Pantheon Report

Generated at 2019-01-19 07:35:42 (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.
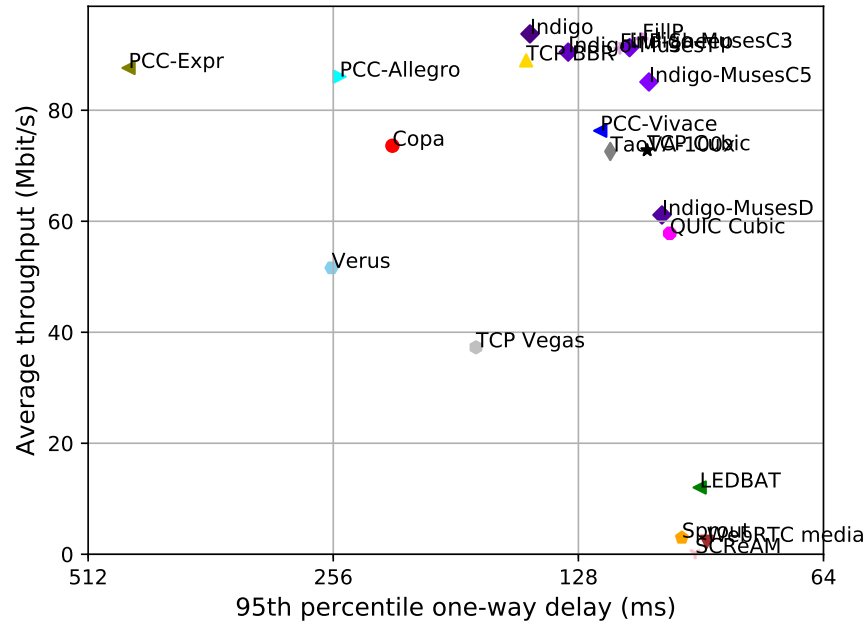
```
System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c80a283586bf7b0cc1fe08c69c8f60d56498f81c
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ c3eee875824760ec5b2fd207fefe166e1afe2170
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
```
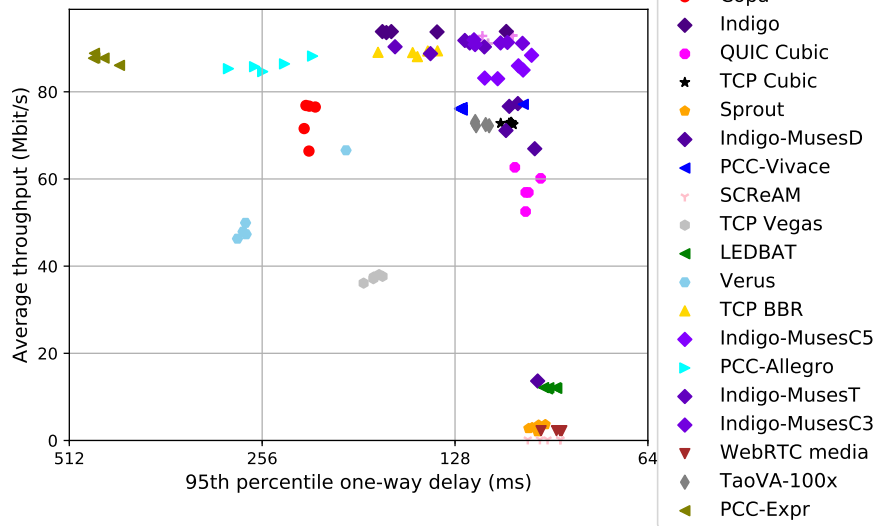
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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	88.98	148.38	0.91
Copa	5	73.61	216.58	0.79
TCP Cubic	5	72.79	105.38	0.63
FillP	5	92.88	106.86	0.64
FillP-Sheep	5	91.16	113.82	0.66
Indigo	5	93.76	146.79	1.57
Indigo-MusesC3	5	91.28	110.76	2.30
Indigo-MusesC5	5	85.10	104.85	0.78
Indigo-MusesD	5	61.13	101.06	0.88
Indigo-MusesT	5	90.47	131.75	6.51
LEDBAT	5	12.03	90.84	1.15
PCC-Allegro	5	86.06	251.47	0.74
PCC-Expr	5	87.62	456.74	1.56
QUIC Cubic	5	57.83	98.86	0.91
SCReAM	5	0.22	92.00	0.61
Sprout	5	3.00	95.54	0.97
TaoVA-100x	5	72.57	116.96	0.67
TCP Vegas	5	37.29	171.01	0.67
Verus	5	51.61	257.25	1.04
PCC-Vivace	5	76.31	120.32	0.75
WebRTC media	5	2.24	89.05	0.34

4

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-19 05:24:34
End at: 2019-01-19 05:25:04
Local clock offset: -2.108 ms
Remote clock offset: 3.87 ms


# Below is generated by plot.py at 2019-01-19 07:25:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 141.176 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 141.176 ms
Loss rate: 0.83%
```
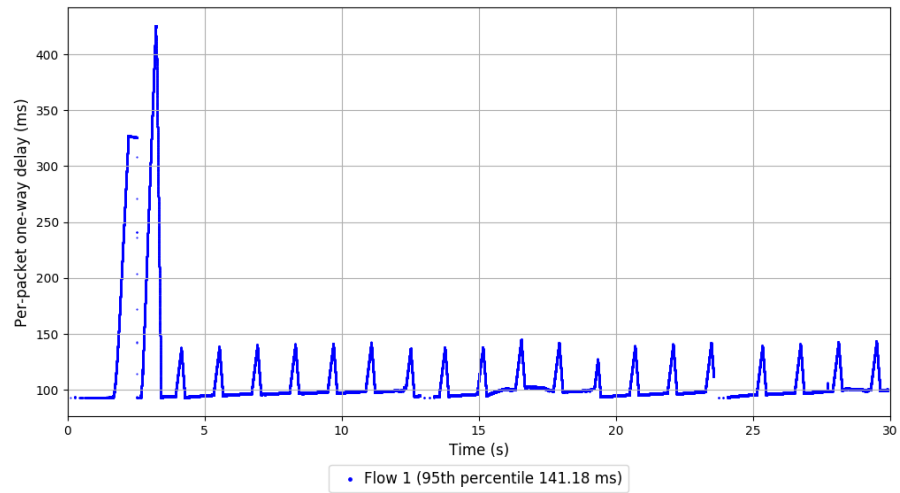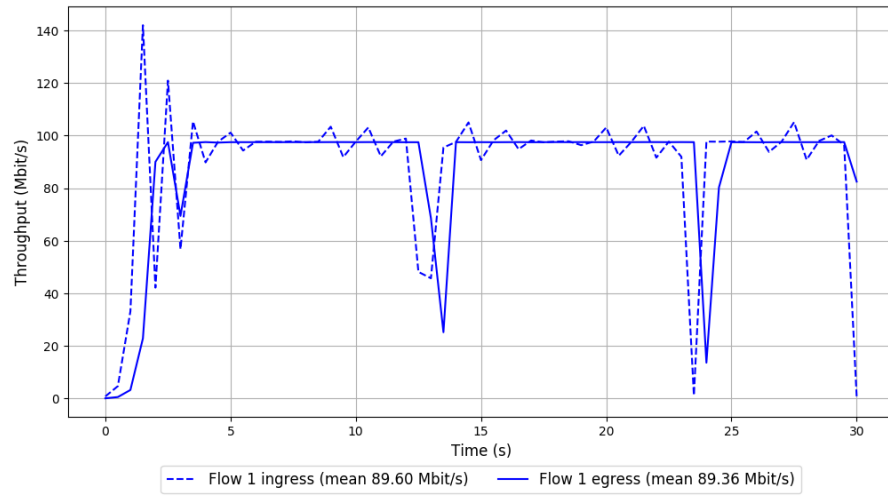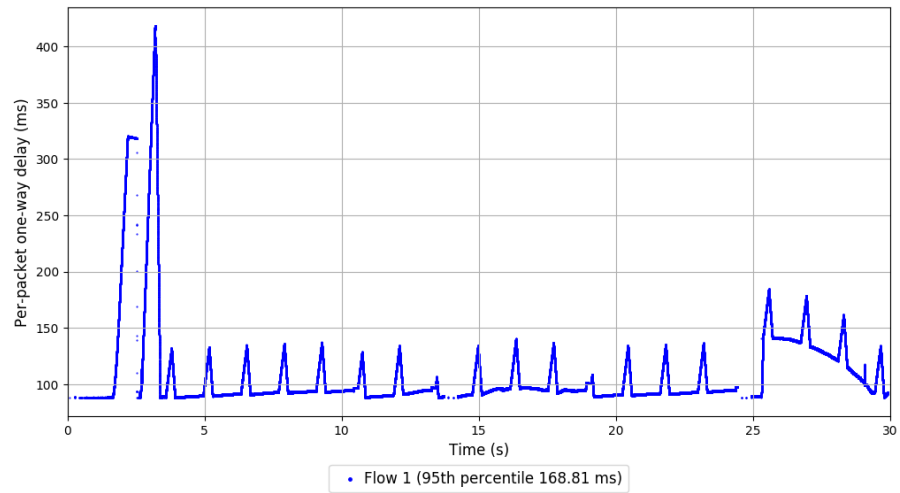
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-01-19 05:49:28
End at: 2019-01-19 05:49:58
Local clock offset: -3.224 ms
Remote clock offset: 9.043 ms


# Below is generated by plot.py at 2019-01-19 07:25:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.06 Mbit/s
95th percentile per-packet one-way delay: 168.813 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 89.06 Mbit/s
95th percentile per-packet one-way delay: 168.813 ms
Loss rate: 1.01%
```
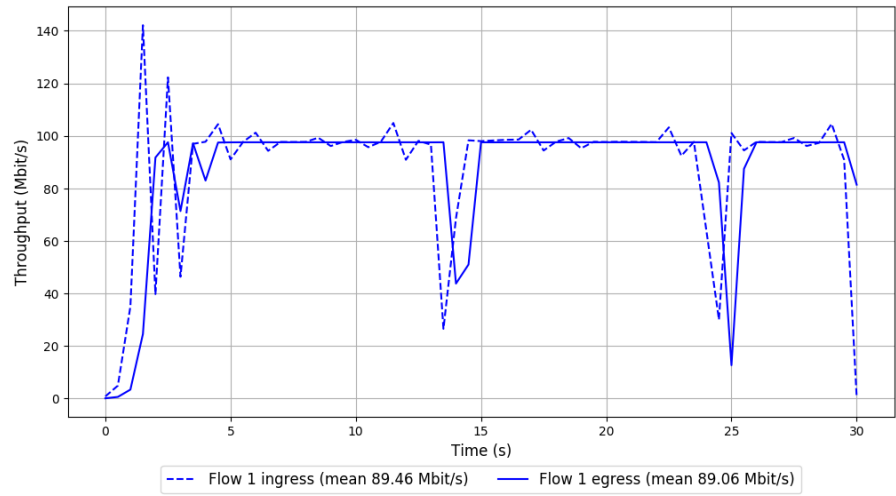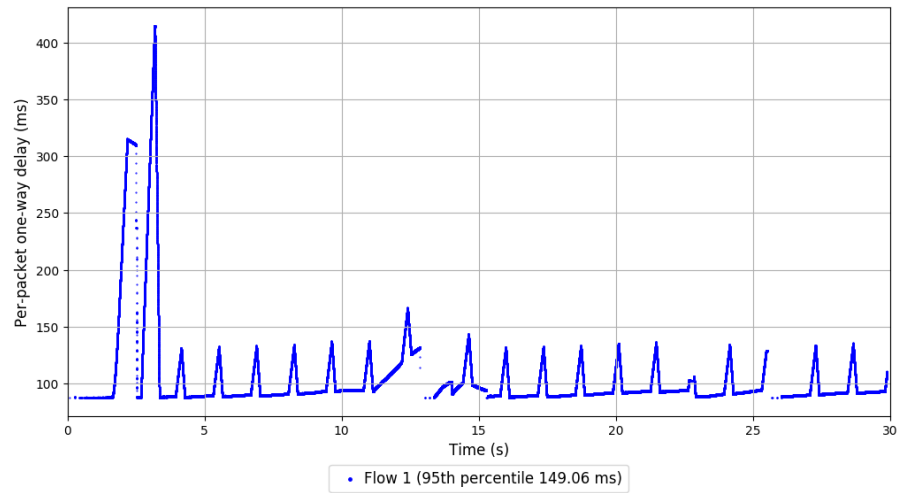
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-01-19 06:14:18
End at: 2019-01-19 06:14:48
Local clock offset: -7.911 ms
Remote clock offset: 8.408 ms


# Below is generated by plot.py at 2019-01-19 07:25:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.01 Mbit/s
95th percentile per-packet one-way delay: 149.058 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 89.01 Mbit/s
95th percentile per-packet one-way delay: 149.058 ms
Loss rate: 0.98%
```
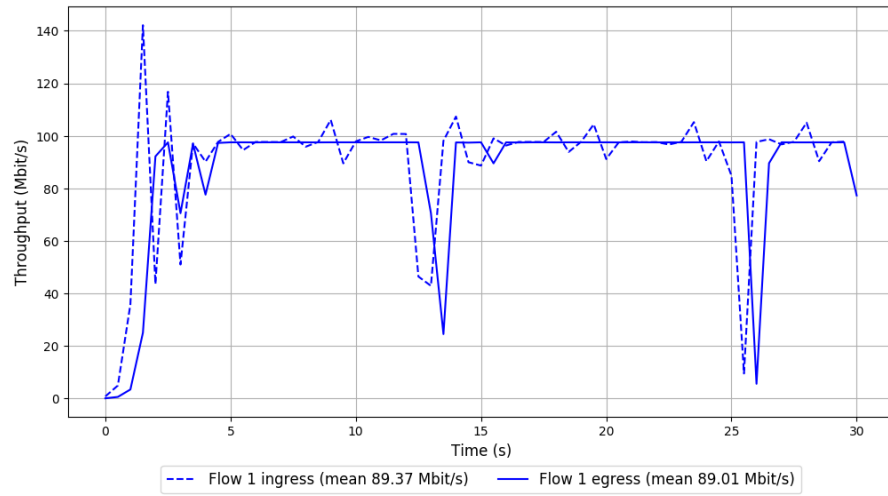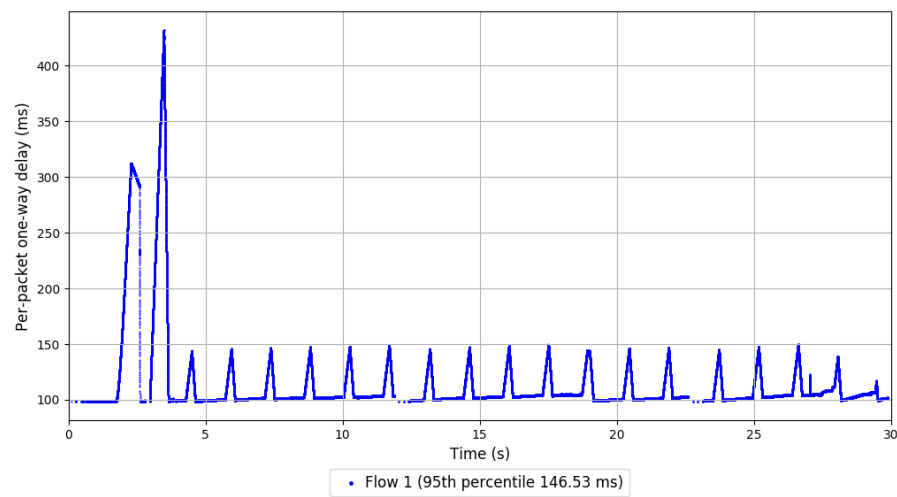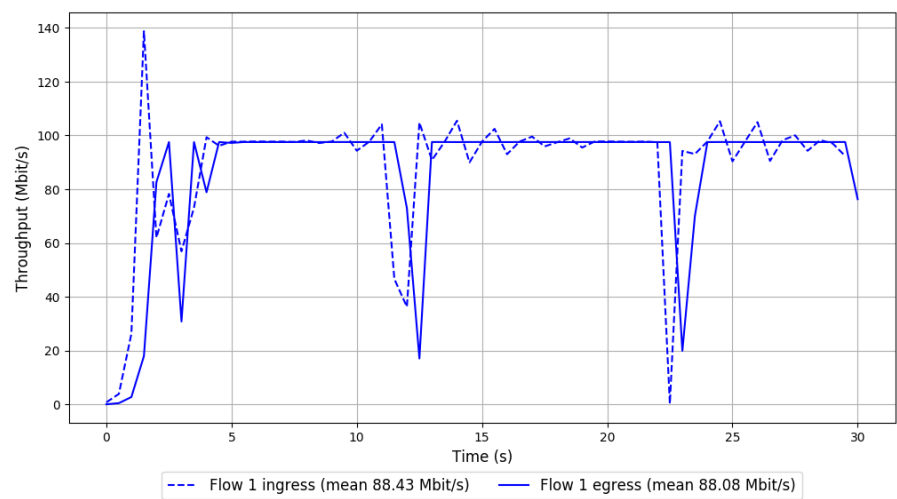
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-01-19 06:39:11
End at: 2019-01-19 06:39:41
Local clock offset: -2.776 ms
Remote clock offset: 0.957 ms


# Below is generated by plot.py at 2019-01-19 07:25:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.08 Mbit/s
95th percentile per-packet one-way delay: 146.532 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 88.08 Mbit/s
95th percentile per-packet one-way delay: 146.532 ms
Loss rate: 0.99%
```
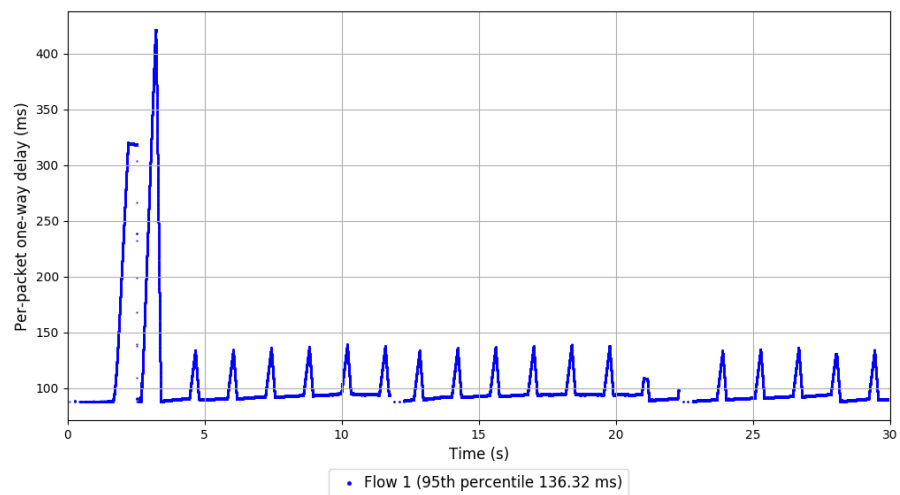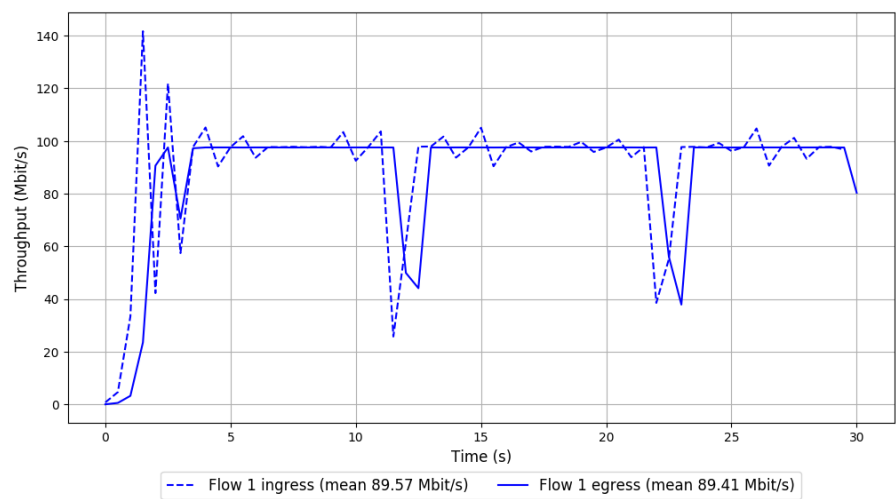
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 88.43 Mbit/s)   Flow 1 egress (mean 88.08 Mbit/s)

Flow 1 (95th percentile 146.53 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-01-19 07:04:04
End at: 2019-01-19 07:04:34
Local clock offset: -5.542 ms
Remote clock offset: 6.843 ms


