Pantheon Report

Generated at 2018-06-19 05:23:26 (UTC).

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

Repeated the test of 16 congestion control schemes 10 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
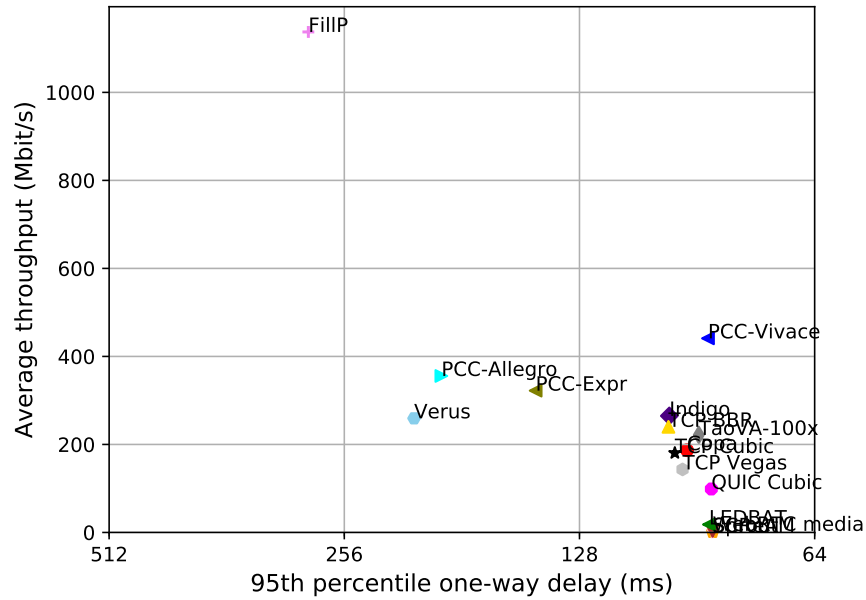
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.
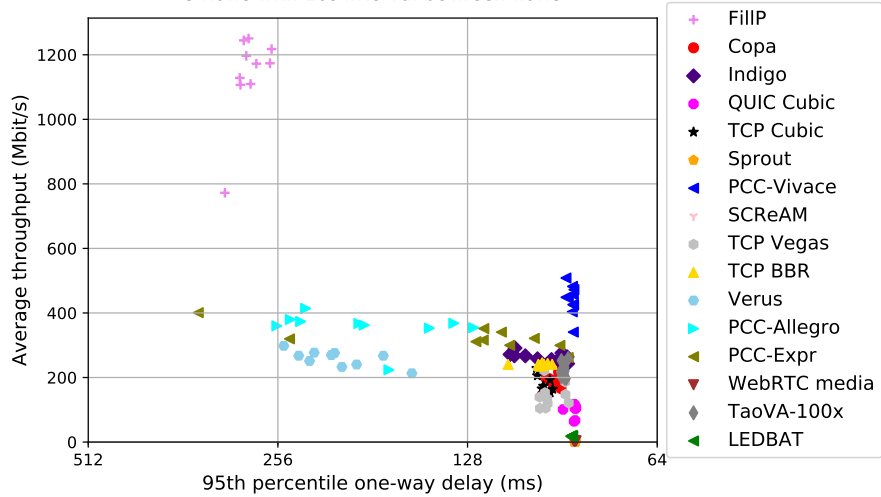
```
Git summary:
branch: master @ 9141c5f9450c85ea5ea2ea755a8e946998d3abf3
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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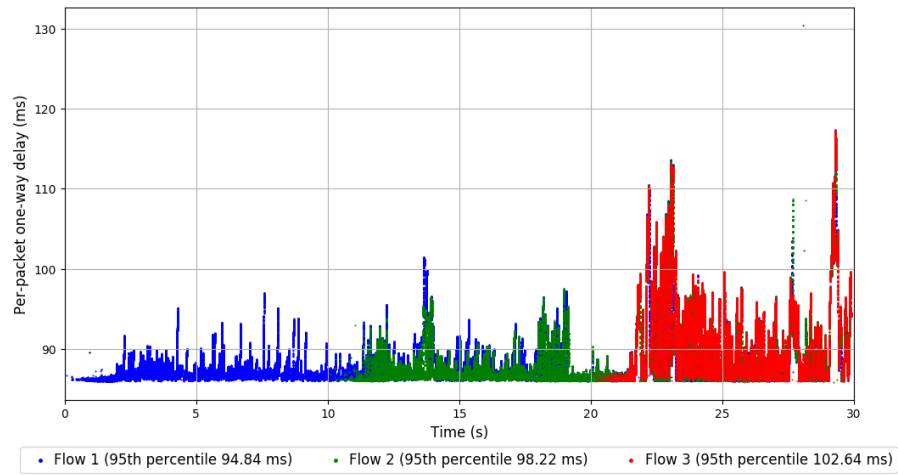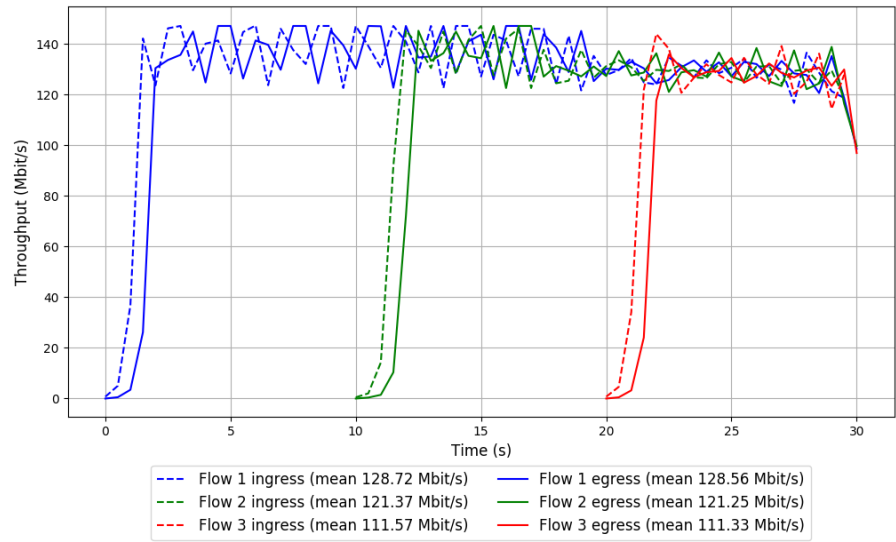3 flows with 10s interval between flows

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	124.01	119.09	112.55	96.23	99.22	101.27	0.58	0.95	1.98
Copa	10	110.15	84.04	76.77	93.52	93.99	93.66	0.53	0.88	2.34
TCP Cubic	10	101.58	82.50	73.99	96.36	96.09	97.23	0.63	1.62	2.61
FillP	10	575.07	582.12	537.66	293.26	272.69	190.28	1.77	1.79	2.69
Indigo	10	143.08	128.66	111.73	95.38	98.70	104.42	0.53	0.89	1.94
LEDBAT	10	11.90	7.57	3.69	87.49	87.29	87.20	1.16	1.80	3.61
PCC-Allegro	10	325.82	34.00	22.41	191.78	192.24	174.43	1.06	1.25	2.18
PCC-Expr	10	227.50	122.05	42.37	145.11	133.14	136.48	1.26	1.39	2.78
QUIC Cubic	10	47.99	50.85	51.57	86.38	86.85	86.40	0.73	1.13	1.23
SCReAM	10	0.22	0.22	0.22	86.48	86.51	86.51	0.51	0.95	1.71
Sprout	10	0.27	0.29	0.35	86.40	86.43	86.48	0.52	1.05	1.45
TaoVA-100x	10	138.84	90.20	82.78	88.34	94.09	94.31	0.44	0.74	2.01
TCP Vegas	10	60.30	99.19	52.19	93.68	94.25	93.96	0.63	0.89	2.44
Verus	10	177.86	93.69	59.45	198.29	208.70	219.63	0.99	2.26	3.85
PCC-Vivace	10	252.58	219.22	132.40	87.33	94.05	87.43	0.56	0.97	2.55
WebRTC media	10	1.93	1.22	0.46	86.44	86.33	86.40	0.72	1.10	2.59

```
Run 1: Statistics of TCP BBR

Start at: 2018-06-18 23:41:13
End at: 2018-06-18 23:41:43
Local clock offset: -0.159 ms
Remote clock offset: -0.601 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.66 Mbit/s
95th percentile per-packet one-way delay: 97.436 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 128.56 Mbit/s
95th percentile per-packet one-way delay: 94.836 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 121.25 Mbit/s
95th percentile per-packet one-way delay: 98.217 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 111.33 Mbit/s
95th percentile per-packet one-way delay: 102.641 ms
Loss rate: 1.95%
```
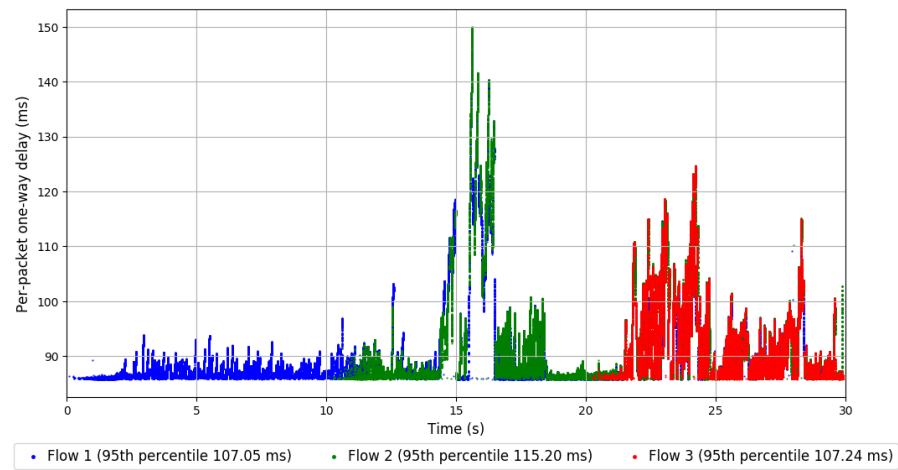
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-06-19 00:04:32
End at: 2018-06-19 00:05:02
Local clock offset: -0.219 ms
Remote clock offset: 0.258 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.44 Mbit/s
95th percentile per-packet one-way delay: 110.341 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 123.70 Mbit/s
95th percentile per-packet one-way delay: 107.045 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 120.64 Mbit/s
95th percentile per-packet one-way delay: 115.196 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 112.90 Mbit/s
95th percentile per-packet one-way delay: 107.239 ms
Loss rate: 1.97%
```
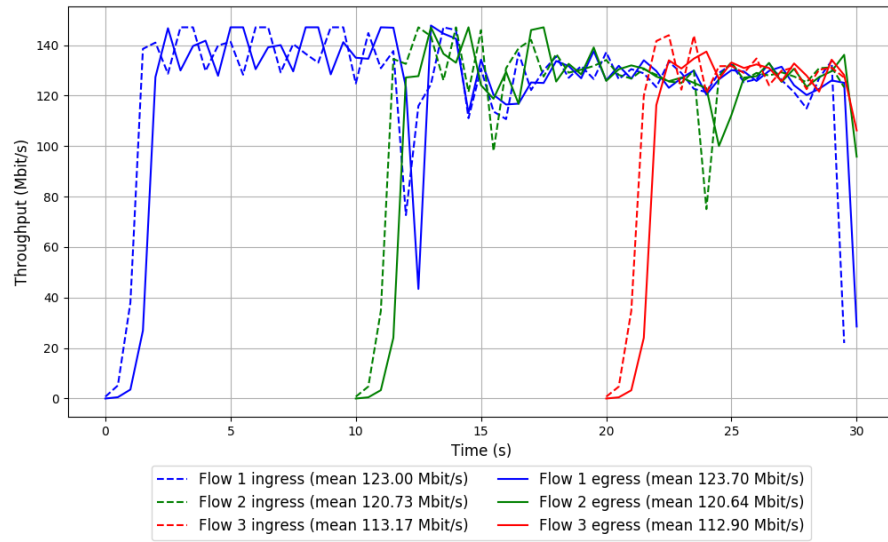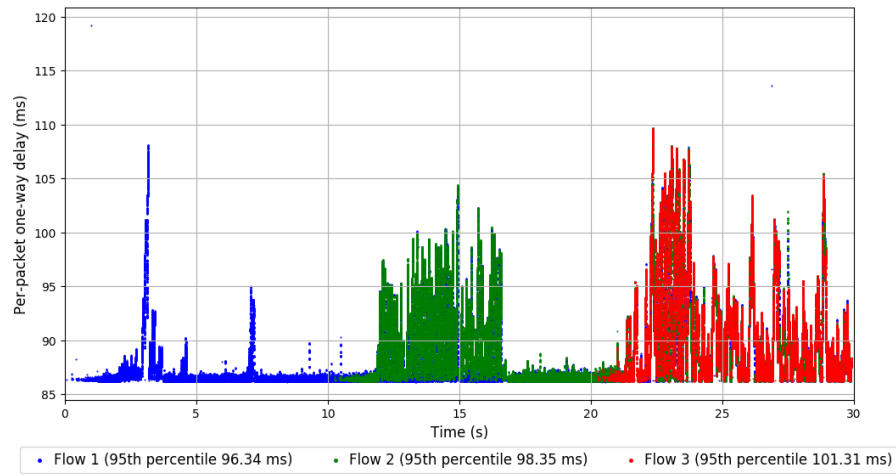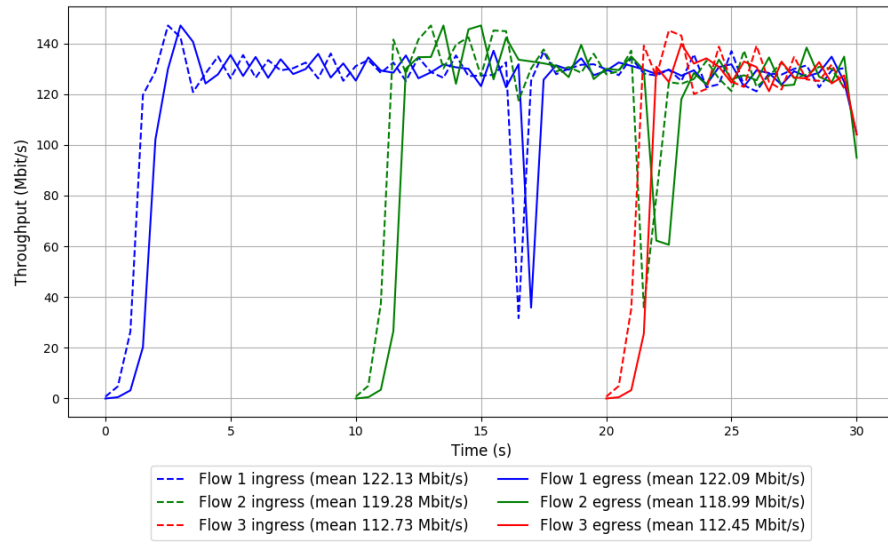
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 123.00 Mbit/s) ---- Flow 1 egress (mean 123.70 Mbit/s) ——
Flow 2 ingress (mean 120.73 Mbit/s) ---- Flow 2 egress (mean 120.64 Mbit/s) ——
Flow 3 ingress (mean 113.17 Mbit/s) ---- Flow 3 egress (mean 112.90 Mbit/s) ——

Flow 1 (95th percentile 107.05 ms) · Flow 2 (95th percentile 115.20 ms) · Flow 3 (95th percentile 107.24 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2018-06-19 00:27:31
End at: 2018-06-19 00:28:01
Local clock offset: 0.227 ms
Remote clock offset: 0.572 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 238.11 Mbit/s
95th percentile per-packet one-way delay: 98.145 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 122.09 Mbit/s
95th percentile per-packet one-way delay: 96.340 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 118.99 Mbit/s
95th percentile per-packet one-way delay: 98.347 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 112.45 Mbit/s
95th percentile per-packet one-way delay: 101.308 ms
Loss rate: 1.99%
```
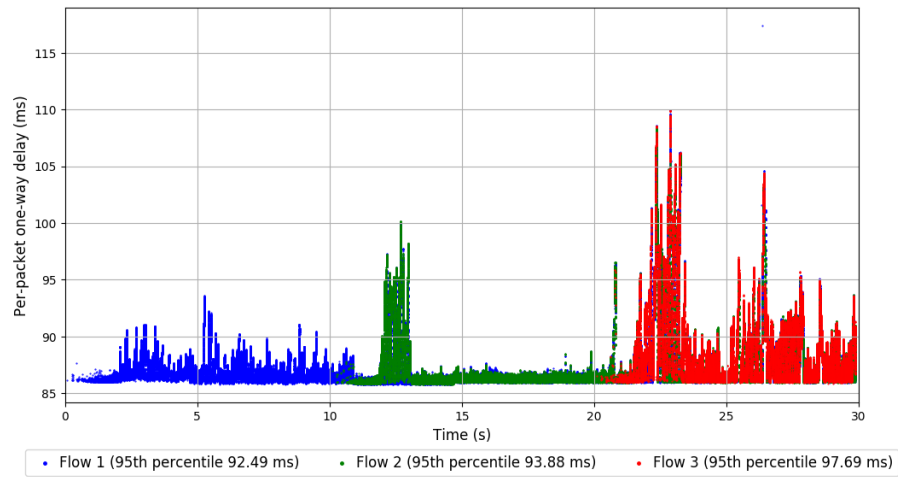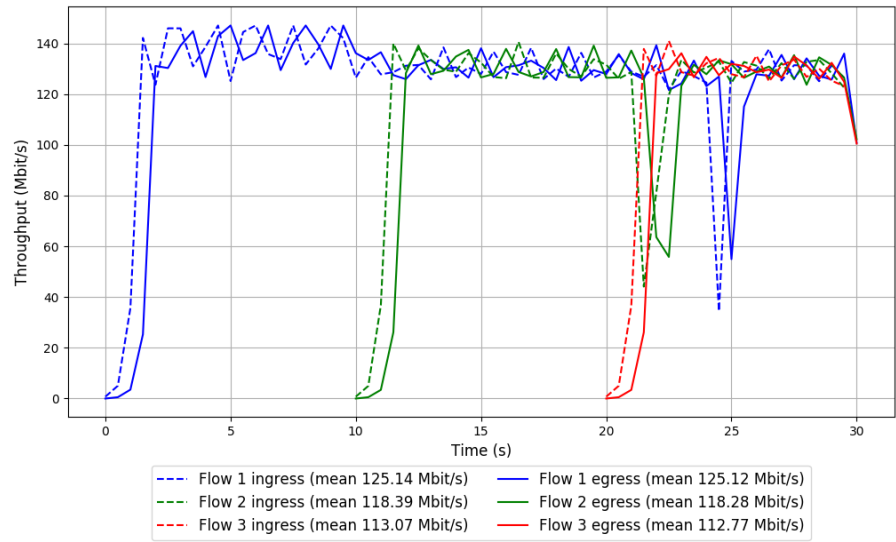
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 122.13 Mbit/s) --- Flow 1 egress (mean 122.09 Mbit/s)
Flow 2 ingress (mean 119.28 Mbit/s) --- Flow 2 egress (mean 118.99 Mbit/s)
Flow 3 ingress (mean 112.73 Mbit/s) --- Flow 3 egress (mean 112.45 Mbit/s)

Flow 1 (95th percentile 96.34 ms)   Flow 2 (95th percentile 98.35 ms)   Flow 3 (95th percentile 101.31 ms)

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```
Run 4: Statistics of TCP BBR

Start at: 2018-06-19 00:50:33
End at: 2018-06-19 00:51:03
Local clock offset: -0.019 ms
Remote clock offset: 0.465 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.78 Mbit/s
95th percentile per-packet one-way delay: 93.951 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 125.12 Mbit/s
95th percentile per-packet one-way delay: 92.492 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 118.28 Mbit/s
95th percentile per-packet one-way delay: 93.879 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 112.77 Mbit/s
95th percentile per-packet one-way delay: 97.689 ms
Loss rate: 2.00%
```
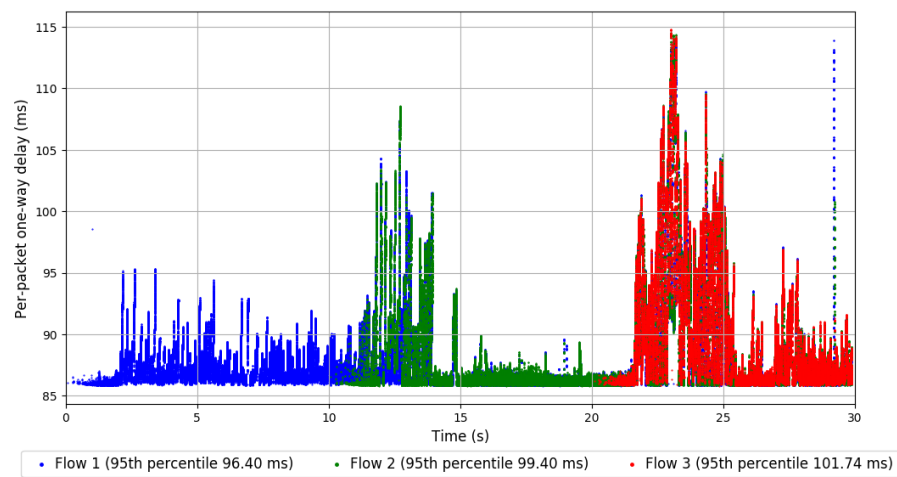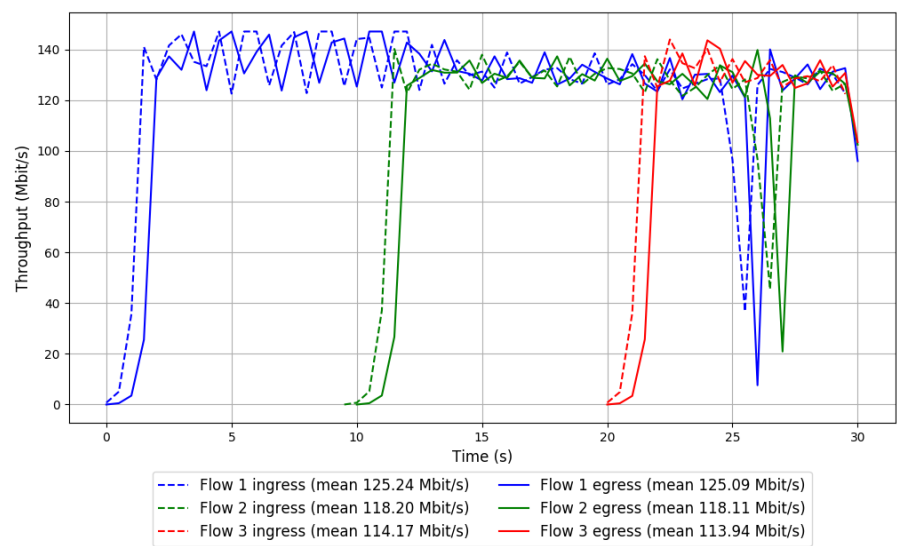
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 125.14 Mbit/s) --- Flow 1 egress (mean 125.12 Mbit/s)
Flow 2 ingress (mean 118.39 Mbit/s) --- Flow 2 egress (mean 118.28 Mbit/s)
Flow 3 ingress (mean 113.07 Mbit/s) --- Flow 3 egress (mean 112.77 Mbit/s)

Flow 1 (95th percentile 92.49 ms)   Flow 2 (95th percentile 93.88 ms)   Flow 3 (95th percentile 97.69 ms)
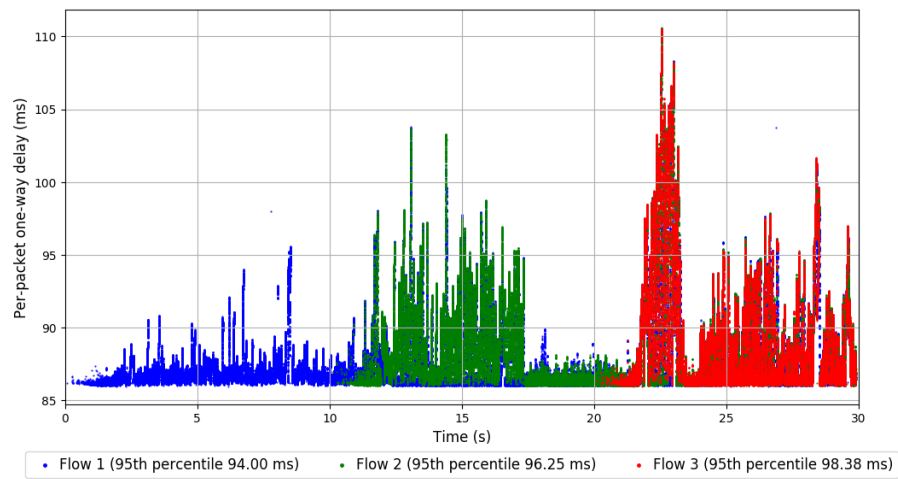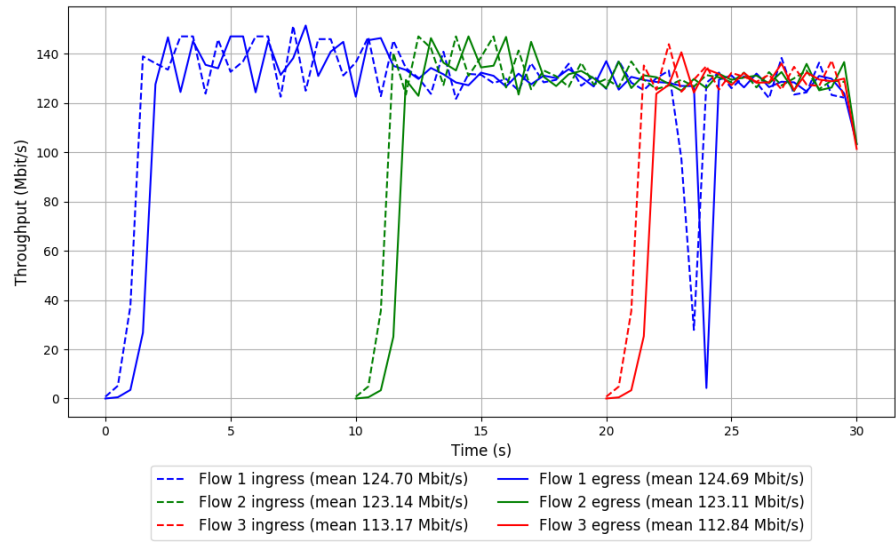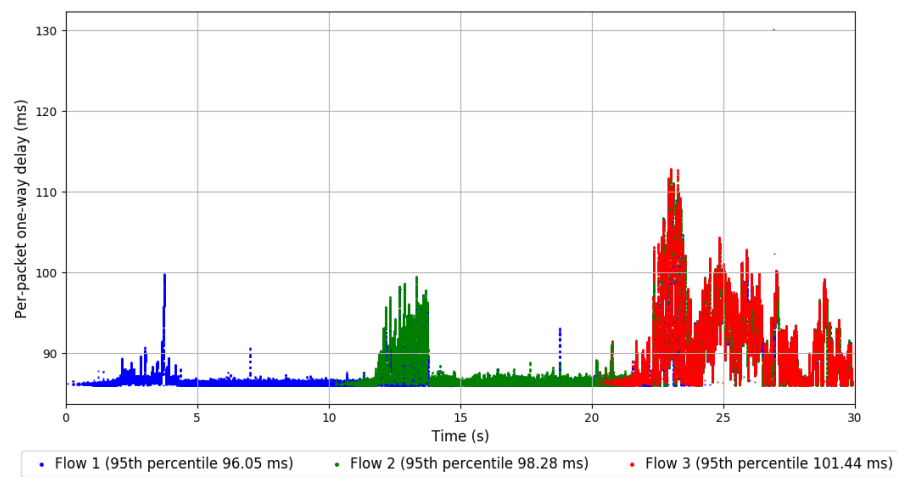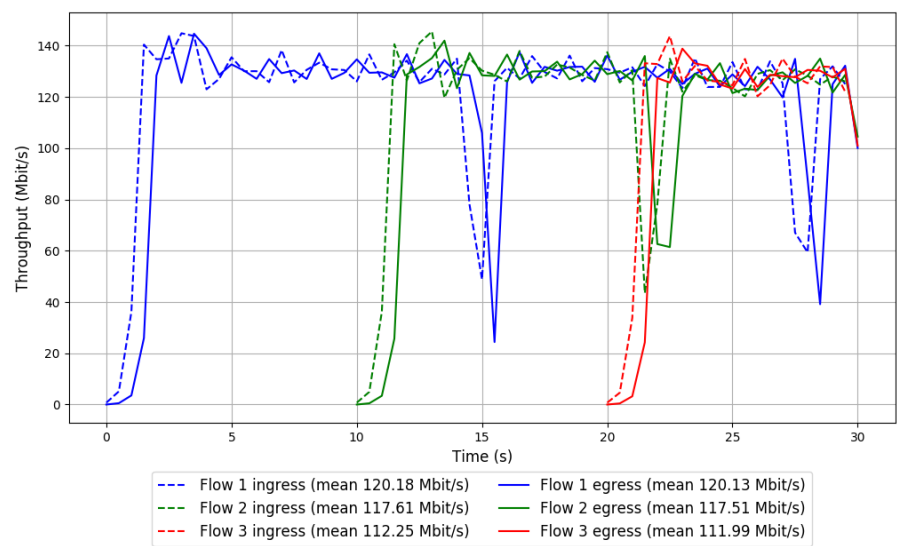
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```
Run 5: Statistics of TCP BBR

Start at: 2018-06-19 01:14:02
End at: 2018-06-19 01:14:32
Local clock offset: -0.207 ms
Remote clock offset: 0.037 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.03 Mbit/s
95th percentile per-packet one-way delay: 98.832 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 125.09 Mbit/s
95th percentile per-packet one-way delay: 96.403 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 118.11 Mbit/s
95th percentile per-packet one-way delay: 99.402 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 113.94 Mbit/s
95th percentile per-packet one-way delay: 101.743 ms
Loss rate: 1.92%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 125.24 Mbit/s) --- Flow 1 egress (mean 125.09 Mbit/s)
Flow 2 ingress (mean 118.20 Mbit/s) --- Flow 2 egress (mean 118.11 Mbit/s)
Flow 3 ingress (mean 114.17 Mbit/s) --- Flow 3 egress (mean 113.94 Mbit/s)

Flow 1 (95th percentile 96.40 ms)   Flow 2 (95th percentile 99.40 ms)   Flow 3 (95th percentile 101.74 ms)
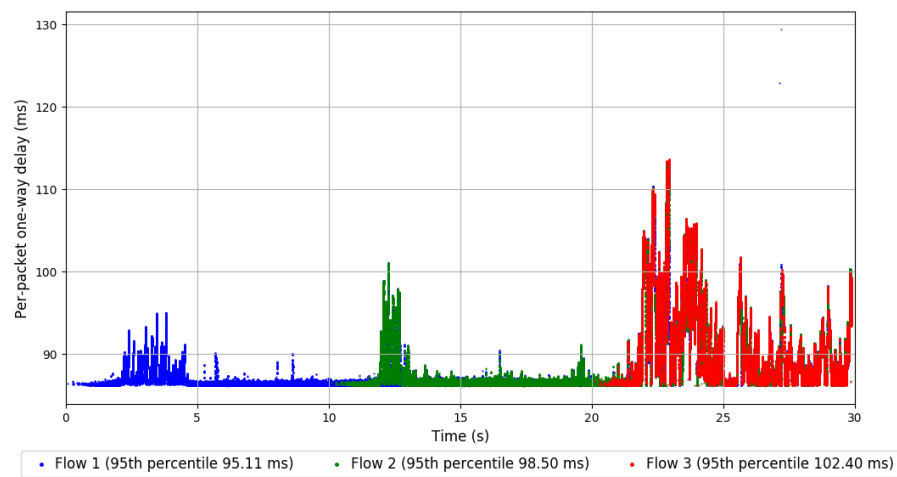
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```
Run 6: Statistics of TCP BBR

Start at: 2018-06-19 01:37:11
End at: 2018-06-19 01:37:41
Local clock offset: 0.078 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.53 Mbit/s
95th percentile per-packet one-way delay: 95.500 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 124.69 Mbit/s
95th percentile per-packet one-way delay: 93.995 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 123.11 Mbit/s
95th percentile per-packet one-way delay: 96.247 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 112.84 Mbit/s
95th percentile per-packet one-way delay: 98.376 ms
Loss rate: 2.08%
```

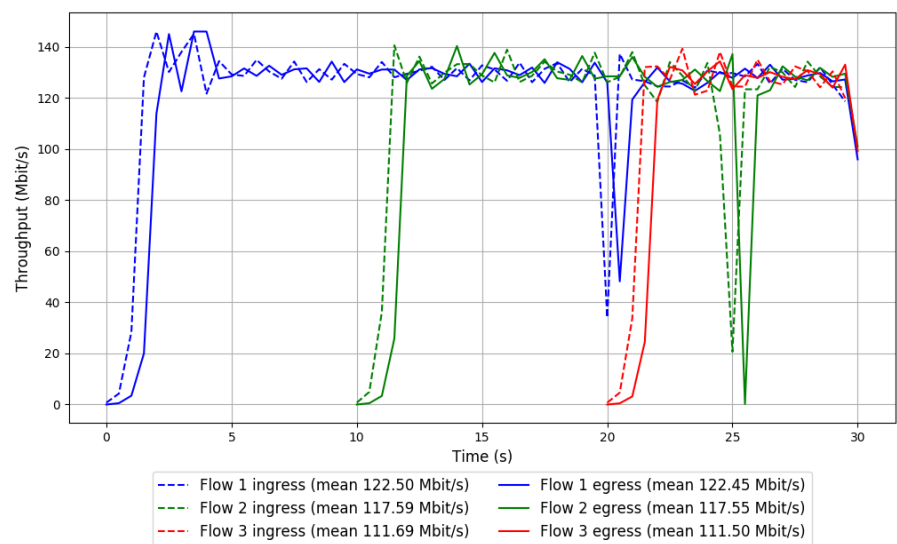Run 6: Report of TCP BBR — Data Link

```
Run 7: Statistics of TCP BBR

Start at: 2018-06-19 02:00:22
End at: 2018-06-19 02:00:52
Local clock offset: 0.014 ms
Remote clock offset: -0.131 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.89 Mbit/s
95th percentile per-packet one-way delay: 98.221 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 120.13 Mbit/s
95th percentile per-packet one-way delay: 96.052 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 117.51 Mbit/s
95th percentile per-packet one-way delay: 98.283 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 111.99 Mbit/s
95th percentile per-packet one-way delay: 101.440 ms
Loss rate: 1.99%
```

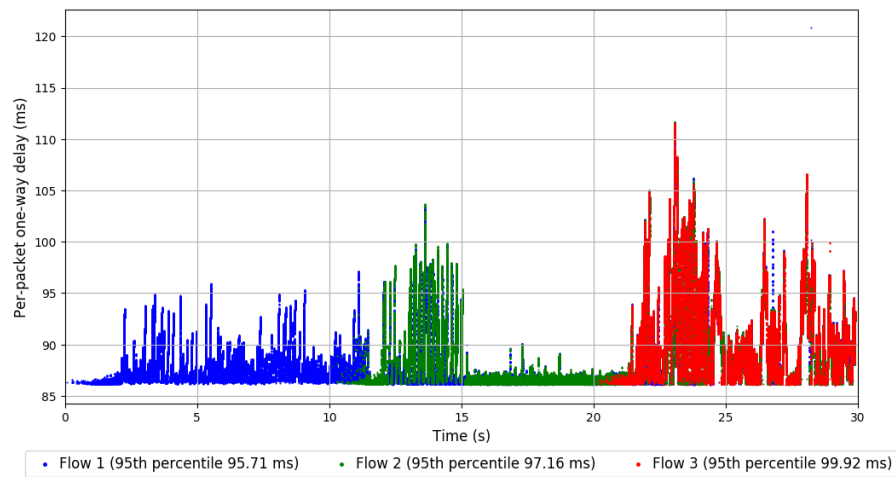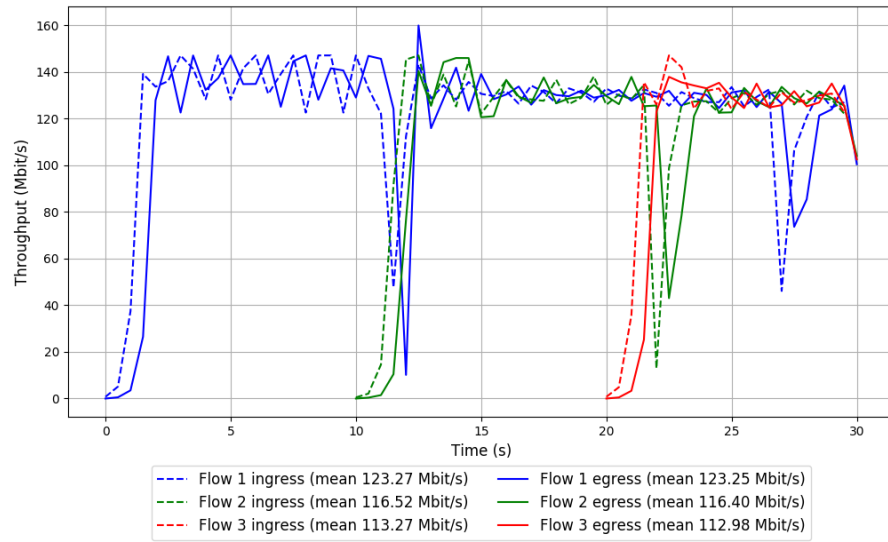Run 7: Report of TCP BBR — Data Link

```
Run 8: Statistics of TCP BBR

Start at: 2018-06-19 02:23:34
End at: 2018-06-19 02:24:04
Local clock offset: 0.201 ms
Remote clock offset: -0.159 ms


# Below is generated by plot.py at 2018-06-19 03:44:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.01 Mbit/s
95th percentile per-packet one-way delay: 98.397 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 122.45 Mbit/s
95th percentile per-packet one-way delay: 95.108 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 117.55 Mbit/s
95th percentile per-packet one-way delay: 98.501 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 111.50 Mbit/s
95th percentile per-packet one-way delay: 102.396 ms
Loss rate: 1.91%
```
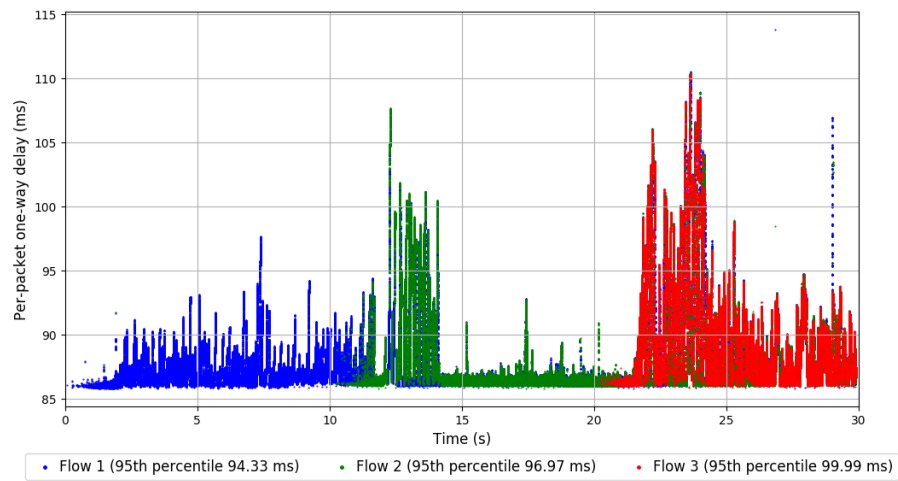
Run 8: Report of TCP BBR — Data Link

- - - - Flow 1 ingress (mean 122.50 Mbit/s) ——— Flow 1 egress (mean 122.45 Mbit/s)
- - - - Flow 2 ingress (mean 117.59 Mbit/s) ——— Flow 2 egress (mean 117.55 Mbit/s)
- - - - Flow 3 ingress (mean 111.69 Mbit/s) ——— Flow 3 egress (mean 111.50 Mbit/s)

• Flow 1 (95th percentile 95.11 ms)   • Flow 2 (95th percentile 98.50 ms)   • Flow 3 (95th percentile 102.40 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2018-06-19 02:46:36
End at: 2018-06-19 02:47:06
Local clock offset: 0.066 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2018-06-19 03:47:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.68 Mbit/s
95th percentile per-packet one-way delay: 97.152 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 123.25 Mbit/s
95th percentile per-packet one-way delay: 95.707 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 116.40 Mbit/s
95th percentile per-packet one-way delay: 97.164 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 112.98 Mbit/s
95th percentile per-packet one-way delay: 99.921 ms
Loss rate: 1.98%
```
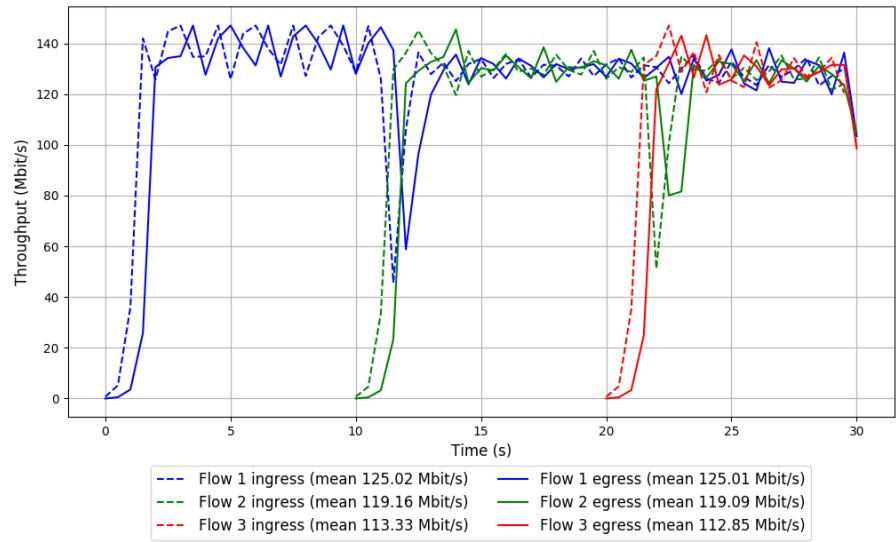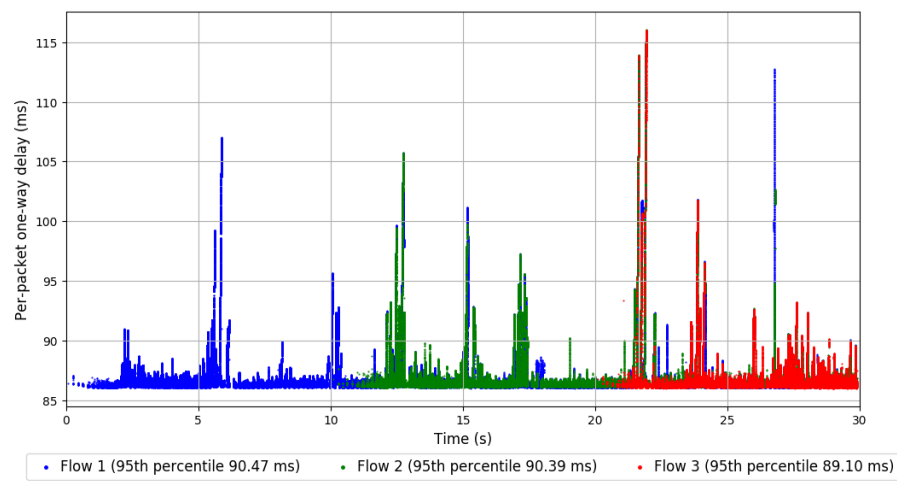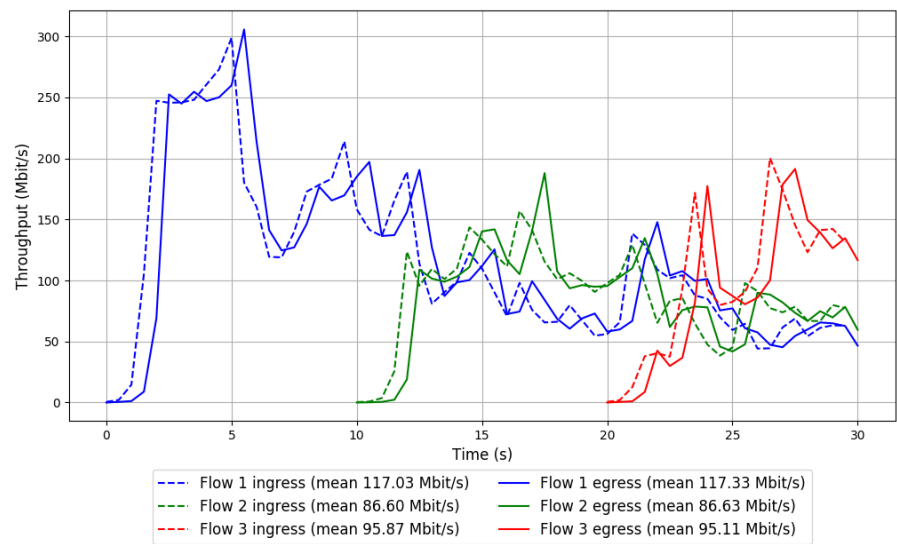
Run 9: Report of TCP BBR — Data Link

```
Run 10: Statistics of TCP BBR

Start at: 2018-06-19 03:09:39
End at: 2018-06-19 03:10:09
Local clock offset: -0.063 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2018-06-19 03:47:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.19 Mbit/s
95th percentile per-packet one-way delay: 96.833 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 125.01 Mbit/s
95th percentile per-packet one-way delay: 94.333 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 119.09 Mbit/s
95th percentile per-packet one-way delay: 96.970 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 112.85 Mbit/s
95th percentile per-packet one-way delay: 99.988 ms
Loss rate: 2.02%
```

Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 125.02 Mbit/s) — Flow 1 egress (mean 125.01 Mbit/s)
Flow 2 ingress (mean 119.16 Mbit/s) — Flow 2 egress (mean 119.09 Mbit/s)
Flow 3 ingress (mean 113.33 Mbit/s) — Flow 3 egress (mean 112.85 Mbit/s)

Flow 1 (95th percentile 94.33 ms)   Flow 2 (95th percentile 96.97 ms)   Flow 3 (95th percentile 99.99 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-06-18 23:45:20
End at: 2018-06-18 23:45:50
Local clock offset: 0.039 ms
Remote clock offset: -0.297 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.06 Mbit/s
95th percentile per-packet one-way delay: 90.243 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 117.33 Mbit/s
95th percentile per-packet one-way delay: 90.472 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 86.63 Mbit/s
95th percentile per-packet one-way delay: 90.388 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 89.098 ms
Loss rate: 2.51%
```
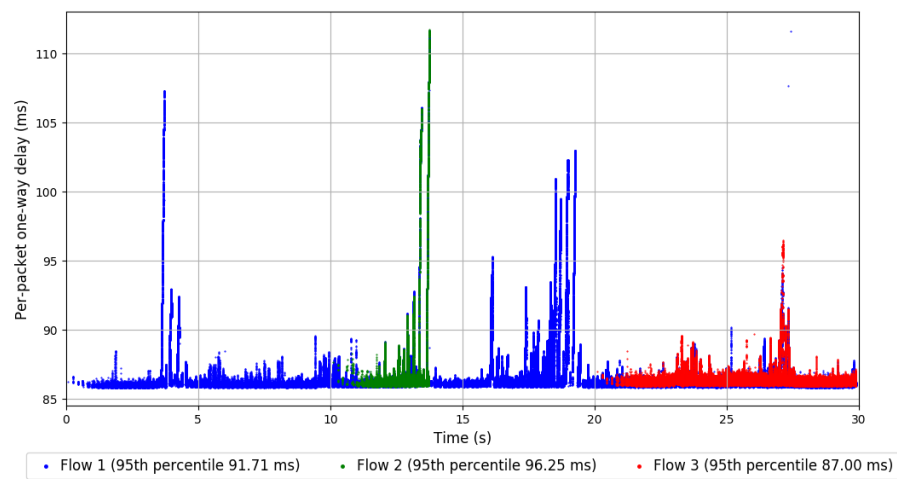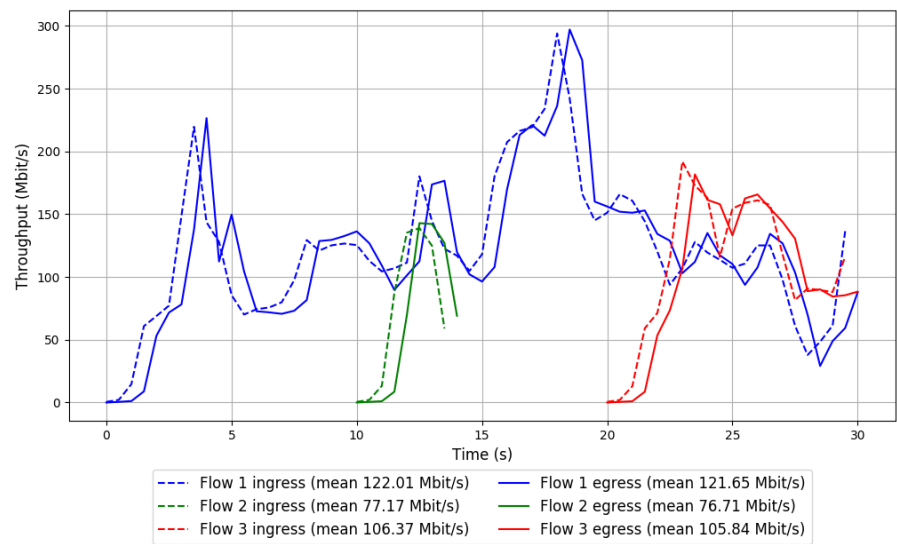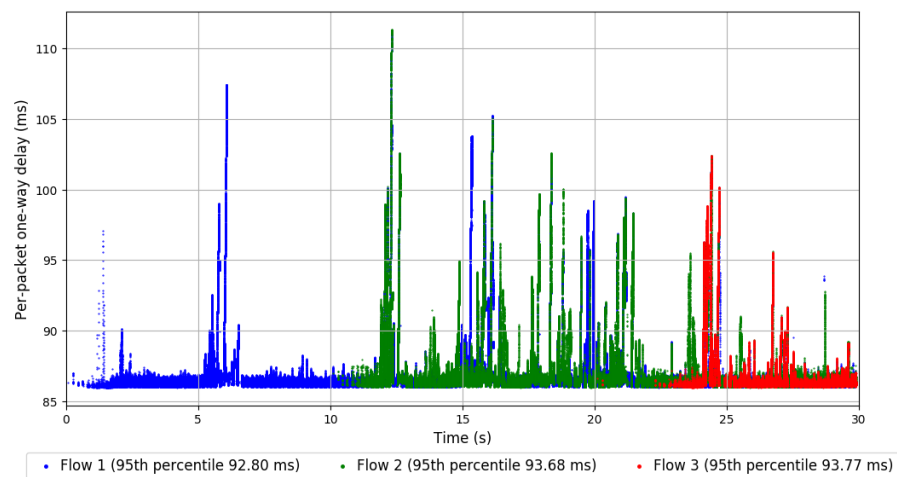
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-06-19 00:08:38
End at: 2018-06-19 00:09:08
Local clock offset: -0.08 ms
Remote clock offset: 0.328 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.81 Mbit/s
95th percentile per-packet one-way delay: 90.974 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 121.65 Mbit/s
95th percentile per-packet one-way delay: 91.709 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 76.71 Mbit/s
95th percentile per-packet one-way delay: 96.250 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 105.84 Mbit/s
95th percentile per-packet one-way delay: 86.996 ms
Loss rate: 2.26%
```
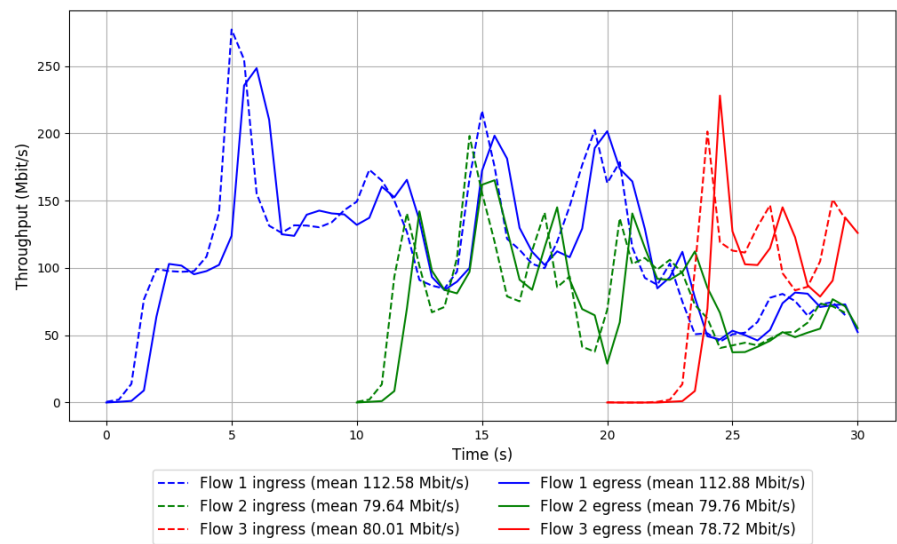
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-06-19 00:31:36
End at: 2018-06-19 00:32:06
Local clock offset: 0.031 ms
Remote clock offset: 0.604 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.70 Mbit/s
95th percentile per-packet one-way delay: 93.299 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 112.88 Mbit/s
95th percentile per-packet one-way delay: 92.797 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 79.76 Mbit/s
95th percentile per-packet one-way delay: 93.682 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 78.72 Mbit/s
95th percentile per-packet one-way delay: 93.768 ms
Loss rate: 3.31%
```
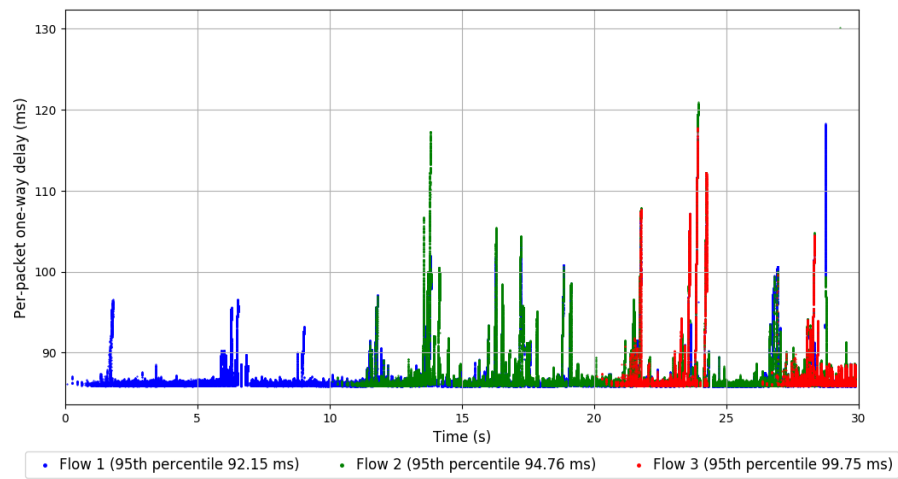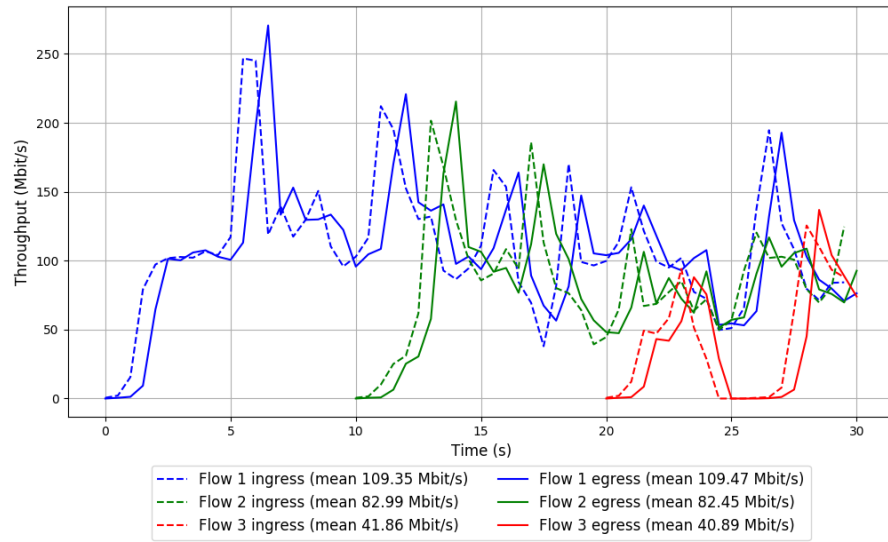
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-06-19 00:54:37
End at: 2018-06-19 00:55:07
Local clock offset: -0.006 ms
Remote clock offset: 0.261 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.65 Mbit/s
95th percentile per-packet one-way delay: 93.494 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 109.47 Mbit/s
95th percentile per-packet one-way delay: 92.146 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 82.45 Mbit/s
95th percentile per-packet one-way delay: 94.759 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 40.89 Mbit/s
95th percentile per-packet one-way delay: 99.747 ms
Loss rate: 4.03%
```
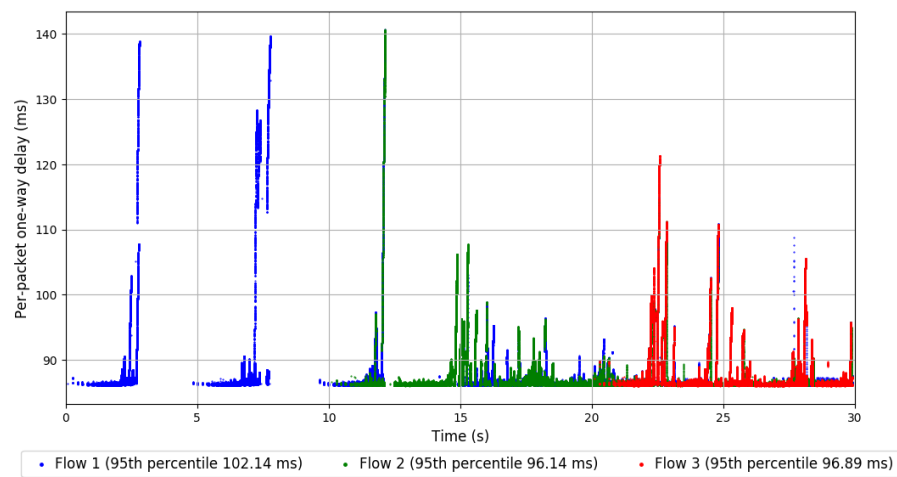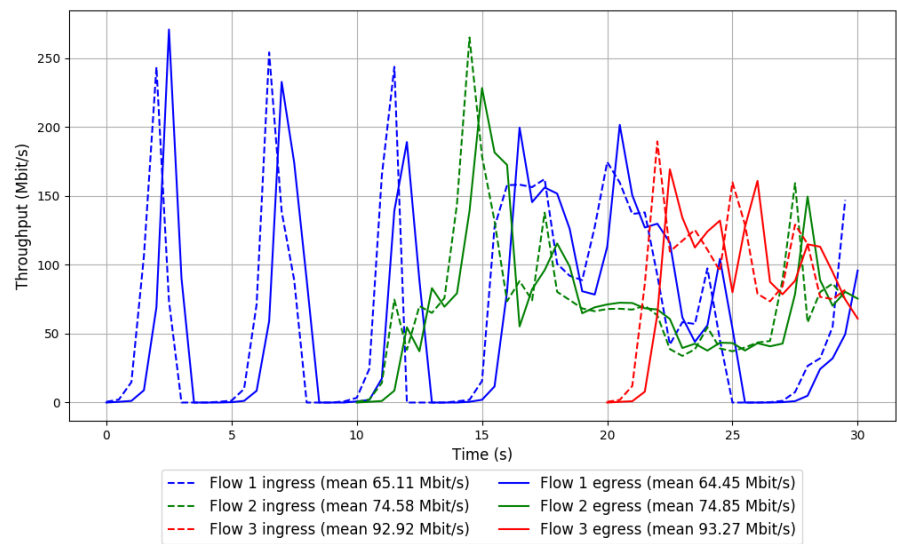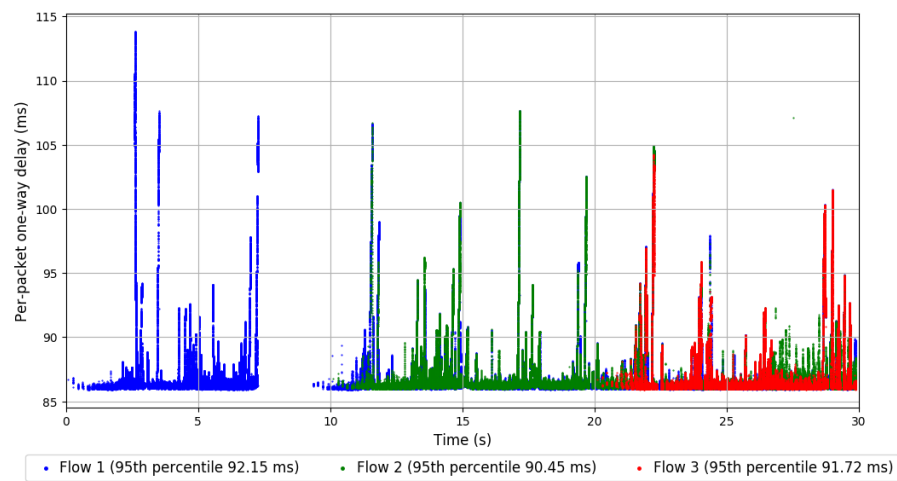
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-06-19 01:18:09
End at: 2018-06-19 01:18:39
Local clock offset: 0.159 ms
Remote clock offset: 0.0 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.81 Mbit/s
95th percentile per-packet one-way delay: 97.537 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 64.45 Mbit/s
95th percentile per-packet one-way delay: 102.144 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 96.141 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 93.27 Mbit/s
95th percentile per-packet one-way delay: 96.892 ms
Loss rate: 1.37%
```
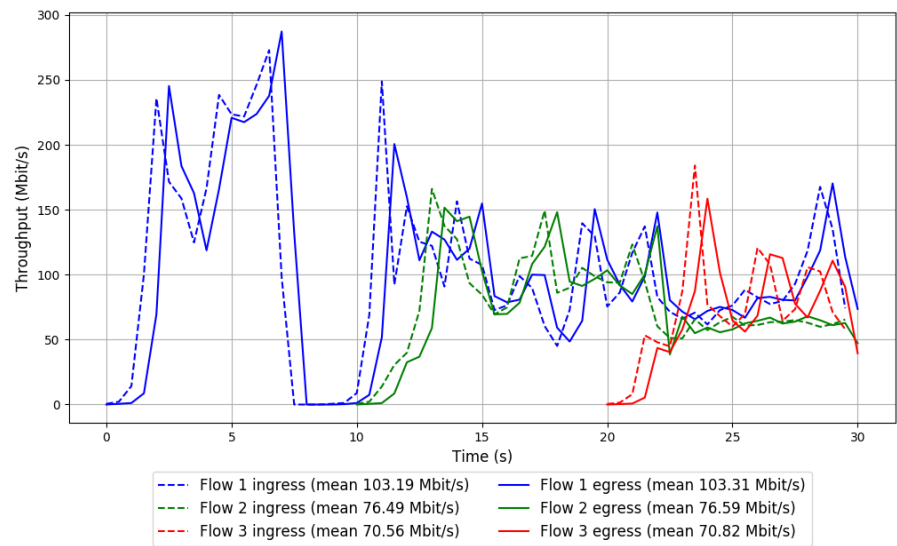
Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2018-06-19 01:41:17
End at: 2018-06-19 01:41:47
Local clock offset: 0.042 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2018-06-19 03:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.37 Mbit/s
95th percentile per-packet one-way delay: 91.549 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 103.31 Mbit/s
95th percentile per-packet one-way delay: 92.154 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 76.59 Mbit/s
95th percentile per-packet one-way delay: 90.448 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 70.82 Mbit/s
95th percentile per-packet one-way delay: 91.721 ms
Loss rate: 1.39%
```

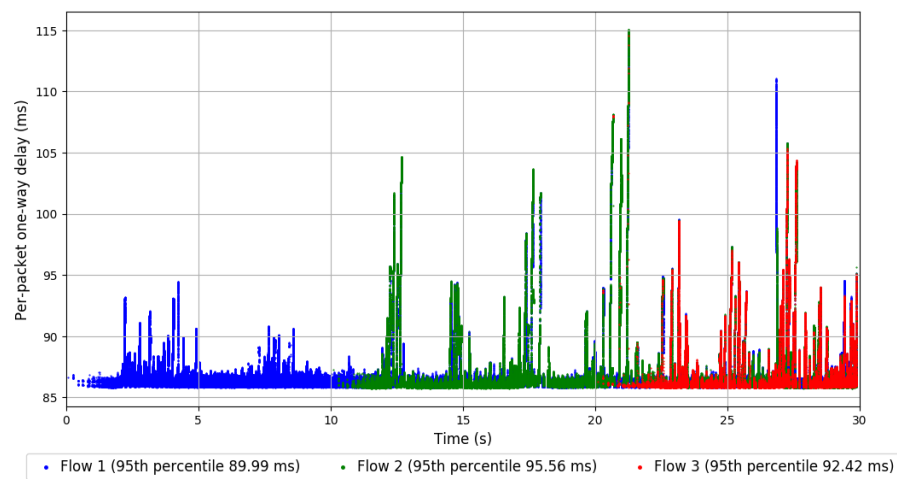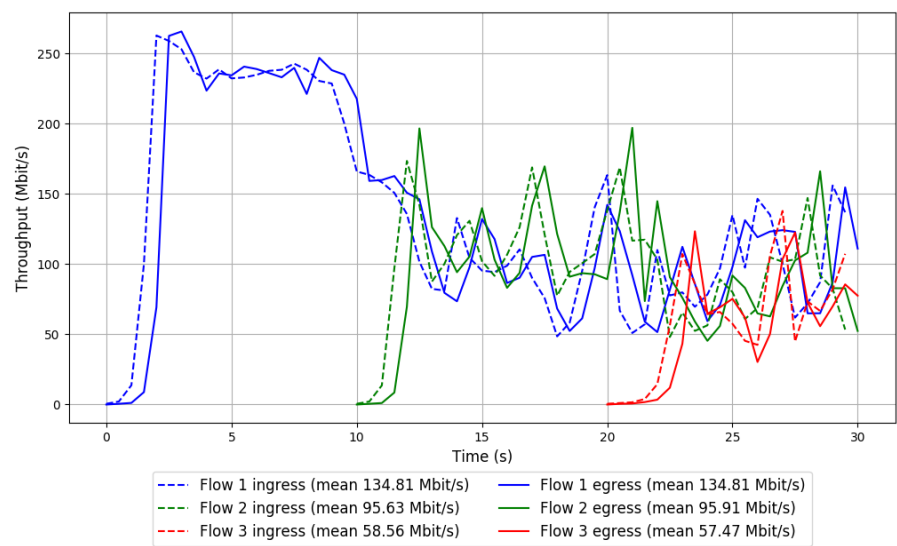# Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2018-06-19 02:04:31
End at: 2018-06-19 02:05:01
Local clock offset: -0.151 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2018-06-19 03:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.38 Mbit/s
95th percentile per-packet one-way delay: 91.757 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 134.81 Mbit/s
95th percentile per-packet one-way delay: 89.987 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 95.564 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 57.47 Mbit/s
95th percentile per-packet one-way delay: 92.416 ms
Loss rate: 3.49%
```
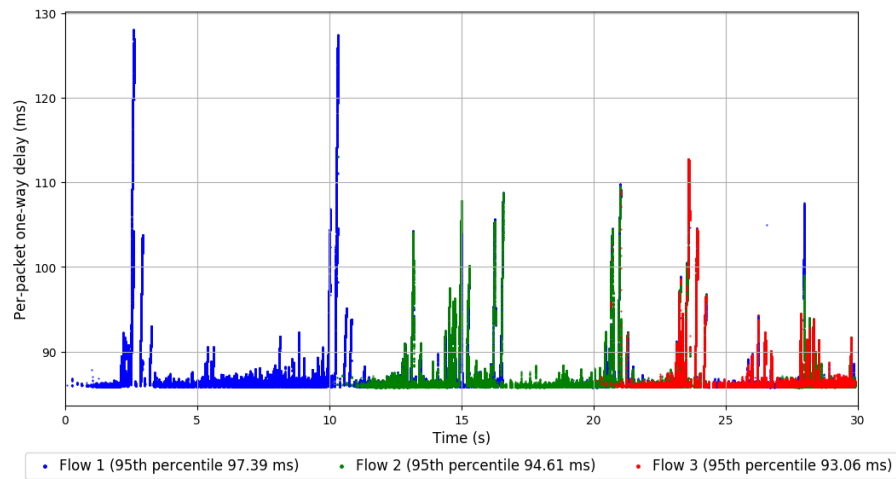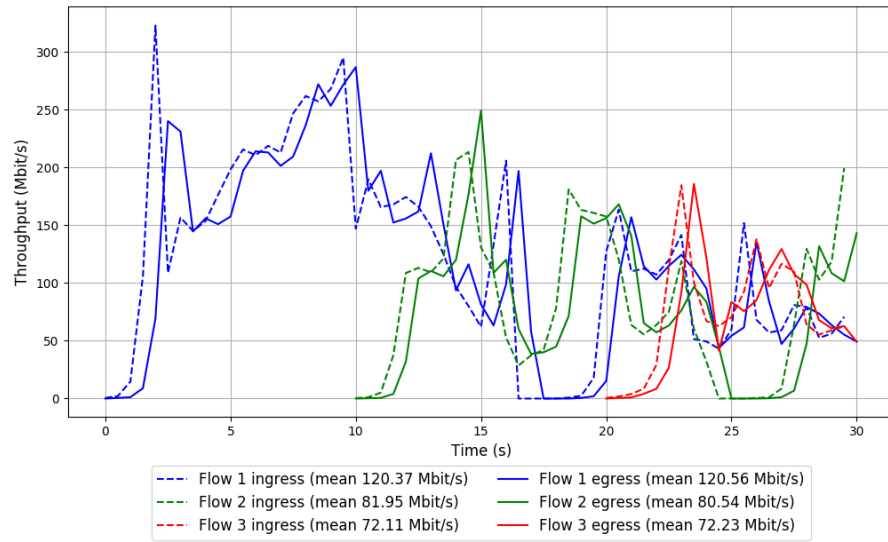
Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2018-06-19 02:27:41
End at: 2018-06-19 02:28:11
Local clock offset: -0.096 ms
Remote clock offset: -0.113 ms


# Below is generated by plot.py at 2018-06-19 03:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.76 Mbit/s
95th percentile per-packet one-way delay: 96.091 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 120.56 Mbit/s
95th percentile per-packet one-way delay: 97.392 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 80.54 Mbit/s
95th percentile per-packet one-way delay: 94.615 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 72.23 Mbit/s
95th percentile per-packet one-way delay: 93.062 ms
Loss rate: 1.59%
```
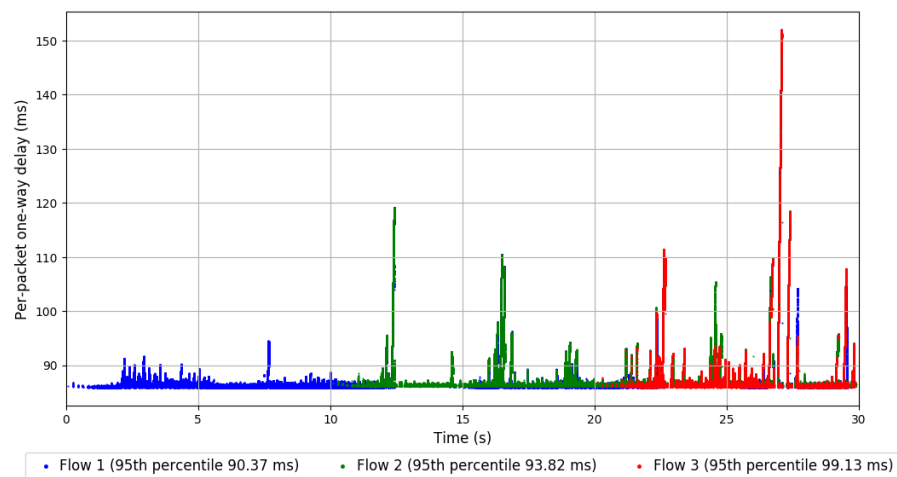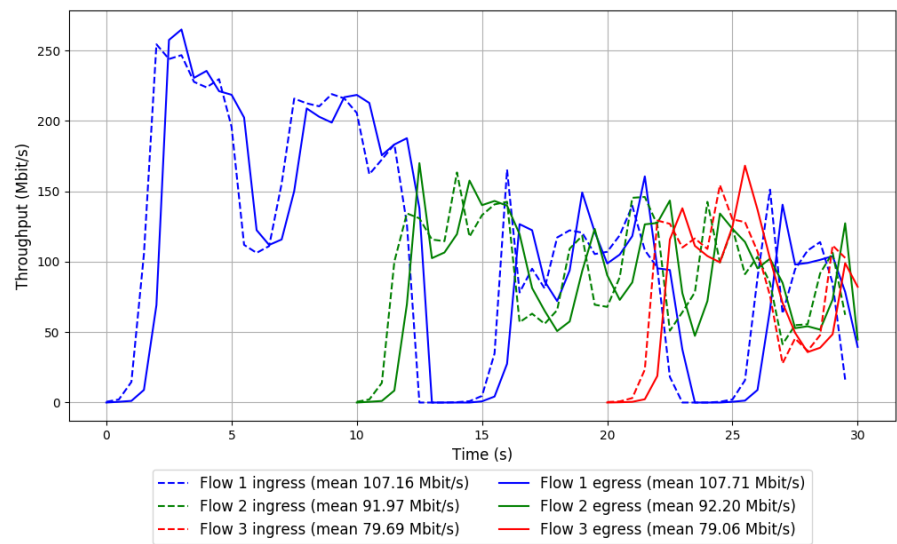
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 120.37 Mbit/s)   Flow 1 egress (mean 120.56 Mbit/s)
Flow 2 ingress (mean 81.95 Mbit/s)   Flow 2 egress (mean 80.54 Mbit/s)
Flow 3 ingress (mean 72.11 Mbit/s)   Flow 3 egress (mean 72.23 Mbit/s)

