Pantheon Report

Generated at 2019-02-12 00:52:11 (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 1 flow.

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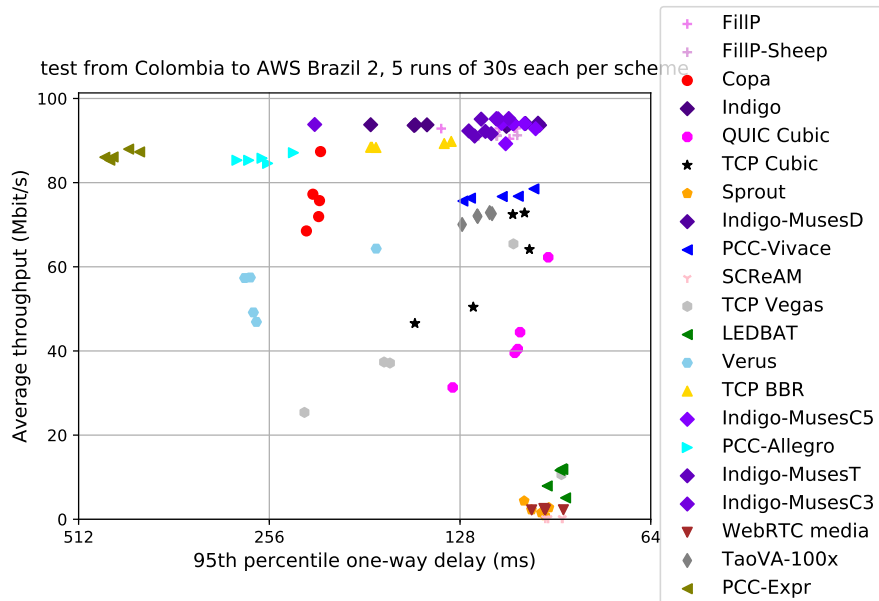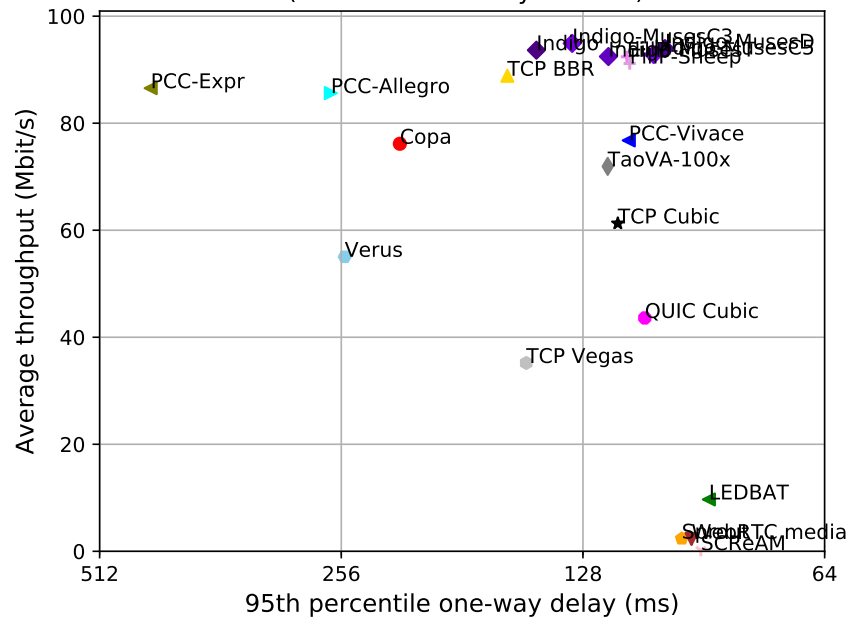
```
System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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
(mean of all runs by scheme)

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	88.86	158.99	0.68
Copa	5	76.16	216.41	0.88
TCP Cubic	5	61.27	115.83	0.73
FillP	5	92.40	112.84	0.73
FillP-Sheep	5	91.15	111.93	0.66
Indigo	5	93.64	146.30	1.30
Indigo-MusesC3	5	94.91	132.01	6.08
Indigo-MusesC5	5	92.84	104.53	3.47
Indigo-MusesD	5	93.94	101.17	0.56
Indigo-MusesT	5	92.46	118.99	7.57
LEDBAT	5	9.69	89.21	1.21
PCC-Allegro	5	85.62	263.78	0.76
PCC-Expr	5	86.55	442.26	1.40
QUIC Cubic	5	43.61	107.20	0.65
SCReAM	5	0.22	91.29	0.59
Sprout	5	2.37	96.42	0.75
TaoVA-100x	5	71.93	119.23	0.68
TCP Vegas	5	35.19	150.63	0.62
Verus	5	55.03	253.50	1.01
PCC-Vivace	5	76.79	112.24	0.65
WebRTC media	5	2.30	93.76	0.47

4

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-11 22:47:39
End at: 2019-02-11 22:48:09
Local clock offset: -0.083 ms
Remote clock offset: 4.129 ms


# Below is generated by plot.py at 2019-02-12 00:41:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.41 Mbit/s
95th percentile per-packet one-way delay: 177.156 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 88.41 Mbit/s
95th percentile per-packet one-way delay: 177.156 ms
Loss rate: 0.82%
```
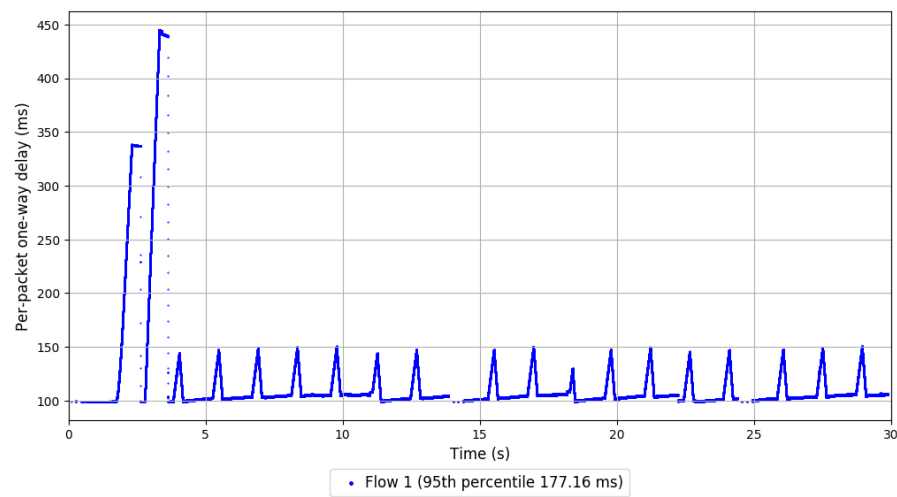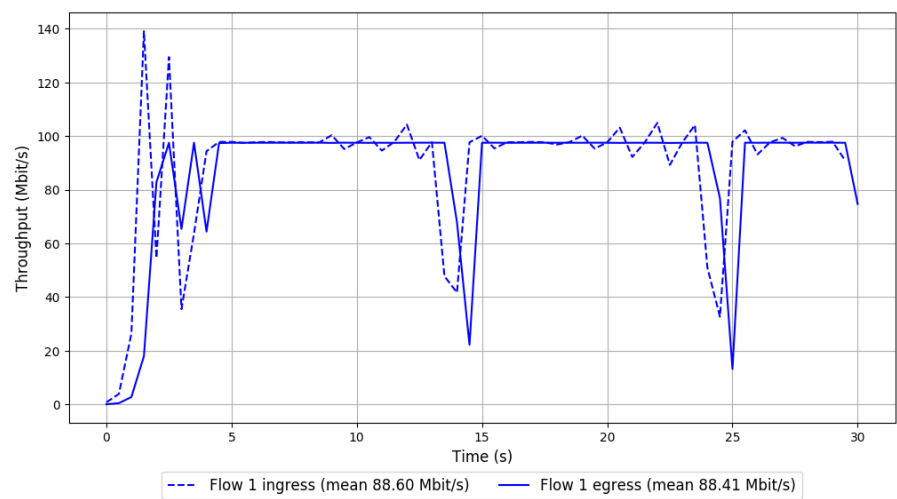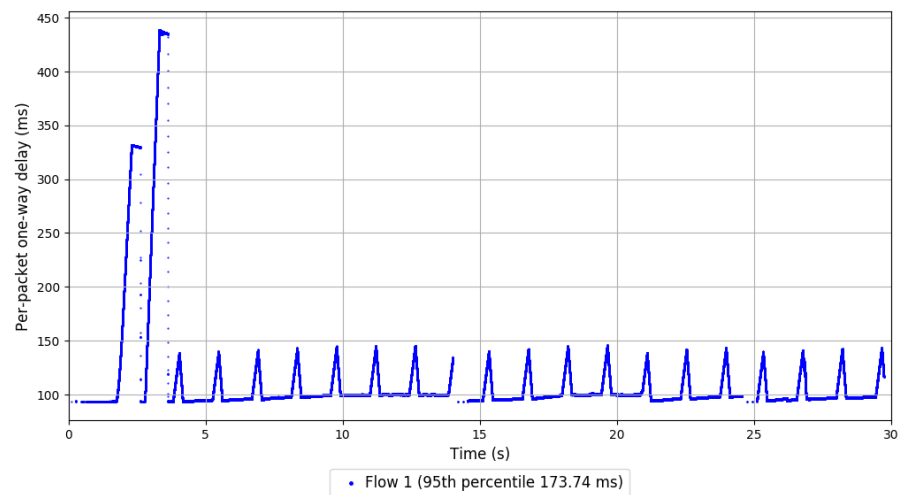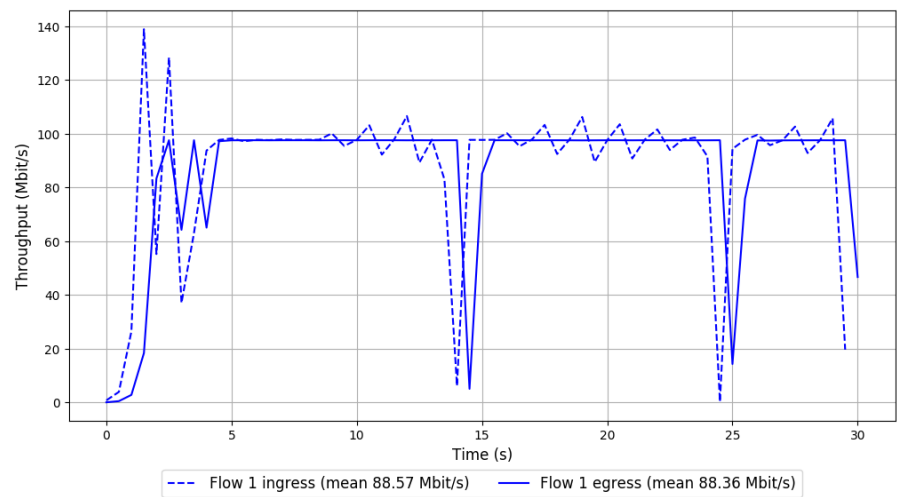
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 88.60 Mbit/s) — Flow 1 egress (mean 88.41 Mbit/s)

Flow 1 (95th percentile 177.16 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-11 23:12:37
End at: 2019-02-11 23:13:07
Local clock offset: -4.431 ms
Remote clock offset: 9.024 ms


# Below is generated by plot.py at 2019-02-12 00:41:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.36 Mbit/s
95th percentile per-packet one-way delay: 173.740 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 88.36 Mbit/s
95th percentile per-packet one-way delay: 173.740 ms
Loss rate: 0.15%
```
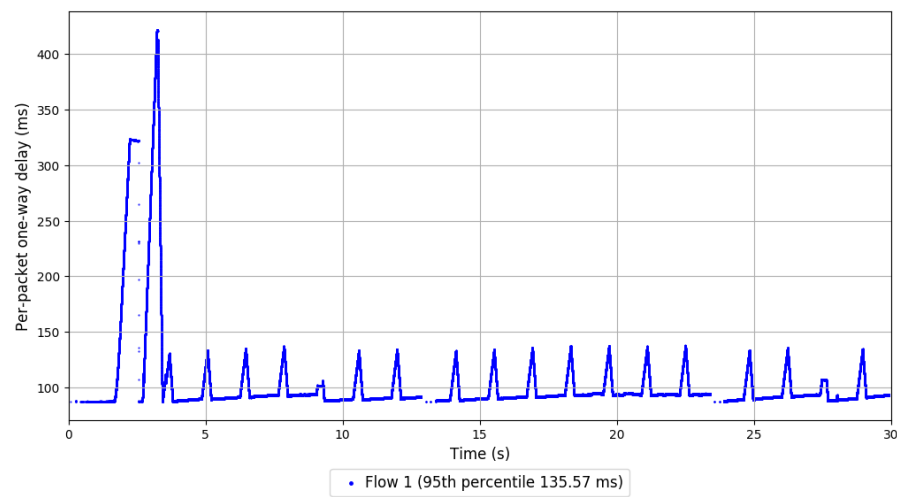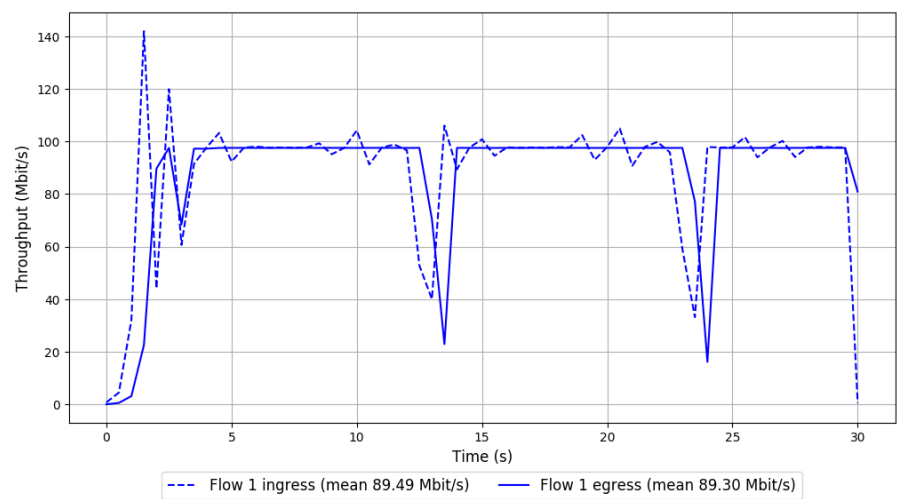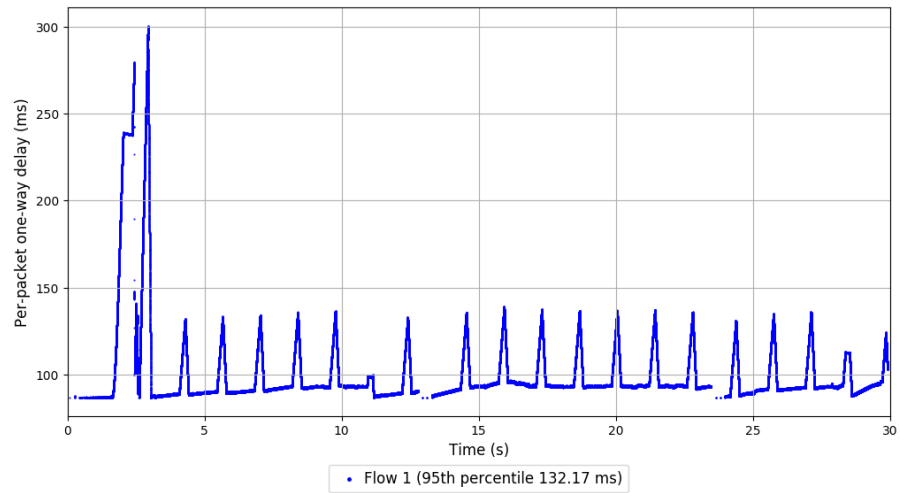
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 88.57 Mbit/s) ---- Flow 1 egress (mean 88.36 Mbit/s) ——

• Flow 1 (95th percentile 173.74 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-11 23:38:59
End at: 2019-02-11 23:39:29
Local clock offset: -7.592 ms
Remote clock offset: 8.657 ms


# Below is generated by plot.py at 2019-02-12 00:41:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.30 Mbit/s
95th percentile per-packet one-way delay: 135.566 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 89.30 Mbit/s
95th percentile per-packet one-way delay: 135.566 ms
Loss rate: 0.78%
```
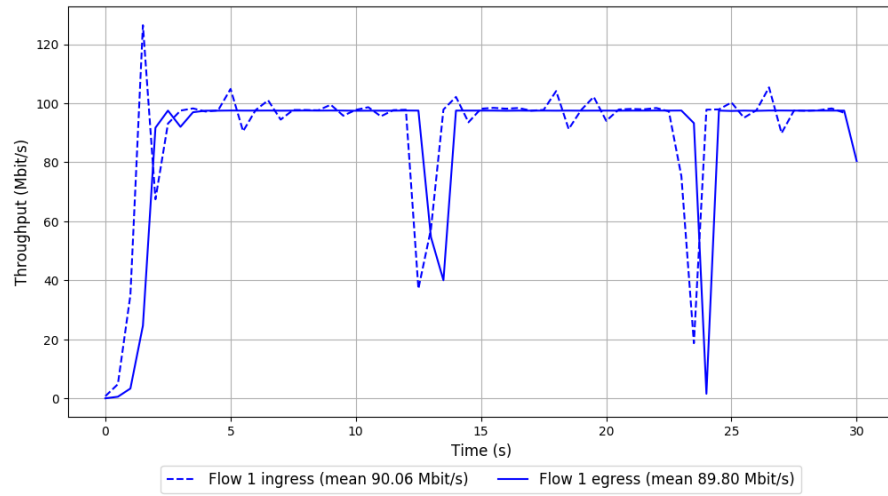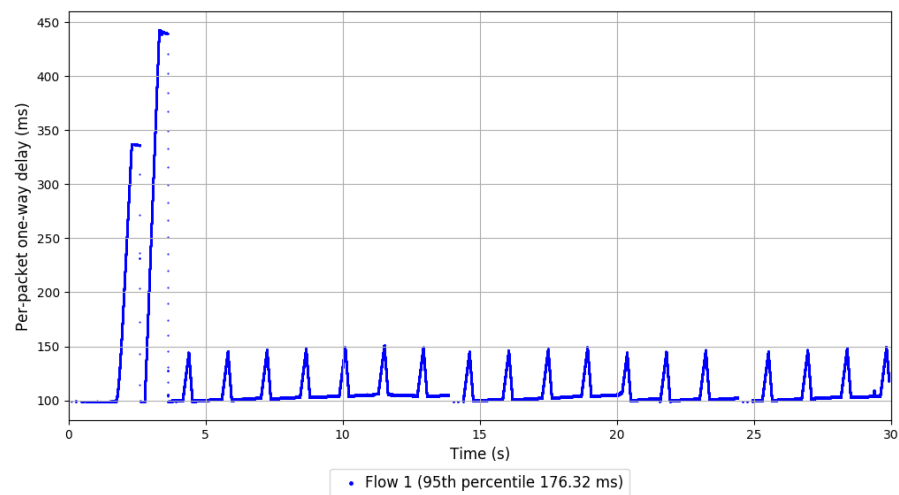
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 89.49 Mbit/s)   Flow 1 egress (mean 89.30 Mbit/s)

• Flow 1 (95th percentile 135.57 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-02-12 00:04:43
End at: 2019-02-12 00:05:13
Local clock offset: -7.4 ms
Remote clock offset: 8.169 ms


# Below is generated by plot.py at 2019-02-12 00:41:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.80 Mbit/s
95th percentile per-packet one-way delay: 132.170 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 89.80 Mbit/s
95th percentile per-packet one-way delay: 132.170 ms
Loss rate: 0.86%
```
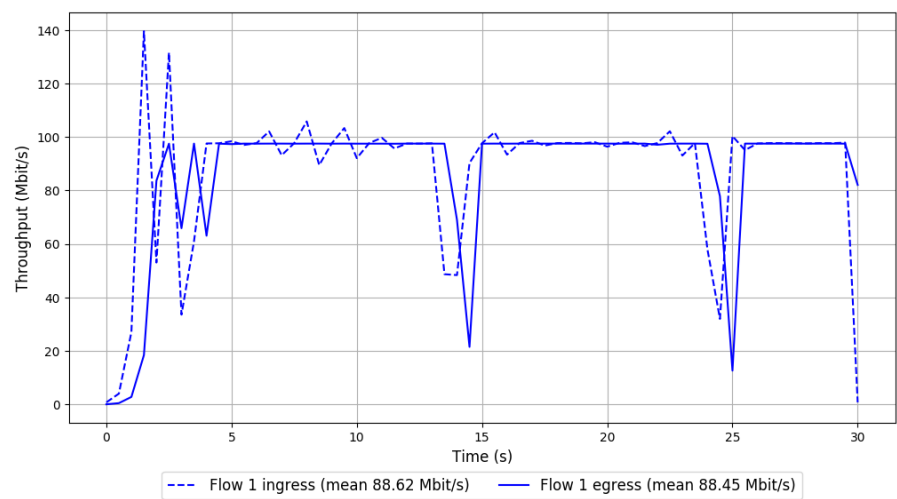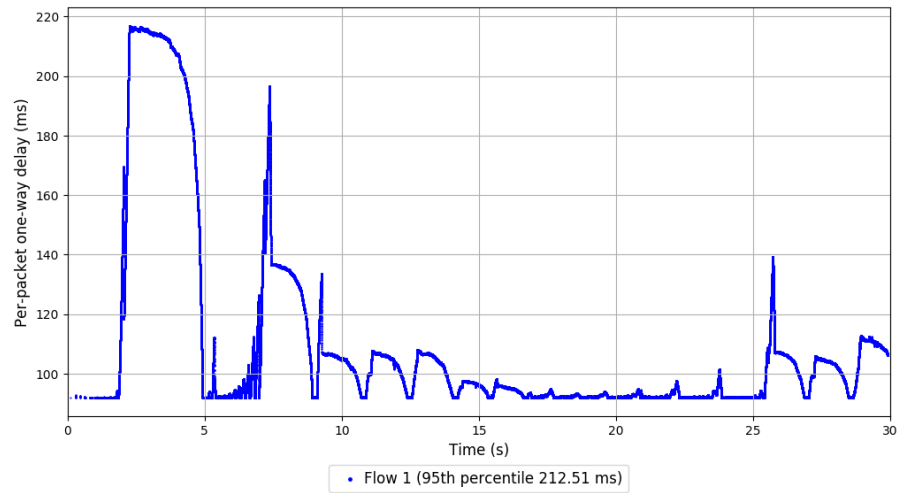
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 90.06 Mbit/s) — Flow 1 egress (mean 89.80 Mbit/s)

Flow 1 (95th percentile 132.17 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-02-12 00:30:41
End at: 2019-02-12 00:31:11
Local clock offset: -6.303 ms
Remote clock offset: 3.505 ms


# Below is generated by plot.py at 2019-02-12 00:41:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.45 Mbit/s
95th percentile per-packet one-way delay: 176.320 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 88.45 Mbit/s
95th percentile per-packet one-way delay: 176.320 ms
Loss rate: 0.80%
```
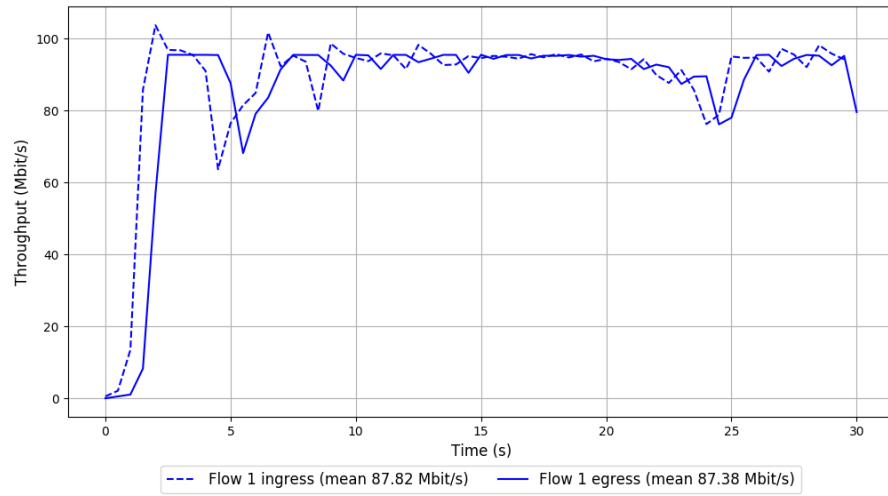
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 88.62 Mbit/s) —— Flow 1 egress (mean 88.45 Mbit/s)

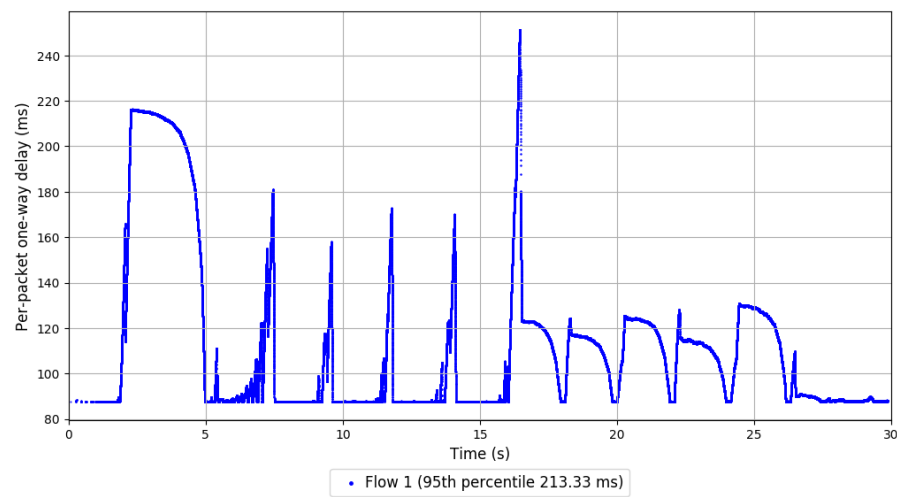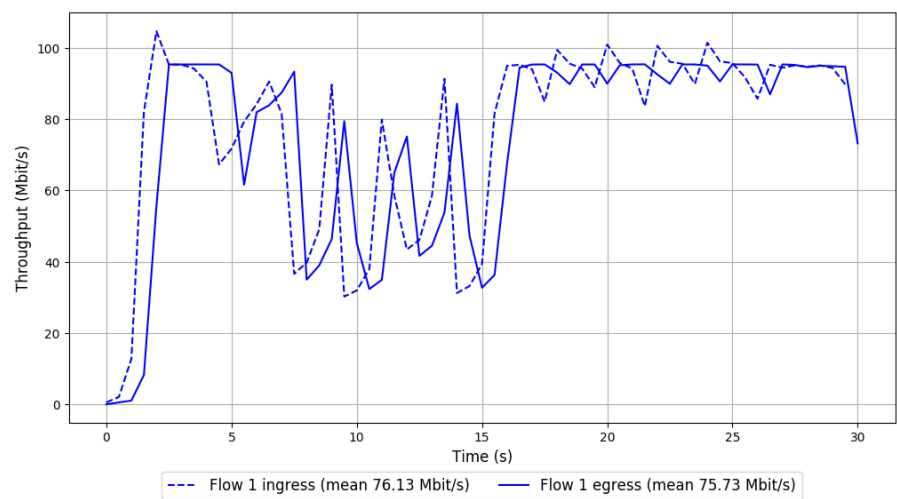• Flow 1 (95th percentile 176.32 ms)

```
Run 1: Statistics of Copa

Start at: 2019-02-11 22:31:01
End at: 2019-02-11 22:31:31
Local clock offset: -1.77 ms
Remote clock offset: 3.994 ms

# Below is generated by plot.py at 2019-02-12 00:42:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.38 Mbit/s
95th percentile per-packet one-way delay: 212.513 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 87.38 Mbit/s
95th percentile per-packet one-way delay: 212.513 ms
Loss rate: 1.08%
```
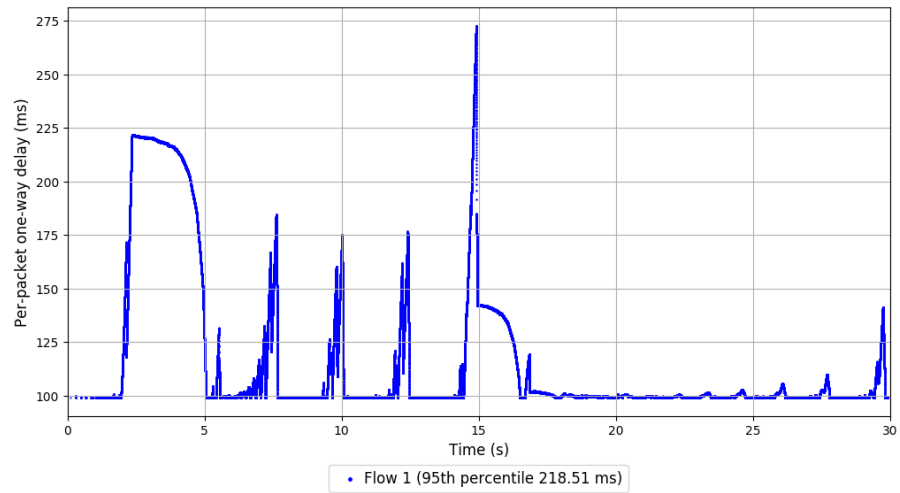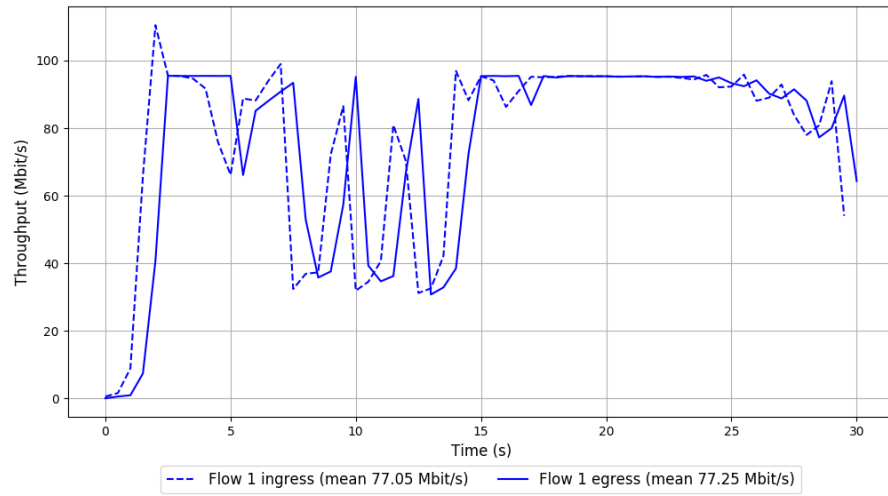
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-02-11 22:56:03
End at: 2019-02-11 22:56:33
Local clock offset: -0.357 ms
Remote clock offset: 9.461 ms


# Below is generated by plot.py at 2019-02-12 00:42:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.73 Mbit/s
95th percentile per-packet one-way delay: 213.329 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 75.73 Mbit/s
95th percentile per-packet one-way delay: 213.329 ms
Loss rate: 1.11%
```
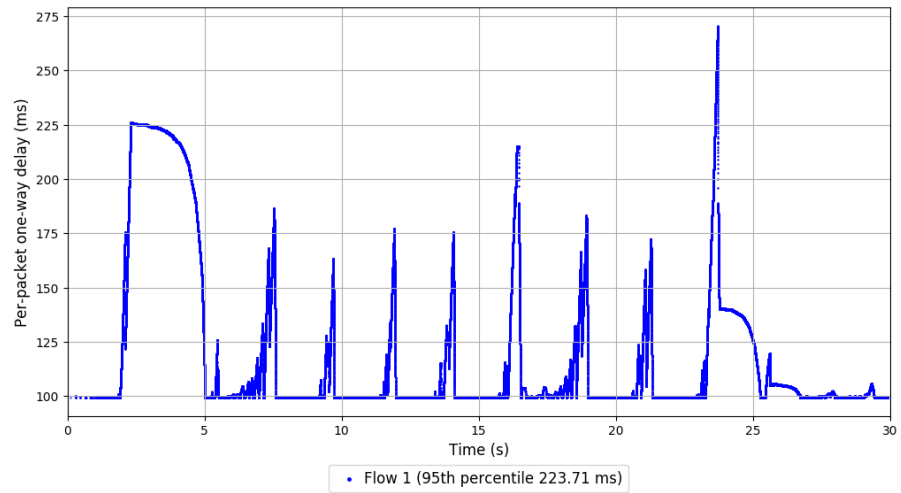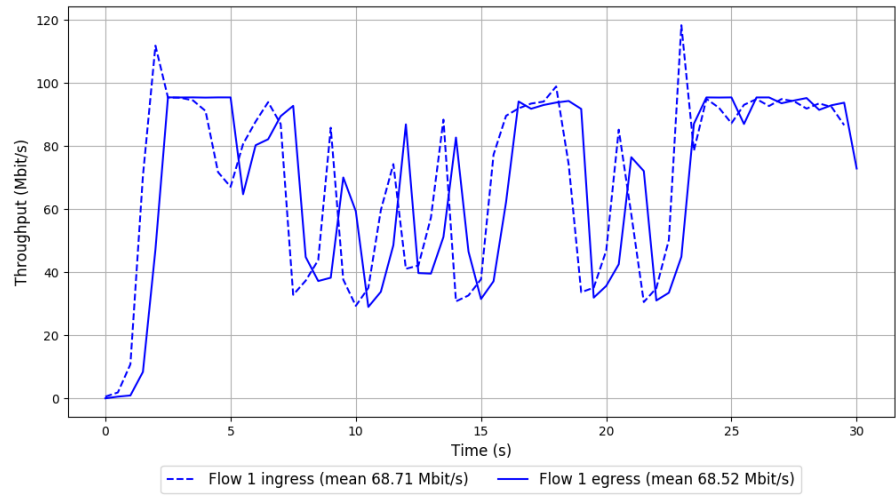
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 76.13 Mbit/s)   Flow 1 egress (mean 75.73 Mbit/s)

• Flow 1 (95th percentile 213.33 ms)

```
Run 3: Statistics of Copa

Start at: 2019-02-11 23:21:05
End at: 2019-02-11 23:21:35
Local clock offset: -5.813 ms
Remote clock offset: 3.845 ms


# Below is generated by plot.py at 2019-02-12 00:42:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 218.513 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 218.513 ms
Loss rate: 0.35%
```
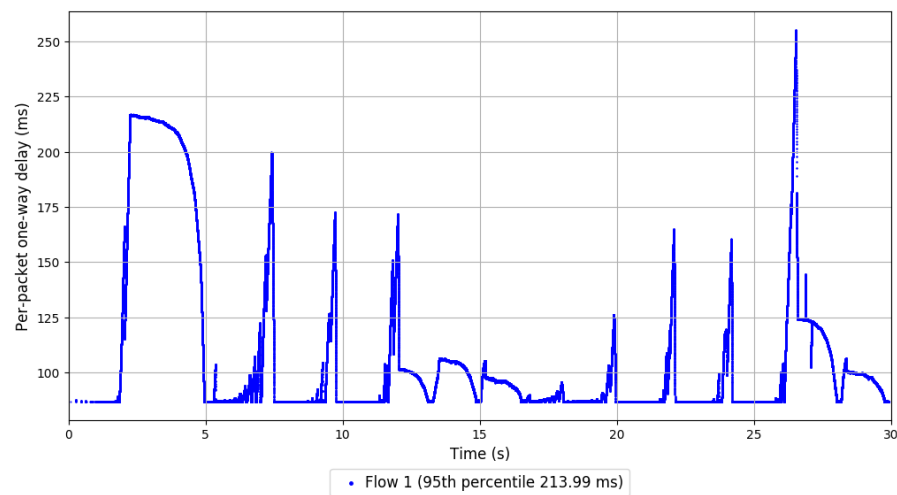
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-02-11 23:47:49
End at: 2019-02-11 23:48:19
Local clock offset: -6.362 ms
Remote clock offset: 3.407 ms

# Below is generated by plot.py at 2019-02-12 00:42:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 223.714 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 223.714 ms
Loss rate: 0.87%
```
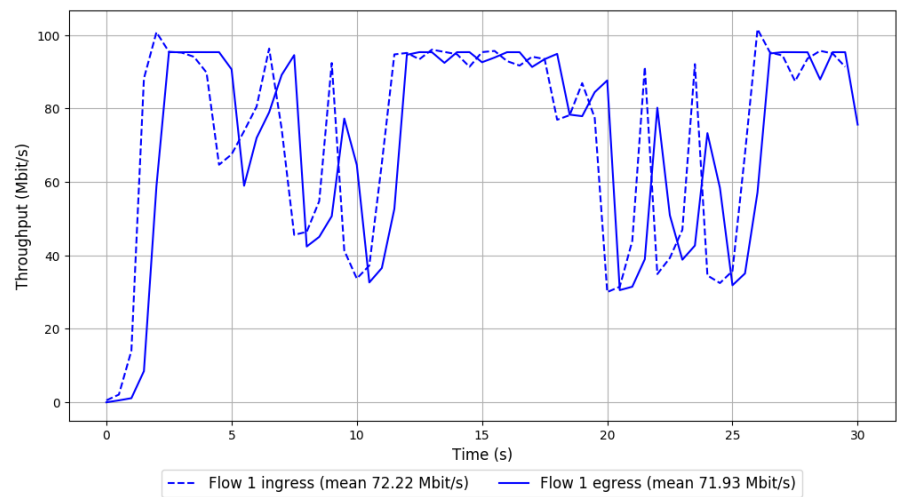
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-02-12 00:13:34
End at: 2019-02-12 00:14:04
Local clock offset: -6.932 ms
Remote clock offset: 8.537 ms


# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.93 Mbit/s
95th percentile per-packet one-way delay: 213.987 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 71.93 Mbit/s
95th percentile per-packet one-way delay: 213.987 ms
Loss rate: 0.98%
```
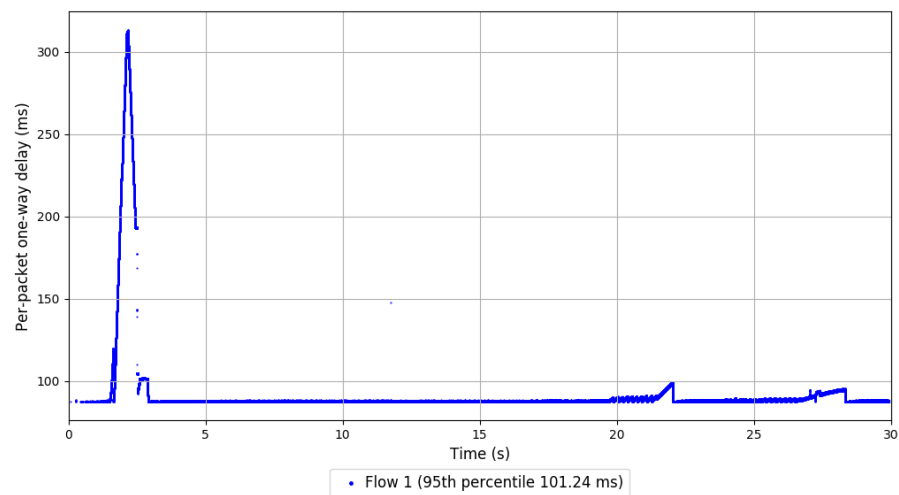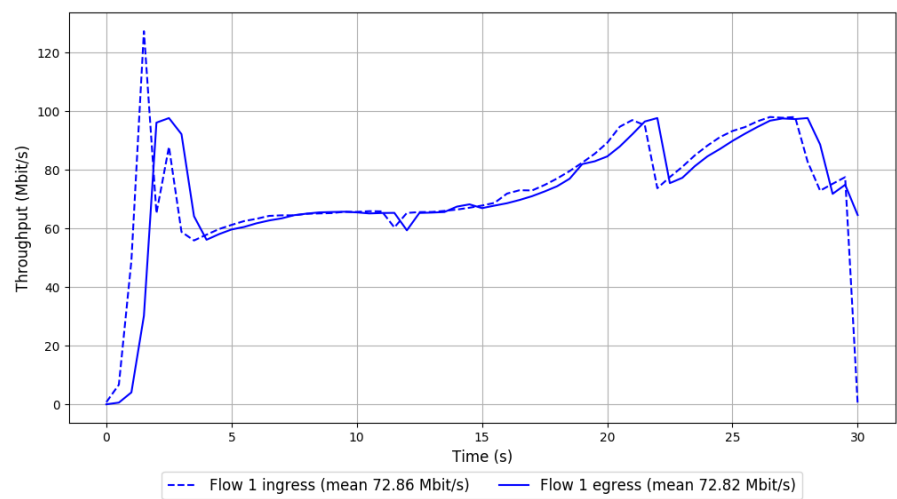
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 72.22 Mbit/s) ---- Flow 1 egress (mean 71.93 Mbit/s) ——

Flow 1 (95th percentile 213.99 ms)

24

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-11 22:52:26
End at: 2019-02-11 22:52:56
Local clock offset: -0.589 ms
Remote clock offset: 9.344 ms

# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.82 Mbit/s
95th percentile per-packet one-way delay: 101.240 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.82 Mbit/s
95th percentile per-packet one-way delay: 101.240 ms
Loss rate: 0.64%
```
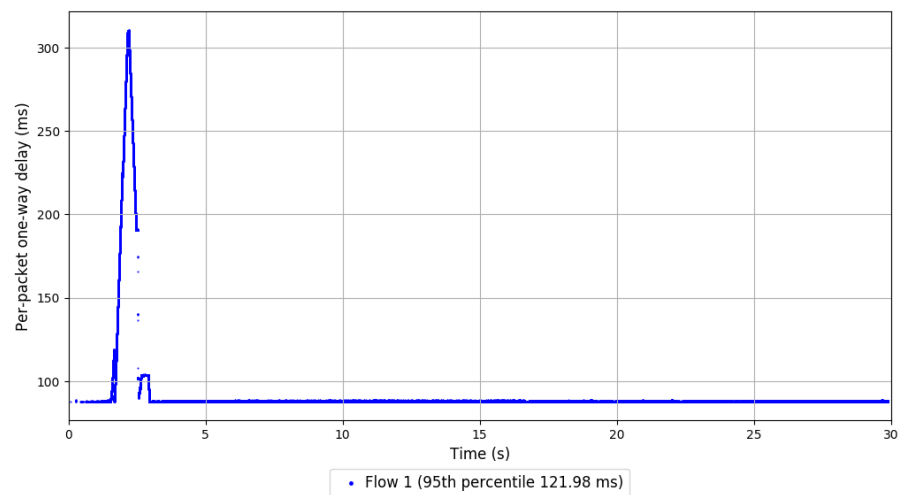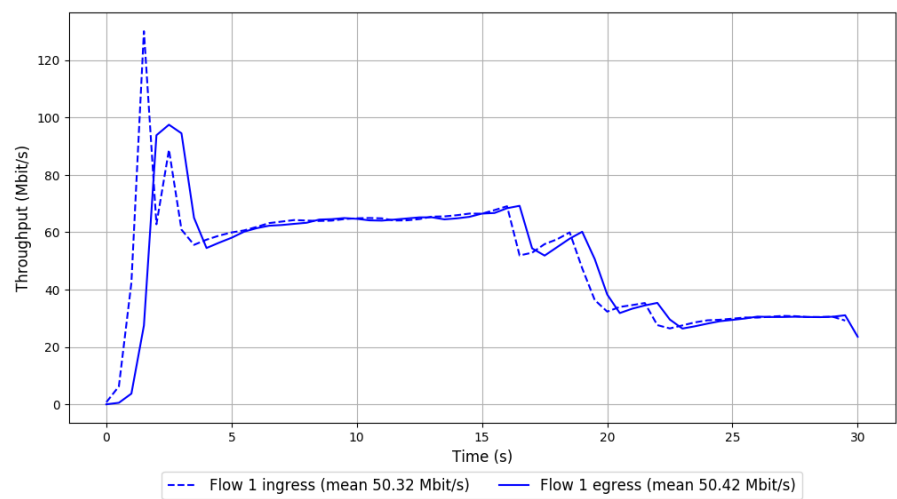
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-11 23:17:25
End at: 2019-02-11 23:17:55
Local clock offset: -5.848 ms
Remote clock offset: 9.009 ms


# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 121.979 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 121.979 ms
Loss rate: 0.39%
```
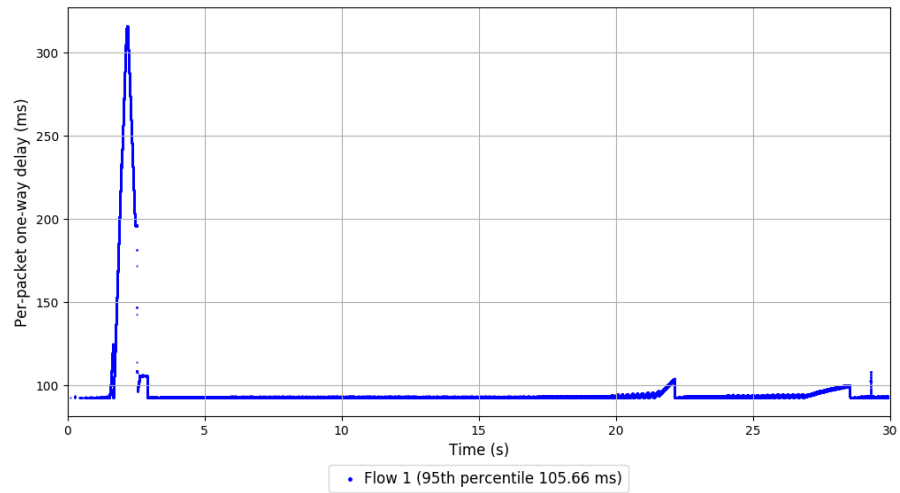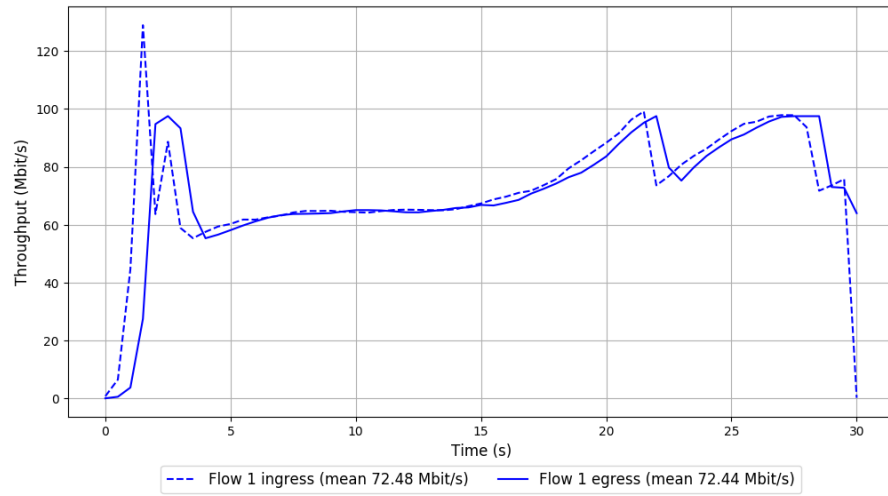
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 50.32 Mbit/s) — Flow 1 egress (mean 50.42 Mbit/s)

• Flow 1 (95th percentile 121.98 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-11 23:44:05
End at: 2019-02-11 23:44:35
Local clock offset: -7.184 ms
Remote clock offset: 3.617 ms


# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.44 Mbit/s
95th percentile per-packet one-way delay: 105.663 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.44 Mbit/s
95th percentile per-packet one-way delay: 105.663 ms
Loss rate: 0.64%
```
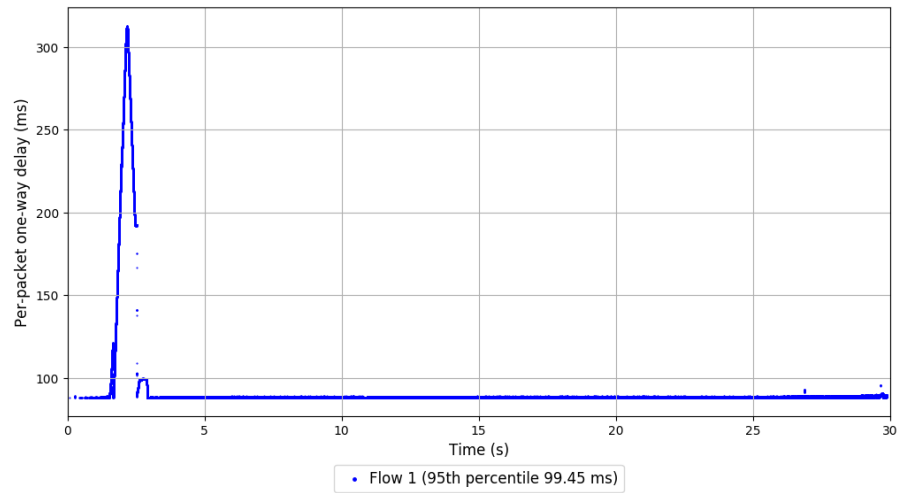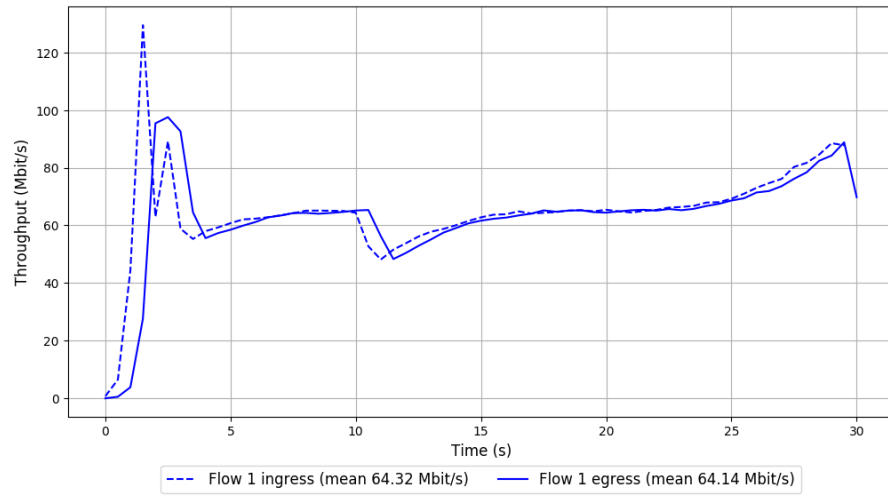
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 72.48 Mbit/s) ---- Flow 1 egress (mean 72.44 Mbit/s)

• Flow 1 (95th percentile 105.66 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 00:09:44
End at: 2019-02-12 00:10:14
Local clock offset: -6.293 ms
Remote clock offset: 8.354 ms


# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 99.454 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 99.454 ms
Loss rate: 0.87%
```
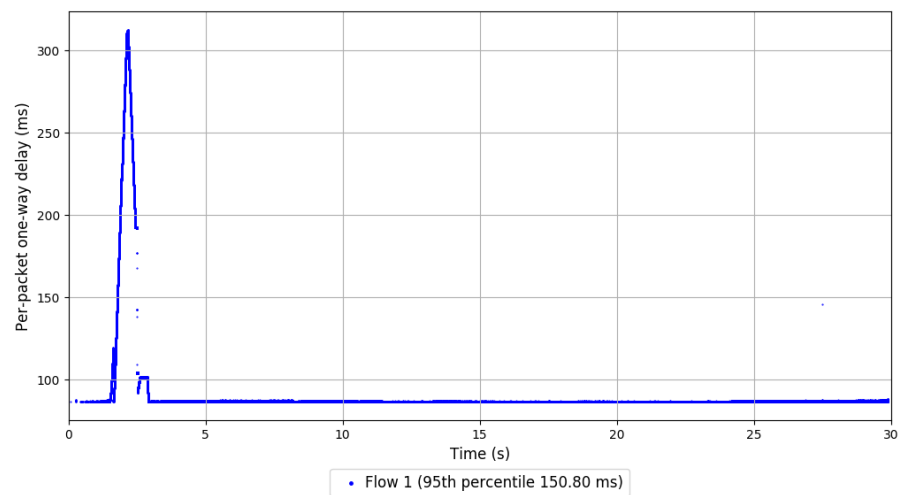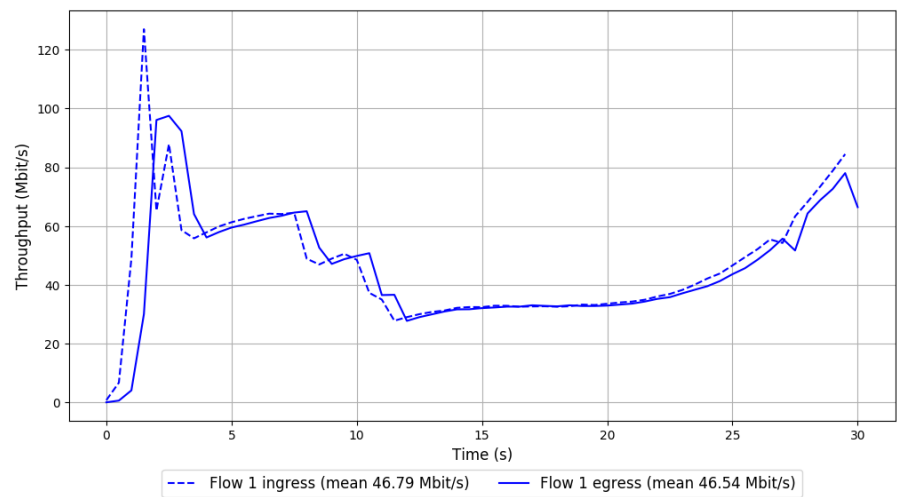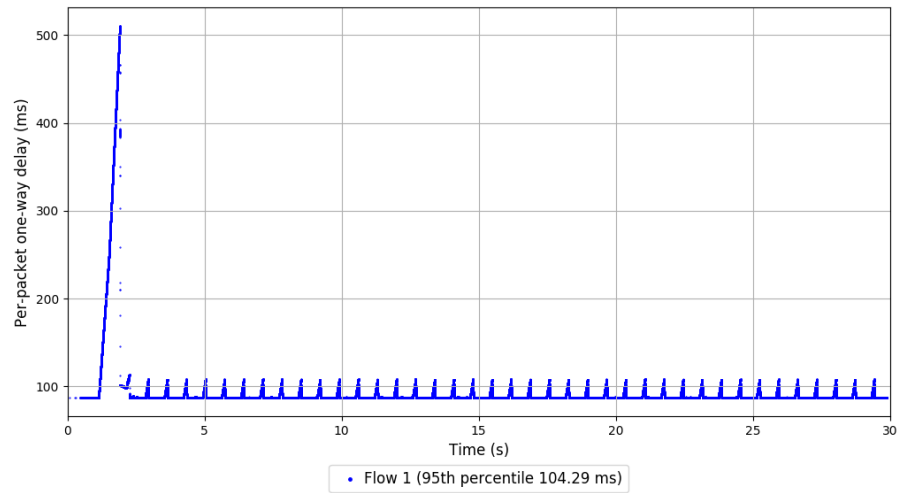
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 64.32 Mbit/s)   Flow 1 egress (mean 64.14 Mbit/s)

Flow 1 (95th percentile 99.45 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 00:35:31
End at: 2019-02-12 00:36:01
Local clock offset: -6.632 ms
Remote clock offset: 8.127 ms


# Below is generated by plot.py at 2019-02-12 00:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.54 Mbit/s
95th percentile per-packet one-way delay: 150.803 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 46.54 Mbit/s
95th percentile per-packet one-way delay: 150.803 ms
Loss rate: 1.11%
```
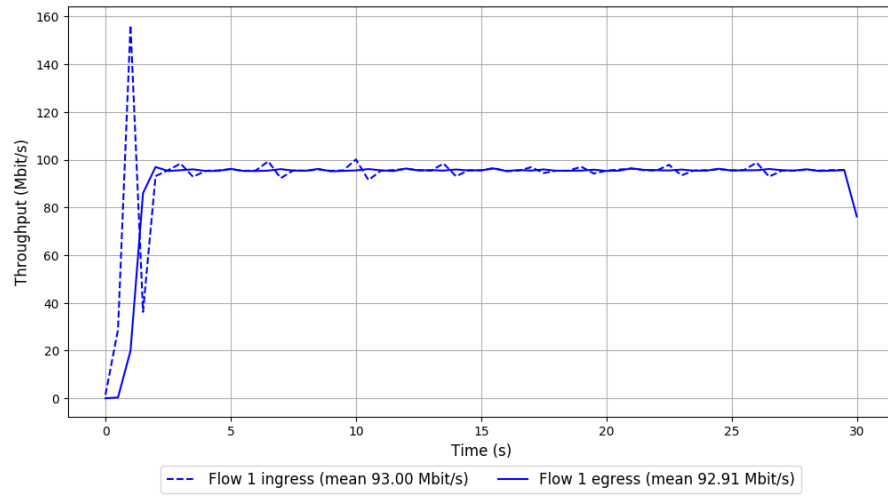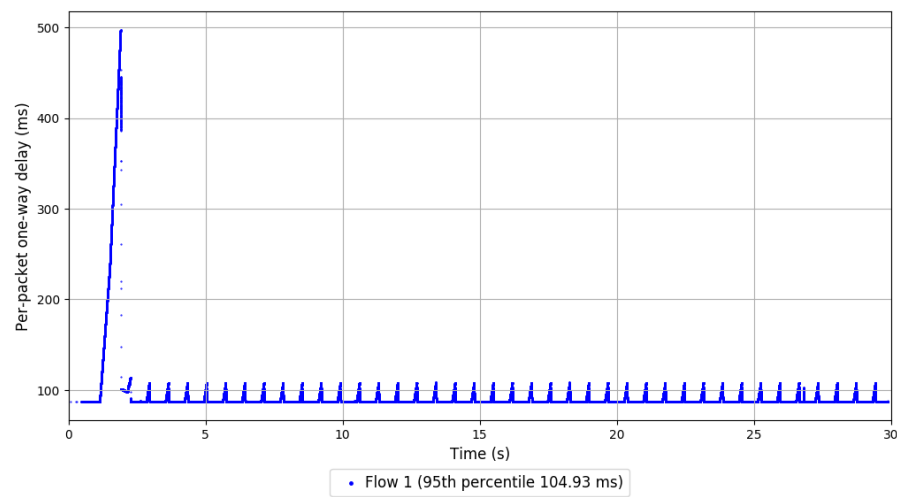
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 46.79 Mbit/s) — — — Flow 1 egress (mean 46.54 Mbit/s)

Flow 1 (95th percentile 150.80 ms)

```
Run 1: Statistics of FillP

Start at: 2019-02-11 22:33:25
End at: 2019-02-11 22:33:55
Local clock offset: -1.687 ms
Remote clock offset: 9.034 ms


# Below is generated by plot.py at 2019-02-12 00:43:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 104.294 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 104.294 ms
Loss rate: 0.68%
```
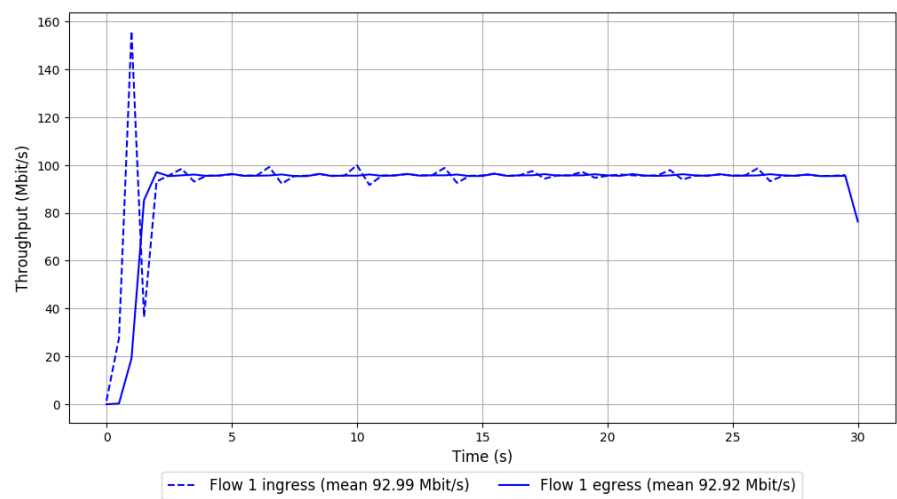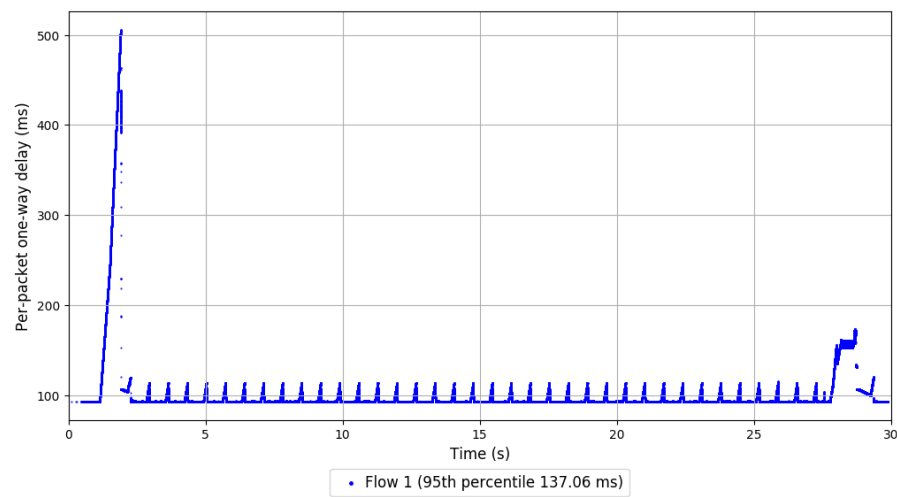
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 93.00 Mbit/s)   Flow 1 egress (mean 92.91 Mbit/s)

Flow 1 (95th percentile 104.29 ms)

```
Run 2: Statistics of FillP

Start at: 2019-02-11 22:58:25
End at: 2019-02-11 22:58:55
Local clock offset: -0.209 ms
Remote clock offset: 9.799 ms


# Below is generated by plot.py at 2019-02-12 00:43:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 104.932 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 104.932 ms
Loss rate: 0.66%
```
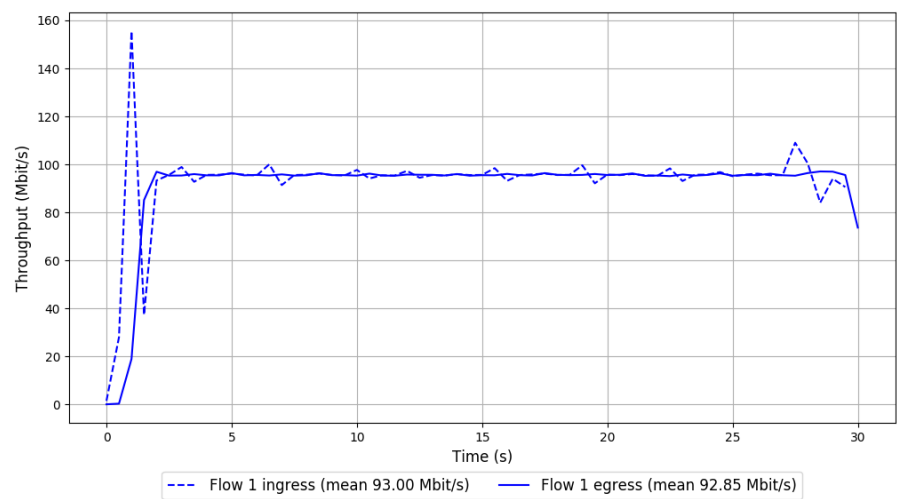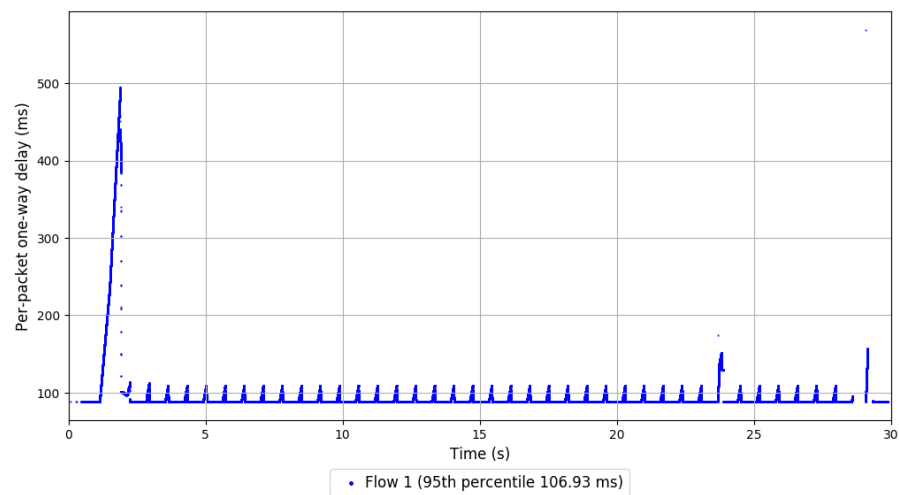
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-02-11 23:23:37
End at: 2019-02-11 23:24:07
Local clock offset: -7.001 ms
Remote clock offset: 3.769 ms


# Below is generated by plot.py at 2019-02-12 00:43:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 137.065 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 137.065 ms
Loss rate: 0.75%
```
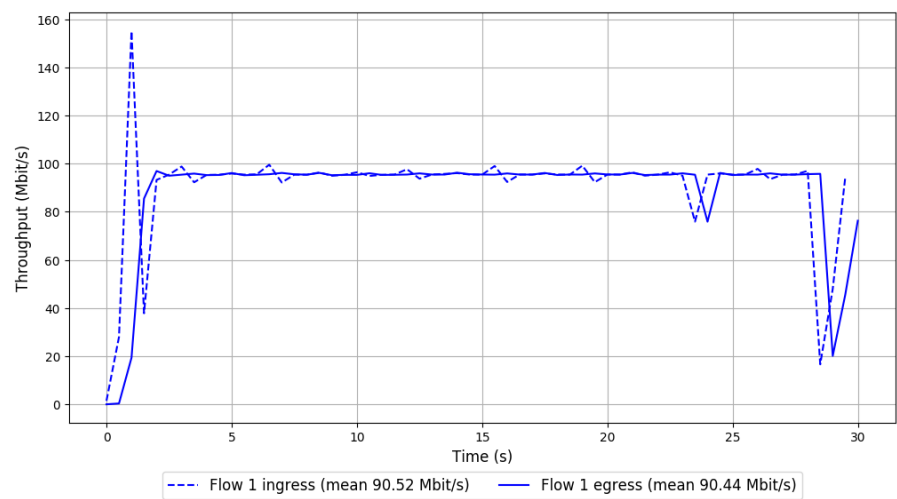
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-02-11 23:50:18
End at: 2019-02-11 23:50:48
Local clock offset: -6.411 ms
Remote clock offset: 8.602 ms


# Below is generated by plot.py at 2019-02-12 00:43:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.44 Mbit/s
95th percentile per-packet one-way delay: 106.927 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 90.44 Mbit/s
95th percentile per-packet one-way delay: 106.927 ms
Loss rate: 0.67%
```
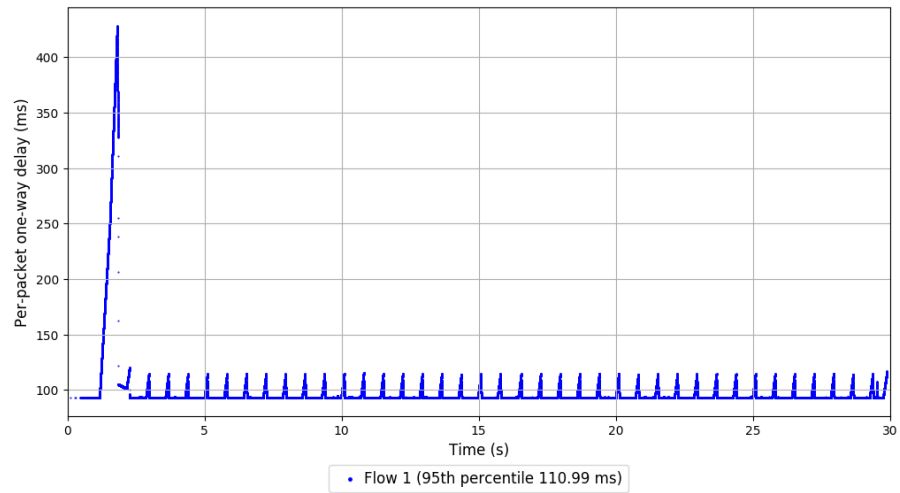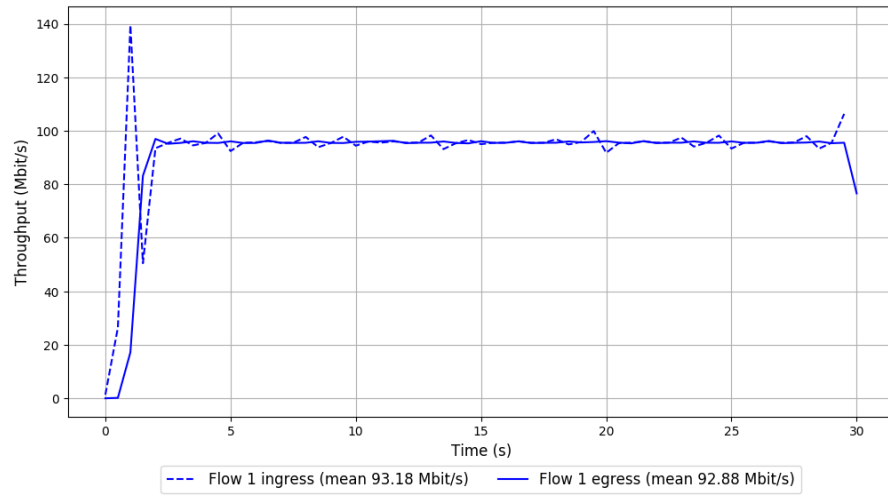
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 90.52 Mbit/s) ----   Flow 1 egress (mean 90.44 Mbit/s) ——

Flow 1 (95th percentile 106.93 ms)

42

```
Run 5: Statistics of FillP

Start at: 2019-02-12 00:16:05
End at: 2019-02-12 00:16:35
Local clock offset: -6.907 ms
Remote clock offset: 8.342 ms


# Below is generated by plot.py at 2019-02-12 00:43:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 110.991 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 110.991 ms
Loss rate: 0.87%
```
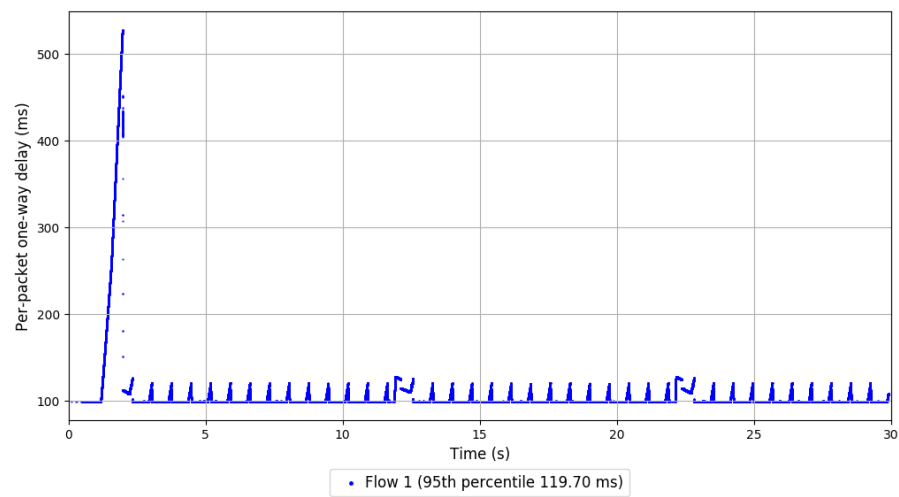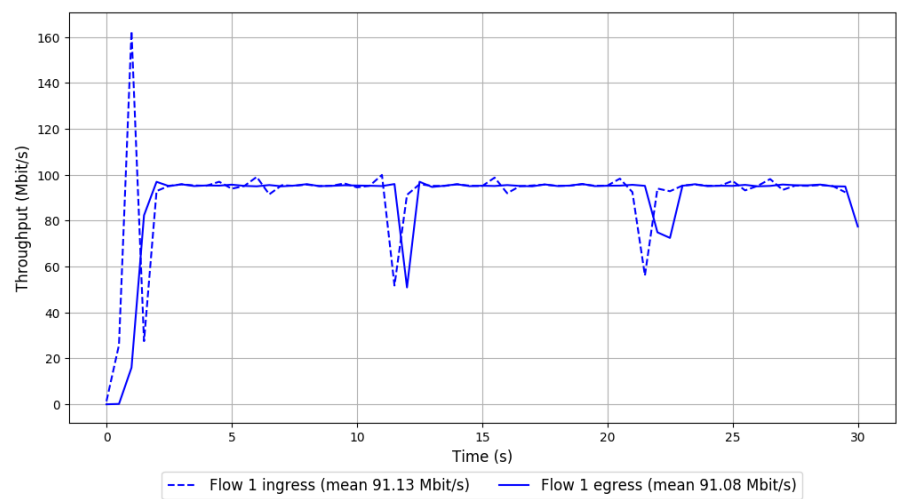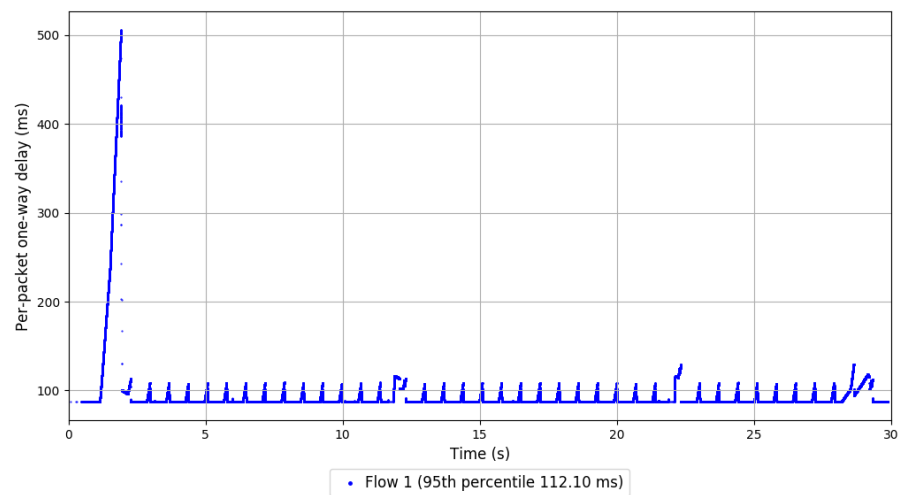
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 93.18 Mbit/s) — Flow 1 egress (mean 92.88 Mbit/s)

Flow 1 (95th percentile 110.99 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-11 22:35:48
End at: 2019-02-11 22:36:18
Local clock offset: -0.684 ms
Remote clock offset: 3.885 ms


# Below is generated by plot.py at 2019-02-12 00:43:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.08 Mbit/s
95th percentile per-packet one-way delay: 119.698 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 91.08 Mbit/s
95th percentile per-packet one-way delay: 119.698 ms
Loss rate: 0.66%
```
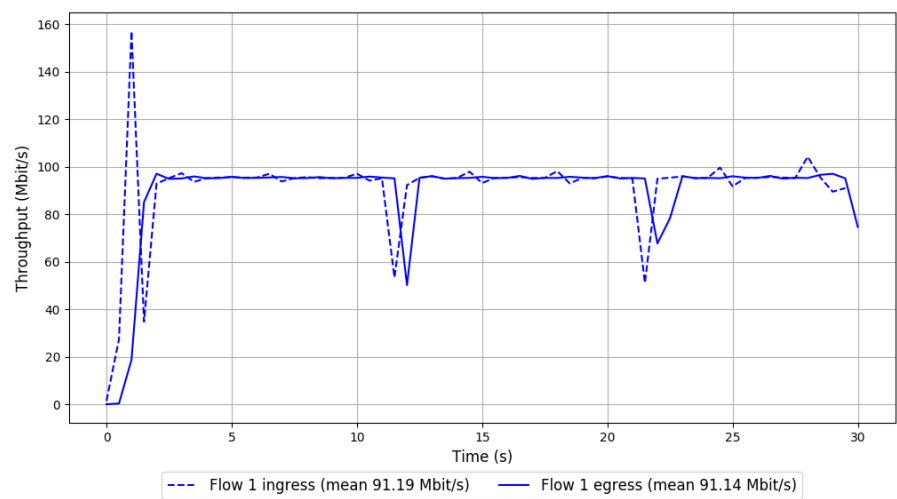
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-11 23:00:48
End at: 2019-02-11 23:01:18
Local clock offset: -0.182 ms
Remote clock offset: 9.558 ms


# Below is generated by plot.py at 2019-02-12 00:44:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 112.102 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 112.102 ms
Loss rate: 0.63%
```
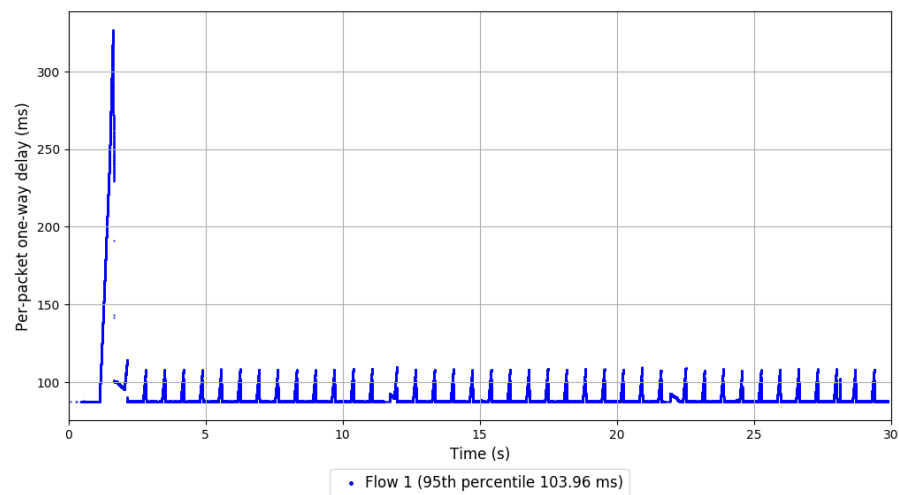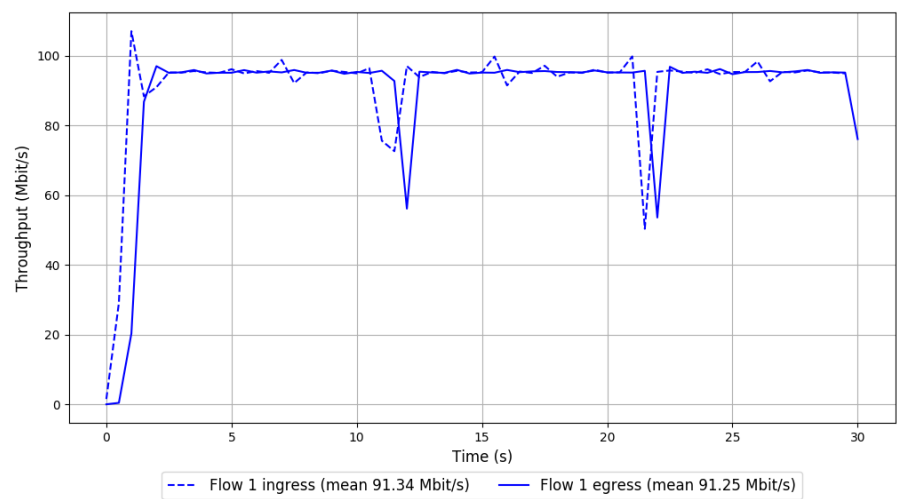
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.19 Mbit/s)   Flow 1 egress (mean 91.14 Mbit/s)

Flow 1 (95th percentile 112.10 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-11 23:26:15
End at: 2019-02-11 23:26:45
Local clock offset: -6.598 ms
Remote clock offset: 8.912 ms


# Below is generated by plot.py at 2019-02-12 00:44:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.25 Mbit/s
95th percentile per-packet one-way delay: 103.958 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 91.25 Mbit/s
95th percentile per-packet one-way delay: 103.958 ms
Loss rate: 0.68%
```
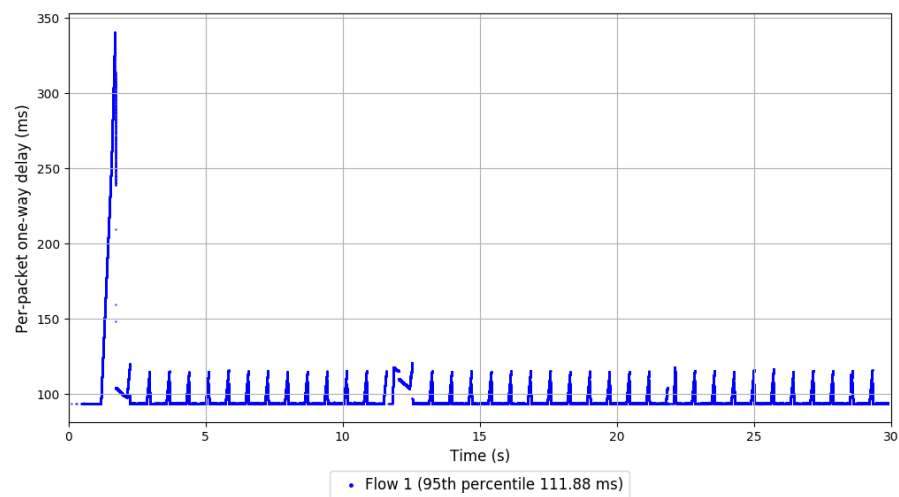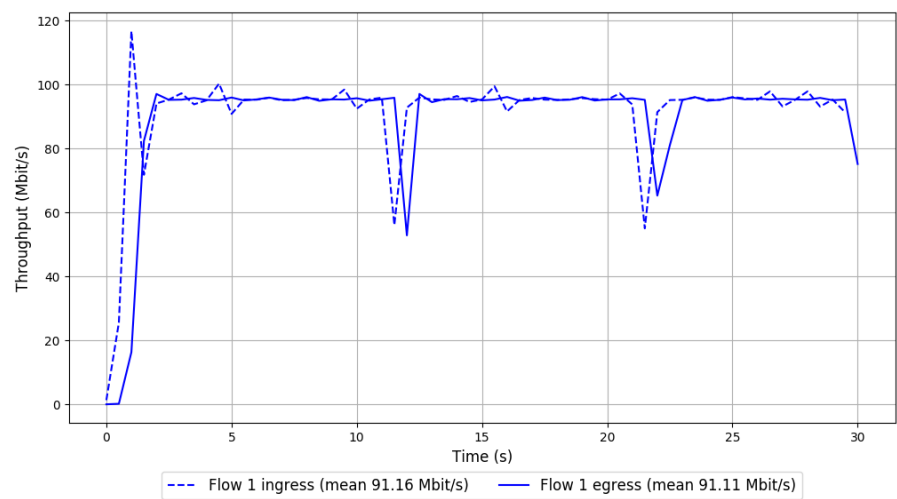
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.34 Mbit/s)　　Flow 1 egress (mean 91.25 Mbit/s)

Flow 1 (95th percentile 103.96 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-11 23:52:43
End at: 2019-02-11 23:53:13
Local clock offset: -7.123 ms
Remote clock offset: 8.504 ms


# Below is generated by plot.py at 2019-02-12 00:44:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.11 Mbit/s
95th percentile per-packet one-way delay: 111.883 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 91.11 Mbit/s
95th percentile per-packet one-way delay: 111.883 ms
Loss rate: 0.65%
```
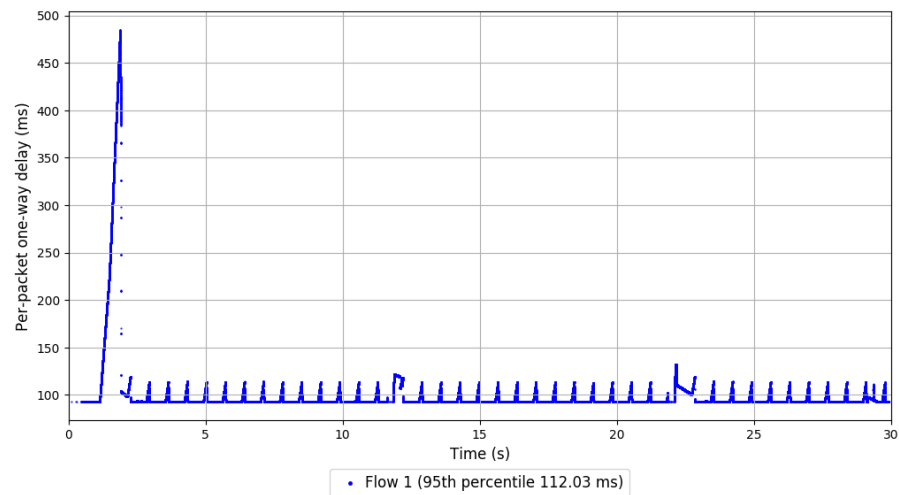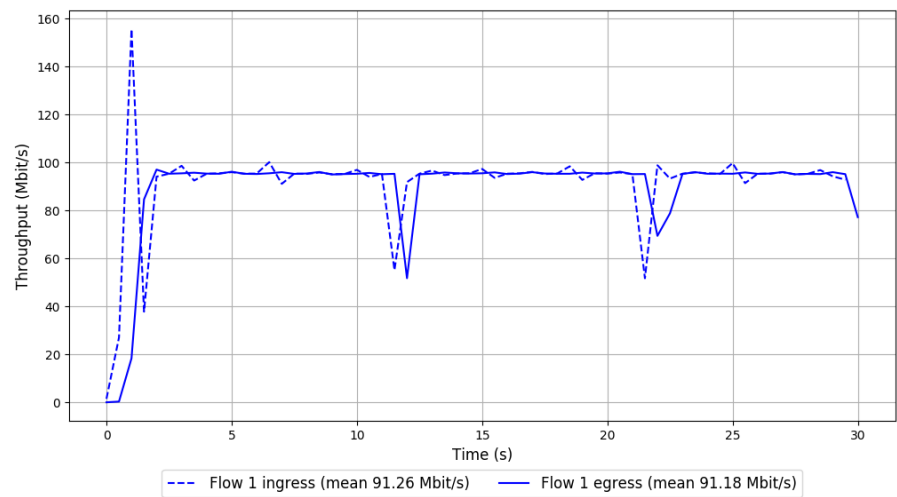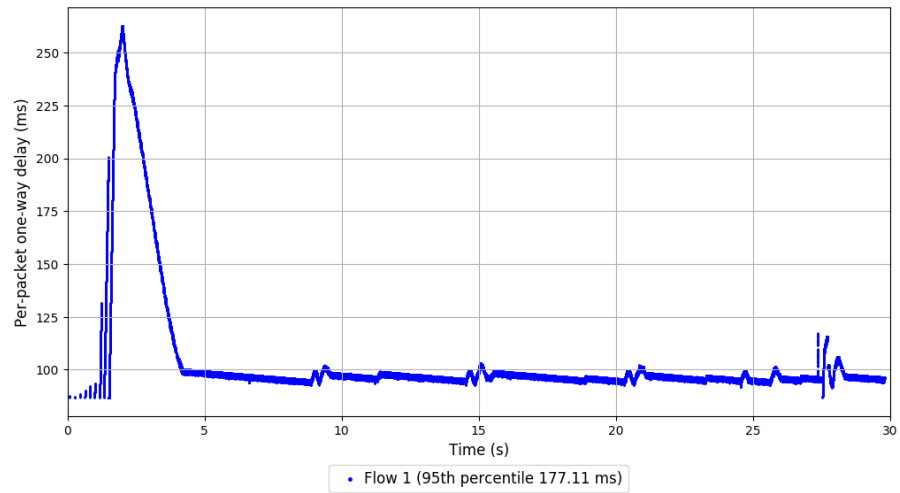
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.16 Mbit/s)   Flow 1 egress (mean 91.11 Mbit/s)

