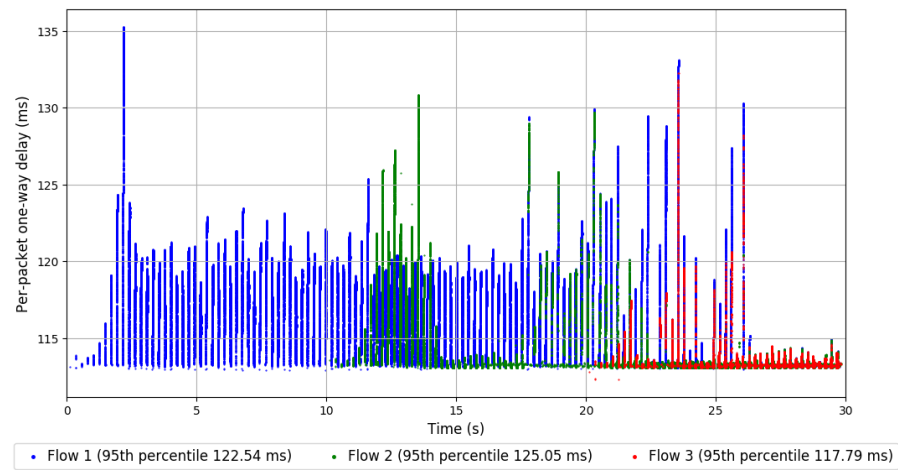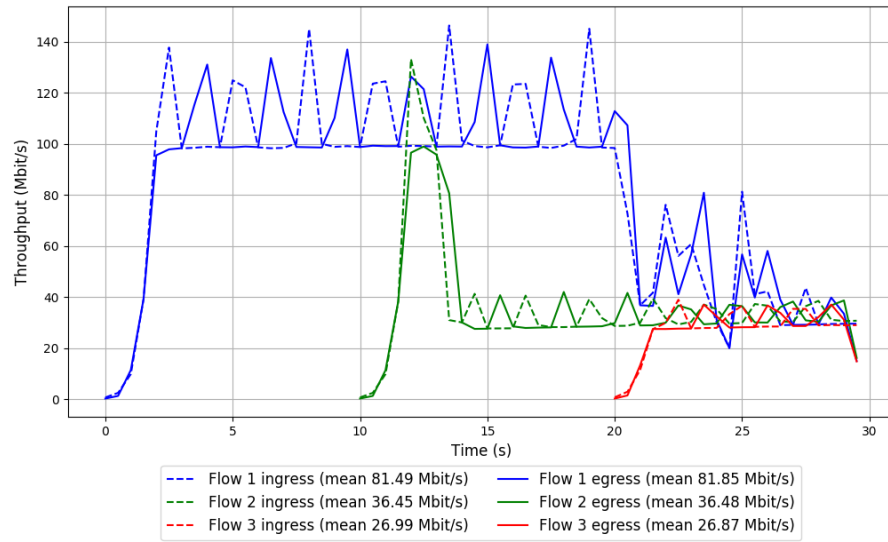
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-10-12 03:54:53
End at: 2017-10-12 03:55:23

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.17 Mbit/s
95th percentile per-packet one-way delay: 116.911 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 38.95 Mbit/s
95th percentile per-packet one-way delay: 118.593 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 112.710 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 26.87 Mbit/s
95th percentile per-packet one-way delay: 117.374 ms
Loss rate: 2.30%
```
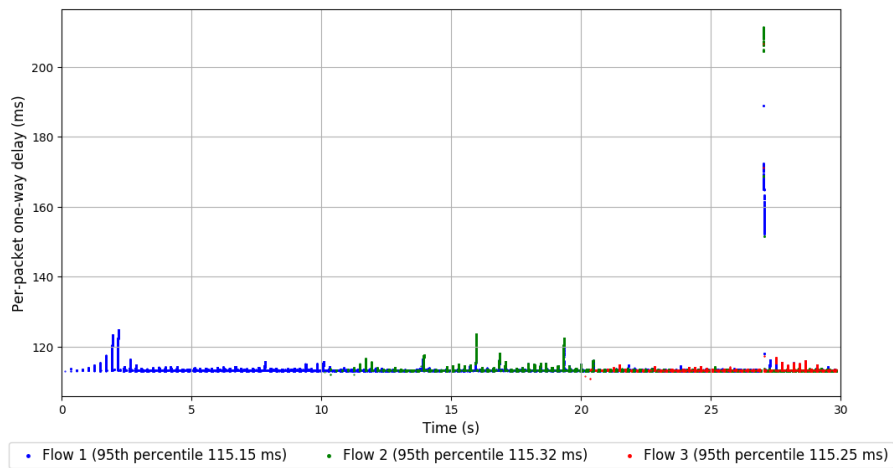
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-10-12 04:08:25
End at: 2017-10-12 04:08:55


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.64 Mbit/s
95th percentile per-packet one-way delay: 122.699 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 81.85 Mbit/s
95th percentile per-packet one-way delay: 122.539 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 36.48 Mbit/s
95th percentile per-packet one-way delay: 125.048 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 26.87 Mbit/s
95th percentile per-packet one-way delay: 117.792 ms
Loss rate: 2.71%
```
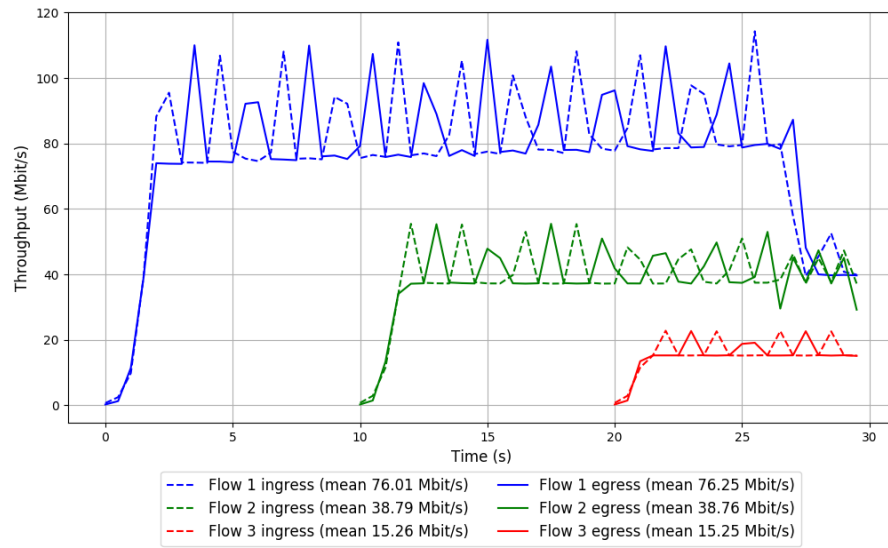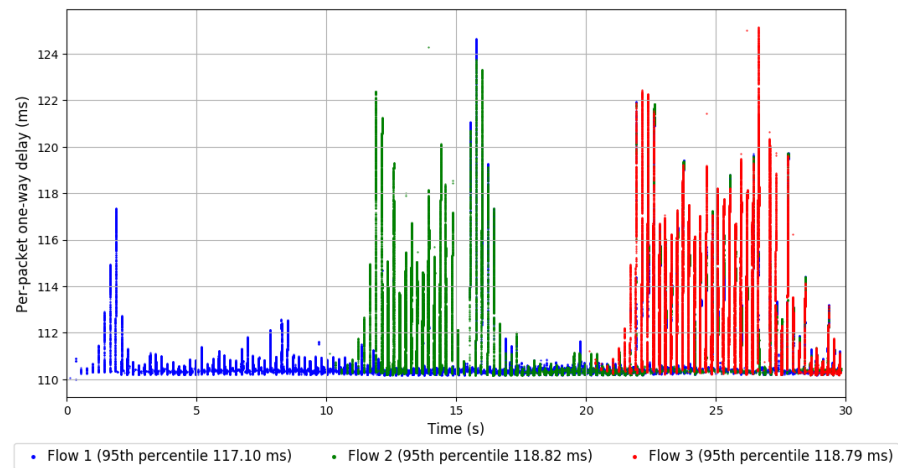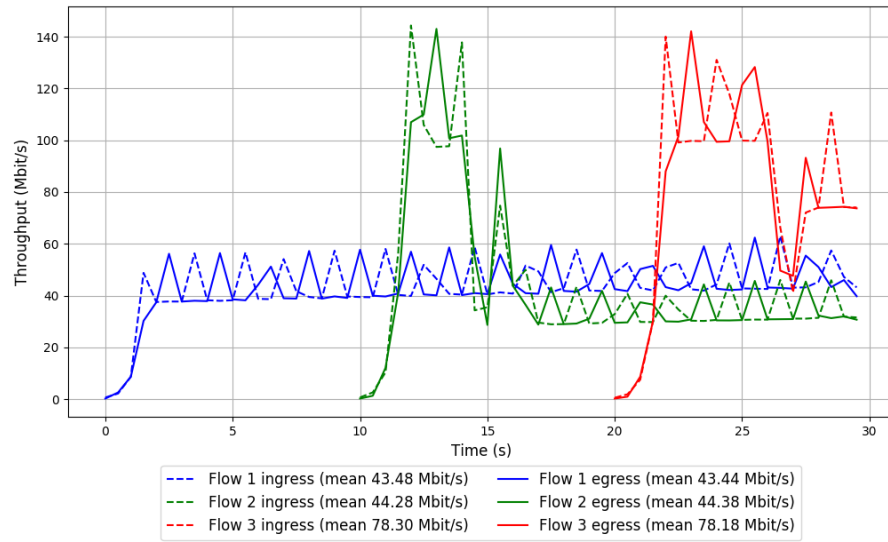
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 81.49 Mbit/s) — Flow 1 egress (mean 81.85 Mbit/s)
Flow 2 ingress (mean 36.45 Mbit/s) — Flow 2 egress (mean 36.48 Mbit/s)
Flow 3 ingress (mean 26.99 Mbit/s) — Flow 3 egress (mean 26.87 Mbit/s)

Flow 1 (95th percentile 122.54 ms)   Flow 2 (95th percentile 125.05 ms)   Flow 3 (95th percentile 117.79 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2017-10-12 04:22:15
End at: 2017-10-12 04:22:45


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.91 Mbit/s
95th percentile per-packet one-way delay: 115.181 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 76.25 Mbit/s
95th percentile per-packet one-way delay: 115.146 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 38.76 Mbit/s
95th percentile per-packet one-way delay: 115.323 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 115.247 ms
Loss rate: 2.51%
```
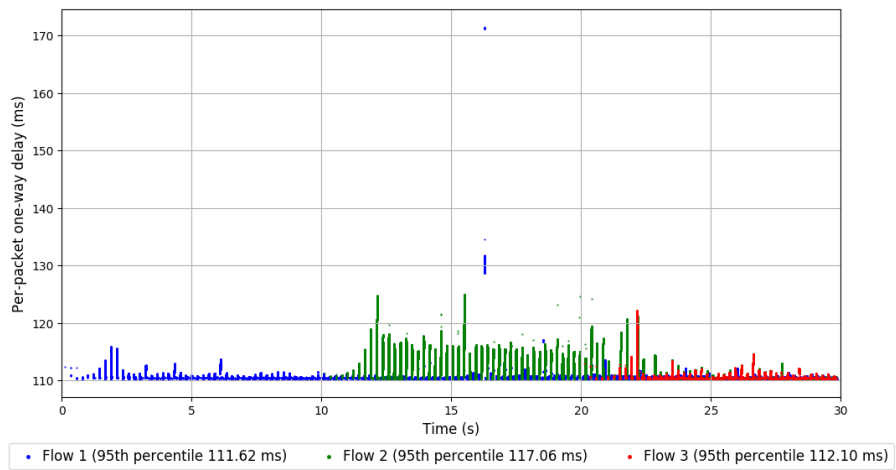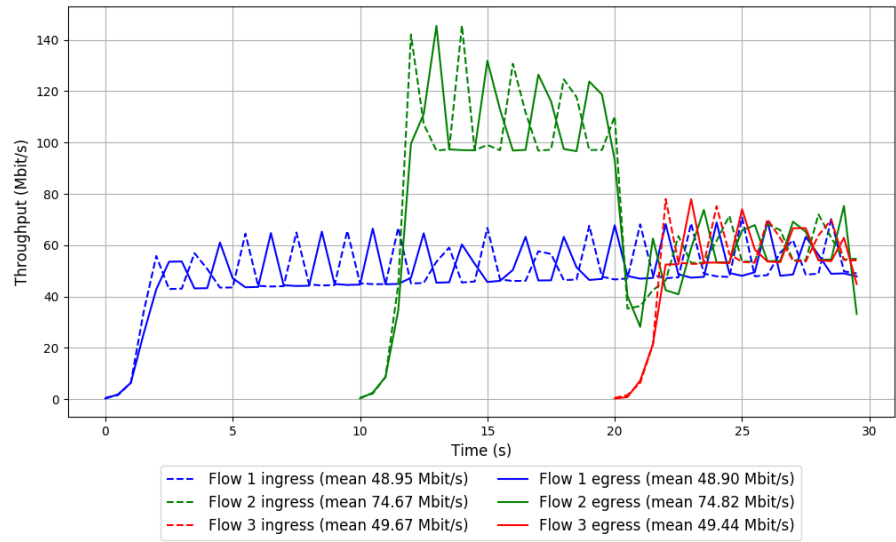
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 76.01 Mbit/s) — Flow 1 egress (mean 76.25 Mbit/s)
Flow 2 ingress (mean 38.79 Mbit/s) — Flow 2 egress (mean 38.76 Mbit/s)
Flow 3 ingress (mean 15.26 Mbit/s) — Flow 3 egress (mean 15.25 Mbit/s)

Flow 1 (95th percentile 115.15 ms) • Flow 2 (95th percentile 115.32 ms) • Flow 3 (95th percentile 115.25 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2017-10-12 04:36:06
End at: 2017-10-12 04:36:36

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.27 Mbit/s
95th percentile per-packet one-way delay: 118.437 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 43.44 Mbit/s
95th percentile per-packet one-way delay: 117.096 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 44.38 Mbit/s
95th percentile per-packet one-way delay: 118.823 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 78.18 Mbit/s
95th percentile per-packet one-way delay: 118.788 ms
Loss rate: 2.39%
```
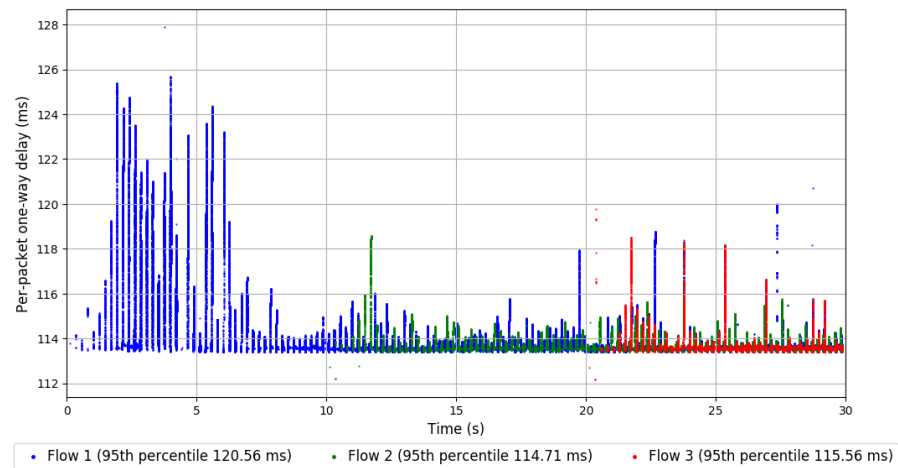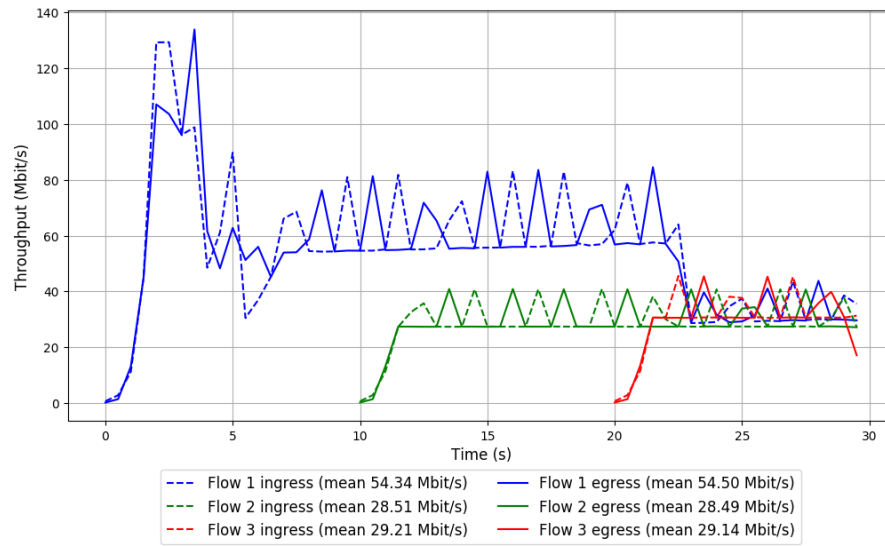
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2017-10-12 04:49:23
End at: 2017-10-12 04:49:53

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.66 Mbit/s
95th percentile per-packet one-way delay: 115.845 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 48.90 Mbit/s
95th percentile per-packet one-way delay: 111.625 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 74.82 Mbit/s
95th percentile per-packet one-way delay: 117.059 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 112.101 ms
Loss rate: 2.74%
```
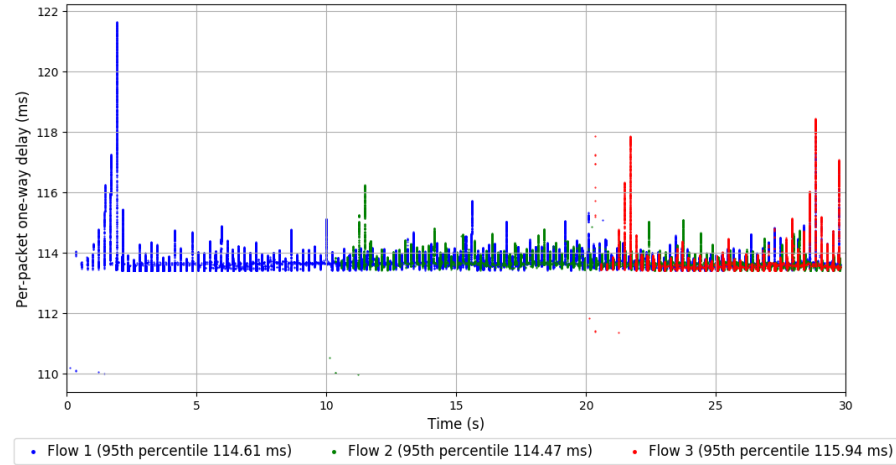
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-10-12 05:03:15
End at: 2017-10-12 05:03:45

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.90 Mbit/s
95th percentile per-packet one-way delay: 119.320 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 120.556 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 114.710 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 115.555 ms
Loss rate: 2.48%
```
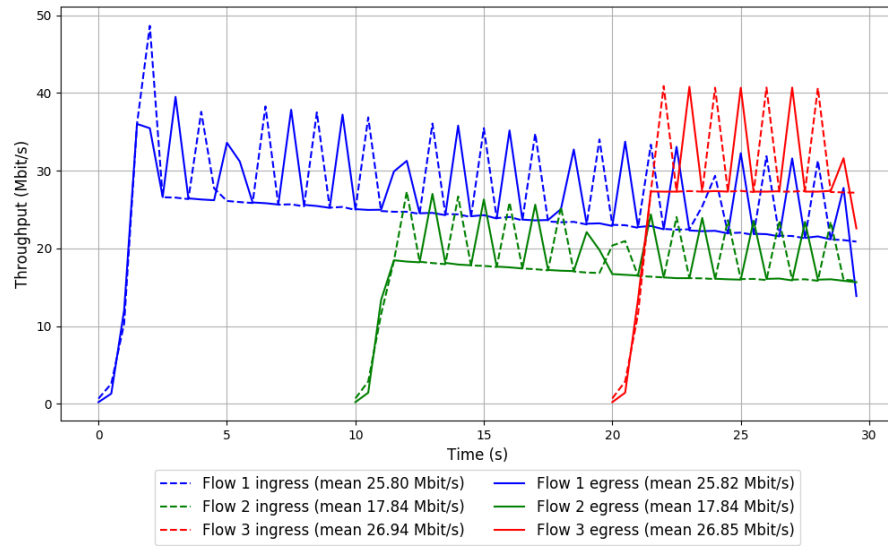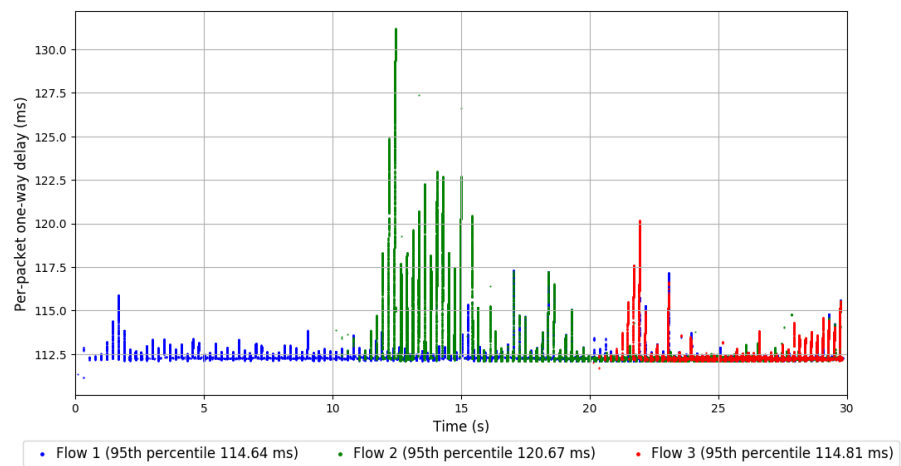
Run 7: Report of TCP Vegas — Data Link