Flow 1 (95th percentile 97.39 ms)   Flow 2 (95th percentile 94.61 ms)   Flow 3 (95th percentile 93.06 ms)

```
Run 9: Statistics of Copa

Start at: 2018-06-19 02:50:44
End at: 2018-06-19 02:51:14
Local clock offset: 0.079 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-06-19 03:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 194.62 Mbit/s
95th percentile per-packet one-way delay: 92.257 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 107.71 Mbit/s
95th percentile per-packet one-way delay: 90.370 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 93.821 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 79.06 Mbit/s
95th percentile per-packet one-way delay: 99.130 ms
Loss rate: 2.52%
```
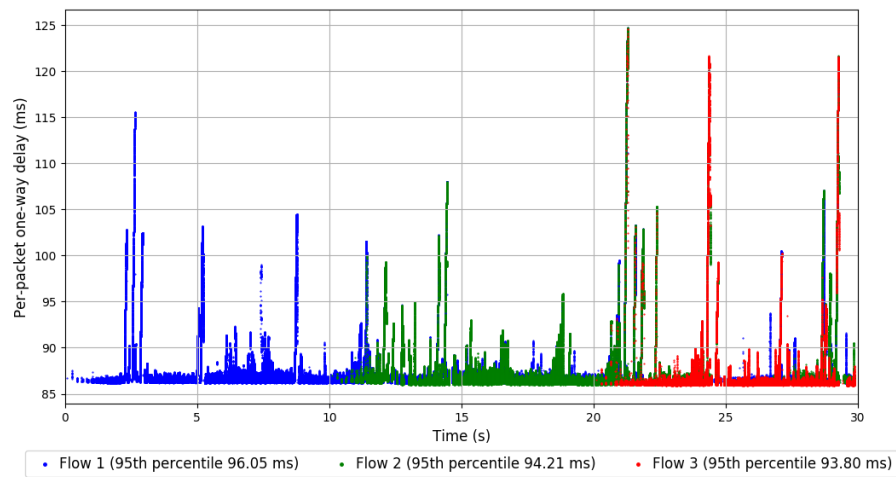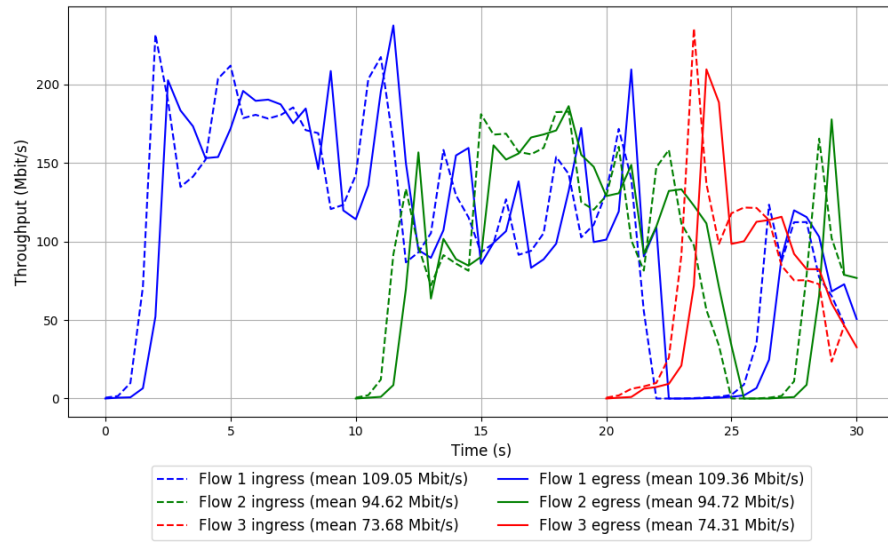
Run 9: Report of Copa — Data Link

Flow 1 ingress (mean 107.16 Mbit/s) --- Flow 1 egress (mean 107.71 Mbit/s) ———
Flow 2 ingress (mean 91.97 Mbit/s) --- Flow 2 egress (mean 92.20 Mbit/s) ———
Flow 3 ingress (mean 79.69 Mbit/s) --- Flow 3 egress (mean 79.06 Mbit/s) ———

Flow 1 (95th percentile 90.37 ms) Flow 2 (95th percentile 93.82 ms) Flow 3 (95th percentile 99.13 ms)

41

```
Run 10: Statistics of Copa

Start at: 2018-06-19 03:13:45
End at: 2018-06-19 03:14:15
Local clock offset: 0.117 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2018-06-19 03:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.62 Mbit/s
95th percentile per-packet one-way delay: 95.117 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 109.36 Mbit/s
95th percentile per-packet one-way delay: 96.045 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 94.207 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 74.31 Mbit/s
95th percentile per-packet one-way delay: 93.802 ms
Loss rate: 0.93%
```
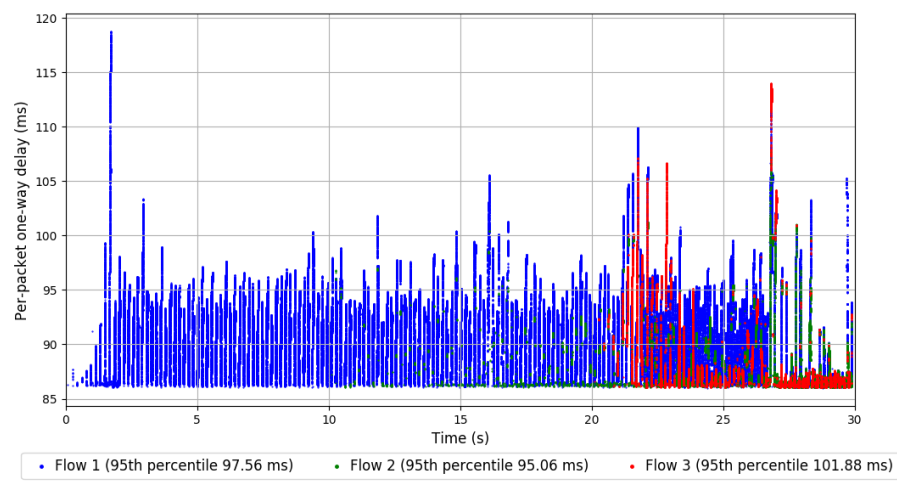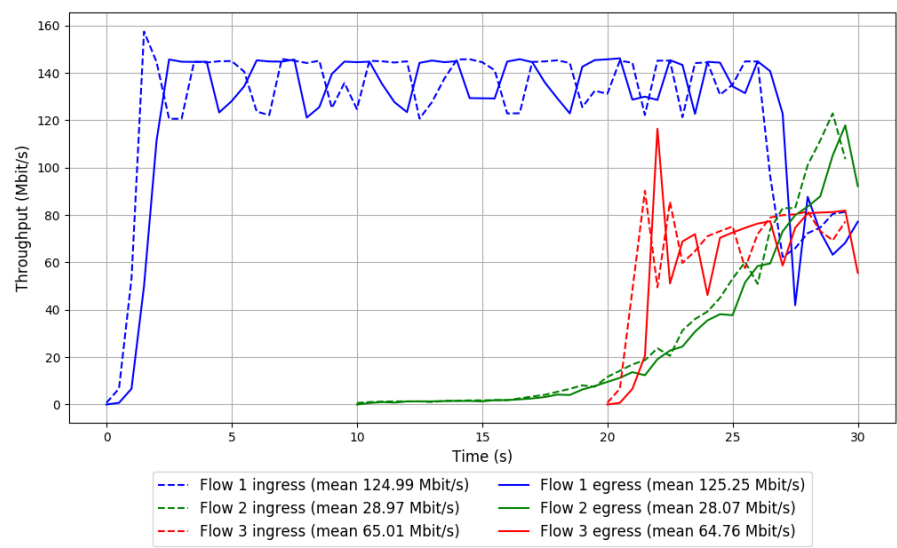
Run 10: Report of Copa — Data Link

Flow 1 ingress (mean 109.05 Mbit/s) ----- Flow 1 egress (mean 109.36 Mbit/s) ———
Flow 2 ingress (mean 94.62 Mbit/s) ----- Flow 2 egress (mean 94.72 Mbit/s) ———
Flow 3 ingress (mean 73.68 Mbit/s) ----- Flow 3 egress (mean 74.31 Mbit/s) ———

Flow 1 (95th percentile 96.05 ms)   Flow 2 (95th percentile 94.21 ms)   Flow 3 (95th percentile 93.80 ms)

43

```
Run 1: Statistics of TCP Cubic

Start at: 2018-06-18 23:55:46
End at: 2018-06-18 23:56:16
Local clock offset: 0.041 ms
Remote clock offset: 0.112 ms


# Below is generated by plot.py at 2018-06-19 03:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.16 Mbit/s
95th percentile per-packet one-way delay: 97.522 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 125.25 Mbit/s
95th percentile per-packet one-way delay: 97.555 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 28.07 Mbit/s
95th percentile per-packet one-way delay: 95.065 ms
Loss rate: 3.95%
-- Flow 3:
Average throughput: 64.76 Mbit/s
95th percentile per-packet one-way delay: 101.878 ms
Loss rate: 2.12%
```
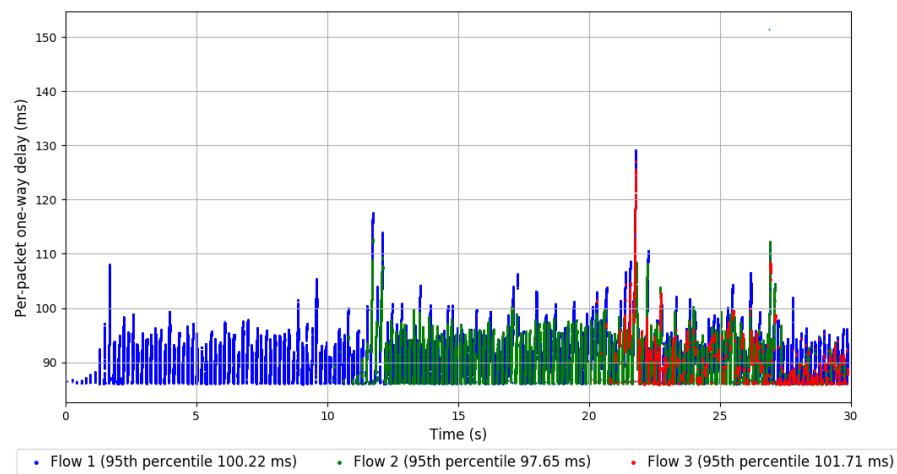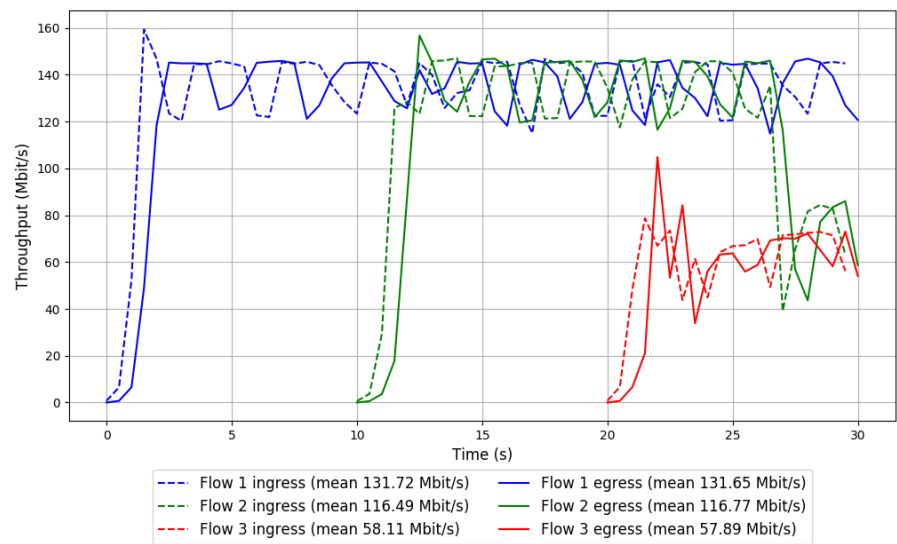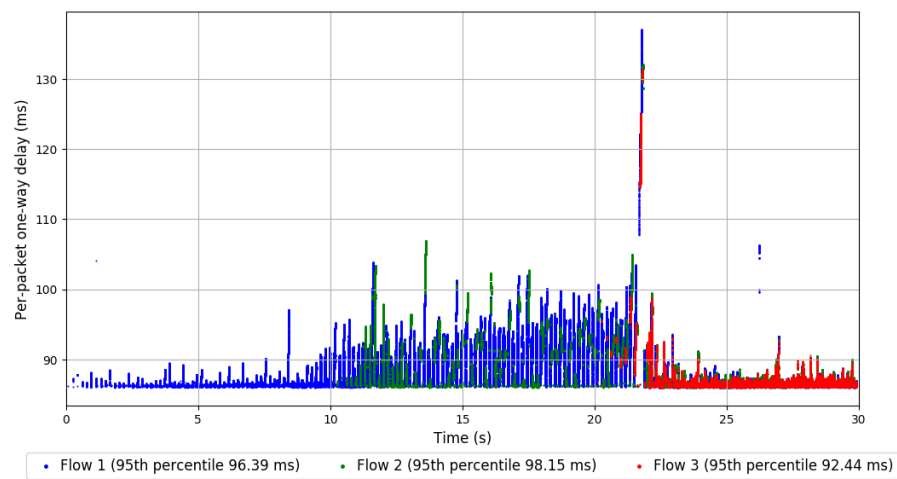
Run 1: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 124.99 Mbit/s) —— Flow 1 egress (mean 125.25 Mbit/s)
- - - - Flow 2 ingress (mean 28.97 Mbit/s) —— Flow 2 egress (mean 28.07 Mbit/s)
- - - - Flow 3 ingress (mean 65.01 Mbit/s) —— Flow 3 egress (mean 64.76 Mbit/s)

- Flow 1 (95th percentile 97.56 ms) • Flow 2 (95th percentile 95.06 ms) • Flow 3 (95th percentile 101.88 ms)

45

```
Run 2: Statistics of TCP Cubic

Start at: 2018-06-19 00:18:49
End at: 2018-06-19 00:19:19
Local clock offset: -0.023 ms
Remote clock offset: 0.507 ms


# Below is generated by plot.py at 2018-06-19 03:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.19 Mbit/s
95th percentile per-packet one-way delay: 99.415 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 131.65 Mbit/s
95th percentile per-packet one-way delay: 100.218 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 116.77 Mbit/s
95th percentile per-packet one-way delay: 97.652 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 101.706 ms
Loss rate: 2.11%
```
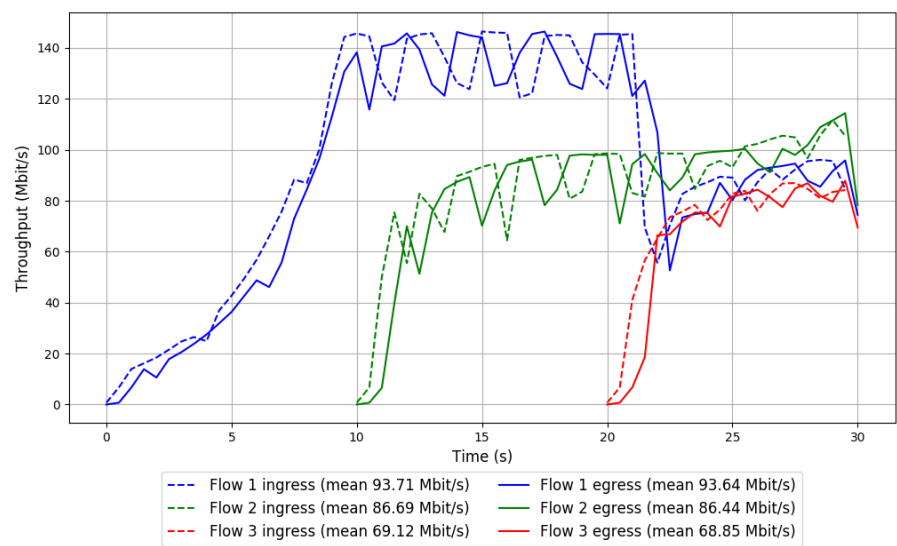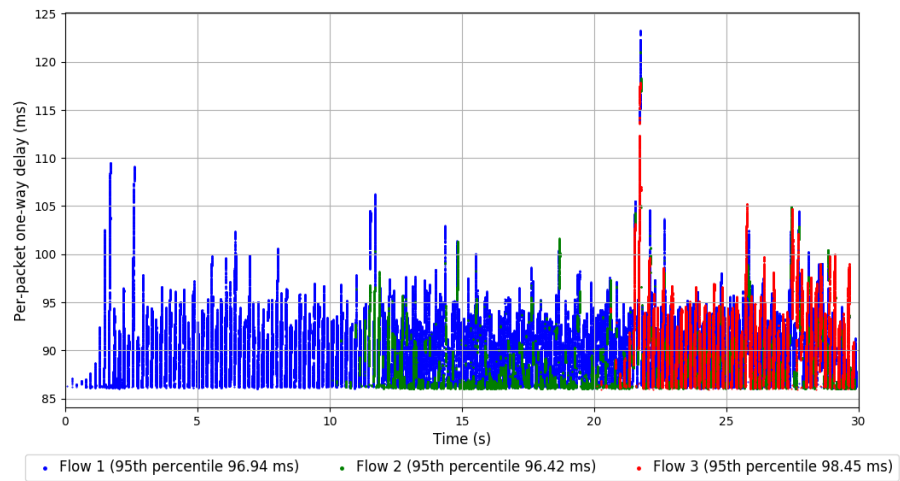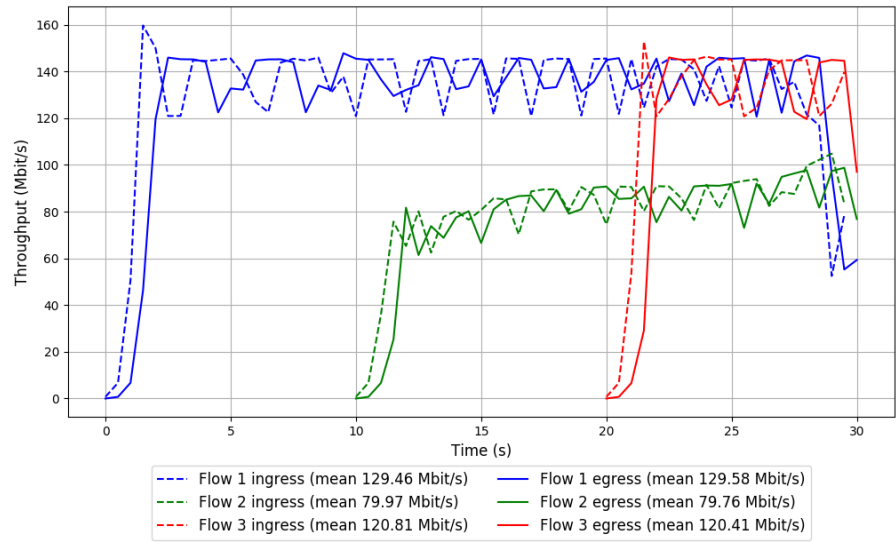
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 131.72 Mbit/s) ----- Flow 1 egress (mean 131.65 Mbit/s) ——
Flow 2 ingress (mean 116.49 Mbit/s) ----- Flow 2 egress (mean 116.77 Mbit/s) ——
Flow 3 ingress (mean 58.11 Mbit/s) ----- Flow 3 egress (mean 57.89 Mbit/s) ——

Flow 1 (95th percentile 100.22 ms)   Flow 2 (95th percentile 97.65 ms)   Flow 3 (95th percentile 101.71 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-06-19 00:41:58
End at: 2018-06-19 00:42:28
Local clock offset: 0.031 ms
Remote clock offset: 0.751 ms


# Below is generated by plot.py at 2018-06-19 03:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.68 Mbit/s
95th percentile per-packet one-way delay: 97.012 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 93.64 Mbit/s
95th percentile per-packet one-way delay: 96.394 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 86.44 Mbit/s
95th percentile per-packet one-way delay: 98.148 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 68.85 Mbit/s
95th percentile per-packet one-way delay: 92.445 ms
Loss rate: 2.13%
```
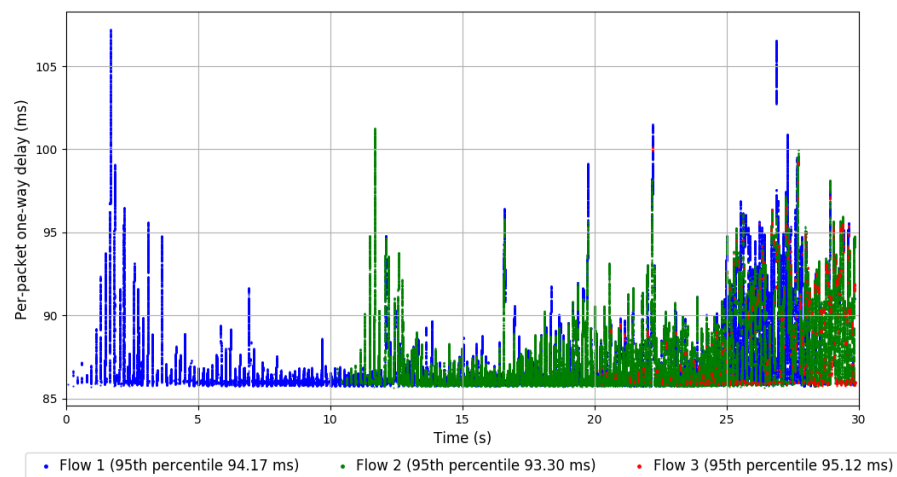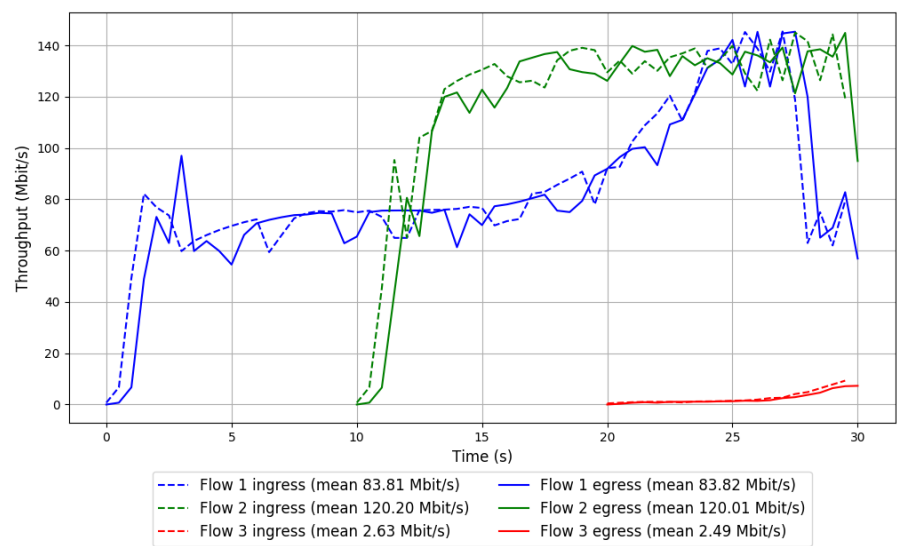
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 93.71 Mbit/s) --- Flow 1 egress (mean 93.64 Mbit/s)
Flow 2 ingress (mean 86.69 Mbit/s) --- Flow 2 egress (mean 86.44 Mbit/s)
Flow 3 ingress (mean 69.12 Mbit/s) --- Flow 3 egress (mean 68.85 Mbit/s)

Flow 1 (95th percentile 96.39 ms) · Flow 2 (95th percentile 98.15 ms) · Flow 3 (95th percentile 92.44 ms)

49

```
Run 4: Statistics of TCP Cubic

Start at: 2018-06-19 01:05:21
End at: 2018-06-19 01:05:51
Local clock offset: -0.047 ms
Remote clock offset: 0.066 ms


# Below is generated by plot.py at 2018-06-19 03:55:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 221.73 Mbit/s
95th percentile per-packet one-way delay: 97.345 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 129.58 Mbit/s
95th percentile per-packet one-way delay: 96.939 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 79.76 Mbit/s
95th percentile per-packet one-way delay: 96.424 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 120.41 Mbit/s
95th percentile per-packet one-way delay: 98.453 ms
Loss rate: 2.03%
```
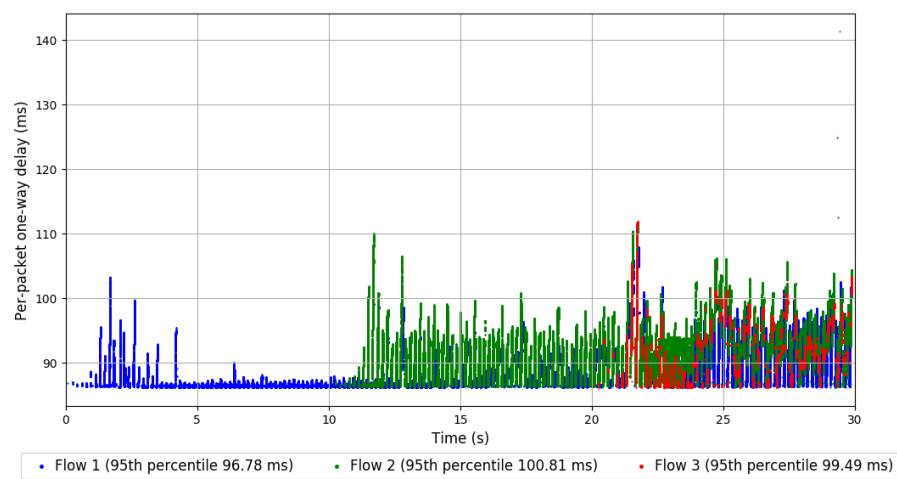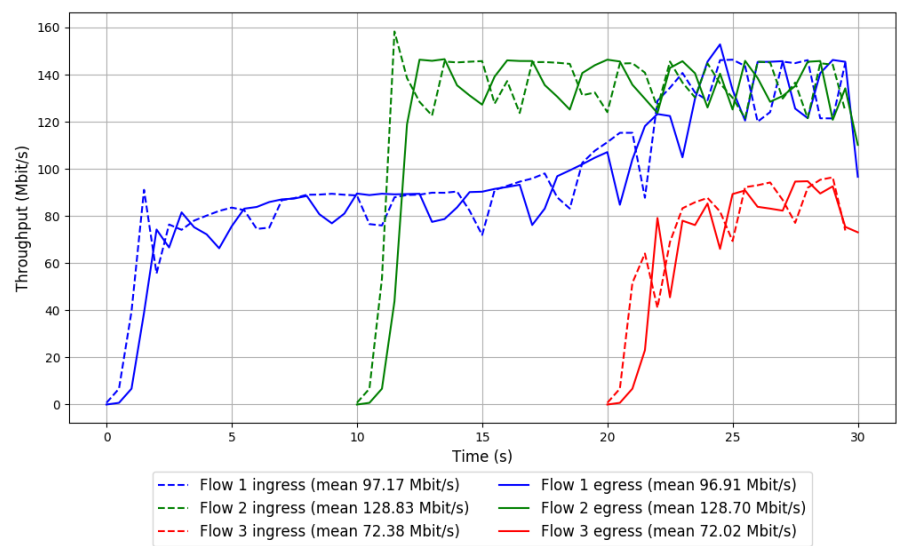
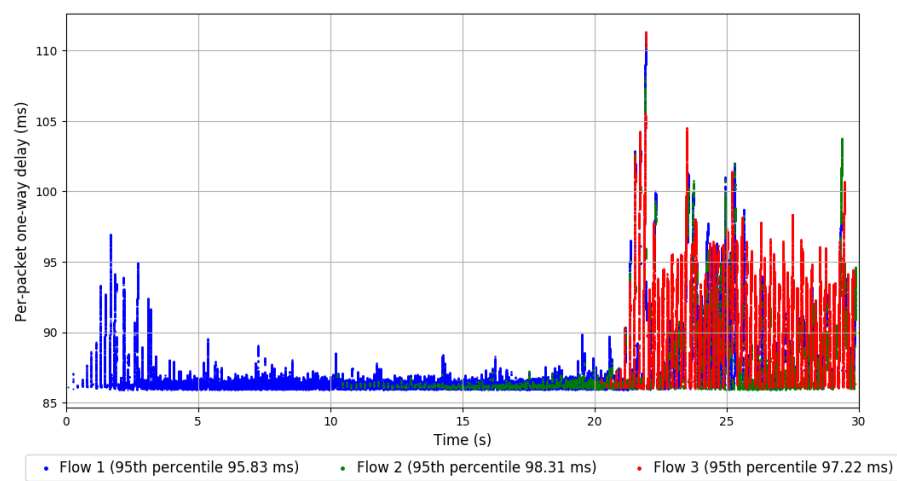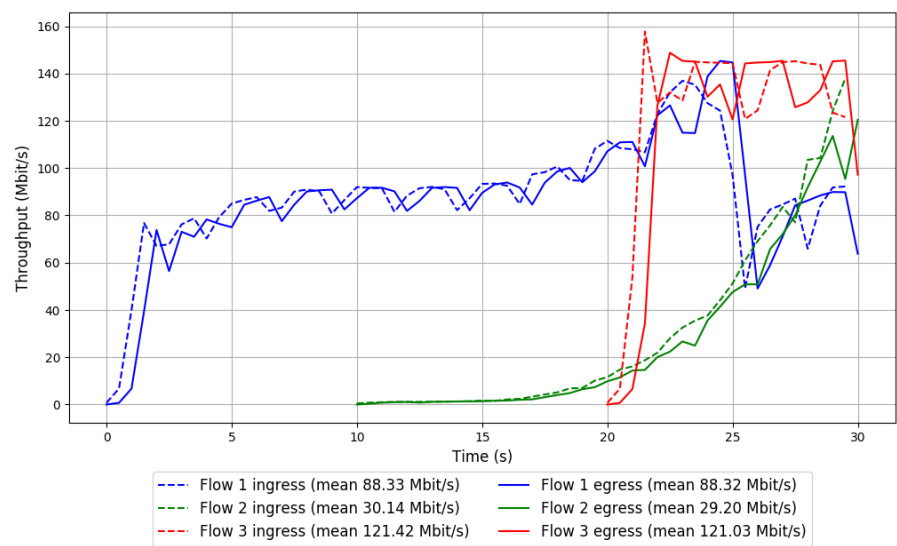Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-06-19 01:28:39
End at: 2018-06-19 01:29:09
Local clock offset: -0.222 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-06-19 03:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.04 Mbit/s
95th percentile per-packet one-way delay: 93.751 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 83.82 Mbit/s
95th percentile per-packet one-way delay: 94.173 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 120.01 Mbit/s
95th percentile per-packet one-way delay: 93.296 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 95.116 ms
Loss rate: 7.06%
```
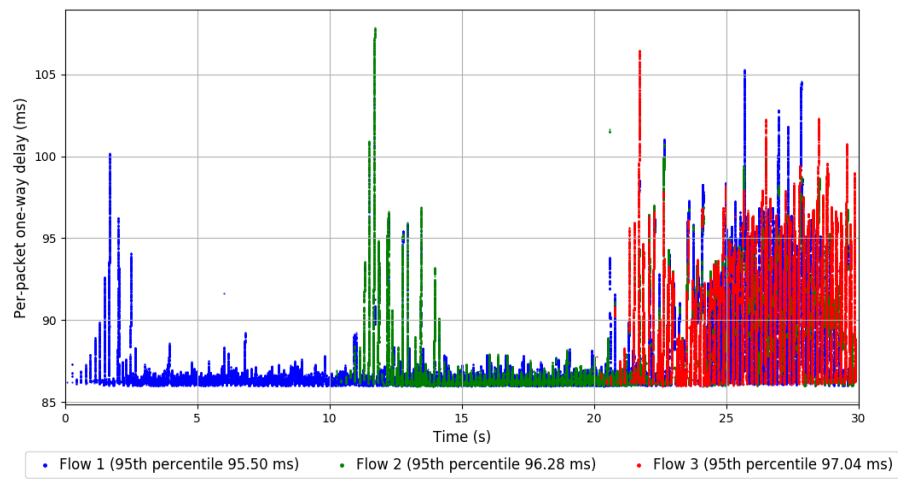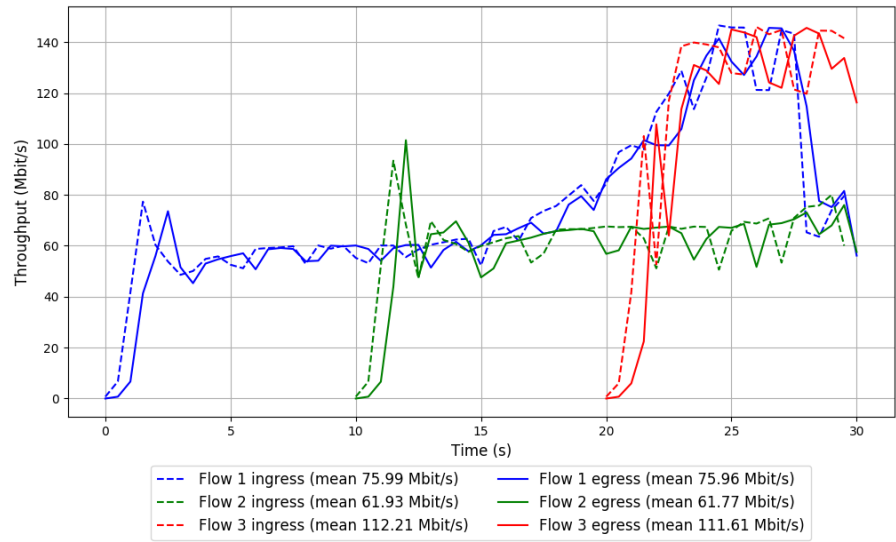
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 83.81 Mbit/s) --- Flow 1 egress (mean 83.82 Mbit/s)
Flow 2 ingress (mean 120.20 Mbit/s) --- Flow 2 egress (mean 120.01 Mbit/s)
Flow 3 ingress (mean 2.63 Mbit/s) --- Flow 3 egress (mean 2.49 Mbit/s)

Flow 1 (95th percentile 94.17 ms) • Flow 2 (95th percentile 93.30 ms) • Flow 3 (95th percentile 95.12 ms)

```
Run 6: Statistics of TCP Cubic

Start at: 2018-06-19 01:51:47
End at: 2018-06-19 01:52:17
Local clock offset: 0.204 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2018-06-19 03:56:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.84 Mbit/s
95th percentile per-packet one-way delay: 99.167 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 96.91 Mbit/s
95th percentile per-packet one-way delay: 96.775 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 128.70 Mbit/s
95th percentile per-packet one-way delay: 100.812 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 72.02 Mbit/s
95th percentile per-packet one-way delay: 99.488 ms
Loss rate: 2.23%
```
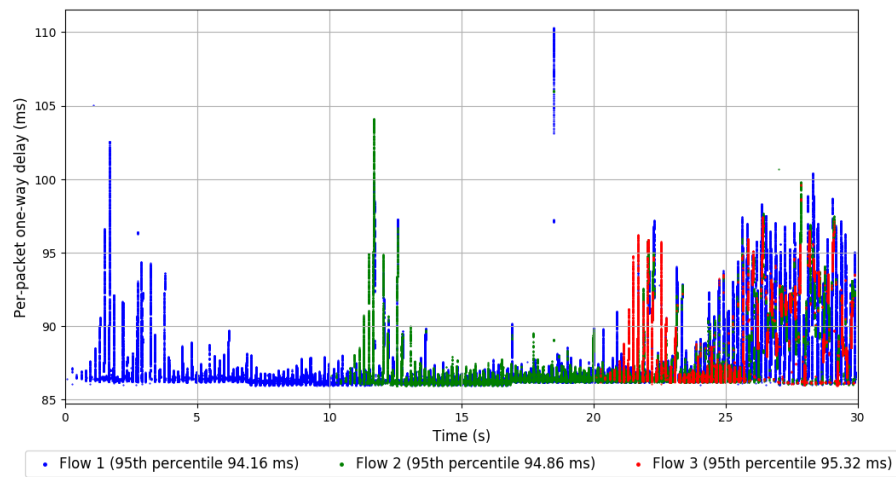
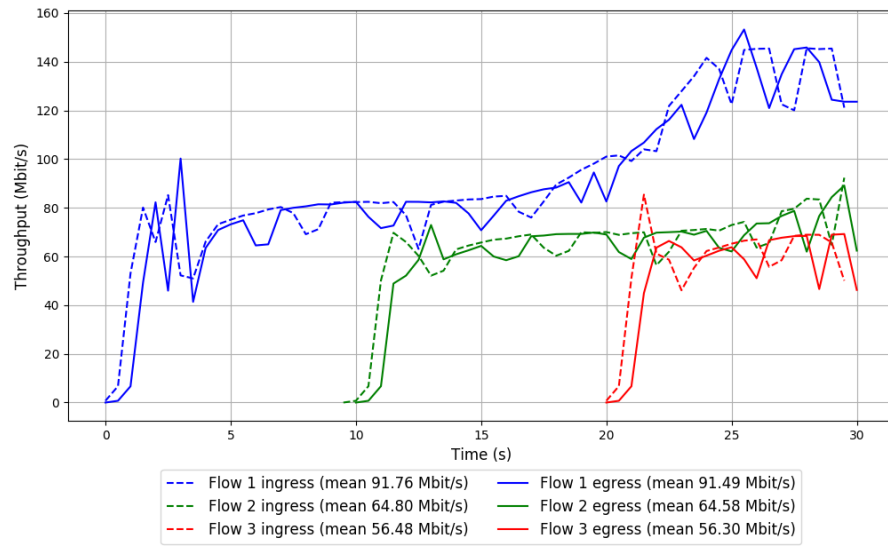Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2018-06-19 02:14:54
End at: 2018-06-19 02:15:24
Local clock offset: -0.045 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2018-06-19 03:56:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.08 Mbit/s
95th percentile per-packet one-way delay: 96.658 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 88.32 Mbit/s
95th percentile per-packet one-way delay: 95.830 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 29.20 Mbit/s
95th percentile per-packet one-way delay: 98.306 ms
Loss rate: 3.96%
-- Flow 3:
Average throughput: 121.03 Mbit/s
95th percentile per-packet one-way delay: 97.224 ms
Loss rate: 2.03%
```

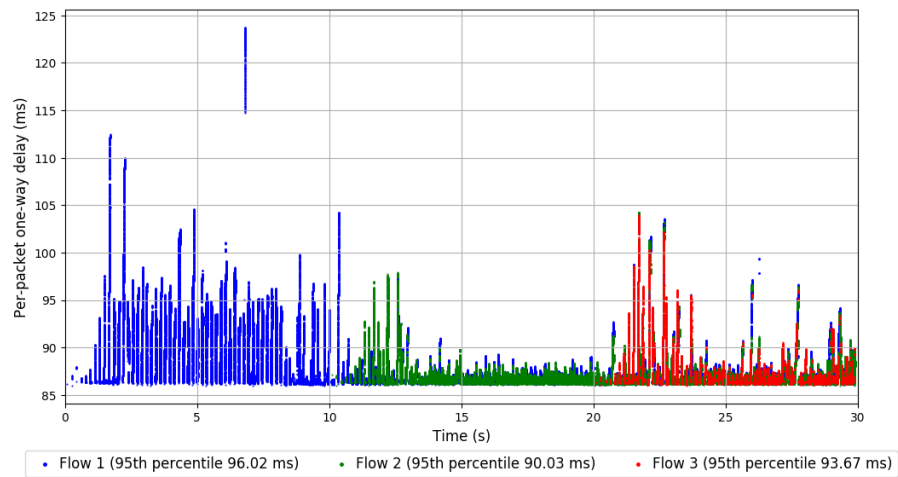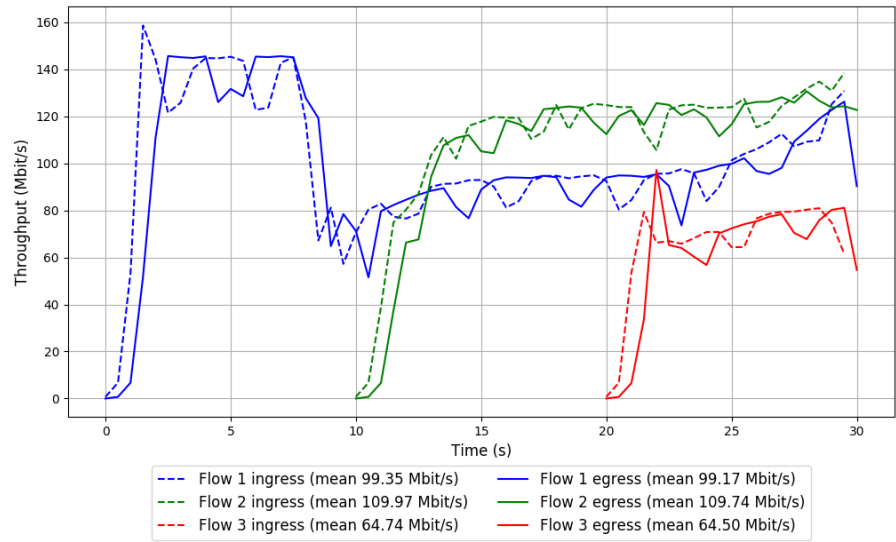Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2018-06-19 02:37:59
End at: 2018-06-19 02:38:29
Local clock offset: 0.037 ms
Remote clock offset: -0.074 ms


# Below is generated by plot.py at 2018-06-19 03:56:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 153.51 Mbit/s
95th percentile per-packet one-way delay: 96.218 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 95.505 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 61.77 Mbit/s
95th percentile per-packet one-way delay: 96.277 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 111.61 Mbit/s
95th percentile per-packet one-way delay: 97.036 ms
Loss rate: 2.28%
```

Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-06-19 03:01:01
End at: 2018-06-19 03:01:31
Local clock offset: 0.125 ms
Remote clock offset: -0.076 ms


# Below is generated by plot.py at 2018-06-19 03:56:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.90 Mbit/s
95th percentile per-packet one-way delay: 94.659 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 91.49 Mbit/s
95th percentile per-packet one-way delay: 94.163 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 64.58 Mbit/s
95th percentile per-packet one-way delay: 94.861 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 56.30 Mbit/s
95th percentile per-packet one-way delay: 95.322 ms
Loss rate: 2.05%
```
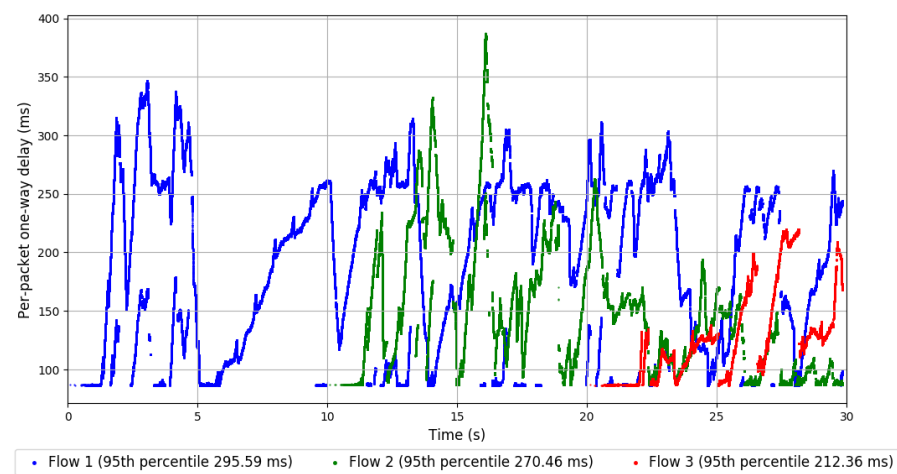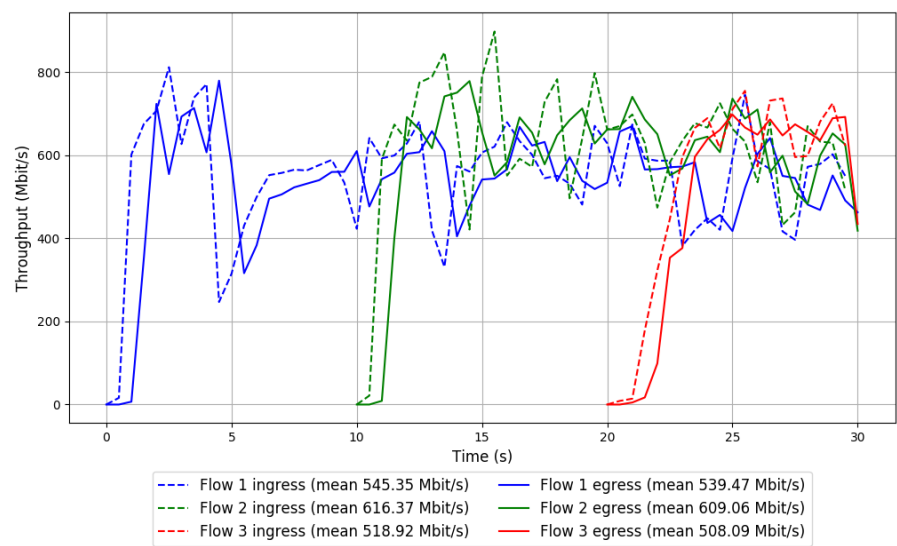
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-06-19 03:24:12
End at: 2018-06-19 03:24:42
Local clock offset: 0.02 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2018-06-19 03:57:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 193.17 Mbit/s
95th percentile per-packet one-way delay: 94.710 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 99.17 Mbit/s
95th percentile per-packet one-way delay: 96.015 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 109.74 Mbit/s
95th percentile per-packet one-way delay: 90.035 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 64.50 Mbit/s
95th percentile per-packet one-way delay: 93.668 ms
Loss rate: 2.10%
```

Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-06-18 23:36:25
End at: 2018-06-18 23:36:55
Local clock offset: 0.195 ms
Remote clock offset: -0.949 ms


# Below is generated by plot.py at 2018-06-19 04:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1109.63 Mbit/s
95th percentile per-packet one-way delay: 282.878 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 539.47 Mbit/s
95th percentile per-packet one-way delay: 295.588 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 609.06 Mbit/s
95th percentile per-packet one-way delay: 270.462 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 508.09 Mbit/s
95th percentile per-packet one-way delay: 212.358 ms
Loss rate: 3.81%
```
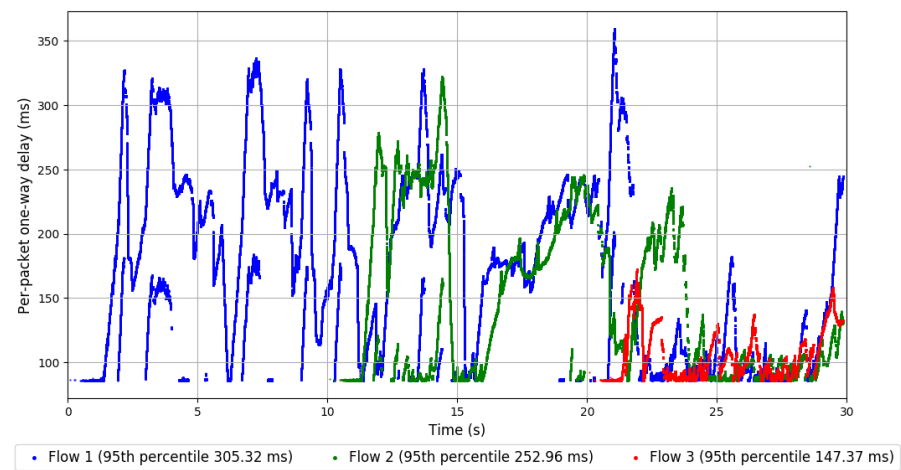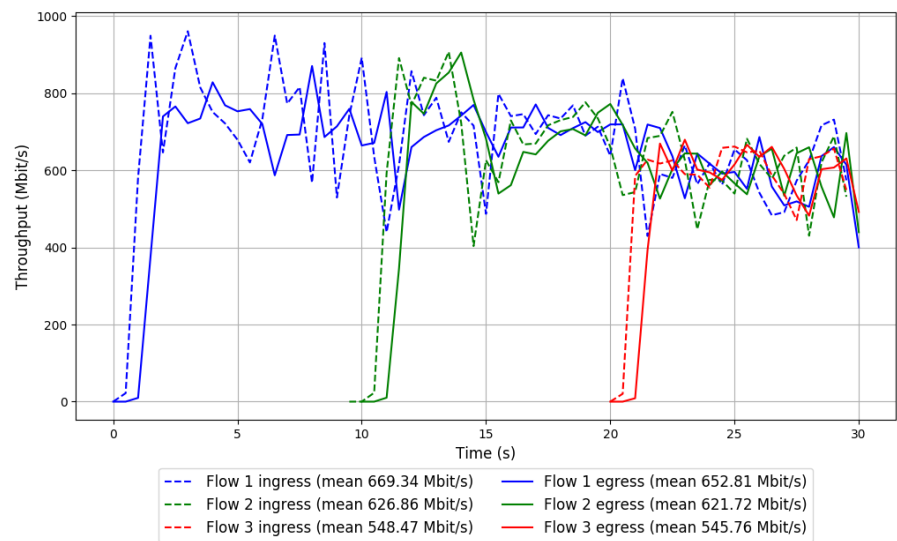
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-06-18 23:59:31
End at: 2018-06-19 00:00:01
Local clock offset: 0.017 ms
Remote clock offset: 0.154 ms


# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1244.63 Mbit/s
95th percentile per-packet one-way delay: 290.019 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 652.81 Mbit/s
95th percentile per-packet one-way delay: 305.320 ms
Loss rate: 3.03%
-- Flow 2:
Average throughput: 621.72 Mbit/s
95th percentile per-packet one-way delay: 252.961 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 545.76 Mbit/s
95th percentile per-packet one-way delay: 147.369 ms
Loss rate: 2.23%
```
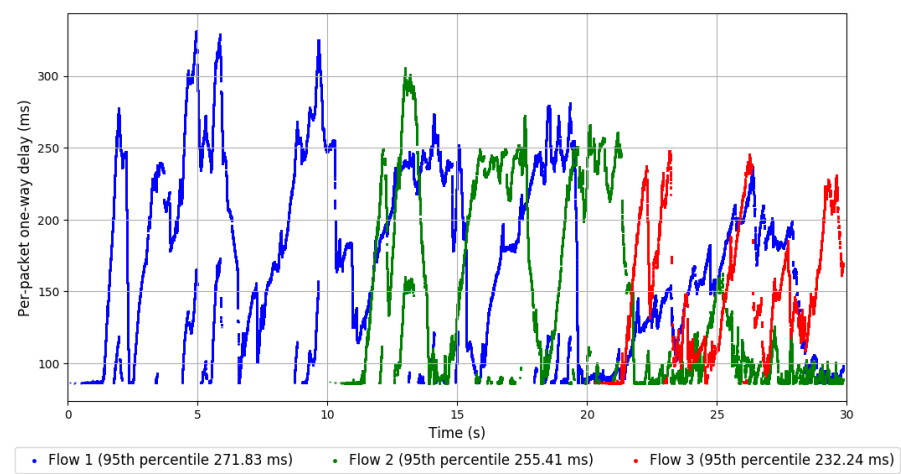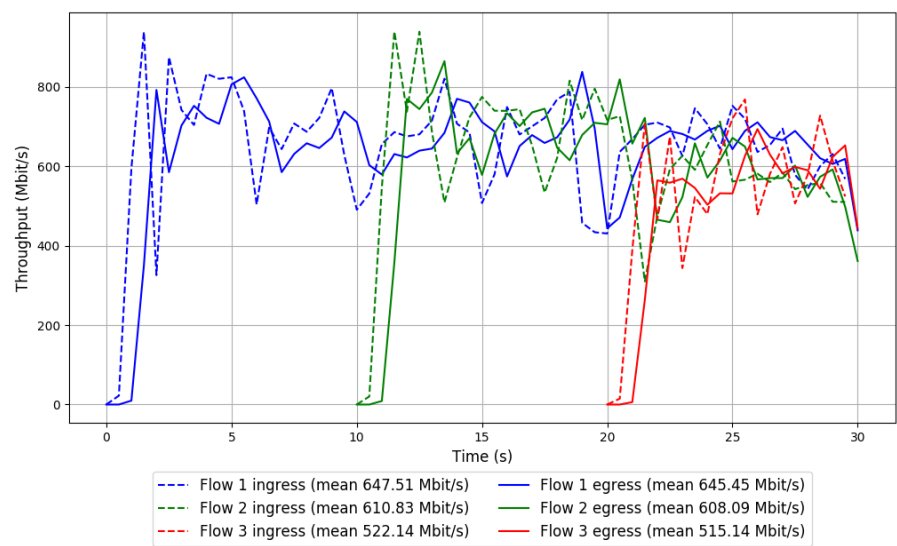
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-06-19 00:22:37
End at: 2018-06-19 00:23:07
Local clock offset: 0.245 ms
Remote clock offset: 0.554 ms

# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1217.86 Mbit/s
95th percentile per-packet one-way delay: 261.929 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 645.45 Mbit/s
95th percentile per-packet one-way delay: 271.834 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 608.09 Mbit/s
95th percentile per-packet one-way delay: 255.405 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 515.14 Mbit/s
95th percentile per-packet one-way delay: 232.241 ms
Loss rate: 3.07%
```
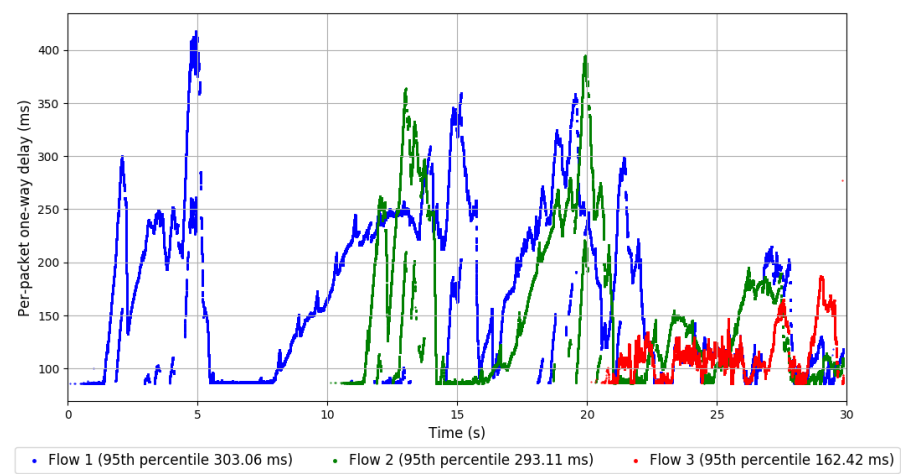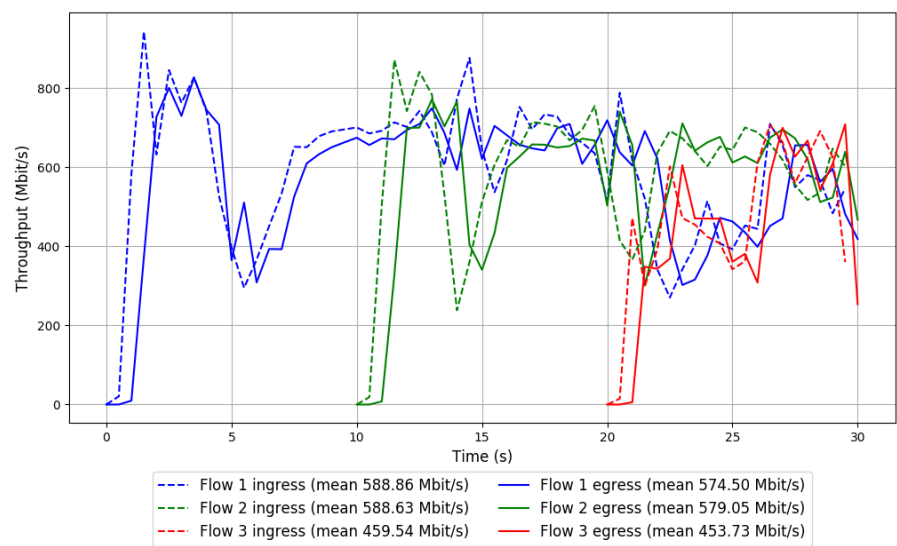
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-06-19 00:45:42
End at: 2018-06-19 00:46:12
Local clock offset: 0.015 ms
Remote clock offset: 0.754 ms

# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1106.78 Mbit/s
95th percentile per-packet one-way delay: 293.503 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 574.50 Mbit/s
95th percentile per-packet one-way delay: 303.062 ms
Loss rate: 3.00%
-- Flow 2:
Average throughput: 579.05 Mbit/s
95th percentile per-packet one-way delay: 293.107 ms
Loss rate: 2.49%
-- Flow 3:
Average throughput: 453.73 Mbit/s
95th percentile per-packet one-way delay: 162.420 ms
Loss rate: 2.92%
```
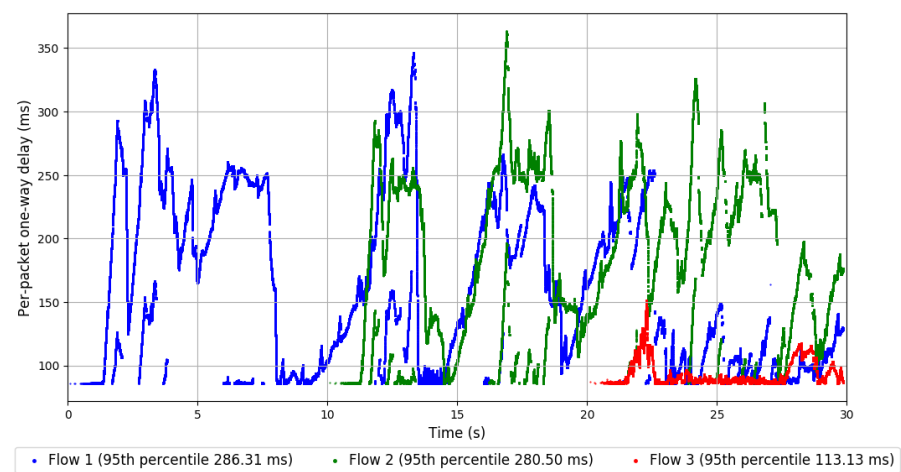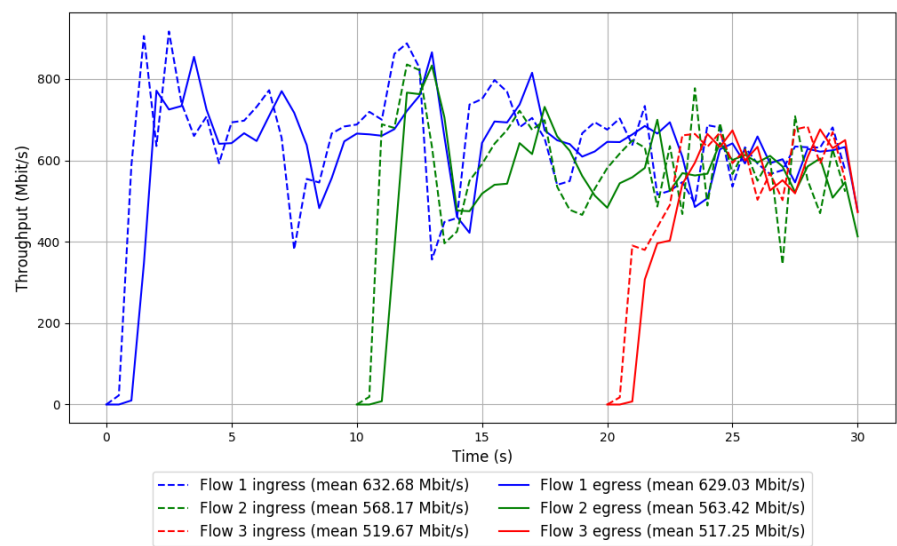
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 588.86 Mbit/s) — — — Flow 1 egress (mean 574.50 Mbit/s)
Flow 2 ingress (mean 588.63 Mbit/s) — — — Flow 2 egress (mean 579.05 Mbit/s)
Flow 3 ingress (mean 459.54 Mbit/s) — — — Flow 3 egress (mean 453.73 Mbit/s)

Flow 1 (95th percentile 303.06 ms)   Flow 2 (95th percentile 293.11 ms)   Flow 3 (95th percentile 162.42 ms)
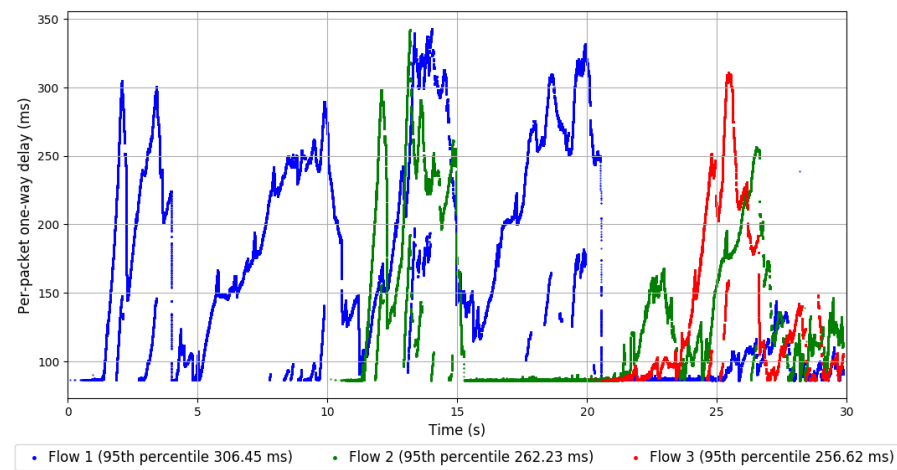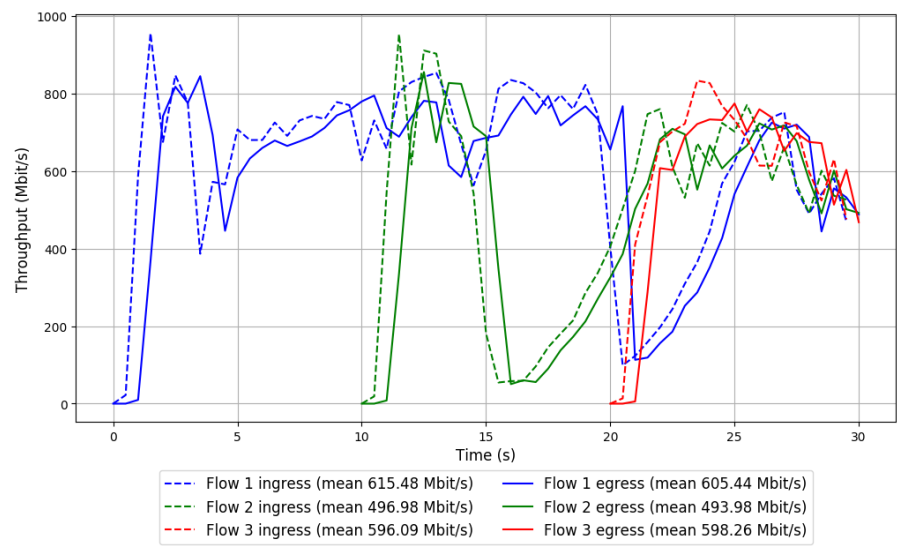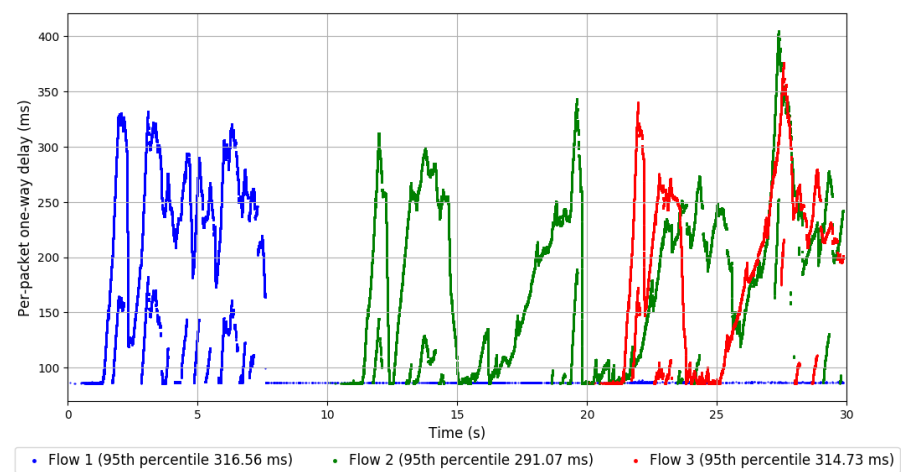
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```
Run 5: Statistics of FillP

Start at: 2018-06-19 01:09:08
End at: 2018-06-19 01:09:38
Local clock offset: -0.14 ms
Remote clock offset: 0.01 ms


# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1172.45 Mbit/s
95th percentile per-packet one-way delay: 276.985 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 629.03 Mbit/s
95th percentile per-packet one-way delay: 286.313 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 563.42 Mbit/s
95th percentile per-packet one-way delay: 280.502 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 517.25 Mbit/s
95th percentile per-packet one-way delay: 113.129 ms
Loss rate: 2.13%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 632.68 Mbit/s) — Flow 1 egress (mean 629.03 Mbit/s)
Flow 2 ingress (mean 568.17 Mbit/s) — Flow 2 egress (mean 563.42 Mbit/s)
Flow 3 ingress (mean 519.67 Mbit/s) — Flow 3 egress (mean 517.25 Mbit/s)

Flow 1 (95th percentile 286.31 ms)   Flow 2 (95th percentile 280.50 ms)   Flow 3 (95th percentile 113.13 ms)
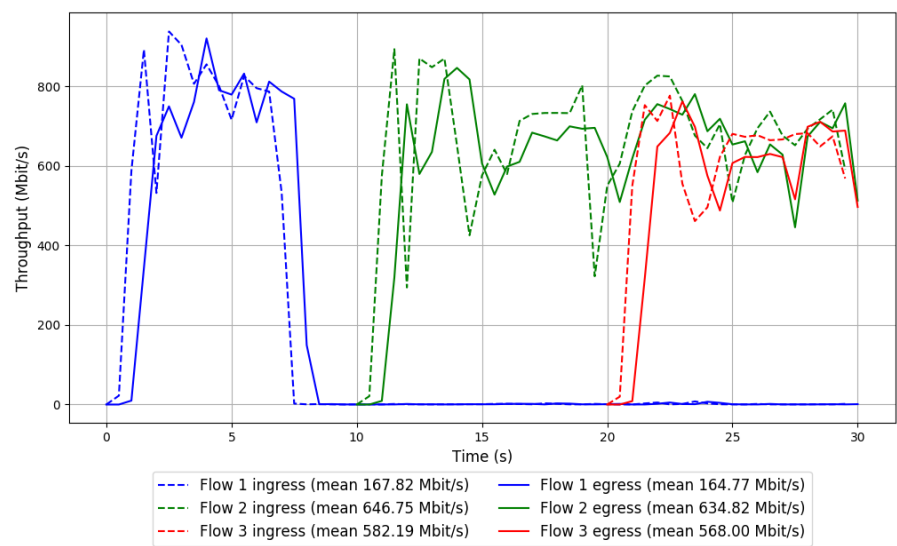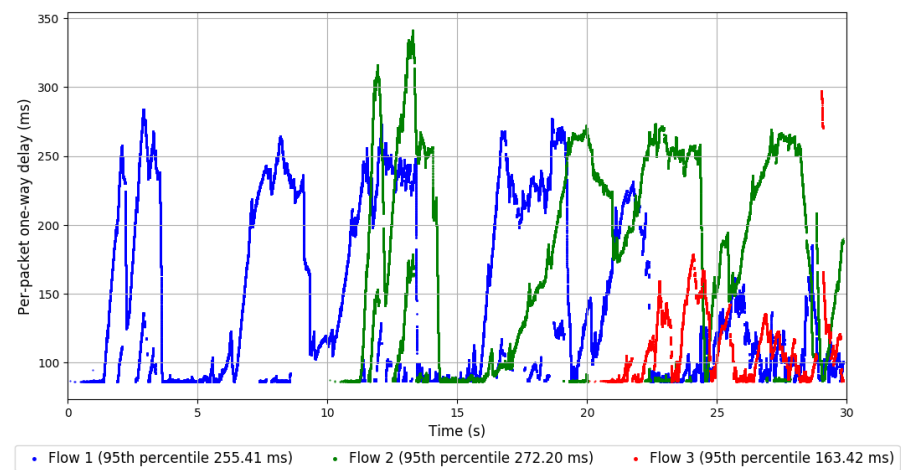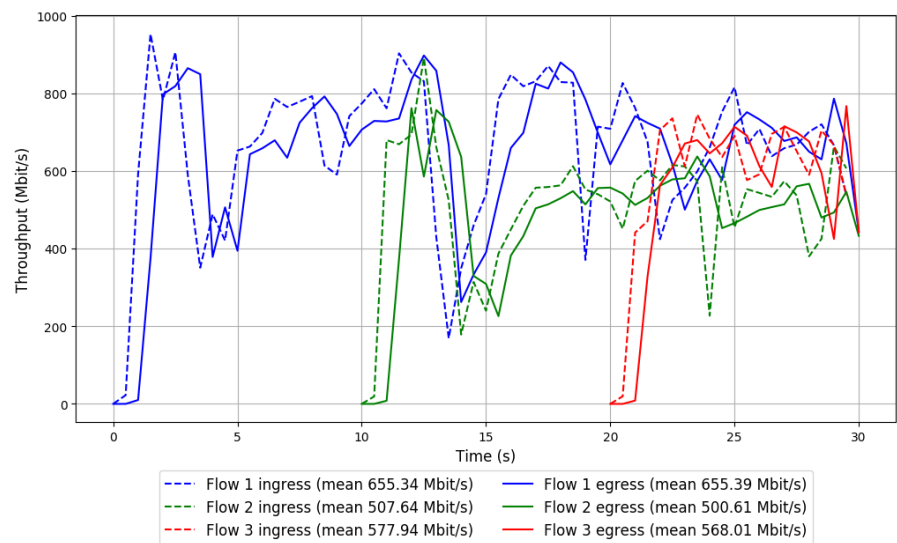
73

```
Run 6: Statistics of FillP

Start at: 2018-06-19 01:32:23
End at: 2018-06-19 01:32:53
Local clock offset: 0.18 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1128.52 Mbit/s
95th percentile per-packet one-way delay: 294.279 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 605.44 Mbit/s
95th percentile per-packet one-way delay: 306.455 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 493.98 Mbit/s
95th percentile per-packet one-way delay: 262.232 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 598.26 Mbit/s
95th percentile per-packet one-way delay: 256.616 ms
Loss rate: 1.40%
```

Run 6: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 615.48 Mbit/s) ——— Flow 1 egress (mean 605.44 Mbit/s)
- - - - Flow 2 ingress (mean 496.98 Mbit/s) ——— Flow 2 egress (mean 493.98 Mbit/s)
- - - - Flow 3 ingress (mean 596.09 Mbit/s) ——— Flow 3 egress (mean 598.26 Mbit/s)

- Flow 1 (95th percentile 306.45 ms)   - Flow 2 (95th percentile 262.23 ms)   - Flow 3 (95th percentile 256.62 ms)

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```
Run 7: Statistics of FillP

