Pantheon Report

Generated at 2019-04-24 03:55:32 (UTC).

Data path: AWS India 2 on `ens5` (*local*) →Saudi Arabia on `enp2s0` (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.
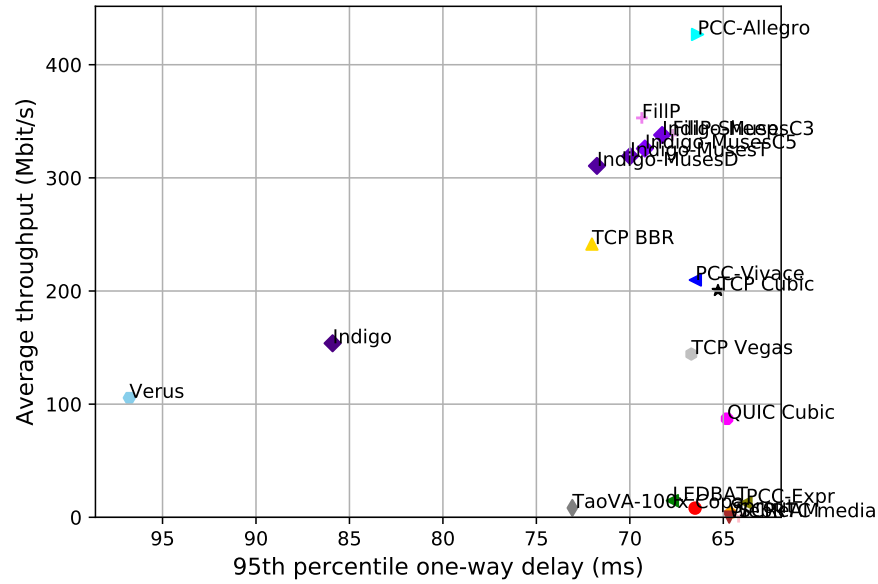
```
System info:
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```
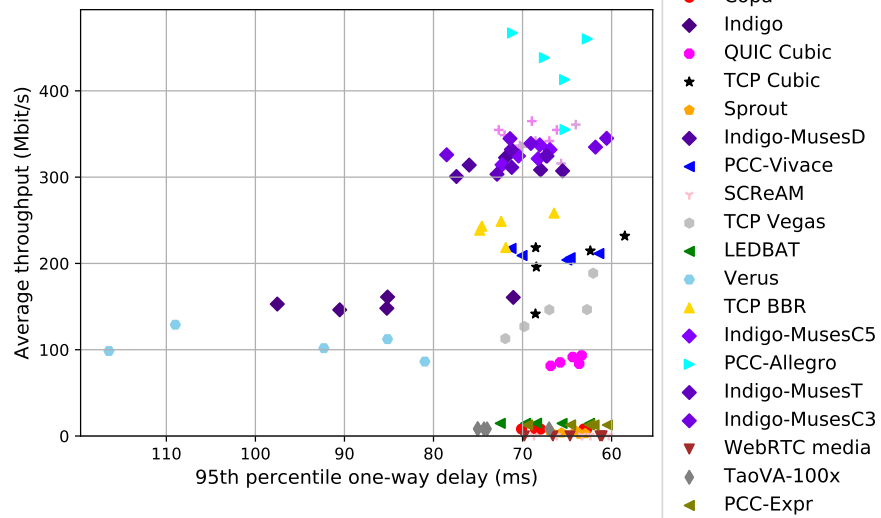
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
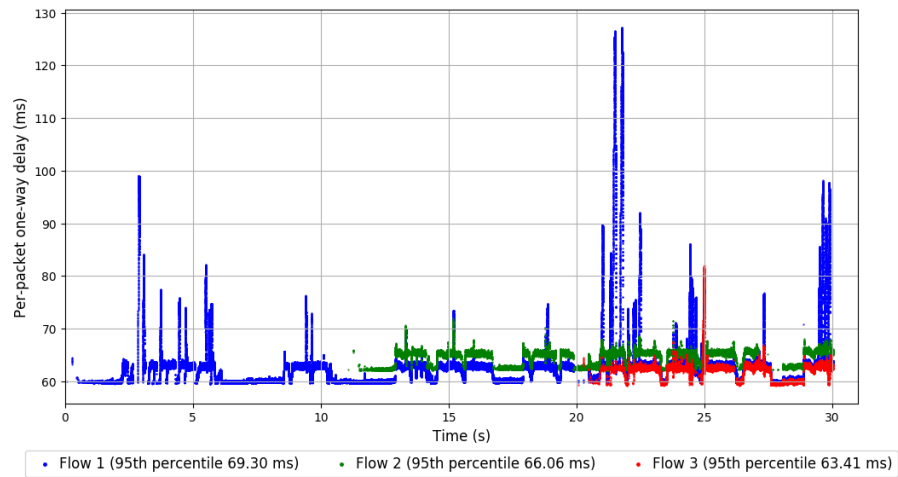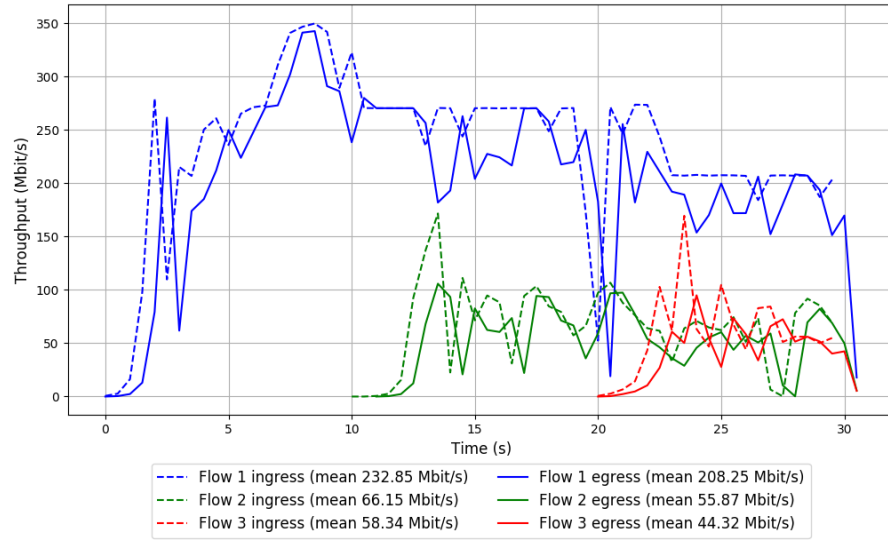3 flows with 10s interval between flows

3

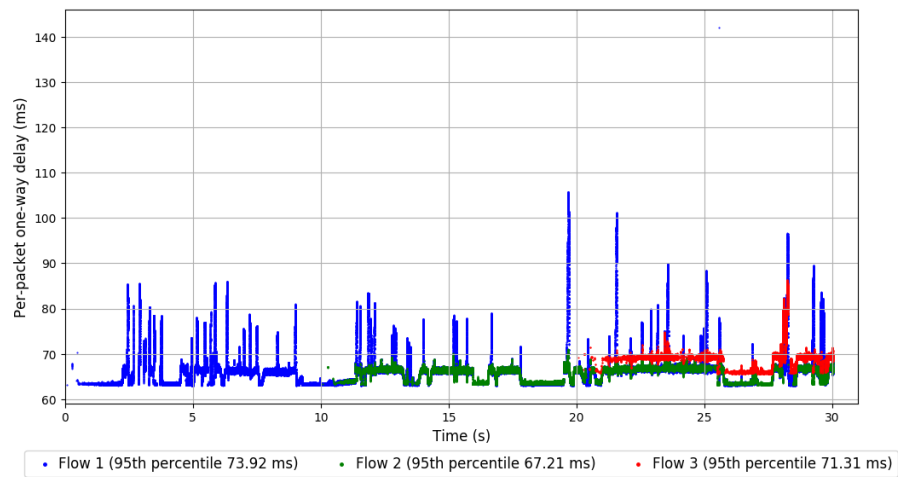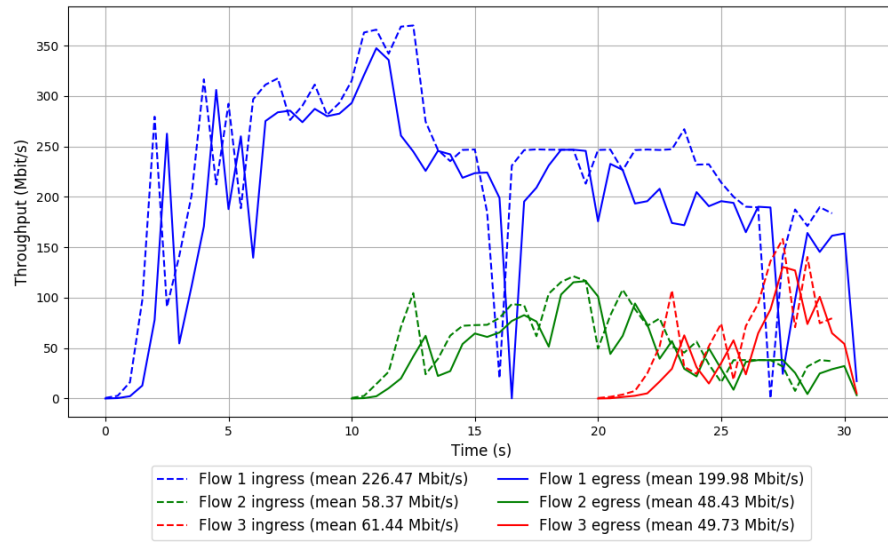| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	191.92	53.90	44.90	73.72	67.59	67.13	11.20	18.47	21.97
Copa	5	0.00	9.99	4.38	64.91	66.67	65.75	98.08	64.10	74.52
TCP Cubic	5	97.58	113.83	81.25	64.69	64.41	64.60	1.38	1.31	1.32
FillP	5	242.68	118.07	96.00	68.85	68.53	69.48	22.70	24.59	24.25
FillP-Sheep	5	232.72	106.71	103.49	67.19	67.05	67.44	13.89	12.39	13.53
Indigo	5	77.87	86.29	60.16	81.96	88.72	86.35	12.44	19.67	29.22
Indigo-MusesC3	5	327.75	10.06	12.50	68.48	66.80	65.57	13.22	9.38	8.96
Indigo-MusesC5	5	325.08	0.86	0.93	69.19	68.18	69.88	26.10	29.96	26.66
Indigo-MusesD	5	280.11	34.73	27.68	72.39	65.55	66.36	13.07	9.15	7.84
Indigo-MusesT	5	281.05	44.20	32.82	69.78	70.96	69.81	10.73	8.47	6.76
LEDBAT	5	9.50	6.33	3.03	67.66	67.34	67.67	0.00	0.00	0.00
PCC-Allegro	5	381.94	35.34	64.68	65.62	65.89	66.06	5.19	2.06	3.17
PCC-Expr	5	9.20	4.21	2.50	63.77	63.80	63.83	36.38	43.89	48.35
QUIC Cubic	5	51.17	40.45	28.07	64.24	64.35	65.79	0.01	0.03	0.03
SCReAM	5	0.22	0.22	0.22	63.26	63.27	63.31	0.00	0.00	0.00
Sprout	5	2.14	1.89	1.64	63.89	63.94	63.94	0.00	0.00	0.00
TaoVA-100x	5	0.00	9.49	5.88	64.58	75.16	66.93	95.92	29.13	36.21
TCP Vegas	5	74.48	49.44	110.76	66.70	65.09	67.31	2.12	2.25	2.45
Verus	5	70.10	47.34	27.93	95.85	96.49	79.36	59.95	56.91	35.00
PCC-Vivace	5	186.62	28.00	13.56	66.54	65.47	66.66	1.47	0.91	1.73
WebRTC media	5	0.05	0.05	0.05	64.31	65.60	64.59	0.00	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2019-04-24 00:15:13
End at: 2019-04-24 00:15:43
Local clock offset: -2.662 ms
Remote clock offset: -38.569 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.34 Mbit/s
95th percentile per-packet one-way delay: 66.462 ms
Loss rate: 12.81%
-- Flow 1:
Average throughput: 208.25 Mbit/s
95th percentile per-packet one-way delay: 69.299 ms
Loss rate: 10.55%
-- Flow 2:
Average throughput: 55.87 Mbit/s
95th percentile per-packet one-way delay: 66.058 ms
Loss rate: 19.79%
-- Flow 3:
Average throughput: 44.32 Mbit/s
95th percentile per-packet one-way delay: 63.414 ms
Loss rate: 24.00%
```

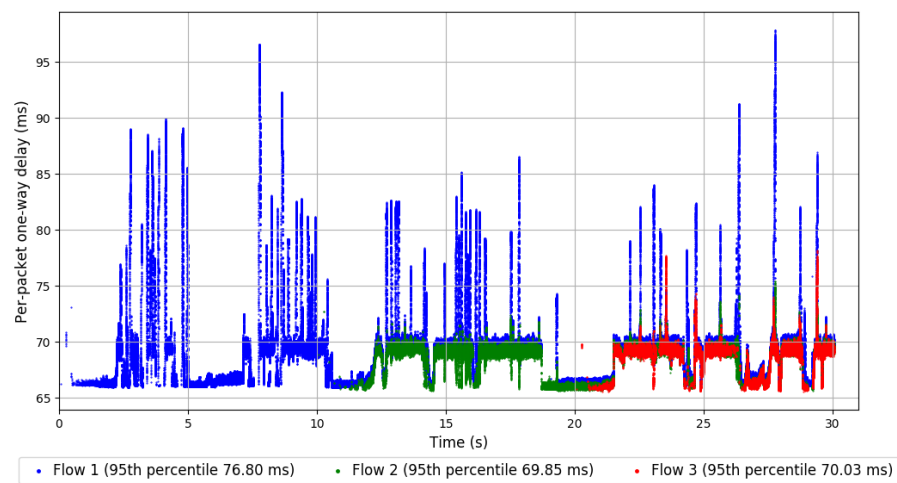Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-04-24 01:02:18
End at: 2019-04-24 01:02:48
Local clock offset: -1.998 ms
Remote clock offset: -34.011 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 248.75 Mbit/s
95th percentile per-packet one-way delay: 72.408 ms
Loss rate: 12.94%
-- Flow 1:
Average throughput: 199.98 Mbit/s
95th percentile per-packet one-way delay: 73.915 ms
Loss rate: 11.69%
-- Flow 2:
Average throughput: 48.43 Mbit/s
95th percentile per-packet one-way delay: 67.211 ms
Loss rate: 17.01%
-- Flow 3:
Average throughput: 49.73 Mbit/s
95th percentile per-packet one-way delay: 71.307 ms
Loss rate: 19.06%
```
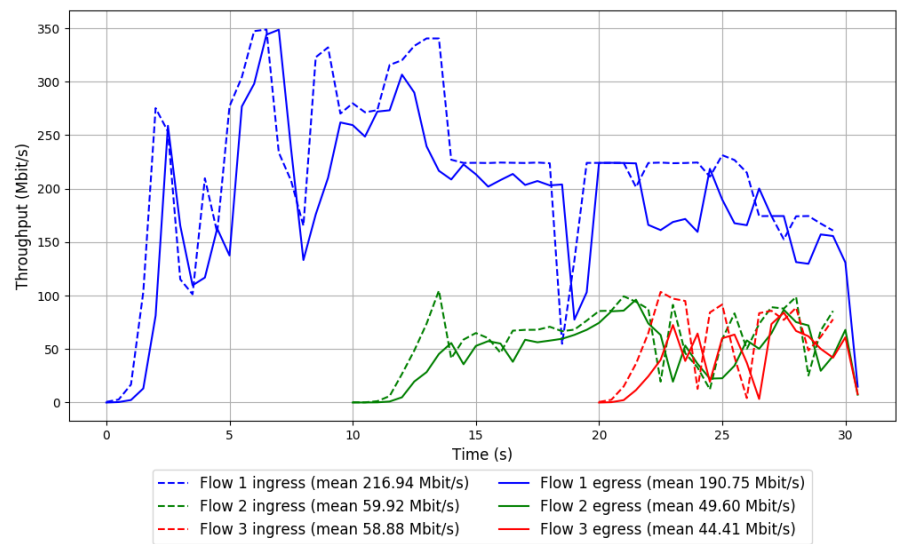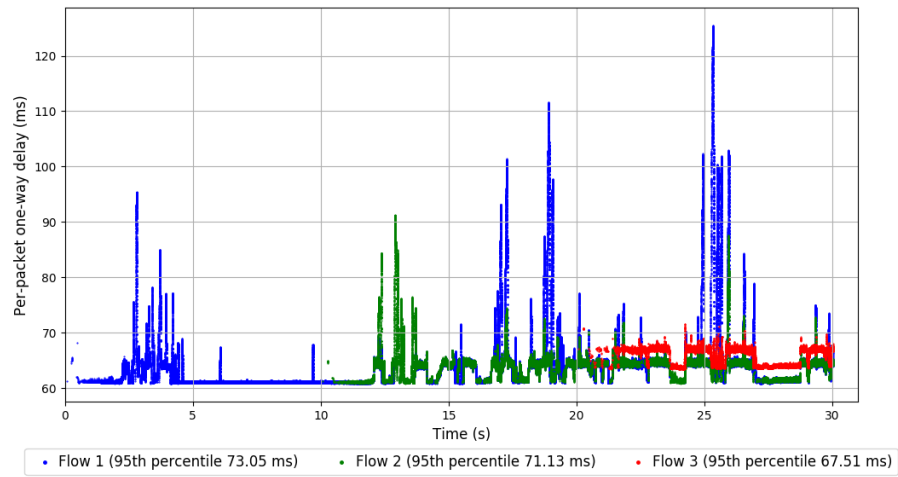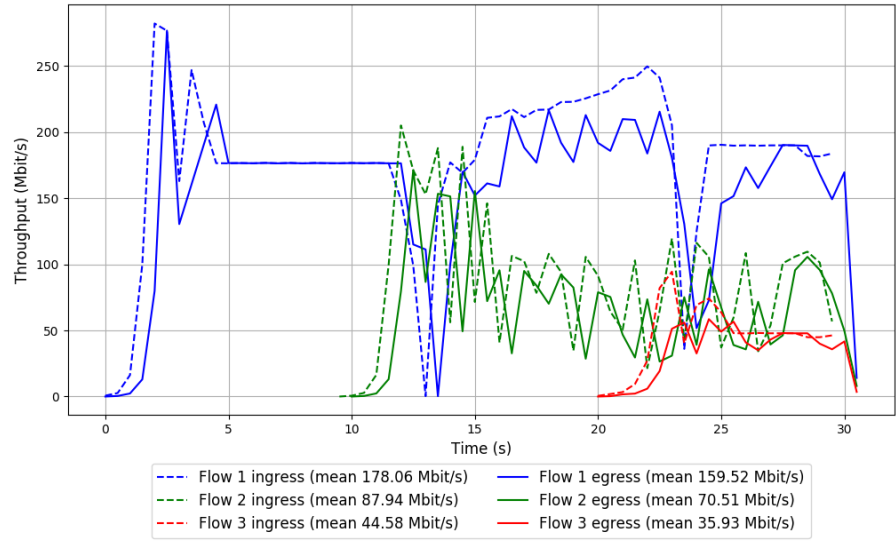
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 226.47 Mbit/s) --- Flow 1 egress (mean 199.98 Mbit/s)
Flow 2 ingress (mean 58.37 Mbit/s) --- Flow 2 egress (mean 48.43 Mbit/s)
Flow 3 ingress (mean 61.44 Mbit/s) --- Flow 3 egress (mean 49.73 Mbit/s)

Flow 1 (95th percentile 73.92 ms) • Flow 2 (95th percentile 67.21 ms) • Flow 3 (95th percentile 71.31 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2019-04-24 01:33:14
End at: 2019-04-24 01:33:44
Local clock offset: -2.909 ms
Remote clock offset: -31.561 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 238.55 Mbit/s
95th percentile per-packet one-way delay: 74.810 ms
Loss rate: 13.69%
-- Flow 1:
Average throughput: 190.75 Mbit/s
95th percentile per-packet one-way delay: 76.800 ms
Loss rate: 12.07%
-- Flow 2:
Average throughput: 49.60 Mbit/s
95th percentile per-packet one-way delay: 69.847 ms
Loss rate: 17.22%
-- Flow 3:
Average throughput: 44.41 Mbit/s
95th percentile per-packet one-way delay: 70.032 ms
Loss rate: 24.54%
```
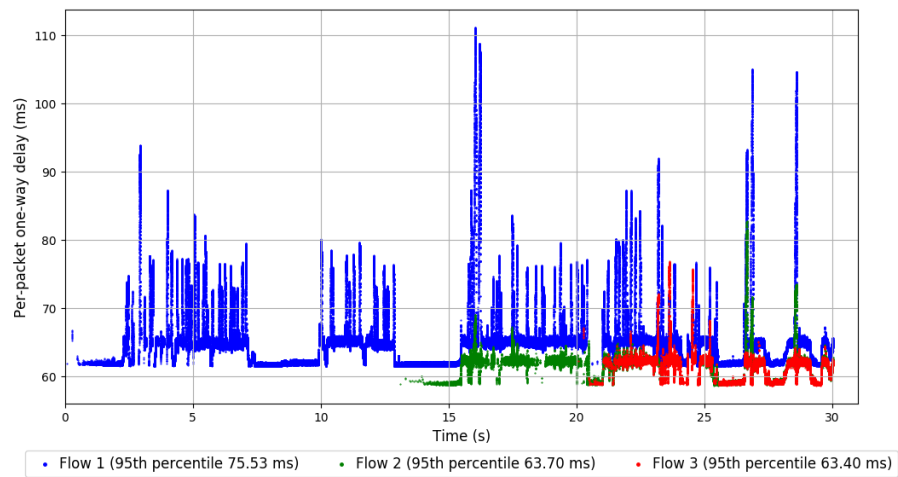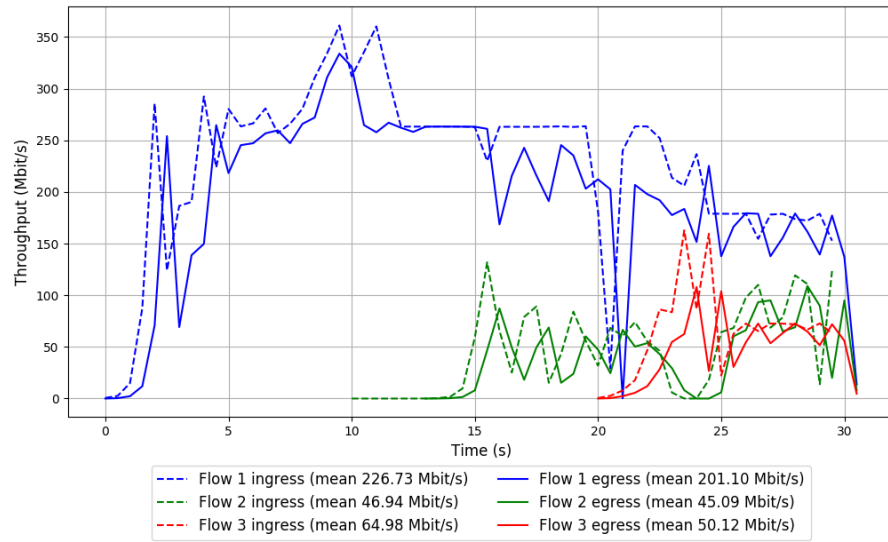
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-04-24 02:09:18
End at: 2019-04-24 02:09:48
Local clock offset: -0.46 ms
Remote clock offset: -39.423 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.46 Mbit/s
95th percentile per-packet one-way delay: 71.886 ms
Loss rate: 13.12%
-- Flow 1:
Average throughput: 159.52 Mbit/s
95th percentile per-packet one-way delay: 73.053 ms
Loss rate: 10.39%
-- Flow 2:
Average throughput: 70.51 Mbit/s
95th percentile per-packet one-way delay: 71.127 ms
Loss rate: 19.81%
-- Flow 3:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 67.512 ms
Loss rate: 19.40%
```
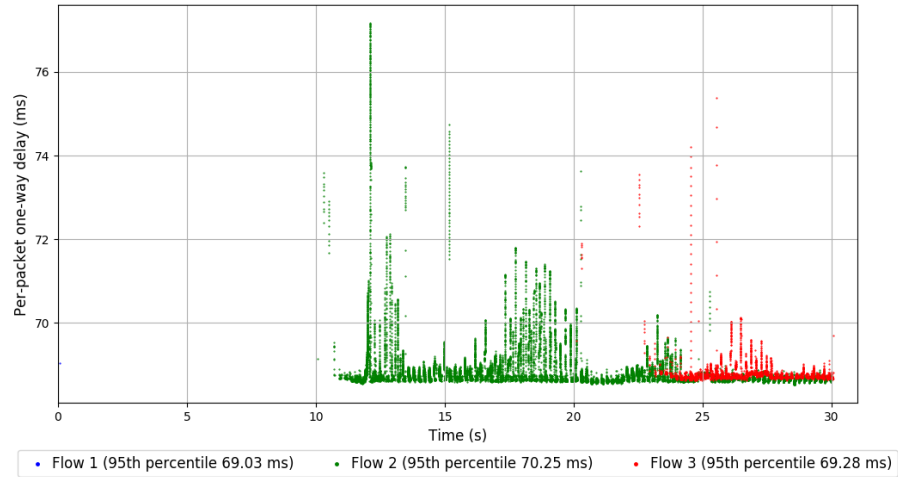
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-04-24 02:45:13
End at: 2019-04-24 02:45:43
Local clock offset: -0.094 ms
Remote clock offset: -41.179 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.26 Mbit/s
95th percentile per-packet one-way delay: 74.570 ms
Loss rate: 13.00%
-- Flow 1:
Average throughput: 201.10 Mbit/s
95th percentile per-packet one-way delay: 75.535 ms
Loss rate: 11.30%
-- Flow 2:
Average throughput: 45.09 Mbit/s
95th percentile per-packet one-way delay: 63.702 ms
Loss rate: 18.52%
-- Flow 3:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 63.395 ms
Loss rate: 22.87%
```

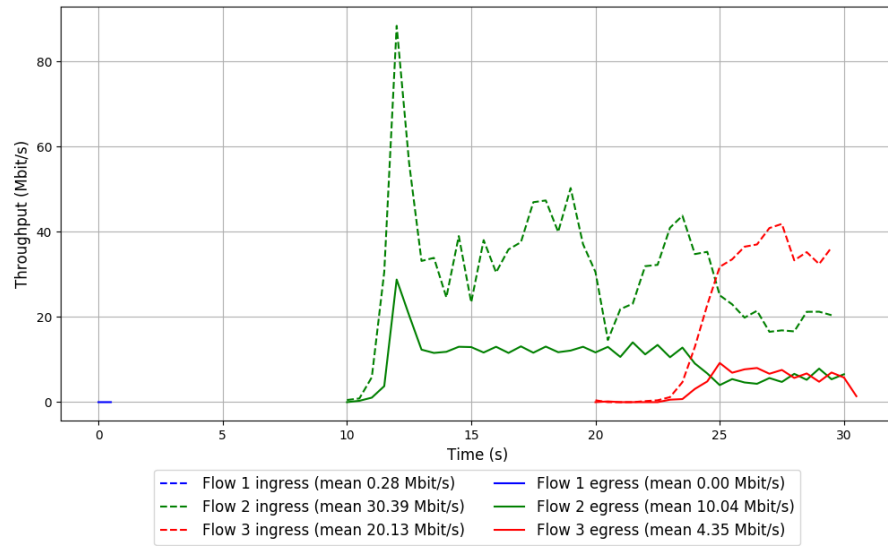Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-04-24 00:10:58
End at: 2019-04-24 00:11:28
Local clock offset: -2.837 ms
Remote clock offset: -32.296 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 70.108 ms
Loss rate: 69.80%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 69.029 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 10.04 Mbit/s
95th percentile per-packet one-way delay: 70.247 ms
Loss rate: 66.95%
-- Flow 3:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 69.285 ms
Loss rate: 78.38%
```
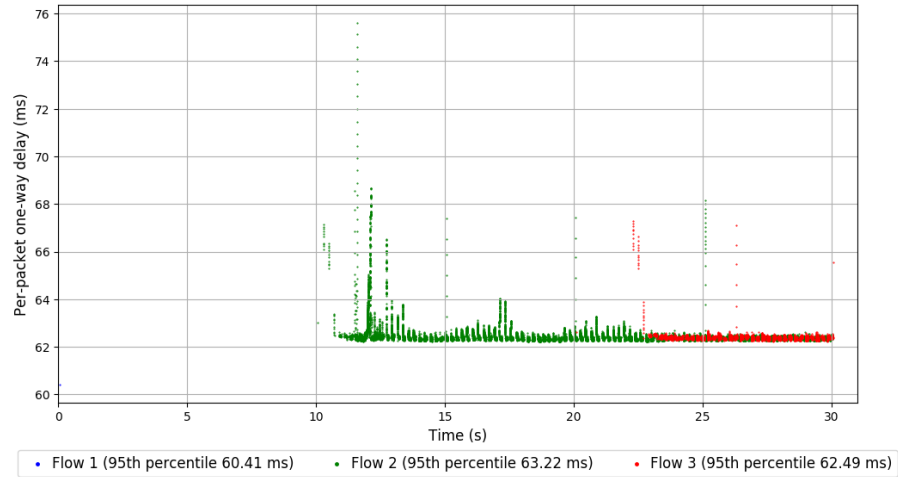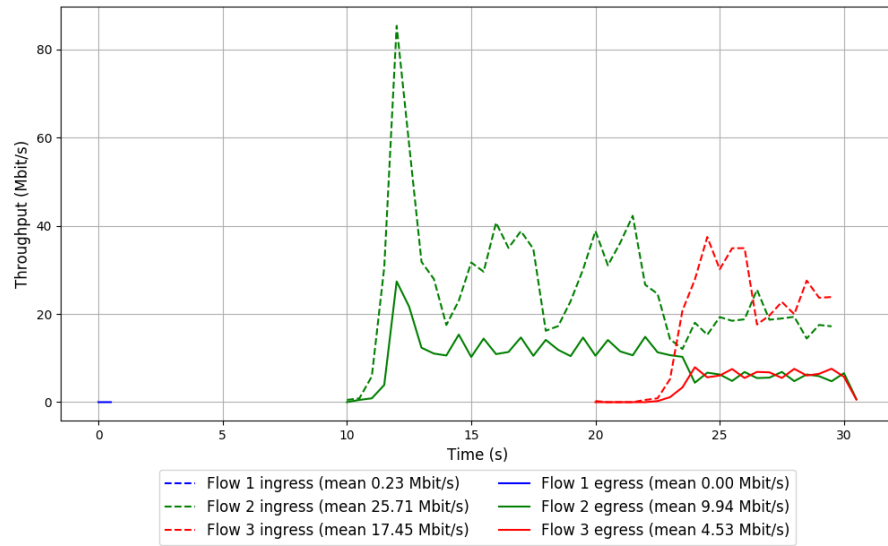
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-04-24 00:58:02
End at: 2019-04-24 00:58:32
Local clock offset: -2.288 ms
Remote clock offset: -38.119 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 63.105 ms
Loss rate: 64.58%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 60.405 ms
Loss rate: 97.92%
-- Flow 2:
Average throughput: 9.94 Mbit/s
95th percentile per-packet one-way delay: 63.223 ms
Loss rate: 61.36%
-- Flow 3:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 62.493 ms
Loss rate: 74.04%
```
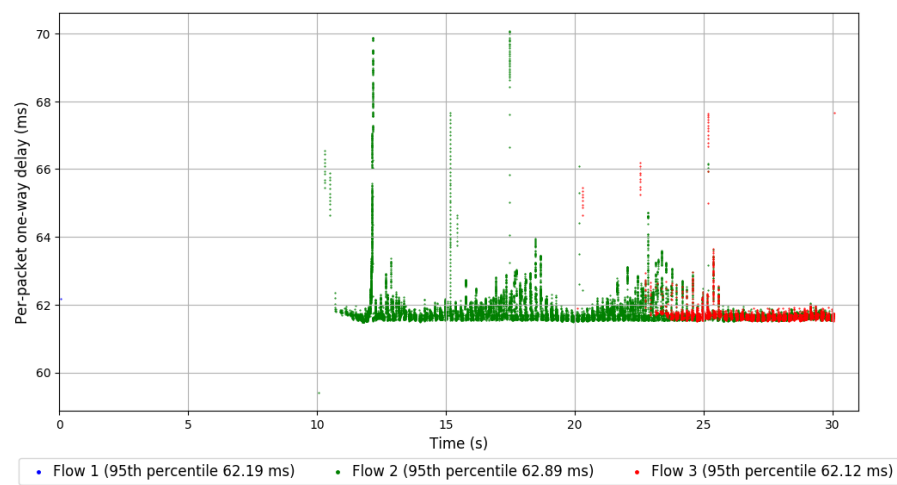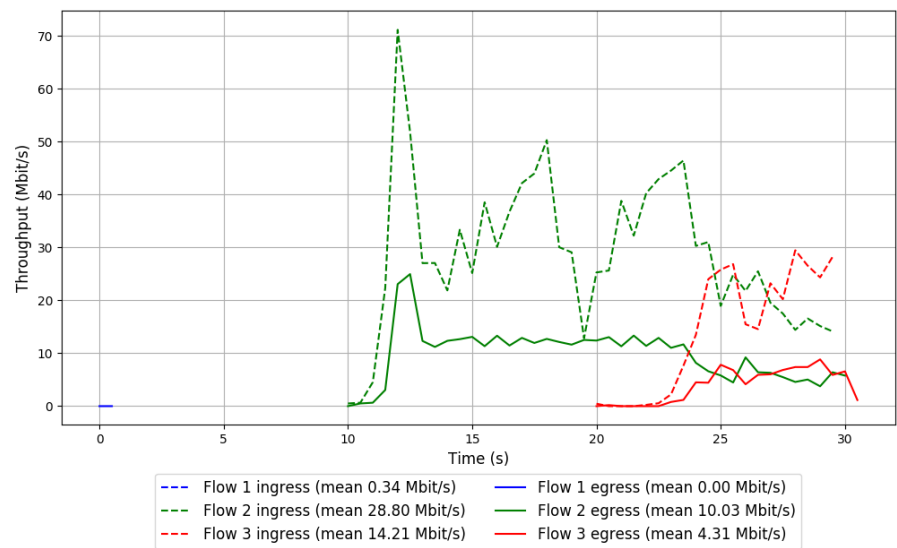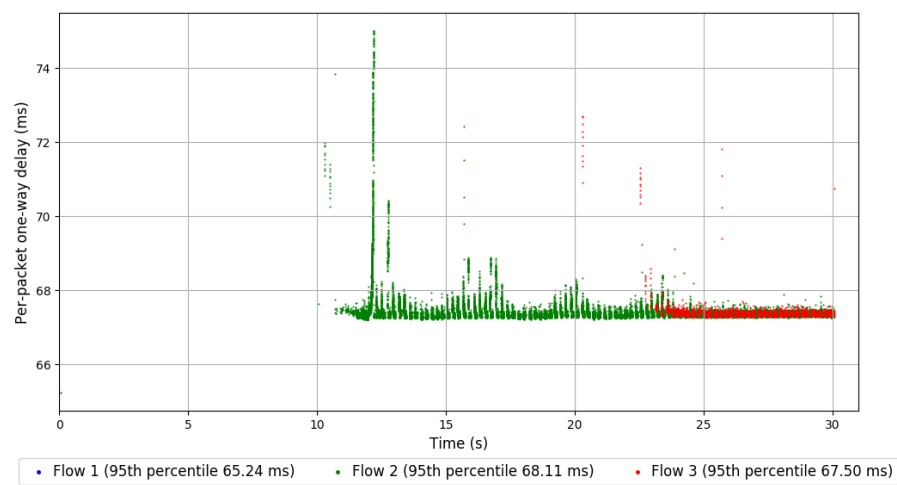
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 0.23 Mbit/s) Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 25.71 Mbit/s) Flow 2 egress (mean 9.94 Mbit/s)
Flow 3 ingress (mean 17.45 Mbit/s) Flow 3 egress (mean 4.53 Mbit/s)

Flow 1 (95th percentile 60.41 ms) Flow 2 (95th percentile 63.22 ms) Flow 3 (95th percentile 62.49 ms)

```
Run 3: Statistics of Copa

Start at: 2019-04-24 01:28:59
End at: 2019-04-24 01:29:29
Local clock offset: -2.855 ms
Remote clock offset: -37.568 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.08 Mbit/s
95th percentile per-packet one-way delay: 62.795 ms
Loss rate: 66.06%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 62.185 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 10.03 Mbit/s
95th percentile per-packet one-way delay: 62.893 ms
Loss rate: 65.16%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 62.120 ms
Loss rate: 69.68%
```
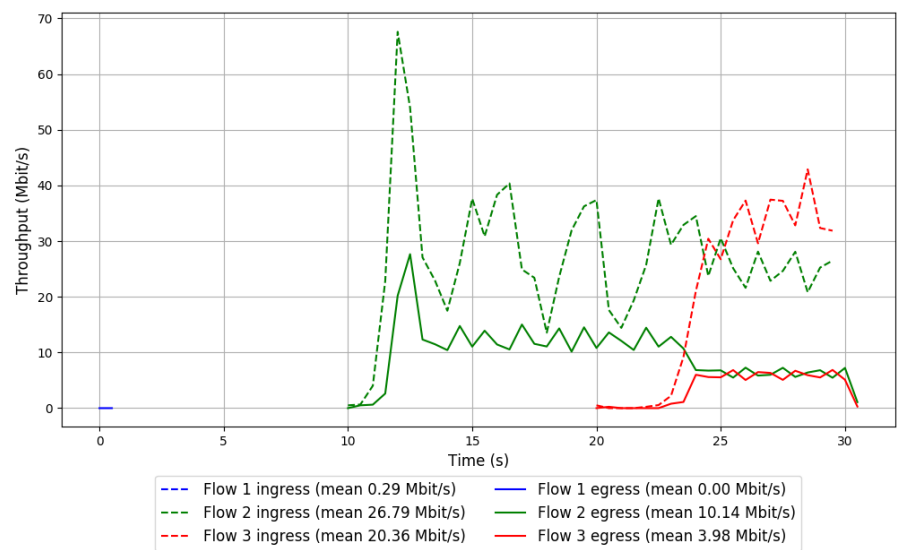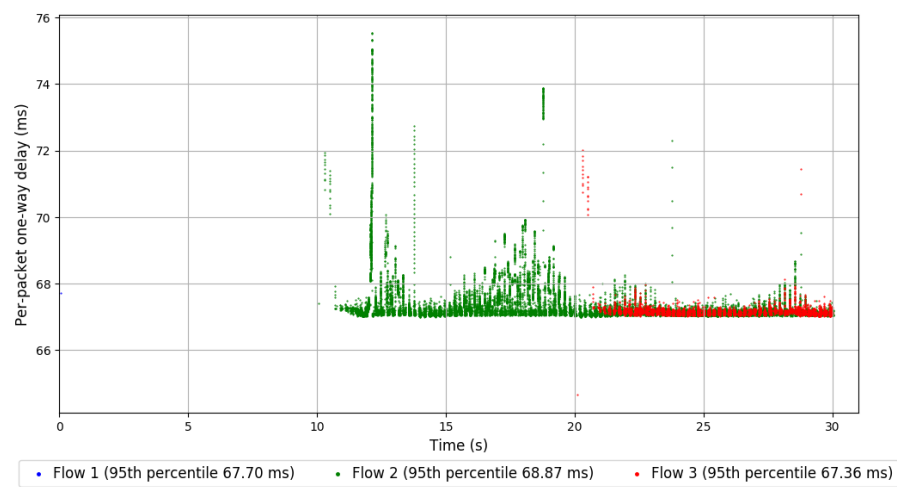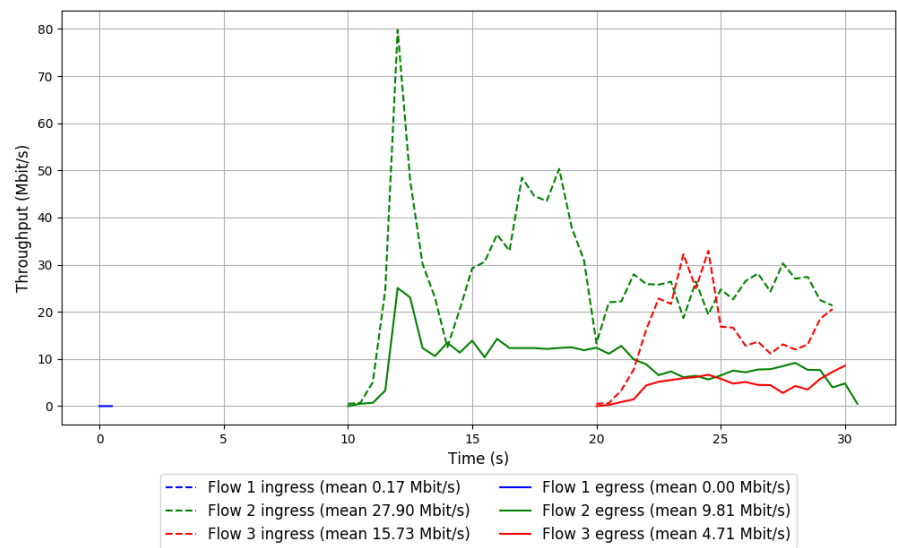
Run 3: Report of Copa — Data Link

Legend (top plot):
- --- Flow 1 ingress (mean 0.34 Mbit/s)
- ——— Flow 1 egress (mean 0.00 Mbit/s)
- --- Flow 2 ingress (mean 28.80 Mbit/s)
- ——— Flow 2 egress (mean 10.03 Mbit/s)
- --- Flow 3 ingress (mean 14.21 Mbit/s)
- ——— Flow 3 egress (mean 4.31 Mbit/s)

Legend (bottom plot):
- • Flow 1 (95th percentile 62.19 ms)
- • Flow 2 (95th percentile 62.89 ms)
- • Flow 3 (95th percentile 62.12 ms)

```
Run 4: Statistics of Copa

Start at: 2019-04-24 01:59:25
End at: 2019-04-24 01:59:55
Local clock offset: -1.261 ms
Remote clock offset: -35.735 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 67.992 ms
Loss rate: 67.20%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 65.236 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 68.107 ms
Loss rate: 62.16%
-- Flow 3:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 67.497 ms
Loss rate: 80.44%
```
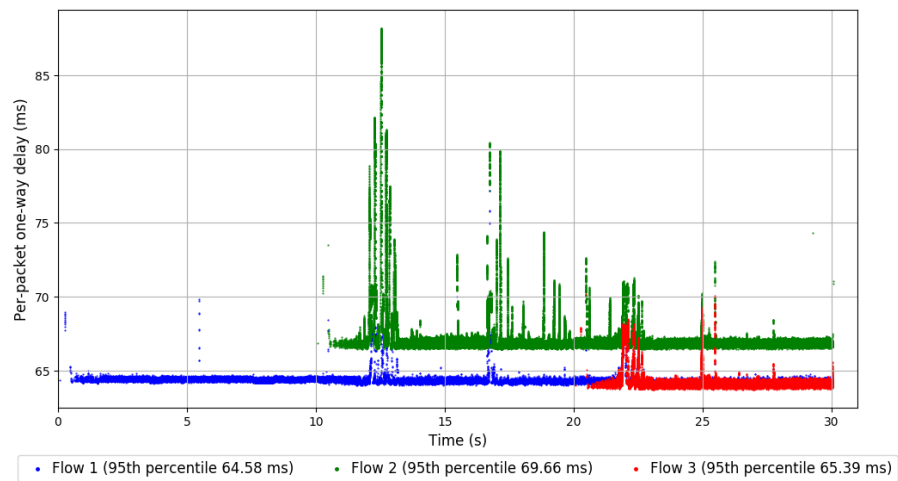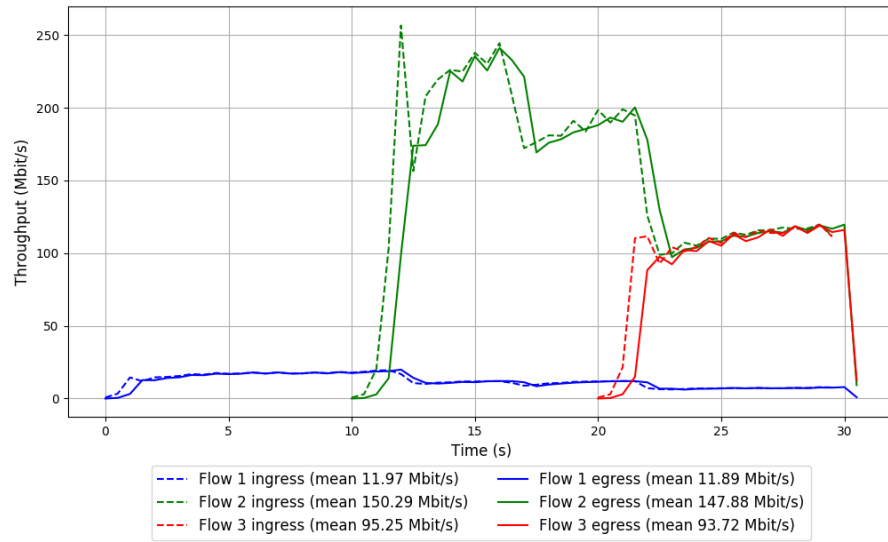
Run 4: Report of Copa — Data Link

- - - Flow 1 ingress (mean 0.29 Mbit/s)   ——— Flow 1 egress (mean 0.00 Mbit/s)
- - - Flow 2 ingress (mean 26.79 Mbit/s)   ——— Flow 2 egress (mean 10.14 Mbit/s)
- - - Flow 3 ingress (mean 20.36 Mbit/s)   ——— Flow 3 egress (mean 3.98 Mbit/s)

• Flow 1 (95th percentile 65.24 ms)   • Flow 2 (95th percentile 68.11 ms)   • Flow 3 (95th percentile 67.50 ms)

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```
Run 5: Statistics of Copa

Start at: 2019-04-24 02:41:01
End at: 2019-04-24 02:41:31
Local clock offset: -0.616 ms
Remote clock offset: -36.172 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 68.550 ms
Loss rate: 65.99%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 67.699 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 9.81 Mbit/s
95th percentile per-packet one-way delay: 68.874 ms
Loss rate: 64.85%
-- Flow 3:
Average throughput: 4.71 Mbit/s
95th percentile per-packet one-way delay: 67.363 ms
Loss rate: 70.04%
```
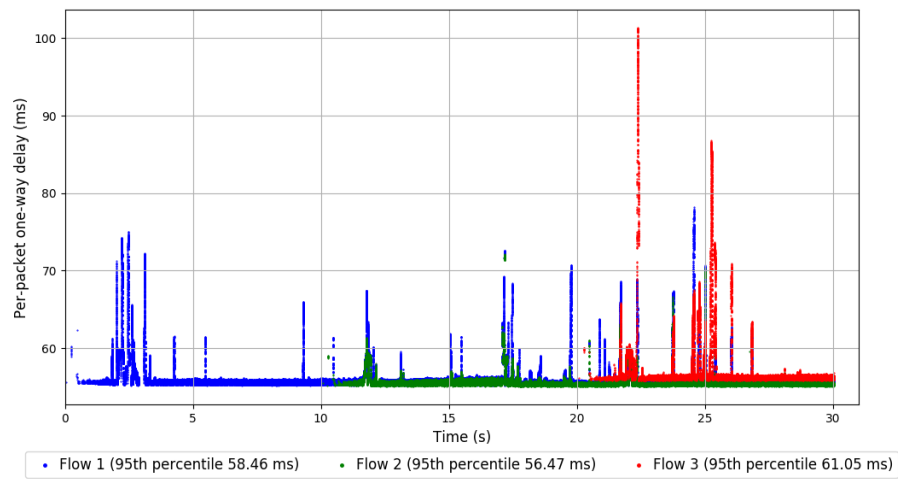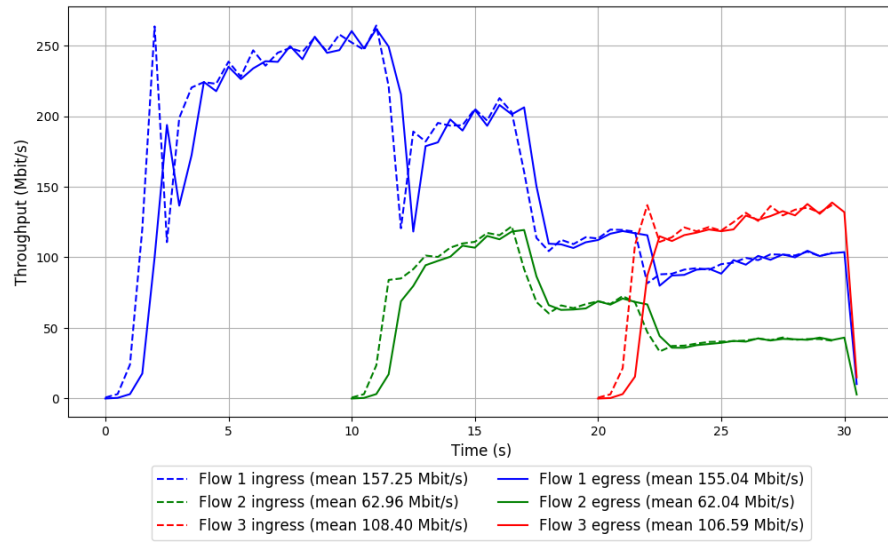
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-04-24 00:27:59
End at: 2019-04-24 00:28:29
Local clock offset: 0.397 ms
Remote clock offset: -33.275 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.53 Mbit/s
95th percentile per-packet one-way delay: 68.548 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 64.585 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 147.88 Mbit/s
95th percentile per-packet one-way delay: 69.661 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 65.389 ms
Loss rate: 1.60%
```

