Pantheon Report

Generated at 2019-02-20 12:23:26 (UTC).

Data path: Colombia on `p4p1` (*remote*) →AWS Brazil 2 on `ens5` (*local*).

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 `gps.ntp.br` and have been applied to correct the timestamps in logs.
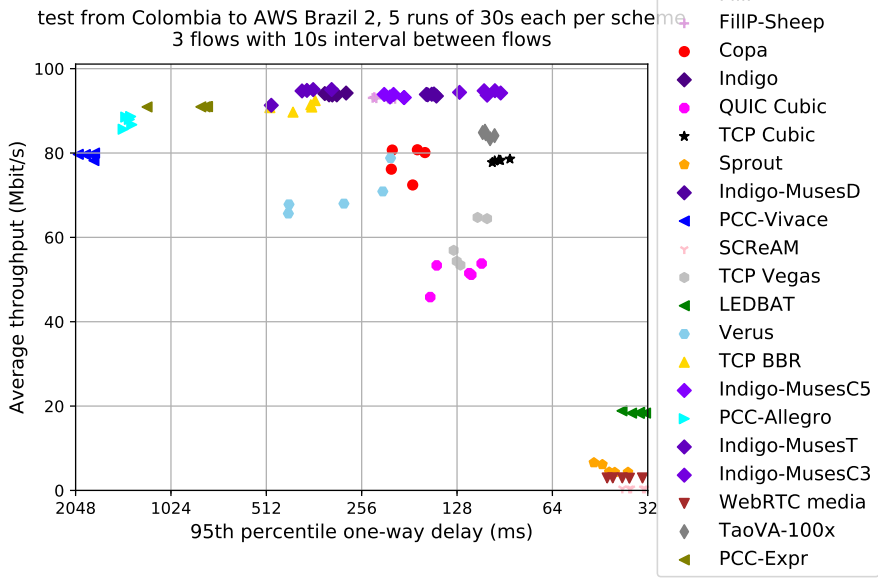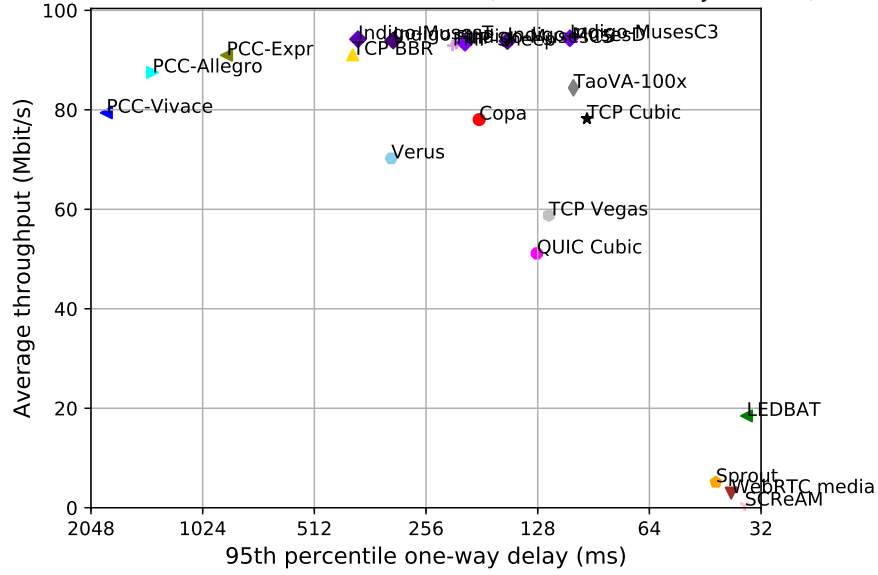
```
System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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 Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
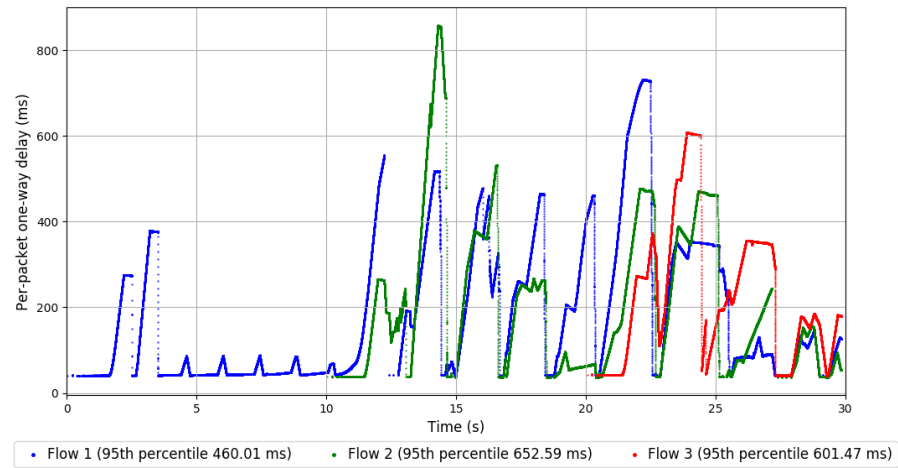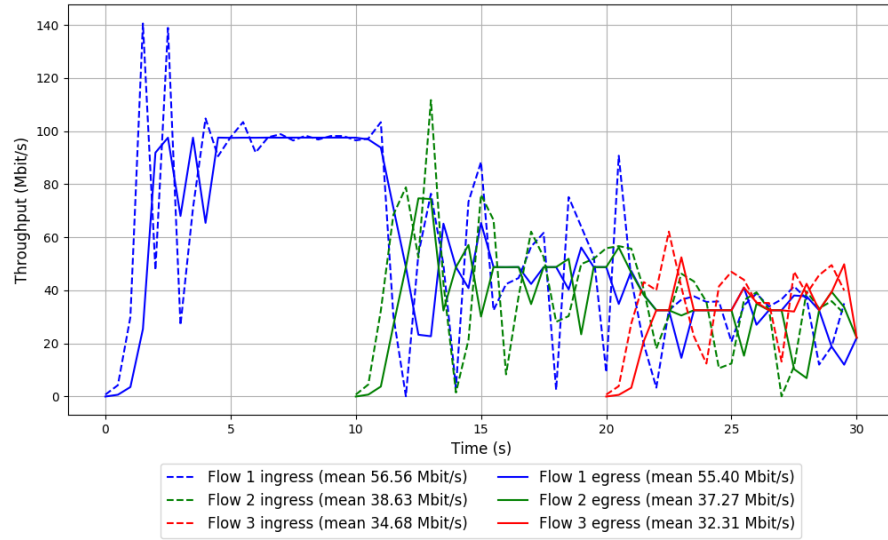### 3 flows with 10s interval between flows (mean of all runs by scheme)

test from Colombia to AWS Brazil 2, 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	55.74	38.23	30.24	378.26	481.12	408.49	2.38	4.84	6.02
Copa	5	46.38	33.81	27.96	168.48	175.10	115.24	0.50	0.76	1.79
TCP Cubic	5	44.08	35.11	32.98	120.65	93.33	74.14	0.42	0.73	2.17
FillP	5	57.34	39.46	29.69	218.24	201.07	255.00	1.13	3.54	3.69
FillP-Sheep	5	56.95	39.32	30.01	225.48	192.96	236.65	0.79	2.20	3.68
Indigo	5	58.72	38.97	28.81	352.96	91.47	74.15	6.69	1.53	2.68
Indigo-MusesC3	5	60.19	39.91	29.99	88.38	158.75	111.83	1.98	2.59	3.32
Indigo-MusesC5	5	58.83	40.80	29.16	192.81	208.10	252.70	3.48	4.48	6.58
Indigo-MusesD	5	60.64	38.08	29.04	159.37	121.03	110.69	6.15	4.90	4.87
Indigo-MusesT	5	59.70	40.50	29.42	295.99	383.31	557.90	6.30	7.53	9.43
LEDBAT	5	12.01	7.88	3.84	34.80	35.05	33.80	1.15	1.74	3.52
PCC-Allegro	5	54.99	34.52	29.50	1466.74	1077.53	1318.06	25.23	16.09	21.26
PCC-Expr	5	56.70	38.94	25.86	889.92	851.18	175.74	23.75	7.53	3.74
QUIC Cubic	5	30.75	23.04	15.58	81.24	143.96	268.00	0.69	1.60	4.25
SCReAM	5	0.22	0.22	0.22	32.52	34.12	33.76	0.51	0.86	1.78
Sprout	5	2.56	3.06	1.71	41.85	43.14	38.47	1.04	1.03	2.45
TaoVA-100x	5	49.79	37.42	29.75	98.79	109.20	96.69	0.45	0.88	2.07
TCP Vegas	5	34.23	27.22	19.68	131.25	99.17	124.94	0.49	0.90	1.96
Verus	5	43.59	29.22	22.22	240.51	721.24	273.75	0.95	1.24	4.18
PCC-Vivace	5	51.27	31.23	22.71	1943.98	637.89	250.79	8.26	4.85	3.56
WebRTC media	5	1.68	0.92	0.37	35.99	38.60	36.27	0.30	0.68	1.80

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-20 09:55:02
End at: 2019-02-20 09:55:32
Local clock offset: -62.246 ms
Remote clock offset: 3.966 ms


# Below is generated by plot.py at 2019-02-20 12:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 498.919 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 55.40 Mbit/s
95th percentile per-packet one-way delay: 460.013 ms
Loss rate: 2.63%
-- Flow 2:
Average throughput: 37.27 Mbit/s
95th percentile per-packet one-way delay: 652.591 ms
Loss rate: 4.36%
-- Flow 3:
Average throughput: 32.31 Mbit/s
95th percentile per-packet one-way delay: 601.465 ms
Loss rate: 8.50%
```
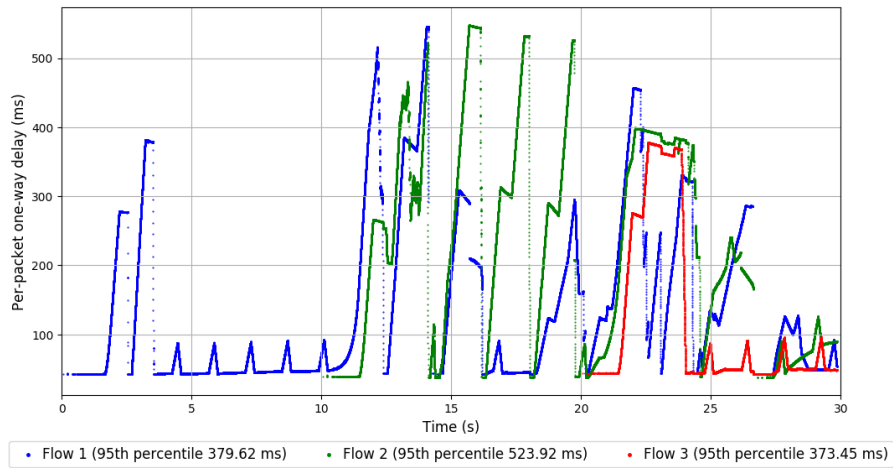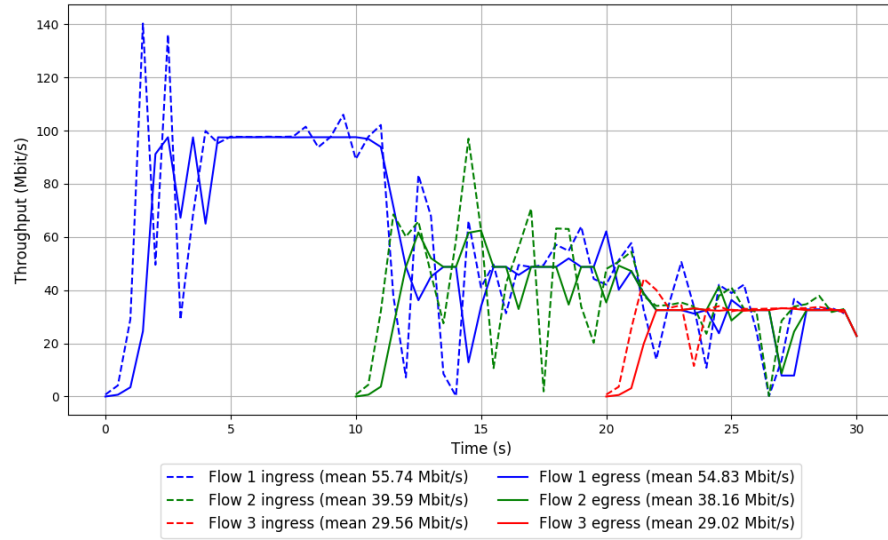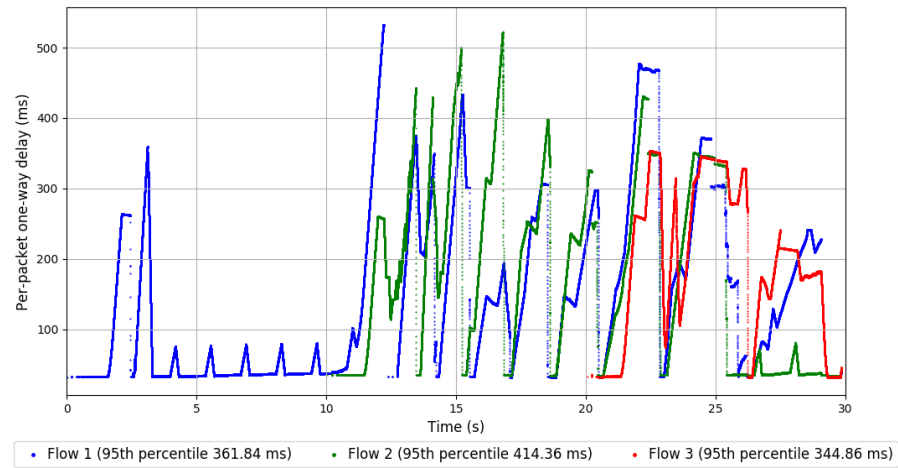
Run 1: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 56.56 Mbit/s) ——— Flow 1 egress (mean 55.40 Mbit/s)
- - - Flow 2 ingress (mean 38.63 Mbit/s) ——— Flow 2 egress (mean 37.27 Mbit/s)
- - - Flow 3 ingress (mean 34.68 Mbit/s) ——— Flow 3 egress (mean 32.31 Mbit/s)

• Flow 1 (95th percentile 460.01 ms)   • Flow 2 (95th percentile 652.59 ms)   • Flow 3 (95th percentile 601.47 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-20 10:22:08
End at: 2019-02-20 10:22:38
Local clock offset: -62.031 ms
Remote clock offset: 3.202 ms


# Below is generated by plot.py at 2019-02-20 12:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 421.666 ms
Loss rate: 3.01%
-- Flow 1:
Average throughput: 54.83 Mbit/s
95th percentile per-packet one-way delay: 379.617 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 38.16 Mbit/s
95th percentile per-packet one-way delay: 523.919 ms
Loss rate: 4.47%
-- Flow 3:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 373.449 ms
Loss rate: 3.57%
```
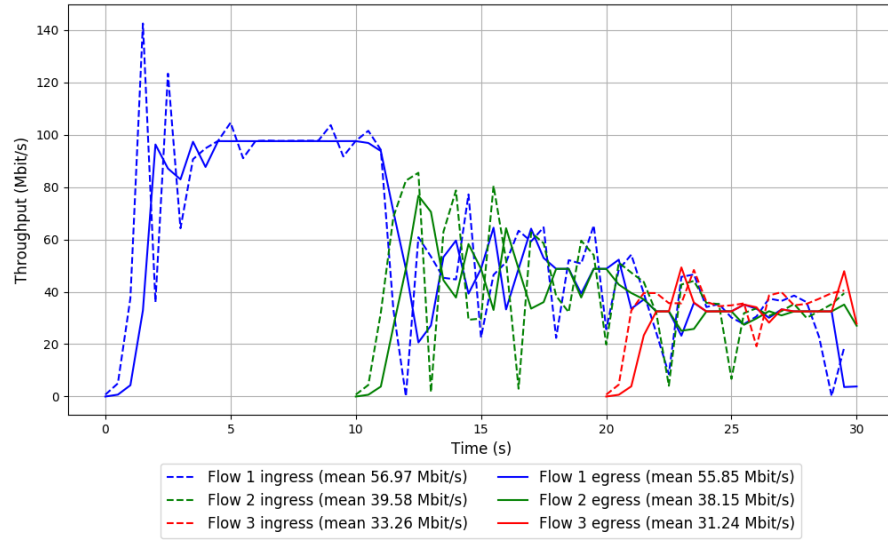
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-20 10:49:12
End at: 2019-02-20 10:49:42
Local clock offset: -57.824 ms
Remote clock offset: 7.066 ms


# Below is generated by plot.py at 2019-02-20 12:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.45 Mbit/s
95th percentile per-packet one-way delay: 370.408 ms
Loss rate: 3.67%
-- Flow 1:
Average throughput: 55.85 Mbit/s
95th percentile per-packet one-way delay: 361.843 ms
Loss rate: 2.53%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 414.357 ms
Loss rate: 4.46%
-- Flow 3:
Average throughput: 31.24 Mbit/s
95th percentile per-packet one-way delay: 344.860 ms
Loss rate: 7.68%
```
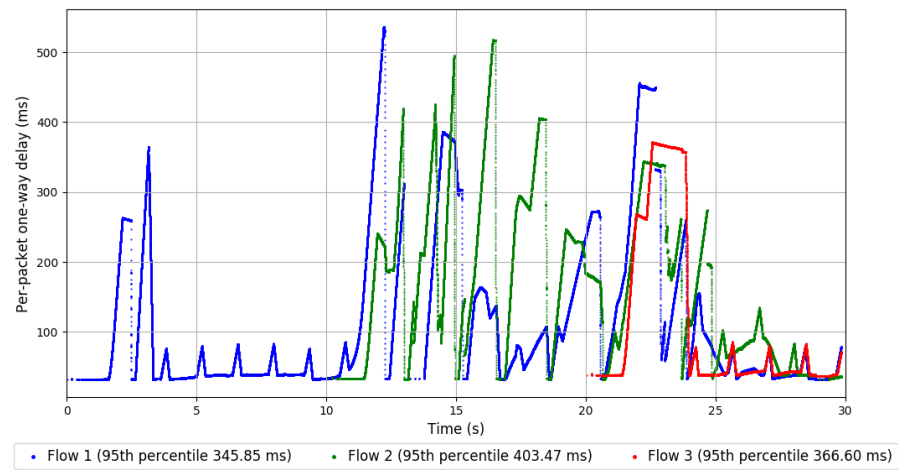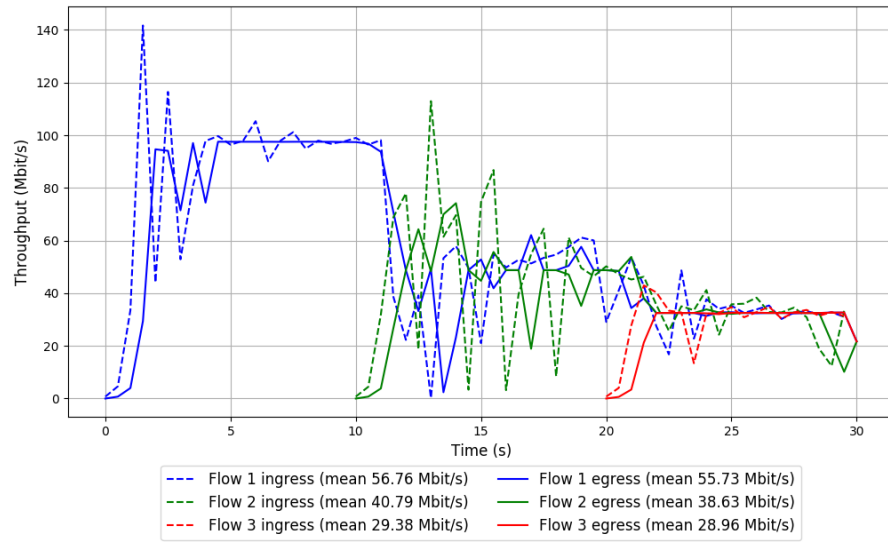
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 56.97 Mbit/s) — — — Flow 1 egress (mean 55.85 Mbit/s)
Flow 2 ingress (mean 39.58 Mbit/s) — — — Flow 2 egress (mean 38.15 Mbit/s)
Flow 3 ingress (mean 33.26 Mbit/s) — — — Flow 3 egress (mean 31.24 Mbit/s)

Flow 1 (95th percentile 361.84 ms)   Flow 2 (95th percentile 414.36 ms)   Flow 3 (95th percentile 344.86 ms)
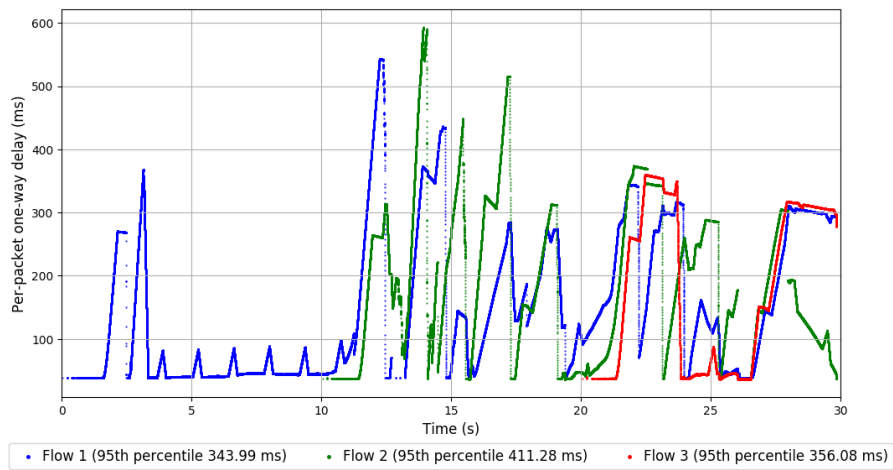
```
Run 4: Statistics of TCP BBR

Start at: 2019-02-20 11:16:17
End at: 2019-02-20 11:16:47
Local clock offset: -57.006 ms
Remote clock offset: 6.205 ms


# Below is generated by plot.py at 2019-02-20 12:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.91 Mbit/s
95th percentile per-packet one-way delay: 368.046 ms
Loss rate: 3.53%
-- Flow 1:
Average throughput: 55.73 Mbit/s
95th percentile per-packet one-way delay: 345.854 ms
Loss rate: 2.36%
-- Flow 2:
Average throughput: 38.63 Mbit/s
95th percentile per-packet one-way delay: 403.470 ms
Loss rate: 6.10%
-- Flow 3:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 366.604 ms
Loss rate: 3.18%
```
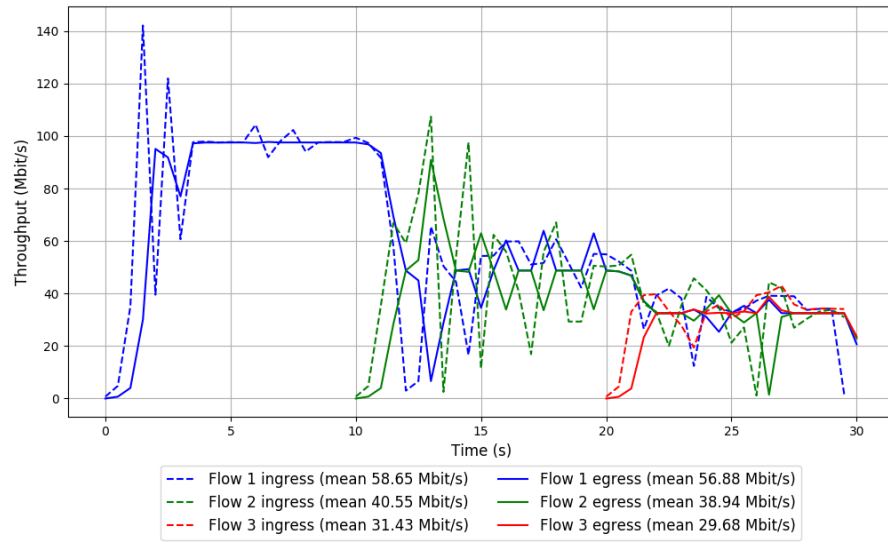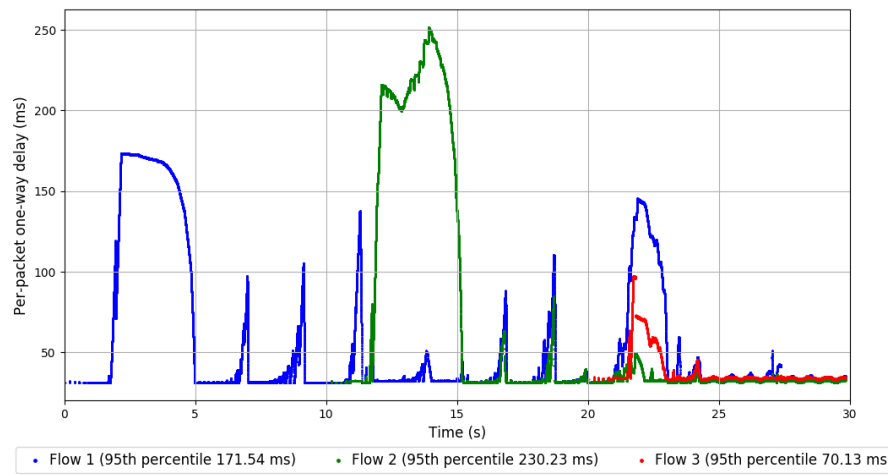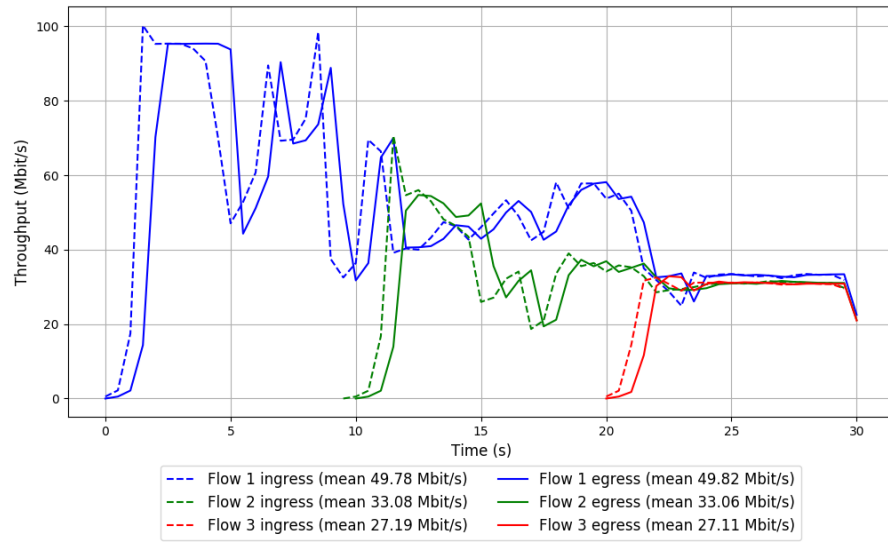
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 56.76 Mbit/s) --- Flow 1 egress (mean 55.73 Mbit/s)
Flow 2 ingress (mean 40.79 Mbit/s) --- Flow 2 egress (mean 38.63 Mbit/s)
Flow 3 ingress (mean 29.38 Mbit/s) --- Flow 3 egress (mean 28.96 Mbit/s)

Flow 1 (95th percentile 345.85 ms) · Flow 2 (95th percentile 403.47 ms) · Flow 3 (95th percentile 366.60 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-02-20 11:43:22
End at: 2019-02-20 11:43:52
Local clock offset: -56.927 ms
Remote clock offset: 1.805 ms


# Below is generated by plot.py at 2019-02-20 12:11:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 359.021 ms
Loss rate: 3.47%
-- Flow 1:
Average throughput: 56.88 Mbit/s
95th percentile per-packet one-way delay: 343.986 ms
Loss rate: 2.18%
-- Flow 2:
Average throughput: 38.94 Mbit/s
95th percentile per-packet one-way delay: 411.284 ms
Loss rate: 4.80%
-- Flow 3:
Average throughput: 29.68 Mbit/s
95th percentile per-packet one-way delay: 356.077 ms
Loss rate: 7.18%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.65 Mbit/s) — Flow 1 egress (mean 56.88 Mbit/s)
Flow 2 ingress (mean 40.55 Mbit/s) — Flow 2 egress (mean 38.94 Mbit/s)
Flow 3 ingress (mean 31.43 Mbit/s) — Flow 3 egress (mean 29.68 Mbit/s)

Flow 1 (95th percentile 343.99 ms)   Flow 2 (95th percentile 411.28 ms)   Flow 3 (95th percentile 356.08 ms)
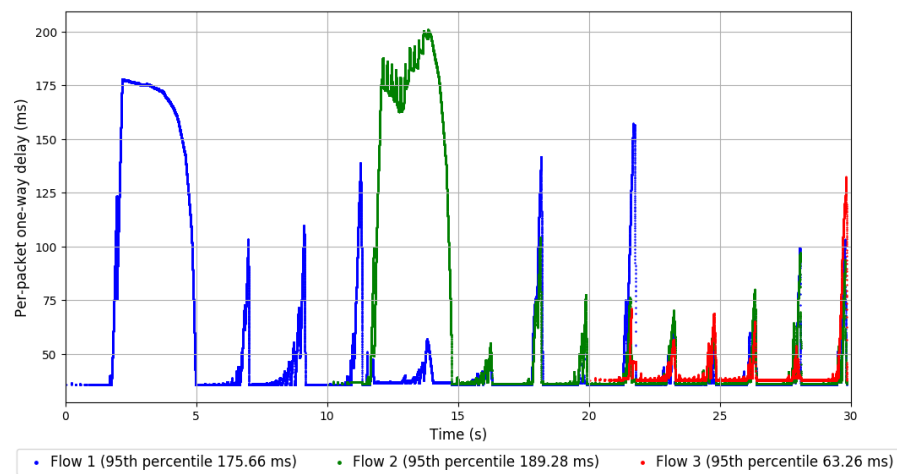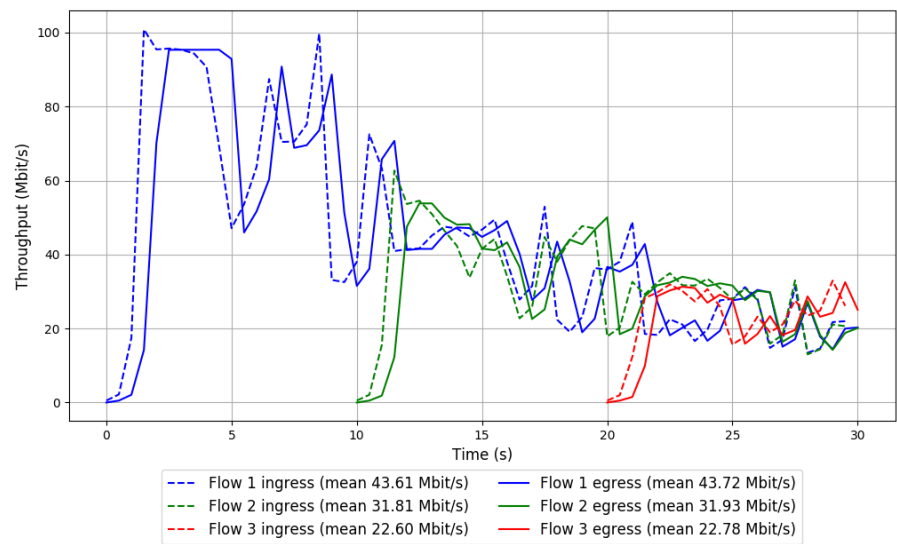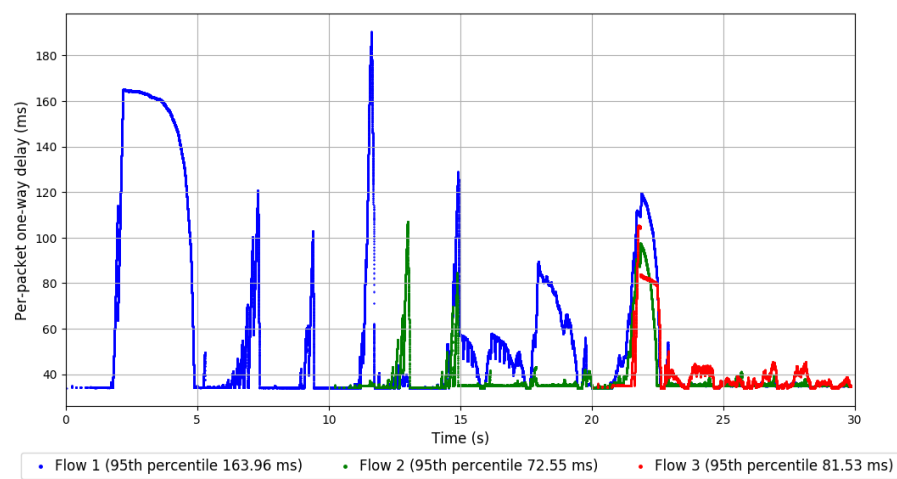
```
Run 1: Statistics of Copa

Start at: 2019-02-20 10:01:31
End at: 2019-02-20 10:02:01
Local clock offset: -62.346 ms
Remote clock offset: 8.113 ms


# Below is generated by plot.py at 2019-02-20 12:12:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.70 Mbit/s
95th percentile per-packet one-way delay: 204.938 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 49.82 Mbit/s
95th percentile per-packet one-way delay: 171.540 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 33.06 Mbit/s
95th percentile per-packet one-way delay: 230.231 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 27.11 Mbit/s
95th percentile per-packet one-way delay: 70.134 ms
Loss rate: 2.02%
```
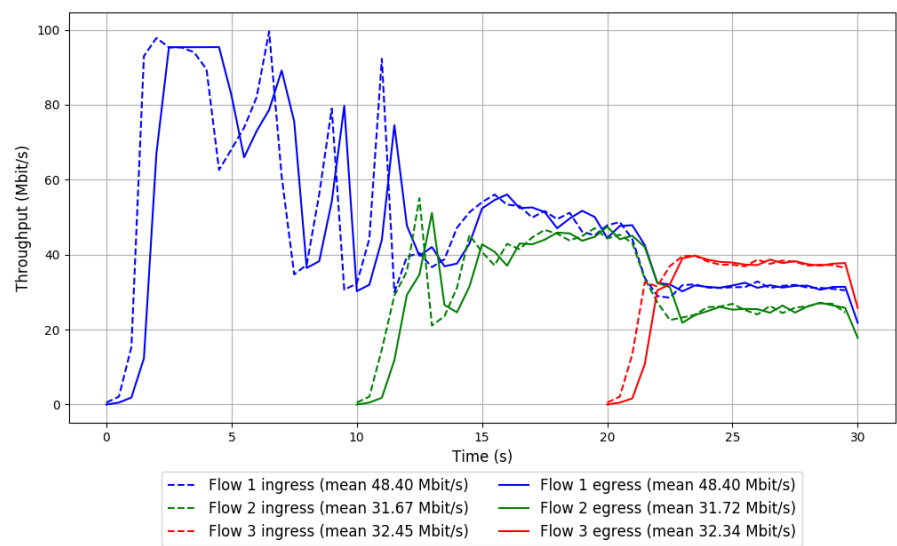
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 49.78 Mbit/s) —— Flow 1 egress (mean 49.82 Mbit/s)
Flow 2 ingress (mean 33.08 Mbit/s) —— Flow 2 egress (mean 33.06 Mbit/s)
Flow 3 ingress (mean 27.19 Mbit/s) —— Flow 3 egress (mean 27.11 Mbit/s)

• Flow 1 (95th percentile 171.54 ms) • Flow 2 (95th percentile 230.23 ms) • Flow 3 (95th percentile 70.13 ms)

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```
Run 2: Statistics of Copa

Start at: 2019-02-20 10:28:37
End at: 2019-02-20 10:29:07
Local clock offset: -62.065 ms
Remote clock offset: 3.401 ms


# Below is generated by plot.py at 2019-02-20 12:12:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 176.685 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 43.72 Mbit/s
95th percentile per-packet one-way delay: 175.655 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 189.280 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 22.78 Mbit/s
95th percentile per-packet one-way delay: 63.260 ms
Loss rate: 0.95%
```
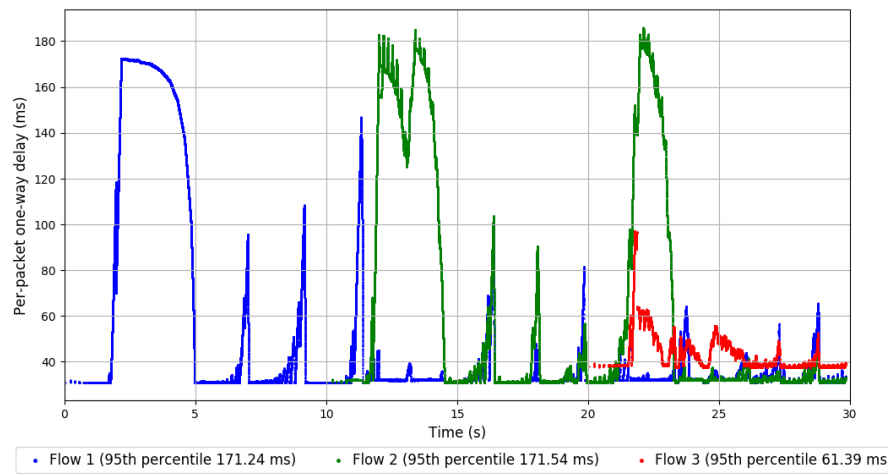
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 43.61 Mbit/s)   Flow 1 egress (mean 43.72 Mbit/s)
Flow 2 ingress (mean 31.81 Mbit/s)   Flow 2 egress (mean 31.93 Mbit/s)
Flow 3 ingress (mean 22.60 Mbit/s)   Flow 3 egress (mean 22.78 Mbit/s)

Flow 1 (95th percentile 175.66 ms)   Flow 2 (95th percentile 189.28 ms)   Flow 3 (95th percentile 63.26 ms)

```
Run 3: Statistics of Copa

Start at: 2019-02-20 10:55:41
End at: 2019-02-20 10:56:11
Local clock offset: -57.471 ms
Remote clock offset: 5.801 ms


# Below is generated by plot.py at 2019-02-20 12:12:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.11 Mbit/s
95th percentile per-packet one-way delay: 161.601 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 48.40 Mbit/s
95th percentile per-packet one-way delay: 163.956 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 31.72 Mbit/s
95th percentile per-packet one-way delay: 72.552 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 32.34 Mbit/s
95th percentile per-packet one-way delay: 81.528 ms
Loss rate: 2.02%
```
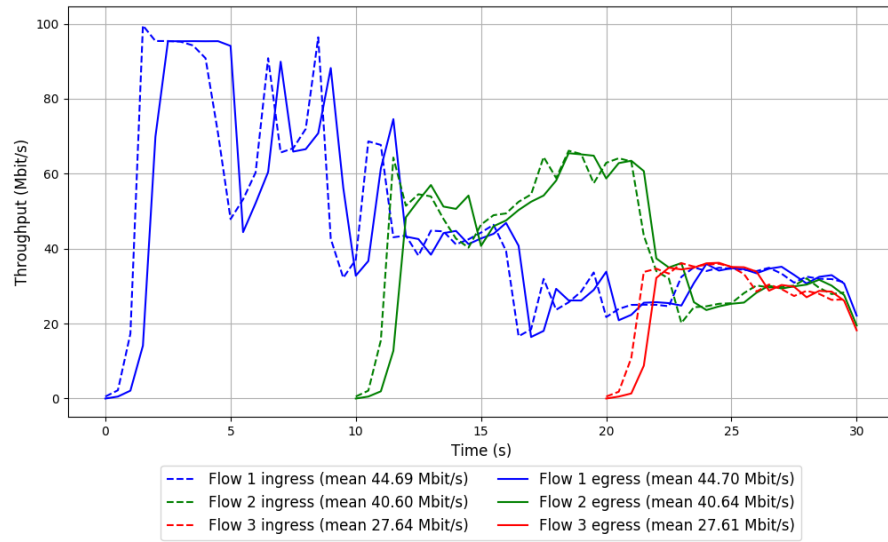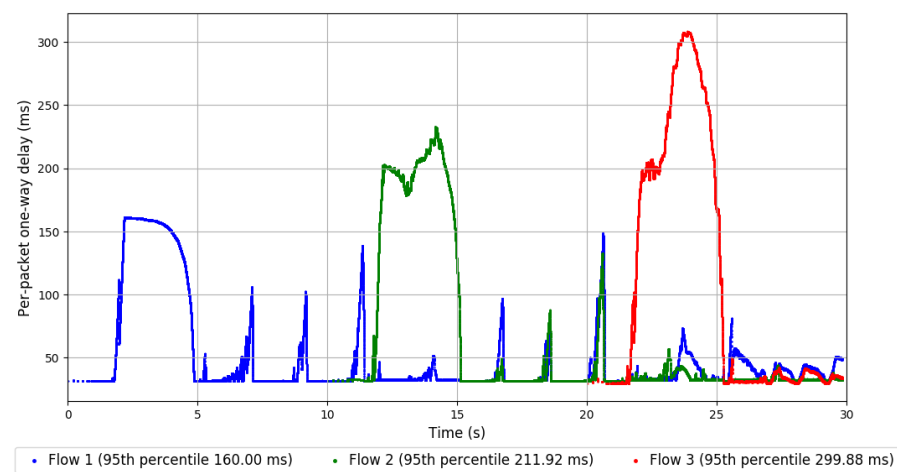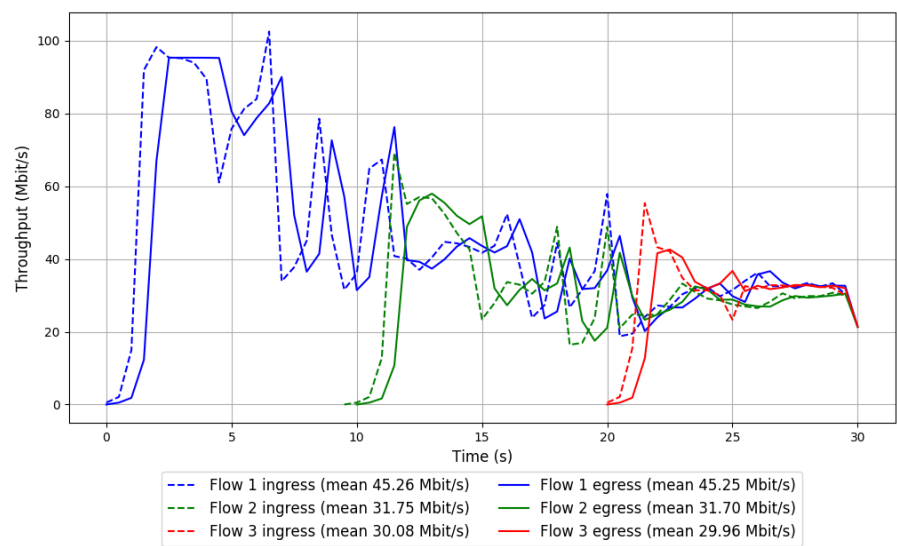
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 48.40 Mbit/s) — — — Flow 1 egress (mean 48.40 Mbit/s)
Flow 2 ingress (mean 31.67 Mbit/s) — — — Flow 2 egress (mean 31.72 Mbit/s)
Flow 3 ingress (mean 32.45 Mbit/s) — — — Flow 3 egress (mean 32.34 Mbit/s)

Flow 1 (95th percentile 163.96 ms)   Flow 2 (95th percentile 72.55 ms)   Flow 3 (95th percentile 81.53 ms)

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```
Run 4: Statistics of Copa

Start at: 2019-02-20 11:22:47
End at: 2019-02-20 11:23:17
Local clock offset: -56.44 ms
Remote clock offset: 6.071 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.77 Mbit/s
95th percentile per-packet one-way delay: 170.754 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 44.70 Mbit/s
95th percentile per-packet one-way delay: 171.238 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 171.536 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 61.387 ms
Loss rate: 1.87%
```
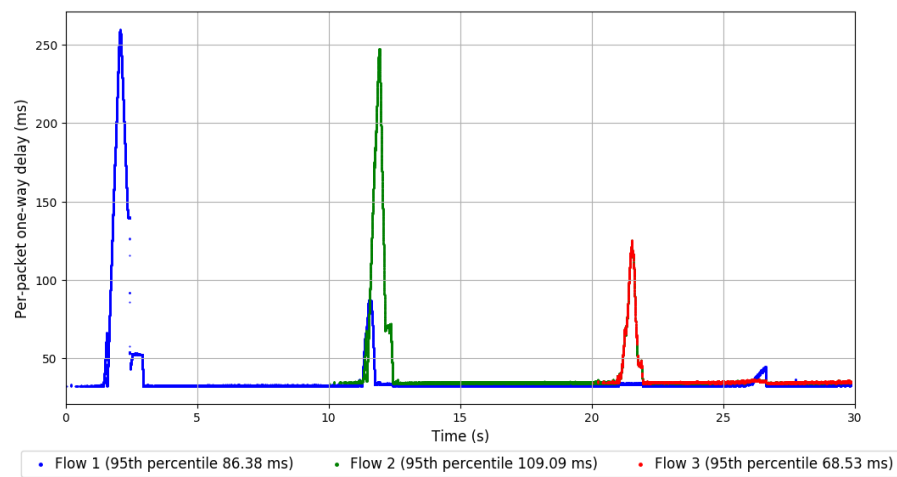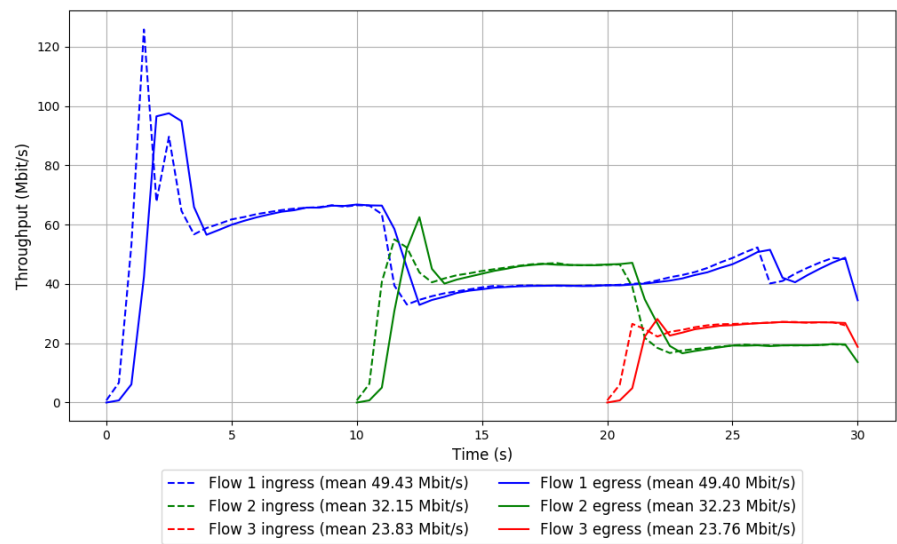
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 44.69 Mbit/s) --- Flow 1 egress (mean 44.70 Mbit/s)
Flow 2 ingress (mean 40.60 Mbit/s) --- Flow 2 egress (mean 40.64 Mbit/s)
Flow 3 ingress (mean 27.64 Mbit/s) --- Flow 3 egress (mean 27.61 Mbit/s)

