Pantheon Report

Generated at 2017-09-19 03:50:52 (UTC).

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

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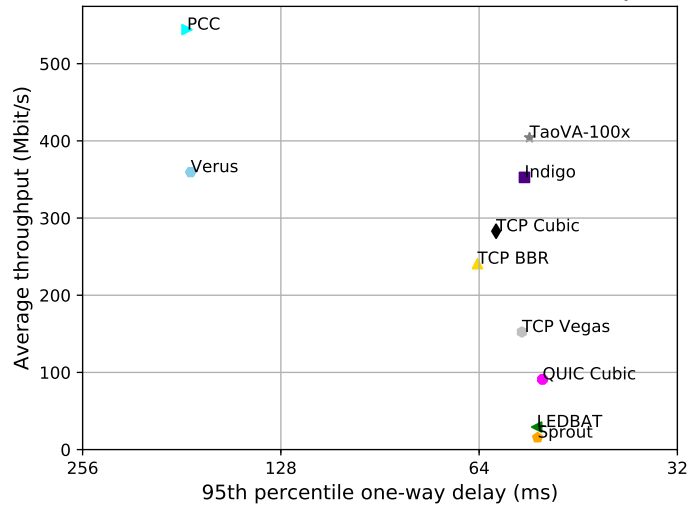
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

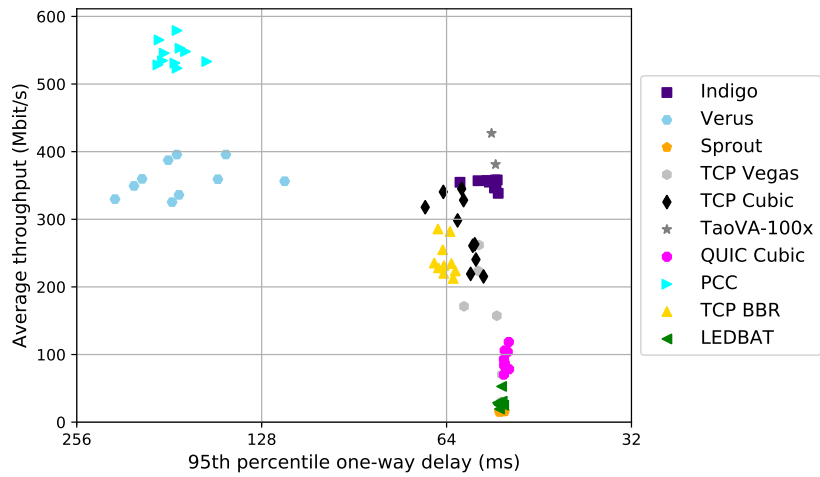Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
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 Iowa Ethernet to GCE London Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	117.24	126.21	119.91	63.35	64.69	66.09	0.04	0.02	0.08
TCP Cubic	10	136.87	148.74	142.25	59.04	60.56	61.03	0.02	0.01	0.01
Indigo	10	185.69	176.57	153.80	53.58	55.03	56.38	0.02	0.00	0.01
LEDBAT	10	16.93	13.92	9.27	52.39	52.30	52.09	0.02	0.02	0.02
PCC	10	494.82	59.48	29.80	178.12	172.04	157.87	1.73	1.55	1.48
QUIC Cubic	10	51.33	46.04	27.81	50.34	54.85	50.85	0.00	0.00	0.01
Sprout	10	7.92	7.78	7.49	52.15	52.20	52.24	0.02	0.02	0.01
TaoVA-100x	2	251.60	185.70	115.81	53.59	54.77	53.24	0.01	0.01	0.01
TCP Vegas	6	60.73	107.56	46.28	54.18	55.74	52.99	0.00	0.00	0.00
Verus	10	224.56	146.28	119.56	166.02	166.92	191.42	1.06	1.25	3.54

```
Run 1: Statistics of TCP BBR

Start at: 2017-09-19 00:07:39
End at: 2017-09-19 00:08:09

# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.02 Mbit/s
95th percentile per-packet one-way delay: 63.179 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 162.90 Mbit/s
95th percentile per-packet one-way delay: 61.823 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 127.12 Mbit/s
95th percentile per-packet one-way delay: 65.052 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 106.15 Mbit/s
95th percentile per-packet one-way delay: 63.353 ms
Loss rate: 0.08%
```
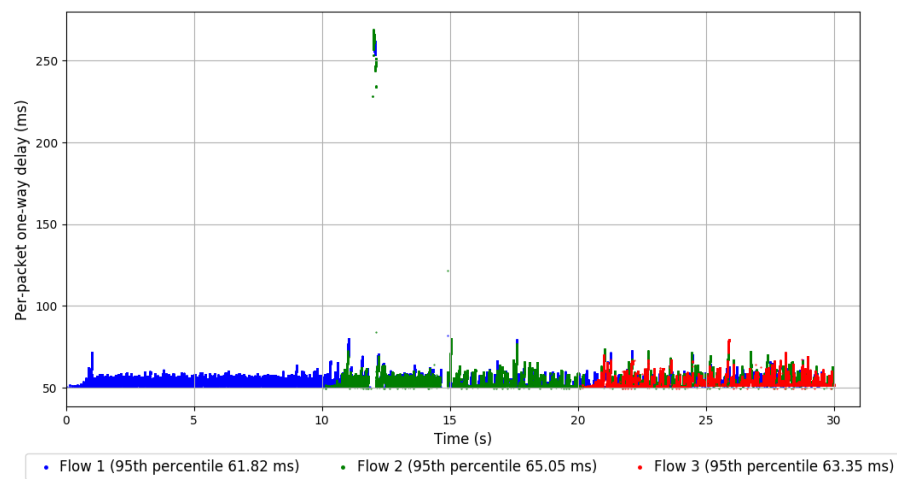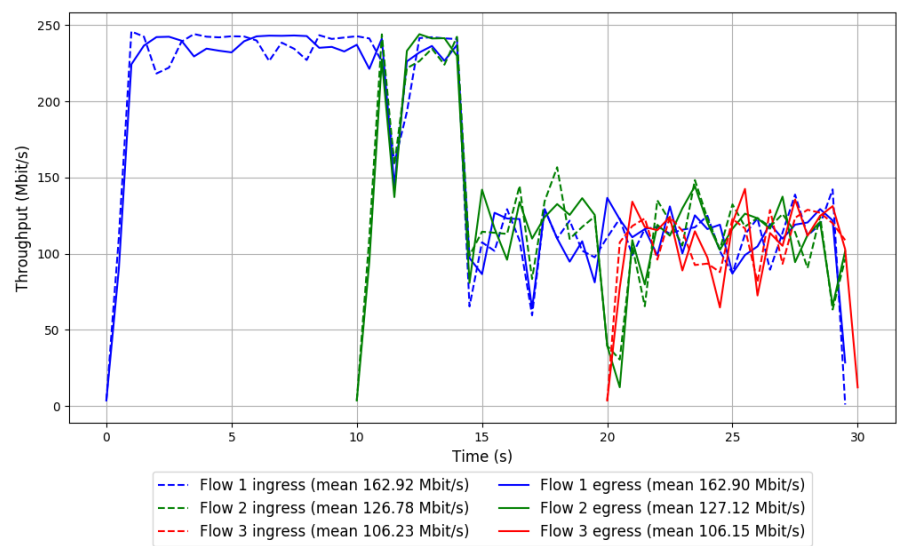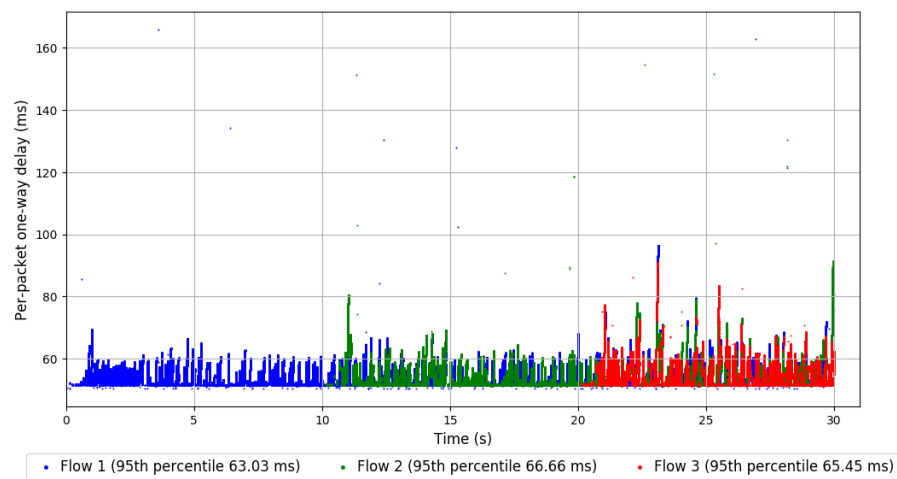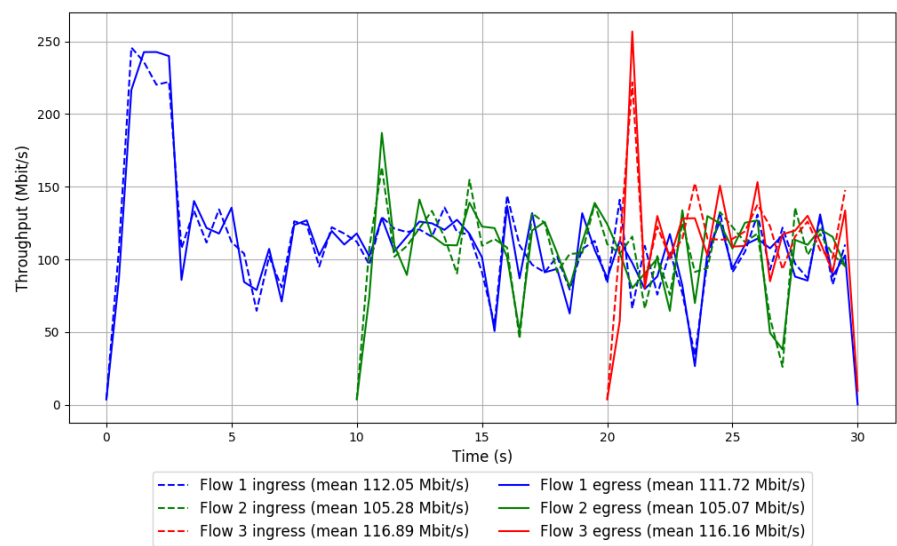
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 162.92 Mbit/s) --- Flow 1 egress (mean 162.90 Mbit/s)
Flow 2 ingress (mean 126.78 Mbit/s) --- Flow 2 egress (mean 127.12 Mbit/s)
Flow 3 ingress (mean 106.23 Mbit/s) --- Flow 3 egress (mean 106.15 Mbit/s)

Flow 1 (95th percentile 61.82 ms) · Flow 2 (95th percentile 65.05 ms) · Flow 3 (95th percentile 63.35 ms)

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```
Run 2: Statistics of TCP BBR

Start at: 2017-09-19 00:16:34
End at: 2017-09-19 00:17:04

# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.02 Mbit/s
95th percentile per-packet one-way delay: 64.673 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 111.72 Mbit/s
95th percentile per-packet one-way delay: 63.034 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 105.07 Mbit/s
95th percentile per-packet one-way delay: 66.660 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 116.16 Mbit/s
95th percentile per-packet one-way delay: 65.455 ms
Loss rate: 0.61%
```
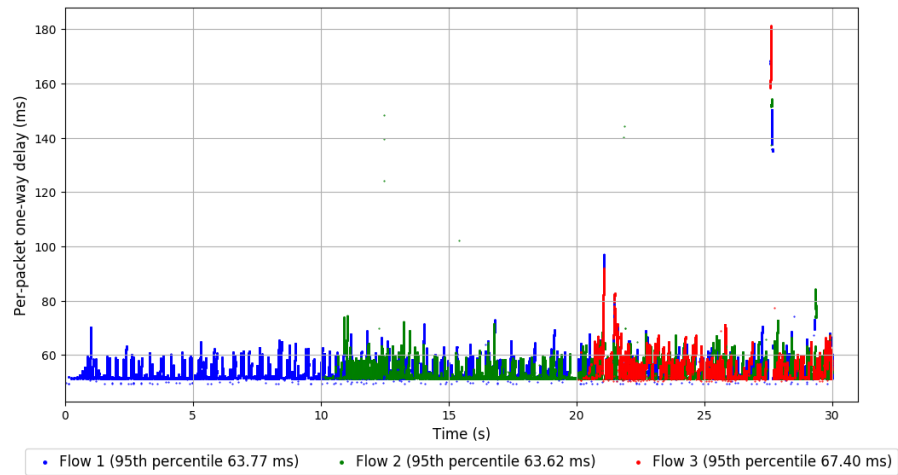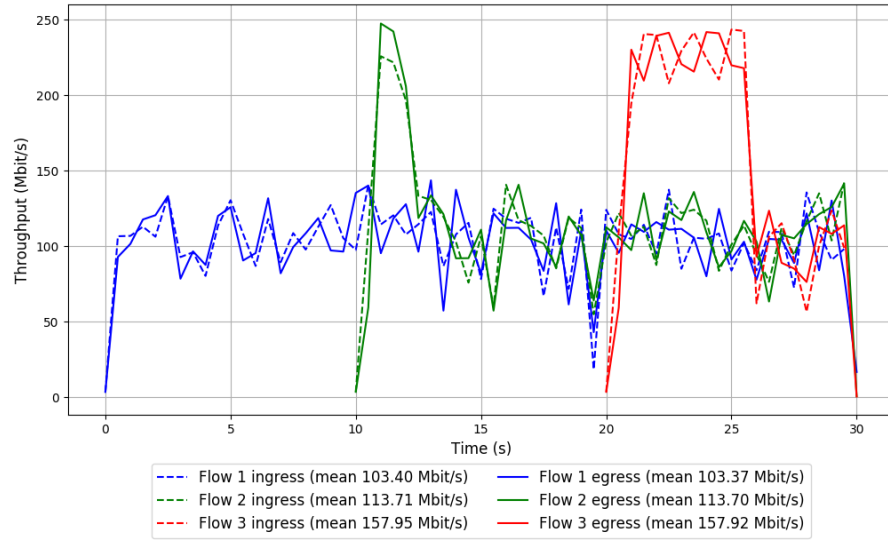
Run 2: Report of TCP BBR — Data Link

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Run 3: Statistics of TCP BBR

Start at: 2017-09-19 00:25:23
End at: 2017-09-19 00:25:53

# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 231.45 Mbit/s
95th percentile per-packet one-way delay: 64.641 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 103.37 Mbit/s
95th percentile per-packet one-way delay: 63.770 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 113.70 Mbit/s
95th percentile per-packet one-way delay: 63.615 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 157.92 Mbit/s
95th percentile per-packet one-way delay: 67.401 ms
Loss rate: 0.01%
```
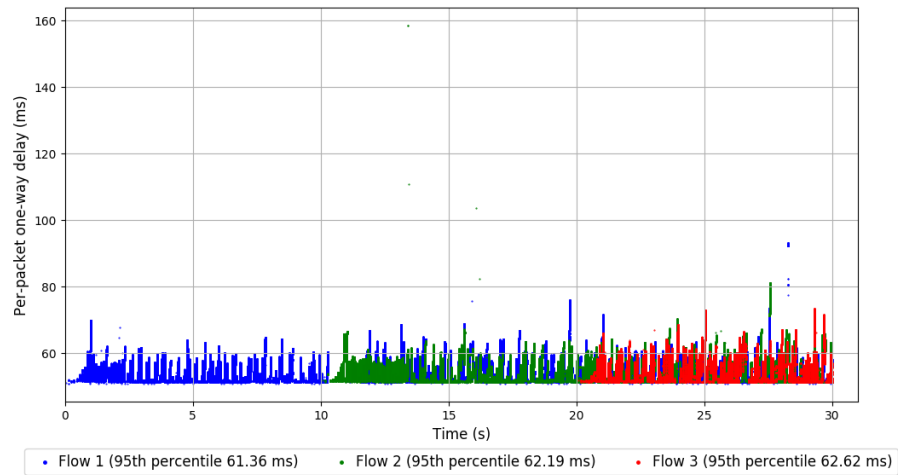
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2017-09-19 00:34:18
End at: 2017-09-19 00:34:48


# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.67 Mbit/s
95th percentile per-packet one-way delay: 61.926 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 111.79 Mbit/s
95th percentile per-packet one-way delay: 61.363 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 115.36 Mbit/s
95th percentile per-packet one-way delay: 62.191 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 105.99 Mbit/s
95th percentile per-packet one-way delay: 62.618 ms
Loss rate: 0.00%
```
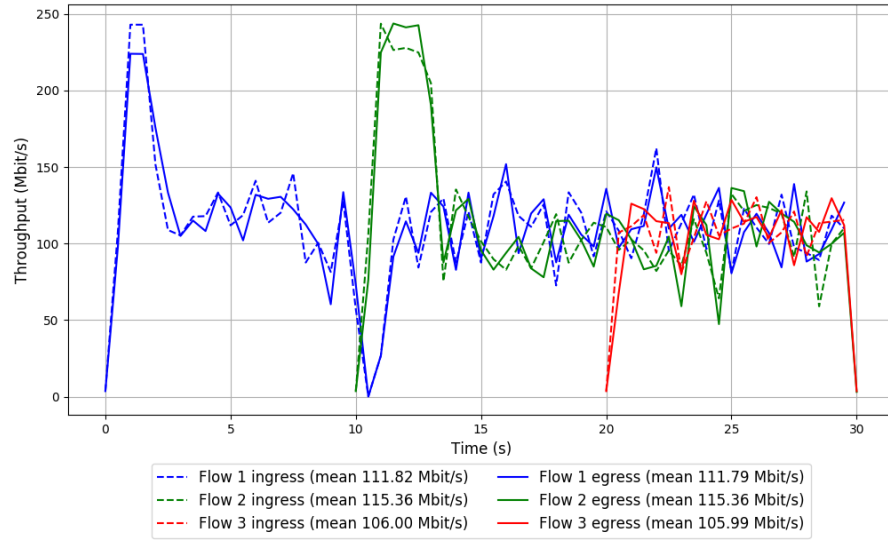
Run 4: Report of TCP BBR — Data Link

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```
Run 5: Statistics of TCP BBR

Start at: 2017-09-19 00:43:11
End at: 2017-09-19 00:43:41


# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.55 Mbit/s
95th percentile per-packet one-way delay: 62.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 117.30 Mbit/s
95th percentile per-packet one-way delay: 62.470 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 124.35 Mbit/s
95th percentile per-packet one-way delay: 62.846 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 104.78 Mbit/s
95th percentile per-packet one-way delay: 64.559 ms
Loss rate: 0.00%
```
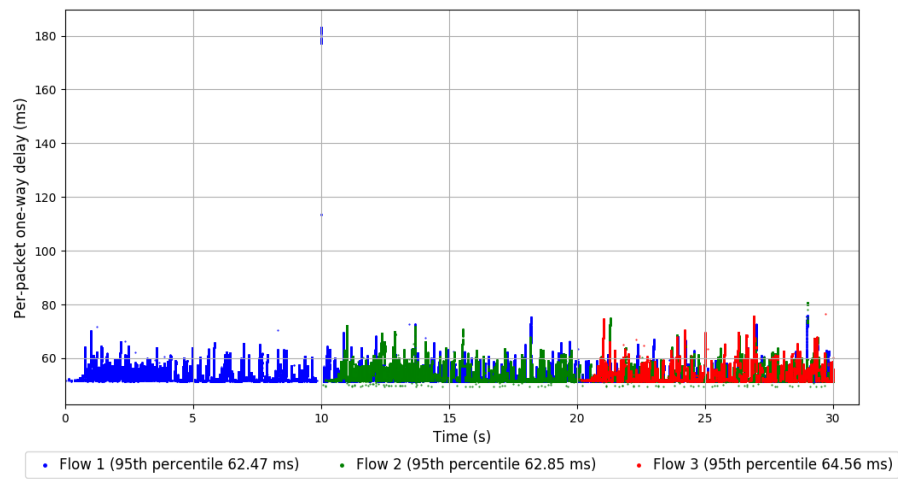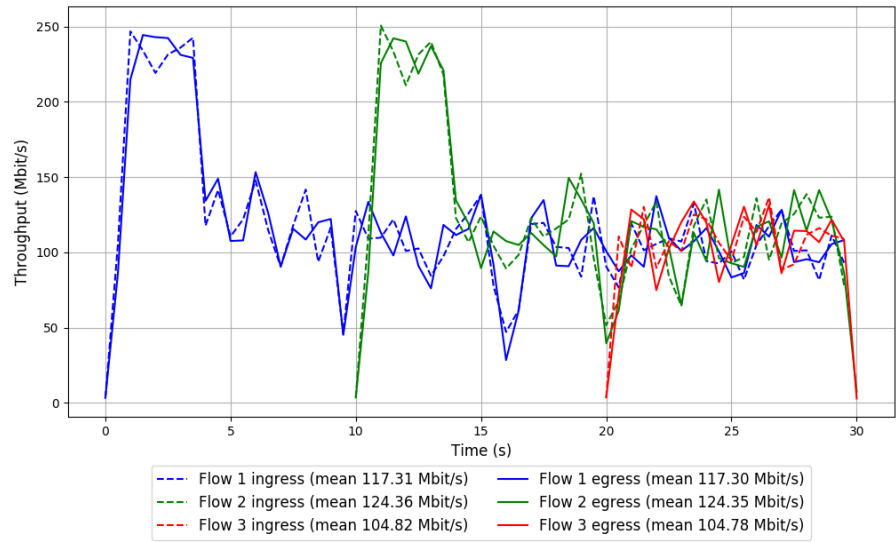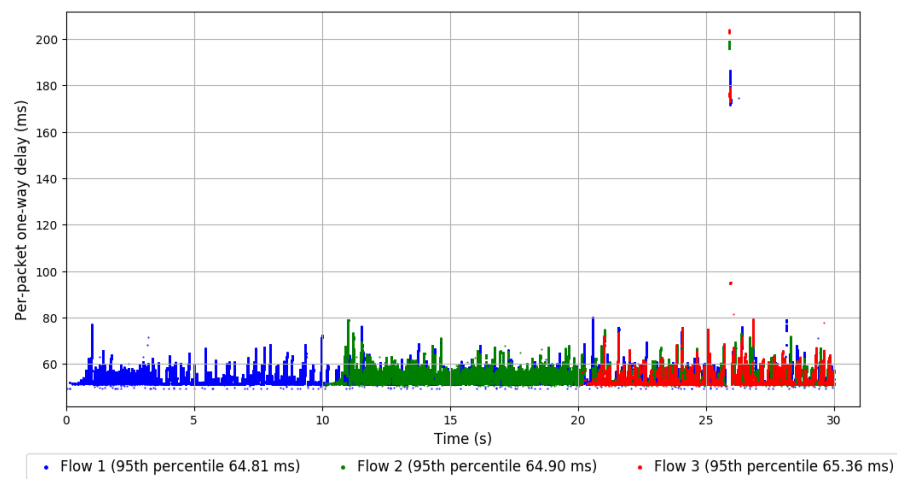
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 117.31 Mbit/s) --- Flow 1 egress (mean 117.30 Mbit/s)
Flow 2 ingress (mean 124.36 Mbit/s) --- Flow 2 egress (mean 124.35 Mbit/s)
Flow 3 ingress (mean 104.82 Mbit/s) --- Flow 3 egress (mean 104.78 Mbit/s)

Flow 1 (95th percentile 62.47 ms)   Flow 2 (95th percentile 62.85 ms)   Flow 3 (95th percentile 64.56 ms)

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Run 6: Statistics of TCP BBR

Start at: 2017-09-19 00:51:55
End at: 2017-09-19 00:52:25


# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.97 Mbit/s
95th percentile per-packet one-way delay: 64.931 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 112.76 Mbit/s
95th percentile per-packet one-way delay: 64.809 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 156.62 Mbit/s
95th percentile per-packet one-way delay: 64.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.30 Mbit/s
95th percentile per-packet one-way delay: 65.360 ms
Loss rate: 0.02%
```
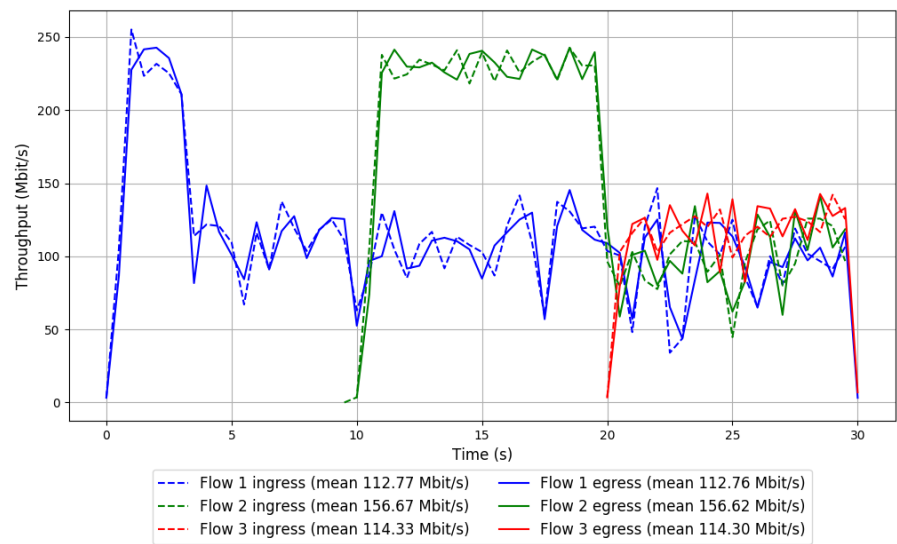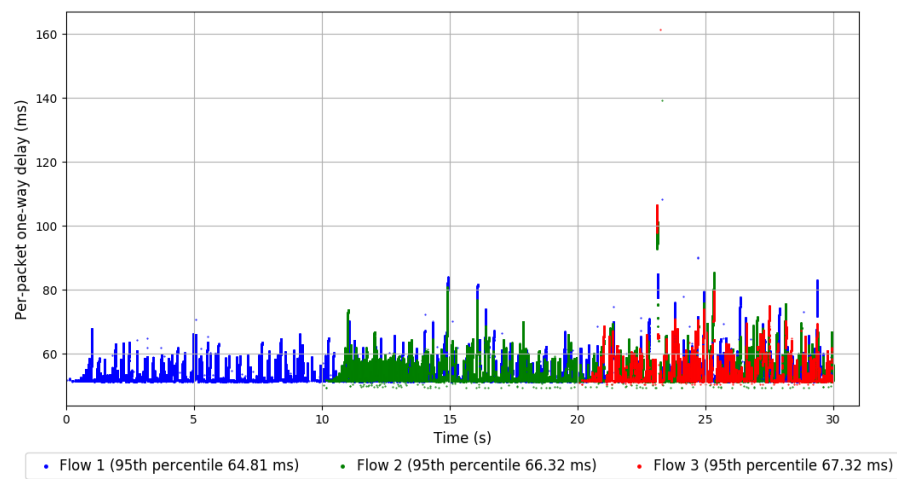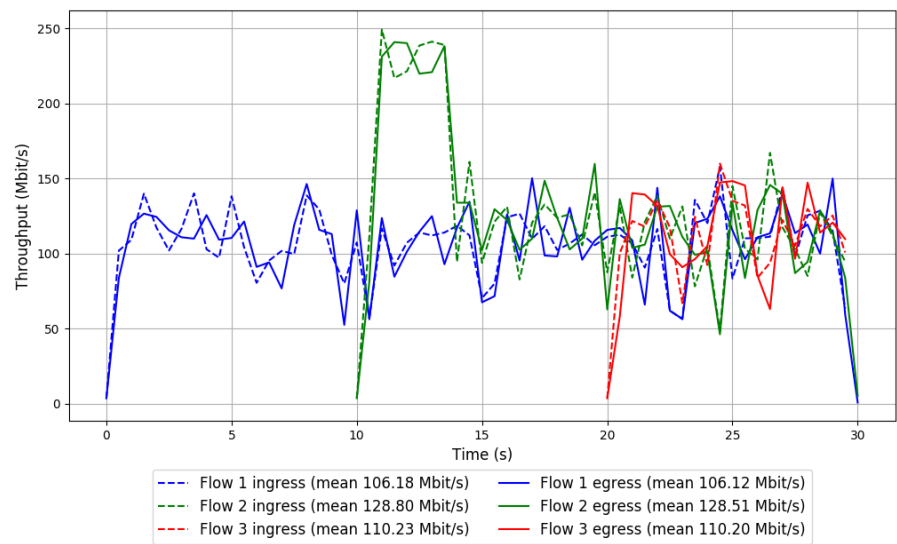
Run 6: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 112.77 Mbit/s) —— Flow 1 egress (mean 112.76 Mbit/s)
- - - Flow 2 ingress (mean 156.67 Mbit/s) —— Flow 2 egress (mean 156.62 Mbit/s)
- - - Flow 3 ingress (mean 114.33 Mbit/s) —— Flow 3 egress (mean 114.30 Mbit/s)

• Flow 1 (95th percentile 64.81 ms)   • Flow 2 (95th percentile 64.90 ms)   • Flow 3 (95th percentile 65.36 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-09-19 01:00:58
End at: 2017-09-19 01:01:28


# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.19 Mbit/s
95th percentile per-packet one-way delay: 65.983 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 106.12 Mbit/s
95th percentile per-packet one-way delay: 64.814 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 128.51 Mbit/s
95th percentile per-packet one-way delay: 66.318 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 110.20 Mbit/s
95th percentile per-packet one-way delay: 67.324 ms
Loss rate: 0.01%
```
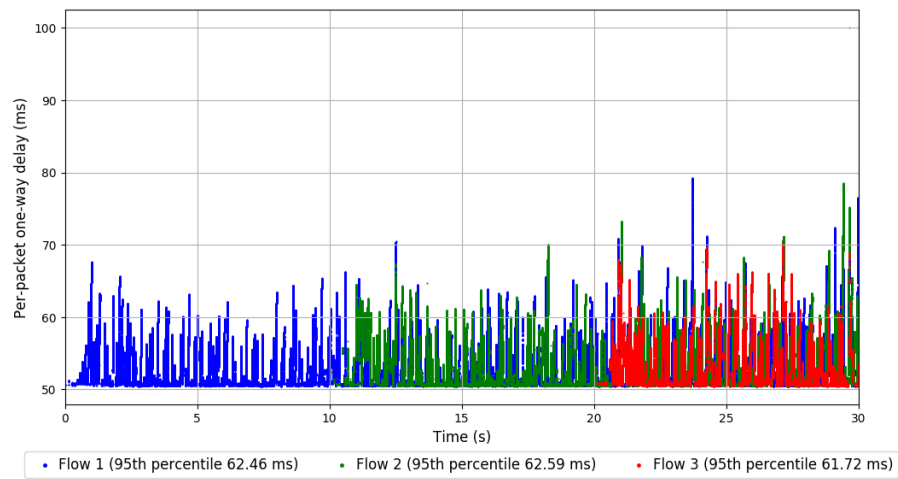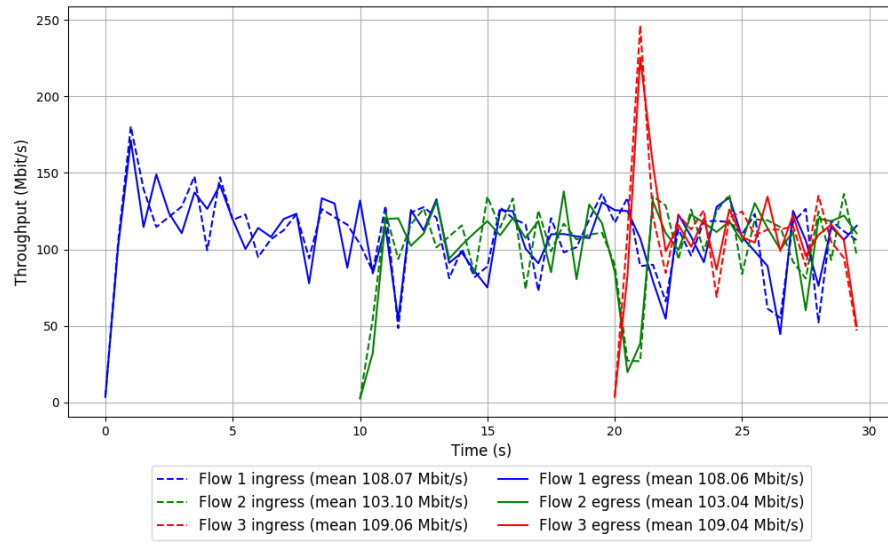
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 106.18 Mbit/s)   Flow 1 egress (mean 106.12 Mbit/s)
Flow 2 ingress (mean 128.80 Mbit/s)   Flow 2 egress (mean 128.51 Mbit/s)
Flow 3 ingress (mean 110.23 Mbit/s)   Flow 3 egress (mean 110.20 Mbit/s)

Flow 1 (95th percentile 64.81 ms)   Flow 2 (95th percentile 66.32 ms)   Flow 3 (95th percentile 67.32 ms)

```
Run 8: Statistics of TCP BBR

Start at: 2017-09-19 01:09:51
End at: 2017-09-19 01:10:21


# Below is generated by plot.py at 2017-09-19 03:02:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.59 Mbit/s
95th percentile per-packet one-way delay: 62.427 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 108.06 Mbit/s
95th percentile per-packet one-way delay: 62.456 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 103.04 Mbit/s
95th percentile per-packet one-way delay: 62.587 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 109.04 Mbit/s
95th percentile per-packet one-way delay: 61.719 ms
Loss rate: 0.01%
```
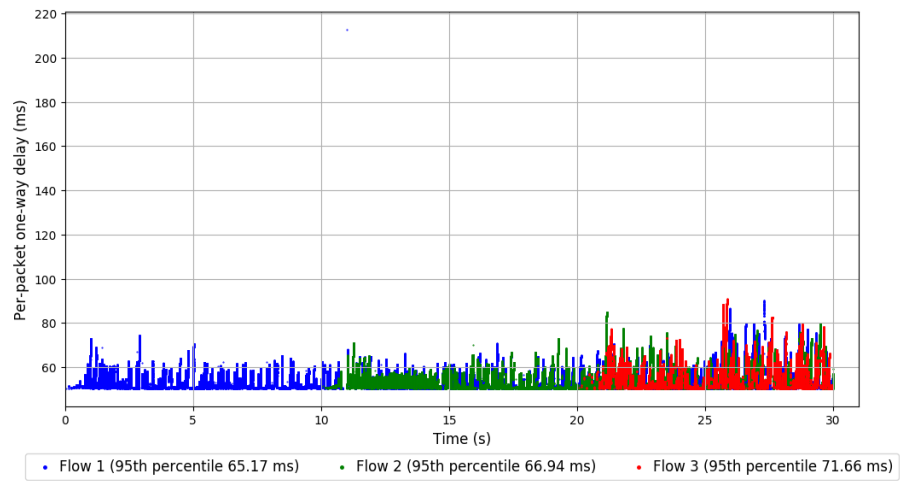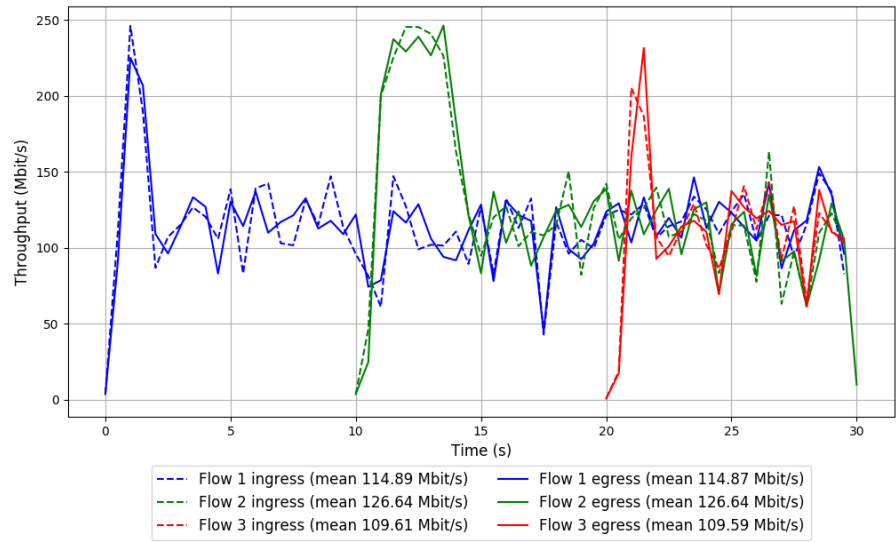
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 108.07 Mbit/s) --- Flow 1 egress (mean 108.06 Mbit/s)
Flow 2 ingress (mean 103.10 Mbit/s) --- Flow 2 egress (mean 103.04 Mbit/s)
Flow 3 ingress (mean 109.06 Mbit/s) --- Flow 3 egress (mean 109.04 Mbit/s)

Flow 1 (95th percentile 62.46 ms)   Flow 2 (95th percentile 62.59 ms)   Flow 3 (95th percentile 61.72 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2017-09-19 01:19:02
End at: 2017-09-19 01:19:32

# Below is generated by plot.py at 2017-09-19 03:05:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.25 Mbit/s
95th percentile per-packet one-way delay: 67.028 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 114.87 Mbit/s
95th percentile per-packet one-way delay: 65.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 126.64 Mbit/s
95th percentile per-packet one-way delay: 66.943 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 109.59 Mbit/s
95th percentile per-packet one-way delay: 71.655 ms
Loss rate: 0.02%
```
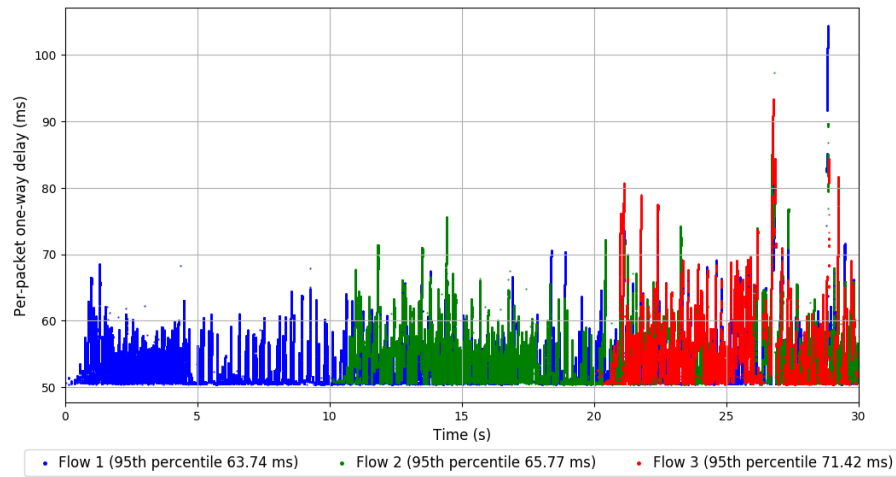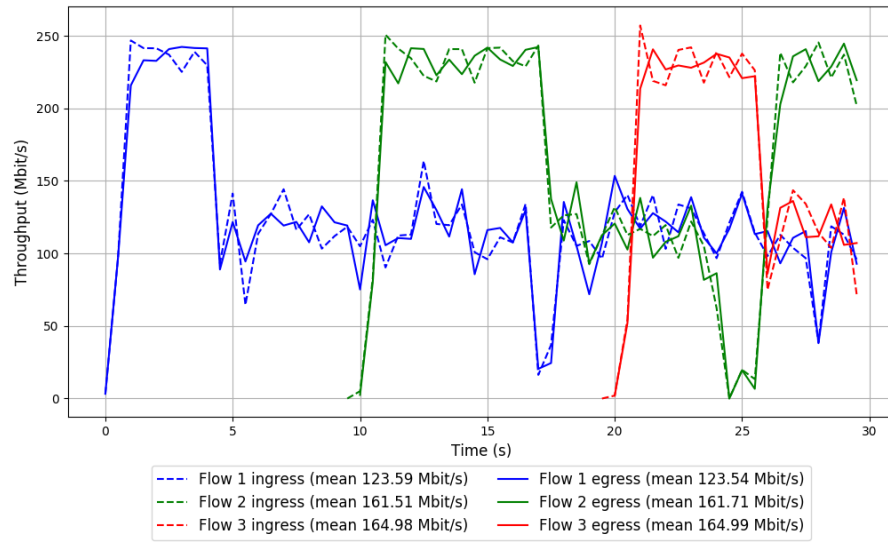
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 114.89 Mbit/s) — Flow 1 egress (mean 114.87 Mbit/s)
Flow 2 ingress (mean 126.64 Mbit/s) — Flow 2 egress (mean 126.64 Mbit/s)
Flow 3 ingress (mean 109.61 Mbit/s) — Flow 3 egress (mean 109.59 Mbit/s)

Flow 1 (95th percentile 65.17 ms)　　Flow 2 (95th percentile 66.94 ms)　　Flow 3 (95th percentile 71.66 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2017-09-19 01:27:54
End at: 2017-09-19 01:28:24


# Below is generated by plot.py at 2017-09-19 03:05:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 285.68 Mbit/s
95th percentile per-packet one-way delay: 66.112 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 123.54 Mbit/s
95th percentile per-packet one-way delay: 63.740 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 161.71 Mbit/s
95th percentile per-packet one-way delay: 65.769 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 164.99 Mbit/s
95th percentile per-packet one-way delay: 71.425 ms
Loss rate: 0.00%
```
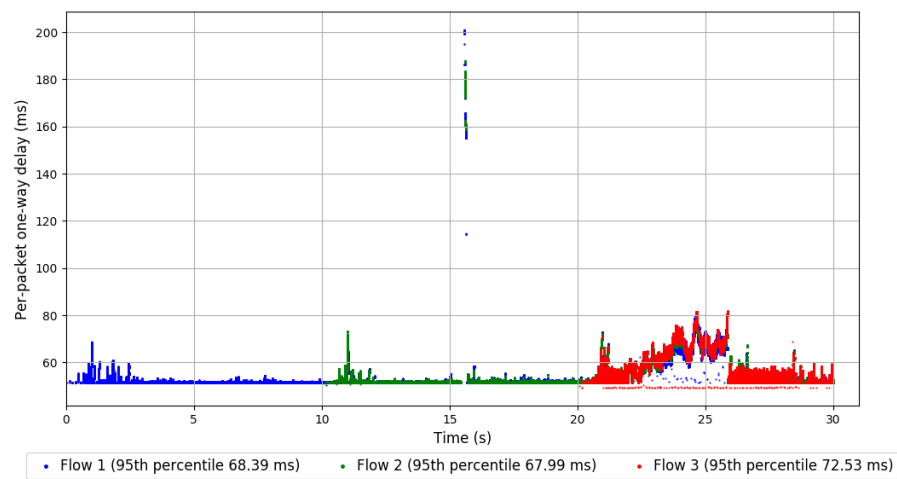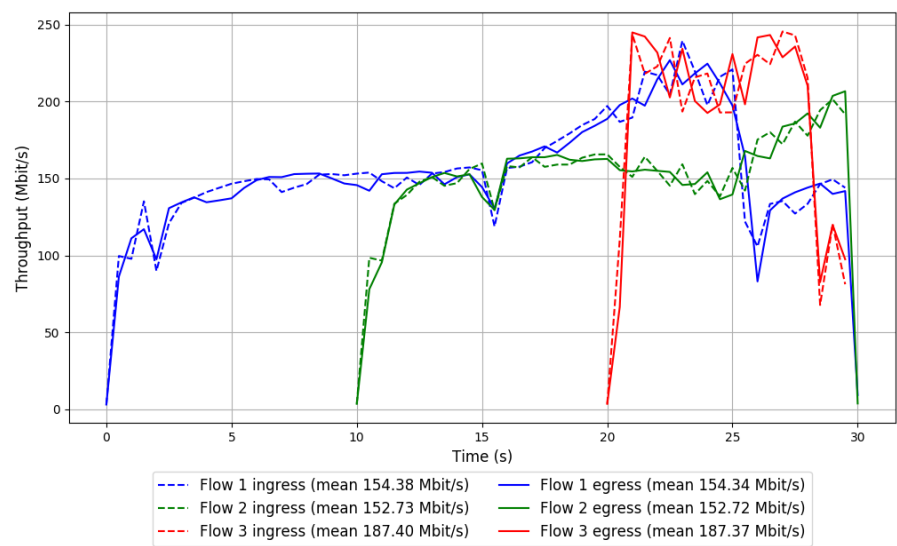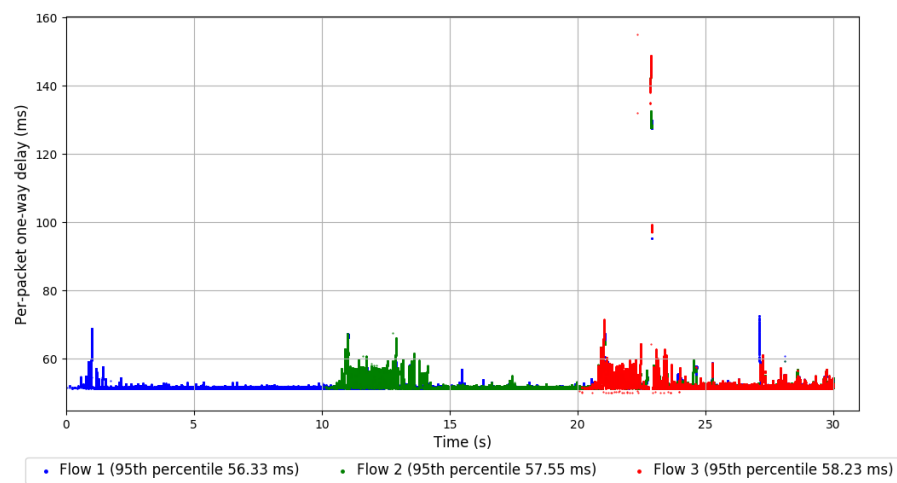
Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-19 00:08:35
End at: 2017-09-19 00:09:05

# Below is generated by plot.py at 2017-09-19 03:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.84 Mbit/s
95th percentile per-packet one-way delay: 69.330 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 154.34 Mbit/s
95th percentile per-packet one-way delay: 68.393 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 152.72 Mbit/s
95th percentile per-packet one-way delay: 67.992 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 187.37 Mbit/s
95th percentile per-packet one-way delay: 72.530 ms
Loss rate: 0.00%
```
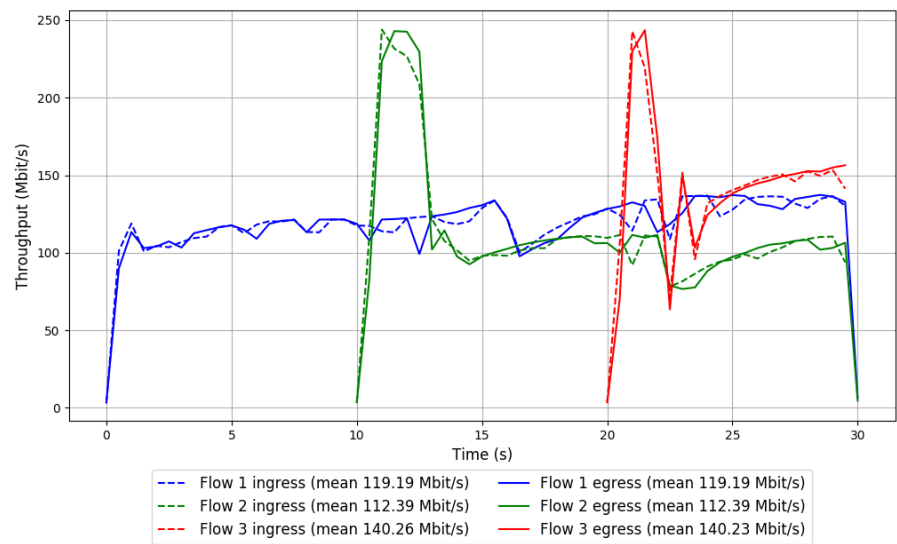
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-19 00:17:28
End at: 2017-09-19 00:17:58


# Below is generated by plot.py at 2017-09-19 03:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.46 Mbit/s
95th percentile per-packet one-way delay: 57.329 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 119.19 Mbit/s
95th percentile per-packet one-way delay: 56.329 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 112.39 Mbit/s
95th percentile per-packet one-way delay: 57.549 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 140.23 Mbit/s
95th percentile per-packet one-way delay: 58.225 ms
Loss rate: 0.00%
```
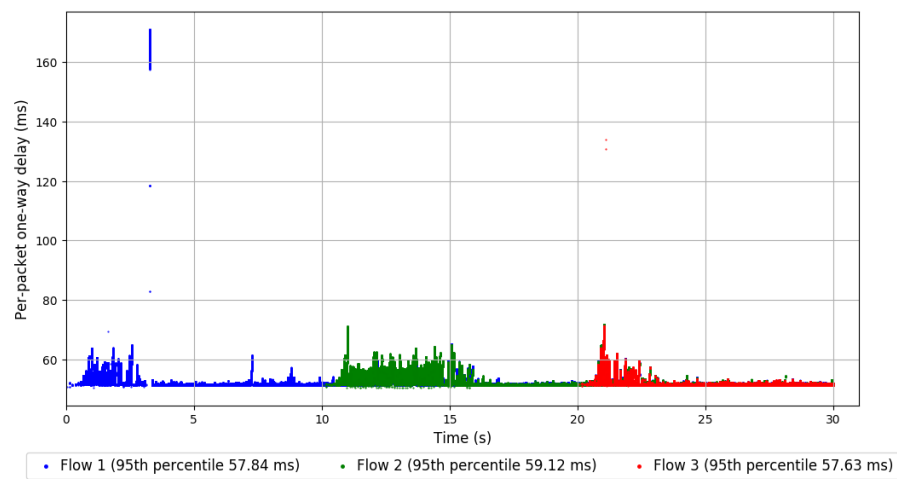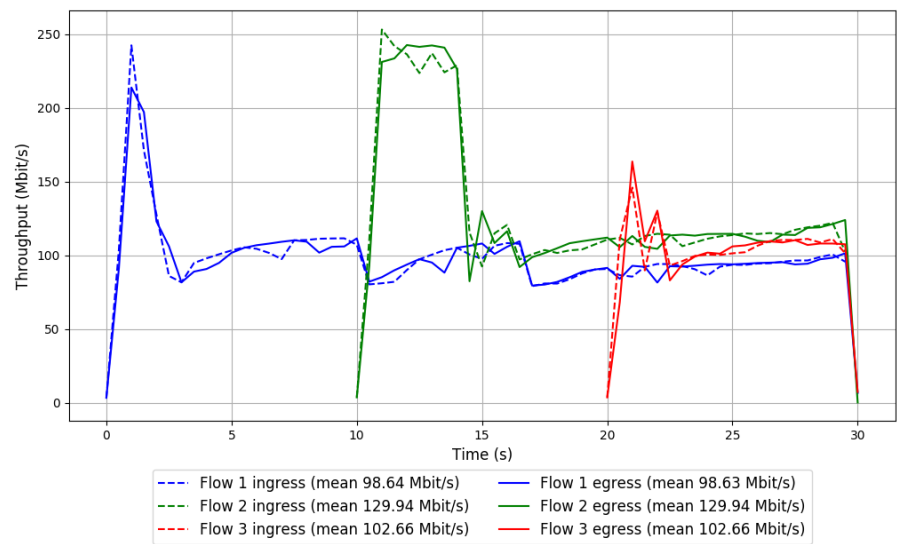
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-19 00:26:17
End at: 2017-09-19 00:26:47


# Below is generated by plot.py at 2017-09-19 03:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.21 Mbit/s
95th percentile per-packet one-way delay: 58.481 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 98.63 Mbit/s
95th percentile per-packet one-way delay: 57.843 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 129.94 Mbit/s
95th percentile per-packet one-way delay: 59.124 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 102.66 Mbit/s
95th percentile per-packet one-way delay: 57.630 ms
Loss rate: 0.00%
```
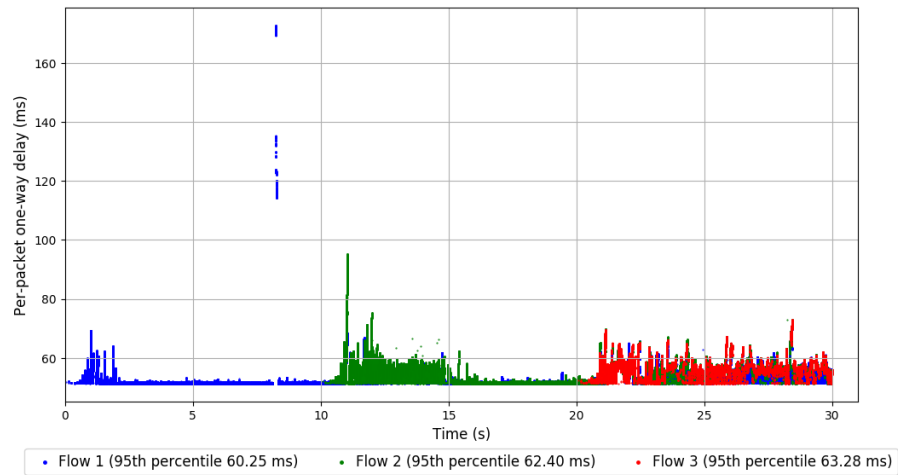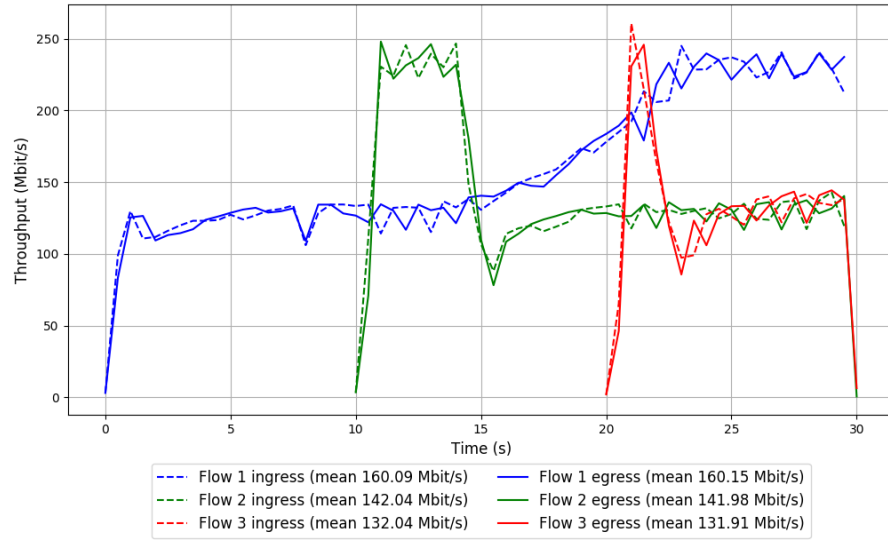
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-19 00:35:12
End at: 2017-09-19 00:35:42


# Below is generated by plot.py at 2017-09-19 03:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.33 Mbit/s
95th percentile per-packet one-way delay: 61.408 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 160.15 Mbit/s
95th percentile per-packet one-way delay: 60.248 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 141.98 Mbit/s
95th percentile per-packet one-way delay: 62.396 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 131.91 Mbit/s
95th percentile per-packet one-way delay: 63.280 ms
Loss rate: 0.08%
```
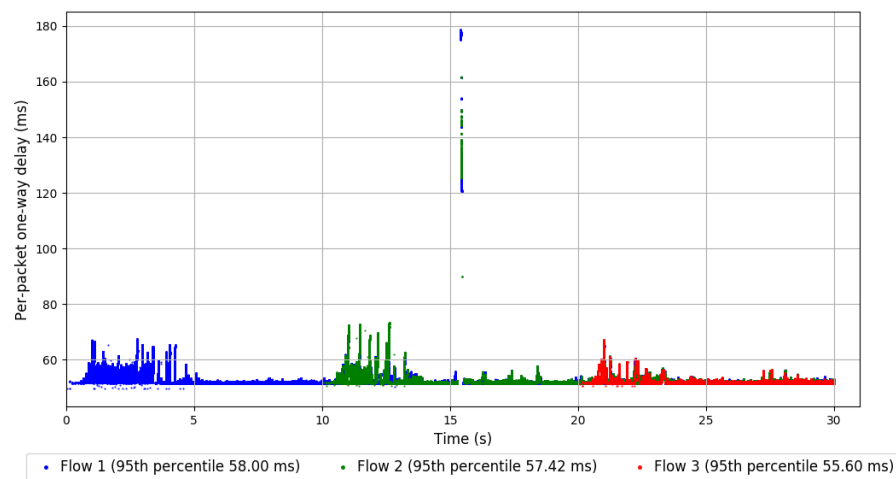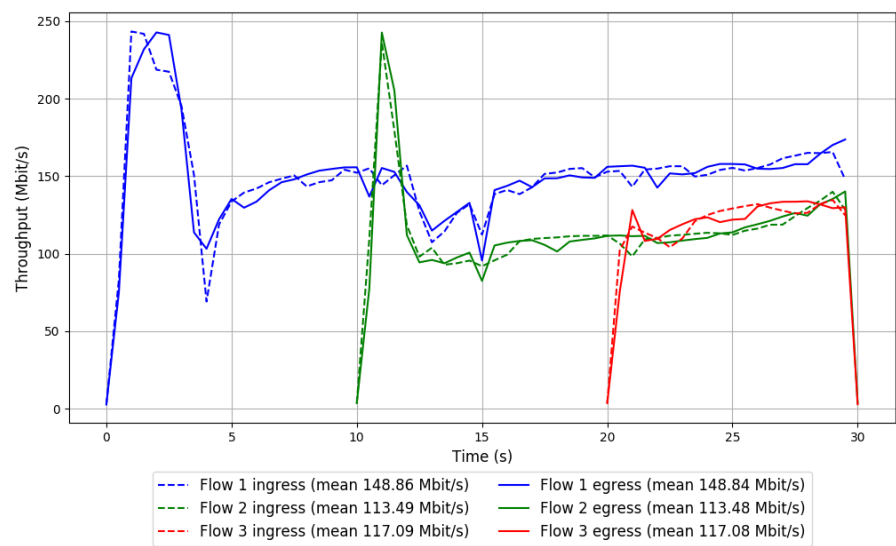
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 160.09 Mbit/s)   Flow 1 egress (mean 160.15 Mbit/s)
Flow 2 ingress (mean 142.04 Mbit/s)   Flow 2 egress (mean 141.98 Mbit/s)
Flow 3 ingress (mean 132.04 Mbit/s)   Flow 3 egress (mean 131.91 Mbit/s)

Flow 1 (95th percentile 60.25 ms)   Flow 2 (95th percentile 62.40 ms)   Flow 3 (95th percentile 63.28 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2017-09-19 00:44:05
End at: 2017-09-19 00:44:35


# Below is generated by plot.py at 2017-09-19 03:06:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.11 Mbit/s
95th percentile per-packet one-way delay: 57.572 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 148.84 Mbit/s
95th percentile per-packet one-way delay: 57.996 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 113.48 Mbit/s
95th percentile per-packet one-way delay: 57.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 117.08 Mbit/s
95th percentile per-packet one-way delay: 55.605 ms
Loss rate: 0.00%
```
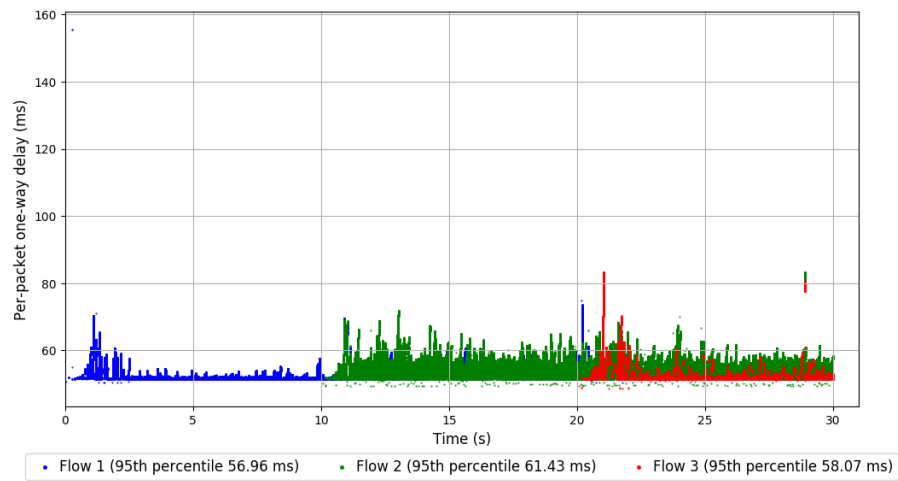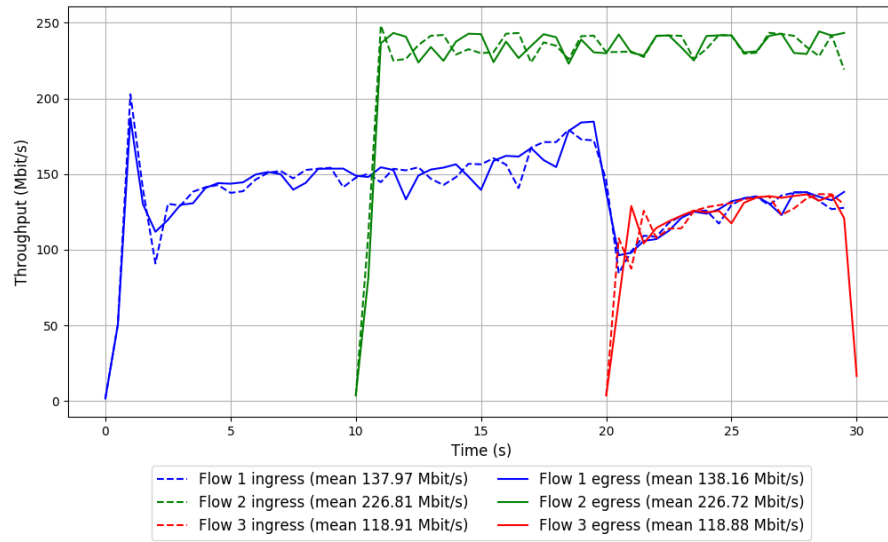
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 148.86 Mbit/s)   Flow 1 egress (mean 148.84 Mbit/s)
Flow 2 ingress (mean 113.49 Mbit/s)   Flow 2 egress (mean 113.48 Mbit/s)
Flow 3 ingress (mean 117.09 Mbit/s)   Flow 3 egress (mean 117.08 Mbit/s)

Flow 1 (95th percentile 58.00 ms)   Flow 2 (95th percentile 57.42 ms)   Flow 3 (95th percentile 55.60 ms)

```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-19 00:52:50
End at: 2017-09-19 00:53:20


# Below is generated by plot.py at 2017-09-19 03:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.29 Mbit/s
95th percentile per-packet one-way delay: 60.047 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 138.16 Mbit/s
95th percentile per-packet one-way delay: 56.960 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 226.72 Mbit/s
95th percentile per-packet one-way delay: 61.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 118.88 Mbit/s
95th percentile per-packet one-way delay: 58.066 ms
Loss rate: 0.00%
```
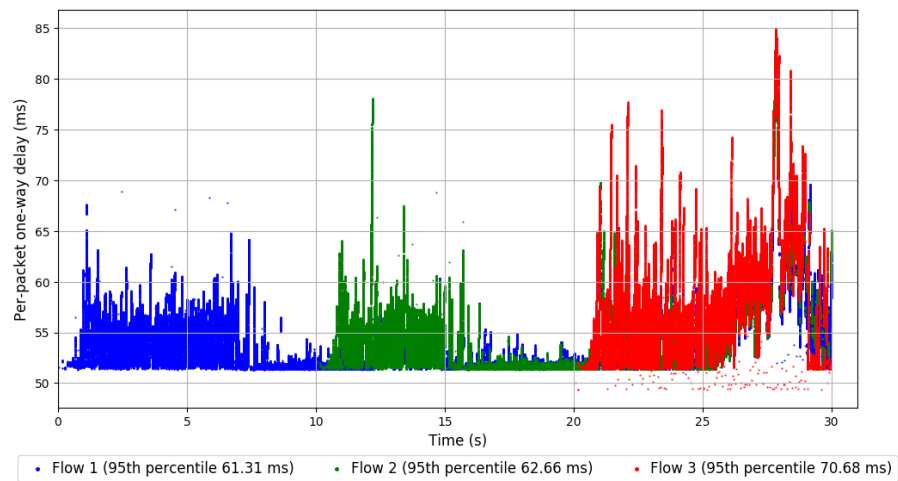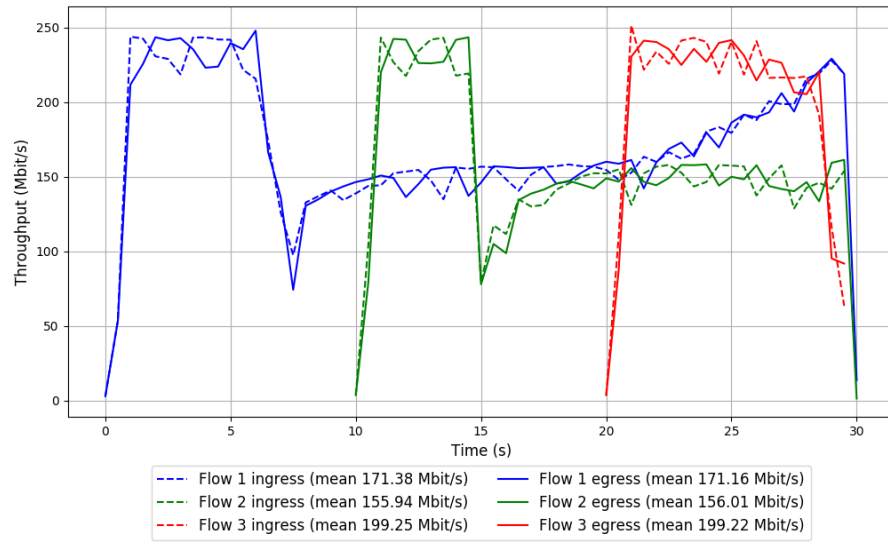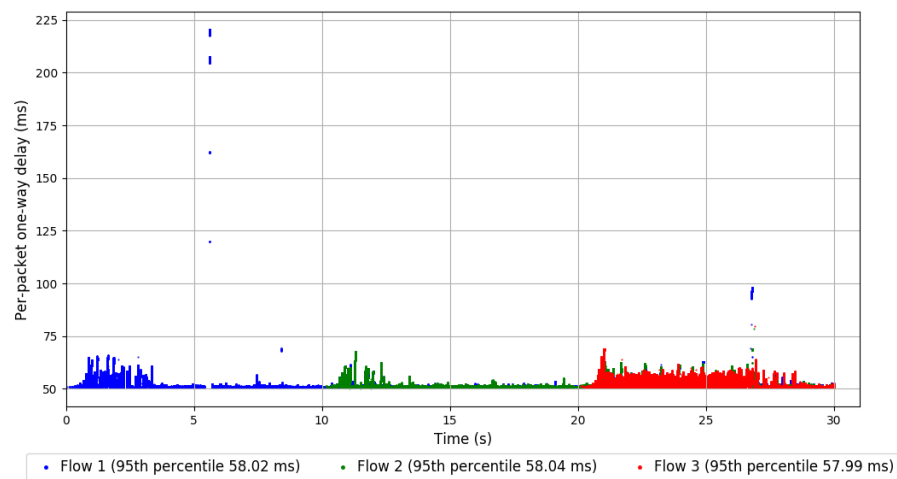
Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 137.97 Mbit/s)   Flow 1 egress (mean 138.16 Mbit/s)
Flow 2 ingress (mean 226.81 Mbit/s)   Flow 2 egress (mean 226.72 Mbit/s)
Flow 3 ingress (mean 118.91 Mbit/s)   Flow 3 egress (mean 118.88 Mbit/s)

Flow 1 (95th percentile 56.96 ms)   Flow 2 (95th percentile 61.43 ms)   Flow 3 (95th percentile 58.07 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-09-19 01:01:52
End at: 2017-09-19 01:02:22


# Below is generated by plot.py at 2017-09-19 03:10:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.53 Mbit/s
95th percentile per-packet one-way delay: 64.779 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 171.16 Mbit/s
95th percentile per-packet one-way delay: 61.307 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 156.01 Mbit/s
95th percentile per-packet one-way delay: 62.660 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 199.22 Mbit/s
95th percentile per-packet one-way delay: 70.682 ms
Loss rate: 0.00%
```
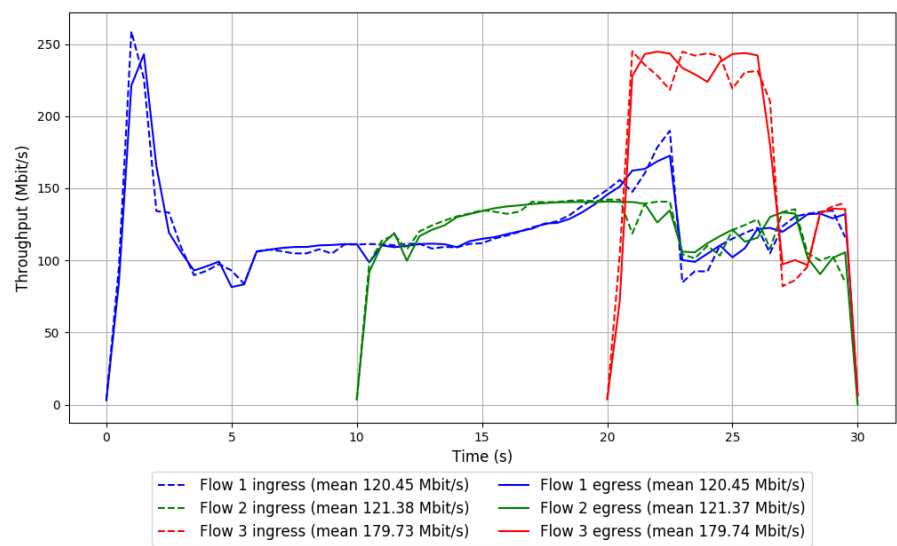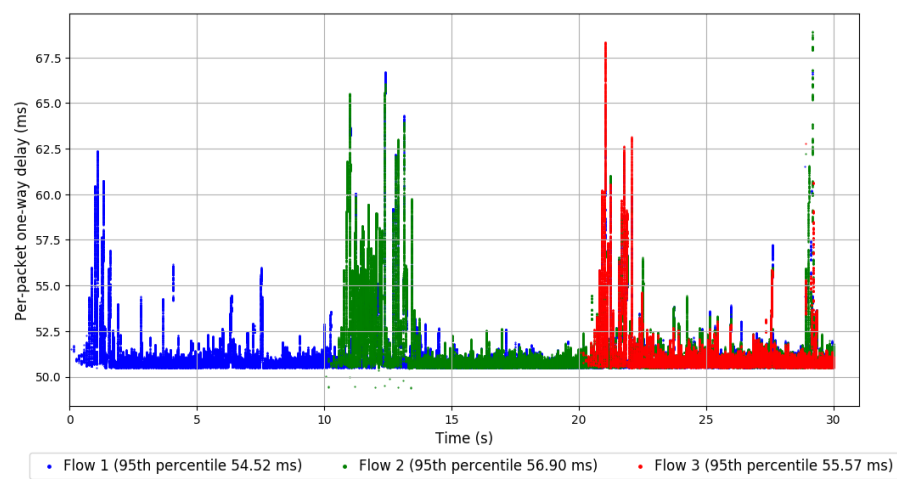
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-19 01:10:45
End at: 2017-09-19 01:11:15


# Below is generated by plot.py at 2017-09-19 03:10:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.88 Mbit/s
95th percentile per-packet one-way delay: 58.016 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 120.45 Mbit/s
95th percentile per-packet one-way delay: 58.018 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 121.37 Mbit/s
95th percentile per-packet one-way delay: 58.044 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 179.74 Mbit/s
95th percentile per-packet one-way delay: 57.987 ms
Loss rate: 0.00%
```
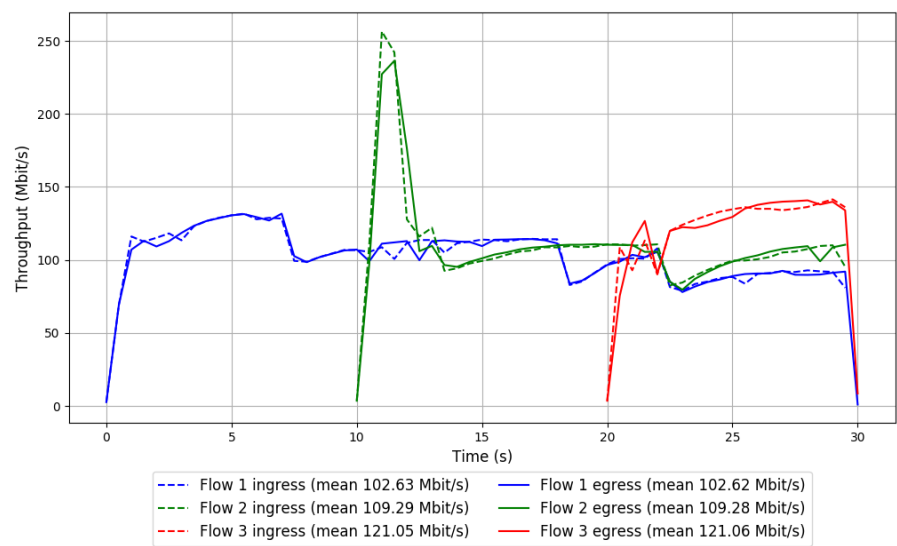
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2017-09-19 01:19:57
End at: 2017-09-19 01:20:27


# Below is generated by plot.py at 2017-09-19 03:10:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.49 Mbit/s
95th percentile per-packet one-way delay: 55.713 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 102.62 Mbit/s
95th percentile per-packet one-way delay: 54.523 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 109.28 Mbit/s
95th percentile per-packet one-way delay: 56.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 121.06 Mbit/s
95th percentile per-packet one-way delay: 55.569 ms
Loss rate: 0.00%
```
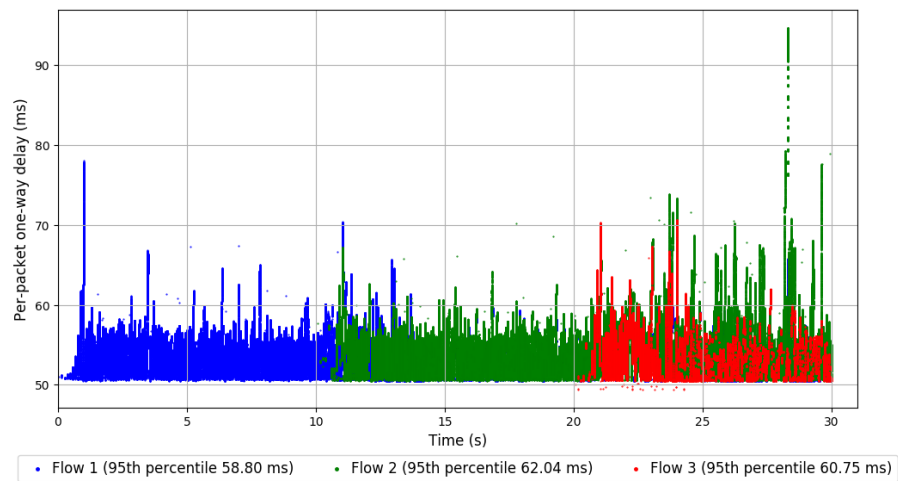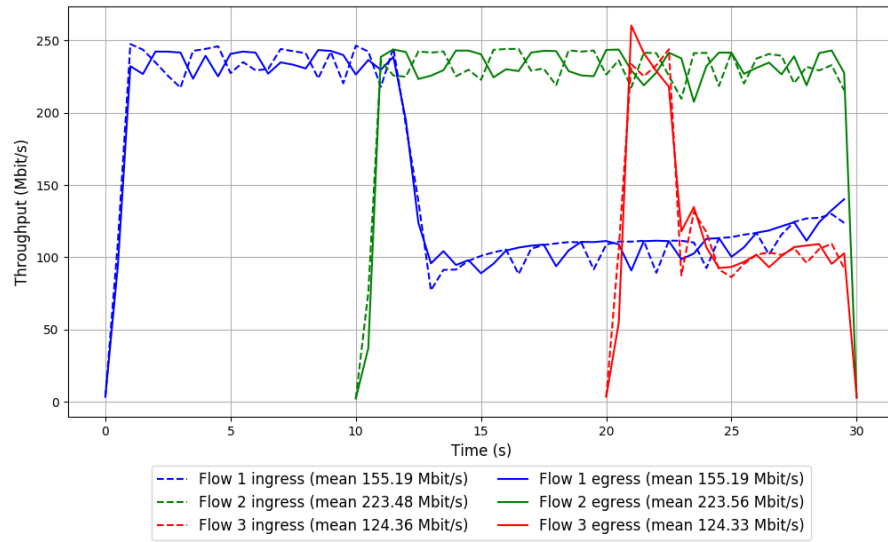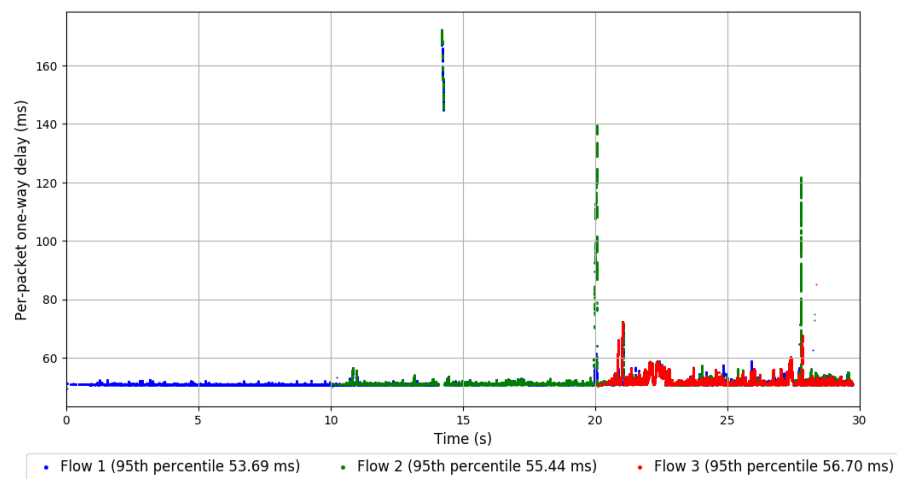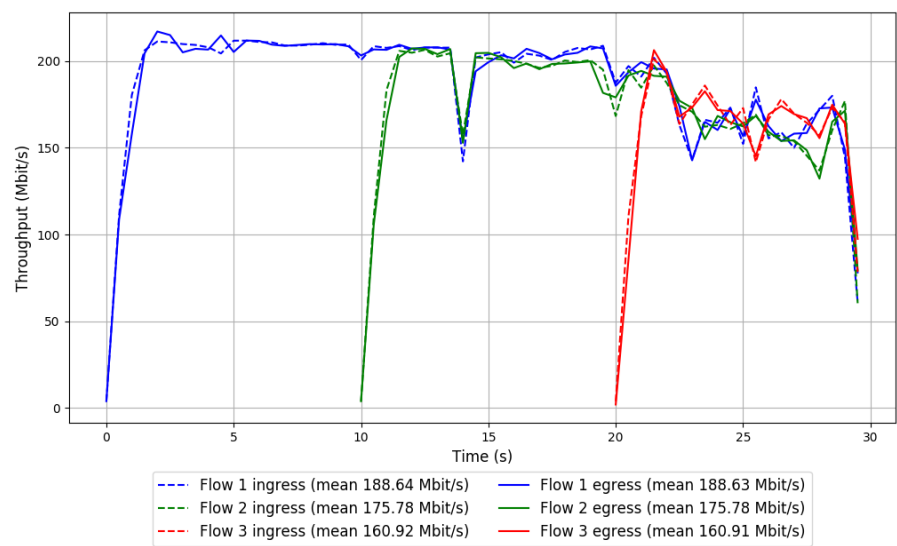
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-19 01:28:51
End at: 2017-09-19 01:29:21


# Below is generated by plot.py at 2017-09-19 03:11:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.03 Mbit/s
95th percentile per-packet one-way delay: 60.481 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.19 Mbit/s
95th percentile per-packet one-way delay: 58.799 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 223.56 Mbit/s
95th percentile per-packet one-way delay: 62.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 124.33 Mbit/s
95th percentile per-packet one-way delay: 60.754 ms
Loss rate: 0.02%
```

Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of Indigo

Start at: 2017-09-19 00:04:36
End at: 2017-09-19 00:05:06


# Below is generated by plot.py at 2017-09-19 03:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.37 Mbit/s
95th percentile per-packet one-way delay: 55.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 188.63 Mbit/s
95th percentile per-packet one-way delay: 53.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 175.78 Mbit/s
95th percentile per-packet one-way delay: 55.439 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 160.91 Mbit/s
95th percentile per-packet one-way delay: 56.695 ms
Loss rate: 0.01%
```
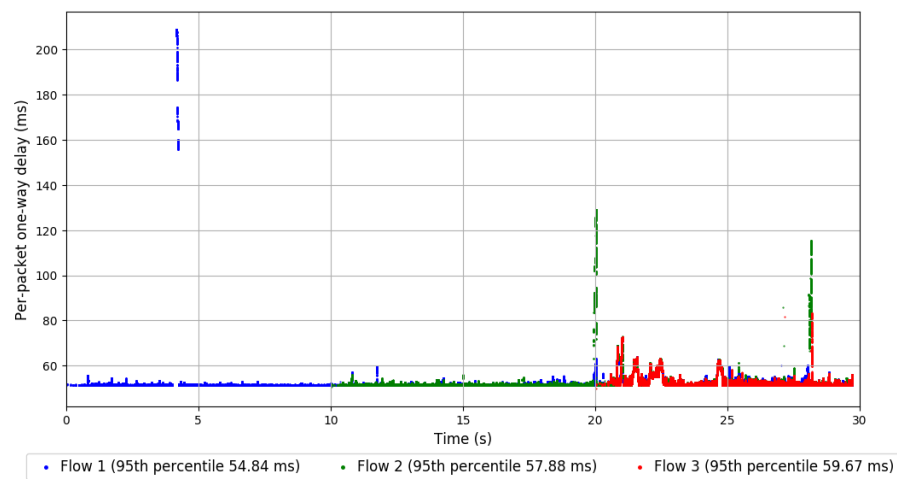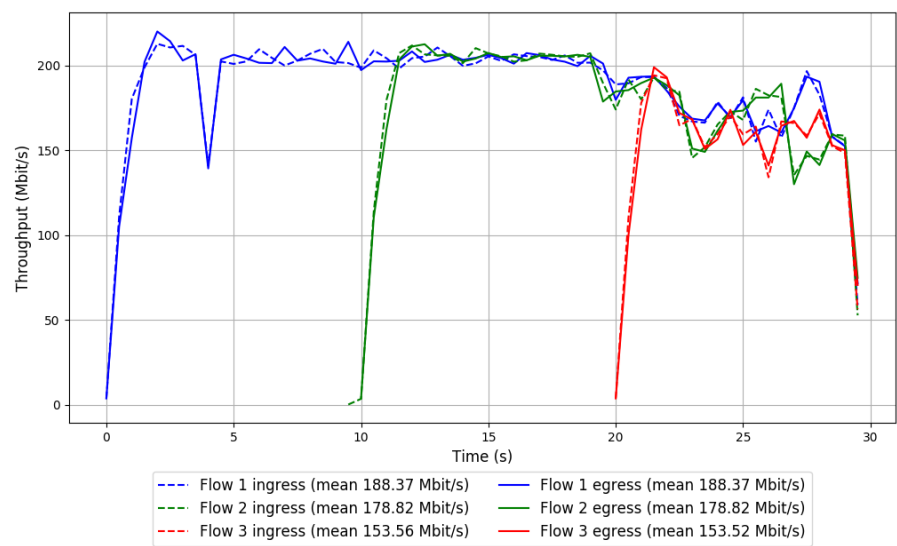
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2017-09-19 00:13:46
End at: 2017-09-19 00:14:16

# Below is generated by plot.py at 2017-09-19 03:12:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.04 Mbit/s
95th percentile per-packet one-way delay: 56.879 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 188.37 Mbit/s
95th percentile per-packet one-way delay: 54.840 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 178.82 Mbit/s
95th percentile per-packet one-way delay: 57.879 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 153.52 Mbit/s
95th percentile per-packet one-way delay: 59.668 ms
Loss rate: 0.02%
```
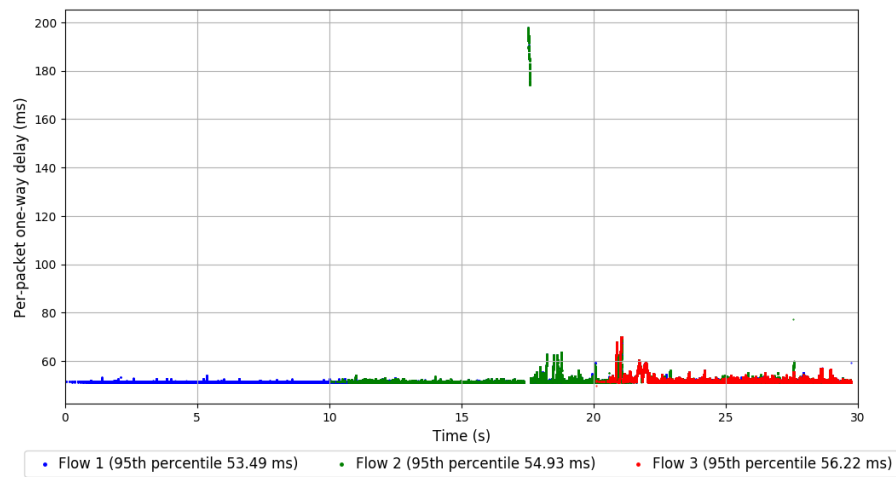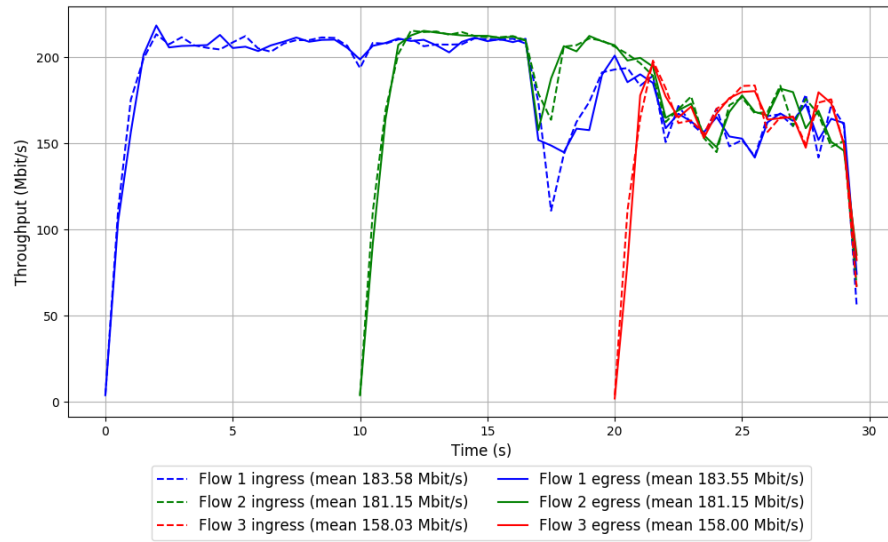
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-09-19 00:22:33
End at: 2017-09-19 00:23:03


# Below is generated by plot.py at 2017-09-19 03:12:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.97 Mbit/s
95th percentile per-packet one-way delay: 54.534 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 183.55 Mbit/s
95th percentile per-packet one-way delay: 53.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 181.15 Mbit/s
95th percentile per-packet one-way delay: 54.932 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 158.00 Mbit/s
95th percentile per-packet one-way delay: 56.217 ms
Loss rate: 0.00%
```
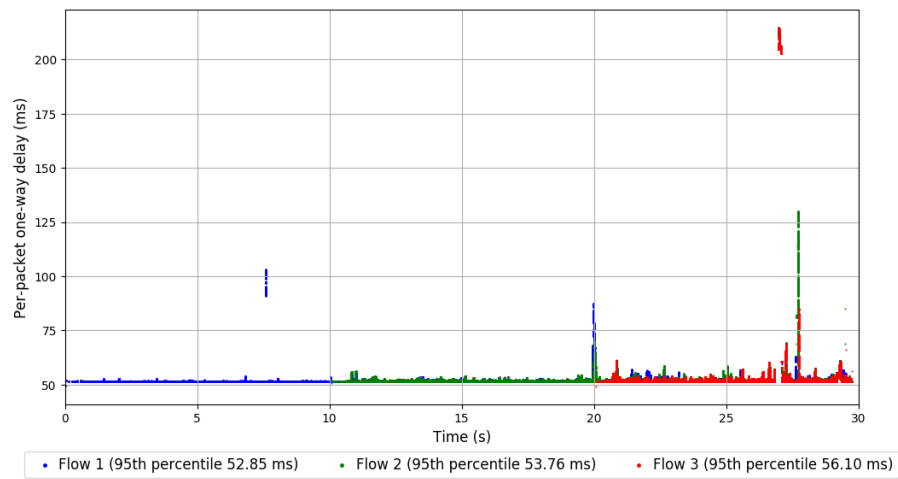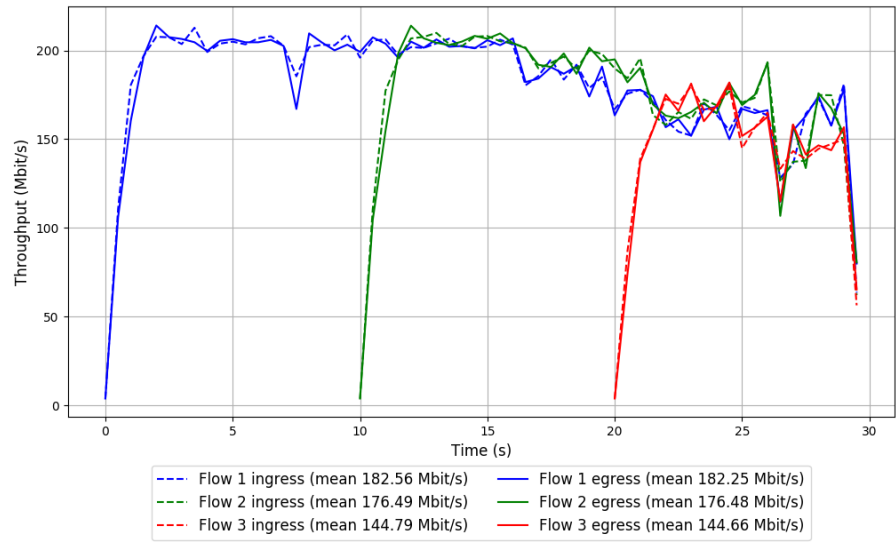
Run 3: Report of Indigo — Data Link

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```
Run 4: Statistics of Indigo

Start at: 2017-09-19 00:31:23
End at: 2017-09-19 00:31:53


# Below is generated by plot.py at 2017-09-19 03:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.32 Mbit/s
95th percentile per-packet one-way delay: 53.482 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 182.25 Mbit/s
95th percentile per-packet one-way delay: 52.852 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 176.48 Mbit/s
95th percentile per-packet one-way delay: 53.755 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 144.66 Mbit/s
95th percentile per-packet one-way delay: 56.102 ms
Loss rate: 0.03%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2017-09-19 00:40:18
End at: 2017-09-19 00:40:48


# Below is generated by plot.py at 2017-09-19 03:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.14 Mbit/s
95th percentile per-packet one-way delay: 53.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 181.70 Mbit/s
95th percentile per-packet one-way delay: 52.600 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.50 Mbit/s
95th percentile per-packet one-way delay: 53.354 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 152.19 Mbit/s
95th percentile per-packet one-way delay: 54.188 ms
Loss rate: 0.00%
```
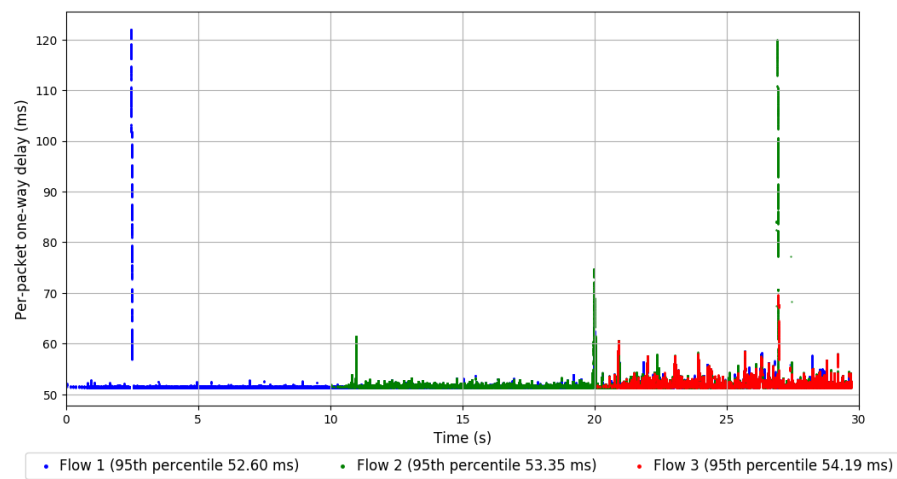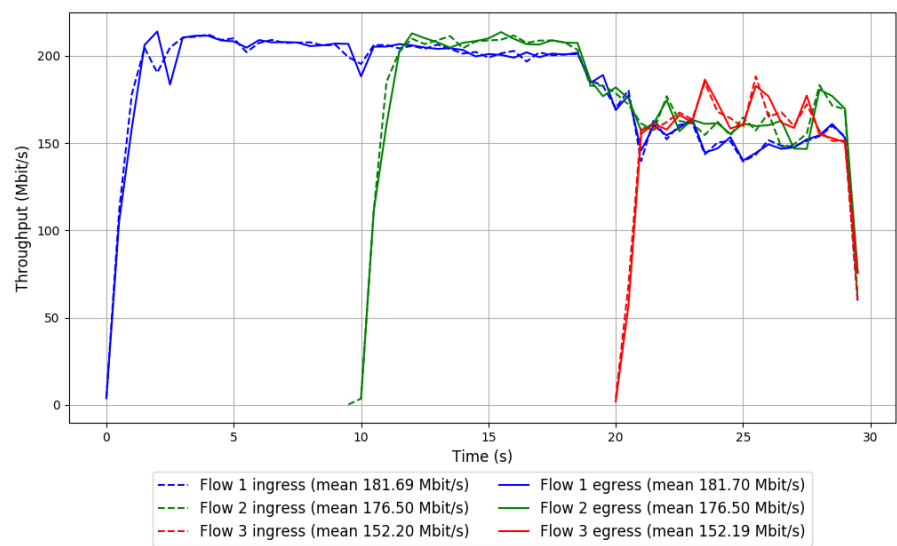
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-09-19 00:49:05
End at: 2017-09-19 00:49:35

# Below is generated by plot.py at 2017-09-19 03:15:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.72 Mbit/s
95th percentile per-packet one-way delay: 60.859 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 186.81 Mbit/s
95th percentile per-packet one-way delay: 58.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 177.70 Mbit/s
95th percentile per-packet one-way delay: 61.333 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 153.89 Mbit/s
95th percentile per-packet one-way delay: 63.789 ms
Loss rate: 0.00%
```
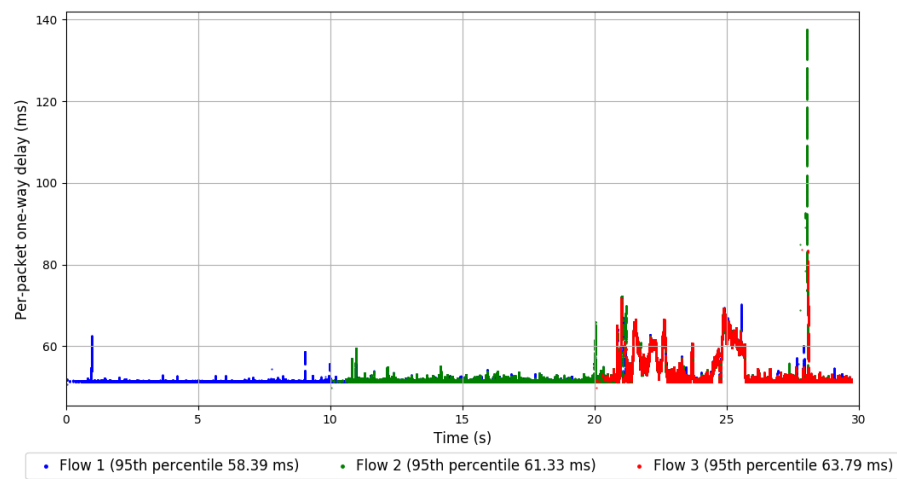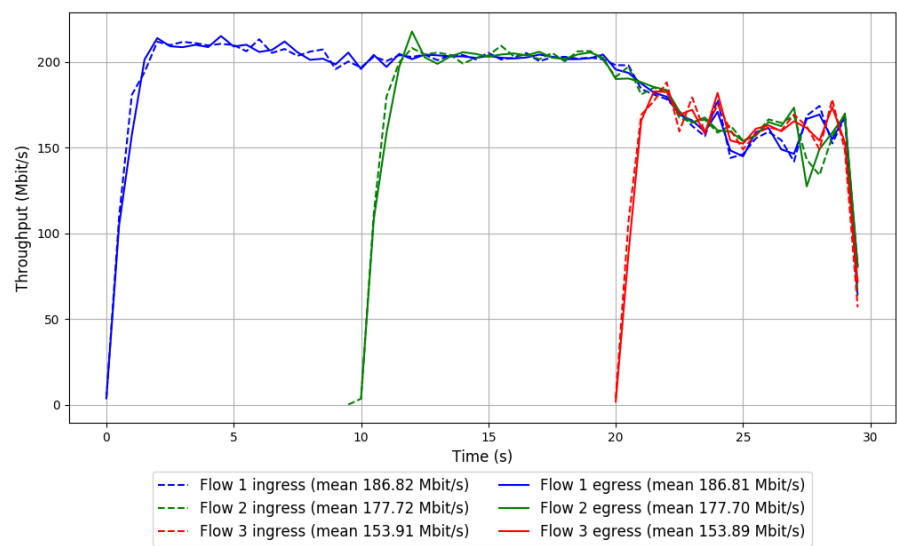
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-09-19 00:58:03
End at: 2017-09-19 00:58:33


# Below is generated by plot.py at 2017-09-19 03:16:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.39 Mbit/s
95th percentile per-packet one-way delay: 52.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 180.05 Mbit/s
95th percentile per-packet one-way delay: 52.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 164.52 Mbit/s
95th percentile per-packet one-way delay: 52.959 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 151.35 Mbit/s
95th percentile per-packet one-way delay: 53.473 ms
Loss rate: 0.00%
```
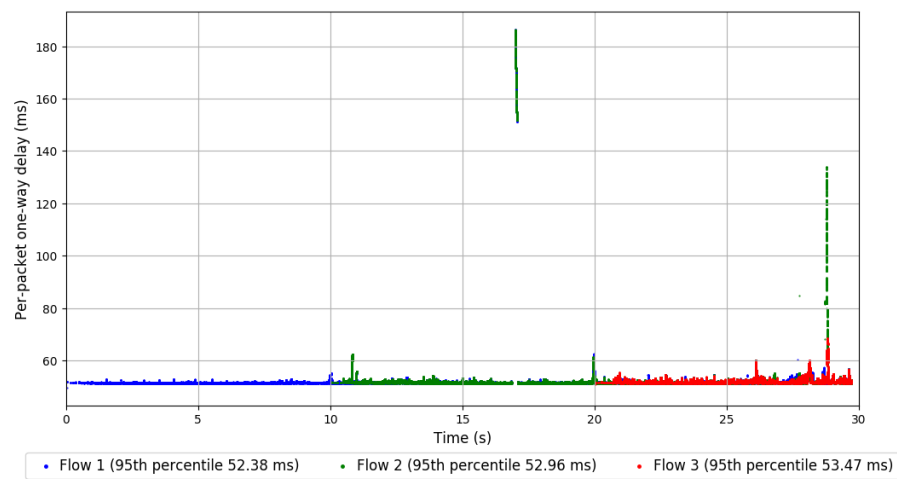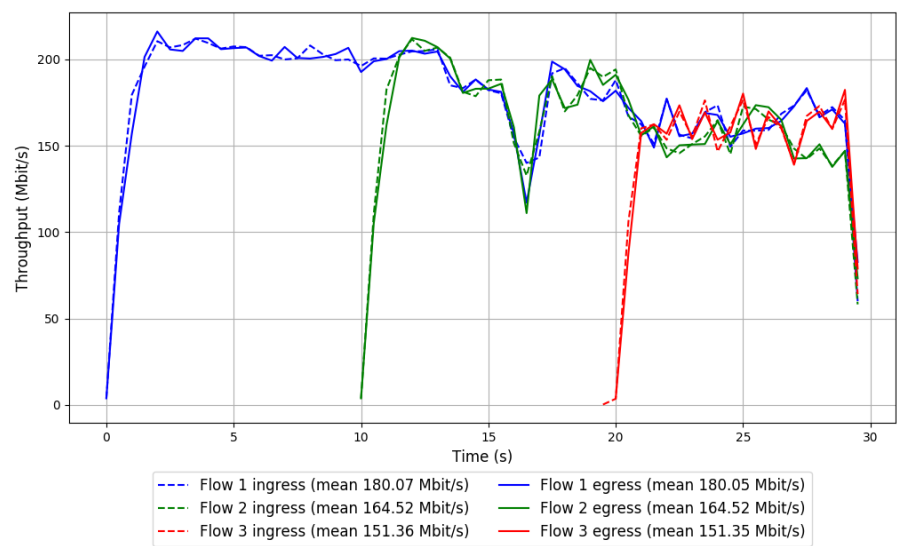
Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2017-09-19 01:07:00
End at: 2017-09-19 01:07:30


# Below is generated by plot.py at 2017-09-19 03:17:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 353.66 Mbit/s
95th percentile per-packet one-way delay: 53.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 188.76 Mbit/s
95th percentile per-packet one-way delay: 52.818 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 175.92 Mbit/s
95th percentile per-packet one-way delay: 53.515 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 148.67 Mbit/s
95th percentile per-packet one-way delay: 53.689 ms
Loss rate: 0.00%
```
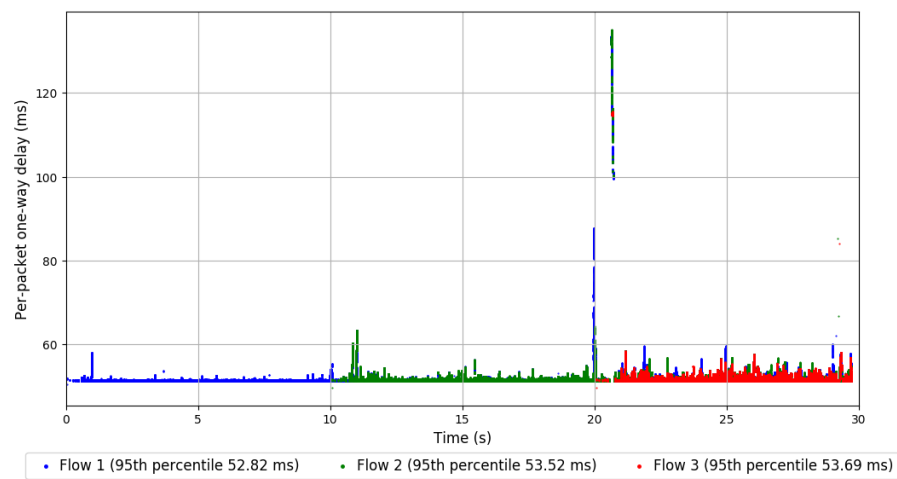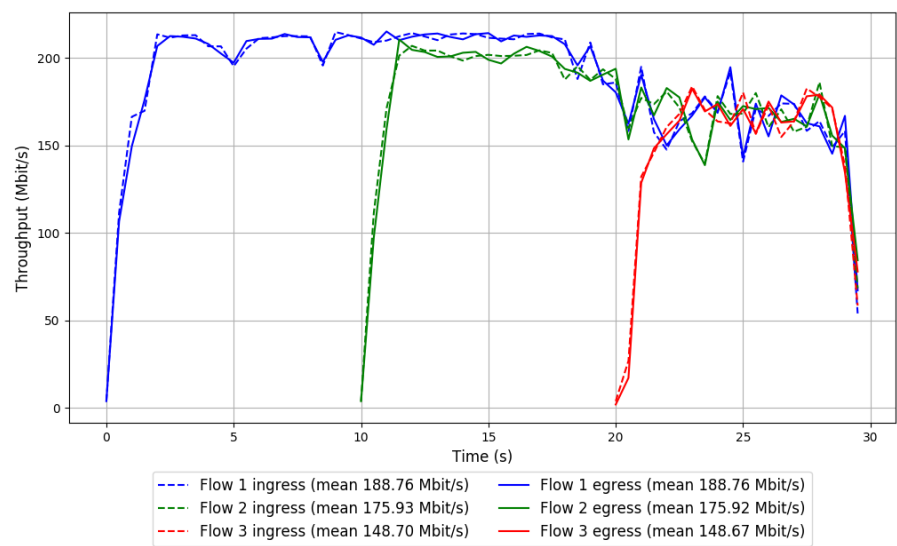
Run 8: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 188.76 Mbit/s) —— Flow 1 egress (mean 188.76 Mbit/s)
- - - Flow 2 ingress (mean 175.93 Mbit/s) —— Flow 2 egress (mean 175.92 Mbit/s)
- - - Flow 3 ingress (mean 148.70 Mbit/s) —— Flow 3 egress (mean 148.67 Mbit/s)

- Flow 1 (95th percentile 52.82 ms)   - Flow 2 (95th percentile 53.52 ms)   - Flow 3 (95th percentile 53.69 ms)

```
Run 9: Statistics of Indigo

Start at: 2017-09-19 01:15:57
End at: 2017-09-19 01:16:27


# Below is generated by plot.py at 2017-09-19 03:17:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.07 Mbit/s
95th percentile per-packet one-way delay: 53.344 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 187.95 Mbit/s
95th percentile per-packet one-way delay: 52.531 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 182.05 Mbit/s
95th percentile per-packet one-way delay: 53.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 154.59 Mbit/s
95th percentile per-packet one-way delay: 54.931 ms
Loss rate: 0.01%
```
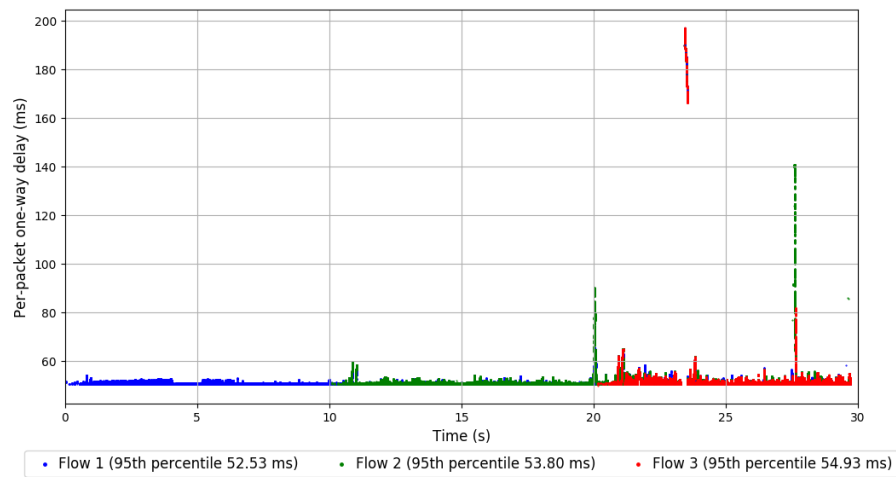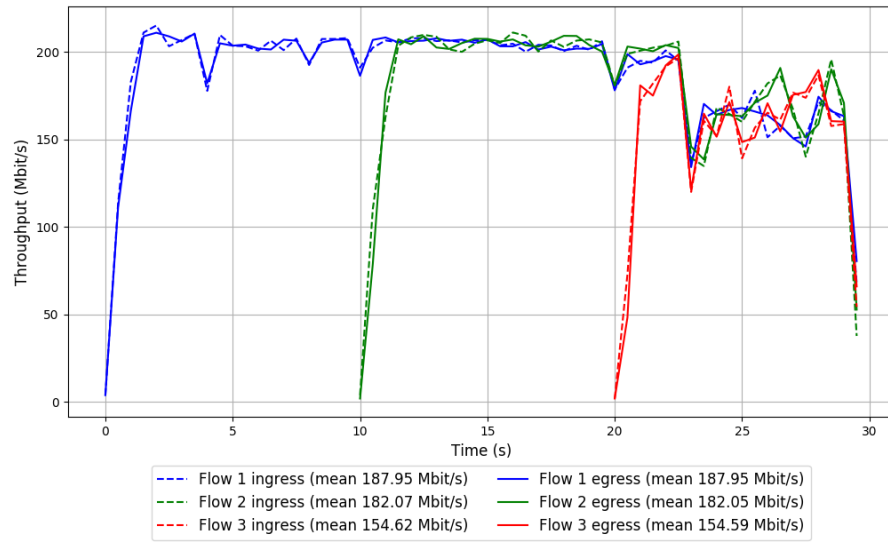
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-09-19 01:25:00
End at: 2017-09-19 01:25:30


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.13 Mbit/s
95th percentile per-packet one-way delay: 52.935 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 188.81 Mbit/s
95th percentile per-packet one-way delay: 52.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.79 Mbit/s
95th percentile per-packet one-way delay: 53.327 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 160.26 Mbit/s
95th percentile per-packet one-way delay: 55.026 ms
Loss rate: 0.00%
```
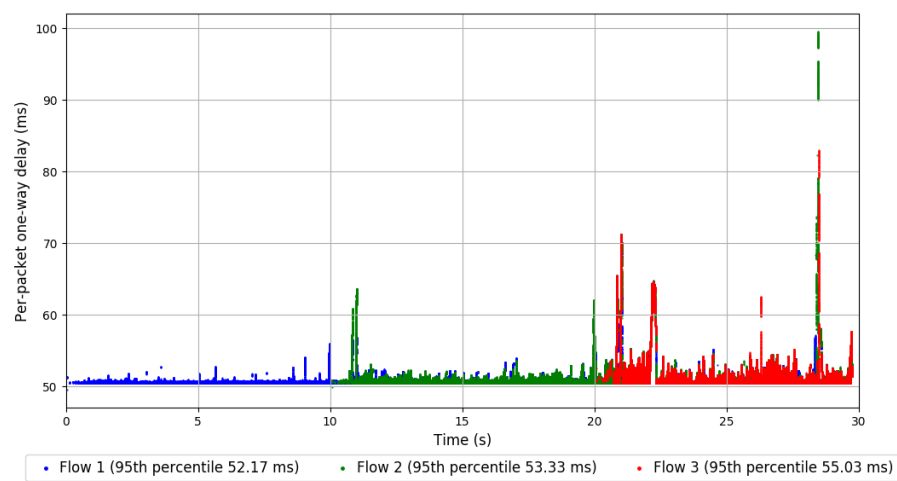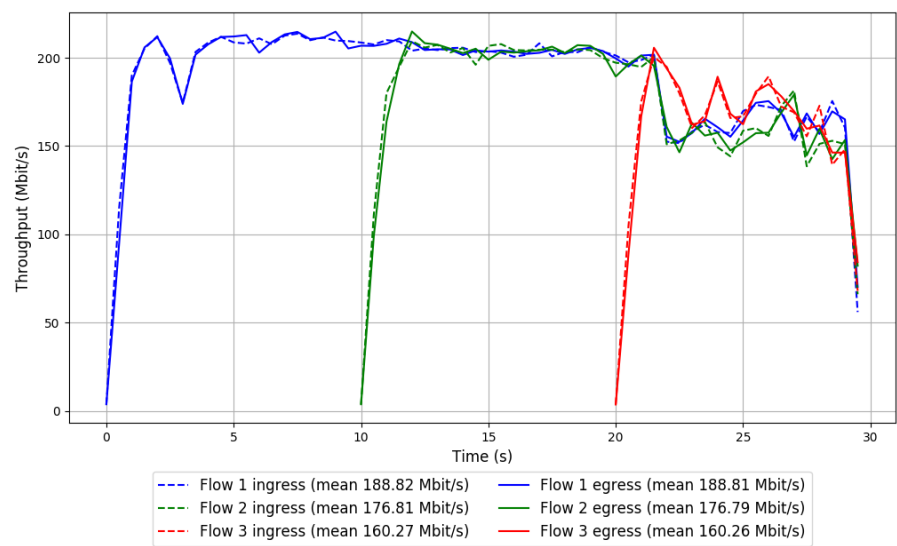
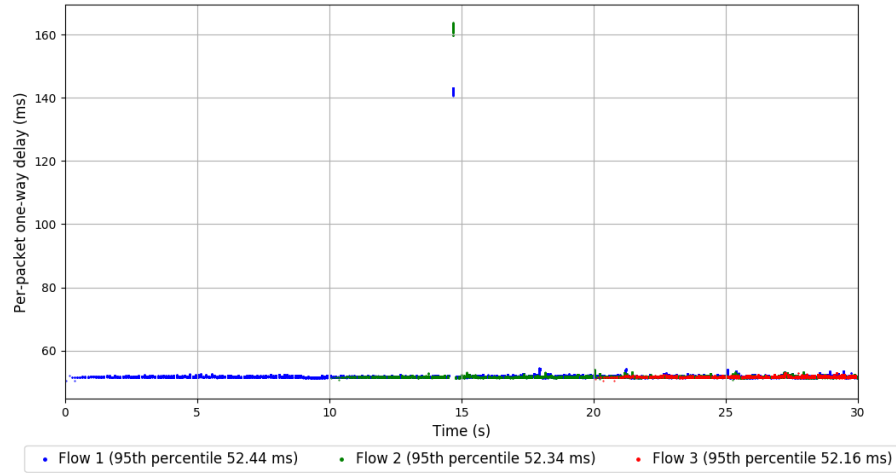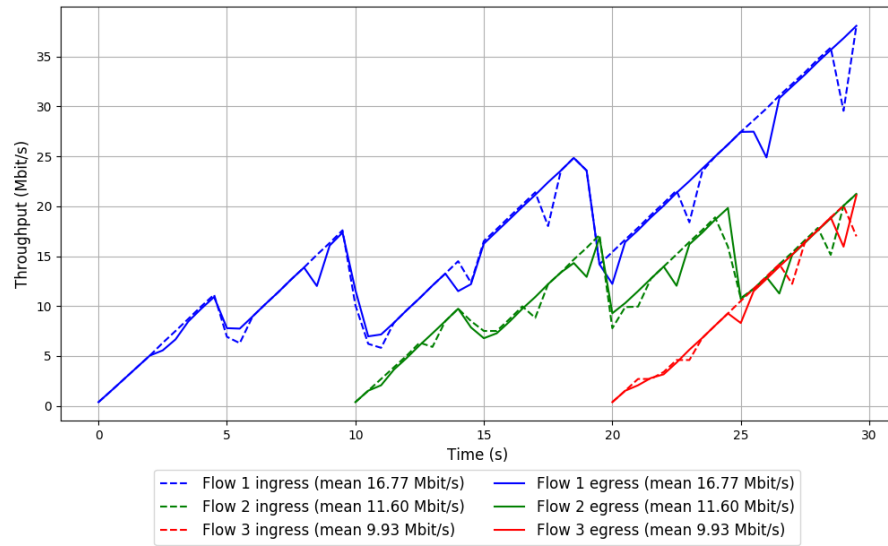# Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2017-09-19 00:10:36
End at: 2017-09-19 00:11:06


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.74 Mbit/s
95th percentile per-packet one-way delay: 52.380 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 16.77 Mbit/s
95th percentile per-packet one-way delay: 52.444 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.60 Mbit/s
95th percentile per-packet one-way delay: 52.342 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 9.93 Mbit/s
95th percentile per-packet one-way delay: 52.165 ms
Loss rate: 0.00%
```
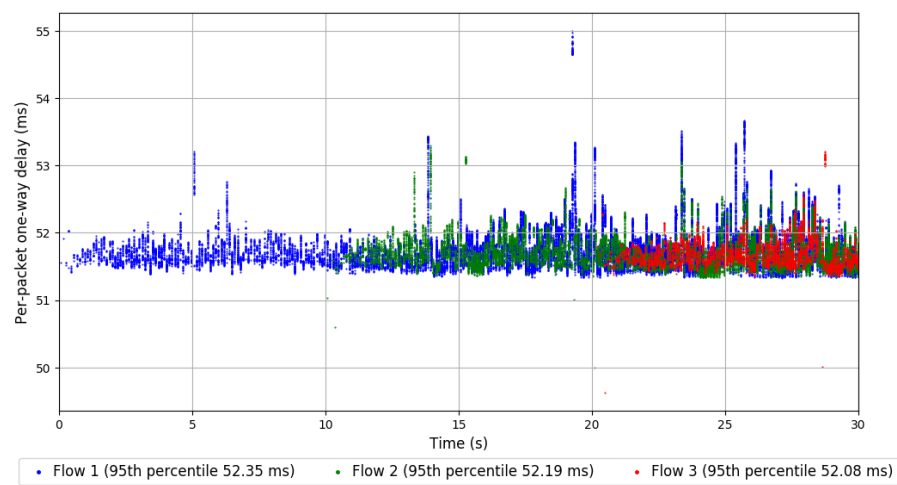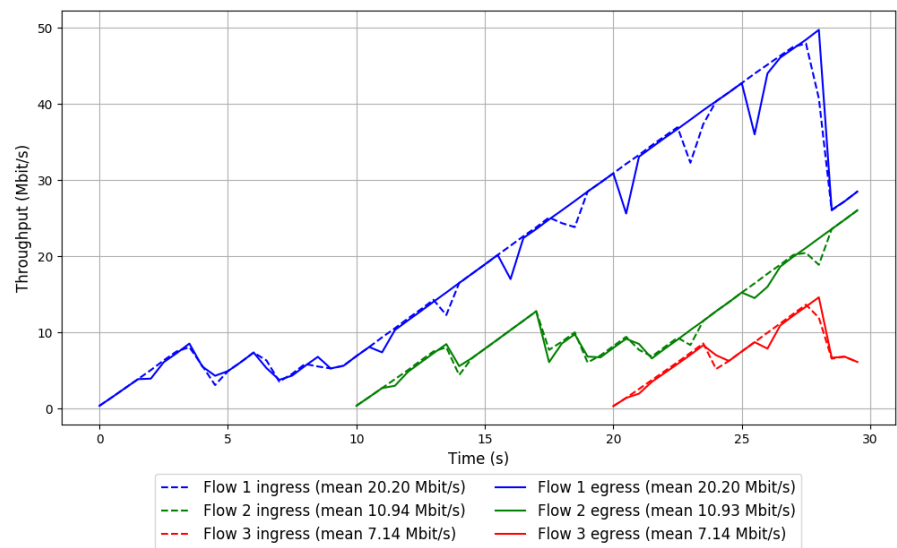
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-09-19 00:19:28
End at: 2017-09-19 00:19:58


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.83 Mbit/s
95th percentile per-packet one-way delay: 52.299 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 52.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 52.194 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 52.081 ms
Loss rate: 0.03%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-09-19 00:28:17
End at: 2017-09-19 00:28:47


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.54 Mbit/s
95th percentile per-packet one-way delay: 52.480 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 52.339 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 52.817 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 52.261 ms
Loss rate: 0.05%
```
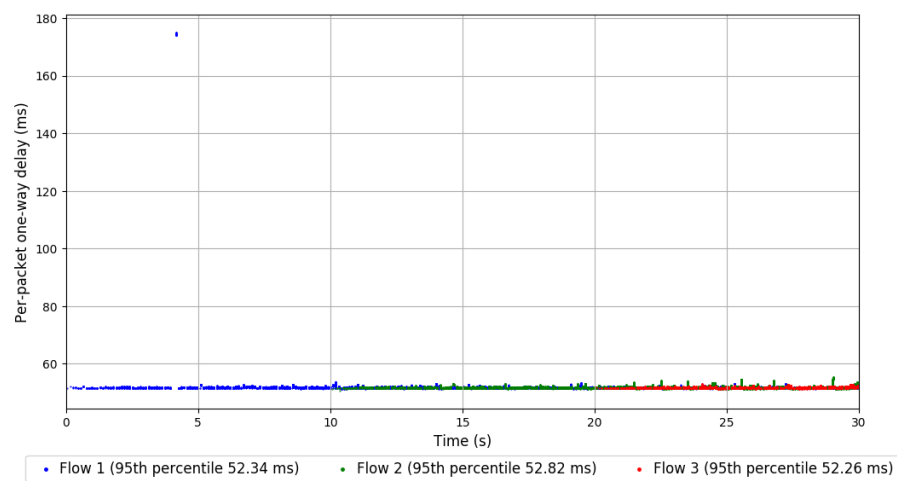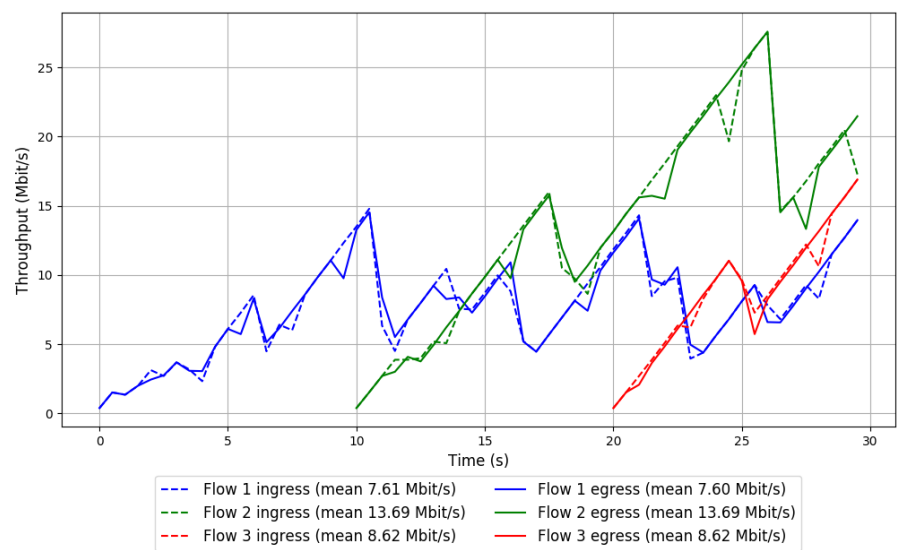
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2017-09-19 00:37:14
End at: 2017-09-19 00:37:44


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.30 Mbit/s
95th percentile per-packet one-way delay: 52.652 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 15.29 Mbit/s
95th percentile per-packet one-way delay: 52.781 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 52.368 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 52.538 ms
Loss rate: 0.02%
```
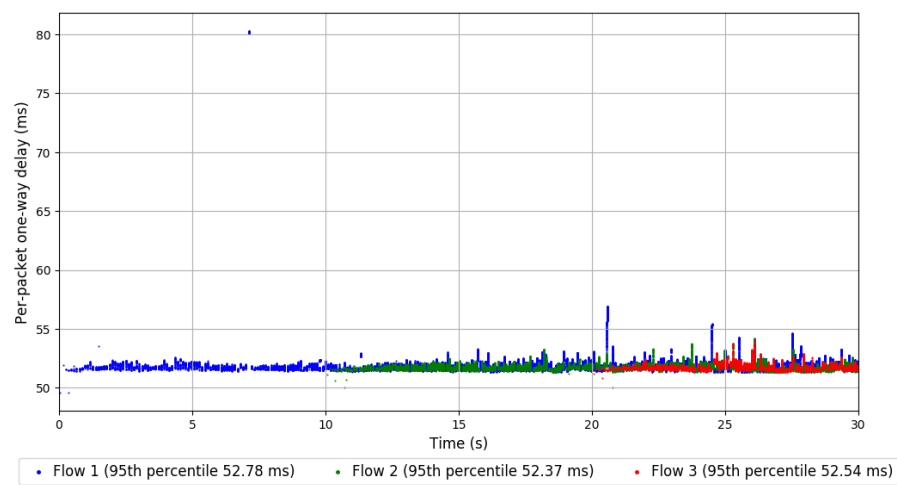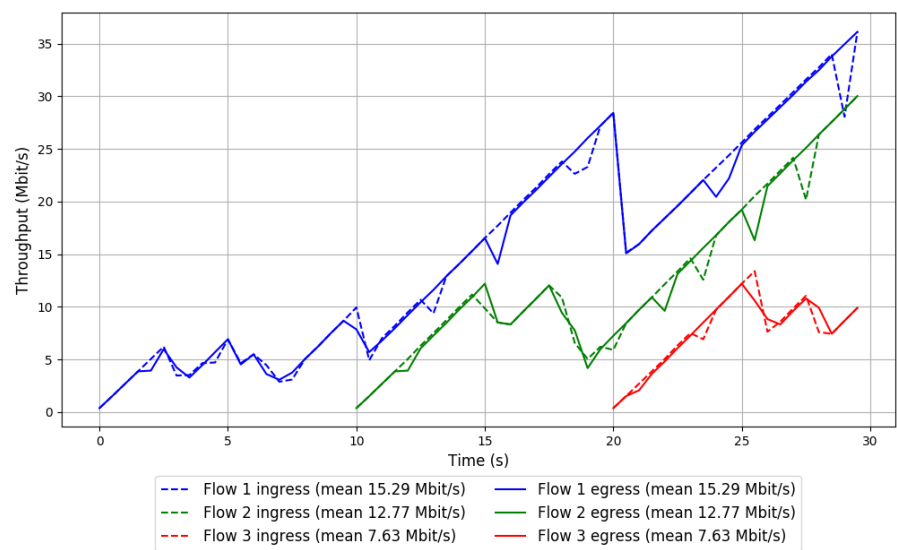
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-09-19 00:46:02
End at: 2017-09-19 00:46:32

# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.60 Mbit/s
95th percentile per-packet one-way delay: 52.871 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 18.28 Mbit/s
95th percentile per-packet one-way delay: 52.924 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 52.810 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 52.624 ms
Loss rate: 0.00%
```
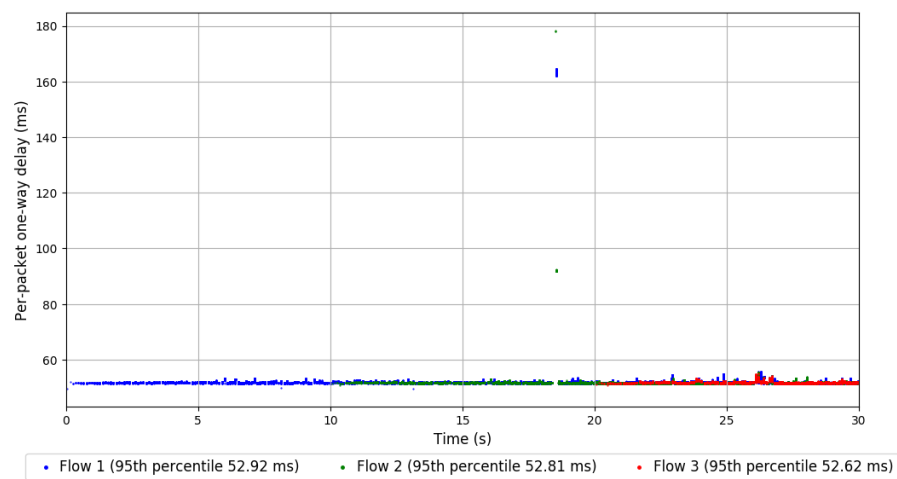
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 18.28 Mbit/s) --- Flow 1 egress (mean 18.28 Mbit/s)
Flow 2 ingress (mean 9.89 Mbit/s) --- Flow 2 egress (mean 9.89 Mbit/s)
Flow 3 ingress (mean 11.32 Mbit/s) --- Flow 3 egress (mean 11.32 Mbit/s)

Flow 1 (95th percentile 52.92 ms)   Flow 2 (95th percentile 52.81 ms)   Flow 3 (95th percentile 52.62 ms)

73

```
Run 6: Statistics of LEDBAT

Start at: 2017-09-19 00:54:53
End at: 2017-09-19 00:55:23


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.52 Mbit/s
95th percentile per-packet one-way delay: 52.568 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 15.22 Mbit/s
95th percentile per-packet one-way delay: 52.823 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 52.370 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 52.093 ms
Loss rate: 0.00%
```
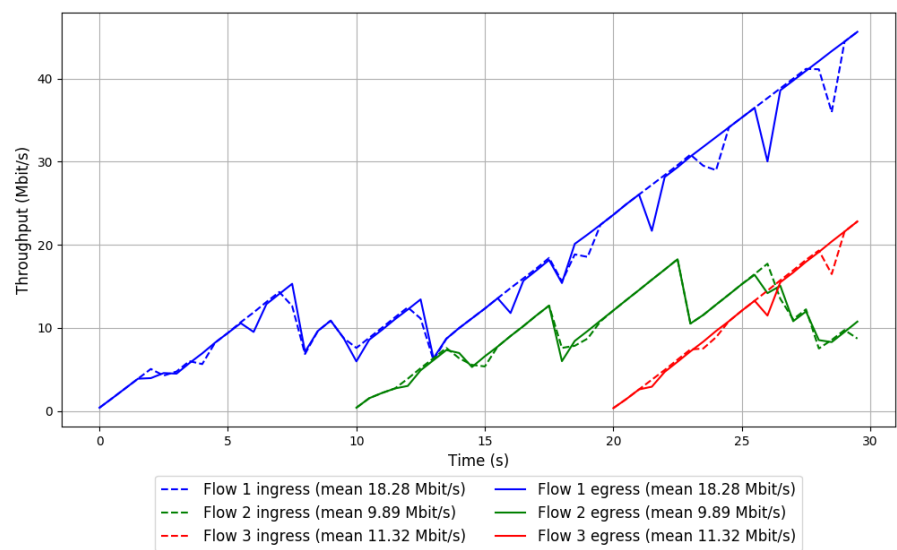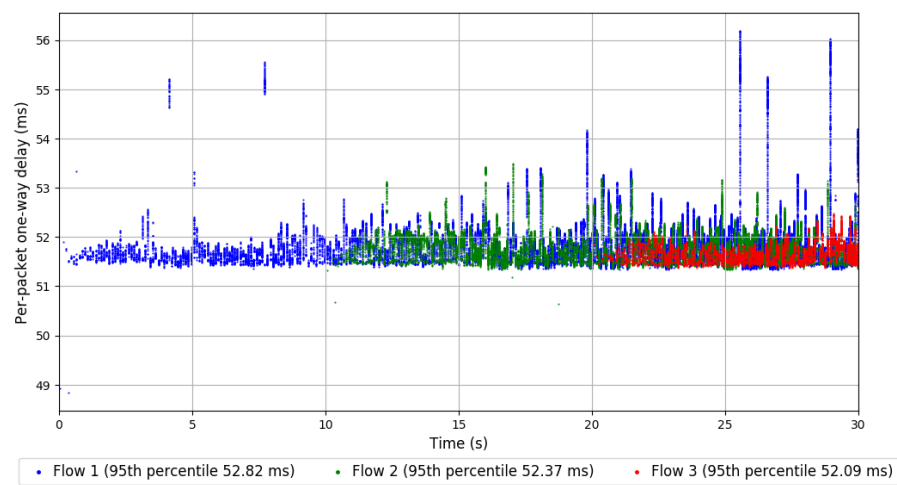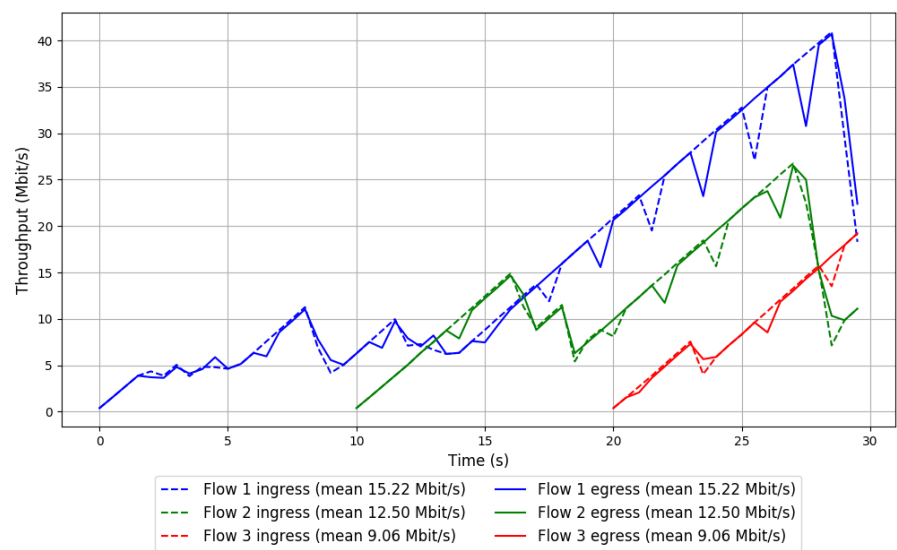
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-09-19 01:03:58
End at: 2017-09-19 01:04:28


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.02 Mbit/s
95th percentile per-packet one-way delay: 52.474 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 13.68 Mbit/s
95th percentile per-packet one-way delay: 52.569 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 52.320 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 10.08 Mbit/s
95th percentile per-packet one-way delay: 52.329 ms
Loss rate: 0.00%
```
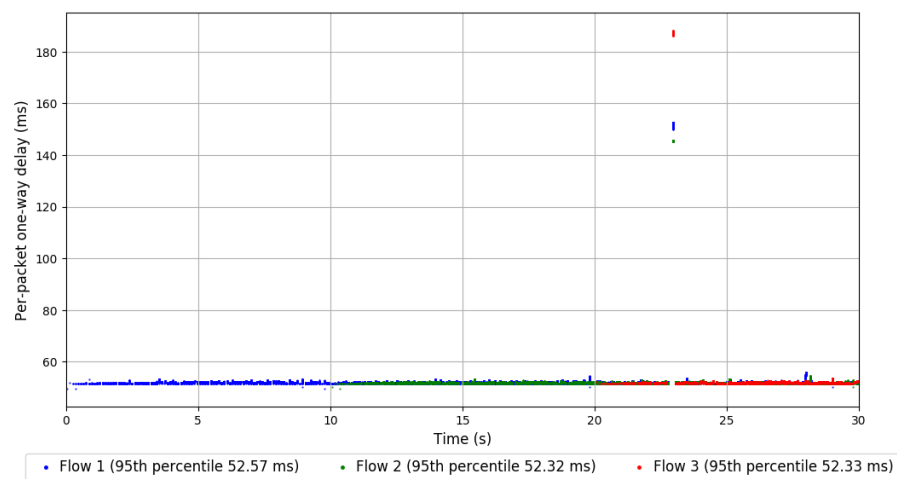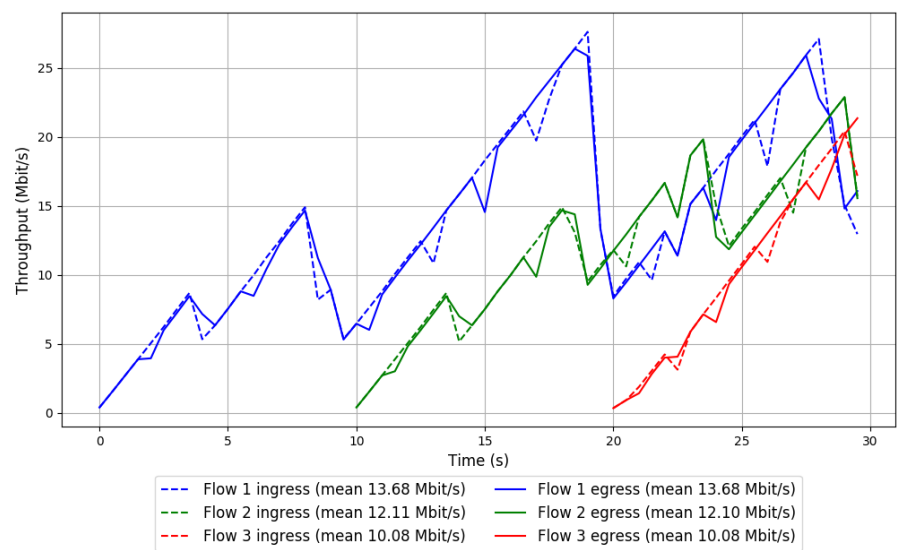
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-09-19 01:12:42
End at: 2017-09-19 01:13:12


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.03 Mbit/s
95th percentile per-packet one-way delay: 51.669 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 51.552 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 15.11 Mbit/s
95th percentile per-packet one-way delay: 51.883 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.42 Mbit/s
95th percentile per-packet one-way delay: 51.665 ms
Loss rate: 0.00%
```
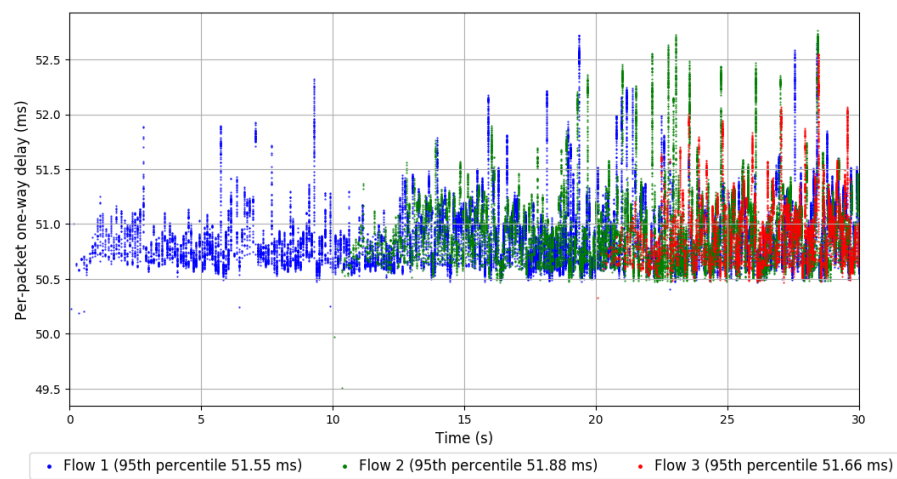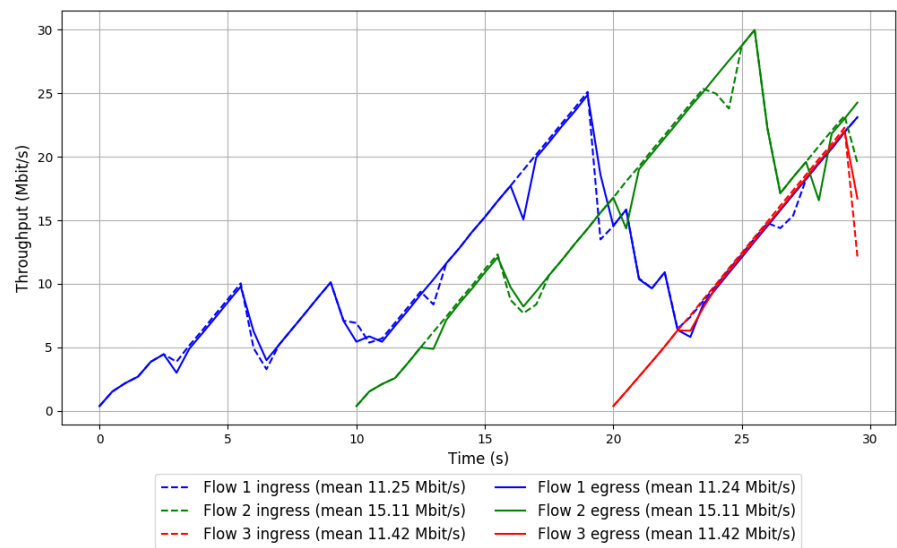
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2017-09-19 01:21:51
End at: 2017-09-19 01:22:21

# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.82 Mbit/s
95th percentile per-packet one-way delay: 52.072 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.91 Mbit/s
95th percentile per-packet one-way delay: 52.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.48 Mbit/s
95th percentile per-packet one-way delay: 51.998 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 51.539 ms
Loss rate: 0.00%
```
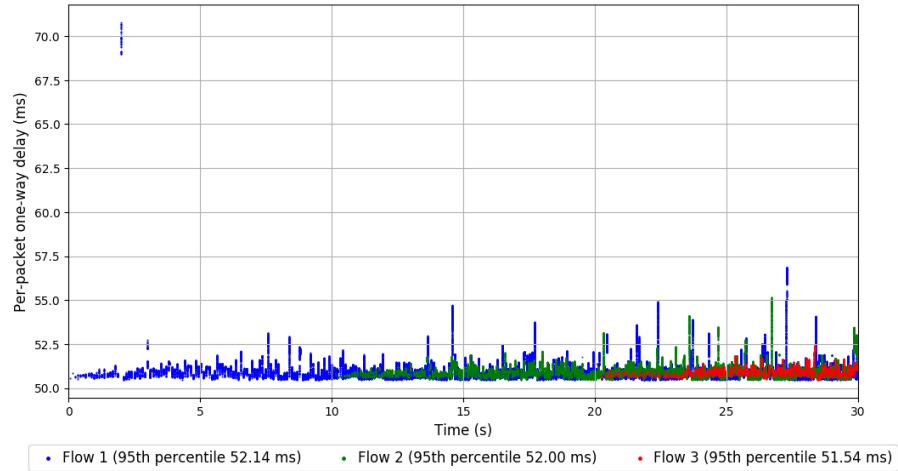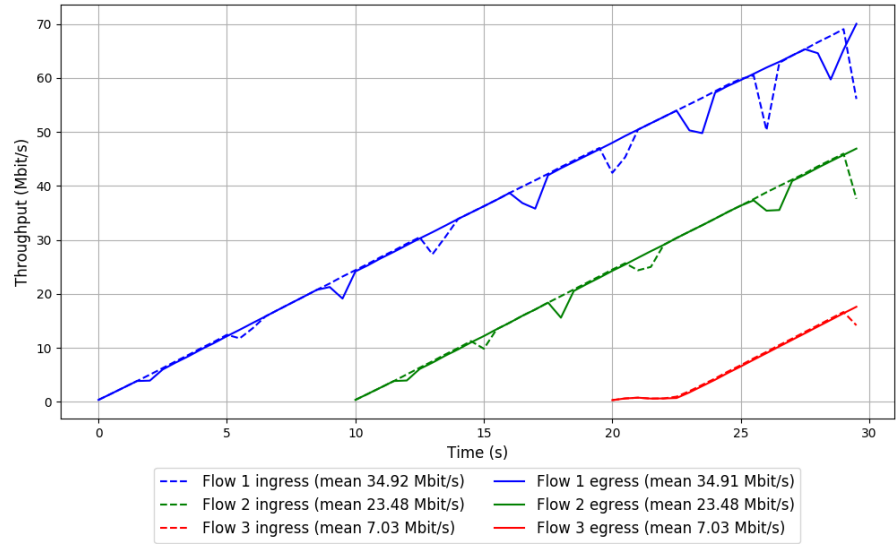
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-09-19 01:30:54
End at: 2017-09-19 01:31:24


# Below is generated by plot.py at 2017-09-19 03:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.93 Mbit/s
95th percentile per-packet one-way delay: 51.953 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 16.09 Mbit/s
95th percentile per-packet one-way delay: 52.031 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.13 Mbit/s
95th percentile per-packet one-way delay: 51.856 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 10.42 Mbit/s
95th percentile per-packet one-way delay: 51.596 ms
Loss rate: 0.12%
```

Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 16.09 Mbit/s) --- Flow 1 egress (mean 16.09 Mbit/s)
Flow 2 ingress (mean 17.13 Mbit/s) --- Flow 2 egress (mean 17.13 Mbit/s)
Flow 3 ingress (mean 10.43 Mbit/s) --- Flow 3 egress (mean 10.42 Mbit/s)

Flow 1 (95th percentile 52.03 ms)   Flow 2 (95th percentile 51.86 ms)   Flow 3 (95th percentile 51.60 ms)

83

```
Run 1: Statistics of PCC

Start at: 2017-09-19 00:03:35
End at: 2017-09-19 00:04:05

# Below is generated by plot.py at 2017-09-19 03:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 565.23 Mbit/s
95th percentile per-packet one-way delay: 188.039 ms
Loss rate: 5.46%
-- Flow 1:
Average throughput: 528.30 Mbit/s
95th percentile per-packet one-way delay: 188.158 ms
Loss rate: 5.43%
-- Flow 2:
Average throughput: 53.60 Mbit/s
95th percentile per-packet one-way delay: 187.415 ms
Loss rate: 5.97%
-- Flow 3:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 171.728 ms
Loss rate: 4.95%
```
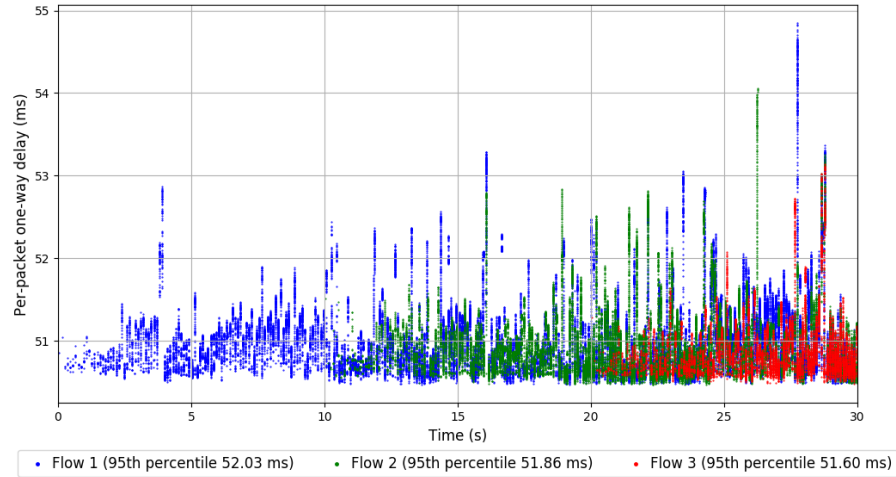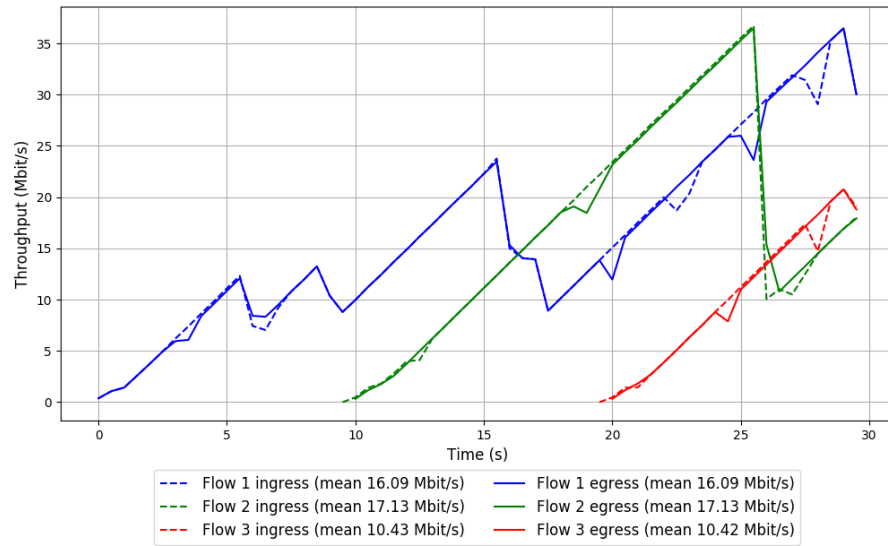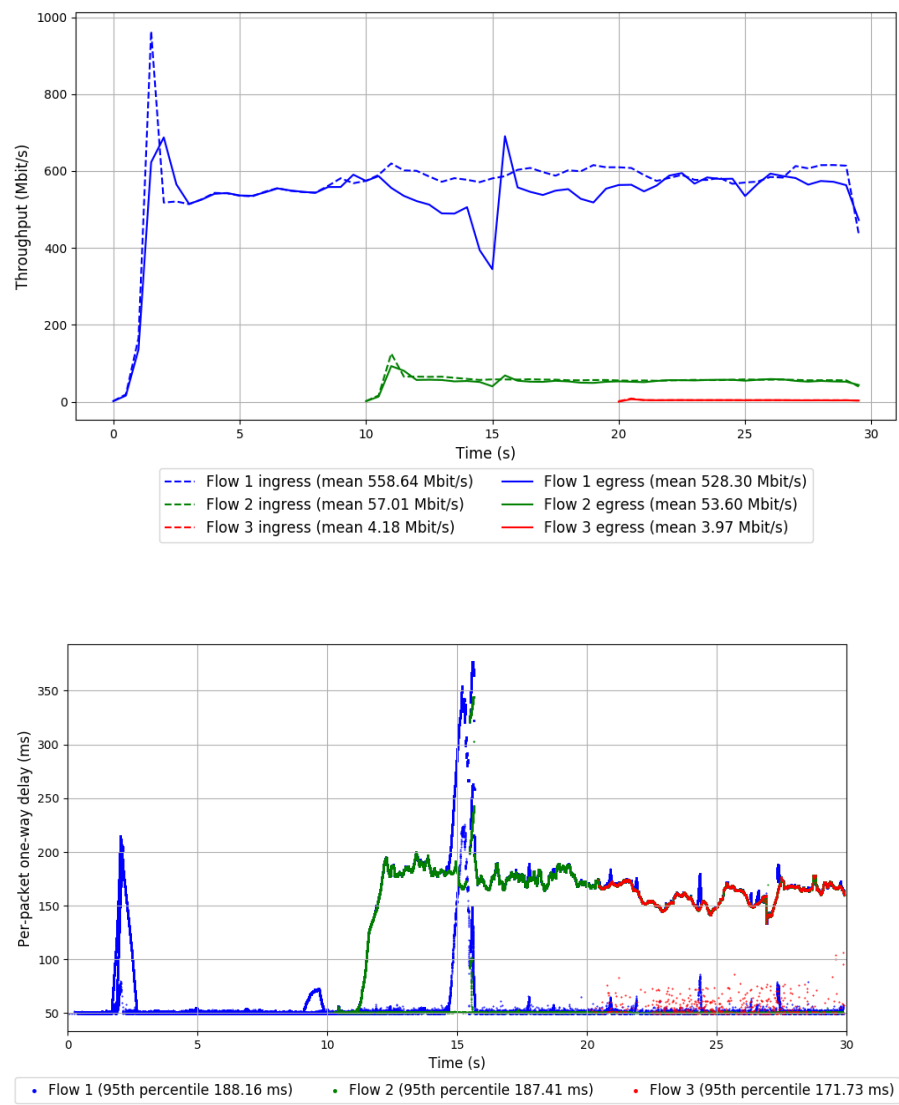
Run 1: Report of PCC — Data Link

- - - Flow 1 ingress (mean 558.64 Mbit/s) —— Flow 1 egress (mean 528.30 Mbit/s)
- - - Flow 2 ingress (mean 57.01 Mbit/s) —— Flow 2 egress (mean 53.60 Mbit/s)
- - - Flow 3 ingress (mean 4.18 Mbit/s) —— Flow 3 egress (mean 3.97 Mbit/s)

• Flow 1 (95th percentile 188.16 ms) • Flow 2 (95th percentile 187.41 ms) • Flow 3 (95th percentile 171.73 ms)
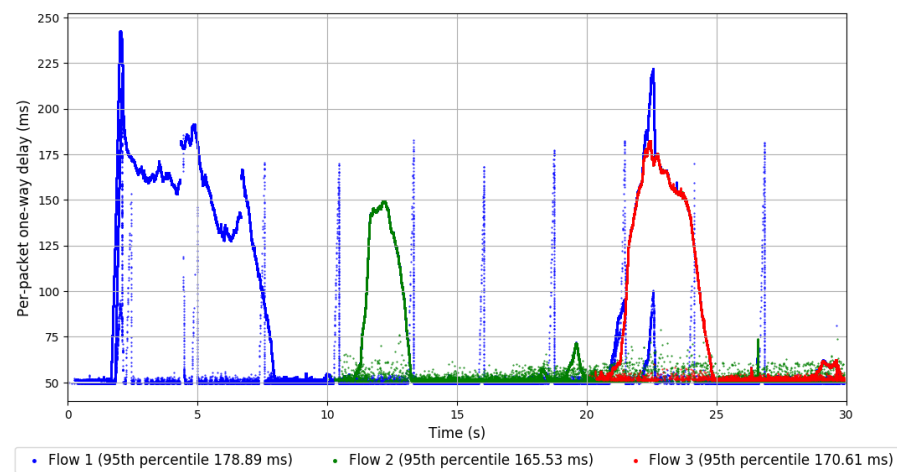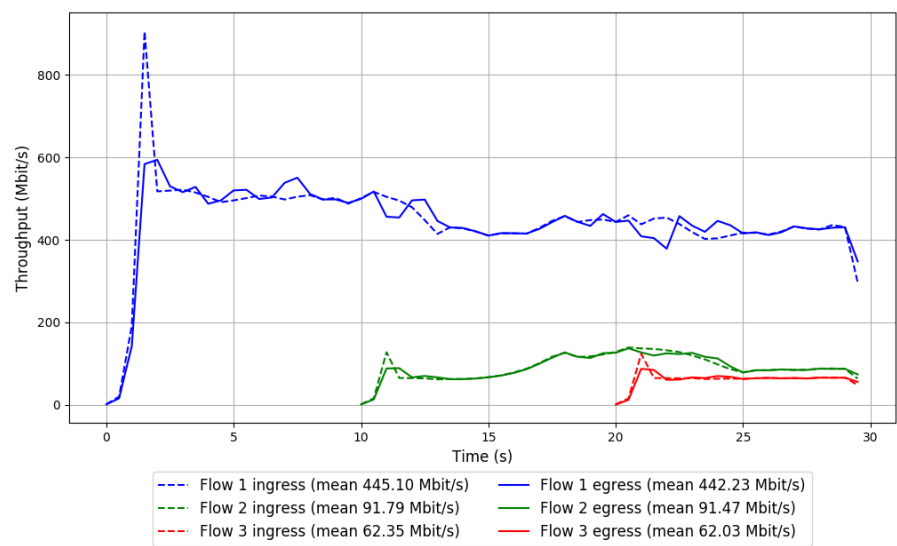
```
Run 2: Statistics of PCC

Start at: 2017-09-19 00:12:46
End at: 2017-09-19 00:13:16

# Below is generated by plot.py at 2017-09-19 03:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 523.42 Mbit/s
95th percentile per-packet one-way delay: 175.759 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 442.23 Mbit/s
95th percentile per-packet one-way delay: 178.892 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 91.47 Mbit/s
95th percentile per-packet one-way delay: 165.535 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 62.03 Mbit/s
95th percentile per-packet one-way delay: 170.608 ms
Loss rate: 0.53%
```

Run 2: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 445.10 Mbit/s) ——— Flow 1 egress (mean 442.23 Mbit/s)
- - - - Flow 2 ingress (mean 91.79 Mbit/s) ——— Flow 2 egress (mean 91.47 Mbit/s)
- - - - Flow 3 ingress (mean 62.35 Mbit/s) ——— Flow 3 egress (mean 62.03 Mbit/s)

- Flow 1 (95th percentile 178.89 ms) - Flow 2 (95th percentile 165.53 ms) - Flow 3 (95th percentile 170.61 ms)

```
Run 3: Statistics of PCC

Start at: 2017-09-19 00:21:33
End at: 2017-09-19 00:22:03


# Below is generated by plot.py at 2017-09-19 03:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 534.52 Mbit/s
95th percentile per-packet one-way delay: 185.627 ms
Loss rate: 3.14%
-- Flow 1:
Average throughput: 484.08 Mbit/s
95th percentile per-packet one-way delay: 185.621 ms
Loss rate: 3.11%
-- Flow 2:
Average throughput: 74.59 Mbit/s
95th percentile per-packet one-way delay: 185.828 ms
Loss rate: 3.40%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 178.139 ms
Loss rate: 1.84%
```
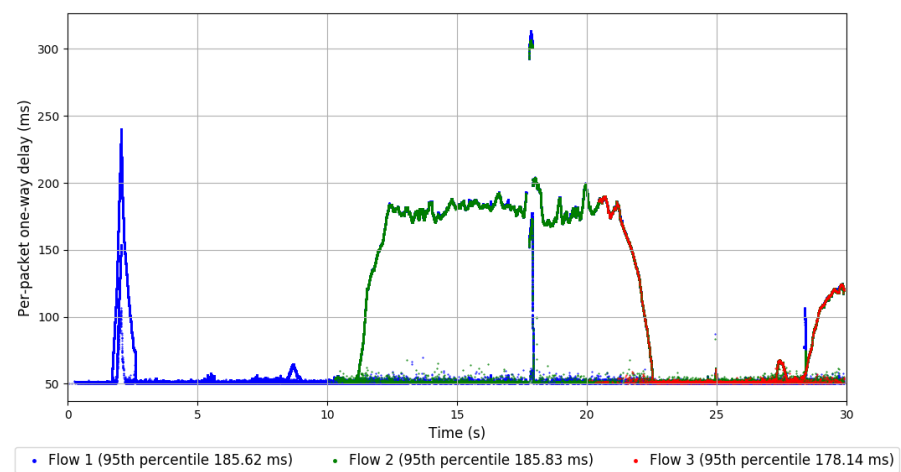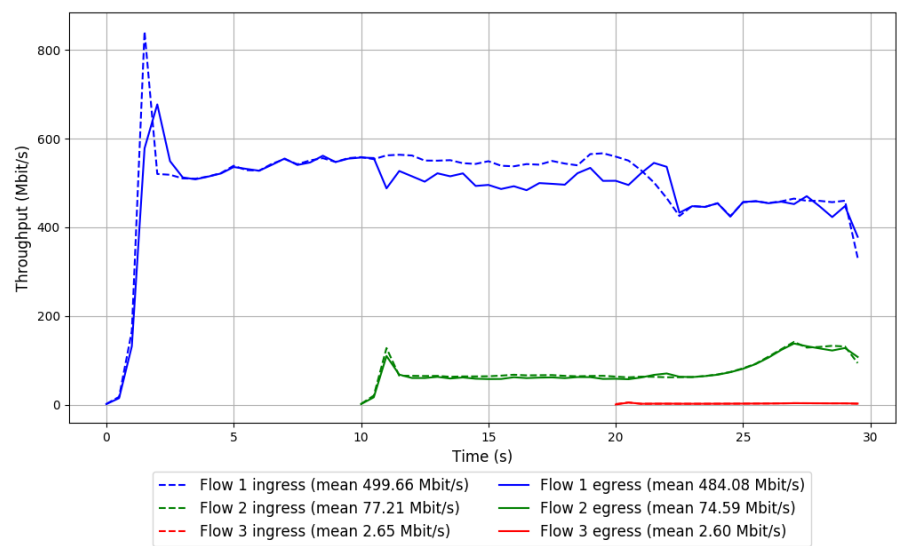
Run 3: Report of PCC — Data Link

- Flow 1 ingress (mean 499.66 Mbit/s)
- Flow 1 egress (mean 484.08 Mbit/s)
- Flow 2 ingress (mean 77.21 Mbit/s)
- Flow 2 egress (mean 74.59 Mbit/s)
- Flow 3 ingress (mean 2.65 Mbit/s)
- Flow 3 egress (mean 2.60 Mbit/s)

- Flow 1 (95th percentile 185.62 ms)
- Flow 2 (95th percentile 185.83 ms)
- Flow 3 (95th percentile 178.14 ms)

```
Run 4: Statistics of PCC

Start at: 2017-09-19 00:30:24
End at: 2017-09-19 00:30:54


# Below is generated by plot.py at 2017-09-19 03:25:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 528.38 Mbit/s
95th percentile per-packet one-way delay: 188.844 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 514.41 Mbit/s
95th percentile per-packet one-way delay: 189.361 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 171.862 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 33.40 Mbit/s
95th percentile per-packet one-way delay: 168.151 ms
Loss rate: 0.13%
```
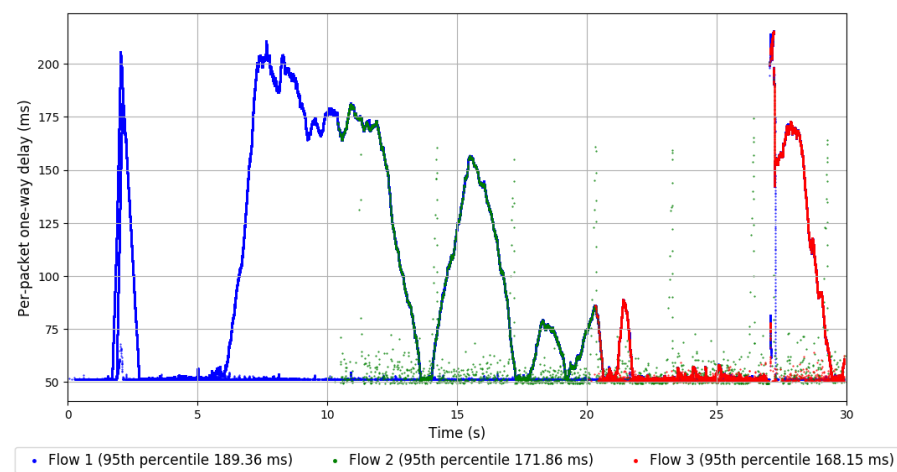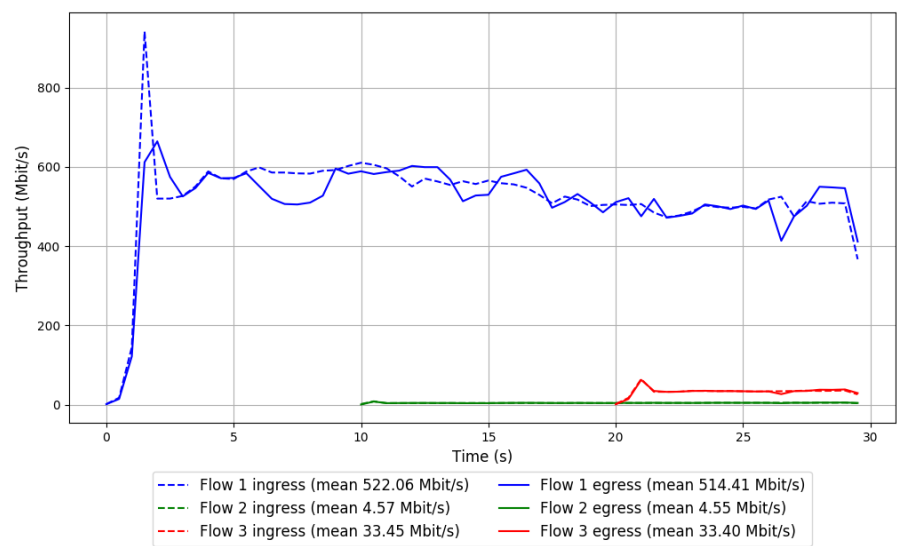
Run 4: Report of PCC — Data Link

- - - Flow 1 ingress (mean 522.06 Mbit/s) ——— Flow 1 egress (mean 514.41 Mbit/s)
- - - Flow 2 ingress (mean 4.57 Mbit/s) ——— Flow 2 egress (mean 4.55 Mbit/s)
- - - Flow 3 ingress (mean 33.45 Mbit/s) ——— Flow 3 egress (mean 33.40 Mbit/s)

- Flow 1 (95th percentile 189.36 ms)   - Flow 2 (95th percentile 171.86 ms)   - Flow 3 (95th percentile 168.15 ms)

91

```
Run 5: Statistics of PCC

Start at: 2017-09-19 00:39:18
End at: 2017-09-19 00:39:48


# Below is generated by plot.py at 2017-09-19 03:25:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.04 Mbit/s
95th percentile per-packet one-way delay: 177.176 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 486.95 Mbit/s
95th percentile per-packet one-way delay: 177.483 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 35.83 Mbit/s
95th percentile per-packet one-way delay: 174.312 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 61.56 Mbit/s
95th percentile per-packet one-way delay: 127.307 ms
Loss rate: 0.00%
```
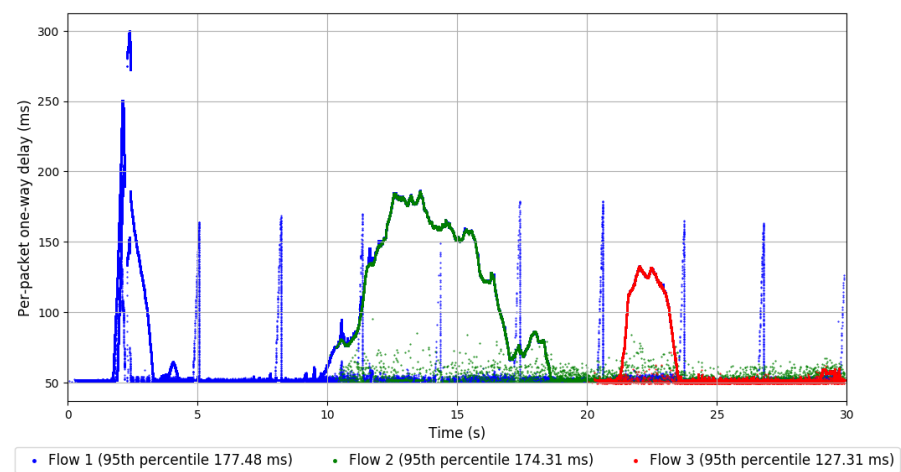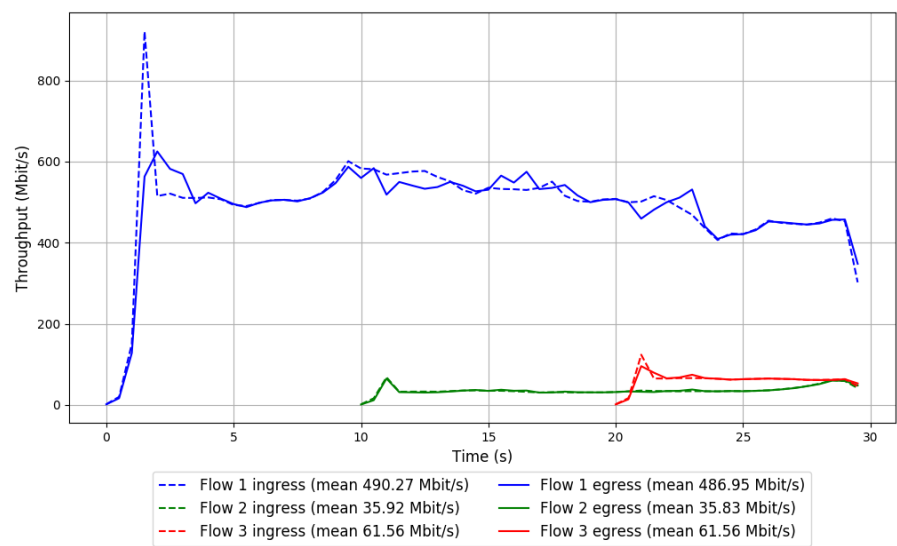
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 490.27 Mbit/s)   Flow 1 egress (mean 486.95 Mbit/s)
Flow 2 ingress (mean 35.92 Mbit/s)   Flow 2 egress (mean 35.83 Mbit/s)
Flow 3 ingress (mean 61.56 Mbit/s)   Flow 3 egress (mean 61.56 Mbit/s)

Flow 1 (95th percentile 177.48 ms)   Flow 2 (95th percentile 174.31 ms)   Flow 3 (95th percentile 127.31 ms)

93

```
Run 6: Statistics of PCC

Start at: 2017-09-19 00:48:04
End at: 2017-09-19 00:48:34


# Below is generated by plot.py at 2017-09-19 03:27:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 579.11 Mbit/s
95th percentile per-packet one-way delay: 175.756 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 518.81 Mbit/s
95th percentile per-packet one-way delay: 175.782 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 60.72 Mbit/s
95th percentile per-packet one-way delay: 176.295 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 60.70 Mbit/s
95th percentile per-packet one-way delay: 172.579 ms
Loss rate: 3.51%
```
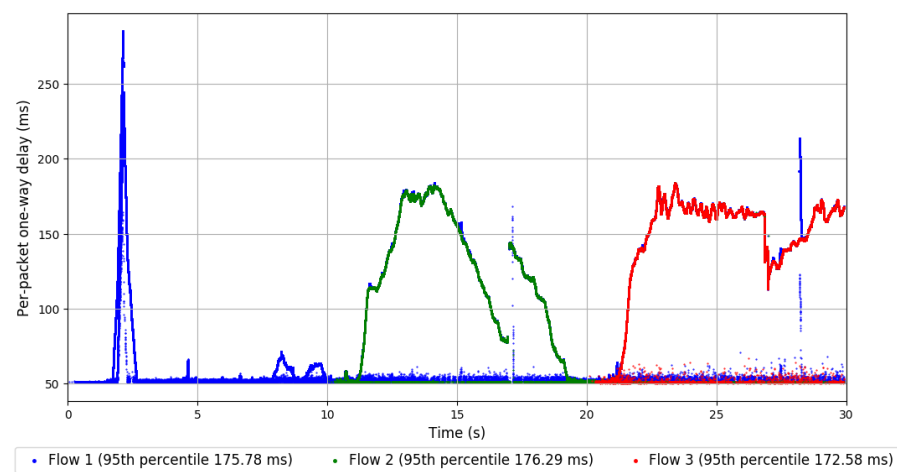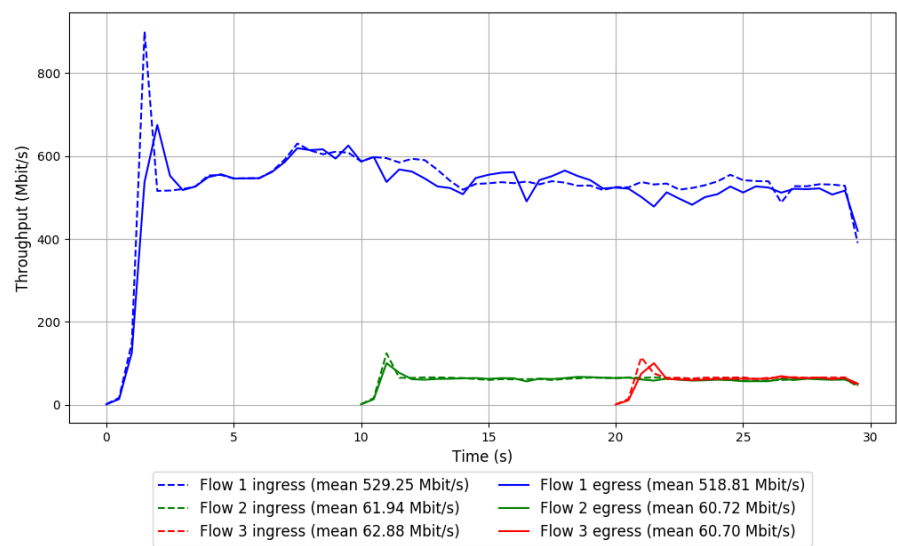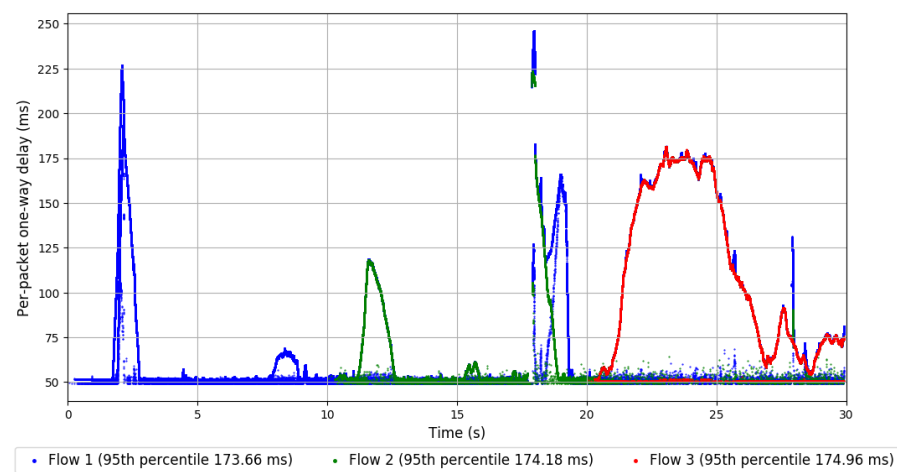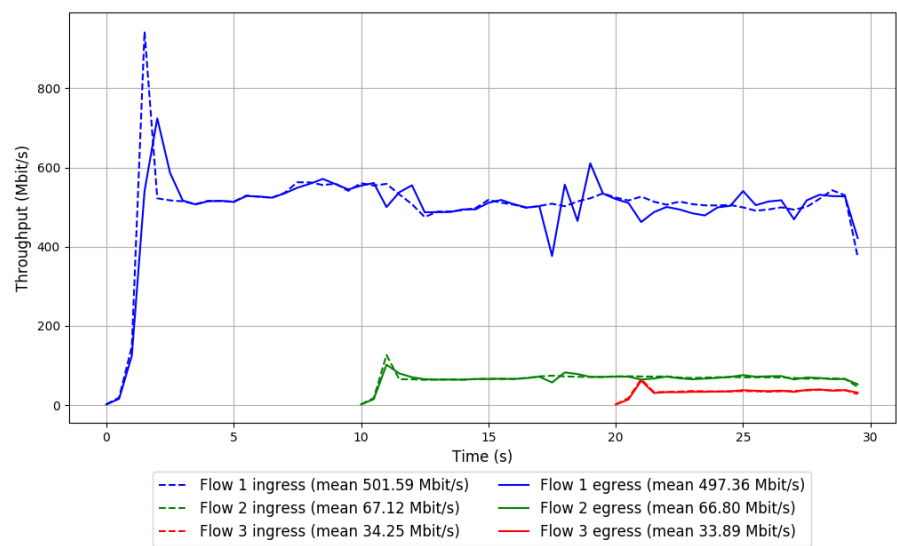
Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 529.25 Mbit/s) ---- Flow 1 egress (mean 518.81 Mbit/s)
Flow 2 ingress (mean 61.94 Mbit/s) ---- Flow 2 egress (mean 60.72 Mbit/s)
Flow 3 ingress (mean 62.88 Mbit/s) ---- Flow 3 egress (mean 60.70 Mbit/s)

Flow 1 (95th percentile 175.78 ms) • Flow 2 (95th percentile 176.29 ms) • Flow 3 (95th percentile 172.58 ms)

95

```
Run 7: Statistics of PCC

Start at: 2017-09-19 00:57:03
End at: 2017-09-19 00:57:33


# Below is generated by plot.py at 2017-09-19 03:27:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 552.91 Mbit/s
95th percentile per-packet one-way delay: 173.804 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 497.36 Mbit/s
95th percentile per-packet one-way delay: 173.658 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 66.80 Mbit/s
95th percentile per-packet one-way delay: 174.184 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 174.957 ms
Loss rate: 1.02%
```
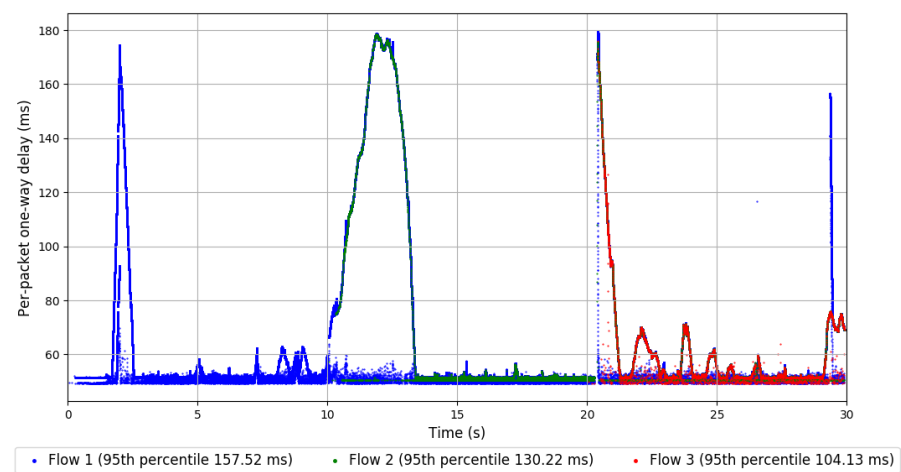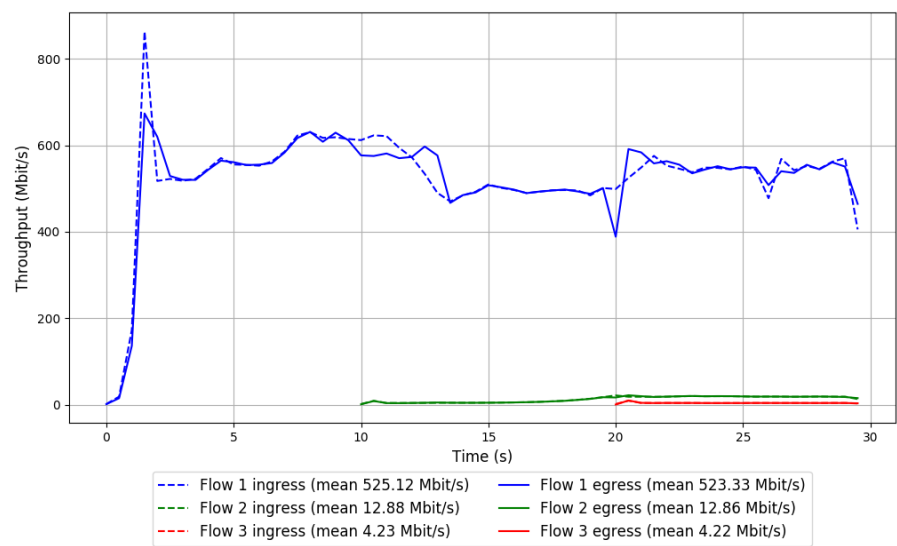
Run 7: Report of PCC — Data Link

Flow 1 ingress (mean 501.59 Mbit/s) —— Flow 1 egress (mean 497.36 Mbit/s)
Flow 2 ingress (mean 67.12 Mbit/s) —— Flow 2 egress (mean 66.80 Mbit/s)
Flow 3 ingress (mean 34.25 Mbit/s) —— Flow 3 egress (mean 33.89 Mbit/s)

Flow 1 (95th percentile 173.66 ms) • Flow 2 (95th percentile 174.18 ms) • Flow 3 (95th percentile 174.96 ms)

```
Run 8: Statistics of PCC

Start at: 2017-09-19 01:06:00
End at: 2017-09-19 01:06:30

# Below is generated by plot.py at 2017-09-19 03:27:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.27 Mbit/s
95th percentile per-packet one-way delay: 157.238 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 523.33 Mbit/s
95th percentile per-packet one-way delay: 157.524 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 12.86 Mbit/s
95th percentile per-packet one-way delay: 130.220 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 104.130 ms
Loss rate: 0.17%
```
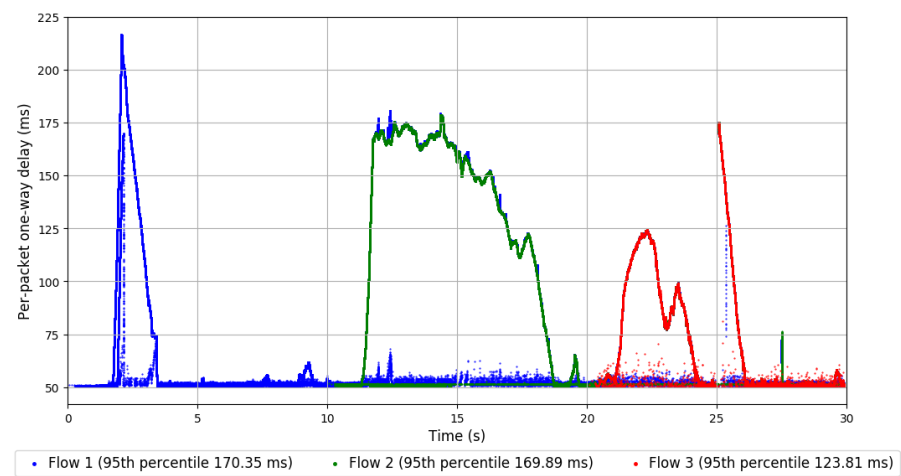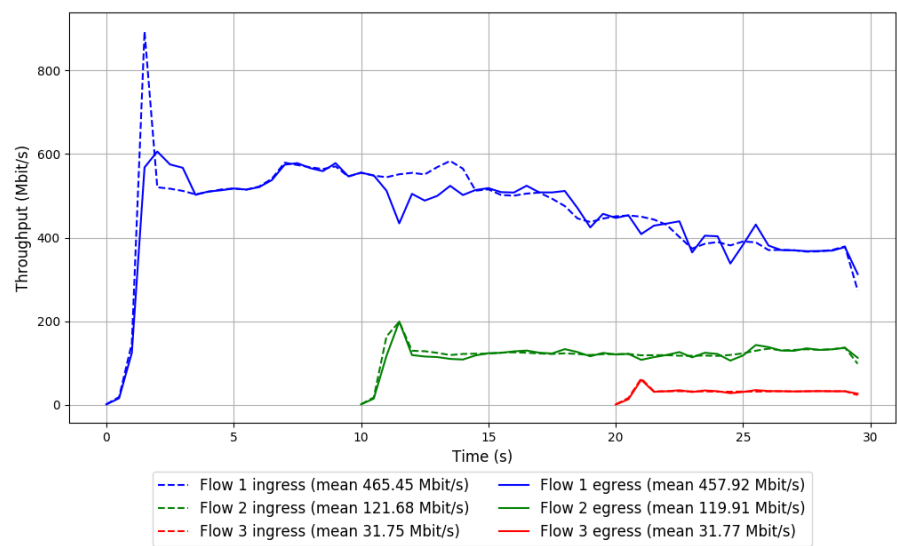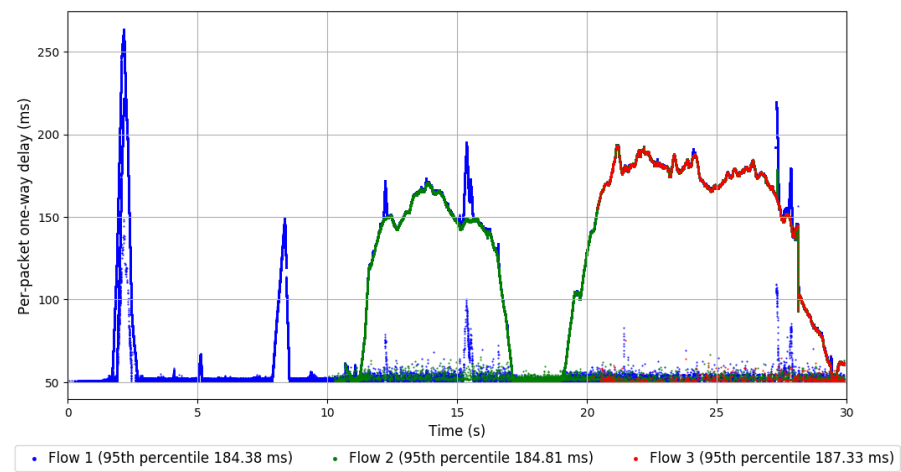
Run 8: Report of PCC — Data Link

- Flow 1 ingress (mean 525.12 Mbit/s)
- Flow 1 egress (mean 523.33 Mbit/s)
- Flow 2 ingress (mean 12.88 Mbit/s)
- Flow 2 egress (mean 12.86 Mbit/s)
- Flow 3 ingress (mean 4.23 Mbit/s)
- Flow 3 egress (mean 4.22 Mbit/s)

- Flow 1 (95th percentile 157.52 ms)
- Flow 2 (95th percentile 130.22 ms)
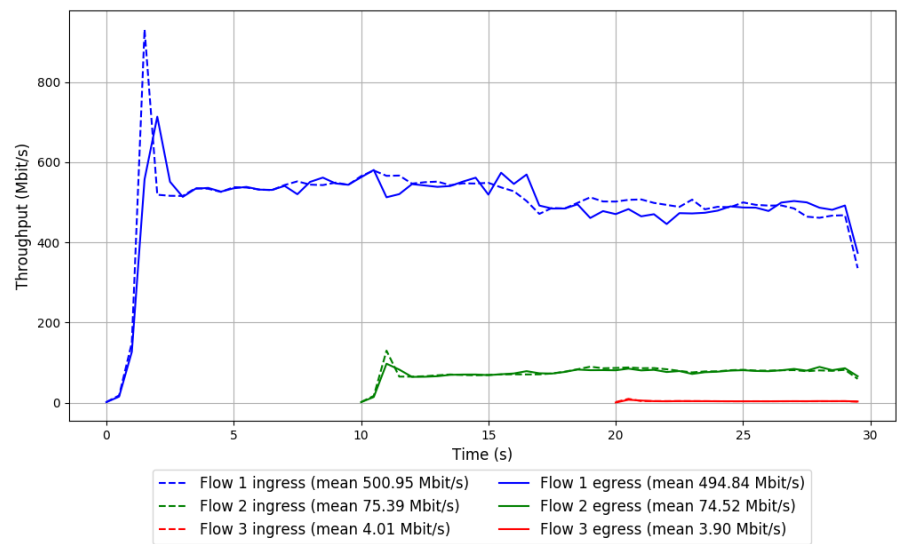- Flow 3 (95th percentile 104.13 ms)

99

```
Run 9: Statistics of PCC

Start at: 2017-09-19 01:14:56
End at: 2017-09-19 01:15:26

# Below is generated by plot.py at 2017-09-19 03:33:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 548.06 Mbit/s
95th percentile per-packet one-way delay: 170.215 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 457.92 Mbit/s
95th percentile per-packet one-way delay: 170.350 ms
Loss rate: 1.63%
-- Flow 2:
Average throughput: 119.91 Mbit/s
95th percentile per-packet one-way delay: 169.892 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 31.77 Mbit/s
95th percentile per-packet one-way delay: 123.808 ms
Loss rate: 0.00%
```
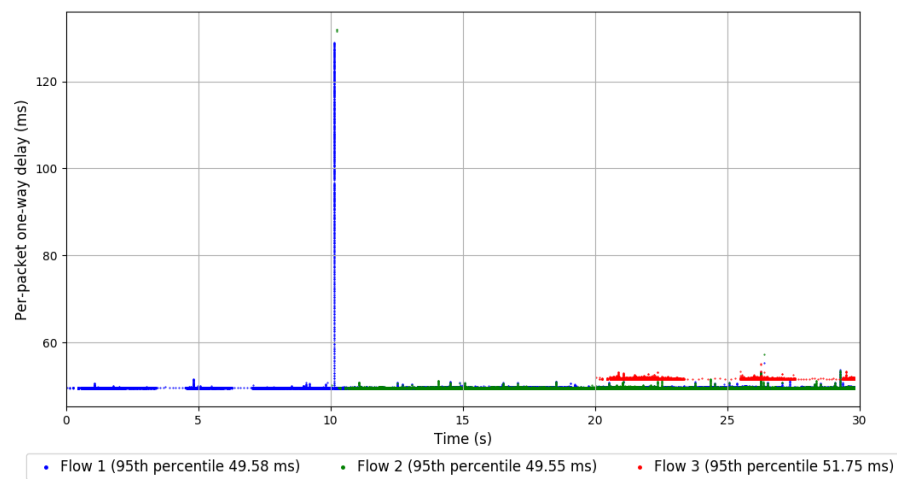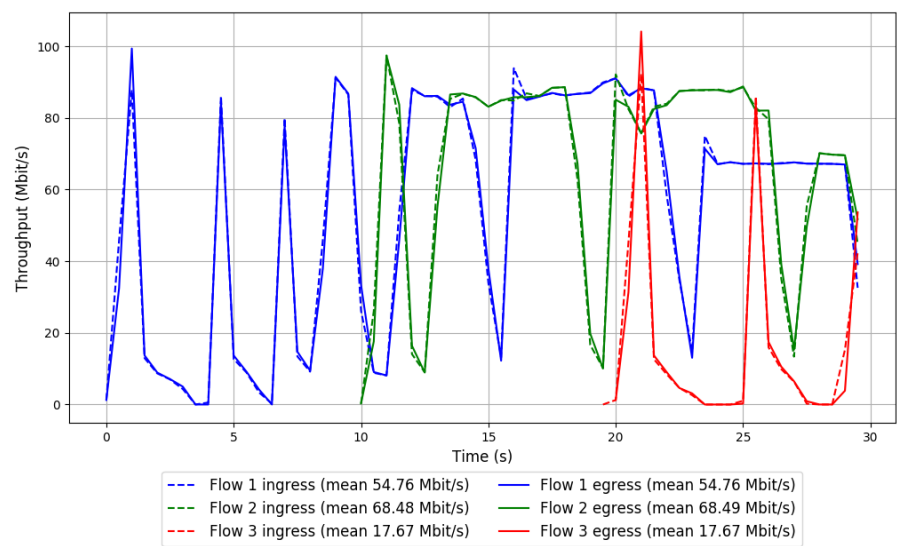
Run 9: Report of PCC — Data Link

- - - Flow 1 ingress (mean 465.45 Mbit/s) ——— Flow 1 egress (mean 457.92 Mbit/s)
- - - Flow 2 ingress (mean 121.68 Mbit/s) ——— Flow 2 egress (mean 119.91 Mbit/s)
- - - Flow 3 ingress (mean 31.75 Mbit/s) ——— Flow 3 egress (mean 31.77 Mbit/s)

• Flow 1 (95th percentile 170.35 ms)   • Flow 2 (95th percentile 169.89 ms)   • Flow 3 (95th percentile 123.81 ms)

```
Run 10: Statistics of PCC

Start at: 2017-09-19 01:23:59
End at: 2017-09-19 01:24:29


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 545.62 Mbit/s
95th percentile per-packet one-way delay: 184.435 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 494.84 Mbit/s
95th percentile per-packet one-way delay: 184.381 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 74.52 Mbit/s
95th percentile per-packet one-way delay: 184.808 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 187.329 ms
Loss rate: 2.62%
```
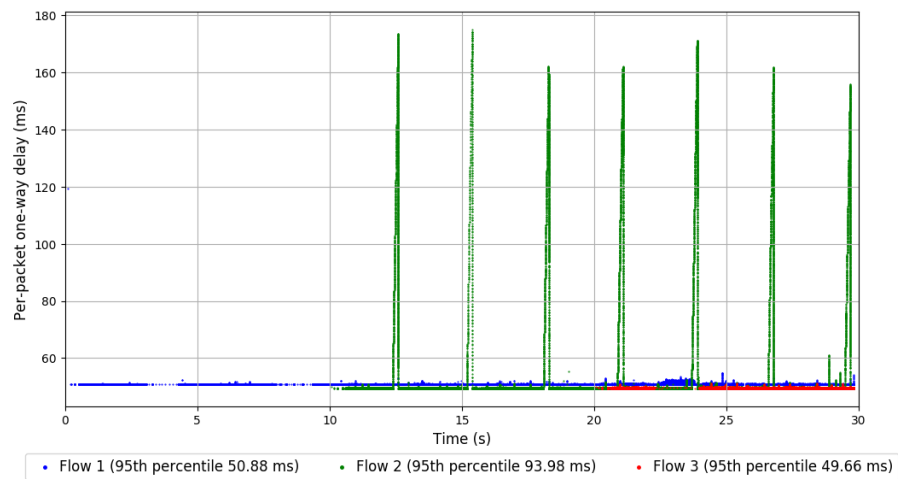
Run 10: Report of PCC — Data Link

- - - Flow 1 ingress (mean 500.95 Mbit/s) —— Flow 1 egress (mean 494.84 Mbit/s)
- - - Flow 2 ingress (mean 75.39 Mbit/s) —— Flow 2 egress (mean 74.52 Mbit/s)
- - - Flow 3 ingress (mean 4.01 Mbit/s) —— Flow 3 egress (mean 3.90 Mbit/s)

• Flow 1 (95th percentile 184.38 ms)   • Flow 2 (95th percentile 184.81 ms)   • Flow 3 (95th percentile 187.33 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-19 00:05:40
End at: 2017-09-19 00:06:10

# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.01 Mbit/s
95th percentile per-packet one-way delay: 51.473 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.76 Mbit/s
95th percentile per-packet one-way delay: 49.583 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.49 Mbit/s
95th percentile per-packet one-way delay: 49.545 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.67 Mbit/s
95th percentile per-packet one-way delay: 51.750 ms
Loss rate: 0.06%
```
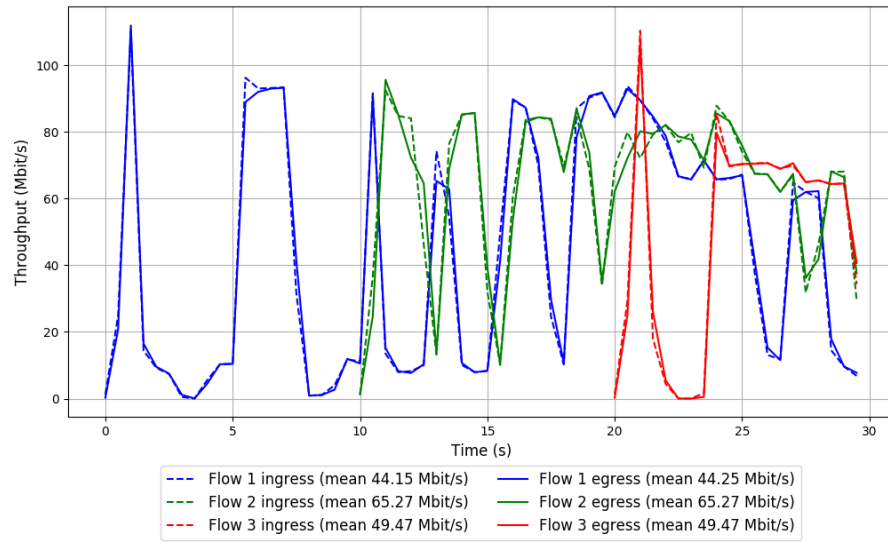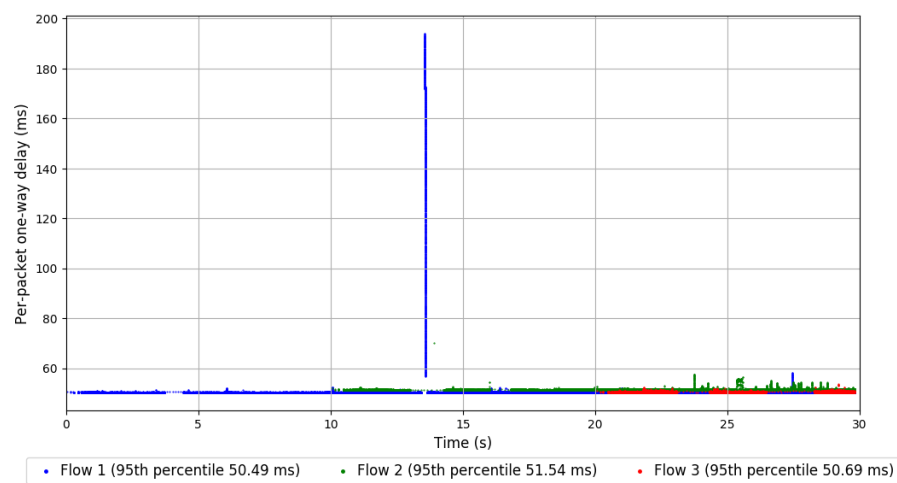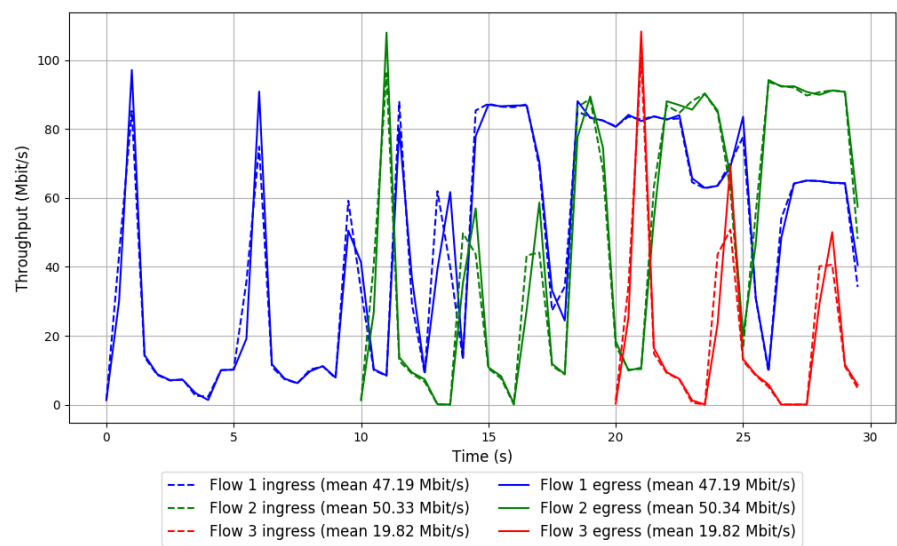
Run 1: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 54.76 Mbit/s)   —— Flow 1 egress (mean 54.76 Mbit/s)
- - - Flow 2 ingress (mean 68.48 Mbit/s)   —— Flow 2 egress (mean 68.49 Mbit/s)
- - - Flow 3 ingress (mean 17.67 Mbit/s)   —— Flow 3 egress (mean 17.67 Mbit/s)

• Flow 1 (95th percentile 49.58 ms)   • Flow 2 (95th percentile 49.55 ms)   • Flow 3 (95th percentile 51.75 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-19 00:14:51
End at: 2017-09-19 00:15:21

# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.92 Mbit/s
95th percentile per-packet one-way delay: 50.891 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.25 Mbit/s
95th percentile per-packet one-way delay: 50.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 93.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.47 Mbit/s
95th percentile per-packet one-way delay: 49.655 ms
Loss rate: 0.00%
```
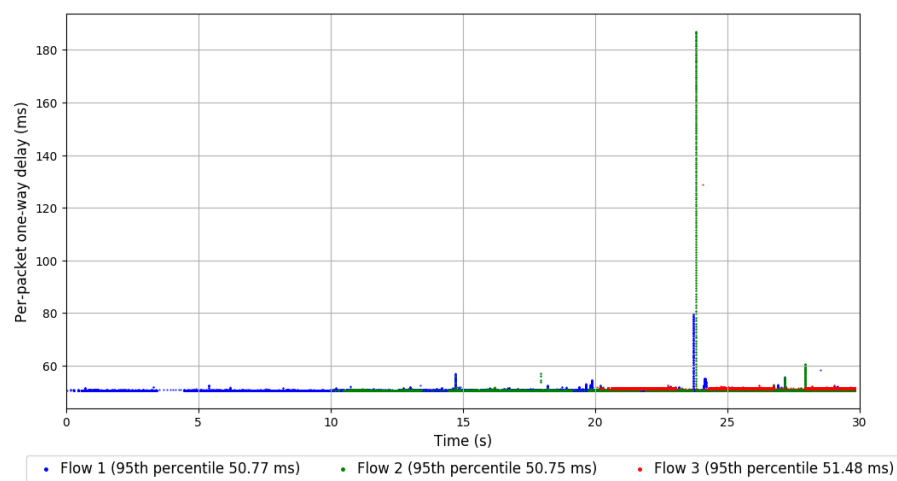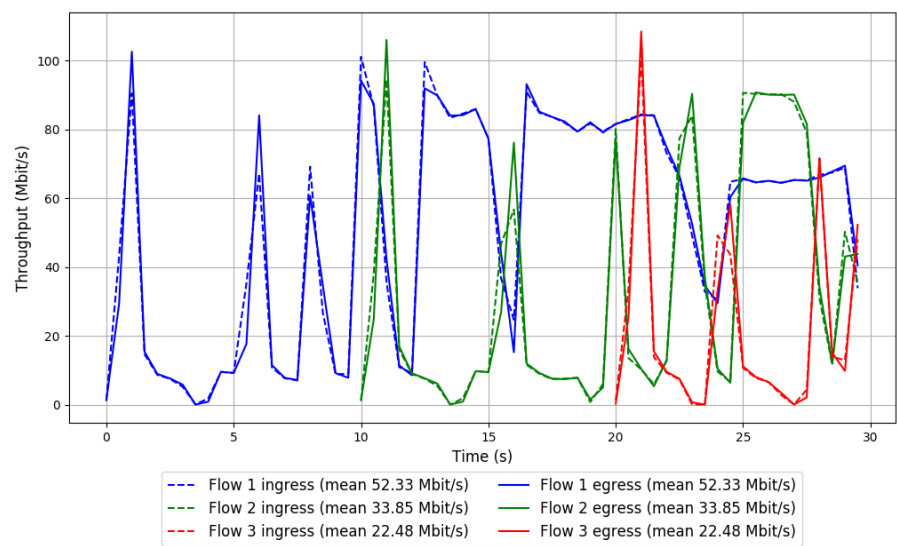
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-19 00:23:37
End at: 2017-09-19 00:24:07

# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 51.488 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.19 Mbit/s
95th percentile per-packet one-way delay: 50.490 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 51.544 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.82 Mbit/s
95th percentile per-packet one-way delay: 50.687 ms
Loss rate: 0.00%
```
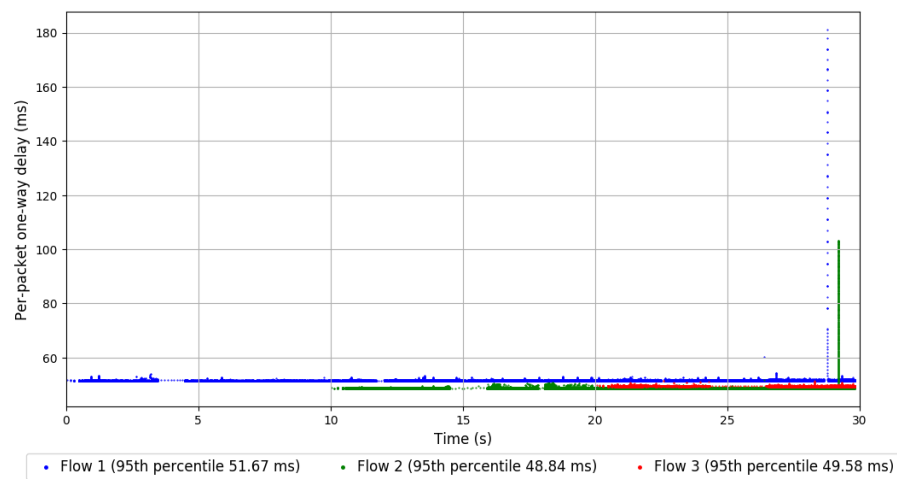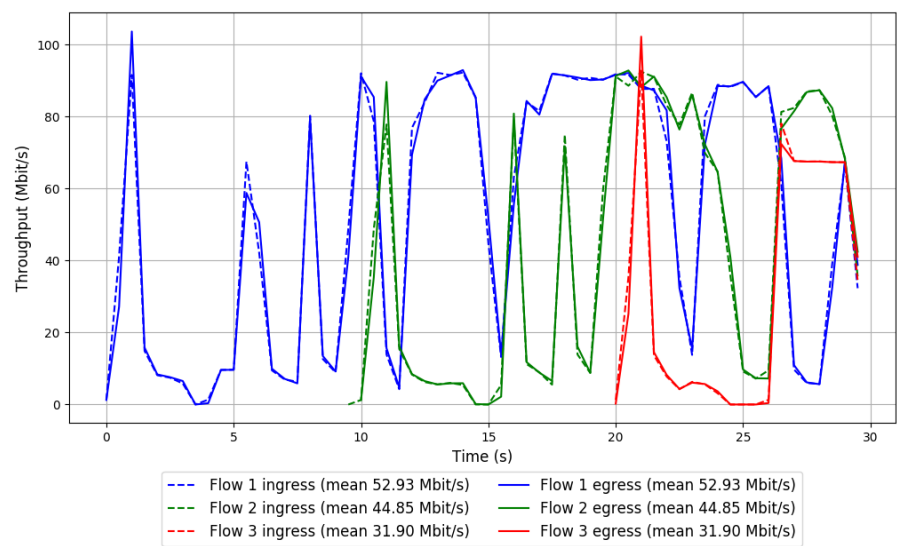
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 47.19 Mbit/s) --- Flow 1 egress (mean 47.19 Mbit/s)
Flow 2 ingress (mean 50.33 Mbit/s) --- Flow 2 egress (mean 50.34 Mbit/s)
Flow 3 ingress (mean 19.82 Mbit/s) --- Flow 3 egress (mean 19.82 Mbit/s)

Flow 1 (95th percentile 50.49 ms) · Flow 2 (95th percentile 51.54 ms) · Flow 3 (95th percentile 50.69 ms)

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```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-19 00:32:27
End at: 2017-09-19 00:32:57


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.16 Mbit/s
95th percentile per-packet one-way delay: 51.372 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.33 Mbit/s
95th percentile per-packet one-way delay: 50.766 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.85 Mbit/s
95th percentile per-packet one-way delay: 50.746 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.48 Mbit/s
95th percentile per-packet one-way delay: 51.475 ms
Loss rate: 0.00%
```
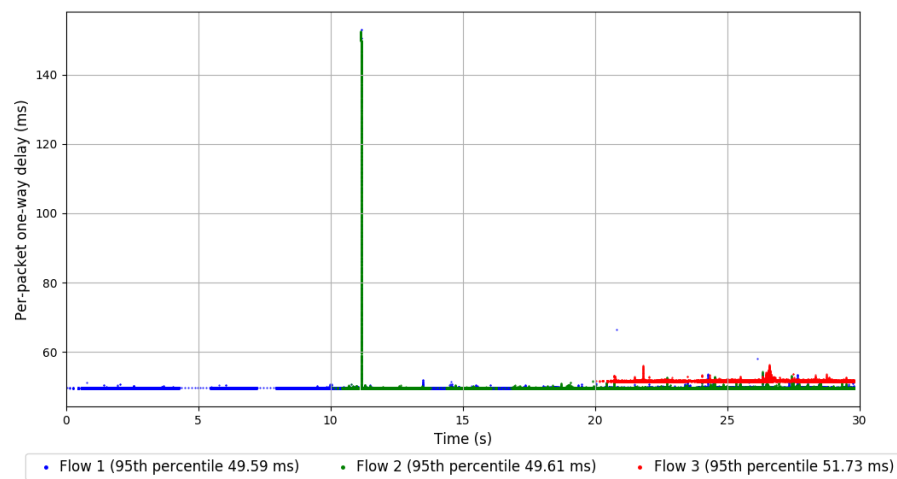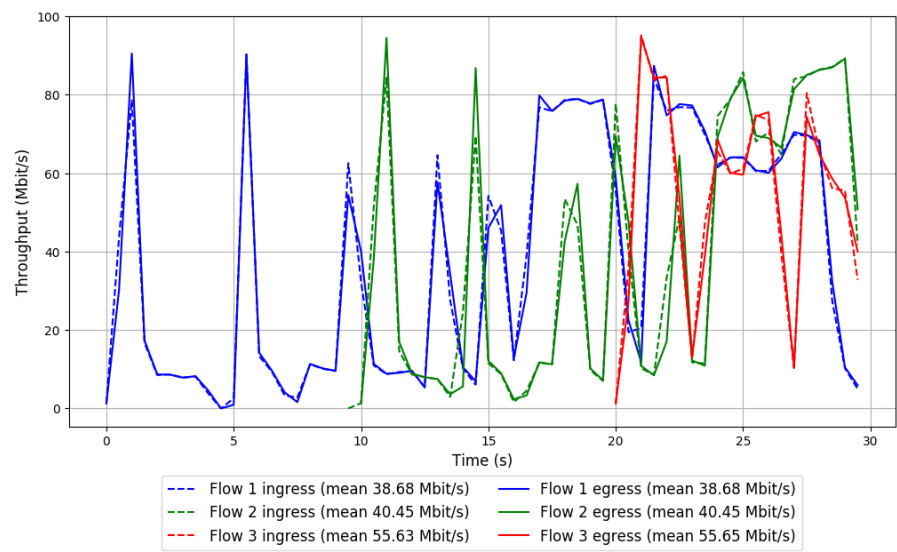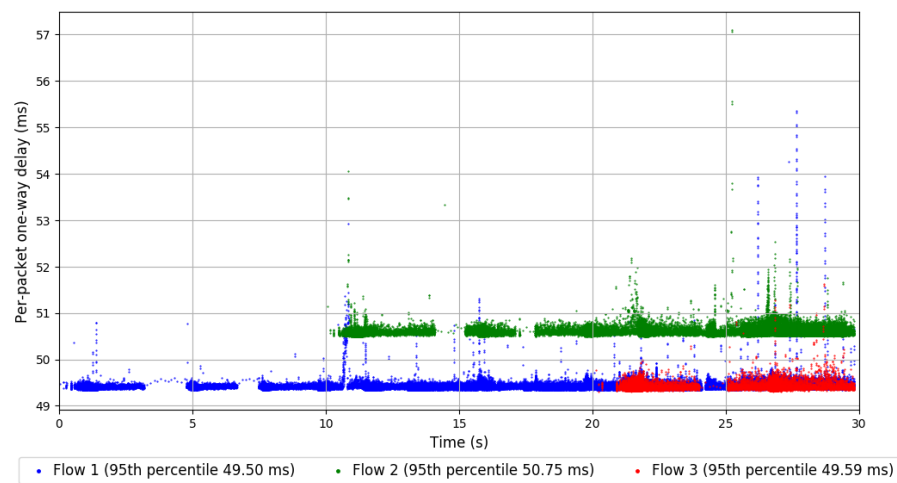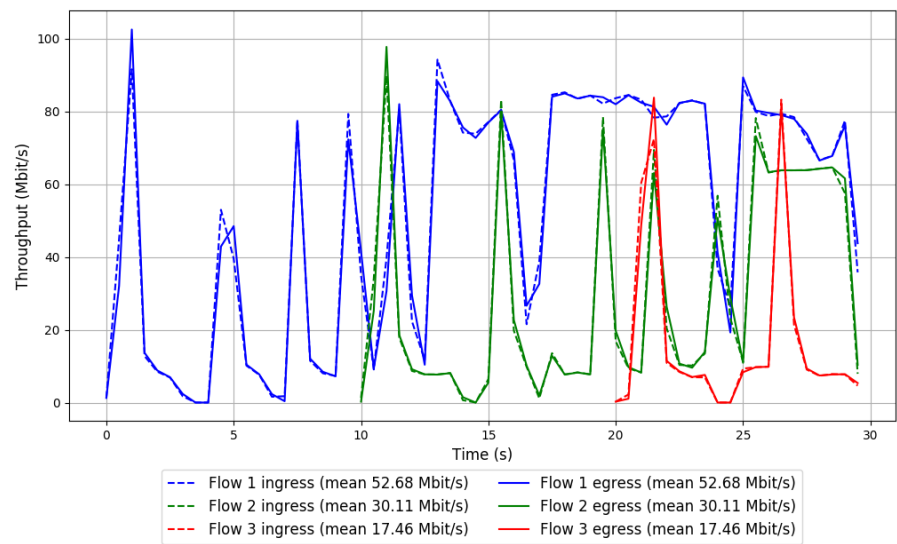
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 52.33 Mbit/s)   Flow 1 egress (mean 52.33 Mbit/s)
Flow 2 ingress (mean 33.85 Mbit/s)   Flow 2 egress (mean 33.85 Mbit/s)
Flow 3 ingress (mean 22.48 Mbit/s)   Flow 3 egress (mean 22.48 Mbit/s)

Flow 1 (95th percentile 50.77 ms)   Flow 2 (95th percentile 50.75 ms)   Flow 3 (95th percentile 51.48 ms)

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Run 5: Statistics of QUIC Cubic

Start at: 2017-09-19 00:41:22
End at: 2017-09-19 00:41:52

Below is generated by plot.py at 2017-09-19 03:33:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.16 Mbit/s
95th percentile per-packet one-way delay: 51.618 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.93 Mbit/s
95th percentile per-packet one-way delay: 51.669 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.85 Mbit/s
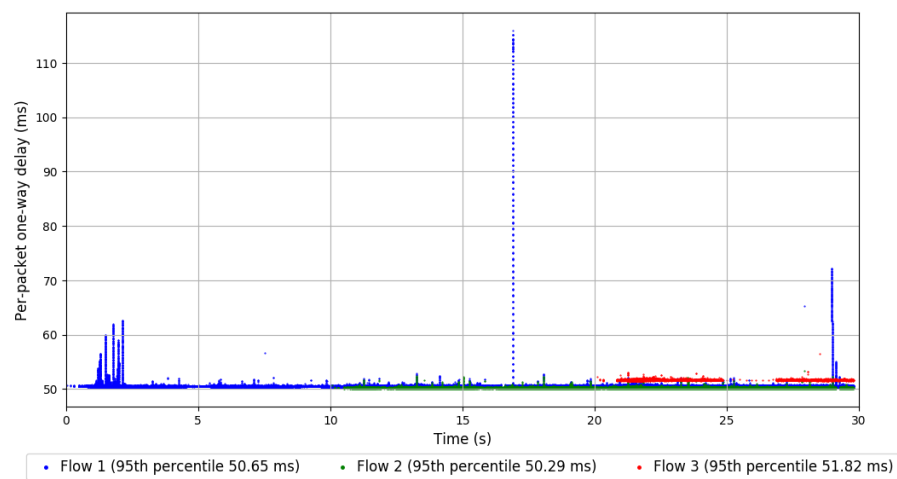95th percentile per-packet one-way delay: 48.843 ms
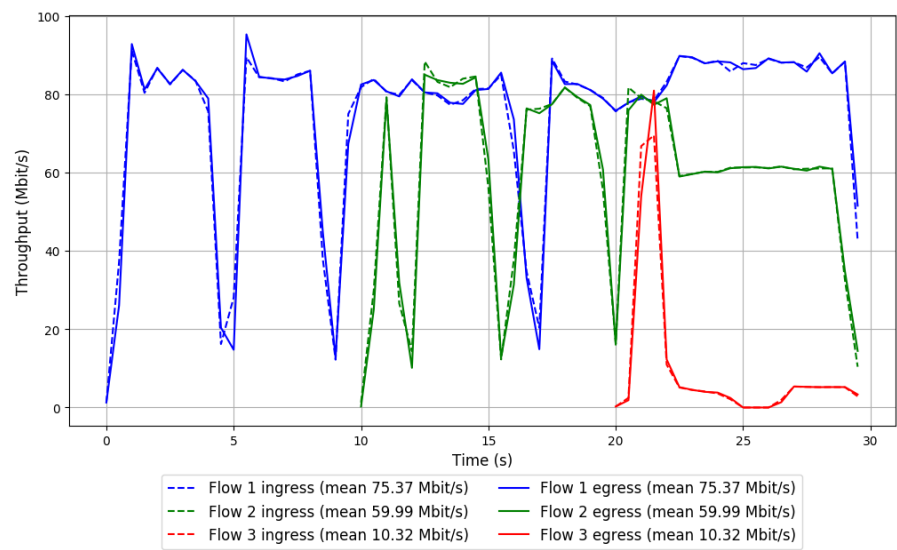Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.90 Mbit/s
95th percentile per-packet one-way delay: 49.582 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-19 00:50:09
End at: 2017-09-19 00:50:39

# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.75 Mbit/s
95th percentile per-packet one-way delay: 51.566 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 38.68 Mbit/s
95th percentile per-packet one-way delay: 49.591 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 49.611 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 51.730 ms
Loss rate: 0.00%
```
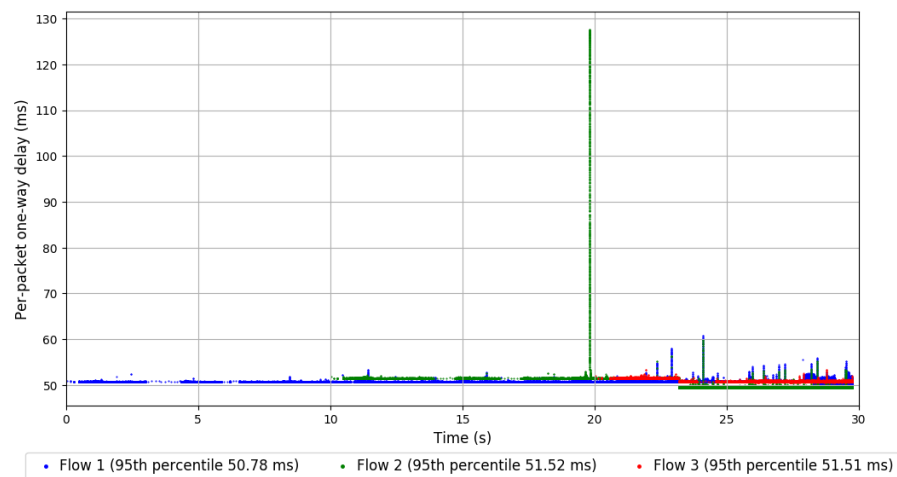
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-19 00:59:06
End at: 2017-09-19 00:59:36


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 50.639 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.68 Mbit/s
95th percentile per-packet one-way delay: 49.503 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.11 Mbit/s
95th percentile per-packet one-way delay: 50.750 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.46 Mbit/s
95th percentile per-packet one-way delay: 49.589 ms
Loss rate: 0.00%
```
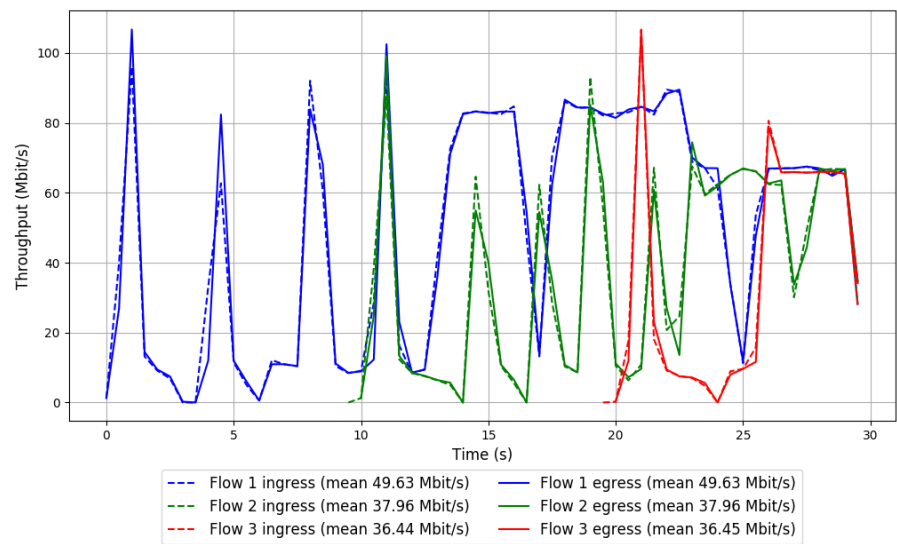
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-19 01:08:04
End at: 2017-09-19 01:08:34


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.51 Mbit/s
95th percentile per-packet one-way delay: 50.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 75.37 Mbit/s
95th percentile per-packet one-way delay: 50.652 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.99 Mbit/s
95th percentile per-packet one-way delay: 50.289 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 51.820 ms
Loss rate: 0.00%
```
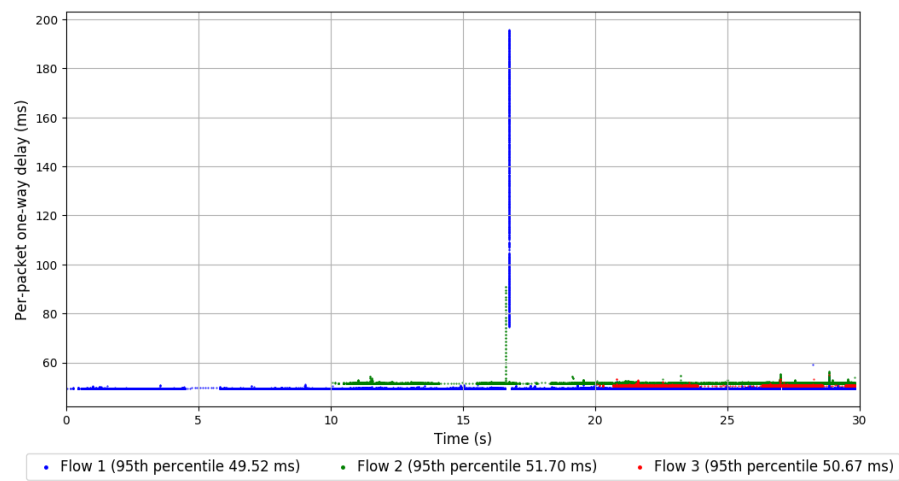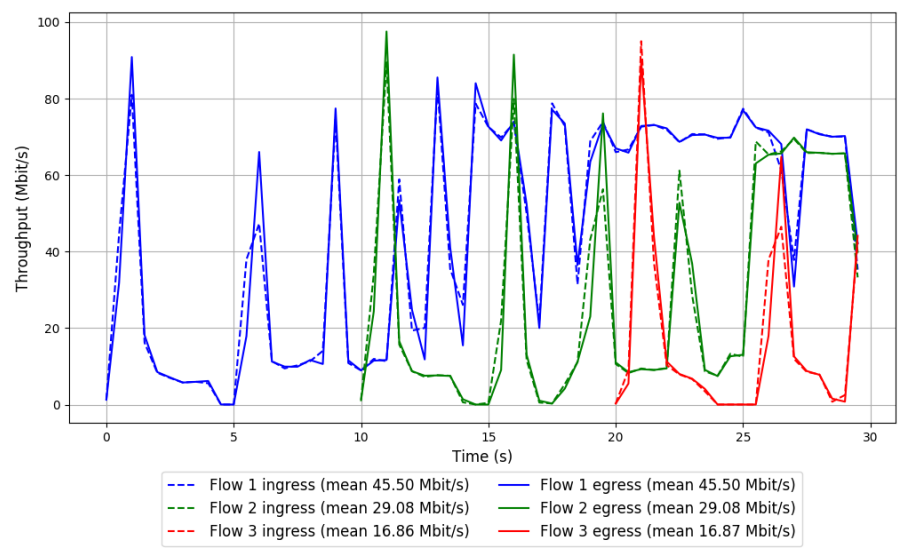
Run 8: Report of QUIC Cubic — Data Link

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-09-19 01:17:01
End at: 2017-09-19 01:17:31


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.77 Mbit/s
95th percentile per-packet one-way delay: 51.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.63 Mbit/s
95th percentile per-packet one-way delay: 50.782 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 51.517 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.45 Mbit/s
95th percentile per-packet one-way delay: 51.512 ms
Loss rate: 0.01%
```
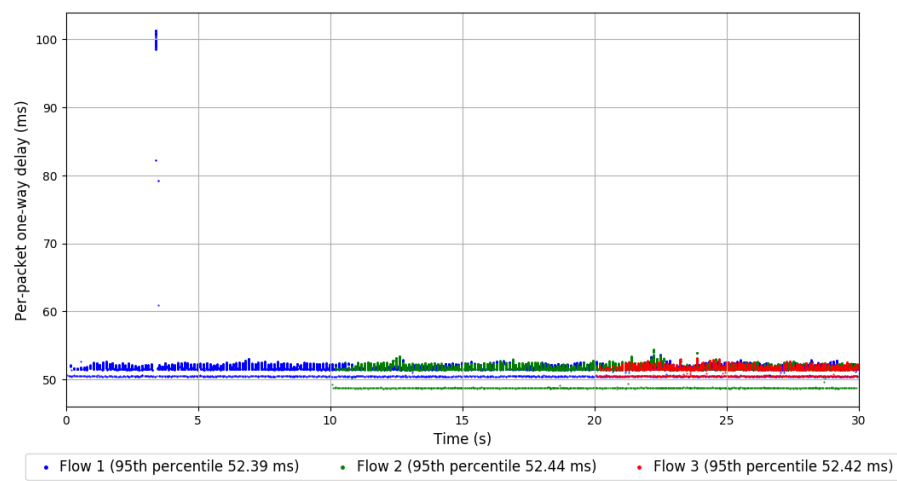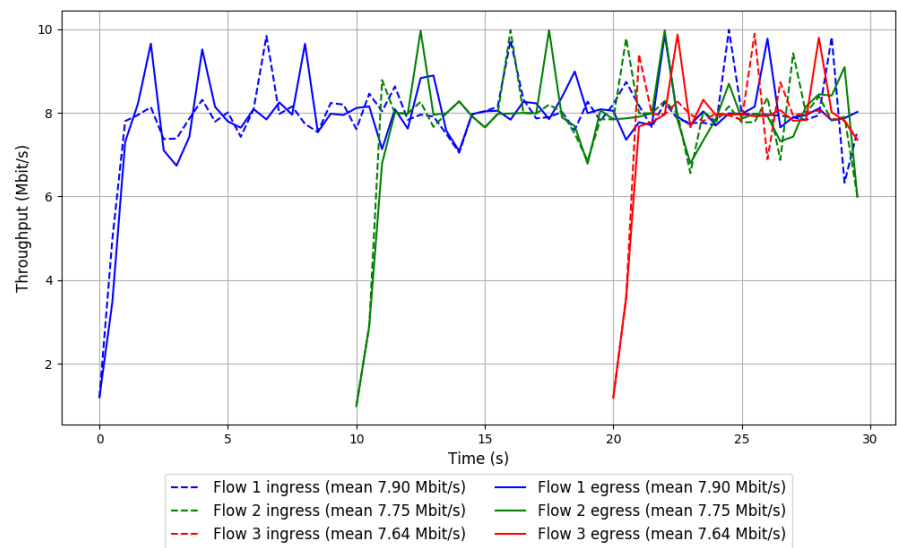
Run 9: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.63 Mbit/s) — Flow 1 egress (mean 49.63 Mbit/s)
Flow 2 ingress (mean 37.96 Mbit/s) — Flow 2 egress (mean 37.96 Mbit/s)
Flow 3 ingress (mean 36.44 Mbit/s) — Flow 3 egress (mean 36.45 Mbit/s)

Flow 1 (95th percentile 50.78 ms) — Flow 2 (95th percentile 51.52 ms) — Flow 3 (95th percentile 51.51 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-19 01:26:04
End at: 2017-09-19 01:26:34


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.29 Mbit/s
95th percentile per-packet one-way delay: 51.616 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 45.50 Mbit/s
95th percentile per-packet one-way delay: 49.523 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 29.08 Mbit/s
95th percentile per-packet one-way delay: 51.705 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 16.87 Mbit/s
95th percentile per-packet one-way delay: 50.667 ms
Loss rate: 0.01%
```
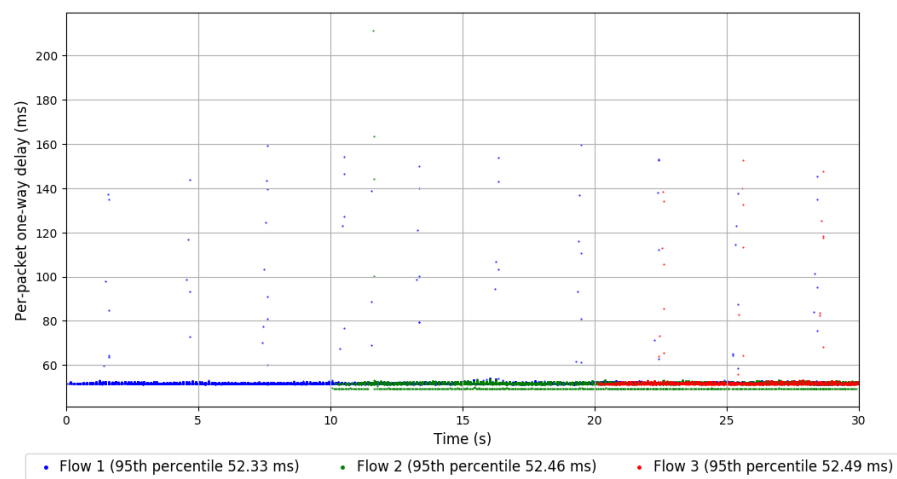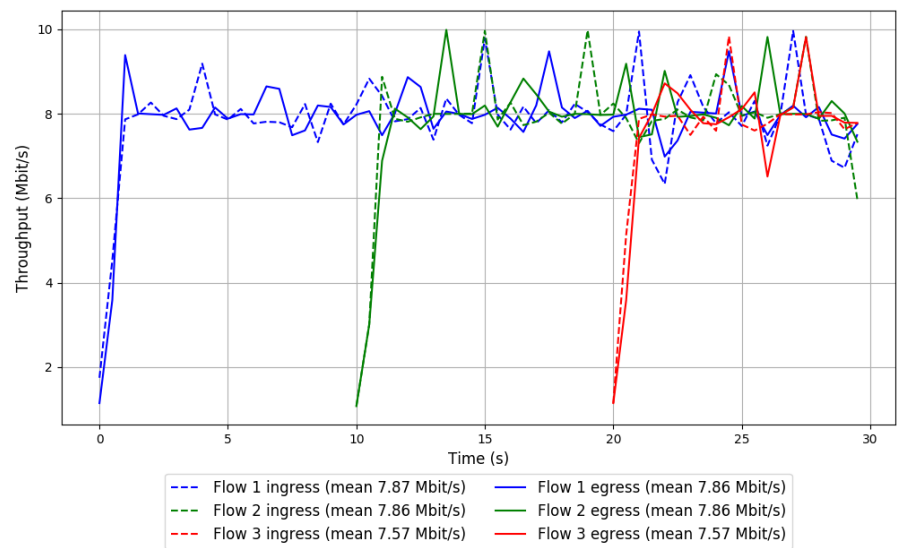
Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 45.50 Mbit/s) — Flow 1 egress (mean 45.50 Mbit/s)
Flow 2 ingress (mean 29.08 Mbit/s) — Flow 2 egress (mean 29.08 Mbit/s)
Flow 3 ingress (mean 16.86 Mbit/s) — Flow 3 egress (mean 16.87 Mbit/s)

Flow 1 (95th percentile 49.52 ms)   Flow 2 (95th percentile 51.70 ms)   Flow 3 (95th percentile 50.67 ms)

123

```
Run 1: Statistics of Sprout

Start at: 2017-09-19 00:11:17
End at: 2017-09-19 00:11:47


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.56 Mbit/s
95th percentile per-packet one-way delay: 52.409 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 52.388 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 52.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 52.416 ms
Loss rate: 0.00%
```
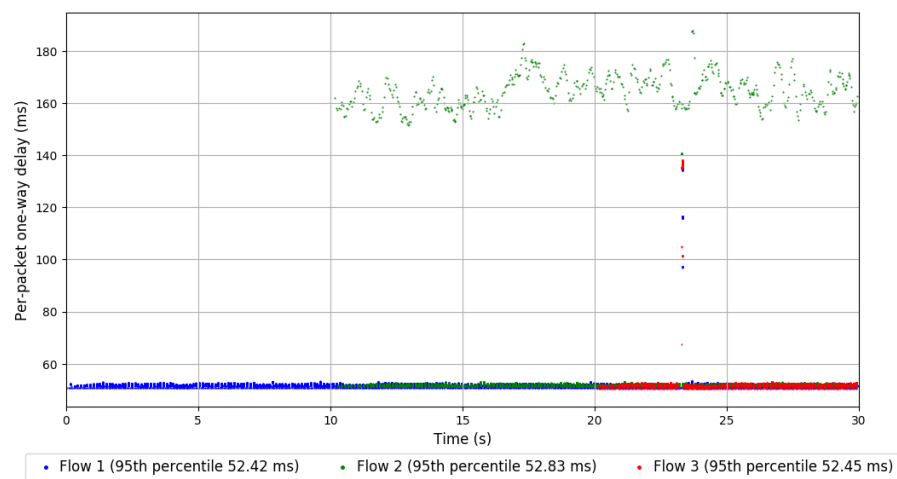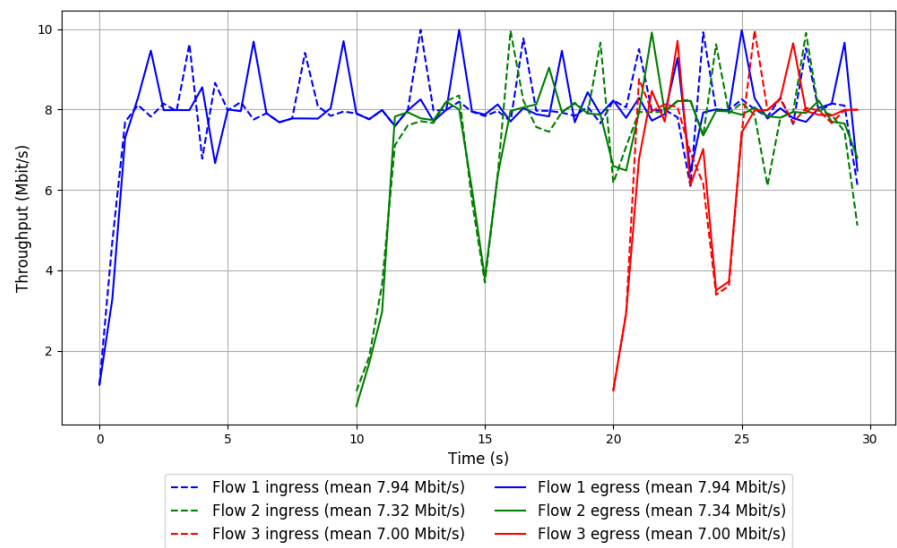
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-09-19 00:20:09
End at: 2017-09-19 00:20:39


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 52.413 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 52.331 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 52.464 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 52.490 ms
Loss rate: 0.00%
```
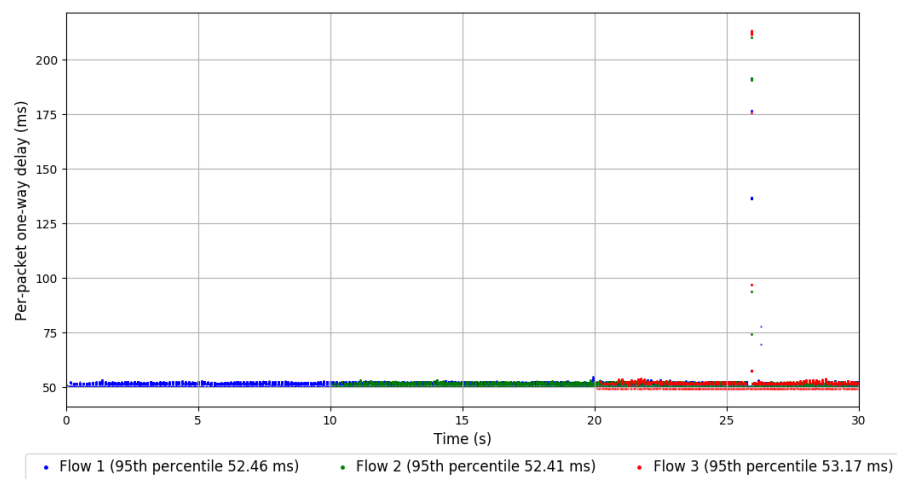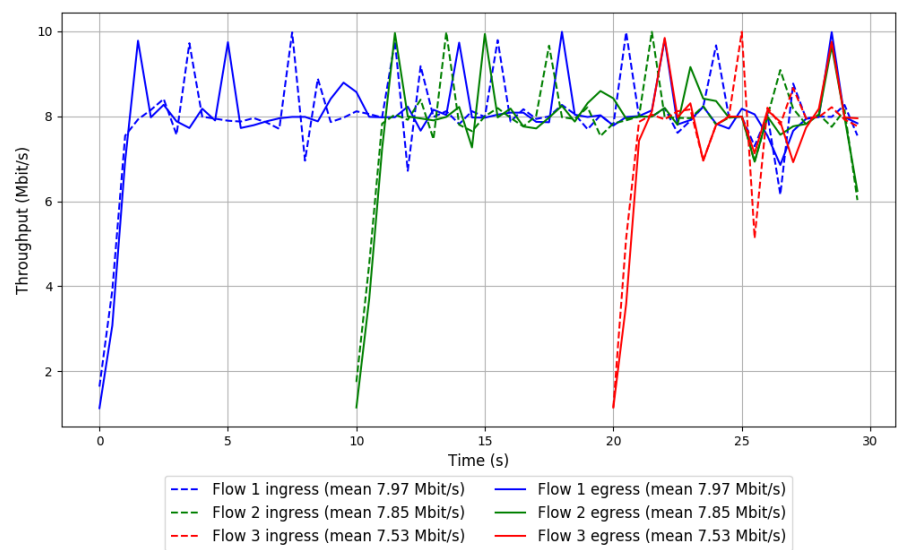
Run 2: Report of Sprout — Data Link

Flow 1 ingress (mean 7.87 Mbit/s) --- Flow 1 egress (mean 7.86 Mbit/s)
Flow 2 ingress (mean 7.86 Mbit/s) --- Flow 2 egress (mean 7.86 Mbit/s)
Flow 3 ingress (mean 7.57 Mbit/s) --- Flow 3 egress (mean 7.57 Mbit/s)

Flow 1 (95th percentile 52.33 ms) Flow 2 (95th percentile 52.46 ms) Flow 3 (95th percentile 52.49 ms)

127

```
Run 3: Statistics of Sprout

Start at: 2017-09-19 00:28:57
End at: 2017-09-19 00:29:27


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.10 Mbit/s
95th percentile per-packet one-way delay: 52.481 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 52.424 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 7.34 Mbit/s
95th percentile per-packet one-way delay: 52.829 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 52.455 ms
Loss rate: 0.00%
```
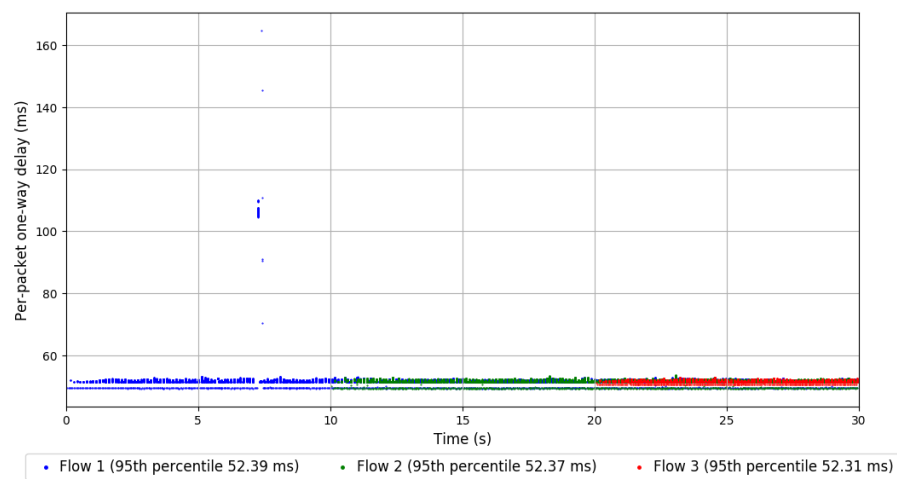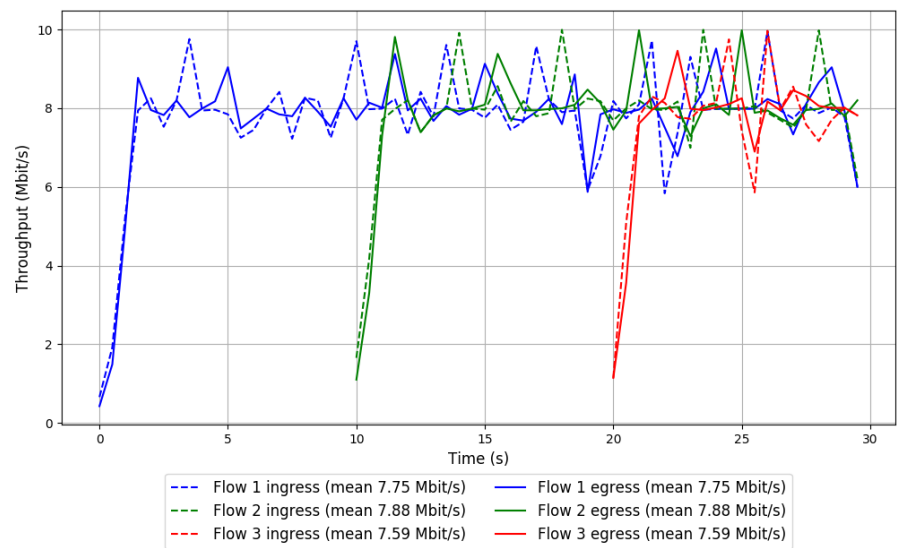
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-09-19 00:37:55
End at: 2017-09-19 00:38:25


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 52.557 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 52.464 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 52.412 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 53.169 ms
Loss rate: 0.00%
```
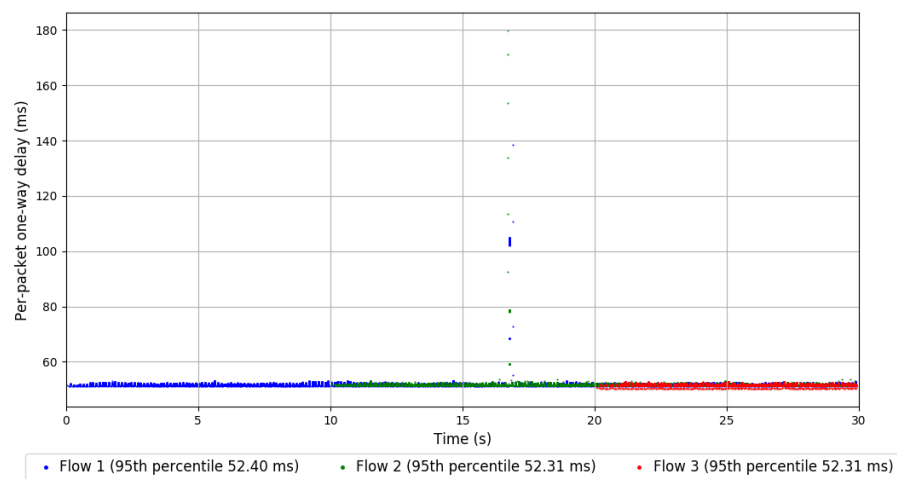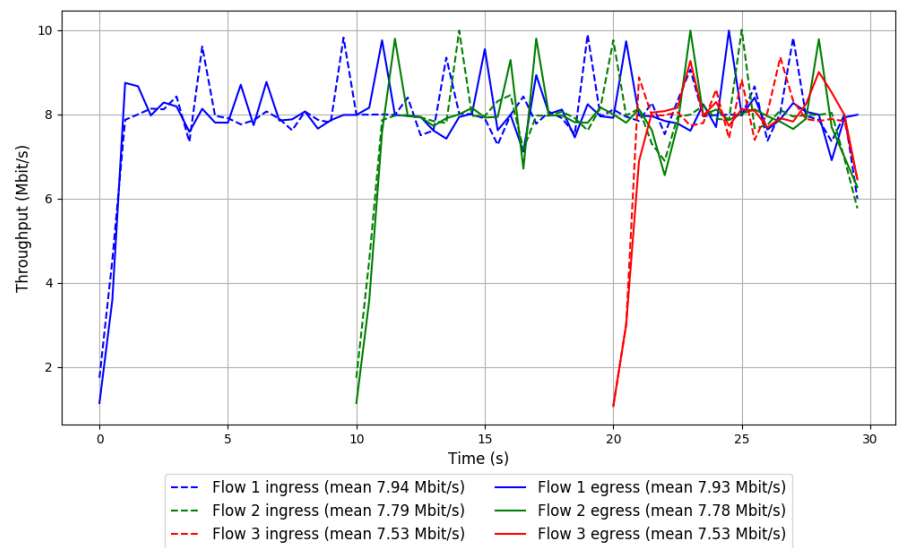
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-09-19 00:46:43
End at: 2017-09-19 00:47:13


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.50 Mbit/s
95th percentile per-packet one-way delay: 52.366 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 52.388 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 52.374 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 52.313 ms
Loss rate: 0.00%
```
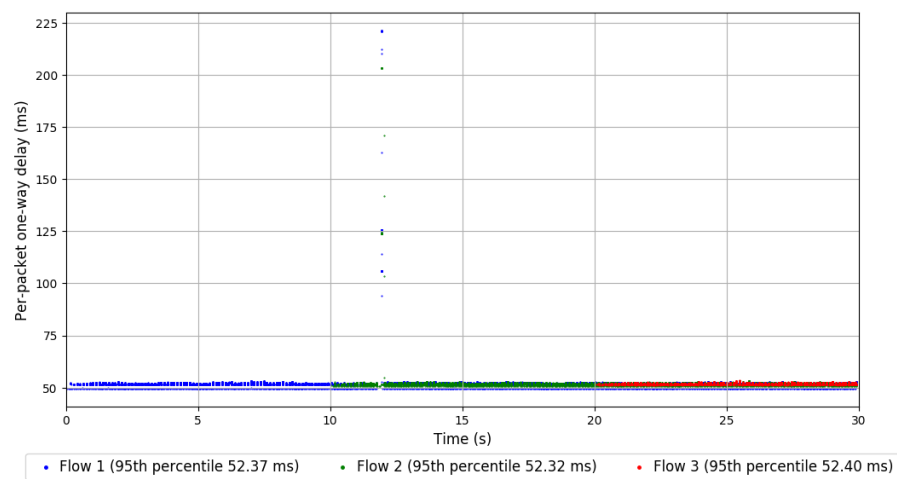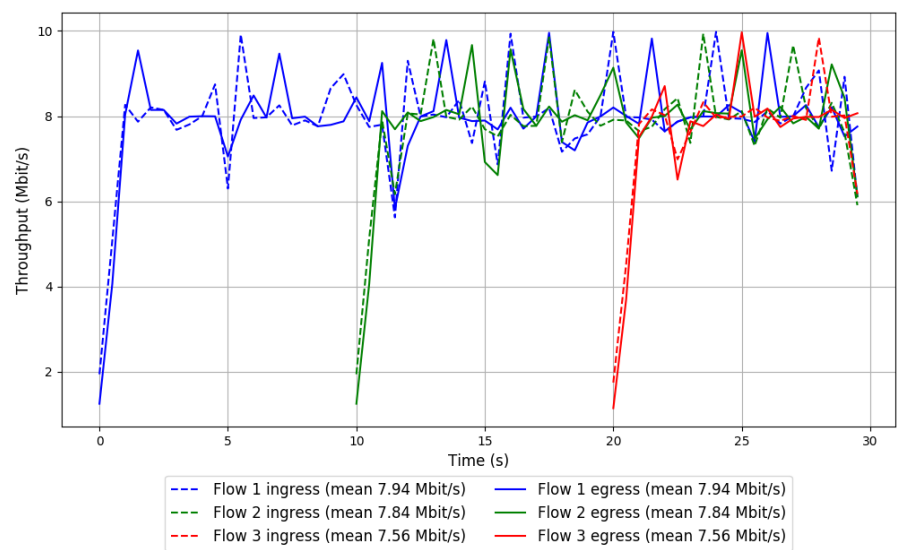
Run 5: Report of Sprout — Data Link

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```
Run 6: Statistics of Sprout

Start at: 2017-09-19 00:55:34
End at: 2017-09-19 00:56:04


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.59 Mbit/s
95th percentile per-packet one-way delay: 52.361 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 52.399 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 52.312 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 52.310 ms
Loss rate: 0.00%
```
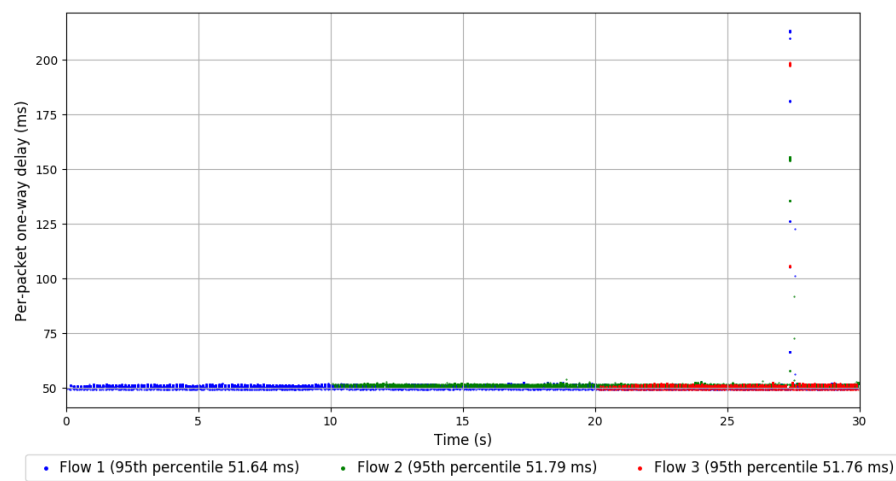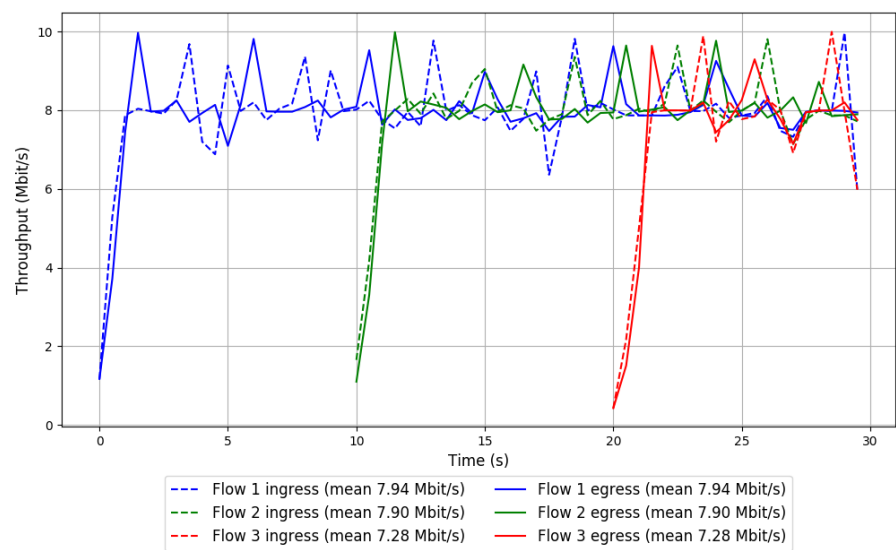
Run 6: Report of Sprout — Data Link

Flow 1 ingress (mean 7.94 Mbit/s)   Flow 1 egress (mean 7.93 Mbit/s)
Flow 2 ingress (mean 7.79 Mbit/s)   Flow 2 egress (mean 7.78 Mbit/s)
Flow 3 ingress (mean 7.53 Mbit/s)   Flow 3 egress (mean 7.53 Mbit/s)

Flow 1 (95th percentile 52.40 ms)   Flow 2 (95th percentile 52.31 ms)   Flow 3 (95th percentile 52.31 ms)

```
Run 7: Statistics of Sprout

Start at: 2017-09-19 01:04:39
End at: 2017-09-19 01:05:09


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.64 Mbit/s
95th percentile per-packet one-way delay: 52.361 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 52.370 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 52.323 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 52.403 ms
Loss rate: 0.00%
```
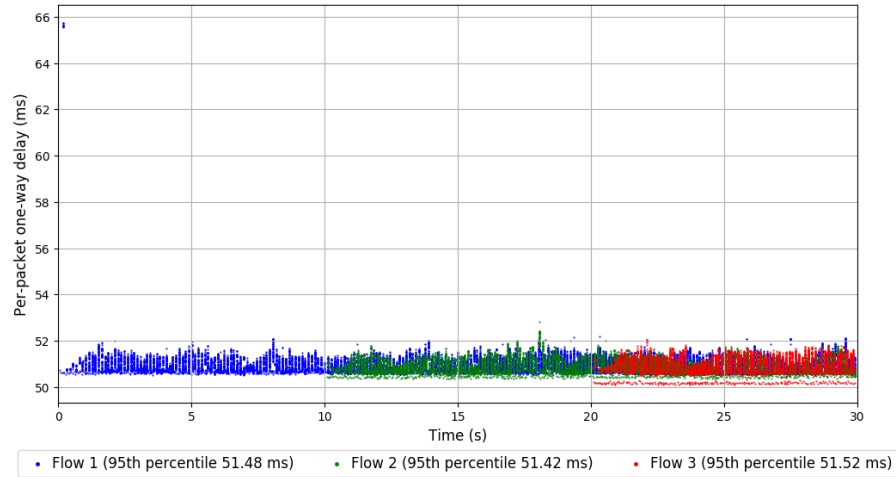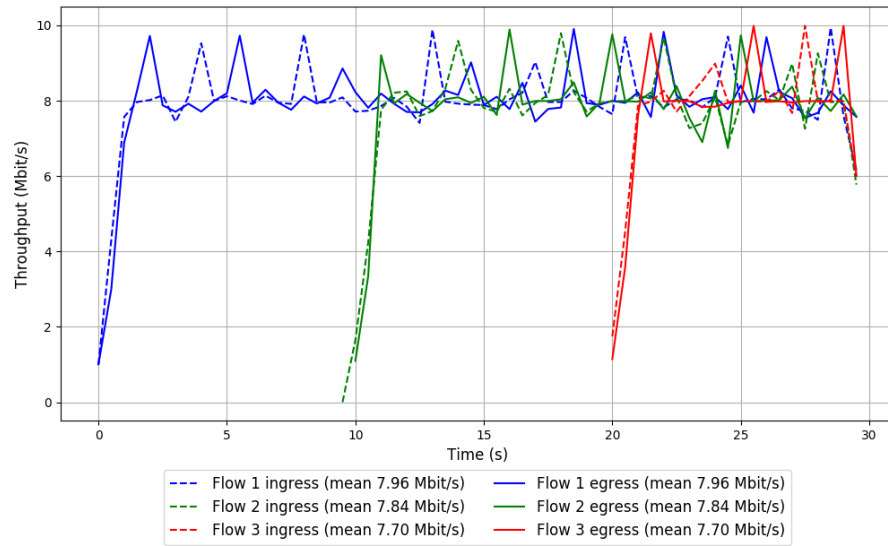
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-09-19 01:13:23
End at: 2017-09-19 01:13:53


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 51.702 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 51.637 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 51.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 51.761 ms
Loss rate: 0.00%
```
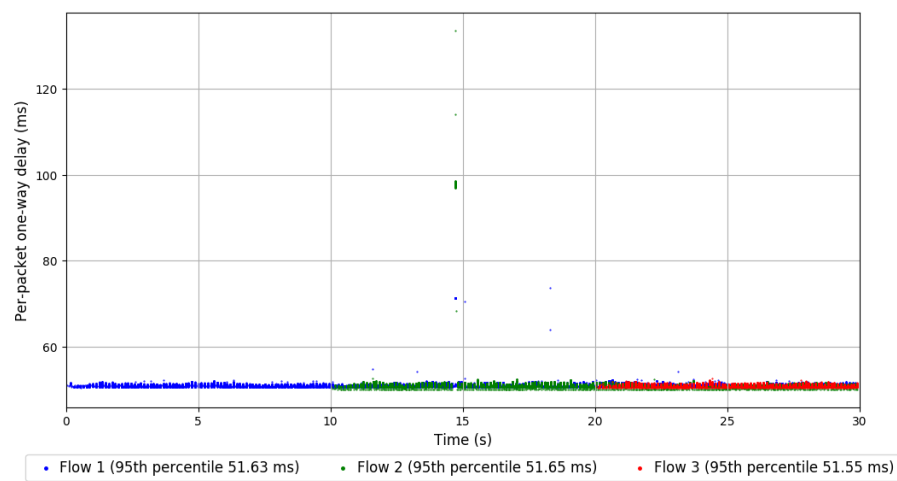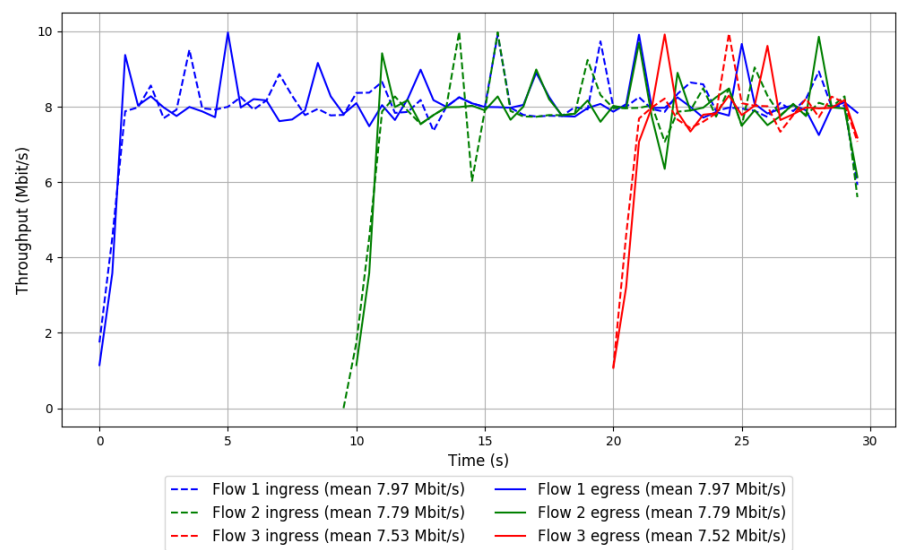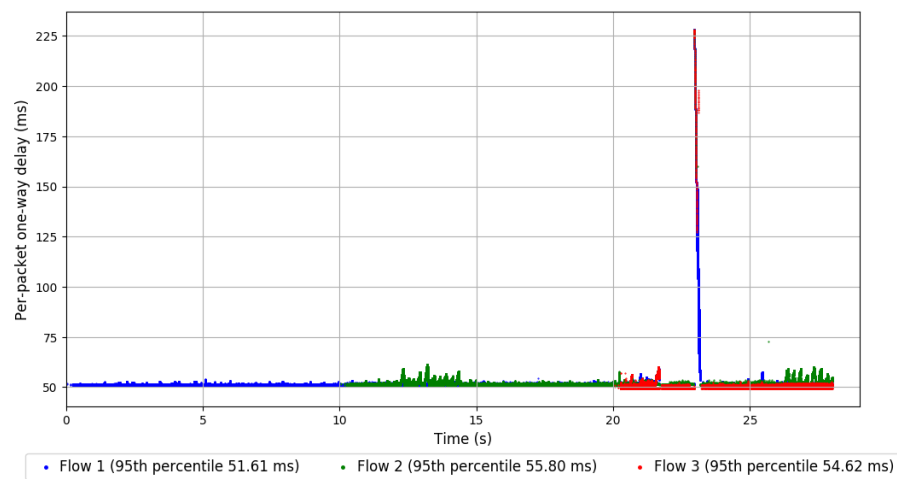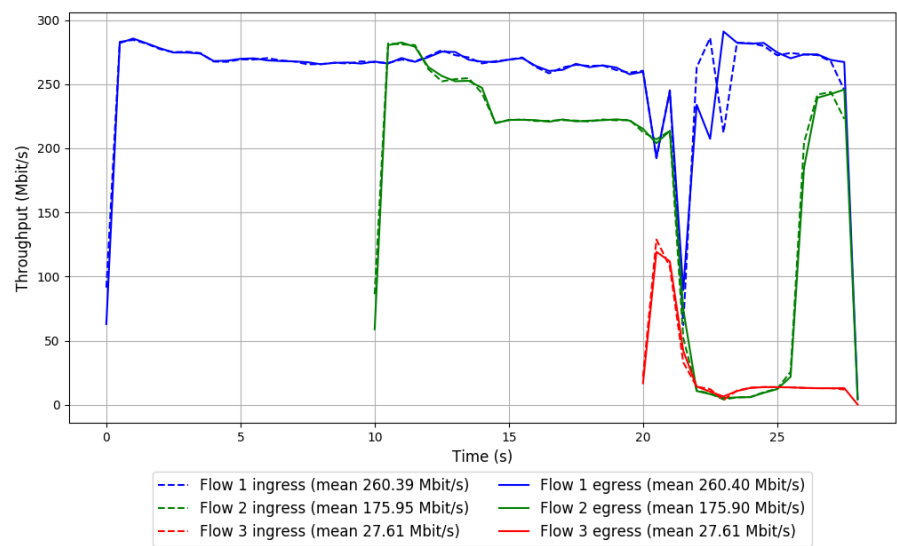
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-09-19 01:22:34
End at: 2017-09-19 01:23:04


# Below is generated by plot.py at 2017-09-19 03:33:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.71 Mbit/s
95th percentile per-packet one-way delay: 51.473 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 51.478 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 51.422 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 51.520 ms
Loss rate: 0.00%
```
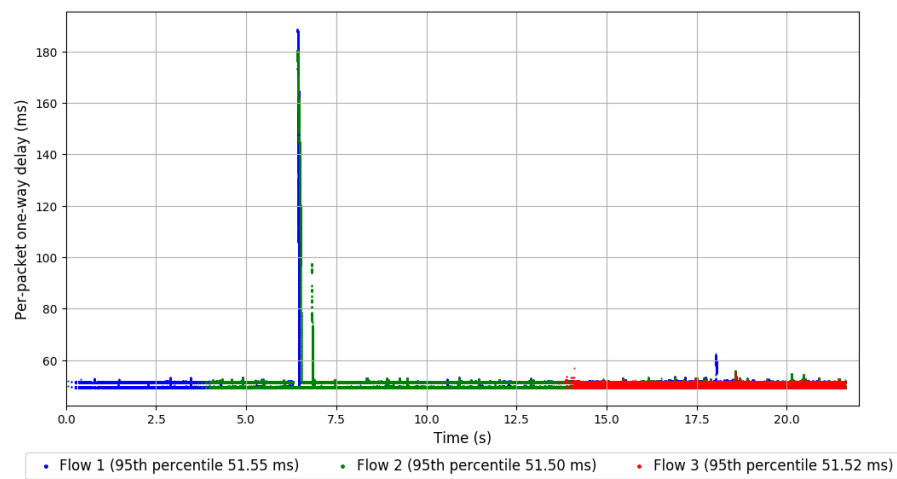
Run 9: Report of Sprout — Data Link

Run 10: Statistics of Sprout

Start at: 2017-09-19 01:31:36
End at: 2017-09-19 01:32:06

Below is generated by plot.py at 2017-09-19 03:33:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.64 Mbit/s
95th percentile per-packet one-way delay: 51.628 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 51.627 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 51.650 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 51.552 ms
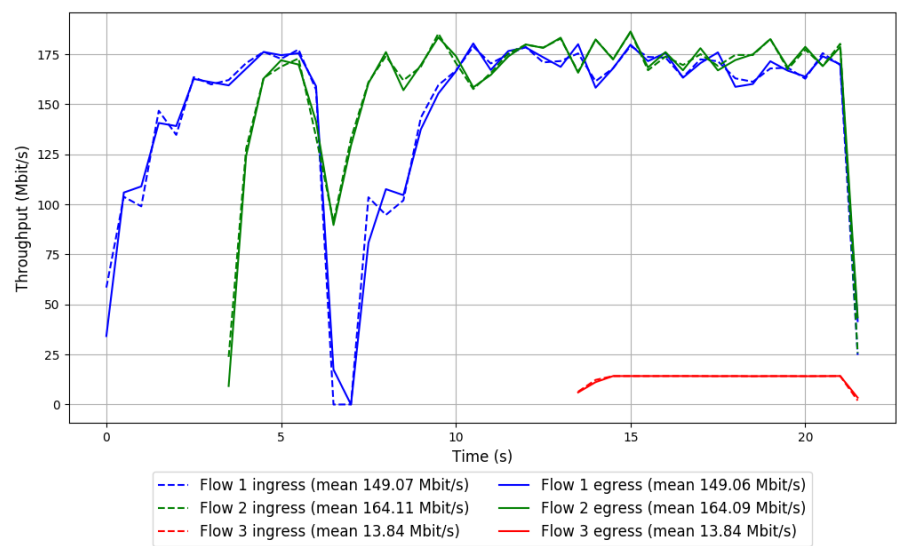Loss rate: 0.10%

Run 10: Report of Sprout — Data Link

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

Start at: 2017-09-19 00:06:26
End at: 2017-09-19 00:06:56

# Below is generated by plot.py at 2017-09-19 03:40:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.13 Mbit/s
95th percentile per-packet one-way delay: 53.252 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 260.40 Mbit/s
95th percentile per-packet one-way delay: 51.607 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 175.90 Mbit/s
95th percentile per-packet one-way delay: 55.802 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 54.617 ms
Loss rate: 0.00%
```

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

Run 2: Statistics of TaoVA-100x

Start at: 2017-09-19 00:15:36
End at: 2017-09-19 00:16:06
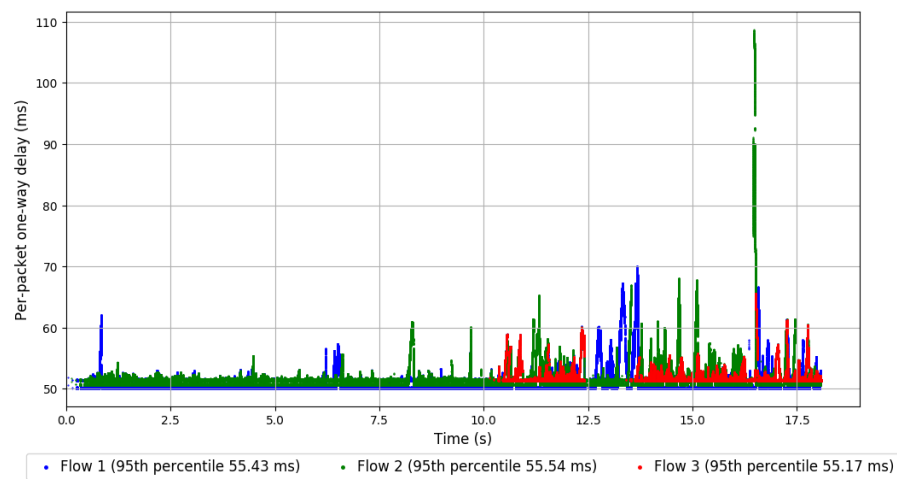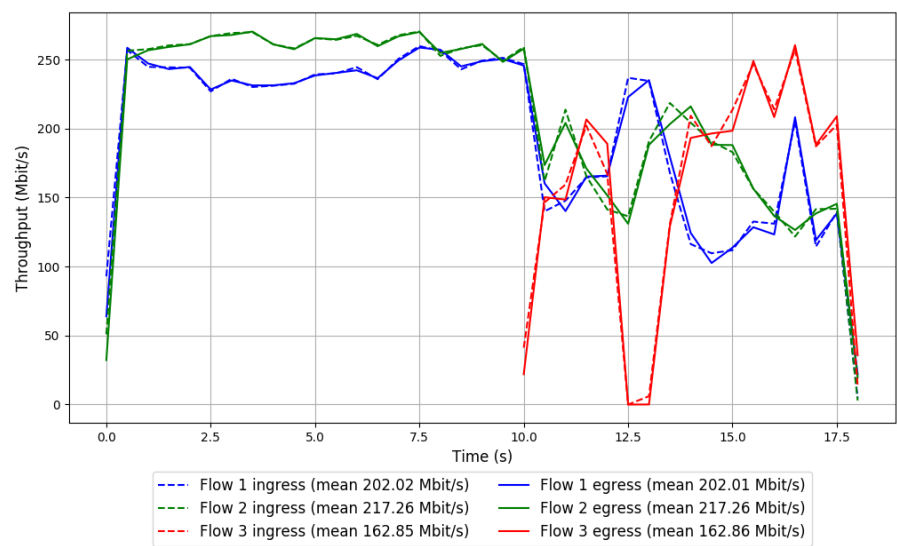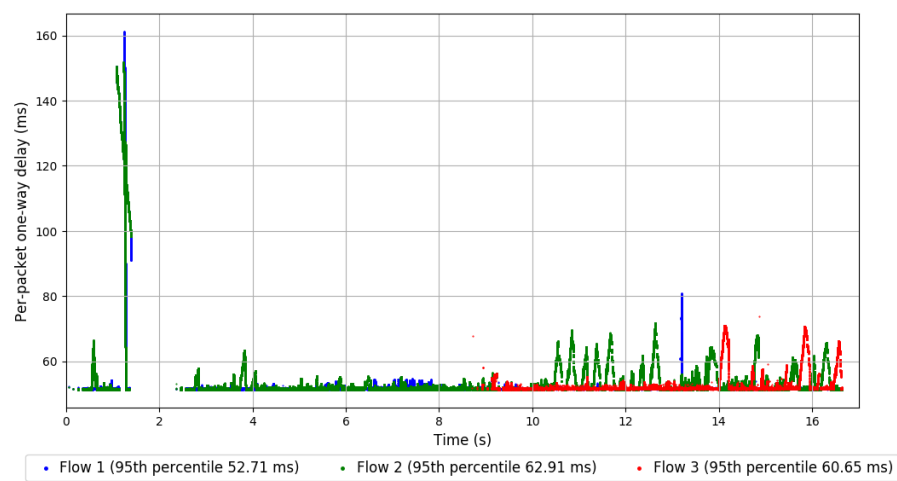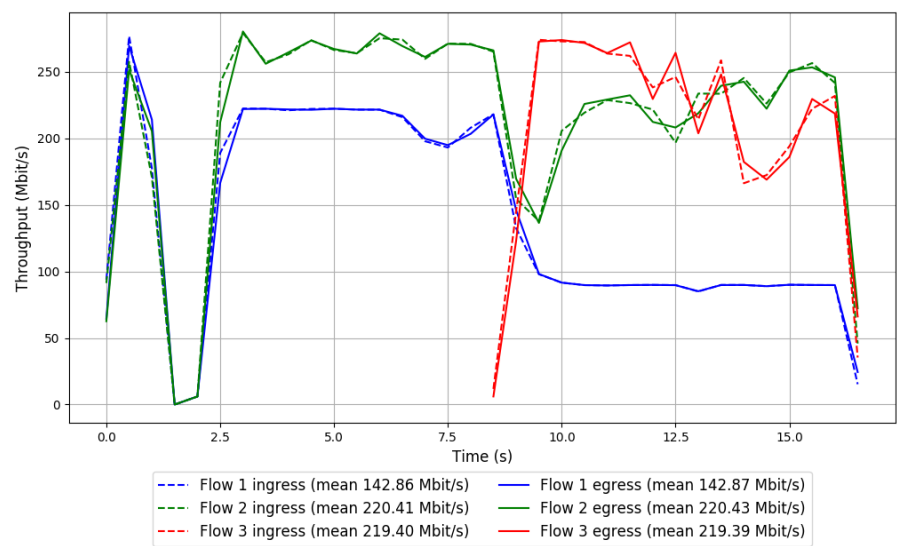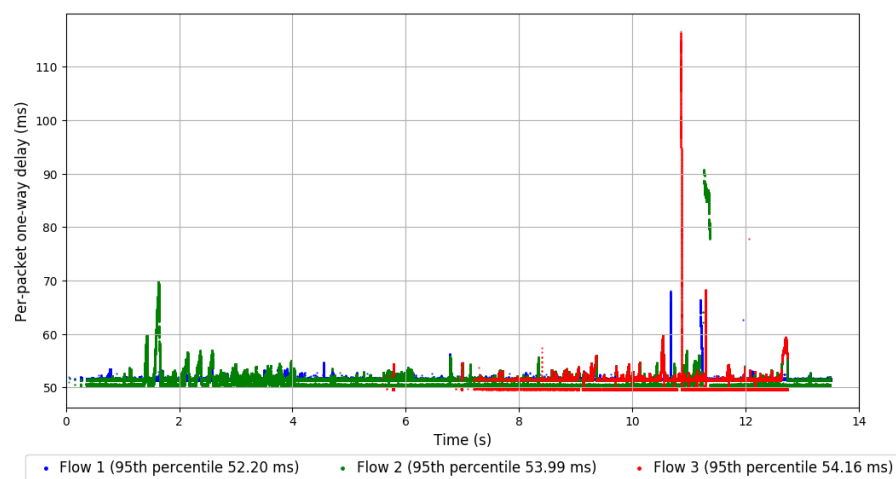
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 149.07 Mbit/s) --- Flow 1 egress (mean 149.06 Mbit/s)
Flow 2 ingress (mean 164.11 Mbit/s) --- Flow 2 egress (mean 164.09 Mbit/s)
Flow 3 ingress (mean 13.84 Mbit/s) --- Flow 3 egress (mean 13.84 Mbit/s)

Flow 1 (95th percentile 51.55 ms)   Flow 2 (95th percentile 51.50 ms)   Flow 3 (95th percentile 51.52 ms)

Run 3: Statistics of TaoVA-100x

Start at: 2017-09-19 00:24:21
End at: 2017-09-19 00:24:51

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

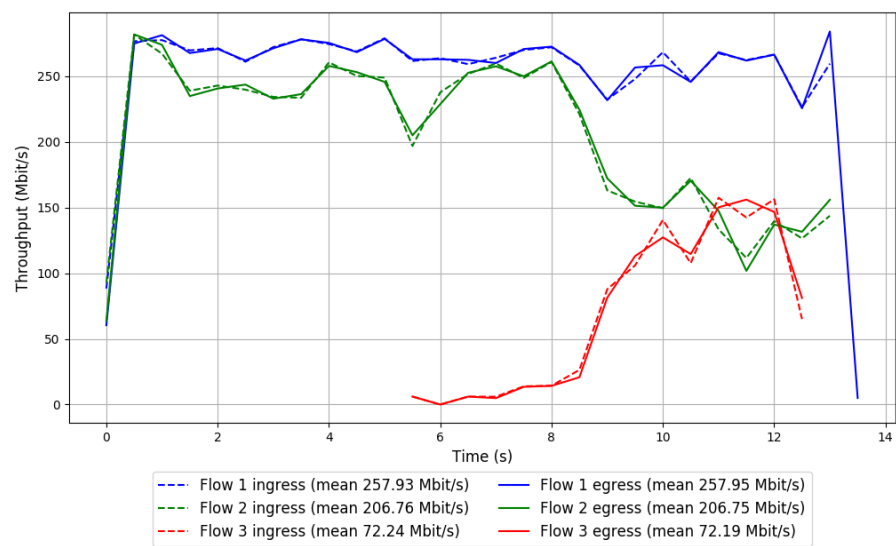Flow 1 ingress (mean 152.21 Mbit/s)   Flow 1 egress (mean 151.61 Mbit/s)
Flow 2 ingress (mean 210.52 Mbit/s)   Flow 2 egress (mean 210.52 Mbit/s)
Flow 3 ingress (mean 153.32 Mbit/s)   Flow 3 egress (mean 152.15 Mbit/s)

Flow 1 (95th percentile 57.09 ms)   Flow 2 (95th percentile 54.29 ms)   Flow 3 (95th percentile 54.95 ms)

Run 4: Statistics of TaoVA-100x

Start at: 2017-09-19 00:33:11
End at: 2017-09-19 00:33:41

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

Run 5: Statistics of TaoVA-100x

Start at: 2017-09-19 00:42:06
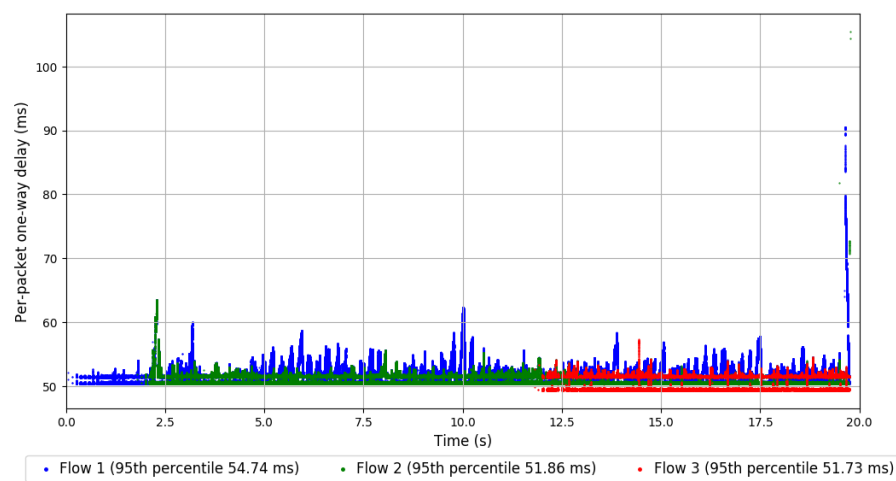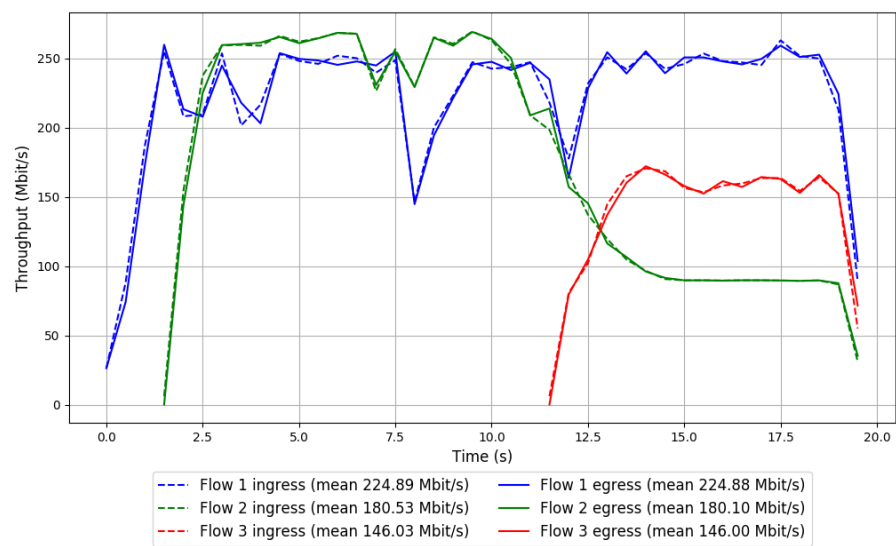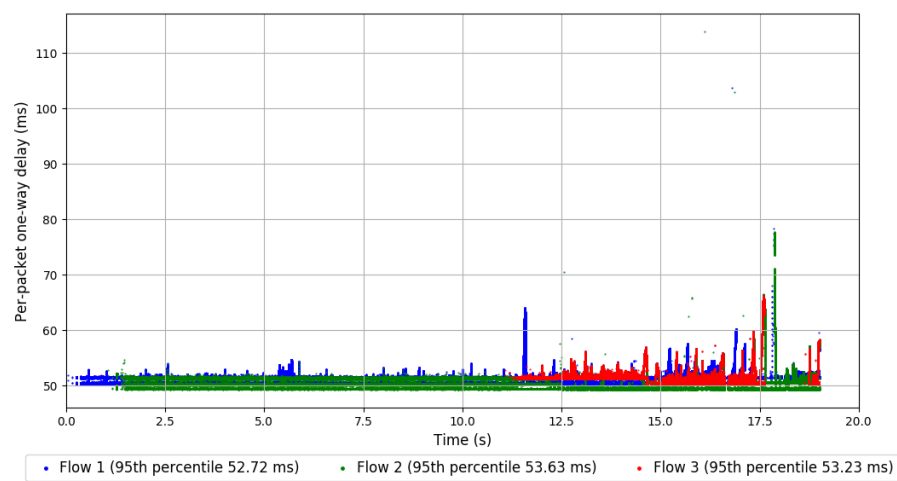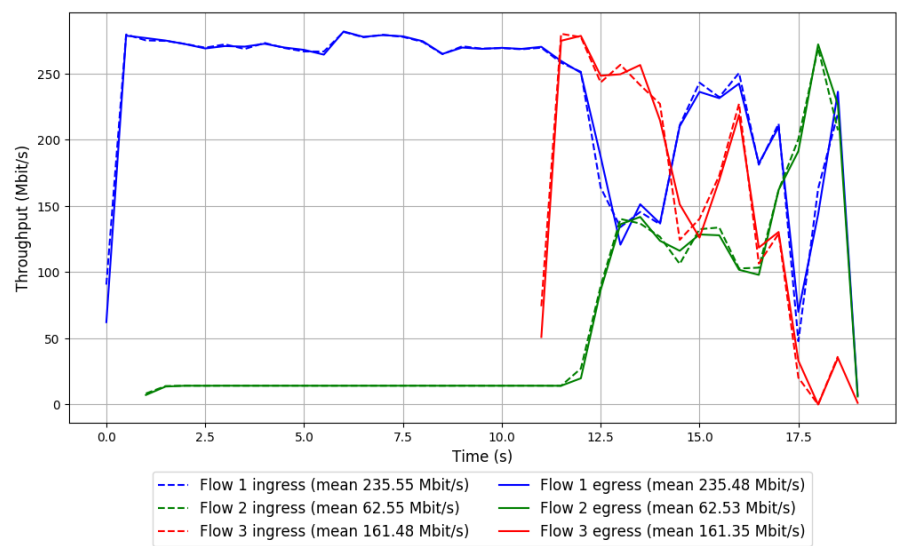End at: 2017-09-19 00:42:36

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

Flow 1 ingress (mean 142.86 Mbit/s) --- Flow 1 egress (mean 142.87 Mbit/s)
Flow 2 ingress (mean 220.41 Mbit/s) --- Flow 2 egress (mean 220.43 Mbit/s)
Flow 3 ingress (mean 219.40 Mbit/s) --- Flow 3 egress (mean 219.39 Mbit/s)

Flow 1 (95th percentile 52.71 ms)   Flow 2 (95th percentile 62.91 ms)   Flow 3 (95th percentile 60.65 ms)

Run 6: Statistics of TaoVA-100x

Start at: 2017-09-19 00:50:54
End at: 2017-09-19 00:51:24

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

Flow 1 ingress (mean 257.93 Mbit/s) --- Flow 1 egress (mean 257.95 Mbit/s)
Flow 2 ingress (mean 206.76 Mbit/s) --- Flow 2 egress (mean 206.75 Mbit/s)
Flow 3 ingress (mean 72.24 Mbit/s) --- Flow 3 egress (mean 72.19 Mbit/s)

Flow 1 (95th percentile 52.20 ms)   Flow 2 (95th percentile 53.99 ms)   Flow 3 (95th percentile 54.16 ms)

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Run 7: Statistics of TaoVA-100x

Start at: 2017-09-19 00:59:50
End at: 2017-09-19 01:00:20

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

Flow 1 ingress (mean 224.89 Mbit/s) --- Flow 1 egress (mean 224.88 Mbit/s)
Flow 2 ingress (mean 180.53 Mbit/s) --- Flow 2 egress (mean 180.10 Mbit/s)
Flow 3 ingress (mean 146.03 Mbit/s) --- Flow 3 egress (mean 146.00 Mbit/s)

Flow 1 (95th percentile 54.74 ms)   Flow 2 (95th percentile 51.86 ms)   Flow 3 (95th percentile 51.73 ms)
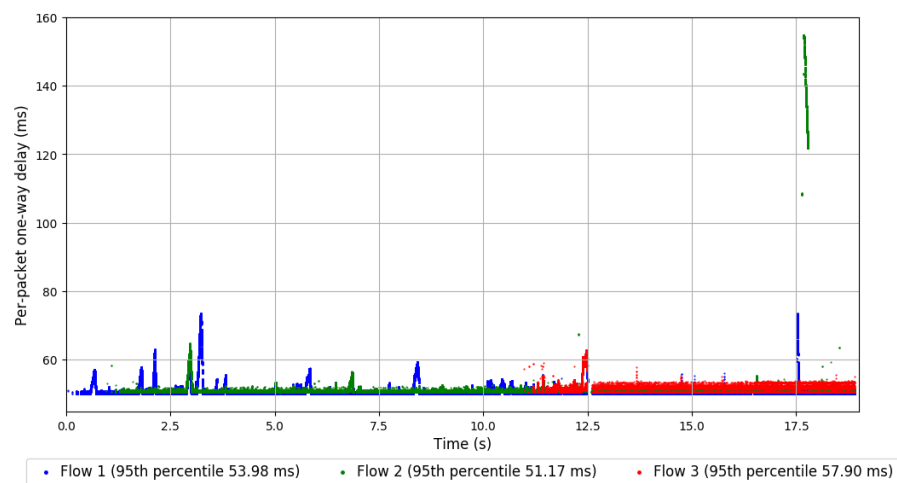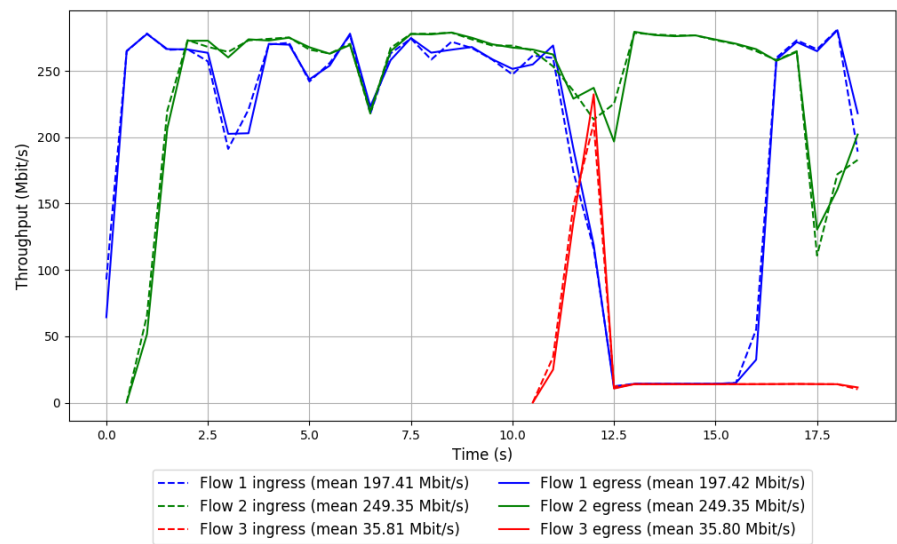
157

Run 8: Statistics of TaoVA-100x

Start at: 2017-09-19 01:08:50
End at: 2017-09-19 01:09:20

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

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

Start at: 2017-09-19 01:17:45
End at: 2017-09-19 01:18:15


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 427.19 Mbit/s
95th percentile per-packet one-way delay: 54.071 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 242.81 Mbit/s
95th percentile per-packet one-way delay: 55.582 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 195.51 Mbit/s
95th percentile per-packet one-way delay: 53.738 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 204.02 Mbit/s
95th percentile per-packet one-way delay: 51.873 ms
Loss rate: 0.01%
```
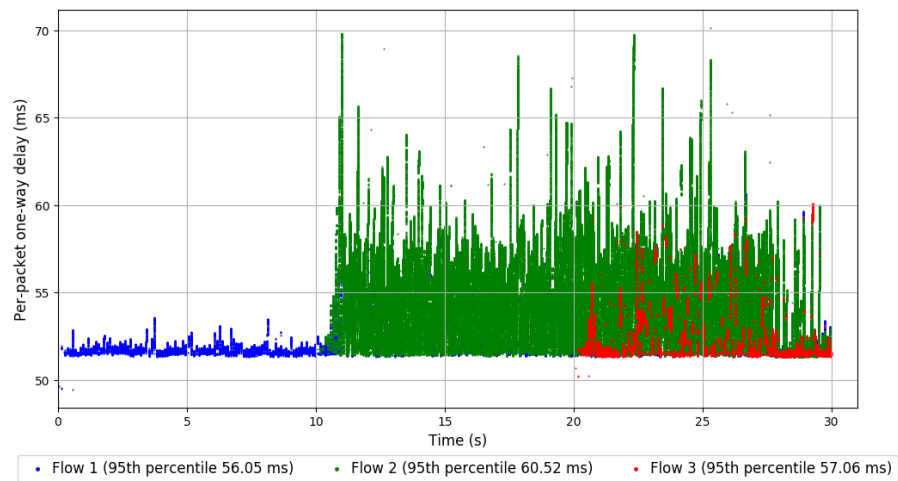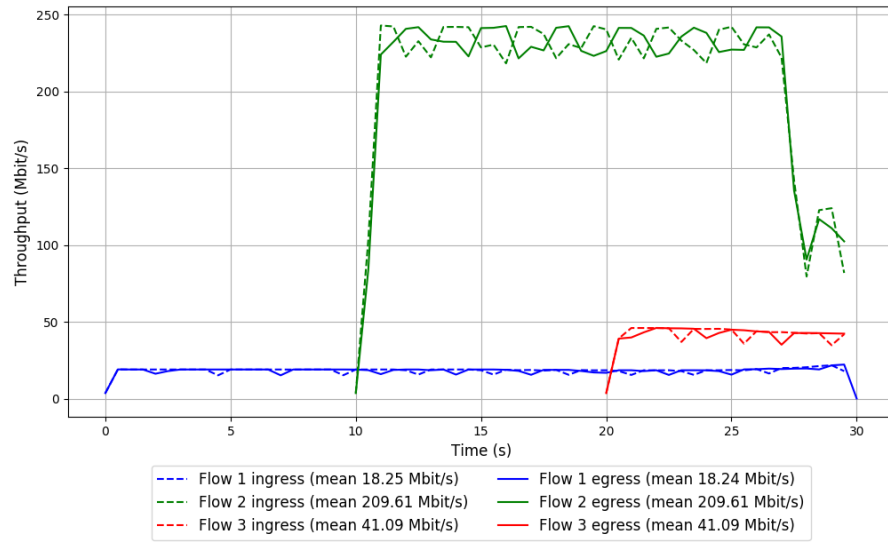
Run 9: Report of TaoVA-100x — Data Link

Run 10: Statistics of TaoVA-100x

Start at: 2017-09-19 01:26:48
End at: 2017-09-19 01:27:18

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

Flow 1 ingress (mean 197.41 Mbit/s)   Flow 1 egress (mean 197.42 Mbit/s)
Flow 2 ingress (mean 249.35 Mbit/s)   Flow 2 egress (mean 249.35 Mbit/s)
Flow 3 ingress (mean 35.81 Mbit/s)   Flow 3 egress (mean 35.80 Mbit/s)

Flow 1 (95th percentile 53.98 ms)   Flow 2 (95th percentile 51.17 ms)   Flow 3 (95th percentile 57.90 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-19 00:11:57
End at: 2017-09-19 00:12:27


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.20 Mbit/s
95th percentile per-packet one-way delay: 59.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 18.24 Mbit/s
95th percentile per-packet one-way delay: 56.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 209.61 Mbit/s
95th percentile per-packet one-way delay: 60.523 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 57.065 ms
Loss rate: 0.00%
```
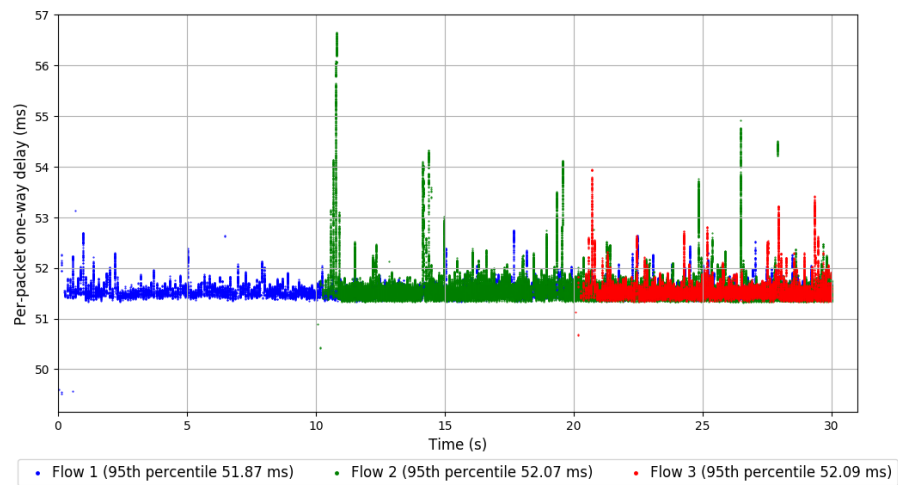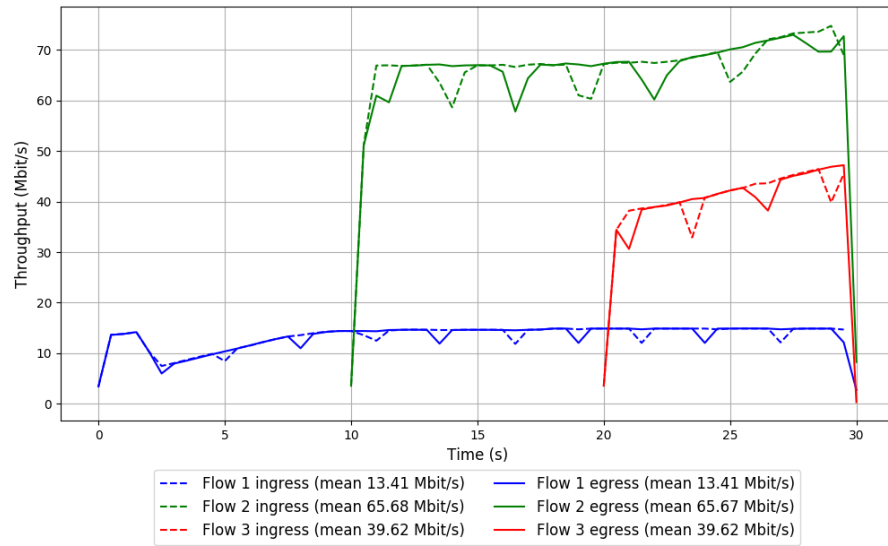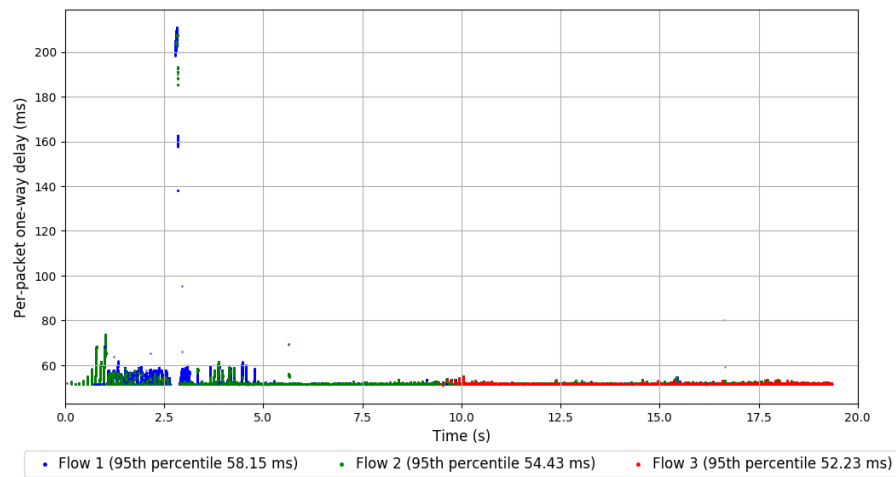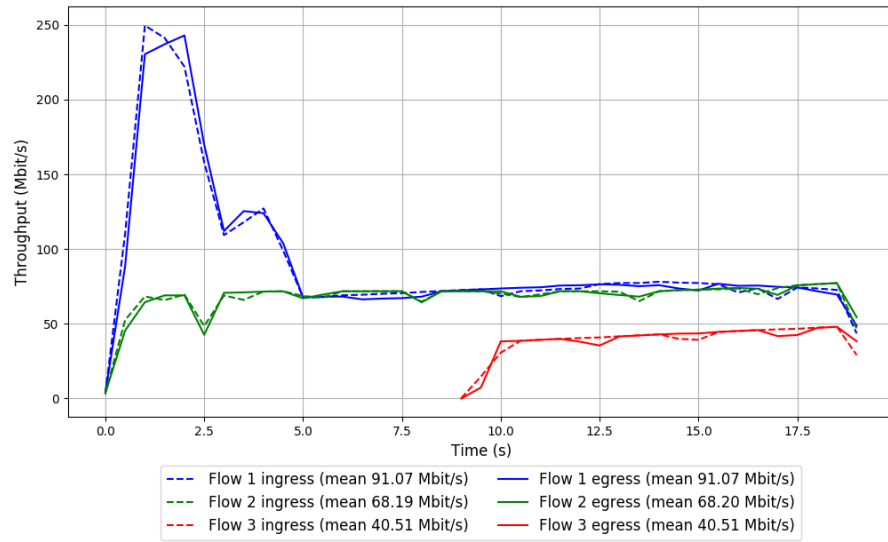
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-09-19 00:20:49
End at: 2017-09-19 00:21:19


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.27 Mbit/s
95th percentile per-packet one-way delay: 52.023 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 51.871 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.67 Mbit/s
95th percentile per-packet one-way delay: 52.068 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.62 Mbit/s
95th percentile per-packet one-way delay: 52.091 ms
Loss rate: 0.00%
```

Run 2: Report of TCP Vegas — Data Link

Run 3: Statistics of TCP Vegas

Start at: 2017-09-19 00:29:37
End at: 2017-09-19 00:30:07

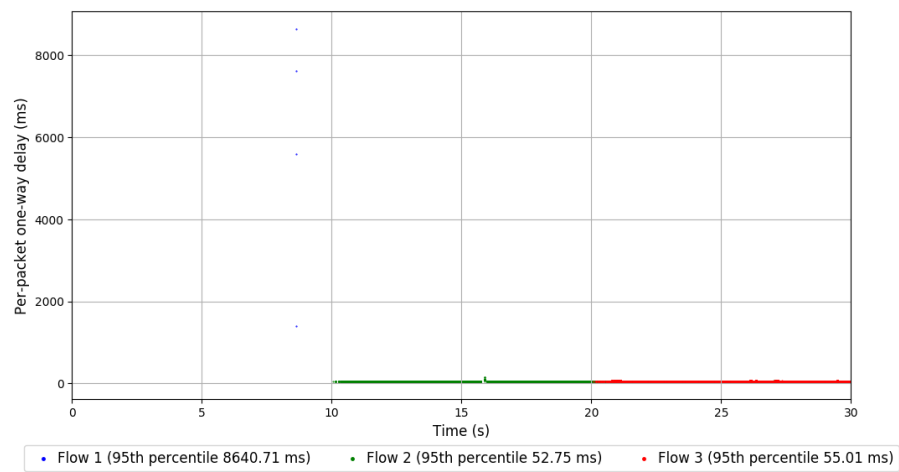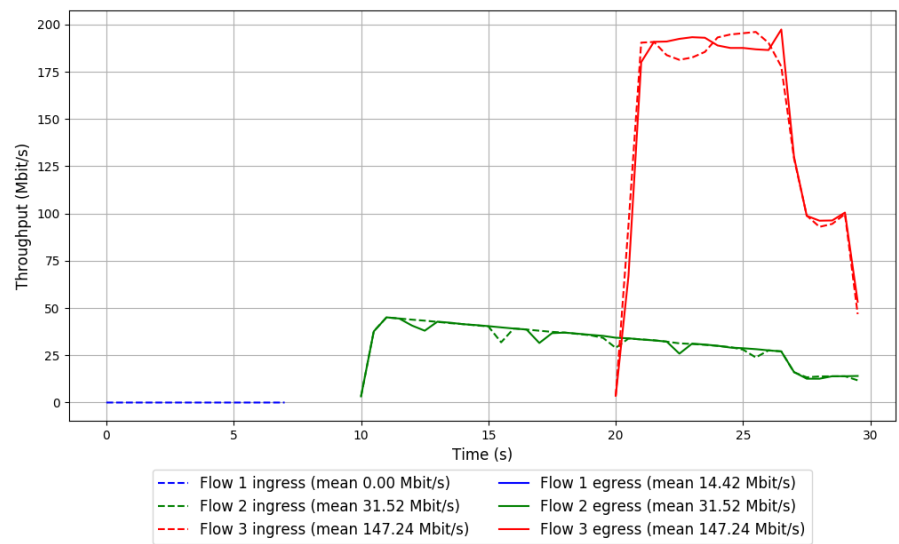## Run 3: Report of TCP Vegas — Data Link

Run 4: Statistics of TCP Vegas

Start at: 2017-09-19 00:38:35
End at: 2017-09-19 00:39:05
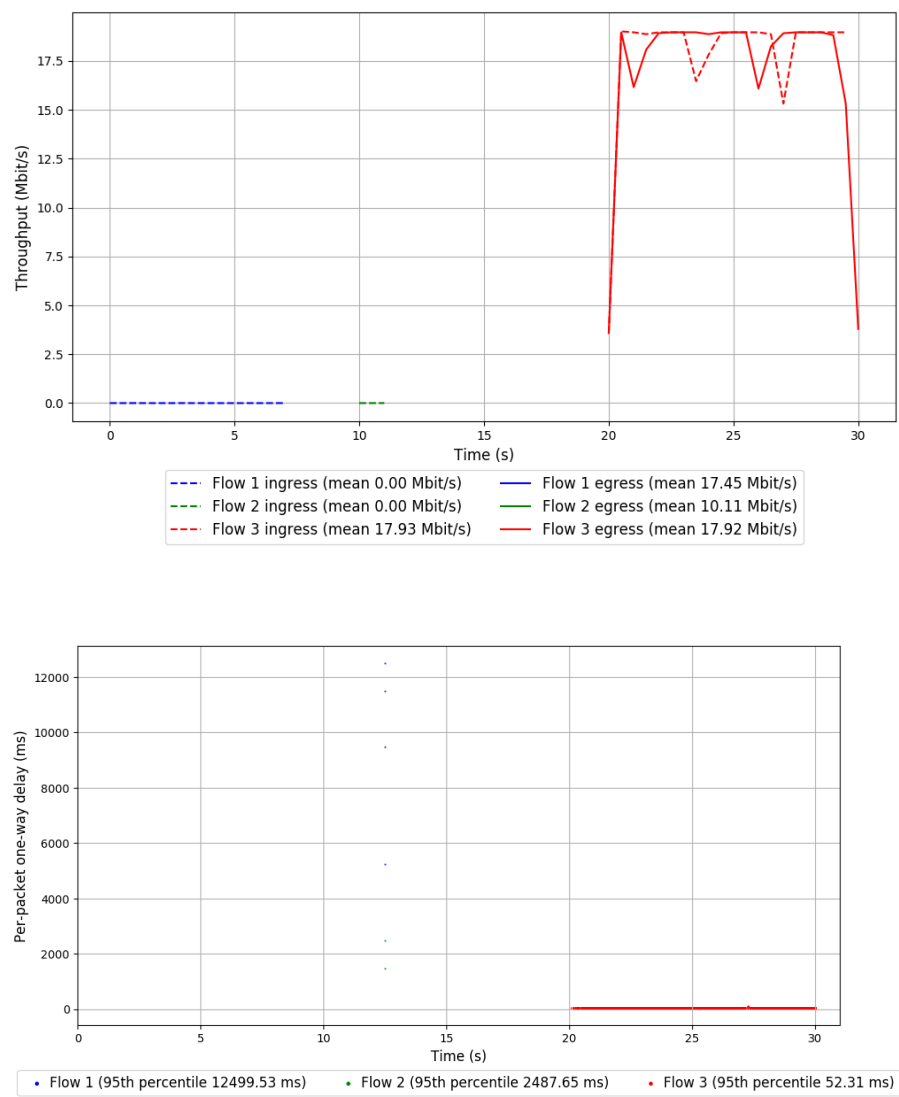
Run 4: Report of TCP Vegas — Data Link

Run 5: Statistics of TCP Vegas

Start at: 2017-09-19 00:47:23
End at: 2017-09-19 00:47:53

Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-19 00:56:14
End at: 2017-09-19 00:56:44

# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.34 Mbit/s
95th percentile per-packet one-way delay: 53.010 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 53.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 119.46 Mbit/s
95th percentile per-packet one-way delay: 53.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.28 Mbit/s
95th percentile per-packet one-way delay: 52.667 ms
Loss rate: 0.00%
```
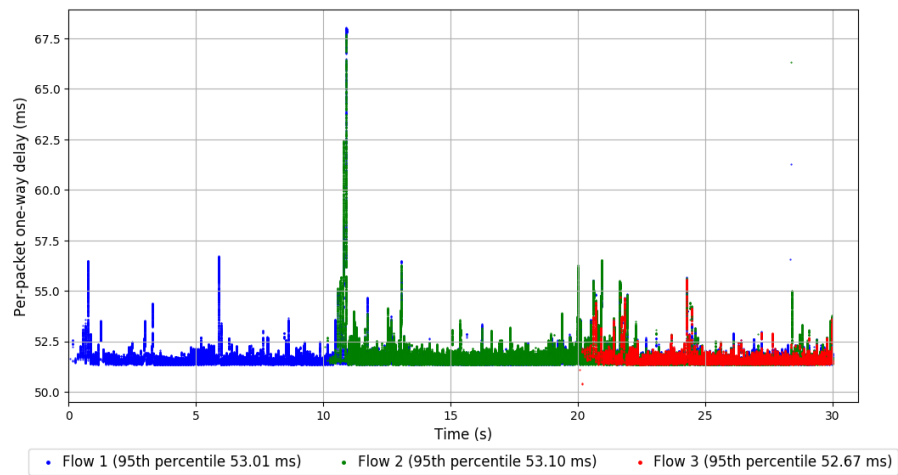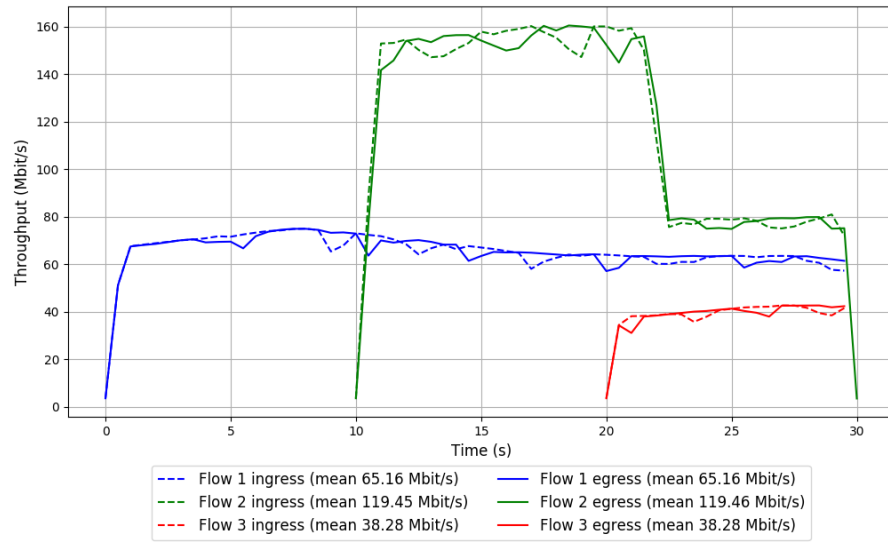
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-19 01:05:19
End at: 2017-09-19 01:05:49


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.98 Mbit/s
95th percentile per-packet one-way delay: 52.143 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 51.985 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 18.14 Mbit/s
95th percentile per-packet one-way delay: 52.282 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.99 Mbit/s
95th percentile per-packet one-way delay: 52.195 ms
Loss rate: 0.00%
```
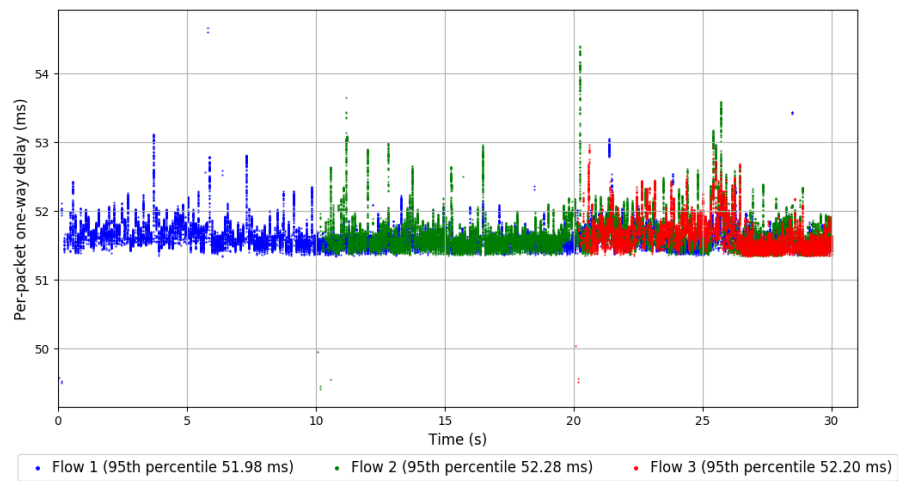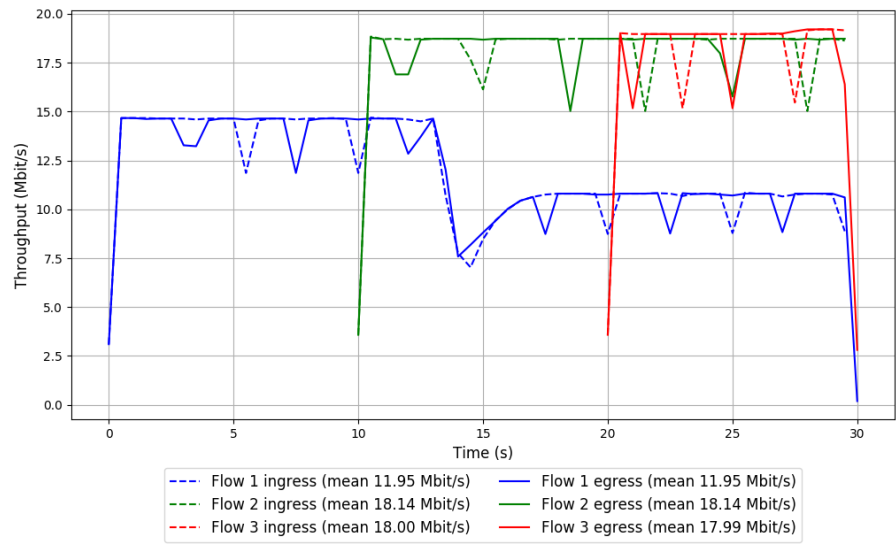
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-19 01:14:03
End at: 2017-09-19 01:14:33


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.50 Mbit/s
95th percentile per-packet one-way delay: 56.833 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 136.96 Mbit/s
95th percentile per-packet one-way delay: 54.512 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 61.091 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.91 Mbit/s
95th percentile per-packet one-way delay: 52.544 ms
Loss rate: 0.00%
```
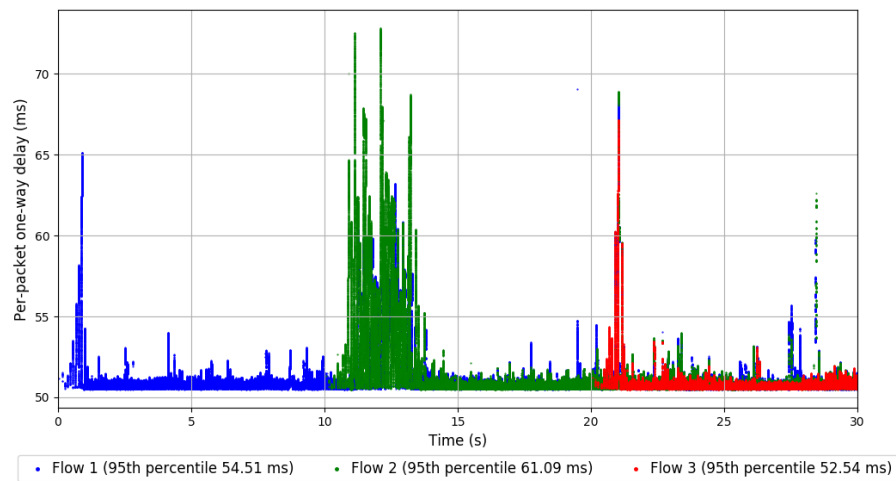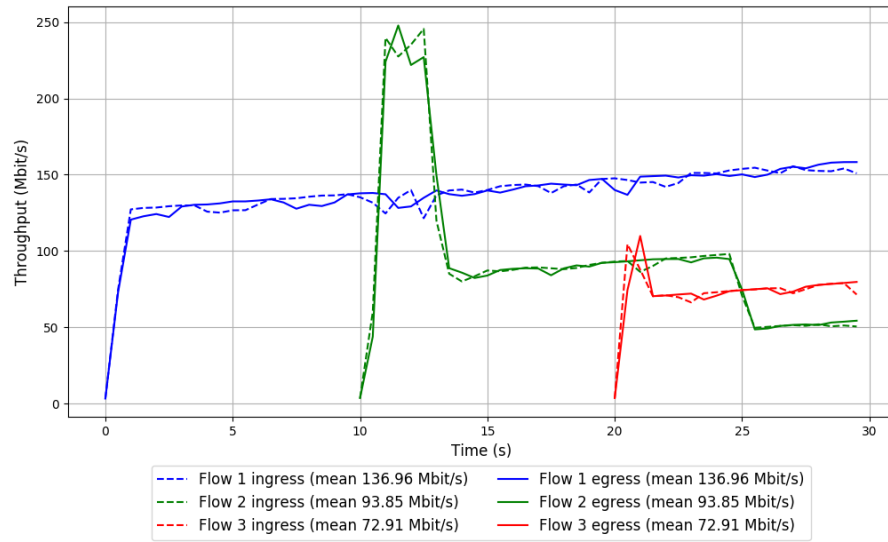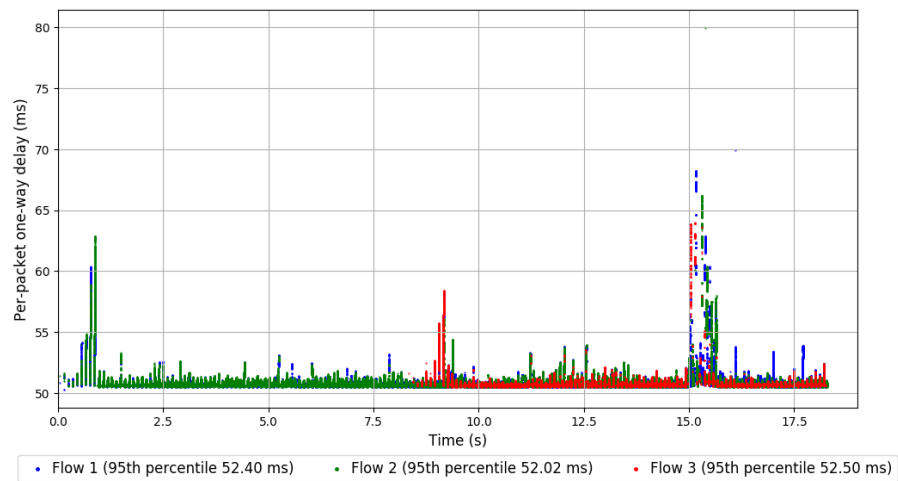
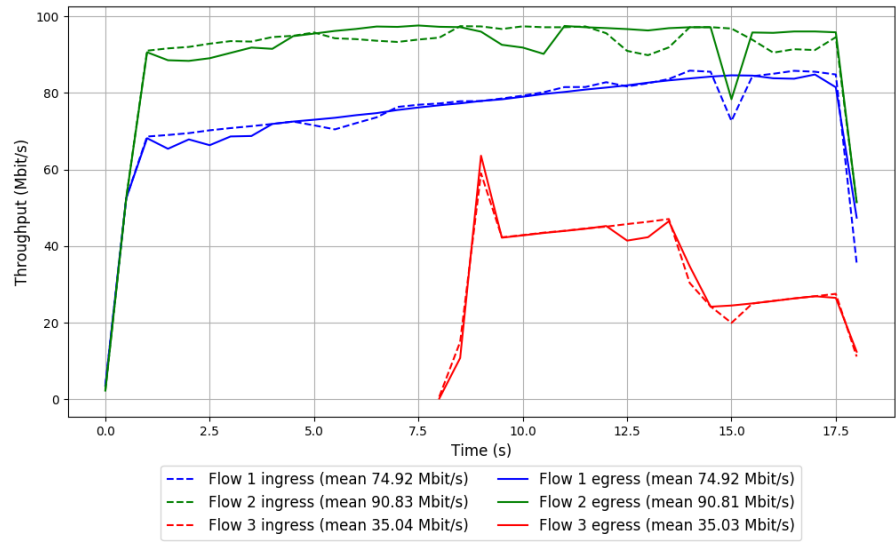Run 8: Report of TCP Vegas — Data Link

Run 9: Statistics of TCP Vegas

Start at: 2017-09-19 01:23:14
End at: 2017-09-19 01:23:44

Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-19 01:32:16
End at: 2017-09-19 01:32:46


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.92 Mbit/s
95th percentile per-packet one-way delay: 56.670 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 118.66 Mbit/s
95th percentile per-packet one-way delay: 57.675 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 138.60 Mbit/s
95th percentile per-packet one-way delay: 55.348 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 67.78 Mbit/s
95th percentile per-packet one-way delay: 51.403 ms
Loss rate: 0.01%
```
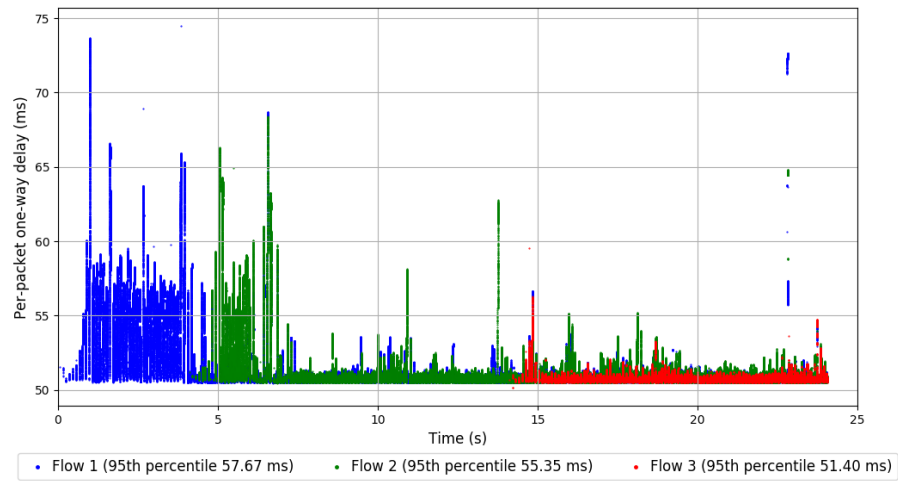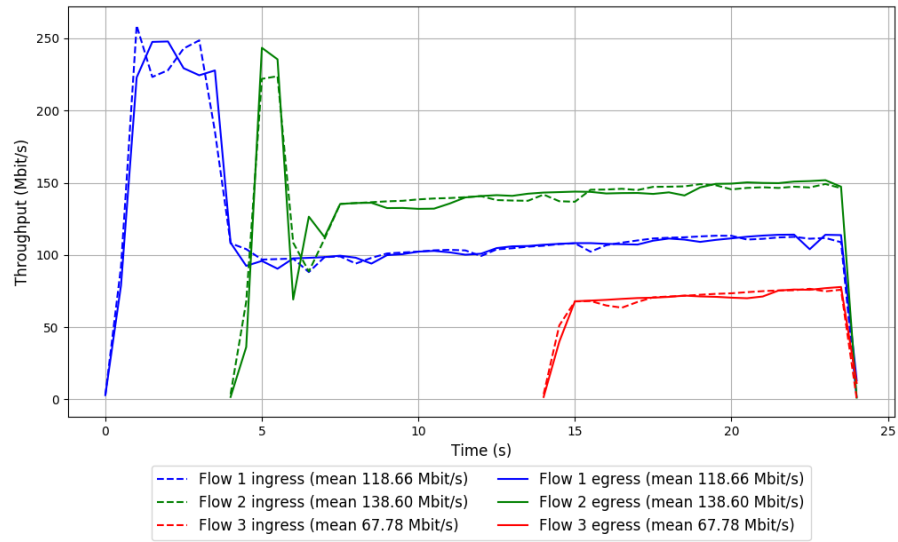
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 118.66 Mbit/s) ——— Flow 1 egress (mean 118.66 Mbit/s)
Flow 2 ingress (mean 138.60 Mbit/s) ——— Flow 2 egress (mean 138.60 Mbit/s)
Flow 3 ingress (mean 67.78 Mbit/s) ——— Flow 3 egress (mean 67.78 Mbit/s)

Flow 1 (95th percentile 57.67 ms)   Flow 2 (95th percentile 55.35 ms)   Flow 3 (95th percentile 51.40 ms)

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```
Run 1: Statistics of Verus

Start at: 2017-09-19 00:09:32
End at: 2017-09-19 00:10:02


# Below is generated by plot.py at 2017-09-19 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 349.34 Mbit/s
95th percentile per-packet one-way delay: 206.590 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 270.02 Mbit/s
95th percentile per-packet one-way delay: 207.922 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 84.63 Mbit/s
95th percentile per-packet one-way delay: 160.831 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 79.47 Mbit/s
95th percentile per-packet one-way delay: 292.651 ms
Loss rate: 13.20%
```
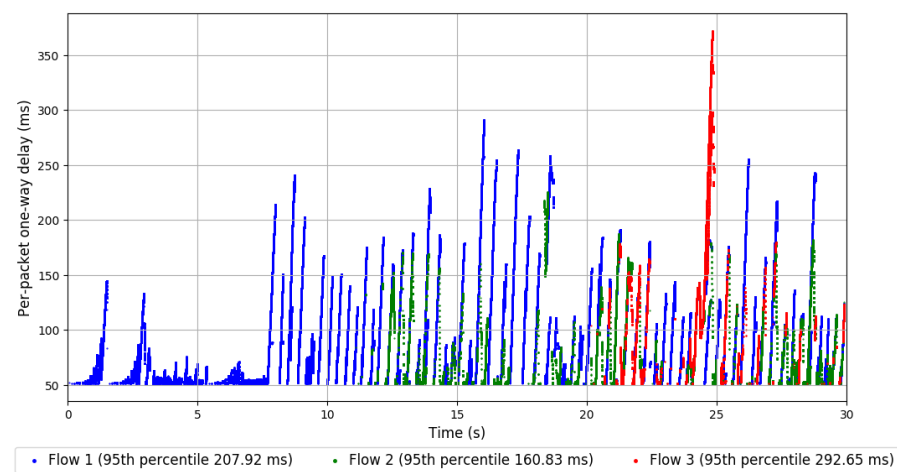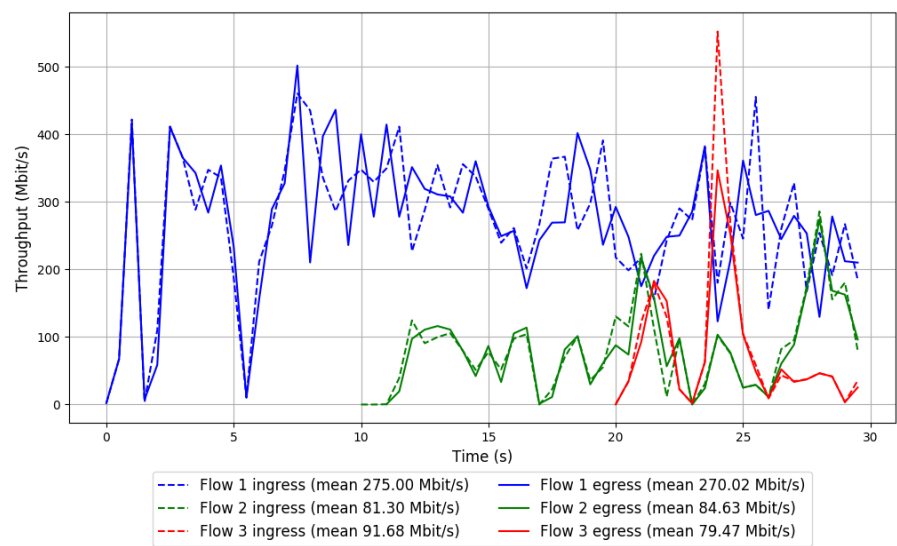
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-09-19 00:18:21
End at: 2017-09-19 00:18:51


# Below is generated by plot.py at 2017-09-19 03:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.77 Mbit/s
95th percentile per-packet one-way delay: 175.897 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 232.74 Mbit/s
95th percentile per-packet one-way delay: 141.200 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 126.46 Mbit/s
95th percentile per-packet one-way delay: 146.074 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 248.84 Mbit/s
95th percentile per-packet one-way delay: 234.600 ms
Loss rate: 4.23%
```
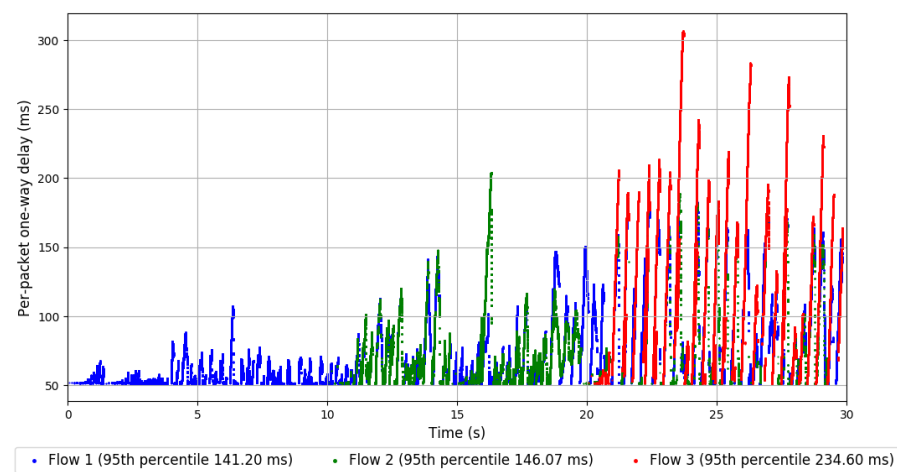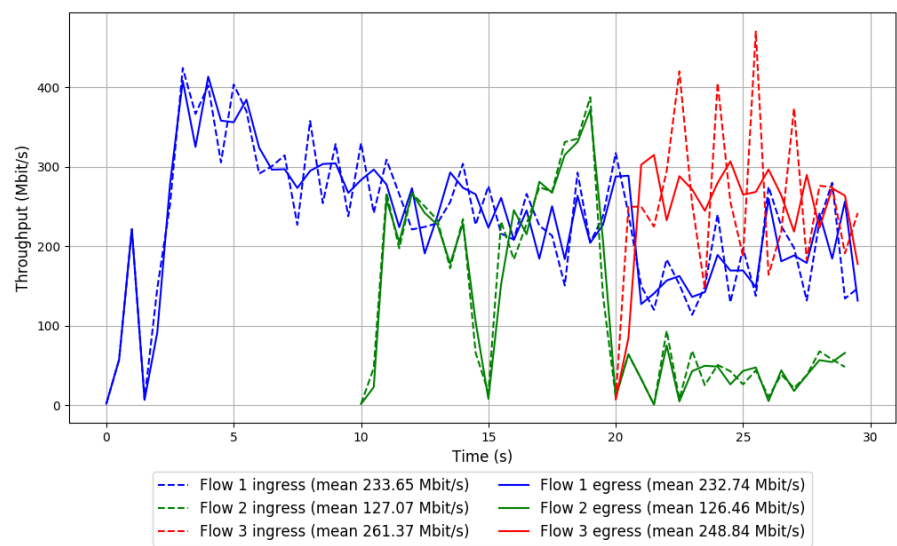
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 233.65 Mbit/s) — — — Flow 1 egress (mean 232.74 Mbit/s)
Flow 2 ingress (mean 127.07 Mbit/s) — — — Flow 2 egress (mean 126.46 Mbit/s)
Flow 3 ingress (mean 261.37 Mbit/s) — — — Flow 3 egress (mean 248.84 Mbit/s)

Flow 1 (95th percentile 141.20 ms)   Flow 2 (95th percentile 146.07 ms)   Flow 3 (95th percentile 234.60 ms)

```
Run 3: Statistics of Verus

Start at: 2017-09-19 00:27:09
End at: 2017-09-19 00:27:39

# Below is generated by plot.py at 2017-09-19 03:48:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.39 Mbit/s
95th percentile per-packet one-way delay: 181.720 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 184.26 Mbit/s
95th percentile per-packet one-way delay: 153.659 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 261.81 Mbit/s
95th percentile per-packet one-way delay: 207.315 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 91.82 Mbit/s
95th percentile per-packet one-way delay: 164.492 ms
Loss rate: 3.68%
```
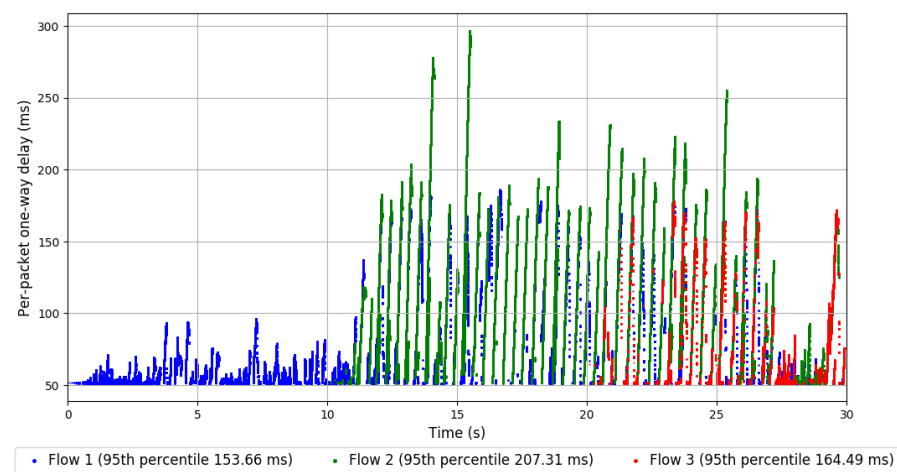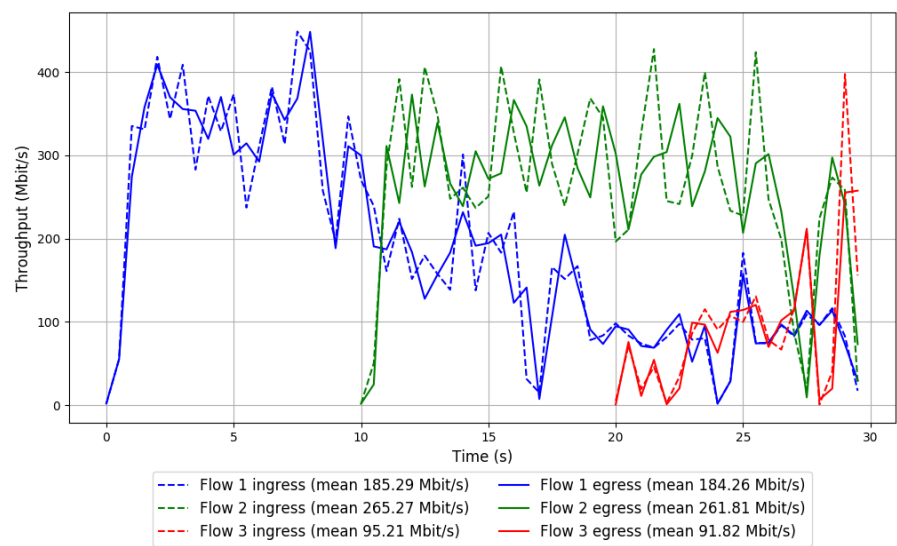
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-09-19 00:36:09
End at: 2017-09-19 00:36:39


# Below is generated by plot.py at 2017-09-19 03:49:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.74 Mbit/s
95th percentile per-packet one-way delay: 200.392 ms
Loss rate: 2.69%
-- Flow 1:
Average throughput: 227.97 Mbit/s
95th percentile per-packet one-way delay: 174.903 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 177.07 Mbit/s
95th percentile per-packet one-way delay: 239.285 ms
Loss rate: 4.32%
-- Flow 3:
Average throughput: 43.72 Mbit/s
95th percentile per-packet one-way delay: 165.334 ms
Loss rate: 2.96%
```
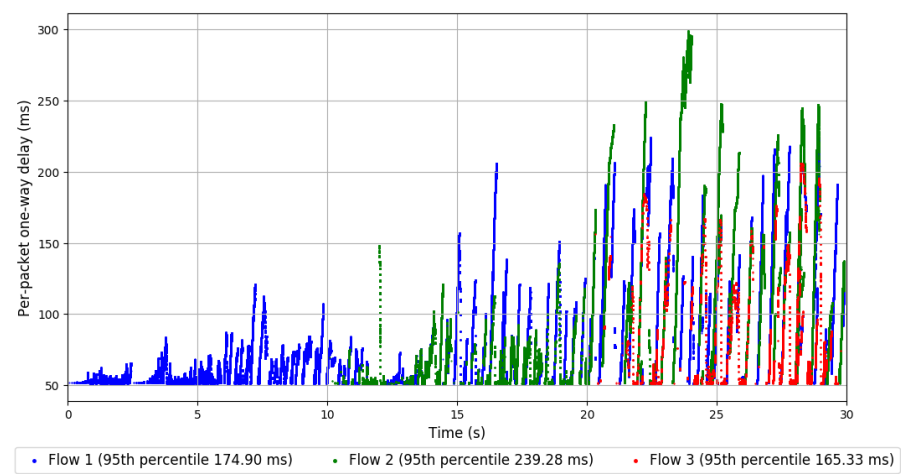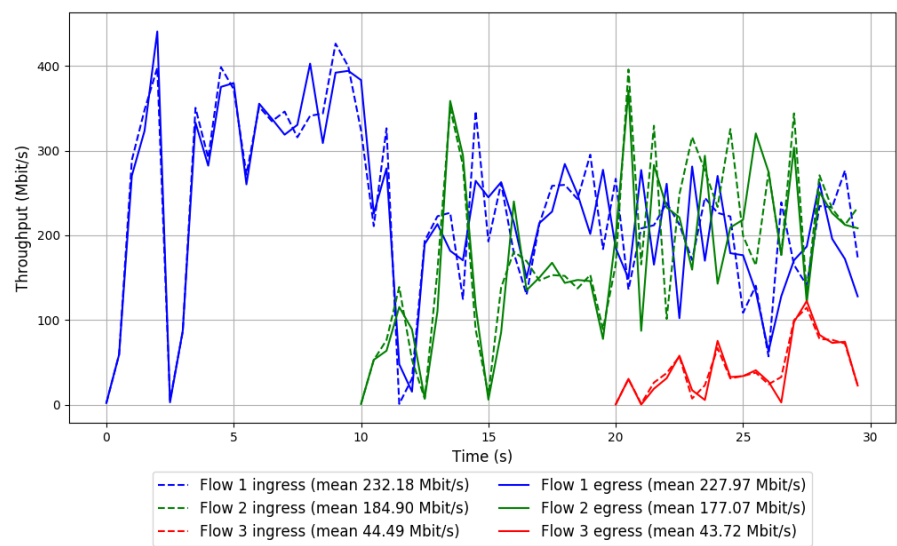
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-09-19 00:44:59
End at: 2017-09-19 00:45:29


# Below is generated by plot.py at 2017-09-19 03:49:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.41 Mbit/s
95th percentile per-packet one-way delay: 179.066 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 208.23 Mbit/s
95th percentile per-packet one-way delay: 170.155 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 121.74 Mbit/s
95th percentile per-packet one-way delay: 181.715 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 111.07 Mbit/s
95th percentile per-packet one-way delay: 240.680 ms
Loss rate: 8.89%
```
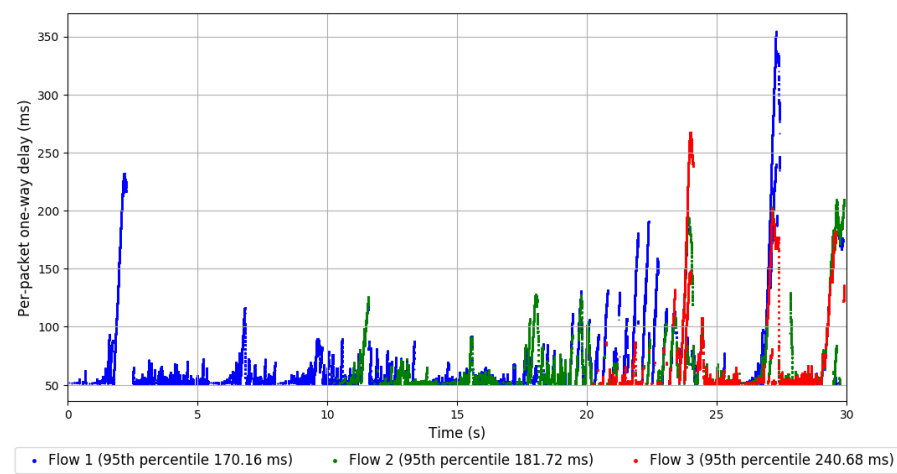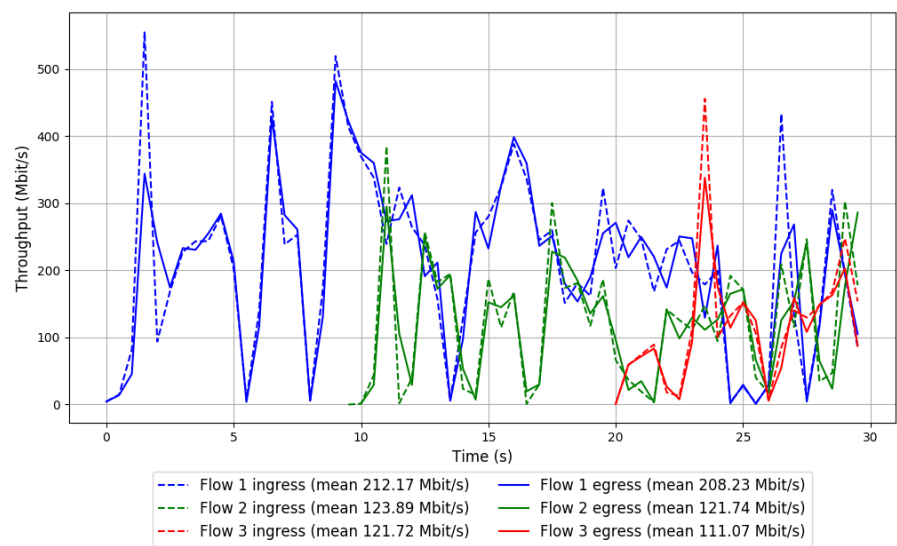
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 212.17 Mbit/s) --- Flow 1 egress (mean 208.23 Mbit/s)
Flow 2 ingress (mean 123.89 Mbit/s) --- Flow 2 egress (mean 121.74 Mbit/s)
Flow 3 ingress (mean 121.72 Mbit/s) --- Flow 3 egress (mean 111.07 Mbit/s)

Flow 1 (95th percentile 170.16 ms)   Flow 2 (95th percentile 181.72 ms)   Flow 3 (95th percentile 240.68 ms)

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```
Run 6: Statistics of Verus

Start at: 2017-09-19 00:53:48
End at: 2017-09-19 00:54:18


# Below is generated by plot.py at 2017-09-19 03:49:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.27 Mbit/s
95th percentile per-packet one-way delay: 117.429 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 212.33 Mbit/s
95th percentile per-packet one-way delay: 111.206 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 156.86 Mbit/s
95th percentile per-packet one-way delay: 119.573 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 121.10 Mbit/s
95th percentile per-packet one-way delay: 138.274 ms
Loss rate: 0.04%
```
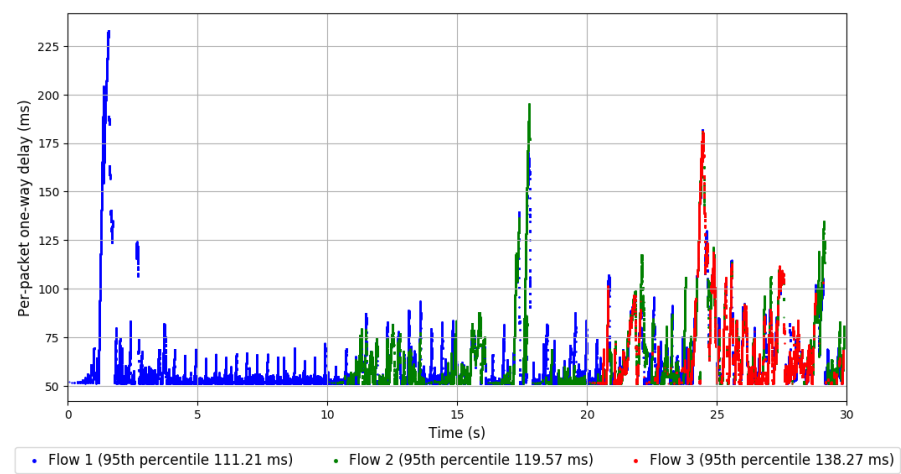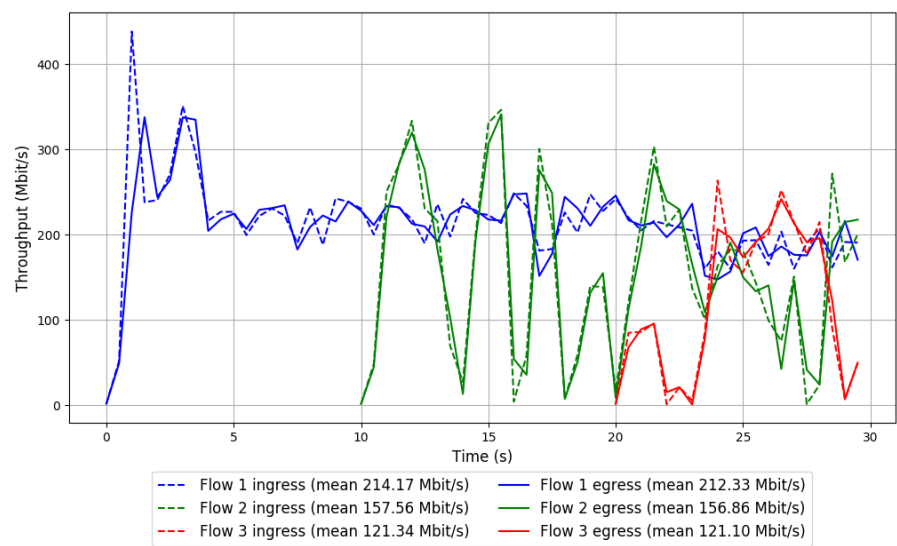
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-09-19 01:02:50
End at: 2017-09-19 01:03:20


# Below is generated by plot.py at 2017-09-19 03:50:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.81 Mbit/s
95th percentile per-packet one-way delay: 146.351 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 257.47 Mbit/s
95th percentile per-packet one-way delay: 141.480 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 141.67 Mbit/s
95th percentile per-packet one-way delay: 140.790 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 135.36 Mbit/s
95th percentile per-packet one-way delay: 191.321 ms
Loss rate: 0.06%
```
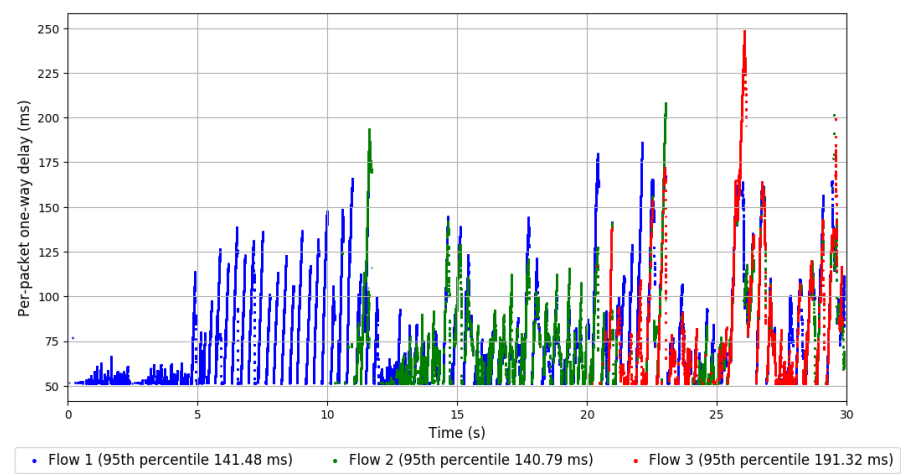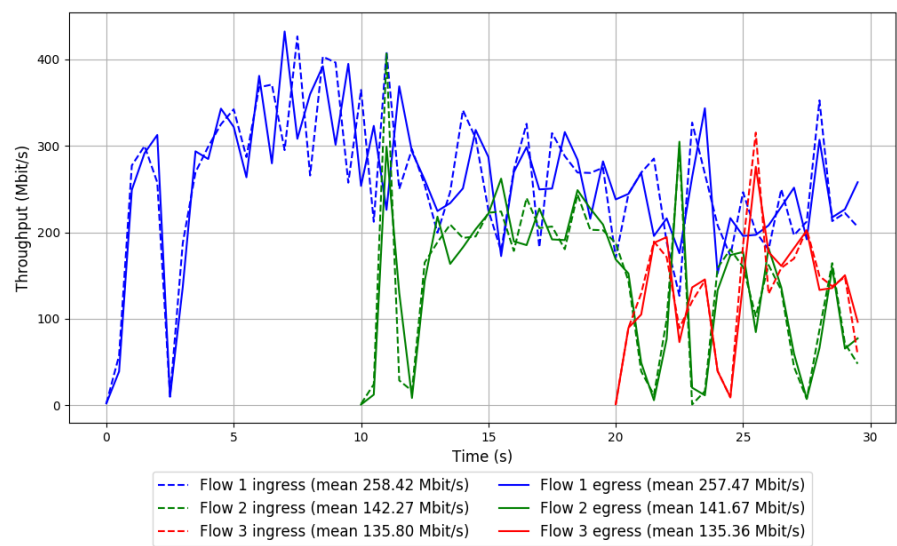
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-09-19 01:11:39
End at: 2017-09-19 01:12:09


# Below is generated by plot.py at 2017-09-19 03:50:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.09 Mbit/s
95th percentile per-packet one-way delay: 174.515 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 195.95 Mbit/s
95th percentile per-packet one-way delay: 174.046 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 130.04 Mbit/s
95th percentile per-packet one-way delay: 175.101 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 165.87 Mbit/s
95th percentile per-packet one-way delay: 177.772 ms
Loss rate: 0.31%
```
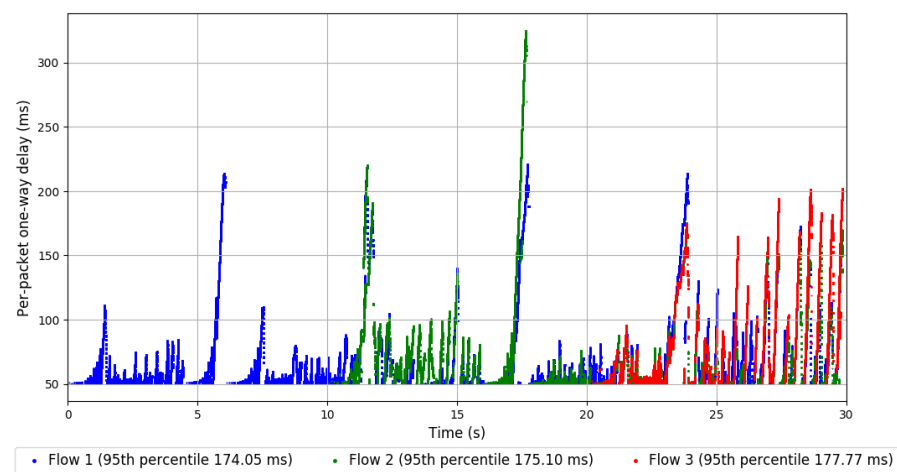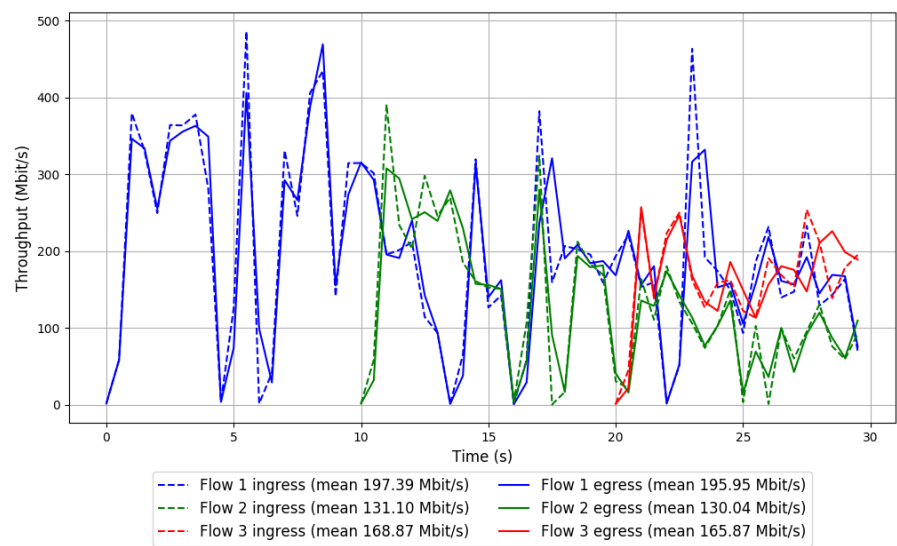
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2017-09-19 01:20:48
End at: 2017-09-19 01:21:18

# Below is generated by plot.py at 2017-09-19 03:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.82 Mbit/s
95th percentile per-packet one-way delay: 221.804 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 256.16 Mbit/s
95th percentile per-packet one-way delay: 230.929 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 59.11 Mbit/s
95th percentile per-packet one-way delay: 149.089 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 105.76 Mbit/s
95th percentile per-packet one-way delay: 166.509 ms
Loss rate: 1.47%
```
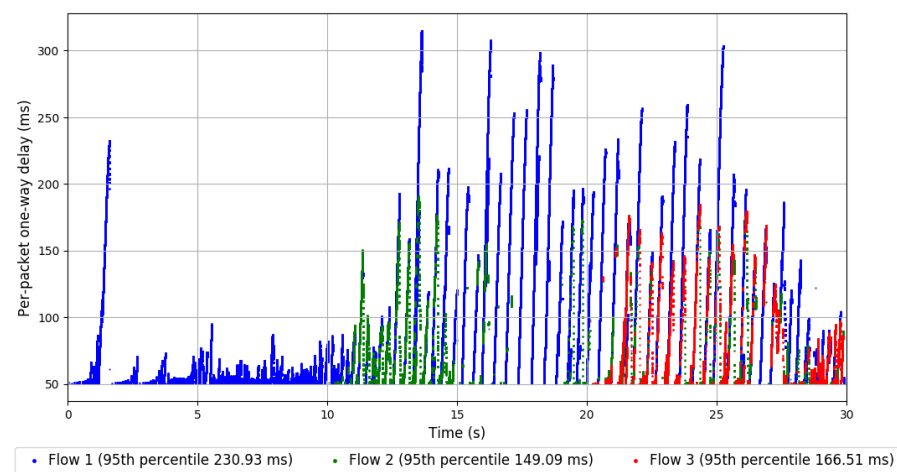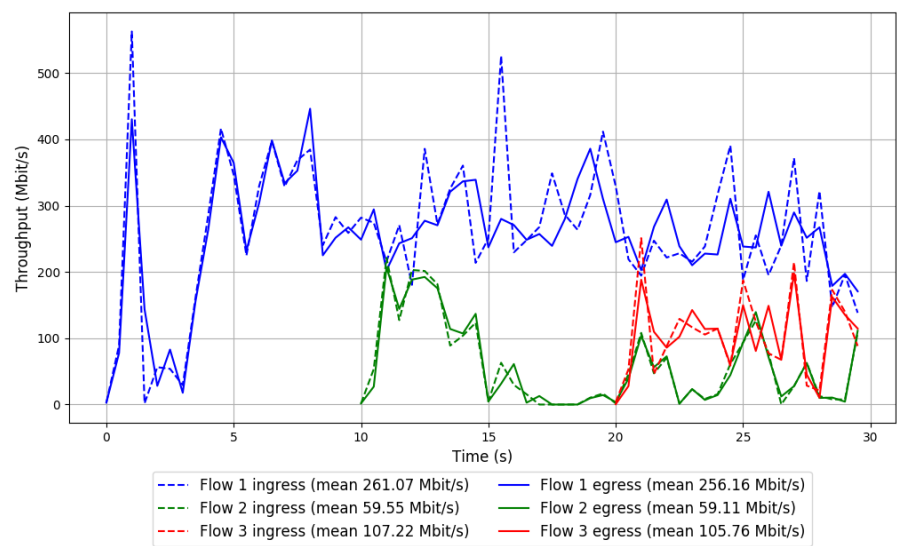
Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 261.07 Mbit/s)   Flow 1 egress (mean 256.16 Mbit/s)
Flow 2 ingress (mean 59.55 Mbit/s)   Flow 2 egress (mean 59.11 Mbit/s)
Flow 3 ingress (mean 107.22 Mbit/s)   Flow 3 egress (mean 105.76 Mbit/s)

Flow 1 (95th percentile 230.93 ms)   Flow 2 (95th percentile 149.09 ms)   Flow 3 (95th percentile 166.51 ms)

```
Run 10: Statistics of Verus

Start at: 2017-09-19 01:29:49
End at: 2017-09-19 01:30:19


# Below is generated by plot.py at 2017-09-19 03:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.26 Mbit/s
95th percentile per-packet one-way delay: 150.834 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 200.46 Mbit/s
95th percentile per-packet one-way delay: 154.715 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 203.38 Mbit/s
95th percentile per-packet one-way delay: 149.446 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 92.60 Mbit/s
95th percentile per-packet one-way delay: 142.571 ms
Loss rate: 0.53%
```

Run 10: Report of Verus — Data Link