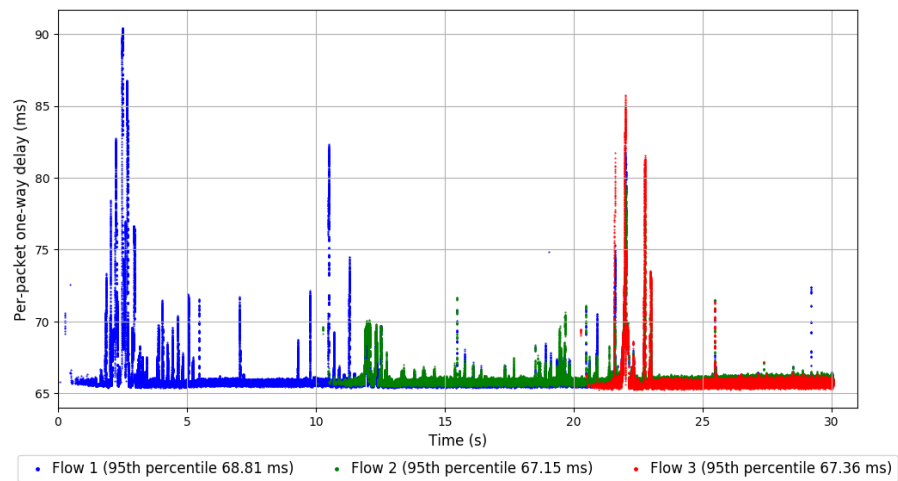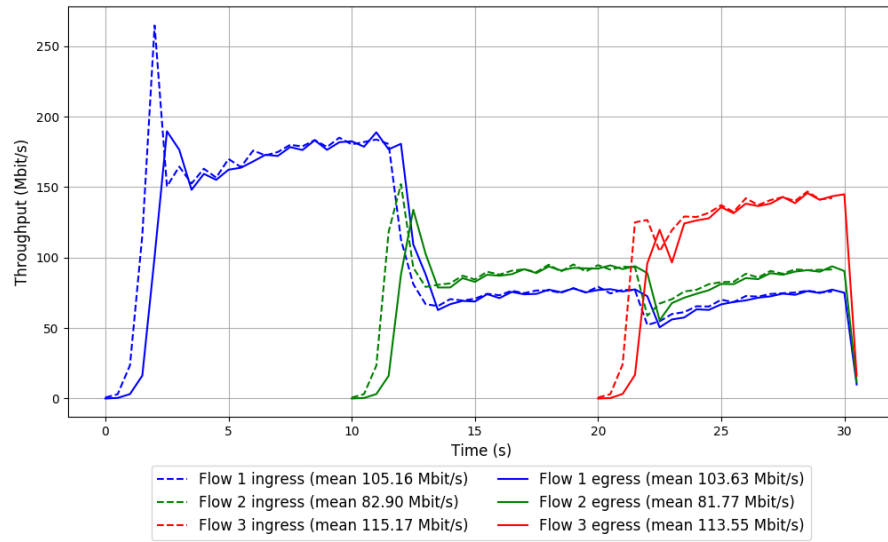Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-04-24 01:09:56
End at: 2019-04-24 01:10:26
Local clock offset: -2.834 ms
Remote clock offset: -41.762 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 231.79 Mbit/s
95th percentile per-packet one-way delay: 58.519 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 155.04 Mbit/s
95th percentile per-packet one-way delay: 58.464 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 62.04 Mbit/s
95th percentile per-packet one-way delay: 56.468 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 106.59 Mbit/s
95th percentile per-packet one-way delay: 61.051 ms
Loss rate: 1.66%
```
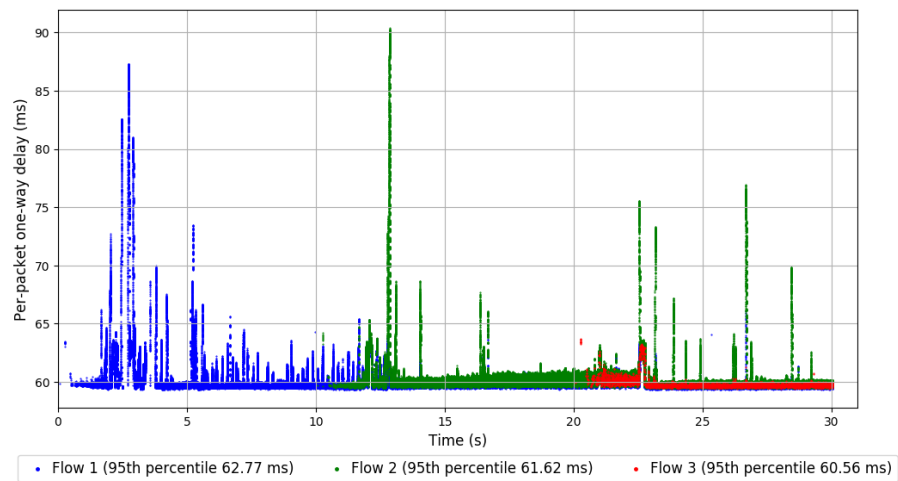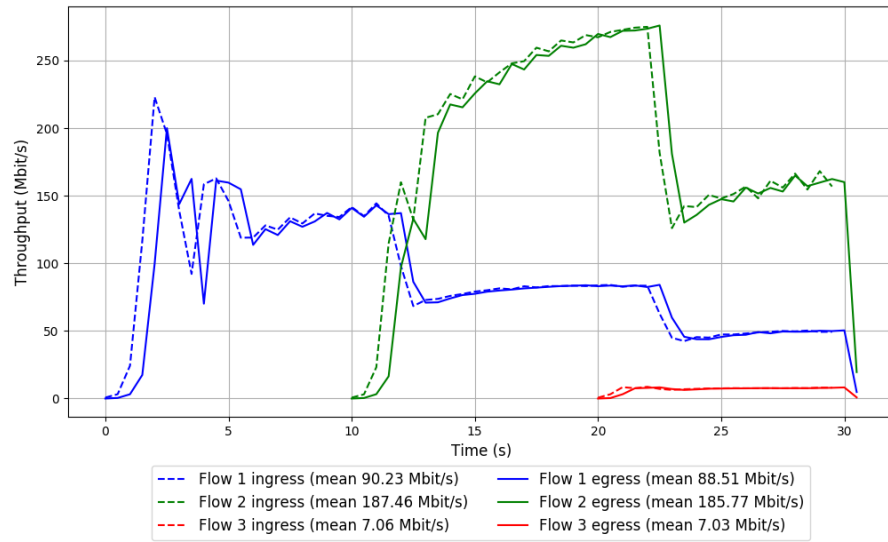
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 157.25 Mbit/s) — — — Flow 1 egress (mean 155.04 Mbit/s)
Flow 2 ingress (mean 62.96 Mbit/s) — — — Flow 2 egress (mean 62.04 Mbit/s)
Flow 3 ingress (mean 108.40 Mbit/s) — — — Flow 3 egress (mean 106.59 Mbit/s)

Flow 1 (95th percentile 58.46 ms)   Flow 2 (95th percentile 56.47 ms)   Flow 3 (95th percentile 61.05 ms)
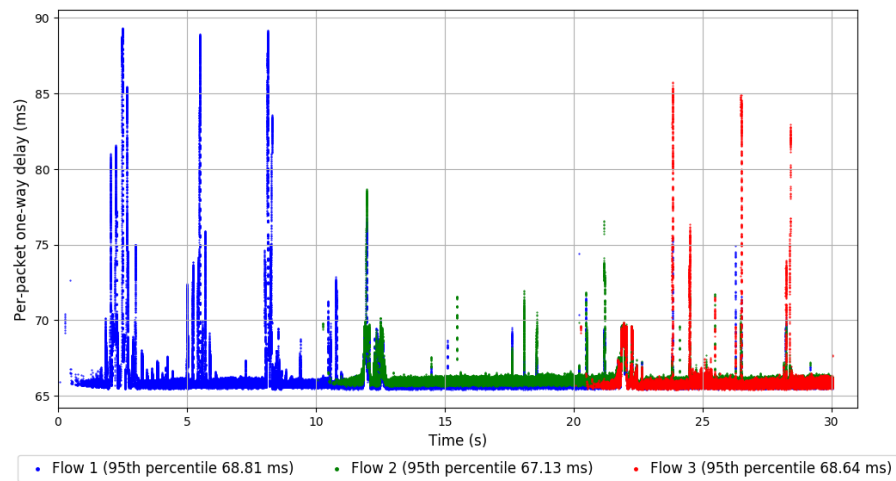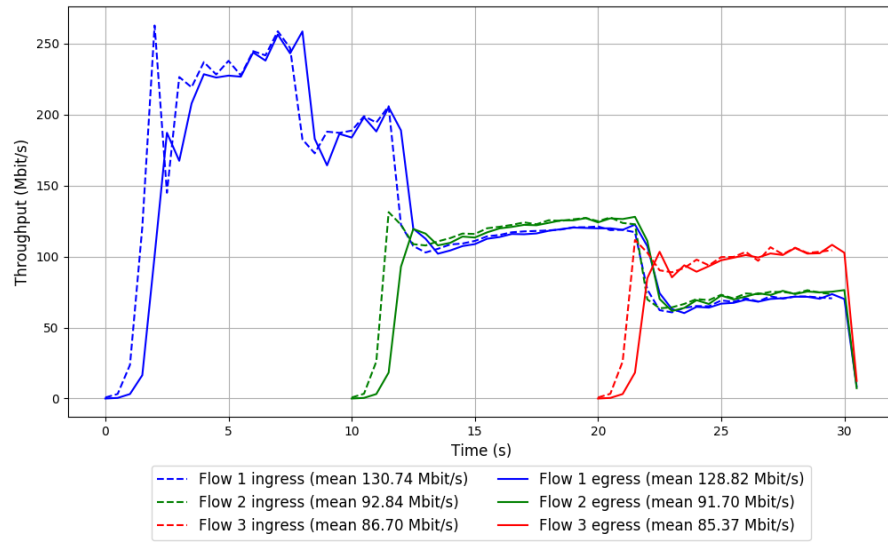
```
Run 3: Statistics of TCP Cubic

Start at: 2019-04-24 01:40:31
End at: 2019-04-24 01:41:01
Local clock offset: -3.518 ms
Remote clock offset: -33.247 ms


# Below is generated by plot.py at 2019-04-24 03:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 195.87 Mbit/s
95th percentile per-packet one-way delay: 68.450 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 103.63 Mbit/s
95th percentile per-packet one-way delay: 68.813 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 81.77 Mbit/s
95th percentile per-packet one-way delay: 67.151 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 113.55 Mbit/s
95th percentile per-packet one-way delay: 67.363 ms
Loss rate: 1.41%
```

Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 105.16 Mbit/s) —— Flow 1 egress (mean 103.63 Mbit/s)
- - - - Flow 2 ingress (mean 82.90 Mbit/s) —— Flow 2 egress (mean 81.77 Mbit/s)
- - - - Flow 3 ingress (mean 115.17 Mbit/s) —— Flow 3 egress (mean 113.55 Mbit/s)

• Flow 1 (95th percentile 68.81 ms)   • Flow 2 (95th percentile 67.15 ms)   • Flow 3 (95th percentile 67.36 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-04-24 02:22:05
End at: 2019-04-24 02:22:35
Local clock offset: -0.405 ms
Remote clock offset: -40.628 ms


# Below is generated by plot.py at 2019-04-24 03:30:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.62 Mbit/s
95th percentile per-packet one-way delay: 62.385 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 62.768 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 185.77 Mbit/s
95th percentile per-packet one-way delay: 61.621 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 60.565 ms
Loss rate: 0.43%
```
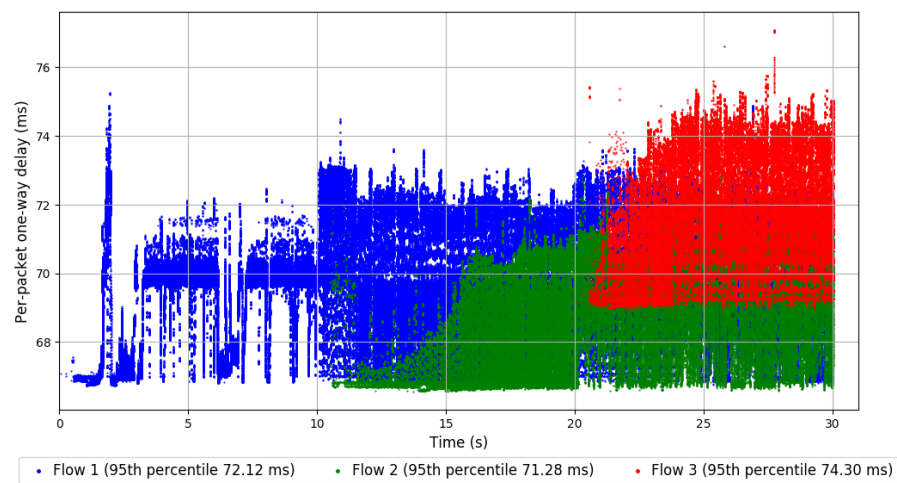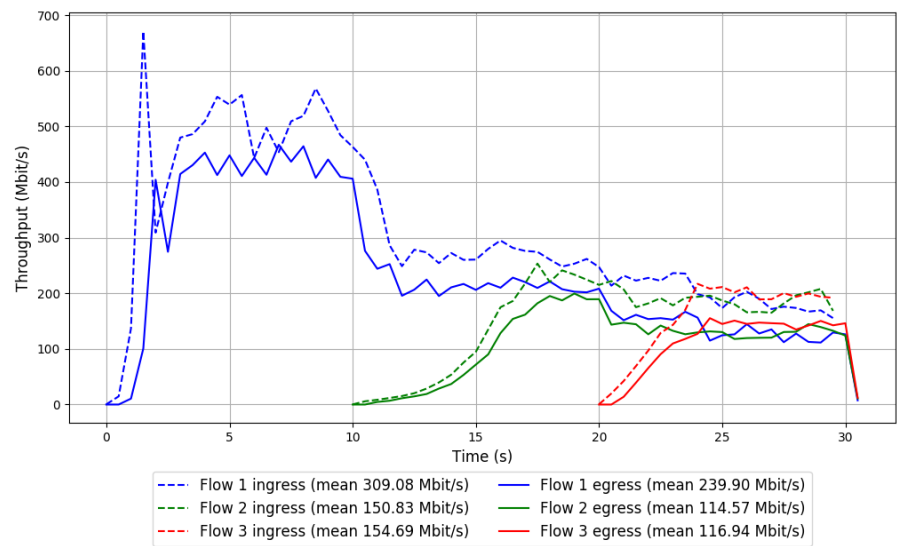
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-04-24 02:58:01
End at: 2019-04-24 02:58:31
Local clock offset: 1.388 ms
Remote clock offset: -33.12 ms


# Below is generated by plot.py at 2019-04-24 03:30:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.35 Mbit/s
95th percentile per-packet one-way delay: 68.516 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 128.82 Mbit/s
95th percentile per-packet one-way delay: 68.812 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 91.70 Mbit/s
95th percentile per-packet one-way delay: 67.126 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 85.37 Mbit/s
95th percentile per-packet one-way delay: 68.637 ms
Loss rate: 1.51%
```

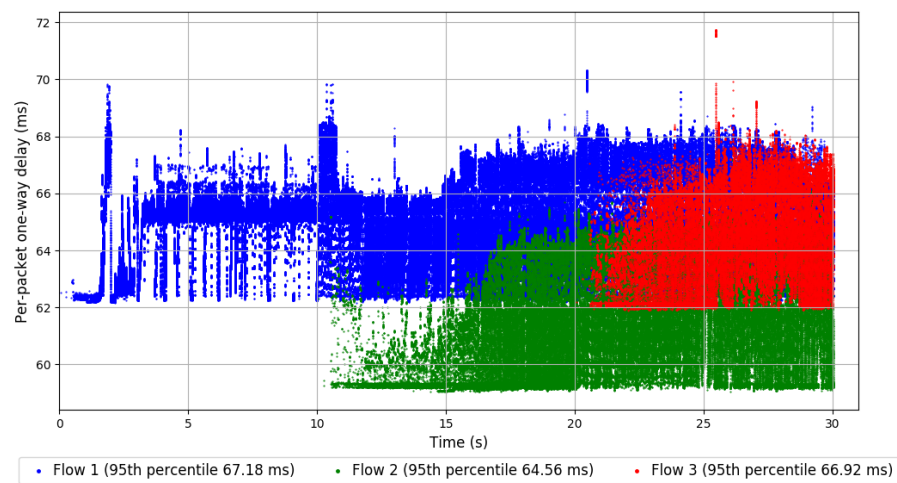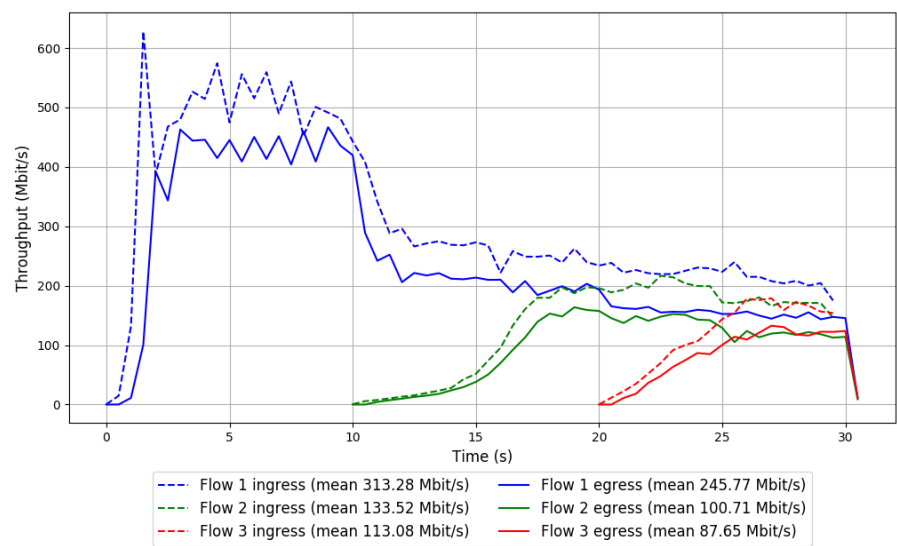Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-04-24 00:34:52
End at: 2019-04-24 00:35:22
Local clock offset: -5.148 ms
Remote clock offset: -36.512 ms

# Below is generated by plot.py at 2019-04-24 03:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.69 Mbit/s
95th percentile per-packet one-way delay: 72.672 ms
Loss rate: 22.97%
-- Flow 1:
Average throughput: 239.90 Mbit/s
95th percentile per-packet one-way delay: 72.119 ms
Loss rate: 22.38%
-- Flow 2:
Average throughput: 114.57 Mbit/s
95th percentile per-packet one-way delay: 71.275 ms
Loss rate: 24.05%
-- Flow 3:
Average throughput: 116.94 Mbit/s
95th percentile per-packet one-way delay: 74.299 ms
Loss rate: 24.40%
```
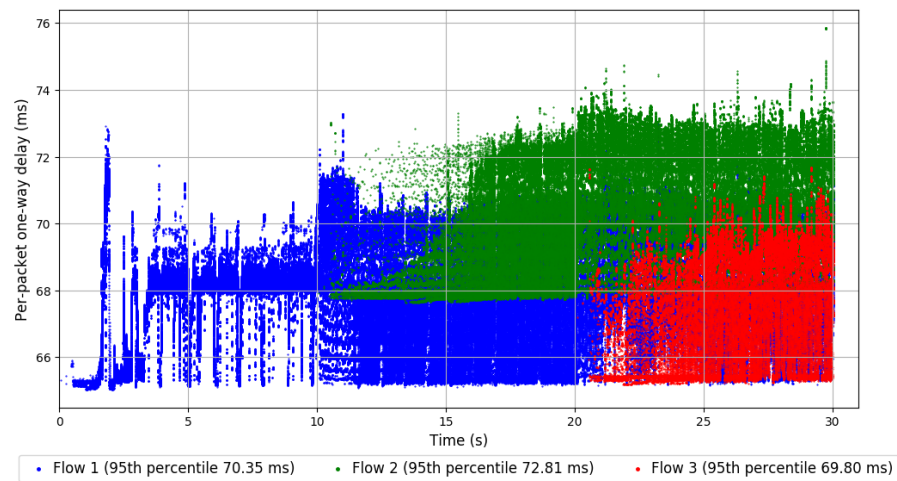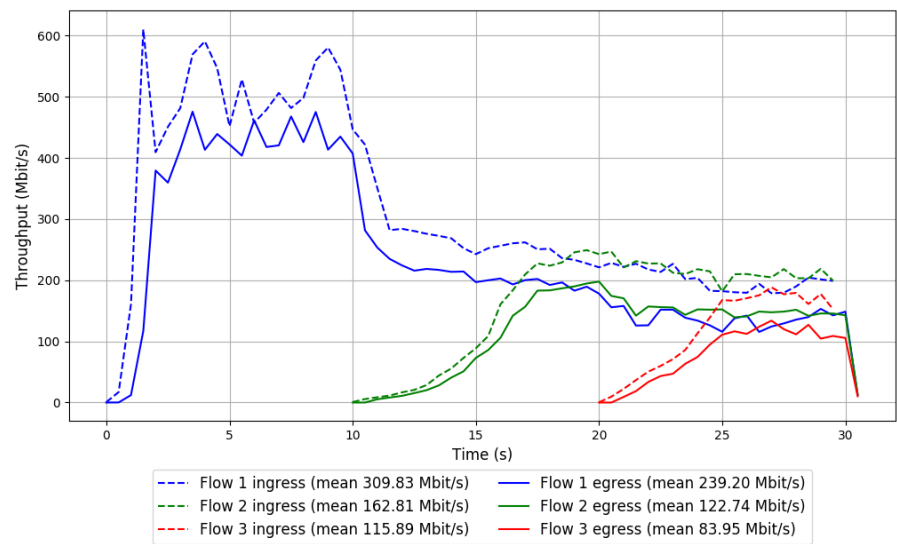
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-04-24 01:16:54
End at: 2019-04-24 01:17:24
Local clock offset: -2.758 ms
Remote clock offset: -37.597 ms


# Below is generated by plot.py at 2019-04-24 03:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.84 Mbit/s
95th percentile per-packet one-way delay: 66.995 ms
Loss rate: 22.24%
-- Flow 1:
Average throughput: 245.77 Mbit/s
95th percentile per-packet one-way delay: 67.184 ms
Loss rate: 21.55%
-- Flow 2:
Average throughput: 100.71 Mbit/s
95th percentile per-packet one-way delay: 64.564 ms
Loss rate: 24.58%
-- Flow 3:
Average throughput: 87.65 Mbit/s
95th percentile per-packet one-way delay: 66.919 ms
Loss rate: 22.48%
```
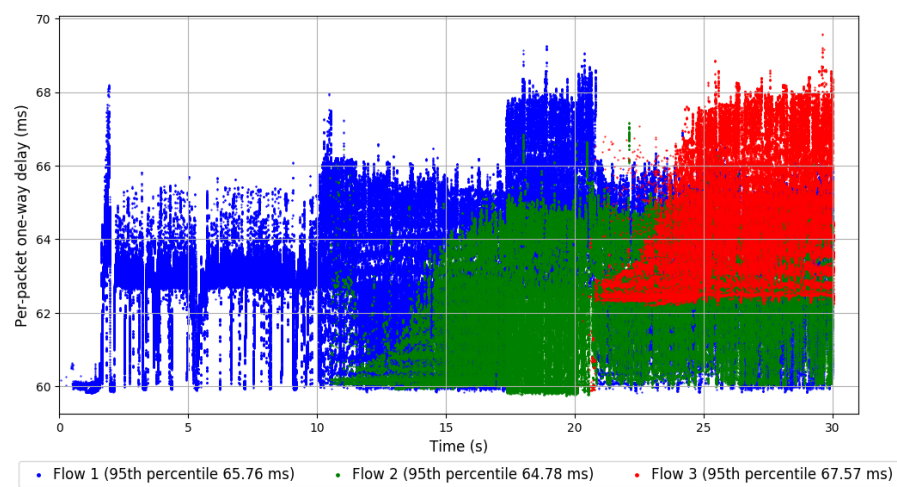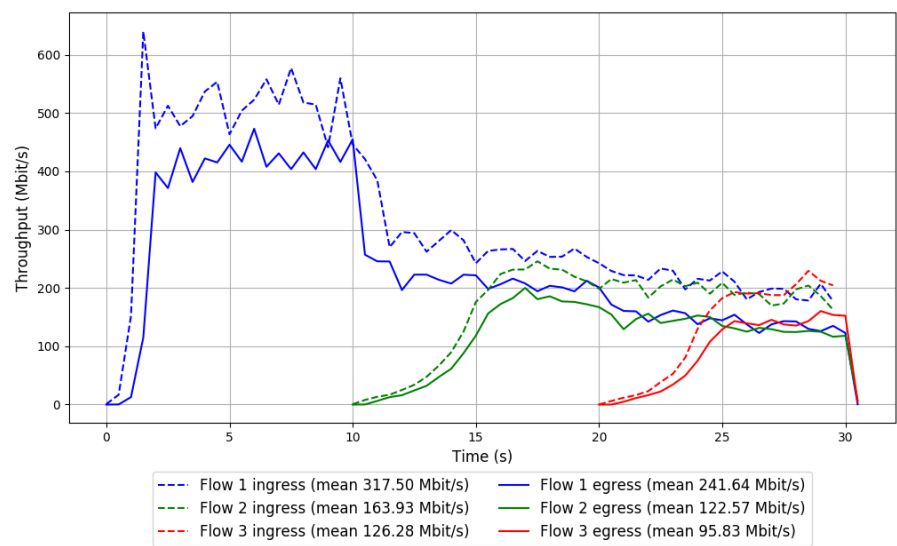
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 313.28 Mbit/s)   Flow 1 egress (mean 245.77 Mbit/s)
Flow 2 ingress (mean 133.52 Mbit/s)   Flow 2 egress (mean 100.71 Mbit/s)
Flow 3 ingress (mean 113.08 Mbit/s)   Flow 3 egress (mean 87.65 Mbit/s)

Flow 1 (95th percentile 67.18 ms)   Flow 2 (95th percentile 64.56 ms)   Flow 3 (95th percentile 66.92 ms)

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```
Run 3: Statistics of FillP

Start at: 2019-04-24 01:47:21
End at: 2019-04-24 01:47:52
Local clock offset: -3.122 ms
Remote clock offset: -34.458 ms

# Below is generated by plot.py at 2019-04-24 03:34:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.64 Mbit/s
95th percentile per-packet one-way delay: 72.016 ms
Loss rate: 23.62%
-- Flow 1:
Average throughput: 239.20 Mbit/s
95th percentile per-packet one-way delay: 70.354 ms
Loss rate: 22.79%
-- Flow 2:
Average throughput: 122.74 Mbit/s
95th percentile per-packet one-way delay: 72.813 ms
Loss rate: 24.60%
-- Flow 3:
Average throughput: 83.95 Mbit/s
95th percentile per-packet one-way delay: 69.800 ms
Loss rate: 27.54%
```
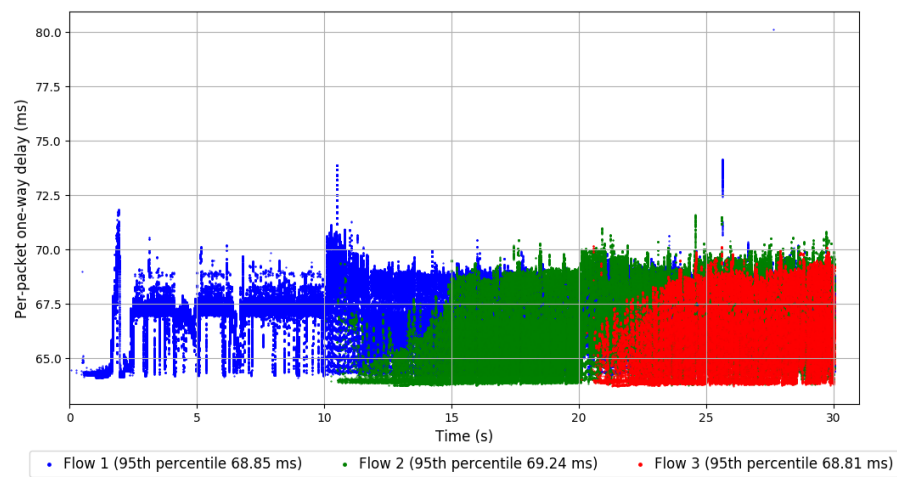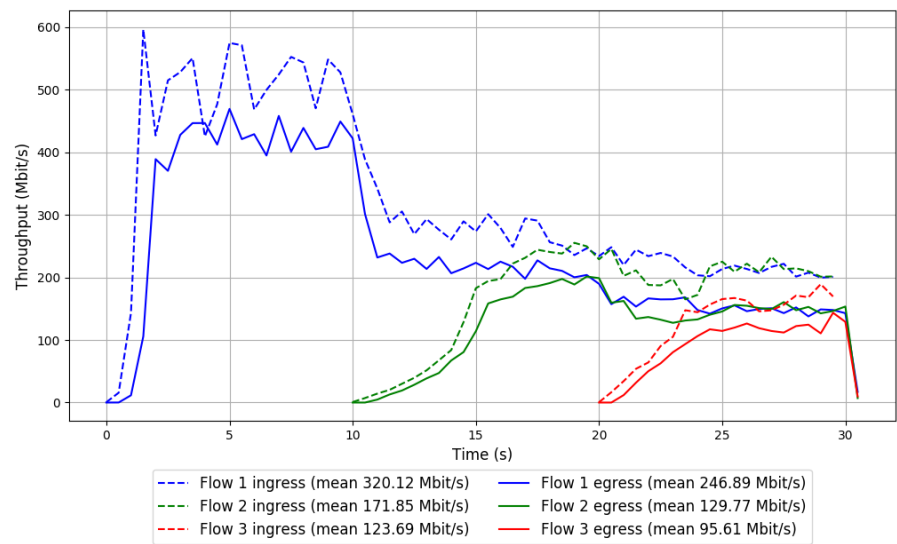
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-04-24 02:28:58
End at: 2019-04-24 02:29:28
Local clock offset: -0.206 ms
Remote clock offset: -40.129 ms

# Below is generated by plot.py at 2019-04-24 03:34:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.73 Mbit/s
95th percentile per-packet one-way delay: 66.150 ms
Loss rate: 24.22%
-- Flow 1:
Average throughput: 241.64 Mbit/s
95th percentile per-packet one-way delay: 65.758 ms
Loss rate: 23.89%
-- Flow 2:
Average throughput: 122.57 Mbit/s
95th percentile per-packet one-way delay: 64.780 ms
Loss rate: 25.24%
-- Flow 3:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 67.570 ms
Loss rate: 24.11%
```
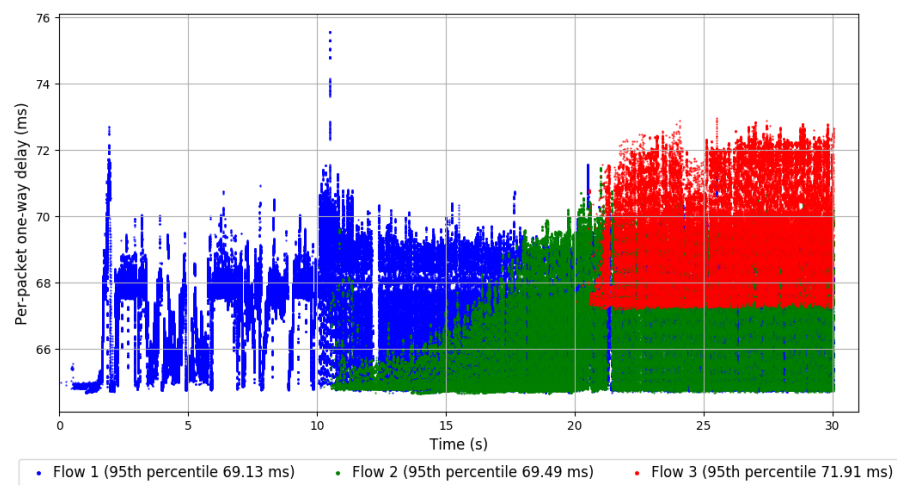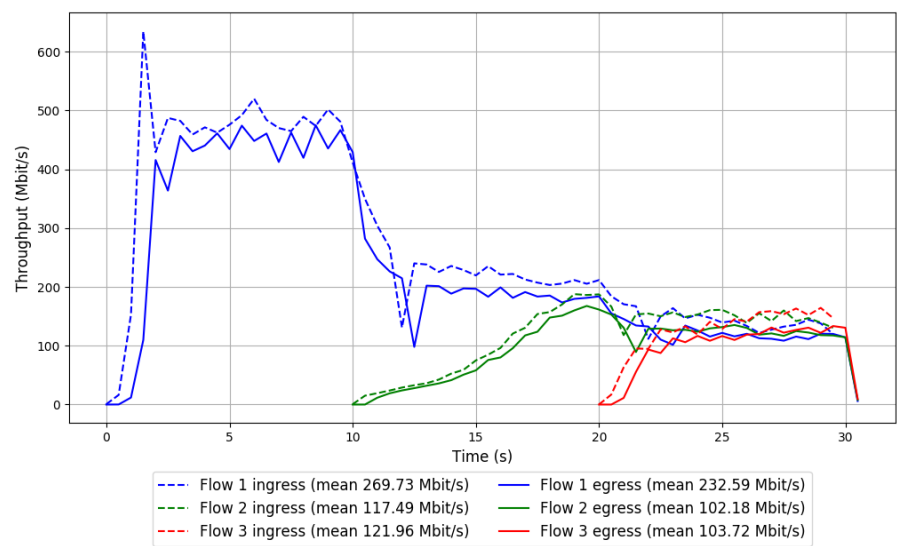
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 317.50 Mbit/s) — Flow 1 egress (mean 241.64 Mbit/s)
Flow 2 ingress (mean 163.93 Mbit/s) — Flow 2 egress (mean 122.57 Mbit/s)
Flow 3 ingress (mean 126.28 Mbit/s) — Flow 3 egress (mean 95.83 Mbit/s)

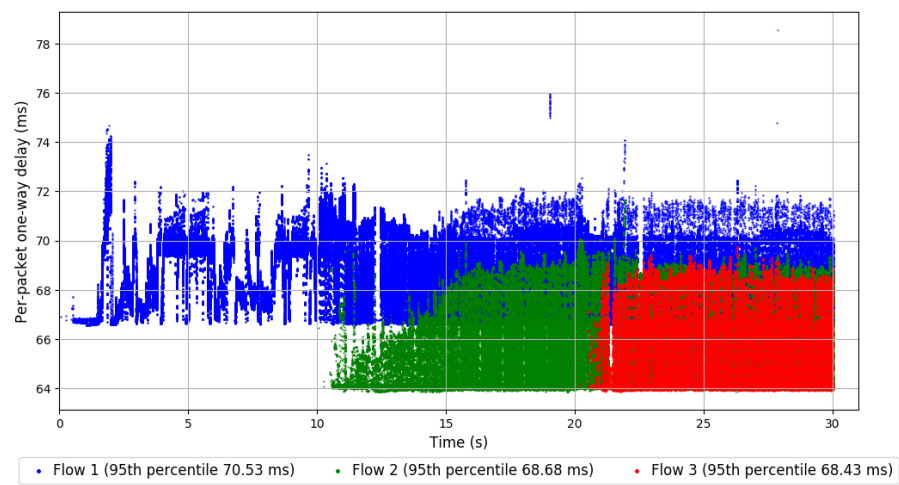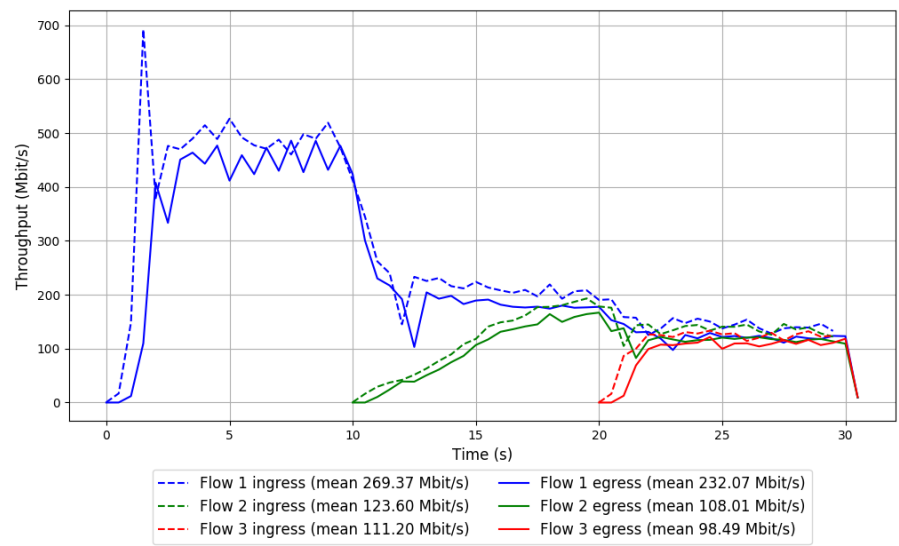Flow 1 (95th percentile 65.76 ms)   Flow 2 (95th percentile 64.78 ms)   Flow 3 (95th percentile 67.57 ms)

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```
Run 5: Statistics of FillP

Start at: 2019-04-24 03:04:59
End at: 2019-04-24 03:05:29
Local clock offset: 0.636 ms
Remote clock offset: -35.654 ms

# Below is generated by plot.py at 2019-04-24 03:34:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 364.92 Mbit/s
95th percentile per-packet one-way delay: 68.955 ms
Loss rate: 23.24%
-- Flow 1:
Average throughput: 246.89 Mbit/s
95th percentile per-packet one-way delay: 68.851 ms
Loss rate: 22.87%
-- Flow 2:
Average throughput: 129.77 Mbit/s
95th percentile per-packet one-way delay: 69.242 ms
Loss rate: 24.48%
-- Flow 3:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 68.813 ms
Loss rate: 22.70%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 320.12 Mbit/s) --- Flow 1 egress (mean 246.89 Mbit/s)
Flow 2 ingress (mean 171.85 Mbit/s) --- Flow 2 egress (mean 129.77 Mbit/s)
Flow 3 ingress (mean 123.69 Mbit/s) --- Flow 3 egress (mean 95.61 Mbit/s)

Flow 1 (95th percentile 68.85 ms) · Flow 2 (95th percentile 69.24 ms) · Flow 3 (95th percentile 68.81 ms)

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```
Run 1: Statistics of FillP-Sheep

Start at: 2019-04-24 00:12:17
End at: 2019-04-24 00:12:47
Local clock offset: -2.254 ms
Remote clock offset: -32.804 ms


# Below is generated by plot.py at 2019-04-24 03:34:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 335.06 Mbit/s
95th percentile per-packet one-way delay: 70.041 ms
Loss rate: 13.74%
-- Flow 1:
Average throughput: 232.59 Mbit/s
95th percentile per-packet one-way delay: 69.129 ms
Loss rate: 13.76%
-- Flow 2:
Average throughput: 102.18 Mbit/s
95th percentile per-packet one-way delay: 69.486 ms
Loss rate: 13.04%
-- Flow 3:
Average throughput: 103.72 Mbit/s
95th percentile per-packet one-way delay: 71.907 ms
Loss rate: 14.92%
```
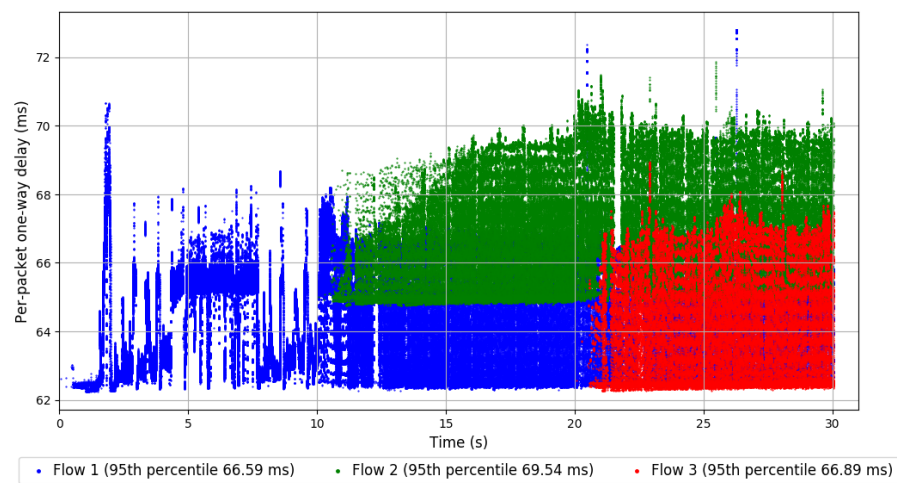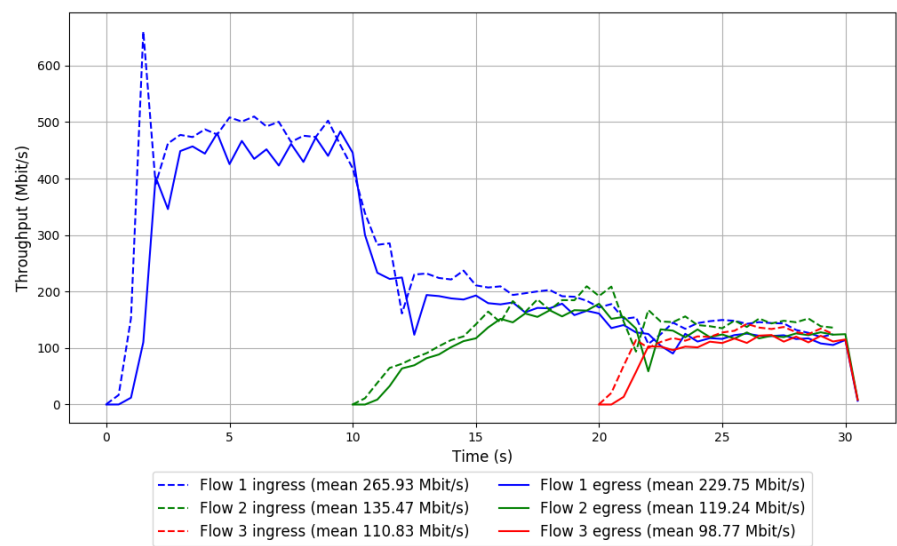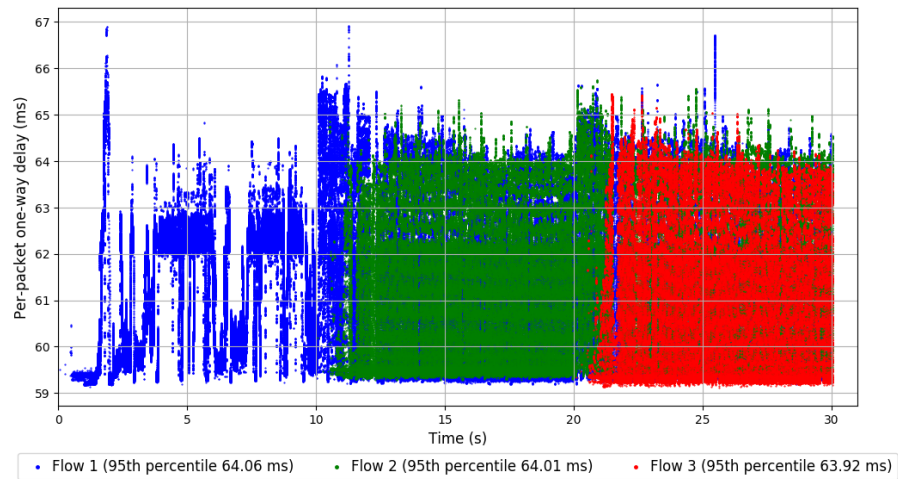
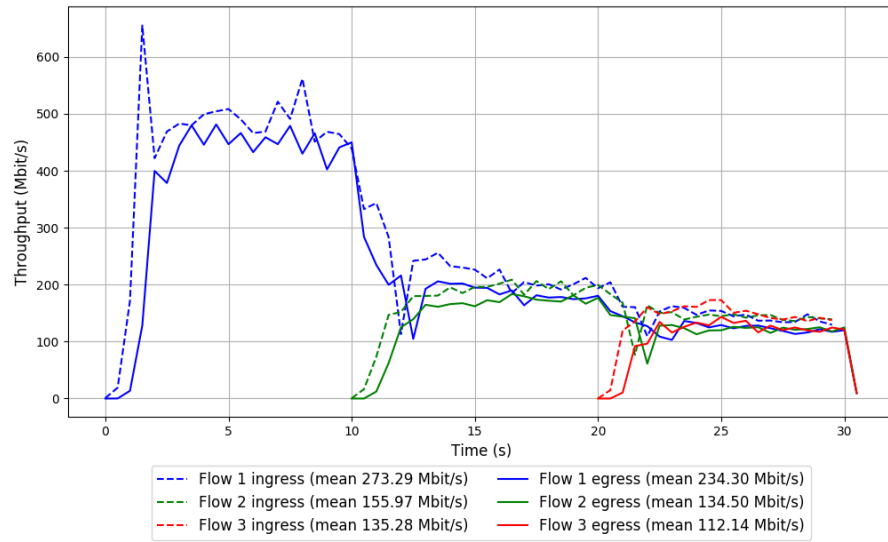Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-04-24 00:59:21
End at: 2019-04-24 00:59:51
Local clock offset: -1.354 ms
Remote clock offset: -32.568 ms