Flow 1 (95th percentile 171.24 ms) • Flow 2 (95th percentile 171.54 ms) • Flow 3 (95th percentile 61.39 ms)

```
Run 5: Statistics of Copa

Start at: 2019-02-20 11:49:52
End at: 2019-02-20 11:50:22
Local clock offset: -56.979 ms
Remote clock offset: 8.155 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.17 Mbit/s
95th percentile per-packet one-way delay: 206.353 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 45.25 Mbit/s
95th percentile per-packet one-way delay: 160.003 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 31.70 Mbit/s
95th percentile per-packet one-way delay: 211.916 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 29.96 Mbit/s
95th percentile per-packet one-way delay: 299.878 ms
Loss rate: 2.10%
```
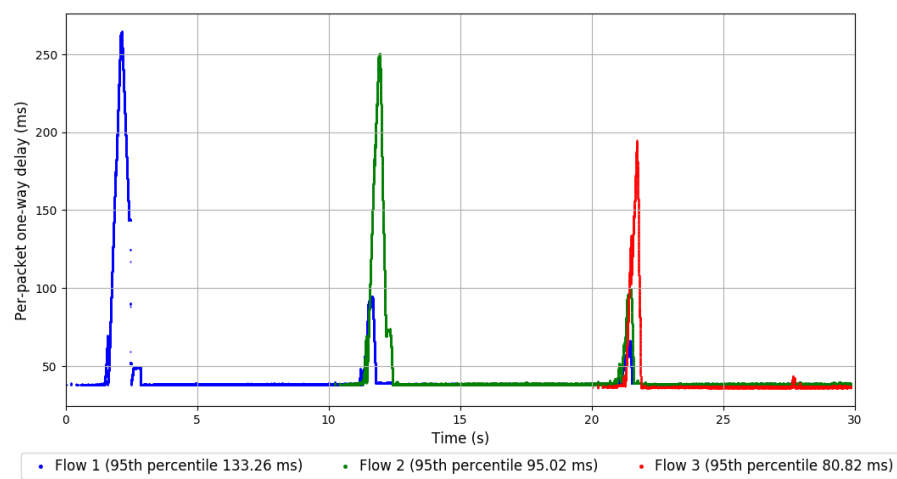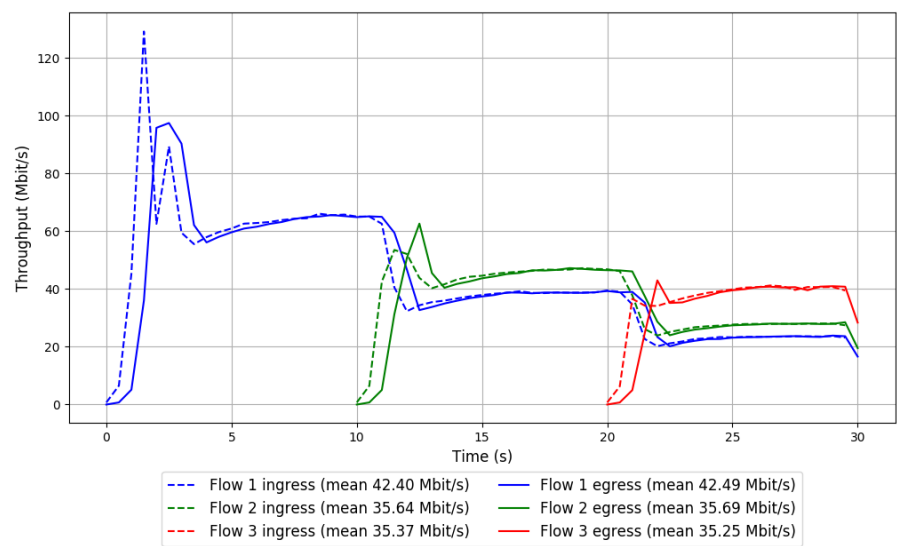
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-20 10:18:20
End at: 2019-02-20 10:18:50
Local clock offset: -61.994 ms
Remote clock offset: 7.246 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.61 Mbit/s
95th percentile per-packet one-way delay: 87.162 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 49.40 Mbit/s
95th percentile per-packet one-way delay: 86.384 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 32.23 Mbit/s
95th percentile per-packet one-way delay: 109.091 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 68.530 ms
Loss rate: 2.02%
```
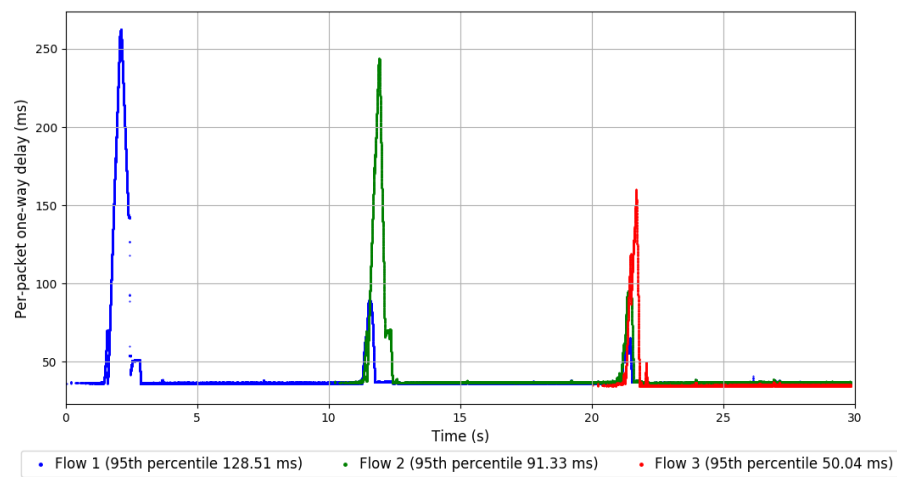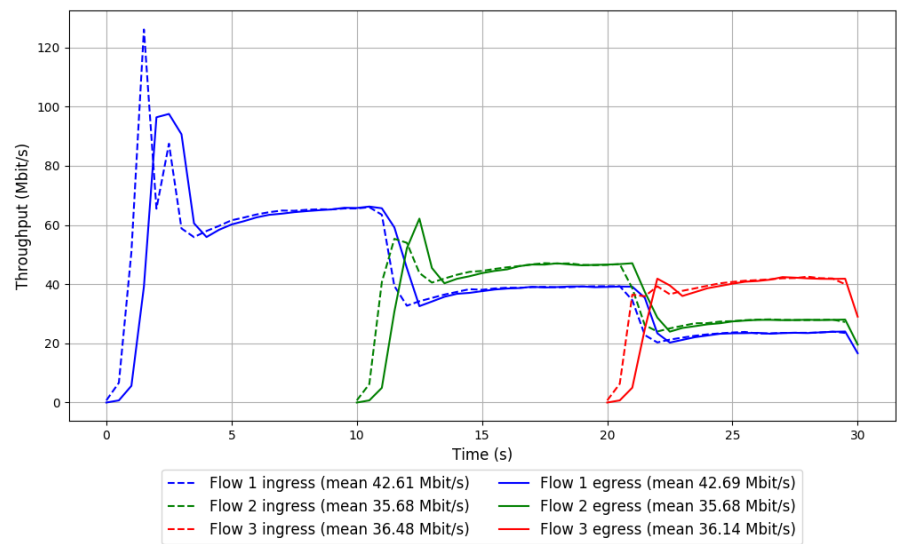
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-20 10:45:24
End at: 2019-02-20 10:45:54
Local clock offset: -58.143 ms
Remote clock offset: 3.369 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.76 Mbit/s
95th percentile per-packet one-way delay: 99.075 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 42.49 Mbit/s
95th percentile per-packet one-way delay: 133.264 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.69 Mbit/s
95th percentile per-packet one-way delay: 95.023 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 35.25 Mbit/s
95th percentile per-packet one-way delay: 80.816 ms
Loss rate: 2.04%
```
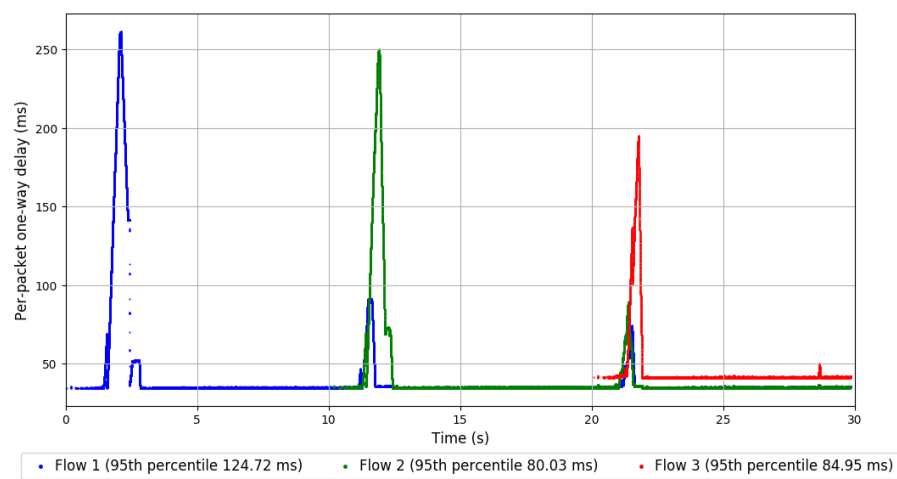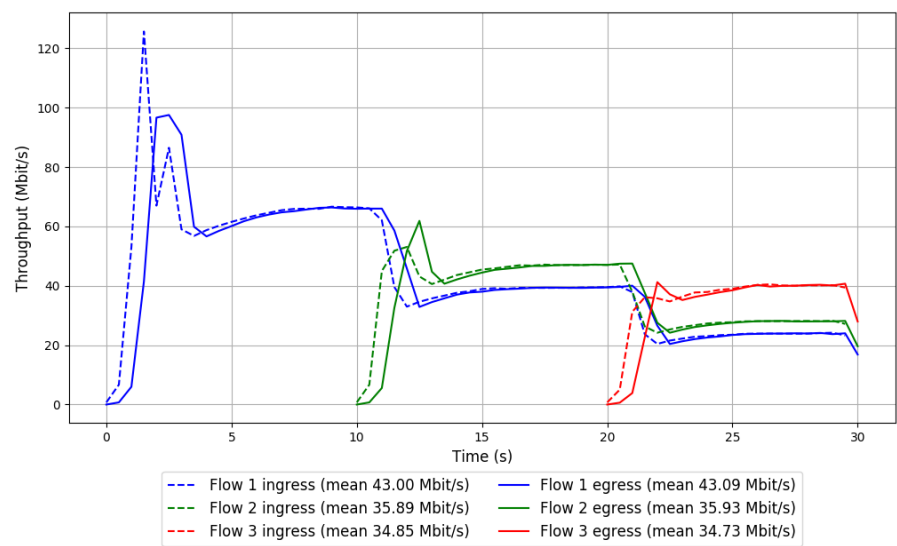
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 42.40 Mbit/s) --- Flow 1 egress (mean 42.49 Mbit/s)
Flow 2 ingress (mean 35.64 Mbit/s) --- Flow 2 egress (mean 35.69 Mbit/s)
Flow 3 ingress (mean 35.37 Mbit/s) --- Flow 3 egress (mean 35.25 Mbit/s)

Flow 1 (95th percentile 133.26 ms) • Flow 2 (95th percentile 95.02 ms) • Flow 3 (95th percentile 80.82 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-20 11:12:29
End at: 2019-02-20 11:12:59
Local clock offset: -57.143 ms
Remote clock offset: 2.494 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.26 Mbit/s
95th percentile per-packet one-way delay: 93.337 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 42.69 Mbit/s
95th percentile per-packet one-way delay: 128.511 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.68 Mbit/s
95th percentile per-packet one-way delay: 91.335 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 36.14 Mbit/s
95th percentile per-packet one-way delay: 50.036 ms
Loss rate: 2.61%
```
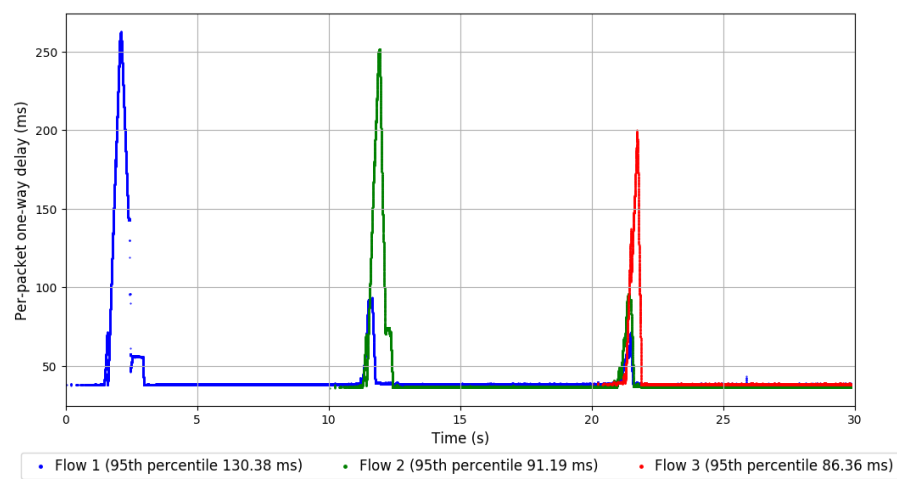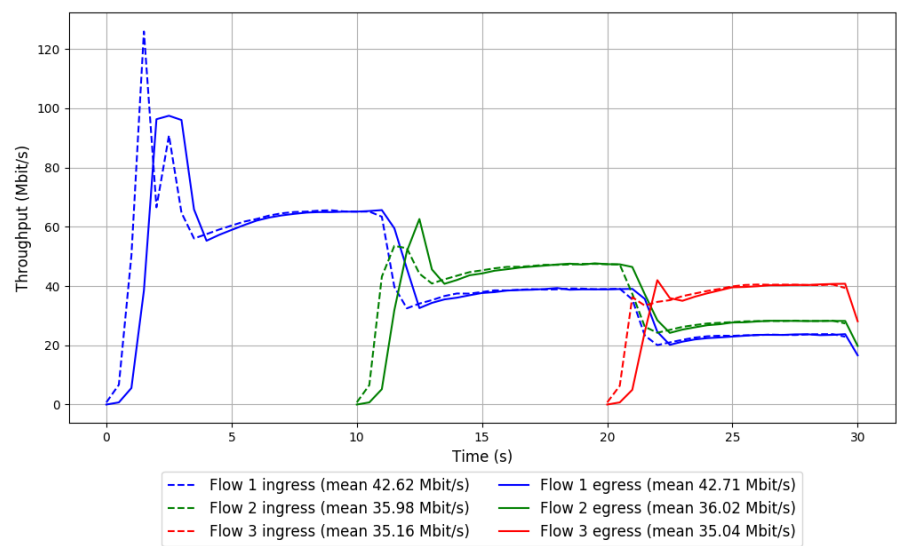
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 42.61 Mbit/s)   Flow 1 egress (mean 42.69 Mbit/s)
Flow 2 ingress (mean 35.68 Mbit/s)   Flow 2 egress (mean 35.68 Mbit/s)
Flow 3 ingress (mean 36.48 Mbit/s)   Flow 3 egress (mean 36.14 Mbit/s)

Flow 1 (95th percentile 128.51 ms)   Flow 2 (95th percentile 91.33 ms)   Flow 3 (95th percentile 50.04 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-20 11:39:35
End at: 2019-02-20 11:40:05
Local clock offset: -57.231 ms
Remote clock offset: 2.88 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 94.459 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 124.716 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 80.026 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 34.73 Mbit/s
95th percentile per-packet one-way delay: 84.951 ms
Loss rate: 2.11%
```
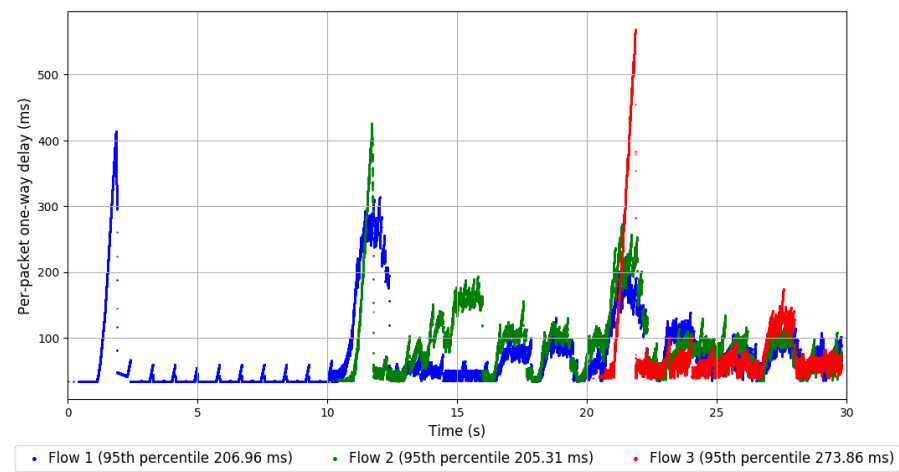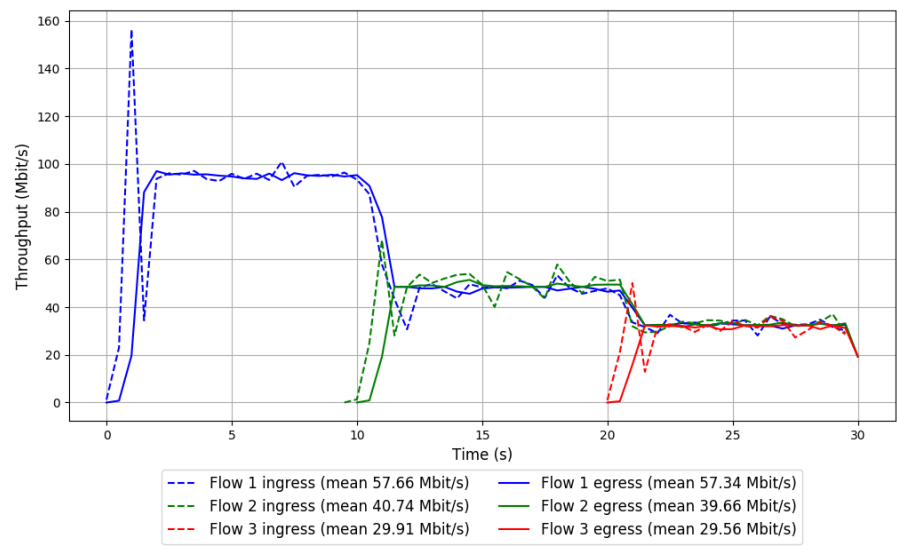
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 43.00 Mbit/s) --- Flow 1 egress (mean 43.09 Mbit/s)
Flow 2 ingress (mean 35.89 Mbit/s) --- Flow 2 egress (mean 35.93 Mbit/s)
Flow 3 ingress (mean 34.85 Mbit/s) --- Flow 3 egress (mean 34.73 Mbit/s)

Flow 1 (95th percentile 124.72 ms) • Flow 2 (95th percentile 80.03 ms) • Flow 3 (95th percentile 84.95 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-20 12:06:40
End at: 2019-02-20 12:07:10
Local clock offset: -59.758 ms
Remote clock offset: 2.955 ms


# Below is generated by plot.py at 2019-02-20 12:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.14 Mbit/s
95th percentile per-packet one-way delay: 97.374 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 42.71 Mbit/s
95th percentile per-packet one-way delay: 130.384 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 36.02 Mbit/s
95th percentile per-packet one-way delay: 91.191 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 35.04 Mbit/s
95th percentile per-packet one-way delay: 86.360 ms
Loss rate: 2.05%
```
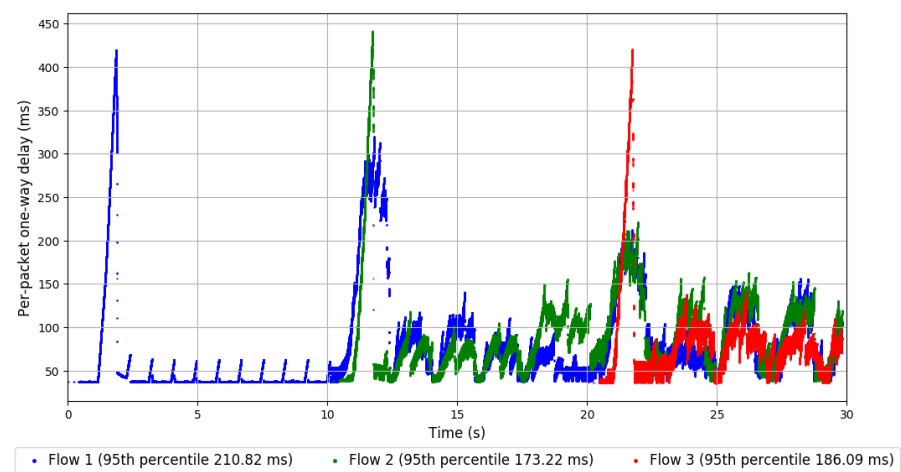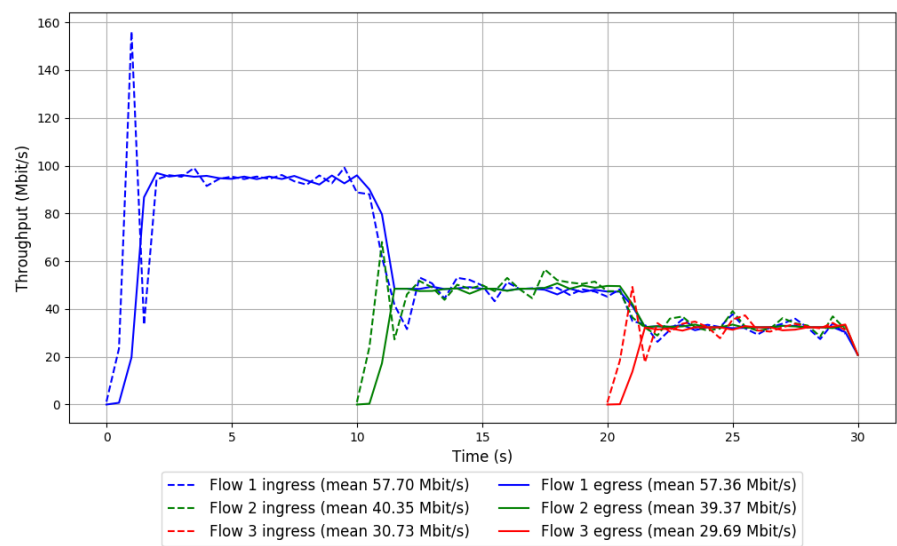
Run 5: Report of TCP Cubic — Data Link

- Flow 1 ingress (mean 42.62 Mbit/s) —— Flow 1 egress (mean 42.71 Mbit/s)
- Flow 2 ingress (mean 35.98 Mbit/s) —— Flow 2 egress (mean 36.02 Mbit/s)
- Flow 3 ingress (mean 35.16 Mbit/s) —— Flow 3 egress (mean 35.04 Mbit/s)

- Flow 1 (95th percentile 130.38 ms)
- Flow 2 (95th percentile 91.19 ms)
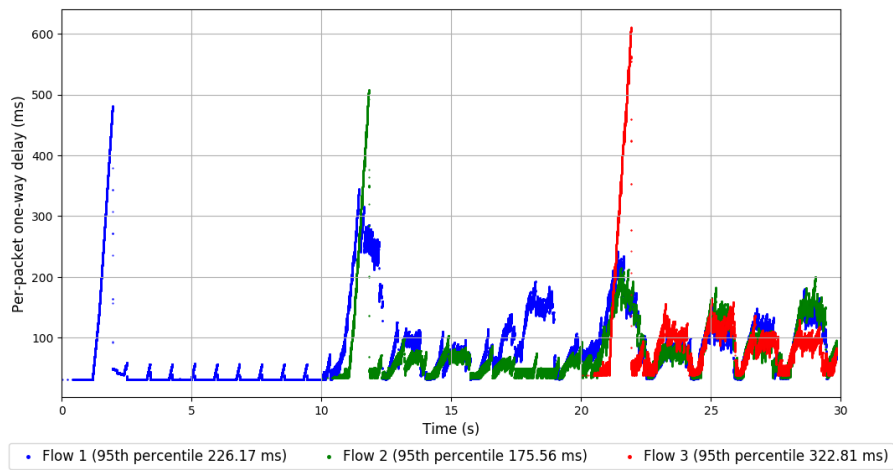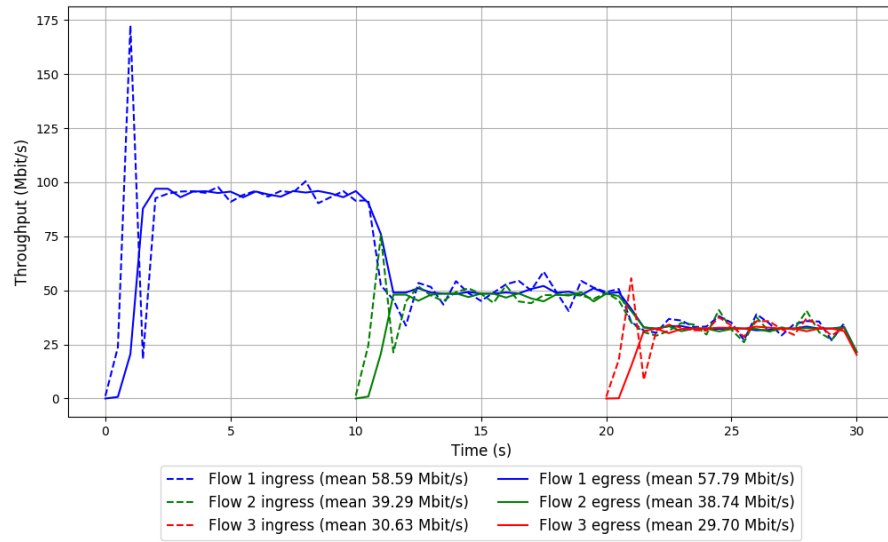- Flow 3 (95th percentile 86.36 ms)

```
Run 1: Statistics of FillP

Start at: 2019-02-20 10:05:28
End at: 2019-02-20 10:05:58
Local clock offset: -62.175 ms
Remote clock offset: 7.08 ms

# Below is generated by plot.py at 2019-02-20 12:13:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.37 Mbit/s
95th percentile per-packet one-way delay: 209.324 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 57.34 Mbit/s
95th percentile per-packet one-way delay: 206.961 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 205.306 ms
Loss rate: 3.49%
-- Flow 3:
Average throughput: 29.56 Mbit/s
95th percentile per-packet one-way delay: 273.864 ms
Loss rate: 2.85%
```
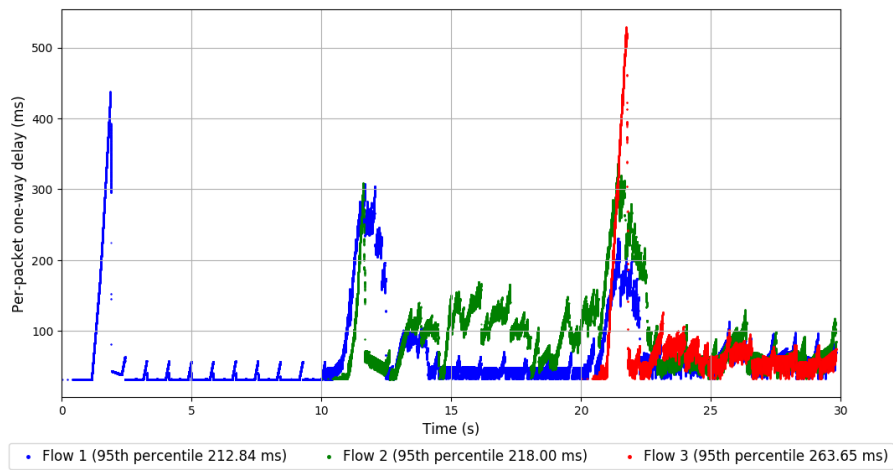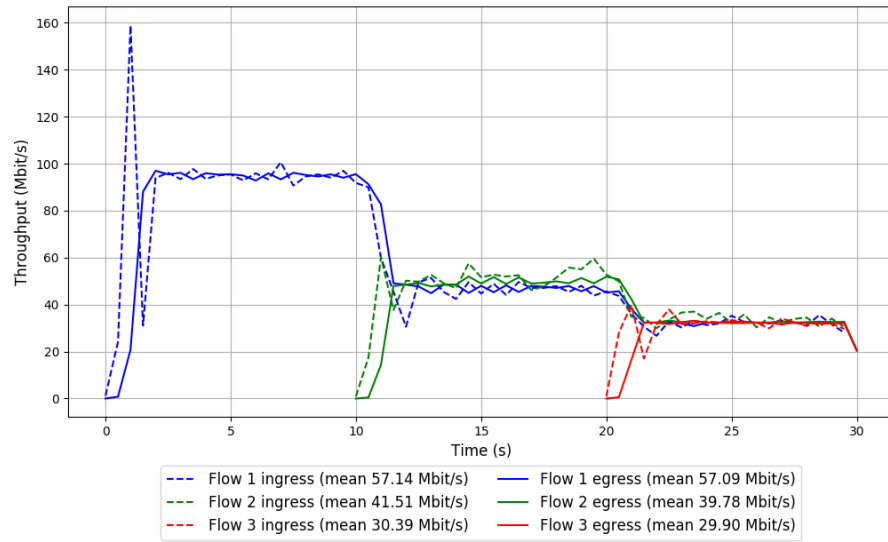
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 57.66 Mbit/s) --- Flow 1 egress (mean 57.34 Mbit/s)
Flow 2 ingress (mean 40.74 Mbit/s) --- Flow 2 egress (mean 39.66 Mbit/s)
Flow 3 ingress (mean 29.91 Mbit/s) --- Flow 3 egress (mean 29.56 Mbit/s)

Flow 1 (95th percentile 206.96 ms) • Flow 2 (95th percentile 205.31 ms) • Flow 3 (95th percentile 273.86 ms)

```
Run 2: Statistics of FillP

Start at: 2019-02-20 10:32:32
End at: 2019-02-20 10:33:02
Local clock offset: -60.978 ms
Remote clock offset: 3.432 ms


# Below is generated by plot.py at 2019-02-20 12:13:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.24 Mbit/s
95th percentile per-packet one-way delay: 190.002 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 57.36 Mbit/s
95th percentile per-packet one-way delay: 210.821 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 173.223 ms
Loss rate: 3.24%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 186.085 ms
Loss rate: 4.90%
```
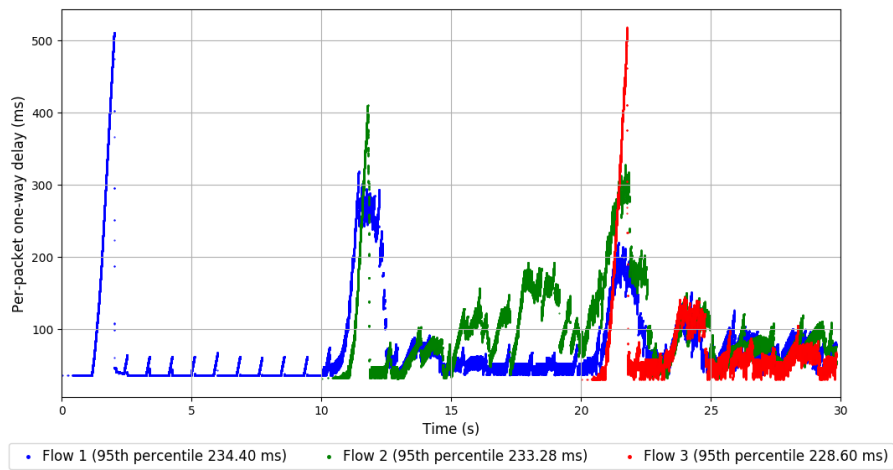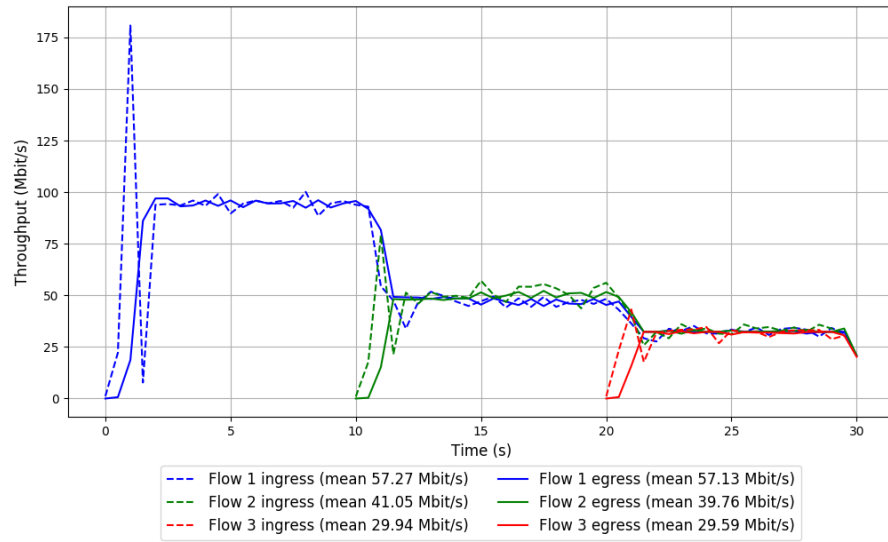
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-02-20 10:59:37
End at: 2019-02-20 11:00:07
Local clock offset: -57.059 ms
Remote clock offset: 6.681 ms

# Below is generated by plot.py at 2019-02-20 12:13:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 211.202 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 57.79 Mbit/s
95th percentile per-packet one-way delay: 226.171 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 175.561 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 29.70 Mbit/s
95th percentile per-packet one-way delay: 322.814 ms
Loss rate: 4.67%
```

Run 3: Report of FillP — Data Link

- Flow 1 ingress (mean 58.59 Mbit/s)
- Flow 1 egress (mean 57.79 Mbit/s)
- Flow 2 ingress (mean 39.29 Mbit/s)
- Flow 2 egress (mean 38.74 Mbit/s)
- Flow 3 ingress (mean 30.63 Mbit/s)
- Flow 3 egress (mean 29.70 Mbit/s)

- Flow 1 (95th percentile 226.17 ms)
- Flow 2 (95th percentile 175.56 ms)
- Flow 3 (95th percentile 322.81 ms)
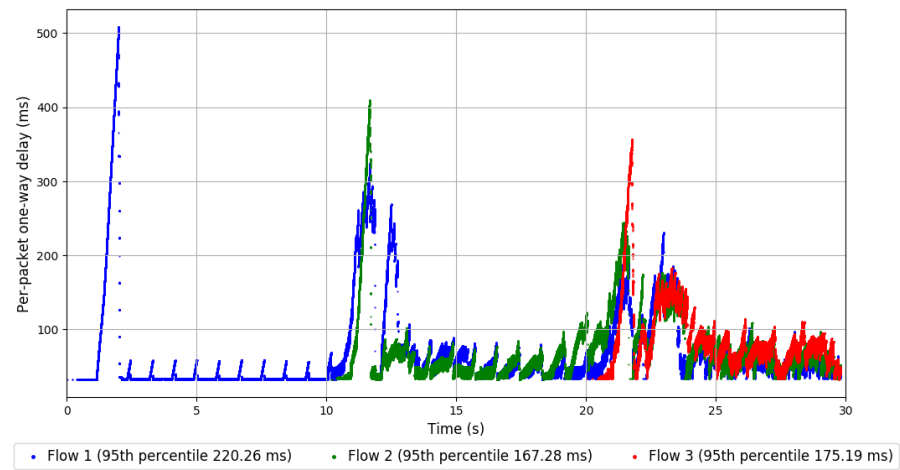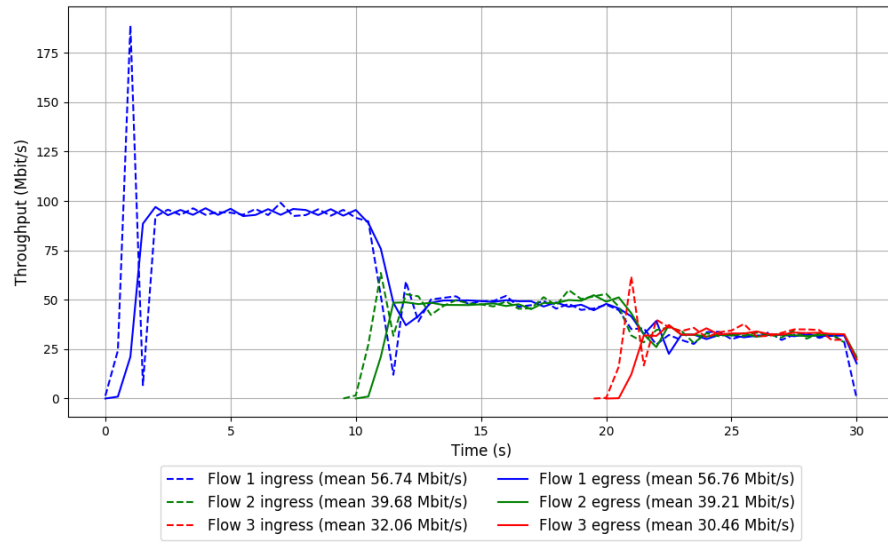
```
Run 4: Statistics of FillP

Start at: 2019-02-20 11:26:44
End at: 2019-02-20 11:27:14
Local clock offset: -56.209 ms
Remote clock offset: 7.47 ms

# Below is generated by plot.py at 2019-02-20 12:13:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.32 Mbit/s
95th percentile per-packet one-way delay: 216.771 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 57.09 Mbit/s
95th percentile per-packet one-way delay: 212.837 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 39.78 Mbit/s
95th percentile per-packet one-way delay: 217.997 ms
Loss rate: 4.89%
-- Flow 3:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 263.649 ms
Loss rate: 3.19%
```
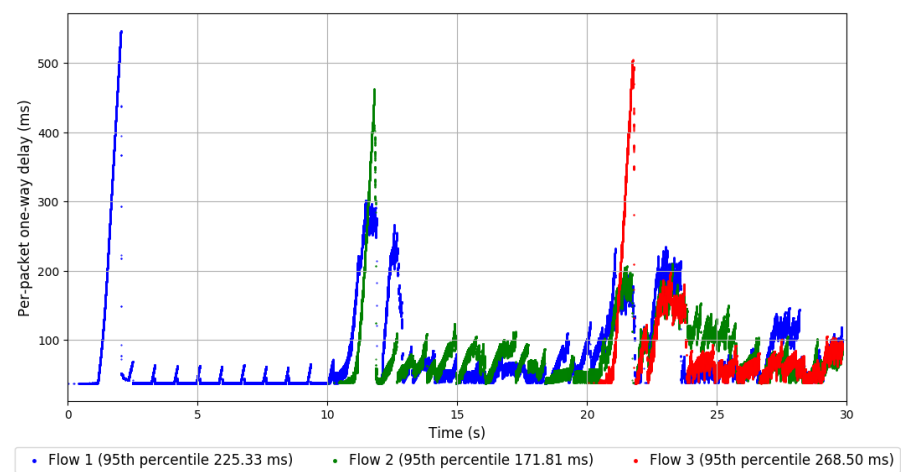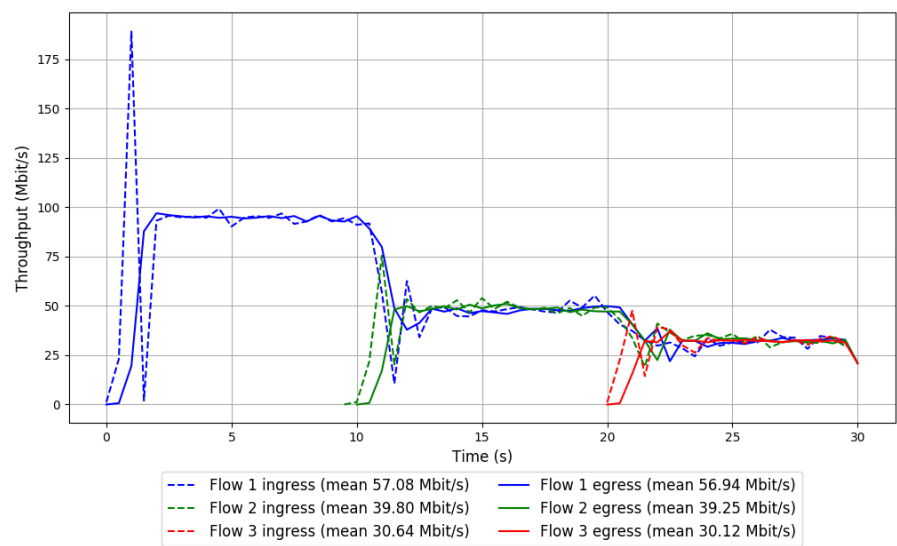
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 57.14 Mbit/s) --- Flow 1 egress (mean 57.09 Mbit/s)
Flow 2 ingress (mean 41.51 Mbit/s) --- Flow 2 egress (mean 39.78 Mbit/s)
Flow 3 ingress (mean 30.39 Mbit/s) --- Flow 3 egress (mean 29.90 Mbit/s)

Flow 1 (95th percentile 212.84 ms)   Flow 2 (95th percentile 218.00 ms)   Flow 3 (95th percentile 263.65 ms)

```
Run 5: Statistics of FillP

Start at: 2019-02-20 11:53:48
End at: 2019-02-20 11:54:18
Local clock offset: -56.904 ms
Remote clock offset: 8.049 ms

# Below is generated by plot.py at 2019-02-20 12:14:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.26 Mbit/s
95th percentile per-packet one-way delay: 233.659 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 234.402 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 233.278 ms
Loss rate: 3.92%
-- Flow 3:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 228.603 ms
Loss rate: 2.82%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 57.27 Mbit/s) — Flow 1 egress (mean 57.13 Mbit/s)
Flow 2 ingress (mean 41.05 Mbit/s) — Flow 2 egress (mean 39.76 Mbit/s)
Flow 3 ingress (mean 29.94 Mbit/s) — Flow 3 egress (mean 29.59 Mbit/s)

Flow 1 (95th percentile 234.40 ms) · Flow 2 (95th percentile 233.28 ms) · Flow 3 (95th percentile 228.60 ms)

44

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-20 10:11:52
End at: 2019-02-20 10:12:22
Local clock offset: -62.068 ms
Remote clock offset: 8.695 ms


# Below is generated by plot.py at 2019-02-20 12:14:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 200.851 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 56.76 Mbit/s
95th percentile per-packet one-way delay: 220.263 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 167.284 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 30.46 Mbit/s
95th percentile per-packet one-way delay: 175.189 ms
Loss rate: 6.66%
```
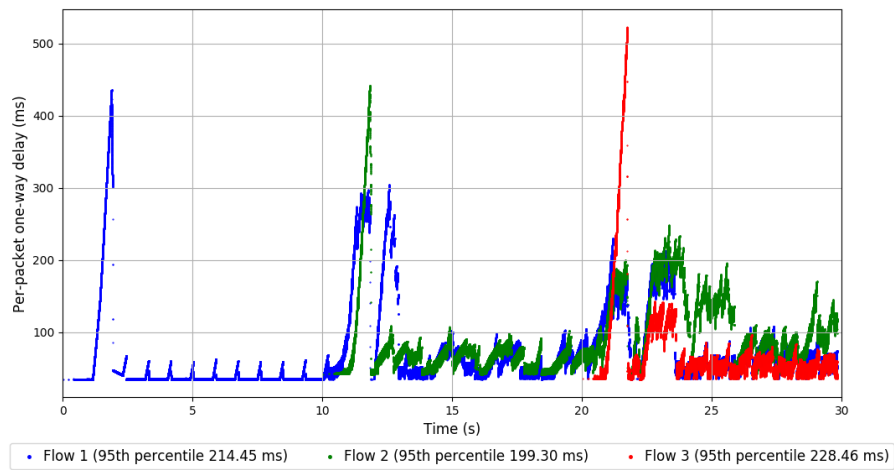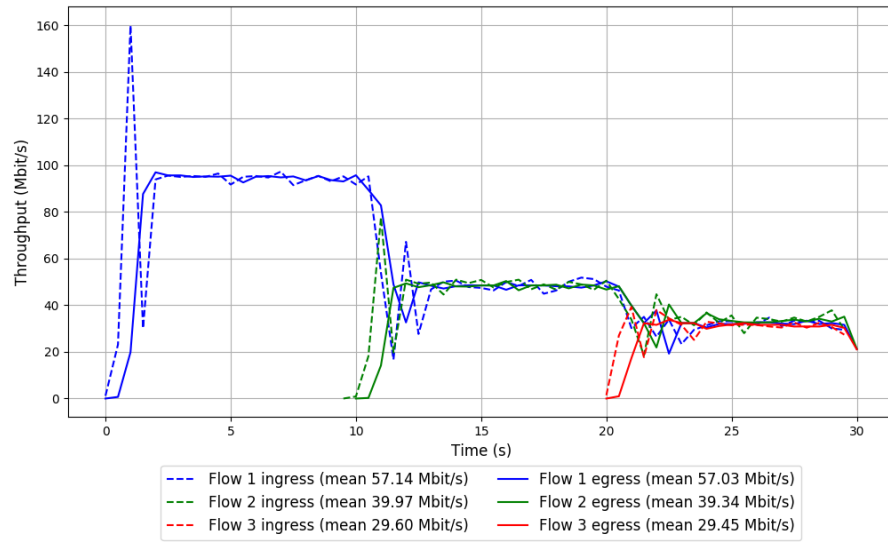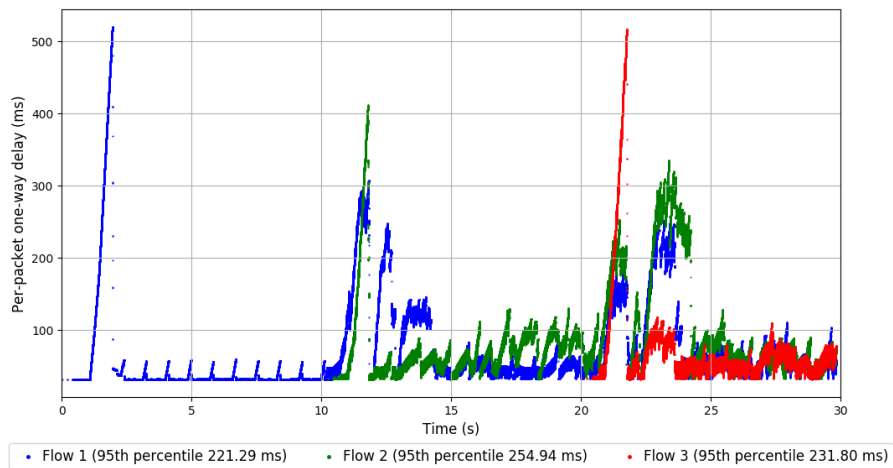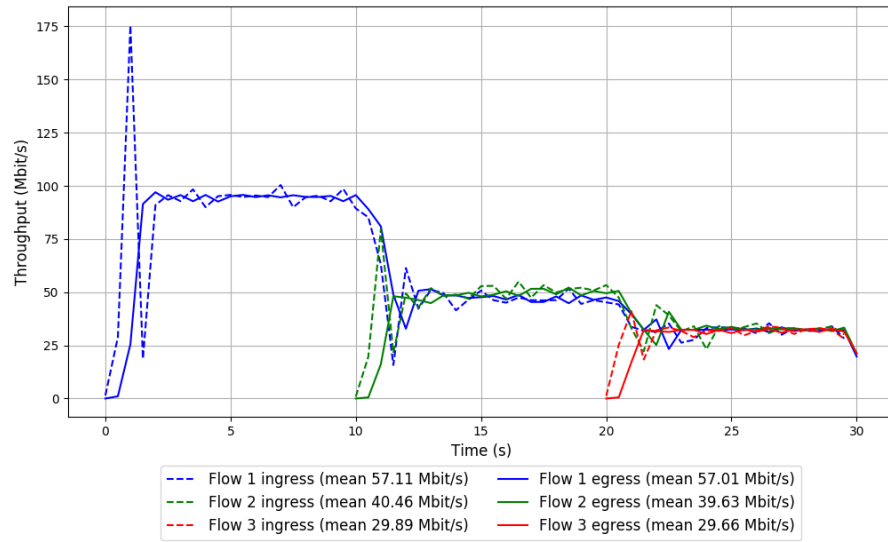
Run 1: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 56.74 Mbit/s)   —— Flow 1 egress (mean 56.76 Mbit/s)
- - - - Flow 2 ingress (mean 39.68 Mbit/s)   —— Flow 2 egress (mean 39.21 Mbit/s)
- - - - Flow 3 ingress (mean 32.06 Mbit/s)   —— Flow 3 egress (mean 30.46 Mbit/s)

• Flow 1 (95th percentile 220.26 ms)   • Flow 2 (95th percentile 167.28 ms)   • Flow 3 (95th percentile 175.19 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-20 10:38:57
End at: 2019-02-20 10:39:27
Local clock offset: -59.178 ms
Remote clock offset: 3.432 ms