• Flow 1 (95th percentile 111.88 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 00:18:34
End at: 2019-02-12 00:19:04
Local clock offset: -6.141 ms
Remote clock offset: 3.335 ms


# Below is generated by plot.py at 2019-02-12 00:44:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.18 Mbit/s
95th percentile per-packet one-way delay: 112.027 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 91.18 Mbit/s
95th percentile per-packet one-way delay: 112.027 ms
Loss rate: 0.66%
```
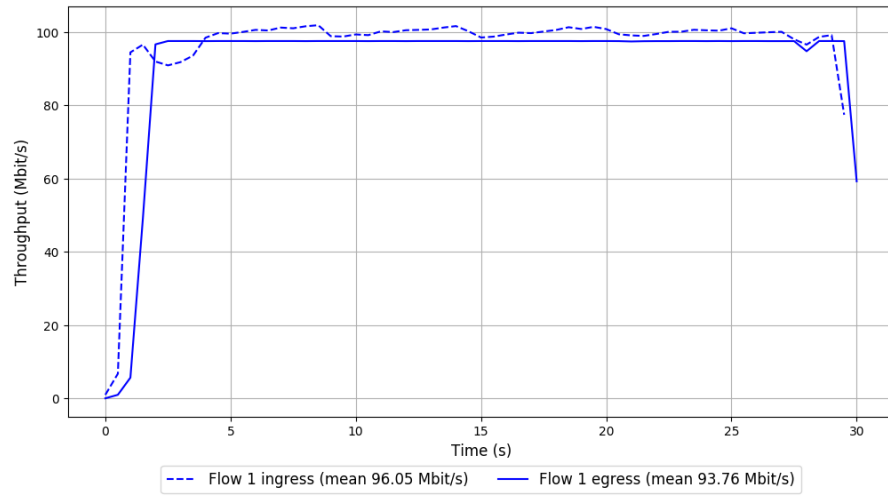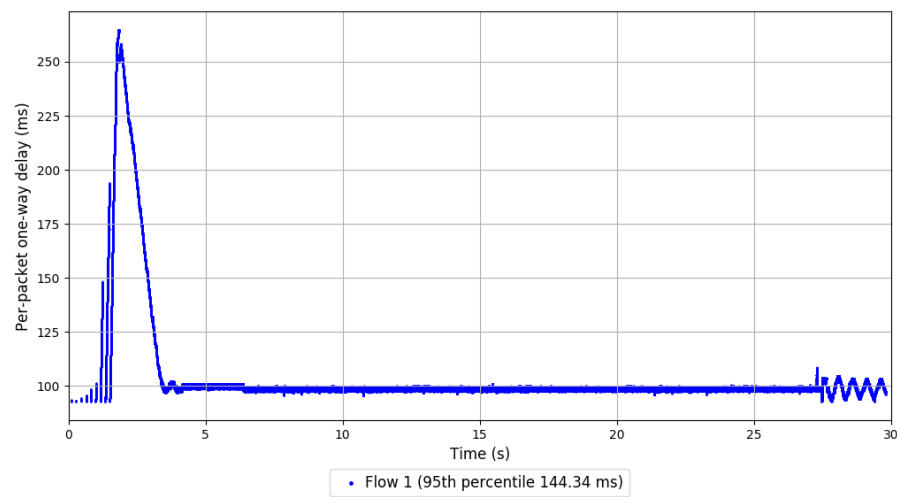
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.26 Mbit/s) ---- Flow 1 egress (mean 91.18 Mbit/s) ——

• Flow 1 (95th percentile 112.03 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-02-11 22:53:38
End at: 2019-02-11 22:54:08
Local clock offset: -0.53 ms
Remote clock offset: 9.351 ms


# Below is generated by plot.py at 2019-02-12 00:44:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.76 Mbit/s
95th percentile per-packet one-way delay: 177.112 ms
Loss rate: 2.95%
-- Flow 1:
Average throughput: 93.76 Mbit/s
95th percentile per-packet one-way delay: 177.112 ms
Loss rate: 2.95%
```
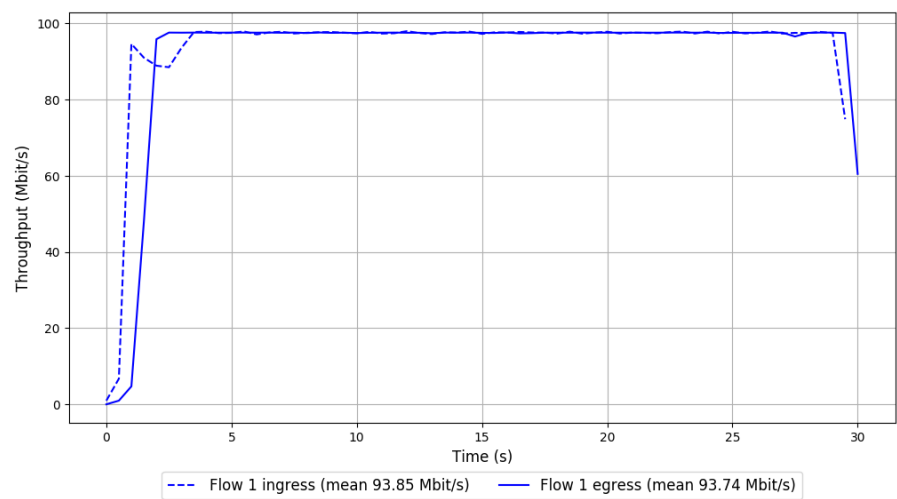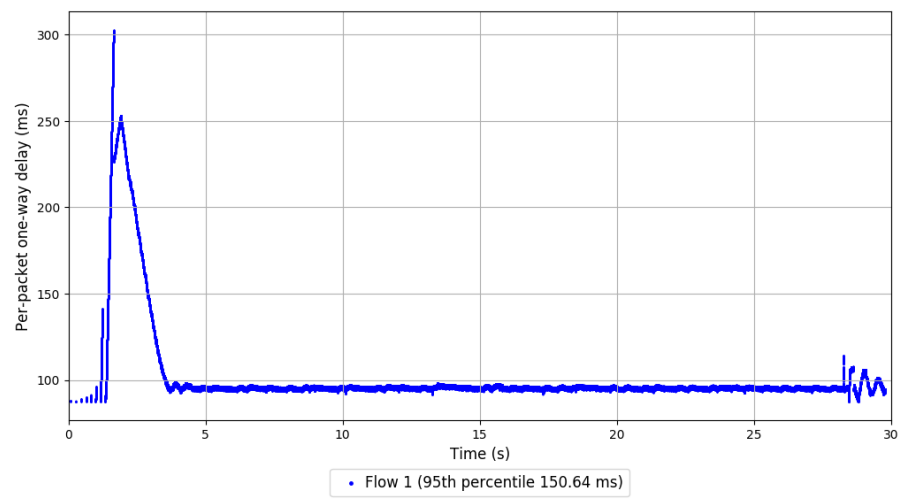
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-11 23:18:35
End at: 2019-02-11 23:19:05
Local clock offset: -5.336 ms
Remote clock offset: 3.718 ms


# Below is generated by plot.py at 2019-02-12 00:44:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 144.339 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 144.339 ms
Loss rate: 0.69%
```
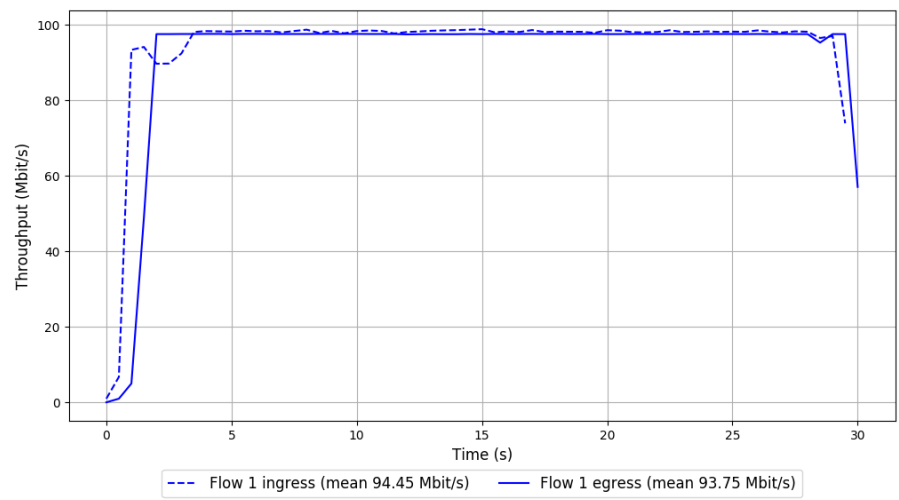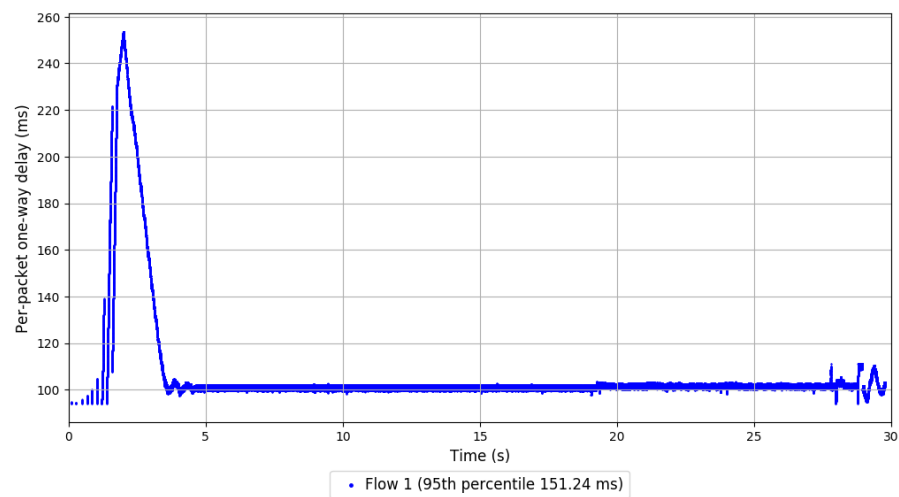
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 93.85 Mbit/s) — Flow 1 egress (mean 93.74 Mbit/s)

• Flow 1 (95th percentile 144.34 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-02-11 23:45:18
End at: 2019-02-11 23:45:48
Local clock offset: -7.169 ms
Remote clock offset: 8.752 ms


# Below is generated by plot.py at 2019-02-12 00:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 150.641 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 150.641 ms
Loss rate: 1.31%
```
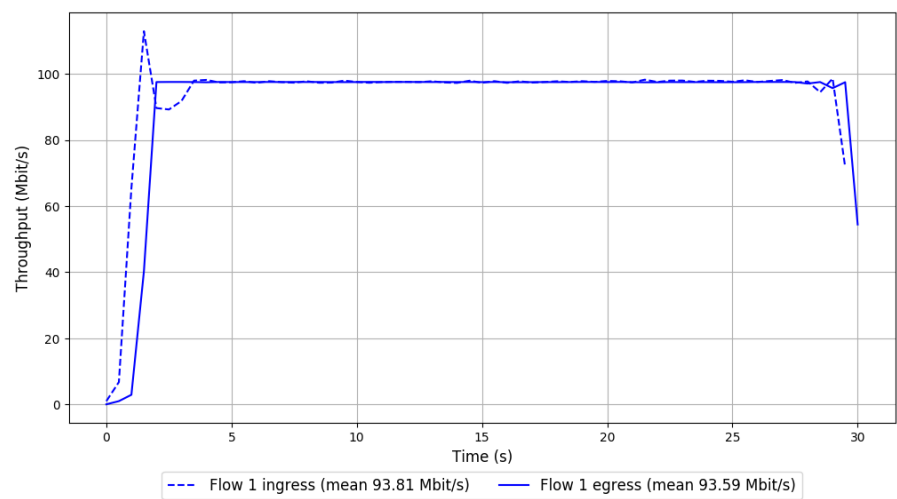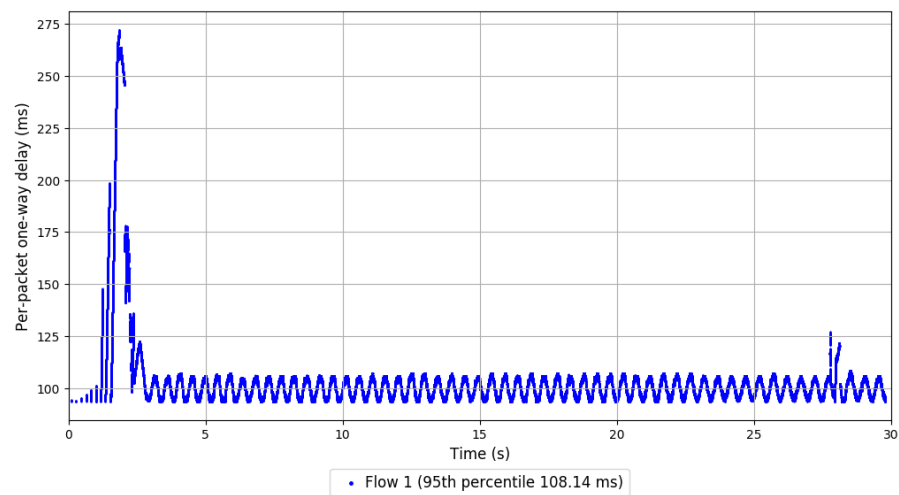
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-02-12 00:10:59
End at: 2019-02-12 00:11:29
Local clock offset: -6.306 ms
Remote clock offset: 8.045 ms


# Below is generated by plot.py at 2019-02-12 00:44:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 151.244 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 151.244 ms
Loss rate: 0.83%
```
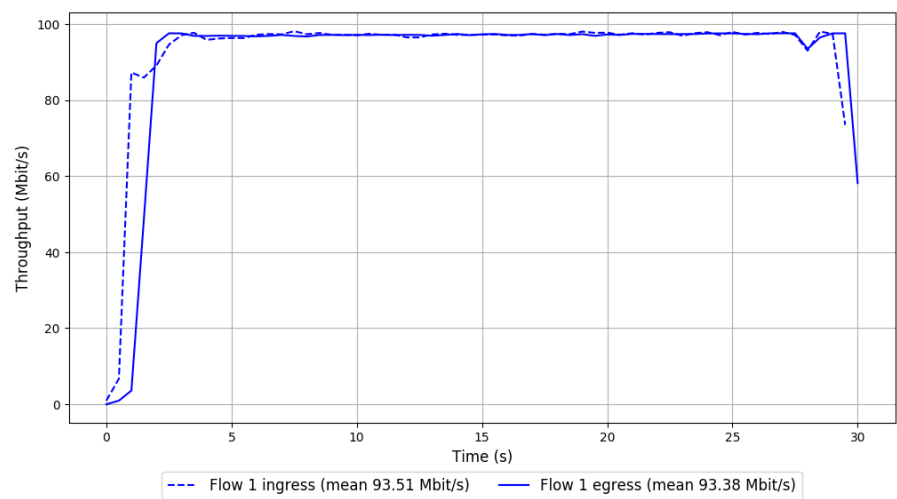
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 93.81 Mbit/s) — Flow 1 egress (mean 93.59 Mbit/s)

• Flow 1 (95th percentile 151.24 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-02-12 00:36:41
End at: 2019-02-12 00:37:11
Local clock offset: -5.321 ms
Remote clock offset: 3.056 ms


# Below is generated by plot.py at 2019-02-12 00:45:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.38 Mbit/s
95th percentile per-packet one-way delay: 108.143 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 93.38 Mbit/s
95th percentile per-packet one-way delay: 108.143 ms
Loss rate: 0.72%
```
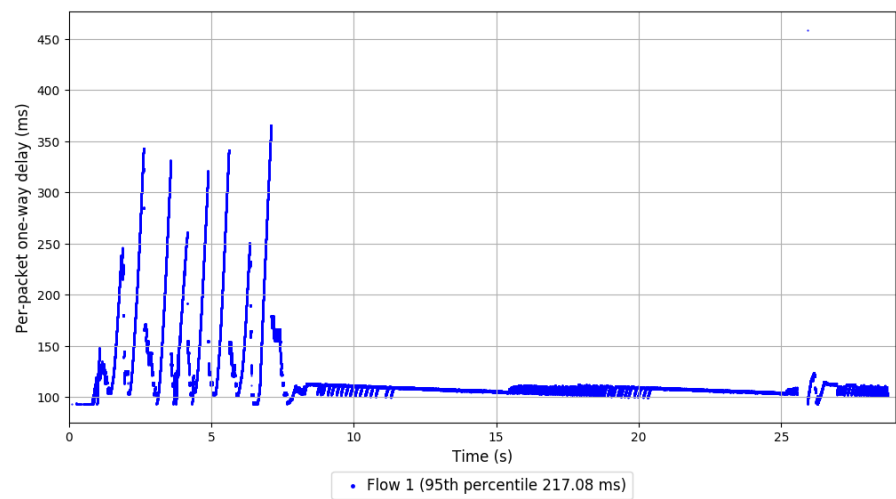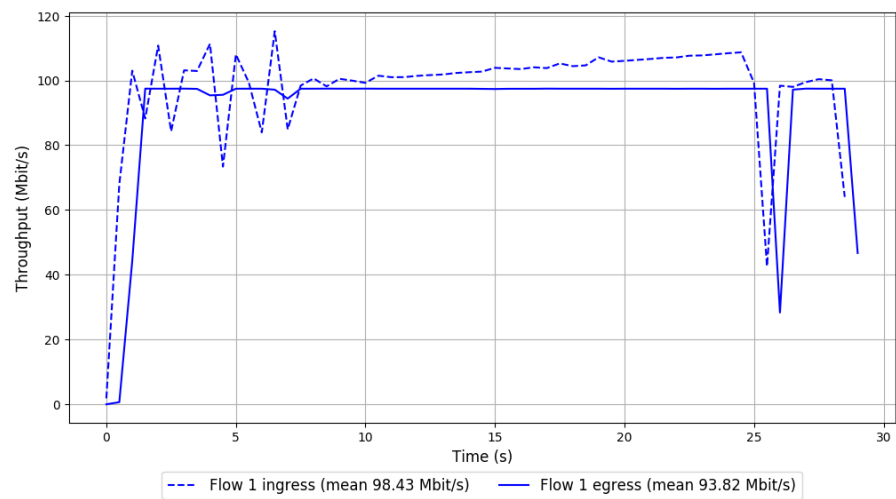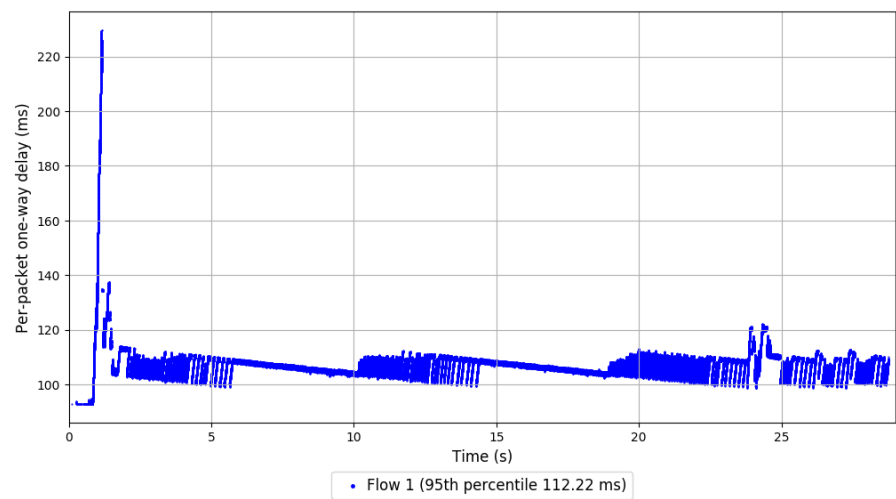
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 93.51 Mbit/s) —— Flow 1 egress (mean 93.38 Mbit/s)

• Flow 1 (95th percentile 108.14 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-11 22:48:51
End at: 2019-02-11 22:49:21
Local clock offset: 0.033 ms
Remote clock offset: 4.2 ms


# Below is generated by plot.py at 2019-02-12 00:45:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.82 Mbit/s
95th percentile per-packet one-way delay: 217.077 ms
Loss rate: 5.27%
-- Flow 1:
Average throughput: 93.82 Mbit/s
95th percentile per-packet one-way delay: 217.077 ms
Loss rate: 5.27%
```
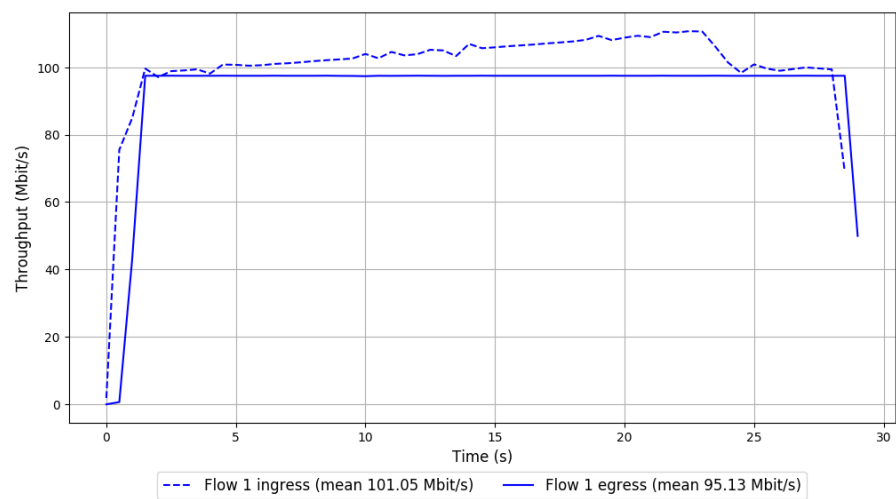
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-11 23:13:50
End at: 2019-02-11 23:14:20
Local clock offset: -4.123 ms
Remote clock offset: 4.023 ms


# Below is generated by plot.py at 2019-02-12 00:45:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.13 Mbit/s
95th percentile per-packet one-way delay: 112.216 ms
Loss rate: 6.42%
-- Flow 1:
Average throughput: 95.13 Mbit/s
95th percentile per-packet one-way delay: 112.216 ms
Loss rate: 6.42%
```
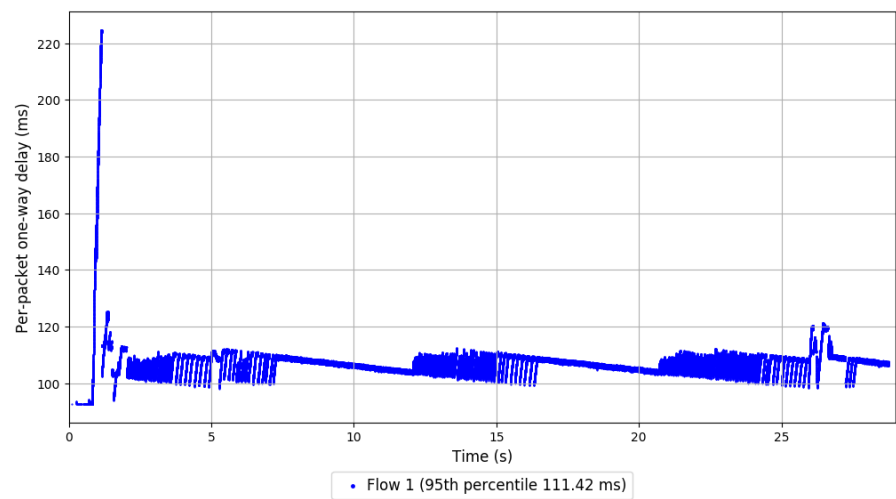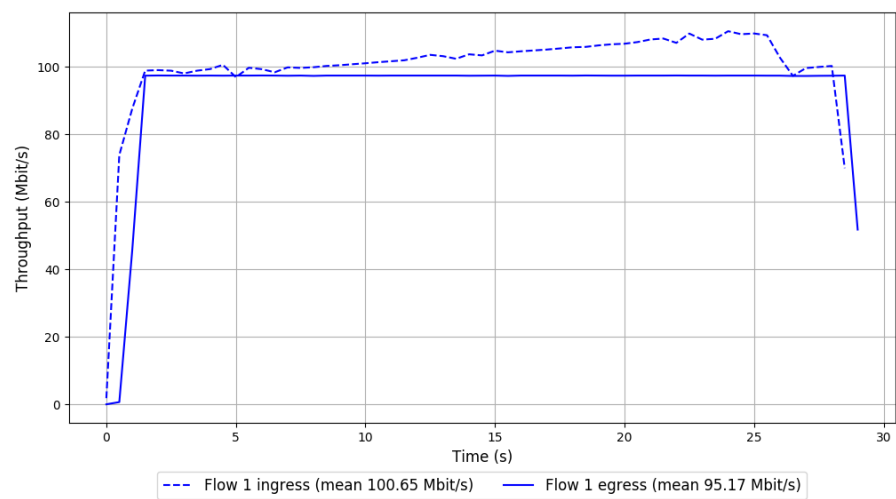
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-11 23:40:13
End at: 2019-02-11 23:40:43
Local clock offset: -7.438 ms
Remote clock offset: 3.784 ms


# Below is generated by plot.py at 2019-02-12 00:45:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 111.422 ms
Loss rate: 6.02%
-- Flow 1:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 111.422 ms
Loss rate: 6.02%
```
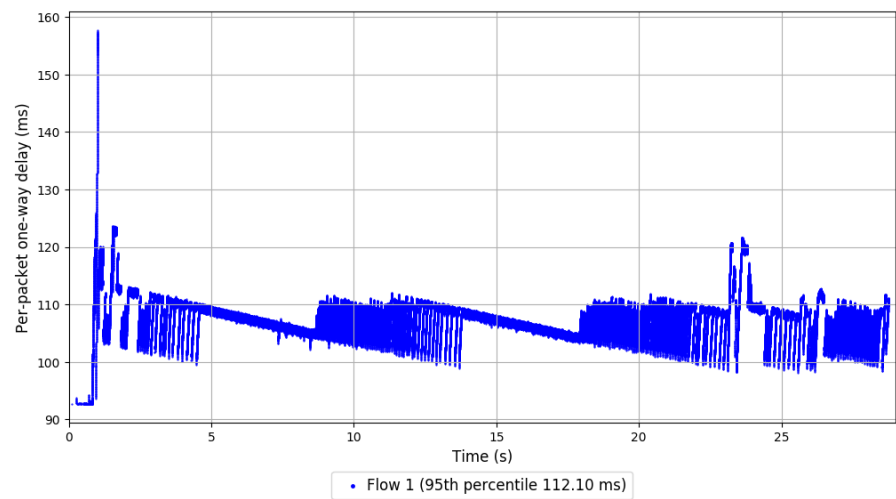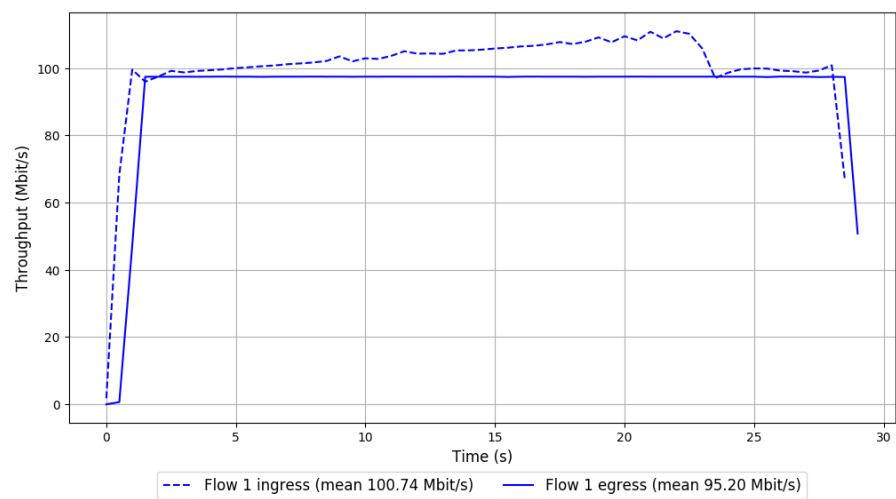
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 00:06:00
End at: 2019-02-12 00:06:30
Local clock offset: -7.358 ms
Remote clock offset: 3.182 ms


# Below is generated by plot.py at 2019-02-12 00:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 112.096 ms
Loss rate: 6.08%
-- Flow 1:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 112.096 ms
Loss rate: 6.08%
```
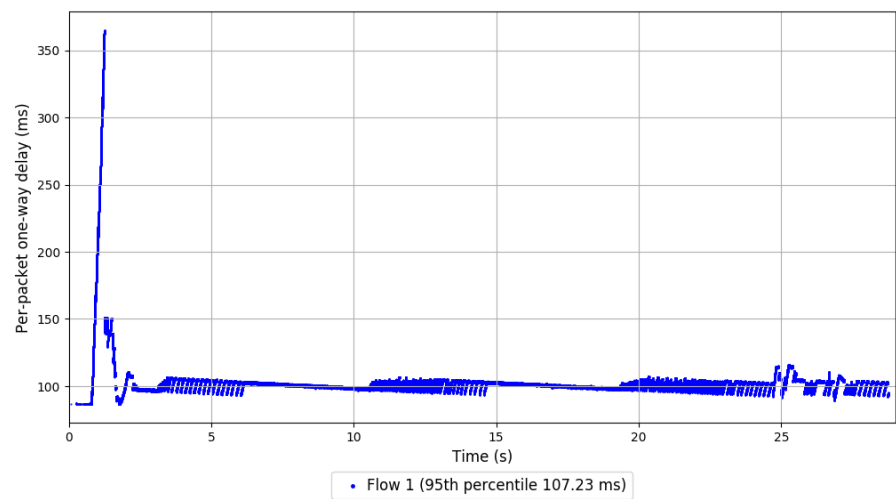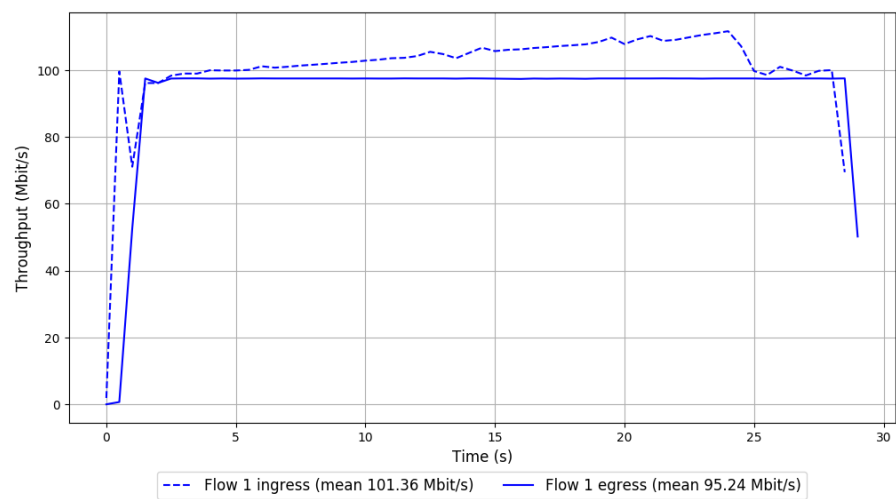
Run 4: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 100.74 Mbit/s)   Flow 1 egress (mean 95.20 Mbit/s)

Flow 1 (95th percentile 112.10 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 00:31:55
End at: 2019-02-12 00:32:25
Local clock offset: -7.102 ms
Remote clock offset: 8.502 ms


# Below is generated by plot.py at 2019-02-12 00:45:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 107.235 ms
Loss rate: 6.60%
-- Flow 1:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 107.235 ms
Loss rate: 6.60%
```

Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-11 22:54:51
End at: 2019-02-11 22:55:21
Local clock offset: 0.298 ms
Remote clock offset: 9.279 ms


# Below is generated by plot.py at 2019-02-12 00:45:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 105.645 ms
Loss rate: 8.05%
-- Flow 1:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 105.645 ms
Loss rate: 8.05%
```
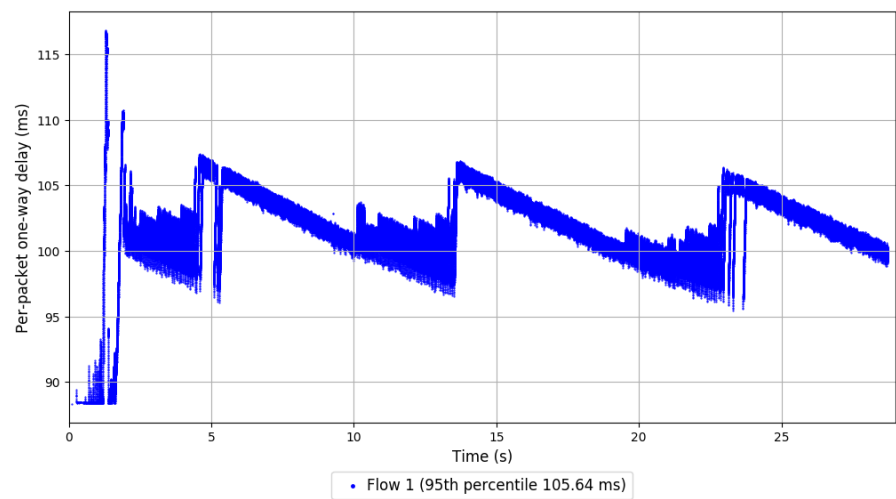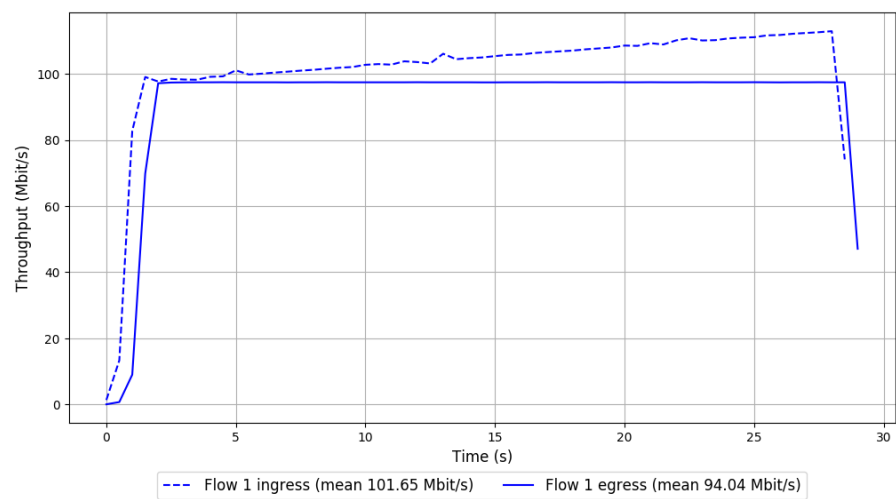
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-11 23:19:51
End at: 2019-02-11 23:20:21
Local clock offset: -5.579 ms
Remote clock offset: 9.055 ms


# Below is generated by plot.py at 2019-02-12 00:46:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 97.262 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 97.262 ms
Loss rate: 1.64%
```
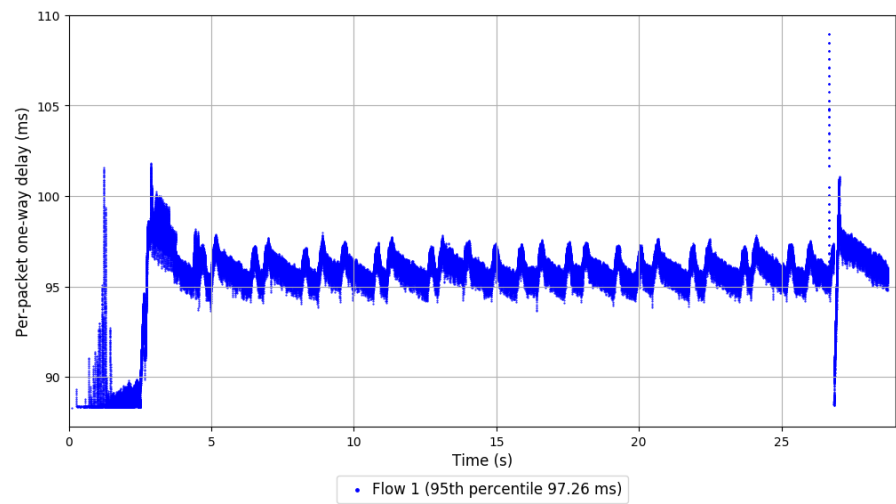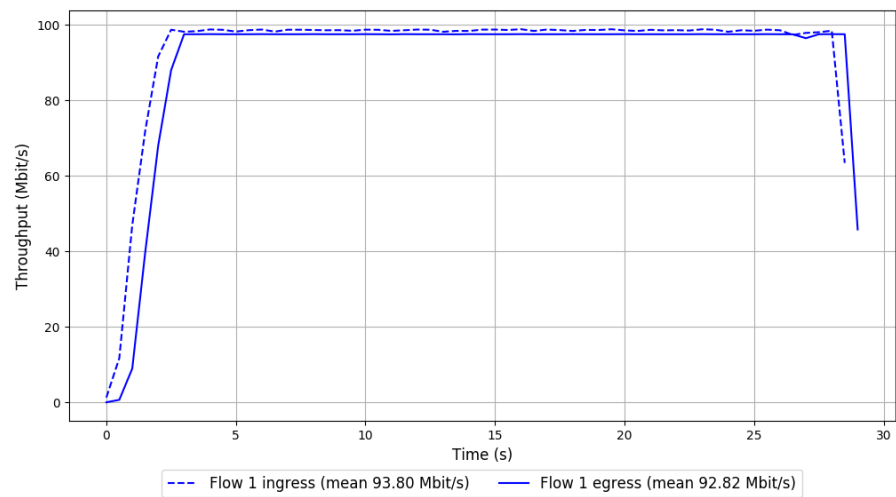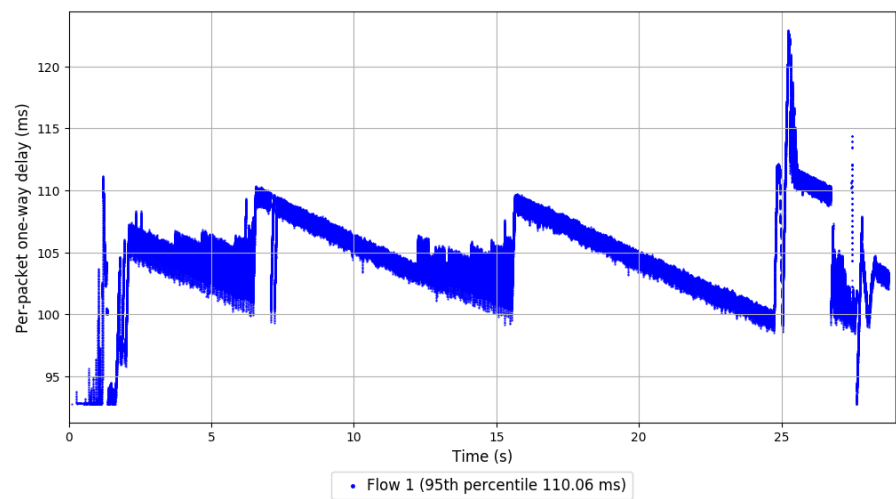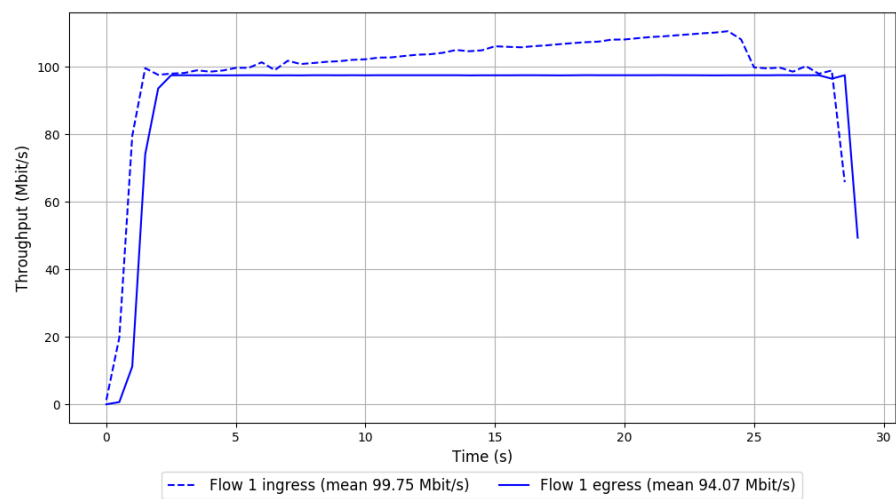
Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 93.80 Mbit/s) ----   Flow 1 egress (mean 92.82 Mbit/s) ——

· Flow 1 (95th percentile 97.26 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-11 23:46:34
End at: 2019-02-11 23:47:04
Local clock offset: -6.368 ms
Remote clock offset: 3.642 ms

# Below is generated by plot.py at 2019-02-12 00:46:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.07 Mbit/s
95th percentile per-packet one-way delay: 110.056 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 94.07 Mbit/s
95th percentile per-packet one-way delay: 110.056 ms
Loss rate: 6.26%
```

Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 00:12:17
End at: 2019-02-12 00:12:47
Local clock offset: -6.231 ms
Remote clock offset: 8.426 ms


# Below is generated by plot.py at 2019-02-12 00:46:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.25 Mbit/s
95th percentile per-packet one-way delay: 108.442 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 89.25 Mbit/s
95th percentile per-packet one-way delay: 108.442 ms
Loss rate: 0.72%
```
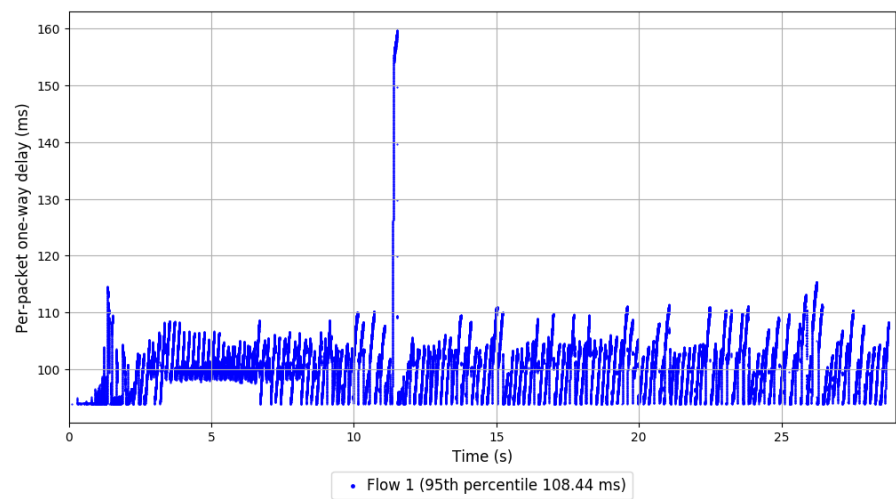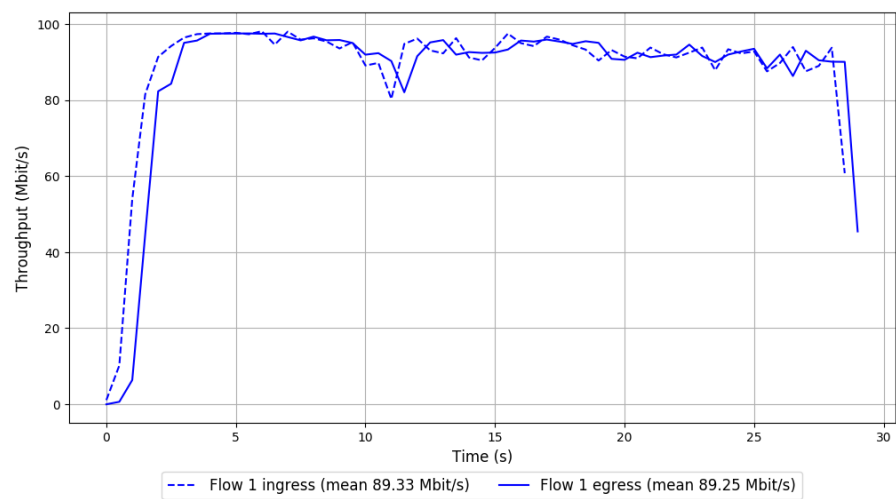
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 00:37:57
End at: 2019-02-12 00:38:27
Local clock offset: -5.626 ms
Remote clock offset: 3.291 ms


# Below is generated by plot.py at 2019-02-12 00:46:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.02 Mbit/s
95th percentile per-packet one-way delay: 101.249 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 94.02 Mbit/s
95th percentile per-packet one-way delay: 101.249 ms
Loss rate: 0.67%
```
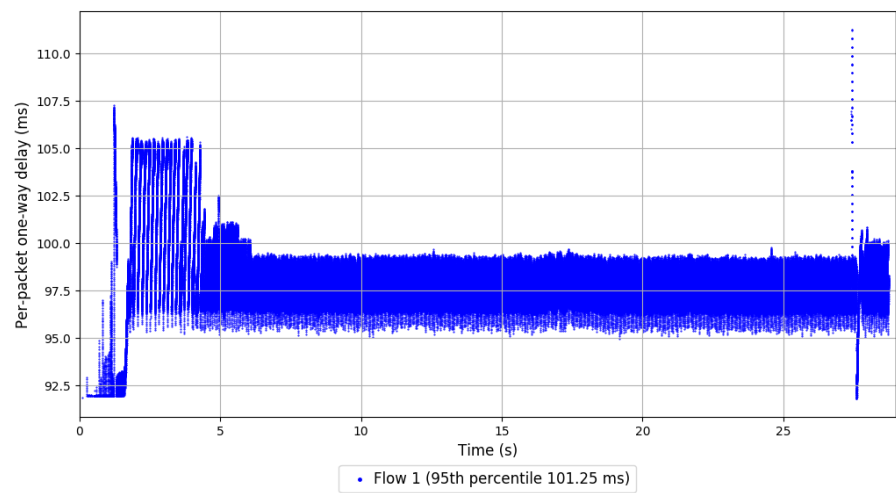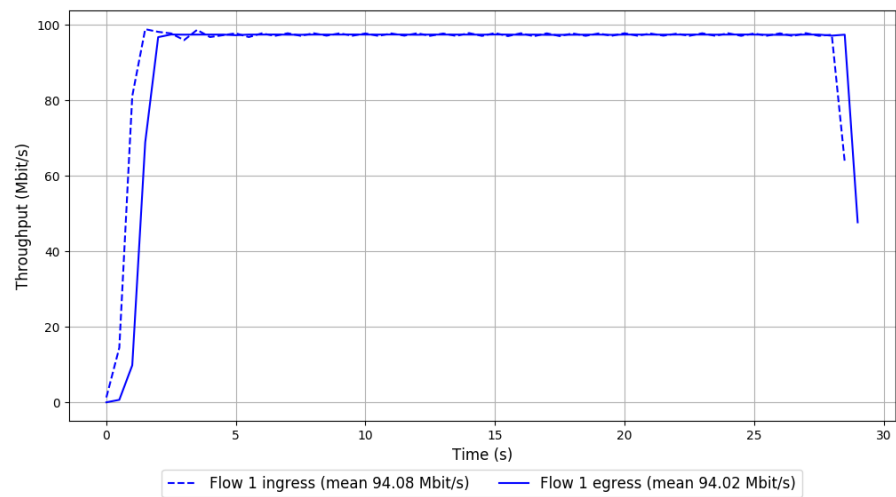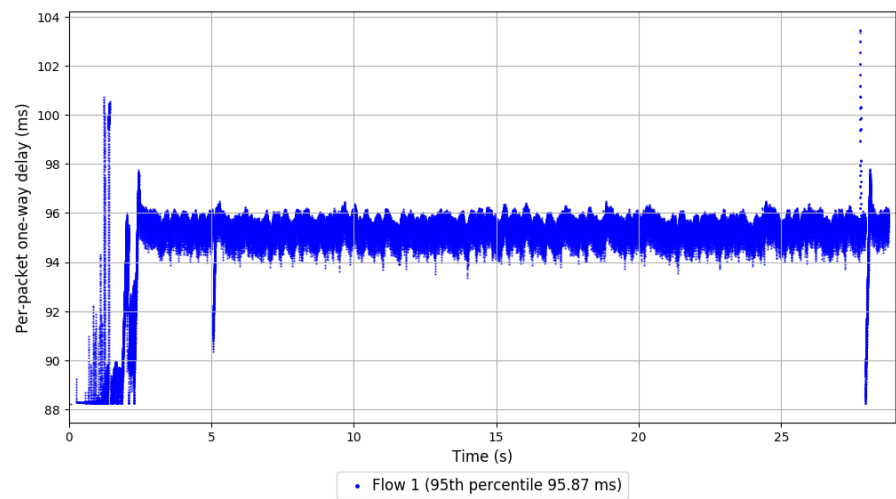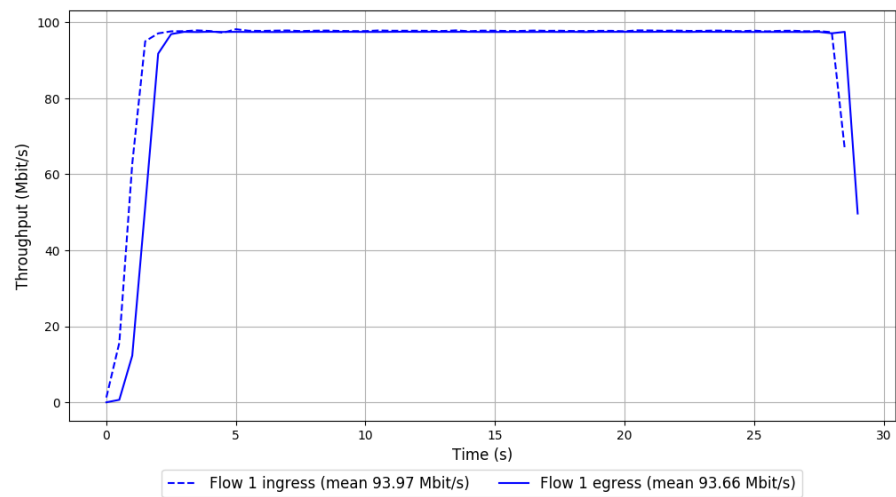
Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 94.08 Mbit/s) — Flow 1 egress (mean 94.02 Mbit/s)

Flow 1 (95th percentile 101.25 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-11 22:45:19
End at: 2019-02-11 22:45:49
Local clock offset: -0.15 ms
Remote clock offset: 9.269 ms


# Below is generated by plot.py at 2019-02-12 00:46:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.66 Mbit/s
95th percentile per-packet one-way delay: 95.874 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 93.66 Mbit/s
95th percentile per-packet one-way delay: 95.874 ms
Loss rate: 0.93%
```

Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-11 23:10:17
End at: 2019-02-11 23:10:47
Local clock offset: -2.705 ms
Remote clock offset: 9.181 ms


# Below is generated by plot.py at 2019-02-12 00:46:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.00 Mbit/s
95th percentile per-packet one-way delay: 105.469 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 94.00 Mbit/s
95th percentile per-packet one-way delay: 105.469 ms
Loss rate: 0.68%
```
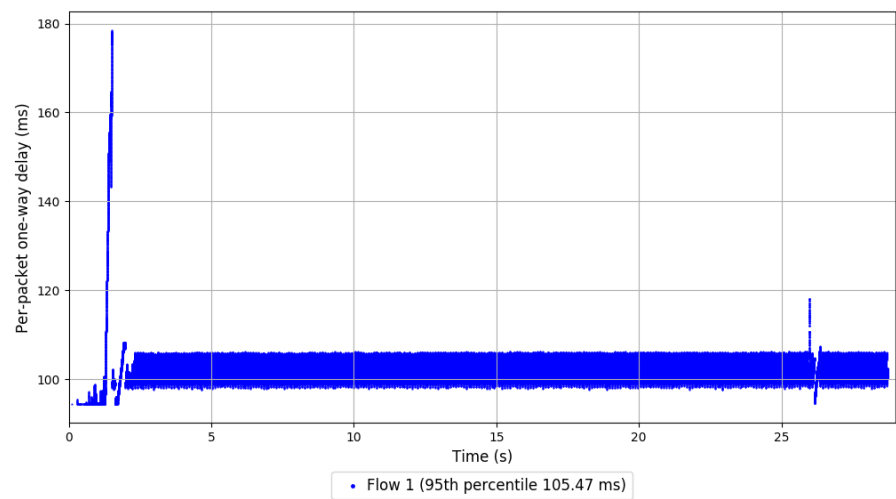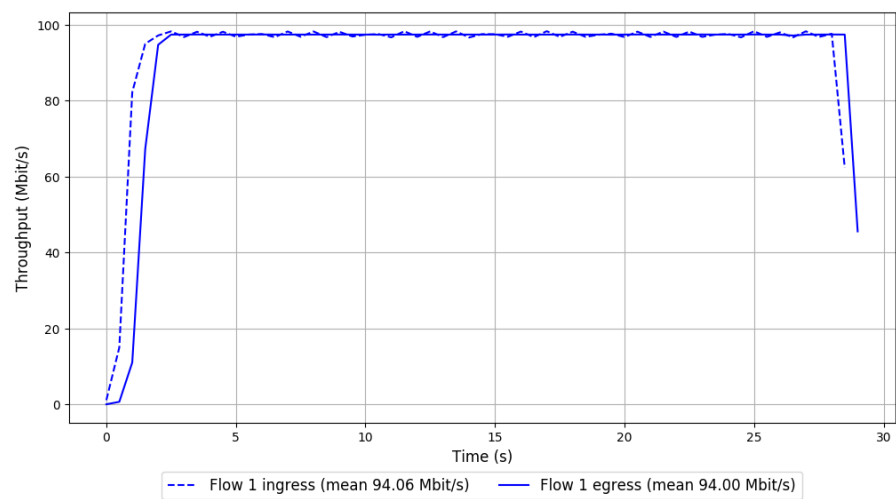
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-11 23:36:39
End at: 2019-02-11 23:37:09
Local clock offset: -7.852 ms
Remote clock offset: 3.742 ms


# Below is generated by plot.py at 2019-02-12 00:46:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 96.408 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 96.408 ms
Loss rate: 0.55%
```
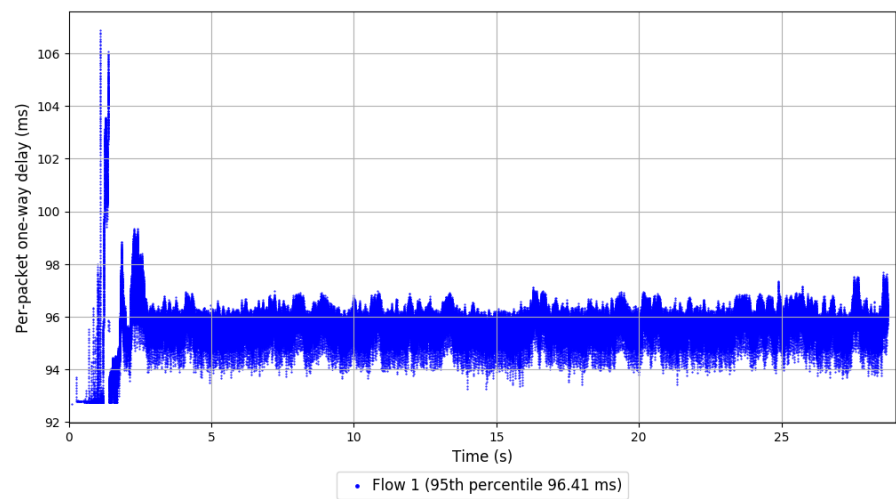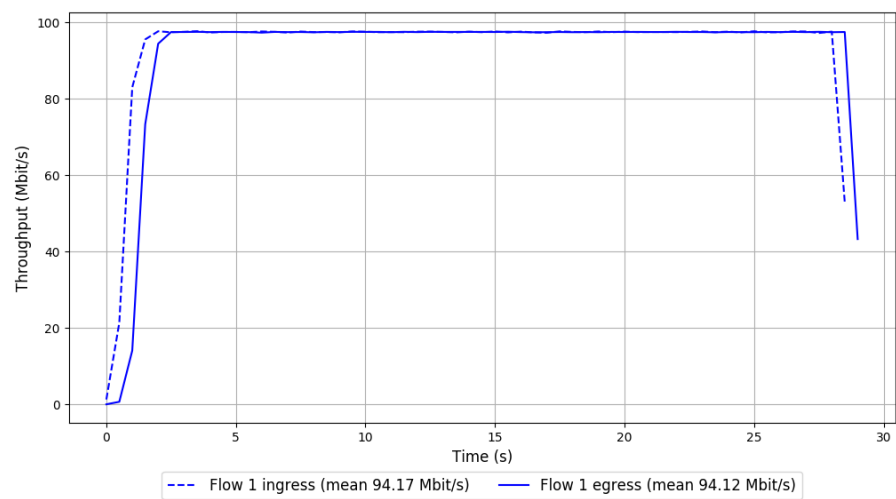
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 00:02:20
End at: 2019-02-12 00:02:50
Local clock offset: -6.605 ms
Remote clock offset: 3.17 ms


# Below is generated by plot.py at 2019-02-12 00:47:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 107.215 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 107.215 ms
Loss rate: 0.01%
```
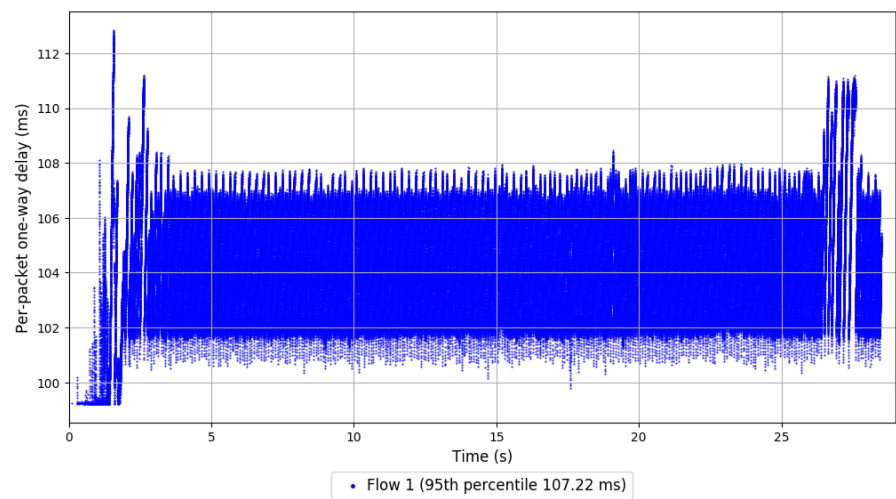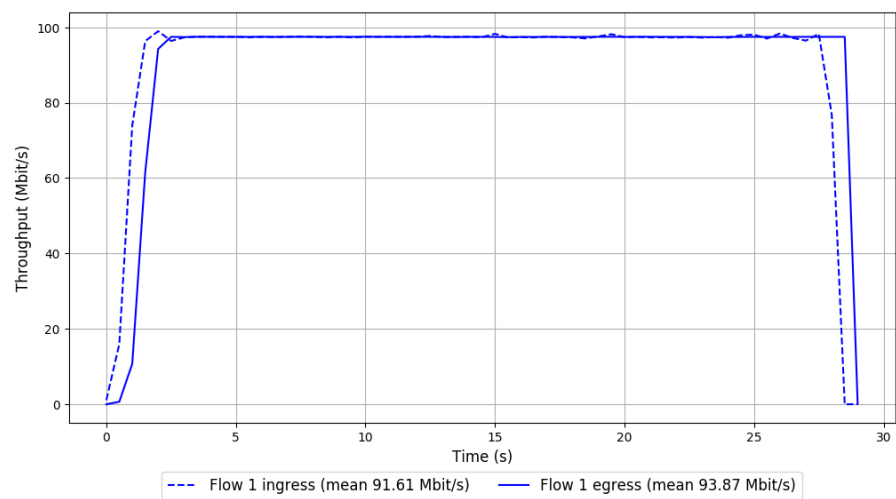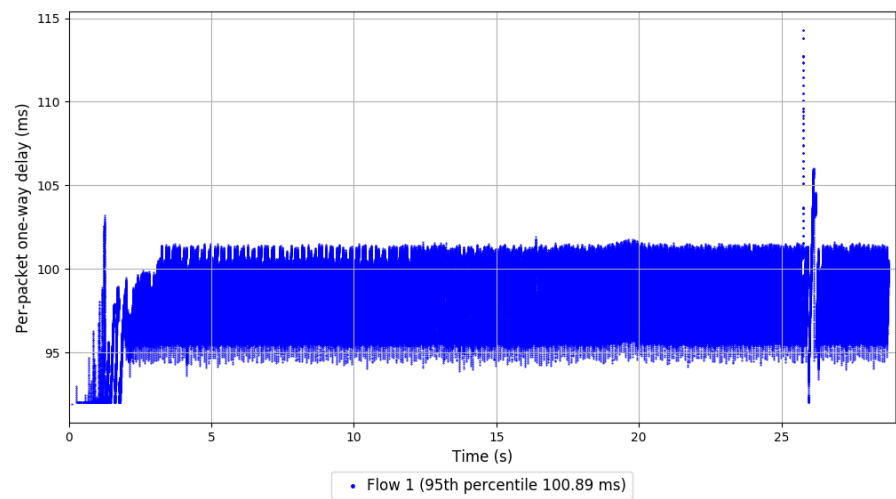
Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 91.61 Mbit/s)   Flow 1 egress (mean 93.87 Mbit/s)

Flow 1 (95th percentile 107.22 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 00:28:20
End at: 2019-02-12 00:28:50
Local clock offset: -7.014 ms
Remote clock offset: 3.494 ms


# Below is generated by plot.py at 2019-02-12 00:47:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.06 Mbit/s
95th percentile per-packet one-way delay: 100.890 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 94.06 Mbit/s
95th percentile per-packet one-way delay: 100.890 ms
Loss rate: 0.63%
```
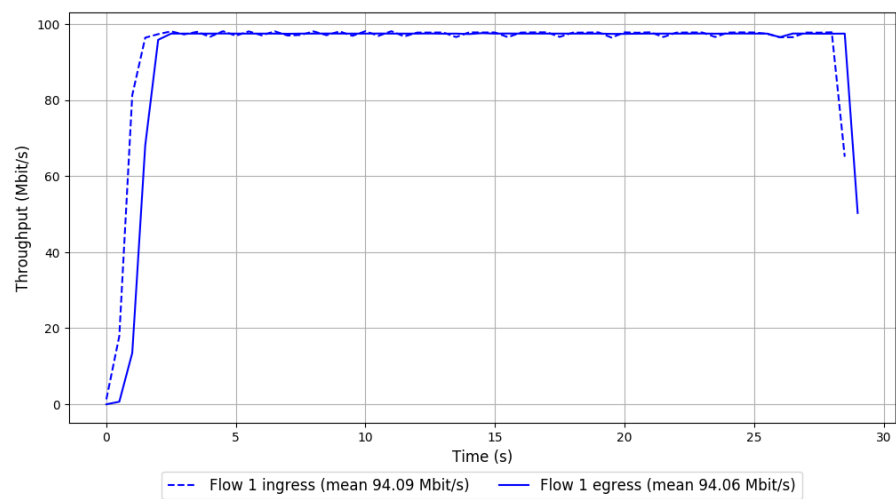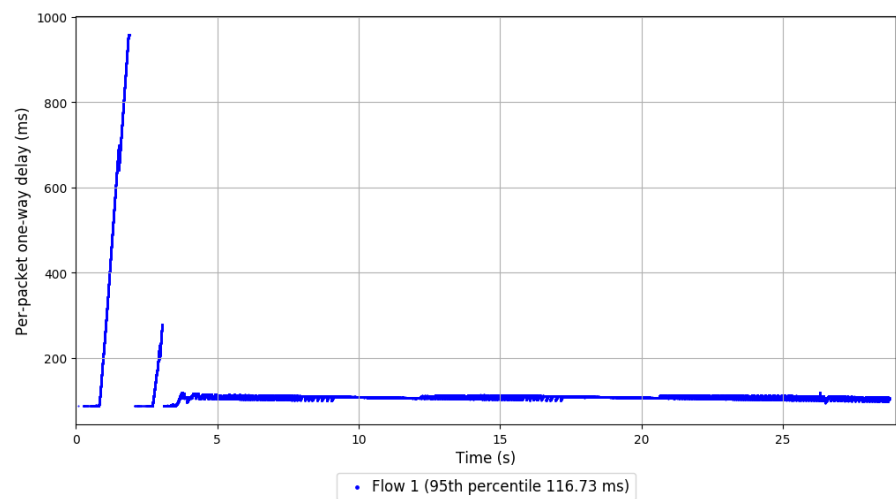
Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 94.09 Mbit/s)   Flow 1 egress (mean 94.06 Mbit/s)

Flow 1 (95th percentile 100.89 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-11 22:51:14
End at: 2019-02-11 22:51:44
Local clock offset: -0.571 ms
Remote clock offset: 9.35 ms


# Below is generated by plot.py at 2019-02-12 00:47:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 116.728 ms
Loss rate: 7.59%
-- Flow 1:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 116.728 ms
Loss rate: 7.59%
```
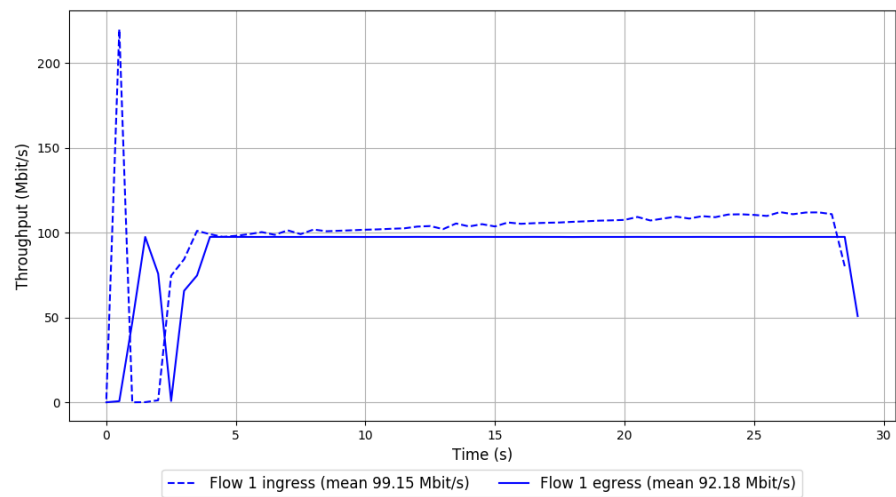
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-11 23:16:12
End at: 2019-02-11 23:16:42
Local clock offset: -5.536 ms
Remote clock offset: 3.891 ms


# Below is generated by plot.py at 2019-02-12 00:47:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.09 Mbit/s
95th percentile per-packet one-way delay: 118.530 ms
Loss rate: 8.14%
-- Flow 1:
Average throughput: 95.09 Mbit/s
95th percentile per-packet one-way delay: 118.530 ms
Loss rate: 8.14%
```
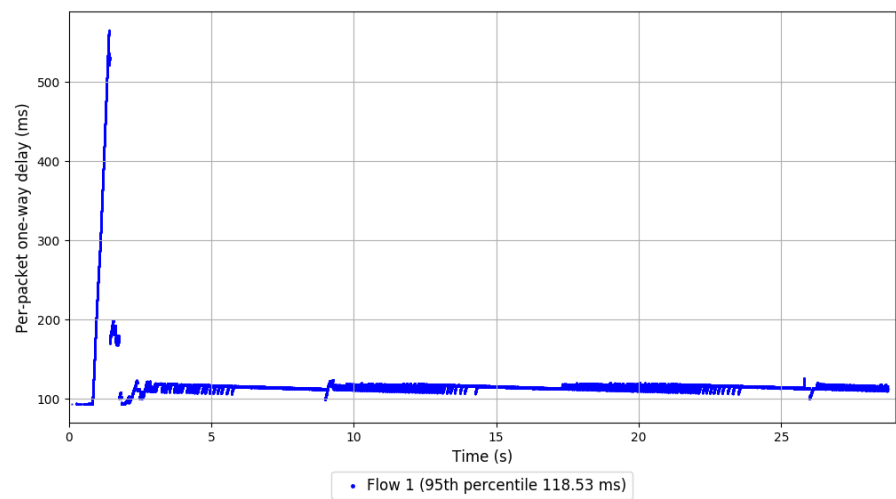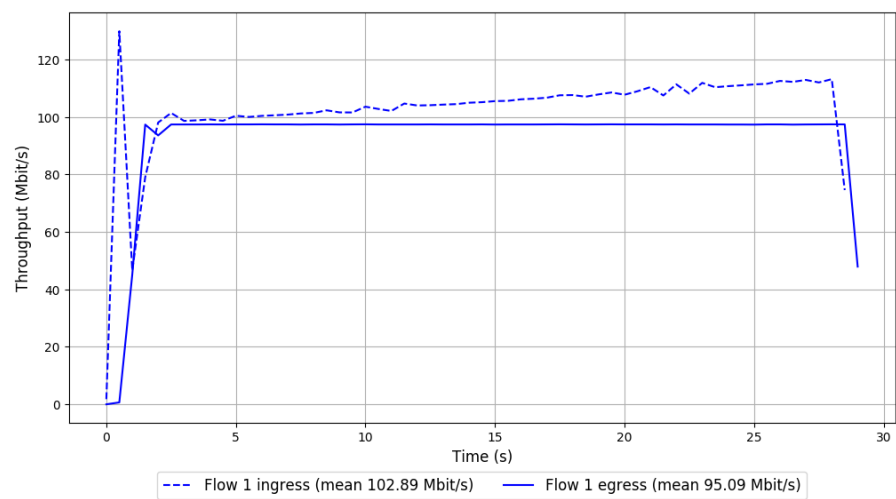
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-11 23:42:50
End at: 2019-02-11 23:43:20
Local clock offset: -6.558 ms
Remote clock offset: 3.589 ms


# Below is generated by plot.py at 2019-02-12 00:47:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 121.393 ms
Loss rate: 7.16%
-- Flow 1:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 121.393 ms
Loss rate: 7.16%
```
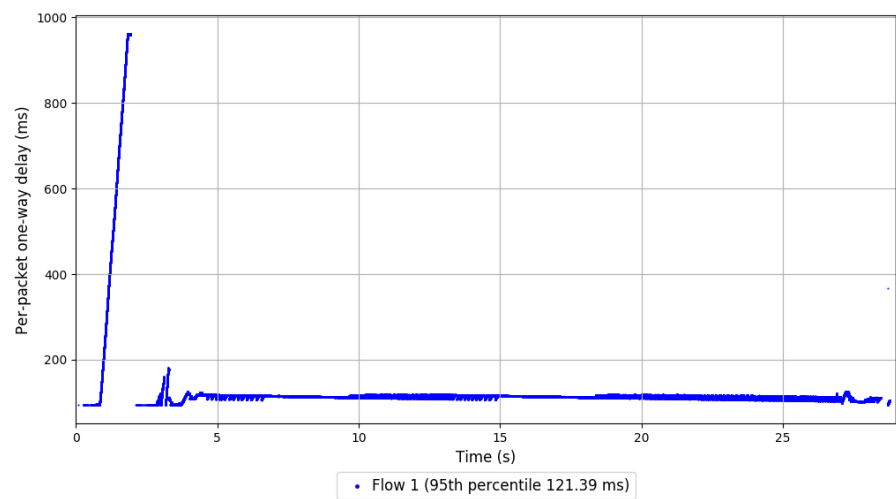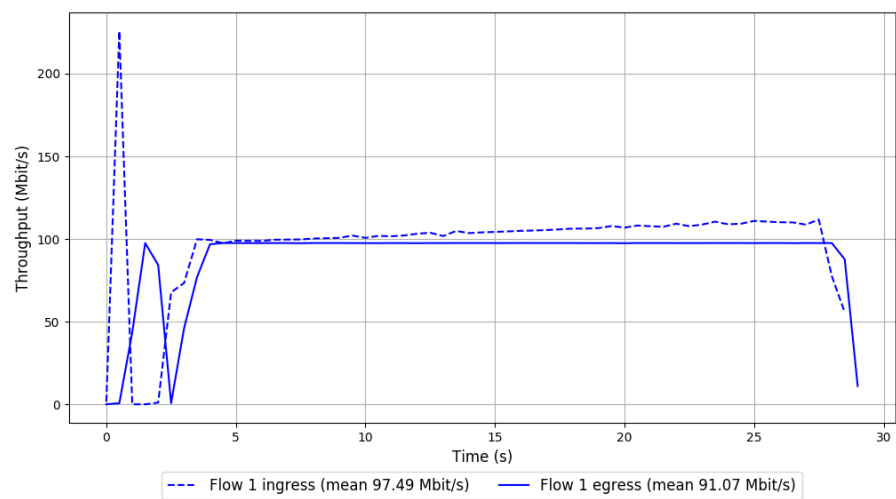
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 97.49 Mbit/s) — Flow 1 egress (mean 91.07 Mbit/s)

• Flow 1 (95th percentile 121.39 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 00:08:27
End at: 2019-02-12 00:08:57
Local clock offset: -7.118 ms
Remote clock offset: 8.077 ms


# Below is generated by plot.py at 2019-02-12 00:47:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.64 Mbit/s
95th percentile per-packet one-way delay: 114.288 ms
Loss rate: 7.47%
-- Flow 1:
Average throughput: 91.64 Mbit/s
95th percentile per-packet one-way delay: 114.288 ms
Loss rate: 7.47%
```
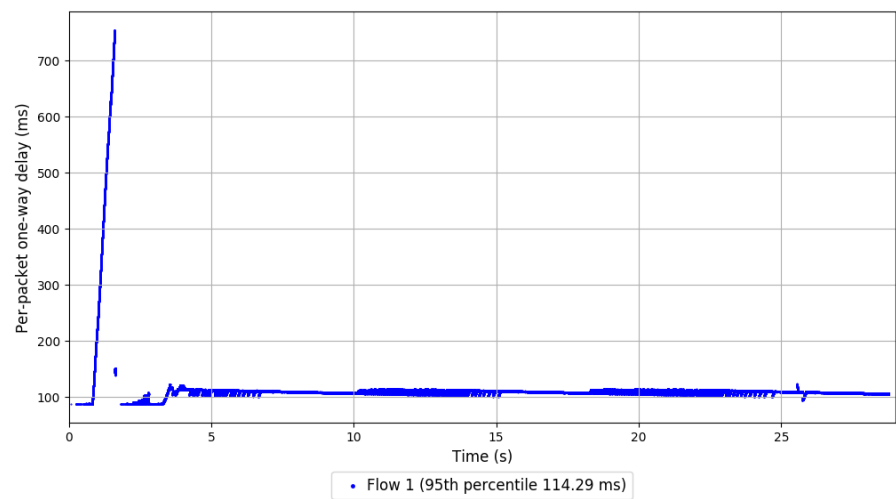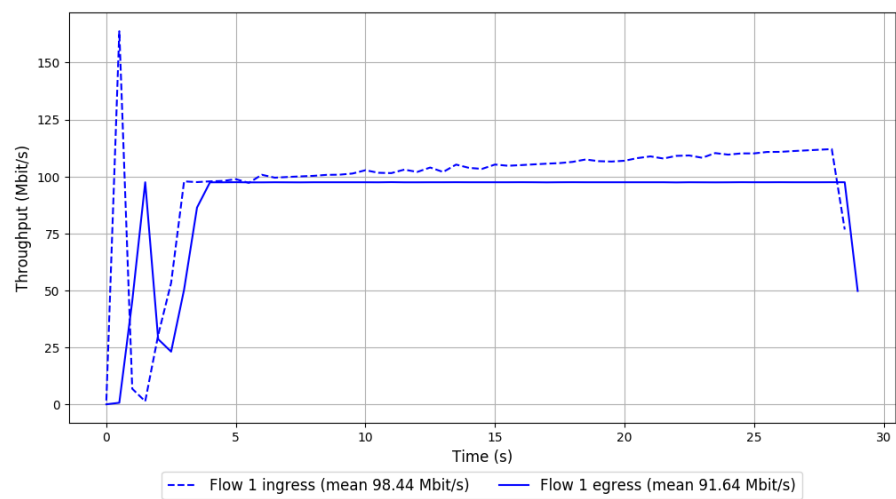
Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 98.44 Mbit/s) ----- Flow 1 egress (mean 91.64 Mbit/s) ———

• Flow 1 (95th percentile 114.29 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 00:34:18
End at: 2019-02-12 00:34:48
Local clock offset: -7.134 ms
Remote clock offset: 3.093 ms


# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 123.990 ms
Loss rate: 7.48%
-- Flow 1:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 123.990 ms
Loss rate: 7.48%
```
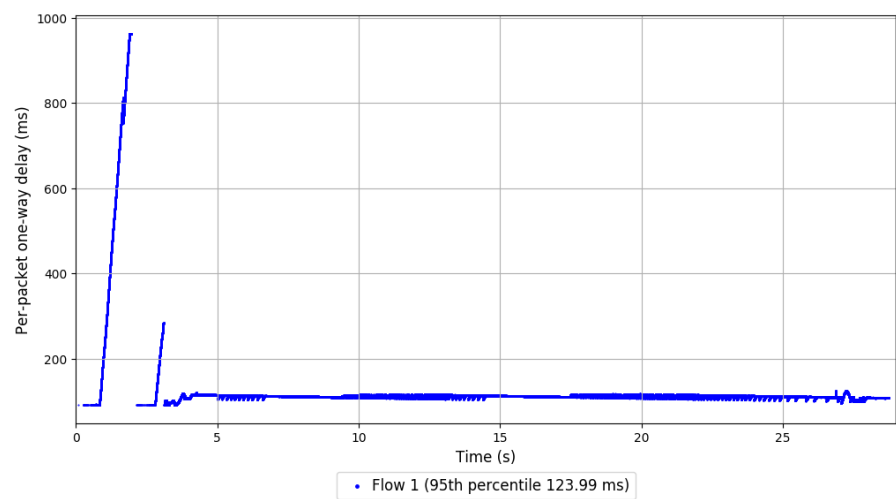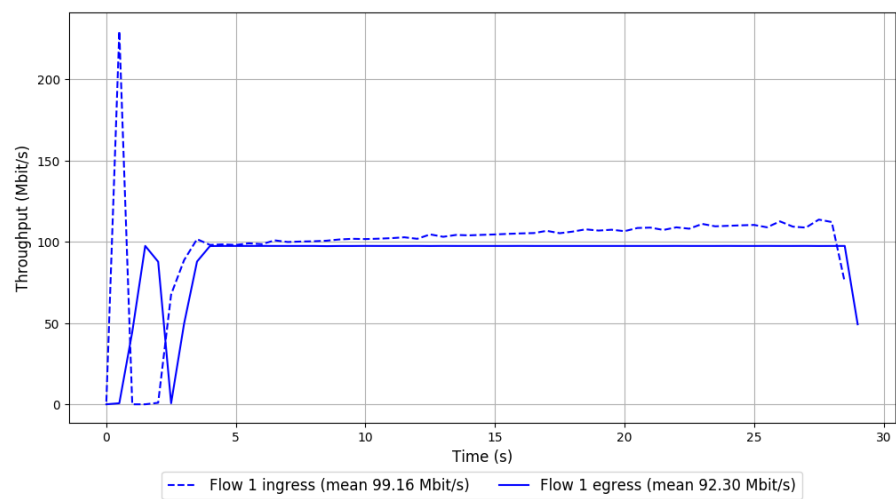
Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 99.16 Mbit/s) --- Flow 1 egress (mean 92.30 Mbit/s)
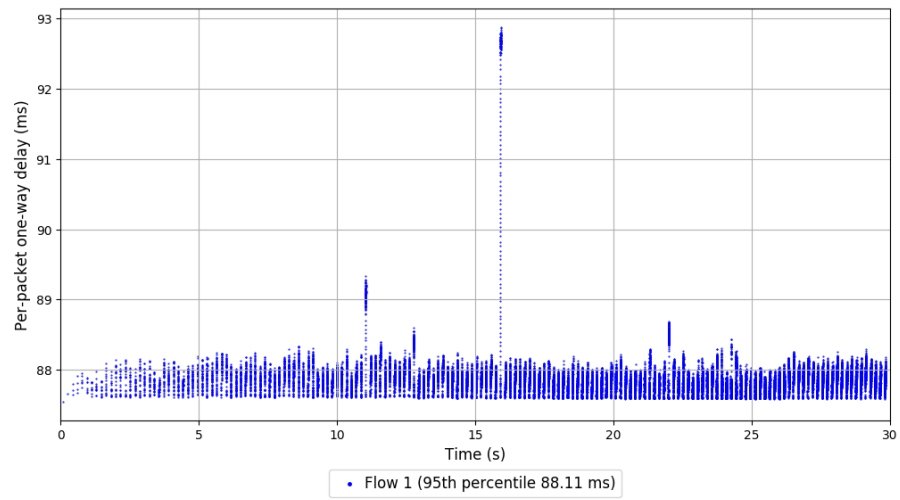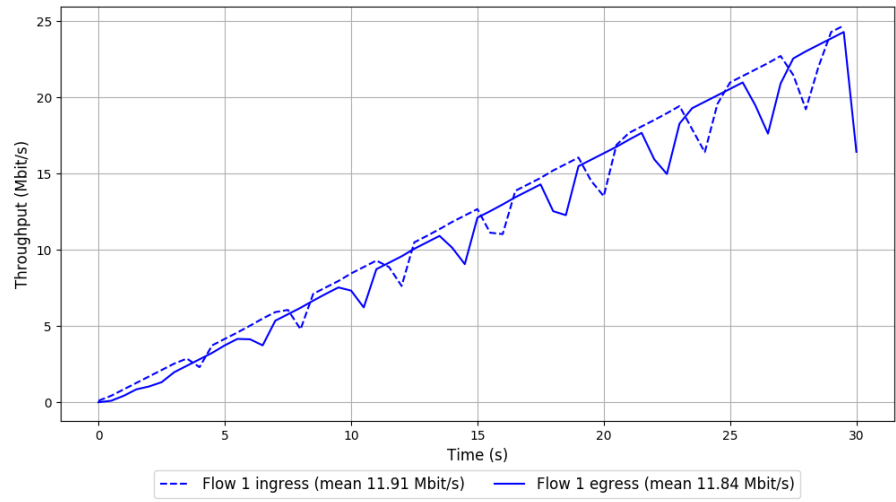

• Flow 1 (95th percentile 123.99 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-02-11 22:44:10
End at: 2019-02-11 22:44:40
Local clock offset: -1.011 ms
Remote clock offset: 9.116 ms

# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 88.115 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 88.115 ms
Loss rate: 1.16%
```
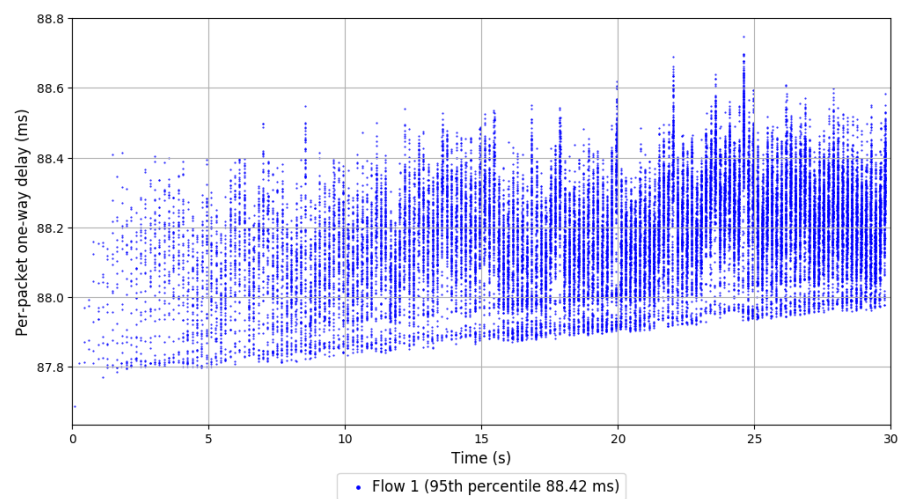
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-11 23:09:09
End at: 2019-02-11 23:09:39
Local clock offset: -2.965 ms
Remote clock offset: 9.33 ms


# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 88.420 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 88.420 ms
Loss rate: 1.15%
```
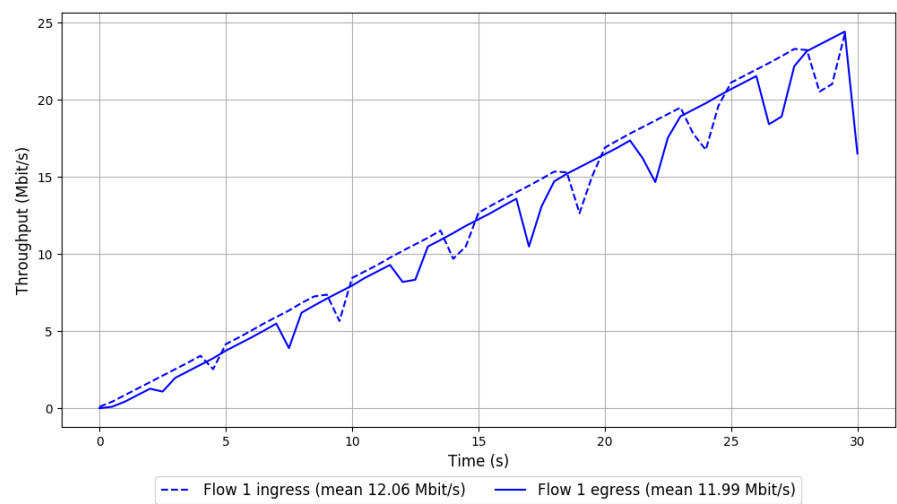
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-11 23:35:30
End at: 2019-02-11 23:36:00
Local clock offset: -7.984 ms
Remote clock offset: 9.027 ms


# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 87.232 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 87.232 ms
Loss rate: 1.31%
```
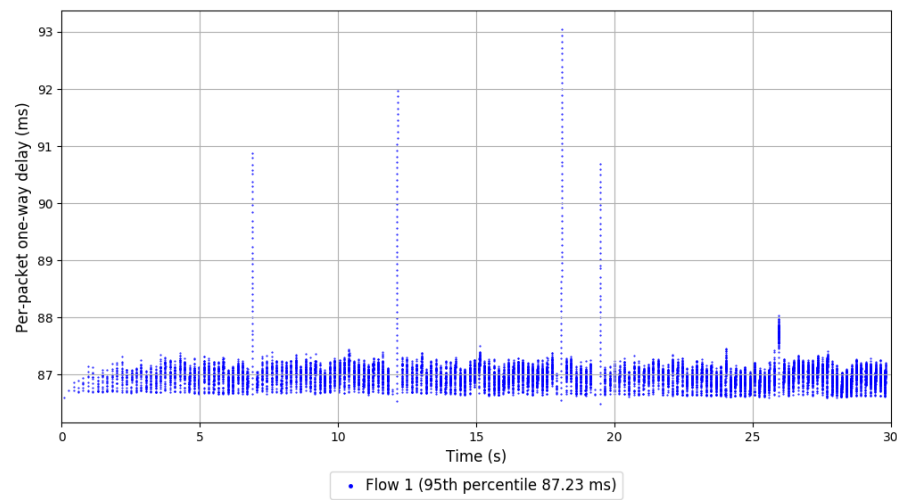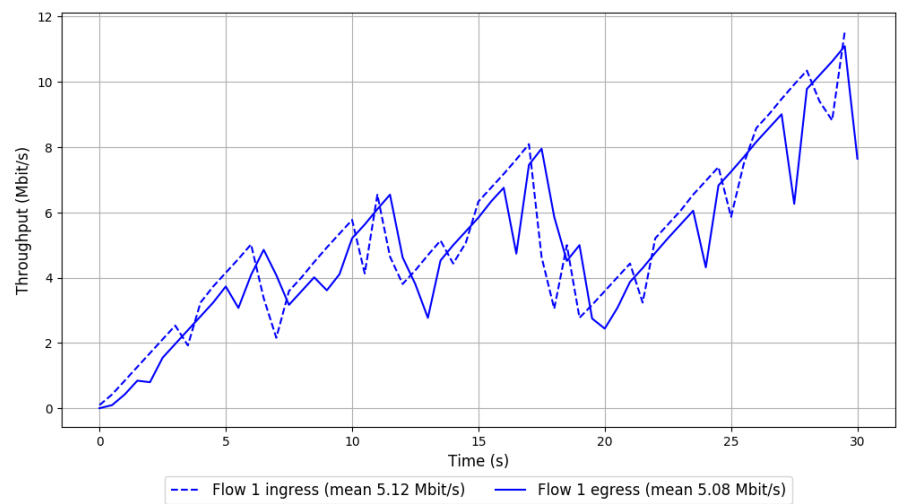
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 5.12 Mbit/s) --- Flow 1 egress (mean 5.08 Mbit/s)

Flow 1 (95th percentile 87.23 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-12 00:01:11
End at: 2019-02-12 00:01:41
Local clock offset: -6.645 ms
Remote clock offset: 3.452 ms


# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 93.246 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 93.246 ms
Loss rate: 1.28%
```
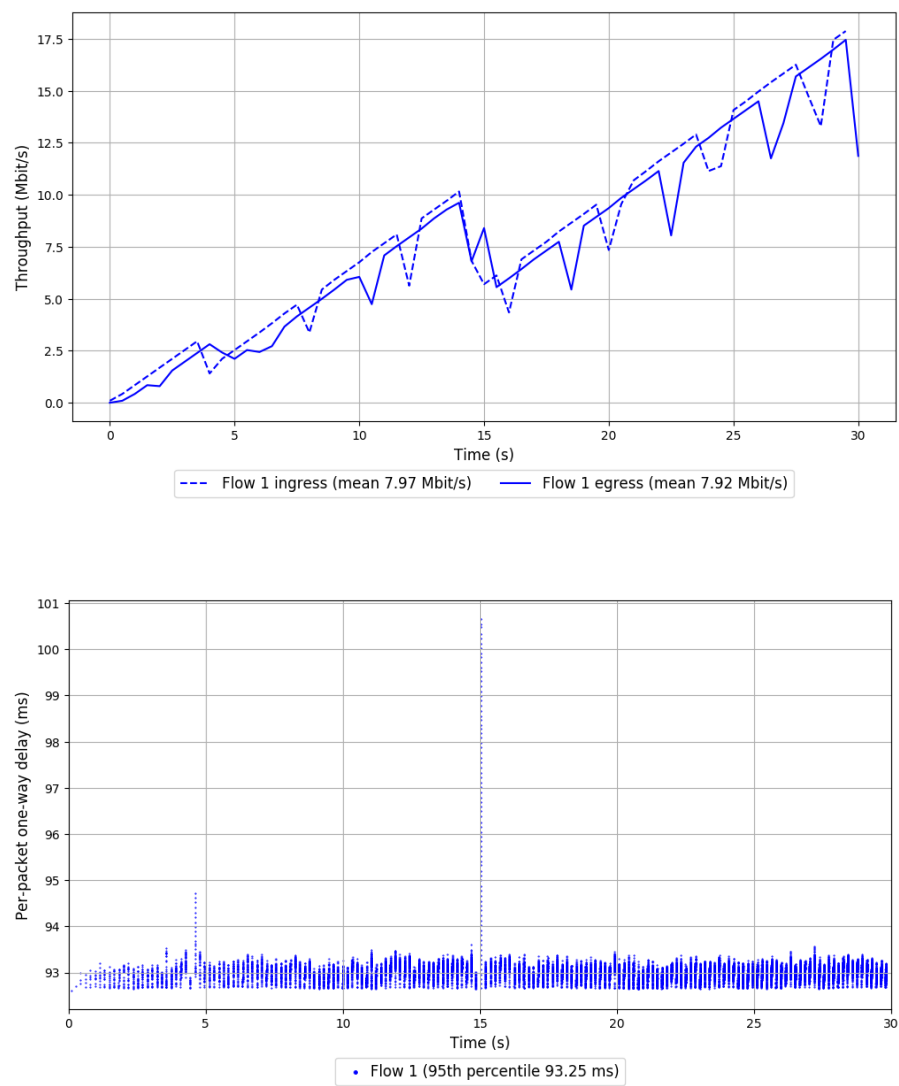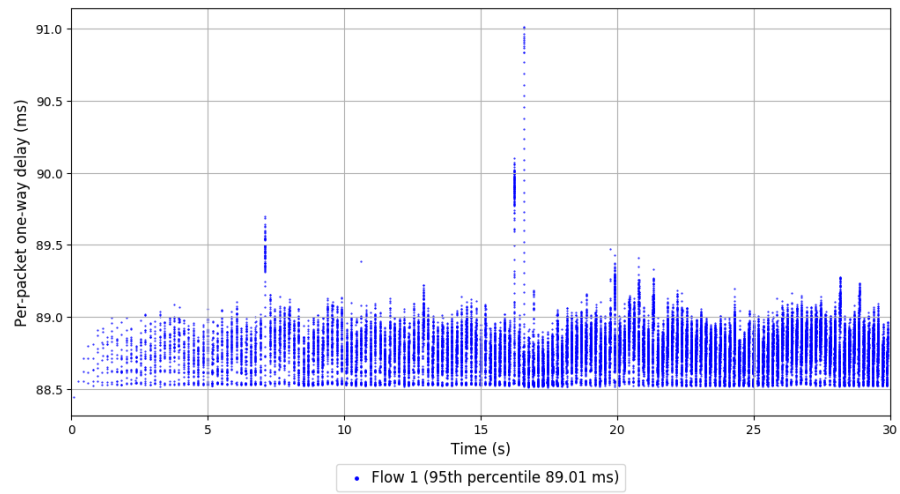
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 7.97 Mbit/s) --- Flow 1 egress (mean 7.92 Mbit/s)

Flow 1 (95th percentile 93.25 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-12 00:27:11
End at: 2019-02-12 00:27:41
Local clock offset: -6.236 ms
Remote clock offset: 8.342 ms


# Below is generated by plot.py at 2019-02-12 00:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 89.013 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 89.013 ms
Loss rate: 1.17%
```
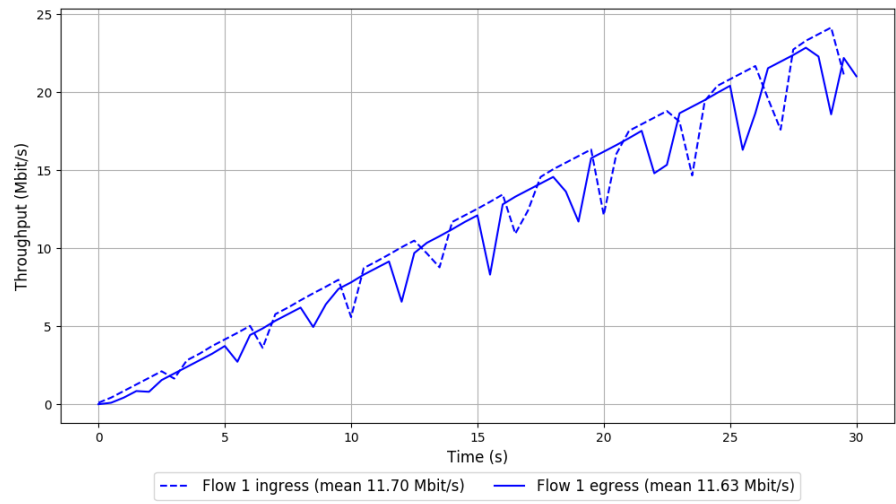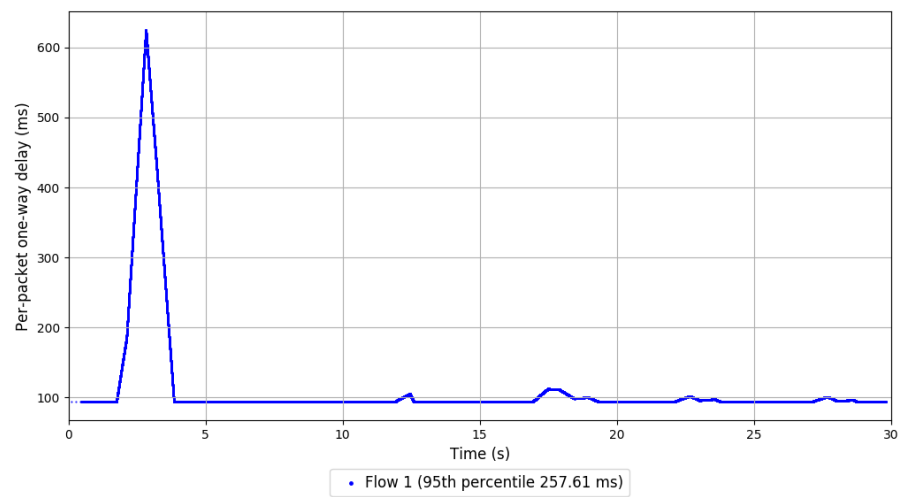
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 11.70 Mbit/s) --- Flow 1 egress (mean 11.63 Mbit/s)

Flow 1 (95th percentile 89.01 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-11 22:42:59
End at: 2019-02-11 22:43:29
Local clock offset: -0.33 ms
Remote clock offset: 3.906 ms


# Below is generated by plot.py at 2019-02-12 00:48:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.58 Mbit/s
95th percentile per-packet one-way delay: 257.611 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 84.58 Mbit/s
95th percentile per-packet one-way delay: 257.611 ms
Loss rate: 0.73%
```
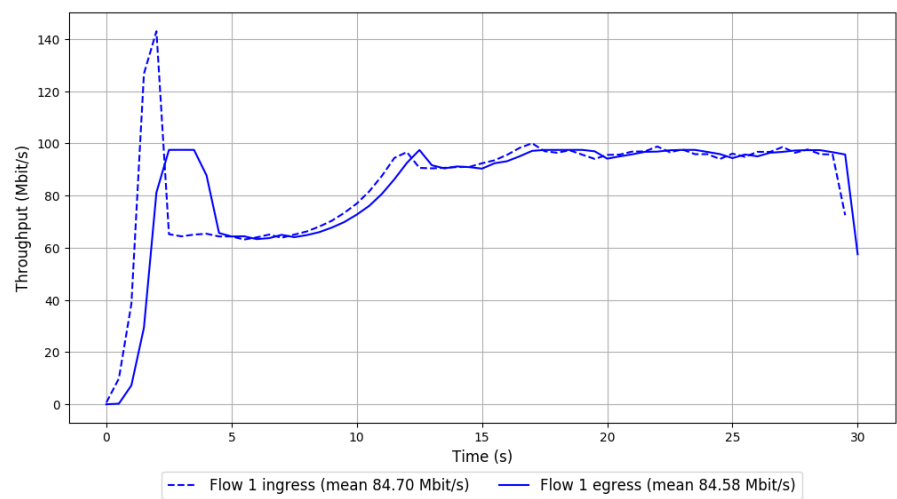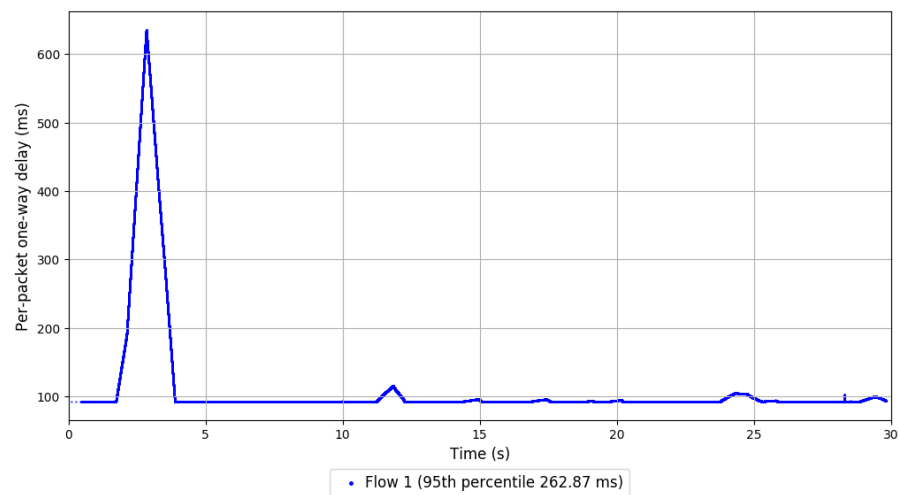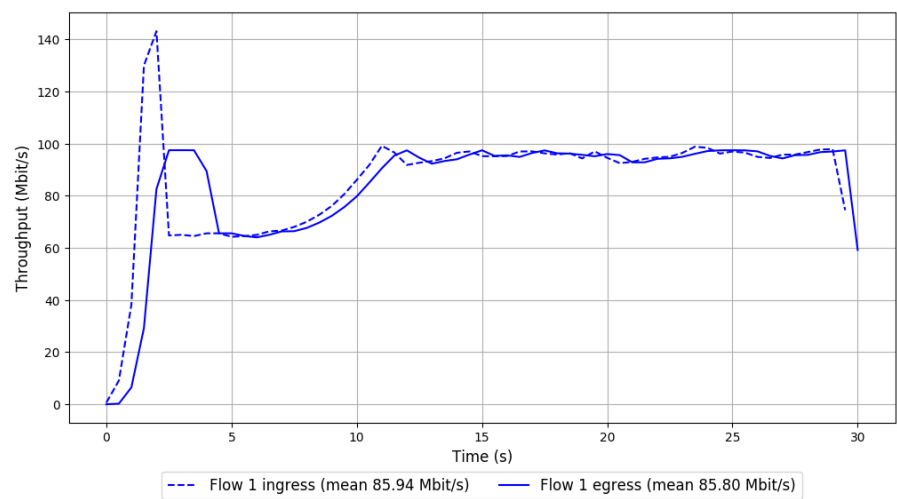
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 84.70 Mbit/s)   Flow 1 egress (mean 84.58 Mbit/s)

• Flow 1 (95th percentile 257.61 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-11 23:07:58
End at: 2019-02-11 23:08:28
Local clock offset: -2.343 ms
Remote clock offset: 4.185 ms


# Below is generated by plot.py at 2019-02-12 00:48:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.80 Mbit/s
95th percentile per-packet one-way delay: 262.873 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 85.80 Mbit/s
95th percentile per-packet one-way delay: 262.873 ms
Loss rate: 0.74%
```
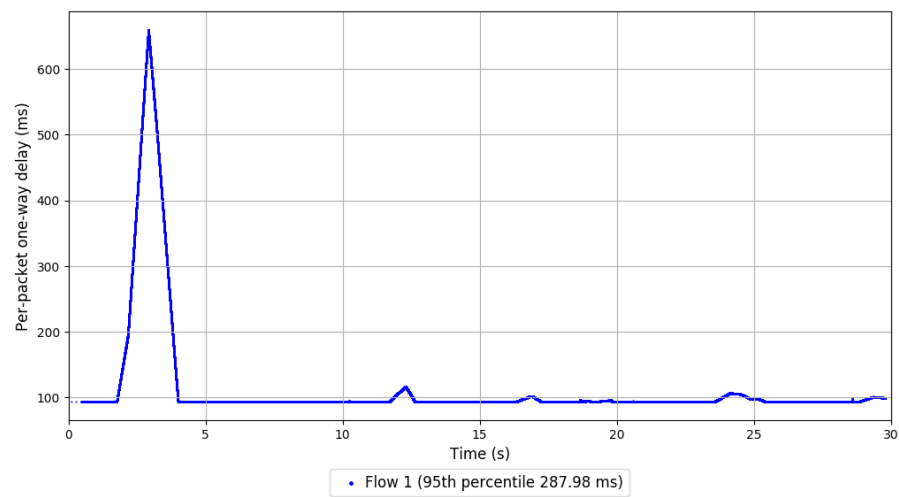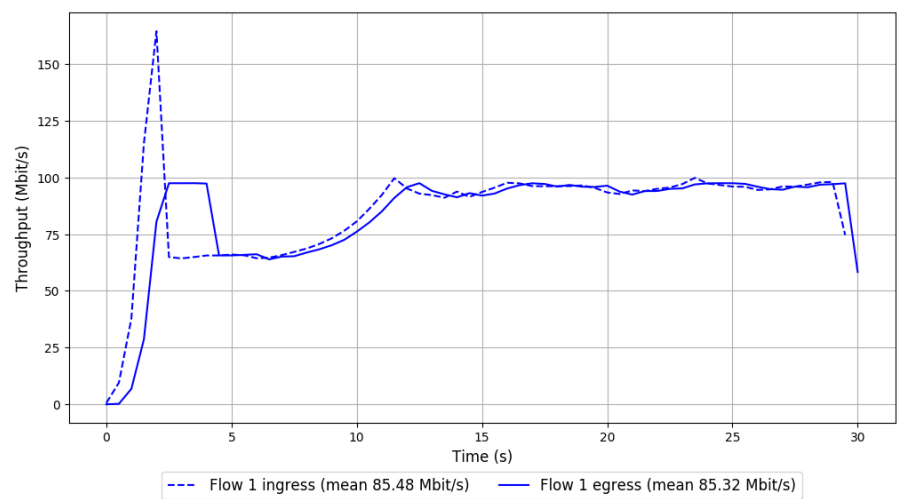
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 85.94 Mbit/s)   Flow 1 egress (mean 85.80 Mbit/s)

Flow 1 (95th percentile 262.87 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-11 23:34:16
End at: 2019-02-11 23:34:46
Local clock offset: -7.481 ms
Remote clock offset: 8.987 ms


# Below is generated by plot.py at 2019-02-12 00:48:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.32 Mbit/s
95th percentile per-packet one-way delay: 287.980 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 85.32 Mbit/s
95th percentile per-packet one-way delay: 287.980 ms
Loss rate: 0.80%
```
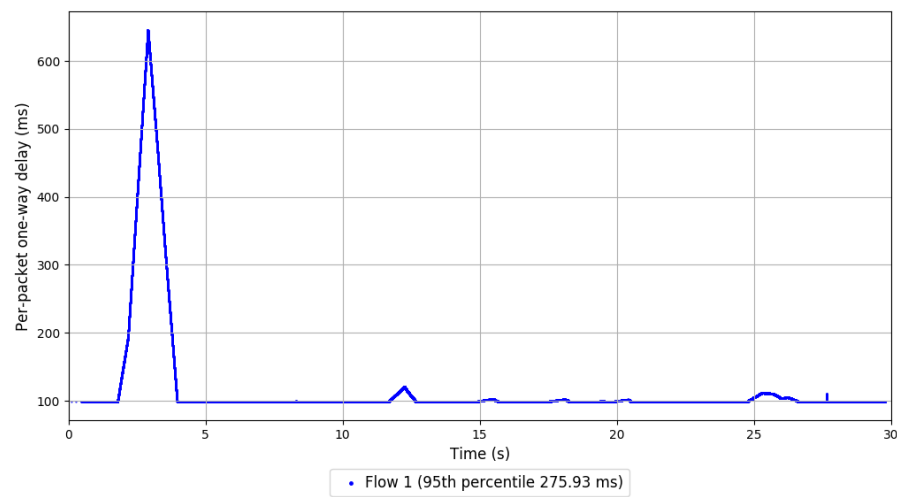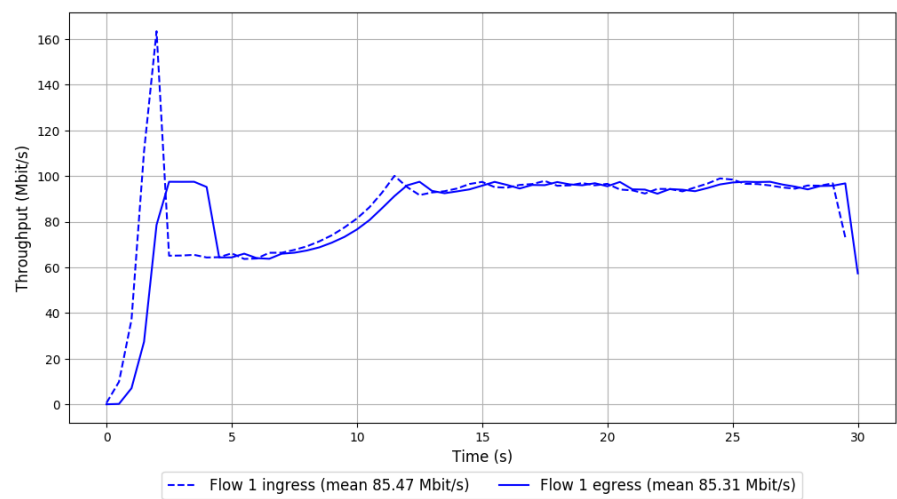
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 85.48 Mbit/s)   Flow 1 egress (mean 85.32 Mbit/s)

Flow 1 (95th percentile 287.98 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-11 23:59:59
End at: 2019-02-12 00:00:29
Local clock offset: -6.54 ms
Remote clock offset: 3.314 ms


# Below is generated by plot.py at 2019-02-12 00:48:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.31 Mbit/s
95th percentile per-packet one-way delay: 275.928 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 85.31 Mbit/s
95th percentile per-packet one-way delay: 275.928 ms
Loss rate: 0.80%
```
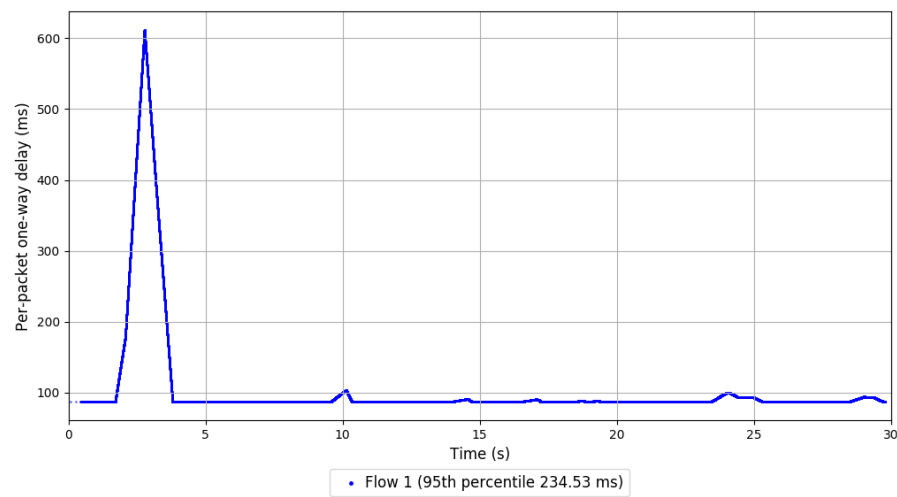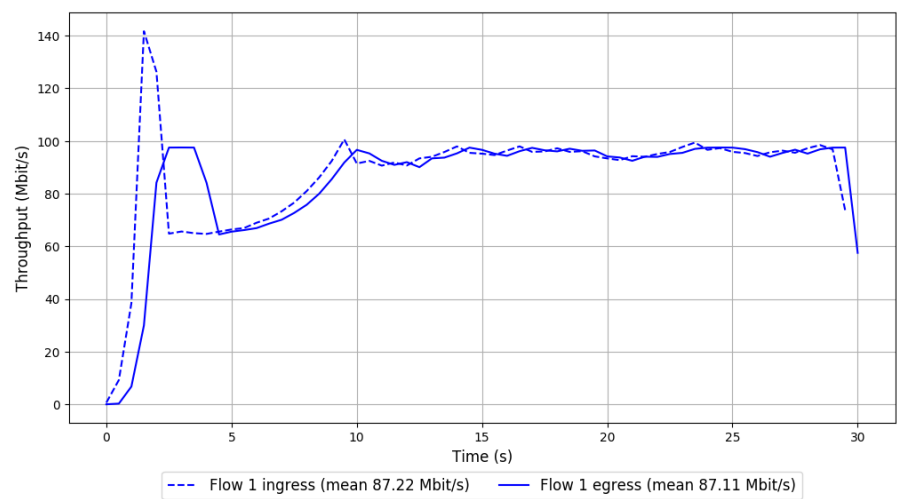
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 85.47 Mbit/s) ----   Flow 1 egress (mean 85.31 Mbit/s) ——

• Flow 1 (95th percentile 275.93 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 00:25:58
End at: 2019-02-12 00:26:28
Local clock offset: -6.982 ms
Remote clock offset: 8.443 ms

# Below is generated by plot.py at 2019-02-12 00:48:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.11 Mbit/s
95th percentile per-packet one-way delay: 234.529 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 87.11 Mbit/s
95th percentile per-packet one-way delay: 234.529 ms
Loss rate: 0.71%
```
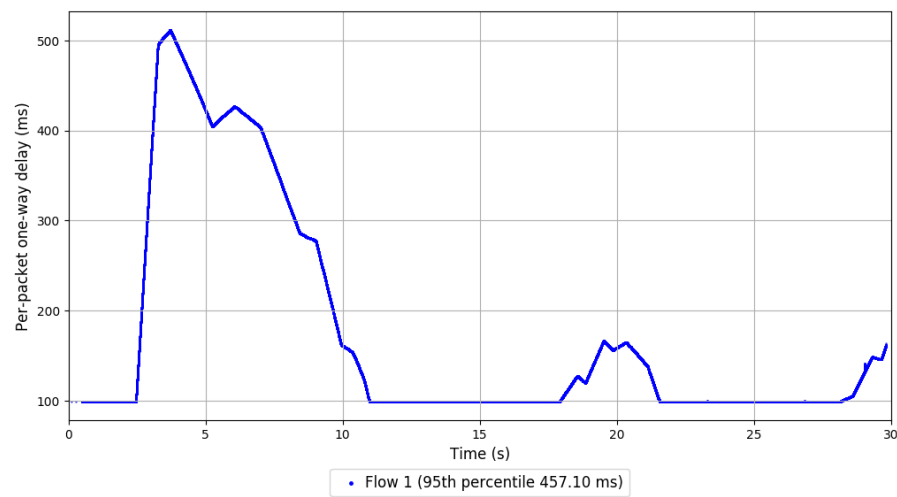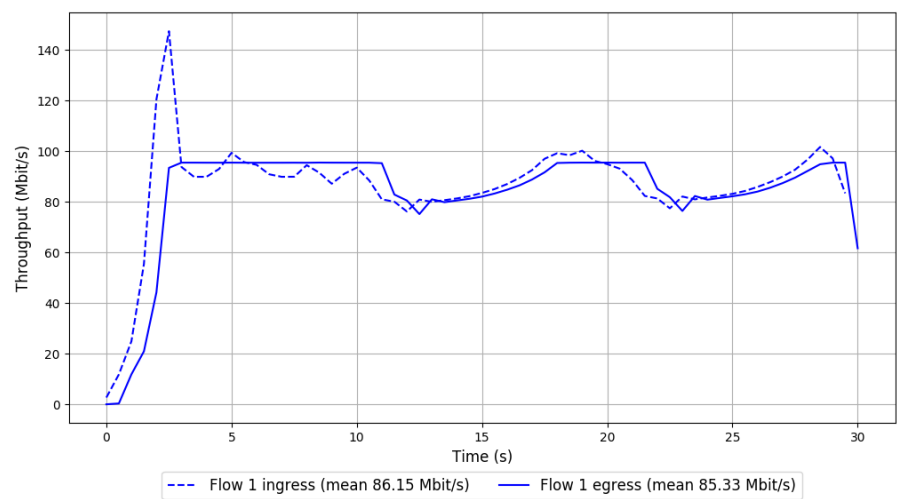
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 87.22 Mbit/s) ----- Flow 1 egress (mean 87.11 Mbit/s) ——

Flow 1 (95th percentile 234.53 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-11 22:41:44
End at: 2019-02-11 22:42:14
Local clock offset: -0.394 ms
Remote clock offset: 4.139 ms


# Below is generated by plot.py at 2019-02-12 00:49:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.33 Mbit/s
95th percentile per-packet one-way delay: 457.097 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 85.33 Mbit/s
95th percentile per-packet one-way delay: 457.097 ms
Loss rate: 1.54%
```
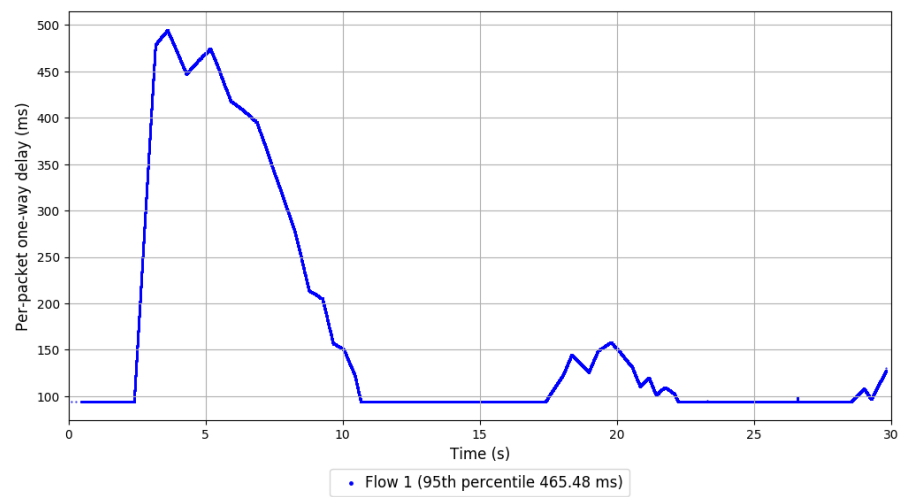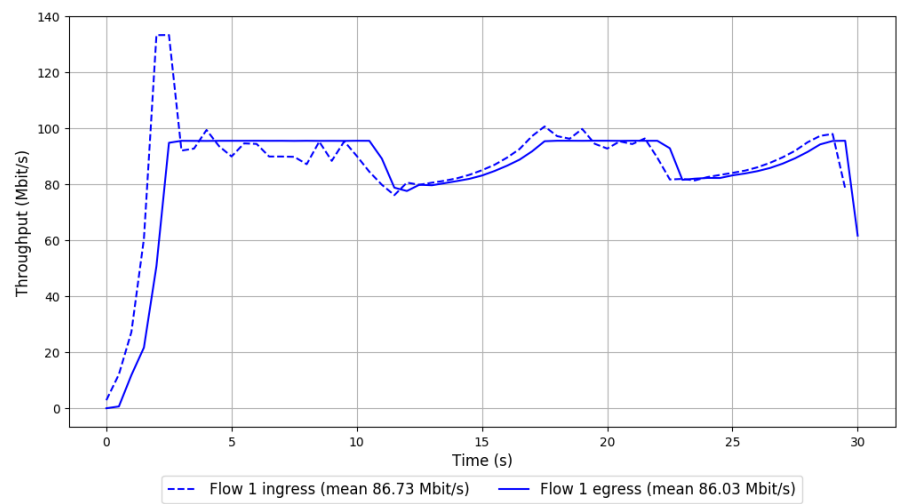
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 86.15 Mbit/s) --- Flow 1 egress (mean 85.33 Mbit/s)

Flow 1 (95th percentile 457.10 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-11 23:06:43
End at: 2019-02-11 23:07:13
Local clock offset: -0.837 ms
Remote clock offset: 3.996 ms


# Below is generated by plot.py at 2019-02-12 00:49:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.03 Mbit/s
95th percentile per-packet one-way delay: 465.482 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 86.03 Mbit/s
95th percentile per-packet one-way delay: 465.482 ms
Loss rate: 1.38%
```
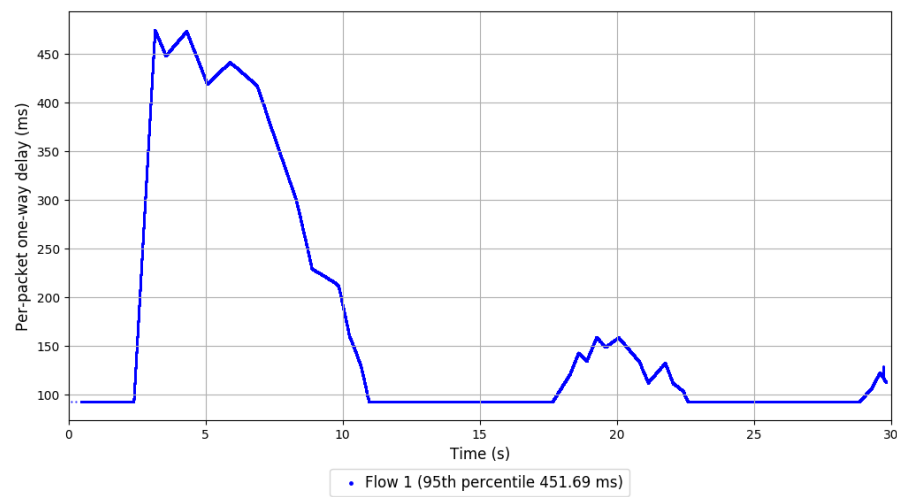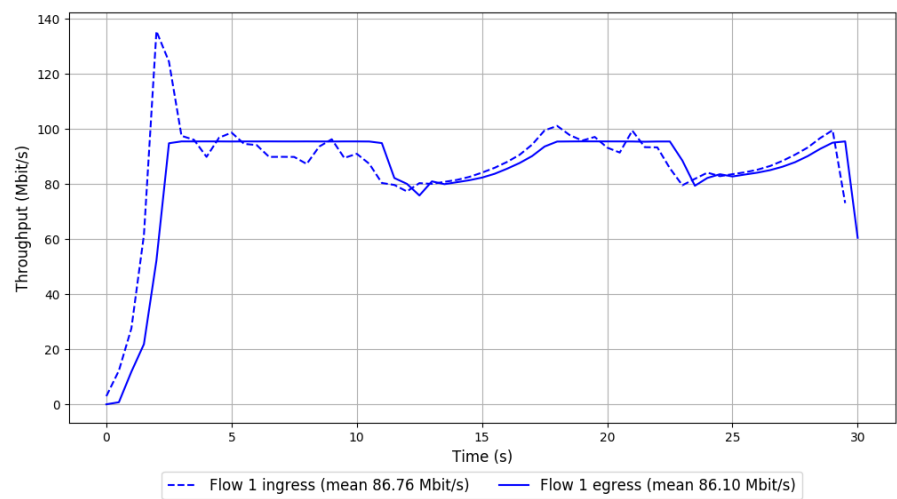
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 86.73 Mbit/s)   ——— Flow 1 egress (mean 86.03 Mbit/s)

• Flow 1 (95th percentile 465.48 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-11 23:32:43
End at: 2019-02-11 23:33:13
Local clock offset: -7.279 ms
Remote clock offset: 3.942 ms