Start at: 2018-06-19 01:55:34
End at: 2018-06-19 01:56:04
Local clock offset: 0.038 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-06-19 04:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 772.38 Mbit/s
95th percentile per-packet one-way delay: 310.693 ms
Loss rate: 2.99%
-- Flow 1:
Average throughput: 164.77 Mbit/s
95th percentile per-packet one-way delay: 316.559 ms
Loss rate: 2.39%
-- Flow 2:
Average throughput: 634.82 Mbit/s
95th percentile per-packet one-way delay: 291.075 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 568.00 Mbit/s
95th percentile per-packet one-way delay: 314.731 ms
Loss rate: 4.16%
```
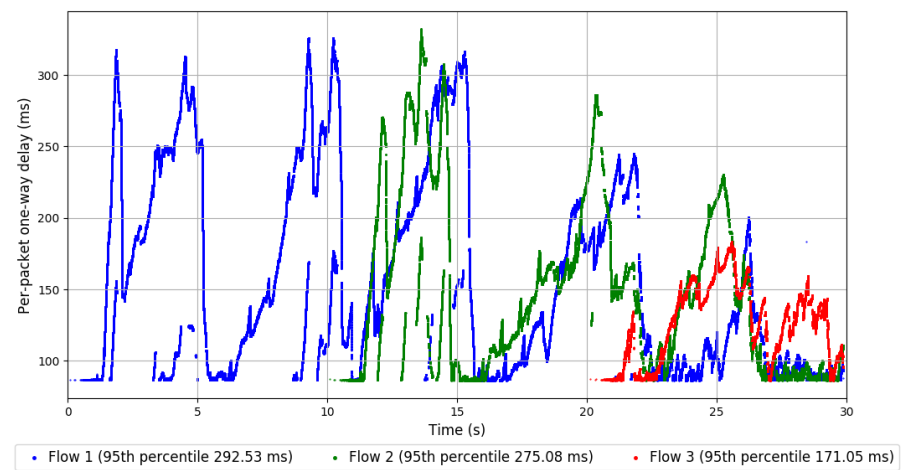
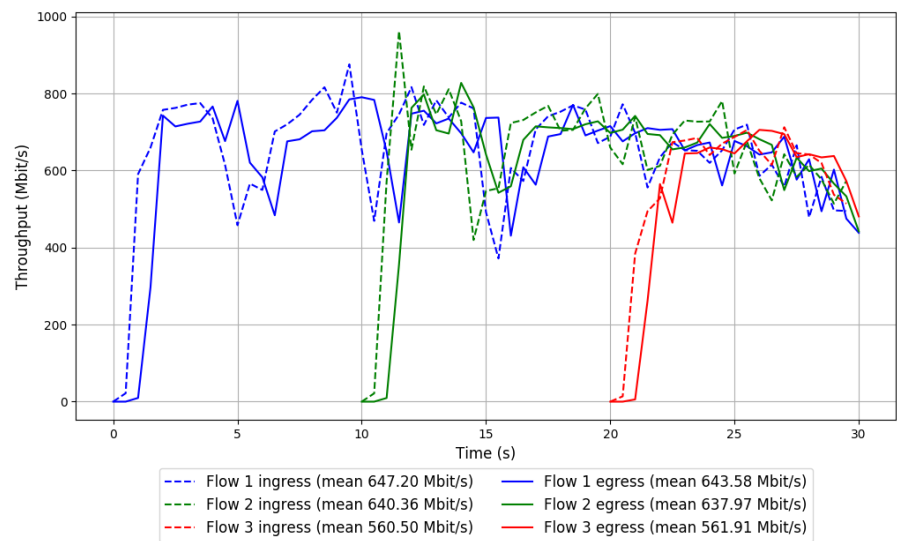Run 7: Report of FillP — Data Link

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```
Run 8: Statistics of FillP

Start at: 2018-06-19 02:18:38
End at: 2018-06-19 02:19:08
Local clock offset: 0.051 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2018-06-19 04:21:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1173.69 Mbit/s
95th percentile per-packet one-way delay: 263.531 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 655.39 Mbit/s
95th percentile per-packet one-way delay: 255.415 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 500.61 Mbit/s
95th percentile per-packet one-way delay: 272.203 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 568.01 Mbit/s
95th percentile per-packet one-way delay: 163.416 ms
Loss rate: 3.43%
```

Run 8: Report of FillP — Data Link

```
Run 9: Statistics of FillP

Start at: 2018-06-19 02:41:43
End at: 2018-06-19 02:42:13
Local clock offset: 0.173 ms
Remote clock offset: -0.106 ms


# Below is generated by plot.py at 2018-06-19 04:40:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1250.67 Mbit/s
95th percentile per-packet one-way delay: 284.939 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 643.58 Mbit/s
95th percentile per-packet one-way delay: 292.534 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 637.97 Mbit/s
95th percentile per-packet one-way delay: 275.079 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 561.91 Mbit/s
95th percentile per-packet one-way delay: 171.047 ms
Loss rate: 1.51%
```
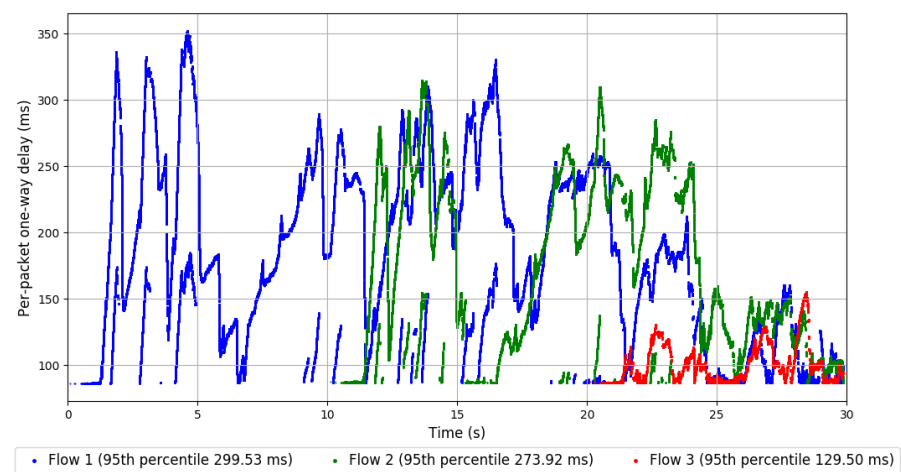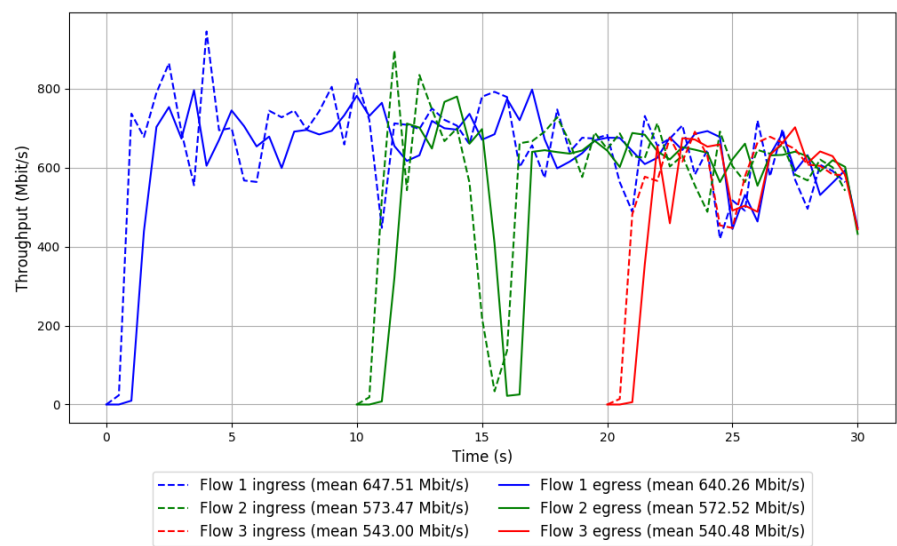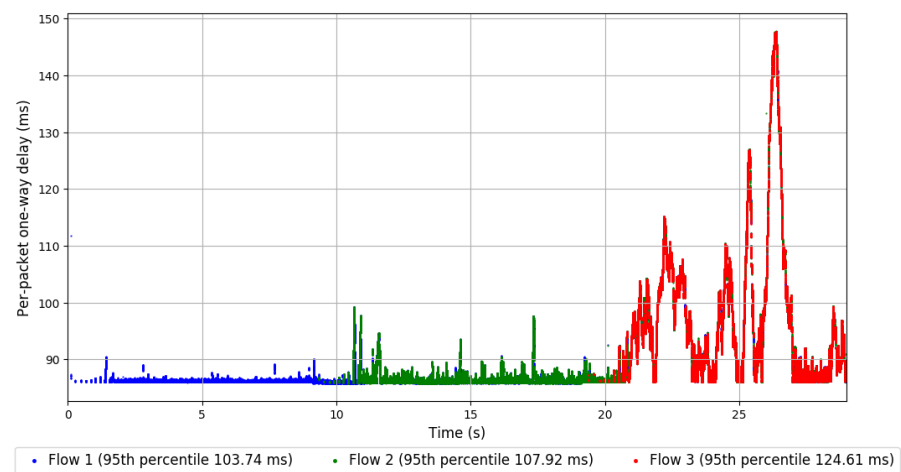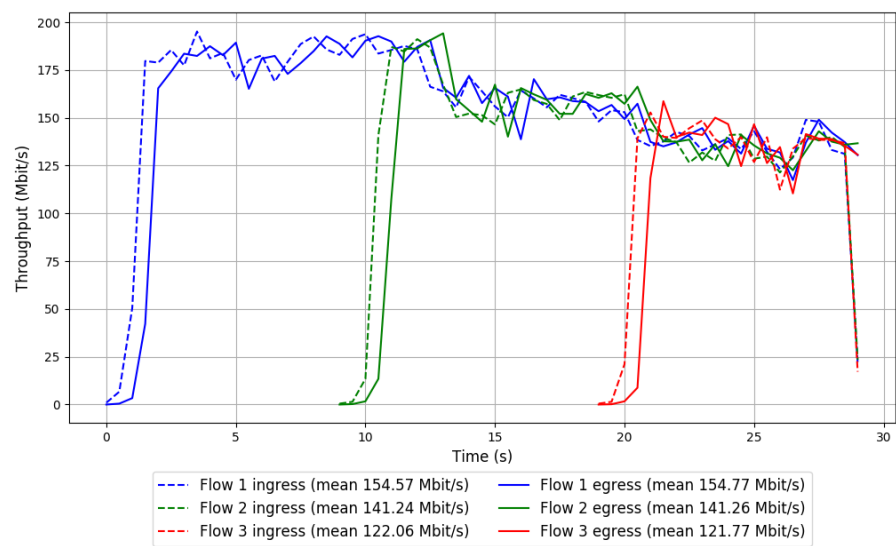
Run 9: Report of FillP — Data Link

```
Run 10: Statistics of FillP

Start at: 2018-06-19 03:04:45
End at: 2018-06-19 03:05:15
Local clock offset: -0.015 ms
Remote clock offset: -0.07 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1196.73 Mbit/s
95th percentile per-packet one-way delay: 287.336 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 640.26 Mbit/s
95th percentile per-packet one-way delay: 299.533 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 572.52 Mbit/s
95th percentile per-packet one-way delay: 273.916 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 540.48 Mbit/s
95th percentile per-packet one-way delay: 129.504 ms
Loss rate: 2.21%
```

Run 10: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-06-18 23:42:38
End at: 2018-06-18 23:43:08
Local clock offset: -0.055 ms
Remote clock offset: -0.455 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.25 Mbit/s
95th percentile per-packet one-way delay: 107.604 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 154.77 Mbit/s
95th percentile per-packet one-way delay: 103.737 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 141.26 Mbit/s
95th percentile per-packet one-way delay: 107.920 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 121.77 Mbit/s
95th percentile per-packet one-way delay: 124.613 ms
Loss rate: 1.99%
```
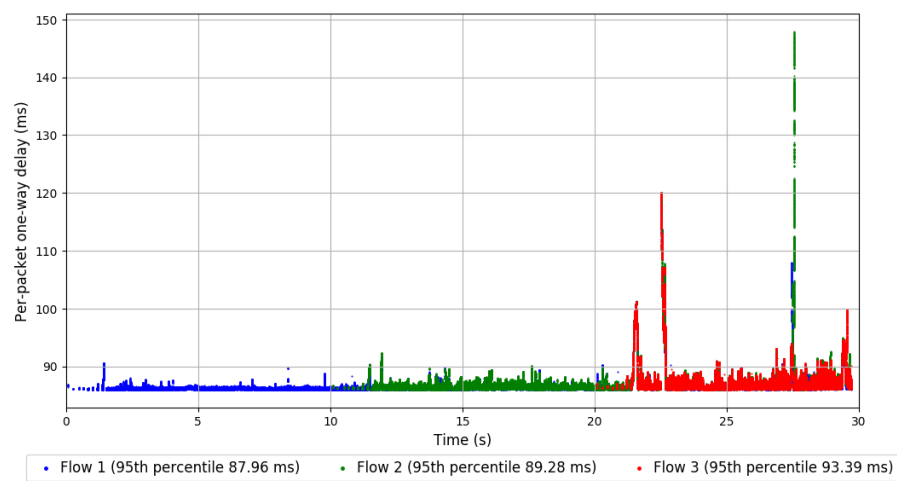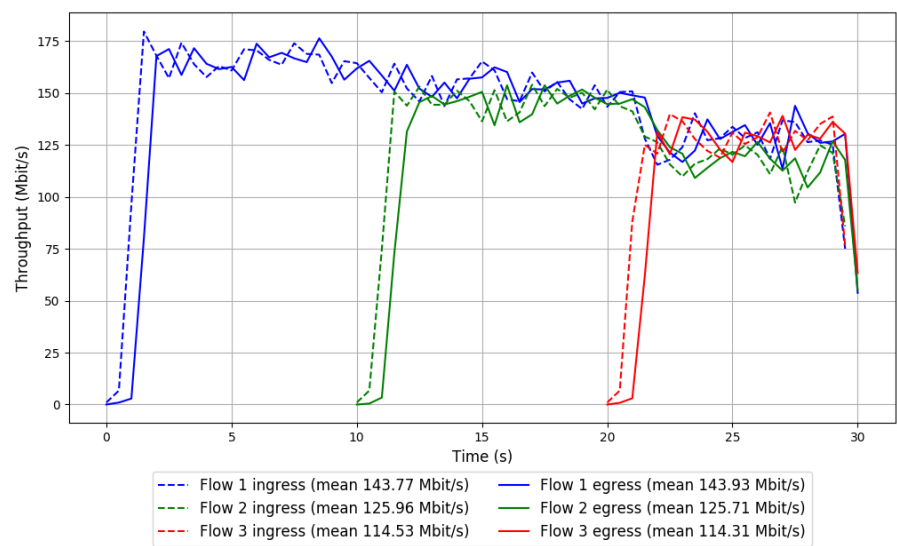
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 154.57 Mbit/s) ---- Flow 1 egress (mean 154.77 Mbit/s)
Flow 2 ingress (mean 141.24 Mbit/s) ---- Flow 2 egress (mean 141.26 Mbit/s)
Flow 3 ingress (mean 122.06 Mbit/s) ---- Flow 3 egress (mean 121.77 Mbit/s)

Flow 1 (95th percentile 103.74 ms)   Flow 2 (95th percentile 107.92 ms)   Flow 3 (95th percentile 124.61 ms)

```
Run 2: Statistics of Indigo

Start at: 2018-06-19 00:05:57
End at: 2018-06-19 00:06:27
Local clock offset: -0.041 ms
Remote clock offset: 0.269 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.22 Mbit/s
95th percentile per-packet one-way delay: 88.967 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 143.93 Mbit/s
95th percentile per-packet one-way delay: 87.962 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 125.71 Mbit/s
95th percentile per-packet one-way delay: 89.276 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 114.31 Mbit/s
95th percentile per-packet one-way delay: 93.386 ms
Loss rate: 1.92%
```
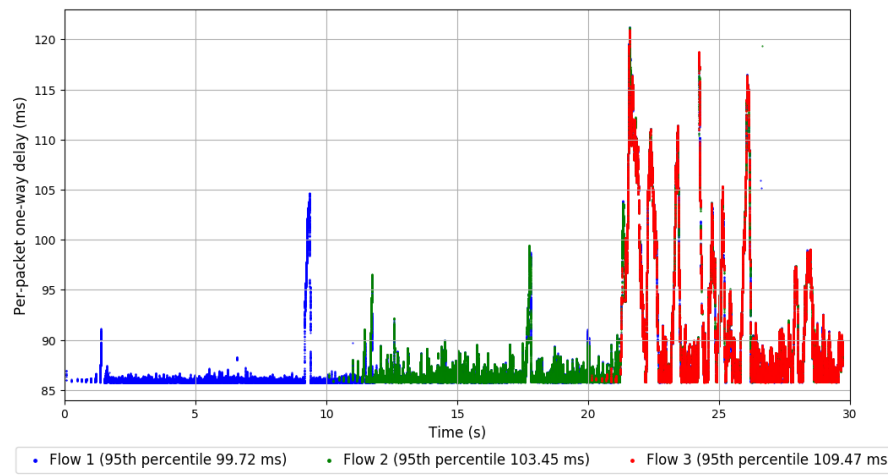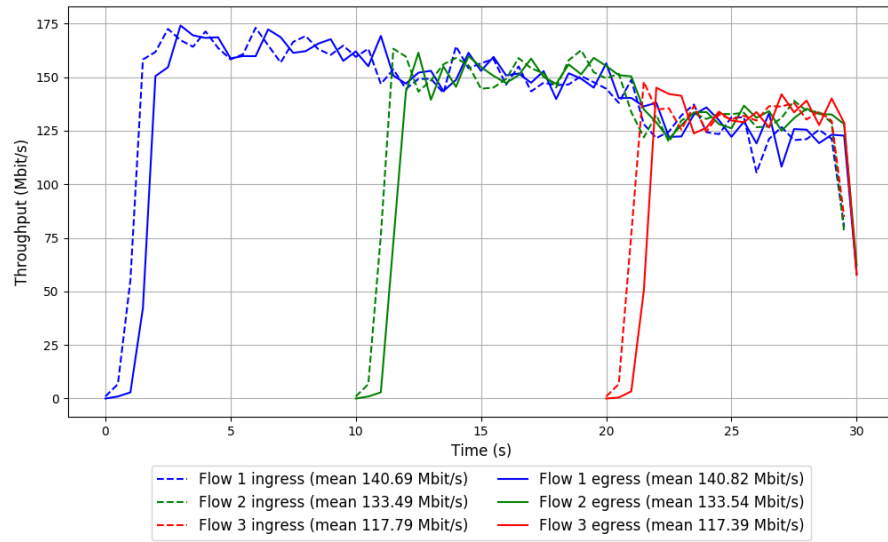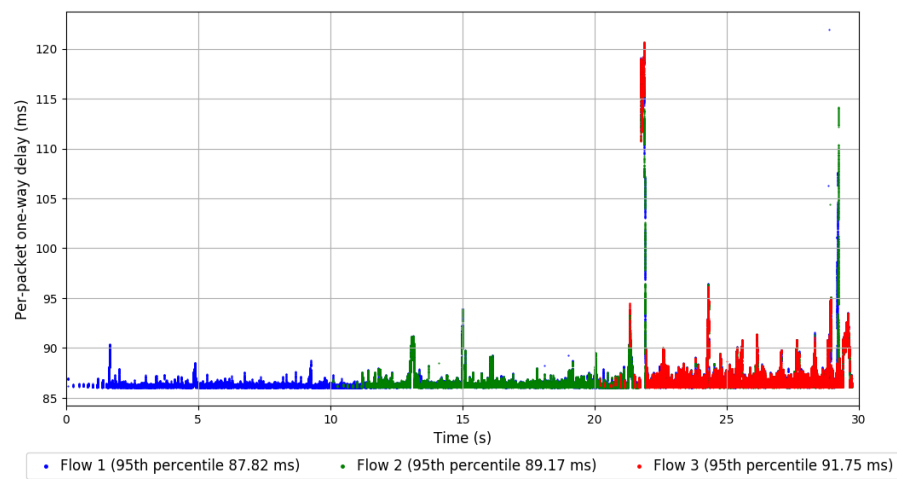
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 143.77 Mbit/s) --- Flow 1 egress (mean 143.93 Mbit/s)
Flow 2 ingress (mean 125.96 Mbit/s) --- Flow 2 egress (mean 125.71 Mbit/s)
Flow 3 ingress (mean 114.53 Mbit/s) --- Flow 3 egress (mean 114.31 Mbit/s)

Flow 1 (95th percentile 87.96 ms)   Flow 2 (95th percentile 89.28 ms)   Flow 3 (95th percentile 93.39 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-06-19 00:28:55
End at: 2018-06-19 00:29:25
Local clock offset: -0.157 ms
Remote clock offset: 0.617 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.27 Mbit/s
95th percentile per-packet one-way delay: 103.641 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 140.82 Mbit/s
95th percentile per-packet one-way delay: 99.717 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 133.54 Mbit/s
95th percentile per-packet one-way delay: 103.446 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 117.39 Mbit/s
95th percentile per-packet one-way delay: 109.470 ms
Loss rate: 2.11%
```
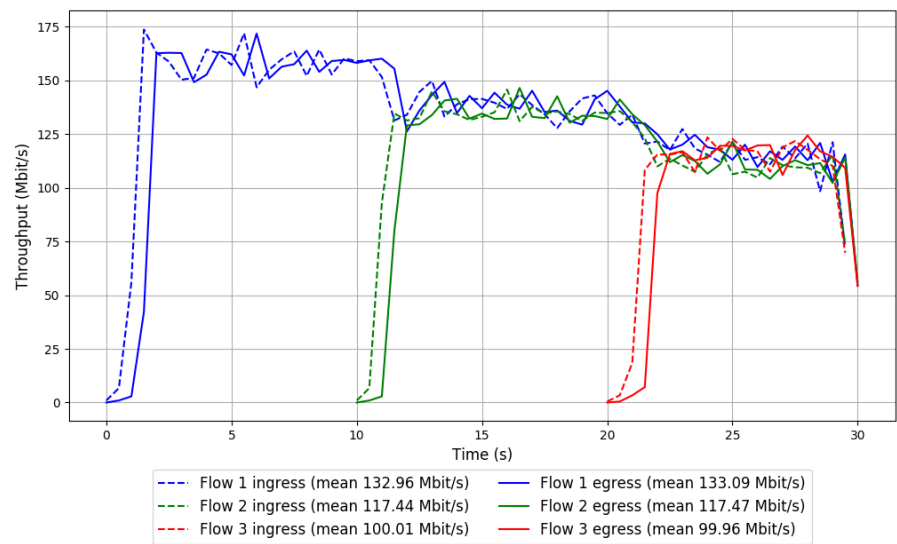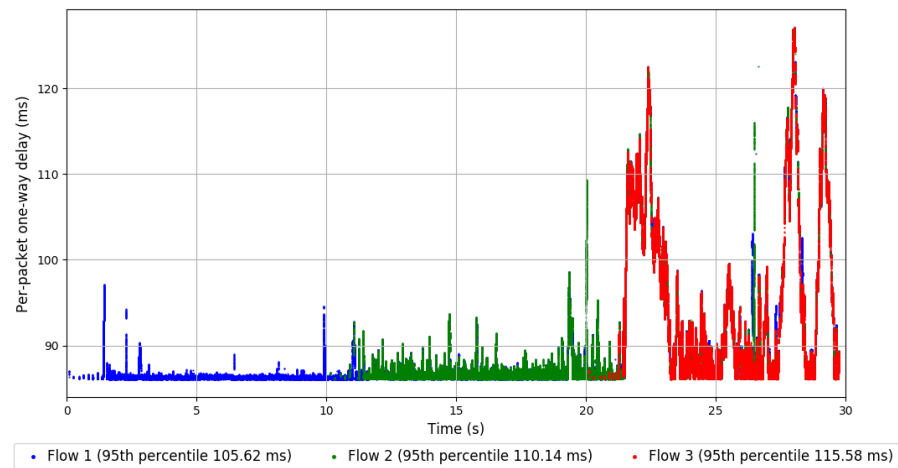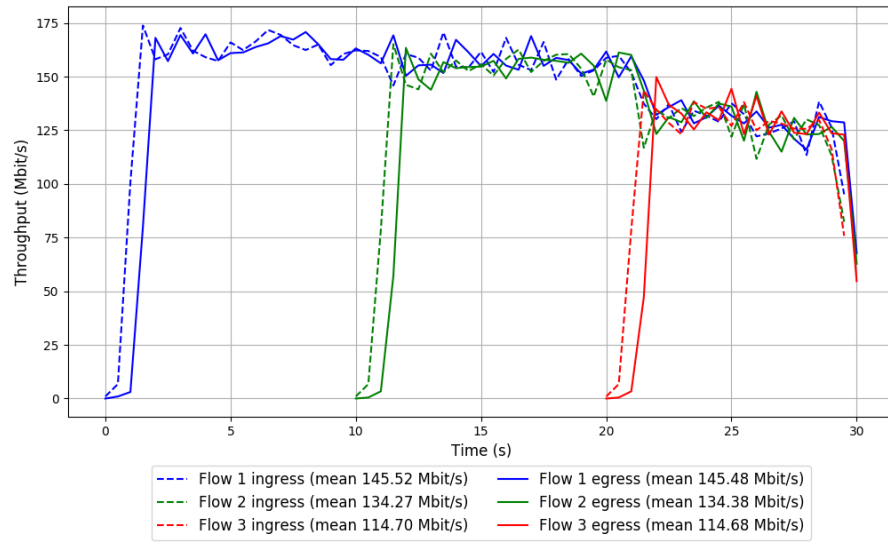
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 140.69 Mbit/s) --- Flow 1 egress (mean 140.82 Mbit/s)
Flow 2 ingress (mean 133.49 Mbit/s) --- Flow 2 egress (mean 133.54 Mbit/s)
Flow 3 ingress (mean 117.79 Mbit/s) --- Flow 3 egress (mean 117.39 Mbit/s)

Flow 1 (95th percentile 99.72 ms)　　Flow 2 (95th percentile 103.45 ms)　　Flow 3 (95th percentile 109.47 ms)

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```
Run 4: Statistics of Indigo

Start at: 2018-06-19 00:51:57
End at: 2018-06-19 00:52:27
Local clock offset: 0.074 ms
Remote clock offset: 0.383 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.07 Mbit/s
95th percentile per-packet one-way delay: 88.797 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 133.09 Mbit/s
95th percentile per-packet one-way delay: 87.822 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 117.47 Mbit/s
95th percentile per-packet one-way delay: 89.166 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 99.96 Mbit/s
95th percentile per-packet one-way delay: 91.746 ms
Loss rate: 1.84%
```
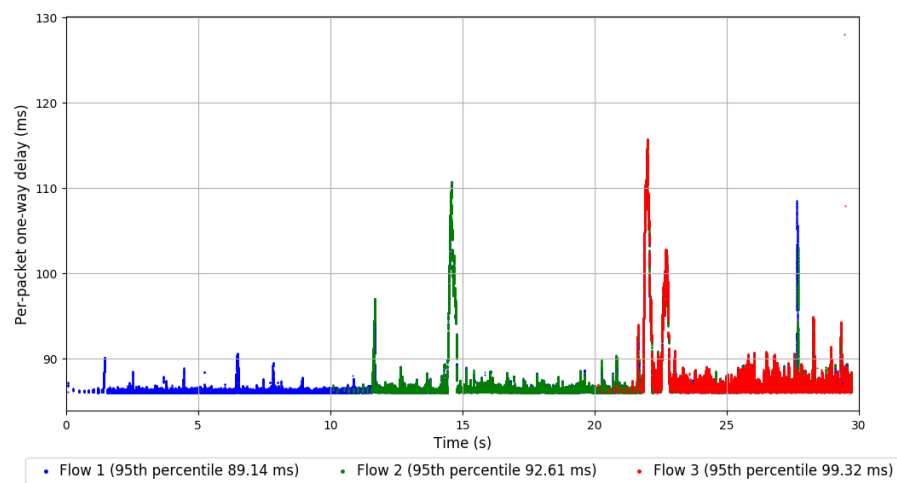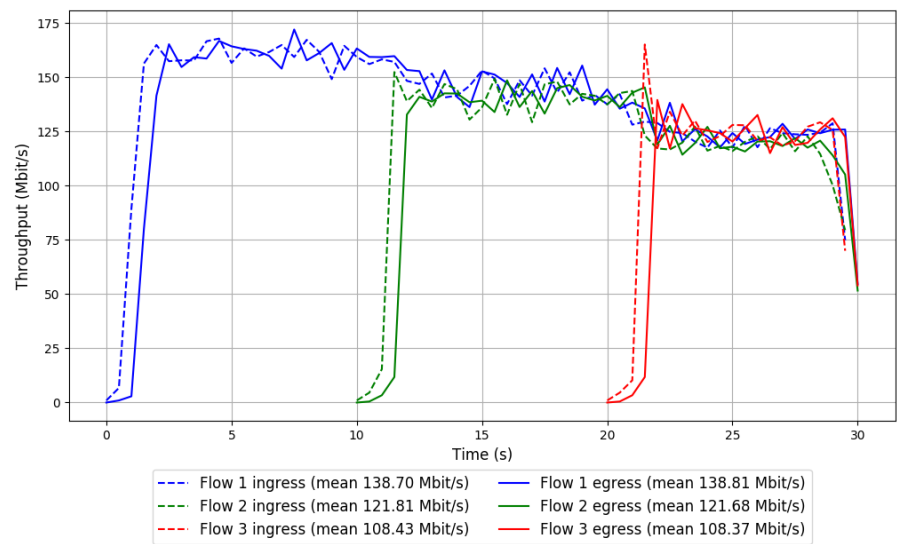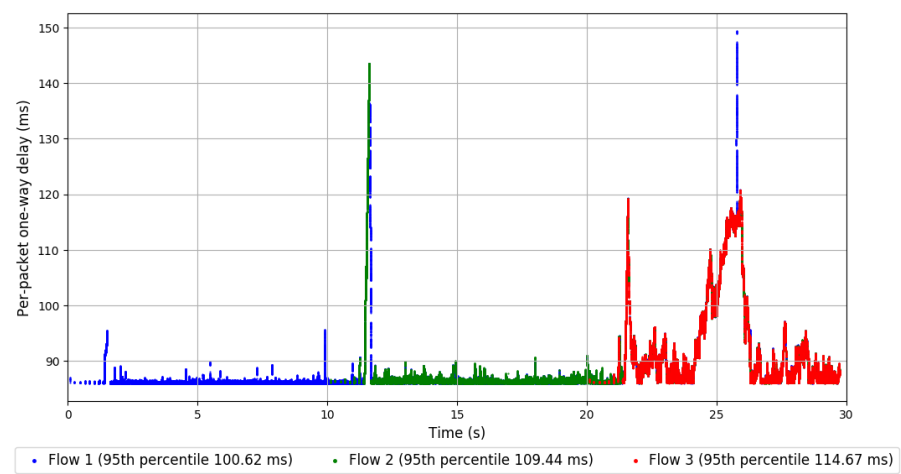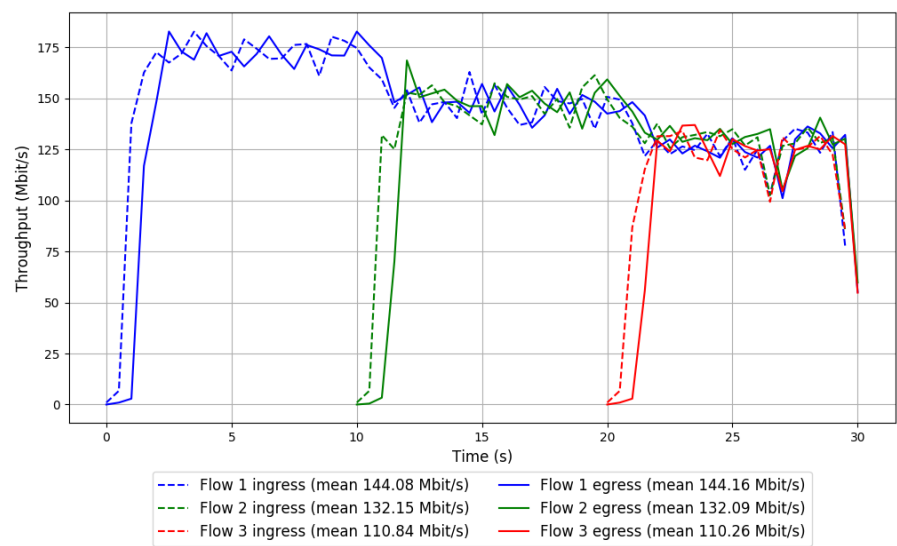
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-06-19 01:15:26
End at: 2018-06-19 01:15:56
Local clock offset: 0.031 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.46 Mbit/s
95th percentile per-packet one-way delay: 109.585 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 145.48 Mbit/s
95th percentile per-packet one-way delay: 105.618 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 134.38 Mbit/s
95th percentile per-packet one-way delay: 110.142 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 114.68 Mbit/s
95th percentile per-packet one-way delay: 115.578 ms
Loss rate: 1.79%
```

Run 5: Report of Indigo — Data Link

- - - - Flow 1 ingress (mean 145.52 Mbit/s) —— Flow 1 egress (mean 145.48 Mbit/s)
- - - - Flow 2 ingress (mean 134.27 Mbit/s) —— Flow 2 egress (mean 134.38 Mbit/s)
- - - - Flow 3 ingress (mean 114.70 Mbit/s) —— Flow 3 egress (mean 114.68 Mbit/s)

- Flow 1 (95th percentile 105.62 ms)   - Flow 2 (95th percentile 110.14 ms)   - Flow 3 (95th percentile 115.58 ms)

93

```
Run 6: Statistics of Indigo

Start at: 2018-06-19 01:38:36
End at: 2018-06-19 01:39:06
Local clock offset: 0.079 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.43 Mbit/s
95th percentile per-packet one-way delay: 91.865 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 138.81 Mbit/s
95th percentile per-packet one-way delay: 89.137 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 121.68 Mbit/s
95th percentile per-packet one-way delay: 92.607 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 108.37 Mbit/s
95th percentile per-packet one-way delay: 99.322 ms
Loss rate: 1.83%
```
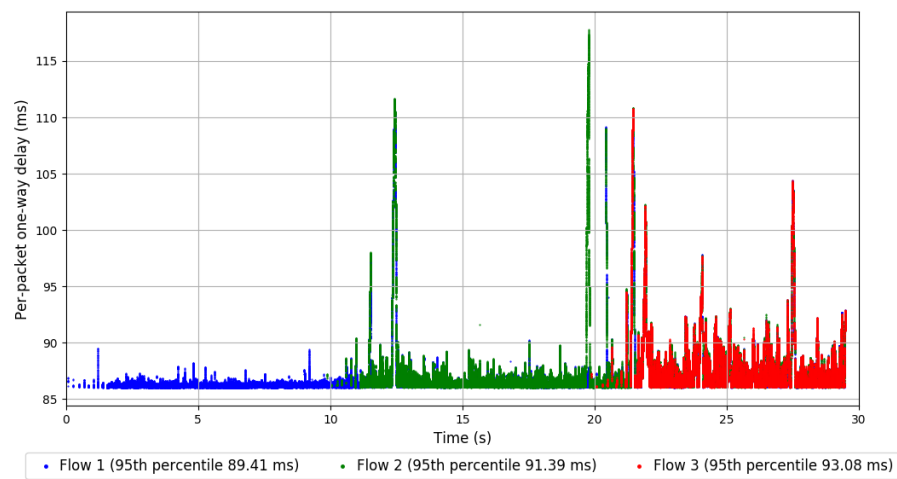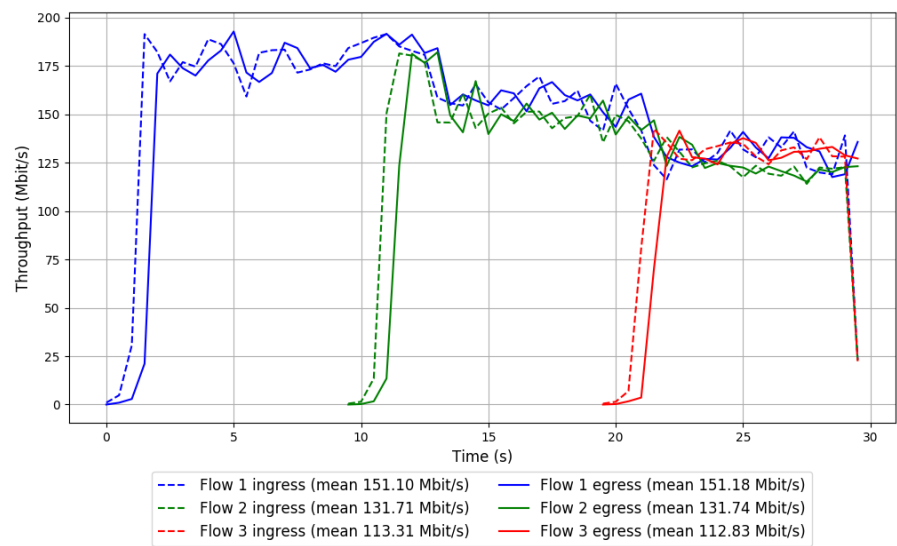
Run 6: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 138.70 Mbit/s) —— Flow 1 egress (mean 138.81 Mbit/s)
- - - Flow 2 ingress (mean 121.81 Mbit/s) —— Flow 2 egress (mean 121.68 Mbit/s)
- - - Flow 3 ingress (mean 108.43 Mbit/s) —— Flow 3 egress (mean 108.37 Mbit/s)

• Flow 1 (95th percentile 89.14 ms)   • Flow 2 (95th percentile 92.61 ms)   • Flow 3 (95th percentile 99.32 ms)
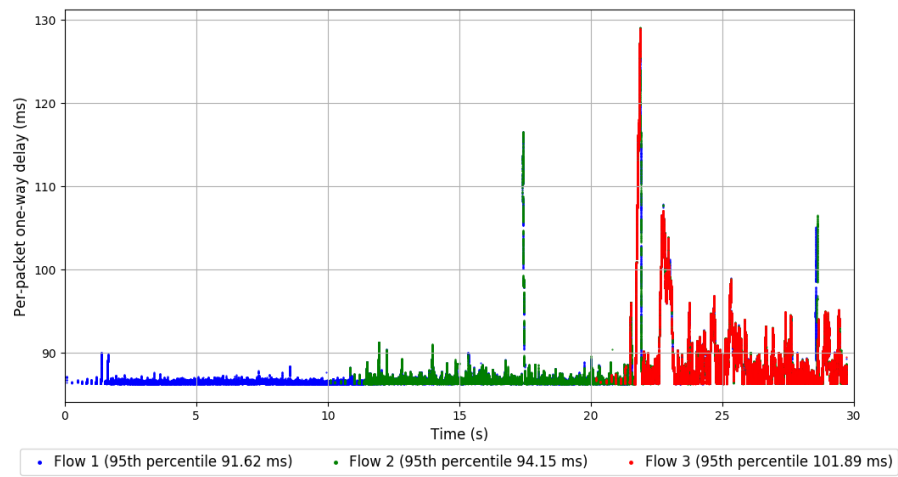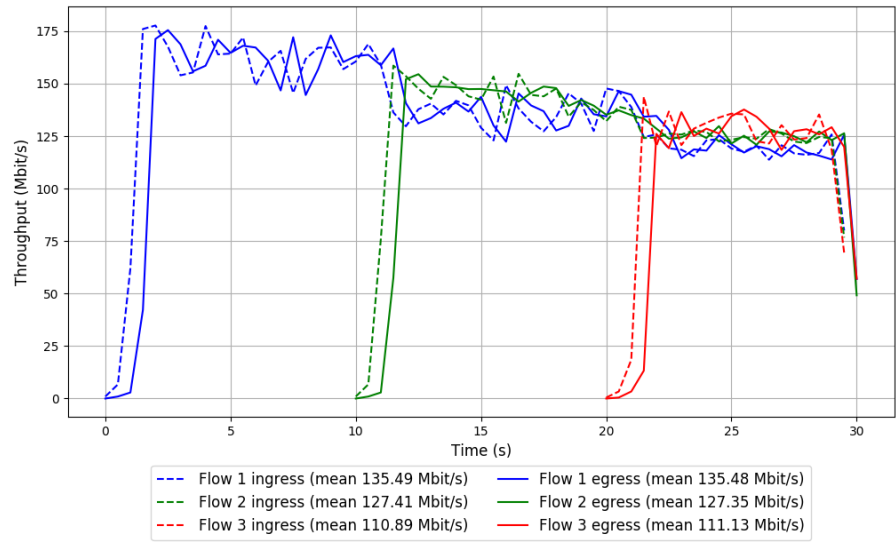
95

```
Run 7: Statistics of Indigo

Start at: 2018-06-19 02:01:47
End at: 2018-06-19 02:02:17
Local clock offset: 0.096 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.35 Mbit/s
95th percentile per-packet one-way delay: 107.862 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 144.16 Mbit/s
95th percentile per-packet one-way delay: 100.623 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 132.09 Mbit/s
95th percentile per-packet one-way delay: 109.439 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 110.26 Mbit/s
95th percentile per-packet one-way delay: 114.672 ms
Loss rate: 2.28%
```

Run 7: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 144.08 Mbit/s) —— Flow 1 egress (mean 144.16 Mbit/s)
- - - Flow 2 ingress (mean 132.15 Mbit/s) —— Flow 2 egress (mean 132.09 Mbit/s)
- - - Flow 3 ingress (mean 110.84 Mbit/s) —— Flow 3 egress (mean 110.26 Mbit/s)

• Flow 1 (95th percentile 100.62 ms)　　• Flow 2 (95th percentile 109.44 ms)　　• Flow 3 (95th percentile 114.67 ms)

```
Run 8: Statistics of Indigo

Start at: 2018-06-19 02:24:58
End at: 2018-06-19 02:25:28
Local clock offset: 0.05 ms
Remote clock offset: -0.158 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 275.99 Mbit/s
95th percentile per-packet one-way delay: 90.684 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 151.18 Mbit/s
95th percentile per-packet one-way delay: 89.412 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 131.74 Mbit/s
95th percentile per-packet one-way delay: 91.385 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 112.83 Mbit/s
95th percentile per-packet one-way delay: 93.084 ms
Loss rate: 2.19%
```
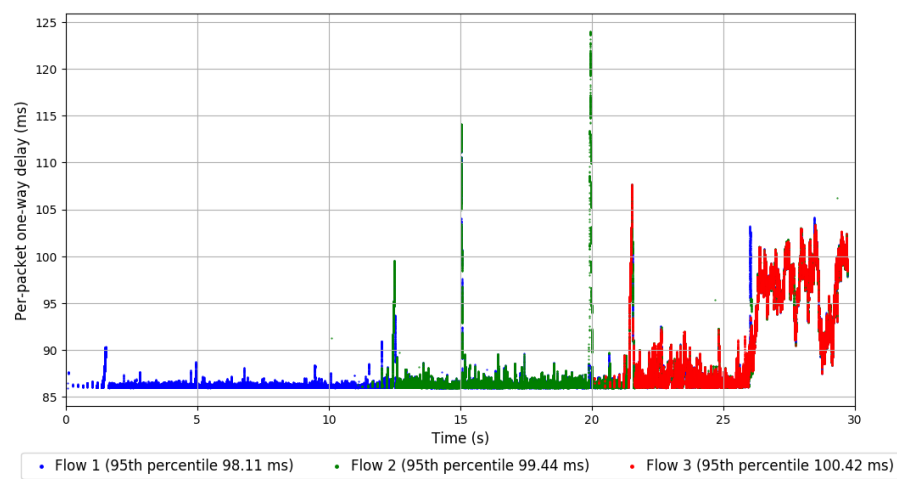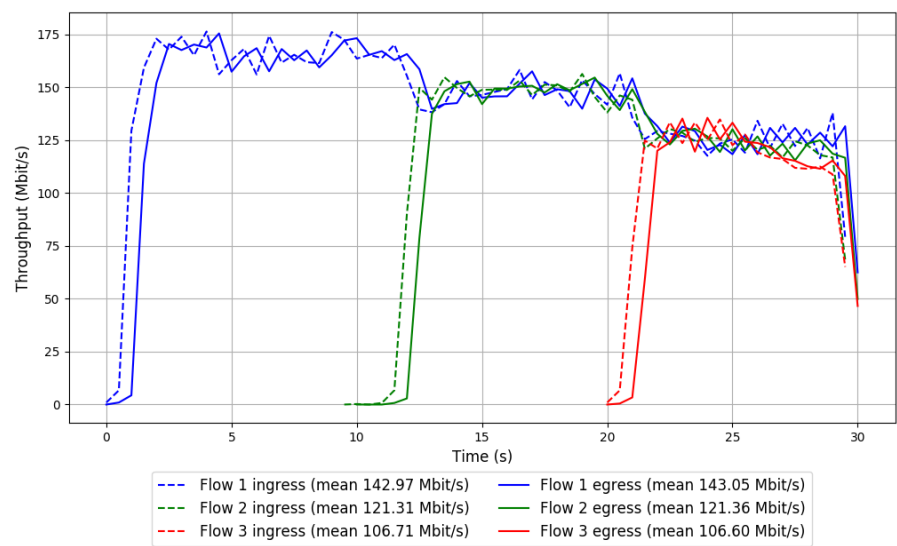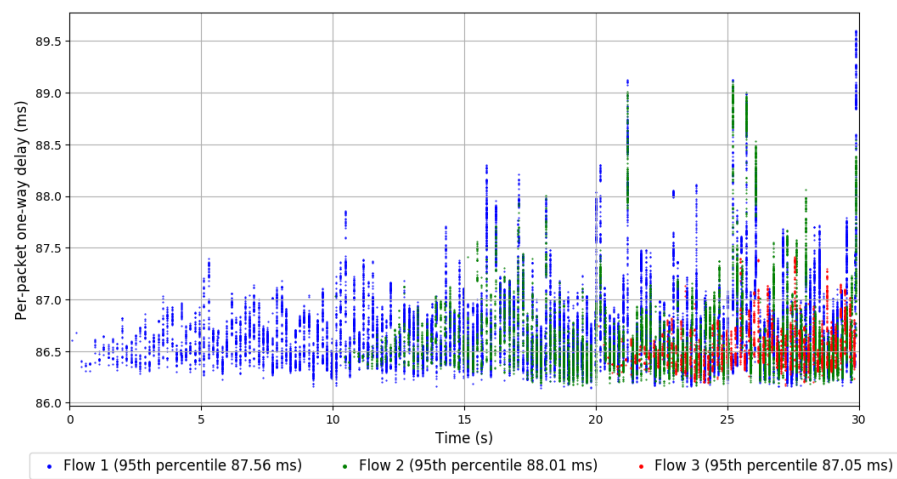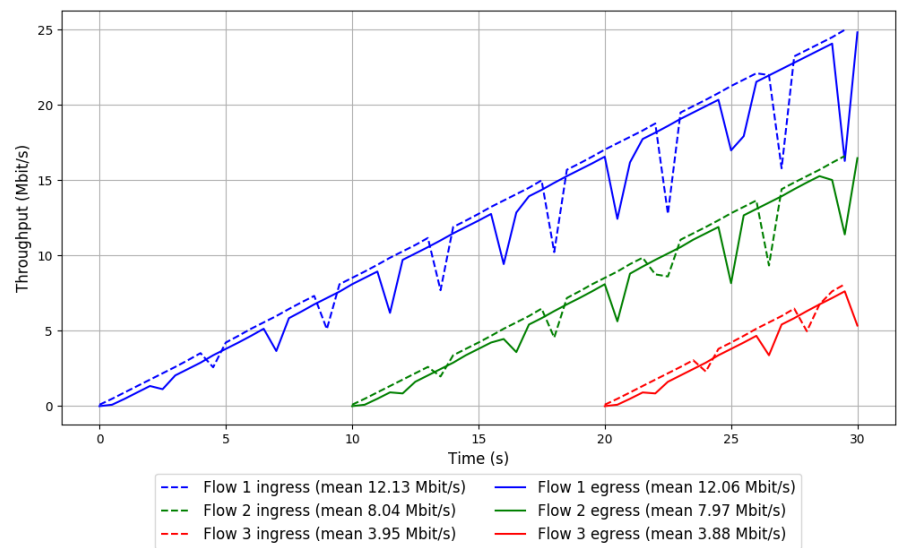
Run 8: Report of Indigo — Data Link

Flow 1 ingress (mean 151.10 Mbit/s) ---   Flow 1 egress (mean 151.18 Mbit/s) ——
Flow 2 ingress (mean 131.71 Mbit/s) ---   Flow 2 egress (mean 131.74 Mbit/s) ——
Flow 3 ingress (mean 113.31 Mbit/s) ---   Flow 3 egress (mean 112.83 Mbit/s) ——

Flow 1 (95th percentile 89.41 ms)   Flow 2 (95th percentile 91.39 ms)   Flow 3 (95th percentile 93.08 ms)

99

```
Run 9: Statistics of Indigo

Start at: 2018-06-19 02:48:02
End at: 2018-06-19 02:48:32
Local clock offset: 0.255 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.58 Mbit/s
95th percentile per-packet one-way delay: 94.177 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 135.48 Mbit/s
95th percentile per-packet one-way delay: 91.620 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 127.35 Mbit/s
95th percentile per-packet one-way delay: 94.149 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 111.13 Mbit/s
95th percentile per-packet one-way delay: 101.887 ms
Loss rate: 1.57%
```
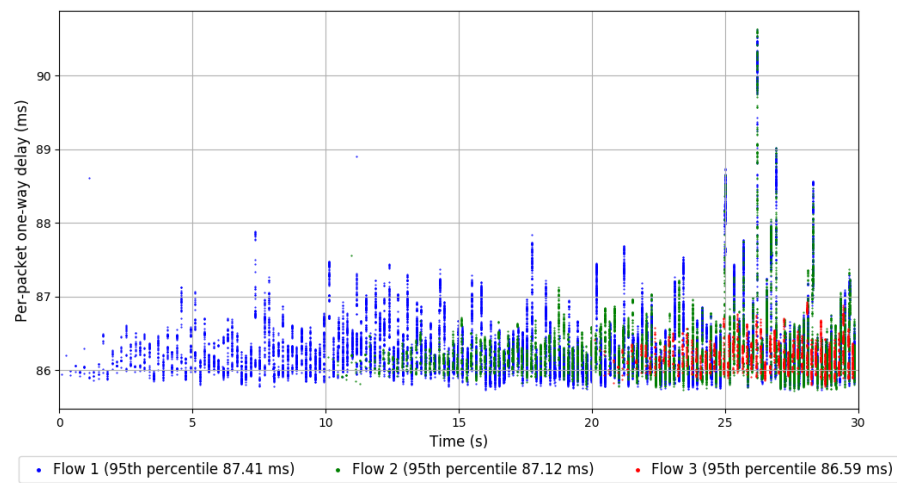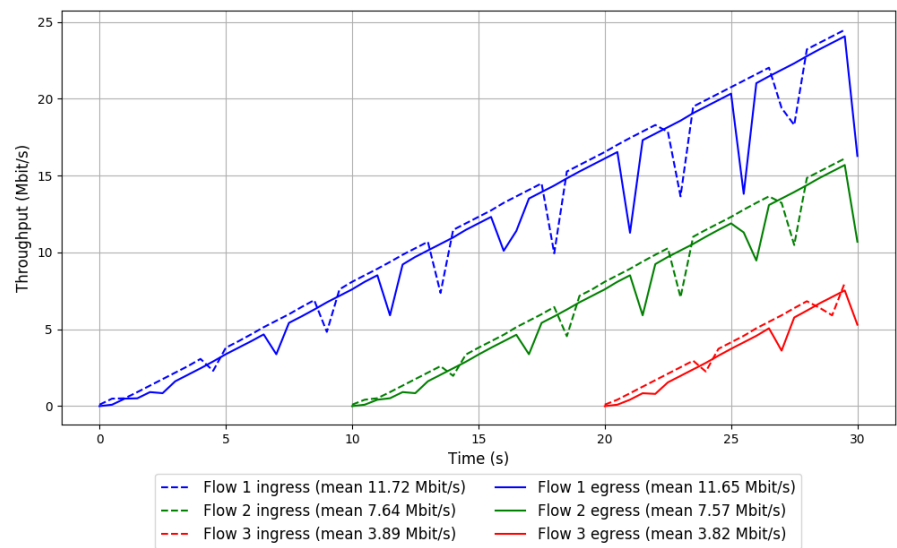
Run 9: Report of Indigo — Data Link

Flow 1 ingress (mean 135.49 Mbit/s) --- Flow 1 egress (mean 135.48 Mbit/s)
Flow 2 ingress (mean 127.41 Mbit/s) --- Flow 2 egress (mean 127.35 Mbit/s)
Flow 3 ingress (mean 110.89 Mbit/s) --- Flow 3 egress (mean 111.13 Mbit/s)

Flow 1 (95th percentile 91.62 ms)   Flow 2 (95th percentile 94.15 ms)   Flow 3 (95th percentile 101.89 ms)

```
Run 10: Statistics of Indigo

Start at: 2018-06-19 03:11:04
End at: 2018-06-19 03:11:34
Local clock offset: -0.037 ms
Remote clock offset: 0.007 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.06 Mbit/s
95th percentile per-packet one-way delay: 99.136 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 143.05 Mbit/s
95th percentile per-packet one-way delay: 98.108 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 121.36 Mbit/s
95th percentile per-packet one-way delay: 99.440 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 106.60 Mbit/s
95th percentile per-packet one-way delay: 100.424 ms
Loss rate: 1.86%
```
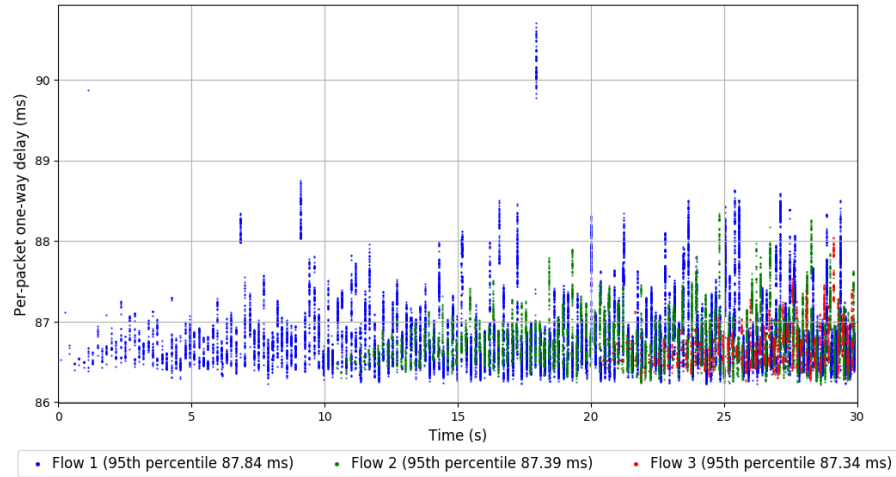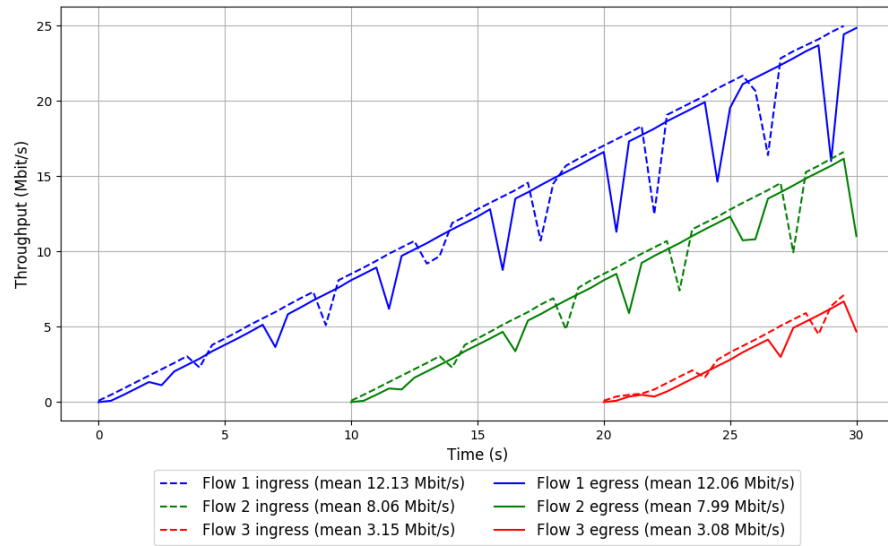
Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-06-18 23:58:18
End at: 2018-06-18 23:58:48
Local clock offset: 0.113 ms
Remote clock offset: 0.118 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 87.588 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 87.559 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 88.011 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 87.045 ms
Loss rate: 3.52%
```
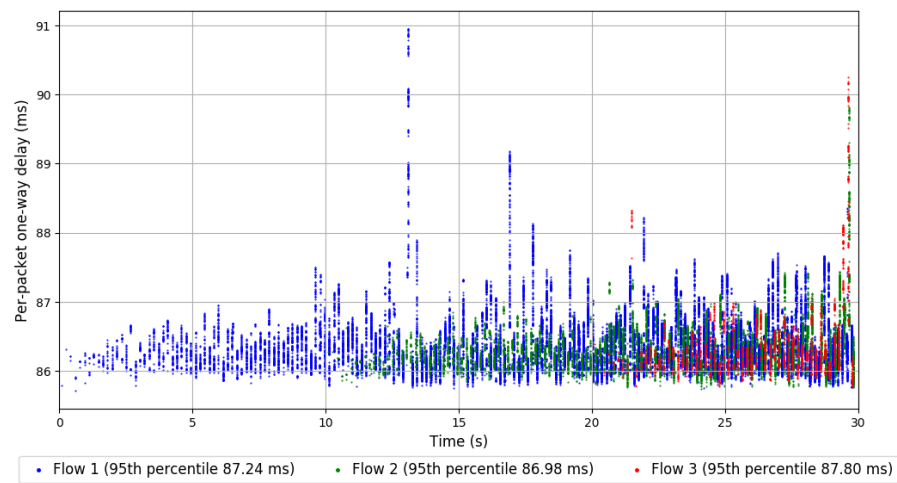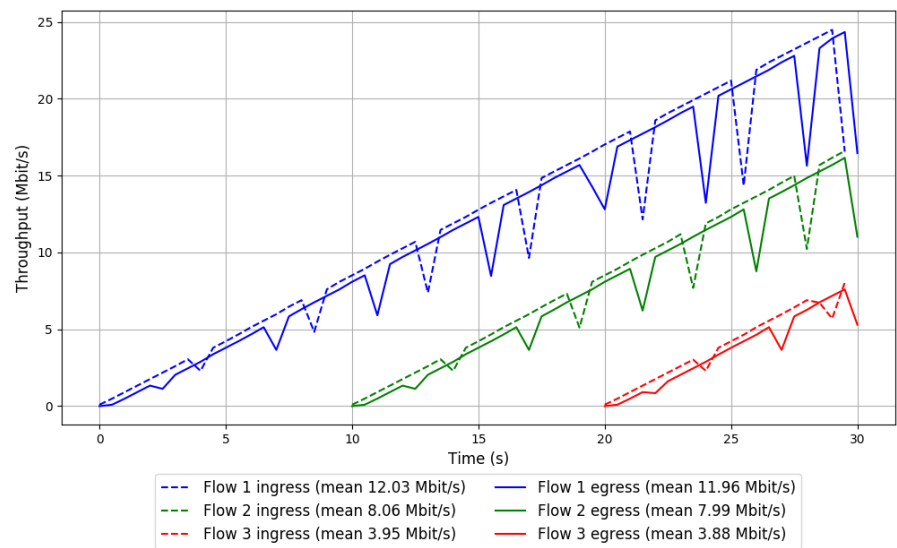
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-06-19 00:21:25
End at: 2018-06-19 00:21:55
Local clock offset: -0.201 ms
Remote clock offset: 0.533 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.92 Mbit/s
95th percentile per-packet one-way delay: 87.317 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 87.406 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 7.57 Mbit/s
95th percentile per-packet one-way delay: 87.123 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 86.587 ms
Loss rate: 3.55%
```
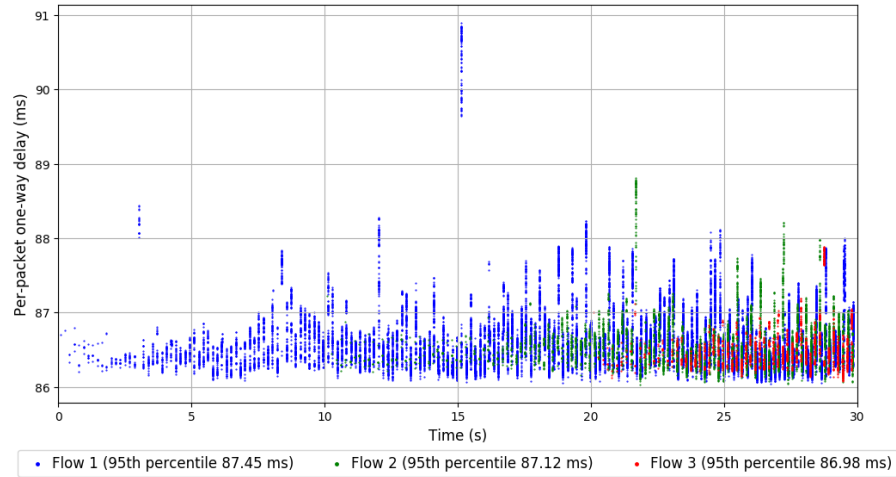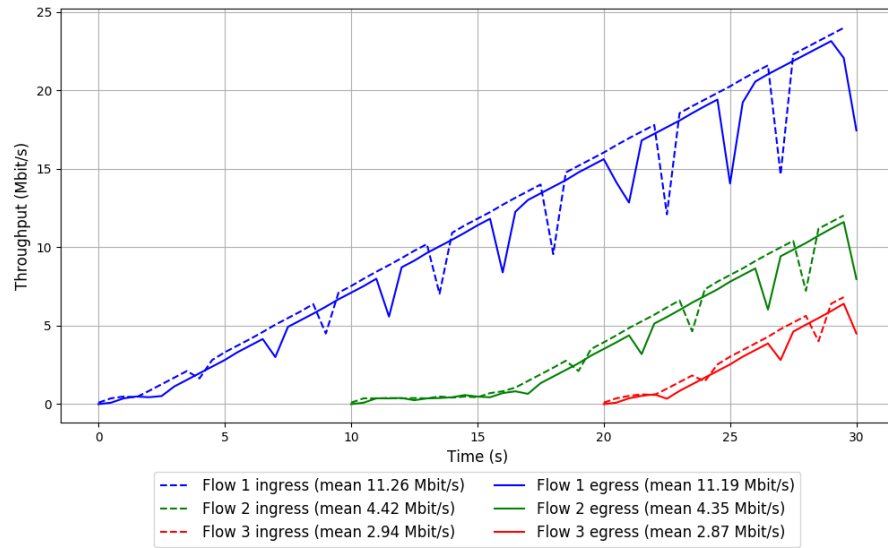
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-06-19 00:44:30
End at: 2018-06-19 00:45:00
Local clock offset: 0.23 ms
Remote clock offset: 0.76 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.35 Mbit/s
95th percentile per-packet one-way delay: 87.722 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 87.842 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 87.393 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 87.340 ms
Loss rate: 3.89%
```
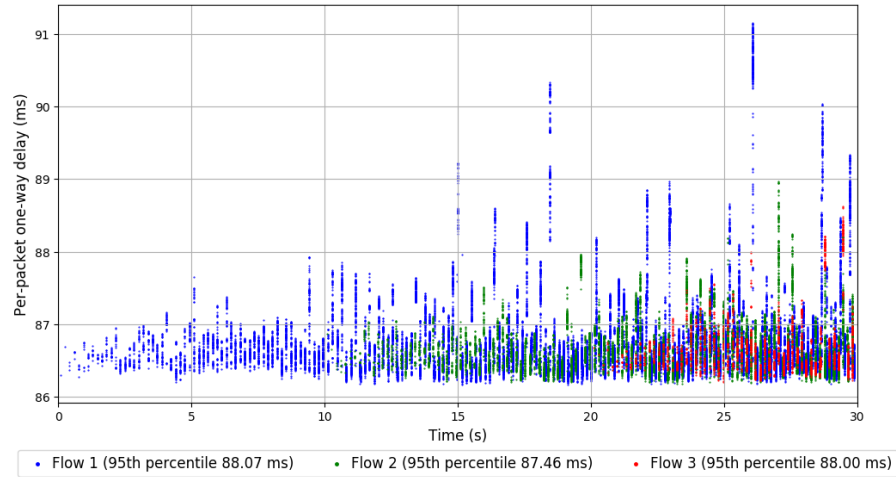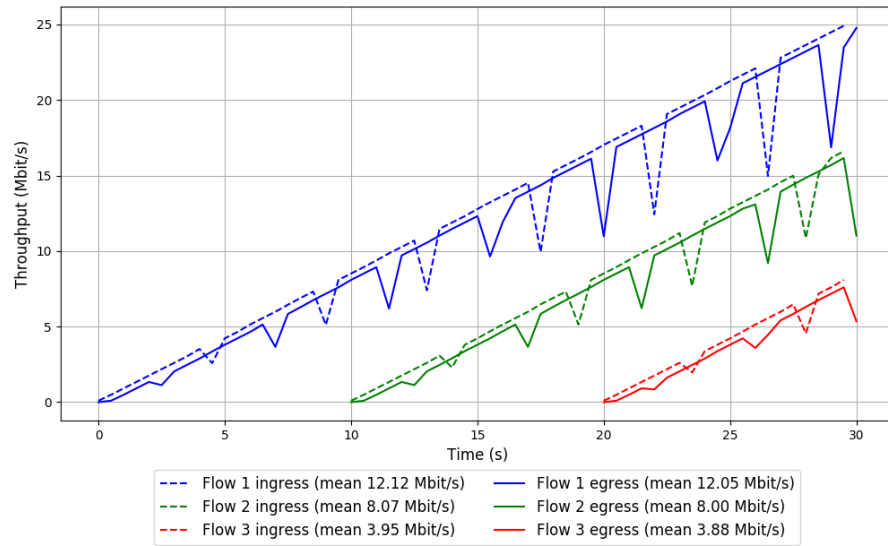
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-06-19 01:07:56
End at: 2018-06-19 01:08:26
Local clock offset: -0.32 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.50 Mbit/s
95th percentile per-packet one-way delay: 87.192 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 87.236 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 86.982 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 87.796 ms
Loss rate: 3.53%
```
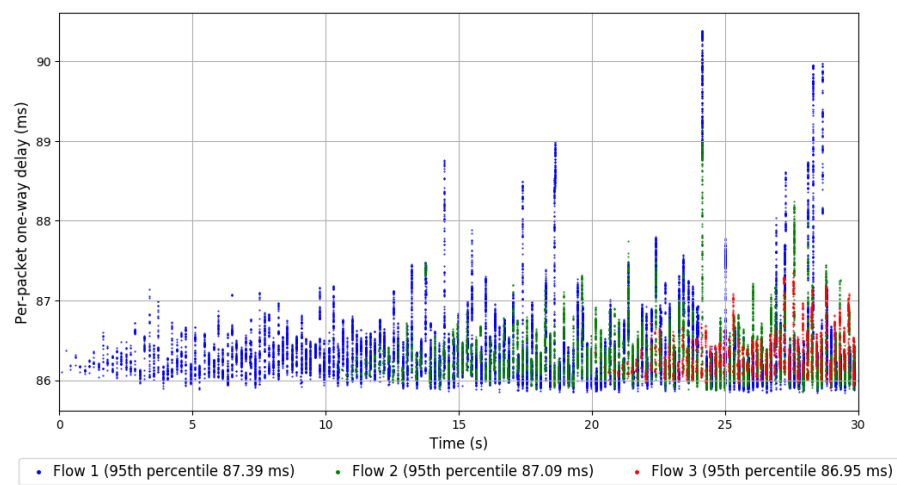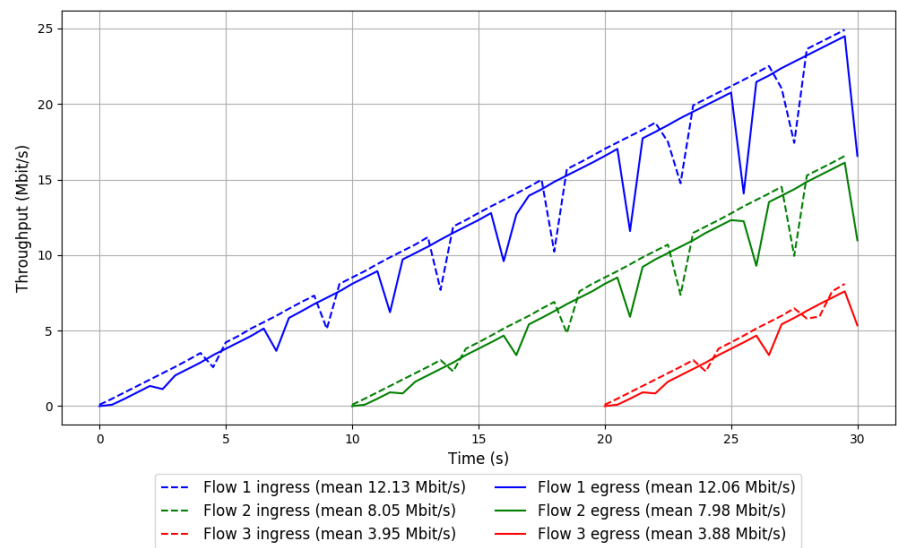
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-06-19 01:31:11
End at: 2018-06-19 01:31:41
Local clock offset: 0.106 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.00 Mbit/s
95th percentile per-packet one-way delay: 87.387 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 11.19 Mbit/s
95th percentile per-packet one-way delay: 87.450 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 87.121 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 86.976 ms
Loss rate: 4.01%
```
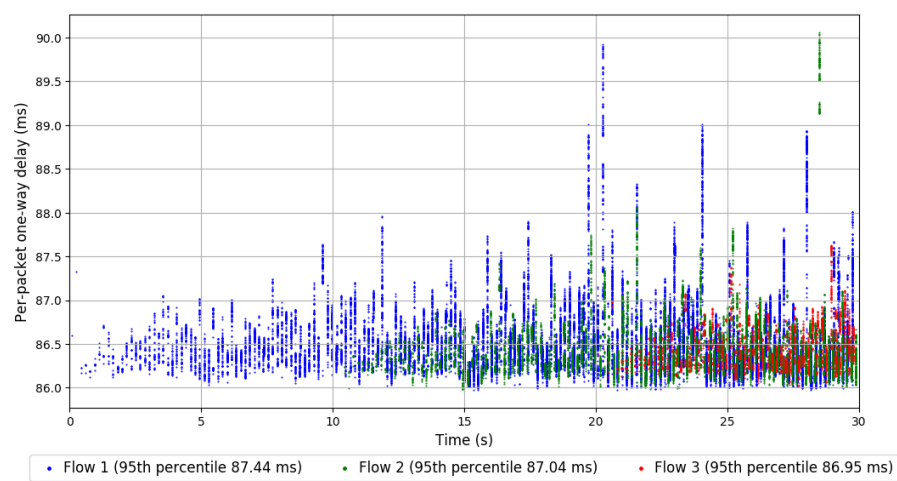
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2018-06-19 01:54:21
End at: 2018-06-19 01:54:51
Local clock offset: 0.282 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.60 Mbit/s
95th percentile per-packet one-way delay: 87.748 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 88.069 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 87.457 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 87.997 ms
Loss rate: 3.52%
```
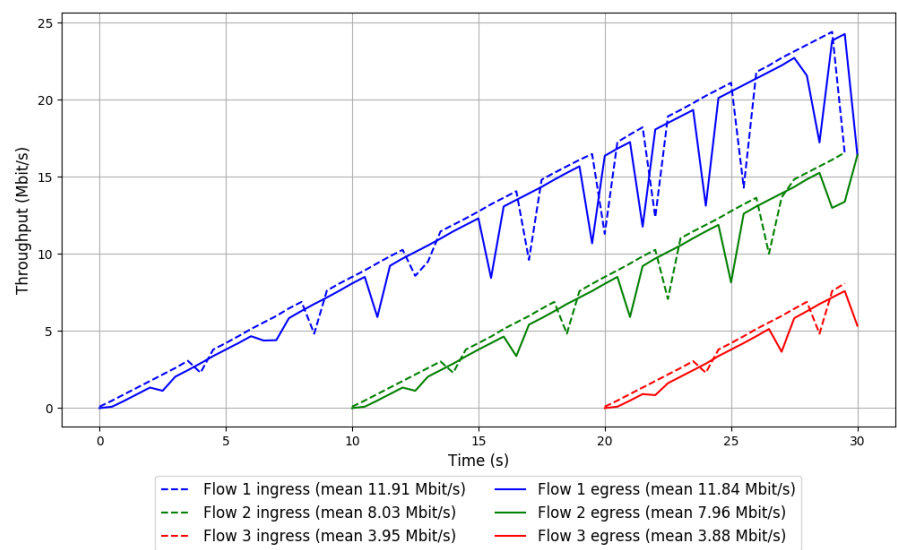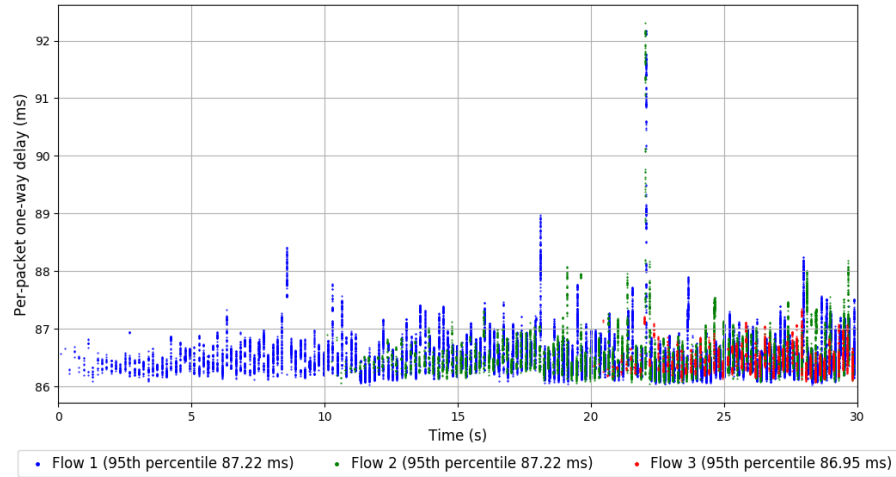
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-06-19 02:17:25
End at: 2018-06-19 02:17:55
Local clock offset: -0.136 ms
Remote clock offset: -0.157 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.62 Mbit/s
95th percentile per-packet one-way delay: 87.243 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 87.394 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 87.092 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 86.950 ms
Loss rate: 3.52%
```
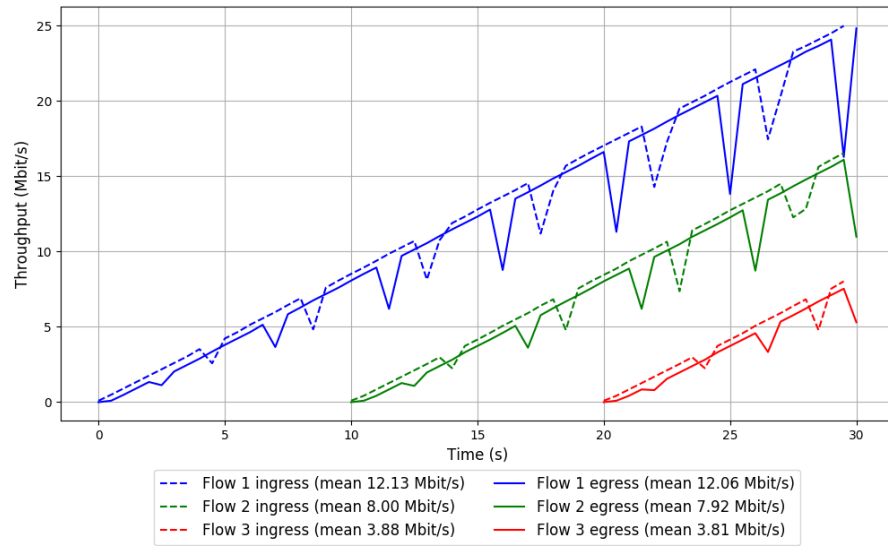
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2018-06-19 02:40:30
End at: 2018-06-19 02:41:00
Local clock offset: 0.062 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.34 Mbit/s
95th percentile per-packet one-way delay: 87.314 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 87.445 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 87.043 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 86.951 ms
Loss rate: 3.52%
```
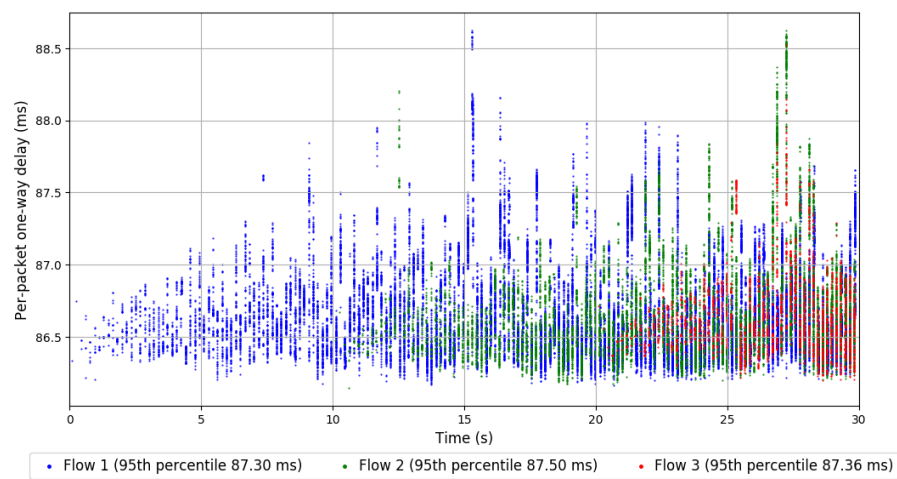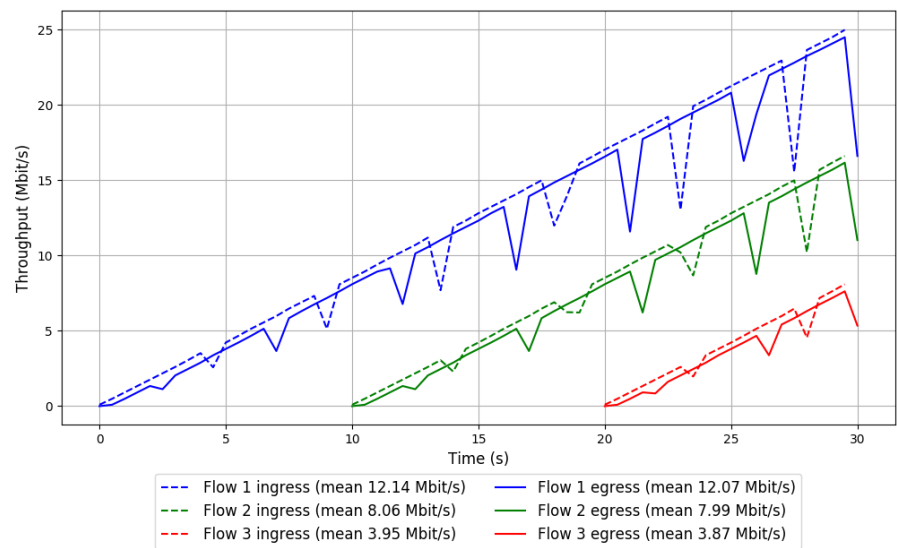
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2018-06-19 03:03:32
End at: 2018-06-19 03:04:02
Local clock offset: 0.047 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.55 Mbit/s
95th percentile per-packet one-way delay: 87.193 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 87.218 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 87.217 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 86.952 ms
Loss rate: 3.55%
```
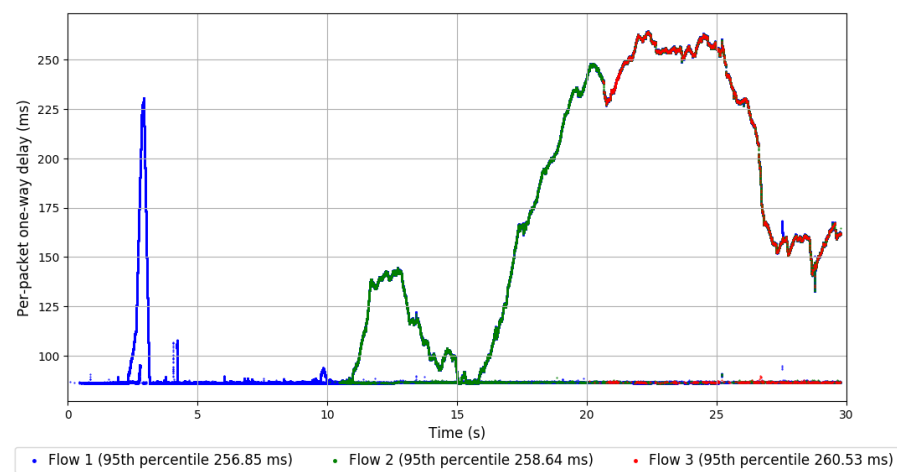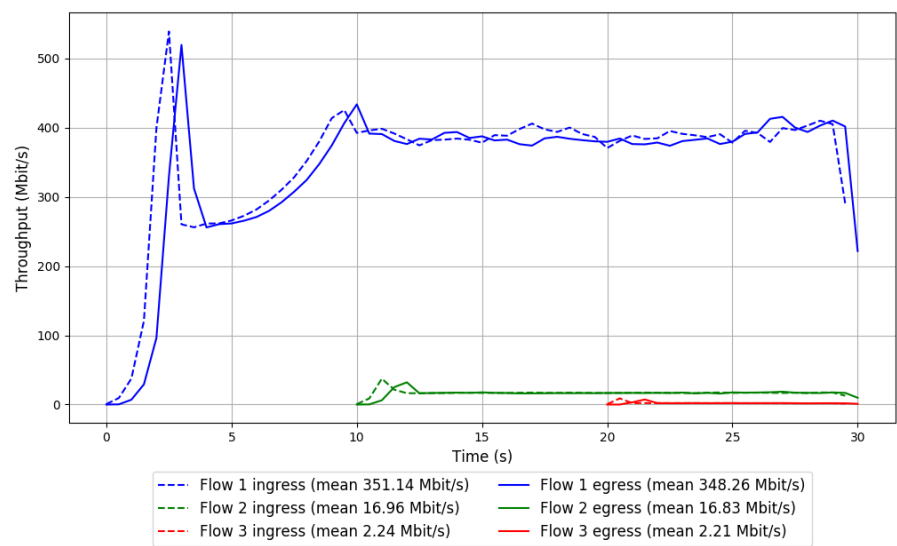
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-06-19 03:26:47
End at: 2018-06-19 03:27:17
Local clock offset: 0.119 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.64 Mbit/s
95th percentile per-packet one-way delay: 87.359 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 87.295 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 87.501 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 87.356 ms
Loss rate: 3.52%
```

Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-18 23:51:15
End at: 2018-06-18 23:51:45
Local clock offset: 0.044 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.10 Mbit/s
95th percentile per-packet one-way delay: 256.927 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 348.26 Mbit/s
95th percentile per-packet one-way delay: 256.846 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 258.645 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 260.526 ms
Loss rate: 3.03%
```
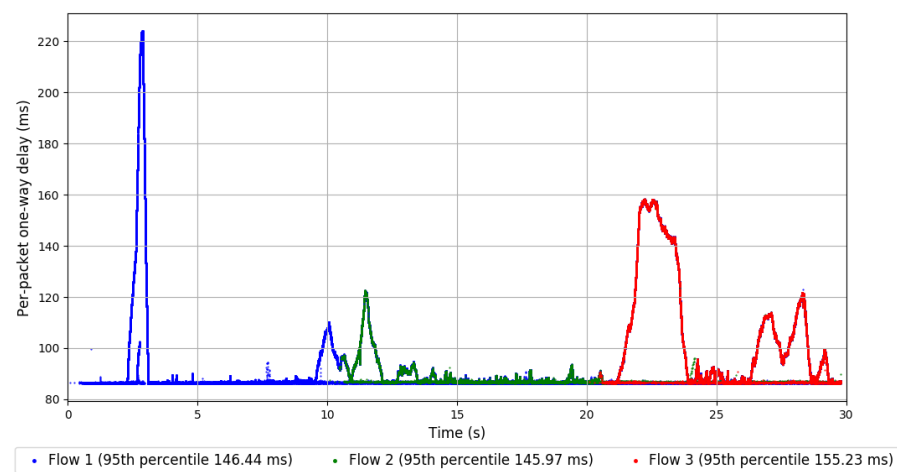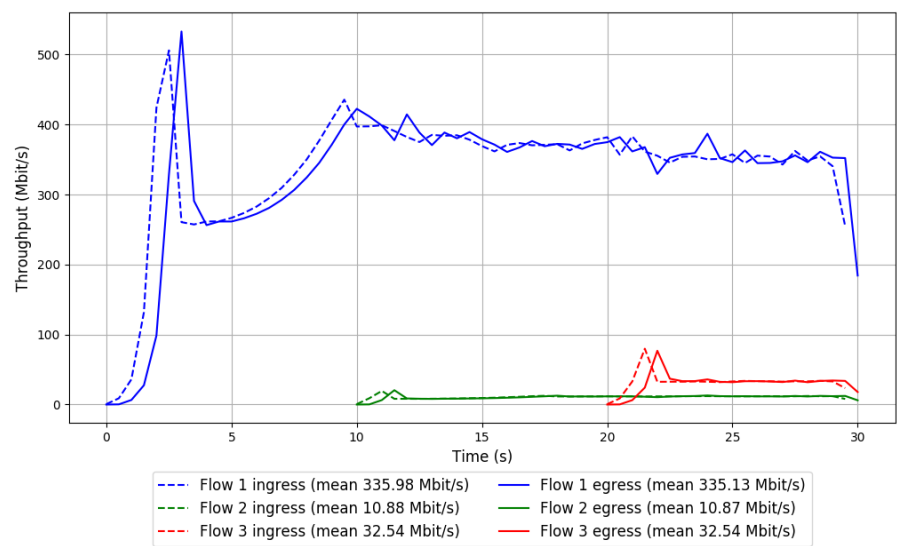
Run 1: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 351.14 Mbit/s) ——— Flow 1 egress (mean 348.26 Mbit/s)
- - - Flow 2 ingress (mean 16.96 Mbit/s) ——— Flow 2 egress (mean 16.83 Mbit/s)
- - - Flow 3 ingress (mean 2.24 Mbit/s) ——— Flow 3 egress (mean 2.21 Mbit/s)

• Flow 1 (95th percentile 256.85 ms)　　• Flow 2 (95th percentile 258.64 ms)　　• Flow 3 (95th percentile 260.53 ms)

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```
Run 2: Statistics of PCC-Allegro

Start at: 2018-06-19 00:14:23
End at: 2018-06-19 00:14:53
Local clock offset: 0.138 ms
Remote clock offset: 0.403 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.89 Mbit/s
95th percentile per-packet one-way delay: 147.165 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 335.13 Mbit/s
95th percentile per-packet one-way delay: 146.444 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 145.975 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 155.228 ms
Loss rate: 1.76%
```
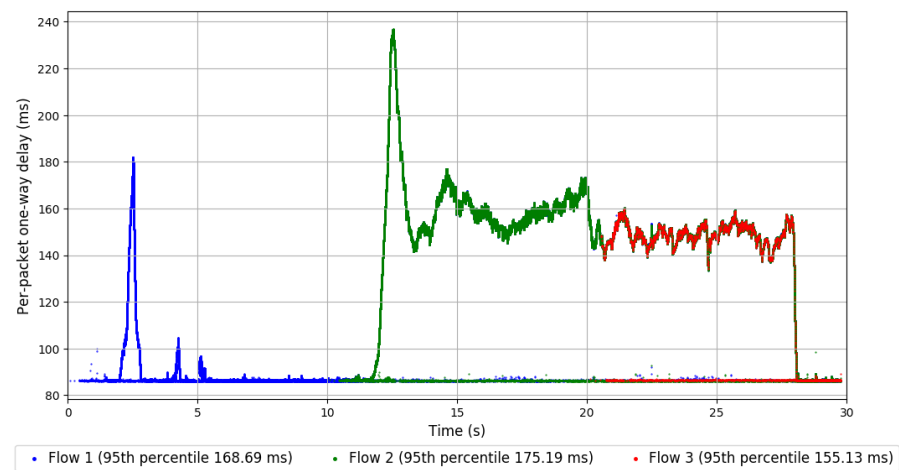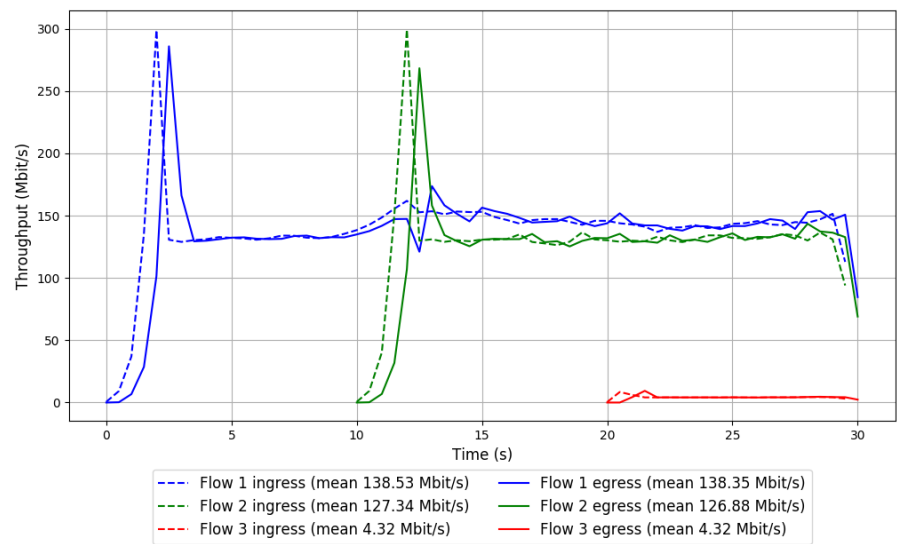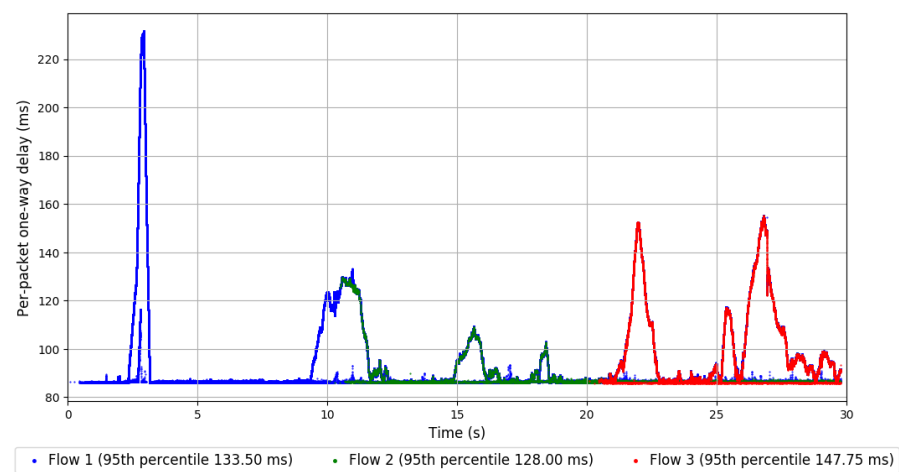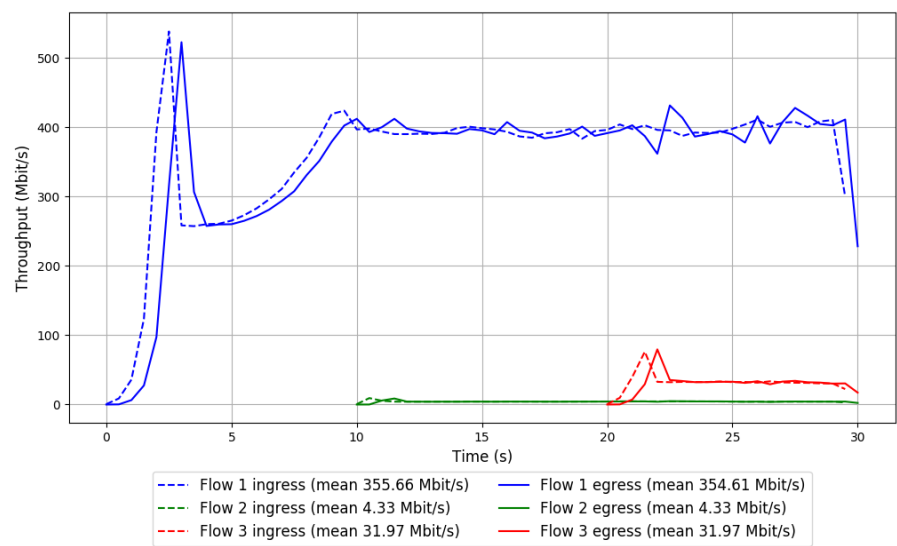
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 335.98 Mbit/s) — — — Flow 1 egress (mean 335.13 Mbit/s)
Flow 2 ingress (mean 10.88 Mbit/s) — — — Flow 2 egress (mean 10.87 Mbit/s)
Flow 3 ingress (mean 32.54 Mbit/s) — — — Flow 3 egress (mean 32.54 Mbit/s)

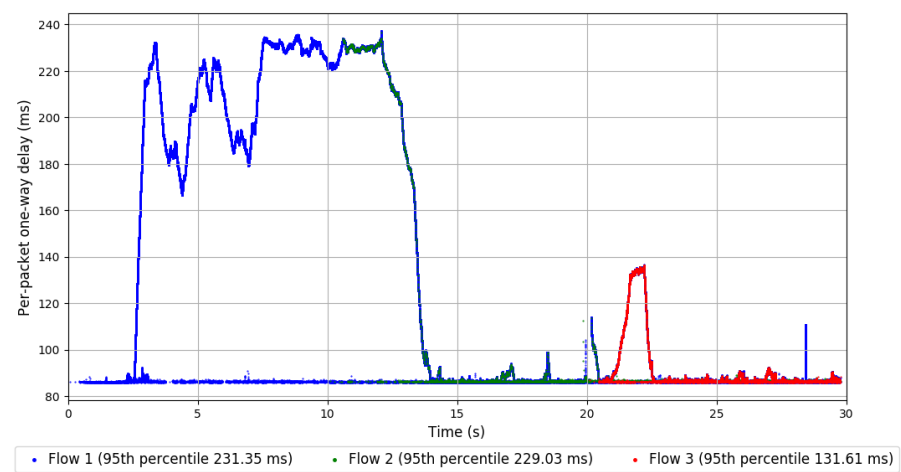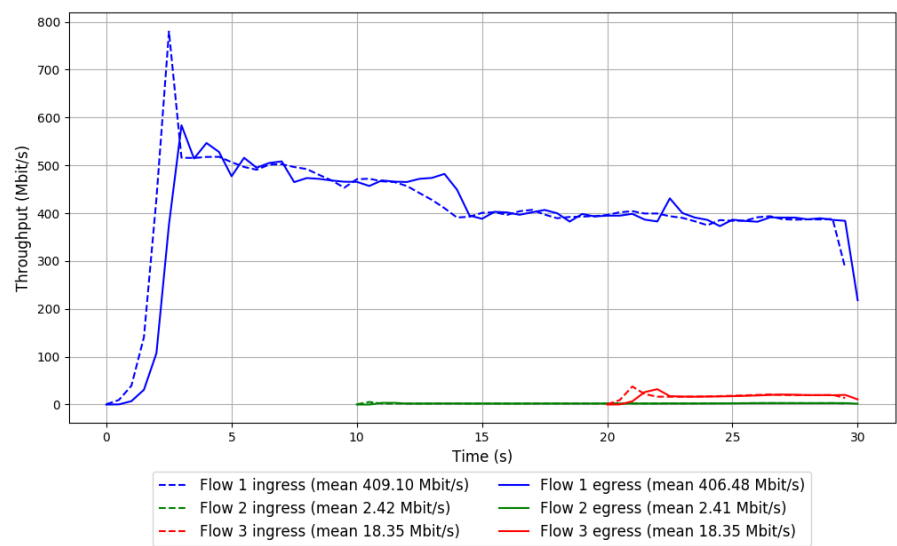Flow 1 (95th percentile 146.44 ms)   Flow 2 (95th percentile 145.97 ms)   Flow 3 (95th percentile 155.23 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-06-19 00:37:28
End at: 2018-06-19 00:37:58
Local clock offset: 0.181 ms
Remote clock offset: 0.762 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.84 Mbit/s
95th percentile per-packet one-way delay: 170.604 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 138.35 Mbit/s
95th percentile per-packet one-way delay: 168.695 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 126.88 Mbit/s
95th percentile per-packet one-way delay: 175.193 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 155.132 ms
Loss rate: 1.75%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 138.53 Mbit/s) --- Flow 1 egress (mean 138.35 Mbit/s)
Flow 2 ingress (mean 127.34 Mbit/s) --- Flow 2 egress (mean 126.88 Mbit/s)
Flow 3 ingress (mean 4.32 Mbit/s) --- Flow 3 egress (mean 4.32 Mbit/s)

Flow 1 (95th percentile 168.69 ms) • Flow 2 (95th percentile 175.19 ms) • Flow 3 (95th percentile 155.13 ms)
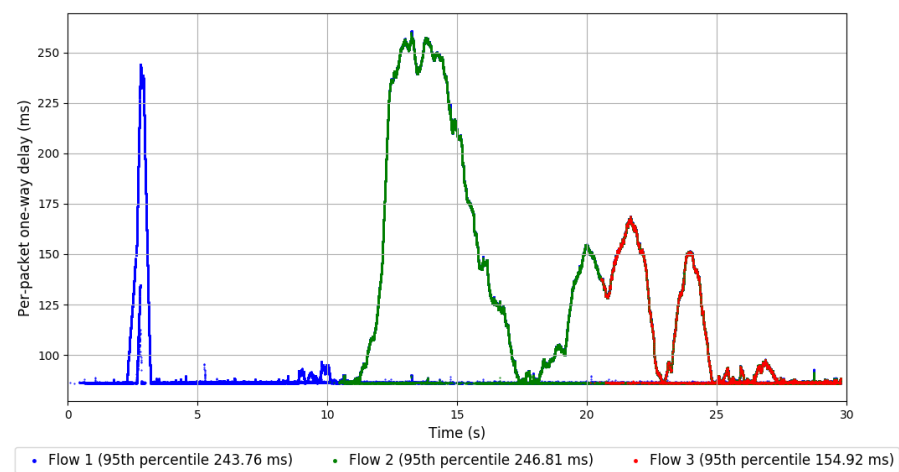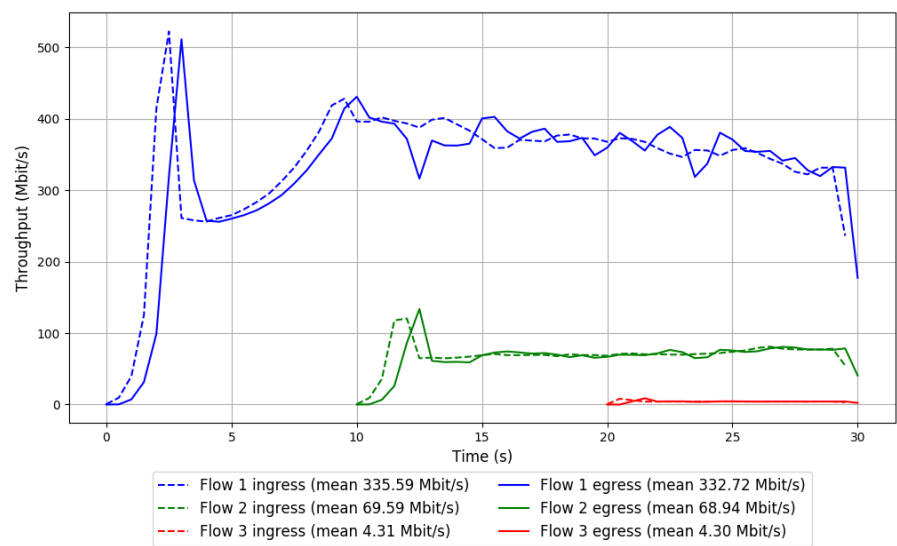
```
Run 4: Statistics of PCC-Allegro

Start at: 2018-06-19 01:00:40
End at: 2018-06-19 01:01:10
Local clock offset: -0.209 ms
Remote clock offset: 0.091 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.88 Mbit/s
95th percentile per-packet one-way delay: 134.571 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 354.61 Mbit/s
95th percentile per-packet one-way delay: 133.502 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 127.997 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 147.752 ms
Loss rate: 1.73%
```

Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 355.66 Mbit/s) ----- Flow 1 egress (mean 354.61 Mbit/s) ——
Flow 2 ingress (mean 4.33 Mbit/s) ----- Flow 2 egress (mean 4.33 Mbit/s) ——
Flow 3 ingress (mean 31.97 Mbit/s) ----- Flow 3 egress (mean 31.97 Mbit/s) ——

Flow 1 (95th percentile 133.50 ms)   Flow 2 (95th percentile 128.00 ms)   Flow 3 (95th percentile 147.75 ms)
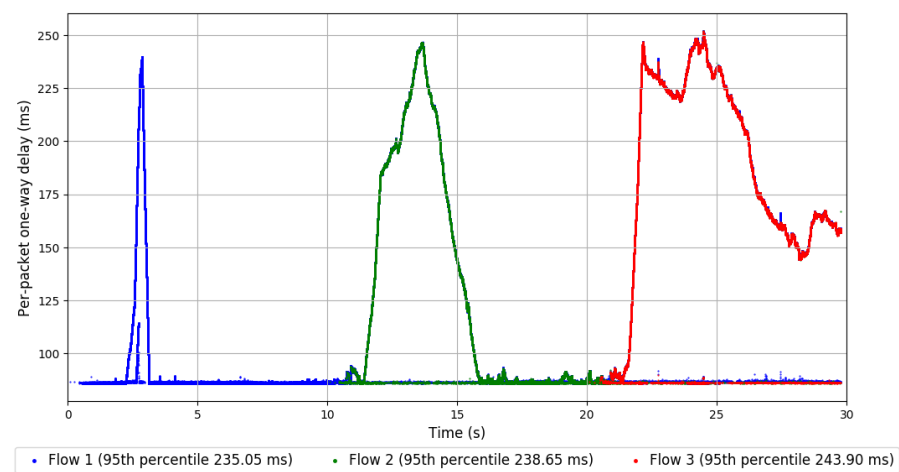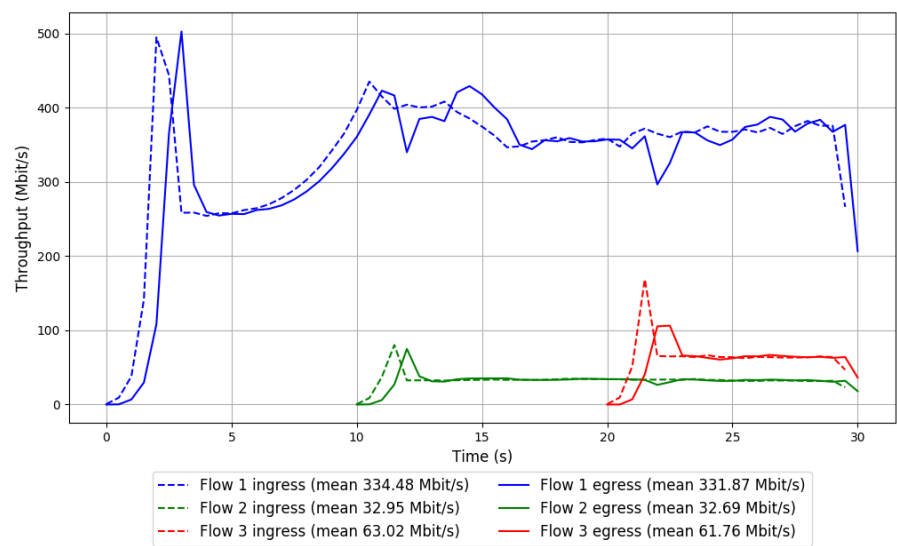
131

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-06-19 01:23:59
End at: 2018-06-19 01:24:29
Local clock offset: -0.016 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 414.04 Mbit/s
95th percentile per-packet one-way delay: 231.294 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 406.48 Mbit/s
95th percentile per-packet one-way delay: 231.349 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 229.035 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 18.35 Mbit/s
95th percentile per-packet one-way delay: 131.606 ms
Loss rate: 1.77%
```
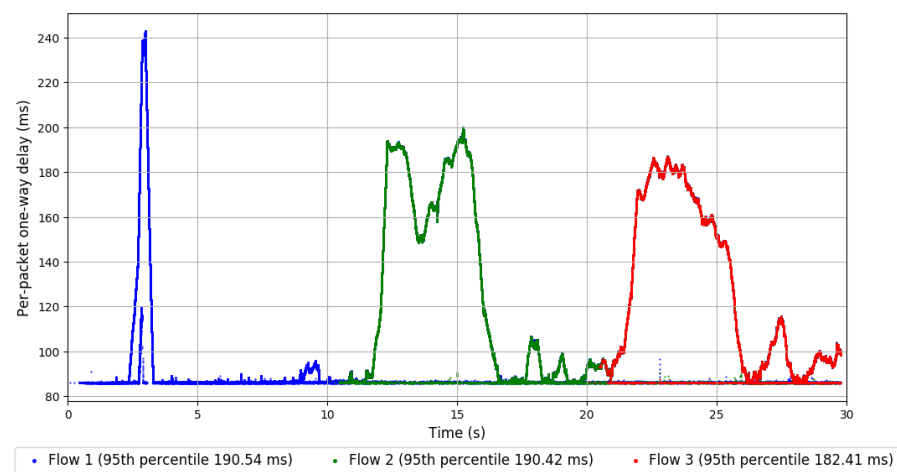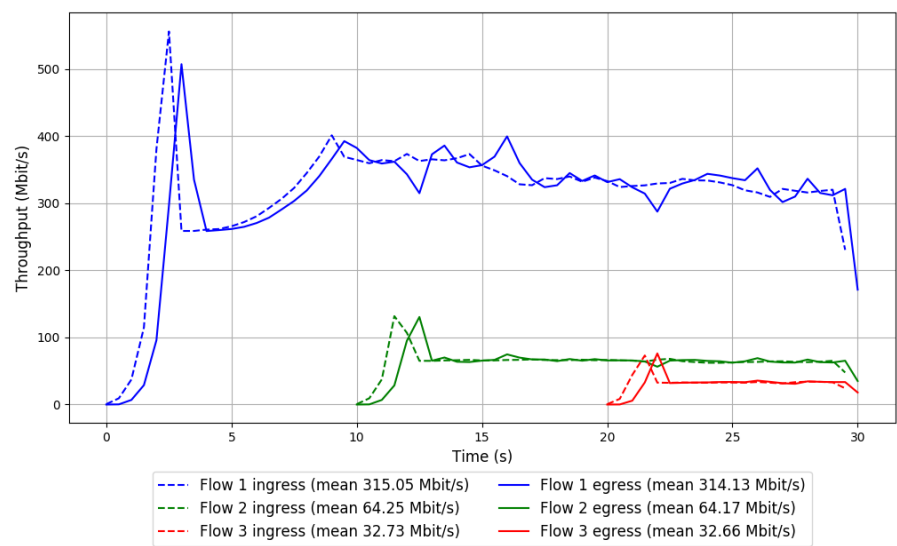
Run 5: Report of PCC-Allegro — Data Link

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```
Run 6: Statistics of PCC-Allegro

Start at: 2018-06-19 01:47:14
End at: 2018-06-19 01:47:44
Local clock offset: -0.039 ms
Remote clock offset: -0.066 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.82 Mbit/s
95th percentile per-packet one-way delay: 244.584 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 332.72 Mbit/s
95th percentile per-packet one-way delay: 243.759 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 68.94 Mbit/s
95th percentile per-packet one-way delay: 246.812 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 154.917 ms
Loss rate: 1.84%
```

Run 6: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 335.59 Mbit/s)   Flow 1 egress (mean 332.72 Mbit/s)
Flow 2 ingress (mean 69.59 Mbit/s)   Flow 2 egress (mean 68.94 Mbit/s)
Flow 3 ingress (mean 4.31 Mbit/s)   Flow 3 egress (mean 4.30 Mbit/s)

Flow 1 (95th percentile 243.76 ms)   Flow 2 (95th percentile 246.81 ms)   Flow 3 (95th percentile 154.92 ms)
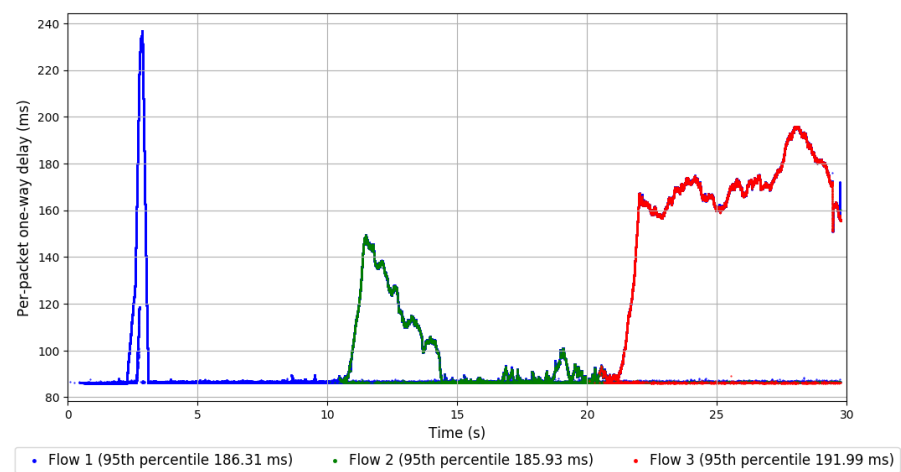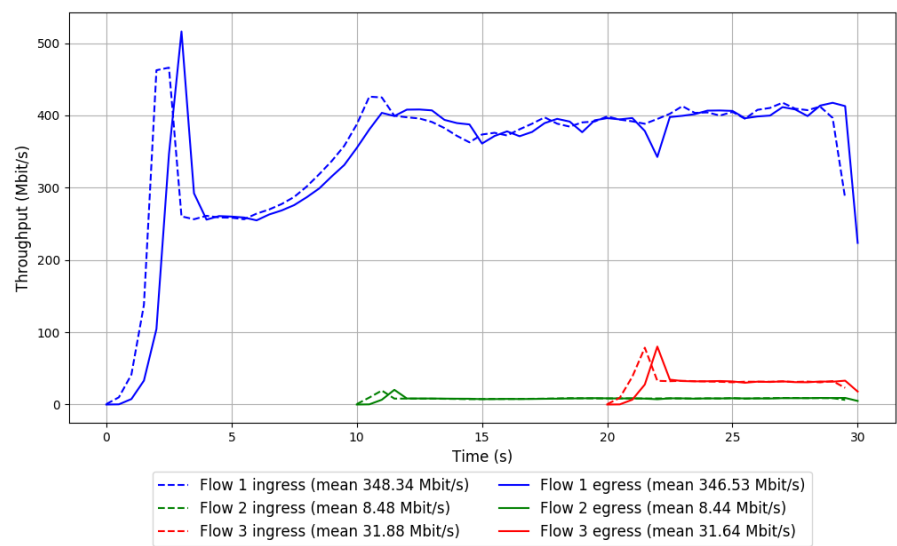
135

```
Run 7: Statistics of PCC-Allegro

Start at: 2018-06-19 02:10:31
End at: 2018-06-19 02:11:01
Local clock offset: 0.098 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.54 Mbit/s
95th percentile per-packet one-way delay: 235.526 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 331.87 Mbit/s
95th percentile per-packet one-way delay: 235.054 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 238.651 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 61.76 Mbit/s
95th percentile per-packet one-way delay: 243.902 ms
Loss rate: 3.72%
```
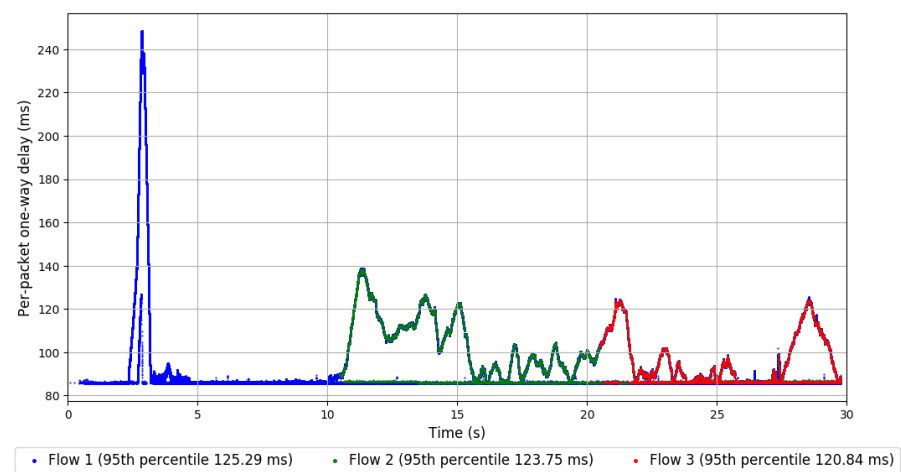
Run 7: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 334.48 Mbit/s) --- Flow 1 egress (mean 331.87 Mbit/s)
Flow 2 ingress (mean 32.95 Mbit/s) --- Flow 2 egress (mean 32.69 Mbit/s)
Flow 3 ingress (mean 63.02 Mbit/s) --- Flow 3 egress (mean 61.76 Mbit/s)

Flow 1 (95th percentile 235.05 ms) • Flow 2 (95th percentile 238.65 ms) • Flow 3 (95th percentile 243.90 ms)

```
Run 8: Statistics of PCC-Allegro

Start at: 2018-06-19 02:33:29
End at: 2018-06-19 02:33:59
Local clock offset: -0.062 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.28 Mbit/s
95th percentile per-packet one-way delay: 190.395 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 314.13 Mbit/s
95th percentile per-packet one-way delay: 190.541 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 64.17 Mbit/s
95th percentile per-packet one-way delay: 190.418 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 32.66 Mbit/s
95th percentile per-packet one-way delay: 182.414 ms
Loss rate: 1.95%
```
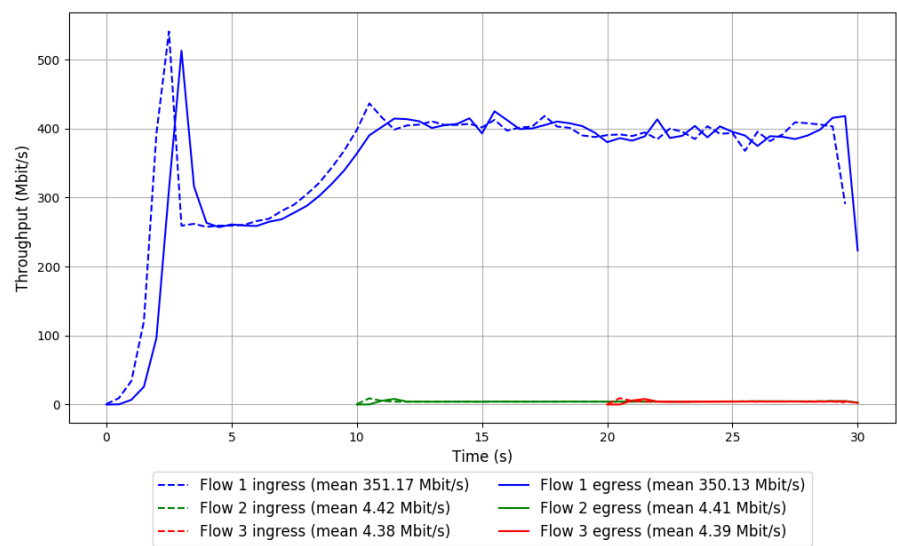
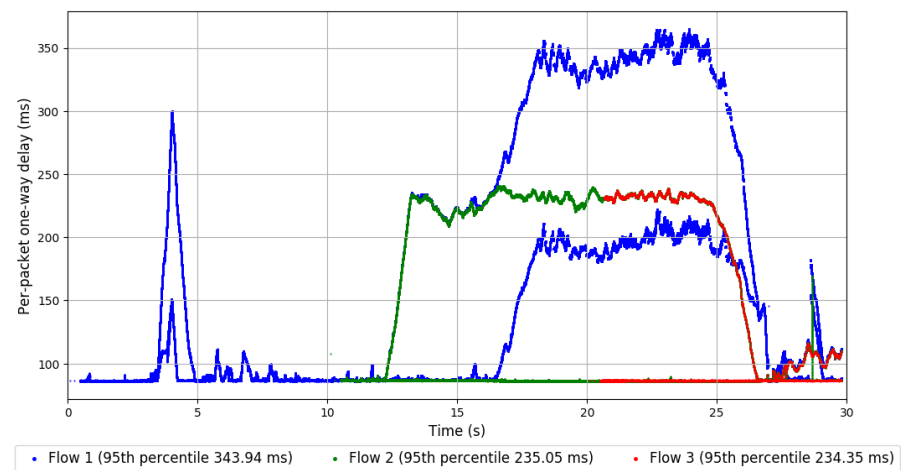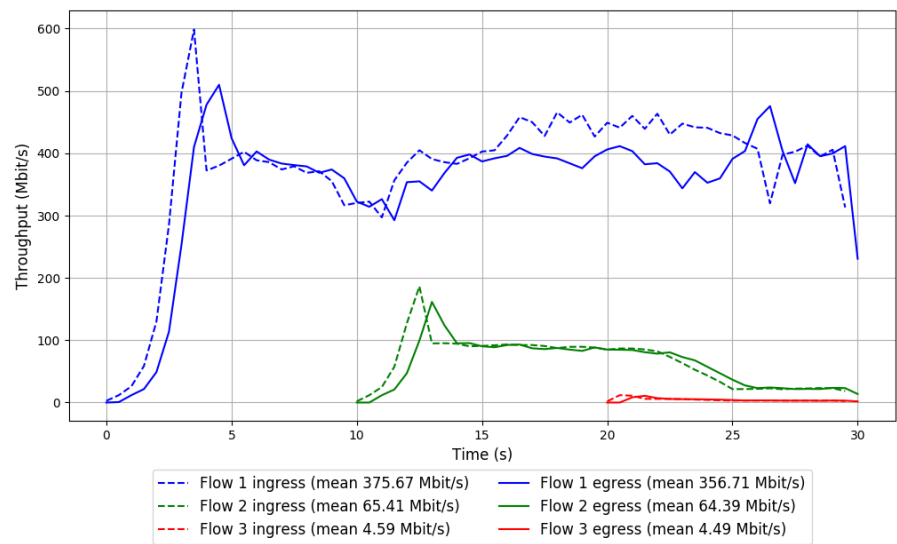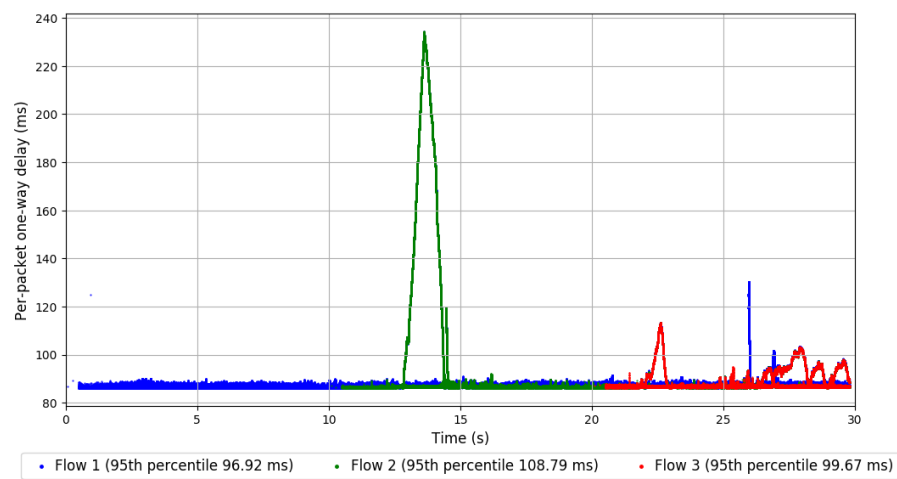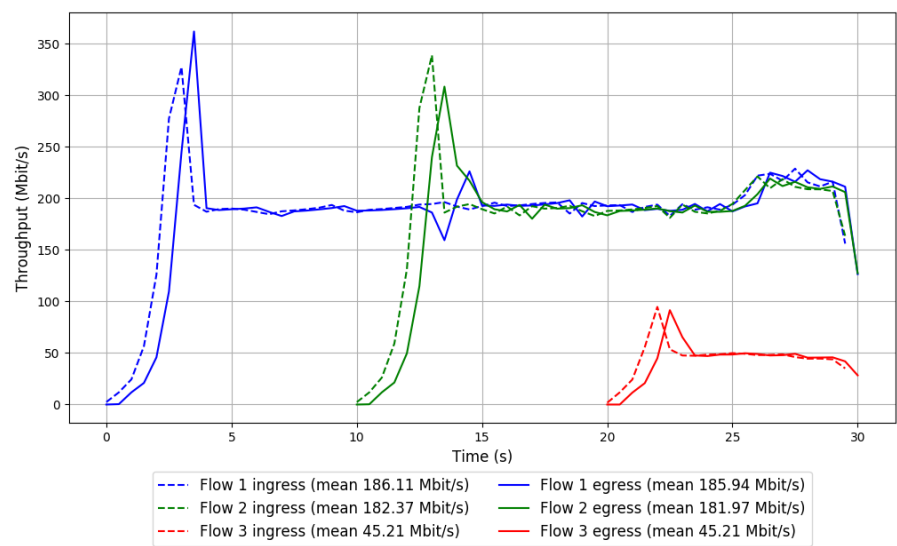## Run 8: Report of PCC-Allegro — Data Link

```
Run 9: Statistics of PCC-Allegro

Start at: 2018-06-19 02:56:35
End at: 2018-06-19 02:57:05
Local clock offset: 0.131 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.37 Mbit/s
95th percentile per-packet one-way delay: 186.732 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 346.53 Mbit/s
95th percentile per-packet one-way delay: 186.307 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 8.44 Mbit/s
95th percentile per-packet one-way delay: 185.933 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 191.990 ms
Loss rate: 2.50%
```

Run 9: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 348.34 Mbit/s) ——— Flow 1 egress (mean 346.53 Mbit/s)
- - - - Flow 2 ingress (mean 8.48 Mbit/s) ——— Flow 2 egress (mean 8.44 Mbit/s)
- - - - Flow 3 ingress (mean 31.88 Mbit/s) ——— Flow 3 egress (mean 31.64 Mbit/s)

- Flow 1 (95th percentile 186.31 ms)   - Flow 2 (95th percentile 185.93 ms)   - Flow 3 (95th percentile 191.99 ms)

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```
Run 10: Statistics of PCC-Allegro

Start at: 2018-06-19 03:19:44
End at: 2018-06-19 03:20:14
Local clock offset: -0.224 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2018-06-19 04:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.44 Mbit/s
95th percentile per-packet one-way delay: 125.201 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 350.13 Mbit/s
95th percentile per-packet one-way delay: 125.286 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 123.749 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 120.844 ms
Loss rate: 1.71%
```
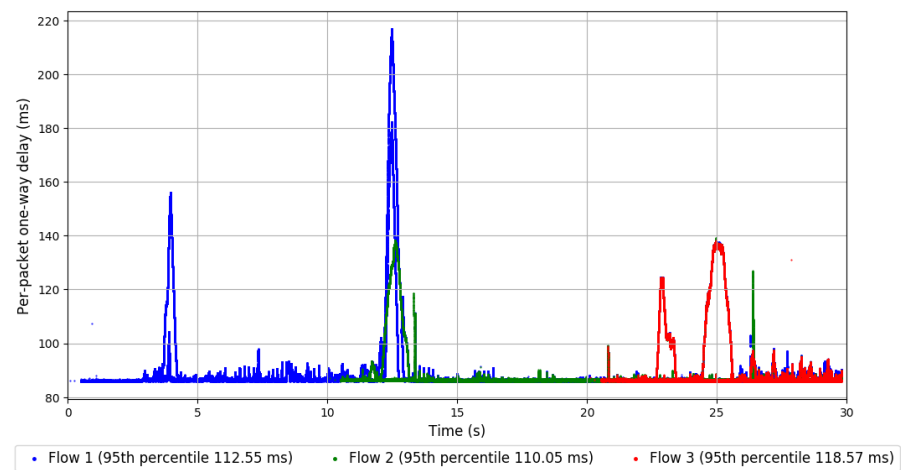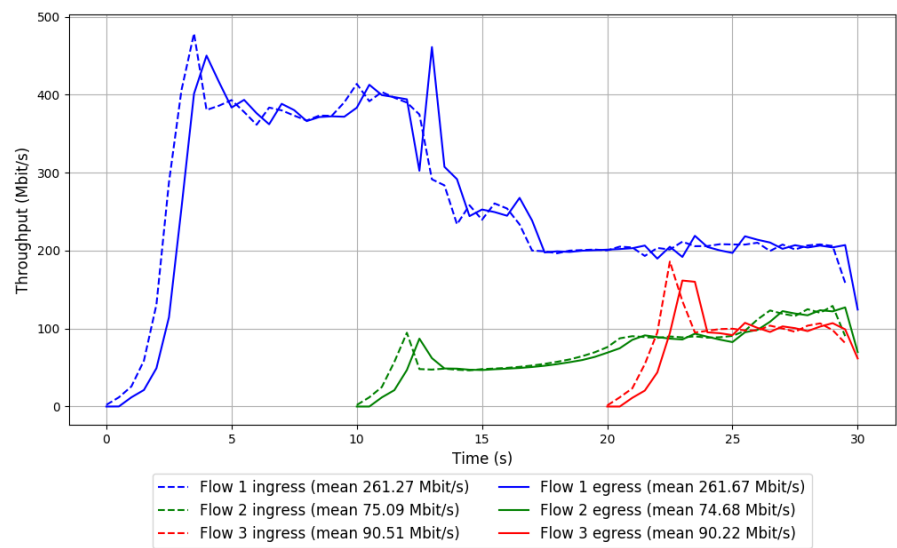
Run 10: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 351.17 Mbit/s)   Flow 1 egress (mean 350.13 Mbit/s)
Flow 2 ingress (mean 4.42 Mbit/s)   Flow 2 egress (mean 4.41 Mbit/s)
Flow 3 ingress (mean 4.38 Mbit/s)   Flow 3 egress (mean 4.39 Mbit/s)

Flow 1 (95th percentile 125.29 ms)   Flow 2 (95th percentile 123.75 ms)   Flow 3 (95th percentile 120.84 ms)

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```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-18 23:46:51
End at: 2018-06-18 23:47:21
Local clock offset: -0.02 ms
Remote clock offset: -0.259 ms


# Below is generated by plot.py at 2018-06-19 04:49:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.83 Mbit/s
95th percentile per-packet one-way delay: 342.515 ms
Loss rate: 5.27%
-- Flow 1:
Average throughput: 356.71 Mbit/s
95th percentile per-packet one-way delay: 343.940 ms
Loss rate: 5.60%
-- Flow 2:
Average throughput: 64.39 Mbit/s
95th percentile per-packet one-way delay: 235.046 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 234.350 ms
Loss rate: 3.92%
```
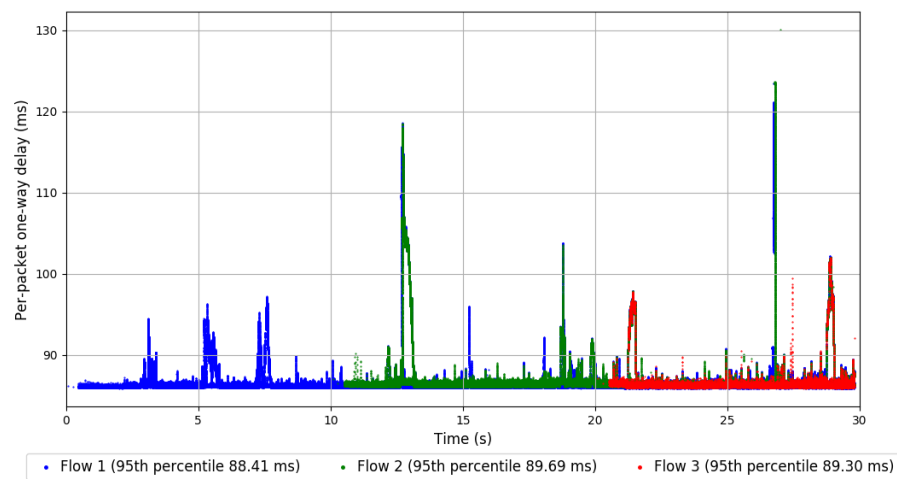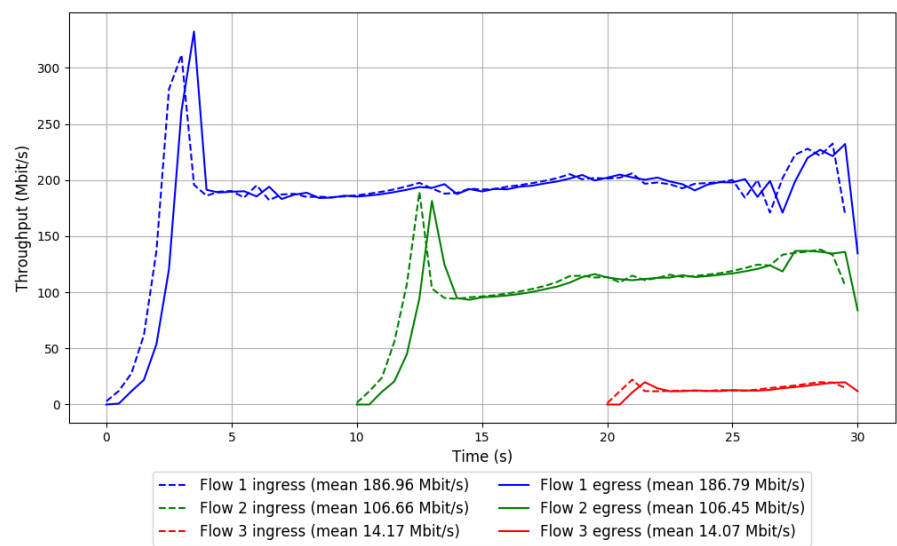
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 375.67 Mbit/s) --- Flow 1 egress (mean 356.71 Mbit/s)
Flow 2 ingress (mean 65.41 Mbit/s) --- Flow 2 egress (mean 64.39 Mbit/s)
Flow 3 ingress (mean 4.59 Mbit/s) --- Flow 3 egress (mean 4.49 Mbit/s)

Flow 1 (95th percentile 343.94 ms) Flow 2 (95th percentile 235.05 ms) Flow 3 (95th percentile 234.35 ms)
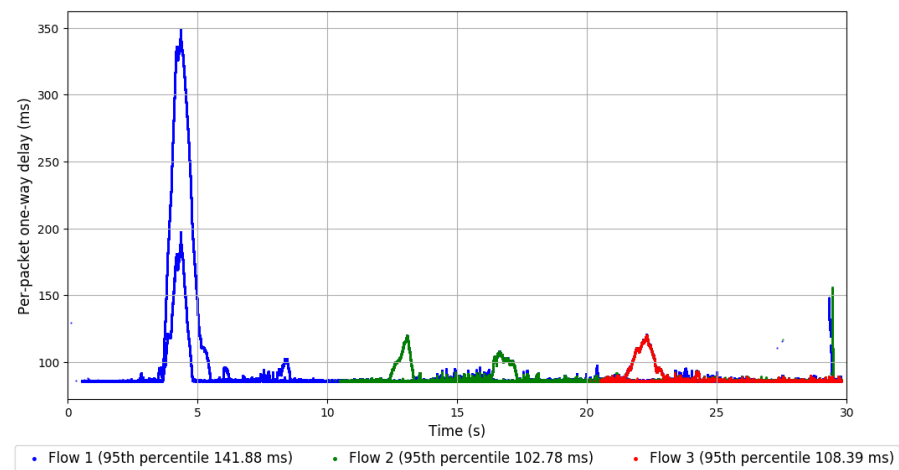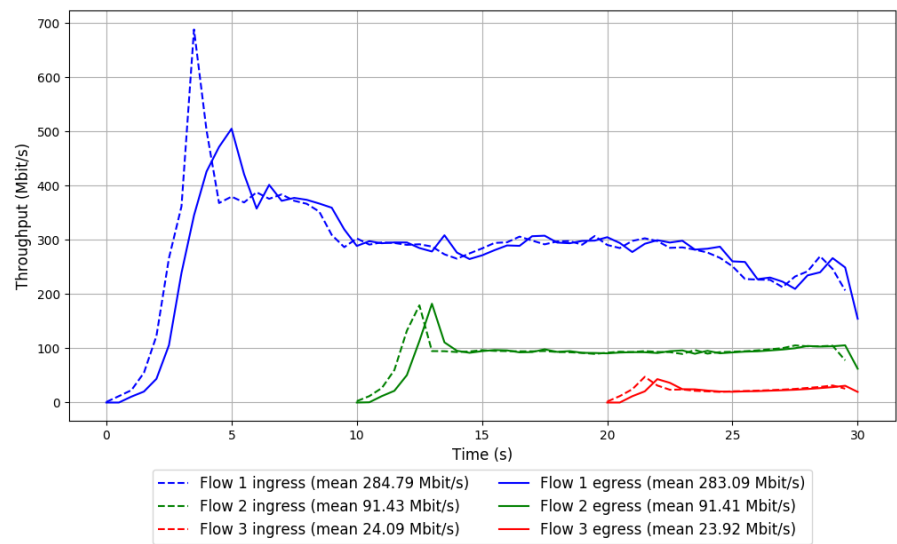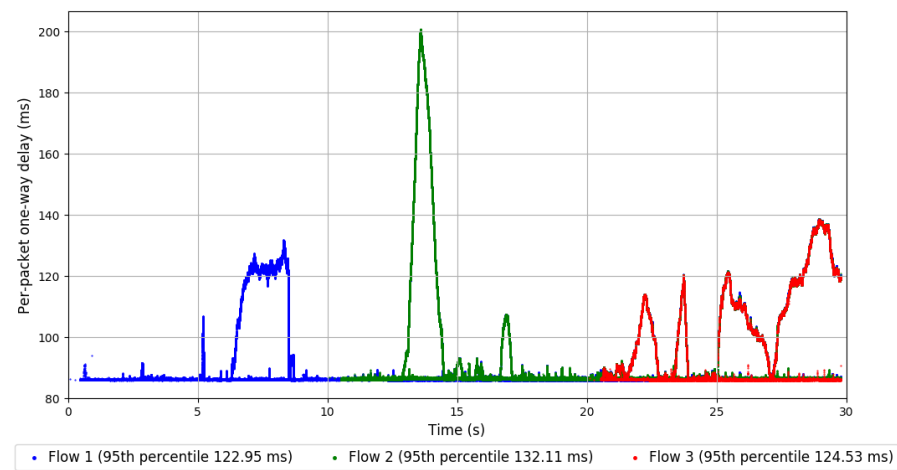
```
Run 2: Statistics of PCC-Expr

Start at: 2018-06-19 00:10:05
End at: 2018-06-19 00:10:35
Local clock offset: 0.111 ms
Remote clock offset: 0.344 ms


# Below is generated by plot.py at 2018-06-19 04:49:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.36 Mbit/s
95th percentile per-packet one-way delay: 100.307 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 185.94 Mbit/s
95th percentile per-packet one-way delay: 96.923 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 181.97 Mbit/s
95th percentile per-packet one-way delay: 108.790 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 45.21 Mbit/s
95th percentile per-packet one-way delay: 99.669 ms
Loss rate: 1.76%
```
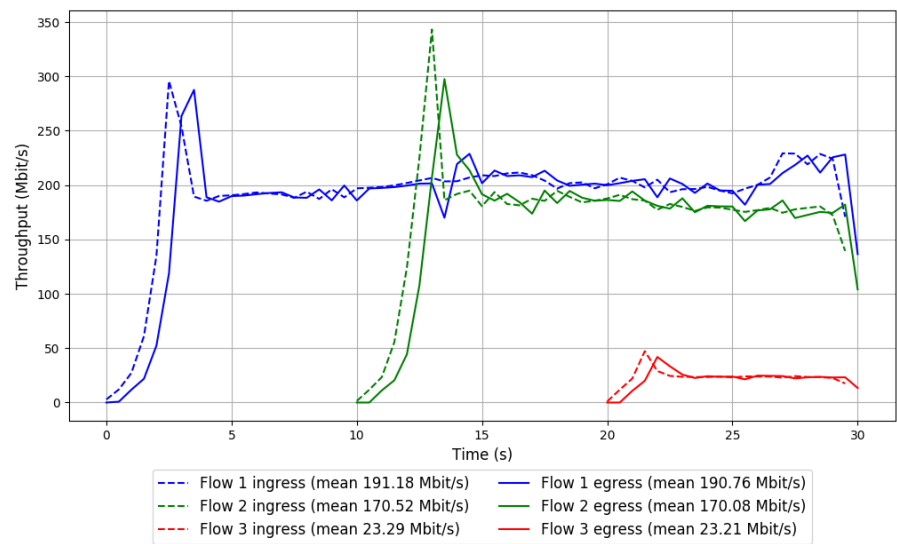
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 186.11 Mbit/s) --- Flow 1 egress (mean 185.94 Mbit/s)
Flow 2 ingress (mean 182.37 Mbit/s) --- Flow 2 egress (mean 181.97 Mbit/s)
Flow 3 ingress (mean 45.21 Mbit/s) --- Flow 3 egress (mean 45.21 Mbit/s)

Flow 1 (95th percentile 96.92 ms)   Flow 2 (95th percentile 108.79 ms)   Flow 3 (95th percentile 99.67 ms)
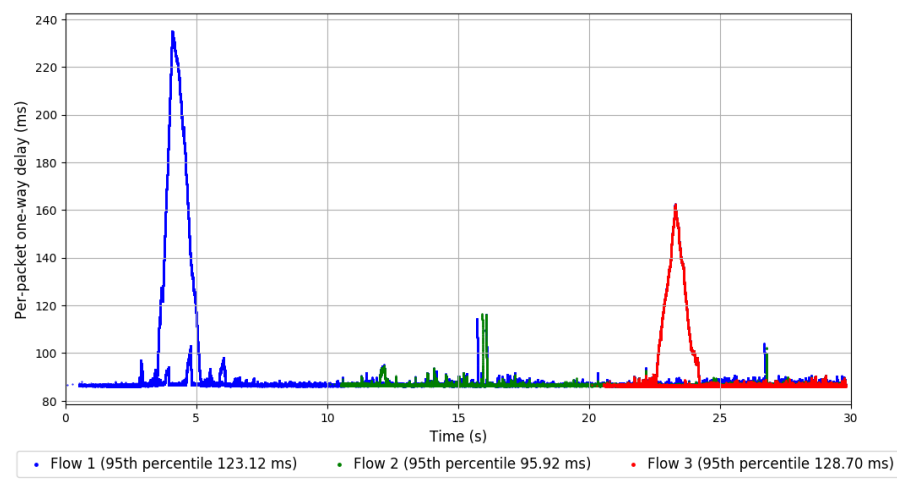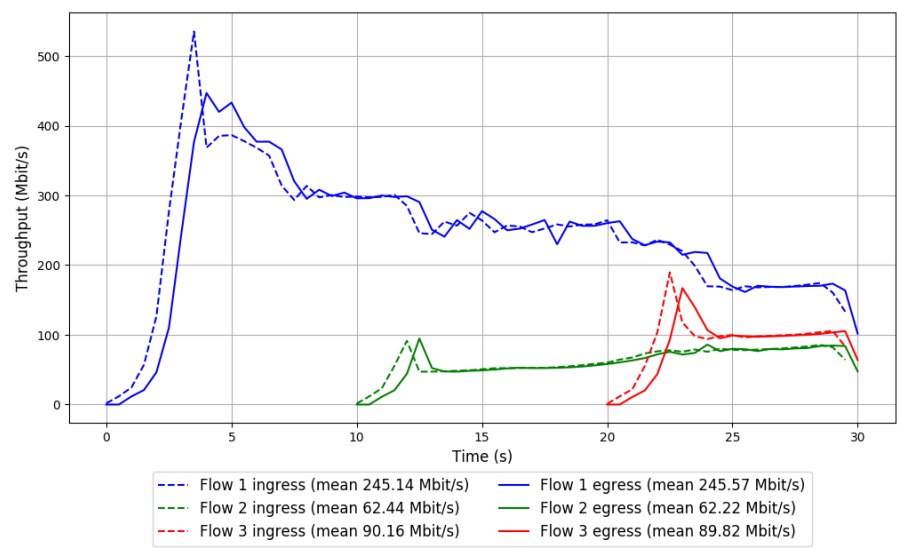
```
Run 3: Statistics of PCC-Expr

Start at: 2018-06-19 00:33:06
End at: 2018-06-19 00:33:36
Local clock offset: -0.057 ms
Remote clock offset: 0.614 ms


# Below is generated by plot.py at 2018-06-19 04:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.59 Mbit/s
95th percentile per-packet one-way delay: 113.118 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 261.67 Mbit/s
95th percentile per-packet one-way delay: 112.552 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 74.68 Mbit/s
95th percentile per-packet one-way delay: 110.048 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 90.22 Mbit/s
95th percentile per-packet one-way delay: 118.566 ms
Loss rate: 2.07%
```

Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 261.27 Mbit/s) --- Flow 1 egress (mean 261.67 Mbit/s)
Flow 2 ingress (mean 75.09 Mbit/s) --- Flow 2 egress (mean 74.68 Mbit/s)
Flow 3 ingress (mean 90.51 Mbit/s) --- Flow 3 egress (mean 90.22 Mbit/s)

Flow 1 (95th percentile 112.55 ms)　　Flow 2 (95th percentile 110.05 ms)　　Flow 3 (95th percentile 118.57 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-06-19 00:56:06
End at: 2018-06-19 00:56:36
Local clock offset: -0.006 ms
Remote clock offset: 0.216 ms