# Below is generated by plot.py at 2019-02-20 12:14:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.89 Mbit/s
95th percentile per-packet one-way delay: 211.404 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 56.94 Mbit/s
95th percentile per-packet one-way delay: 225.331 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 171.808 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 30.12 Mbit/s
95th percentile per-packet one-way delay: 268.495 ms
Loss rate: 3.38%
```
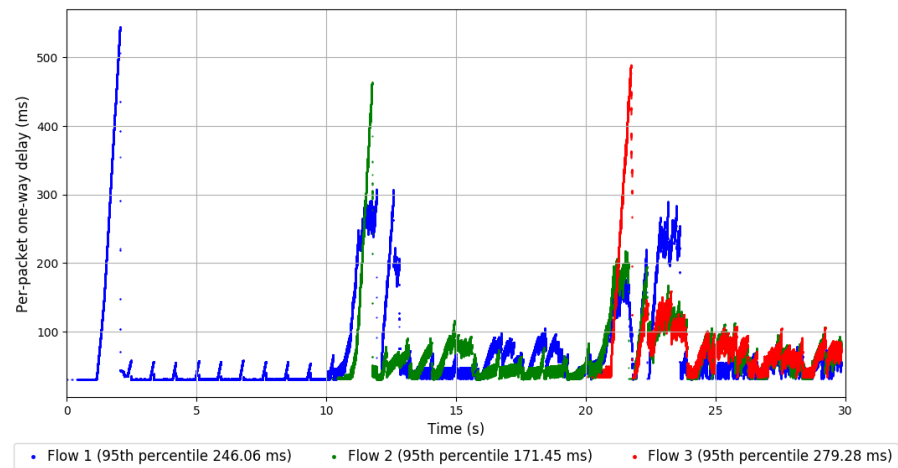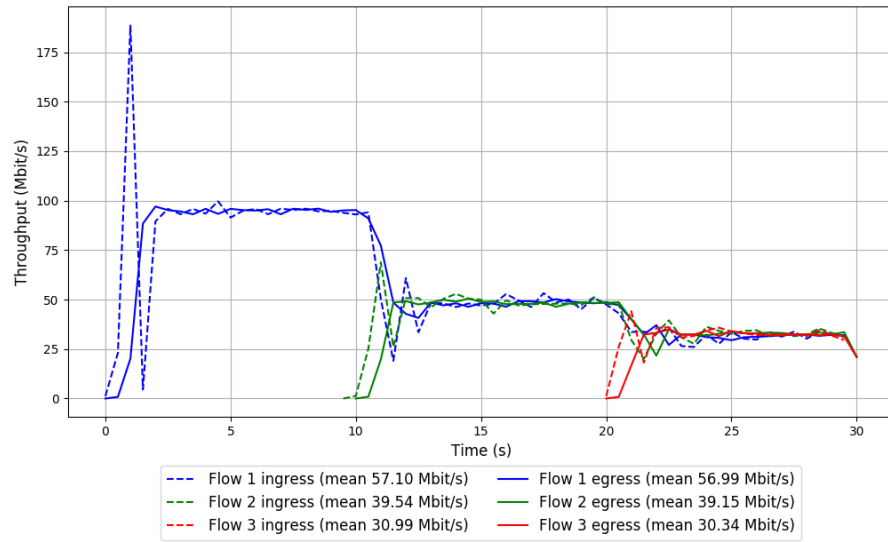
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 57.08 Mbit/s) --- Flow 1 egress (mean 56.94 Mbit/s)
Flow 2 ingress (mean 39.80 Mbit/s) --- Flow 2 egress (mean 39.25 Mbit/s)
Flow 3 ingress (mean 30.64 Mbit/s) --- Flow 3 egress (mean 30.12 Mbit/s)

Flow 1 (95th percentile 225.33 ms) • Flow 2 (95th percentile 171.81 ms) • Flow 3 (95th percentile 268.50 ms)

48

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-20 11:06:02
End at: 2019-02-20 11:06:32
Local clock offset: -56.89 ms
Remote clock offset: 2.824 ms


# Below is generated by plot.py at 2019-02-20 12:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 206.142 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 57.03 Mbit/s
95th percentile per-packet one-way delay: 214.453 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 199.297 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 29.45 Mbit/s
95th percentile per-packet one-way delay: 228.463 ms
Loss rate: 2.17%
```

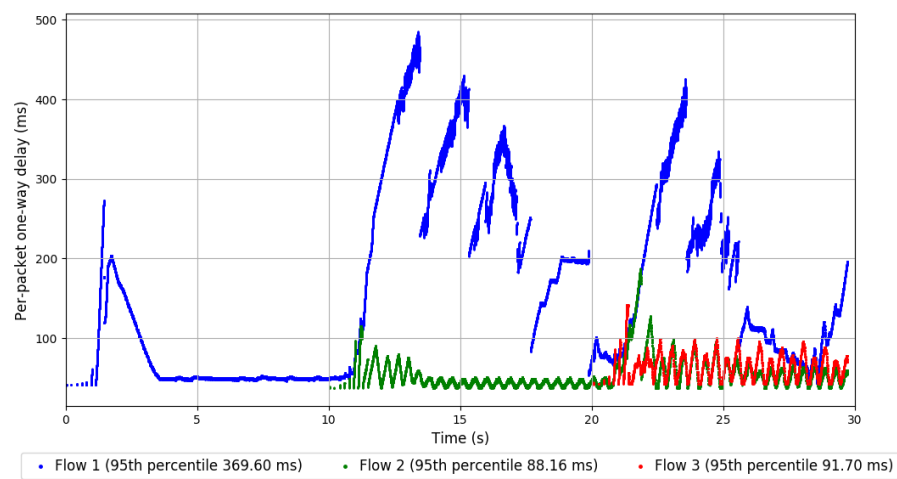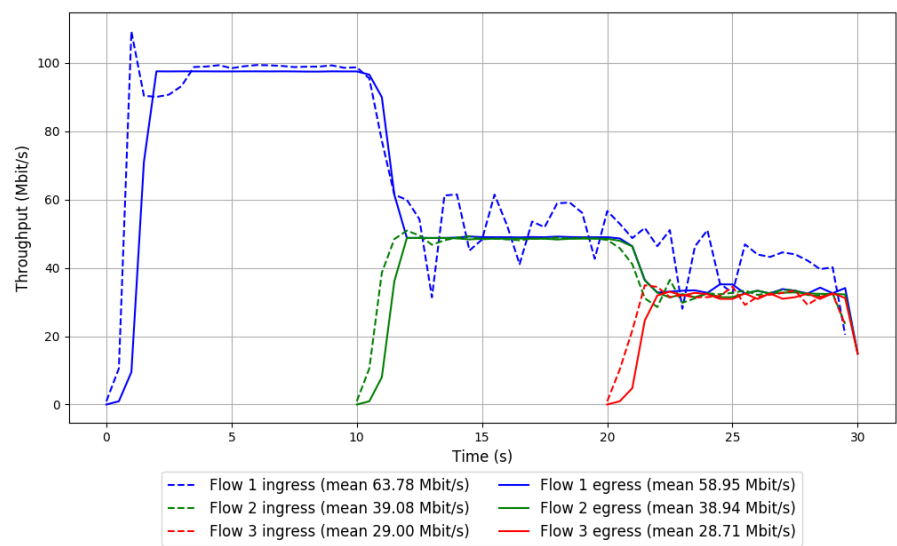# Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 57.14 Mbit/s) — — — Flow 1 egress (mean 57.03 Mbit/s)
Flow 2 ingress (mean 39.97 Mbit/s) — — — Flow 2 egress (mean 39.34 Mbit/s)
Flow 3 ingress (mean 29.60 Mbit/s) — — — Flow 3 egress (mean 29.45 Mbit/s)

Flow 1 (95th percentile 214.45 ms) Flow 2 (95th percentile 199.30 ms) Flow 3 (95th percentile 228.46 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-20 11:33:08
End at: 2019-02-20 11:33:38
Local clock offset: -56.508 ms
Remote clock offset: 7.713 ms


# Below is generated by plot.py at 2019-02-20 12:14:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 236.387 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 57.01 Mbit/s
95th percentile per-packet one-way delay: 221.287 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 39.63 Mbit/s
95th percentile per-packet one-way delay: 254.942 ms
Loss rate: 2.75%
-- Flow 3:
Average throughput: 29.66 Mbit/s
95th percentile per-packet one-way delay: 231.798 ms
Loss rate: 2.41%
```

Run 4: Report of FillP-Sheep — Data Link
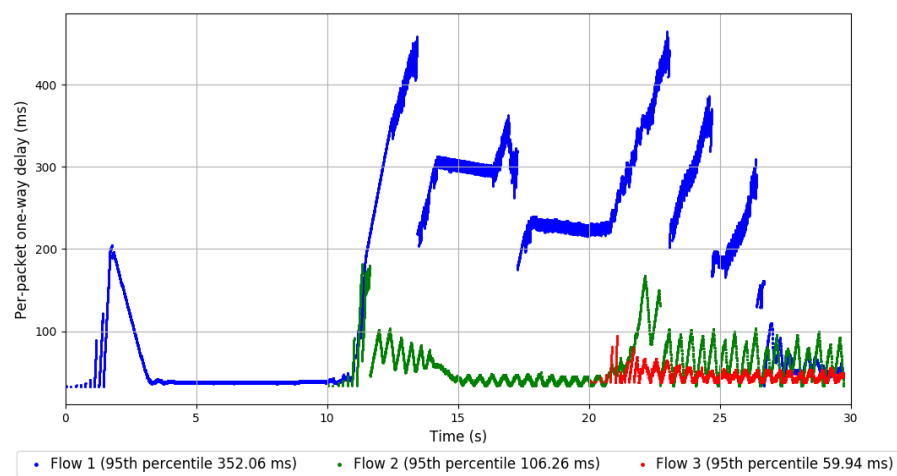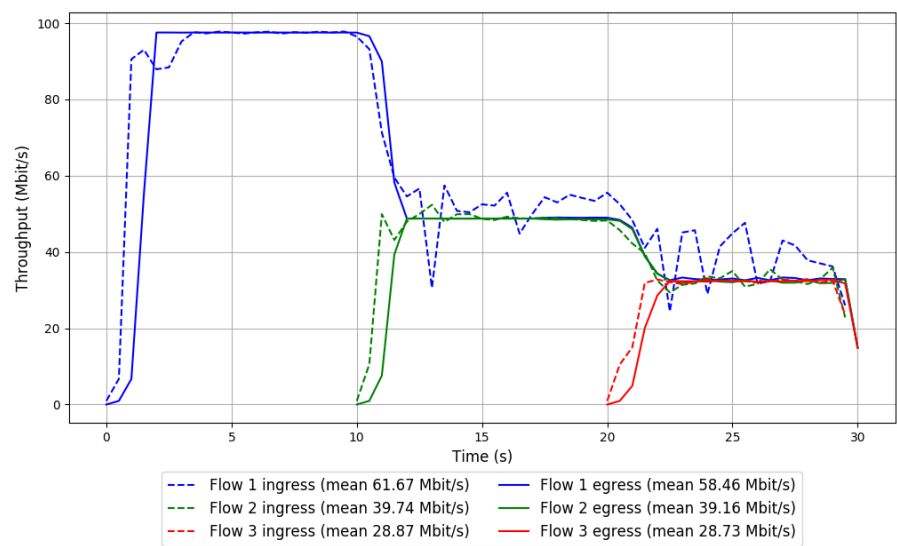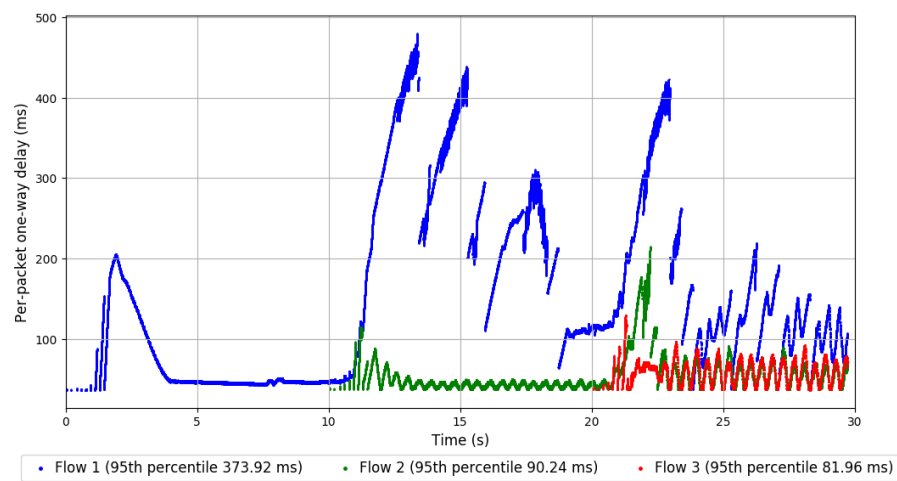

- - - Flow 1 ingress (mean 57.11 Mbit/s) —— Flow 1 egress (mean 57.01 Mbit/s)
- - - Flow 2 ingress (mean 40.46 Mbit/s) —— Flow 2 egress (mean 39.63 Mbit/s)
- - - Flow 3 ingress (mean 29.89 Mbit/s) —— Flow 3 egress (mean 29.66 Mbit/s)

• Flow 1 (95th percentile 221.29 ms)   • Flow 2 (95th percentile 254.94 ms)   • Flow 3 (95th percentile 231.80 ms)

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```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-20 12:00:13
End at: 2019-02-20 12:00:43
Local clock offset: -57.05 ms
Remote clock offset: 8.571 ms


# Below is generated by plot.py at 2019-02-20 12:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 230.152 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 56.99 Mbit/s
95th percentile per-packet one-way delay: 246.058 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 39.15 Mbit/s
95th percentile per-packet one-way delay: 171.446 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 279.283 ms
Loss rate: 3.78%
```

Run 5: Report of FillP-Sheep — Data Link
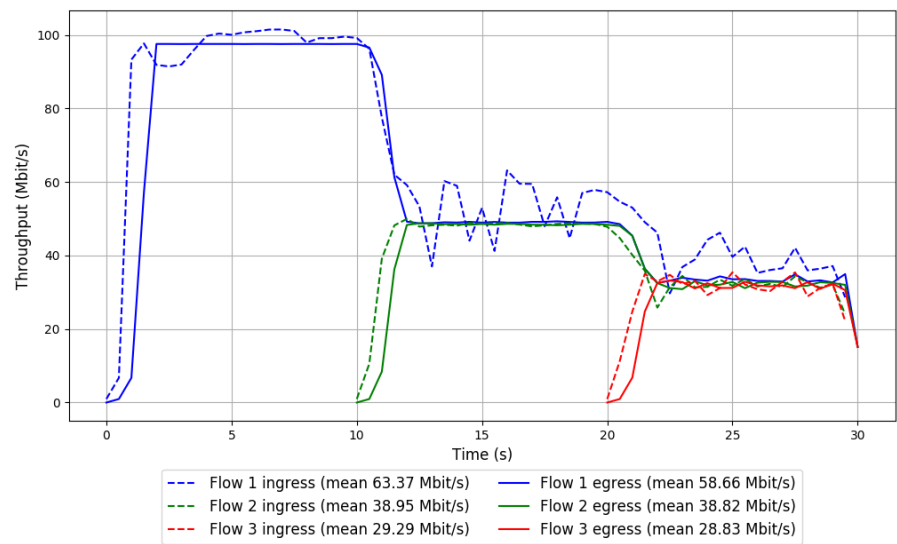

- - - - Flow 1 ingress (mean 57.10 Mbit/s) ——— Flow 1 egress (mean 56.99 Mbit/s)
- - - - Flow 2 ingress (mean 39.54 Mbit/s) ——— Flow 2 egress (mean 39.15 Mbit/s)
- - - - Flow 3 ingress (mean 30.99 Mbit/s) ——— Flow 3 egress (mean 30.34 Mbit/s)

- Flow 1 (95th percentile 246.06 ms) - Flow 2 (95th percentile 171.45 ms) - Flow 3 (95th percentile 279.28 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-02-20 10:14:26
End at: 2019-02-20 10:14:56
Local clock offset: -61.933 ms
Remote clock offset: 4.918 ms


# Below is generated by plot.py at 2019-02-20 12:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.10 Mbit/s
95th percentile per-packet one-way delay: 334.732 ms
Loss rate: 5.80%
-- Flow 1:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 369.604 ms
Loss rate: 8.12%
-- Flow 2:
Average throughput: 38.94 Mbit/s
95th percentile per-packet one-way delay: 88.162 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 28.71 Mbit/s
95th percentile per-packet one-way delay: 91.702 ms
Loss rate: 2.75%
```
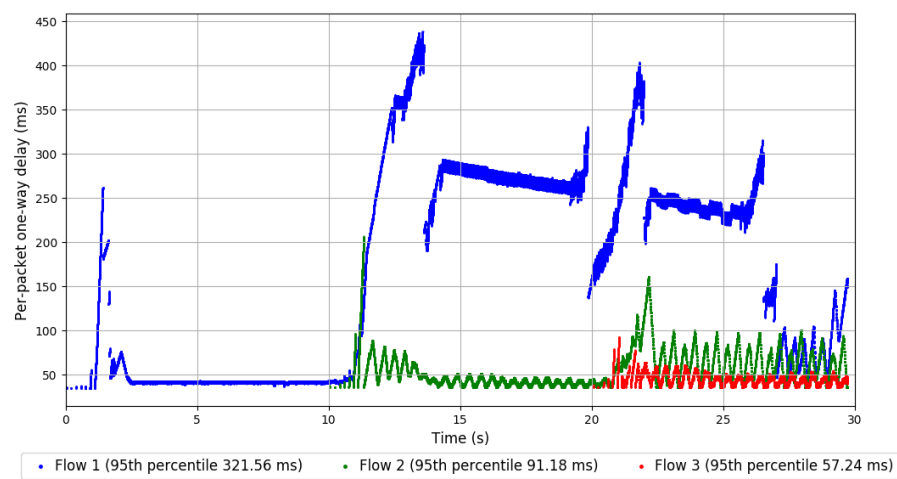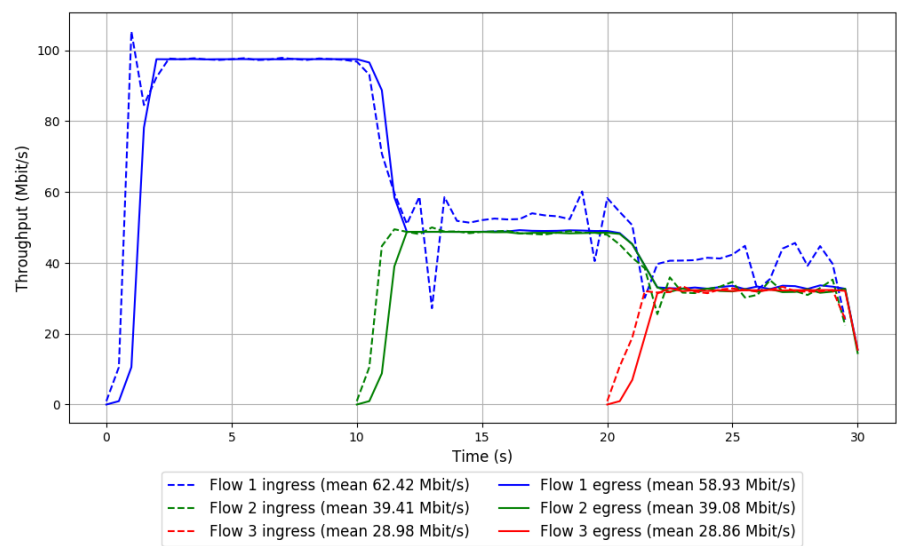
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-20 10:41:30
End at: 2019-02-20 10:42:00
Local clock offset: -58.656 ms
Remote clock offset: 8.617 ms

# Below is generated by plot.py at 2019-02-20 12:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.76 Mbit/s
95th percentile per-packet one-way delay: 316.881 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 58.46 Mbit/s
95th percentile per-packet one-way delay: 352.062 ms
Loss rate: 5.75%
-- Flow 2:
Average throughput: 39.16 Mbit/s
95th percentile per-packet one-way delay: 106.258 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 28.73 Mbit/s
95th percentile per-packet one-way delay: 59.942 ms
Loss rate: 2.30%
```
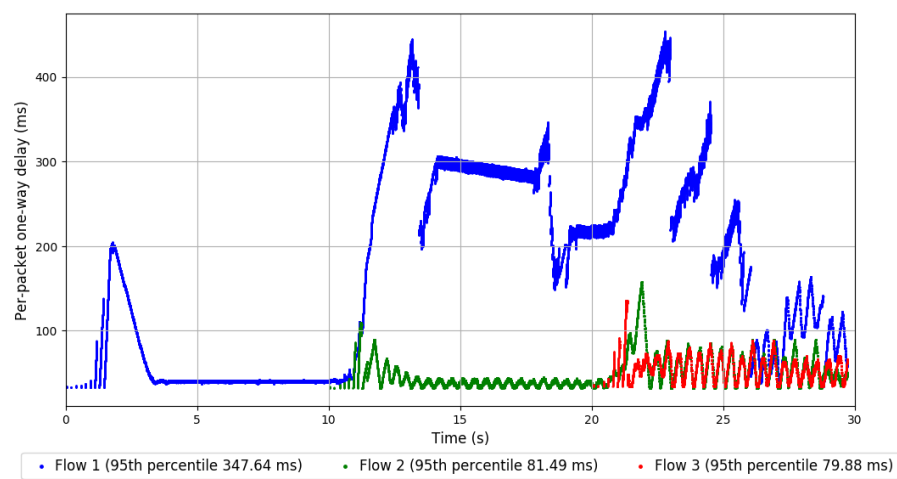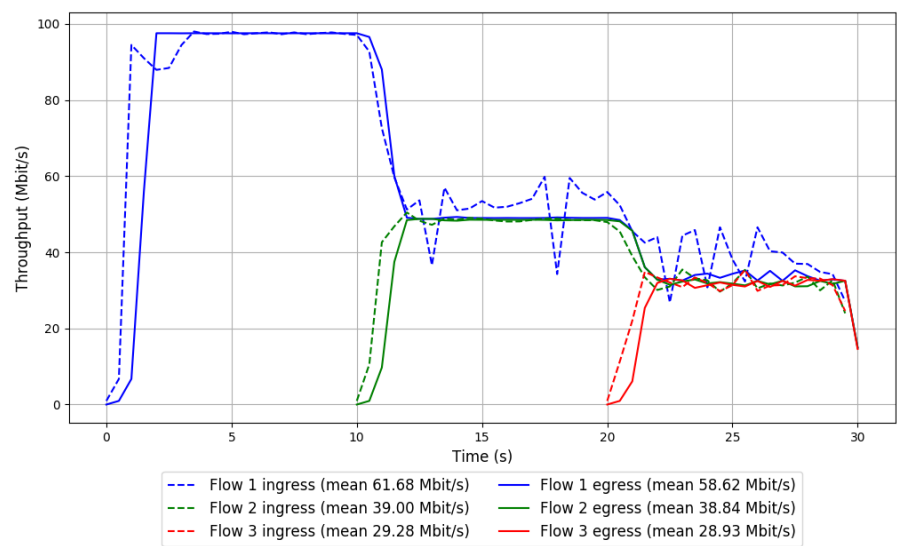
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-02-20 11:08:35
End at: 2019-02-20 11:09:05
Local clock offset: -56.839 ms
Remote clock offset: 2.776 ms


# Below is generated by plot.py at 2019-02-20 12:15:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.78 Mbit/s
95th percentile per-packet one-way delay: 324.455 ms
Loss rate: 5.71%
-- Flow 1:
Average throughput: 58.66 Mbit/s
95th percentile per-packet one-way delay: 373.916 ms
Loss rate: 7.94%
-- Flow 2:
Average throughput: 38.82 Mbit/s
95th percentile per-packet one-way delay: 90.239 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 28.83 Mbit/s
95th percentile per-packet one-way delay: 81.962 ms
Loss rate: 3.31%
```
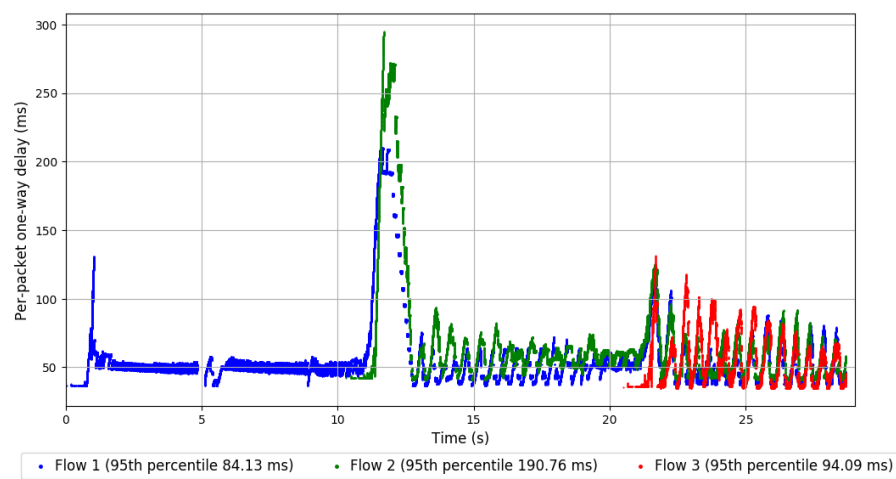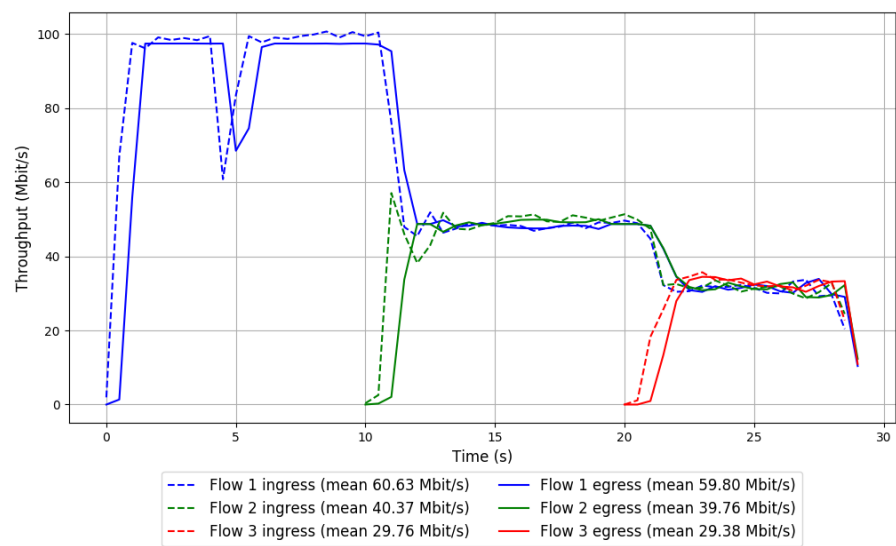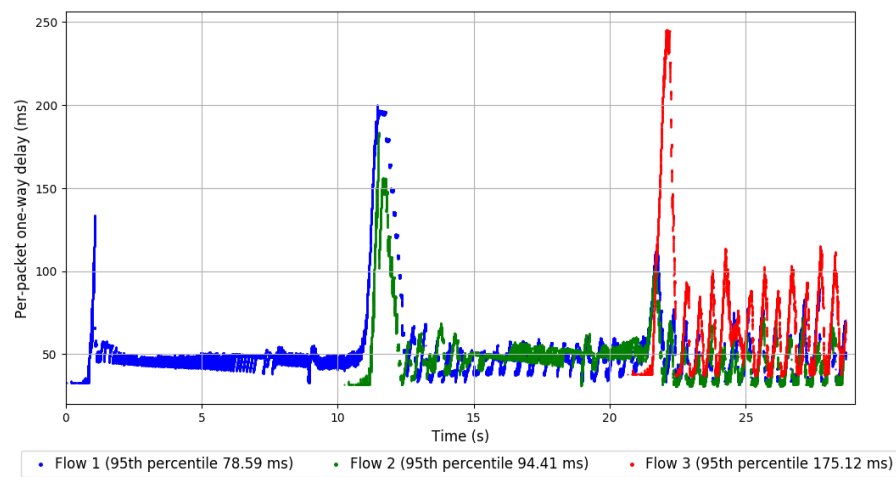
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 63.37 Mbit/s)   Flow 1 egress (mean 58.66 Mbit/s)
Flow 2 ingress (mean 38.95 Mbit/s)   Flow 2 egress (mean 38.82 Mbit/s)
Flow 3 ingress (mean 29.29 Mbit/s)   Flow 3 egress (mean 28.83 Mbit/s)

Flow 1 (95th percentile 373.92 ms)   Flow 2 (95th percentile 90.24 ms)   Flow 3 (95th percentile 81.96 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-02-20 11:35:41
End at: 2019-02-20 11:36:11
Local clock offset: -56.655 ms
Remote clock offset: 2.994 ms

# Below is generated by plot.py at 2019-02-20 12:15:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.22 Mbit/s
95th percentile per-packet one-way delay: 286.634 ms
Loss rate: 4.56%
-- Flow 1:
Average throughput: 58.93 Mbit/s
95th percentile per-packet one-way delay: 321.565 ms
Loss rate: 6.13%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 91.183 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 28.86 Mbit/s
95th percentile per-packet one-way delay: 57.244 ms
Loss rate: 2.14%
```
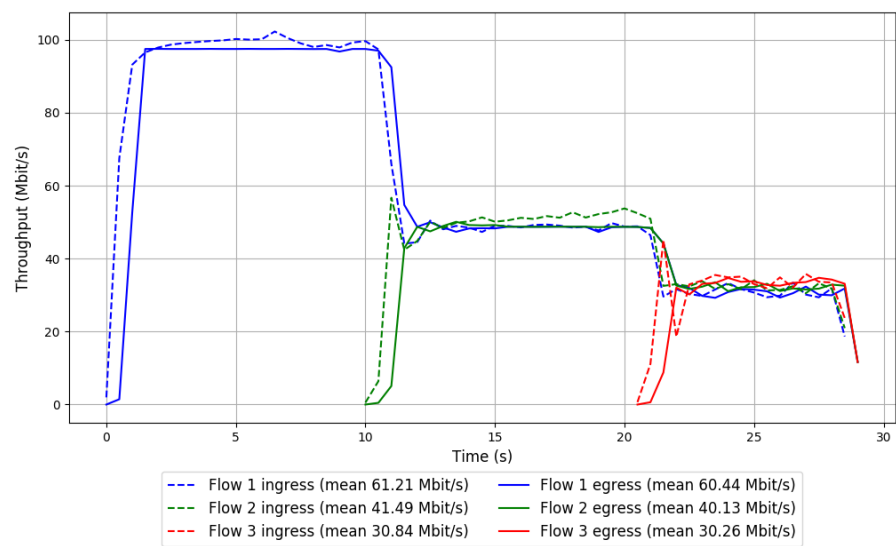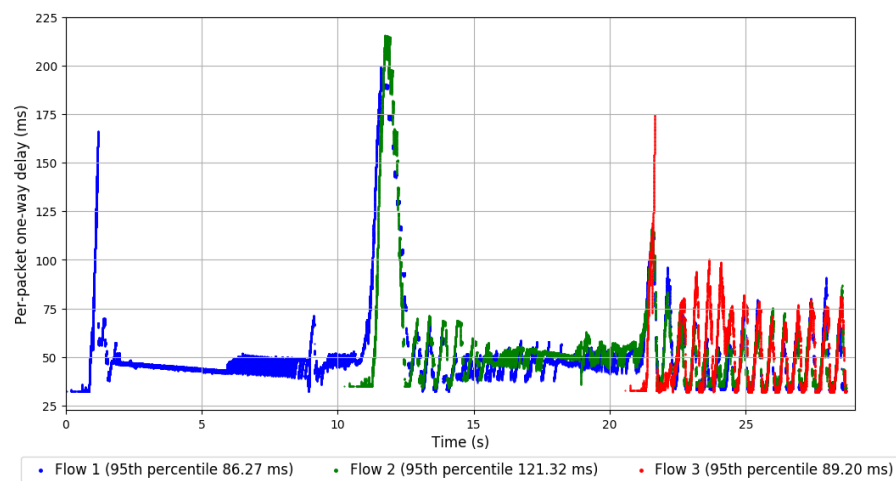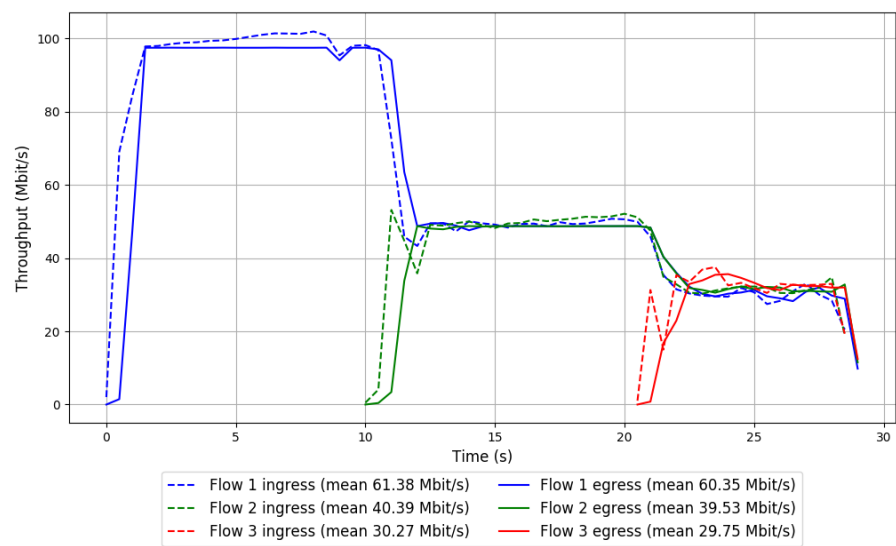
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 62.42 Mbit/s) --- Flow 1 egress (mean 58.93 Mbit/s)
Flow 2 ingress (mean 39.41 Mbit/s) --- Flow 2 egress (mean 39.08 Mbit/s)
Flow 3 ingress (mean 28.98 Mbit/s) --- Flow 3 egress (mean 28.86 Mbit/s)

Flow 1 (95th percentile 321.56 ms)   Flow 2 (95th percentile 91.18 ms)   Flow 3 (95th percentile 57.24 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-02-20 12:02:46
End at: 2019-02-20 12:03:16
Local clock offset: -58.27 ms
Remote clock offset: 7.723 ms


# Below is generated by plot.py at 2019-02-20 12:15:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.78 Mbit/s
95th percentile per-packet one-way delay: 306.811 ms
Loss rate: 4.11%
-- Flow 1:
Average throughput: 58.62 Mbit/s
95th percentile per-packet one-way delay: 347.640 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 38.84 Mbit/s
95th percentile per-packet one-way delay: 81.489 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 79.876 ms
Loss rate: 2.91%
```
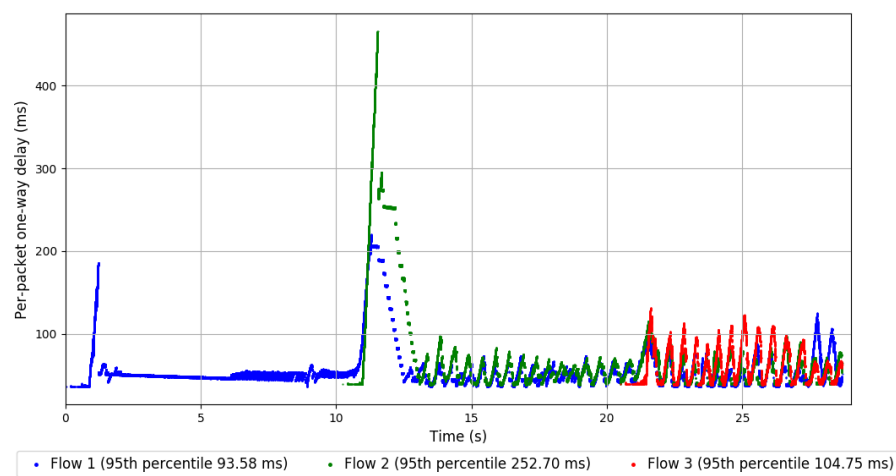
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-20 10:02:52
End at: 2019-02-20 10:03:22
Local clock offset: -62.31 ms
Remote clock offset: 4.305 ms


# Below is generated by plot.py at 2019-02-20 12:15:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.71 Mbit/s
95th percentile per-packet one-way delay: 102.851 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 59.80 Mbit/s
95th percentile per-packet one-way delay: 84.131 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 190.759 ms
Loss rate: 2.47%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 94.088 ms
Loss rate: 3.29%
```

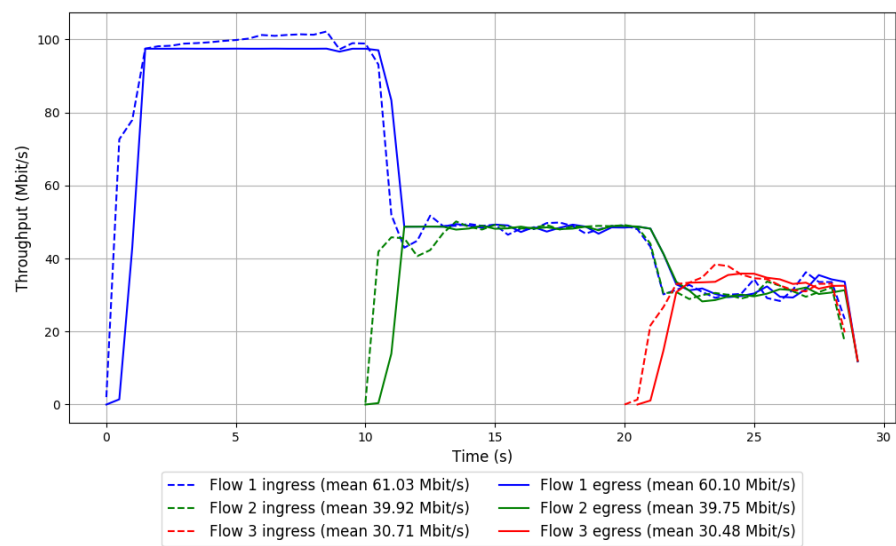Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-20 10:29:57
End at: 2019-02-20 10:30:27
Local clock offset: -62.039 ms
Remote clock offset: 8.283 ms

# Below is generated by plot.py at 2019-02-20 12:15:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.78 Mbit/s
95th percentile per-packet one-way delay: 97.186 ms
Loss rate: 2.68%
-- Flow 1:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: 78.587 ms
Loss rate: 1.84%
-- Flow 2:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 94.408 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 175.118 ms
Loss rate: 3.97%
```

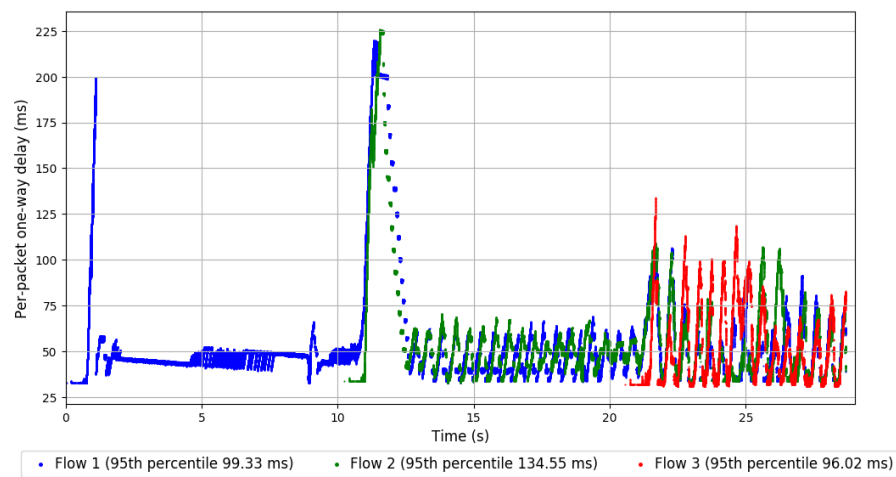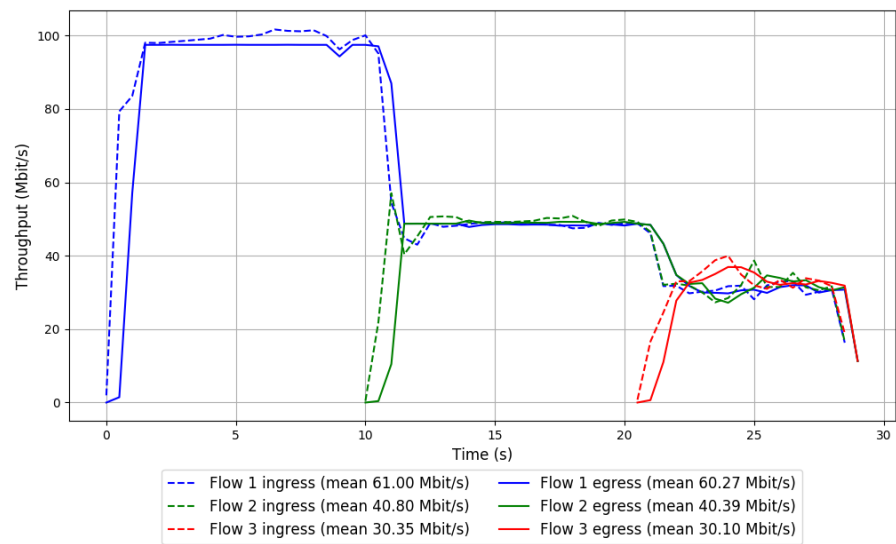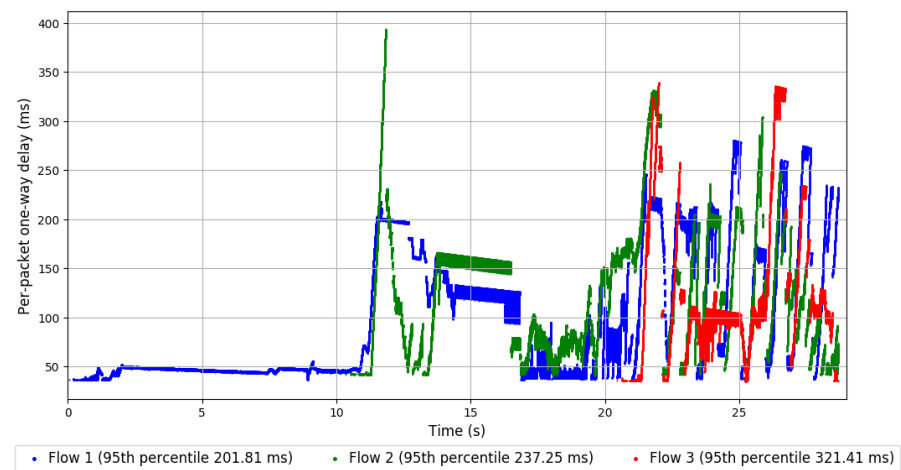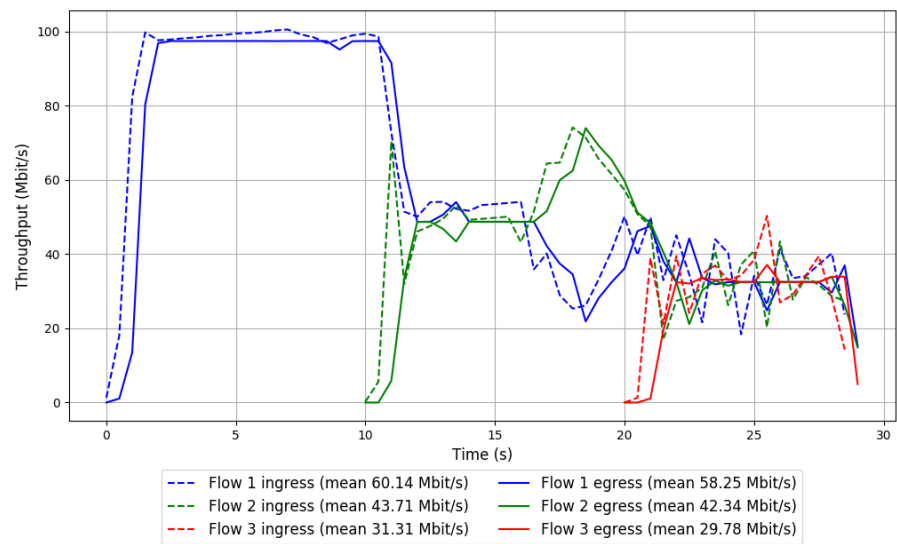Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-20 10:57:02
End at: 2019-02-20 10:57:32
Local clock offset: -57.264 ms
Remote clock offset: 5.868 ms


# Below is generated by plot.py at 2019-02-20 12:15:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.23 Mbit/s
95th percentile per-packet one-way delay: 93.230 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 60.35 Mbit/s
95th percentile per-packet one-way delay: 86.273 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 121.322 ms
Loss rate: 3.03%
-- Flow 3:
Average throughput: 29.75 Mbit/s
95th percentile per-packet one-way delay: 89.198 ms
Loss rate: 3.75%
```

Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 61.38 Mbit/s)   Flow 1 egress (mean 60.35 Mbit/s)
Flow 2 ingress (mean 40.39 Mbit/s)   Flow 2 egress (mean 39.53 Mbit/s)
Flow 3 ingress (mean 30.27 Mbit/s)   Flow 3 egress (mean 29.75 Mbit/s)

Flow 1 (95th percentile 86.27 ms)   Flow 2 (95th percentile 121.32 ms)   Flow 3 (95th percentile 89.20 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-20 11:24:08
End at: 2019-02-20 11:24:38
Local clock offset: -56.362 ms
Remote clock offset: 1.056 ms


# Below is generated by plot.py at 2019-02-20 12:16:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 125.692 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 60.10 Mbit/s
95th percentile per-packet one-way delay: 93.580 ms
Loss rate: 2.08%
-- Flow 2:
Average throughput: 39.75 Mbit/s
95th percentile per-packet one-way delay: 252.699 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 30.48 Mbit/s
95th percentile per-packet one-way delay: 104.754 ms
Loss rate: 2.77%
```

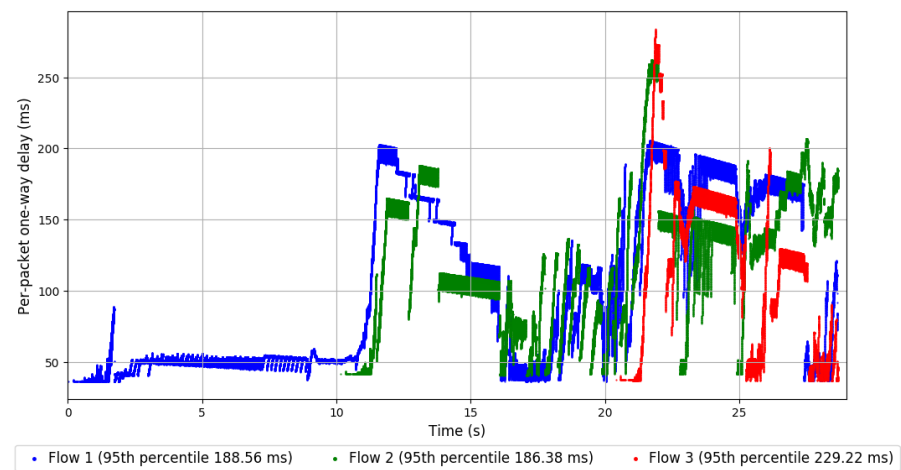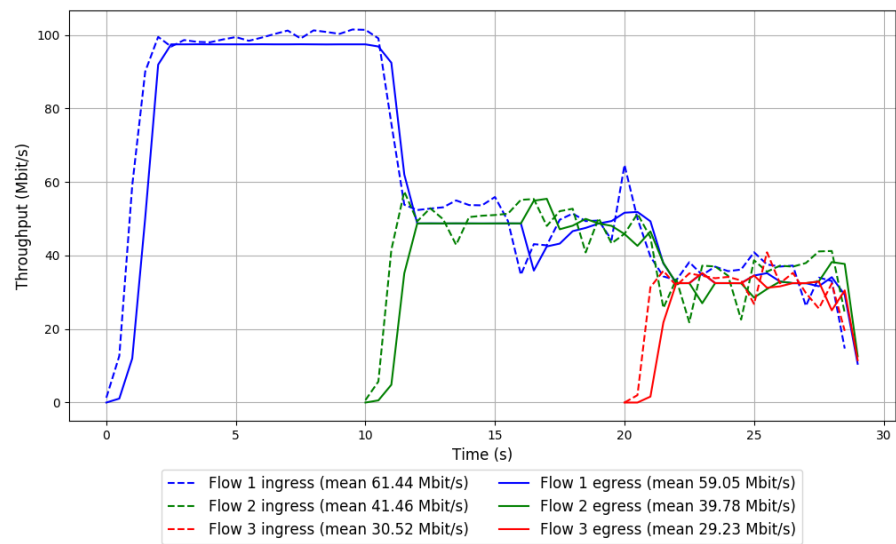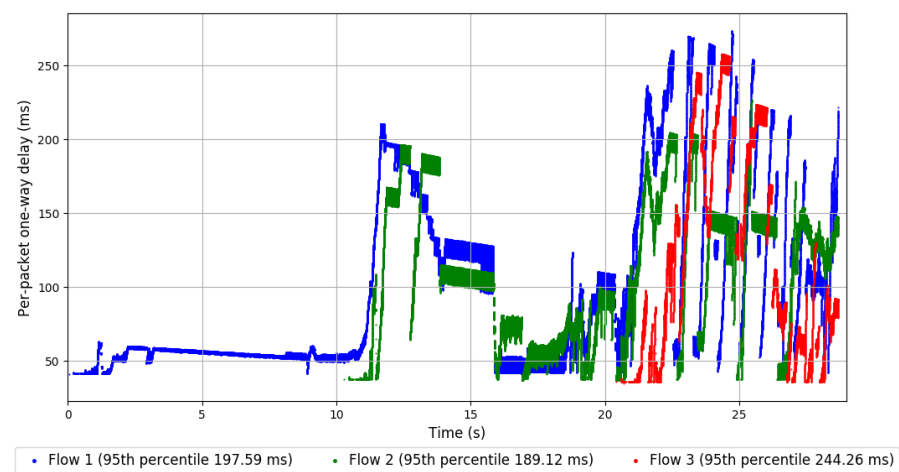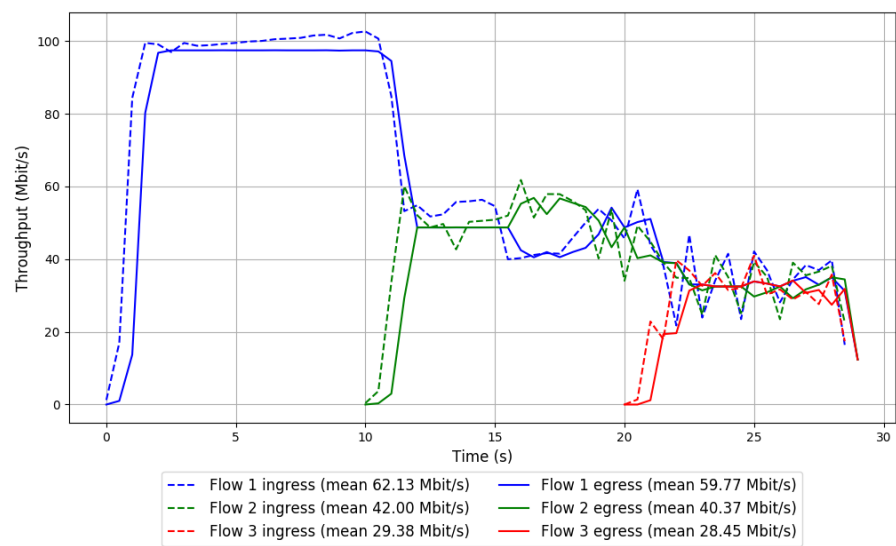Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-20 11:51:13
End at: 2019-02-20 11:51:43
Local clock offset: -56.919 ms
Remote clock offset: 6.896 ms


# Below is generated by plot.py at 2019-02-20 12:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.77 Mbit/s
95th percentile per-packet one-way delay: 105.113 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 60.27 Mbit/s
95th percentile per-packet one-way delay: 99.325 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 40.39 Mbit/s
95th percentile per-packet one-way delay: 134.554 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 96.016 ms
Loss rate: 2.83%
```