# Below is generated by plot.py at 2019-02-12 00:49:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.10 Mbit/s
95th percentile per-packet one-way delay: 451.688 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 86.10 Mbit/s
95th percentile per-packet one-way delay: 451.688 ms
Loss rate: 1.34%
```
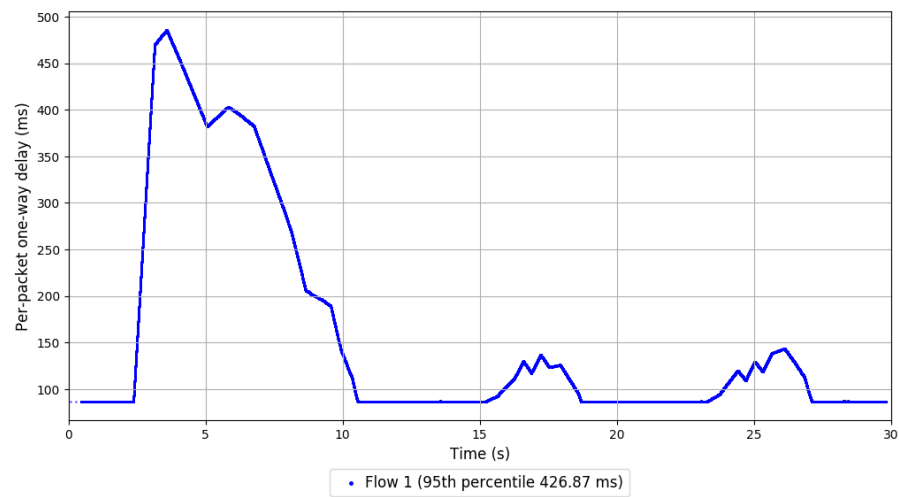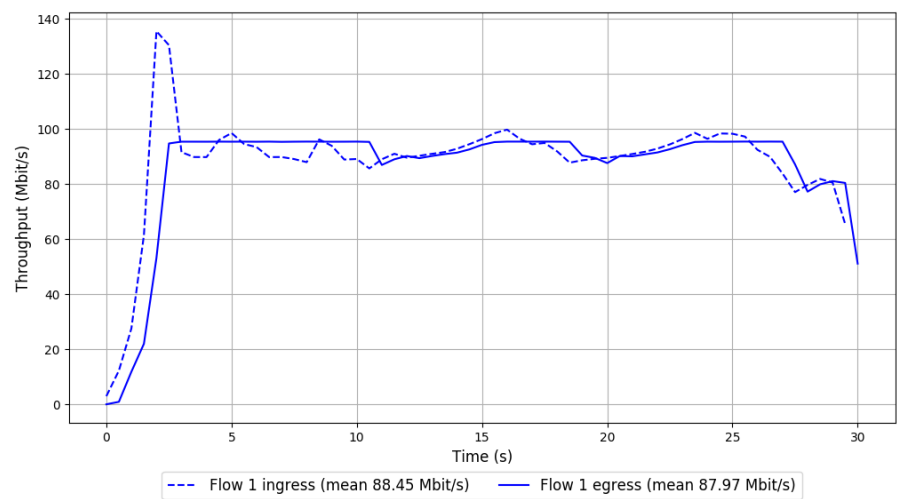
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 86.76 Mbit/s)　　Flow 1 egress (mean 86.10 Mbit/s)

Flow 1 (95th percentile 451.69 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-11 23:58:40
End at: 2019-02-11 23:59:10
Local clock offset: -7.25 ms
Remote clock offset: 8.731 ms


# Below is generated by plot.py at 2019-02-12 00:50:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.97 Mbit/s
95th percentile per-packet one-way delay: 426.866 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 87.97 Mbit/s
95th percentile per-packet one-way delay: 426.866 ms
Loss rate: 1.12%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 00:24:36
End at: 2019-02-12 00:25:06
Local clock offset: -7.013 ms
Remote clock offset: 8.401 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.30 Mbit/s
95th percentile per-packet one-way delay: 410.166 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 87.30 Mbit/s
95th percentile per-packet one-way delay: 410.166 ms
Loss rate: 1.61%
```
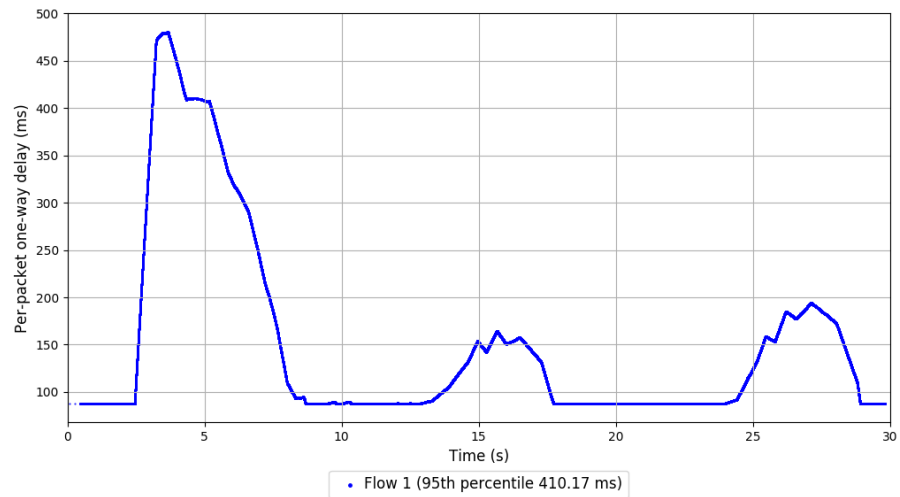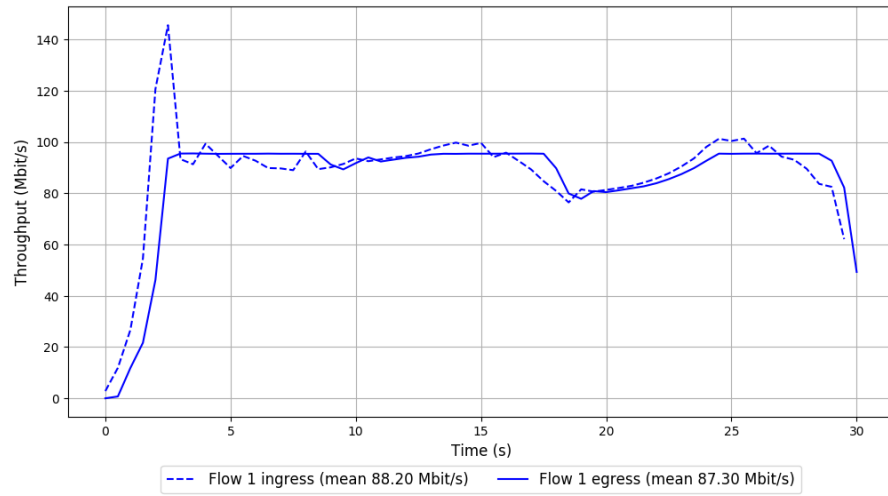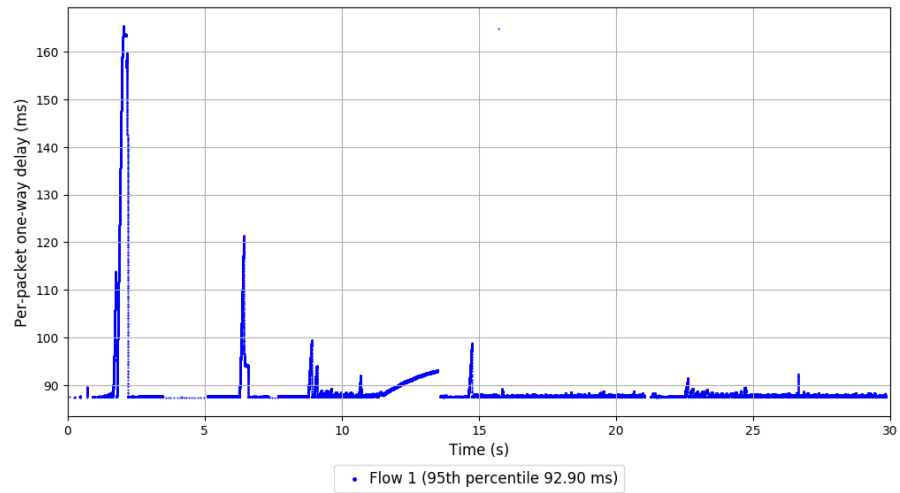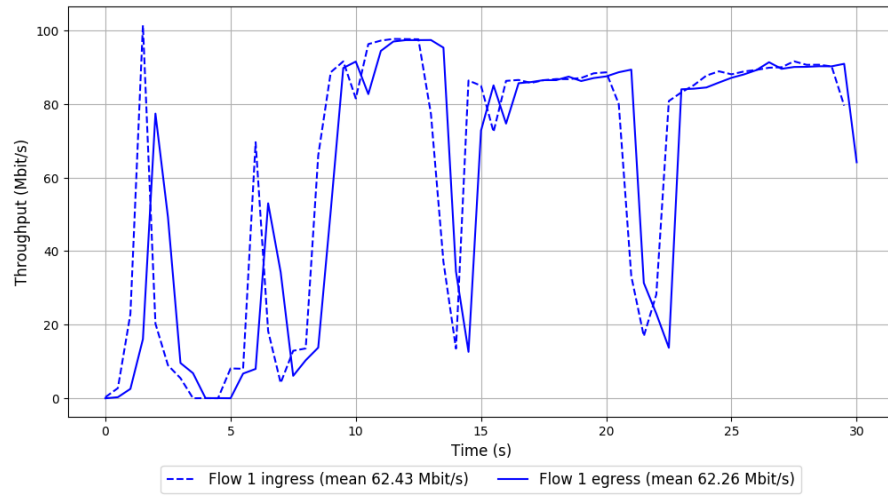
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 88.20 Mbit/s) ----- Flow 1 egress (mean 87.30 Mbit/s)

Flow 1 (95th percentile 410.17 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-11 22:50:03
End at: 2019-02-11 22:50:33
Local clock offset: -0.643 ms
Remote clock offset: 9.379 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 92.898 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 92.898 ms
Loss rate: 0.85%
```
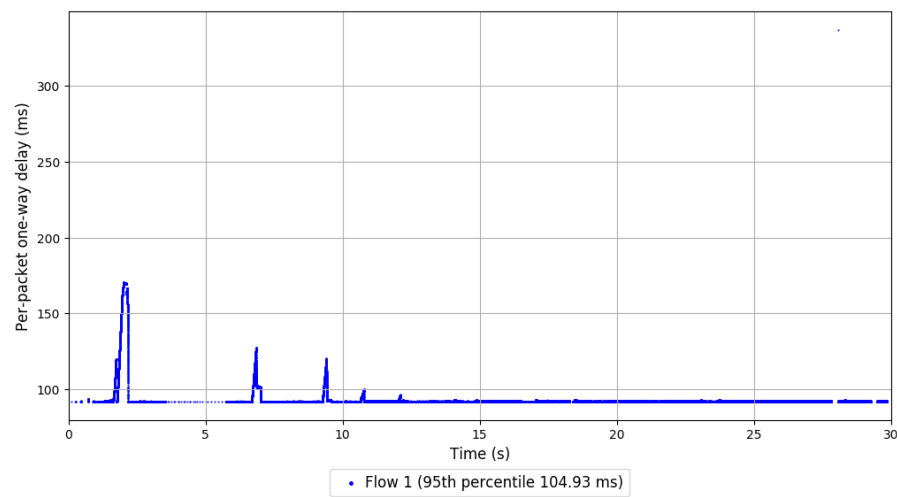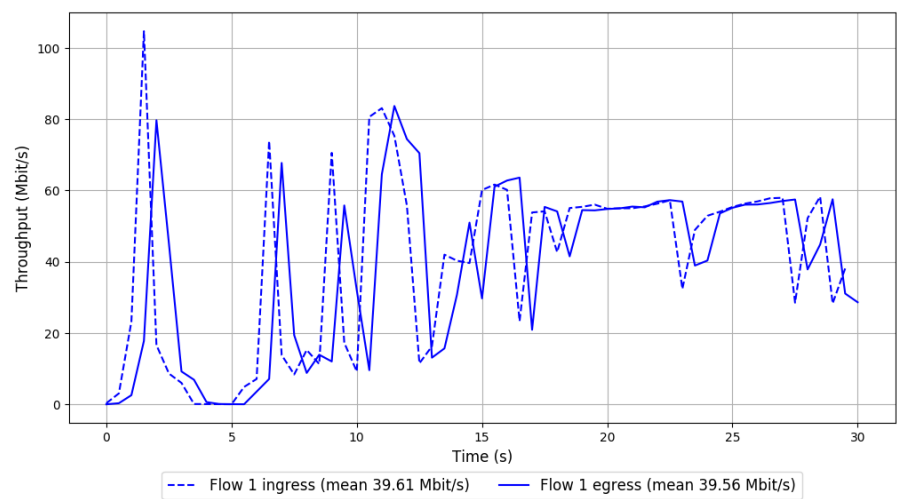
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 62.43 Mbit/s)   Flow 1 egress (mean 62.26 Mbit/s)

Flow 1 (95th percentile 92.90 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-11 23:15:02
End at: 2019-02-11 23:15:32
Local clock offset: -5.274 ms
Remote clock offset: 3.743 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 104.927 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 104.927 ms
Loss rate: 0.72%
```

Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-11 23:41:38
End at: 2019-02-11 23:42:08
Local clock offset: -6.617 ms
Remote clock offset: 3.796 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.32 Mbit/s
95th percentile per-packet one-way delay: 131.462 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 31.32 Mbit/s
95th percentile per-packet one-way delay: 131.462 ms
Loss rate: 0.43%
```
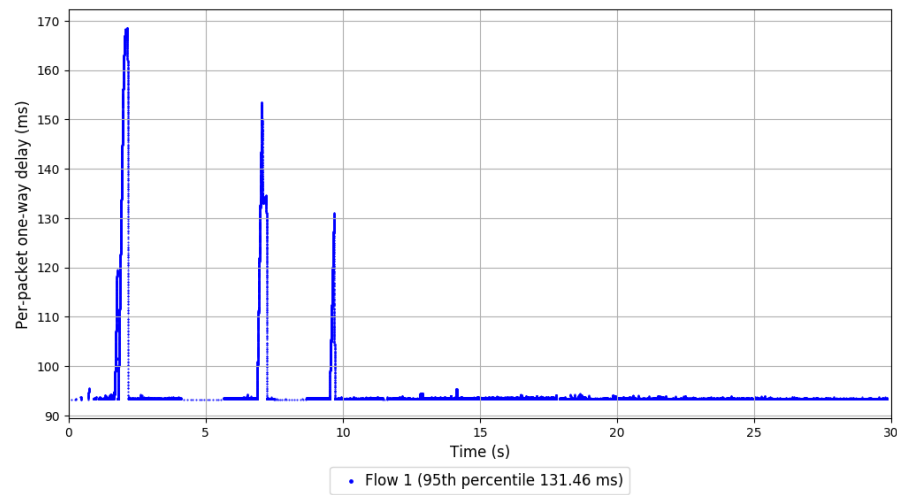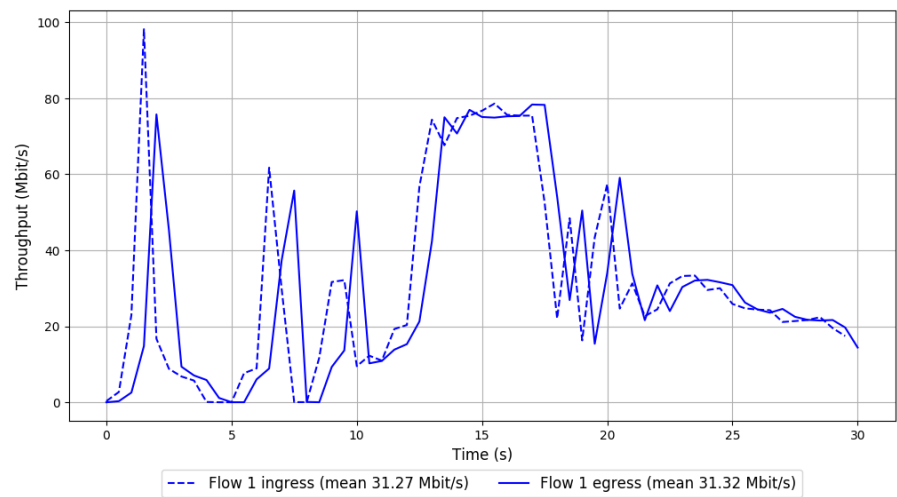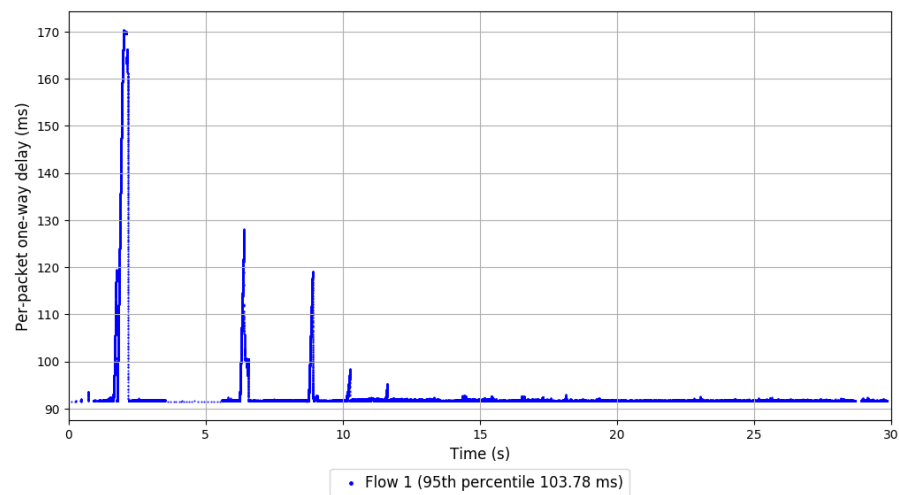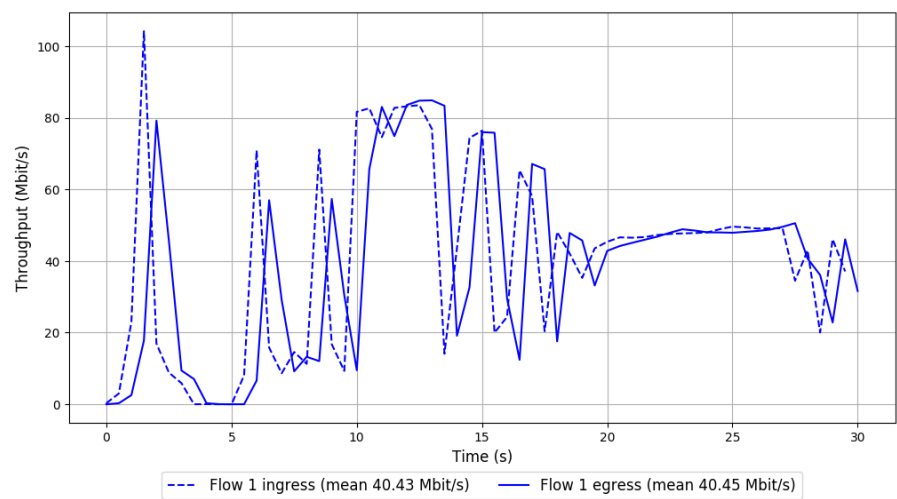
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 31.27 Mbit/s) ----   Flow 1 egress (mean 31.32 Mbit/s) ——

• Flow 1 (95th percentile 131.46 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 00:07:16
End at: 2019-02-12 00:07:46
Local clock offset: -7.188 ms
Remote clock offset: 3.353 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 103.784 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 103.784 ms
Loss rate: 0.54%
```
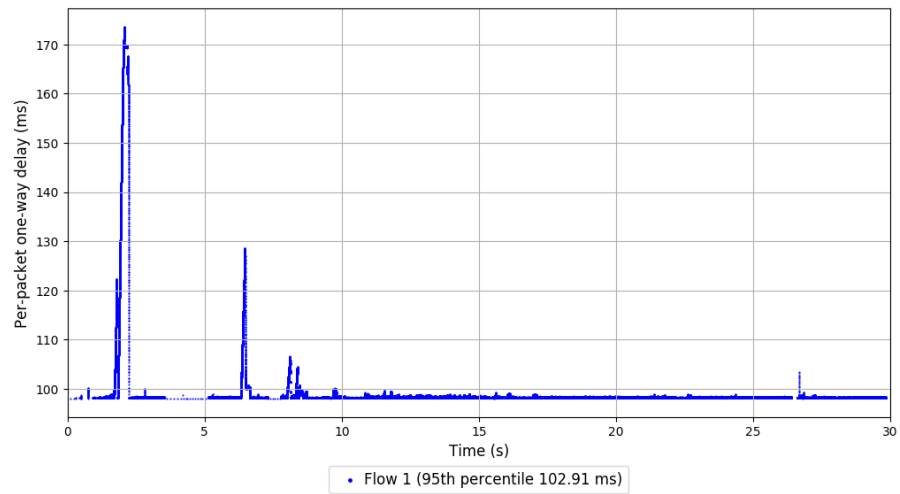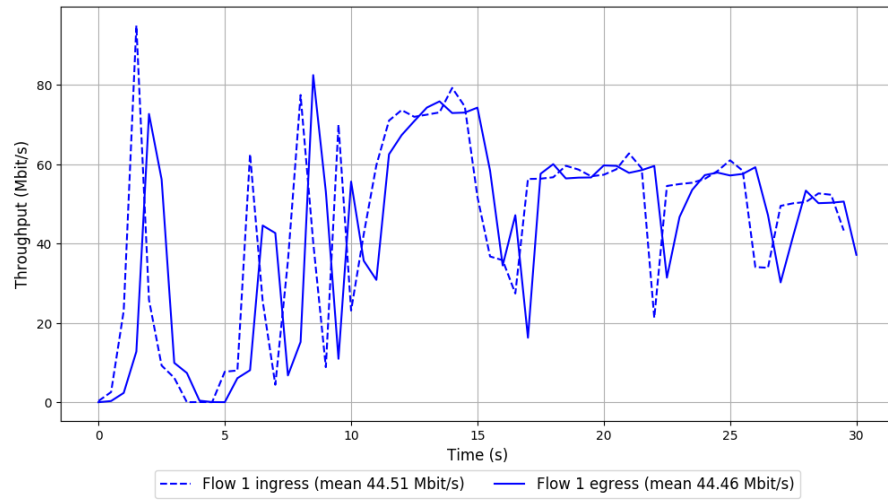
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 40.43 Mbit/s) --- Flow 1 egress (mean 40.45 Mbit/s)

Flow 1 (95th percentile 103.78 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 00:33:07
End at: 2019-02-12 00:33:37
Local clock offset: -7.155 ms
Remote clock offset: 3.374 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.46 Mbit/s
95th percentile per-packet one-way delay: 102.910 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 44.46 Mbit/s
95th percentile per-packet one-way delay: 102.910 ms
Loss rate: 0.71%
```
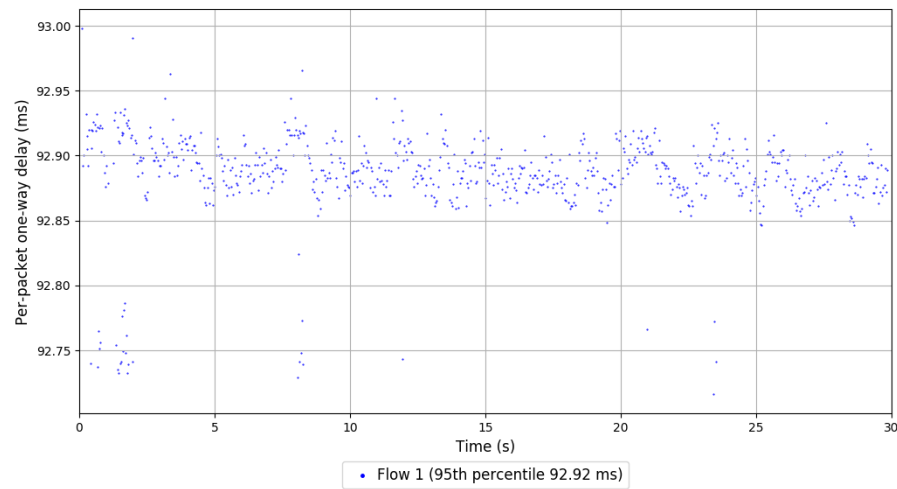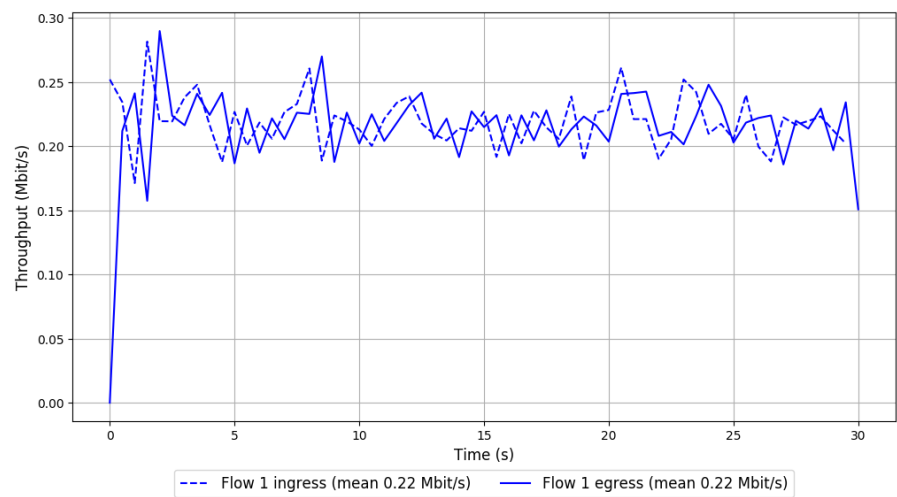
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 44.51 Mbit/s)   Flow 1 egress (mean 44.46 Mbit/s)

• Flow 1 (95th percentile 102.91 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-02-11 22:46:31
End at: 2019-02-11 22:47:02
Local clock offset: -0.079 ms
Remote clock offset: 3.972 ms

# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.921 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.921 ms
Loss rate: 0.64%
```
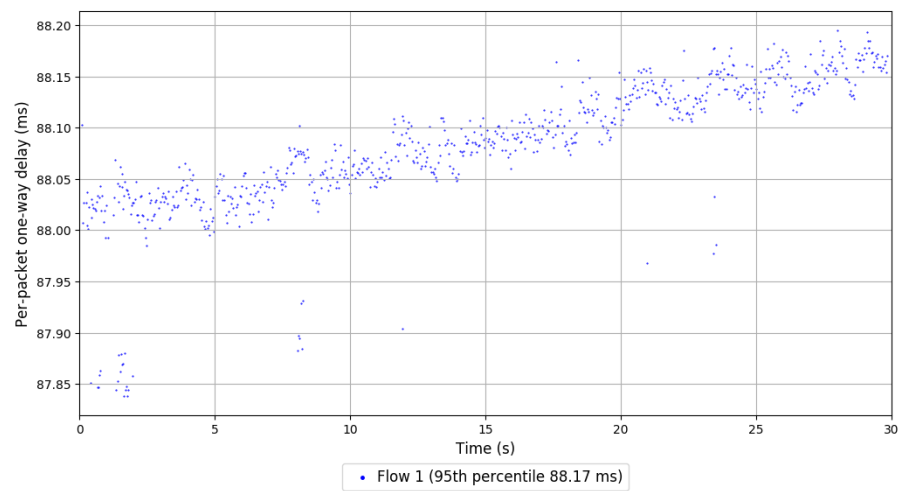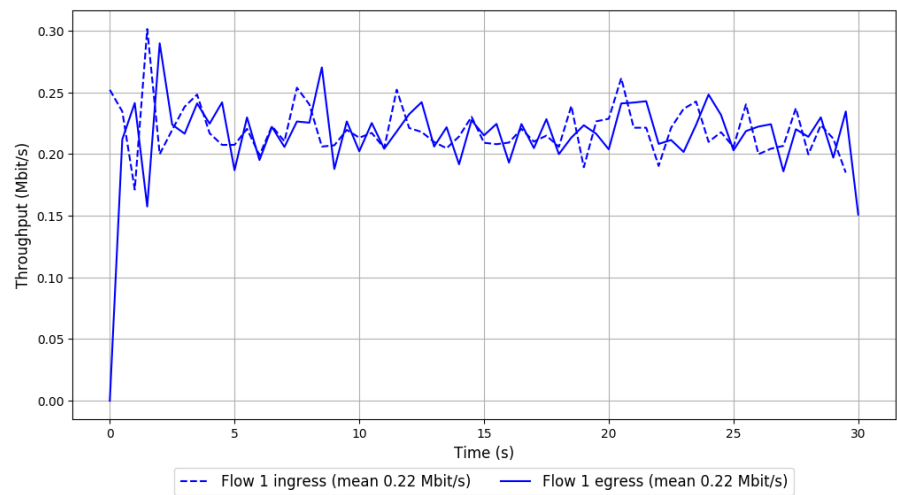
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-11 23:11:29
End at: 2019-02-11 23:11:59
Local clock offset: -4.017 ms
Remote clock offset: 8.966 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.167 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.167 ms
Loss rate: 0.51%
```
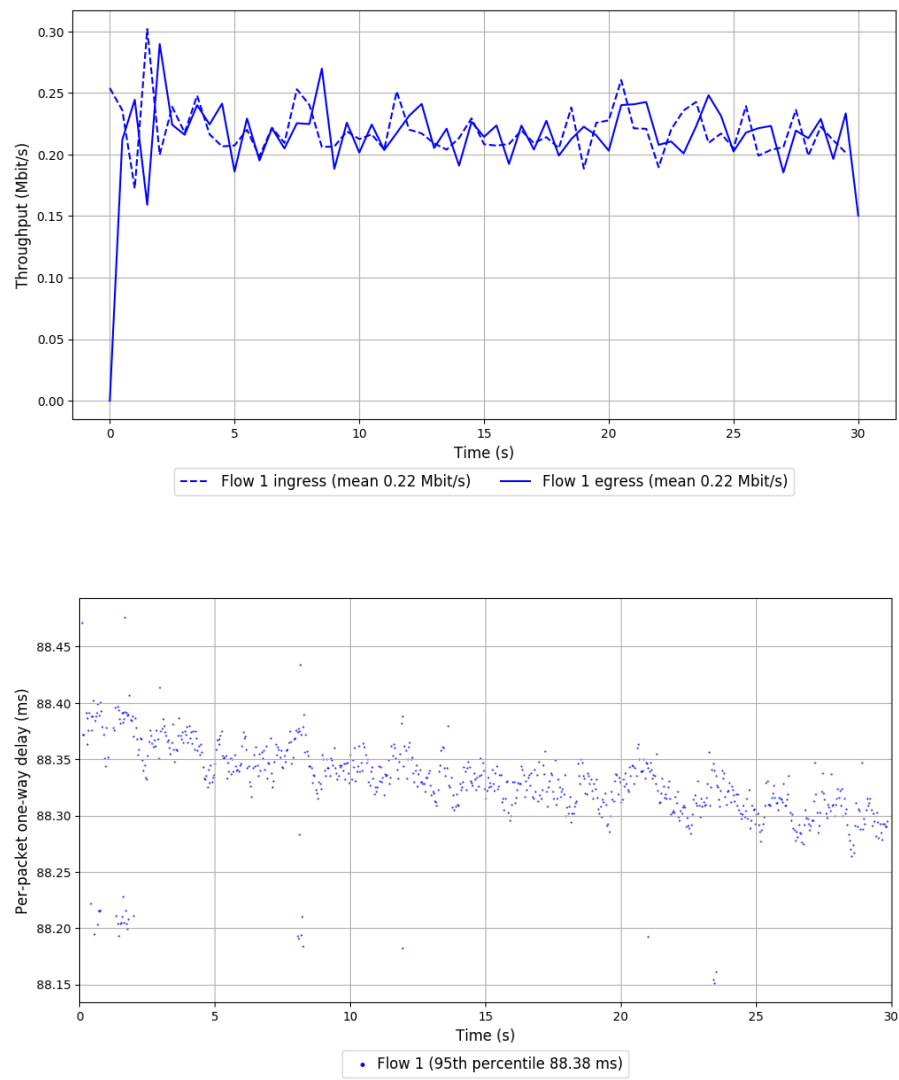
Run 2: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) --- Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 88.17 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-02-11 23:37:52
End at: 2019-02-11 23:38:22
Local clock offset: -6.9 ms
Remote clock offset: 8.875 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.382 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.382 ms
Loss rate: 0.64%
```
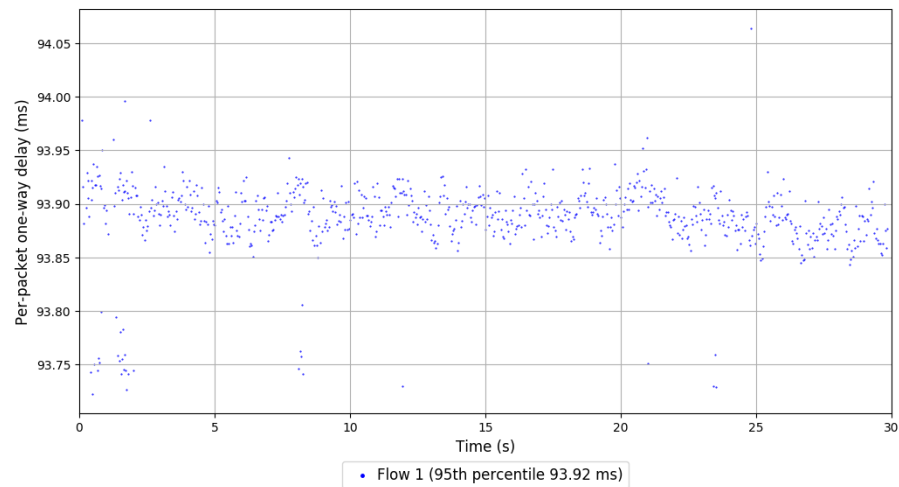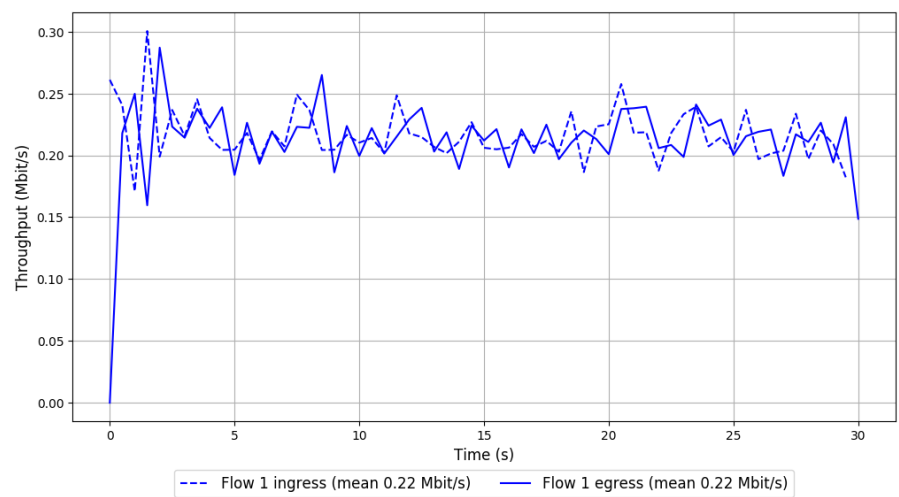
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-12 00:03:36
End at: 2019-02-12 00:04:06
Local clock offset: -6.645 ms
Remote clock offset: 8.47 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.923 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.923 ms
Loss rate: 0.51%
```
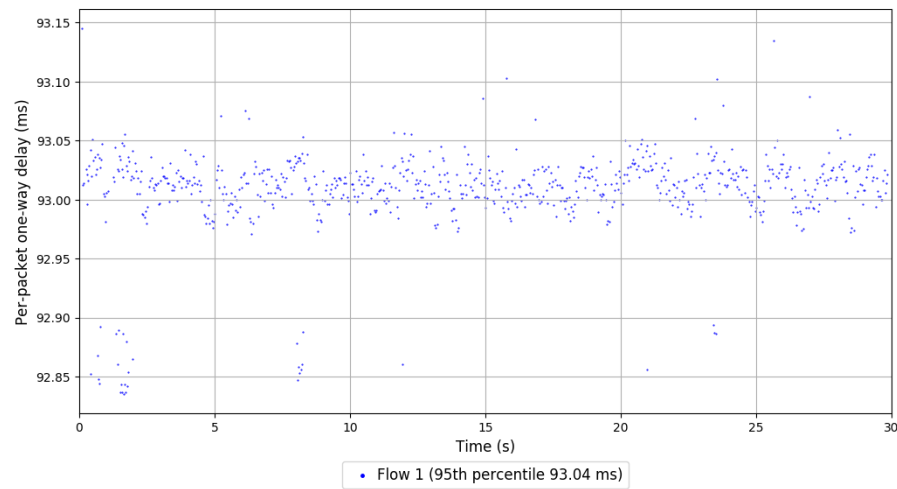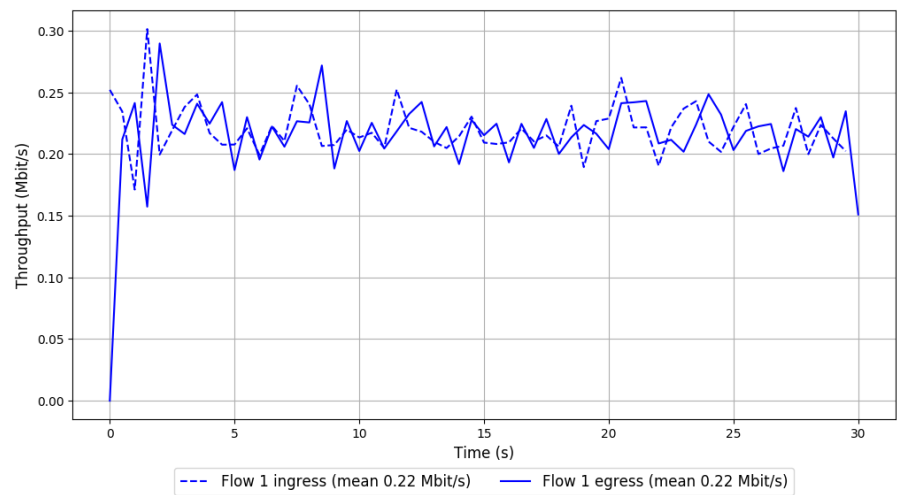
Run 4: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 93.92 ms)

```
Run 5: Statistics of SCReAM

Start at: 2019-02-12 00:29:34
End at: 2019-02-12 00:30:04
Local clock offset: -6.349 ms
Remote clock offset: 3.103 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.042 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.042 ms
Loss rate: 0.64%
```
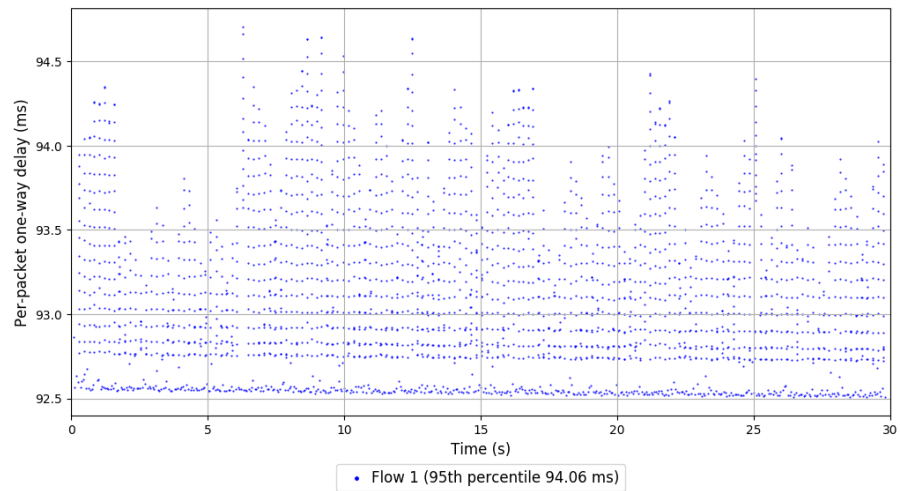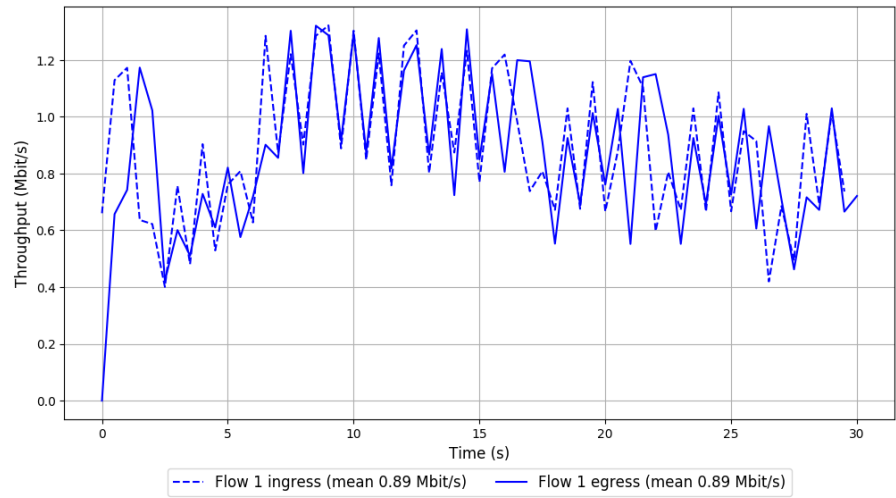
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) --- Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 93.04 ms)

```
Run 1: Statistics of Sprout

Start at: 2019-02-11 22:32:17
End at: 2019-02-11 22:32:47
Local clock offset: -1.666 ms
Remote clock offset: 3.985 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 94.055 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 94.055 ms
Loss rate: 0.69%
```
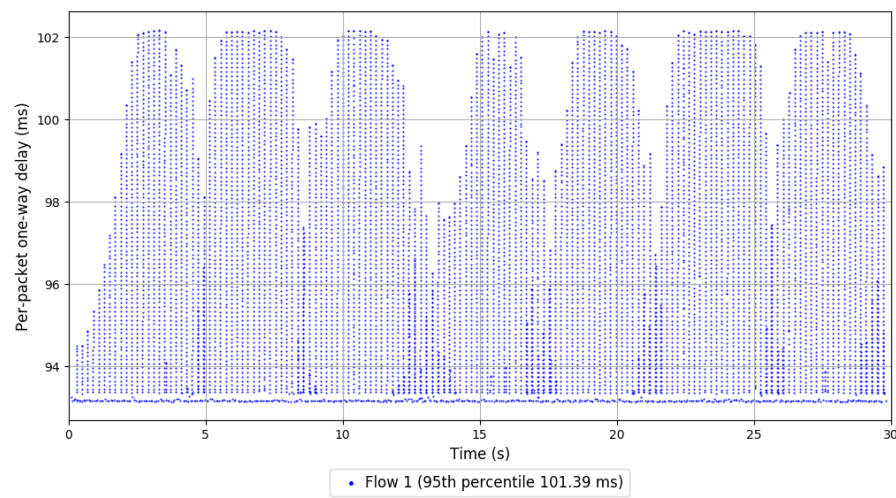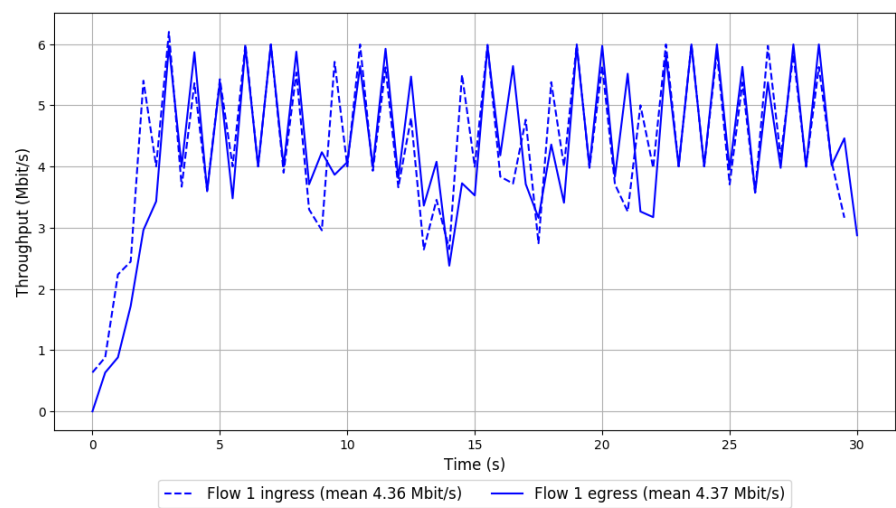
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 0.89 Mbit/s) ----   Flow 1 egress (mean 0.89 Mbit/s) ——

Flow 1 (95th percentile 94.06 ms)

