Pantheon Report

Generated at 2019-03-09 01:53:16 (UTC).

Data path: AWS Brazil 2 on `ens5` (*local*) →Colombia cellular on `ppp0` (*remote*).

Repeated the test of 21 congestion control schemes 3 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

```
System info:
Linux 4.15.0-1031-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
```
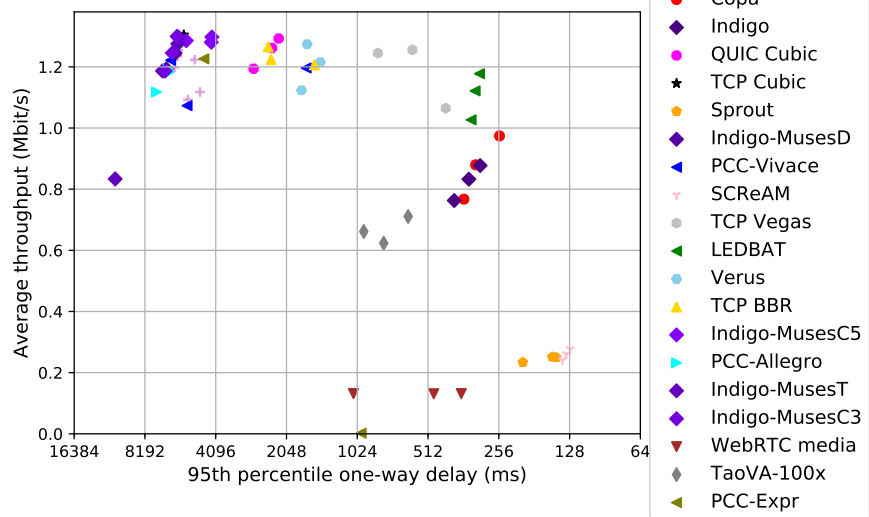
```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

test from AWS Brazil 2 to Colombia cellular, 3 runs of 30s each per scheme
3 flows with 10s interval between flows

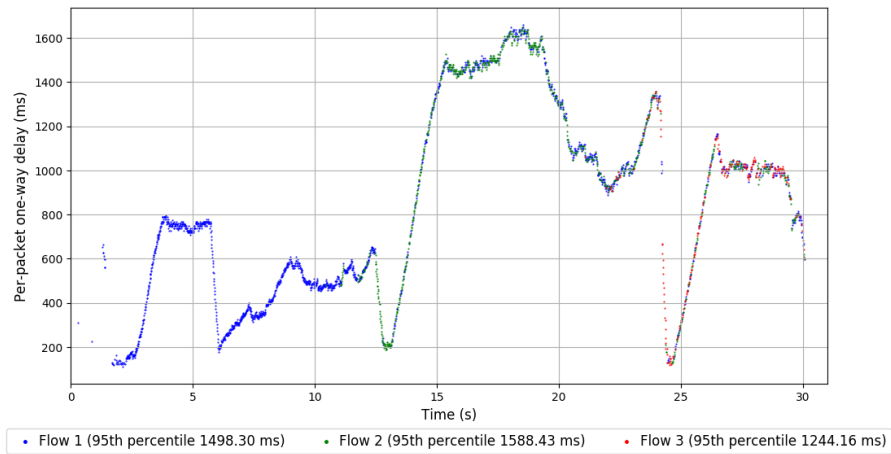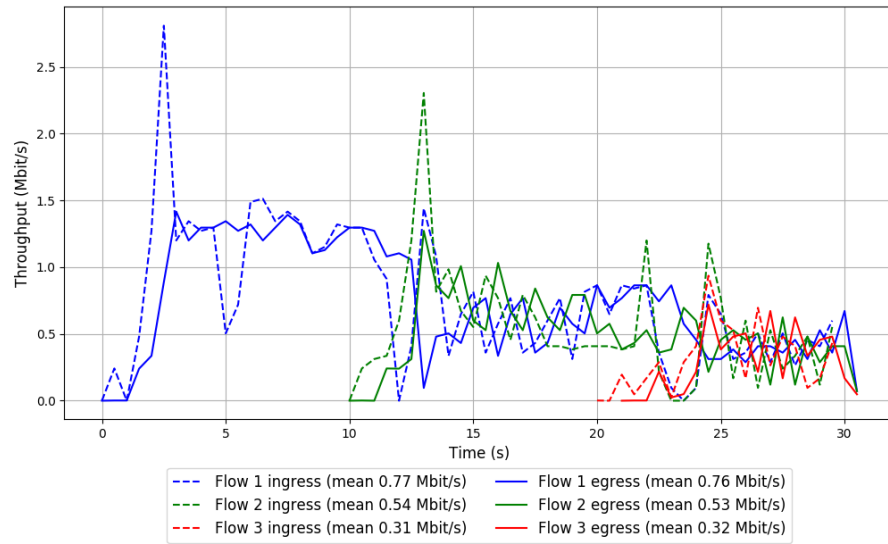| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.78	0.54	0.35	2017.36	2135.50	1862.66	2.01	4.81	16.70
Copa	3	0.52	0.35	0.37	338.82	266.86	262.38	11.42	11.88	11.69
TCP Cubic	2	1.24	0.04	0.00	5929.31	5896.15	5910.08	20.70	35.35	86.25
FillP	3	0.84	0.63	0.01	5860.09	6081.32	5013.16	26.92	51.29	99.57
FillP-Sheep	3	0.64	0.60	0.39	4518.84	4430.86	5529.84	14.73	16.92	80.87
Indigo	3	0.47	0.32	0.44	302.32	409.18	335.65	0.13	0.00	1.20
Indigo-MusesC3	3	0.76	0.82	0.00	6372.98	6223.17	6149.77	88.23	95.58	99.88
Indigo-MusesC5	3	0.84	0.62	0.13	4281.06	4661.01	5108.69	18.12	29.47	87.38
Indigo-MusesD	3	0.72	0.82	0.00	6357.26	6615.62	6429.90	64.86	97.56	99.93
Indigo-MusesT	3	0.79	0.59	0.00	7576.96	7387.94	6299.25	85.24	95.99	99.86
LEDBAT	3	0.84	0.27	0.25	317.39	332.28	342.04	0.44	0.52	3.67
PCC-Allegro	3	1.16	0.00	0.00	6769.31	6702.44	6263.42	84.64	8.80	44.83
PCC-Expr	2	0.62	0.01	0.01	2420.87	2761.83	2662.55	69.16	41.61	43.08
QUIC Cubic	3	0.96	0.39	0.13	2260.55	2580.61	2614.93	5.96	14.97	41.71
SCReAM	3	0.08	0.17	0.19	122.16	132.30	134.86	0.04	0.16	0.29
Sprout	3	0.12	0.12	0.13	186.71	151.78	172.33	0.11	0.01	0.38
TaoVA-100x	3	0.01	0.74	0.59	237.53	717.90	1329.26	85.45	12.49	19.31
TCP Vegas	3	0.72	0.43	0.55	574.84	624.62	661.97	0.40	0.87	2.72
Verus	3	1.19	0.01	0.01	1637.44	1545.36	1513.33	4.04	4.76	9.23
PCC-Vivace	3	0.99	0.25	0.00	4483.80	4381.86	4689.54	23.59	25.94	41.05
WebRTC media	3	0.04	0.04	0.04	431.45	467.63	672.85	0.00	0.04	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-03-09 00:47:52
End at: 2019-03-09 00:48:22
Local clock offset: -6.957 ms
Remote clock offset: 13.555 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 1558.052 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1498.297 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 1588.428 ms
Loss rate: 2.81%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 1244.159 ms
Loss rate: 6.97%
```

Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.77 Mbit/s) Flow 1 egress (mean 0.76 Mbit/s)
Flow 2 ingress (mean 0.54 Mbit/s) Flow 2 egress (mean 0.53 Mbit/s)
Flow 3 ingress (mean 0.31 Mbit/s) Flow 3 egress (mean 0.32 Mbit/s)

Flow 1 (95th percentile 1498.30 ms)   Flow 2 (95th percentile 1588.43 ms)   Flow 3 (95th percentile 1244.16 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-03-09 01:13:39
End at: 2019-03-09 01:14:09
Local clock offset: -6.06 ms
Remote clock offset: 2.646 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 2447.872 ms
Loss rate: 7.44%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 2181.217 ms
Loss rate: 3.41%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 2426.363 ms
Loss rate: 7.57%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 2591.895 ms
Loss rate: 21.64%
```

Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.80 Mbit/s)   Flow 1 egress (mean 0.78 Mbit/s)
Flow 2 ingress (mean 0.52 Mbit/s)   Flow 2 egress (mean 0.49 Mbit/s)
Flow 3 ingress (mean 0.67 Mbit/s)   Flow 3 egress (mean 0.55 Mbit/s)

Flow 1 (95th percentile 2181.22 ms)   Flow 2 (95th percentile 2426.36 ms)   Flow 3 (95th percentile 2591.89 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2019-03-09 01:39:30
End at: 2019-03-09 01:40:00
Local clock offset: -7.35 ms
Remote clock offset: 4.047 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 2381.698 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 2372.571 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 2391.699 ms
Loss rate: 4.04%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 1751.928 ms
Loss rate: 21.48%
```
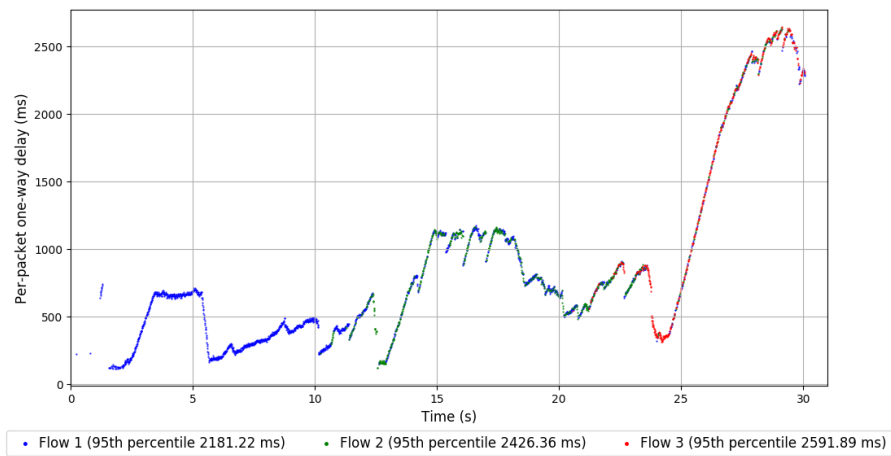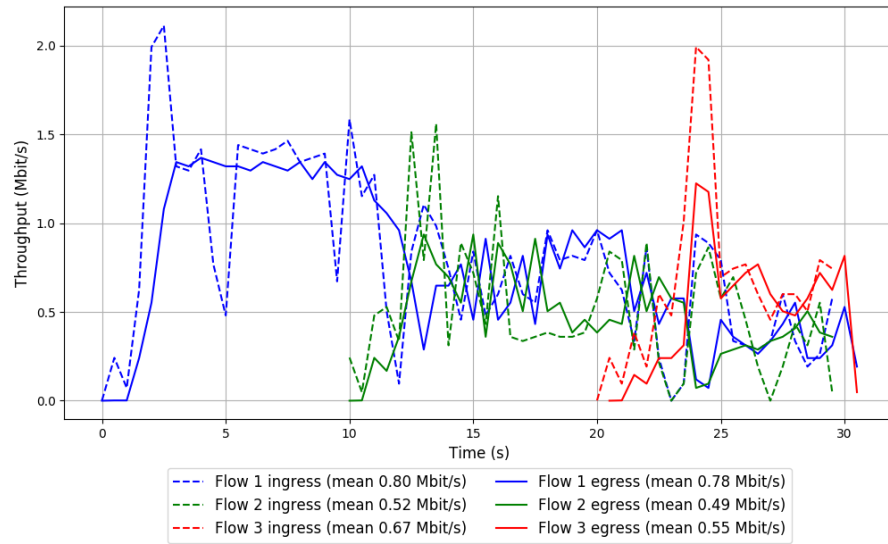
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.79 Mbit/s) — — — Flow 1 egress (mean 0.79 Mbit/s) ——
Flow 2 ingress (mean 0.62 Mbit/s) — — — Flow 2 egress (mean 0.60 Mbit/s) ——
Flow 3 ingress (mean 0.17 Mbit/s) — — — Flow 3 egress (mean 0.18 Mbit/s) ——

Flow 1 (95th percentile 2372.57 ms)   Flow 2 (95th percentile 2391.70 ms)   Flow 3 (95th percentile 1751.93 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-03-09 00:36:50
End at: 2019-03-09 00:37:20
Local clock offset: -6.485 ms
Remote clock offset: 14.243 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 321.232 ms
Loss rate: 11.27%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 370.427 ms
Loss rate: 11.16%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 259.903 ms
Loss rate: 10.37%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 323.586 ms
Loss rate: 14.04%
```
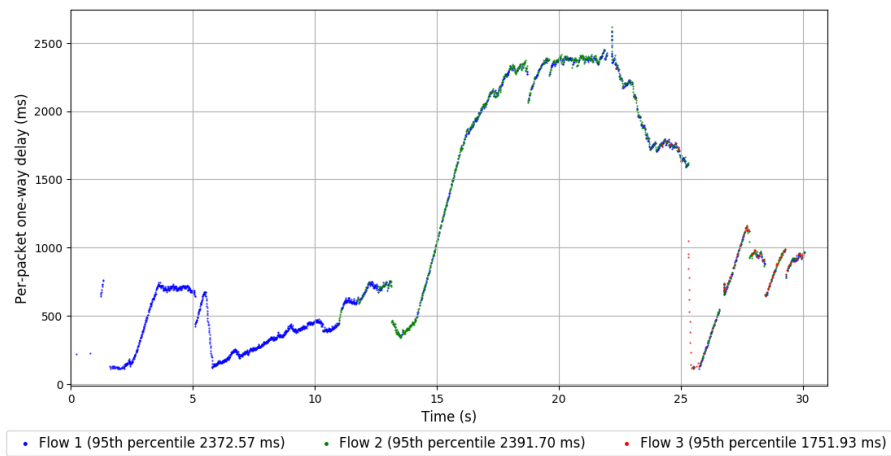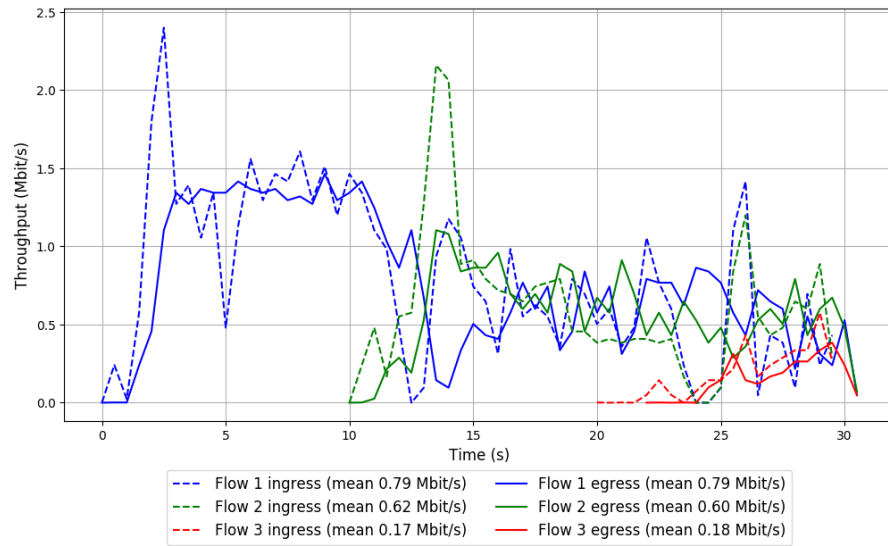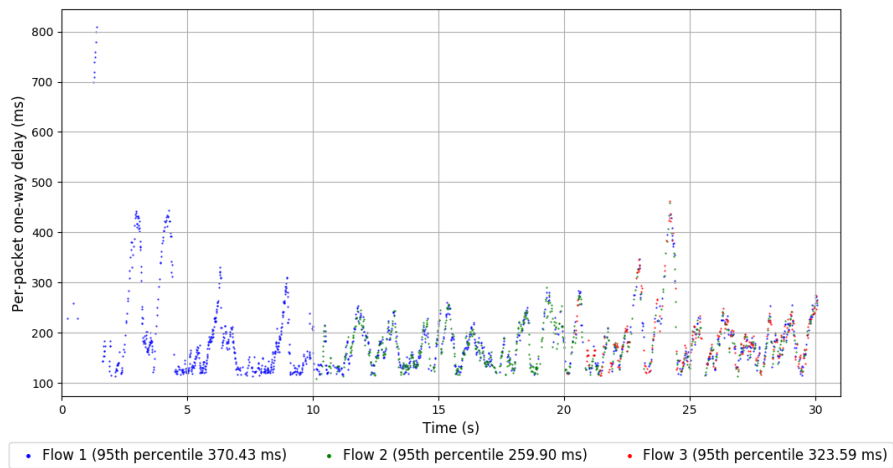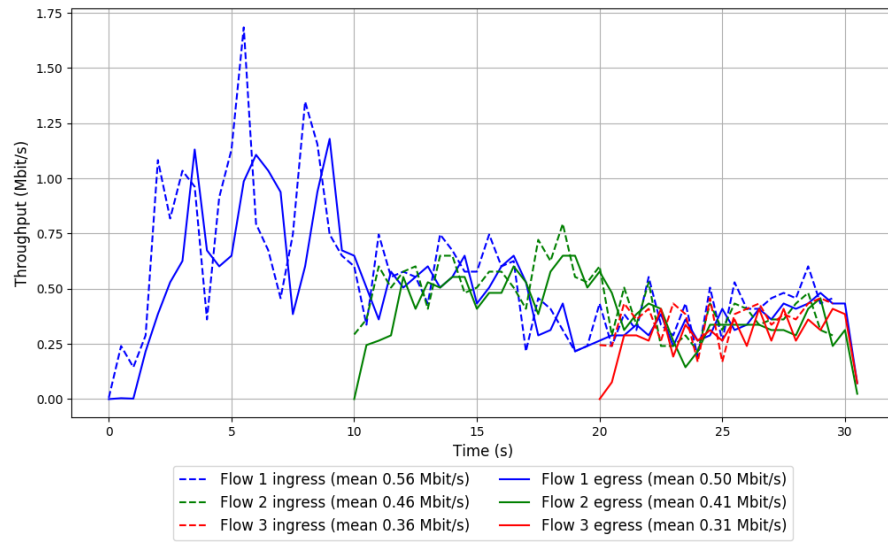
Run 1: Report of Copa — Data Link

- - - Flow 1 ingress (mean 0.56 Mbit/s) —— Flow 1 egress (mean 0.50 Mbit/s)
- - - Flow 2 ingress (mean 0.46 Mbit/s) —— Flow 2 egress (mean 0.41 Mbit/s)
- - - Flow 3 ingress (mean 0.36 Mbit/s) —— Flow 3 egress (mean 0.31 Mbit/s)

• Flow 1 (95th percentile 370.43 ms)   • Flow 2 (95th percentile 259.90 ms)   • Flow 3 (95th percentile 323.59 ms)

```
Run 2: Statistics of Copa

Start at: 2019-03-09 01:02:37
End at: 2019-03-09 01:03:07
Local clock offset: -5.516 ms
Remote clock offset: 5.191 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 360.370 ms
Loss rate: 11.86%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 380.599 ms
Loss rate: 12.27%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 307.027 ms
Loss rate: 12.57%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 238.514 ms
Loss rate: 9.22%
```
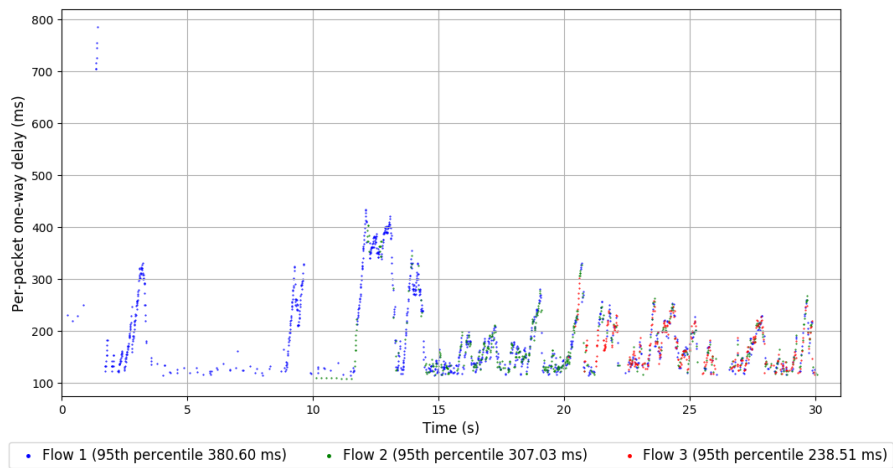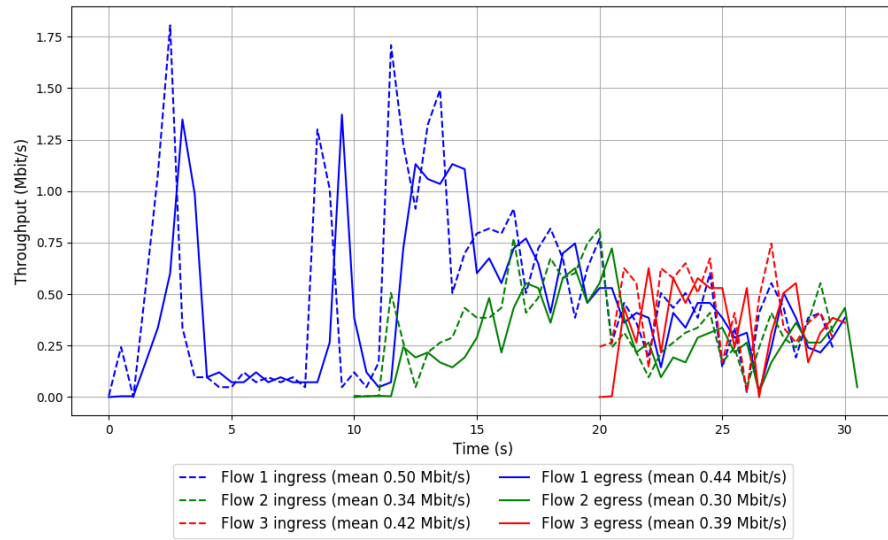
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-03-09 01:28:28
End at: 2019-03-09 01:28:58
Local clock offset: -7.063 ms
Remote clock offset: -0.31 ms


# Below is generated by plot.py at 2019-03-09 01:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 254.312 ms
Loss rate: 11.40%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 265.443 ms
Loss rate: 10.83%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 233.641 ms
Loss rate: 12.69%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 225.051 ms
Loss rate: 11.81%
```
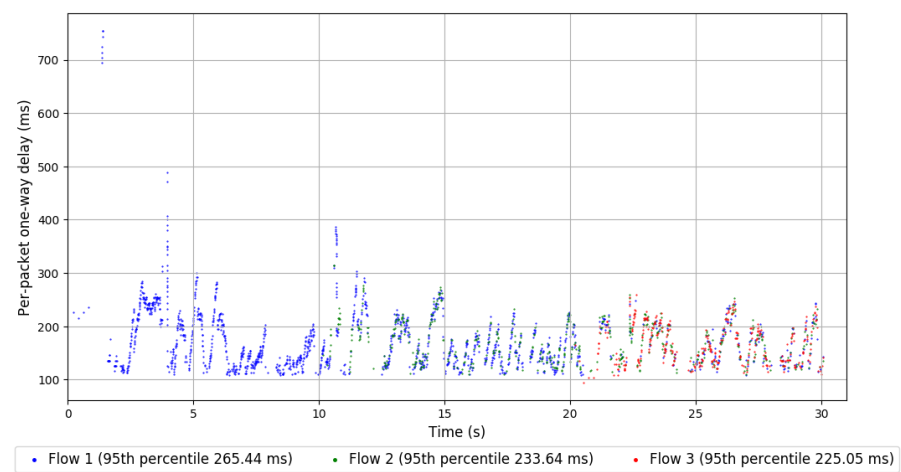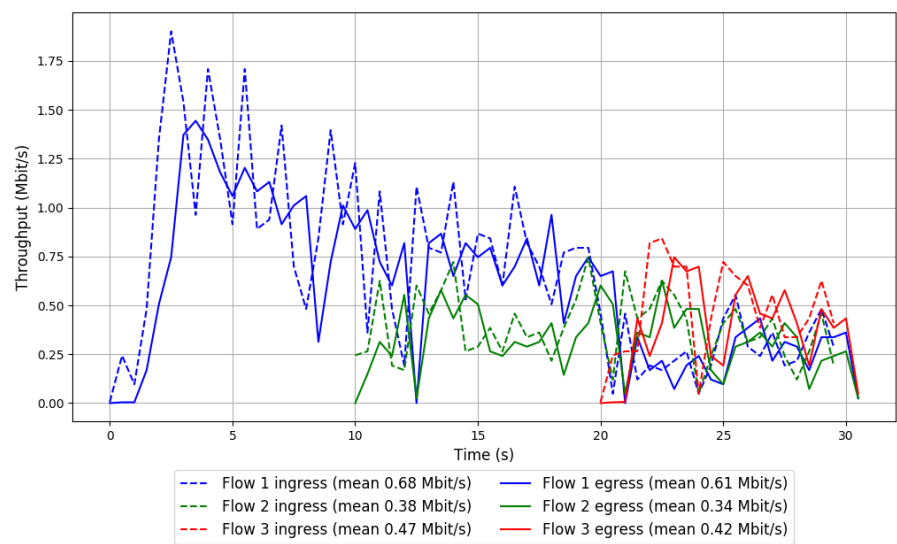
Run 3: Report of Copa — Data Link

- - - Flow 1 ingress (mean 0.68 Mbit/s) —— Flow 1 egress (mean 0.61 Mbit/s)
- - - Flow 2 ingress (mean 0.38 Mbit/s) —— Flow 2 egress (mean 0.34 Mbit/s)
- - - Flow 3 ingress (mean 0.47 Mbit/s) —— Flow 3 egress (mean 0.42 Mbit/s)