Run 5: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 61.00 Mbit/s) —— Flow 1 egress (mean 60.27 Mbit/s)
- - - Flow 2 ingress (mean 40.80 Mbit/s) —— Flow 2 egress (mean 40.39 Mbit/s)
- - - Flow 3 ingress (mean 30.35 Mbit/s) —— Flow 3 egress (mean 30.10 Mbit/s)

• Flow 1 (95th percentile 99.33 ms)　　• Flow 2 (95th percentile 134.55 ms)　　• Flow 3 (95th percentile 96.02 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-20 10:04:10
End at: 2019-02-20 10:04:40
Local clock offset: -62.166 ms
Remote clock offset: 4.469 ms


# Below is generated by plot.py at 2019-02-20 12:16:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.90 Mbit/s
95th percentile per-packet one-way delay: 217.323 ms
Loss rate: 4.00%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 201.809 ms
Loss rate: 3.57%
-- Flow 2:
Average throughput: 42.34 Mbit/s
95th percentile per-packet one-way delay: 237.247 ms
Loss rate: 4.04%
-- Flow 3:
Average throughput: 29.78 Mbit/s
95th percentile per-packet one-way delay: 321.407 ms
Loss rate: 6.73%
```

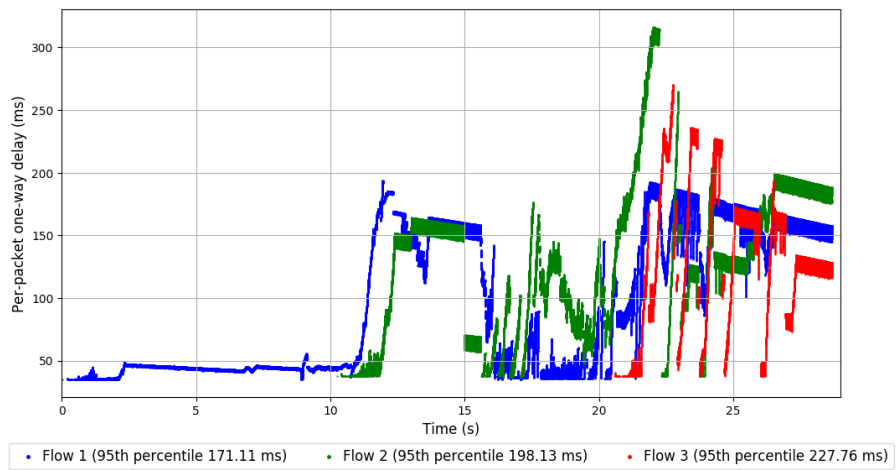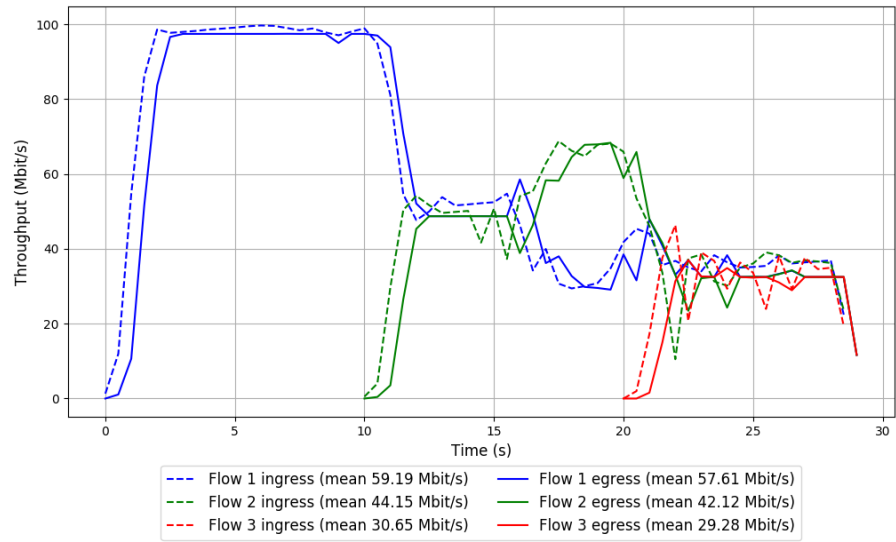Run 1: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 60.14 Mbit/s) —— Flow 1 egress (mean 58.25 Mbit/s)
- - - Flow 2 ingress (mean 43.71 Mbit/s) —— Flow 2 egress (mean 42.34 Mbit/s)
- - - Flow 3 ingress (mean 31.31 Mbit/s) —— Flow 3 egress (mean 29.78 Mbit/s)

• Flow 1 (95th percentile 201.81 ms)   • Flow 2 (95th percentile 237.25 ms)   • Flow 3 (95th percentile 321.41 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-20 10:31:15
End at: 2019-02-20 10:31:45
Local clock offset: -61.537 ms
Remote clock offset: 4.449 ms


# Below is generated by plot.py at 2019-02-20 12:16:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.15 Mbit/s
95th percentile per-packet one-way delay: 188.278 ms
Loss rate: 4.79%
-- Flow 1:
Average throughput: 59.05 Mbit/s
95th percentile per-packet one-way delay: 188.563 ms
Loss rate: 4.53%
-- Flow 2:
Average throughput: 39.78 Mbit/s
95th percentile per-packet one-way delay: 186.377 ms
Loss rate: 4.95%
-- Flow 3:
Average throughput: 29.23 Mbit/s
95th percentile per-packet one-way delay: 229.217 ms
Loss rate: 6.05%
```

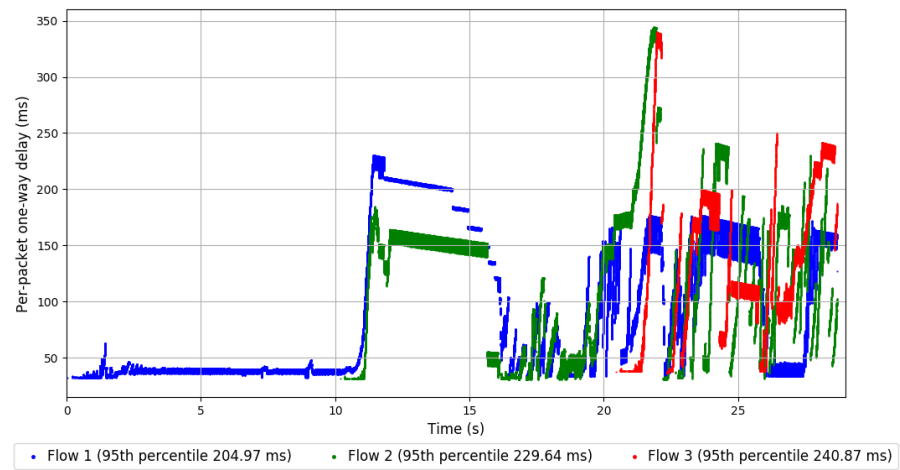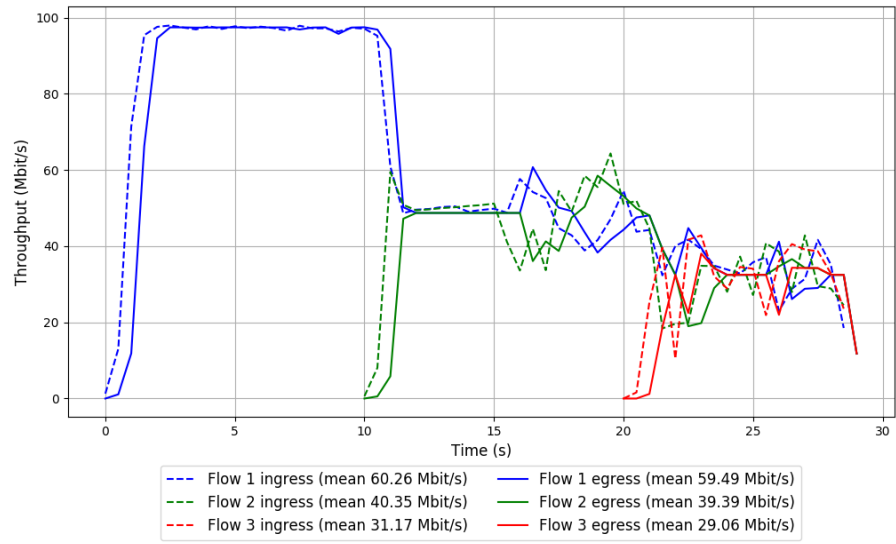# Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 61.44 Mbit/s)   Flow 1 egress (mean 59.05 Mbit/s)
Flow 2 ingress (mean 41.46 Mbit/s)   Flow 2 egress (mean 39.78 Mbit/s)
Flow 3 ingress (mean 30.52 Mbit/s)   Flow 3 egress (mean 29.23 Mbit/s)

Flow 1 (95th percentile 188.56 ms)   Flow 2 (95th percentile 186.38 ms)   Flow 3 (95th percentile 229.22 ms)
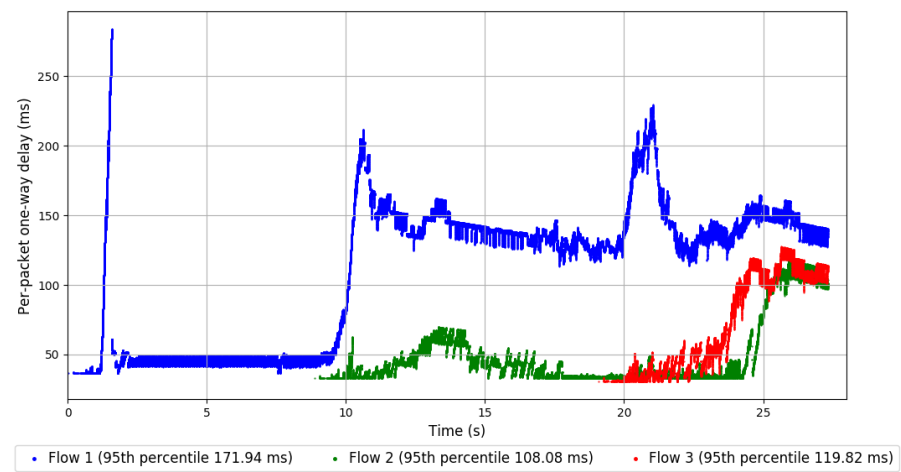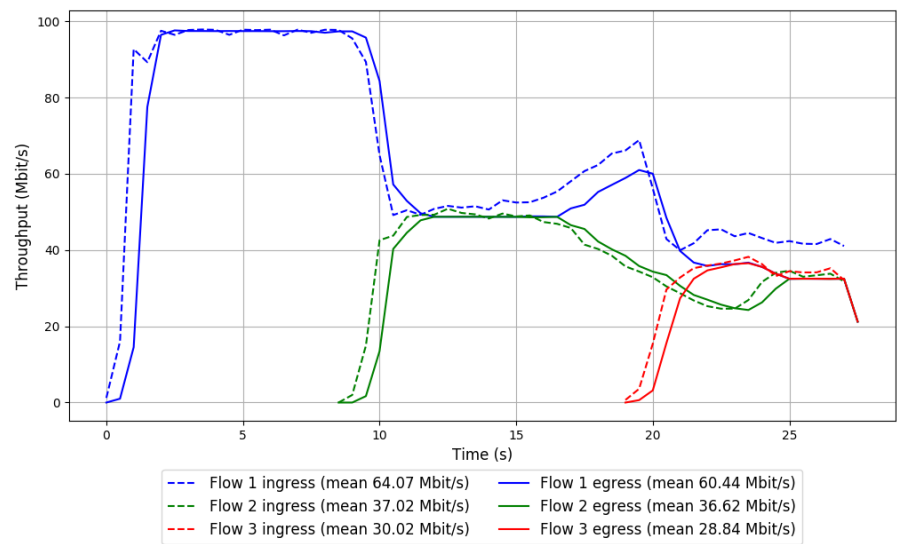
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-20 10:58:19
End at: 2019-02-20 10:58:49
Local clock offset: -57.123 ms
Remote clock offset: 3.153 ms


# Below is generated by plot.py at 2019-02-20 12:16:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.90 Mbit/s
95th percentile per-packet one-way delay: 203.071 ms
Loss rate: 4.54%
-- Flow 1:
Average throughput: 59.77 Mbit/s
95th percentile per-packet one-way delay: 197.588 ms
Loss rate: 4.38%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 189.116 ms
Loss rate: 4.72%
-- Flow 3:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: 244.264 ms
Loss rate: 5.07%
```

Run 3: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 62.13 Mbit/s) —— Flow 1 egress (mean 59.77 Mbit/s)
- - - Flow 2 ingress (mean 42.00 Mbit/s) —— Flow 2 egress (mean 40.37 Mbit/s)
- - - Flow 3 ingress (mean 29.38 Mbit/s) —— Flow 3 egress (mean 28.45 Mbit/s)

• Flow 1 (95th percentile 197.59 ms) • Flow 2 (95th percentile 189.12 ms) • Flow 3 (95th percentile 244.26 ms)
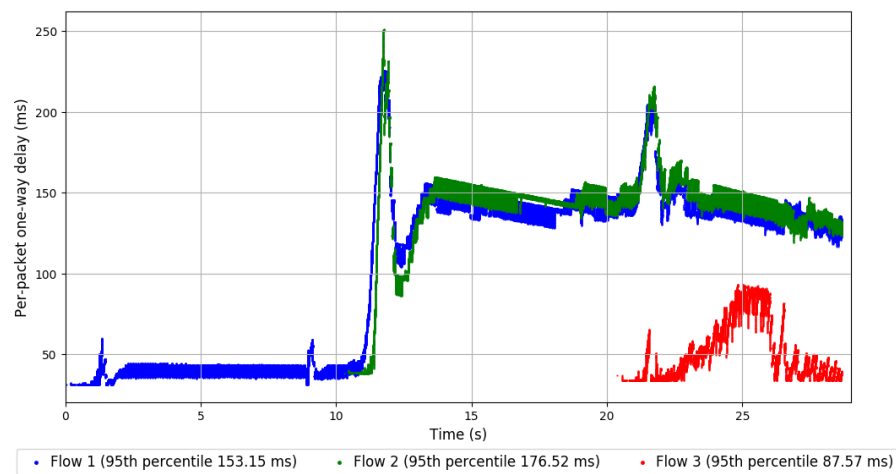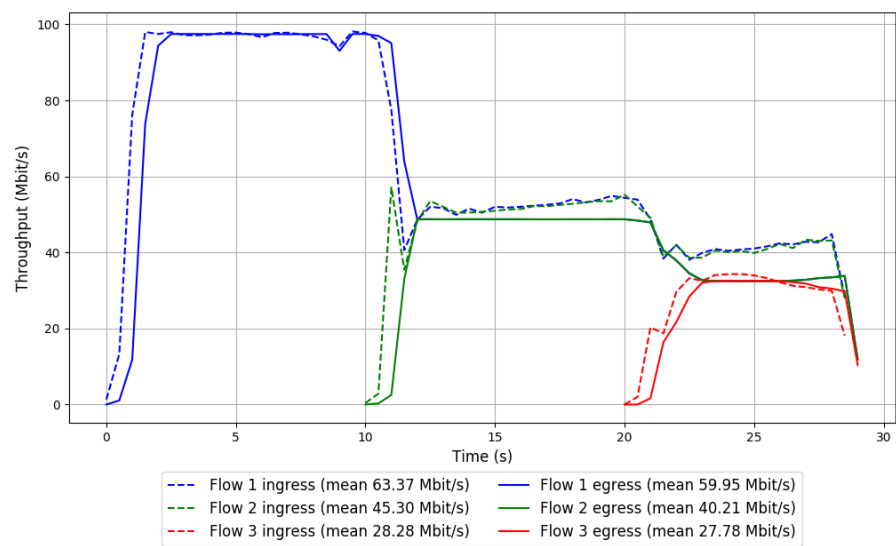
```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-20 11:25:26
End at: 2019-02-20 11:25:56
Local clock offset: -56.258 ms
Remote clock offset: 2.302 ms


# Below is generated by plot.py at 2019-02-20 12:16:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.16 Mbit/s
95th percentile per-packet one-way delay: 187.920 ms
Loss rate: 4.20%
-- Flow 1:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 171.110 ms
Loss rate: 3.26%
-- Flow 2:
Average throughput: 42.12 Mbit/s
95th percentile per-packet one-way delay: 198.129 ms
Loss rate: 5.44%
-- Flow 3:
Average throughput: 29.28 Mbit/s
95th percentile per-packet one-way delay: 227.761 ms
Loss rate: 6.41%
```

Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 59.19 Mbit/s)   Flow 1 egress (mean 57.61 Mbit/s)
Flow 2 ingress (mean 44.15 Mbit/s)   Flow 2 egress (mean 42.12 Mbit/s)
Flow 3 ingress (mean 30.65 Mbit/s)   Flow 3 egress (mean 29.28 Mbit/s)

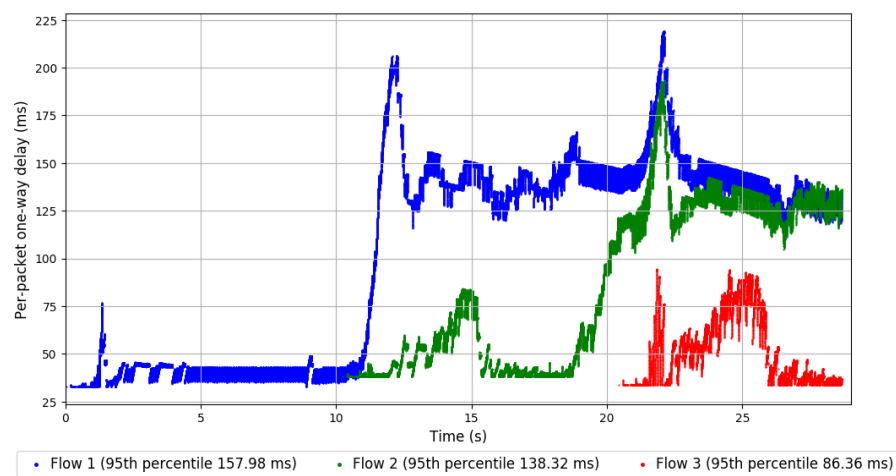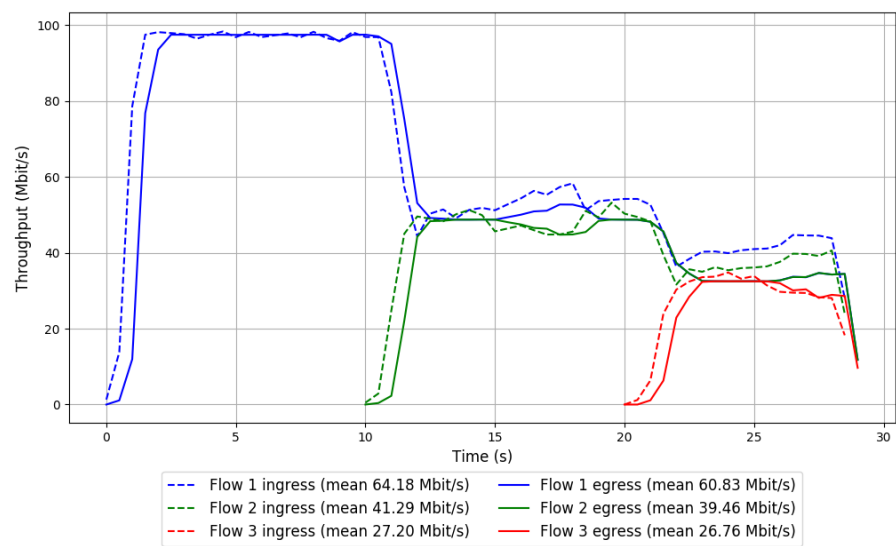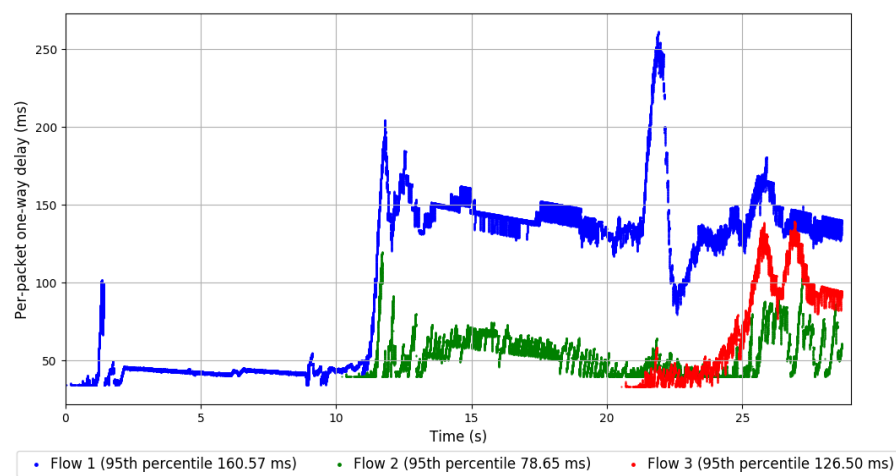Flow 1 (95th percentile 171.11 ms)   Flow 2 (95th percentile 198.13 ms)   Flow 3 (95th percentile 227.76 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-20 11:52:31
End at: 2019-02-20 11:53:01
Local clock offset: -56.974 ms
Remote clock offset: 7.182 ms

# Below is generated by plot.py at 2019-02-20 12:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 208.350 ms
Loss rate: 2.76%
-- Flow 1:
Average throughput: 59.49 Mbit/s
95th percentile per-packet one-way delay: 204.967 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 39.39 Mbit/s
95th percentile per-packet one-way delay: 229.643 ms
Loss rate: 3.25%
-- Flow 3:
Average throughput: 29.06 Mbit/s
95th percentile per-packet one-way delay: 240.874 ms
Loss rate: 8.64%
```
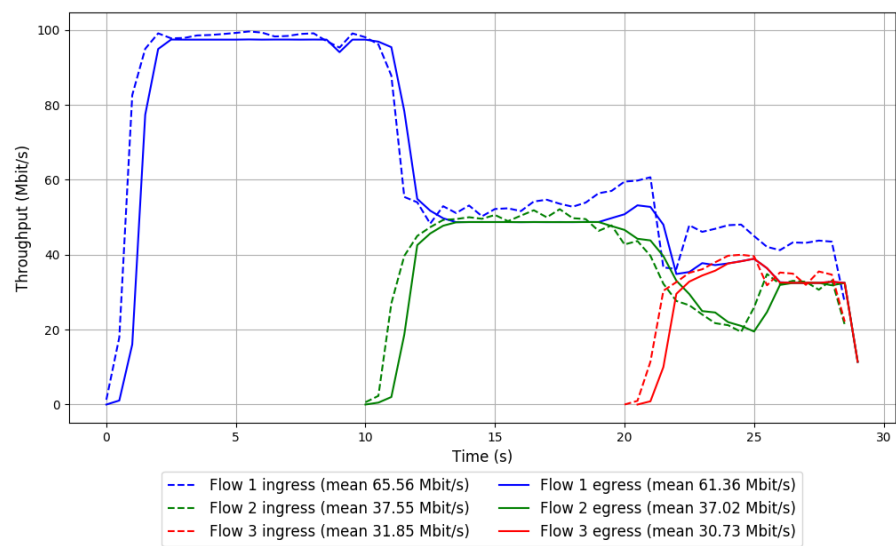
Run 5: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 60.26 Mbit/s) — Flow 1 egress (mean 59.49 Mbit/s)
- - - Flow 2 ingress (mean 40.35 Mbit/s) — Flow 2 egress (mean 39.39 Mbit/s)
- - - Flow 3 ingress (mean 31.17 Mbit/s) — Flow 3 egress (mean 29.06 Mbit/s)

• Flow 1 (95th percentile 204.97 ms)   • Flow 2 (95th percentile 229.64 ms)   • Flow 3 (95th percentile 240.87 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-20 10:00:14
End at: 2019-02-20 10:00:44
Local clock offset: -62.534 ms
Remote clock offset: 9.015 ms


# Below is generated by plot.py at 2019-02-20 12:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.90 Mbit/s
95th percentile per-packet one-way delay: 159.994 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: 171.943 ms
Loss rate: 6.28%
-- Flow 2:
Average throughput: 36.62 Mbit/s
95th percentile per-packet one-way delay: 108.078 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 28.84 Mbit/s
95th percentile per-packet one-way delay: 119.821 ms
Loss rate: 5.86%
```

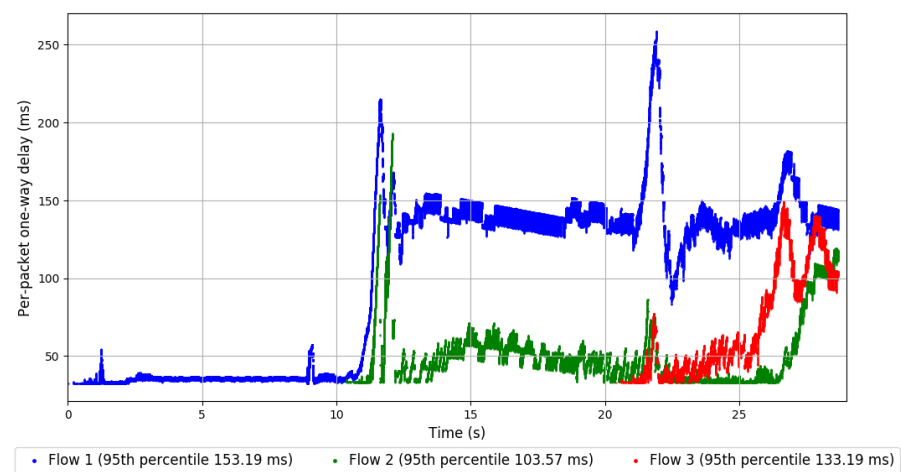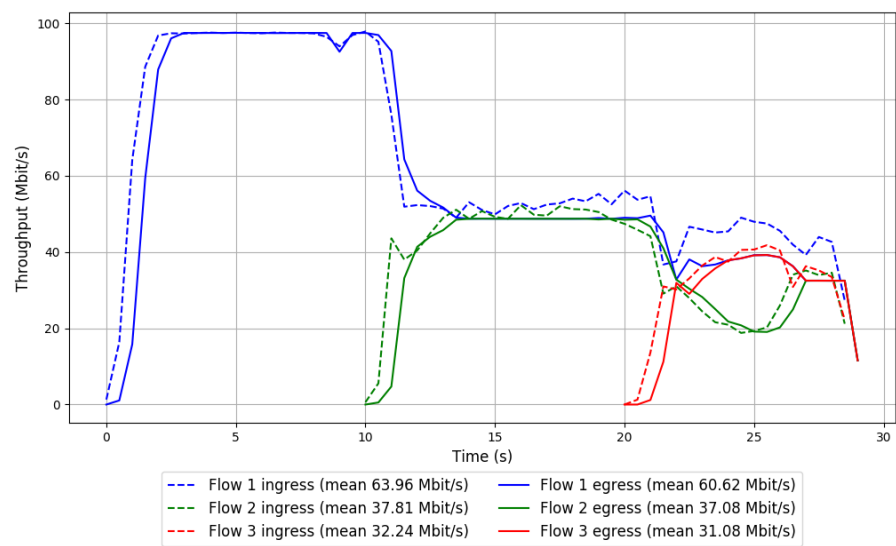Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-20 10:27:19
End at: 2019-02-20 10:27:49
Local clock offset: -62.043 ms
Remote clock offset: 8.257 ms


# Below is generated by plot.py at 2019-02-20 12:17:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.80 Mbit/s
95th percentile per-packet one-way delay: 158.462 ms
Loss rate: 7.55%
-- Flow 1:
Average throughput: 59.95 Mbit/s
95th percentile per-packet one-way delay: 153.148 ms
Loss rate: 5.96%
-- Flow 2:
Average throughput: 40.21 Mbit/s
95th percentile per-packet one-way delay: 176.516 ms
Loss rate: 12.06%
-- Flow 3:
Average throughput: 27.78 Mbit/s
95th percentile per-packet one-way delay: 87.574 ms
Loss rate: 3.78%
```

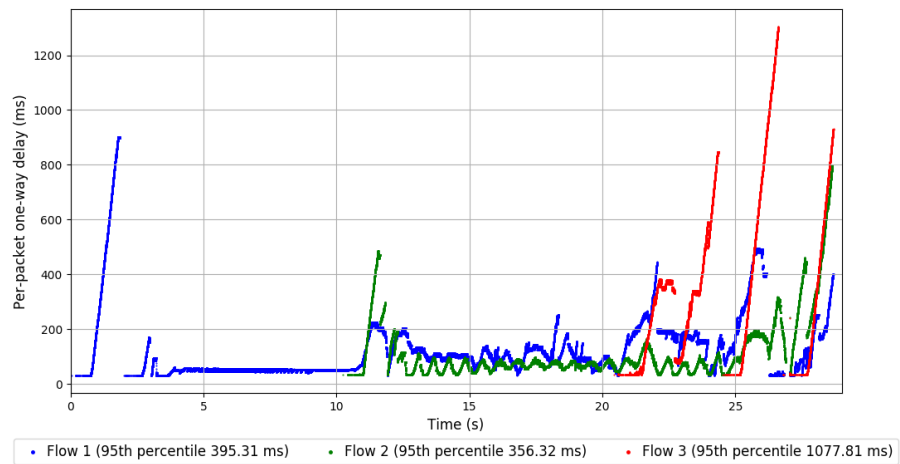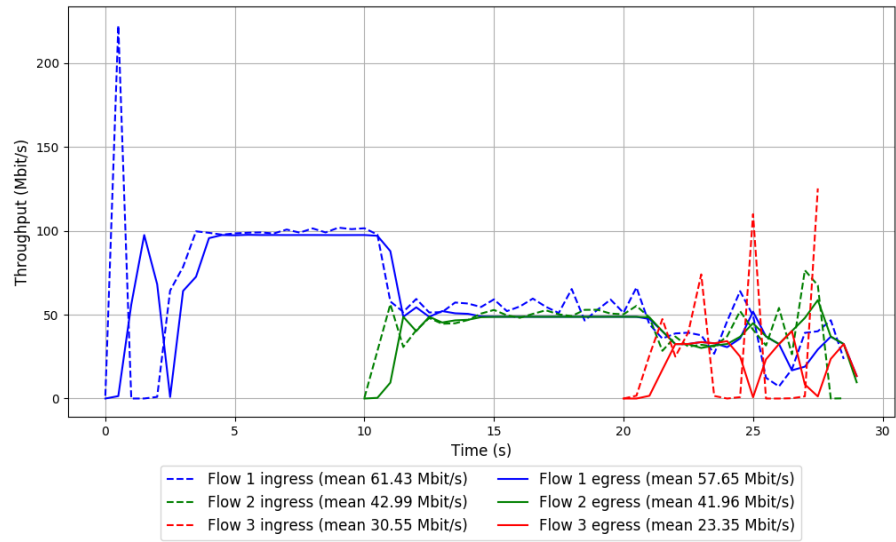Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-20 10:54:23
End at: 2019-02-20 10:54:53
Local clock offset: -57.375 ms
Remote clock offset: 7.367 ms


# Below is generated by plot.py at 2019-02-20 12:17:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.93 Mbit/s
95th percentile per-packet one-way delay: 153.851 ms
Loss rate: 5.48%
-- Flow 1:
Average throughput: 60.83 Mbit/s
95th percentile per-packet one-way delay: 157.978 ms
Loss rate: 5.78%
-- Flow 2:
Average throughput: 39.46 Mbit/s
95th percentile per-packet one-way delay: 138.325 ms
Loss rate: 5.29%
-- Flow 3:
Average throughput: 26.76 Mbit/s
95th percentile per-packet one-way delay: 86.359 ms
Loss rate: 3.64%
```

Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 64.18 Mbit/s) — Flow 1 egress (mean 60.83 Mbit/s)
Flow 2 ingress (mean 41.29 Mbit/s) — Flow 2 egress (mean 39.46 Mbit/s)
Flow 3 ingress (mean 27.20 Mbit/s) — Flow 3 egress (mean 26.76 Mbit/s)

Flow 1 (95th percentile 157.98 ms)   Flow 2 (95th percentile 138.32 ms)   Flow 3 (95th percentile 86.36 ms)
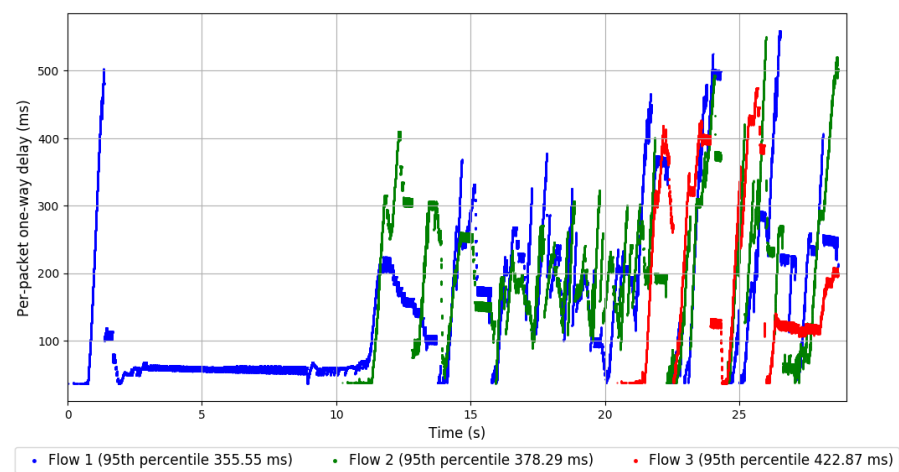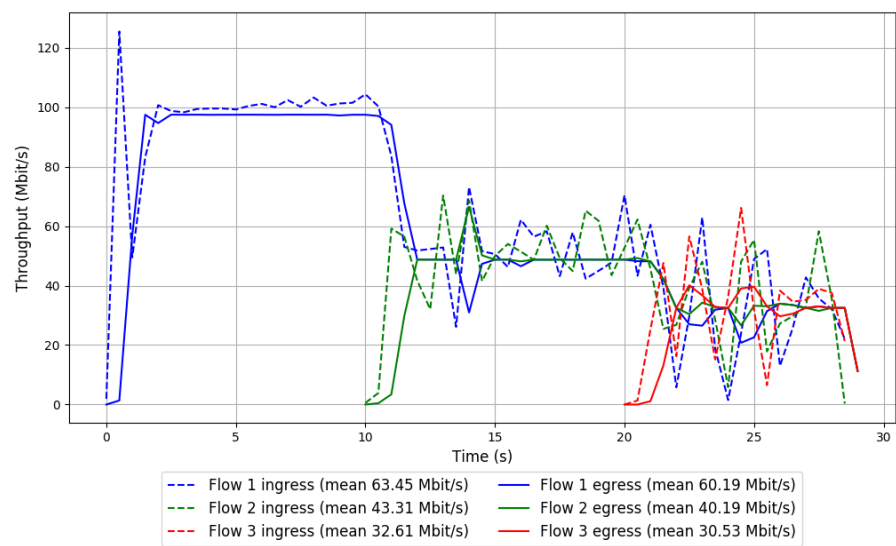
```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-20 11:21:29
End at: 2019-02-20 11:21:59
Local clock offset: -56.406 ms
Remote clock offset: 4.756 ms


# Below is generated by plot.py at 2019-02-20 12:17:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.00 Mbit/s
95th percentile per-packet one-way delay: 151.326 ms
Loss rate: 5.68%
-- Flow 1:
Average throughput: 61.36 Mbit/s
95th percentile per-packet one-way delay: 160.575 ms
Loss rate: 6.95%
-- Flow 2:
Average throughput: 37.02 Mbit/s
95th percentile per-packet one-way delay: 78.648 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 126.502 ms
Loss rate: 5.47%
```
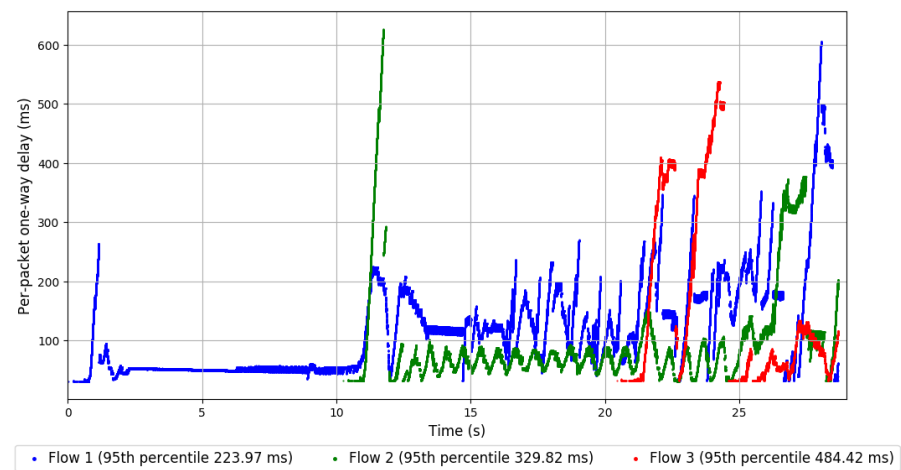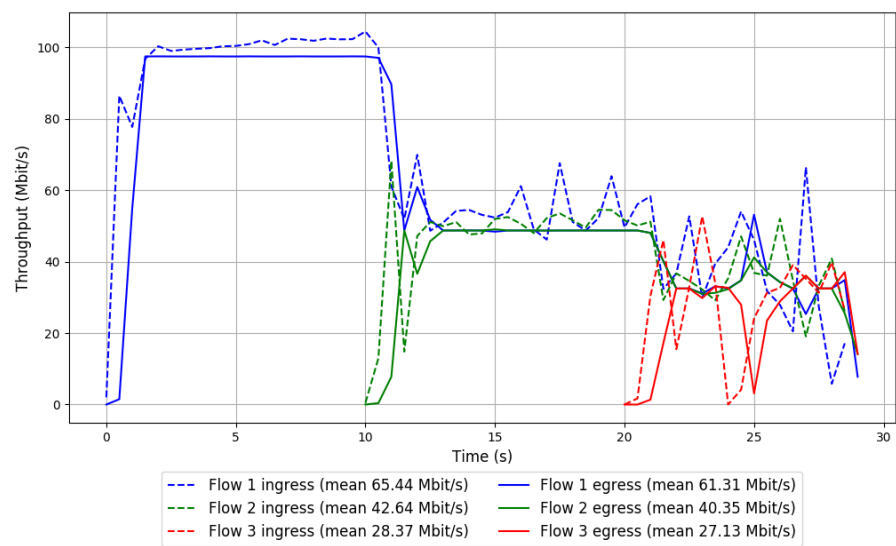
Run 4: Report of Indigo-MusesD — Data Link

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```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-20 11:48:34
End at: 2019-02-20 11:49:04
Local clock offset: -57.419 ms
Remote clock offset: 6.979 ms


# Below is generated by plot.py at 2019-02-20 12:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.50 Mbit/s
95th percentile per-packet one-way delay: 148.698 ms
Loss rate: 5.03%
-- Flow 1:
Average throughput: 60.62 Mbit/s
95th percentile per-packet one-way delay: 153.191 ms
Loss rate: 5.78%
-- Flow 2:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 103.572 ms
Loss rate: 2.84%
-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 133.195 ms
Loss rate: 5.58%
```
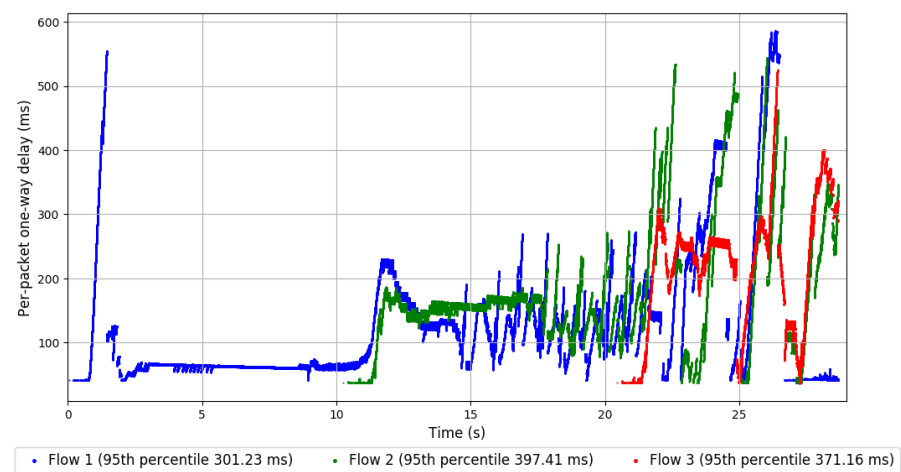
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-20 09:53:44
End at: 2019-02-20 09:54:14
Local clock offset: -62.188 ms
Remote clock offset: 7.936 ms


# Below is generated by plot.py at 2019-02-20 12:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 493.827 ms
Loss rate: 6.43%
-- Flow 1:
Average throughput: 57.65 Mbit/s
95th percentile per-packet one-way delay: 395.305 ms
Loss rate: 6.71%
-- Flow 2:
Average throughput: 41.96 Mbit/s
95th percentile per-packet one-way delay: 356.322 ms
Loss rate: 3.48%
-- Flow 3:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 1077.814 ms
Loss rate: 14.70%
```
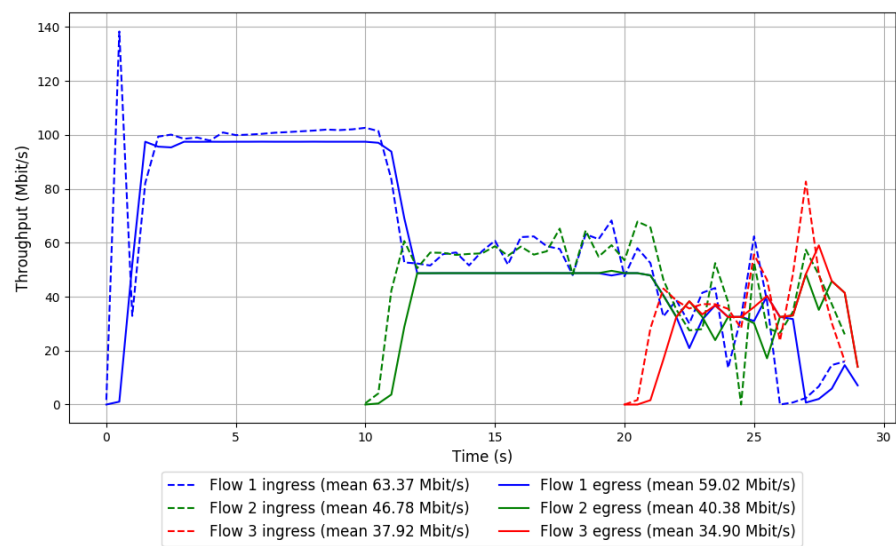
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-20 10:20:50
End at: 2019-02-20 10:21:20
Local clock offset: -61.957 ms
Remote clock offset: 4.505 ms


# Below is generated by plot.py at 2019-02-20 12:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.85 Mbit/s
95th percentile per-packet one-way delay: 381.143 ms
Loss rate: 6.12%
-- Flow 1:
Average throughput: 60.19 Mbit/s
95th percentile per-packet one-way delay: 355.549 ms
Loss rate: 5.62%
-- Flow 2:
Average throughput: 40.19 Mbit/s
95th percentile per-packet one-way delay: 378.288 ms
Loss rate: 6.54%
-- Flow 3:
Average throughput: 30.53 Mbit/s
95th percentile per-packet one-way delay: 422.866 ms
Loss rate: 8.22%
```
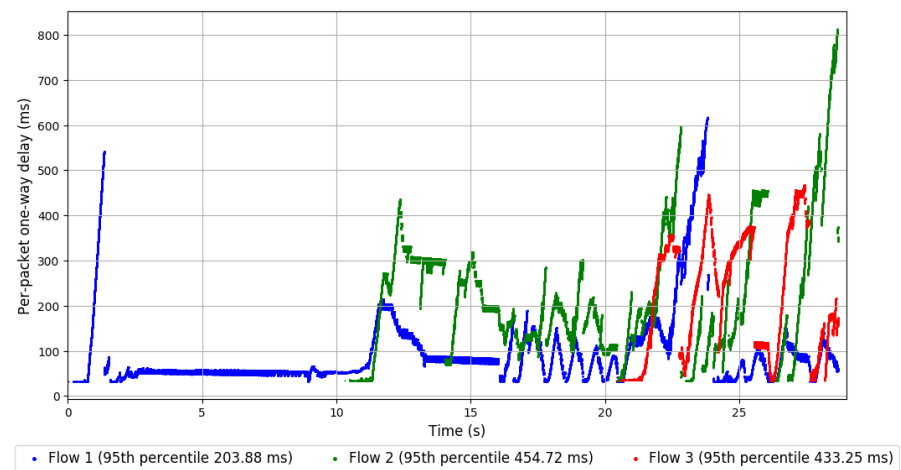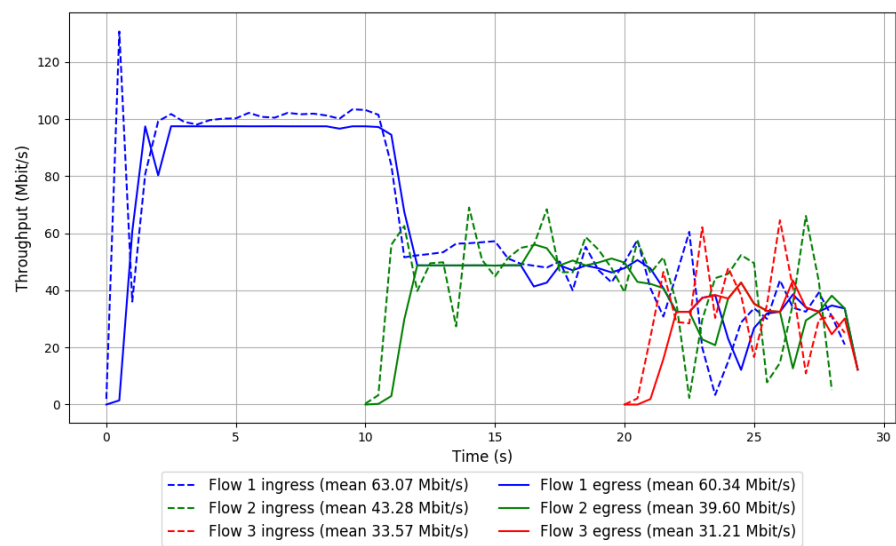
Run 2: Report of Indigo-MusesT — Data Link

- Flow 1 ingress (mean 63.45 Mbit/s) — Flow 1 egress (mean 60.19 Mbit/s)
- Flow 2 ingress (mean 43.31 Mbit/s) — Flow 2 egress (mean 40.19 Mbit/s)
- Flow 3 ingress (mean 32.61 Mbit/s) — Flow 3 egress (mean 30.53 Mbit/s)

- Flow 1 (95th percentile 355.55 ms)   • Flow 2 (95th percentile 378.29 ms)   • Flow 3 (95th percentile 422.87 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-20 10:47:54
End at: 2019-02-20 10:48:24
Local clock offset: -57.851 ms
Remote clock offset: 8.339 ms