# Below is generated by plot.py at 2018-06-19 04:49:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.92 Mbit/s
95th percentile per-packet one-way delay: 88.622 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 186.79 Mbit/s
95th percentile per-packet one-way delay: 88.414 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 106.45 Mbit/s
95th percentile per-packet one-way delay: 89.687 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 14.07 Mbit/s
95th percentile per-packet one-way delay: 89.297 ms
Loss rate: 2.39%
```
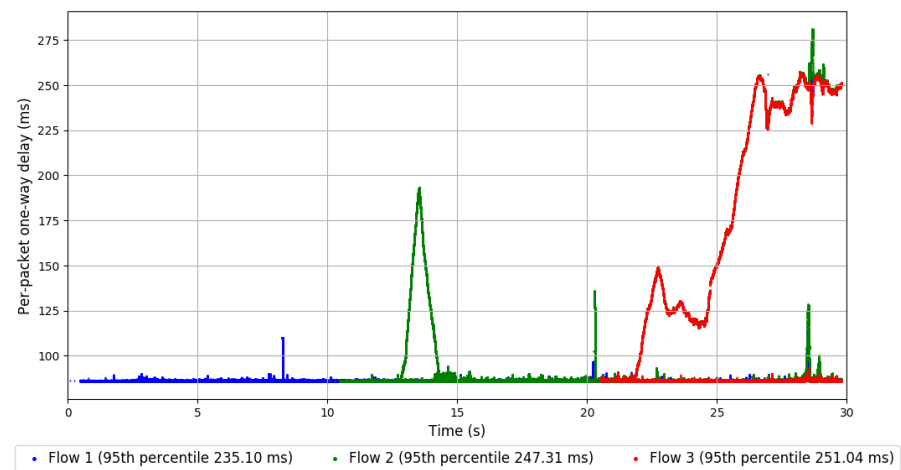
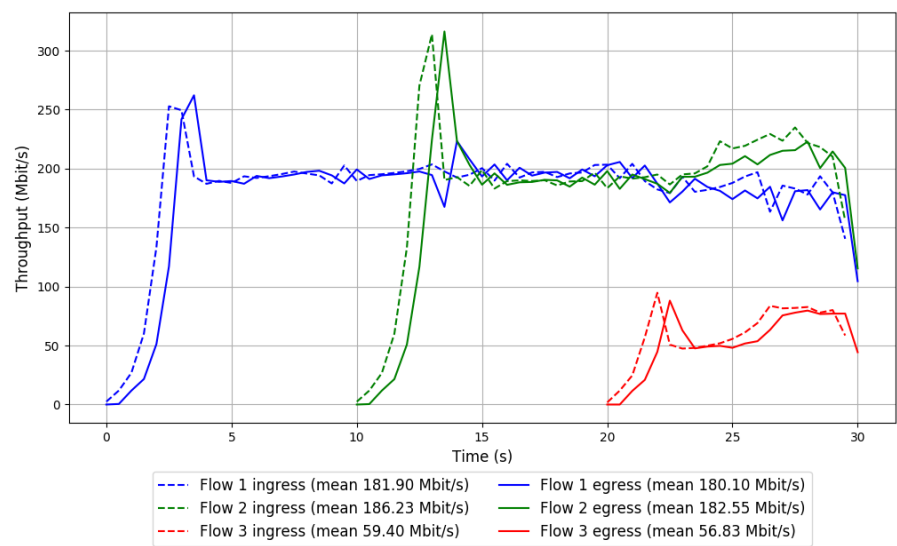# Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-06-19 01:19:35
End at: 2018-06-19 01:20:05
Local clock offset: -0.174 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2018-06-19 04:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.59 Mbit/s
95th percentile per-packet one-way delay: 120.618 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 283.09 Mbit/s
95th percentile per-packet one-way delay: 141.883 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 91.41 Mbit/s
95th percentile per-packet one-way delay: 102.778 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 23.92 Mbit/s
95th percentile per-packet one-way delay: 108.391 ms
Loss rate: 2.46%
```
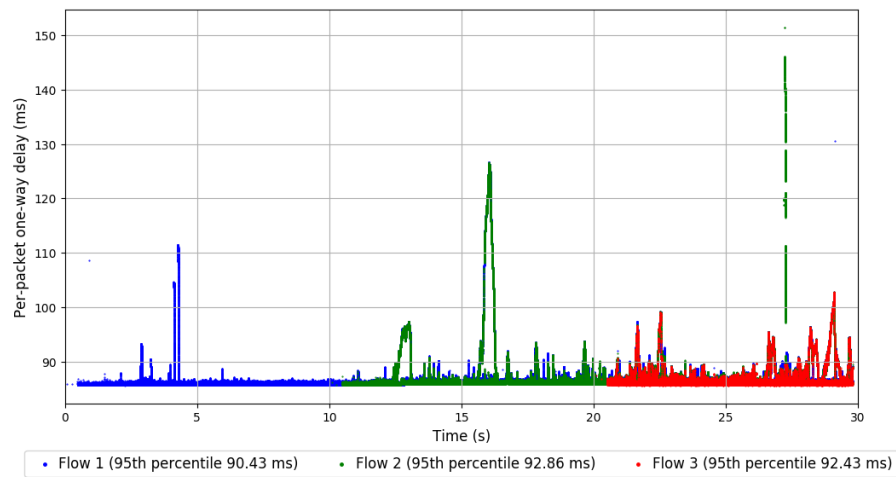
Run 5: Report of PCC-Expr — Data Link

```
Run 6: Statistics of PCC-Expr

Start at: 2018-06-19 01:42:45
End at: 2018-06-19 01:43:15
Local clock offset: 0.075 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2018-06-19 04:51:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.12 Mbit/s
95th percentile per-packet one-way delay: 124.141 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 190.76 Mbit/s
95th percentile per-packet one-way delay: 122.947 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 170.08 Mbit/s
95th percentile per-packet one-way delay: 132.106 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 23.21 Mbit/s
95th percentile per-packet one-way delay: 124.527 ms
Loss rate: 2.08%
```
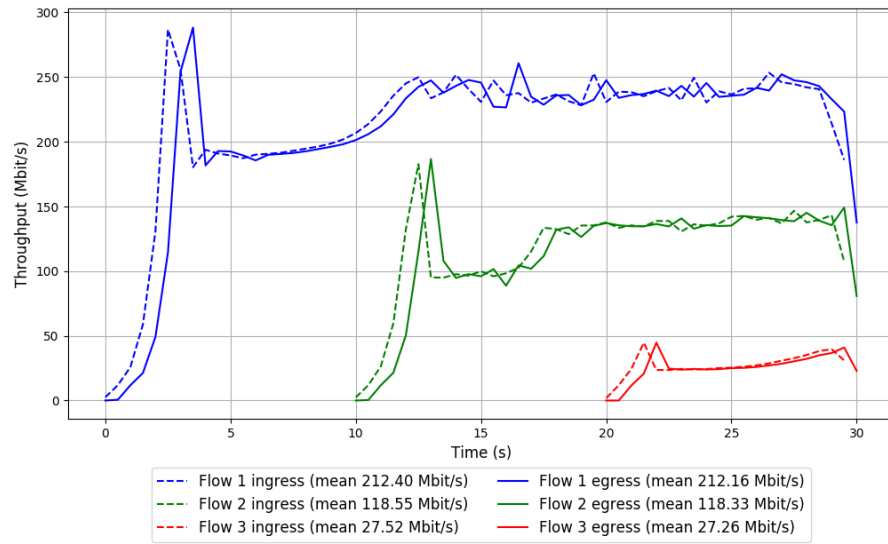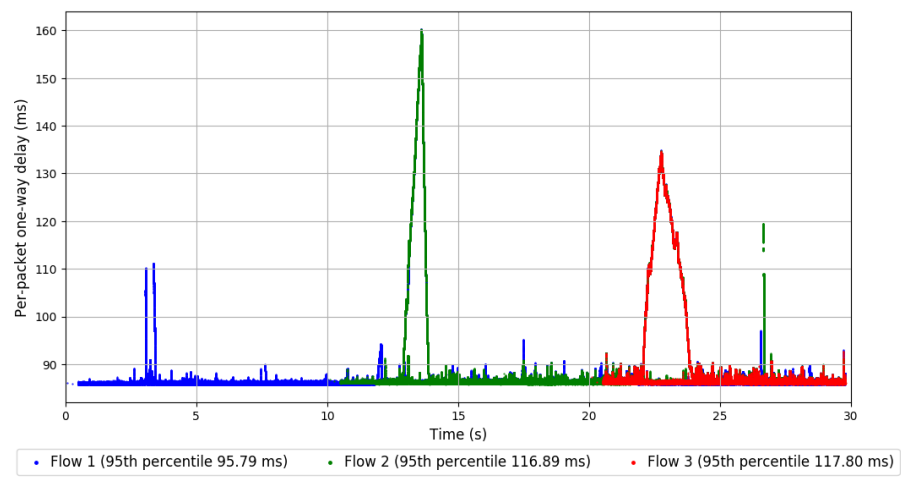
Run 6: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 191.18 Mbit/s) --- Flow 1 egress (mean 190.76 Mbit/s)
Flow 2 ingress (mean 170.52 Mbit/s) --- Flow 2 egress (mean 170.08 Mbit/s)
Flow 3 ingress (mean 23.29 Mbit/s) --- Flow 3 egress (mean 23.21 Mbit/s)

Flow 1 (95th percentile 122.95 ms) • Flow 2 (95th percentile 132.11 ms) • Flow 3 (95th percentile 124.53 ms)

```
Run 7: Statistics of PCC-Expr

Start at: 2018-06-19 02:06:03
End at: 2018-06-19 02:06:33
Local clock offset: 0.115 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2018-06-19 04:51:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.08 Mbit/s
95th percentile per-packet one-way delay: 120.866 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 245.57 Mbit/s
95th percentile per-packet one-way delay: 123.116 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 62.22 Mbit/s
95th percentile per-packet one-way delay: 95.924 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 89.82 Mbit/s
95th percentile per-packet one-way delay: 128.698 ms
Loss rate: 2.13%
```
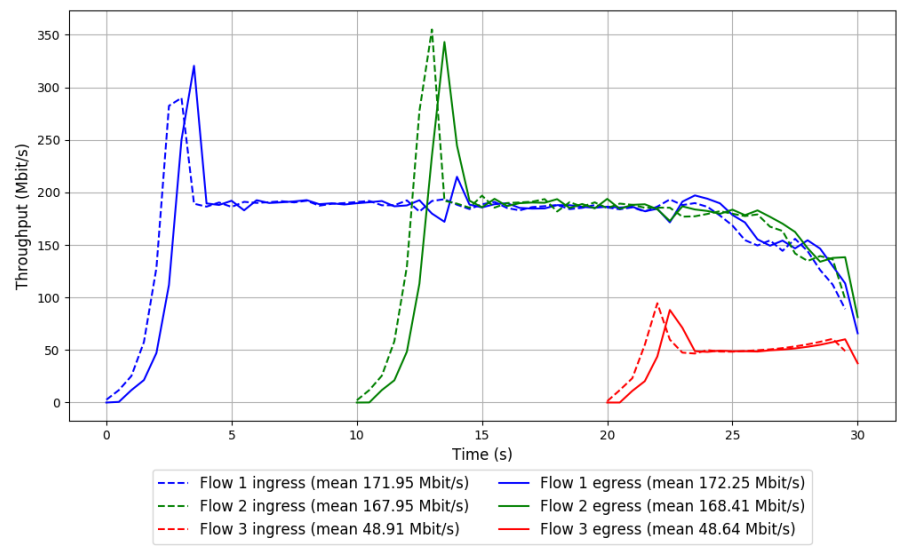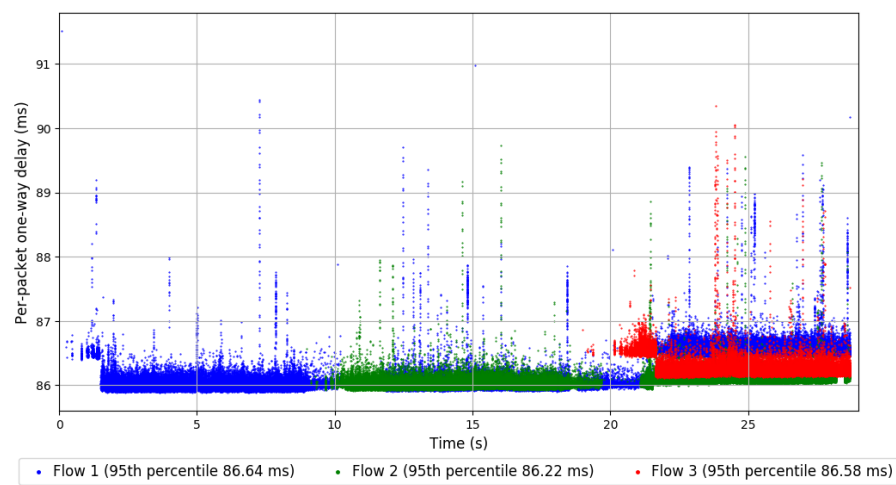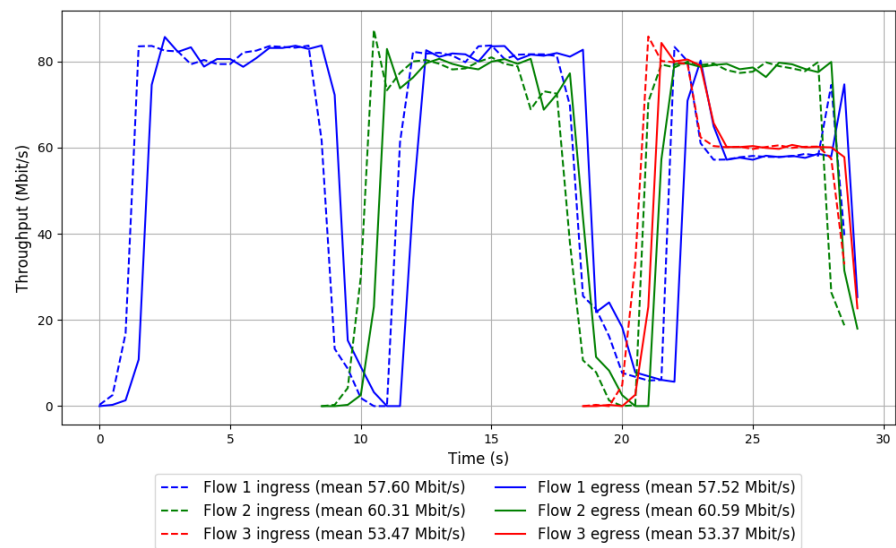
Run 7: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 245.14 Mbit/s) --- Flow 1 egress (mean 245.57 Mbit/s)
Flow 2 ingress (mean 62.44 Mbit/s) --- Flow 2 egress (mean 62.22 Mbit/s)
Flow 3 ingress (mean 90.16 Mbit/s) --- Flow 3 egress (mean 89.82 Mbit/s)

Flow 1 (95th percentile 123.12 ms) • Flow 2 (95th percentile 95.92 ms) • Flow 3 (95th percentile 128.70 ms)

```
Run 8: Statistics of PCC-Expr

Start at: 2018-06-19 02:29:11
End at: 2018-06-19 02:29:41
Local clock offset: -0.014 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2018-06-19 04:53:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.65 Mbit/s
95th percentile per-packet one-way delay: 245.386 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 180.10 Mbit/s
95th percentile per-packet one-way delay: 235.096 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 182.55 Mbit/s
95th percentile per-packet one-way delay: 247.305 ms
Loss rate: 2.84%
-- Flow 3:
Average throughput: 56.83 Mbit/s
95th percentile per-packet one-way delay: 251.041 ms
Loss rate: 6.03%
```
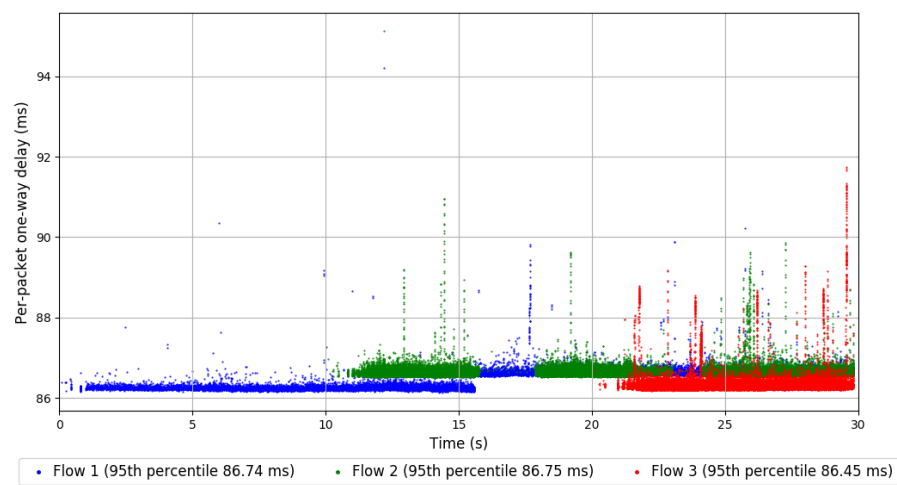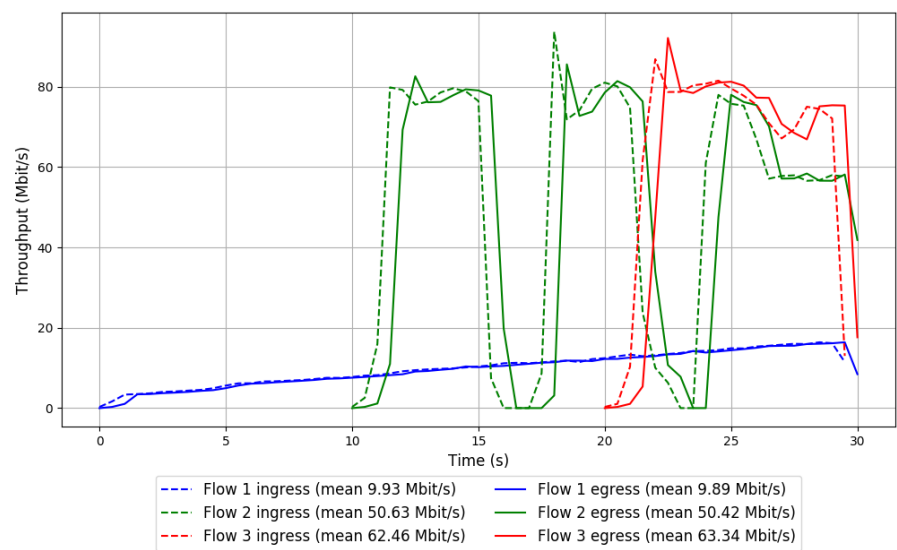
Run 8: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 181.90 Mbit/s) — — — Flow 1 egress (mean 180.10 Mbit/s)
- Flow 2 ingress (mean 186.23 Mbit/s) — — — Flow 2 egress (mean 182.55 Mbit/s)
- Flow 3 ingress (mean 59.40 Mbit/s) — — — Flow 3 egress (mean 56.83 Mbit/s)

- Flow 1 (95th percentile 235.10 ms)   • Flow 2 (95th percentile 247.31 ms)   • Flow 3 (95th percentile 251.04 ms)

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```
Run 9: Statistics of PCC-Expr

Start at: 2018-06-19 02:52:15
End at: 2018-06-19 02:52:45
Local clock offset: -0.078 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2018-06-19 04:57:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.50 Mbit/s
95th percentile per-packet one-way delay: 91.337 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 212.16 Mbit/s
95th percentile per-packet one-way delay: 90.429 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 118.33 Mbit/s
95th percentile per-packet one-way delay: 92.863 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 92.431 ms
Loss rate: 2.68%
```
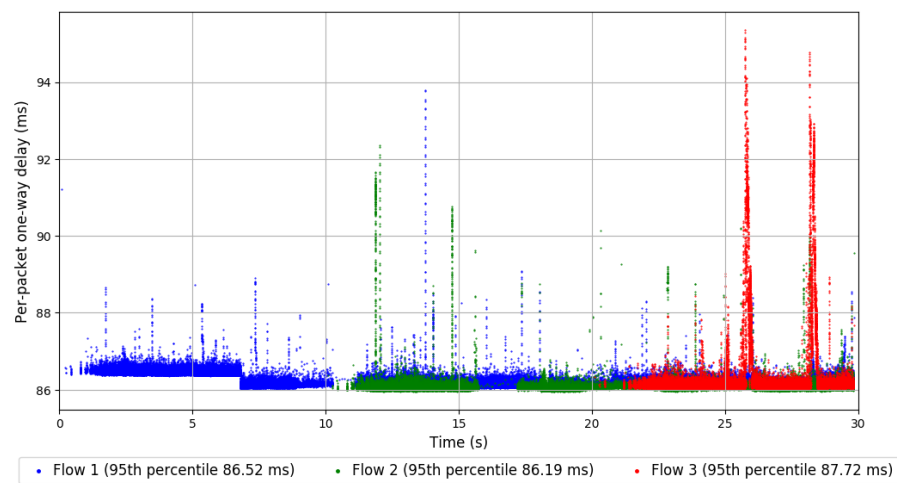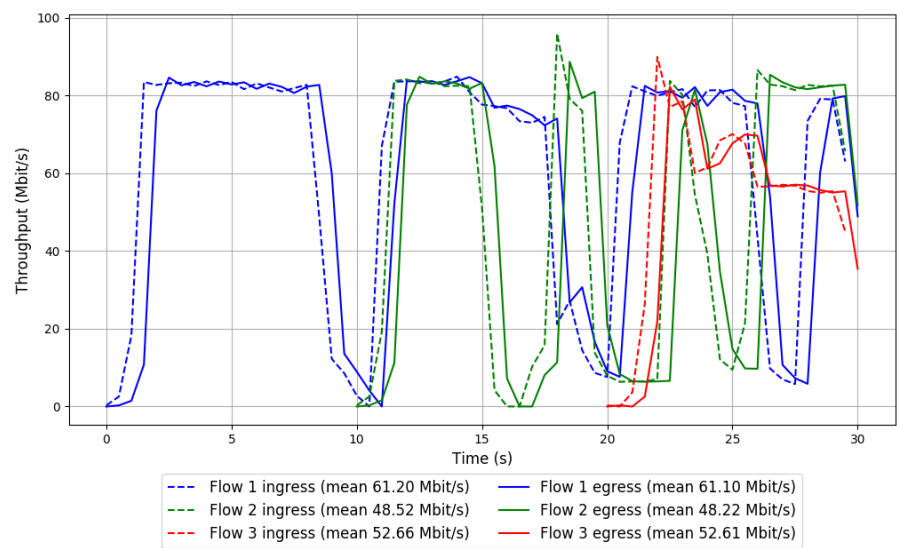
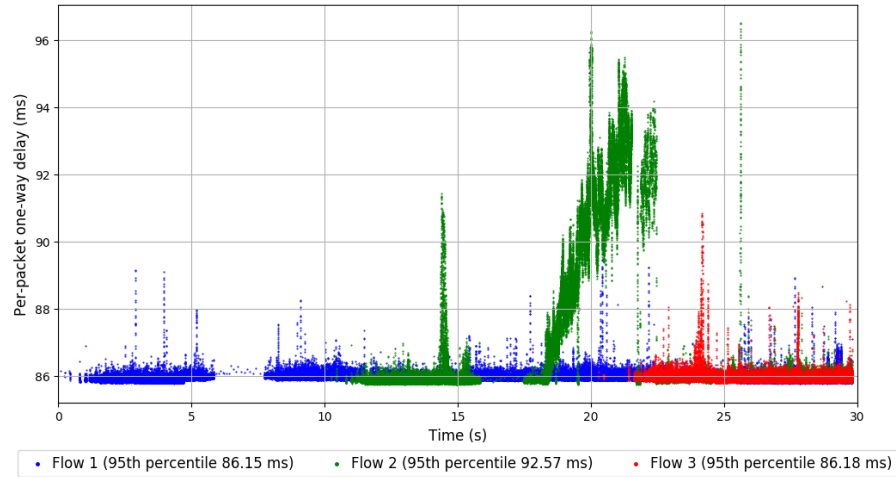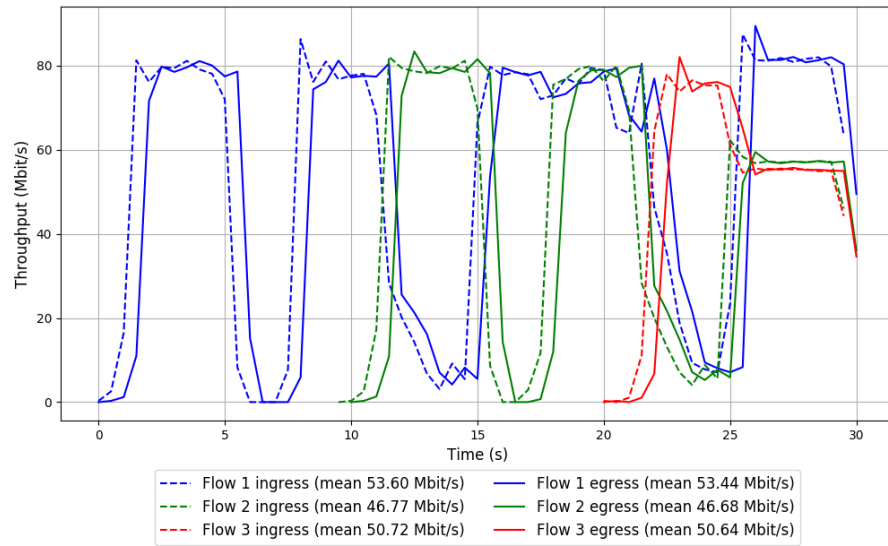# Run 9: Report of PCC-Expr — Data Link

```
Run 10: Statistics of PCC-Expr

Start at: 2018-06-19 03:15:16
End at: 2018-06-19 03:15:46
Local clock offset: -0.007 ms
Remote clock offset: -0.0 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.77 Mbit/s
95th percentile per-packet one-way delay: 109.740 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 172.25 Mbit/s
95th percentile per-packet one-way delay: 95.794 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 168.41 Mbit/s
95th percentile per-packet one-way delay: 116.887 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 48.64 Mbit/s
95th percentile per-packet one-way delay: 117.802 ms
Loss rate: 2.31%
```

Run 10: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 171.95 Mbit/s)
- Flow 1 egress (mean 172.25 Mbit/s)
- Flow 2 ingress (mean 167.95 Mbit/s)
- Flow 2 egress (mean 168.41 Mbit/s)
- Flow 3 ingress (mean 48.91 Mbit/s)
- Flow 3 egress (mean 48.64 Mbit/s)

- Flow 1 (95th percentile 95.79 ms)
- Flow 2 (95th percentile 116.89 ms)
- Flow 3 (95th percentile 117.80 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2018-06-18 23:38:25
End at: 2018-06-18 23:38:55
Local clock offset: -0.063 ms
Remote clock offset: -0.849 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.42 Mbit/s
95th percentile per-packet one-way delay: 86.596 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 57.52 Mbit/s
95th percentile per-packet one-way delay: 86.638 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 60.59 Mbit/s
95th percentile per-packet one-way delay: 86.217 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 53.37 Mbit/s
95th percentile per-packet one-way delay: 86.576 ms
Loss rate: 1.92%
```
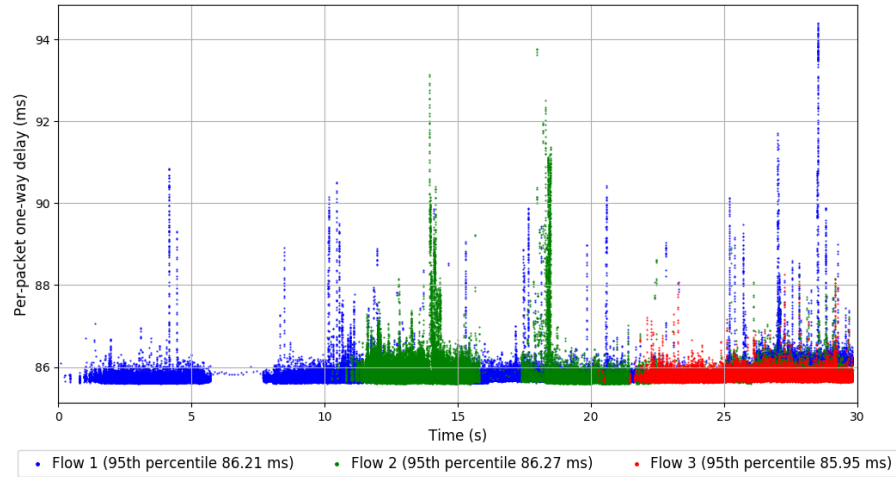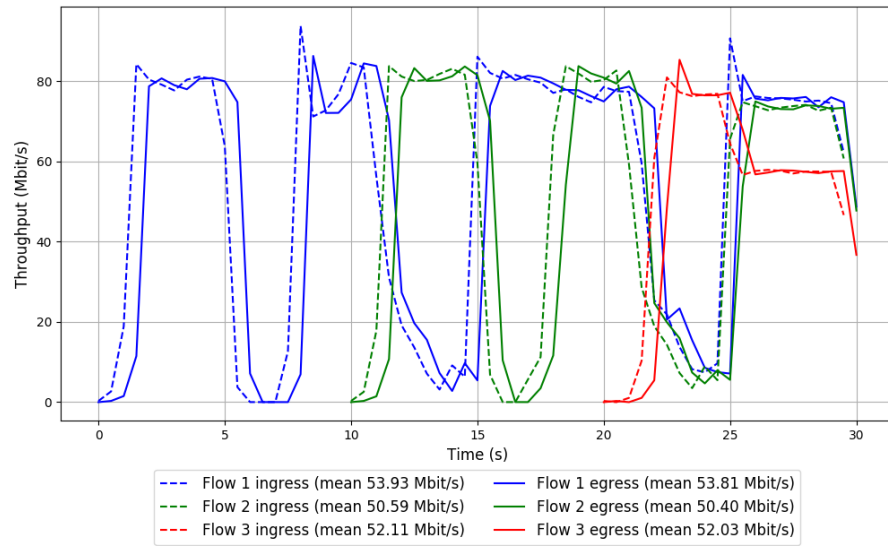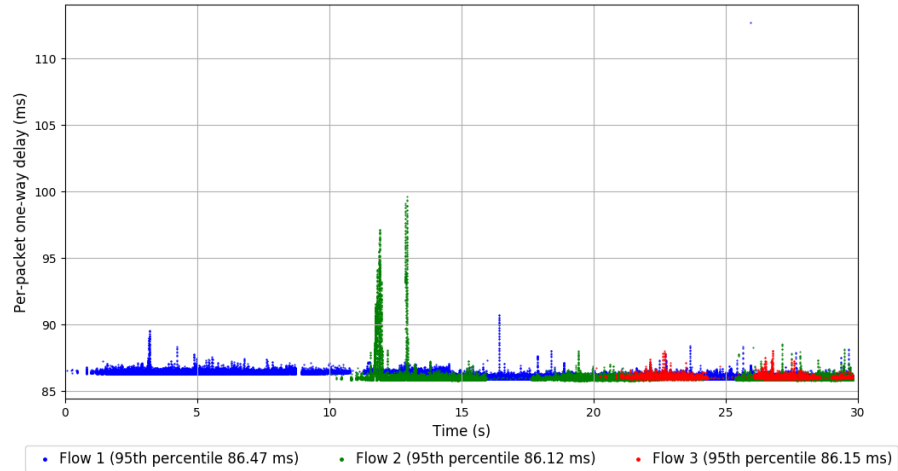
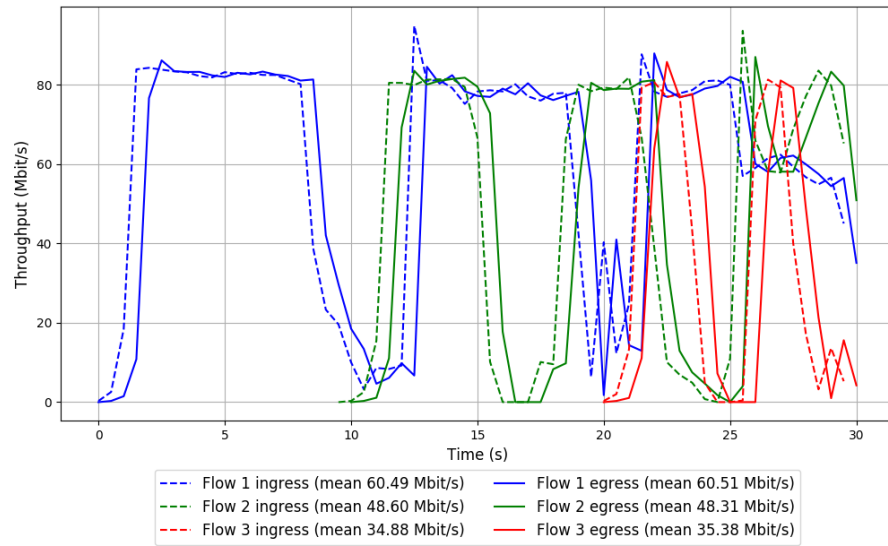Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-06-19 00:01:42
End at: 2018-06-19 00:02:12
Local clock offset: 0.237 ms
Remote clock offset: 0.237 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.03 Mbit/s
95th percentile per-packet one-way delay: 86.729 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 86.743 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 86.748 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 63.34 Mbit/s
95th percentile per-packet one-way delay: 86.450 ms
Loss rate: 0.36%
```

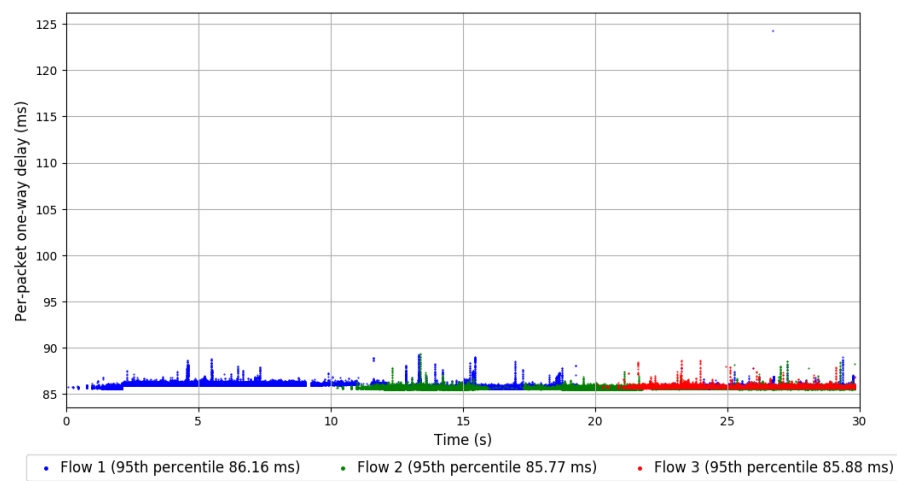Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-06-19 00:24:41
End at: 2018-06-19 00:25:11
Local clock offset: 0.137 ms
Remote clock offset: 0.563 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.28 Mbit/s
95th percentile per-packet one-way delay: 86.504 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 86.519 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 48.22 Mbit/s
95th percentile per-packet one-way delay: 86.195 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 52.61 Mbit/s
95th percentile per-packet one-way delay: 87.715 ms
Loss rate: 1.84%
```
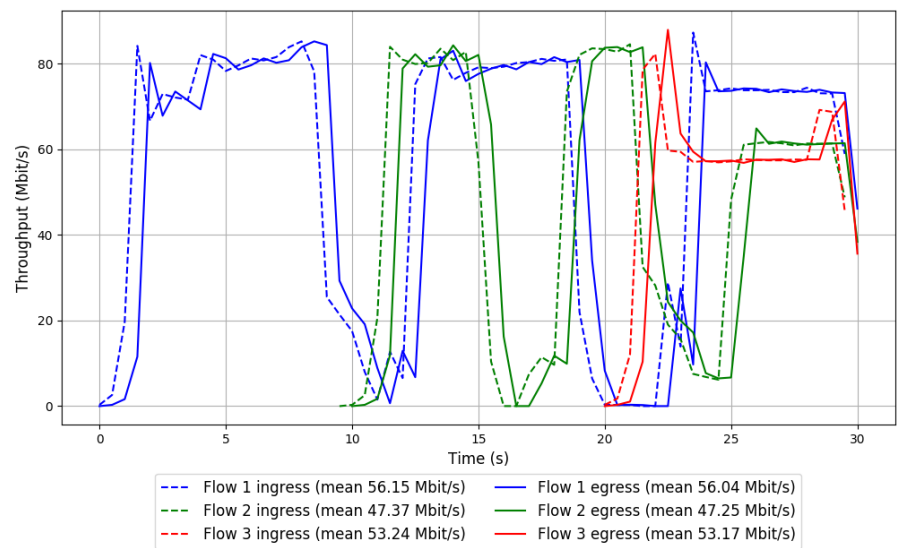
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 61.20 Mbit/s)   Flow 1 egress (mean 61.10 Mbit/s)
Flow 2 ingress (mean 48.52 Mbit/s)   Flow 2 egress (mean 48.22 Mbit/s)
Flow 3 ingress (mean 52.66 Mbit/s)   Flow 3 egress (mean 52.61 Mbit/s)

Flow 1 (95th percentile 86.52 ms)   Flow 2 (95th percentile 86.19 ms)   Flow 3 (95th percentile 87.72 ms)
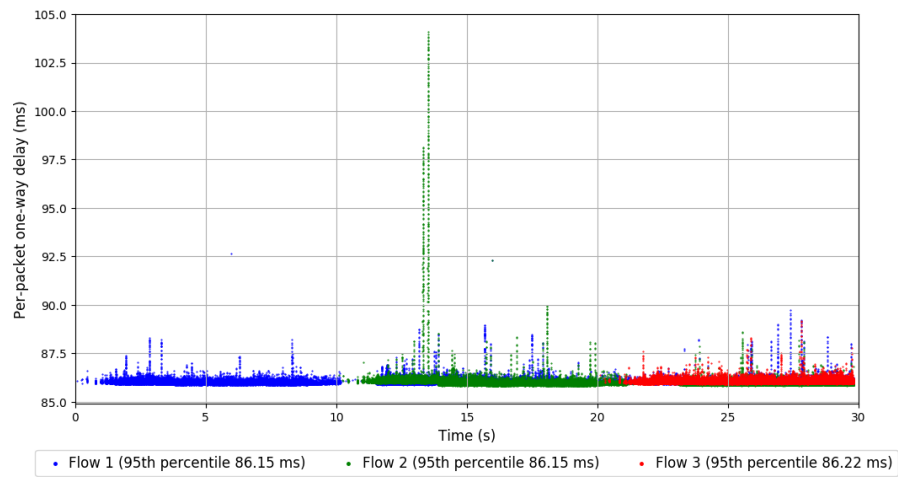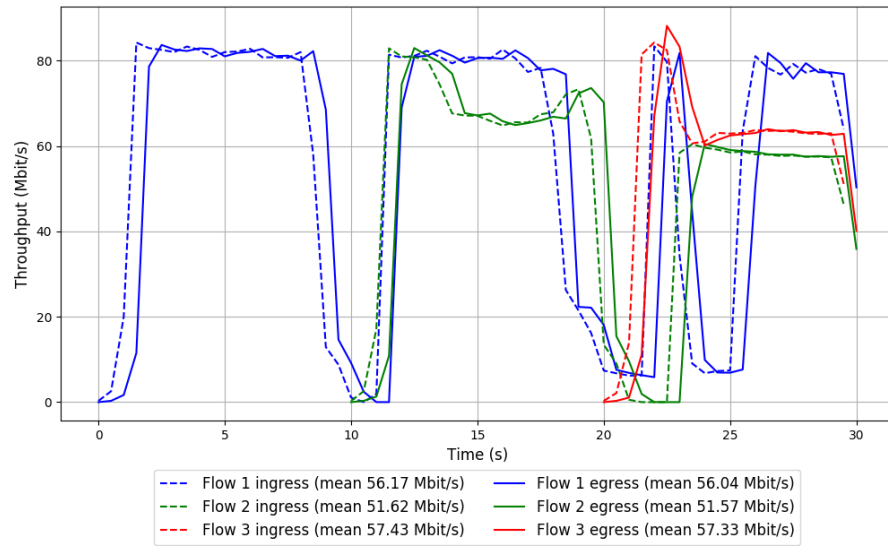
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-06-19 00:47:43
End at: 2018-06-19 00:48:13
Local clock offset: -0.013 ms
Remote clock offset: 0.643 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.95 Mbit/s
95th percentile per-packet one-way delay: 90.287 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 53.44 Mbit/s
95th percentile per-packet one-way delay: 86.147 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 46.68 Mbit/s
95th percentile per-packet one-way delay: 92.568 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 50.64 Mbit/s
95th percentile per-packet one-way delay: 86.180 ms
Loss rate: 1.91%
```

Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 53.60 Mbit/s)   Flow 1 egress (mean 53.44 Mbit/s)
Flow 2 ingress (mean 46.77 Mbit/s)   Flow 2 egress (mean 46.68 Mbit/s)
Flow 3 ingress (mean 50.72 Mbit/s)   Flow 3 egress (mean 50.64 Mbit/s)

Flow 1 (95th percentile 86.15 ms)   Flow 2 (95th percentile 92.57 ms)   Flow 3 (95th percentile 86.18 ms)

Run 5: Statistics of QUIC Cubic

Start at: 2018-06-19 01:11:12
End at: 2018-06-19 01:11:42
Local clock offset: -0.274 ms
Remote clock offset: 0.047 ms

Below is generated by plot.py at 2018-06-19 04:58:38
Datalink statistics
-- Total of 3 flows:
Average throughput: 104.23 Mbit/s
95th percentile per-packet one-way delay: 86.202 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 53.81 Mbit/s
95th percentile per-packet one-way delay: 86.214 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 50.40 Mbit/s
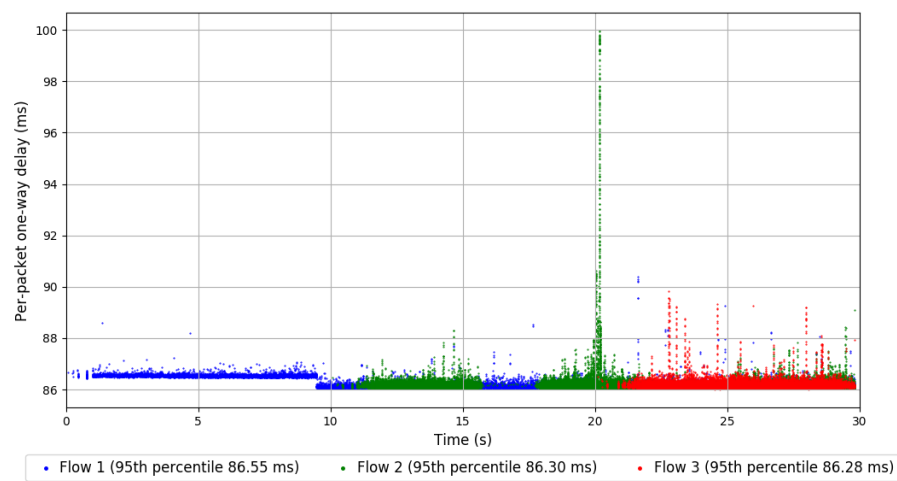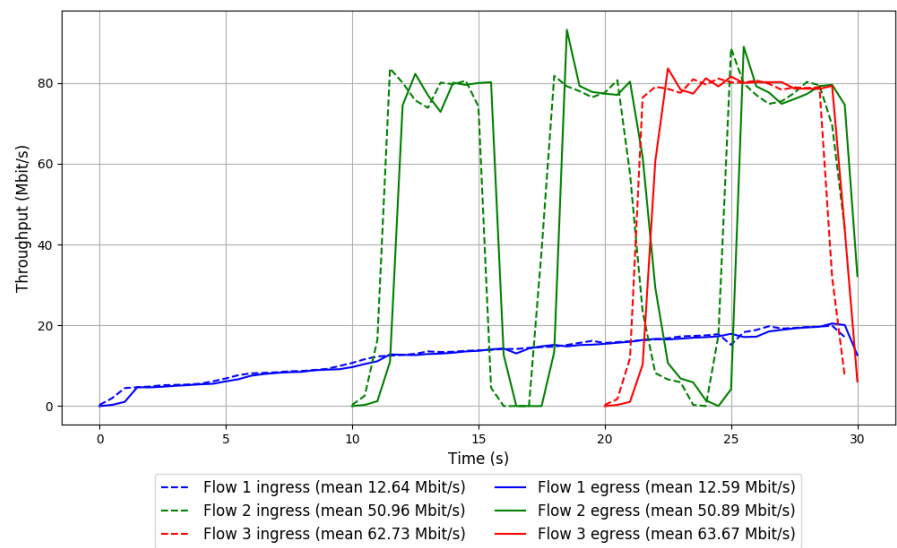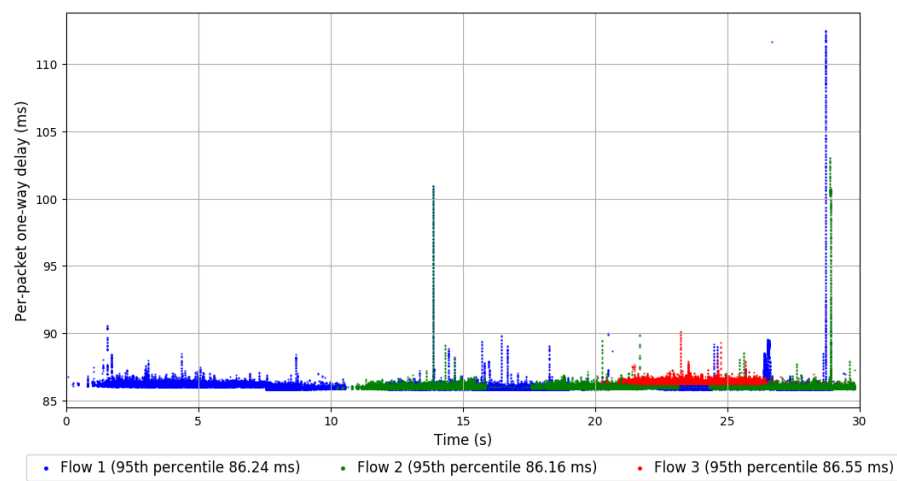95th percentile per-packet one-way delay: 86.272 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 52.03 Mbit/s
95th percentile per-packet one-way delay: 85.948 ms
Loss rate: 1.90%

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 53.93 Mbit/s)   Flow 1 egress (mean 53.81 Mbit/s)
Flow 2 ingress (mean 50.59 Mbit/s)   Flow 2 egress (mean 50.40 Mbit/s)
Flow 3 ingress (mean 52.11 Mbit/s)   Flow 3 egress (mean 52.03 Mbit/s)

Flow 1 (95th percentile 86.21 ms)   Flow 2 (95th percentile 86.27 ms)   Flow 3 (95th percentile 85.95 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-06-19 01:34:23
End at: 2018-06-19 01:34:53
Local clock offset: 0.02 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.13 Mbit/s
95th percentile per-packet one-way delay: 86.443 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 60.51 Mbit/s
95th percentile per-packet one-way delay: 86.471 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 48.31 Mbit/s
95th percentile per-packet one-way delay: 86.121 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 35.38 Mbit/s
95th percentile per-packet one-way delay: 86.147 ms
Loss rate: 0.33%
```
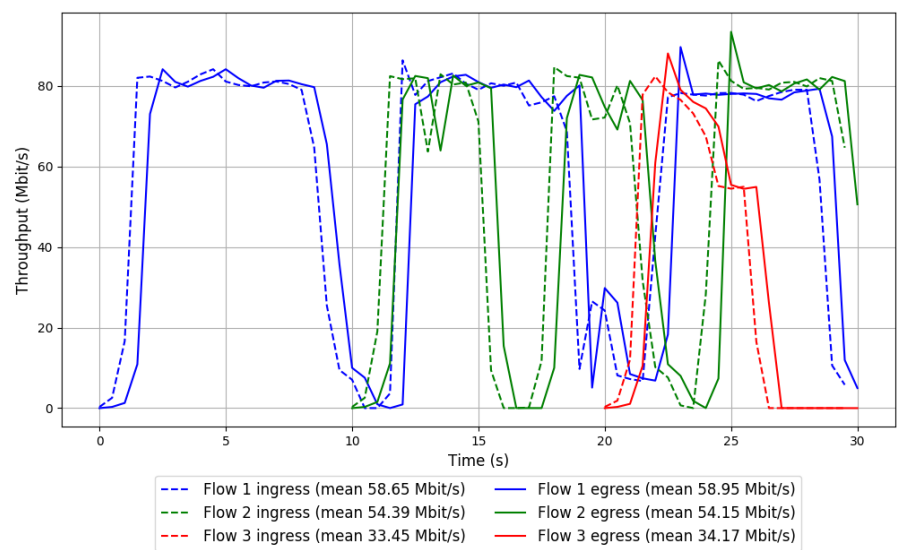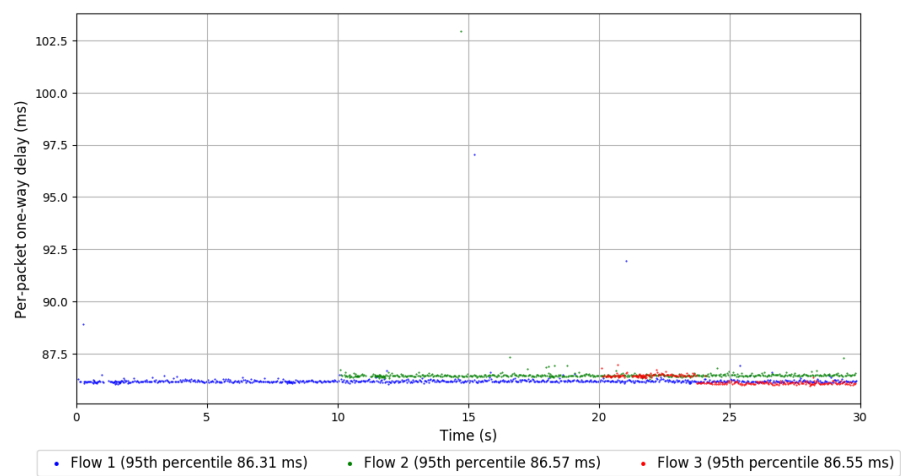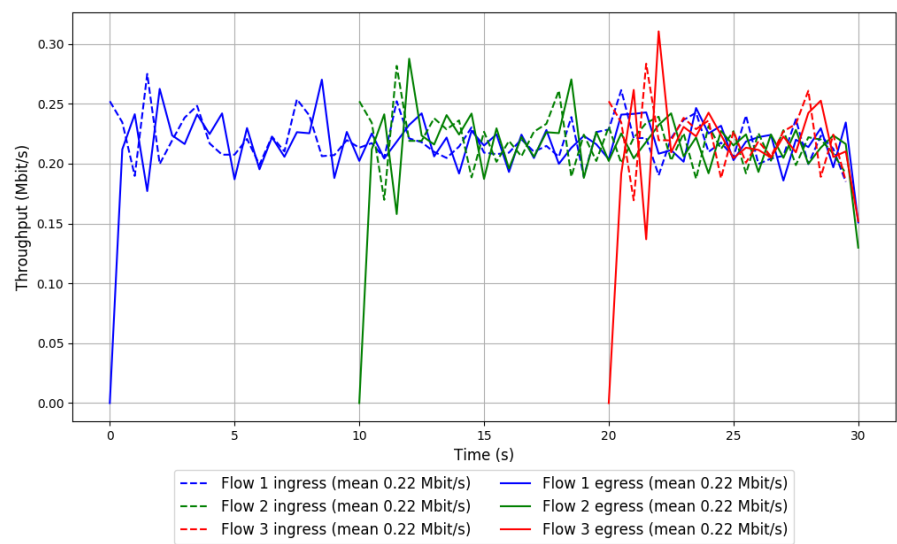
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-06-19 01:57:25
End at: 2018-06-19 01:57:56
Local clock offset: -0.228 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.76 Mbit/s
95th percentile per-packet one-way delay: 86.118 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 56.04 Mbit/s
95th percentile per-packet one-way delay: 86.164 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 85.770 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 53.17 Mbit/s
95th percentile per-packet one-way delay: 85.883 ms
Loss rate: 1.87%
```
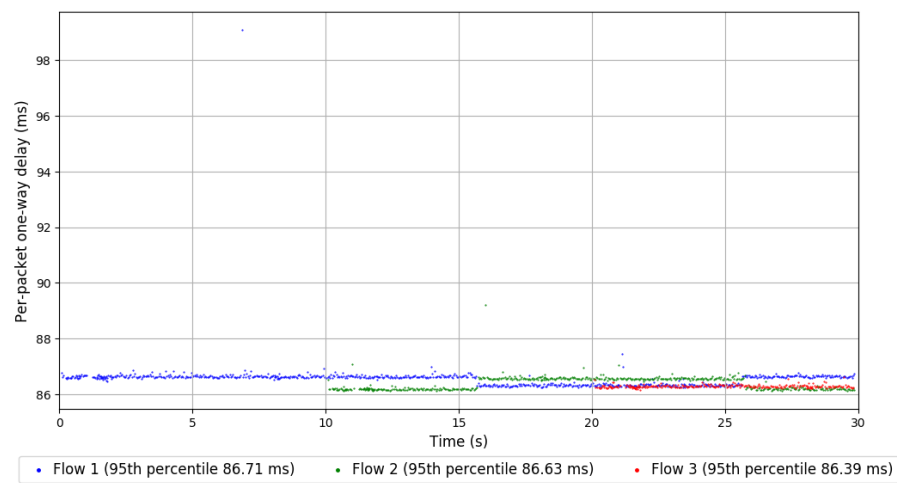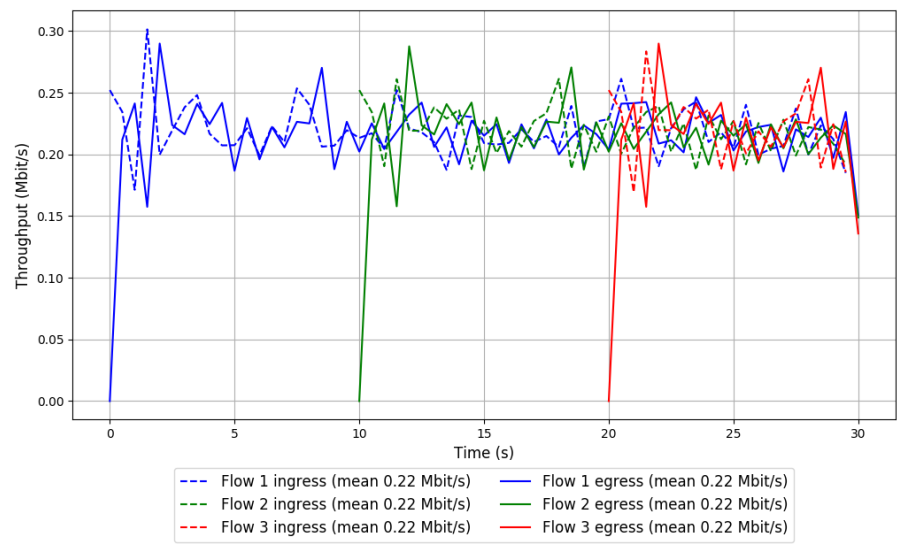
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-06-19 02:20:44
End at: 2018-06-19 02:21:14
Local clock offset: 0.016 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.98 Mbit/s
95th percentile per-packet one-way delay: 86.169 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 56.04 Mbit/s
95th percentile per-packet one-way delay: 86.154 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 51.57 Mbit/s
95th percentile per-packet one-way delay: 86.148 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 86.225 ms
Loss rate: 1.93%
```

Run 8: Report of QUIC Cubic — Data Link

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```
Run 9: Statistics of QUIC Cubic

Start at: 2018-06-19 02:43:48
End at: 2018-06-19 02:44:18
Local clock offset: 0.186 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.18 Mbit/s
95th percentile per-packet one-way delay: 86.393 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 86.547 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 50.89 Mbit/s
95th percentile per-packet one-way delay: 86.299 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 63.67 Mbit/s
95th percentile per-packet one-way delay: 86.279 ms
Loss rate: 0.25%
```
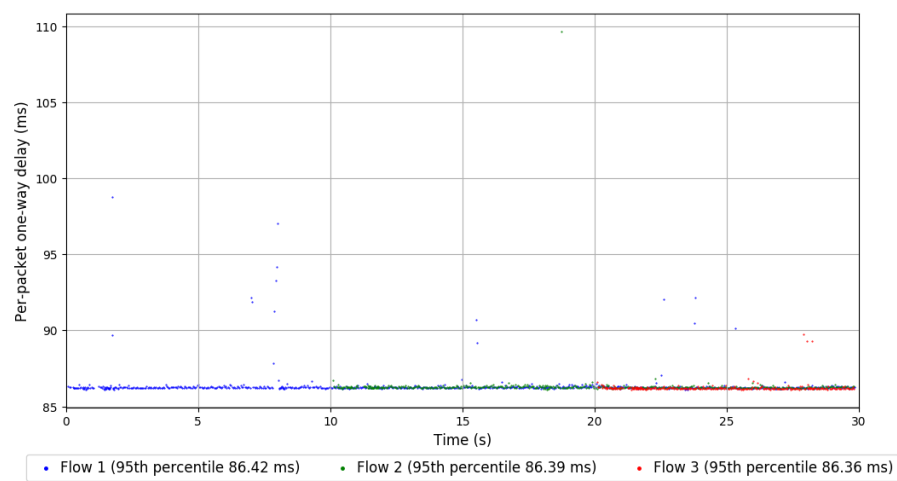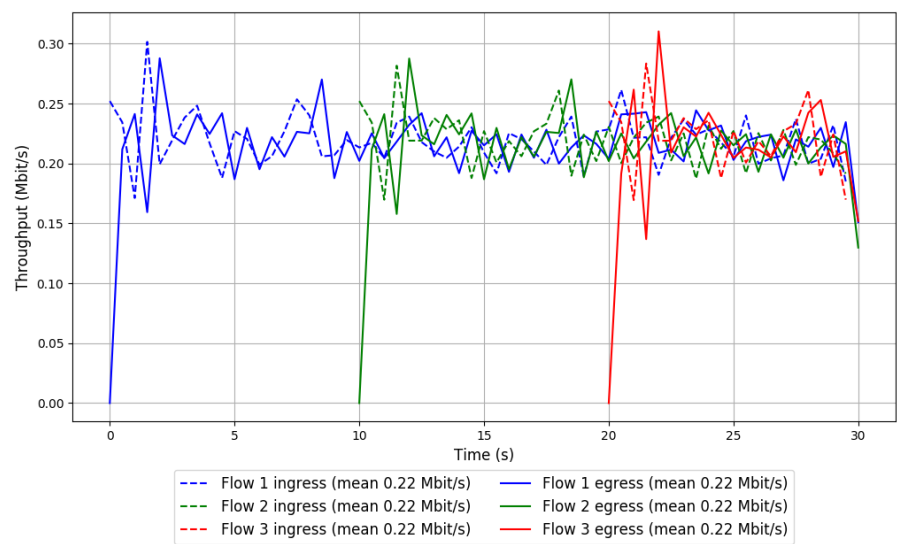
Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-06-19 03:06:50
End at: 2018-06-19 03:07:20
Local clock offset: 0.055 ms
Remote clock offset: 0.011 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.83 Mbit/s
95th percentile per-packet one-way delay: 86.408 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 86.240 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 54.15 Mbit/s
95th percentile per-packet one-way delay: 86.159 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 34.17 Mbit/s
95th percentile per-packet one-way delay: 86.553 ms
Loss rate: 0.00%
```
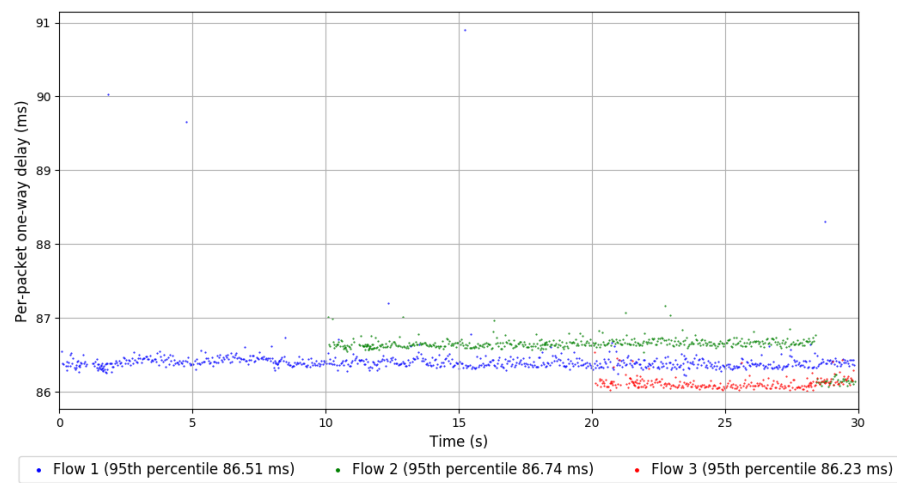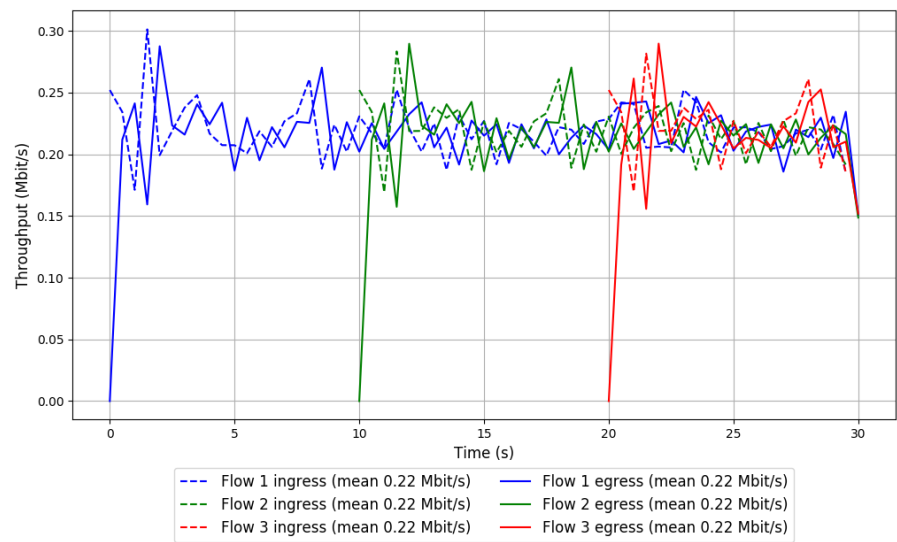
Run 10: Report of QUIC Cubic — Data Link

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```
Run 1: Statistics of SCReAM

Start at: 2018-06-18 23:50:04
End at: 2018-06-18 23:50:34
Local clock offset: -0.045 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.533 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.308 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.572 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.552 ms
Loss rate: 1.85%
```
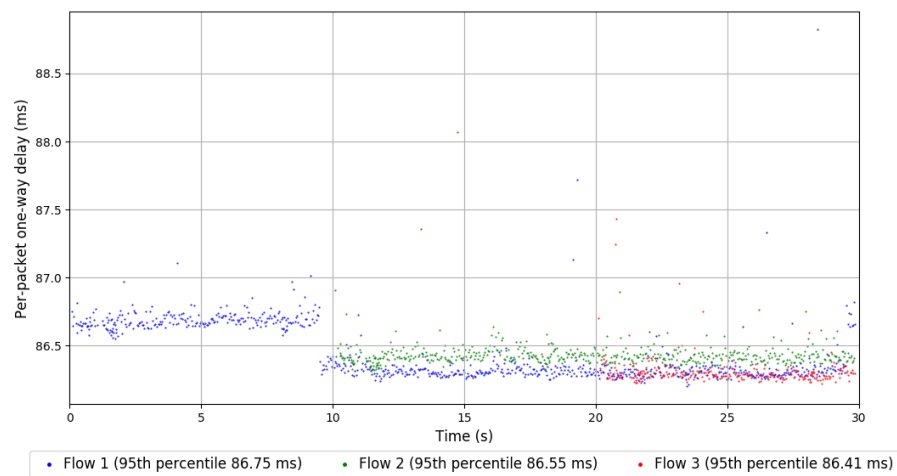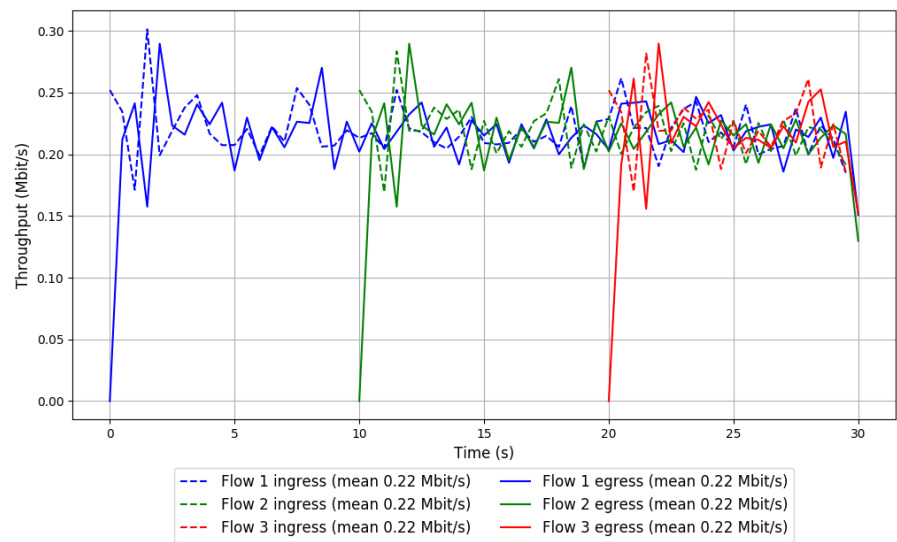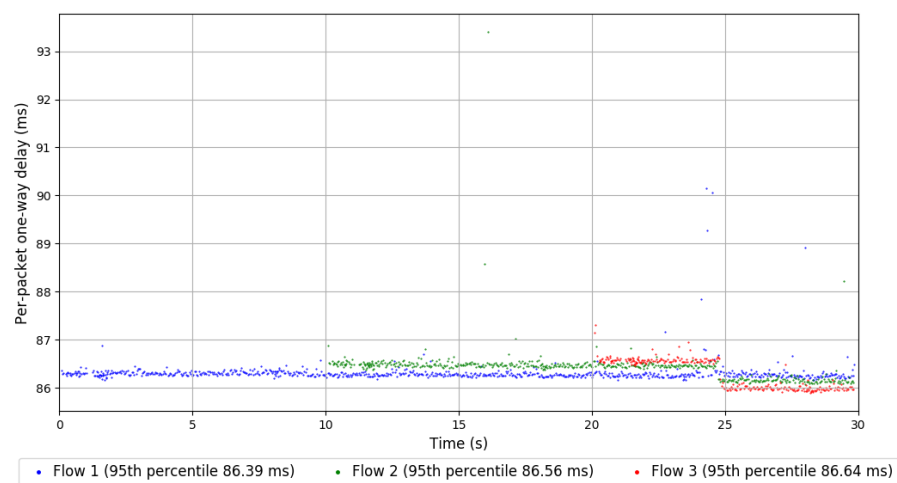
Run 1: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 86.31 ms)
Flow 2 (95th percentile 86.57 ms)
Flow 3 (95th percentile 86.55 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-06-19 00:13:12
End at: 2018-06-19 00:13:42
Local clock offset: 0.145 ms
Remote clock offset: 0.418 ms


# Below is generated by plot.py at 2018-06-19 04:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.690 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.709 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.627 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.391 ms
Loss rate: 1.85%
```
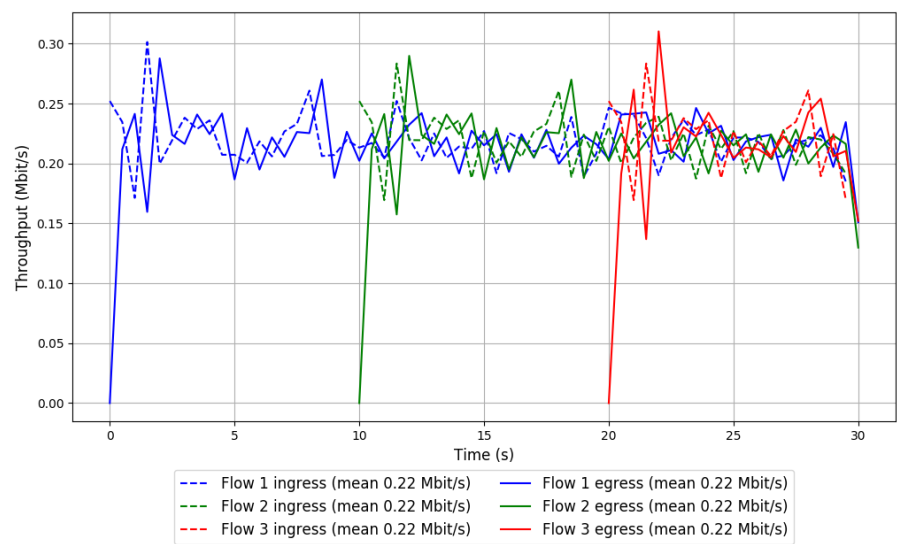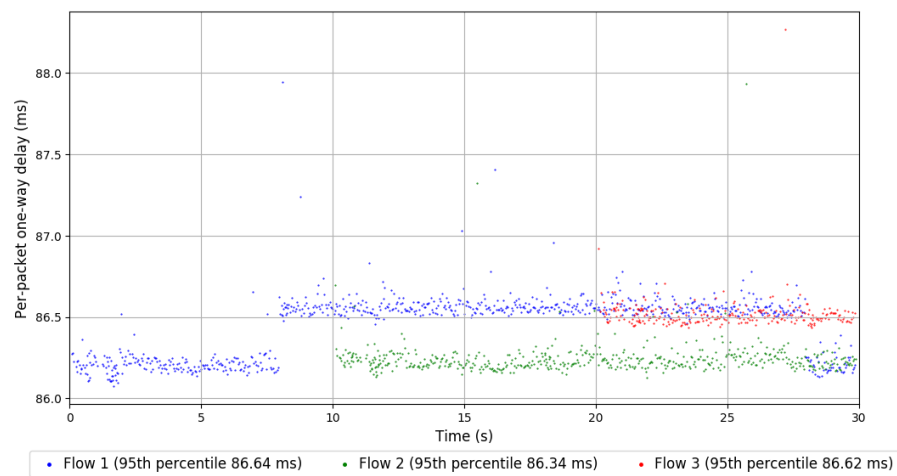
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-06-19 00:36:17
End at: 2018-06-19 00:36:47
Local clock offset: 0.155 ms
Remote clock offset: 0.705 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.391 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.385 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.362 ms
Loss rate: 1.50%
```
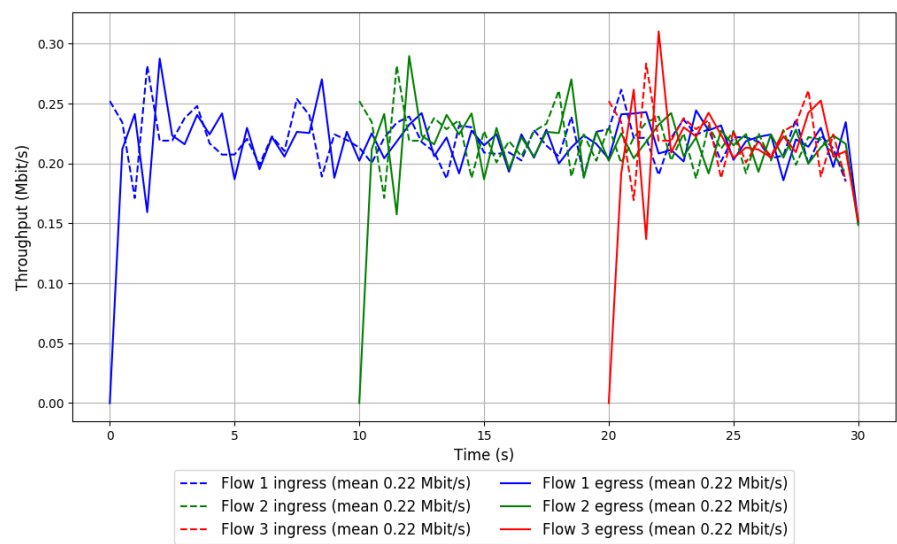
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-06-19 00:59:29
End at: 2018-06-19 00:59:59
Local clock offset: 0.07 ms
Remote clock offset: 0.165 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.701 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.511 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.737 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.229 ms
Loss rate: 1.85%
```
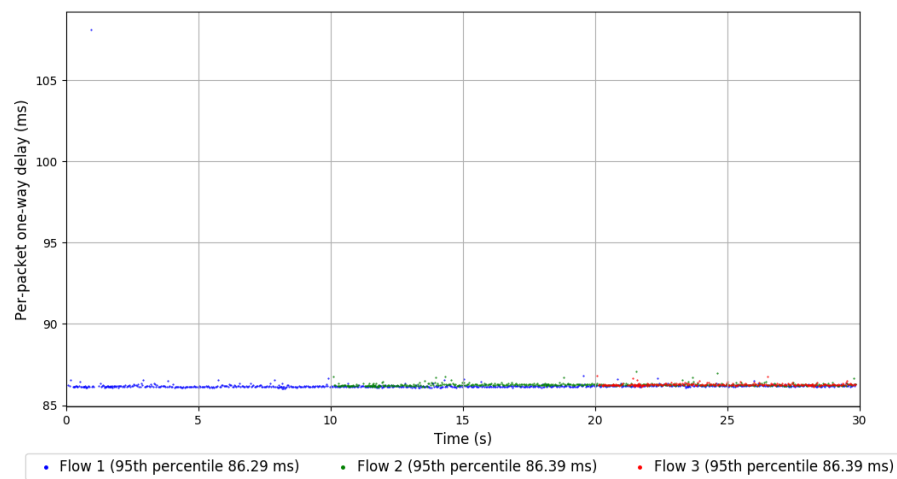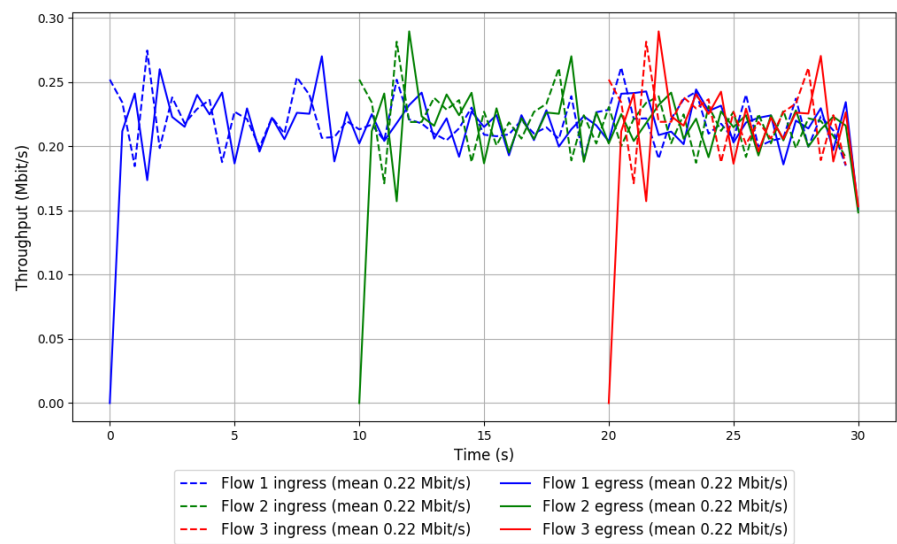
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-06-19 01:22:48
End at: 2018-06-19 01:23:18
Local clock offset: 0.151 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.723 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.746 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.551 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.414 ms
Loss rate: 1.85%
```

Run 5: Report of SCReAM — Data Link

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```
Run 6: Statistics of SCReAM

Start at: 2018-06-19 01:46:03
End at: 2018-06-19 01:46:33
Local clock offset: 0.075 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.586 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.392 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.563 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.645 ms
Loss rate: 1.50%
```
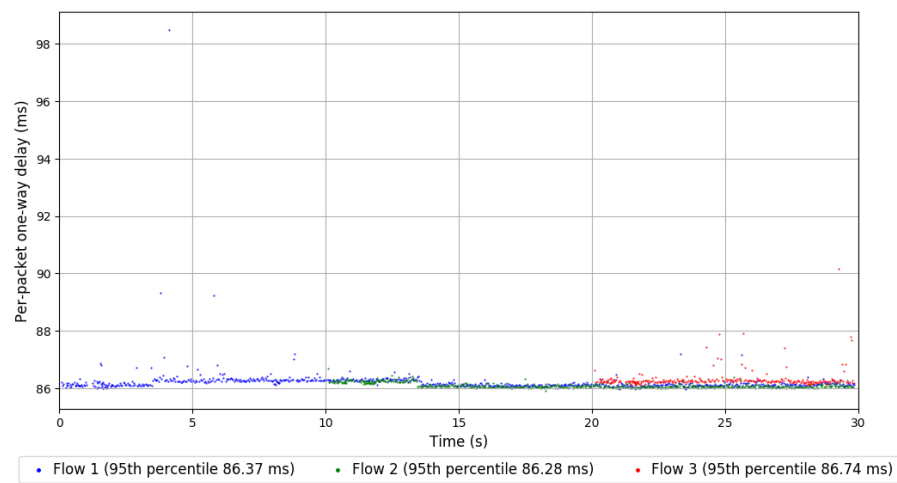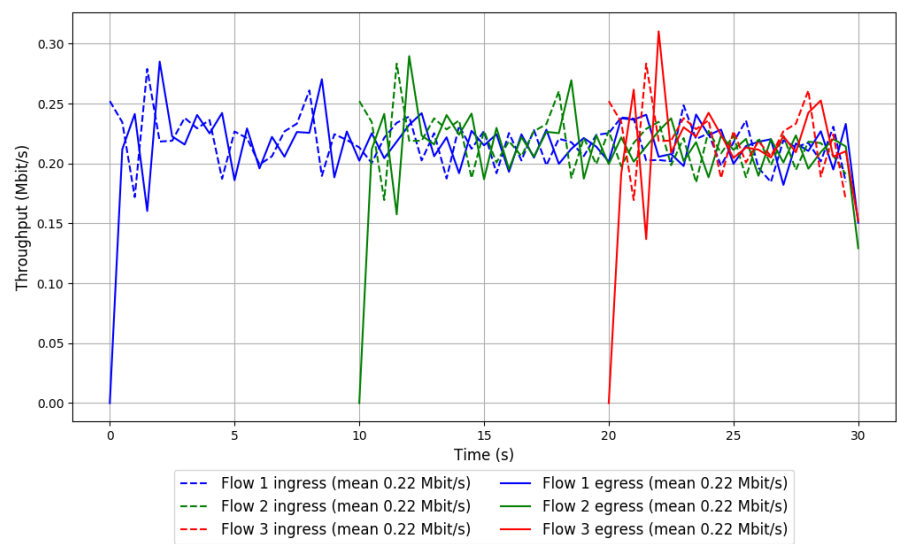
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-06-19 02:09:20
End at: 2018-06-19 02:09:50
Local clock offset: 0.1 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.615 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.640 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.345 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.618 ms
Loss rate: 1.85%
```
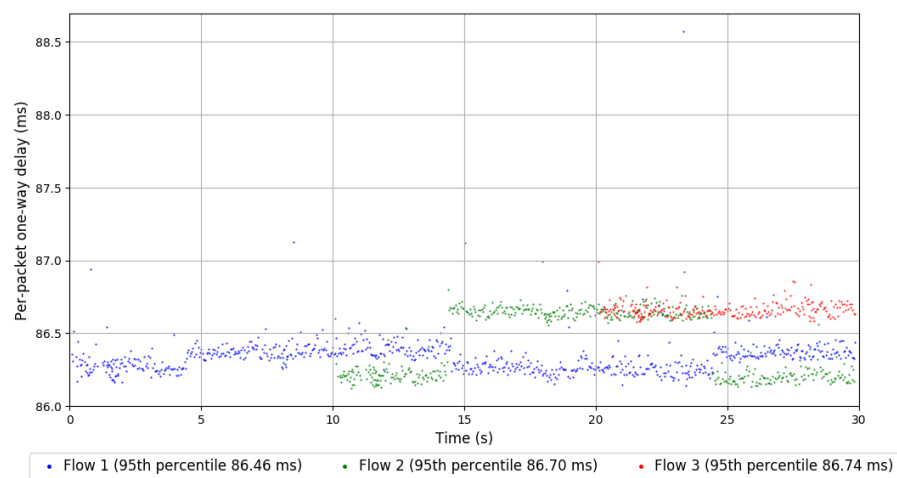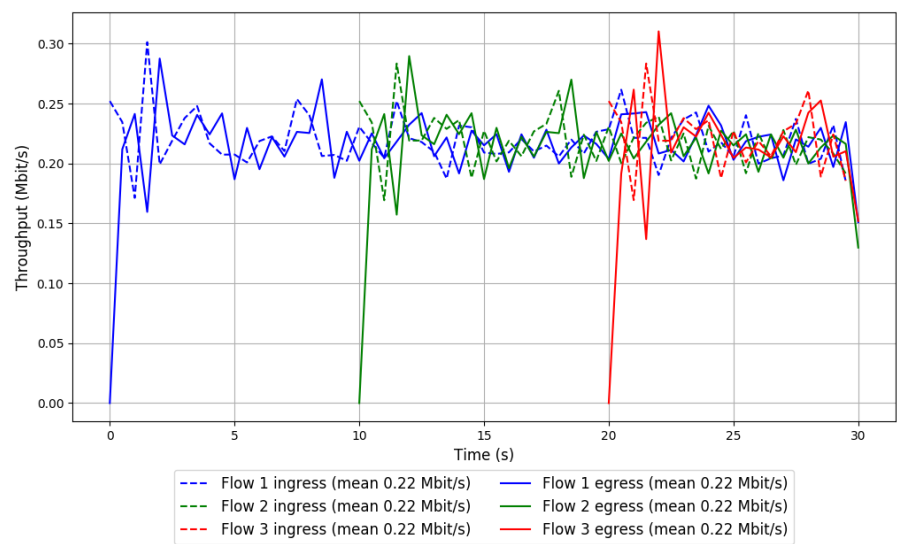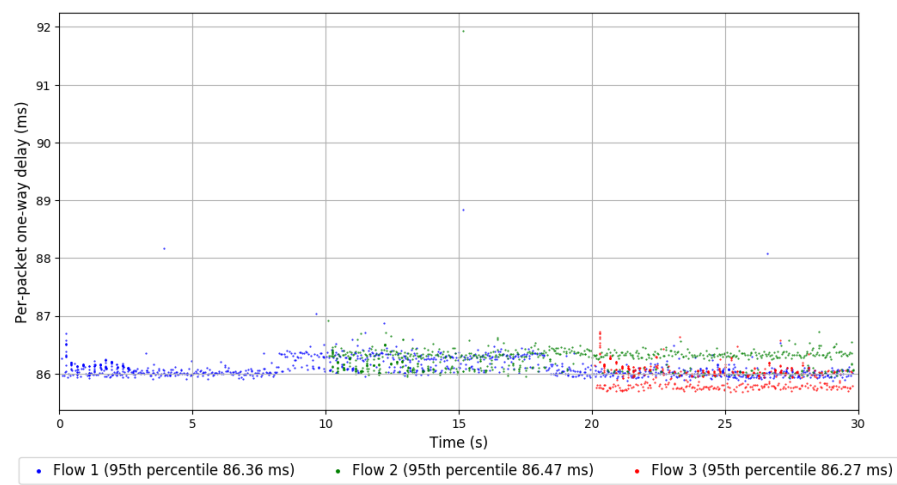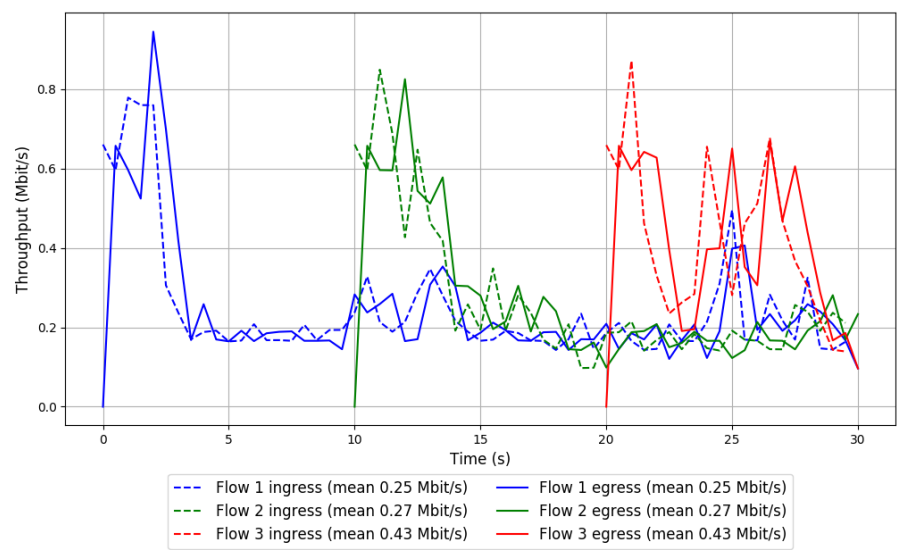
Run 7: Report of SCReAM — Data Link

197