```
Run 2: Statistics of Sprout

Start at: 2019-02-11 22:57:17
End at: 2019-02-11 22:57:47
Local clock offset: -0.283 ms
Remote clock offset: 9.34 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 101.392 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 101.392 ms
Loss rate: 0.58%
```
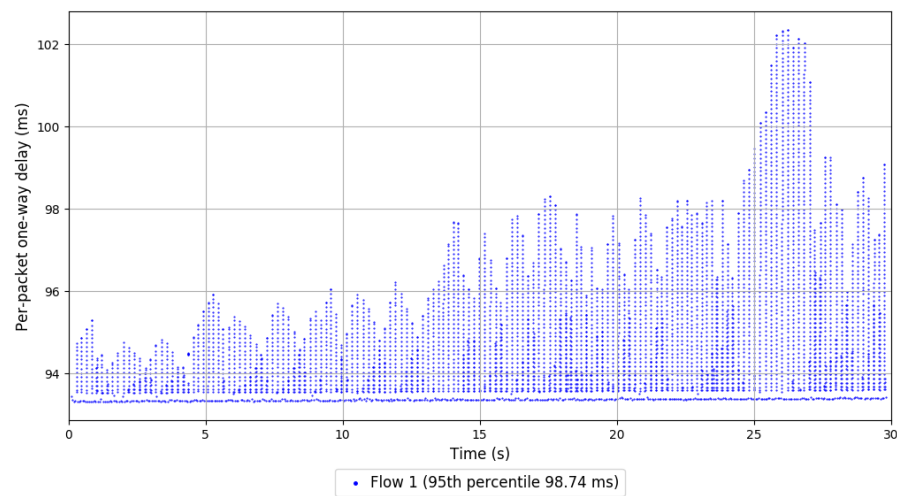
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-11 23:22:29
End at: 2019-02-11 23:22:59
Local clock offset: -6.03 ms
Remote clock offset: 3.88 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 98.741 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 98.741 ms
Loss rate: 1.13%
```
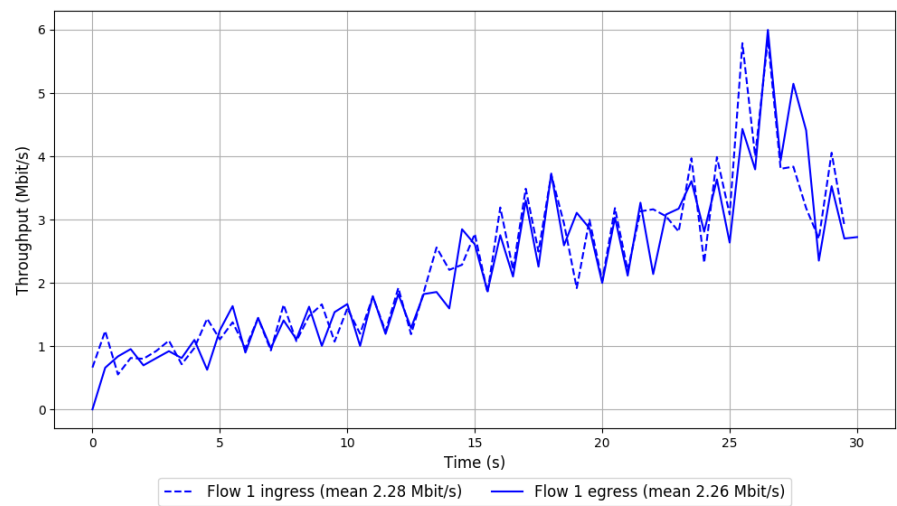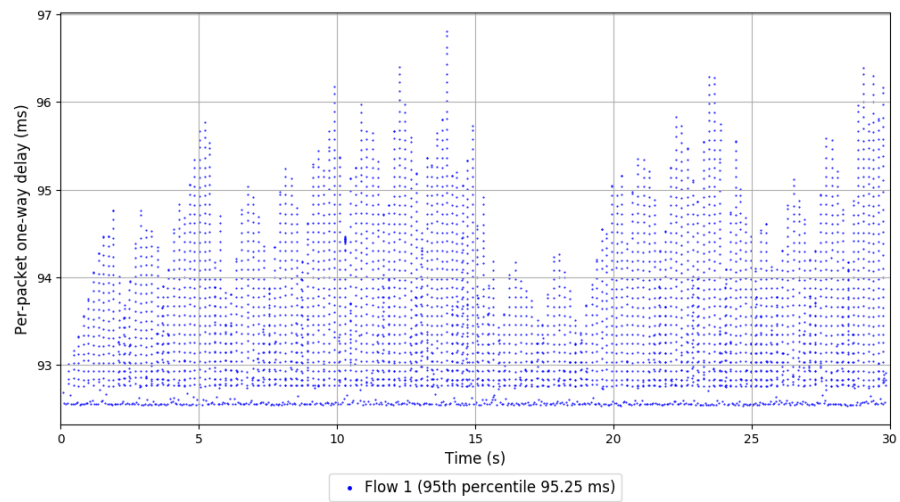
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-11 23:49:10
End at: 2019-02-11 23:49:40
Local clock offset: -7.177 ms
Remote clock offset: 3.559 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 95.255 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 95.255 ms
Loss rate: 0.83%
```
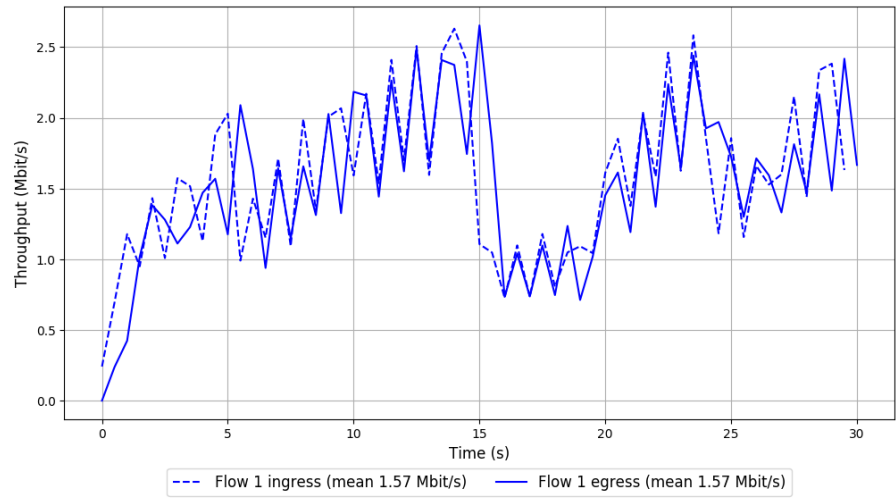
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-12 00:14:57
End at: 2019-02-12 00:15:27
Local clock offset: -7.005 ms
Remote clock offset: 8.506 ms


# Below is generated by plot.py at 2019-02-12 00:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 92.675 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 92.675 ms
Loss rate: 0.51%
```
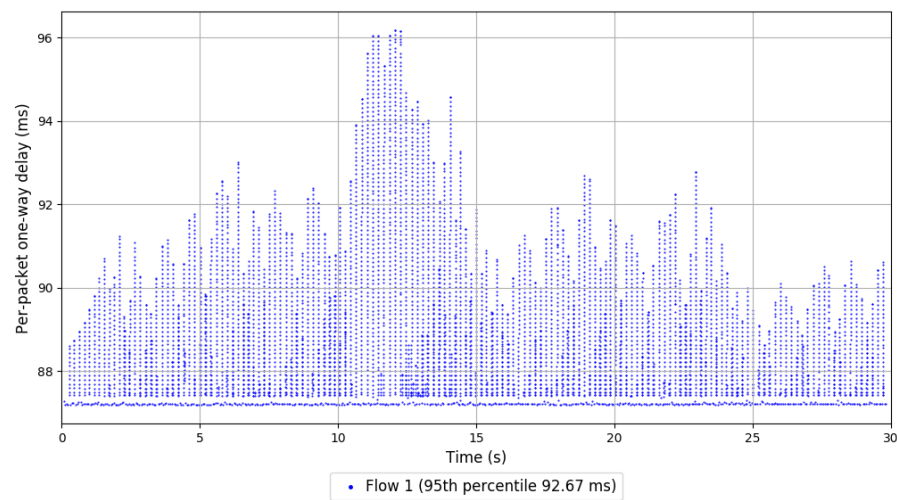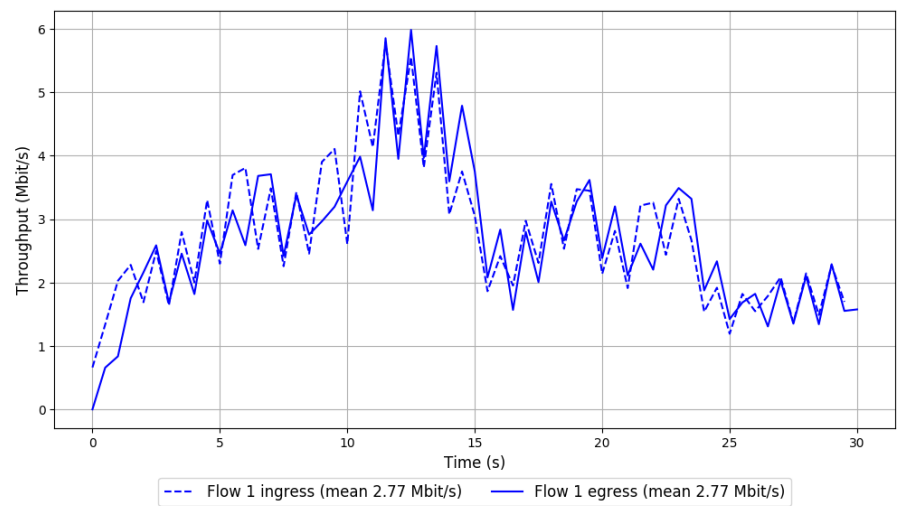
Run 5: Report of Sprout — Data Link

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

Start at: 2019-02-11 22:36:59
End at: 2019-02-11 22:37:29
Local clock offset: -1.361 ms
Remote clock offset: 8.989 ms


# Below is generated by plot.py at 2019-02-12 00:51:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 113.932 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 113.932 ms
Loss rate: 0.59%
```
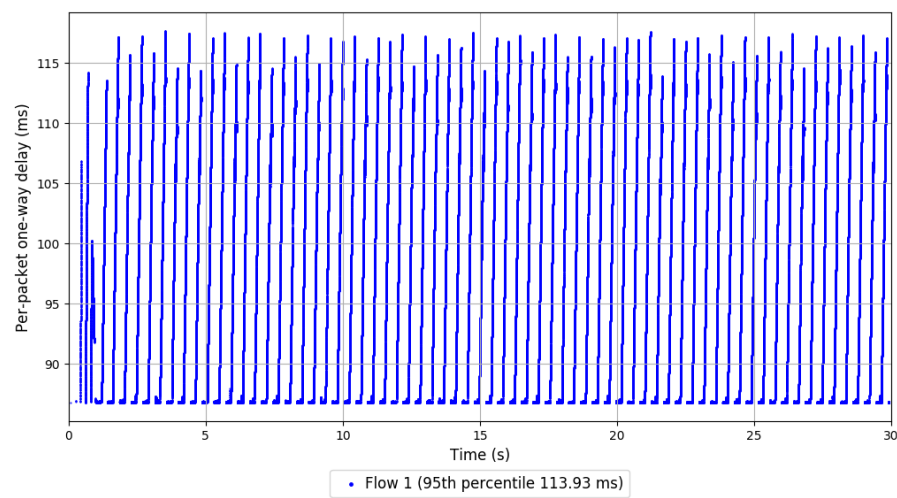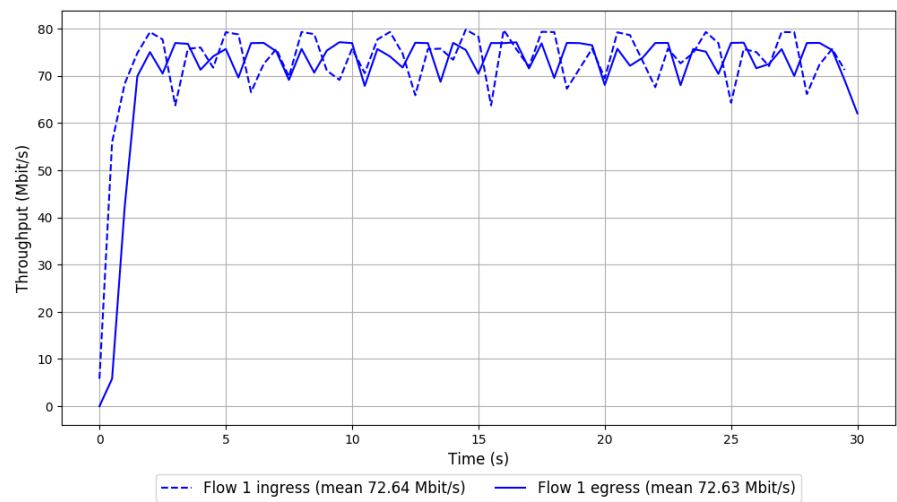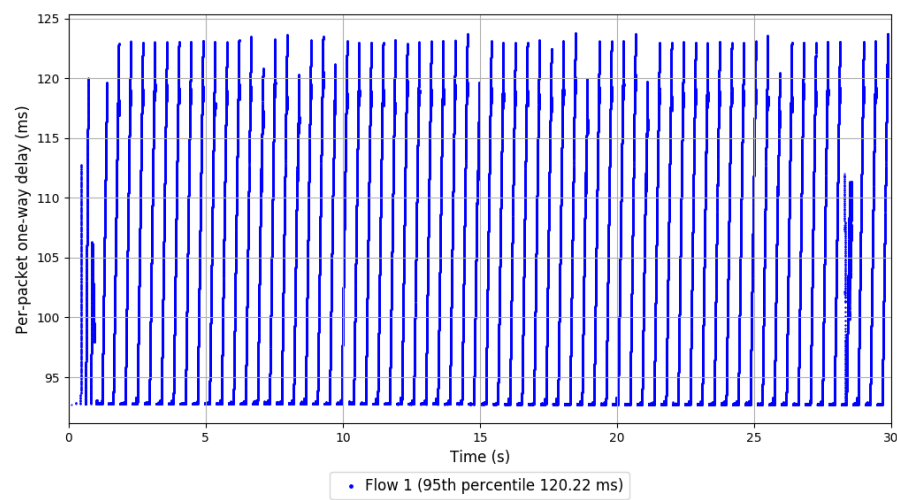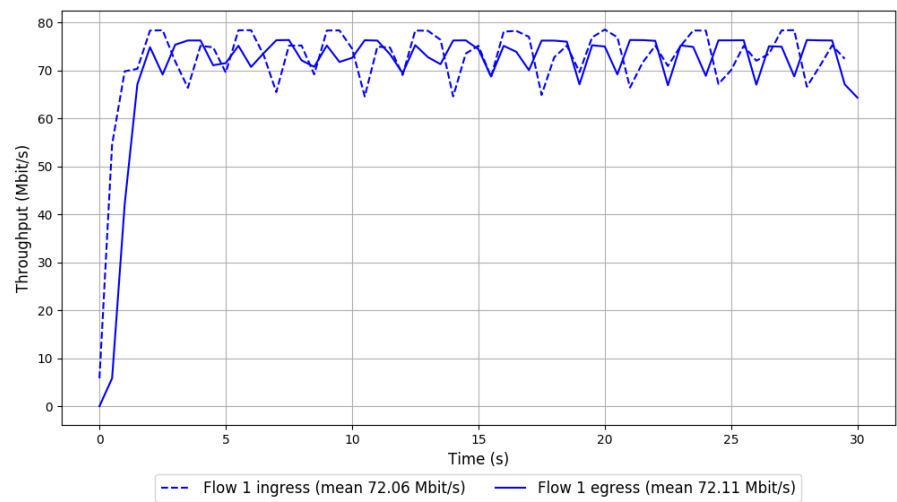
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 72.64 Mbit/s) ----   Flow 1 egress (mean 72.63 Mbit/s) ———

• Flow 1 (95th percentile 113.93 ms)

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

Start at: 2019-02-11 23:01:59
End at: 2019-02-11 23:02:29
Local clock offset: -0.041 ms
Remote clock offset: 4.559 ms


# Below is generated by plot.py at 2019-02-12 00:51:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.11 Mbit/s
95th percentile per-packet one-way delay: 120.220 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 72.11 Mbit/s
95th percentile per-packet one-way delay: 120.220 ms
Loss rate: 0.58%
```

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

168

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

Start at: 2019-02-11 23:27:29
End at: 2019-02-11 23:27:59
Local clock offset: -6.724 ms
Remote clock offset: 8.828 ms


# Below is generated by plot.py at 2019-02-12 00:51:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.88 Mbit/s
95th percentile per-packet one-way delay: 114.939 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 72.88 Mbit/s
95th percentile per-packet one-way delay: 114.939 ms
Loss rate: 0.71%
```
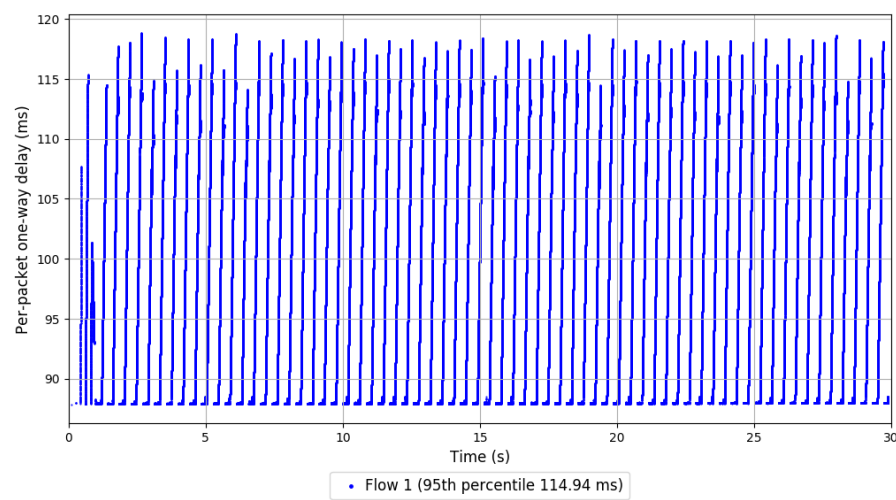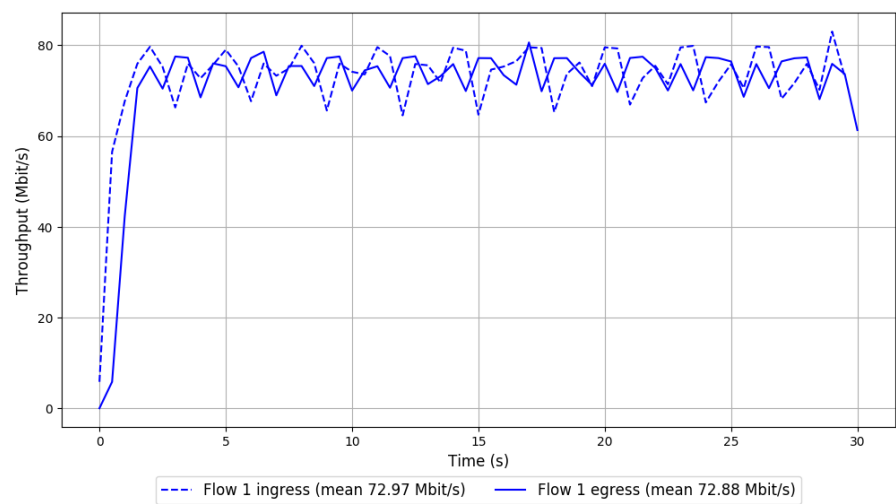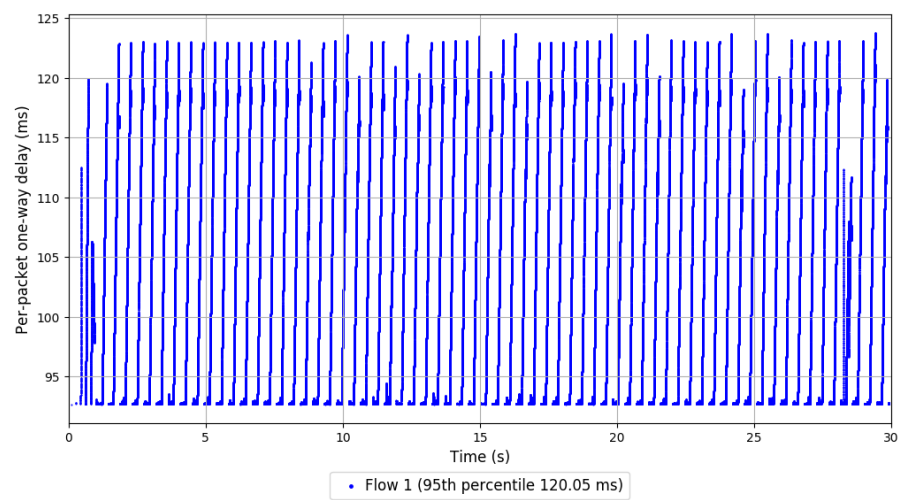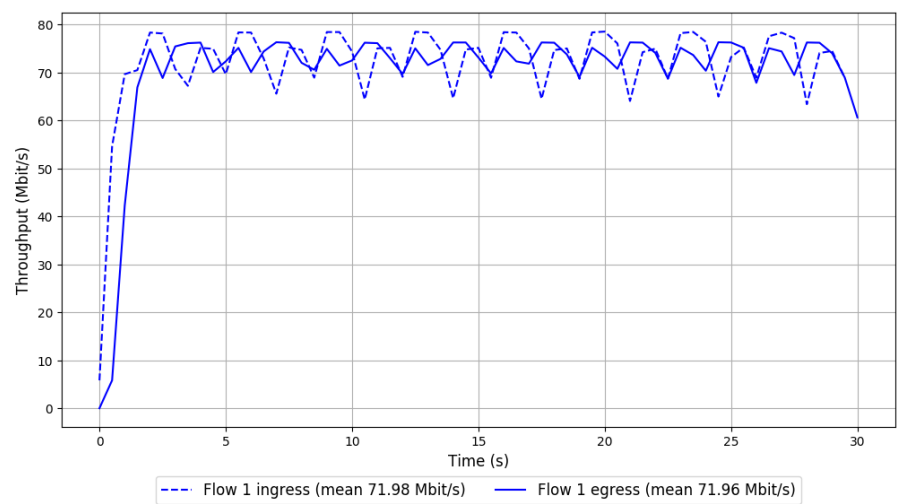
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 72.97 Mbit/s) --- Flow 1 egress (mean 72.88 Mbit/s)

• Flow 1 (95th percentile 114.94 ms)

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

Start at: 2019-02-11 23:53:55
End at: 2019-02-11 23:54:25
Local clock offset: -7.196 ms
Remote clock offset: 3.427 ms


# Below is generated by plot.py at 2019-02-12 00:51:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.96 Mbit/s
95th percentile per-packet one-way delay: 120.046 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 71.96 Mbit/s
95th percentile per-packet one-way delay: 120.046 ms
Loss rate: 0.61%
```
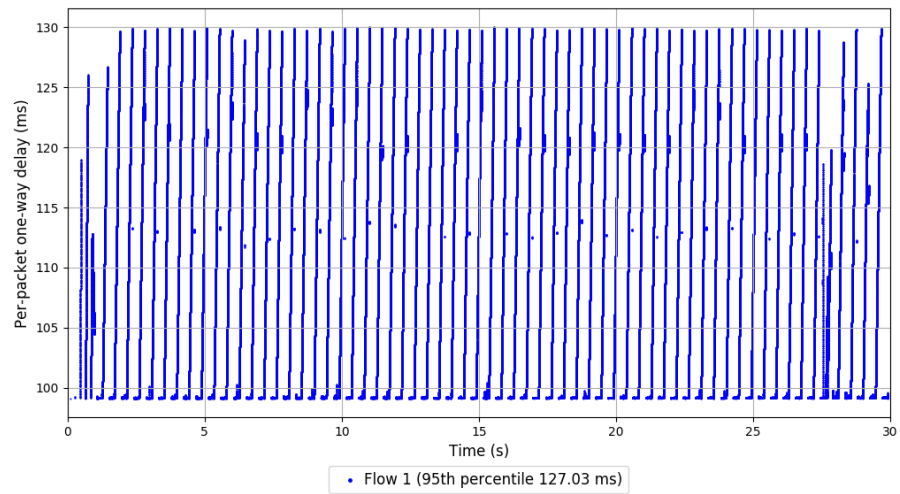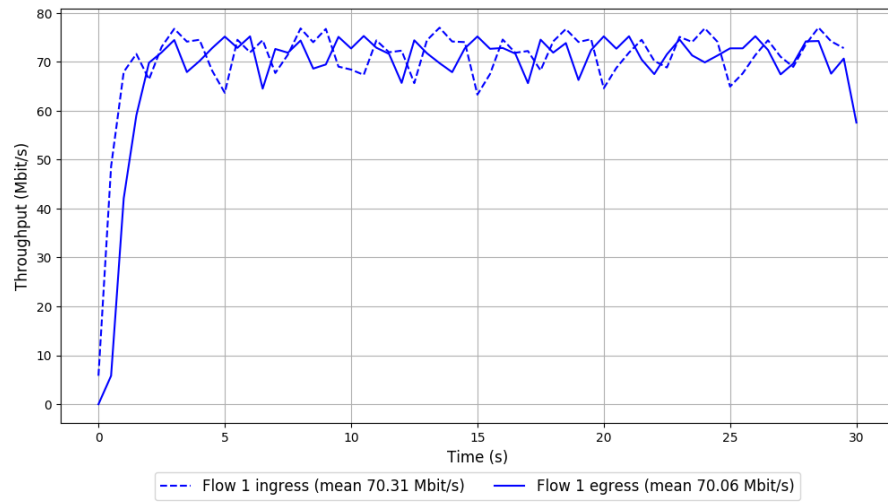
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 71.98 Mbit/s) — — — —   Flow 1 egress (mean 71.96 Mbit/s) ———

• Flow 1 (95th percentile 120.05 ms)

172

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

Start at: 2019-02-12 00:19:47
End at: 2019-02-12 00:20:17
Local clock offset: -6.158 ms
Remote clock offset: 3.285 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.06 Mbit/s
95th percentile per-packet one-way delay: 127.030 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 70.06 Mbit/s
95th percentile per-packet one-way delay: 127.030 ms
Loss rate: 0.93%
```
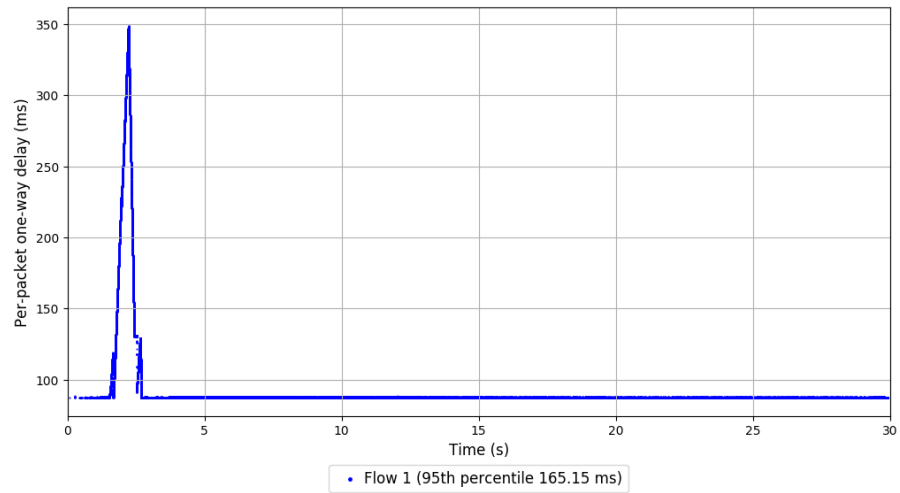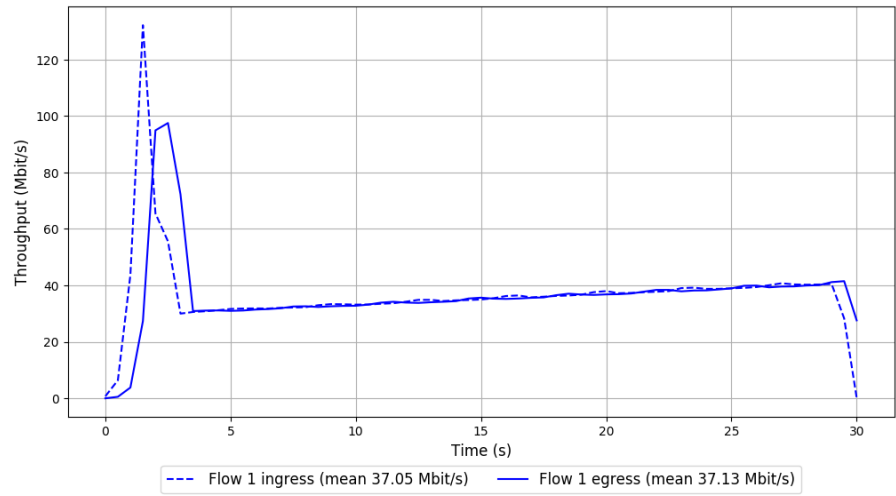
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 70.31 Mbit/s)   Flow 1 egress (mean 70.06 Mbit/s)

• Flow 1 (95th percentile 127.03 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-11 22:40:34
End at: 2019-02-11 22:41:04
Local clock offset: -0.411 ms
Remote clock offset: 9.268 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 165.147 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 165.147 ms
Loss rate: 0.38%
```
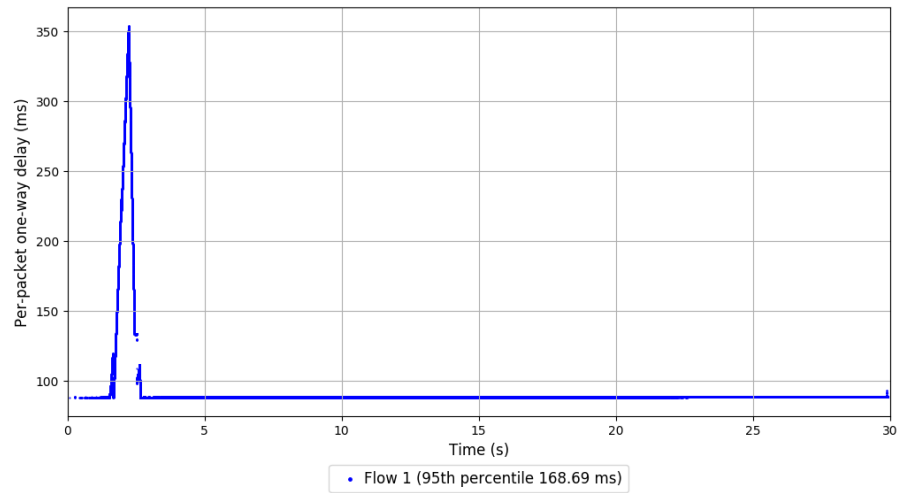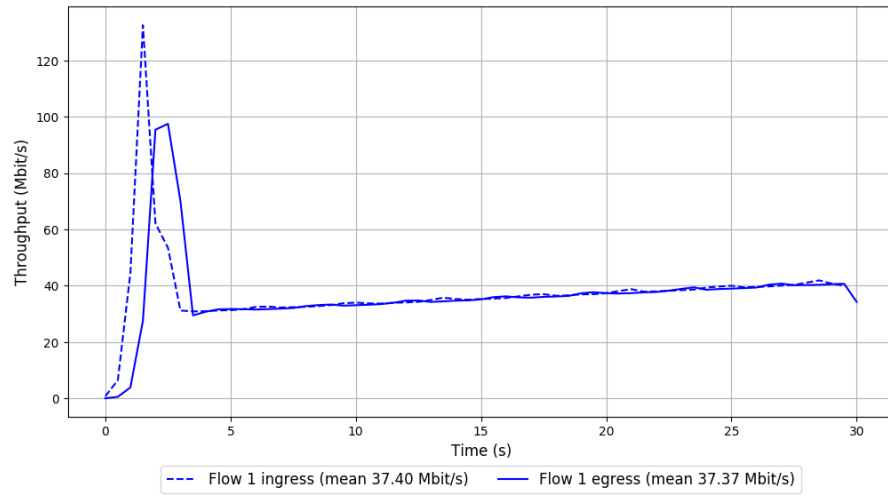
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.05 Mbit/s) ----- Flow 1 egress (mean 37.13 Mbit/s)

• Flow 1 (95th percentile 165.15 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-11 23:05:33
End at: 2019-02-11 23:06:03
Local clock offset: -0.915 ms
Remote clock offset: 9.43 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 168.692 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 168.692 ms
Loss rate: 0.66%
```
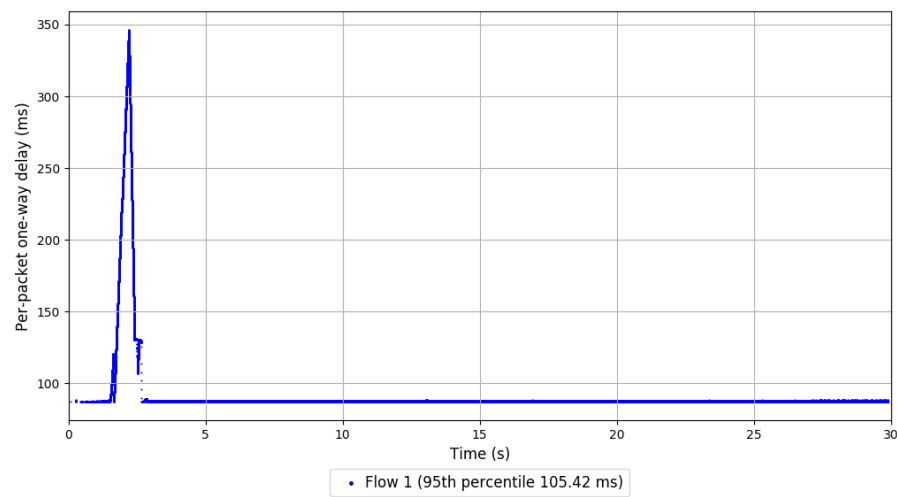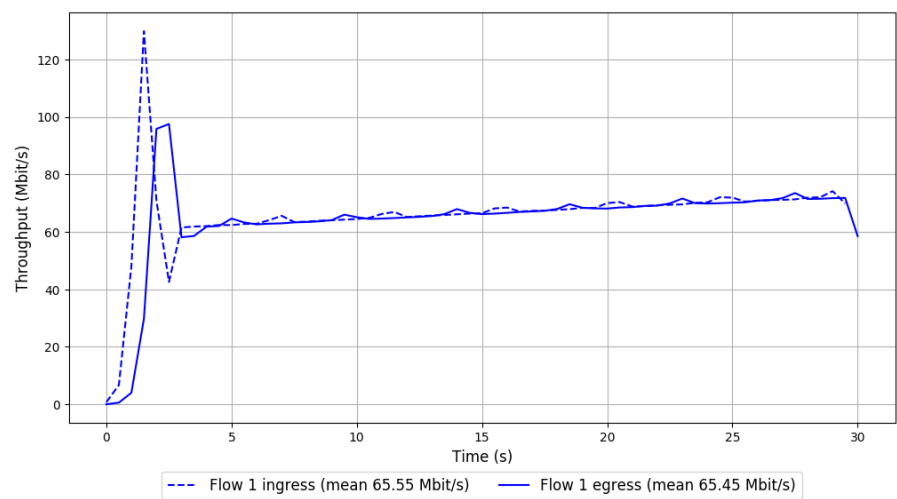
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.40 Mbit/s)   Flow 1 egress (mean 37.37 Mbit/s)

Flow 1 (95th percentile 168.69 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-11 23:31:23
End at: 2019-02-11 23:31:53
Local clock offset: -7.889 ms
Remote clock offset: 8.987 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 105.418 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 105.418 ms
Loss rate: 0.72%
```
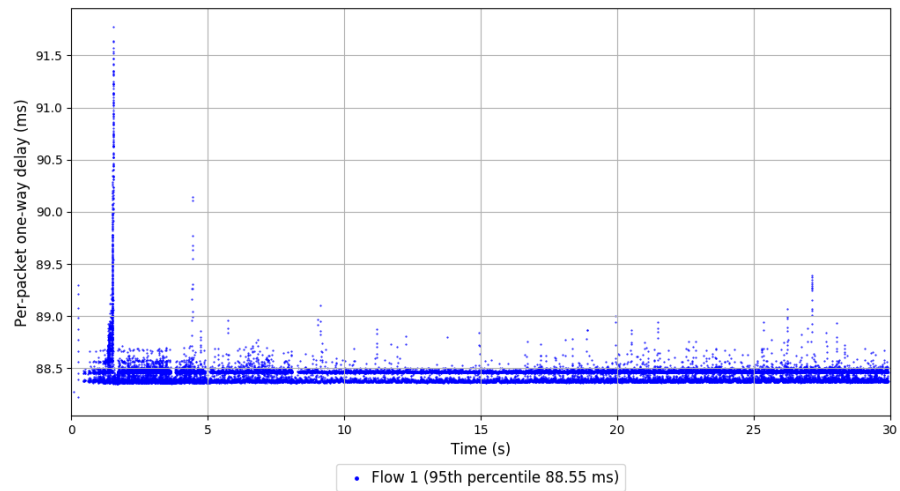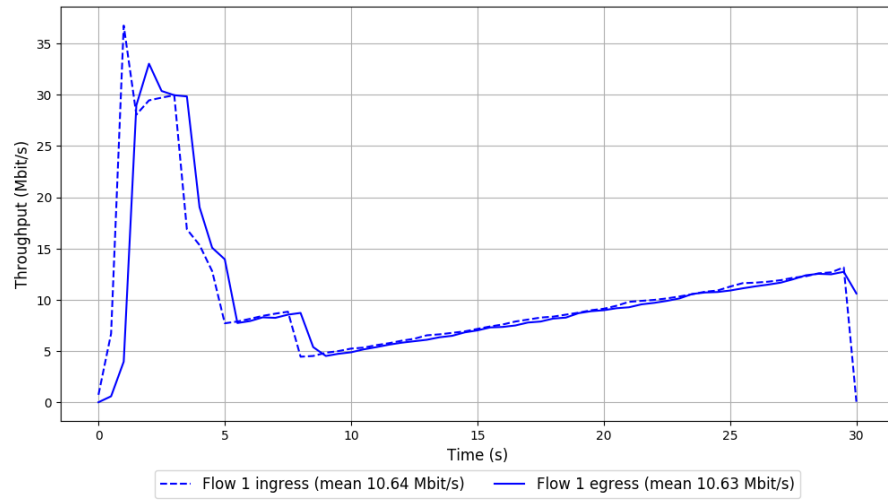
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 65.55 Mbit/s) --- Flow 1 egress (mean 65.45 Mbit/s)

• Flow 1 (95th percentile 105.42 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-02-11 23:57:31
End at: 2019-02-11 23:58:01
Local clock offset: -6.469 ms
Remote clock offset: 8.575 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.63 Mbit/s
95th percentile per-packet one-way delay: 88.554 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 10.63 Mbit/s
95th percentile per-packet one-way delay: 88.554 ms
Loss rate: 0.72%
```
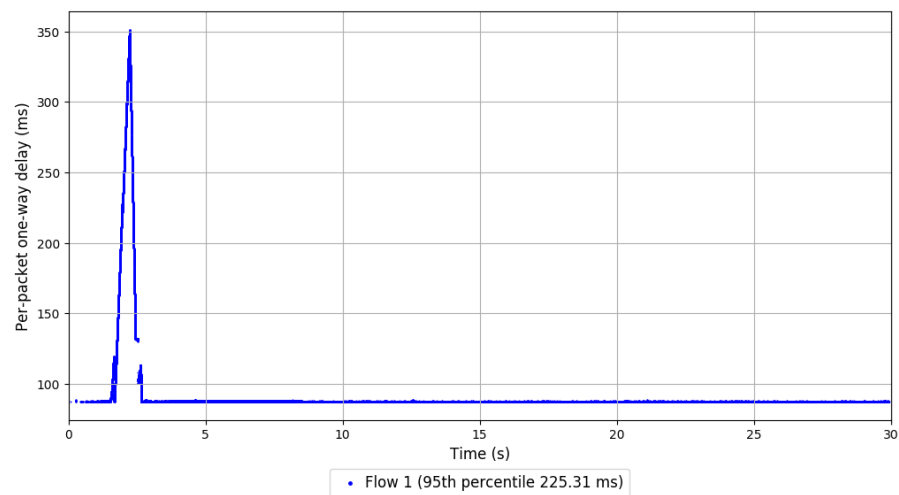
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 00:23:27
End at: 2019-02-12 00:23:57
Local clock offset: -7.004 ms
Remote clock offset: 8.61 ms


# Below is generated by plot.py at 2019-02-12 00:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.39 Mbit/s
95th percentile per-packet one-way delay: 225.315 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 25.39 Mbit/s
95th percentile per-packet one-way delay: 225.315 ms
Loss rate: 0.61%
```
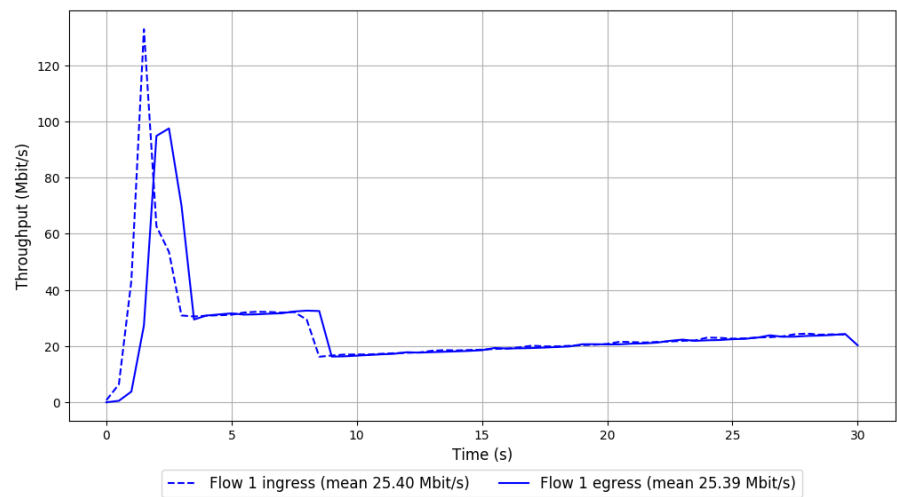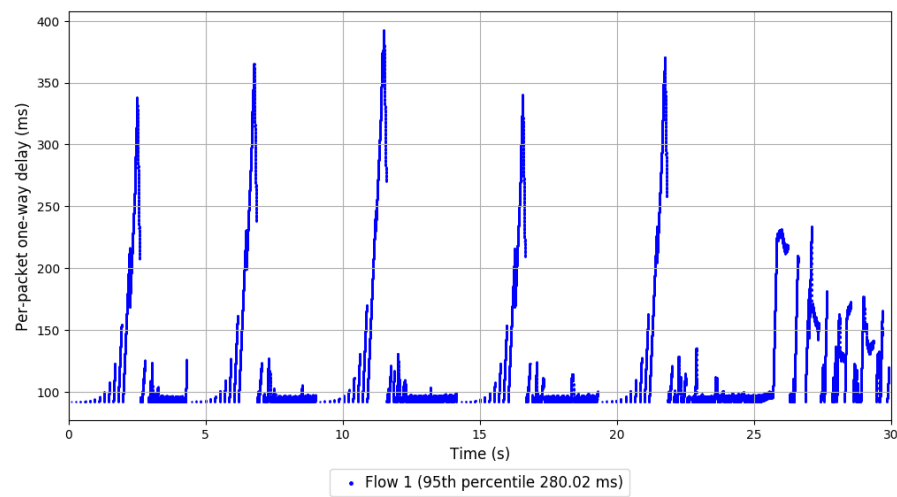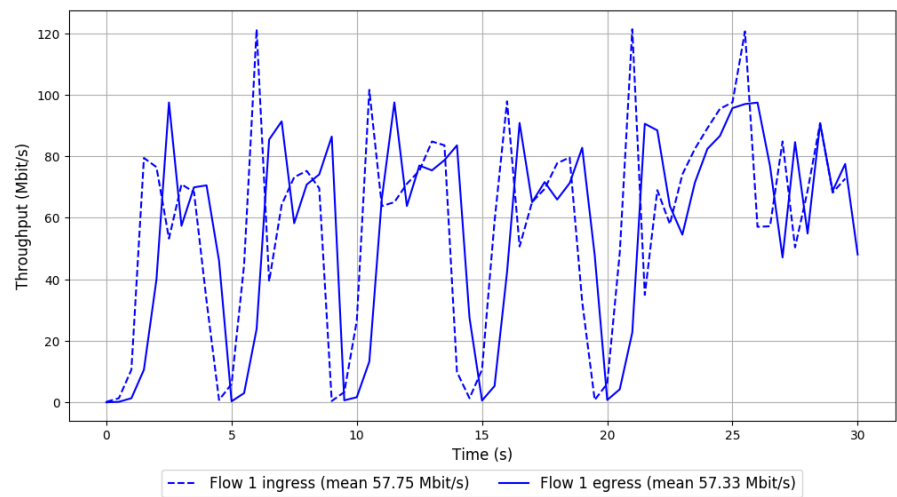
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 25.40 Mbit/s)   Flow 1 egress (mean 25.39 Mbit/s)