# Below is generated by plot.py at 2019-02-20 12:18:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 318.518 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 61.31 Mbit/s
95th percentile per-packet one-way delay: 223.969 ms
Loss rate: 6.82%
-- Flow 2:
Average throughput: 40.35 Mbit/s
95th percentile per-packet one-way delay: 329.820 ms
Loss rate: 6.25%
-- Flow 3:
Average throughput: 27.13 Mbit/s
95th percentile per-packet one-way delay: 484.423 ms
Loss rate: 6.29%
```

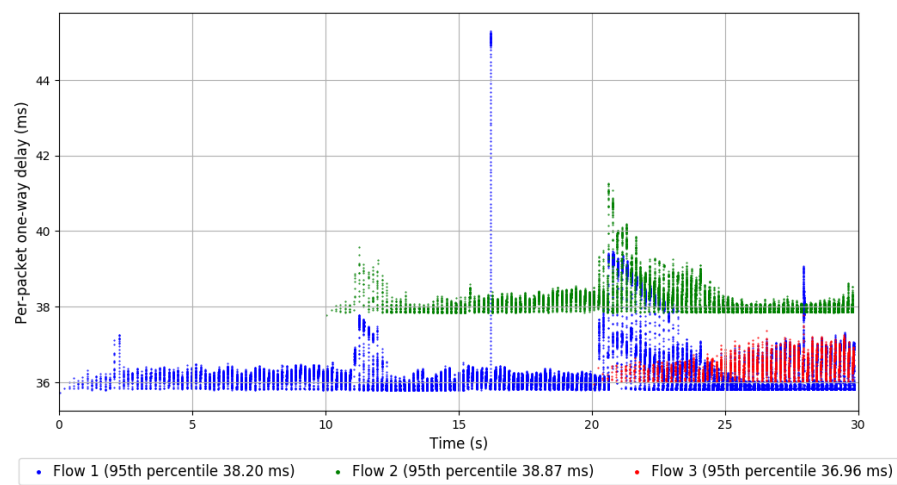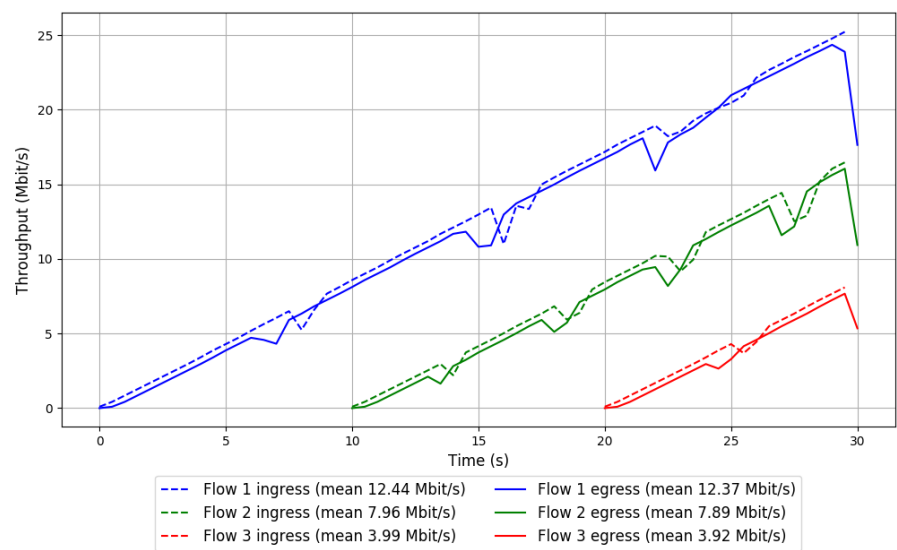Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 65.44 Mbit/s) --- Flow 1 egress (mean 61.31 Mbit/s)
Flow 2 ingress (mean 42.64 Mbit/s) --- Flow 2 egress (mean 40.35 Mbit/s)
Flow 3 ingress (mean 28.37 Mbit/s) --- Flow 3 egress (mean 27.13 Mbit/s)

Flow 1 (95th percentile 223.97 ms)   Flow 2 (95th percentile 329.82 ms)   Flow 3 (95th percentile 484.42 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-20 11:14:59
End at: 2019-02-20 11:15:29
Local clock offset: -56.682 ms
Remote clock offset: 2.414 ms


# Below is generated by plot.py at 2019-02-20 12:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.04 Mbit/s
95th percentile per-packet one-way delay: 364.173 ms
Loss rate: 9.71%
-- Flow 1:
Average throughput: 59.02 Mbit/s
95th percentile per-packet one-way delay: 301.227 ms
Loss rate: 7.44%
-- Flow 2:
Average throughput: 40.38 Mbit/s
95th percentile per-packet one-way delay: 397.408 ms
Loss rate: 14.45%
-- Flow 3:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 371.156 ms
Loss rate: 9.76%
```

Run 4: Report of Indigo-MusesT — Data Link
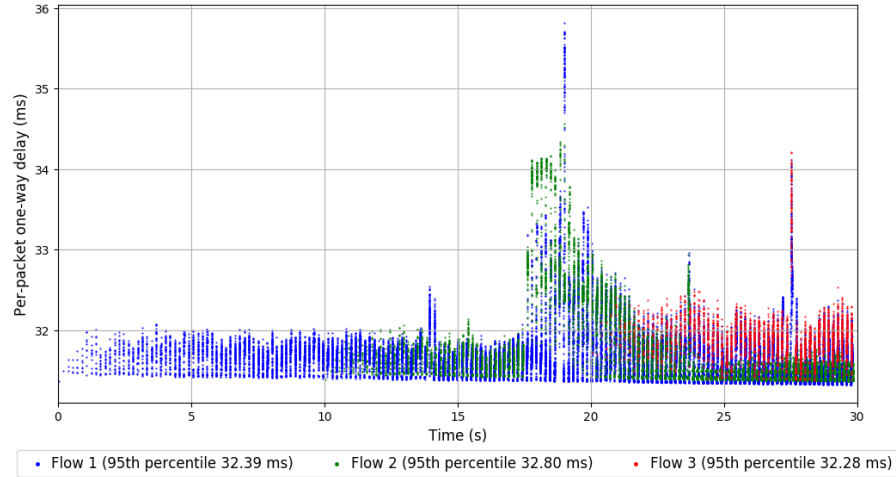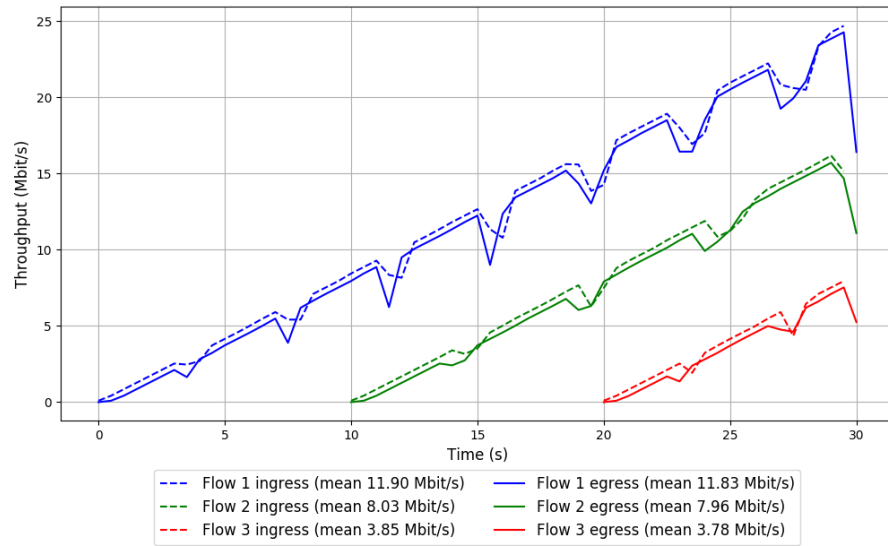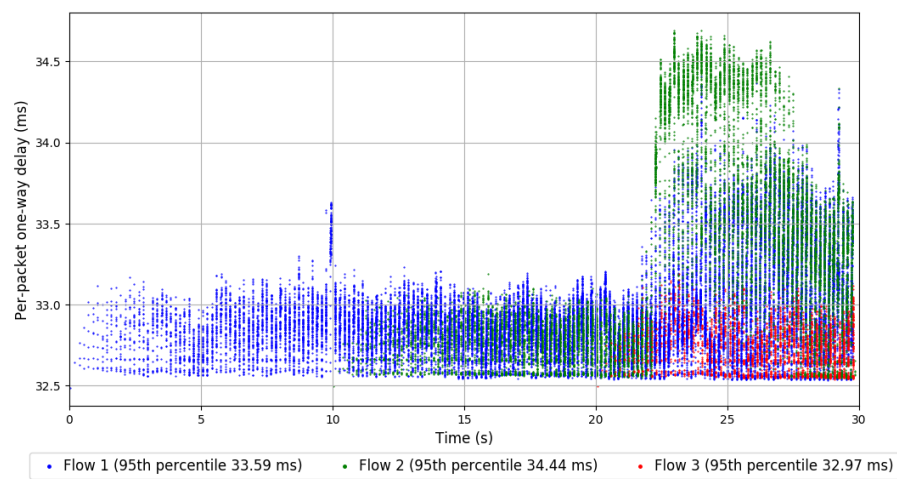

Flow 1 ingress (mean 63.37 Mbit/s)   Flow 1 egress (mean 59.02 Mbit/s)
Flow 2 ingress (mean 46.78 Mbit/s)   Flow 2 egress (mean 40.38 Mbit/s)
Flow 3 ingress (mean 37.92 Mbit/s)   Flow 3 egress (mean 34.90 Mbit/s)

Flow 1 (95th percentile 301.23 ms)   Flow 2 (95th percentile 397.41 ms)   Flow 3 (95th percentile 371.16 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-20 11:42:04
End at: 2019-02-20 11:42:34
Local clock offset: -56.9 ms
Remote clock offset: 5.7 ms


# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.72 Mbit/s
95th percentile per-packet one-way delay: 394.934 ms
Loss rate: 5.77%
-- Flow 1:
Average throughput: 60.34 Mbit/s
95th percentile per-packet one-way delay: 203.879 ms
Loss rate: 4.90%
-- Flow 2:
Average throughput: 39.60 Mbit/s
95th percentile per-packet one-way delay: 454.718 ms
Loss rate: 6.93%
-- Flow 3:
Average throughput: 31.21 Mbit/s
95th percentile per-packet one-way delay: 433.255 ms
Loss rate: 8.20%
```

Run 5: Report of Indigo-MusesT — Data Link
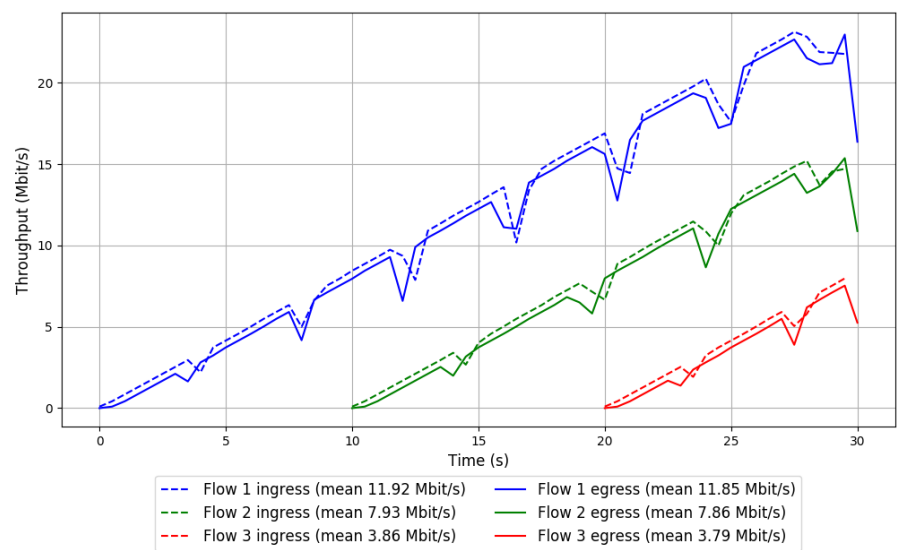

Flow 1 ingress (mean 63.07 Mbit/s) --- Flow 1 egress (mean 60.34 Mbit/s)
Flow 2 ingress (mean 43.28 Mbit/s) --- Flow 2 egress (mean 39.60 Mbit/s)
Flow 3 ingress (mean 33.57 Mbit/s) --- Flow 3 egress (mean 31.21 Mbit/s)

Flow 1 (95th percentile 203.88 ms)   Flow 2 (95th percentile 454.72 ms)   Flow 3 (95th percentile 433.25 ms)
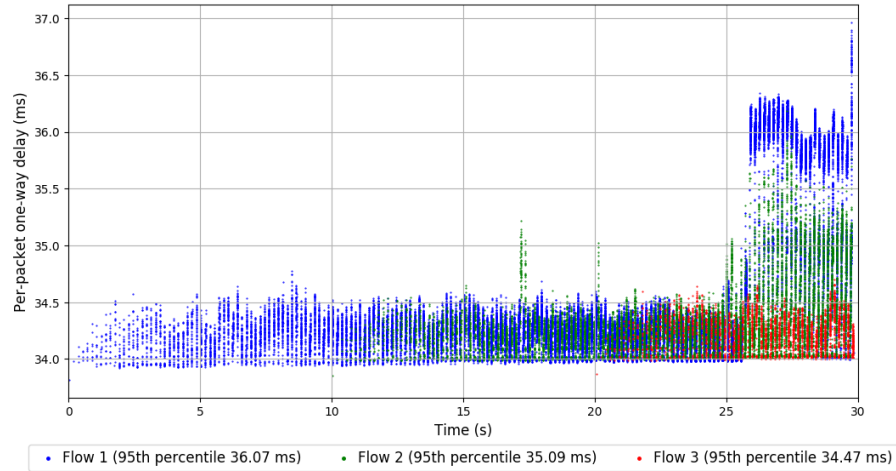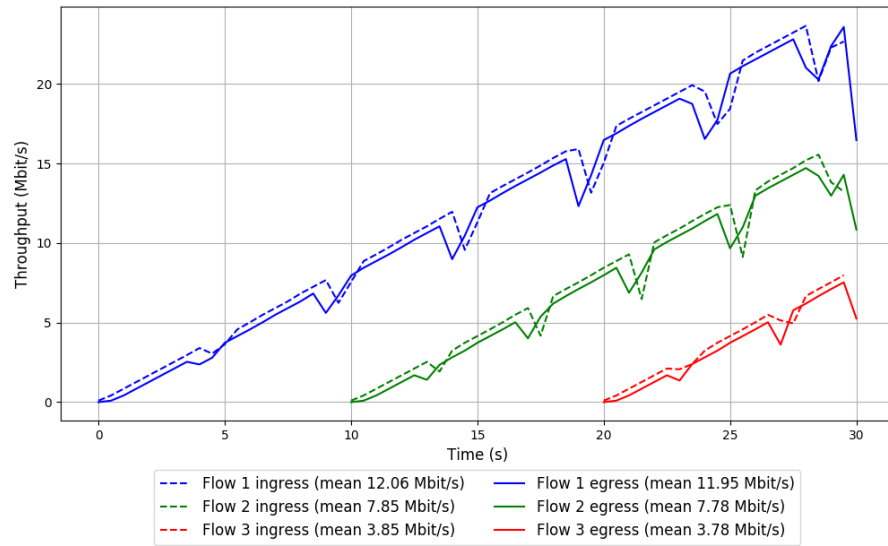
```
Run 1: Statistics of LEDBAT

Start at: 2019-02-20 10:09:16
End at: 2019-02-20 10:09:46
Local clock offset: -61.989 ms
Remote clock offset: 3.644 ms

# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.87 Mbit/s
95th percentile per-packet one-way delay: 38.598 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 38.198 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 38.865 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 36.962 ms
Loss rate: 3.47%
```
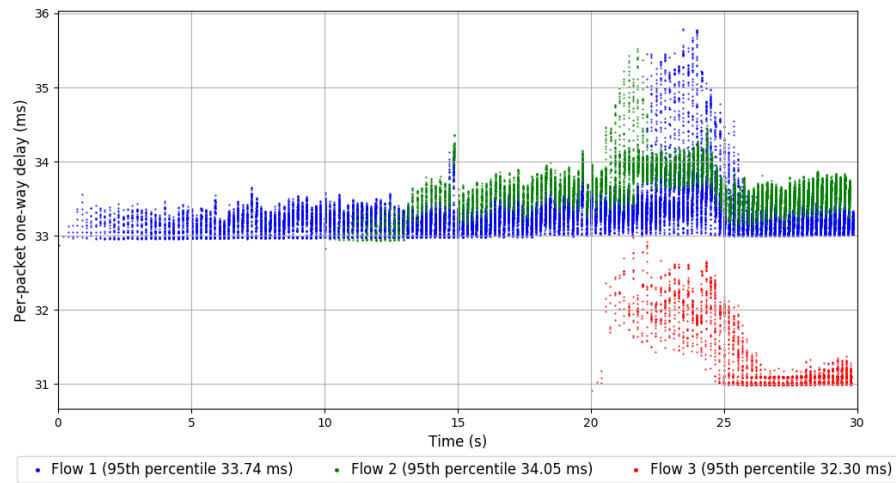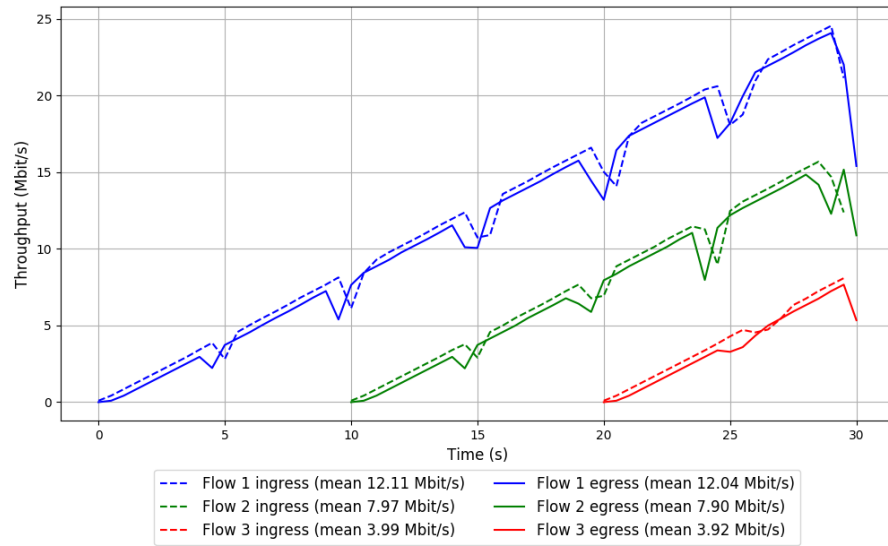
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-20 10:36:20
End at: 2019-02-20 10:36:50
Local clock offset: -59.802 ms
Remote clock offset: 9.628 ms


# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.34 Mbit/s
95th percentile per-packet one-way delay: 32.522 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 32.389 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 32.804 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 32.276 ms
Loss rate: 3.53%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-20 11:03:25
End at: 2019-02-20 11:03:55
Local clock offset: -57.105 ms
Remote clock offset: 6.905 ms

# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.27 Mbit/s
95th percentile per-packet one-way delay: 34.016 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 33.588 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 34.441 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 32.971 ms
Loss rate: 3.56%
```
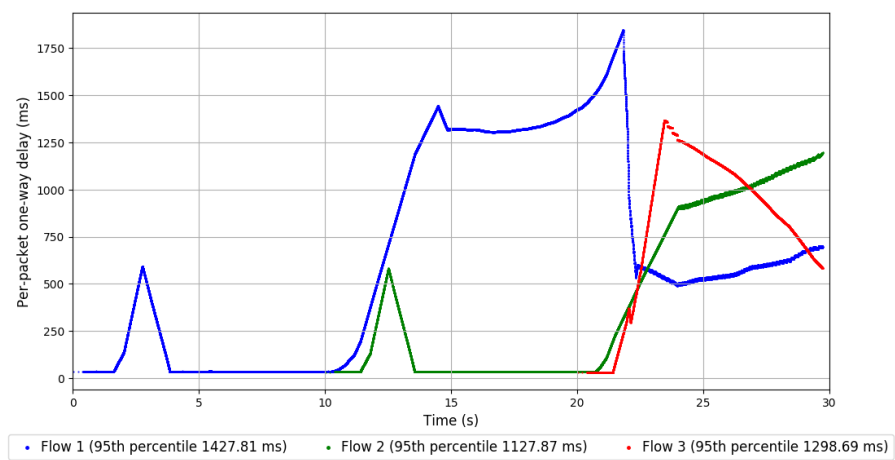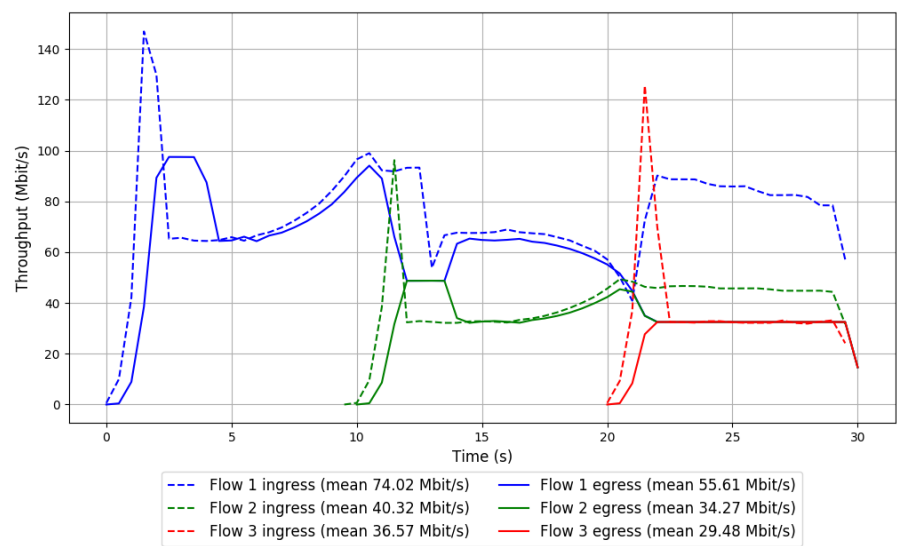
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-20 11:30:31
End at: 2019-02-20 11:31:01
Local clock offset: -56.228 ms
Remote clock offset: 5.655 ms

# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.32 Mbit/s
95th percentile per-packet one-way delay: 35.999 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 36.072 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 35.090 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 34.471 ms
Loss rate: 3.56%
```
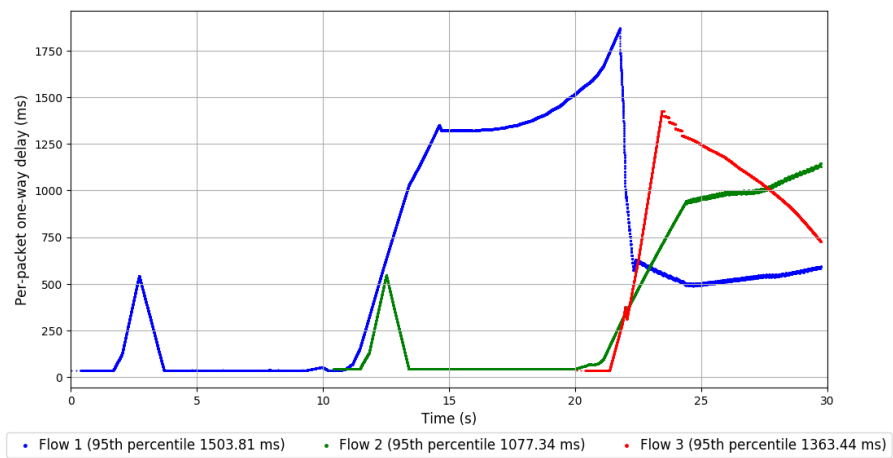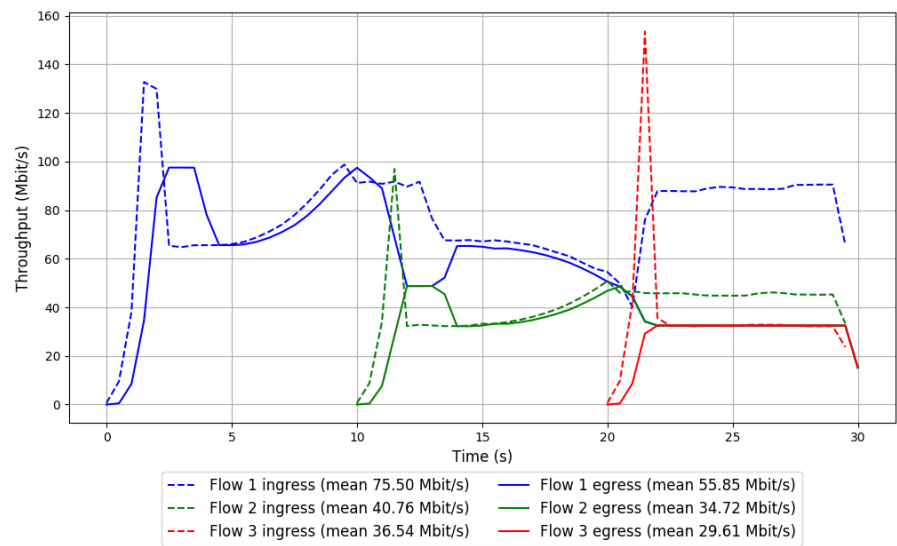
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-20 11:57:36
End at: 2019-02-20 11:58:06
Local clock offset: -56.868 ms
Remote clock offset: 7.145 ms


# Below is generated by plot.py at 2019-02-20 12:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.53 Mbit/s
95th percentile per-packet one-way delay: 33.943 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 33.736 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 34.049 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 32.304 ms
Loss rate: 3.48%
```

Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-20 10:07:59
End at: 2019-02-20 10:08:29
Local clock offset: -62.133 ms
Remote clock offset: 8.496 ms


# Below is generated by plot.py at 2019-02-20 12:18:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.97 Mbit/s
95th percentile per-packet one-way delay: 1385.673 ms
Loss rate: 22.55%
-- Flow 1:
Average throughput: 55.61 Mbit/s
95th percentile per-packet one-way delay: 1427.805 ms
Loss rate: 25.31%
-- Flow 2:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 1127.866 ms
Loss rate: 15.72%
-- Flow 3:
Average throughput: 29.48 Mbit/s
95th percentile per-packet one-way delay: 1298.686 ms
Loss rate: 20.77%
```
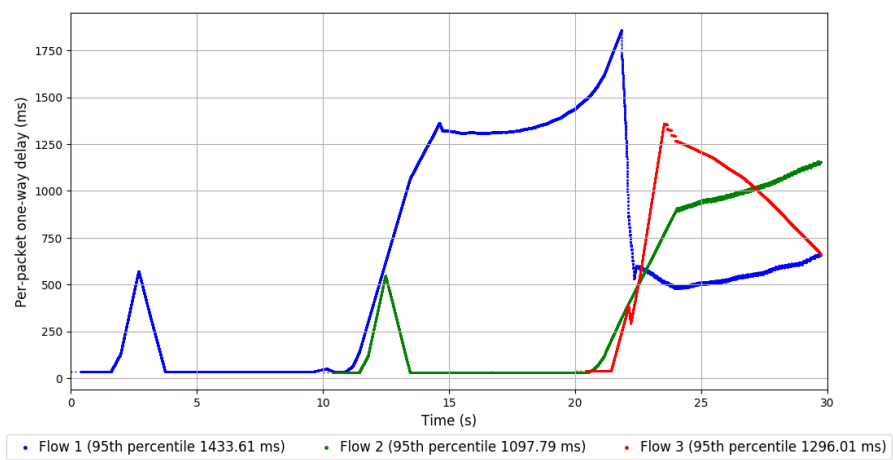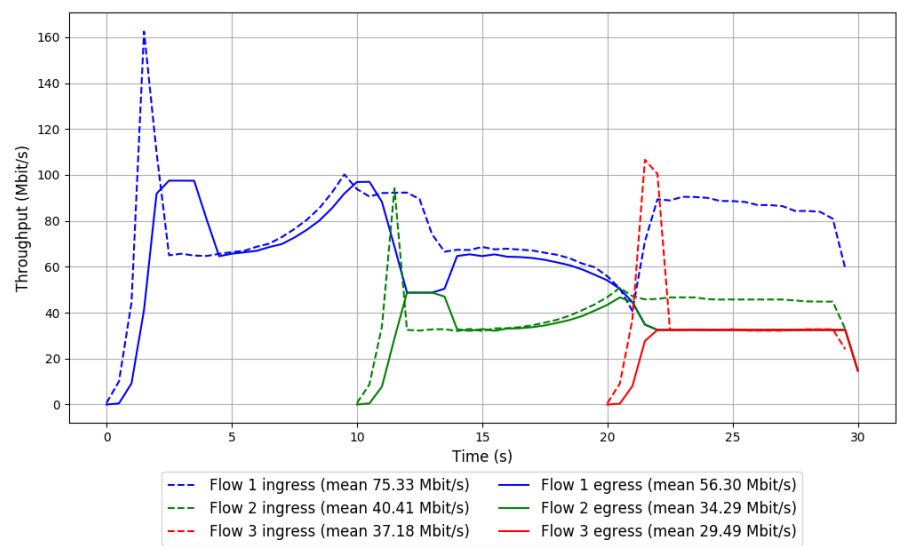
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 74.02 Mbit/s) — Flow 1 egress (mean 55.61 Mbit/s)
Flow 2 ingress (mean 40.32 Mbit/s) — Flow 2 egress (mean 34.27 Mbit/s)
Flow 3 ingress (mean 36.57 Mbit/s) — Flow 3 egress (mean 29.48 Mbit/s)

Flow 1 (95th percentile 1427.81 ms)   Flow 2 (95th percentile 1127.87 ms)   Flow 3 (95th percentile 1298.69 ms)

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```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-20 10:35:03
End at: 2019-02-20 10:35:33
Local clock offset: -60.115 ms
Remote clock offset: 3.538 ms


# Below is generated by plot.py at 2019-02-20 12:18:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.52 Mbit/s
95th percentile per-packet one-way delay: 1422.077 ms
Loss rate: 23.24%
-- Flow 1:
Average throughput: 55.85 Mbit/s
95th percentile per-packet one-way delay: 1503.805 ms
Loss rate: 26.45%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 1077.340 ms
Loss rate: 15.58%
-- Flow 3:
Average throughput: 29.61 Mbit/s
95th percentile per-packet one-way delay: 1363.444 ms
Loss rate: 20.36%
```
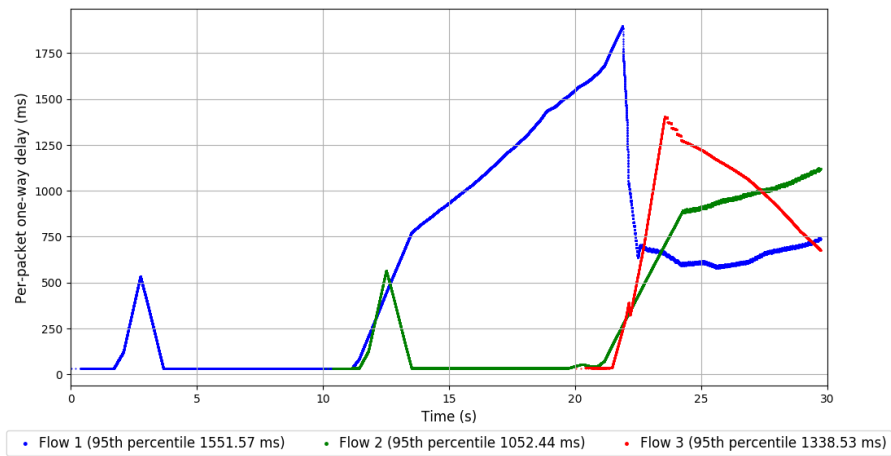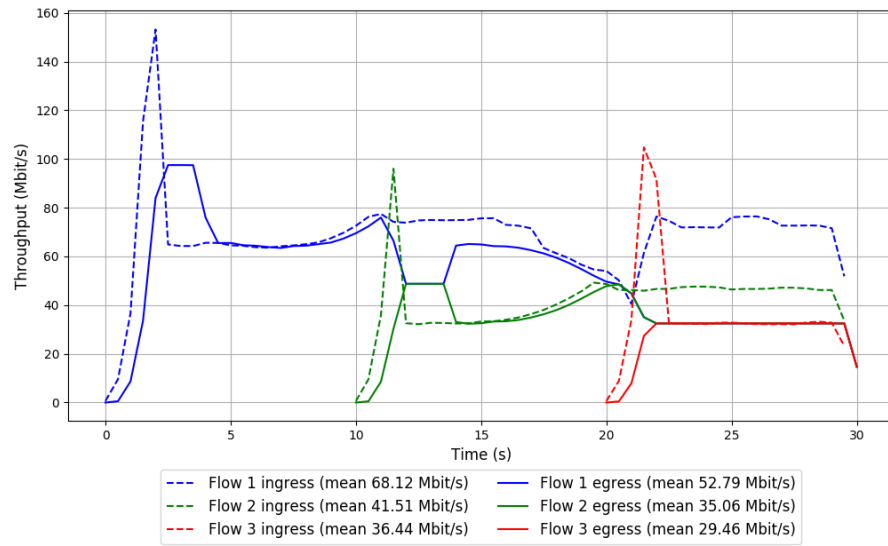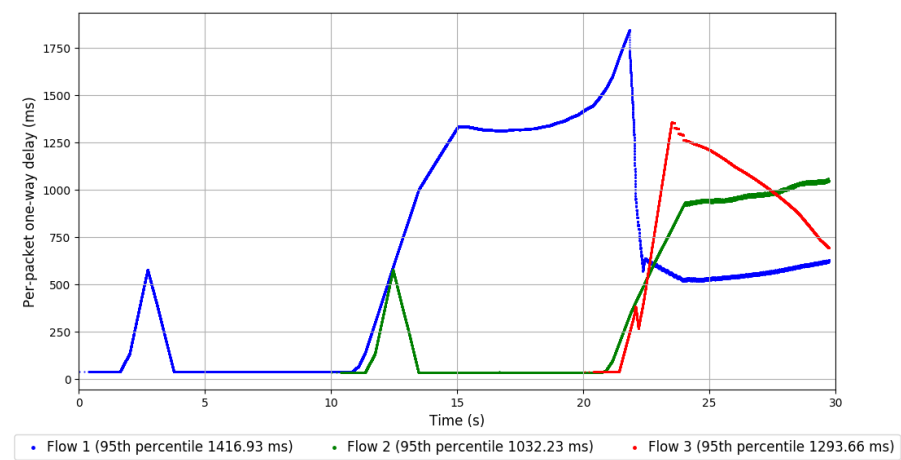
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 75.50 Mbit/s) — Flow 1 egress (mean 55.85 Mbit/s)
Flow 2 ingress (mean 40.76 Mbit/s) — Flow 2 egress (mean 34.72 Mbit/s)
Flow 3 ingress (mean 36.54 Mbit/s) — Flow 3 egress (mean 29.61 Mbit/s)

Flow 1 (95th percentile 1503.81 ms) • Flow 2 (95th percentile 1077.34 ms) • Flow 3 (95th percentile 1363.44 ms)
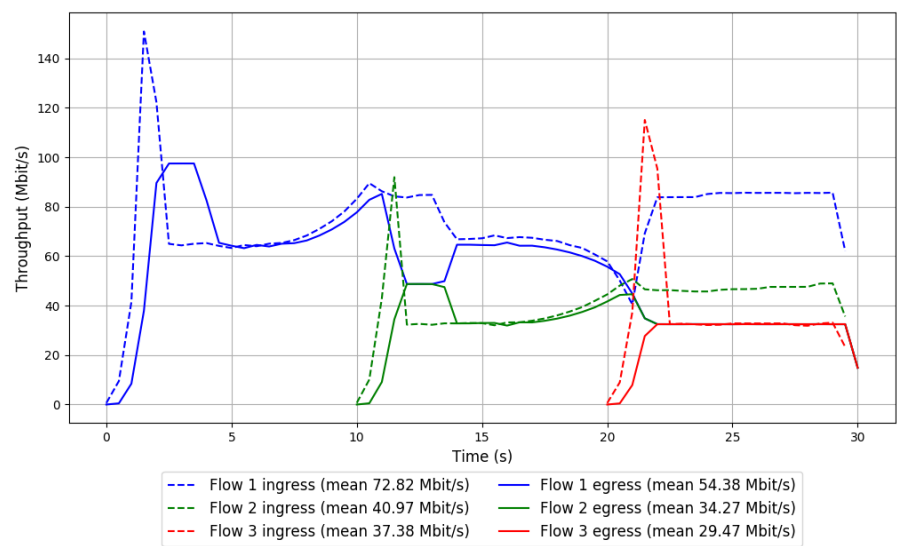
118

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-20 11:02:08
End at: 2019-02-20 11:02:38
Local clock offset: -57.04 ms
Remote clock offset: 6.82 ms


# Below is generated by plot.py at 2019-02-20 12:18:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 1372.492 ms
Loss rate: 22.99%
-- Flow 1:
Average throughput: 56.30 Mbit/s
95th percentile per-packet one-way delay: 1433.612 ms
Loss rate: 25.69%
-- Flow 2:
Average throughput: 34.29 Mbit/s
95th percentile per-packet one-way delay: 1097.785 ms
Loss rate: 15.84%
-- Flow 3:
Average throughput: 29.49 Mbit/s
95th percentile per-packet one-way delay: 1296.005 ms
Loss rate: 22.10%
```
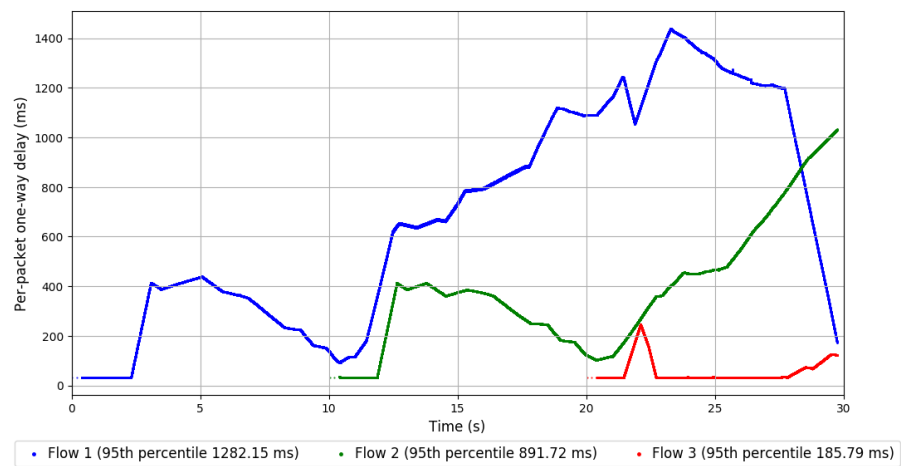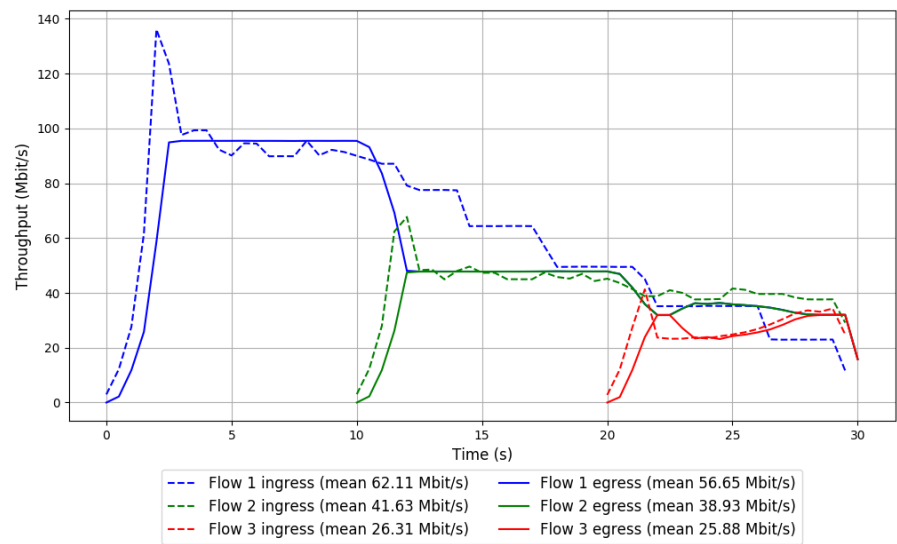
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 75.33 Mbit/s) --- Flow 1 egress (mean 56.30 Mbit/s)
Flow 2 ingress (mean 40.41 Mbit/s) --- Flow 2 egress (mean 34.29 Mbit/s)
Flow 3 ingress (mean 37.18 Mbit/s) --- Flow 3 egress (mean 29.49 Mbit/s)

Flow 1 (95th percentile 1433.61 ms)   Flow 2 (95th percentile 1097.79 ms)   Flow 3 (95th percentile 1296.01 ms)

120

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-20 11:29:14
End at: 2019-02-20 11:29:44
Local clock offset: -56.19 ms
Remote clock offset: 6.393 ms


# Below is generated by plot.py at 2019-02-20 12:19:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.64 Mbit/s
95th percentile per-packet one-way delay: 1449.575 ms
Loss rate: 20.97%
-- Flow 1:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 1551.568 ms
Loss rate: 22.95%
-- Flow 2:
Average throughput: 35.06 Mbit/s
95th percentile per-packet one-way delay: 1052.440 ms
Loss rate: 16.26%
-- Flow 3:
Average throughput: 29.46 Mbit/s
95th percentile per-packet one-way delay: 1338.526 ms
Loss rate: 20.58%
```
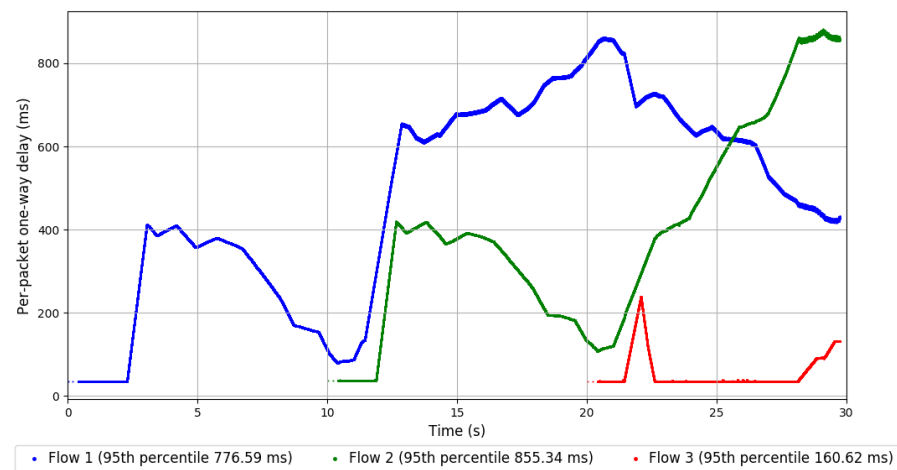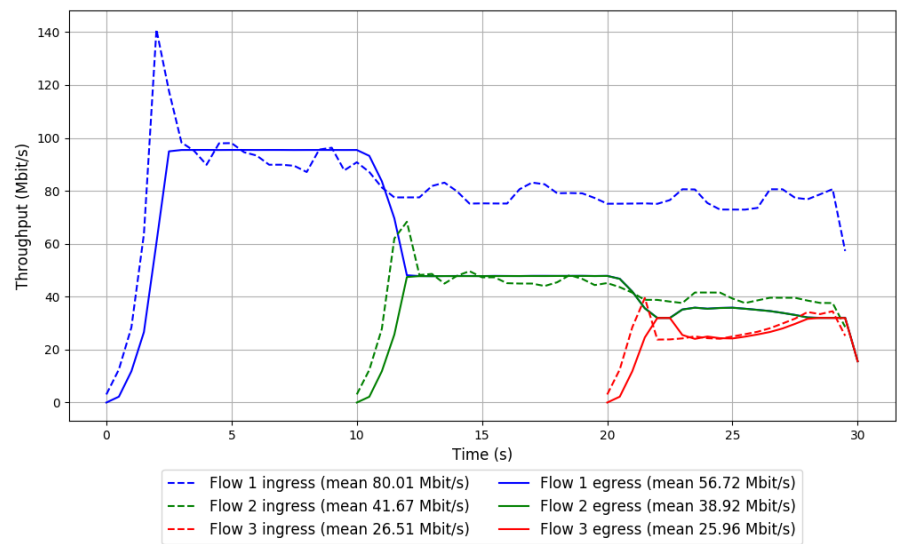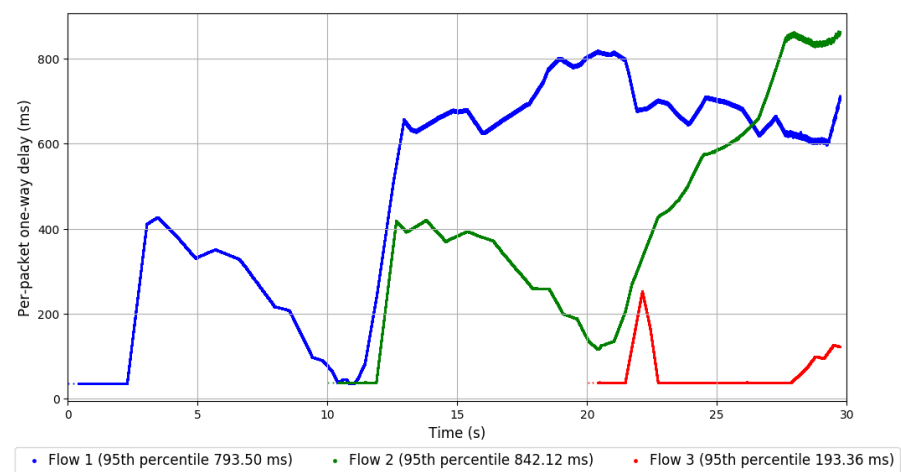
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-20 11:56:19
End at: 2019-02-20 11:56:49
Local clock offset: -57.017 ms
Remote clock offset: 2.981 ms


# Below is generated by plot.py at 2019-02-20 12:19:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.72 Mbit/s
95th percentile per-packet one-way delay: 1361.289 ms
Loss rate: 23.29%
-- Flow 1:
Average throughput: 54.38 Mbit/s
95th percentile per-packet one-way delay: 1416.930 ms
Loss rate: 25.76%
-- Flow 2:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 1032.226 ms
Loss rate: 17.06%
-- Flow 3:
Average throughput: 29.47 Mbit/s
95th percentile per-packet one-way delay: 1293.660 ms
Loss rate: 22.51%
```

Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 72.82 Mbit/s) --- Flow 1 egress (mean 54.38 Mbit/s)
Flow 2 ingress (mean 40.97 Mbit/s) --- Flow 2 egress (mean 34.27 Mbit/s)
Flow 3 ingress (mean 37.38 Mbit/s) --- Flow 3 egress (mean 29.47 Mbit/s)

Flow 1 (95th percentile 1416.93 ms)   Flow 2 (95th percentile 1032.23 ms)   Flow 3 (95th percentile 1293.66 ms)
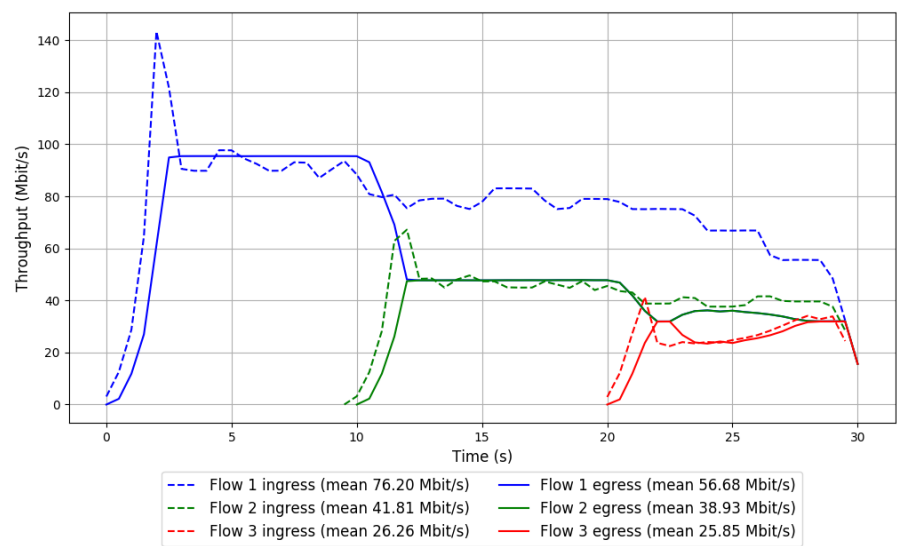
124

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-20 10:10:31
End at: 2019-02-20 10:11:01
Local clock offset: -61.985 ms
Remote clock offset: 9.651 ms


# Below is generated by plot.py at 2019-02-20 12:20:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 1218.492 ms
Loss rate: 8.22%
-- Flow 1:
Average throughput: 56.65 Mbit/s
95th percentile per-packet one-way delay: 1282.150 ms
Loss rate: 9.31%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 891.718 ms
Loss rate: 7.30%
-- Flow 3:
Average throughput: 25.88 Mbit/s
95th percentile per-packet one-way delay: 185.790 ms
Loss rate: 3.36%
```
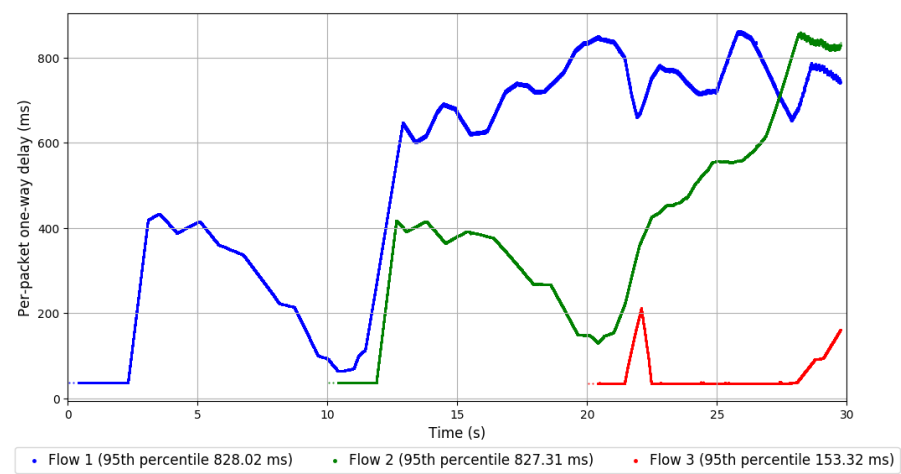
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 62.11 Mbit/s) ---- Flow 1 egress (mean 56.65 Mbit/s)
Flow 2 ingress (mean 41.63 Mbit/s) ---- Flow 2 egress (mean 38.93 Mbit/s)
Flow 3 ingress (mean 26.31 Mbit/s) ---- Flow 3 egress (mean 25.88 Mbit/s)

Flow 1 (95th percentile 1282.15 ms)   Flow 2 (95th percentile 891.72 ms)   Flow 3 (95th percentile 185.79 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-20 10:37:35
End at: 2019-02-20 10:38:05
Local clock offset: -59.481 ms
Remote clock offset: 4.565 ms


# Below is generated by plot.py at 2019-02-20 12:20:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.00 Mbit/s
95th percentile per-packet one-way delay: 785.179 ms
Loss rate: 22.31%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 776.590 ms
Loss rate: 29.51%
-- Flow 2:
Average throughput: 38.92 Mbit/s
95th percentile per-packet one-way delay: 855.344 ms
Loss rate: 7.40%
-- Flow 3:
Average throughput: 25.96 Mbit/s
95th percentile per-packet one-way delay: 160.623 ms
Loss rate: 3.76%
```
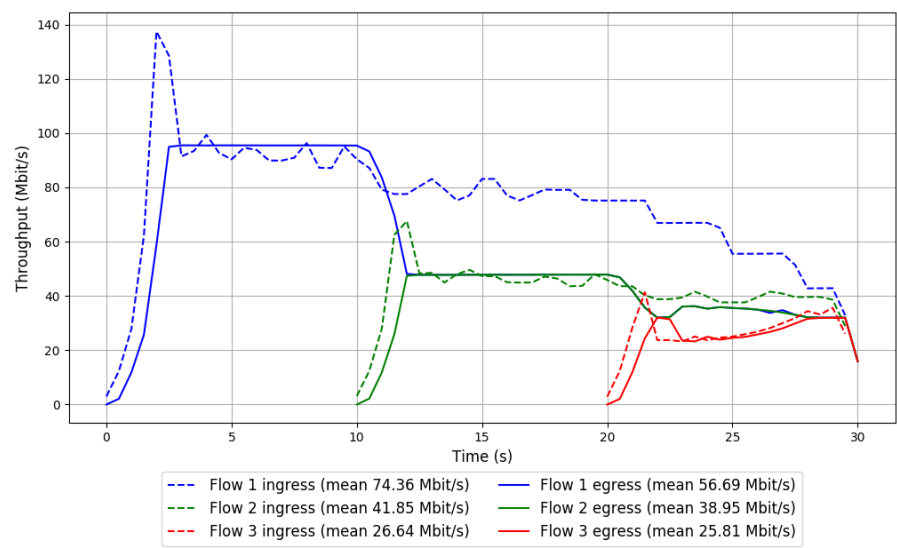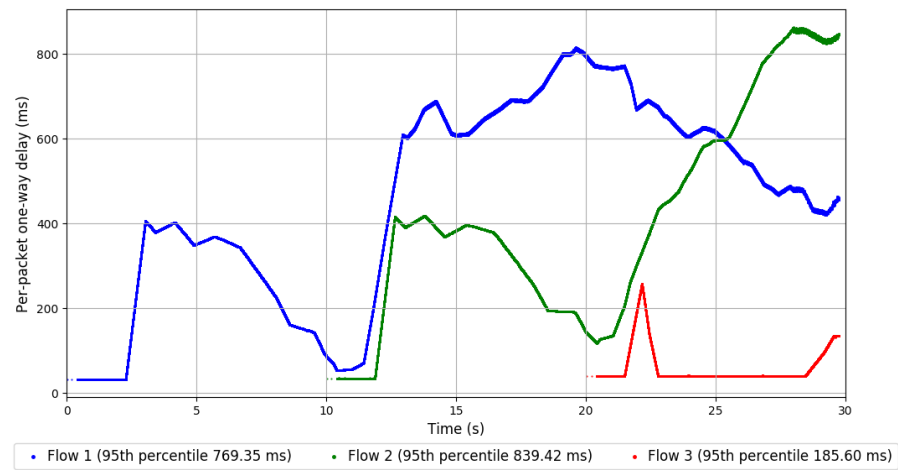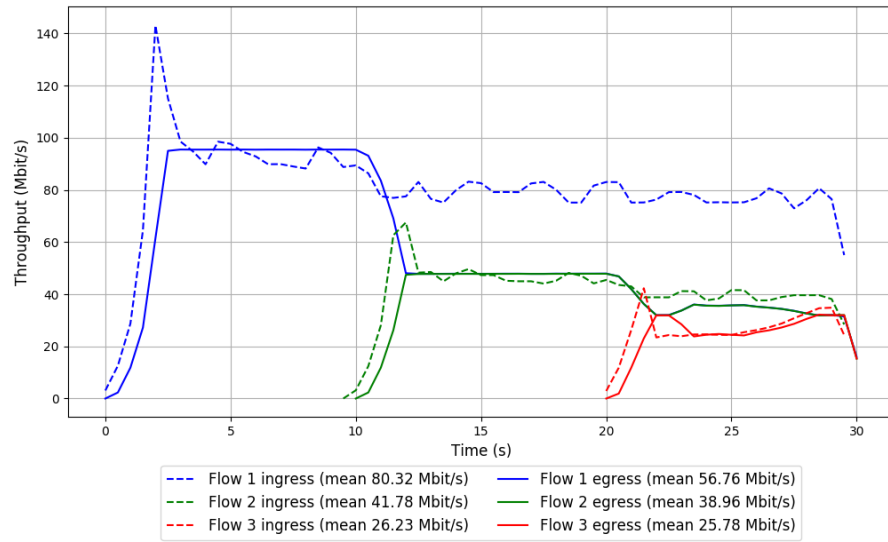
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 80.01 Mbit/s) — Flow 1 egress (mean 56.72 Mbit/s)
Flow 2 ingress (mean 41.67 Mbit/s) — Flow 2 egress (mean 38.92 Mbit/s)
Flow 3 ingress (mean 26.51 Mbit/s) — Flow 3 egress (mean 25.96 Mbit/s)

Flow 1 (95th percentile 776.59 ms)   Flow 2 (95th percentile 855.34 ms)   Flow 3 (95th percentile 160.62 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-20 11:04:40
End at: 2019-02-20 11:05:10
Local clock offset: -56.993 ms
Remote clock offset: 1.723 ms


# Below is generated by plot.py at 2019-02-20 12:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 799.215 ms
Loss rate: 19.75%
-- Flow 1:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 793.497 ms
Loss rate: 26.03%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 842.125 ms
Loss rate: 7.69%
-- Flow 3:
Average throughput: 25.85 Mbit/s
95th percentile per-packet one-way delay: 193.356 ms
Loss rate: 3.30%
```
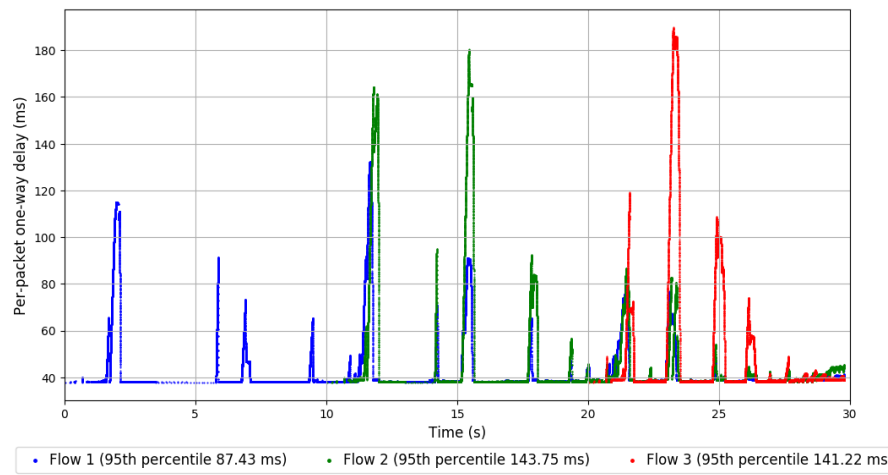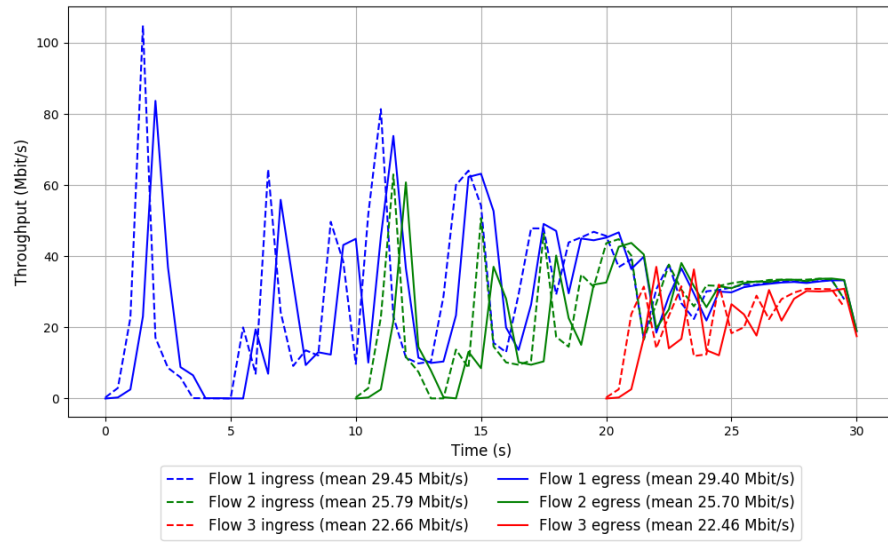
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 76.20 Mbit/s) — Flow 1 egress (mean 56.68 Mbit/s)
Flow 2 ingress (mean 41.81 Mbit/s) — Flow 2 egress (mean 38.93 Mbit/s)
Flow 3 ingress (mean 26.26 Mbit/s) — Flow 3 egress (mean 25.85 Mbit/s)

Flow 1 (95th percentile 793.50 ms) · Flow 2 (95th percentile 842.12 ms) · Flow 3 (95th percentile 193.36 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-20 11:31:46
End at: 2019-02-20 11:32:16
Local clock offset: -56.31 ms
Remote clock offset: 2.795 ms


# Below is generated by plot.py at 2019-02-20 12:20:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 824.064 ms
Loss rate: 18.52%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 828.020 ms
Loss rate: 24.19%
-- Flow 2:
Average throughput: 38.95 Mbit/s
95th percentile per-packet one-way delay: 827.313 ms
Loss rate: 7.72%
-- Flow 3:
Average throughput: 25.81 Mbit/s
95th percentile per-packet one-way delay: 153.321 ms
Loss rate: 4.81%
```
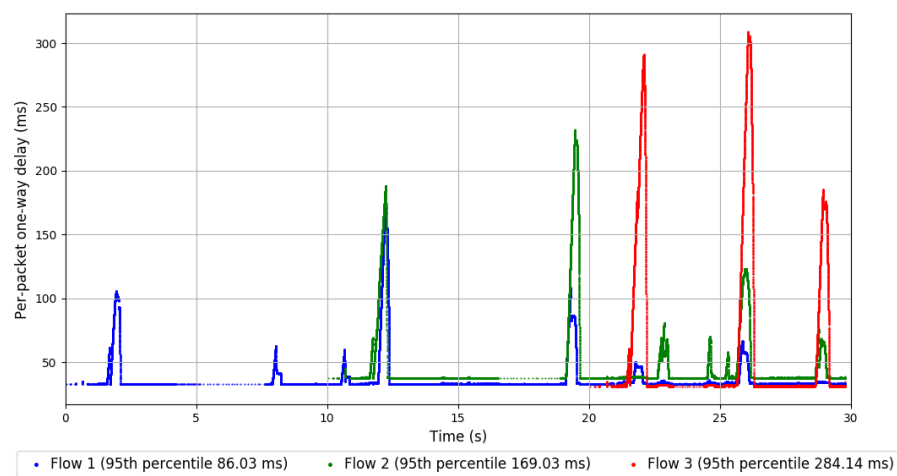
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 74.36 Mbit/s) — Flow 1 egress (mean 56.69 Mbit/s)
Flow 2 ingress (mean 41.85 Mbit/s) — Flow 2 egress (mean 38.95 Mbit/s)
Flow 3 ingress (mean 26.64 Mbit/s) — Flow 3 egress (mean 25.81 Mbit/s)

Flow 1 (95th percentile 828.02 ms) — Flow 2 (95th percentile 827.31 ms) — Flow 3 (95th percentile 153.32 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-20 11:58:51
End at: 2019-02-20 11:59:21
Local clock offset: -56.844 ms
Remote clock offset: 6.104 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.02 Mbit/s
95th percentile per-packet one-way delay: 787.509 ms
Loss rate: 22.50%
-- Flow 1:
Average throughput: 56.76 Mbit/s
95th percentile per-packet one-way delay: 769.347 ms
Loss rate: 29.73%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 839.422 ms
Loss rate: 7.54%
-- Flow 3:
Average throughput: 25.78 Mbit/s
95th percentile per-packet one-way delay: 185.596 ms
Loss rate: 3.47%
```

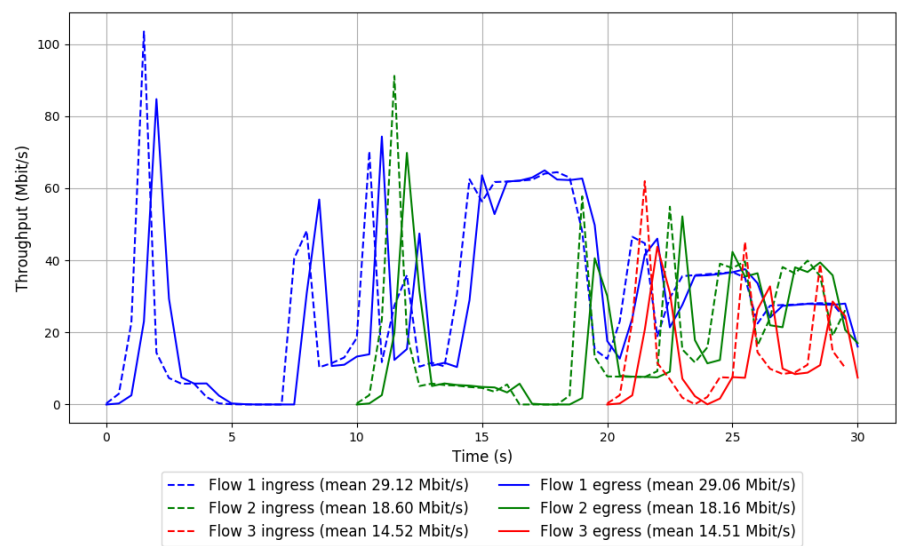Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-20 09:57:39
End at: 2019-02-20 09:58:09
Local clock offset: -62.336 ms
Remote clock offset: 2.872 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 107.036 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 87.430 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 25.70 Mbit/s
95th percentile per-packet one-way delay: 143.745 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 22.46 Mbit/s
95th percentile per-packet one-way delay: 141.220 ms
Loss rate: 2.62%
```

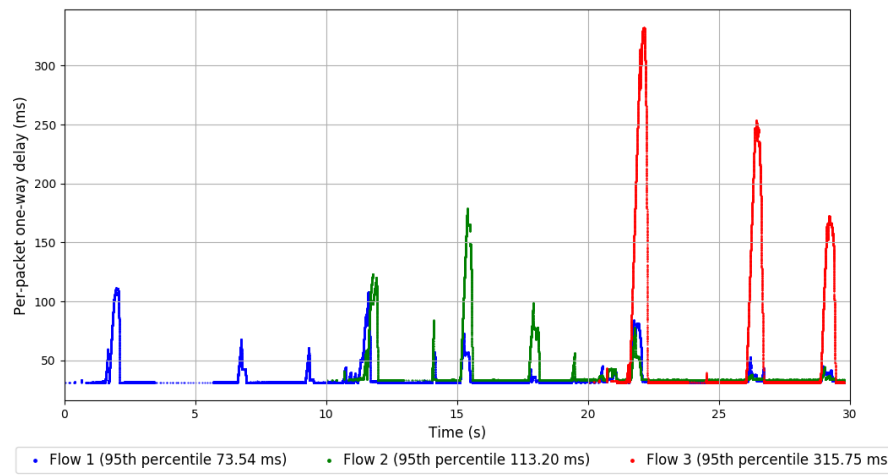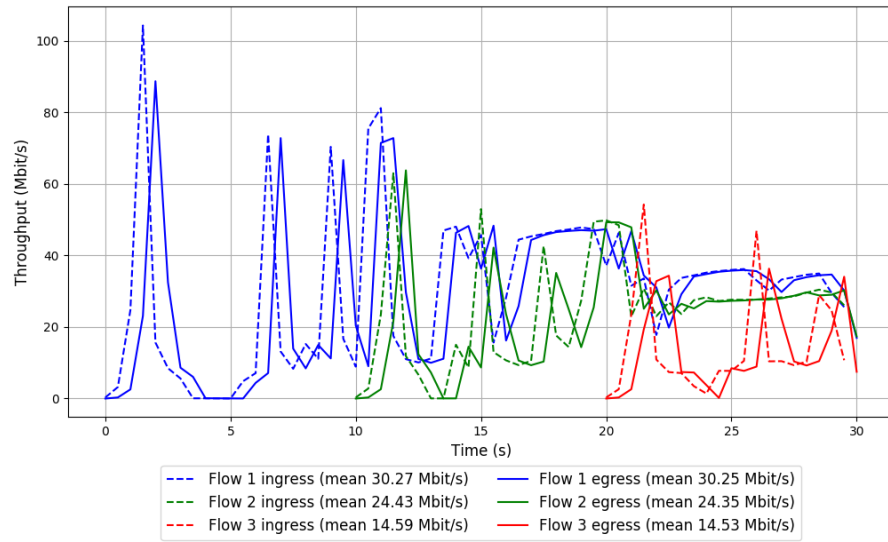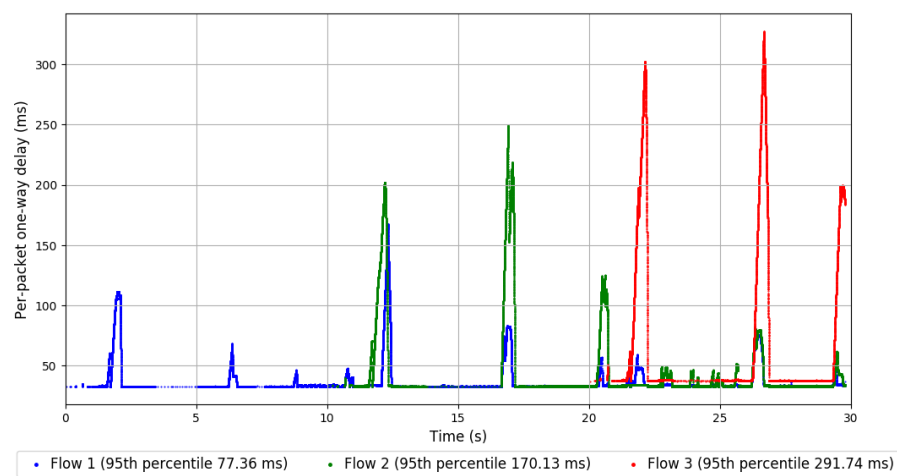Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 29.45 Mbit/s)   Flow 1 egress (mean 29.40 Mbit/s)
Flow 2 ingress (mean 25.79 Mbit/s)   Flow 2 egress (mean 25.70 Mbit/s)
Flow 3 ingress (mean 22.66 Mbit/s)   Flow 3 egress (mean 22.46 Mbit/s)

Flow 1 (95th percentile 87.43 ms)   Flow 2 (95th percentile 143.75 ms)   Flow 3 (95th percentile 141.22 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-20 10:24:44
End at: 2019-02-20 10:25:14
Local clock offset: -62.068 ms
Remote clock offset: 3.206 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.50 Mbit/s
95th percentile per-packet one-way delay: 117.058 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 30.64 Mbit/s
95th percentile per-packet one-way delay: 81.832 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 25.10 Mbit/s
95th percentile per-packet one-way delay: 123.677 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 307.161 ms
Loss rate: 9.23%
```

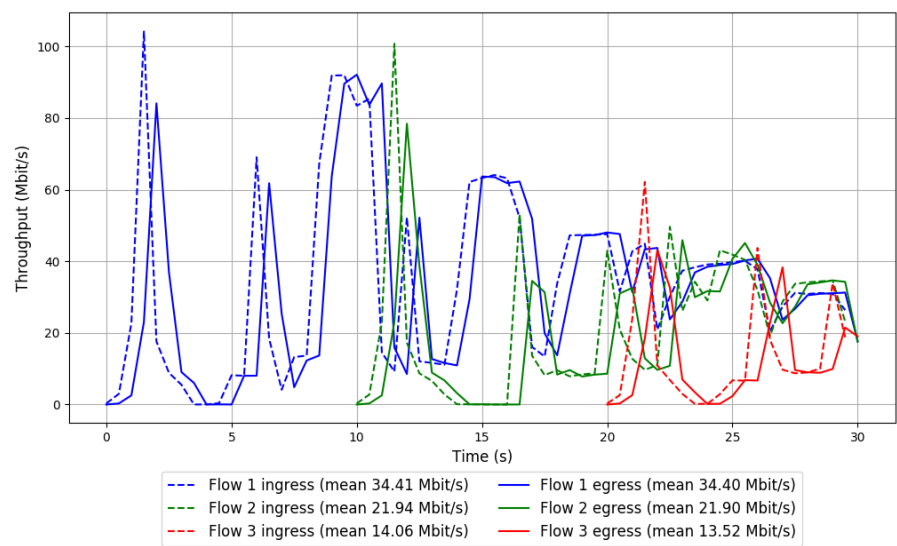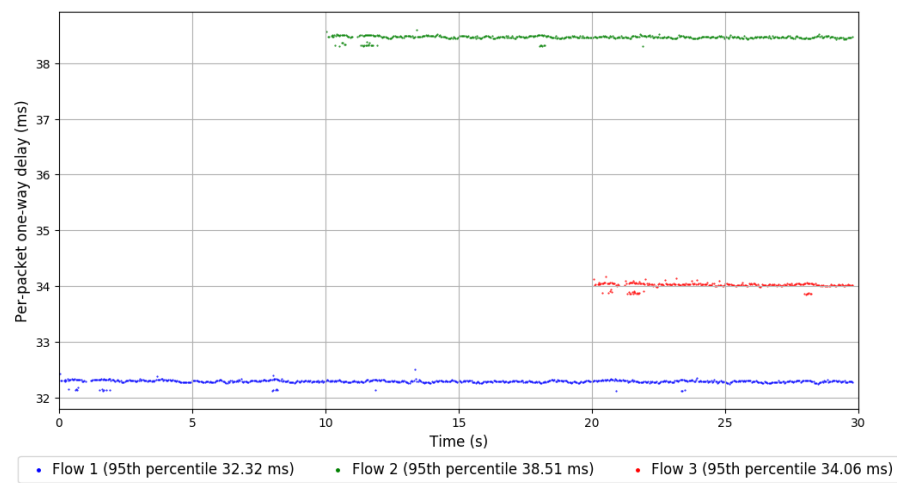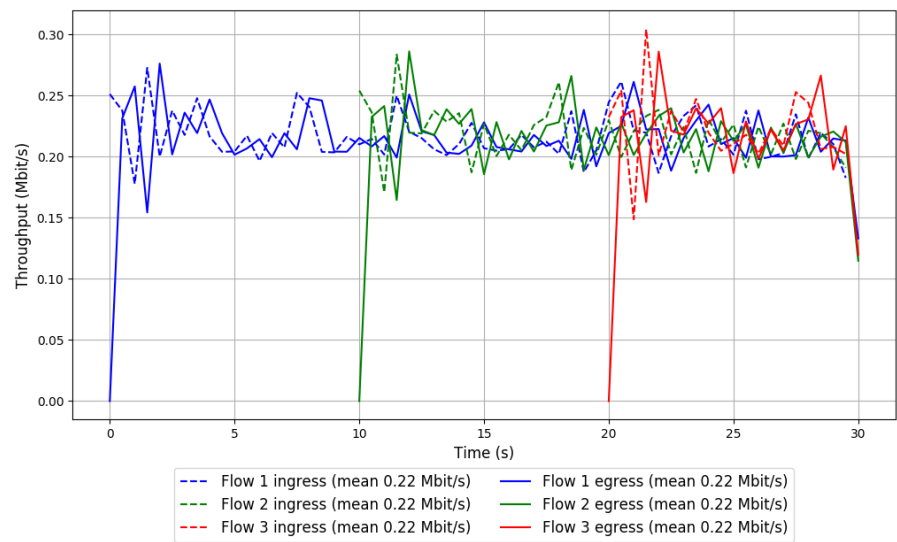Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 30.69 Mbit/s)   —— Flow 1 egress (mean 30.64 Mbit/s)
- - - Flow 2 ingress (mean 25.20 Mbit/s)   —— Flow 2 egress (mean 25.10 Mbit/s)
- - - Flow 3 ingress (mean 13.94 Mbit/s)   —— Flow 3 egress (mean 12.88 Mbit/s)

• Flow 1 (95th percentile 81.83 ms)   • Flow 2 (95th percentile 123.68 ms)   • Flow 3 (95th percentile 307.16 ms)
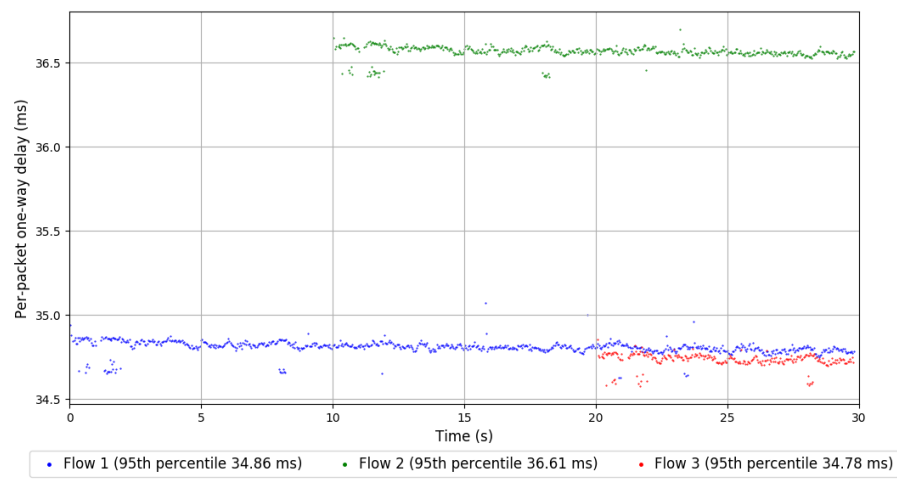
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-20 10:51:48
End at: 2019-02-20 10:52:18
Local clock offset: -57.591 ms
Remote clock offset: 7.56 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.84 Mbit/s
95th percentile per-packet one-way delay: 155.533 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 29.06 Mbit/s
95th percentile per-packet one-way delay: 86.032 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 18.16 Mbit/s
95th percentile per-packet one-way delay: 169.029 ms
Loss rate: 3.26%
-- Flow 3:
Average throughput: 14.51 Mbit/s
95th percentile per-packet one-way delay: 284.141 ms
Loss rate: 1.68%
```

Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 29.12 Mbit/s) — — — Flow 1 egress (mean 29.06 Mbit/s)
Flow 2 ingress (mean 18.60 Mbit/s) — — — Flow 2 egress (mean 18.16 Mbit/s)
Flow 3 ingress (mean 14.52 Mbit/s) — — — Flow 3 egress (mean 14.51 Mbit/s)

Flow 1 (95th percentile 86.03 ms) · Flow 2 (95th percentile 169.03 ms) · Flow 3 (95th percentile 284.14 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-20 11:18:54
End at: 2019-02-20 11:19:24
Local clock offset: -56.552 ms
Remote clock offset: 5.961 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.14 Mbit/s
95th percentile per-packet one-way delay: 115.397 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 30.25 Mbit/s
95th percentile per-packet one-way delay: 73.544 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 113.205 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 14.53 Mbit/s
95th percentile per-packet one-way delay: 315.750 ms
Loss rate: 2.14%
```
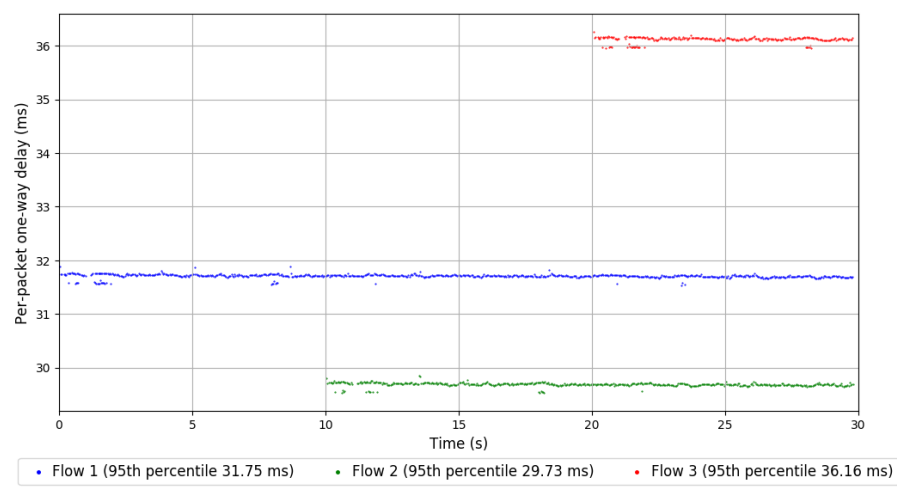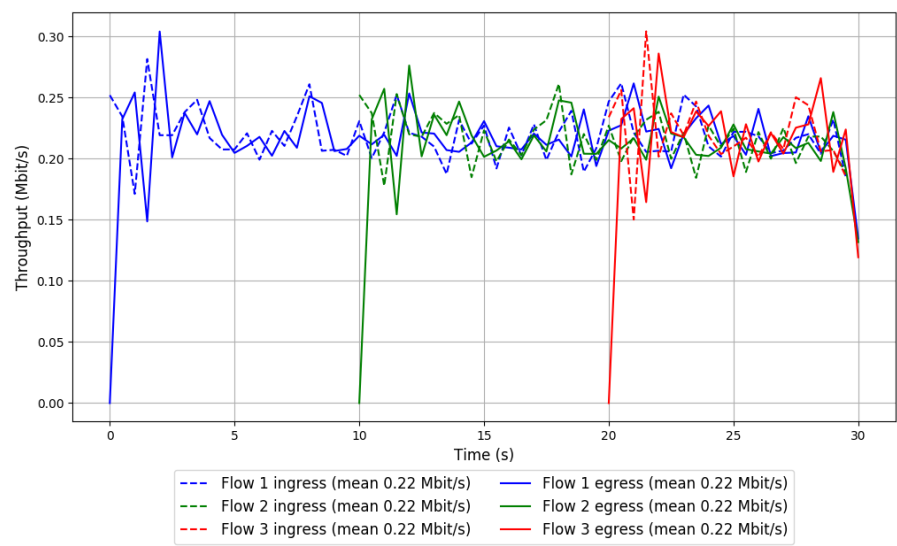
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-20 11:45:59
End at: 2019-02-20 11:46:29
Local clock offset: -56.913 ms
Remote clock offset: 6.892 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.35 Mbit/s
95th percentile per-packet one-way delay: 148.393 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 34.40 Mbit/s
95th percentile per-packet one-way delay: 77.363 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 21.90 Mbit/s
95th percentile per-packet one-way delay: 170.133 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 13.52 Mbit/s
95th percentile per-packet one-way delay: 291.735 ms
Loss rate: 5.56%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 34.41 Mbit/s) --- Flow 1 egress (mean 34.40 Mbit/s)
Flow 2 ingress (mean 21.94 Mbit/s) --- Flow 2 egress (mean 21.90 Mbit/s)
Flow 3 ingress (mean 14.06 Mbit/s) --- Flow 3 egress (mean 13.52 Mbit/s)

Flow 1 (95th percentile 77.36 ms) · Flow 2 (95th percentile 170.13 ms) · Flow 3 (95th percentile 291.74 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-02-20 10:19:37
End at: 2019-02-20 10:20:07
Local clock offset: -62.011 ms
Remote clock offset: 7.234 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 38.493 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.324 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 38.506 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.064 ms
Loss rate: 1.85%
```
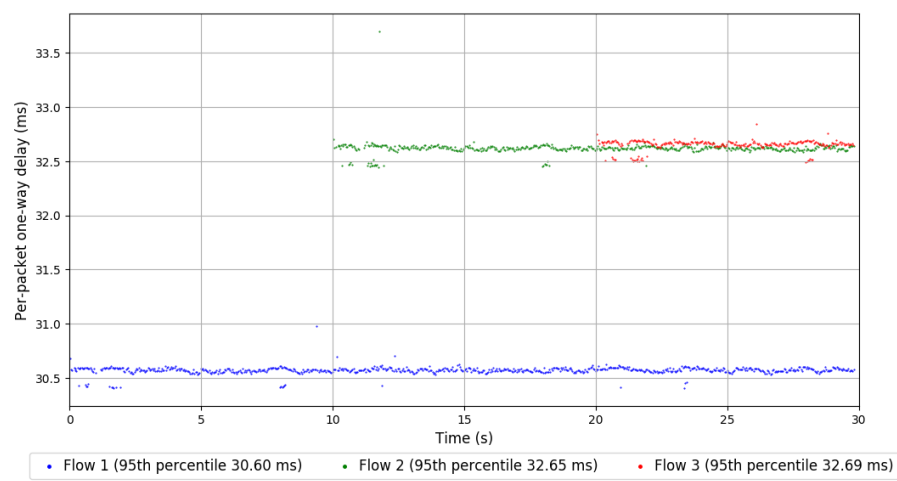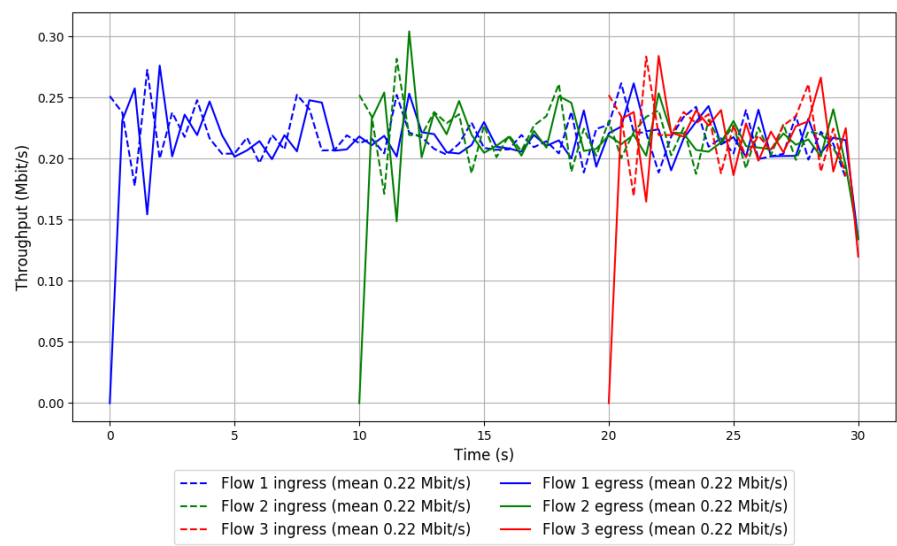
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-20 10:46:41
End at: 2019-02-20 10:47:11
Local clock offset: -58.009 ms
Remote clock offset: 4.753 ms

# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 36.596 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.858 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.610 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.778 ms
Loss rate: 1.84%
```
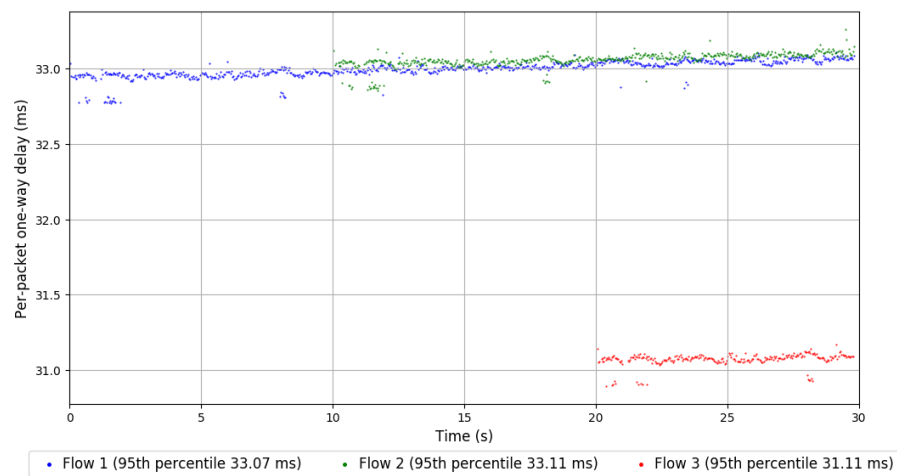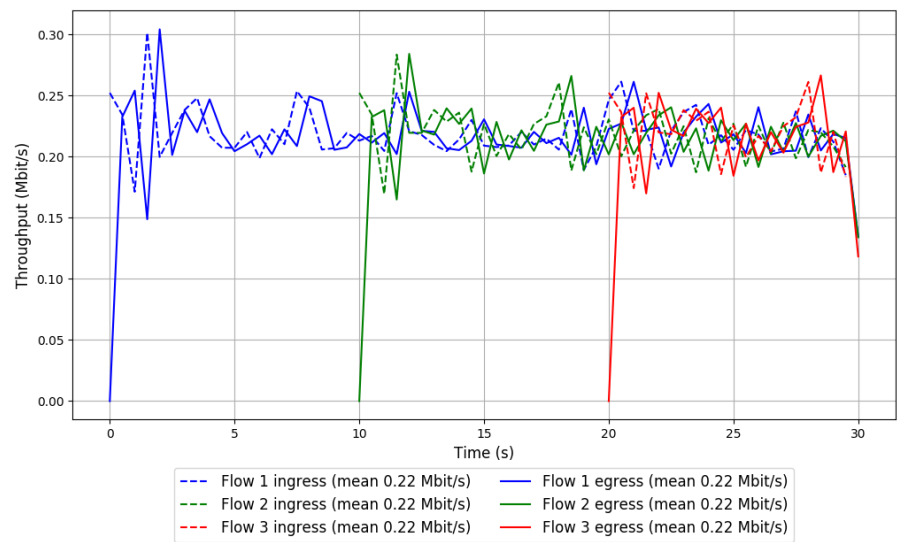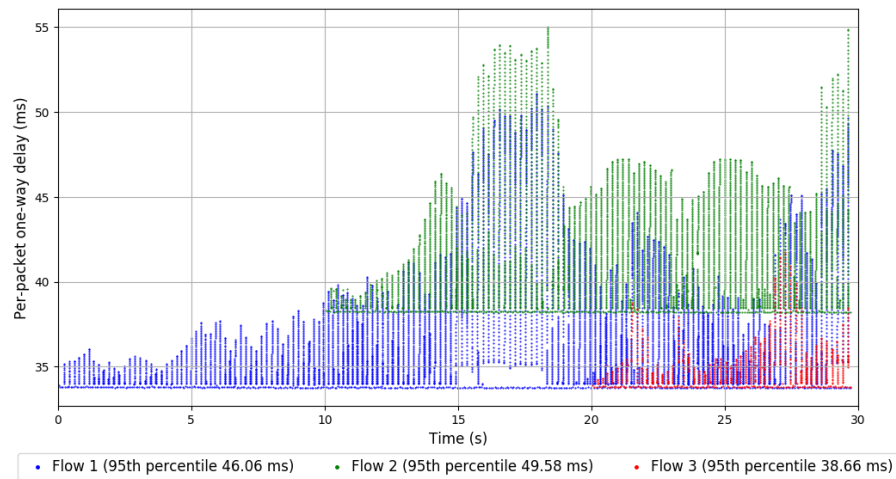
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-02-20 11:13:46
End at: 2019-02-20 11:14:16
Local clock offset: -56.68 ms
Remote clock offset: 7.433 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 36.143 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.750 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 29.727 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.162 ms
Loss rate: 1.50%
```
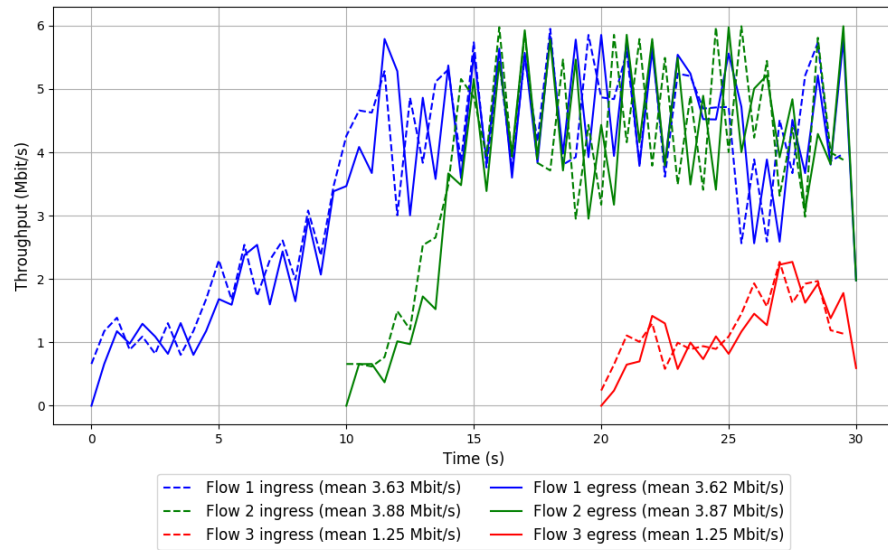
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-20 11:40:52
End at: 2019-02-20 11:41:22
Local clock offset: -57.043 ms
Remote clock offset: 7.006 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 32.675 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.601 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.651 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.692 ms
Loss rate: 1.85%
```
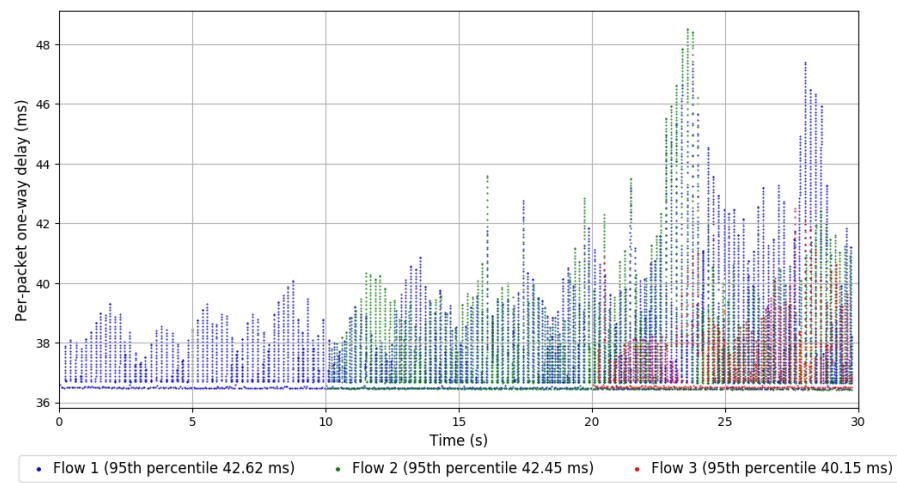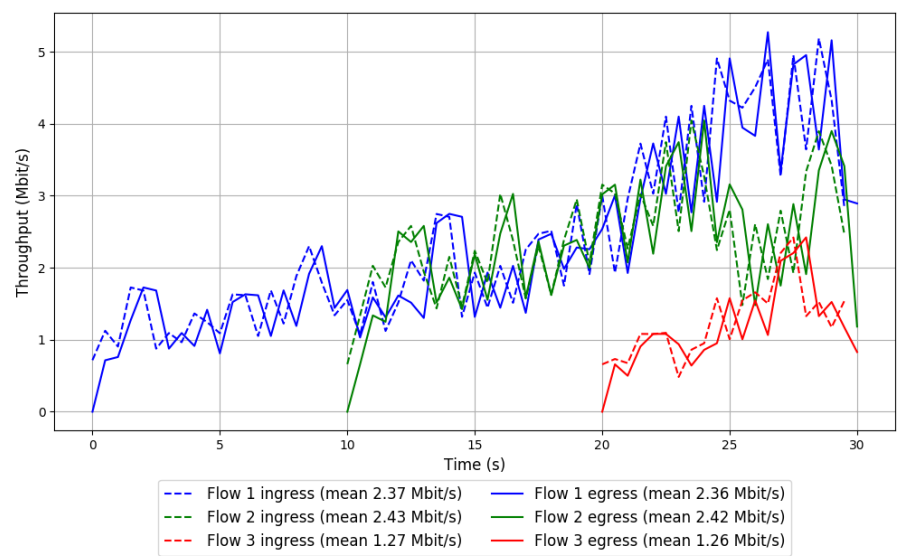
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-02-20 12:07:58
End at: 2019-02-20 12:08:28
Local clock offset: -60.14 ms
Remote clock offset: 8.008 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 33.098 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.069 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.113 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.112 ms
Loss rate: 1.85%
```
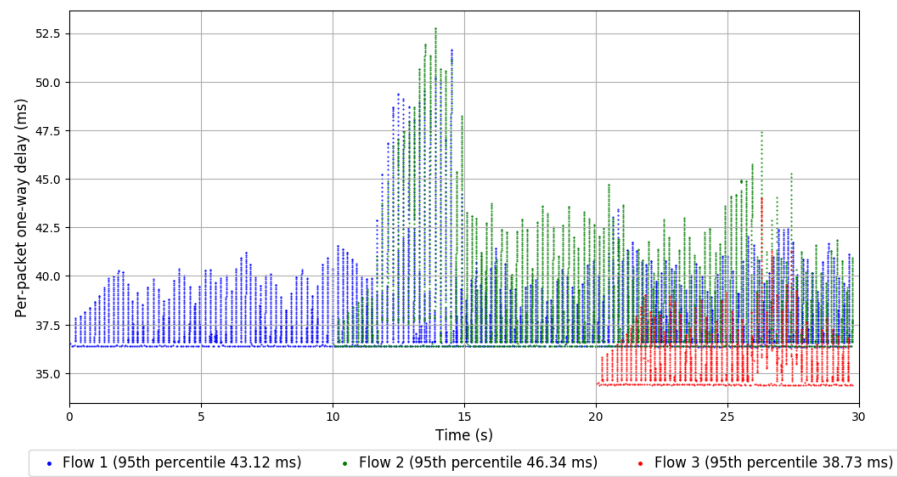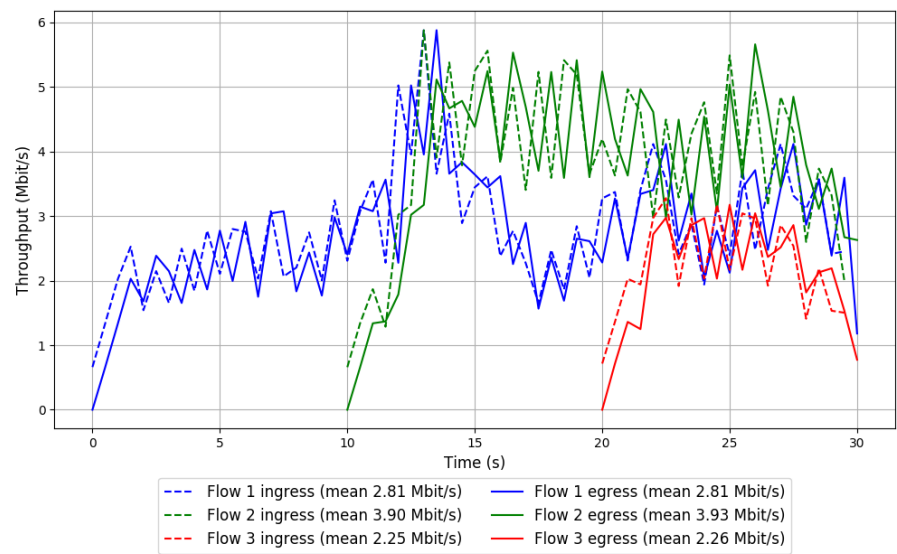
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-02-20 10:17:06
End at: 2019-02-20 10:17:36
Local clock offset: -62.019 ms
Remote clock offset: 7.419 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 47.323 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 46.058 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 49.578 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 38.662 ms
Loss rate: 2.20%
```
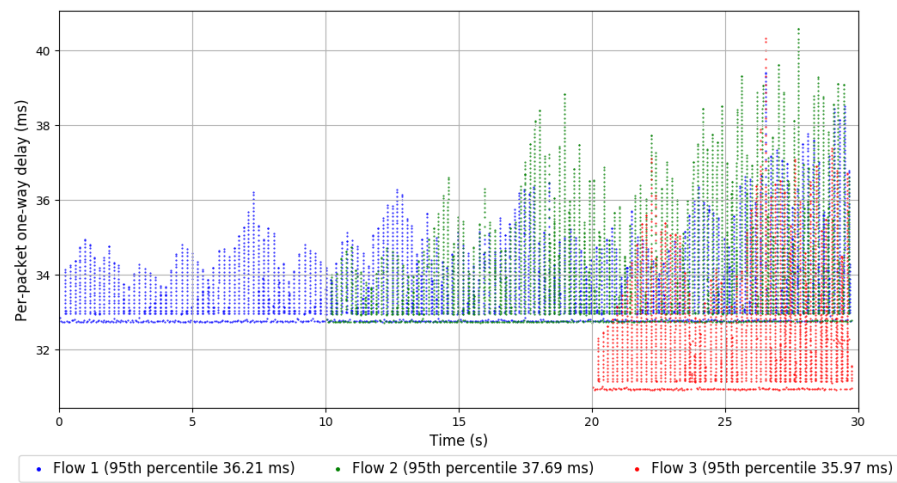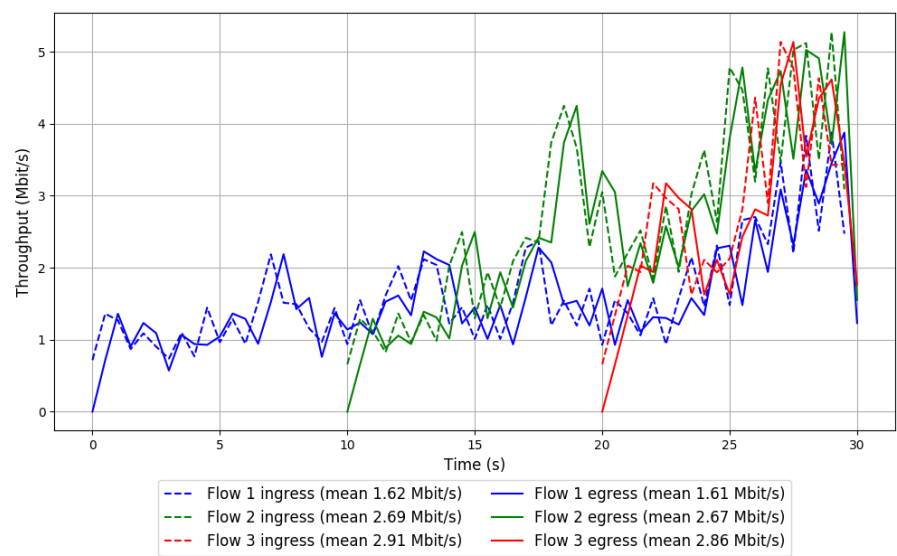
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-02-20 10:44:11
End at: 2019-02-20 10:44:41
Local clock offset: -58.359 ms
Remote clock offset: 4.596 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 42.337 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 42.625 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 42.446 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 40.151 ms
Loss rate: 2.84%
```
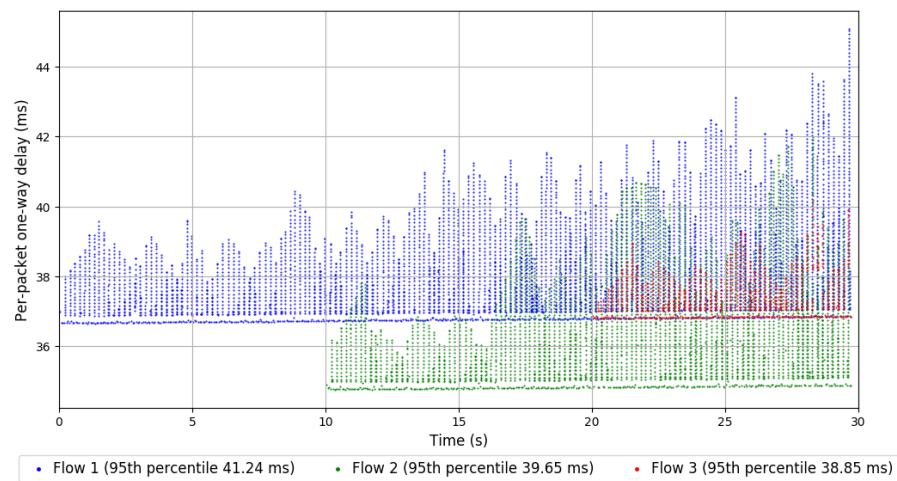
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-20 11:11:16
End at: 2019-02-20 11:11:46
Local clock offset: -56.803 ms
Remote clock offset: 2.633 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 44.504 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 43.119 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 46.342 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 38.726 ms
Loss rate: 1.64%
```
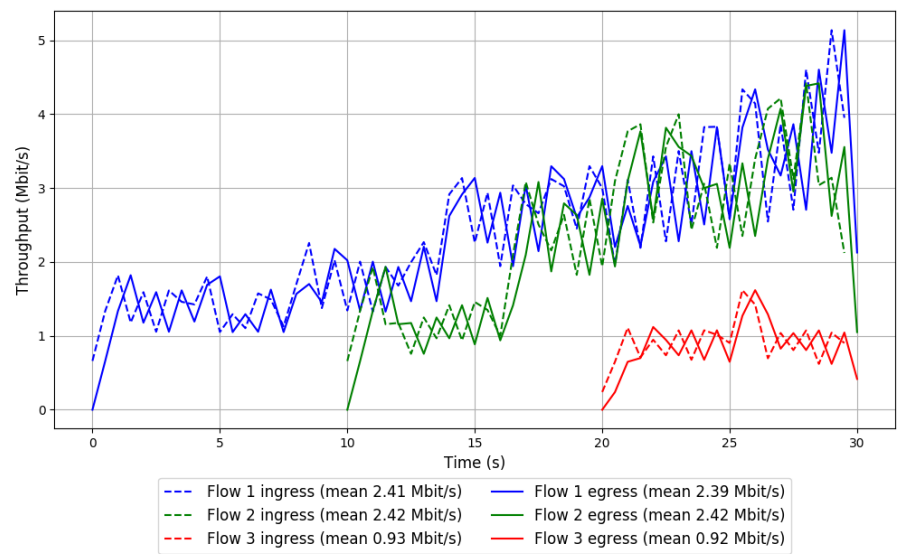
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-20 11:38:22
End at: 2019-02-20 11:38:52
Local clock offset: -56.824 ms
Remote clock offset: 6.832 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 36.946 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 36.210 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 2.67 Mbit/s
95th percentile per-packet one-way delay: 37.693 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 35.969 ms
Loss rate: 2.93%
```
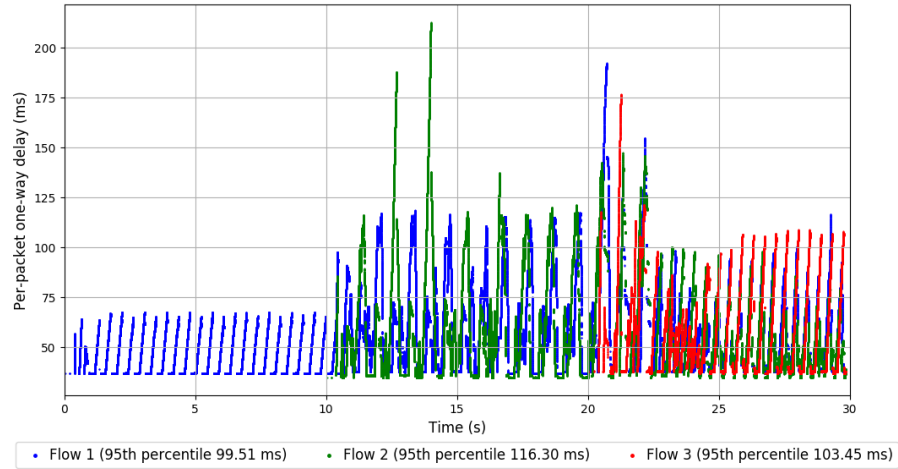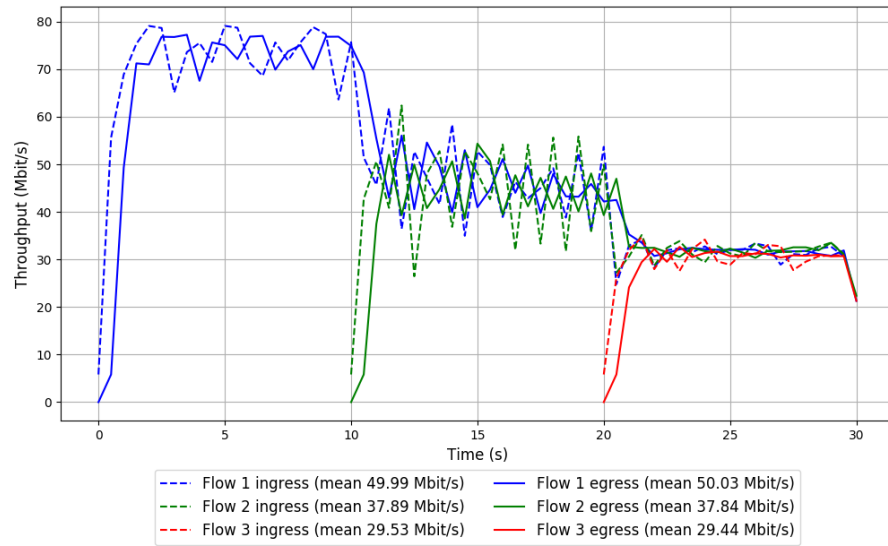
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-20 12:05:27
End at: 2019-02-20 12:05:57
Local clock offset: -59.33 ms
Remote clock offset: 4.085 ms


# Below is generated by plot.py at 2019-02-20 12:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 40.690 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 41.245 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 39.650 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 38.849 ms
Loss rate: 2.64%
```