• Flow 1 (95th percentile 265.44 ms)   • Flow 2 (95th percentile 233.64 ms)   • Flow 3 (95th percentile 225.05 ms)
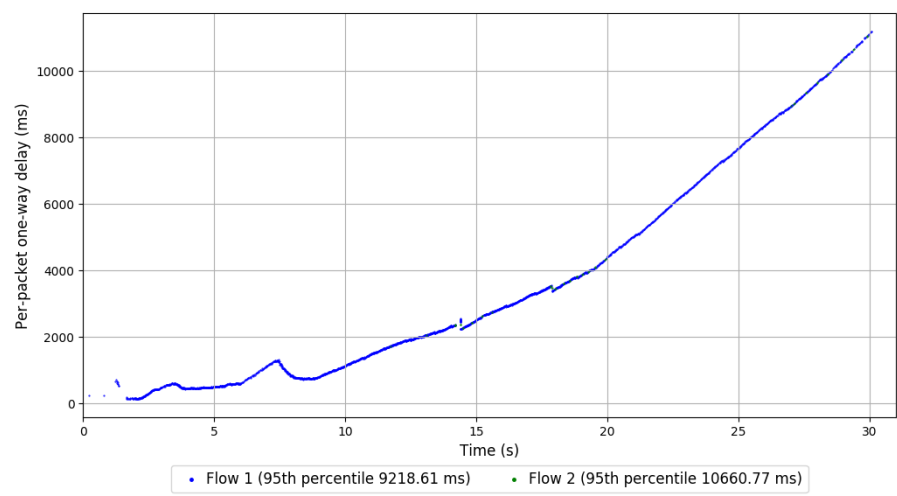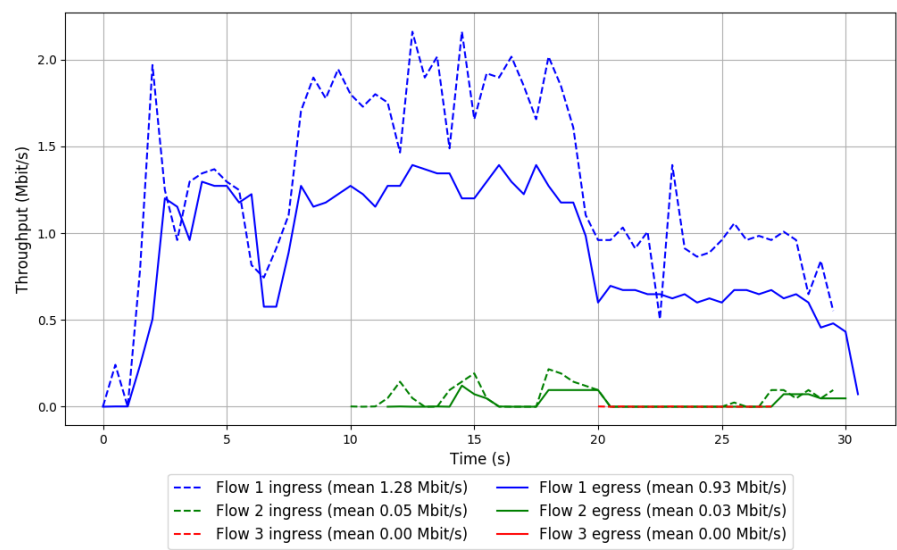
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```
Run 1: Statistics of TCP Cubic

Start at: 2019-03-09 00:45:25
End at: 2019-03-09 00:45:55
Local clock offset: -6.46 ms
Remote clock offset: 14.658 ms
```

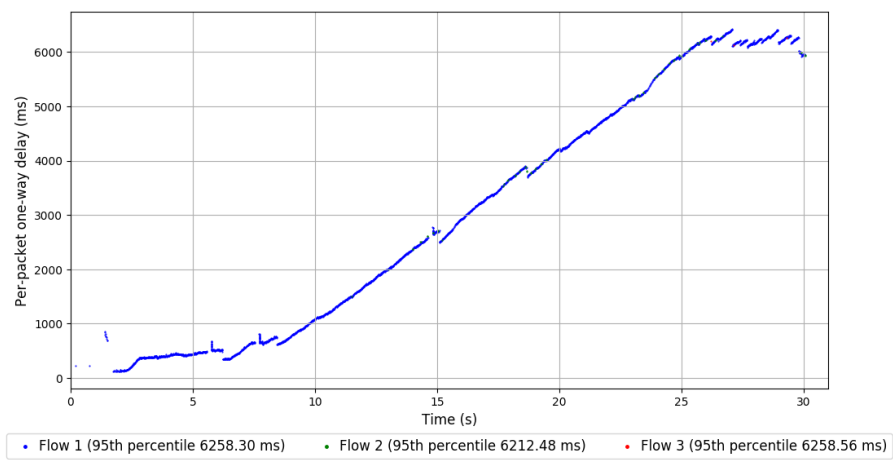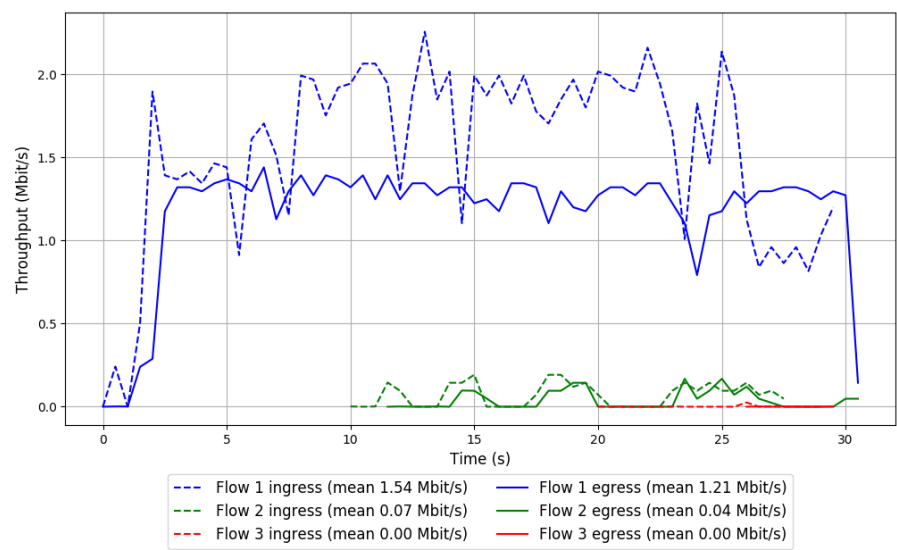Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-03-09 01:11:12
End at: 2019-03-09 01:11:42
Local clock offset: -5.305 ms
Remote clock offset: -0.831 ms


# Below is generated by plot.py at 2019-03-09 01:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 6257.190 ms
Loss rate: 22.33%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 6258.304 ms
Loss rate: 21.86%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 6212.483 ms
Loss rate: 38.59%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6258.559 ms
Loss rate: 86.54%
```

Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-03-09 01:37:03
End at: 2019-03-09 01:37:33
Local clock offset: -6.544 ms
Remote clock offset: 0.346 ms


# Below is generated by plot.py at 2019-03-09 01:52:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 5599.551 ms
Loss rate: 19.92%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 5600.307 ms
Loss rate: 19.54%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5579.809 ms
Loss rate: 32.11%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5561.598 ms
Loss rate: 85.96%
```
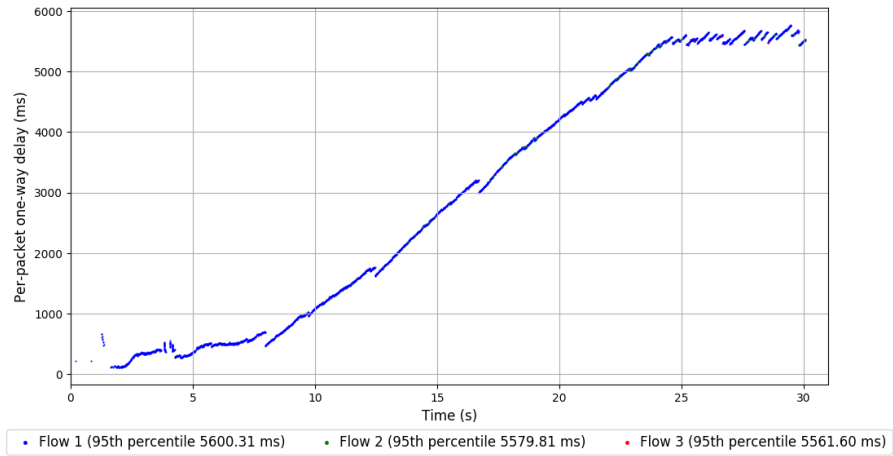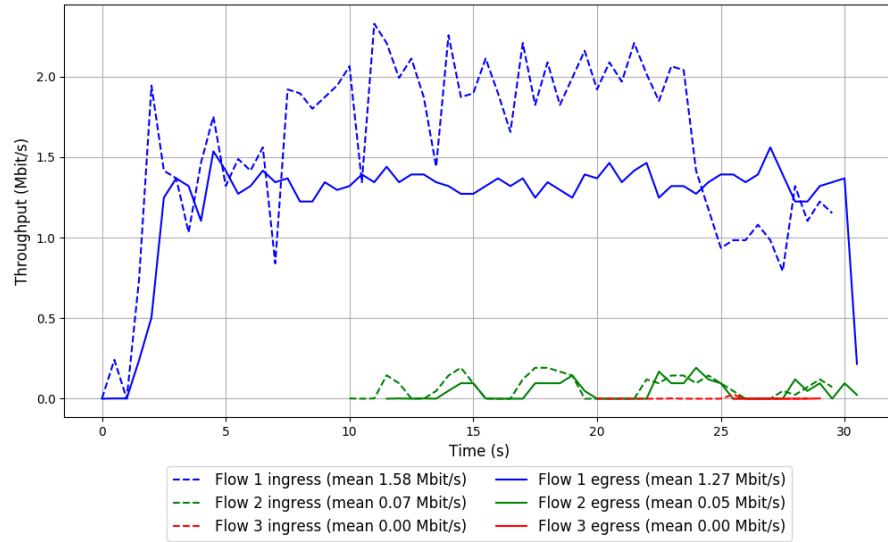
Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 1.58 Mbit/s) ——— Flow 1 egress (mean 1.27 Mbit/s)
- - - - Flow 2 ingress (mean 0.07 Mbit/s) ——— Flow 2 egress (mean 0.05 Mbit/s)
- - - - Flow 3 ingress (mean 0.00 Mbit/s) ——— Flow 3 egress (mean 0.00 Mbit/s)

• Flow 1 (95th percentile 5600.31 ms)   • Flow 2 (95th percentile 5579.81 ms)   • Flow 3 (95th percentile 5561.60 ms)

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```
Run 1: Statistics of FillP

Start at: 2019-03-09 00:57:42
End at: 2019-03-09 00:58:12
Local clock offset: -6.335 ms
Remote clock offset: 2.716 ms


# Below is generated by plot.py at 2019-03-09 01:52:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 6137.681 ms
Loss rate: 42.68%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 6055.127 ms
Loss rate: 27.54%
-- Flow 2:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 6223.328 ms
Loss rate: 52.53%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4916.949 ms
Loss rate: 99.33%
```
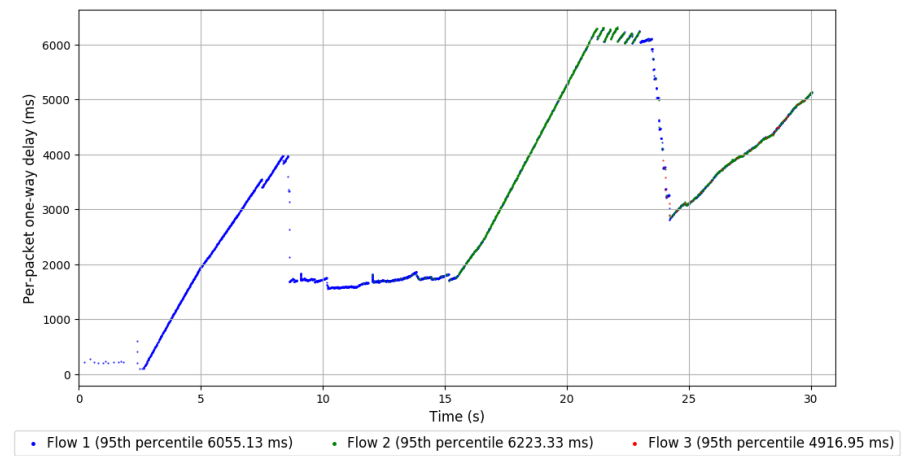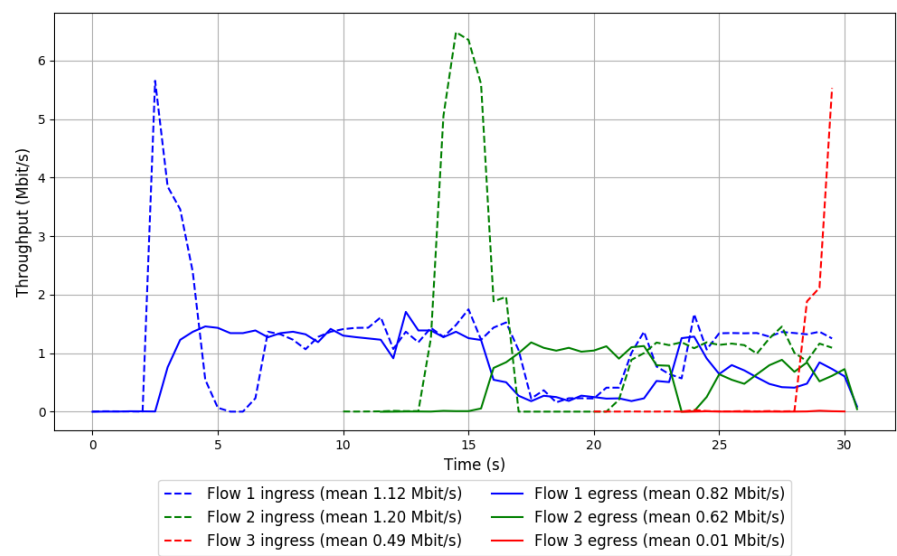
Run 1: Report of FillP — Data Link

- Flow 1 ingress (mean 1.12 Mbit/s)
- Flow 1 egress (mean 0.82 Mbit/s)
- Flow 2 ingress (mean 1.20 Mbit/s)
- Flow 2 egress (mean 0.62 Mbit/s)
- Flow 3 ingress (mean 0.49 Mbit/s)
- Flow 3 egress (mean 0.01 Mbit/s)

- Flow 1 (95th percentile 6055.13 ms)
- Flow 2 (95th percentile 6223.33 ms)
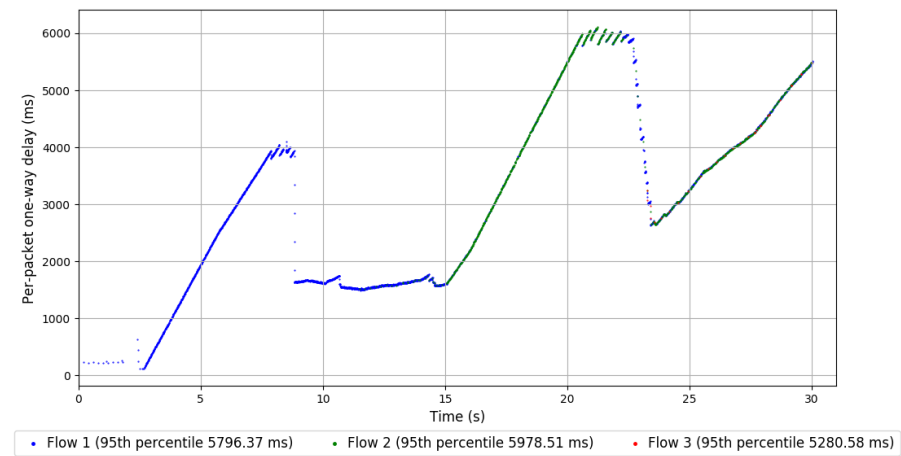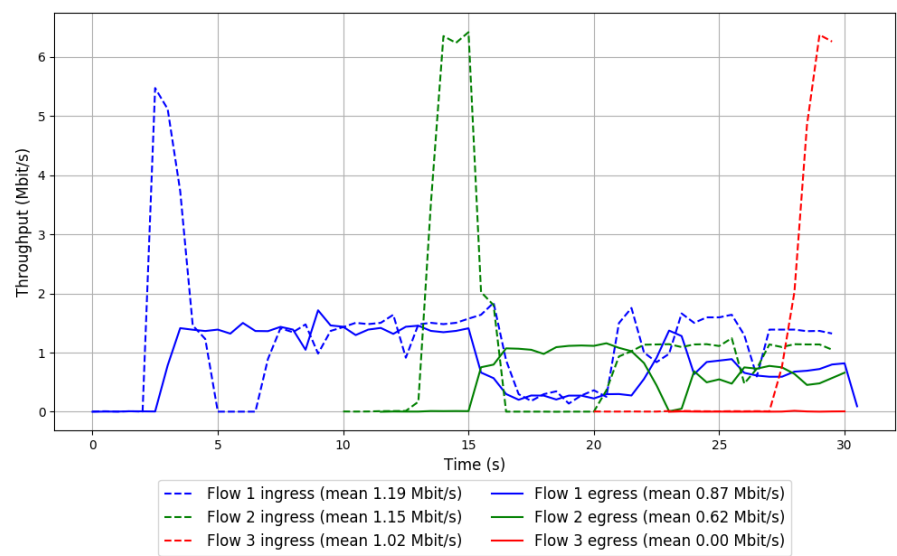- Flow 3 (95th percentile 4916.95 ms)

```
Run 2: Statistics of FillP

Start at: 2019-03-09 01:23:33
End at: 2019-03-09 01:24:03
Local clock offset: -6.112 ms
Remote clock offset: -1.702 ms


# Below is generated by plot.py at 2019-03-09 01:52:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 5905.636 ms
Loss rate: 45.61%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 5796.366 ms
Loss rate: 27.08%
-- Flow 2:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 5978.506 ms
Loss rate: 50.36%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5280.582 ms
Loss rate: 99.71%
```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-03-09 01:49:19
End at: 2019-03-09 01:49:49
Local clock offset: -7.42 ms
Remote clock offset: 0.422 ms


# Below is generated by plot.py at 2019-03-09 01:52:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 5956.293 ms
Loss rate: 46.43%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 5728.771 ms
Loss rate: 26.15%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 6042.134 ms
Loss rate: 50.98%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4841.963 ms
Loss rate: 99.67%
```
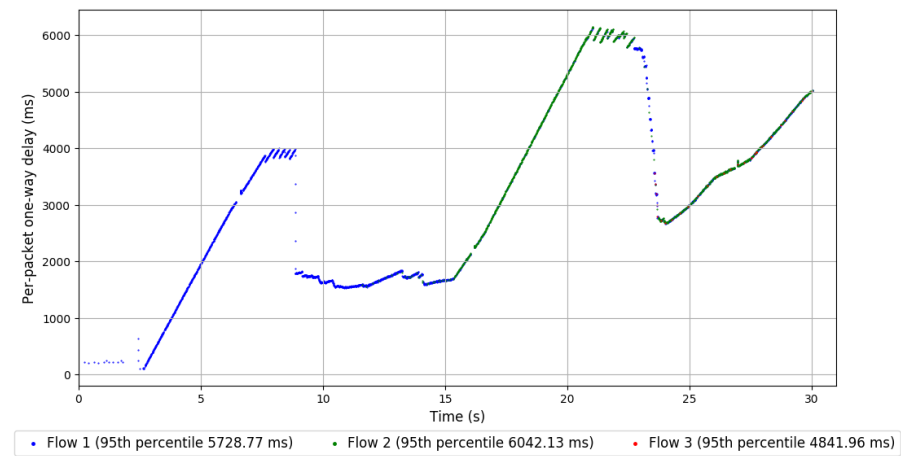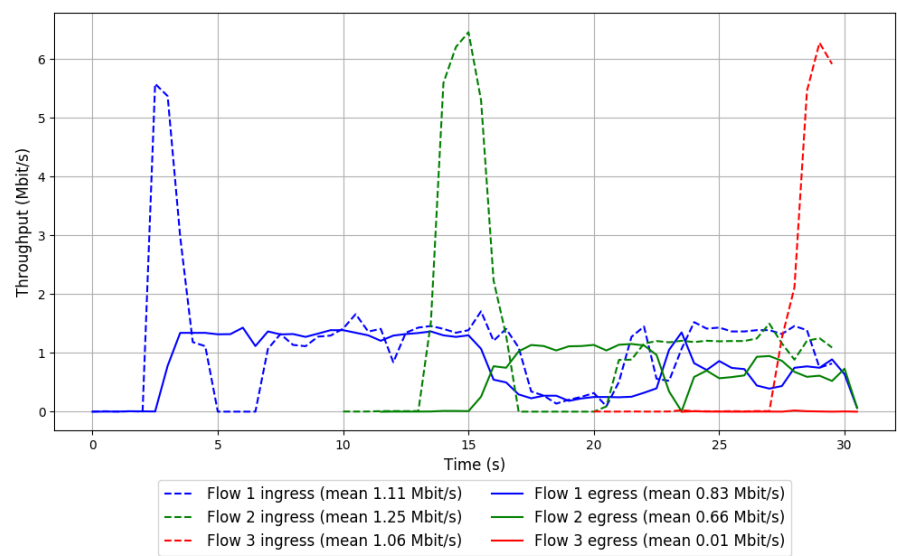
Run 3: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-09 00:51:34
End at: 2019-03-09 00:52:04
Local clock offset: -5.929 ms
Remote clock offset: 6.319 ms


# Below is generated by plot.py at 2019-03-09 01:52:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 4777.101 ms
Loss rate: 32.93%
-- Flow 1:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 3382.965 ms
Loss rate: 11.31%
-- Flow 2:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 3046.784 ms
Loss rate: 15.99%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 5737.135 ms
Loss rate: 73.01%
```
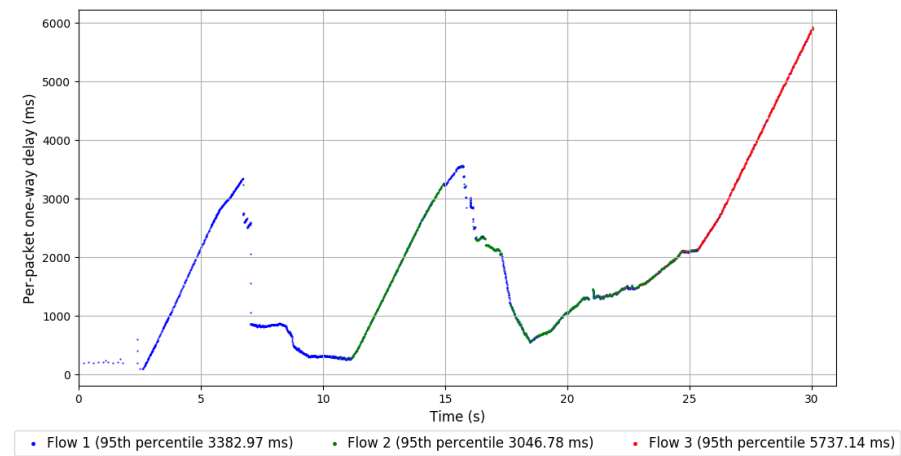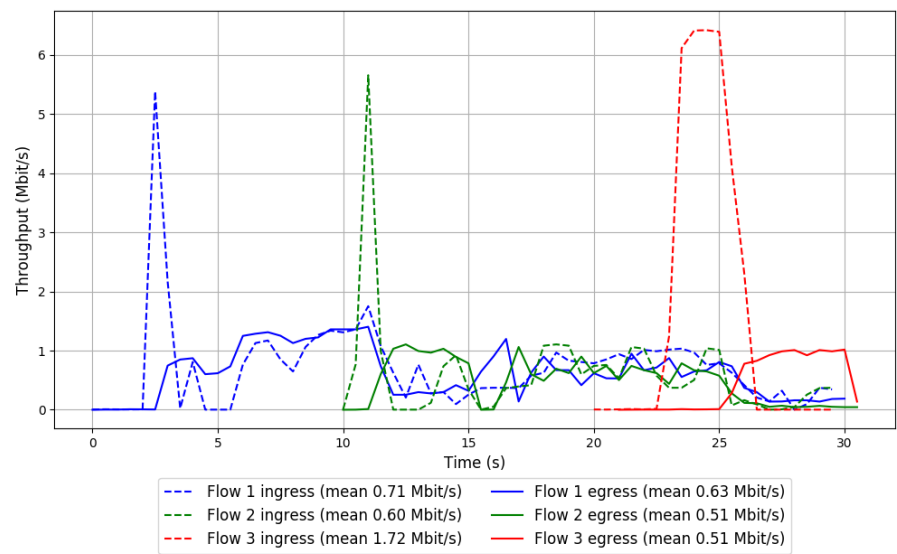
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 0.71 Mbit/s)   Flow 1 egress (mean 0.63 Mbit/s)
Flow 2 ingress (mean 0.60 Mbit/s)   Flow 2 egress (mean 0.51 Mbit/s)
Flow 3 ingress (mean 1.72 Mbit/s)   Flow 3 egress (mean 0.51 Mbit/s)

Flow 1 (95th percentile 3382.97 ms)   Flow 2 (95th percentile 3046.78 ms)   Flow 3 (95th percentile 5737.14 ms)
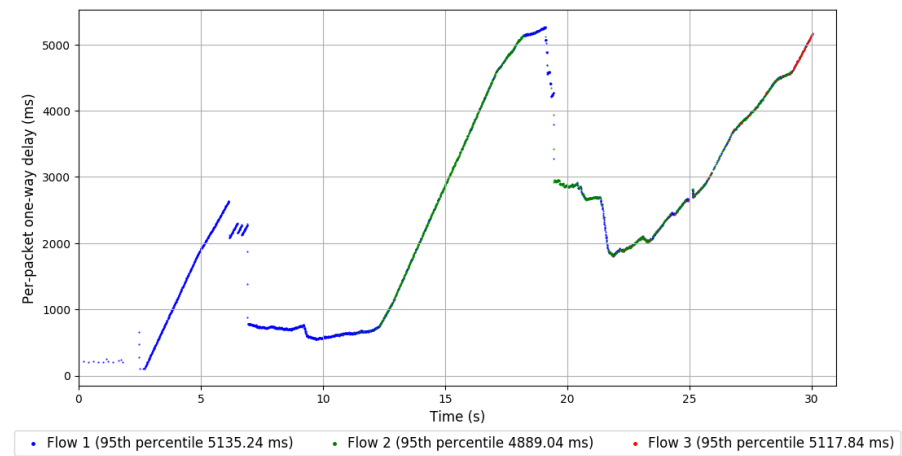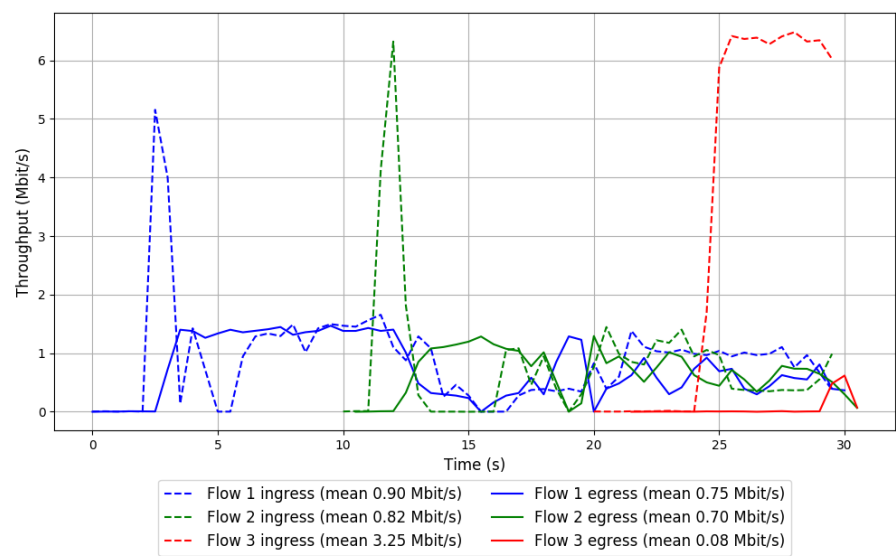
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-09 01:17:20
End at: 2019-03-09 01:17:50
Local clock offset: -5.632 ms
Remote clock offset: -2.014 ms