# Below is generated by plot.py at 2019-01-19 07:25:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.41 Mbit/s
95th percentile per-packet one-way delay: 136.323 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 89.41 Mbit/s
95th percentile per-packet one-way delay: 136.323 ms
Loss rate: 0.76%
```
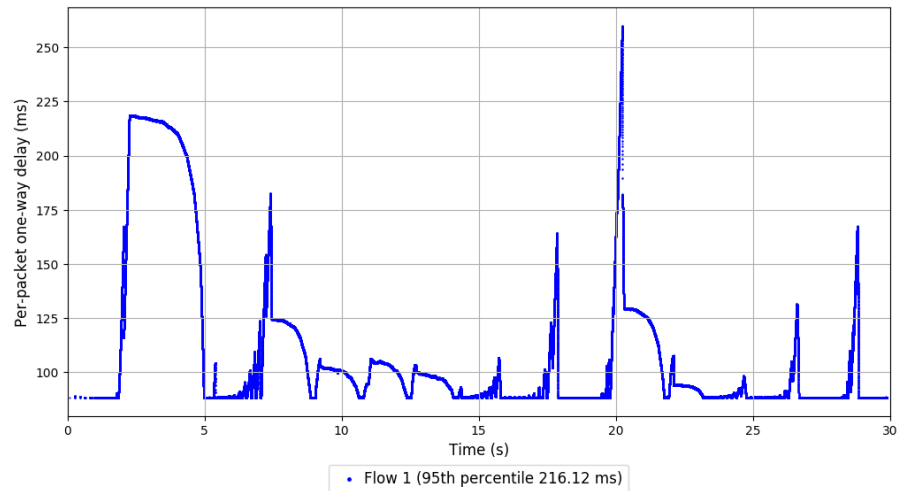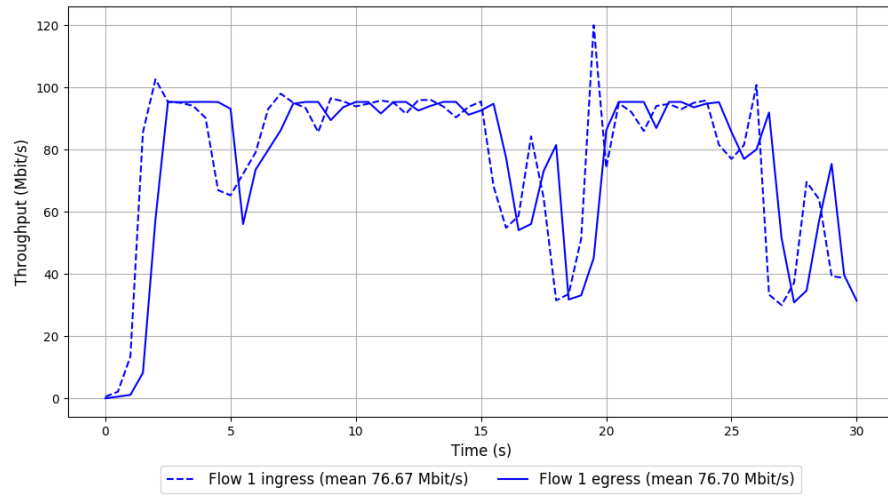
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 89.57 Mbit/s) — Flow 1 egress (mean 89.41 Mbit/s)

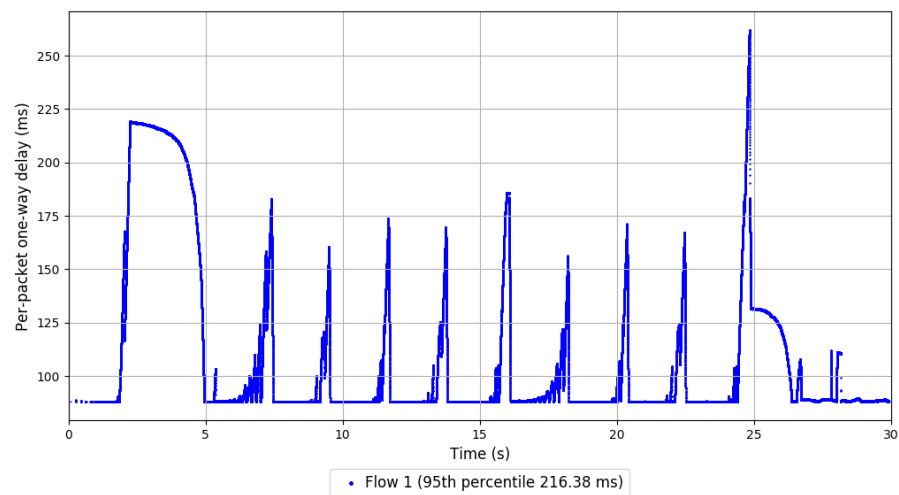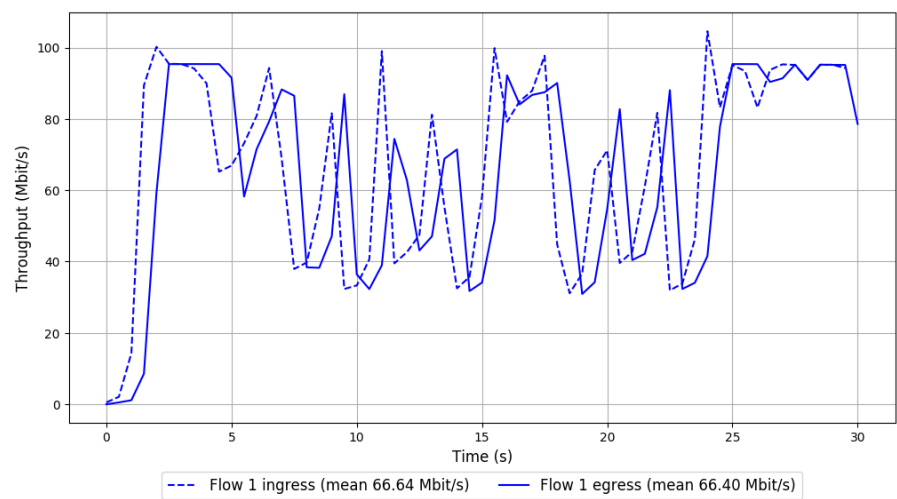• Flow 1 (95th percentile 136.32 ms)

14

```
Run 1: Statistics of Copa

Start at: 2019-01-19 05:36:30
End at: 2019-01-19 05:37:00
Local clock offset: -2.958 ms
Remote clock offset: 8.057 ms

# Below is generated by plot.py at 2019-01-19 07:25:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 216.118 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 216.118 ms
Loss rate: 0.54%
```
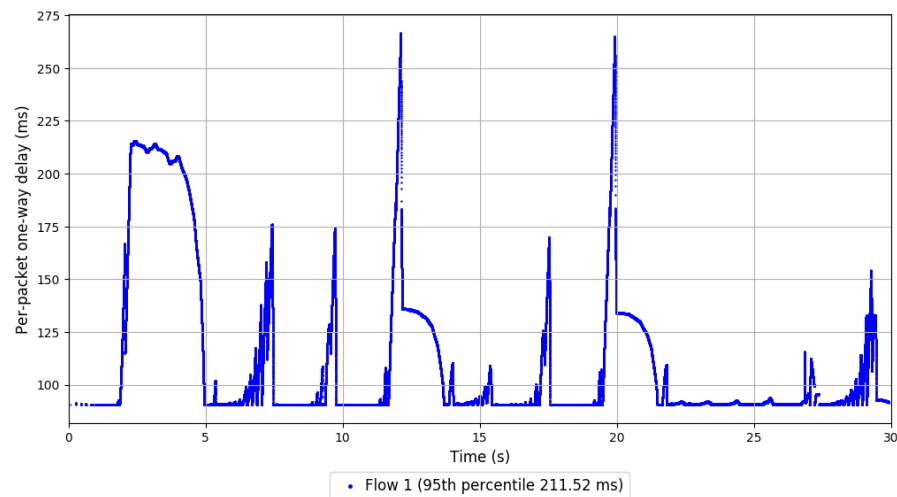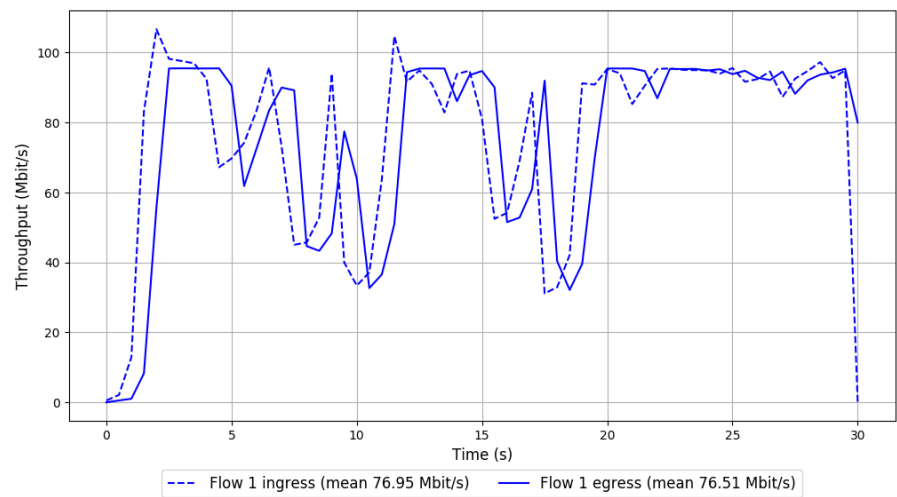
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-01-19 06:01:21
End at: 2019-01-19 06:01:51
Local clock offset: -5.917 ms
Remote clock offset: 9.288 ms


# Below is generated by plot.py at 2019-01-19 07:25:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.40 Mbit/s
95th percentile per-packet one-way delay: 216.378 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 66.40 Mbit/s
95th percentile per-packet one-way delay: 216.378 ms
Loss rate: 0.93%
```
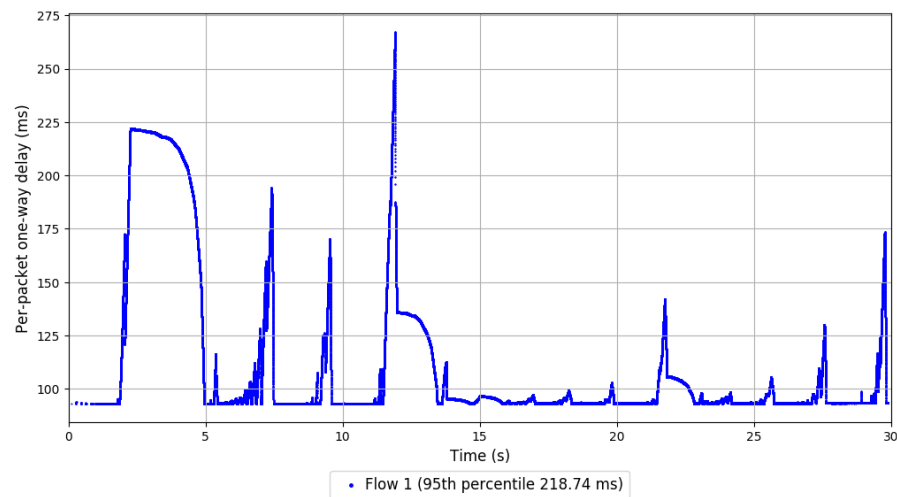
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-01-19 06:26:14
End at: 2019-01-19 06:26:44
Local clock offset: -4.483 ms
Remote clock offset: 3.081 ms


# Below is generated by plot.py at 2019-01-19 07:25:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.51 Mbit/s
95th percentile per-packet one-way delay: 211.521 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 76.51 Mbit/s
95th percentile per-packet one-way delay: 211.521 ms
Loss rate: 1.15%
```

Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 76.95 Mbit/s) ----   Flow 1 egress (mean 76.51 Mbit/s) ——

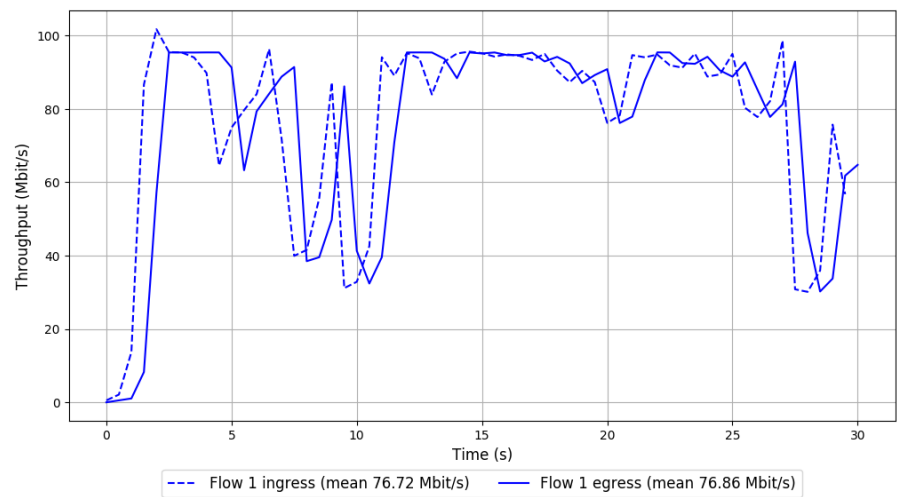• Flow 1 (95th percentile 211.52 ms)

```
Run 4: Statistics of Copa

Start at: 2019-01-19 06:51:06
End at: 2019-01-19 06:51:36
Local clock offset: -3.166 ms
Remote clock offset: 0.826 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.86 Mbit/s
95th percentile per-packet one-way delay: 218.739 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 76.86 Mbit/s
95th percentile per-packet one-way delay: 218.739 ms
Loss rate: 0.39%
```
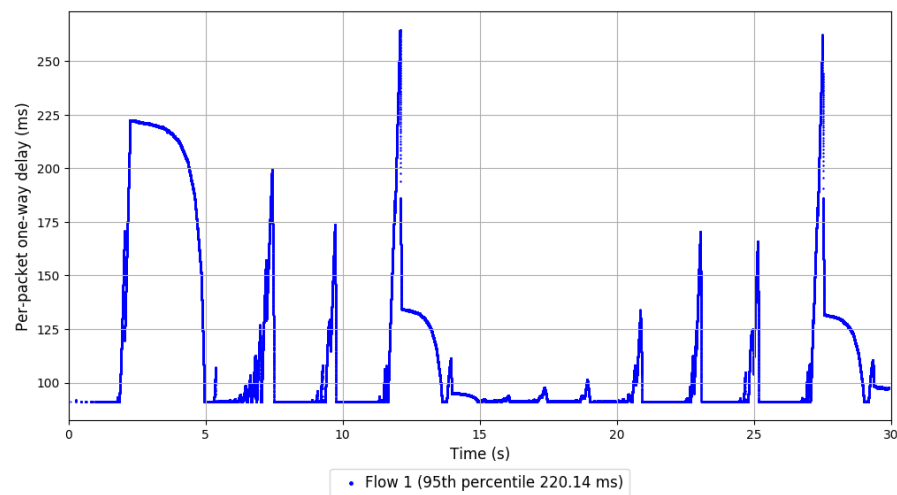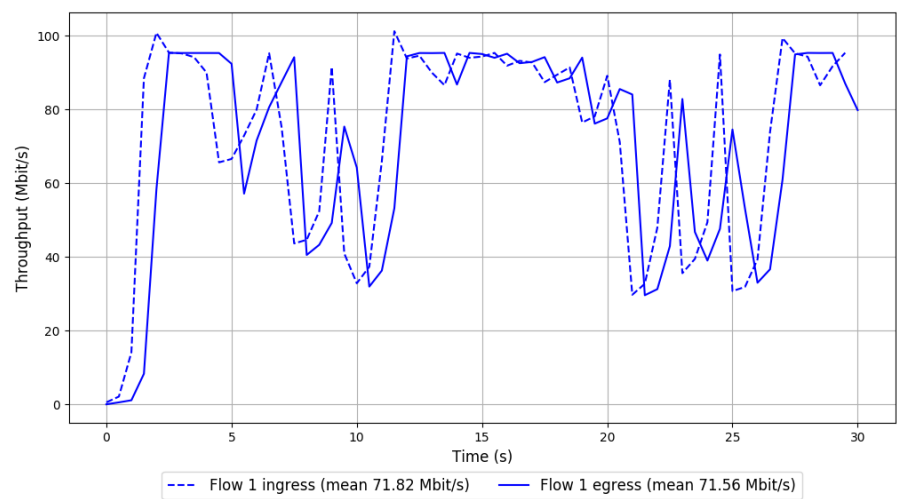
Run 4: Report of Copa — Data Link

Throughput (Mbit/s) vs Time (s)

- - - Flow 1 ingress (mean 76.72 Mbit/s) ——— Flow 1 egress (mean 76.86 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

• Flow 1 (95th percentile 218.74 ms)

```
Run 5: Statistics of Copa

Start at: 2019-01-19 07:16:00
End at: 2019-01-19 07:16:30
Local clock offset: -6.401 ms
Remote clock offset: 3.387 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 220.139 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 71.56 Mbit/s
95th percentile per-packet one-way delay: 220.139 ms
Loss rate: 0.93%
```
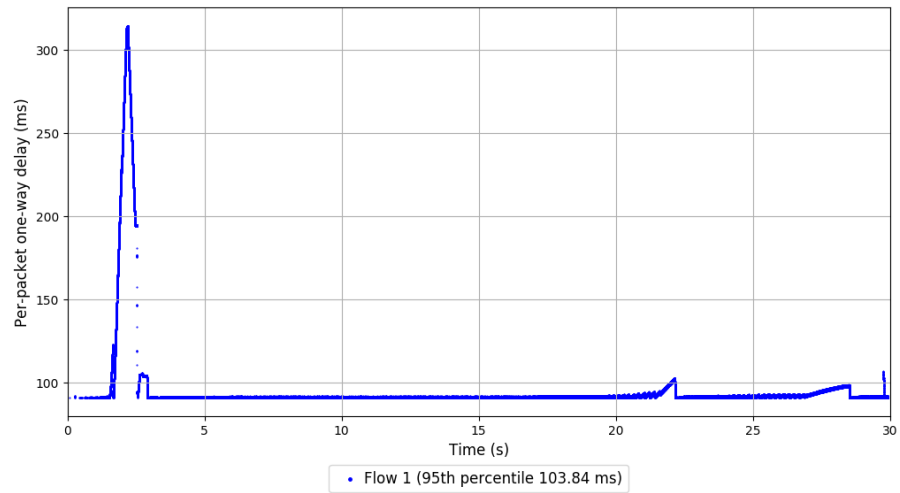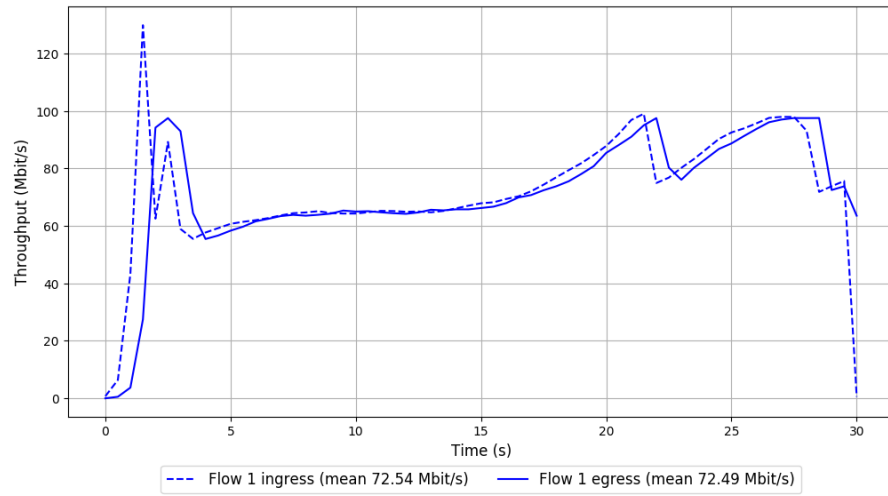
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 71.82 Mbit/s)   Flow 1 egress (mean 71.56 Mbit/s)
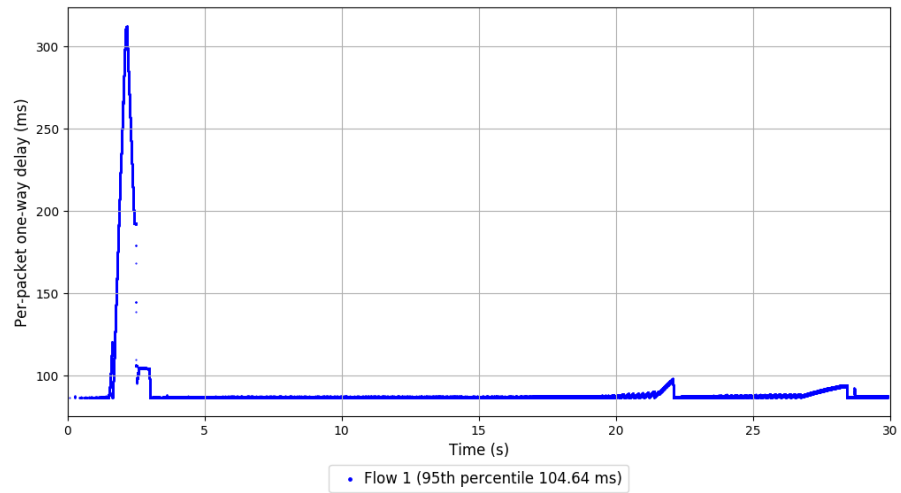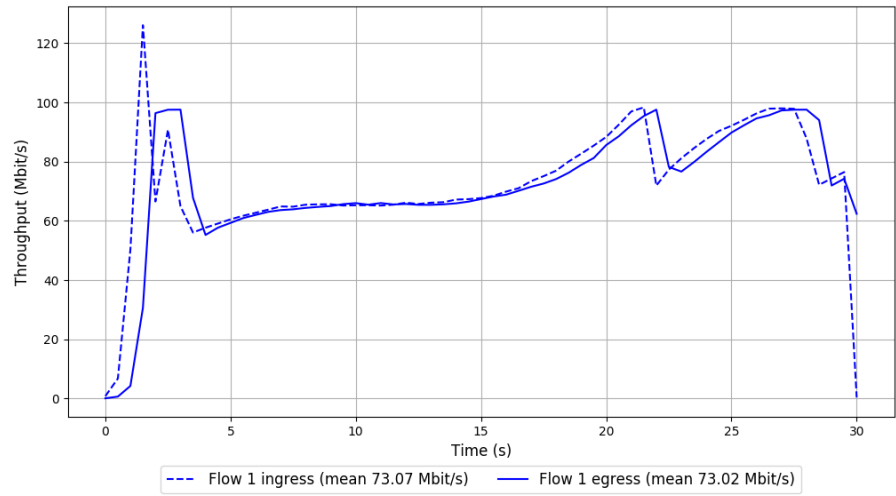

Flow 1 (95th percentile 220.14 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-19 05:29:18
End at: 2019-01-19 05:29:49
Local clock offset: -2.912 ms
Remote clock offset: 5.095 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.49 Mbit/s
95th percentile per-packet one-way delay: 103.839 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 72.49 Mbit/s
95th percentile per-packet one-way delay: 103.839 ms
Loss rate: 0.63%
```

Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 72.54 Mbit/s)   Flow 1 egress (mean 72.49 Mbit/s)

• Flow 1 (95th percentile 103.84 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-19 05:54:10
End at: 2019-01-19 05:54:40
Local clock offset: -4.615 ms
Remote clock offset: 10.254 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.02 Mbit/s
95th percentile per-packet one-way delay: 104.637 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 73.02 Mbit/s
95th percentile per-packet one-way delay: 104.637 ms
Loss rate: 0.64%
```
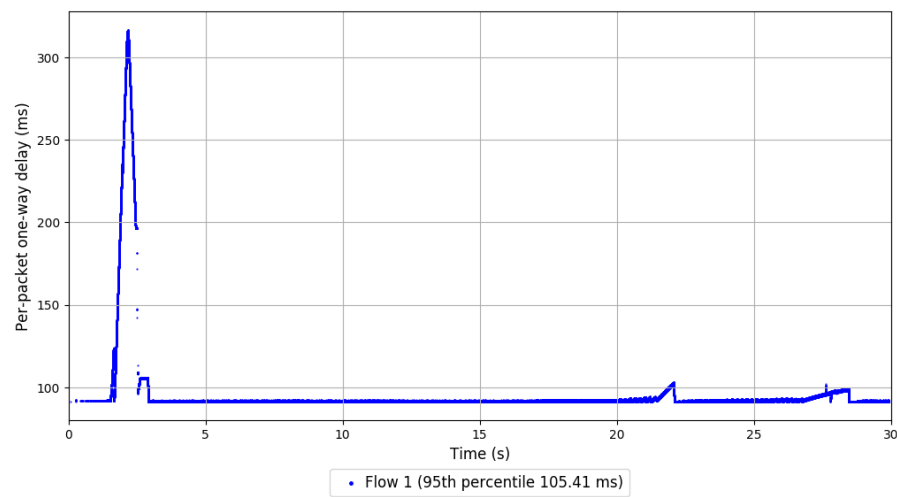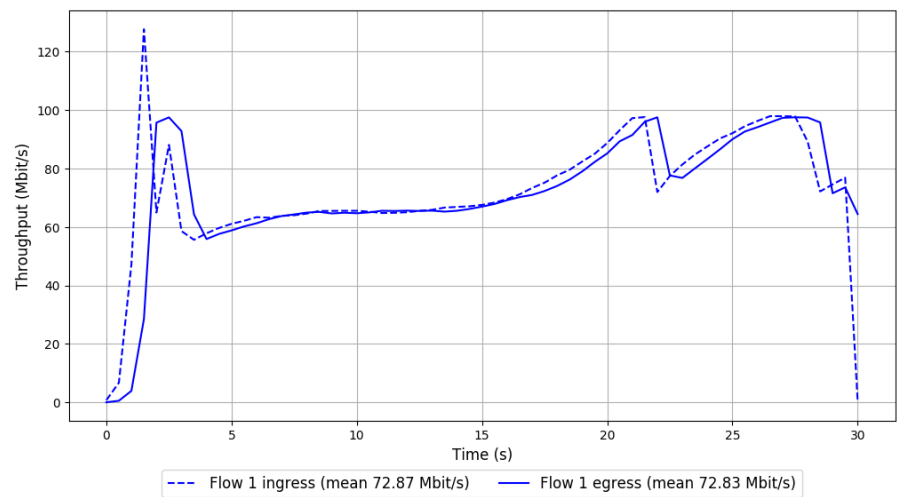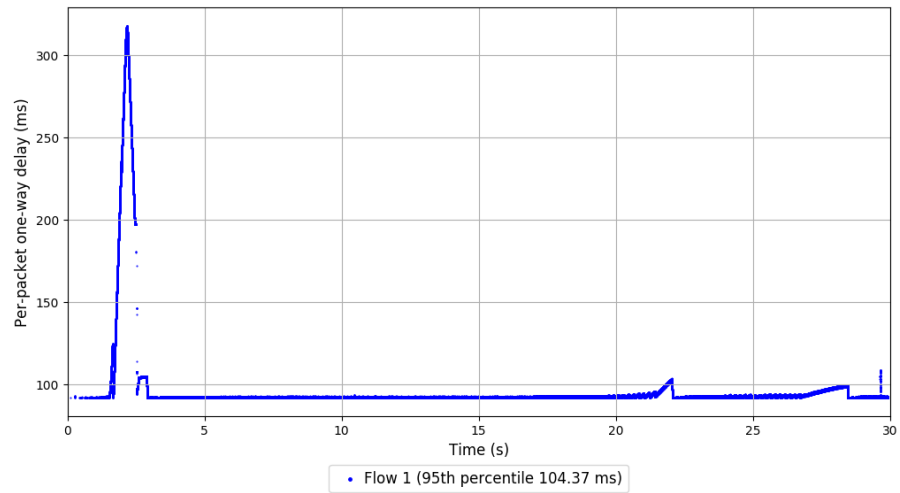
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 73.07 Mbit/s)   Flow 1 egress (mean 73.02 Mbit/s)

• Flow 1 (95th percentile 104.64 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-19 06:19:02
End at: 2019-01-19 06:19:32
Local clock offset: -7.121 ms
Remote clock offset: 3.215 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.83 Mbit/s
95th percentile per-packet one-way delay: 105.409 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.83 Mbit/s
95th percentile per-packet one-way delay: 105.409 ms
Loss rate: 0.64%
```
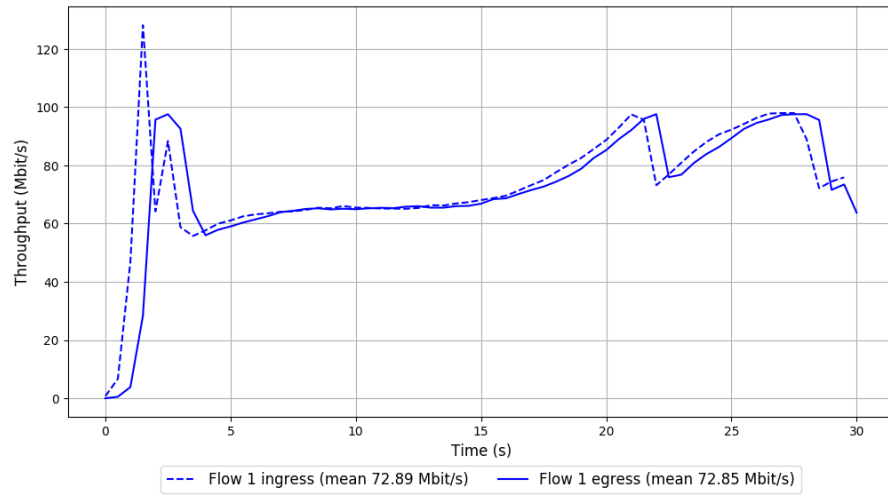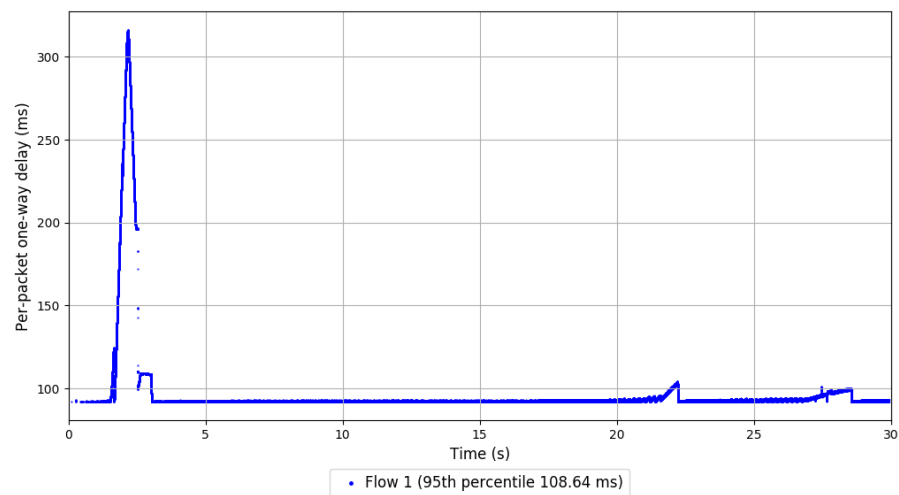
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-19 06:43:55
End at: 2019-01-19 06:44:25
Local clock offset: -1.812 ms
Remote clock offset: 0.638 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.85 Mbit/s
95th percentile per-packet one-way delay: 104.369 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 72.85 Mbit/s
95th percentile per-packet one-way delay: 104.369 ms
Loss rate: 0.62%
```
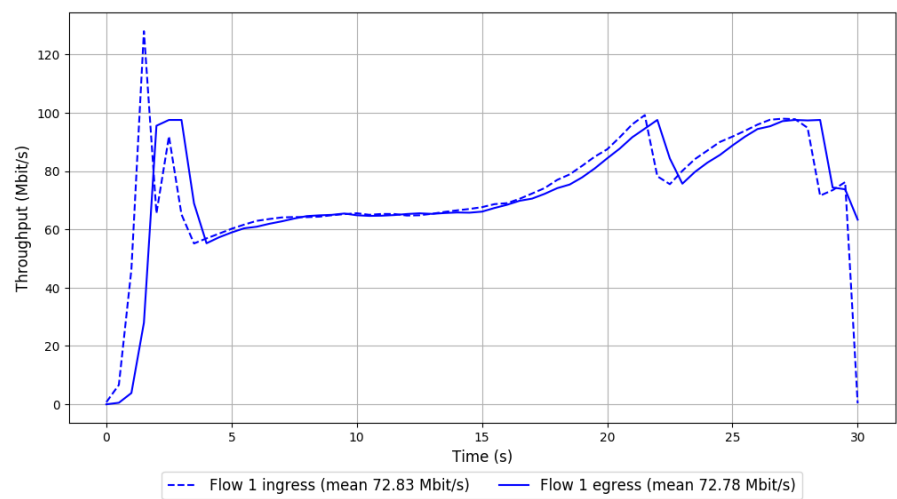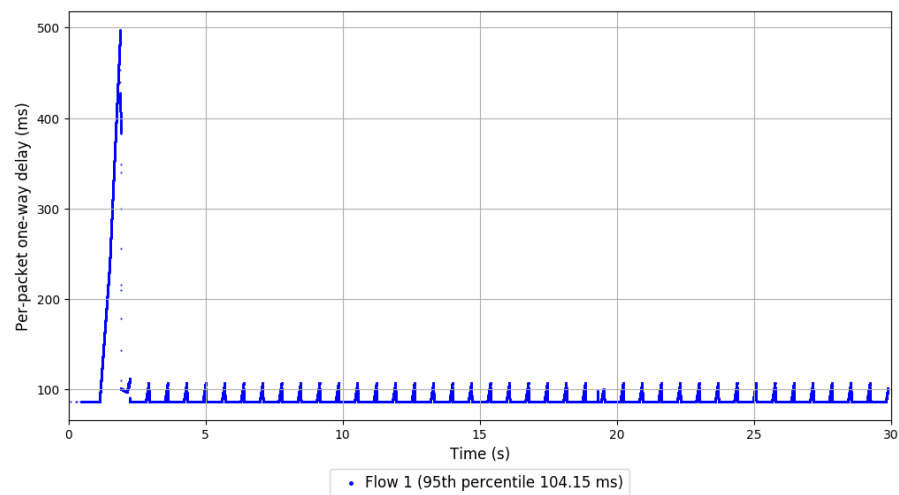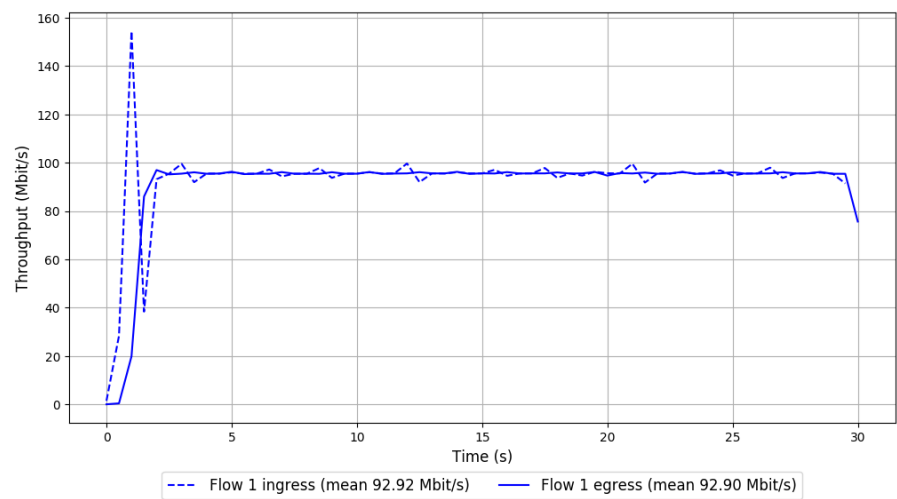
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 72.89 Mbit/s) — — — Flow 1 egress (mean 72.85 Mbit/s)

• Flow 1 (95th percentile 104.37 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-19 07:08:48
End at: 2019-01-19 07:09:18
Local clock offset: -6.775 ms
Remote clock offset: 2.172 ms


# Below is generated by plot.py at 2019-01-19 07:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.78 Mbit/s
95th percentile per-packet one-way delay: 108.638 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.78 Mbit/s
95th percentile per-packet one-way delay: 108.638 ms
Loss rate: 0.64%
```
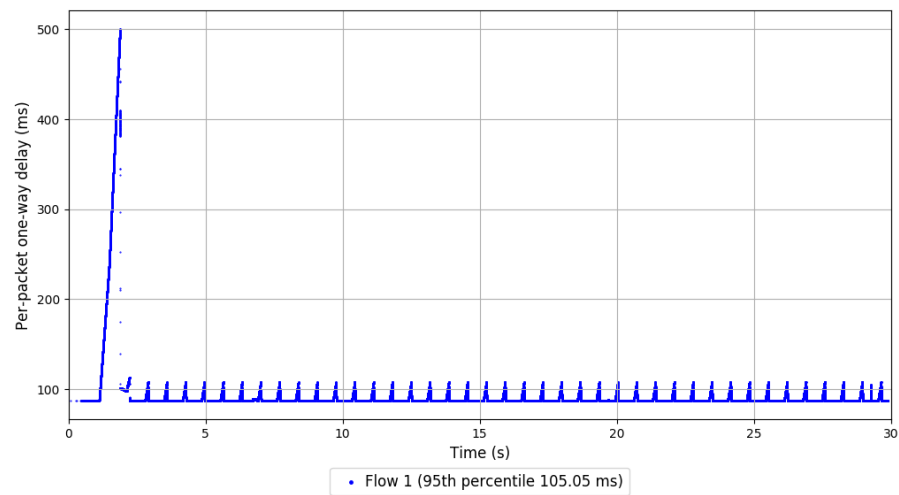
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 72.83 Mbit/s)   Flow 1 egress (mean 72.78 Mbit/s)

Flow 1 (95th percentile 108.64 ms)

```
Run 1: Statistics of FillP

Start at: 2019-01-19 05:38:52
End at: 2019-01-19 05:39:22
Local clock offset: -2.2 ms
Remote clock offset: 10.366 ms


# Below is generated by plot.py at 2019-01-19 07:27:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 104.149 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 104.149 ms
Loss rate: 0.60%
```
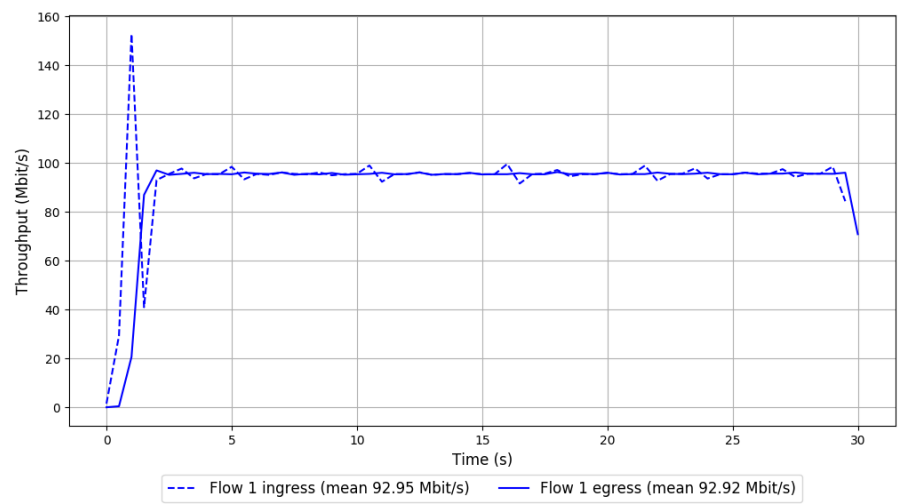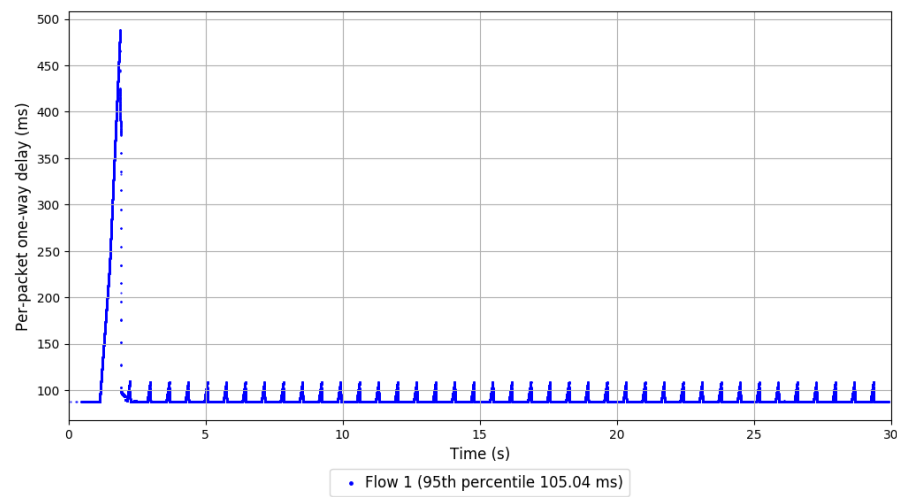
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 92.92 Mbit/s)   —— Flow 1 egress (mean 92.90 Mbit/s)