# Below is generated by plot.py at 2019-04-24 03:35:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.60 Mbit/s
95th percentile per-packet one-way delay: 70.297 ms
Loss rate: 13.35%
-- Flow 1:
Average throughput: 232.07 Mbit/s
95th percentile per-packet one-way delay: 70.530 ms
Loss rate: 13.83%
-- Flow 2:
Average throughput: 108.01 Mbit/s
95th percentile per-packet one-way delay: 68.681 ms
Loss rate: 12.62%
-- Flow 3:
Average throughput: 98.49 Mbit/s
95th percentile per-packet one-way delay: 68.431 ms
Loss rate: 11.43%
```
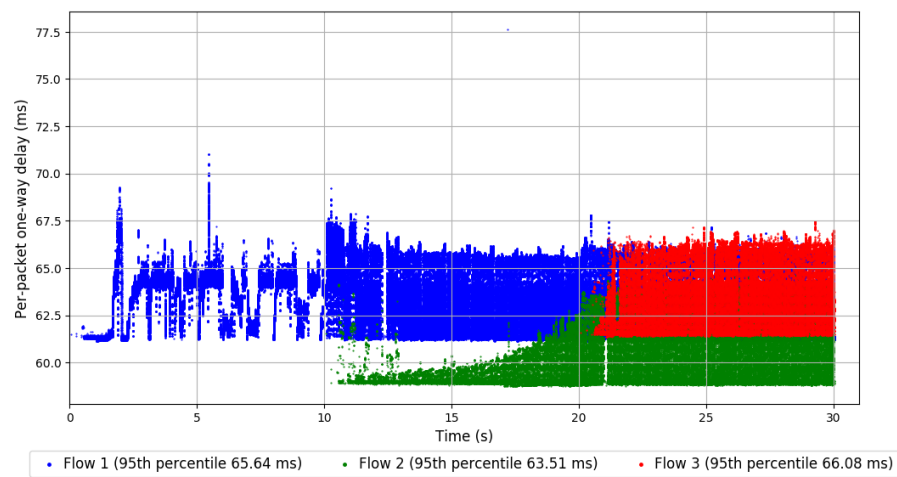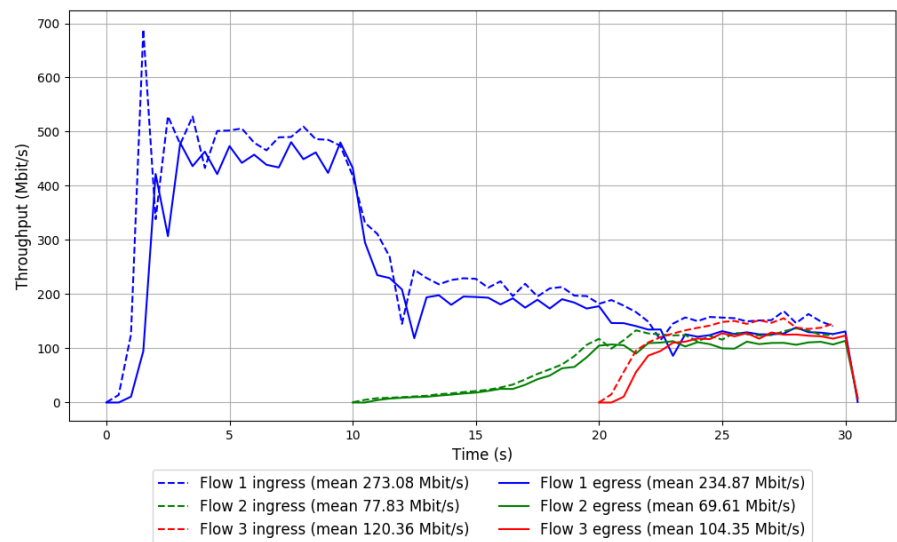
Run 2: Report of FillP-Sheep — Data Link

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```
Run 3: Statistics of FillP-Sheep

Start at: 2019-04-24 01:30:18
End at: 2019-04-24 01:30:48
Local clock offset: -2.954 ms
Remote clock offset: -34.146 ms


# Below is generated by plot.py at 2019-04-24 03:36:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.91 Mbit/s
95th percentile per-packet one-way delay: 68.542 ms
Loss rate: 12.97%
-- Flow 1:
Average throughput: 229.75 Mbit/s
95th percentile per-packet one-way delay: 66.588 ms
Loss rate: 13.59%
-- Flow 2:
Average throughput: 119.24 Mbit/s
95th percentile per-packet one-way delay: 69.543 ms
Loss rate: 11.96%
-- Flow 3:
Average throughput: 98.77 Mbit/s
95th percentile per-packet one-way delay: 66.889 ms
Loss rate: 10.88%
```
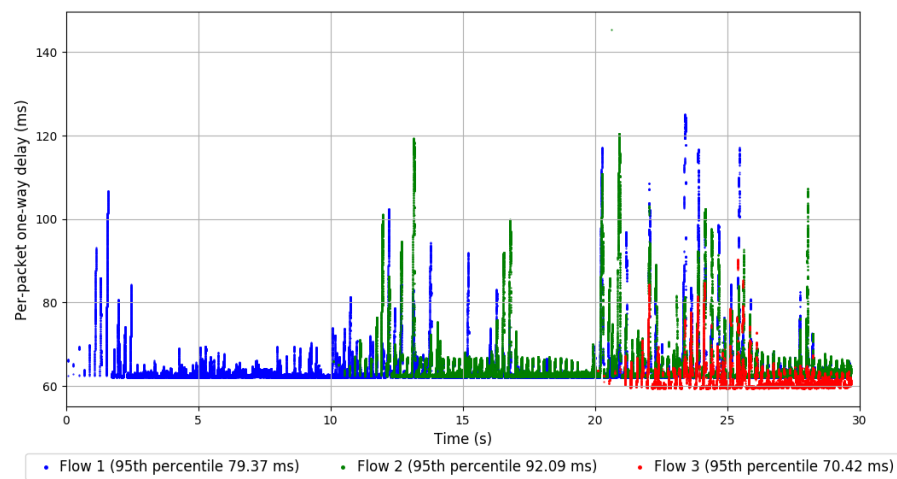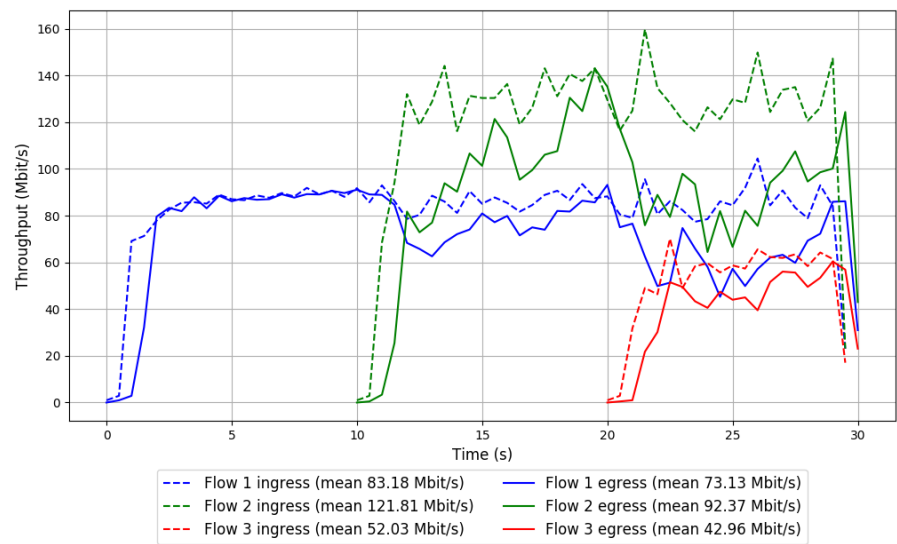
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 265.93 Mbit/s) Flow 1 egress (mean 229.75 Mbit/s)
Flow 2 ingress (mean 135.47 Mbit/s) Flow 2 egress (mean 119.24 Mbit/s)
Flow 3 ingress (mean 110.83 Mbit/s) Flow 3 egress (mean 98.77 Mbit/s)

Flow 1 (95th percentile 66.59 ms)   Flow 2 (95th percentile 69.54 ms)   Flow 3 (95th percentile 66.89 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-04-24 02:00:43
End at: 2019-04-24 02:01:13
Local clock offset: -0.922 ms
Remote clock offset: -40.777 ms


# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.84 Mbit/s
95th percentile per-packet one-way delay: 64.026 ms
Loss rate: 14.45%
-- Flow 1:
Average throughput: 234.30 Mbit/s
95th percentile per-packet one-way delay: 64.063 ms
Loss rate: 14.27%
-- Flow 2:
Average throughput: 134.50 Mbit/s
95th percentile per-packet one-way delay: 64.013 ms
Loss rate: 13.77%
-- Flow 3:
Average throughput: 112.14 Mbit/s
95th percentile per-packet one-way delay: 63.922 ms
Loss rate: 17.12%
```

Run 4: Report of FillP-Sheep — Data Link
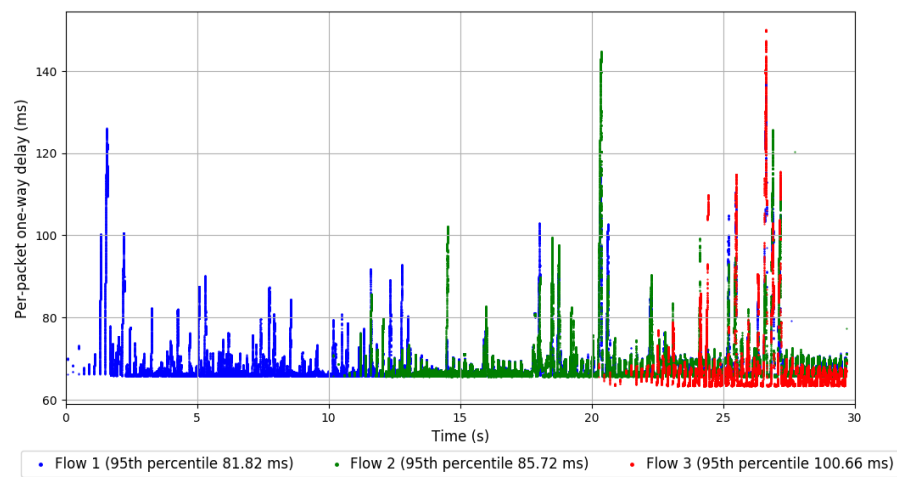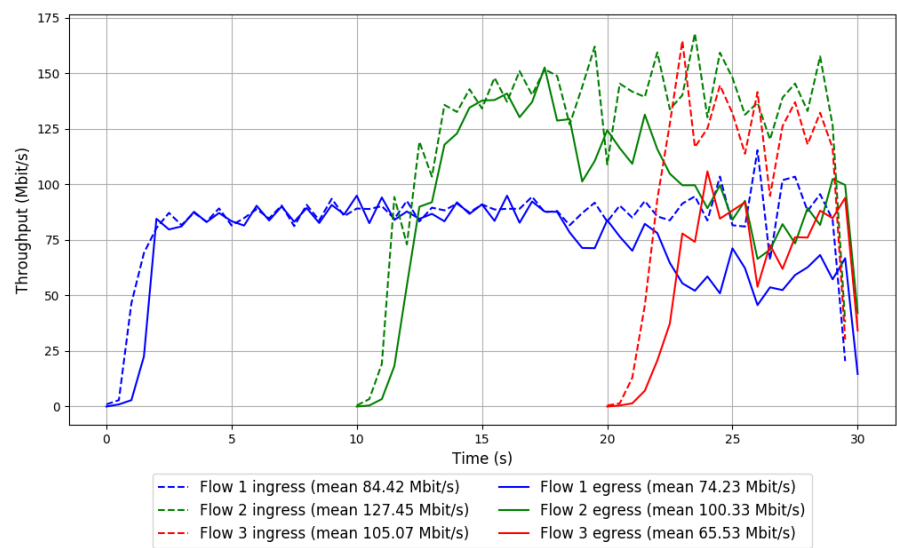
```
Run 5: Statistics of FillP-Sheep

Start at: 2019-04-24 02:42:20
End at: 2019-04-24 02:42:50
Local clock offset: 0.149 ms
Remote clock offset: -40.963 ms


# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.83 Mbit/s
95th percentile per-packet one-way delay: 65.669 ms
Loss rate: 13.43%
-- Flow 1:
Average throughput: 234.87 Mbit/s
95th percentile per-packet one-way delay: 65.644 ms
Loss rate: 13.99%
-- Flow 2:
Average throughput: 69.61 Mbit/s
95th percentile per-packet one-way delay: 63.514 ms
Loss rate: 10.57%
-- Flow 3:
Average throughput: 104.35 Mbit/s
95th percentile per-packet one-way delay: 66.075 ms
Loss rate: 13.31%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 273.08 Mbit/s) --- Flow 1 egress (mean 234.87 Mbit/s) ---
Flow 2 ingress (mean 77.83 Mbit/s) --- Flow 2 egress (mean 69.61 Mbit/s) ---
Flow 3 ingress (mean 120.36 Mbit/s) --- Flow 3 egress (mean 104.35 Mbit/s) ---

Flow 1 (95th percentile 65.64 ms) • Flow 2 (95th percentile 63.51 ms) • Flow 3 (95th percentile 66.08 ms)
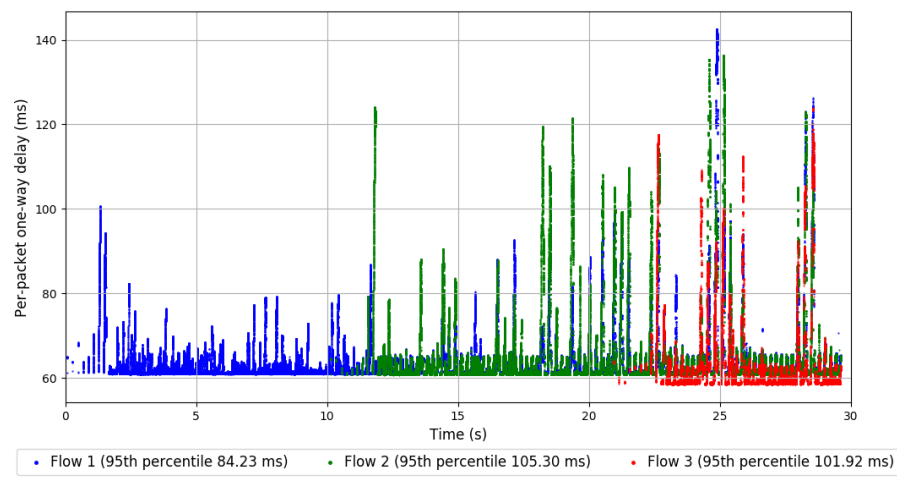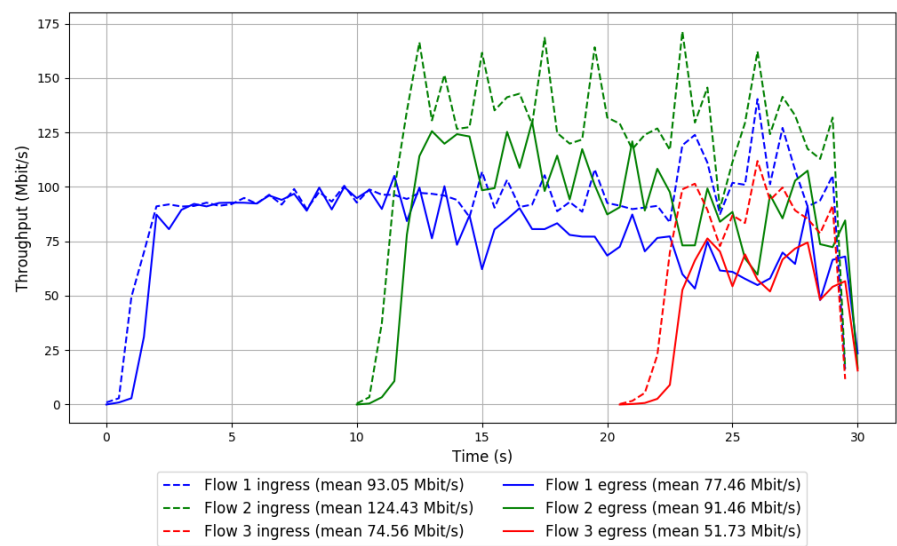
```
Run 1: Statistics of Indigo

Start at: 2019-04-24 00:49:31
End at: 2019-04-24 00:50:01
Local clock offset: -0.78 ms
Remote clock offset: -38.03 ms

# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 148.02 Mbit/s
95th percentile per-packet one-way delay: 85.239 ms
Loss rate: 17.98%
-- Flow 1:
Average throughput: 73.13 Mbit/s
95th percentile per-packet one-way delay: 79.372 ms
Loss rate: 12.08%
-- Flow 2:
Average throughput: 92.37 Mbit/s
95th percentile per-packet one-way delay: 92.088 ms
Loss rate: 24.18%
-- Flow 3:
Average throughput: 42.96 Mbit/s
95th percentile per-packet one-way delay: 70.425 ms
Loss rate: 17.45%
```
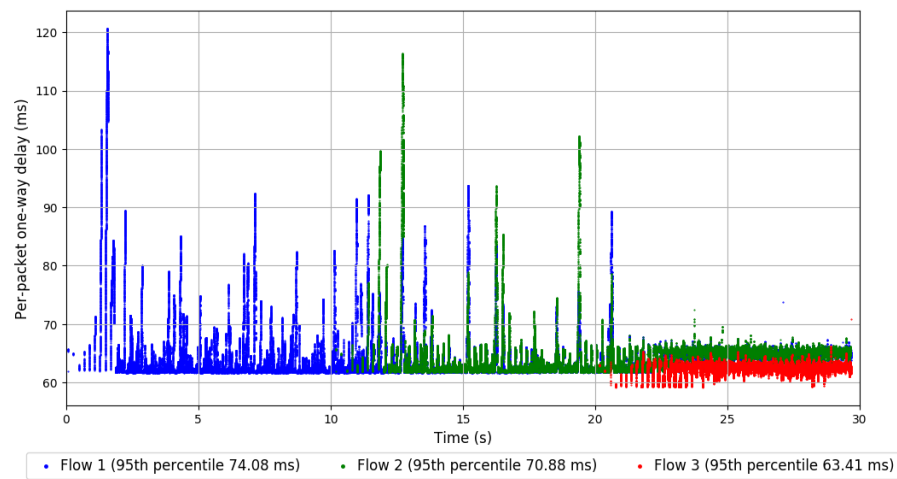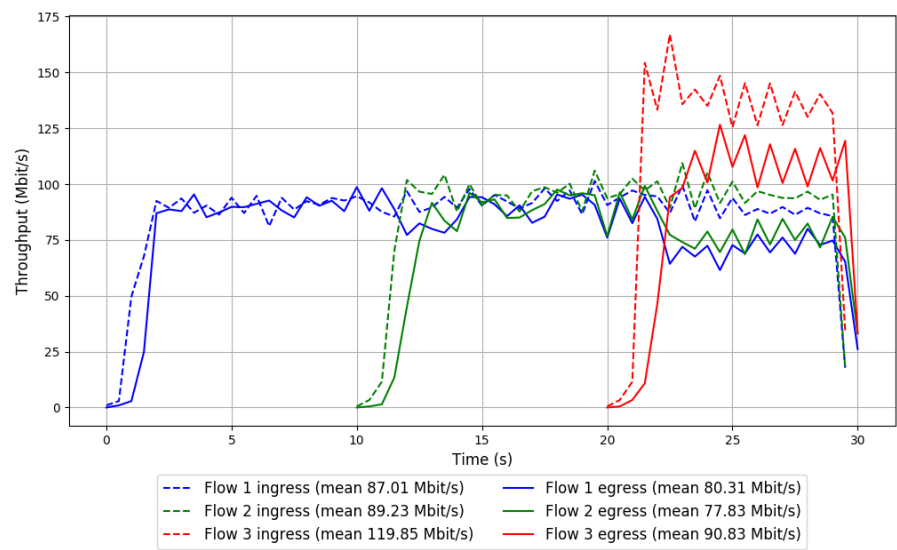
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-04-24 01:25:55
End at: 2019-04-24 01:26:25
Local clock offset: -2.286 ms
Remote clock offset: -32.864 ms

# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 161.11 Mbit/s
95th percentile per-packet one-way delay: 85.158 ms
Loss rate: 20.11%
-- Flow 1:
Average throughput: 74.23 Mbit/s
95th percentile per-packet one-way delay: 81.818 ms
Loss rate: 12.07%
-- Flow 2:
Average throughput: 100.33 Mbit/s
95th percentile per-packet one-way delay: 85.715 ms
Loss rate: 21.24%
-- Flow 3:
Average throughput: 65.53 Mbit/s
95th percentile per-packet one-way delay: 100.661 ms
Loss rate: 37.61%
```
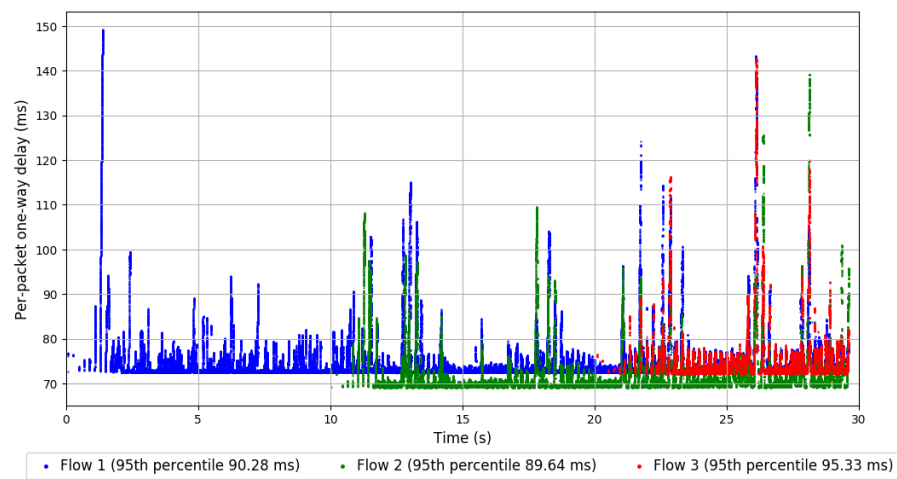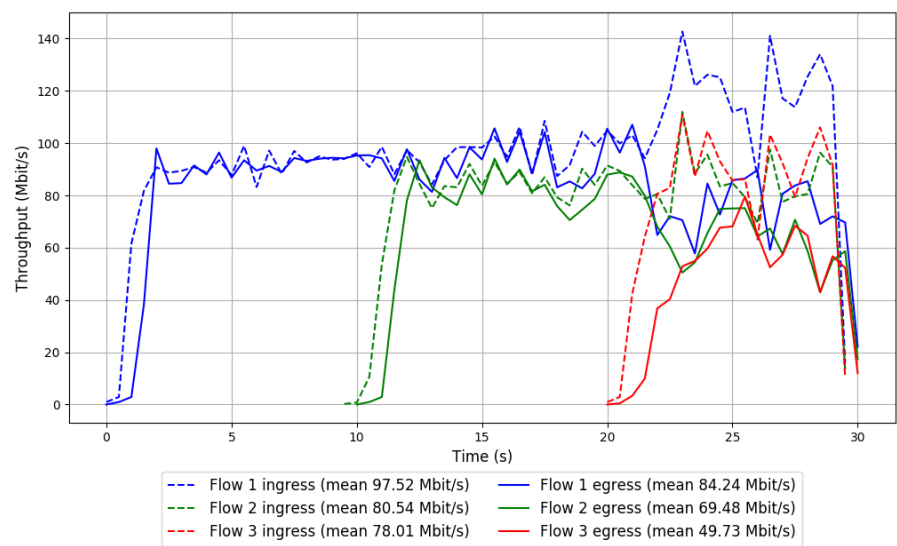
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-04-24 01:56:21
End at: 2019-04-24 01:56:51
Local clock offset: -0.465 ms
Remote clock offset: -40.821 ms


# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.93 Mbit/s
95th percentile per-packet one-way delay: 97.541 ms
Loss rate: 22.34%
-- Flow 1:
Average throughput: 77.46 Mbit/s
95th percentile per-packet one-way delay: 84.227 ms
Loss rate: 16.74%
-- Flow 2:
Average throughput: 91.46 Mbit/s
95th percentile per-packet one-way delay: 105.298 ms
Loss rate: 26.48%
-- Flow 3:
Average throughput: 51.73 Mbit/s
95th percentile per-packet one-way delay: 101.925 ms
Loss rate: 30.64%
```
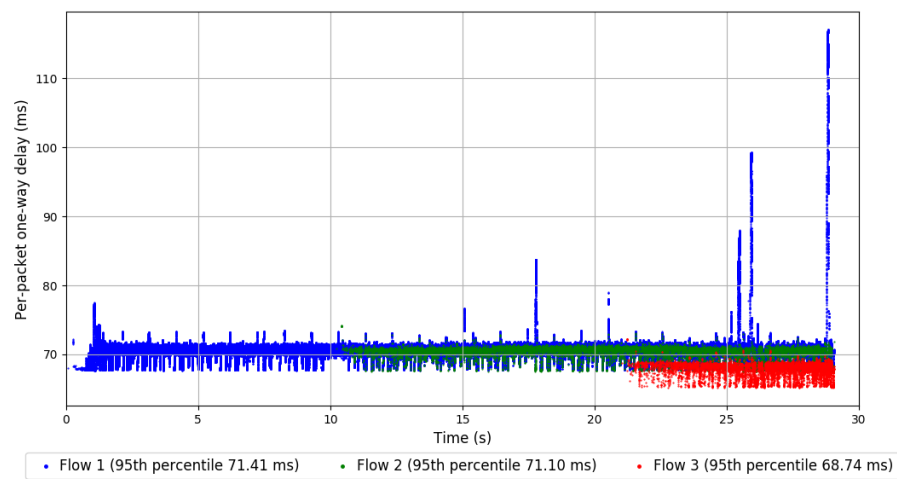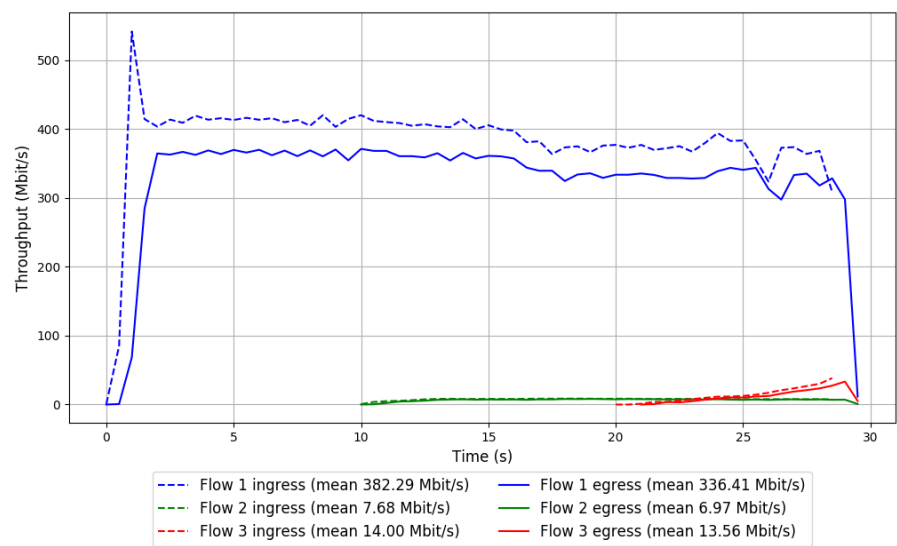
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-04-24 02:37:58
End at: 2019-04-24 02:38:28
Local clock offset: -0.449 ms
Remote clock offset: -41.336 ms


# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.63 Mbit/s
95th percentile per-packet one-way delay: 71.041 ms
Loss rate: 12.75%
-- Flow 1:
Average throughput: 80.31 Mbit/s
95th percentile per-packet one-way delay: 74.075 ms
Loss rate: 7.69%
-- Flow 2:
Average throughput: 77.83 Mbit/s
95th percentile per-packet one-way delay: 70.883 ms
Loss rate: 12.76%
-- Flow 3:
Average throughput: 90.83 Mbit/s
95th percentile per-packet one-way delay: 63.408 ms
Loss rate: 24.17%
```
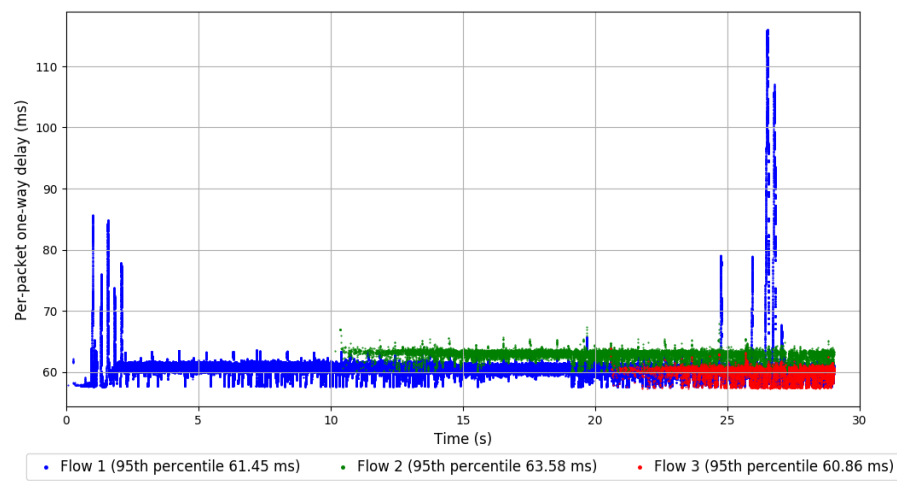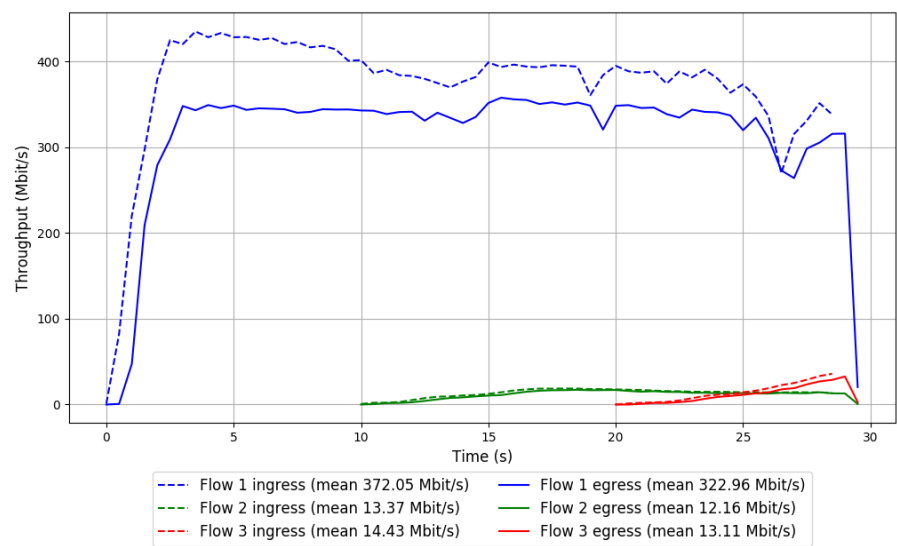
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-04-24 03:19:37
End at: 2019-04-24 03:20:07
Local clock offset: -1.146 ms
Remote clock offset: -32.245 ms


# Below is generated by plot.py at 2019-04-24 03:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.25 Mbit/s
95th percentile per-packet one-way delay: 90.531 ms
Loss rate: 16.85%
-- Flow 1:
Average throughput: 84.24 Mbit/s
95th percentile per-packet one-way delay: 90.284 ms
Loss rate: 13.60%
-- Flow 2:
Average throughput: 69.48 Mbit/s
95th percentile per-packet one-way delay: 89.637 ms
Loss rate: 13.67%
-- Flow 3:
Average throughput: 49.73 Mbit/s
95th percentile per-packet one-way delay: 95.333 ms
Loss rate: 36.21%
```
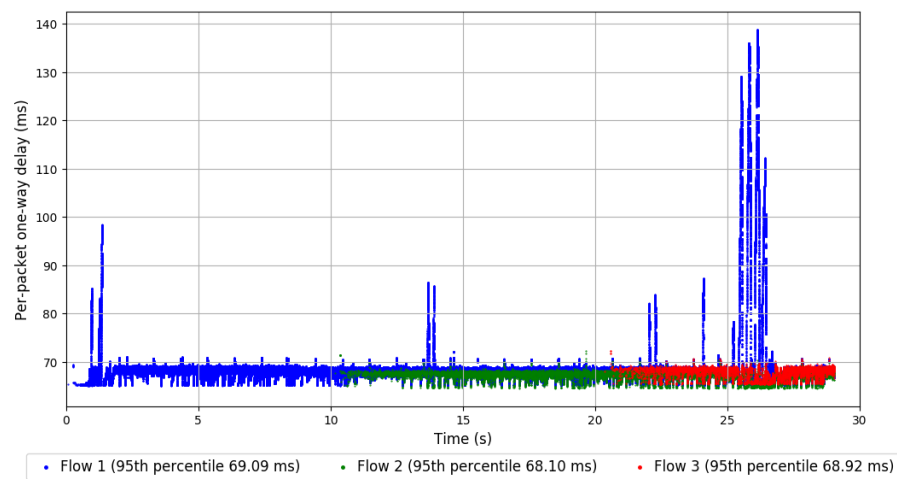
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-04-24 00:20:53
End at: 2019-04-24 00:21:23
Local clock offset: -1.735 ms
Remote clock offset: -33.556 ms

# Below is generated by plot.py at 2019-04-24 03:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 344.65 Mbit/s
95th percentile per-packet one-way delay: 71.407 ms
Loss rate: 11.93%
-- Flow 1:
Average throughput: 336.41 Mbit/s
95th percentile per-packet one-way delay: 71.413 ms
Loss rate: 12.00%
-- Flow 2:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 71.099 ms
Loss rate: 9.29%
-- Flow 3:
Average throughput: 13.56 Mbit/s
95th percentile per-packet one-way delay: 68.742 ms
Loss rate: 8.85%
```
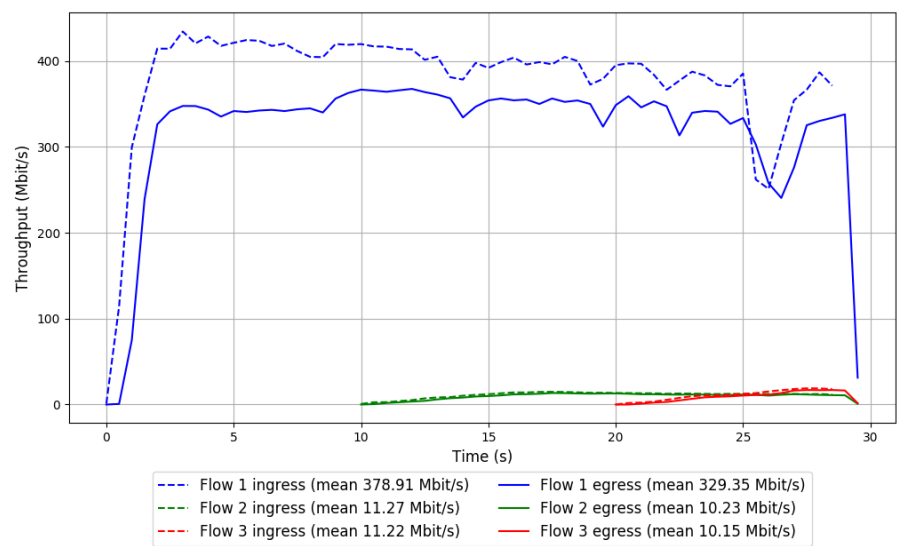
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-04-24 01:08:20
End at: 2019-04-24 01:08:50
Local clock offset: -1.291 ms
Remote clock offset: -38.465 ms


# Below is generated by plot.py at 2019-04-24 03:40:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.77 Mbit/s
95th percentile per-packet one-way delay: 61.811 ms
Loss rate: 13.04%
-- Flow 1:
Average throughput: 322.96 Mbit/s
95th percentile per-packet one-way delay: 61.453 ms
Loss rate: 13.18%
-- Flow 2:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 63.575 ms
Loss rate: 9.03%
-- Flow 3:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 60.858 ms
Loss rate: 9.12%
```

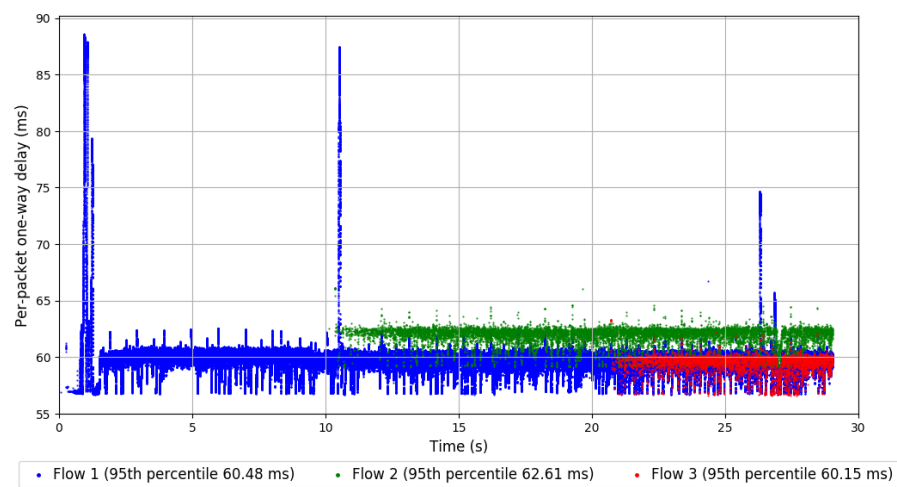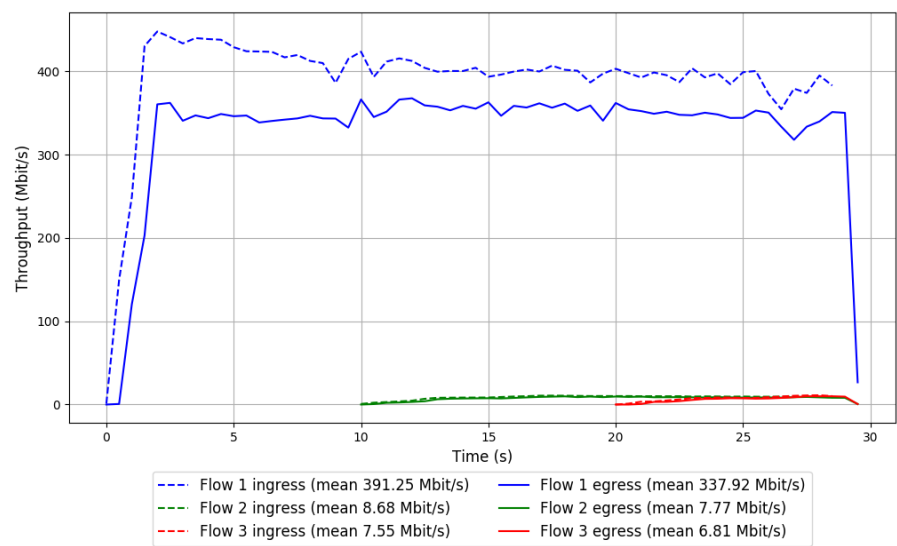Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-04-24 01:38:55
End at: 2019-04-24 01:39:25
Local clock offset: -2.739 ms
Remote clock offset: -32.89 ms


# Below is generated by plot.py at 2019-04-24 03:40:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 339.05 Mbit/s
95th percentile per-packet one-way delay: 69.063 ms
Loss rate: 12.97%
-- Flow 1:
Average throughput: 329.35 Mbit/s
95th percentile per-packet one-way delay: 69.088 ms
Loss rate: 13.07%
-- Flow 2:
Average throughput: 10.23 Mbit/s
95th percentile per-packet one-way delay: 68.099 ms
Loss rate: 9.22%
-- Flow 3:
Average throughput: 10.15 Mbit/s
95th percentile per-packet one-way delay: 68.920 ms
Loss rate: 9.51%
```

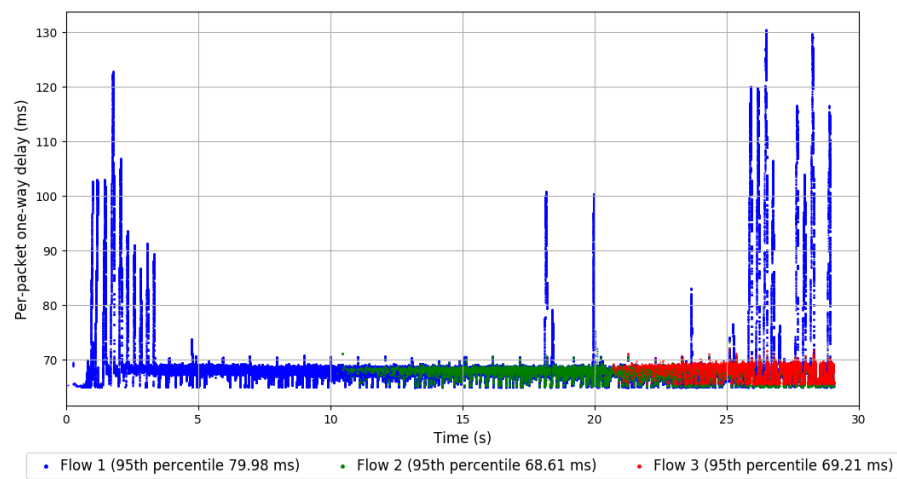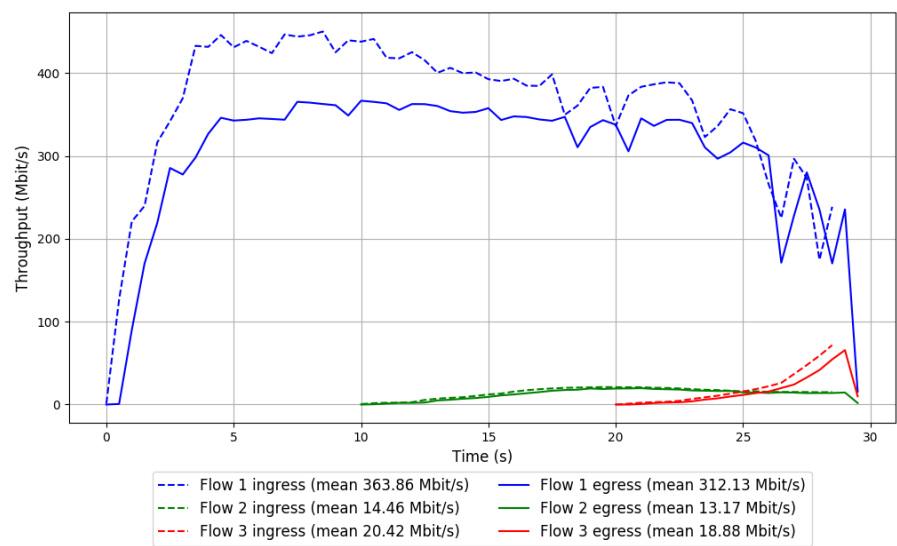Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 378.91 Mbit/s) Flow 1 egress (mean 329.35 Mbit/s)
Flow 2 ingress (mean 11.27 Mbit/s)   Flow 2 egress (mean 10.23 Mbit/s)
Flow 3 ingress (mean 11.22 Mbit/s)   Flow 3 egress (mean 10.15 Mbit/s)

Flow 1 (95th percentile 69.09 ms)   Flow 2 (95th percentile 68.10 ms)   Flow 3 (95th percentile 68.92 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-04-24 02:20:27
End at: 2019-04-24 02:20:57
Local clock offset: -0.912 ms
Remote clock offset: -44.156 ms


# Below is generated by plot.py at 2019-04-24 03:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.00 Mbit/s
95th percentile per-packet one-way delay: 60.557 ms
Loss rate: 13.58%
-- Flow 1:
Average throughput: 337.92 Mbit/s
95th percentile per-packet one-way delay: 60.479 ms
Loss rate: 13.65%
-- Flow 2:
Average throughput: 7.77 Mbit/s
95th percentile per-packet one-way delay: 62.606 ms
Loss rate: 10.47%
-- Flow 3:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 60.145 ms
Loss rate: 9.75%
```

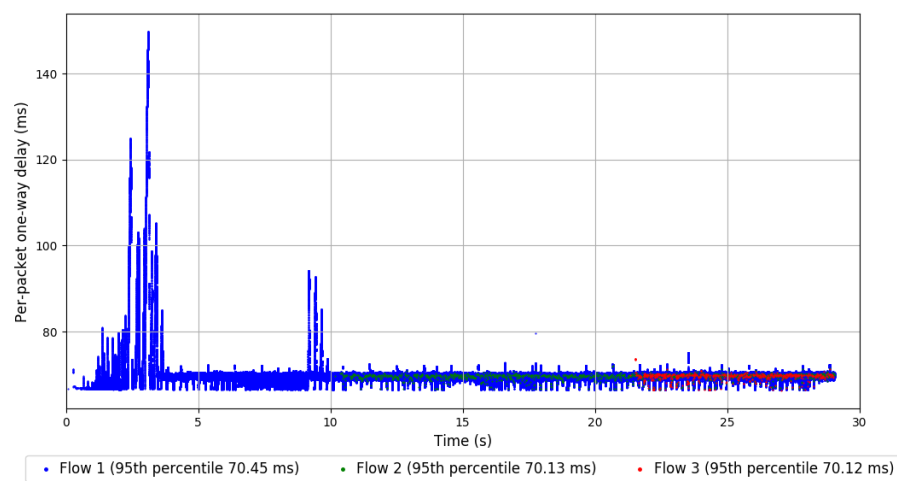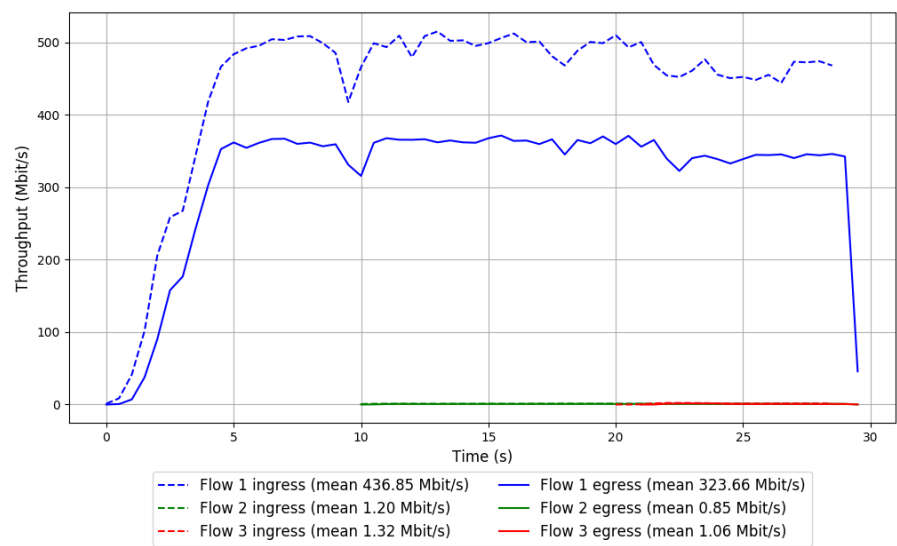Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-04-24 02:50:54
End at: 2019-04-24 02:51:24
Local clock offset: 0.26 ms
Remote clock offset: -34.558 ms