Run 5: Report of Sprout — Data Link
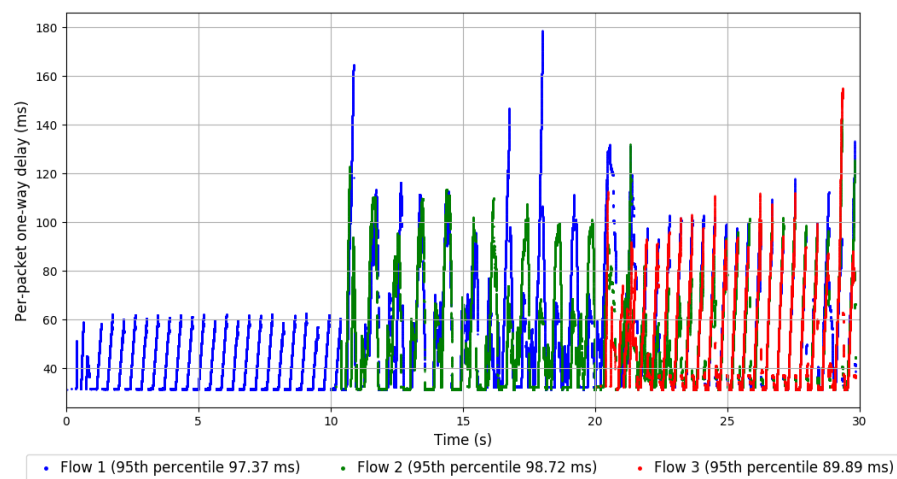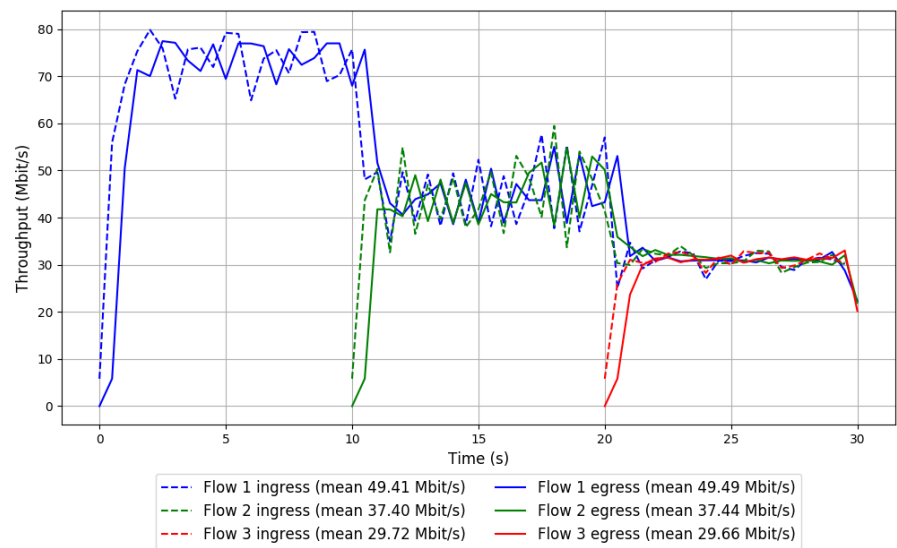

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```
Run 1: Statistics of TaoVA-100x

Start at: 2019-02-20 10:15:45
End at: 2019-02-20 10:16:15
Local clock offset: -61.981 ms
Remote clock offset: 4.801 ms


# Below is generated by plot.py at 2019-02-20 12:21:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.85 Mbit/s
95th percentile per-packet one-way delay: 106.236 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 50.03 Mbit/s
95th percentile per-packet one-way delay: 99.514 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 37.84 Mbit/s
95th percentile per-packet one-way delay: 116.298 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 29.44 Mbit/s
95th percentile per-packet one-way delay: 103.451 ms
Loss rate: 2.06%
```
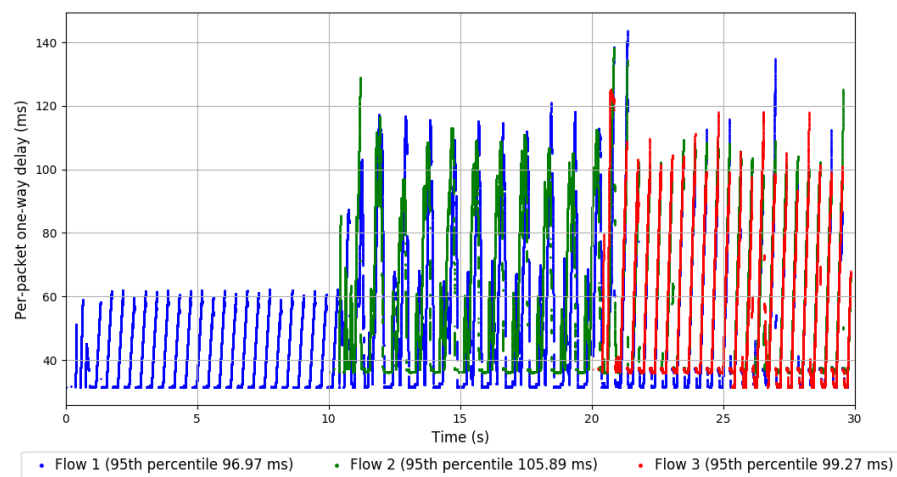
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-20 10:42:49
End at: 2019-02-20 10:43:19
Local clock offset: -58.537 ms
Remote clock offset: 9.785 ms

# Below is generated by plot.py at 2019-02-20 12:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.12 Mbit/s
95th percentile per-packet one-way delay: 97.425 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 49.49 Mbit/s
95th percentile per-packet one-way delay: 97.366 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 98.717 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 29.66 Mbit/s
95th percentile per-packet one-way delay: 89.892 ms
Loss rate: 1.95%
```

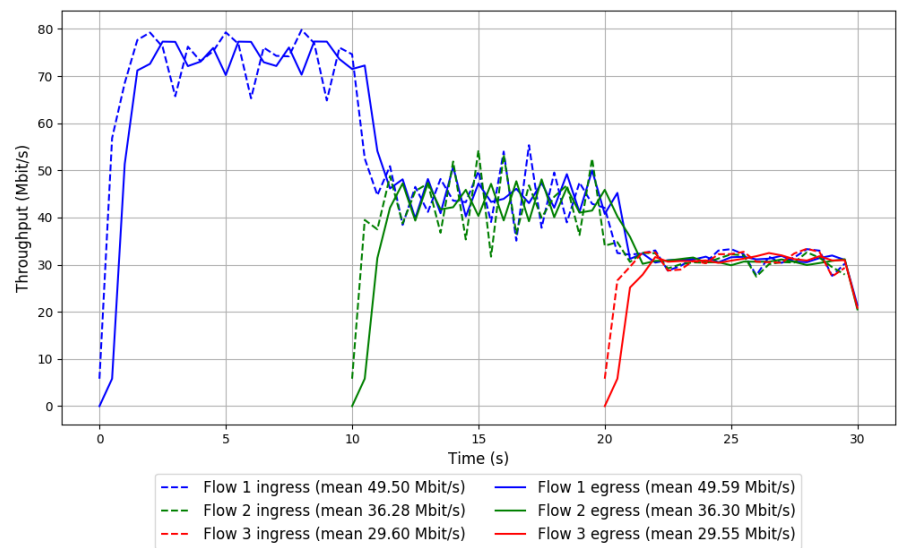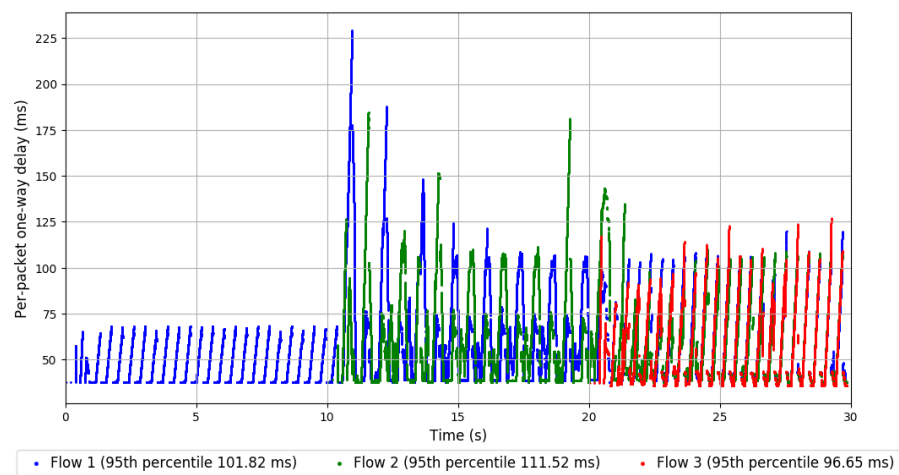Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-20 11:09:54
End at: 2019-02-20 11:10:24
Local clock offset: -56.883 ms
Remote clock offset: 7.587 ms

# Below is generated by plot.py at 2019-02-20 12:22:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.40 Mbit/s
95th percentile per-packet one-way delay: 100.677 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 96.969 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 36.30 Mbit/s
95th percentile per-packet one-way delay: 105.889 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 29.55 Mbit/s
95th percentile per-packet one-way delay: 99.272 ms
Loss rate: 1.91%
```
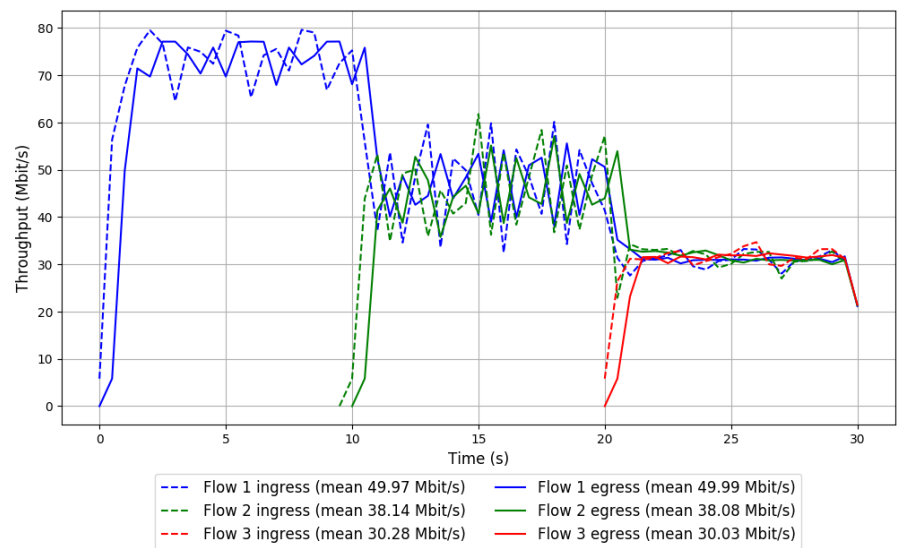
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 49.50 Mbit/s) --- Flow 1 egress (mean 49.59 Mbit/s)
Flow 2 ingress (mean 36.28 Mbit/s) --- Flow 2 egress (mean 36.30 Mbit/s)
Flow 3 ingress (mean 29.60 Mbit/s) --- Flow 3 egress (mean 29.55 Mbit/s)

Flow 1 (95th percentile 96.97 ms)   Flow 2 (95th percentile 105.89 ms)   Flow 3 (95th percentile 99.27 ms)

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

Start at: 2019-02-20 11:37:00
End at: 2019-02-20 11:37:30
Local clock offset: -56.763 ms
Remote clock offset: 1.934 ms


# Below is generated by plot.py at 2019-02-20 12:22:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.17 Mbit/s
95th percentile per-packet one-way delay: 104.471 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 49.99 Mbit/s
95th percentile per-packet one-way delay: 101.818 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 38.08 Mbit/s
95th percentile per-packet one-way delay: 111.518 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 30.03 Mbit/s
95th percentile per-packet one-way delay: 96.651 ms
Loss rate: 2.52%
```

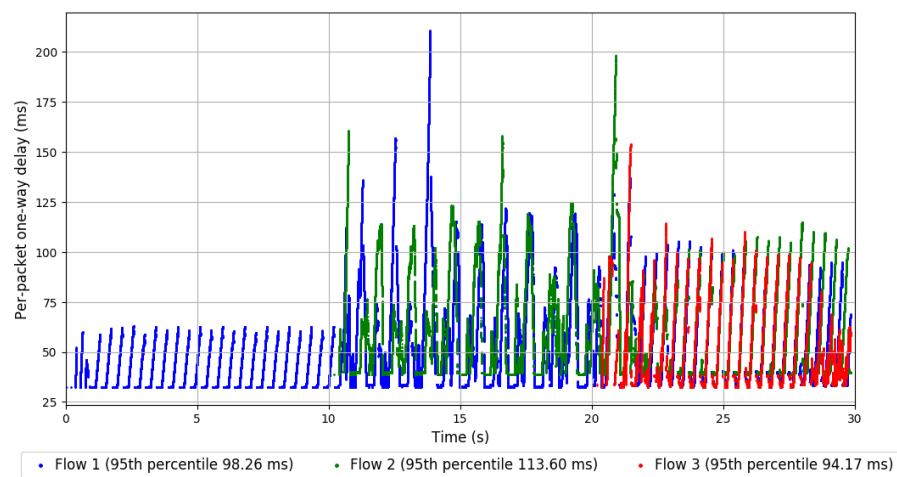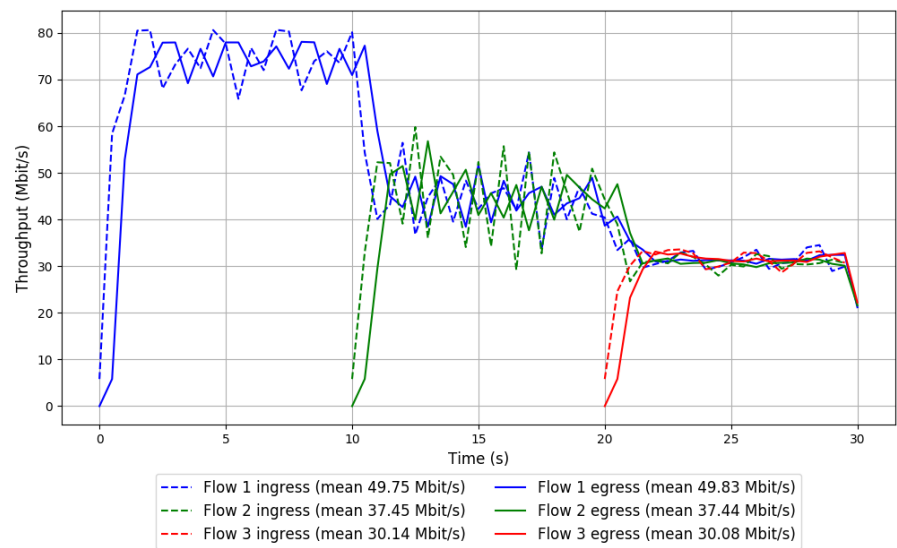Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-20 12:04:06
End at: 2019-02-20 12:04:36
Local clock offset: -58.967 ms
Remote clock offset: 6.614 ms


# Below is generated by plot.py at 2019-02-20 12:22:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.58 Mbit/s
95th percentile per-packet one-way delay: 103.900 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 49.83 Mbit/s
95th percentile per-packet one-way delay: 98.264 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 113.600 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 30.08 Mbit/s
95th percentile per-packet one-way delay: 94.171 ms
Loss rate: 1.89%
```
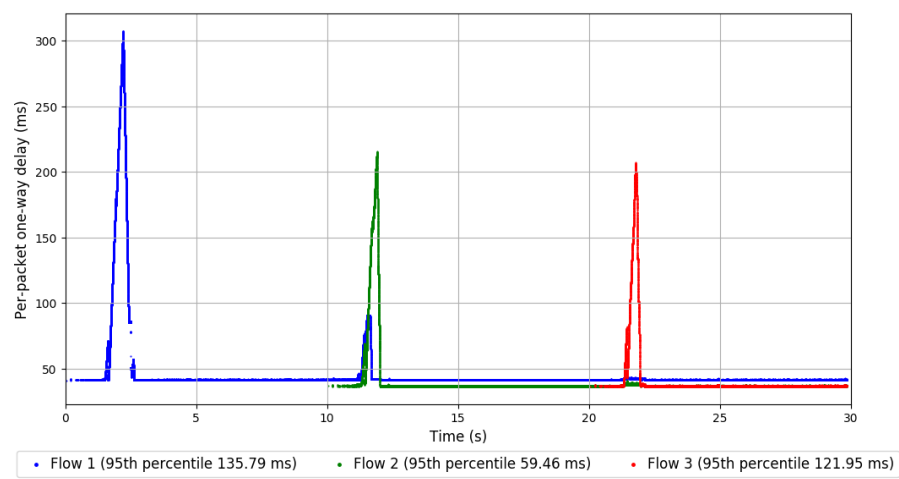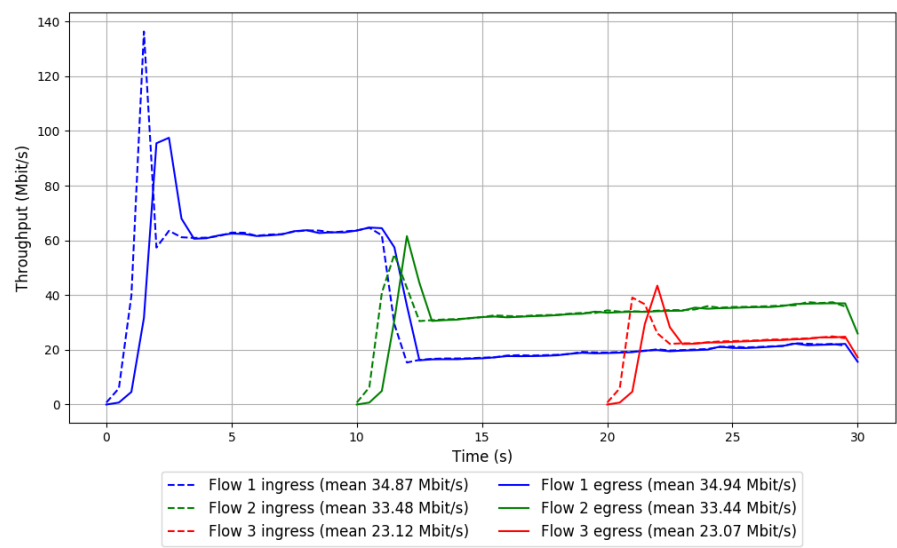
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 49.75 Mbit/s) — Flow 1 egress (mean 49.83 Mbit/s)
Flow 2 ingress (mean 37.45 Mbit/s) — Flow 2 egress (mean 37.44 Mbit/s)
Flow 3 ingress (mean 30.14 Mbit/s) — Flow 3 egress (mean 30.08 Mbit/s)

Flow 1 (95th percentile 98.26 ms) • Flow 2 (95th percentile 113.60 ms) • Flow 3 (95th percentile 94.17 ms)

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```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-20 10:13:09
End at: 2019-02-20 10:13:39
Local clock offset: -61.976 ms
Remote clock offset: 4.896 ms


# Below is generated by plot.py at 2019-02-20 12:22:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.73 Mbit/s
95th percentile per-packet one-way delay: 110.261 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 34.94 Mbit/s
95th percentile per-packet one-way delay: 135.789 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 33.44 Mbit/s
95th percentile per-packet one-way delay: 59.461 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 121.955 ms
Loss rate: 1.95%
```

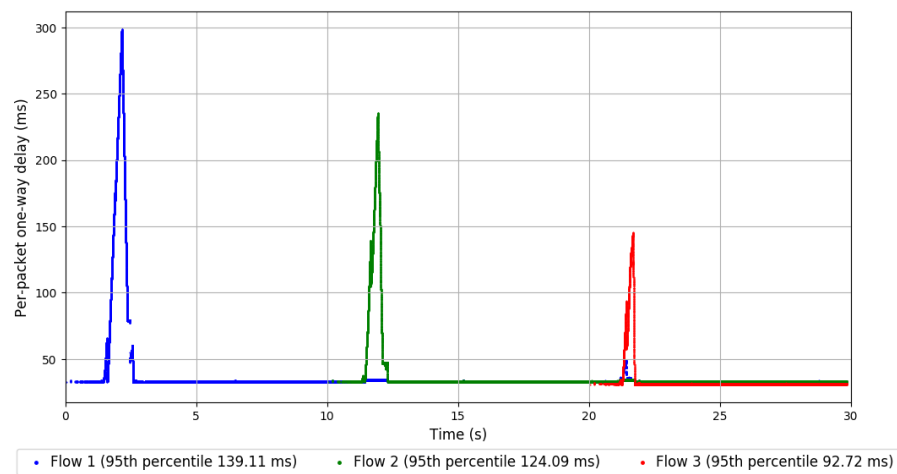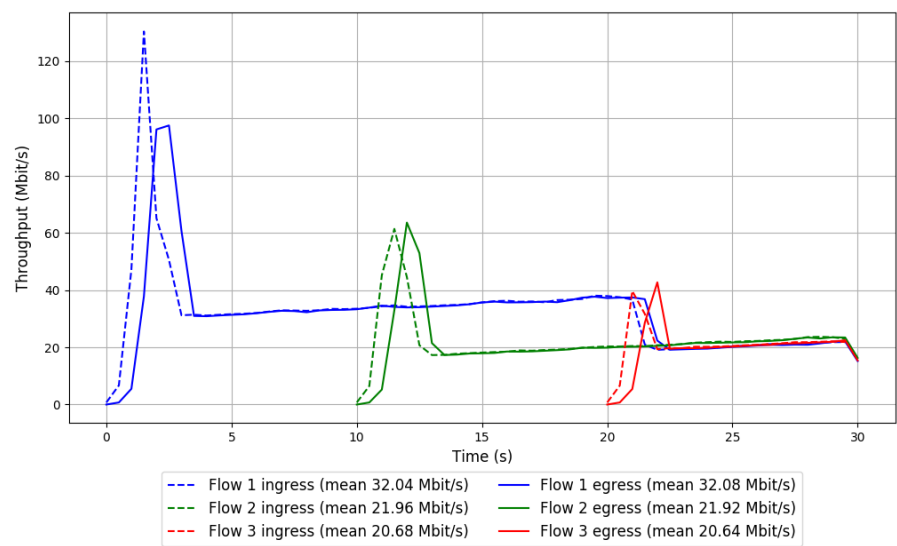Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-20 10:40:14
End at: 2019-02-20 10:40:44
Local clock offset: -58.876 ms
Remote clock offset: 8.384 ms


# Below is generated by plot.py at 2019-02-20 12:22:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.42 Mbit/s
95th percentile per-packet one-way delay: 124.878 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 139.113 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 21.92 Mbit/s
95th percentile per-packet one-way delay: 124.093 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 20.64 Mbit/s
95th percentile per-packet one-way delay: 92.715 ms
Loss rate: 1.89%
```

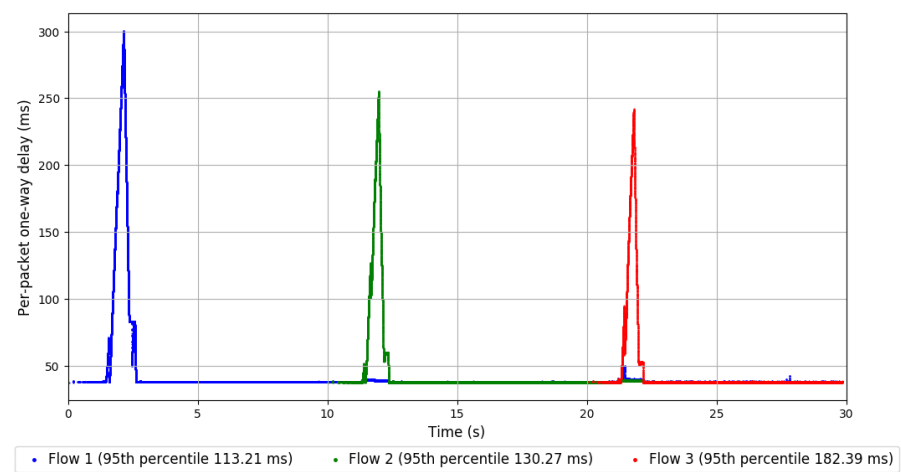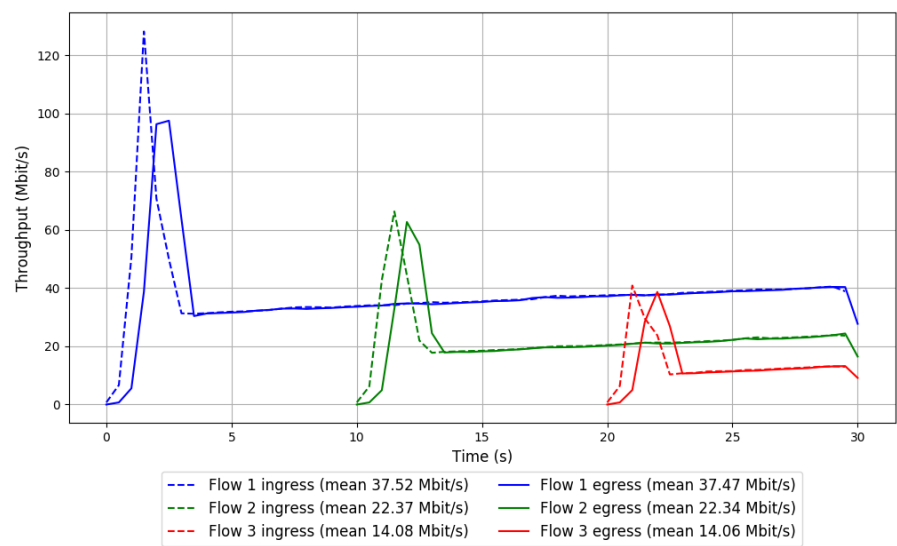Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-20 11:07:19
End at: 2019-02-20 11:07:49
Local clock offset: -56.878 ms
Remote clock offset: 1.707 ms


# Below is generated by plot.py at 2019-02-20 12:22:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 131.193 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 37.47 Mbit/s
95th percentile per-packet one-way delay: 113.212 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 22.34 Mbit/s
95th percentile per-packet one-way delay: 130.274 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 14.06 Mbit/s
95th percentile per-packet one-way delay: 182.390 ms
Loss rate: 1.82%
```
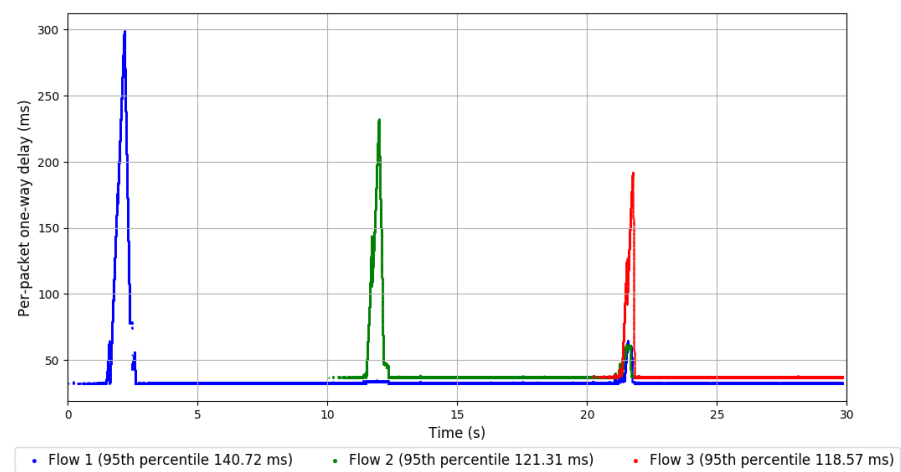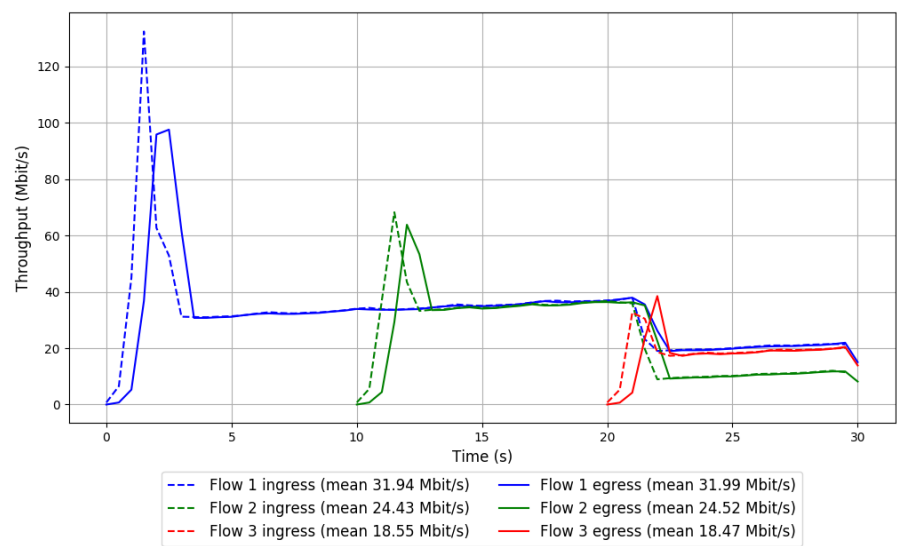
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.52 Mbit/s) — Flow 1 egress (mean 37.47 Mbit/s)
Flow 2 ingress (mean 22.37 Mbit/s) — Flow 2 egress (mean 22.34 Mbit/s)
Flow 3 ingress (mean 14.08 Mbit/s) — Flow 3 egress (mean 14.06 Mbit/s)

Flow 1 (95th percentile 113.21 ms)　　Flow 2 (95th percentile 130.27 ms)　　Flow 3 (95th percentile 182.39 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-02-20 11:34:25
End at: 2019-02-20 11:34:55
Local clock offset: -56.726 ms
Remote clock offset: 6.99 ms


# Below is generated by plot.py at 2019-02-20 12:22:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.34 Mbit/s
95th percentile per-packet one-way delay: 128.304 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 31.99 Mbit/s
95th percentile per-packet one-way delay: 140.721 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 24.52 Mbit/s
95th percentile per-packet one-way delay: 121.314 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 18.47 Mbit/s
95th percentile per-packet one-way delay: 118.570 ms
Loss rate: 2.21%
```

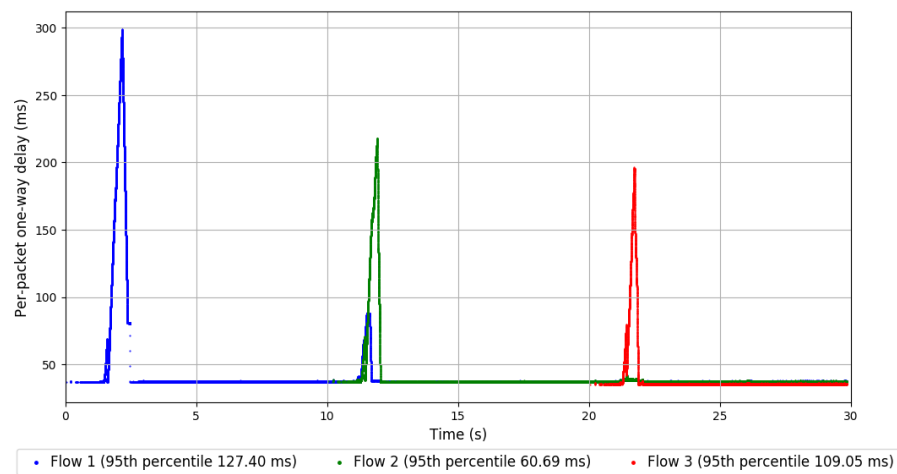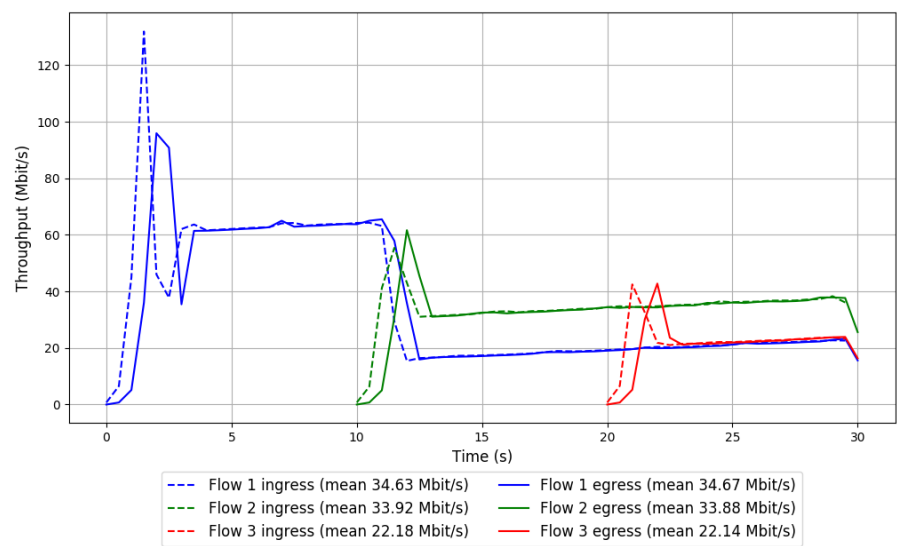## Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-20 12:01:30
End at: 2019-02-20 12:02:00
Local clock offset: -57.677 ms
Remote clock offset: 3.843 ms


# Below is generated by plot.py at 2019-02-20 12:22:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.44 Mbit/s
95th percentile per-packet one-way delay: 102.900 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 34.67 Mbit/s
95th percentile per-packet one-way delay: 127.399 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 33.88 Mbit/s
95th percentile per-packet one-way delay: 60.693 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 22.14 Mbit/s
95th percentile per-packet one-way delay: 109.051 ms
Loss rate: 1.91%
```

Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-02-20 09:56:21
End at: 2019-02-20 09:56:51
Local clock offset: -62.47 ms
Remote clock offset: 7.832 ms


# Below is generated by plot.py at 2019-02-20 12:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.01 Mbit/s
95th percentile per-packet one-way delay: 291.262 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 43.52 Mbit/s
95th percentile per-packet one-way delay: 259.695 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 25.73 Mbit/s
95th percentile per-packet one-way delay: 344.739 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 22.52 Mbit/s
95th percentile per-packet one-way delay: 328.909 ms
Loss rate: 2.97%
```
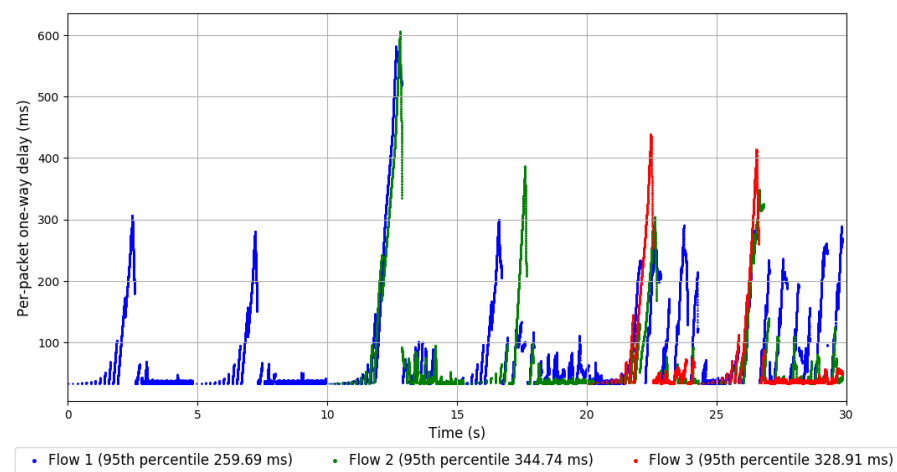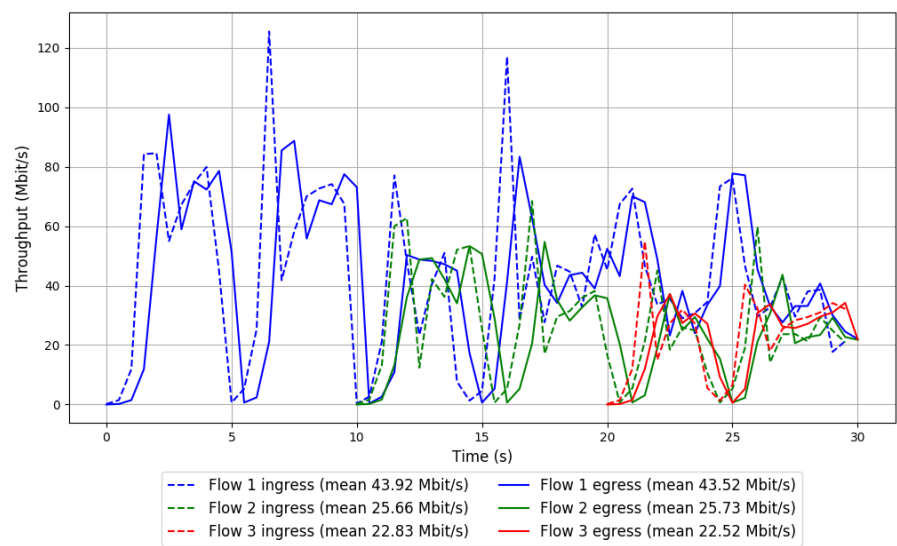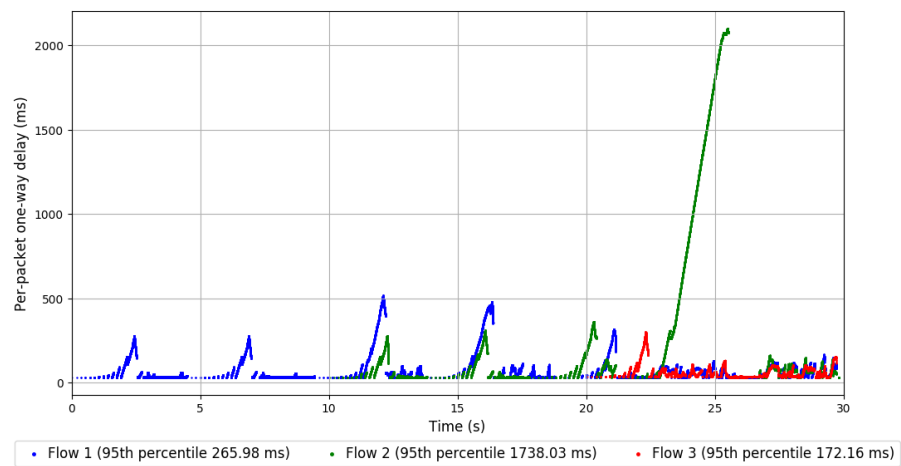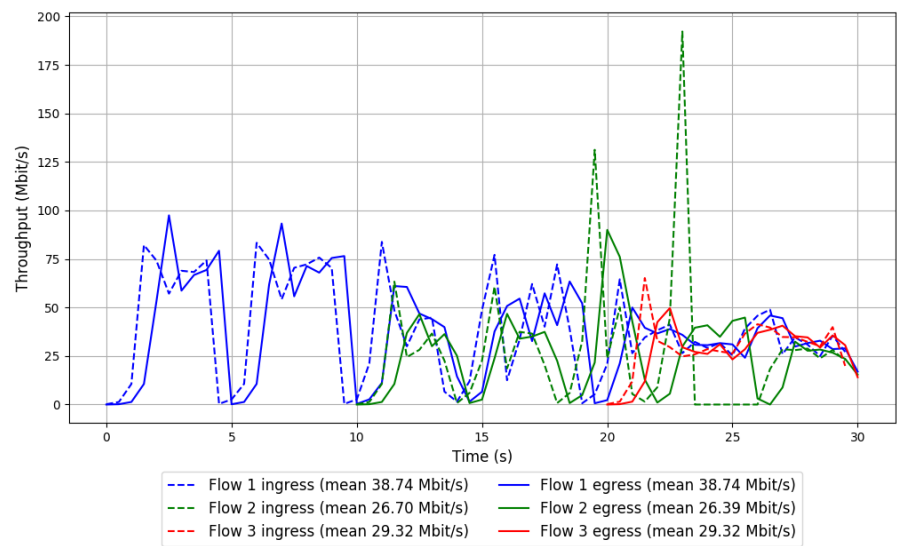
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-02-20 10:23:26
End at: 2019-02-20 10:23:56
Local clock offset: -61.972 ms
Remote clock offset: 8.417 ms


# Below is generated by plot.py at 2019-02-20 12:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.65 Mbit/s
95th percentile per-packet one-way delay: 436.184 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 265.984 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 26.39 Mbit/s
95th percentile per-packet one-way delay: 1738.026 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 172.159 ms
Loss rate: 2.83%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 38.74 Mbit/s) --- Flow 1 egress (mean 38.74 Mbit/s)
Flow 2 ingress (mean 26.70 Mbit/s) --- Flow 2 egress (mean 26.39 Mbit/s)
Flow 3 ingress (mean 29.32 Mbit/s) --- Flow 3 egress (mean 29.32 Mbit/s)

Flow 1 (95th percentile 265.98 ms)   Flow 2 (95th percentile 1738.03 ms)   Flow 3 (95th percentile 172.16 ms)
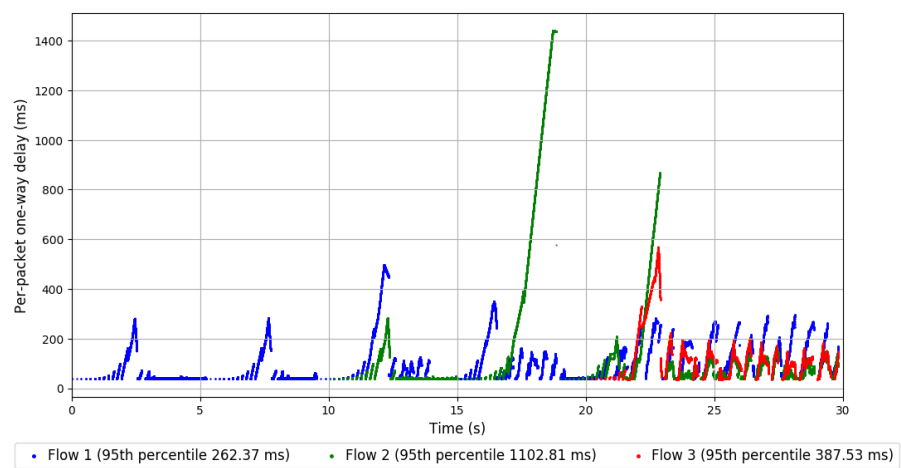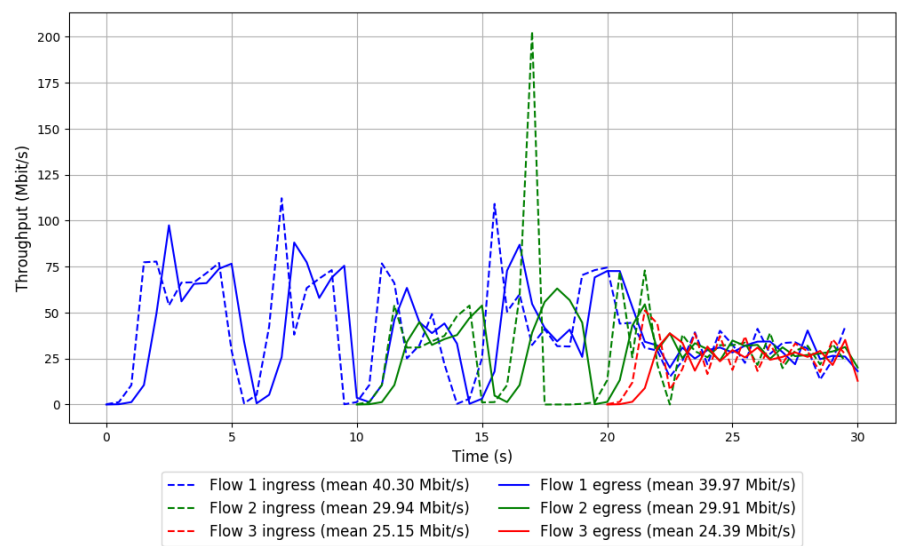
```
Run 3: Statistics of Verus

Start at: 2019-02-20 10:50:30
End at: 2019-02-20 10:51:00
Local clock offset: -57.63 ms
Remote clock offset: 3.019 ms


# Below is generated by plot.py at 2019-02-20 12:22:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.83 Mbit/s
95th percentile per-packet one-way delay: 434.230 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 39.97 Mbit/s
95th percentile per-packet one-way delay: 262.368 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 29.91 Mbit/s
95th percentile per-packet one-way delay: 1102.812 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 387.532 ms
Loss rate: 4.69%
```

Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 40.30 Mbit/s) --- Flow 1 egress (mean 39.97 Mbit/s)
Flow 2 ingress (mean 29.94 Mbit/s) --- Flow 2 egress (mean 29.91 Mbit/s)
Flow 3 ingress (mean 25.15 Mbit/s) --- Flow 3 egress (mean 24.39 Mbit/s)

Flow 1 (95th percentile 262.37 ms) · Flow 2 (95th percentile 1102.81 ms) · Flow 3 (95th percentile 387.53 ms)
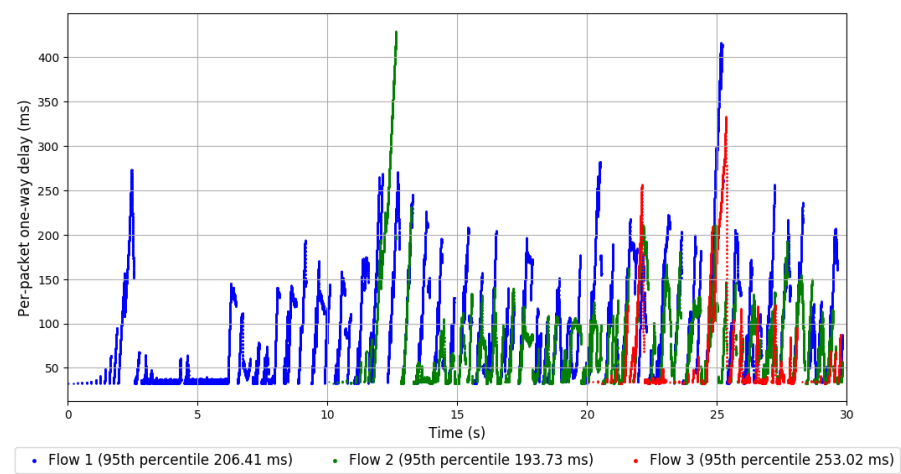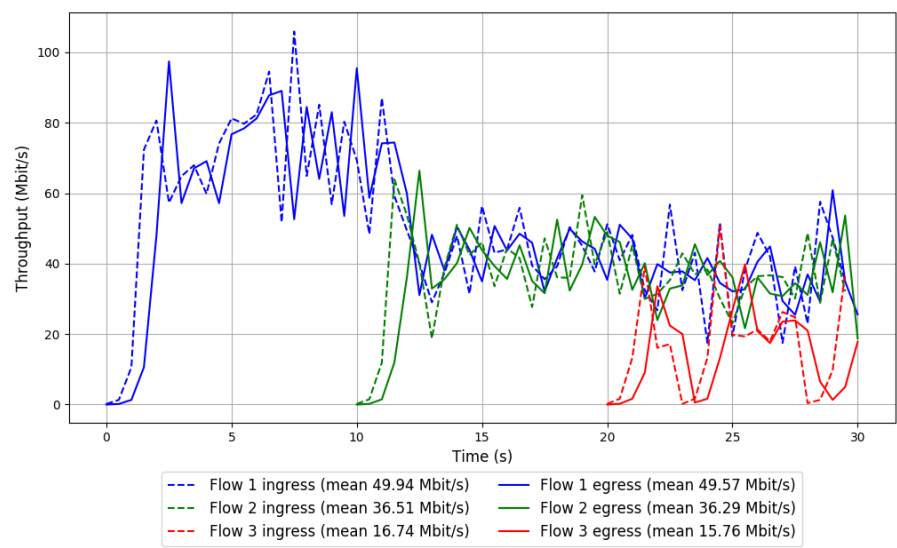
```
Run 4: Statistics of Verus

Start at: 2019-02-20 11:17:36
End at: 2019-02-20 11:18:06
Local clock offset: -56.625 ms
Remote clock offset: 6.285 ms


# Below is generated by plot.py at 2019-02-20 12:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.81 Mbit/s
95th percentile per-packet one-way delay: 207.512 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 49.57 Mbit/s
95th percentile per-packet one-way delay: 206.405 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 36.29 Mbit/s
95th percentile per-packet one-way delay: 193.734 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 15.76 Mbit/s
95th percentile per-packet one-way delay: 253.019 ms
Loss rate: 7.56%
```

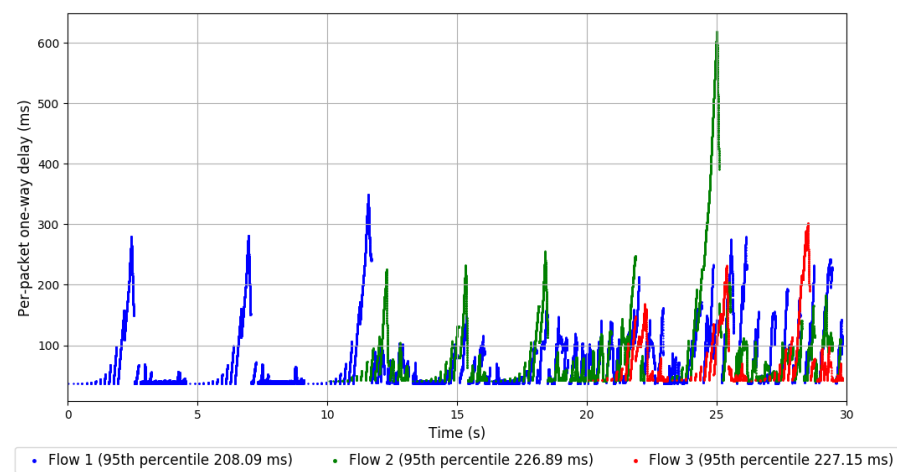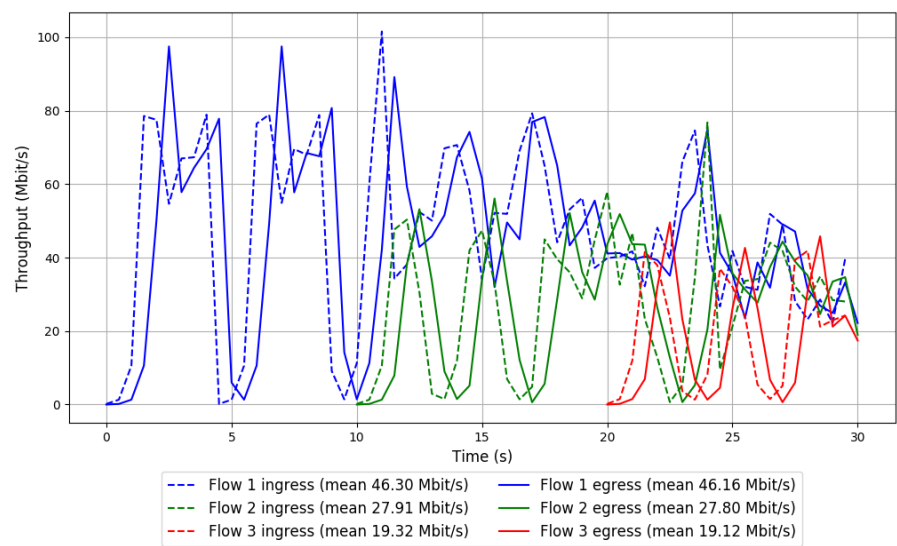## Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-20 11:44:42
End at: 2019-02-20 11:45:12
Local clock offset: -56.908 ms
Remote clock offset: 3.077 ms


# Below is generated by plot.py at 2019-02-20 12:22:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 219.548 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 46.16 Mbit/s
95th percentile per-packet one-way delay: 208.093 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 27.80 Mbit/s
95th percentile per-packet one-way delay: 226.894 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 19.12 Mbit/s
95th percentile per-packet one-way delay: 227.148 ms
Loss rate: 2.84%
```

Run 5: Report of Verus — Data Link

- Flow 1 ingress (mean 46.30 Mbit/s) — Flow 1 egress (mean 46.16 Mbit/s)
- Flow 2 ingress (mean 27.91 Mbit/s) — Flow 2 egress (mean 27.80 Mbit/s)
- Flow 3 ingress (mean 19.32 Mbit/s) — Flow 3 egress (mean 19.12 Mbit/s)

- Flow 1 (95th percentile 208.09 ms)   • Flow 2 (95th percentile 226.89 ms)   • Flow 3 (95th percentile 227.15 ms)
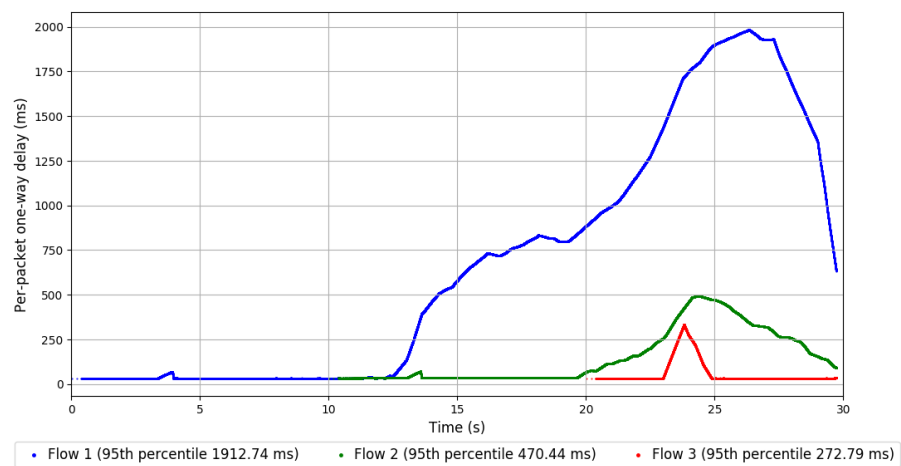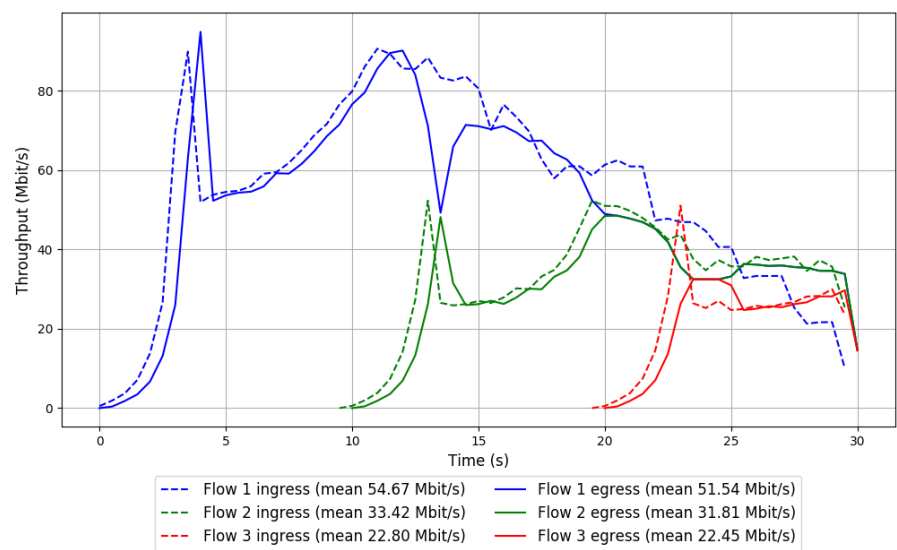
194

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-20 09:58:55
End at: 2019-02-20 09:59:25
Local clock offset: -62.435 ms
Remote clock offset: 7.925 ms


# Below is generated by plot.py at 2019-02-20 12:23:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.99 Mbit/s
95th percentile per-packet one-way delay: 1784.644 ms
Loss rate: 5.82%
-- Flow 1:
Average throughput: 51.54 Mbit/s
95th percentile per-packet one-way delay: 1912.745 ms
Loss rate: 6.26%
-- Flow 2:
Average throughput: 31.81 Mbit/s
95th percentile per-packet one-way delay: 470.443 ms
Loss rate: 5.62%
-- Flow 3:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 272.788 ms
Loss rate: 3.20%
```

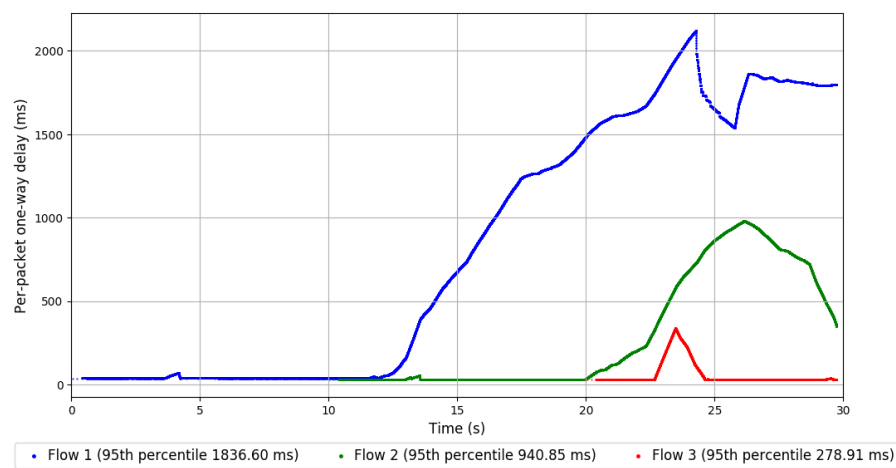# Run 1: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 54.67 Mbit/s) —— Flow 1 egress (mean 51.54 Mbit/s)
- - - - Flow 2 ingress (mean 33.42 Mbit/s) —— Flow 2 egress (mean 31.81 Mbit/s)
- - - - Flow 3 ingress (mean 22.80 Mbit/s) —— Flow 3 egress (mean 22.45 Mbit/s)

• Flow 1 (95th percentile 1912.74 ms)   • Flow 2 (95th percentile 470.44 ms)   • Flow 3 (95th percentile 272.79 ms)
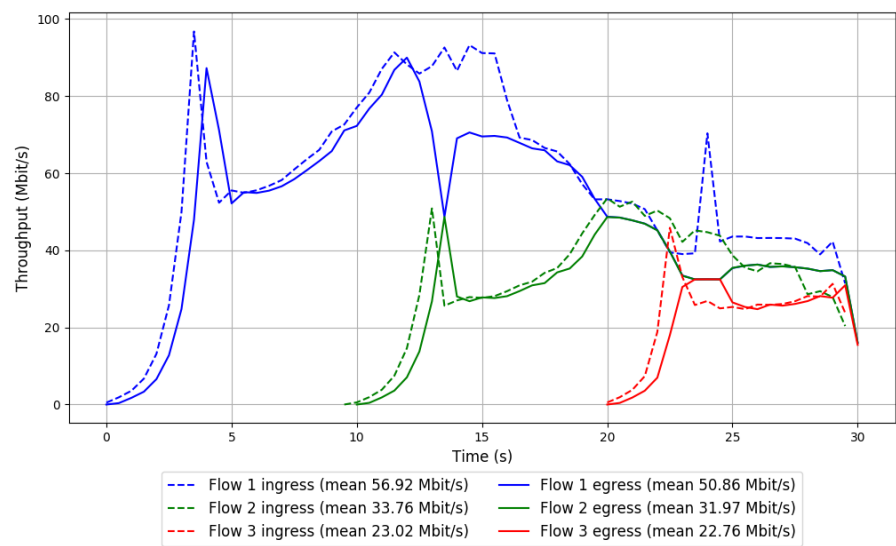
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-20 10:26:00
End at: 2019-02-20 10:26:30
Local clock offset: -62.039 ms
Remote clock offset: 8.243 ms


# Below is generated by plot.py at 2019-02-20 12:23:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.52 Mbit/s
95th percentile per-packet one-way delay: 1812.986 ms
Loss rate: 9.14%
-- Flow 1:
Average throughput: 50.86 Mbit/s
95th percentile per-packet one-way delay: 1836.600 ms
Loss rate: 11.18%
-- Flow 2:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 940.853 ms
Loss rate: 6.12%
-- Flow 3:
Average throughput: 22.76 Mbit/s
95th percentile per-packet one-way delay: 278.906 ms
Loss rate: 2.85%
```

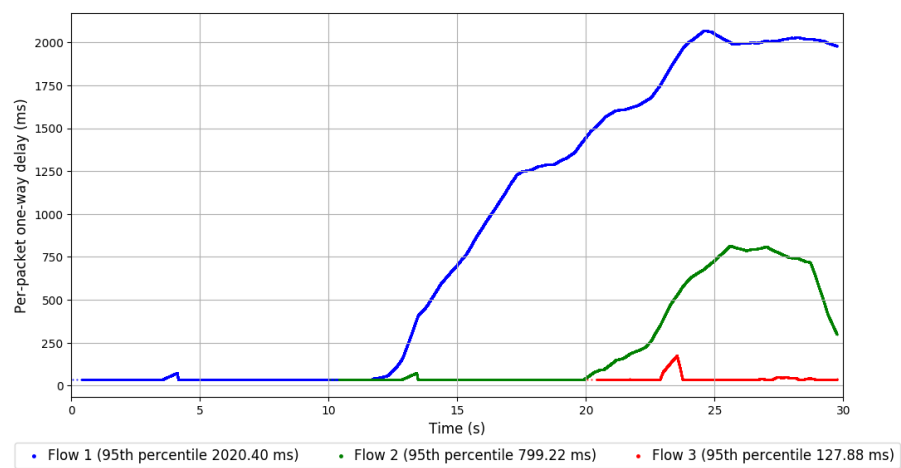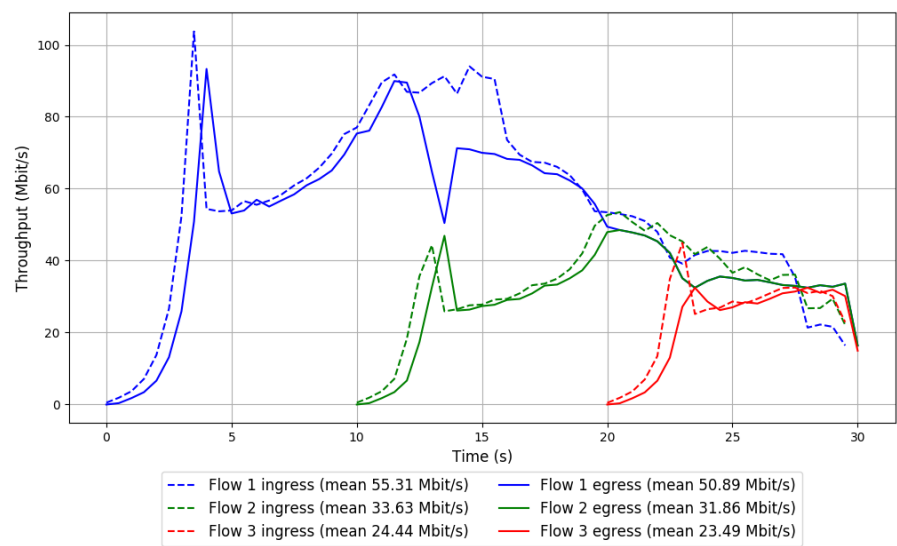# Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-20 10:53:04
End at: 2019-02-20 10:53:34
Local clock offset: -57.428 ms
Remote clock offset: 3.554 ms


# Below is generated by plot.py at 2019-02-20 12:23:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.69 Mbit/s
95th percentile per-packet one-way delay: 2008.831 ms
Loss rate: 7.61%
-- Flow 1:
Average throughput: 50.89 Mbit/s
95th percentile per-packet one-way delay: 2020.402 ms
Loss rate: 8.53%
-- Flow 2:
Average throughput: 31.86 Mbit/s
95th percentile per-packet one-way delay: 799.216 ms
Loss rate: 6.07%
-- Flow 3:
Average throughput: 23.49 Mbit/s
95th percentile per-packet one-way delay: 127.881 ms
Loss rate: 5.57%
```

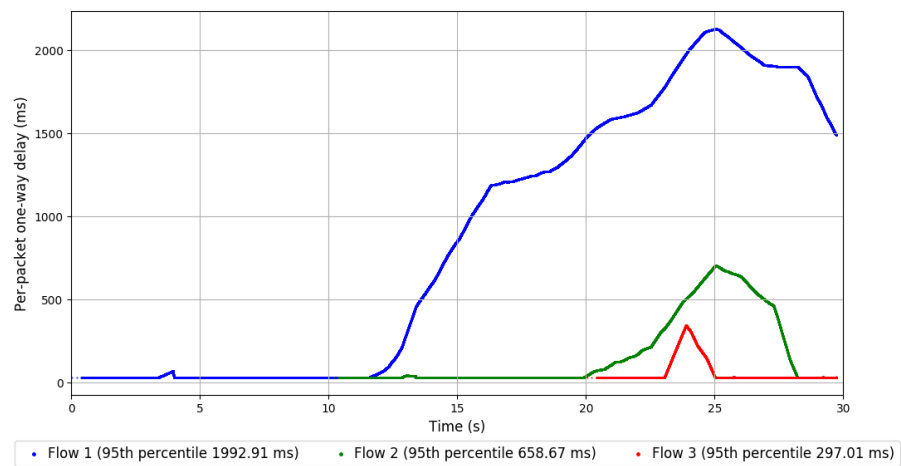# Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 55.31 Mbit/s)   Flow 1 egress (mean 50.89 Mbit/s)
Flow 2 ingress (mean 33.63 Mbit/s)   Flow 2 egress (mean 31.86 Mbit/s)
Flow 3 ingress (mean 24.44 Mbit/s)   Flow 3 egress (mean 23.49 Mbit/s)

Flow 1 (95th percentile 2020.40 ms)   Flow 2 (95th percentile 799.22 ms)   Flow 3 (95th percentile 127.88 ms)
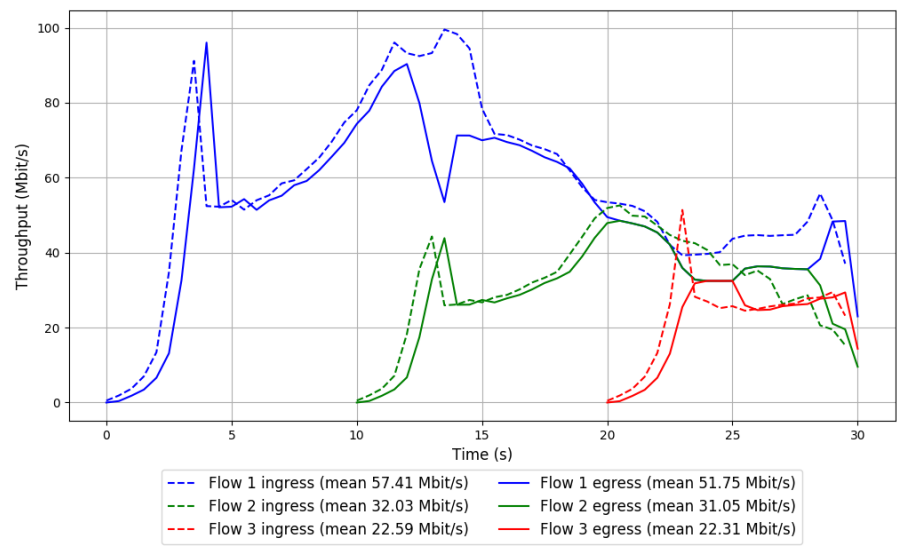
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-20 11:20:10
End at: 2019-02-20 11:20:40
Local clock offset: -56.935 ms
Remote clock offset: 7.44 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.64 Mbit/s
95th percentile per-packet one-way delay: 1908.499 ms
Loss rate: 8.12%
-- Flow 1:
Average throughput: 51.75 Mbit/s
95th percentile per-packet one-way delay: 1992.906 ms
Loss rate: 10.36%
-- Flow 2:
Average throughput: 31.05 Mbit/s
95th percentile per-packet one-way delay: 658.667 ms
Loss rate: 3.89%
-- Flow 3:
Average throughput: 22.31 Mbit/s
95th percentile per-packet one-way delay: 297.014 ms
Loss rate: 2.93%
```

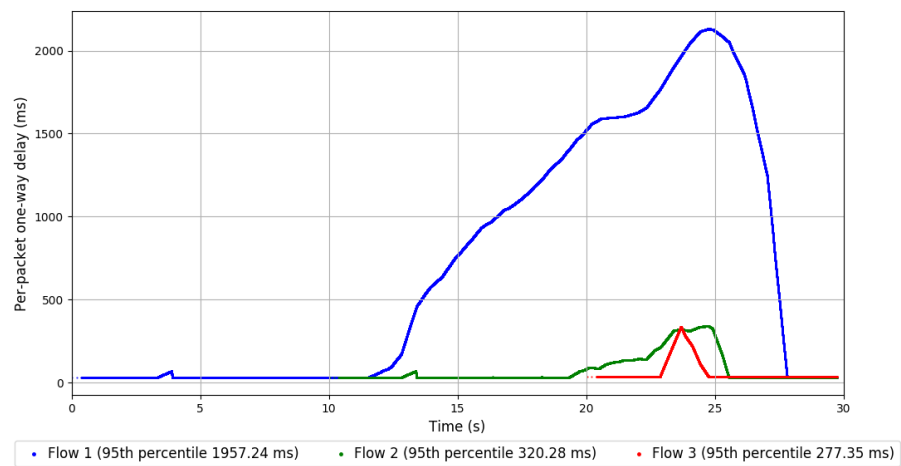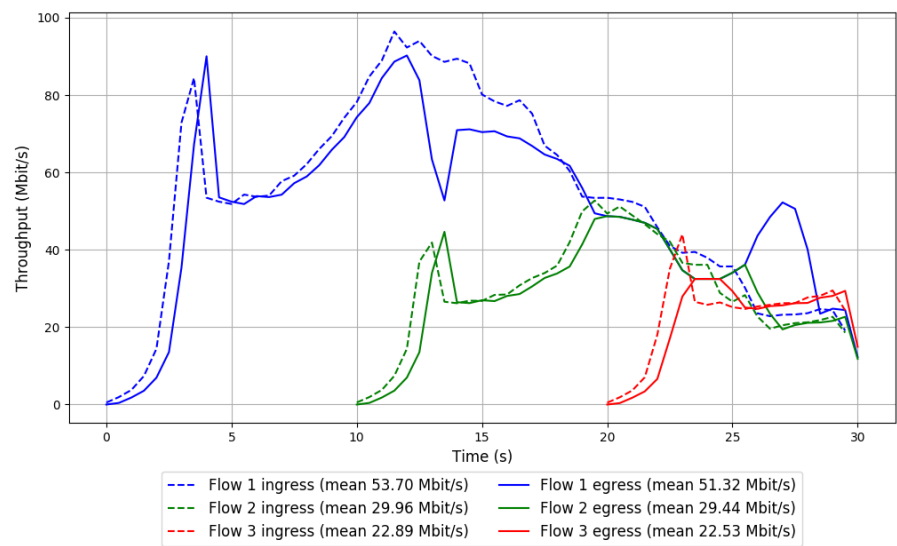## Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-20 11:47:16
End at: 2019-02-20 11:47:46
Local clock offset: -56.989 ms
Remote clock offset: 5.465 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.21 Mbit/s
95th percentile per-packet one-way delay: 1792.829 ms
Loss rate: 4.22%
-- Flow 1:
Average throughput: 51.32 Mbit/s
95th percentile per-packet one-way delay: 1957.240 ms
Loss rate: 4.98%
-- Flow 2:
Average throughput: 29.44 Mbit/s
95th percentile per-packet one-way delay: 320.281 ms
Loss rate: 2.56%
-- Flow 3:
Average throughput: 22.53 Mbit/s
95th percentile per-packet one-way delay: 277.347 ms
Loss rate: 3.26%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 53.70 Mbit/s) --- Flow 1 egress (mean 51.32 Mbit/s)
Flow 2 ingress (mean 29.96 Mbit/s) --- Flow 2 egress (mean 29.44 Mbit/s)
Flow 3 ingress (mean 22.89 Mbit/s) --- Flow 3 egress (mean 22.53 Mbit/s)

Flow 1 (95th percentile 1957.24 ms) • Flow 2 (95th percentile 320.28 ms) • Flow 3 (95th percentile 277.35 ms)
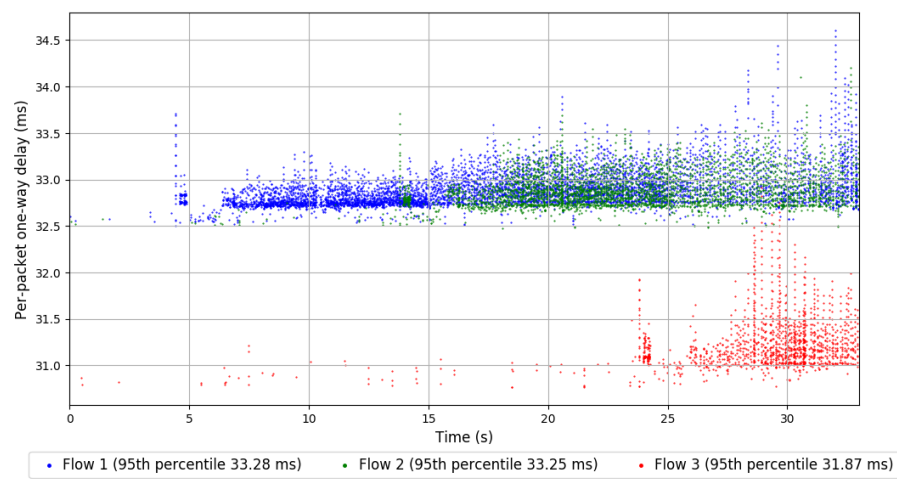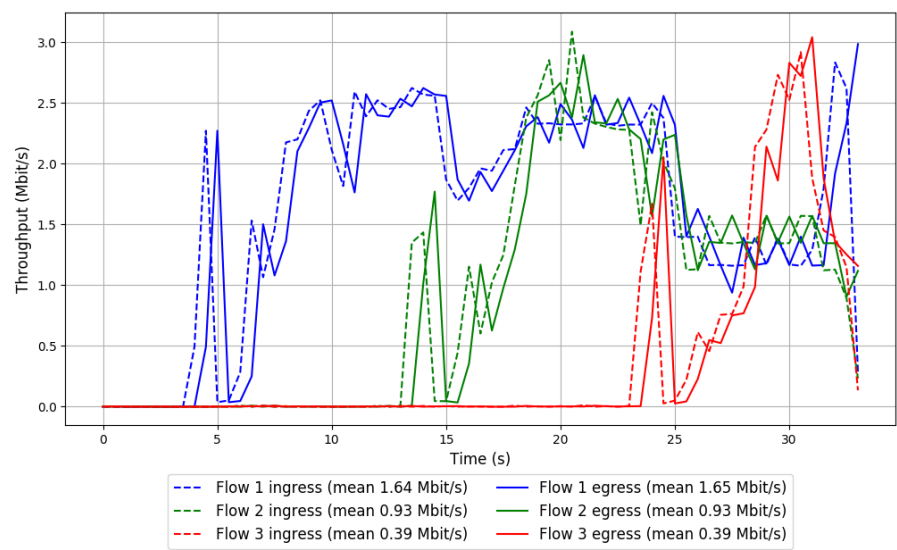
```
Run 1: Statistics of WebRTC media

Start at: 2019-02-20 10:06:46
End at: 2019-02-20 10:07:16
Local clock offset: -62.111 ms
Remote clock offset: 8.565 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 33.248 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 33.281 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 33.250 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 31.867 ms
Loss rate: 1.43%
```
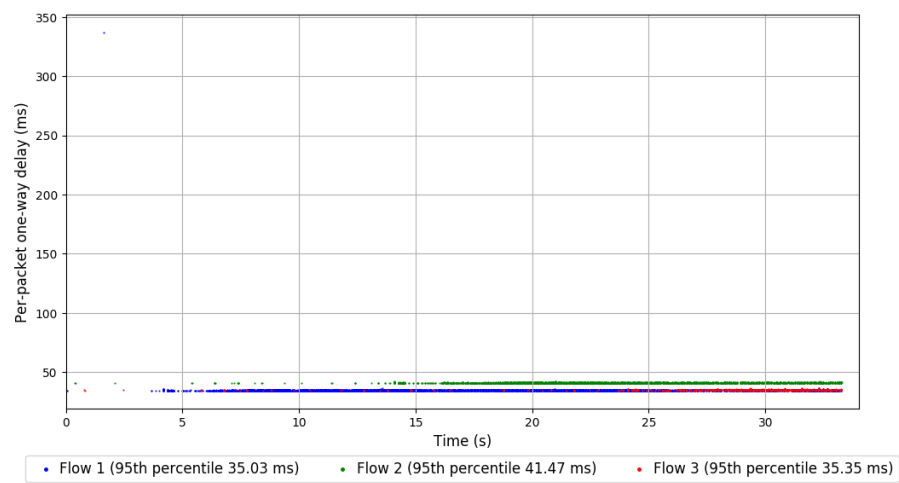
Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.64 Mbit/s)   Flow 1 egress (mean 1.65 Mbit/s)
Flow 2 ingress (mean 0.93 Mbit/s)   Flow 2 egress (mean 0.93 Mbit/s)
Flow 3 ingress (mean 0.39 Mbit/s)   Flow 3 egress (mean 0.39 Mbit/s)

Flow 1 (95th percentile 33.28 ms)   Flow 2 (95th percentile 33.25 ms)   Flow 3 (95th percentile 31.87 ms)
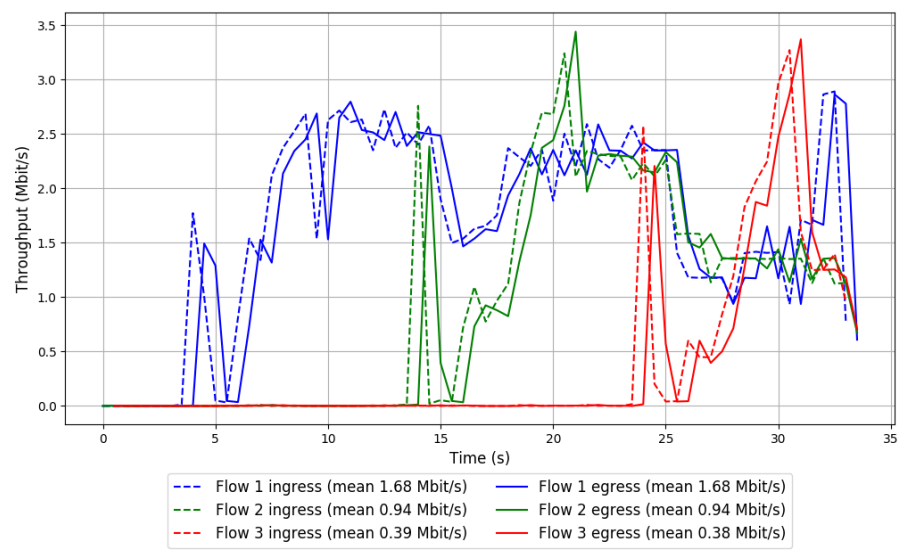
```
Run 2: Statistics of WebRTC media

Start at: 2019-02-20 10:33:50
End at: 2019-02-20 10:34:20
Local clock offset: -60.493 ms
Remote clock offset: 4.507 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 41.270 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 35.031 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 41.474 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 35.355 ms
Loss rate: 1.84%
```

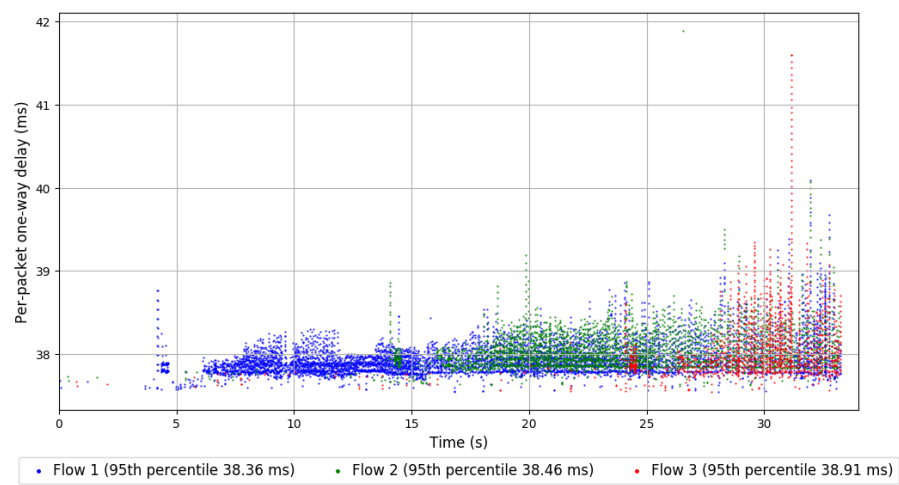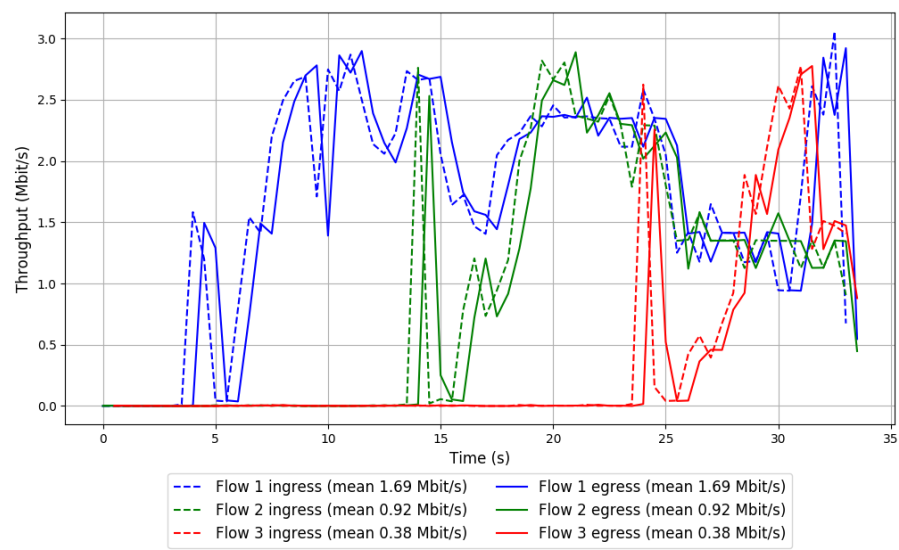Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-20 11:00:55
End at: 2019-02-20 11:01:25
Local clock offset: -57.097 ms
Remote clock offset: 1.843 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 38.504 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 38.360 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 38.460 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 38.913 ms
Loss rate: 2.11%
```

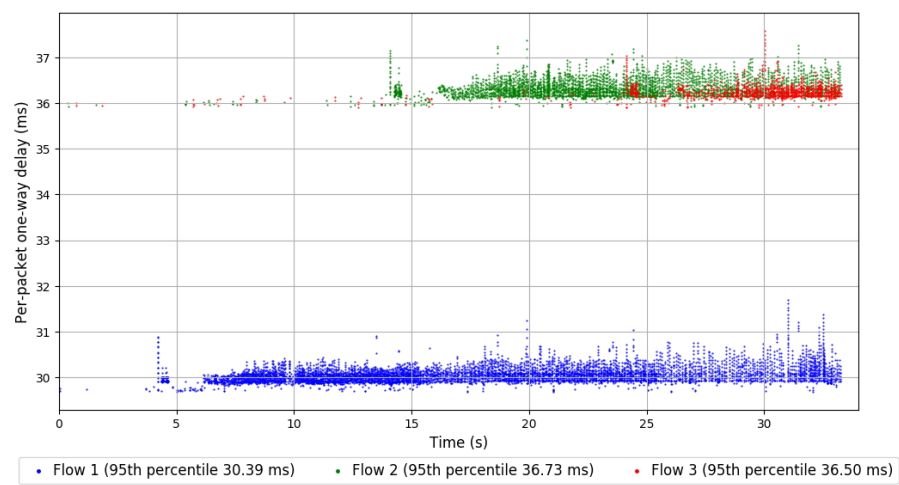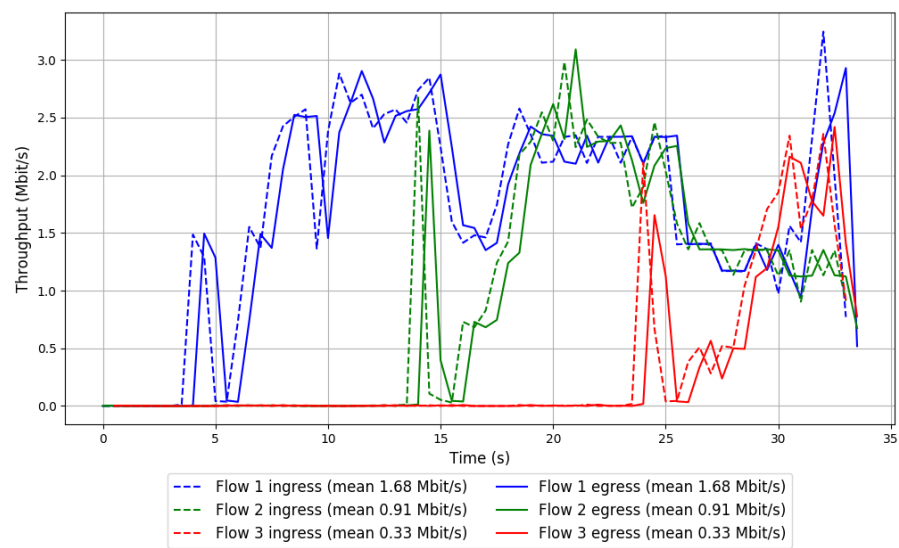Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-20 11:28:01
End at: 2019-02-20 11:28:31
Local clock offset: -56.159 ms
Remote clock offset: 7.78 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 36.565 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 30.385 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 36.728 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 36.501 ms
Loss rate: 1.76%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-20 11:55:06
End at: 2019-02-20 11:55:36
Local clock offset: -56.889 ms
Remote clock offset: 2.011 ms


# Below is generated by plot.py at 2019-02-20 12:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 42.979 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 42.870 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 43.092 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 38.696 ms
Loss rate: 1.85%
```

Run 5: Report of WebRTC media — Data Link