# Below is generated by plot.py at 2019-03-09 01:52:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 5031.180 ms
Loss rate: 51.62%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 5135.245 ms
Loss rate: 16.94%
-- Flow 2:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 4889.036 ms
Loss rate: 16.43%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 5117.837 ms
Loss rate: 98.09%
```

Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-09 01:43:11
End at: 2019-03-09 01:43:41
Local clock offset: -7.412 ms
Remote clock offset: 0.386 ms


# Below is generated by plot.py at 2019-03-09 01:52:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 5380.163 ms
Loss rate: 35.73%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 5038.302 ms
Loss rate: 15.95%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 5356.753 ms
Loss rate: 18.34%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 5734.550 ms
Loss rate: 71.50%
```
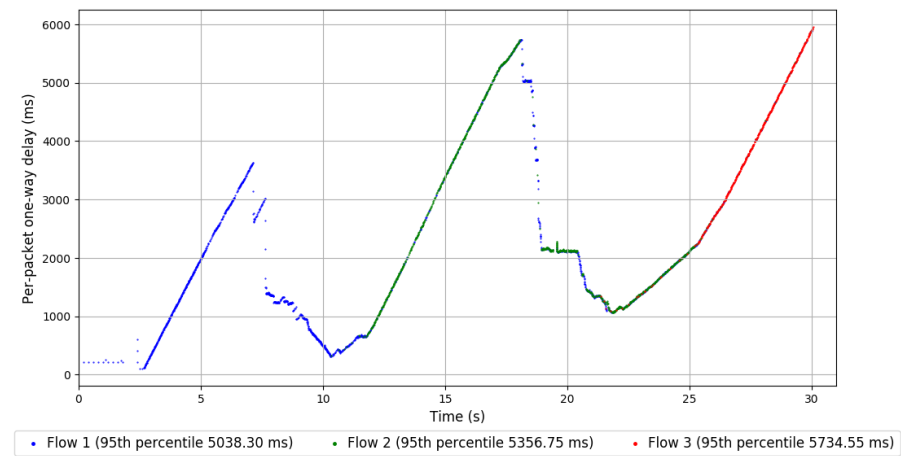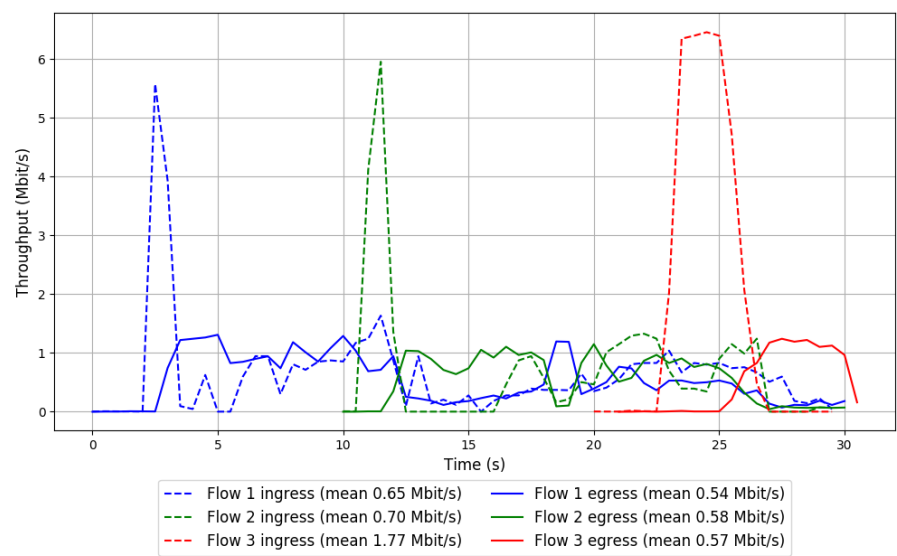
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 0.65 Mbit/s) ——— Flow 1 egress (mean 0.54 Mbit/s)
Flow 2 ingress (mean 0.70 Mbit/s) ——— Flow 2 egress (mean 0.58 Mbit/s)
Flow 3 ingress (mean 1.77 Mbit/s) ——— Flow 3 egress (mean 0.57 Mbit/s)

• Flow 1 (95th percentile 5038.30 ms)   • Flow 2 (95th percentile 5356.75 ms)   • Flow 3 (95th percentile 5734.55 ms)
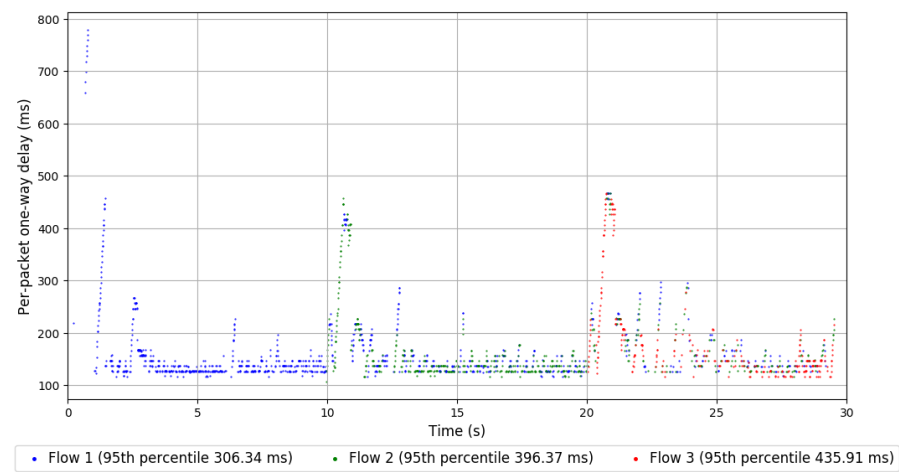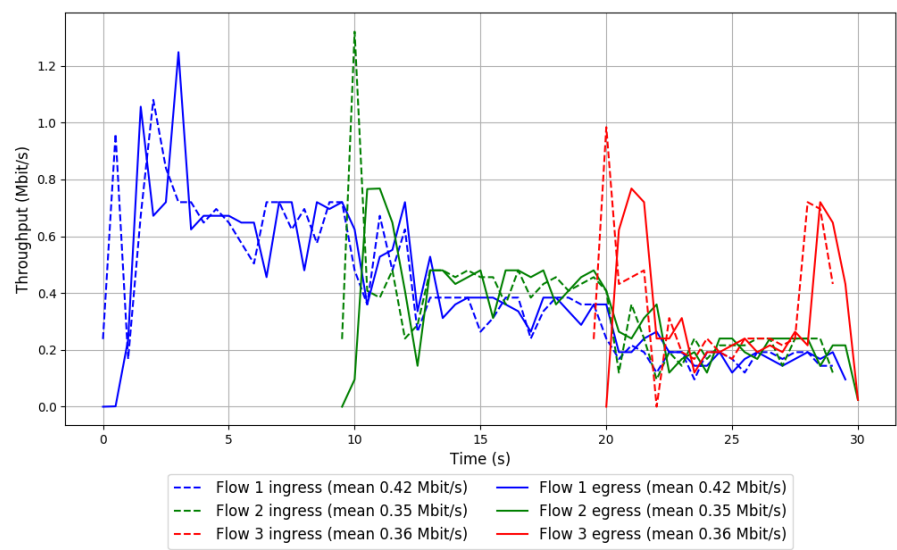
```
Run 1: Statistics of Indigo

Start at: 2019-03-09 00:41:44
End at: 2019-03-09 00:42:14
Local clock offset: -7.404 ms
Remote clock offset: 14.463 ms

# Below is generated by plot.py at 2019-03-09 01:52:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 396.118 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 306.344 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 396.370 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 435.913 ms
Loss rate: 1.74%
```
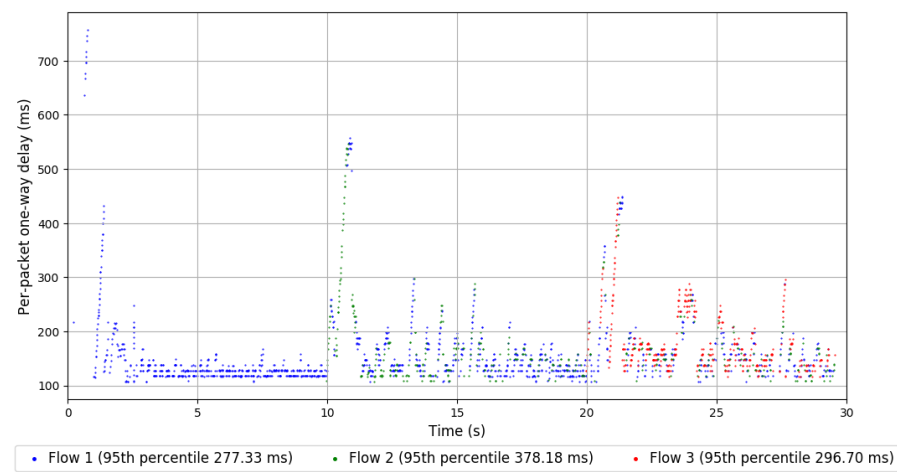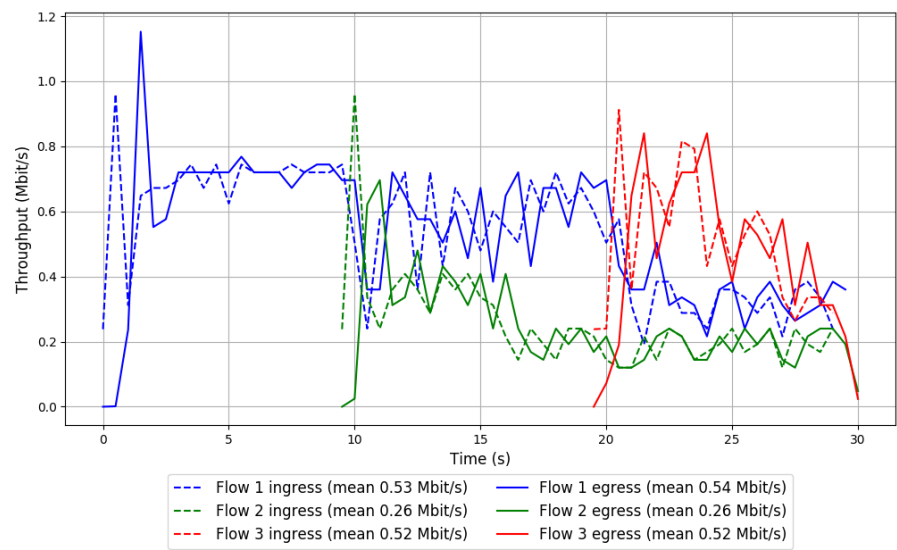
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-03-09 01:07:31
End at: 2019-03-09 01:08:01
Local clock offset: -5.361 ms
Remote clock offset: 3.612 ms


# Below is generated by plot.py at 2019-03-09 01:52:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 307.462 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 277.334 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 378.184 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 296.697 ms
Loss rate: 0.96%
```

Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-03-09 01:33:22
End at: 2019-03-09 01:33:52
Local clock offset: -6.496 ms
Remote clock offset: 3.77 ms


# Below is generated by plot.py at 2019-03-09 01:52:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 343.227 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 323.290 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 452.991 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 274.343 ms
Loss rate: 0.89%
```
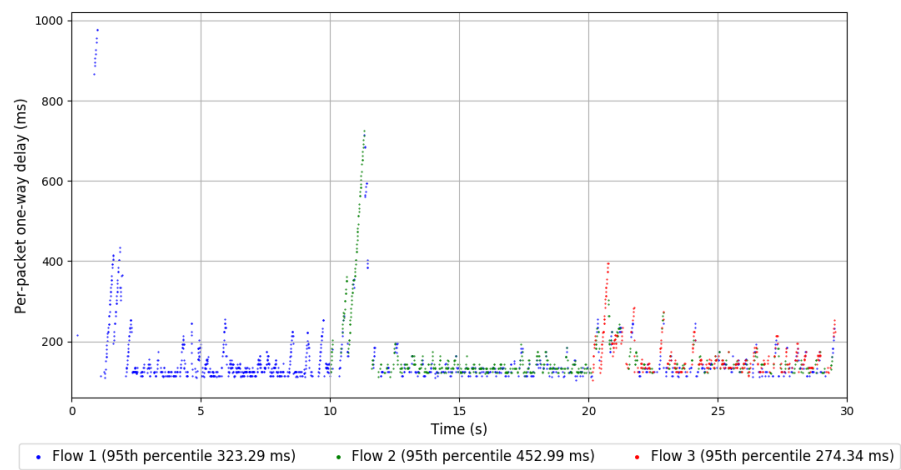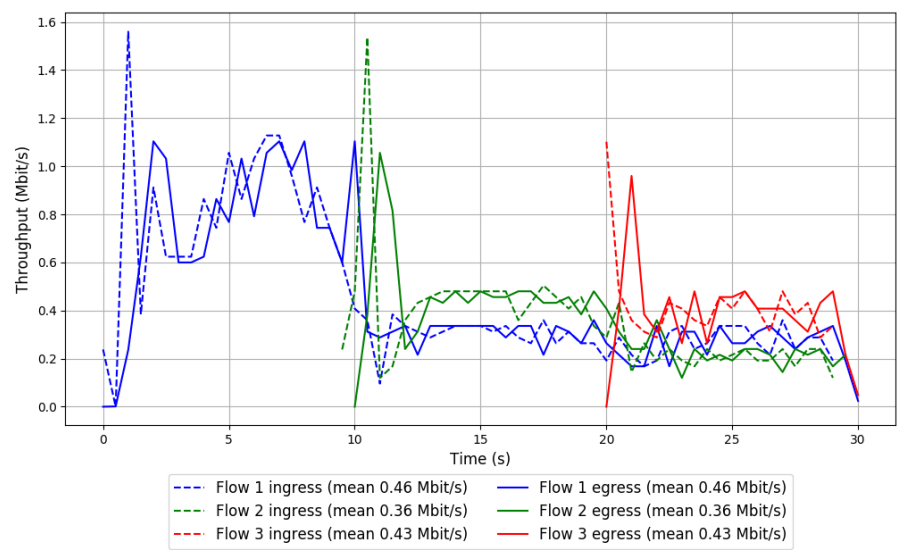
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 0.46 Mbit/s) --- Flow 1 egress (mean 0.46 Mbit/s)
Flow 2 ingress (mean 0.36 Mbit/s) --- Flow 2 egress (mean 0.36 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s) --- Flow 3 egress (mean 0.43 Mbit/s)

Flow 1 (95th percentile 323.29 ms)   Flow 2 (95th percentile 452.99 ms)   Flow 3 (95th percentile 274.34 ms)

40

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-09 00:50:20
End at: 2019-03-09 00:50:50
Local clock offset: -6.733 ms
Remote clock offset: 7.144 ms


# Below is generated by plot.py at 2019-03-09 01:52:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 6736.203 ms
Loss rate: 94.54%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 7038.542 ms
Loss rate: 92.62%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 6270.489 ms
Loss rate: 96.14%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6290.074 ms
Loss rate: 99.90%
```
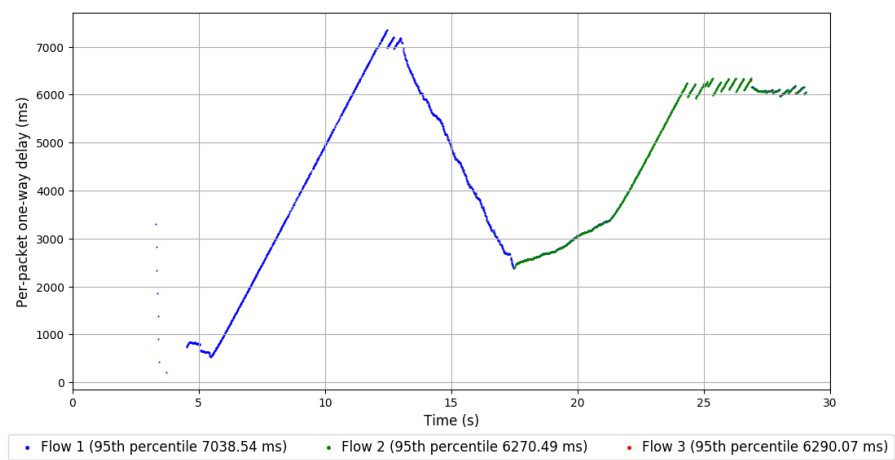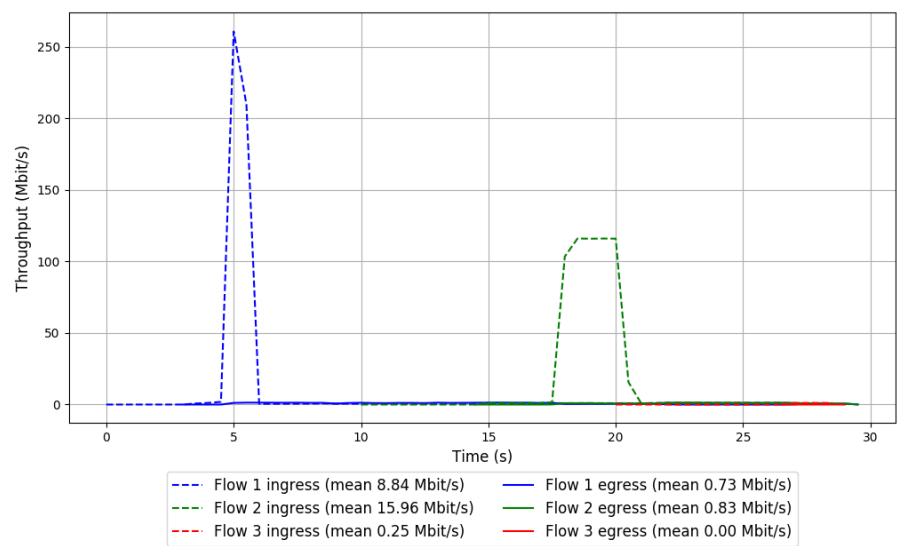
Run 1: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 8.84 Mbit/s)   Flow 1 egress (mean 0.73 Mbit/s)
Flow 2 ingress (mean 15.96 Mbit/s)   Flow 2 egress (mean 0.83 Mbit/s)
Flow 3 ingress (mean 0.25 Mbit/s)   Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 7038.54 ms)   Flow 2 (95th percentile 6270.49 ms)   Flow 3 (95th percentile 6290.07 ms)
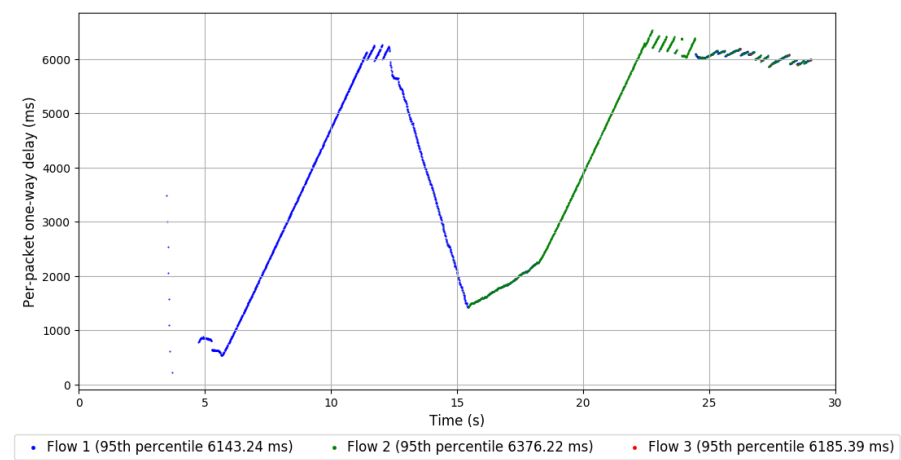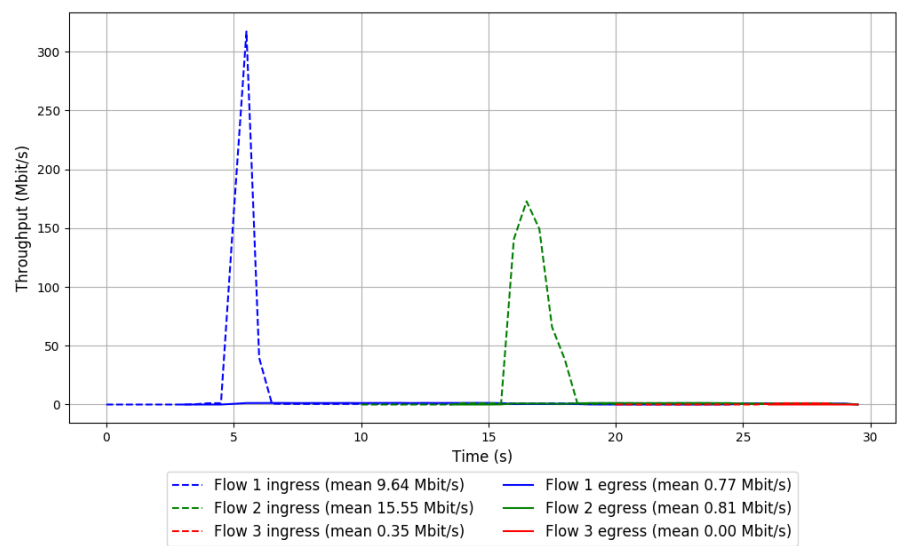
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-09 01:16:07
End at: 2019-03-09 01:16:37
Local clock offset: -5.57 ms
Remote clock offset: -1.661 ms


# Below is generated by plot.py at 2019-03-09 01:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6264.894 ms
Loss rate: 94.48%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 6143.240 ms
Loss rate: 92.99%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 6376.220 ms
Loss rate: 95.84%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6185.394 ms
Loss rate: 99.87%
```
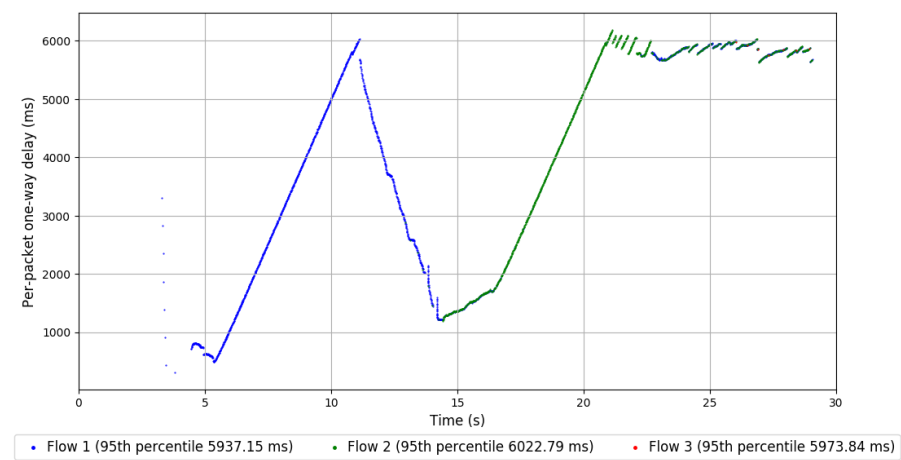
Run 2: Report of Indigo-MusesC3 — Data Link

- Flow 1 ingress (mean 9.64 Mbit/s)
- Flow 1 egress (mean 0.77 Mbit/s)
- Flow 2 ingress (mean 15.55 Mbit/s)
- Flow 2 egress (mean 0.81 Mbit/s)
- Flow 3 ingress (mean 0.35 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

- Flow 1 (95th percentile 6143.24 ms)
- Flow 2 (95th percentile 6376.22 ms)
- Flow 3 (95th percentile 6185.39 ms)

44

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-09 01:41:57
End at: 2019-03-09 01:42:27
Local clock offset: -7.452 ms
Remote clock offset: 3.926 ms


# Below is generated by plot.py at 2019-03-09 01:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 5972.150 ms
Loss rate: 90.44%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 5937.155 ms
Loss rate: 79.08%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 6022.790 ms
Loss rate: 94.76%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5973.844 ms
Loss rate: 99.88%
```
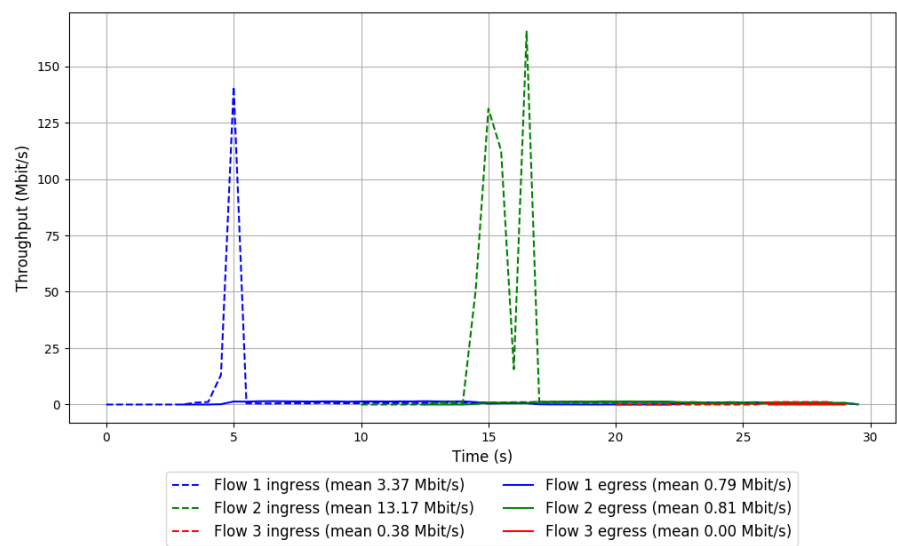
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-09 00:55:14
End at: 2019-03-09 00:55:44
Local clock offset: -5.67 ms
Remote clock offset: 7.731 ms


# Below is generated by plot.py at 2019-03-09 01:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 4252.998 ms
Loss rate: 28.77%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 3722.486 ms
Loss rate: 17.04%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 4180.052 ms
Loss rate: 27.61%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 4757.994 ms
Loss rate: 80.83%
```
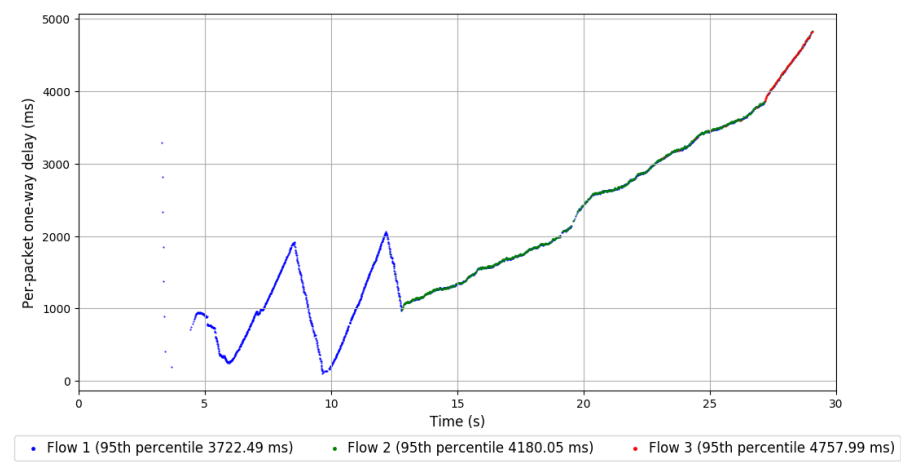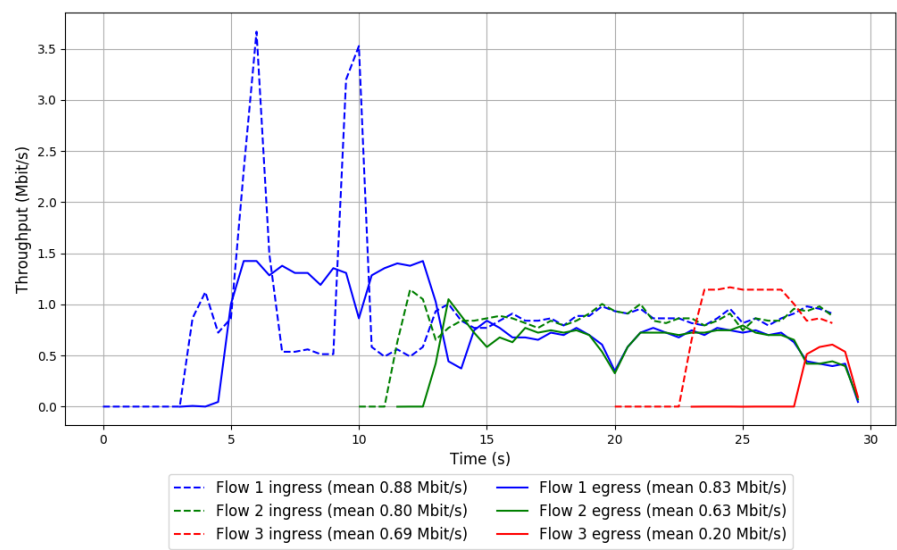
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-09 01:21:06
End at: 2019-03-09 01:21:36
Local clock offset: -5.946 ms
Remote clock offset: 1.508 ms