# Below is generated by plot.py at 2019-04-24 03:40:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.92 Mbit/s
95th percentile per-packet one-way delay: 78.523 ms
Loss rate: 13.97%
-- Flow 1:
Average throughput: 312.13 Mbit/s
95th percentile per-packet one-way delay: 79.980 ms
Loss rate: 14.21%
-- Flow 2:
Average throughput: 13.17 Mbit/s
95th percentile per-packet one-way delay: 68.611 ms
Loss rate: 8.91%
-- Flow 3:
Average throughput: 18.88 Mbit/s
95th percentile per-packet one-way delay: 69.206 ms
Loss rate: 7.57%
```

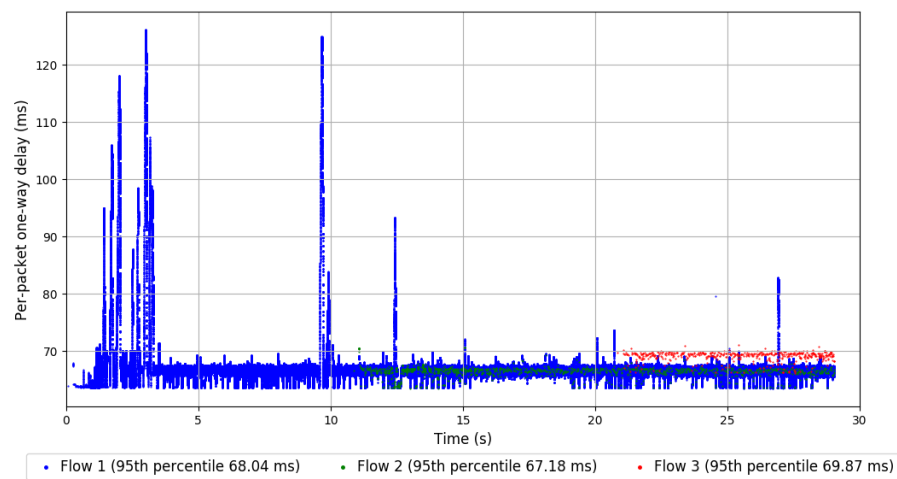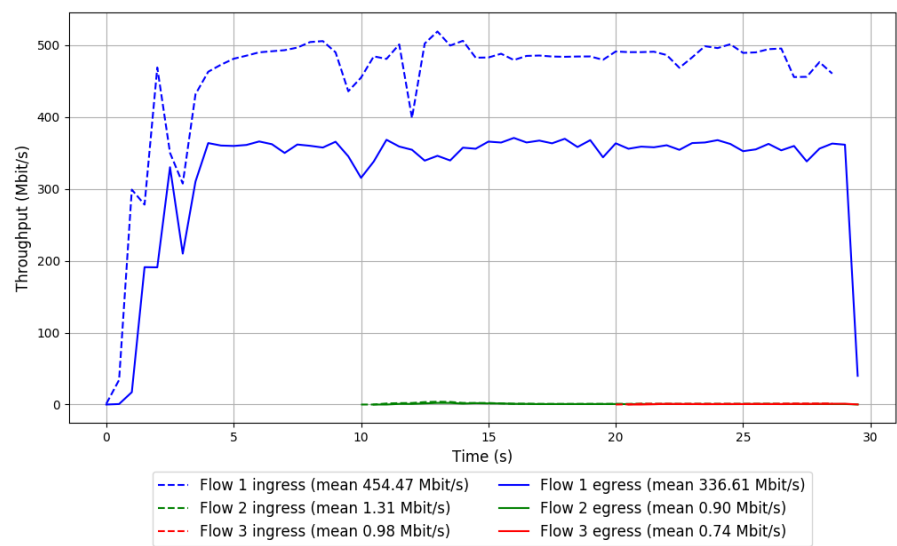Run 5: Report of Indigo-MusesC3 — Data Link

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```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-04-24 00:51:00
End at: 2019-04-24 00:51:30
Local clock offset: -0.122 ms
Remote clock offset: -32.706 ms

# Below is generated by plot.py at 2019-04-24 03:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.50 Mbit/s
95th percentile per-packet one-way delay: 70.449 ms
Loss rate: 25.91%
-- Flow 1:
Average throughput: 323.66 Mbit/s
95th percentile per-packet one-way delay: 70.450 ms
Loss rate: 25.90%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 70.127 ms
Loss rate: 29.15%
-- Flow 3:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 70.121 ms
Loss rate: 29.07%
```
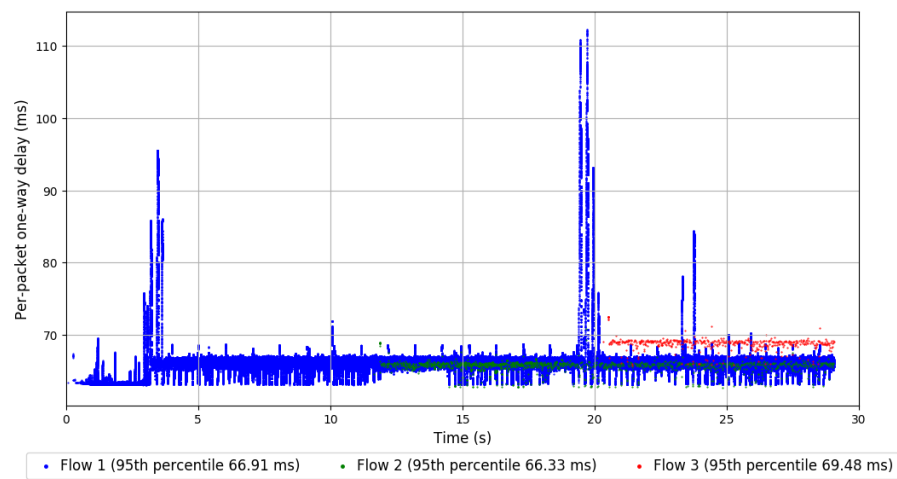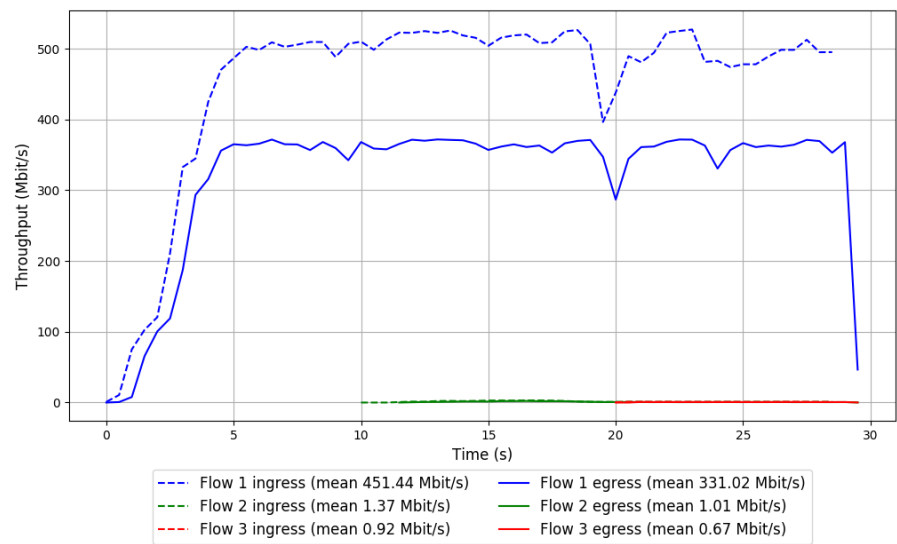
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-04-24 01:27:24
End at: 2019-04-24 01:27:54
Local clock offset: -2.554 ms
Remote clock offset: -32.778 ms

# Below is generated by plot.py at 2019-04-24 03:43:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.38 Mbit/s
95th percentile per-packet one-way delay: 68.066 ms
Loss rate: 25.94%
-- Flow 1:
Average throughput: 336.61 Mbit/s
95th percentile per-packet one-way delay: 68.039 ms
Loss rate: 25.92%
-- Flow 2:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 67.177 ms
Loss rate: 33.51%
-- Flow 3:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 69.870 ms
Loss rate: 28.95%
```

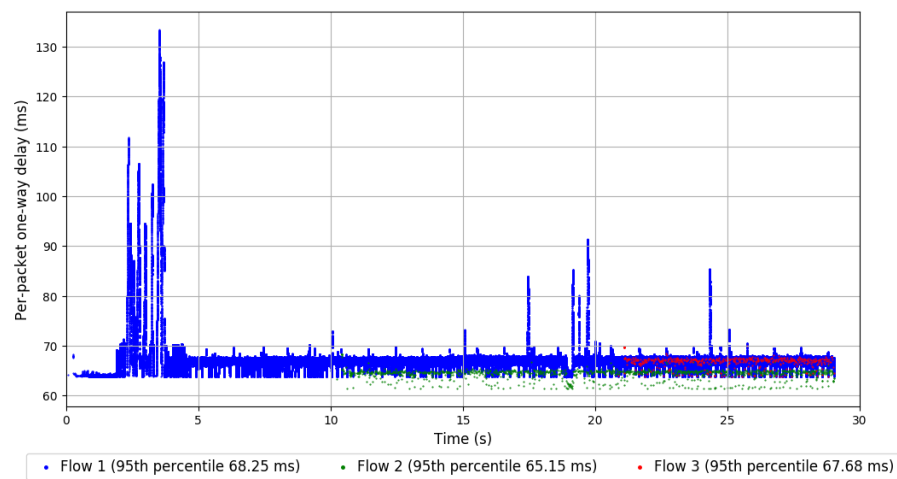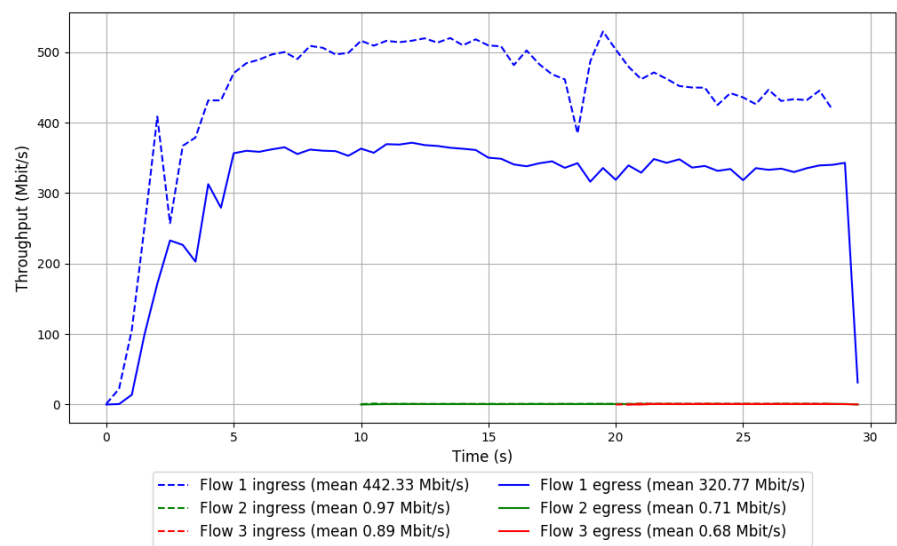Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 454.47 Mbit/s) — Flow 1 egress (mean 336.61 Mbit/s)
Flow 2 ingress (mean 1.31 Mbit/s) — Flow 2 egress (mean 0.90 Mbit/s)
Flow 3 ingress (mean 0.98 Mbit/s) — Flow 3 egress (mean 0.74 Mbit/s)

Flow 1 (95th percentile 68.04 ms)   Flow 2 (95th percentile 67.18 ms)   Flow 3 (95th percentile 69.87 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-04-24 01:57:51
End at: 2019-04-24 01:58:21
Local clock offset: 0.362 ms
Remote clock offset: -35.463 ms


# Below is generated by plot.py at 2019-04-24 03:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.82 Mbit/s
95th percentile per-packet one-way delay: 66.912 ms
Loss rate: 26.68%
-- Flow 1:
Average throughput: 331.02 Mbit/s
95th percentile per-packet one-way delay: 66.909 ms
Loss rate: 26.67%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 66.328 ms
Loss rate: 32.57%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 69.480 ms
Loss rate: 27.68%
```

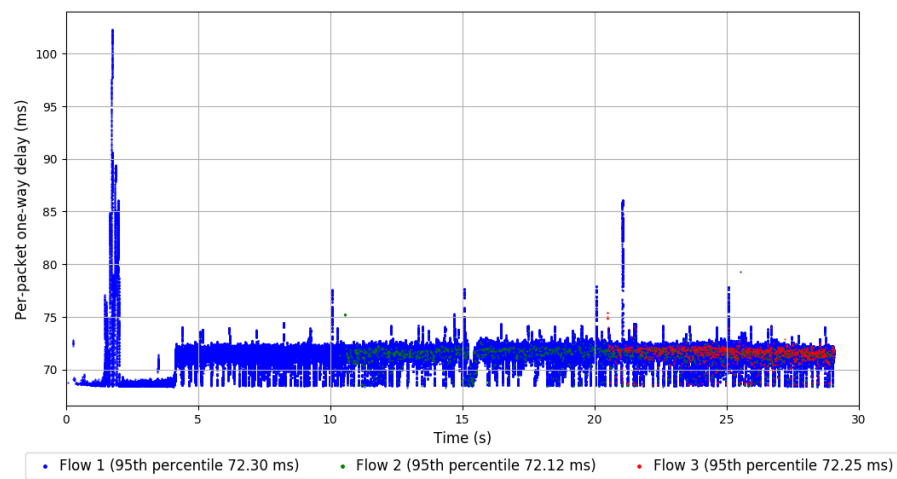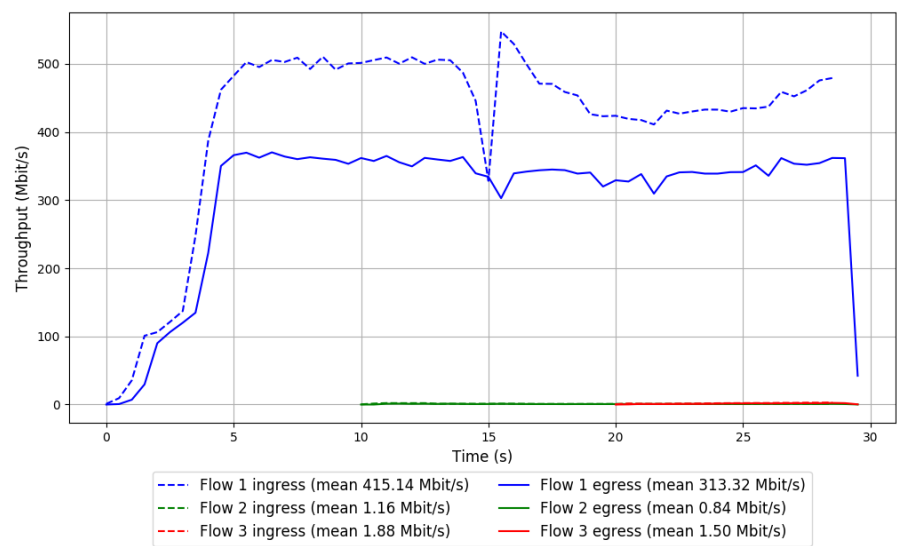Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 451.44 Mbit/s)   Flow 1 egress (mean 331.02 Mbit/s)
Flow 2 ingress (mean 1.37 Mbit/s)   Flow 2 egress (mean 1.01 Mbit/s)
Flow 3 ingress (mean 0.92 Mbit/s)   Flow 3 egress (mean 0.67 Mbit/s)

Flow 1 (95th percentile 66.91 ms)   Flow 2 (95th percentile 66.33 ms)   Flow 3 (95th percentile 69.48 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-04-24 02:39:27
End at: 2019-04-24 02:39:57
Local clock offset: 0.178 ms
Remote clock offset: -38.56 ms


# Below is generated by plot.py at 2019-04-24 03:44:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.42 Mbit/s
95th percentile per-packet one-way delay: 68.251 ms
Loss rate: 27.48%
-- Flow 1:
Average throughput: 320.77 Mbit/s
95th percentile per-packet one-way delay: 68.255 ms
Loss rate: 27.48%
-- Flow 2:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 65.152 ms
Loss rate: 26.87%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 67.676 ms
Loss rate: 27.44%
```

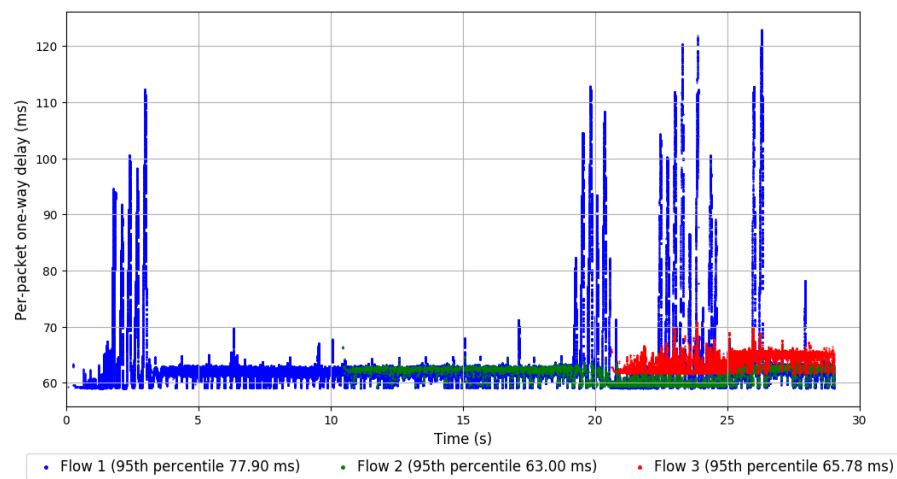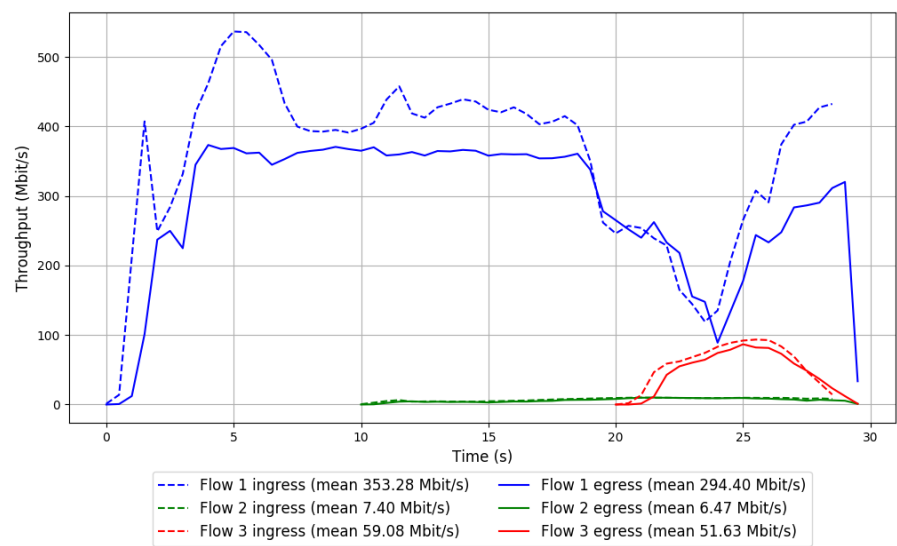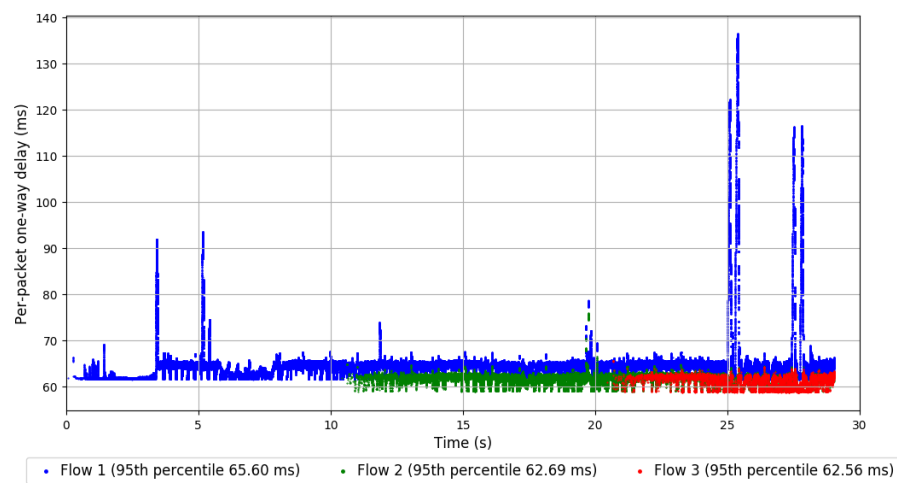Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-04-24 03:21:07
End at: 2019-04-24 03:21:37
Local clock offset: -1.198 ms
Remote clock offset: -36.001 ms


# Below is generated by plot.py at 2019-04-24 03:44:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.31 Mbit/s
95th percentile per-packet one-way delay: 72.300 ms
Loss rate: 24.52%
-- Flow 1:
Average throughput: 313.32 Mbit/s
95th percentile per-packet one-way delay: 72.300 ms
Loss rate: 24.53%
-- Flow 2:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 72.122 ms
Loss rate: 27.69%
-- Flow 3:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 72.247 ms
Loss rate: 20.15%
```

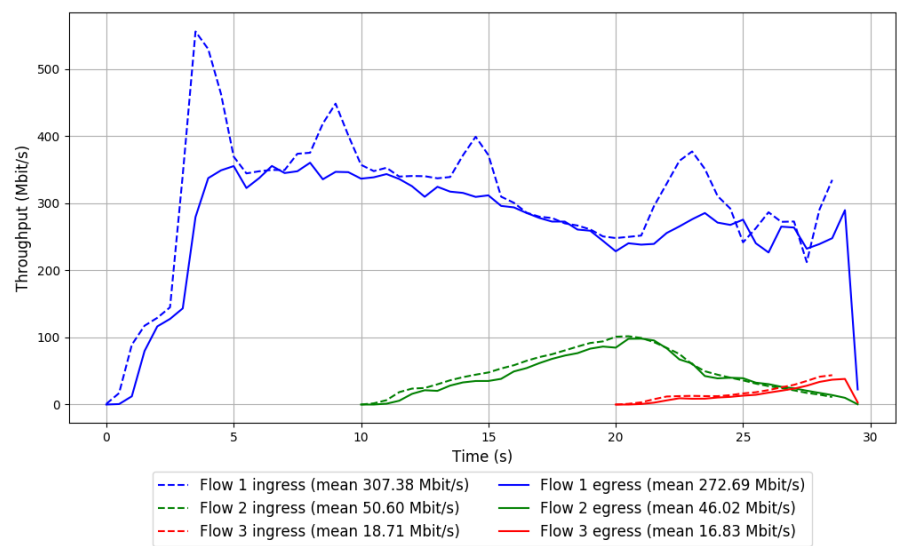Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-04-24 00:16:47
End at: 2019-04-24 00:17:17
Local clock offset: -1.688 ms
Remote clock offset: -38.45 ms


# Below is generated by plot.py at 2019-04-24 03:44:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.98 Mbit/s
95th percentile per-packet one-way delay: 75.990 ms
Loss rate: 16.42%
-- Flow 1:
Average throughput: 294.40 Mbit/s
95th percentile per-packet one-way delay: 77.900 ms
Loss rate: 16.66%
-- Flow 2:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 63.001 ms
Loss rate: 12.66%
-- Flow 3:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 65.781 ms
Loss rate: 12.60%
```

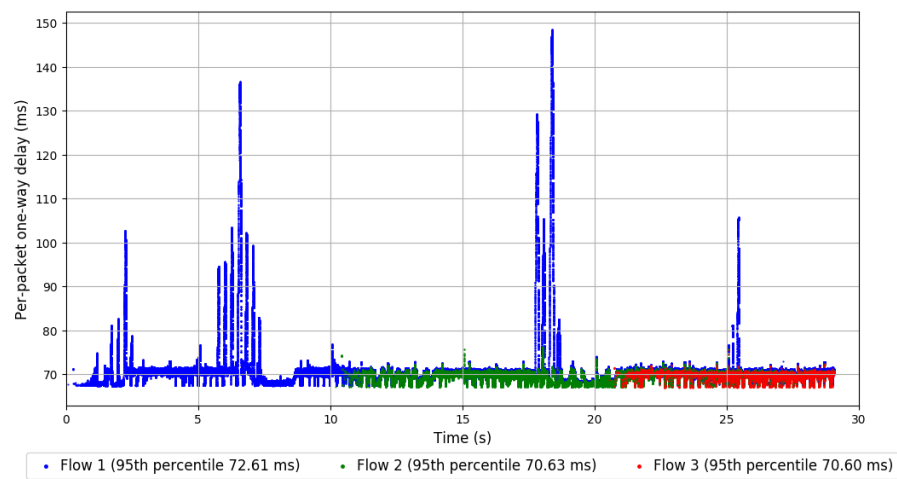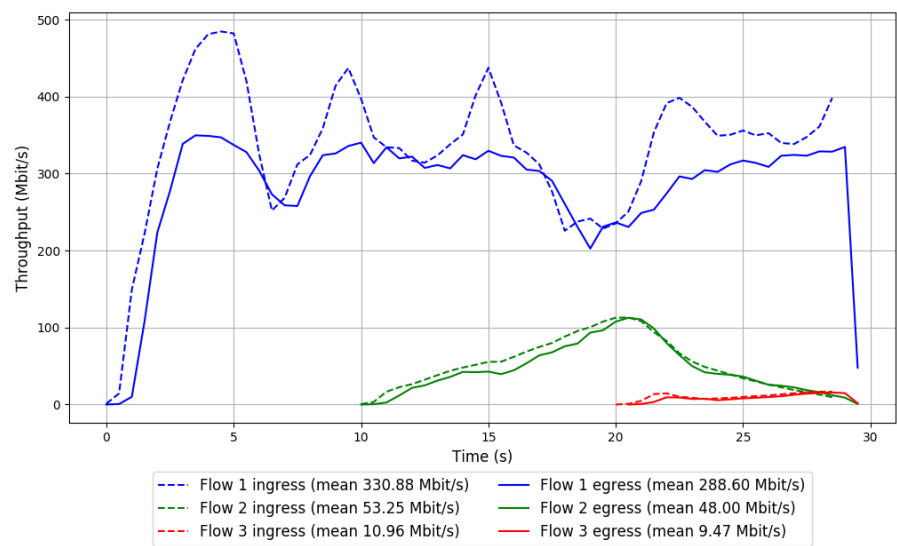Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-04-24 01:03:53
End at: 2019-04-24 01:04:23
Local clock offset: -1.967 ms
Remote clock offset: -37.953 ms


# Below is generated by plot.py at 2019-04-24 03:44:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.22 Mbit/s
95th percentile per-packet one-way delay: 65.502 ms
Loss rate: 11.05%
-- Flow 1:
Average throughput: 272.69 Mbit/s
95th percentile per-packet one-way delay: 65.597 ms
Loss rate: 11.28%
-- Flow 2:
Average throughput: 46.02 Mbit/s
95th percentile per-packet one-way delay: 62.688 ms
Loss rate: 9.06%
-- Flow 3:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 62.563 ms
Loss rate: 10.08%
```
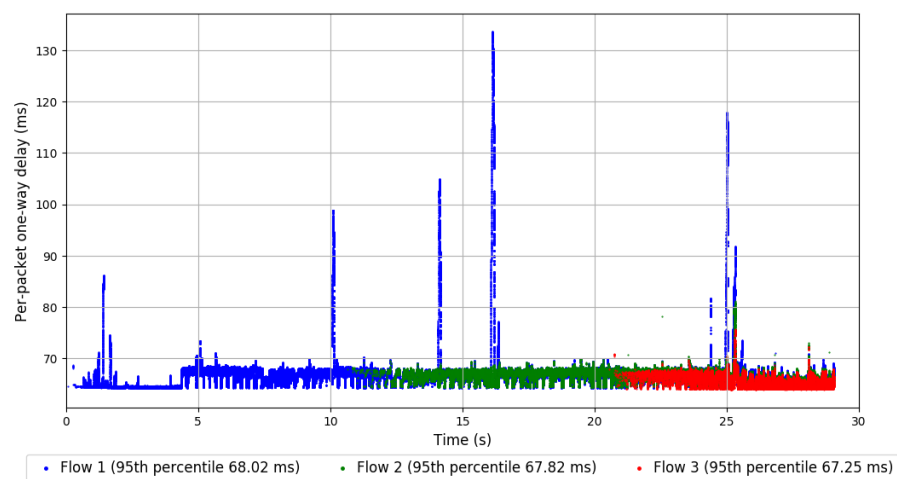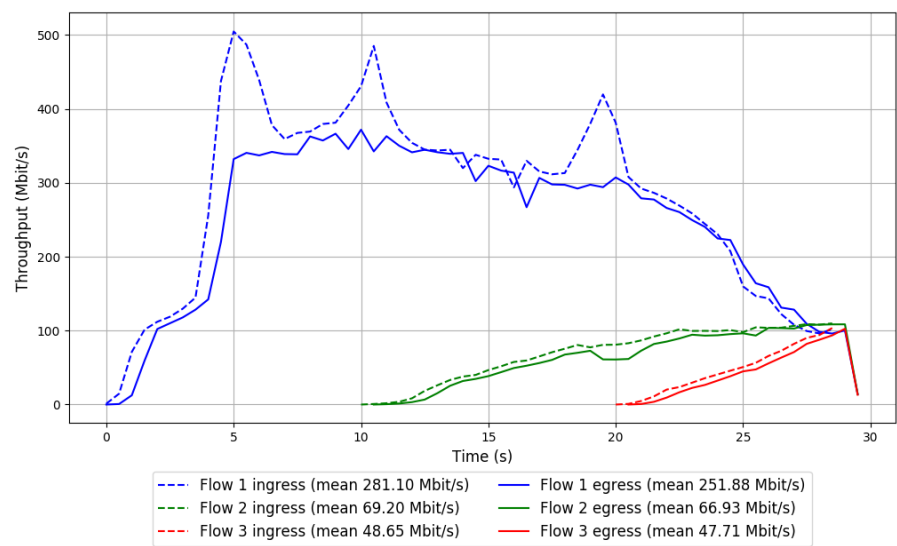
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-04-24 01:34:48
End at: 2019-04-24 01:35:18
Local clock offset: -3.866 ms
Remote clock offset: -31.407 ms

# Below is generated by plot.py at 2019-04-24 03:44:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.58 Mbit/s
95th percentile per-packet one-way delay: 71.909 ms
Loss rate: 12.50%
-- Flow 1:
Average throughput: 288.60 Mbit/s
95th percentile per-packet one-way delay: 72.615 ms
Loss rate: 12.77%
-- Flow 2:
Average throughput: 48.00 Mbit/s
95th percentile per-packet one-way delay: 70.626 ms
Loss rate: 9.84%
-- Flow 3:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 70.597 ms
Loss rate: 13.55%
```
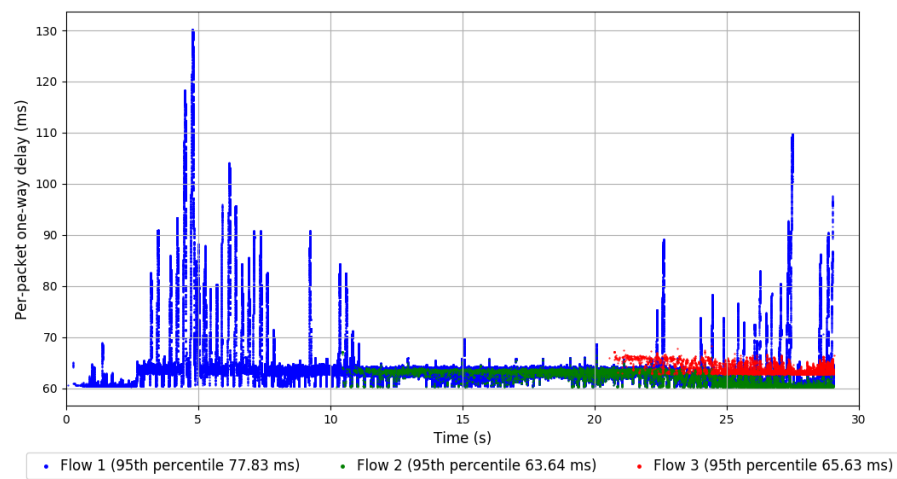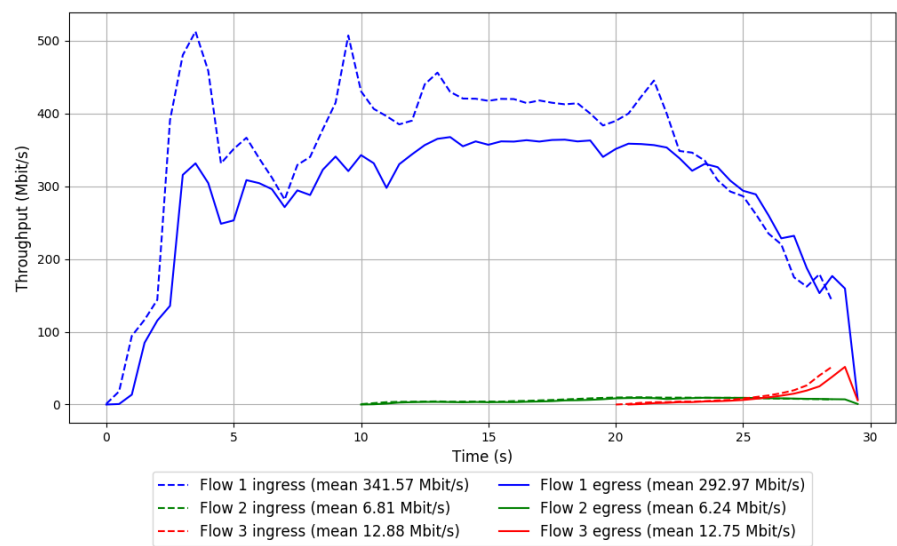
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-04-24 02:10:51
End at: 2019-04-24 02:11:21
Local clock offset: -0.111 ms
Remote clock offset: -35.548 ms

# Below is generated by plot.py at 2019-04-24 03:45:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.40 Mbit/s
95th percentile per-packet one-way delay: 67.975 ms
Loss rate: 9.43%
-- Flow 1:
Average throughput: 251.88 Mbit/s
95th percentile per-packet one-way delay: 68.021 ms
Loss rate: 10.39%
-- Flow 2:
Average throughput: 66.93 Mbit/s
95th percentile per-packet one-way delay: 67.822 ms
Loss rate: 5.85%
-- Flow 3:
Average throughput: 47.71 Mbit/s
95th percentile per-packet one-way delay: 67.251 ms
Loss rate: 1.94%
```

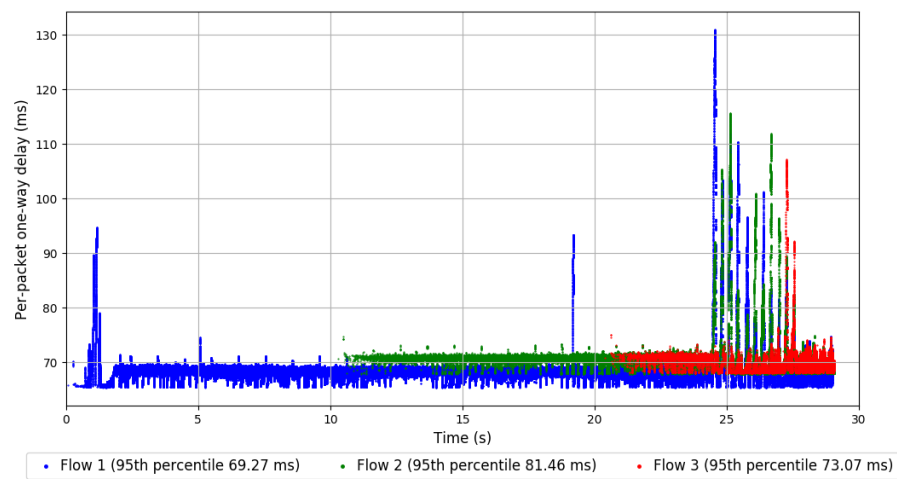Run 4: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 281.10 Mbit/s) —— Flow 1 egress (mean 251.88 Mbit/s)
- - - Flow 2 ingress (mean 69.20 Mbit/s) —— Flow 2 egress (mean 66.93 Mbit/s)
- - - Flow 3 ingress (mean 48.65 Mbit/s) —— Flow 3 egress (mean 47.71 Mbit/s)

• Flow 1 (95th percentile 68.02 ms)   • Flow 2 (95th percentile 67.82 ms)   • Flow 3 (95th percentile 67.25 ms)
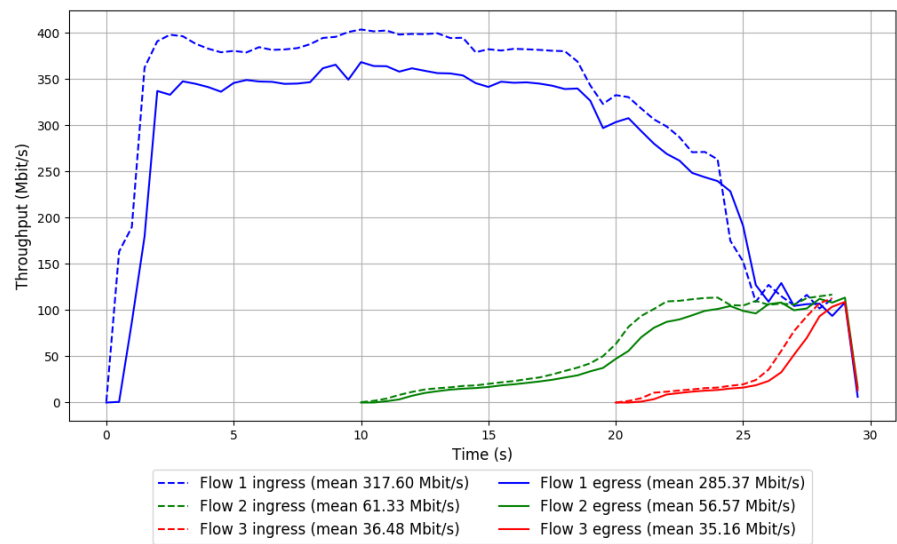
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```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-04-24 02:46:47
End at: 2019-04-24 02:47:17
Local clock offset: 0.041 ms
Remote clock offset: -39.527 ms


# Below is generated by plot.py at 2019-04-24 03:47:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.71 Mbit/s
95th percentile per-packet one-way delay: 77.424 ms
Loss rate: 14.01%
-- Flow 1:
Average throughput: 292.97 Mbit/s
95th percentile per-packet one-way delay: 77.835 ms
Loss rate: 14.23%
-- Flow 2:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 63.636 ms
Loss rate: 8.36%
-- Flow 3:
Average throughput: 12.75 Mbit/s
95th percentile per-packet one-way delay: 65.626 ms
Loss rate: 1.03%
```
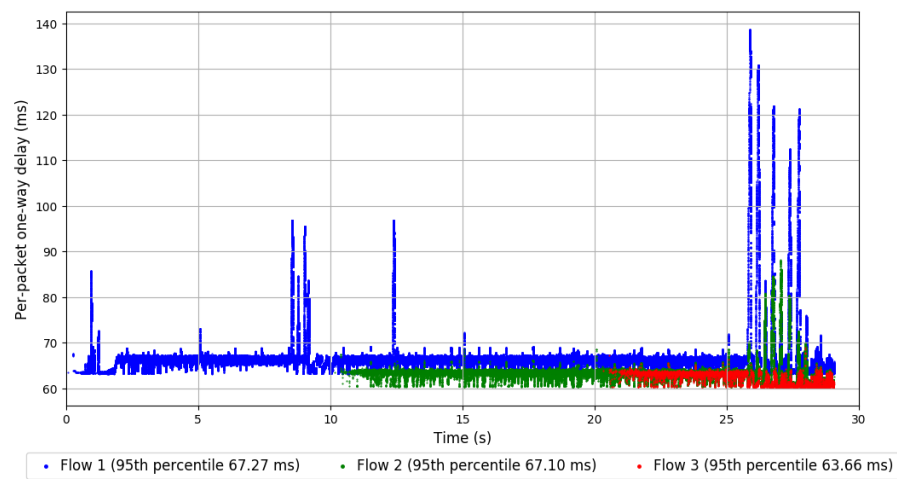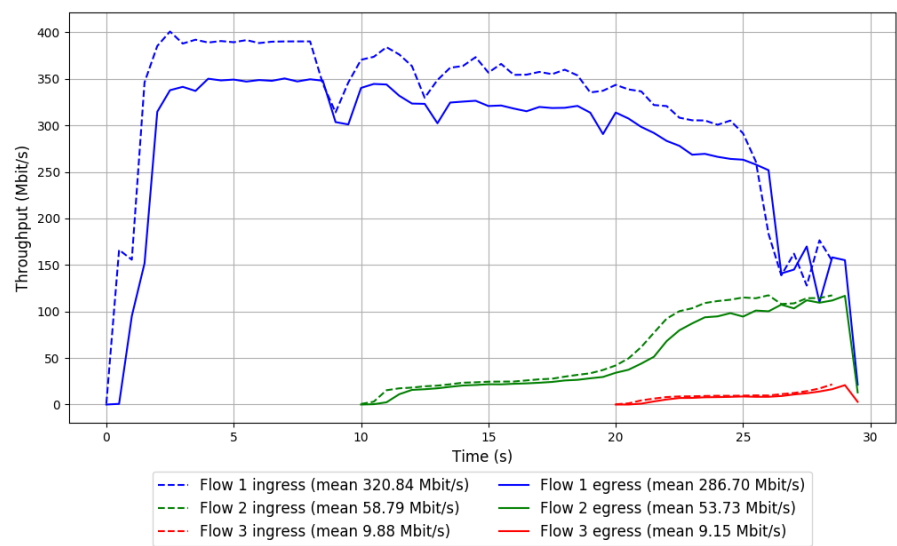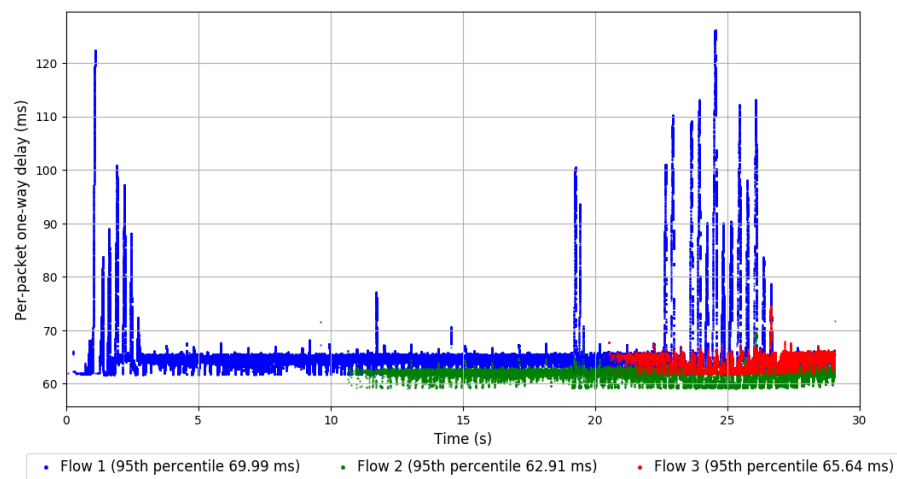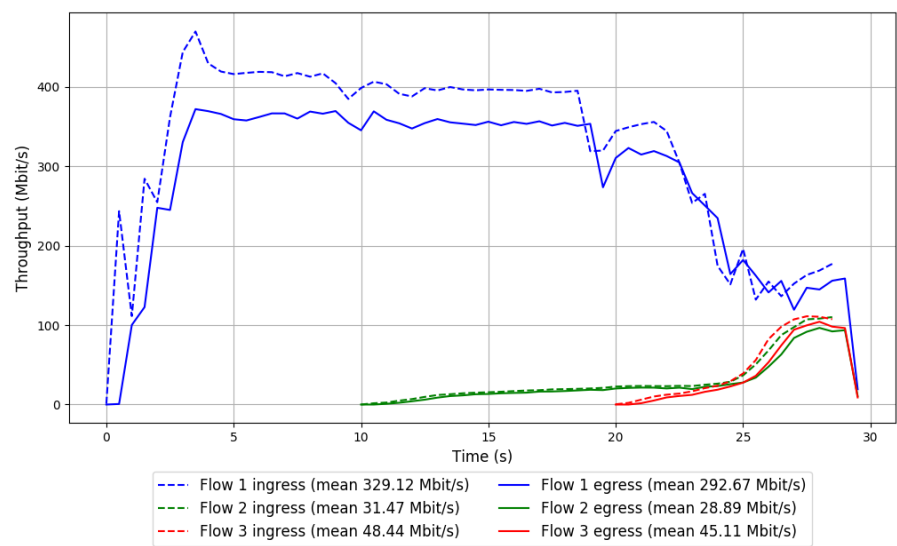
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-04-24 00:40:43
End at: 2019-04-24 00:41:13
Local clock offset: 0.175 ms
Remote clock offset: -32.66 ms

# Below is generated by plot.py at 2019-04-24 03:47:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.98 Mbit/s
95th percentile per-packet one-way delay: 71.249 ms
Loss rate: 9.69%
-- Flow 1:
Average throughput: 285.37 Mbit/s
95th percentile per-packet one-way delay: 69.273 ms
Loss rate: 10.13%
-- Flow 2:
Average throughput: 56.57 Mbit/s
95th percentile per-packet one-way delay: 81.458 ms
Loss rate: 7.78%
-- Flow 3:
Average throughput: 35.16 Mbit/s
95th percentile per-packet one-way delay: 73.069 ms
Loss rate: 3.71%
```

Run 1: Report of Indigo-MusesT — Data Link

- Flow 1 ingress (mean 317.60 Mbit/s)
- Flow 1 egress (mean 285.37 Mbit/s)
- Flow 2 ingress (mean 61.33 Mbit/s)
- Flow 2 egress (mean 56.57 Mbit/s)
- Flow 3 ingress (mean 36.48 Mbit/s)
- Flow 3 egress (mean 35.16 Mbit/s)

- Flow 1 (95th percentile 69.27 ms)
- Flow 2 (95th percentile 81.46 ms)
- Flow 3 (95th percentile 73.07 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-04-24 01:22:46
End at: 2019-04-24 01:23:16
Local clock offset: -2.798 ms
Remote clock offset: -36.425 ms


# Below is generated by plot.py at 2019-04-24 03:47:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.43 Mbit/s
95th percentile per-packet one-way delay: 67.251 ms
Loss rate: 10.40%
-- Flow 1:
Average throughput: 286.70 Mbit/s
95th percentile per-packet one-way delay: 67.269 ms
Loss rate: 10.64%
-- Flow 2:
Average throughput: 53.73 Mbit/s
95th percentile per-packet one-way delay: 67.098 ms
Loss rate: 8.62%
-- Flow 3:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 63.665 ms
Loss rate: 7.41%
```

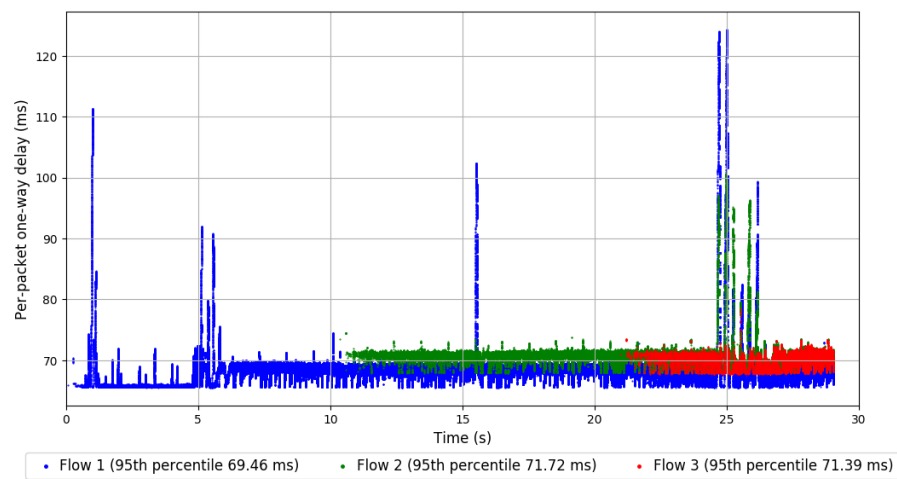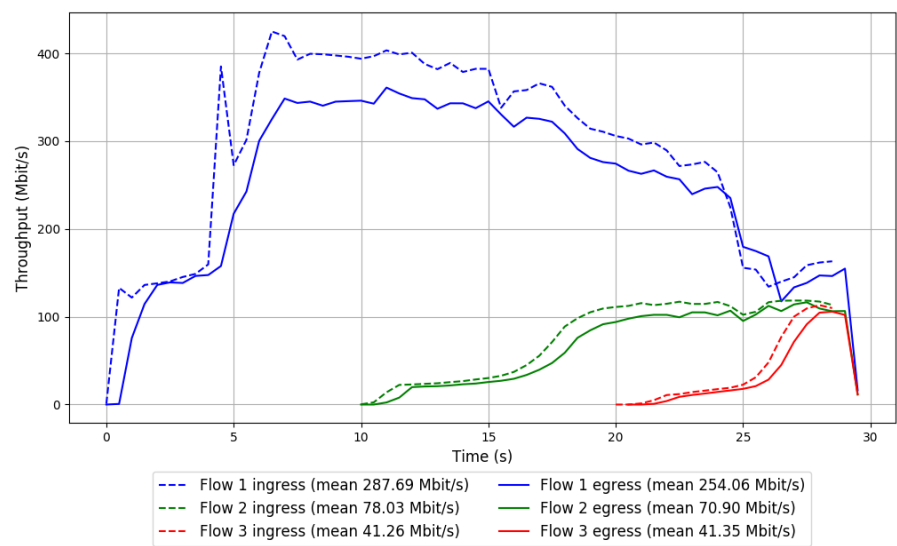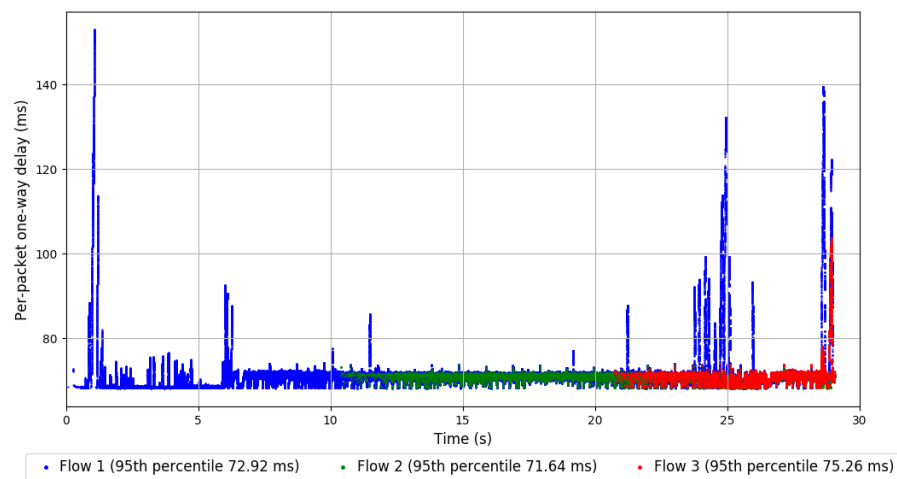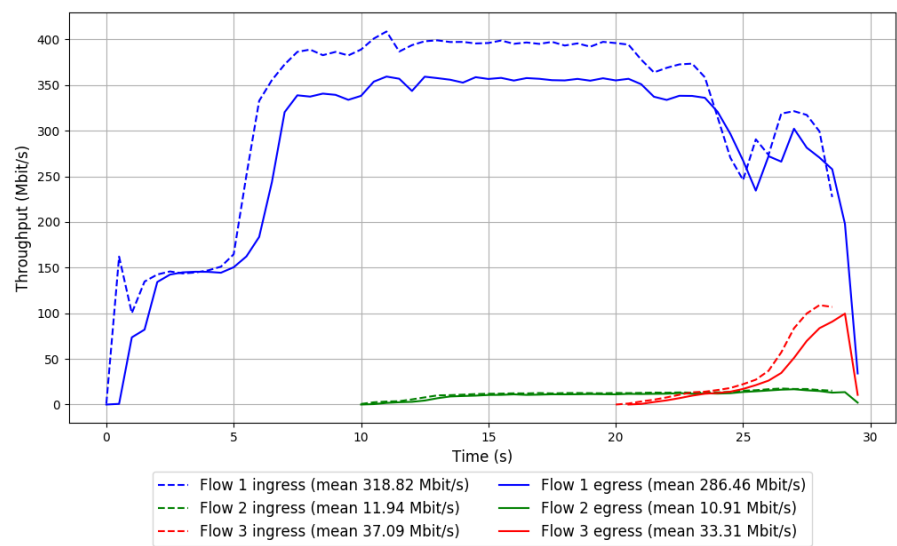Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-04-24 01:53:15
End at: 2019-04-24 01:53:45
Local clock offset: -0.783 ms
Remote clock offset: -39.873 ms


# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.74 Mbit/s
95th percentile per-packet one-way delay: 67.353 ms
Loss rate: 10.74%
-- Flow 1:
Average throughput: 292.67 Mbit/s
95th percentile per-packet one-way delay: 69.992 ms
Loss rate: 11.07%
-- Flow 2:
Average throughput: 28.89 Mbit/s
95th percentile per-packet one-way delay: 62.906 ms
Loss rate: 8.21%
-- Flow 3:
Average throughput: 45.11 Mbit/s
95th percentile per-packet one-way delay: 65.641 ms
Loss rate: 6.82%
```

Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 329.12 Mbit/s) —— Flow 1 egress (mean 292.67 Mbit/s)
Flow 2 ingress (mean 31.47 Mbit/s) —— Flow 2 egress (mean 28.89 Mbit/s)
Flow 3 ingress (mean 48.44 Mbit/s) —— Flow 3 egress (mean 45.11 Mbit/s)

Flow 1 (95th percentile 69.99 ms)   Flow 2 (95th percentile 62.91 ms)   Flow 3 (95th percentile 65.64 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-04-24 02:34:49
End at: 2019-04-24 02:35:19
Local clock offset: 0.399 ms
Remote clock offset: -34.248 ms


# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.26 Mbit/s
95th percentile per-packet one-way delay: 71.215 ms
Loss rate: 11.11%
-- Flow 1:
Average throughput: 254.06 Mbit/s
95th percentile per-packet one-way delay: 69.464 ms
Loss rate: 11.68%
-- Flow 2:
Average throughput: 70.90 Mbit/s
95th percentile per-packet one-way delay: 71.715 ms
Loss rate: 9.15%
-- Flow 3:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 71.393 ms
Loss rate: 5.66%
```

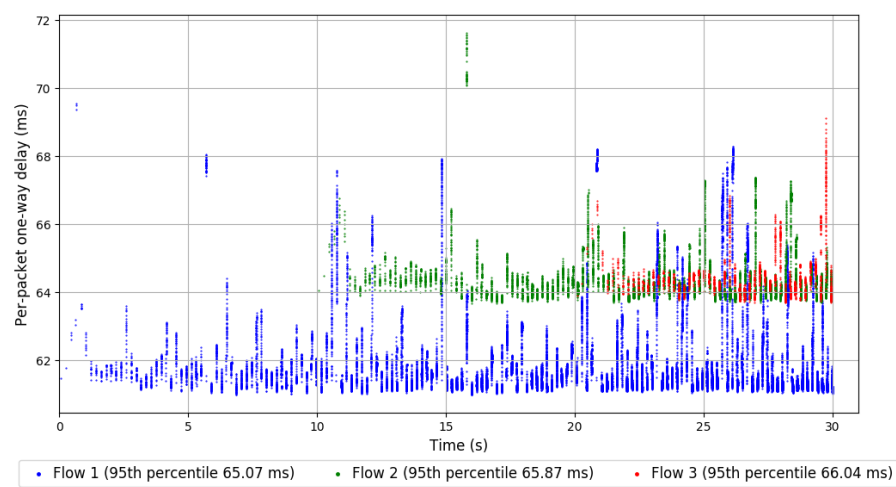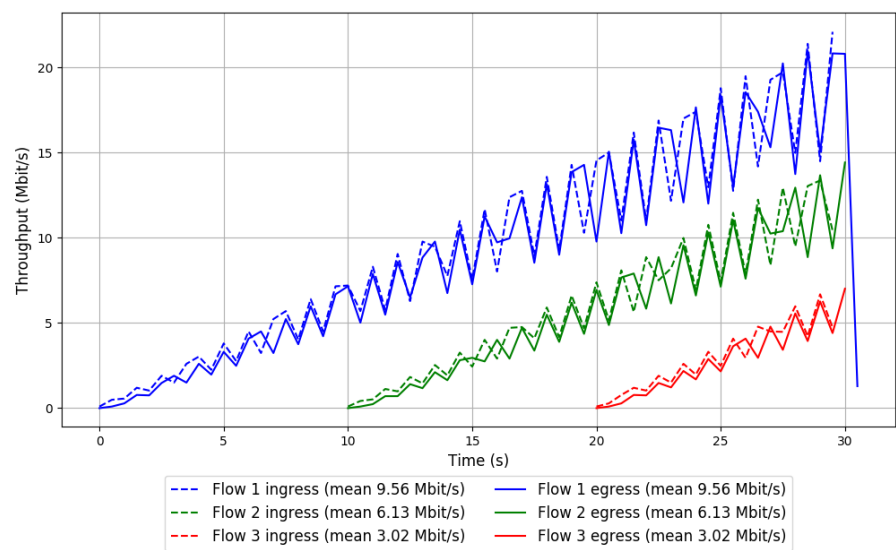Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-04-24 03:10:55
End at: 2019-04-24 03:11:25
Local clock offset: -2.052 ms
Remote clock offset: -36.808 ms


# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.36 Mbit/s
95th percentile per-packet one-way delay: 72.867 ms
Loss rate: 10.11%
-- Flow 1:
Average throughput: 286.46 Mbit/s
95th percentile per-packet one-way delay: 72.918 ms
Loss rate: 10.14%
-- Flow 2:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 71.641 ms
Loss rate: 8.58%
-- Flow 3:
Average throughput: 33.31 Mbit/s
95th percentile per-packet one-way delay: 75.262 ms
Loss rate: 10.22%
```

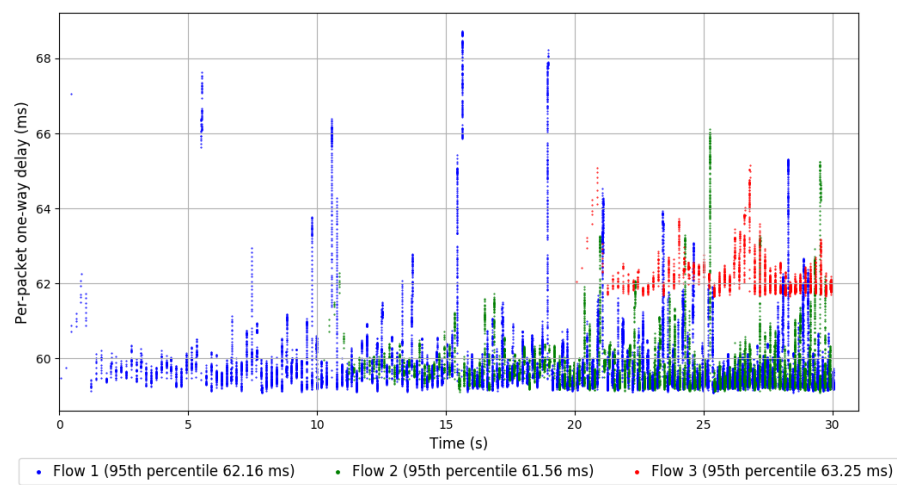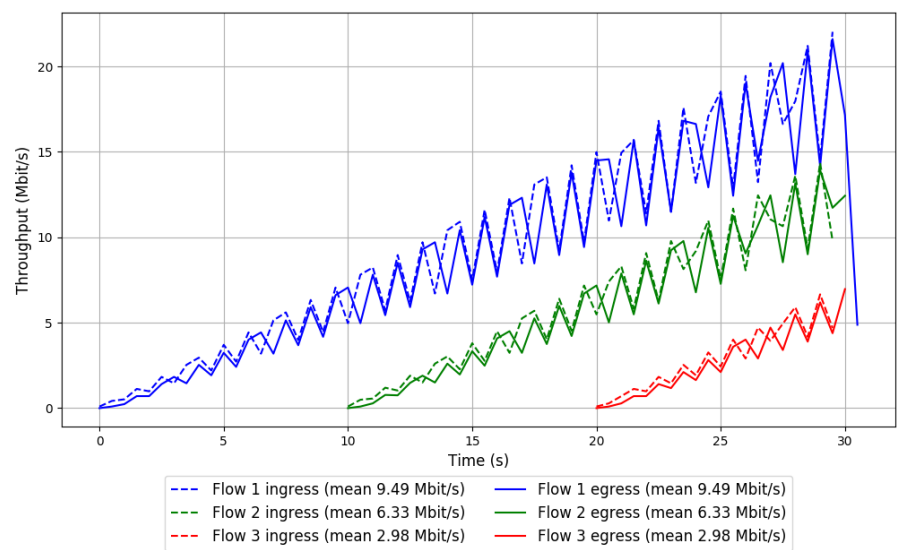Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-04-24 00:33:32
End at: 2019-04-24 00:34:02
Local clock offset: 0.032 ms
Remote clock offset: -36.824 ms

# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.62 Mbit/s
95th percentile per-packet one-way delay: 65.566 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 65.068 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 65.873 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 66.039 ms
Loss rate: 0.00%
```
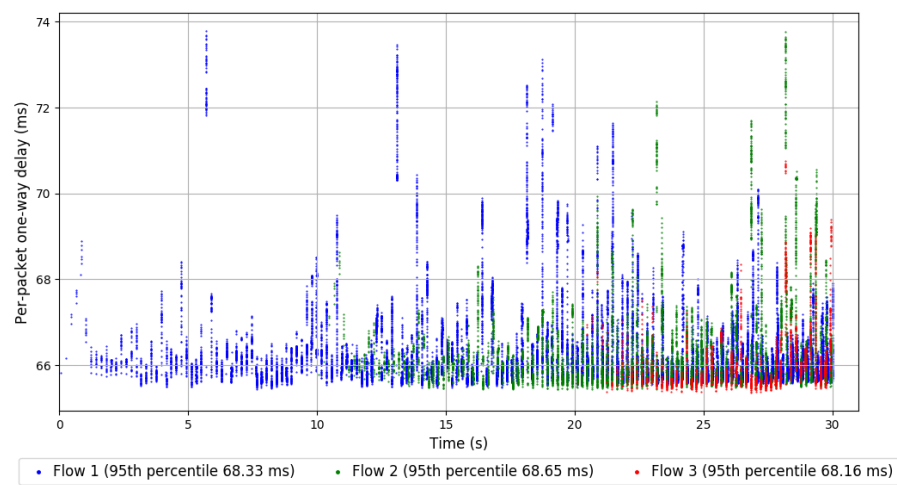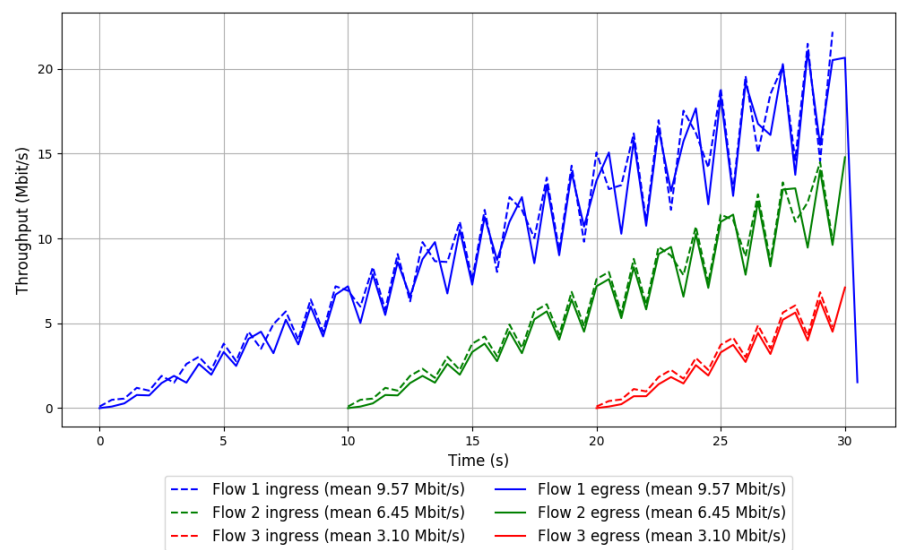
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-04-24 01:15:34
End at: 2019-04-24 01:16:04
Local clock offset: -2.059 ms
Remote clock offset: -37.172 ms


# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.66 Mbit/s
95th percentile per-packet one-way delay: 62.470 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 62.162 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 61.559 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 63.251 ms
Loss rate: 0.00%
```
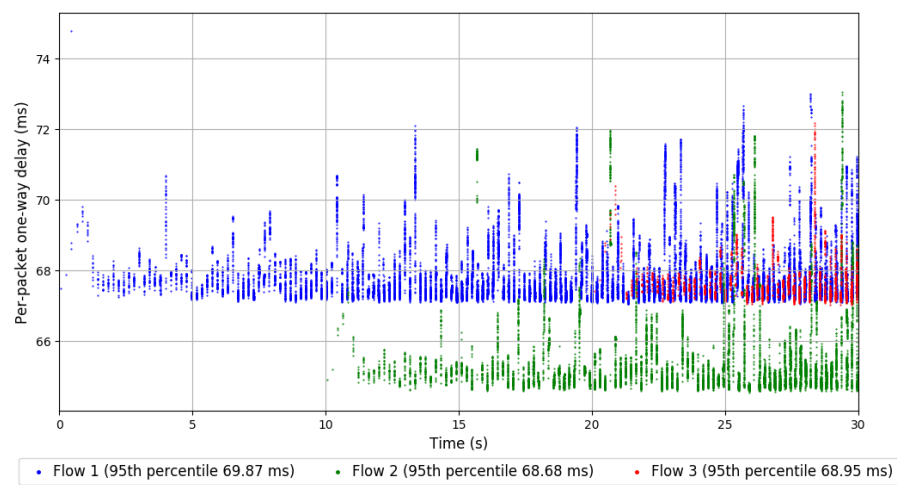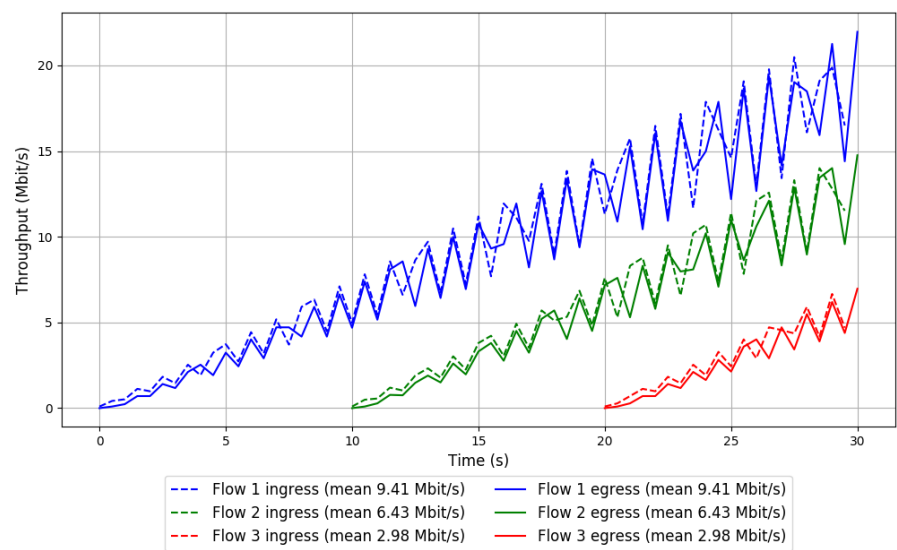
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-04-24 01:46:02
End at: 2019-04-24 01:46:32
Local clock offset: -3.808 ms
Remote clock offset: -34.608 ms

# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 68.424 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 68.330 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 68.650 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 68.160 ms
Loss rate: 0.00%
```
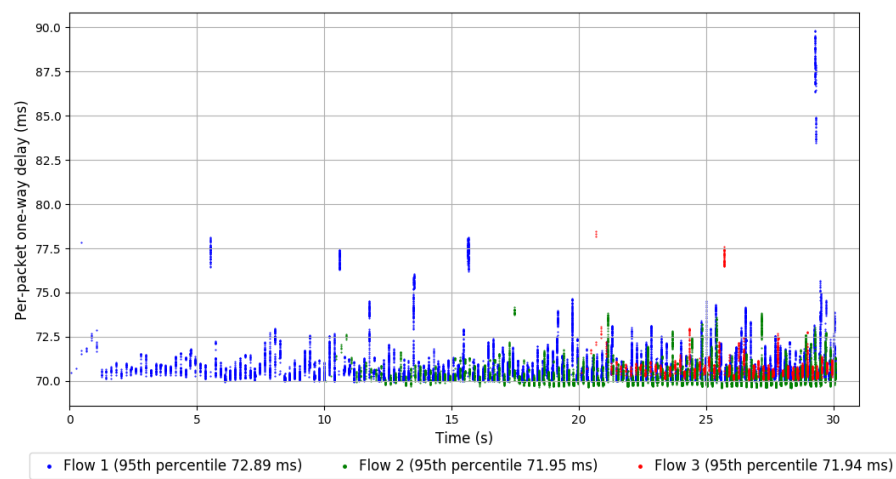
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-04-24 02:27:38
End at: 2019-04-24 02:28:08
Local clock offset: -0.426 ms
Remote clock offset: -35.849 ms


# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 69.658 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 69.866 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 68.681 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 68.955 ms
Loss rate: 0.00%
```
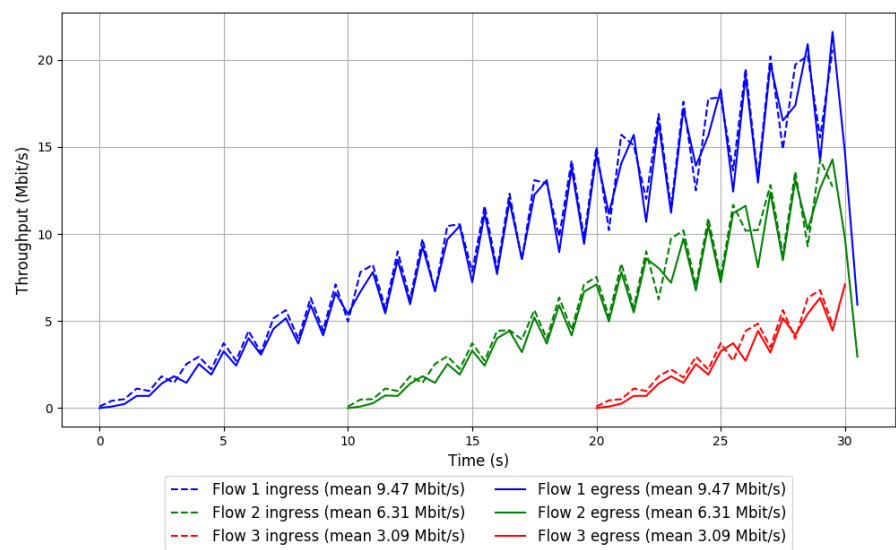
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-04-24 03:03:39
End at: 2019-04-24 03:04:09
Local clock offset: -3.35 ms
Remote clock offset: -33.504 ms

# Below is generated by plot.py at 2019-04-24 03:47:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.69 Mbit/s
95th percentile per-packet one-way delay: 72.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 72.891 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 71.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 71.937 ms
Loss rate: 0.00%
```
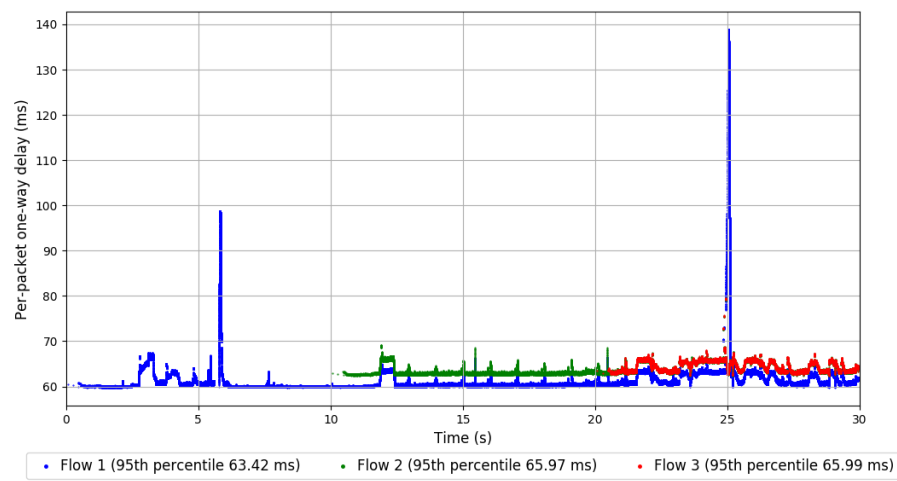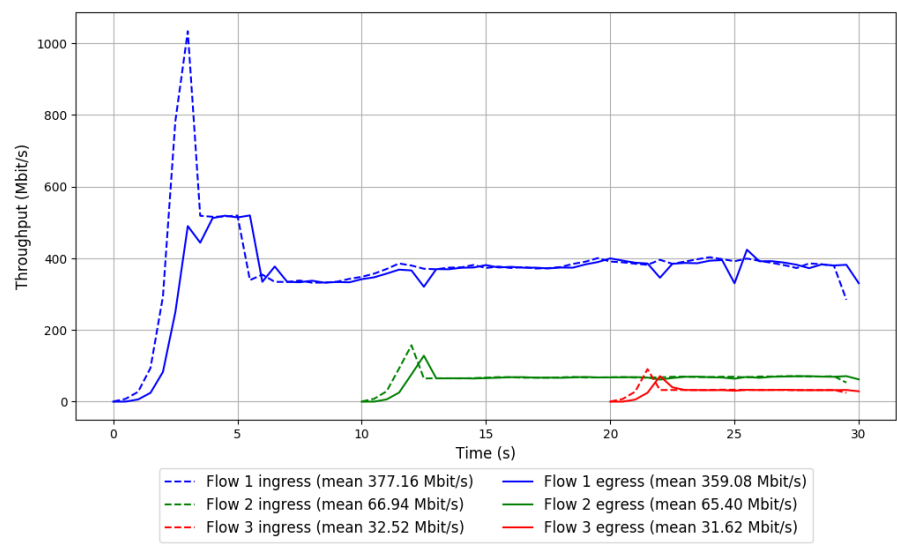
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-04-24 00:47:49
End at: 2019-04-24 00:48:19
Local clock offset: 0.696 ms
Remote clock offset: -36.482 ms


# Below is generated by plot.py at 2019-04-24 03:50:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 412.97 Mbit/s
95th percentile per-packet one-way delay: 65.276 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 359.08 Mbit/s
95th percentile per-packet one-way delay: 63.422 ms
Loss rate: 4.79%
-- Flow 2:
Average throughput: 65.40 Mbit/s
95th percentile per-packet one-way delay: 65.974 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 65.994 ms
Loss rate: 2.77%
```
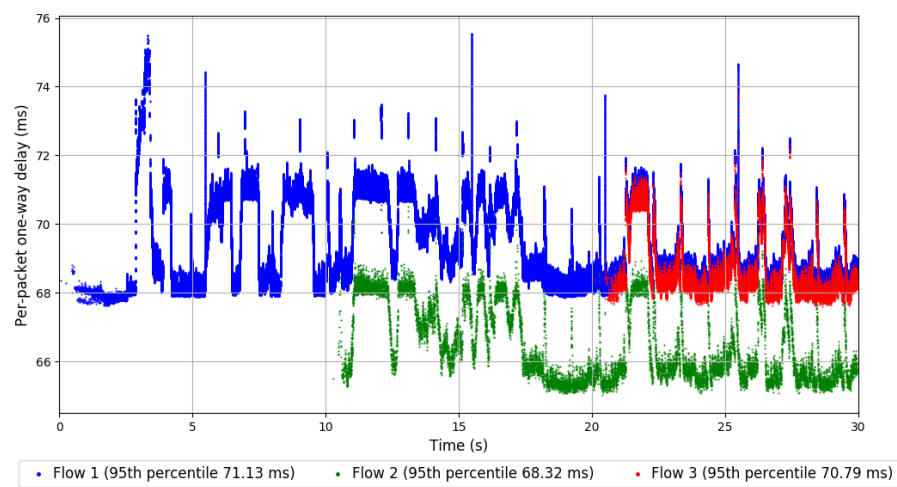
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-04-24 01:24:19
End at: 2019-04-24 01:24:49
Local clock offset: -3.42 ms
Remote clock offset: -32.155 ms


# Below is generated by plot.py at 2019-04-24 03:51:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 467.07 Mbit/s
95th percentile per-packet one-way delay: 71.121 ms
Loss rate: 3.94%
-- Flow 1:
Average throughput: 451.06 Mbit/s
95th percentile per-packet one-way delay: 71.129 ms
Loss rate: 4.02%
-- Flow 2:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 68.316 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 32.41 Mbit/s
95th percentile per-packet one-way delay: 70.786 ms
Loss rate: 2.14%
```
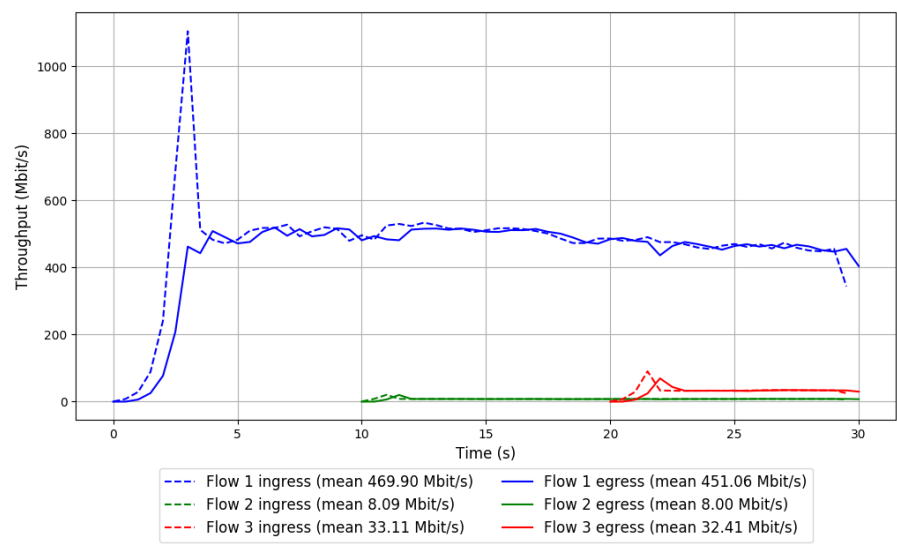
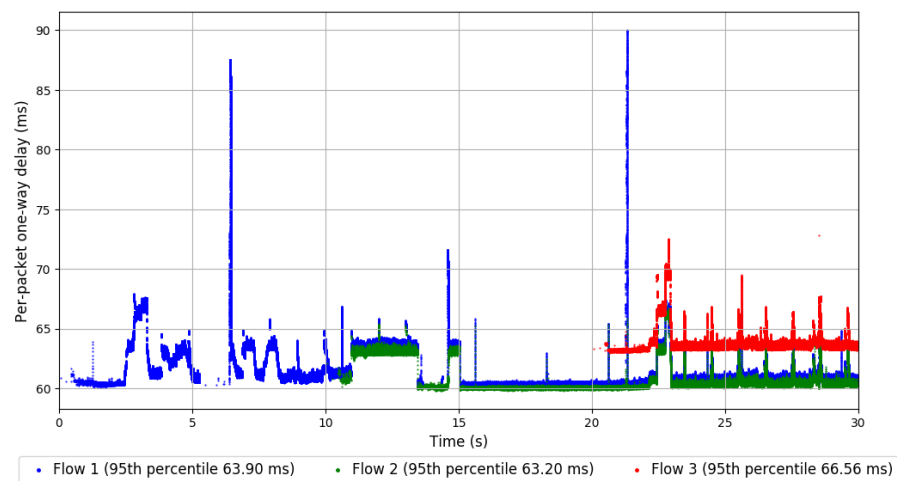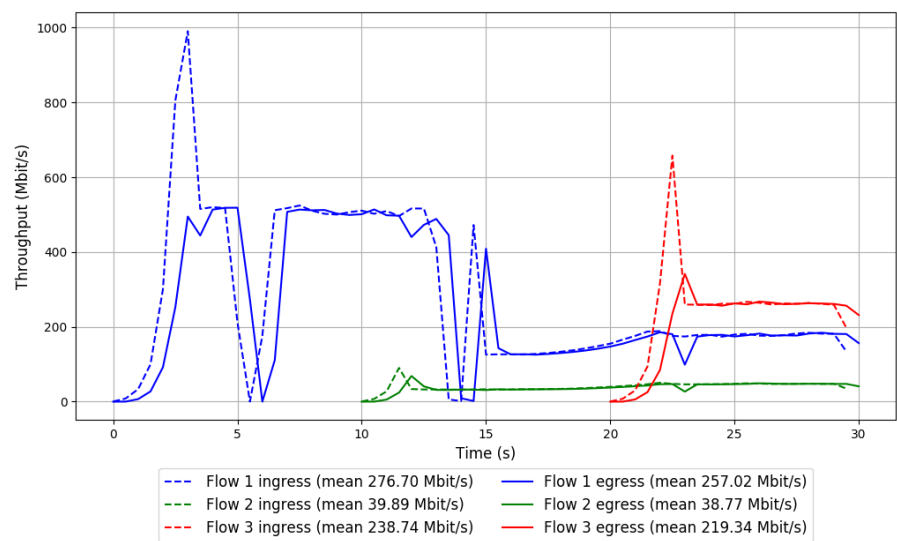Run 2: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 469.90 Mbit/s)   —— Flow 1 egress (mean 451.06 Mbit/s)
- - - - Flow 2 ingress (mean 8.09 Mbit/s)   —— Flow 2 egress (mean 8.00 Mbit/s)
- - - - Flow 3 ingress (mean 33.11 Mbit/s)   —— Flow 3 egress (mean 32.41 Mbit/s)

- Flow 1 (95th percentile 71.13 ms)   • Flow 2 (95th percentile 68.32 ms)   • Flow 3 (95th percentile 70.79 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-04-24 01:54:50
End at: 2019-04-24 01:55:20
Local clock offset: -2.119 ms
Remote clock offset: -40.152 ms


# Below is generated by plot.py at 2019-04-24 03:51:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.12 Mbit/s
95th percentile per-packet one-way delay: 65.221 ms
Loss rate: 7.03%
-- Flow 1:
Average throughput: 257.02 Mbit/s
95th percentile per-packet one-way delay: 63.900 ms
Loss rate: 7.11%
-- Flow 2:
Average throughput: 38.77 Mbit/s
95th percentile per-packet one-way delay: 63.204 ms
Loss rate: 2.80%
-- Flow 3:
Average throughput: 219.34 Mbit/s
95th percentile per-packet one-way delay: 66.558 ms
Loss rate: 8.15%
```
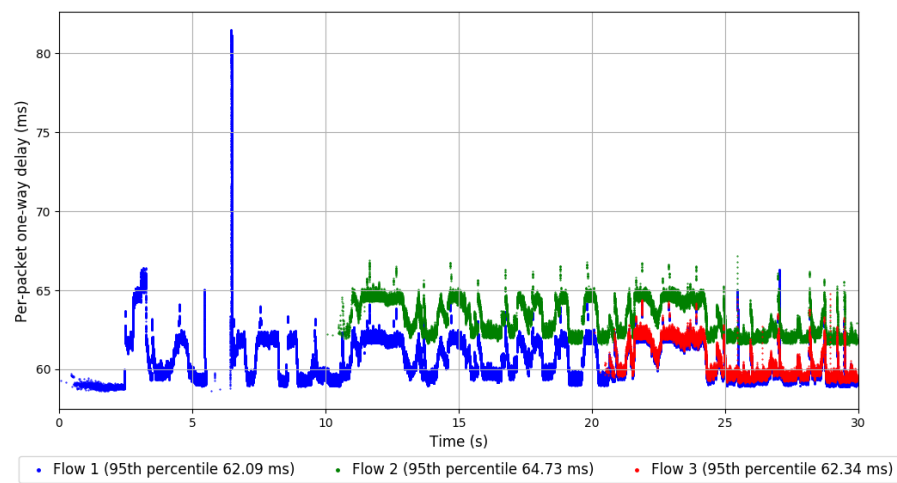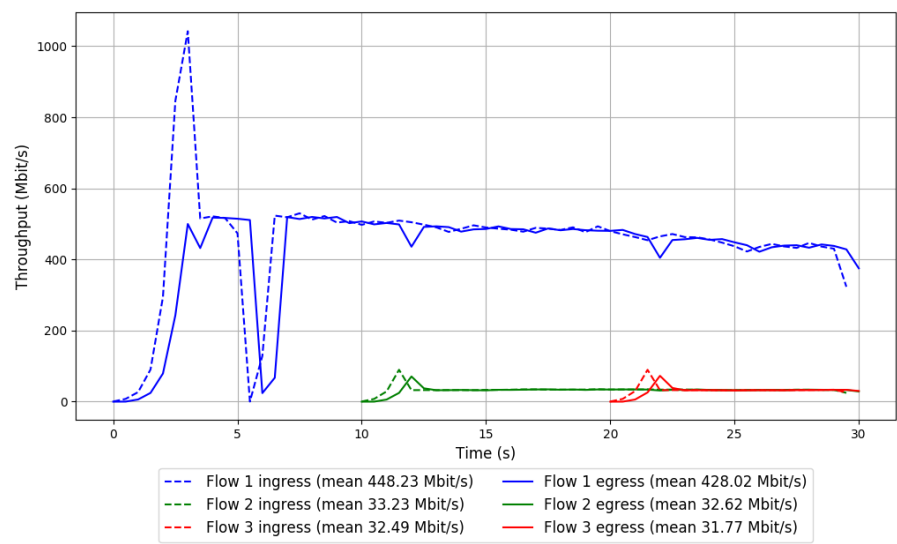
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 276.70 Mbit/s) — Flow 1 egress (mean 257.02 Mbit/s)
Flow 2 ingress (mean 39.89 Mbit/s) — Flow 2 egress (mean 38.77 Mbit/s)
Flow 3 ingress (mean 238.74 Mbit/s) — Flow 3 egress (mean 219.34 Mbit/s)

Flow 1 (95th percentile 63.90 ms)   Flow 2 (95th percentile 63.20 ms)   Flow 3 (95th percentile 66.56 ms)

120

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-04-24 02:36:23
End at: 2019-04-24 02:36:53
Local clock offset: 0.558 ms
Remote clock offset: -40.396 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 460.15 Mbit/s
95th percentile per-packet one-way delay: 62.726 ms
Loss rate: 4.34%
-- Flow 1:
Average throughput: 428.02 Mbit/s
95th percentile per-packet one-way delay: 62.093 ms
Loss rate: 4.51%
-- Flow 2:
Average throughput: 32.62 Mbit/s
95th percentile per-packet one-way delay: 64.733 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 31.77 Mbit/s
95th percentile per-packet one-way delay: 62.343 ms
Loss rate: 2.25%
```
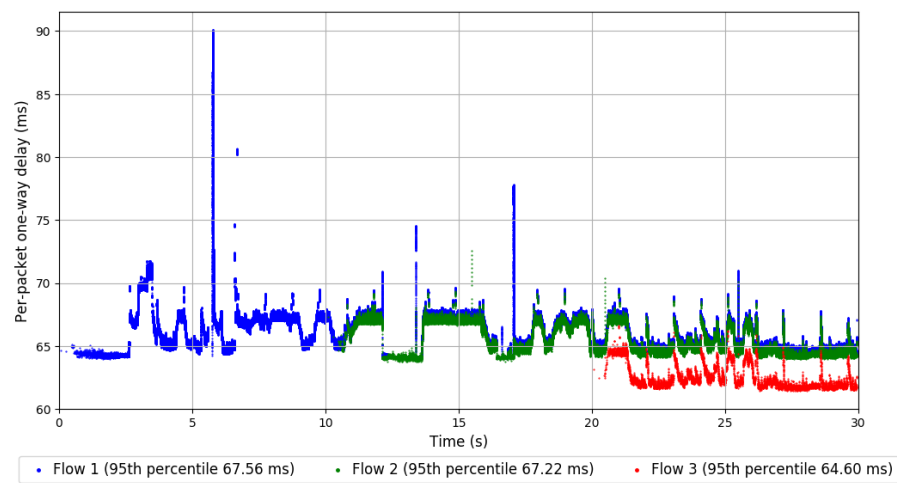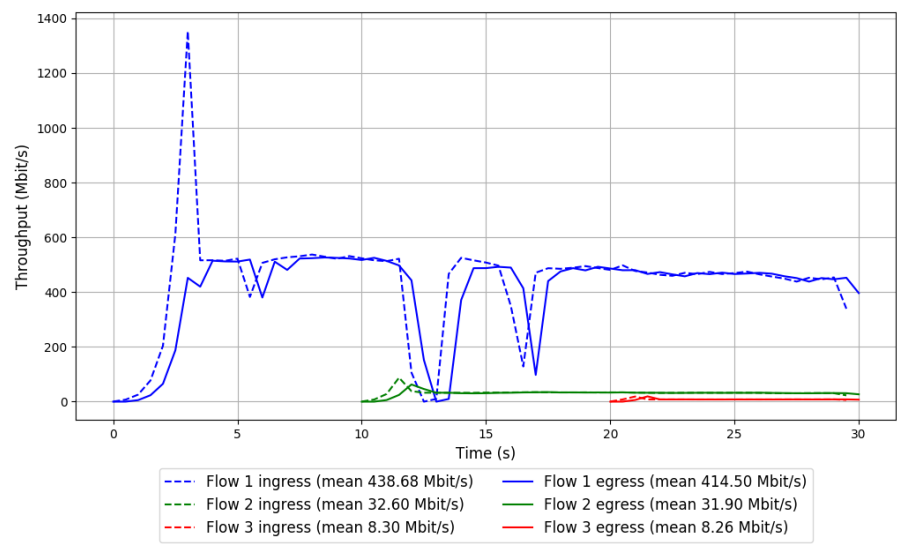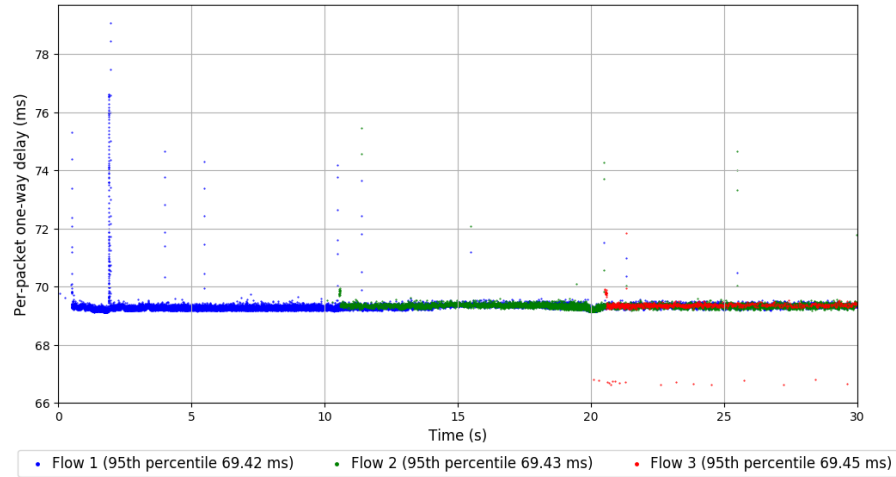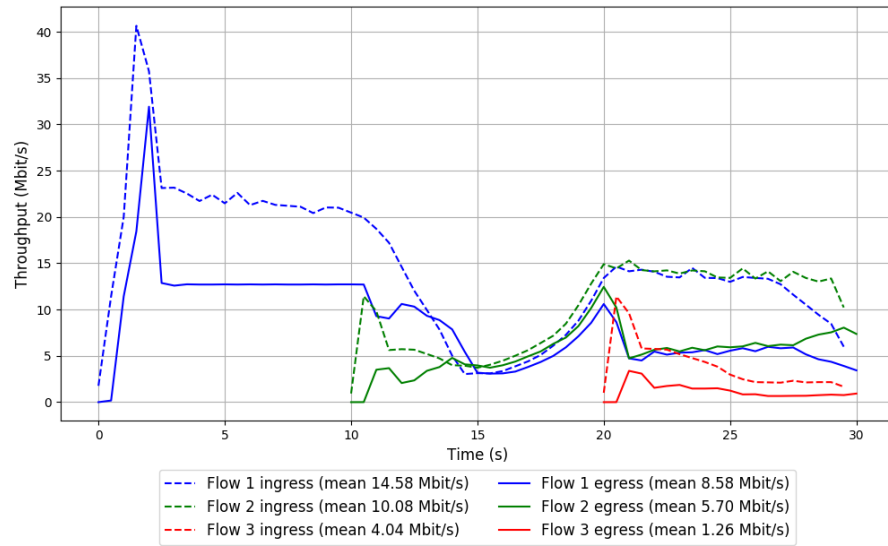
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 448.23 Mbit/s) — Flow 1 egress (mean 428.02 Mbit/s)
Flow 2 ingress (mean 33.23 Mbit/s) — Flow 2 egress (mean 32.62 Mbit/s)
Flow 3 ingress (mean 32.49 Mbit/s) — Flow 3 egress (mean 31.77 Mbit/s)

Flow 1 (95th percentile 62.09 ms)   Flow 2 (95th percentile 64.73 ms)   Flow 3 (95th percentile 62.34 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-04-24 03:18:01
End at: 2019-04-24 03:18:31
Local clock offset: -1.374 ms
Remote clock offset: -40.363 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.42 Mbit/s
95th percentile per-packet one-way delay: 67.542 ms
Loss rate: 5.33%
-- Flow 1:
Average throughput: 414.50 Mbit/s
95th percentile per-packet one-way delay: 67.561 ms
Loss rate: 5.51%
-- Flow 2:
Average throughput: 31.90 Mbit/s
95th percentile per-packet one-way delay: 67.219 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 8.26 Mbit/s
95th percentile per-packet one-way delay: 64.604 ms
Loss rate: 0.56%
```

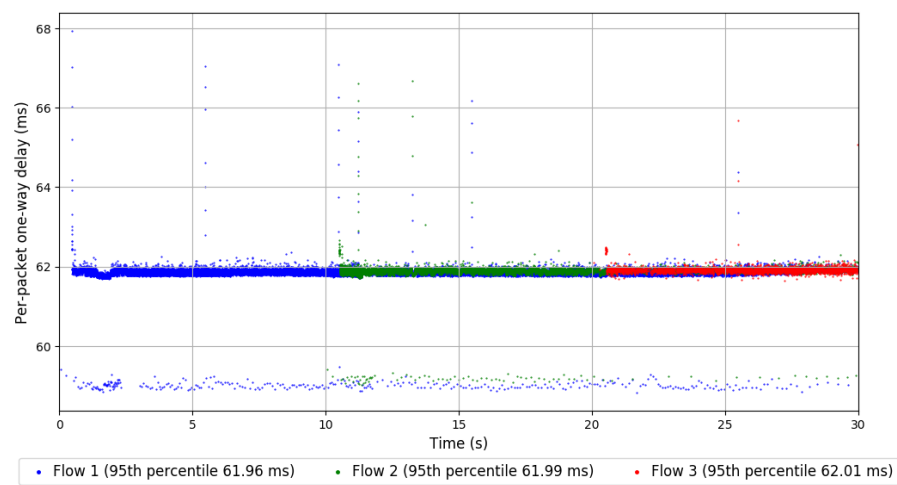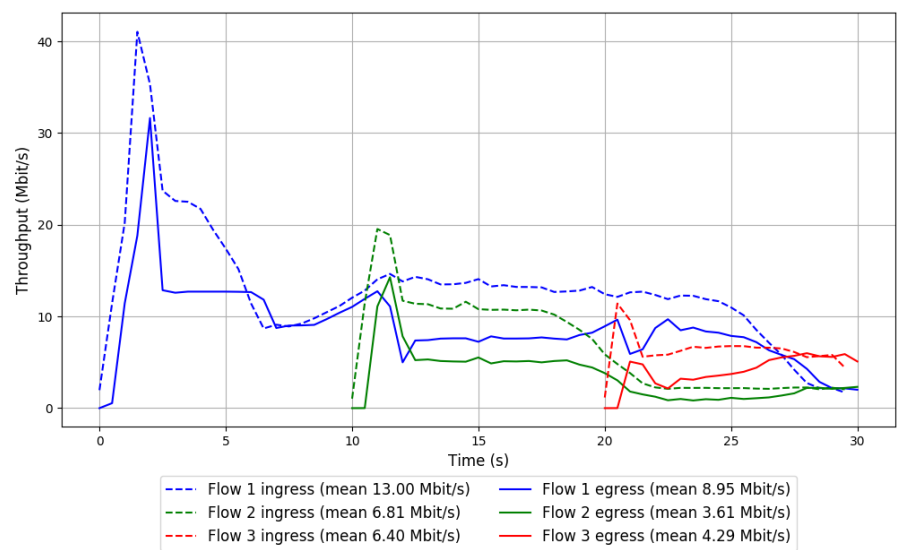Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-04-24 00:32:13
End at: 2019-04-24 00:32:43
Local clock offset: -0.137 ms
Remote clock offset: -31.414 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 69.427 ms
Loss rate: 43.45%
-- Flow 1:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 69.420 ms
Loss rate: 41.15%
-- Flow 2:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 69.434 ms
Loss rate: 43.44%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 69.449 ms
Loss rate: 68.69%
```

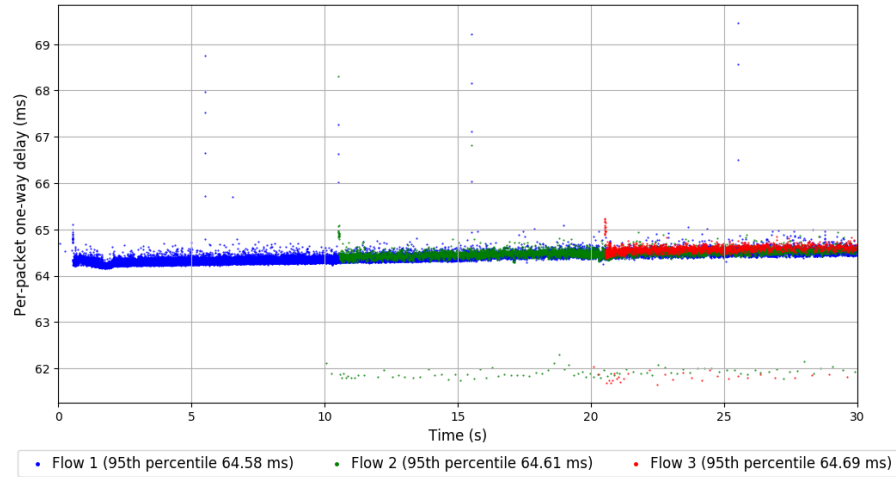## Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-04-24 01:14:15
End at: 2019-04-24 01:14:45
Local clock offset: -1.928 ms
Remote clock offset: -37.124 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 61.975 ms
Loss rate: 34.98%
-- Flow 1:
Average throughput: 8.95 Mbit/s
95th percentile per-packet one-way delay: 61.960 ms
Loss rate: 31.15%
-- Flow 2:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 61.991 ms
Loss rate: 46.90%
-- Flow 3:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 62.005 ms
Loss rate: 32.96%
```