• Flow 1 (95th percentile 104.15 ms)

```
Run 2: Statistics of FillP

Start at: 2019-01-19 06:03:43
End at: 2019-01-19 06:04:13
Local clock offset: -6.97 ms
Remote clock offset: 8.183 ms


# Below is generated by plot.py at 2019-01-19 07:27:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 105.047 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 105.047 ms
Loss rate: 0.60%
```
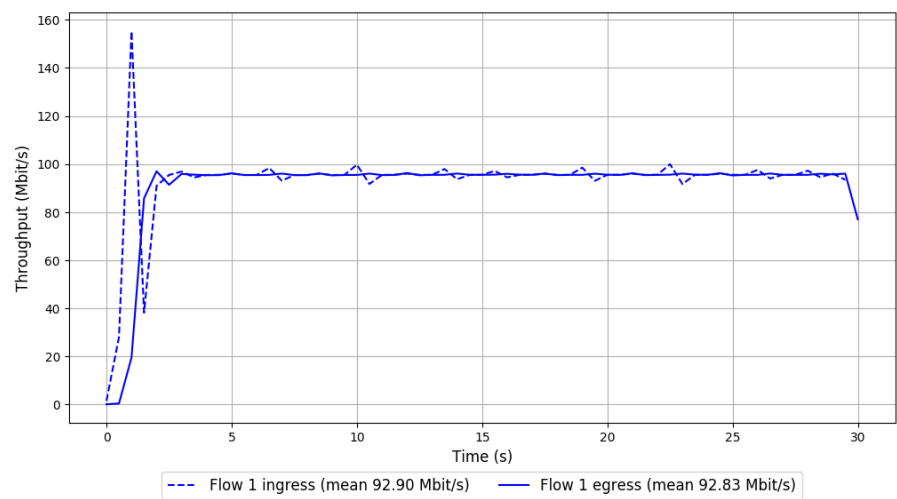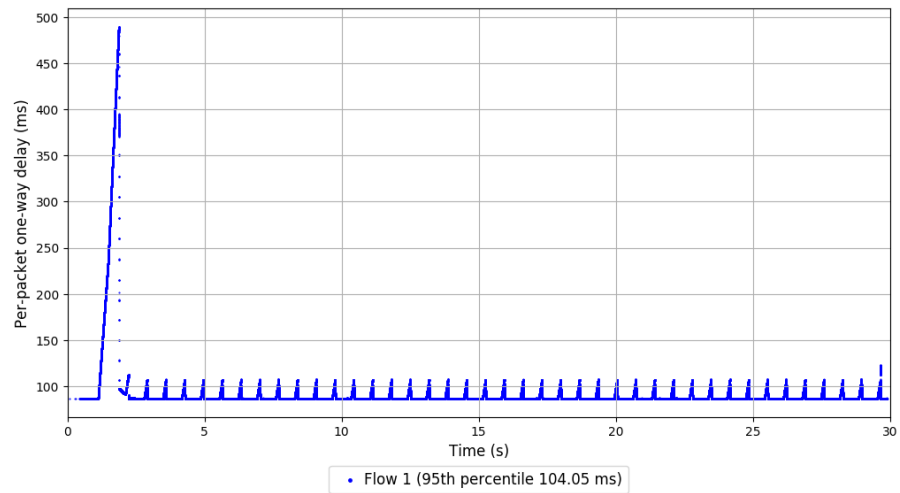
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-01-19 06:28:37
End at: 2019-01-19 06:29:07
Local clock offset: -3.244 ms
Remote clock offset: 6.557 ms


# Below is generated by plot.py at 2019-01-19 07:27:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 105.042 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 105.042 ms
Loss rate: 0.65%
```
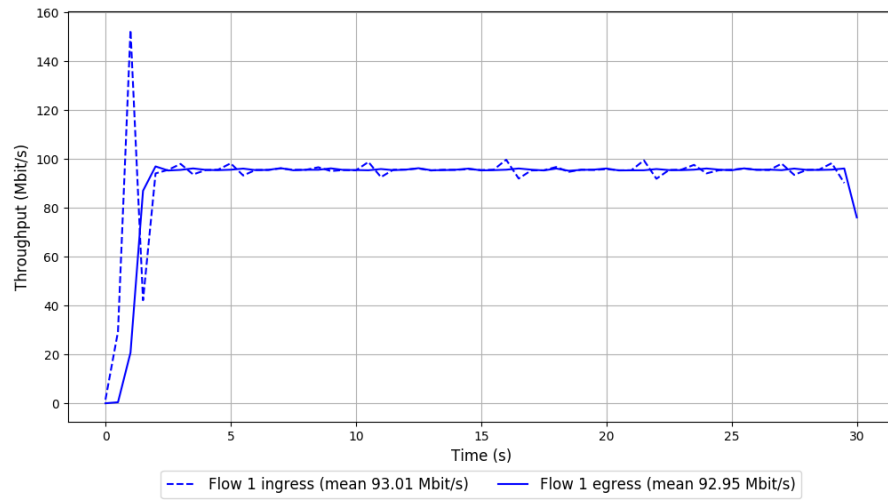
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-01-19 06:53:29
End at: 2019-01-19 06:53:59
Local clock offset: -4.619 ms
Remote clock offset: 6.158 ms

# Below is generated by plot.py at 2019-01-19 07:27:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 104.052 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 104.052 ms
Loss rate: 0.64%
```
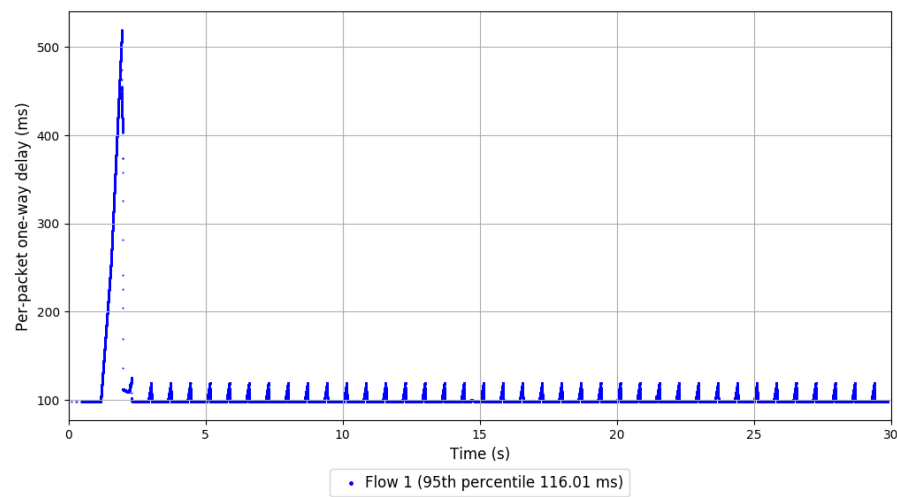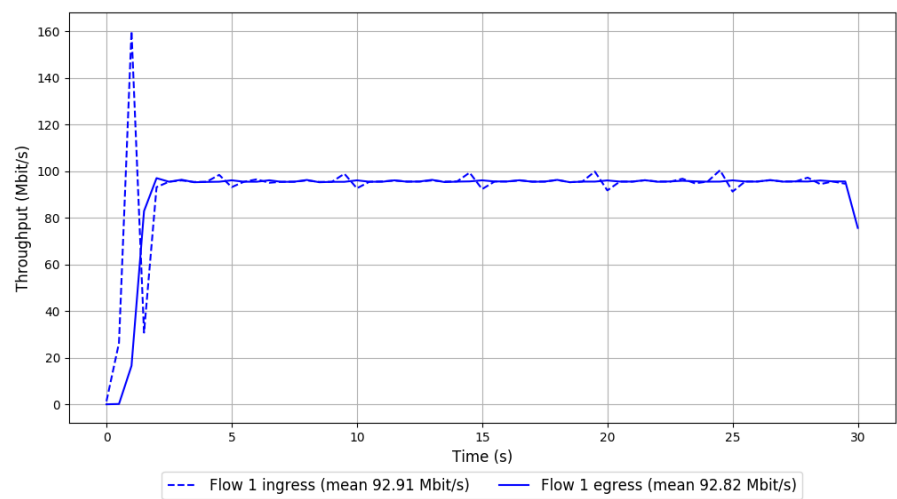
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 93.01 Mbit/s) — — — Flow 1 egress (mean 92.95 Mbit/s)

• Flow 1 (95th percentile 104.05 ms)

```
Run 5: Statistics of FillP

Start at: 2019-01-19 07:18:23
End at: 2019-01-19 07:18:53
Local clock offset: -6.406 ms
Remote clock offset: 3.486 ms


# Below is generated by plot.py at 2019-01-19 07:27:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 116.006 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 116.006 ms
Loss rate: 0.69%
```
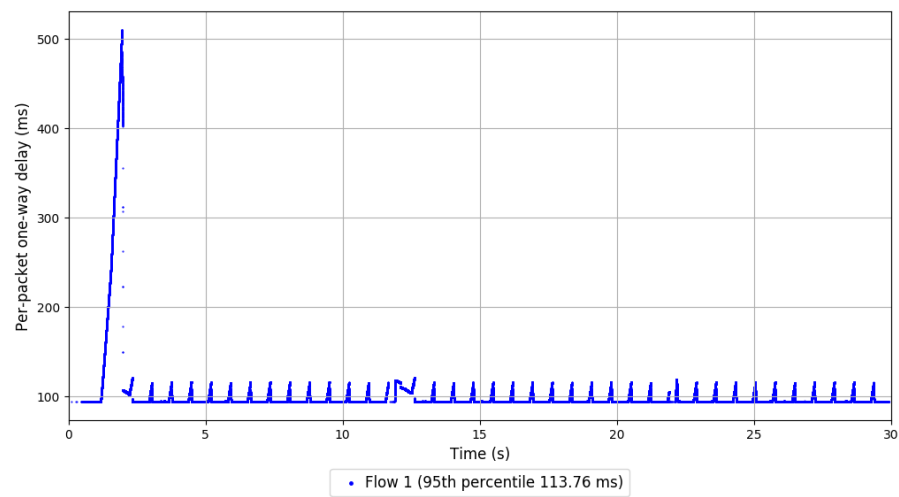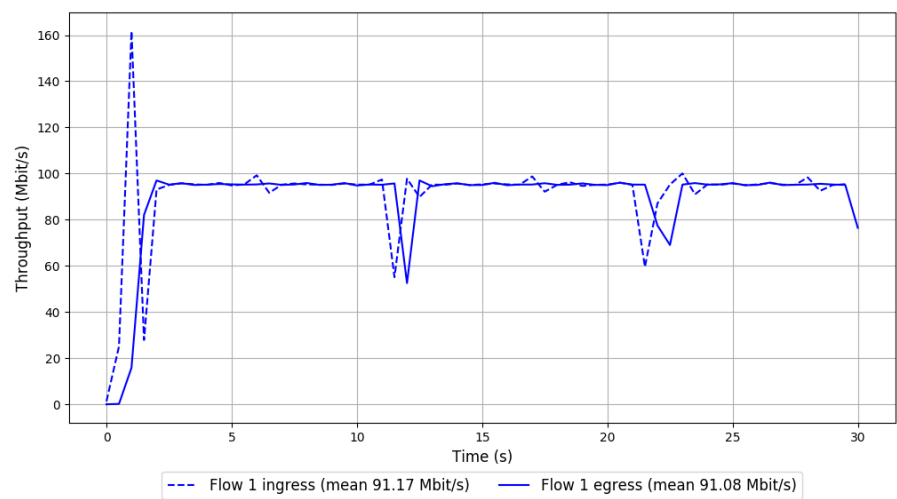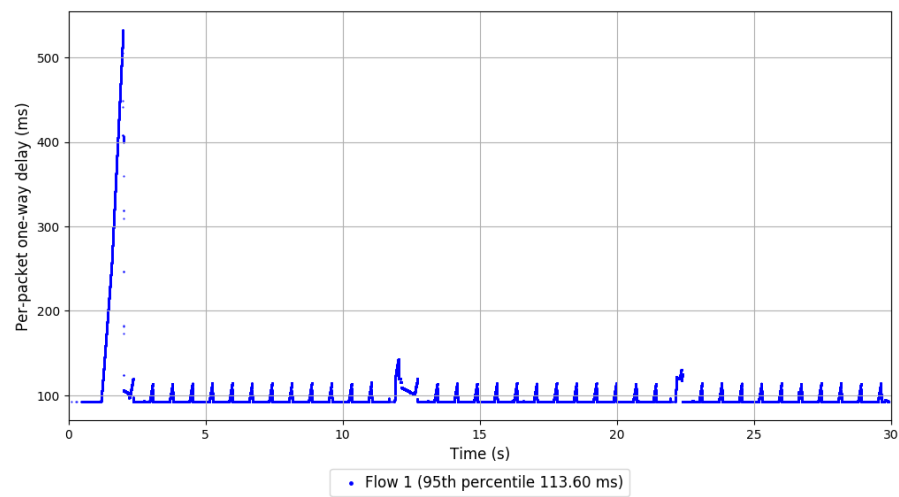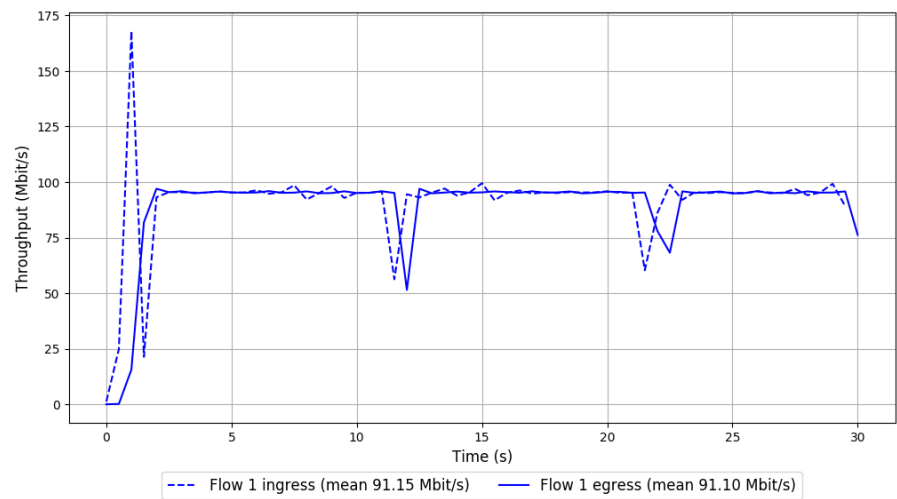
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-19 05:18:43
End at: 2019-01-19 05:19:13
Local clock offset: -2.806 ms
Remote clock offset: 7.588 ms


# Below is generated by plot.py at 2019-01-19 07:27:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.08 Mbit/s
95th percentile per-packet one-way delay: 113.764 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 91.08 Mbit/s
95th percentile per-packet one-way delay: 113.764 ms
Loss rate: 0.69%
```

Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.17 Mbit/s)   Flow 1 egress (mean 91.08 Mbit/s)

• Flow 1 (95th percentile 113.76 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-19 05:43:37
End at: 2019-01-19 05:44:07
Local clock offset: -2.213 ms
Remote clock offset: 10.229 ms


# Below is generated by plot.py at 2019-01-19 07:27:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 113.597 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 113.597 ms
Loss rate: 0.65%
```
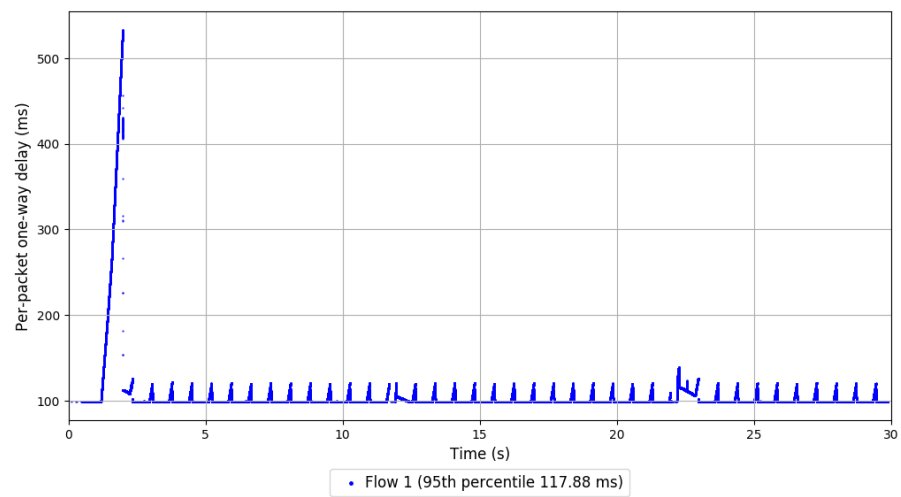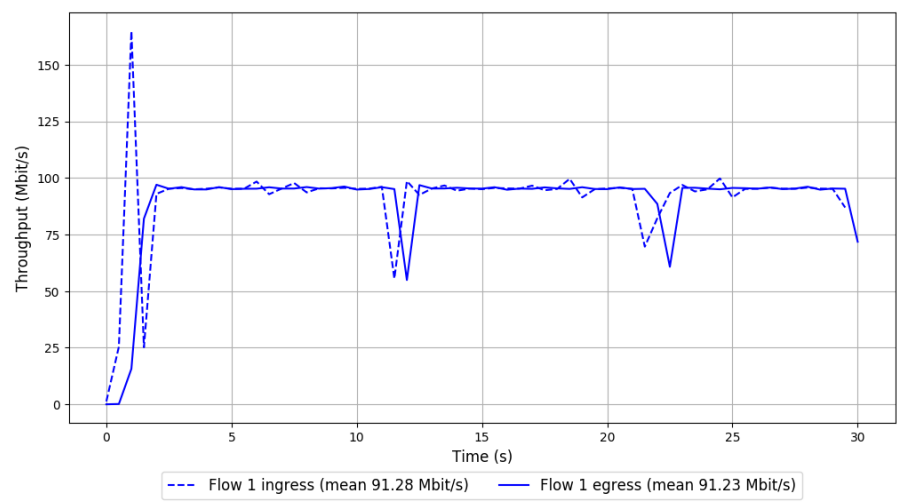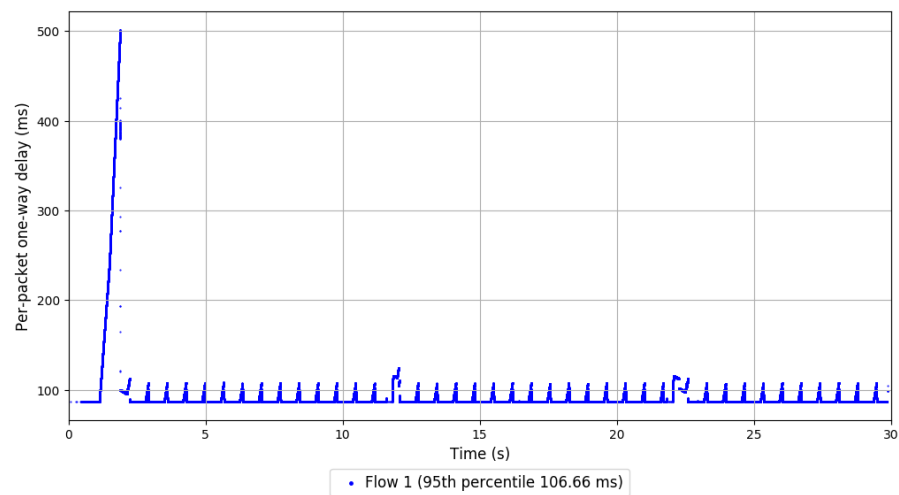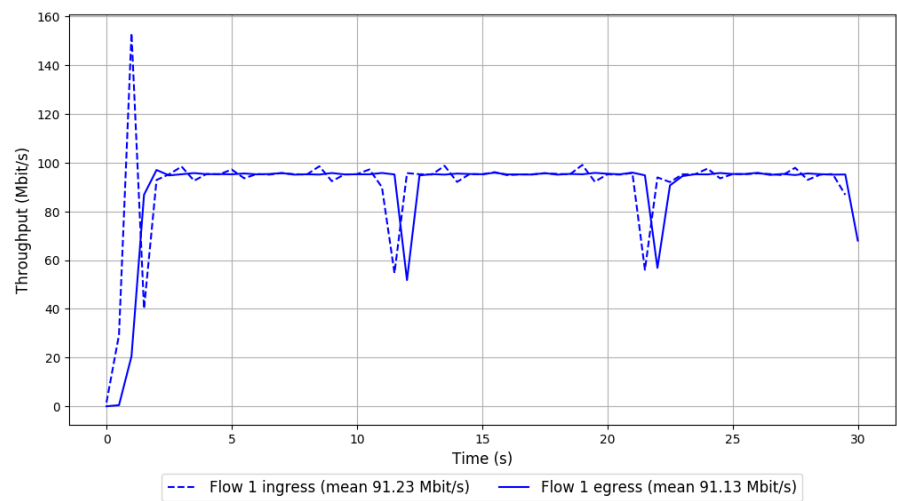
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-19 06:08:27
End at: 2019-01-19 06:08:57
Local clock offset: -6.749 ms
Remote clock offset: 4.497 ms