- Flow 1 ingress (mean 54.34 Mbit/s)
- Flow 1 egress (mean 54.50 Mbit/s)
- Flow 2 ingress (mean 28.51 Mbit/s)
- Flow 2 egress (mean 28.49 Mbit/s)
- Flow 3 ingress (mean 29.21 Mbit/s)
- Flow 3 egress (mean 29.14 Mbit/s)

- Flow 1 (95th percentile 120.56 ms)
- Flow 2 (95th percentile 114.71 ms)
- Flow 3 (95th percentile 115.56 ms)

197

```
Run 8: Statistics of TCP Vegas

Start at: 2017-10-12 05:16:43
End at: 2017-10-12 05:17:13


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.39 Mbit/s
95th percentile per-packet one-way delay: 114.678 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 25.82 Mbit/s
95th percentile per-packet one-way delay: 114.610 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 17.84 Mbit/s
95th percentile per-packet one-way delay: 114.470 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 26.85 Mbit/s
95th percentile per-packet one-way delay: 115.936 ms
Loss rate: 2.55%
```
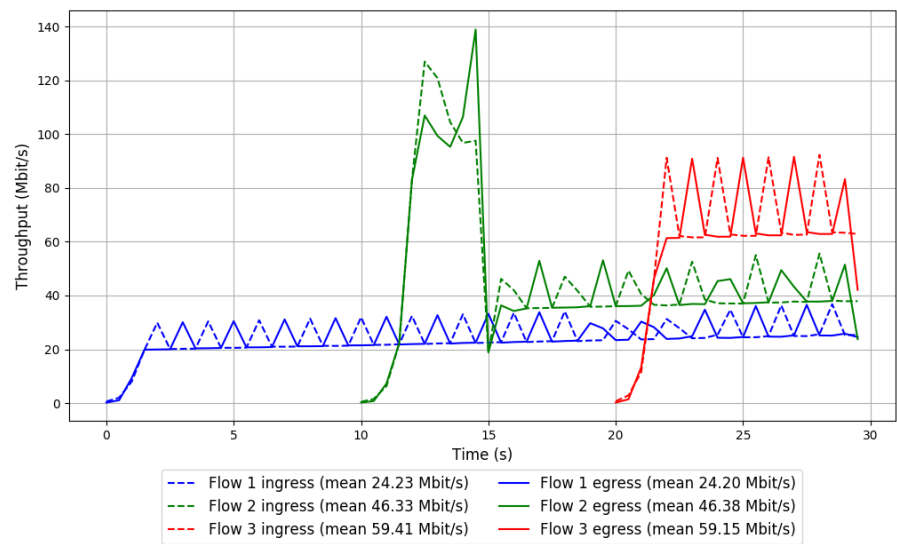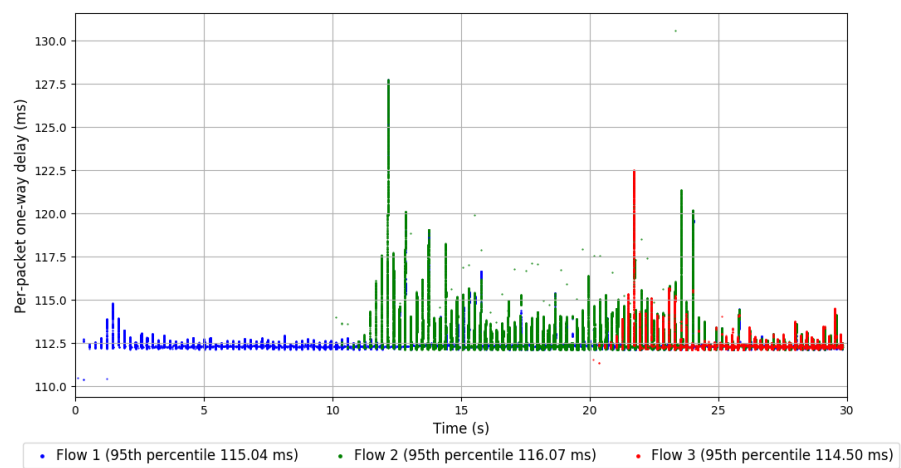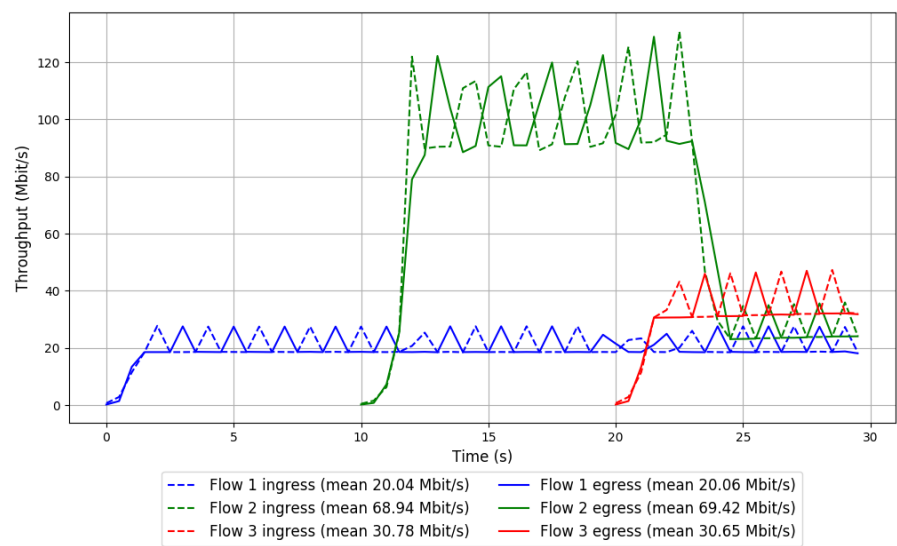
Run 8: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 25.80 Mbit/s) --- Flow 1 egress (mean 25.82 Mbit/s)
Flow 2 ingress (mean 17.84 Mbit/s) --- Flow 2 egress (mean 17.84 Mbit/s)
Flow 3 ingress (mean 26.94 Mbit/s) --- Flow 3 egress (mean 26.85 Mbit/s)

Flow 1 (95th percentile 114.61 ms)   Flow 2 (95th percentile 114.47 ms)   Flow 3 (95th percentile 115.94 ms)
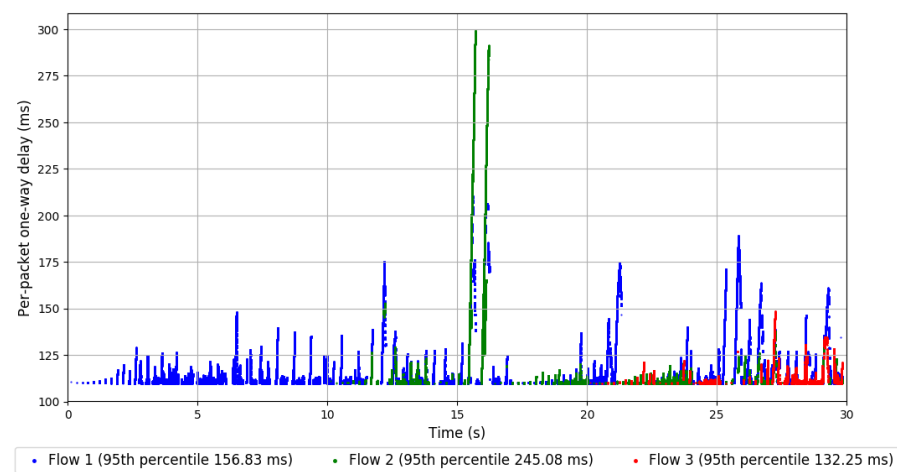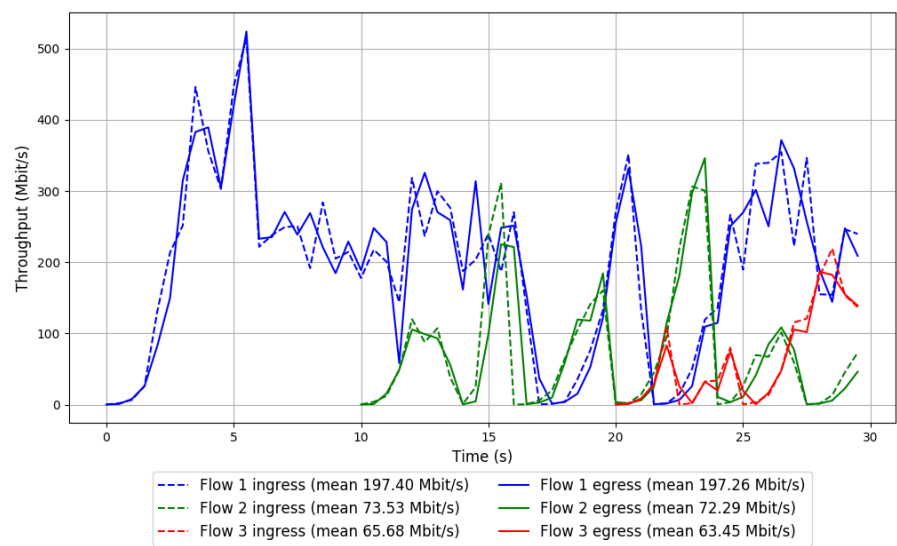
199

```
Run 9: Statistics of TCP Vegas

Start at: 2017-10-12 05:30:07
End at: 2017-10-12 05:30:37

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.21 Mbit/s
95th percentile per-packet one-way delay: 117.881 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 114.639 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 46.38 Mbit/s
95th percentile per-packet one-way delay: 120.667 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 59.15 Mbit/s
95th percentile per-packet one-way delay: 114.808 ms
Loss rate: 2.67%
```

Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2017-10-12 05:43:54
End at: 2017-10-12 05:44:24

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.06 Mbit/s
95th percentile per-packet one-way delay: 115.617 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 20.06 Mbit/s
95th percentile per-packet one-way delay: 115.040 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 69.42 Mbit/s
95th percentile per-packet one-way delay: 116.069 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 30.65 Mbit/s
95th percentile per-packet one-way delay: 114.498 ms
Loss rate: 2.64%
```
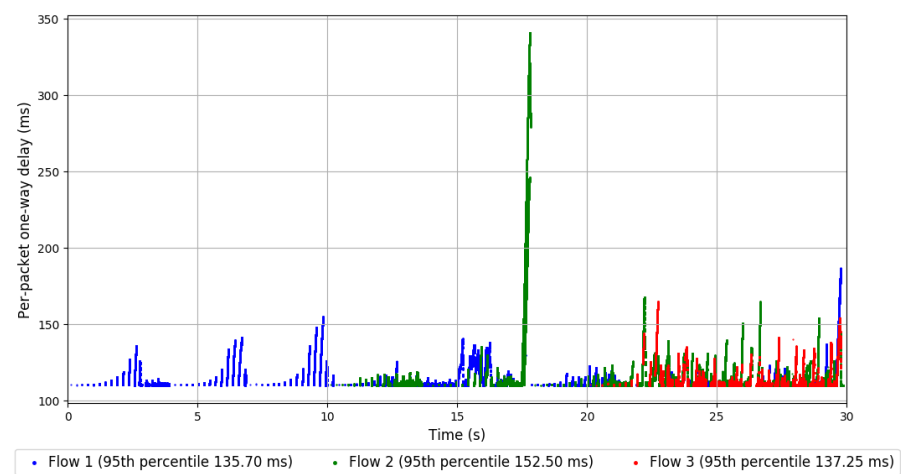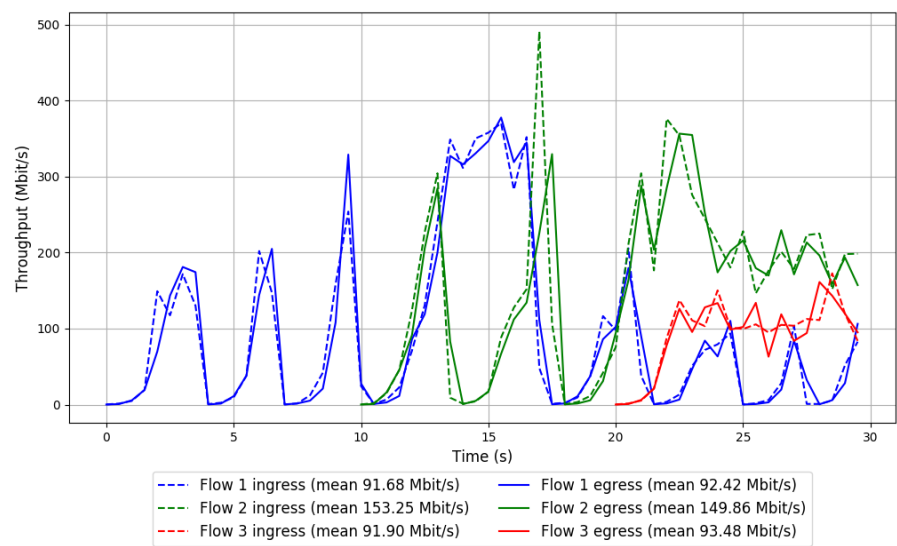
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2017-10-12 03:40:11
End at: 2017-10-12 03:40:41


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 265.89 Mbit/s
95th percentile per-packet one-way delay: 161.784 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 197.26 Mbit/s
95th percentile per-packet one-way delay: 156.830 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 72.29 Mbit/s
95th percentile per-packet one-way delay: 245.077 ms
Loss rate: 2.78%
-- Flow 3:
Average throughput: 63.45 Mbit/s
95th percentile per-packet one-way delay: 132.248 ms
Loss rate: 4.36%
```
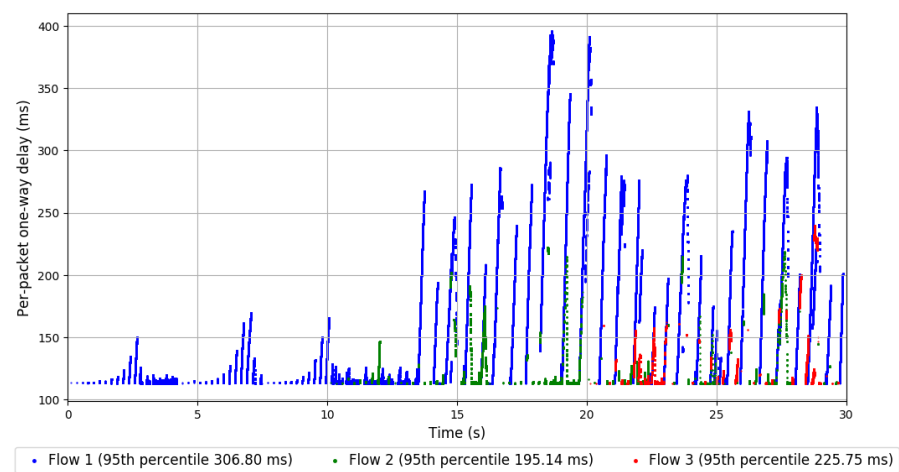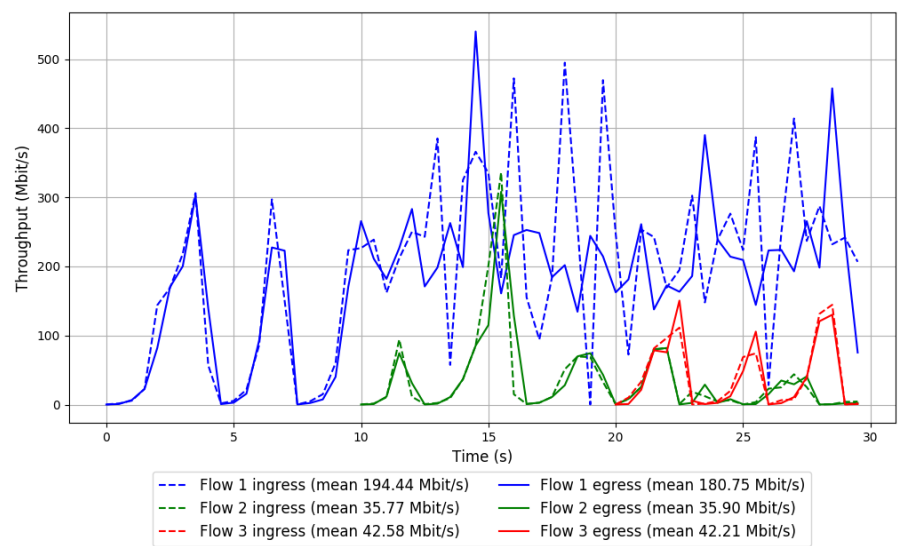
Run 1: Report of Verus — Data Link

205

```
Run 2: Statistics of Verus

Start at: 2017-10-12 03:53:48
End at: 2017-10-12 03:54:18


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 221.86 Mbit/s
95th percentile per-packet one-way delay: 140.596 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 92.42 Mbit/s
95th percentile per-packet one-way delay: 135.700 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.86 Mbit/s
95th percentile per-packet one-way delay: 152.500 ms
Loss rate: 3.19%
-- Flow 3:
Average throughput: 93.48 Mbit/s
95th percentile per-packet one-way delay: 137.255 ms
Loss rate: 1.34%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-10-12 04:07:21
End at: 2017-10-12 04:07:51


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.80 Mbit/s
95th percentile per-packet one-way delay: 294.493 ms
Loss rate: 6.10%
-- Flow 1:
Average throughput: 180.75 Mbit/s
95th percentile per-packet one-way delay: 306.798 ms
Loss rate: 6.96%
-- Flow 2:
Average throughput: 35.90 Mbit/s
95th percentile per-packet one-way delay: 195.136 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 42.21 Mbit/s
95th percentile per-packet one-way delay: 225.752 ms
Loss rate: 3.16%
```
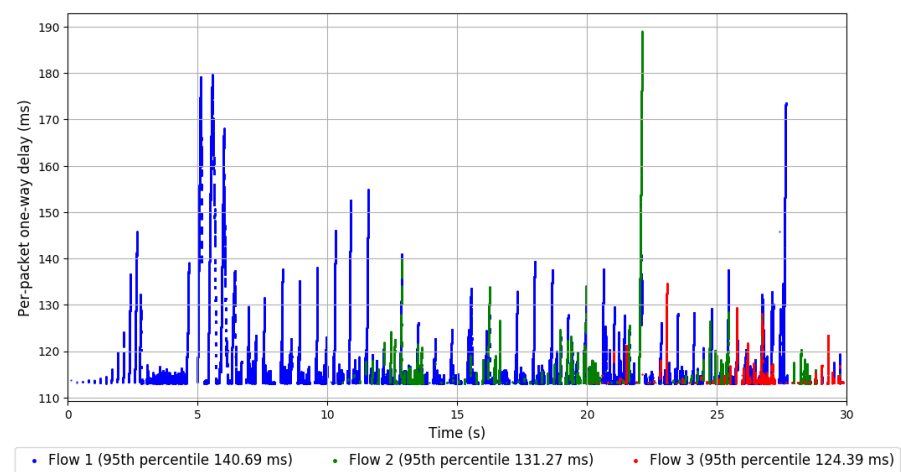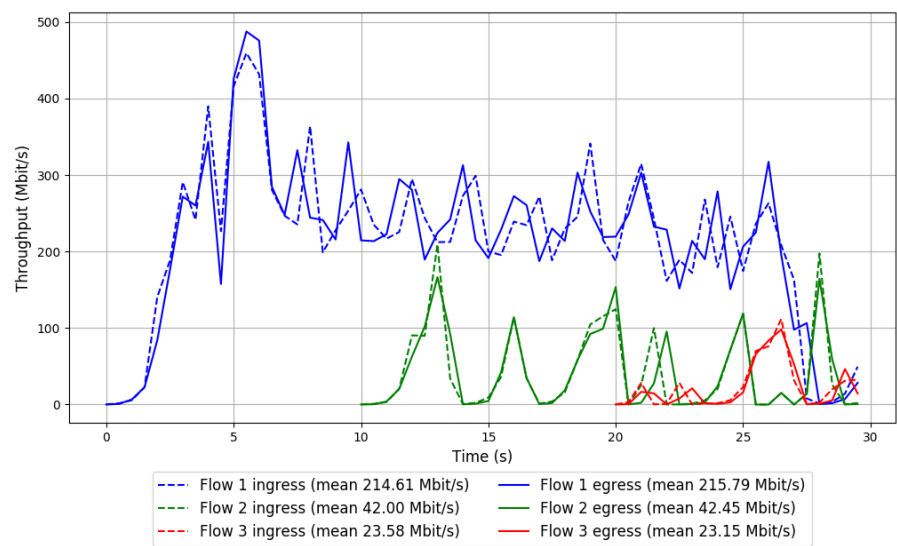
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-10-12 04:21:09
End at: 2017-10-12 04:21:39