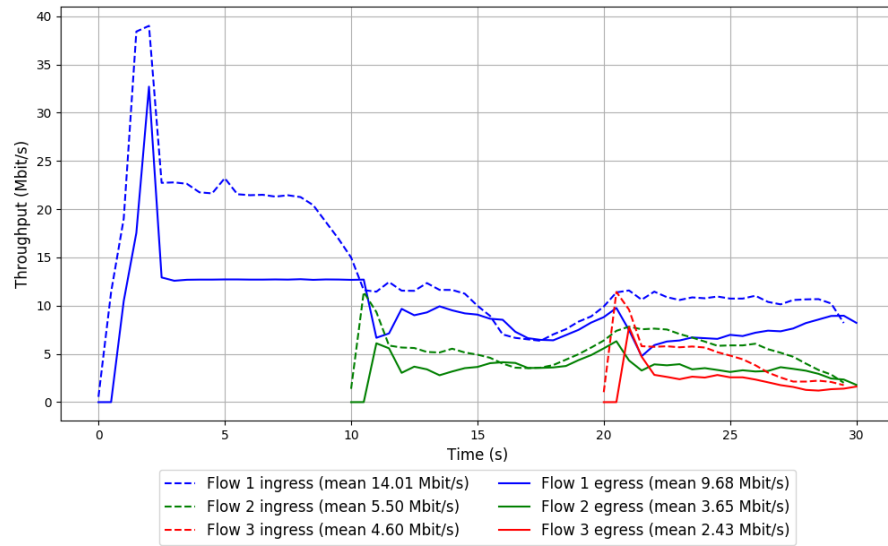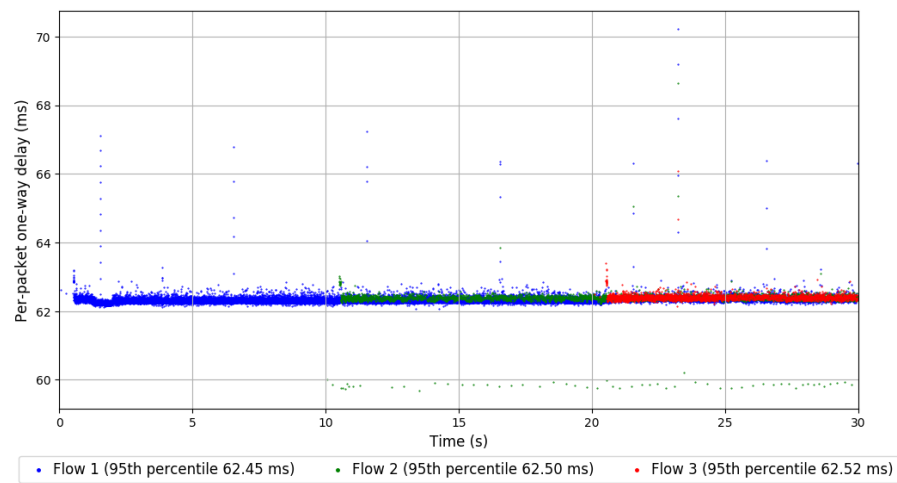Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-04-24 01:44:42
End at: 2019-04-24 01:45:12
Local clock offset: -4.411 ms
Remote clock offset: -38.349 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 64.605 ms
Loss rate: 32.75%
-- Flow 1:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 64.577 ms
Loss rate: 30.94%
-- Flow 2:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 64.606 ms
Loss rate: 33.77%
-- Flow 3:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 64.685 ms
Loss rate: 47.05%
```
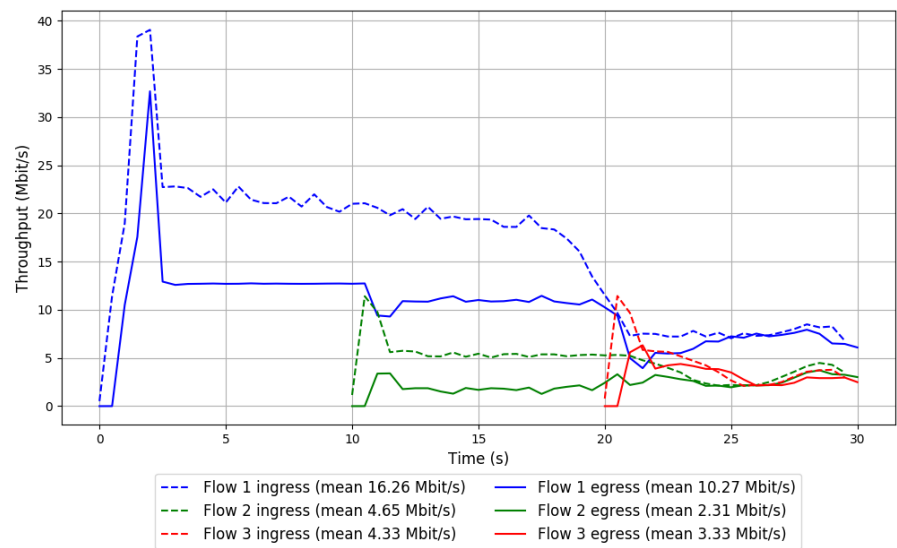
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-04-24 02:26:18
End at: 2019-04-24 02:26:48
Local clock offset: 0.242 ms
Remote clock offset: -39.96 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.90 Mbit/s
95th percentile per-packet one-way delay: 62.471 ms
Loss rate: 37.90%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 62.452 ms
Loss rate: 36.82%
-- Flow 2:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 62.496 ms
Loss rate: 50.40%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 62.518 ms
Loss rate: 23.04%
```
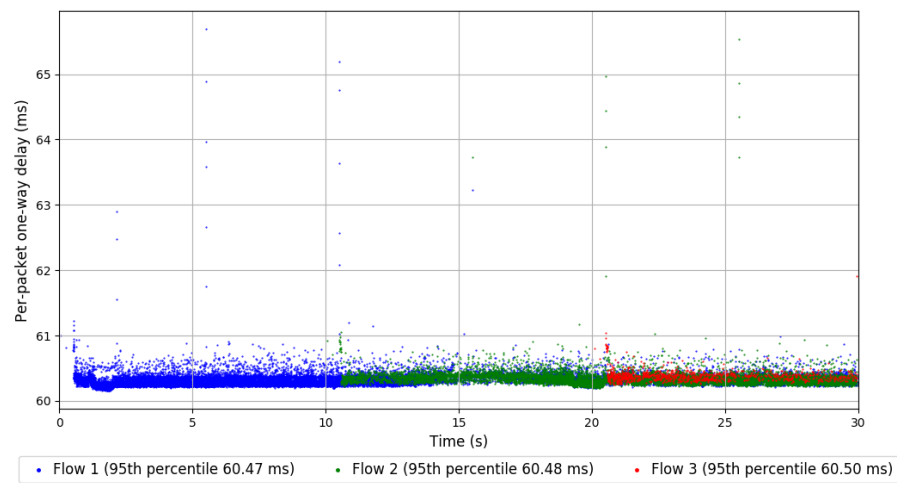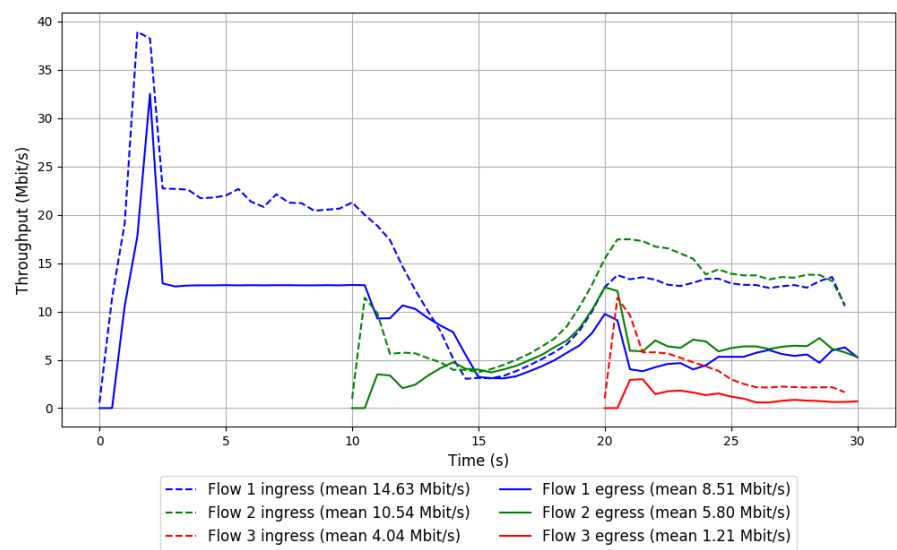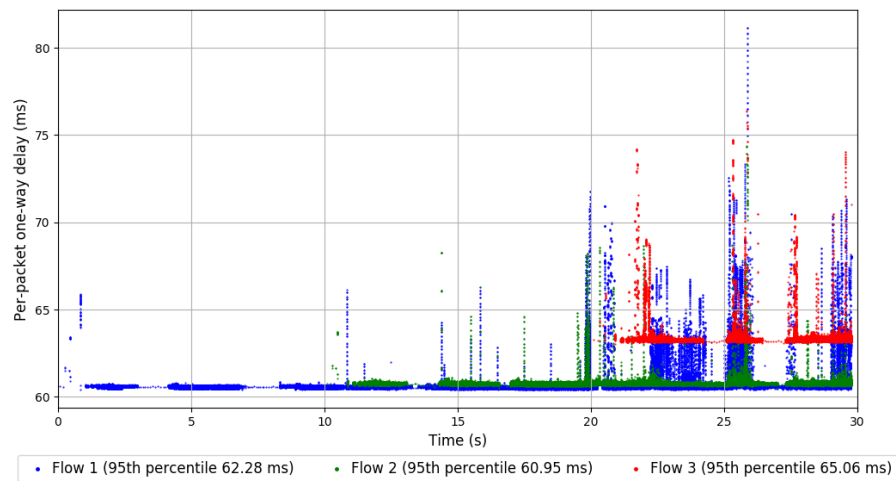
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 16.26 Mbit/s) Flow 1 egress (mean 10.27 Mbit/s)
Flow 2 ingress (mean 4.65 Mbit/s) Flow 2 egress (mean 2.31 Mbit/s)
Flow 3 ingress (mean 4.33 Mbit/s) Flow 3 egress (mean 3.33 Mbit/s)

Flow 1 (95th percentile 62.45 ms) Flow 2 (95th percentile 62.50 ms) Flow 3 (95th percentile 62.52 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-04-24 03:02:20
End at: 2019-04-24 03:02:50
Local clock offset: 0.466 ms
Remote clock offset: -41.901 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 60.472 ms
Loss rate: 44.41%
-- Flow 1:
Average throughput: 8.51 Mbit/s
95th percentile per-packet one-way delay: 60.466 ms
Loss rate: 41.82%
-- Flow 2:
Average throughput: 5.80 Mbit/s
95th percentile per-packet one-way delay: 60.484 ms
Loss rate: 44.96%
-- Flow 3:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 60.503 ms
Loss rate: 70.00%
```
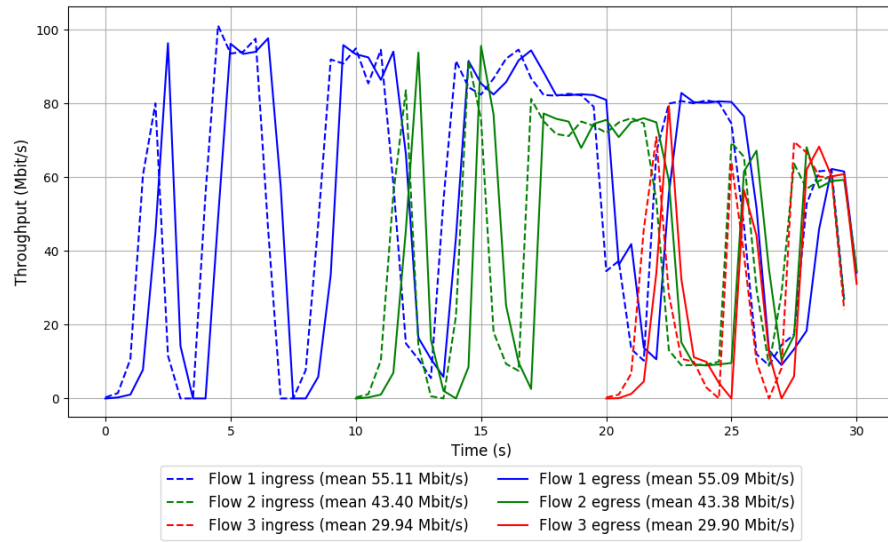
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 14.63 Mbit/s) --- Flow 1 egress (mean 8.51 Mbit/s)
Flow 2 ingress (mean 10.54 Mbit/s) --- Flow 2 egress (mean 5.80 Mbit/s)
Flow 3 ingress (mean 4.04 Mbit/s) --- Flow 3 egress (mean 1.21 Mbit/s)

Flow 1 (95th percentile 60.47 ms)   Flow 2 (95th percentile 60.48 ms)   Flow 3 (95th percentile 60.50 ms)
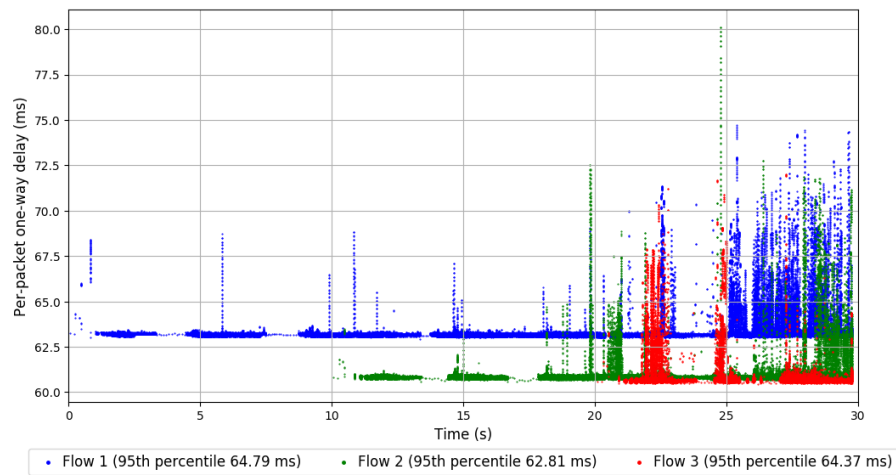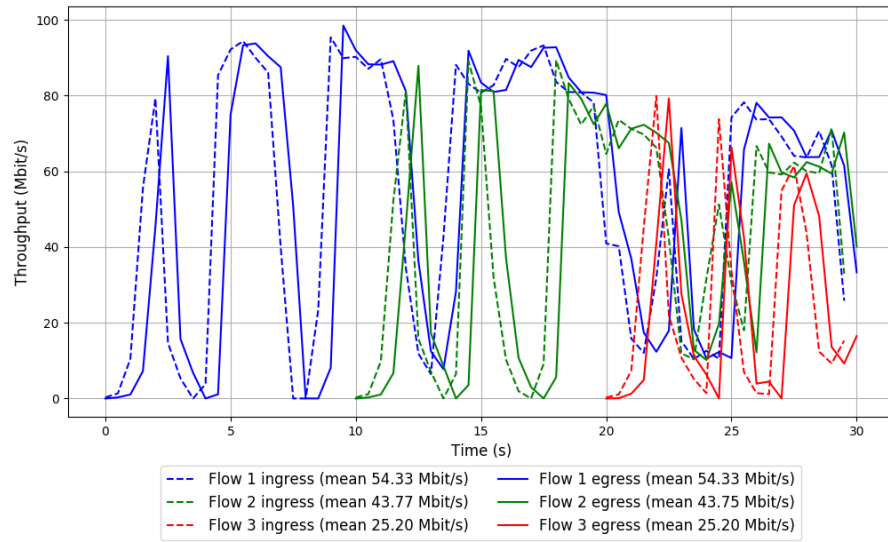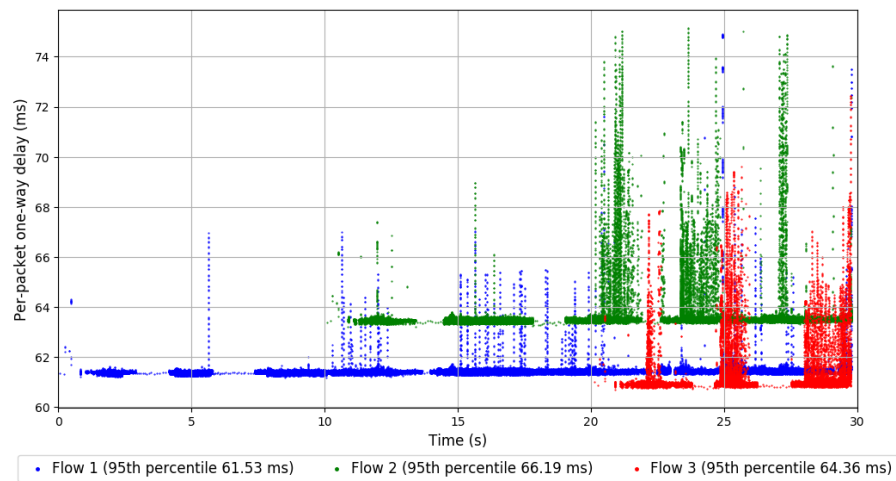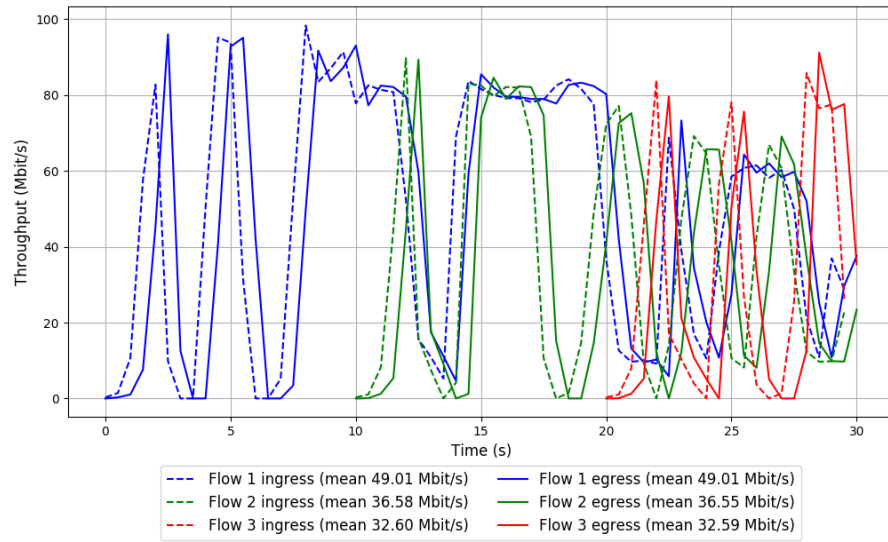
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-04-24 00:13:50
End at: 2019-04-24 00:14:20
Local clock offset: -1.999 ms
Remote clock offset: -36.678 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.53 Mbit/s
95th percentile per-packet one-way delay: 63.364 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 55.09 Mbit/s
95th percentile per-packet one-way delay: 62.277 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 43.38 Mbit/s
95th percentile per-packet one-way delay: 60.945 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 65.059 ms
Loss rate: 0.10%
```

Run 1: Report of QUIC Cubic — Data Link

- Flow 1 ingress (mean 55.11 Mbit/s)
- Flow 1 egress (mean 55.09 Mbit/s)
- Flow 2 ingress (mean 43.40 Mbit/s)
- Flow 2 egress (mean 43.38 Mbit/s)
- Flow 3 ingress (mean 29.94 Mbit/s)
- Flow 3 egress (mean 29.90 Mbit/s)

- Flow 1 (95th percentile 62.28 ms)
- Flow 2 (95th percentile 60.95 ms)
- Flow 3 (95th percentile 65.06 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-04-24 01:00:54
End at: 2019-04-24 01:01:24
Local clock offset: -2.197 ms
Remote clock offset: -36.977 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.54 Mbit/s
95th percentile per-packet one-way delay: 64.368 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.33 Mbit/s
95th percentile per-packet one-way delay: 64.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 62.815 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 64.368 ms
Loss rate: 0.00%
```
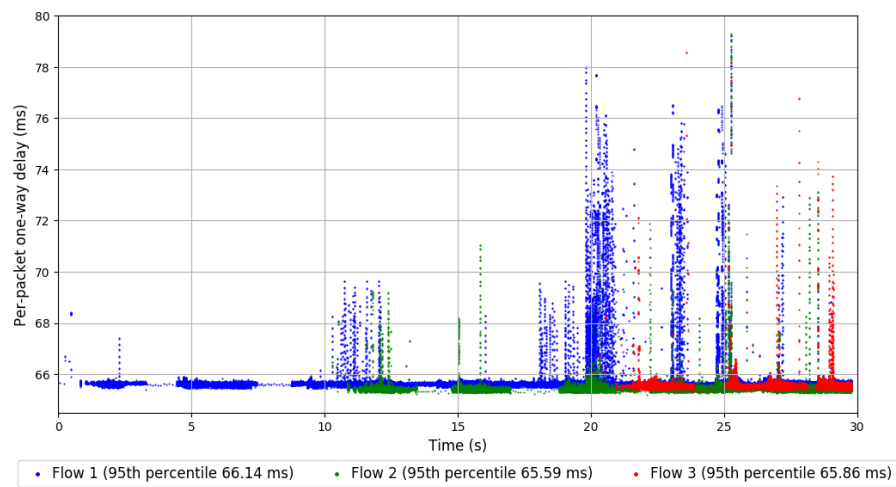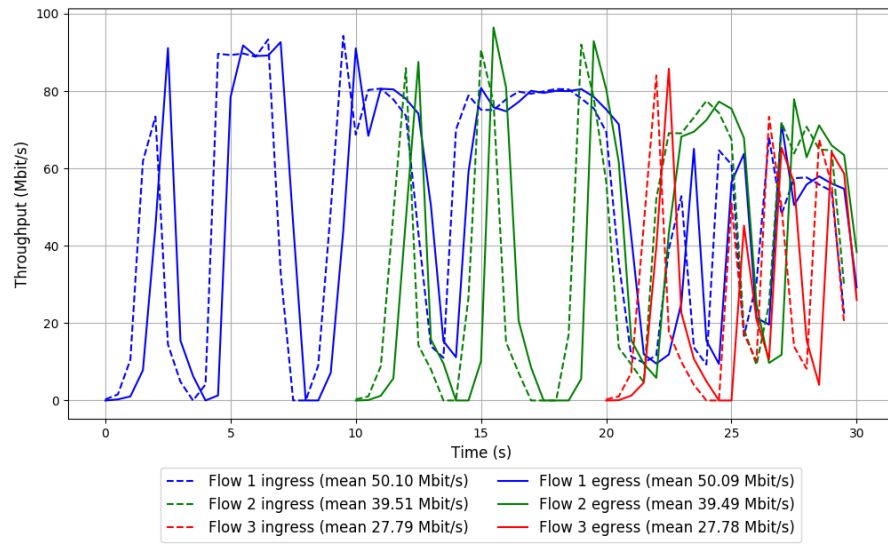
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-04-24 01:31:52
End at: 2019-04-24 01:32:22
Local clock offset: -3.854 ms
Remote clock offset: -37.057 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.79 Mbit/s
95th percentile per-packet one-way delay: 63.640 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.01 Mbit/s
95th percentile per-packet one-way delay: 61.532 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 66.190 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.59 Mbit/s
95th percentile per-packet one-way delay: 64.365 ms
Loss rate: 0.00%
```
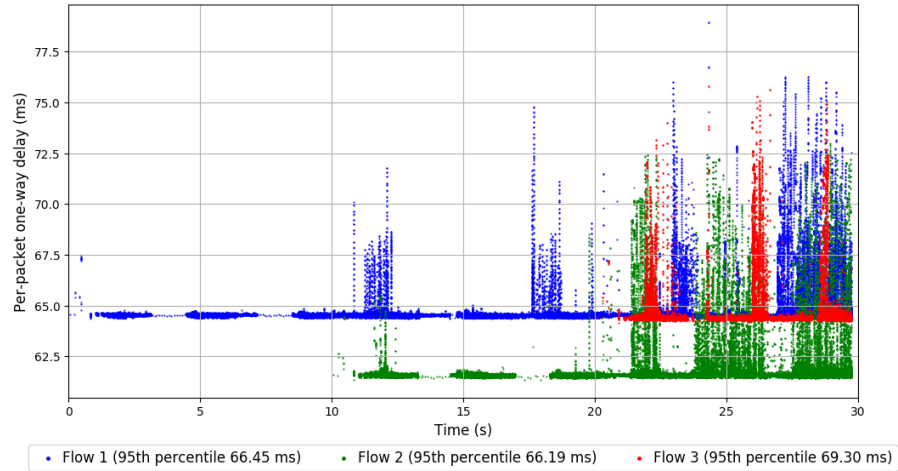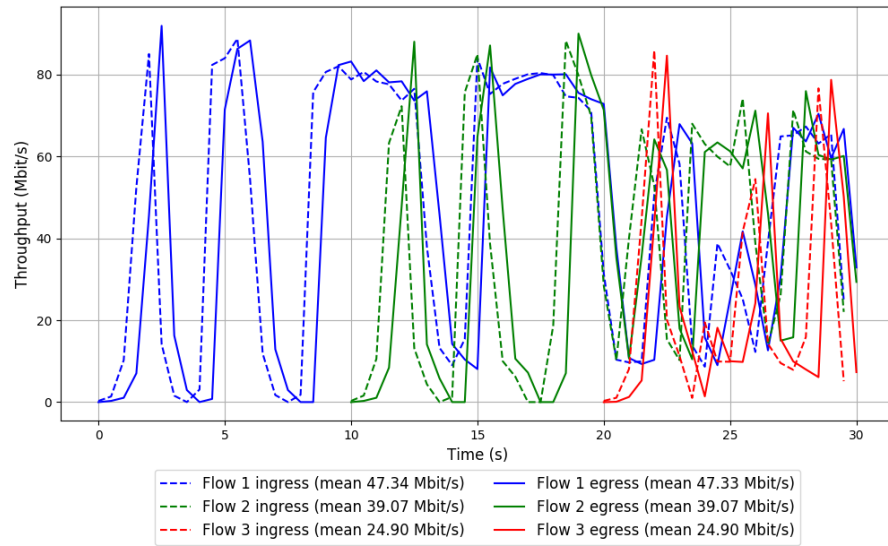
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.01 Mbit/s)   Flow 1 egress (mean 49.01 Mbit/s)
Flow 2 ingress (mean 36.58 Mbit/s)   Flow 2 egress (mean 36.55 Mbit/s)
Flow 3 ingress (mean 32.60 Mbit/s)   Flow 3 egress (mean 32.59 Mbit/s)

Flow 1 (95th percentile 61.53 ms)   Flow 2 (95th percentile 66.19 ms)   Flow 3 (95th percentile 64.36 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-04-24 02:07:45
End at: 2019-04-24 02:08:15
Local clock offset: 0.316 ms
Remote clock offset: -34.055 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.29 Mbit/s
95th percentile per-packet one-way delay: 65.781 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.09 Mbit/s
95th percentile per-packet one-way delay: 66.142 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 39.49 Mbit/s
95th percentile per-packet one-way delay: 65.592 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 27.78 Mbit/s
95th percentile per-packet one-way delay: 65.861 ms
Loss rate: 0.05%
```
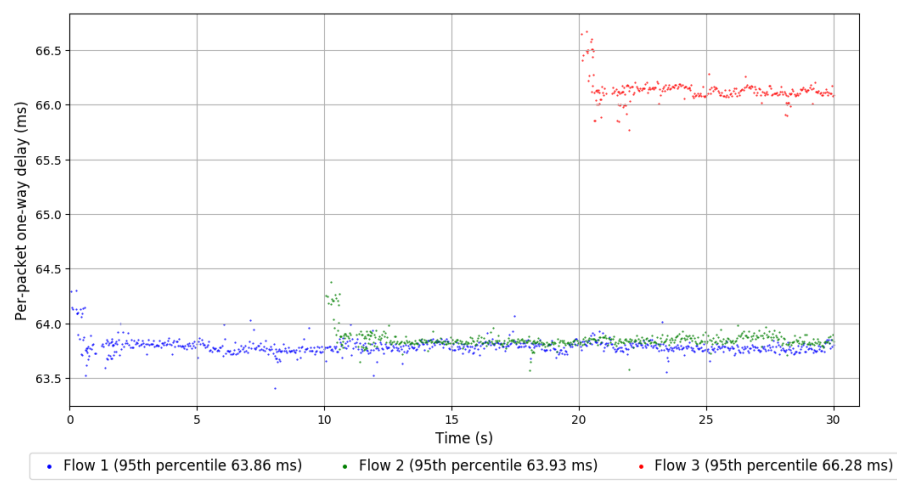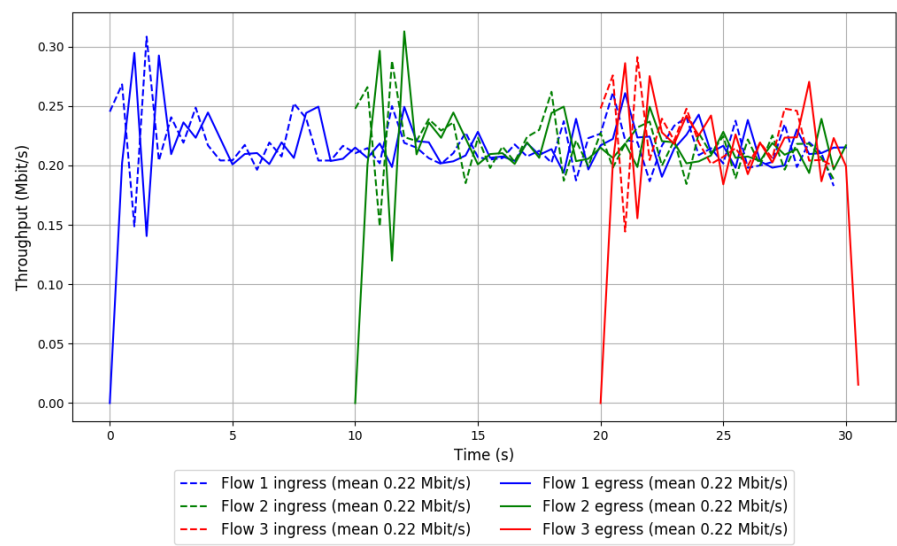
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-04-24 02:43:51
End at: 2019-04-24 02:44:21
Local clock offset: 0.499 ms
Remote clock offset: -37.532 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.32 Mbit/s
95th percentile per-packet one-way delay: 66.838 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.33 Mbit/s
95th percentile per-packet one-way delay: 66.455 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 39.07 Mbit/s
95th percentile per-packet one-way delay: 66.194 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.90 Mbit/s
95th percentile per-packet one-way delay: 69.301 ms
Loss rate: 0.00%
```
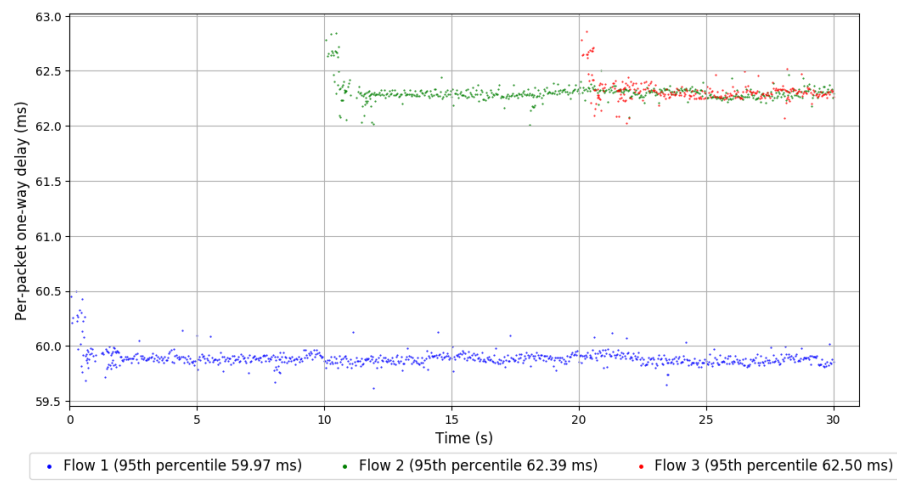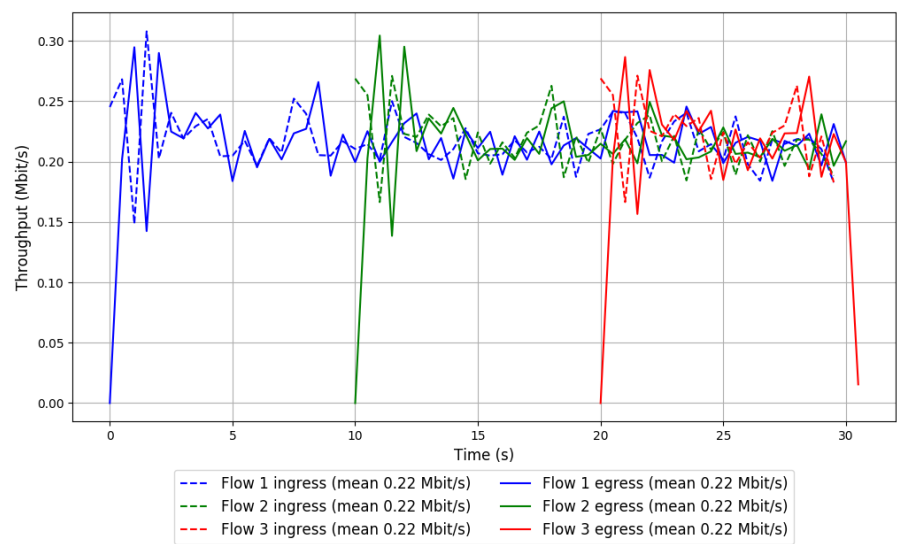
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-04-24 00:39:27
End at: 2019-04-24 00:39:57
Local clock offset: 0.058 ms
Remote clock offset: -34.546 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 66.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.863 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.931 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.280 ms
Loss rate: 0.00%
```
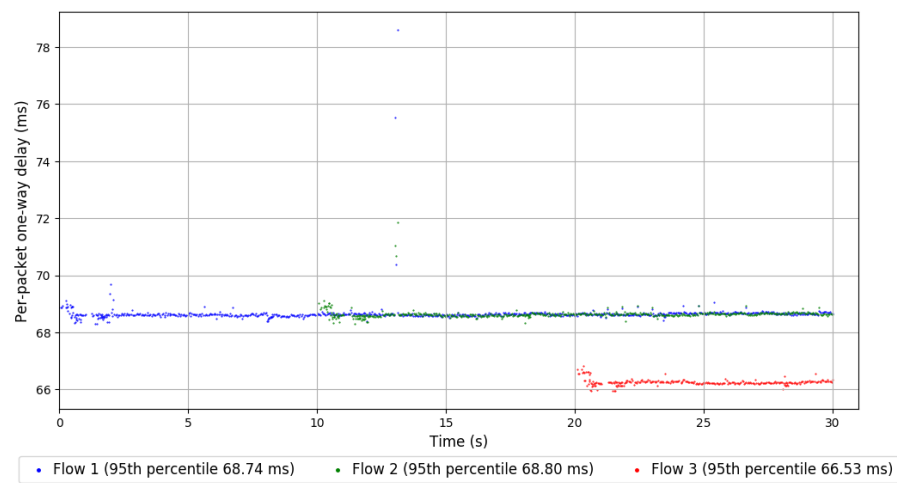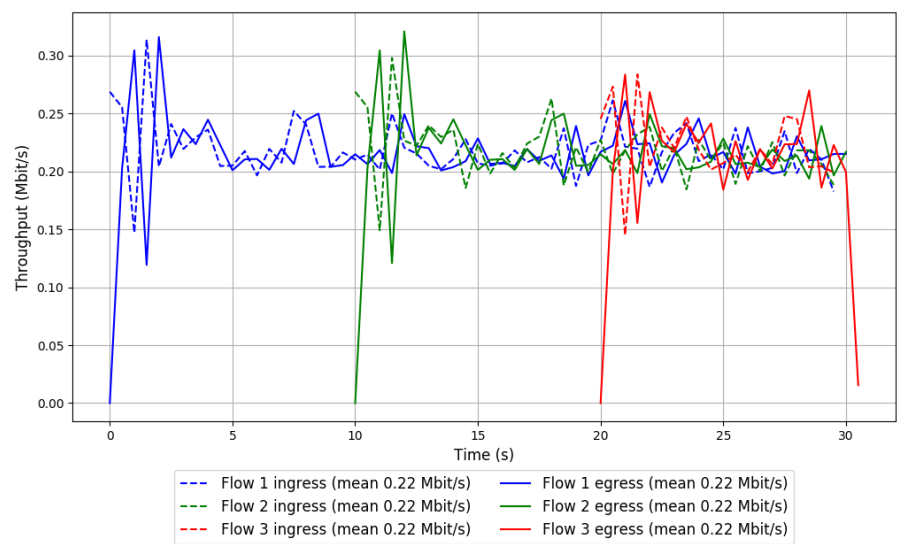
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-04-24 01:21:29
End at: 2019-04-24 01:21:59
Local clock offset: -2.997 ms
Remote clock offset: -37.457 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.373 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.390 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.499 ms
Loss rate: 0.00%
```
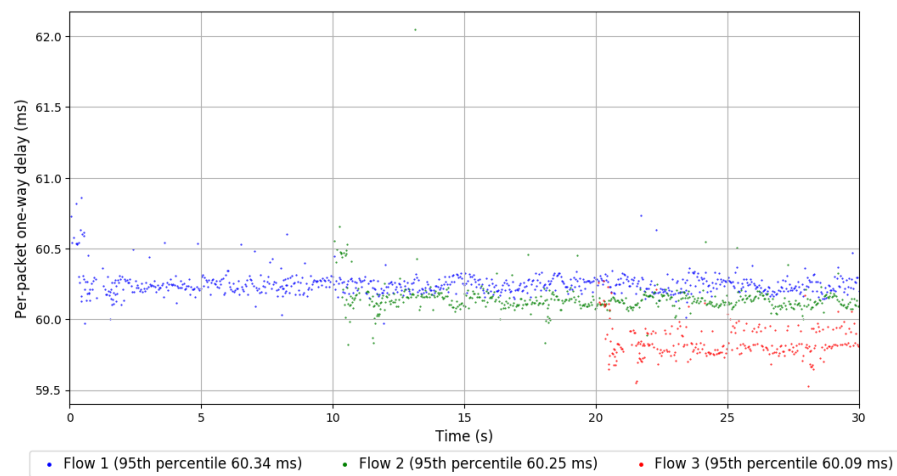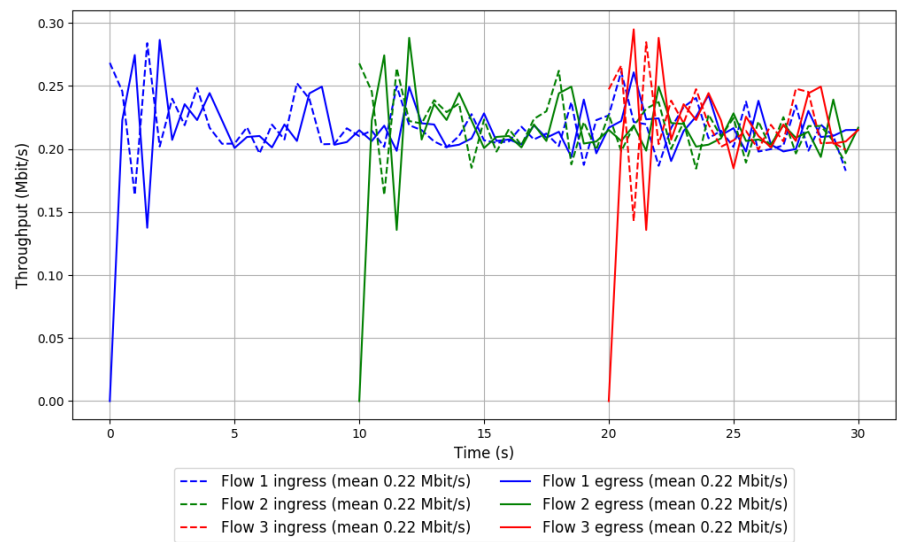
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-04-24 01:51:58
End at: 2019-04-24 01:52:28
Local clock offset: -1.639 ms
Remote clock offset: -33.86 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 68.727 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.736 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.799 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.533 ms
Loss rate: 0.00%
```
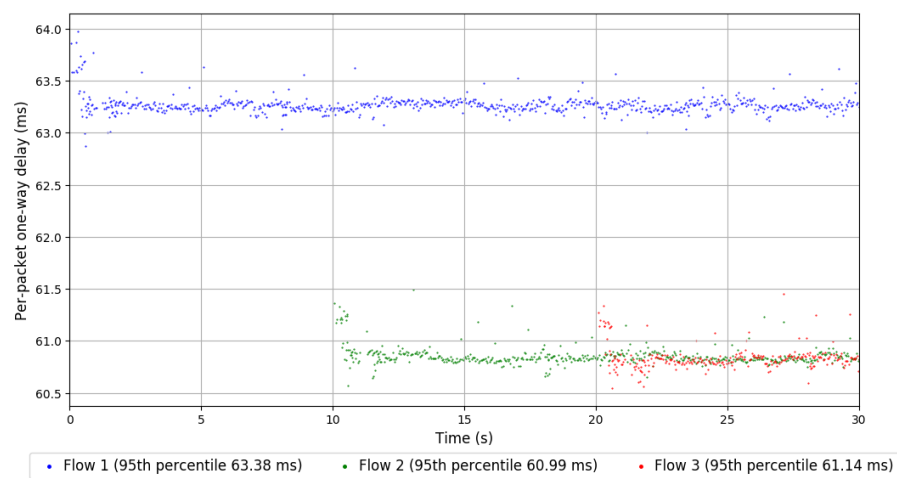
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-04-24 02:33:33
End at: 2019-04-24 02:34:03
Local clock offset: -0.321 ms
Remote clock offset: -40.311 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.338 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.246 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.089 ms
Loss rate: 0.00%
```
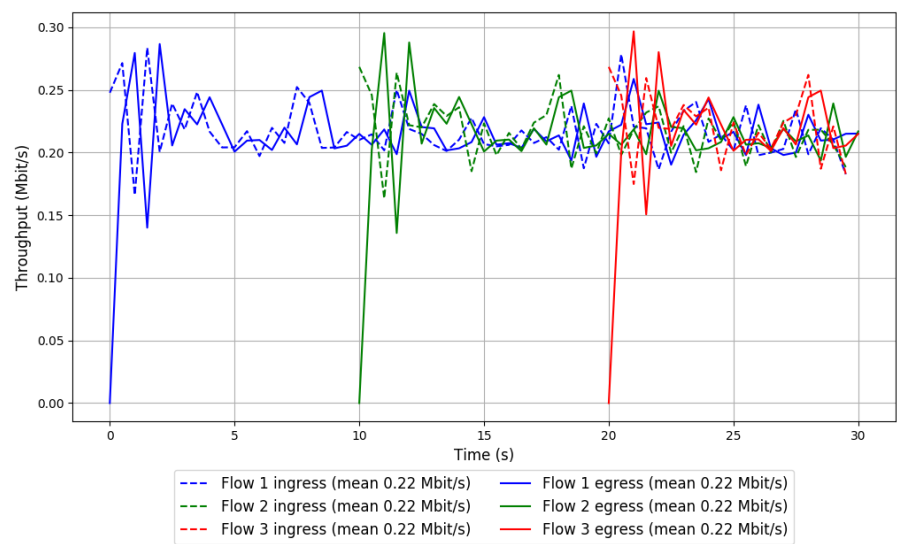
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-04-24 03:09:38
End at: 2019-04-24 03:10:08
Local clock offset: 1.567 ms
Remote clock offset: -38.043 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 63.322 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.379 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.986 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.143 ms
Loss rate: 0.00%
```
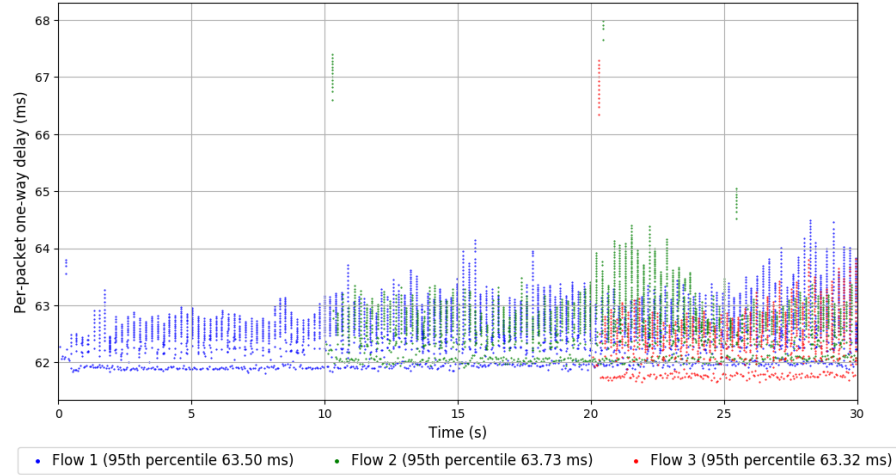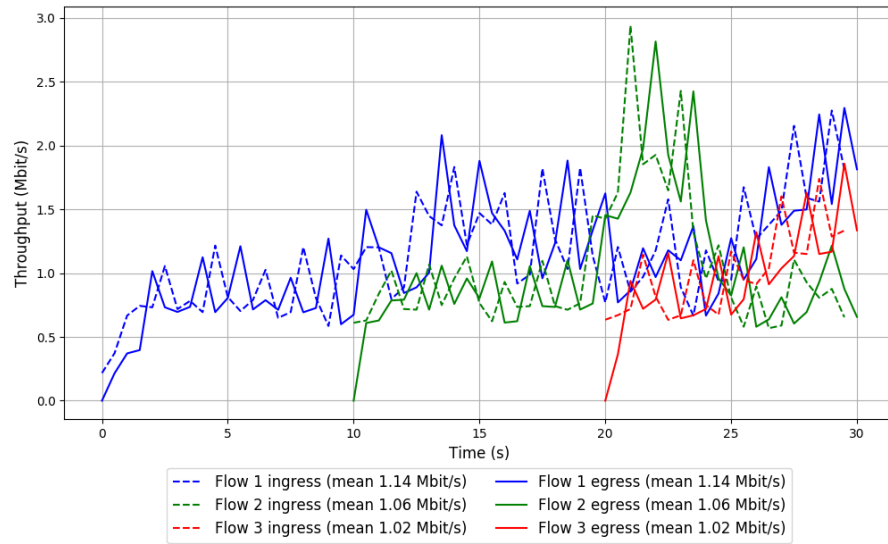
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-04-24 00:18:21
End at: 2019-04-24 00:18:51
Local clock offset: -0.911 ms
Remote clock offset: -35.051 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 63.554 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 63.504 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 63.732 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 63.323 ms
Loss rate: 0.00%
```
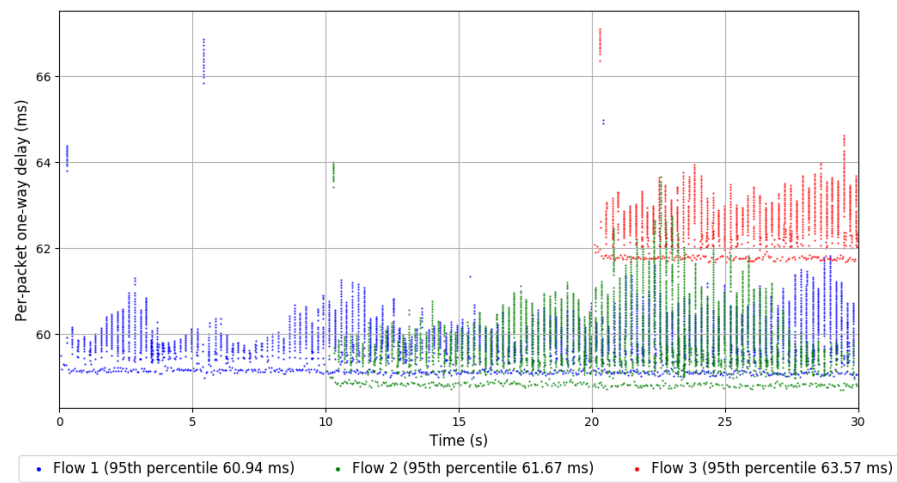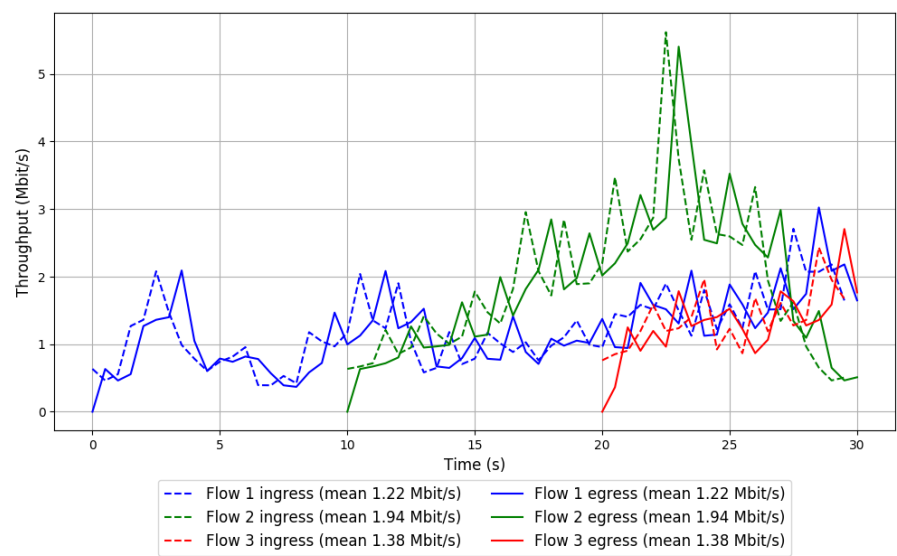
Run 1: Report of Sprout — Data Link