# Below is generated by plot.py at 2019-03-09 01:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 4276.273 ms
Loss rate: 29.77%
-- Flow 1:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 3735.738 ms
Loss rate: 17.02%
-- Flow 2:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 4286.135 ms
Loss rate: 30.63%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 4825.512 ms
Loss rate: 81.40%
```
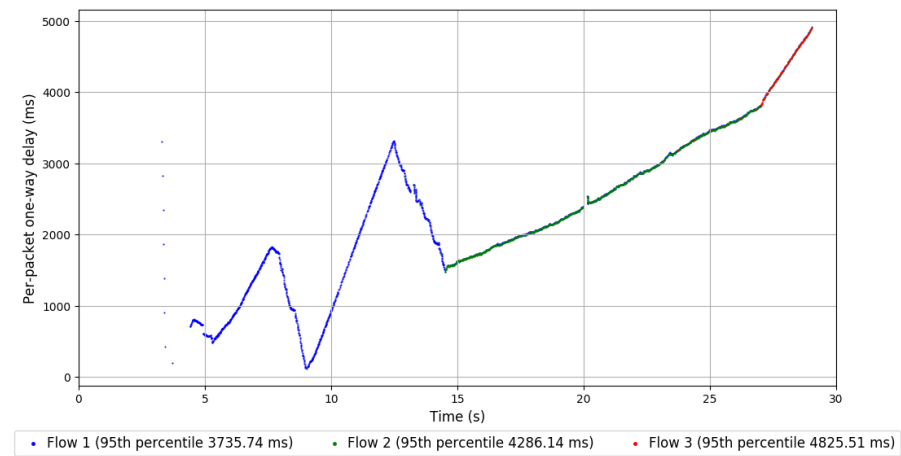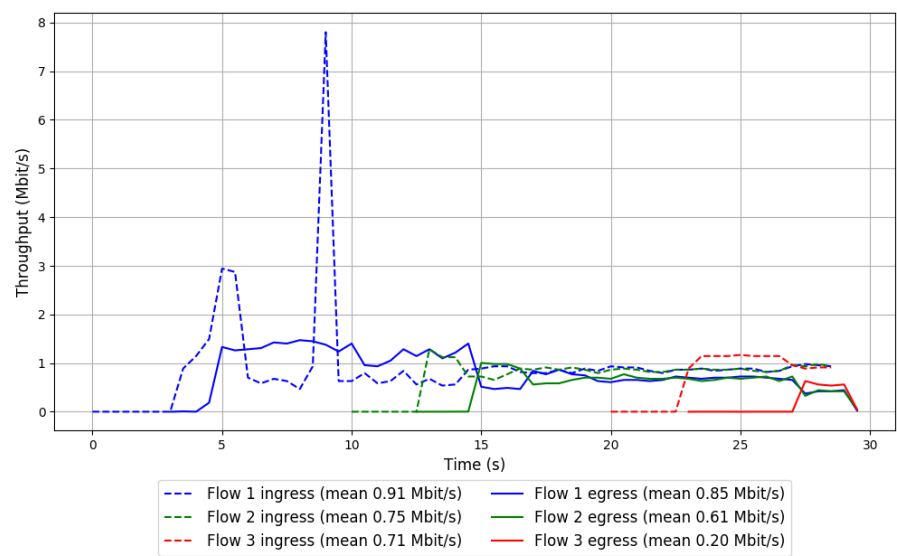
Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-09 01:46:52
End at: 2019-03-09 01:47:22
Local clock offset: -7.389 ms
Remote clock offset: 4.246 ms


# Below is generated by plot.py at 2019-03-09 01:52:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 5465.129 ms
Loss rate: 31.51%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 5384.952 ms
Loss rate: 20.31%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 5516.837 ms
Loss rate: 30.16%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5742.568 ms
Loss rate: 99.92%
```
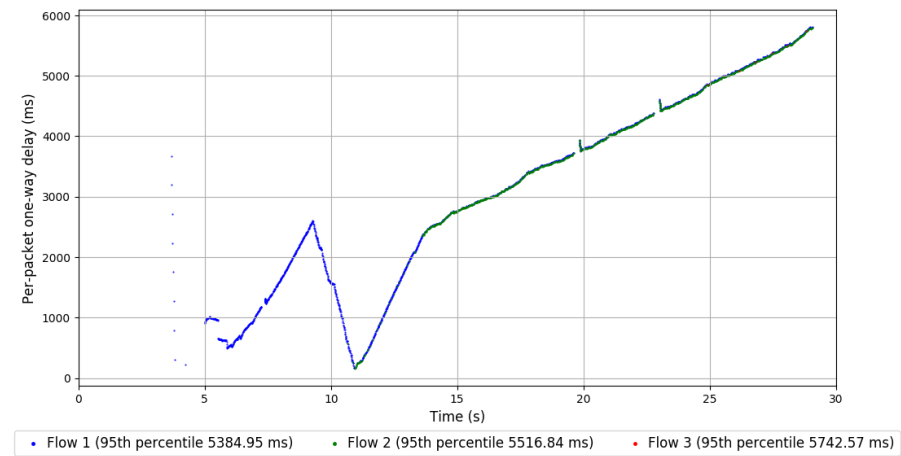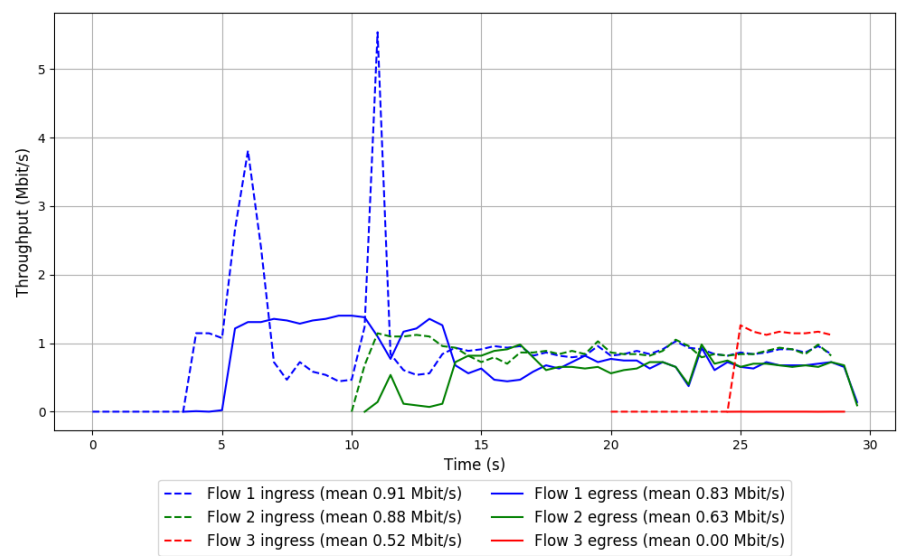
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-09 01:00:09
End at: 2019-03-09 01:00:39
Local clock offset: -6.312 ms
Remote clock offset: 1.945 ms

# Below is generated by plot.py at 2019-03-09 01:52:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 6645.011 ms
Loss rate: 94.86%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 6558.675 ms
Loss rate: 71.12%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 6707.818 ms
Loss rate: 97.56%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6610.868 ms
Loss rate: 99.94%
```
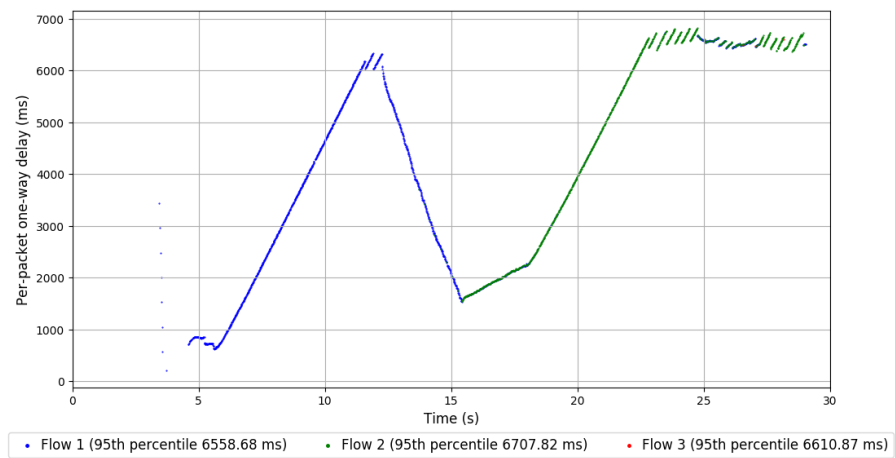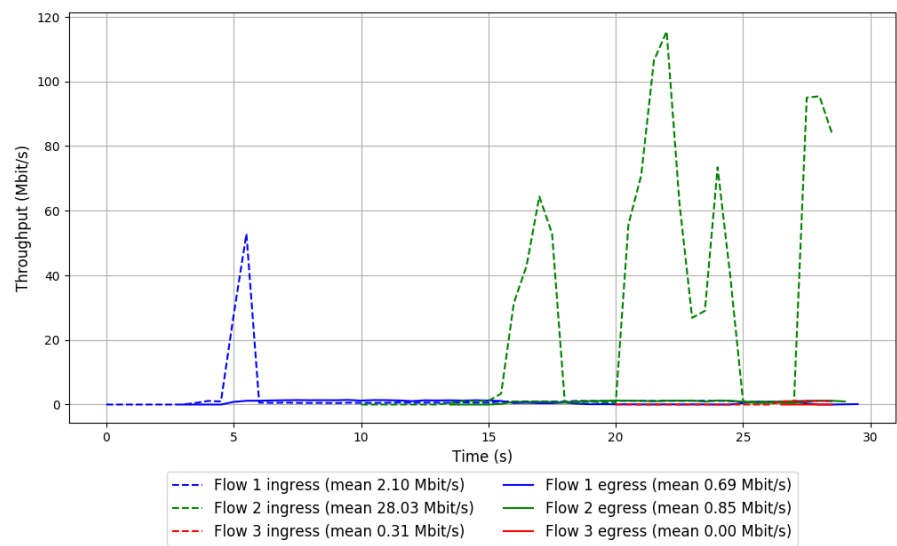
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-09 01:26:00
End at: 2019-03-09 01:26:30
Local clock offset: -6.984 ms
Remote clock offset: 2.989 ms


# Below is generated by plot.py at 2019-03-09 01:52:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 6097.392 ms
Loss rate: 94.61%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 5950.610 ms
Loss rate: 62.47%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 6149.247 ms
Loss rate: 97.52%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6130.588 ms
Loss rate: 99.95%
```
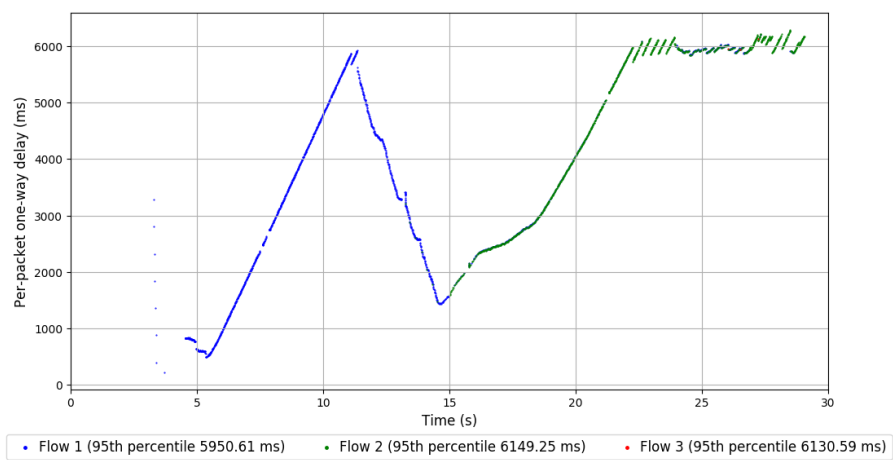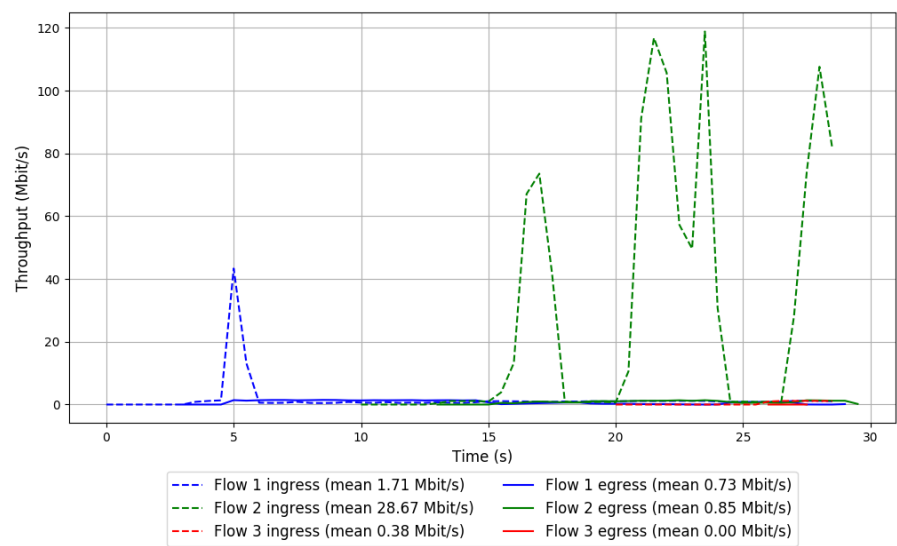
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-09 01:51:46
End at: 2019-03-09 01:52:16
Local clock offset: -7.337 ms
Remote clock offset: 4.229 ms


# Below is generated by plot.py at 2019-03-09 01:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 6894.370 ms
Loss rate: 94.36%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 6562.481 ms
Loss rate: 60.99%
-- Flow 2:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 6989.799 ms
Loss rate: 97.61%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6548.257 ms
Loss rate: 99.90%
```
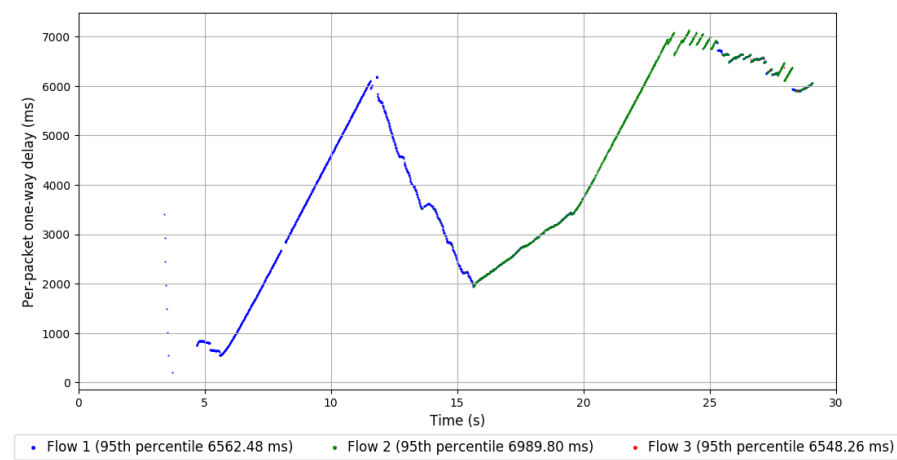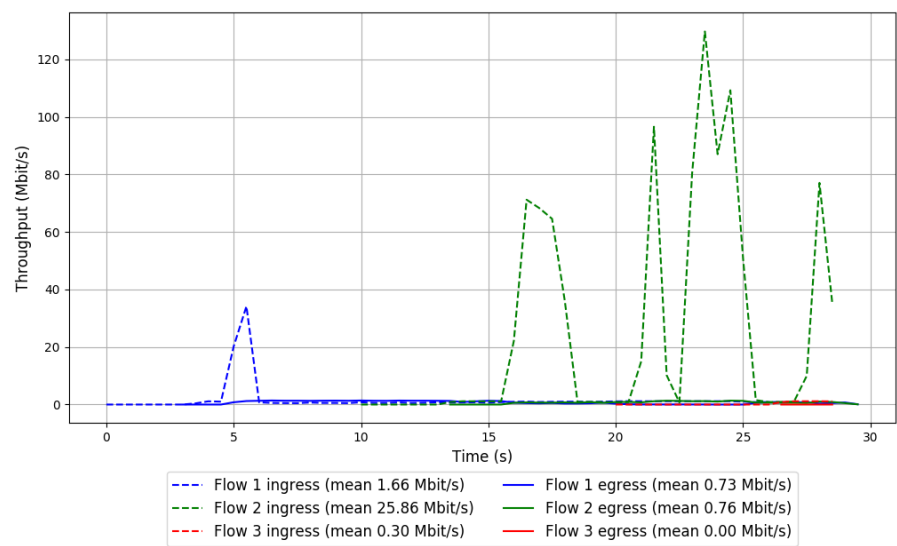
Run 3: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-09 00:52:48
End at: 2019-03-09 00:53:18
Local clock offset: -5.781 ms
Remote clock offset: 5.367 ms

# Below is generated by plot.py at 2019-03-09 01:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 10960.365 ms
Loss rate: 82.48%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 10980.070 ms
Loss rate: 74.60%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 10157.824 ms
Loss rate: 97.01%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7068.691 ms
Loss rate: 99.80%
```
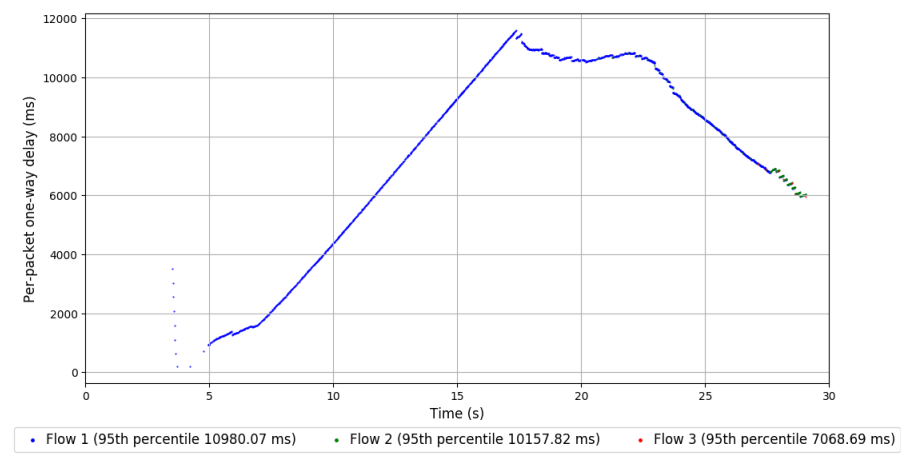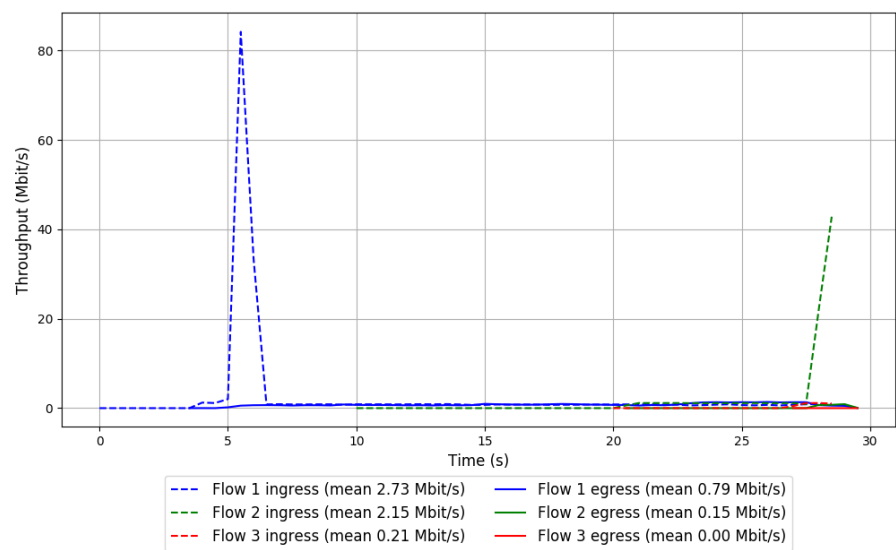
Run 1: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 2.73 Mbit/s)   Flow 1 egress (mean 0.79 Mbit/s)
Flow 2 ingress (mean 2.15 Mbit/s)   Flow 2 egress (mean 0.15 Mbit/s)
Flow 3 ingress (mean 0.21 Mbit/s)   Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 10980.07 ms)   Flow 2 (95th percentile 10157.82 ms)   Flow 3 (95th percentile 7068.69 ms)

60

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-09 01:18:34
End at: 2019-03-09 01:19:04
Local clock offset: -6.507 ms
Remote clock offset: 1.828 ms


# Below is generated by plot.py at 2019-03-09 01:52:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 5939.231 ms
Loss rate: 94.04%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 5907.012 ms
Loss rate: 91.77%
-- Flow 2:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 5980.194 ms
Loss rate: 95.84%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5937.291 ms
Loss rate: 99.89%
```
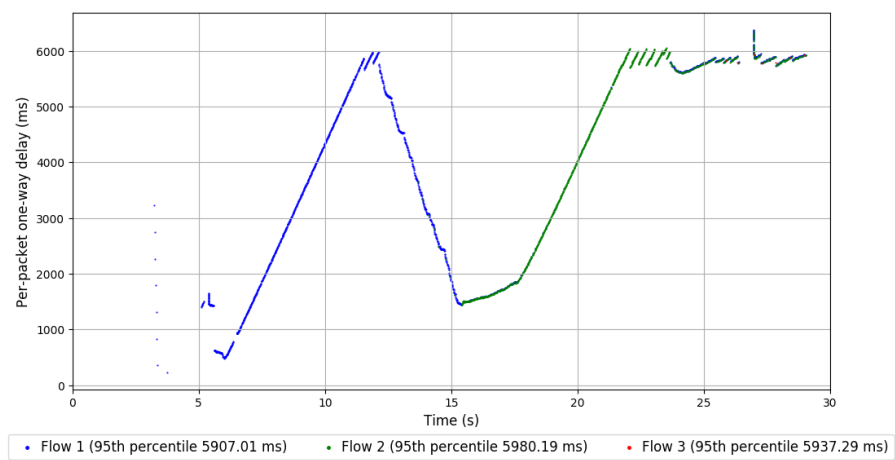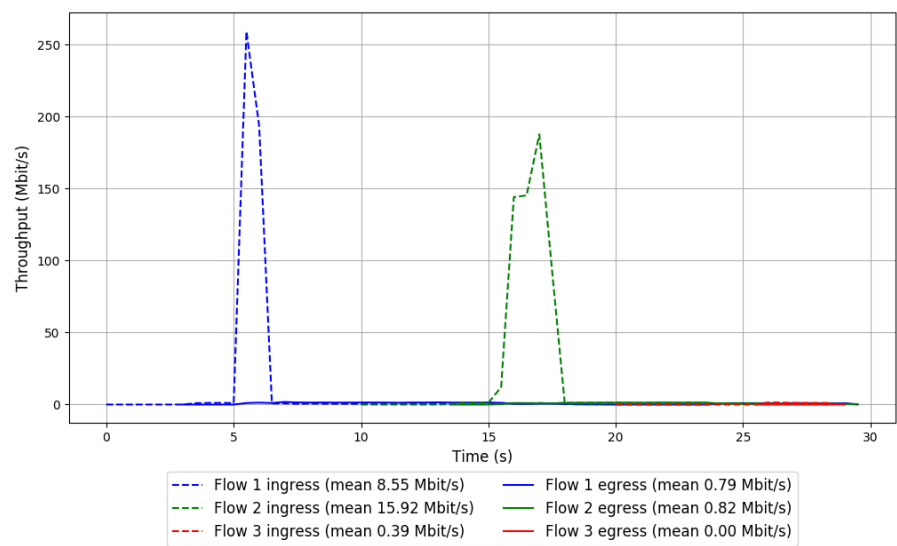
Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 8.55 Mbit/s)   Flow 1 egress (mean 0.79 Mbit/s)
Flow 2 ingress (mean 15.92 Mbit/s)   Flow 2 egress (mean 0.82 Mbit/s)
Flow 3 ingress (mean 0.39 Mbit/s)   Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 5907.01 ms)   Flow 2 (95th percentile 5980.19 ms)   Flow 3 (95th percentile 5937.29 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-09 01:44:25
End at: 2019-03-09 01:44:55
Local clock offset: -7.435 ms
Remote clock offset: 4.336 ms


# Below is generated by plot.py at 2019-03-09 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 5915.880 ms
Loss rate: 92.76%
-- Flow 1:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 5843.795 ms
Loss rate: 89.36%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 6025.797 ms
Loss rate: 95.13%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5891.759 ms
Loss rate: 99.89%
```
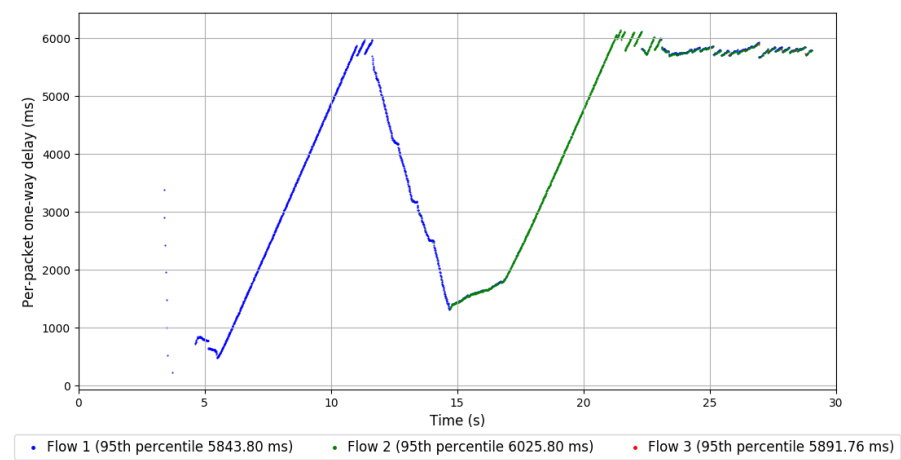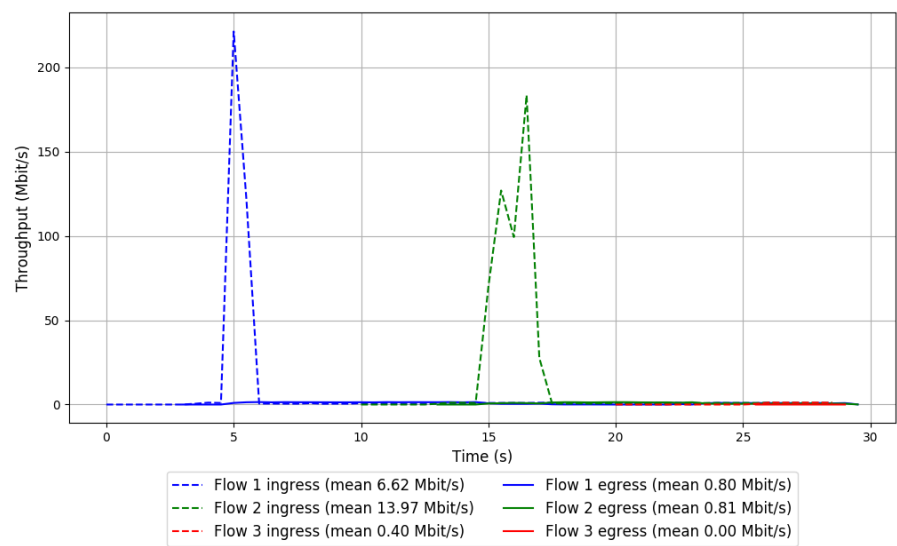
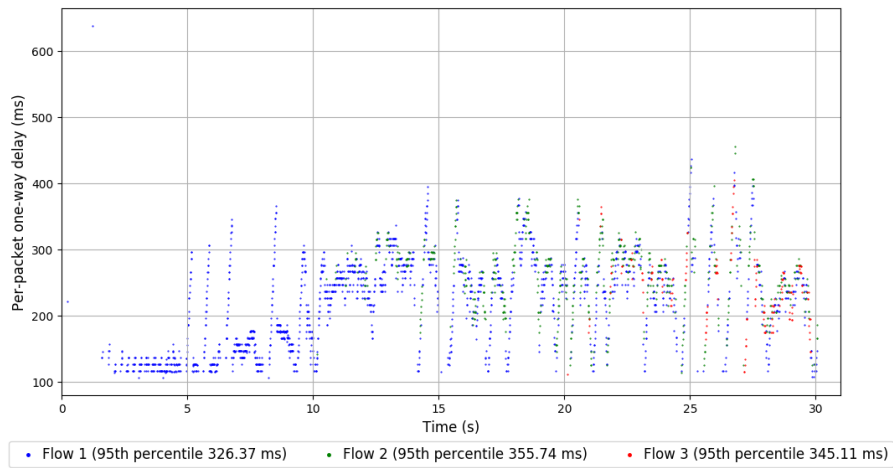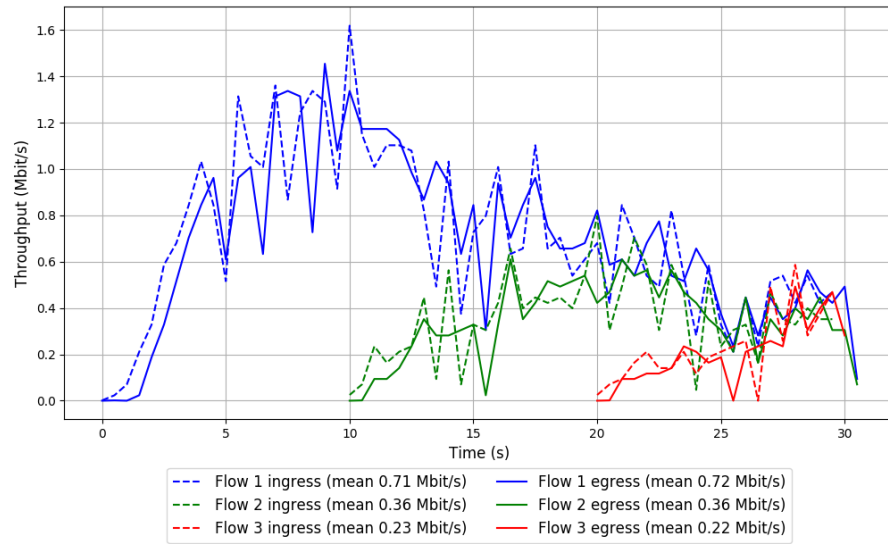# Run 3: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-03-09 00:46:39
End at: 2019-03-09 00:47:09
Local clock offset: -6.316 ms
Remote clock offset: 14.759 ms


# Below is generated by plot.py at 2019-03-09 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 335.921 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 326.370 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 355.738 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 345.112 ms
Loss rate: 6.22%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-03-09 01:12:25
End at: 2019-03-09 01:12:55
Local clock offset: -6.066 ms
Remote clock offset: 2.71 ms


# Below is generated by plot.py at 2019-03-09 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 309.438 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 309.401 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 317.111 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 357.443 ms
Loss rate: 2.44%
```
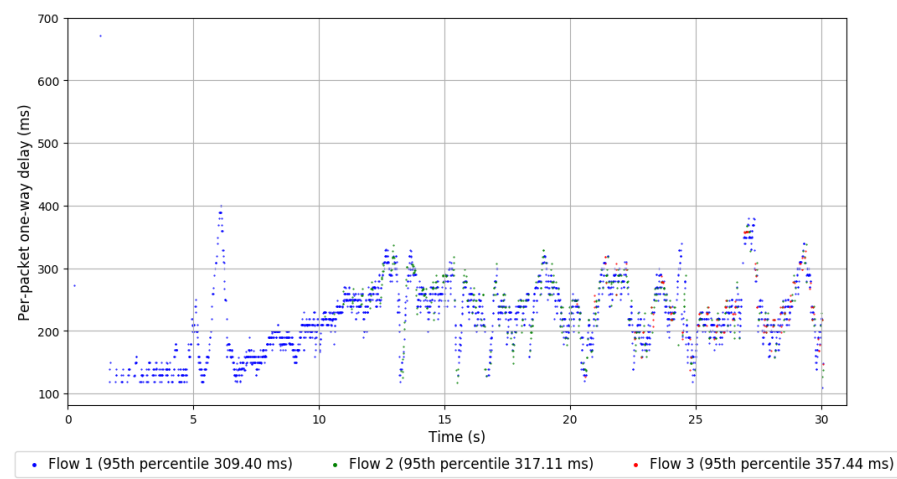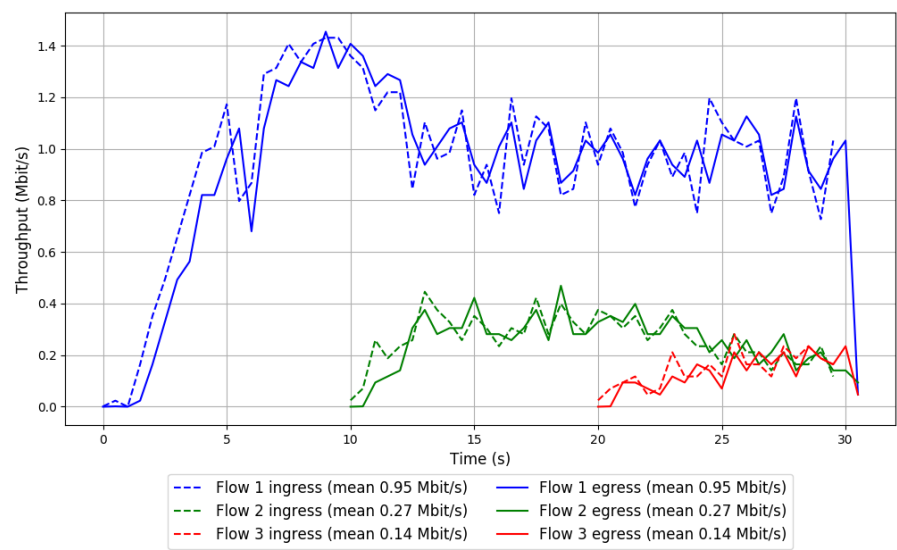
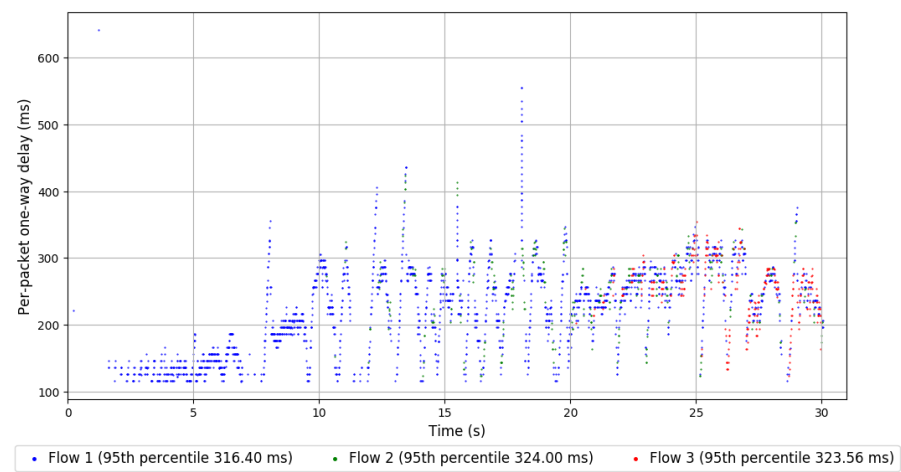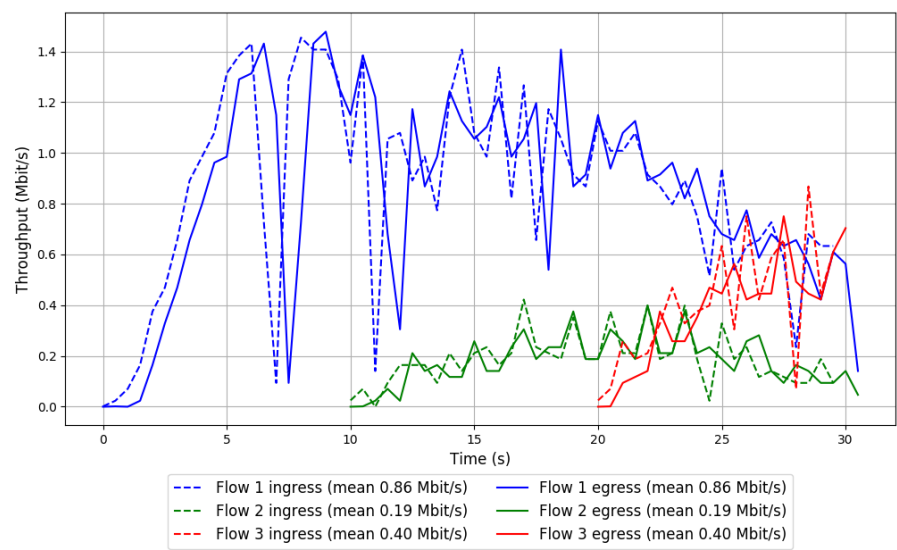# Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-03-09 01:38:17
End at: 2019-03-09 01:38:47
Local clock offset: -7.335 ms
Remote clock offset: 4.223 ms


# Below is generated by plot.py at 2019-03-09 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 322.962 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 316.403 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 324.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 323.560 ms
Loss rate: 2.35%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.86 Mbit/s) — — — Flow 1 egress (mean 0.86 Mbit/s)
Flow 2 ingress (mean 0.19 Mbit/s) — — — Flow 2 egress (mean 0.19 Mbit/s)
Flow 3 ingress (mean 0.40 Mbit/s) — — — Flow 3 egress (mean 0.40 Mbit/s)

Flow 1 (95th percentile 316.40 ms)   •   Flow 2 (95th percentile 324.00 ms)   •   Flow 3 (95th percentile 323.56 ms)

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```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-09 00:58:55
End at: 2019-03-09 00:59:25
Local clock offset: -6.362 ms
Remote clock offset: 5.896 ms


# Below is generated by plot.py at 2019-03-09 01:52:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 7314.266 ms
Loss rate: 85.49%
-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 7314.640 ms
Loss rate: 85.50%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7181.168 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6257.208 ms
Loss rate: 44.83%
```
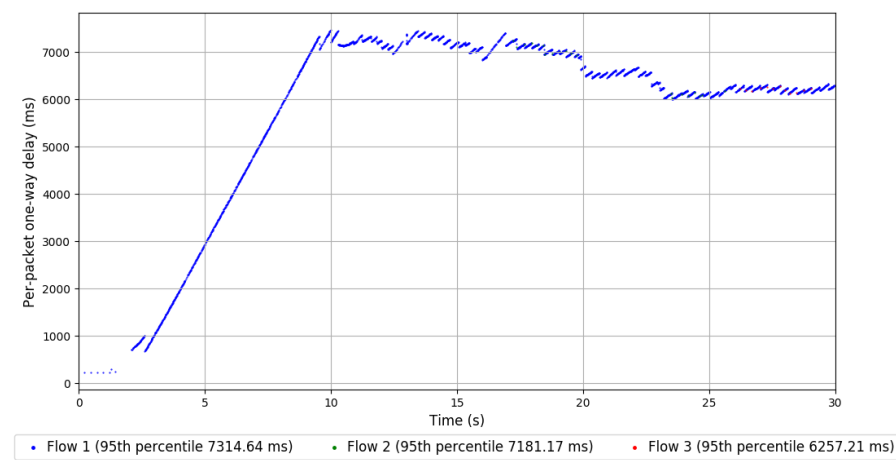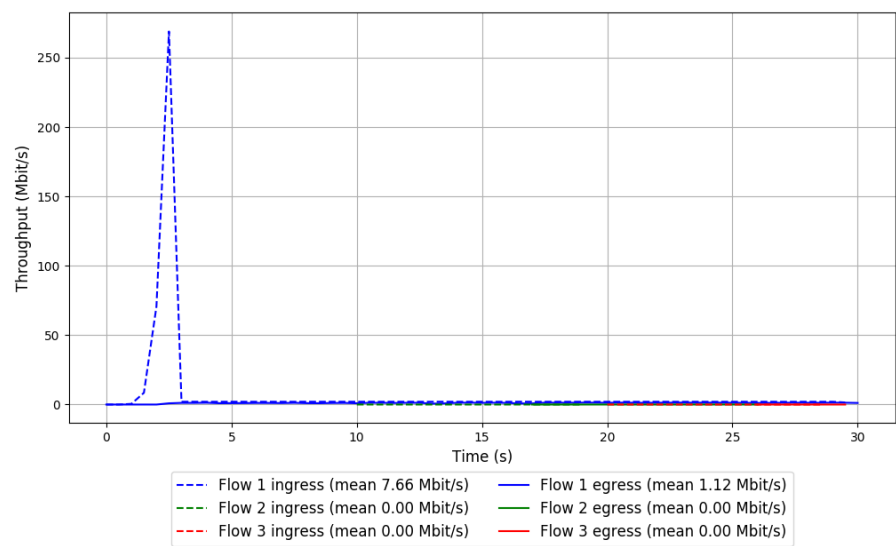
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-09 01:24:47
End at: 2019-03-09 01:25:17
Local clock offset: -6.905 ms
Remote clock offset: 2.631 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 6459.272 ms
Loss rate: 85.41%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 6459.272 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6351.667 ms
Loss rate: 15.80%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 6301.744 ms
Loss rate: 44.83%
```
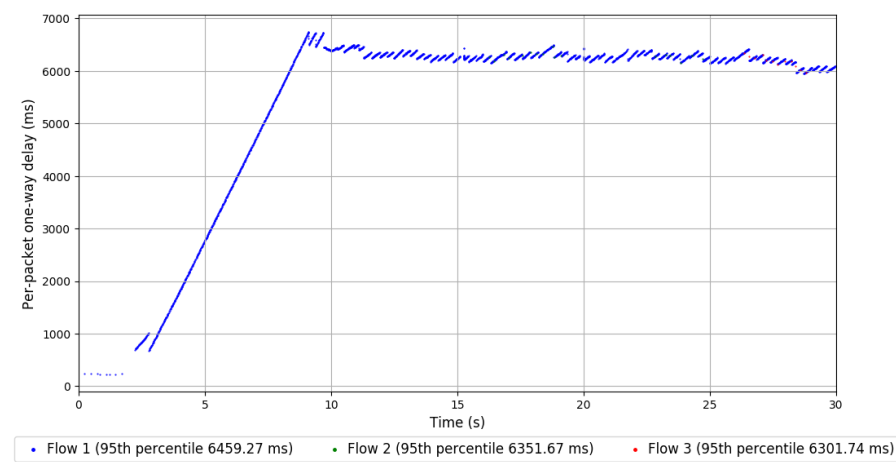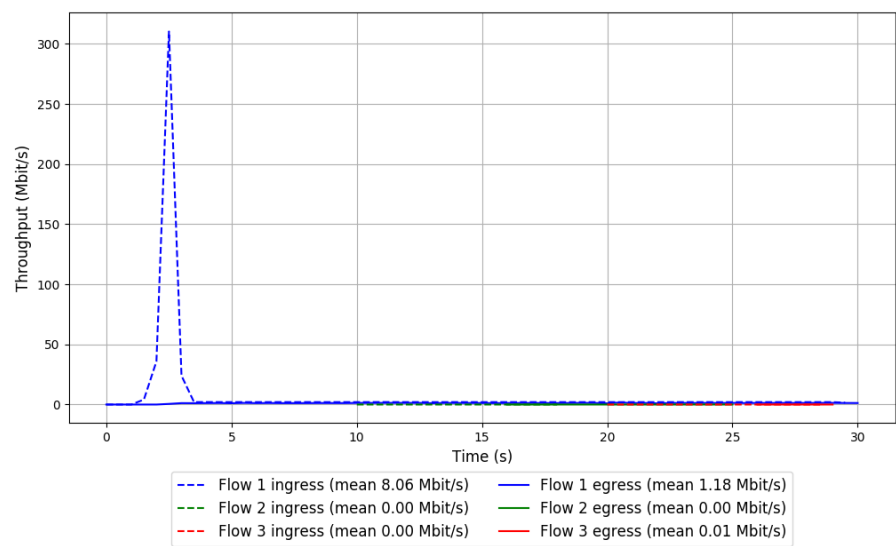
Run 2: Report of PCC-Allegro — Data Link

- Flow 1 ingress (mean 8.06 Mbit/s)
- Flow 1 egress (mean 1.18 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.01 Mbit/s)

- Flow 1 (95th percentile 6459.27 ms)
- Flow 2 (95th percentile 6351.67 ms)
- Flow 3 (95th percentile 6301.74 ms)

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```
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-09 01:50:32
End at: 2019-03-09 01:51:02
Local clock offset: -7.389 ms
Remote clock offset: 4.273 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 6534.319 ms
Loss rate: 83.00%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 6534.007 ms
Loss rate: 83.01%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6574.474 ms
Loss rate: 10.61%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6231.305 ms
Loss rate: 44.83%
```
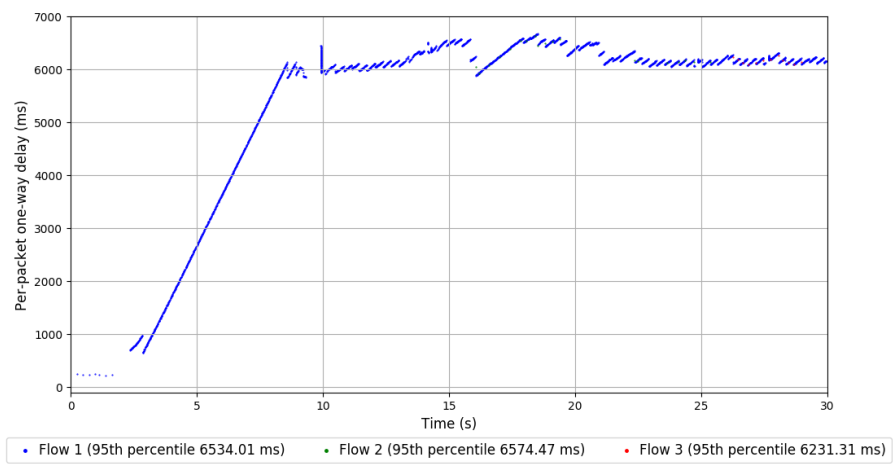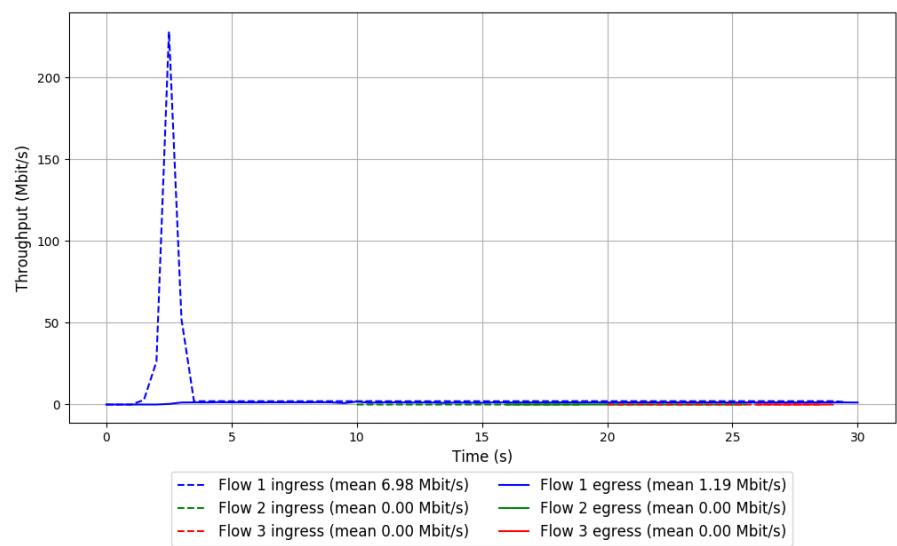
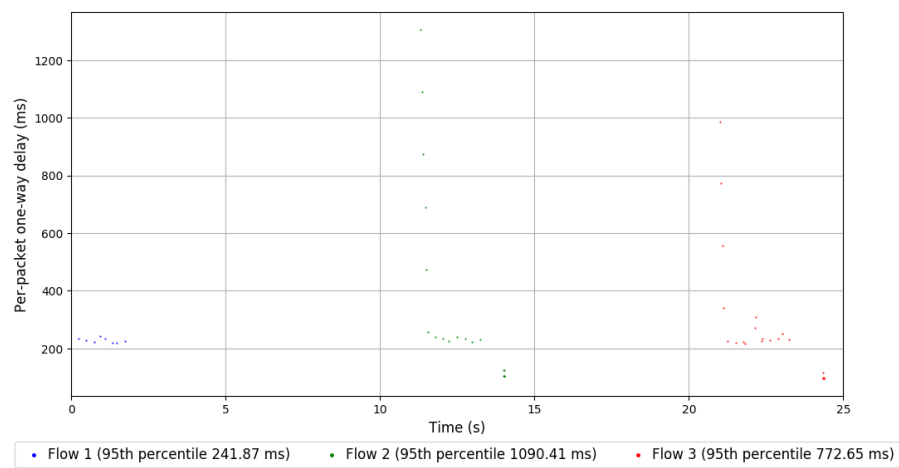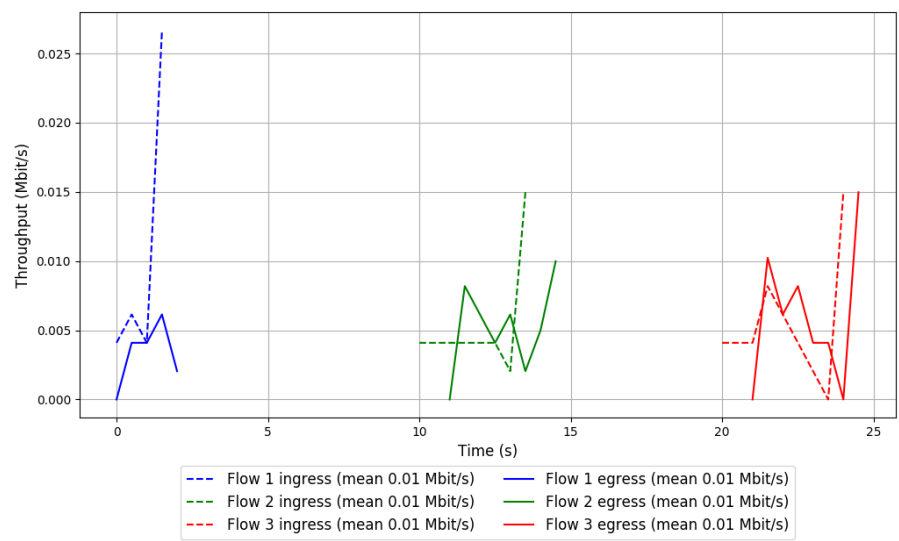## Run 3: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-09 00:35:36
End at: 2019-03-09 00:36:07
Local clock offset: -7.208 ms
Remote clock offset: 14.231 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 985.863 ms
Loss rate: 18.86%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 241.869 ms
Loss rate: 60.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1090.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 772.653 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Expr — Data Link
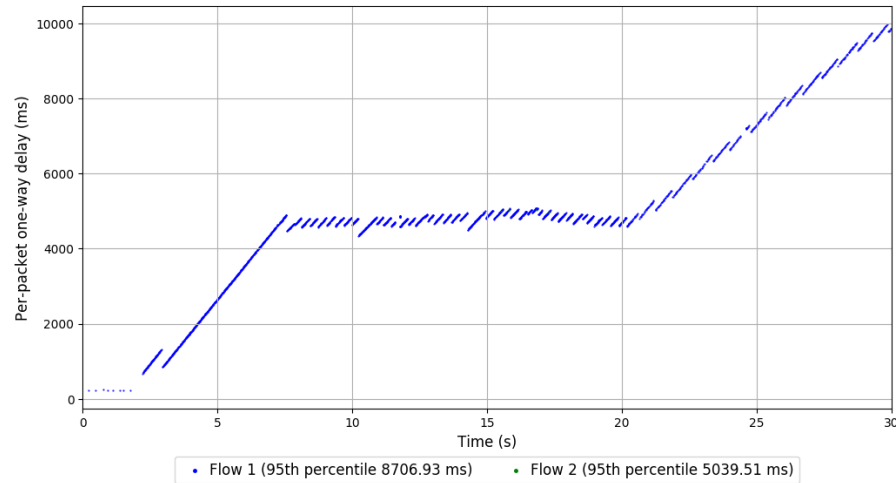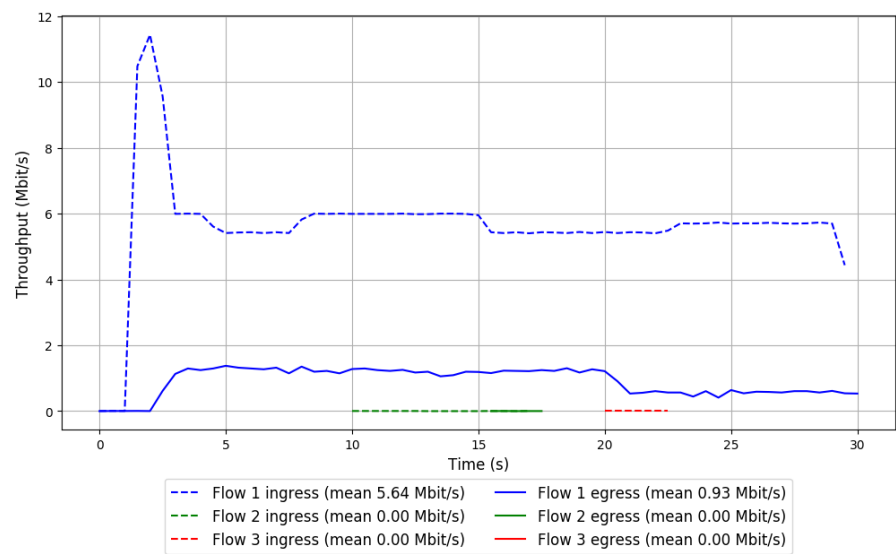
```
Run 2: Statistics of PCC-Expr

Start at: 2019-03-09 01:01:23
End at: 2019-03-09 01:01:53
Local clock offset: -5.478 ms
Remote clock offset: 1.588 ms
```
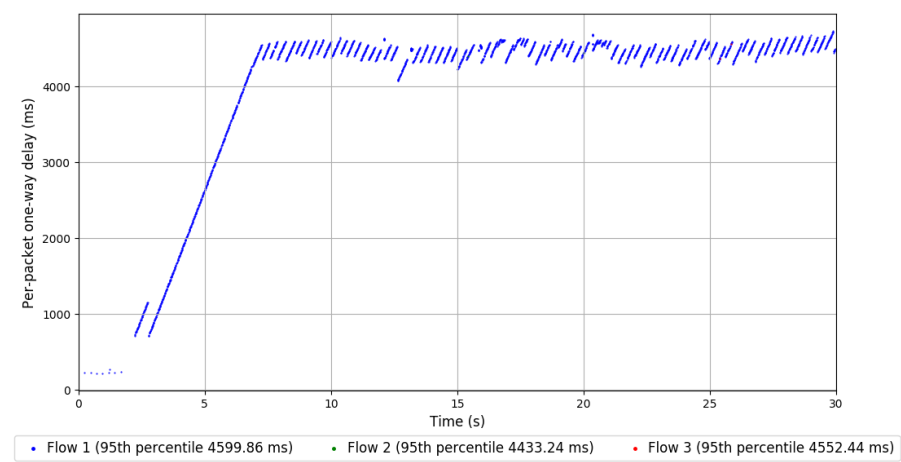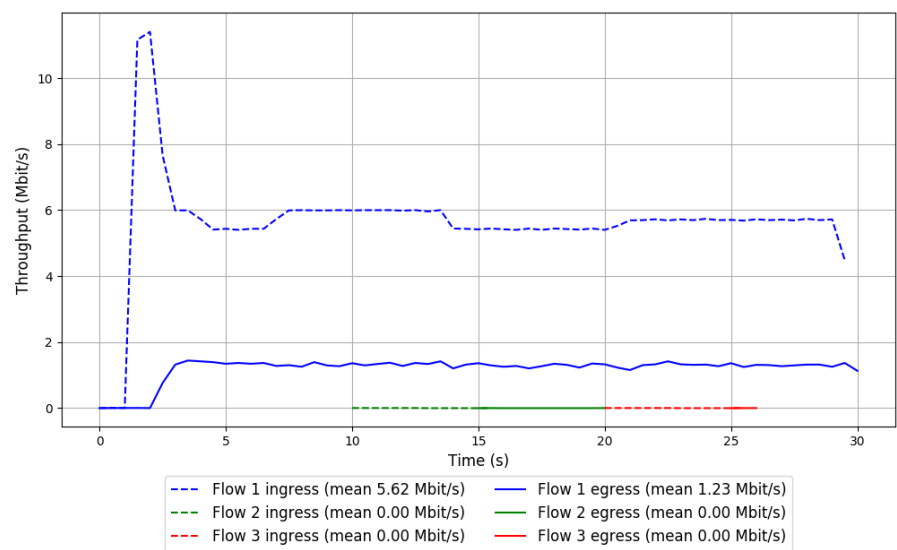
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-03-09 01:27:14
End at: 2019-03-09 01:27:44
Local clock offset: -6.32 ms
Remote clock offset: -0.648 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 4599.799 ms
Loss rate: 78.31%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 4599.865 ms
Loss rate: 78.31%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4433.238 ms
Loss rate: 83.22%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4552.444 ms
Loss rate: 86.15%
```

Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 5.62 Mbit/s) --- Flow 1 egress (mean 1.23 Mbit/s) ——
Flow 2 ingress (mean 0.00 Mbit/s) --- Flow 2 egress (mean 0.00 Mbit/s) ——
Flow 3 ingress (mean 0.00 Mbit/s) --- Flow 3 egress (mean 0.00 Mbit/s) ——

Flow 1 (95th percentile 4599.86 ms) • Flow 2 (95th percentile 4433.24 ms) • Flow 3 (95th percentile 4552.44 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-09 00:49:05
End at: 2019-03-09 00:49:35
Local clock offset: -6.139 ms
Remote clock offset: 12.44 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 2826.171 ms
Loss rate: 10.78%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 2653.743 ms
Loss rate: 7.02%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 2914.491 ms
Loss rate: 18.03%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 2869.651 ms
Loss rate: 52.74%
```
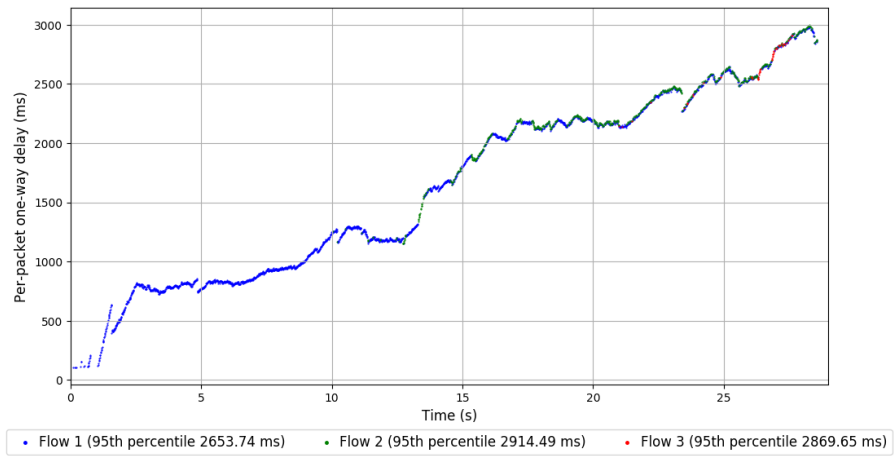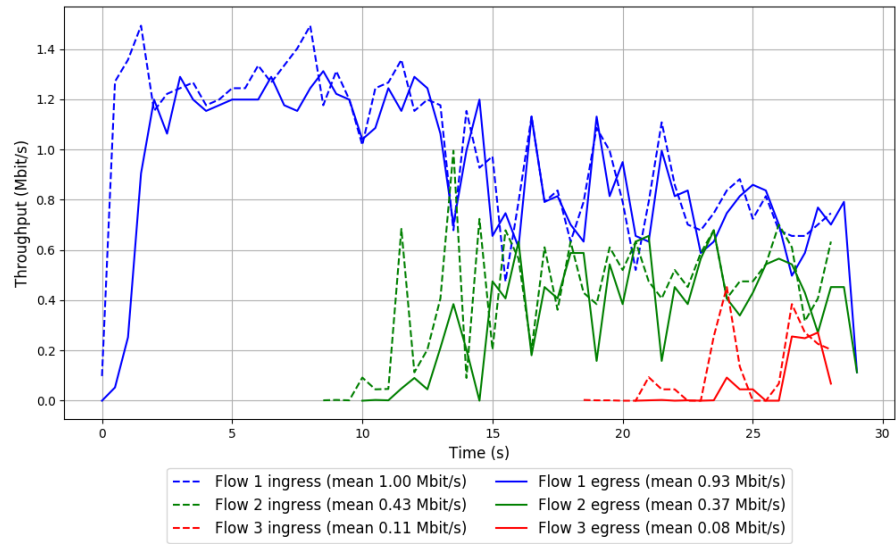
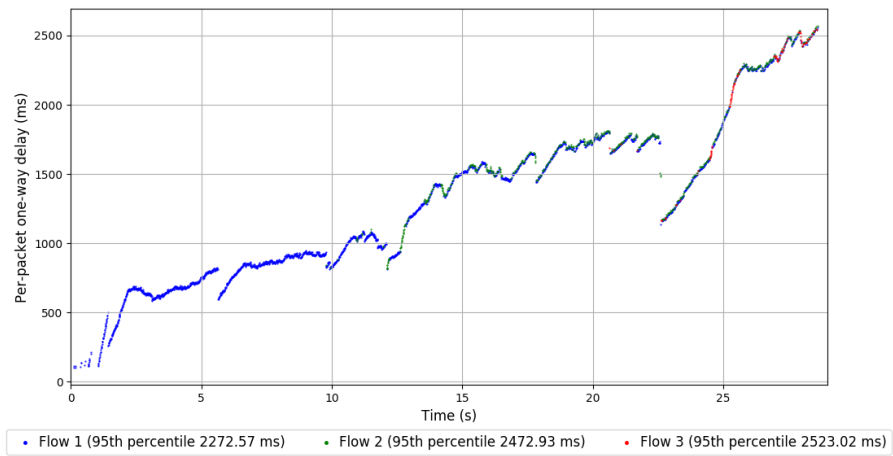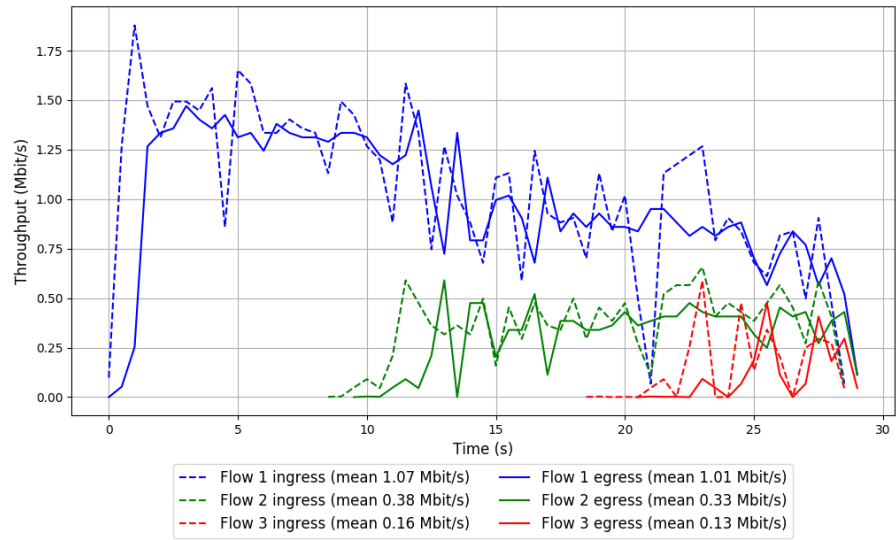Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-09 01:14:53
End at: 2019-03-09 01:15:23
Local clock offset: -6.175 ms
Remote clock offset: -1.476 ms


