Pantheon Report

Generated at 2017-09-22 02:25:49 (UTC).

Data path: Mexico Ethernet (*remote*) →AWS California 2 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.

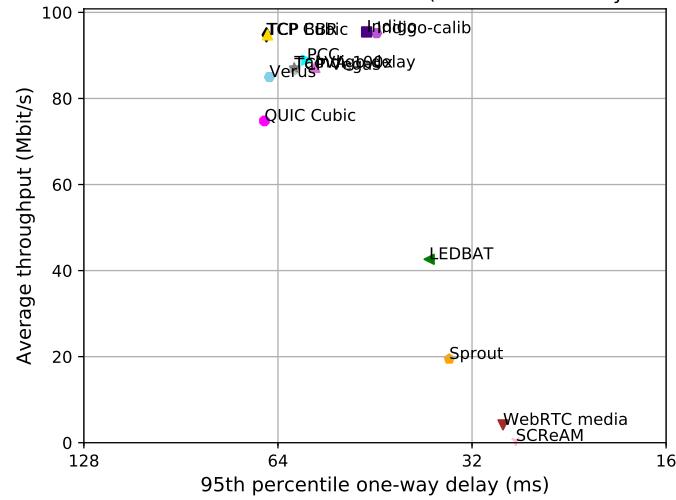Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

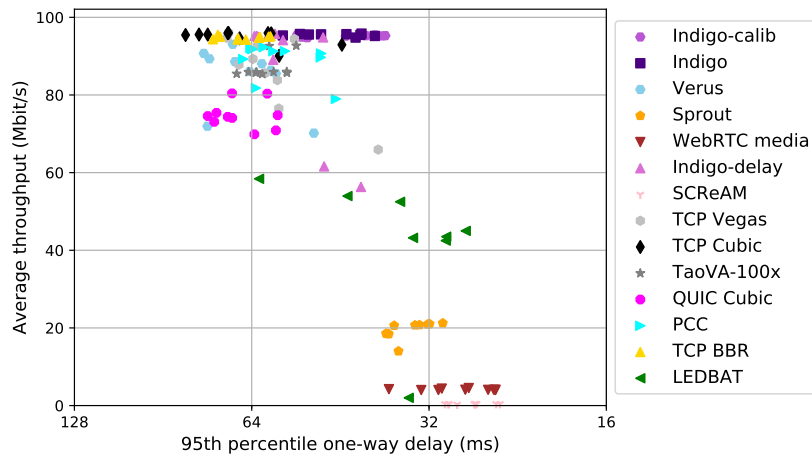NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

```
Git summary:
branch: indigos @ 46c7c812d4acb71eea4f5fb0b03b3657cea3062f
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Mexico Ethernet to AWS California 2 Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Mexico Ethernet to AWS California 2 Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows

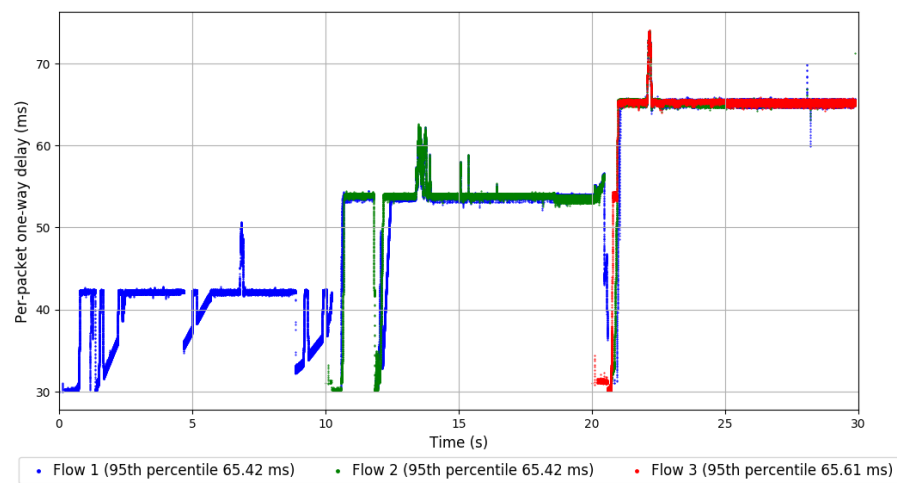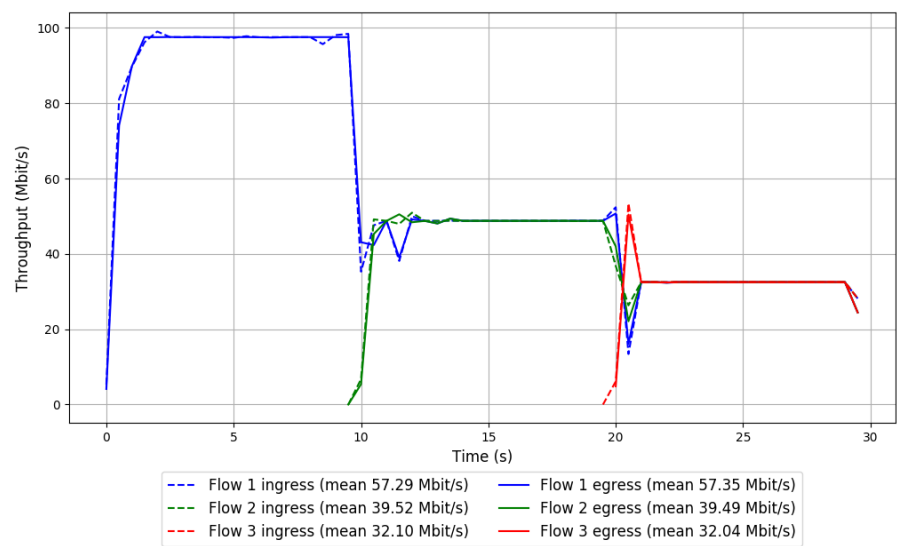| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	57.27	40.06	32.72	66.29	64.28	64.96	0.26	0.53	1.24
TCP Cubic	10	59.96	37.78	29.30	58.03	64.71	63.68	0.24	0.58	1.50
LEDBAT	8	27.12	17.27	12.24	33.69	40.16	41.40	0.27	0.85	1.76
PCC	10	60.46	29.77	26.33	57.19	55.29	55.41	0.43	0.79	1.79
QUIC Cubic	10	42.14	35.02	28.69	67.17	60.10	63.06	0.30	0.61	1.35
SCReAM	10	0.21	0.21	0.22	27.38	27.36	27.34	0.34	0.58	0.73
WebRTC media	10	2.28	1.37	0.50	28.49	28.69	29.12	0.31	0.34	0.93
Sprout	10	9.87	9.80	9.35	33.88	34.73	35.95	0.44	0.75	1.24
TaoVA-100x	10	51.84	42.57	28.18	60.25	54.52	61.04	0.25	0.53	1.39
TCP Vegas	10	48.81	39.97	34.00	54.70	58.70	52.43	0.18	0.36	0.94
Verus	10	51.21	37.60	27.11	61.36	64.77	65.49	0.29	0.55	1.17
Indigo	9	59.96	35.39	37.09	46.87	51.60	43.35	0.19	0.37	0.99
Indigo-calib	10	58.90	38.77	32.98	42.64	54.88	45.85	0.19	0.37	0.91
Indigo-delay	10	56.71	31.49	29.79	54.87	47.52	59.33	0.39	0.55	1.26

```
Run 1: Statistics of TCP BBR

Start at: 2017-09-21 19:29:01
End at: 2017-09-21 19:29:31
Local clock offset: 0.056 ms
Remote clock offset: -4.102 ms

# Below is generated by plot.py at 2017-09-22 02:07:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.24 Mbit/s
95th percentile per-packet one-way delay: 65.481 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 57.35 Mbit/s
95th percentile per-packet one-way delay: 65.421 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.49 Mbit/s
95th percentile per-packet one-way delay: 65.425 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 65.615 ms
Loss rate: 1.26%
```
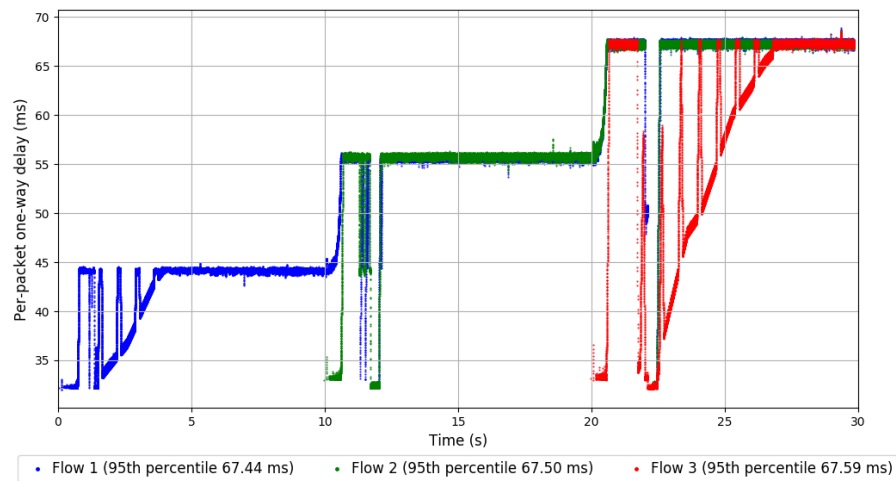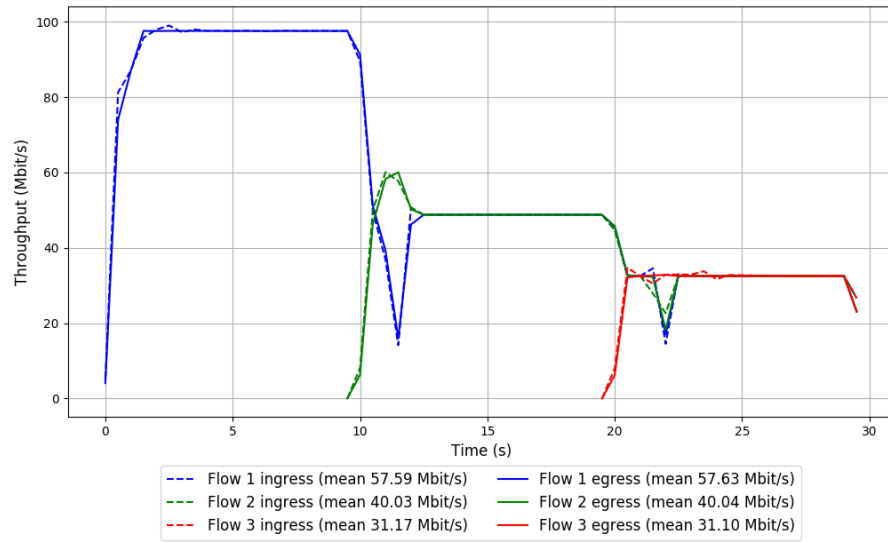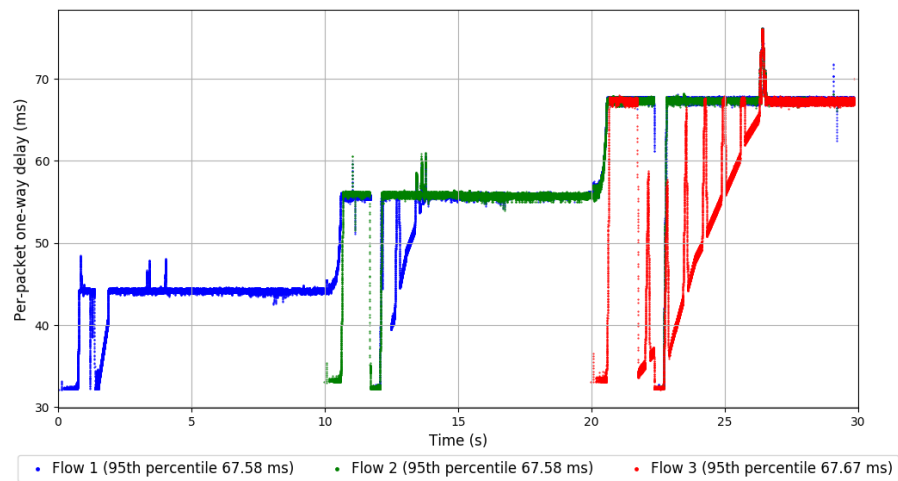
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.29 Mbit/s) --- Flow 1 egress (mean 57.35 Mbit/s)
Flow 2 ingress (mean 39.52 Mbit/s) --- Flow 2 egress (mean 39.49 Mbit/s)
Flow 3 ingress (mean 32.10 Mbit/s) --- Flow 3 egress (mean 32.04 Mbit/s)

Flow 1 (95th percentile 65.42 ms)   Flow 2 (95th percentile 65.42 ms)   Flow 3 (95th percentile 65.61 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2017-09-21 19:48:27
End at: 2017-09-21 19:48:57
Local clock offset: 0.119 ms
Remote clock offset: -5.767 ms


# Below is generated by plot.py at 2017-09-22 02:07:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.62 Mbit/s
95th percentile per-packet one-way delay: 67.494 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 57.63 Mbit/s
95th percentile per-packet one-way delay: 67.435 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 40.04 Mbit/s
95th percentile per-packet one-way delay: 67.495 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 31.10 Mbit/s
95th percentile per-packet one-way delay: 67.589 ms
Loss rate: 1.28%
```

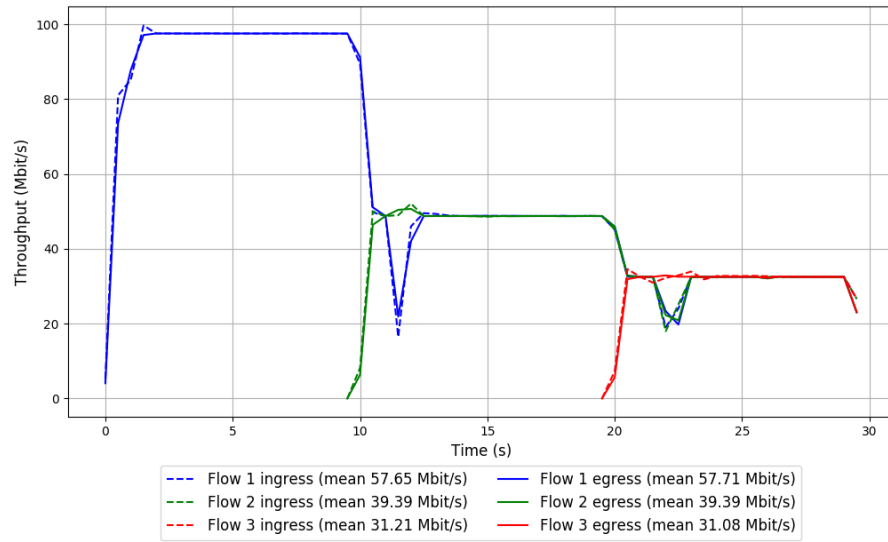Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-09-21 20:08:01
End at: 2017-09-21 20:08:31
Local clock offset: 0.124 ms
Remote clock offset: -5.606 ms


# Below is generated by plot.py at 2017-09-22 02:07:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 67.593 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 57.71 Mbit/s
95th percentile per-packet one-way delay: 67.585 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.39 Mbit/s
95th percentile per-packet one-way delay: 67.581 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 67.668 ms
Loss rate: 1.30%
```
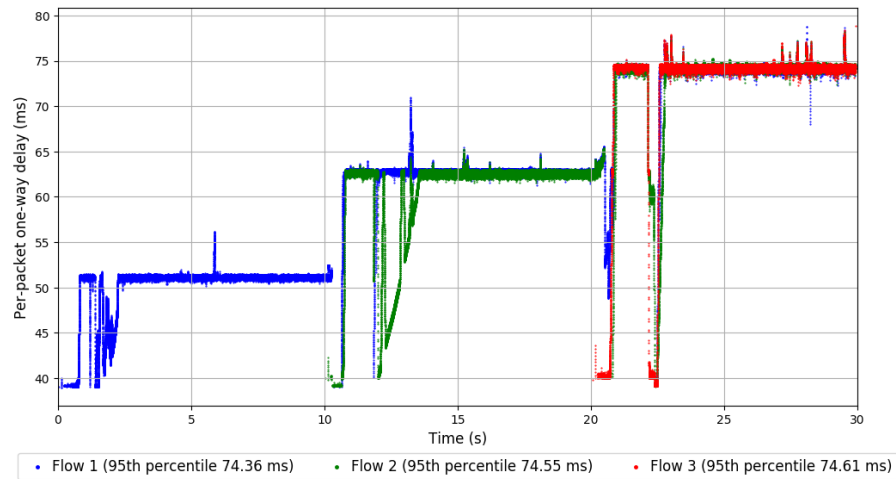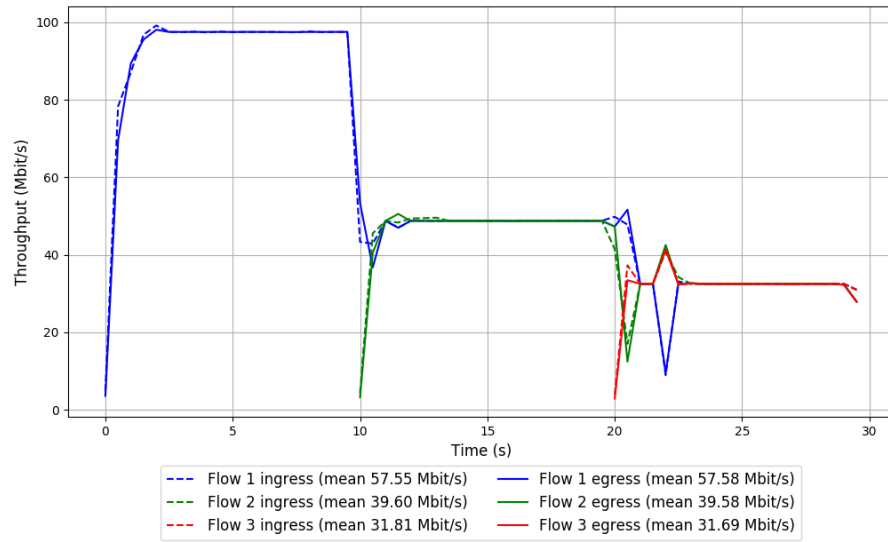
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.65 Mbit/s) --- Flow 1 egress (mean 57.71 Mbit/s) ——
Flow 2 ingress (mean 39.39 Mbit/s) --- Flow 2 egress (mean 39.39 Mbit/s) ——
Flow 3 ingress (mean 31.21 Mbit/s) --- Flow 3 egress (mean 31.08 Mbit/s) ——

Flow 1 (95th percentile 67.58 ms)   Flow 2 (95th percentile 67.58 ms)   Flow 3 (95th percentile 67.67 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2017-09-21 20:27:35
End at: 2017-09-21 20:28:05
Local clock offset: 0.043 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2017-09-22 02:07:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.35 Mbit/s
95th percentile per-packet one-way delay: 74.499 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 74.365 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 39.58 Mbit/s
95th percentile per-packet one-way delay: 74.547 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 31.69 Mbit/s
95th percentile per-packet one-way delay: 74.610 ms
Loss rate: 1.28%
```
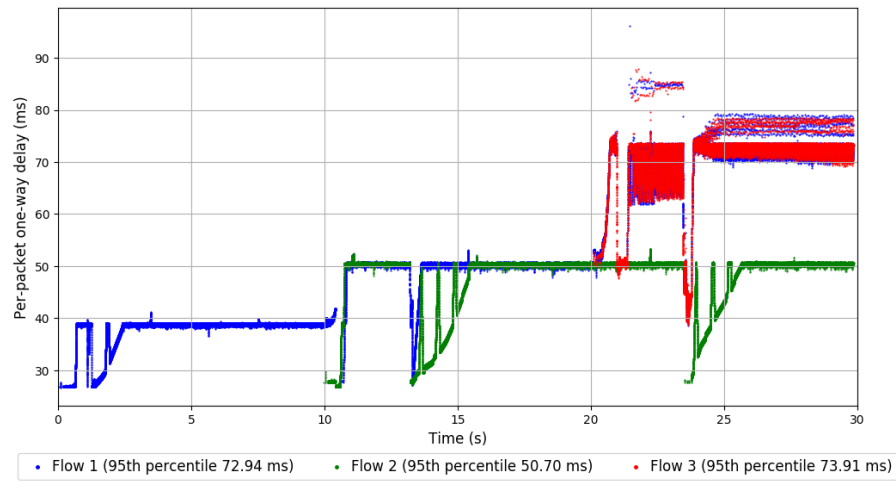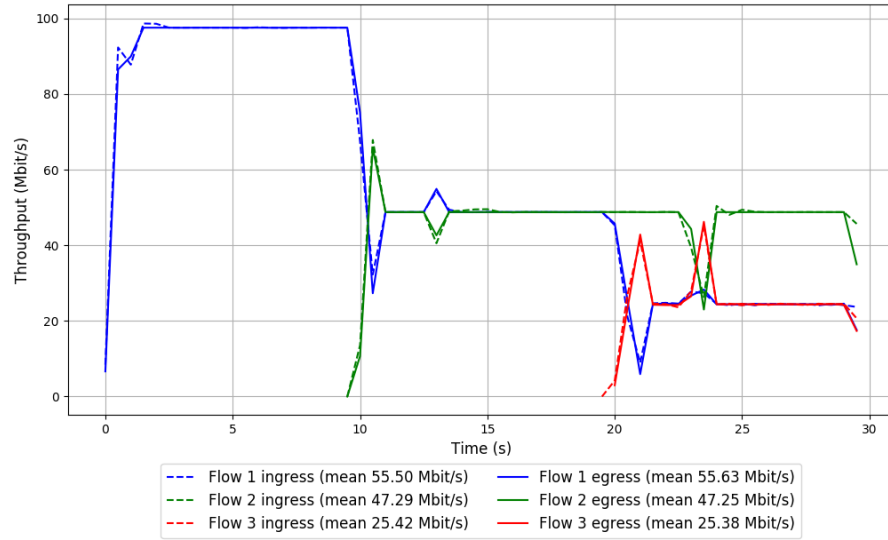
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2017-09-21 20:48:58
End at: 2017-09-21 20:49:28
Local clock offset: 0.256 ms
Remote clock offset: 0.696 ms


# Below is generated by plot.py at 2017-09-22 02:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.51 Mbit/s
95th percentile per-packet one-way delay: 73.087 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 55.63 Mbit/s
95th percentile per-packet one-way delay: 72.944 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 50.705 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 25.38 Mbit/s
95th percentile per-packet one-way delay: 73.905 ms
Loss rate: 1.40%
```
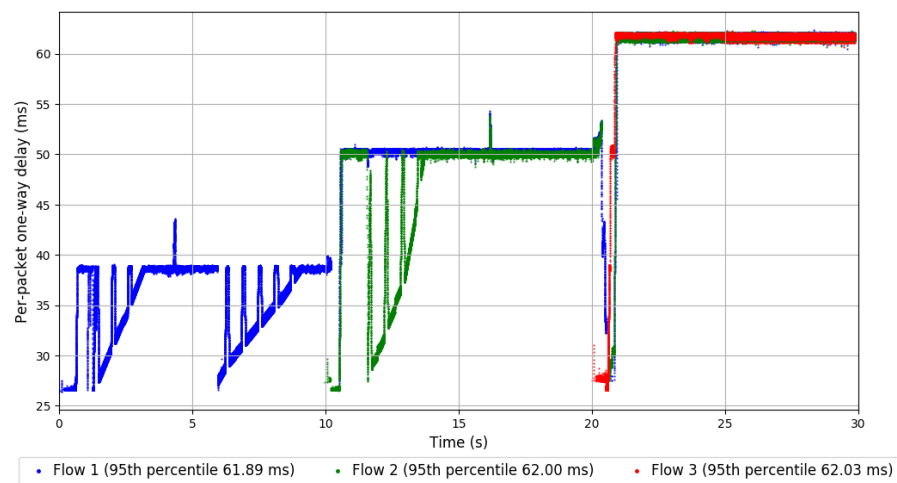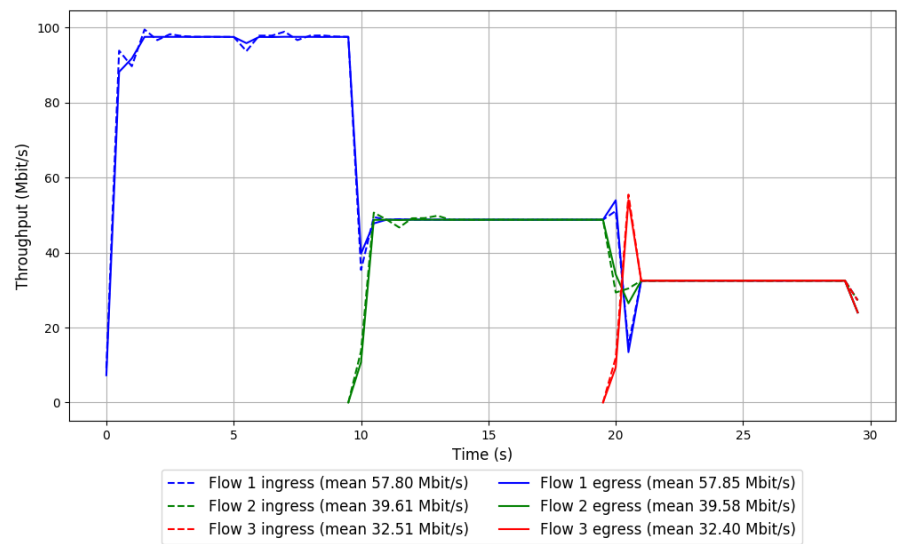
Run 5: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 55.50 Mbit/s) —— Flow 1 egress (mean 55.63 Mbit/s)
- - - Flow 2 ingress (mean 47.29 Mbit/s) —— Flow 2 egress (mean 47.25 Mbit/s)
- - - Flow 3 ingress (mean 25.42 Mbit/s) —— Flow 3 egress (mean 25.38 Mbit/s)

- Flow 1 (95th percentile 72.94 ms)   • Flow 2 (95th percentile 50.70 ms)   • Flow 3 (95th percentile 73.91 ms)
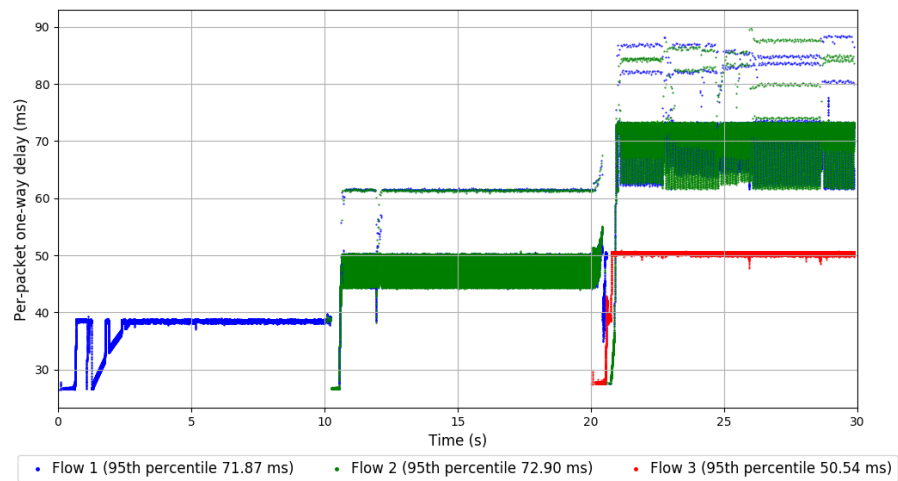
13

```
Run 6: Statistics of TCP BBR

Start at: 2017-09-21 21:08:28
End at: 2017-09-21 21:08:58
Local clock offset: 0.406 ms
Remote clock offset: 0.213 ms


# Below is generated by plot.py at 2017-09-22 02:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 61.989 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 61.886 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 39.58 Mbit/s
95th percentile per-packet one-way delay: 62.002 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 62.027 ms
Loss rate: 1.12%
```
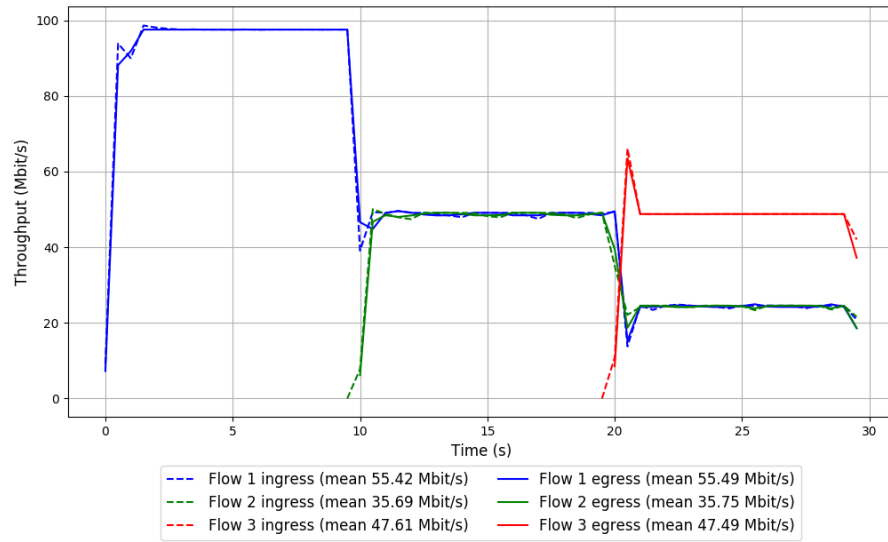
Run 6: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 57.80 Mbit/s) ——— Flow 1 egress (mean 57.85 Mbit/s)
- - - Flow 2 ingress (mean 39.61 Mbit/s) ——— Flow 2 egress (mean 39.58 Mbit/s)
- - - Flow 3 ingress (mean 32.51 Mbit/s) ——— Flow 3 egress (mean 32.40 Mbit/s)

- Flow 1 (95th percentile 61.89 ms)   • Flow 2 (95th percentile 62.00 ms)   • Flow 3 (95th percentile 62.03 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-09-21 21:27:51
End at: 2017-09-21 21:28:22
Local clock offset: 0.499 ms
Remote clock offset: -0.431 ms


# Below is generated by plot.py at 2017-09-22 02:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 72.452 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 55.49 Mbit/s
95th percentile per-packet one-way delay: 71.867 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 72.901 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 47.49 Mbit/s
95th percentile per-packet one-way delay: 50.542 ms
Loss rate: 1.03%
```
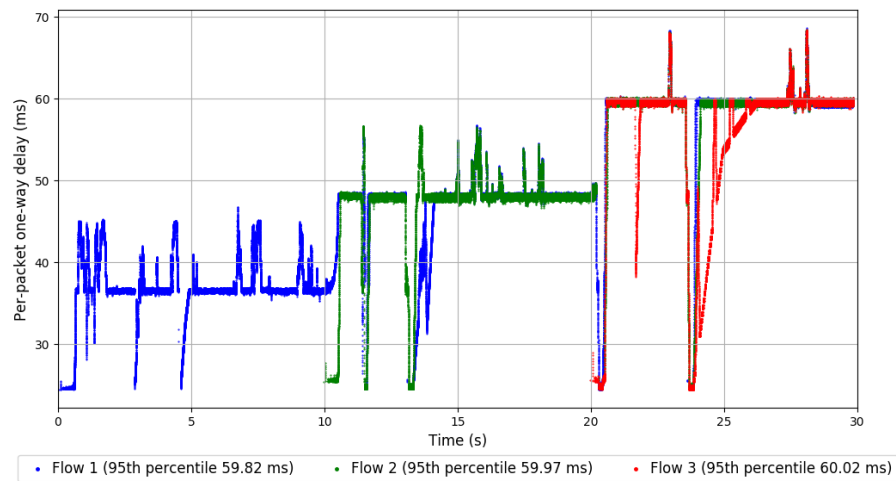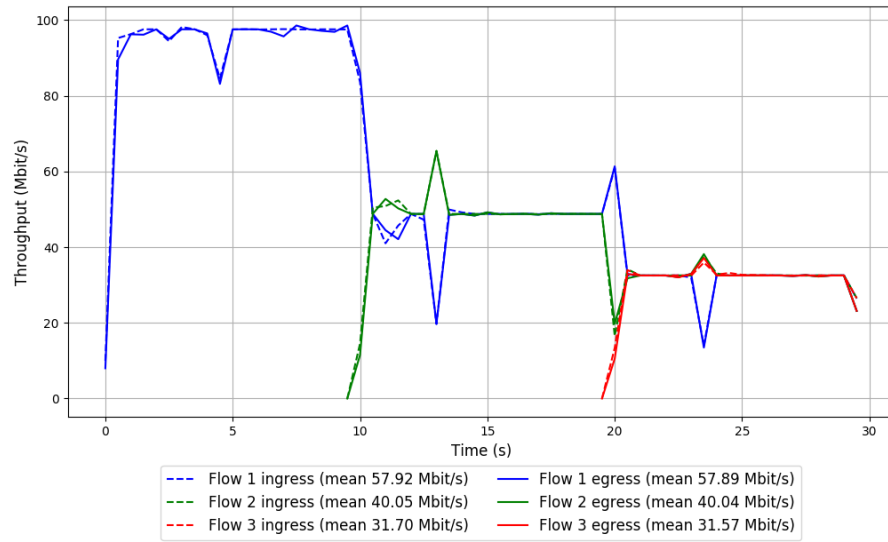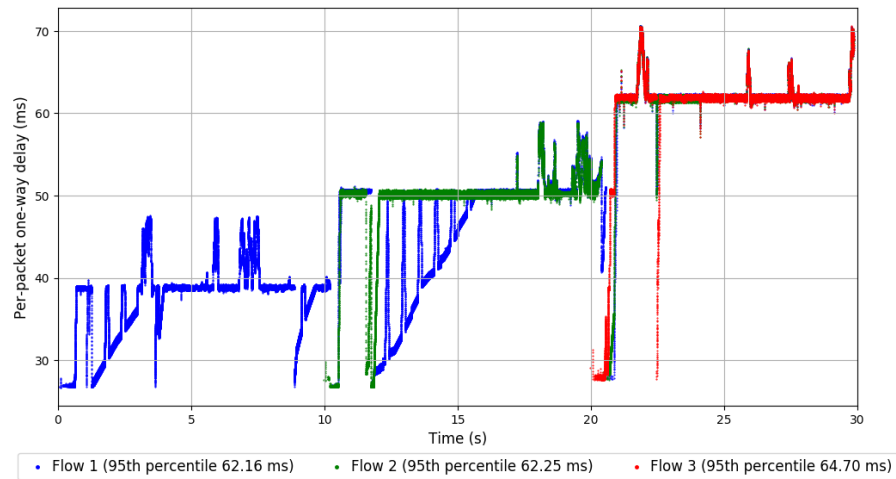
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 55.42 Mbit/s) --- Flow 1 egress (mean 55.49 Mbit/s)
Flow 2 ingress (mean 35.69 Mbit/s) --- Flow 2 egress (mean 35.75 Mbit/s)
Flow 3 ingress (mean 47.61 Mbit/s) --- Flow 3 egress (mean 47.49 Mbit/s)

Flow 1 (95th percentile 71.87 ms)   Flow 2 (95th percentile 72.90 ms)   Flow 3 (95th percentile 50.54 ms)
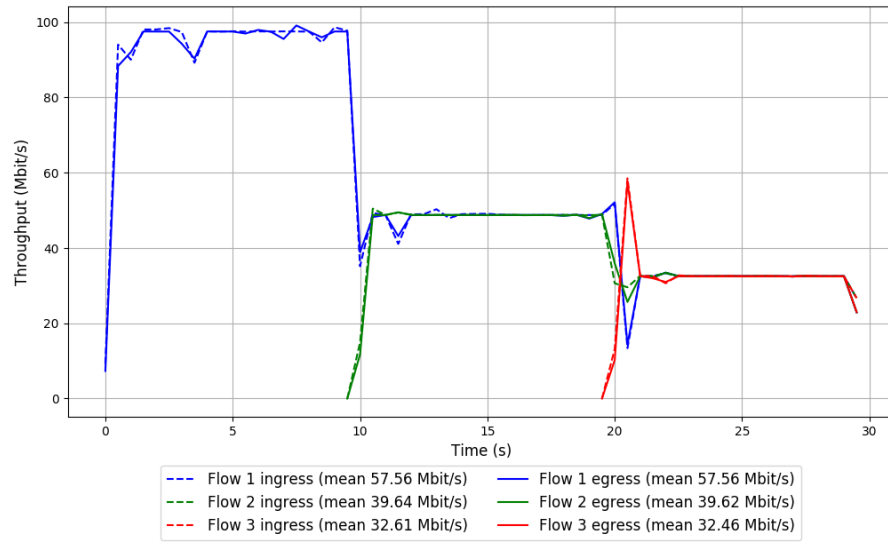
17

```
Run 8: Statistics of TCP BBR

Start at: 2017-09-21 21:47:23
End at: 2017-09-21 21:47:53
Local clock offset: 0.648 ms
Remote clock offset: 1.297 ms

# Below is generated by plot.py at 2017-09-22 02:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 59.923 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 59.817 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 40.04 Mbit/s
95th percentile per-packet one-way delay: 59.973 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 31.57 Mbit/s
95th percentile per-packet one-way delay: 60.023 ms
Loss rate: 1.20%
```
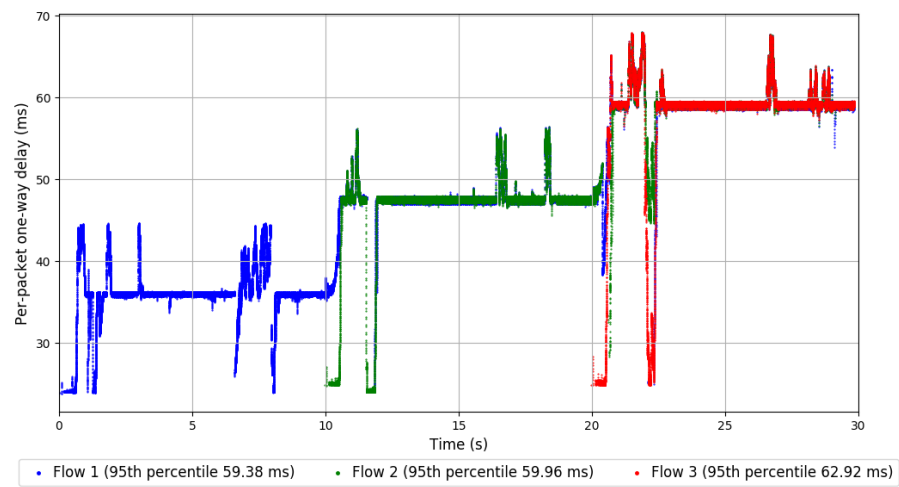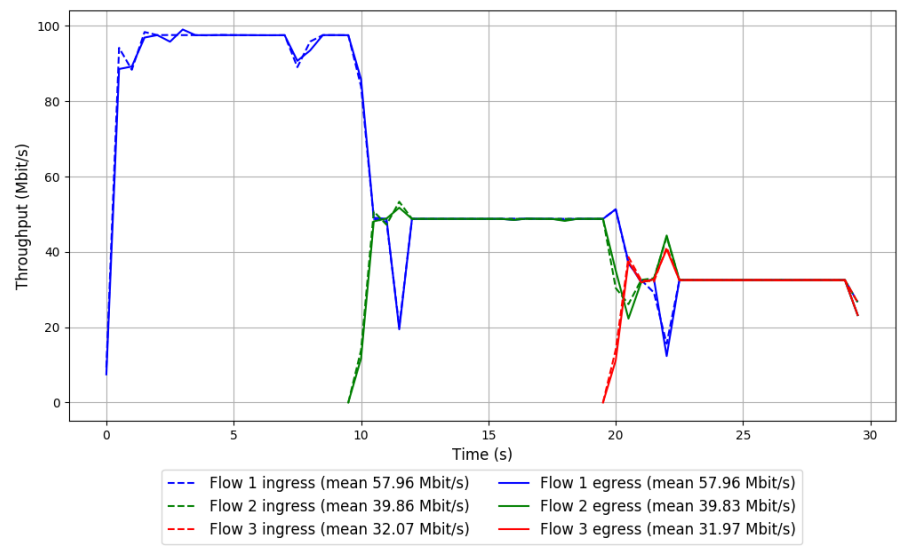
Run 8: Report of TCP BBR — Data Link

Legend:
- - - - Flow 1 ingress (mean 57.92 Mbit/s) —— Flow 1 egress (mean 57.89 Mbit/s)
- - - - Flow 2 ingress (mean 40.05 Mbit/s) —— Flow 2 egress (mean 40.04 Mbit/s)
- - - - Flow 3 ingress (mean 31.70 Mbit/s) —— Flow 3 egress (mean 31.57 Mbit/s)

Legend:
- Flow 1 (95th percentile 59.82 ms)   • Flow 2 (95th percentile 59.97 ms)   • Flow 3 (95th percentile 60.02 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-09-21 22:07:01
End at: 2017-09-21 22:07:31
Local clock offset: 0.857 ms
Remote clock offset: -1.397 ms


# Below is generated by plot.py at 2017-09-22 02:08:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 62.236 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 57.56 Mbit/s
95th percentile per-packet one-way delay: 62.156 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 39.62 Mbit/s
95th percentile per-packet one-way delay: 62.248 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 64.701 ms
Loss rate: 1.25%
```
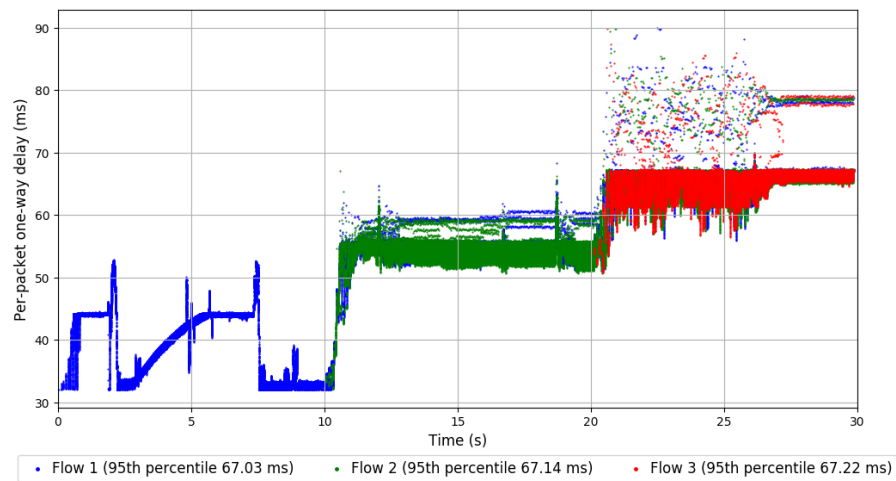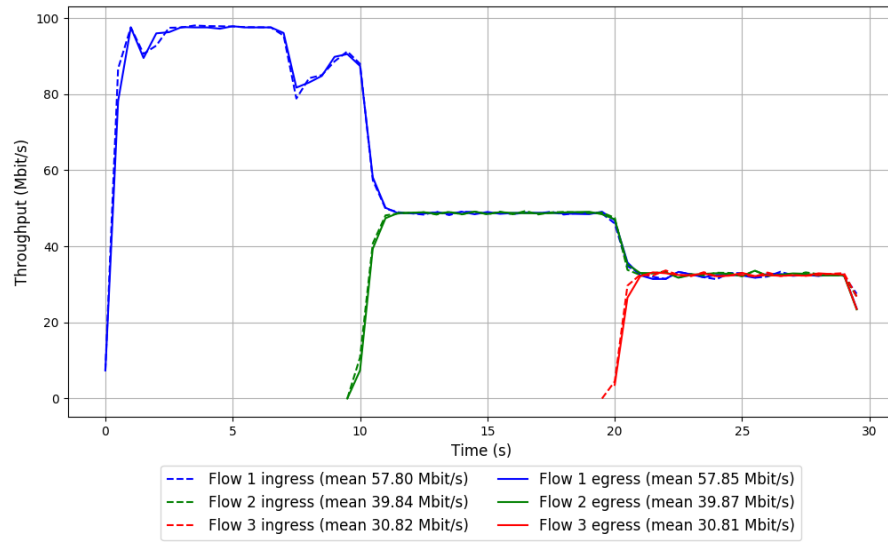
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.56 Mbit/s) --- Flow 1 egress (mean 57.56 Mbit/s)
Flow 2 ingress (mean 39.64 Mbit/s) --- Flow 2 egress (mean 39.62 Mbit/s)
Flow 3 ingress (mean 32.61 Mbit/s) --- Flow 3 egress (mean 32.46 Mbit/s)

Flow 1 (95th percentile 62.16 ms)   Flow 2 (95th percentile 62.25 ms)   Flow 3 (95th percentile 64.70 ms)

21

```
Run 10: Statistics of TCP BBR

Start at: 2017-09-21 22:26:35
End at: 2017-09-21 22:27:05
Local clock offset: -0.313 ms
Remote clock offset: 0.979 ms


# Below is generated by plot.py at 2017-09-22 02:08:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 59.492 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 59.383 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 39.83 Mbit/s
95th percentile per-packet one-way delay: 59.960 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 62.920 ms
Loss rate: 1.24%
```
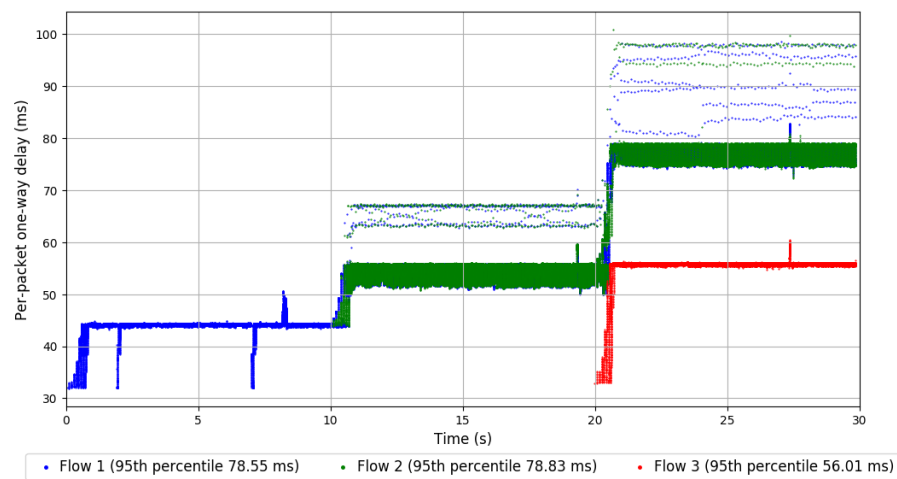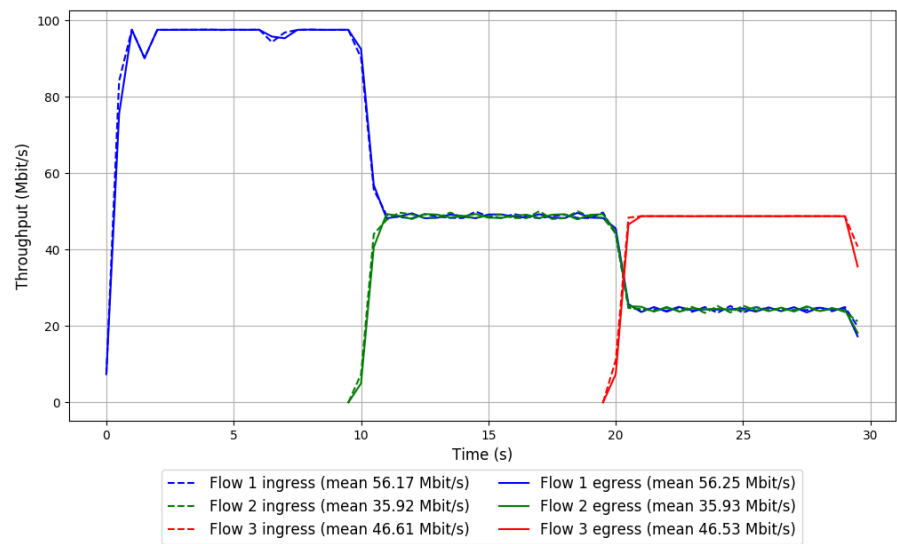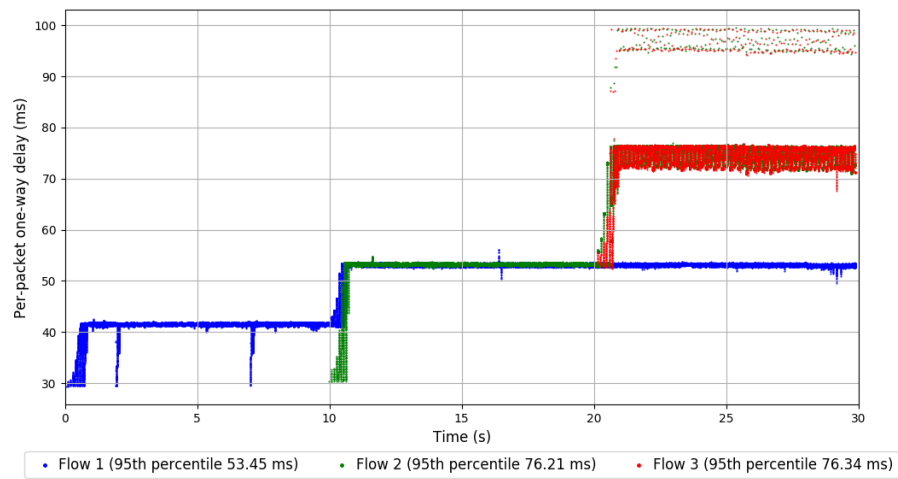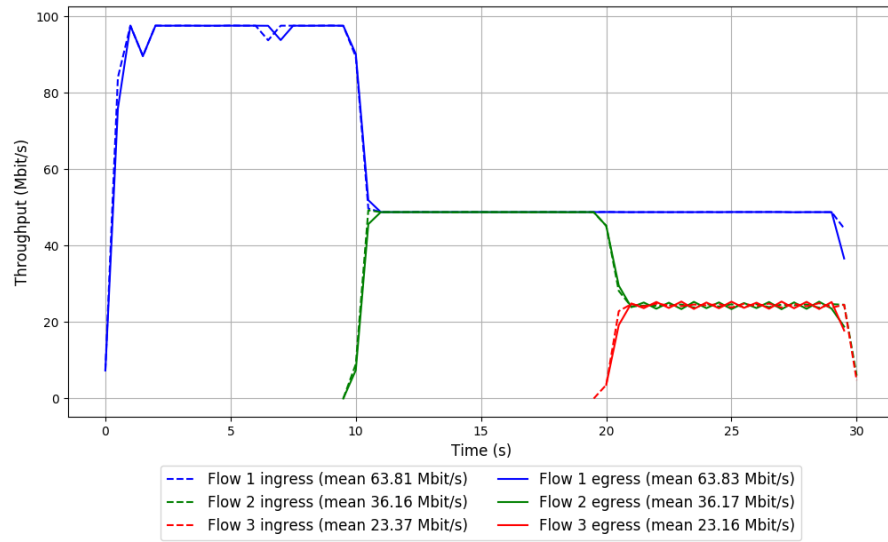
Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-21 19:31:53
End at: 2017-09-21 19:32:23
Local clock offset: 0.13 ms
Remote clock offset: -5.953 ms


# Below is generated by plot.py at 2017-09-22 02:08:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.58 Mbit/s
95th percentile per-packet one-way delay: 67.109 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 67.028 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 67.140 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 67.219 ms
Loss rate: 1.26%
```

Run 1: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 57.80 Mbit/s)   —— Flow 1 egress (mean 57.85 Mbit/s)
- - - Flow 2 ingress (mean 39.84 Mbit/s)   —— Flow 2 egress (mean 39.87 Mbit/s)
- - - Flow 3 ingress (mean 30.82 Mbit/s)   —— Flow 3 egress (mean 30.81 Mbit/s)

• Flow 1 (95th percentile 67.03 ms)   • Flow 2 (95th percentile 67.14 ms)   • Flow 3 (95th percentile 67.22 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-21 19:51:18
End at: 2017-09-21 19:51:48
Local clock offset: 0.028 ms
Remote clock offset: -5.779 ms


# Below is generated by plot.py at 2017-09-22 02:08:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 78.644 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 78.553 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 78.835 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 46.53 Mbit/s
95th percentile per-packet one-way delay: 56.005 ms
Loss rate: 1.15%
```
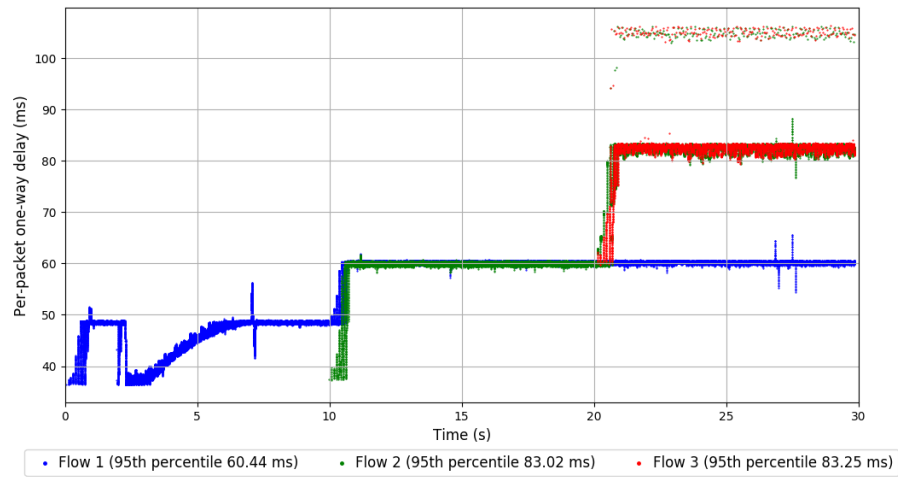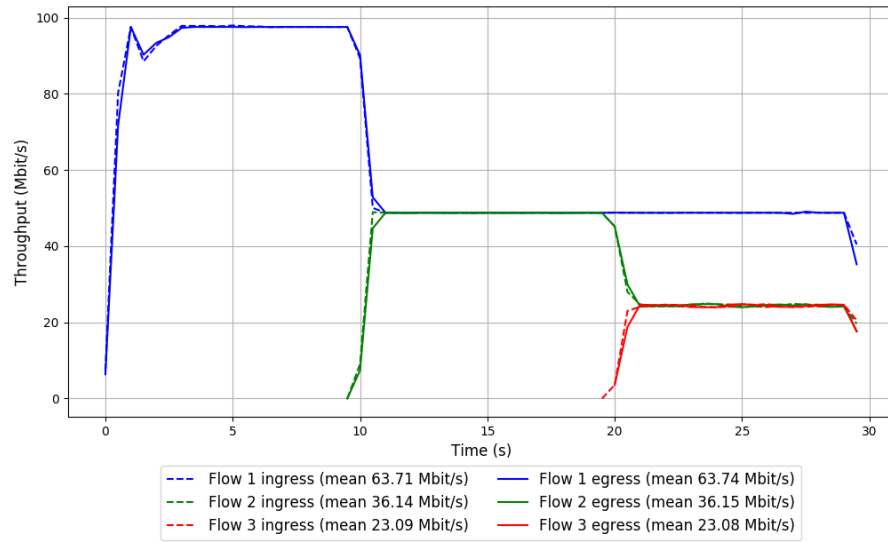
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 56.17 Mbit/s) --- Flow 1 egress (mean 56.25 Mbit/s)
Flow 2 ingress (mean 35.92 Mbit/s) --- Flow 2 egress (mean 35.93 Mbit/s)
Flow 3 ingress (mean 46.61 Mbit/s) --- Flow 3 egress (mean 46.53 Mbit/s)

Flow 1 (95th percentile 78.55 ms)   Flow 2 (95th percentile 78.83 ms)   Flow 3 (95th percentile 56.01 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-21 20:10:52
End at: 2017-09-21 20:11:22
Local clock offset: 0.019 ms
Remote clock offset: -2.956 ms


# Below is generated by plot.py at 2017-09-22 02:08:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 76.014 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 63.83 Mbit/s
95th percentile per-packet one-way delay: 53.449 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 36.17 Mbit/s
95th percentile per-packet one-way delay: 76.206 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 23.16 Mbit/s
95th percentile per-packet one-way delay: 76.343 ms
Loss rate: 3.08%
```
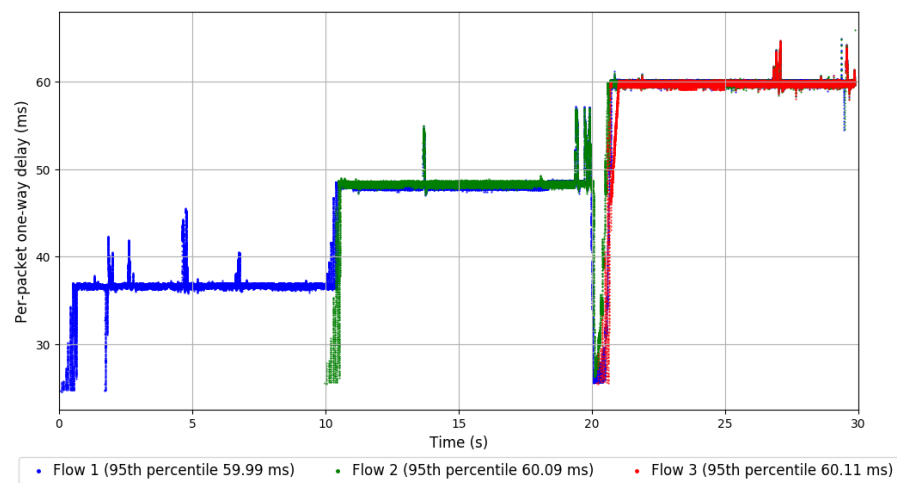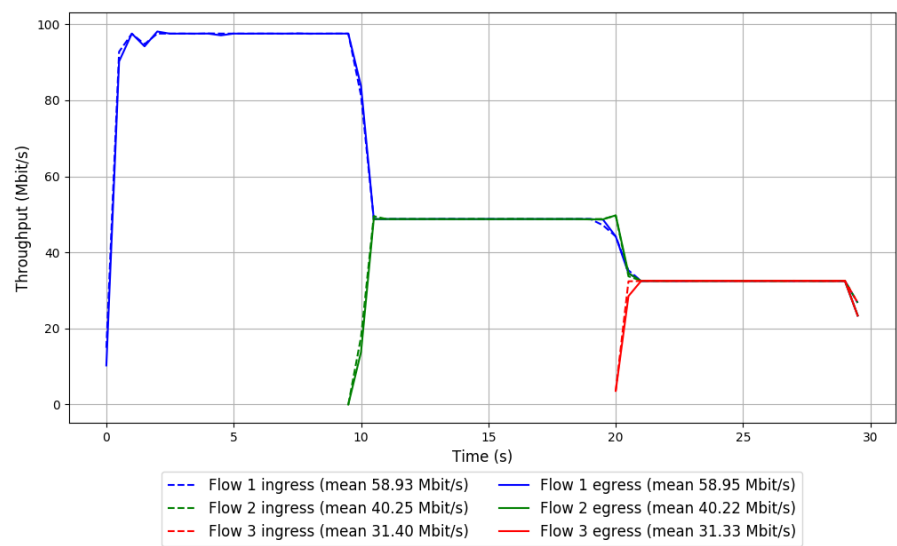
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.81 Mbit/s) ---- Flow 1 egress (mean 63.83 Mbit/s) ——
Flow 2 ingress (mean 36.16 Mbit/s) ---- Flow 2 egress (mean 36.17 Mbit/s) ——
Flow 3 ingress (mean 23.37 Mbit/s) ---- Flow 3 egress (mean 23.16 Mbit/s) ——

Flow 1 (95th percentile 53.45 ms) • Flow 2 (95th percentile 76.21 ms) • Flow 3 (95th percentile 76.34 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-21 20:30:28
End at: 2017-09-21 20:30:58
Local clock offset: 0.143 ms
Remote clock offset: 2.762 ms


# Below is generated by plot.py at 2017-09-22 02:08:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 82.894 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 63.74 Mbit/s
95th percentile per-packet one-way delay: 60.441 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 36.15 Mbit/s
95th percentile per-packet one-way delay: 83.022 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 23.08 Mbit/s
95th percentile per-packet one-way delay: 83.248 ms
Loss rate: 1.43%
```
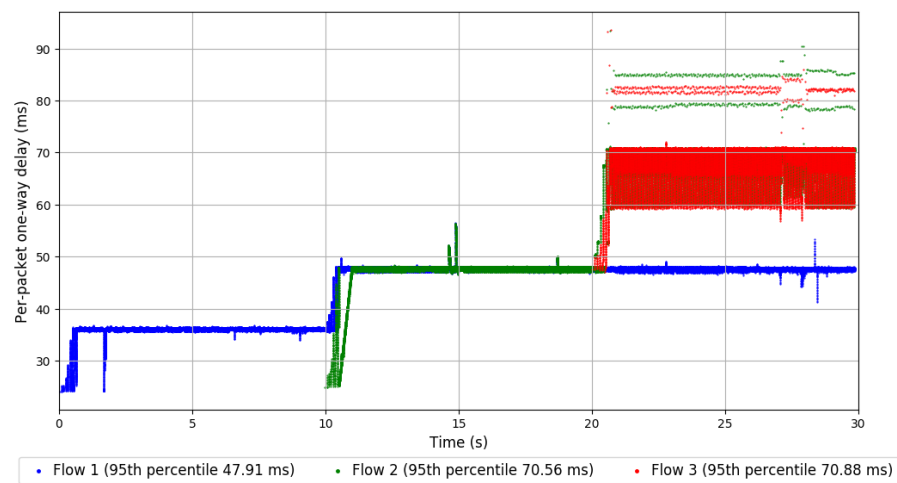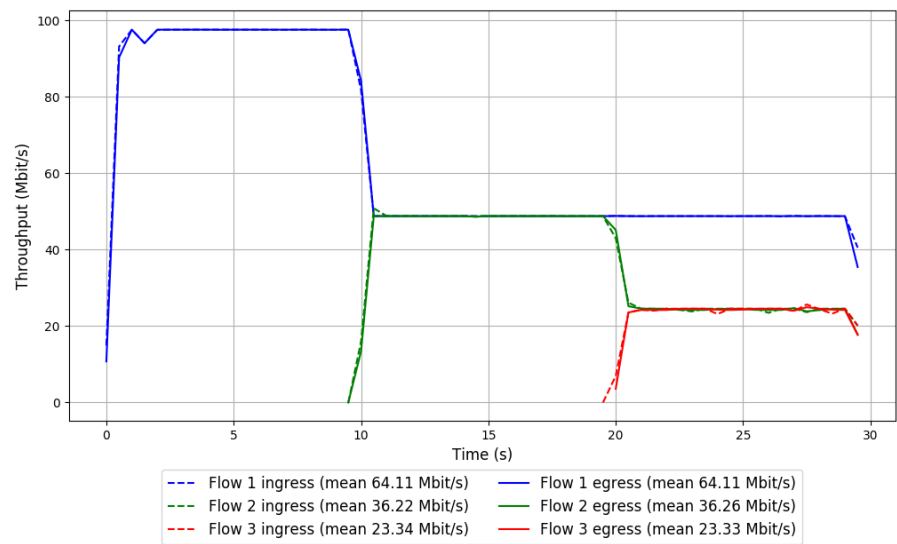
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.71 Mbit/s) --- Flow 1 egress (mean 63.74 Mbit/s)
Flow 2 ingress (mean 36.14 Mbit/s) --- Flow 2 egress (mean 36.15 Mbit/s)
Flow 3 ingress (mean 23.09 Mbit/s) --- Flow 3 egress (mean 23.08 Mbit/s)

Flow 1 (95th percentile 60.44 ms)   Flow 2 (95th percentile 83.02 ms)   Flow 3 (95th percentile 83.25 ms)

31

```
Run 5: Statistics of TCP Cubic

Start at: 2017-09-21 20:51:56
End at: 2017-09-21 20:52:26
Local clock offset: 0.272 ms
Remote clock offset: 2.843 ms


# Below is generated by plot.py at 2017-09-22 02:08:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 60.059 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 59.989 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 40.22 Mbit/s
95th percentile per-packet one-way delay: 60.085 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 60.112 ms
Loss rate: 1.19%
```
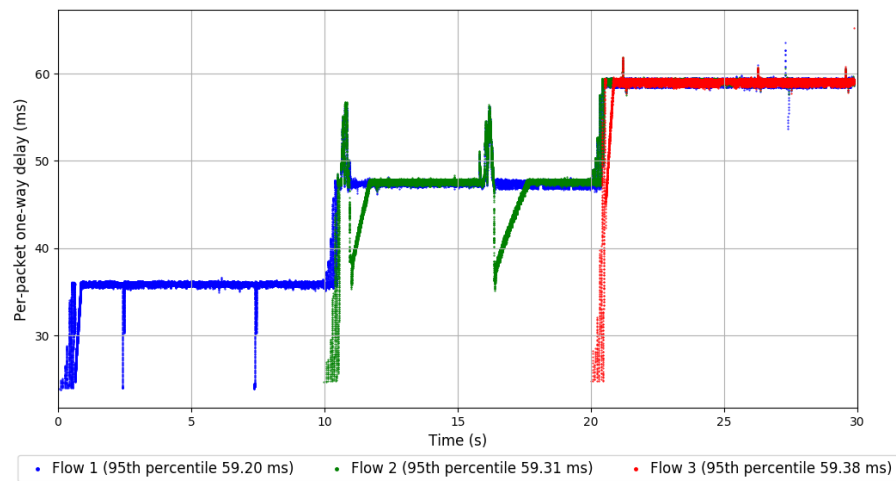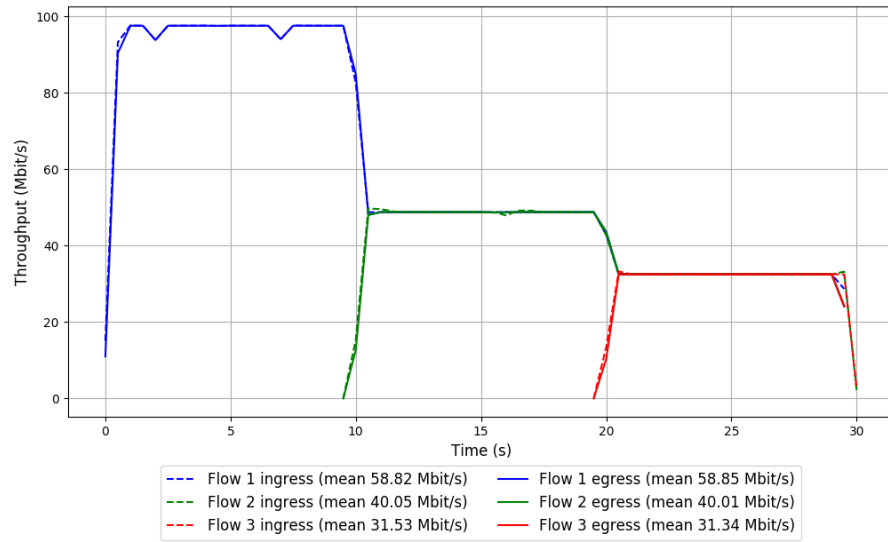
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-21 21:11:19
End at: 2017-09-21 21:11:49
Local clock offset: 0.425 ms
Remote clock offset: 2.556 ms


# Below is generated by plot.py at 2017-09-22 02:08:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.97 Mbit/s
95th percentile per-packet one-way delay: 70.078 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 64.11 Mbit/s
95th percentile per-packet one-way delay: 47.907 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 36.26 Mbit/s
95th percentile per-packet one-way delay: 70.563 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 70.879 ms
Loss rate: 1.14%
```
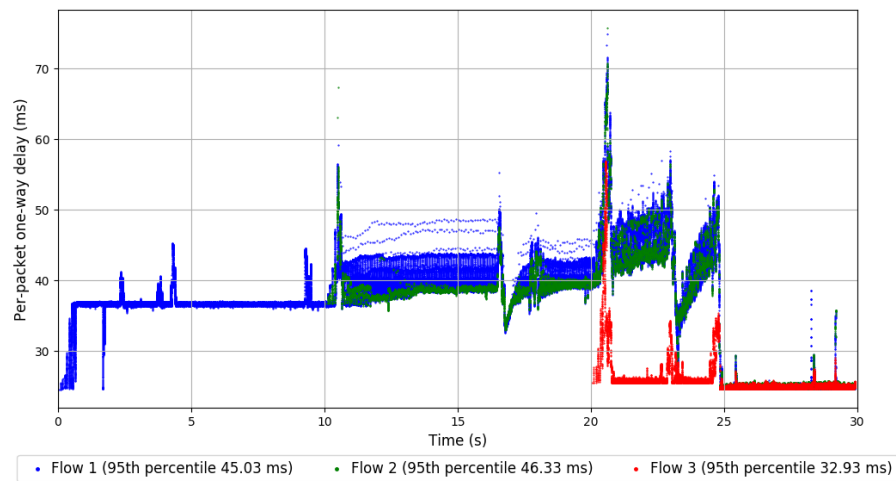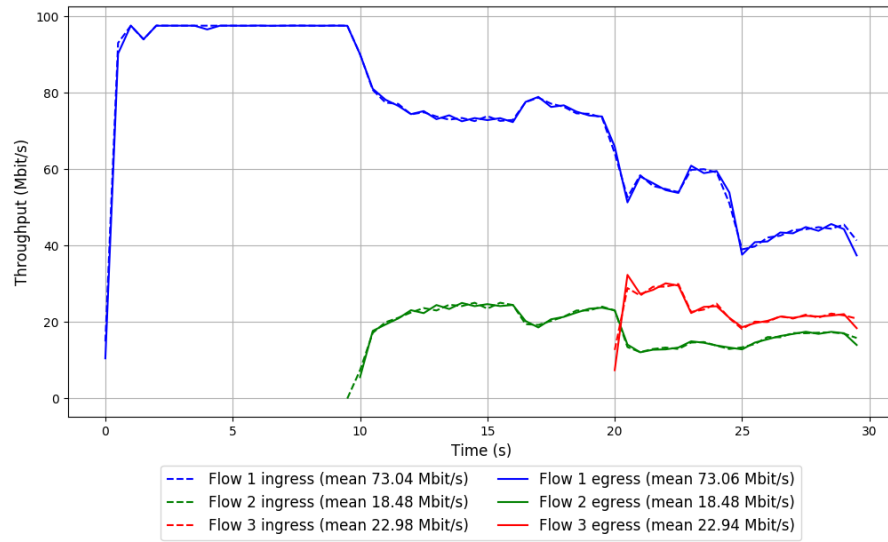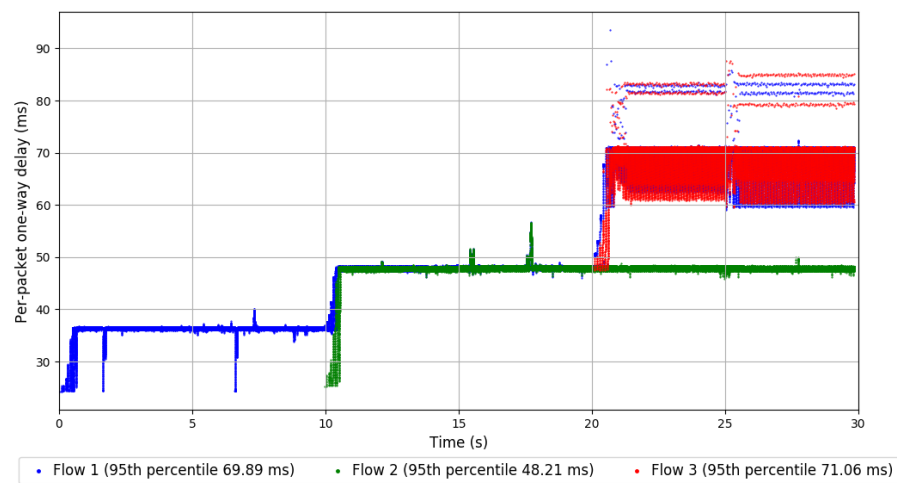
Run 6: Report of TCP Cubic — Data Link

- Flow 1 ingress (mean 64.11 Mbit/s) — Flow 1 egress (mean 64.11 Mbit/s)
- Flow 2 ingress (mean 36.22 Mbit/s) — Flow 2 egress (mean 36.26 Mbit/s)
- Flow 3 ingress (mean 23.34 Mbit/s) — Flow 3 egress (mean 23.33 Mbit/s)

- Flow 1 (95th percentile 47.91 ms)   • Flow 2 (95th percentile 70.56 ms)   • Flow 3 (95th percentile 70.88 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-09-21 21:30:42
End at: 2017-09-21 21:31:12
Local clock offset: 0.422 ms
Remote clock offset: 2.109 ms


# Below is generated by plot.py at 2017-09-22 02:10:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.87 Mbit/s
95th percentile per-packet one-way delay: 59.290 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 58.85 Mbit/s
95th percentile per-packet one-way delay: 59.198 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 59.311 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 59.376 ms
Loss rate: 2.32%
```
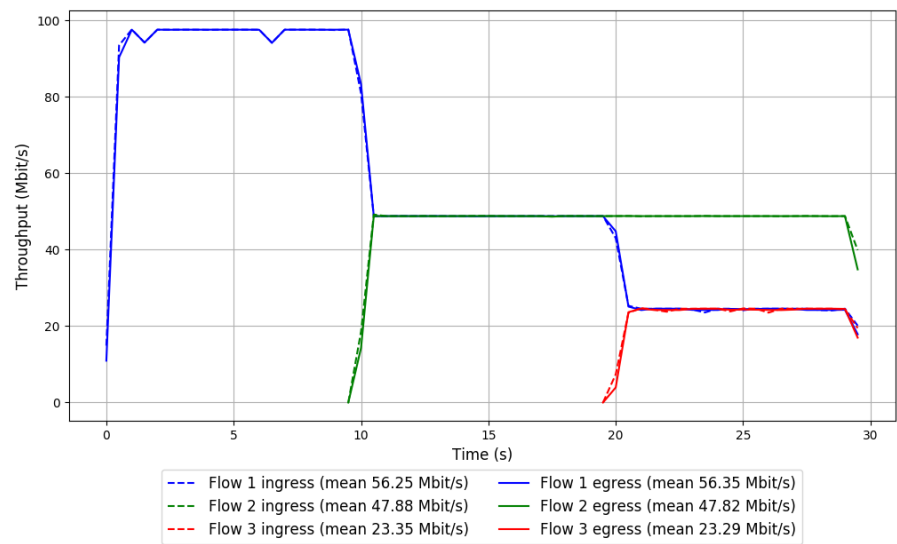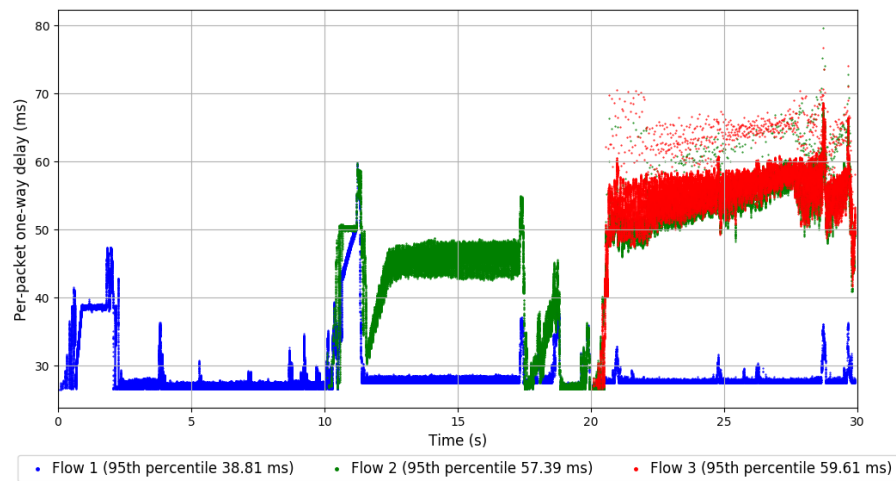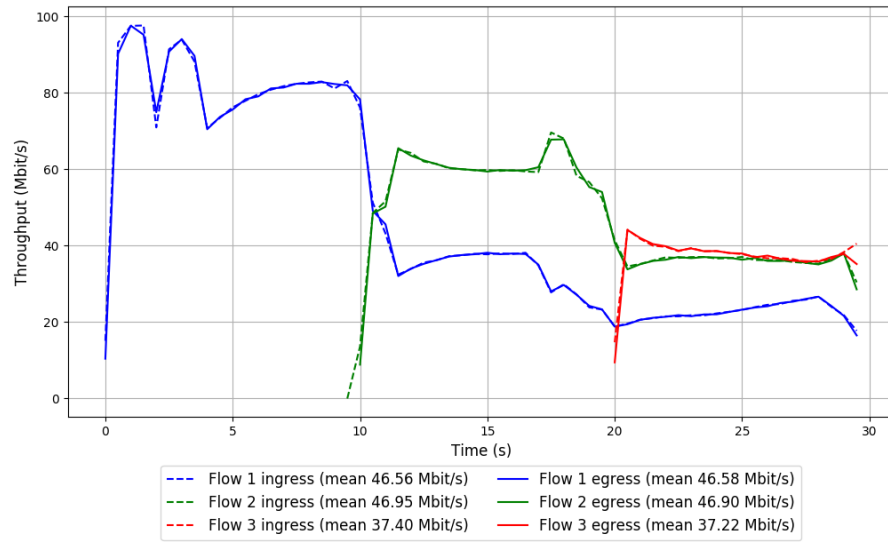
Run 7: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 58.82 Mbit/s) —— Flow 1 egress (mean 58.85 Mbit/s)
- - - Flow 2 ingress (mean 40.05 Mbit/s) —— Flow 2 egress (mean 40.01 Mbit/s)
- - - Flow 3 ingress (mean 31.53 Mbit/s) —— Flow 3 egress (mean 31.34 Mbit/s)

• Flow 1 (95th percentile 59.20 ms)   • Flow 2 (95th percentile 59.31 ms)   • Flow 3 (95th percentile 59.38 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-21 21:50:14
End at: 2017-09-21 21:50:44
Local clock offset: 0.777 ms
Remote clock offset: 1.231 ms


# Below is generated by plot.py at 2017-09-22 02:10:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.94 Mbit/s
95th percentile per-packet one-way delay: 44.987 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 73.06 Mbit/s
95th percentile per-packet one-way delay: 45.026 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 18.48 Mbit/s
95th percentile per-packet one-way delay: 46.326 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 22.94 Mbit/s
95th percentile per-packet one-way delay: 32.929 ms
Loss rate: 0.91%
```

Run 8: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 73.04 Mbit/s)   —— Flow 1 egress (mean 73.06 Mbit/s)
- - - Flow 2 ingress (mean 18.48 Mbit/s)   —— Flow 2 egress (mean 18.48 Mbit/s)
- - - Flow 3 ingress (mean 22.98 Mbit/s)   —— Flow 3 egress (mean 22.94 Mbit/s)

• Flow 1 (95th percentile 45.03 ms)   • Flow 2 (95th percentile 46.33 ms)   • Flow 3 (95th percentile 32.93 ms)

39

```
Run 9: Statistics of TCP Cubic

Start at: 2017-09-21 22:09:53
End at: 2017-09-21 22:10:23
Local clock offset: 0.687 ms
Remote clock offset: 0.873 ms


# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 70.286 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 56.35 Mbit/s
95th percentile per-packet one-way delay: 69.894 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 47.82 Mbit/s
95th percentile per-packet one-way delay: 48.206 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 23.29 Mbit/s
95th percentile per-packet one-way delay: 71.065 ms
Loss rate: 1.25%
```
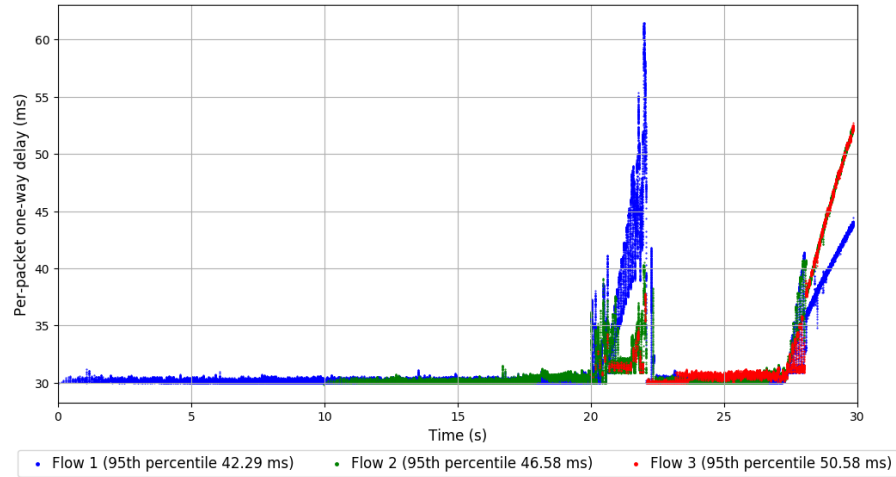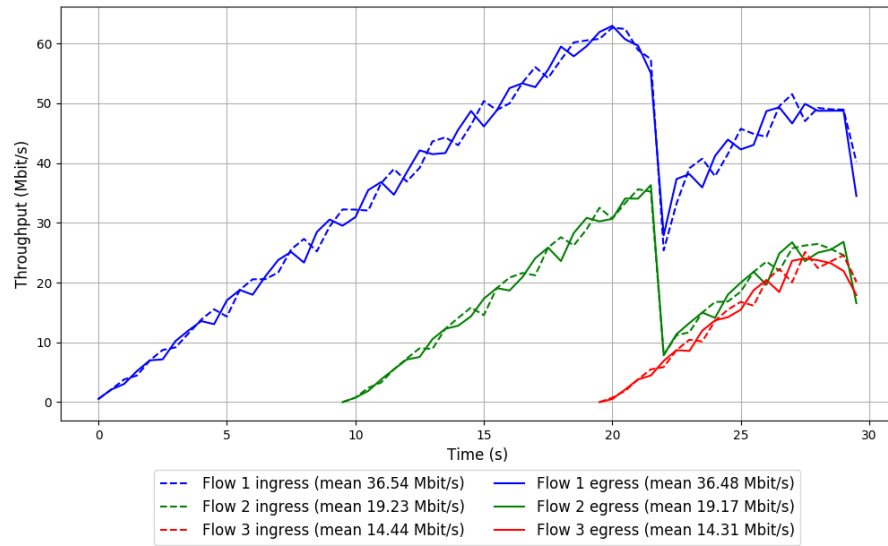
Run 9: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 56.25 Mbit/s)   Flow 1 egress (mean 56.35 Mbit/s)
Flow 2 ingress (mean 47.88 Mbit/s)   Flow 2 egress (mean 47.82 Mbit/s)
Flow 3 ingress (mean 23.35 Mbit/s)   Flow 3 egress (mean 23.29 Mbit/s)

Flow 1 (95th percentile 69.89 ms)   Flow 2 (95th percentile 48.21 ms)   Flow 3 (95th percentile 71.06 ms)

```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-21 22:29:27
End at: 2017-09-21 22:29:57
Local clock offset: -0.401 ms
Remote clock offset: -1.601 ms


# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.09 Mbit/s
95th percentile per-packet one-way delay: 57.496 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 46.58 Mbit/s
95th percentile per-packet one-way delay: 38.814 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 57.387 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 59.606 ms
Loss rate: 1.30%
```

Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2017-09-21 19:42:53
End at: 2017-09-21 19:43:23
Local clock offset: 0.023 ms
Remote clock offset: -3.375 ms
```

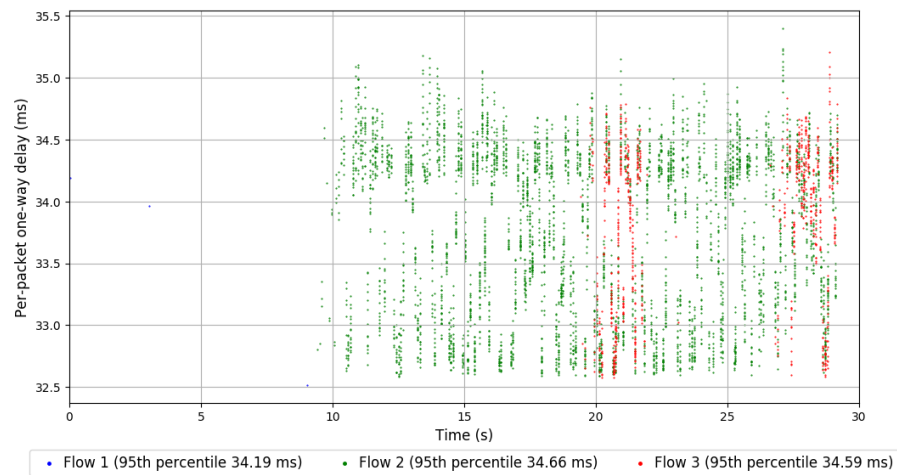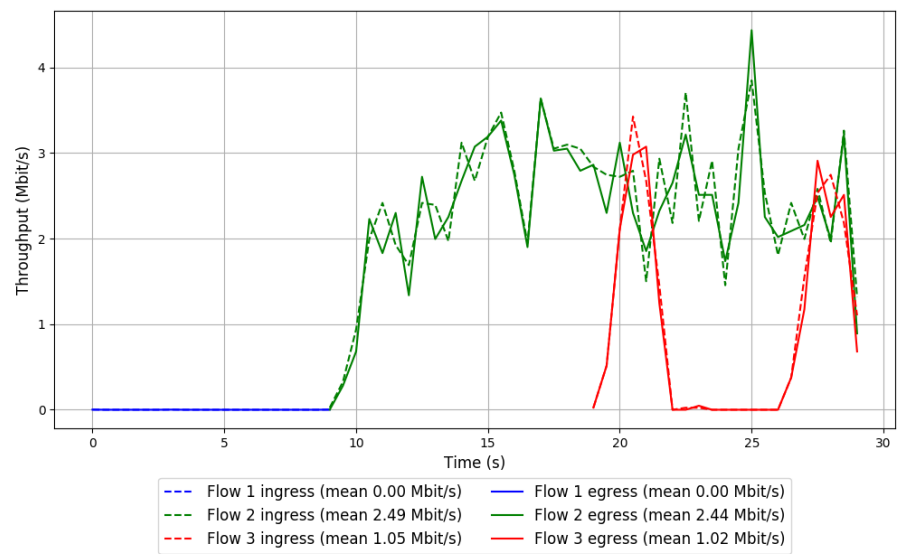Run 1: Report of LEDBAT — Data Link

Figure is missing

```
Run 2: Statistics of LEDBAT

Start at: 2017-09-21 20:02:21
End at: 2017-09-21 20:02:51
Local clock offset: 0.006 ms
Remote clock offset: -3.12 ms


# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.41 Mbit/s
95th percentile per-packet one-way delay: 62.191 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 37.91 Mbit/s
95th percentile per-packet one-way delay: 52.786 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 63.157 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 63.375 ms
Loss rate: 1.89%
```
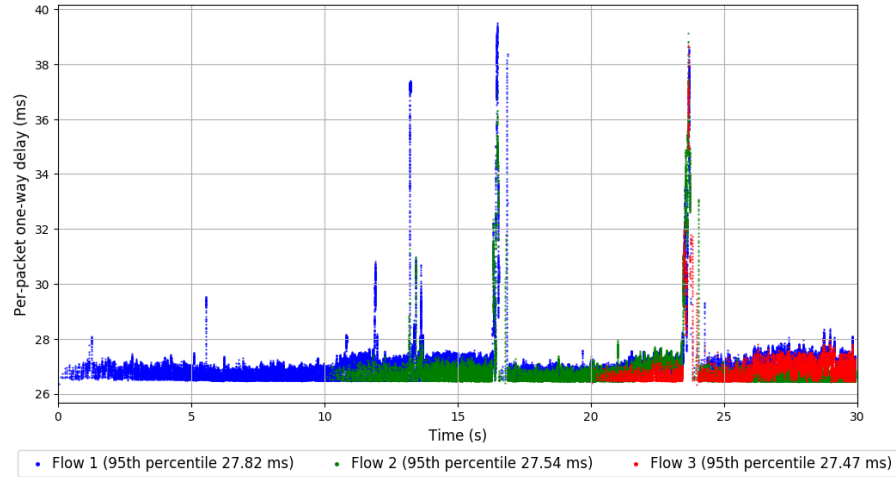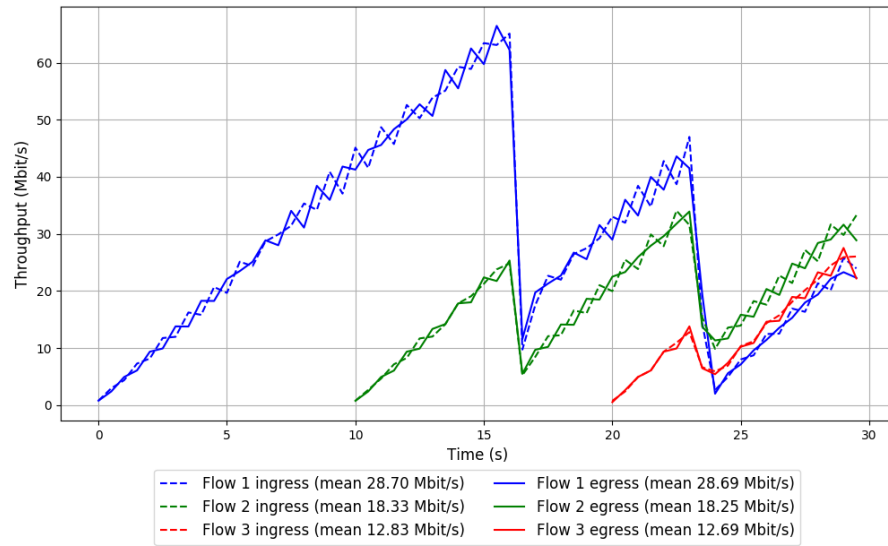
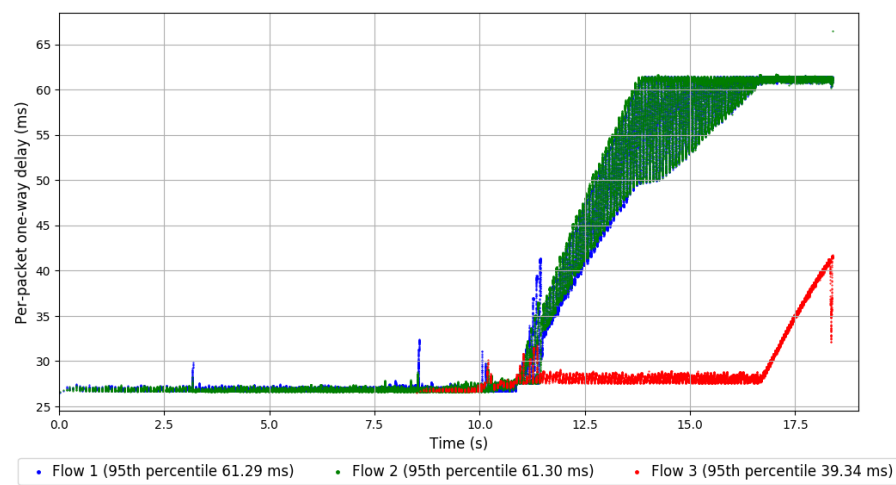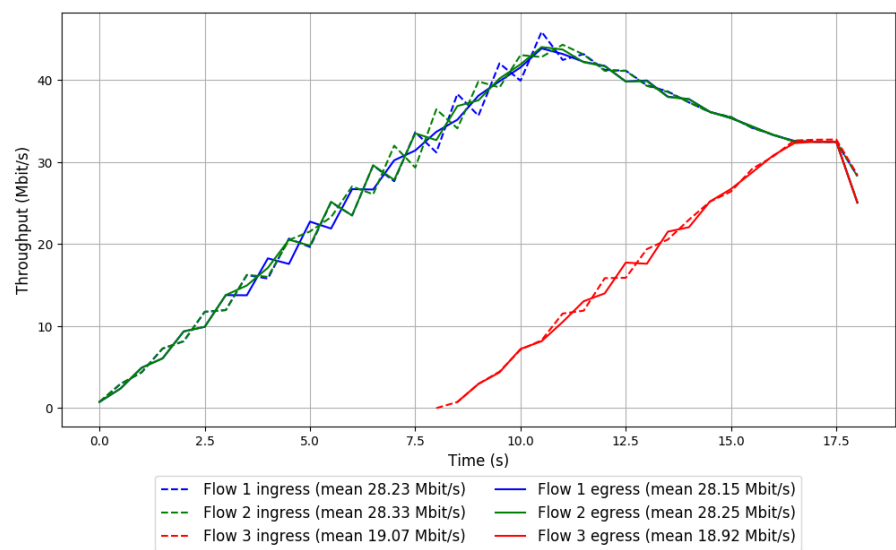Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-09-21 20:21:57
End at: 2017-09-21 20:22:27
Local clock offset: 0.04 ms
Remote clock offset: -3.248 ms

# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.96 Mbit/s
95th percentile per-packet one-way delay: 44.022 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 36.48 Mbit/s
95th percentile per-packet one-way delay: 42.291 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 19.17 Mbit/s
95th percentile per-packet one-way delay: 46.579 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 14.31 Mbit/s
95th percentile per-packet one-way delay: 50.583 ms
Loss rate: 1.77%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 36.54 Mbit/s) Flow 1 egress (mean 36.48 Mbit/s)
Flow 2 ingress (mean 19.23 Mbit/s) Flow 2 egress (mean 19.17 Mbit/s)
Flow 3 ingress (mean 14.44 Mbit/s) Flow 3 egress (mean 14.31 Mbit/s)

Flow 1 (95th percentile 42.29 ms)   Flow 2 (95th percentile 46.58 ms)   Flow 3 (95th percentile 50.58 ms)

49

```
Run 4: Statistics of LEDBAT

Start at: 2017-09-21 20:42:08
End at: 2017-09-21 20:42:38
Local clock offset: 0.209 ms
Remote clock offset: -5.164 ms


# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 34.645 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 34.192 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 34.655 ms
Loss rate: 2.47%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 34.585 ms
Loss rate: 4.07%
```
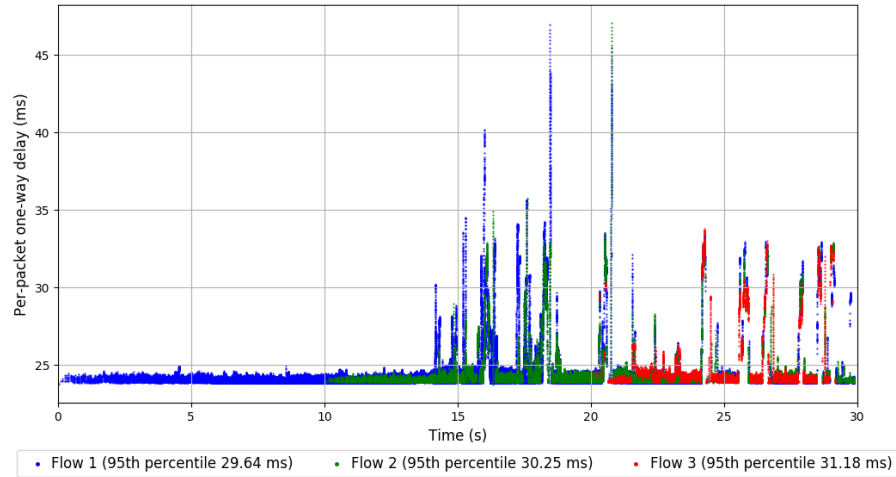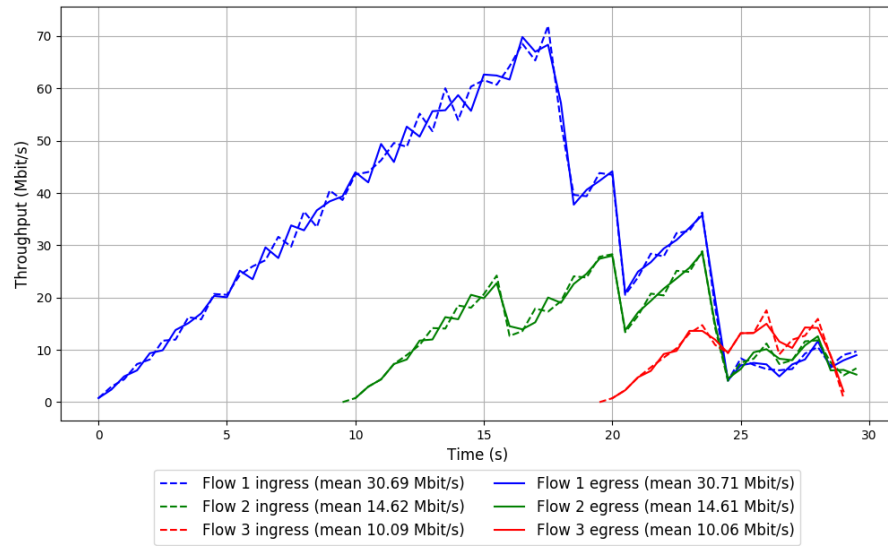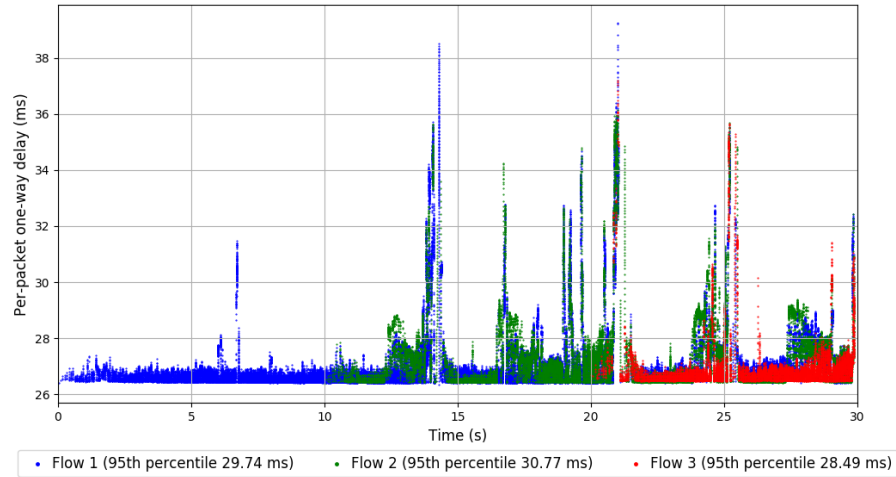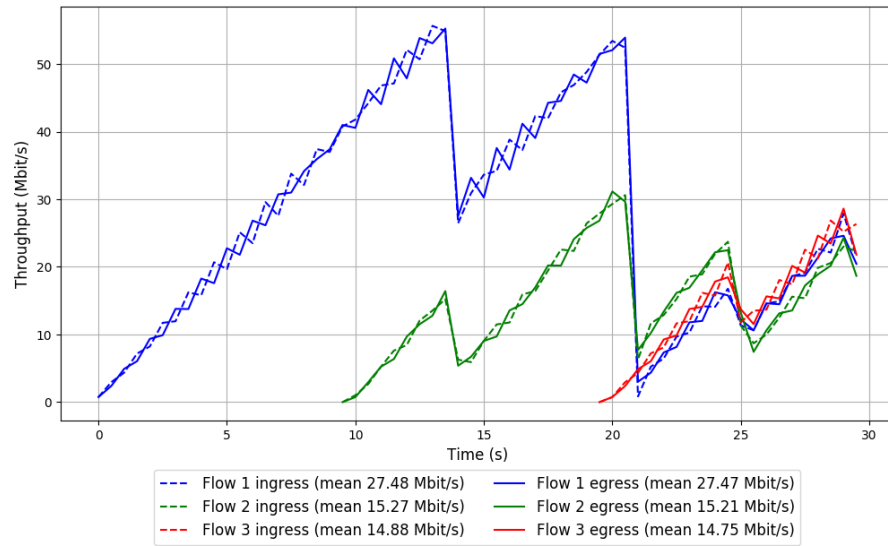
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 2.49 Mbit/s) --- Flow 2 egress (mean 2.44 Mbit/s)
Flow 3 ingress (mean 1.05 Mbit/s) --- Flow 3 egress (mean 1.02 Mbit/s)

Flow 1 (95th percentile 34.19 ms) Flow 2 (95th percentile 34.66 ms) Flow 3 (95th percentile 34.59 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2017-09-21 21:02:51
End at: 2017-09-21 21:03:21
Local clock offset: 0.268 ms
Remote clock offset: 0.462 ms

# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.00 Mbit/s
95th percentile per-packet one-way delay: 27.726 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 28.69 Mbit/s
95th percentile per-packet one-way delay: 27.824 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 18.25 Mbit/s
95th percentile per-packet one-way delay: 27.540 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 27.472 ms
Loss rate: 1.81%
```
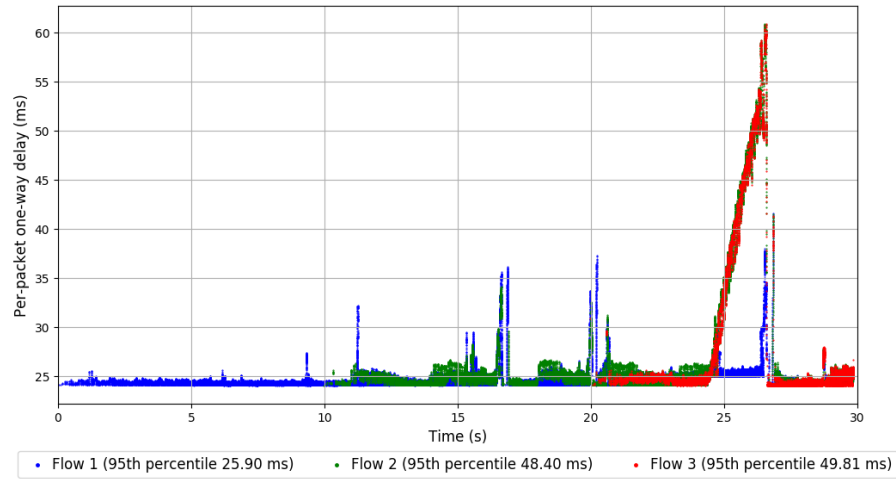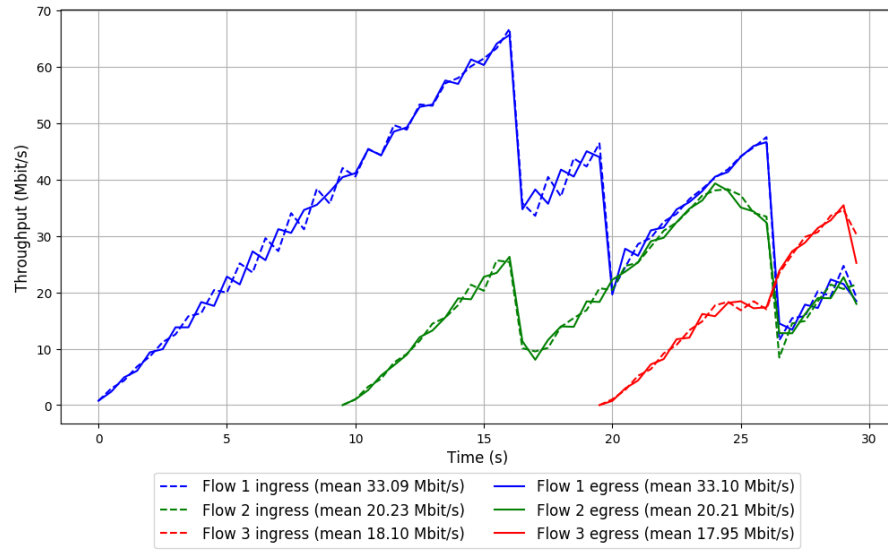
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 28.70 Mbit/s) ---- Flow 1 egress (mean 28.69 Mbit/s)
Flow 2 ingress (mean 18.33 Mbit/s) ---- Flow 2 egress (mean 18.25 Mbit/s)
Flow 3 ingress (mean 12.83 Mbit/s) ---- Flow 3 egress (mean 12.69 Mbit/s)

Flow 1 (95th percentile 27.82 ms)   Flow 2 (95th percentile 27.54 ms)   Flow 3 (95th percentile 27.47 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2017-09-21 21:22:16
End at: 2017-09-21 21:22:46
Local clock offset: 0.484 ms
Remote clock offset: -0.319 ms
```

Run 6: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 28.23 Mbit/s) —— Flow 1 egress (mean 28.15 Mbit/s)
- - - Flow 2 ingress (mean 28.33 Mbit/s) —— Flow 2 egress (mean 28.25 Mbit/s)
- - - Flow 3 ingress (mean 19.07 Mbit/s) —— Flow 3 egress (mean 18.92 Mbit/s)

- Flow 1 (95th percentile 61.29 ms)   • Flow 2 (95th percentile 61.30 ms)   • Flow 3 (95th percentile 39.34 ms)

```
Run 7: Statistics of LEDBAT

Start at: 2017-09-21 21:41:48
End at: 2017-09-21 21:42:18
Local clock offset: 0.574 ms
Remote clock offset: 1.955 ms

# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.51 Mbit/s
95th percentile per-packet one-way delay: 29.921 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 29.638 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 14.61 Mbit/s
95th percentile per-packet one-way delay: 30.252 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 31.176 ms
Loss rate: 0.29%
```
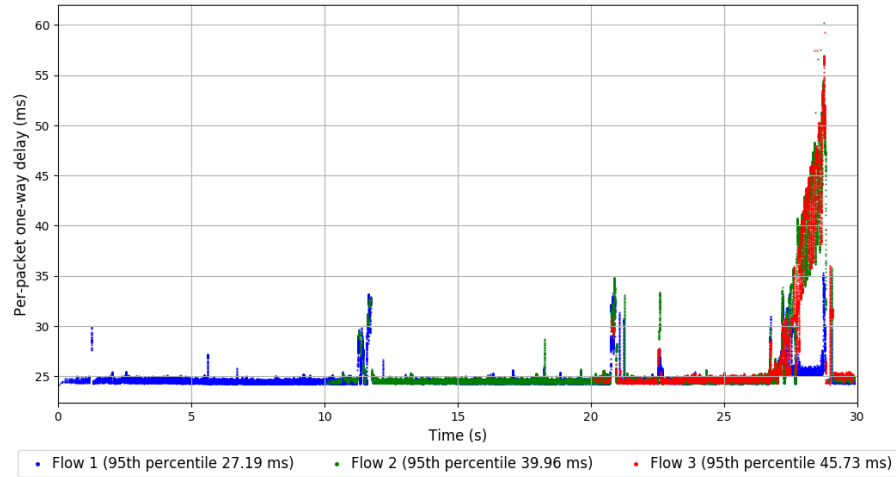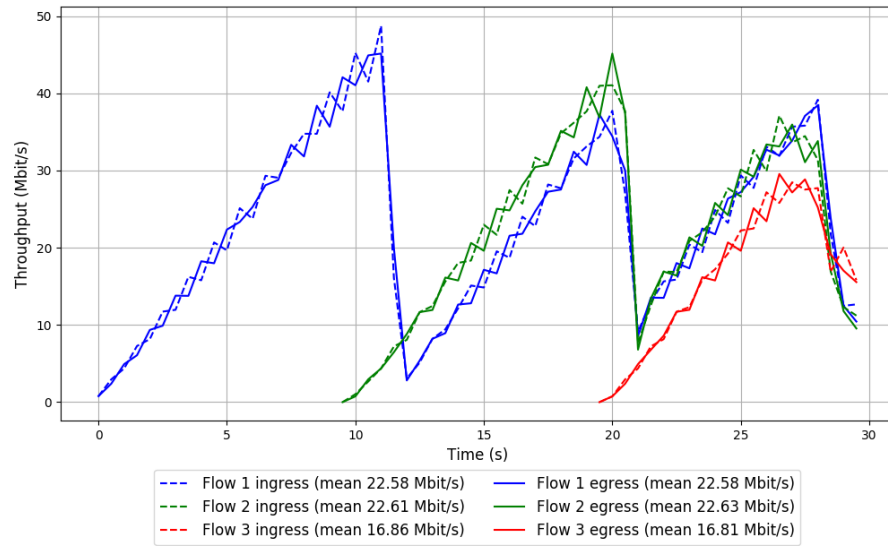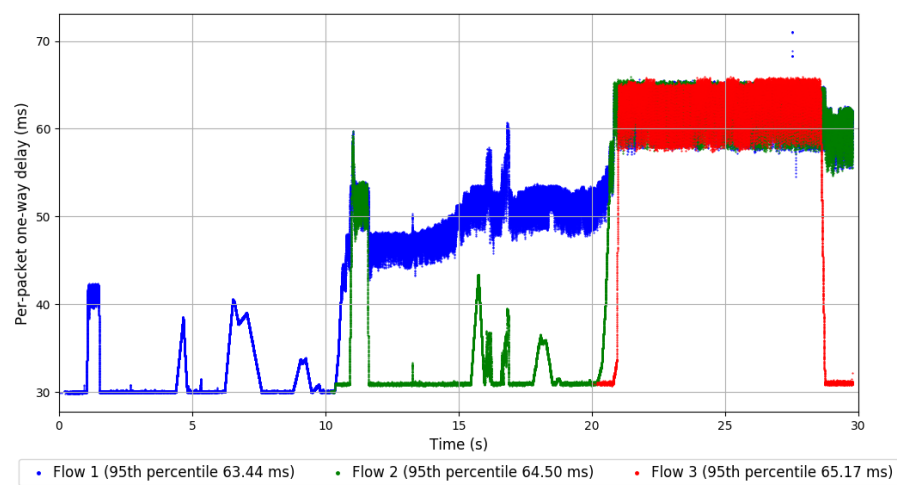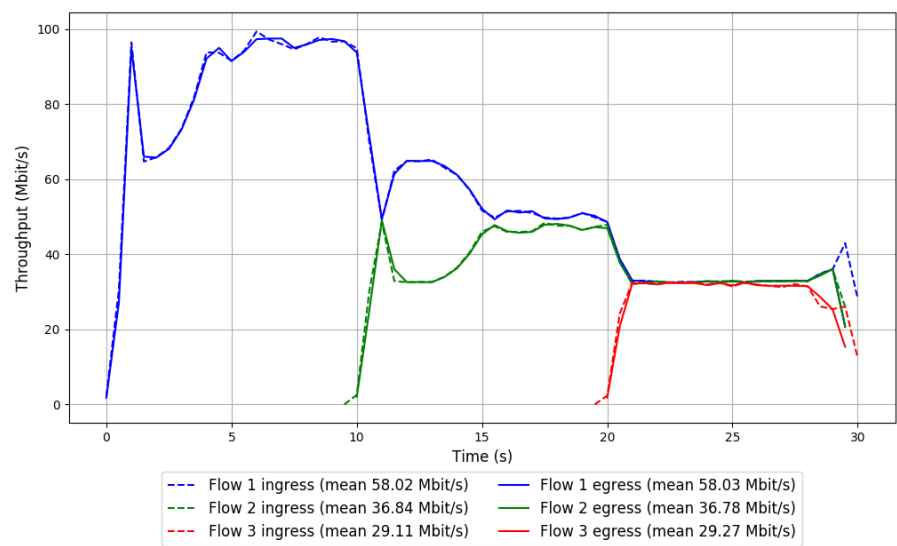
Run 7: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 30.69 Mbit/s)   —— Flow 1 egress (mean 30.71 Mbit/s)
- - - Flow 2 ingress (mean 14.62 Mbit/s)   —— Flow 2 egress (mean 14.61 Mbit/s)
- - - Flow 3 ingress (mean 10.09 Mbit/s)   —— Flow 3 egress (mean 10.06 Mbit/s)

• Flow 1 (95th percentile 29.64 ms)   • Flow 2 (95th percentile 30.25 ms)   • Flow 3 (95th percentile 31.18 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2017-09-21 22:01:21
End at: 2017-09-21 22:01:51
Local clock offset: 0.749 ms
Remote clock offset: -1.056 ms

# Below is generated by plot.py at 2017-09-22 02:10:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.48 Mbit/s
95th percentile per-packet one-way delay: 29.977 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 27.47 Mbit/s
95th percentile per-packet one-way delay: 29.736 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 30.773 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 28.490 ms
Loss rate: 1.61%
```
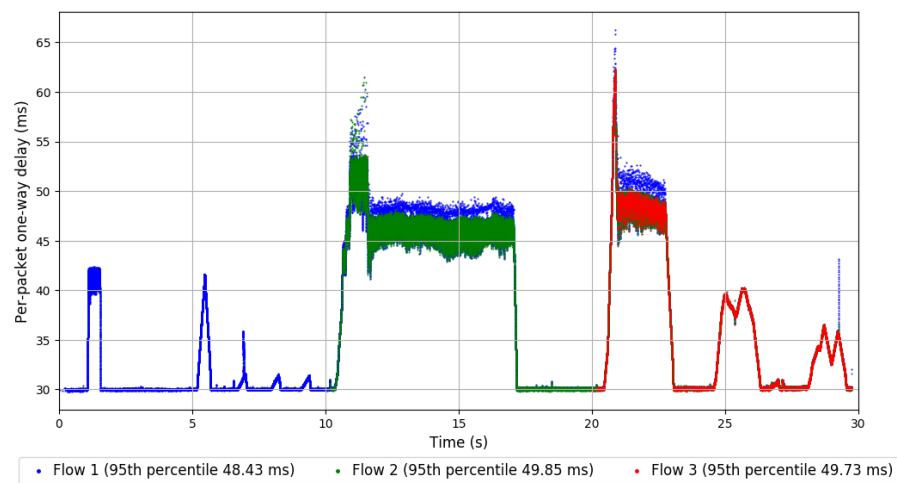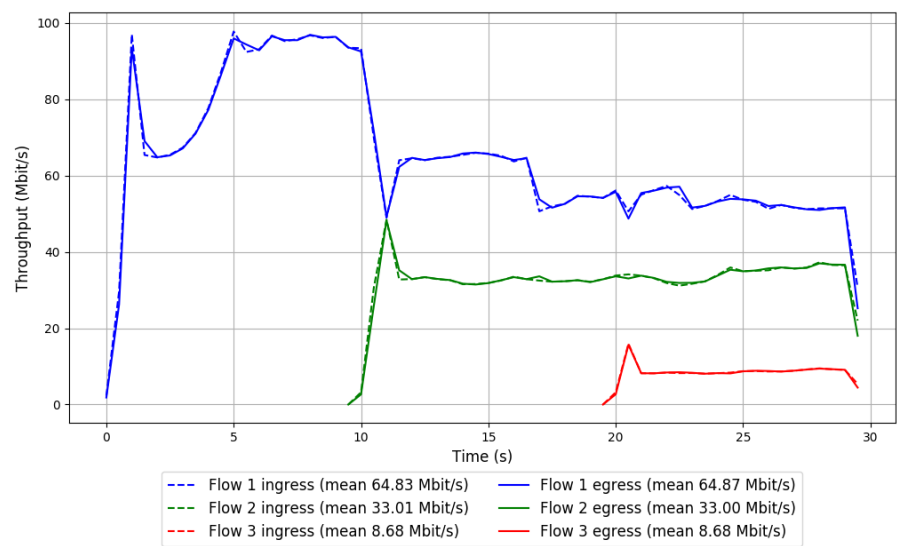
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 27.48 Mbit/s)   Flow 1 egress (mean 27.47 Mbit/s)
Flow 2 ingress (mean 15.27 Mbit/s)   Flow 2 egress (mean 15.21 Mbit/s)
Flow 3 ingress (mean 14.88 Mbit/s)   Flow 3 egress (mean 14.75 Mbit/s)

Flow 1 (95th percentile 29.74 ms)   Flow 2 (95th percentile 30.77 ms)   Flow 3 (95th percentile 28.49 ms)
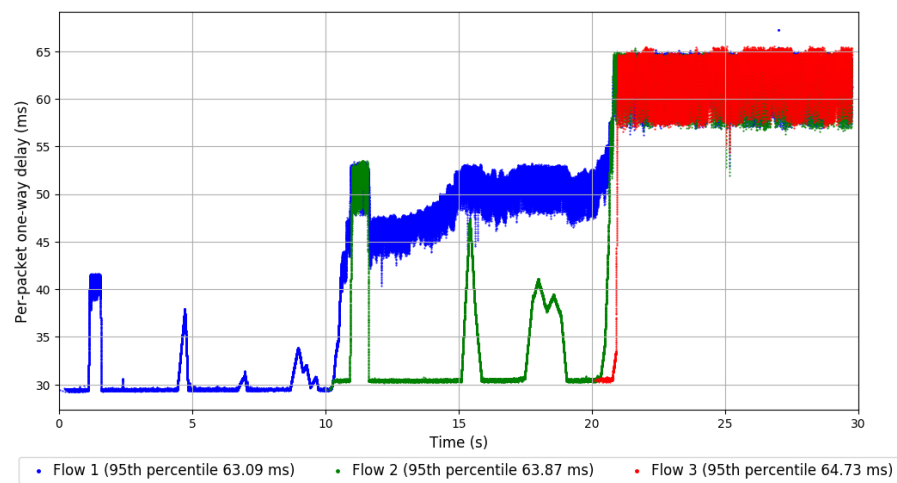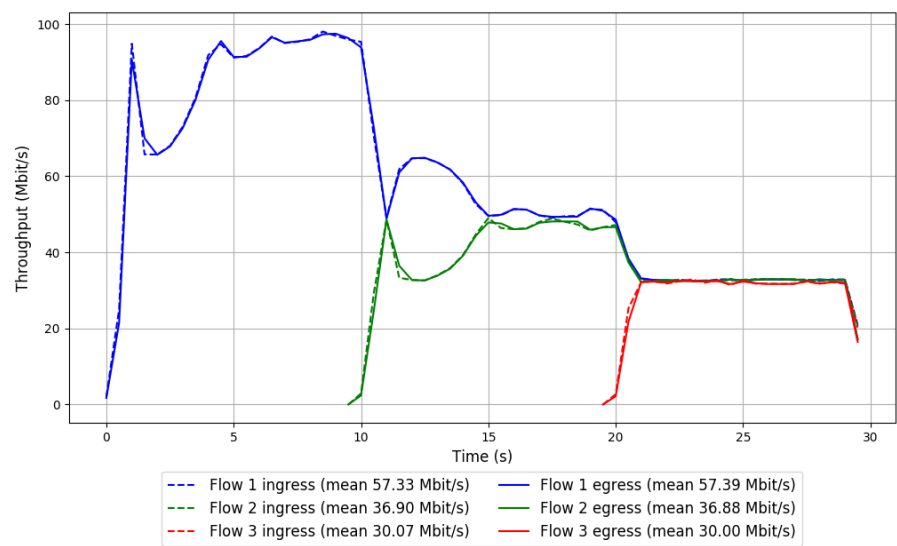
```
Run 9: Statistics of LEDBAT

Start at: 2017-09-21 22:20:57
End at: 2017-09-21 22:21:27
Local clock offset: 0.052 ms
Remote clock offset: 0.983 ms


# Below is generated by plot.py at 2017-09-22 02:10:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.49 Mbit/s
95th percentile per-packet one-way delay: 35.833 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 25.899 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 20.21 Mbit/s
95th percentile per-packet one-way delay: 48.399 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 17.95 Mbit/s
95th percentile per-packet one-way delay: 49.809 ms
Loss rate: 1.59%
```

Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-09-21 22:40:35
End at: 2017-09-21 22:41:05
Local clock offset: -1.12 ms
Remote clock offset: 0.372 ms


# Below is generated by plot.py at 2017-09-22 02:10:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 34.069 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 22.58 Mbit/s
95th percentile per-packet one-way delay: 27.191 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 22.63 Mbit/s
95th percentile per-packet one-way delay: 39.958 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 16.81 Mbit/s
95th percentile per-packet one-way delay: 45.727 ms
Loss rate: 1.05%
```
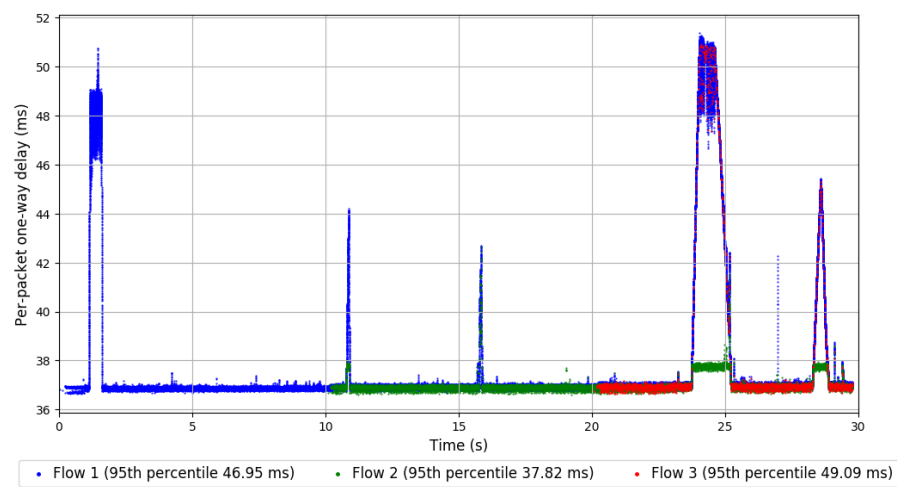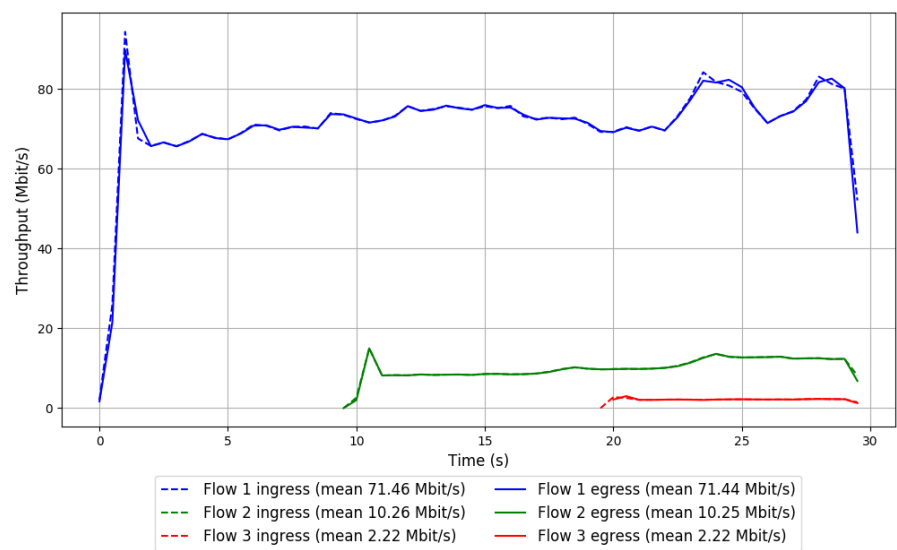
Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 22.58 Mbit/s) ---- Flow 1 egress (mean 22.58 Mbit/s)
Flow 2 ingress (mean 22.61 Mbit/s) ---- Flow 2 egress (mean 22.63 Mbit/s)
Flow 3 ingress (mean 16.86 Mbit/s) ---- Flow 3 egress (mean 16.81 Mbit/s)

Flow 1 (95th percentile 27.19 ms)   Flow 2 (95th percentile 39.96 ms)   Flow 3 (95th percentile 45.73 ms)

63

```
Run 1: Statistics of PCC

Start at: 2017-09-21 19:36:06
End at: 2017-09-21 19:36:36
Local clock offset: 0.026 ms
Remote clock offset: -3.867 ms


# Below is generated by plot.py at 2017-09-22 02:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.09 Mbit/s
95th percentile per-packet one-way delay: 64.327 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 63.440 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 64.504 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 29.27 Mbit/s
95th percentile per-packet one-way delay: 65.165 ms
Loss rate: 4.15%
```
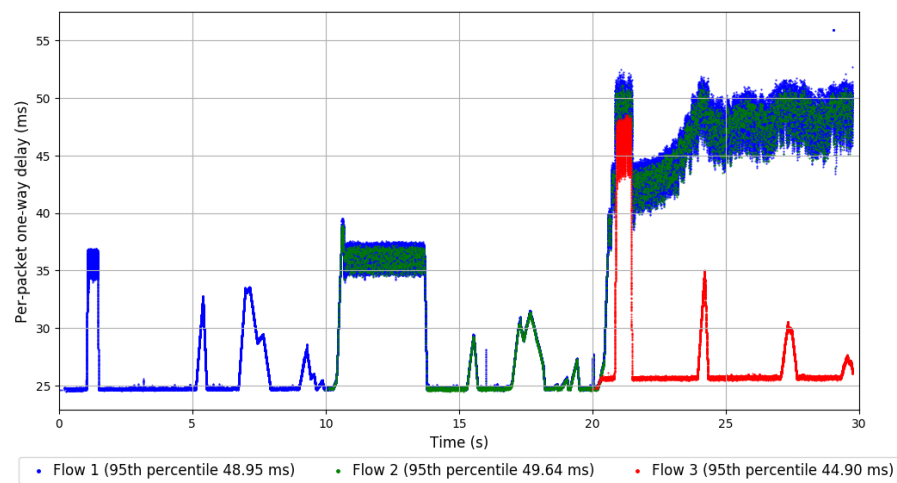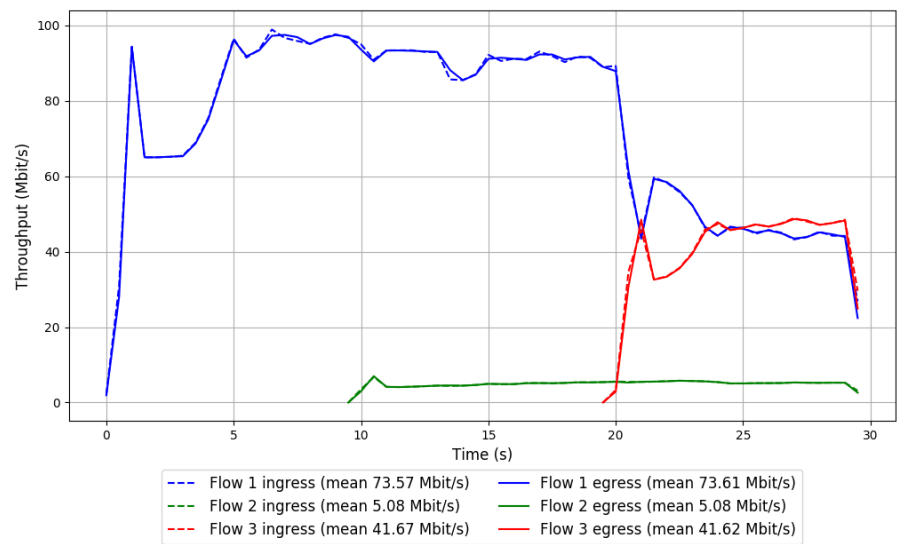
Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2017-09-21 19:55:33
End at: 2017-09-21 19:56:03
Local clock offset: 0.024 ms
Remote clock offset: -3.725 ms


# Below is generated by plot.py at 2017-09-22 02:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.68 Mbit/s
95th percentile per-packet one-way delay: 48.868 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 64.87 Mbit/s
95th percentile per-packet one-way delay: 48.433 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 49.849 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 49.729 ms
Loss rate: 0.88%
```
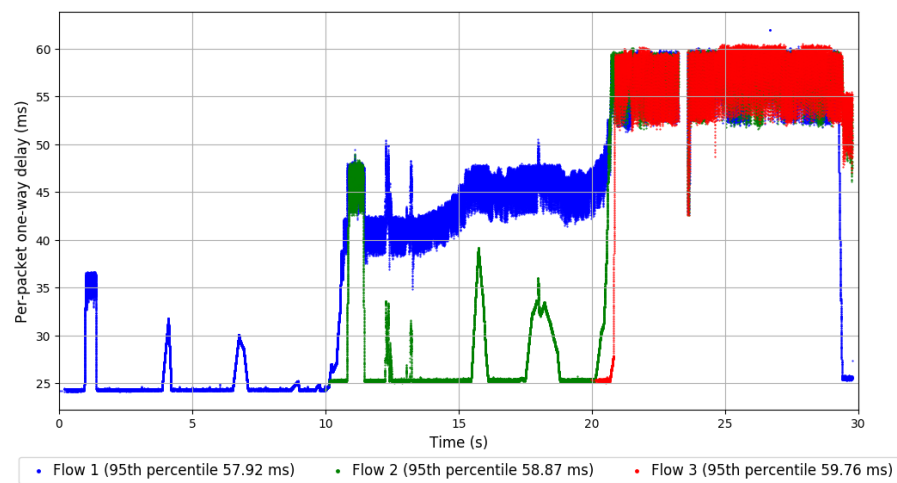
Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: 2017-09-21 20:15:08
End at: 2017-09-21 20:15:38
Local clock offset: 0.004 ms
Remote clock offset: -2.896 ms


# Below is generated by plot.py at 2017-09-22 02:11:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.79 Mbit/s
95th percentile per-packet one-way delay: 63.869 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 57.39 Mbit/s
95th percentile per-packet one-way delay: 63.093 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 36.88 Mbit/s
95th percentile per-packet one-way delay: 63.866 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 64.729 ms
Loss rate: 1.28%
```
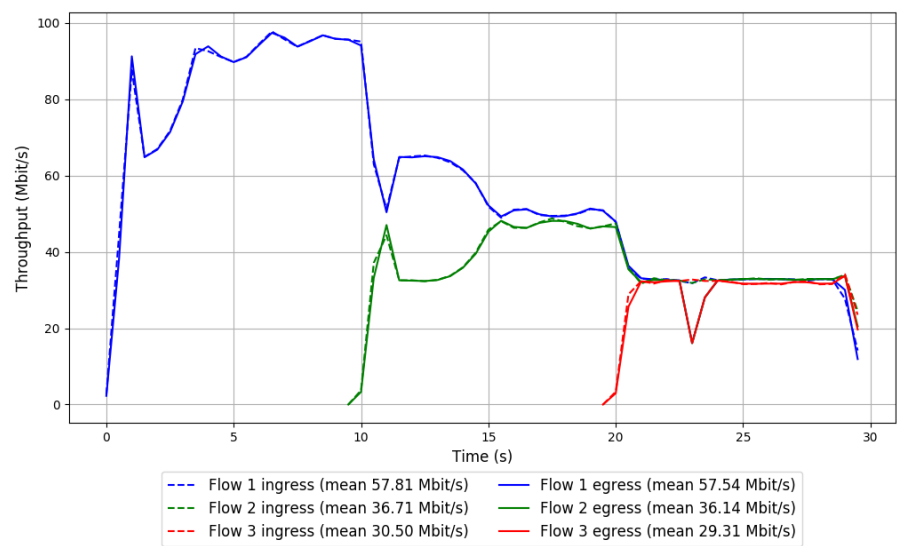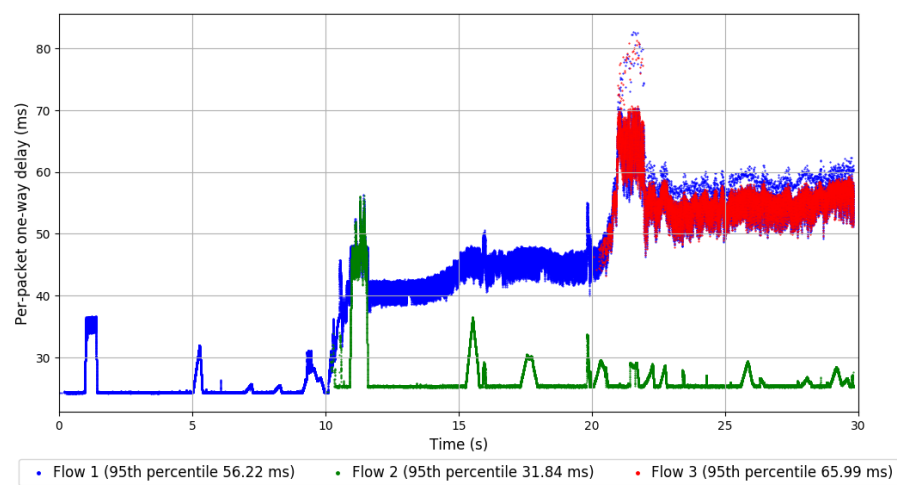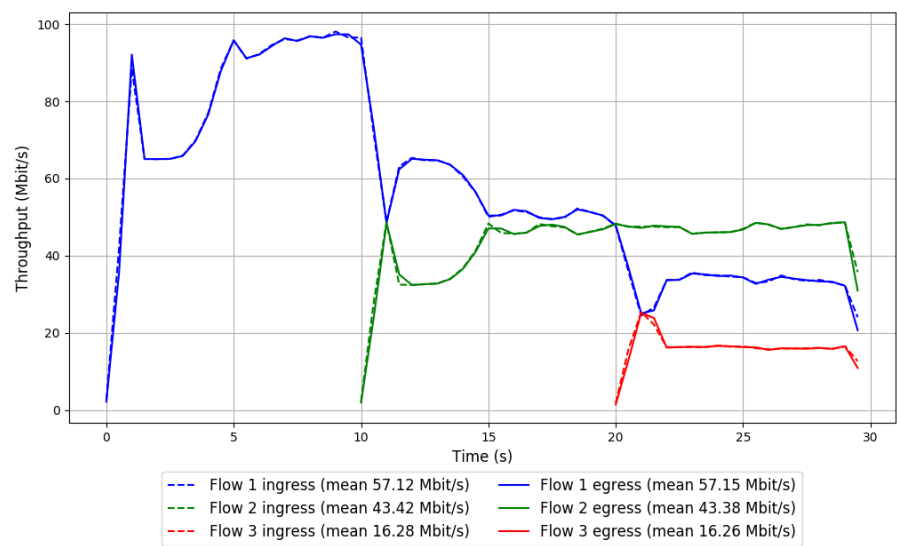
Run 3: Report of PCC — Data Link

- - - Flow 1 ingress (mean 57.33 Mbit/s) —— Flow 1 egress (mean 57.39 Mbit/s)
- - - Flow 2 ingress (mean 36.90 Mbit/s) —— Flow 2 egress (mean 36.88 Mbit/s)
- - - Flow 3 ingress (mean 30.07 Mbit/s) —— Flow 3 egress (mean 30.00 Mbit/s)

- Flow 1 (95th percentile 63.09 ms)   • Flow 2 (95th percentile 63.87 ms)   • Flow 3 (95th percentile 64.73 ms)

69

```
Run 4: Statistics of PCC

Start at: 2017-09-21 20:34:43
End at: 2017-09-21 20:35:13
Local clock offset: 0.162 ms
Remote clock offset: 2.504 ms


# Below is generated by plot.py at 2017-09-22 02:11:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.98 Mbit/s
95th percentile per-packet one-way delay: 46.050 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 71.44 Mbit/s
95th percentile per-packet one-way delay: 46.946 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 37.818 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 49.095 ms
Loss rate: 0.87%
```
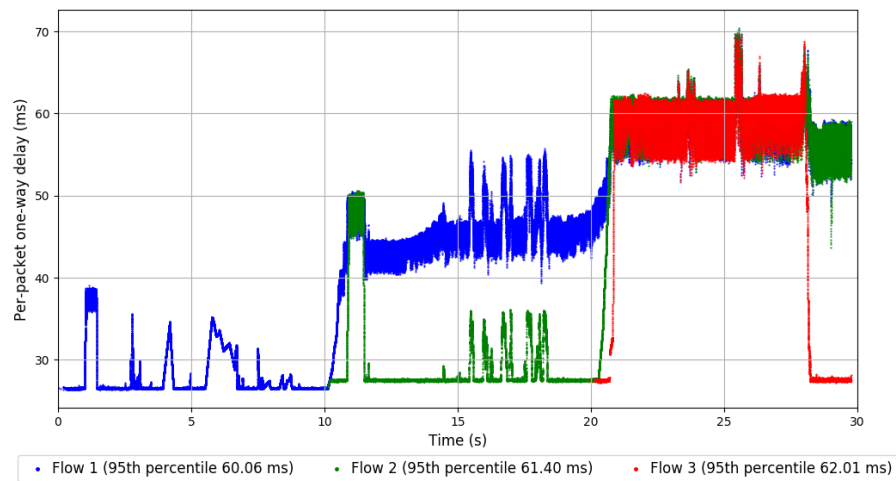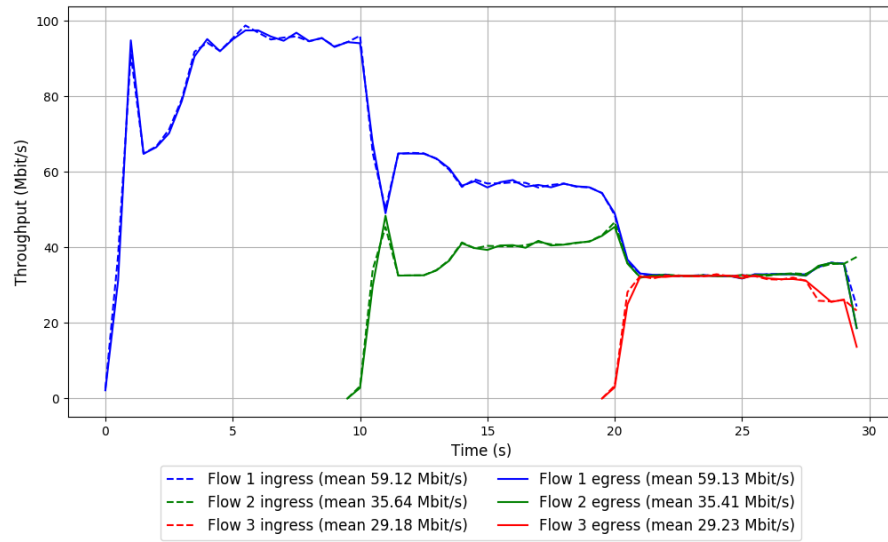
Run 4: Report of PCC — Data Link

71

```
Run 5: Statistics of PCC

Start at: 2017-09-21 20:56:07
End at: 2017-09-21 20:56:37
Local clock offset: 0.307 ms
Remote clock offset: 2.773 ms


# Below is generated by plot.py at 2017-09-22 02:11:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.68 Mbit/s
95th percentile per-packet one-way delay: 48.791 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 73.61 Mbit/s
95th percentile per-packet one-way delay: 48.954 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 49.637 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 41.62 Mbit/s
95th percentile per-packet one-way delay: 44.895 ms
Loss rate: 0.90%
```
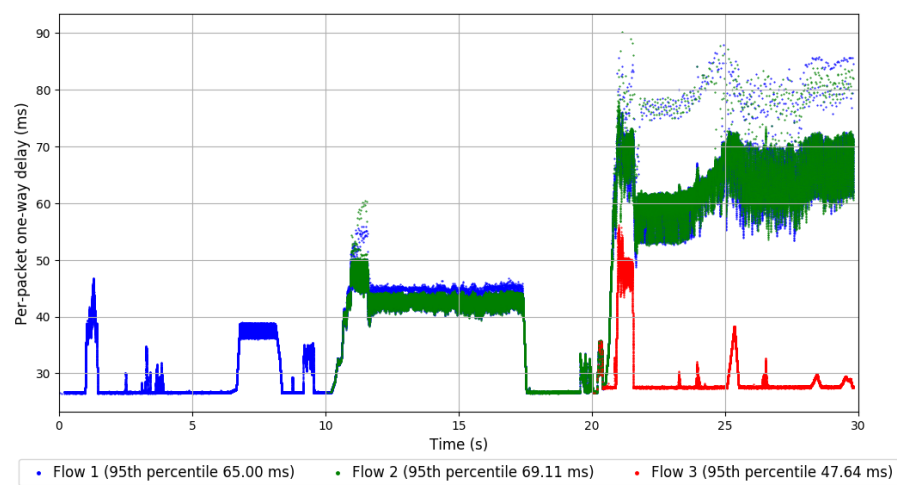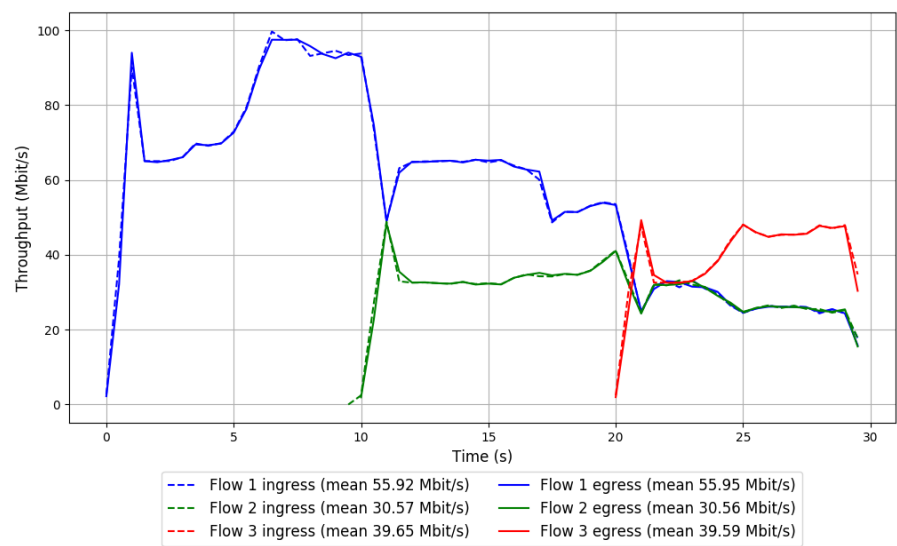
Run 5: Report of PCC — Data Link

```
Run 6: Statistics of PCC

Start at: 2017-09-21 21:15:31
End at: 2017-09-21 21:16:01
Local clock offset: 0.343 ms
Remote clock offset: 2.027 ms

# Below is generated by plot.py at 2017-09-22 02:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.25 Mbit/s
95th percentile per-packet one-way delay: 58.805 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 57.54 Mbit/s
95th percentile per-packet one-way delay: 57.920 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 36.14 Mbit/s
95th percentile per-packet one-way delay: 58.868 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 29.31 Mbit/s
95th percentile per-packet one-way delay: 59.756 ms
Loss rate: 4.76%
```
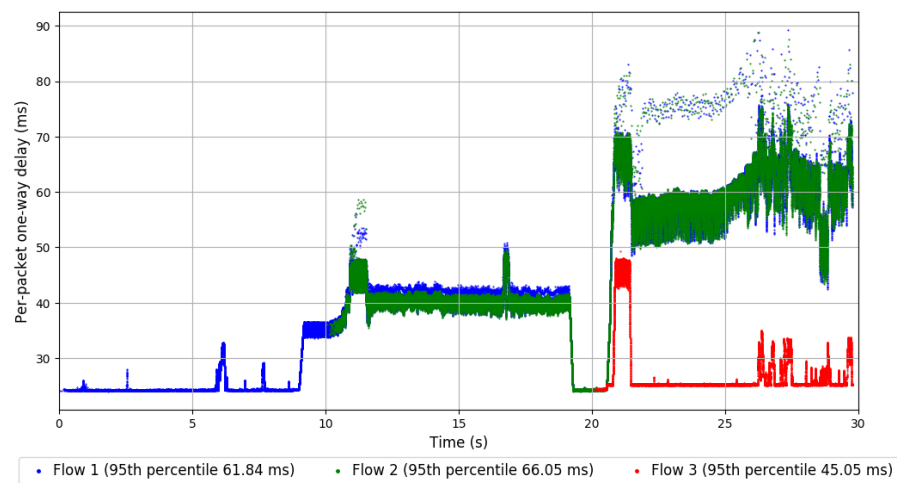
Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 57.81 Mbit/s) — Flow 1 egress (mean 57.54 Mbit/s)
Flow 2 ingress (mean 36.71 Mbit/s) — Flow 2 egress (mean 36.14 Mbit/s)
Flow 3 ingress (mean 30.50 Mbit/s) — Flow 3 egress (mean 29.31 Mbit/s)

Flow 1 (95th percentile 57.92 ms) · Flow 2 (95th percentile 58.87 ms) · Flow 3 (95th percentile 59.76 ms)

75

```
Run 7: Statistics of PCC

Start at: 2017-09-21 21:35:02
End at: 2017-09-21 21:35:32
Local clock offset: 0.48 ms
Remote clock offset: 1.537 ms

# Below is generated by plot.py at 2017-09-22 02:11:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 56.216 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 57.15 Mbit/s
95th percentile per-packet one-way delay: 56.223 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 43.38 Mbit/s
95th percentile per-packet one-way delay: 31.838 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 16.26 Mbit/s
95th percentile per-packet one-way delay: 65.993 ms
Loss rate: 1.11%
```
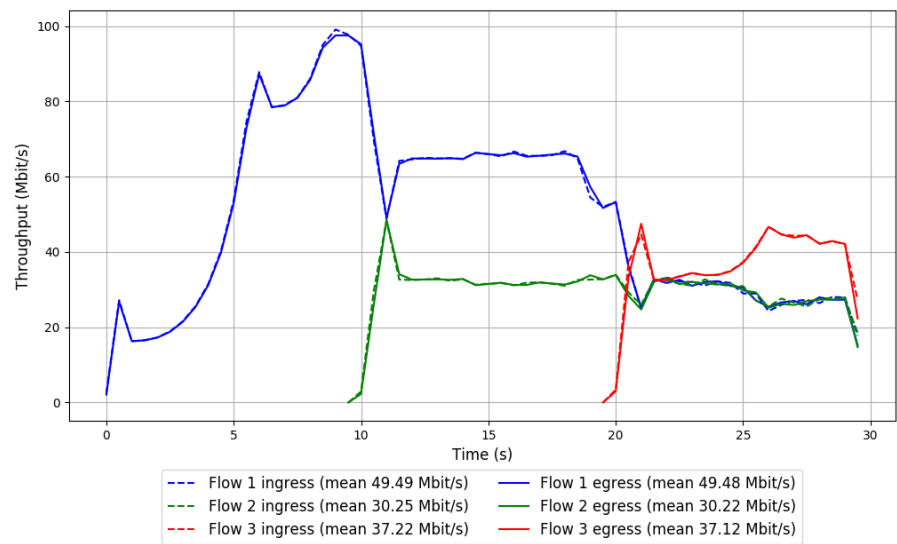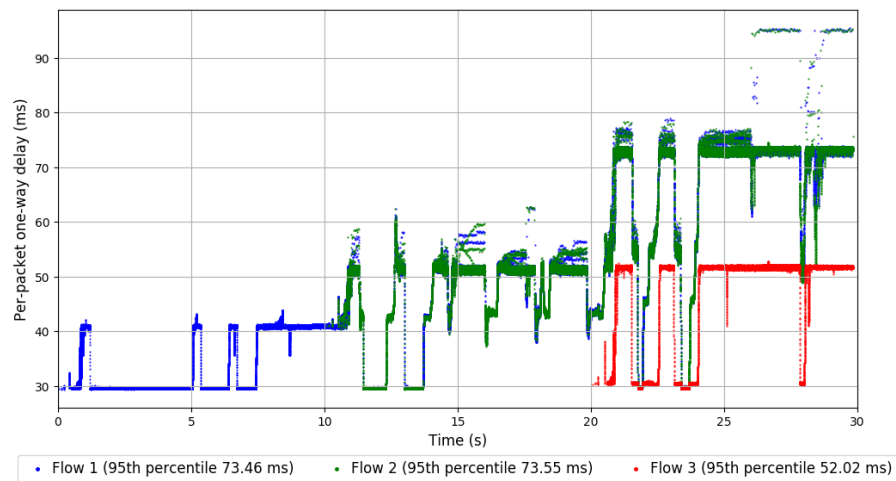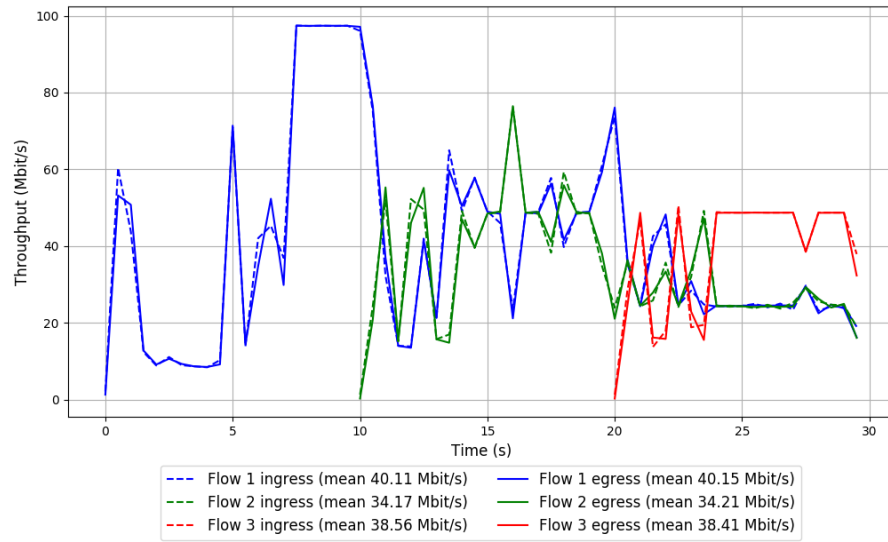
Run 7: Report of PCC — Data Link

Flow 1 ingress (mean 57.12 Mbit/s) --- Flow 1 egress (mean 57.15 Mbit/s)
Flow 2 ingress (mean 43.42 Mbit/s) --- Flow 2 egress (mean 43.38 Mbit/s)
Flow 3 ingress (mean 16.28 Mbit/s) --- Flow 3 egress (mean 16.26 Mbit/s)

Flow 1 (95th percentile 56.22 ms) • Flow 2 (95th percentile 31.84 ms) • Flow 3 (95th percentile 65.99 ms)

77

```
Run 8: Statistics of PCC

Start at: 2017-09-21 21:54:32
End at: 2017-09-21 21:55:02
Local clock offset: 0.695 ms
Remote clock offset: -0.878 ms

# Below is generated by plot.py at 2017-09-22 02:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 61.054 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 60.058 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 61.402 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 29.23 Mbit/s
95th percentile per-packet one-way delay: 62.008 ms
Loss rate: 1.97%
```
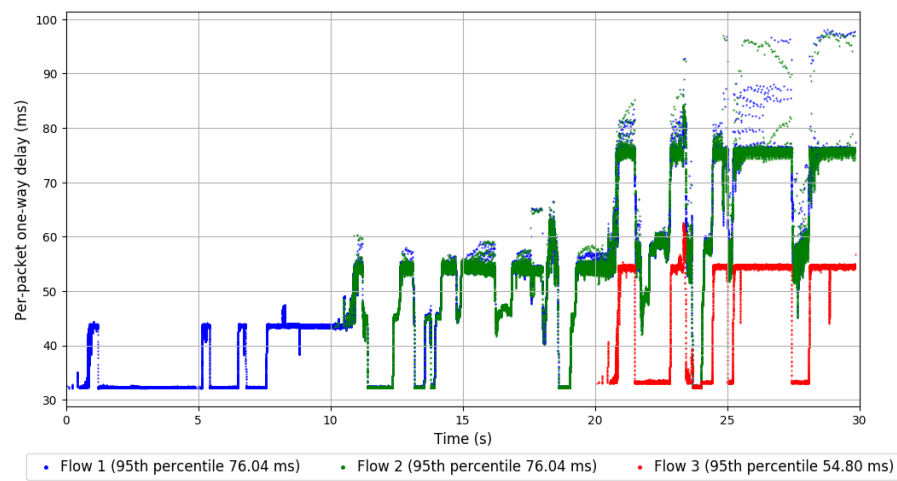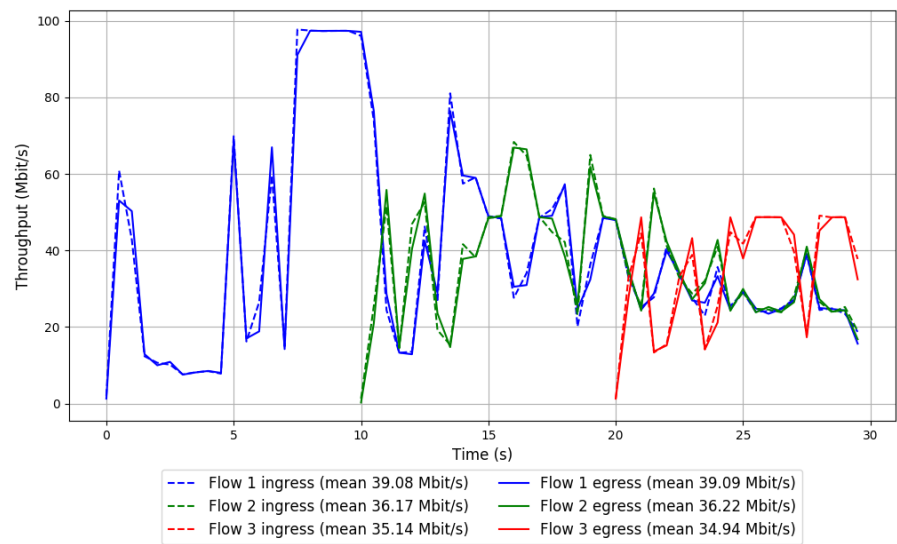
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 59.12 Mbit/s) --- Flow 1 egress (mean 59.13 Mbit/s)
Flow 2 ingress (mean 35.64 Mbit/s) --- Flow 2 egress (mean 35.41 Mbit/s)
Flow 3 ingress (mean 29.18 Mbit/s) --- Flow 3 egress (mean 29.23 Mbit/s)

Flow 1 (95th percentile 60.06 ms) • Flow 2 (95th percentile 61.40 ms) • Flow 3 (95th percentile 62.01 ms)

```
Run 9: Statistics of PCC

Start at: 2017-09-21 22:14:08
End at: 2017-09-21 22:14:38
Local clock offset: 0.557 ms
Remote clock offset: -1.407 ms


# Below is generated by plot.py at 2017-09-22 02:12:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.24 Mbit/s
95th percentile per-packet one-way delay: 66.179 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 65.001 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 69.109 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 39.59 Mbit/s
95th percentile per-packet one-way delay: 47.637 ms
Loss rate: 0.93%
```
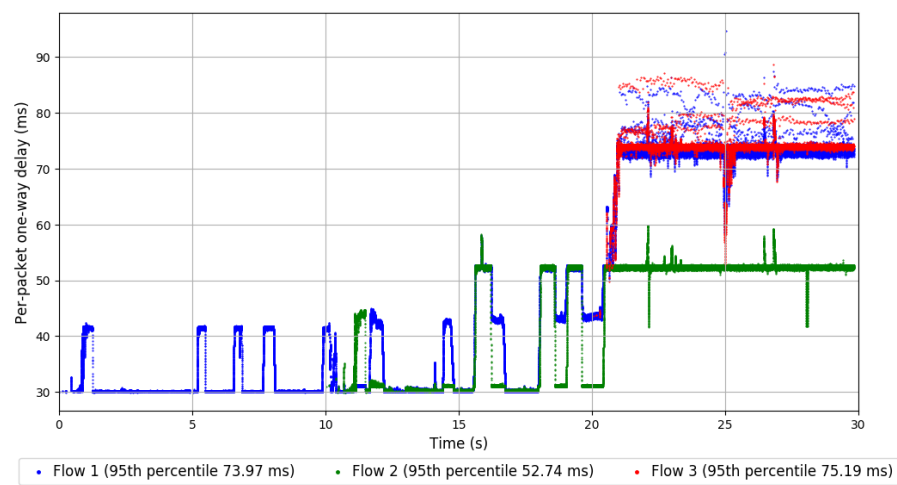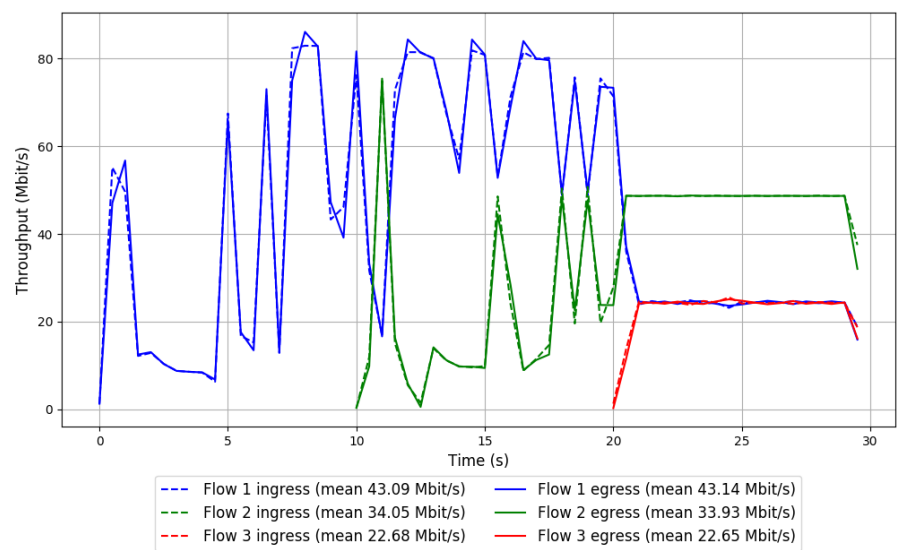
Run 9: Report of PCC — Data Link

```
Run 10: Statistics of PCC

Start at: 2017-09-21 22:33:49
End at: 2017-09-21 22:34:19
Local clock offset: -0.659 ms
Remote clock offset: 0.713 ms


# Below is generated by plot.py at 2017-09-22 02:13:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.79 Mbit/s
95th percentile per-packet one-way delay: 62.980 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 49.48 Mbit/s
95th percentile per-packet one-way delay: 61.843 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 30.22 Mbit/s
95th percentile per-packet one-way delay: 66.047 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 37.12 Mbit/s
95th percentile per-packet one-way delay: 45.047 ms
Loss rate: 1.05%
```
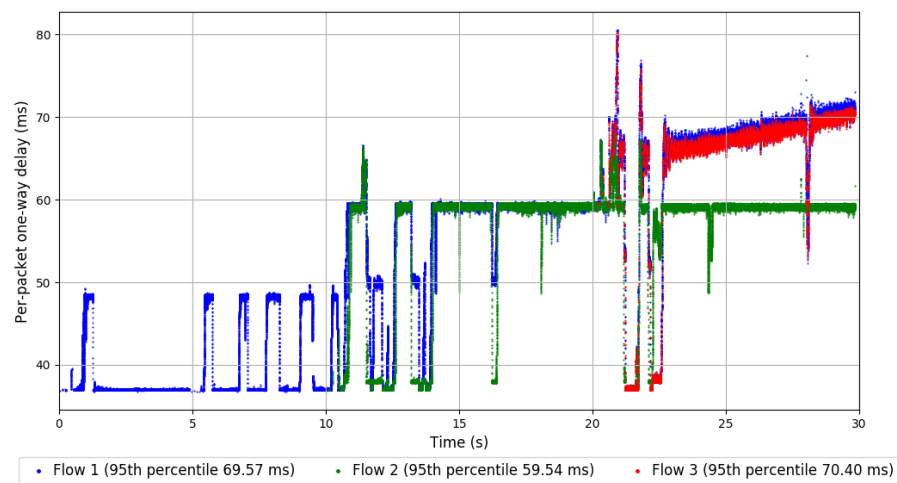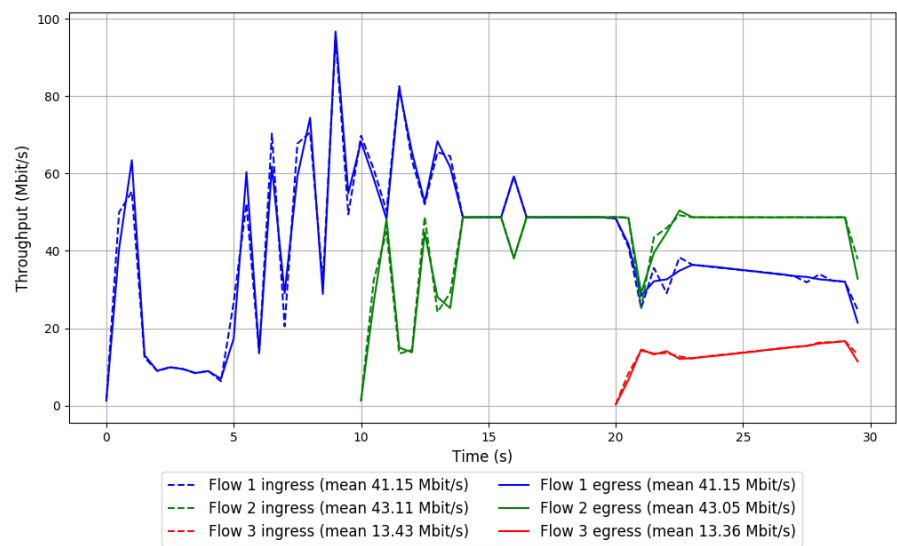
Run 10: Report of PCC — Data Link

Flow 1 ingress (mean 49.49 Mbit/s) --- Flow 1 egress (mean 49.48 Mbit/s)
Flow 2 ingress (mean 30.25 Mbit/s) --- Flow 2 egress (mean 30.22 Mbit/s)
Flow 3 ingress (mean 37.22 Mbit/s) --- Flow 3 egress (mean 37.12 Mbit/s)

Flow 1 (95th percentile 61.84 ms)   Flow 2 (95th percentile 66.05 ms)   Flow 3 (95th percentile 45.05 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-21 19:26:12
End at: 2017-09-21 19:26:42
Local clock offset: 0.068 ms
Remote clock offset: -3.523 ms


# Below is generated by plot.py at 2017-09-22 02:13:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.40 Mbit/s
95th percentile per-packet one-way delay: 73.460 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 73.463 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 34.21 Mbit/s
95th percentile per-packet one-way delay: 73.553 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 52.024 ms
Loss rate: 1.40%
```
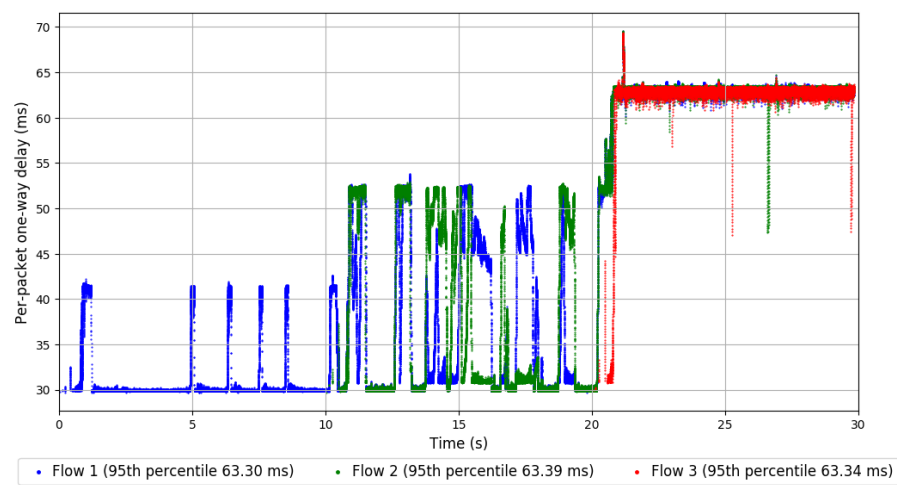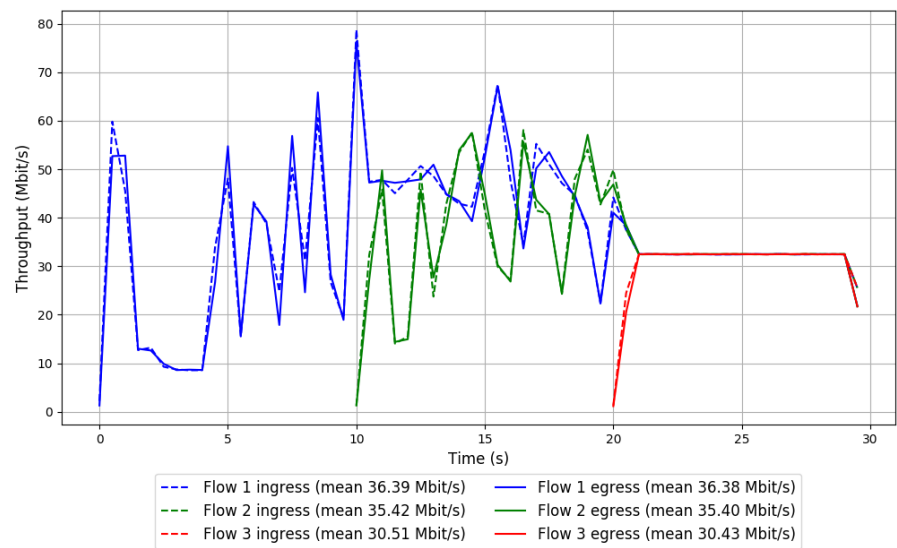
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-21 19:45:38
End at: 2017-09-21 19:46:08
Local clock offset: 0.086 ms
Remote clock offset: -5.936 ms


# Below is generated by plot.py at 2017-09-22 02:13:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.57 Mbit/s
95th percentile per-packet one-way delay: 75.990 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 39.09 Mbit/s
95th percentile per-packet one-way delay: 76.044 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 76.036 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 34.94 Mbit/s
95th percentile per-packet one-way delay: 54.803 ms
Loss rate: 1.53%
```
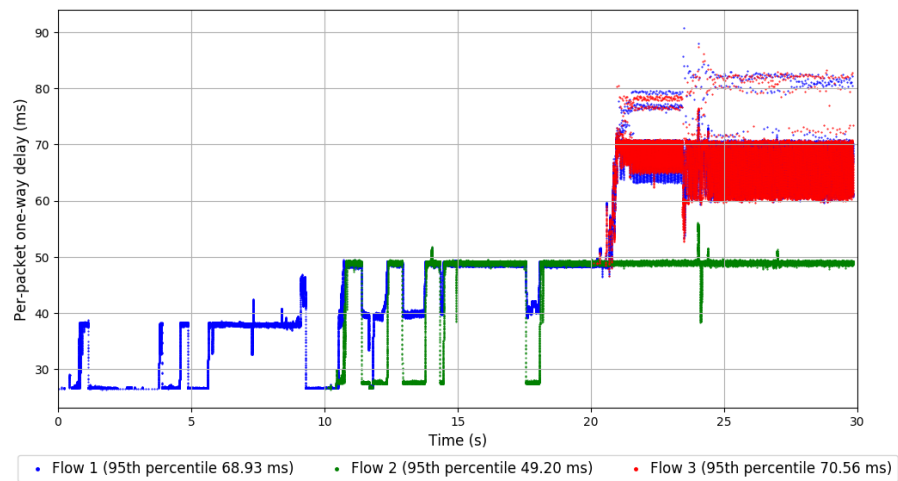
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-21 20:05:11
End at: 2017-09-21 20:05:41
Local clock offset: 0.115 ms
Remote clock offset: -3.588 ms


# Below is generated by plot.py at 2017-09-22 02:13:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.08 Mbit/s
95th percentile per-packet one-way delay: 74.105 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 43.14 Mbit/s
95th percentile per-packet one-way delay: 73.971 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 33.93 Mbit/s
95th percentile per-packet one-way delay: 52.736 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 22.65 Mbit/s
95th percentile per-packet one-way delay: 75.193 ms
Loss rate: 1.40%
```
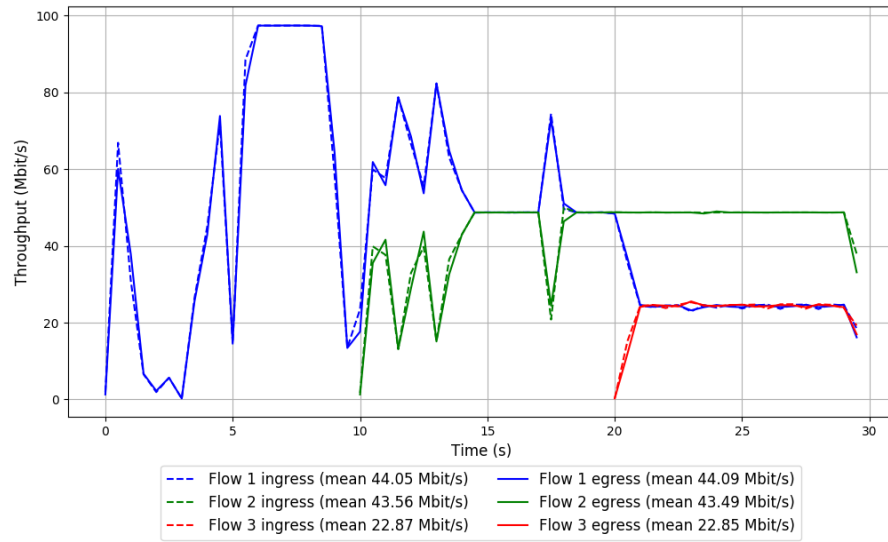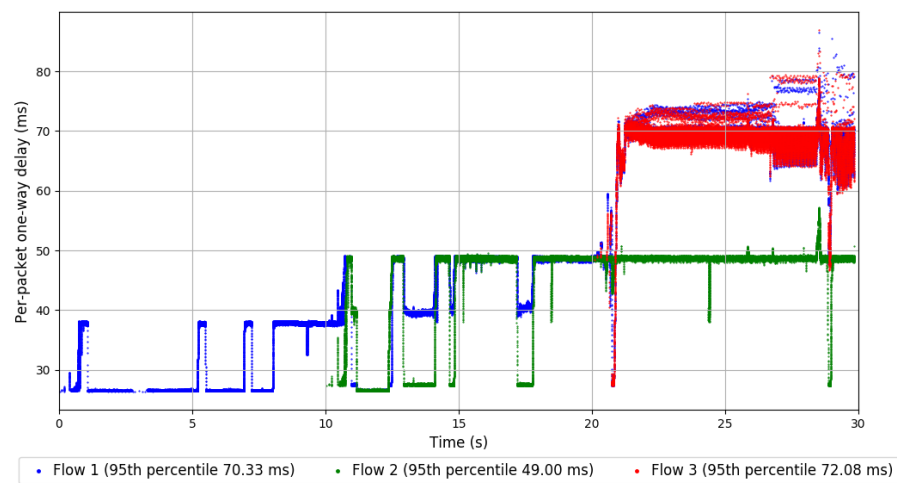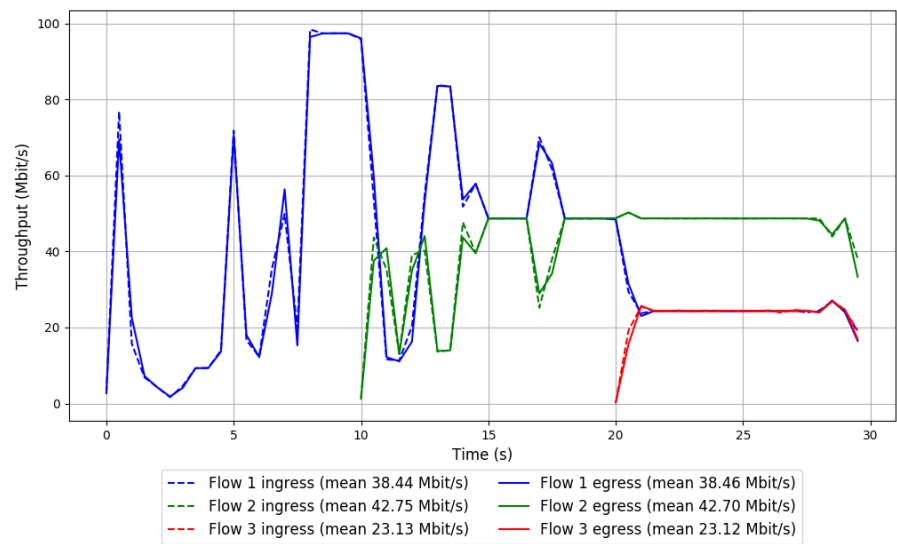
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.09 Mbit/s)   Flow 1 egress (mean 43.14 Mbit/s)
Flow 2 ingress (mean 34.05 Mbit/s)   Flow 2 egress (mean 33.93 Mbit/s)
Flow 3 ingress (mean 22.68 Mbit/s)   Flow 3 egress (mean 22.65 Mbit/s)

Flow 1 (95th percentile 73.97 ms)   Flow 2 (95th percentile 52.74 ms)   Flow 3 (95th percentile 75.19 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-21 20:24:46
End at: 2017-09-21 20:25:16
Local clock offset: 0.123 ms
Remote clock offset: 2.211 ms


# Below is generated by plot.py at 2017-09-22 02:13:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.09 Mbit/s
95th percentile per-packet one-way delay: 69.092 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 69.572 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 43.05 Mbit/s
95th percentile per-packet one-way delay: 59.536 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 13.36 Mbit/s
95th percentile per-packet one-way delay: 70.400 ms
Loss rate: 1.61%
```
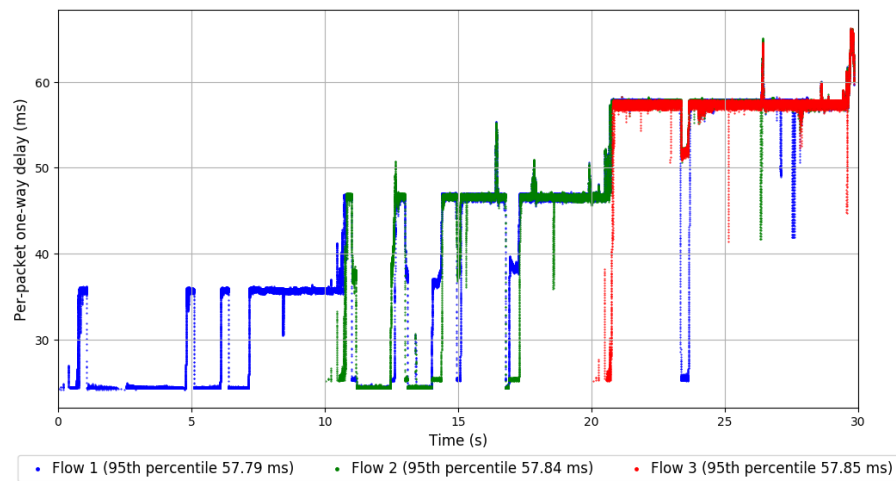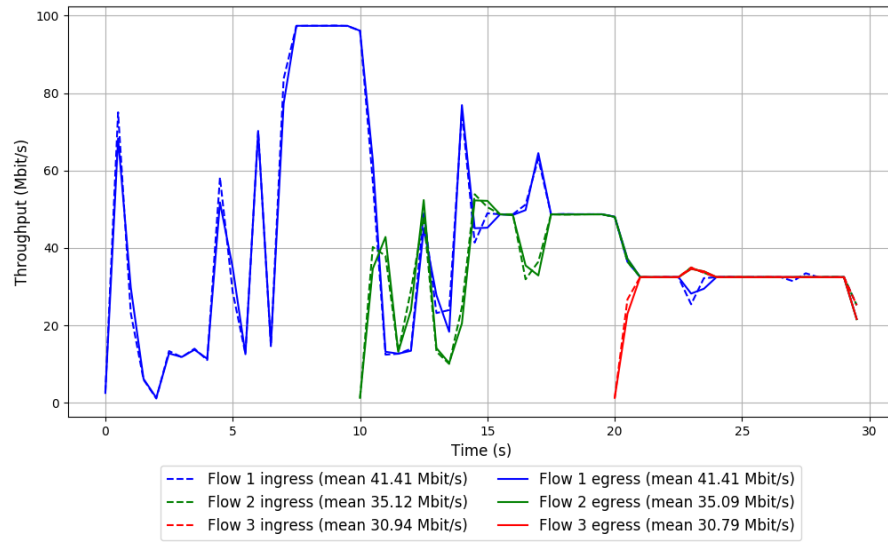
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 41.15 Mbit/s)   Flow 1 egress (mean 41.15 Mbit/s)
Flow 2 ingress (mean 43.11 Mbit/s)   Flow 2 egress (mean 43.05 Mbit/s)
Flow 3 ingress (mean 13.43 Mbit/s)   Flow 3 egress (mean 13.36 Mbit/s)

Flow 1 (95th percentile 69.57 ms)   Flow 2 (95th percentile 59.54 ms)   Flow 3 (95th percentile 70.40 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-09-21 20:45:56
End at: 2017-09-21 20:46:26
Local clock offset: 0.242 ms
Remote clock offset: -2.447 ms


# Below is generated by plot.py at 2017-09-22 02:13:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.87 Mbit/s
95th percentile per-packet one-way delay: 63.348 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 36.38 Mbit/s
95th percentile per-packet one-way delay: 63.304 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 35.40 Mbit/s
95th percentile per-packet one-way delay: 63.391 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 30.43 Mbit/s
95th percentile per-packet one-way delay: 63.344 ms
Loss rate: 1.31%
```
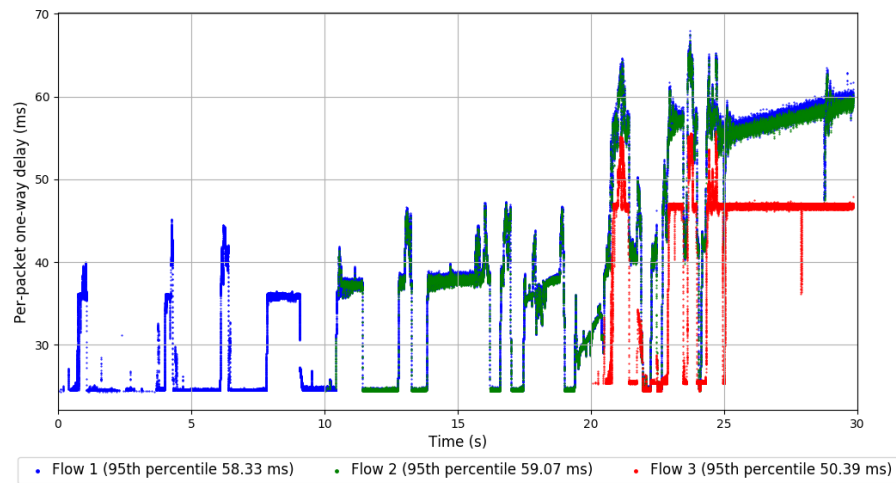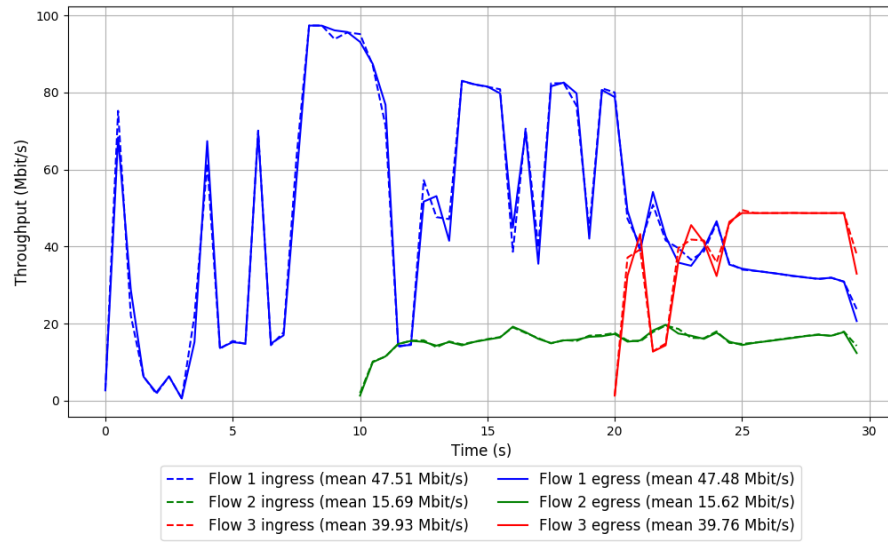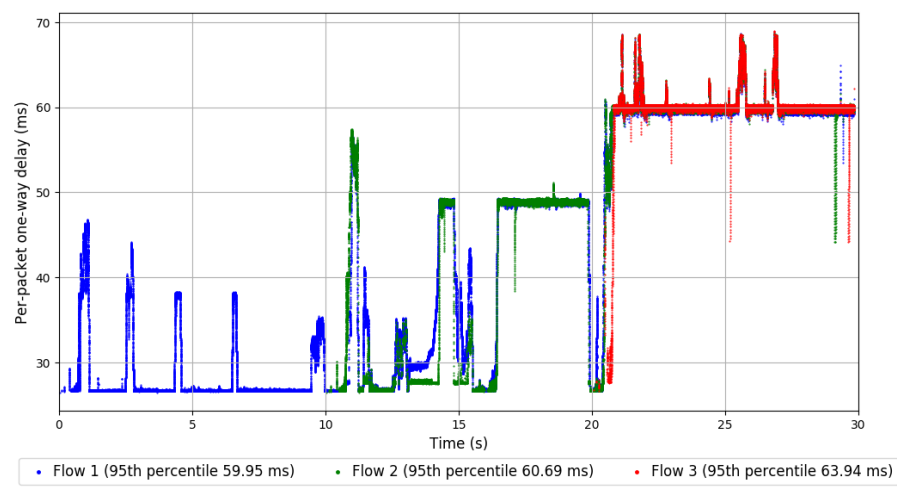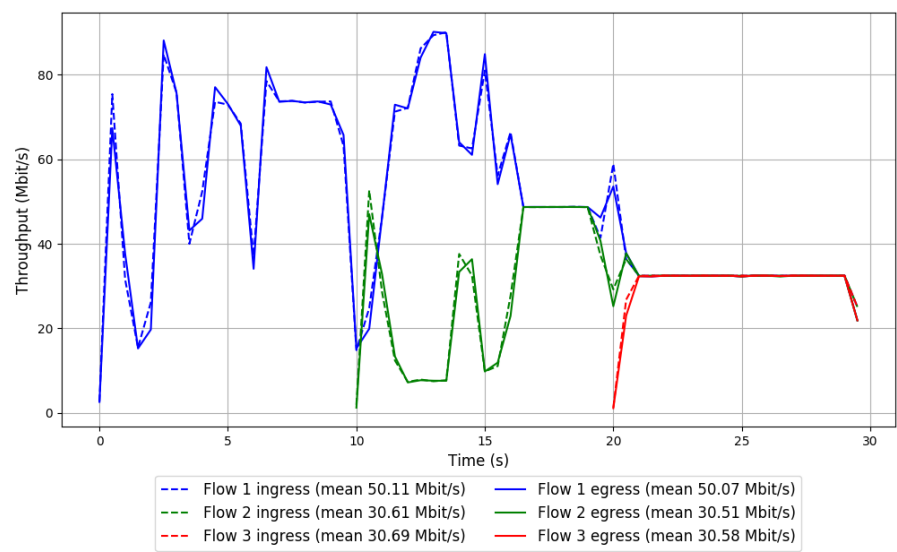
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 36.39 Mbit/s)   Flow 1 egress (mean 36.38 Mbit/s)
Flow 2 ingress (mean 35.42 Mbit/s)   Flow 2 egress (mean 35.40 Mbit/s)
Flow 3 ingress (mean 30.51 Mbit/s)   Flow 3 egress (mean 30.43 Mbit/s)

Flow 1 (95th percentile 63.30 ms)   Flow 2 (95th percentile 63.39 ms)   Flow 3 (95th percentile 63.34 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-21 21:05:38
End at: 2017-09-21 21:06:08
Local clock offset: 0.368 ms
Remote clock offset: 0.269 ms


# Below is generated by plot.py at 2017-09-22 02:13:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.41 Mbit/s
95th percentile per-packet one-way delay: 69.117 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 44.09 Mbit/s
95th percentile per-packet one-way delay: 68.927 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 43.49 Mbit/s
95th percentile per-packet one-way delay: 49.201 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 22.85 Mbit/s
95th percentile per-packet one-way delay: 70.559 ms
Loss rate: 1.24%
```
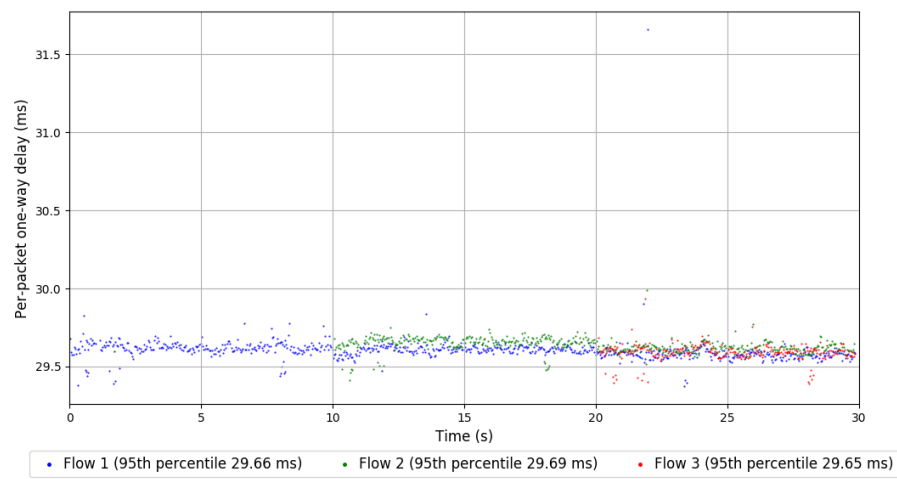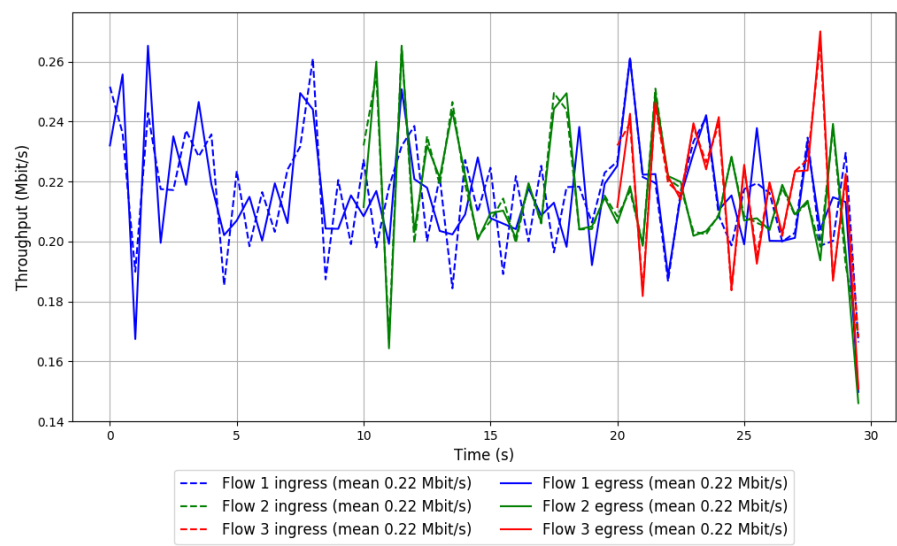
Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 44.05 Mbit/s) Flow 1 egress (mean 44.09 Mbit/s)
Flow 2 ingress (mean 43.56 Mbit/s) Flow 2 egress (mean 43.49 Mbit/s)
Flow 3 ingress (mean 22.87 Mbit/s) Flow 3 egress (mean 22.85 Mbit/s)

Flow 1 (95th percentile 68.93 ms)   Flow 2 (95th percentile 49.20 ms)   Flow 3 (95th percentile 70.56 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-21 21:25:03
End at: 2017-09-21 21:25:33
Local clock offset: 0.383 ms
Remote clock offset: -0.411 ms

# Below is generated by plot.py at 2017-09-22 02:14:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.37 Mbit/s
95th percentile per-packet one-way delay: 70.275 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 38.46 Mbit/s
95th percentile per-packet one-way delay: 70.327 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 48.996 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 23.12 Mbit/s
95th percentile per-packet one-way delay: 72.083 ms
Loss rate: 1.22%
```
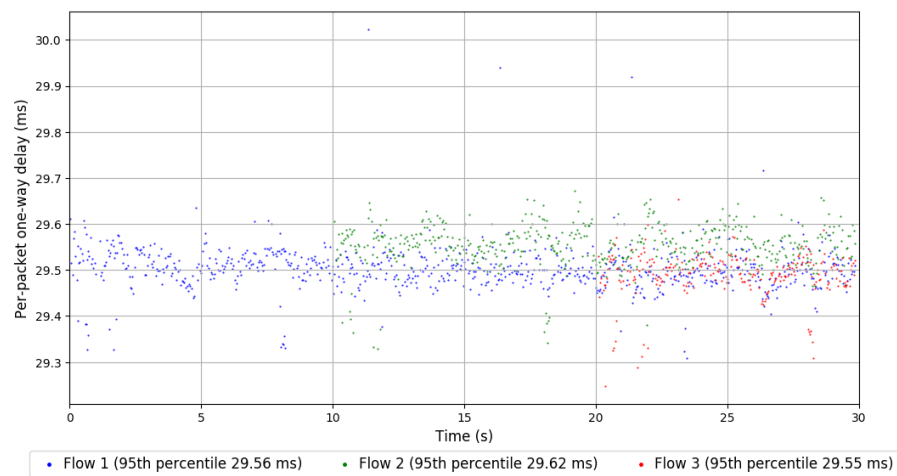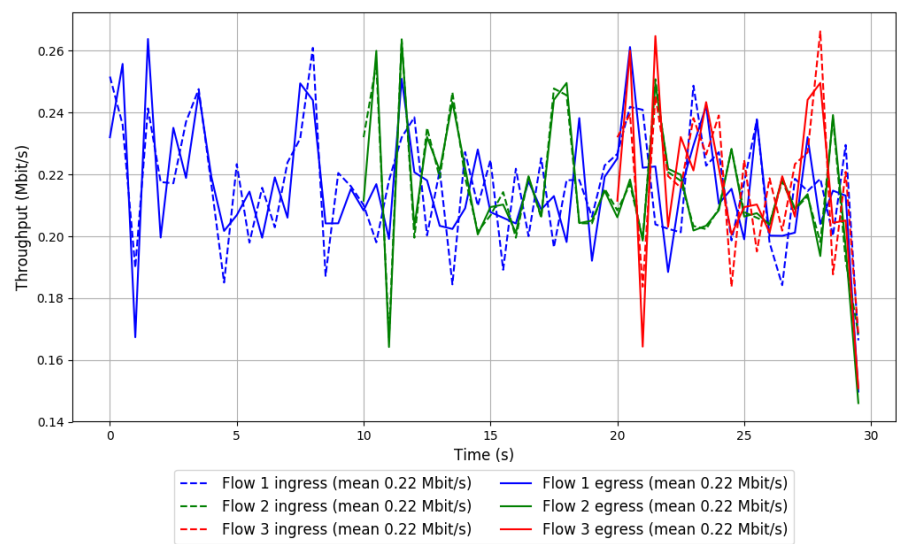
Run 7: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 38.44 Mbit/s) —— Flow 1 egress (mean 38.46 Mbit/s)
- - - Flow 2 ingress (mean 42.75 Mbit/s) —— Flow 2 egress (mean 42.70 Mbit/s)
- - - Flow 3 ingress (mean 23.13 Mbit/s) —— Flow 3 egress (mean 23.12 Mbit/s)

• Flow 1 (95th percentile 70.33 ms)   • Flow 2 (95th percentile 49.00 ms)   • Flow 3 (95th percentile 72.08 ms)

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-21 21:44:34
End at: 2017-09-21 21:45:04
Local clock offset: 0.611 ms
Remote clock offset: 1.426 ms


# Below is generated by plot.py at 2017-09-22 02:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.78 Mbit/s
95th percentile per-packet one-way delay: 57.821 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 41.41 Mbit/s
95th percentile per-packet one-way delay: 57.787 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 35.09 Mbit/s
95th percentile per-packet one-way delay: 57.836 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 57.854 ms
Loss rate: 1.20%
```
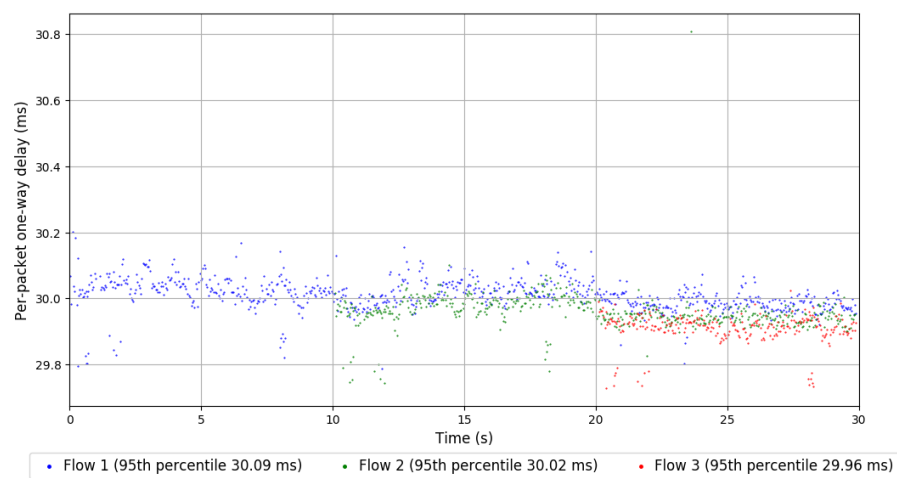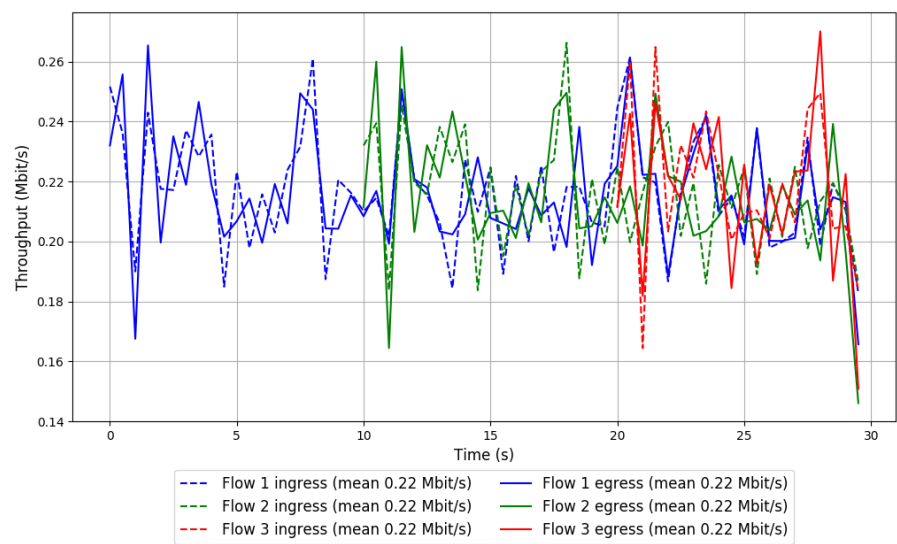
Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 41.41 Mbit/s)   Flow 1 egress (mean 41.41 Mbit/s)
Flow 2 ingress (mean 35.12 Mbit/s)   Flow 2 egress (mean 35.09 Mbit/s)
Flow 3 ingress (mean 30.94 Mbit/s)   Flow 3 egress (mean 30.79 Mbit/s)

Flow 1 (95th percentile 57.79 ms)   Flow 2 (95th percentile 57.84 ms)   Flow 3 (95th percentile 57.85 ms)

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-09-21 22:04:13
End at: 2017-09-21 22:04:43
Local clock offset: 0.778 ms
Remote clock offset: 0.834 ms


# Below is generated by plot.py at 2017-09-22 02:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 58.225 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 47.48 Mbit/s
95th percentile per-packet one-way delay: 58.331 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 59.066 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 50.392 ms
Loss rate: 1.30%
```
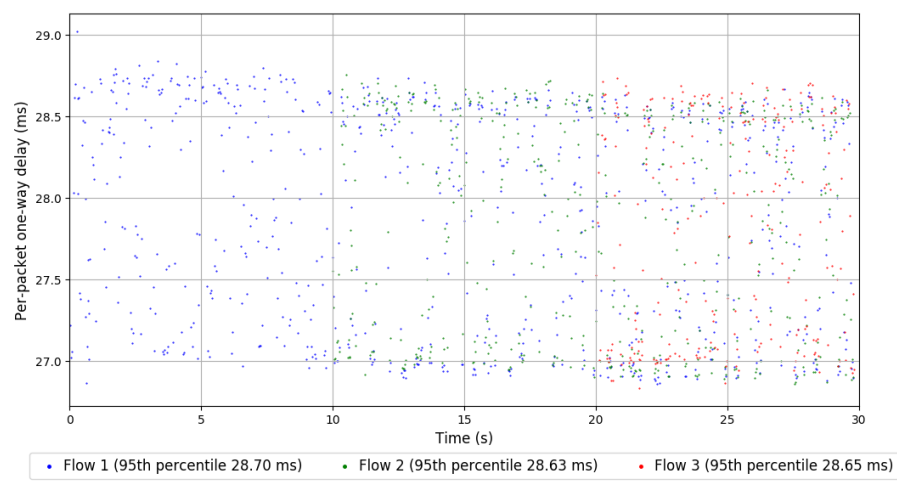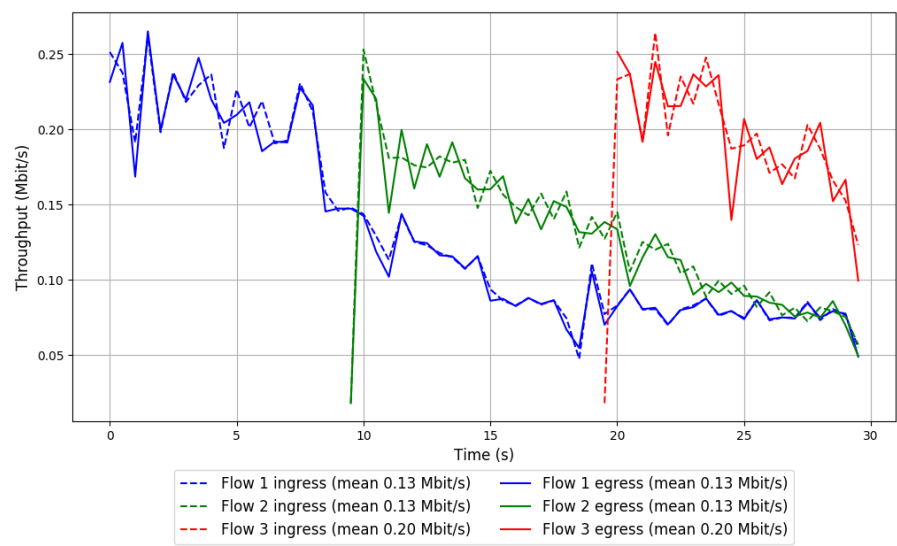
Run 9: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 47.51 Mbit/s) —— Flow 1 egress (mean 47.48 Mbit/s)
- - - Flow 2 ingress (mean 15.69 Mbit/s) —— Flow 2 egress (mean 15.62 Mbit/s)
- - - Flow 3 ingress (mean 39.93 Mbit/s) —— Flow 3 egress (mean 39.76 Mbit/s)

- Flow 1 (95th percentile 58.33 ms)   • Flow 2 (95th percentile 59.07 ms)   • Flow 3 (95th percentile 50.39 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-21 22:23:46
End at: 2017-09-21 22:24:16
Local clock offset: -0.041 ms
Remote clock offset: -1.542 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.34 Mbit/s
95th percentile per-packet one-way delay: 60.228 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 50.07 Mbit/s
95th percentile per-packet one-way delay: 59.947 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 30.51 Mbit/s
95th percentile per-packet one-way delay: 60.685 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 30.58 Mbit/s
95th percentile per-packet one-way delay: 63.940 ms
Loss rate: 1.27%
```
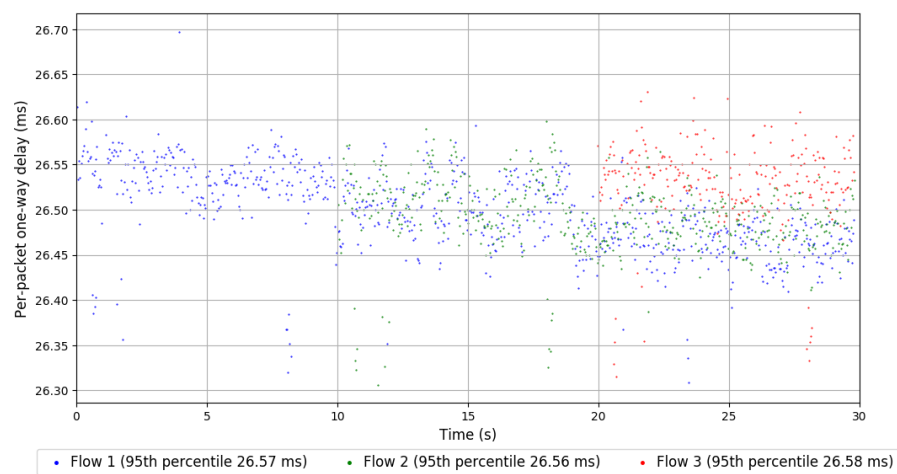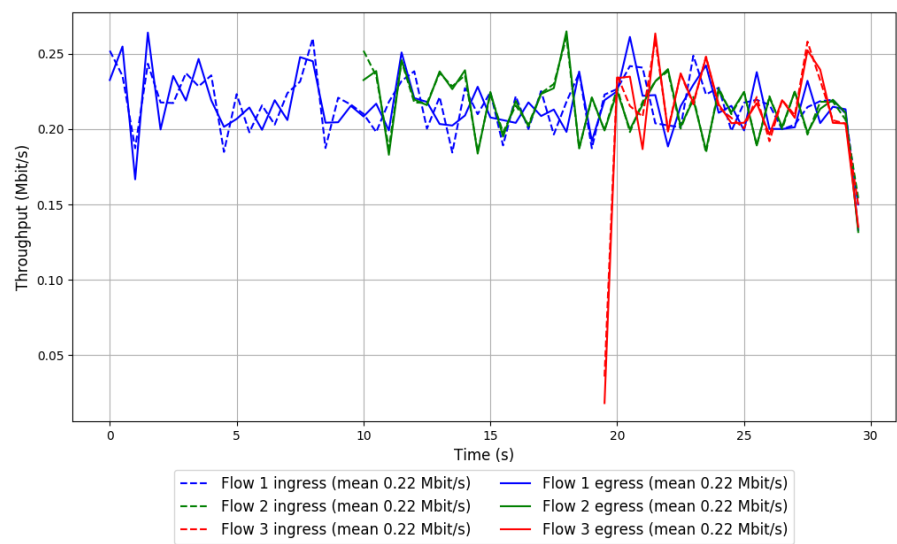
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2017-09-21 19:40:14
End at: 2017-09-21 19:40:44
Local clock offset: 0.09 ms
Remote clock offset: -3.341 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 29.684 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.661 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.692 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.650 ms
Loss rate: 0.76%
```
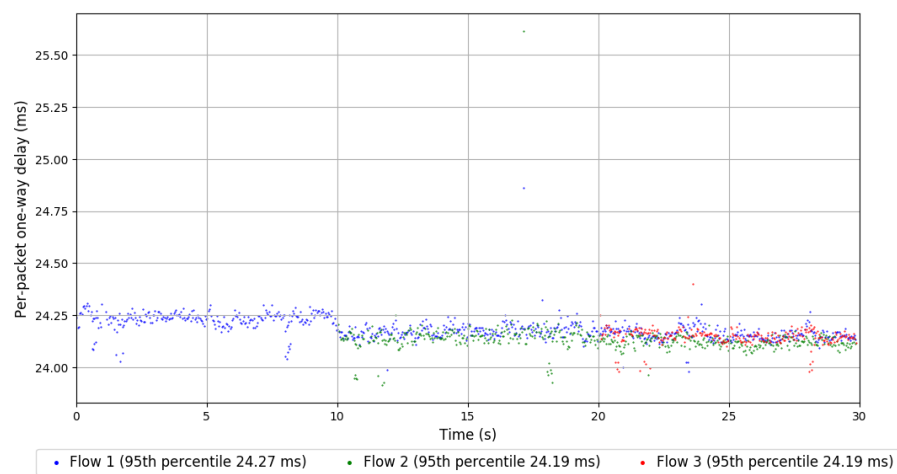
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2017-09-21 19:59:42
End at: 2017-09-21 20:00:12
Local clock offset: 0.014 ms
Remote clock offset: -3.074 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 29.600 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.563 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.620 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.546 ms
Loss rate: 0.76%
```
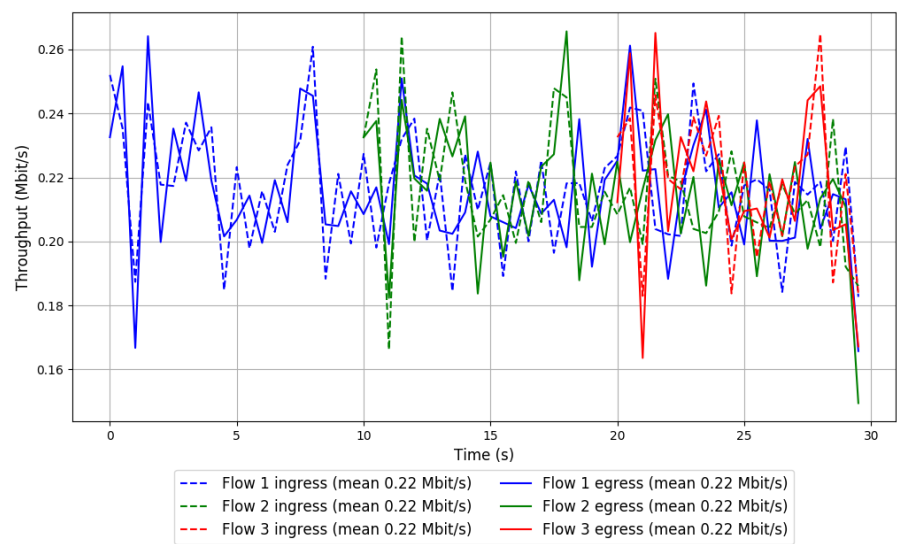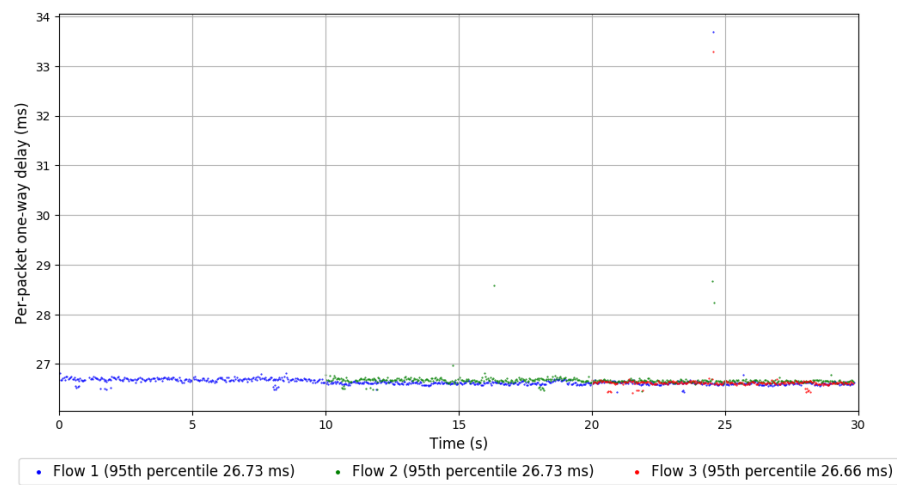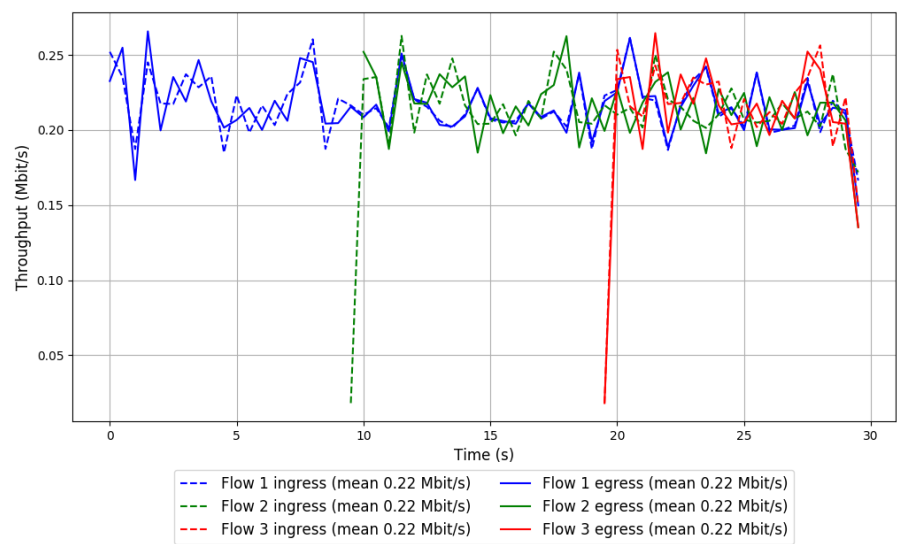
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-09-21 20:19:17
End at: 2017-09-21 20:19:47
Local clock offset: 0.021 ms
Remote clock offset: -3.232 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.068 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.092 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.025 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.962 ms
Loss rate: 0.76%
```
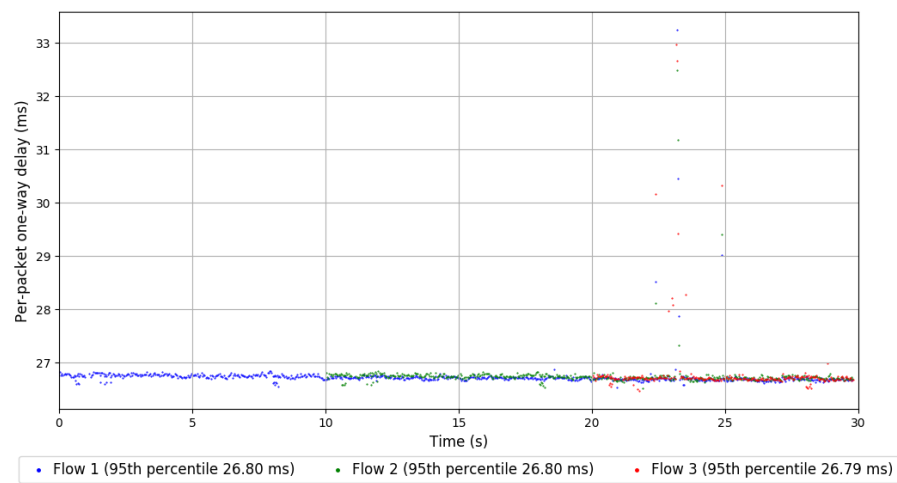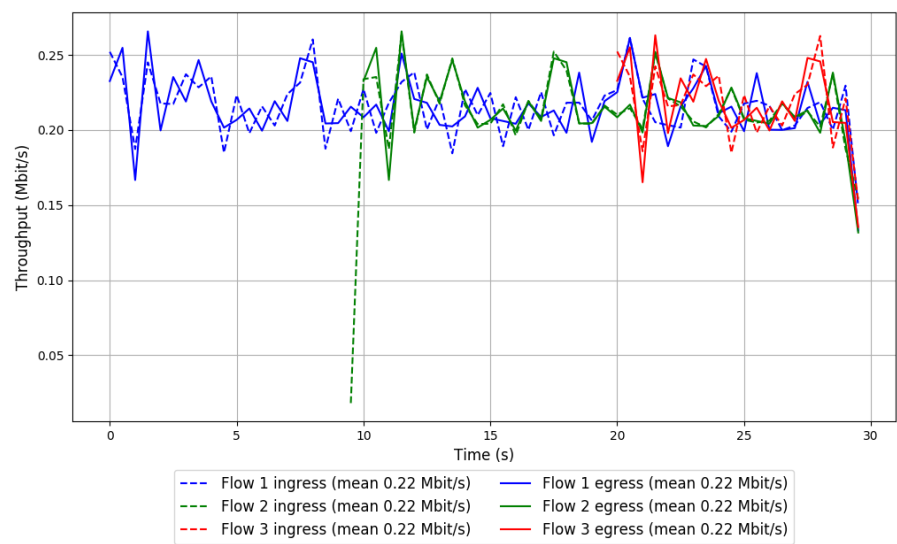
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2017-09-21 20:38:55
End at: 2017-09-21 20:39:25
Local clock offset: 0.174 ms
Remote clock offset: 0.32 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 28.669 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 28.698 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 28.631 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 28.647 ms
Loss rate: 1.35%
```
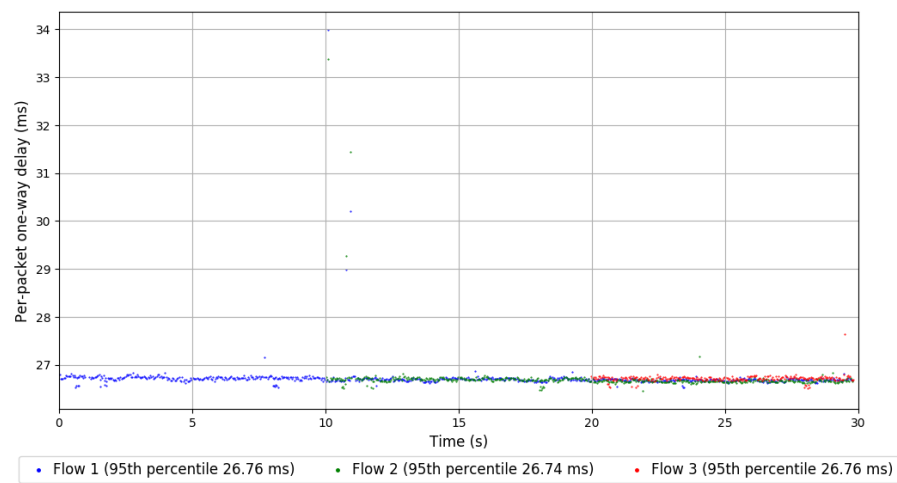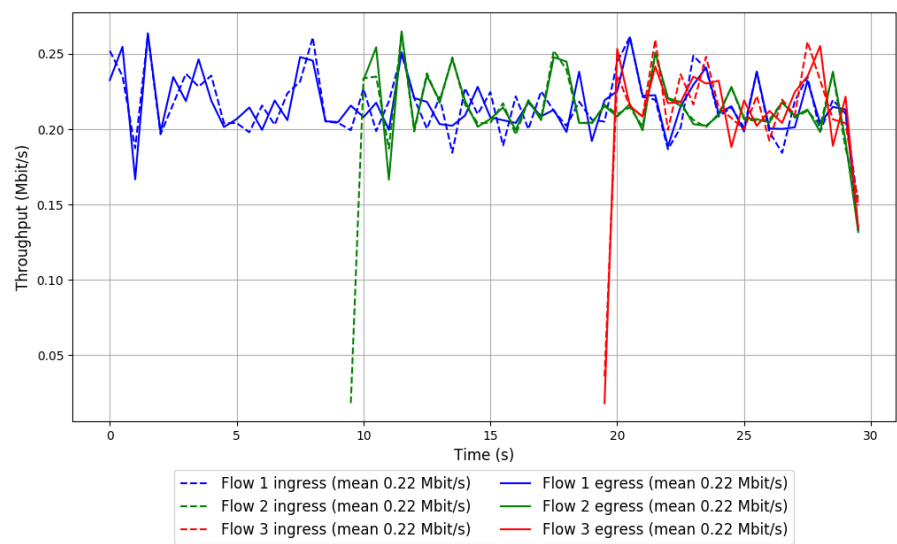
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-09-21 21:00:13
End at: 2017-09-21 21:00:43
Local clock offset: 0.232 ms
Remote clock offset: 0.601 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.567 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.565 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.556 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.584 ms
Loss rate: 0.74%
```

Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2017-09-21 21:19:38
End at: 2017-09-21 21:20:08
Local clock offset: 0.457 ms
Remote clock offset: 2.282 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 24.253 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.269 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.189 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.193 ms
Loss rate: 0.74%
```
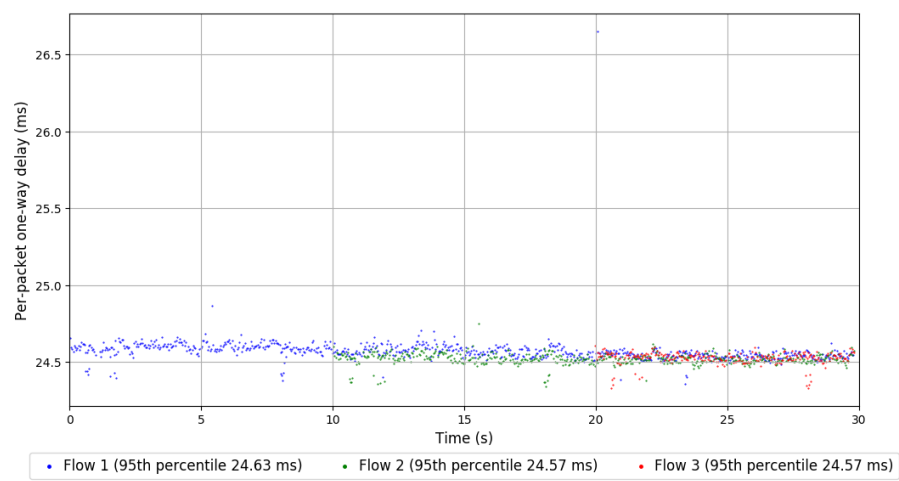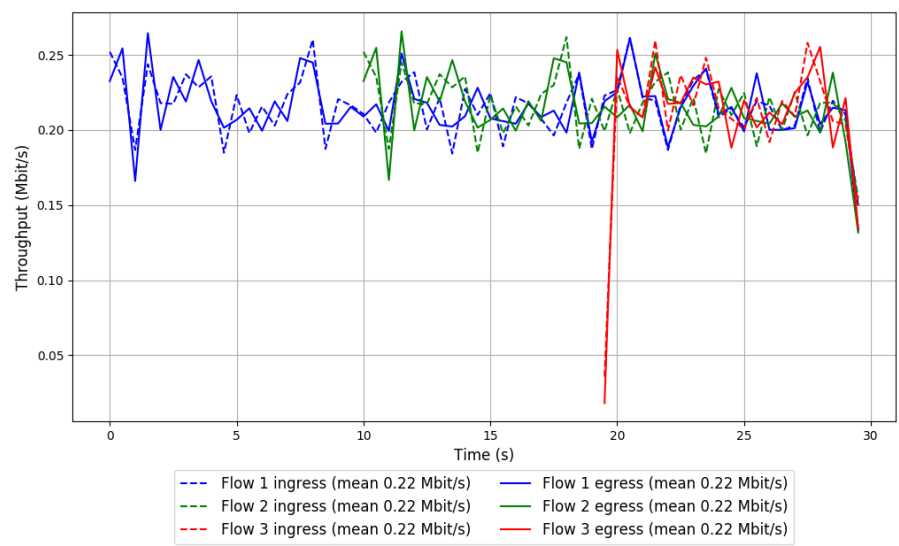
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-09-21 21:39:10
End at: 2017-09-21 21:39:40
Local clock offset: 0.626 ms
Remote clock offset: -0.699 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.723 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.725 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.731 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.657 ms
Loss rate: 0.74%
```
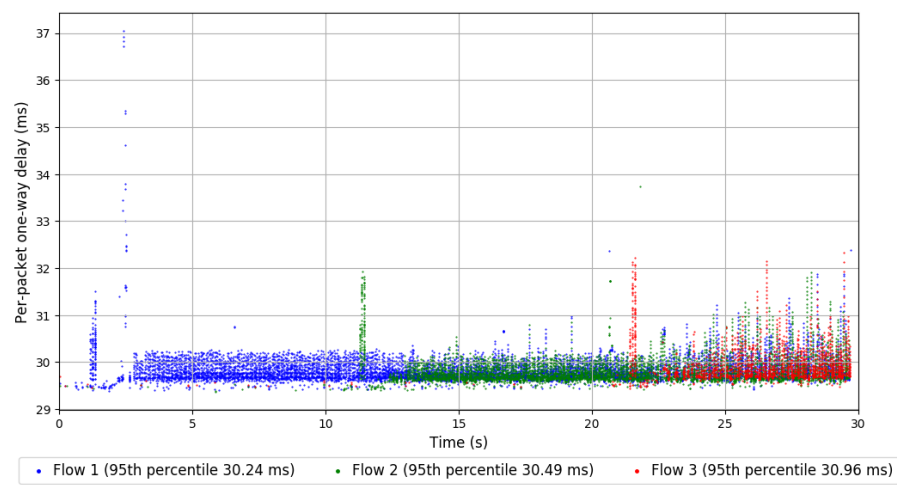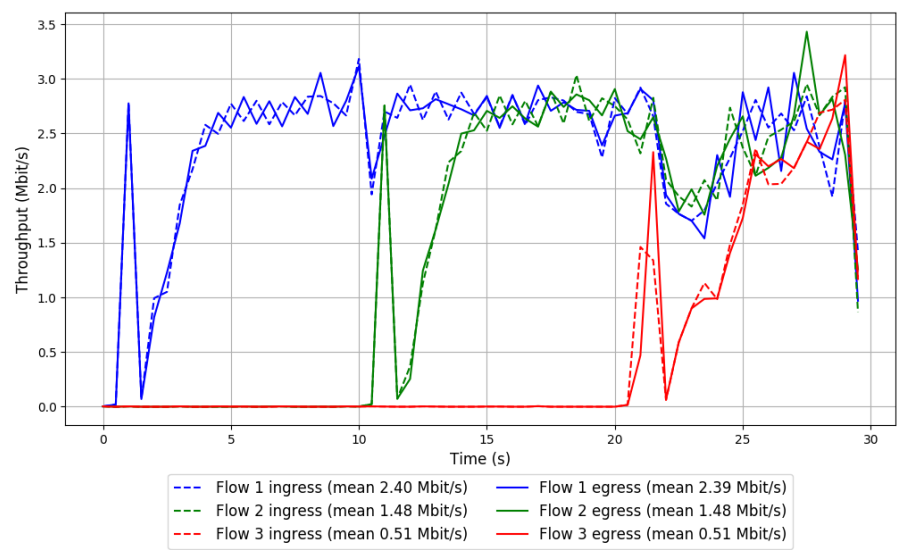
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-09-21 21:58:43
End at: 2017-09-21 21:59:13
Local clock offset: 0.833 ms
Remote clock offset: -1.119 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.803 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.800 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.805 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.791 ms
Loss rate: 0.76%
```
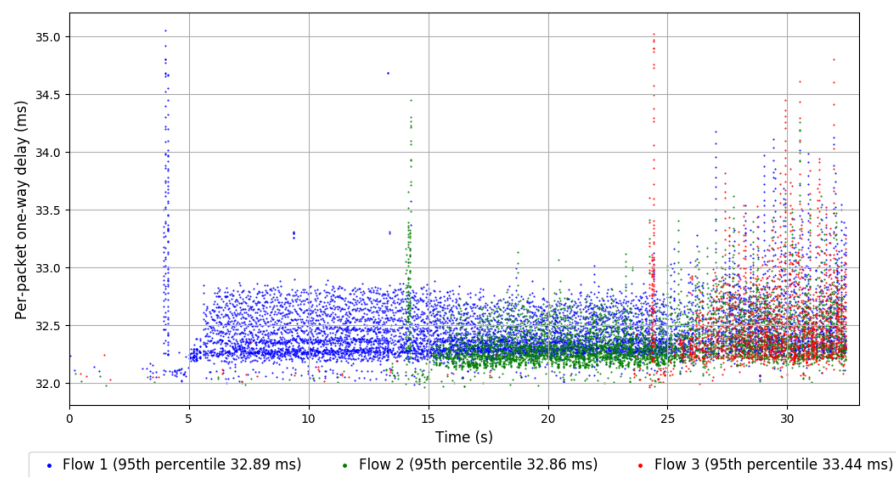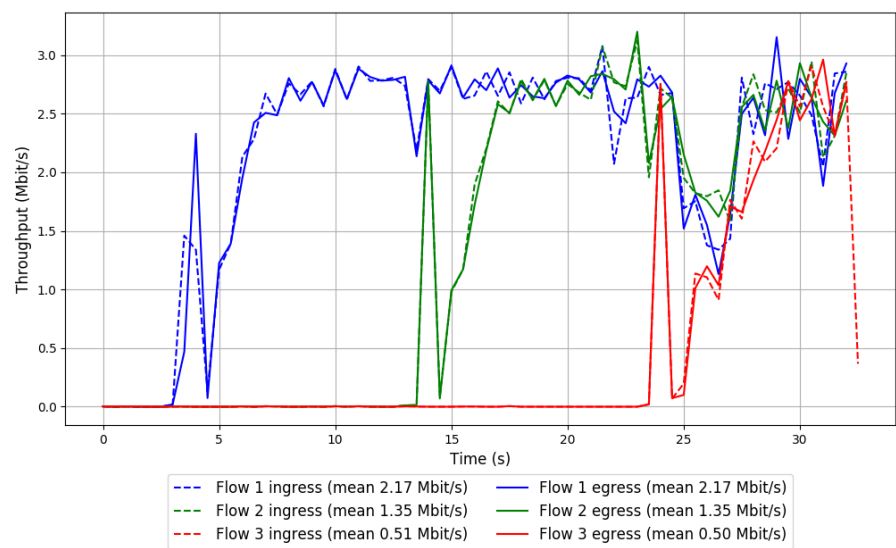
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2017-09-21 22:18:19
End at: 2017-09-21 22:18:49
Local clock offset: 0.194 ms
Remote clock offset: -1.618 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.758 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.761 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.738 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.763 ms
Loss rate: 0.35%
```
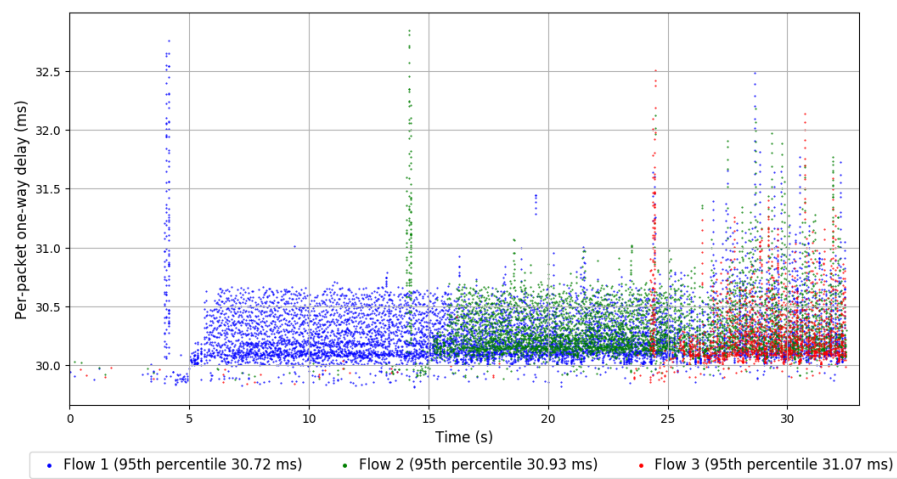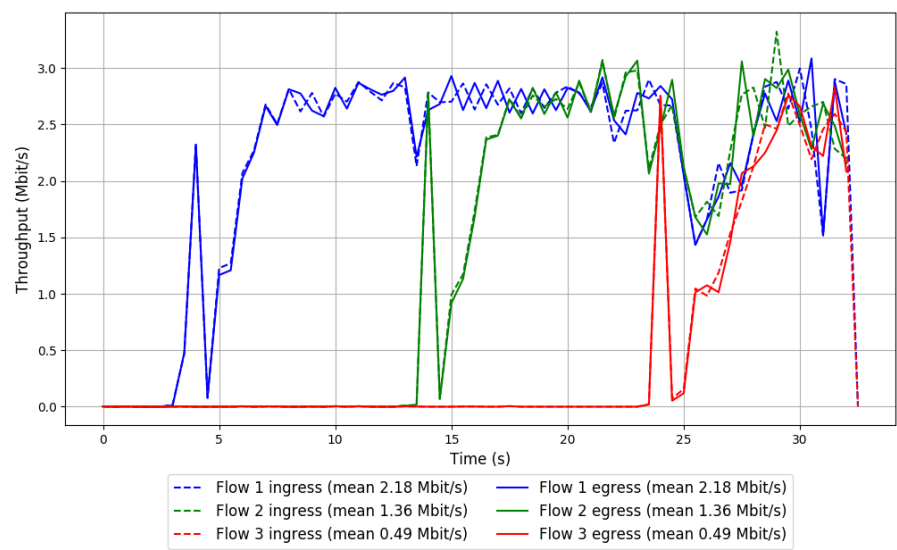
Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2017-09-21 22:37:57
End at: 2017-09-21 22:38:27
Local clock offset: -0.893 ms
Remote clock offset: 0.276 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 24.621 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.634 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.575 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.573 ms
Loss rate: 0.35%
```

Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2017-09-21 19:37:29
End at: 2017-09-21 19:37:59
Local clock offset: 0.104 ms
Remote clock offset: -3.422 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 30.444 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 30.240 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 30.957 ms
Loss rate: 0.07%
```
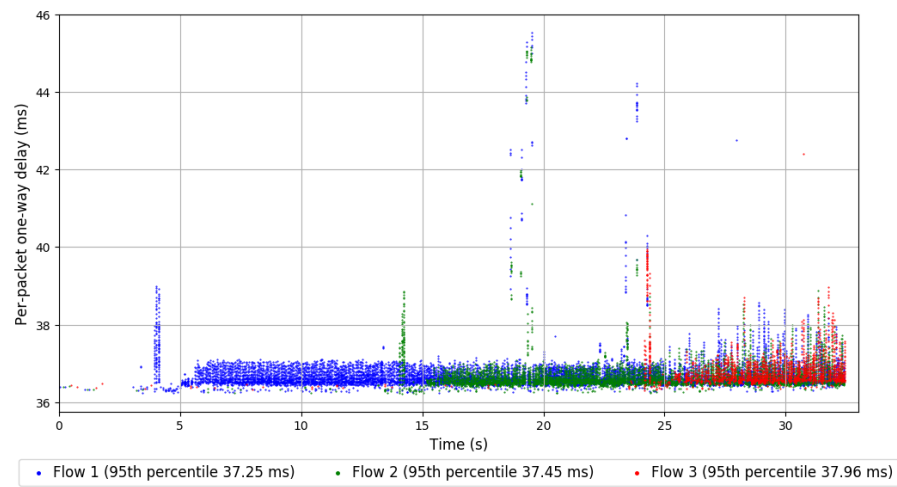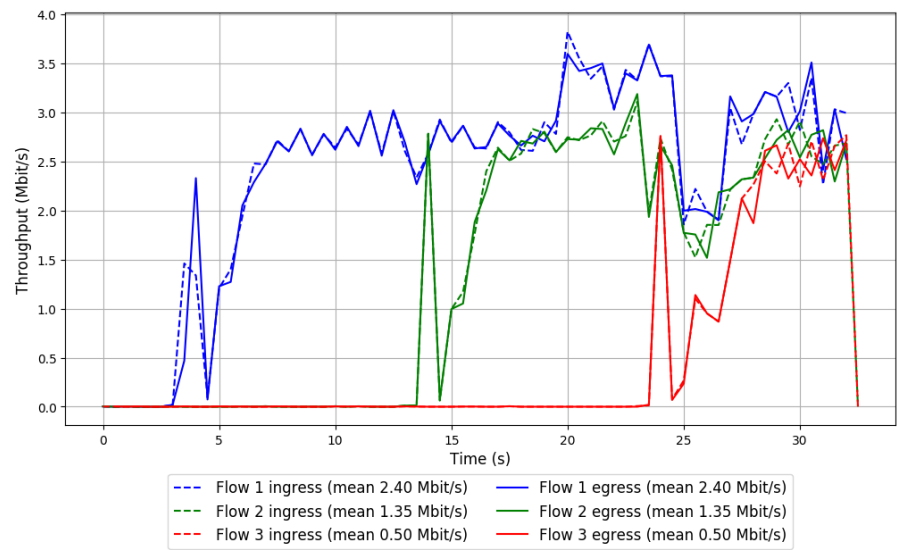
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-09-21 19:56:56
End at: 2017-09-21 19:57:26
Local clock offset: 0.123 ms
Remote clock offset: -5.735 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 32.992 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 32.886 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 32.862 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 33.443 ms
Loss rate: 1.14%
```
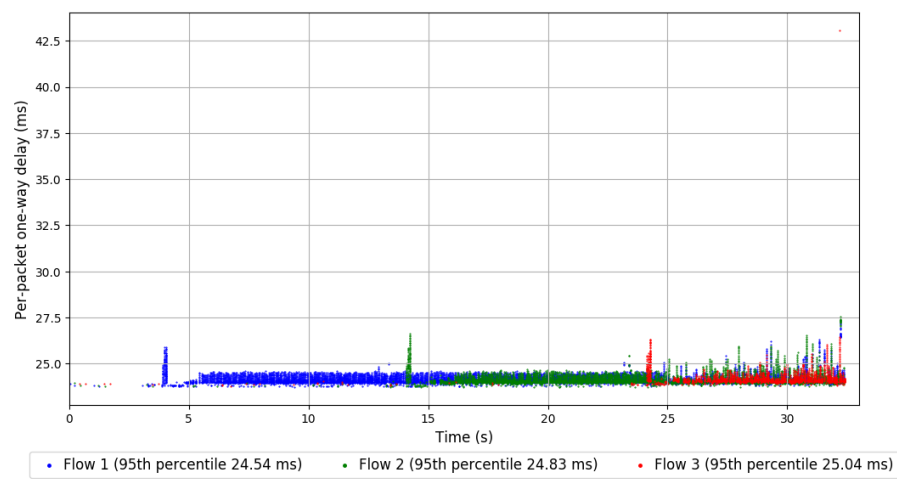
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-09-21 20:16:31
End at: 2017-09-21 20:17:01
Local clock offset: 0.029 ms
Remote clock offset: -3.377 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 30.848 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 30.717 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 30.926 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 31.071 ms
Loss rate: 1.13%
```
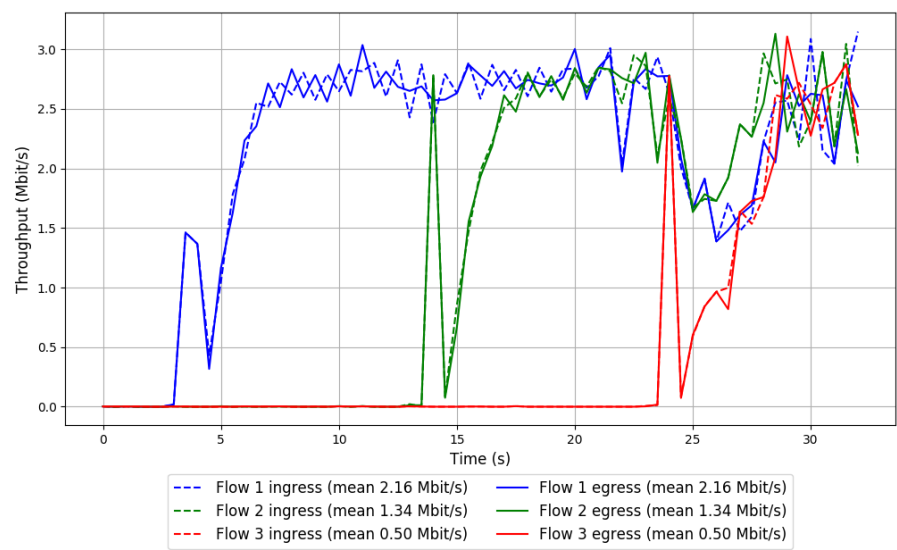
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-09-21 20:36:06
End at: 2017-09-21 20:36:36
Local clock offset: 0.064 ms
Remote clock offset: 2.818 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 37.432 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 37.253 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 37.449 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 37.961 ms
Loss rate: 0.94%
```
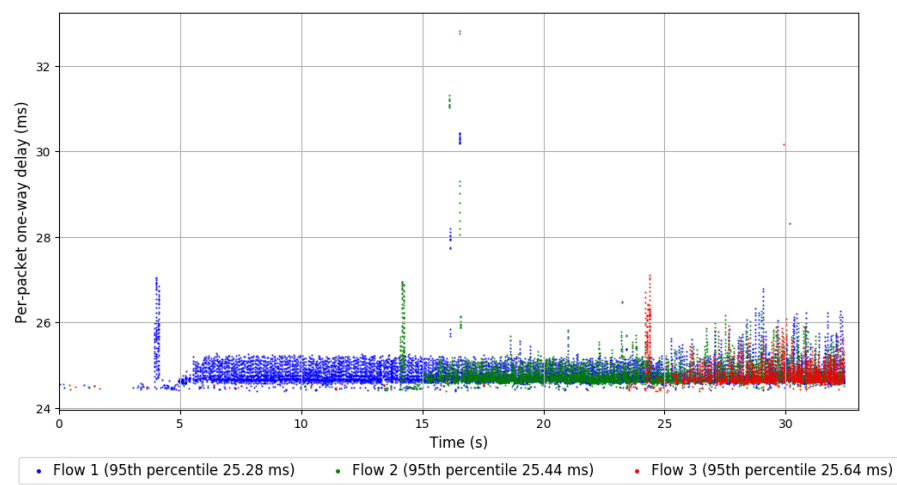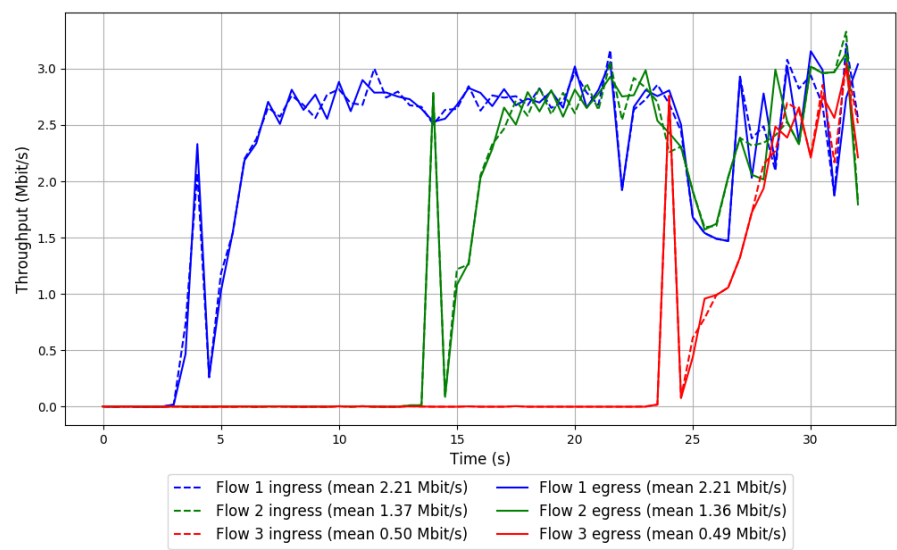
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-09-21 20:57:29
End at: 2017-09-21 20:57:59
Local clock offset: 0.318 ms
Remote clock offset: 3.254 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 24.702 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 24.537 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 24.826 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 25.037 ms
Loss rate: 0.01%
```
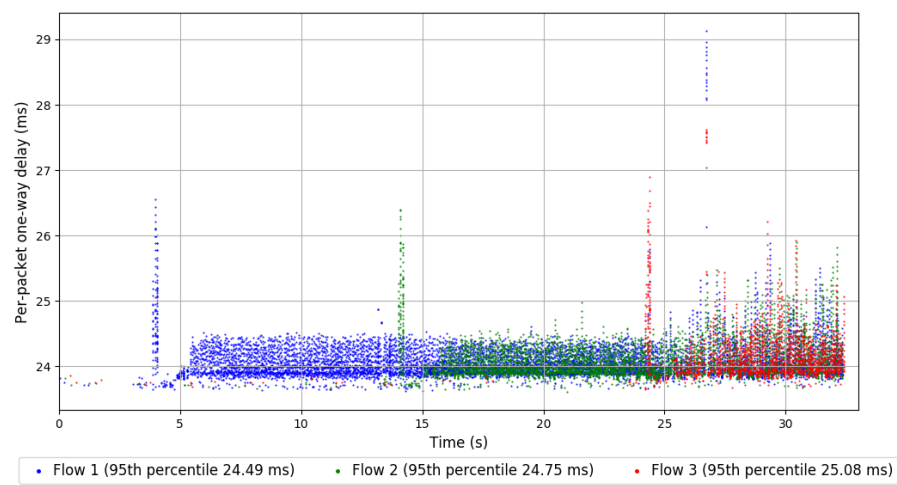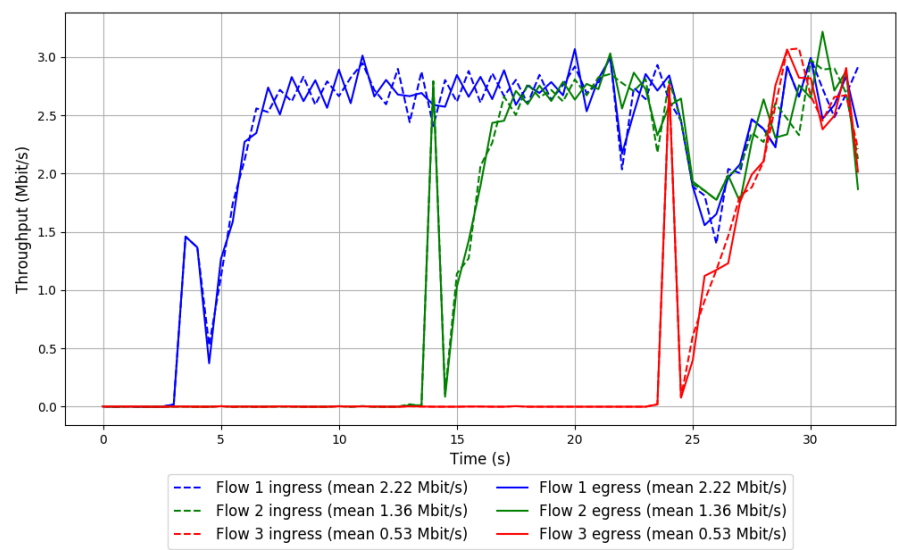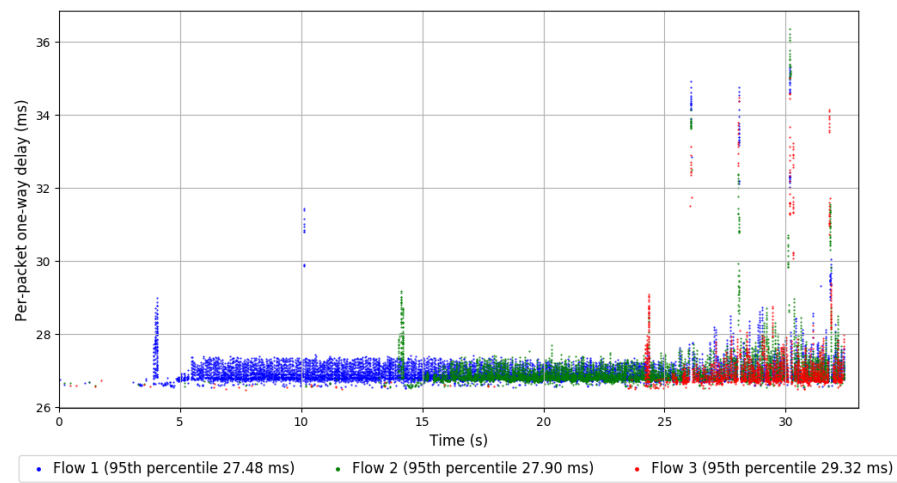
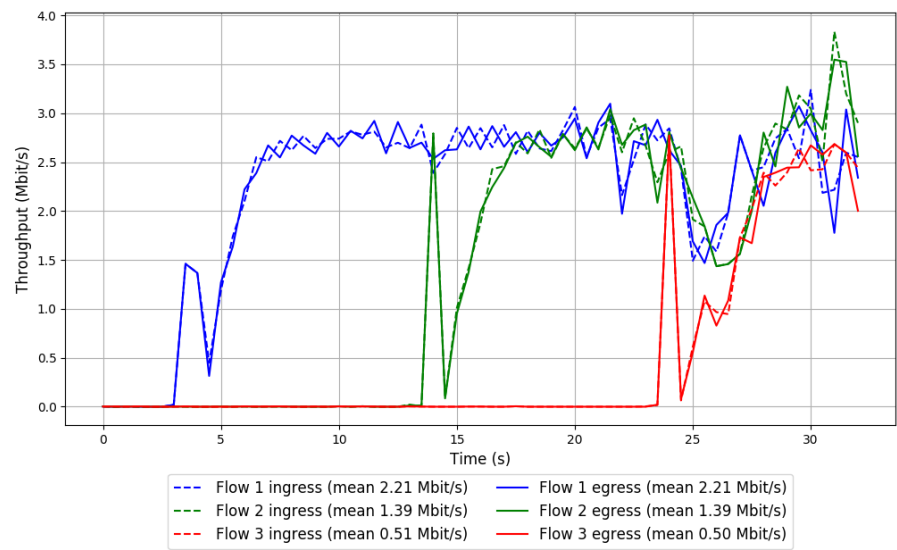Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-09-21 21:16:54
End at: 2017-09-21 21:17:24
Local clock offset: 0.361 ms
Remote clock offset: 1.968 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 25.400 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 25.281 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 25.444 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 25.638 ms
Loss rate: 1.07%
```

Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-09-21 21:36:25
End at: 2017-09-21 21:36:55
Local clock offset: 0.502 ms
Remote clock offset: 2.04 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 24.668 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 24.488 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 24.748 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 25.076 ms
Loss rate: 0.86%
```
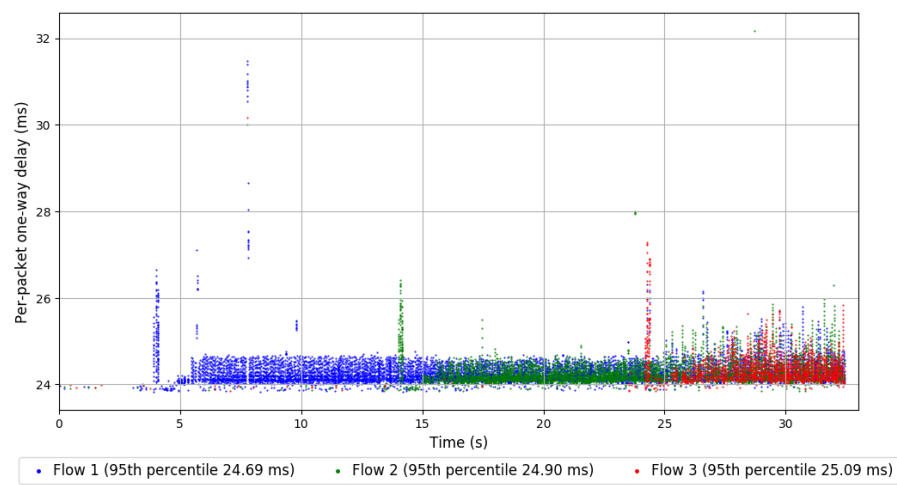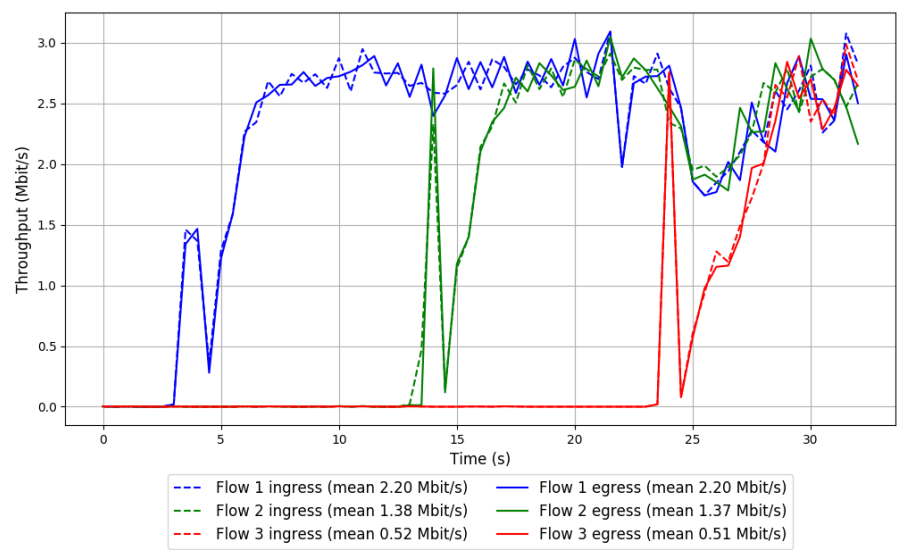
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-09-21 21:55:55
End at: 2017-09-21 21:56:25
Local clock offset: 0.809 ms
Remote clock offset: -0.992 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 27.768 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 27.478 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 27.898 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 29.319 ms
Loss rate: 1.35%
```
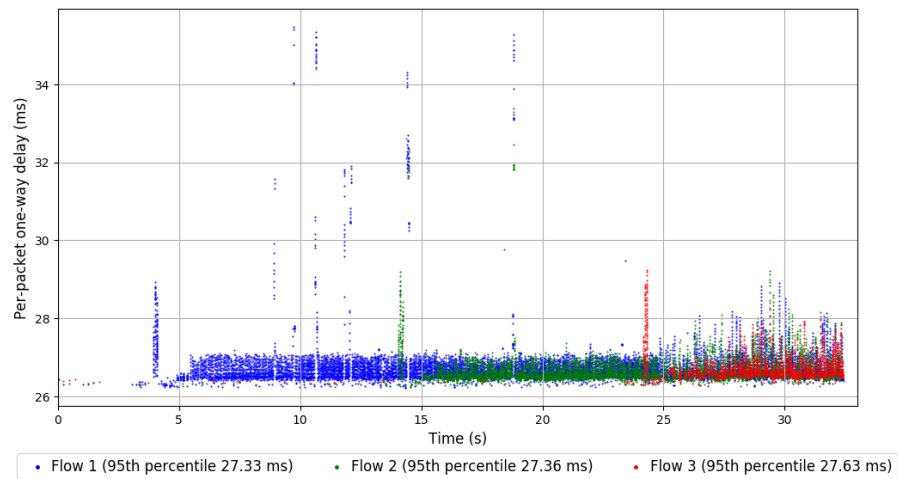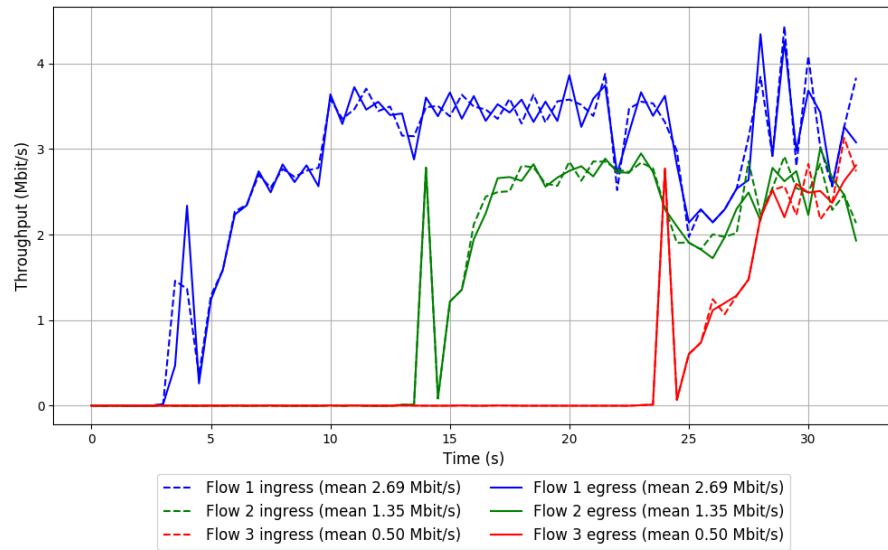
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-09-21 22:15:32
End at: 2017-09-21 22:16:02
Local clock offset: 0.375 ms
Remote clock offset: 1.034 ms

# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 24.843 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 24.686 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 24.899 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 25.094 ms
Loss rate: 1.33%
```
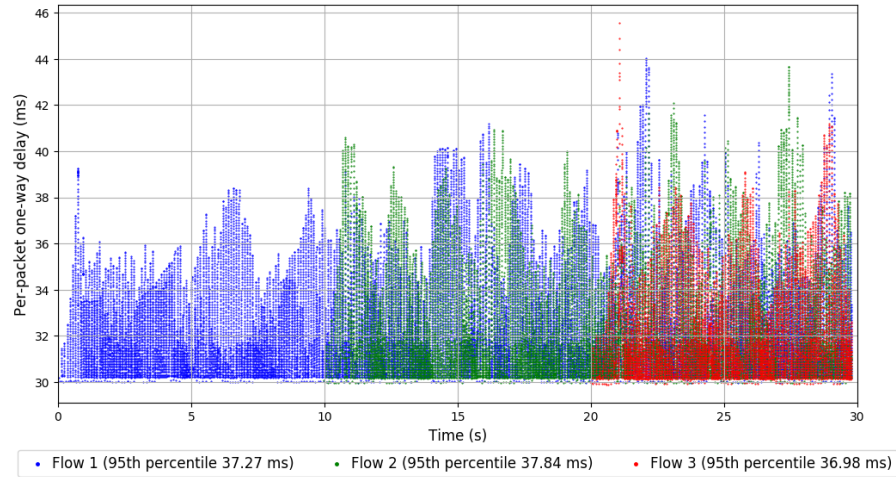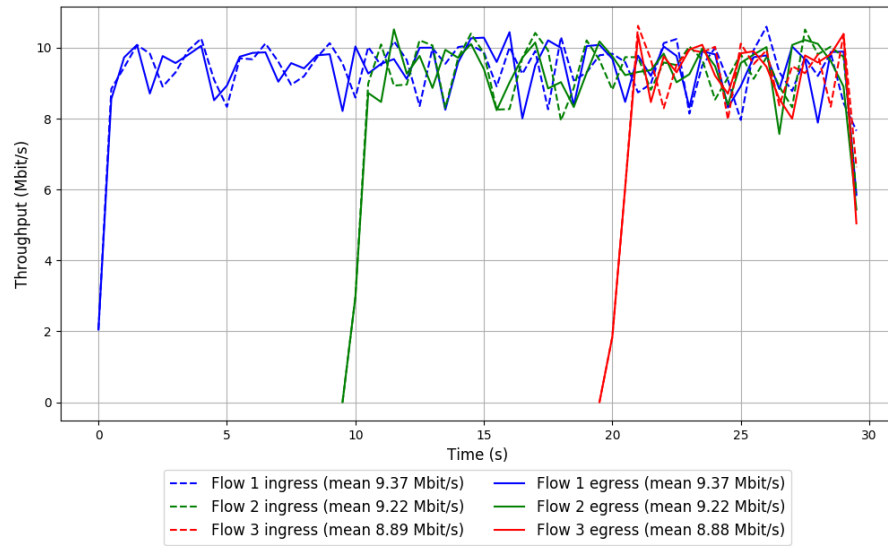
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-09-21 22:35:12
End at: 2017-09-21 22:35:42
Local clock offset: -0.851 ms
Remote clock offset: -1.696 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 27.395 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 27.333 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 27.360 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 27.630 ms
Loss rate: 1.35%
```
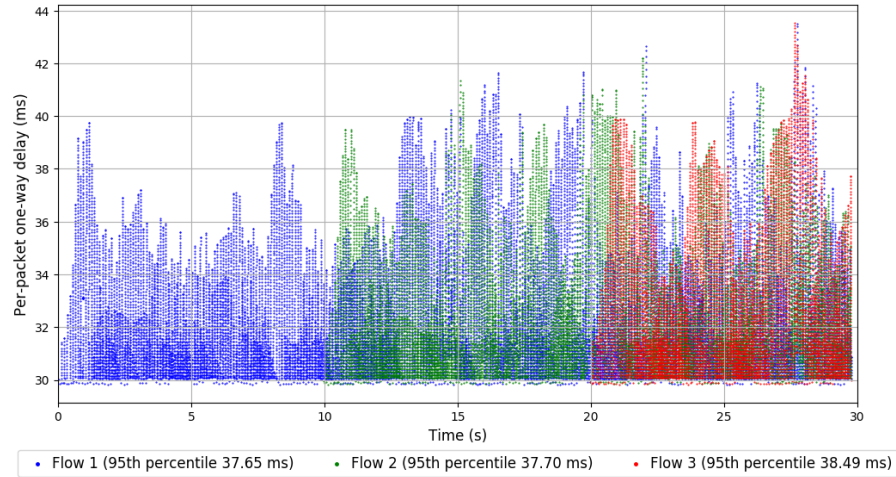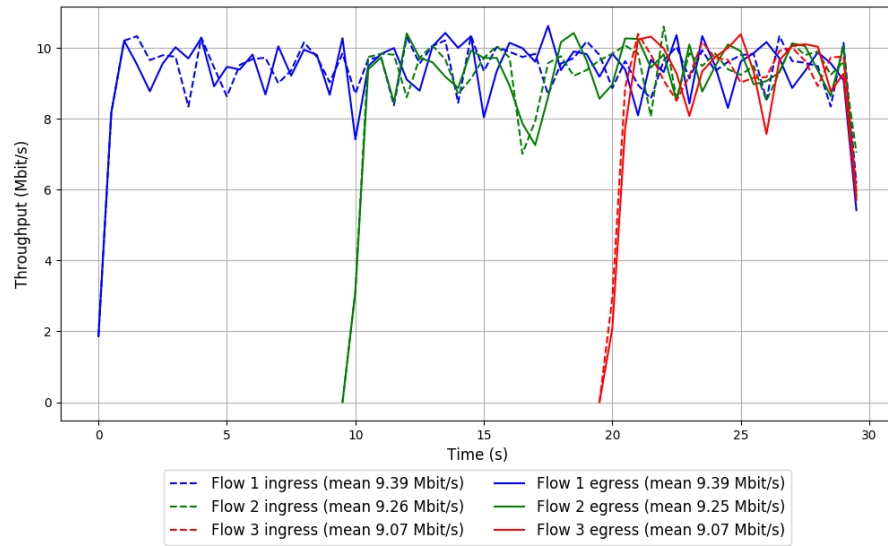
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2017-09-21 19:41:33
End at: 2017-09-21 19:42:03
Local clock offset: 0.109 ms
Remote clock offset: -3.823 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.43 Mbit/s
95th percentile per-packet one-way delay: 37.456 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 9.37 Mbit/s
95th percentile per-packet one-way delay: 37.268 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 37.843 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 36.985 ms
Loss rate: 0.90%
```
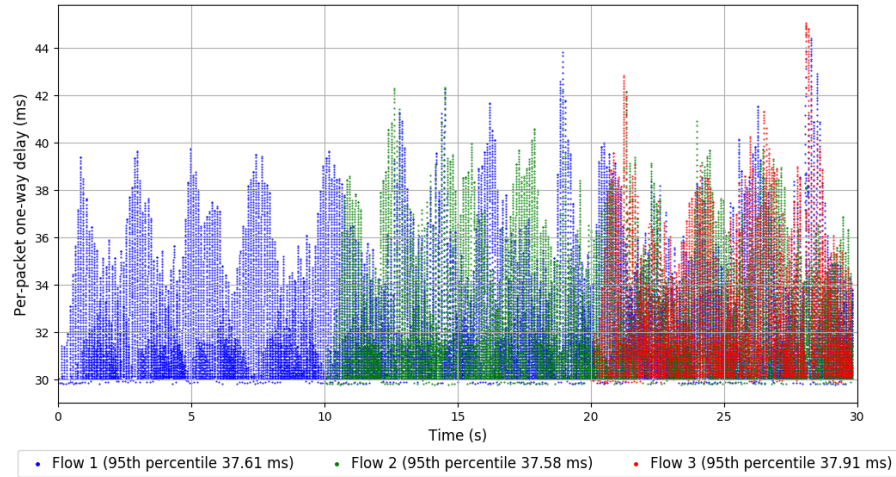
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-09-21 20:01:01
End at: 2017-09-21 20:01:31
Local clock offset: 0.105 ms
Remote clock offset: -3.562 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.54 Mbit/s
95th percentile per-packet one-way delay: 37.856 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 37.654 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 37.701 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 38.487 ms
Loss rate: 1.10%
```
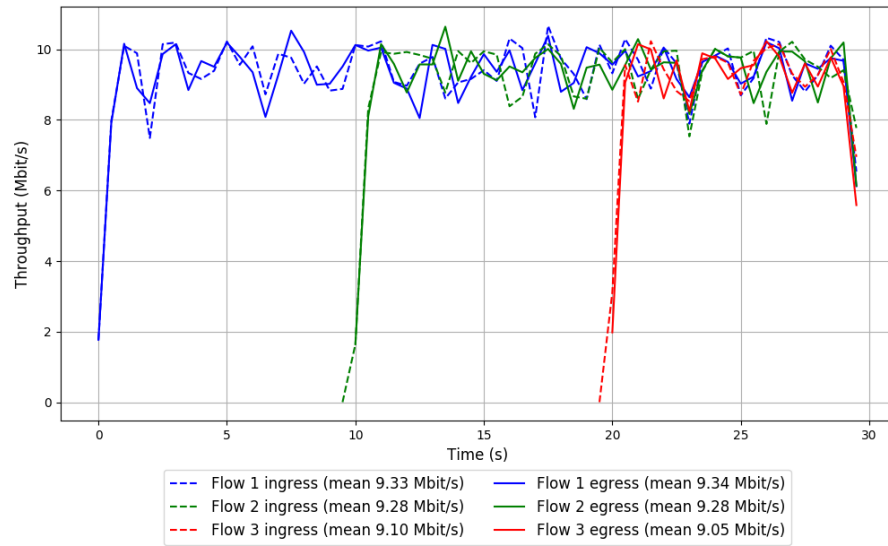
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-09-21 20:20:37
End at: 2017-09-21 20:21:07
Local clock offset: 0.128 ms
Remote clock offset: -3.212 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.48 Mbit/s
95th percentile per-packet one-way delay: 37.648 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 37.614 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 9.28 Mbit/s
95th percentile per-packet one-way delay: 37.576 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 37.908 ms
Loss rate: 1.27%
```
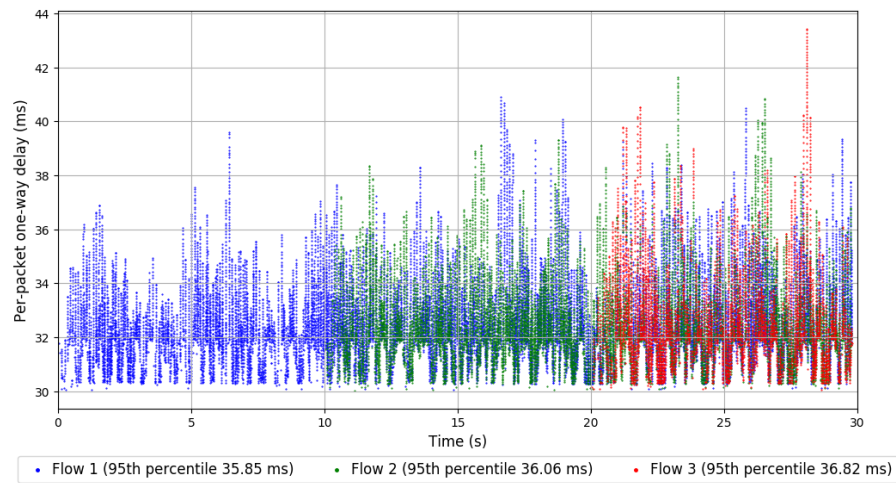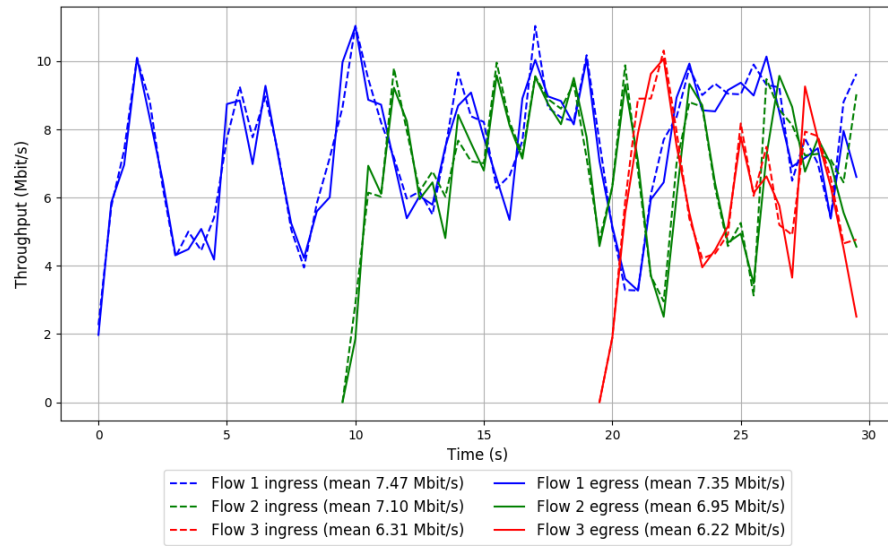
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-09-21 20:40:34
End at: 2017-09-21 20:41:04
Local clock offset: 0.107 ms
Remote clock offset: -2.988 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.02 Mbit/s
95th percentile per-packet one-way delay: 36.060 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 7.35 Mbit/s
95th percentile per-packet one-way delay: 35.846 ms
Loss rate: 2.04%
-- Flow 2:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 36.056 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 36.817 ms
Loss rate: 3.43%
```
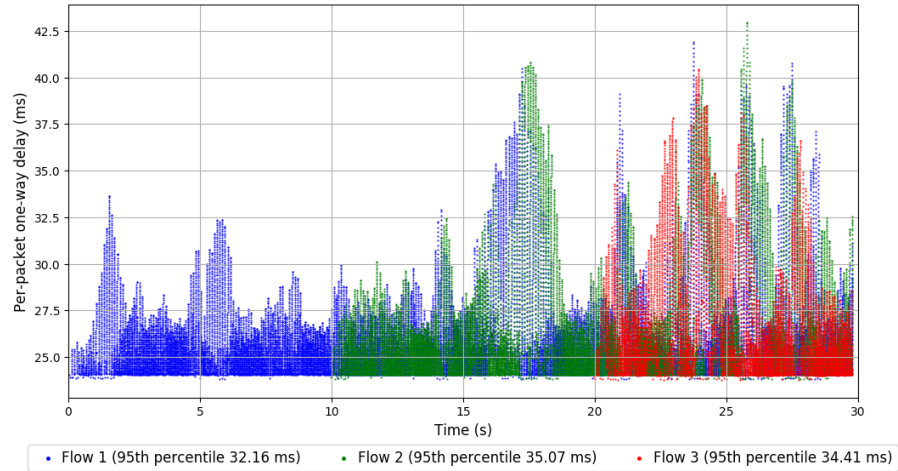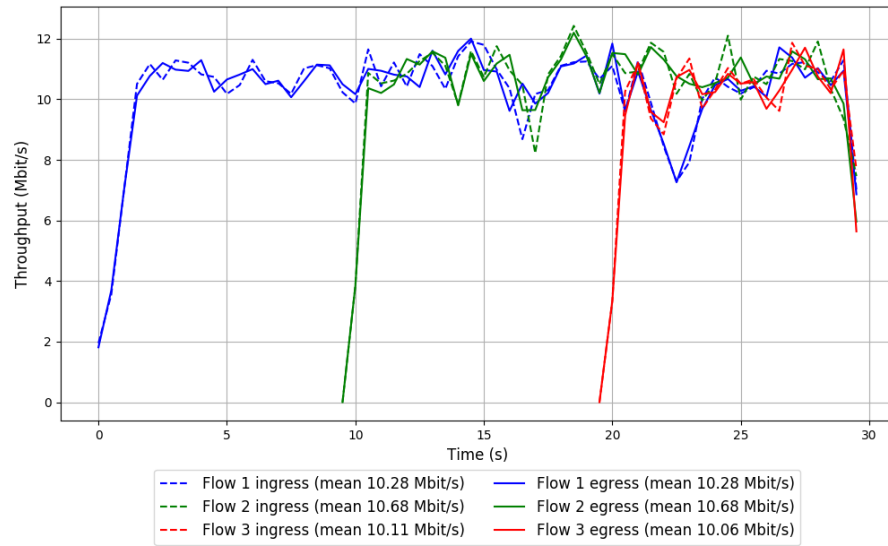
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-09-21 21:01:32
End at: 2017-09-21 21:02:02
Local clock offset: 0.348 ms
Remote clock offset: 3.103 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 33.800 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 10.28 Mbit/s
95th percentile per-packet one-way delay: 32.160 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 35.068 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 34.415 ms
Loss rate: 1.04%
```

Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-09-21 21:20:57
End at: 2017-09-21 21:21:27
Local clock offset: 0.46 ms
Remote clock offset: 2.322 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.61 Mbit/s
95th percentile per-packet one-way delay: 36.670 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 10.53 Mbit/s
95th percentile per-packet one-way delay: 34.831 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 35.110 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 40.752 ms
Loss rate: 1.00%
```
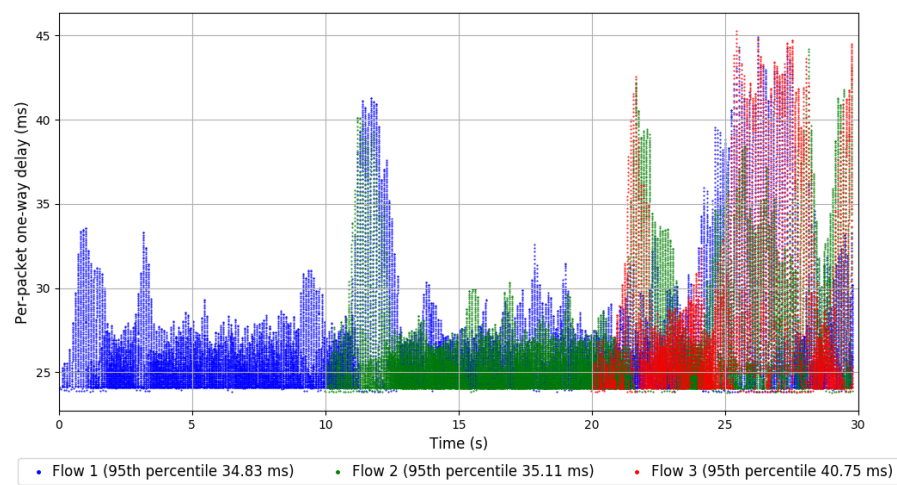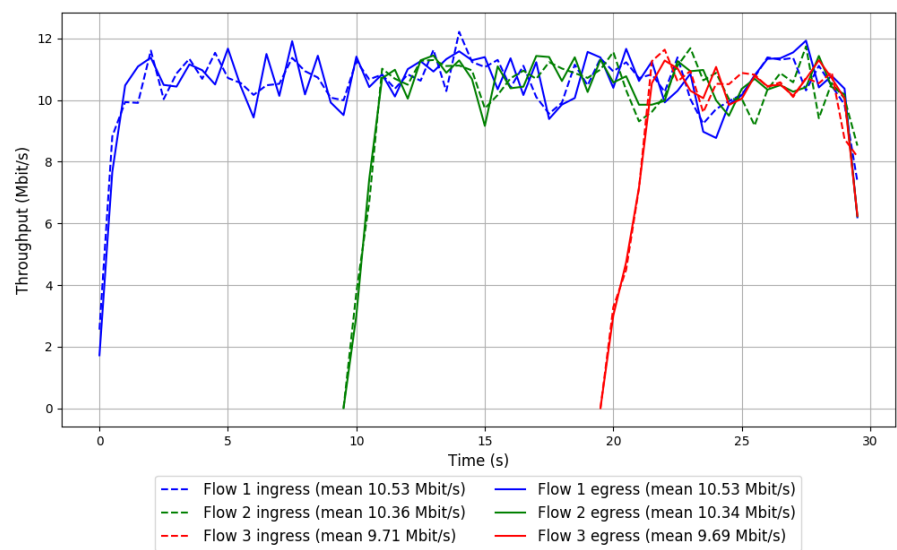
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-09-21 21:40:28
End at: 2017-09-21 21:40:58
Local clock offset: 0.554 ms
Remote clock offset: 1.792 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.02 Mbit/s
95th percentile per-packet one-way delay: 31.927 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 10.66 Mbit/s
95th percentile per-packet one-way delay: 30.960 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 10.60 Mbit/s
95th percentile per-packet one-way delay: 29.460 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 10.01 Mbit/s
95th percentile per-packet one-way delay: 36.922 ms
Loss rate: 0.89%
```
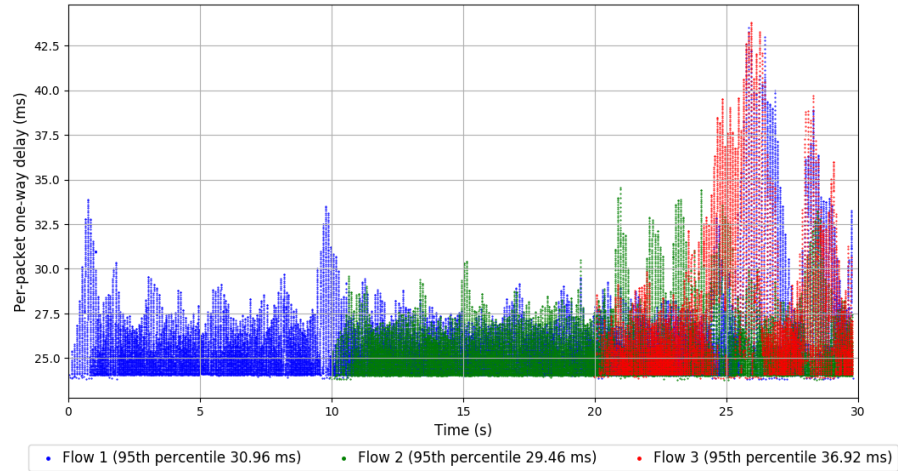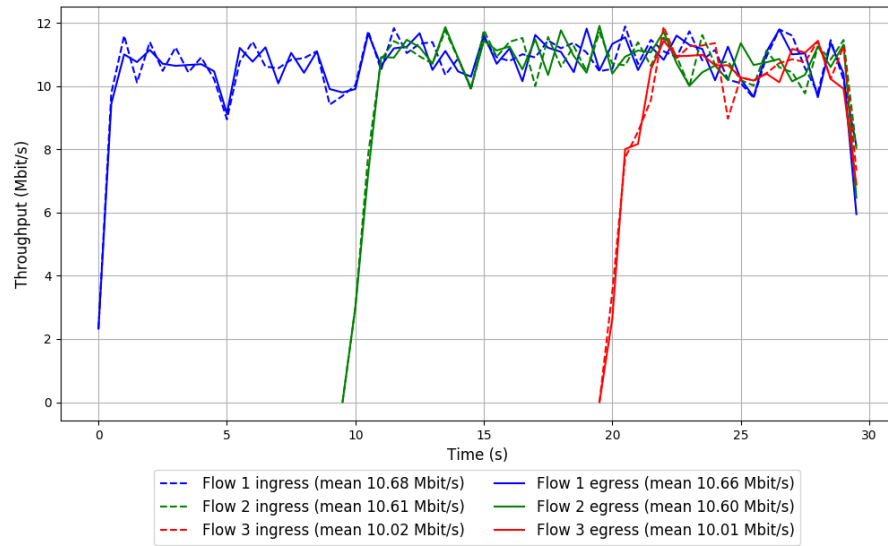
Run 7: Report of Sprout — Data Link

157

```
Run 8: Statistics of Sprout

Start at: 2017-09-21 22:00:02
End at: 2017-09-21 22:00:32
Local clock offset: 0.836 ms
Remote clock offset: 1.043 ms


# Below is generated by plot.py at 2017-09-22 02:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.24 Mbit/s
95th percentile per-packet one-way delay: 30.325 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 10.56 Mbit/s
95th percentile per-packet one-way delay: 29.787 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 11.02 Mbit/s
95th percentile per-packet one-way delay: 31.201 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 10.13 Mbit/s
95th percentile per-packet one-way delay: 30.648 ms
Loss rate: 1.07%
```
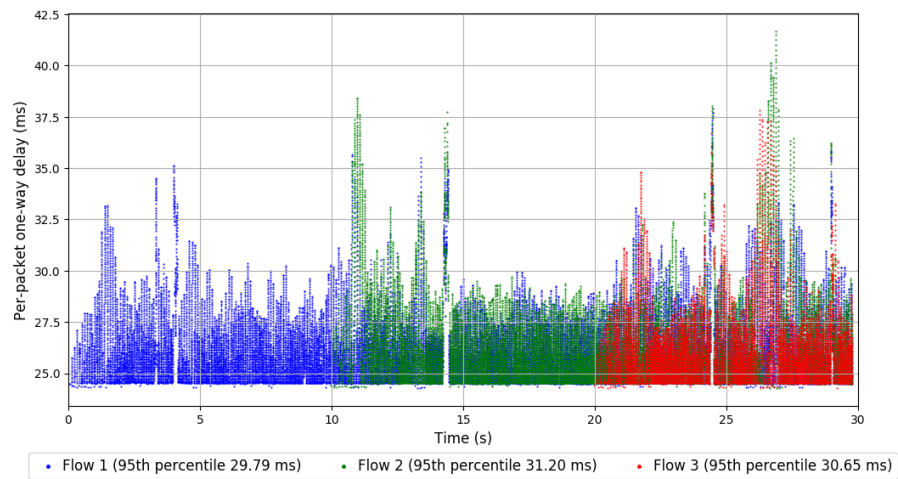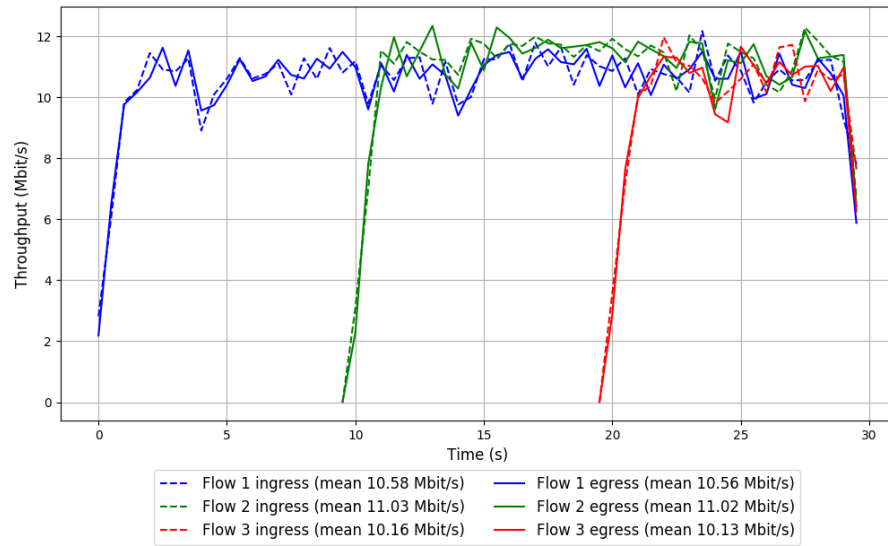
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-09-21 22:19:38
End at: 2017-09-21 22:20:08
Local clock offset: 0.232 ms
Remote clock offset: 1.054 ms


# Below is generated by plot.py at 2017-09-22 02:14:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.93 Mbit/s
95th percentile per-packet one-way delay: 32.175 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 30.628 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 33.848 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 30.968 ms
Loss rate: 0.67%
```
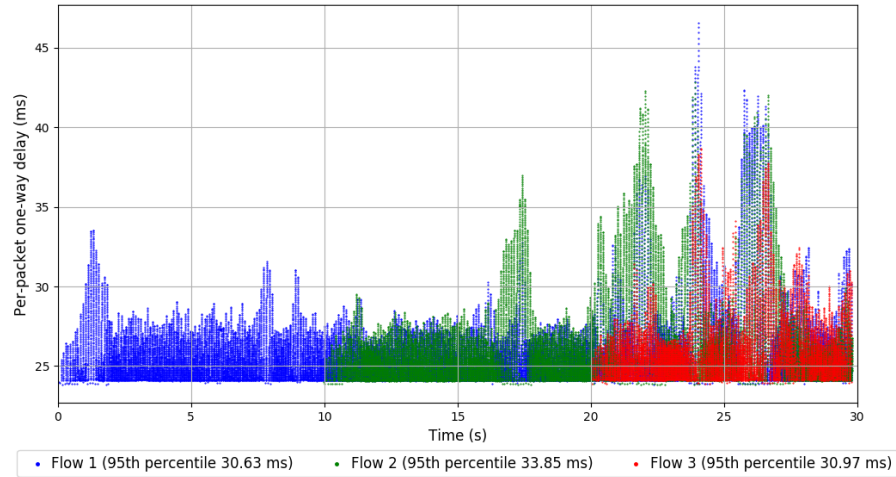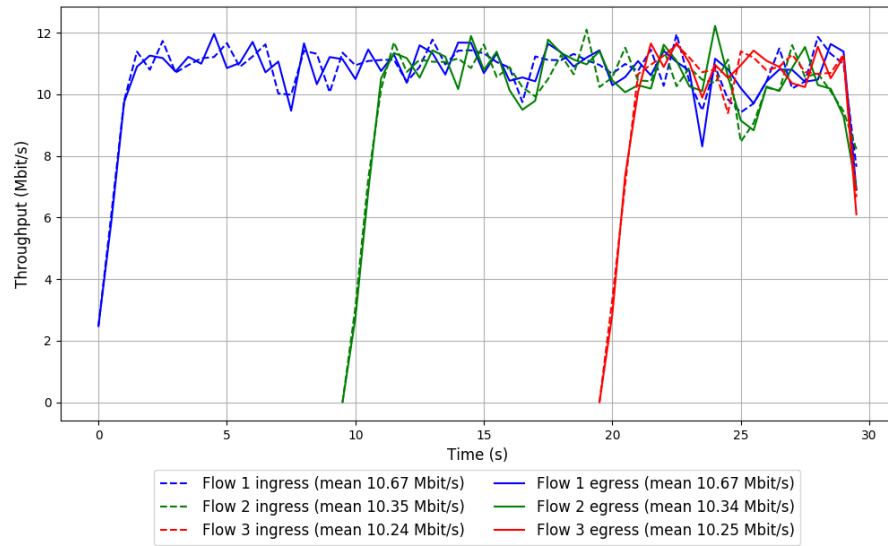
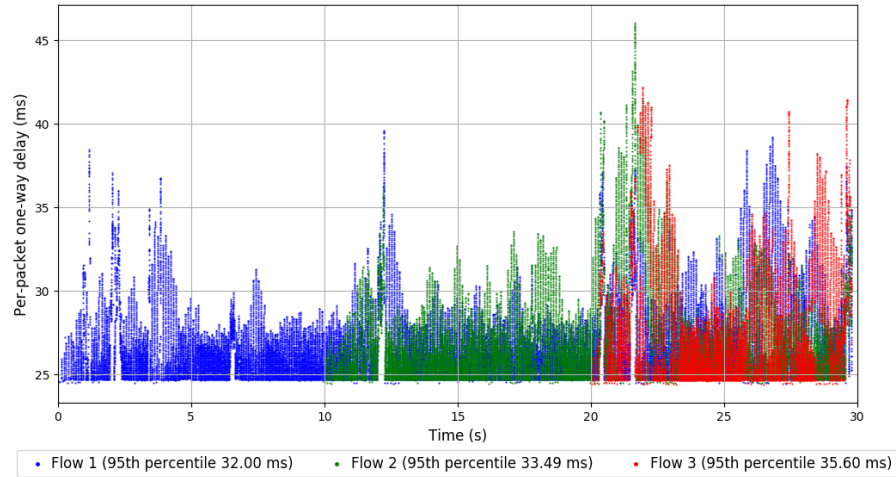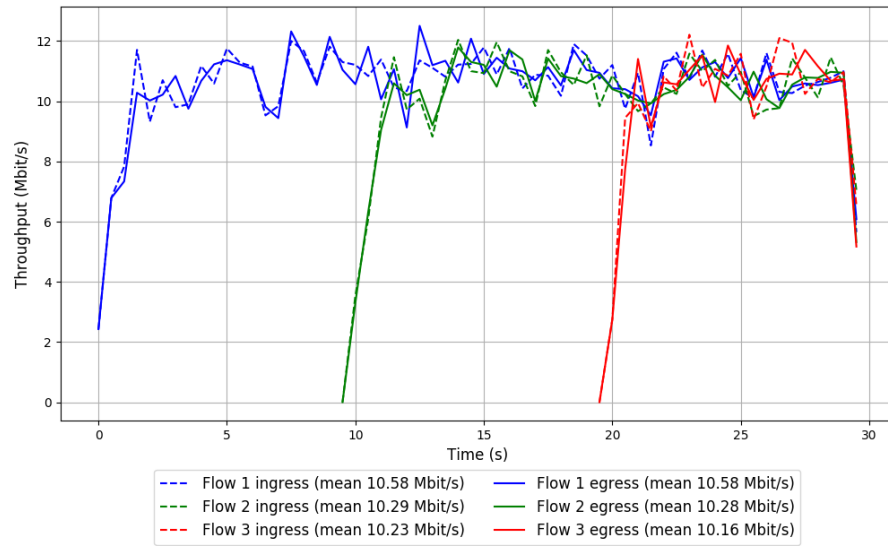# Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-09-21 22:39:15
End at: 2017-09-21 22:39:45
Local clock offset: -0.961 ms
Remote clock offset: 0.17 ms


# Below is generated by plot.py at 2017-09-22 02:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.77 Mbit/s
95th percentile per-packet one-way delay: 33.222 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 32.003 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 10.28 Mbit/s
95th percentile per-packet one-way delay: 33.486 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 10.16 Mbit/s
95th percentile per-packet one-way delay: 35.599 ms
Loss rate: 0.99%
```

Run 10: Report of Sprout — Data Link

Flow 1 ingress (mean 10.58 Mbit/s)
Flow 1 egress (mean 10.58 Mbit/s)
Flow 2 ingress (mean 10.29 Mbit/s)
Flow 2 egress (mean 10.28 Mbit/s)
Flow 3 ingress (mean 10.23 Mbit/s)
Flow 3 egress (mean 10.16 Mbit/s)

Flow 1 (95th percentile 32.00 ms)
Flow 2 (95th percentile 33.49 ms)
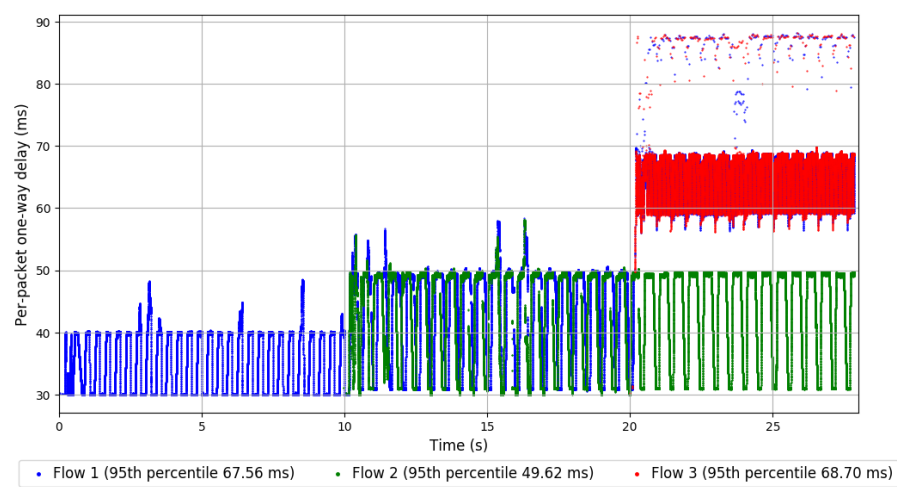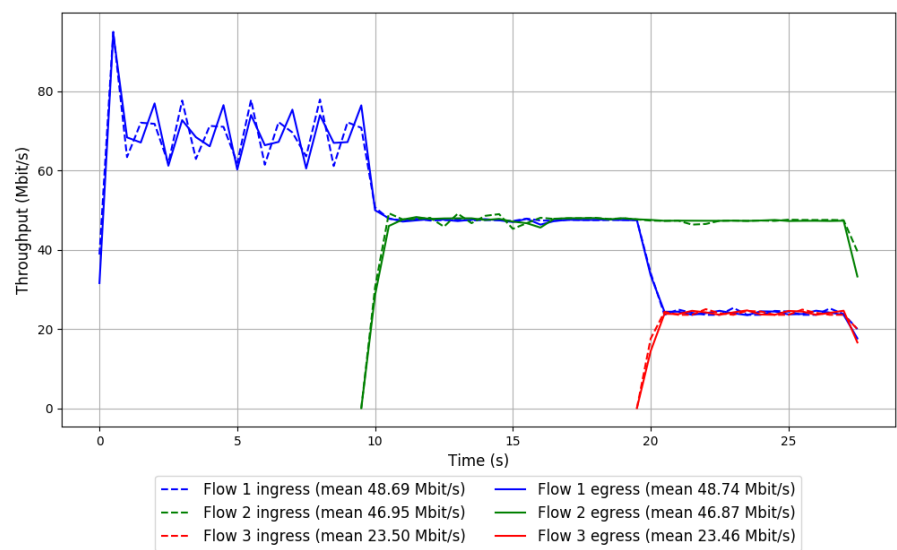Flow 3 (95th percentile 35.60 ms)

163

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

Start at: 2017-09-21 19:30:25
End at: 2017-09-21 19:30:55
Local clock offset: 0.058 ms
Remote clock offset: -3.945 ms


# Below is generated by plot.py at 2017-09-22 02:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.47 Mbit/s
95th percentile per-packet one-way delay: 67.876 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 48.74 Mbit/s
95th percentile per-packet one-way delay: 67.564 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 46.87 Mbit/s
95th percentile per-packet one-way delay: 49.615 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 68.700 ms
Loss rate: 1.46%
```

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

Flow 1 ingress (mean 48.69 Mbit/s) --- Flow 1 egress (mean 48.74 Mbit/s)
Flow 2 ingress (mean 46.95 Mbit/s) --- Flow 2 egress (mean 46.87 Mbit/s)
Flow 3 ingress (mean 23.50 Mbit/s) --- Flow 3 egress (mean 23.46 Mbit/s)

Flow 1 (95th percentile 67.56 ms)   Flow 2 (95th percentile 49.62 ms)   Flow 3 (95th percentile 68.70 ms)
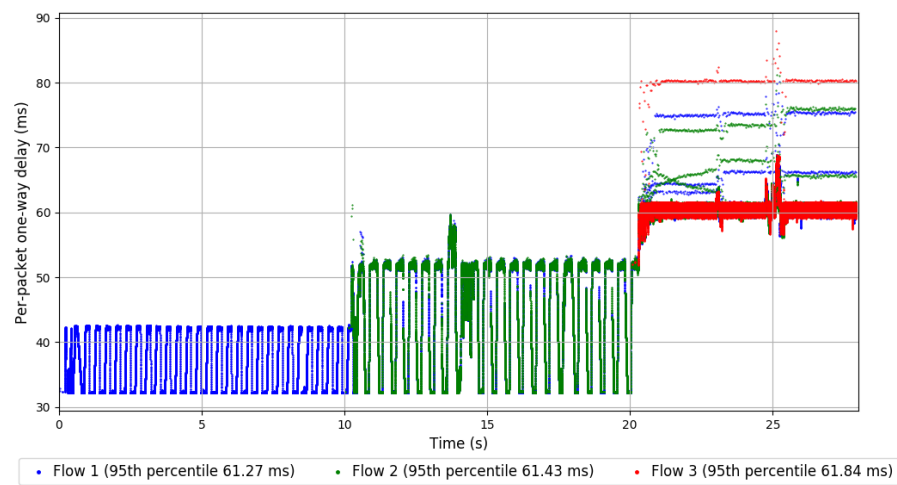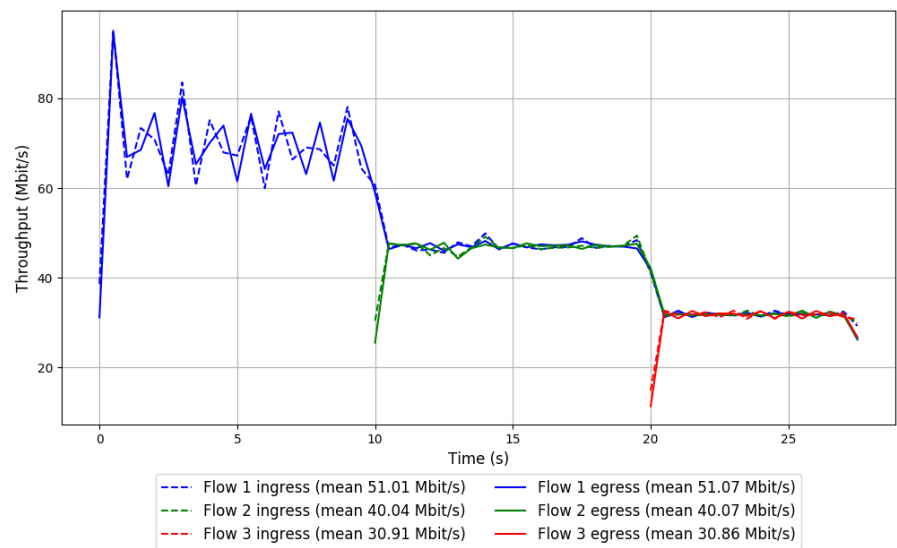
```
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-21 19:49:51
End at: 2017-09-21 19:50:21
Local clock offset: 0.116 ms
Remote clock offset: -5.845 ms

# Below is generated by plot.py at 2017-09-22 02:16:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 61.400 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 51.07 Mbit/s
95th percentile per-packet one-way delay: 61.273 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 40.07 Mbit/s
95th percentile per-packet one-way delay: 61.426 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 30.86 Mbit/s
95th percentile per-packet one-way delay: 61.843 ms
Loss rate: 1.54%
```

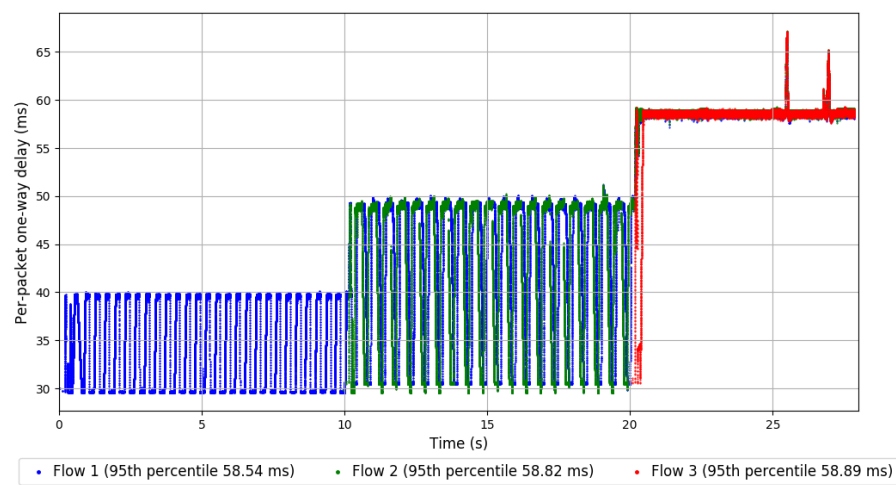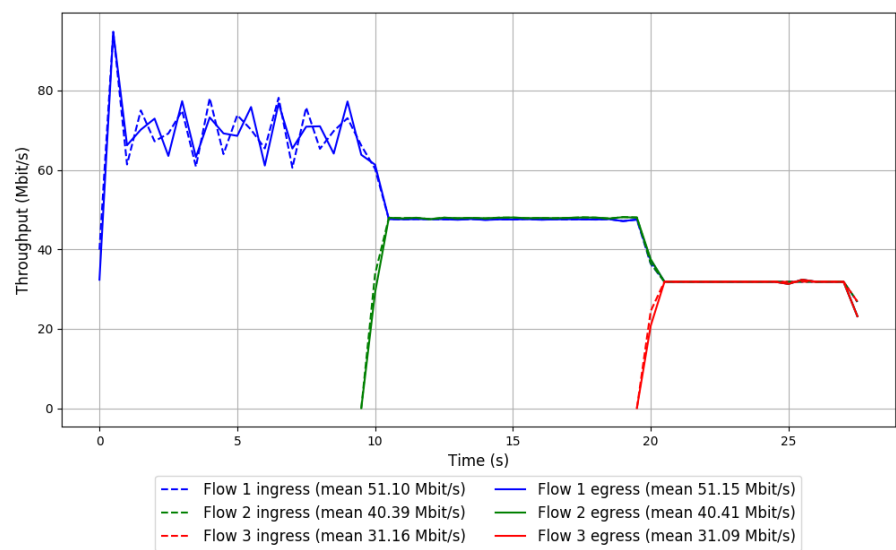Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-21 20:09:25
End at: 2017-09-21 20:09:55
Local clock offset: 0.096 ms
Remote clock offset: -3.021 ms


# Below is generated by plot.py at 2017-09-22 02:16:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.92 Mbit/s
95th percentile per-packet one-way delay: 58.763 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 51.15 Mbit/s
95th percentile per-packet one-way delay: 58.540 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 40.41 Mbit/s
95th percentile per-packet one-way delay: 58.817 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 31.09 Mbit/s
95th percentile per-packet one-way delay: 58.893 ms
Loss rate: 1.50%
```

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

Flow 1 ingress (mean 51.10 Mbit/s) --- Flow 1 egress (mean 51.15 Mbit/s)
Flow 2 ingress (mean 40.39 Mbit/s) --- Flow 2 egress (mean 40.41 Mbit/s)
Flow 3 ingress (mean 31.16 Mbit/s) --- Flow 3 egress (mean 31.09 Mbit/s)

Flow 1 (95th percentile 58.54 ms)   Flow 2 (95th percentile 58.82 ms)   Flow 3 (95th percentile 58.89 ms)

169

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

Start at: 2017-09-21 20:29:00
End at: 2017-09-21 20:29:30
Local clock offset: 0.054 ms
Remote clock offset: 2.209 ms


# Below is generated by plot.py at 2017-09-22 02:16:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 59.776 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 59.827 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 56.654 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 74.235 ms
Loss rate: 0.80%
```
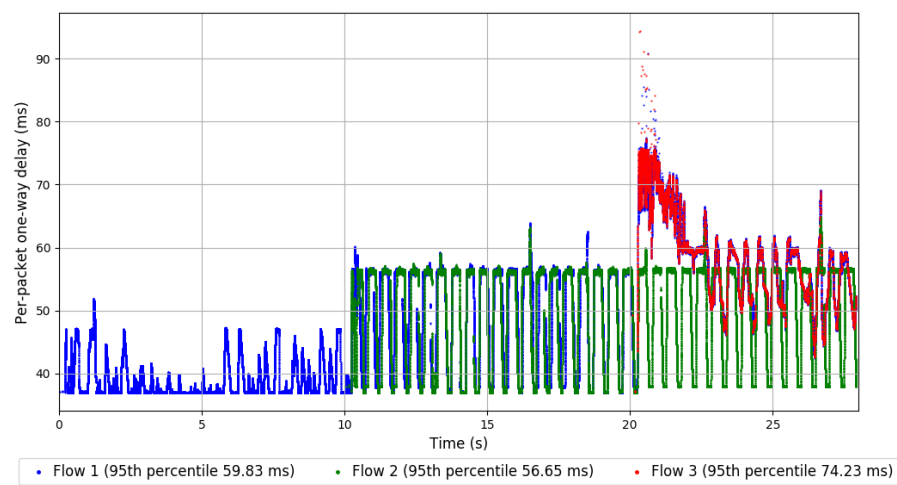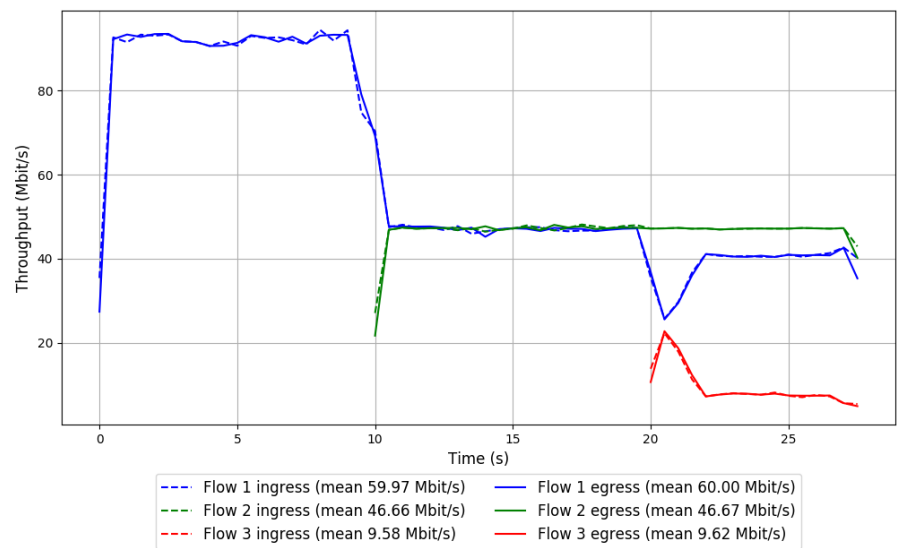
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 59.97 Mbit/s)   Flow 1 egress (mean 60.00 Mbit/s)
Flow 2 ingress (mean 46.66 Mbit/s)   Flow 2 egress (mean 46.67 Mbit/s)
Flow 3 ingress (mean 9.58 Mbit/s)   Flow 3 egress (mean 9.62 Mbit/s)

Flow 1 (95th percentile 59.83 ms)   Flow 2 (95th percentile 56.65 ms)   Flow 3 (95th percentile 74.23 ms)

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

Start at: 2017-09-21 20:50:25
End at: 2017-09-21 20:50:55
Local clock offset: 0.183 ms
Remote clock offset: 2.805 ms

# Below is generated by plot.py at 2017-09-22 02:16:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.69 Mbit/s
95th percentile per-packet one-way delay: 53.776 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 53.616 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 40.22 Mbit/s
95th percentile per-packet one-way delay: 53.899 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 31.20 Mbit/s
95th percentile per-packet one-way delay: 55.457 ms
Loss rate: 1.36%
```
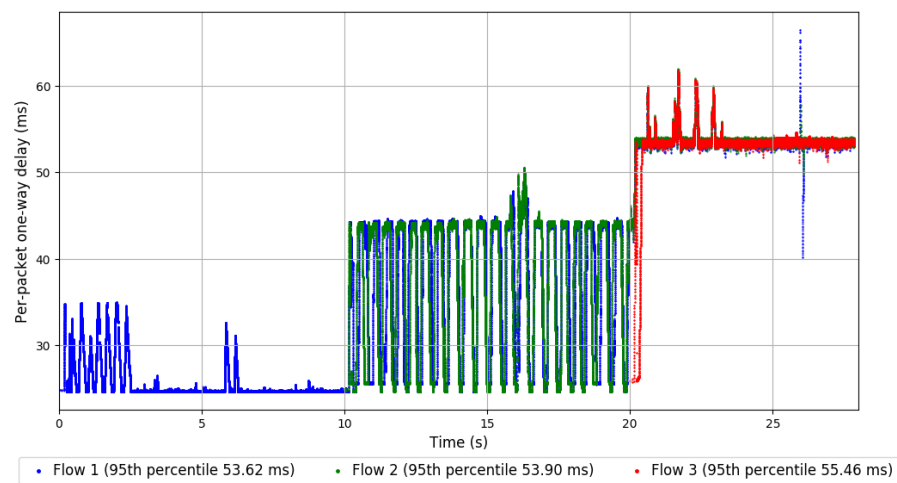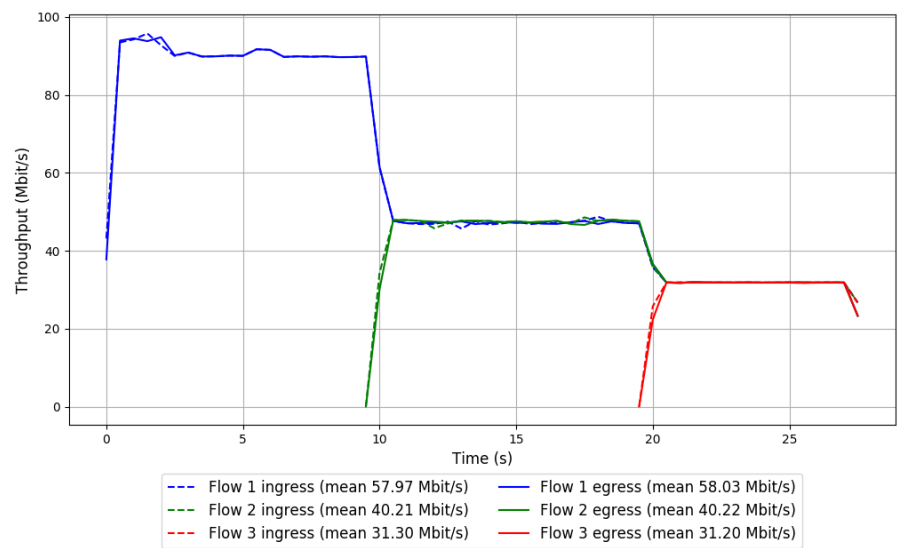
Run 5: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 57.97 Mbit/s)   —— Flow 1 egress (mean 58.03 Mbit/s)
- - - Flow 2 ingress (mean 40.21 Mbit/s)   —— Flow 2 egress (mean 40.22 Mbit/s)
- - - Flow 3 ingress (mean 31.30 Mbit/s)   —— Flow 3 egress (mean 31.20 Mbit/s)

• Flow 1 (95th percentile 53.62 ms)   • Flow 2 (95th percentile 53.90 ms)   • Flow 3 (95th percentile 55.46 ms)

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

Start at: 2017-09-21 21:09:52
End at: 2017-09-21 21:10:22
Local clock offset: 0.292 ms
Remote clock offset: 0.106 ms


# Below is generated by plot.py at 2017-09-22 02:16:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.91 Mbit/s
95th percentile per-packet one-way delay: 64.805 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 49.14 Mbit/s
95th percentile per-packet one-way delay: 64.758 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 36.87 Mbit/s
95th percentile per-packet one-way delay: 64.986 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 46.22 Mbit/s
95th percentile per-packet one-way delay: 46.293 ms
Loss rate: 1.23%
```
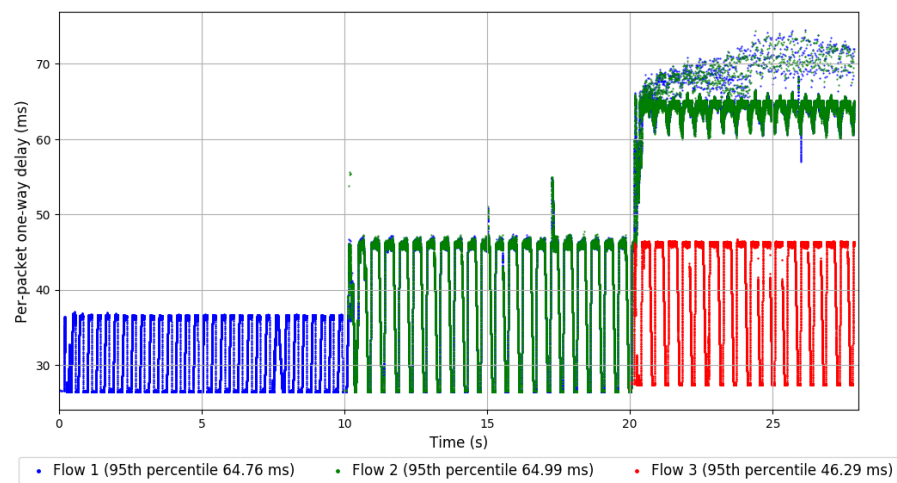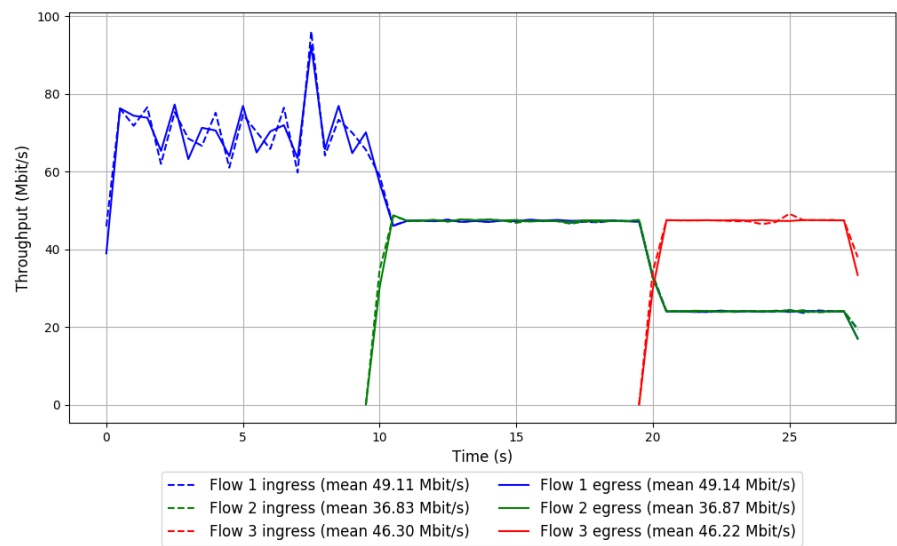
Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 49.11 Mbit/s) — Flow 1 egress (mean 49.14 Mbit/s)
Flow 2 ingress (mean 36.83 Mbit/s) — Flow 2 egress (mean 36.87 Mbit/s)
Flow 3 ingress (mean 46.30 Mbit/s) — Flow 3 egress (mean 46.22 Mbit/s)

Flow 1 (95th percentile 64.76 ms) • Flow 2 (95th percentile 64.99 ms) • Flow 3 (95th percentile 46.29 ms)

175

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

Start at: 2017-09-21 21:29:16
End at: 2017-09-21 21:29:46
Local clock offset: 0.509 ms
Remote clock offset: 1.56 ms

# Below is generated by plot.py at 2017-09-22 02:16:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 63.035 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 48.96 Mbit/s
95th percentile per-packet one-way delay: 63.000 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 47.02 Mbit/s
95th percentile per-packet one-way delay: 44.143 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 23.50 Mbit/s
95th percentile per-packet one-way delay: 63.201 ms
Loss rate: 1.46%
```
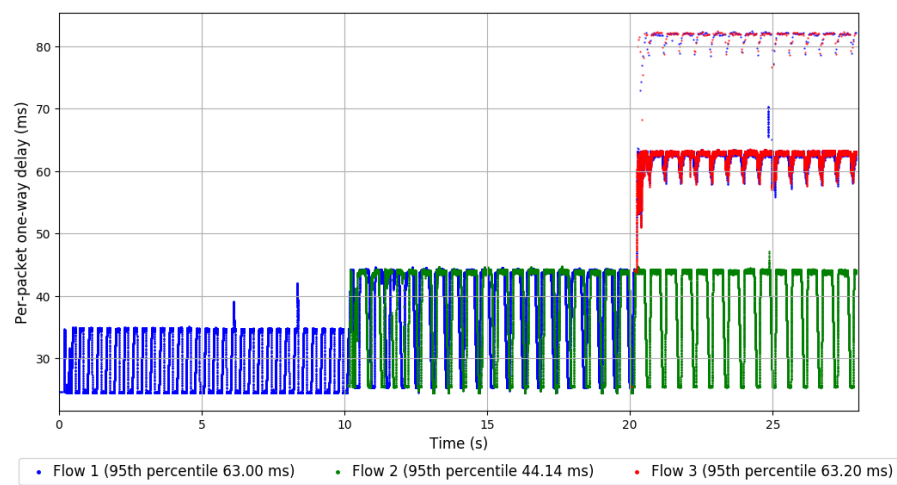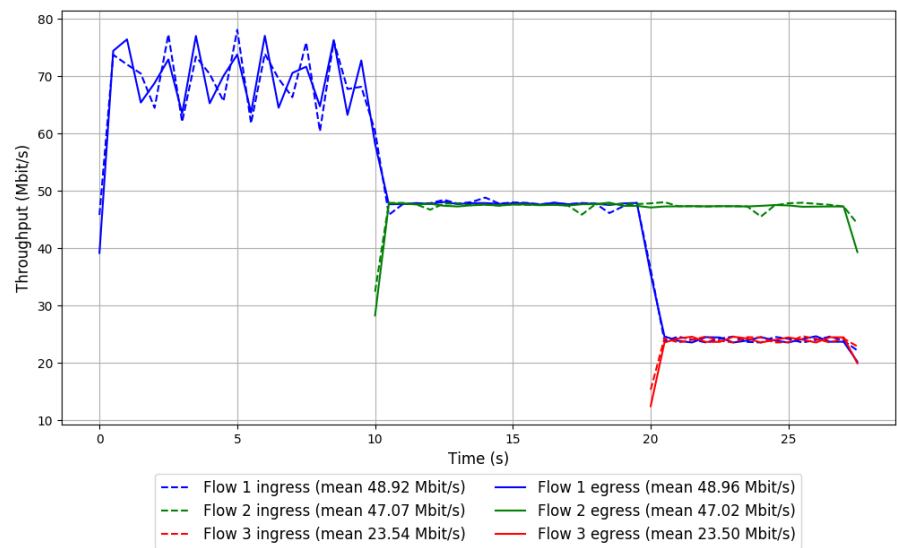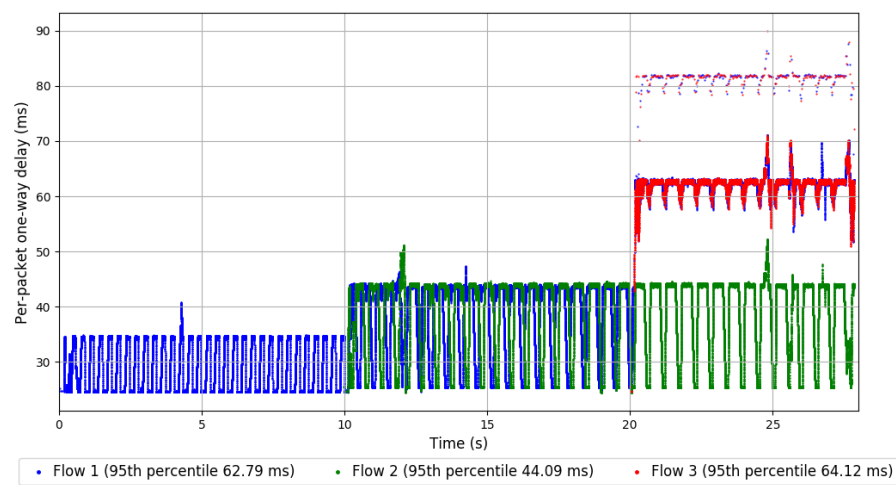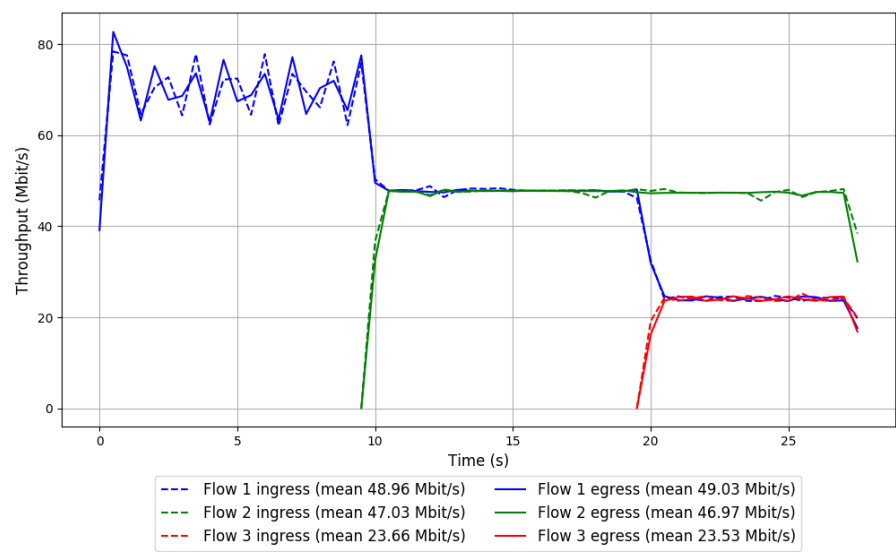
Run 7: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 48.92 Mbit/s) — Flow 1 egress (mean 48.96 Mbit/s)
- Flow 2 ingress (mean 47.07 Mbit/s) — Flow 2 egress (mean 47.02 Mbit/s)
- Flow 3 ingress (mean 23.54 Mbit/s) — Flow 3 egress (mean 23.50 Mbit/s)

- Flow 1 (95th percentile 63.00 ms)
- Flow 2 (95th percentile 44.14 ms)
- Flow 3 (95th percentile 63.20 ms)

177

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

Start at: 2017-09-21 21:48:47
End at: 2017-09-21 21:49:17
Local clock offset: 0.652 ms
Remote clock offset: 1.342 ms

# Below is generated by plot.py at 2017-09-22 02:16:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 62.788 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 49.03 Mbit/s
95th percentile per-packet one-way delay: 62.786 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 46.97 Mbit/s
95th percentile per-packet one-way delay: 44.087 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 64.121 ms
Loss rate: 1.51%
```

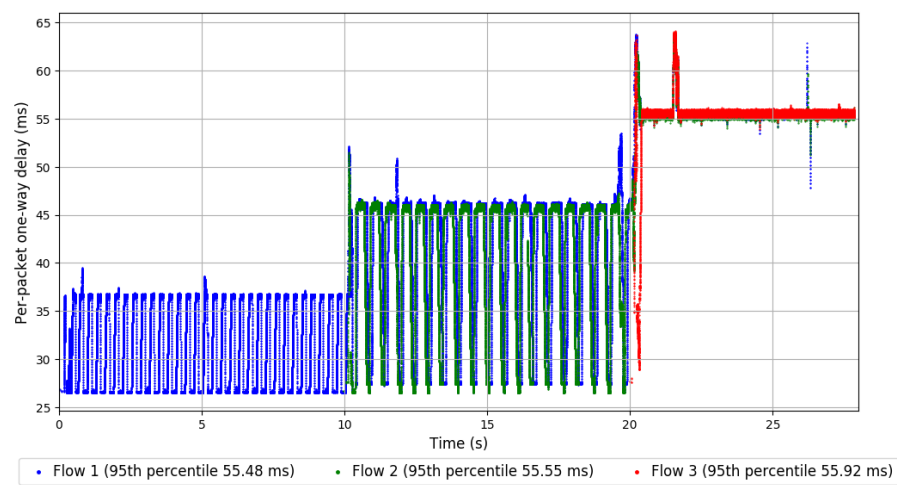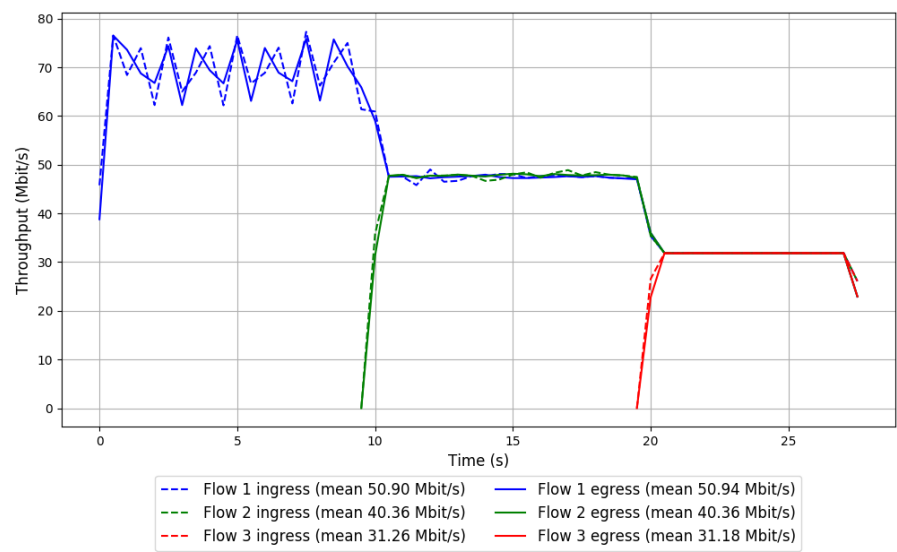Run 8: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-21 22:08:25
End at: 2017-09-21 22:08:55
Local clock offset: 0.832 ms
Remote clock offset: -1.257 ms


# Below is generated by plot.py at 2017-09-22 02:18:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.71 Mbit/s
95th percentile per-packet one-way delay: 55.766 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 50.94 Mbit/s
95th percentile per-packet one-way delay: 55.479 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 40.36 Mbit/s
95th percentile per-packet one-way delay: 55.545 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 31.18 Mbit/s
95th percentile per-packet one-way delay: 55.919 ms
Loss rate: 1.39%
```

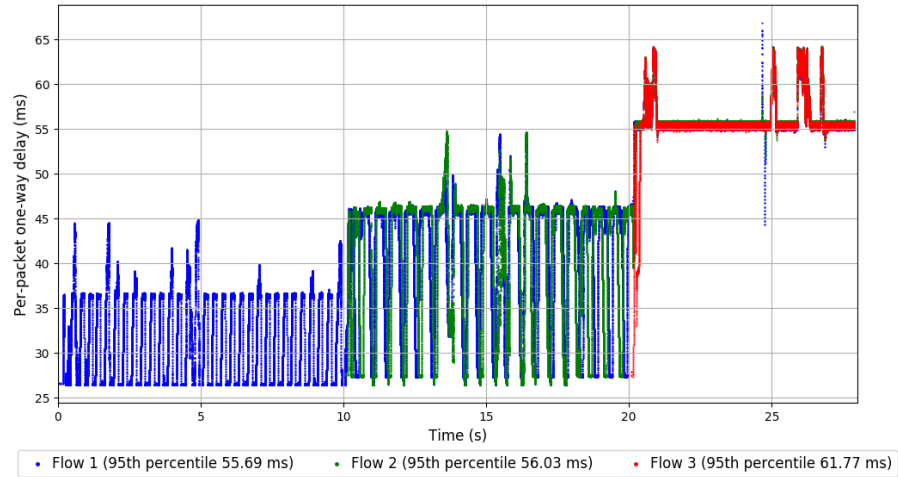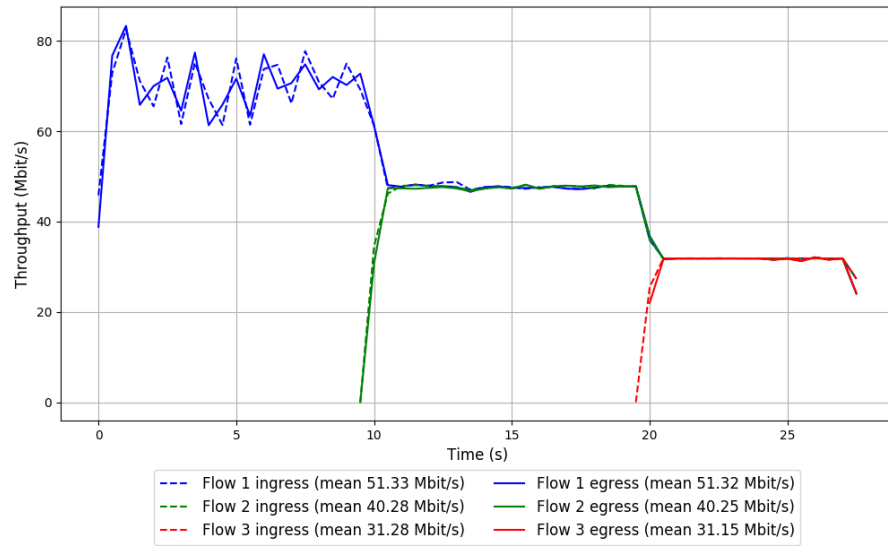Run 9: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-21 22:27:59
End at: 2017-09-21 22:28:29
Local clock offset: -0.41 ms
Remote clock offset: -1.562 ms

# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.98 Mbit/s
95th percentile per-packet one-way delay: 55.819 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 51.32 Mbit/s
95th percentile per-packet one-way delay: 55.686 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 40.25 Mbit/s
95th percentile per-packet one-way delay: 56.035 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 31.15 Mbit/s
95th percentile per-packet one-way delay: 61.765 ms
Loss rate: 1.60%
```
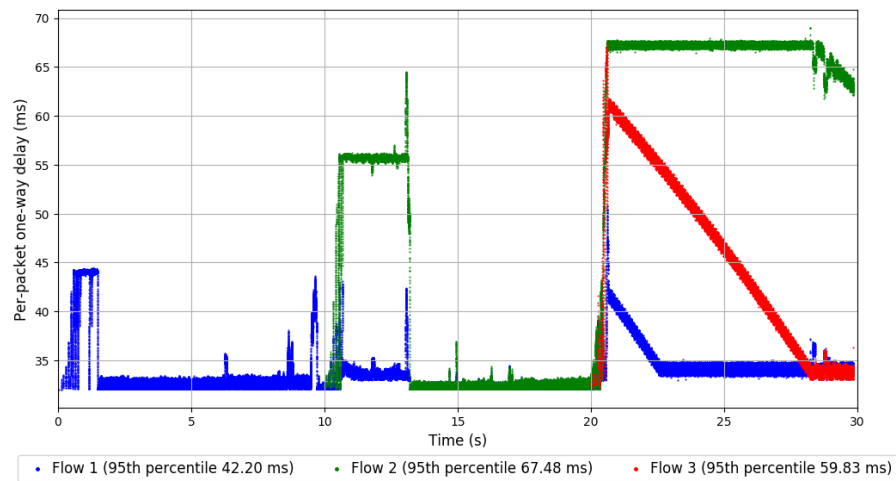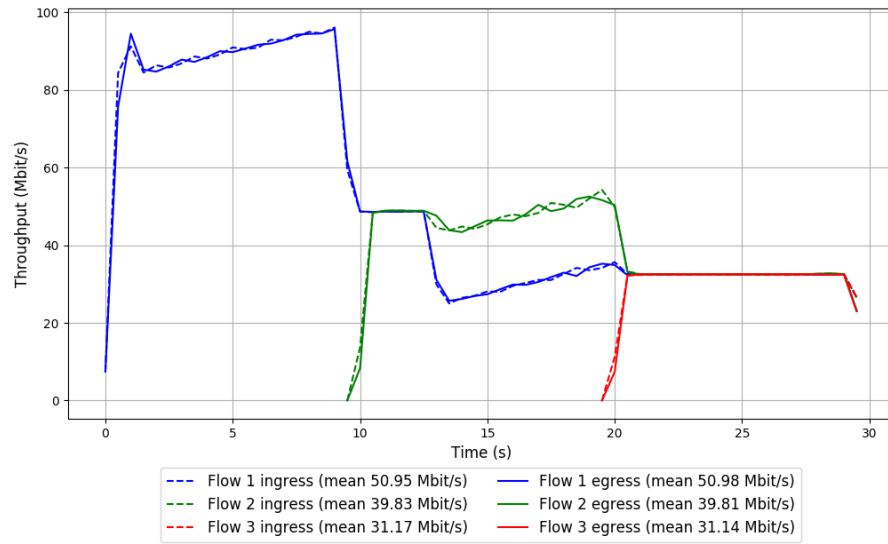
Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 51.33 Mbit/s) — — — Flow 1 egress (mean 51.32 Mbit/s)
Flow 2 ingress (mean 40.28 Mbit/s) — — — Flow 2 egress (mean 40.25 Mbit/s)
Flow 3 ingress (mean 31.28 Mbit/s) — — — Flow 3 egress (mean 31.15 Mbit/s)

Flow 1 (95th percentile 55.69 ms)   Flow 2 (95th percentile 56.03 ms)   Flow 3 (95th percentile 61.77 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-21 19:33:17
End at: 2017-09-21 19:33:47
Local clock offset: 0.124 ms
Remote clock offset: -5.944 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.83 Mbit/s
95th percentile per-packet one-way delay: 67.274 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 50.98 Mbit/s
95th percentile per-packet one-way delay: 42.201 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 67.482 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 59.831 ms
Loss rate: 0.92%
```

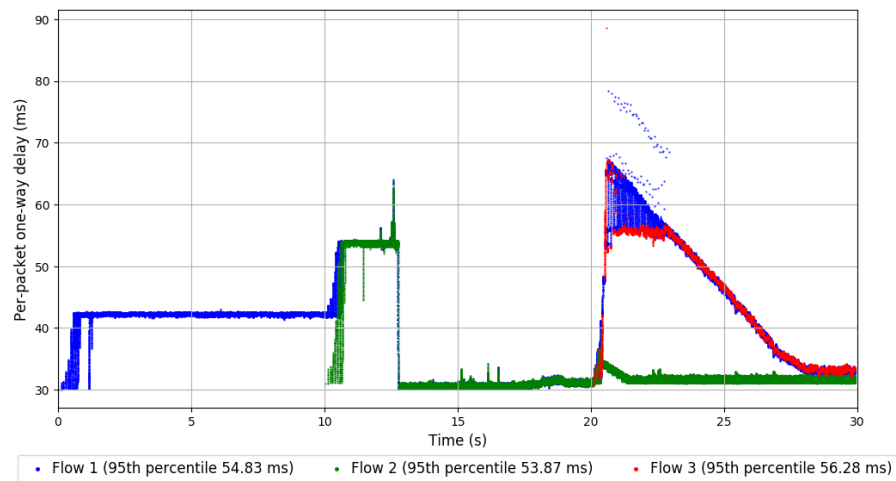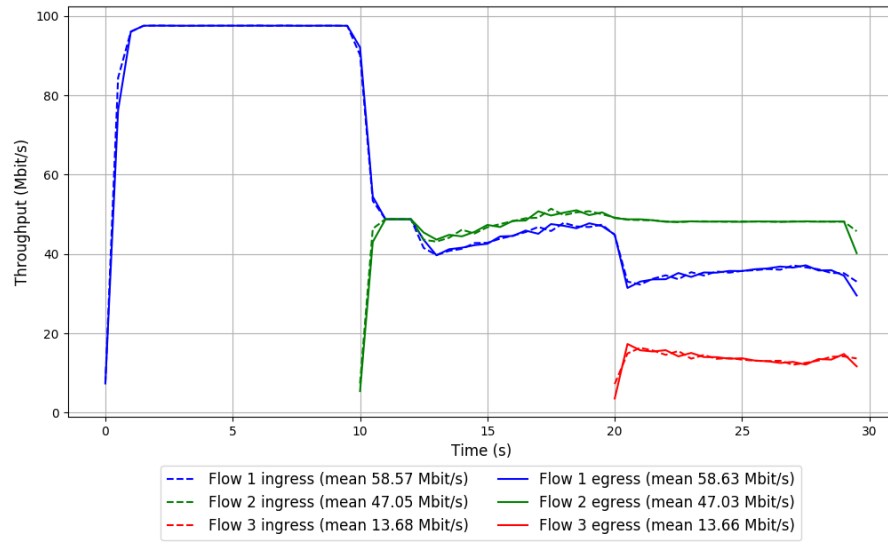Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-09-21 19:52:43
End at: 2017-09-21 19:53:13
Local clock offset: 0.117 ms
Remote clock offset: -3.789 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 54.157 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 58.63 Mbit/s
95th percentile per-packet one-way delay: 54.833 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 47.03 Mbit/s
95th percentile per-packet one-way delay: 53.871 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 13.66 Mbit/s
95th percentile per-packet one-way delay: 56.281 ms
Loss rate: 1.00%
```
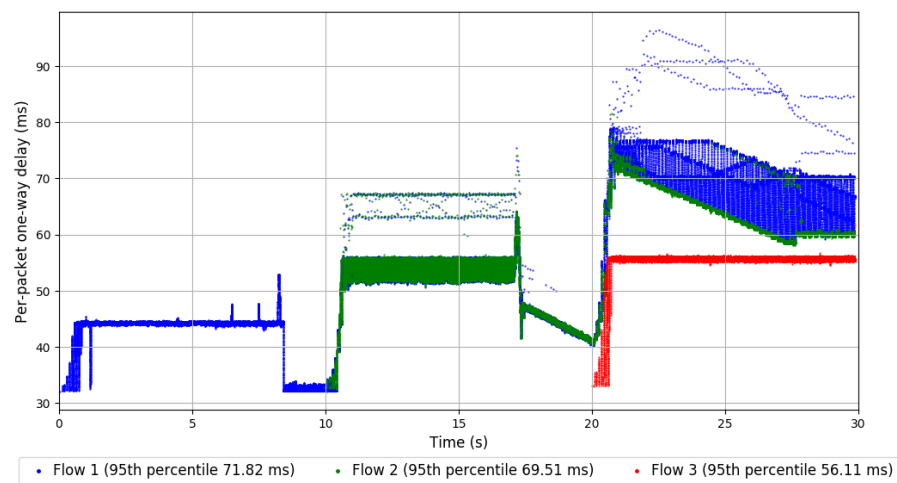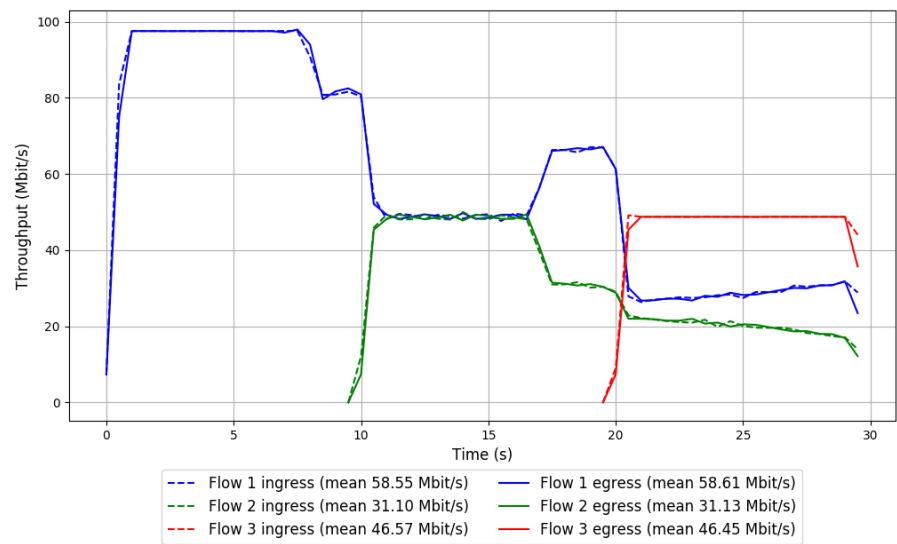
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 58.57 Mbit/s)   Flow 1 egress (mean 58.63 Mbit/s)
Flow 2 ingress (mean 47.05 Mbit/s)   Flow 2 egress (mean 47.03 Mbit/s)
Flow 3 ingress (mean 13.68 Mbit/s)   Flow 3 egress (mean 13.66 Mbit/s)

Flow 1 (95th percentile 54.83 ms)   Flow 2 (95th percentile 53.87 ms)   Flow 3 (95th percentile 56.28 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2017-09-21 20:12:17
End at: 2017-09-21 20:12:47
Local clock offset: 0.114 ms
Remote clock offset: -5.554 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.70 Mbit/s
95th percentile per-packet one-way delay: 70.490 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 58.61 Mbit/s
95th percentile per-packet one-way delay: 71.824 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 31.13 Mbit/s
95th percentile per-packet one-way delay: 69.513 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 56.111 ms
Loss rate: 1.48%
```

Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2017-09-21 20:31:53
End at: 2017-09-21 20:32:23
Local clock offset: 0.054 ms
Remote clock offset: 2.379 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 60.757 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 57.88 Mbit/s
95th percentile per-packet one-way delay: 60.626 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 63.451 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 17.35 Mbit/s
95th percentile per-packet one-way delay: 64.537 ms
Loss rate: 1.24%
```
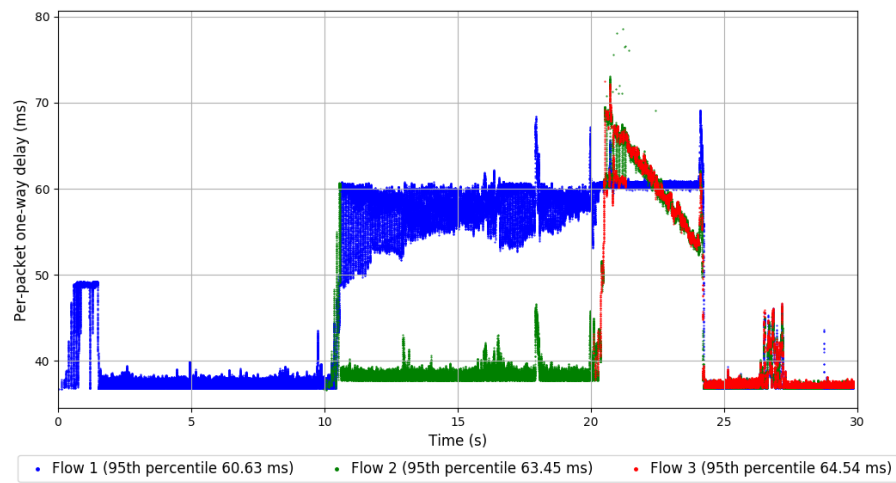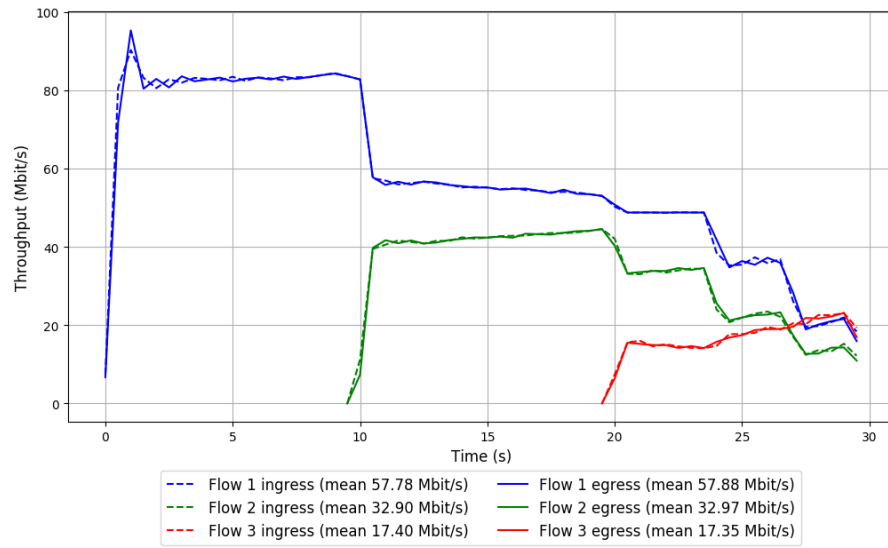
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2017-09-21 20:53:20
End at: 2017-09-21 20:53:50
Local clock offset: 0.295 ms
Remote clock offset: 2.813 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.01 Mbit/s
95th percentile per-packet one-way delay: 70.063 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 69.550 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 47.82 Mbit/s
95th percentile per-packet one-way delay: 48.452 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 23.28 Mbit/s
95th percentile per-packet one-way delay: 71.405 ms
Loss rate: 1.29%
```
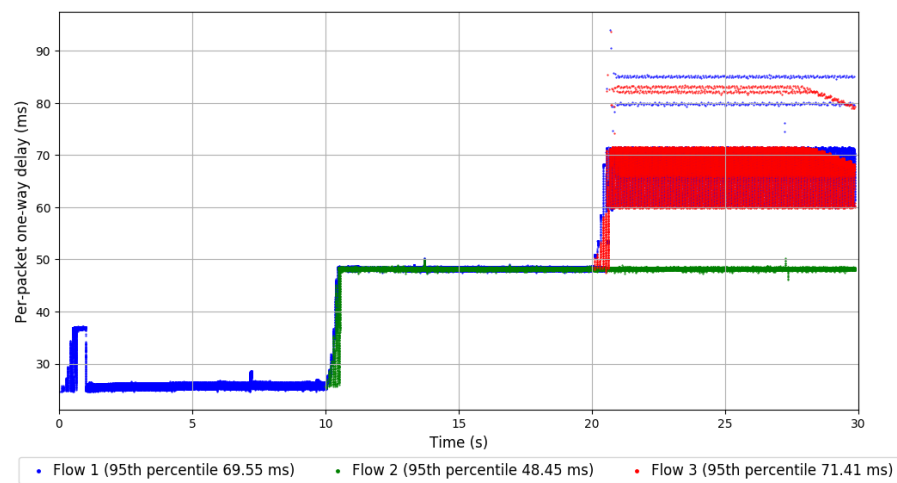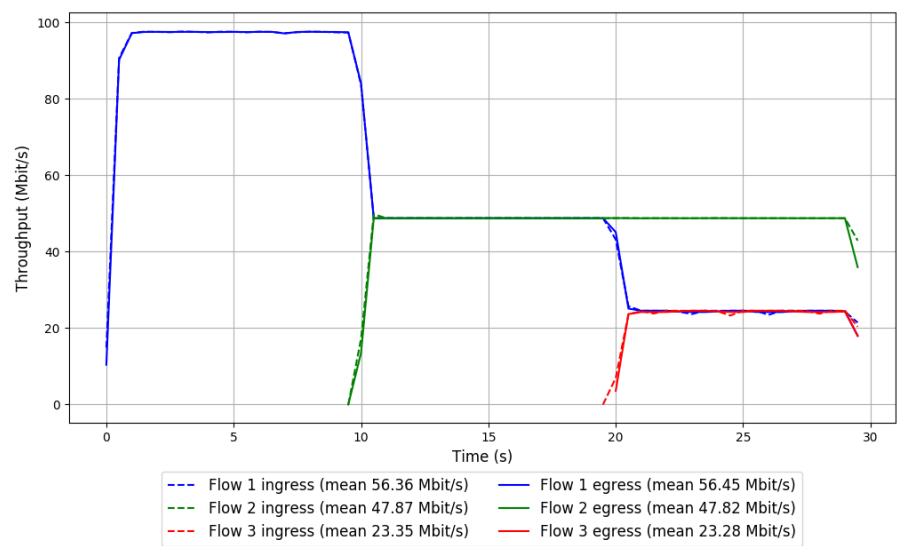
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 56.36 Mbit/s)   Flow 1 egress (mean 56.45 Mbit/s)
Flow 2 ingress (mean 47.87 Mbit/s)   Flow 2 egress (mean 47.82 Mbit/s)
Flow 3 ingress (mean 23.35 Mbit/s)   Flow 3 egress (mean 23.28 Mbit/s)

Flow 1 (95th percentile 69.55 ms)   Flow 2 (95th percentile 48.45 ms)   Flow 3 (95th percentile 71.41 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-21 21:12:43
End at: 2017-09-21 21:13:13
Local clock offset: 0.419 ms
Remote clock offset: 2.478 ms


# Below is generated by plot.py at 2017-09-22 02:18:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.51 Mbit/s
95th percentile per-packet one-way delay: 57.578 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 54.434 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 45.65 Mbit/s
95th percentile per-packet one-way delay: 60.737 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 46.78 Mbit/s
95th percentile per-packet one-way delay: 26.920 ms
Loss rate: 0.81%
```
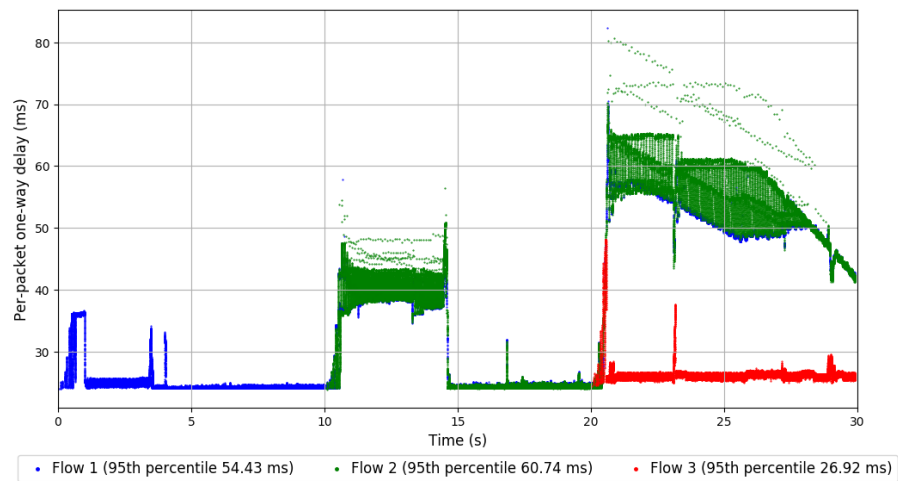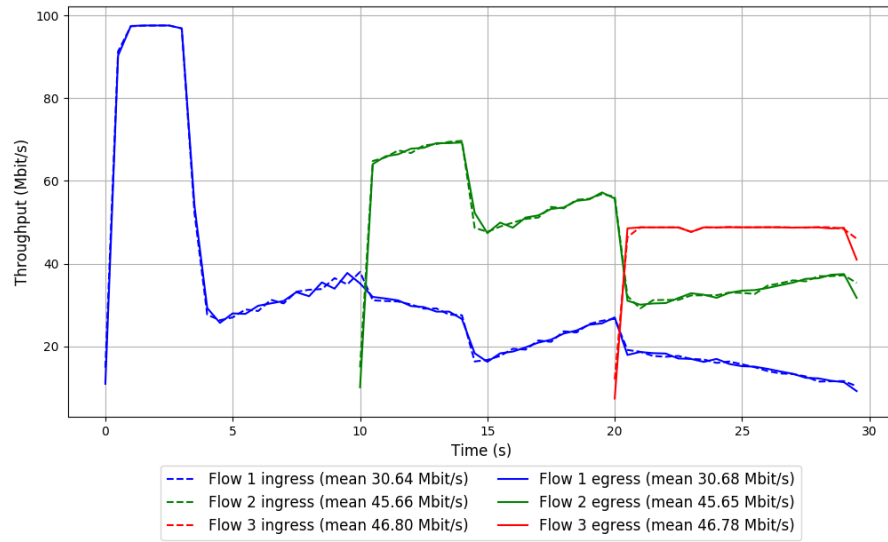
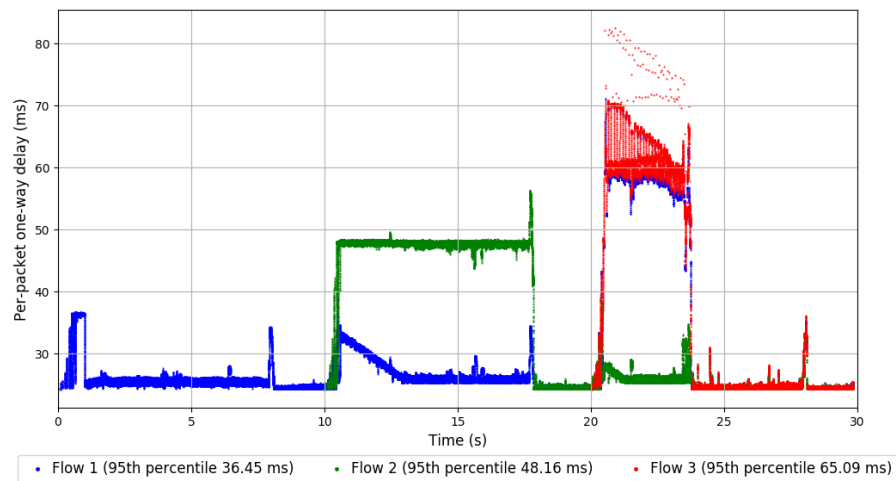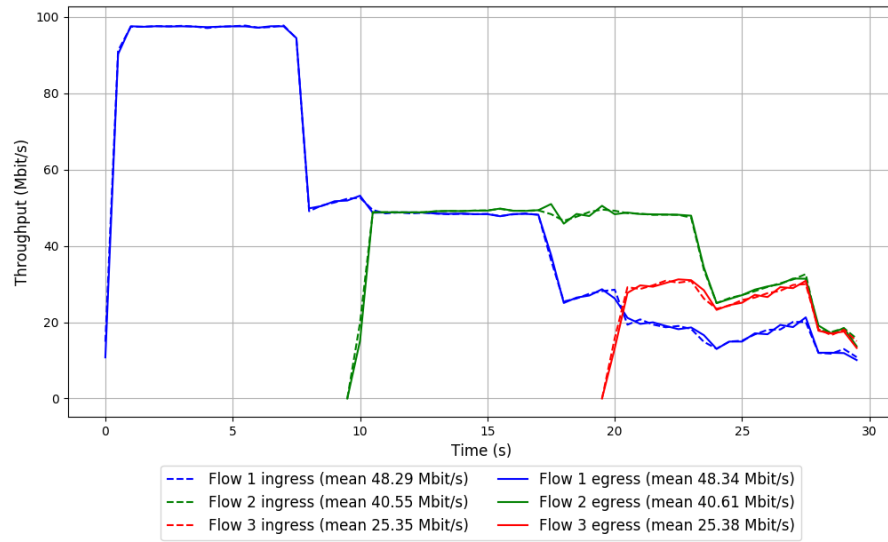Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-21 21:32:10
End at: 2017-09-21 21:32:40
Local clock offset: 0.457 ms
Remote clock offset: 1.549 ms

# Below is generated by plot.py at 2017-09-22 02:19:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.82 Mbit/s
95th percentile per-packet one-way delay: 57.890 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 48.34 Mbit/s
95th percentile per-packet one-way delay: 36.446 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 48.160 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 25.38 Mbit/s
95th percentile per-packet one-way delay: 65.093 ms
Loss rate: 0.65%
```

Run 7: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 48.29 Mbit/s) --- Flow 1 egress (mean 48.34 Mbit/s)
Flow 2 ingress (mean 40.55 Mbit/s) --- Flow 2 egress (mean 40.61 Mbit/s)
Flow 3 ingress (mean 25.35 Mbit/s) --- Flow 3 egress (mean 25.38 Mbit/s)

Flow 1 (95th percentile 36.45 ms)   Flow 2 (95th percentile 48.16 ms)   Flow 3 (95th percentile 65.09 ms)

197

```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-21 21:51:39
End at: 2017-09-21 21:52:09
Local clock offset: 0.68 ms
Remote clock offset: 1.66 ms


# Below is generated by plot.py at 2017-09-22 02:19:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 63.701 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 63.654 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 42.04 Mbit/s
95th percentile per-packet one-way delay: 67.989 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 46.66 Mbit/s
95th percentile per-packet one-way delay: 47.694 ms
Loss rate: 0.83%
```
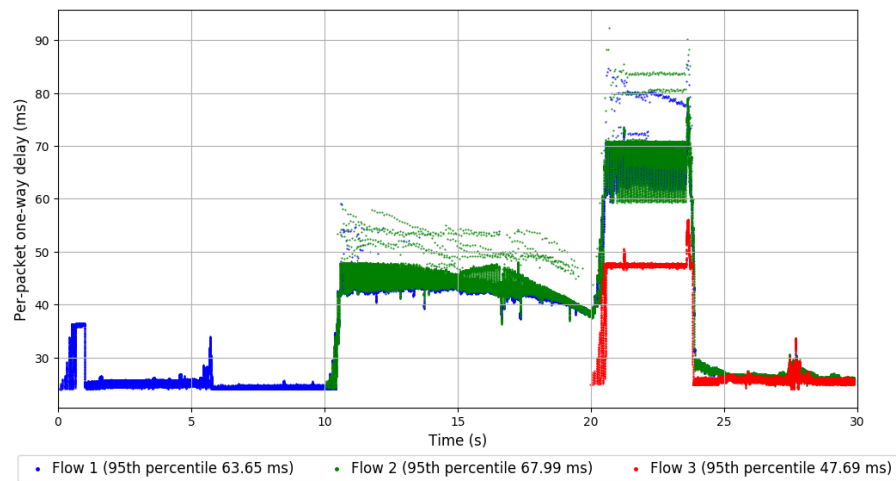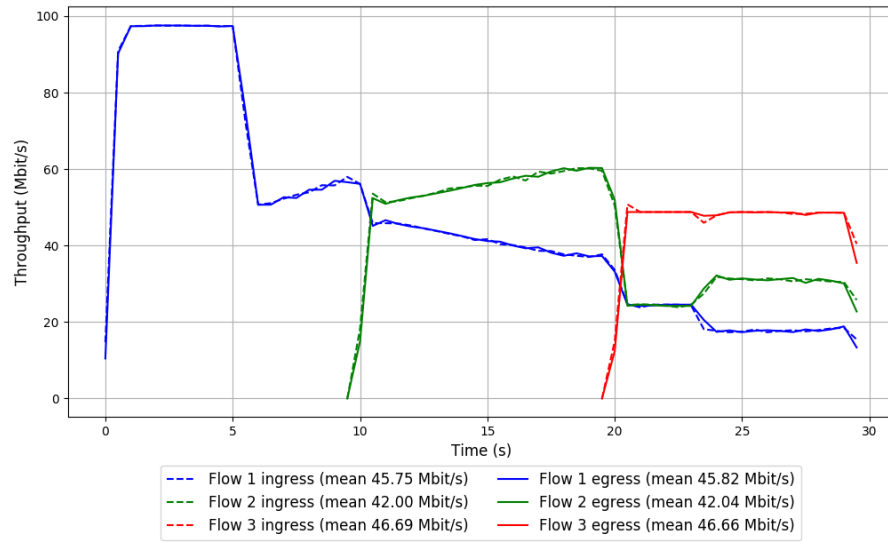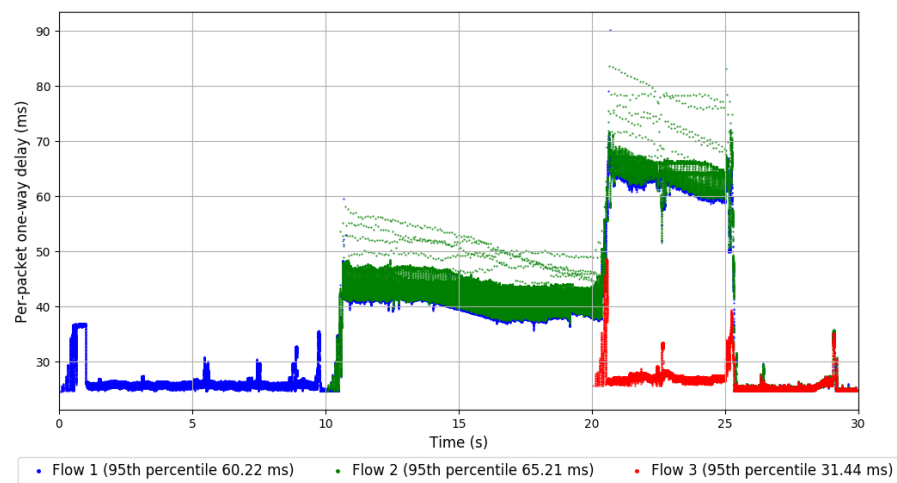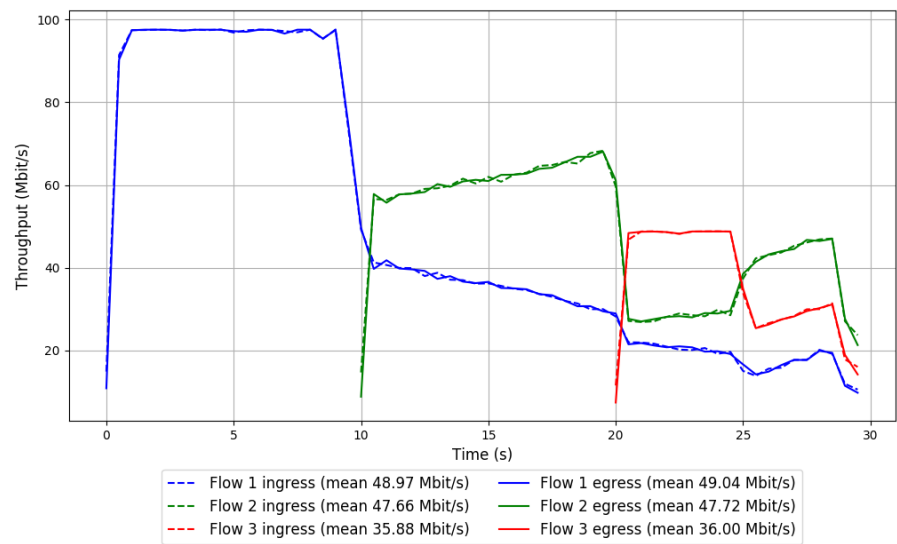
Run 8: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 45.75 Mbit/s)   Flow 1 egress (mean 45.82 Mbit/s)
Flow 2 ingress (mean 42.00 Mbit/s)   Flow 2 egress (mean 42.04 Mbit/s)
Flow 3 ingress (mean 46.69 Mbit/s)   Flow 3 egress (mean 46.66 Mbit/s)

Flow 1 (95th percentile 63.65 ms)   Flow 2 (95th percentile 67.99 ms)   Flow 3 (95th percentile 47.69 ms)

199

```
Run 9: Statistics of TCP Vegas

Start at: 2017-09-21 22:11:17
End at: 2017-09-21 22:11:47
Local clock offset: 0.72 ms
Remote clock offset: 0.613 ms


# Below is generated by plot.py at 2017-09-22 02:19:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.67 Mbit/s
95th percentile per-packet one-way delay: 62.595 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 49.04 Mbit/s
95th percentile per-packet one-way delay: 60.224 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 47.72 Mbit/s
95th percentile per-packet one-way delay: 65.210 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 36.00 Mbit/s
95th percentile per-packet one-way delay: 31.442 ms
Loss rate: 0.44%
```
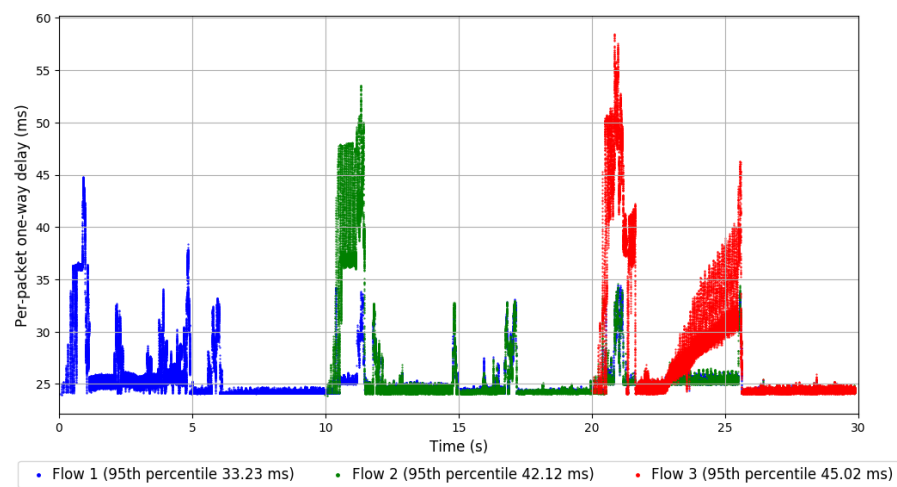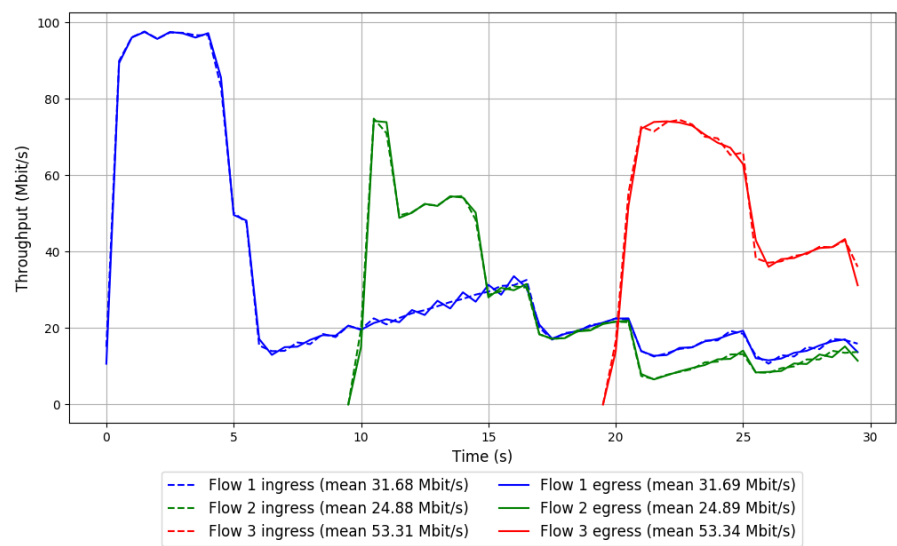
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 48.97 Mbit/s) — — — Flow 1 egress (mean 49.04 Mbit/s)
Flow 2 ingress (mean 47.66 Mbit/s) — — — Flow 2 egress (mean 47.72 Mbit/s)
Flow 3 ingress (mean 35.88 Mbit/s) — — — Flow 3 egress (mean 36.00 Mbit/s)

Flow 1 (95th percentile 60.22 ms)   Flow 2 (95th percentile 65.21 ms)   Flow 3 (95th percentile 31.44 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-21 22:31:00
End at: 2017-09-21 22:31:30
Local clock offset: -0.494 ms
Remote clock offset: 0.879 ms

# Below is generated by plot.py at 2017-09-22 02:19:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.93 Mbit/s
95th percentile per-packet one-way delay: 39.033 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 31.69 Mbit/s
95th percentile per-packet one-way delay: 33.235 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 42.125 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 53.34 Mbit/s
95th percentile per-packet one-way delay: 45.015 ms
Loss rate: 0.71%
```
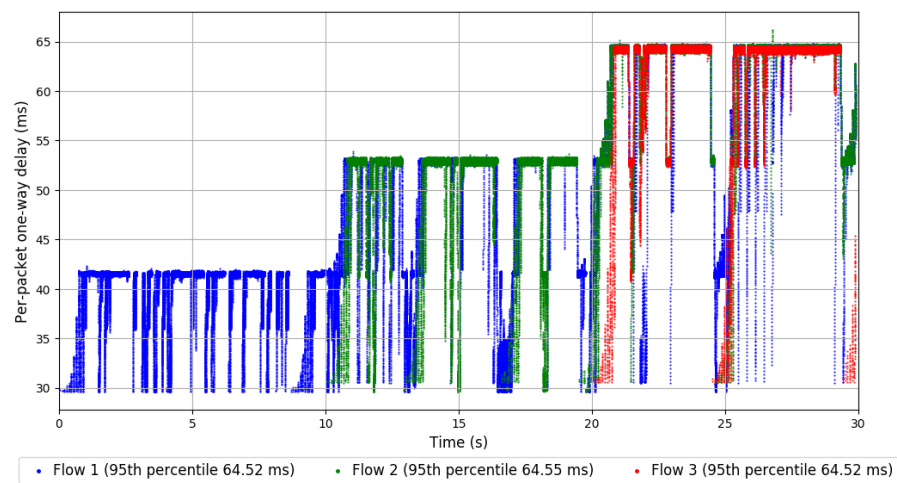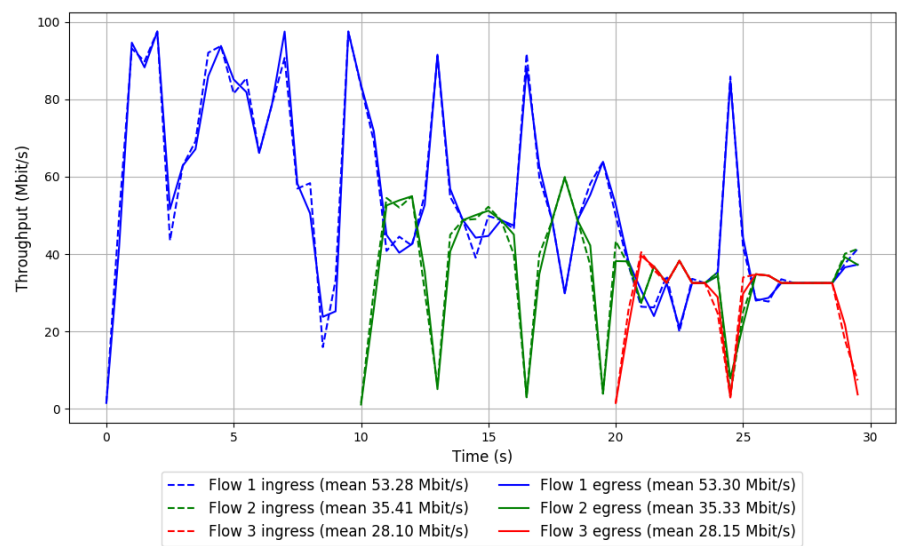
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 31.68 Mbit/s) --- Flow 1 egress (mean 31.69 Mbit/s)
Flow 2 ingress (mean 24.88 Mbit/s) --- Flow 2 egress (mean 24.89 Mbit/s)
Flow 3 ingress (mean 53.31 Mbit/s) --- Flow 3 egress (mean 53.34 Mbit/s)

Flow 1 (95th percentile 33.23 ms) Flow 2 (95th percentile 42.12 ms) Flow 3 (95th percentile 45.02 ms)
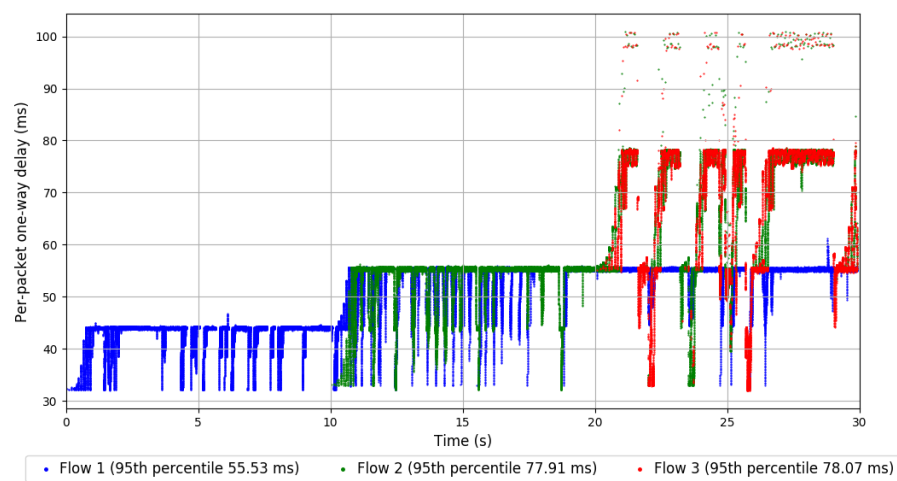
```
Run 1: Statistics of Verus

Start at: 2017-09-21 19:27:35
End at: 2017-09-21 19:28:05
Local clock offset: 0.074 ms
Remote clock offset: -3.637 ms


# Below is generated by plot.py at 2017-09-22 02:19:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.04 Mbit/s
95th percentile per-packet one-way delay: 64.531 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 53.30 Mbit/s
95th percentile per-packet one-way delay: 64.520 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 35.33 Mbit/s
95th percentile per-packet one-way delay: 64.550 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 28.15 Mbit/s
95th percentile per-packet one-way delay: 64.520 ms
Loss rate: 0.68%
```
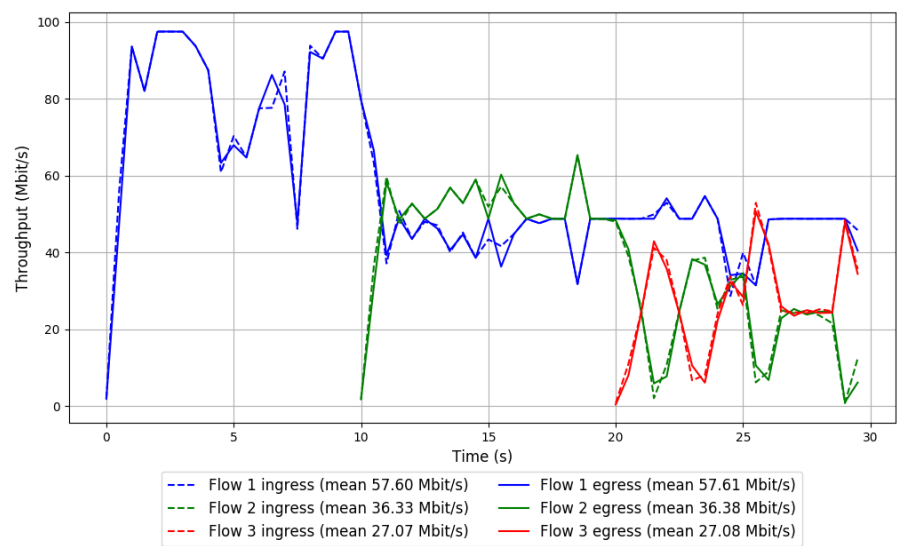
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 53.28 Mbit/s) --- Flow 1 egress (mean 53.30 Mbit/s)
Flow 2 ingress (mean 35.41 Mbit/s) --- Flow 2 egress (mean 35.33 Mbit/s)
Flow 3 ingress (mean 28.10 Mbit/s) --- Flow 3 egress (mean 28.15 Mbit/s)

Flow 1 (95th percentile 64.52 ms)   Flow 2 (95th percentile 64.55 ms)   Flow 3 (95th percentile 64.52 ms)
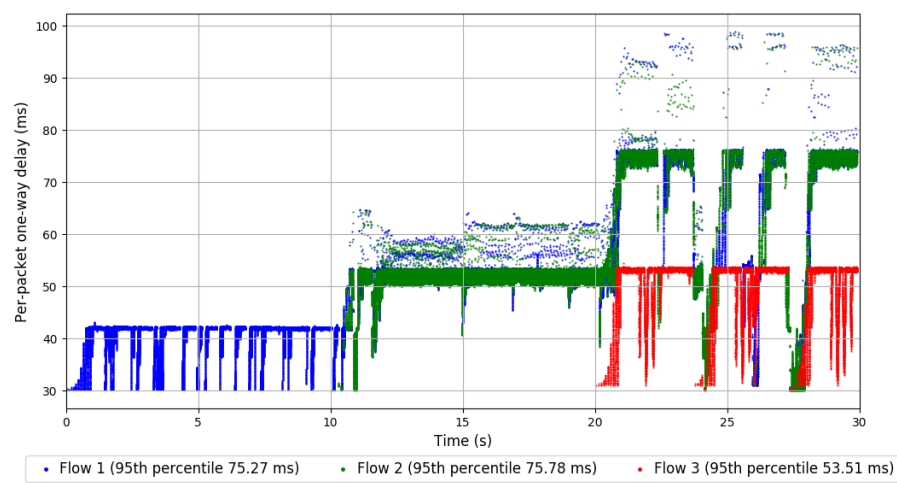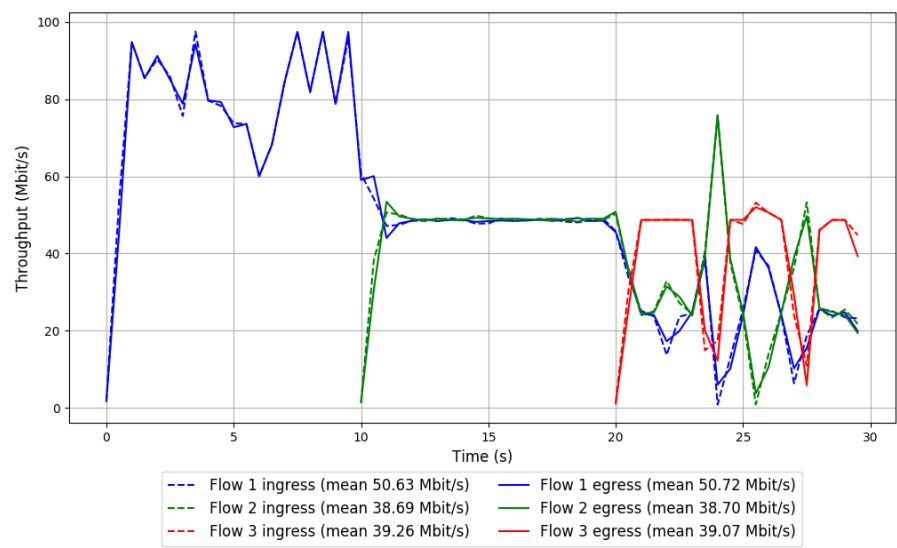
```
Run 2: Statistics of Verus

Start at: 2017-09-21 19:47:01
End at: 2017-09-21 19:47:31
Local clock offset: 0.018 ms
Remote clock offset: -5.837 ms

# Below is generated by plot.py at 2017-09-22 02:19:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.71 Mbit/s
95th percentile per-packet one-way delay: 77.190 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 55.532 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 36.38 Mbit/s
95th percentile per-packet one-way delay: 77.914 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 27.08 Mbit/s
95th percentile per-packet one-way delay: 78.071 ms
Loss rate: 1.24%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-09-21 20:06:35
End at: 2017-09-21 20:07:05
Local clock offset: 0.008 ms
Remote clock offset: -3.583 ms


# Below is generated by plot.py at 2017-09-22 02:20:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.32 Mbit/s
95th percentile per-packet one-way delay: 75.499 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 50.72 Mbit/s
95th percentile per-packet one-way delay: 75.274 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 38.70 Mbit/s
95th percentile per-packet one-way delay: 75.775 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 39.07 Mbit/s
95th percentile per-packet one-way delay: 53.513 ms
Loss rate: 1.37%
```
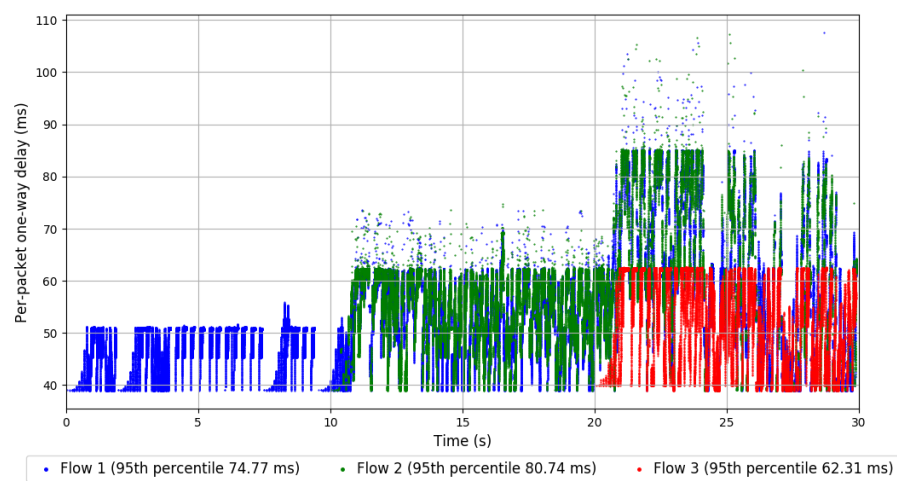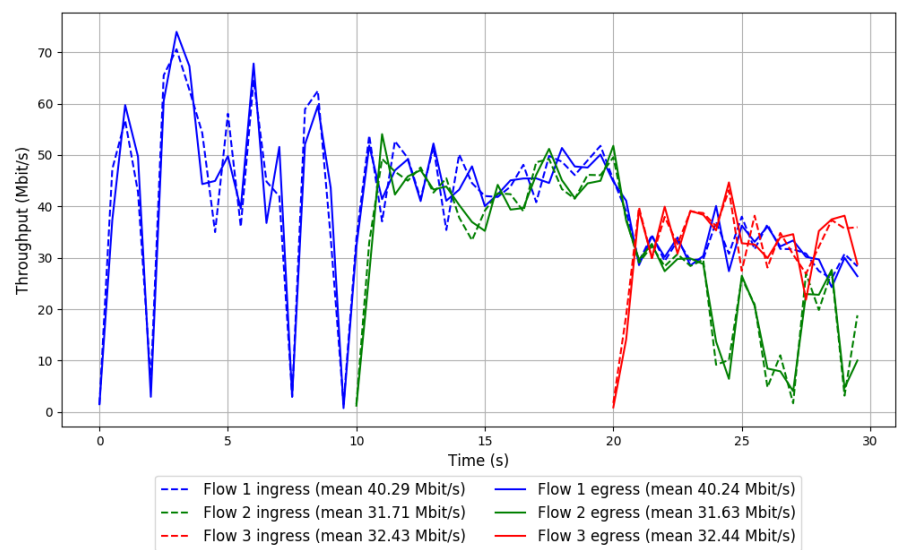
Run 3: Report of Verus — Data Link

209

```
Run 4: Statistics of Verus

Start at: 2017-09-21 20:26:10
End at: 2017-09-21 20:26:40
Local clock offset: 0.027 ms
Remote clock offset: 0.199 ms


# Below is generated by plot.py at 2017-09-22 02:20:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.95 Mbit/s
95th percentile per-packet one-way delay: 76.093 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 74.769 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 80.742 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 62.310 ms
Loss rate: 1.11%
```
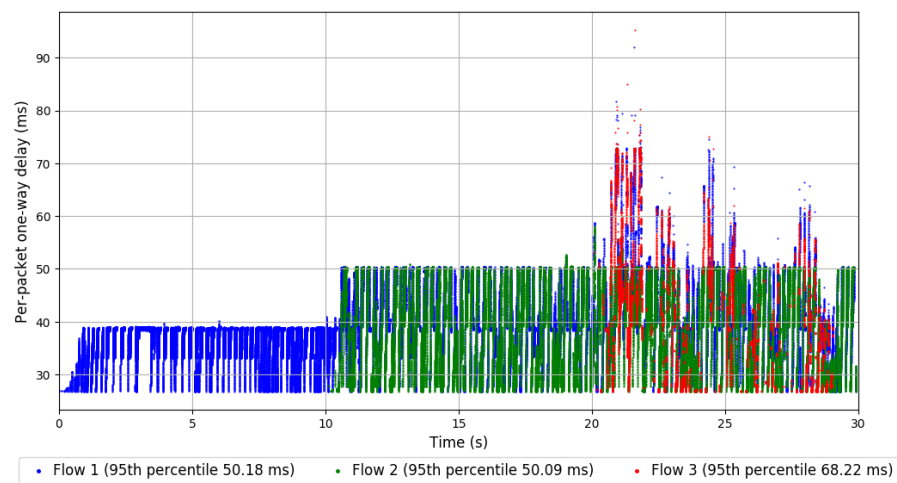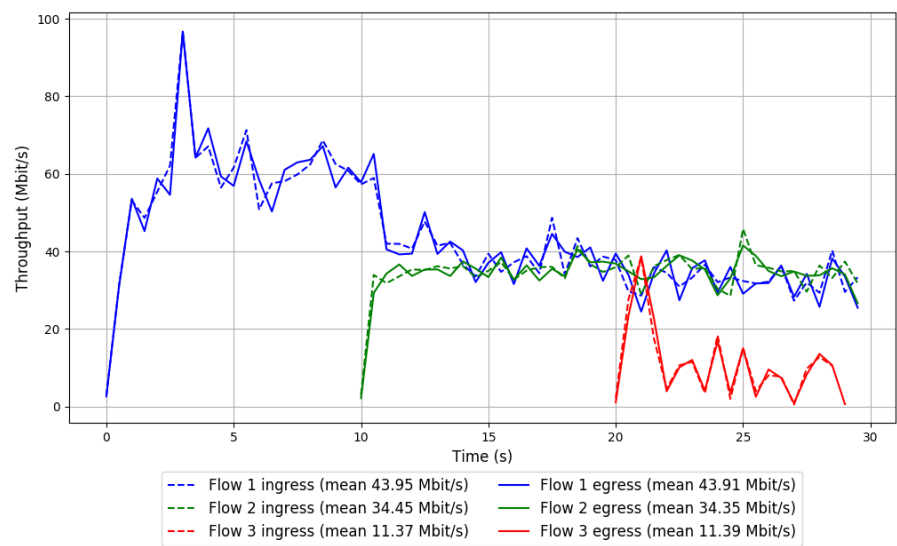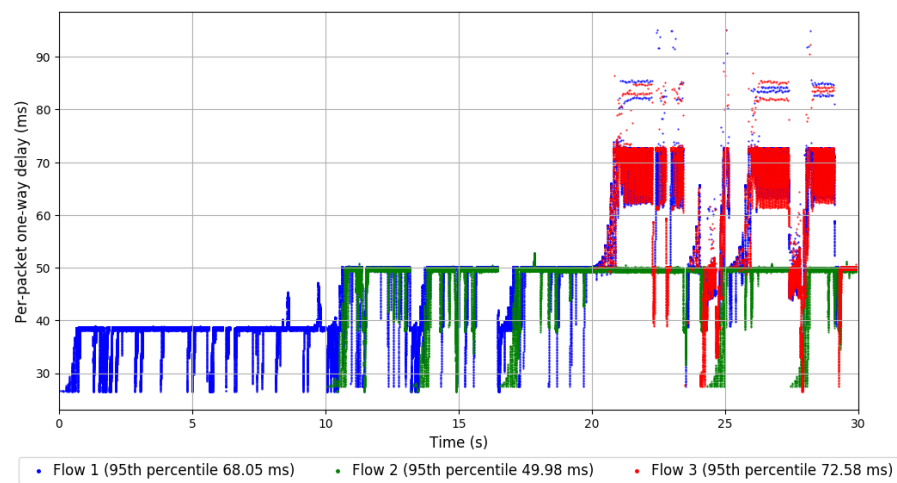
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-09-21 20:47:30
End at: 2017-09-21 20:48:00
Local clock offset: 0.258 ms
Remote clock offset: 0.708 ms


# Below is generated by plot.py at 2017-09-22 02:20:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.17 Mbit/s
95th percentile per-packet one-way delay: 50.201 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 43.91 Mbit/s
95th percentile per-packet one-way delay: 50.182 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 34.35 Mbit/s
95th percentile per-packet one-way delay: 50.091 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 11.39 Mbit/s
95th percentile per-packet one-way delay: 68.223 ms
Loss rate: 0.00%
```

Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-09-21 21:07:02
End at: 2017-09-21 21:07:32
Local clock offset: 0.269 ms
Remote clock offset: 0.147 ms


# Below is generated by plot.py at 2017-09-22 02:20:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.05 Mbit/s
95th percentile per-packet one-way delay: 68.915 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 57.00 Mbit/s
95th percentile per-packet one-way delay: 68.053 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 49.982 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 26.17 Mbit/s
95th percentile per-packet one-way delay: 72.580 ms
Loss rate: 1.85%
```
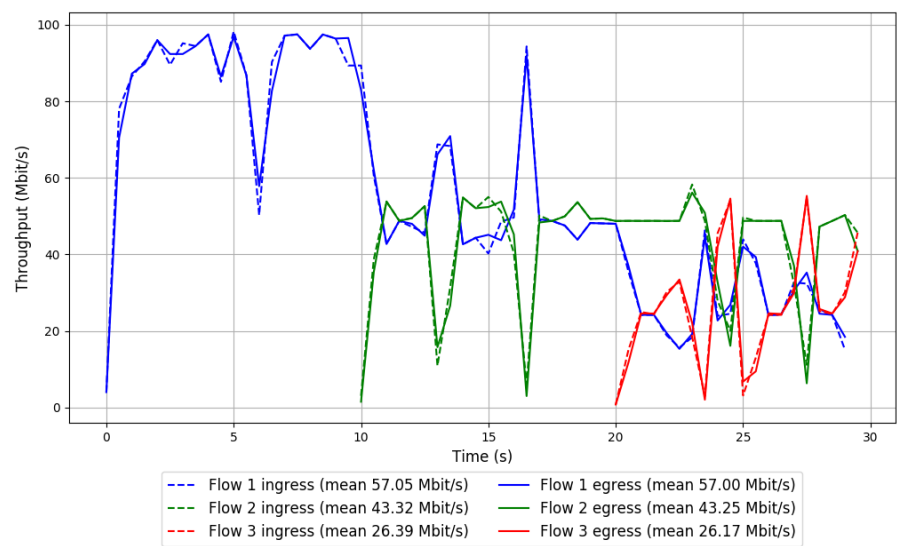
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-09-21 21:26:27
End at: 2017-09-21 21:26:57
Local clock offset: 0.501 ms
Remote clock offset: 1.702 ms

# Below is generated by plot.py at 2017-09-22 02:20:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.38 Mbit/s
95th percentile per-packet one-way delay: 59.373 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 50.45 Mbit/s
95th percentile per-packet one-way delay: 59.421 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 40.08 Mbit/s
95th percentile per-packet one-way delay: 59.268 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 28.10 Mbit/s
95th percentile per-packet one-way delay: 59.328 ms
Loss rate: 1.28%
```
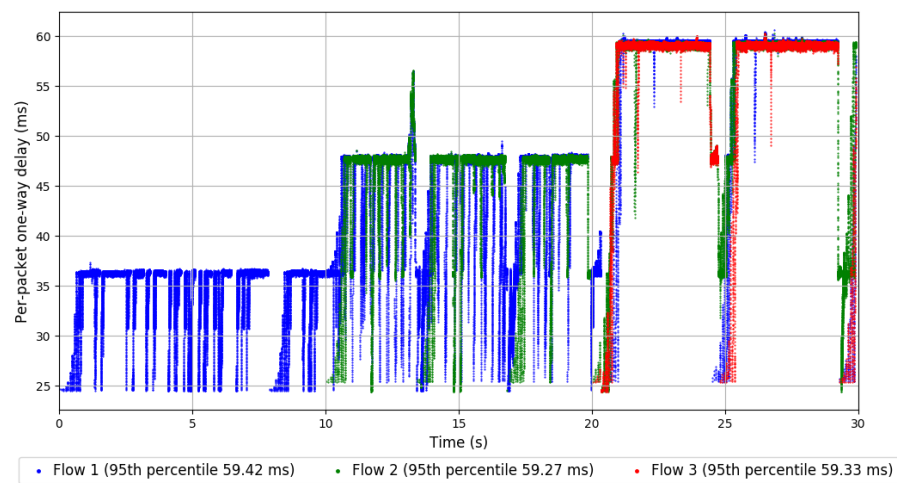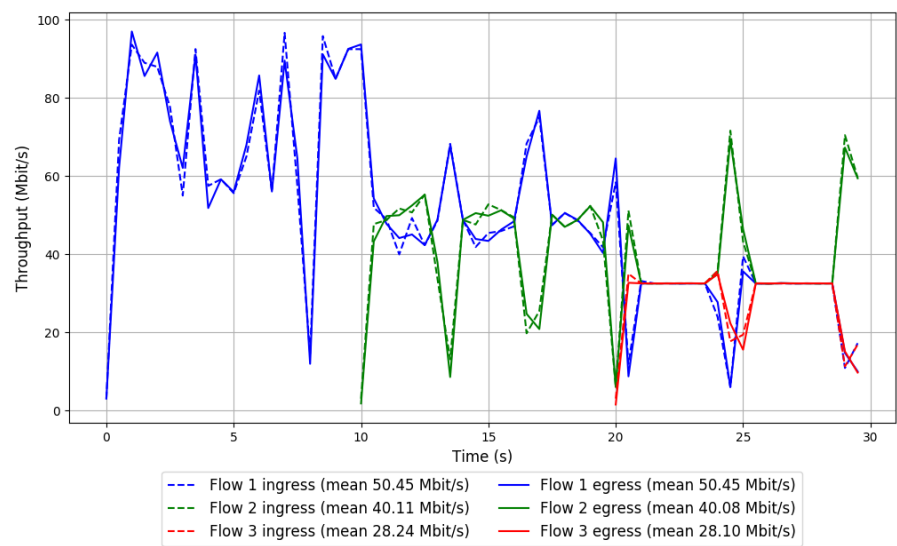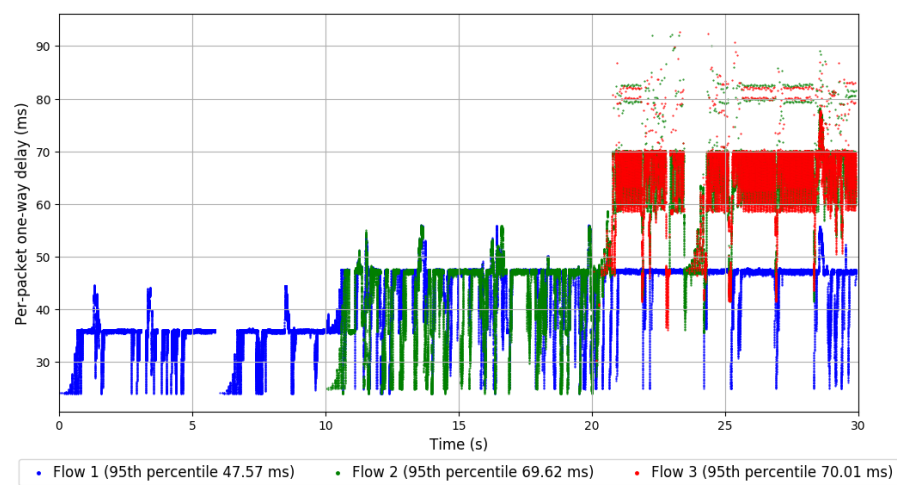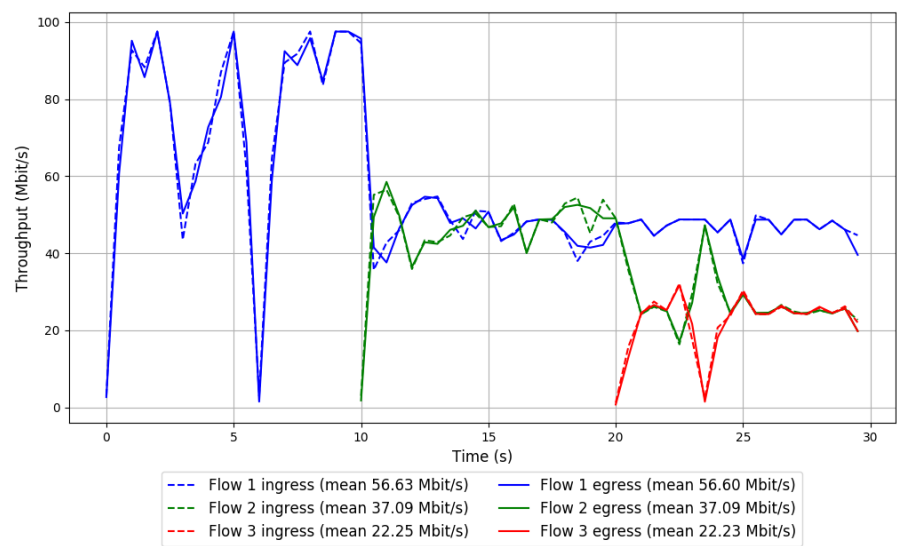
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-09-21 21:45:57
End at: 2017-09-21 21:46:27
Local clock offset: 0.623 ms
Remote clock offset: 1.763 ms


# Below is generated by plot.py at 2017-09-22 02:20:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.58 Mbit/s
95th percentile per-packet one-way delay: 68.332 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 56.60 Mbit/s
95th percentile per-packet one-way delay: 47.568 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 37.09 Mbit/s
95th percentile per-packet one-way delay: 69.622 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 22.23 Mbit/s
95th percentile per-packet one-way delay: 70.012 ms
Loss rate: 1.26%
```
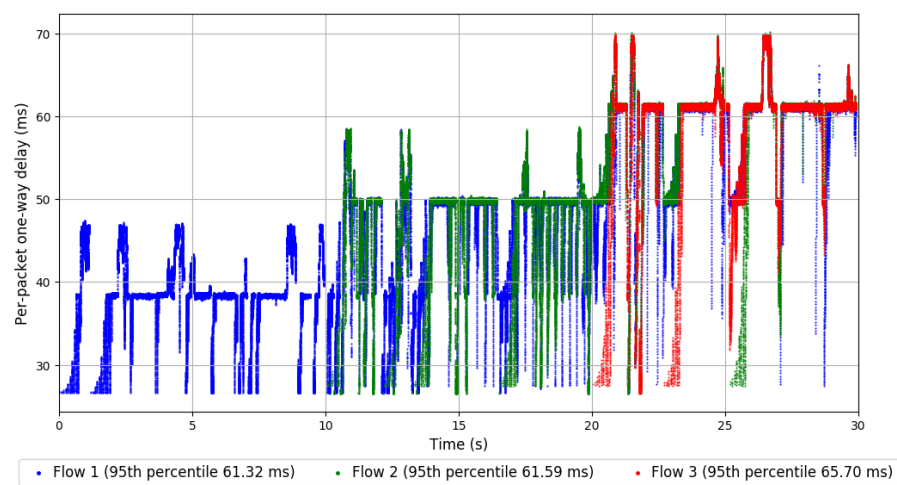
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 56.63 Mbit/s) — — — Flow 1 egress (mean 56.60 Mbit/s)
Flow 2 ingress (mean 37.09 Mbit/s) — — — Flow 2 egress (mean 37.09 Mbit/s)
Flow 3 ingress (mean 22.25 Mbit/s) — — — Flow 3 egress (mean 22.23 Mbit/s)

Flow 1 (95th percentile 47.57 ms) · Flow 2 (95th percentile 69.62 ms) · Flow 3 (95th percentile 70.01 ms)
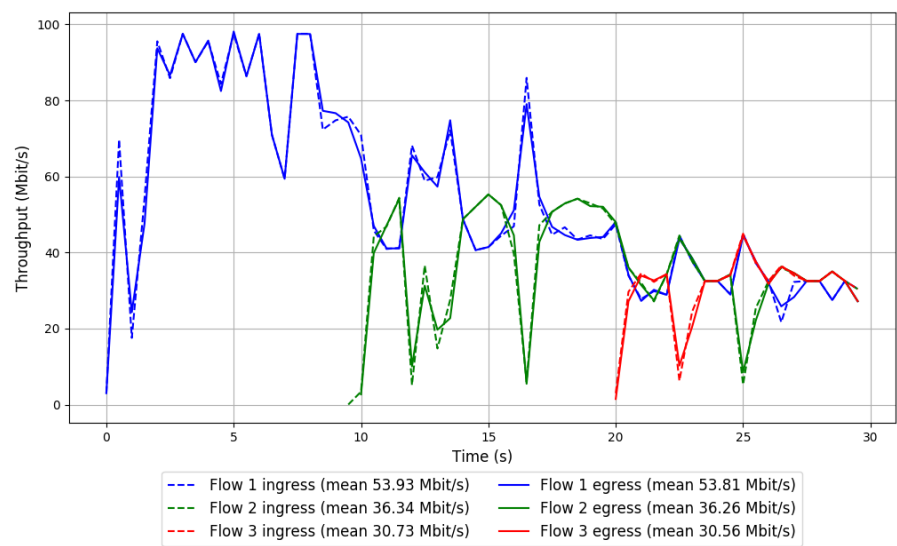
```
Run 9: Statistics of Verus

Start at: 2017-09-21 22:05:36
End at: 2017-09-21 22:06:06
Local clock offset: 0.775 ms
Remote clock offset: -1.288 ms


# Below is generated by plot.py at 2017-09-22 02:20:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 61.512 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 53.81 Mbit/s
95th percentile per-packet one-way delay: 61.321 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 36.26 Mbit/s
95th percentile per-packet one-way delay: 61.593 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 65.701 ms
Loss rate: 1.33%
```
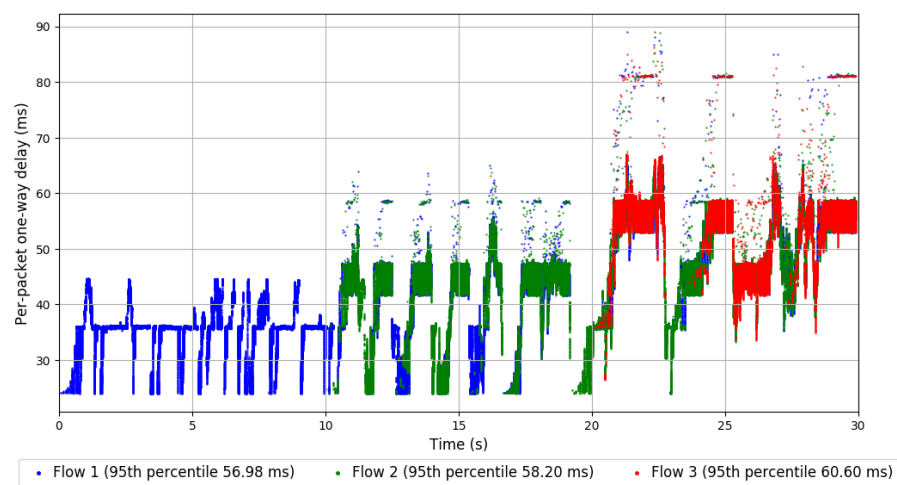
Run 9: Report of Verus — Data Link

- - - Flow 1 ingress (mean 53.93 Mbit/s) ——— Flow 1 egress (mean 53.81 Mbit/s)
- - - Flow 2 ingress (mean 36.34 Mbit/s) ——— Flow 2 egress (mean 36.26 Mbit/s)
- - - Flow 3 ingress (mean 30.73 Mbit/s) ——— Flow 3 egress (mean 30.56 Mbit/s)

• Flow 1 (95th percentile 61.32 ms)   • Flow 2 (95th percentile 61.59 ms)   • Flow 3 (95th percentile 65.70 ms)

221

```
Run 10: Statistics of Verus

Start at: 2017-09-21 22:25:10
End at: 2017-09-21 22:25:40
Local clock offset: -0.129 ms
Remote clock offset: 1.075 ms


# Below is generated by plot.py at 2017-09-22 02:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.52 Mbit/s
95th percentile per-packet one-way delay: 58.204 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 48.47 Mbit/s
95th percentile per-packet one-way delay: 56.981 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 58.205 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 25.96 Mbit/s
95th percentile per-packet one-way delay: 60.601 ms
Loss rate: 1.58%
```
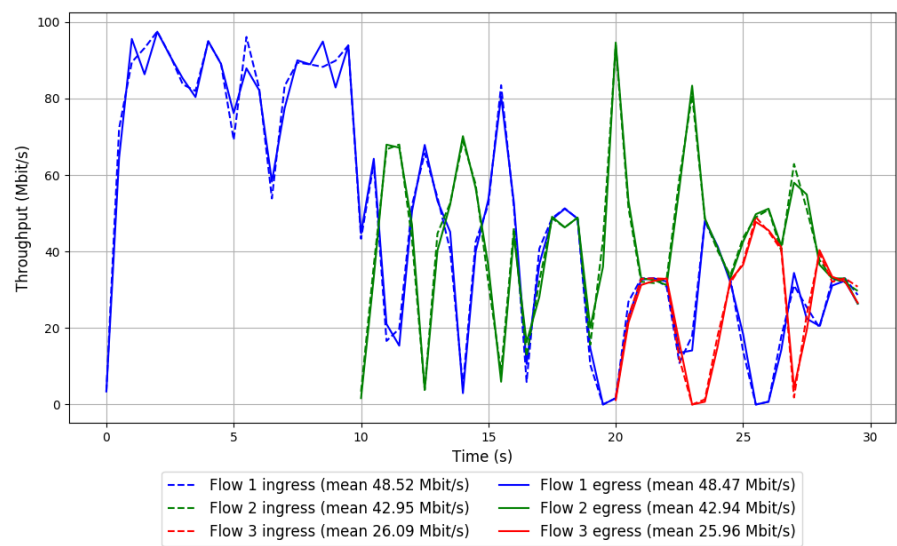
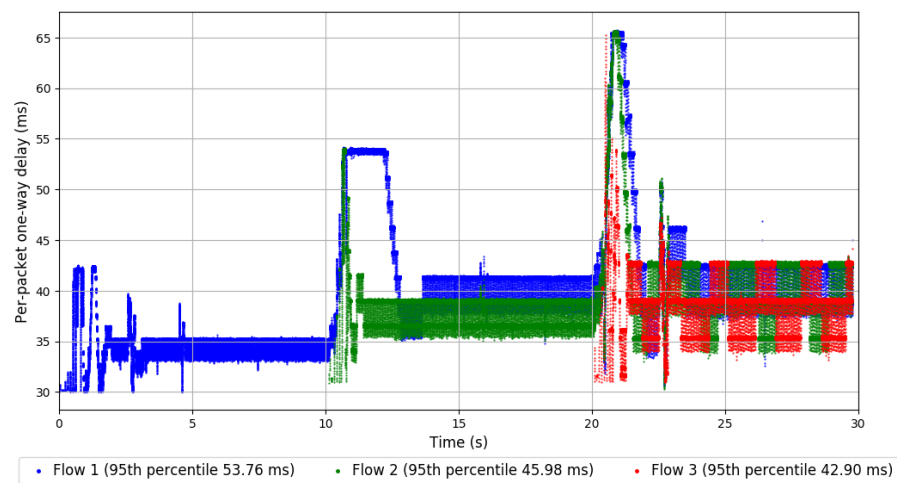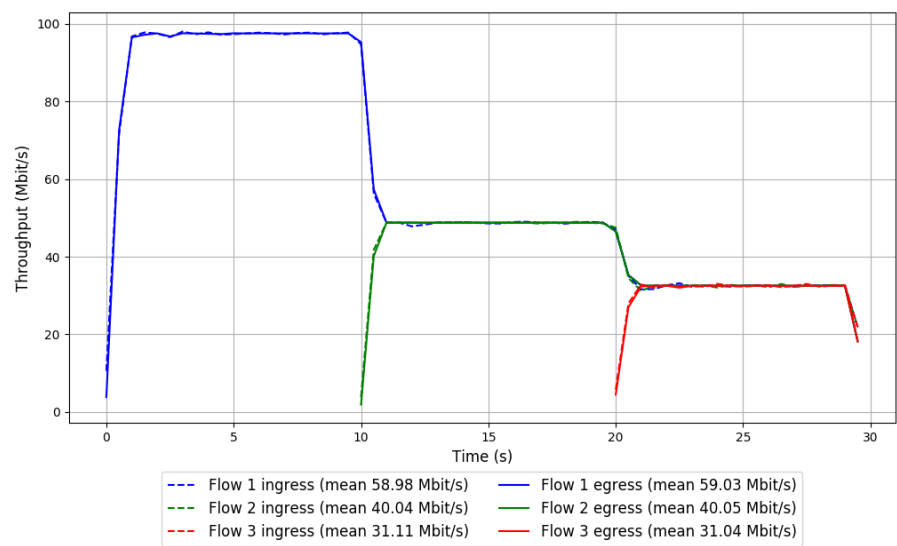## Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Indigo

Start at: 2017-09-21 19:34:40
End at: 2017-09-21 19:35:10
Local clock offset: 0.128 ms
Remote clock offset: -3.877 ms

# Below is generated by plot.py at 2017-09-22 02:21:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 51.189 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 53.764 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 40.05 Mbit/s
95th percentile per-packet one-way delay: 45.978 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 31.04 Mbit/s
95th percentile per-packet one-way delay: 42.900 ms
Loss rate: 1.05%
```
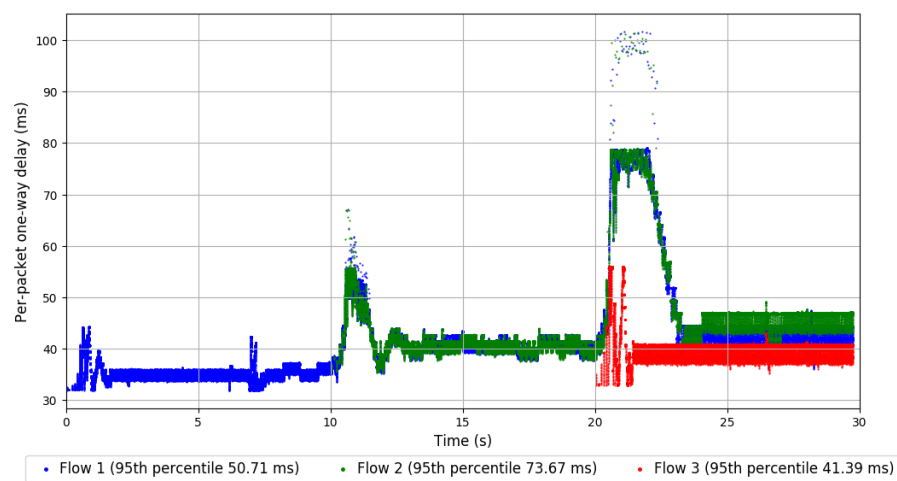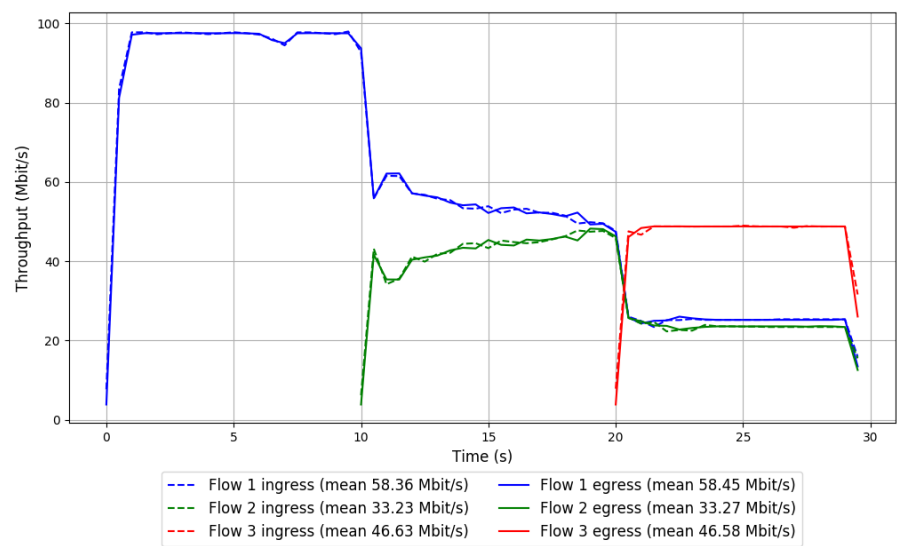
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 58.98 Mbit/s)   Flow 1 egress (mean 59.03 Mbit/s)
Flow 2 ingress (mean 40.04 Mbit/s)   Flow 2 egress (mean 40.05 Mbit/s)
Flow 3 ingress (mean 31.11 Mbit/s)   Flow 3 egress (mean 31.04 Mbit/s)

Flow 1 (95th percentile 53.76 ms)   Flow 2 (95th percentile 45.98 ms)   Flow 3 (95th percentile 42.90 ms)

225

```
Run 2: Statistics of Indigo

Start at: 2017-09-21 19:54:07
End at: 2017-09-21 19:54:37
Local clock offset: -0.001 ms
Remote clock offset: -5.725 ms


# Below is generated by plot.py at 2017-09-22 02:21:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 53.002 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 50.709 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 33.27 Mbit/s
95th percentile per-packet one-way delay: 73.675 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 46.58 Mbit/s
95th percentile per-packet one-way delay: 41.392 ms
Loss rate: 1.02%
```
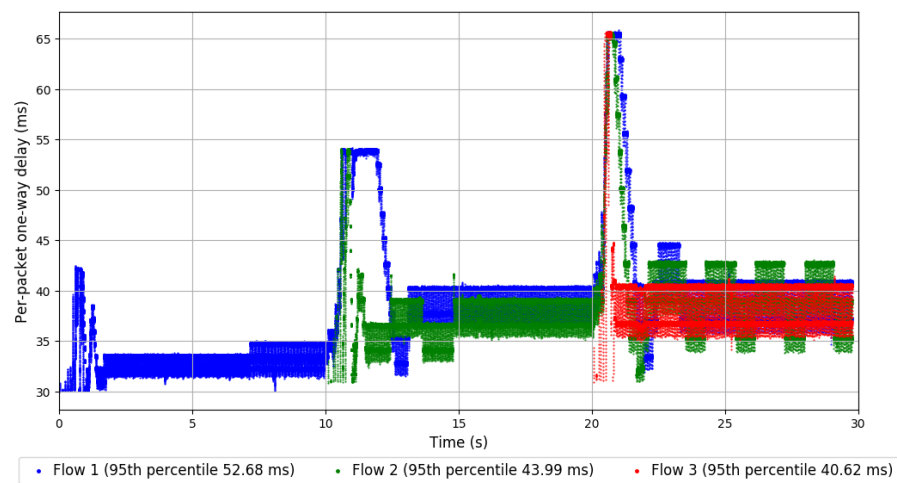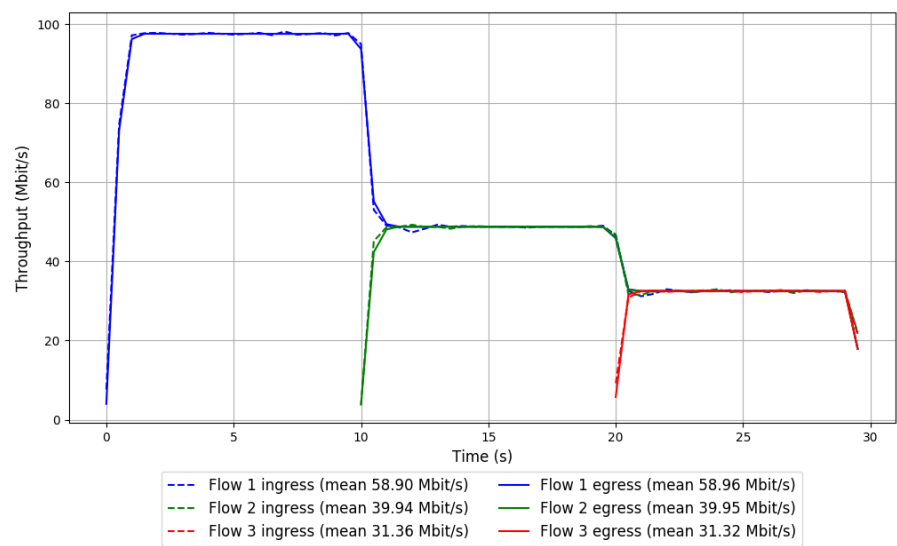
Run 2: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 58.36 Mbit/s) —— Flow 1 egress (mean 58.45 Mbit/s)
- - - Flow 2 ingress (mean 33.23 Mbit/s) —— Flow 2 egress (mean 33.27 Mbit/s)
- - - Flow 3 ingress (mean 46.63 Mbit/s) —— Flow 3 egress (mean 46.58 Mbit/s)

• Flow 1 (95th percentile 50.71 ms)   • Flow 2 (95th percentile 73.67 ms)   • Flow 3 (95th percentile 41.39 ms)

227

```
Run 3: Statistics of Indigo

Start at: 2017-09-21 20:13:42
End at: 2017-09-21 20:14:12
Local clock offset: 0.004 ms
Remote clock offset: -3.492 ms

# Below is generated by plot.py at 2017-09-22 02:21:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 48.809 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 58.96 Mbit/s
95th percentile per-packet one-way delay: 52.681 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 39.95 Mbit/s
95th percentile per-packet one-way delay: 43.986 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 31.32 Mbit/s
95th percentile per-packet one-way delay: 40.624 ms
Loss rate: 1.02%
```
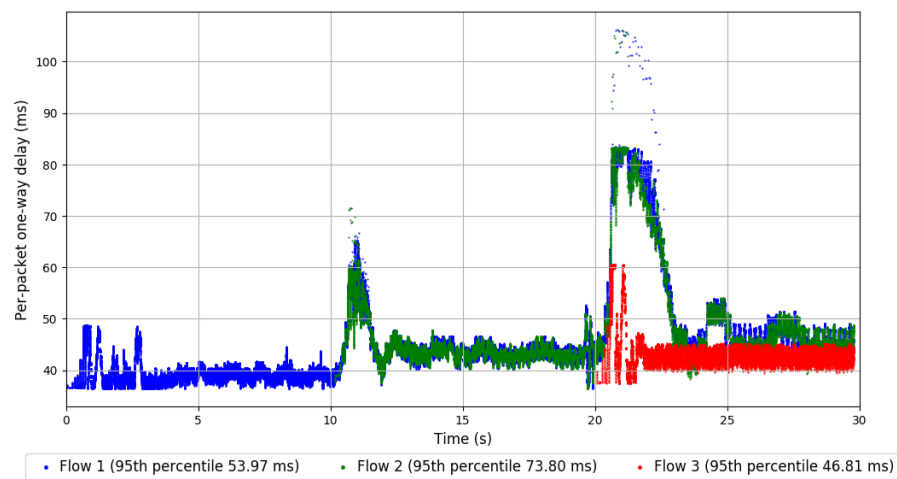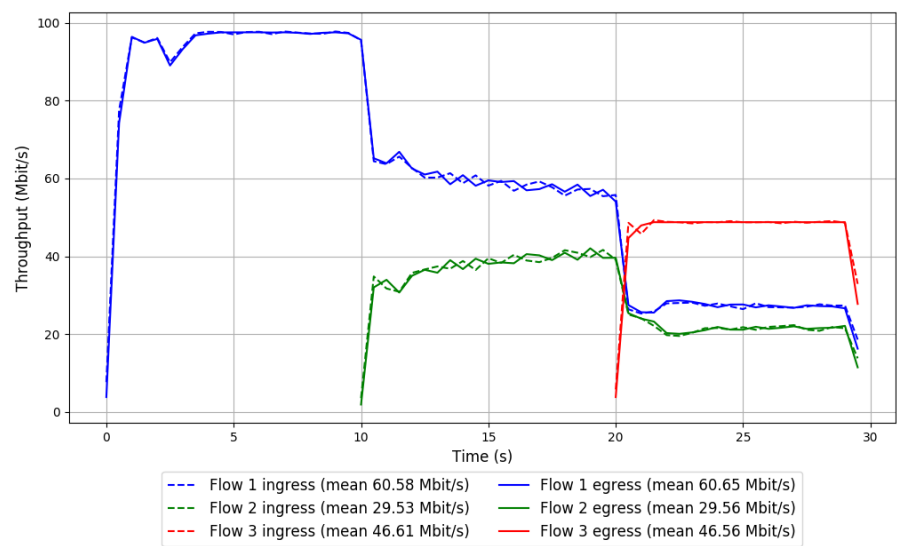
Run 3: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 58.90 Mbit/s) —— Flow 1 egress (mean 58.96 Mbit/s)
- - - Flow 2 ingress (mean 39.94 Mbit/s) —— Flow 2 egress (mean 39.95 Mbit/s)
- - - Flow 3 ingress (mean 31.36 Mbit/s) —— Flow 3 egress (mean 31.32 Mbit/s)

• Flow 1 (95th percentile 52.68 ms)   • Flow 2 (95th percentile 43.99 ms)   • Flow 3 (95th percentile 40.62 ms)

```
Run 4: Statistics of Indigo

Start at: 2017-09-21 20:33:17
End at: 2017-09-21 20:33:47
Local clock offset: 0.065 ms
Remote clock offset: 2.75 ms


# Below is generated by plot.py at 2017-09-22 02:22:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.33 Mbit/s
95th percentile per-packet one-way delay: 56.683 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 60.65 Mbit/s
95th percentile per-packet one-way delay: 53.969 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 29.56 Mbit/s
95th percentile per-packet one-way delay: 73.799 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 46.56 Mbit/s
95th percentile per-packet one-way delay: 46.815 ms
Loss rate: 1.03%
```

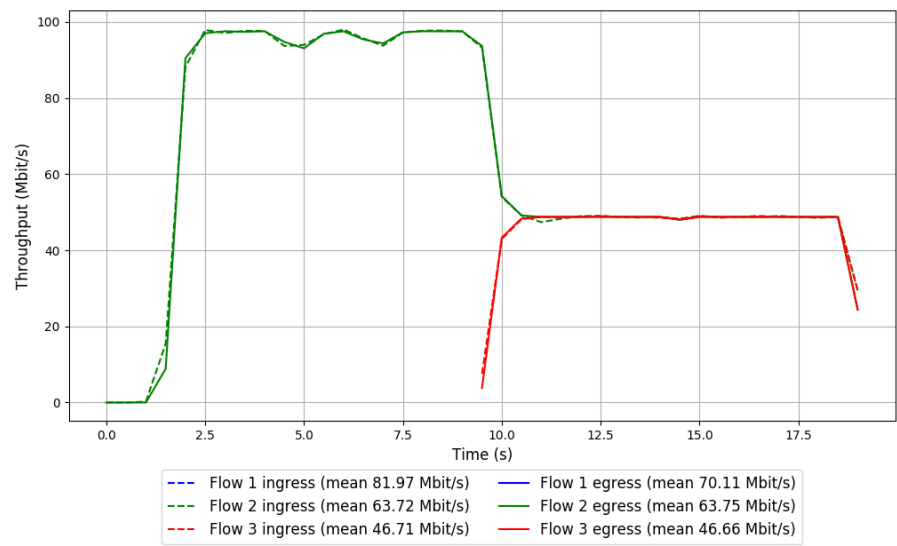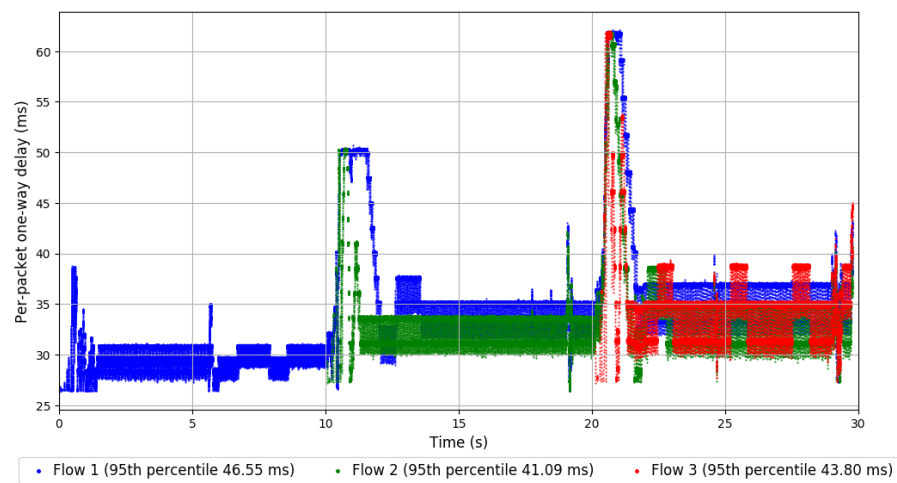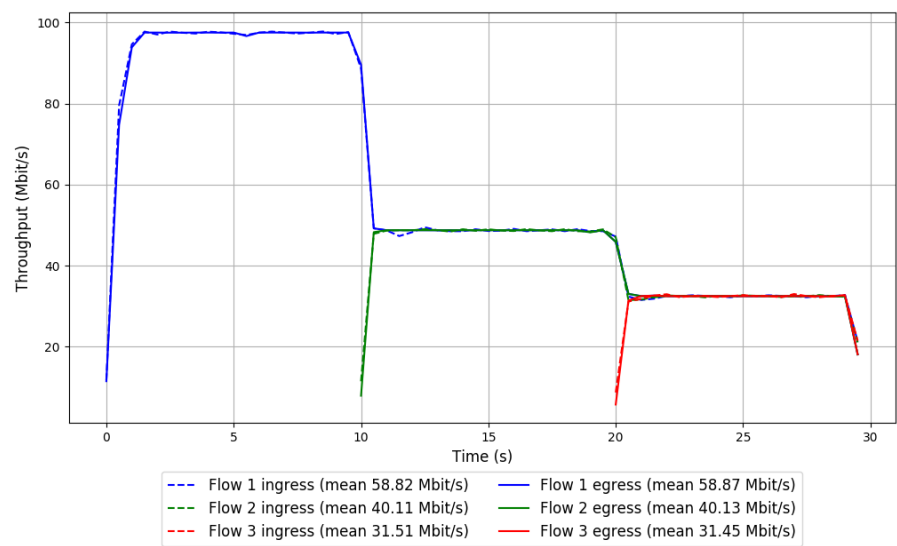Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2017-09-21 20:54:44
End at: 2017-09-21 20:55:14
Local clock offset: 0.203 ms
Remote clock offset: 2.8 ms
```

Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 81.97 Mbit/s) --- Flow 1 egress (mean 70.11 Mbit/s)
Flow 2 ingress (mean 63.72 Mbit/s) --- Flow 2 egress (mean 63.75 Mbit/s)
Flow 3 ingress (mean 46.71 Mbit/s) --- Flow 3 egress (mean 46.66 Mbit/s)

Flow 1 (95th percentile 24.55 ms)   Flow 2 (95th percentile 40.11 ms)   Flow 3 (95th percentile 33.27 ms)

```
Run 6: Statistics of Indigo

Start at: 2017-09-21 21:14:05
End at: 2017-09-21 21:14:35
Local clock offset: 0.338 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2017-09-22 02:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 44.203 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 58.87 Mbit/s
95th percentile per-packet one-way delay: 46.549 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 41.089 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 43.801 ms
Loss rate: 0.93%
```
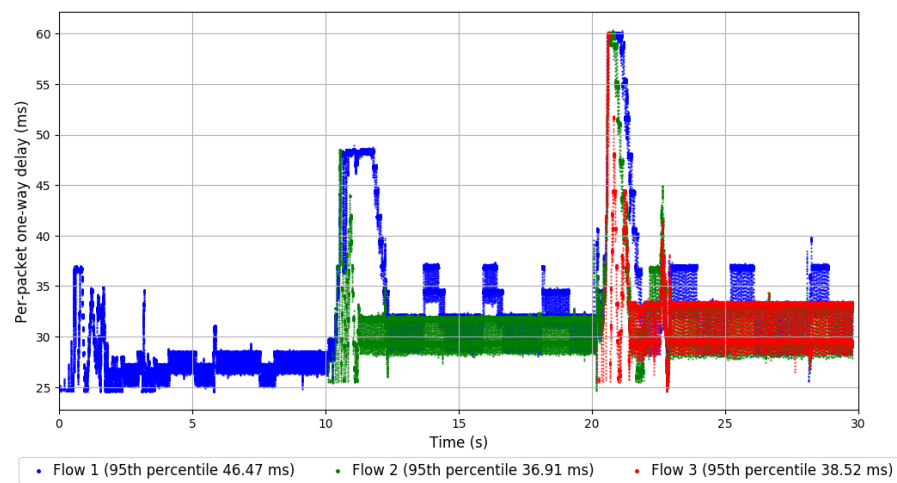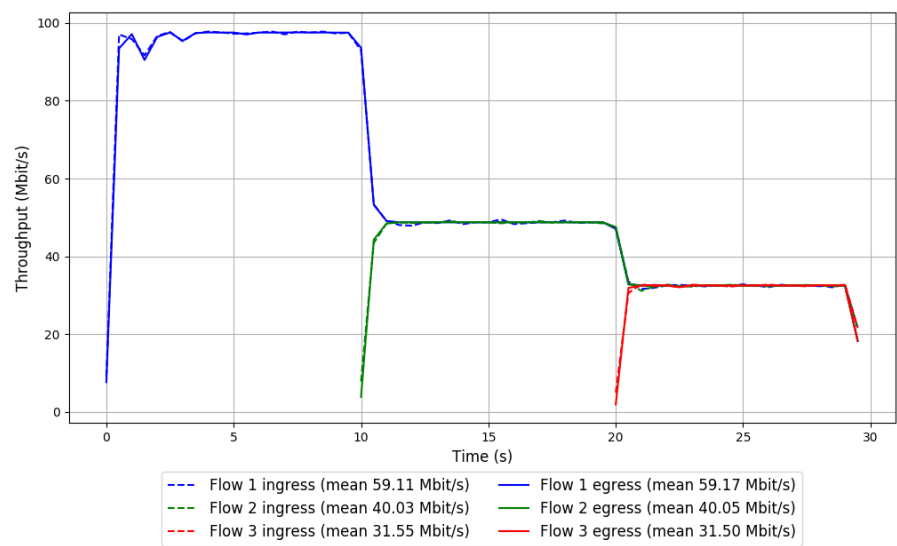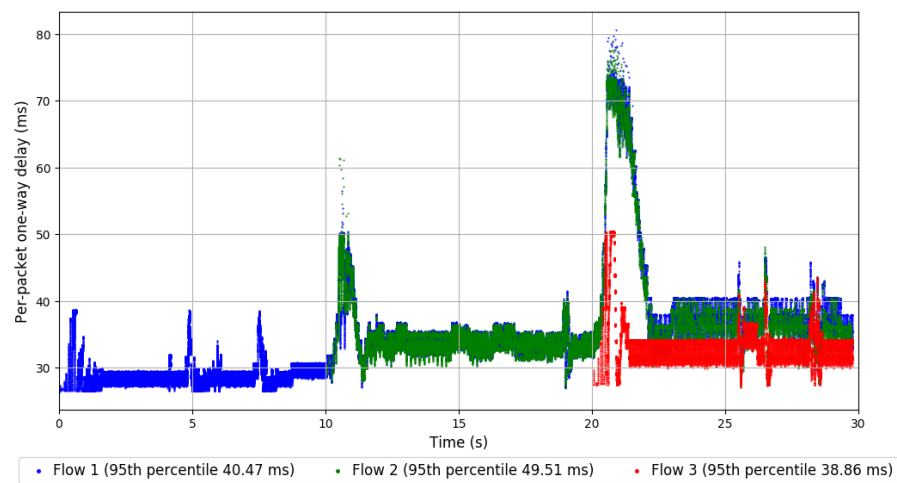
Run 6: Report of Indigo — Data Link

Flow 1 ingress (mean 58.82 Mbit/s)   Flow 1 egress (mean 58.87 Mbit/s)
Flow 2 ingress (mean 40.11 Mbit/s)   Flow 2 egress (mean 40.13 Mbit/s)
Flow 3 ingress (mean 31.51 Mbit/s)   Flow 3 egress (mean 31.45 Mbit/s)

Flow 1 (95th percentile 46.55 ms)   Flow 2 (95th percentile 41.09 ms)   Flow 3 (95th percentile 43.80 ms)
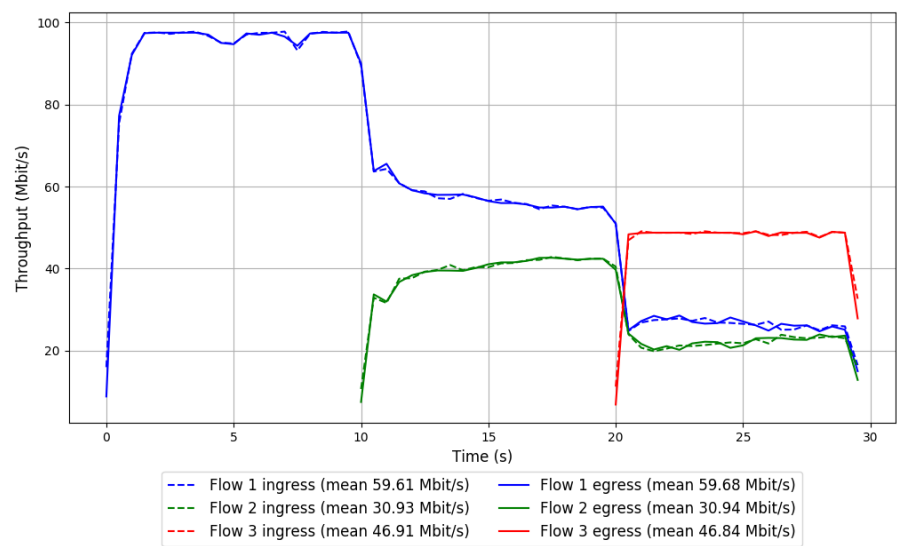
```
Run 7: Statistics of Indigo

Start at: 2017-09-21 21:33:36
End at: 2017-09-21 21:34:06
Local clock offset: 0.568 ms
Remote clock offset: 1.455 ms


# Below is generated by plot.py at 2017-09-22 02:22:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.81 Mbit/s
95th percentile per-packet one-way delay: 41.664 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 59.17 Mbit/s
95th percentile per-packet one-way delay: 46.467 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.05 Mbit/s
95th percentile per-packet one-way delay: 36.905 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 31.50 Mbit/s
95th percentile per-packet one-way delay: 38.521 ms
Loss rate: 0.92%
```
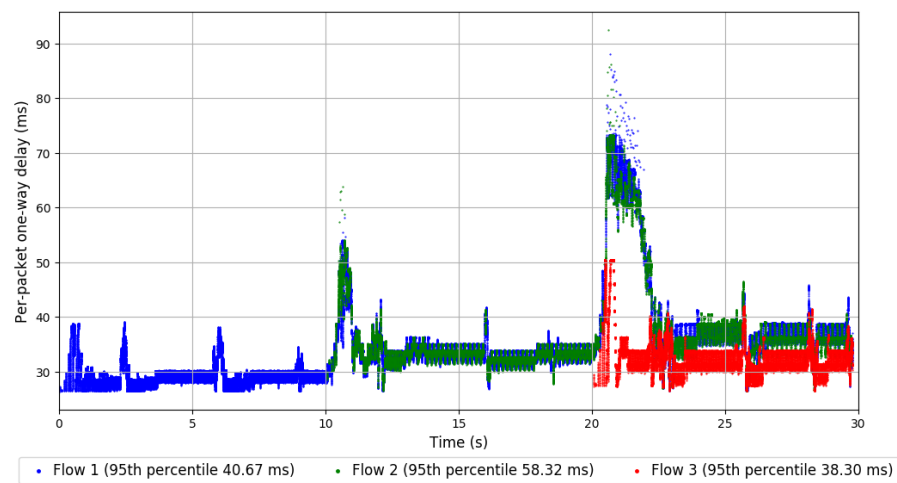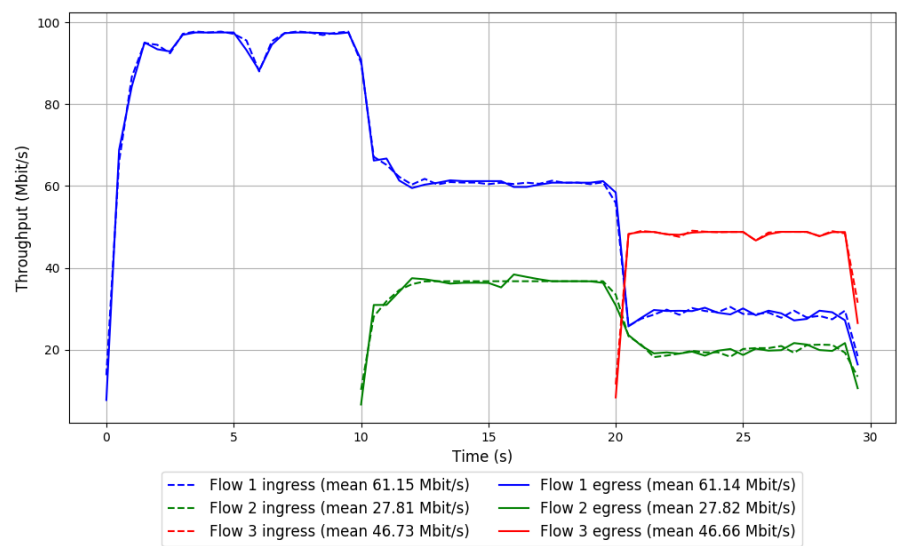
Run 7: Report of Indigo — Data Link

Flow 1 ingress (mean 59.11 Mbit/s) --- Flow 1 egress (mean 59.17 Mbit/s)
Flow 2 ingress (mean 40.03 Mbit/s) --- Flow 2 egress (mean 40.05 Mbit/s)
Flow 3 ingress (mean 31.55 Mbit/s) --- Flow 3 egress (mean 31.50 Mbit/s)

Flow 1 (95th percentile 46.47 ms)   Flow 2 (95th percentile 36.91 ms)   Flow 3 (95th percentile 38.52 ms)

```
Run 8: Statistics of Indigo

Start at: 2017-09-21 21:53:04
End at: 2017-09-21 21:53:34
Local clock offset: 0.787 ms
Remote clock offset: -0.792 ms


# Below is generated by plot.py at 2017-09-22 02:22:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 41.845 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 59.68 Mbit/s
95th percentile per-packet one-way delay: 40.473 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 30.94 Mbit/s
95th percentile per-packet one-way delay: 49.513 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 38.861 ms
Loss rate: 0.91%
```

Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2017-09-21 22:12:41
End at: 2017-09-21 22:13:11
Local clock offset: 0.54 ms
Remote clock offset: -1.328 ms

# Below is generated by plot.py at 2017-09-22 02:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.79 Mbit/s
95th percentile per-packet one-way delay: 42.649 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 61.14 Mbit/s
95th percentile per-packet one-way delay: 40.670 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 27.82 Mbit/s
95th percentile per-packet one-way delay: 58.319 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 46.66 Mbit/s
95th percentile per-packet one-way delay: 38.300 ms
Loss rate: 0.94%
```
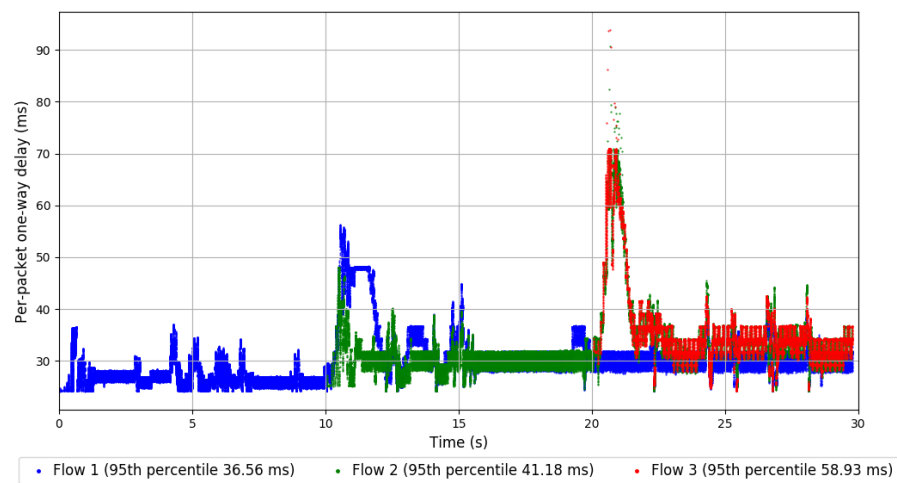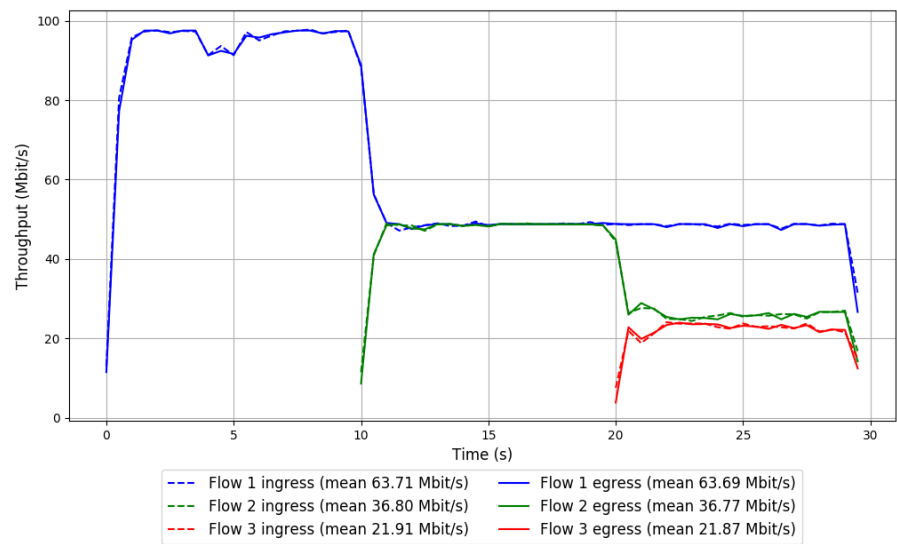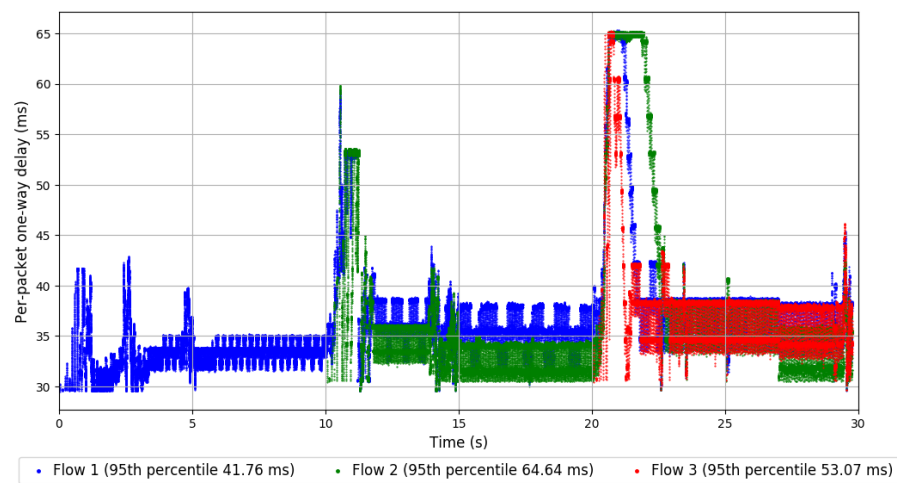
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-09-21 22:32:24
End at: 2017-09-21 22:32:54
Local clock offset: -0.673 ms
Remote clock offset: 0.738 ms


# Below is generated by plot.py at 2017-09-22 02:23:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 39.555 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 36.558 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 41.177 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 21.87 Mbit/s
95th percentile per-packet one-way delay: 58.929 ms
Loss rate: 1.05%
```
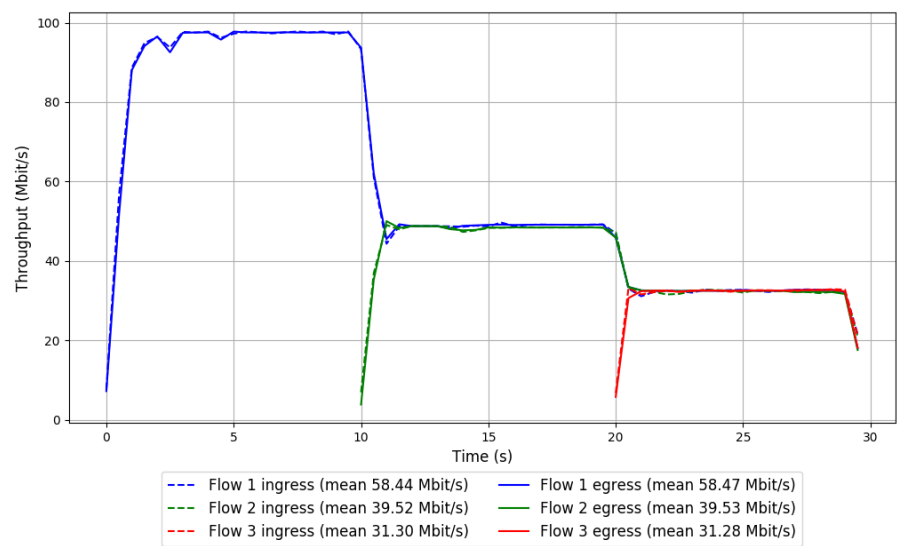
Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-calib

Start at: 2017-09-21 19:38:49
End at: 2017-09-21 19:39:19
Local clock offset: 0.108 ms
Remote clock offset: -3.362 ms


# Below is generated by plot.py at 2017-09-22 02:23:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.88 Mbit/s
95th percentile per-packet one-way delay: 52.574 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 58.47 Mbit/s
95th percentile per-packet one-way delay: 41.756 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 64.635 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 31.28 Mbit/s
95th percentile per-packet one-way delay: 53.071 ms
Loss rate: 0.97%
```

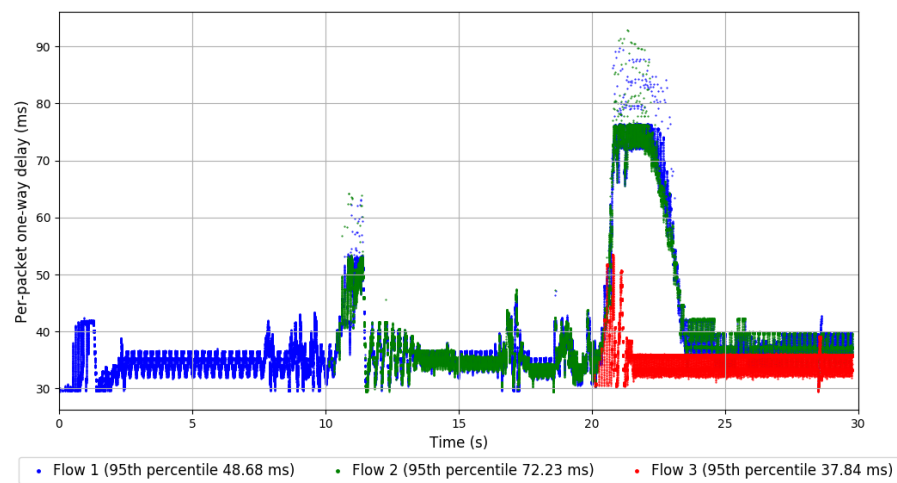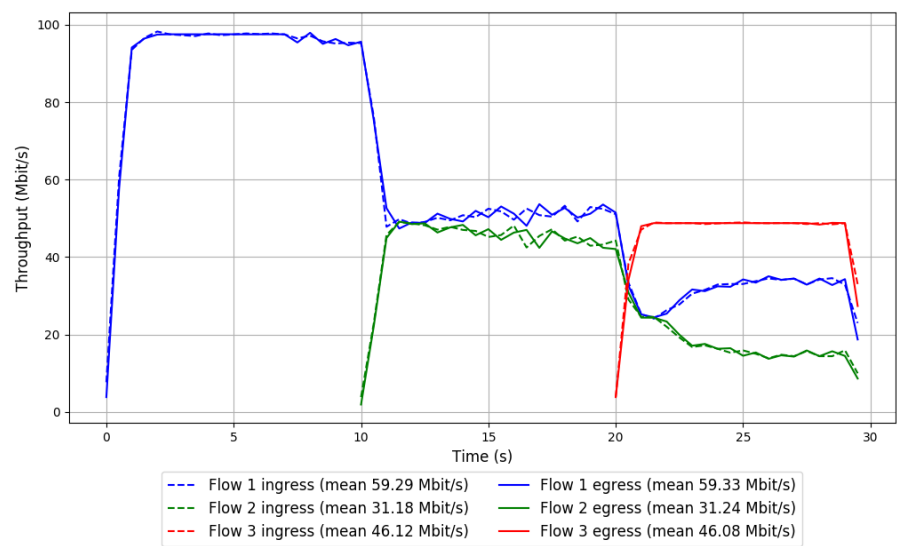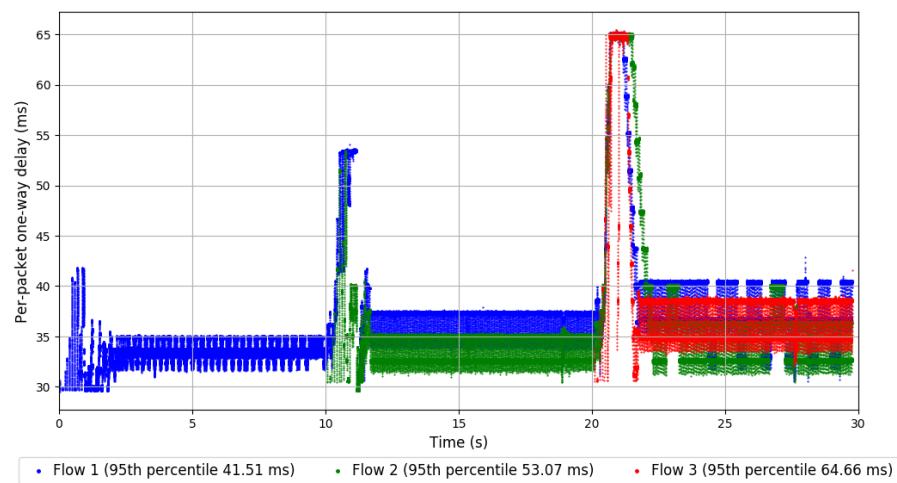# Run 1: Report of Indigo-calib — Data Link

Flow 1 ingress (mean 58.44 Mbit/s)   Flow 1 egress (mean 58.47 Mbit/s)
Flow 2 ingress (mean 39.52 Mbit/s)   Flow 2 egress (mean 39.53 Mbit/s)
Flow 3 ingress (mean 31.30 Mbit/s)   Flow 3 egress (mean 31.28 Mbit/s)

Flow 1 (95th percentile 41.76 ms)   Flow 2 (95th percentile 64.64 ms)   Flow 3 (95th percentile 53.07 ms)

```
Run 2: Statistics of Indigo-calib

Start at: 2017-09-21 19:58:16
End at: 2017-09-21 19:58:46
Local clock offset: 0.022 ms
Remote clock offset: -3.058 ms


# Below is generated by plot.py at 2017-09-22 02:23:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 51.354 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 59.33 Mbit/s
95th percentile per-packet one-way delay: 48.681 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 31.24 Mbit/s
95th percentile per-packet one-way delay: 72.234 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 46.08 Mbit/s
95th percentile per-packet one-way delay: 37.844 ms
Loss rate: 0.98%
```

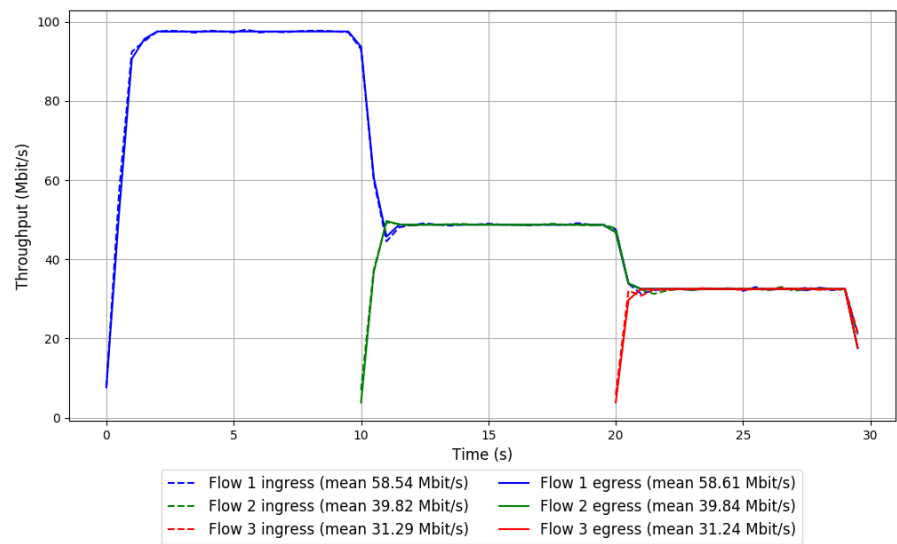Run 2: Report of Indigo-calib — Data Link

```
Run 3: Statistics of Indigo-calib

Start at: 2017-09-21 20:17:51
End at: 2017-09-21 20:18:21
Local clock offset: 0.022 ms
Remote clock offset: -2.913 ms


# Below is generated by plot.py at 2017-09-22 02:23:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 44.317 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 58.61 Mbit/s
95th percentile per-packet one-way delay: 41.511 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 39.84 Mbit/s
95th percentile per-packet one-way delay: 53.072 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 31.24 Mbit/s
95th percentile per-packet one-way delay: 64.659 ms
Loss rate: 1.01%
```
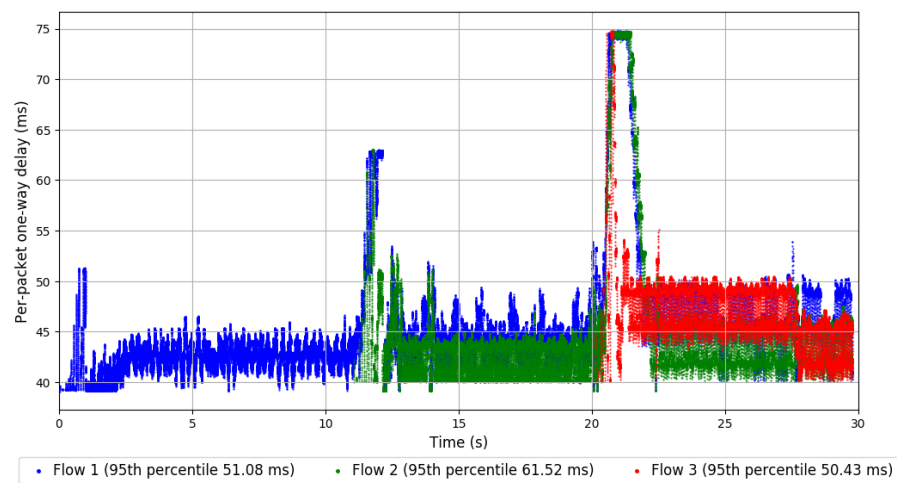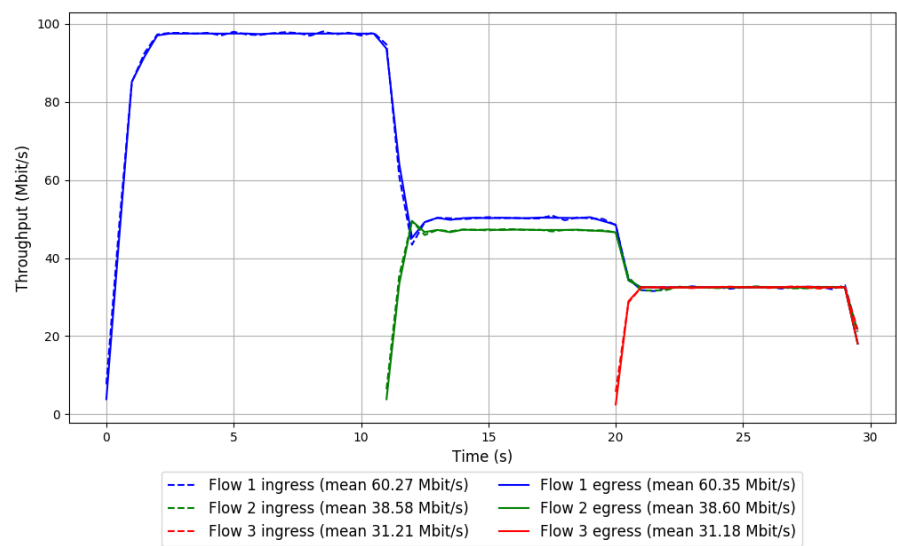
Run 3: Report of Indigo-calib — Data Link

- - - Flow 1 ingress (mean 58.54 Mbit/s) —— Flow 1 egress (mean 58.61 Mbit/s)
- - - Flow 2 ingress (mean 39.82 Mbit/s) —— Flow 2 egress (mean 39.84 Mbit/s)
- - - Flow 3 ingress (mean 31.29 Mbit/s) —— Flow 3 egress (mean 31.24 Mbit/s)

• Flow 1 (95th percentile 41.51 ms)   • Flow 2 (95th percentile 53.07 ms)   • Flow 3 (95th percentile 64.66 ms)

249

```
Run 4: Statistics of Indigo-calib

Start at: 2017-09-21 20:37:27
End at: 2017-09-21 20:37:57
Local clock offset: 0.193 ms
Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2017-09-22 02:23:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.75 Mbit/s
95th percentile per-packet one-way delay: 51.507 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 60.35 Mbit/s
95th percentile per-packet one-way delay: 51.080 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 38.60 Mbit/s
95th percentile per-packet one-way delay: 61.518 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 31.18 Mbit/s
95th percentile per-packet one-way delay: 50.432 ms
Loss rate: 1.02%
```
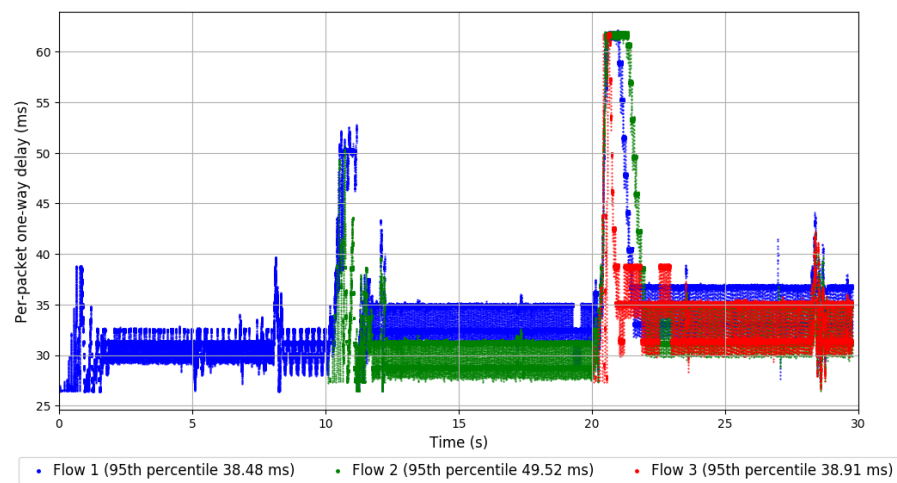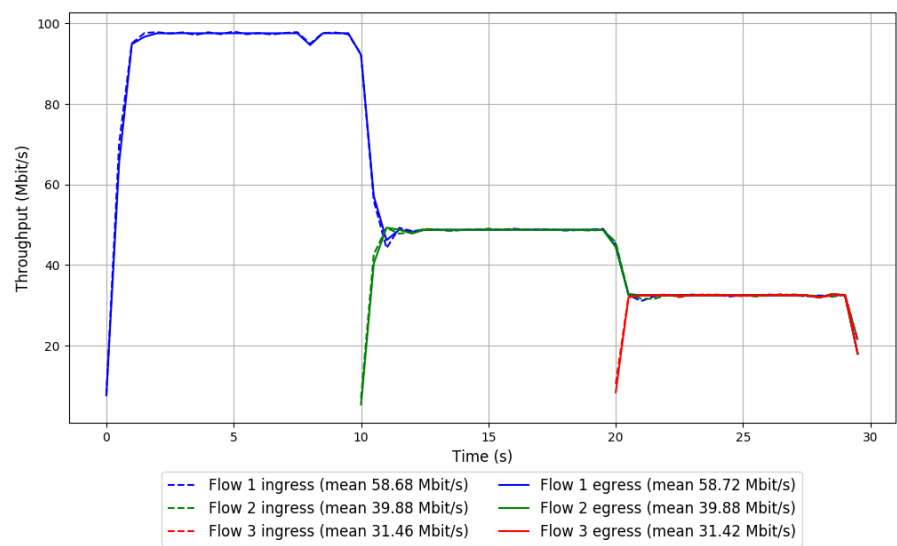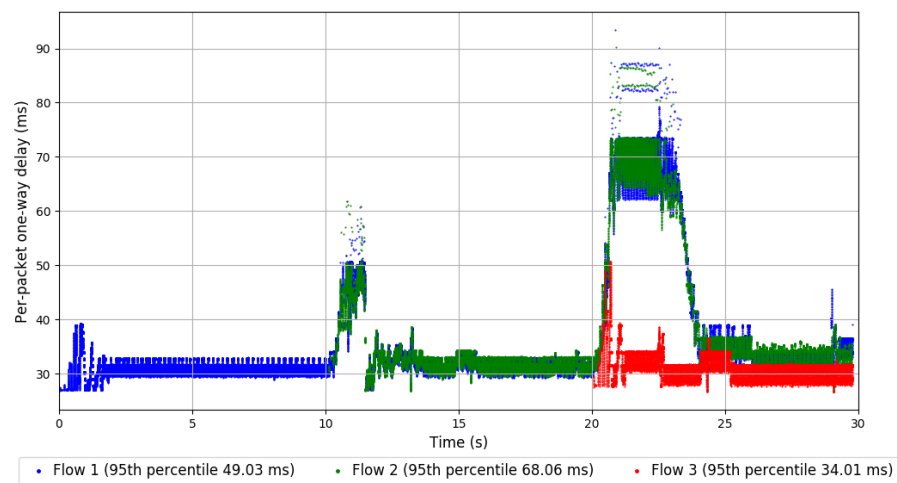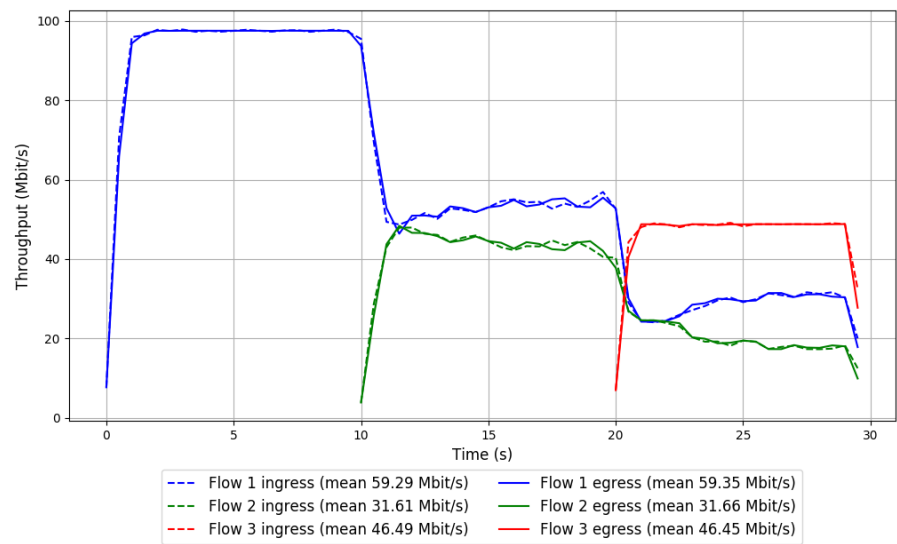
Run 4: Report of Indigo-calib — Data Link

Flow 1 ingress (mean 60.27 Mbit/s)   Flow 1 egress (mean 60.35 Mbit/s)
Flow 2 ingress (mean 38.58 Mbit/s)   Flow 2 egress (mean 38.60 Mbit/s)
Flow 3 ingress (mean 31.21 Mbit/s)   Flow 3 egress (mean 31.18 Mbit/s)

Flow 1 (95th percentile 51.08 ms)   Flow 2 (95th percentile 61.52 ms)   Flow 3 (95th percentile 50.43 ms)

251

```
Run 5: Statistics of Indigo-calib

Start at: 2017-09-21 20:58:47
End at: 2017-09-21 20:59:17
Local clock offset: 0.231 ms
Remote clock offset: 0.666 ms


# Below is generated by plot.py at 2017-09-22 02:23:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 39.423 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 58.72 Mbit/s
95th percentile per-packet one-way delay: 38.478 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 39.88 Mbit/s
95th percentile per-packet one-way delay: 49.516 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 31.42 Mbit/s
95th percentile per-packet one-way delay: 38.907 ms
Loss rate: 0.89%
```

Run 5: Report of Indigo-calib — Data Link

253

```
Run 6: Statistics of Indigo-calib

Start at: 2017-09-21 21:18:13
End at: 2017-09-21 21:18:43
Local clock offset: 0.475 ms
Remote clock offset: -0.211 ms


# Below is generated by plot.py at 2017-09-22 02:23:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 53.640 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 59.35 Mbit/s
95th percentile per-packet one-way delay: 49.033 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 31.66 Mbit/s
95th percentile per-packet one-way delay: 68.065 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 34.013 ms
Loss rate: 0.86%
```
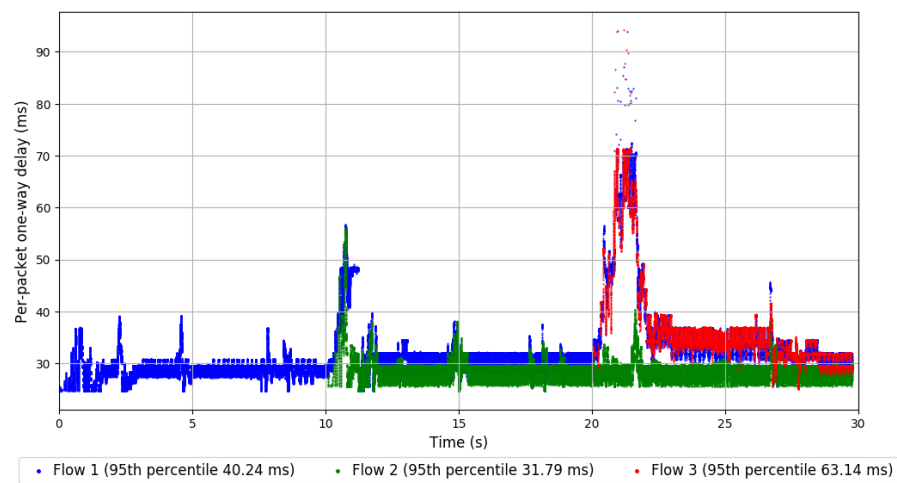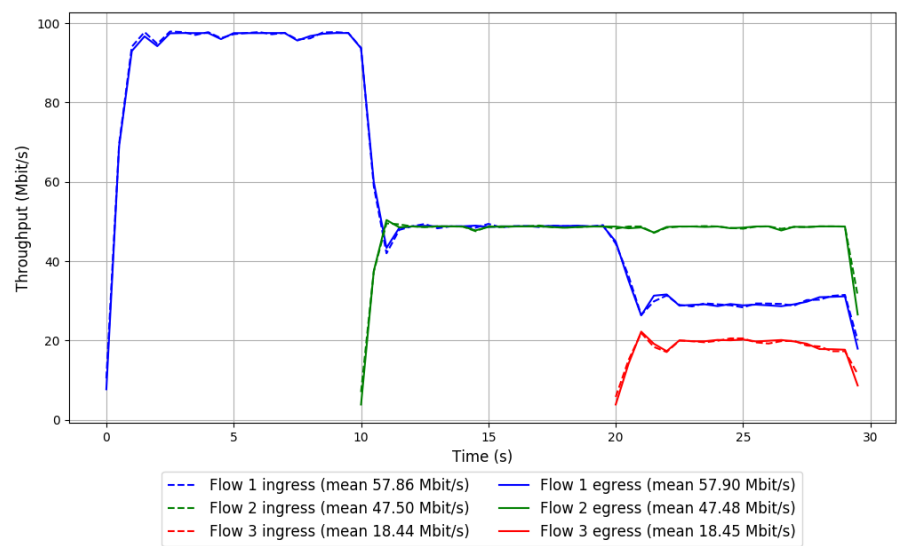
Run 6: Report of Indigo-calib — Data Link

```
Run 7: Statistics of Indigo-calib

Start at: 2017-09-21 21:37:43
End at: 2017-09-21 21:38:13
Local clock offset: 0.62 ms
Remote clock offset: 1.373 ms

# Below is generated by plot.py at 2017-09-22 02:24:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.28 Mbit/s
95th percentile per-packet one-way delay: 37.958 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 57.90 Mbit/s
95th percentile per-packet one-way delay: 40.238 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 47.48 Mbit/s
95th percentile per-packet one-way delay: 31.788 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 18.45 Mbit/s
95th percentile per-packet one-way delay: 63.144 ms
Loss rate: 0.81%
```

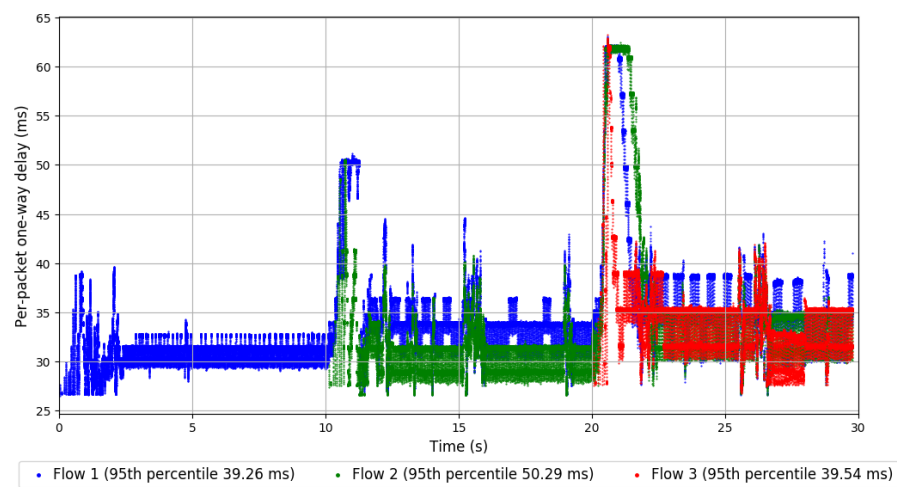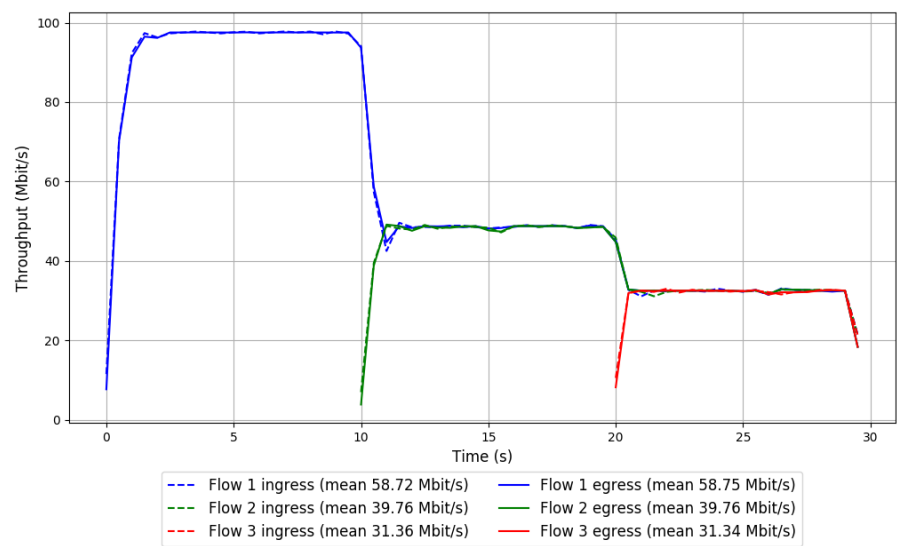# Run 7: Report of Indigo-calib — Data Link

```
Run 8: Statistics of Indigo-calib

Start at: 2017-09-21 21:57:14
End at: 2017-09-21 21:57:44
Local clock offset: 0.812 ms
Remote clock offset: -0.982 ms


# Below is generated by plot.py at 2017-09-22 02:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 40.957 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 39.262 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 50.291 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 39.537 ms
Loss rate: 0.87%
```

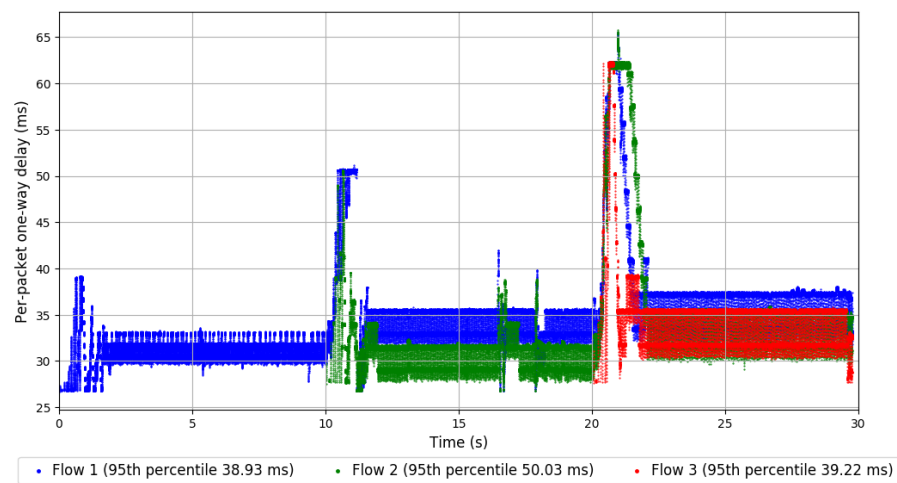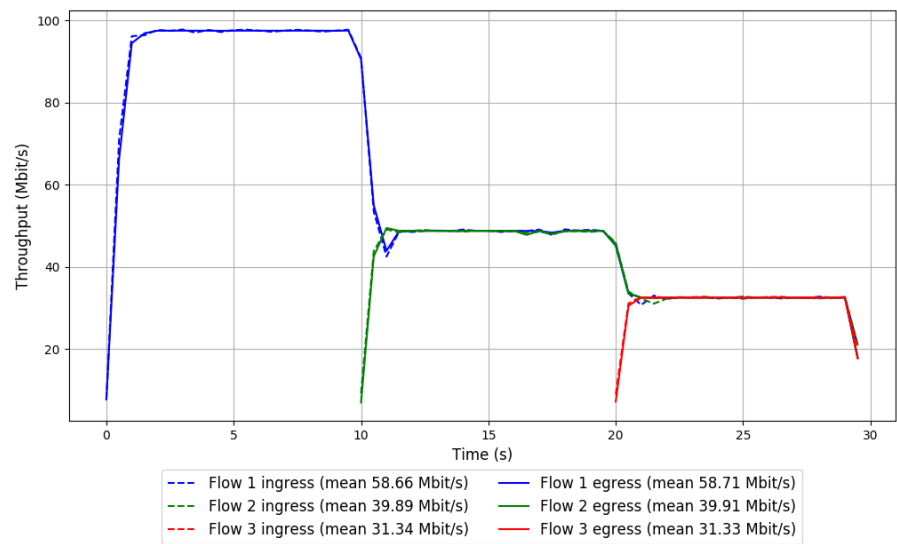Run 8: Report of Indigo-calib — Data Link

259

```
Run 9: Statistics of Indigo-calib

Start at: 2017-09-21 22:16:51
End at: 2017-09-21 22:17:21
Local clock offset: 0.4 ms
Remote clock offset: -1.569 ms


# Below is generated by plot.py at 2017-09-22 02:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 39.611 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 58.71 Mbit/s
95th percentile per-packet one-way delay: 38.930 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 50.030 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 39.217 ms
Loss rate: 0.81%
```
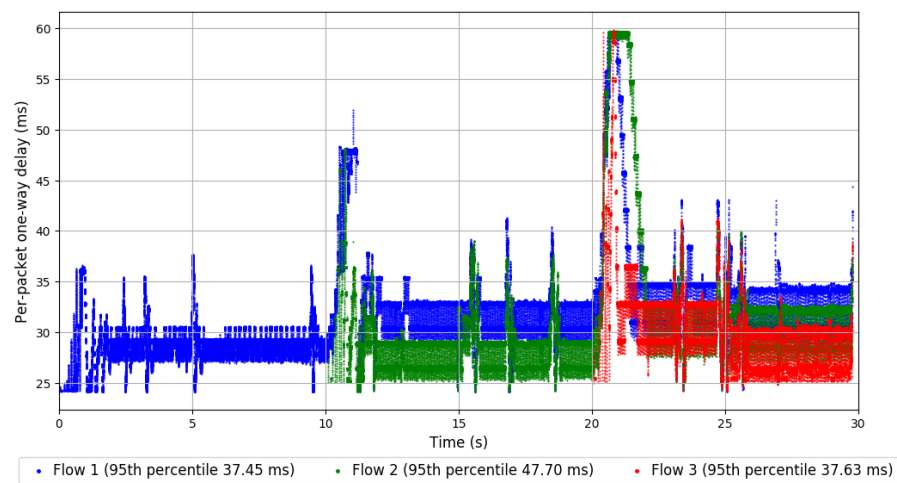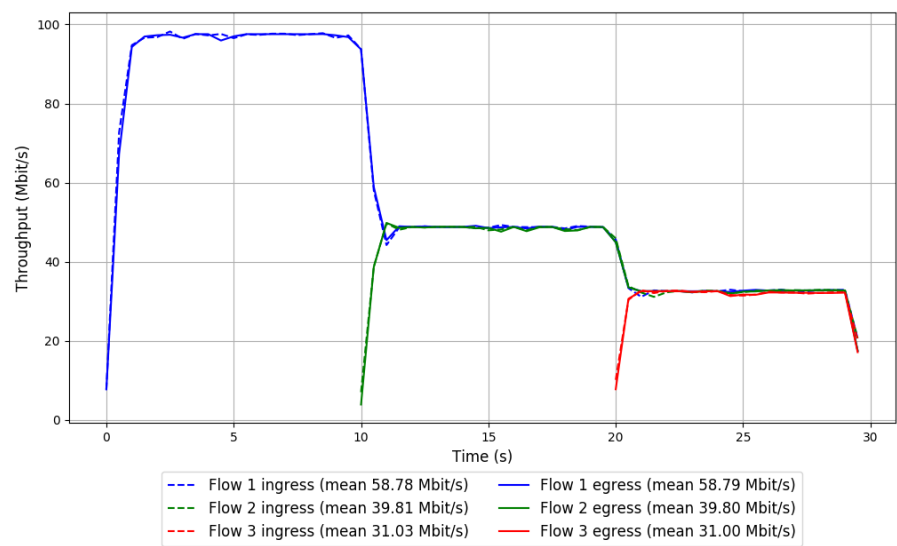
Run 9: Report of Indigo-calib — Data Link

Flow 1 ingress (mean 58.66 Mbit/s)   Flow 1 egress (mean 58.71 Mbit/s)
Flow 2 ingress (mean 39.89 Mbit/s)   Flow 2 egress (mean 39.91 Mbit/s)
Flow 3 ingress (mean 31.34 Mbit/s)   Flow 3 egress (mean 31.33 Mbit/s)

Flow 1 (95th percentile 38.93 ms)   Flow 2 (95th percentile 50.03 ms)   Flow 3 (95th percentile 39.22 ms)

```
Run 10: Statistics of Indigo-calib

Start at: 2017-09-21 22:36:31
End at: 2017-09-21 22:37:01
Local clock offset: -0.82 ms
Remote clock offset: 0.681 ms


# Below is generated by plot.py at 2017-09-22 02:24:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.21 Mbit/s
95th percentile per-packet one-way delay: 38.428 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 58.79 Mbit/s
95th percentile per-packet one-way delay: 37.449 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 39.80 Mbit/s
95th percentile per-packet one-way delay: 47.697 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 37.634 ms
Loss rate: 0.88%
```

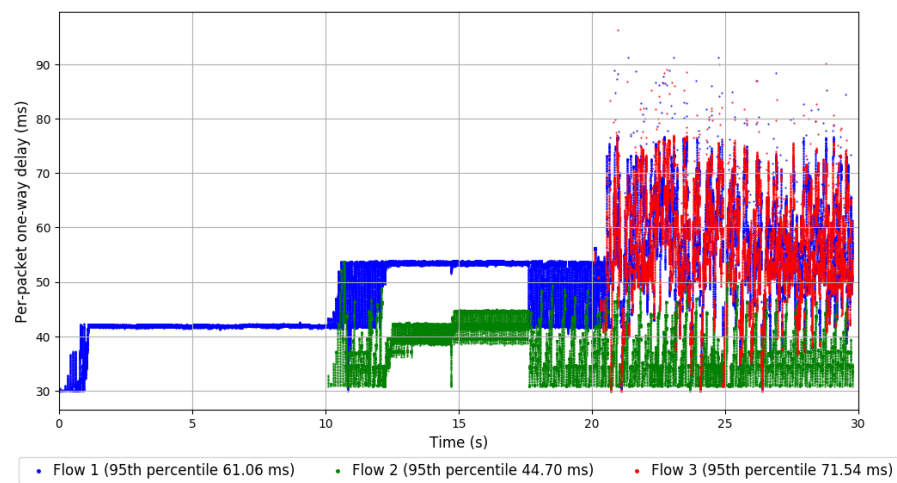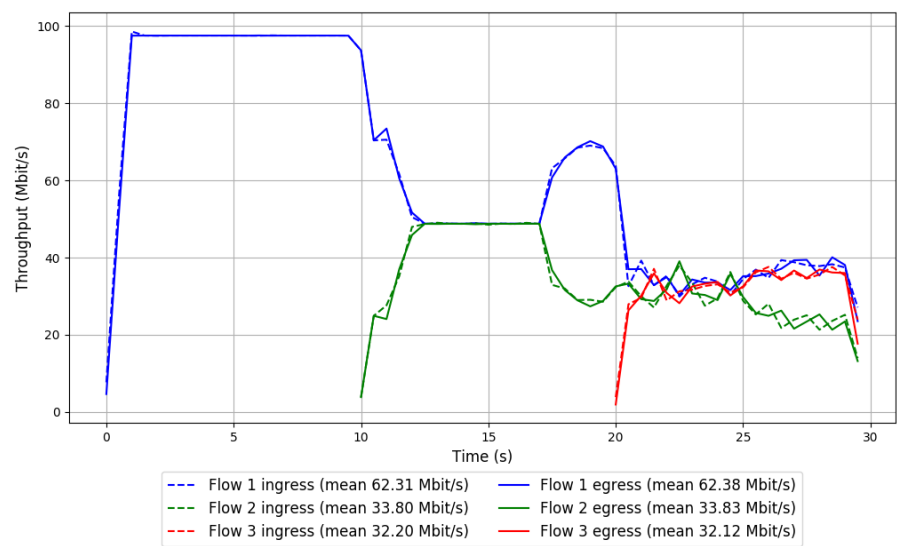Run 10: Report of Indigo-calib — Data Link

Flow 1 ingress (mean 58.78 Mbit/s)   Flow 1 egress (mean 58.79 Mbit/s)
Flow 2 ingress (mean 39.81 Mbit/s)   Flow 2 egress (mean 39.80 Mbit/s)
Flow 3 ingress (mean 31.03 Mbit/s)   Flow 3 egress (mean 31.00 Mbit/s)

Flow 1 (95th percentile 37.45 ms)   Flow 2 (95th percentile 47.70 ms)   Flow 3 (95th percentile 37.63 ms)
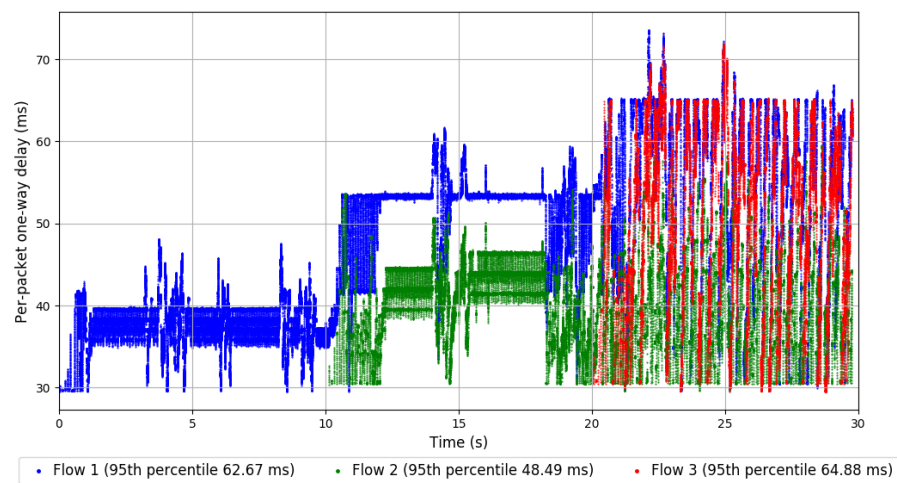
263

```
Run 1: Statistics of Indigo-delay

Start at: 2017-09-21 19:24:46
End at: 2017-09-21 19:25:16
Local clock offset: 0.091 ms
Remote clock offset: -3.966 ms


# Below is generated by plot.py at 2017-09-22 02:25:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 63.297 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 62.38 Mbit/s
95th percentile per-packet one-way delay: 61.057 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 44.696 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 32.12 Mbit/s
95th percentile per-packet one-way delay: 71.540 ms
Loss rate: 1.53%
```

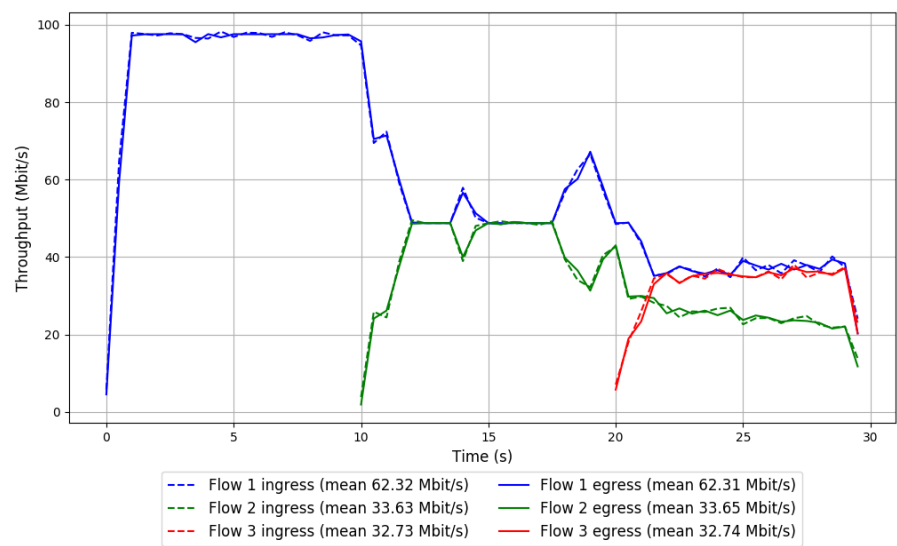Run 1: Report of Indigo-delay — Data Link

```
Run 2: Statistics of Indigo-delay

Start at: 2017-09-21 19:44:12
End at: 2017-09-21 19:44:42
Local clock offset: 0.104 ms
Remote clock offset: -3.292 ms

# Below is generated by plot.py at 2017-09-22 02:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 62.31 Mbit/s
95th percentile per-packet one-way delay: 62.673 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 33.65 Mbit/s
95th percentile per-packet one-way delay: 48.486 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 32.74 Mbit/s
95th percentile per-packet one-way delay: 64.877 ms
Loss rate: 0.88%
```

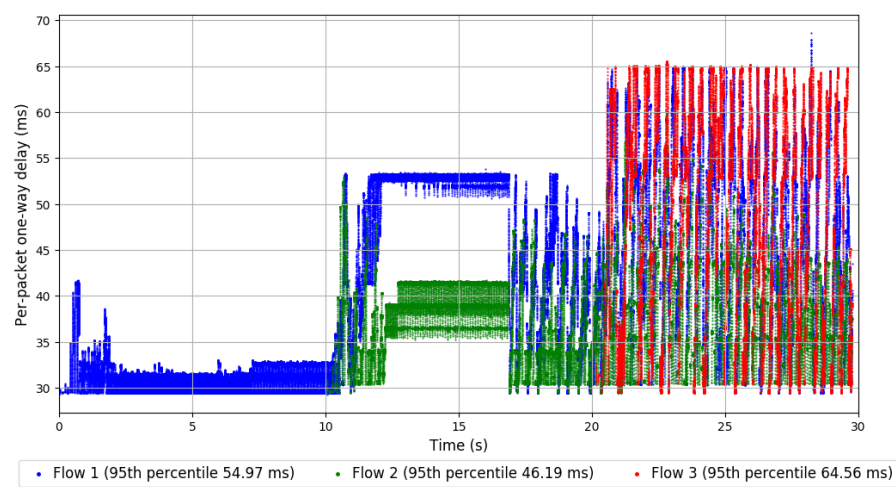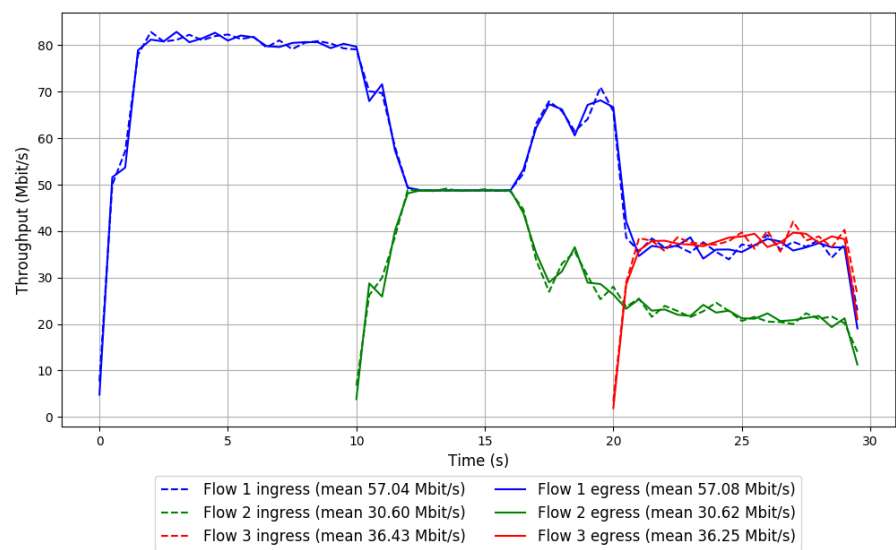Run 2: Report of Indigo-delay — Data Link

```
Run 3: Statistics of Indigo-delay

Start at: 2017-09-21 20:03:45
End at: 2017-09-21 20:04:15
Local clock offset: 0.013 ms
Remote clock offset: -3.066 ms


# Below is generated by plot.py at 2017-09-22 02:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.06 Mbit/s
95th percentile per-packet one-way delay: 58.854 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 57.08 Mbit/s
95th percentile per-packet one-way delay: 54.973 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 30.62 Mbit/s
95th percentile per-packet one-way delay: 46.188 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 36.25 Mbit/s
95th percentile per-packet one-way delay: 64.556 ms
Loss rate: 1.39%
```

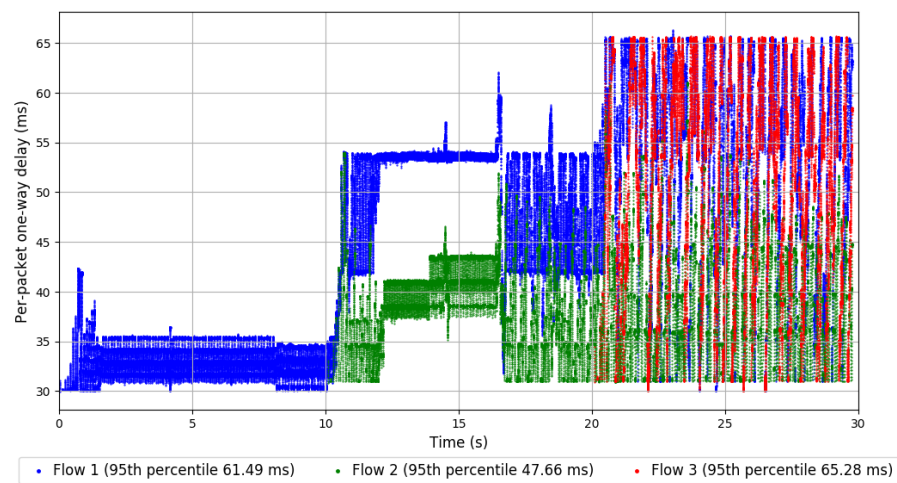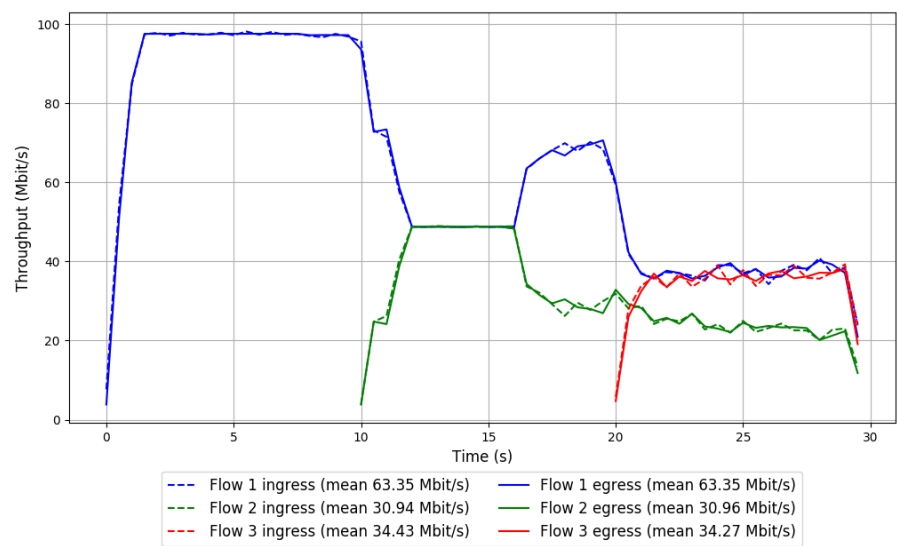# Run 3: Report of Indigo-delay — Data Link

269

```
Run 4: Statistics of Indigo-delay

Start at: 2017-09-21 20:23:20
End at: 2017-09-21 20:23:50
Local clock offset: 0.135 ms
Remote clock offset: -3.197 ms


# Below is generated by plot.py at 2017-09-22 02:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.95 Mbit/s
95th percentile per-packet one-way delay: 62.442 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 63.35 Mbit/s
95th percentile per-packet one-way delay: 61.488 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 30.96 Mbit/s
95th percentile per-packet one-way delay: 47.659 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 65.277 ms
Loss rate: 1.34%
```

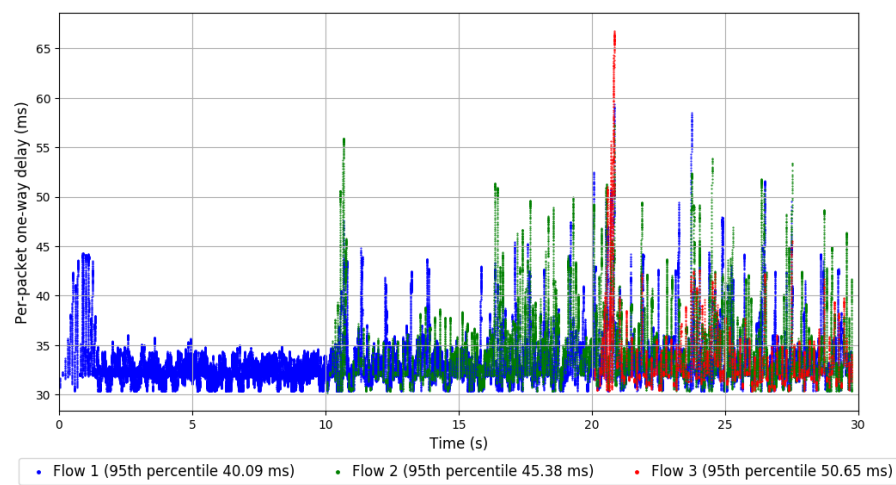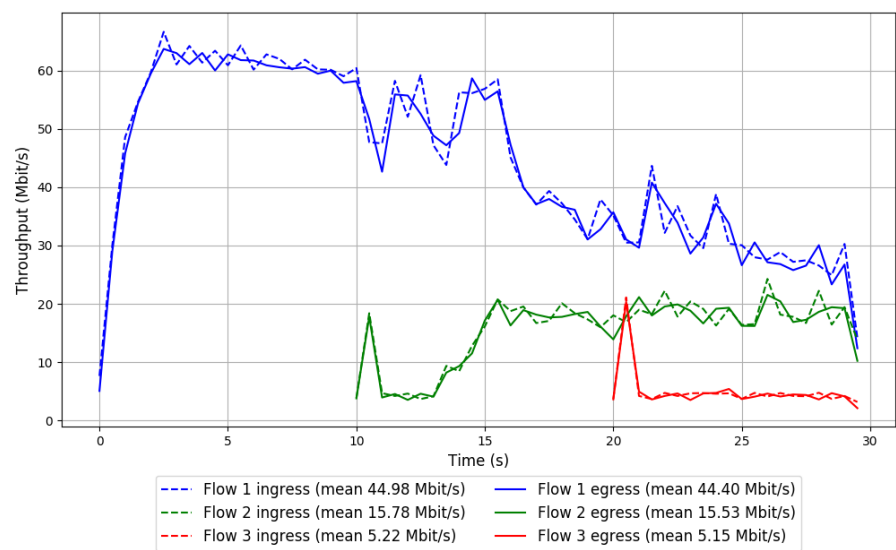Run 4: Report of Indigo-delay — Data Link

```
Run 5: Statistics of Indigo-delay

Start at: 2017-09-21 20:43:45
End at: 2017-09-21 20:44:15
Local clock offset: 0.126 ms
Remote clock offset: -2.957 ms


# Below is generated by plot.py at 2017-09-22 02:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.31 Mbit/s
95th percentile per-packet one-way delay: 41.758 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 44.40 Mbit/s
95th percentile per-packet one-way delay: 40.088 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 15.53 Mbit/s
95th percentile per-packet one-way delay: 45.376 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 5.15 Mbit/s
95th percentile per-packet one-way delay: 50.650 ms
Loss rate: 2.15%
```

Run 5: Report of Indigo-delay — Data Link

```
Run 6: Statistics of Indigo-delay

Start at: 2017-09-21 21:04:13
End at: 2017-09-21 21:04:43
Local clock offset: 0.277 ms
Remote clock offset: 0.4 ms


# Below is generated by plot.py at 2017-09-22 02:25:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 56.632 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 64.40 Mbit/s
95th percentile per-packet one-way delay: 53.829 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 41.887 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 65.870 ms
Loss rate: 1.45%
```
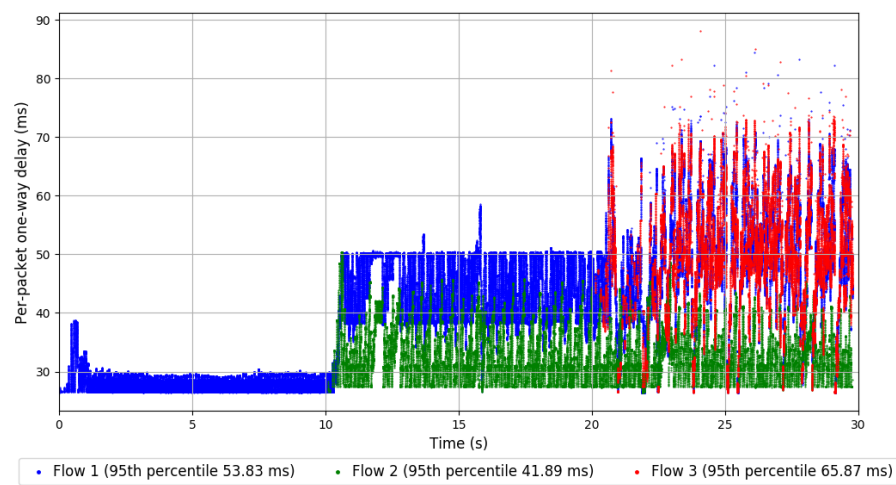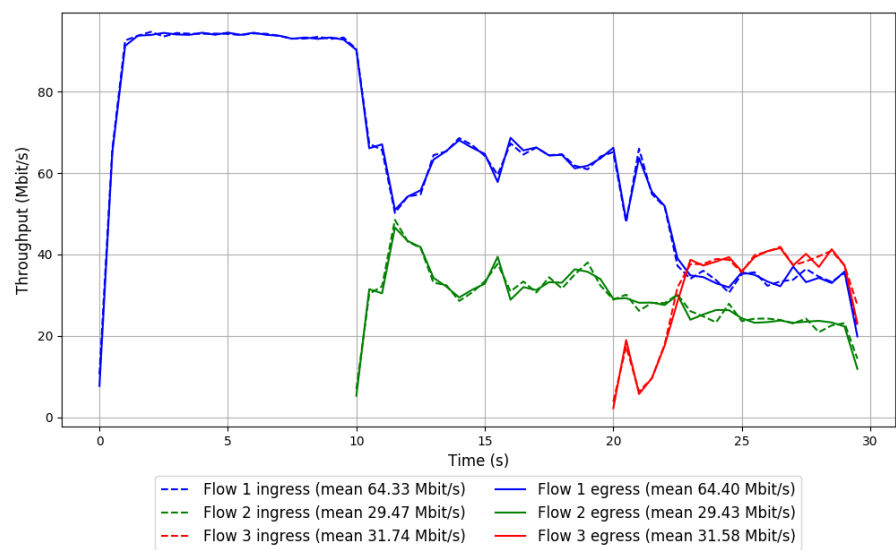
Run 6: Report of Indigo-delay — Data Link

```
Run 7: Statistics of Indigo-delay

Start at: 2017-09-21 21:23:38
End at: 2017-09-21 21:24:08
Local clock offset: 0.379 ms
Remote clock offset: 1.689 ms


# Below is generated by plot.py at 2017-09-22 02:25:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.82 Mbit/s
95th percentile per-packet one-way delay: 48.409 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 67.19 Mbit/s
95th percentile per-packet one-way delay: 48.361 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 28.75 Mbit/s
95th percentile per-packet one-way delay: 50.291 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 26.40 Mbit/s
95th percentile per-packet one-way delay: 53.703 ms
Loss rate: 0.91%
```
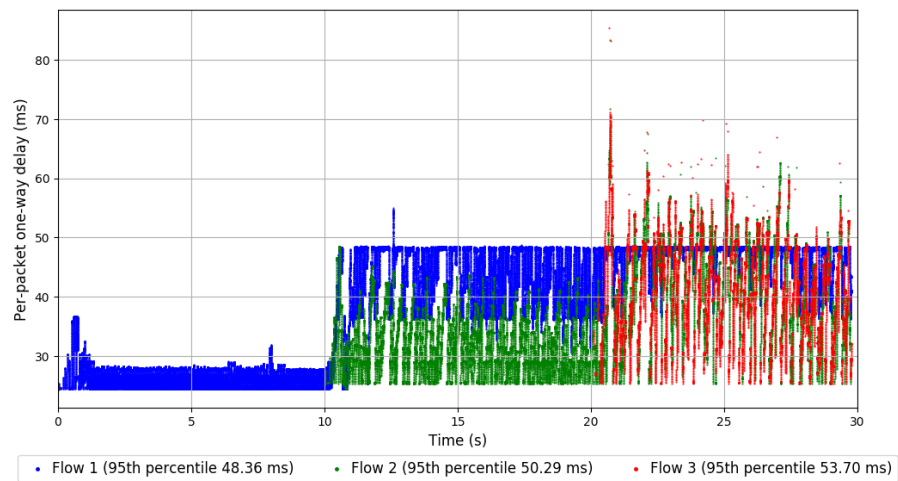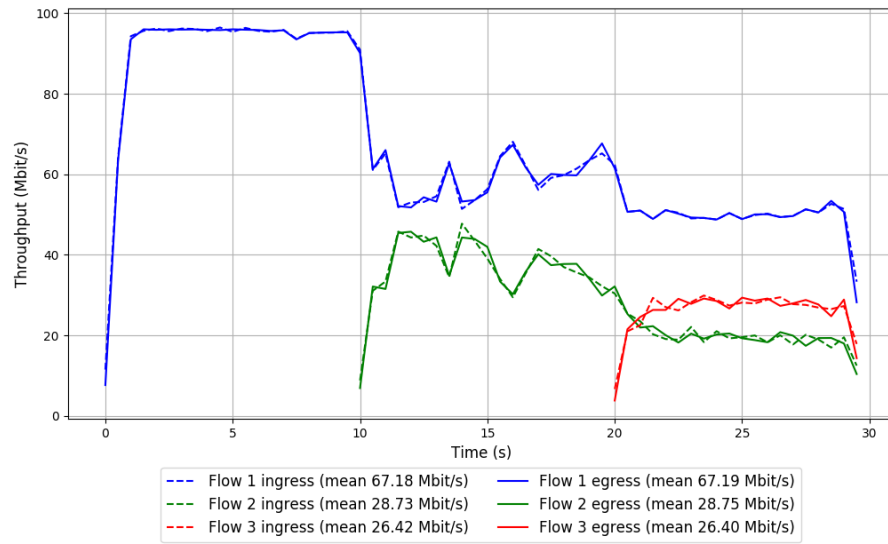
Run 7: Report of Indigo-delay — Data Link

```
Run 8: Statistics of Indigo-delay

Start at: 2017-09-21 21:43:10
End at: 2017-09-21 21:43:40
Local clock offset: 0.614 ms
Remote clock offset: 1.429 ms


# Below is generated by plot.py at 2017-09-22 02:25:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.59 Mbit/s
95th percentile per-packet one-way delay: 48.223 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 22.04 Mbit/s
95th percentile per-packet one-way delay: 48.281 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 44.52 Mbit/s
95th percentile per-packet one-way delay: 44.986 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 30.70 Mbit/s
95th percentile per-packet one-way delay: 54.866 ms
Loss rate: 0.84%
```
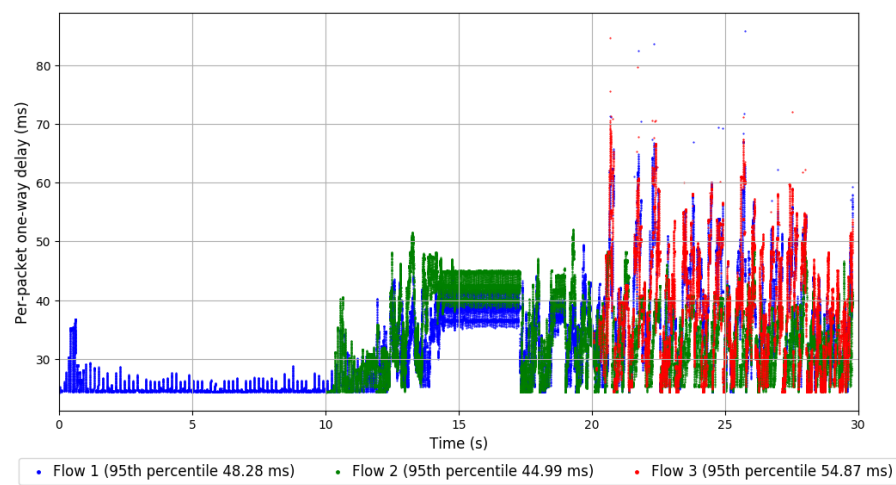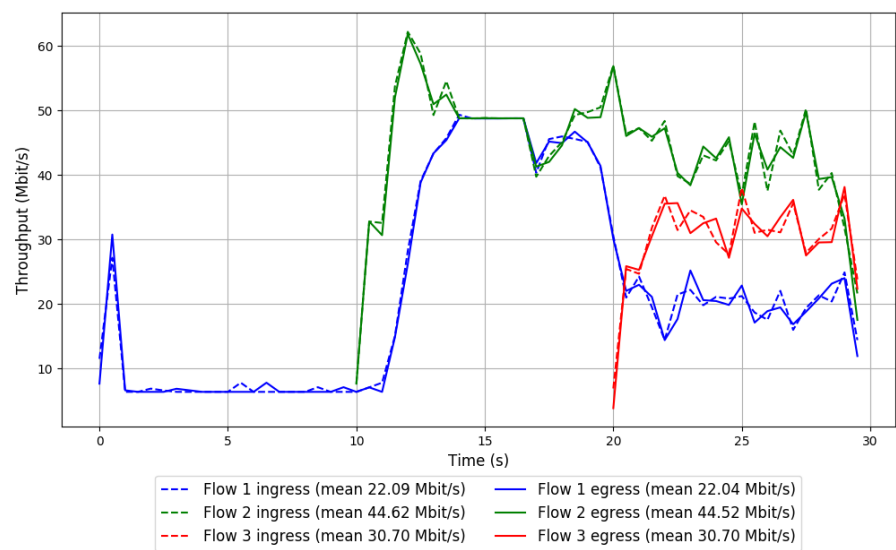
Run 8: Report of Indigo-delay — Data Link

279

```
Run 9: Statistics of Indigo-delay

Start at: 2017-09-21 22:02:45
End at: 2017-09-21 22:03:15
Local clock offset: 0.86 ms
Remote clock offset: 0.883 ms


# Below is generated by plot.py at 2017-09-22 02:25:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 60.103 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 59.76 Mbit/s
95th percentile per-packet one-way delay: 59.522 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 62.969 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 34.14 Mbit/s
95th percentile per-packet one-way delay: 41.891 ms
Loss rate: 0.93%
```
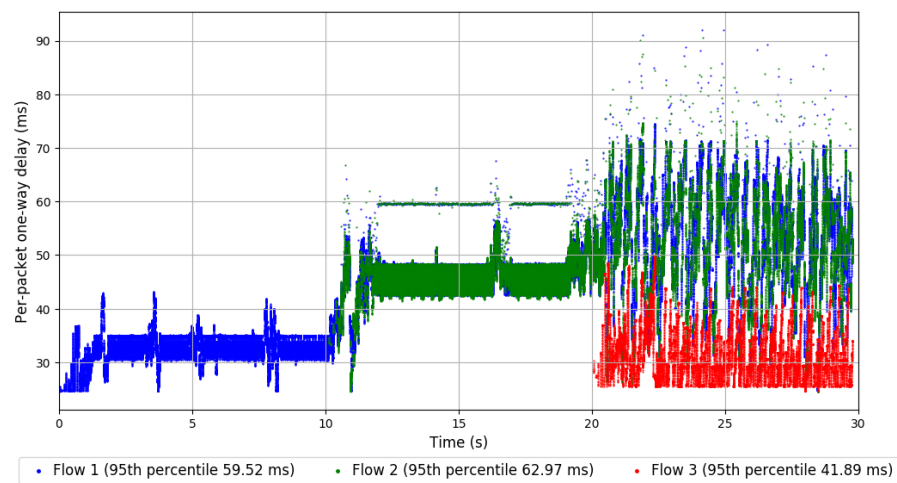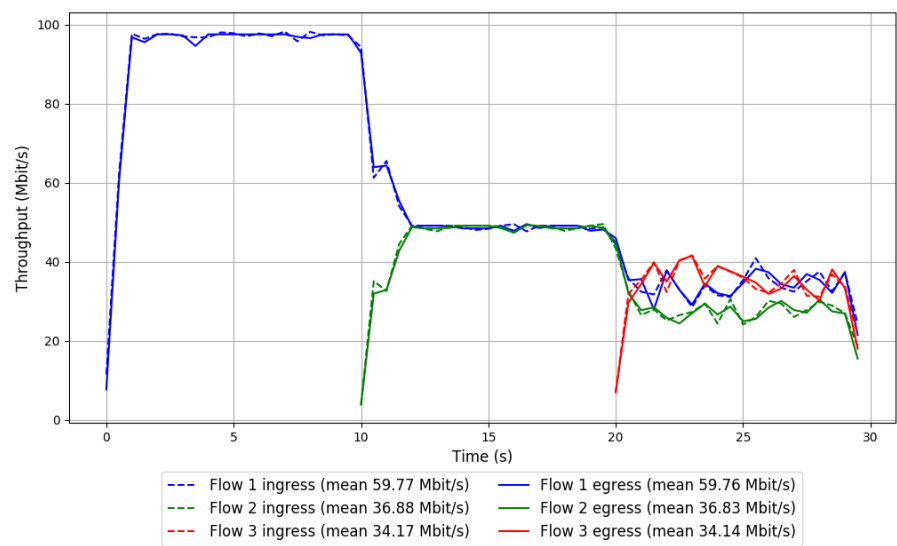
Run 9: Report of Indigo-delay — Data Link

```
Run 10: Statistics of Indigo-delay

Start at: 2017-09-21 22:22:20
End at: 2017-09-21 22:22:50
Local clock offset: 0.051 ms
Remote clock offset: 0.474 ms


# Below is generated by plot.py at 2017-09-22 02:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 58.447 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 64.19 Mbit/s
95th percentile per-packet one-way delay: 58.386 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 30.76 Mbit/s
95th percentile per-packet one-way delay: 42.686 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 34.57 Mbit/s
95th percentile per-packet one-way delay: 60.025 ms
Loss rate: 1.20%
```

Run 10: Report of Indigo-delay — Data Link

Flow 1 ingress (mean 64.22 Mbit/s) --- Flow 1 egress (mean 64.19 Mbit/s)
Flow 2 ingress (mean 30.75 Mbit/s) --- Flow 2 egress (mean 30.76 Mbit/s)
Flow 3 ingress (mean 34.72 Mbit/s) --- Flow 3 egress (mean 34.57 Mbit/s)

Flow 1 (95th percentile 58.39 ms)   Flow 2 (95th percentile 42.69 ms)   Flow 3 (95th percentile 60.02 ms)

283