# Below is generated by plot.py at 2019-01-19 07:28:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.23 Mbit/s
95th percentile per-packet one-way delay: 117.880 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 91.23 Mbit/s
95th percentile per-packet one-way delay: 117.880 ms
Loss rate: 0.64%
```

Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.28 Mbit/s) ----- Flow 1 egress (mean 91.23 Mbit/s)

• Flow 1 (95th percentile 117.88 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-19 06:33:20
End at: 2019-01-19 06:33:50
Local clock offset: -3.293 ms
Remote clock offset: 6.14 ms


# Below is generated by plot.py at 2019-01-19 07:28:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 106.655 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 106.655 ms
Loss rate: 0.67%
```
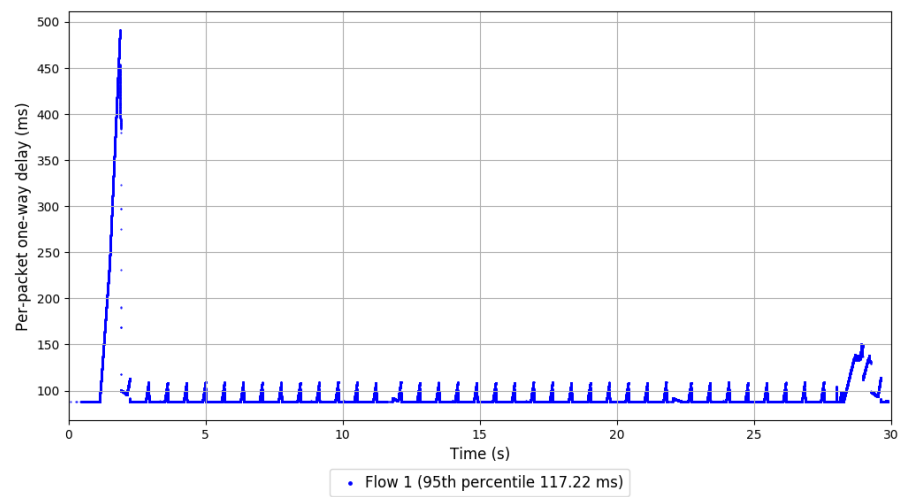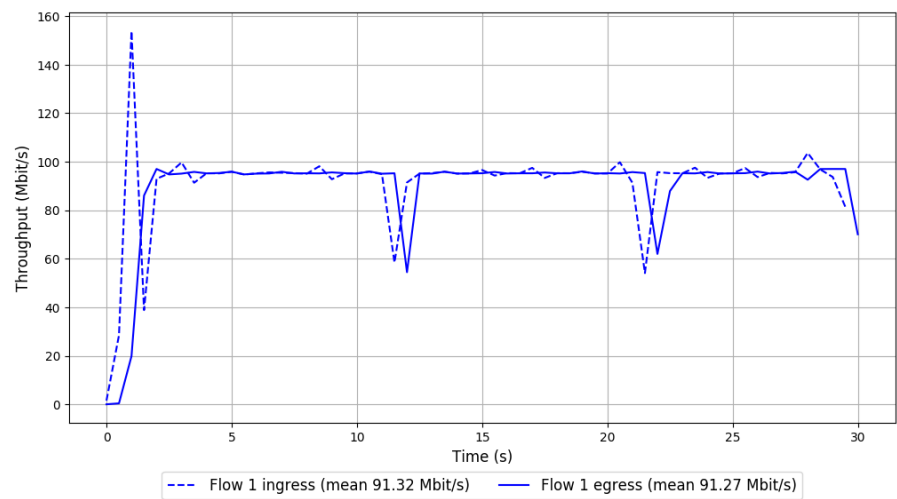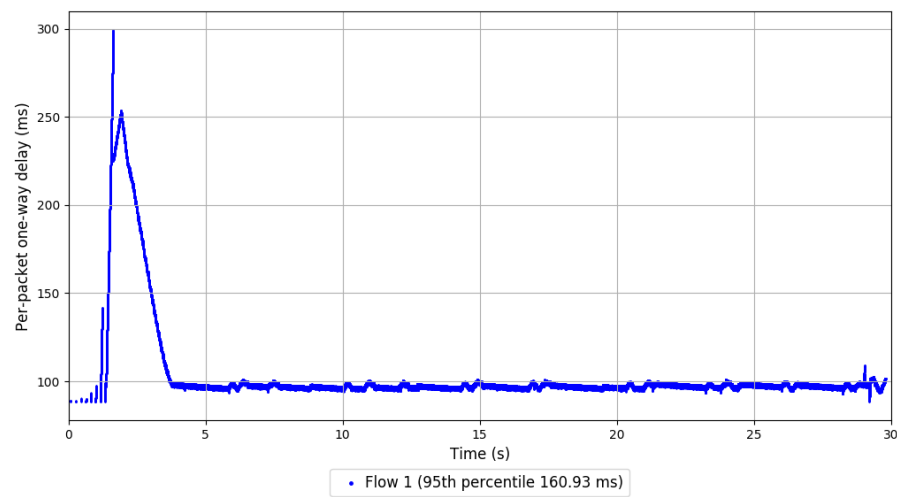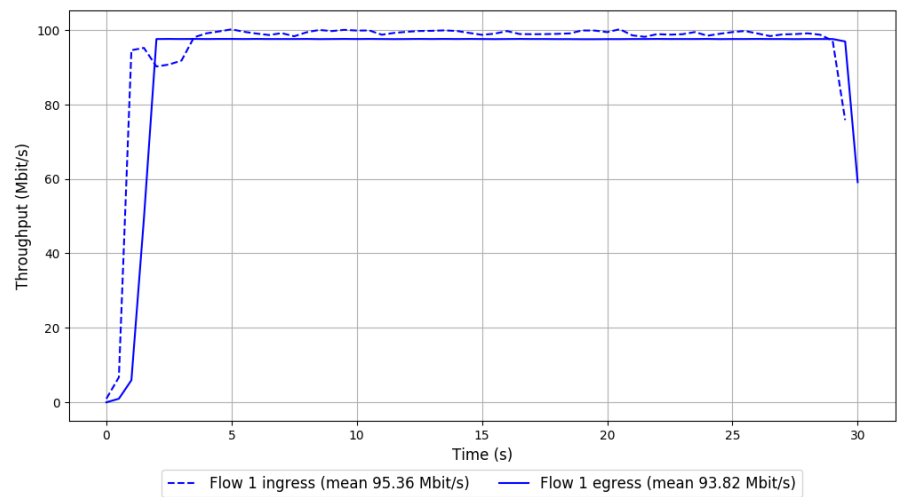
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 91.23 Mbit/s)   Flow 1 egress (mean 91.13 Mbit/s)

Flow 1 (95th percentile 106.66 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-19 06:58:12
End at: 2019-01-19 06:58:42
Local clock offset: -5.573 ms
Remote clock offset: 5.679 ms


# Below is generated by plot.py at 2019-01-19 07:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.27 Mbit/s
95th percentile per-packet one-way delay: 117.222 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 91.27 Mbit/s
95th percentile per-packet one-way delay: 117.222 ms
Loss rate: 0.63%
```
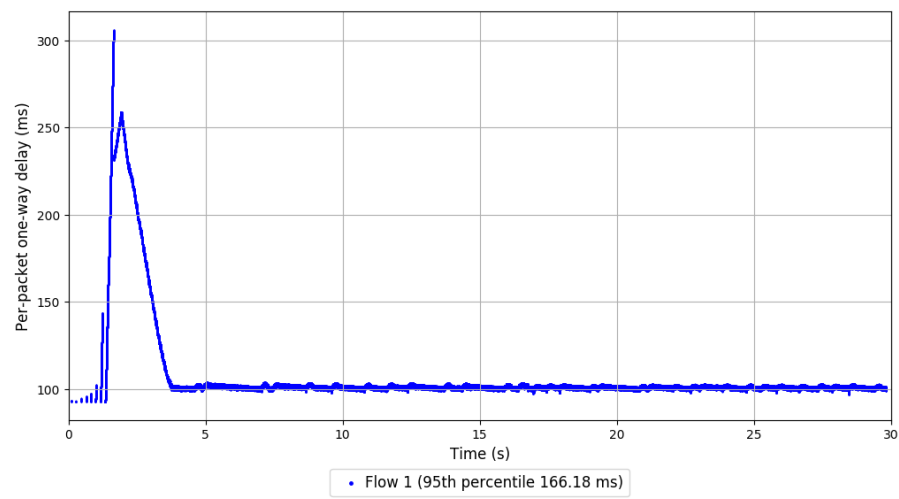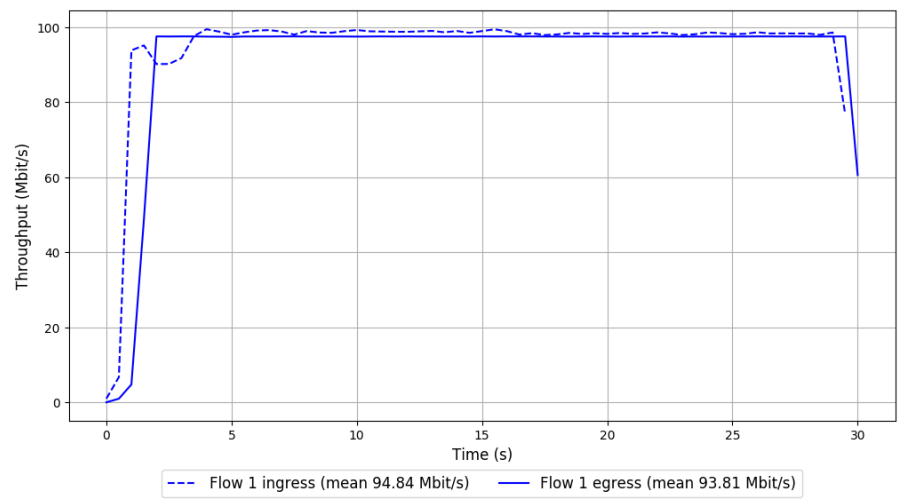
Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-01-19 05:23:21
End at: 2019-01-19 05:23:51
Local clock offset: -2.099 ms
Remote clock offset: 7.589 ms


# Below is generated by plot.py at 2019-01-19 07:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.82 Mbit/s
95th percentile per-packet one-way delay: 160.929 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 93.82 Mbit/s
95th percentile per-packet one-way delay: 160.929 ms
Loss rate: 2.18%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-01-19 05:48:15
End at: 2019-01-19 05:48:45
Local clock offset: -2.686 ms
Remote clock offset: 4.276 ms


# Below is generated by plot.py at 2019-01-19 07:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 166.178 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 166.178 ms
Loss rate: 1.65%
```
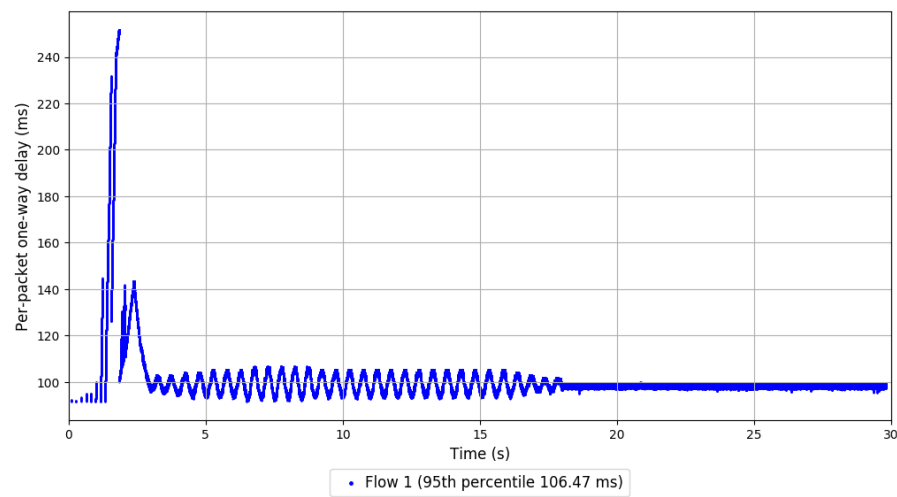
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-19 06:13:04
End at: 2019-01-19 06:13:35
Local clock offset: -7.061 ms
Remote clock offset: 5.638 ms


# Below is generated by plot.py at 2019-01-19 07:28:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 106.468 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 106.468 ms
Loss rate: 0.72%
```
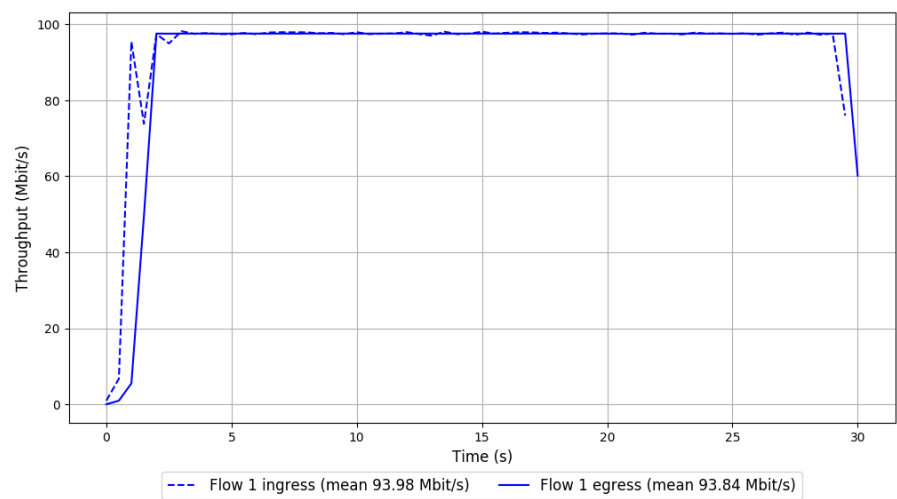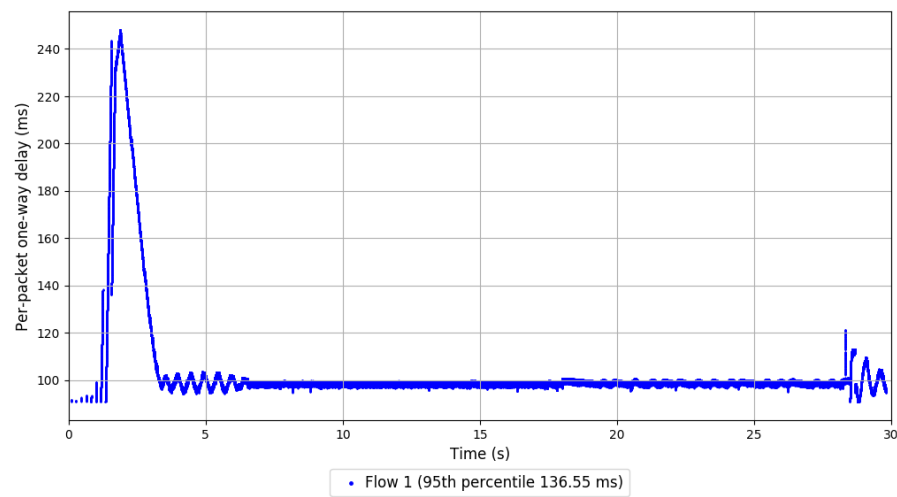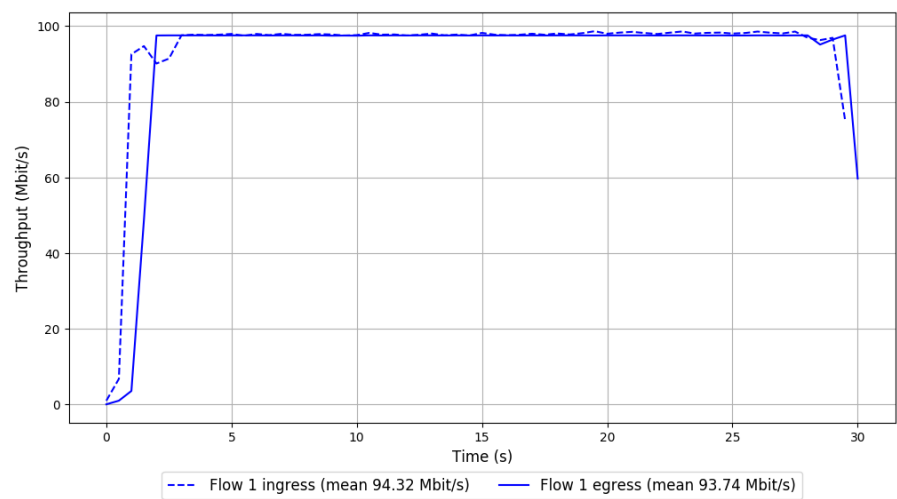
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 93.98 Mbit/s)   Flow 1 egress (mean 93.84 Mbit/s)

• Flow 1 (95th percentile 106.47 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-01-19 06:37:58
End at: 2019-01-19 06:38:28
Local clock offset: -2.861 ms
Remote clock offset: 2.052 ms


# Below is generated by plot.py at 2019-01-19 07:28:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 136.546 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 136.546 ms
Loss rate: 1.19%
```
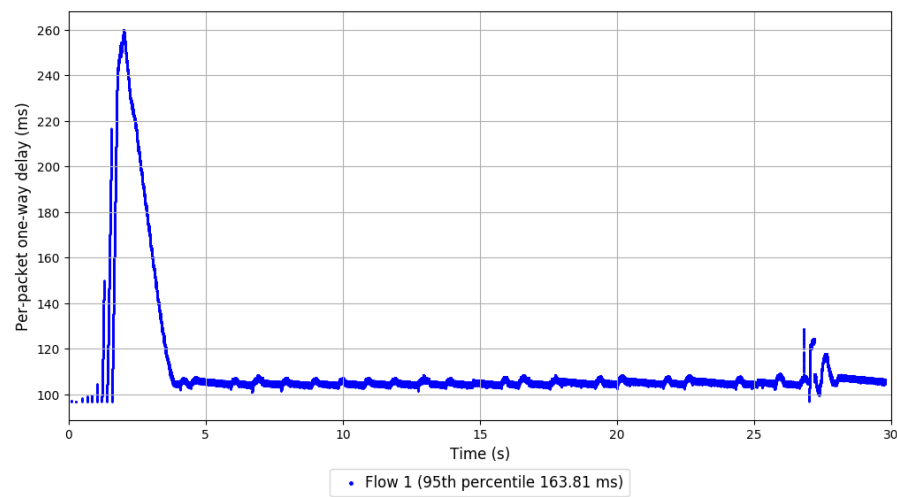
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-19 07:02:51
End at: 2019-01-19 07:03:21
Local clock offset: -6.193 ms
Remote clock offset: 2.996 ms