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.60 Mbit/s
95th percentile per-packet one-way delay: 139.301 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 215.79 Mbit/s
95th percentile per-packet one-way delay: 140.689 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 42.45 Mbit/s
95th percentile per-packet one-way delay: 131.270 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 23.15 Mbit/s
95th percentile per-packet one-way delay: 124.391 ms
Loss rate: 3.99%
```
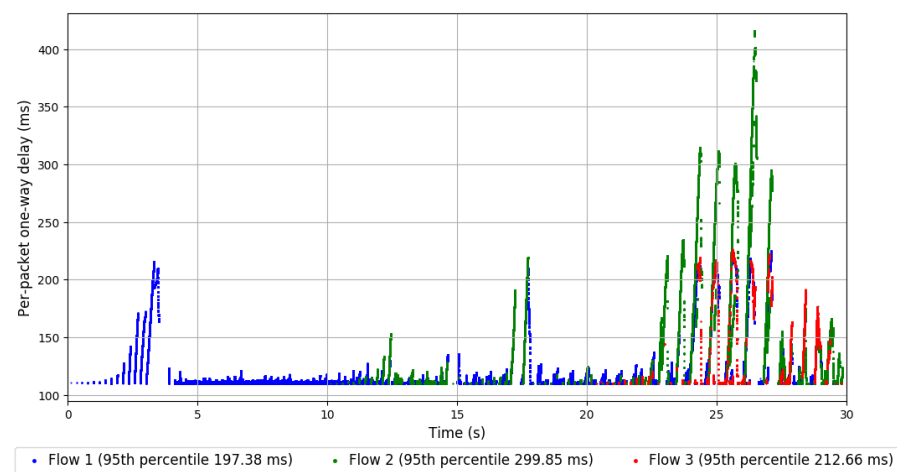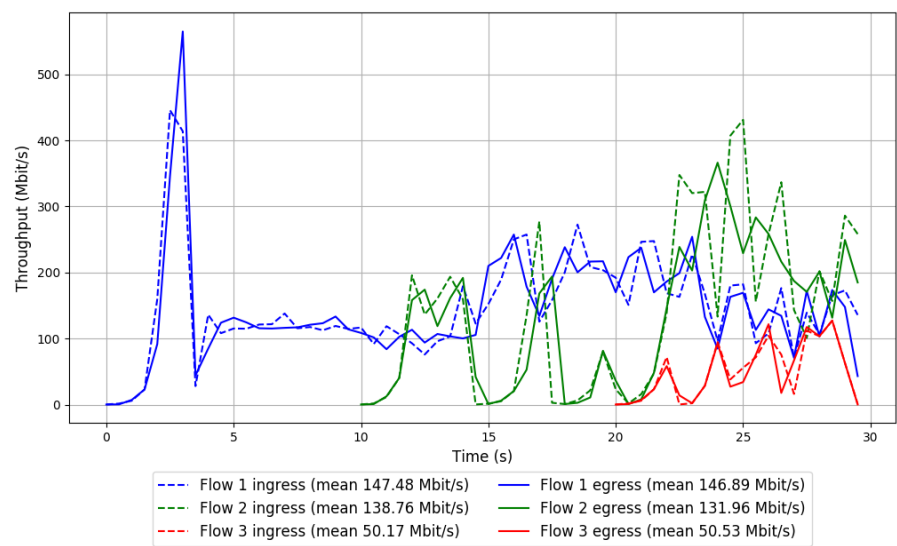
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-10-12 04:34:58
End at: 2017-10-12 04:35:28

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 249.93 Mbit/s
95th percentile per-packet one-way delay: 242.948 ms
Loss rate: 3.22%
-- Flow 1:
Average throughput: 146.89 Mbit/s
95th percentile per-packet one-way delay: 197.381 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 131.96 Mbit/s
95th percentile per-packet one-way delay: 299.850 ms
Loss rate: 5.95%
-- Flow 3:
Average throughput: 50.53 Mbit/s
95th percentile per-packet one-way delay: 212.658 ms
Loss rate: 1.53%
```
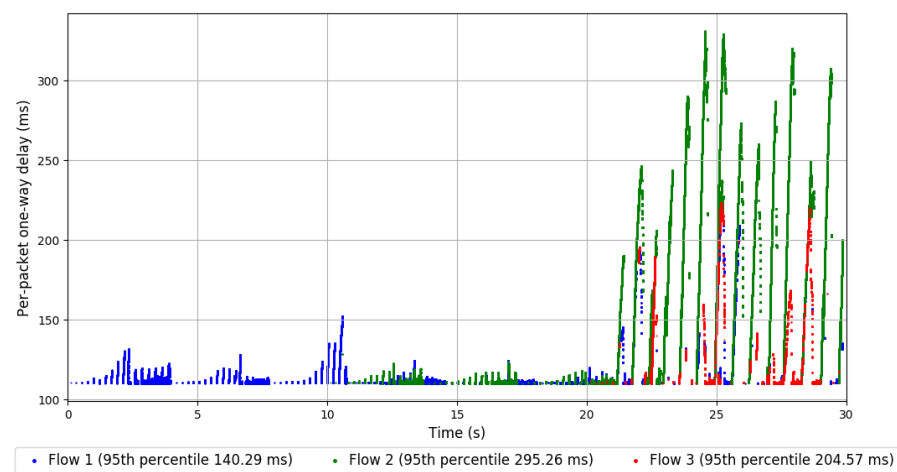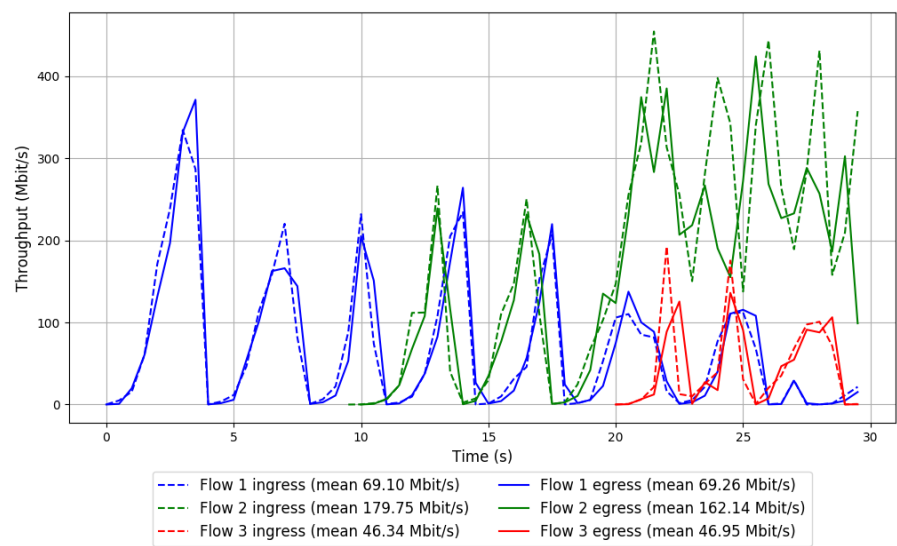
Run 5: Report of Verus — Data Link

213

```
Run 6: Statistics of Verus

Start at: 2017-10-12 04:48:20
End at: 2017-10-12 04:48:50

# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 192.03 Mbit/s
95th percentile per-packet one-way delay: 277.831 ms
Loss rate: 6.37%
-- Flow 1:
Average throughput: 69.26 Mbit/s
95th percentile per-packet one-way delay: 140.287 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 162.14 Mbit/s
95th percentile per-packet one-way delay: 295.258 ms
Loss rate: 10.44%
-- Flow 3:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 204.567 ms
Loss rate: 1.00%
```
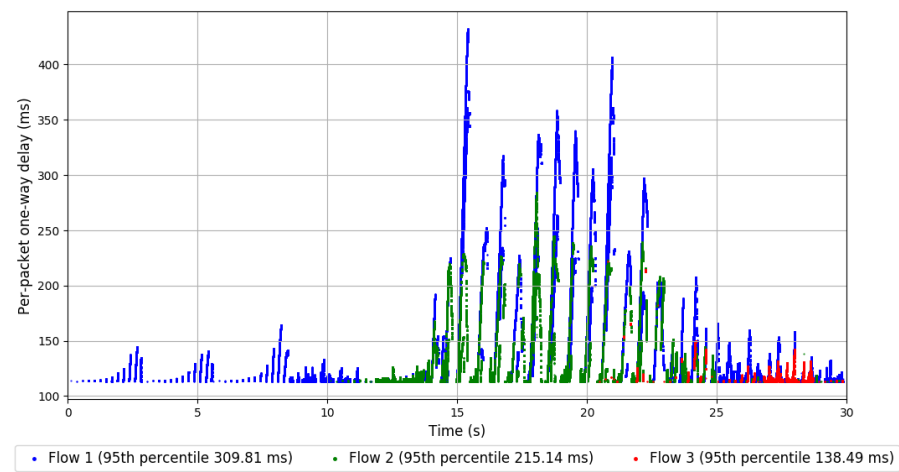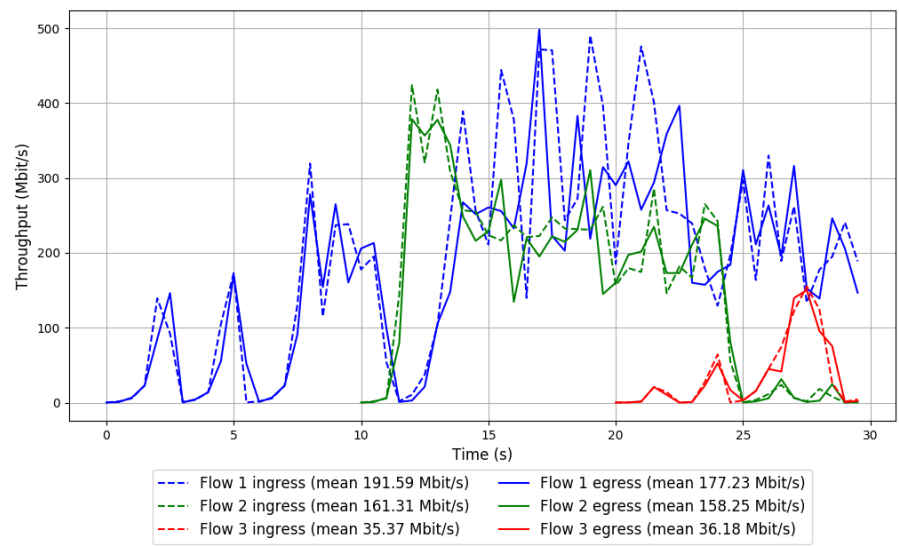
Run 6: Report of Verus — Data Link

215

```
Run 7: Statistics of Verus

Start at: 2017-10-12 05:02:04
End at: 2017-10-12 05:02:34


# Below is generated by plot.py at 2017-10-12 08:55:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.04 Mbit/s
95th percentile per-packet one-way delay: 287.188 ms
Loss rate: 6.01%
-- Flow 1:
Average throughput: 177.23 Mbit/s
95th percentile per-packet one-way delay: 309.814 ms
Loss rate: 7.98%
-- Flow 2:
Average throughput: 158.25 Mbit/s
95th percentile per-packet one-way delay: 215.139 ms
Loss rate: 3.02%
-- Flow 3:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 138.491 ms
Loss rate: 0.94%
```
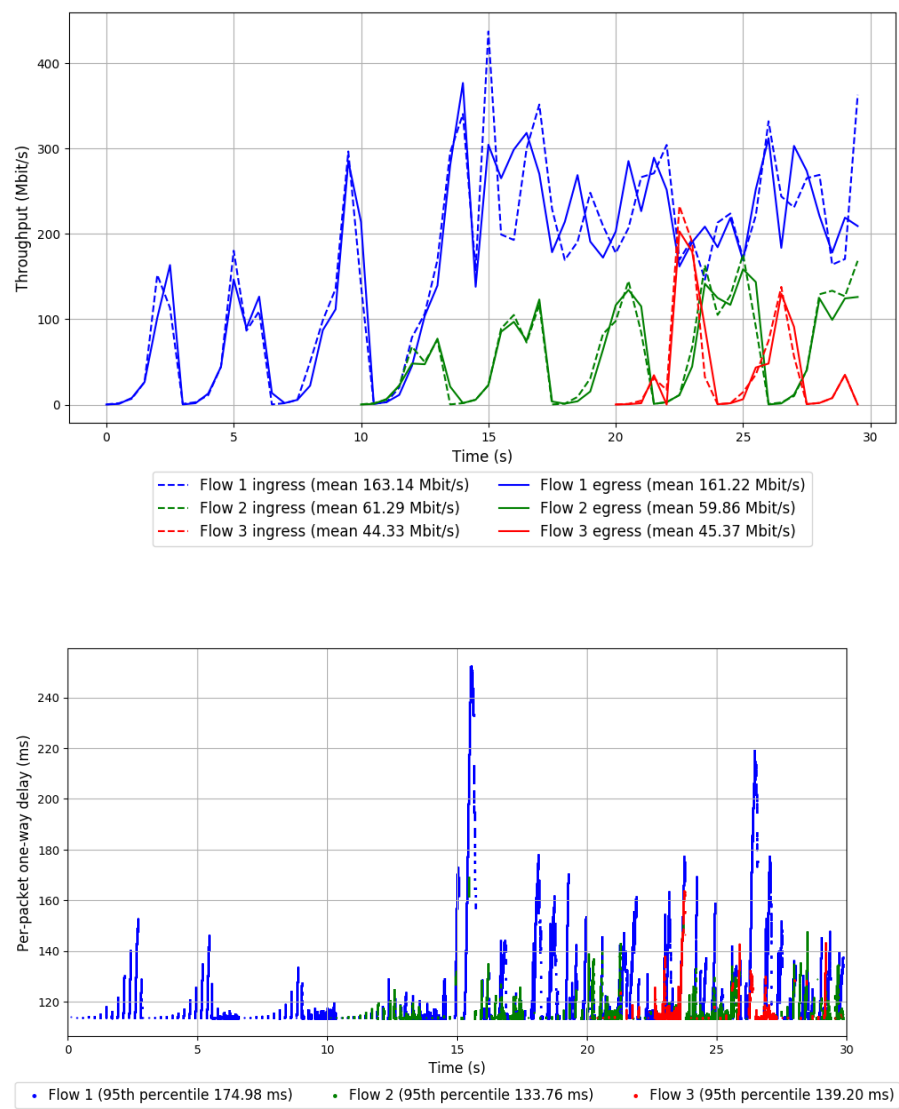
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-10-12 05:15:39
End at: 2017-10-12 05:16:09


# Below is generated by plot.py at 2017-10-12 08:56:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.64 Mbit/s
95th percentile per-packet one-way delay: 168.581 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 161.22 Mbit/s
95th percentile per-packet one-way delay: 174.984 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 59.86 Mbit/s
95th percentile per-packet one-way delay: 133.763 ms
Loss rate: 3.43%
-- Flow 3:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 139.198 ms
Loss rate: 0.01%
```

Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2017-10-12 05:28:54
End at: 2017-10-12 05:29:24


# Below is generated by plot.py at 2017-10-12 08:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 333.19 Mbit/s
95th percentile per-packet one-way delay: 189.431 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 222.50 Mbit/s
95th percentile per-packet one-way delay: 182.378 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 104.91 Mbit/s
95th percentile per-packet one-way delay: 174.684 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 137.48 Mbit/s
95th percentile per-packet one-way delay: 256.132 ms
Loss rate: 1.39%
```
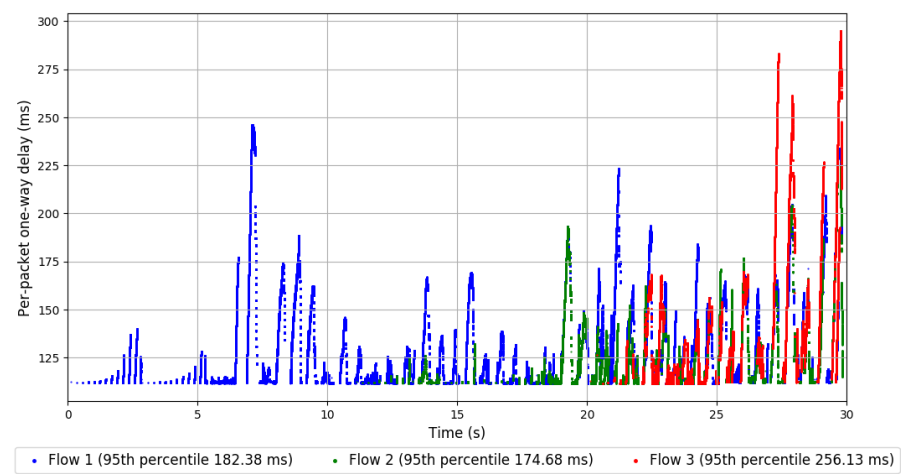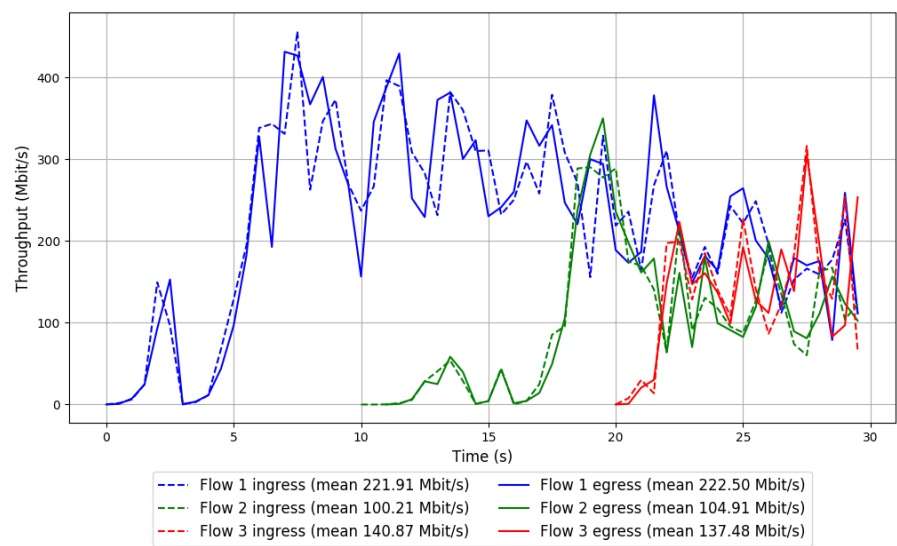
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2017-10-12 05:42:47
End at: 2017-10-12 05:43:17


# Below is generated by plot.py at 2017-10-12 08:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.52 Mbit/s
95th percentile per-packet one-way delay: 199.621 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 165.95 Mbit/s
95th percentile per-packet one-way delay: 208.892 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 103.94 Mbit/s
95th percentile per-packet one-way delay: 169.973 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 20.63 Mbit/s
95th percentile per-packet one-way delay: 150.467 ms
Loss rate: 10.34%
```
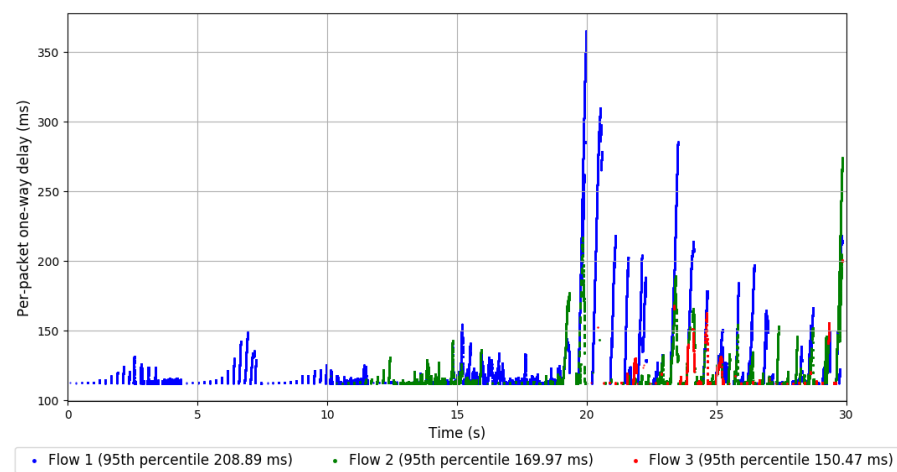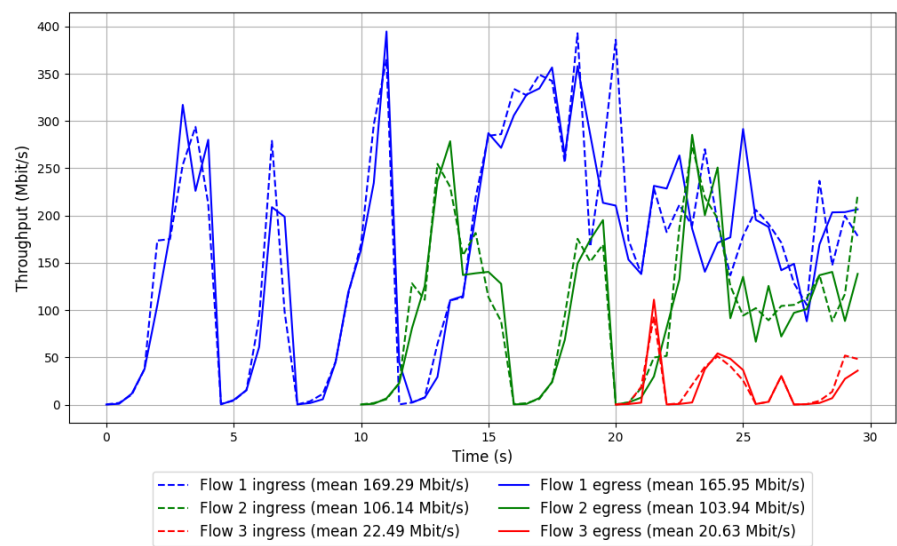
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2017-10-12 03:48:09
End at: 2017-10-12 03:48:39

# Below is generated by plot.py at 2017-10-12 08:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.61 Mbit/s
95th percentile per-packet one-way delay: 112.118 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 80.86 Mbit/s
95th percentile per-packet one-way delay: 112.115 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 110.559 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 51.34 Mbit/s
95th percentile per-packet one-way delay: 112.260 ms
Loss rate: 5.04%
```
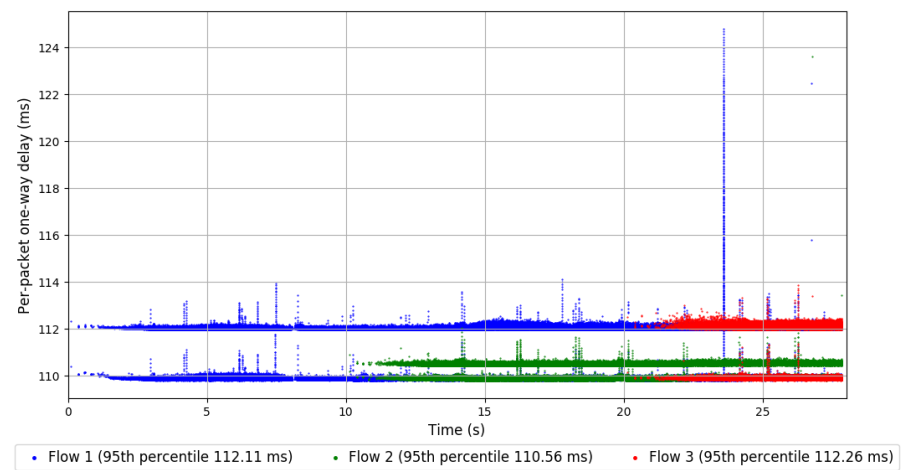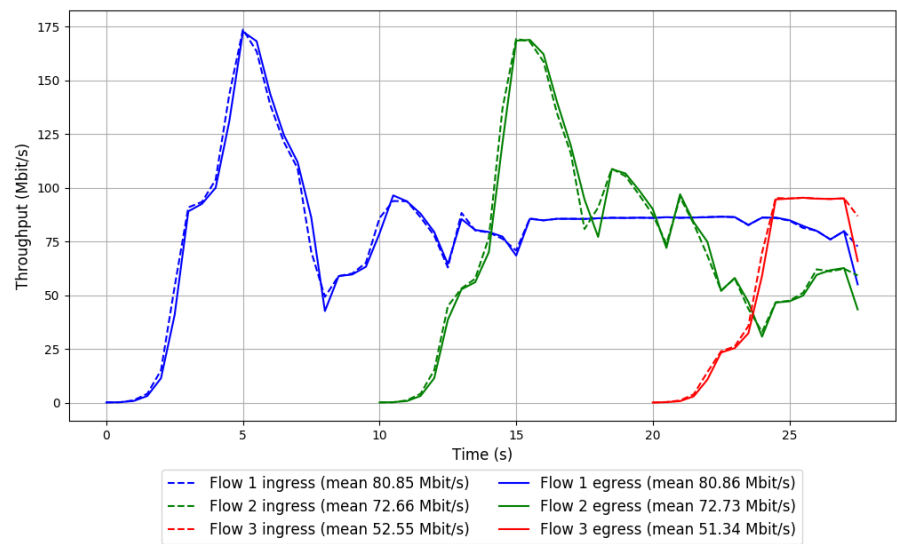
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 80.85 Mbit/s)   Flow 1 egress (mean 80.86 Mbit/s)
Flow 2 ingress (mean 72.66 Mbit/s)   Flow 2 egress (mean 72.73 Mbit/s)
Flow 3 ingress (mean 52.55 Mbit/s)   Flow 3 egress (mean 51.34 Mbit/s)