# Below is generated by plot.py at 2019-03-09 01:53:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 2357.641 ms
Loss rate: 8.65%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 2272.574 ms
Loss rate: 5.78%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 2472.932 ms
Loss rate: 15.39%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 2523.017 ms
Loss rate: 33.94%
```

Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 1.07 Mbit/s) — — —   Flow 1 egress (mean 1.01 Mbit/s) ———
Flow 2 ingress (mean 0.38 Mbit/s) — — —   Flow 2 egress (mean 0.33 Mbit/s) ———
Flow 3 ingress (mean 0.16 Mbit/s) — — —   Flow 3 egress (mean 0.13 Mbit/s) ———

• Flow 1 (95th percentile 2272.57 ms)   • Flow 2 (95th percentile 2472.93 ms)   • Flow 3 (95th percentile 2523.02 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-09 01:40:44
End at: 2019-03-09 01:41:14
Local clock offset: -7.366 ms
Remote clock offset: 4.354 ms


# Below is generated by plot.py at 2019-03-09 01:53:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 2211.356 ms
Loss rate: 8.66%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 1855.322 ms
Loss rate: 5.09%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 2354.396 ms
Loss rate: 11.48%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 2452.116 ms
Loss rate: 38.45%
```
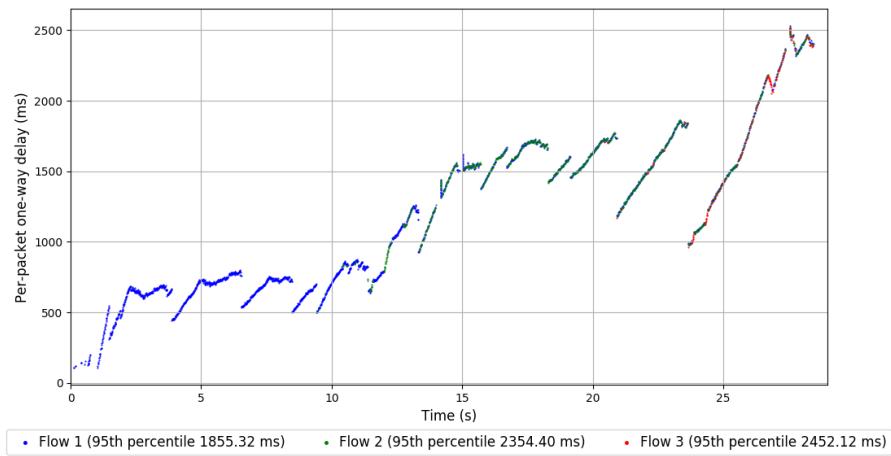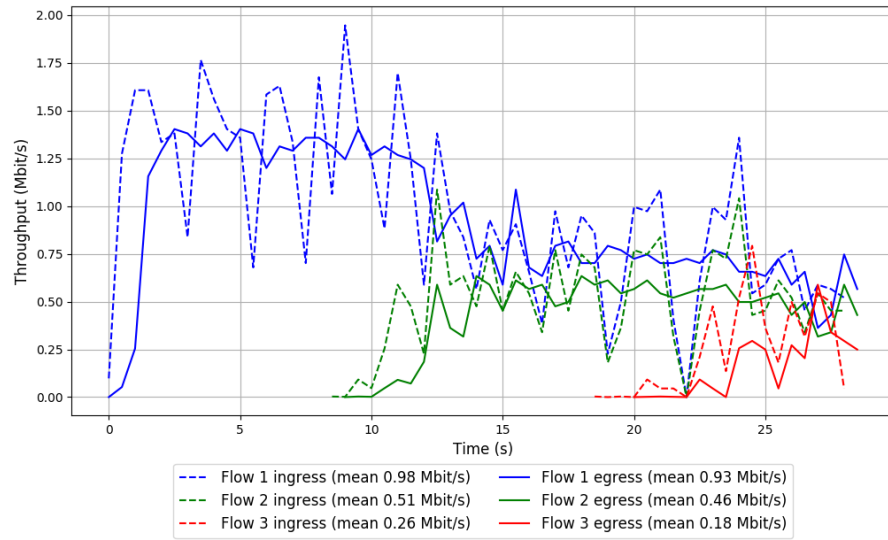
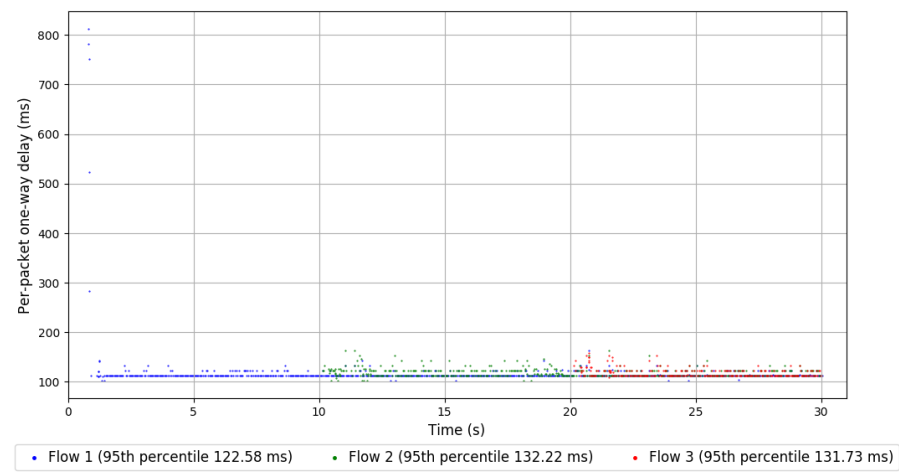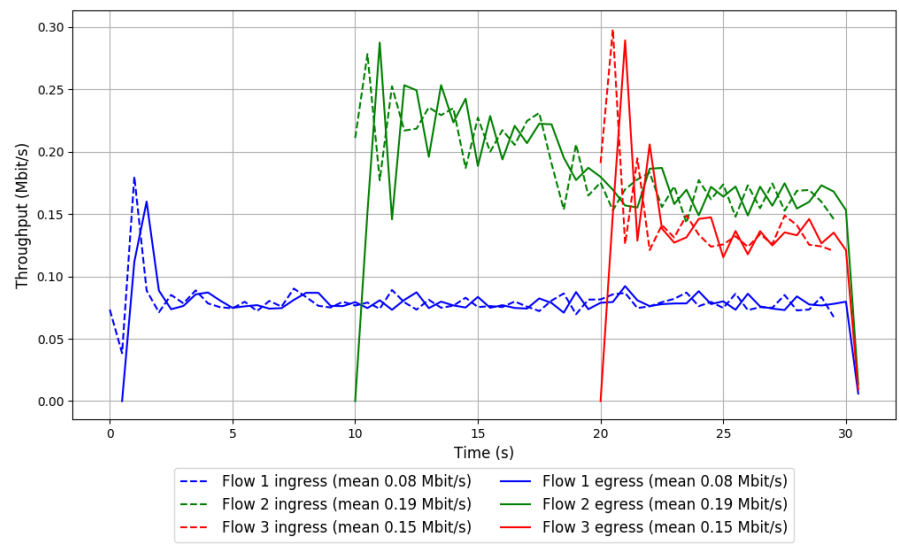Run 3: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-03-09 00:54:01
End at: 2019-03-09 00:54:31
Local clock offset: -6.488 ms
Remote clock offset: 8.506 ms

# Below is generated by plot.py at 2019-03-09 01:53:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 131.988 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 122.575 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 132.221 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 131.729 ms
Loss rate: 0.32%
```

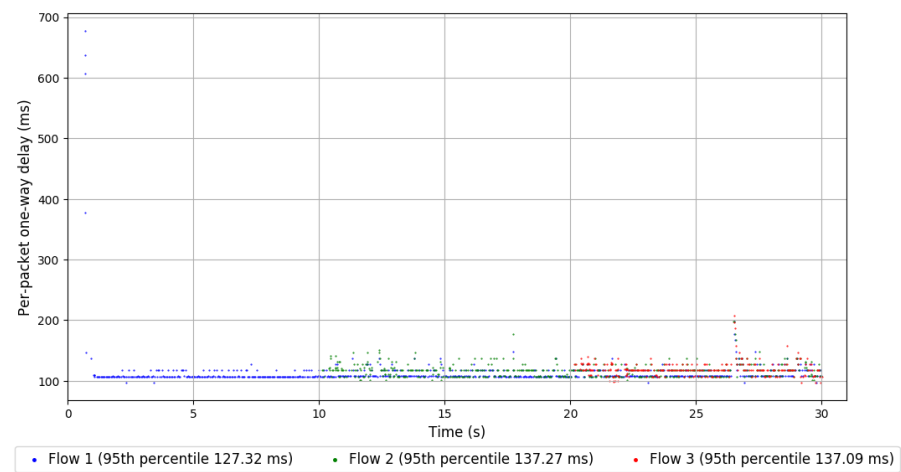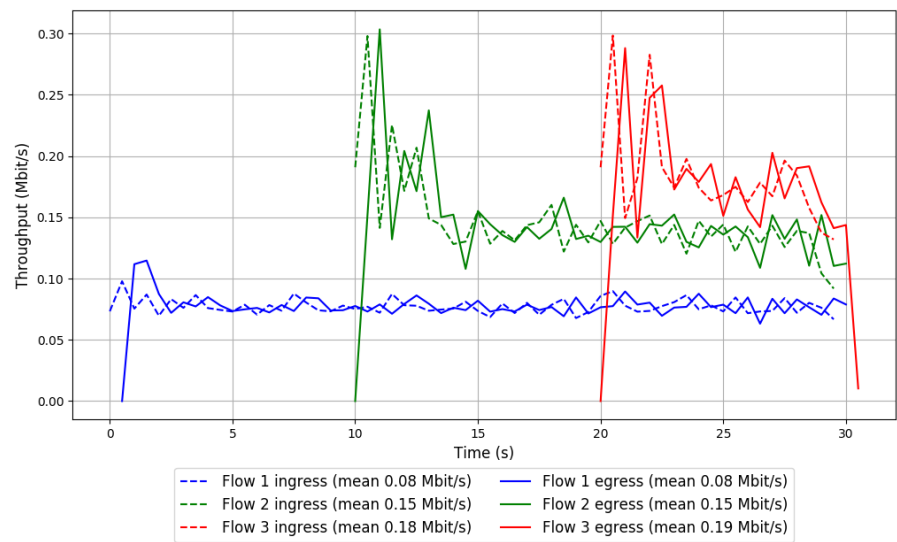# Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-03-09 01:19:48
End at: 2019-03-09 01:20:18
Local clock offset: -5.899 ms
Remote clock offset: -2.378 ms


# Below is generated by plot.py at 2019-03-09 01:53:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 137.090 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 127.318 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 137.266 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 137.090 ms
Loss rate: 0.28%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-03-09 01:45:38
End at: 2019-03-09 01:46:08
Local clock offset: -6.642 ms
Remote clock offset: 0.388 ms


# Below is generated by plot.py at 2019-03-09 01:53:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 127.285 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 116.589 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 127.406 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.766 ms
Loss rate: 0.28%
```
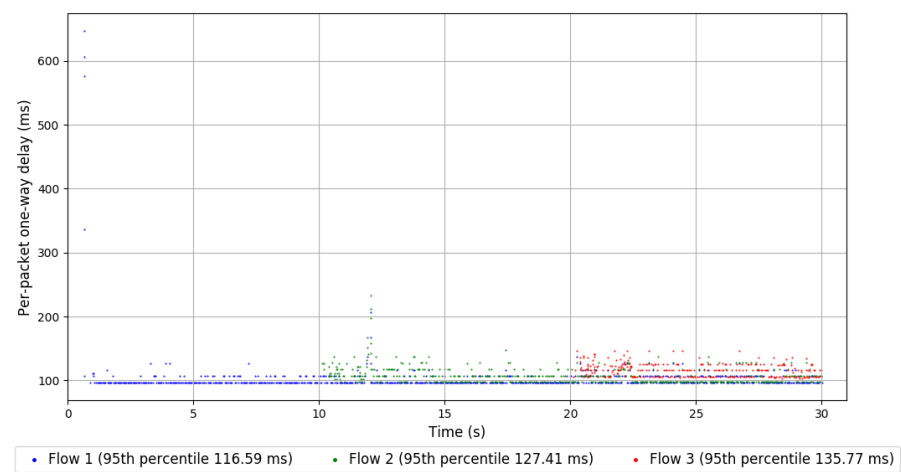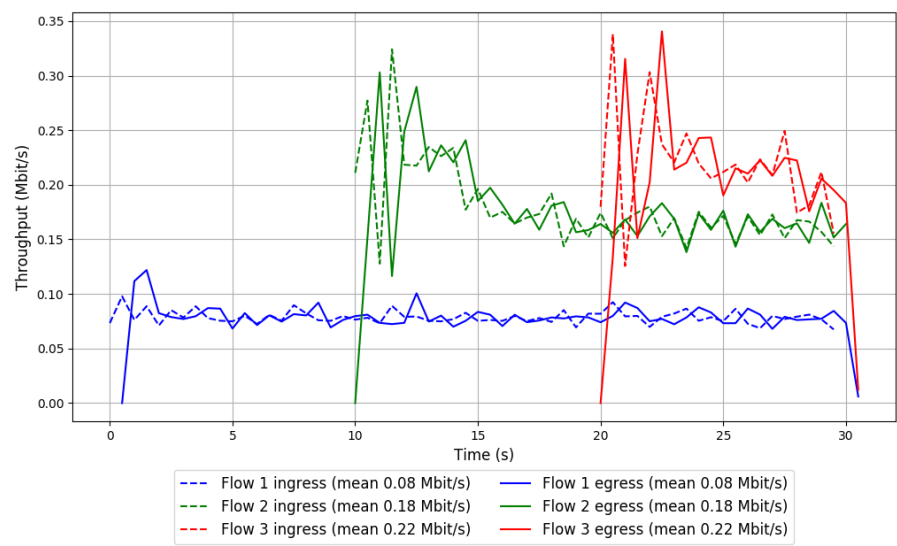
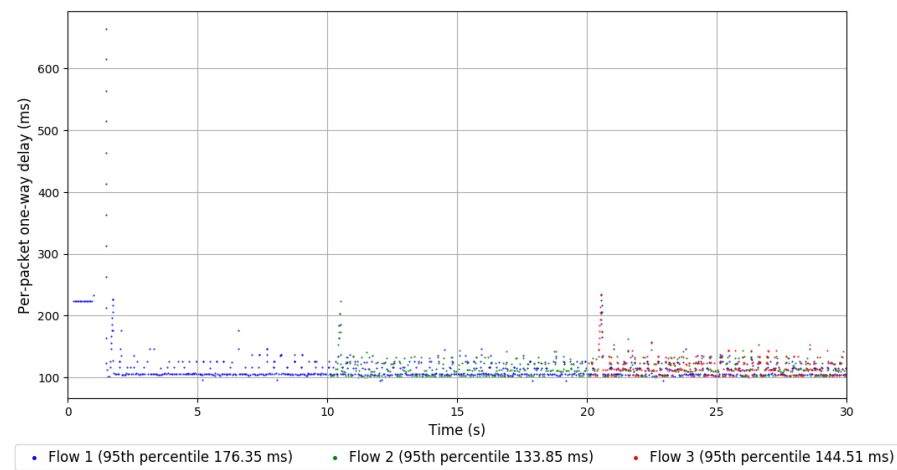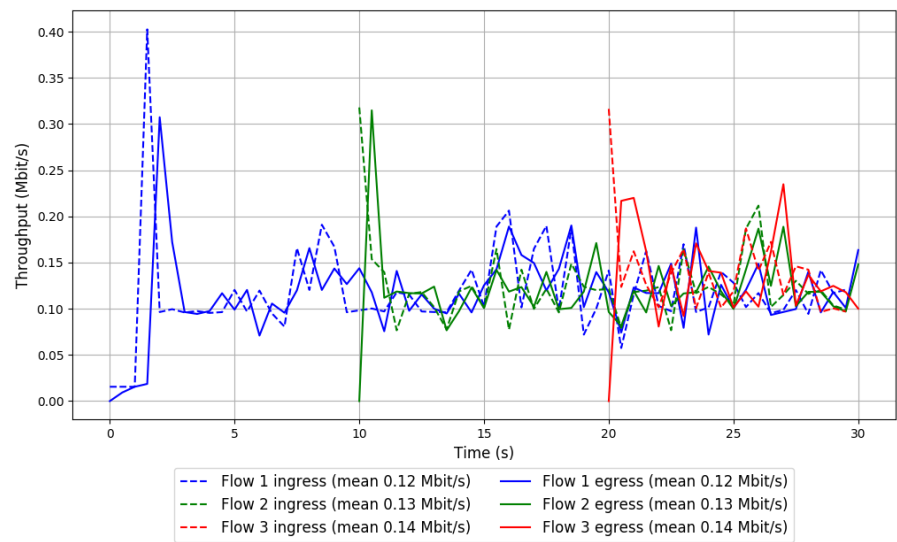# Run 3: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-03-09 00:42:57
End at: 2019-03-09 00:43:27
Local clock offset: -7.376 ms
Remote clock offset: 10.535 ms


# Below is generated by plot.py at 2019-03-09 01:53:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 146.094 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 176.350 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 144.508 ms
Loss rate: 0.00%
```
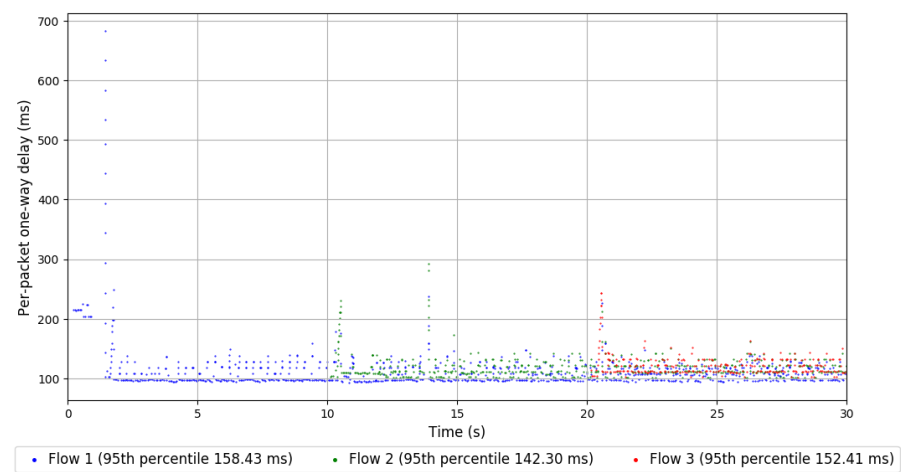
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-03-09 01:08:44
End at: 2019-03-09 01:09:14
Local clock offset: -6.086 ms
Remote clock offset: -0.307 ms


# Below is generated by plot.py at 2019-03-09 01:53:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 151.668 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 158.426 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 142.304 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 152.407 ms
Loss rate: 0.06%
```
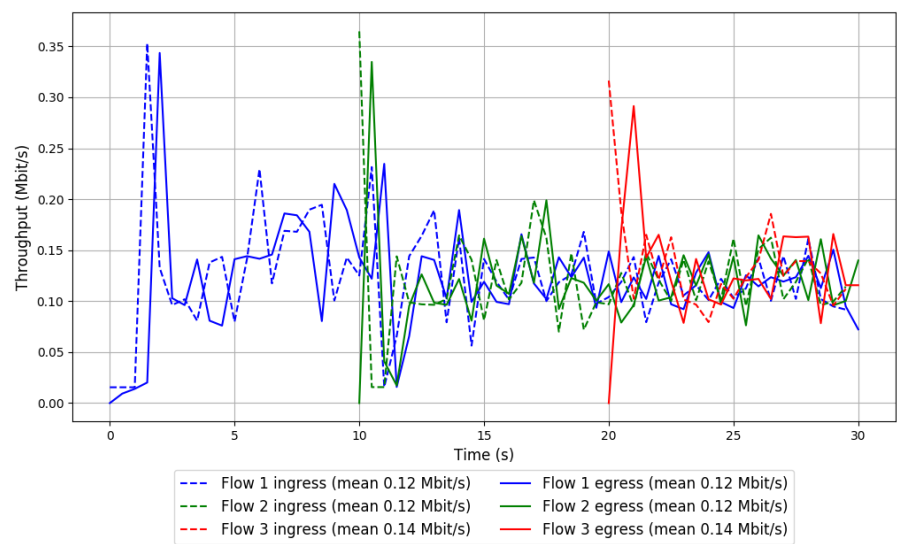
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-03-09 01:34:36
End at: 2019-03-09 01:35:06
Local clock offset: -6.489 ms
Remote clock offset: 3.94 ms


# Below is generated by plot.py at 2019-03-09 01:53:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 202.404 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 225.354 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 179.187 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 220.076 ms
Loss rate: 1.08%
```

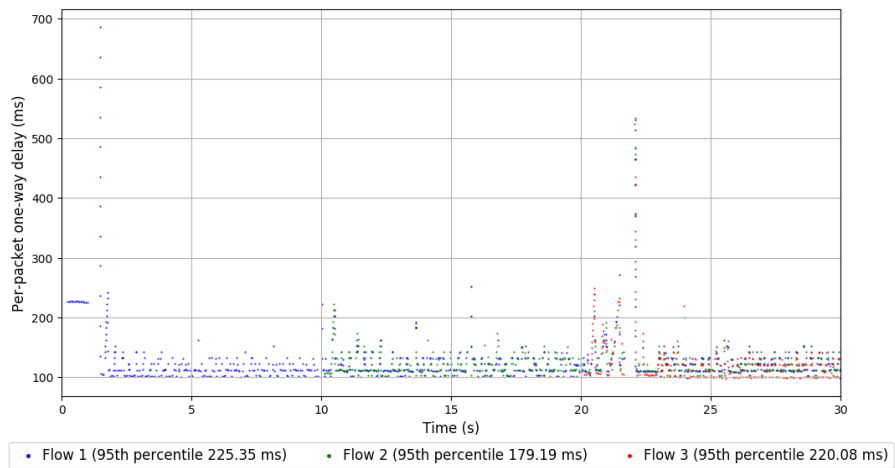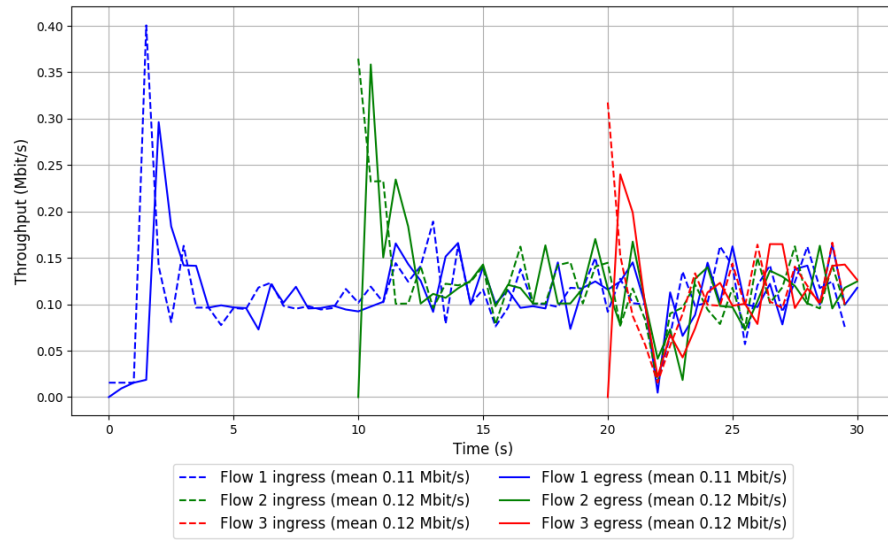# Run 3: Report of Sprout — Data Link

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

Start at: 2019-03-09 00:56:28
End at: 2019-03-09 00:56:58
Local clock offset: -5.626 ms
Remote clock offset: 7.158 ms


# Below is generated by plot.py at 2019-03-09 01:53:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 790.351 ms
Loss rate: 15.38%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 238.273 ms
Loss rate: 85.45%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 663.628 ms
Loss rate: 13.20%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 1748.566 ms
Loss rate: 19.78%
```
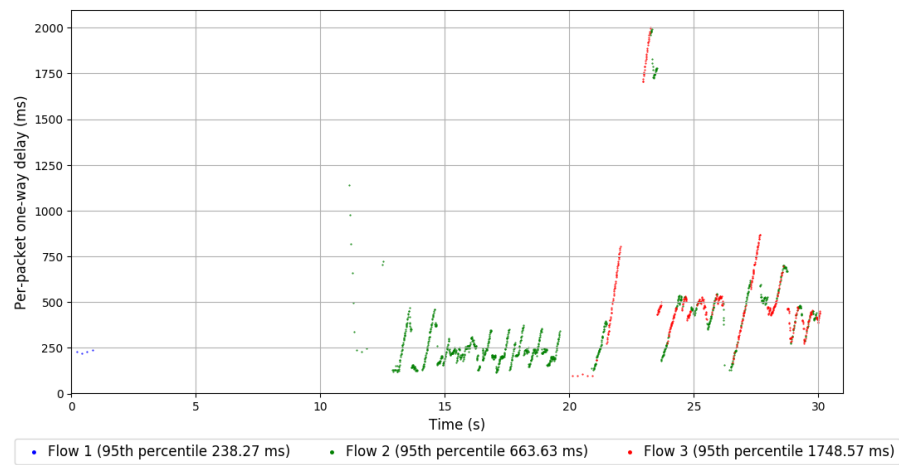
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-03-09 01:22:19
End at: 2019-03-09 01:22:49
Local clock offset: -6.777 ms
Remote clock offset: -2.094 ms

# Below is generated by plot.py at 2019-03-09 01:53:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 622.236 ms
Loss rate: 12.64%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 225.861 ms
Loss rate: 85.45%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 537.059 ms
Loss rate: 12.36%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 738.971 ms
Loss rate: 13.03%
```
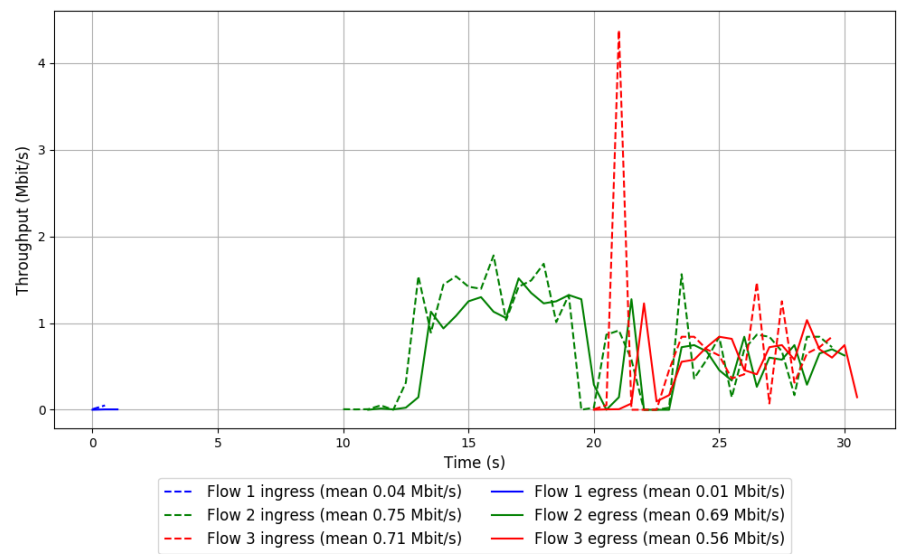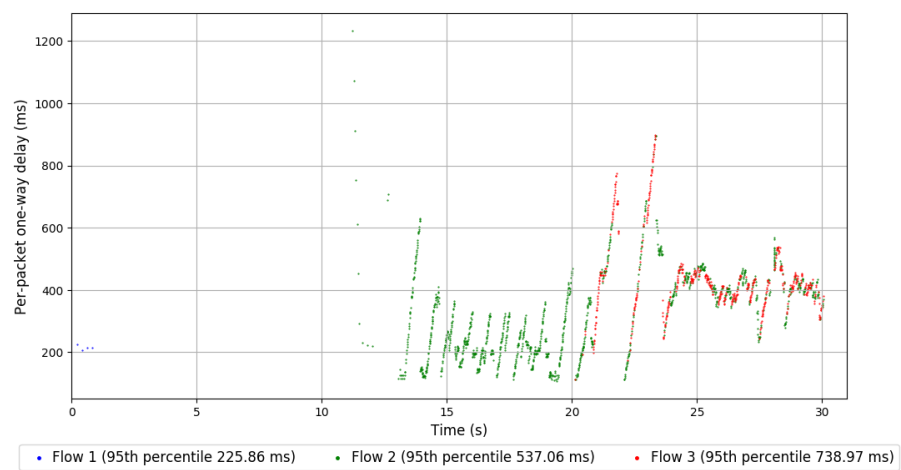
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.04 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 0.86 Mbit/s) --- Flow 2 egress (mean 0.80 Mbit/s)
Flow 3 ingress (mean 0.72 Mbit/s) --- Flow 3 egress (mean 0.62 Mbit/s)

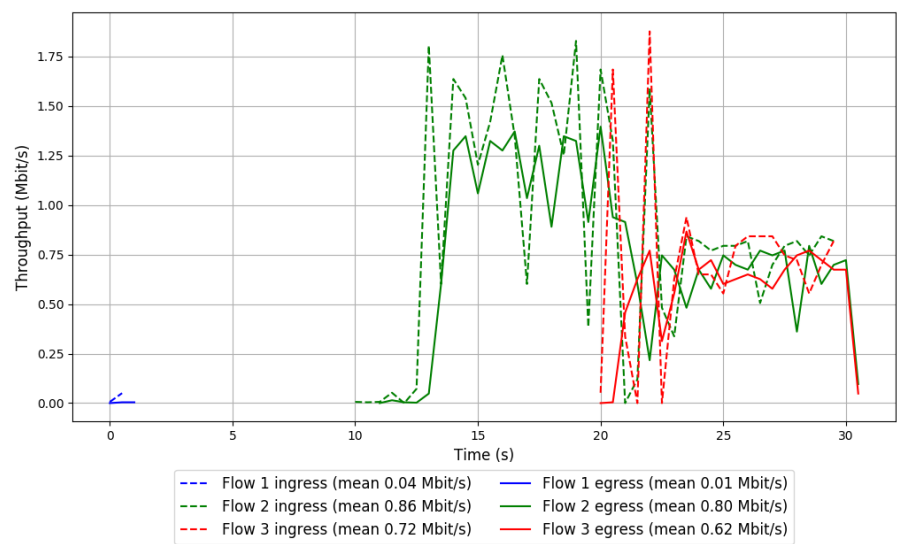• Flow 1 (95th percentile 225.86 ms)   • Flow 2 (95th percentile 537.06 ms)   • Flow 3 (95th percentile 738.97 ms)

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

Start at: 2019-03-09 01:48:05
End at: 2019-03-09 01:48:35
Local clock offset: -6.613 ms
Remote clock offset: 4.317 ms


# Below is generated by plot.py at 2019-03-09 01:53:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 960.787 ms
Loss rate: 16.41%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 248.444 ms
Loss rate: 85.45%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 953.001 ms
Loss rate: 11.90%
-- Flow 3:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1500.245 ms
Loss rate: 25.11%
```

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

- - - Flow 1 ingress (mean 0.04 Mbit/s)   ——— Flow 1 egress (mean 0.01 Mbit/s)
- - - Flow 2 ingress (mean 0.78 Mbit/s)   ——— Flow 2 egress (mean 0.73 Mbit/s)
- - - Flow 3 ingress (mean 0.81 Mbit/s)   ——— Flow 3 egress (mean 0.60 Mbit/s)

- Flow 1 (95th percentile 248.44 ms)   • Flow 2 (95th percentile 953.00 ms)   • Flow 3 (95th percentile 1500.24 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-03-09 00:40:30
End at: 2019-03-09 00:41:00
Local clock offset: -6.552 ms
Remote clock offset: 14.304 ms


# Below is generated by plot.py at 2019-03-09 01:53:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 430.484 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 413.083 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 440.477 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 420.942 ms
Loss rate: 1.54%
```
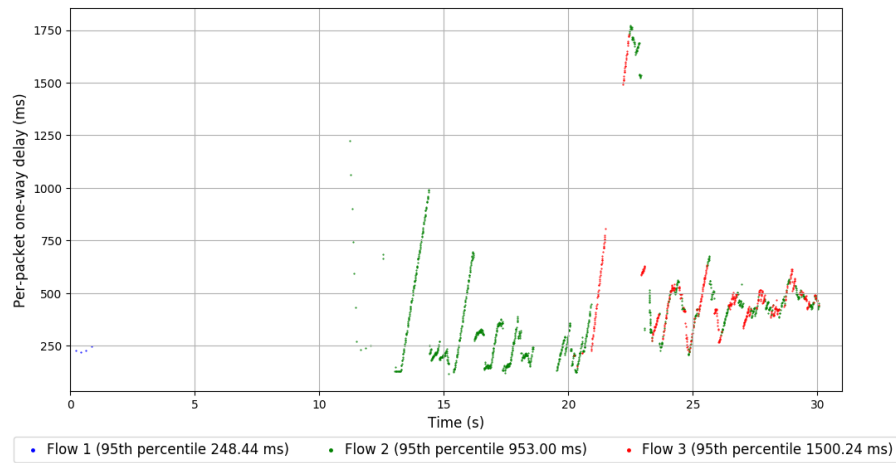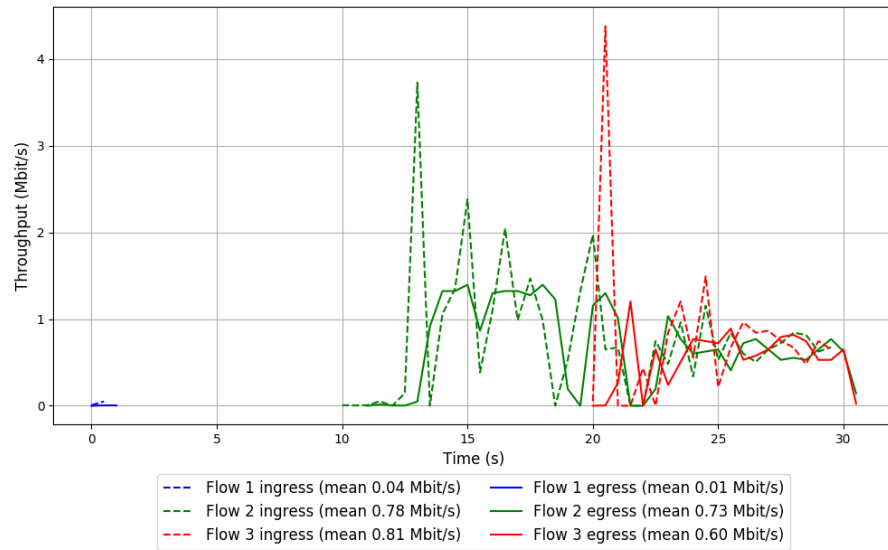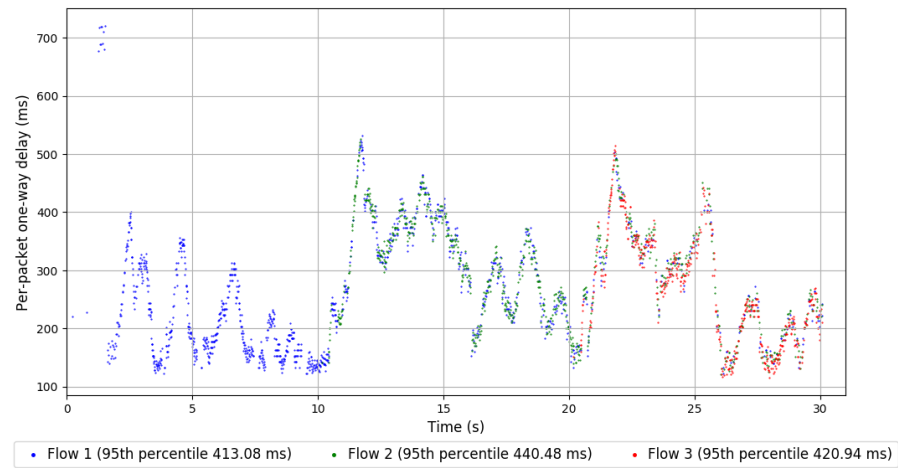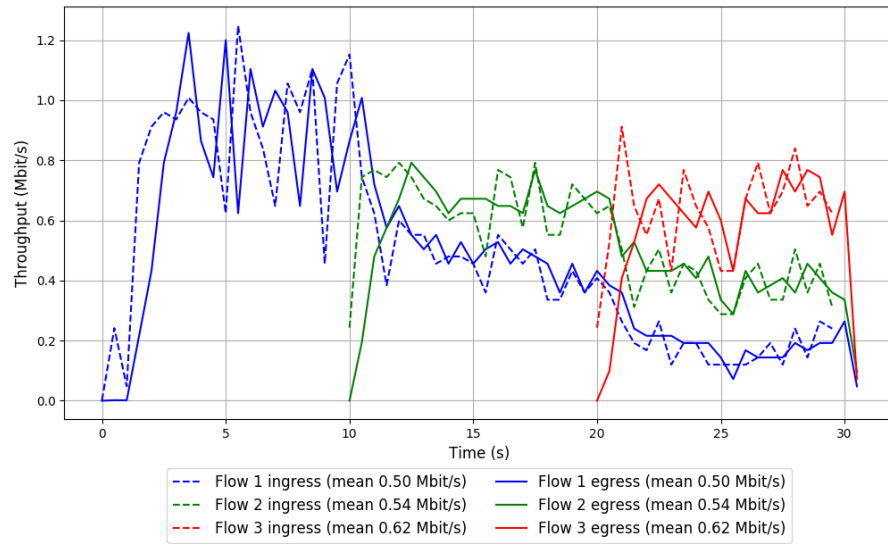
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-03-09 01:06:17
End at: 2019-03-09 01:06:47
Local clock offset: -5.378 ms
Remote clock offset: 3.989 ms


# Below is generated by plot.py at 2019-03-09 01:53:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 596.753 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 590.441 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 605.348 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 634.717 ms
Loss rate: 1.07%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.88 Mbit/s)   Flow 1 egress (mean 0.88 Mbit/s)
Flow 2 ingress (mean 0.34 Mbit/s)   Flow 2 egress (mean 0.34 Mbit/s)
Flow 3 ingress (mean 0.45 Mbit/s)   Flow 3 egress (mean 0.45 Mbit/s)

Flow 1 (95th percentile 590.44 ms)   Flow 2 (95th percentile 605.35 ms)   Flow 3 (95th percentile 634.72 ms)

110

```
Run 3: Statistics of TCP Vegas

Start at: 2019-03-09 01:32:09
End at: 2019-03-09 01:32:39
Local clock offset: -7.177 ms
Remote clock offset: 0.032 ms


# Below is generated by plot.py at 2019-03-09 01:53:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 836.670 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 721.009 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 828.026 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 930.241 ms
Loss rate: 5.55%
```
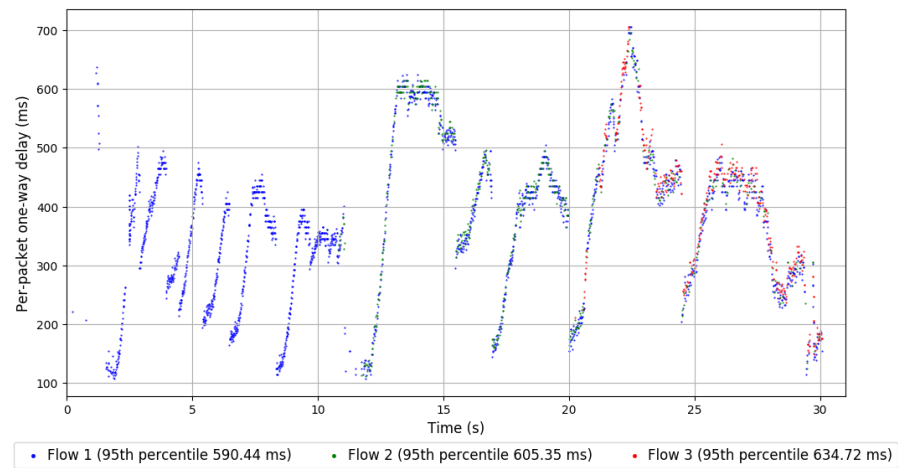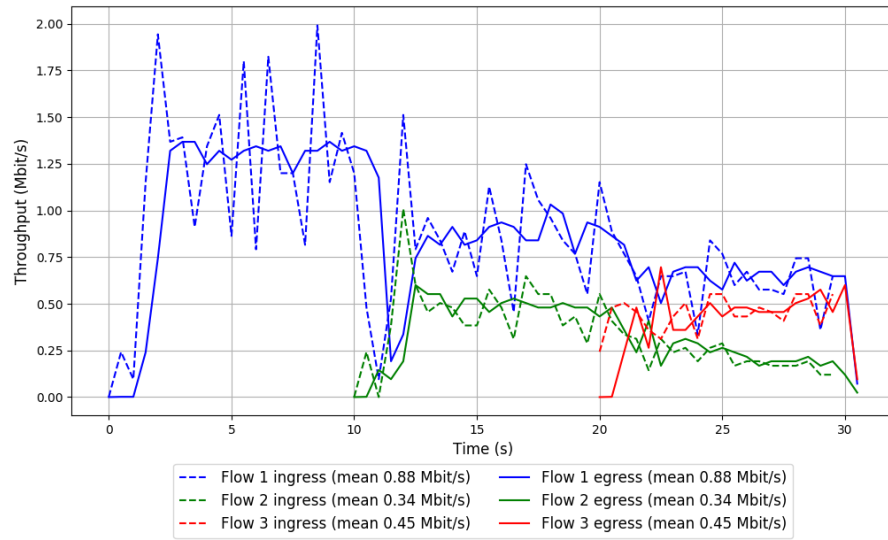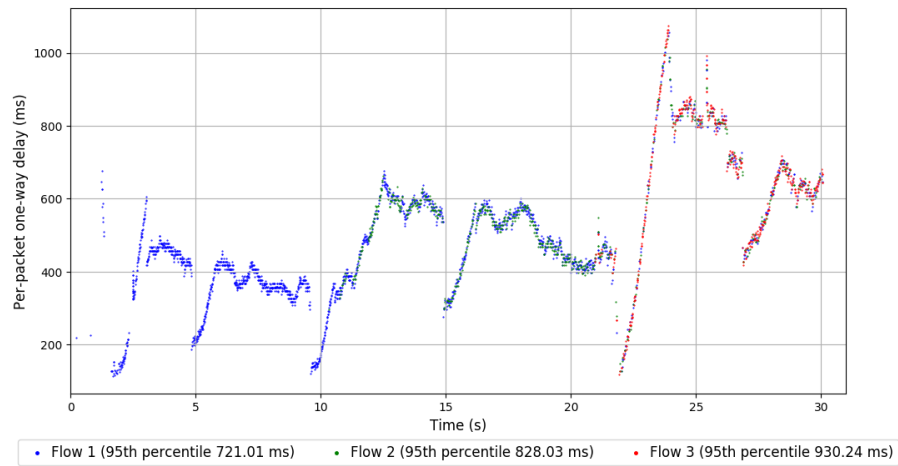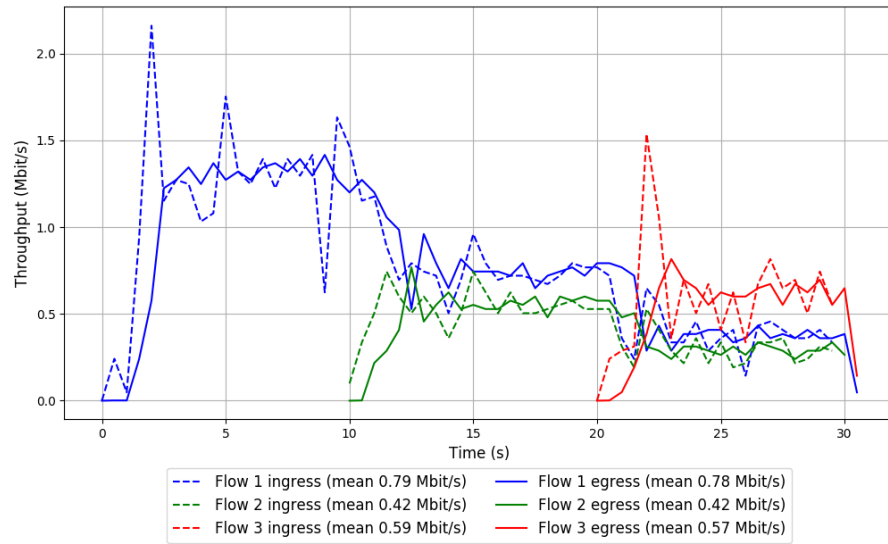
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.79 Mbit/s) — Flow 1 egress (mean 0.78 Mbit/s)
Flow 2 ingress (mean 0.42 Mbit/s) — Flow 2 egress (mean 0.42 Mbit/s)
Flow 3 ingress (mean 0.59 Mbit/s) — Flow 3 egress (mean 0.57 Mbit/s)

Flow 1 (95th percentile 721.01 ms)   Flow 2 (95th percentile 828.03 ms)   Flow 3 (95th percentile 930.24 ms)
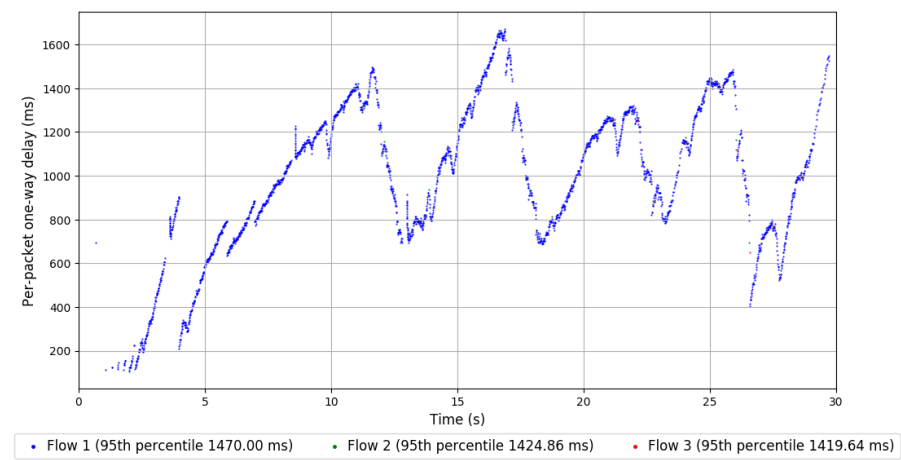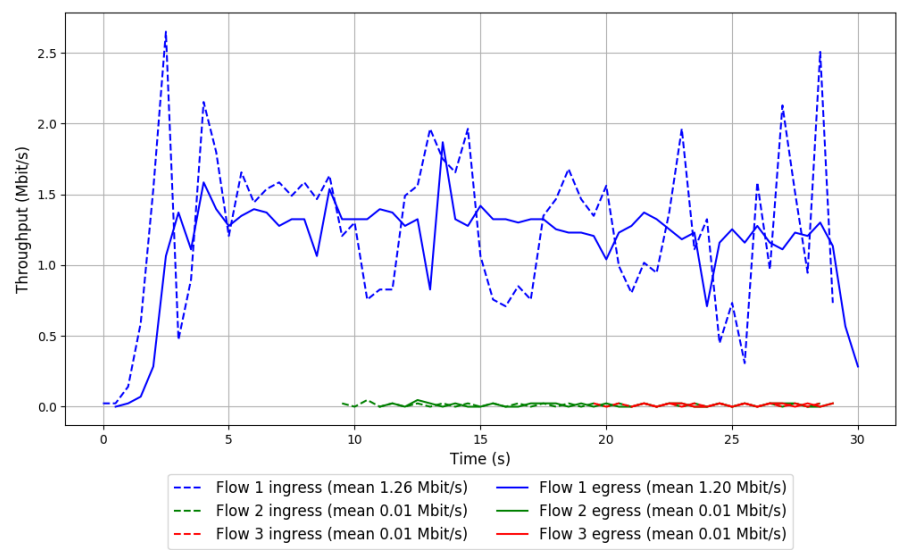
```
Run 1: Statistics of Verus