# Below is generated by plot.py at 2019-01-19 07:28:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 163.806 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 163.806 ms
Loss rate: 2.10%
```
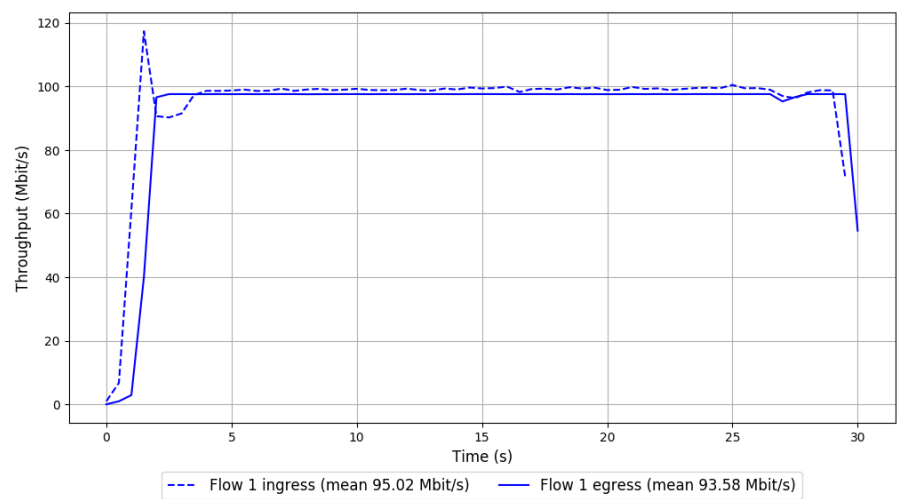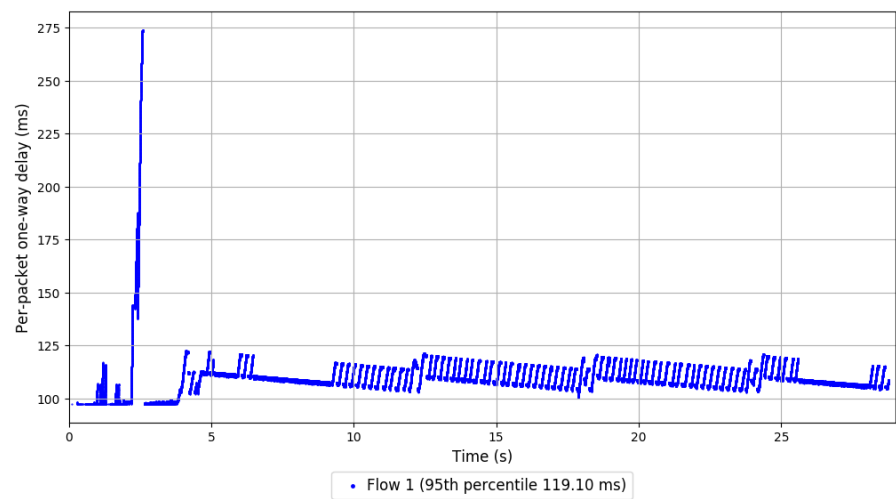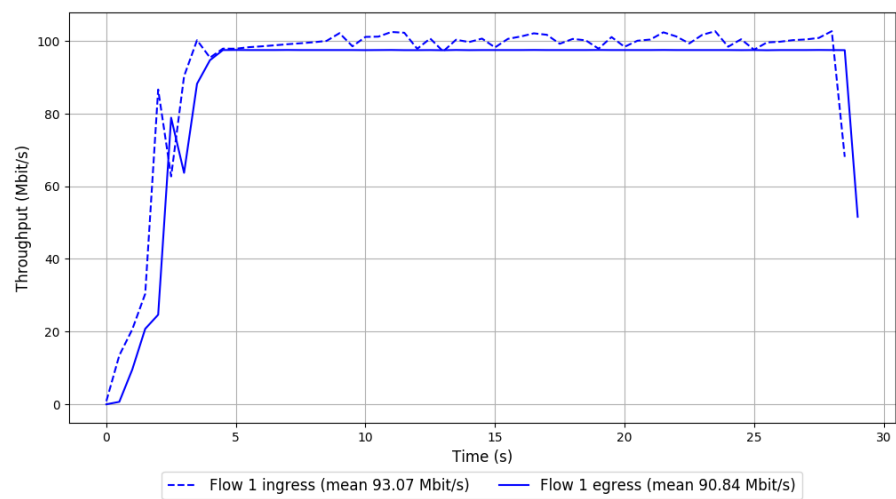
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 95.02 Mbit/s)   Flow 1 egress (mean 93.58 Mbit/s)

• Flow 1 (95th percentile 163.81 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-19 05:21:01
End at: 2019-01-19 05:21:31
Local clock offset: -2.108 ms
Remote clock offset: 4.733 ms


# Below is generated by plot.py at 2019-01-19 07:29:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 119.102 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 119.102 ms
Loss rate: 3.00%
```
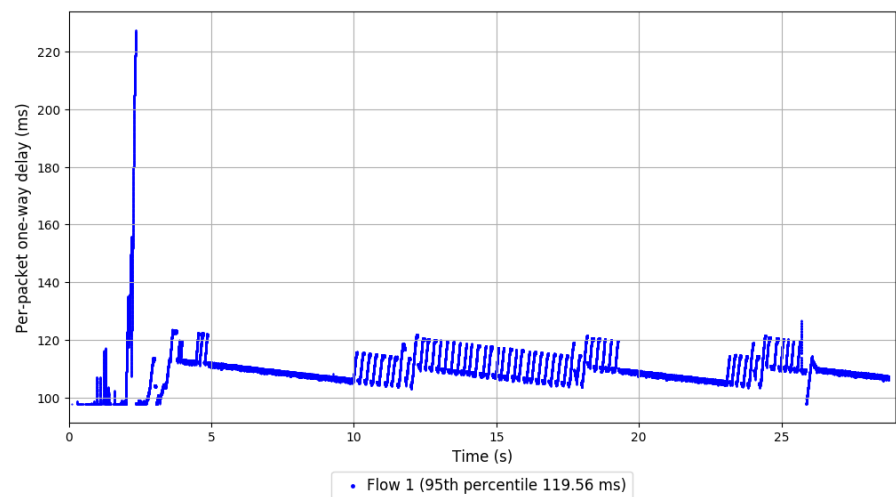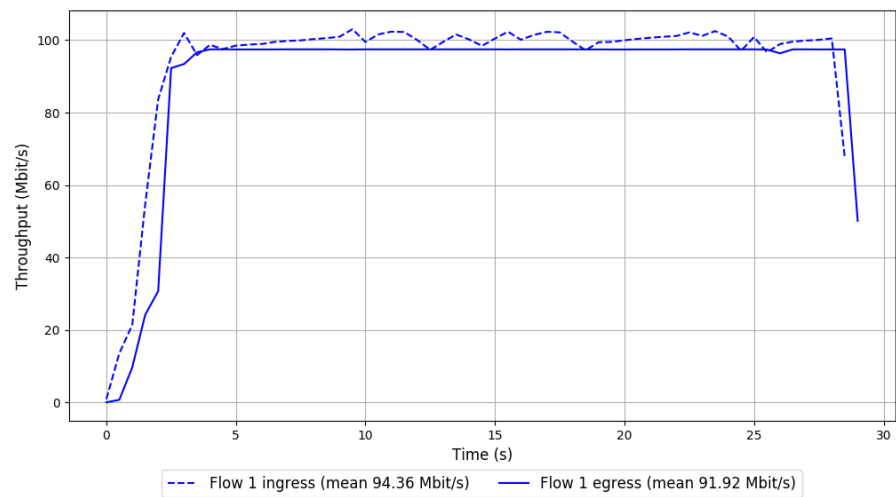
Run 1: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 93.07 Mbit/s) — — — Flow 1 egress (mean 90.84 Mbit/s) ———

• Flow 1 (95th percentile 119.10 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-19 05:45:55
End at: 2019-01-19 05:46:25
Local clock offset: -2.981 ms
Remote clock offset: 4.309 ms


# Below is generated by plot.py at 2019-01-19 07:29:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 119.558 ms
Loss rate: 3.18%
-- Flow 1:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 119.558 ms
Loss rate: 3.18%
```
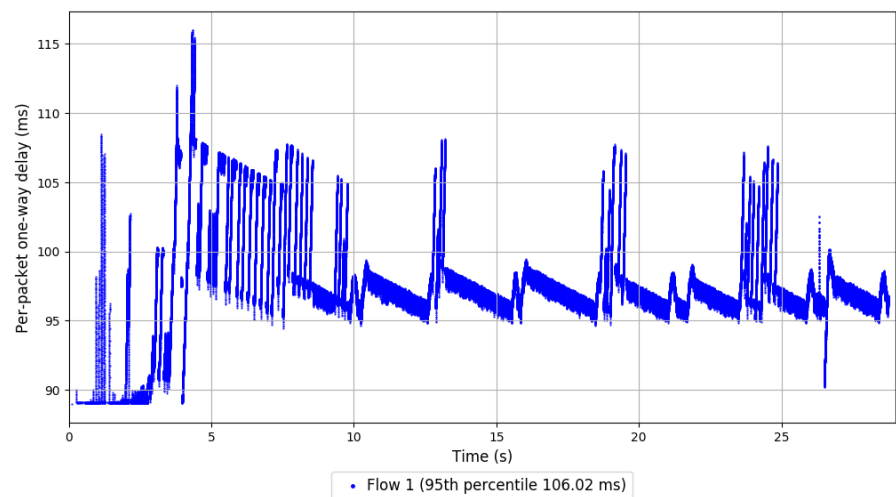
Run 2: Report of Indigo-MusesC3 — Data Link

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```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-19 06:10:45
End at: 2019-01-19 06:11:15
Local clock offset: -6.887 ms
Remote clock offset: 8.33 ms


# Below is generated by plot.py at 2019-01-19 07:29:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 106.021 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 106.021 ms
Loss rate: 2.06%
```
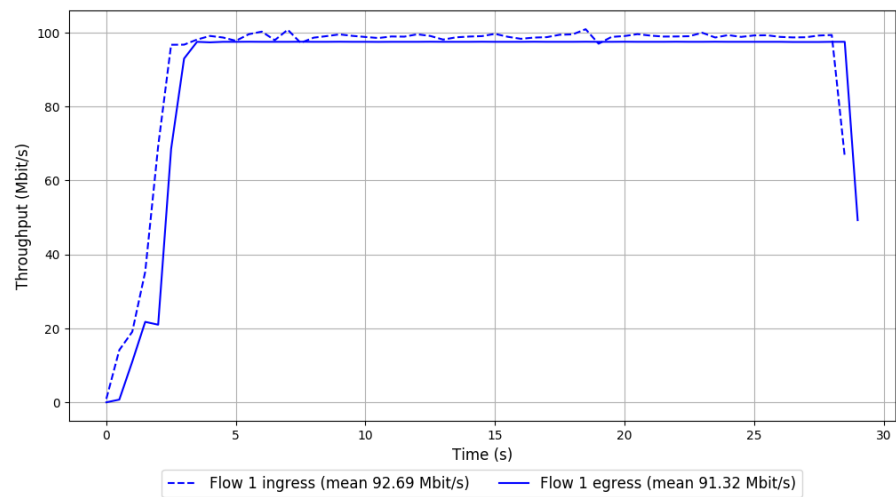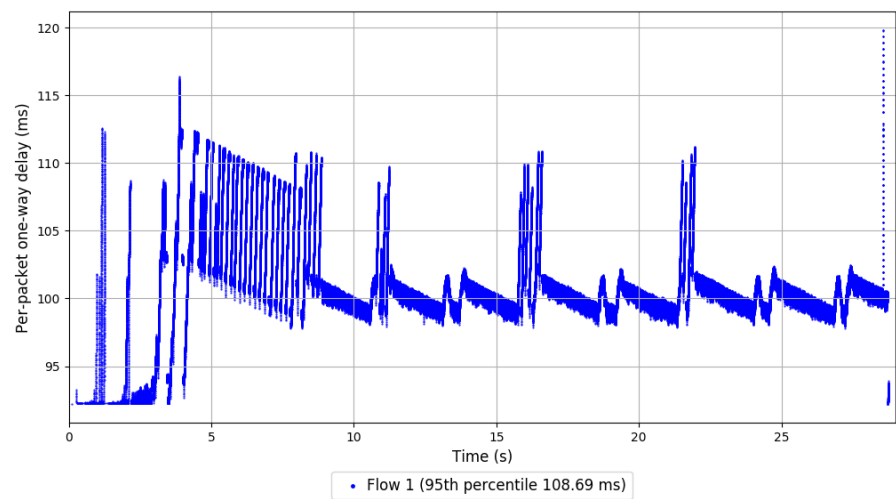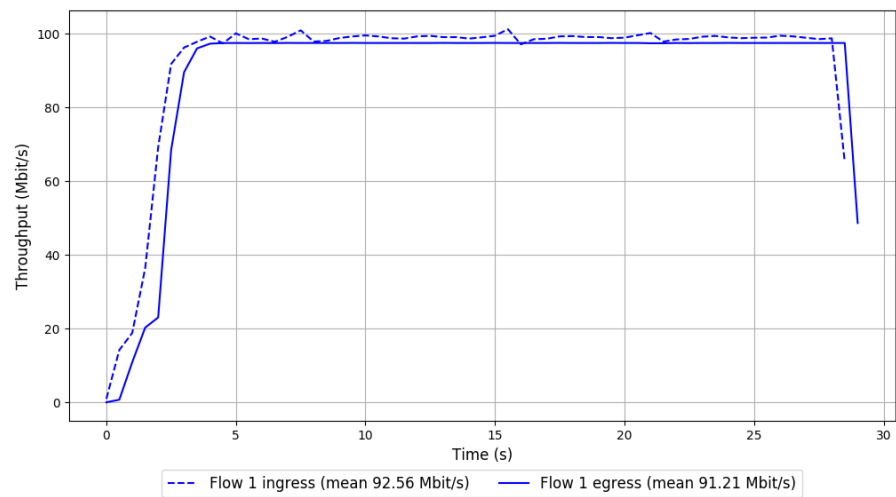
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 92.69 Mbit/s) —— Flow 1 egress (mean 91.32 Mbit/s)

• Flow 1 (95th percentile 106.02 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-19 06:35:38
End at: 2019-01-19 06:36:08
Local clock offset: -2.364 ms
Remote clock offset: 0.976 ms


# Below is generated by plot.py at 2019-01-19 07:29:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 108.693 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 108.693 ms
Loss rate: 2.04%
```
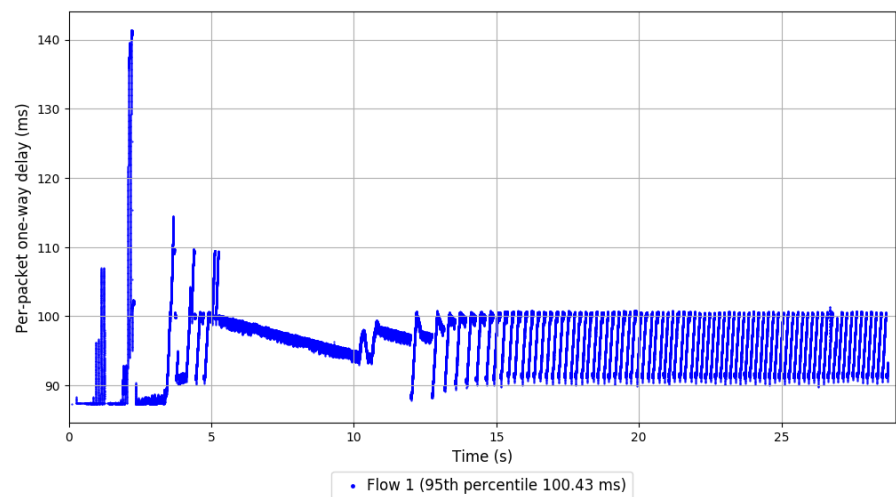
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-19 07:00:31
End at: 2019-01-19 07:01:01
Local clock offset: -5.171 ms
Remote clock offset: 6.727 ms


# Below is generated by plot.py at 2019-01-19 07:29:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.12 Mbit/s
95th percentile per-packet one-way delay: 100.433 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 91.12 Mbit/s
95th percentile per-packet one-way delay: 100.433 ms
Loss rate: 1.21%
```
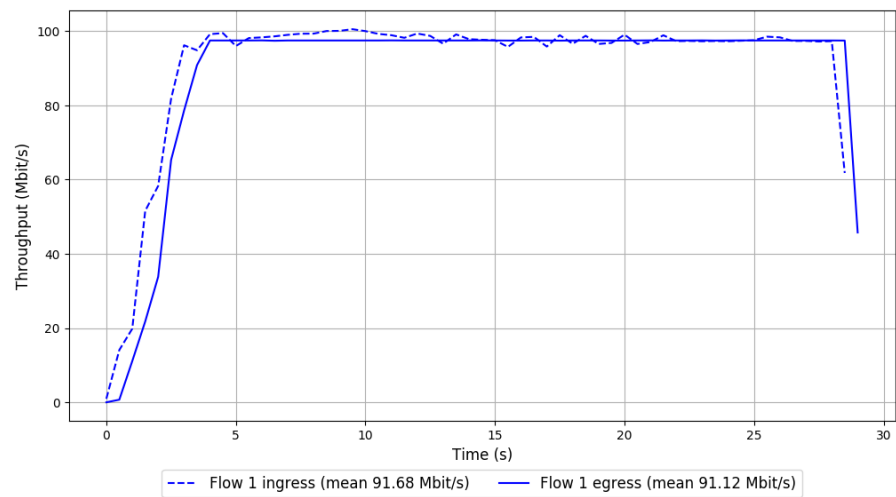
Run 5: Report of Indigo-MusesC3 — Data Link

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```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-19 05:26:56
End at: 2019-01-19 05:27:26
Local clock offset: -2.131 ms
Remote clock offset: 8.701 ms


# Below is generated by plot.py at 2019-01-19 07:29:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.98 Mbit/s
95th percentile per-packet one-way delay: 100.225 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 84.98 Mbit/s
95th percentile per-packet one-way delay: 100.225 ms
Loss rate: 0.72%
```
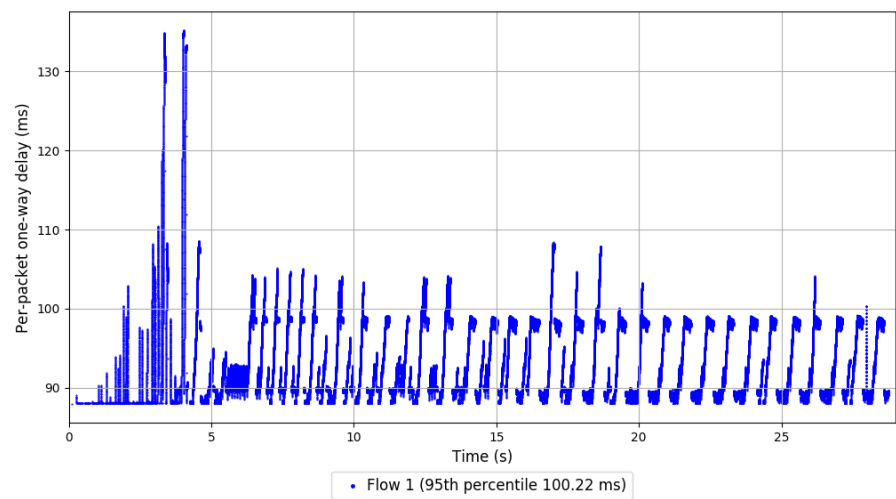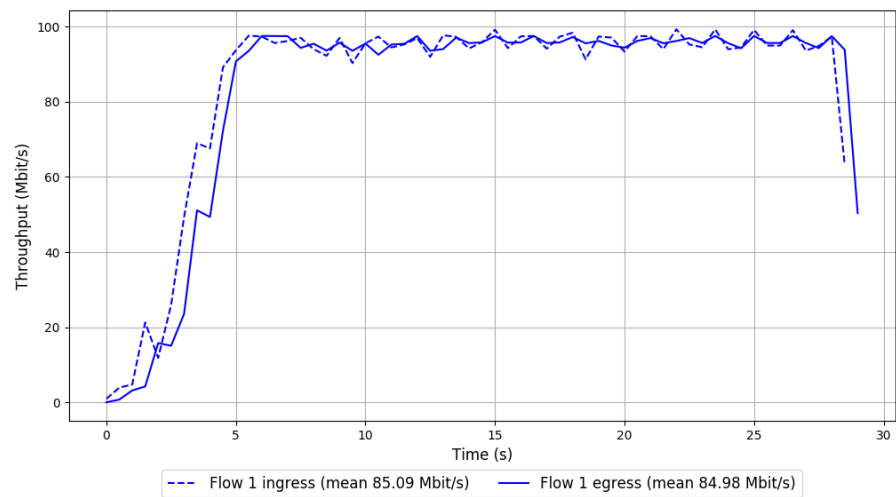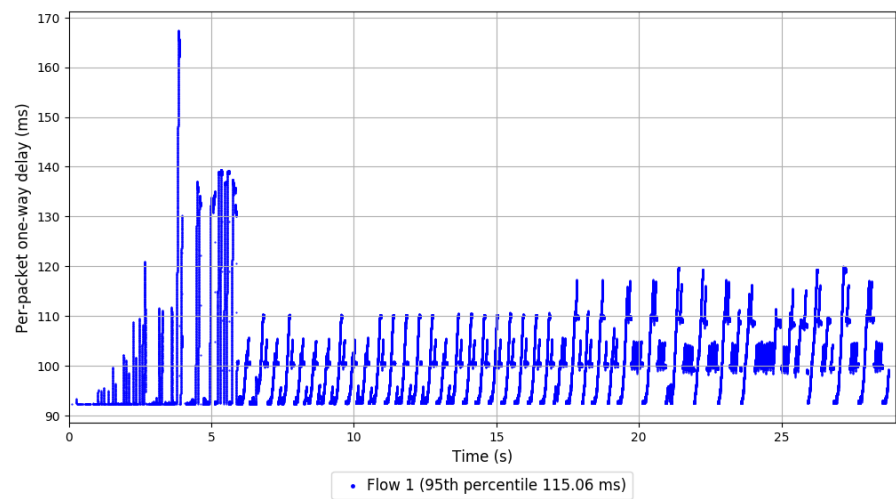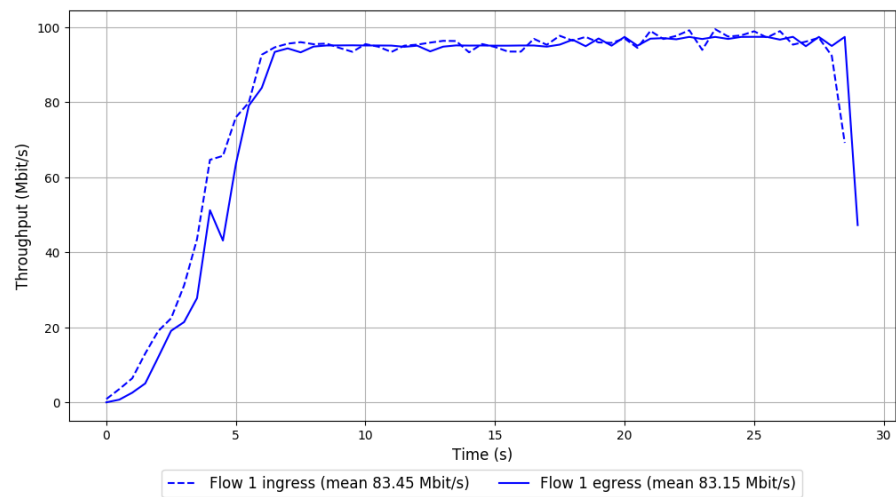
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-19 05:51:50
End at: 2019-01-19 05:52:20
Local clock offset: -4.778 ms
Remote clock offset: 10.249 ms


# Below is generated by plot.py at 2019-01-19 07:29:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.15 Mbit/s
95th percentile per-packet one-way delay: 115.057 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 83.15 Mbit/s
95th percentile per-packet one-way delay: 115.057 ms
Loss rate: 0.98%
```
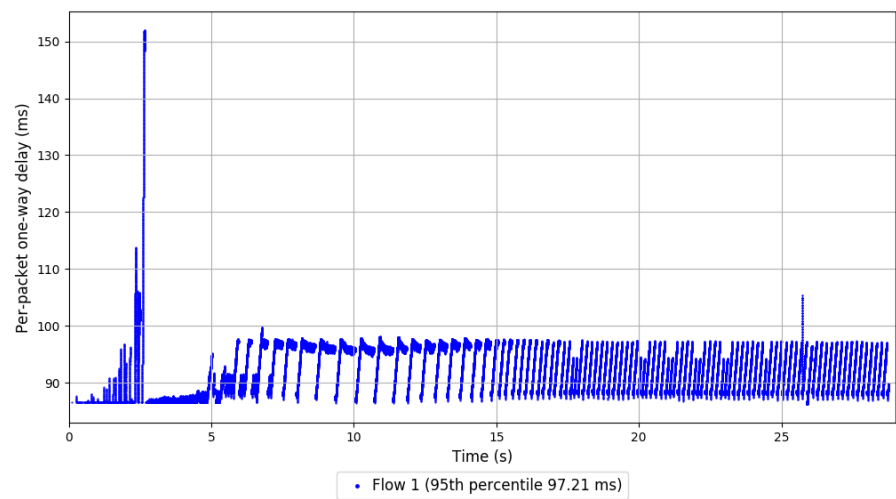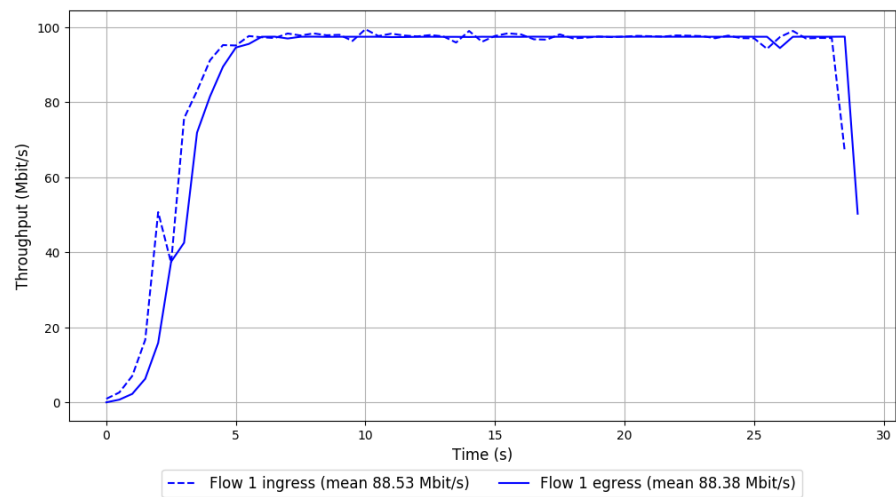
Run 2: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 83.45 Mbit/s)　——— Flow 1 egress (mean 83.15 Mbit/s)