```
Run 8: Statistics of SCReAM

Start at: 2018-06-19 02:32:18
End at: 2018-06-19 02:32:48
Local clock offset: 0.156 ms
Remote clock offset: -0.117 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.359 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.293 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.386 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.389 ms
Loss rate: 1.46%
```

Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-06-19 02:55:24
End at: 2018-06-19 02:55:54
Local clock offset: 0.048 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.359 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.373 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.275 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.741 ms
Loss rate: 1.50%
```
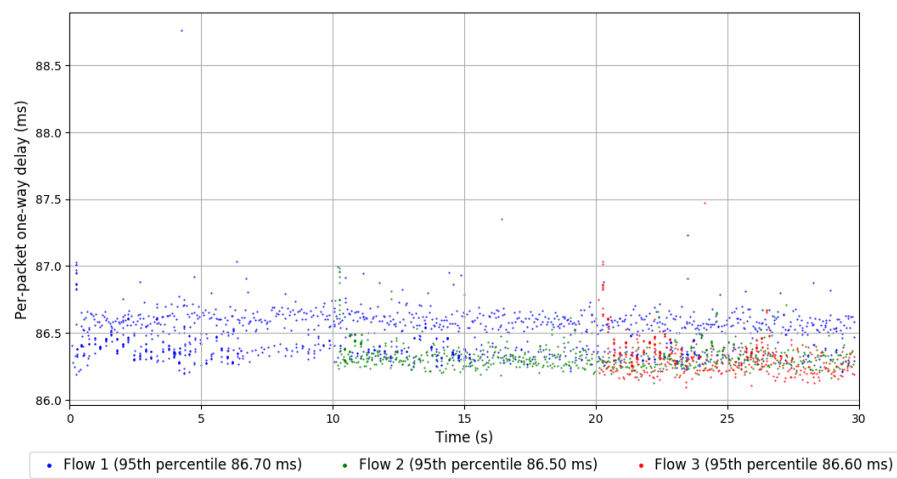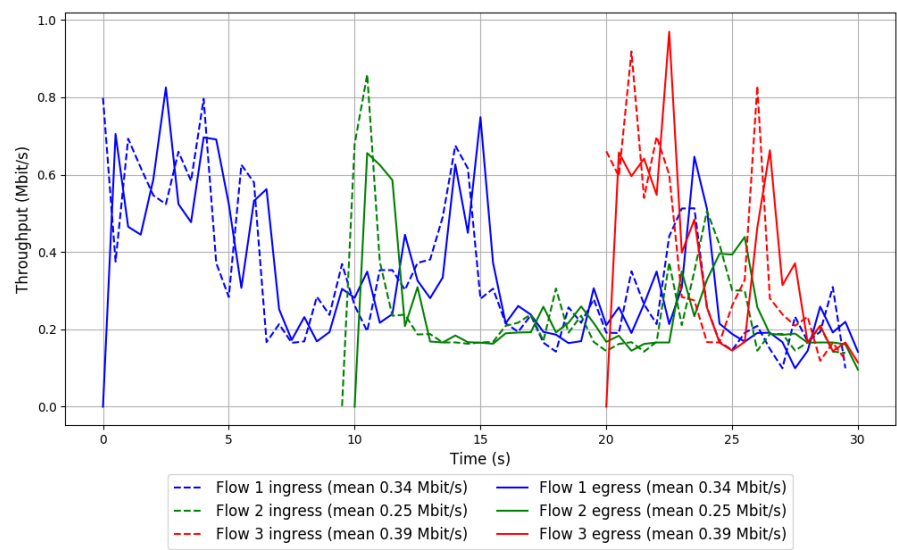
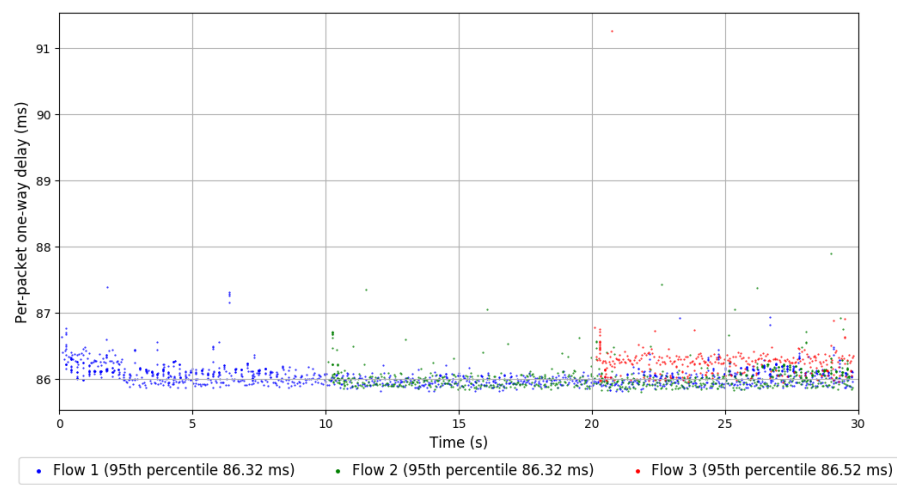## Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2018-06-19 03:18:33
End at: 2018-06-19 03:19:03
Local clock offset: 0.232 ms
Remote clock offset: 0.014 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.698 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.459 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.698 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.738 ms
Loss rate: 1.85%
```
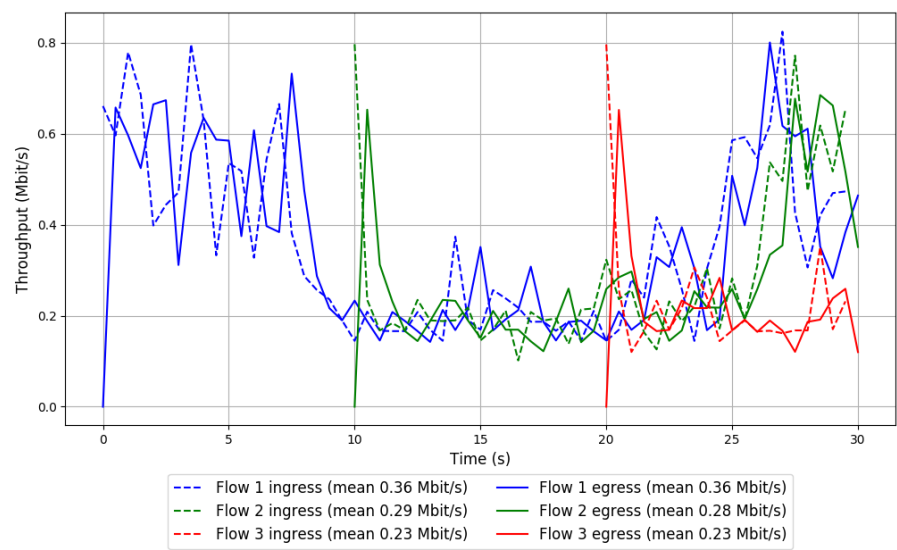
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-06-18 23:44:09
End at: 2018-06-18 23:44:39
Local clock offset: -0.291 ms
Remote clock offset: -0.375 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 86.415 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 86.364 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 86.468 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 86.269 ms
Loss rate: 0.82%
```
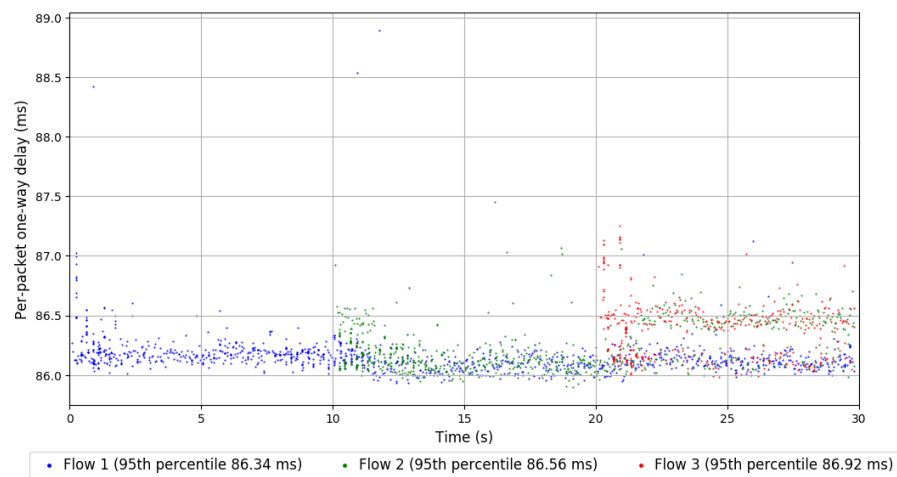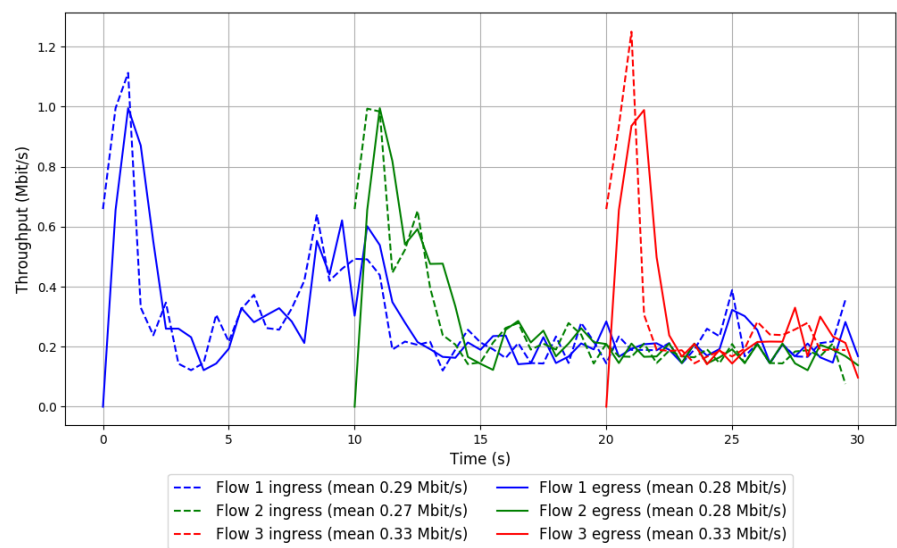
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-06-19 00:07:27
End at: 2018-06-19 00:07:57
Local clock offset: 0.101 ms
Remote clock offset: 0.287 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 86.670 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 86.698 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 86.497 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 86.603 ms
Loss rate: 0.66%
```
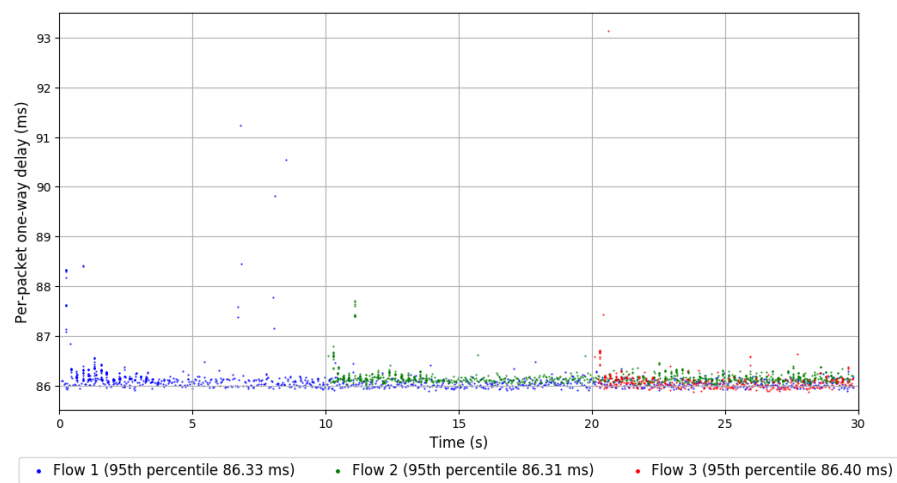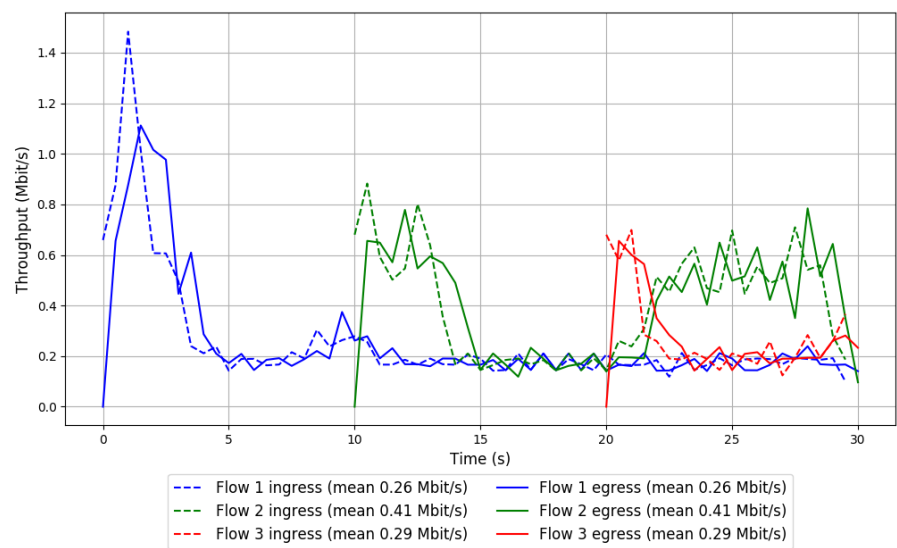
Run 2: Report of Sprout — Data Link

207

```
Run 3: Statistics of Sprout

Start at: 2018-06-19 00:30:25
End at: 2018-06-19 00:30:55
Local clock offset: -0.078 ms
Remote clock offset: 0.653 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 86.382 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 86.320 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 86.318 ms
Loss rate: 2.67%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 86.517 ms
Loss rate: 2.98%
```
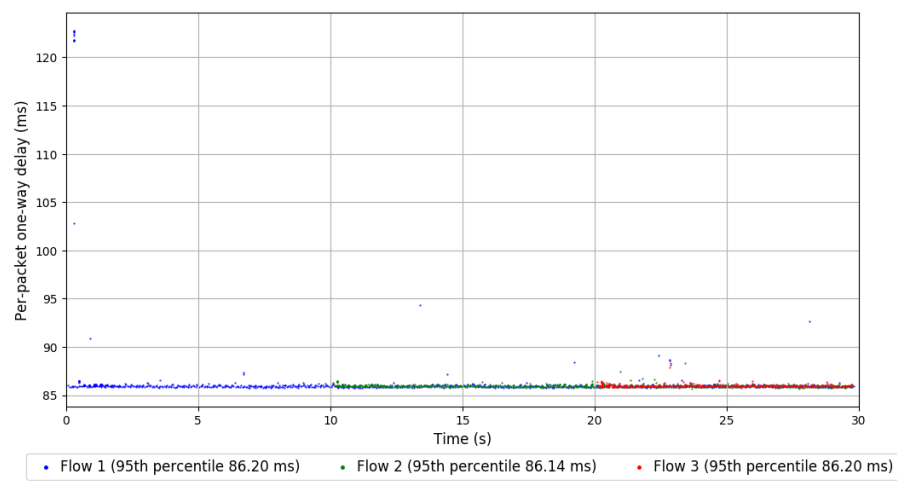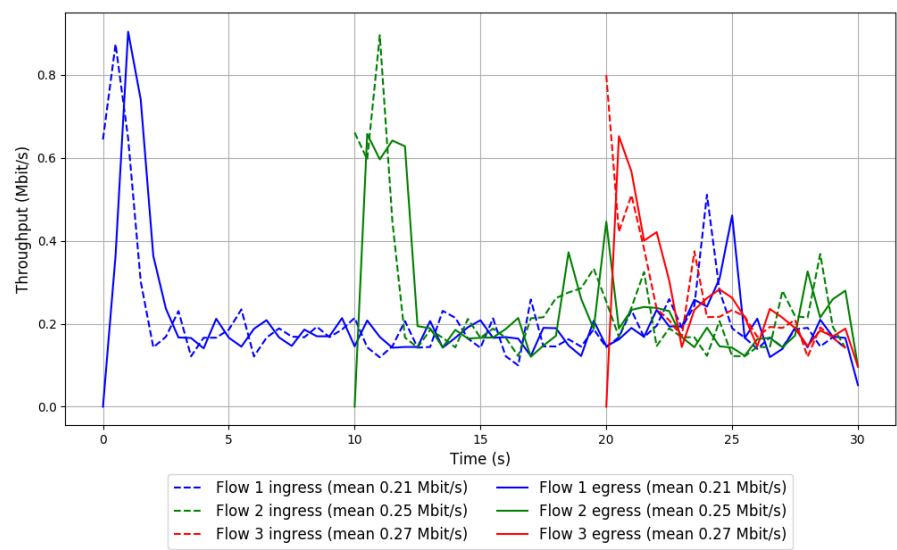
Run 3: Report of Sprout — Data Link

209

```
Run 4: Statistics of Sprout

Start at: 2018-06-19 00:53:26
End at: 2018-06-19 00:53:56
Local clock offset: -0.099 ms
Remote clock offset: 0.319 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 86.561 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 86.338 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 86.563 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 86.919 ms
Loss rate: 1.47%
```
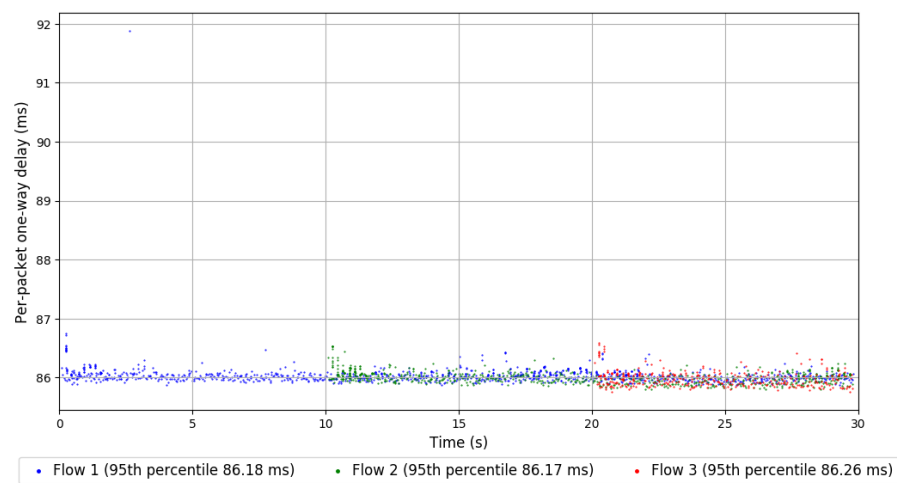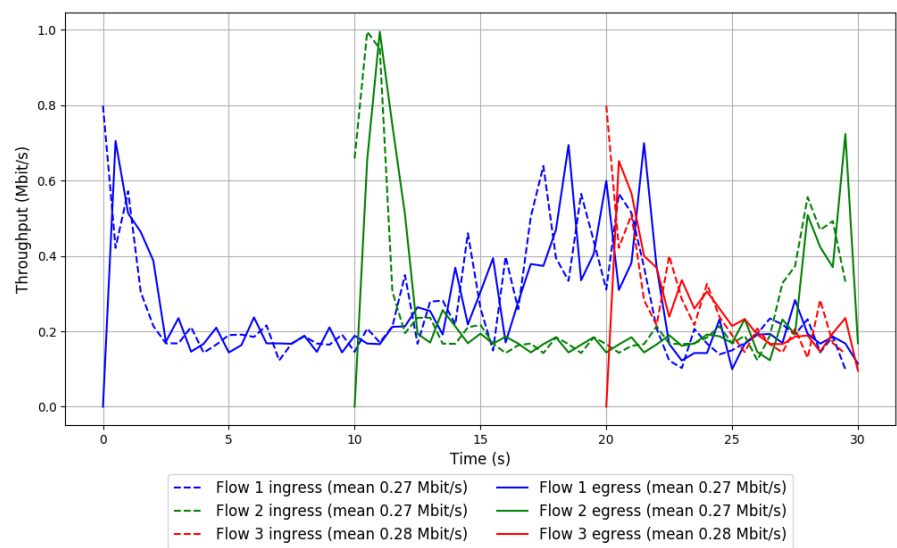
Run 4: Report of Sprout — Data Link

211

```
Run 5: Statistics of Sprout

Start at: 2018-06-19 01:16:58
End at: 2018-06-19 01:17:28
Local clock offset: -0.174 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 86.326 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 86.326 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 86.315 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 86.400 ms
Loss rate: 2.41%
```
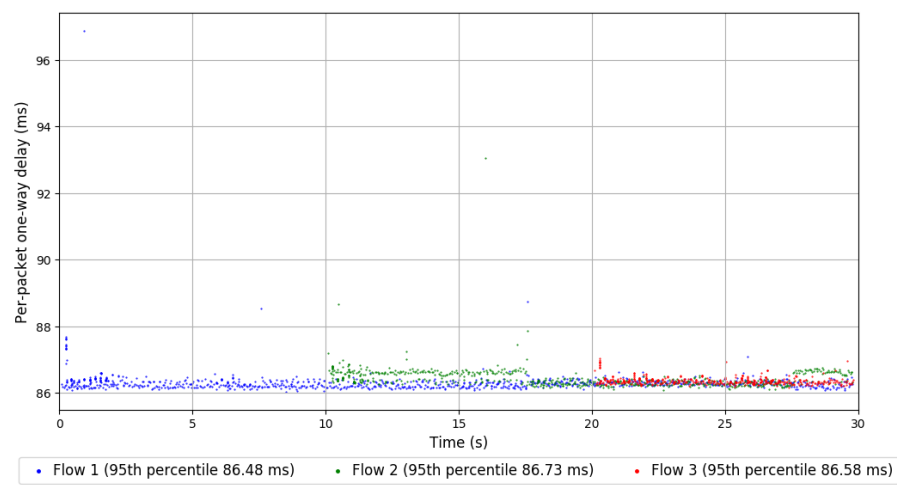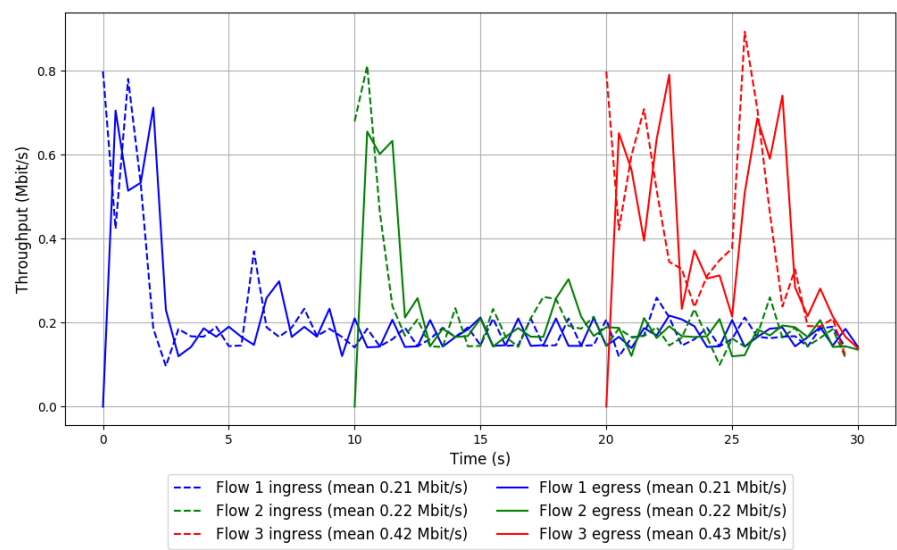
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2018-06-19 01:40:06
End at: 2018-06-19 01:40:36
Local clock offset: -0.122 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.175 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 86.202 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 86.144 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 86.198 ms
Loss rate: 0.91%
```

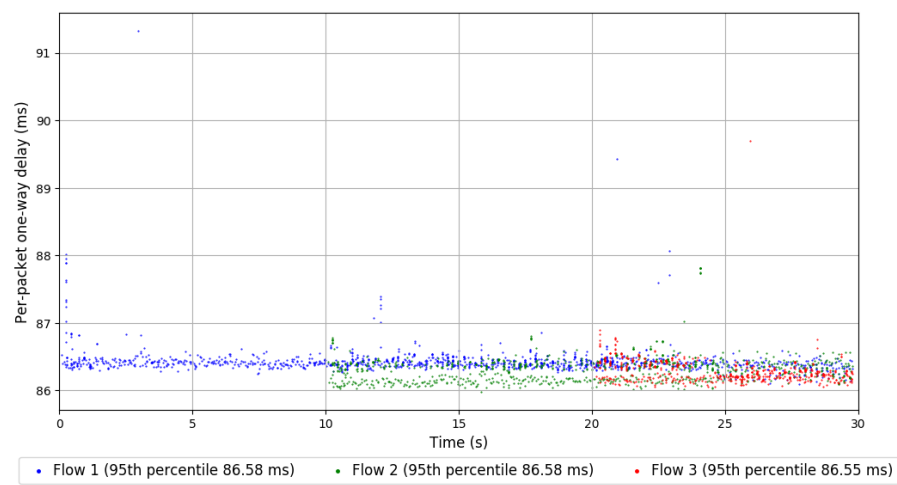# Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-06-19 02:03:20
End at: 2018-06-19 02:03:50
Local clock offset: -0.108 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 86.176 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 86.176 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 86.170 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 86.259 ms
Loss rate: 1.27%
```
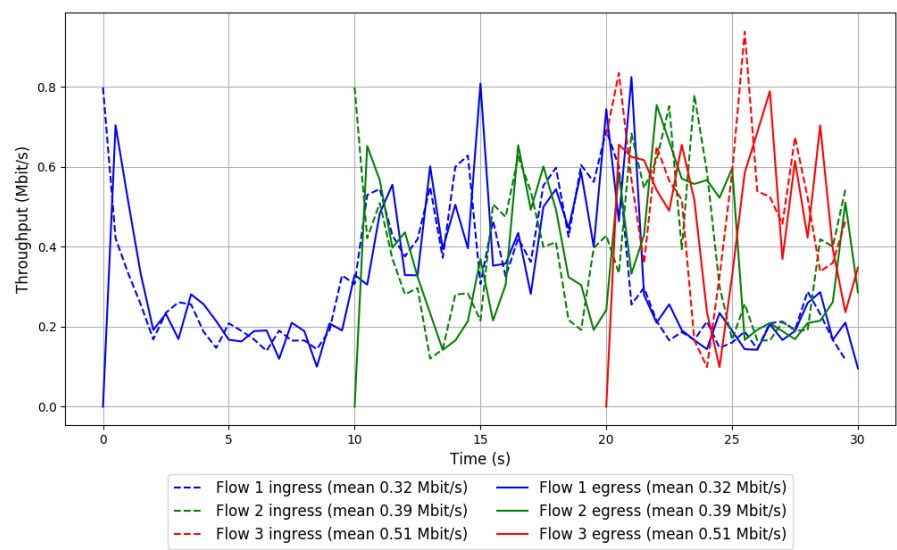
Run 7: Report of Sprout — Data Link

217

```
Run 8: Statistics of Sprout

Start at: 2018-06-19 02:26:30
End at: 2018-06-19 02:27:00
Local clock offset: 0.117 ms
Remote clock offset: -0.196 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 86.672 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 86.481 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.734 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 86.575 ms
Loss rate: 0.31%
```
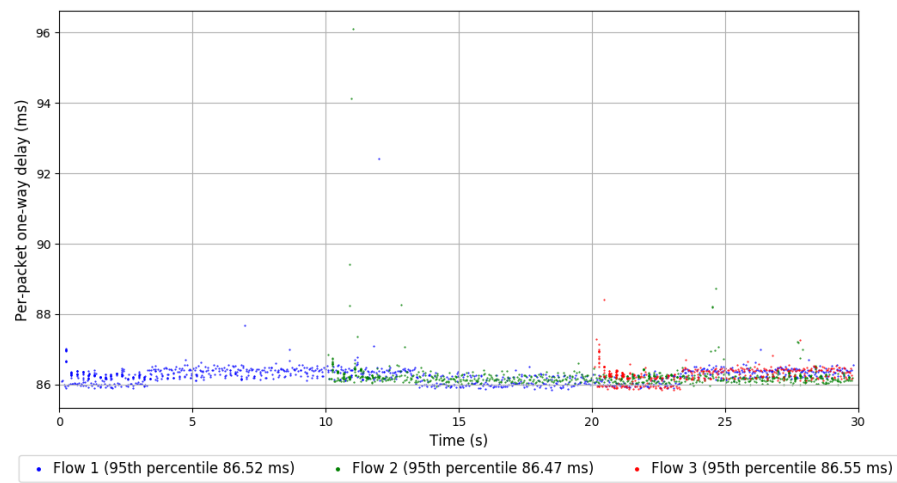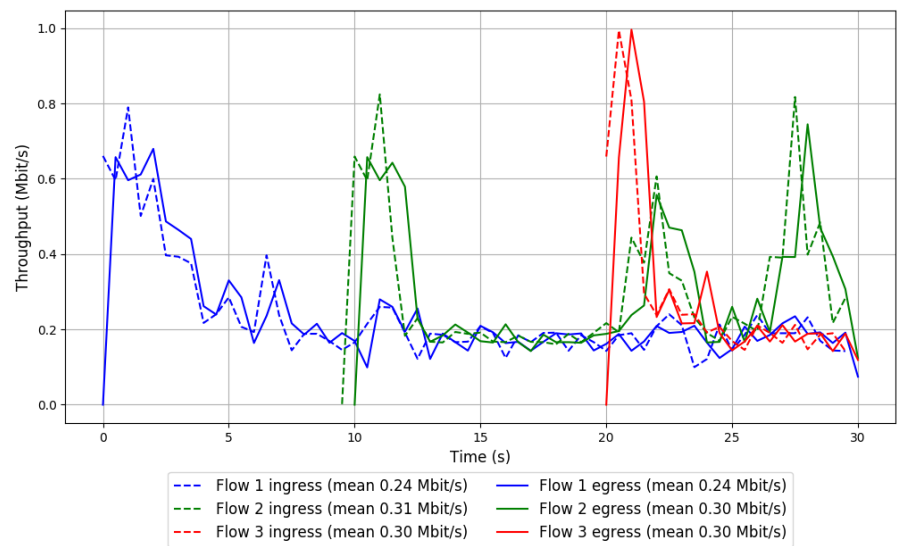
Run 8: Report of Sprout — Data Link

219

```
Run 9: Statistics of Sprout

Start at: 2018-06-19 02:49:33
End at: 2018-06-19 02:50:03
Local clock offset: 0.189 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 86.569 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 86.579 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 86.581 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 86.545 ms
Loss rate: 2.52%
```
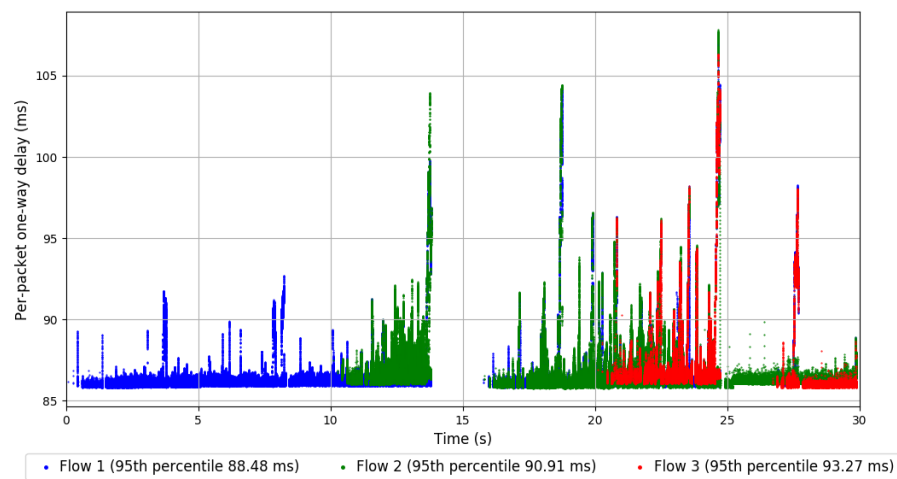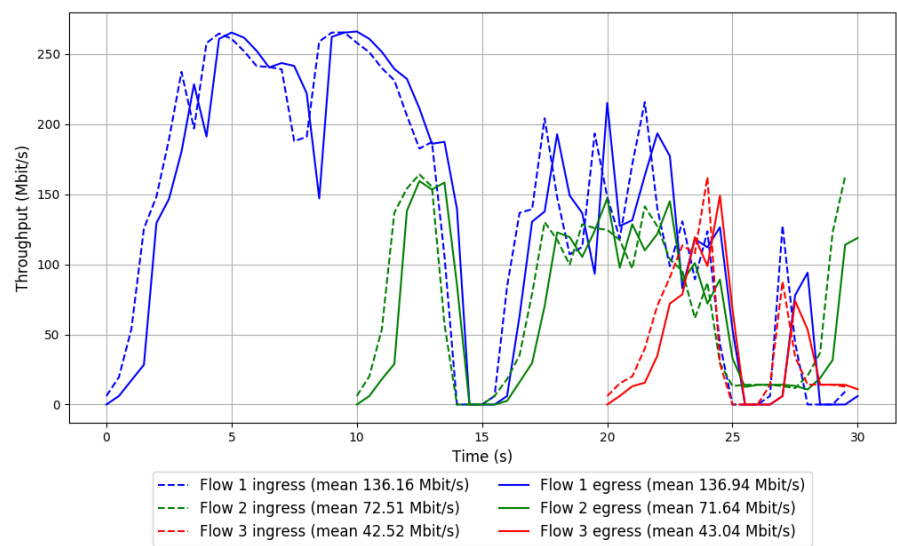
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-06-19 03:12:34
End at: 2018-06-19 03:13:04
Local clock offset: -0.014 ms
Remote clock offset: -0.003 ms


# Below is generated by plot.py at 2018-06-19 04:58:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 86.512 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 86.515 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 86.467 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 86.551 ms
Loss rate: 1.20%
```
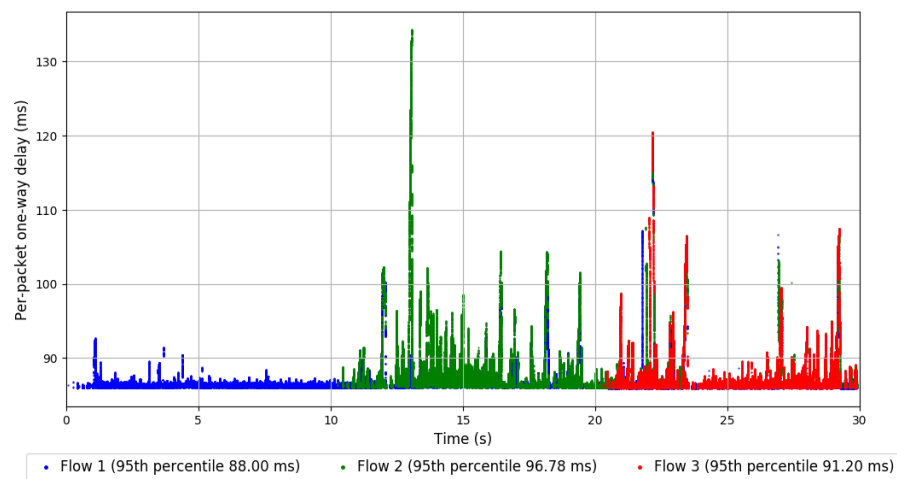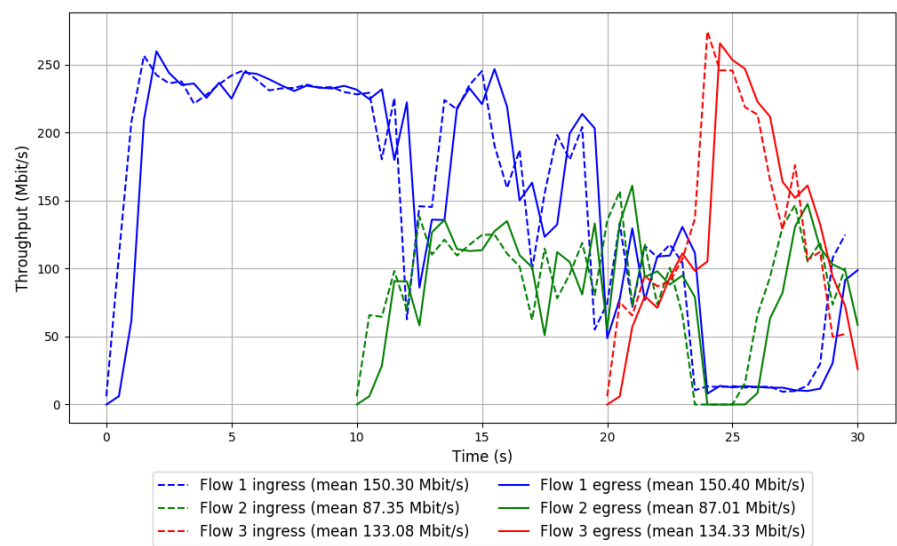
Run 10: Report of Sprout — Data Link

223

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

Start at: 2018-06-18 23:39:42
End at: 2018-06-18 23:40:12
Local clock offset: -0.121 ms
Remote clock offset: -0.679 ms


# Below is generated by plot.py at 2018-06-19 05:00:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.56 Mbit/s
95th percentile per-packet one-way delay: 89.790 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 136.94 Mbit/s
95th percentile per-packet one-way delay: 88.485 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 71.64 Mbit/s
95th percentile per-packet one-way delay: 90.909 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 43.04 Mbit/s
95th percentile per-packet one-way delay: 93.267 ms
Loss rate: 0.51%
```

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

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

Start at: 2018-06-19 00:02:57
End at: 2018-06-19 00:03:27
Local clock offset: 0.059 ms
Remote clock offset: 0.255 ms


# Below is generated by plot.py at 2018-06-19 05:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.17 Mbit/s
95th percentile per-packet one-way delay: 90.826 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 150.40 Mbit/s
95th percentile per-packet one-way delay: 88.005 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 87.01 Mbit/s
95th percentile per-packet one-way delay: 96.785 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 134.33 Mbit/s
95th percentile per-packet one-way delay: 91.197 ms
Loss rate: 0.97%
```
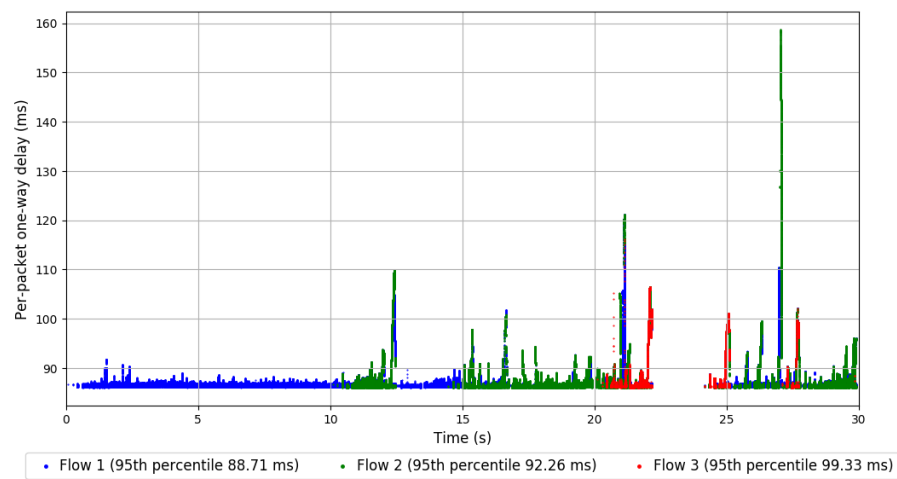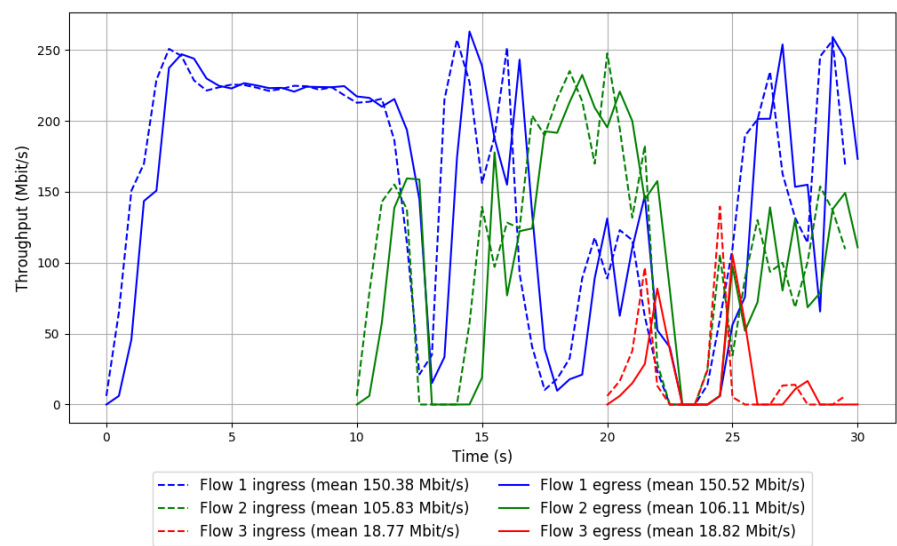
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-06-19 00:25:58
End at: 2018-06-19 00:26:28
Local clock offset: 0.099 ms
Remote clock offset: 0.558 ms


# Below is generated by plot.py at 2018-06-19 05:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.12 Mbit/s
95th percentile per-packet one-way delay: 90.464 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 150.52 Mbit/s
95th percentile per-packet one-way delay: 88.708 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 106.11 Mbit/s
95th percentile per-packet one-way delay: 92.264 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 99.327 ms
Loss rate: 1.61%
```
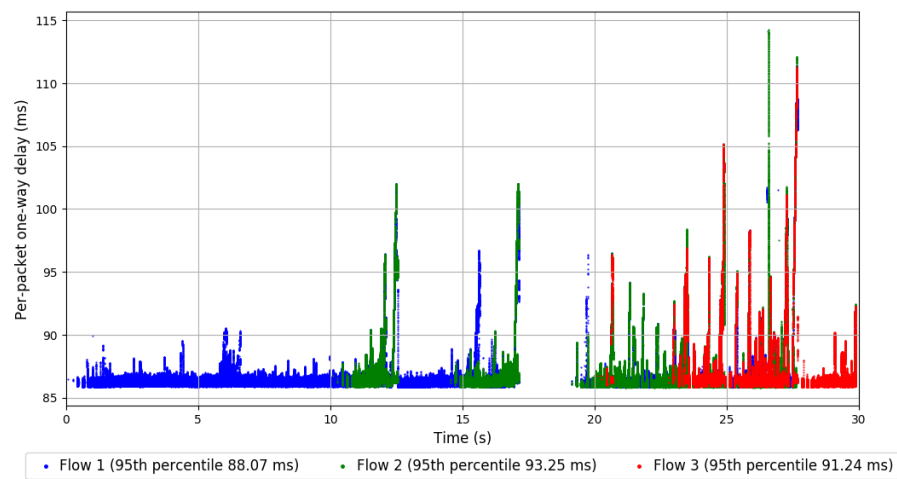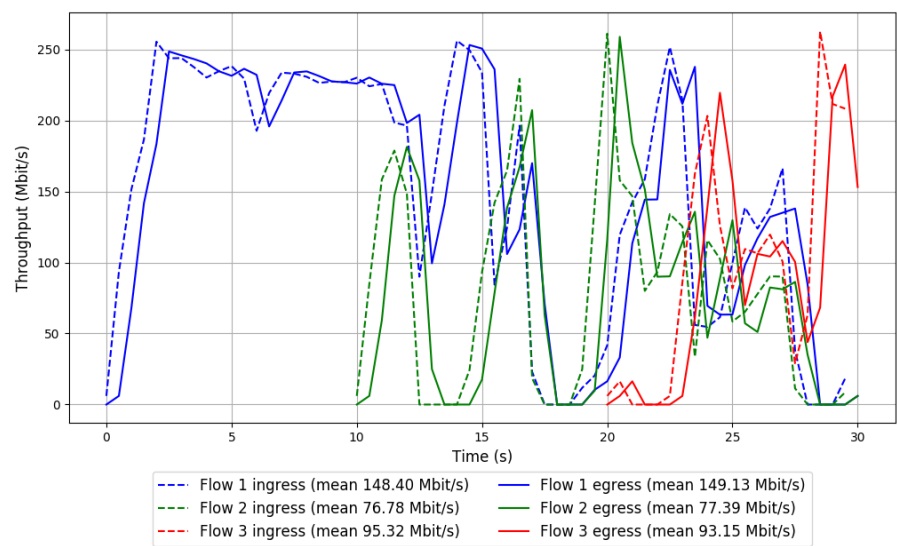
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 150.38 Mbit/s) --- Flow 1 egress (mean 150.52 Mbit/s)
Flow 2 ingress (mean 105.83 Mbit/s) --- Flow 2 egress (mean 106.11 Mbit/s)
Flow 3 ingress (mean 18.77 Mbit/s) --- Flow 3 egress (mean 18.82 Mbit/s)

Flow 1 (95th percentile 88.71 ms) • Flow 2 (95th percentile 92.26 ms) • Flow 3 (95th percentile 99.33 ms)

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

Start at: 2018-06-19 00:49:00
End at: 2018-06-19 00:49:30
Local clock offset: -0.086 ms
Remote clock offset: 0.545 ms


# Below is generated by plot.py at 2018-06-19 05:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 231.02 Mbit/s
95th percentile per-packet one-way delay: 89.775 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 149.13 Mbit/s
95th percentile per-packet one-way delay: 88.074 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 77.39 Mbit/s
95th percentile per-packet one-way delay: 93.249 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 93.15 Mbit/s
95th percentile per-packet one-way delay: 91.240 ms
Loss rate: 3.97%
```
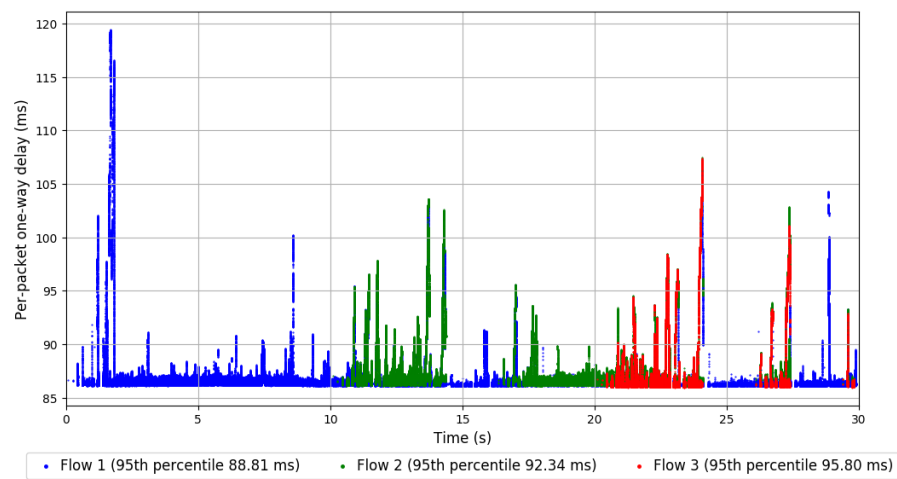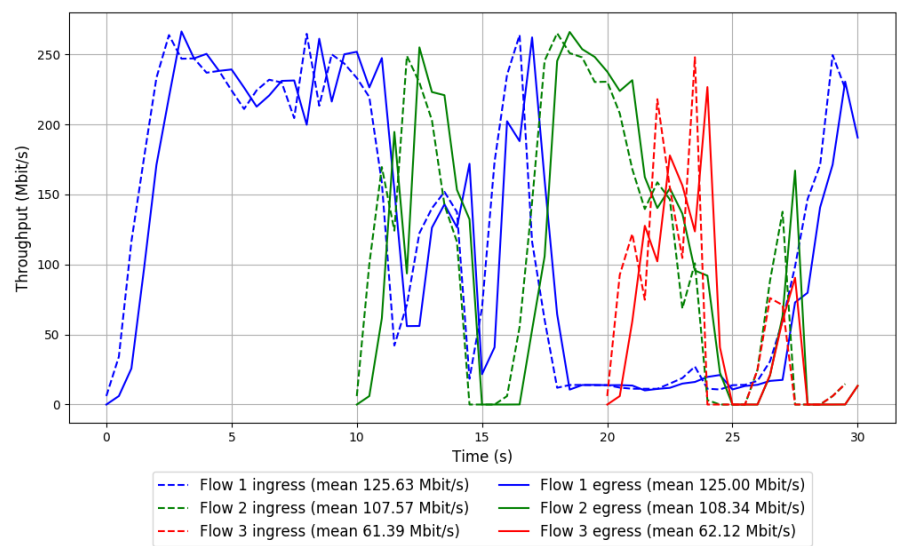
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 148.40 Mbit/s)   Flow 1 egress (mean 149.13 Mbit/s)
Flow 2 ingress (mean 76.78 Mbit/s)   Flow 2 egress (mean 77.39 Mbit/s)
Flow 3 ingress (mean 95.32 Mbit/s)   Flow 3 egress (mean 93.15 Mbit/s)

Flow 1 (95th percentile 88.07 ms)   Flow 2 (95th percentile 93.25 ms)   Flow 3 (95th percentile 91.24 ms)
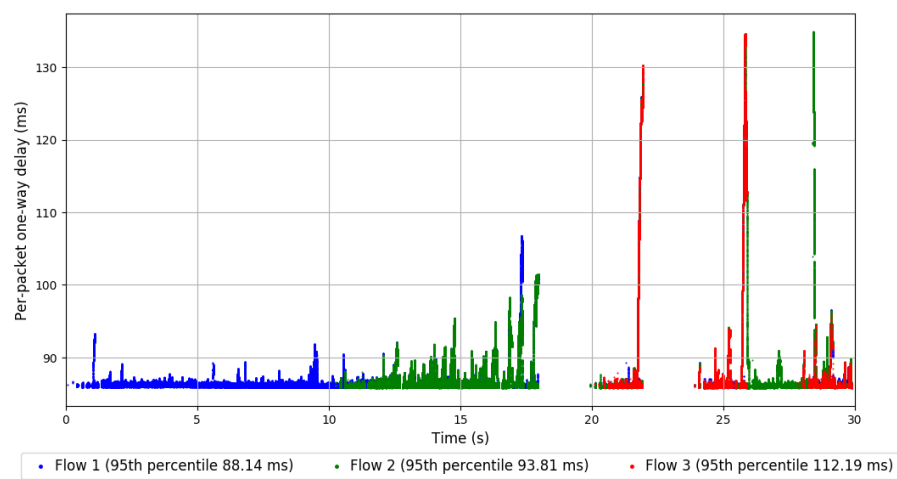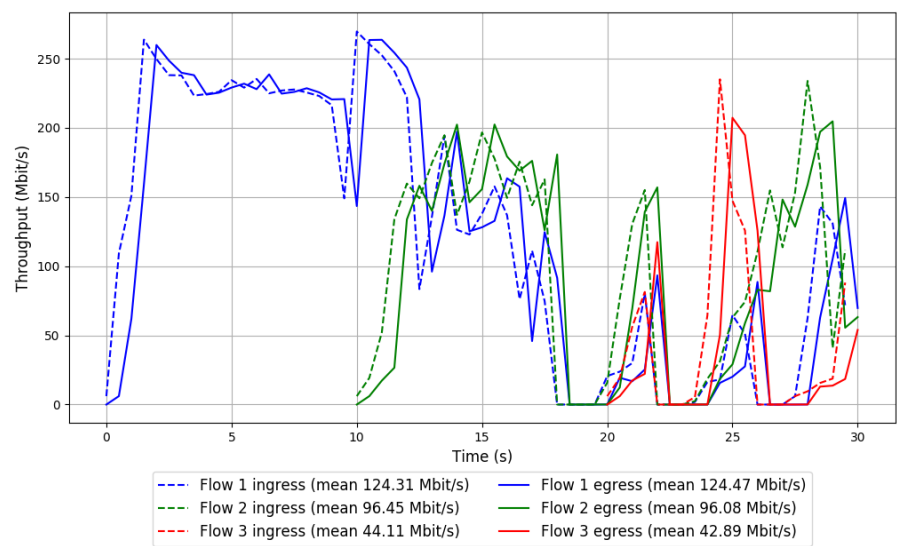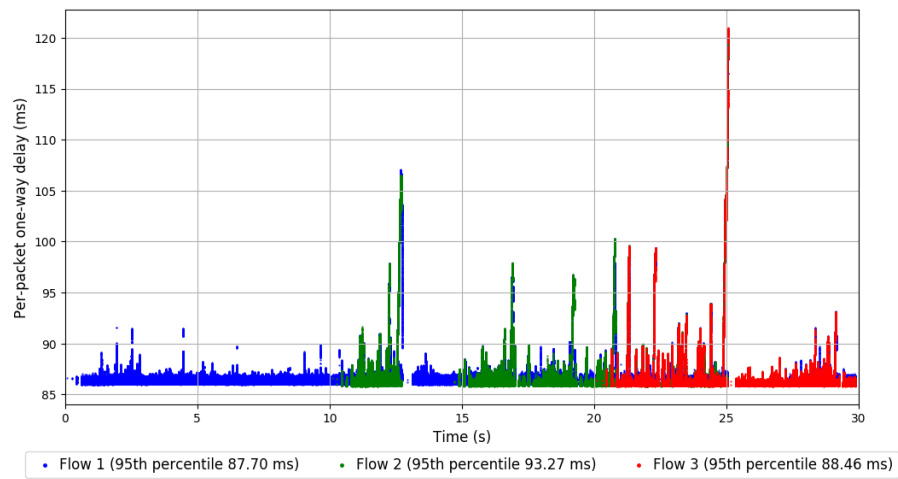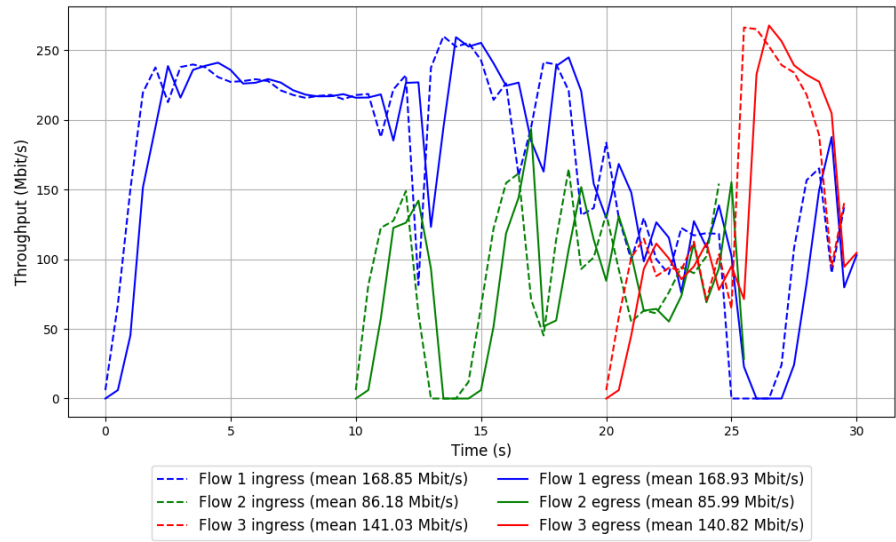
231

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

Start at: 2018-06-19 01:12:29
End at: 2018-06-19 01:12:59
Local clock offset: 0.093 ms
Remote clock offset: 0.047 ms


# Below is generated by plot.py at 2018-06-19 05:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 216.93 Mbit/s
95th percentile per-packet one-way delay: 91.137 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 125.00 Mbit/s
95th percentile per-packet one-way delay: 88.810 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 108.34 Mbit/s
95th percentile per-packet one-way delay: 92.338 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 62.12 Mbit/s
95th percentile per-packet one-way delay: 95.803 ms
Loss rate: 0.60%
```

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

Flow 1 ingress (mean 125.63 Mbit/s) — — — Flow 1 egress (mean 125.00 Mbit/s)
Flow 2 ingress (mean 107.57 Mbit/s) — — — Flow 2 egress (mean 108.34 Mbit/s)
Flow 3 ingress (mean 61.39 Mbit/s) — — — Flow 3 egress (mean 62.12 Mbit/s)

Flow 1 (95th percentile 88.81 ms)   Flow 2 (95th percentile 92.34 ms)   Flow 3 (95th percentile 95.80 ms)
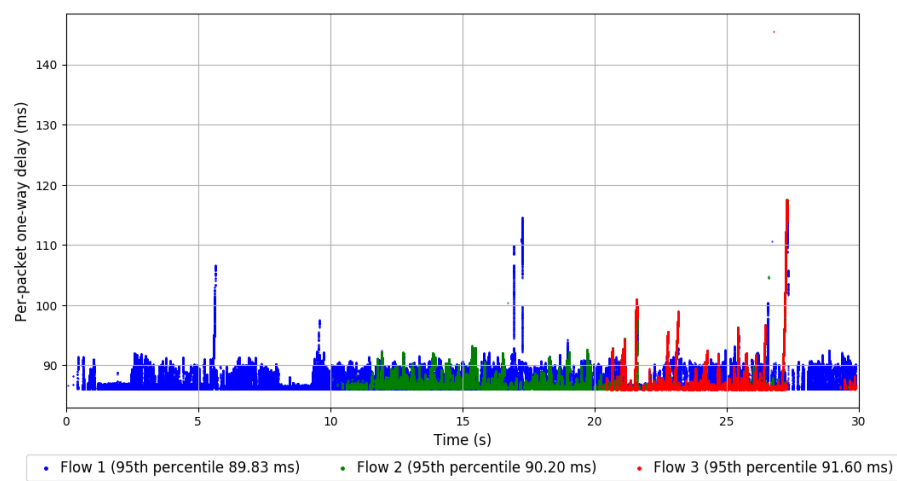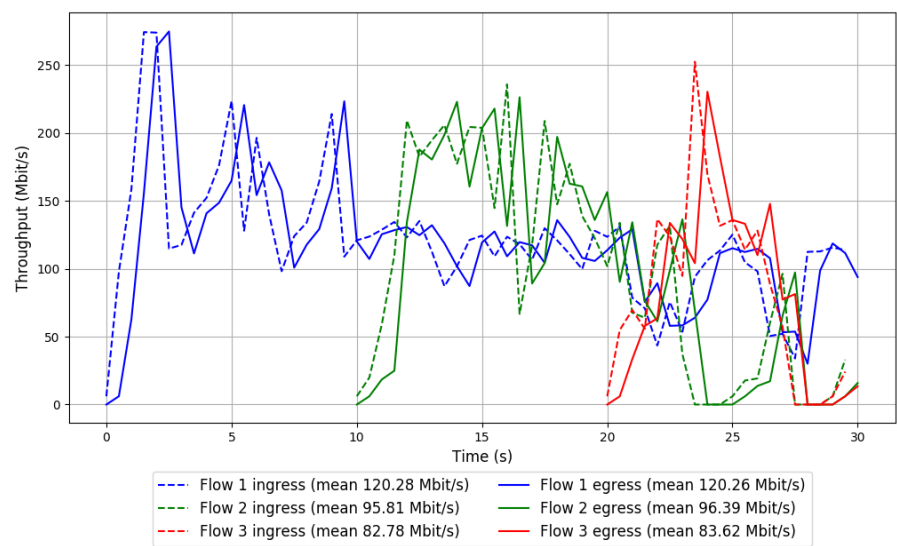
233

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

Start at: 2018-06-19 01:35:41
End at: 2018-06-19 01:36:11
Local clock offset: 0.037 ms
Remote clock offset: -0.058 ms


# Below is generated by plot.py at 2018-06-19 05:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.30 Mbit/s
95th percentile per-packet one-way delay: 90.840 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 124.47 Mbit/s
95th percentile per-packet one-way delay: 88.138 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 96.08 Mbit/s
95th percentile per-packet one-way delay: 93.808 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 42.89 Mbit/s
95th percentile per-packet one-way delay: 112.185 ms
Loss rate: 4.44%
```

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

Flow 1 ingress (mean 124.31 Mbit/s) --- Flow 1 egress (mean 124.47 Mbit/s) ---
Flow 2 ingress (mean 96.45 Mbit/s) --- Flow 2 egress (mean 96.08 Mbit/s) ---
Flow 3 ingress (mean 44.11 Mbit/s) --- Flow 3 egress (mean 42.89 Mbit/s) ---

Flow 1 (95th percentile 88.14 ms) • Flow 2 (95th percentile 93.81 ms) • Flow 3 (95th percentile 112.19 ms)
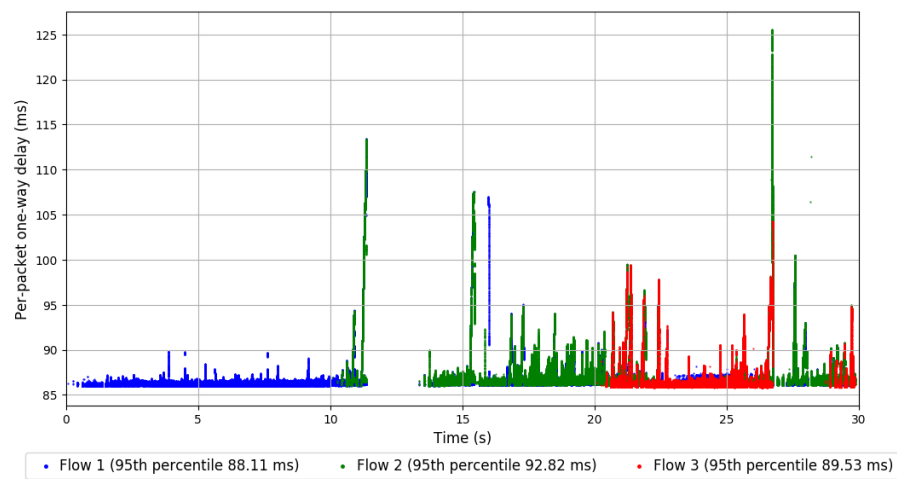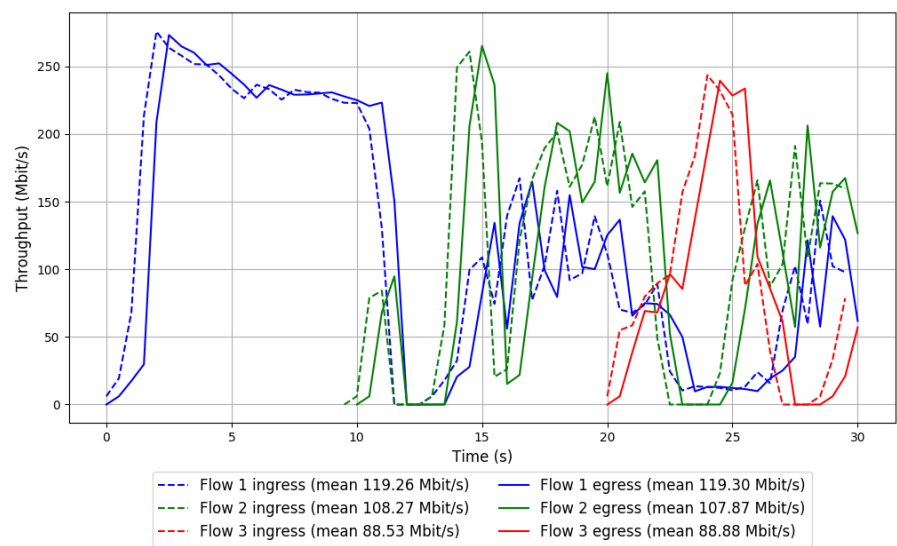
235

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

Start at: 2018-06-19 01:58:43
End at: 2018-06-19 01:59:13
Local clock offset: 0.031 ms
Remote clock offset: -0.117 ms