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```
Run 2: Statistics of Sprout

Start at: 2019-04-24 01:05:28
End at: 2019-04-24 01:05:58
Local clock offset: -1.972 ms
Remote clock offset: -37.548 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 62.967 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 60.936 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 61.672 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 63.570 ms
Loss rate: 0.00%
```
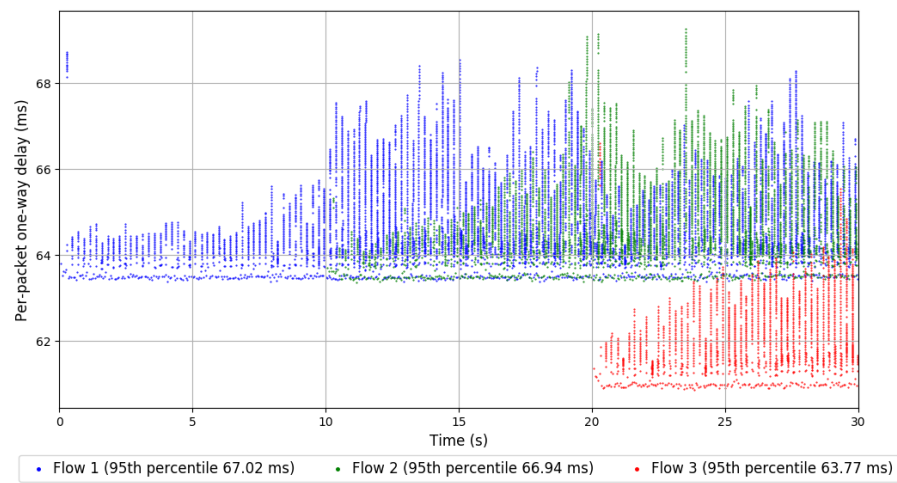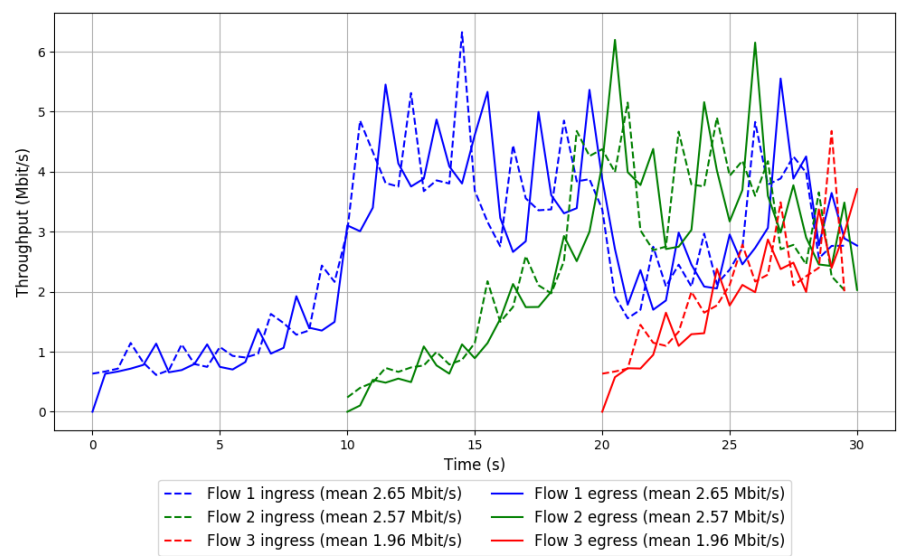
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-04-24 01:36:22
End at: 2019-04-24 01:36:52
Local clock offset: -3.254 ms
Remote clock offset: -37.153 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 66.902 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 67.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 66.943 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 63.765 ms
Loss rate: 0.00%
```
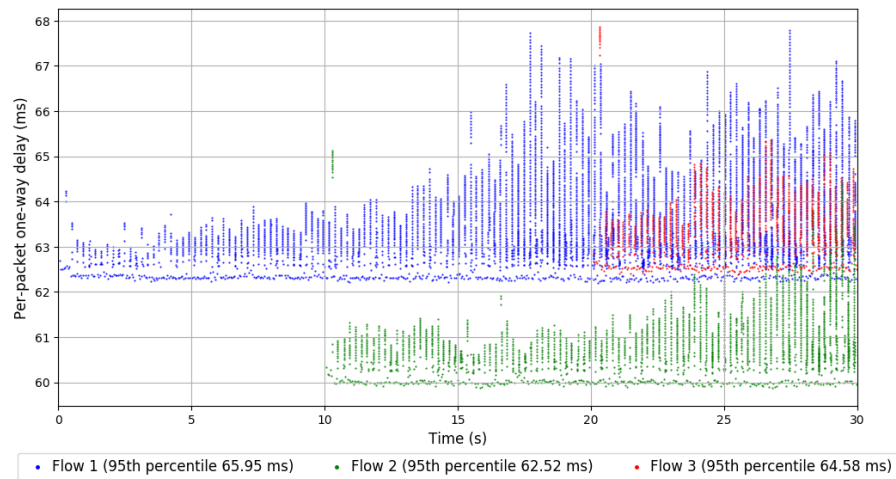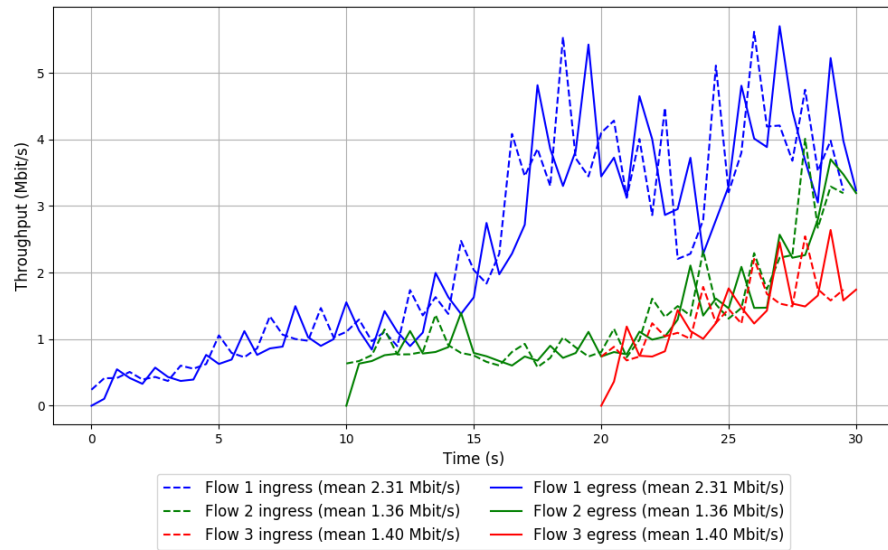
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-04-24 02:17:54
End at: 2019-04-24 02:18:24
Local clock offset: -0.474 ms
Remote clock offset: -40.512 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 65.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 65.954 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 62.524 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 64.578 ms
Loss rate: 0.00%
```
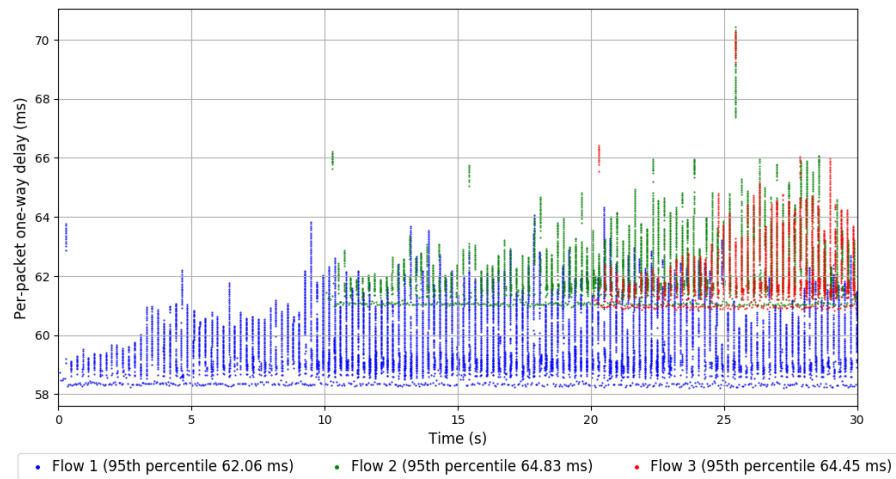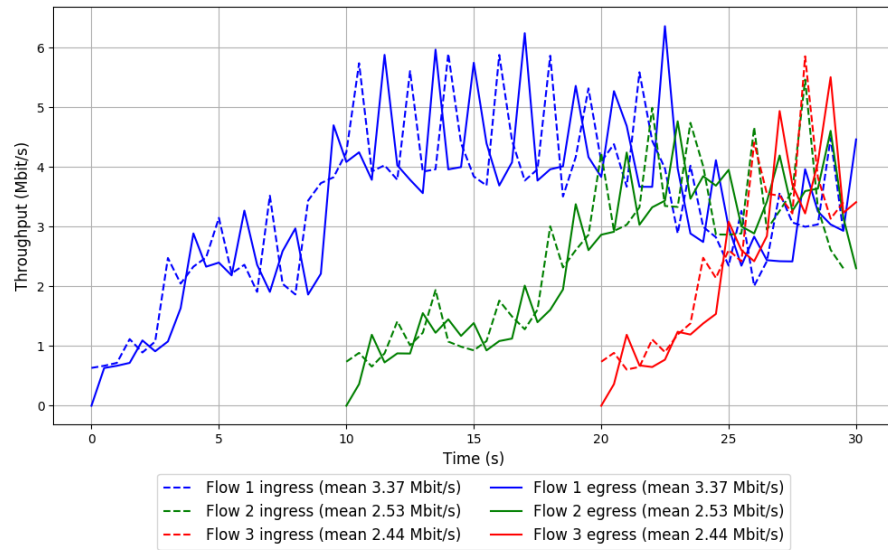
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-04-24 02:48:21
End at: 2019-04-24 02:48:51
Local clock offset: 1.05 ms
Remote clock offset: -40.404 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 64.018 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 62.061 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 64.830 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 64.449 ms
Loss rate: 0.00%
```
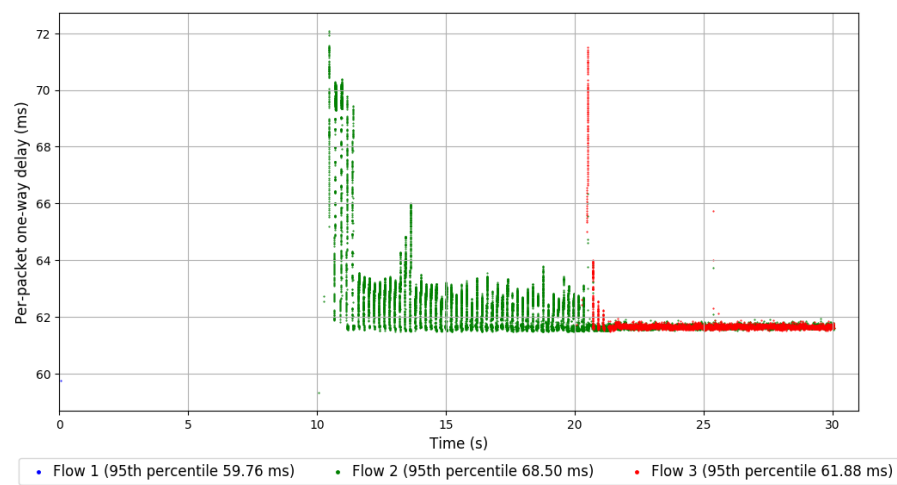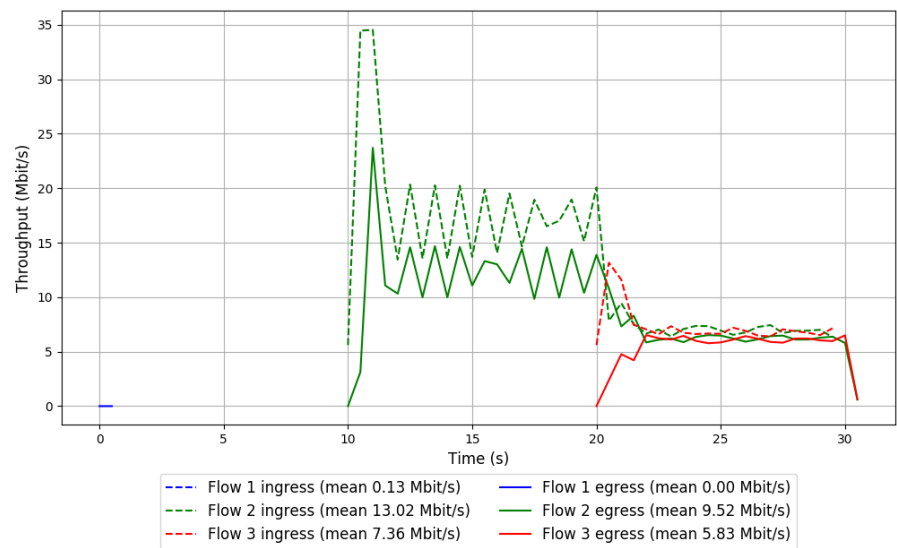
Run 5: Report of Sprout — Data Link

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

Start at: 2019-04-24 00:30:54
End at: 2019-04-24 00:31:24
Local clock offset: 0.395 ms
Remote clock offset: -38.488 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 67.009 ms
Loss rate: 25.51%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 59.758 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 68.497 ms
Loss rate: 26.84%
-- Flow 3:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 61.875 ms
Loss rate: 20.77%
```

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

Flow 1 ingress (mean 0.13 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ———
Flow 2 ingress (mean 13.02 Mbit/s) --- Flow 2 egress (mean 9.52 Mbit/s) ———
Flow 3 ingress (mean 7.36 Mbit/s) --- Flow 3 egress (mean 5.83 Mbit/s) ———

Flow 1 (95th percentile 59.76 ms)   Flow 2 (95th percentile 68.50 ms)   Flow 3 (95th percentile 61.88 ms)
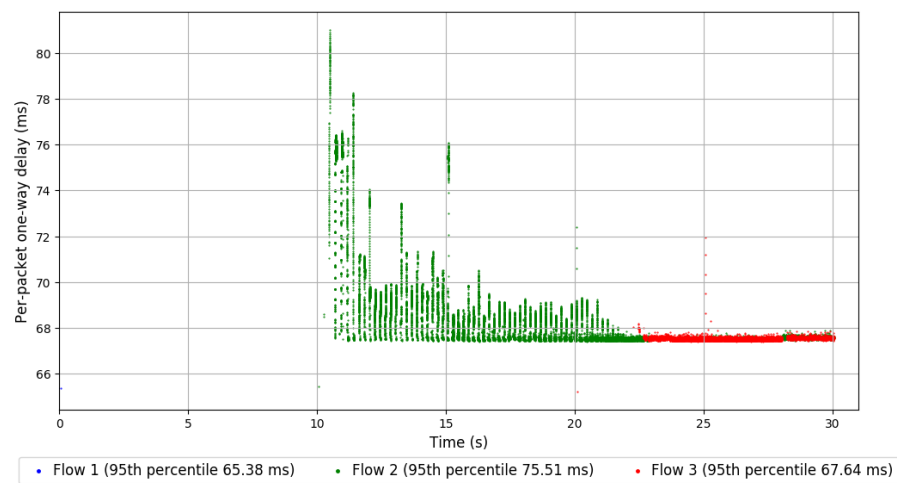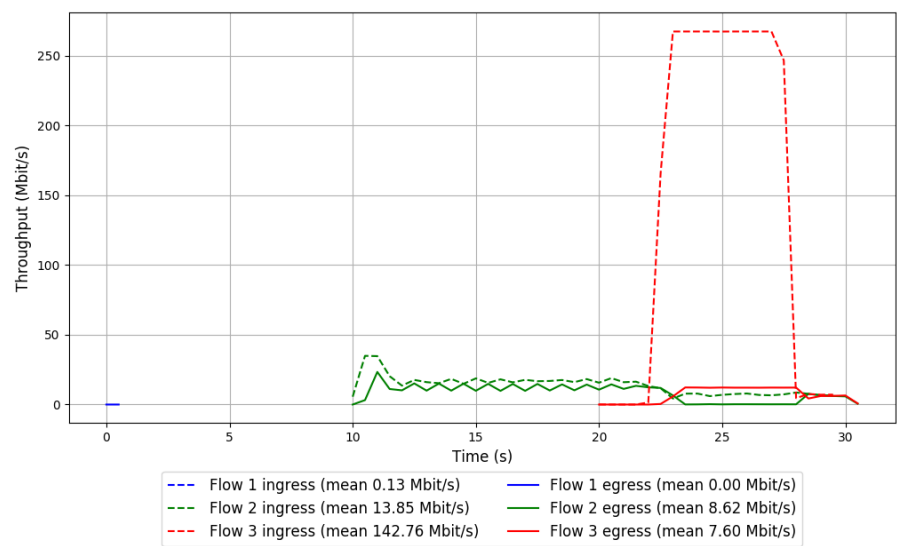
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-04-24 01:12:55
End at: 2019-04-24 01:13:25
Local clock offset: -2.647 ms
Remote clock offset: -32.205 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 73.980 ms
Loss rate: 85.41%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 65.375 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 75.512 ms
Loss rate: 37.72%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 67.640 ms
Loss rate: 94.68%
```
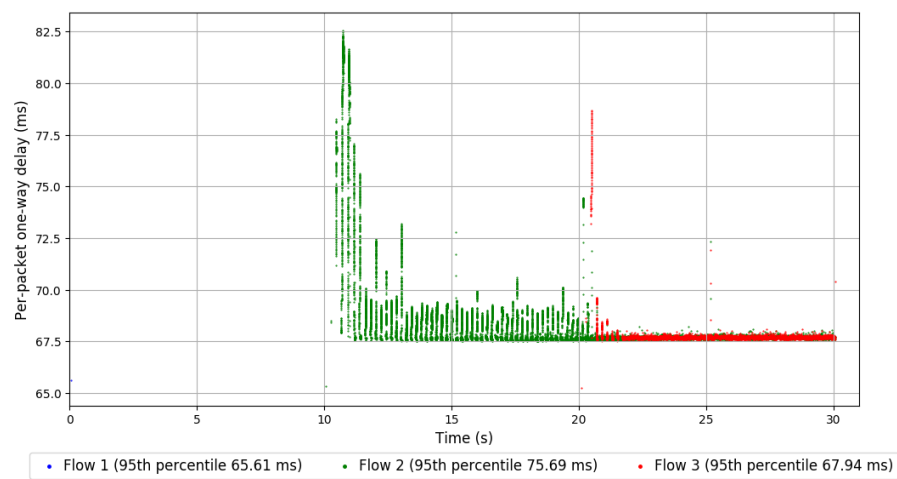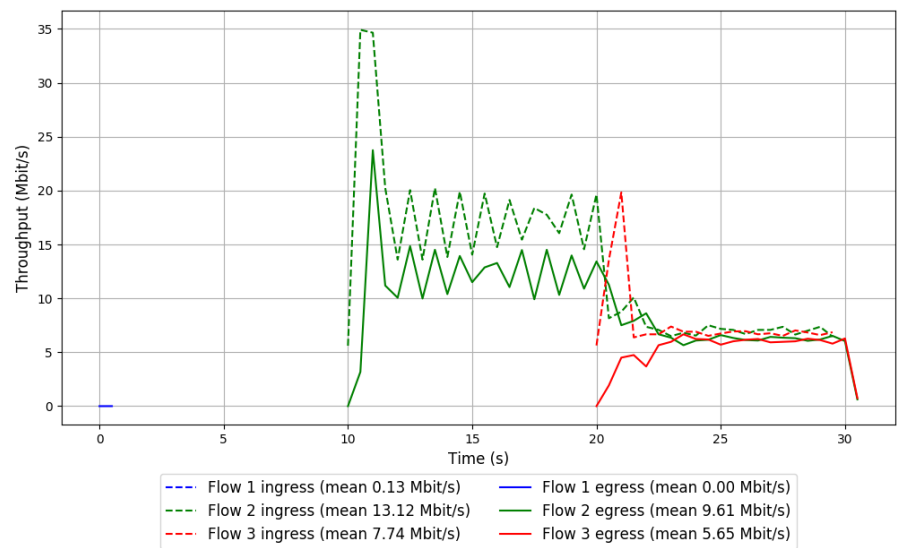
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.13 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 13.85 Mbit/s) --- Flow 2 egress (mean 8.62 Mbit/s)
Flow 3 ingress (mean 142.76 Mbit/s) --- Flow 3 egress (mean 7.60 Mbit/s)

Flow 1 (95th percentile 65.38 ms)   Flow 2 (95th percentile 75.51 ms)   Flow 3 (95th percentile 67.64 ms)

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

Start at: 2019-04-24 01:43:24
End at: 2019-04-24 01:43:54
Local clock offset: -4.029 ms
Remote clock offset: -34.61 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 74.327 ms
Loss rate: 26.82%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 65.614 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 75.687 ms
Loss rate: 26.79%
-- Flow 3:
Average throughput: 5.65 Mbit/s
95th percentile per-packet one-way delay: 67.941 ms
Loss rate: 26.93%
```
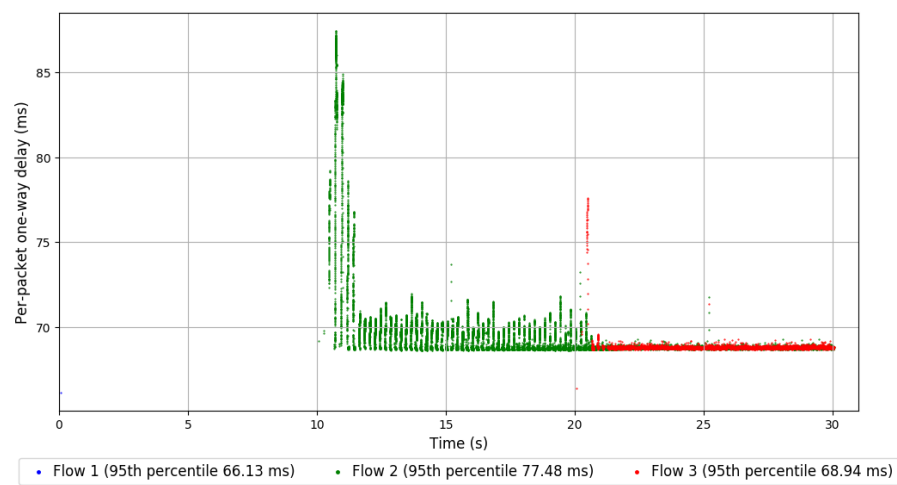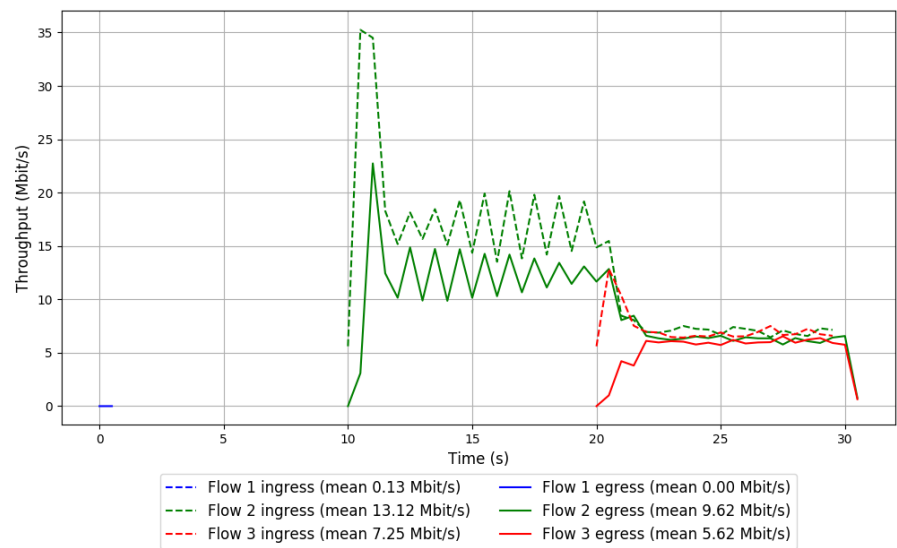
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.13 Mbit/s)
Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 13.12 Mbit/s)
Flow 2 egress (mean 9.61 Mbit/s)
Flow 3 ingress (mean 7.74 Mbit/s)
Flow 3 egress (mean 5.65 Mbit/s)

Flow 1 (95th percentile 65.61 ms)
Flow 2 (95th percentile 75.69 ms)
Flow 3 (95th percentile 67.94 ms)

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

Start at: 2019-04-24 02:25:00
End at: 2019-04-24 02:25:30
Local clock offset: -0.725 ms
Remote clock offset: -34.493 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 75.040 ms
Loss rate: 25.79%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 66.133 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 77.476 ms
Loss rate: 26.70%
-- Flow 3:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 68.943 ms
Loss rate: 22.46%
```

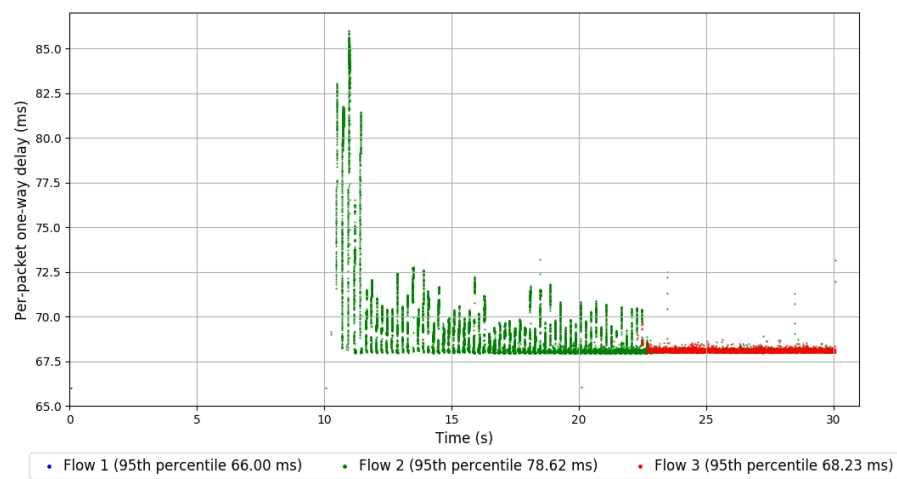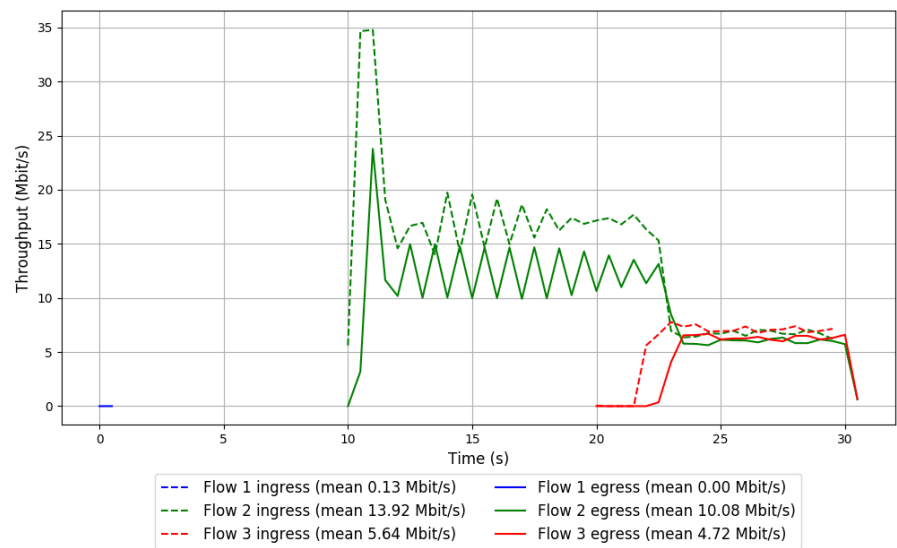Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-04-24 03:01:01
End at: 2019-04-24 03:01:31
Local clock offset: 1.073 ms
Remote clock offset: -33.529 ms

# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 75.025 ms
Loss rate: 25.69%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 66.005 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.08 Mbit/s
95th percentile per-packet one-way delay: 78.622 ms
Loss rate: 27.60%
-- Flow 3:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 68.228 ms
Loss rate: 16.19%
```

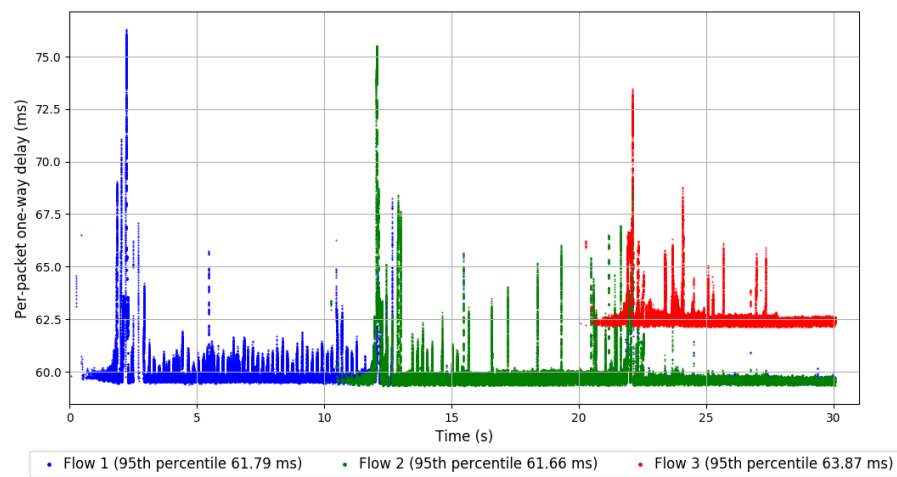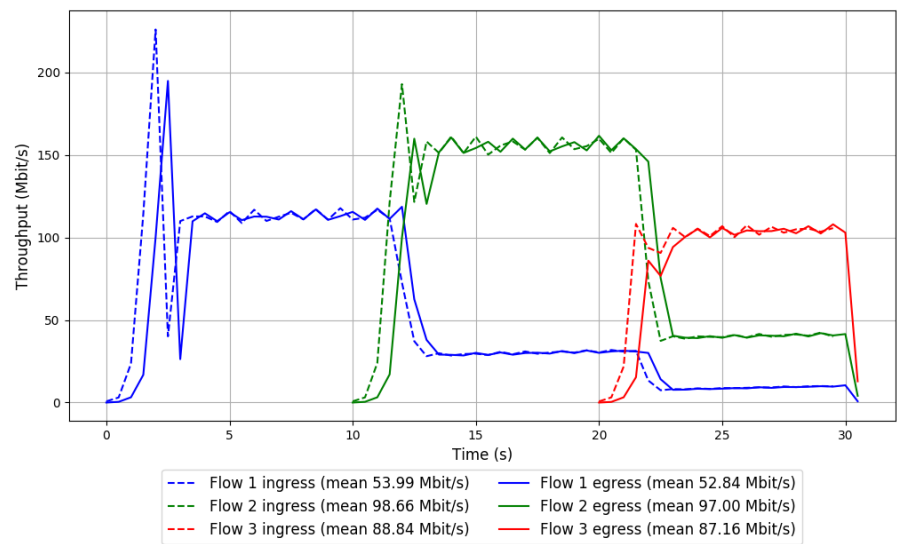Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-04-24 00:29:28
End at: 2019-04-24 00:29:58
Local clock offset: -0.109 ms
Remote clock offset: -38.23 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.51 Mbit/s
95th percentile per-packet one-way delay: 62.759 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 52.84 Mbit/s
95th percentile per-packet one-way delay: 61.792 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 97.00 Mbit/s
95th percentile per-packet one-way delay: 61.660 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 87.16 Mbit/s
95th percentile per-packet one-way delay: 63.872 ms
Loss rate: 1.92%
```

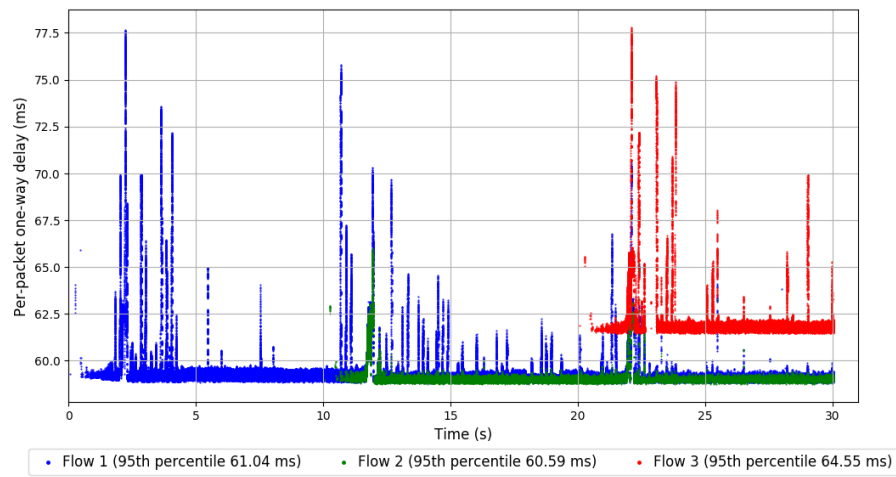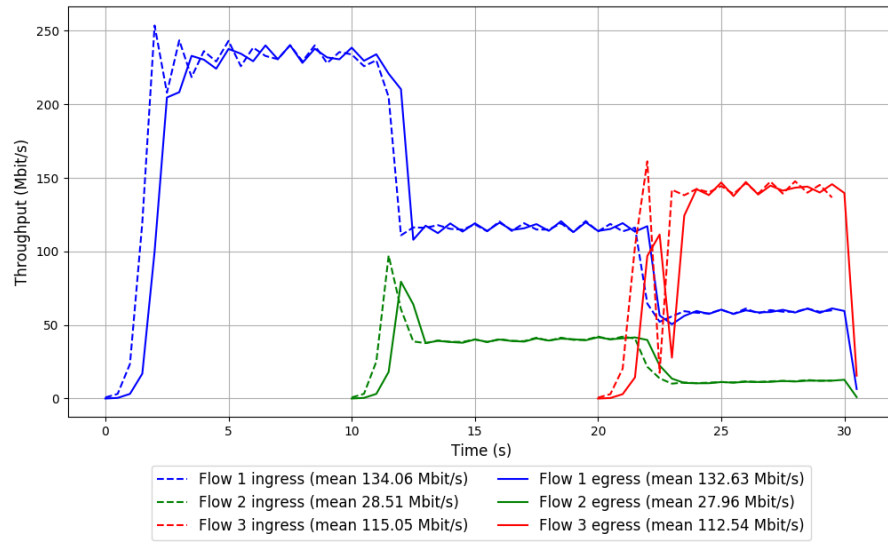Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-04-24 01:11:27
End at: 2019-04-24 01:11:57
Local clock offset: -2.018 ms
Remote clock offset: -37.564 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.66 Mbit/s
95th percentile per-packet one-way delay: 62.066 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 132.63 Mbit/s
95th percentile per-packet one-way delay: 61.043 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 27.96 Mbit/s
95th percentile per-packet one-way delay: 60.594 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 112.54 Mbit/s
95th percentile per-packet one-way delay: 64.549 ms
Loss rate: 2.20%
```
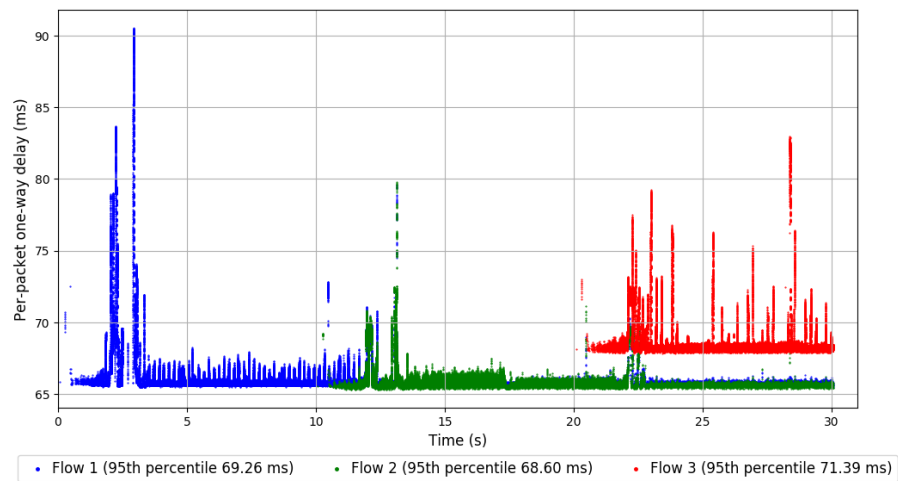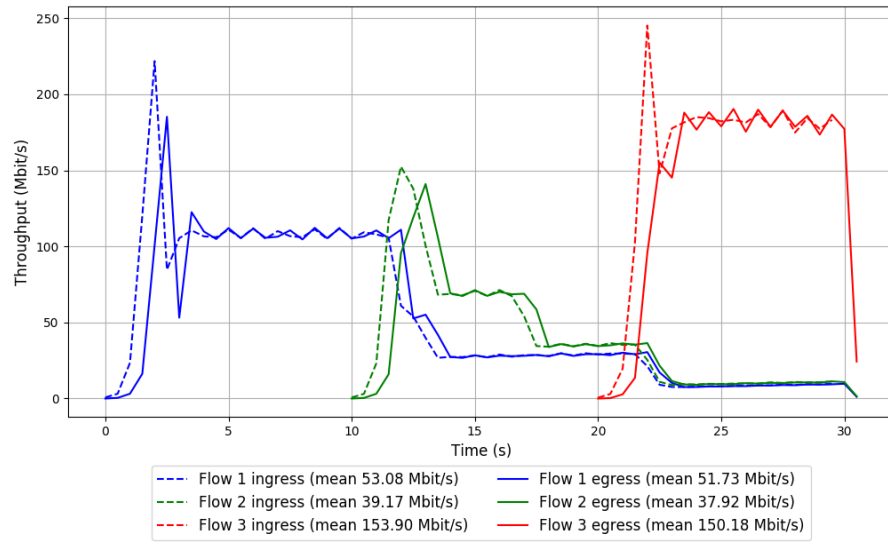
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 134.06 Mbit/s) --- Flow 1 egress (mean 132.63 Mbit/s)
Flow 2 ingress (mean 28.51 Mbit/s) --- Flow 2 egress (mean 27.96 Mbit/s)
Flow 3 ingress (mean 115.05 Mbit/s) --- Flow 3 egress (mean 112.54 Mbit/s)

Flow 1 (95th percentile 61.04 ms) • Flow 2 (95th percentile 60.59 ms) • Flow 3 (95th percentile 64.55 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-04-24 01:41:59
End at: 2019-04-24 01:42:29
Local clock offset: -4.073 ms
Remote clock offset: -34.099 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.90 Mbit/s
95th percentile per-packet one-way delay: 69.798 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 51.73 Mbit/s
95th percentile per-packet one-way delay: 69.260 ms
Loss rate: 2.54%
-- Flow 2:
Average throughput: 37.92 Mbit/s
95th percentile per-packet one-way delay: 68.601 ms
Loss rate: 3.20%
-- Flow 3:
Average throughput: 150.18 Mbit/s
95th percentile per-packet one-way delay: 71.388 ms
Loss rate: 2.45%
```

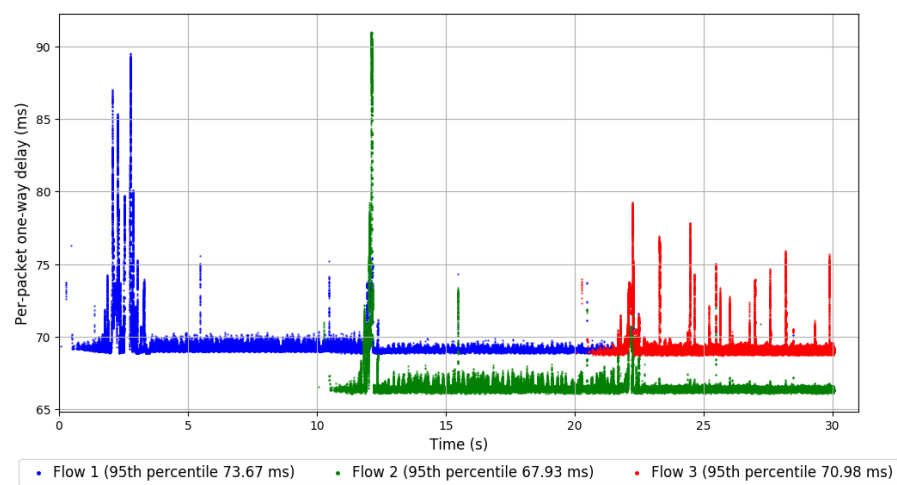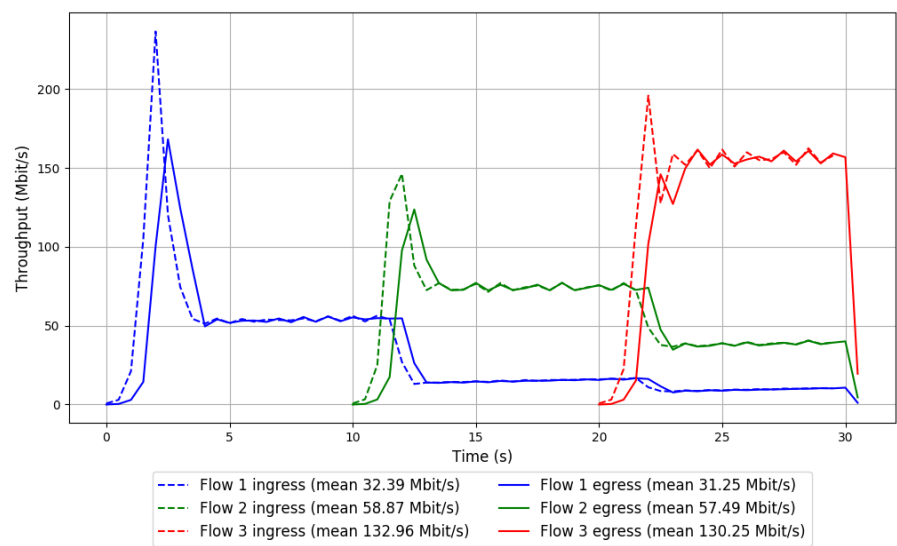Run 3: Report of TCP Vegas — Data Link

Run 4: Statistics of TCP Vegas

Start at: 2019-04-24 02:23:35
End at: 2019-04-24 02:24:05
Local clock offset: -0.587 ms
Remote clock offset: -34.093 ms

Below is generated by plot.py at 2019-04-24 03:53:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 112.89 Mbit/s
95th percentile per-packet one-way delay: 71.937 ms
Loss rate: 2.56%
-- Flow 1:
Average throughput: 31.25 Mbit/s
95th percentile per-packet one-way delay: 73.666 ms
Loss rate: 3.52%
-- Flow 2:
Average throughput: 57.49 Mbit/s
95th percentile per-packet one-way delay: 67.928 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 130.25 Mbit/s
95th percentile per-packet one-way delay: 70.976 ms
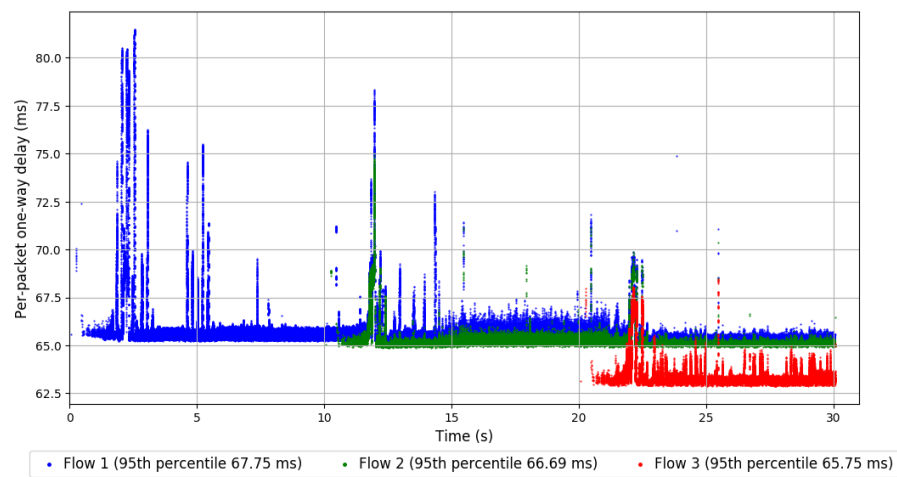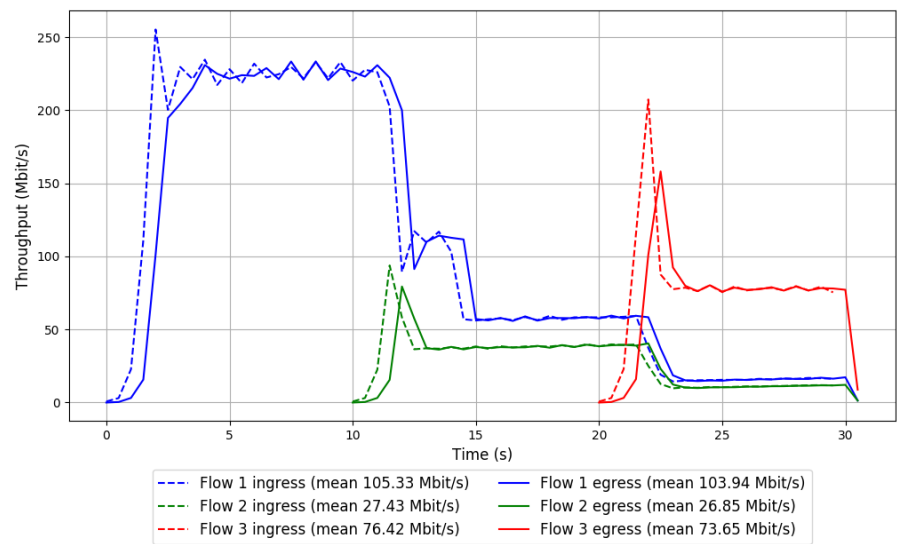Loss rate: 2.05%

Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-04-24 02:59:34
End at: 2019-04-24 03:00:04
Local clock offset: 0.811 ms
Remote clock offset: -36.66 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.34 Mbit/s
95th percentile per-packet one-way delay: 66.994 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 103.94 Mbit/s
95th percentile per-packet one-way delay: 67.745 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 26.85 Mbit/s
95th percentile per-packet one-way delay: 66.686 ms
Loss rate: 2.10%
-- Flow 3:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 65.746 ms
Loss rate: 3.61%
```

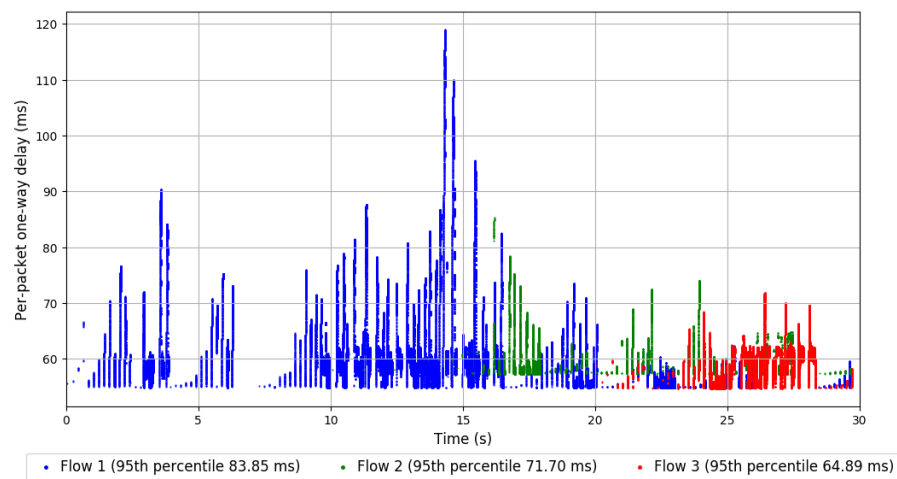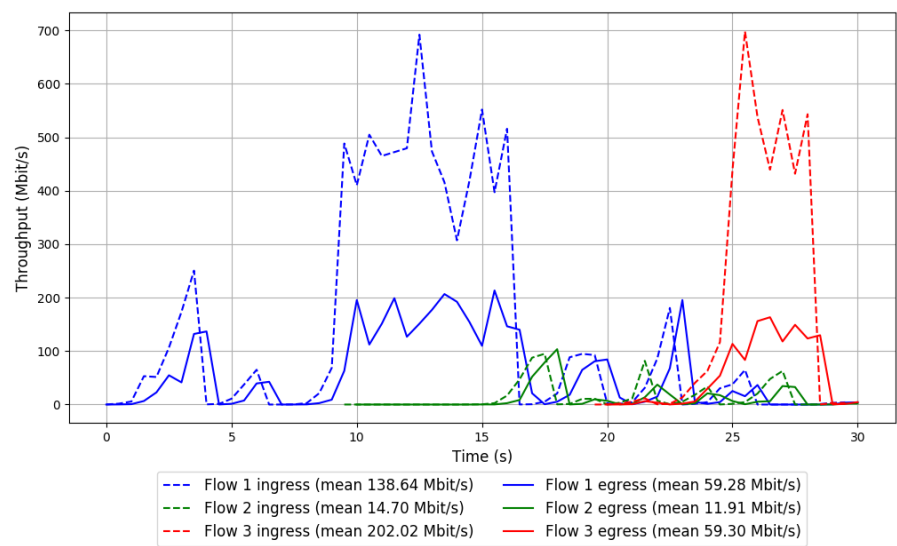Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-04-24 00:38:00
End at: 2019-04-24 00:38:30
Local clock offset: 0.435 ms
Remote clock offset: -42.882 ms


# Below is generated by plot.py at 2019-04-24 03:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.31 Mbit/s
95th percentile per-packet one-way delay: 80.970 ms
Loss rate: 59.62%
-- Flow 1:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 83.848 ms
Loss rate: 57.24%
-- Flow 2:
Average throughput: 11.91 Mbit/s
95th percentile per-packet one-way delay: 71.697 ms
Loss rate: 18.95%
-- Flow 3:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 64.895 ms
Loss rate: 70.65%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-04-24 01:20:01
End at: 2019-04-24 01:20:31
Local clock offset: -2.624 ms
Remote clock offset: -37.588 ms


# Below is generated by plot.py at 2019-04-24 03:53:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.29 Mbit/s
95th percentile per-packet one-way delay: 85.163 ms
Loss rate: 55.45%
-- Flow 1:
Average throughput: 37.53 Mbit/s
95th percentile per-packet one-way delay: 83.580 ms
Loss rate: 44.67%
-- Flow 2:
Average throughput: 90.38 Mbit/s
95th percentile per-packet one-way delay: 87.798 ms
Loss rate: 64.08%
-- Flow 3:
Average throughput: 46.72 Mbit/s
95th percentile per-packet one-way delay: 67.059 ms
Loss rate: 14.82%
```
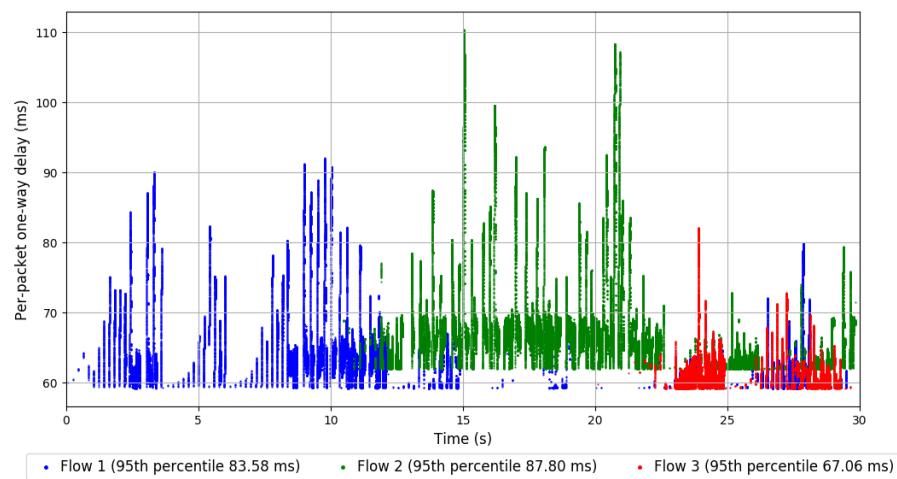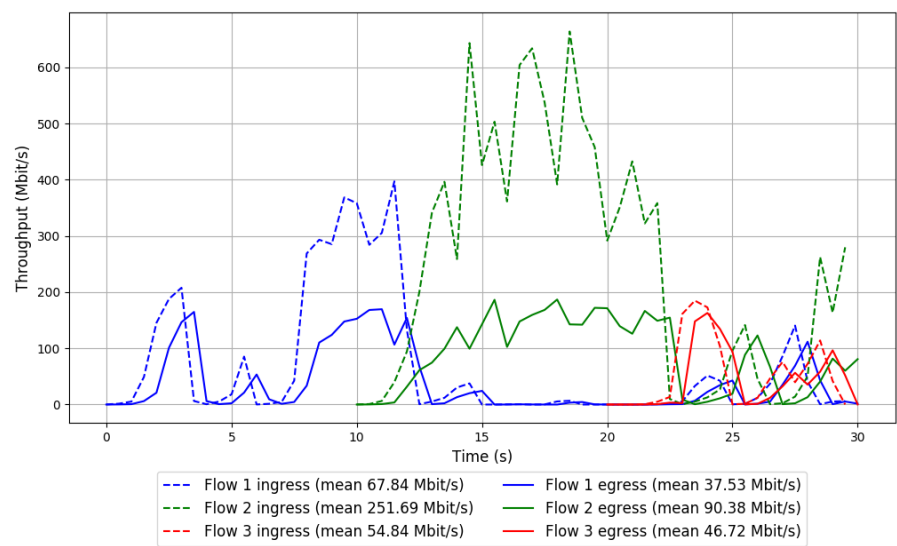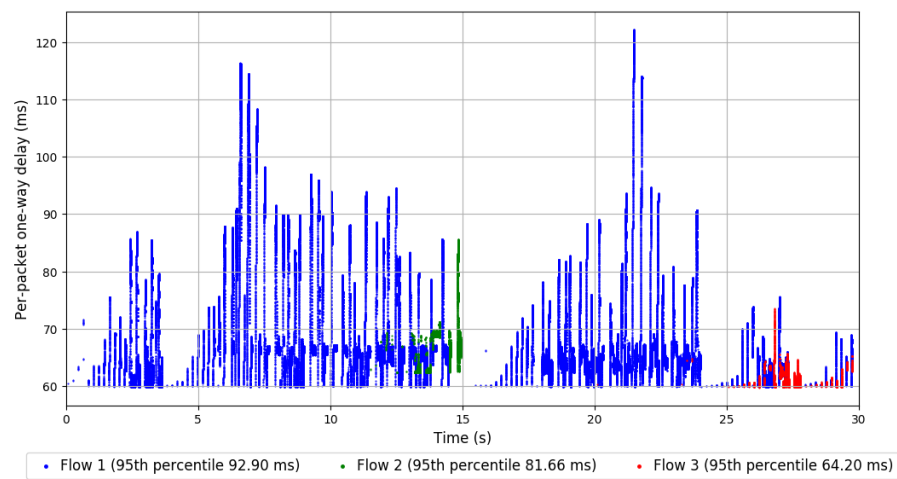
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 67.84 Mbit/s)   Flow 1 egress (mean 37.53 Mbit/s)
Flow 2 ingress (mean 251.69 Mbit/s)   Flow 2 egress (mean 90.38 Mbit/s)
Flow 3 ingress (mean 54.84 Mbit/s)   Flow 3 egress (mean 46.72 Mbit/s)

Flow 1 (95th percentile 83.58 ms)   Flow 2 (95th percentile 87.80 ms)   Flow 3 (95th percentile 67.06 ms)
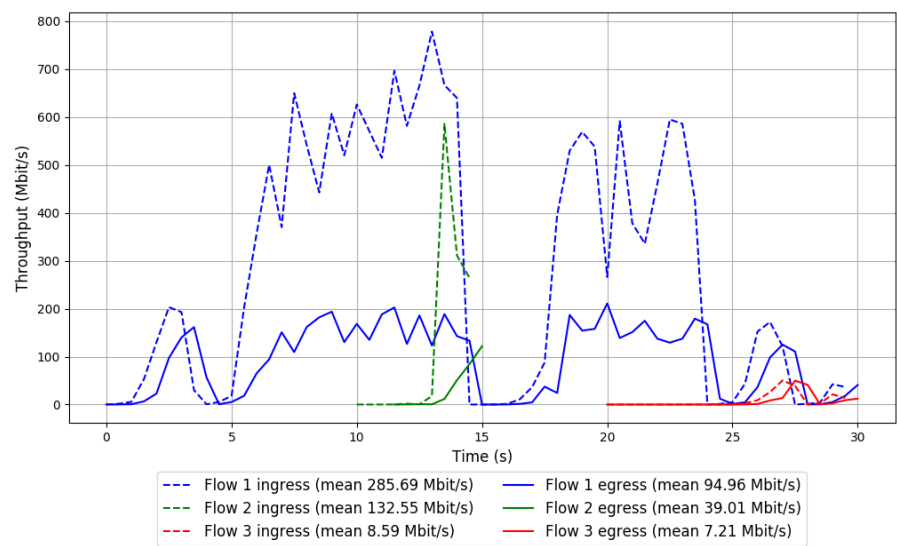
```
Run 3: Statistics of Verus

Start at: 2019-04-24 01:50:30
End at: 2019-04-24 01:51:00
Local clock offset: -1.908 ms
Remote clock offset: -39.799 ms


# Below is generated by plot.py at 2019-04-24 03:54:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.81 Mbit/s
95th percentile per-packet one-way delay: 92.310 ms
Loss rate: 66.97%
-- Flow 1:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 92.903 ms
Loss rate: 66.76%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 81.659 ms
Loss rate: 77.14%
-- Flow 3:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 64.205 ms
Loss rate: 16.07%
```

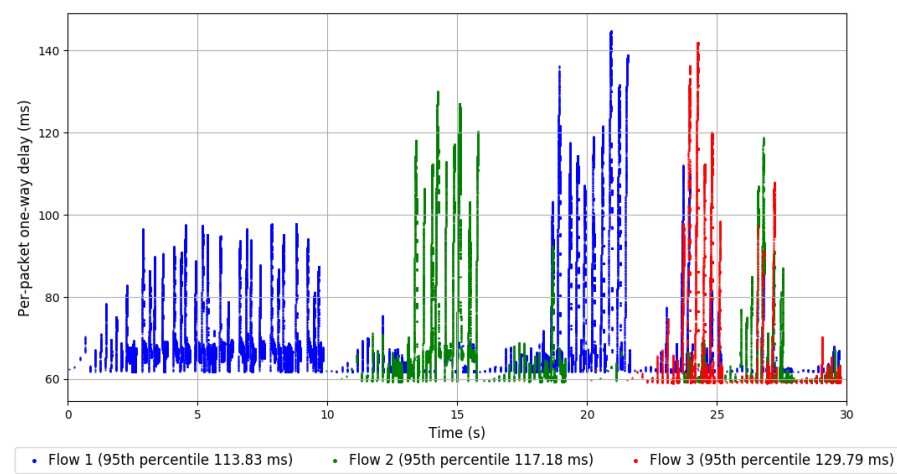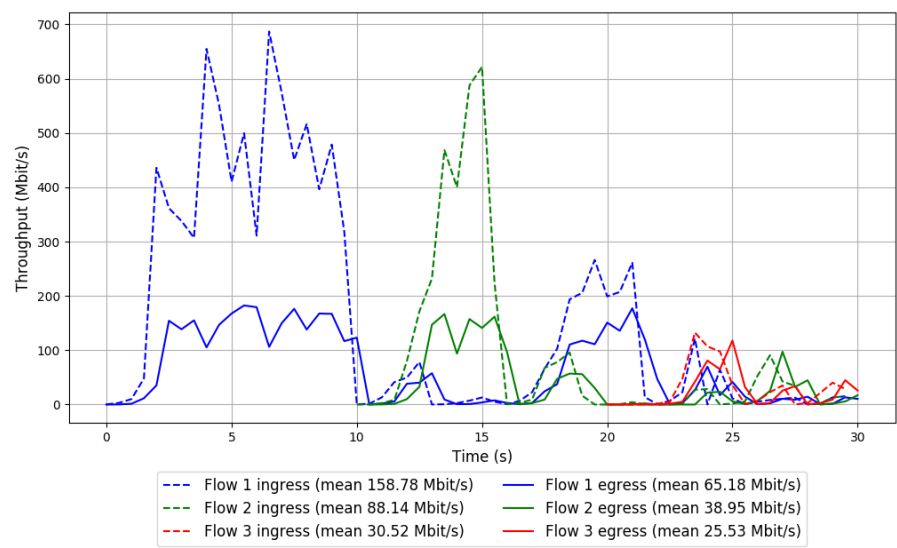## Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-04-24 02:32:06
End at: 2019-04-24 02:32:36
Local clock offset: -0.007 ms
Remote clock offset: -40.889 ms


# Below is generated by plot.py at 2019-04-24 03:54:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.53 Mbit/s
95th percentile per-packet one-way delay: 116.447 ms
Loss rate: 56.28%
-- Flow 1:
Average throughput: 65.18 Mbit/s
95th percentile per-packet one-way delay: 113.833 ms
Loss rate: 58.94%
-- Flow 2:
Average throughput: 38.95 Mbit/s
95th percentile per-packet one-way delay: 117.183 ms
Loss rate: 55.80%
-- Flow 3:
Average throughput: 25.53 Mbit/s
95th percentile per-packet one-way delay: 129.794 ms
Loss rate: 16.33%
```

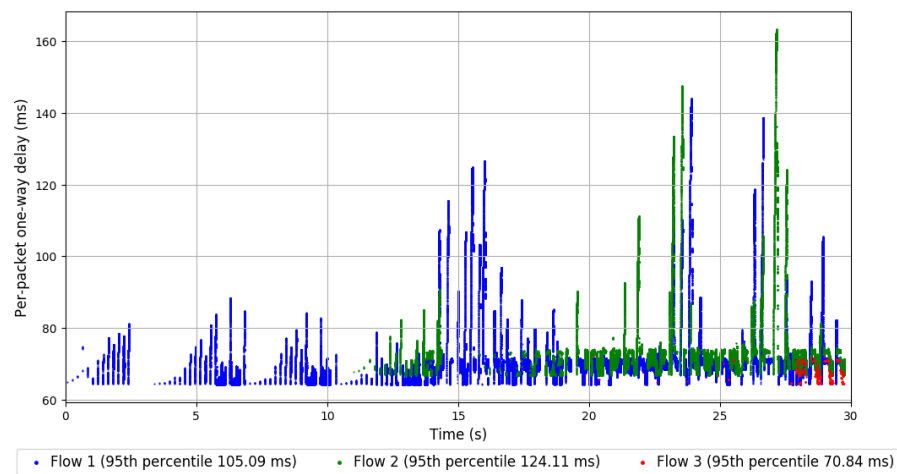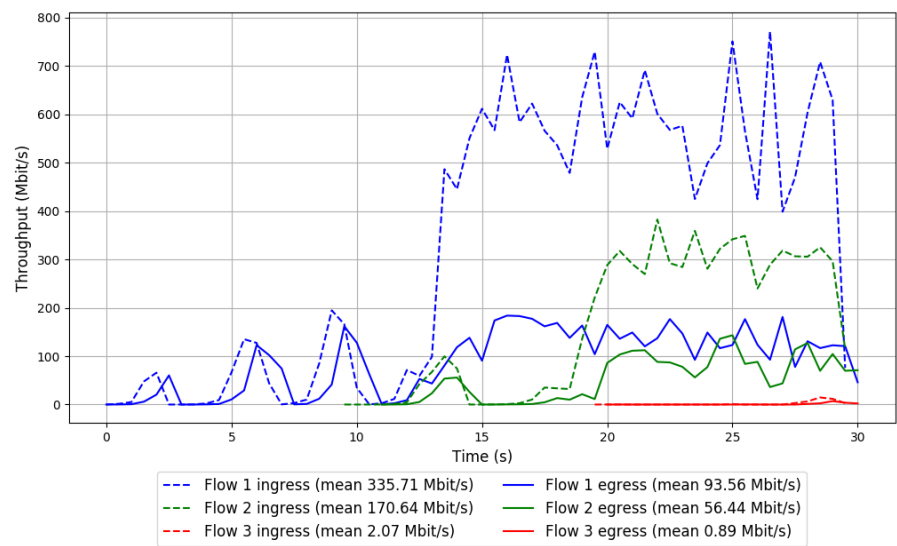Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-04-24 03:08:08
End at: 2019-04-24 03:08:38
Local clock offset: 1.829 ms
Remote clock offset: -34.233 ms


# Below is generated by plot.py at 2019-04-24 03:55:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 128.99 Mbit/s
95th percentile per-packet one-way delay: 108.992 ms
Loss rate: 71.21%
-- Flow 1:
Average throughput: 93.56 Mbit/s
95th percentile per-packet one-way delay: 105.089 ms
Loss rate: 72.12%
-- Flow 2:
Average throughput: 56.44 Mbit/s
95th percentile per-packet one-way delay: 124.110 ms
Loss rate: 68.59%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 70.845 ms
Loss rate: 57.15%
```

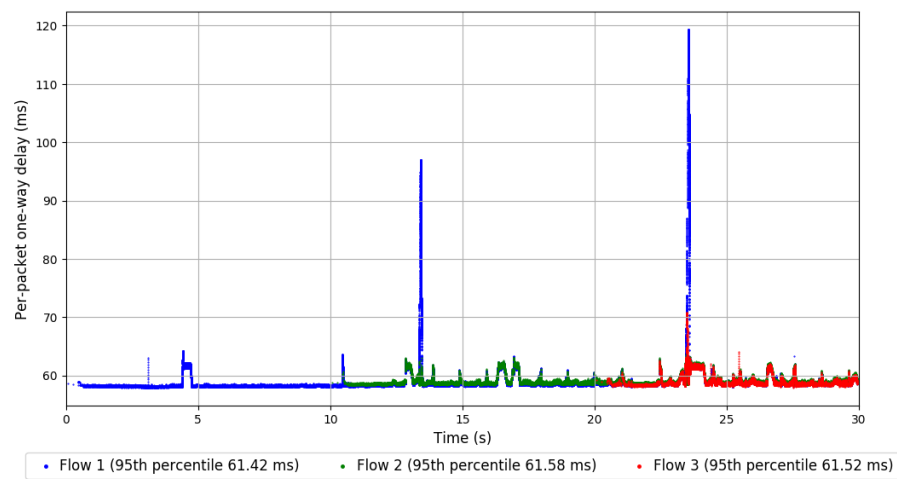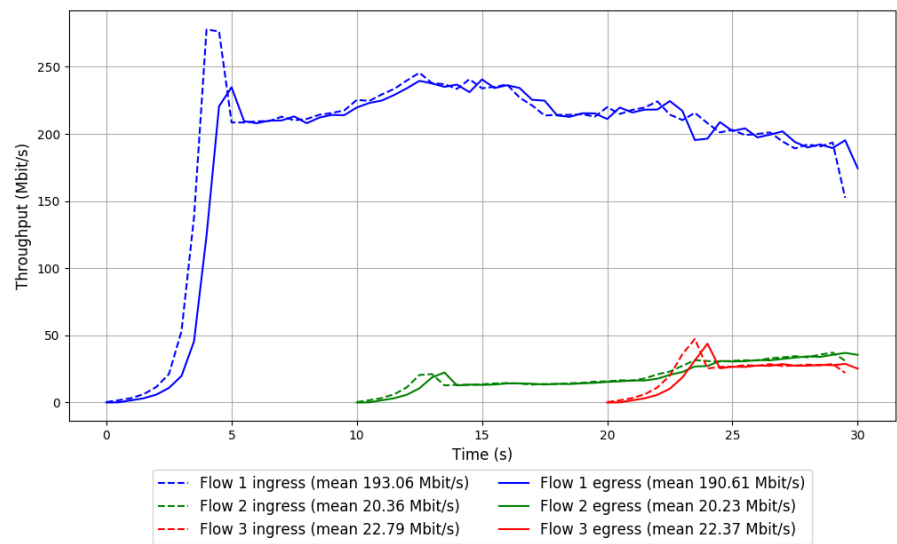## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-04-24 00:36:27
End at: 2019-04-24 00:36:57
Local clock offset: 1.283 ms
Remote clock offset: -38.476 ms


# Below is generated by plot.py at 2019-04-24 03:55:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.46 Mbit/s
95th percentile per-packet one-way delay: 61.434 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 190.61 Mbit/s
95th percentile per-packet one-way delay: 61.421 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 20.23 Mbit/s
95th percentile per-packet one-way delay: 61.581 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 22.37 Mbit/s
95th percentile per-packet one-way delay: 61.517 ms
Loss rate: 1.82%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 193.06 Mbit/s) --- Flow 1 egress (mean 190.61 Mbit/s)
Flow 2 ingress (mean 20.36 Mbit/s) --- Flow 2 egress (mean 20.23 Mbit/s)
Flow 3 ingress (mean 22.79 Mbit/s) --- Flow 3 egress (mean 22.37 Mbit/s)

Flow 1 (95th percentile 61.42 ms) · Flow 2 (95th percentile 61.58 ms) · Flow 3 (95th percentile 61.52 ms)
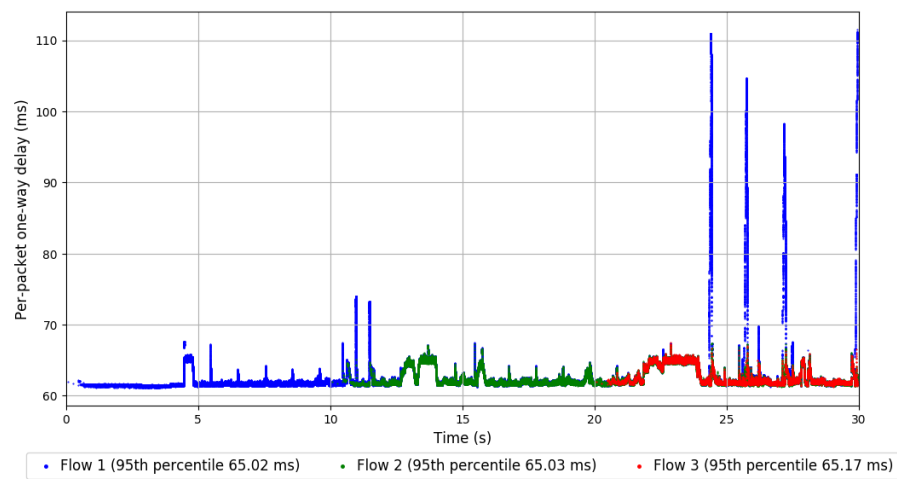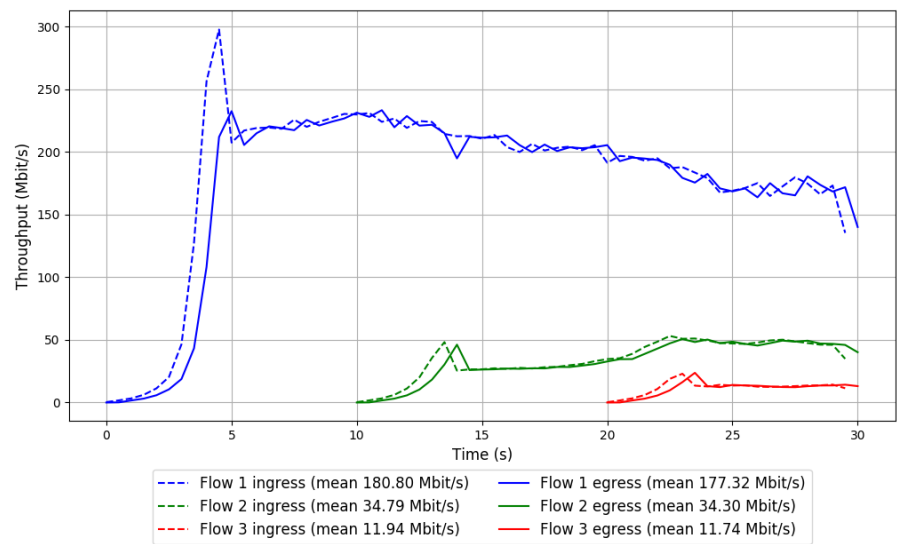
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-04-24 01:18:29
End at: 2019-04-24 01:18:59
Local clock offset: -2.348 ms
Remote clock offset: -37.611 ms


# Below is generated by plot.py at 2019-04-24 03:55:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 204.01 Mbit/s
95th percentile per-packet one-way delay: 65.030 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 177.32 Mbit/s
95th percentile per-packet one-way delay: 65.024 ms
Loss rate: 1.93%
-- Flow 2:
Average throughput: 34.30 Mbit/s
95th percentile per-packet one-way delay: 65.035 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 65.170 ms
Loss rate: 1.70%
```

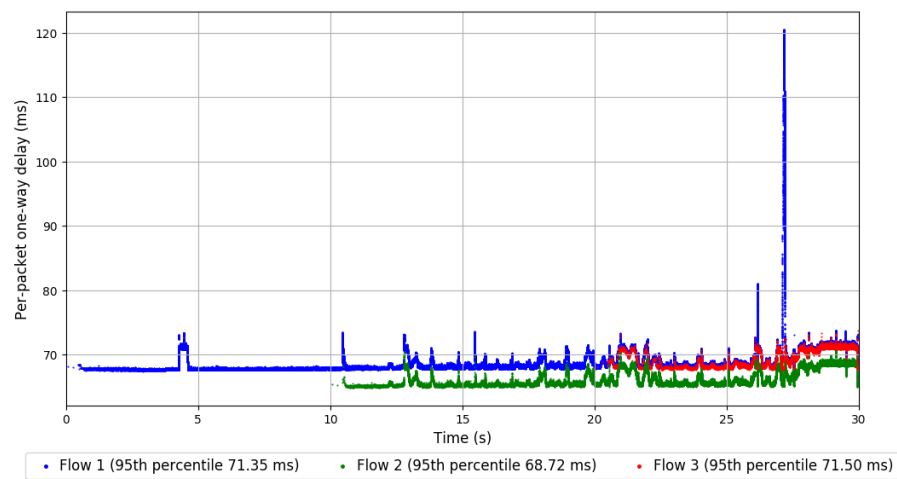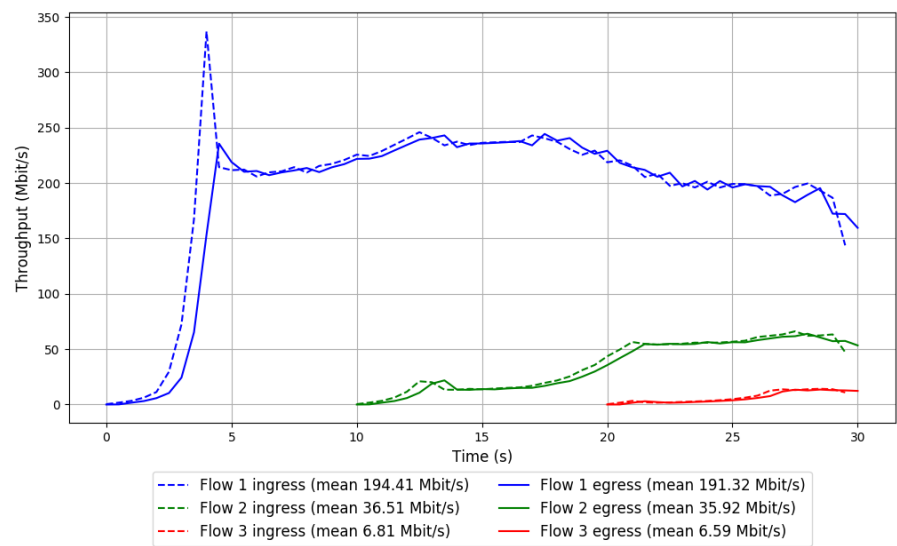Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-04-24 01:48:57
End at: 2019-04-24 01:49:27
Local clock offset: -8.751 ms
Remote clock offset: -40.849 ms


# Below is generated by plot.py at 2019-04-24 03:55:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.38 Mbit/s
95th percentile per-packet one-way delay: 71.297 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 191.32 Mbit/s
95th percentile per-packet one-way delay: 71.346 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 35.92 Mbit/s
95th percentile per-packet one-way delay: 68.715 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 71.496 ms
Loss rate: 3.11%
```
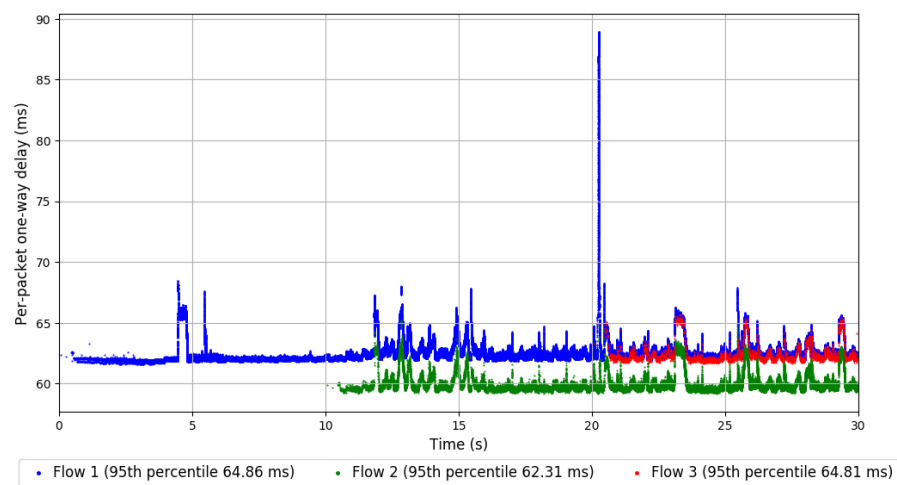
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 194.41 Mbit/s) — — — Flow 1 egress (mean 191.32 Mbit/s)
Flow 2 ingress (mean 36.51 Mbit/s) — — — Flow 2 egress (mean 35.92 Mbit/s)
Flow 3 ingress (mean 6.81 Mbit/s) — — — Flow 3 egress (mean 6.59 Mbit/s)

Flow 1 (95th percentile 71.35 ms)   Flow 2 (95th percentile 68.72 ms)   Flow 3 (95th percentile 71.50 ms)
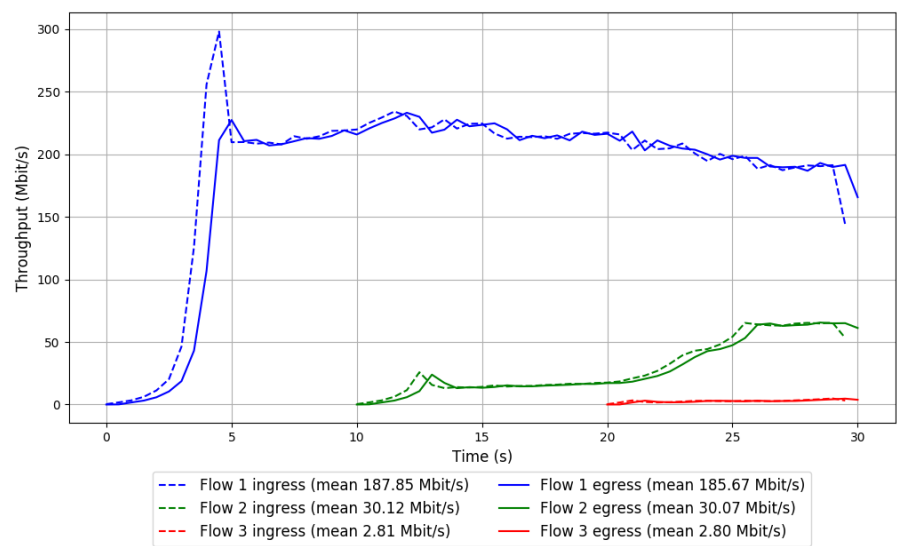
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-04-24 02:30:34
End at: 2019-04-24 02:31:04
Local clock offset: 0.108 ms
Remote clock offset: -40.64 ms


# Below is generated by plot.py at 2019-04-24 03:55:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.58 Mbit/s
95th percentile per-packet one-way delay: 64.661 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 185.67 Mbit/s
95th percentile per-packet one-way delay: 64.862 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 62.306 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 64.813 ms
Loss rate: 0.21%
```

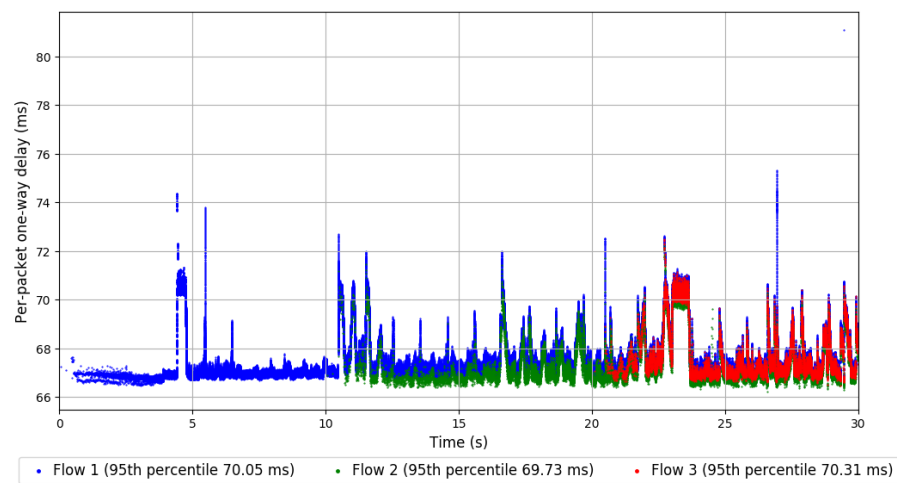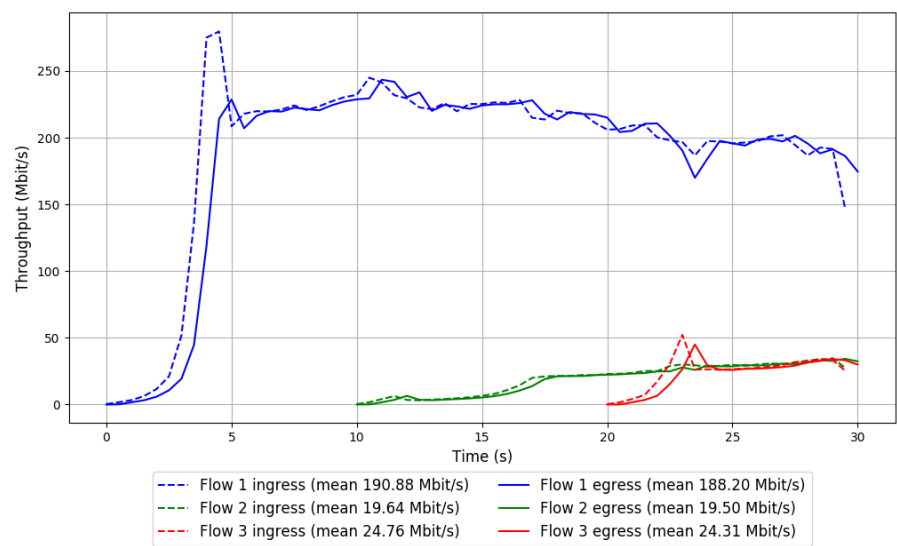Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-04-24 03:06:35
End at: 2019-04-24 03:07:05
Local clock offset: 1.693 ms
Remote clock offset: -31.738 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.19 Mbit/s
95th percentile per-packet one-way delay: 70.059 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 188.20 Mbit/s
95th percentile per-packet one-way delay: 70.050 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 19.50 Mbit/s
95th percentile per-packet one-way delay: 69.735 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 24.31 Mbit/s
95th percentile per-packet one-way delay: 70.309 ms
Loss rate: 1.81%
```

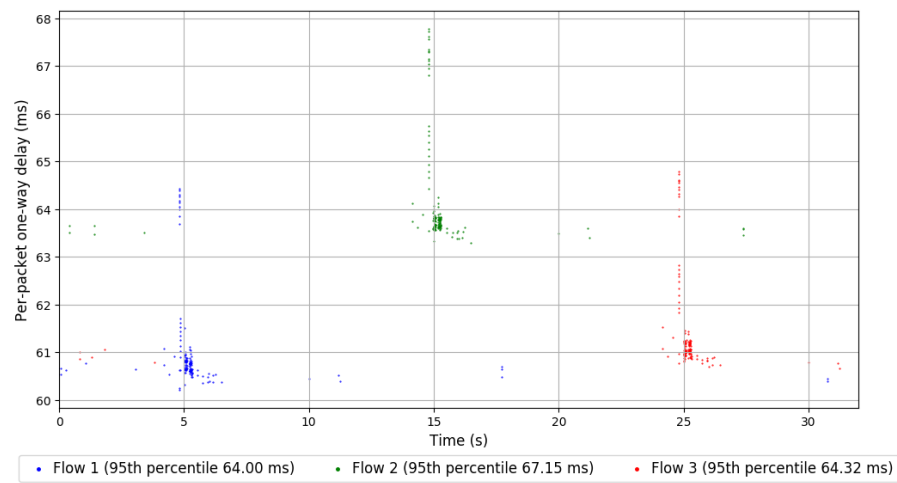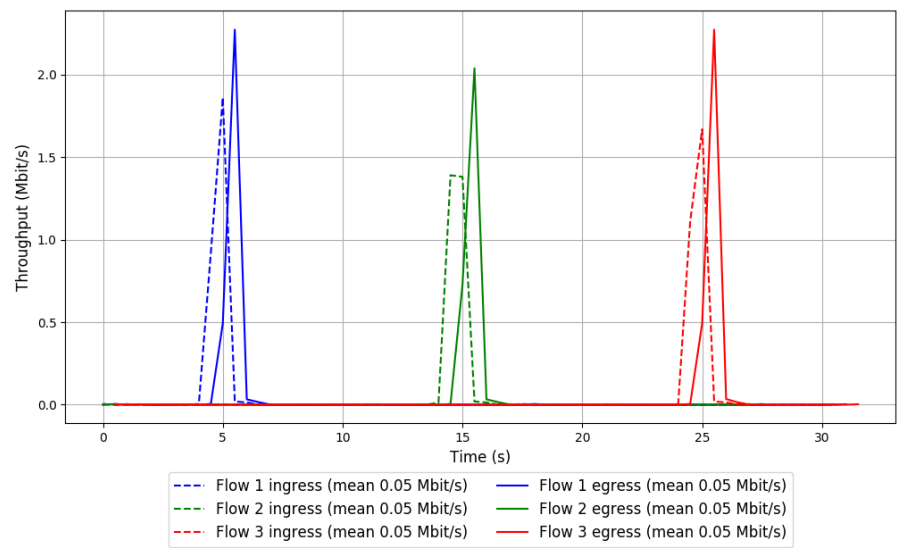Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-04-24 00:19:37
End at: 2019-04-24 00:20:07
Local clock offset: -1.396 ms
Remote clock offset: -37.087 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 64.666 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 64.005 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 67.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 64.316 ms
Loss rate: 0.00%
```

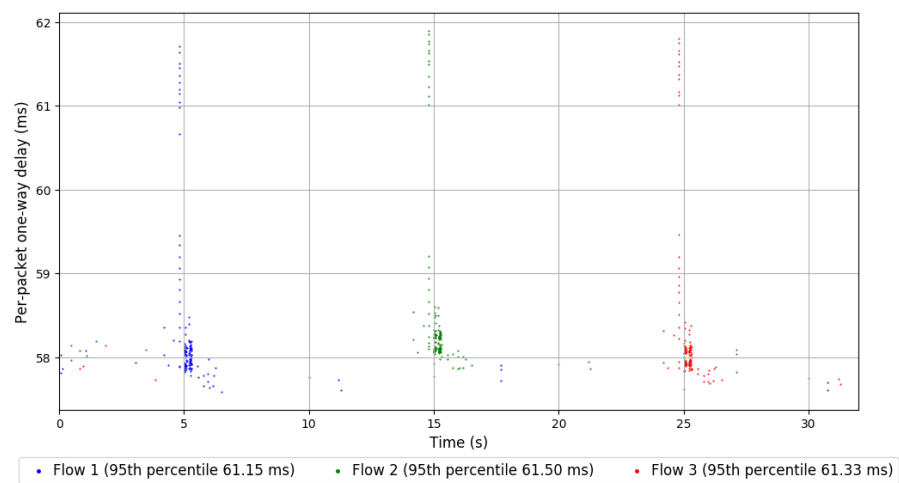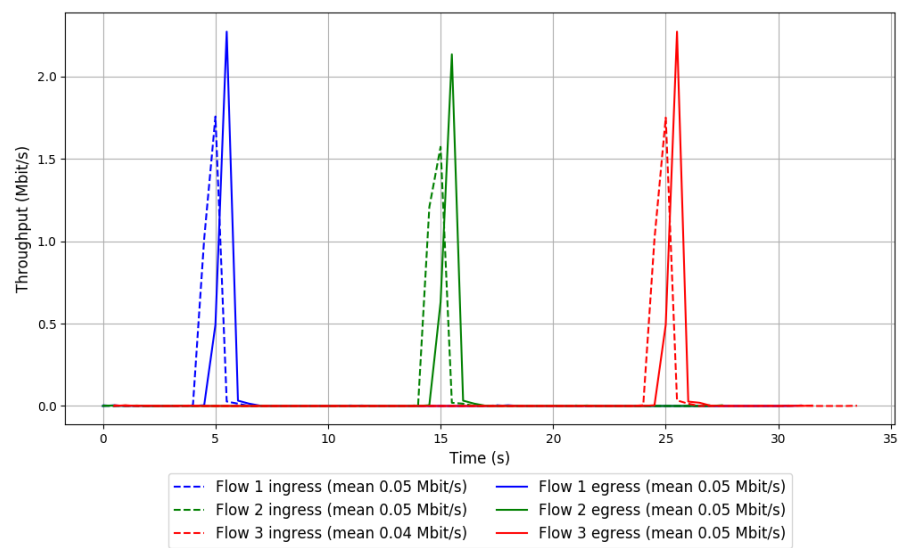Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-04-24 01:07:05
End at: 2019-04-24 01:07:35
Local clock offset: -1.168 ms
Remote clock offset: -38.216 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 61.284 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.151 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.499 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.327 ms
Loss rate: 0.05%
```

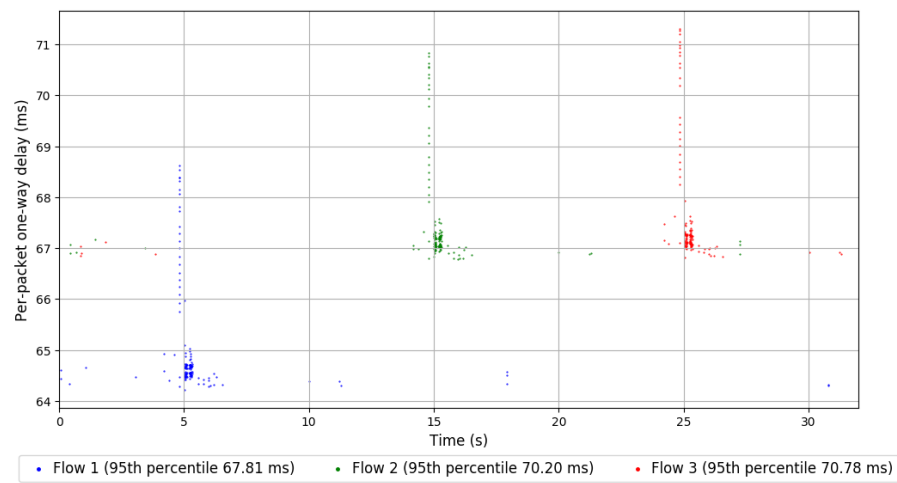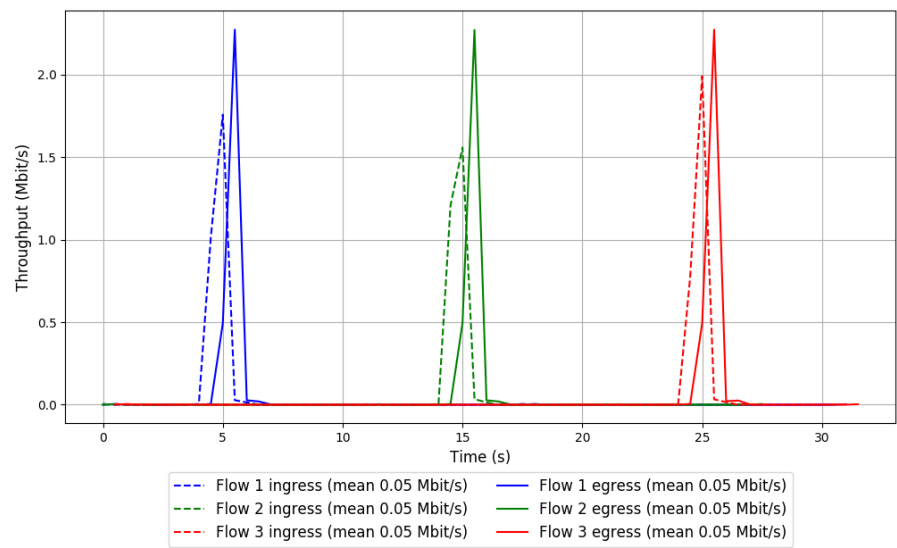Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-04-24 01:37:40
End at: 2019-04-24 01:38:10
Local clock offset: -3.479 ms
Remote clock offset: -34.241 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 69.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 67.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 70.205 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 70.776 ms
Loss rate: 0.00%
```

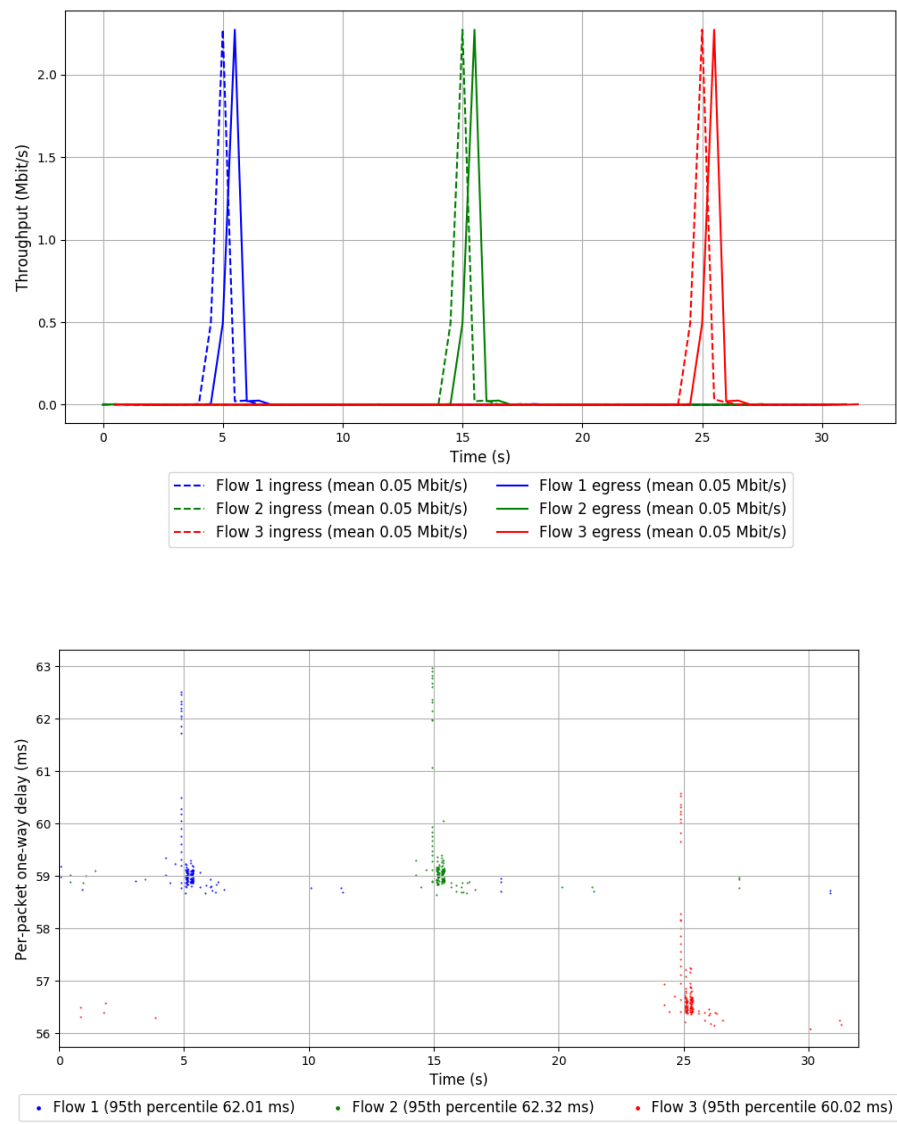Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-04-24 02:19:11
End at: 2019-04-24 02:19:41
Local clock offset: 0.431 ms
Remote clock offset: -43.168 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 61.072 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.007 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.322 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.022 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-04-24 02:49:38
End at: 2019-04-24 02:50:08
Local clock offset: 0.702 ms
Remote clock offset: -38.904 ms


# Below is generated by plot.py at 2019-04-24 03:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 66.604 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.561 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.817 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.507 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link