Start at: 2019-03-09 00:44:11
End at: 2019-03-09 00:44:41
Local clock offset: -7.453 ms
Remote clock offset: 14.28 ms

# Below is generated by plot.py at 2019-03-09 01:53:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 1470.001 ms
Loss rate: 5.09%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 1470.001 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1424.855 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1419.641 ms
Loss rate: 10.00%
```
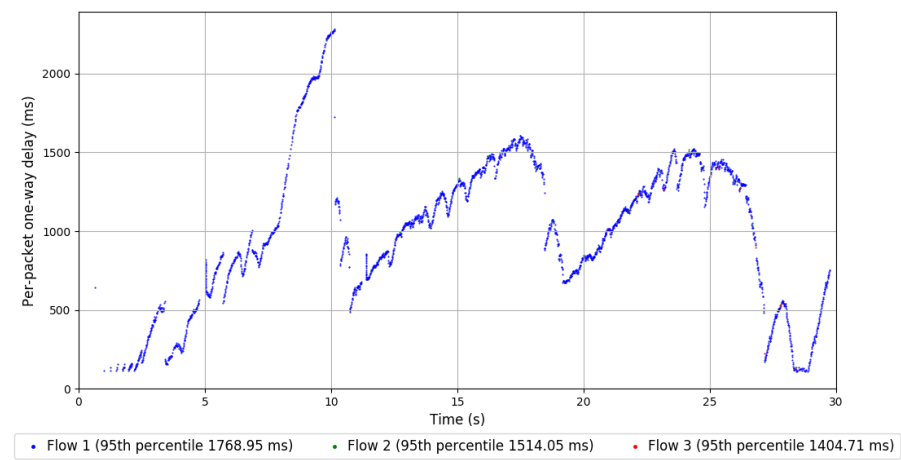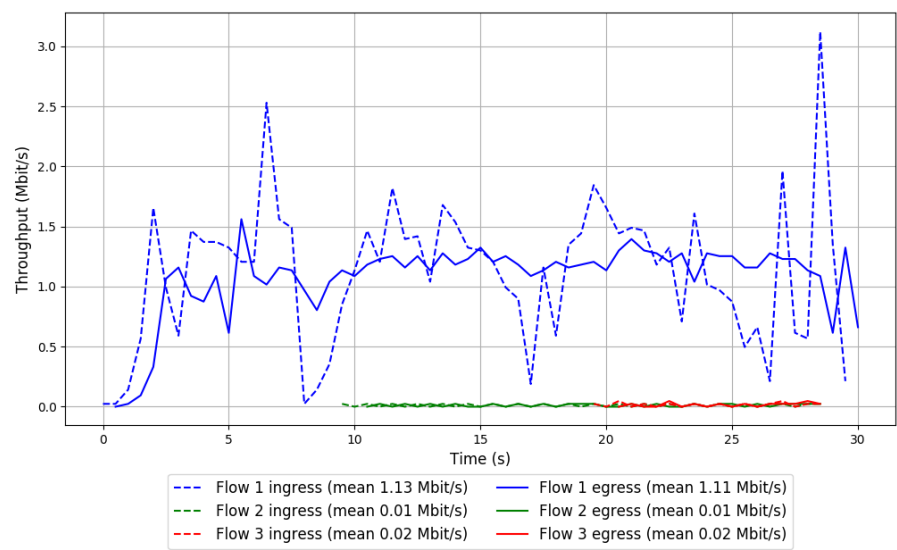
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-03-09 01:09:58
End at: 2019-03-09 01:10:28
Local clock offset: -6.149 ms
Remote clock offset: -0.431 ms


# Below is generated by plot.py at 2019-03-09 01:53:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 1768.680 ms
Loss rate: 3.36%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 1768.946 ms
Loss rate: 3.33%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1514.054 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1404.708 ms
Loss rate: 7.69%
```

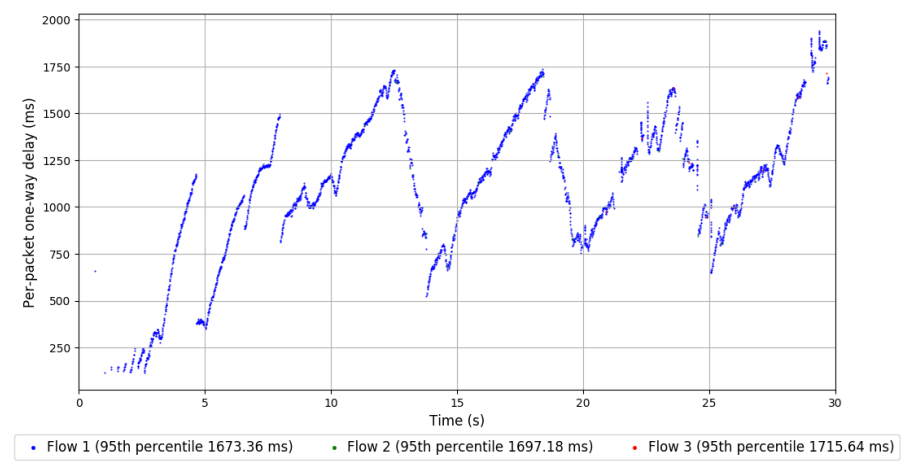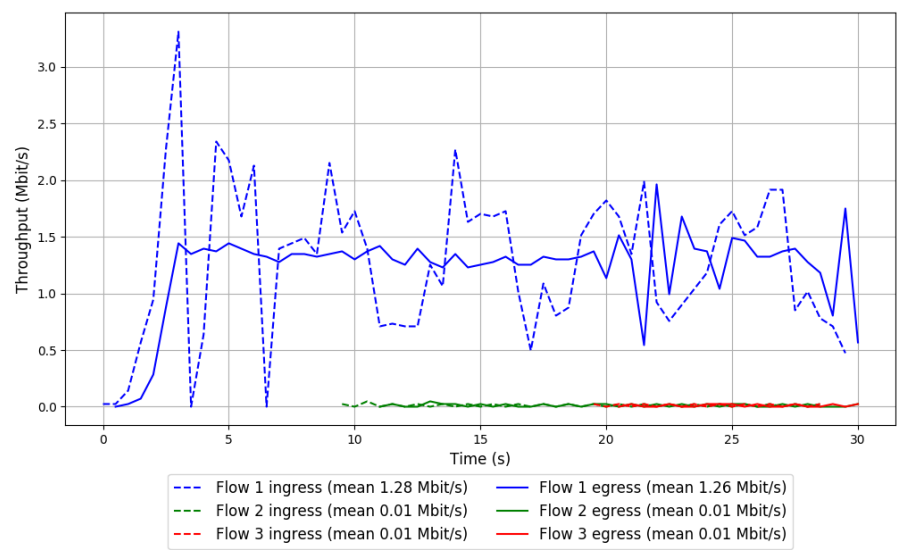## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-03-09 01:35:49
End at: 2019-03-09 01:36:19
Local clock offset: -6.508 ms
Remote clock offset: 4.008 ms


# Below is generated by plot.py at 2019-03-09 01:53:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 1673.507 ms
Loss rate: 3.72%
-- Flow 1:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 1673.362 ms
Loss rate: 3.70%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1697.185 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1715.644 ms
Loss rate: 10.00%
```
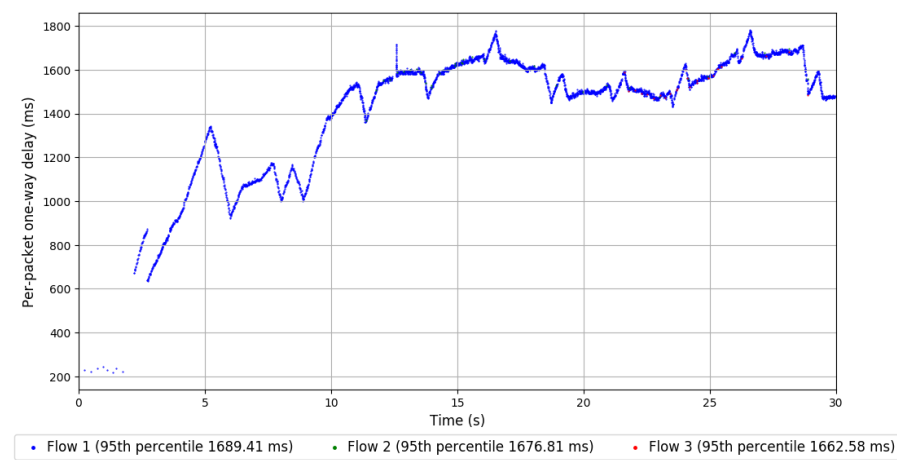
Run 3: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-09 00:38:03
End at: 2019-03-09 00:38:33
Local clock offset: -7.28 ms
Remote clock offset: 10.517 ms


# Below is generated by plot.py at 2019-03-09 01:53:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 1689.039 ms
Loss rate: 5.50%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1689.411 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1676.810 ms
Loss rate: 5.27%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1662.581 ms
Loss rate: 7.16%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 1.26 Mbit/s) --- Flow 1 egress (mean 1.19 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) --- Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) --- Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 1689.41 ms) • Flow 2 (95th percentile 1676.81 ms) • Flow 3 (95th percentile 1662.58 ms)
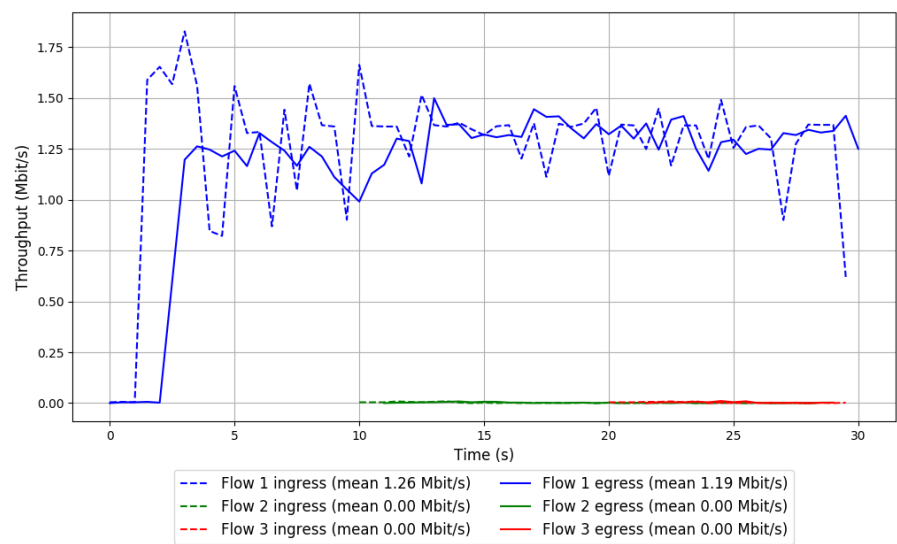
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-09 01:03:50
End at: 2019-03-09 01:04:20
Local clock offset: -6.235 ms
Remote clock offset: 4.72 ms


# Below is generated by plot.py at 2019-03-09 01:53:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 5424.809 ms
Loss rate: 22.62%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 5416.093 ms
Loss rate: 22.61%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5065.343 ms
Loss rate: 17.11%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6063.067 ms
Loss rate: 52.77%
```
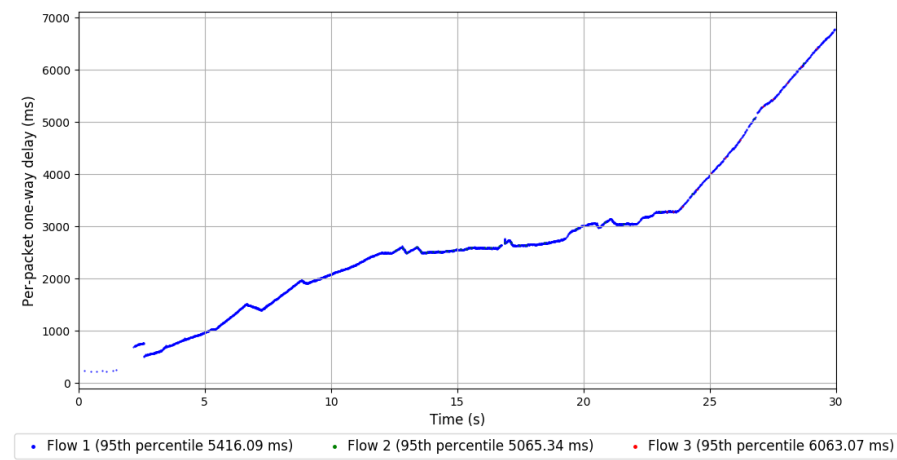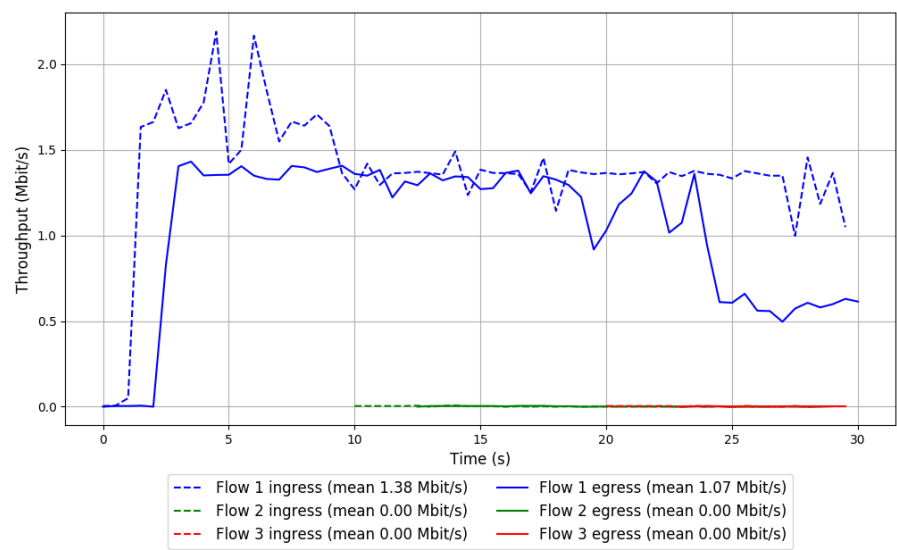
Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 1.38 Mbit/s) --- Flow 1 egress (mean 1.07 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) --- Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) --- Flow 3 egress (mean 0.00 Mbit/s)

• Flow 1 (95th percentile 5416.09 ms)   • Flow 2 (95th percentile 5065.34 ms)   • Flow 3 (95th percentile 6063.07 ms)
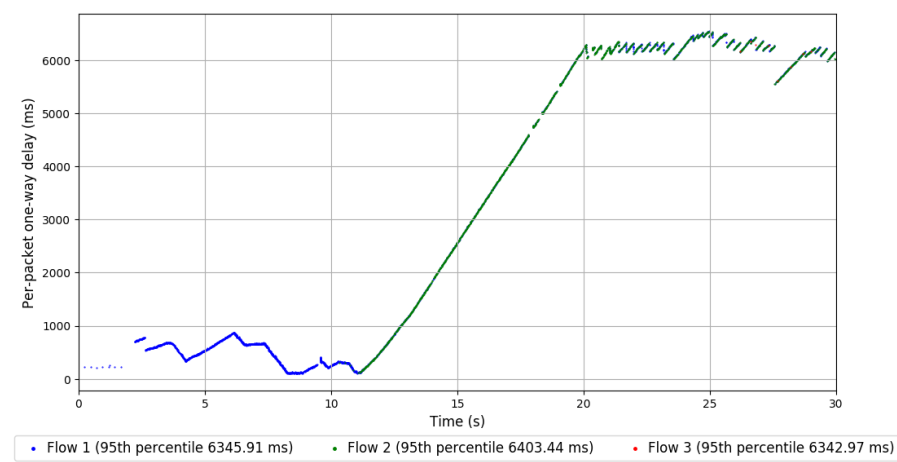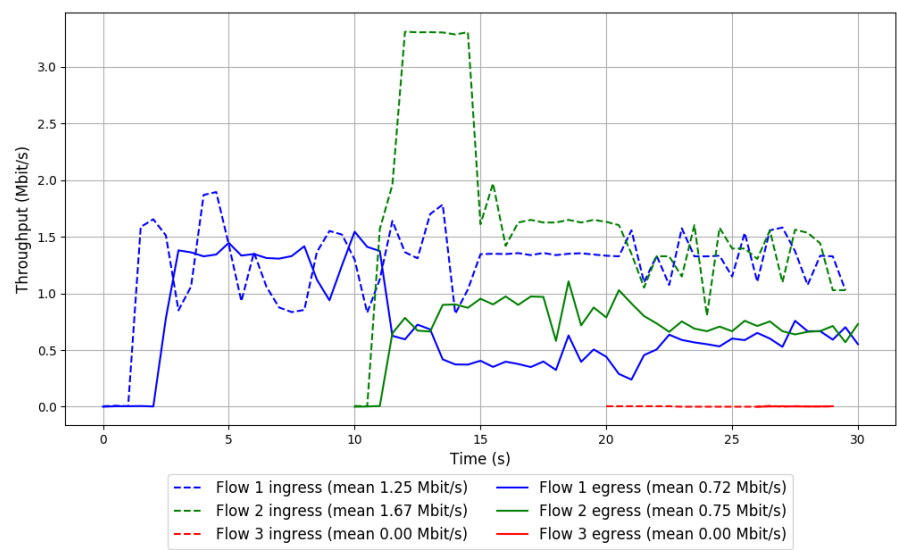
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-09 01:29:41
End at: 2019-03-09 01:30:12
Local clock offset: -6.345 ms
Remote clock offset: -0.376 ms


# Below is generated by plot.py at 2019-03-09 01:53:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 6371.377 ms
Loss rate: 48.67%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 6345.906 ms
Loss rate: 42.66%
-- Flow 2:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 6403.440 ms
Loss rate: 55.43%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6342.967 ms
Loss rate: 63.22%
```

Run 3: Report of PCC-Vivace — Data Link

Legend:
- Flow 1 ingress (mean 1.25 Mbit/s)
- Flow 1 egress (mean 0.72 Mbit/s)
- Flow 2 ingress (mean 1.67 Mbit/s)
- Flow 2 egress (mean 0.75 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

Legend:
- Flow 1 (95th percentile 6345.91 ms)
- Flow 2 (95th percentile 6403.44 ms)
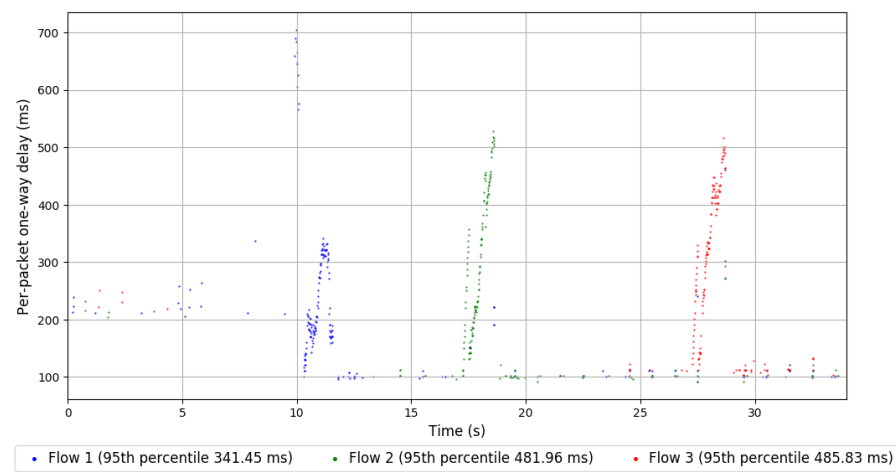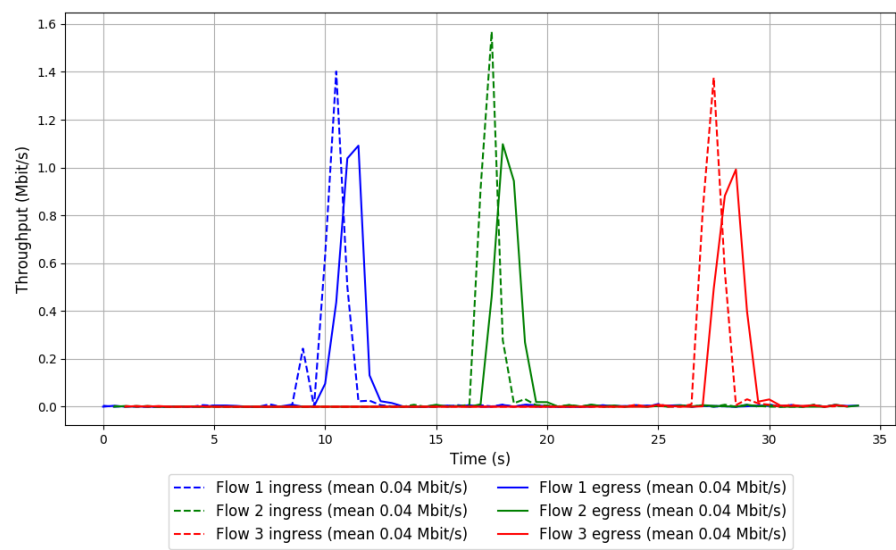- Flow 3 (95th percentile 6342.97 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-03-09 00:39:17
End at: 2019-03-09 00:39:47
Local clock offset: -6.534 ms
Remote clock offset: 10.632 ms


# Below is generated by plot.py at 2019-03-09 01:53:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 484.143 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 341.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 481.963 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 485.830 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-03-09 01:05:04
End at: 2019-03-09 01:05:34
Local clock offset: -6.149 ms
Remote clock offset: 4.251 ms


# Below is generated by plot.py at 2019-03-09 01:53:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 369.742 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 372.685 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 377.504 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 355.936 ms
Loss rate: 0.00%
```
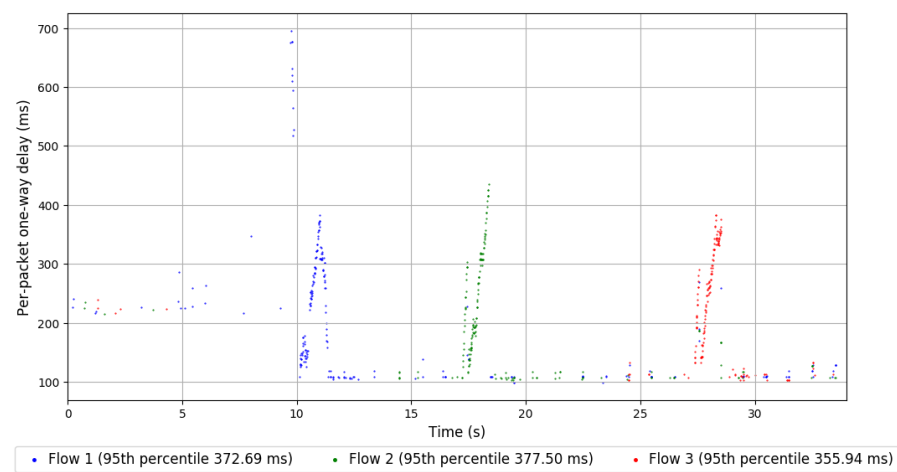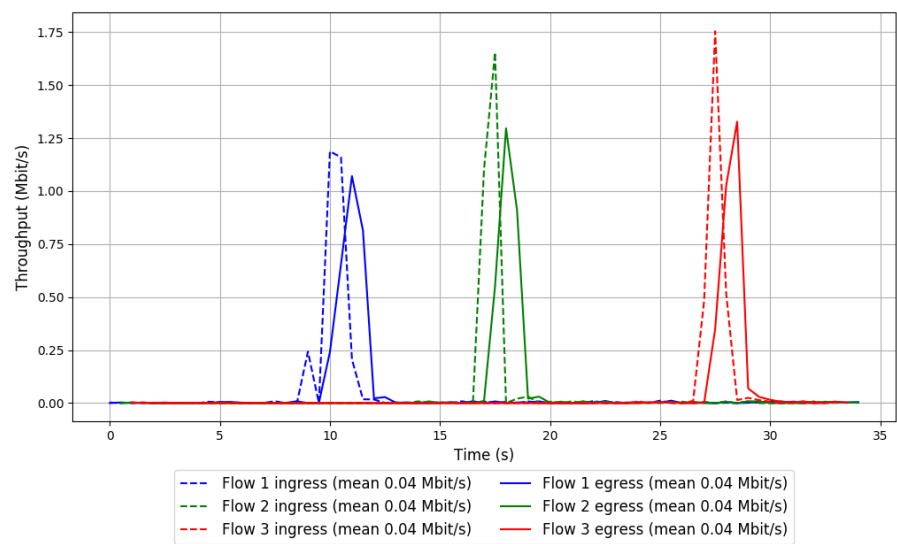
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-03-09 01:30:55
End at: 2019-03-09 01:31:25
Local clock offset: -7.133 ms
Remote clock offset: -0.429 ms


# Below is generated by plot.py at 2019-03-09 01:53:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 1063.035 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 580.224 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 543.417 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1176.772 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link