• Flow 1 (95th percentile 115.06 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-19 06:16:40
End at: 2019-01-19 06:17:10
Local clock offset: -7.385 ms
Remote clock offset: 9.966 ms


# Below is generated by plot.py at 2019-01-19 07:30:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 97.212 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 97.212 ms
Loss rate: 0.77%
```
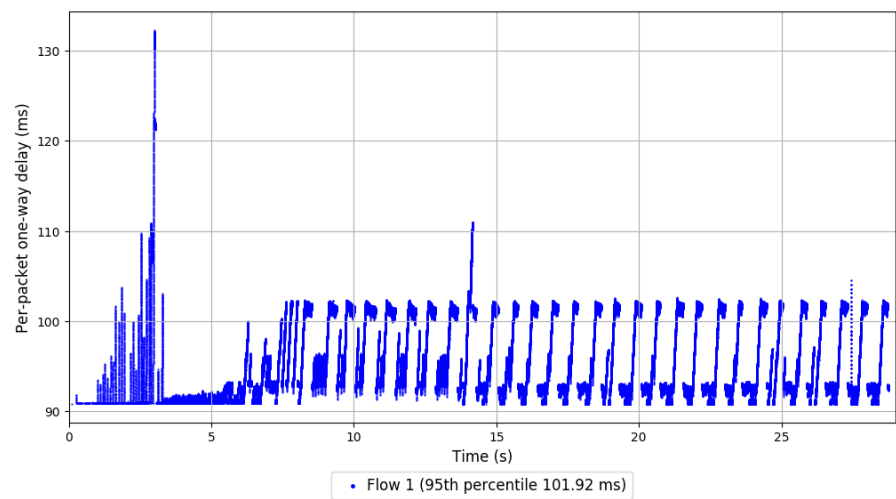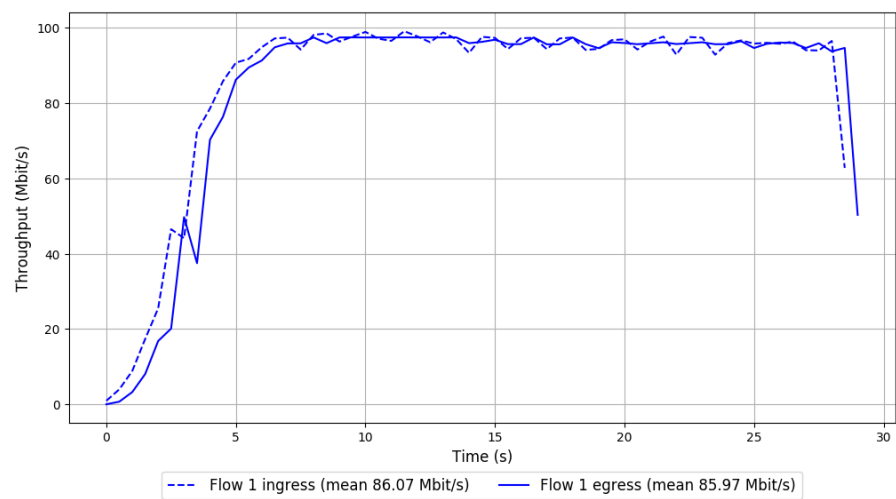
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 88.53 Mbit/s)   Flow 1 egress (mean 88.38 Mbit/s)

Flow 1 (95th percentile 97.21 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-19 06:41:33
End at: 2019-01-19 06:42:03
Local clock offset: -2.725 ms
Remote clock offset: 1.8 ms


# Below is generated by plot.py at 2019-01-19 07:30:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.97 Mbit/s
95th percentile per-packet one-way delay: 101.921 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 85.97 Mbit/s
95th percentile per-packet one-way delay: 101.921 ms
Loss rate: 0.72%
```

Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-19 07:06:26
End at: 2019-01-19 07:06:56
Local clock offset: -6.533 ms
Remote clock offset: 5.833 ms


# Below is generated by plot.py at 2019-01-19 07:30:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.00 Mbit/s
95th percentile per-packet one-way delay: 109.824 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 83.00 Mbit/s
95th percentile per-packet one-way delay: 109.824 ms
Loss rate: 0.69%
```
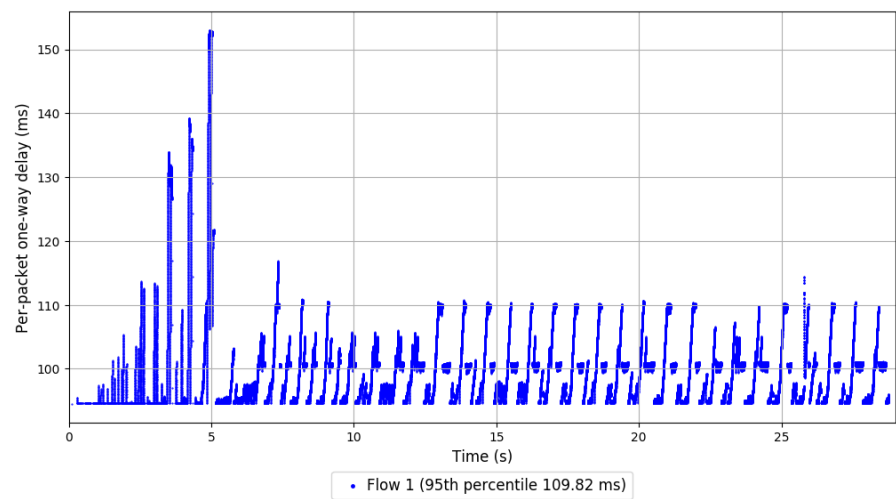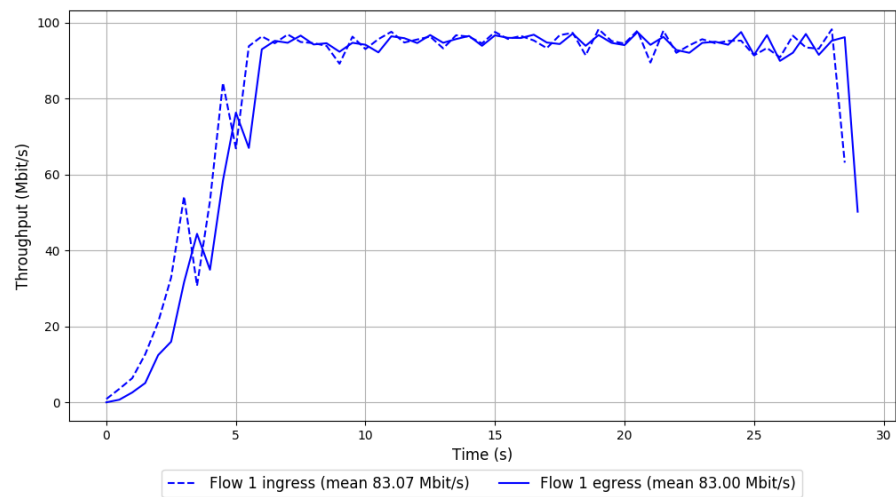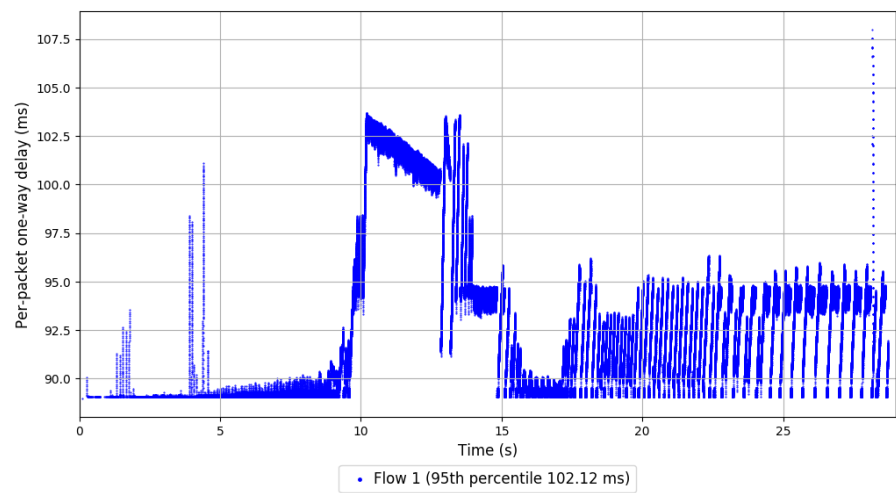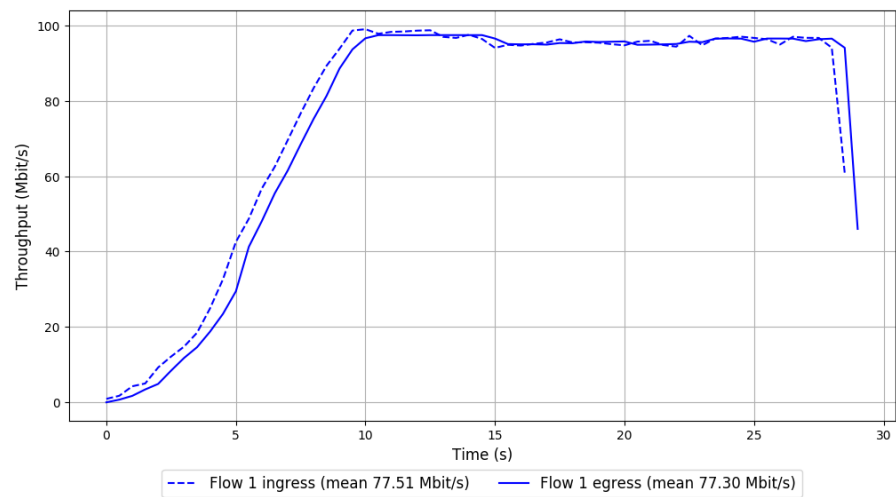
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-19 05:28:07
End at: 2019-01-19 05:28:37
Local clock offset: -2.158 ms
Remote clock offset: 7.609 ms


# Below is generated by plot.py at 2019-01-19 07:30:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.30 Mbit/s
95th percentile per-packet one-way delay: 102.122 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 77.30 Mbit/s
95th percentile per-packet one-way delay: 102.122 ms
Loss rate: 0.87%
```

Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-19 05:53:01
End at: 2019-01-19 05:53:32
Local clock offset: -4.349 ms
Remote clock offset: 7.981 ms


# Below is generated by plot.py at 2019-01-19 07:30:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 95.116 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 95.116 ms
Loss rate: 0.91%
```
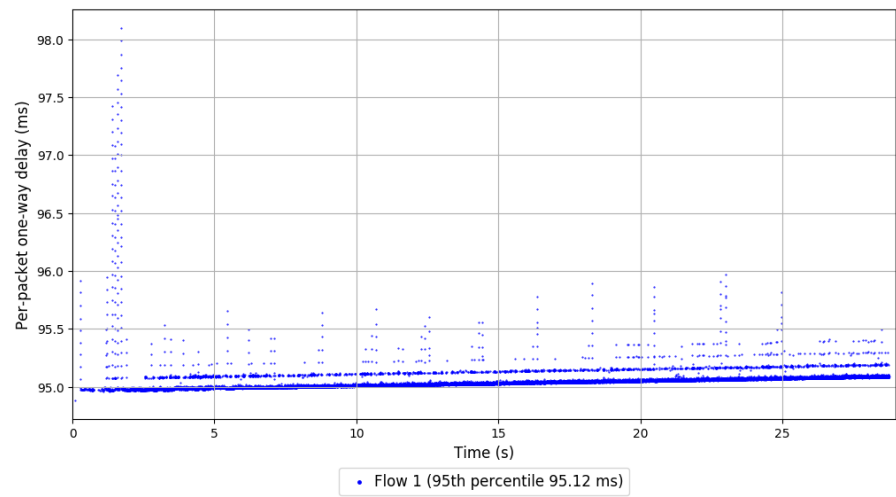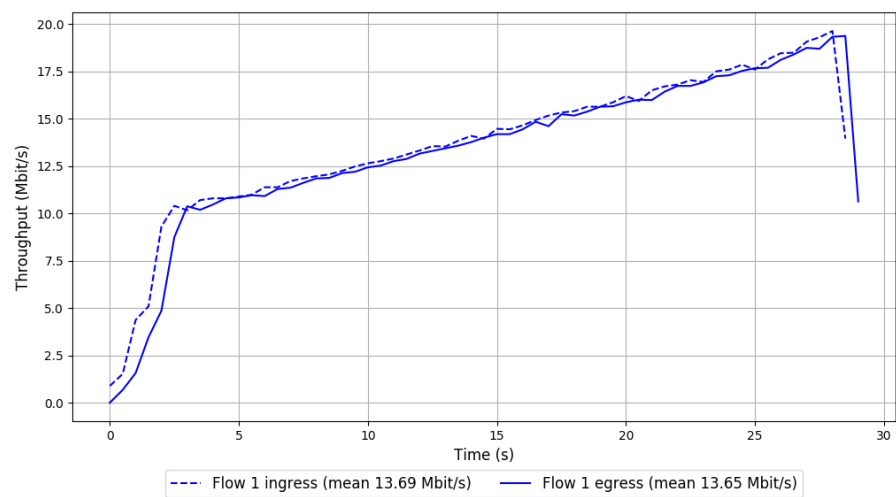
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-19 06:17:51
End at: 2019-01-19 06:18:21
Local clock offset: -7.021 ms
Remote clock offset: 3.413 ms


# Below is generated by plot.py at 2019-01-19 07:30:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.12 Mbit/s
95th percentile per-packet one-way delay: 106.590 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 71.12 Mbit/s
95th percentile per-packet one-way delay: 106.590 ms
Loss rate: 0.84%
```
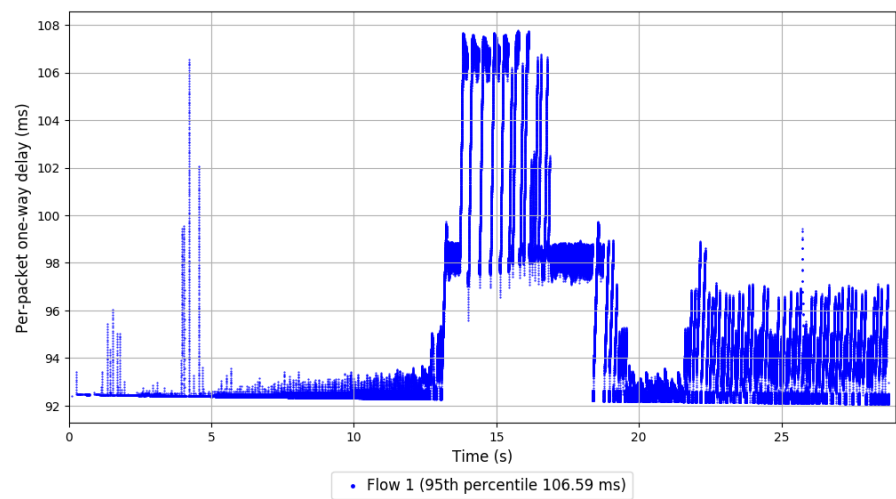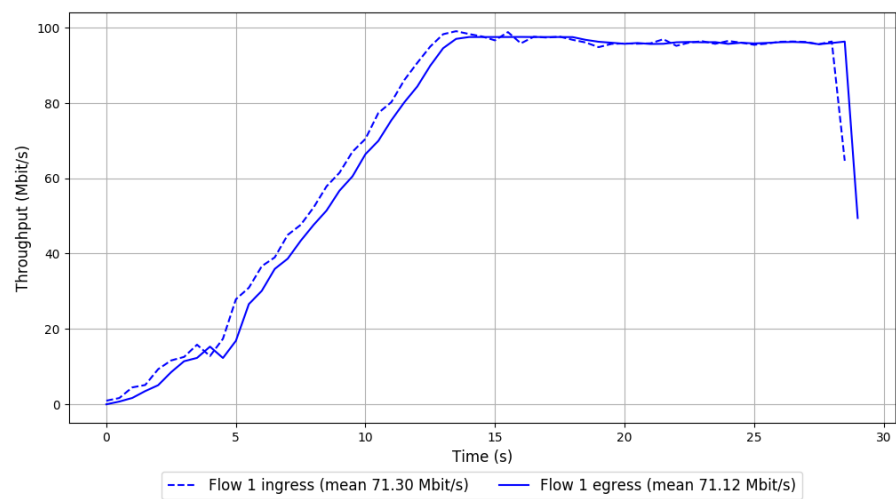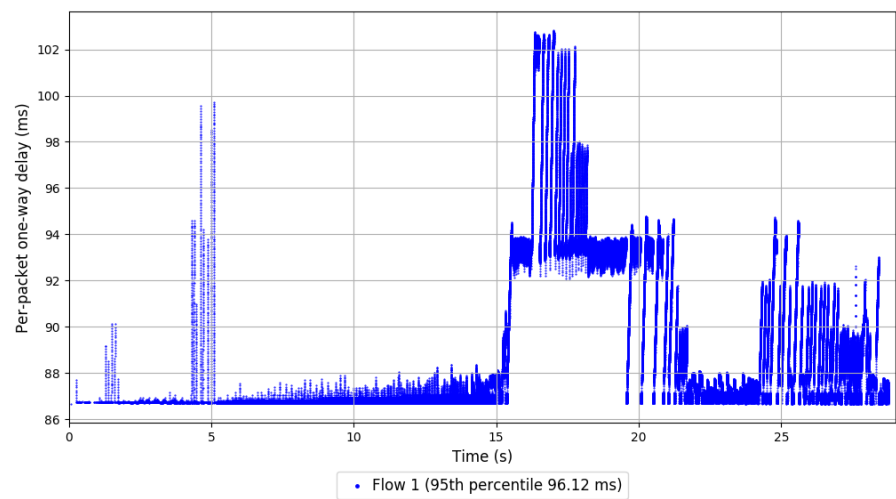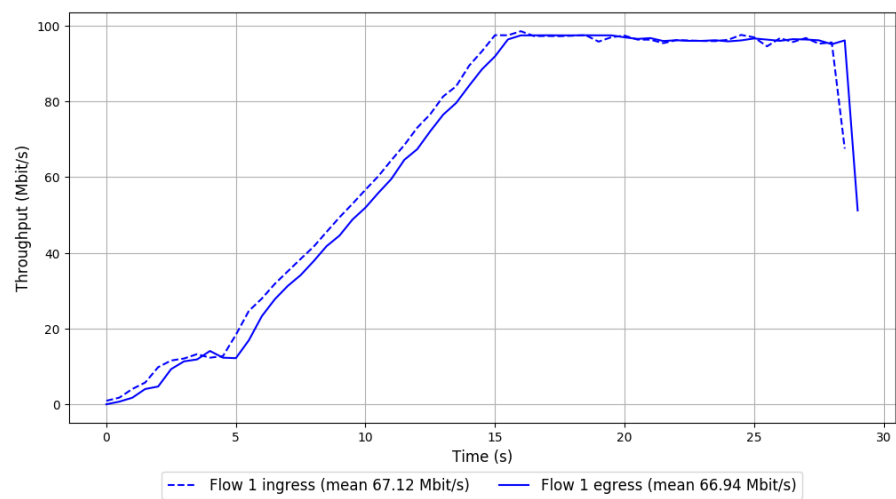
Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 71.30 Mbit/s)   Flow 1 egress (mean 71.12 Mbit/s)