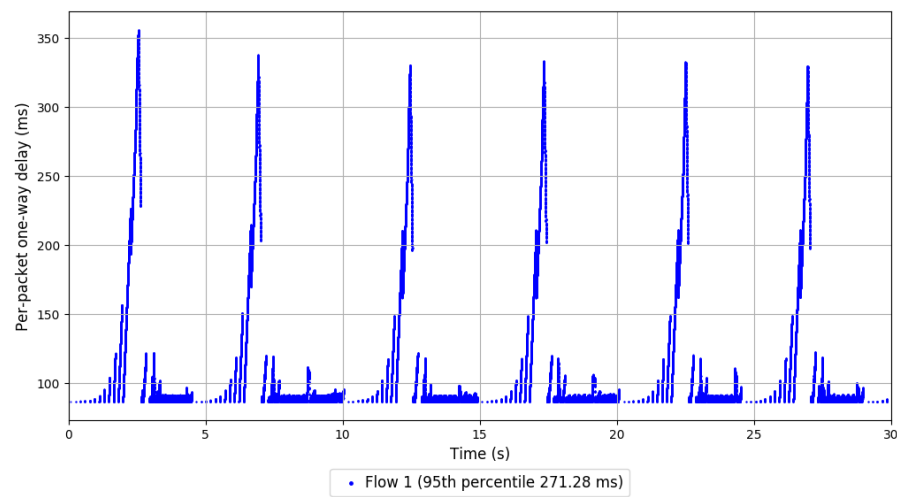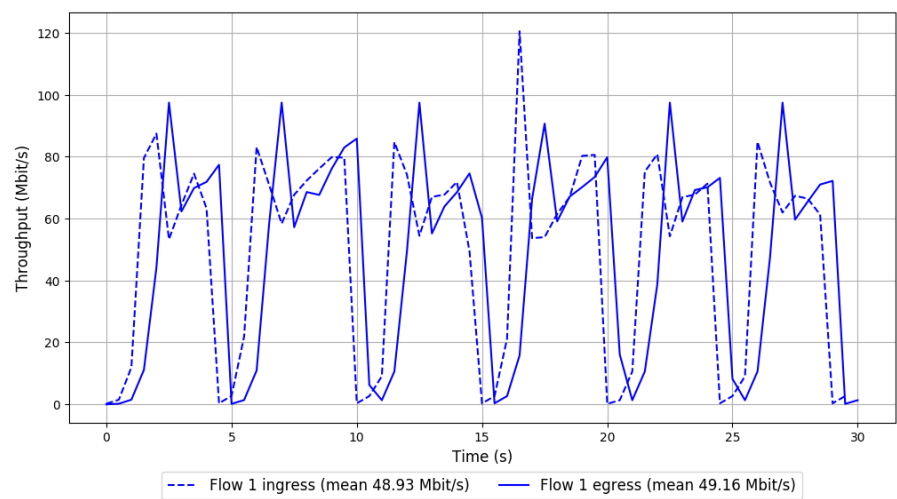

Flow 1 (95th percentile 225.31 ms)

```
Run 1: Statistics of Verus

Start at: 2019-02-11 22:34:36
End at: 2019-02-11 22:35:06
Local clock offset: -1.518 ms
Remote clock offset: 3.992 ms


# Below is generated by plot.py at 2019-02-12 00:51:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 280.023 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 280.023 ms
Loss rate: 1.30%
```

Run 1: Report of Verus — Data Link

186

```
Run 2: Statistics of Verus

Start at: 2019-02-11 22:59:37
End at: 2019-02-11 23:00:07
Local clock offset: -0.159 ms
Remote clock offset: 9.613 ms


# Below is generated by plot.py at 2019-02-12 00:51:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.16 Mbit/s
95th percentile per-packet one-way delay: 271.276 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 49.16 Mbit/s
95th percentile per-packet one-way delay: 271.276 ms
Loss rate: 0.11%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-02-11 23:25:02
End at: 2019-02-11 23:25:32
Local clock offset: -6.412 ms
Remote clock offset: 8.934 ms


# Below is generated by plot.py at 2019-02-12 00:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 173.603 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 173.603 ms
Loss rate: 0.82%
```
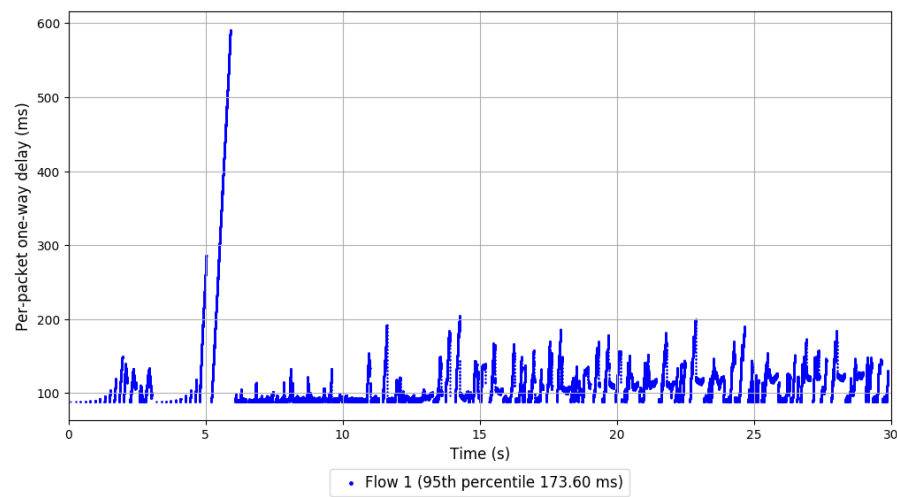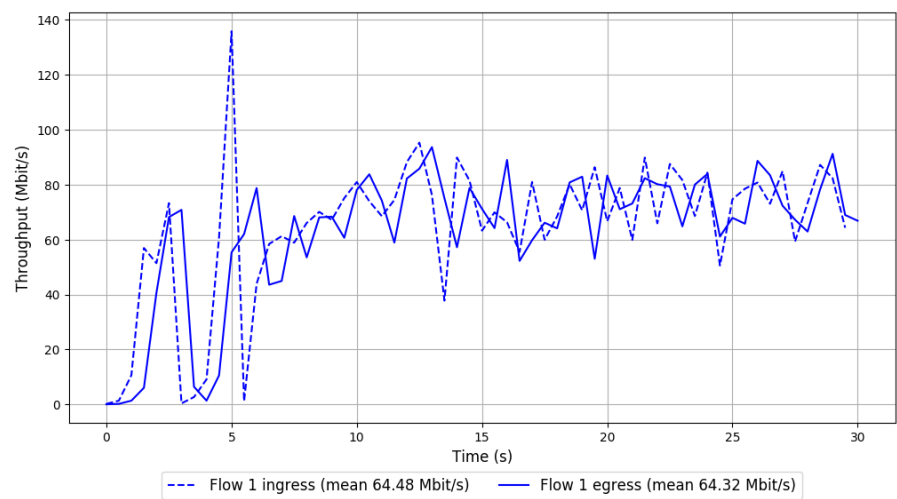
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-02-11 23:51:32
End at: 2019-02-11 23:52:02
Local clock offset: -7.122 ms
Remote clock offset: 8.57 ms


# Below is generated by plot.py at 2019-02-12 00:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 268.291 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 268.291 ms
Loss rate: 2.78%
```
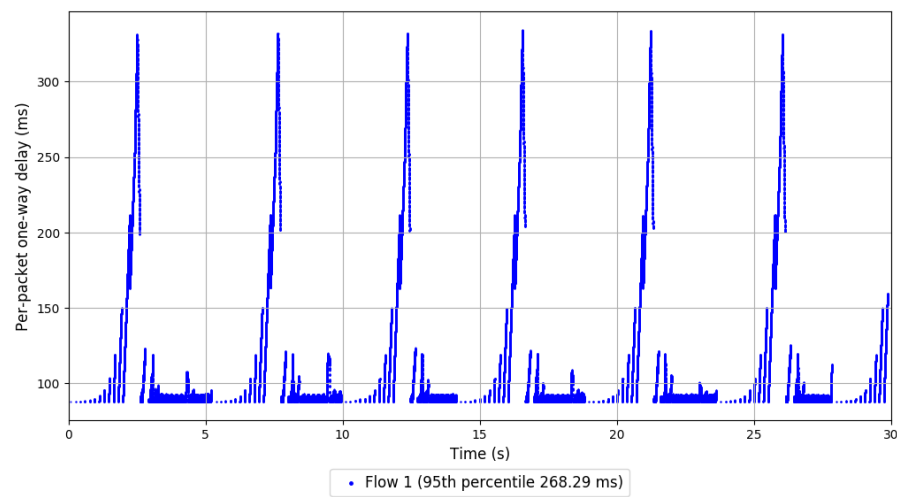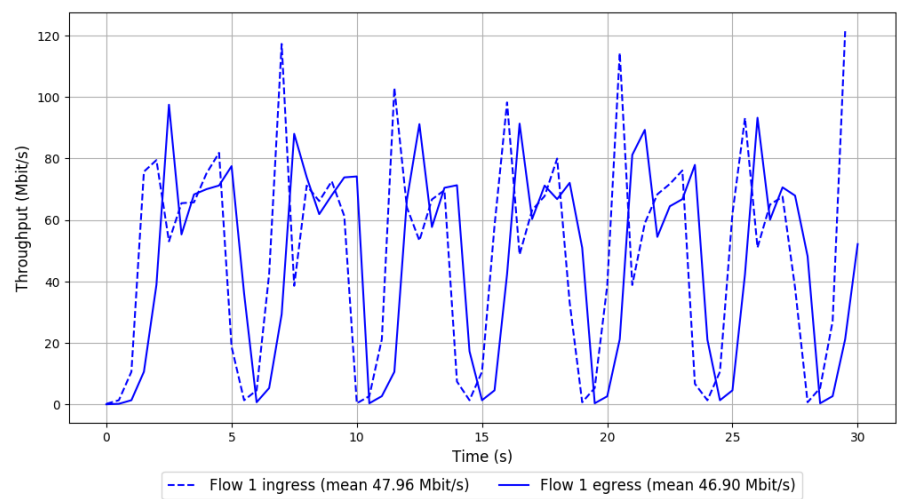
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-12 00:17:20
End at: 2019-02-12 00:17:50
Local clock offset: -6.16 ms
Remote clock offset: 8.229 ms


# Below is generated by plot.py at 2019-02-12 00:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 274.302 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 274.302 ms
Loss rate: 0.06%
```
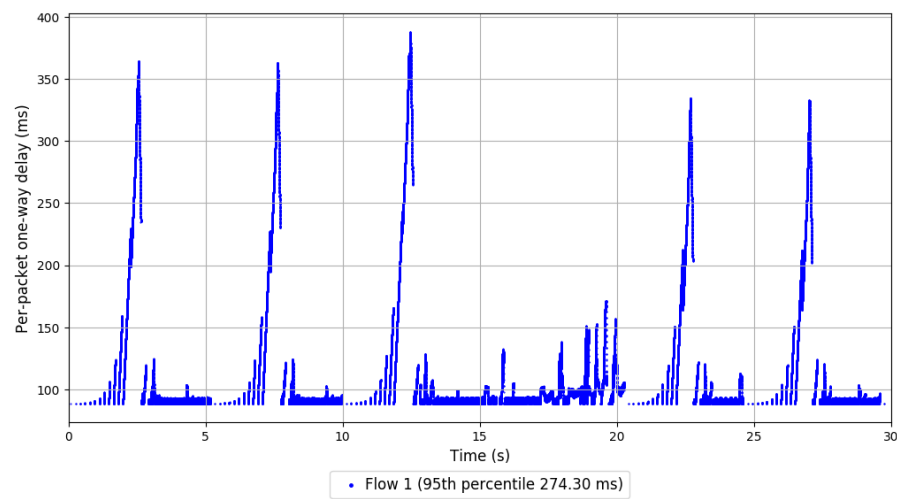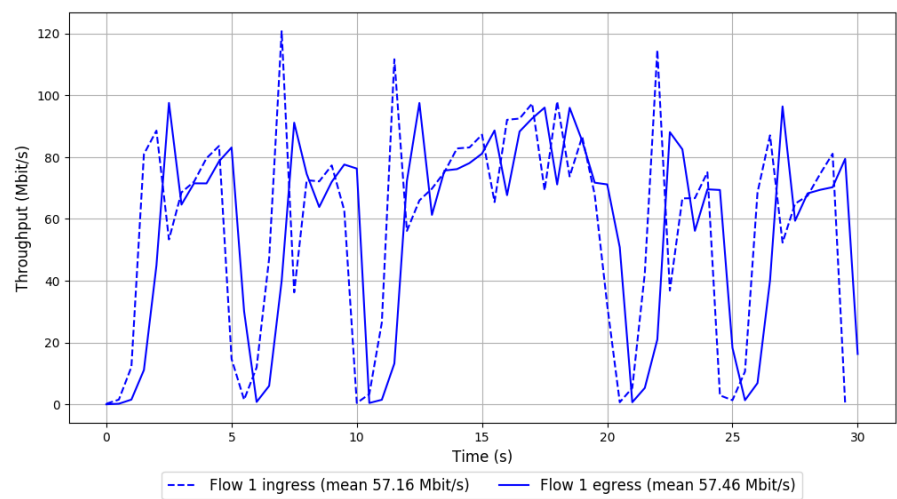
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-11 22:39:21
End at: 2019-02-11 22:39:51
Local clock offset: -1.225 ms
Remote clock offset: 9.051 ms


# Below is generated by plot.py at 2019-02-12 00:52:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 123.248 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 123.248 ms
Loss rate: 0.80%
```
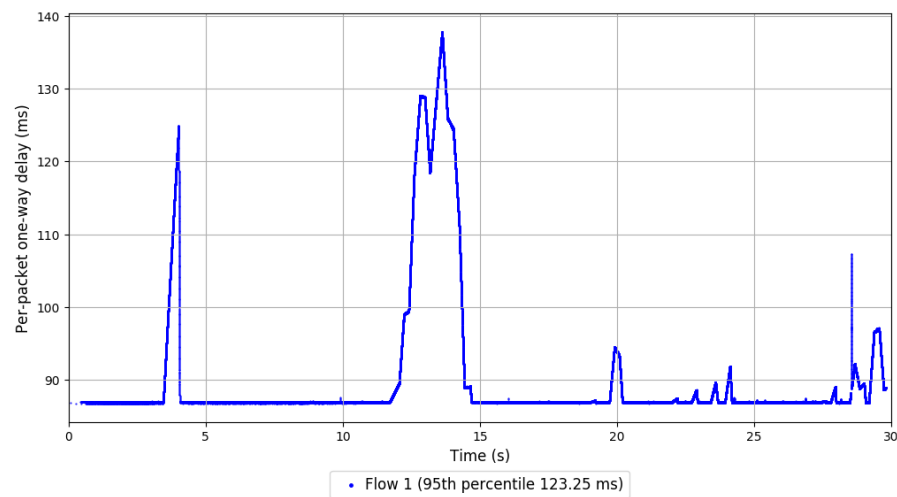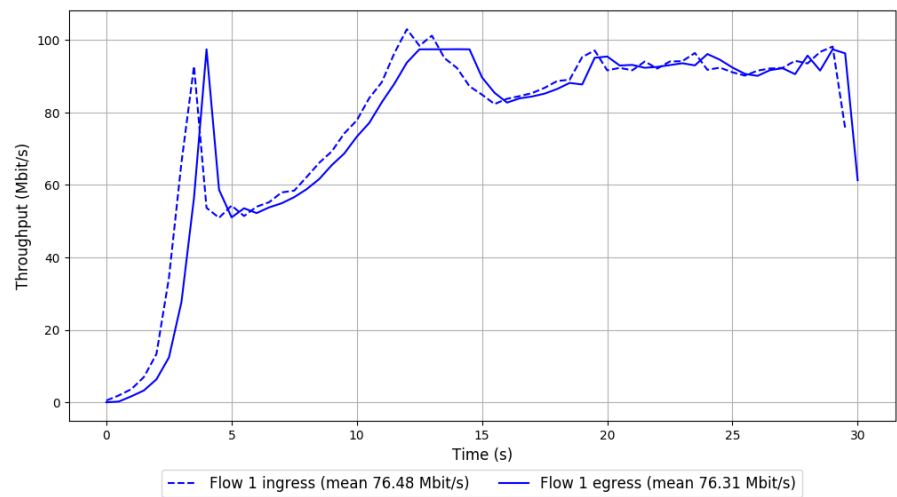
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-11 23:04:21
End at: 2019-02-11 23:04:51
Local clock offset: 0.081 ms
Remote clock offset: 9.553 ms


# Below is generated by plot.py at 2019-02-12 00:52:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.76 Mbit/s
95th percentile per-packet one-way delay: 103.594 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 76.76 Mbit/s
95th percentile per-packet one-way delay: 103.594 ms
Loss rate: 0.02%
```
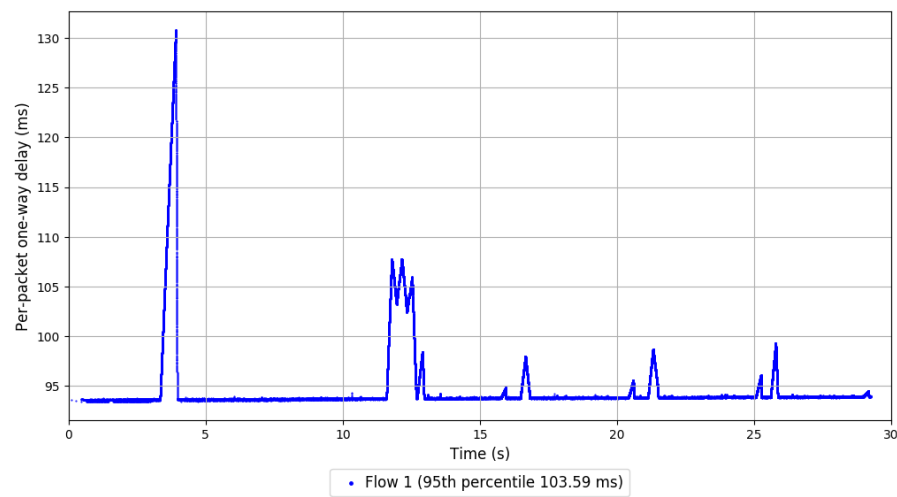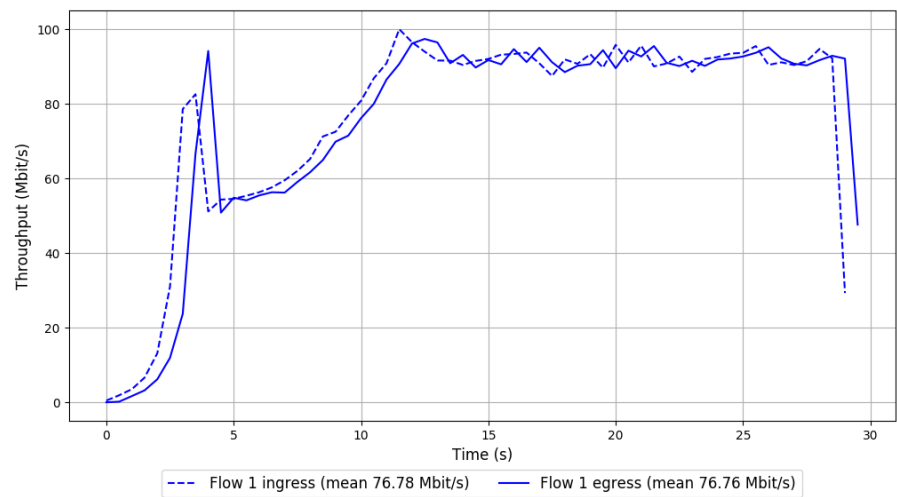
Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 76.78 Mbit/s) ---- Flow 1 egress (mean 76.76 Mbit/s)

Flow 1 (95th percentile 103.59 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-11 23:29:57
End at: 2019-02-11 23:30:27
Local clock offset: -7.749 ms
Remote clock offset: 3.895 ms

# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 109.816 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 109.816 ms
Loss rate: 0.85%
```
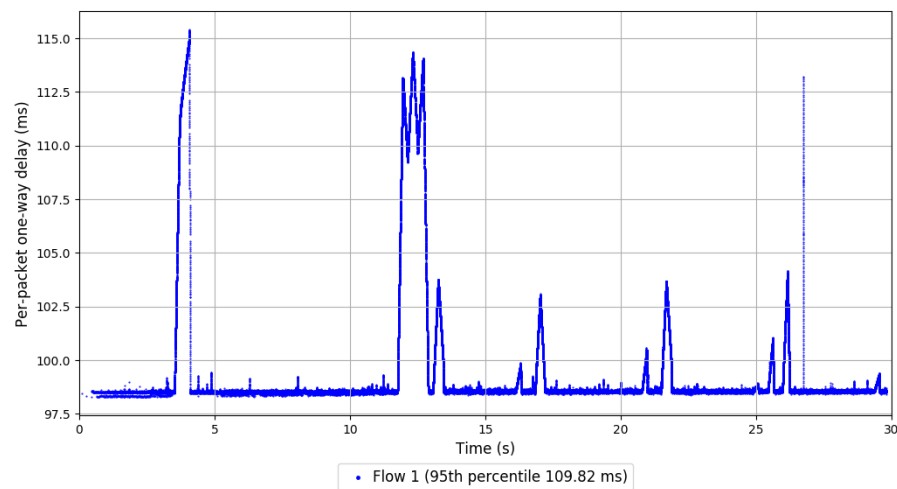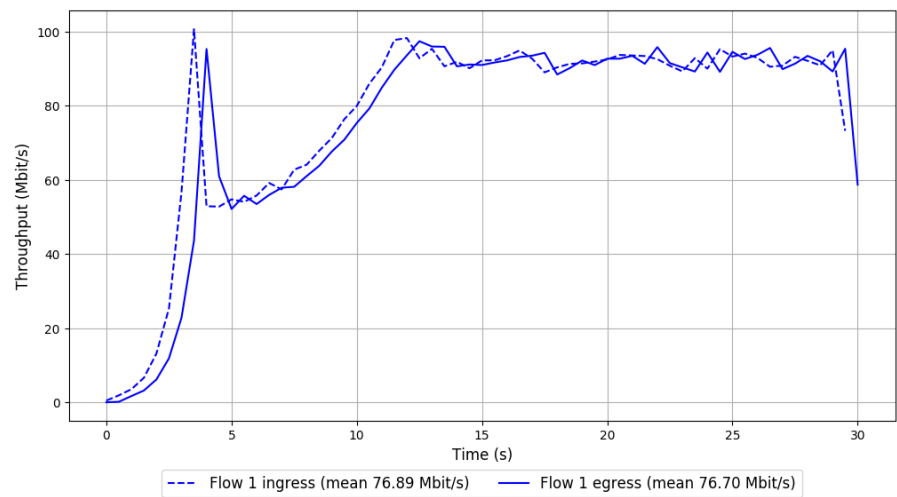
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-11 23:56:18
End at: 2019-02-11 23:56:48
Local clock offset: -7.187 ms
Remote clock offset: 3.451 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 97.869 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 97.869 ms
Loss rate: 0.76%
```
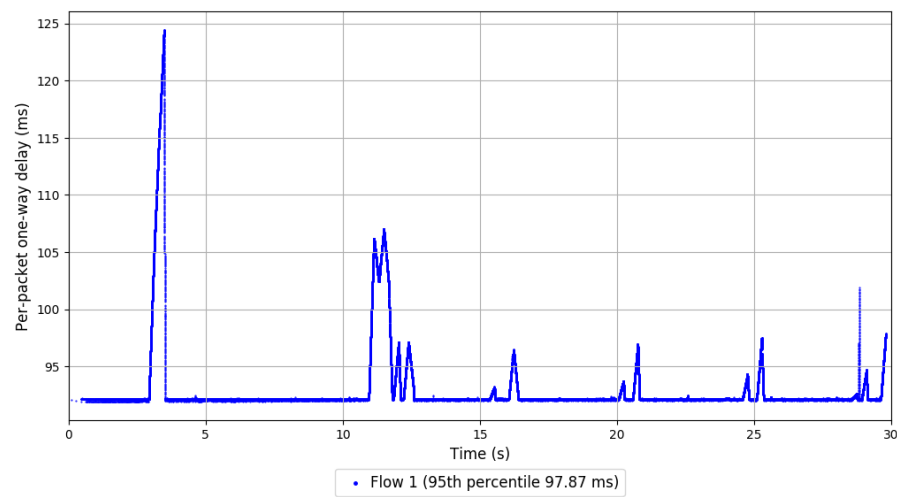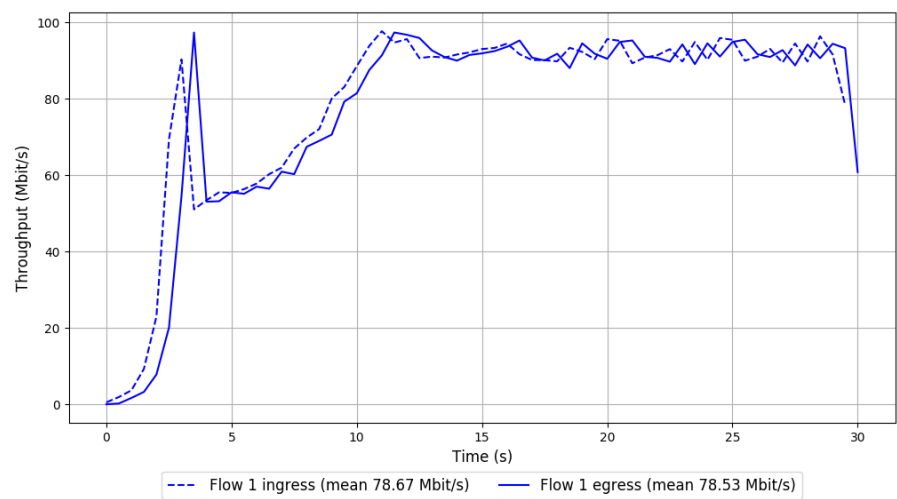
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 00:22:12
End at: 2019-02-12 00:22:42
Local clock offset: -6.164 ms
Remote clock offset: 3.314 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.63 Mbit/s
95th percentile per-packet one-way delay: 126.691 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 75.63 Mbit/s
95th percentile per-packet one-way delay: 126.691 ms
Loss rate: 0.82%
```
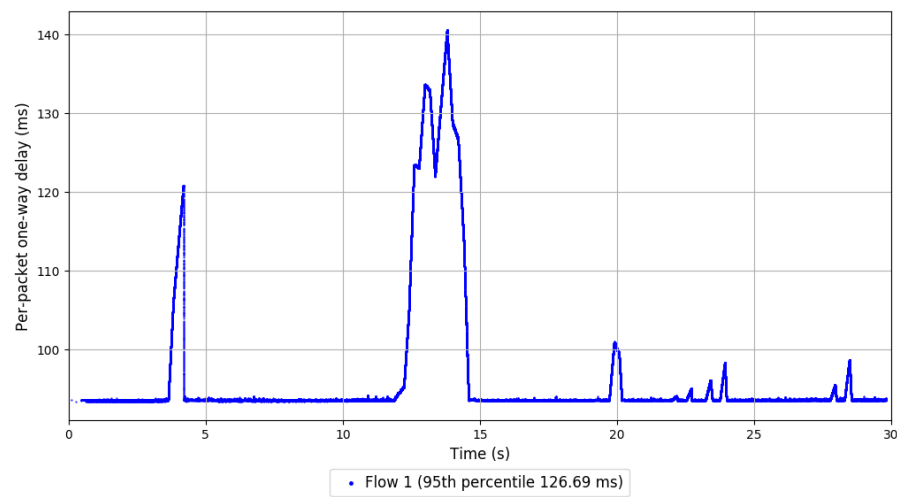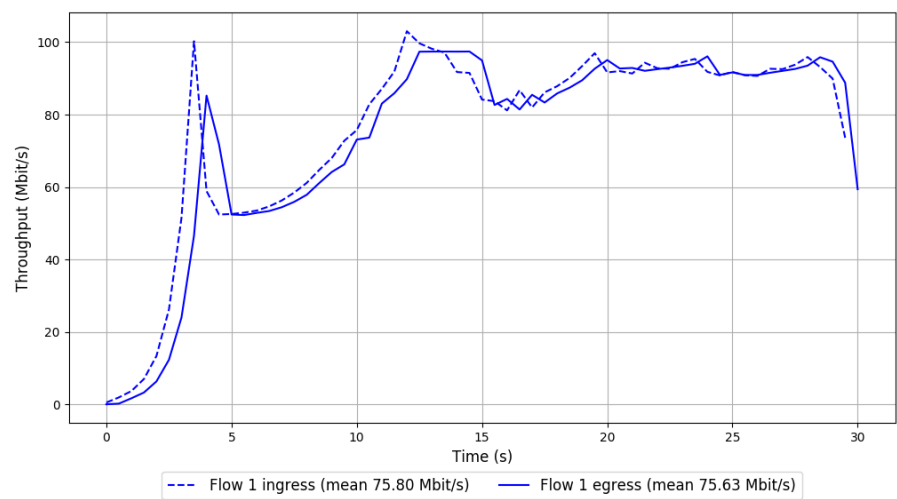
Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-02-11 22:38:13
End at: 2019-02-11 22:38:43
Local clock offset: -0.598 ms
Remote clock offset: 9.265 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 93.902 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 93.902 ms
Loss rate: 0.60%
```
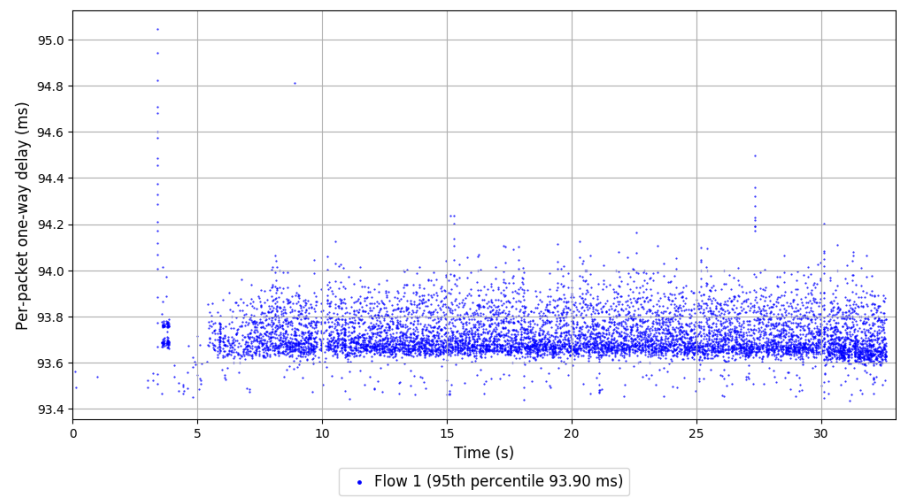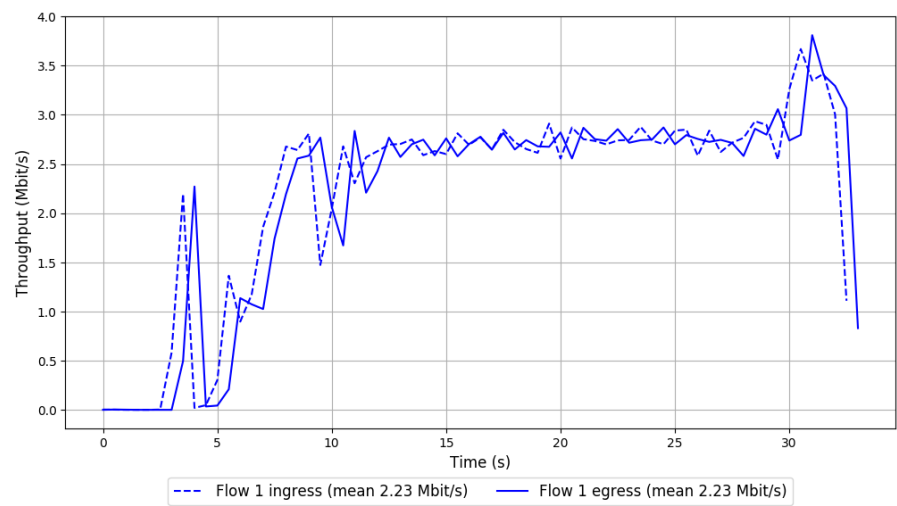
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-02-11 23:03:13
End at: 2019-02-11 23:03:43
Local clock offset: 0.022 ms
Remote clock offset: 9.835 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 98.669 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 98.669 ms
Loss rate: 0.65%
```
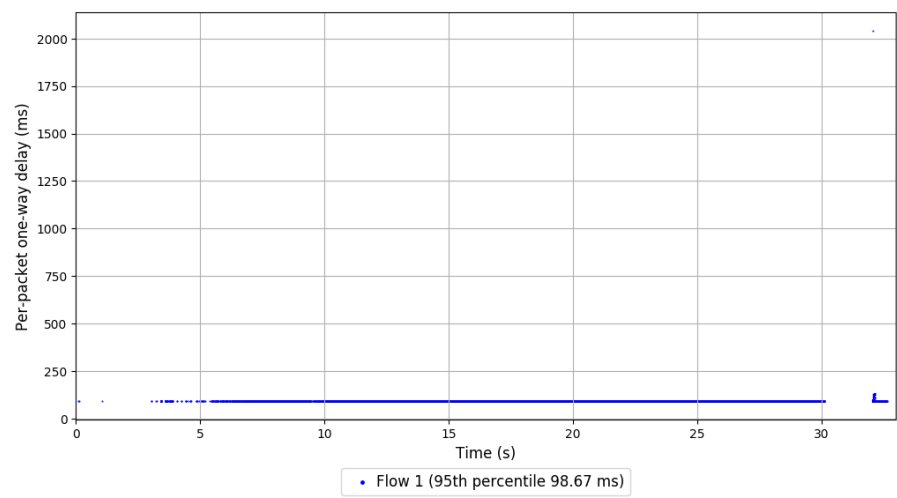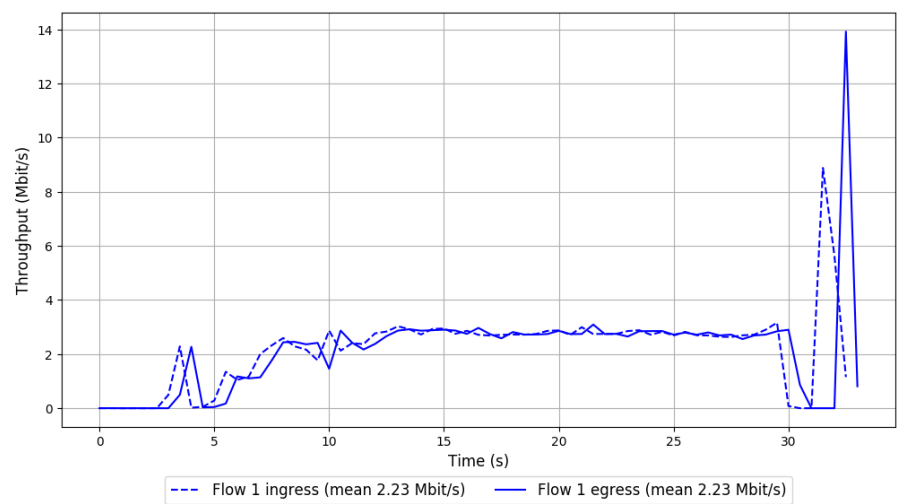
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-11 23:28:49
End at: 2019-02-11 23:29:19
Local clock offset: -6.881 ms
Remote clock offset: 9.114 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 94.370 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 94.370 ms
Loss rate: 0.36%
```
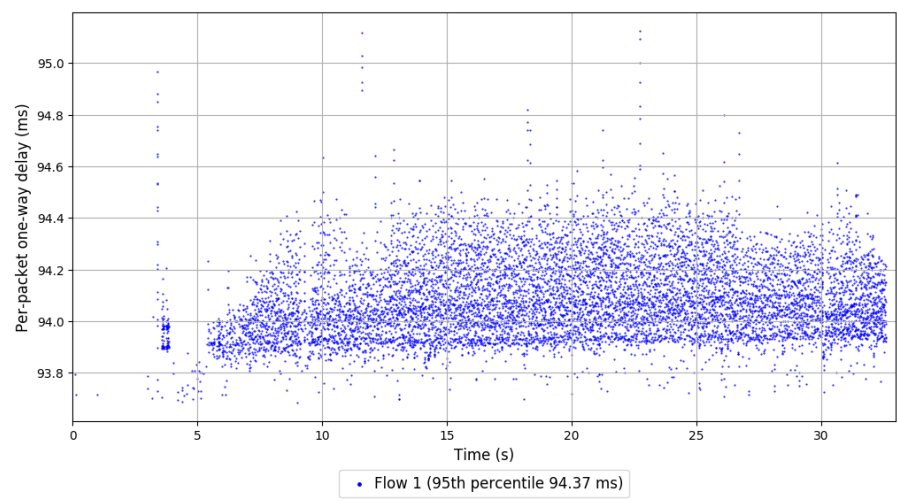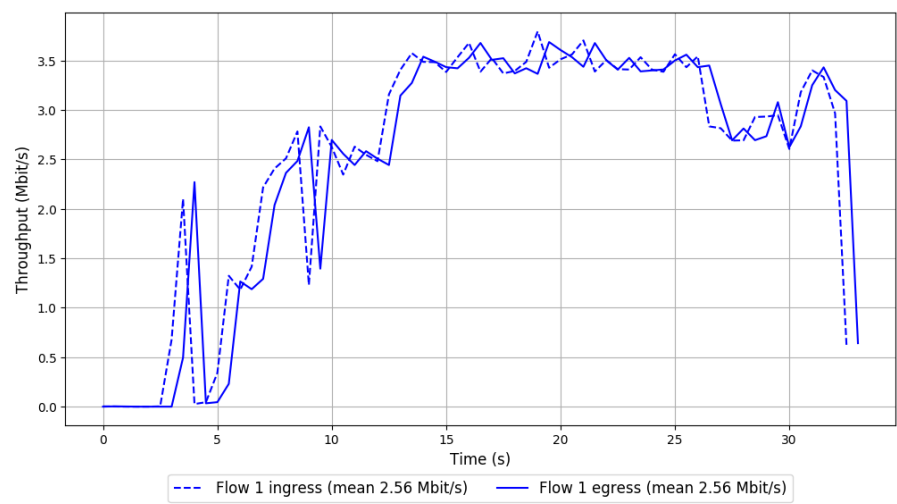
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-11 23:55:10
End at: 2019-02-11 23:55:40
Local clock offset: -7.175 ms
Remote clock offset: 8.656 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 87.912 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 87.912 ms
Loss rate: 0.38%
```
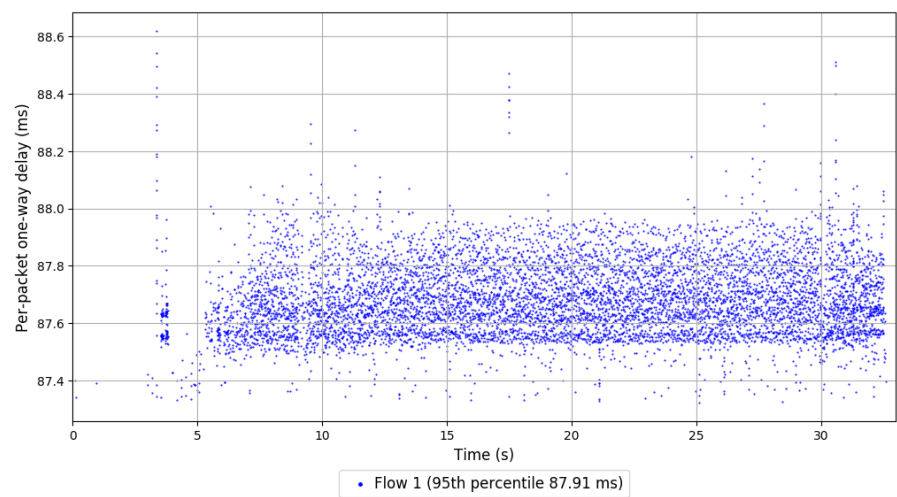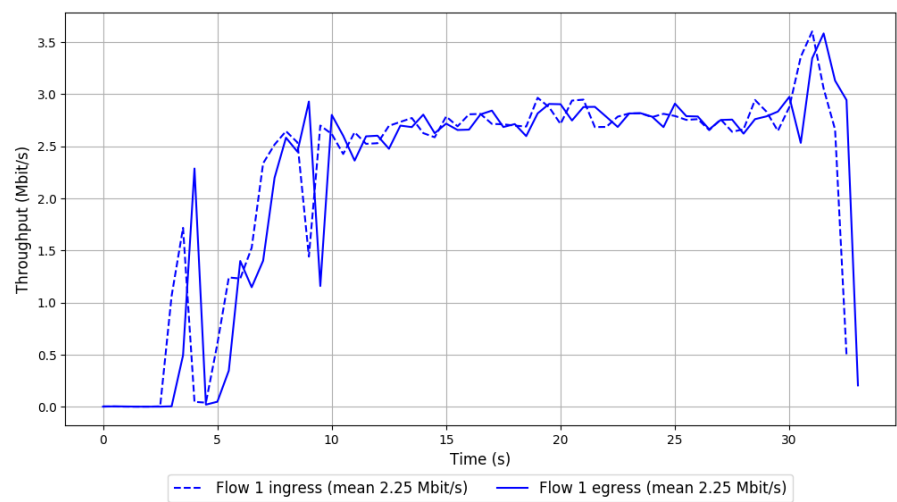
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-12 00:21:04
End at: 2019-02-12 00:21:34
Local clock offset: -6.174 ms
Remote clock offset: 3.287 ms


# Below is generated by plot.py at 2019-02-12 00:52:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 93.961 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 93.961 ms
Loss rate: 0.36%
```

Run 5: Report of WebRTC media — Data Link