# Below is generated by plot.py at 2018-06-19 05:05:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.31 Mbit/s
95th percentile per-packet one-way delay: 88.622 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 168.93 Mbit/s
95th percentile per-packet one-way delay: 87.701 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 85.99 Mbit/s
95th percentile per-packet one-way delay: 93.265 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 140.82 Mbit/s
95th percentile per-packet one-way delay: 88.462 ms
Loss rate: 1.88%
```
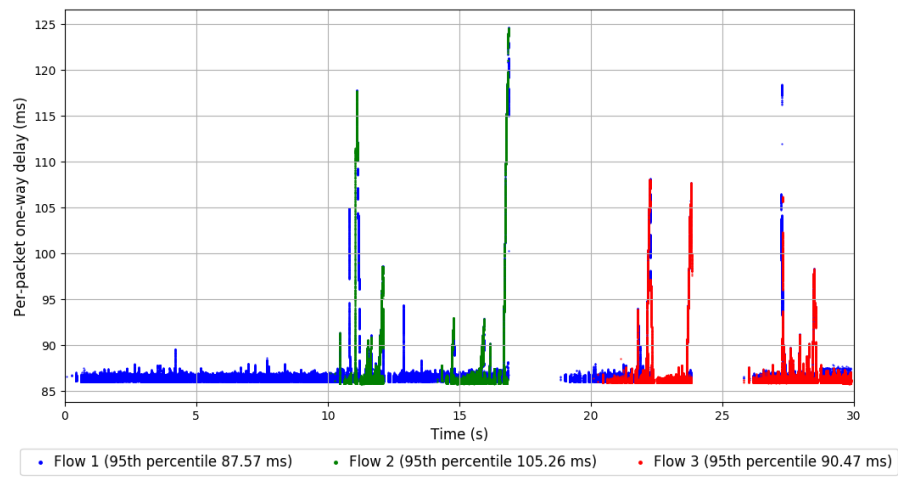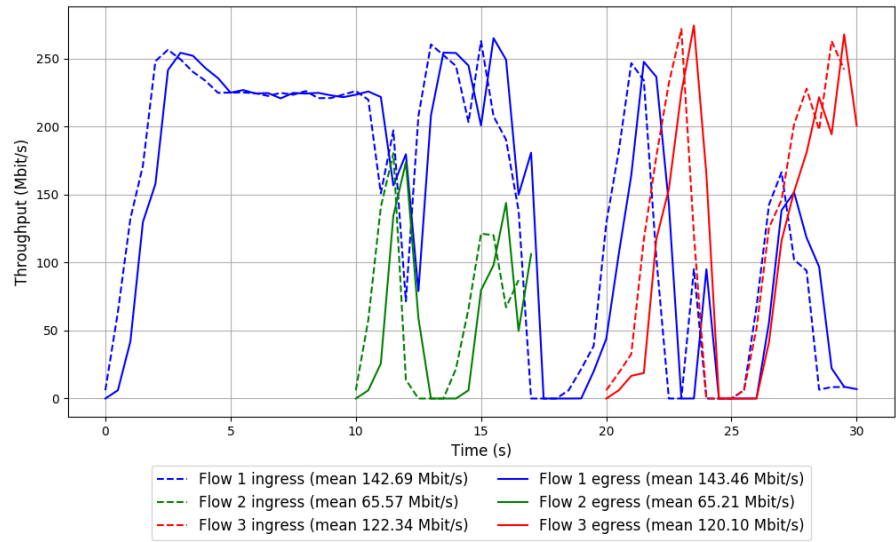
Run 7: Report of TaoVA-100x — Data Link

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

Start at: 2018-06-19 02:22:02
End at: 2018-06-19 02:22:32
Local clock offset: 0.127 ms
Remote clock offset: -0.142 ms


# Below is generated by plot.py at 2018-06-19 05:06:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.60 Mbit/s
95th percentile per-packet one-way delay: 90.069 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 120.26 Mbit/s
95th percentile per-packet one-way delay: 89.835 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 90.203 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 83.62 Mbit/s
95th percentile per-packet one-way delay: 91.597 ms
Loss rate: 0.65%
```

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

Flow 1 ingress (mean 120.28 Mbit/s) --- Flow 1 egress (mean 120.26 Mbit/s)
Flow 2 ingress (mean 95.81 Mbit/s) --- Flow 2 egress (mean 96.39 Mbit/s)
Flow 3 ingress (mean 82.78 Mbit/s) --- Flow 3 egress (mean 83.62 Mbit/s)

Flow 1 (95th percentile 89.83 ms) • Flow 2 (95th percentile 90.20 ms) • Flow 3 (95th percentile 91.60 ms)

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

Start at: 2018-06-19 02:45:03
End at: 2018-06-19 02:45:33
Local clock offset: 0.061 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2018-06-19 05:07:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.01 Mbit/s
95th percentile per-packet one-way delay: 89.695 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 119.30 Mbit/s
95th percentile per-packet one-way delay: 88.114 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 107.87 Mbit/s
95th percentile per-packet one-way delay: 92.820 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 88.88 Mbit/s
95th percentile per-packet one-way delay: 89.525 ms
Loss rate: 1.94%
```
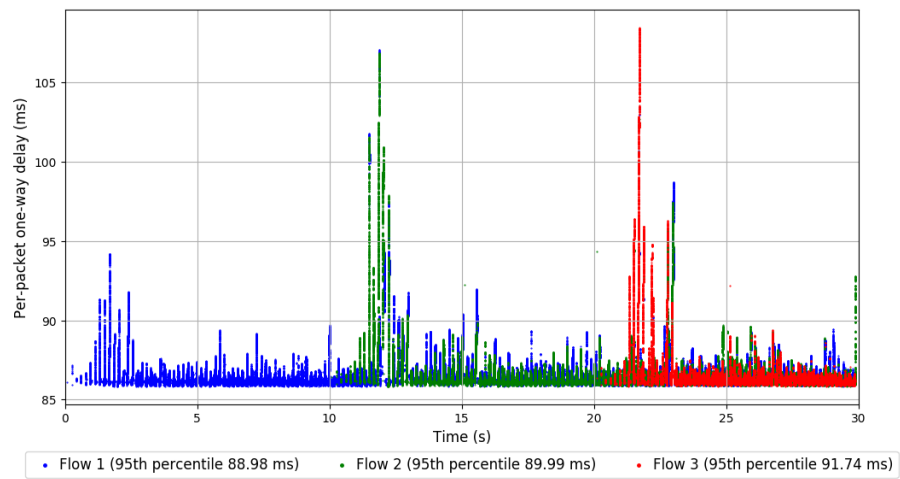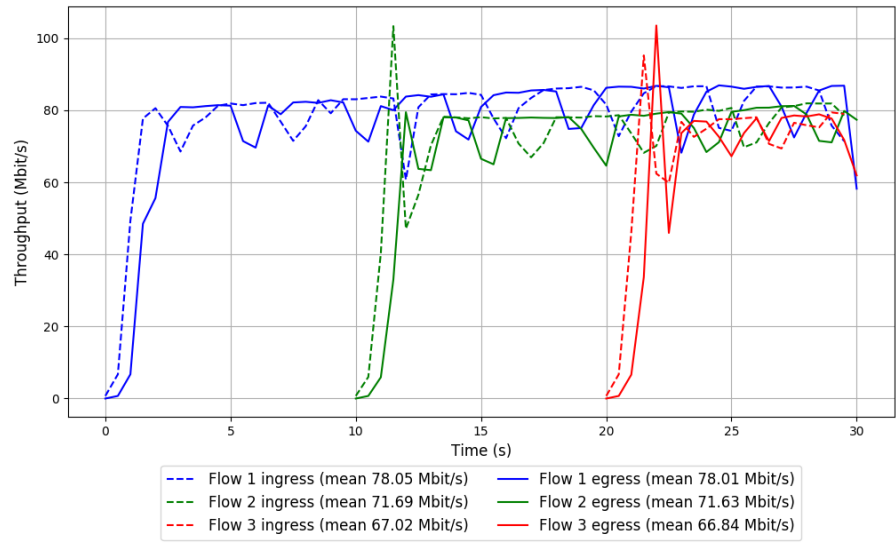
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 119.26 Mbit/s) --- Flow 1 egress (mean 119.30 Mbit/s)
Flow 2 ingress (mean 108.27 Mbit/s) --- Flow 2 egress (mean 107.87 Mbit/s)
Flow 3 ingress (mean 88.53 Mbit/s) --- Flow 3 egress (mean 88.88 Mbit/s)

Flow 1 (95th percentile 88.11 ms)   Flow 2 (95th percentile 92.82 ms)   Flow 3 (95th percentile 89.53 ms)

241

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

Start at: 2018-06-19 03:08:08
End at: 2018-06-19 03:08:38
Local clock offset: -0.005 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.73 Mbit/s
95th percentile per-packet one-way delay: 89.280 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 143.46 Mbit/s
95th percentile per-packet one-way delay: 87.567 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 65.21 Mbit/s
95th percentile per-packet one-way delay: 105.259 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 120.10 Mbit/s
95th percentile per-packet one-way delay: 90.475 ms
Loss rate: 3.53%
```
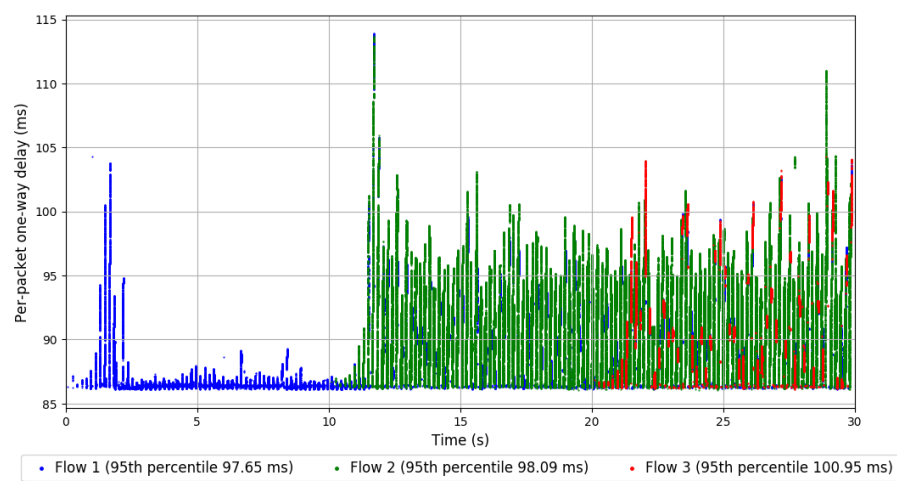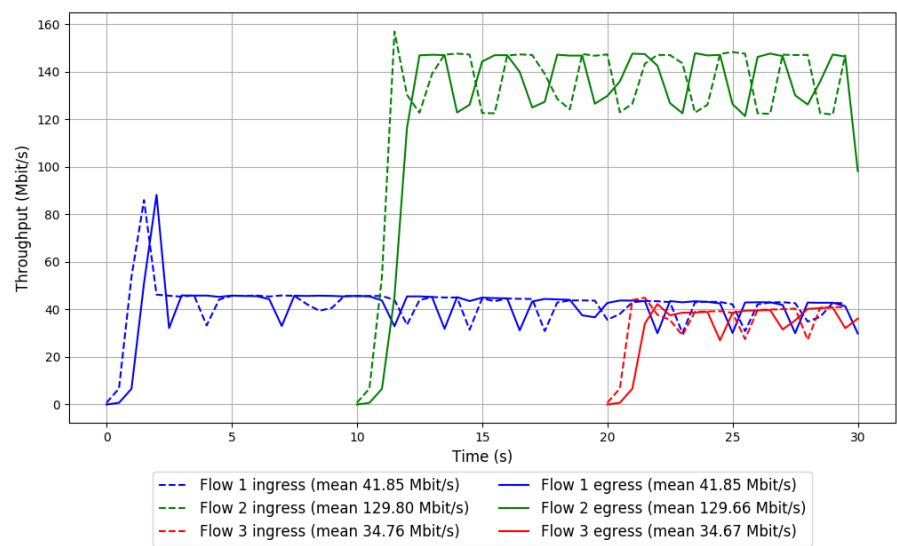
Run 10: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-06-18 23:52:40
End at: 2018-06-18 23:53:10
Local clock offset: -0.115 ms
Remote clock offset: 0.063 ms


# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.50 Mbit/s
95th percentile per-packet one-way delay: 89.496 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 78.01 Mbit/s
95th percentile per-packet one-way delay: 88.984 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 71.63 Mbit/s
95th percentile per-packet one-way delay: 89.994 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 66.84 Mbit/s
95th percentile per-packet one-way delay: 91.737 ms
Loss rate: 1.99%
```
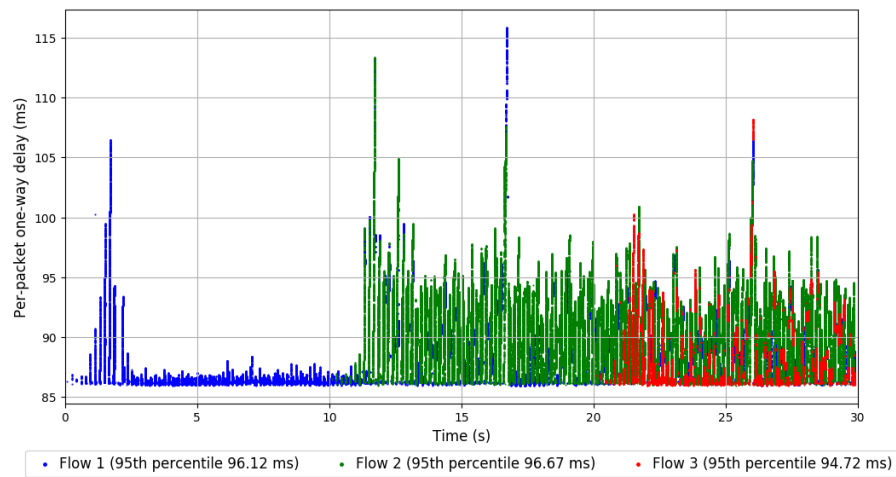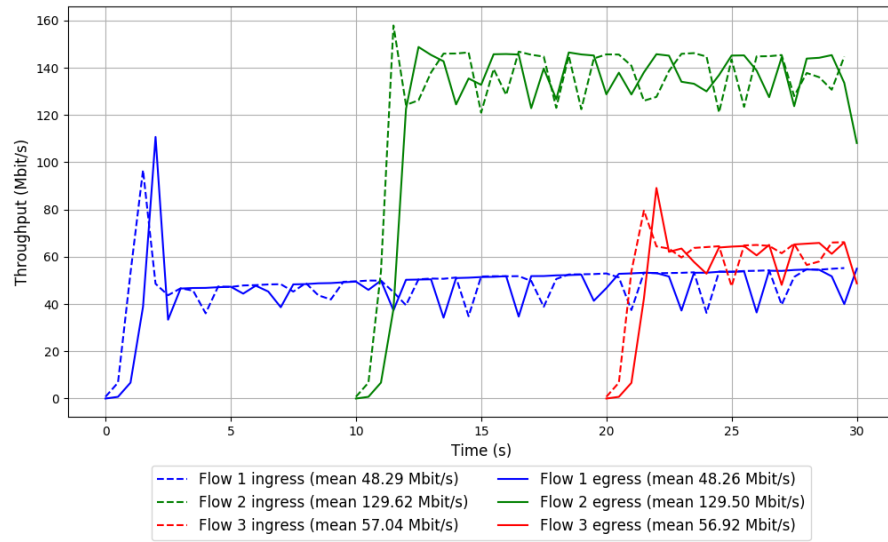
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-06-19 00:15:48
End at: 2018-06-19 00:16:18
Local clock offset: 0.146 ms
Remote clock offset: 0.445 ms


# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.18 Mbit/s
95th percentile per-packet one-way delay: 98.371 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 41.85 Mbit/s
95th percentile per-packet one-way delay: 97.653 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 129.66 Mbit/s
95th percentile per-packet one-way delay: 98.086 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 34.67 Mbit/s
95th percentile per-packet one-way delay: 100.952 ms
Loss rate: 1.98%
```
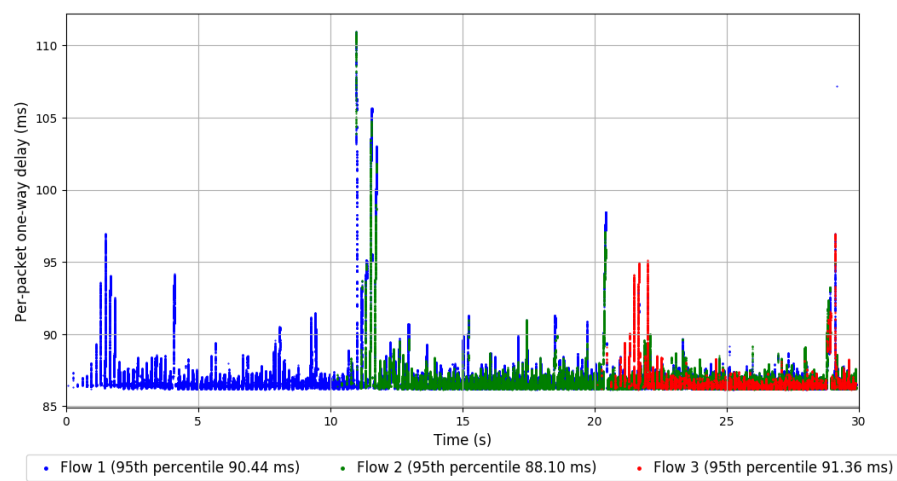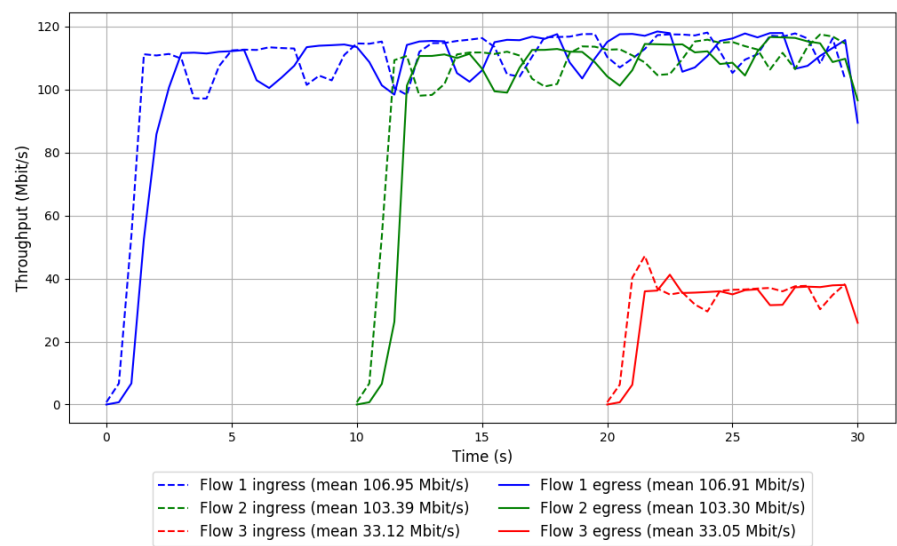
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-06-19 00:38:49
End at: 2018-06-19 00:39:19
Local clock offset: 0.015 ms
Remote clock offset: 0.713 ms


# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.85 Mbit/s
95th percentile per-packet one-way delay: 96.452 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 48.26 Mbit/s
95th percentile per-packet one-way delay: 96.117 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 129.50 Mbit/s
95th percentile per-packet one-way delay: 96.665 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 94.725 ms
Loss rate: 1.94%
```
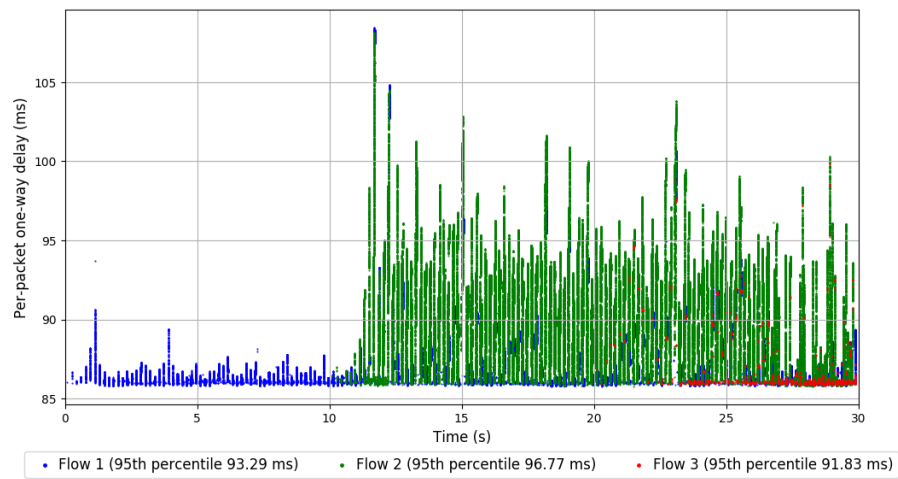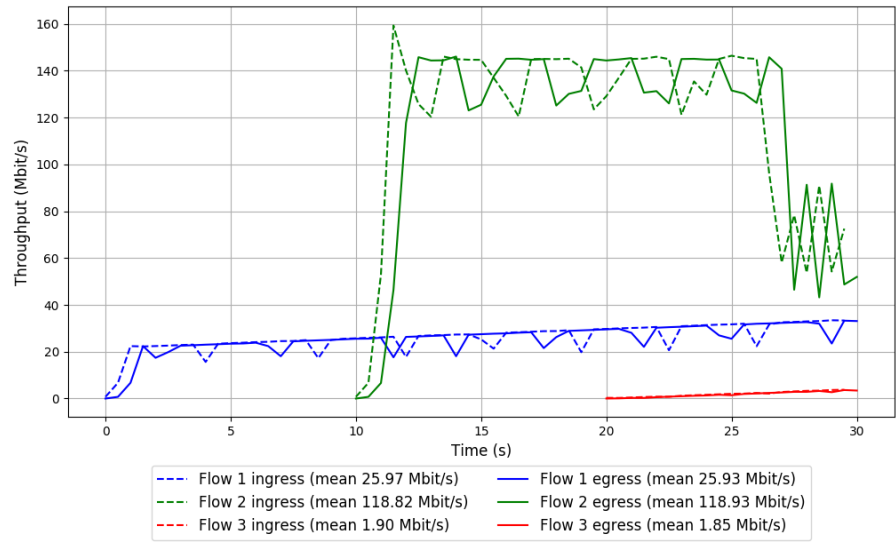
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-06-19 01:02:08
End at: 2018-06-19 01:02:38
Local clock offset: 0.105 ms
Remote clock offset: 0.093 ms


# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 186.39 Mbit/s
95th percentile per-packet one-way delay: 89.582 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 106.91 Mbit/s
95th percentile per-packet one-way delay: 90.438 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 103.30 Mbit/s
95th percentile per-packet one-way delay: 88.102 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 33.05 Mbit/s
95th percentile per-packet one-way delay: 91.360 ms
Loss rate: 1.94%
```
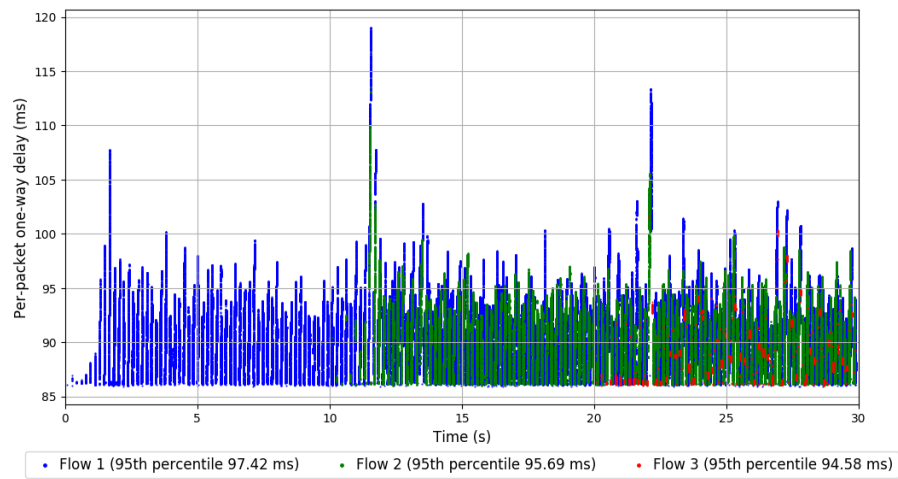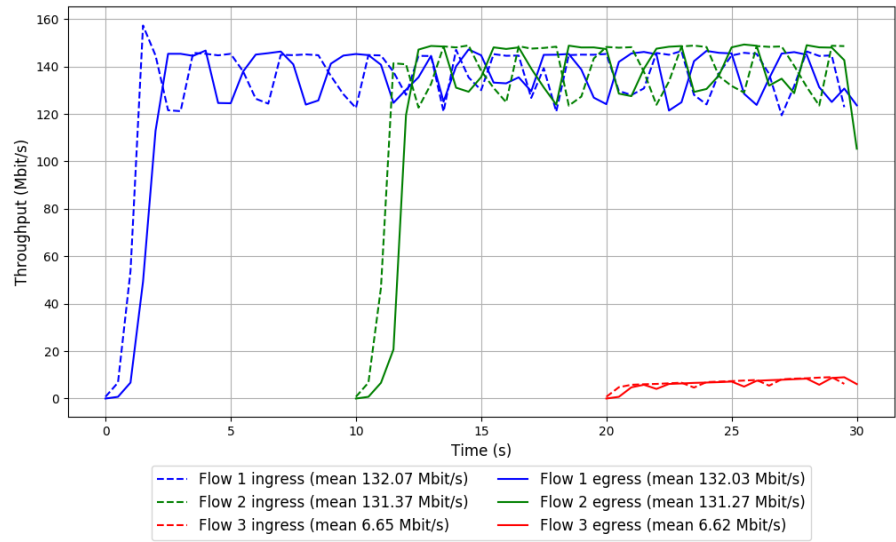
Run 4: Report of TCP Vegas — Data Link

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```
Run 5: Statistics of TCP Vegas

Start at: 2018-06-19 01:25:26
End at: 2018-06-19 01:25:56
Local clock offset: -0.188 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2018-06-19 05:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.40 Mbit/s
95th percentile per-packet one-way delay: 96.198 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 25.93 Mbit/s
95th percentile per-packet one-way delay: 93.293 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 118.93 Mbit/s
95th percentile per-packet one-way delay: 96.771 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 91.831 ms
Loss rate: 4.06%
```
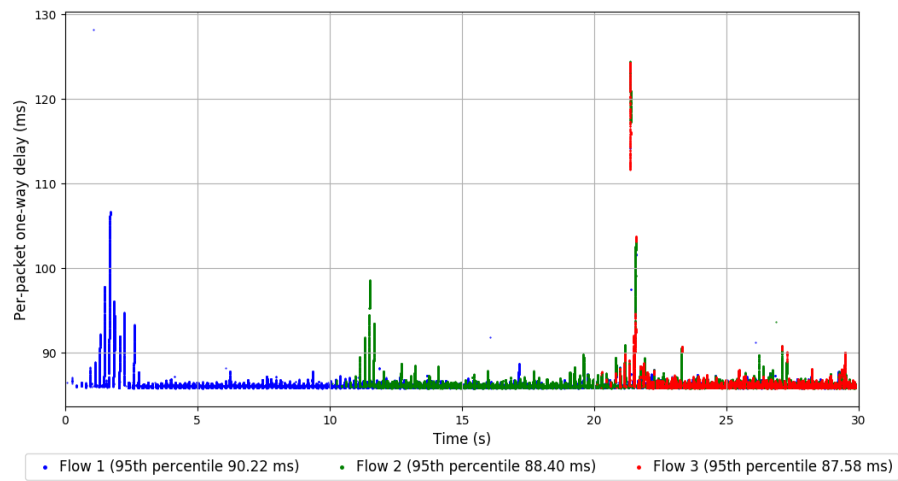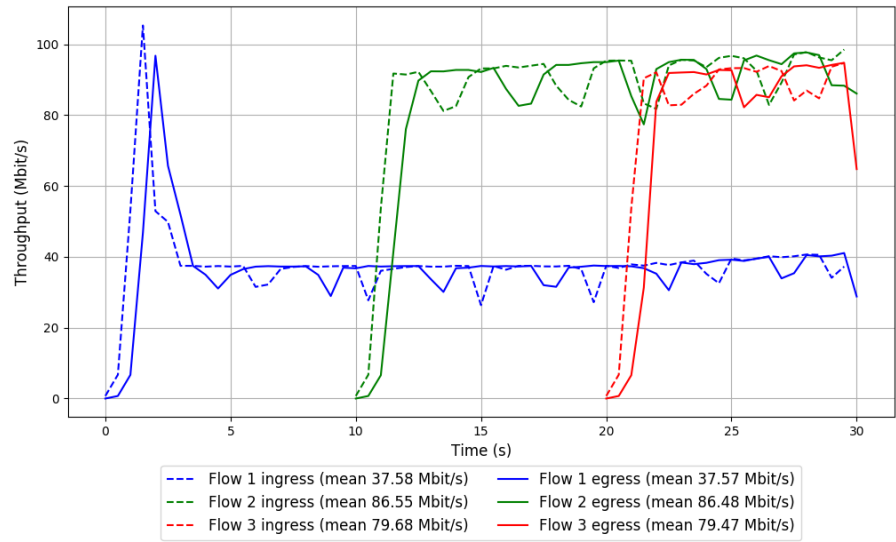
Run 5: Report of TCP Vegas — Data Link

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```
Run 6: Statistics of TCP Vegas

Start at: 2018-06-19 01:48:40
End at: 2018-06-19 01:49:10
Local clock offset: 0.061 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-06-19 05:08:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 221.24 Mbit/s
95th percentile per-packet one-way delay: 96.704 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 132.03 Mbit/s
95th percentile per-packet one-way delay: 97.425 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 131.27 Mbit/s
95th percentile per-packet one-way delay: 95.685 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 94.578 ms
Loss rate: 2.32%
```

Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-06-19 02:11:58
End at: 2018-06-19 02:12:28
Local clock offset: -0.154 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2018-06-19 05:08:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.07 Mbit/s
95th percentile per-packet one-way delay: 88.429 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 37.57 Mbit/s
95th percentile per-packet one-way delay: 90.225 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 86.48 Mbit/s
95th percentile per-packet one-way delay: 88.397 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 79.47 Mbit/s
95th percentile per-packet one-way delay: 87.578 ms
Loss rate: 2.00%
```
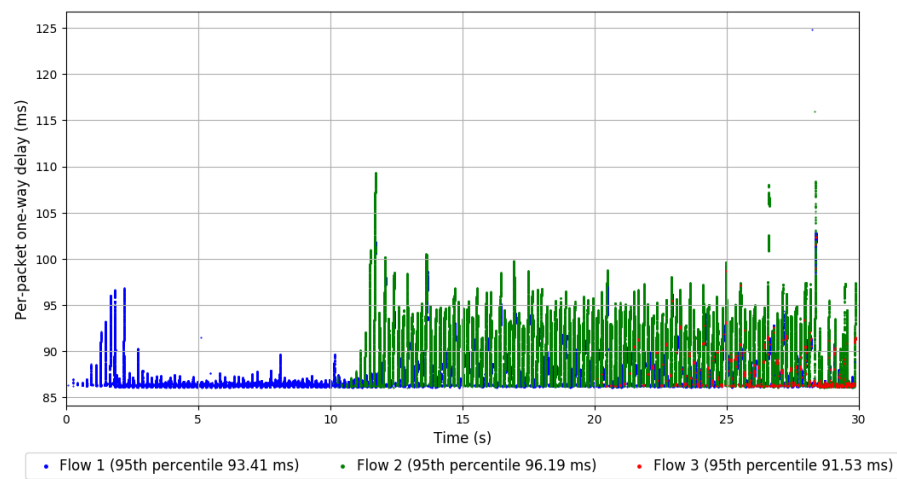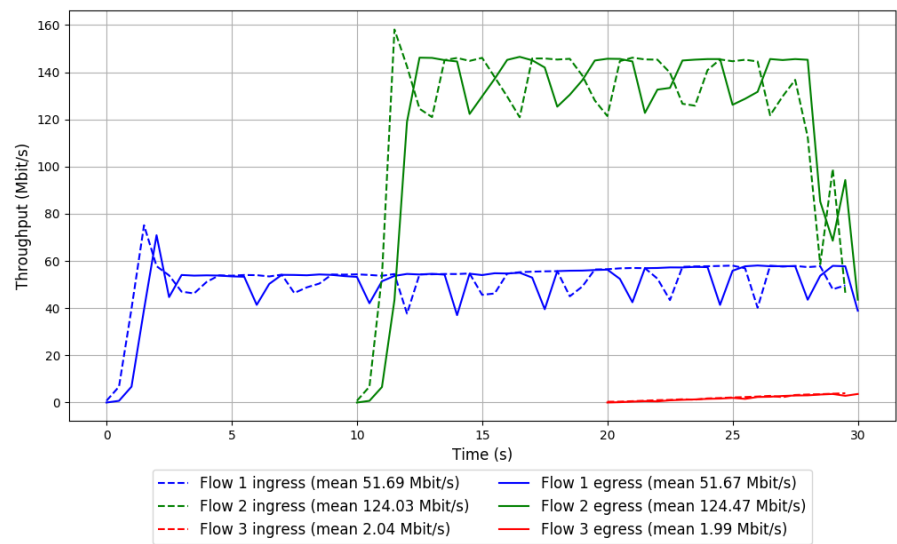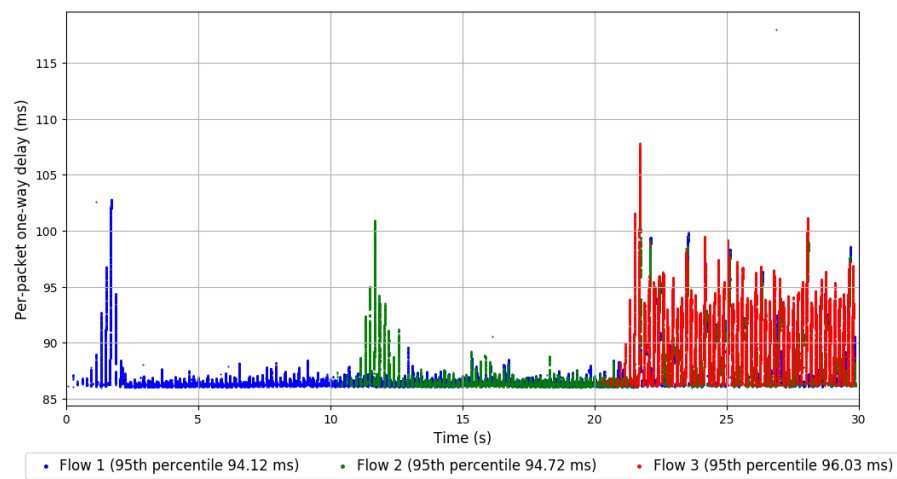
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2018-06-19 02:34:55
End at: 2018-06-19 02:35:25
Local clock offset: 0.145 ms
Remote clock offset: -0.07 ms


# Below is generated by plot.py at 2018-06-19 05:08:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.97 Mbit/s
95th percentile per-packet one-way delay: 95.703 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 51.67 Mbit/s
95th percentile per-packet one-way delay: 93.406 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 124.47 Mbit/s
95th percentile per-packet one-way delay: 96.190 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 91.530 ms
Loss rate: 3.91%
```

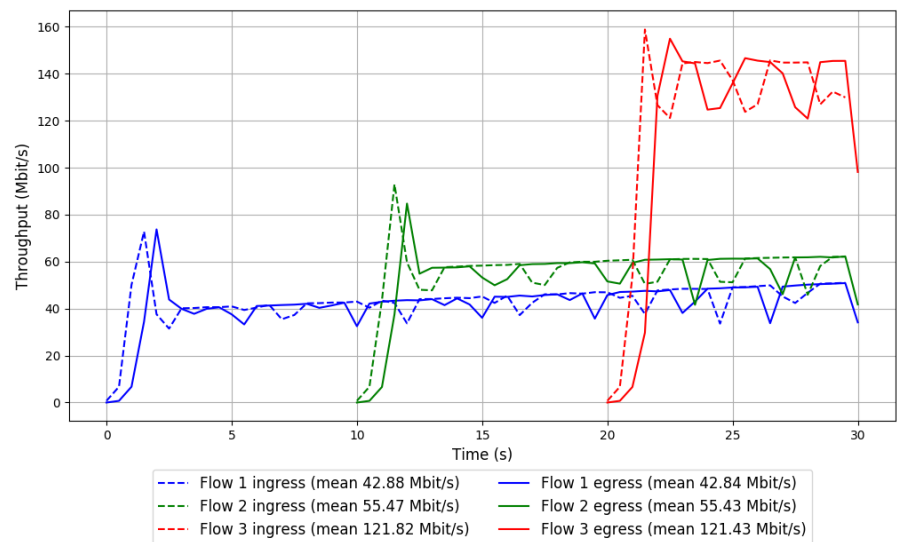Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-06-19 02:58:01
End at: 2018-06-19 02:58:31
Local clock offset: 0.085 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2018-06-19 05:08:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.19 Mbit/s
95th percentile per-packet one-way delay: 95.522 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 94.124 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 55.43 Mbit/s
95th percentile per-packet one-way delay: 94.718 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 121.43 Mbit/s
95th percentile per-packet one-way delay: 96.026 ms
Loss rate: 2.02%
```
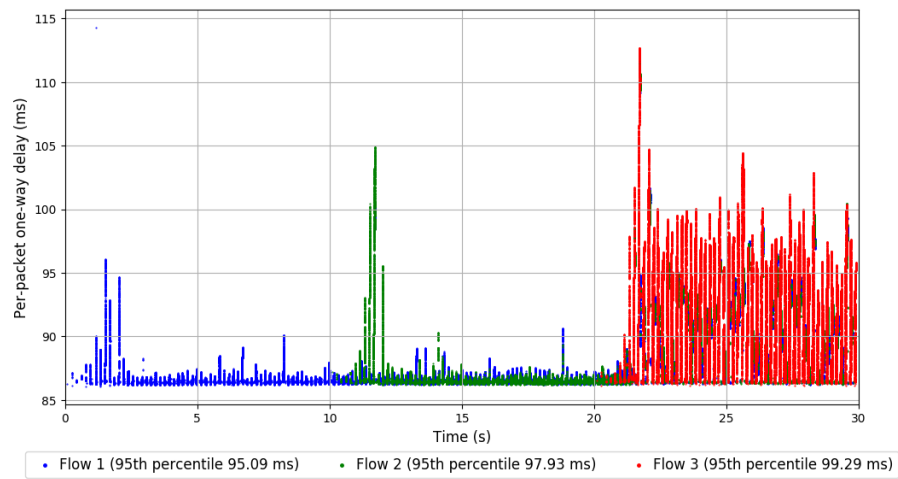
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2018-06-19 03:21:09
End at: 2018-06-19 03:21:39
Local clock offset: 0.199 ms
Remote clock offset: 0.036 ms


# Below is generated by plot.py at 2018-06-19 05:08:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.44 Mbit/s
95th percentile per-packet one-way delay: 98.222 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 95.087 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 97.930 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 119.07 Mbit/s
95th percentile per-packet one-way delay: 99.292 ms
Loss rate: 2.23%
```
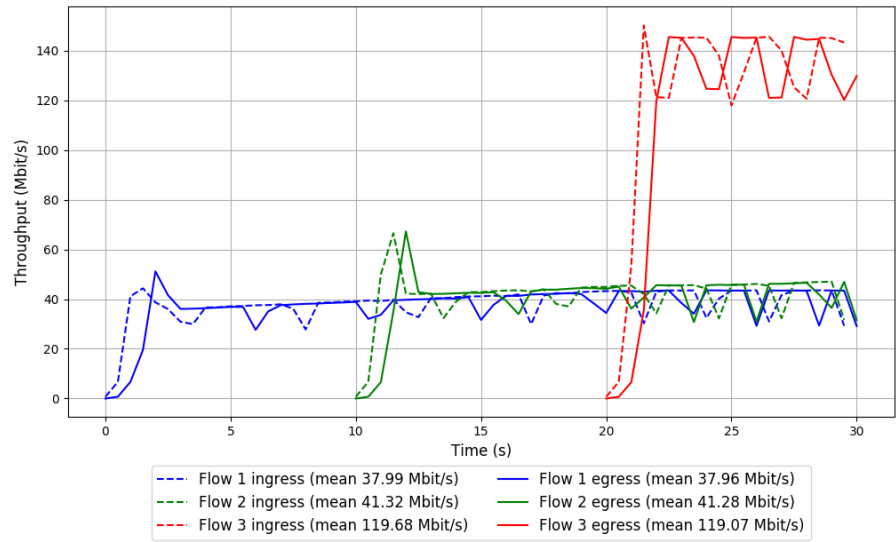
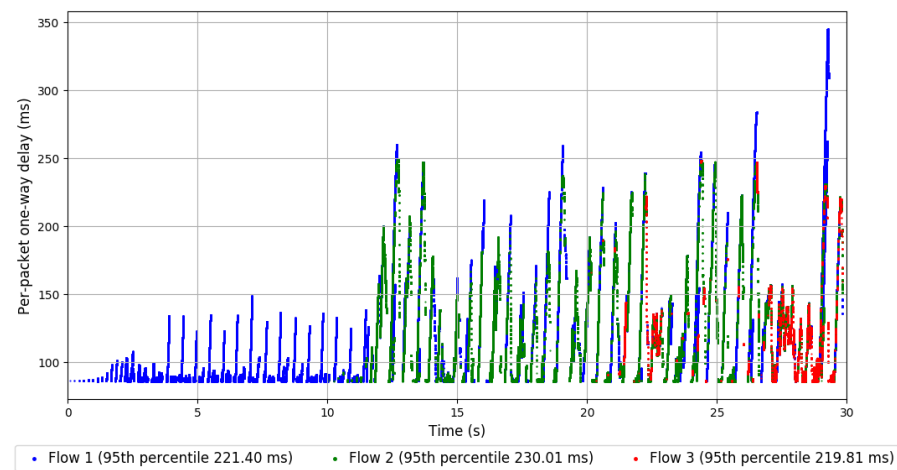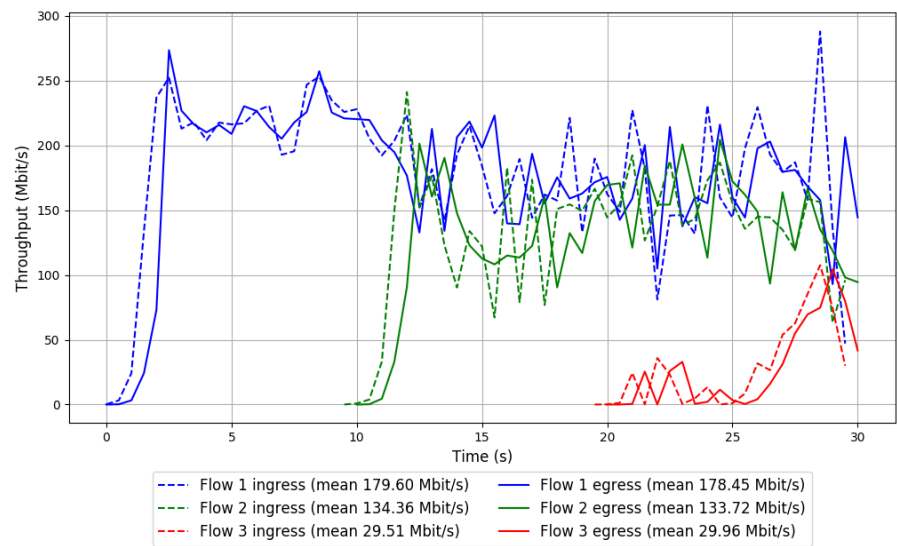Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-06-18 23:48:33
End at: 2018-06-18 23:49:03
Local clock offset: 0.096 ms
Remote clock offset: -0.127 ms


# Below is generated by plot.py at 2018-06-19 05:11:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.05 Mbit/s
95th percentile per-packet one-way delay: 224.191 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 178.45 Mbit/s
95th percentile per-packet one-way delay: 221.402 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 133.72 Mbit/s
95th percentile per-packet one-way delay: 230.008 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 29.96 Mbit/s
95th percentile per-packet one-way delay: 219.813 ms
Loss rate: 1.06%
```

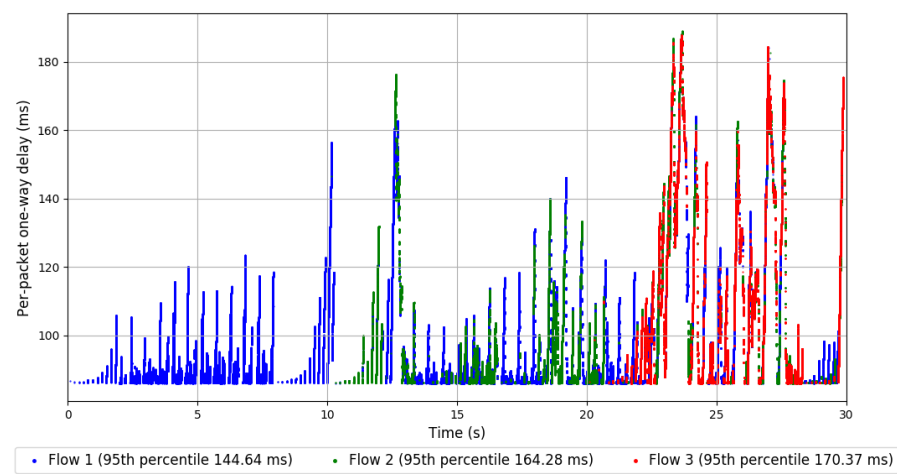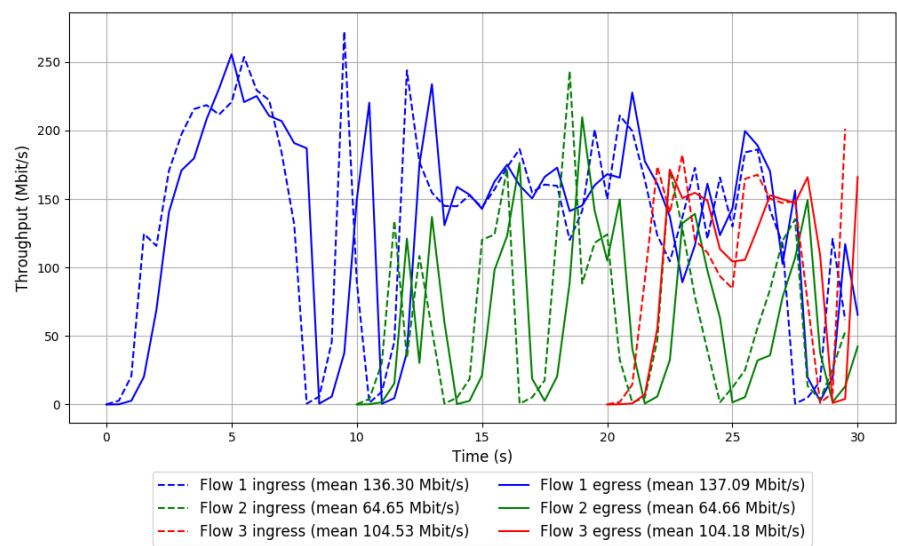# Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-06-19 00:11:45
End at: 2018-06-19 00:12:15
Local clock offset: 0.004 ms
Remote clock offset: 0.414 ms


# Below is generated by plot.py at 2018-06-19 05:11:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 213.10 Mbit/s
95th percentile per-packet one-way delay: 156.874 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 137.09 Mbit/s
95th percentile per-packet one-way delay: 144.639 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 164.279 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 104.18 Mbit/s
95th percentile per-packet one-way delay: 170.374 ms
Loss rate: 1.91%
```
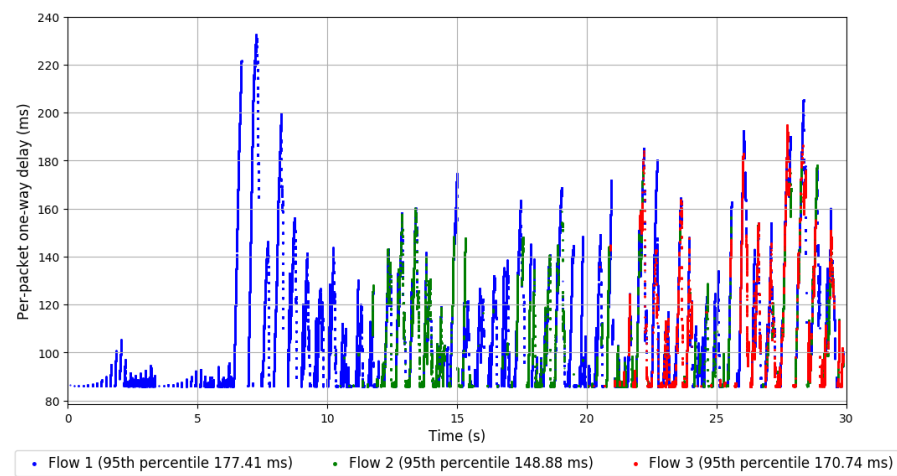
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 136.30 Mbit/s) --- Flow 1 egress (mean 137.09 Mbit/s)
Flow 2 ingress (mean 64.65 Mbit/s) --- Flow 2 egress (mean 64.66 Mbit/s)
Flow 3 ingress (mean 104.53 Mbit/s) --- Flow 3 egress (mean 104.18 Mbit/s)

Flow 1 (95th percentile 144.64 ms)   Flow 2 (95th percentile 164.28 ms)   Flow 3 (95th percentile 170.37 ms)

267

```
Run 3: Statistics of Verus

Start at: 2018-06-19 00:34:47
End at: 2018-06-19 00:35:17
Local clock offset: -0.01 ms
Remote clock offset: 0.719 ms


# Below is generated by plot.py at 2018-06-19 05:12:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.45 Mbit/s
95th percentile per-packet one-way delay: 174.147 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 211.98 Mbit/s
95th percentile per-packet one-way delay: 177.405 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 55.90 Mbit/s
95th percentile per-packet one-way delay: 148.884 ms
Loss rate: 2.83%
-- Flow 3:
Average throughput: 56.13 Mbit/s
95th percentile per-packet one-way delay: 170.741 ms
Loss rate: 3.74%
```
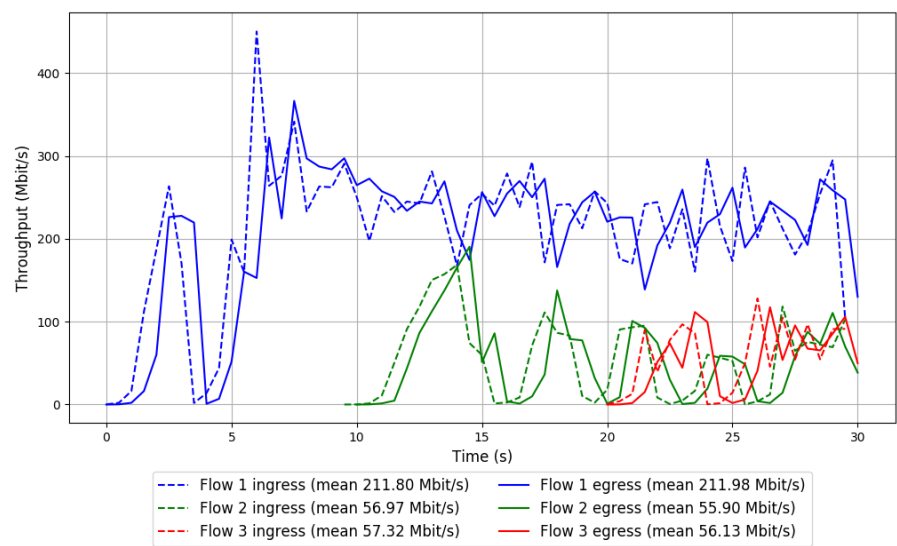
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-06-19 00:57:55
End at: 2018-06-19 00:58:25
Local clock offset: -0.057 ms
Remote clock offset: 0.172 ms


# Below is generated by plot.py at 2018-06-19 05:12:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 269.60 Mbit/s
95th percentile per-packet one-way delay: 210.540 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 209.44 Mbit/s
95th percentile per-packet one-way delay: 210.171 ms
Loss rate: 1.68%
-- Flow 2:
Average throughput: 77.79 Mbit/s
95th percentile per-packet one-way delay: 207.211 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 26.75 Mbit/s
95th percentile per-packet one-way delay: 218.502 ms
Loss rate: 0.58%
```
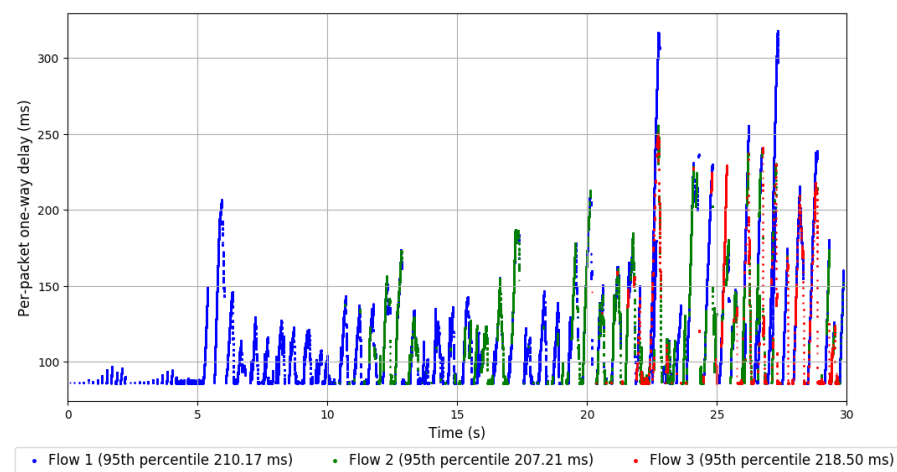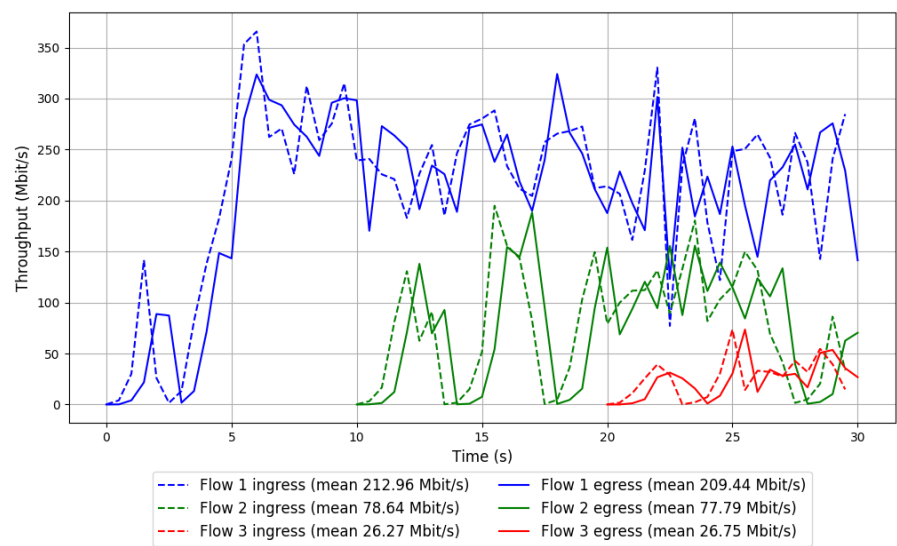
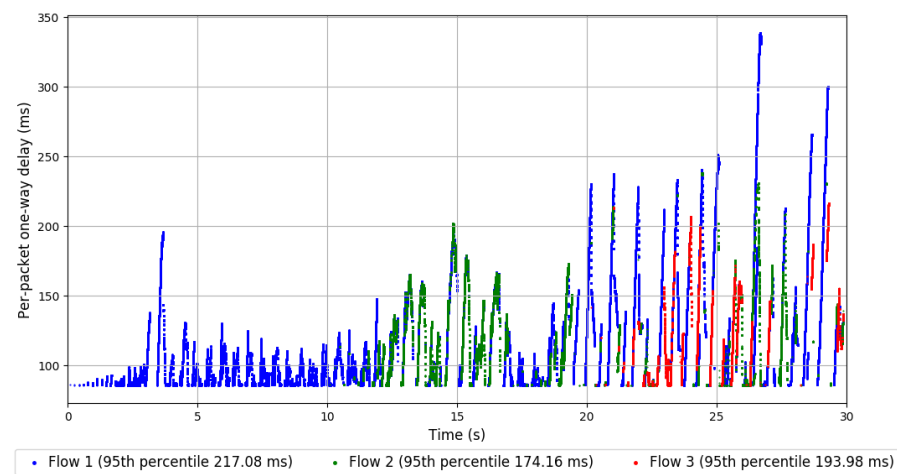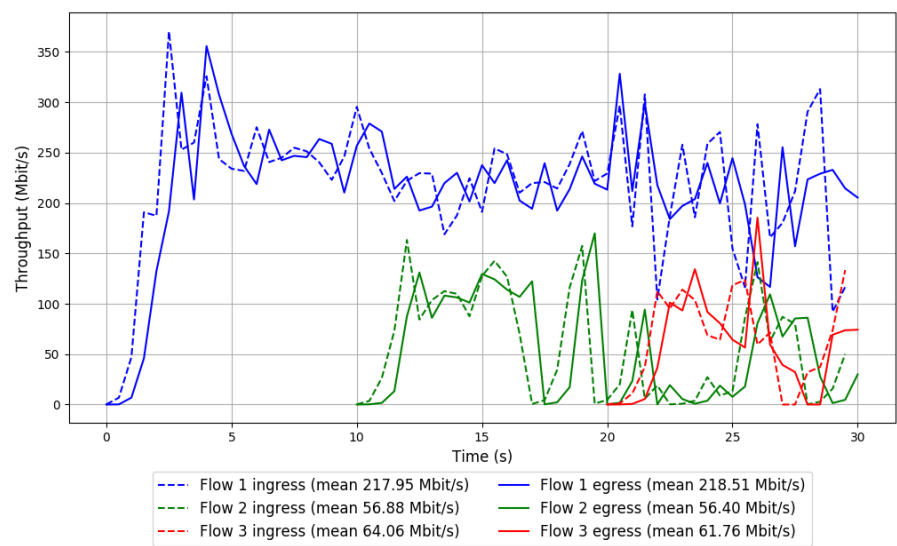# Run 4: Report of Verus — Data Link

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```
Run 5: Statistics of Verus

Start at: 2018-06-19 01:21:17
End at: 2018-06-19 01:21:47
Local clock offset: -0.106 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2018-06-19 05:12:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.01 Mbit/s
95th percentile per-packet one-way delay: 208.117 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 218.51 Mbit/s
95th percentile per-packet one-way delay: 217.083 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 56.40 Mbit/s
95th percentile per-packet one-way delay: 174.160 ms
Loss rate: 1.70%
-- Flow 3:
Average throughput: 61.76 Mbit/s
95th percentile per-packet one-way delay: 193.982 ms
Loss rate: 4.70%
```

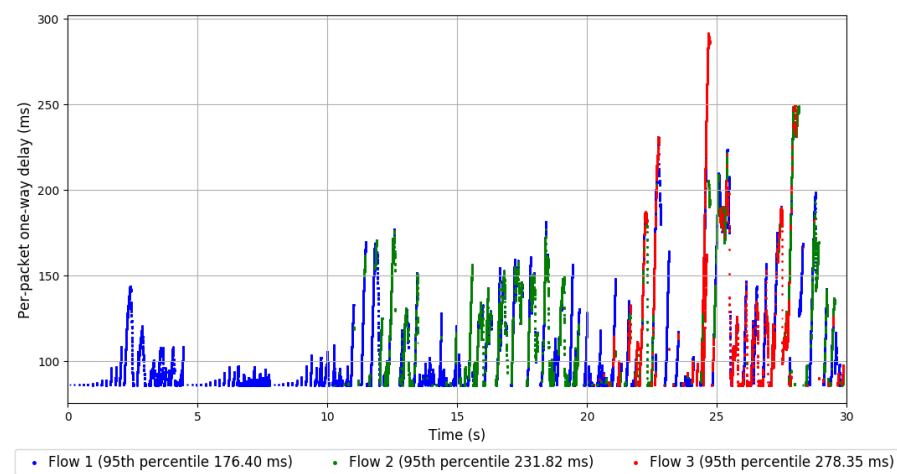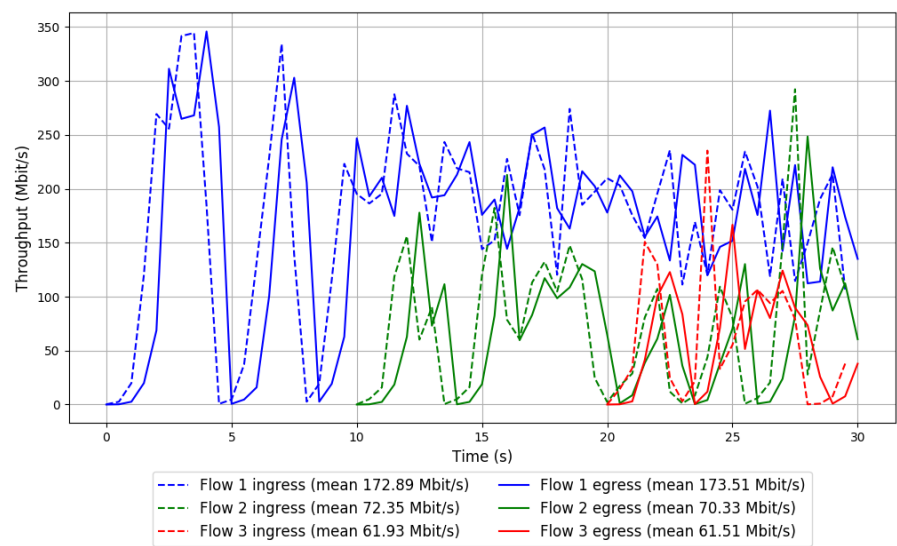Run 5: Report of Verus — Data Link

273

```
Run 6: Statistics of Verus

Start at: 2018-06-19 01:44:33
End at: 2018-06-19 01:45:03
Local clock offset: -0.027 ms
Remote clock offset: -0.109 ms


# Below is generated by plot.py at 2018-06-19 05:12:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.29 Mbit/s
95th percentile per-packet one-way delay: 191.984 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 173.51 Mbit/s
95th percentile per-packet one-way delay: 176.398 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 70.33 Mbit/s
95th percentile per-packet one-way delay: 231.822 ms
Loss rate: 3.32%
-- Flow 3:
Average throughput: 61.51 Mbit/s
95th percentile per-packet one-way delay: 278.350 ms
Loss rate: 2.50%
```

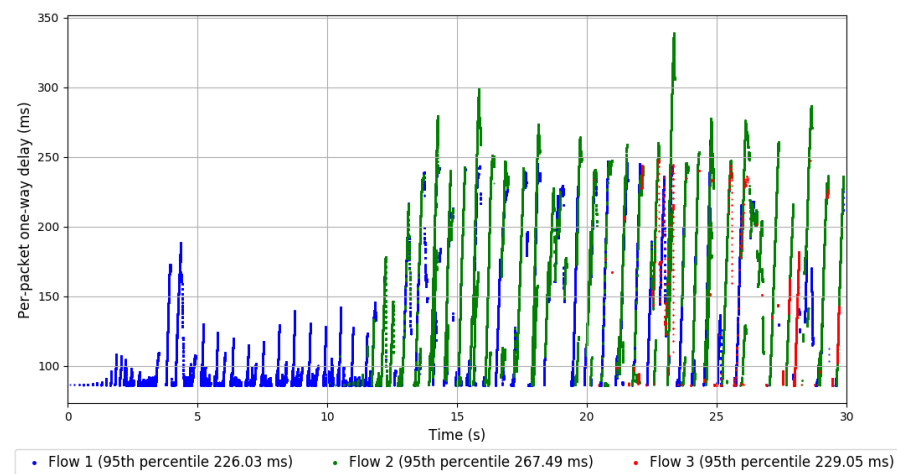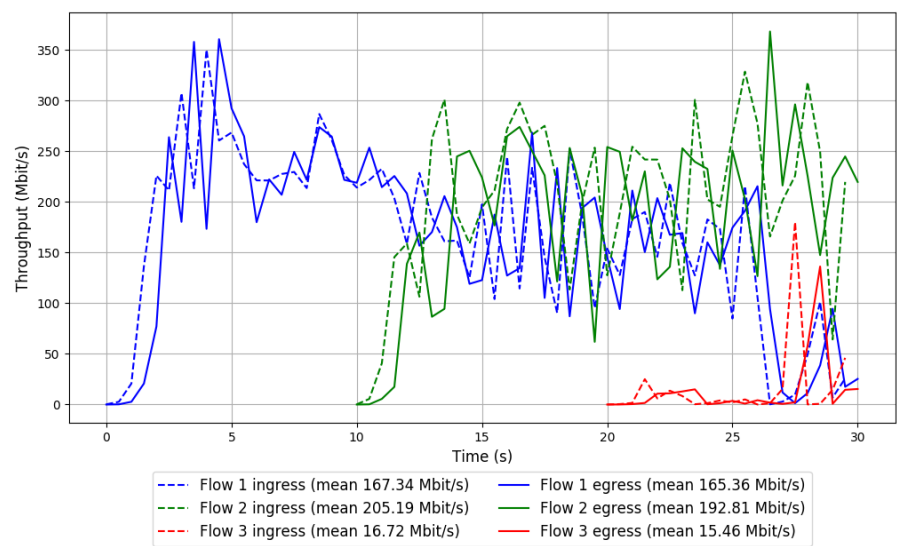Run 6: Report of Verus — Data Link

275

```
Run 7: Statistics of Verus

Start at: 2018-06-19 02:07:45
End at: 2018-06-19 02:08:15
Local clock offset: 0.0 ms
Remote clock offset: -0.121 ms


# Below is generated by plot.py at 2018-06-19 05:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.21 Mbit/s
95th percentile per-packet one-way delay: 250.548 ms
Loss rate: 3.02%
-- Flow 1:
Average throughput: 165.36 Mbit/s
95th percentile per-packet one-way delay: 226.033 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 192.81 Mbit/s
95th percentile per-packet one-way delay: 267.491 ms
Loss rate: 5.32%
-- Flow 3:
Average throughput: 15.46 Mbit/s
95th percentile per-packet one-way delay: 229.051 ms
Loss rate: 10.59%
```
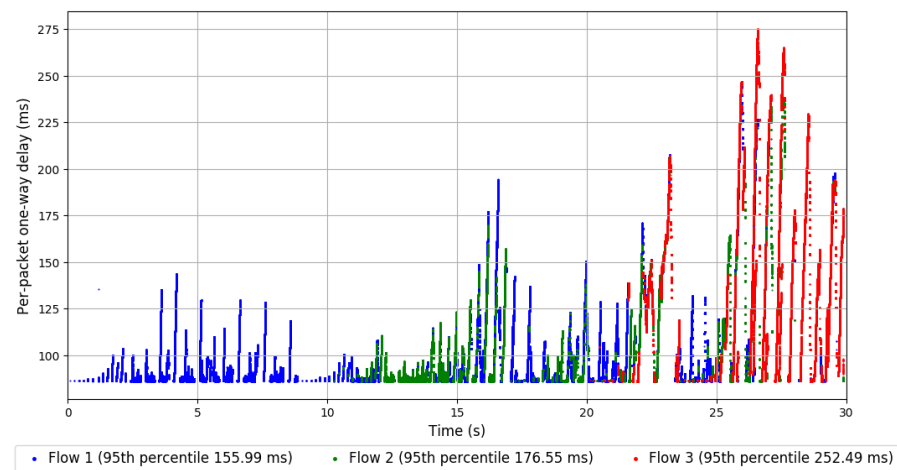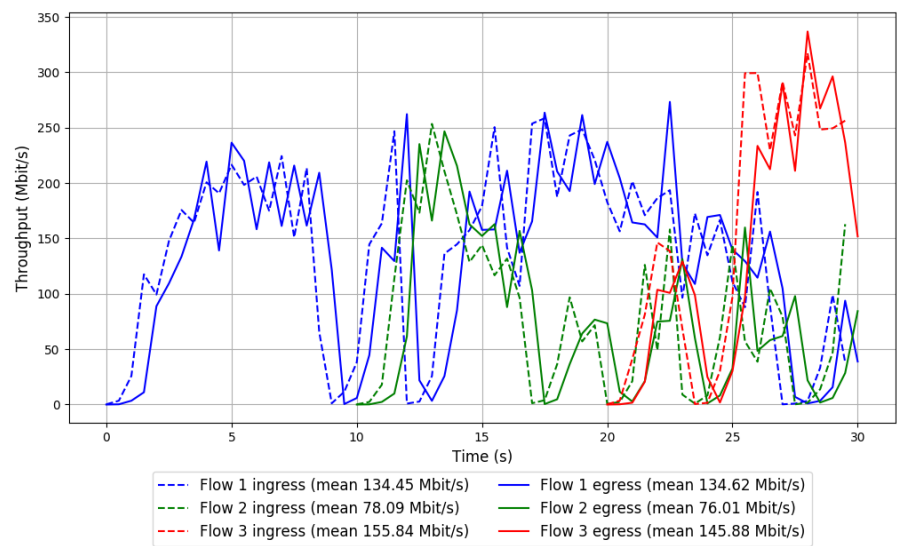
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-06-19 02:30:50
End at: 2018-06-19 02:31:20
Local clock offset: -0.043 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2018-06-19 05:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.84 Mbit/s
95th percentile per-packet one-way delay: 202.571 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 134.62 Mbit/s
95th percentile per-packet one-way delay: 155.992 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 76.01 Mbit/s
95th percentile per-packet one-way delay: 176.550 ms
Loss rate: 3.51%
-- Flow 3:
Average throughput: 145.88 Mbit/s
95th percentile per-packet one-way delay: 252.491 ms
Loss rate: 6.49%
```

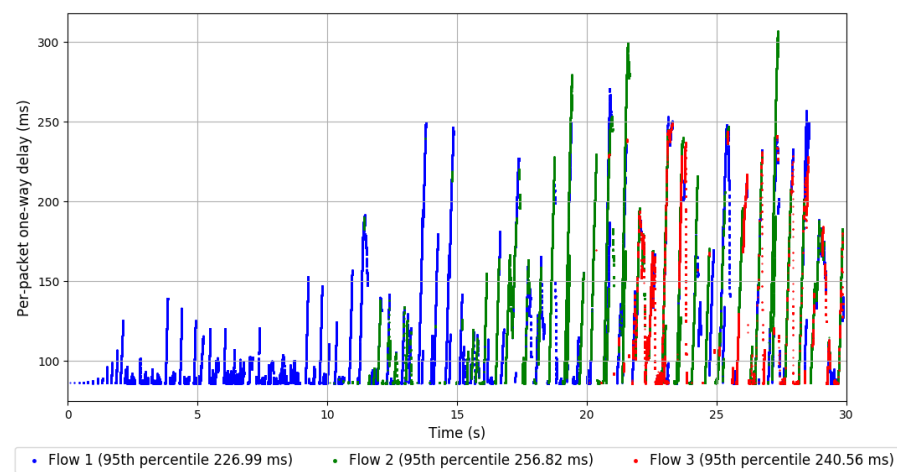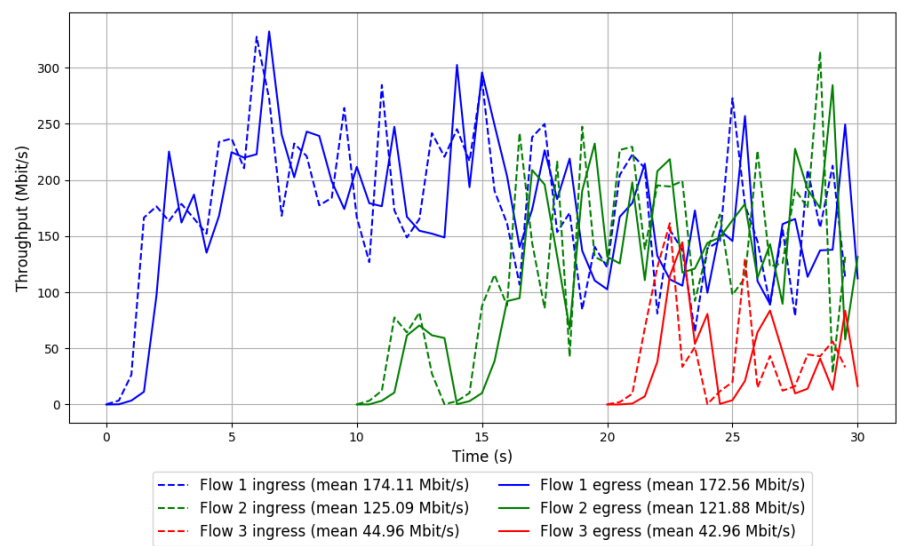Run 8: Report of Verus — Data Link

279

```
Run 9: Statistics of Verus

Start at: 2018-06-19 02:53:54
End at: 2018-06-19 02:54:24
Local clock offset: -0.05 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2018-06-19 05:15:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.46 Mbit/s
95th percentile per-packet one-way delay: 237.223 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 172.56 Mbit/s
95th percentile per-packet one-way delay: 226.994 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 121.88 Mbit/s
95th percentile per-packet one-way delay: 256.819 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 42.96 Mbit/s
95th percentile per-packet one-way delay: 240.565 ms
Loss rate: 4.14%
```

Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 174.11 Mbit/s) --- Flow 1 egress (mean 172.56 Mbit/s)
Flow 2 ingress (mean 125.09 Mbit/s) --- Flow 2 egress (mean 121.88 Mbit/s)
Flow 3 ingress (mean 44.96 Mbit/s) --- Flow 3 egress (mean 42.96 Mbit/s)

Flow 1 (95th percentile 226.99 ms)   Flow 2 (95th percentile 256.82 ms)   Flow 3 (95th percentile 240.56 ms)
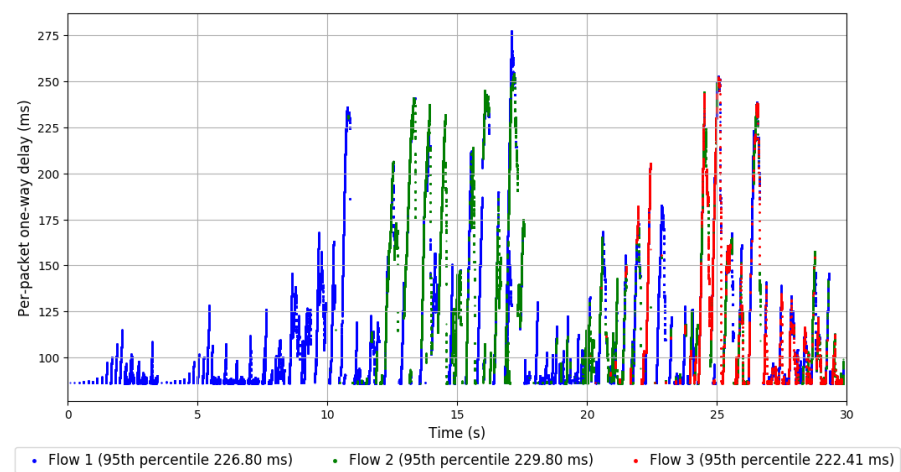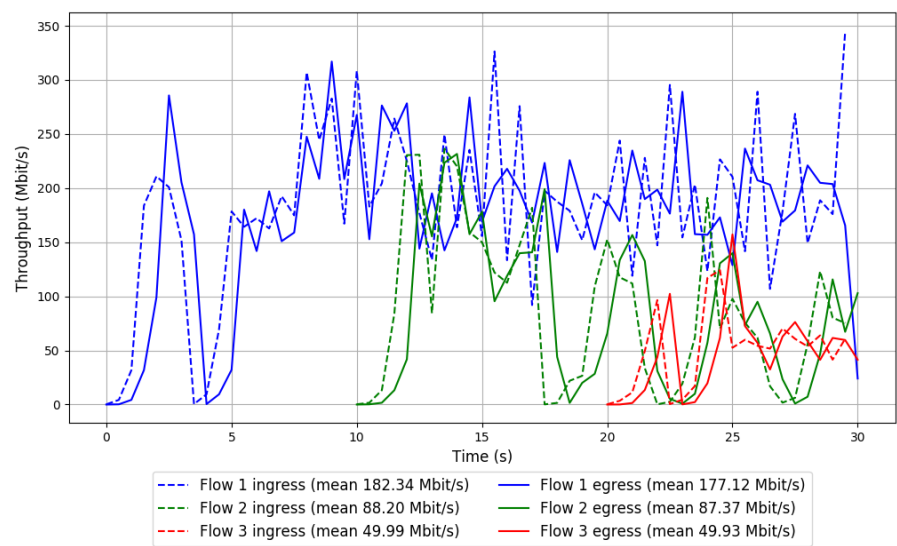
281

```
Run 10: Statistics of Verus

Start at: 2018-06-19 03:17:03
End at: 2018-06-19 03:17:33
Local clock offset: -0.006 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2018-06-19 05:15:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.31 Mbit/s
95th percentile per-packet one-way delay: 228.019 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 177.12 Mbit/s
95th percentile per-packet one-way delay: 226.802 ms
Loss rate: 3.43%
-- Flow 2:
Average throughput: 87.37 Mbit/s
95th percentile per-packet one-way delay: 229.799 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 222.408 ms
Loss rate: 2.84%
```

Run 10: Report of Verus — Data Link

283

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-06-18 23:54:00
End at: 2018-06-18 23:54:30
Local clock offset: 0.036 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2018-06-19 05:20:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 482.25 Mbit/s
95th percentile per-packet one-way delay: 87.231 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 292.05 Mbit/s
95th percentile per-packet one-way delay: 86.909 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 214.91 Mbit/s
95th percentile per-packet one-way delay: 87.535 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 146.29 Mbit/s
95th percentile per-packet one-way delay: 87.147 ms
Loss rate: 2.73%
```
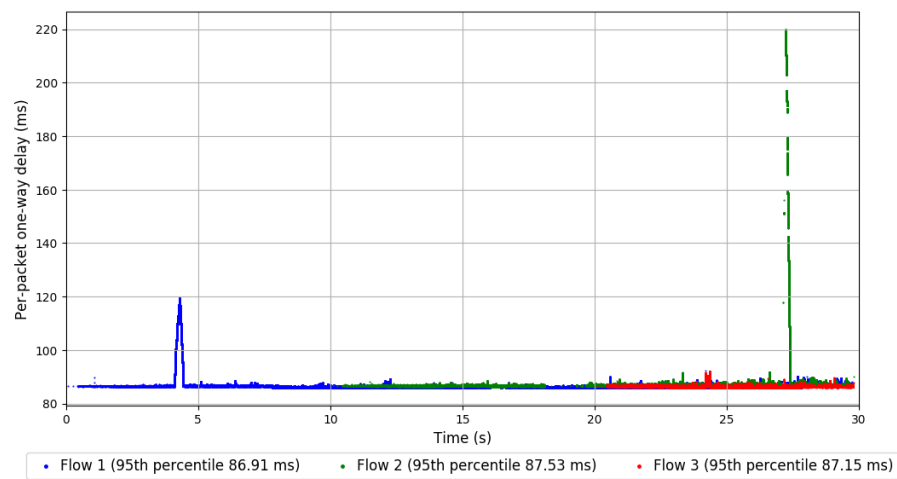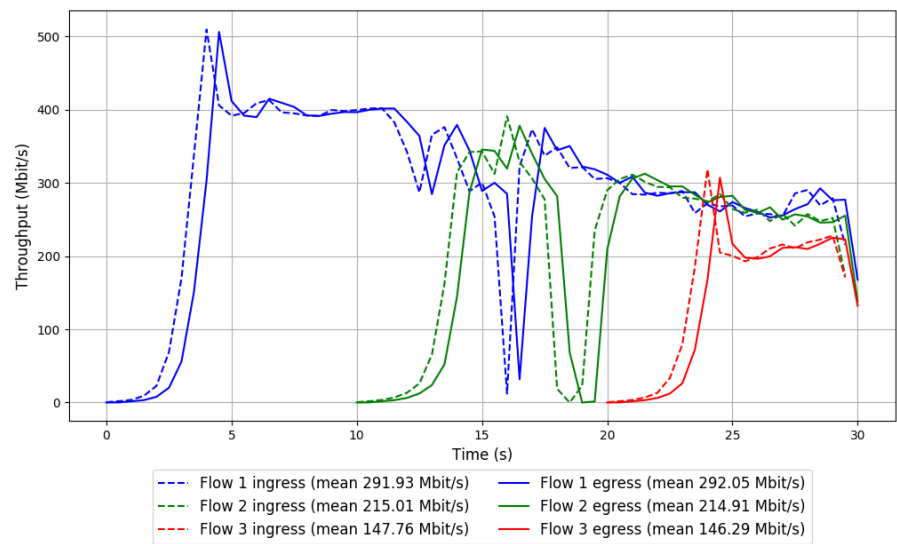
Run 1: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 291.93 Mbit/s)   —— Flow 1 egress (mean 292.05 Mbit/s)
- - - - Flow 2 ingress (mean 215.01 Mbit/s)   —— Flow 2 egress (mean 214.91 Mbit/s)
- - - - Flow 3 ingress (mean 147.76 Mbit/s)   —— Flow 3 egress (mean 146.29 Mbit/s)

• Flow 1 (95th percentile 86.91 ms)   • Flow 2 (95th percentile 87.53 ms)   • Flow 3 (95th percentile 87.15 ms)

285

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-06-19 00:17:08
End at: 2018-06-19 00:17:38
Local clock offset: 0.094 ms
Remote clock offset: 0.445 ms


# Below is generated by plot.py at 2018-06-19 05:20:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.57 Mbit/s
95th percentile per-packet one-way delay: 87.299 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 223.76 Mbit/s
95th percentile per-packet one-way delay: 86.583 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 199.26 Mbit/s
95th percentile per-packet one-way delay: 87.789 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 146.59 Mbit/s
95th percentile per-packet one-way delay: 87.963 ms
Loss rate: 2.15%
```
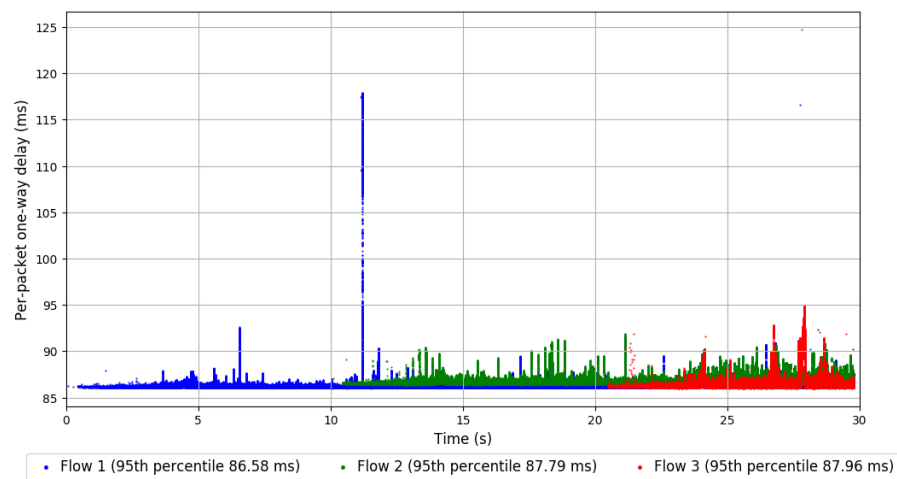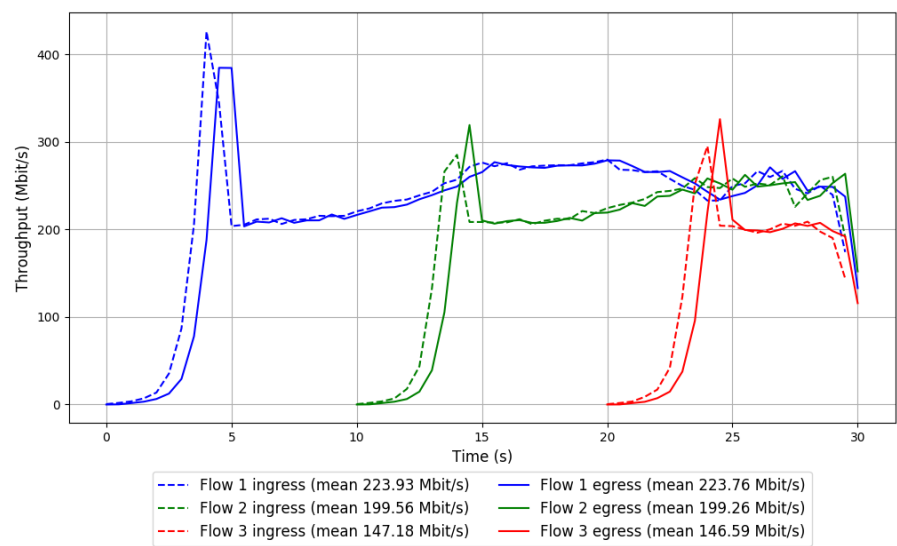
Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 223.93 Mbit/s) --- Flow 1 egress (mean 223.76 Mbit/s)
Flow 2 ingress (mean 199.56 Mbit/s) --- Flow 2 egress (mean 199.26 Mbit/s)
Flow 3 ingress (mean 147.18 Mbit/s) --- Flow 3 egress (mean 146.59 Mbit/s)

Flow 1 (95th percentile 86.58 ms)   Flow 2 (95th percentile 87.79 ms)   Flow 3 (95th percentile 87.96 ms)

287

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-06-19 00:40:09
End at: 2018-06-19 00:40:39
Local clock offset: 0.032 ms
Remote clock offset: 0.769 ms


# Below is generated by plot.py at 2018-06-19 05:21:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 508.33 Mbit/s
95th percentile per-packet one-way delay: 89.341 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 286.84 Mbit/s
95th percentile per-packet one-way delay: 87.252 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 252.40 Mbit/s
95th percentile per-packet one-way delay: 102.105 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 166.05 Mbit/s
95th percentile per-packet one-way delay: 88.731 ms
Loss rate: 2.95%
```
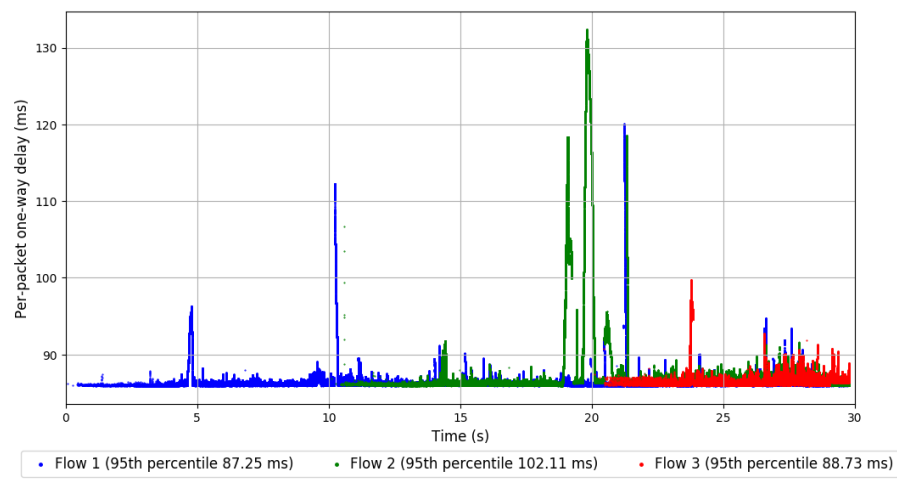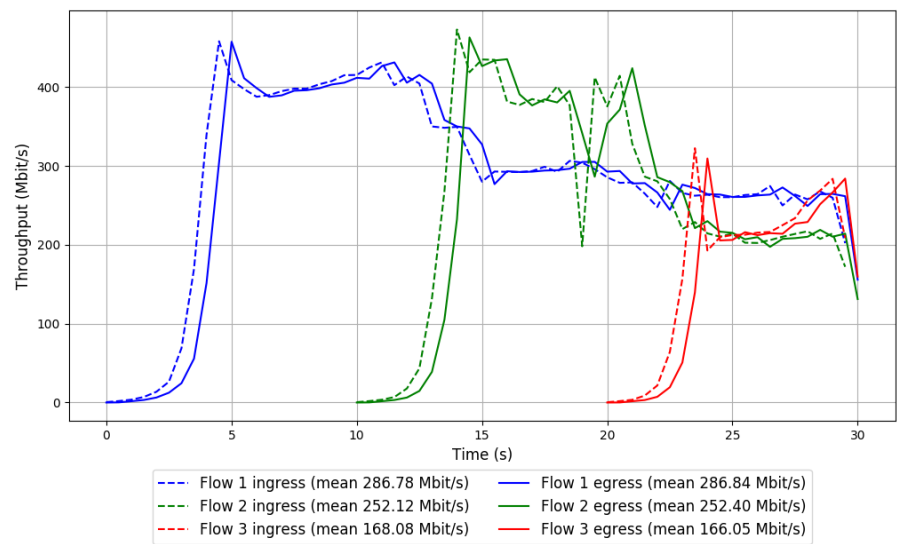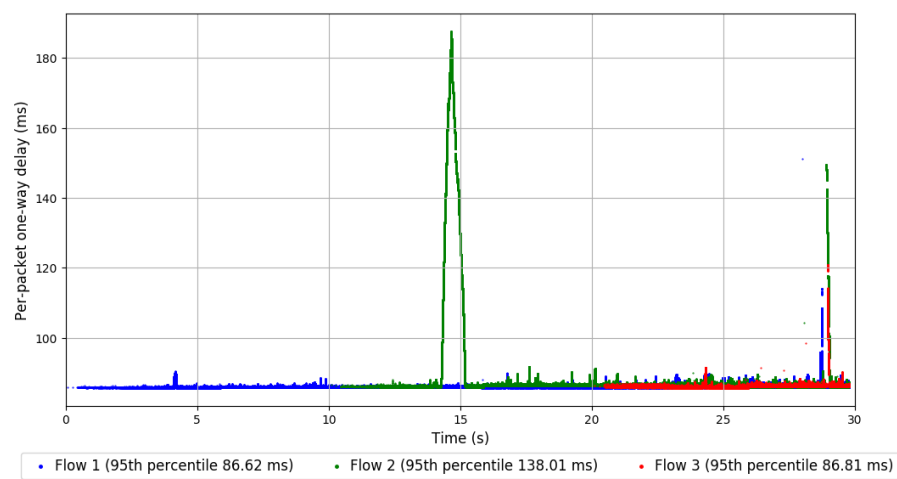
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 286.78 Mbit/s) --- Flow 1 egress (mean 286.84 Mbit/s)
Flow 2 ingress (mean 252.12 Mbit/s) --- Flow 2 egress (mean 252.40 Mbit/s)
Flow 3 ingress (mean 168.08 Mbit/s) --- Flow 3 egress (mean 166.05 Mbit/s)

Flow 1 (95th percentile 87.25 ms)   Flow 2 (95th percentile 102.11 ms)   Flow 3 (95th percentile 88.73 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-06-19 01:03:32
End at: 2018-06-19 01:04:02
Local clock offset: -0.163 ms
Remote clock offset: 0.114 ms


# Below is generated by plot.py at 2018-06-19 05:21:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 448.35 Mbit/s
95th percentile per-packet one-way delay: 88.576 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 226.80 Mbit/s
95th percentile per-packet one-way delay: 86.616 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 263.09 Mbit/s
95th percentile per-packet one-way delay: 138.006 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 144.40 Mbit/s
95th percentile per-packet one-way delay: 86.811 ms
Loss rate: 2.32%
```
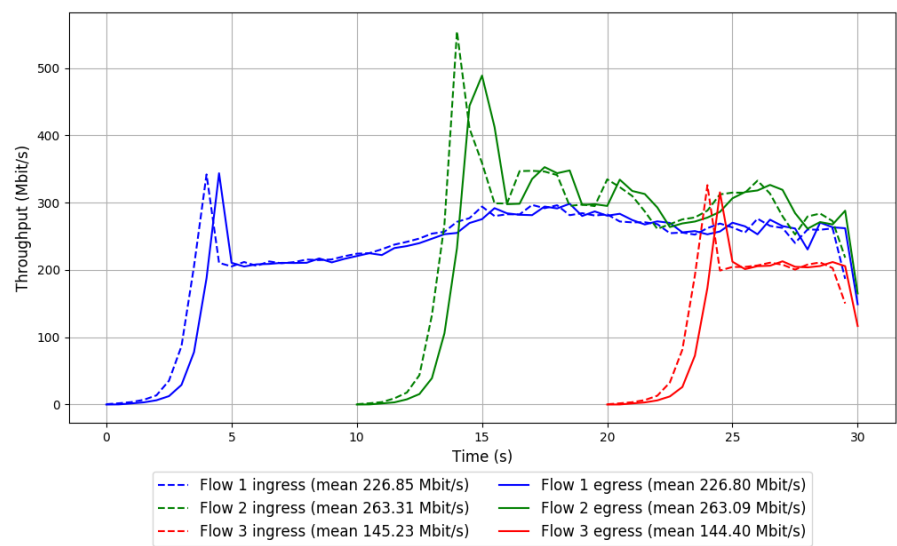
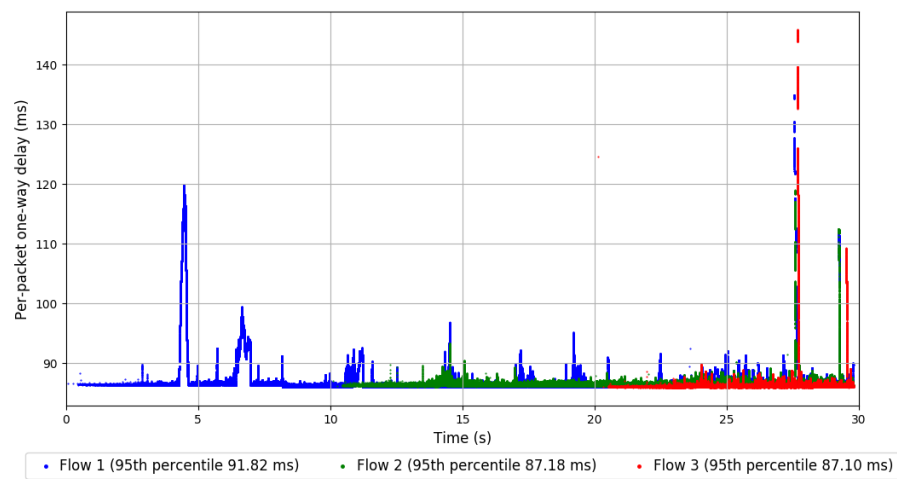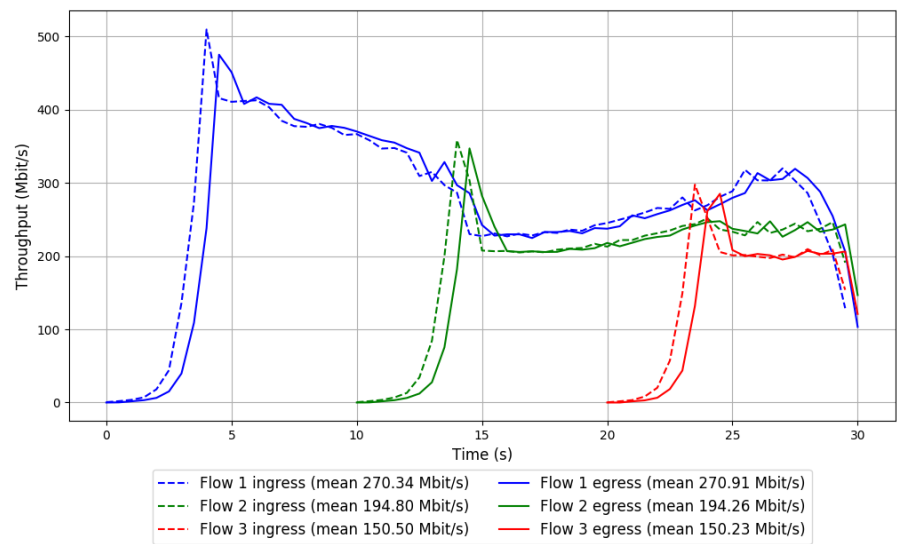# Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 226.85 Mbit/s) --- Flow 1 egress (mean 226.80 Mbit/s)
Flow 2 ingress (mean 263.31 Mbit/s) --- Flow 2 egress (mean 263.09 Mbit/s)
Flow 3 ingress (mean 145.23 Mbit/s) --- Flow 3 egress (mean 144.40 Mbit/s)

Flow 1 (95th percentile 86.62 ms) • Flow 2 (95th percentile 138.01 ms) • Flow 3 (95th percentile 86.81 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-06-19 01:26:49
End at: 2018-06-19 01:27:19
Local clock offset: -0.005 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-06-19 05:21:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 448.47 Mbit/s
95th percentile per-packet one-way delay: 89.334 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 270.91 Mbit/s
95th percentile per-packet one-way delay: 91.824 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 194.26 Mbit/s
95th percentile per-packet one-way delay: 87.177 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 150.23 Mbit/s
95th percentile per-packet one-way delay: 87.100 ms
Loss rate: 2.32%
```

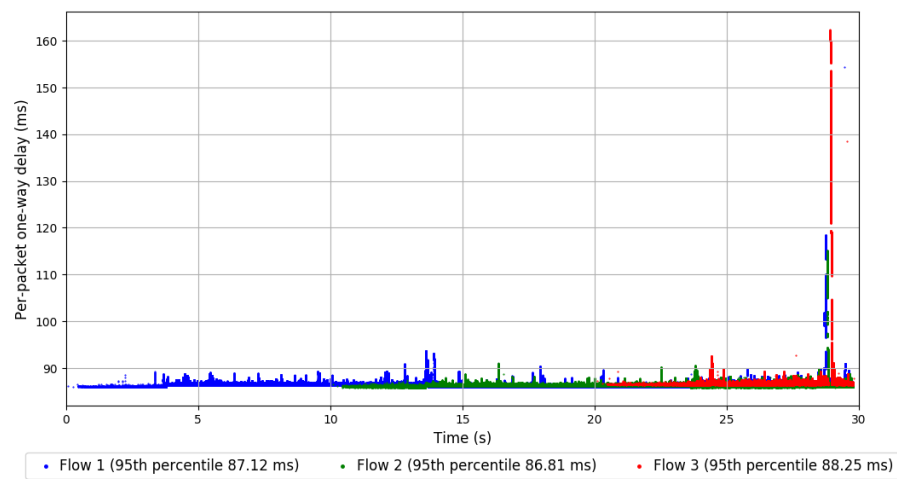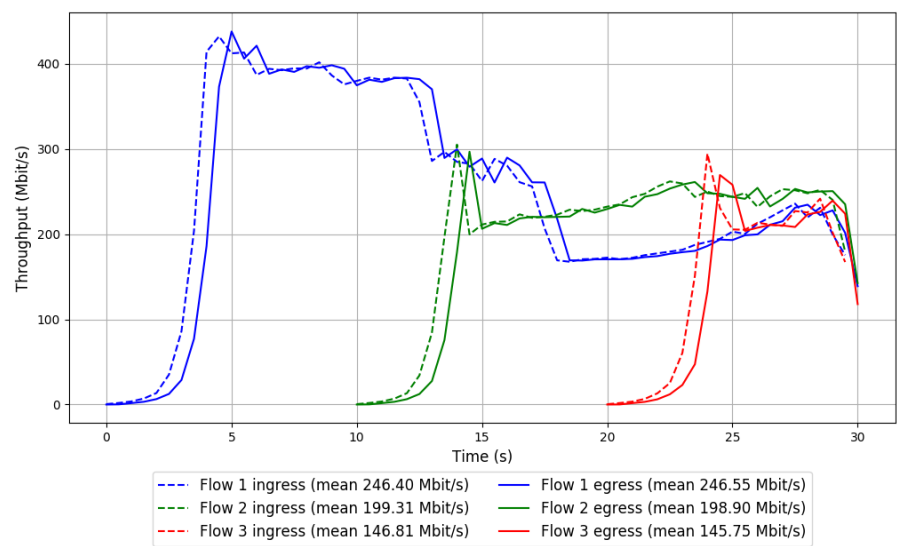# Run 5: Report of PCC-Vivace — Data Link

```
Run 6: Statistics of PCC-Vivace

Start at: 2018-06-19 01:50:04
End at: 2018-06-19 01:50:34
Local clock offset: 0.086 ms
Remote clock offset: -0.138 ms


# Below is generated by plot.py at 2018-06-19 05:21:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.95 Mbit/s
95th percentile per-packet one-way delay: 87.148 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 246.55 Mbit/s
95th percentile per-packet one-way delay: 87.122 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 198.90 Mbit/s
95th percentile per-packet one-way delay: 86.806 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 145.75 Mbit/s
95th percentile per-packet one-way delay: 88.254 ms
Loss rate: 2.46%
```
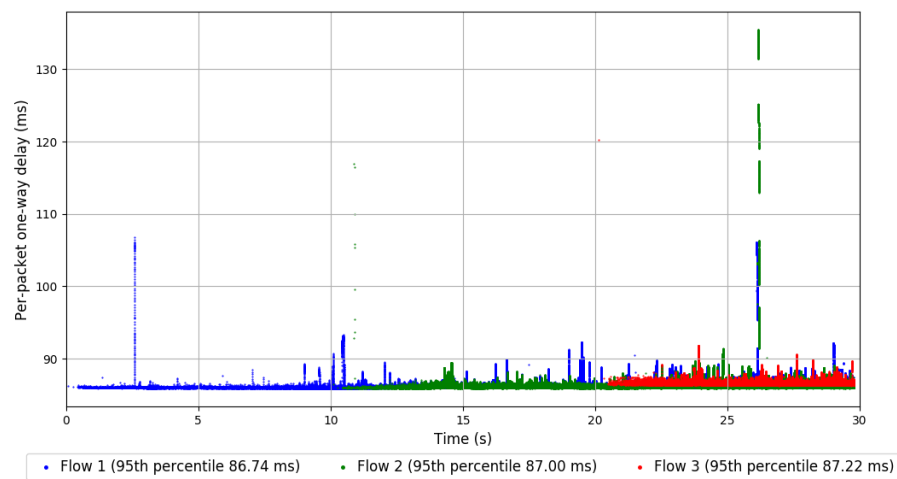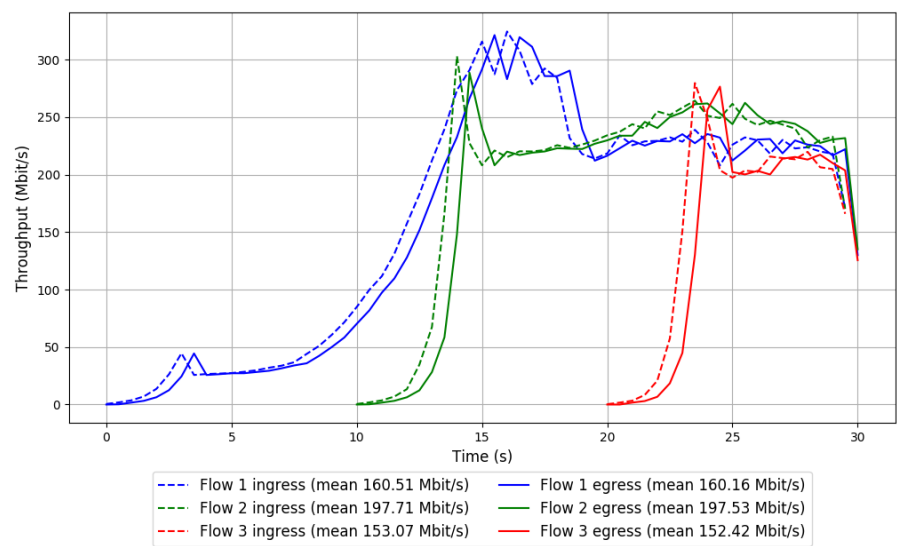
Run 6: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 246.40 Mbit/s) —— Flow 1 egress (mean 246.55 Mbit/s)
- - - Flow 2 ingress (mean 199.31 Mbit/s) —— Flow 2 egress (mean 198.90 Mbit/s)
- - - Flow 3 ingress (mean 146.81 Mbit/s) —— Flow 3 egress (mean 145.75 Mbit/s)

- Flow 1 (95th percentile 87.12 ms)   • Flow 2 (95th percentile 86.81 ms)   • Flow 3 (95th percentile 88.25 ms)
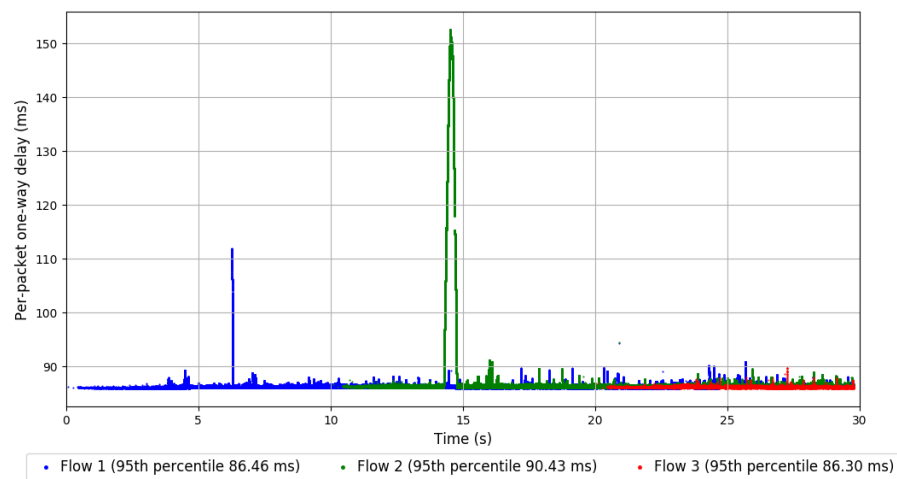
```
Run 7: Statistics of PCC-Vivace

Start at: 2018-06-19 02:13:17
End at: 2018-06-19 02:13:47
Local clock offset: 0.04 ms
Remote clock offset: -0.149 ms


# Below is generated by plot.py at 2018-06-19 05:21:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.66 Mbit/s
95th percentile per-packet one-way delay: 86.974 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 160.16 Mbit/s
95th percentile per-packet one-way delay: 86.744 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 197.53 Mbit/s
95th percentile per-packet one-way delay: 87.002 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 152.42 Mbit/s
95th percentile per-packet one-way delay: 87.220 ms
Loss rate: 2.52%
```

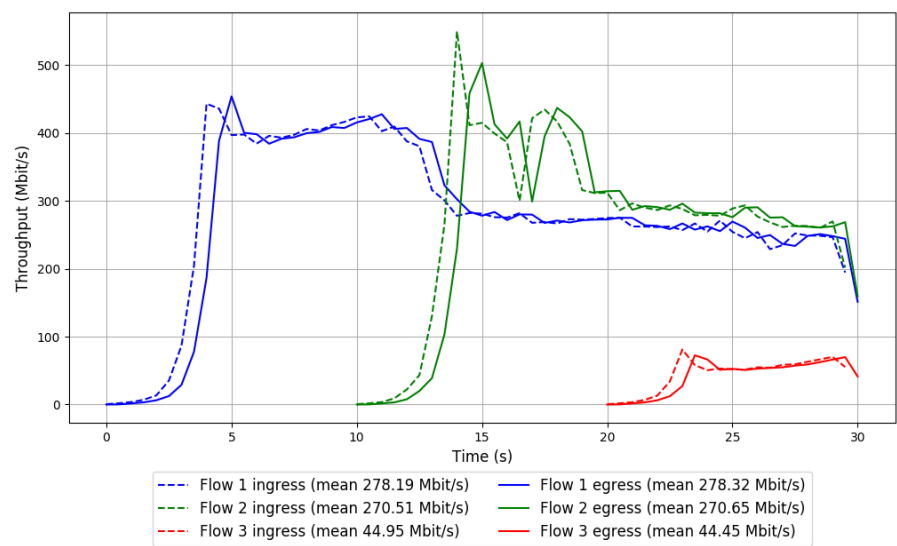# Run 7: Report of PCC-Vivace — Data Link

```
Run 8: Statistics of PCC-Vivace

Start at: 2018-06-19 02:36:13
End at: 2018-06-19 02:36:43
Local clock offset: 0.029 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2018-06-19 05:22:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 472.31 Mbit/s
95th percentile per-packet one-way delay: 86.790 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 278.32 Mbit/s
95th percentile per-packet one-way delay: 86.463 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 270.65 Mbit/s
95th percentile per-packet one-way delay: 90.429 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 44.45 Mbit/s
95th percentile per-packet one-way delay: 86.296 ms
Loss rate: 2.93%
```
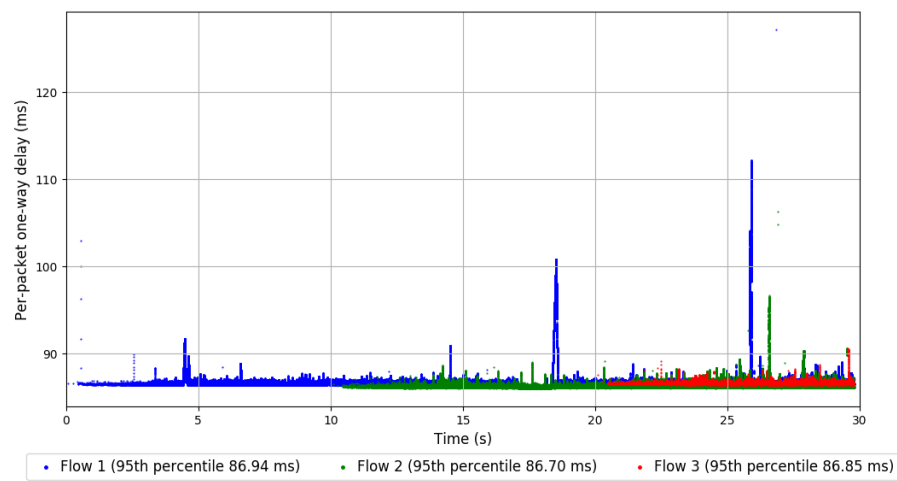
Run 8: Report of PCC-Vivace — Data Link

```
Run 9: Statistics of PCC-Vivace

Start at: 2018-06-19 02:59:18
End at: 2018-06-19 02:59:48
Local clock offset: 0.072 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2018-06-19 05:23:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 424.25 Mbit/s
95th percentile per-packet one-way delay: 86.883 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 267.87 Mbit/s
95th percentile per-packet one-way delay: 86.938 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 196.16 Mbit/s
95th percentile per-packet one-way delay: 86.705 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 80.76 Mbit/s
95th percentile per-packet one-way delay: 86.847 ms
Loss rate: 2.60%
```
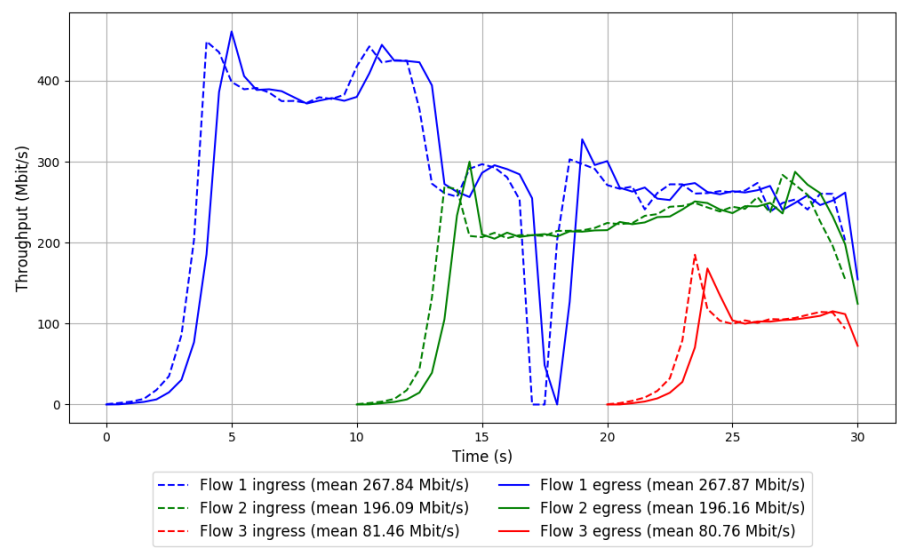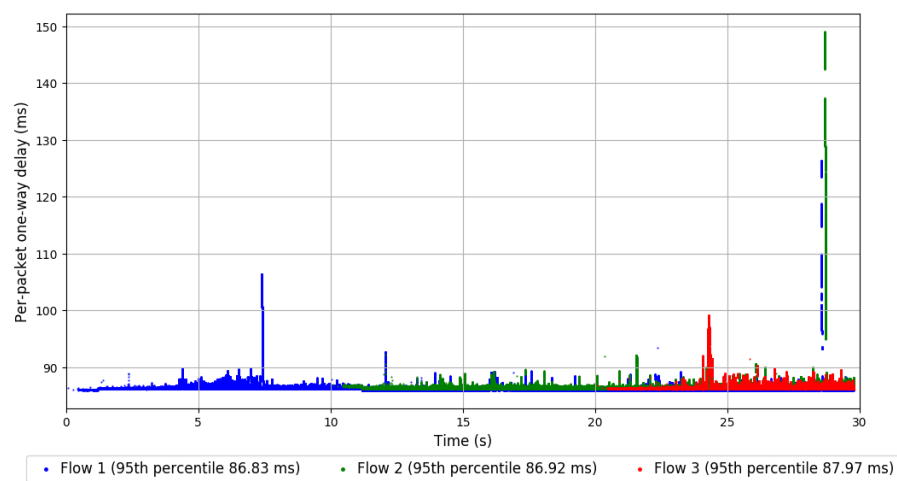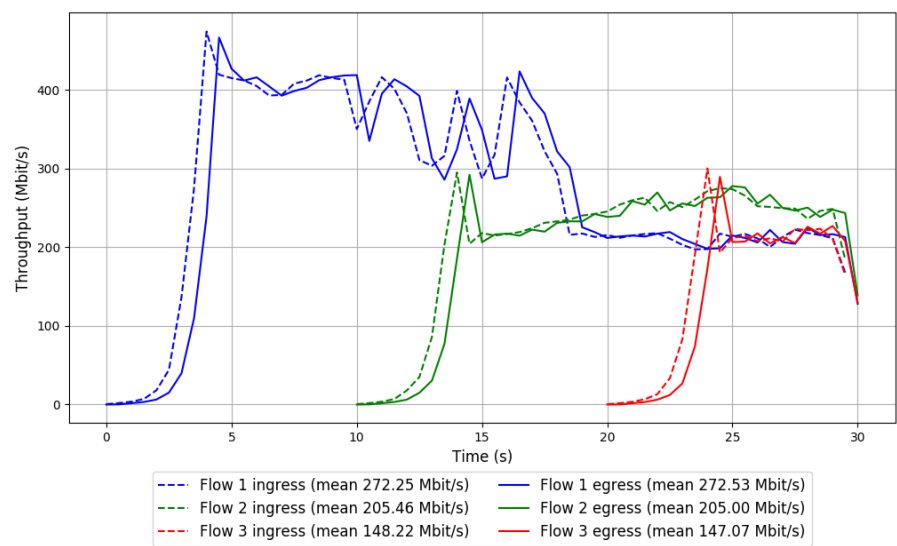
Run 9: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 267.84 Mbit/s) —— Flow 1 egress (mean 267.87 Mbit/s)
- - - - Flow 2 ingress (mean 196.09 Mbit/s) —— Flow 2 egress (mean 196.16 Mbit/s)
- - - - Flow 3 ingress (mean 81.46 Mbit/s) —— Flow 3 egress (mean 80.76 Mbit/s)

- Flow 1 (95th percentile 86.94 ms) • Flow 2 (95th percentile 86.70 ms) • Flow 3 (95th percentile 86.85 ms)

```
Run 10: Statistics of PCC-Vivace

Start at: 2018-06-19 03:22:27
End at: 2018-06-19 03:22:57
Local clock offset: 0.1 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 456.43 Mbit/s
95th percentile per-packet one-way delay: 86.973 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 272.53 Mbit/s
95th percentile per-packet one-way delay: 86.825 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 205.00 Mbit/s
95th percentile per-packet one-way delay: 86.923 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 147.07 Mbit/s
95th percentile per-packet one-way delay: 87.970 ms
Loss rate: 2.52%
```

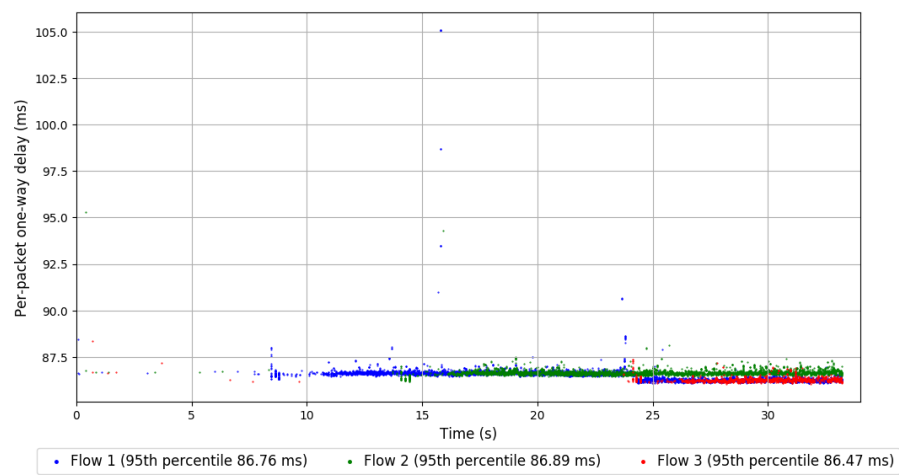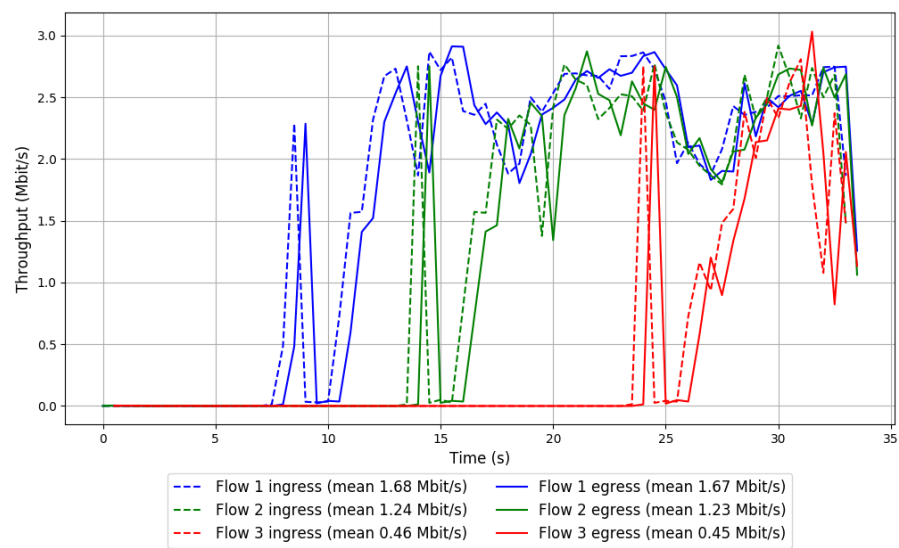# Run 10: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-06-18 23:57:07
End at: 2018-06-18 23:57:37
Local clock offset: 0.072 ms
Remote clock offset: 0.085 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 86.811 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 86.763 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 86.888 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 86.465 ms
Loss rate: 3.12%
```
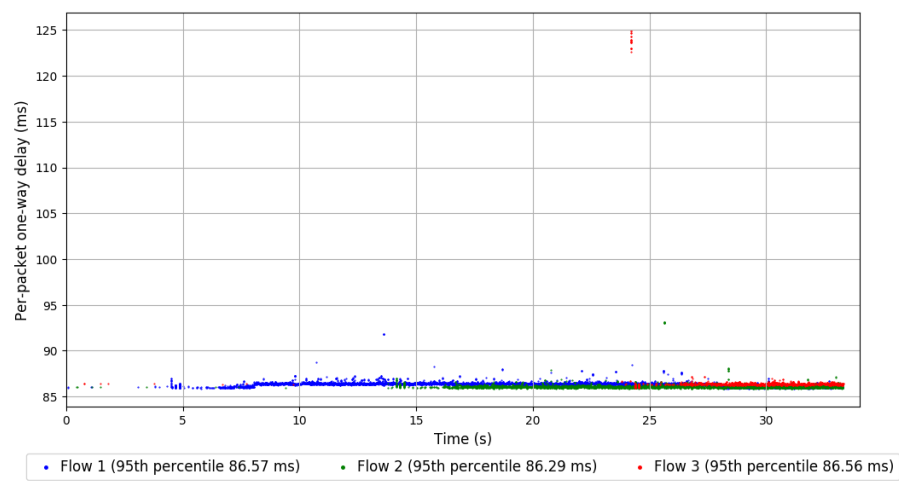
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-06-19 00:20:13
End at: 2018-06-19 00:20:43
Local clock offset: -0.068 ms
Remote clock offset: 0.524 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 86.534 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 86.571 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 86.287 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.560 ms
Loss rate: 2.84%
```
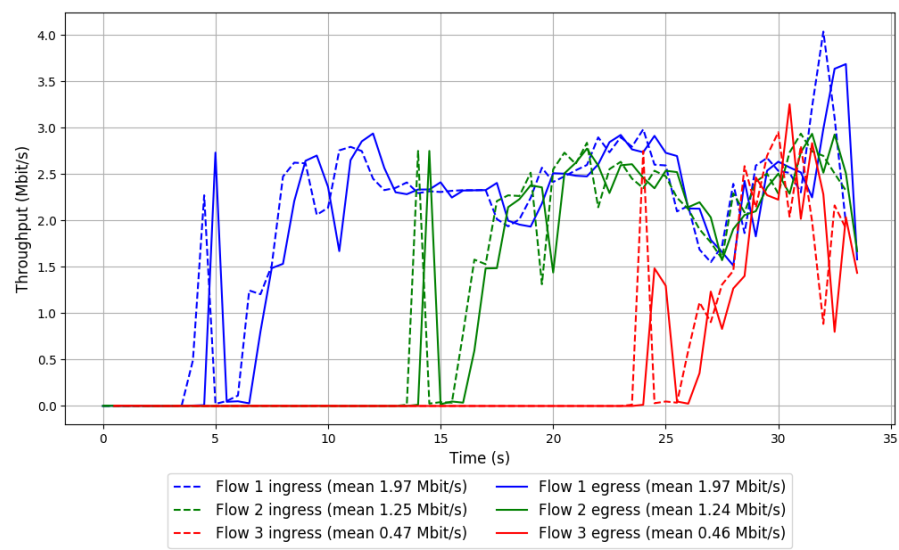
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-06-19 00:43:18
End at: 2018-06-19 00:43:48
Local clock offset: -0.08 ms
Remote clock offset: 0.813 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 86.274 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 86.370 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 86.187 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 86.175 ms
Loss rate: 2.42%
```
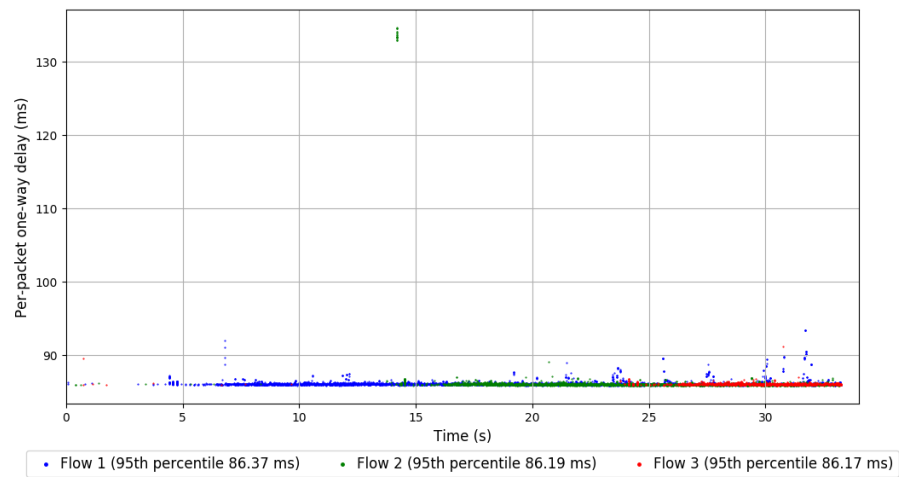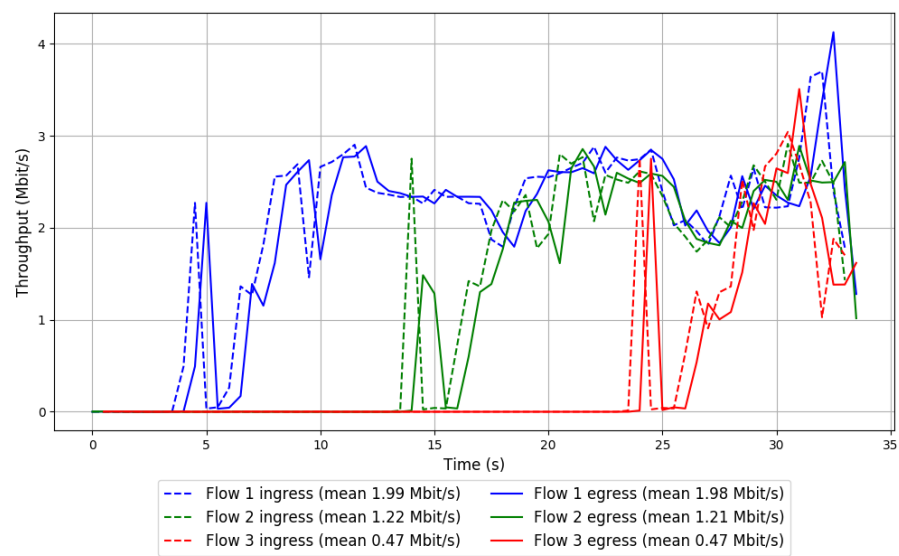
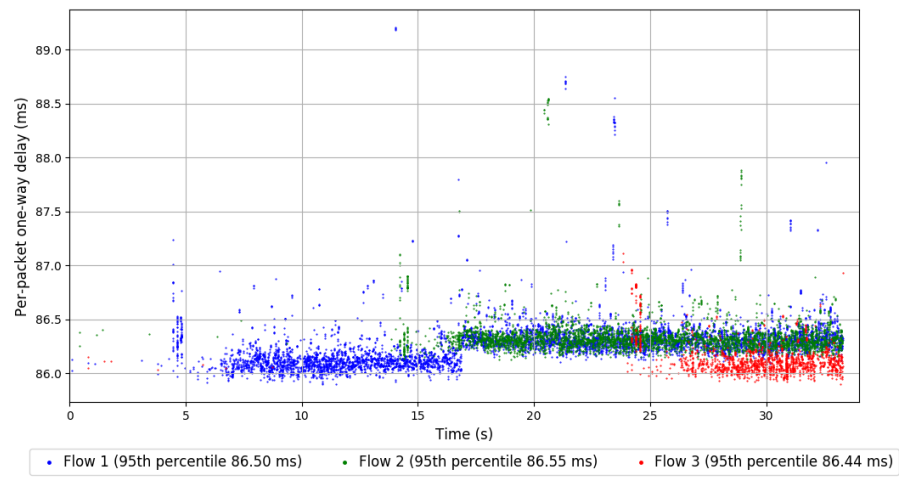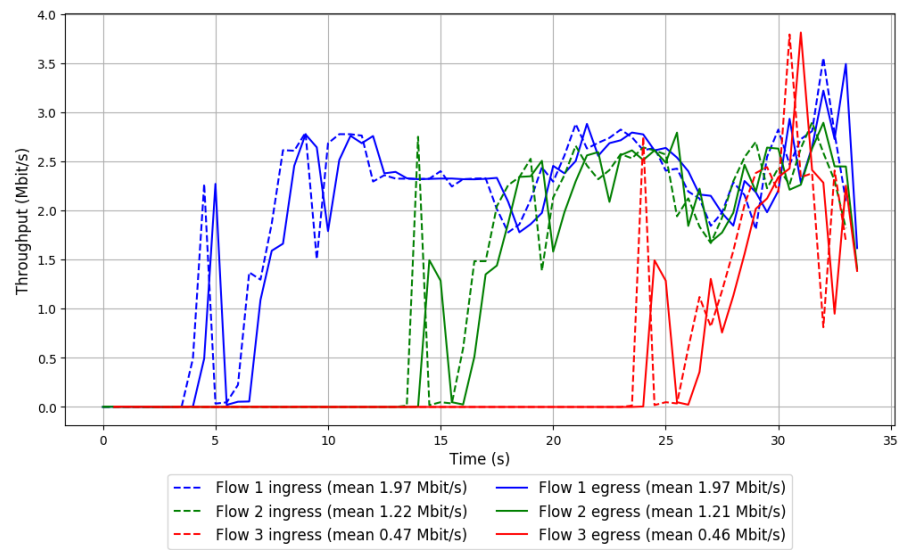Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-06-19 01:06:44
End at: 2018-06-19 01:07:14
Local clock offset: -0.05 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 86.506 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 86.497 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 86.545 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.439 ms
Loss rate: 2.28%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-06-19 01:29:59
End at: 2018-06-19 01:30:29
Local clock offset: -0.219 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 86.455 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 86.141 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.086 ms
Loss rate: 2.58%
```
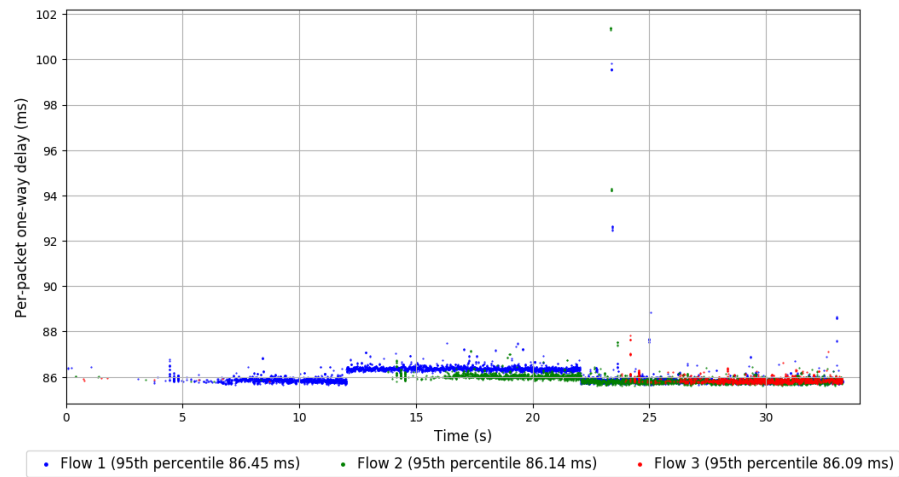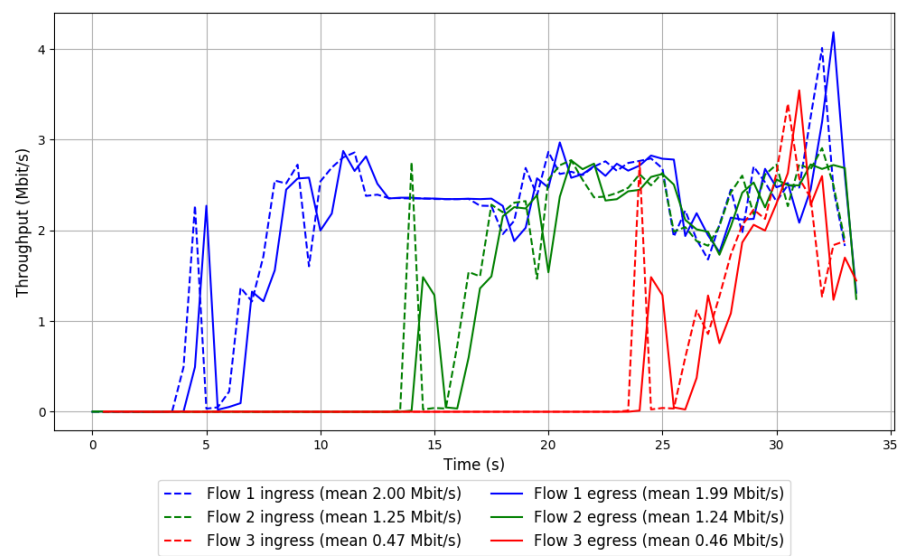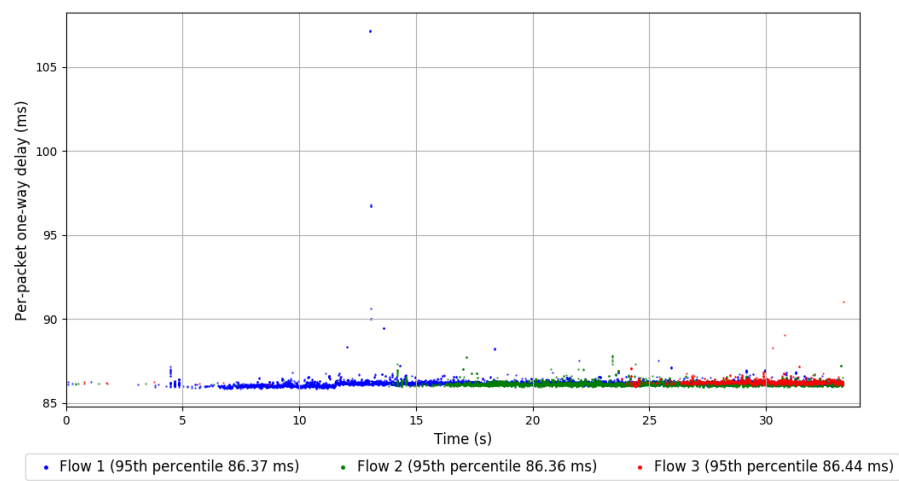
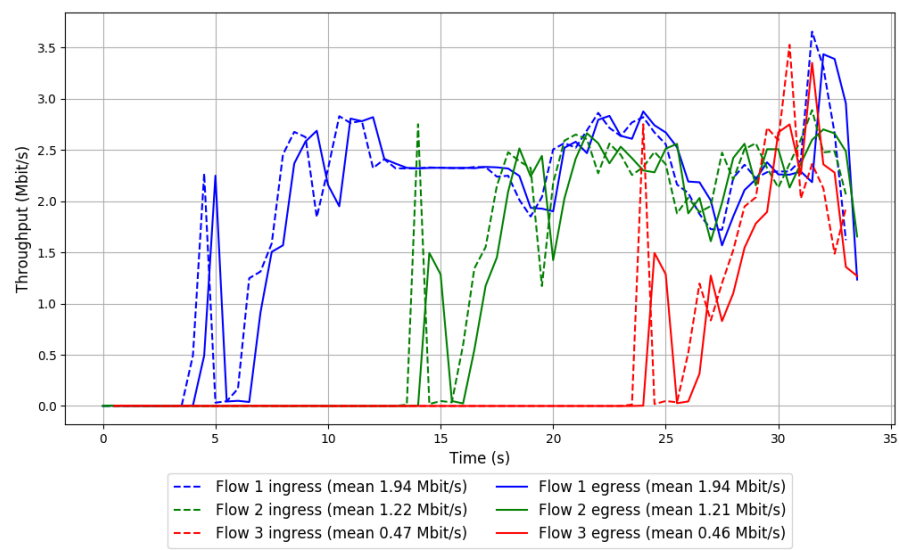Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-06-19 01:53:10
End at: 2018-06-19 01:53:40
Local clock offset: 0.049 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 86.390 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 86.372 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 86.362 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.442 ms
Loss rate: 3.24%
```

Run 6: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.94 Mbit/s)   Flow 1 egress (mean 1.94 Mbit/s)
Flow 2 ingress (mean 1.22 Mbit/s)   Flow 2 egress (mean 1.21 Mbit/s)
Flow 3 ingress (mean 0.47 Mbit/s)   Flow 3 egress (mean 0.46 Mbit/s)

Flow 1 (95th percentile 86.37 ms)   Flow 2 (95th percentile 86.36 ms)   Flow 3 (95th percentile 86.44 ms)
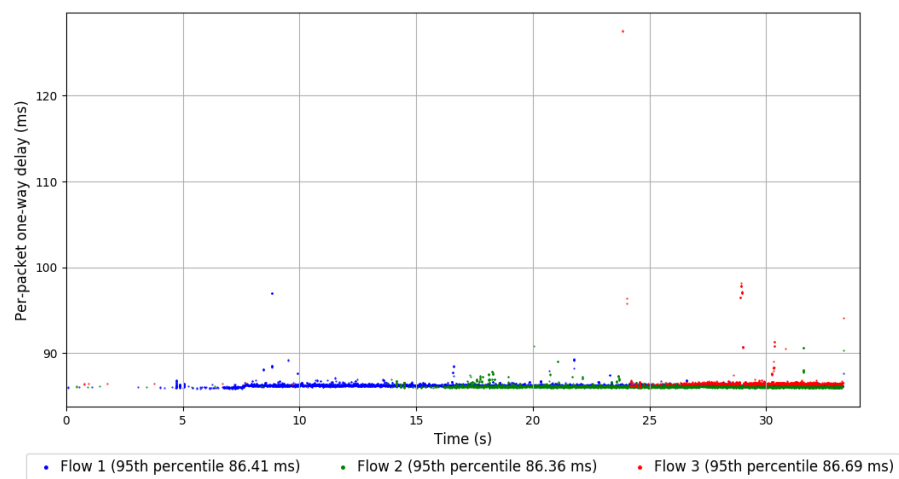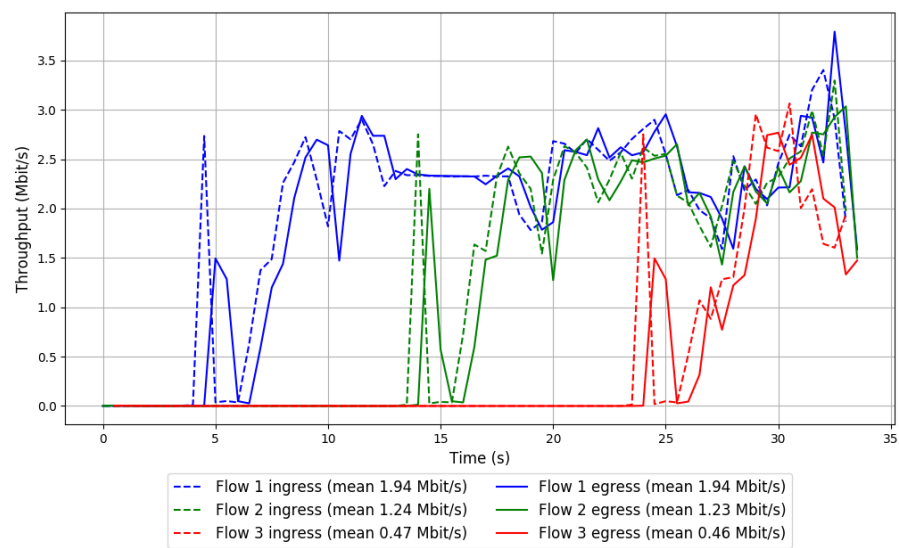
315

```
Run 7: Statistics of WebRTC media

Start at: 2018-06-19 02:16:14
End at: 2018-06-19 02:16:44
Local clock offset: -0.026 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 86.516 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 86.409 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 86.364 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.686 ms
Loss rate: 2.67%
```

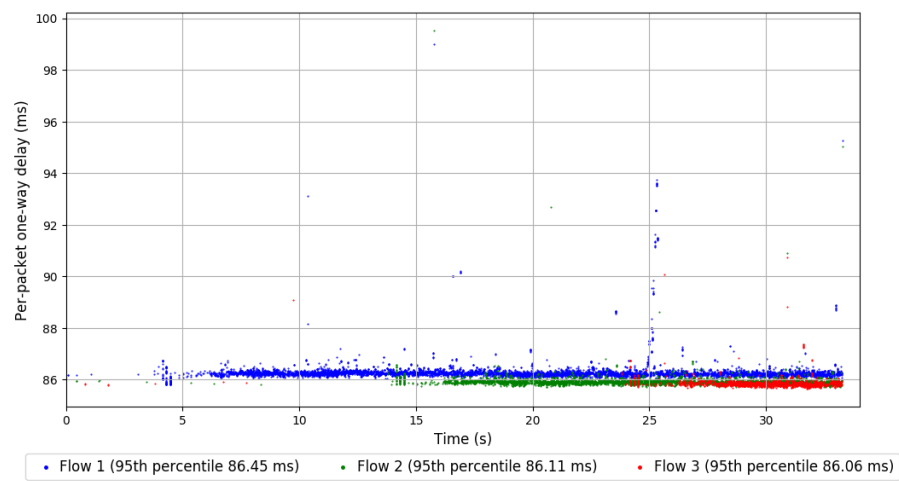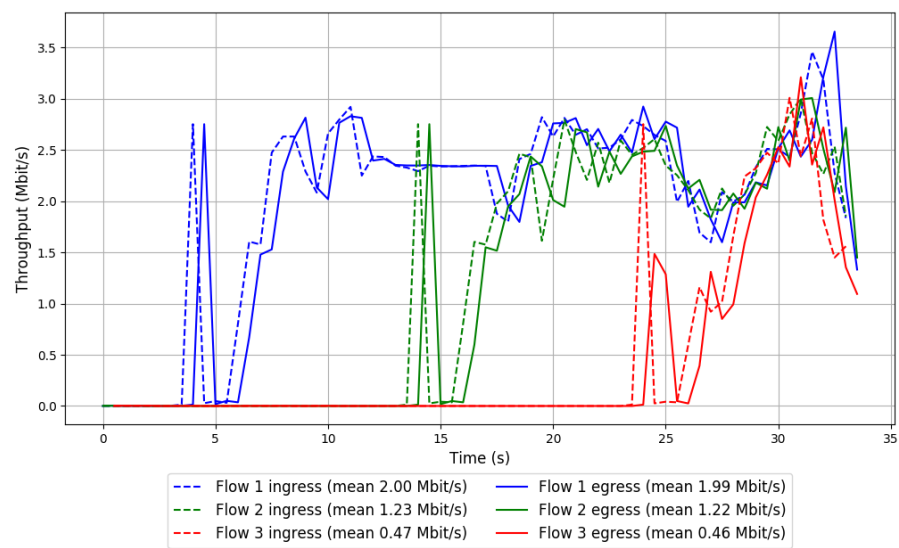Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-06-19 02:39:19
End at: 2018-06-19 02:39:49
Local clock offset: -0.193 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 86.384 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 86.453 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 86.109 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.063 ms
Loss rate: 2.62%
```

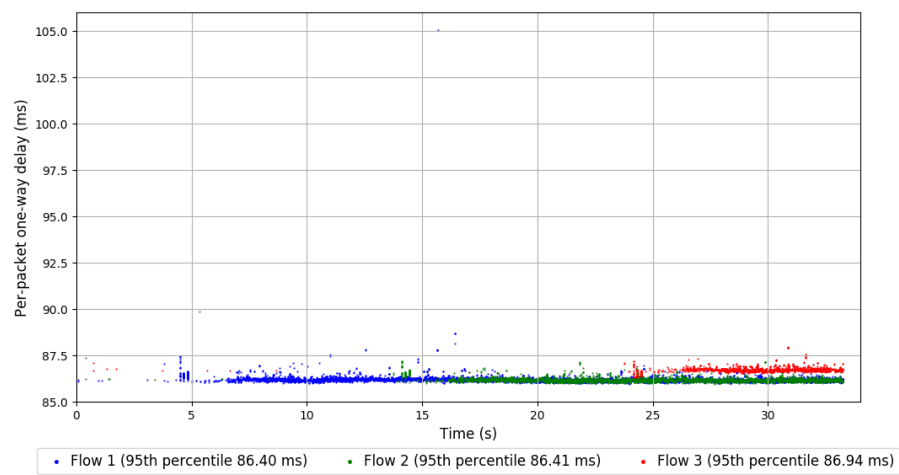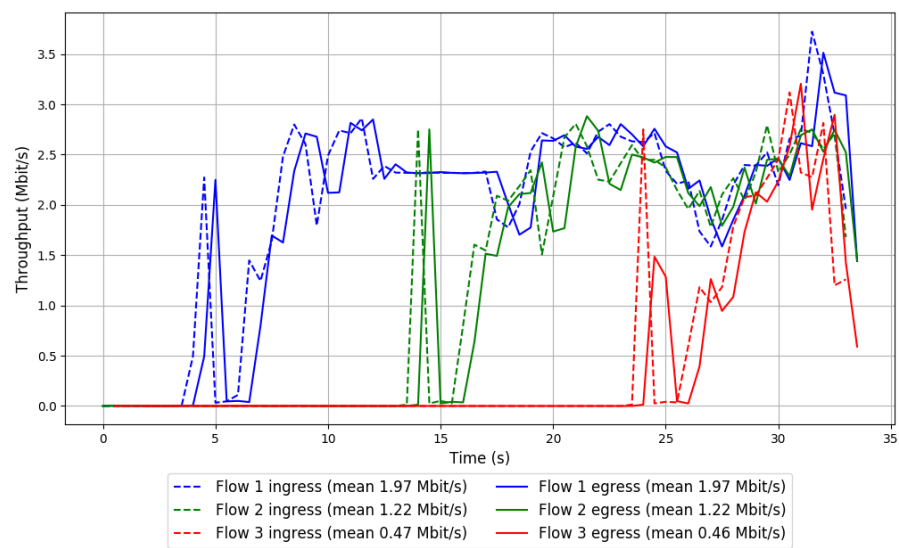Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-06-19 03:02:21
End at: 2018-06-19 03:02:51
Local clock offset: 0.171 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 86.748 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 86.396 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 86.405 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 86.942 ms
Loss rate: 2.46%
```

Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-06-19 03:25:35
End at: 2018-06-19 03:26:05
Local clock offset: -0.208 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2018-06-19 05:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 86.090 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 86.116 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 86.032 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 86.112 ms
Loss rate: 1.67%
```

Run 10: Report of WebRTC media — Data Link