Flow 1 (95th percentile 106.59 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-19 06:42:44
End at: 2019-01-19 06:43:14
Local clock offset: -1.824 ms
Remote clock offset: 6.78 ms


# Below is generated by plot.py at 2019-01-19 07:30:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.94 Mbit/s
95th percentile per-packet one-way delay: 96.119 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 66.94 Mbit/s
95th percentile per-packet one-way delay: 96.119 ms
Loss rate: 0.87%
```

Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-19 07:07:37
End at: 2019-01-19 07:08:07
Local clock offset: -5.925 ms
Remote clock offset: 2.148 ms


# Below is generated by plot.py at 2019-01-19 07:30:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.66 Mbit/s
95th percentile per-packet one-way delay: 105.332 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 76.66 Mbit/s
95th percentile per-packet one-way delay: 105.332 ms
Loss rate: 0.91%
```
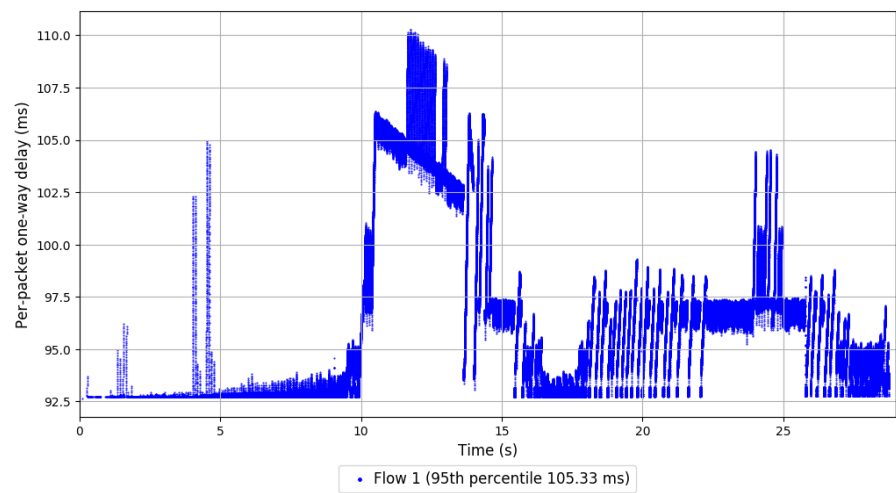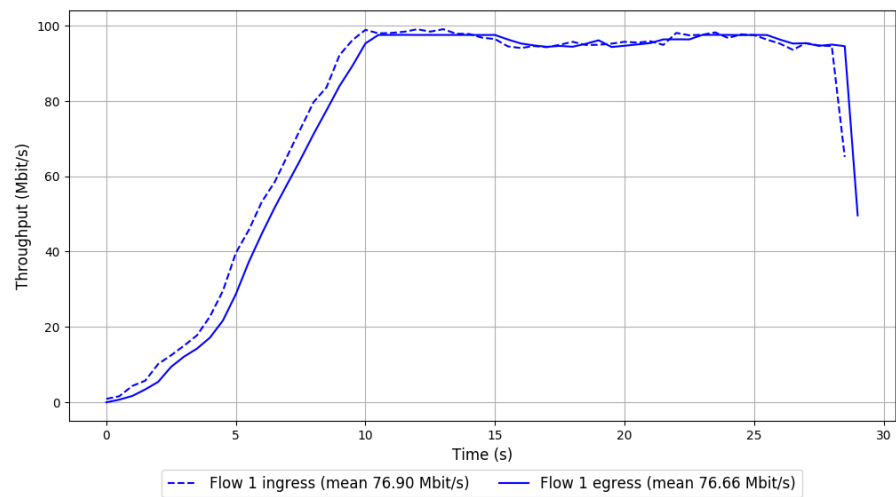
Run 5: Report of Indigo-MusesD — Data Link

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```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-19 05:34:04
End at: 2019-01-19 05:34:34
Local clock offset: -2.264 ms
Remote clock offset: 4.096 ms


# Below is generated by plot.py at 2019-01-19 07:30:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.20 Mbit/s
95th percentile per-packet one-way delay: 121.409 ms
Loss rate: 6.35%
-- Flow 1:
Average throughput: 91.20 Mbit/s
95th percentile per-packet one-way delay: 121.409 ms
Loss rate: 6.35%
```
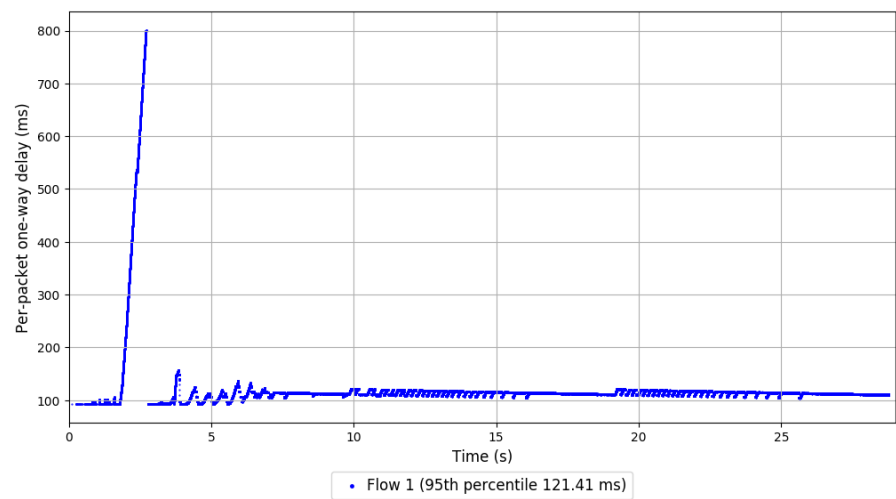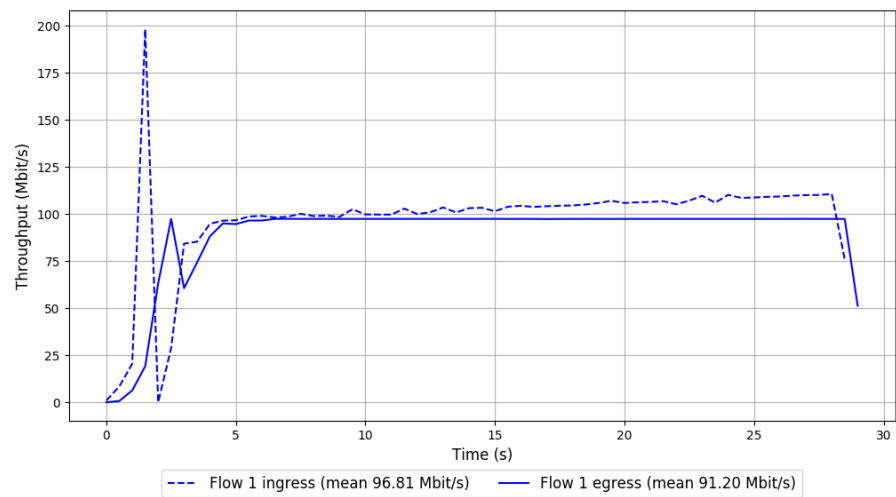
Run 1: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 96.81 Mbit/s) ----   Flow 1 egress (mean 91.20 Mbit/s) ——

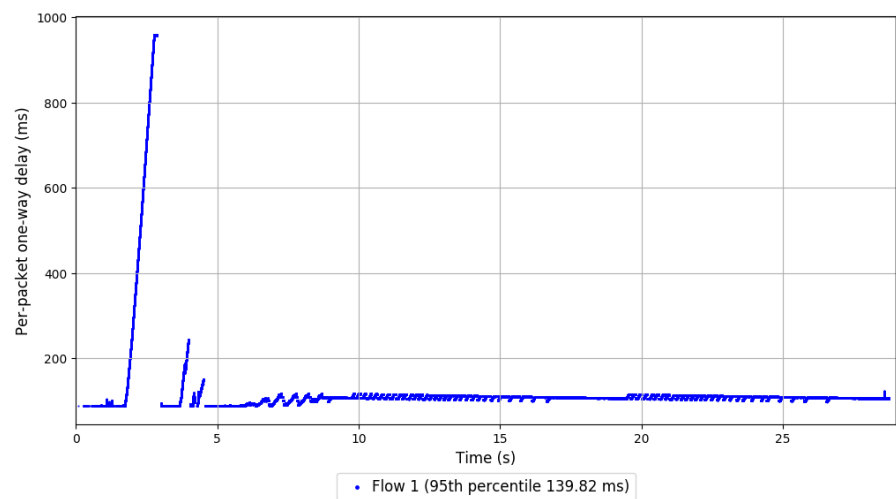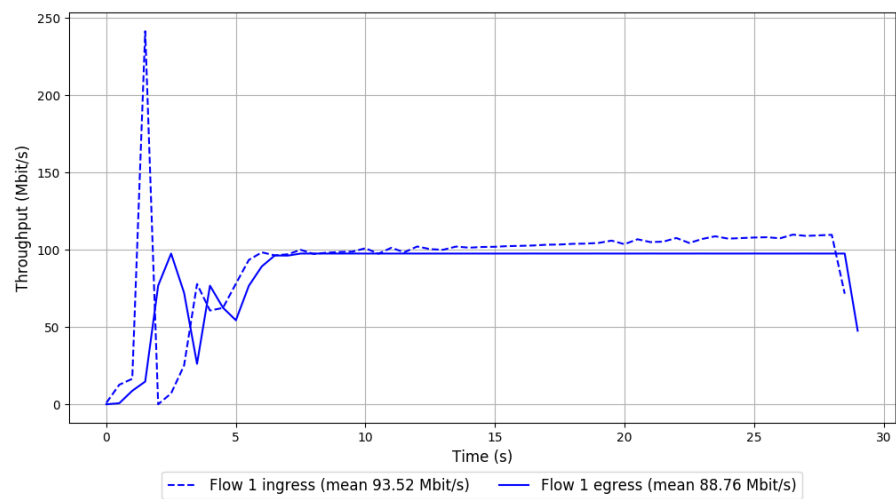• Flow 1 (95th percentile 121.41 ms)

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```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-19 05:58:56
End at: 2019-01-19 05:59:26
Local clock offset: -5.551 ms
Remote clock offset: 8.233 ms


# Below is generated by plot.py at 2019-01-19 07:31:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.76 Mbit/s
95th percentile per-packet one-way delay: 139.816 ms
Loss rate: 5.66%
-- Flow 1:
Average throughput: 88.76 Mbit/s
95th percentile per-packet one-way delay: 139.816 ms
Loss rate: 5.66%
```
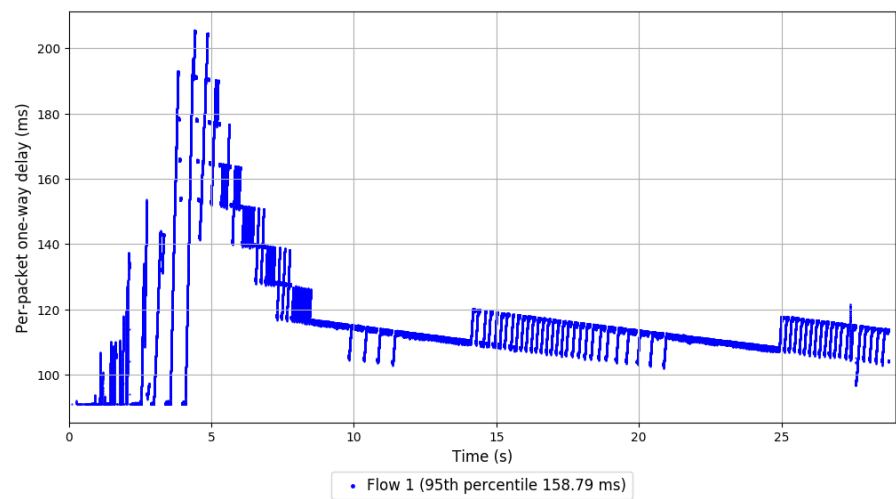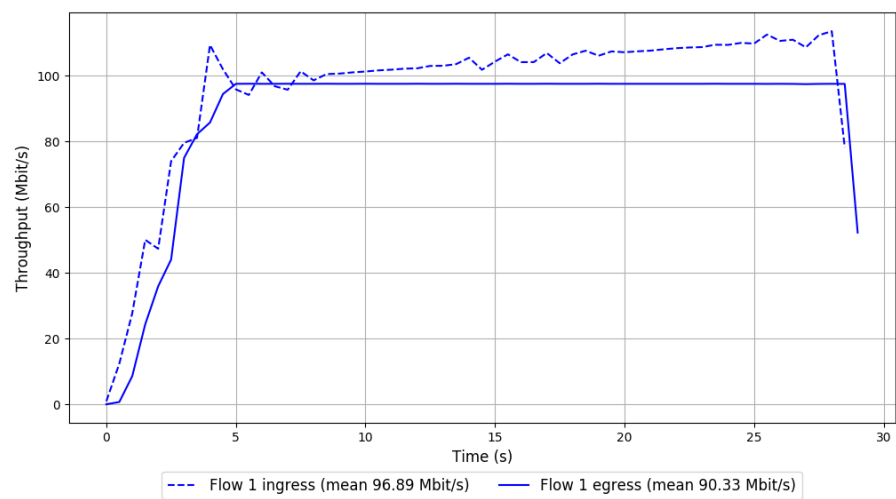
Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 93.52 Mbit/s) — Flow 1 egress (mean 88.76 Mbit/s)

• Flow 1 (95th percentile 139.82 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-19 06:23:48
End at: 2019-01-19 06:24:18
Local clock offset: -4.377 ms
Remote clock offset: 3.244 ms


# Below is generated by plot.py at 2019-01-19 07:31:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 158.790 ms
Loss rate: 7.32%
-- Flow 1:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 158.790 ms
Loss rate: 7.32%
```

Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-19 06:48:41
End at: 2019-01-19 06:49:11
Local clock offset: -3.031 ms
Remote clock offset: 5.411 ms


# Below is generated by plot.py at 2019-01-19 07:31:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.30 Mbit/s
95th percentile per-packet one-way delay: 115.181 ms
Loss rate: 6.56%
-- Flow 1:
Average throughput: 90.30 Mbit/s
95th percentile per-packet one-way delay: 115.181 ms
Loss rate: 6.56%
```
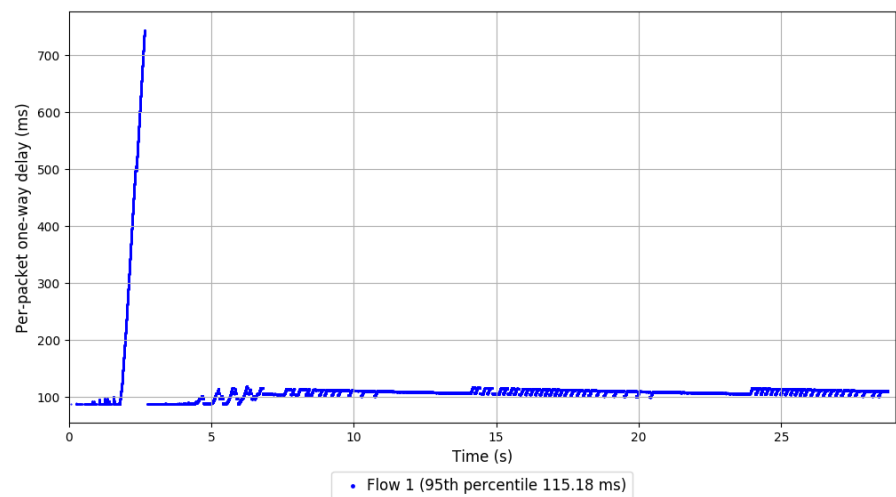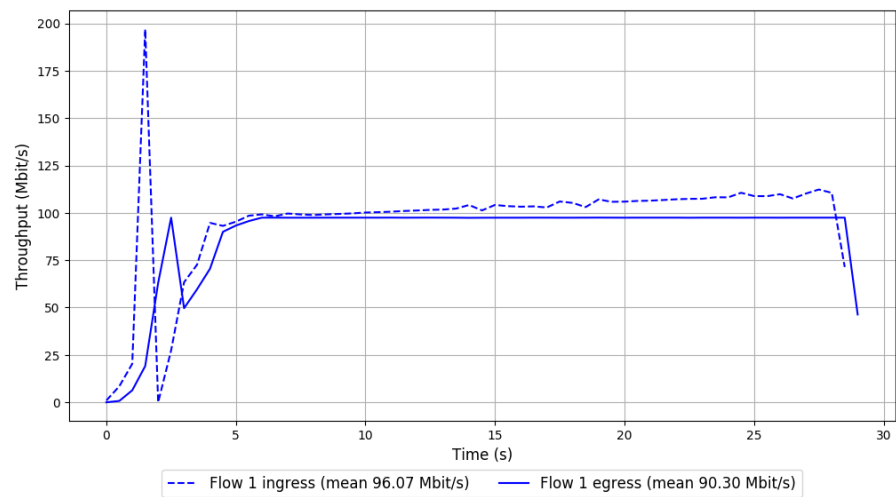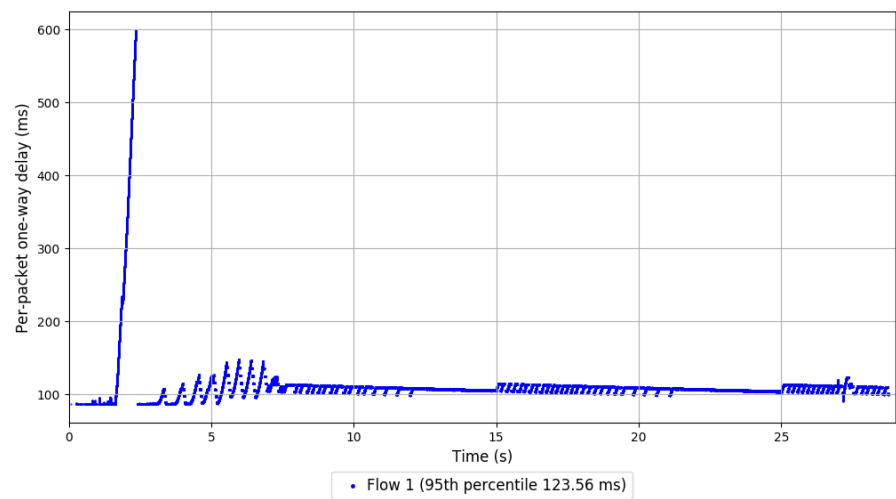
Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 96.07 Mbit/s) ----   Flow 1 egress (mean 90.30 Mbit/s) ———

• