Pantheon Report

Generated at 2017-09-19 03:03:35 (UTC).

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

Repeated the test of 10 congestion control schemes 10 times.

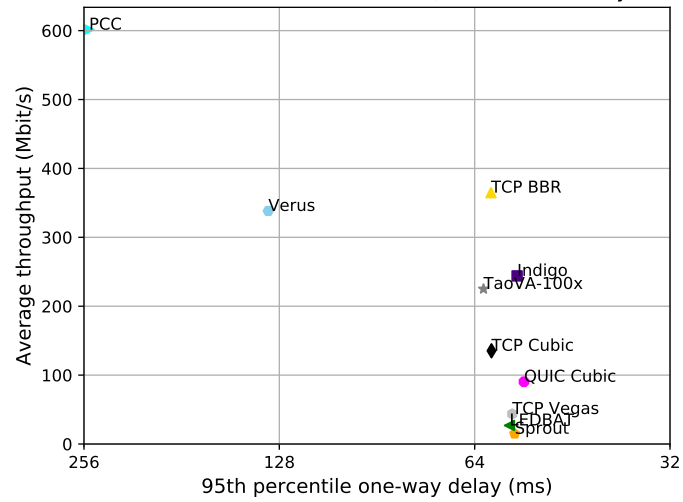Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

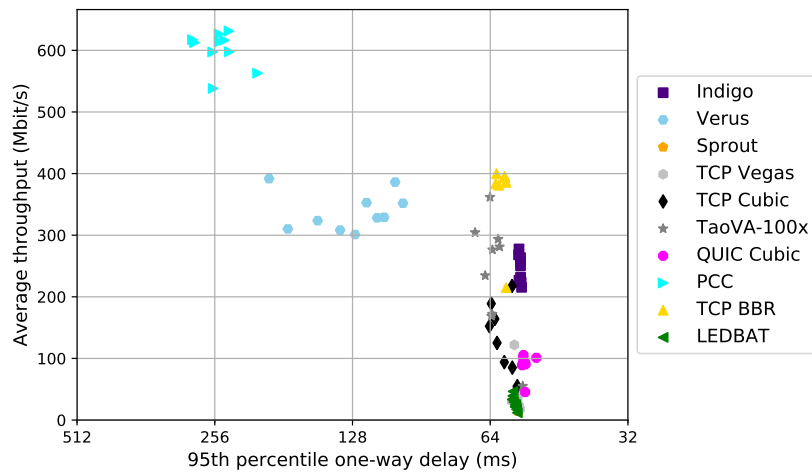Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ 57453dc11f8da93a2e03eea75289fea01b816298
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from GCE Tokyo Ethernet to GCE Sydney Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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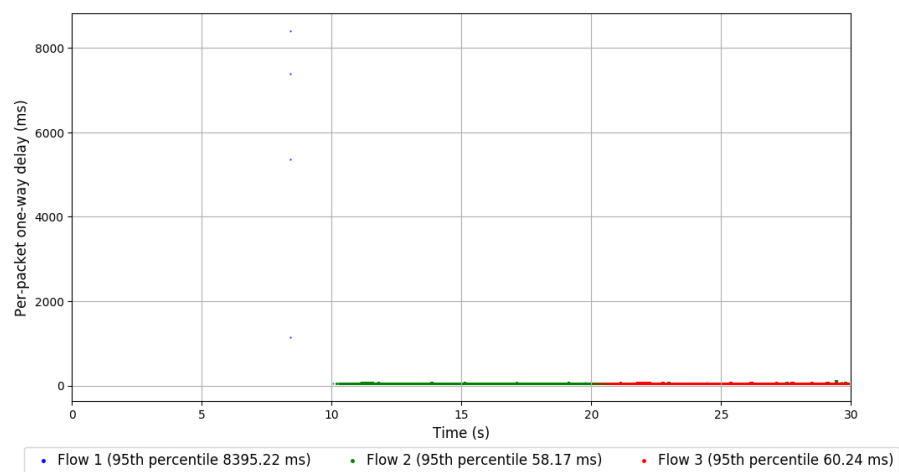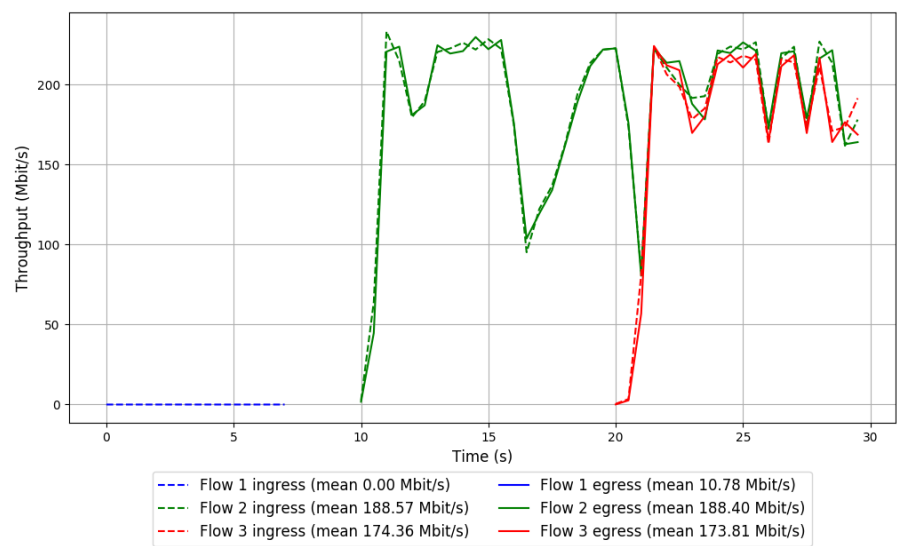3 flows with 10s interval between flows

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	7	173.32	194.05	183.38	565.48	60.45	60.55	0.36	0.65	1.22
TCP Cubic	8	50.89	77.98	91.21	185.79	59.43	60.41	0.36	0.73	1.46
Indigo	10	131.53	119.45	104.54	54.96	55.33	54.89	0.28	0.45	1.14
LEDBAT	10	15.97	12.65	7.84	56.56	56.39	56.05	0.73	1.42	2.30
PCC	10	413.57	253.17	61.78	257.13	165.56	133.91	5.71	3.01	2.71
QUIC Cubic	10	46.29	46.71	40.51	52.68	52.08	53.24	0.38	0.52	1.10
Sprout	10	7.56	7.45	7.21	55.54	55.52	55.49	0.56	0.64	1.42
TaoVA-100x	10	123.67	117.31	108.19	59.44	60.76	57.67	0.39	0.82	1.79
TCP Vegas	8	24.52	18.19	20.79	319.08	55.73	55.81	0.44	0.65	1.50
Verus	10	200.25	158.86	106.45	127.26	129.66	115.56	1.33	1.16	1.90

```
Run 1: Statistics of TCP BBR

Start at: 2017-09-18 22:39:28
End at: 2017-09-18 22:39:58
```

Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2017-09-18 22:48:33
End at: 2017-09-18 22:49:03

# Below is generated by plot.py at 2017-09-19 02:16:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.42 Mbit/s
95th percentile per-packet one-way delay: 62.252 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 196.80 Mbit/s
95th percentile per-packet one-way delay: 62.604 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 192.66 Mbit/s
95th percentile per-packet one-way delay: 62.191 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 179.17 Mbit/s
95th percentile per-packet one-way delay: 61.431 ms
Loss rate: 1.34%
```
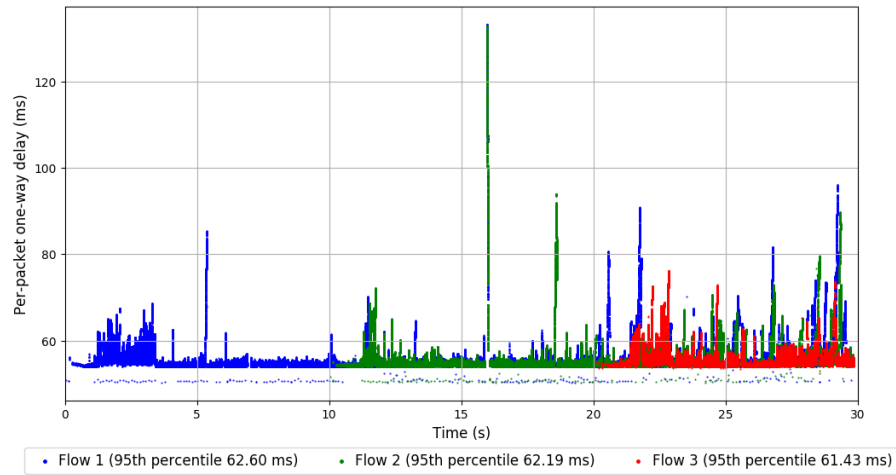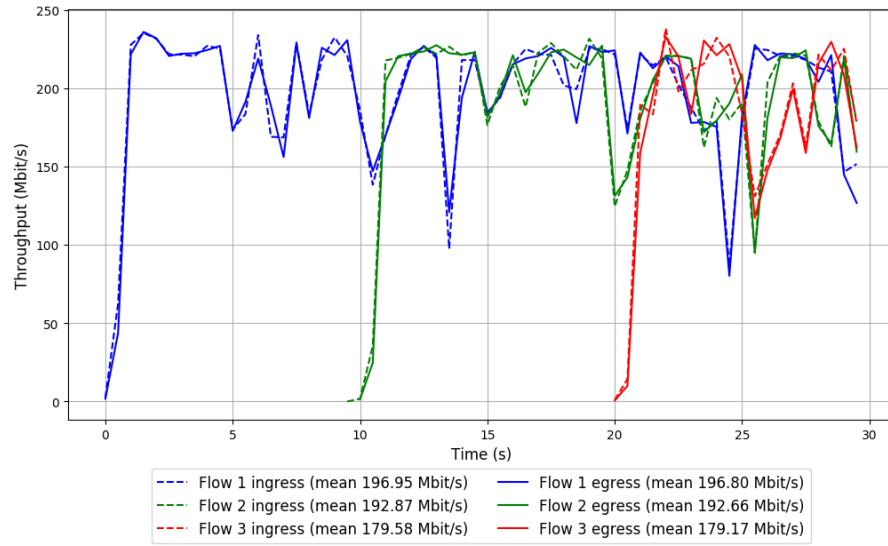
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-09-18 22:57:22
End at: 2017-09-18 22:57:52

# Below is generated by plot.py at 2017-09-19 02:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.86 Mbit/s
95th percentile per-packet one-way delay: 62.019 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 205.65 Mbit/s
95th percentile per-packet one-way delay: 60.897 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 198.13 Mbit/s
95th percentile per-packet one-way delay: 62.634 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 190.13 Mbit/s
95th percentile per-packet one-way delay: 62.940 ms
Loss rate: 1.23%
```
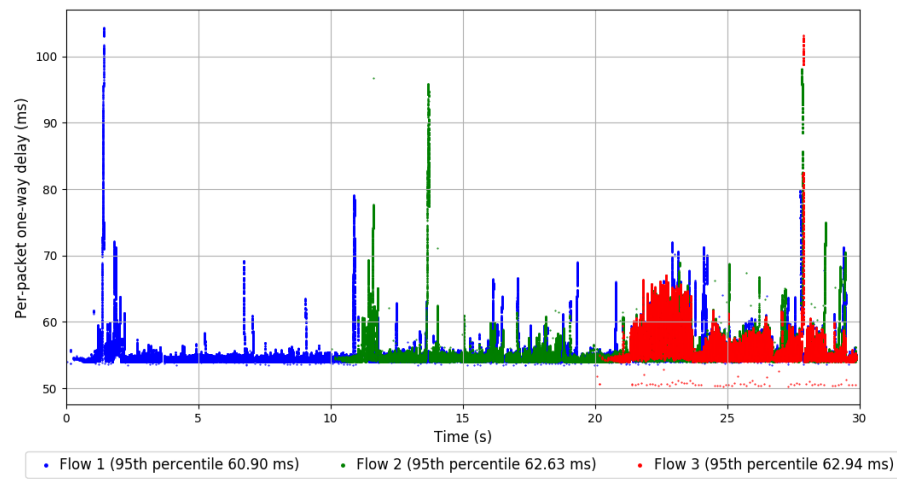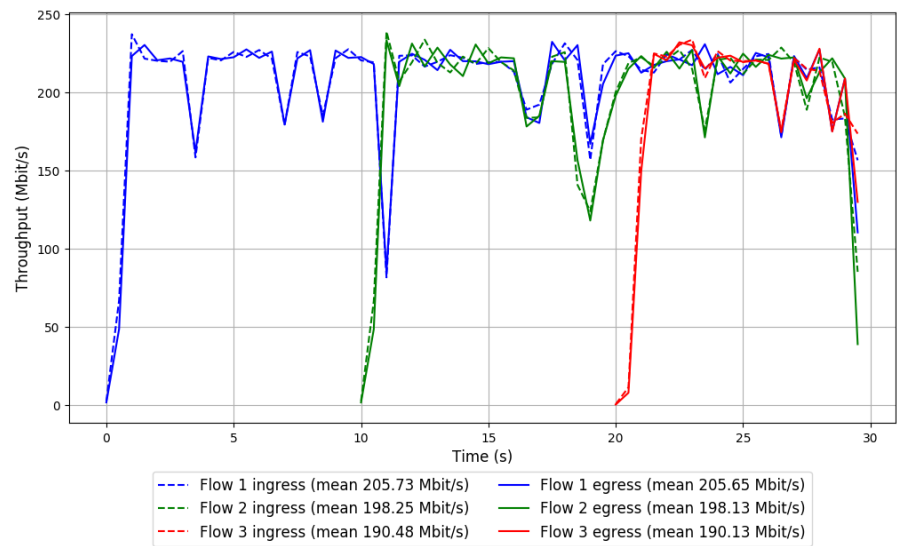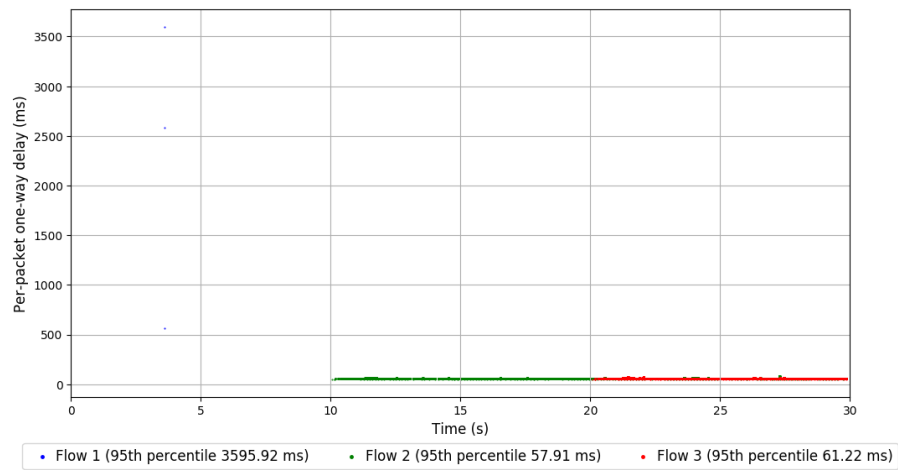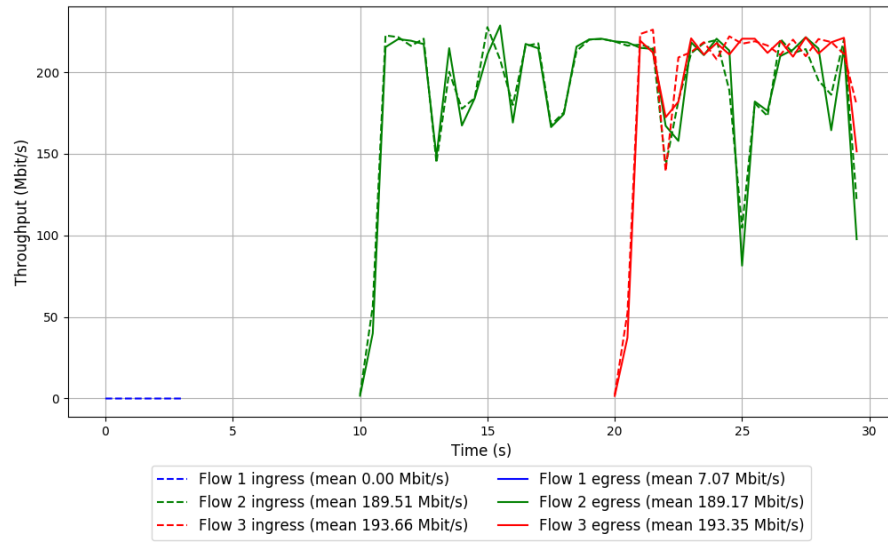
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 205.73 Mbit/s)   Flow 1 egress (mean 205.65 Mbit/s)
Flow 2 ingress (mean 198.25 Mbit/s)   Flow 2 egress (mean 198.13 Mbit/s)
Flow 3 ingress (mean 190.48 Mbit/s)   Flow 3 egress (mean 190.13 Mbit/s)

Flow 1 (95th percentile 60.90 ms)   Flow 2 (95th percentile 62.63 ms)   Flow 3 (95th percentile 62.94 ms)

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```
Run 4: Statistics of TCP BBR

Start at: 2017-09-18 23:06:18
End at: 2017-09-18 23:06:48

# Below is generated by plot.py at 2017-09-19 02:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.79 Mbit/s
95th percentile per-packet one-way delay: 59.065 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 3595.919 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 189.17 Mbit/s
95th percentile per-packet one-way delay: 57.909 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 193.35 Mbit/s
95th percentile per-packet one-way delay: 61.216 ms
Loss rate: 1.20%
```
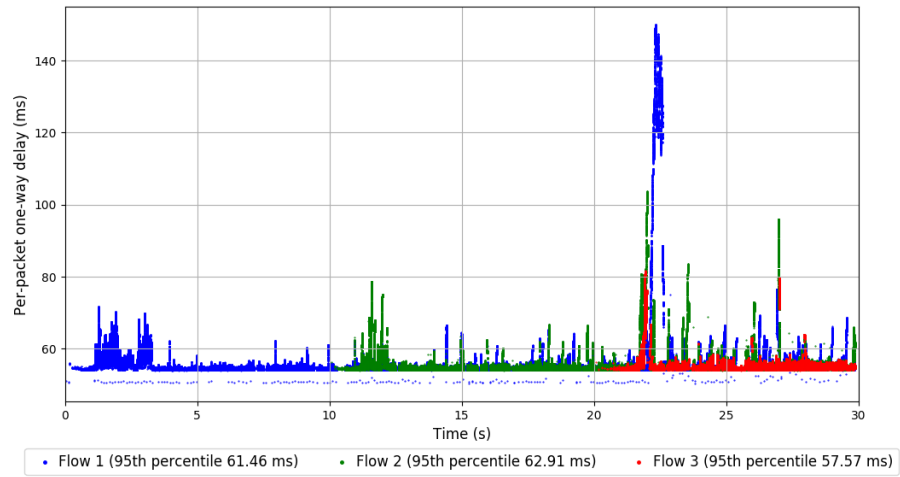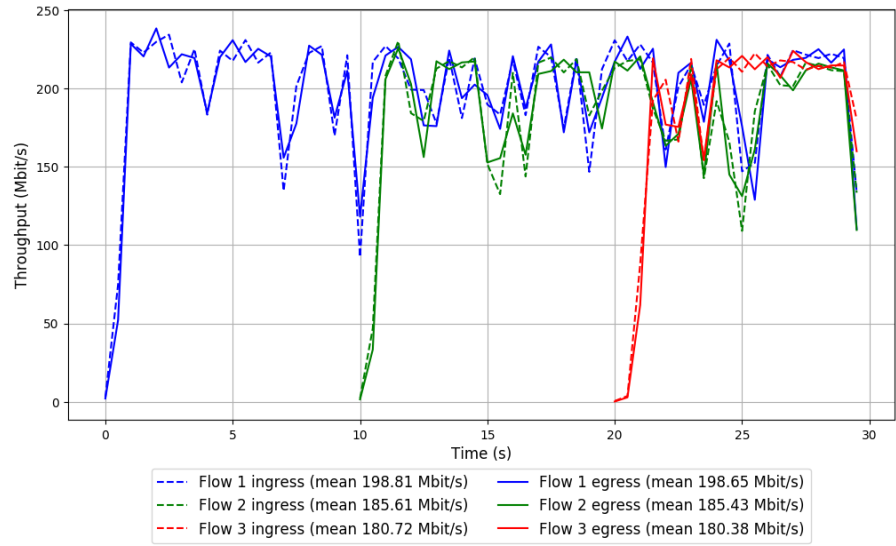
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) --- Flow 1 egress (mean 7.07 Mbit/s)
Flow 2 ingress (mean 189.51 Mbit/s) --- Flow 2 egress (mean 189.17 Mbit/s)
Flow 3 ingress (mean 193.66 Mbit/s) --- Flow 3 egress (mean 193.35 Mbit/s)

Flow 1 (95th percentile 3595.92 ms) • Flow 2 (95th percentile 57.91 ms) • Flow 3 (95th percentile 61.22 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2017-09-18 23:15:31
End at: 2017-09-18 23:16:01


# Below is generated by plot.py at 2017-09-19 02:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 380.97 Mbit/s
95th percentile per-packet one-way delay: 61.298 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 198.65 Mbit/s
95th percentile per-packet one-way delay: 61.459 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 185.43 Mbit/s
95th percentile per-packet one-way delay: 62.915 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 180.38 Mbit/s
95th percentile per-packet one-way delay: 57.567 ms
Loss rate: 1.29%
```
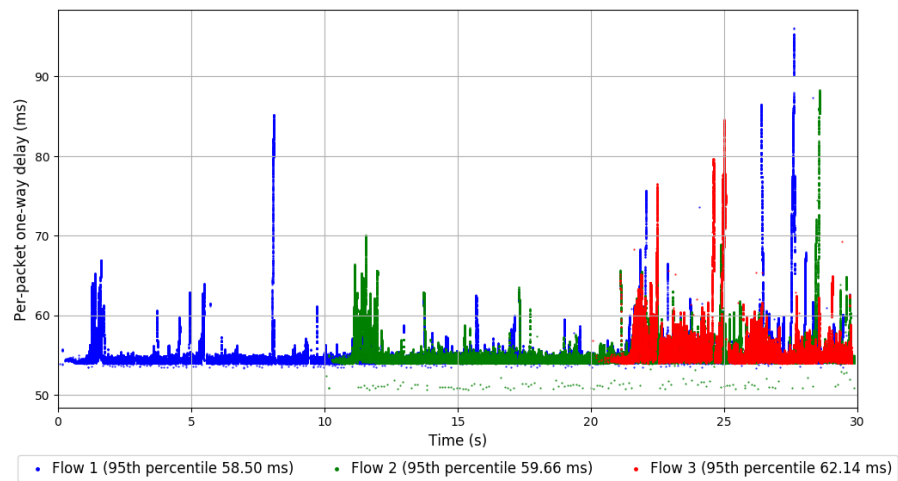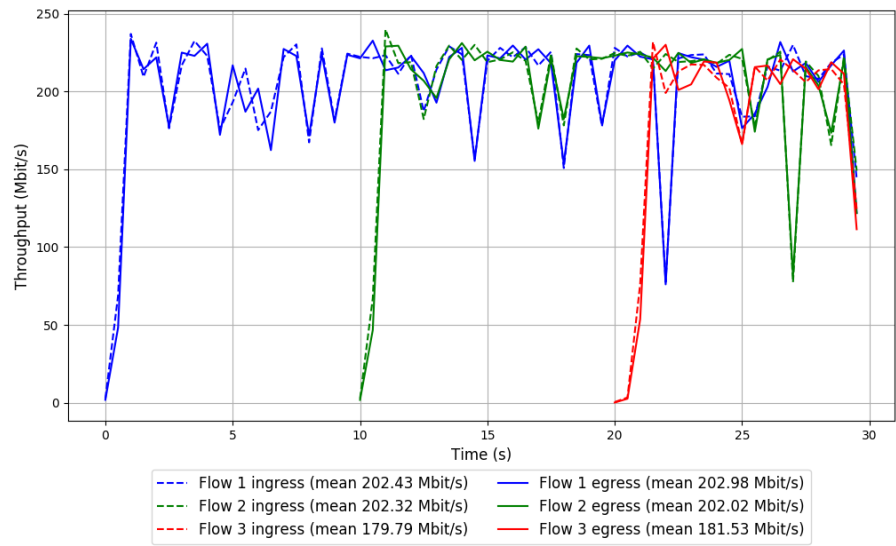
Run 5: Report of TCP BBR — Data Link

- Flow 1 ingress (mean 198.81 Mbit/s)
- Flow 1 egress (mean 198.65 Mbit/s)
- Flow 2 ingress (mean 185.61 Mbit/s)
- Flow 2 egress (mean 185.43 Mbit/s)
- Flow 3 ingress (mean 180.72 Mbit/s)
- Flow 3 egress (mean 180.38 Mbit/s)

- Flow 1 (95th percentile 61.46 ms)
- Flow 2 (95th percentile 62.91 ms)
- Flow 3 (95th percentile 57.57 ms)

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Run 6: Statistics of TCP BBR

Start at: 2017-09-18 23:24:33
End at: 2017-09-18 23:25:03

# Below is generated by plot.py at 2017-09-19 02:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.62 Mbit/s
95th percentile per-packet one-way delay: 59.524 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 202.98 Mbit/s
95th percentile per-packet one-way delay: 58.496 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 202.02 Mbit/s
95th percentile per-packet one-way delay: 59.658 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 181.53 Mbit/s
95th percentile per-packet one-way delay: 62.138 ms
Loss rate: 0.81%
```
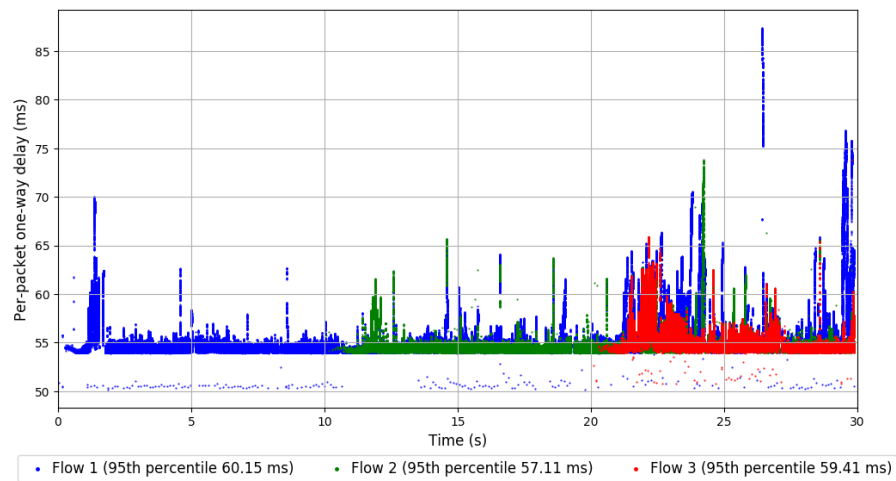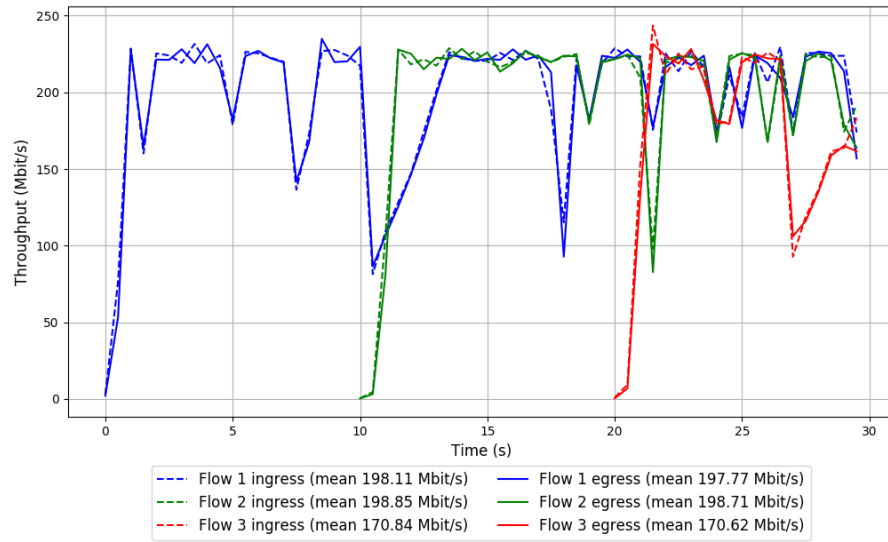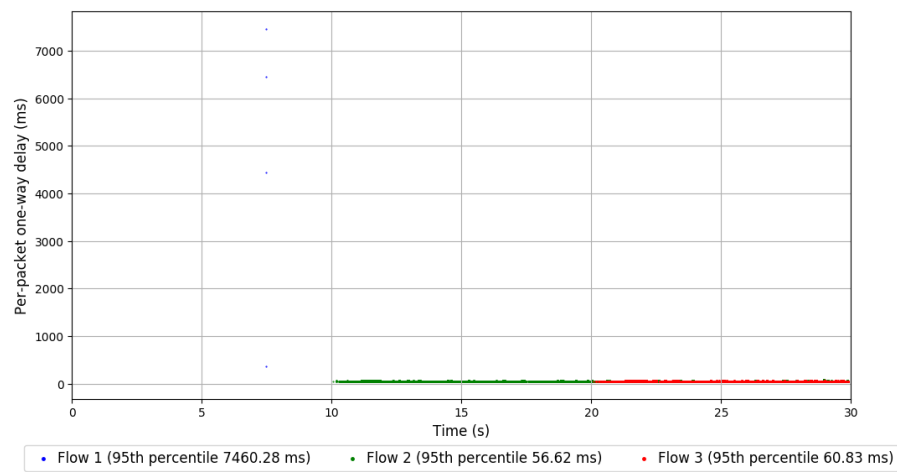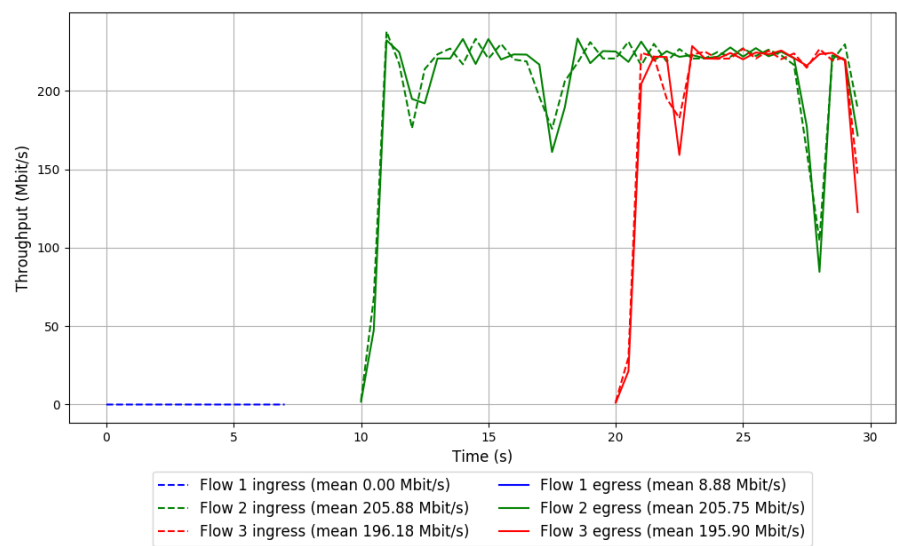
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 202.43 Mbit/s) — Flow 1 egress (mean 202.98 Mbit/s)
Flow 2 ingress (mean 202.32 Mbit/s) — Flow 2 egress (mean 202.02 Mbit/s)
Flow 3 ingress (mean 179.79 Mbit/s) — Flow 3 egress (mean 181.53 Mbit/s)

Flow 1 (95th percentile 58.50 ms) — Flow 2 (95th percentile 59.66 ms) — Flow 3 (95th percentile 62.14 ms)

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```
Run 7: Statistics of TCP BBR

Start at: 2017-09-18 23:33:56
End at: 2017-09-18 23:34:26


# Below is generated by plot.py at 2017-09-19 02:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.73 Mbit/s
95th percentile per-packet one-way delay: 59.099 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 197.77 Mbit/s
95th percentile per-packet one-way delay: 60.152 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 198.71 Mbit/s
95th percentile per-packet one-way delay: 57.113 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 170.62 Mbit/s
95th percentile per-packet one-way delay: 59.415 ms
Loss rate: 1.17%
```
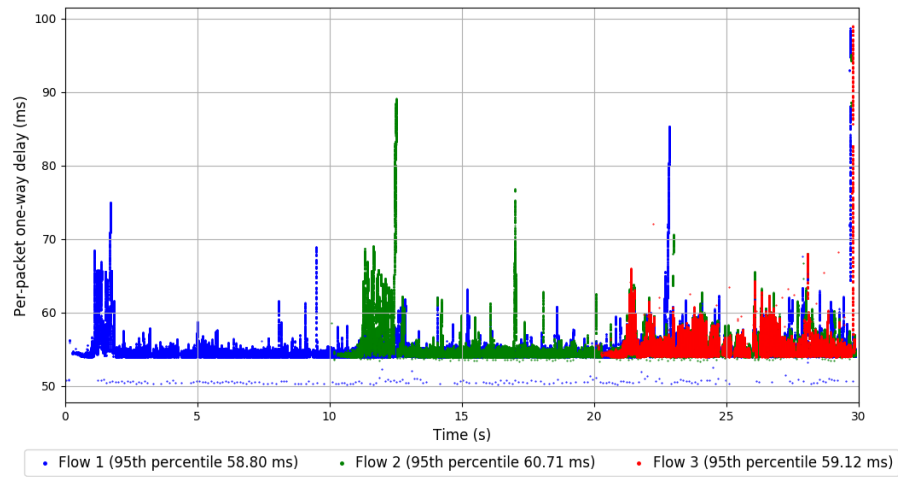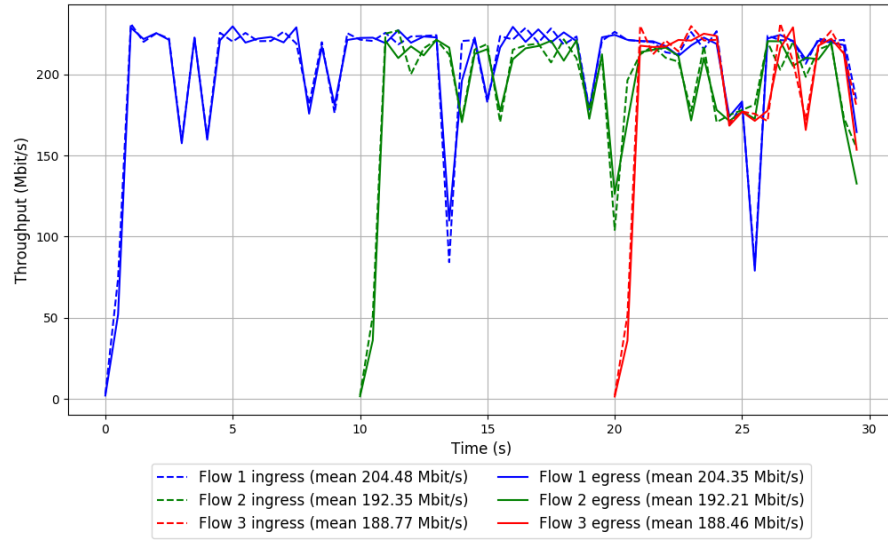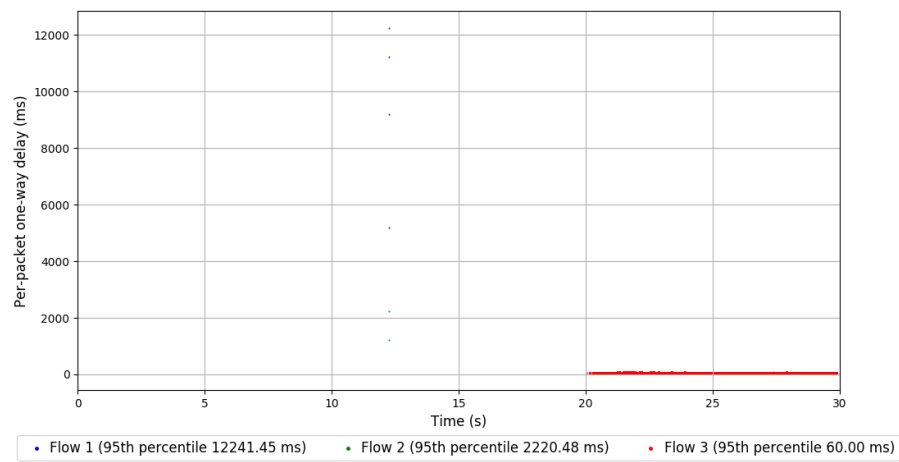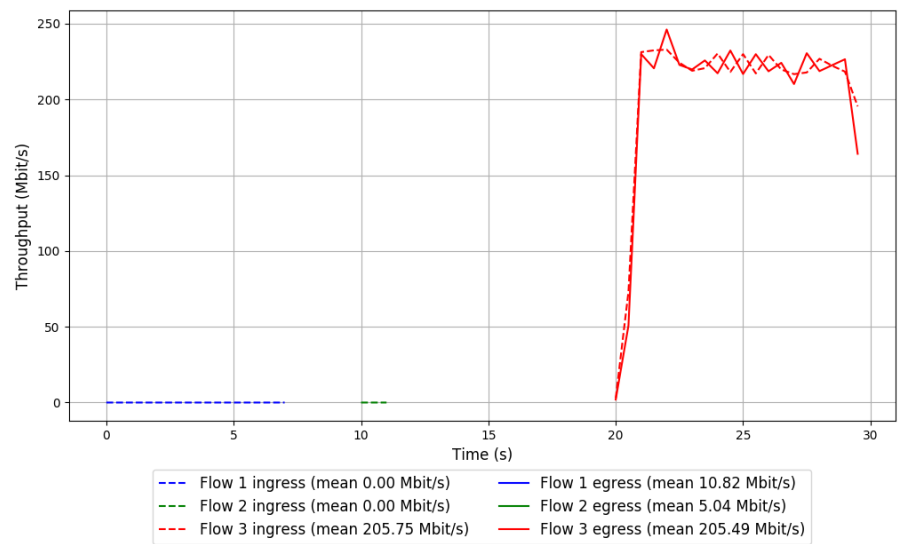
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 198.11 Mbit/s) --- Flow 1 egress (mean 197.77 Mbit/s)
Flow 2 ingress (mean 198.85 Mbit/s) --- Flow 2 egress (mean 198.71 Mbit/s)
Flow 3 ingress (mean 170.84 Mbit/s) --- Flow 3 egress (mean 170.62 Mbit/s)

Flow 1 (95th percentile 60.15 ms)   Flow 2 (95th percentile 57.11 ms)   Flow 3 (95th percentile 59.41 ms)

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Run 8: Statistics of TCP BBR

Start at: 2017-09-18 23:43:00
End at: 2017-09-18 23:43:30

Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.00 Mbit/s)   Flow 1 egress (mean 8.88 Mbit/s)
Flow 2 ingress (mean 205.88 Mbit/s)   Flow 2 egress (mean 205.75 Mbit/s)
Flow 3 ingress (mean 196.18 Mbit/s)   Flow 3 egress (mean 195.90 Mbit/s)

Flow 1 (95th percentile 7460.28 ms)   Flow 2 (95th percentile 56.62 ms)   Flow 3 (95th percentile 60.83 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2017-09-18 23:52:01
End at: 2017-09-18 23:52:31

# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 393.82 Mbit/s
95th percentile per-packet one-way delay: 59.509 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 204.35 Mbit/s
95th percentile per-packet one-way delay: 58.800 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 192.21 Mbit/s
95th percentile per-packet one-way delay: 60.709 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 188.46 Mbit/s
95th percentile per-packet one-way delay: 59.120 ms
Loss rate: 1.47%
```
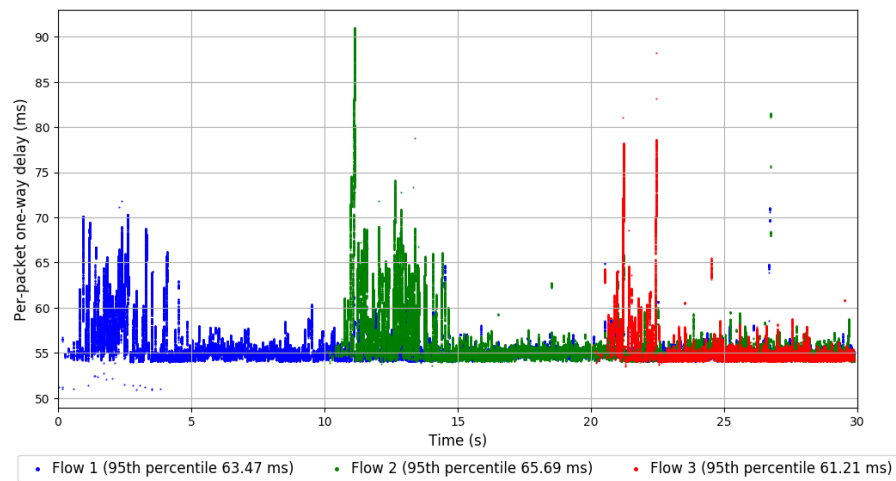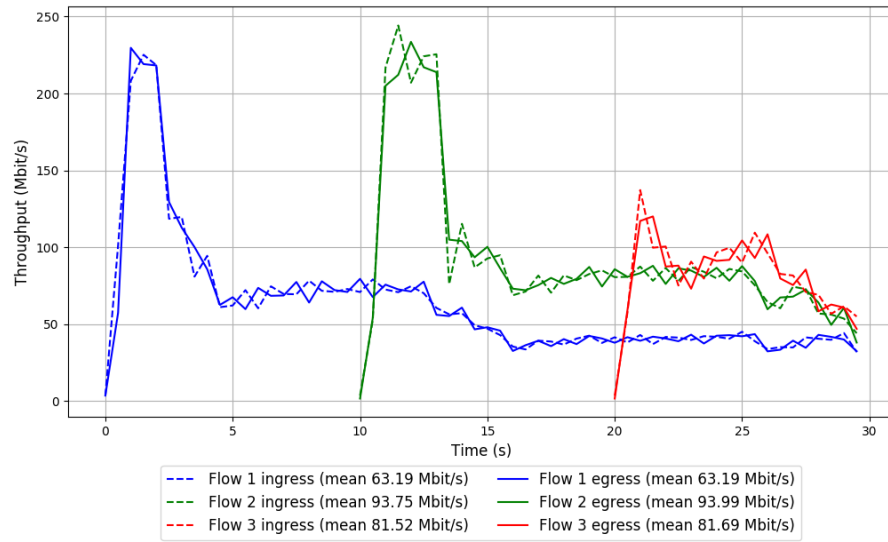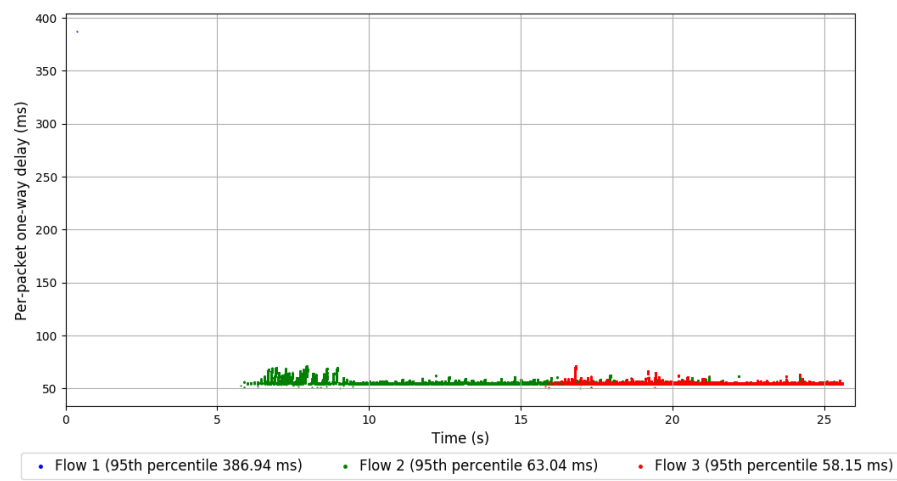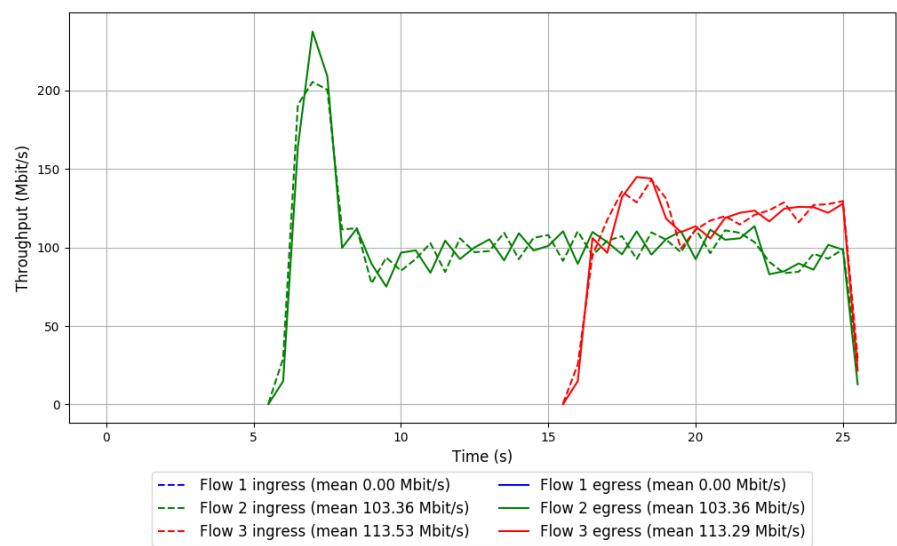
Run 9: Report of TCP BBR — Data Link

Run 10: Statistics of TCP BBR

Start at: 2017-09-19 00:01:05
End at: 2017-09-19 00:01:35

Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.00 Mbit/s)   Flow 1 egress (mean 10.82 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)   Flow 2 egress (mean 5.04 Mbit/s)
Flow 3 ingress (mean 205.75 Mbit/s)   Flow 3 egress (mean 205.49 Mbit/s)

Flow 1 (95th percentile 12241.45 ms)   Flow 2 (95th percentile 2220.48 ms)   Flow 3 (95th percentile 60.00 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-18 22:33:55
End at: 2017-09-18 22:34:25


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.35 Mbit/s
95th percentile per-packet one-way delay: 64.262 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 63.19 Mbit/s
95th percentile per-packet one-way delay: 63.469 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 65.689 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 81.69 Mbit/s
95th percentile per-packet one-way delay: 61.209 ms
Loss rate: 0.90%
```
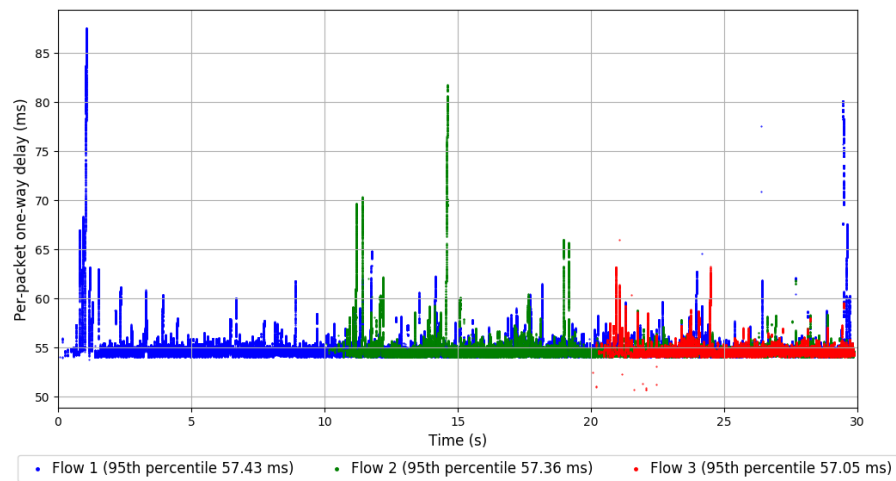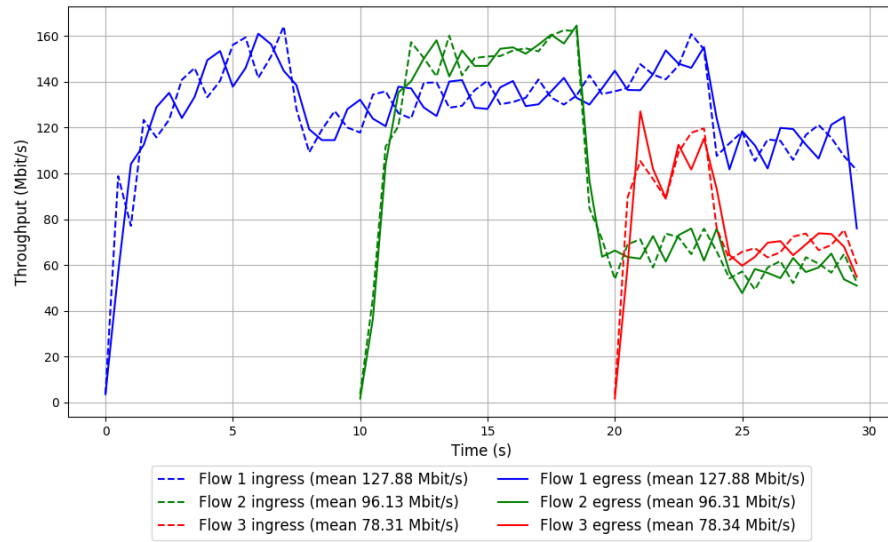
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.19 Mbit/s) --- Flow 1 egress (mean 63.19 Mbit/s)
Flow 2 ingress (mean 93.75 Mbit/s) --- Flow 2 egress (mean 93.99 Mbit/s)
Flow 3 ingress (mean 81.52 Mbit/s) --- Flow 3 egress (mean 81.69 Mbit/s)

Flow 1 (95th percentile 63.47 ms)   Flow 2 (95th percentile 65.69 ms)   Flow 3 (95th percentile 61.21 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-18 22:42:54
End at: 2017-09-18 22:43:24


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.14 Mbit/s
95th percentile per-packet one-way delay: 61.836 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 386.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 103.36 Mbit/s
95th percentile per-packet one-way delay: 63.038 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 113.29 Mbit/s
95th percentile per-packet one-way delay: 58.152 ms
Loss rate: 1.25%
```
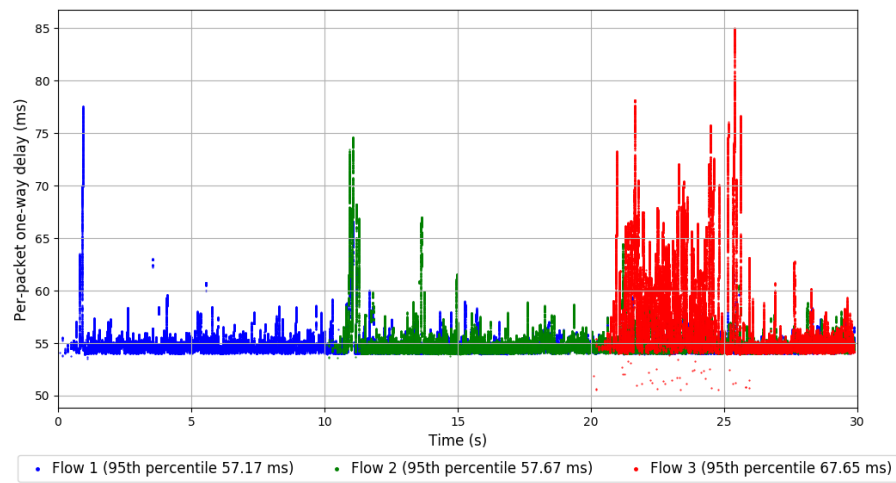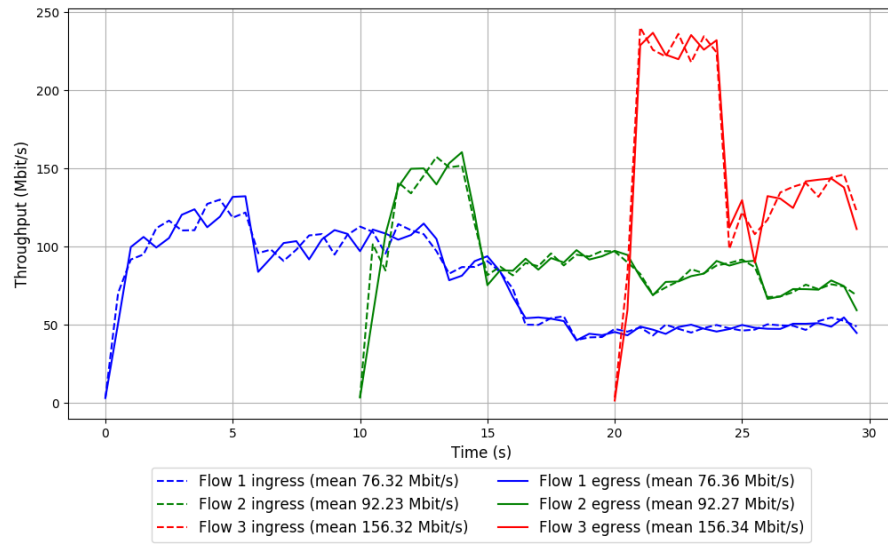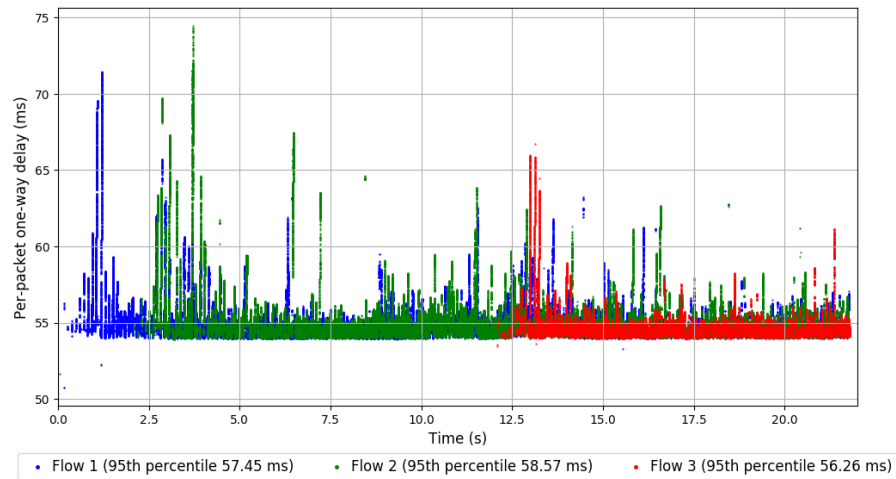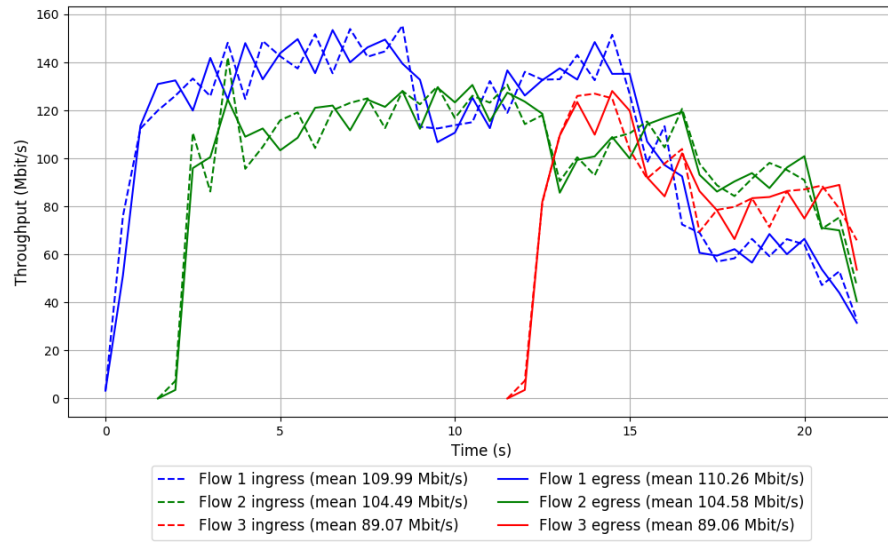
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 103.36 Mbit/s) --- Flow 2 egress (mean 103.36 Mbit/s)
Flow 3 ingress (mean 113.53 Mbit/s) --- Flow 3 egress (mean 113.29 Mbit/s)

Flow 1 (95th percentile 386.94 ms) • Flow 2 (95th percentile 63.04 ms) • Flow 3 (95th percentile 58.15 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-18 22:52:05
End at: 2017-09-18 22:52:35

# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.54 Mbit/s
95th percentile per-packet one-way delay: 57.343 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 127.88 Mbit/s
95th percentile per-packet one-way delay: 57.430 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 96.31 Mbit/s
95th percentile per-packet one-way delay: 57.360 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 57.055 ms
Loss rate: 1.01%
```
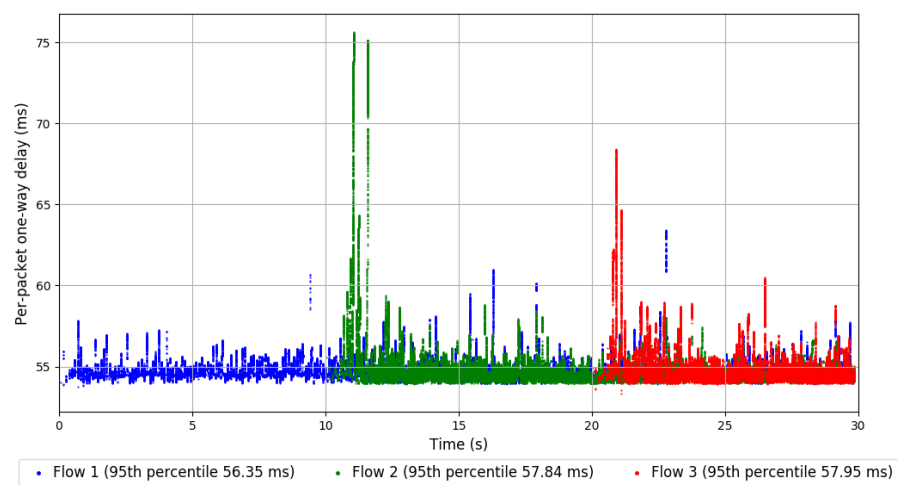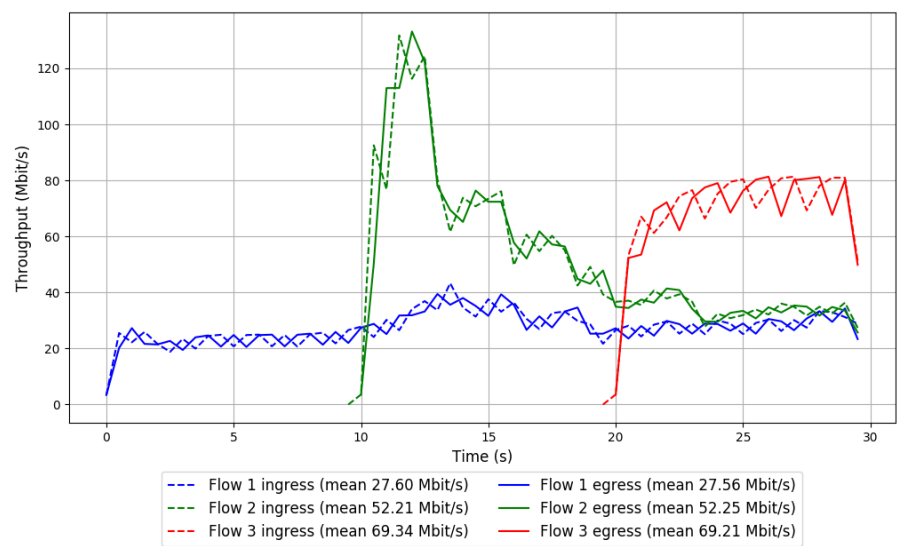
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-18 23:00:55
End at: 2017-09-18 23:01:25


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.95 Mbit/s
95th percentile per-packet one-way delay: 63.669 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 76.36 Mbit/s
95th percentile per-packet one-way delay: 57.172 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 57.667 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 156.34 Mbit/s
95th percentile per-packet one-way delay: 67.649 ms
Loss rate: 1.02%
```
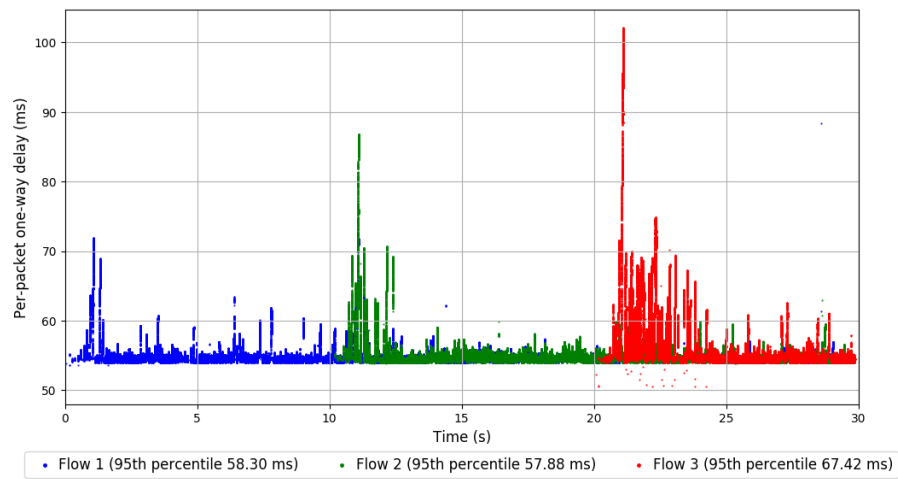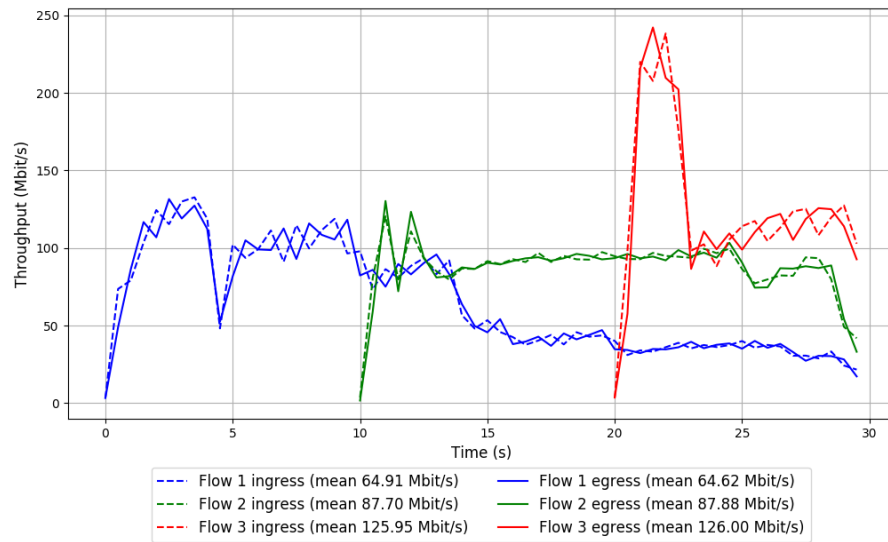
Run 4: Report of TCP Cubic — Data Link

Run 5: Statistics of TCP Cubic

Start at: 2017-09-18 23:09:40
End at: 2017-09-18 23:10:10

Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-18 23:19:05
End at: 2017-09-18 23:19:35


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.07 Mbit/s
95th percentile per-packet one-way delay: 57.260 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 27.56 Mbit/s
95th percentile per-packet one-way delay: 56.354 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 52.25 Mbit/s
95th percentile per-packet one-way delay: 57.835 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 69.21 Mbit/s
95th percentile per-packet one-way delay: 57.948 ms
Loss rate: 1.26%
```
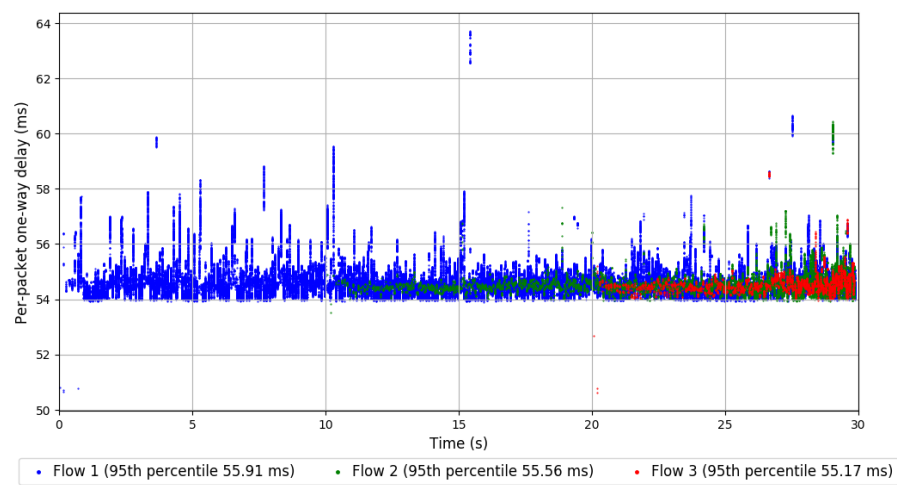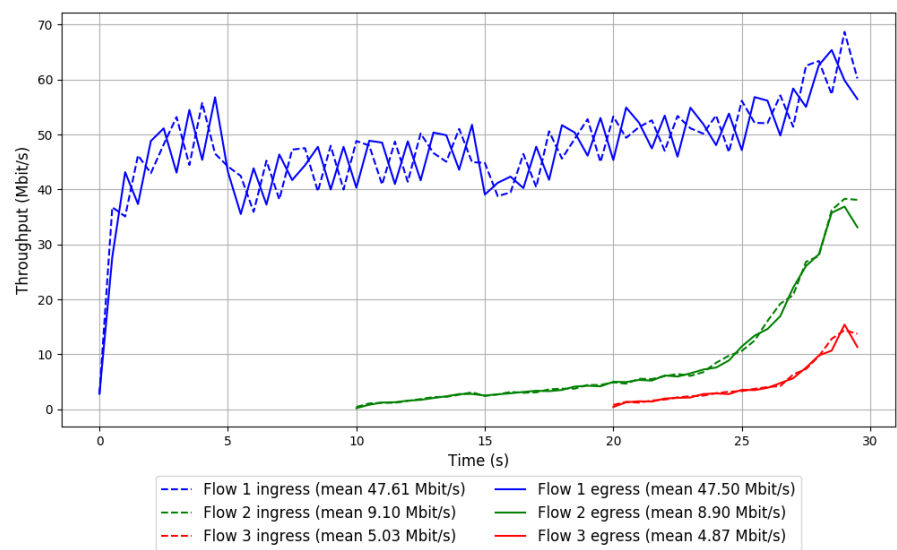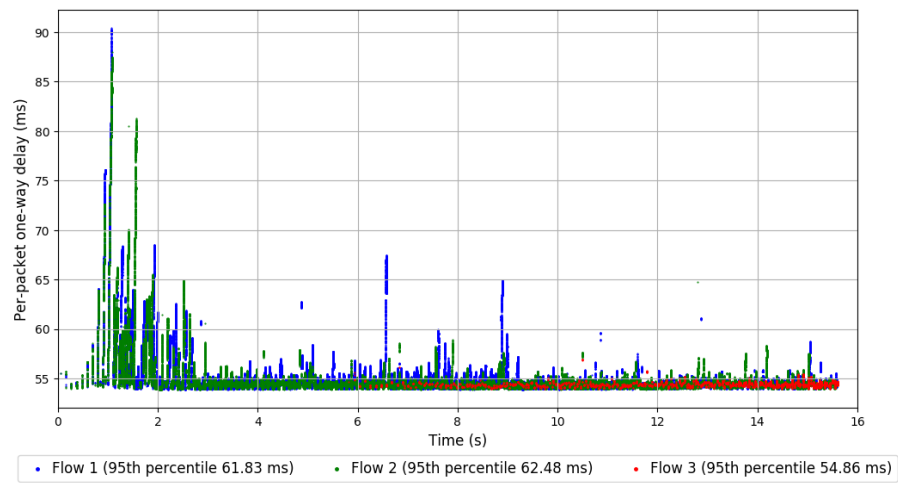
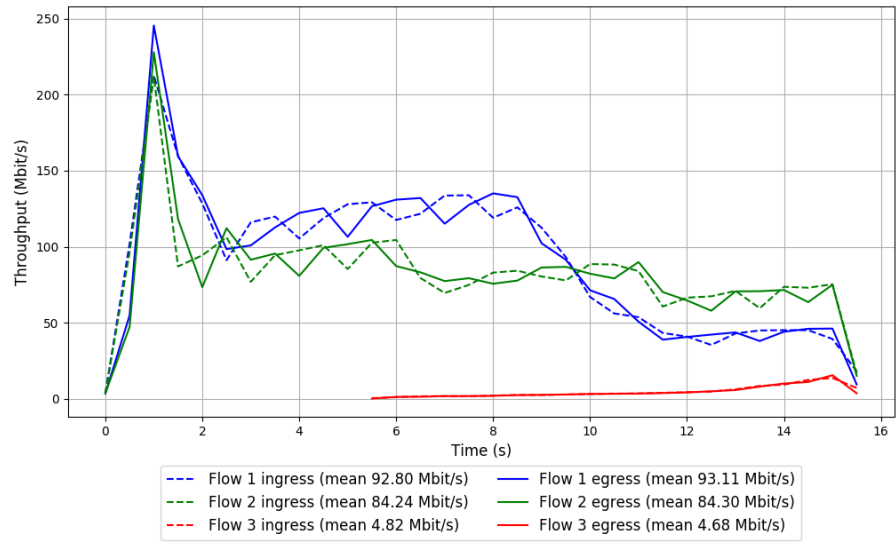Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2017-09-18 23:28:08
End at: 2017-09-18 23:28:38

# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.12 Mbit/s
95th percentile per-packet one-way delay: 62.523 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 64.62 Mbit/s
95th percentile per-packet one-way delay: 58.304 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 57.882 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 126.00 Mbit/s
95th percentile per-packet one-way delay: 67.418 ms
Loss rate: 1.03%
```
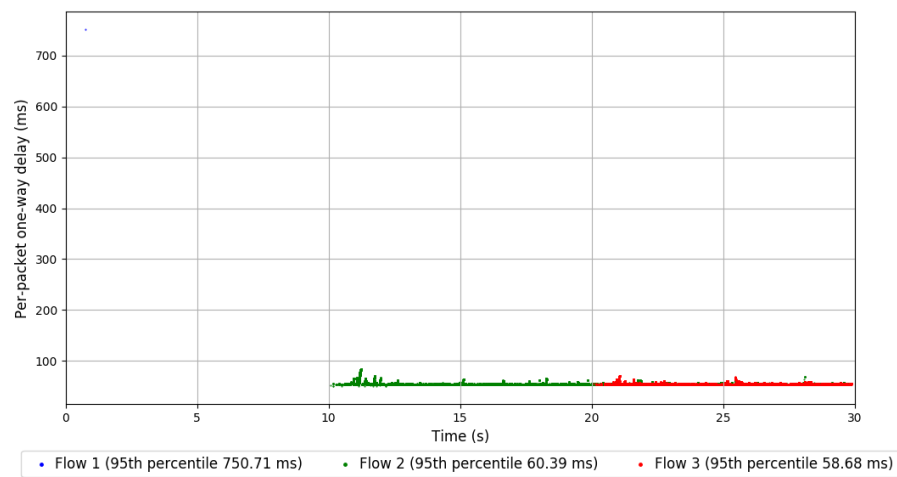
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-18 23:37:31
End at: 2017-09-18 23:38:01


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.00 Mbit/s
95th percentile per-packet one-way delay: 55.853 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 47.50 Mbit/s
95th percentile per-packet one-way delay: 55.906 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 55.561 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 4.87 Mbit/s
95th percentile per-packet one-way delay: 55.172 ms
Loss rate: 4.21%
```
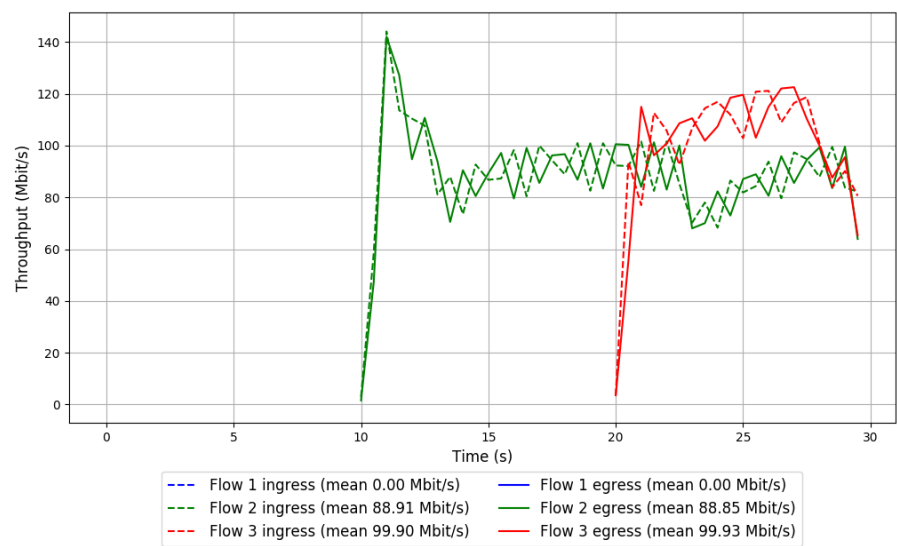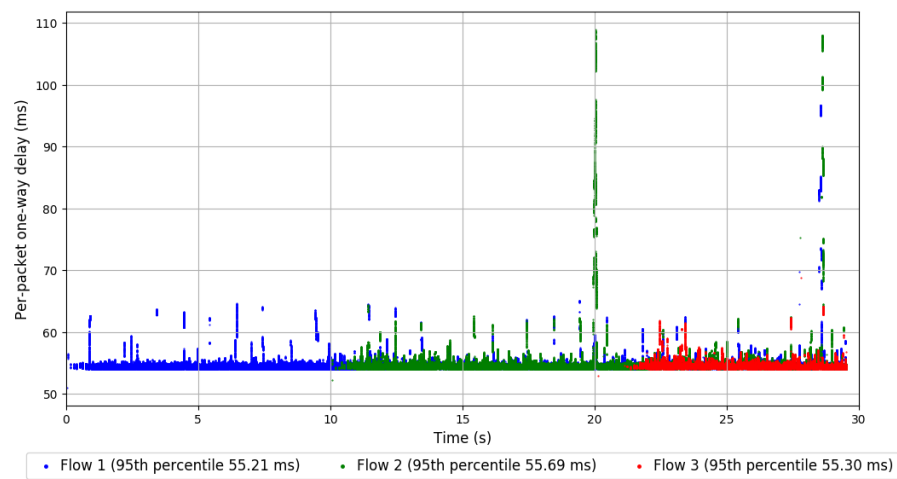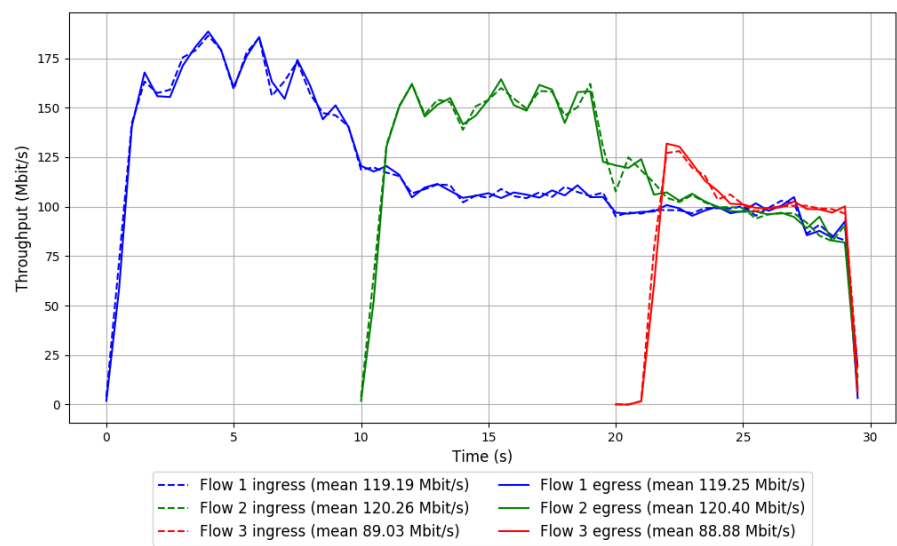
Run 8: Report of TCP Cubic — Data Link

Run 9: Statistics of TCP Cubic

Start at: 2017-09-18 23:46:18
End at: 2017-09-18 23:46:48

Run 9: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 92.80 Mbit/s) ---- Flow 1 egress (mean 93.11 Mbit/s)
Flow 2 ingress (mean 84.24 Mbit/s) ---- Flow 2 egress (mean 84.30 Mbit/s)
Flow 3 ingress (mean 4.82 Mbit/s) ---- Flow 3 egress (mean 4.68 Mbit/s)

Flow 1 (95th percentile 61.83 ms)   Flow 2 (95th percentile 62.48 ms)   Flow 3 (95th percentile 54.86 ms)

41

```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-18 23:55:33
End at: 2017-09-18 23:56:03


# Below is generated by plot.py at 2017-09-19 02:20:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.01 Mbit/s
95th percentile per-packet one-way delay: 59.623 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 750.709 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 88.85 Mbit/s
95th percentile per-packet one-way delay: 60.394 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 99.93 Mbit/s
95th percentile per-packet one-way delay: 58.678 ms
Loss rate: 1.04%
```
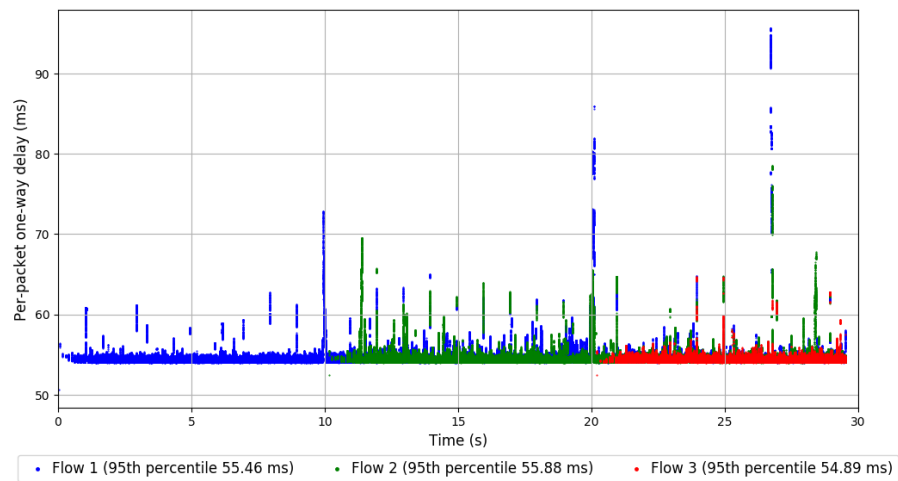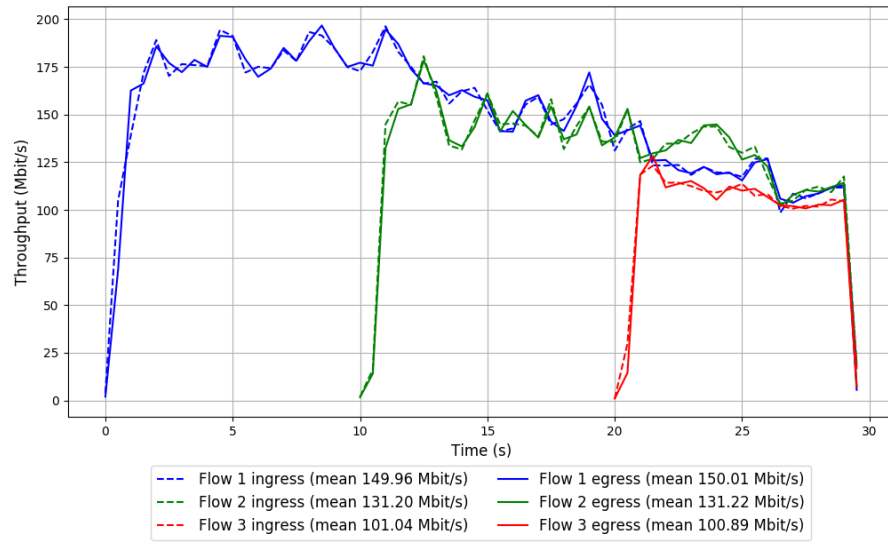
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 88.91 Mbit/s) — Flow 2 egress (mean 88.85 Mbit/s)
Flow 3 ingress (mean 99.90 Mbit/s) — Flow 3 egress (mean 99.93 Mbit/s)

Flow 1 (95th percentile 750.71 ms) Flow 2 (95th percentile 60.39 ms) Flow 3 (95th percentile 58.68 ms)

43

```
Run 1: Statistics of Indigo

Start at: 2017-09-18 22:31:29
End at: 2017-09-18 22:31:59


# Below is generated by plot.py at 2017-09-19 02:23:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.91 Mbit/s
95th percentile per-packet one-way delay: 55.367 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 119.25 Mbit/s
95th percentile per-packet one-way delay: 55.207 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 120.40 Mbit/s
95th percentile per-packet one-way delay: 55.690 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 88.88 Mbit/s
95th percentile per-packet one-way delay: 55.304 ms
Loss rate: 1.26%
```
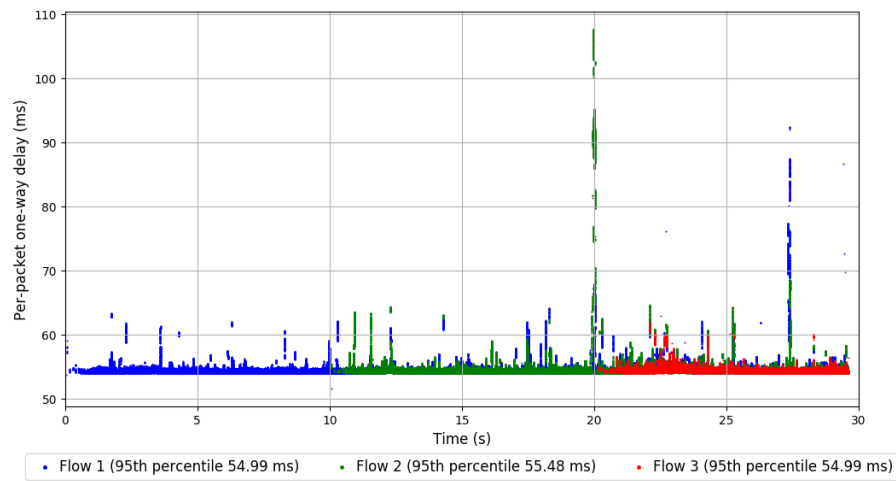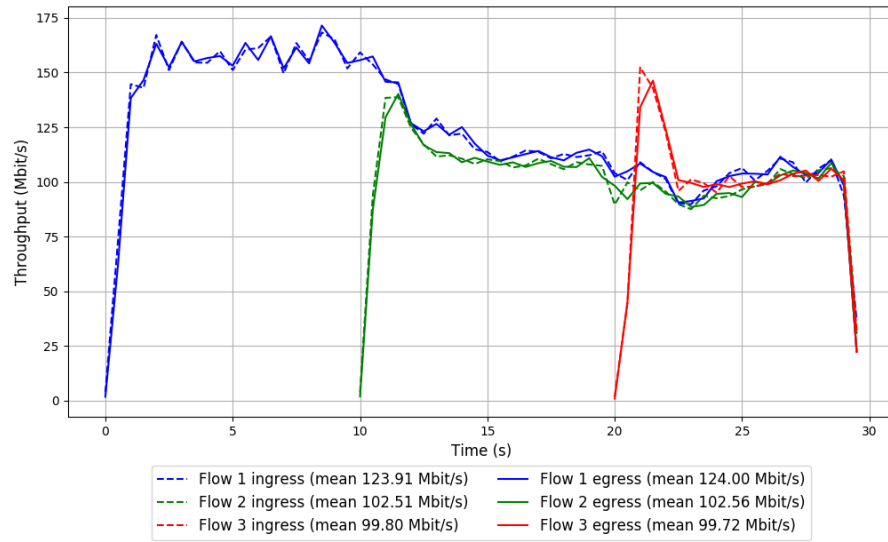
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2017-09-18 22:40:21
End at: 2017-09-18 22:40:51


# Below is generated by plot.py at 2017-09-19 02:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.16 Mbit/s
95th percentile per-packet one-way delay: 55.490 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 150.01 Mbit/s
95th percentile per-packet one-way delay: 55.459 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 131.22 Mbit/s
95th percentile per-packet one-way delay: 55.881 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 100.89 Mbit/s
95th percentile per-packet one-way delay: 54.890 ms
Loss rate: 1.23%
```
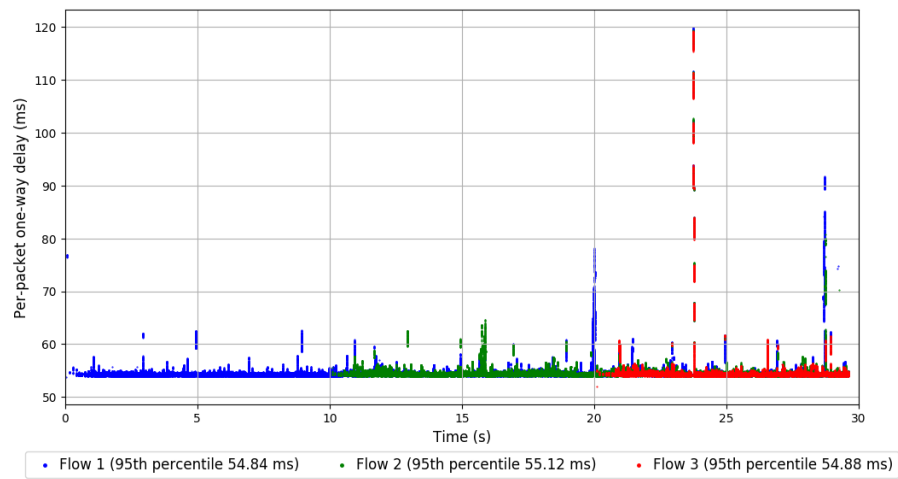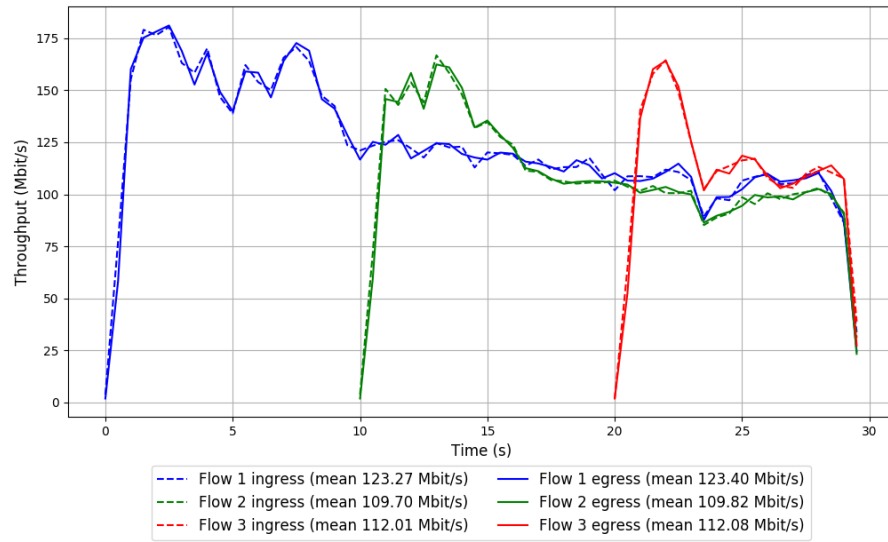
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-09-18 22:49:38
End at: 2017-09-18 22:50:08

# Below is generated by plot.py at 2017-09-19 02:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.65 Mbit/s
95th percentile per-packet one-way delay: 55.104 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 124.00 Mbit/s
95th percentile per-packet one-way delay: 54.988 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 102.56 Mbit/s
95th percentile per-packet one-way delay: 55.477 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 99.72 Mbit/s
95th percentile per-packet one-way delay: 54.990 ms
Loss rate: 1.19%
```
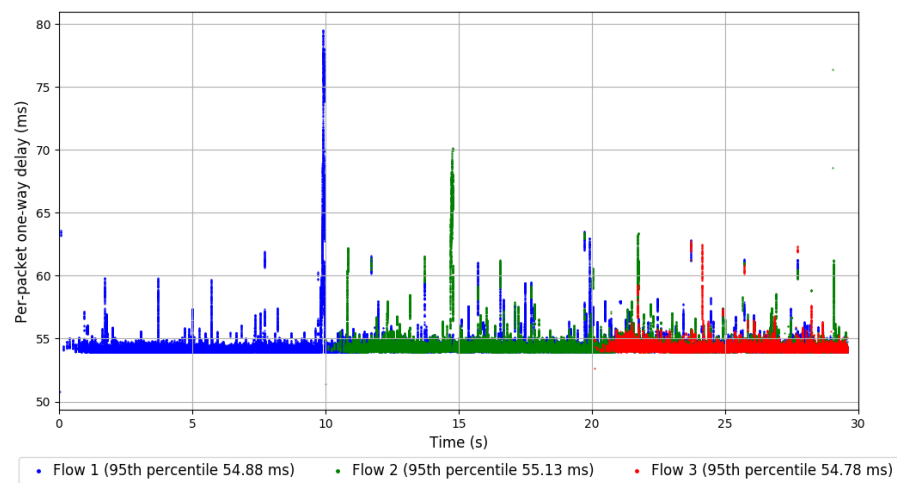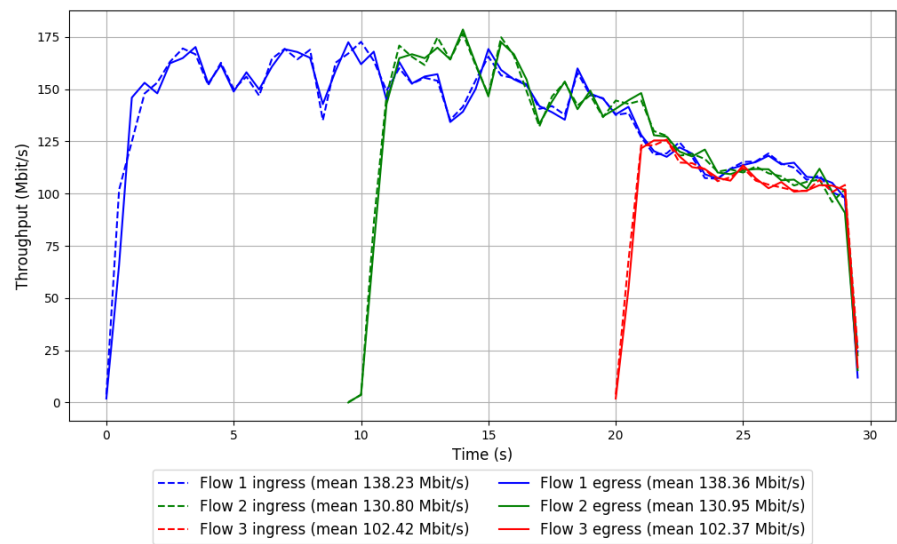
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 123.91 Mbit/s) --- Flow 1 egress (mean 124.00 Mbit/s)
Flow 2 ingress (mean 102.51 Mbit/s) --- Flow 2 egress (mean 102.56 Mbit/s)
Flow 3 ingress (mean 99.80 Mbit/s) --- Flow 3 egress (mean 99.72 Mbit/s)

Flow 1 (95th percentile 54.99 ms)   Flow 2 (95th percentile 55.48 ms)   Flow 3 (95th percentile 54.99 ms)

49

```
Run 4: Statistics of Indigo

Start at: 2017-09-18 22:58:28
End at: 2017-09-18 22:58:58


# Below is generated by plot.py at 2017-09-19 02:24:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.06 Mbit/s
95th percentile per-packet one-way delay: 54.933 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 123.40 Mbit/s
95th percentile per-packet one-way delay: 54.845 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 109.82 Mbit/s
95th percentile per-packet one-way delay: 55.116 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 112.08 Mbit/s
95th percentile per-packet one-way delay: 54.879 ms
Loss rate: 1.04%
```
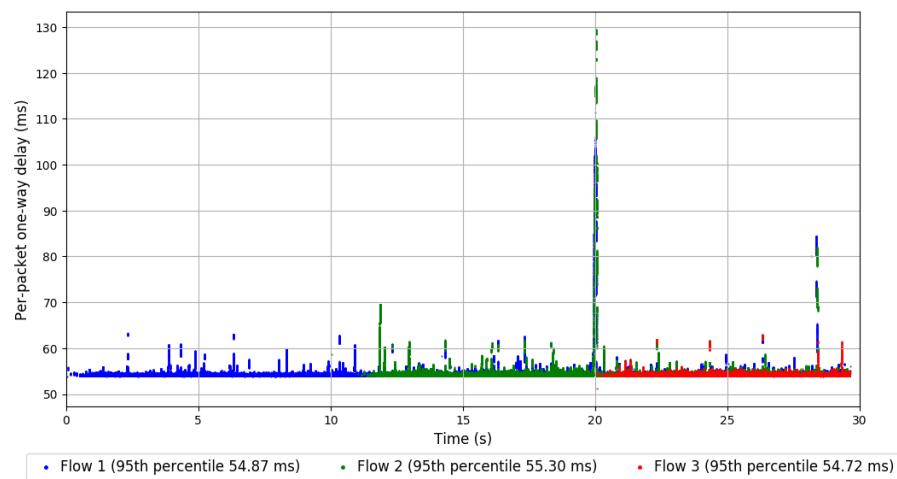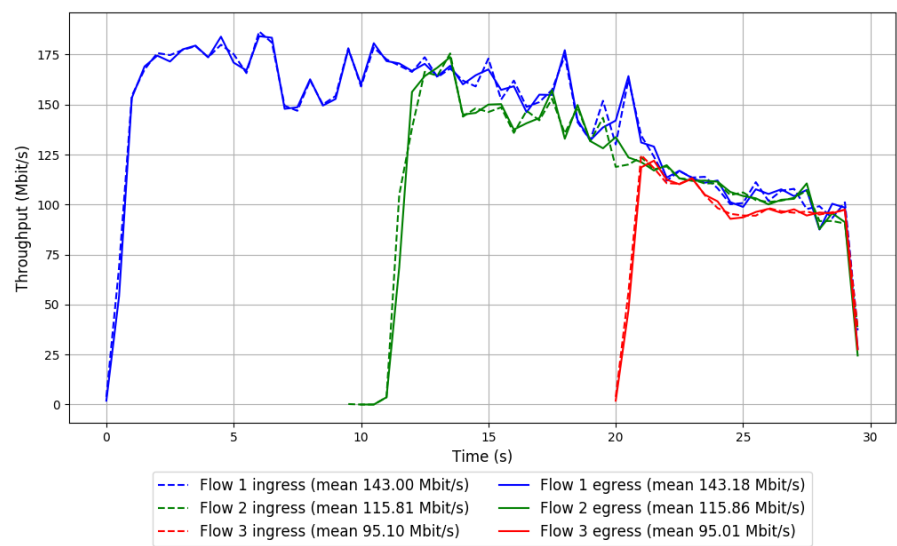
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2017-09-18 23:07:11
End at: 2017-09-18 23:07:41


# Below is generated by plot.py at 2017-09-19 02:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.02 Mbit/s
95th percentile per-packet one-way delay: 54.944 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 138.36 Mbit/s
95th percentile per-packet one-way delay: 54.876 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 130.95 Mbit/s
95th percentile per-packet one-way delay: 55.135 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 102.37 Mbit/s
95th percentile per-packet one-way delay: 54.778 ms
Loss rate: 1.12%
```
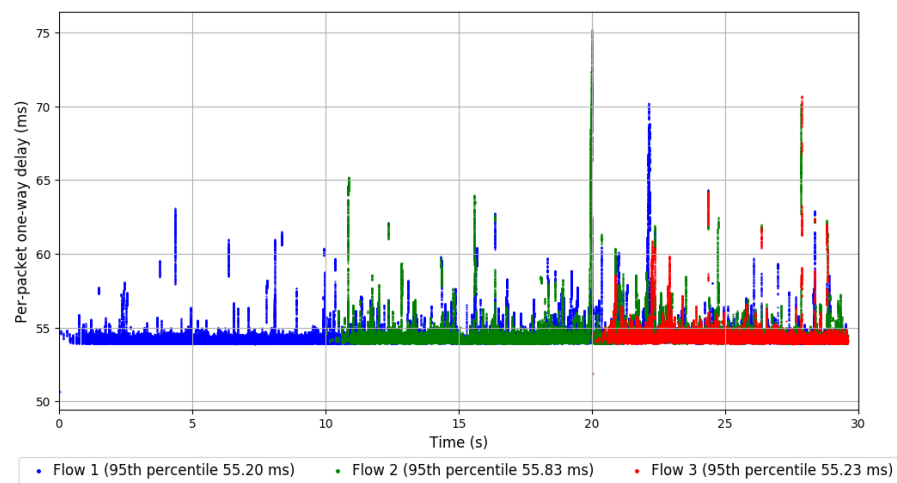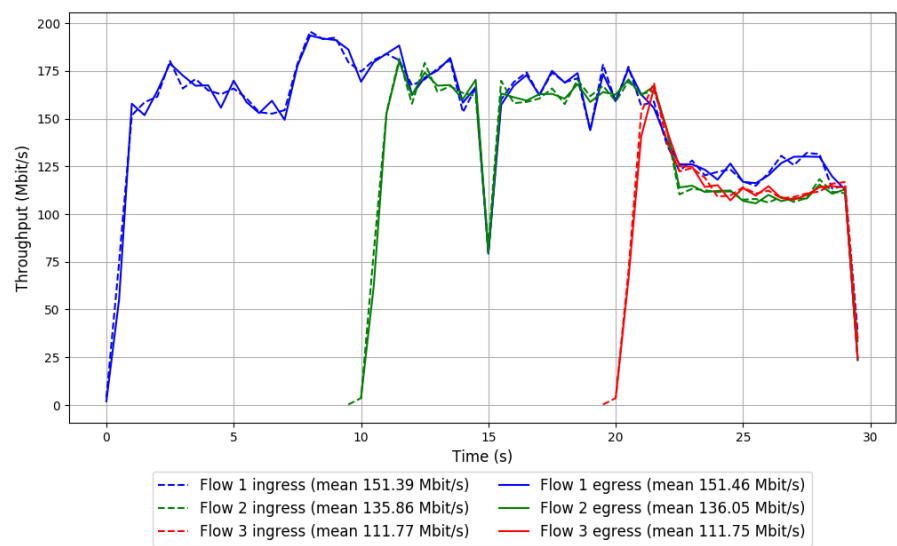
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-09-18 23:16:36
End at: 2017-09-18 23:17:06


# Below is generated by plot.py at 2017-09-19 02:25:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.59 Mbit/s
95th percentile per-packet one-way delay: 54.955 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 143.18 Mbit/s
95th percentile per-packet one-way delay: 54.865 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 115.86 Mbit/s
95th percentile per-packet one-way delay: 55.302 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 95.01 Mbit/s
95th percentile per-packet one-way delay: 54.715 ms
Loss rate: 1.14%
```
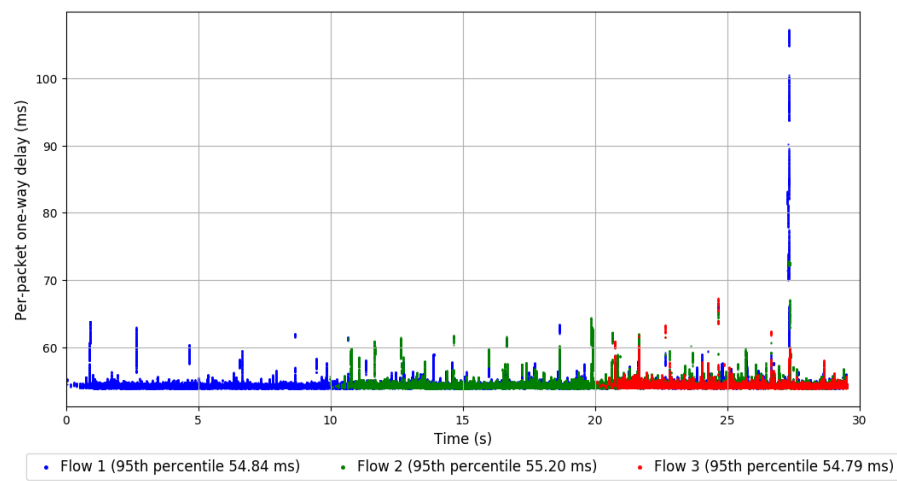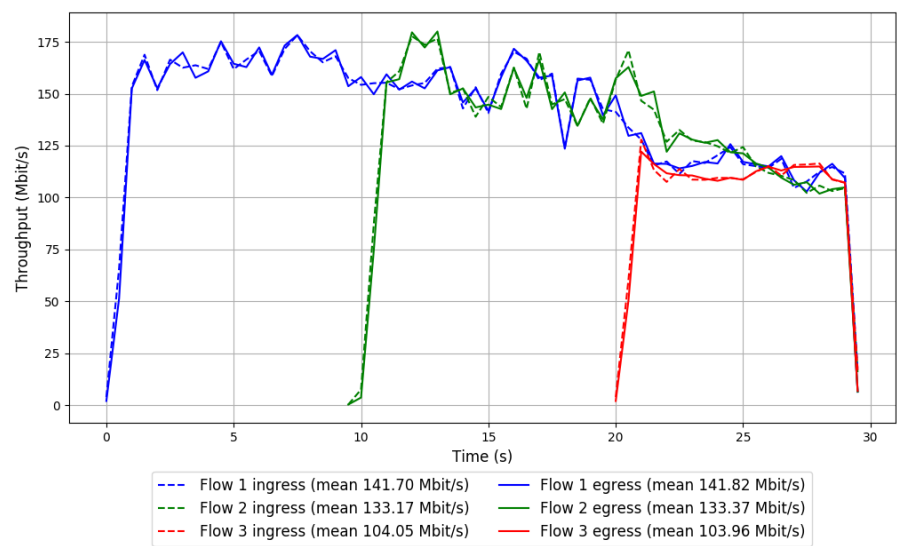
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-09-18 23:25:38
End at: 2017-09-18 23:26:08


# Below is generated by plot.py at 2017-09-19 02:26:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.66 Mbit/s
95th percentile per-packet one-way delay: 55.375 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 151.46 Mbit/s
95th percentile per-packet one-way delay: 55.202 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 136.05 Mbit/s
95th percentile per-packet one-way delay: 55.831 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 111.75 Mbit/s
95th percentile per-packet one-way delay: 55.230 ms
Loss rate: 1.12%
```
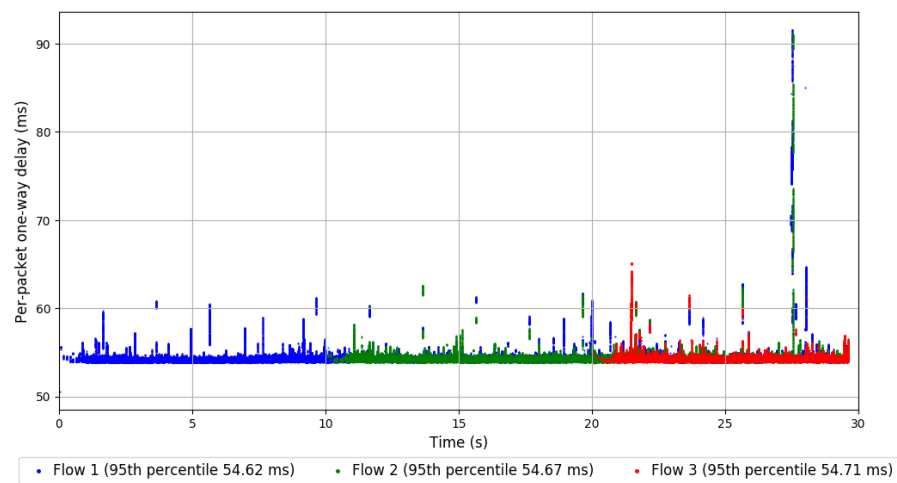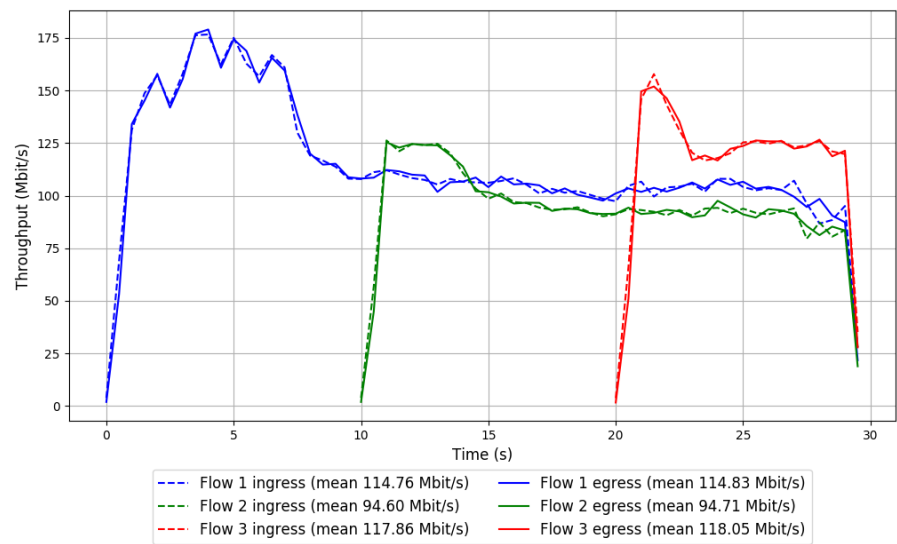
Run 7: Report of Indigo — Data Link

Flow 1 ingress (mean 151.39 Mbit/s) --- Flow 1 egress (mean 151.46 Mbit/s)
Flow 2 ingress (mean 135.86 Mbit/s) --- Flow 2 egress (mean 136.05 Mbit/s)
Flow 3 ingress (mean 111.77 Mbit/s) --- Flow 3 egress (mean 111.75 Mbit/s)

Flow 1 (95th percentile 55.20 ms) · Flow 2 (95th percentile 55.83 ms) · Flow 3 (95th percentile 55.23 ms)

```
Run 8: Statistics of Indigo

Start at: 2017-09-18 23:35:02
End at: 2017-09-18 23:35:32


# Below is generated by plot.py at 2017-09-19 02:26:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.64 Mbit/s
95th percentile per-packet one-way delay: 54.953 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 141.82 Mbit/s
95th percentile per-packet one-way delay: 54.836 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 133.37 Mbit/s
95th percentile per-packet one-way delay: 55.195 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 103.96 Mbit/s
95th percentile per-packet one-way delay: 54.788 ms
Loss rate: 1.19%
```
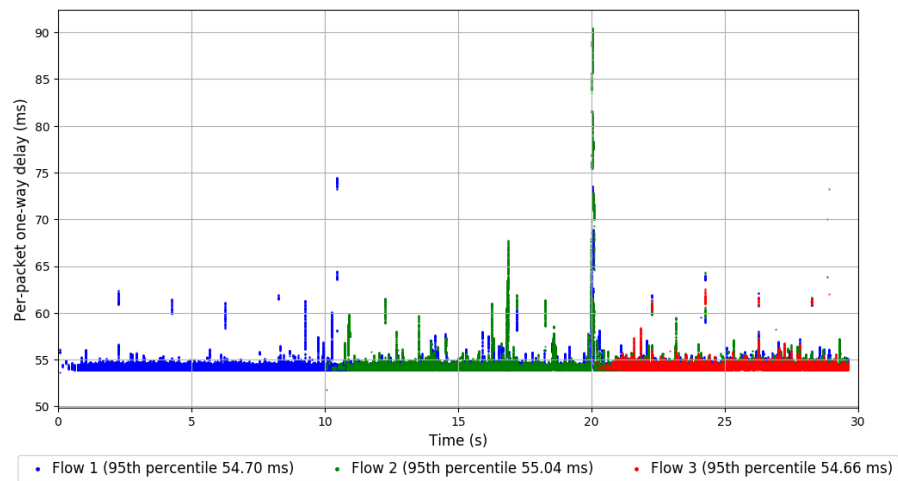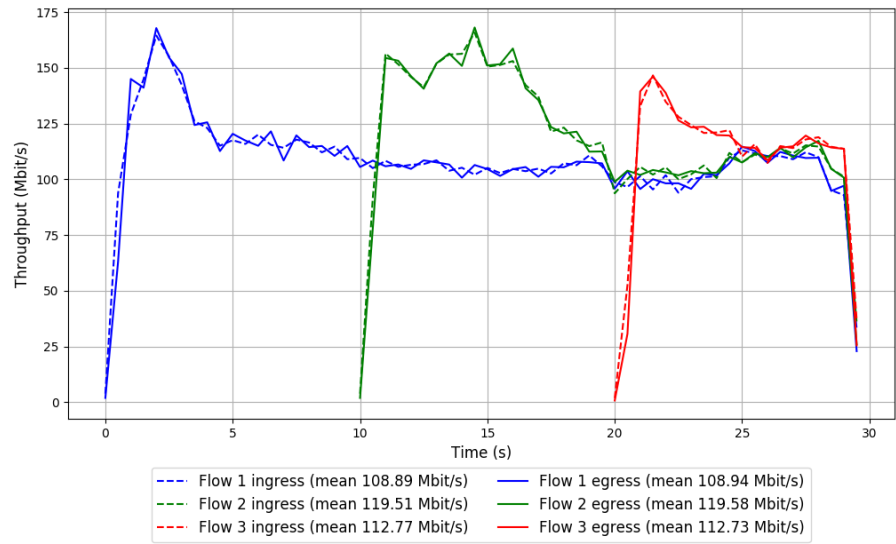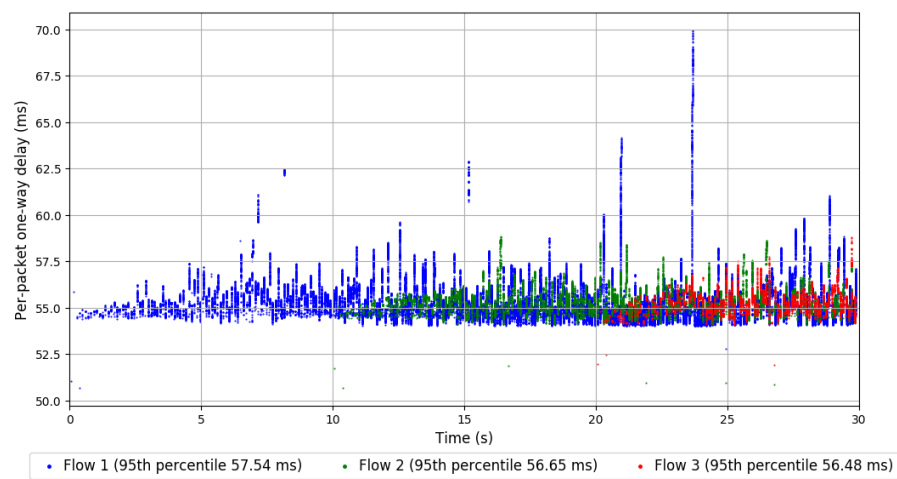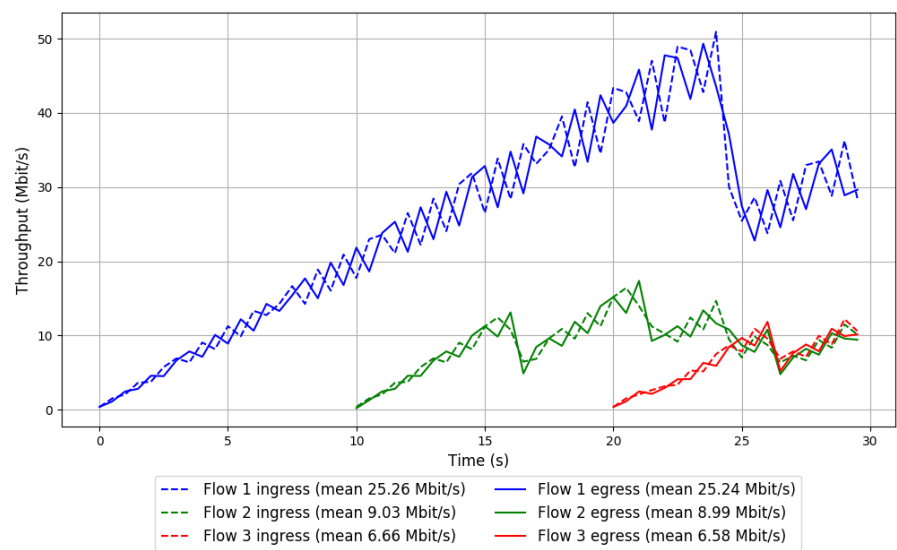
Run 8: Report of Indigo — Data Link

Flow 1 ingress (mean 141.70 Mbit/s)   Flow 1 egress (mean 141.82 Mbit/s)
Flow 2 ingress (mean 133.17 Mbit/s)   Flow 2 egress (mean 133.37 Mbit/s)
Flow 3 ingress (mean 104.05 Mbit/s)   Flow 3 egress (mean 103.96 Mbit/s)

Flow 1 (95th percentile 54.84 ms)   Flow 2 (95th percentile 55.20 ms)   Flow 3 (95th percentile 54.79 ms)

```
Run 9: Statistics of Indigo

Start at: 2017-09-18 23:43:53
End at: 2017-09-18 23:44:23


# Below is generated by plot.py at 2017-09-19 02:27:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.43 Mbit/s
95th percentile per-packet one-way delay: 54.650 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 114.83 Mbit/s
95th percentile per-packet one-way delay: 54.619 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 94.71 Mbit/s
95th percentile per-packet one-way delay: 54.671 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 118.05 Mbit/s
95th percentile per-packet one-way delay: 54.710 ms
Loss rate: 0.93%
```
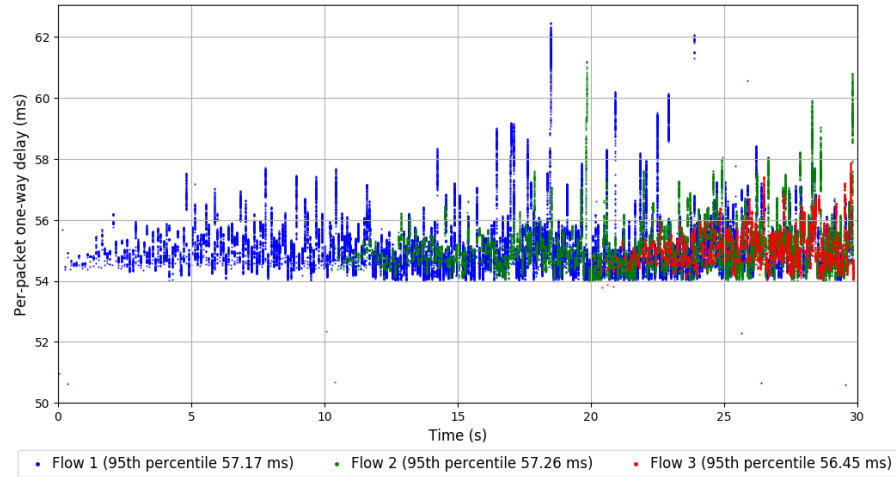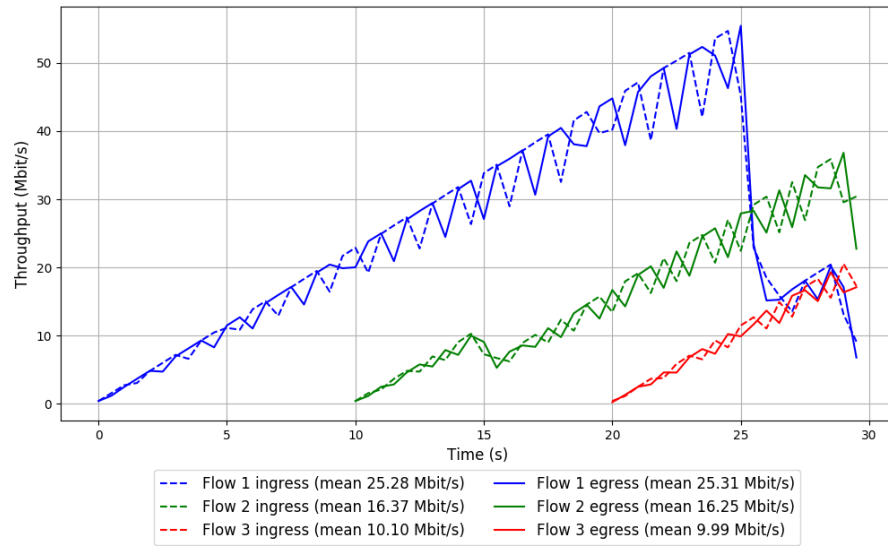
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-09-18 23:53:06
End at: 2017-09-18 23:53:36

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.96 Mbit/s
95th percentile per-packet one-way delay: 54.779 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 108.94 Mbit/s
95th percentile per-packet one-way delay: 54.701 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 119.58 Mbit/s
95th percentile per-packet one-way delay: 55.037 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 112.73 Mbit/s
95th percentile per-packet one-way delay: 54.663 ms
Loss rate: 1.17%
```

Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2017-09-18 22:36:55
End at: 2017-09-18 22:37:25


# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.36 Mbit/s
95th percentile per-packet one-way delay: 57.287 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 25.24 Mbit/s
95th percentile per-packet one-way delay: 57.538 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 56.645 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 56.483 ms
Loss rate: 2.26%
```
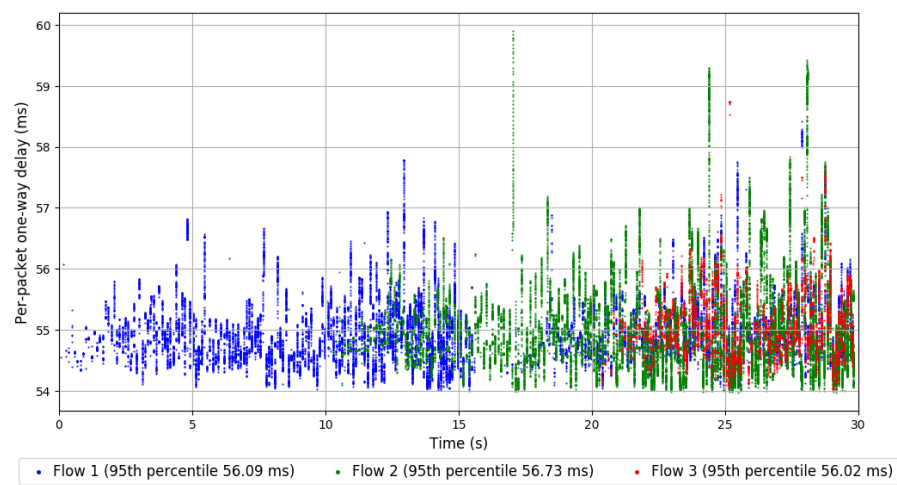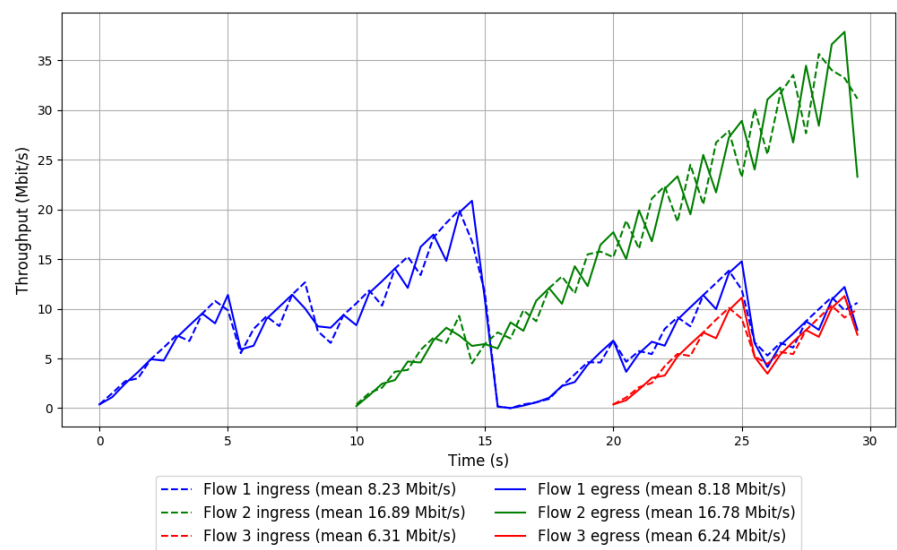
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-09-18 22:45:57
End at: 2017-09-18 22:46:27

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.31 Mbit/s
95th percentile per-packet one-way delay: 57.134 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 25.31 Mbit/s
95th percentile per-packet one-way delay: 57.175 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 16.25 Mbit/s
95th percentile per-packet one-way delay: 57.264 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 56.454 ms
Loss rate: 2.20%
```
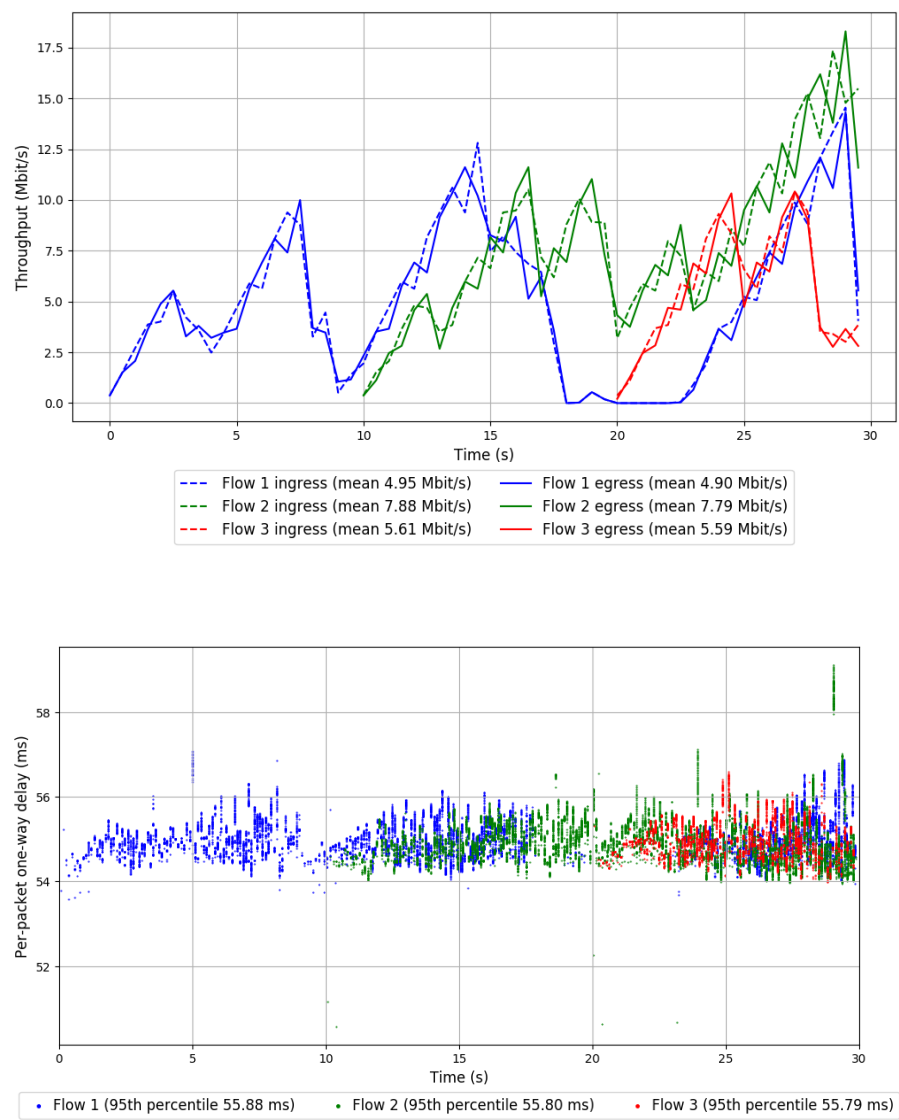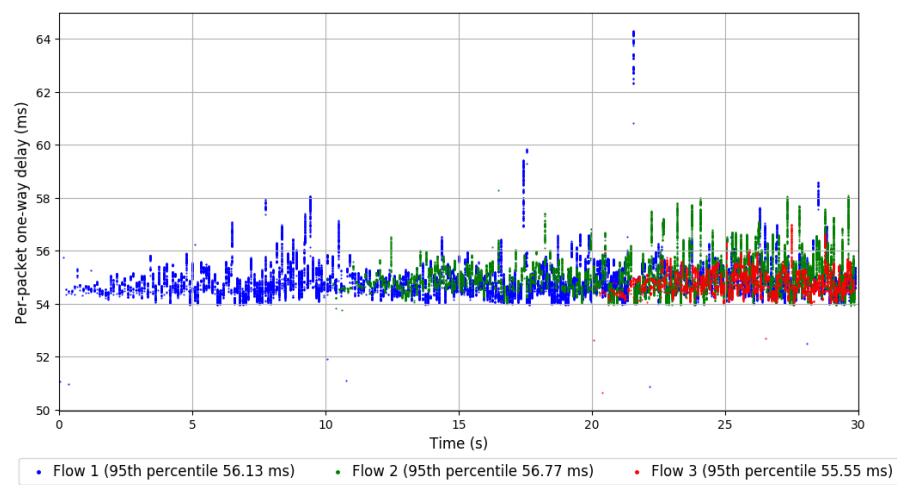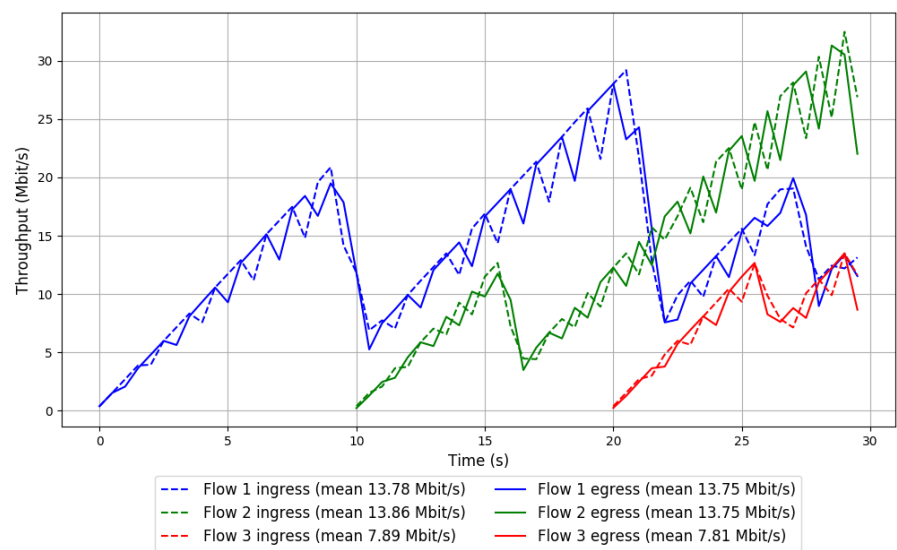
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-09-18 22:54:49
End at: 2017-09-18 22:55:19

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.34 Mbit/s
95th percentile per-packet one-way delay: 56.462 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 8.18 Mbit/s
95th percentile per-packet one-way delay: 56.093 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 16.78 Mbit/s
95th percentile per-packet one-way delay: 56.728 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 56.024 ms
Loss rate: 2.10%
```

Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2017-09-18 23:03:44
End at: 2017-09-18 23:04:14

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 55.844 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 55.877 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 55.805 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 5.59 Mbit/s
95th percentile per-packet one-way delay: 55.793 ms
Loss rate: 1.58%
```
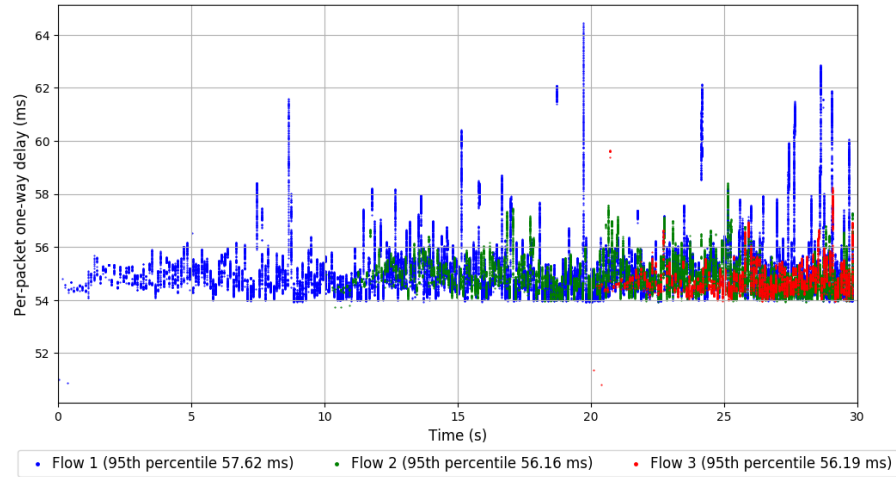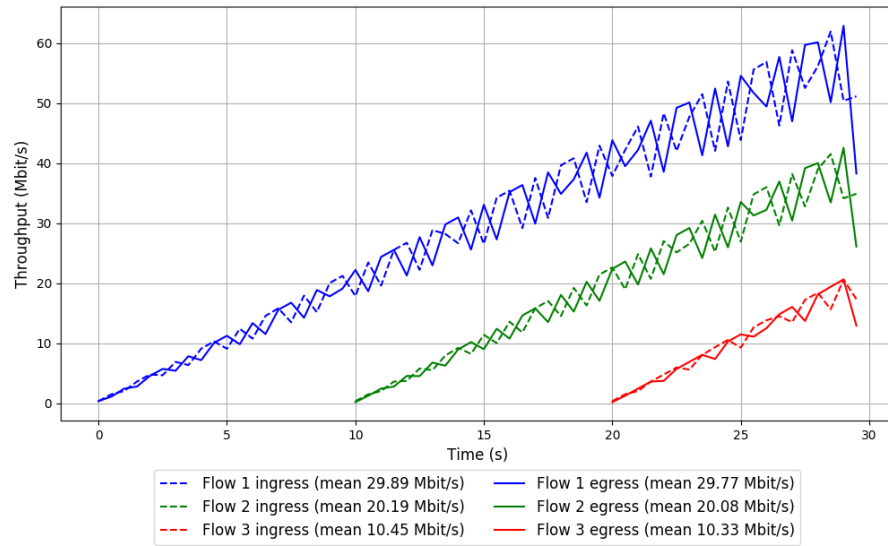
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-09-18 23:12:53
End at: 2017-09-18 23:13:23


# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 56.372 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 56.131 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 56.772 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 7.81 Mbit/s
95th percentile per-packet one-way delay: 55.546 ms
Loss rate: 2.04%
```
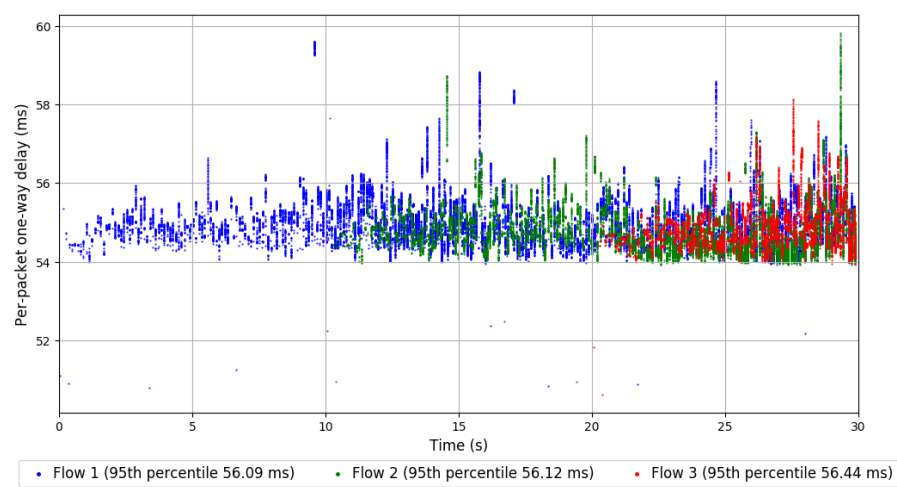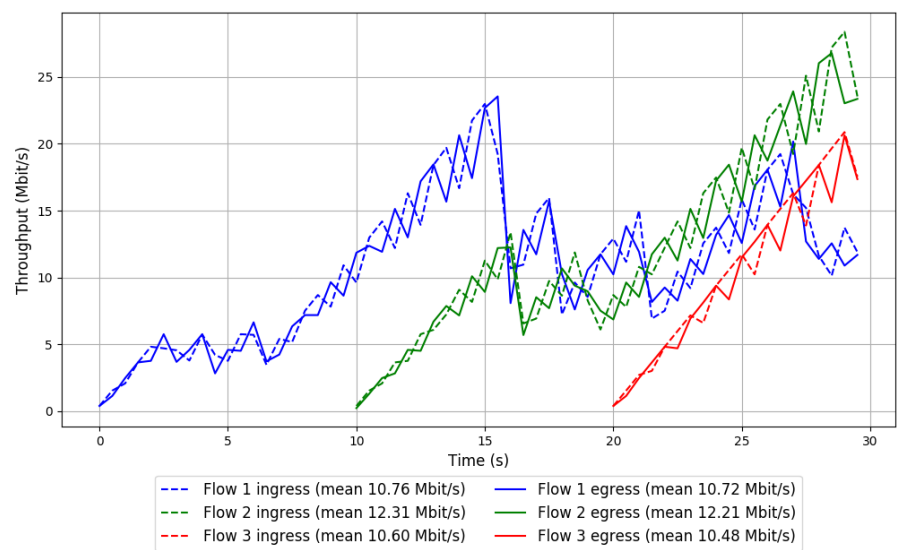
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2017-09-18 23:22:00
End at: 2017-09-18 23:22:30

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.47 Mbit/s
95th percentile per-packet one-way delay: 57.046 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 57.618 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 56.164 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 10.33 Mbit/s
95th percentile per-packet one-way delay: 56.188 ms
Loss rate: 2.15%
```
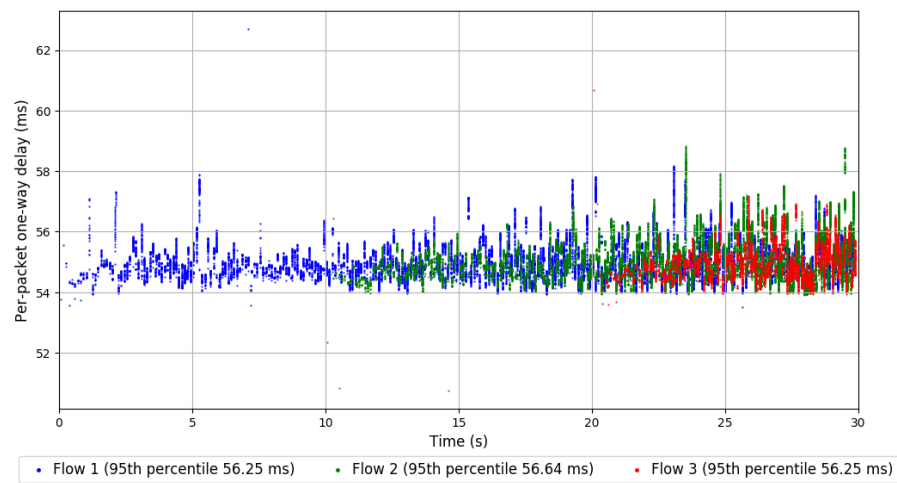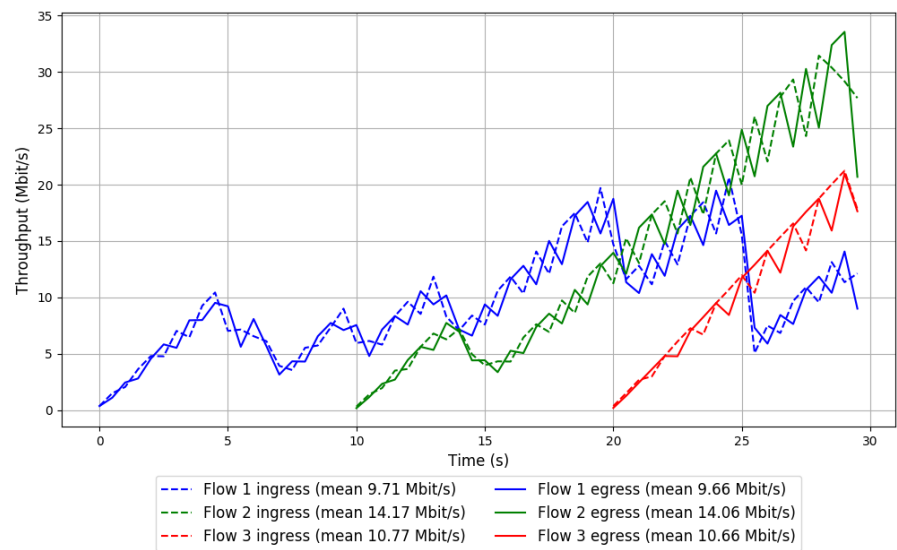
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-09-18 23:31:23
End at: 2017-09-18 23:31:53

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.26 Mbit/s
95th percentile per-packet one-way delay: 56.191 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 10.72 Mbit/s
95th percentile per-packet one-way delay: 56.085 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 12.21 Mbit/s
95th percentile per-packet one-way delay: 56.120 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 56.437 ms
Loss rate: 2.12%
```

Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-09-18 23:40:27
End at: 2017-09-18 23:40:57

# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 56.441 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 56.246 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 14.06 Mbit/s
95th percentile per-packet one-way delay: 56.640 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 10.66 Mbit/s
95th percentile per-packet one-way delay: 56.250 ms
Loss rate: 2.12%
```
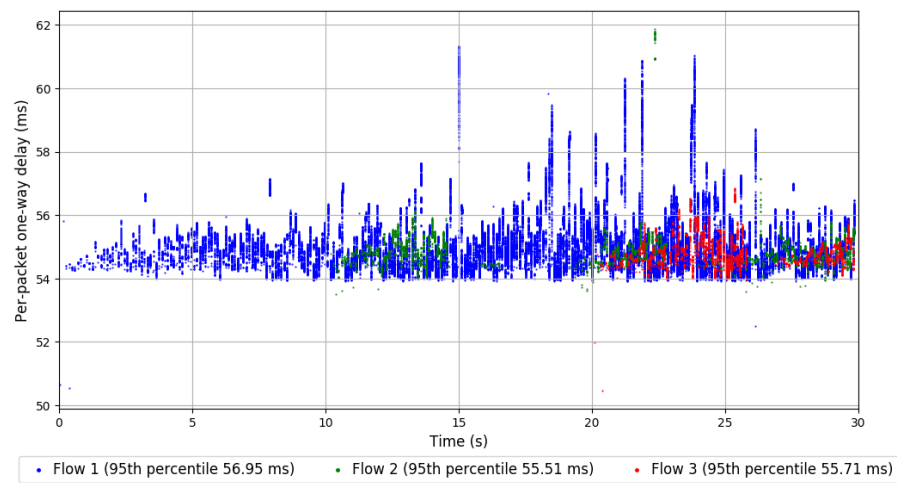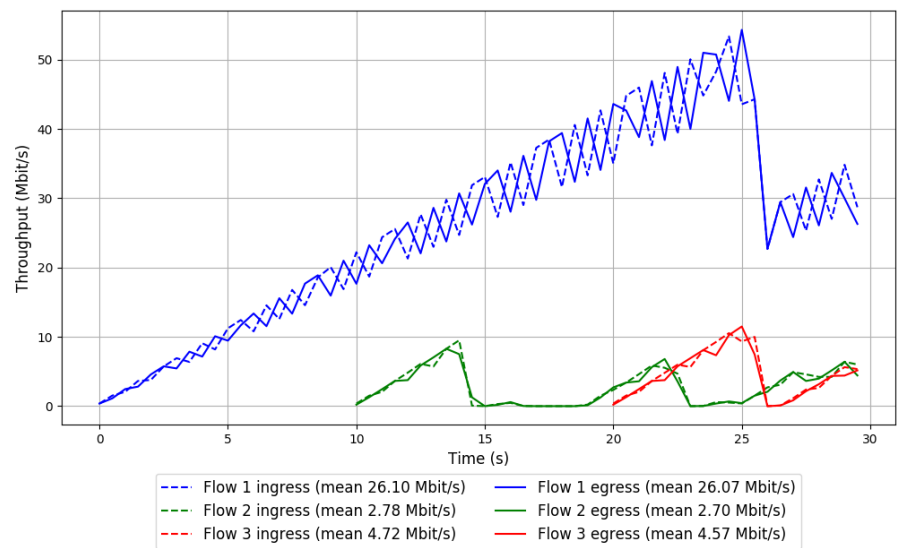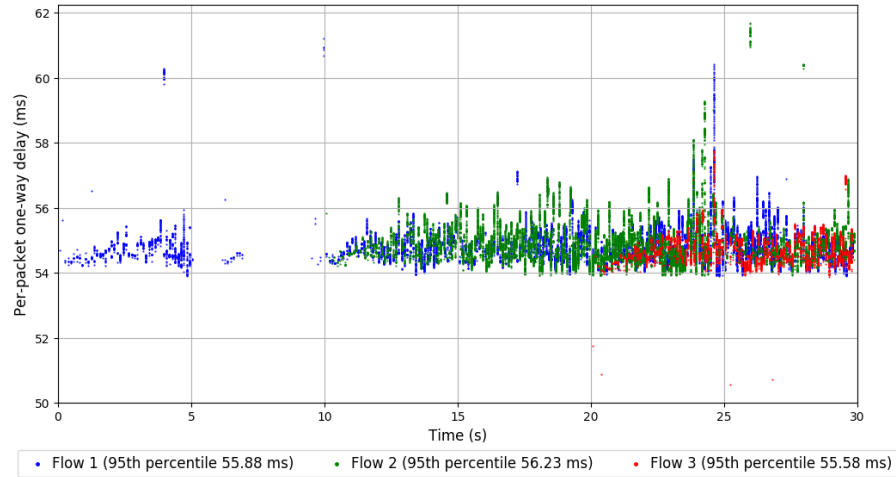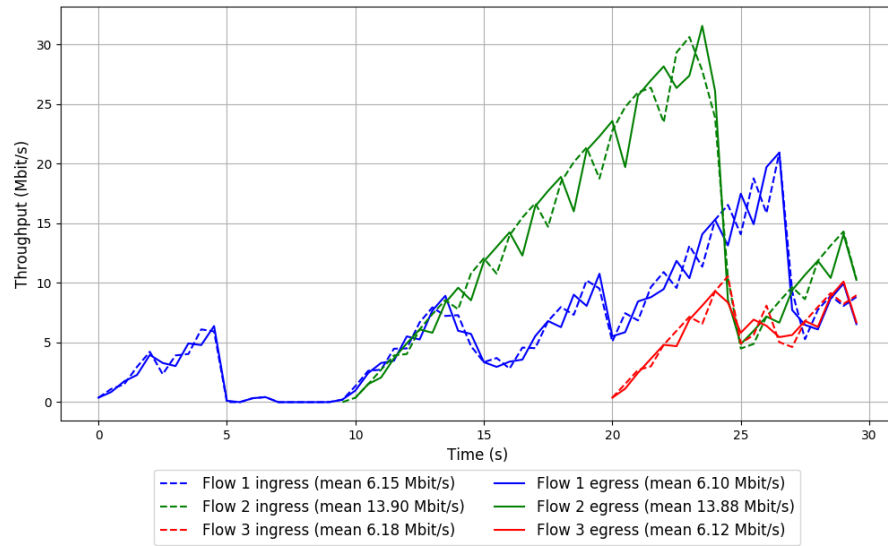
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2017-09-18 23:49:26
End at: 2017-09-18 23:49:56


# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.35 Mbit/s
95th percentile per-packet one-way delay: 56.850 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 56.949 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 55.512 ms
Loss rate: 3.40%
-- Flow 3:
Average throughput: 4.57 Mbit/s
95th percentile per-packet one-way delay: 55.706 ms
Loss rate: 4.30%
```
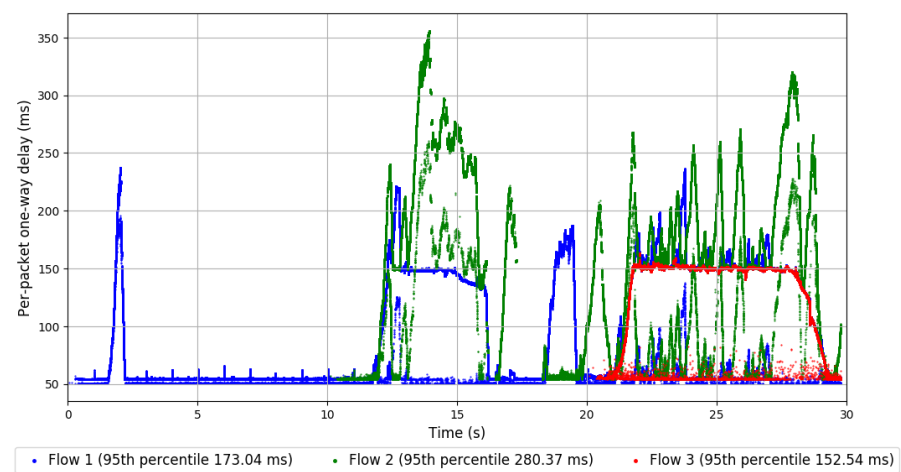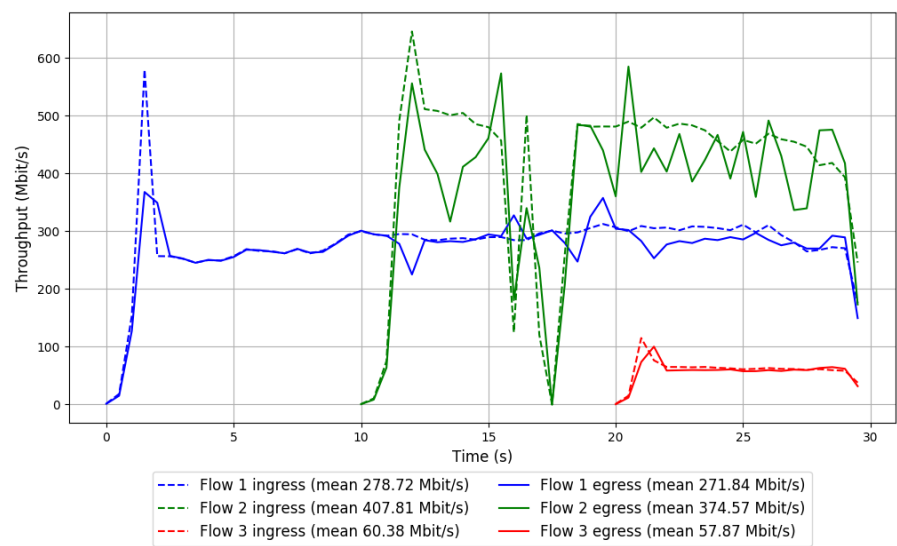
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-09-18 23:58:37
End at: 2017-09-18 23:59:07


# Below is generated by plot.py at 2017-09-19 02:28:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.31 Mbit/s
95th percentile per-packet one-way delay: 56.081 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 55.875 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 13.88 Mbit/s
95th percentile per-packet one-way delay: 56.233 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 55.581 ms
Loss rate: 2.13%
```
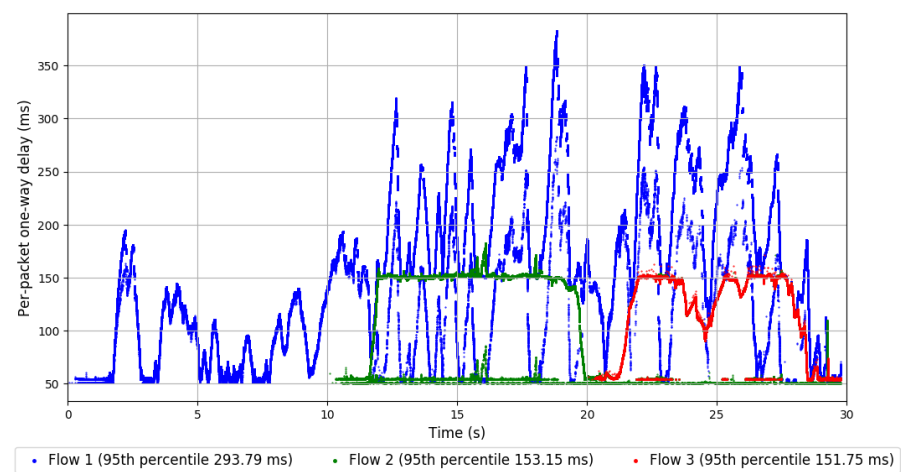
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2017-09-18 22:38:20
End at: 2017-09-18 22:38:50


# Below is generated by plot.py at 2017-09-19 02:36:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 538.13 Mbit/s
95th percentile per-packet one-way delay: 258.064 ms
Loss rate: 5.66%
-- Flow 1:
Average throughput: 271.84 Mbit/s
95th percentile per-packet one-way delay: 173.041 ms
Loss rate: 2.80%
-- Flow 2:
Average throughput: 374.57 Mbit/s
95th percentile per-packet one-way delay: 280.374 ms
Loss rate: 8.66%
-- Flow 3:
Average throughput: 57.87 Mbit/s
95th percentile per-packet one-way delay: 152.544 ms
Loss rate: 5.16%
```
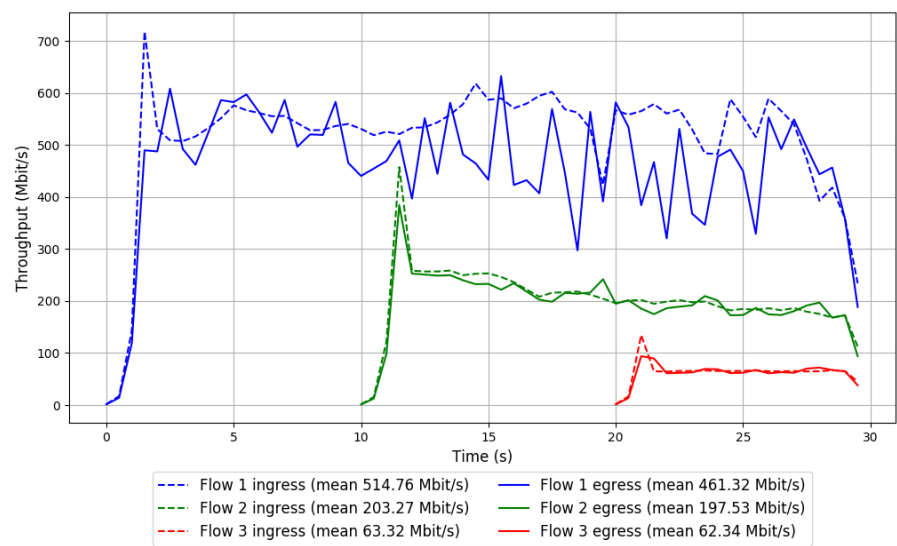
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 278.72 Mbit/s) ---- Flow 1 egress (mean 271.84 Mbit/s)
Flow 2 ingress (mean 407.81 Mbit/s) ---- Flow 2 egress (mean 374.57 Mbit/s)
Flow 3 ingress (mean 60.38 Mbit/s) ---- Flow 3 egress (mean 57.87 Mbit/s)

Flow 1 (95th percentile 173.04 ms) · Flow 2 (95th percentile 280.37 ms) · Flow 3 (95th percentile 152.54 ms)

```
Run 2: Statistics of PCC

Start at: 2017-09-18 22:47:22
End at: 2017-09-18 22:47:52


# Below is generated by plot.py at 2017-09-19 02:38:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 612.61 Mbit/s
95th percentile per-packet one-way delay: 283.439 ms
Loss rate: 8.97%
-- Flow 1:
Average throughput: 461.32 Mbit/s
95th percentile per-packet one-way delay: 293.787 ms
Loss rate: 10.69%
-- Flow 2:
Average throughput: 197.53 Mbit/s
95th percentile per-packet one-way delay: 153.149 ms
Loss rate: 3.37%
-- Flow 3:
Average throughput: 62.34 Mbit/s
95th percentile per-packet one-way delay: 151.752 ms
Loss rate: 2.62%
```
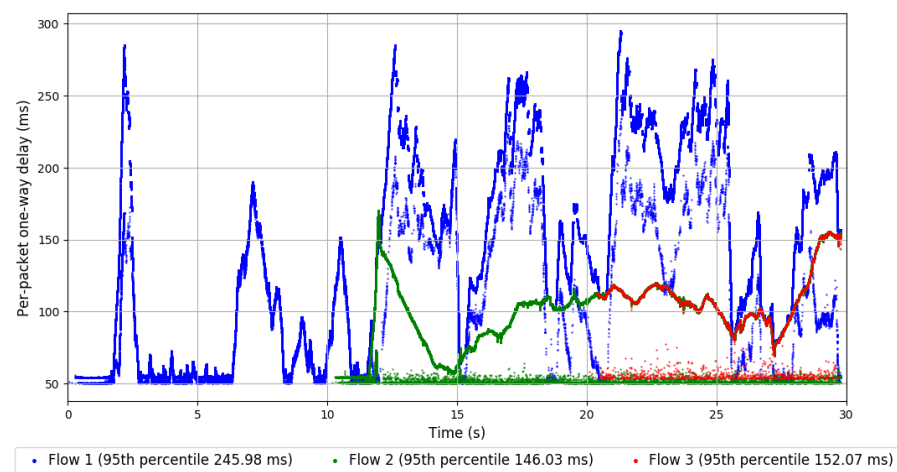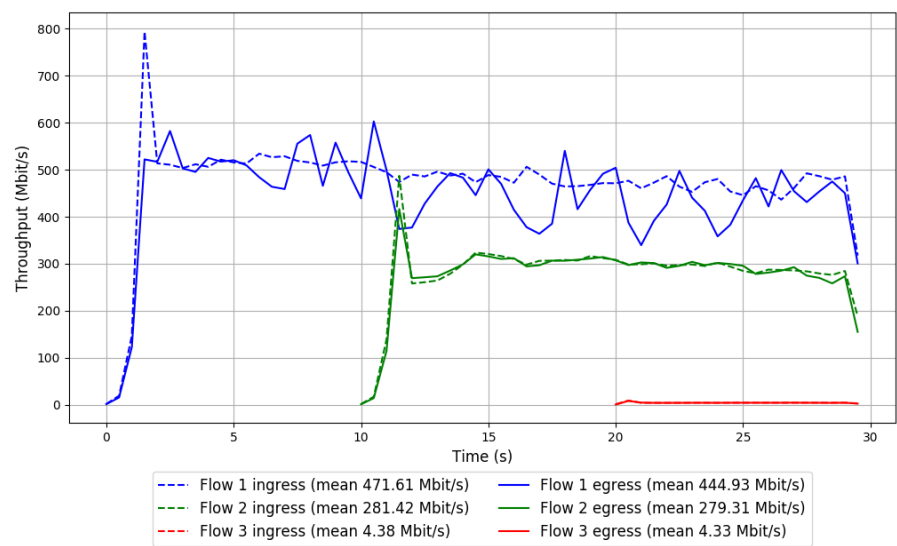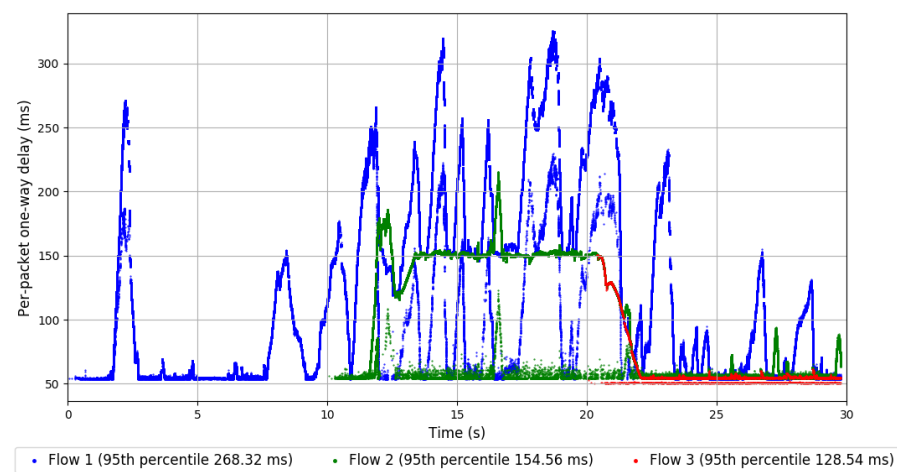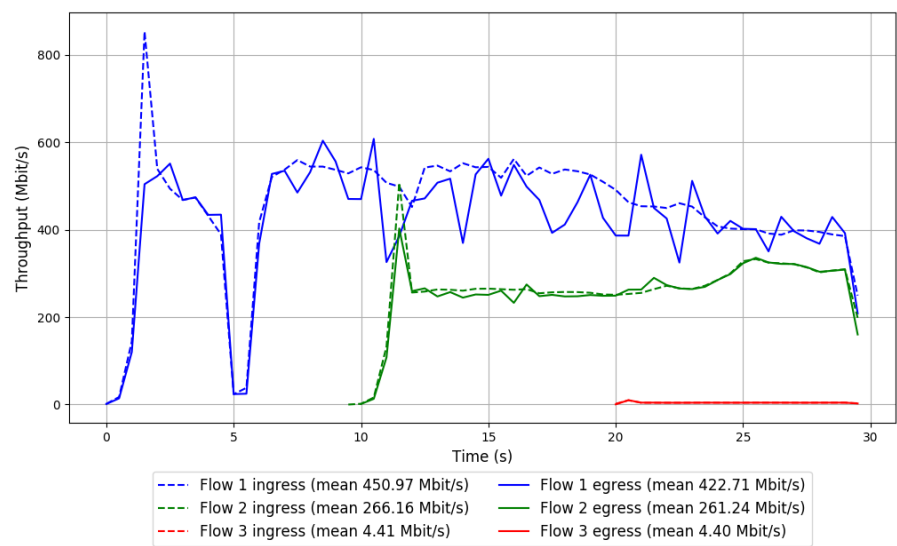
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 514.76 Mbit/s) ---- Flow 1 egress (mean 461.32 Mbit/s)
Flow 2 ingress (mean 203.27 Mbit/s) ---- Flow 2 egress (mean 197.53 Mbit/s)
Flow 3 ingress (mean 63.32 Mbit/s) ---- Flow 3 egress (mean 62.34 Mbit/s)

Flow 1 (95th percentile 293.79 ms)   Flow 2 (95th percentile 153.15 ms)   Flow 3 (95th percentile 151.75 ms)

```
Run 3: Statistics of PCC

Start at: 2017-09-18 22:56:13
End at: 2017-09-18 22:56:43


# Below is generated by plot.py at 2017-09-19 02:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 631.39 Mbit/s
95th percentile per-packet one-way delay: 238.317 ms
Loss rate: 4.67%
-- Flow 1:
Average throughput: 444.93 Mbit/s
95th percentile per-packet one-way delay: 245.978 ms
Loss rate: 5.98%
-- Flow 2:
Average throughput: 279.31 Mbit/s
95th percentile per-packet one-way delay: 146.029 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 152.067 ms
Loss rate: 2.15%
```
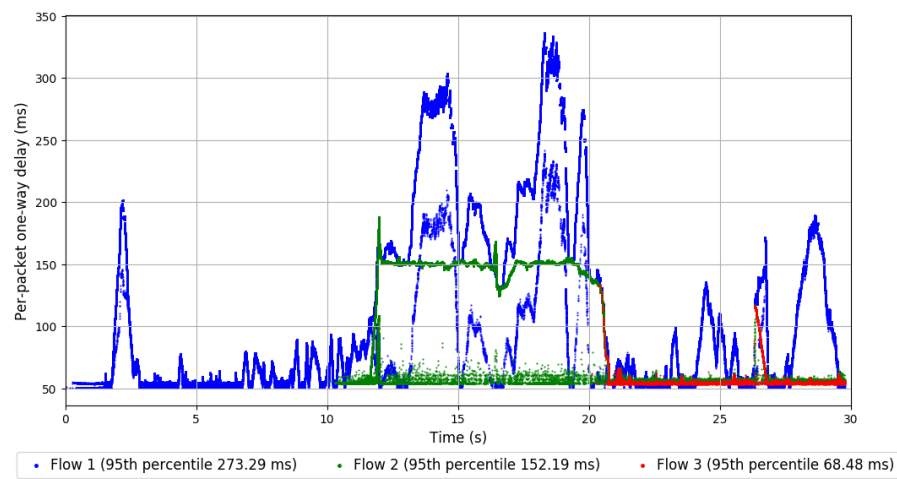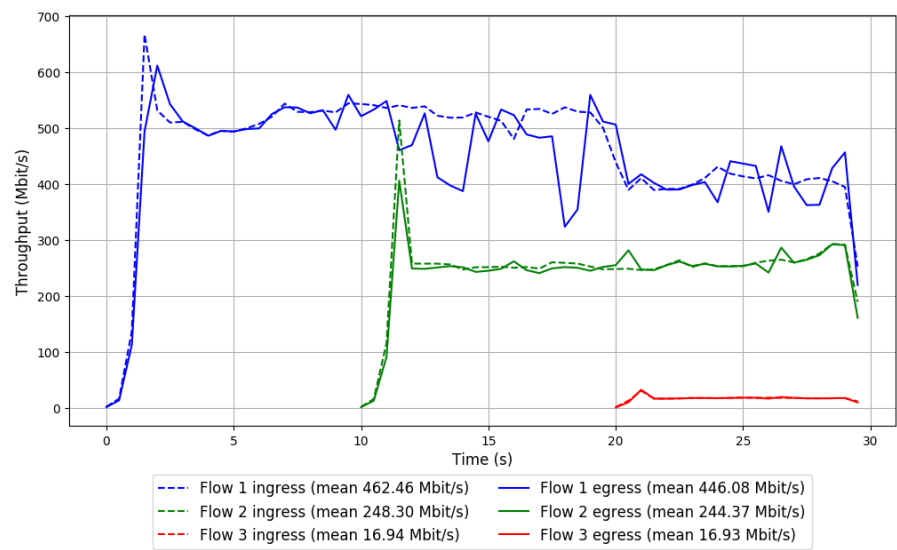
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 471.61 Mbit/s) --- Flow 1 egress (mean 444.93 Mbit/s)
Flow 2 ingress (mean 281.42 Mbit/s) --- Flow 2 egress (mean 279.31 Mbit/s)
Flow 3 ingress (mean 4.38 Mbit/s) --- Flow 3 egress (mean 4.33 Mbit/s)

Flow 1 (95th percentile 245.98 ms) · Flow 2 (95th percentile 146.03 ms) · Flow 3 (95th percentile 152.07 ms)

```
Run 4: Statistics of PCC

Start at: 2017-09-18 23:05:10
End at: 2017-09-18 23:05:40


# Below is generated by plot.py at 2017-09-19 02:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.49 Mbit/s
95th percentile per-packet one-way delay: 258.696 ms
Loss rate: 5.40%
-- Flow 1:
Average throughput: 422.71 Mbit/s
95th percentile per-packet one-way delay: 268.322 ms
Loss rate: 6.60%
-- Flow 2:
Average throughput: 261.24 Mbit/s
95th percentile per-packet one-way delay: 154.564 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 128.538 ms
Loss rate: 1.08%
```
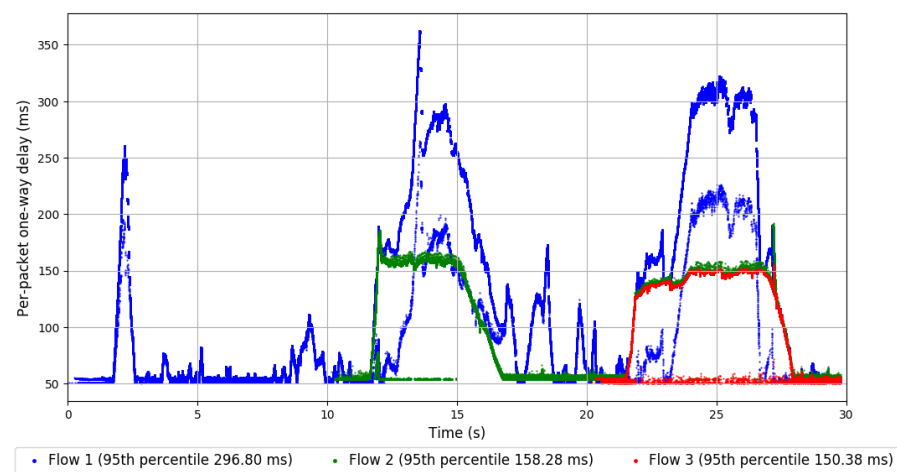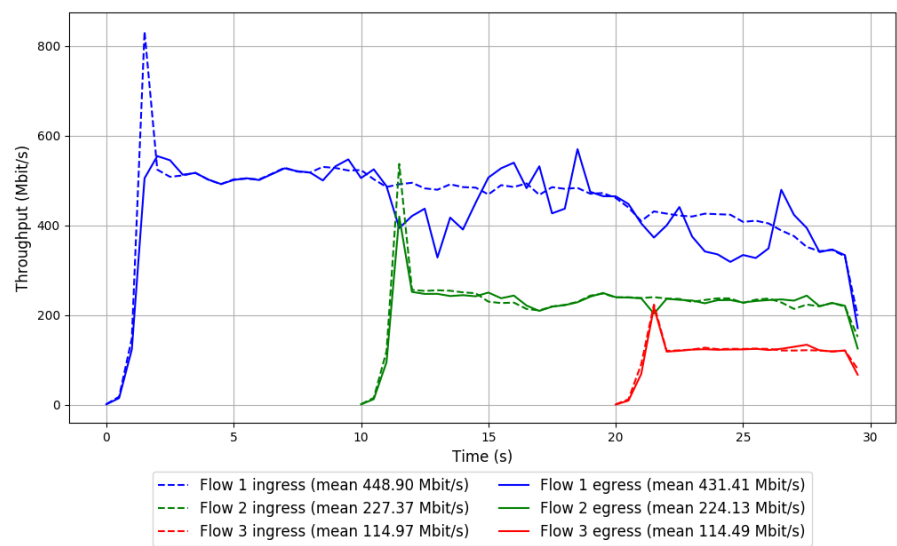
Run 4: Report of PCC — Data Link

```
Run 5: Statistics of PCC

Start at: 2017-09-18 23:14:23
End at: 2017-09-18 23:14:53

# Below is generated by plot.py at 2017-09-19 02:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 613.65 Mbit/s
95th percentile per-packet one-way delay: 250.606 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 446.08 Mbit/s
95th percentile per-packet one-way delay: 273.292 ms
Loss rate: 3.87%
-- Flow 2:
Average throughput: 244.37 Mbit/s
95th percentile per-packet one-way delay: 152.195 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 16.93 Mbit/s
95th percentile per-packet one-way delay: 68.481 ms
Loss rate: 1.20%
```
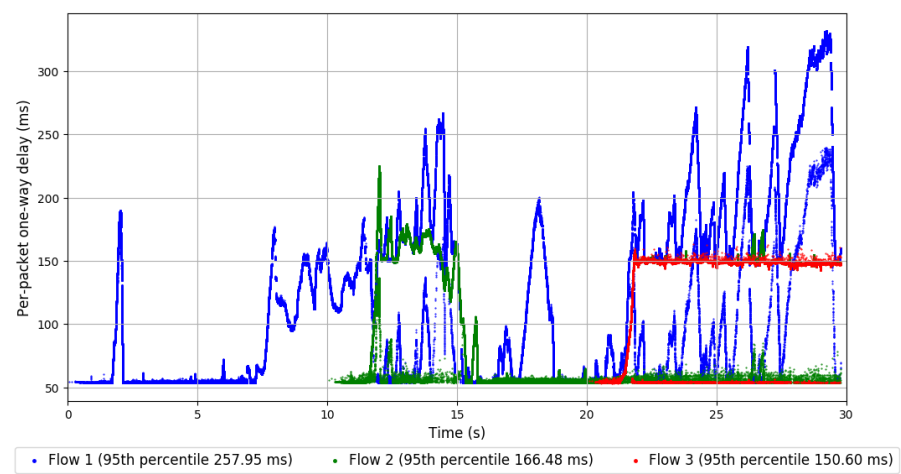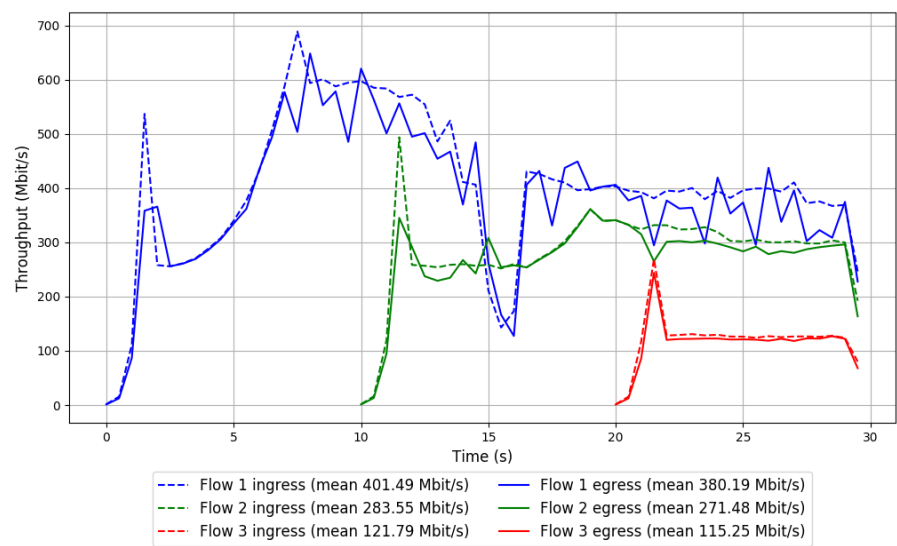
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 462.46 Mbit/s) — Flow 1 egress (mean 446.08 Mbit/s)
Flow 2 ingress (mean 248.30 Mbit/s) — Flow 2 egress (mean 244.37 Mbit/s)
Flow 3 ingress (mean 16.94 Mbit/s) — Flow 3 egress (mean 16.93 Mbit/s)

Flow 1 (95th percentile 273.29 ms) • Flow 2 (95th percentile 152.19 ms) • Flow 3 (95th percentile 68.48 ms)

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```
Run 6: Statistics of PCC

Start at: 2017-09-18 23:23:24
End at: 2017-09-18 23:23:54


# Below is generated by plot.py at 2017-09-19 02:38:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 617.35 Mbit/s
95th percentile per-packet one-way delay: 286.354 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 431.41 Mbit/s
95th percentile per-packet one-way delay: 296.802 ms
Loss rate: 4.23%
-- Flow 2:
Average throughput: 224.13 Mbit/s
95th percentile per-packet one-way delay: 158.277 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 114.49 Mbit/s
95th percentile per-packet one-way delay: 150.375 ms
Loss rate: 1.46%
```
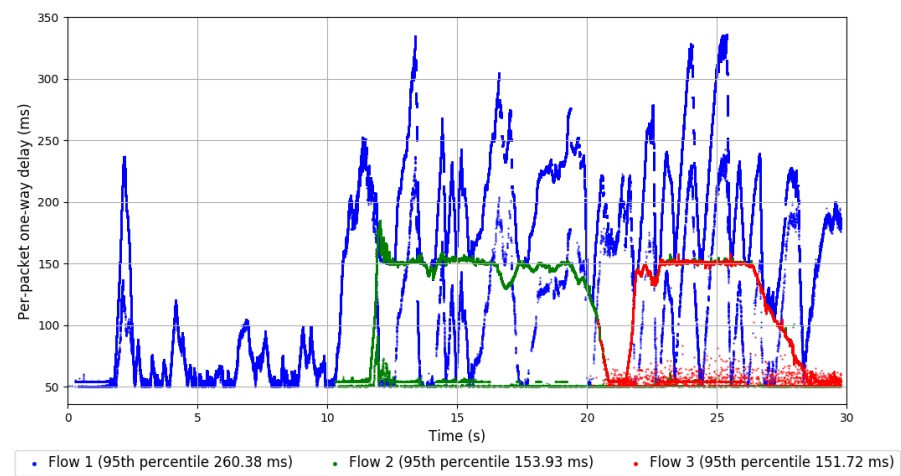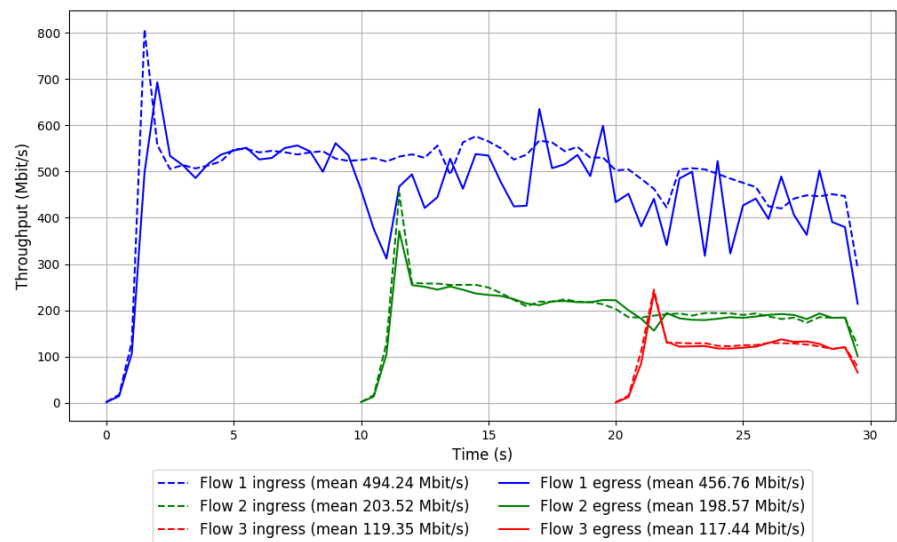
Run 6: Report of PCC — Data Link

```
Run 7: Statistics of PCC

Start at: 2017-09-18 23:32:48
End at: 2017-09-18 23:33:18

# Below is generated by plot.py at 2017-09-19 02:39:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.80 Mbit/s
95th percentile per-packet one-way delay: 237.892 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 380.19 Mbit/s
95th percentile per-packet one-way delay: 257.955 ms
Loss rate: 5.65%
-- Flow 2:
Average throughput: 271.48 Mbit/s
95th percentile per-packet one-way delay: 166.482 ms
Loss rate: 4.78%
-- Flow 3:
Average throughput: 115.25 Mbit/s
95th percentile per-packet one-way delay: 150.596 ms
Loss rate: 6.40%
```
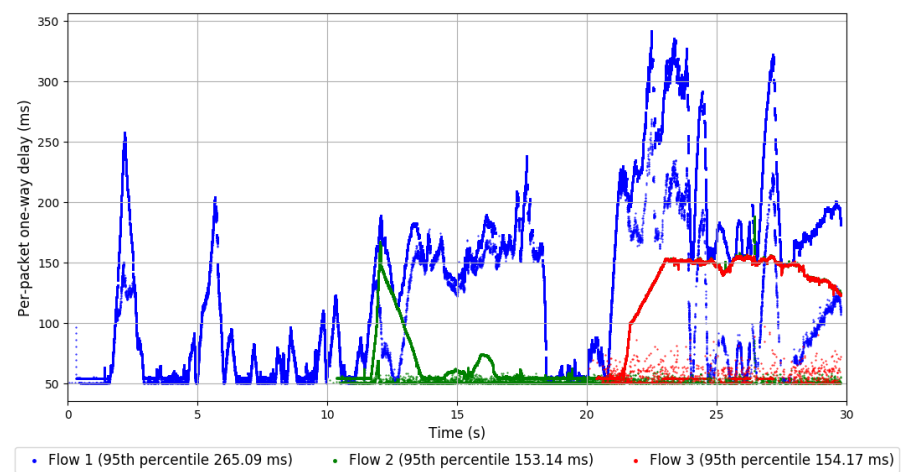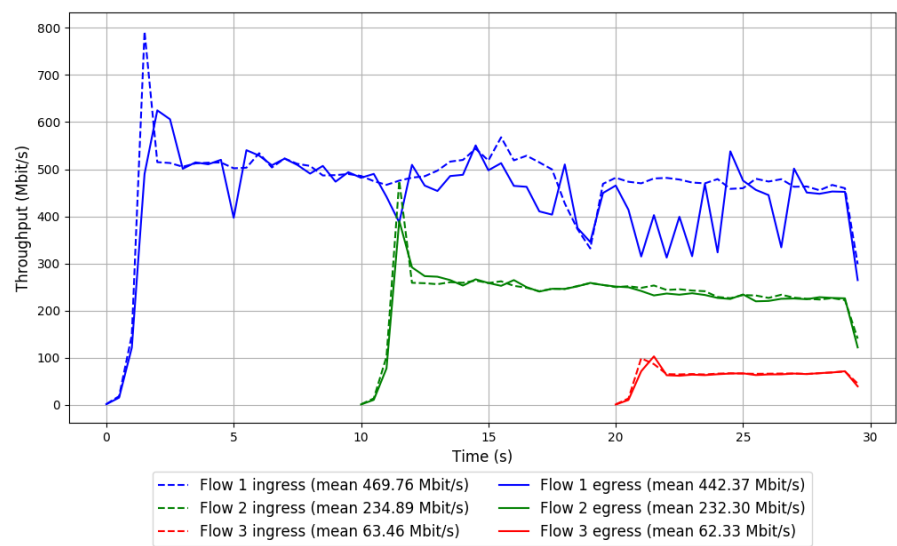
Run 7: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 401.49 Mbit/s) —— Flow 1 egress (mean 380.19 Mbit/s)
- - - - Flow 2 ingress (mean 283.55 Mbit/s) —— Flow 2 egress (mean 271.48 Mbit/s)
- - - - Flow 3 ingress (mean 121.79 Mbit/s) —— Flow 3 egress (mean 115.25 Mbit/s)

- Flow 1 (95th percentile 257.95 ms) • Flow 2 (95th percentile 166.48 ms) • Flow 3 (95th percentile 150.60 ms)
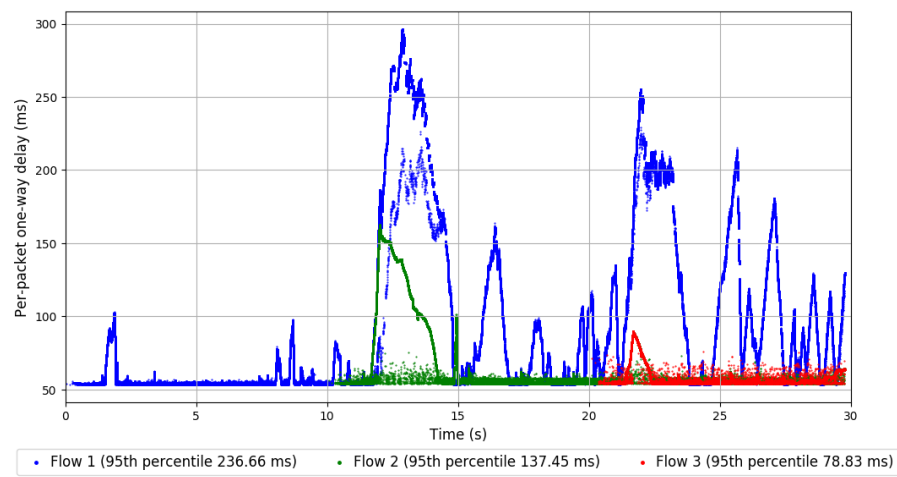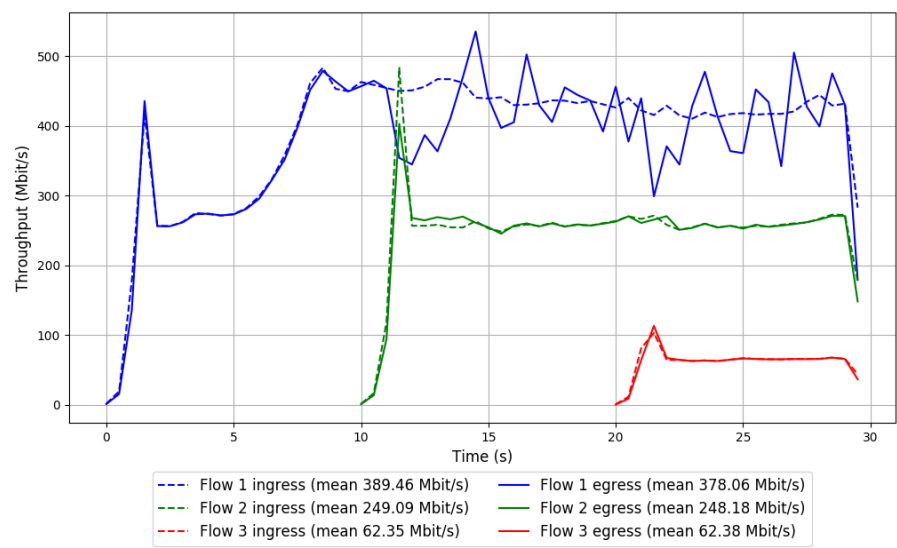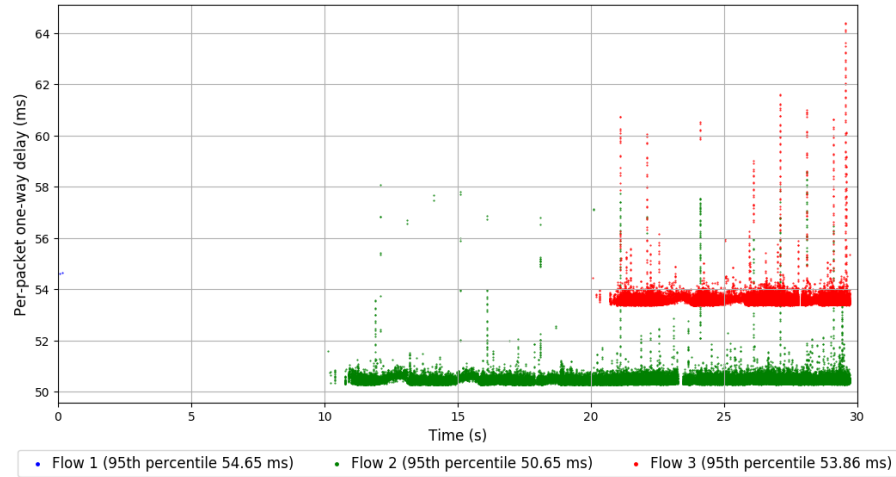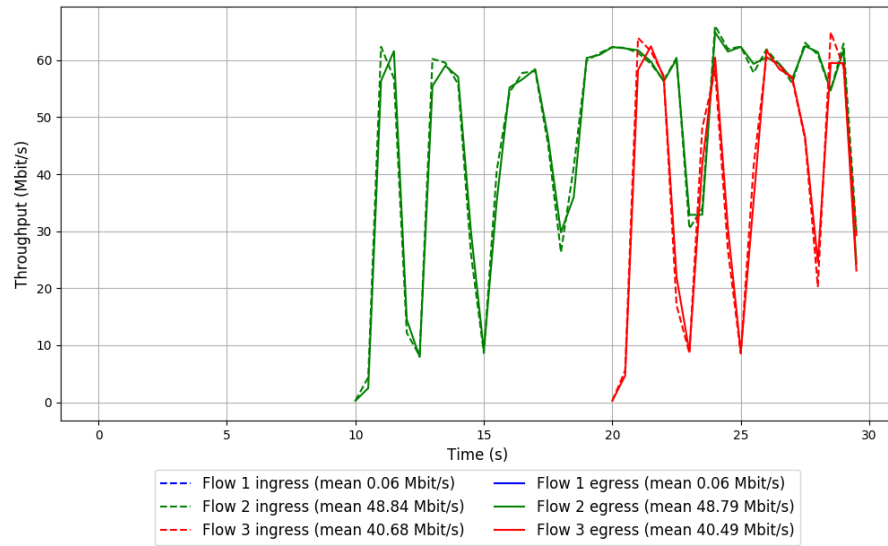
97

```
Run 8: Statistics of PCC

Start at: 2017-09-18 23:41:50
End at: 2017-09-18 23:42:20

# Below is generated by plot.py at 2017-09-19 02:41:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 626.59 Mbit/s
95th percentile per-packet one-way delay: 250.572 ms
Loss rate: 6.60%
-- Flow 1:
Average throughput: 456.76 Mbit/s
95th percentile per-packet one-way delay: 260.380 ms
Loss rate: 7.90%
-- Flow 2:
Average throughput: 198.57 Mbit/s
95th percentile per-packet one-way delay: 153.933 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 117.44 Mbit/s
95th percentile per-packet one-way delay: 151.721 ms
Loss rate: 2.74%
```

Run 8: Report of PCC — Data Link

- Flow 1 ingress (mean 494.24 Mbit/s) —— Flow 1 egress (mean 456.76 Mbit/s)
- Flow 2 ingress (mean 203.52 Mbit/s) —— Flow 2 egress (mean 198.57 Mbit/s)
- Flow 3 ingress (mean 119.35 Mbit/s) —— Flow 3 egress (mean 117.44 Mbit/s)

- Flow 1 (95th percentile 260.38 ms)   • Flow 2 (95th percentile 153.93 ms)   • Flow 3 (95th percentile 151.72 ms)

```
Run 9: Statistics of PCC

Start at: 2017-09-18 23:50:51
End at: 2017-09-18 23:51:21


# Below is generated by plot.py at 2017-09-19 02:49:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 616.29 Mbit/s
95th percentile per-packet one-way delay: 244.162 ms
Loss rate: 4.96%
-- Flow 1:
Average throughput: 442.37 Mbit/s
95th percentile per-packet one-way delay: 265.087 ms
Loss rate: 6.16%
-- Flow 2:
Average throughput: 232.30 Mbit/s
95th percentile per-packet one-way delay: 153.138 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 62.33 Mbit/s
95th percentile per-packet one-way delay: 154.172 ms
Loss rate: 2.93%
```
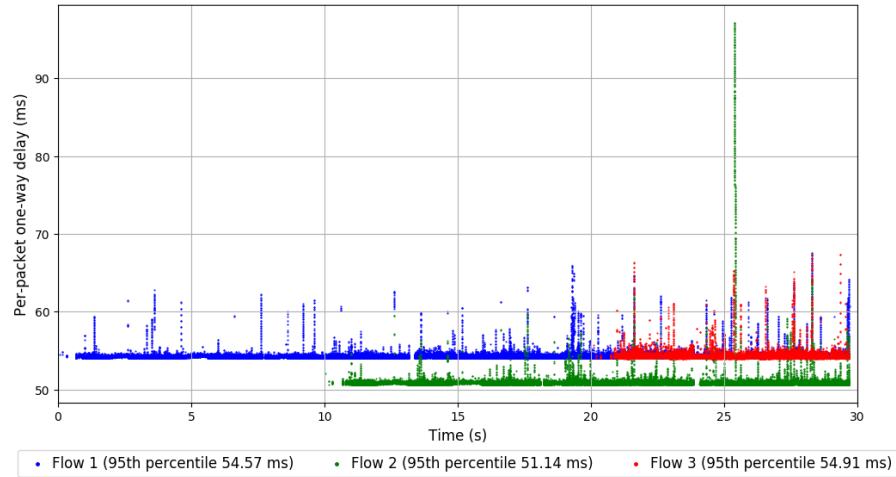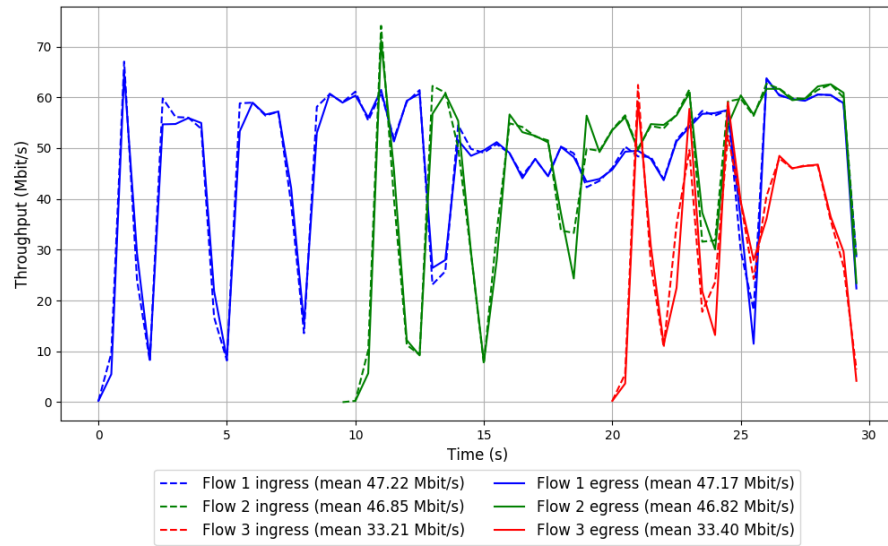
Run 9: Report of PCC — Data Link

- Flow 1 ingress (mean 469.76 Mbit/s)
- Flow 1 egress (mean 442.37 Mbit/s)
- Flow 2 ingress (mean 234.89 Mbit/s)
- Flow 2 egress (mean 232.30 Mbit/s)
- Flow 3 ingress (mean 63.46 Mbit/s)
- Flow 3 egress (mean 62.33 Mbit/s)

- Flow 1 (95th percentile 265.09 ms)
- Flow 2 (95th percentile 153.14 ms)
- Flow 3 (95th percentile 154.17 ms)

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```
Run 10: Statistics of PCC

Start at: 2017-09-18 23:59:59
End at: 2017-09-19 00:00:29


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 562.92 Mbit/s
95th percentile per-packet one-way delay: 206.351 ms
Loss rate: 2.52%
-- Flow 1:
Average throughput: 378.06 Mbit/s
95th percentile per-packet one-way delay: 236.665 ms
Loss rate: 3.27%
-- Flow 2:
Average throughput: 248.18 Mbit/s
95th percentile per-packet one-way delay: 137.447 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 62.38 Mbit/s
95th percentile per-packet one-way delay: 78.834 ms
Loss rate: 1.31%
```
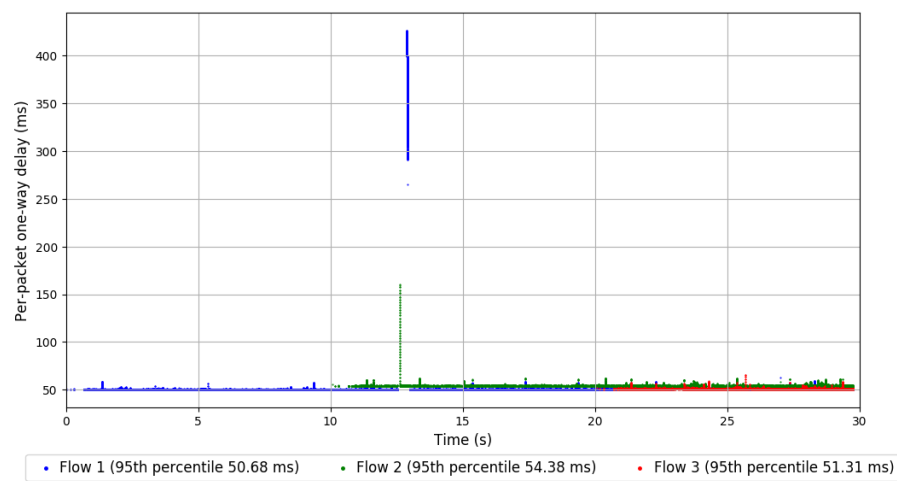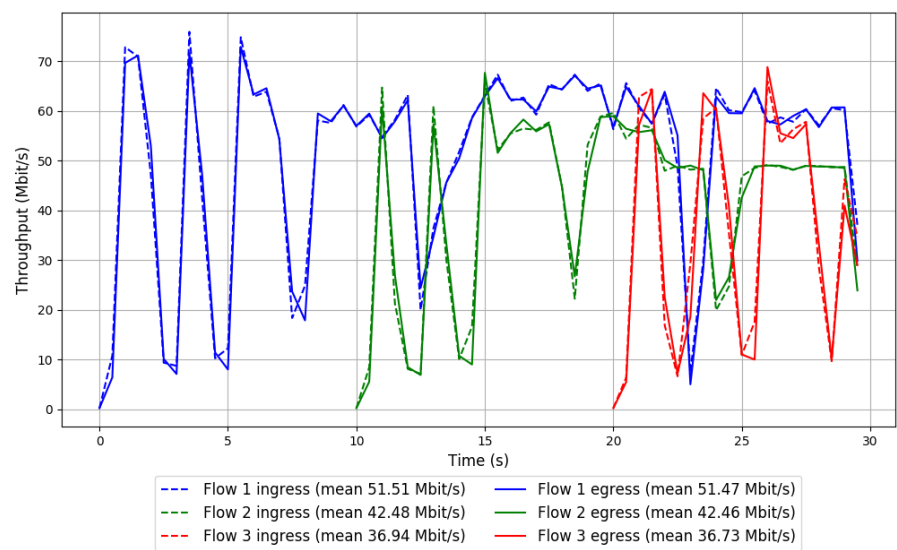
Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-18 22:32:30
End at: 2017-09-18 22:33:00

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 53.687 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 54.646 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.79 Mbit/s
95th percentile per-packet one-way delay: 50.652 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 53.864 ms
Loss rate: 1.55%
```
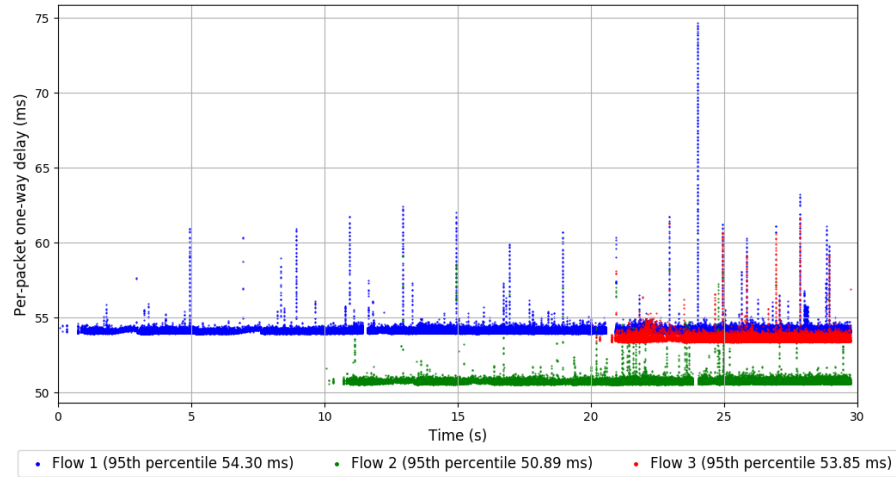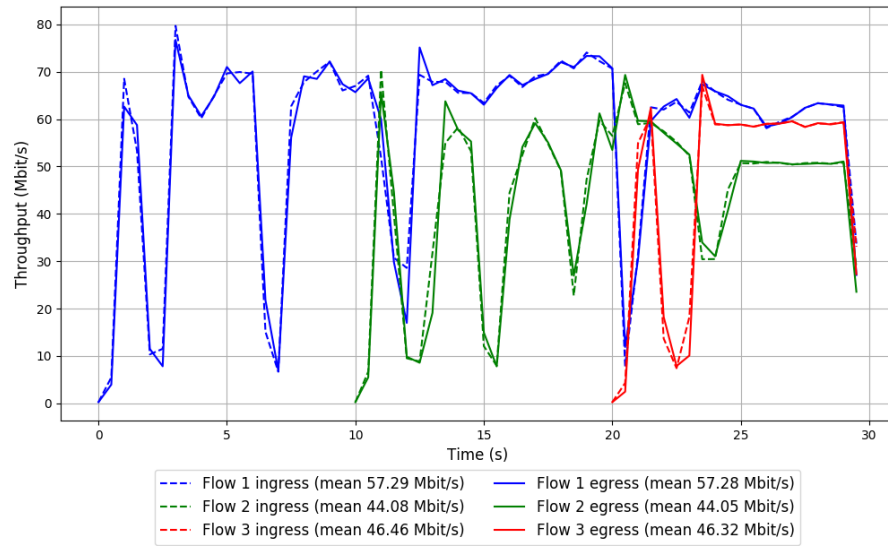
Run 1: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 0.06 Mbit/s) —— Flow 1 egress (mean 0.06 Mbit/s)
- - - Flow 2 ingress (mean 48.84 Mbit/s) —— Flow 2 egress (mean 48.79 Mbit/s)
- - - Flow 3 ingress (mean 40.68 Mbit/s) —— Flow 3 egress (mean 40.49 Mbit/s)

- Flow 1 (95th percentile 54.65 ms)   · Flow 2 (95th percentile 50.65 ms)   · Flow 3 (95th percentile 53.86 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-18 22:41:26
End at: 2017-09-18 22:41:56


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.00 Mbit/s
95th percentile per-packet one-way delay: 54.536 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 47.17 Mbit/s
95th percentile per-packet one-way delay: 54.574 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: 51.136 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 33.40 Mbit/s
95th percentile per-packet one-way delay: 54.911 ms
Loss rate: 0.57%
```
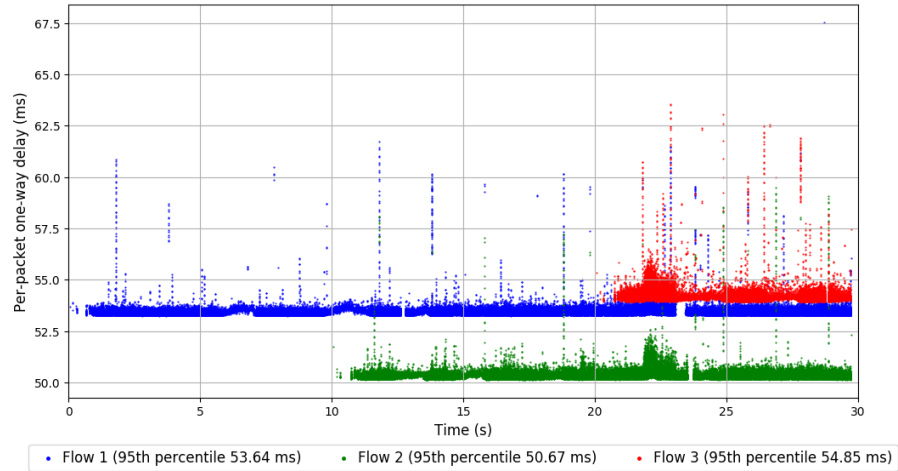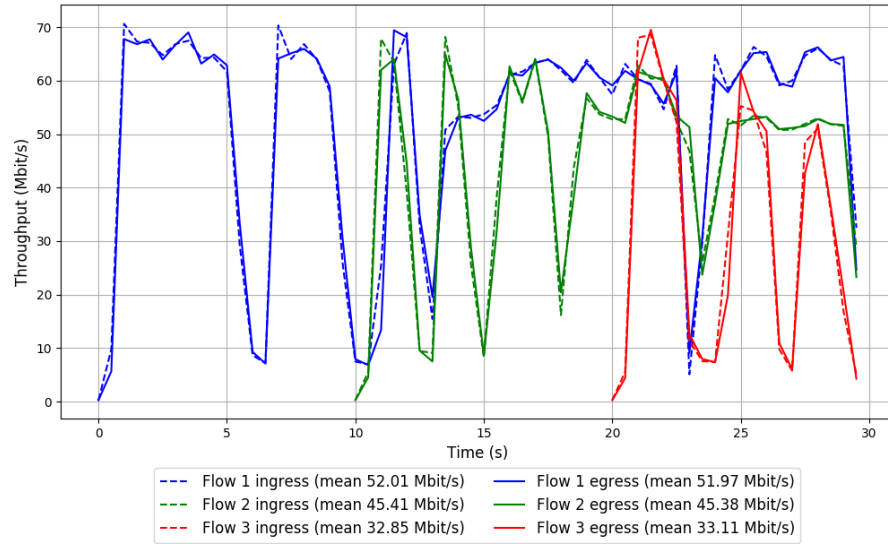
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-18 22:50:37
End at: 2017-09-18 22:51:07


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.58 Mbit/s
95th percentile per-packet one-way delay: 54.241 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 51.47 Mbit/s
95th percentile per-packet one-way delay: 50.678 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 42.46 Mbit/s
95th percentile per-packet one-way delay: 54.376 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 36.73 Mbit/s
95th percentile per-packet one-way delay: 51.308 ms
Loss rate: 1.63%
```
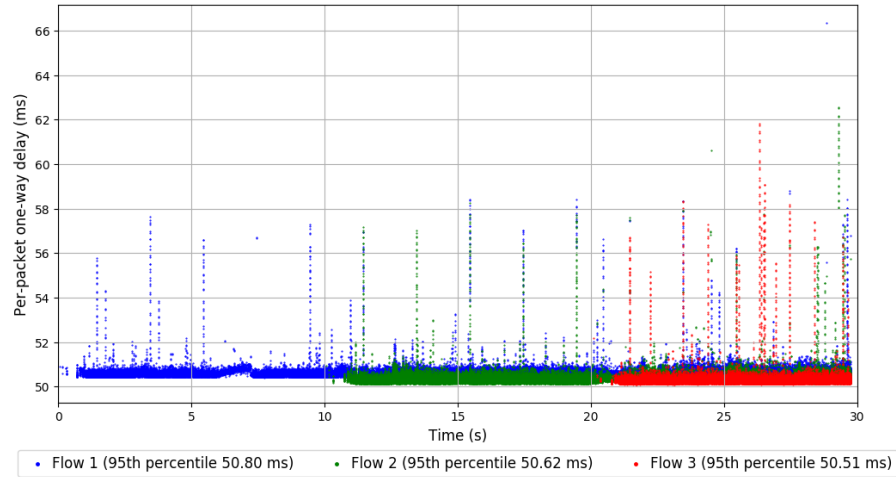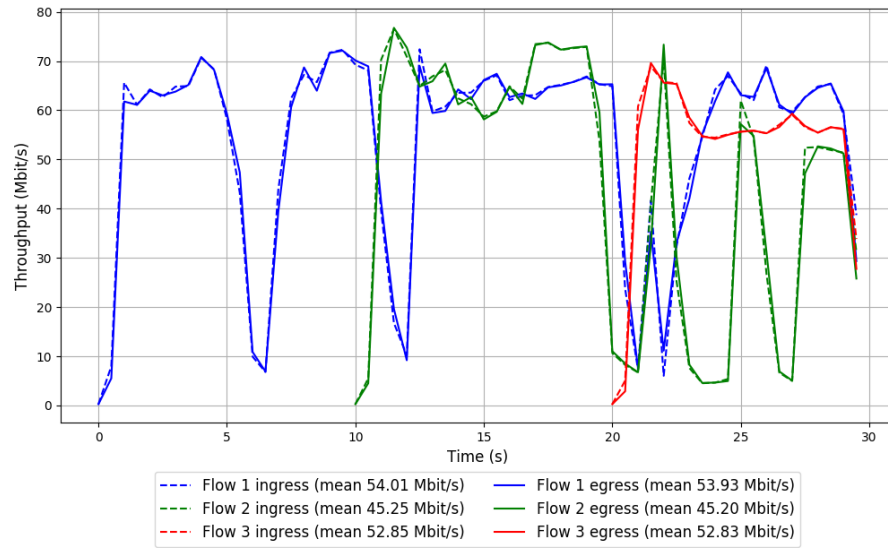
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-18 22:59:28
End at: 2017-09-18 22:59:58

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.55 Mbit/s
95th percentile per-packet one-way delay: 54.234 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 57.28 Mbit/s
95th percentile per-packet one-way delay: 54.298 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 44.05 Mbit/s
95th percentile per-packet one-way delay: 50.886 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 46.32 Mbit/s
95th percentile per-packet one-way delay: 53.846 ms
Loss rate: 1.34%
```
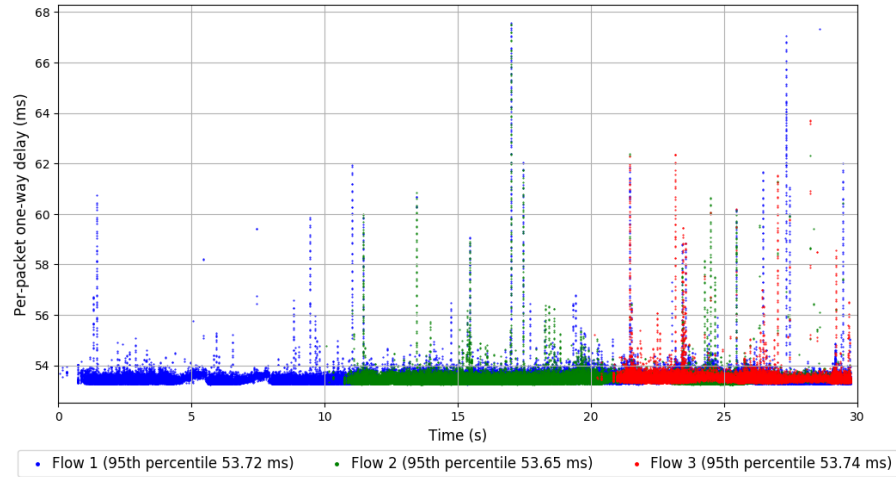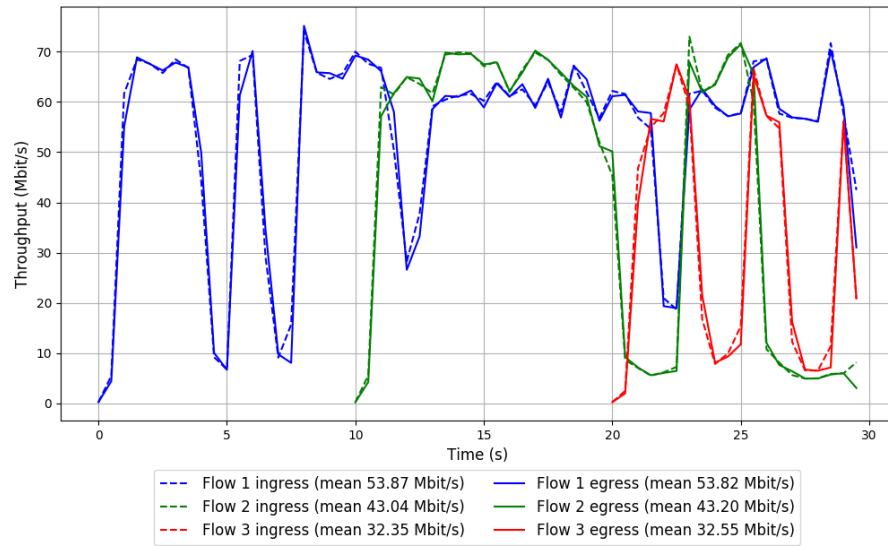
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.29 Mbit/s) --- Flow 1 egress (mean 57.28 Mbit/s)
Flow 2 ingress (mean 44.08 Mbit/s) --- Flow 2 egress (mean 44.05 Mbit/s)
Flow 3 ingress (mean 46.46 Mbit/s) --- Flow 3 egress (mean 46.32 Mbit/s)

Flow 1 (95th percentile 54.30 ms) • Flow 2 (95th percentile 50.89 ms) • Flow 3 (95th percentile 53.85 ms)

111

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-09-18 23:08:13
End at: 2017-09-18 23:08:43


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.79 Mbit/s
95th percentile per-packet one-way delay: 54.204 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 51.97 Mbit/s
95th percentile per-packet one-way delay: 53.641 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 50.667 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 33.11 Mbit/s
95th percentile per-packet one-way delay: 54.846 ms
Loss rate: 0.28%
```
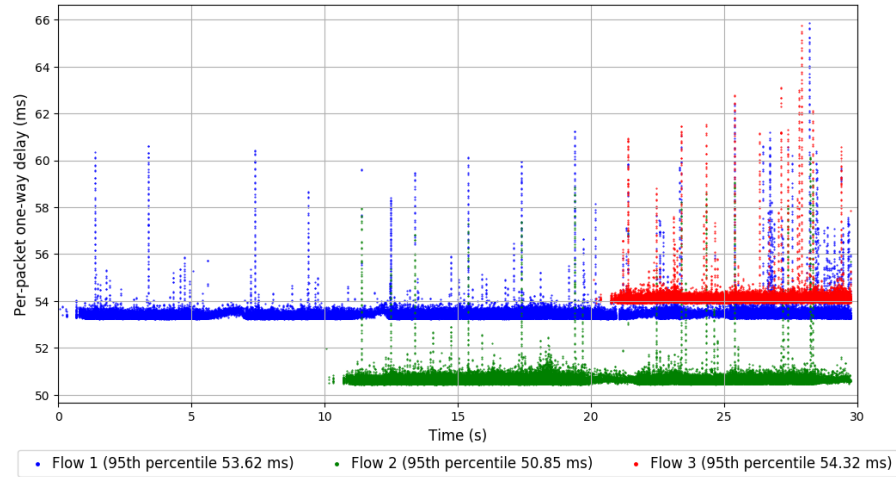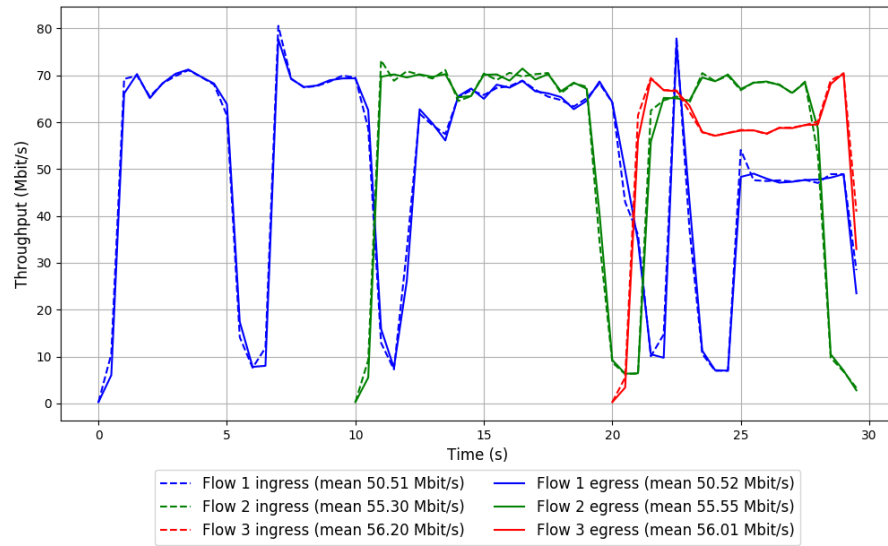
Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-18 23:17:37
End at: 2017-09-18 23:18:07

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.02 Mbit/s
95th percentile per-packet one-way delay: 50.755 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 53.93 Mbit/s
95th percentile per-packet one-way delay: 50.798 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 50.621 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 52.83 Mbit/s
95th percentile per-packet one-way delay: 50.508 ms
Loss rate: 1.14%
```
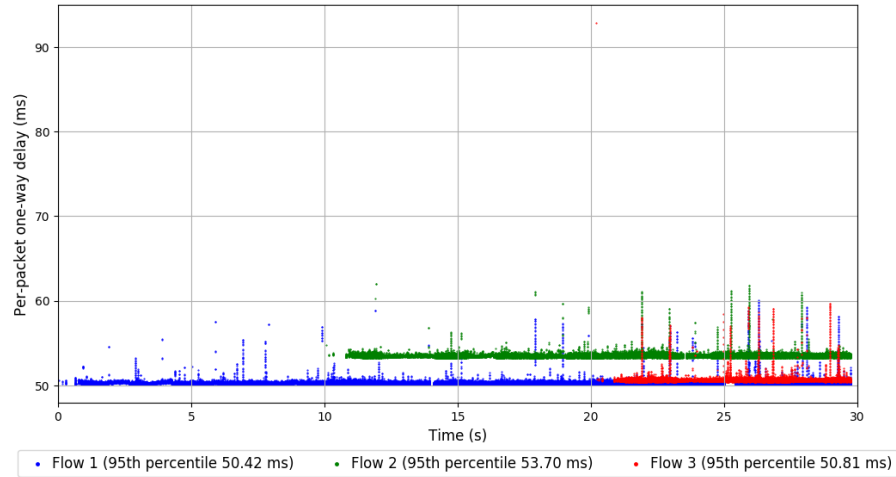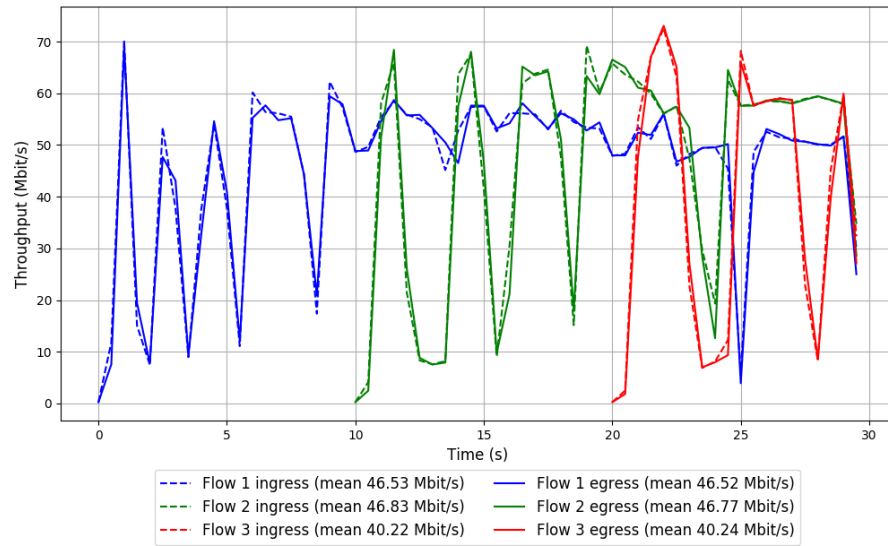
Run 6: Report of QUIC Cubic — Data Link
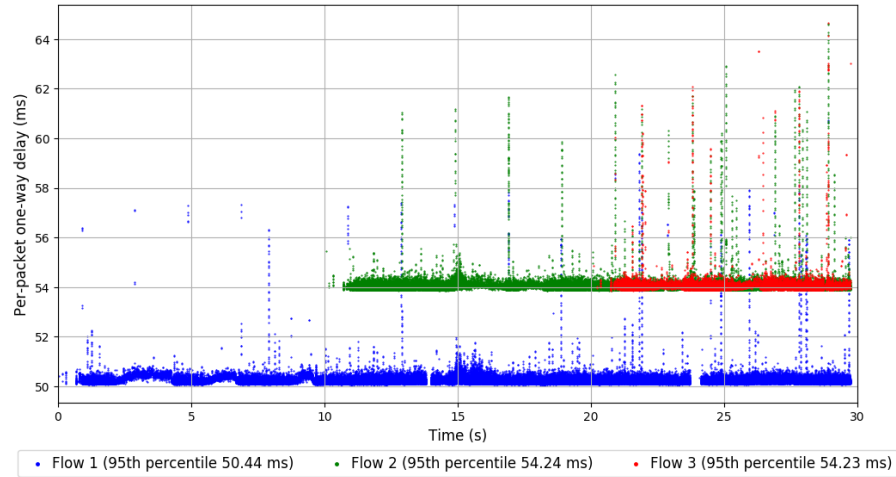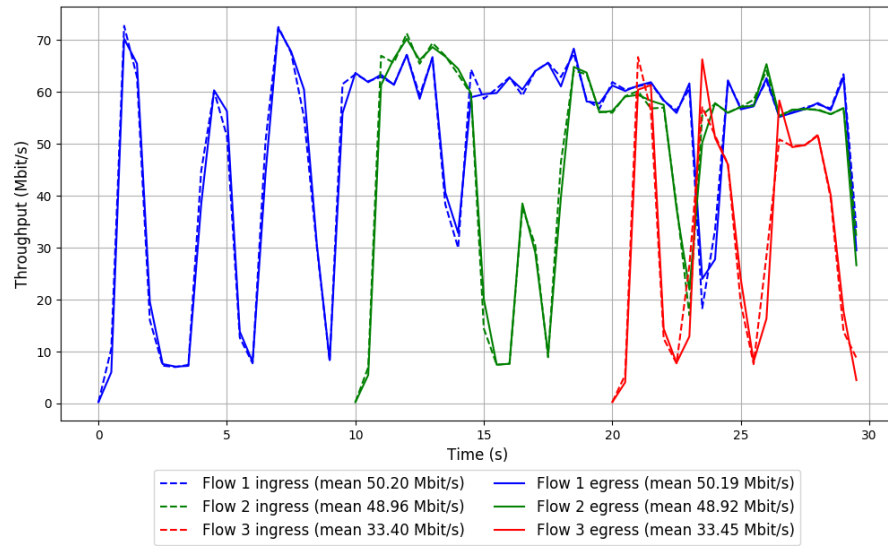
```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-18 23:26:41
End at: 2017-09-18 23:27:11


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.99 Mbit/s
95th percentile per-packet one-way delay: 53.701 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 53.82 Mbit/s
95th percentile per-packet one-way delay: 53.718 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 53.645 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 32.55 Mbit/s
95th percentile per-packet one-way delay: 53.738 ms
Loss rate: 0.79%
```
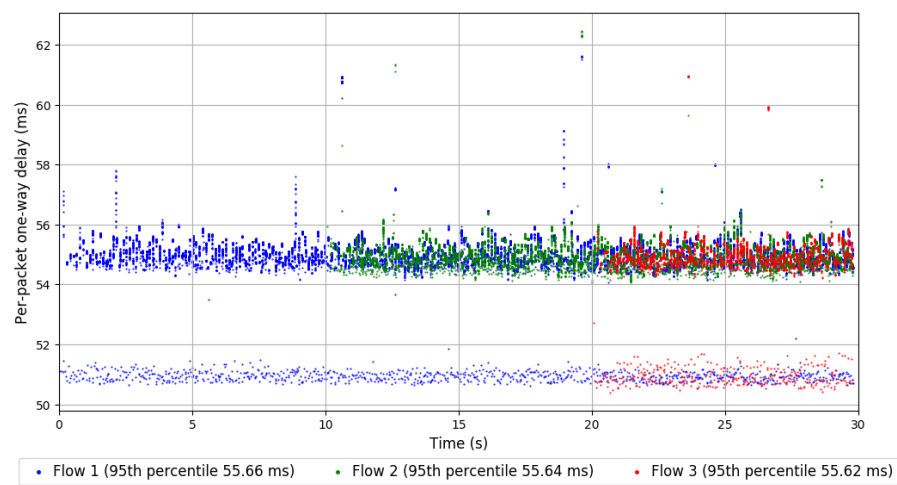
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-18 23:36:03
End at: 2017-09-18 23:36:33


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.52 Mbit/s
95th percentile per-packet one-way delay: 54.133 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 50.52 Mbit/s
95th percentile per-packet one-way delay: 53.615 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 55.55 Mbit/s
95th percentile per-packet one-way delay: 50.849 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 54.321 ms
Loss rate: 1.43%
```
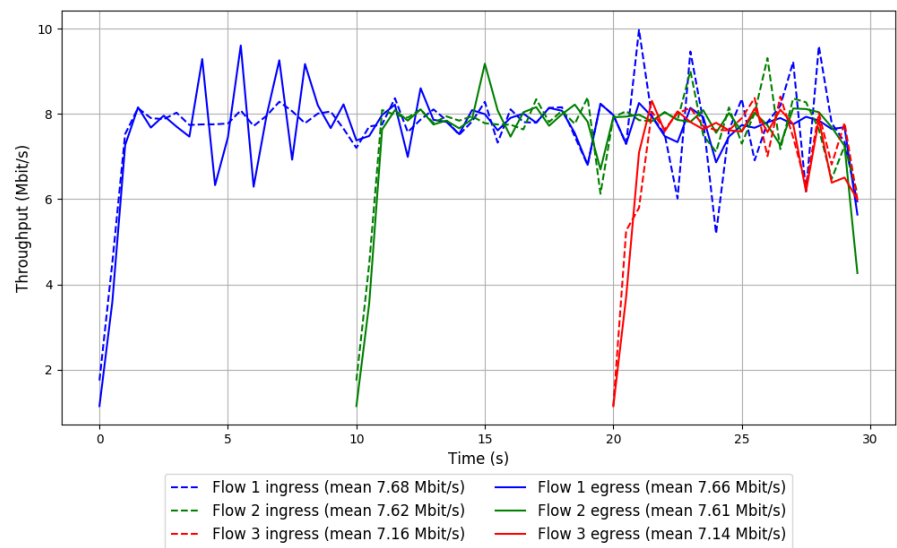
Run 8: Report of QUIC Cubic — Data Link

Run 9: Statistics of QUIC Cubic

Start at: 2017-09-18 23:44:51
End at: 2017-09-18 23:45:21

Below is generated by plot.py at 2017-09-19 02:49:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.47 Mbit/s
95th percentile per-packet one-way delay: 53.573 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 46.52 Mbit/s
95th percentile per-packet one-way delay: 50.423 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 46.77 Mbit/s
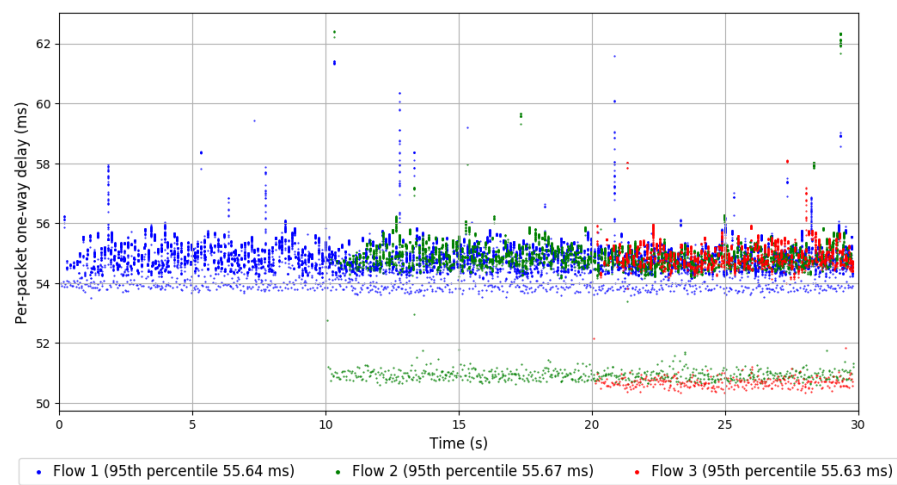95th percentile per-packet one-way delay: 53.701 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 50.806 ms
Loss rate: 1.42%

Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-18 23:54:06
End at: 2017-09-18 23:54:36

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.45 Mbit/s
95th percentile per-packet one-way delay: 54.154 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 50.19 Mbit/s
95th percentile per-packet one-way delay: 50.436 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 48.92 Mbit/s
95th percentile per-packet one-way delay: 54.241 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 33.45 Mbit/s
95th percentile per-packet one-way delay: 54.228 ms
Loss rate: 0.82%
```
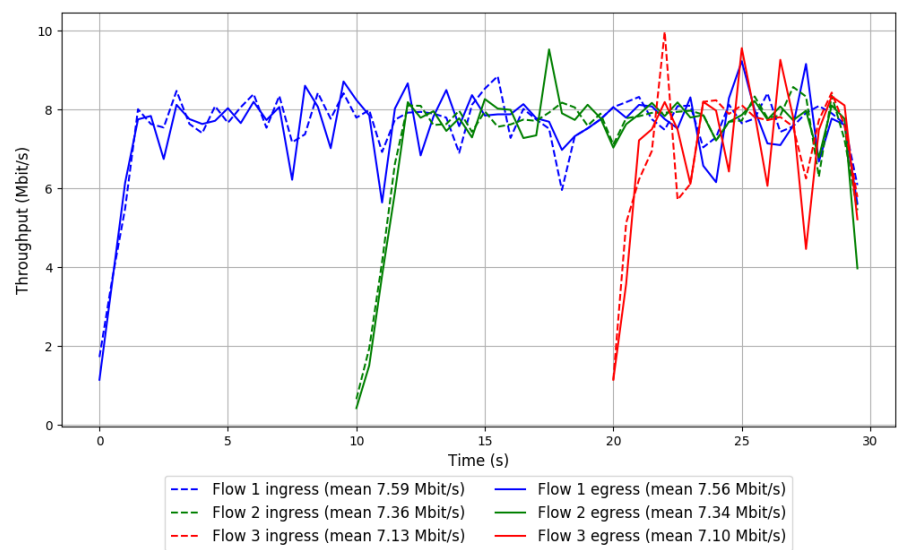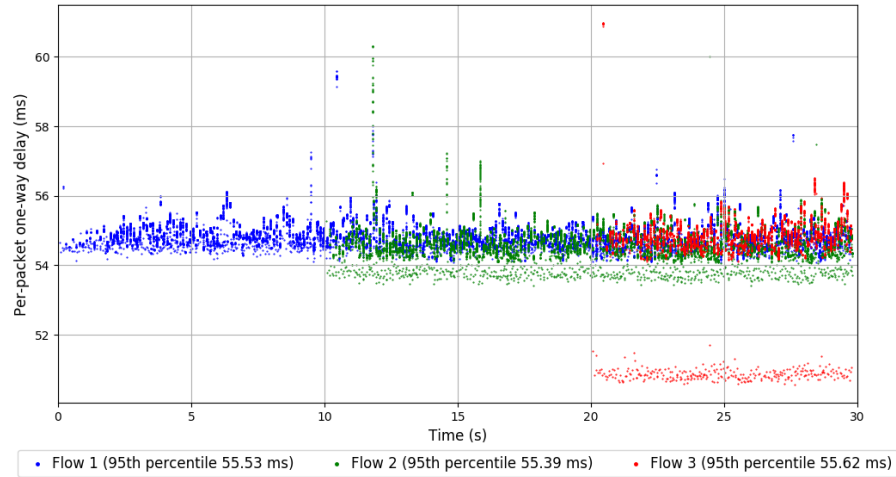
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of Sprout

Start at: 2017-09-18 22:33:14
End at: 2017-09-18 22:33:44

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.03 Mbit/s
95th percentile per-packet one-way delay: 55.649 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 55.664 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 55.640 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 55.617 ms
Loss rate: 1.58%
```
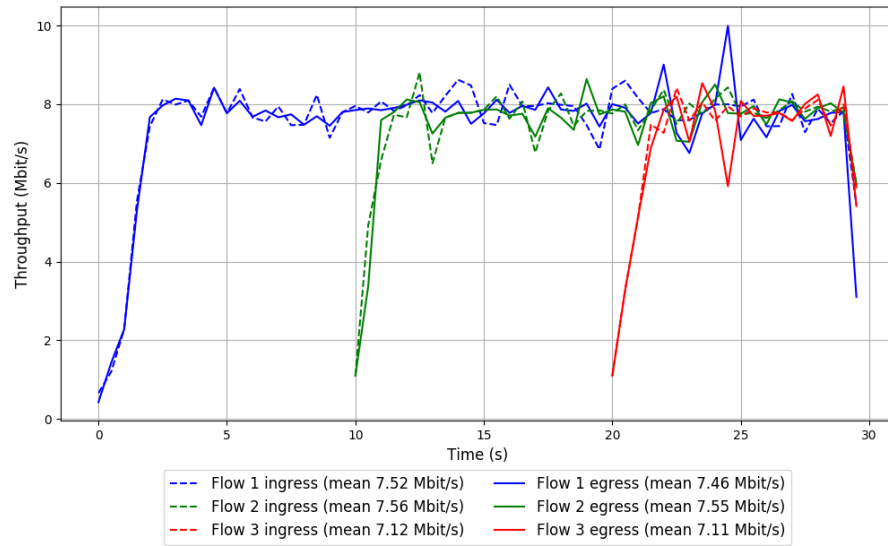
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-09-18 22:42:13
End at: 2017-09-18 22:42:43

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 55.652 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 55.644 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 7.34 Mbit/s
95th percentile per-packet one-way delay: 55.674 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 1.68%
```
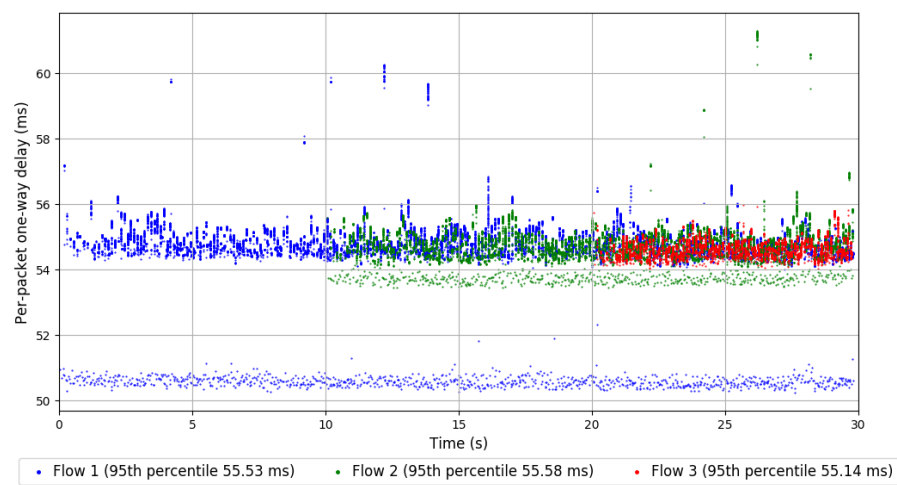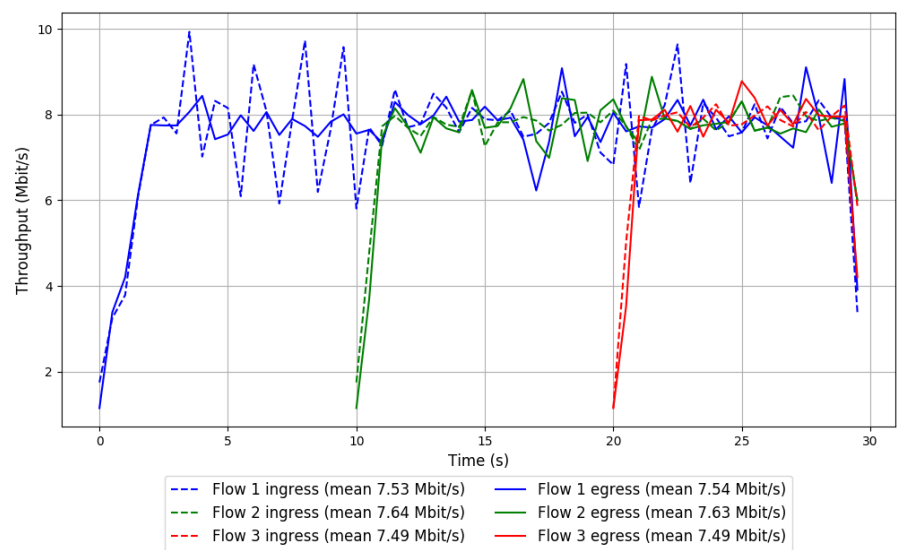
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-09-18 22:51:24
End at: 2017-09-18 22:51:54


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 55.496 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 55.528 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 55.386 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 55.619 ms
Loss rate: 1.39%
```
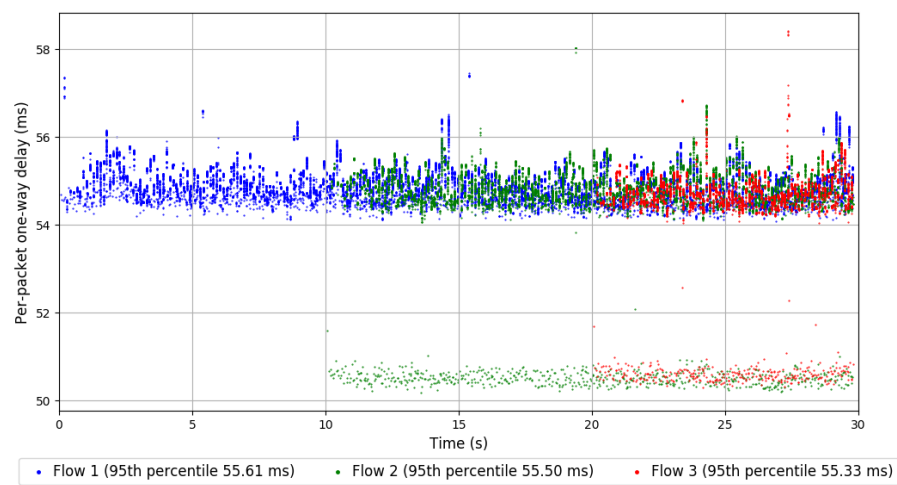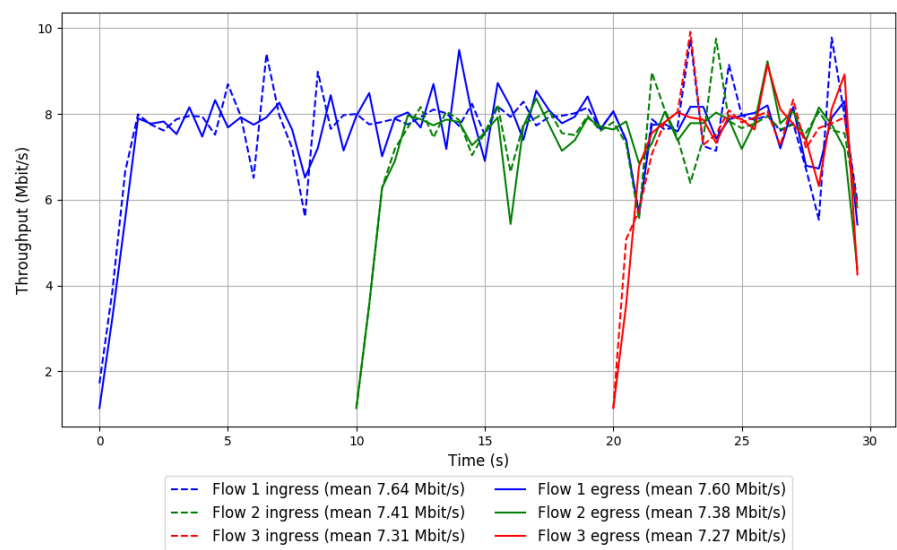
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-09-18 23:00:14
End at: 2017-09-18 23:00:44


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.04 Mbit/s
95th percentile per-packet one-way delay: 55.513 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 7.54 Mbit/s
95th percentile per-packet one-way delay: 55.526 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 55.579 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 55.144 ms
Loss rate: 1.32%
```
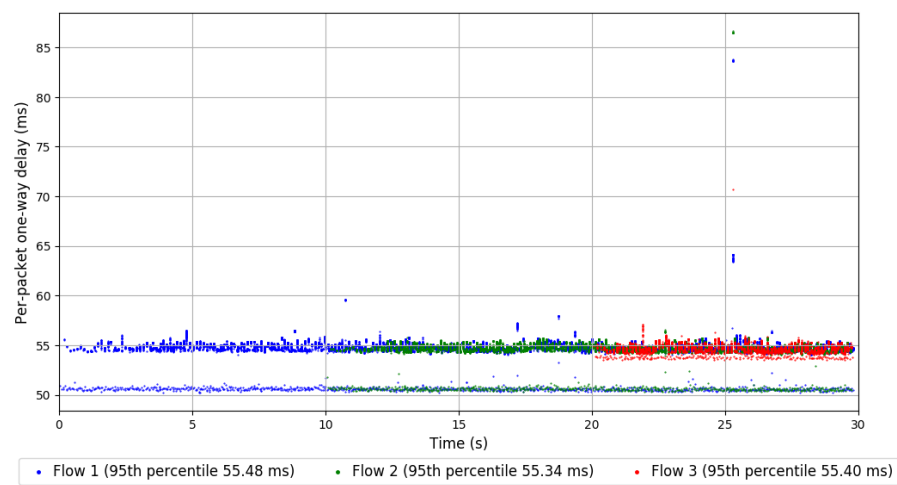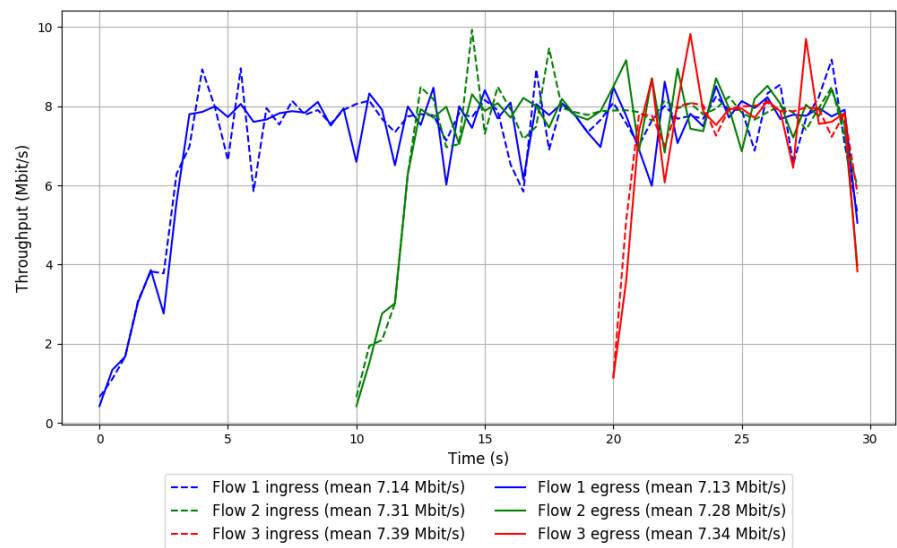
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-09-18 23:08:59
End at: 2017-09-18 23:09:29


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 55.545 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 55.609 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 55.502 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 55.330 ms
Loss rate: 1.35%
```
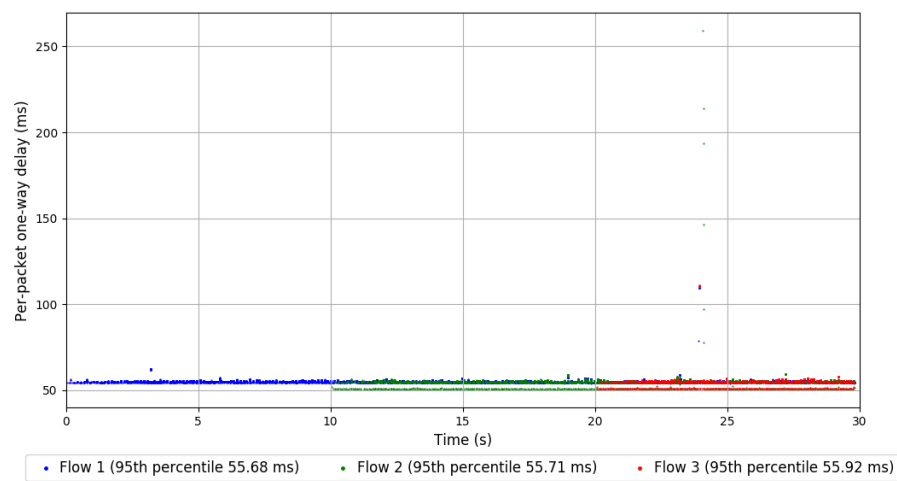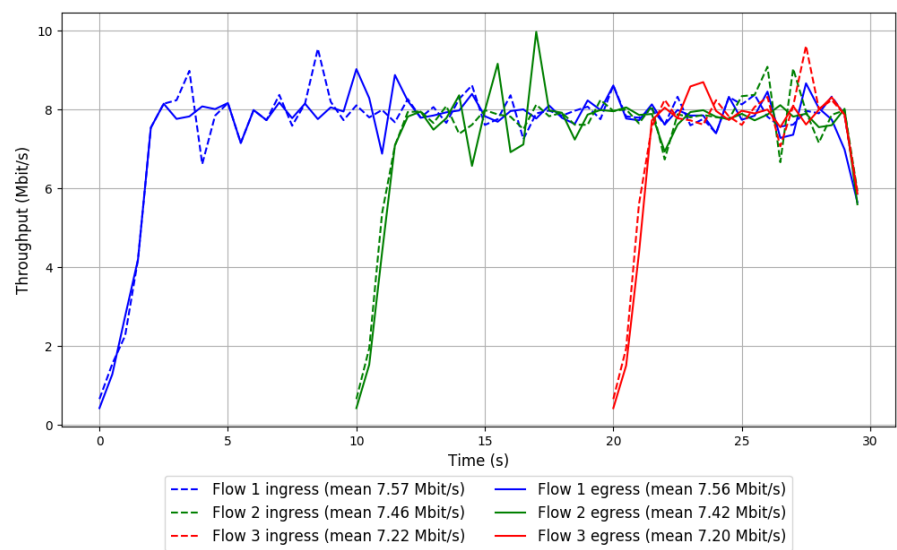
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-09-18 23:18:24
End at: 2017-09-18 23:18:54


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.35 Mbit/s
95th percentile per-packet one-way delay: 55.426 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 7.13 Mbit/s
95th percentile per-packet one-way delay: 55.485 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 55.340 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 7.34 Mbit/s
95th percentile per-packet one-way delay: 55.396 ms
Loss rate: 1.36%
```
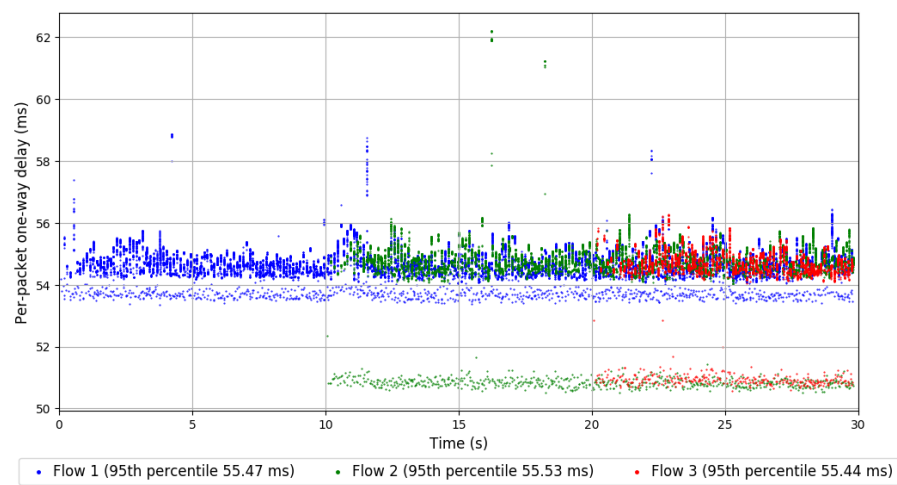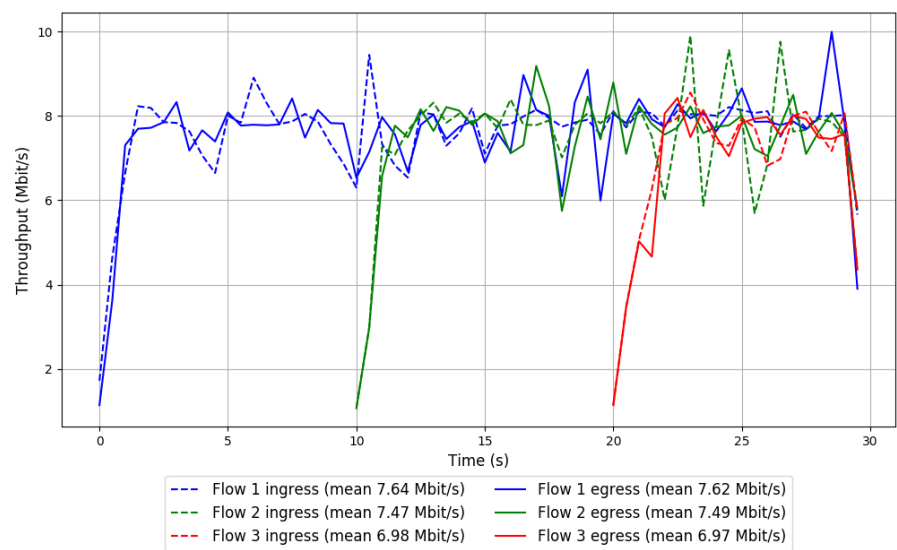
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-09-18 23:27:27
End at: 2017-09-18 23:27:57


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.84 Mbit/s
95th percentile per-packet one-way delay: 55.721 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 55.676 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 55.707 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 55.925 ms
Loss rate: 1.39%
```

Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-09-18 23:36:50
End at: 2017-09-18 23:37:20


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.86 Mbit/s
95th percentile per-packet one-way delay: 55.483 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 7.62 Mbit/s
95th percentile per-packet one-way delay: 55.468 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 55.533 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 55.444 ms
Loss rate: 1.39%
```
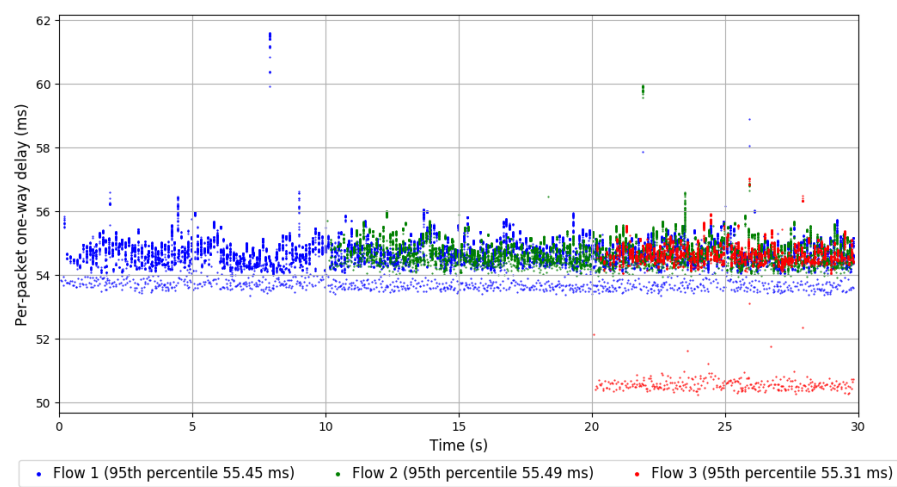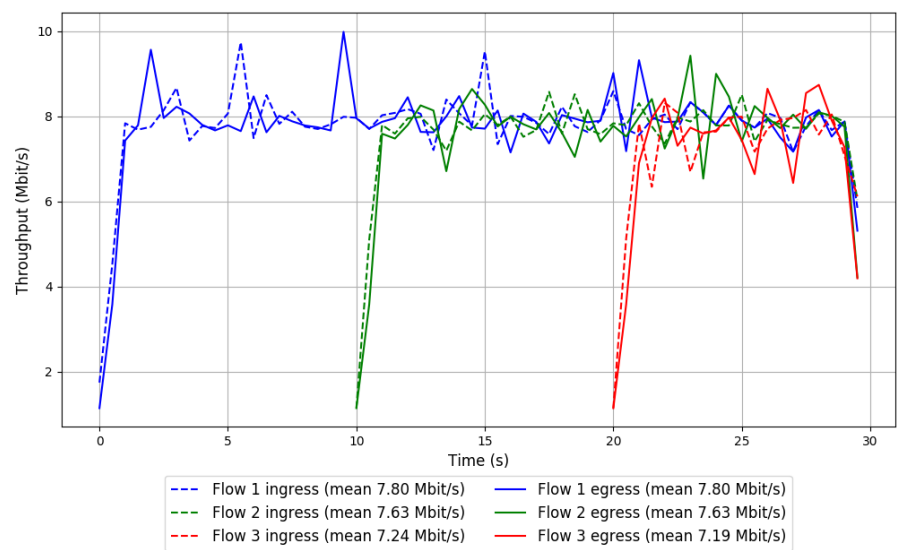
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-09-18 23:45:37
End at: 2017-09-18 23:46:07


# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.20 Mbit/s
95th percentile per-packet one-way delay: 55.454 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 55.451 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 55.493 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 7.19 Mbit/s
95th percentile per-packet one-way delay: 55.307 ms
Loss rate: 1.73%
```
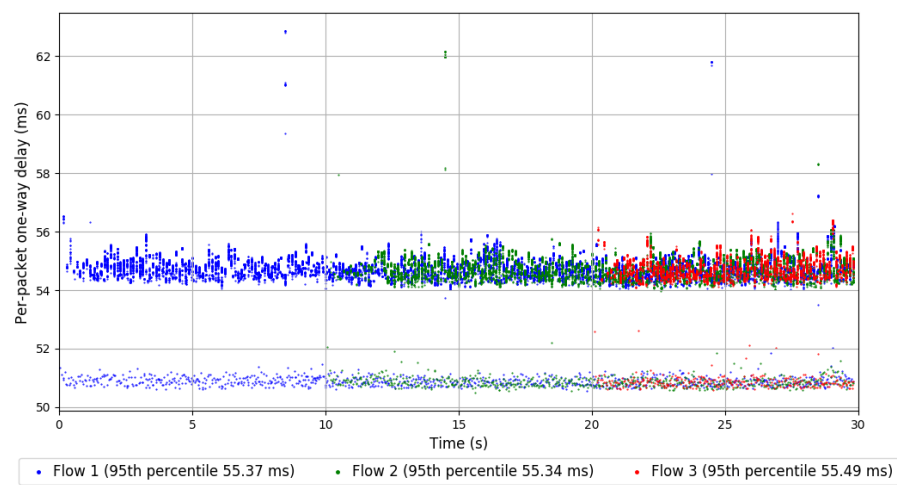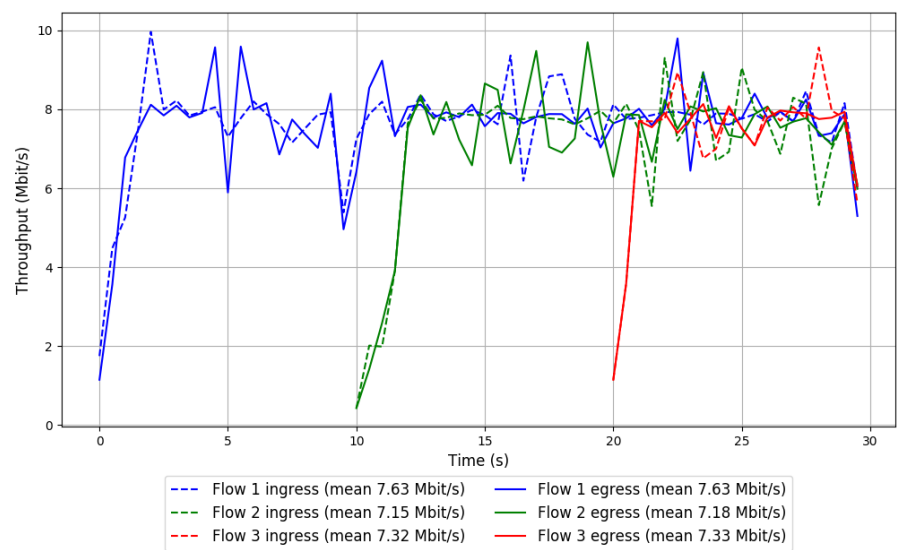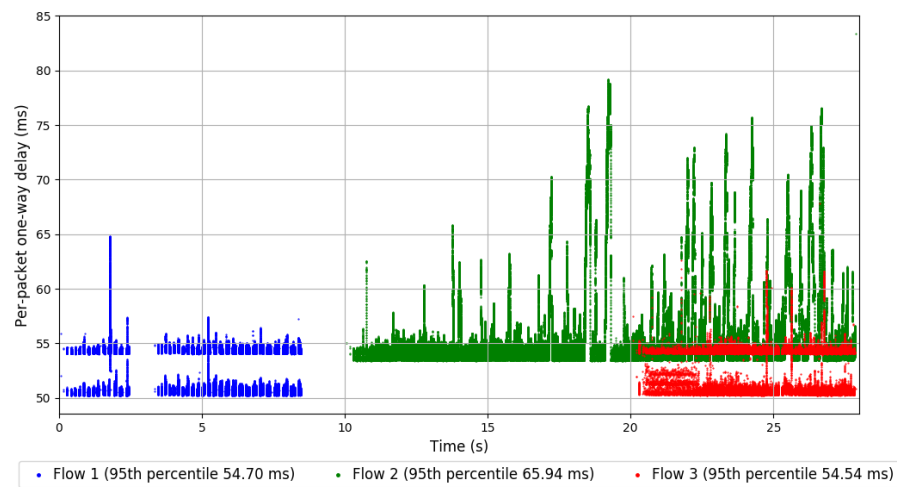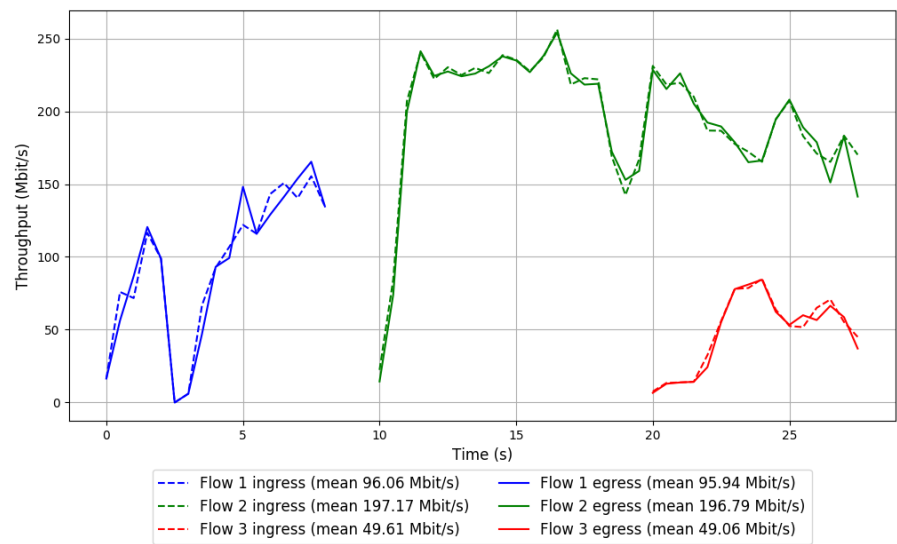
Run 9: Report of Sprout — Data Link

Flow 1 ingress (mean 7.80 Mbit/s)   Flow 1 egress (mean 7.80 Mbit/s)
Flow 2 ingress (mean 7.63 Mbit/s)   Flow 2 egress (mean 7.63 Mbit/s)
Flow 3 ingress (mean 7.24 Mbit/s)   Flow 3 egress (mean 7.19 Mbit/s)

Flow 1 (95th percentile 55.45 ms)   Flow 2 (95th percentile 55.49 ms)   Flow 3 (95th percentile 55.31 ms)

Run 10: Statistics of Sprout

Start at: 2017-09-18 23:54:52
End at: 2017-09-18 23:55:22

Below is generated by plot.py at 2017-09-19 02:49:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 14.78 Mbit/s
95th percentile per-packet one-way delay: 55.376 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 55.368 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 7.18 Mbit/s
95th percentile per-packet one-way delay: 55.343 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 55.486 ms
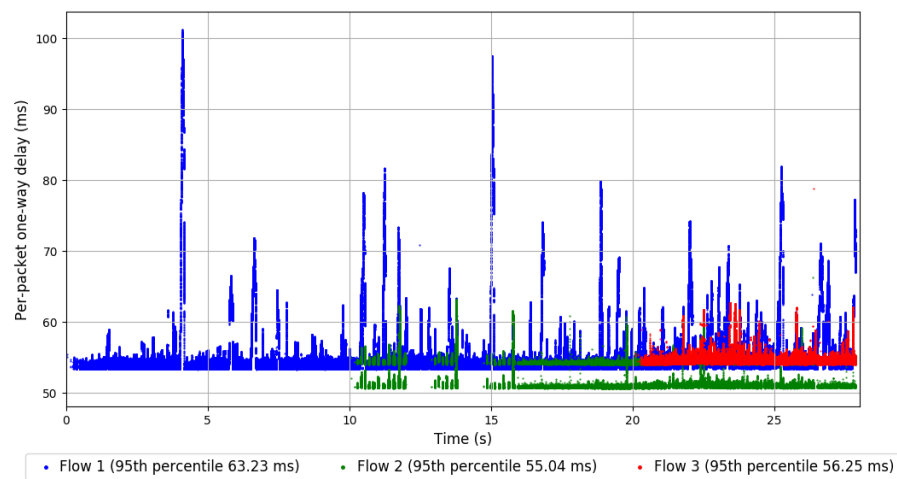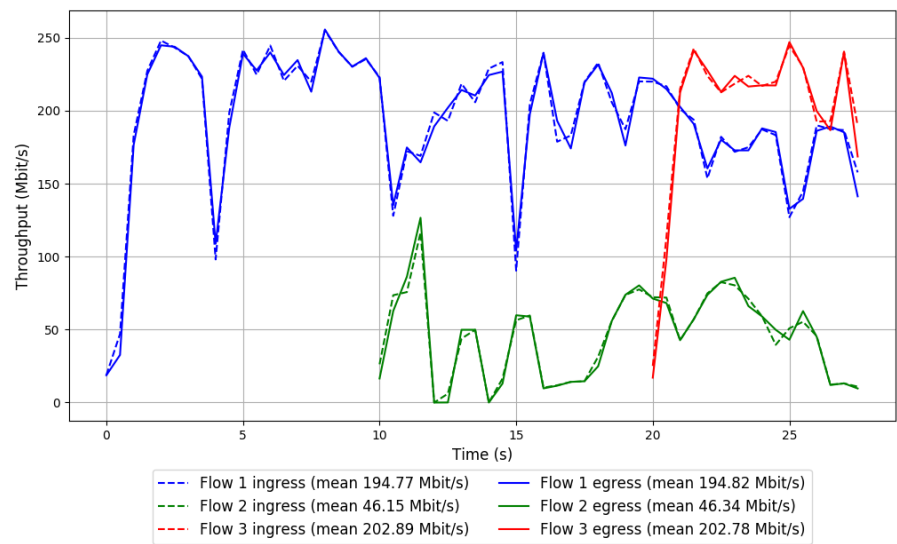Loss rate: 0.97%

Run 10: Report of Sprout — Data Link

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

Start at: 2017-09-18 22:35:56
End at: 2017-09-18 22:36:26

# Below is generated by plot.py at 2017-09-19 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.67 Mbit/s
95th percentile per-packet one-way delay: 63.627 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 95.94 Mbit/s
95th percentile per-packet one-way delay: 54.700 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 196.79 Mbit/s
95th percentile per-packet one-way delay: 65.943 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 49.06 Mbit/s
95th percentile per-packet one-way delay: 54.539 ms
Loss rate: 2.40%
```

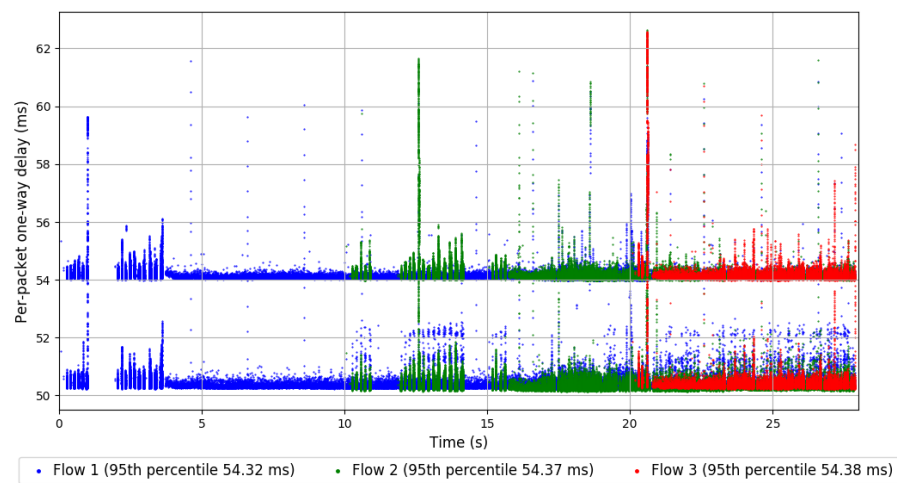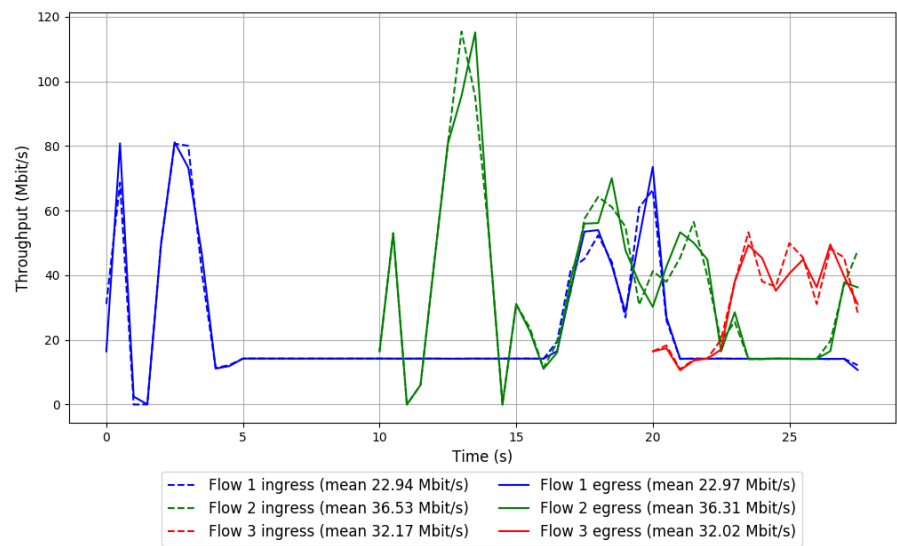# Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 96.06 Mbit/s) --- Flow 1 egress (mean 95.94 Mbit/s)
Flow 2 ingress (mean 197.17 Mbit/s) --- Flow 2 egress (mean 196.79 Mbit/s)
Flow 3 ingress (mean 49.61 Mbit/s) --- Flow 3 egress (mean 49.06 Mbit/s)

Flow 1 (95th percentile 54.70 ms) • Flow 2 (95th percentile 65.94 ms) • Flow 3 (95th percentile 54.54 ms)
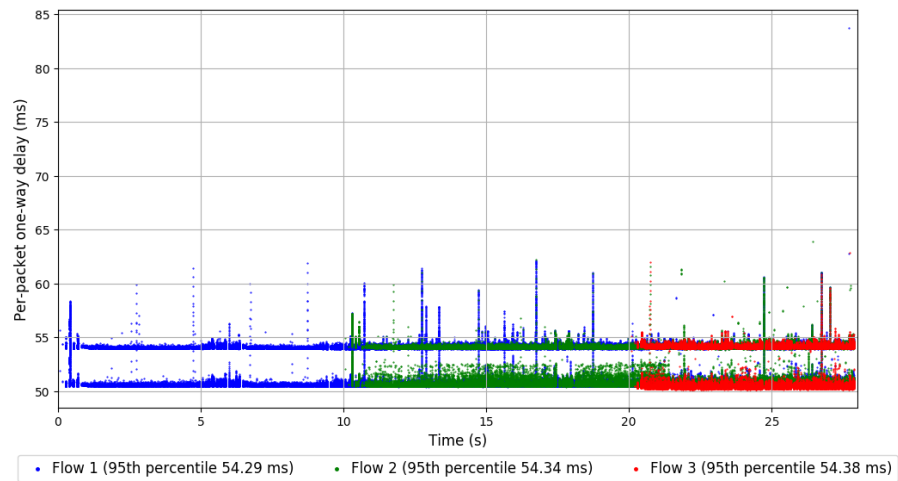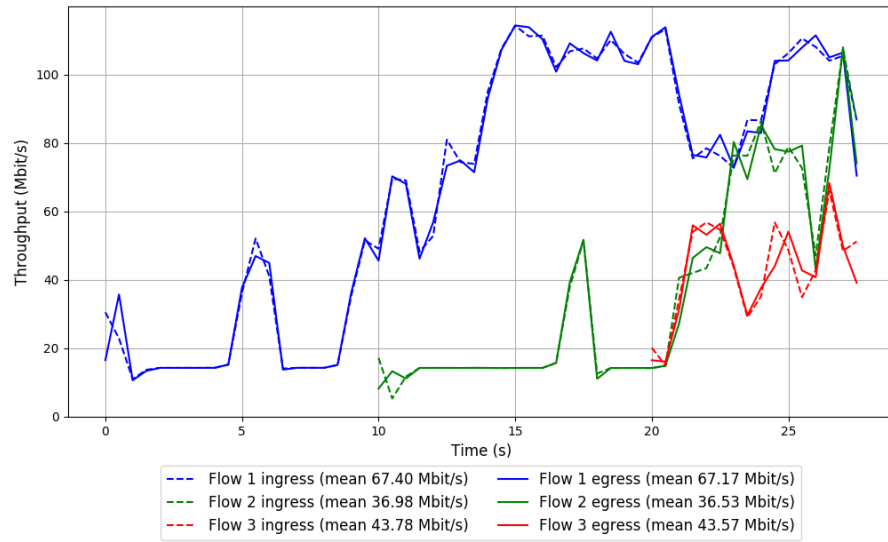
```
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-18 22:44:47
End at: 2017-09-18 22:45:17

# Below is generated by plot.py at 2017-09-19 02:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 281.21 Mbit/s
95th percentile per-packet one-way delay: 61.052 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 194.82 Mbit/s
95th percentile per-packet one-way delay: 63.235 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 46.34 Mbit/s
95th percentile per-packet one-way delay: 55.042 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 202.78 Mbit/s
95th percentile per-packet one-way delay: 56.253 ms
Loss rate: 1.43%
```

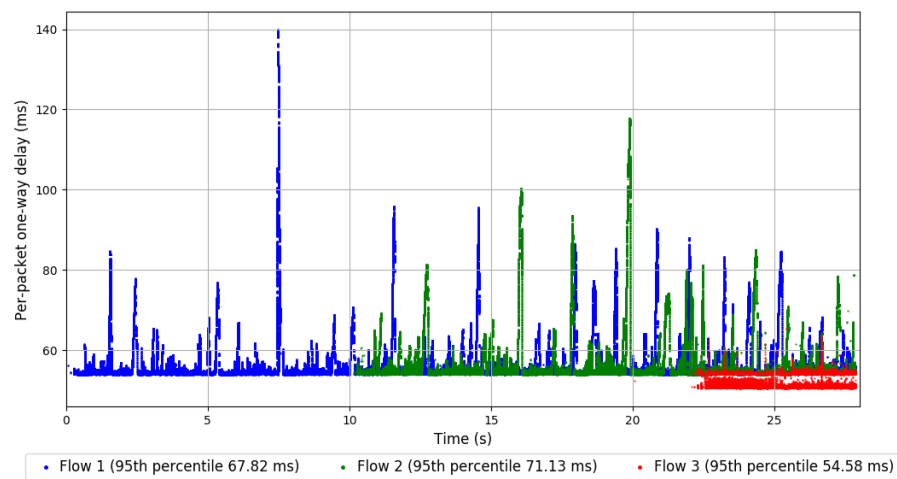# Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 22:54:04
End at: 2017-09-18 22:54:34

# Below is generated by plot.py at 2017-09-19 02:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.16 Mbit/s
95th percentile per-packet one-way delay: 54.351 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 22.97 Mbit/s
95th percentile per-packet one-way delay: 54.318 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 54.371 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 32.02 Mbit/s
95th percentile per-packet one-way delay: 54.385 ms
Loss rate: 1.77%
```
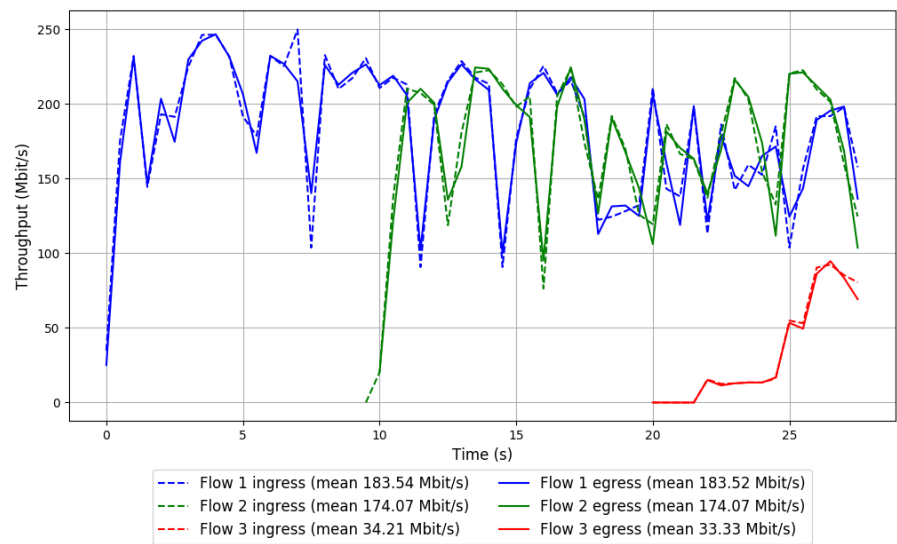
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:02:54
End at: 2017-09-18 23:03:24

# Below is generated by plot.py at 2017-09-19 02:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.75 Mbit/s
95th percentile per-packet one-way delay: 54.313 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 67.17 Mbit/s
95th percentile per-packet one-way delay: 54.287 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 36.53 Mbit/s
95th percentile per-packet one-way delay: 54.341 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 43.57 Mbit/s
95th percentile per-packet one-way delay: 54.378 ms
Loss rate: 1.75%
```
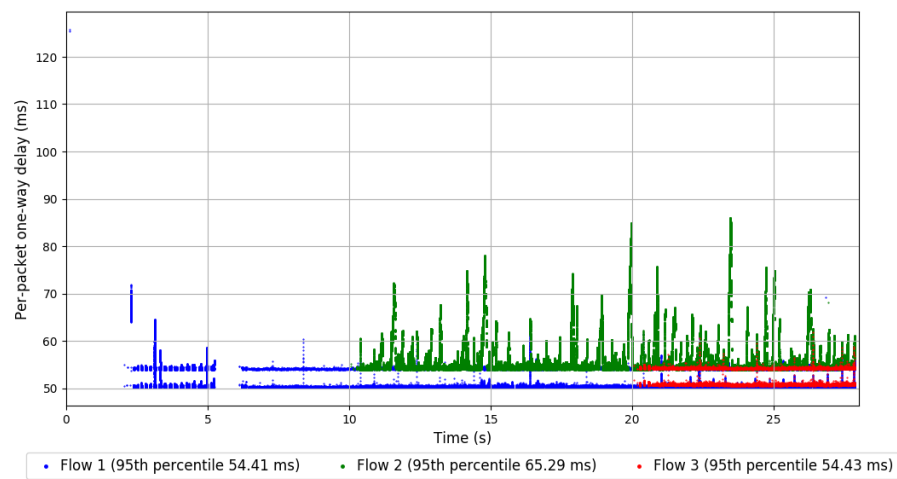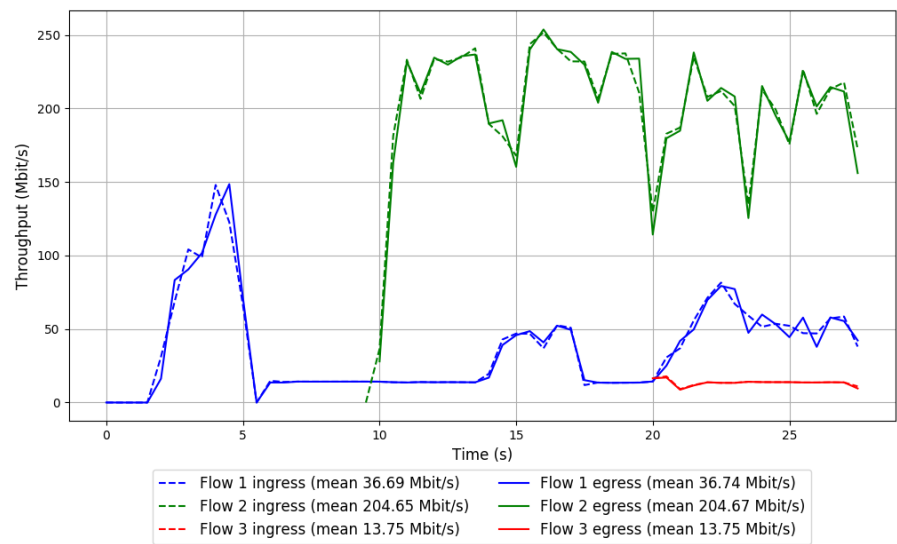
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:11:40
End at: 2017-09-18 23:12:10


# Below is generated by plot.py at 2017-09-19 02:53:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.33 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 183.52 Mbit/s
95th percentile per-packet one-way delay: 67.819 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 174.07 Mbit/s
95th percentile per-packet one-way delay: 71.126 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 33.33 Mbit/s
95th percentile per-packet one-way delay: 54.579 ms
Loss rate: 3.88%
```

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

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

Start at: 2017-09-18 23:21:02
End at: 2017-09-18 23:21:32


# Below is generated by plot.py at 2017-09-19 02:53:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.01 Mbit/s
95th percentile per-packet one-way delay: 63.376 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 54.415 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 204.67 Mbit/s
95th percentile per-packet one-way delay: 65.290 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 13.75 Mbit/s
95th percentile per-packet one-way delay: 54.427 ms
Loss rate: 1.30%
```
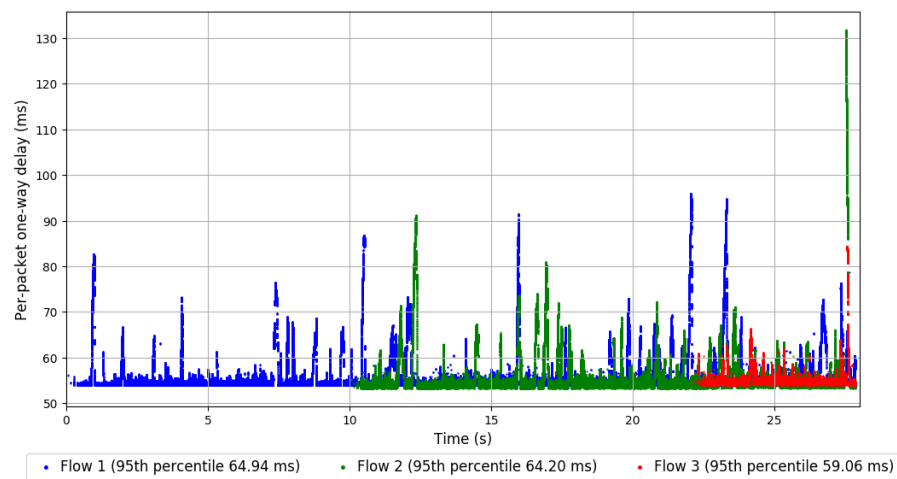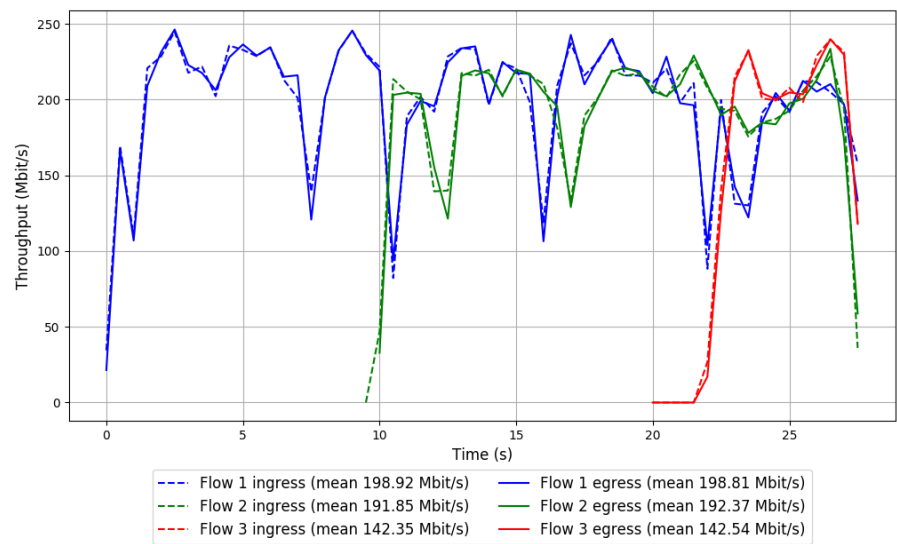
Run 6: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:30:05
End at: 2017-09-18 23:30:35


# Below is generated by plot.py at 2017-09-19 02:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.76 Mbit/s
95th percentile per-packet one-way delay: 64.079 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 198.81 Mbit/s
95th percentile per-packet one-way delay: 64.942 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 192.37 Mbit/s
95th percentile per-packet one-way delay: 64.196 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 142.54 Mbit/s
95th percentile per-packet one-way delay: 59.062 ms
Loss rate: 1.25%
```
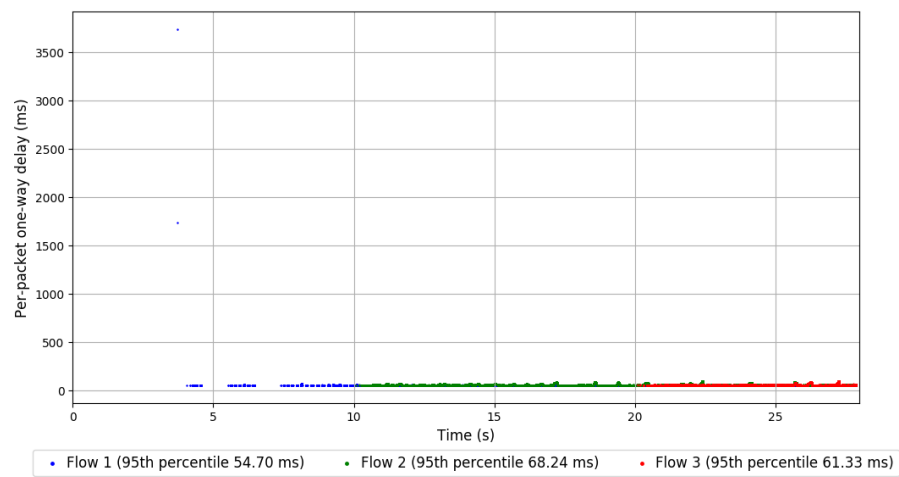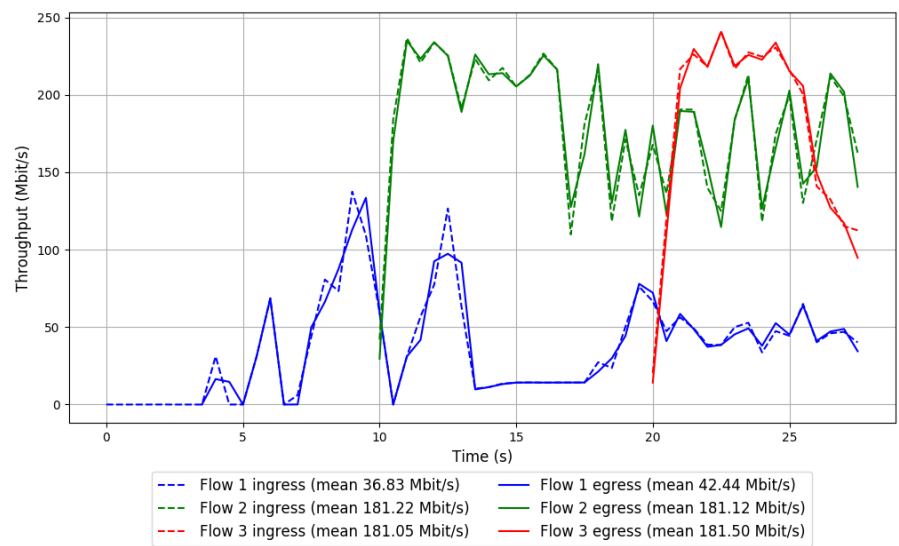
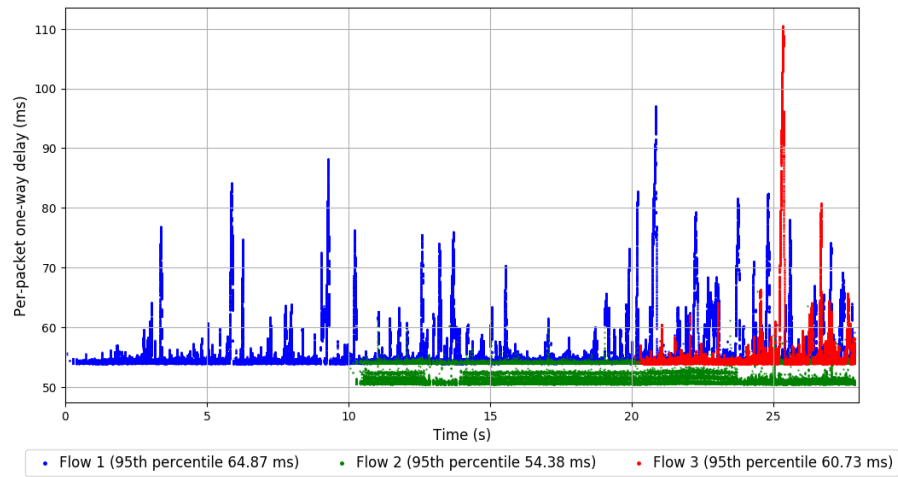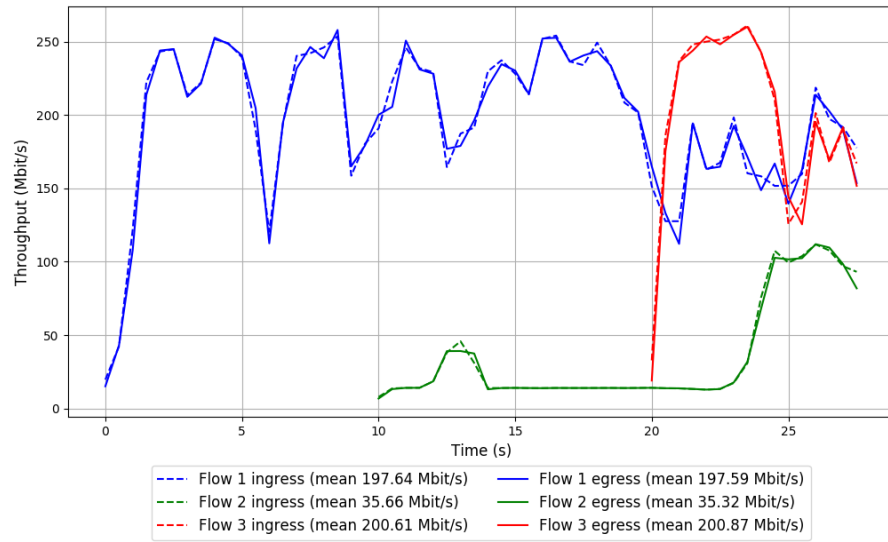# Run 7: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:39:25
End at: 2017-09-18 23:39:55

# Below is generated by plot.py at 2017-09-19 02:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.54 Mbit/s
95th percentile per-packet one-way delay: 65.642 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 42.44 Mbit/s
95th percentile per-packet one-way delay: 54.697 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 181.12 Mbit/s
95th percentile per-packet one-way delay: 68.238 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 181.50 Mbit/s
95th percentile per-packet one-way delay: 61.329 ms
Loss rate: 1.12%
```

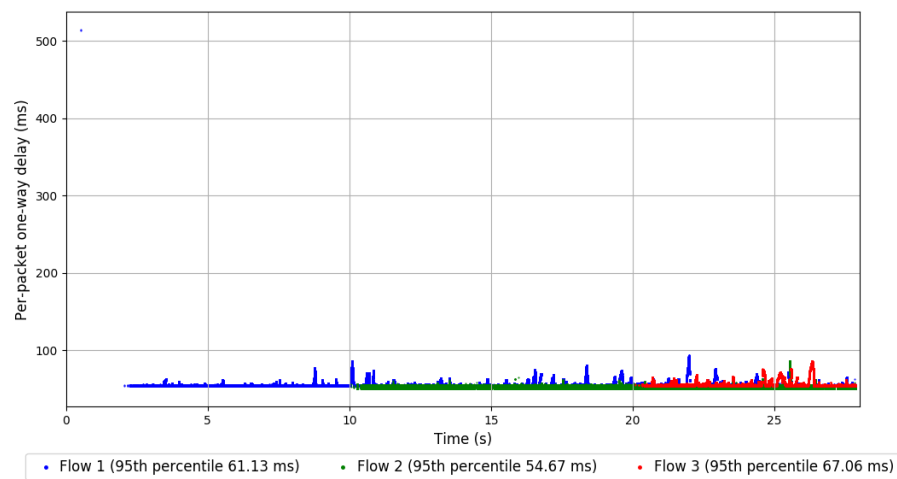Run 8: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:48:18
End at: 2017-09-18 23:48:48


# Below is generated by plot.py at 2017-09-19 02:58:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.38 Mbit/s
95th percentile per-packet one-way delay: 63.299 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 197.59 Mbit/s
95th percentile per-packet one-way delay: 64.872 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 35.32 Mbit/s
95th percentile per-packet one-way delay: 54.385 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 200.87 Mbit/s
95th percentile per-packet one-way delay: 60.735 ms
Loss rate: 1.25%
```

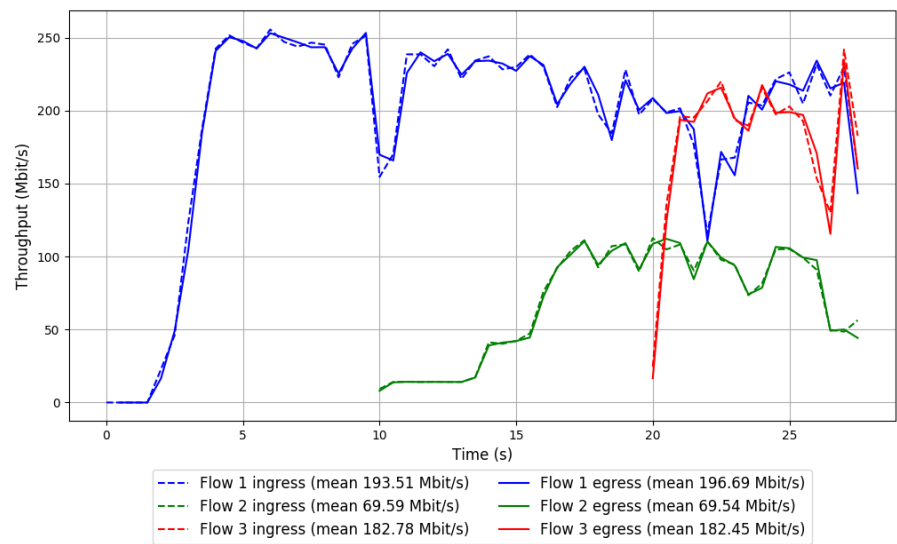Run 9: Report of TaoVA-100x — Data Link

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

Start at: 2017-09-18 23:57:27
End at: 2017-09-18 23:57:57


# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.65 Mbit/s
95th percentile per-packet one-way delay: 61.498 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 196.69 Mbit/s
95th percentile per-packet one-way delay: 61.126 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 69.54 Mbit/s
95th percentile per-packet one-way delay: 54.666 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 182.45 Mbit/s
95th percentile per-packet one-way delay: 67.061 ms
Loss rate: 1.72%
```

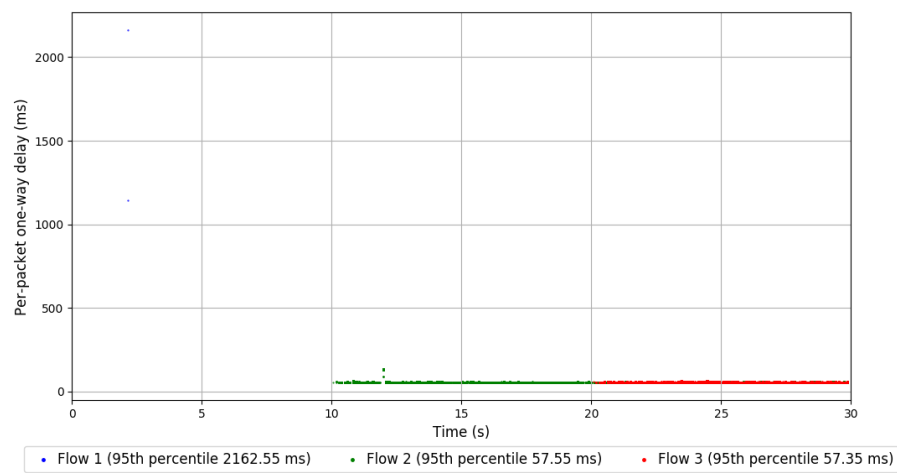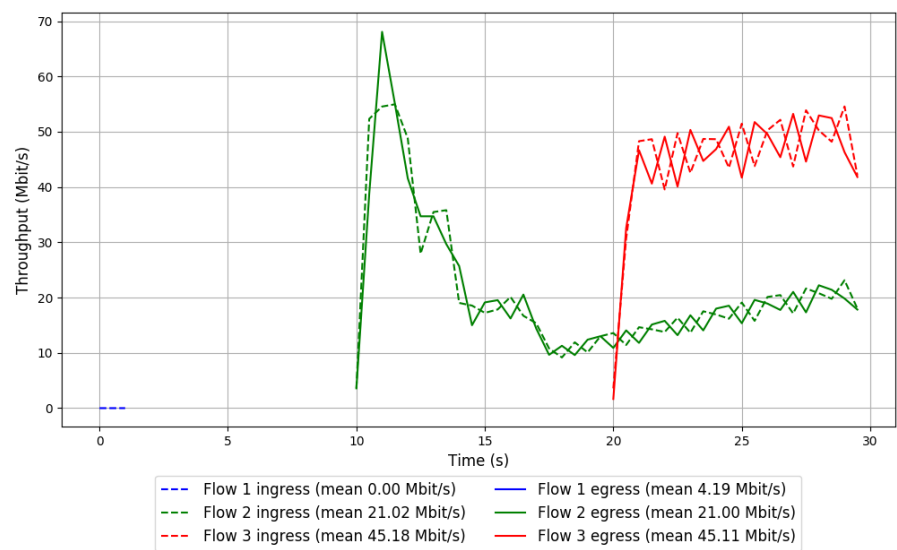# Run 10: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-18 22:37:37
End at: 2017-09-18 22:38:07

# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.95 Mbit/s
95th percentile per-packet one-way delay: 57.442 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 2162.553 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.00 Mbit/s
95th percentile per-packet one-way delay: 57.545 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 45.11 Mbit/s
95th percentile per-packet one-way delay: 57.352 ms
Loss rate: 1.23%
```
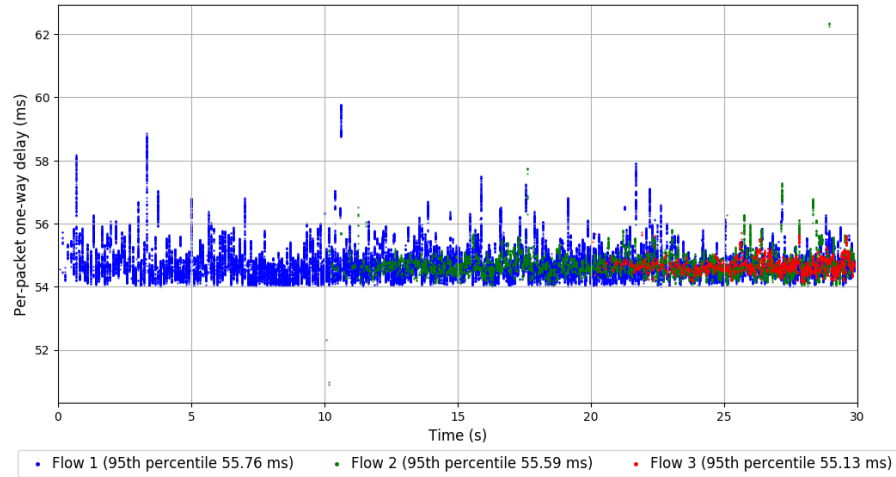
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-09-18 22:46:40
End at: 2017-09-18 22:47:10

# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.43 Mbit/s
95th percentile per-packet one-way delay: 55.723 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 55.756 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 55.591 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 55.132 ms
Loss rate: 2.84%
```
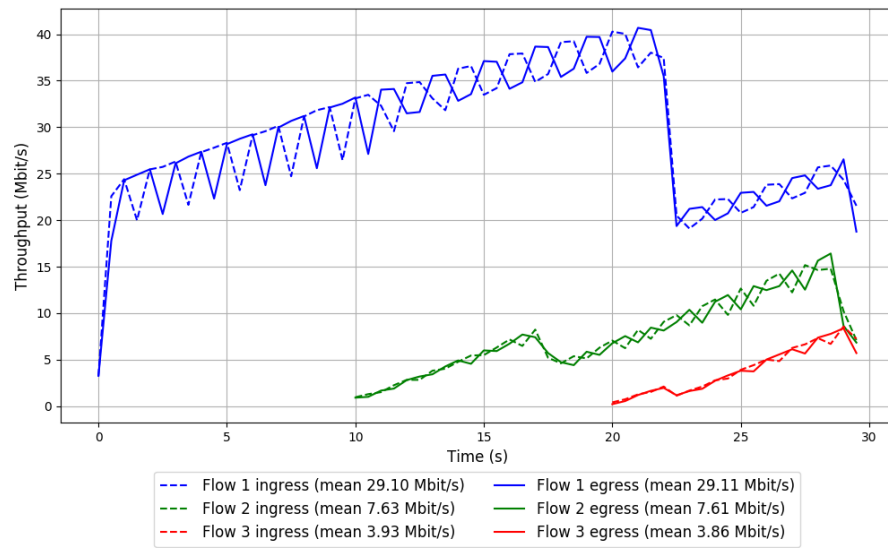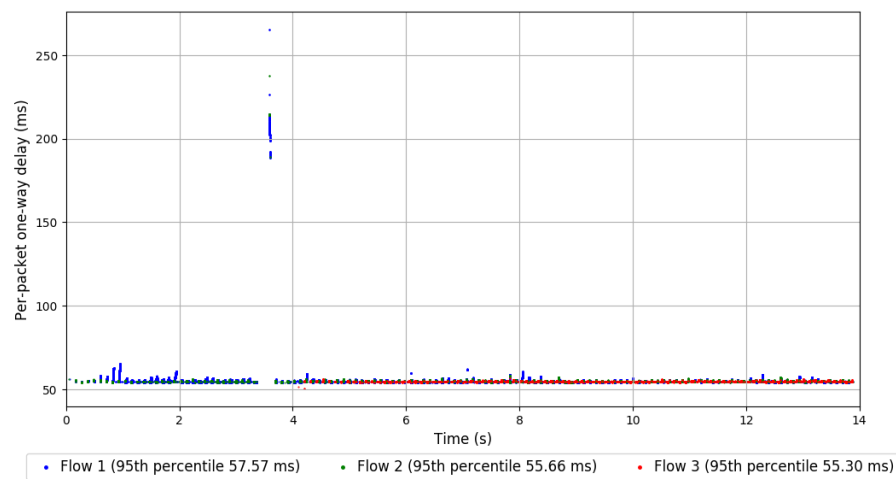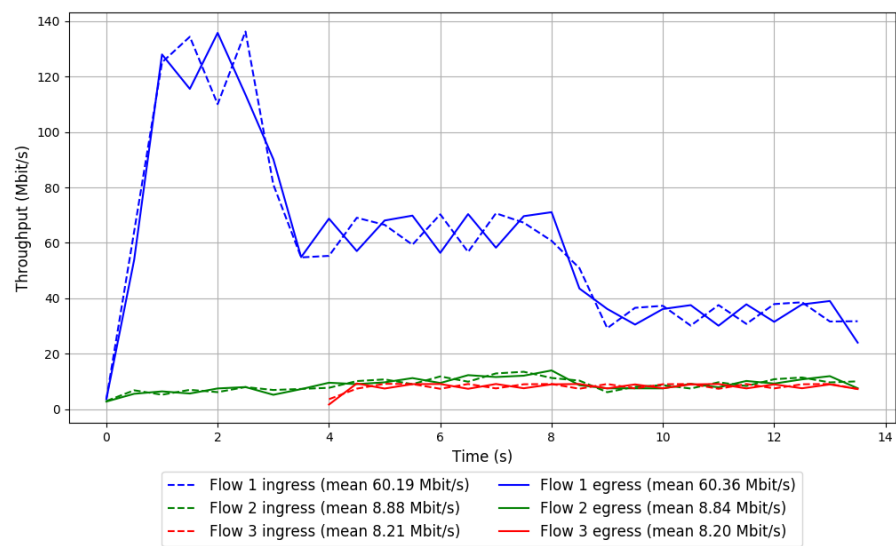
Run 2: Report of TCP Vegas — Data Link

Run 3: Statistics of TCP Vegas

Start at: 2017-09-18 22:55:31
End at: 2017-09-18 22:56:01

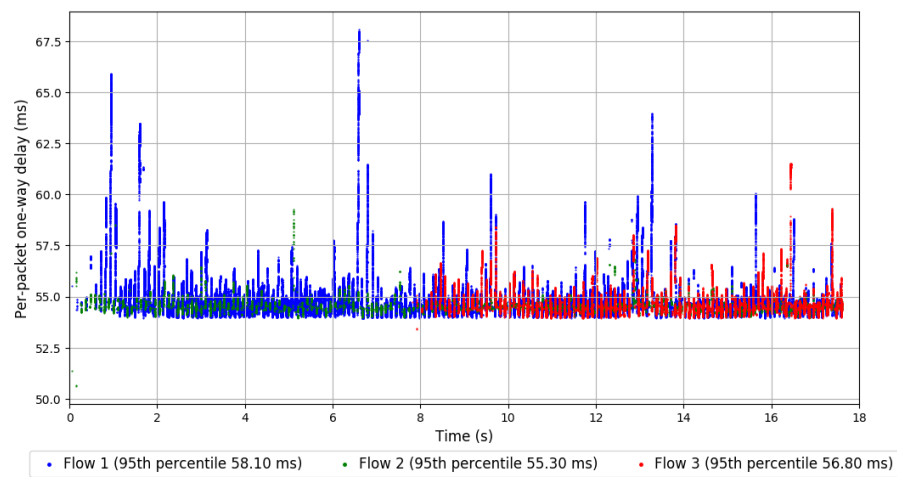Run 3: Report of TCP Vegas — Data Link

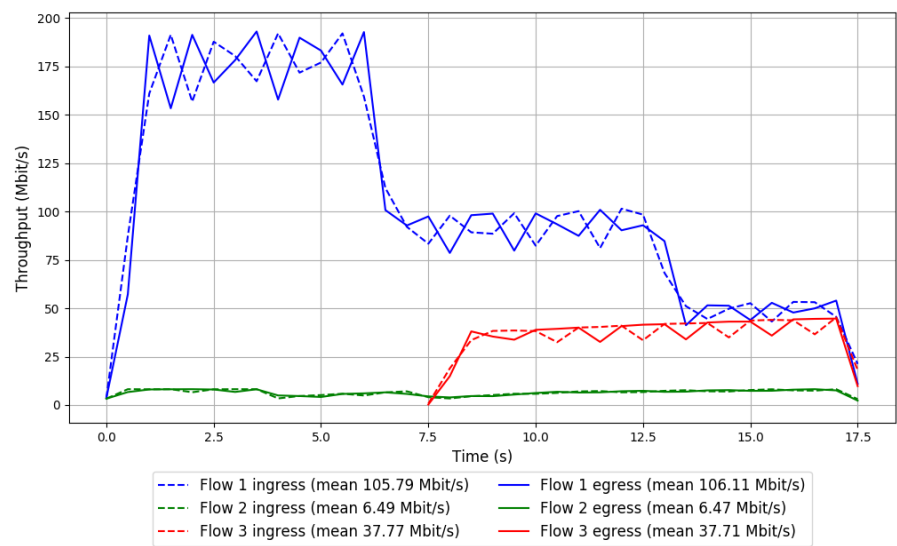Run 4: Statistics of TCP Vegas

Start at: 2017-09-18 23:04:25
End at: 2017-09-18 23:04:55

Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 105.79 Mbit/s) — Flow 1 egress (mean 106.11 Mbit/s)
Flow 2 ingress (mean 6.49 Mbit/s) — Flow 2 egress (mean 6.47 Mbit/s)
Flow 3 ingress (mean 37.77 Mbit/s) — Flow 3 egress (mean 37.71 Mbit/s)

Flow 1 (95th percentile 58.10 ms) — Flow 2 (95th percentile 55.30 ms) — Flow 3 (95th percentile 56.80 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2017-09-18 23:13:35
End at: 2017-09-18 23:14:05


# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.97 Mbit/s
95th percentile per-packet one-way delay: 56.681 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 72.64 Mbit/s
95th percentile per-packet one-way delay: 56.542 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 71.68 Mbit/s
95th percentile per-packet one-way delay: 57.012 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 5.17 Mbit/s
95th percentile per-packet one-way delay: 55.443 ms
Loss rate: 2.34%
```
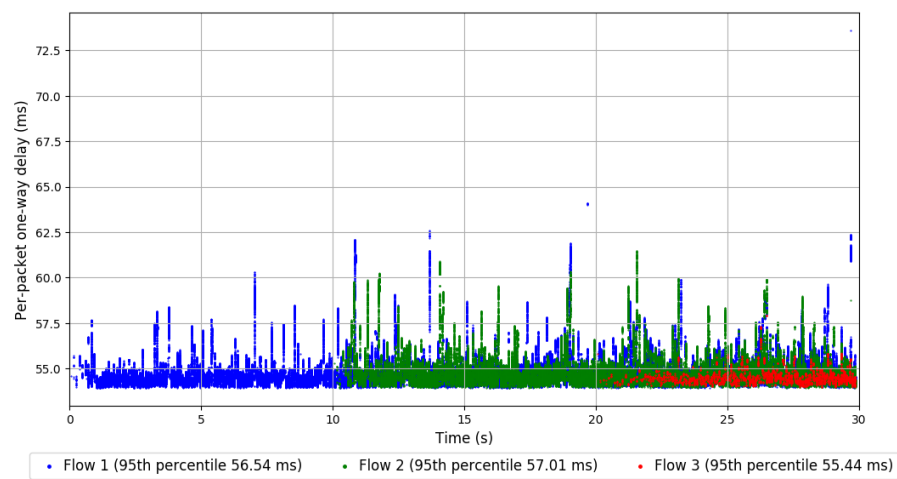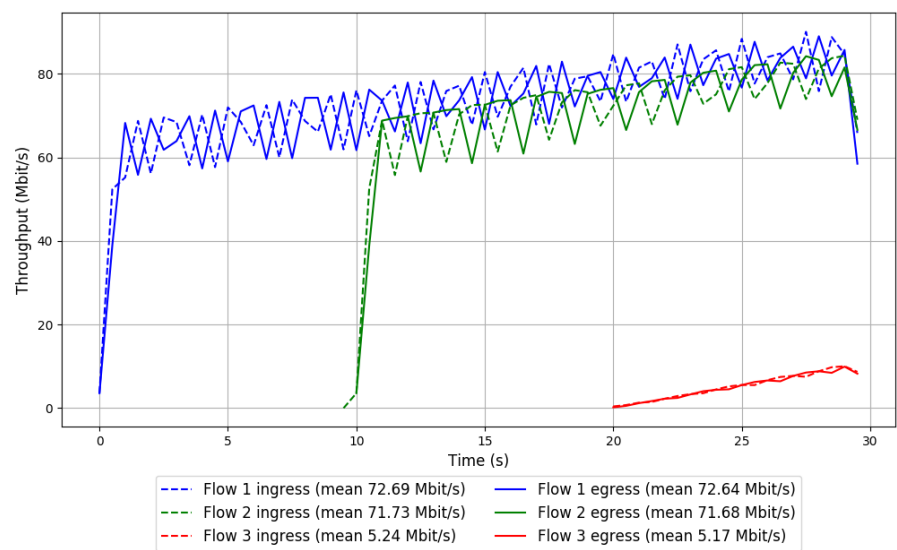
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-18 23:22:43
End at: 2017-09-18 23:23:14

# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.68 Mbit/s
95th percentile per-packet one-way delay: 55.071 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 55.051 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 55.191 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 54.868 ms
Loss rate: 1.12%
```
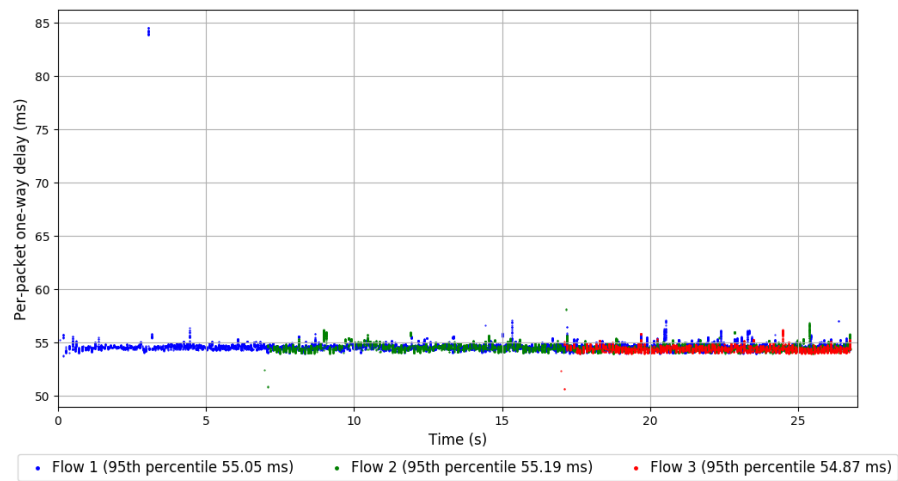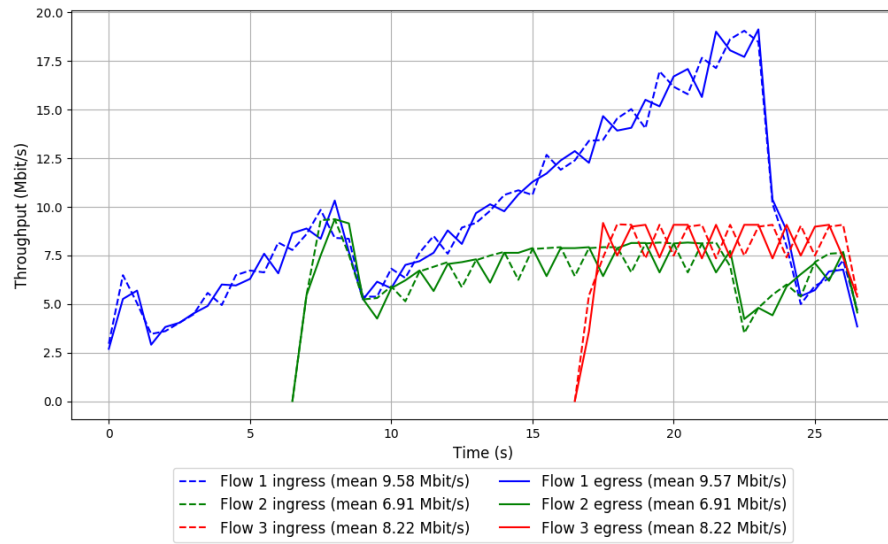
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-18 23:32:05
End at: 2017-09-18 23:32:35

# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.29 Mbit/s
95th percentile per-packet one-way delay: 55.992 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 42.37 Mbit/s
95th percentile per-packet one-way delay: 56.102 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 55.210 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 55.413 ms
Loss rate: 1.23%
```
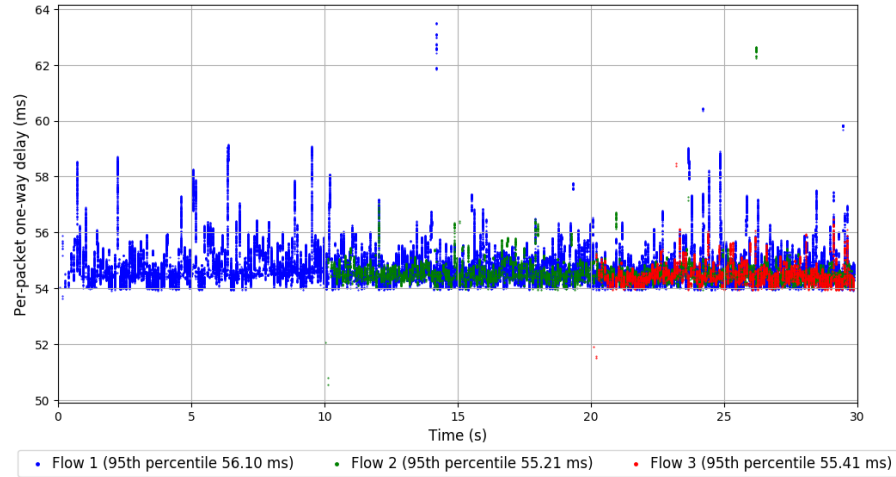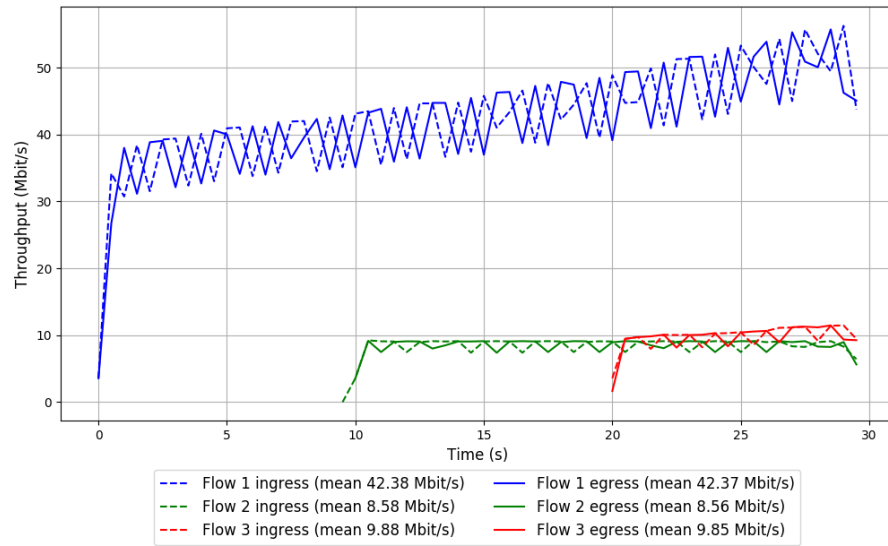
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-18 23:41:08
End at: 2017-09-18 23:41:38

# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.50 Mbit/s
95th percentile per-packet one-way delay: 56.044 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 55.413 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 5.90 Mbit/s
95th percentile per-packet one-way delay: 54.987 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 56.757 ms
Loss rate: 0.56%
```
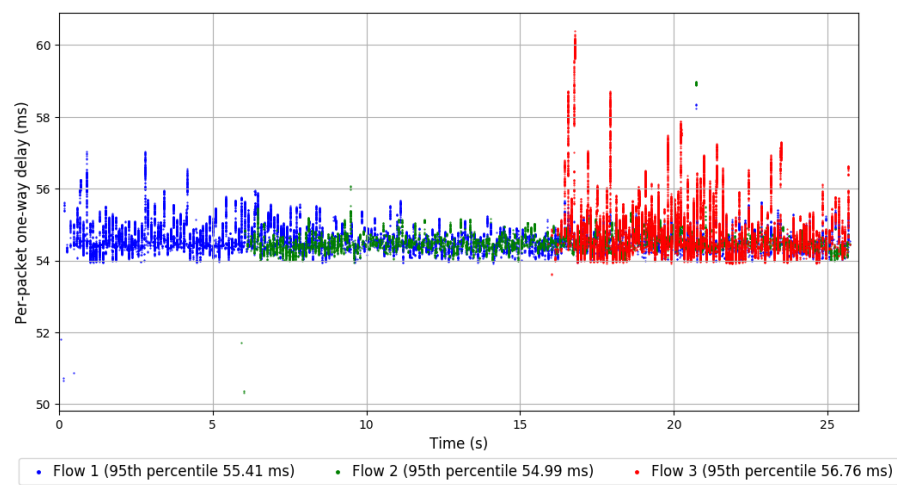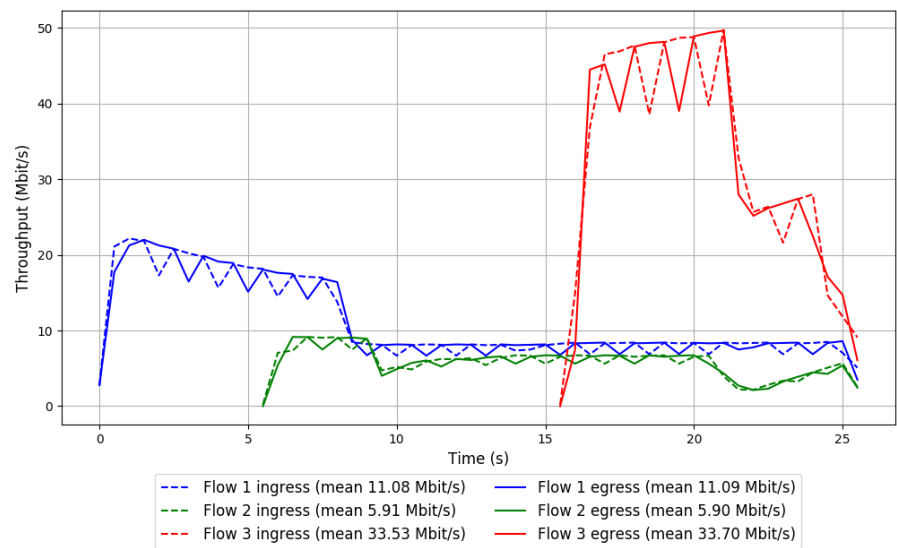
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2017-09-18 23:50:09
End at: 2017-09-18 23:50:39


# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.90 Mbit/s
95th percentile per-packet one-way delay: 55.850 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 19.75 Mbit/s
95th percentile per-packet one-way delay: 55.915 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 55.052 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 45.69 Mbit/s
95th percentile per-packet one-way delay: 55.952 ms
Loss rate: 1.22%
```
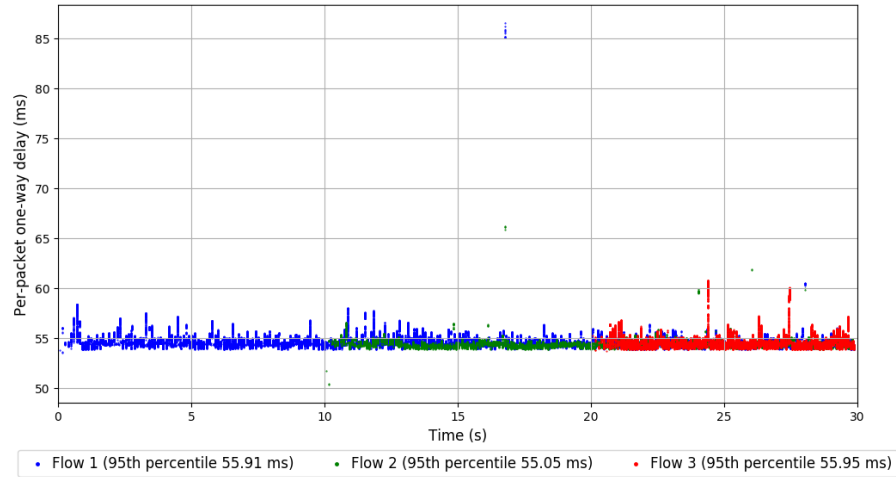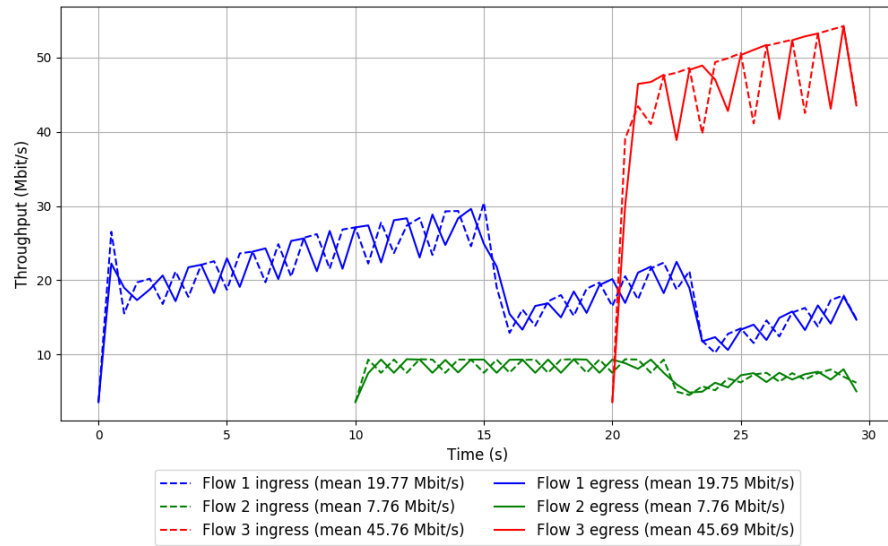
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 19.77 Mbit/s) — — — Flow 1 egress (mean 19.75 Mbit/s)
Flow 2 ingress (mean 7.76 Mbit/s) — — — Flow 2 egress (mean 7.76 Mbit/s)
Flow 3 ingress (mean 45.76 Mbit/s) — — — Flow 3 egress (mean 45.69 Mbit/s)

Flow 1 (95th percentile 55.91 ms)   Flow 2 (95th percentile 55.05 ms)   Flow 3 (95th percentile 55.95 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-18 23:59:18
End at: 2017-09-18 23:59:48


# Below is generated by plot.py at 2017-09-19 02:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.99 Mbit/s
95th percentile per-packet one-way delay: 55.345 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 7.44 Mbit/s
95th percentile per-packet one-way delay: 55.321 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 16.13 Mbit/s
95th percentile per-packet one-way delay: 55.267 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 14.69 Mbit/s
95th percentile per-packet one-way delay: 55.601 ms
Loss rate: 1.49%
```
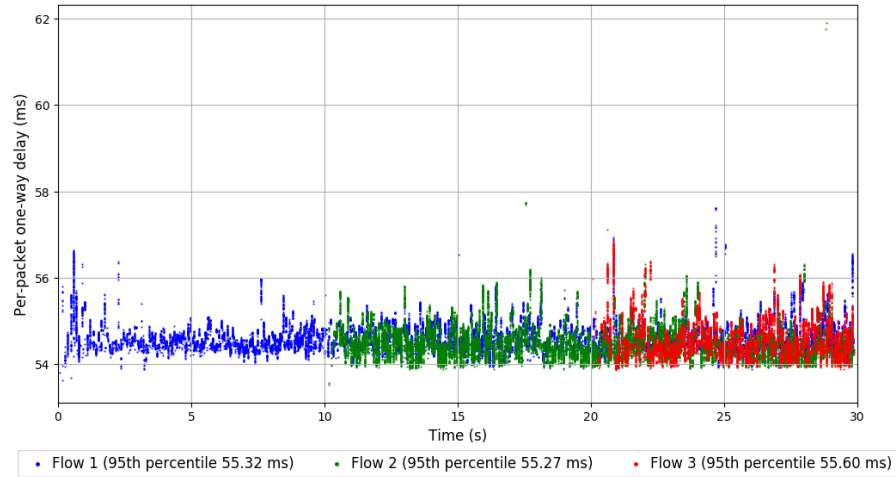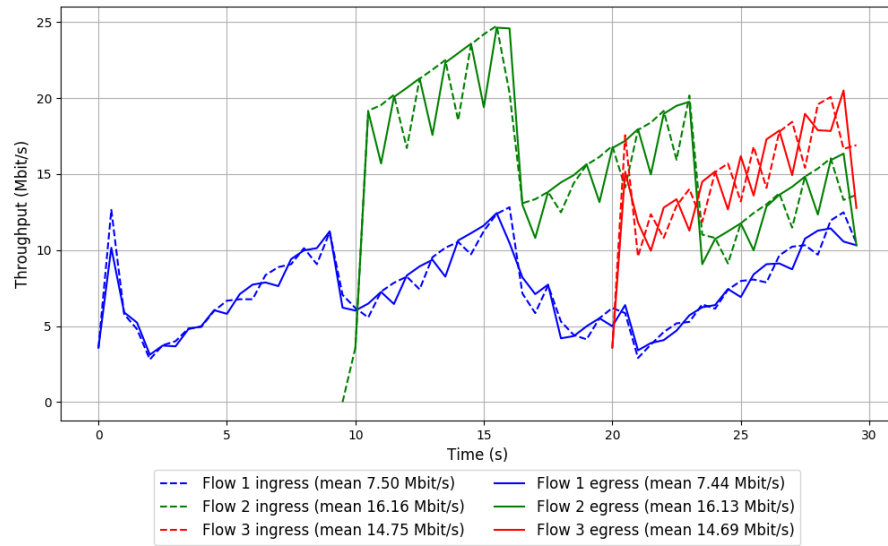
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 7.50 Mbit/s) Flow 1 egress (mean 7.44 Mbit/s)
Flow 2 ingress (mean 16.16 Mbit/s) Flow 2 egress (mean 16.13 Mbit/s)
Flow 3 ingress (mean 14.75 Mbit/s) Flow 3 egress (mean 14.69 Mbit/s)

Flow 1 (95th percentile 55.32 ms) Flow 2 (95th percentile 55.27 ms) Flow 3 (95th percentile 55.60 ms)

```
Run 1: Statistics of Verus

Start at: 2017-09-18 22:34:46
End at: 2017-09-18 22:35:16

# Below is generated by plot.py at 2017-09-19 02:59:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.25 Mbit/s
95th percentile per-packet one-way delay: 136.241 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 169.64 Mbit/s
95th percentile per-packet one-way delay: 107.809 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 154.68 Mbit/s
95th percentile per-packet one-way delay: 151.826 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 141.81 Mbit/s
95th percentile per-packet one-way delay: 101.623 ms
Loss rate: 2.08%
```
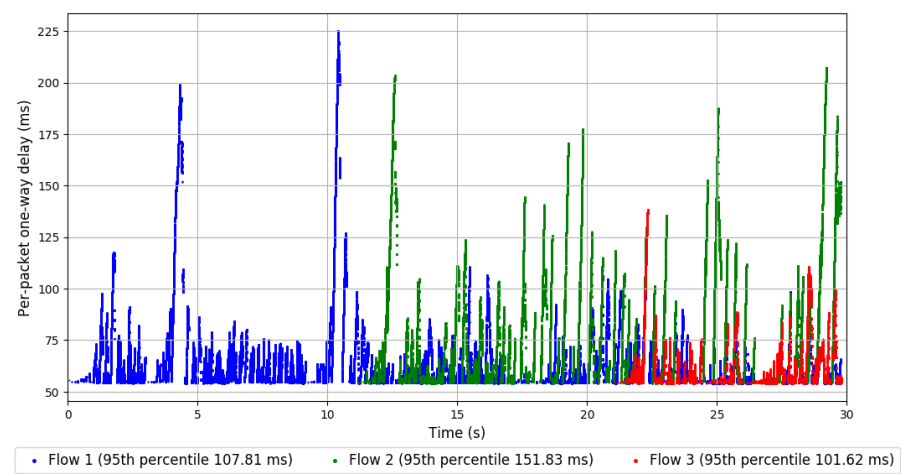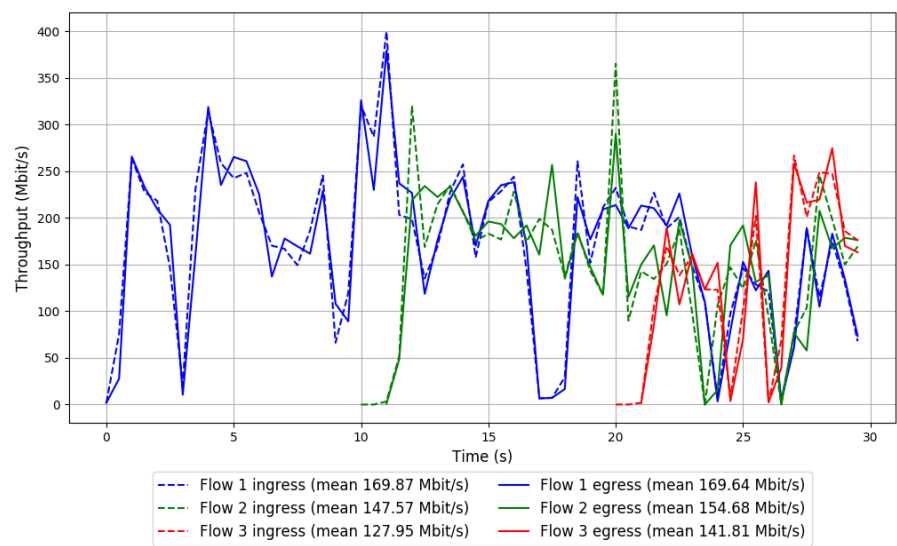
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-09-18 22:43:41
End at: 2017-09-18 22:44:11


# Below is generated by plot.py at 2017-09-19 02:59:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.14 Mbit/s
95th percentile per-packet one-way delay: 177.251 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 149.41 Mbit/s
95th percentile per-packet one-way delay: 146.966 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 196.47 Mbit/s
95th percentile per-packet one-way delay: 202.400 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 112.37 Mbit/s
95th percentile per-packet one-way delay: 196.091 ms
Loss rate: 0.55%
```
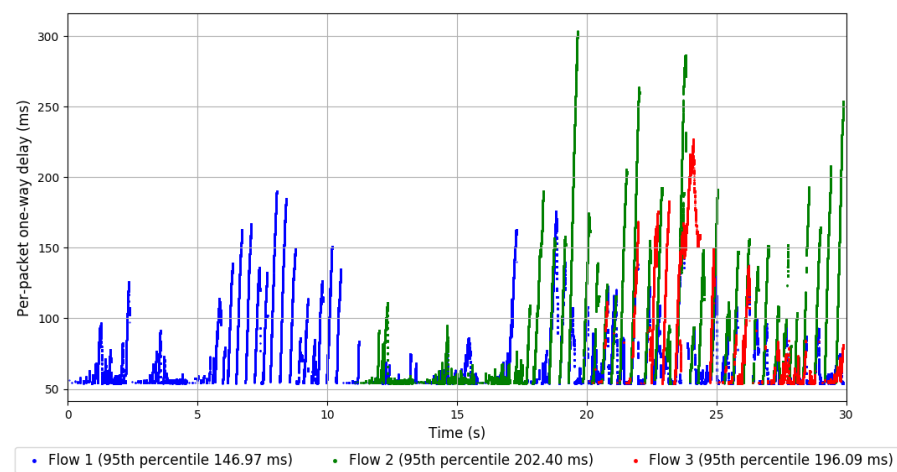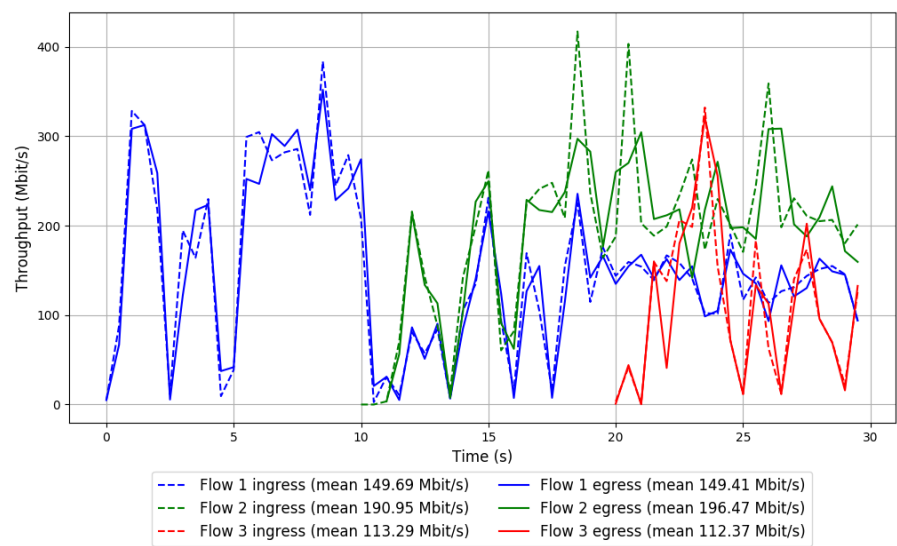
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-09-18 22:52:59
End at: 2017-09-18 22:53:29

# Below is generated by plot.py at 2017-09-19 02:59:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.05 Mbit/s
95th percentile per-packet one-way delay: 126.345 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 192.96 Mbit/s
95th percentile per-packet one-way delay: 126.615 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 124.77 Mbit/s
95th percentile per-packet one-way delay: 153.206 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 78.63 Mbit/s
95th percentile per-packet one-way delay: 117.201 ms
Loss rate: 5.18%
```
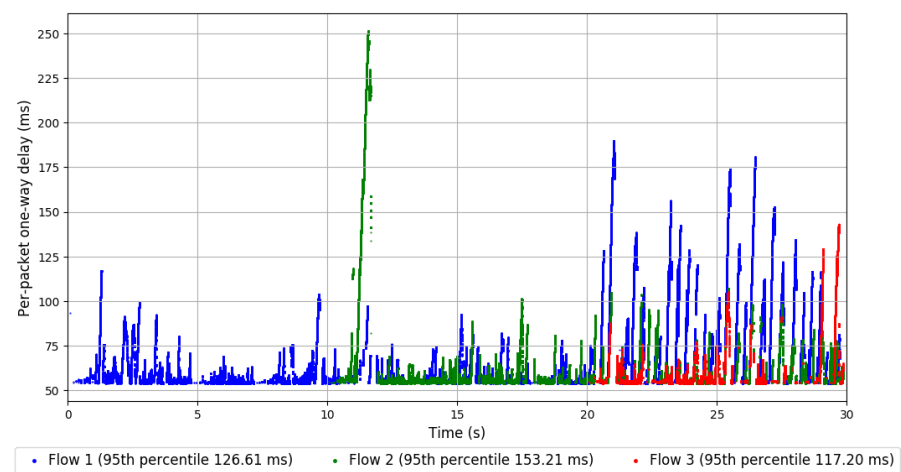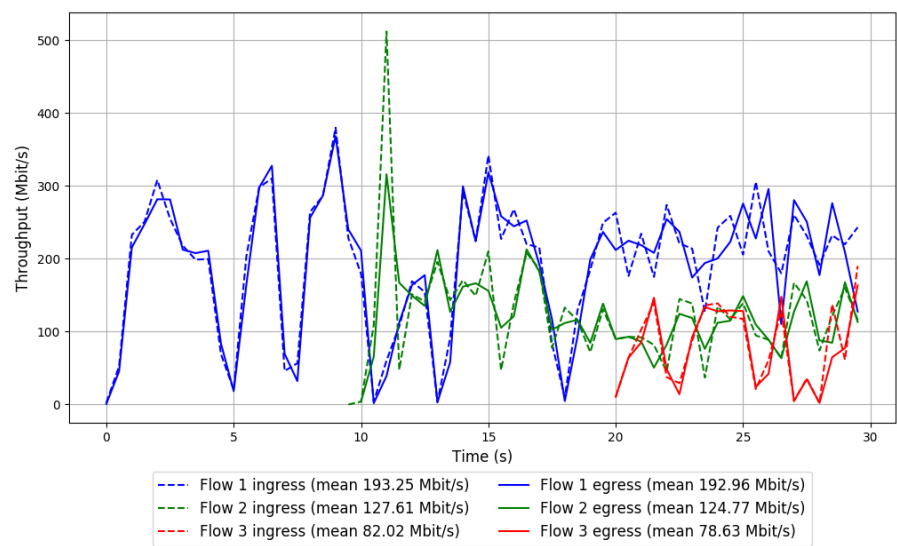
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-09-18 23:01:47
End at: 2017-09-18 23:02:17


# Below is generated by plot.py at 2017-09-19 03:00:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.59 Mbit/s
95th percentile per-packet one-way delay: 152.584 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 197.50 Mbit/s
95th percentile per-packet one-way delay: 110.005 ms
Loss rate: 2.26%
-- Flow 2:
Average throughput: 150.85 Mbit/s
95th percentile per-packet one-way delay: 169.708 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 79.62 Mbit/s
95th percentile per-packet one-way delay: 83.114 ms
Loss rate: 2.46%
```
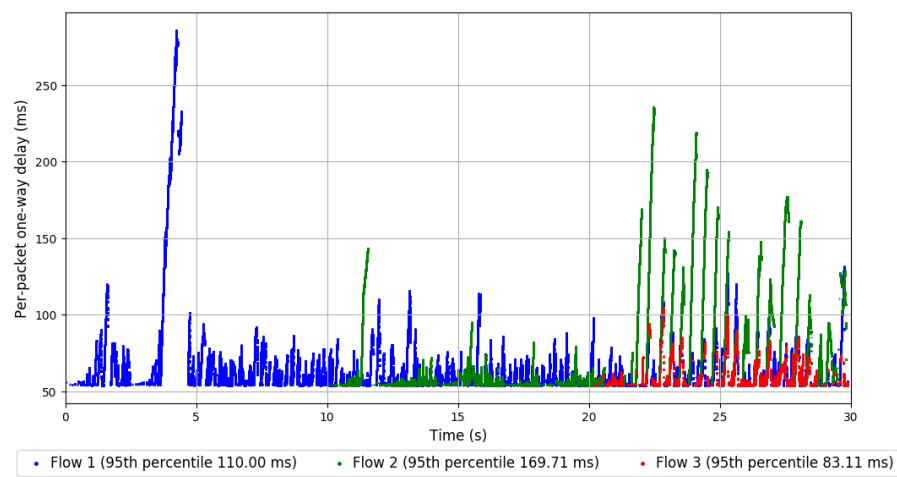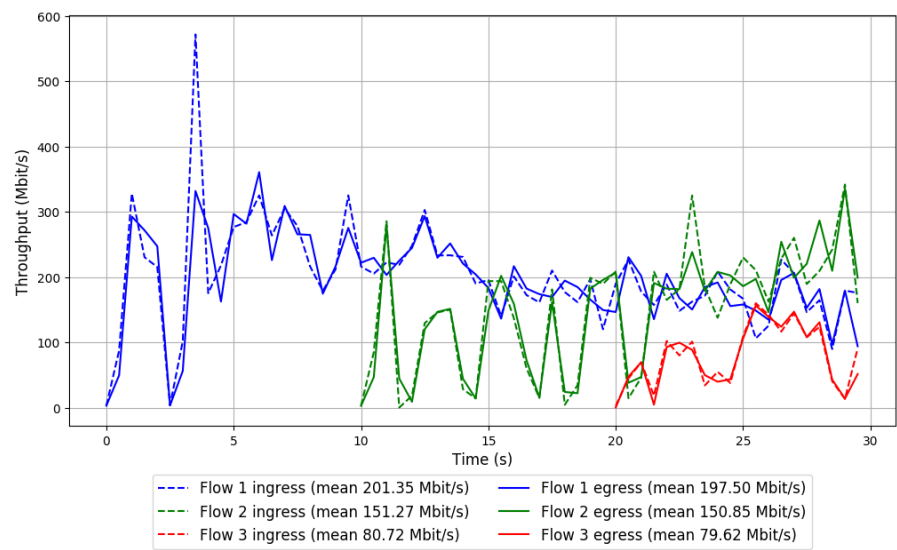
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-09-18 23:10:32
End at: 2017-09-18 23:11:02


# Below is generated by plot.py at 2017-09-19 03:00:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.05 Mbit/s
95th percentile per-packet one-way delay: 109.141 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 189.62 Mbit/s
95th percentile per-packet one-way delay: 108.161 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 168.38 Mbit/s
95th percentile per-packet one-way delay: 117.549 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 84.08 Mbit/s
95th percentile per-packet one-way delay: 96.062 ms
Loss rate: 2.08%
```
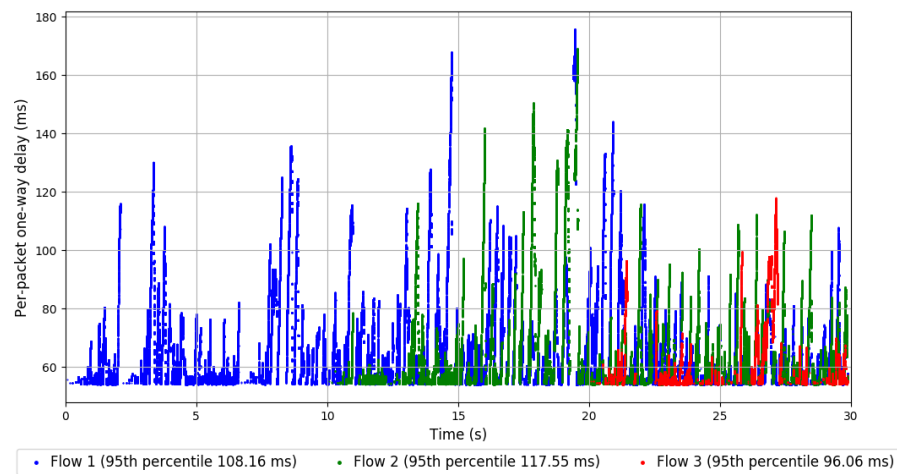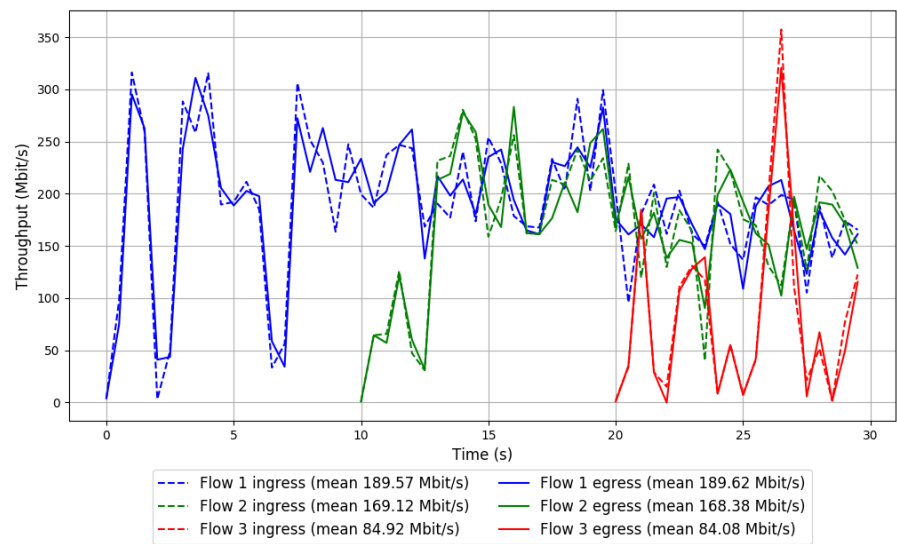
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-09-18 23:19:51
End at: 2017-09-18 23:20:21


# Below is generated by plot.py at 2017-09-19 03:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.11 Mbit/s
95th percentile per-packet one-way delay: 103.298 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 234.39 Mbit/s
95th percentile per-packet one-way delay: 104.629 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 168.06 Mbit/s
95th percentile per-packet one-way delay: 100.842 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 138.34 Mbit/s
95th percentile per-packet one-way delay: 105.646 ms
Loss rate: 0.00%
```
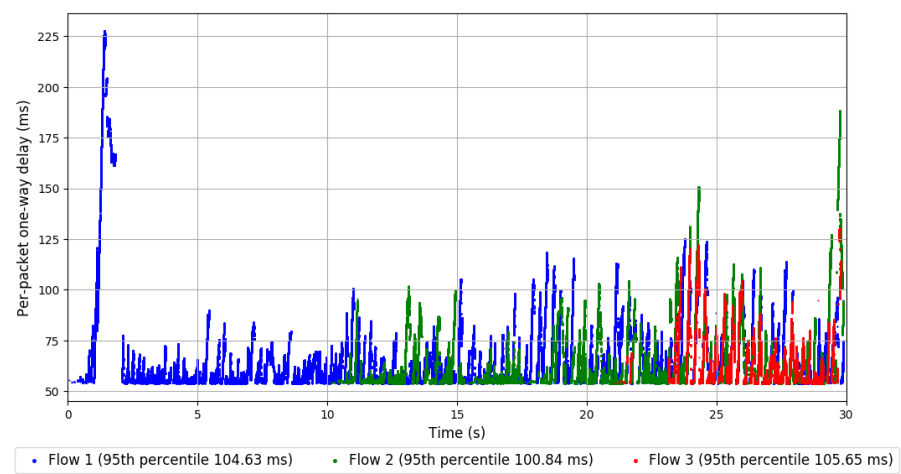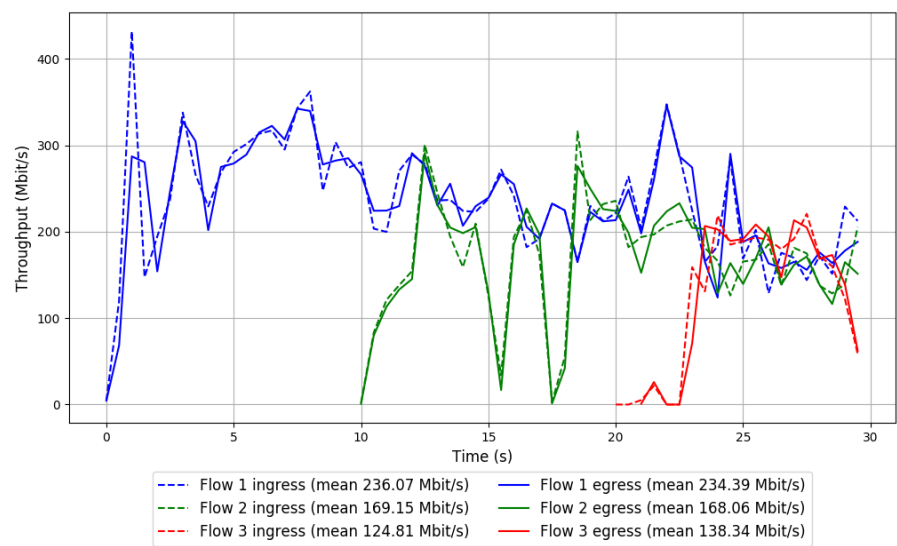
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 236.07 Mbit/s) --- Flow 1 egress (mean 234.39 Mbit/s)
Flow 2 ingress (mean 169.15 Mbit/s) --- Flow 2 egress (mean 168.06 Mbit/s)
Flow 3 ingress (mean 124.81 Mbit/s) --- Flow 3 egress (mean 138.34 Mbit/s)

Flow 1 (95th percentile 104.63 ms)   Flow 2 (95th percentile 100.84 ms)   Flow 3 (95th percentile 105.65 ms)

```
Run 7: Statistics of Verus

Start at: 2017-09-18 23:28:59
End at: 2017-09-18 23:29:29


# Below is generated by plot.py at 2017-09-19 03:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.16 Mbit/s
95th percentile per-packet one-way delay: 113.073 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 196.07 Mbit/s
95th percentile per-packet one-way delay: 134.162 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 154.59 Mbit/s
95th percentile per-packet one-way delay: 92.192 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 90.18 Mbit/s
95th percentile per-packet one-way delay: 83.119 ms
Loss rate: 0.13%
```
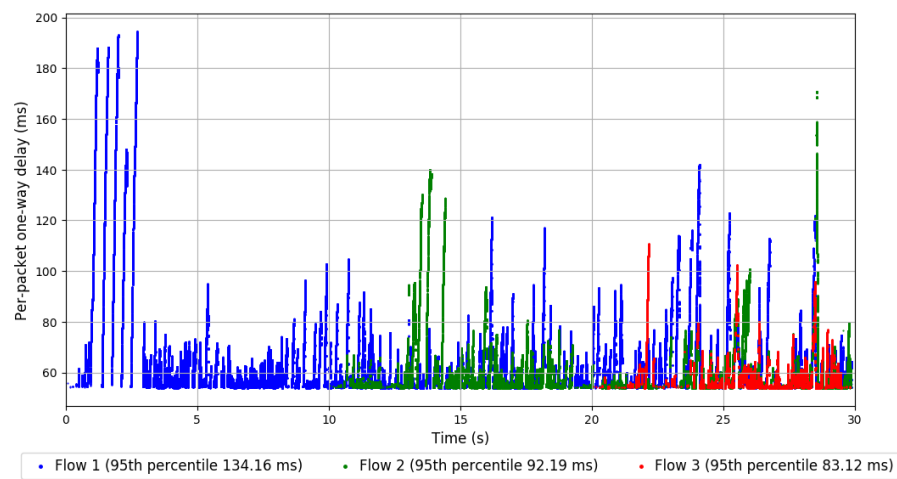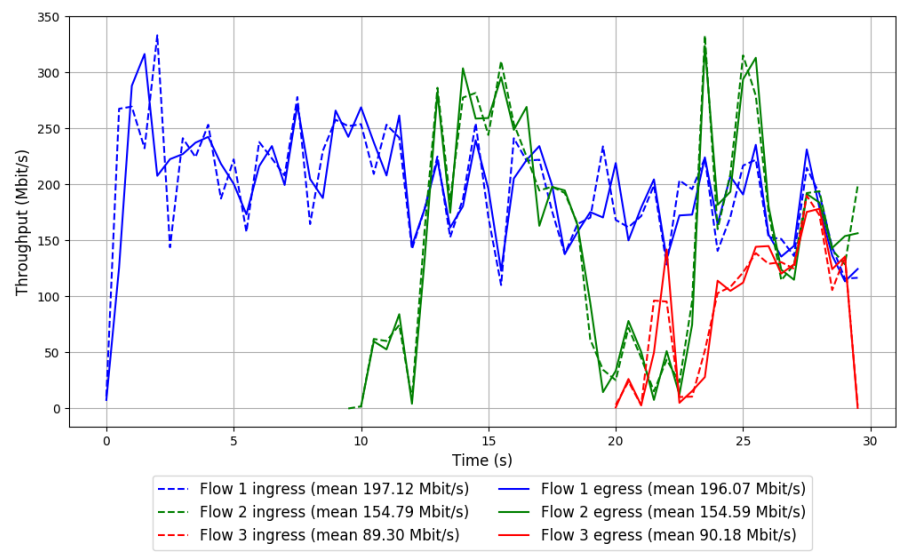
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-09-18 23:38:15
End at: 2017-09-18 23:38:45


# Below is generated by plot.py at 2017-09-19 03:03:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.82 Mbit/s
95th percentile per-packet one-way delay: 119.273 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 205.13 Mbit/s
95th percentile per-packet one-way delay: 125.420 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 174.05 Mbit/s
95th percentile per-packet one-way delay: 95.222 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 97.88 Mbit/s
95th percentile per-packet one-way delay: 177.658 ms
Loss rate: 4.64%
```
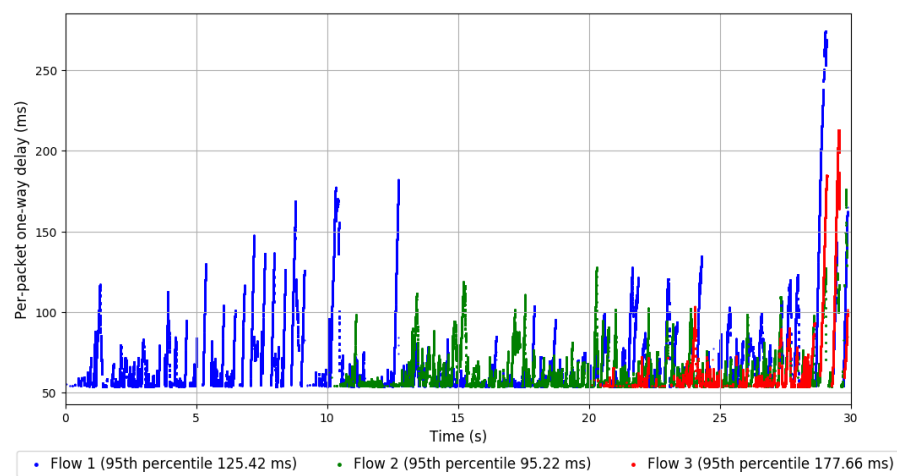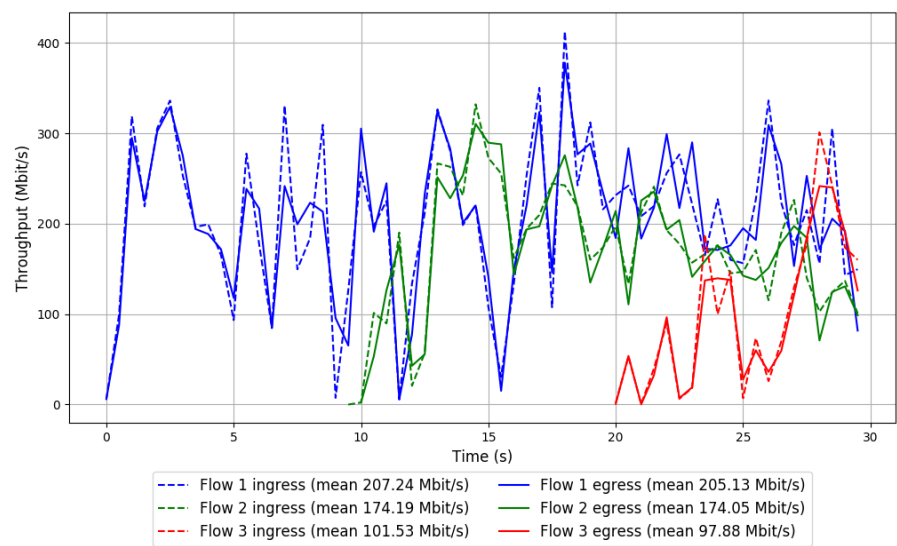
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2017-09-18 23:47:04
End at: 2017-09-18 23:47:34


# Below is generated by plot.py at 2017-09-19 03:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 391.74 Mbit/s
95th percentile per-packet one-way delay: 194.795 ms
Loss rate: 2.58%
-- Flow 1:
Average throughput: 241.75 Mbit/s
95th percentile per-packet one-way delay: 203.112 ms
Loss rate: 3.22%
-- Flow 2:
Average throughput: 170.82 Mbit/s
95th percentile per-packet one-way delay: 124.840 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 112.92 Mbit/s
95th percentile per-packet one-way delay: 95.095 ms
Loss rate: 0.95%
```
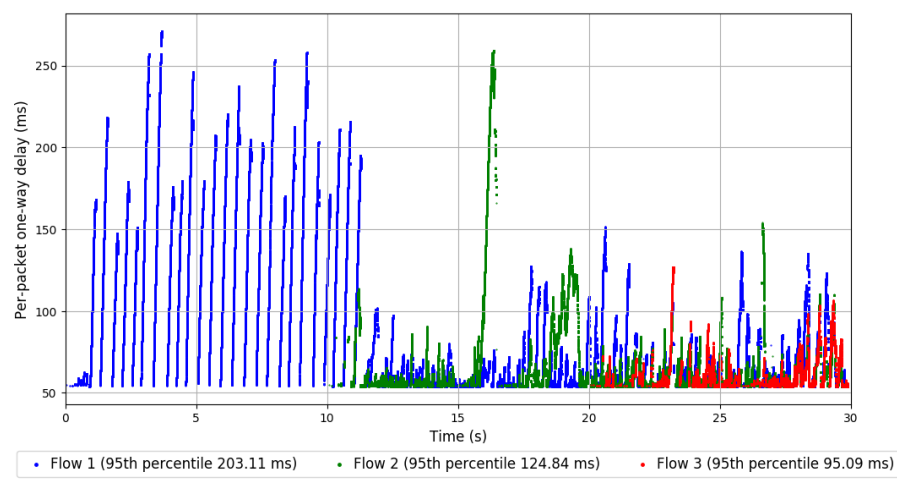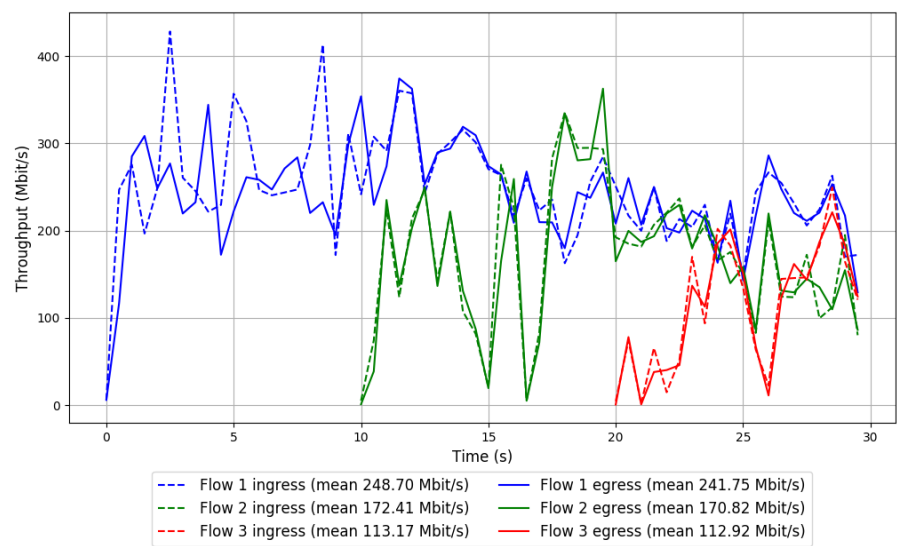
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2017-09-18 23:56:19
End at: 2017-09-18 23:56:49


# Below is generated by plot.py at 2017-09-19 03:03:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.85 Mbit/s
95th percentile per-packet one-way delay: 99.298 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 226.00 Mbit/s
95th percentile per-packet one-way delay: 105.727 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 125.98 Mbit/s
95th percentile per-packet one-way delay: 88.816 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 128.72 Mbit/s
95th percentile per-packet one-way delay: 99.970 ms
Loss rate: 0.98%
```

Run 10: Report of Verus — Data Link