Flow 1 (95th percentile 112.11 ms)   Flow 2 (95th percentile 110.56 ms)   Flow 3 (95th percentile 112.26 ms)

225

```
Run 2: Statistics of Copa

Start at: 2017-10-12 04:01:45
End at: 2017-10-12 04:02:15


# Below is generated by plot.py at 2017-10-12 08:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.49 Mbit/s
95th percentile per-packet one-way delay: 113.242 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 77.39 Mbit/s
95th percentile per-packet one-way delay: 113.242 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 66.94 Mbit/s
95th percentile per-packet one-way delay: 113.242 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 62.57 Mbit/s
95th percentile per-packet one-way delay: 113.239 ms
Loss rate: 1.69%
```
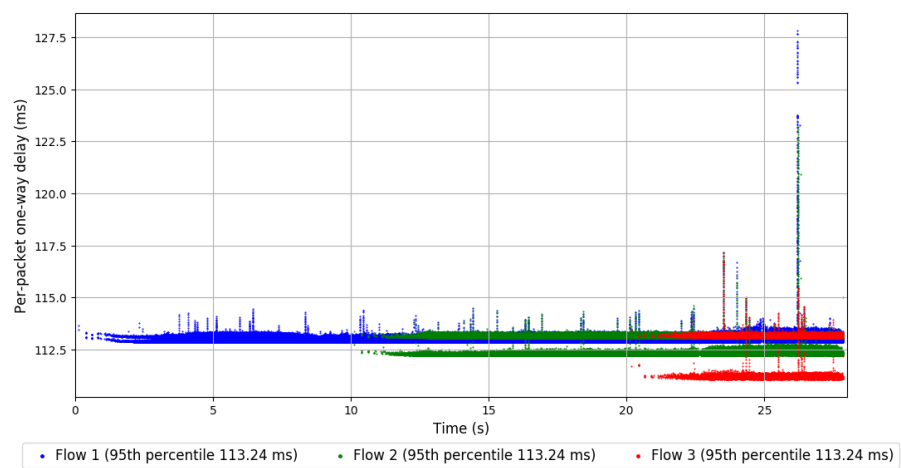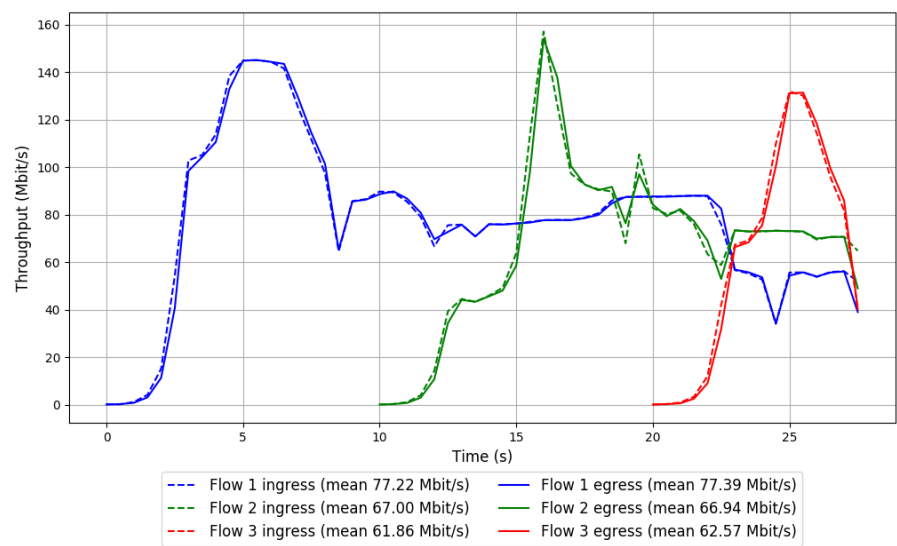
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 77.22 Mbit/s) — Flow 1 egress (mean 77.39 Mbit/s)
Flow 2 ingress (mean 67.00 Mbit/s) — Flow 2 egress (mean 66.94 Mbit/s)
Flow 3 ingress (mean 61.86 Mbit/s) — Flow 3 egress (mean 62.57 Mbit/s)

Flow 1 (95th percentile 113.24 ms)   Flow 2 (95th percentile 113.24 ms)   Flow 3 (95th percentile 113.24 ms)

```
Run 3: Statistics of Copa

Start at: 2017-10-12 04:15:36
End at: 2017-10-12 04:16:06

# Below is generated by plot.py at 2017-10-12 08:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.71 Mbit/s
95th percentile per-packet one-way delay: 113.220 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 76.84 Mbit/s
95th percentile per-packet one-way delay: 113.221 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 79.57 Mbit/s
95th percentile per-packet one-way delay: 113.225 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 61.27 Mbit/s
95th percentile per-packet one-way delay: 113.202 ms
Loss rate: 2.94%
```
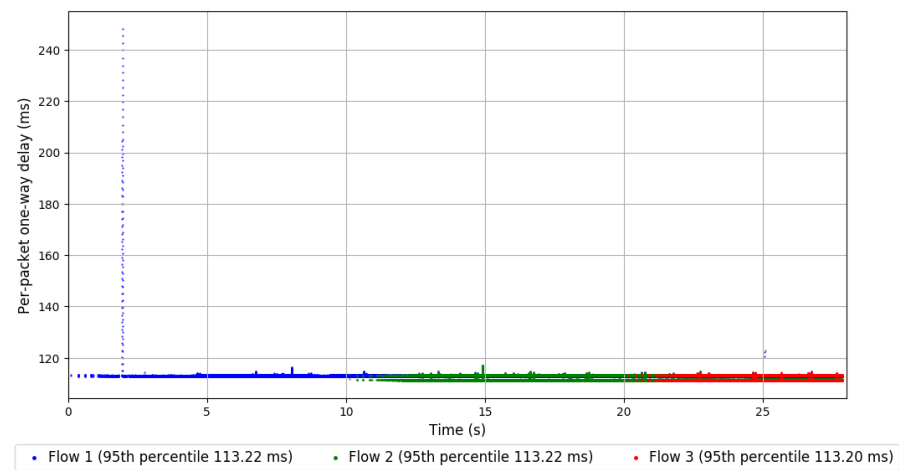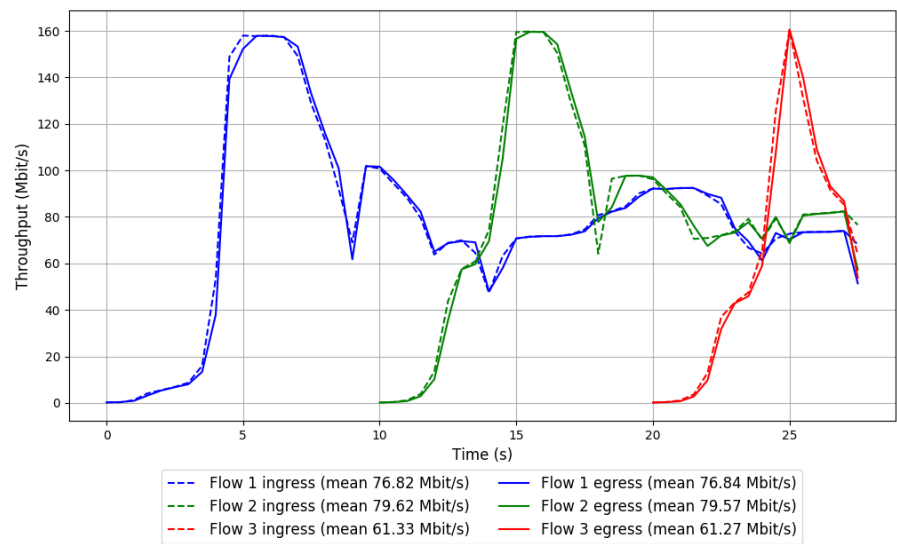
Run 3: Report of Copa — Data Link

- Flow 1 ingress (mean 76.82 Mbit/s)
- Flow 1 egress (mean 76.84 Mbit/s)
- Flow 2 ingress (mean 79.62 Mbit/s)
- Flow 2 egress (mean 79.57 Mbit/s)
- Flow 3 ingress (mean 61.33 Mbit/s)
- Flow 3 egress (mean 61.27 Mbit/s)

- Flow 1 (95th percentile 113.22 ms)
- Flow 2 (95th percentile 113.22 ms)
- Flow 3 (95th percentile 113.20 ms)

```
Run 4: Statistics of Copa

Start at: 2017-10-12 04:29:20
End at: 2017-10-12 04:29:50

# Below is generated by plot.py at 2017-10-12 08:59:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.62 Mbit/s
95th percentile per-packet one-way delay: 112.395 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 79.83 Mbit/s
95th percentile per-packet one-way delay: 112.295 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 79.33 Mbit/s
95th percentile per-packet one-way delay: 112.361 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 29.27 Mbit/s
95th percentile per-packet one-way delay: 113.421 ms
Loss rate: 4.71%
```
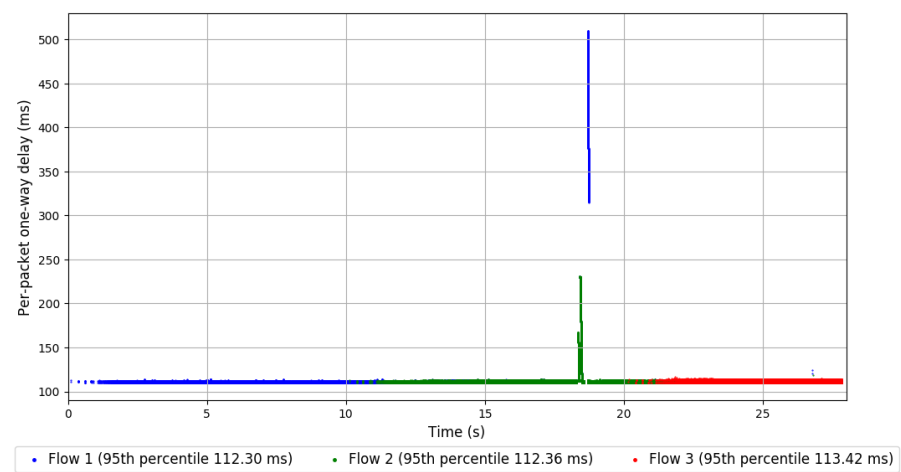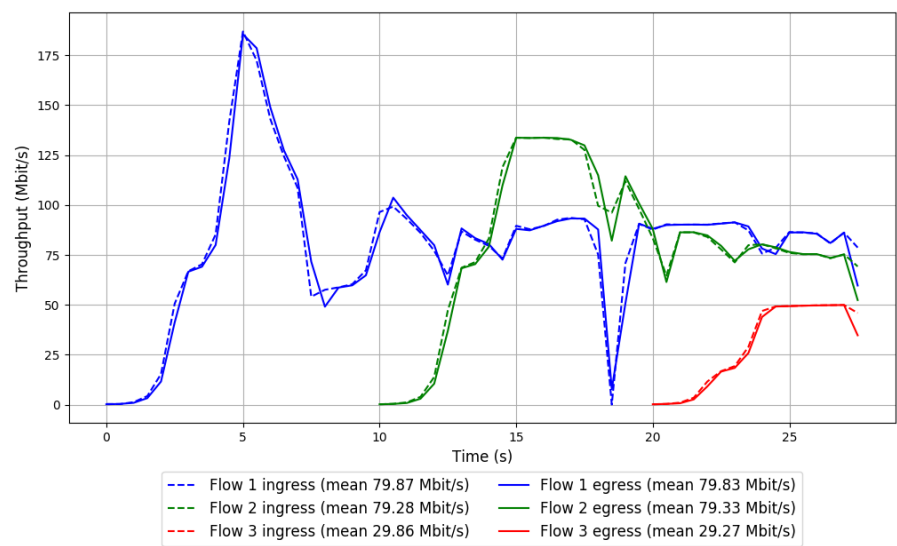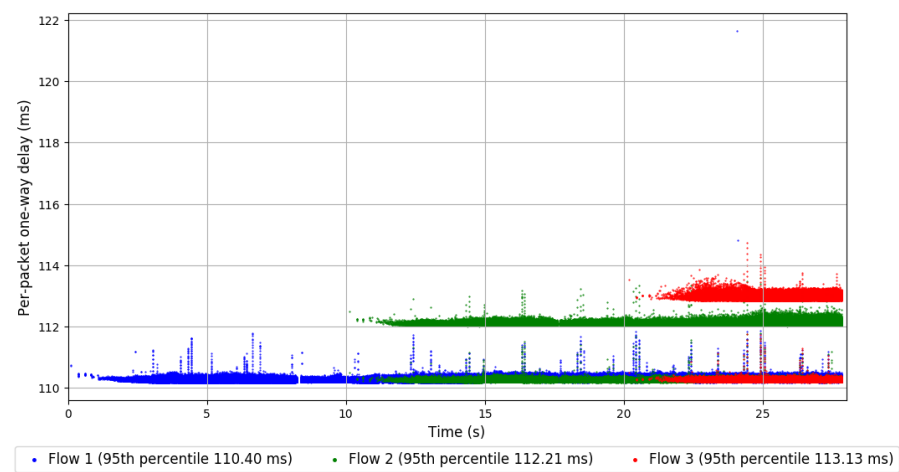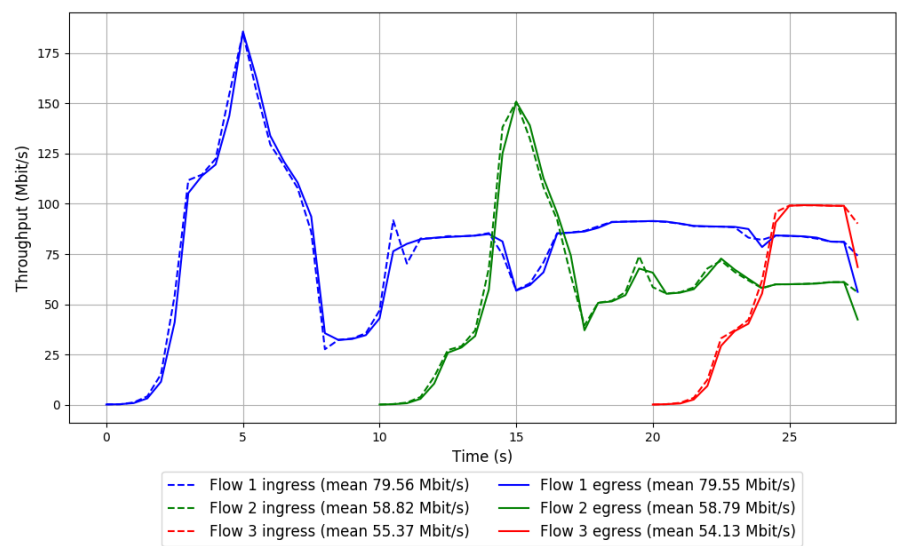
Run 4: Report of Copa — Data Link

Legend:
- Flow 1 ingress (mean 79.87 Mbit/s)
- Flow 1 egress (mean 79.83 Mbit/s)
- Flow 2 ingress (mean 79.28 Mbit/s)
- Flow 2 egress (mean 79.33 Mbit/s)
- Flow 3 ingress (mean 29.86 Mbit/s)
- Flow 3 egress (mean 29.27 Mbit/s)

Legend:
- Flow 1 (95th percentile 112.30 ms)
- Flow 2 (95th percentile 112.36 ms)
- Flow 3 (95th percentile 113.42 ms)

```
Run 5: Statistics of Copa

Start at: 2017-10-12 04:42:43
End at: 2017-10-12 04:43:13


# Below is generated by plot.py at 2017-10-12 08:59:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.08 Mbit/s
95th percentile per-packet one-way delay: 112.889 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 79.55 Mbit/s
95th percentile per-packet one-way delay: 110.402 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 58.79 Mbit/s
95th percentile per-packet one-way delay: 112.206 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 54.13 Mbit/s
95th percentile per-packet one-way delay: 113.131 ms
Loss rate: 4.97%
```
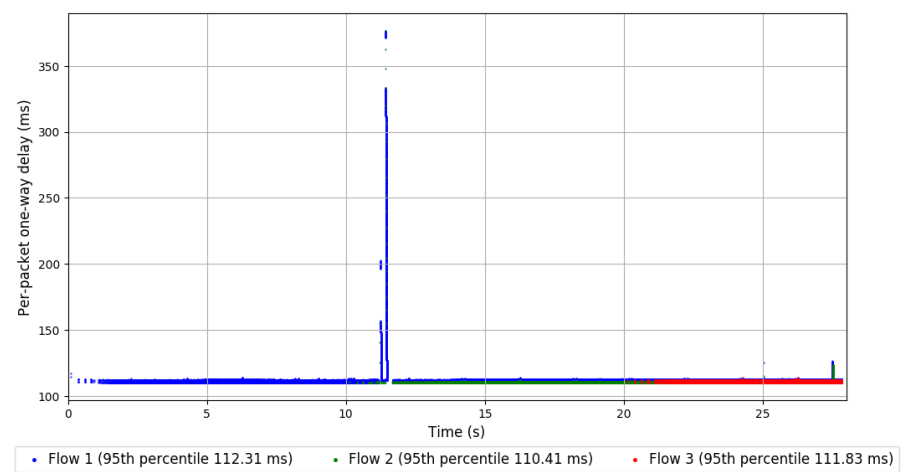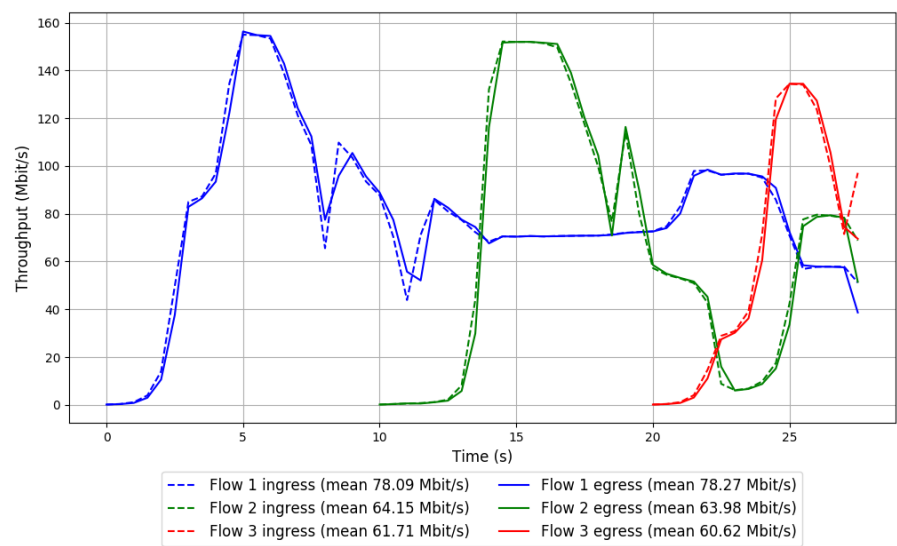
Run 5: Report of Copa — Data Link

Legend:
- Flow 1 ingress (mean 79.56 Mbit/s)
- Flow 1 egress (mean 79.55 Mbit/s)
- Flow 2 ingress (mean 58.82 Mbit/s)
- Flow 2 egress (mean 58.79 Mbit/s)
- Flow 3 ingress (mean 55.37 Mbit/s)
- Flow 3 egress (mean 54.13 Mbit/s)

Legend:
- Flow 1 (95th percentile 110.40 ms)
- Flow 2 (95th percentile 112.21 ms)
- Flow 3 (95th percentile 113.13 ms)

```
Run 6: Statistics of Copa

Start at: 2017-10-12 04:56:27
End at: 2017-10-12 04:56:57


# Below is generated by plot.py at 2017-10-12 09:00:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.02 Mbit/s
95th percentile per-packet one-way delay: 112.252 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 78.27 Mbit/s
95th percentile per-packet one-way delay: 112.314 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 63.98 Mbit/s
95th percentile per-packet one-way delay: 110.408 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 60.62 Mbit/s
95th percentile per-packet one-way delay: 111.831 ms
Loss rate: 4.52%
```
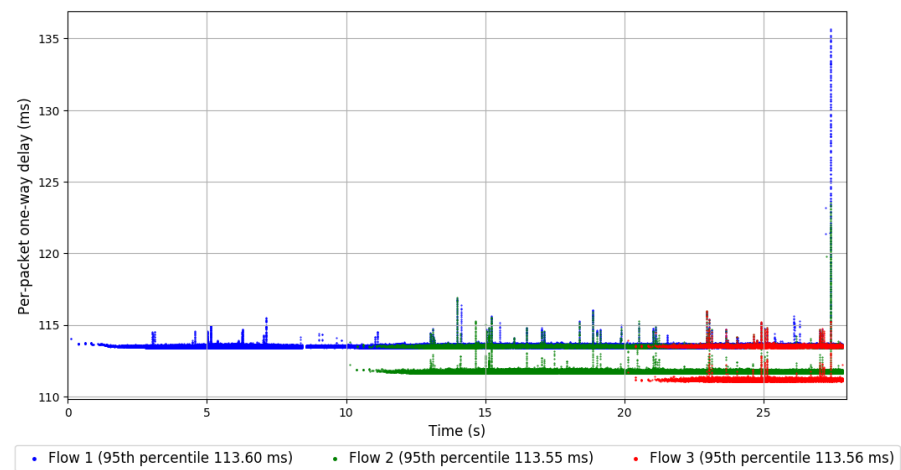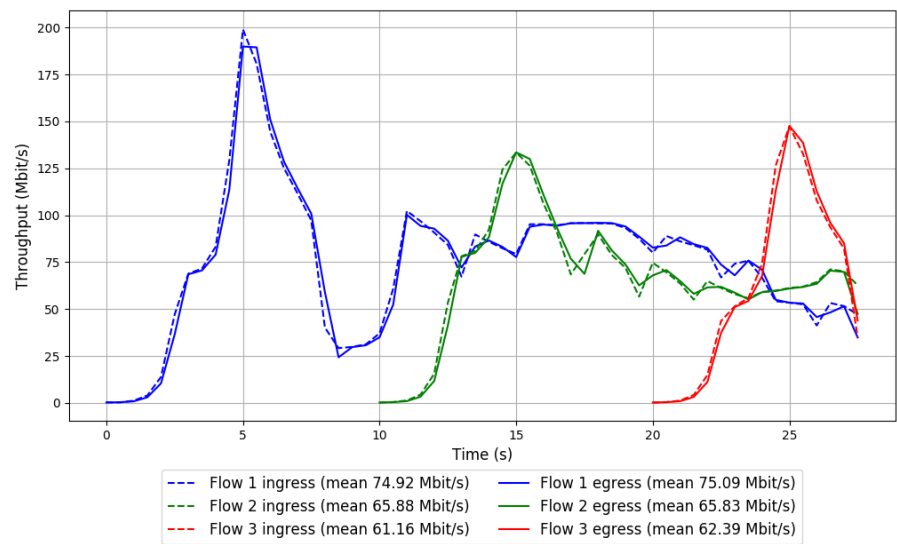
Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2017-10-12 05:10:00
End at: 2017-10-12 05:10:30


# Below is generated by plot.py at 2017-10-12 09:01:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.51 Mbit/s
95th percentile per-packet one-way delay: 113.586 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 75.09 Mbit/s
95th percentile per-packet one-way delay: 113.602 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 65.83 Mbit/s
95th percentile per-packet one-way delay: 113.549 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 62.39 Mbit/s
95th percentile per-packet one-way delay: 113.557 ms
Loss rate: 0.87%
```
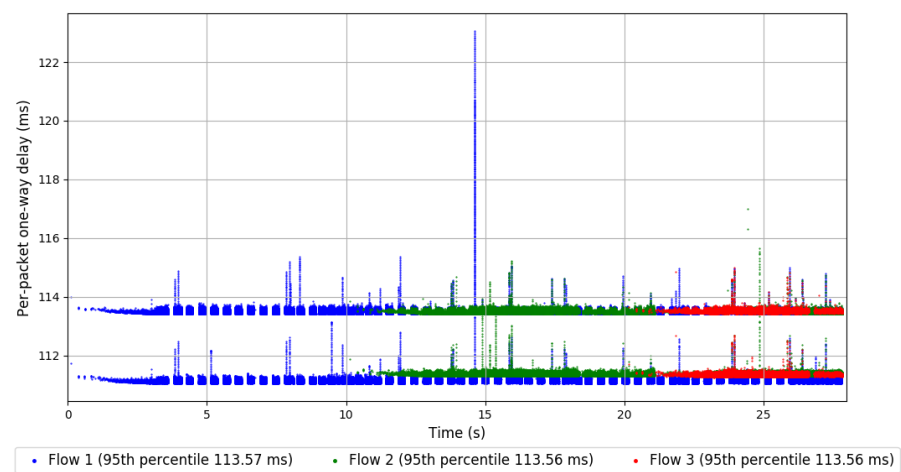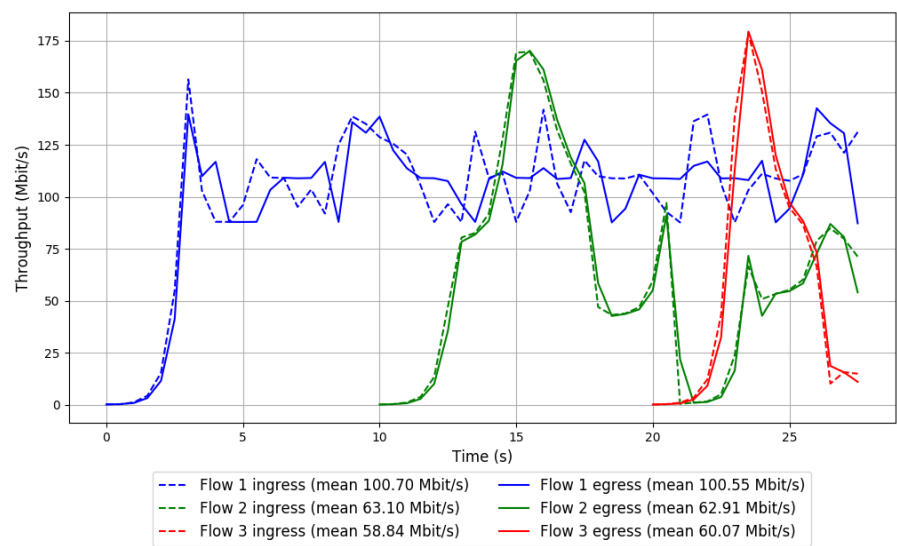
Run 7: Report of Copa — Data Link

Flow 1 ingress (mean 74.92 Mbit/s) --- Flow 1 egress (mean 75.09 Mbit/s)
Flow 2 ingress (mean 65.88 Mbit/s) --- Flow 2 egress (mean 65.83 Mbit/s)
Flow 3 ingress (mean 61.16 Mbit/s) --- Flow 3 egress (mean 62.39 Mbit/s)

Flow 1 (95th percentile 113.60 ms)   Flow 2 (95th percentile 113.55 ms)   Flow 3 (95th percentile 113.56 ms)

237

```
Run 8: Statistics of Copa

Start at: 2017-10-12 05:23:17
End at: 2017-10-12 05:23:47


# Below is generated by plot.py at 2017-10-12 09:02:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.27 Mbit/s
95th percentile per-packet one-way delay: 113.565 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 100.55 Mbit/s
95th percentile per-packet one-way delay: 113.566 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 62.91 Mbit/s
95th percentile per-packet one-way delay: 113.559 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 60.07 Mbit/s
95th percentile per-packet one-way delay: 113.564 ms
Loss rate: 0.80%
```
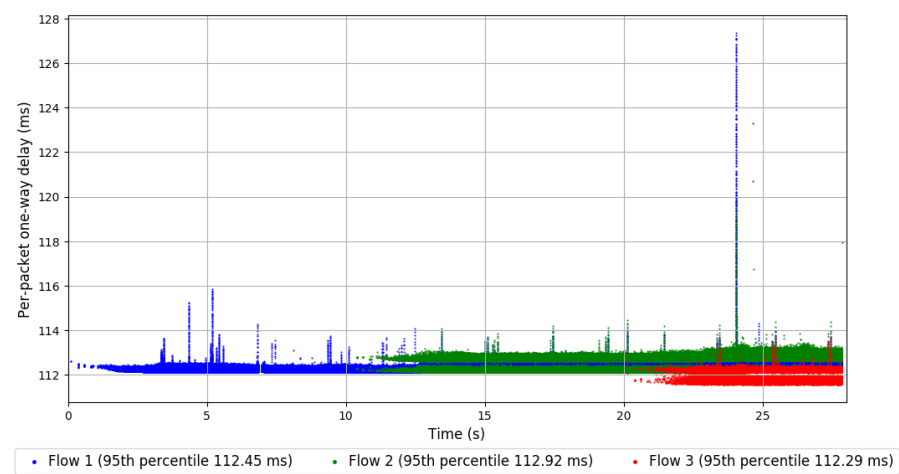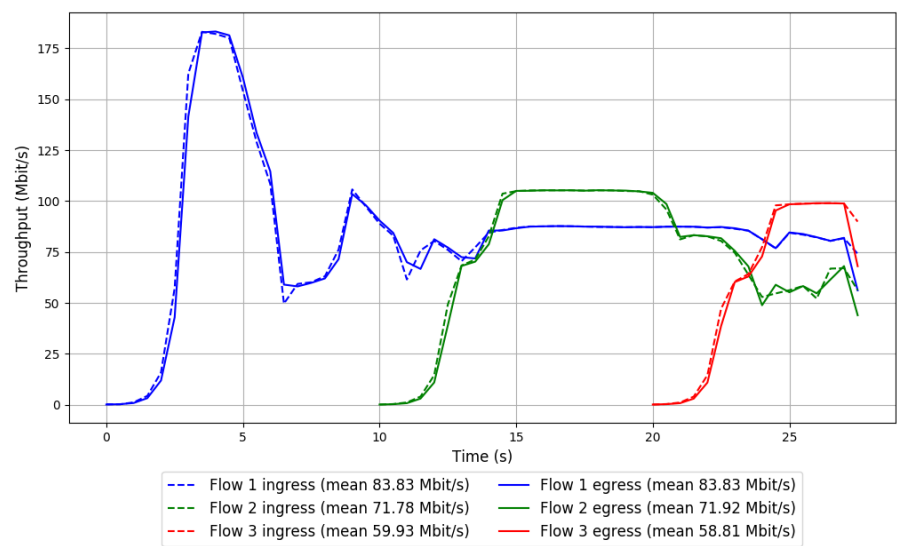
Run 8: Report of Copa — Data Link

```
Run 9: Statistics of Copa

Start at: 2017-10-12 05:37:07
End at: 2017-10-12 05:37:38


# Below is generated by plot.py at 2017-10-12 09:02:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.13 Mbit/s
95th percentile per-packet one-way delay: 112.794 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 83.83 Mbit/s
95th percentile per-packet one-way delay: 112.453 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 71.92 Mbit/s
95th percentile per-packet one-way delay: 112.919 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 58.81 Mbit/s
95th percentile per-packet one-way delay: 112.288 ms
Loss rate: 4.63%
```
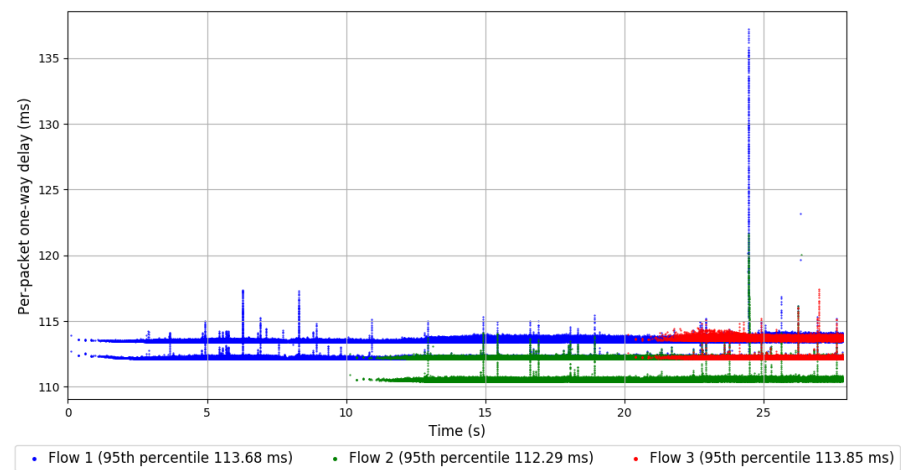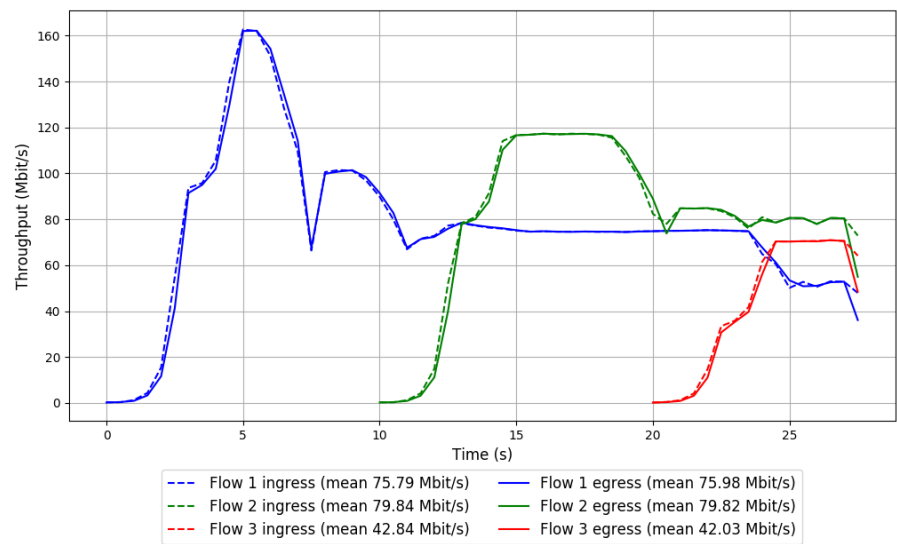
Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2017-10-12 05:50:46
End at: 2017-10-12 05:51:16


# Below is generated by plot.py at 2017-10-12 09:02:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 138.69 Mbit/s
95th percentile per-packet one-way delay: 113.663 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 75.98 Mbit/s
95th percentile per-packet one-way delay: 113.679 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 79.82 Mbit/s
95th percentile per-packet one-way delay: 112.291 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 42.03 Mbit/s
95th percentile per-packet one-way delay: 113.850 ms
Loss rate: 4.65%
```
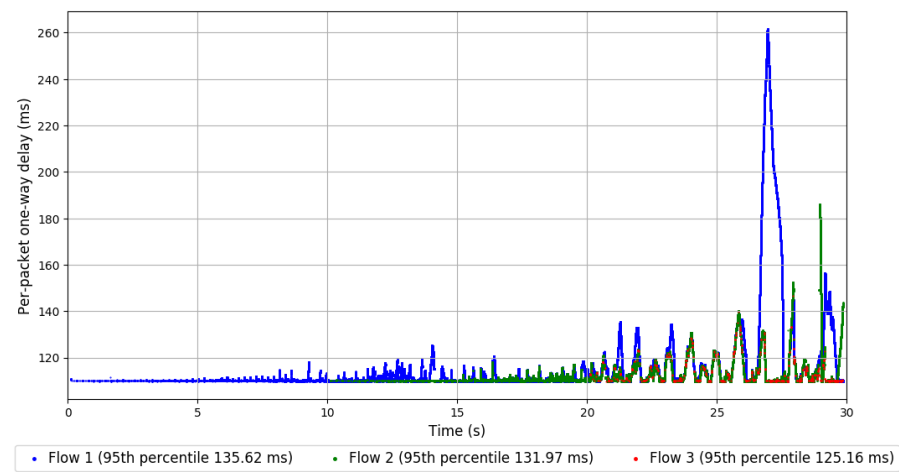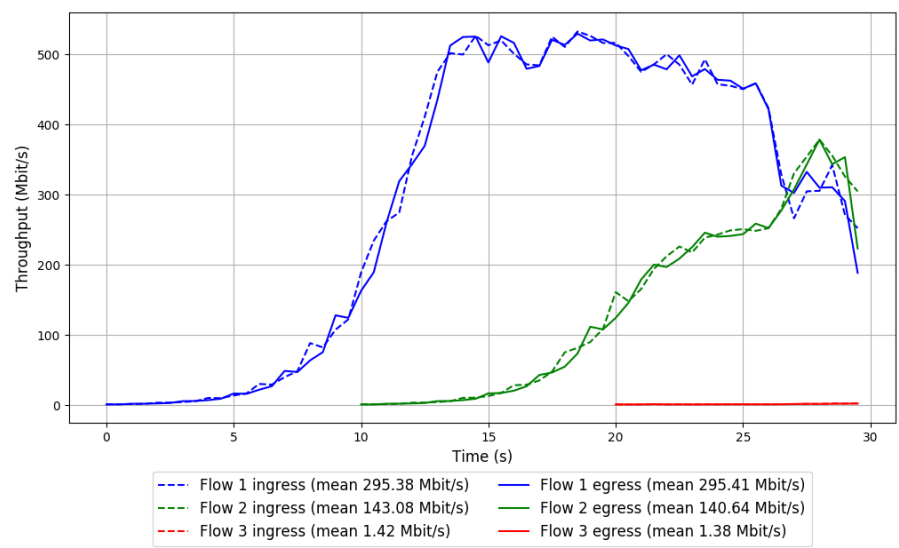
Run 10: Report of Copa — Data Link

Flow 1 ingress (mean 75.79 Mbit/s) — Flow 1 egress (mean 75.98 Mbit/s)
Flow 2 ingress (mean 79.84 Mbit/s) — Flow 2 egress (mean 79.82 Mbit/s)
Flow 3 ingress (mean 42.84 Mbit/s) — Flow 3 egress (mean 42.03 Mbit/s)

Flow 1 (95th percentile 113.68 ms) • Flow 2 (95th percentile 112.29 ms) • Flow 3 (95th percentile 113.85 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: 2017-10-12 03:44:24
End at: 2017-10-12 03:44:54

# Below is generated by plot.py at 2017-10-12 09:05:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.16 Mbit/s
95th percentile per-packet one-way delay: 134.694 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 295.41 Mbit/s
95th percentile per-packet one-way delay: 135.620 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 140.64 Mbit/s
95th percentile per-packet one-way delay: 131.966 ms
Loss rate: 2.80%
-- Flow 3:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 125.159 ms
Loss rate: 5.11%
```
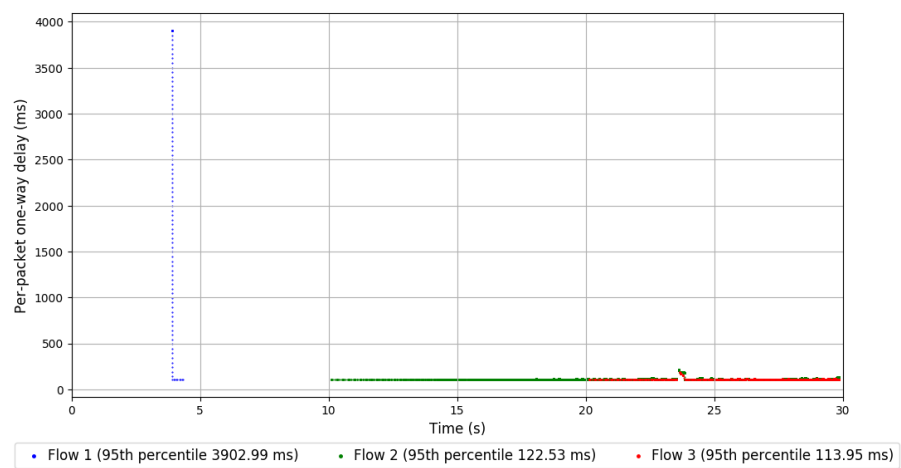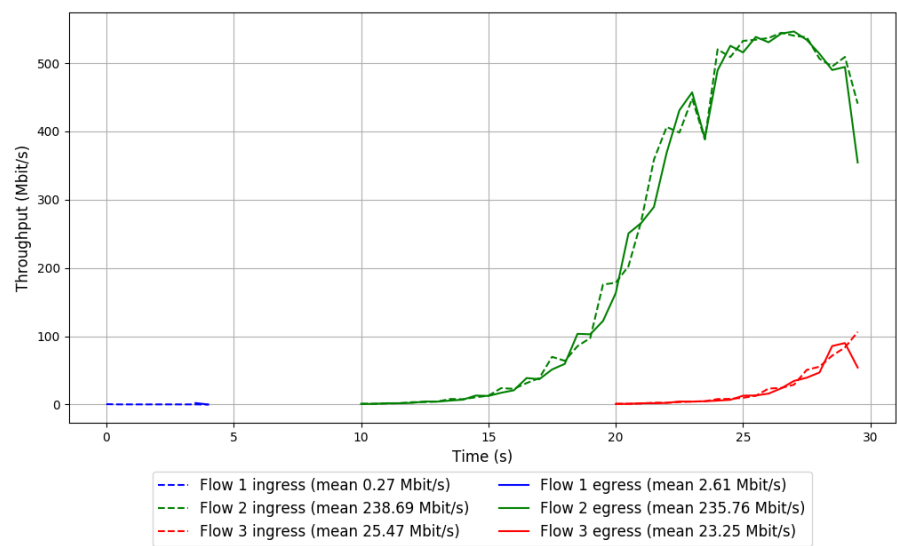
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 295.38 Mbit/s)   Flow 1 egress (mean 295.41 Mbit/s)
Flow 2 ingress (mean 143.08 Mbit/s)   Flow 2 egress (mean 140.64 Mbit/s)
Flow 3 ingress (mean 1.42 Mbit/s)   Flow 3 egress (mean 1.38 Mbit/s)

Flow 1 (95th percentile 135.62 ms)   Flow 2 (95th percentile 131.97 ms)   Flow 3 (95th percentile 125.16 ms)

245

```
Run 2: Statistics of CalibratedKoho

Start at: 2017-10-12 03:58:17
End at: 2017-10-12 03:58:47

# Below is generated by plot.py at 2017-10-12 09:05:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.97 Mbit/s
95th percentile per-packet one-way delay: 121.955 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 2.61 Mbit/s
95th percentile per-packet one-way delay: 3902.992 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 235.76 Mbit/s
95th percentile per-packet one-way delay: 122.525 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 23.25 Mbit/s
95th percentile per-packet one-way delay: 113.951 ms
Loss rate: 10.73%
```
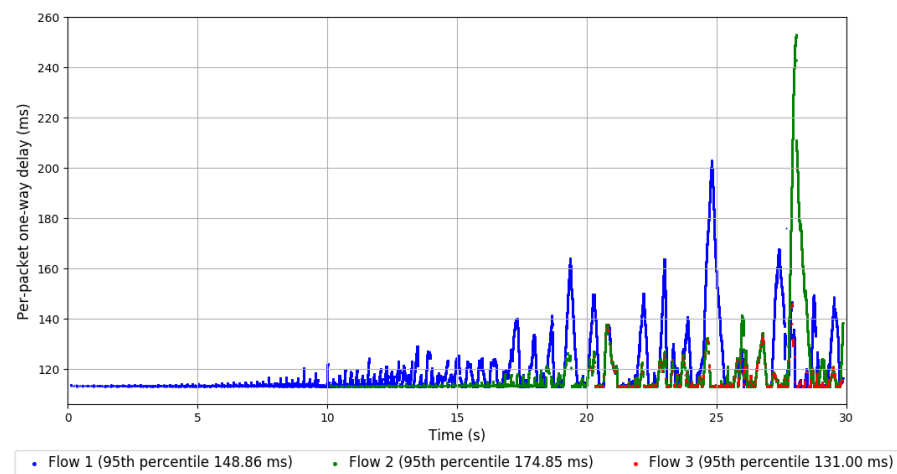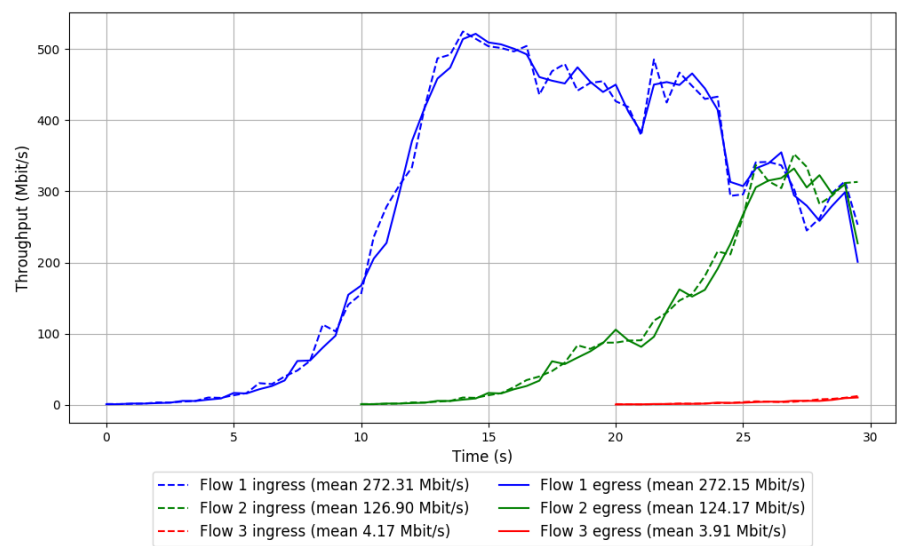
Run 2: Report of CalibratedKoho — Data Link

```
Run 3: Statistics of CalibratedKoho

Start at: 2017-10-12 04:11:55
End at: 2017-10-12 04:12:25

# Below is generated by plot.py at 2017-10-12 09:05:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.80 Mbit/s
95th percentile per-packet one-way delay: 150.147 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 272.15 Mbit/s
95th percentile per-packet one-way delay: 148.863 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 124.17 Mbit/s
95th percentile per-packet one-way delay: 174.851 ms
Loss rate: 3.24%
-- Flow 3:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 130.996 ms
Loss rate: 8.30%
```
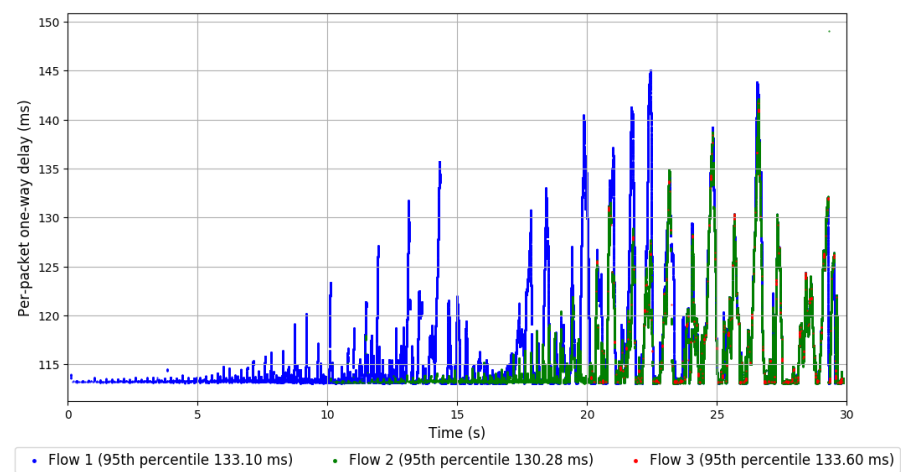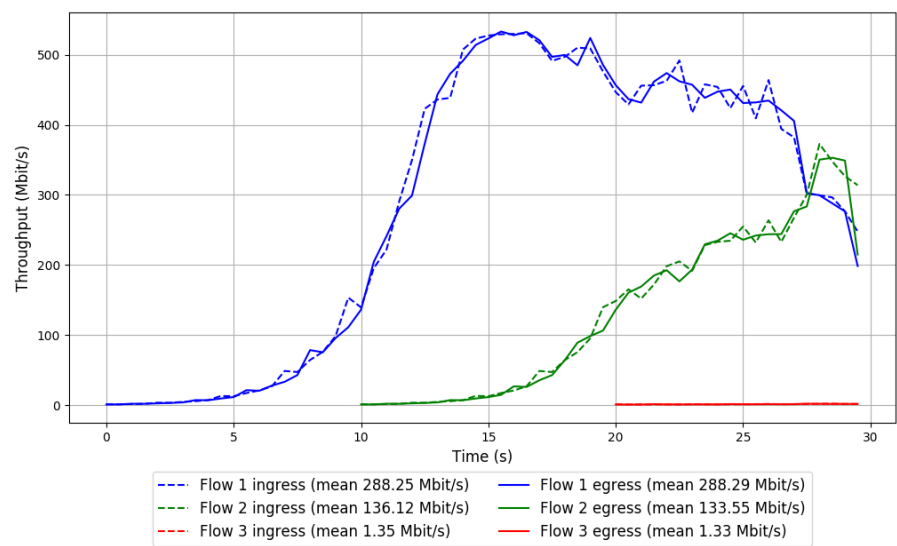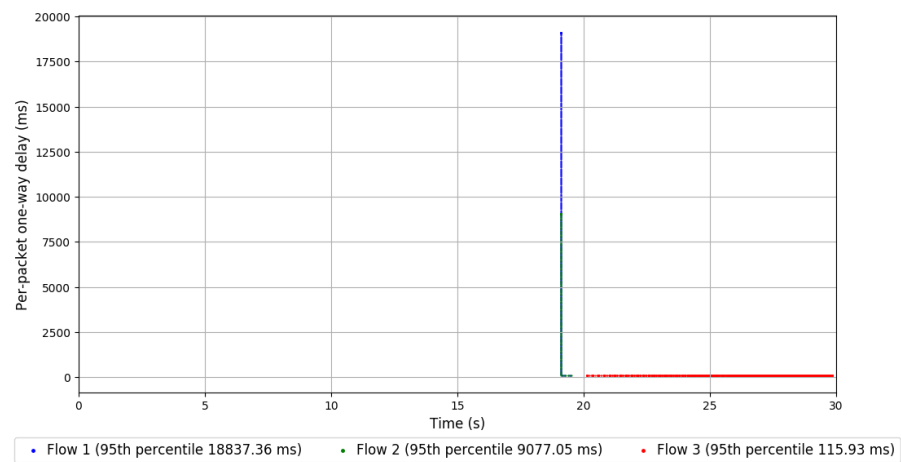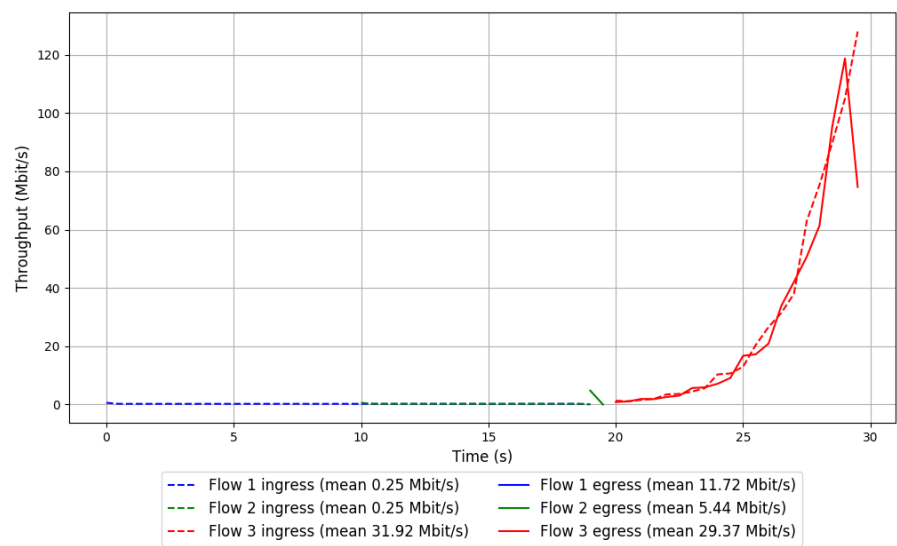
Run 3: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 272.31 Mbit/s) --- Flow 1 egress (mean 272.15 Mbit/s)
Flow 2 ingress (mean 126.90 Mbit/s) --- Flow 2 egress (mean 124.17 Mbit/s)
Flow 3 ingress (mean 4.17 Mbit/s) --- Flow 3 egress (mean 3.91 Mbit/s)

Flow 1 (95th percentile 148.86 ms)   Flow 2 (95th percentile 174.85 ms)   Flow 3 (95th percentile 131.00 ms)

249

```
Run 4: Statistics of CalibratedKoho

Start at: 2017-10-12 04:25:34
End at: 2017-10-12 04:26:04

# Below is generated by plot.py at 2017-10-12 09:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.32 Mbit/s
95th percentile per-packet one-way delay: 132.406 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 288.29 Mbit/s
95th percentile per-packet one-way delay: 133.103 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 133.55 Mbit/s
95th percentile per-packet one-way delay: 130.280 ms
Loss rate: 3.00%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 133.604 ms
Loss rate: 3.58%
```
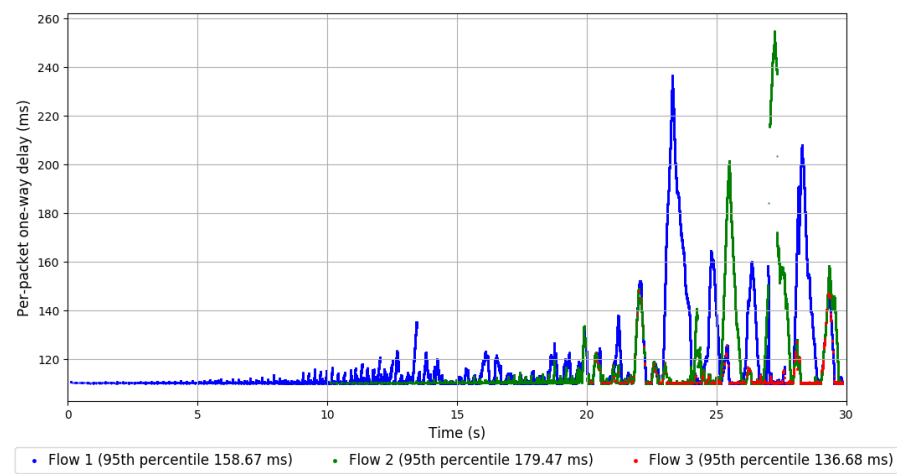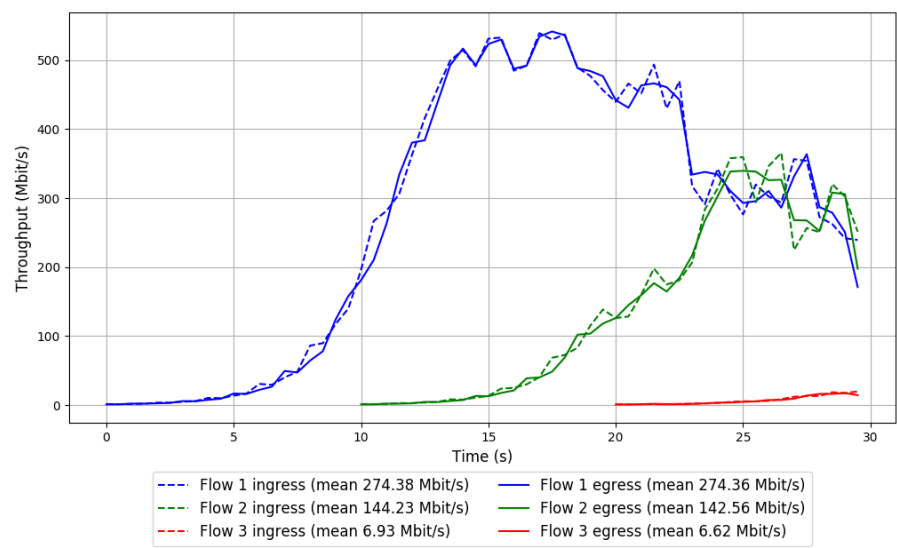
Run 4: Report of CalibratedKoho — Data Link

- --- Flow 1 ingress (mean 288.25 Mbit/s)   — Flow 1 egress (mean 288.29 Mbit/s)
- --- Flow 2 ingress (mean 136.12 Mbit/s)   — Flow 2 egress (mean 133.55 Mbit/s)
- --- Flow 3 ingress (mean 1.35 Mbit/s)   — Flow 3 egress (mean 1.33 Mbit/s)

- Flow 1 (95th percentile 133.10 ms)   Flow 2 (95th percentile 130.28 ms)   Flow 3 (95th percentile 133.60 ms)

Run 5: Statistics of CalibratedKoho

Start at: 2017-10-12 04:39:28
End at: 2017-10-12 04:39:58

Run 5: Report of CalibratedKoho — Data Link

```
Run 6: Statistics of CalibratedKoho

Start at: 2017-10-12 04:52:43
End at: 2017-10-12 04:53:13


# Below is generated by plot.py at 2017-10-12 09:07:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.09 Mbit/s
95th percentile per-packet one-way delay: 162.873 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 274.36 Mbit/s
95th percentile per-packet one-way delay: 158.670 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 142.56 Mbit/s
95th percentile per-packet one-way delay: 179.470 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 136.681 ms
Loss rate: 6.59%
```
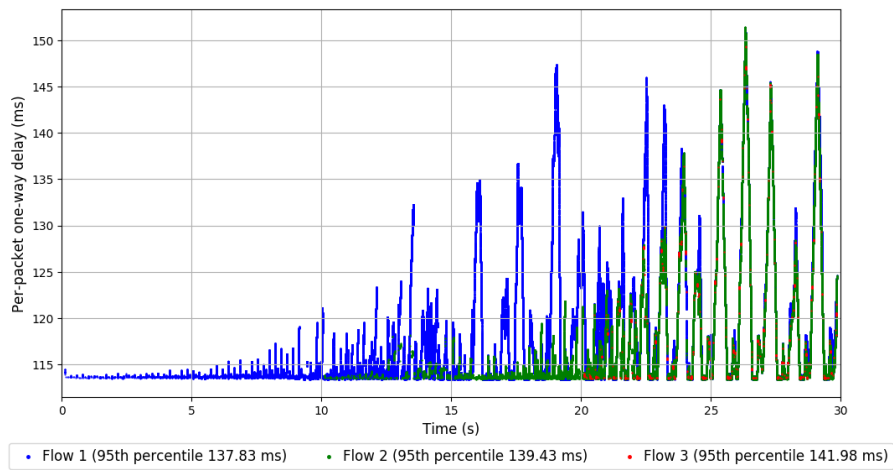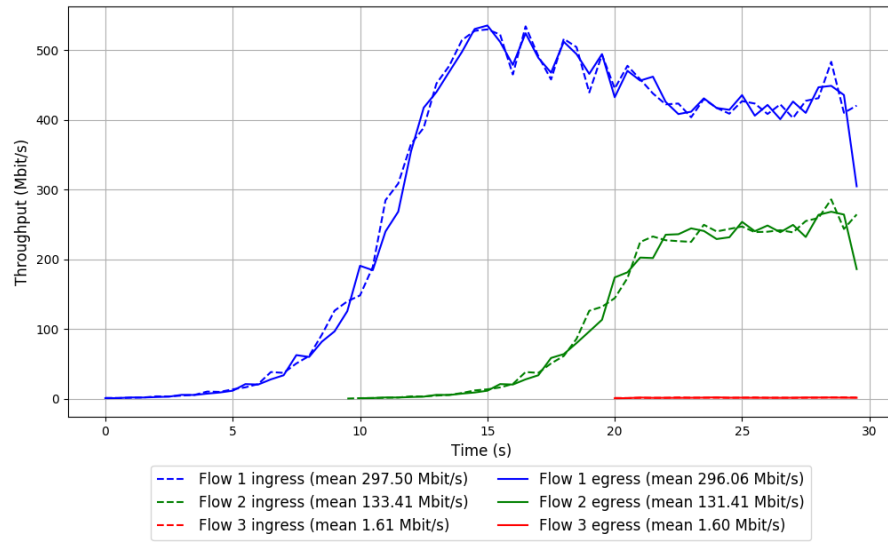
Run 6: Report of CalibratedKoho — Data Link

```
Run 7: Statistics of CalibratedKoho

Start at: 2017-10-12 05:06:13
End at: 2017-10-12 05:06:43


# Below is generated by plot.py at 2017-10-12 09:08:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.80 Mbit/s
95th percentile per-packet one-way delay: 138.211 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 296.06 Mbit/s
95th percentile per-packet one-way delay: 137.830 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 131.41 Mbit/s
95th percentile per-packet one-way delay: 139.425 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 141.978 ms
Loss rate: 3.07%
```
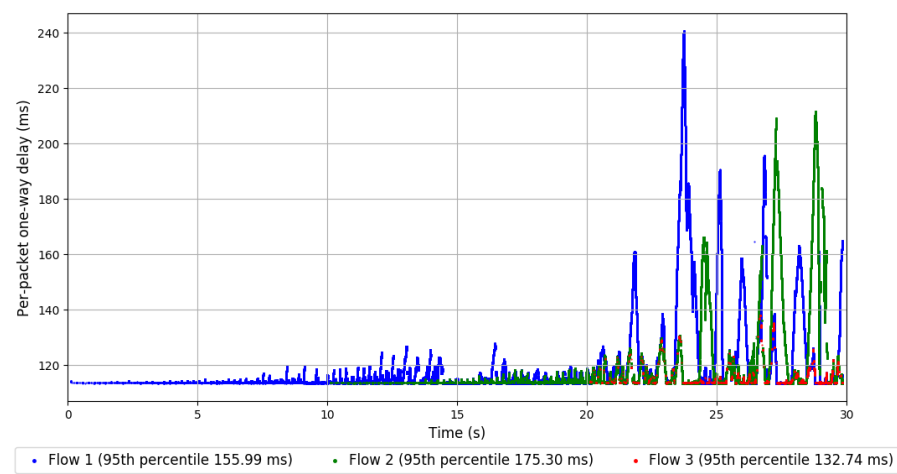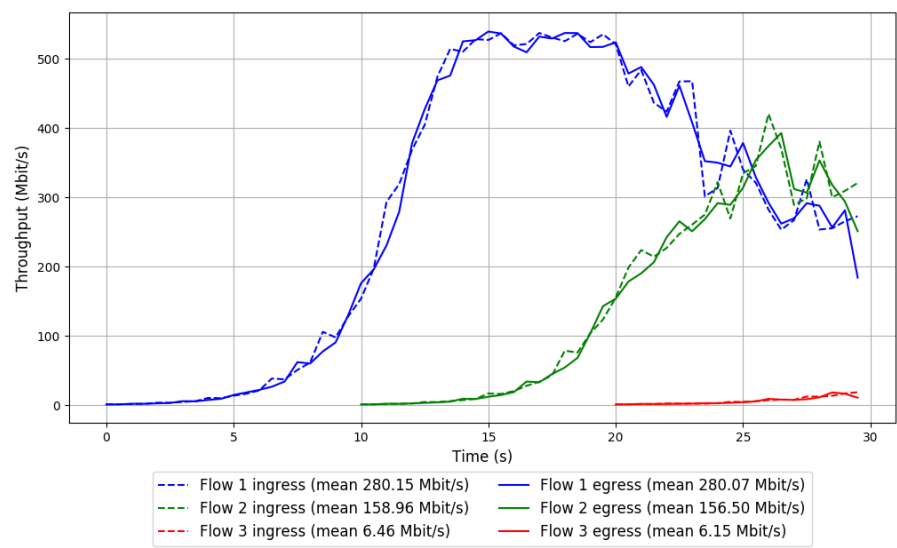
Run 7: Report of CalibratedKoho — Data Link

```
Run 8: Statistics of CalibratedKoho

Start at: 2017-10-12 05:19:37
End at: 2017-10-12 05:20:07


# Below is generated by plot.py at 2017-10-12 09:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.87 Mbit/s
95th percentile per-packet one-way delay: 160.702 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 280.07 Mbit/s
95th percentile per-packet one-way delay: 155.986 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 156.50 Mbit/s
95th percentile per-packet one-way delay: 175.302 ms
Loss rate: 2.67%
-- Flow 3:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 132.742 ms
Loss rate: 7.08%
```
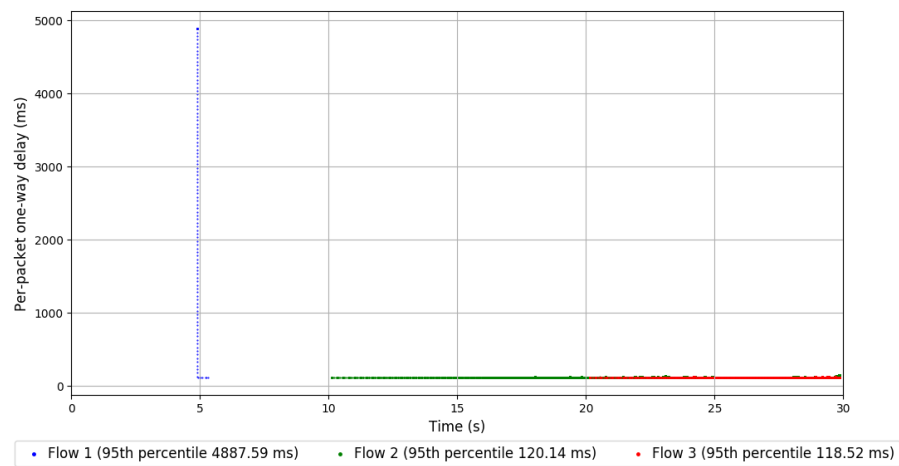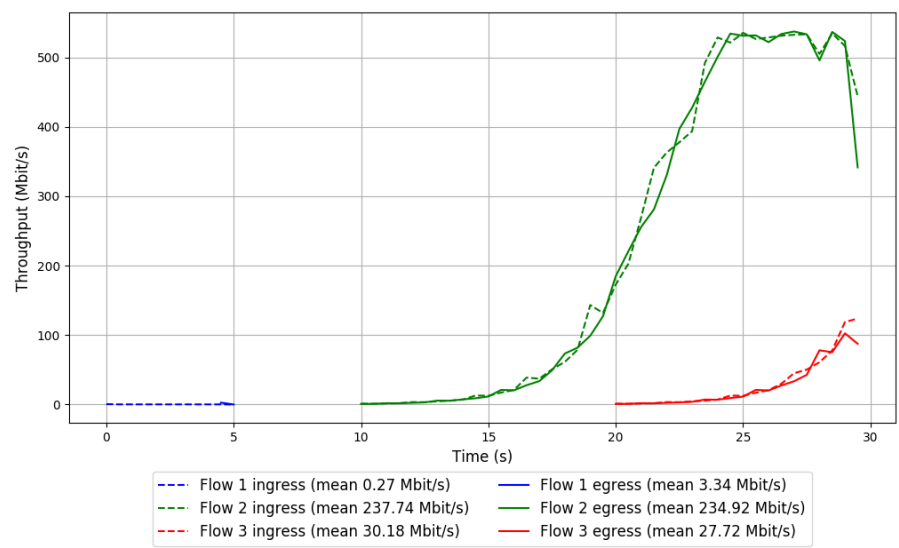
Run 8: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 280.15 Mbit/s) --- Flow 1 egress (mean 280.07 Mbit/s)
Flow 2 ingress (mean 158.96 Mbit/s) --- Flow 2 egress (mean 156.50 Mbit/s)
Flow 3 ingress (mean 6.46 Mbit/s) --- Flow 3 egress (mean 6.15 Mbit/s)

Flow 1 (95th percentile 155.99 ms)   Flow 2 (95th percentile 175.30 ms)   Flow 3 (95th percentile 132.74 ms)

259

```
Run 9: Statistics of CalibratedKoho

Start at: 2017-10-12 05:33:38
End at: 2017-10-12 05:34:08


# Below is generated by plot.py at 2017-10-12 09:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.49 Mbit/s
95th percentile per-packet one-way delay: 120.136 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 3.34 Mbit/s
95th percentile per-packet one-way delay: 4887.585 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.92 Mbit/s
95th percentile per-packet one-way delay: 120.145 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 27.72 Mbit/s
95th percentile per-packet one-way delay: 118.523 ms
Loss rate: 10.21%
```
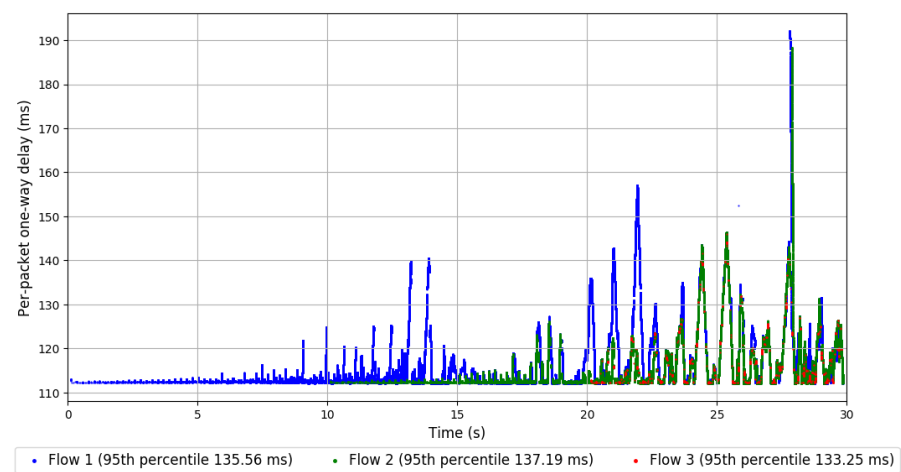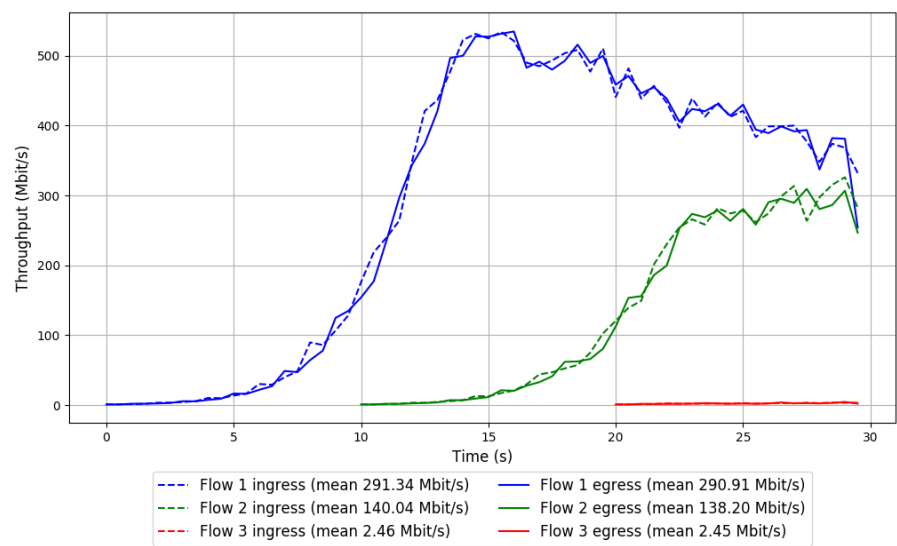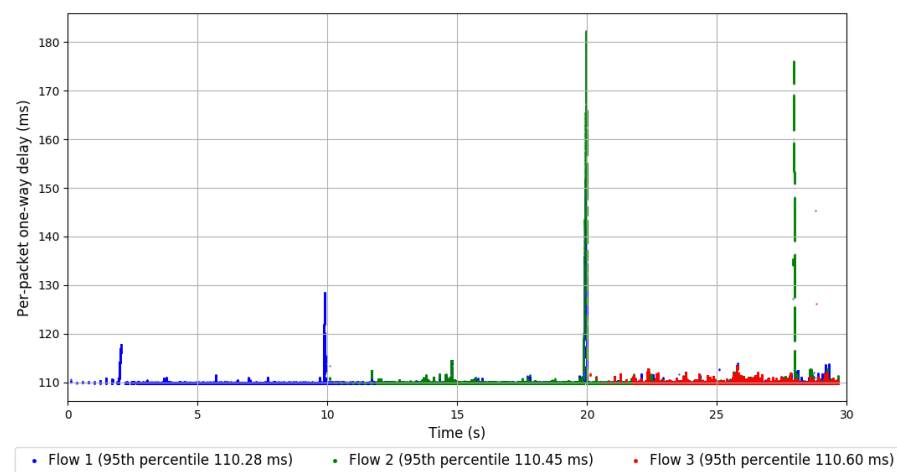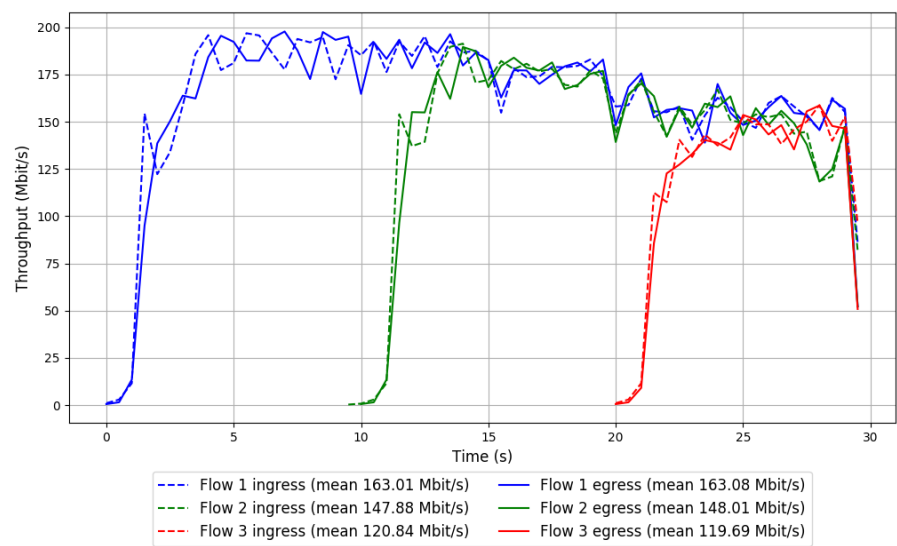
Run 9: Report of CalibratedKoho — Data Link

- - - Flow 1 ingress (mean 0.27 Mbit/s)   —— Flow 1 egress (mean 3.34 Mbit/s)
- - - Flow 2 ingress (mean 237.74 Mbit/s)   —— Flow 2 egress (mean 234.92 Mbit/s)
- - - Flow 3 ingress (mean 30.18 Mbit/s)   —— Flow 3 egress (mean 27.72 Mbit/s)

• Flow 1 (95th percentile 4887.59 ms)   • Flow 2 (95th percentile 120.14 ms)   • Flow 3 (95th percentile 118.52 ms)

```
Run 10: Statistics of CalibratedKoho

Start at: 2017-10-12 05:47:03
End at: 2017-10-12 05:47:33


# Below is generated by plot.py at 2017-10-12 09:09:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.38 Mbit/s
95th percentile per-packet one-way delay: 135.758 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 290.91 Mbit/s
95th percentile per-packet one-way delay: 135.563 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 138.20 Mbit/s
95th percentile per-packet one-way delay: 137.195 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 133.249 ms
Loss rate: 3.43%
```

Run 10: Report of CalibratedKoho — Data Link

```
Run 1: Statistics of Indigo

Start at: 2017-10-12 03:36:21
End at: 2017-10-12 03:36:51


# Below is generated by plot.py at 2017-10-12 09:10:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.71 Mbit/s
95th percentile per-packet one-way delay: 110.394 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 163.08 Mbit/s
95th percentile per-packet one-way delay: 110.281 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 148.01 Mbit/s
95th percentile per-packet one-way delay: 110.449 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 119.69 Mbit/s
95th percentile per-packet one-way delay: 110.601 ms
Loss rate: 3.23%
```
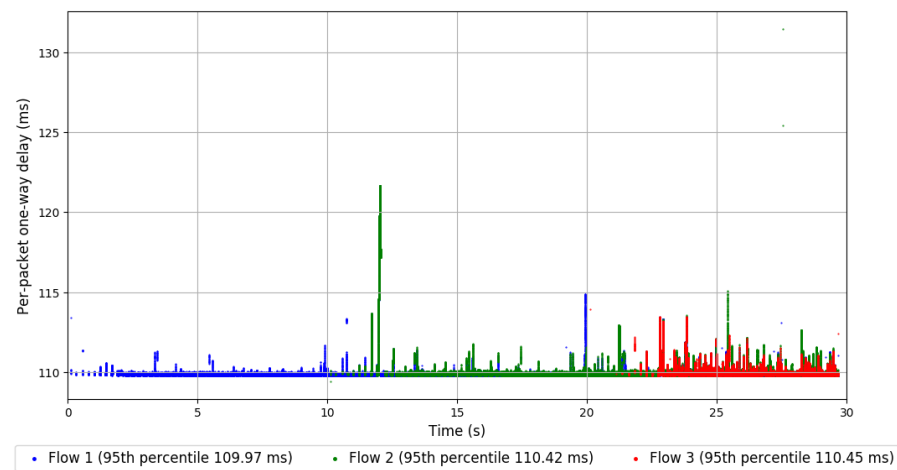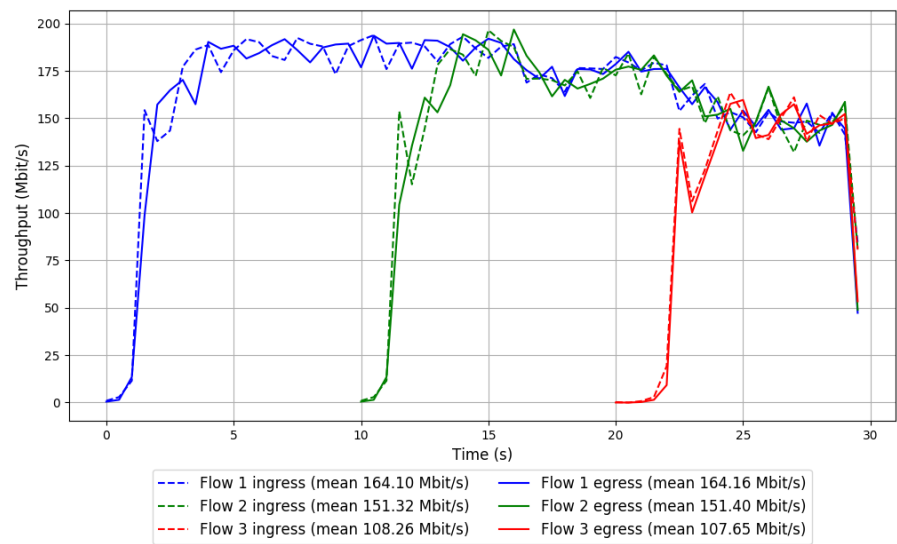
Run 1: Report of Indigo — Data Link

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```
Run 2: Statistics of Indigo

Start at: 2017-10-12 03:49:57
End at: 2017-10-12 03:50:27

# Below is generated by plot.py at 2017-10-12 09:10:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.10 Mbit/s
95th percentile per-packet one-way delay: 110.116 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 164.16 Mbit/s
95th percentile per-packet one-way delay: 109.975 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 151.40 Mbit/s
95th percentile per-packet one-way delay: 110.419 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 107.65 Mbit/s
95th percentile per-packet one-way delay: 110.453 ms
Loss rate: 2.84%
```
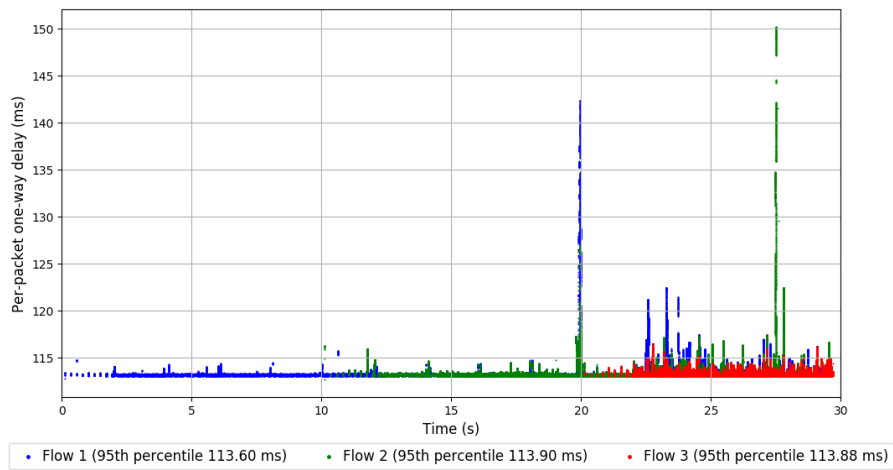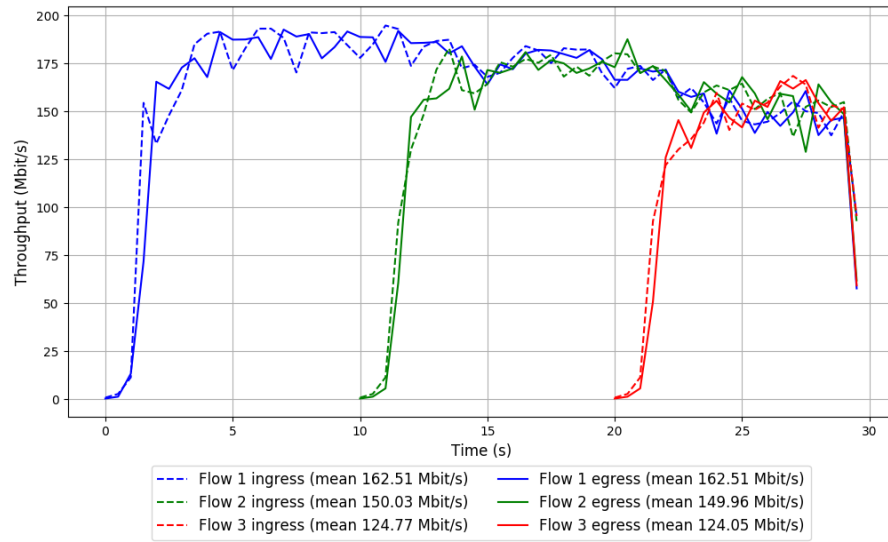
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-10-12 04:03:33
End at: 2017-10-12 04:04:03


# Below is generated by plot.py at 2017-10-12 09:11:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.75 Mbit/s
95th percentile per-packet one-way delay: 113.756 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 162.51 Mbit/s
95th percentile per-packet one-way delay: 113.601 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 149.96 Mbit/s
95th percentile per-packet one-way delay: 113.902 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 124.05 Mbit/s
95th percentile per-packet one-way delay: 113.878 ms
Loss rate: 2.84%
```
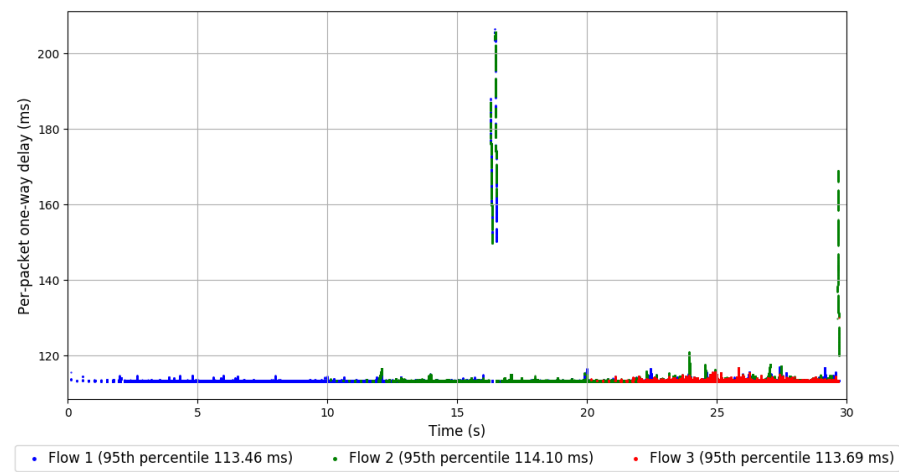
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2017-10-12 04:17:25
End at: 2017-10-12 04:17:55

# Below is generated by plot.py at 2017-10-12 09:12:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.51 Mbit/s
95th percentile per-packet one-way delay: 113.694 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 153.91 Mbit/s
95th percentile per-packet one-way delay: 113.461 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 147.08 Mbit/s
95th percentile per-packet one-way delay: 114.099 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 125.42 Mbit/s
95th percentile per-packet one-way delay: 113.688 ms
Loss rate: 3.12%
```
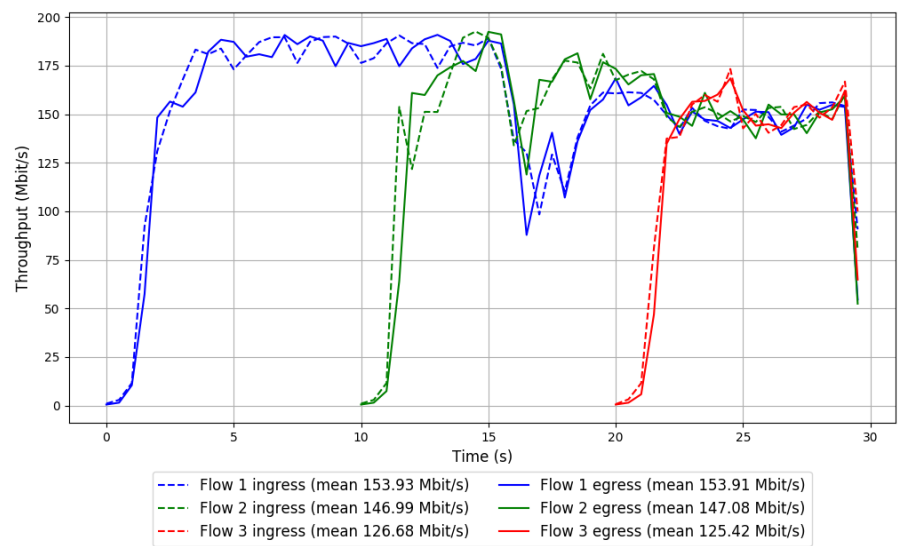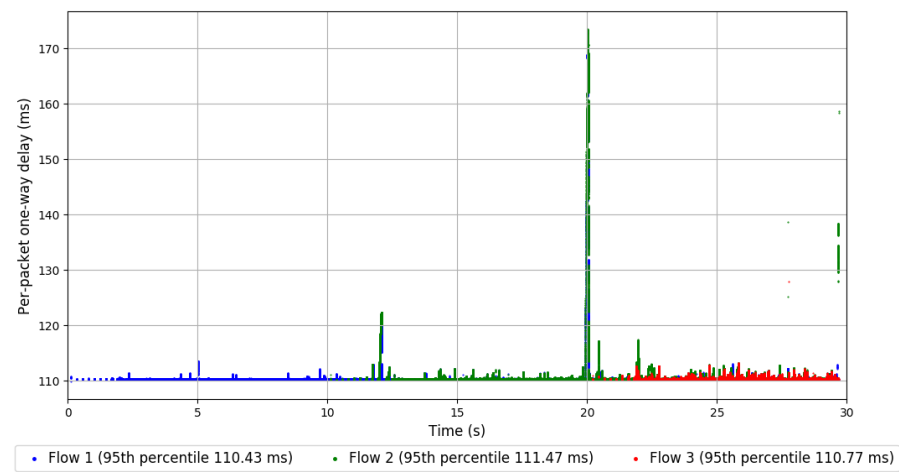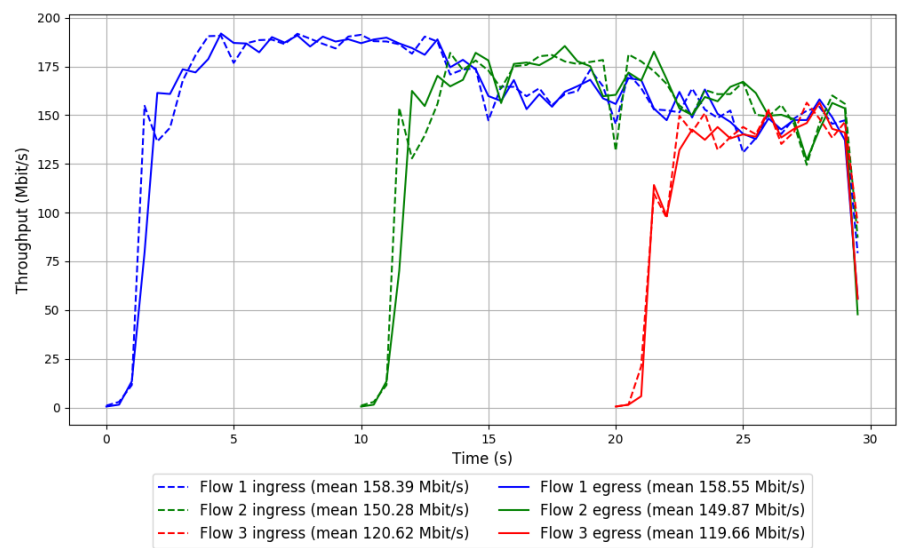
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 153.93 Mbit/s) --- Flow 1 egress (mean 153.91 Mbit/s)
Flow 2 ingress (mean 146.99 Mbit/s) --- Flow 2 egress (mean 147.08 Mbit/s)
Flow 3 ingress (mean 126.68 Mbit/s) --- Flow 3 egress (mean 125.42 Mbit/s)

Flow 1 (95th percentile 113.46 ms)   Flow 2 (95th percentile 114.10 ms)   Flow 3 (95th percentile 113.69 ms)

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```
Run 5: Statistics of Indigo

Start at: 2017-10-12 04:31:08
End at: 2017-10-12 04:31:38

# Below is generated by plot.py at 2017-10-12 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.92 Mbit/s
95th percentile per-packet one-way delay: 110.736 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 158.55 Mbit/s
95th percentile per-packet one-way delay: 110.432 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 149.87 Mbit/s
95th percentile per-packet one-way delay: 111.471 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 119.66 Mbit/s
95th percentile per-packet one-way delay: 110.771 ms
Loss rate: 3.06%
```
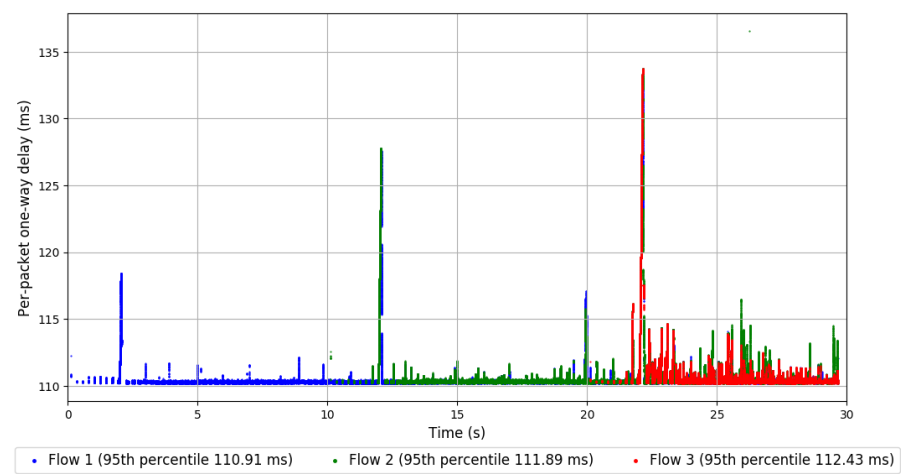
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-10-12 04:44:30
End at: 2017-10-12 04:45:00

# Below is generated by plot.py at 2017-10-12 09:13:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.84 Mbit/s
95th percentile per-packet one-way delay: 111.482 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 166.12 Mbit/s
95th percentile per-packet one-way delay: 110.905 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 159.53 Mbit/s
95th percentile per-packet one-way delay: 111.885 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 130.58 Mbit/s
95th percentile per-packet one-way delay: 112.429 ms
Loss rate: 2.94%
```
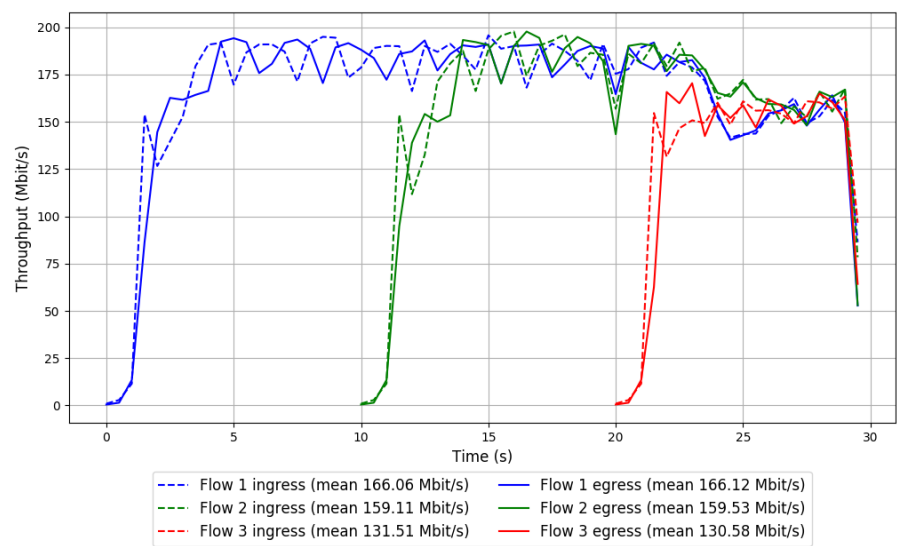
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-10-12 04:58:14
End at: 2017-10-12 04:58:44


# Below is generated by plot.py at 2017-10-12 09:13:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.51 Mbit/s
95th percentile per-packet one-way delay: 110.289 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 164.69 Mbit/s
95th percentile per-packet one-way delay: 110.204 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 150.76 Mbit/s
95th percentile per-packet one-way delay: 110.313 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 122.29 Mbit/s
95th percentile per-packet one-way delay: 110.448 ms
Loss rate: 2.61%
```
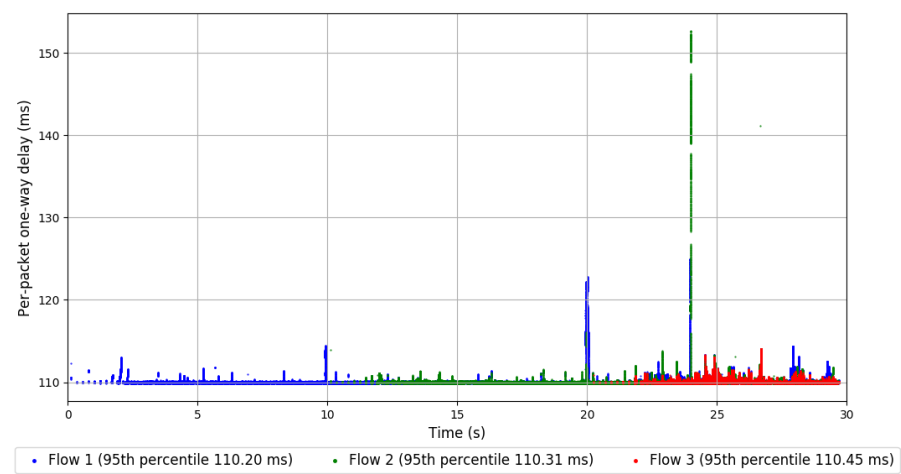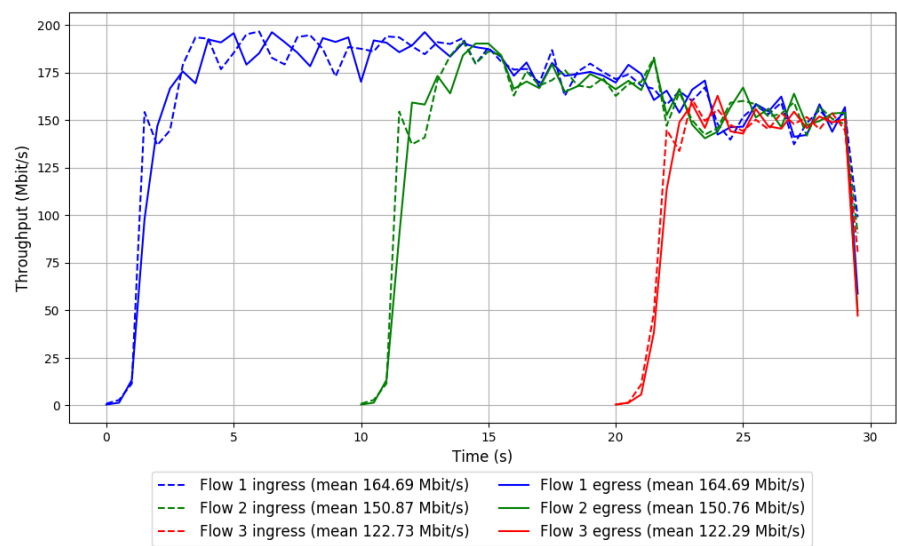
Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2017-10-12 05:11:48
End at: 2017-10-12 05:12:18

# Below is generated by plot.py at 2017-10-12 09:13:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.50 Mbit/s
95th percentile per-packet one-way delay: 114.054 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 164.46 Mbit/s
95th percentile per-packet one-way delay: 113.809 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 155.23 Mbit/s
95th percentile per-packet one-way delay: 114.346 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 128.28 Mbit/s
95th percentile per-packet one-way delay: 114.237 ms
Loss rate: 2.85%
```
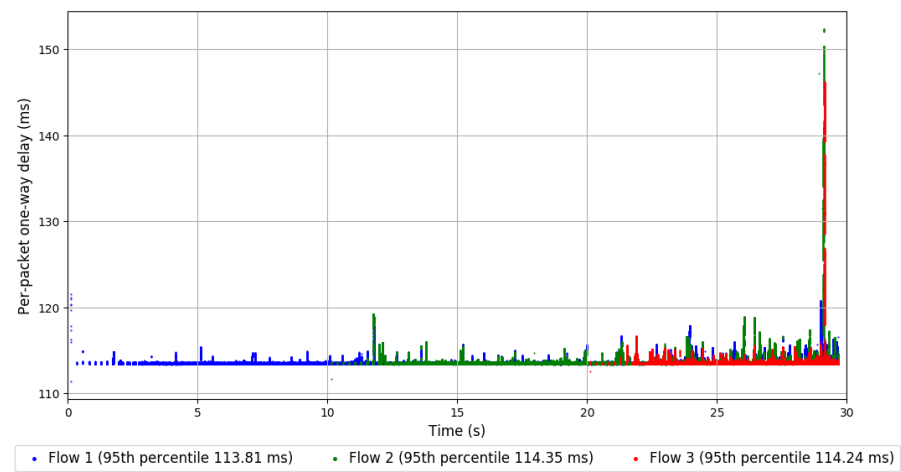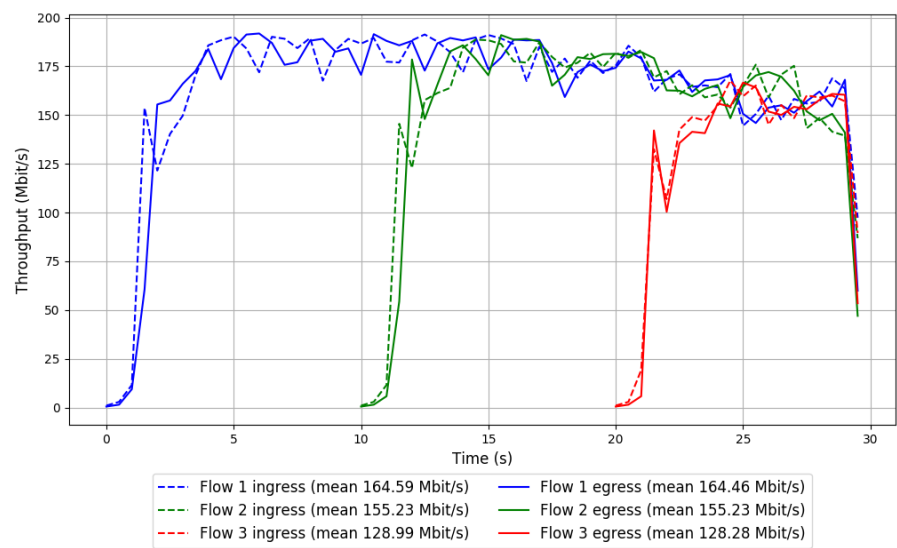
Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2017-10-12 05:25:04
End at: 2017-10-12 05:25:34


# Below is generated by plot.py at 2017-10-12 09:13:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.65 Mbit/s
95th percentile per-packet one-way delay: 114.343 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 161.59 Mbit/s
95th percentile per-packet one-way delay: 114.114 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 148.11 Mbit/s
95th percentile per-packet one-way delay: 114.420 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 133.47 Mbit/s
95th percentile per-packet one-way delay: 114.656 ms
Loss rate: 2.95%
```
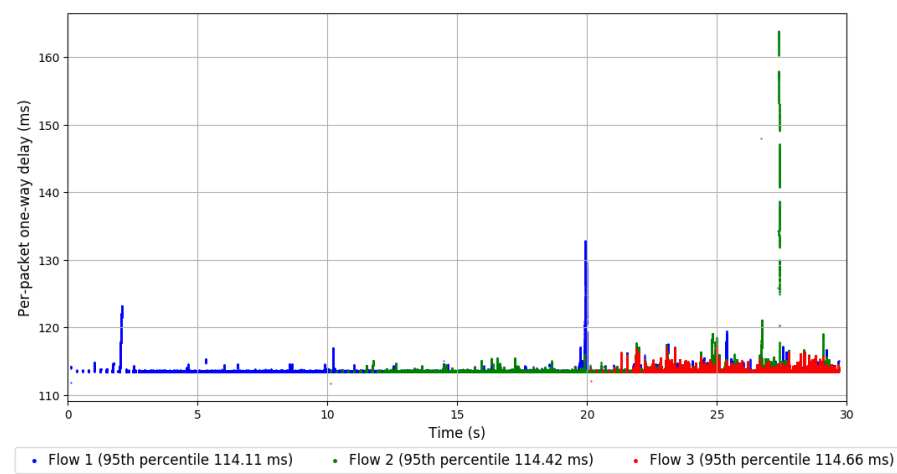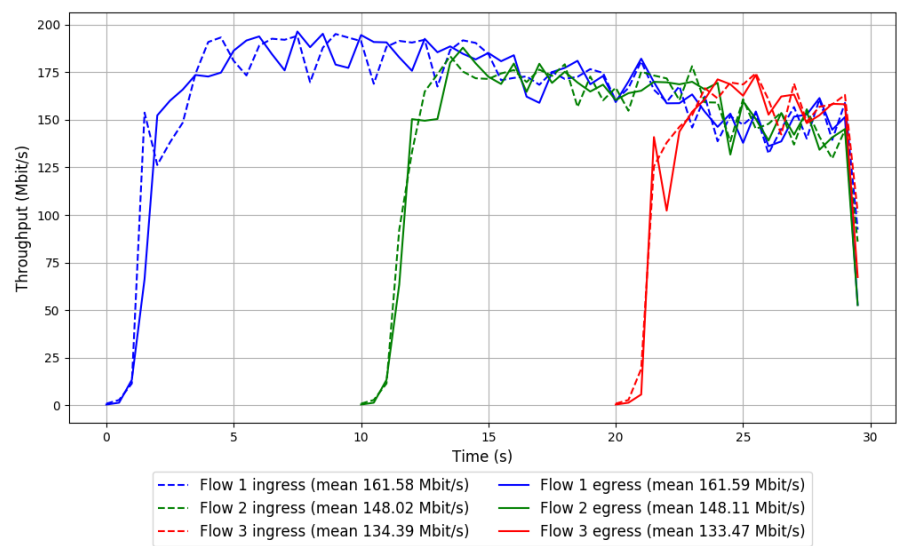
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-10-12 05:38:57
End at: 2017-10-12 05:39:27

# Below is generated by plot.py at 2017-10-12 09:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.67 Mbit/s
95th percentile per-packet one-way delay: 113.289 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 167.92 Mbit/s
95th percentile per-packet one-way delay: 112.685 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 158.09 Mbit/s
95th percentile per-packet one-way delay: 113.549 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 133.63 Mbit/s
95th percentile per-packet one-way delay: 115.284 ms
Loss rate: 3.05%
```

Run 10: Report of Indigo — Data Link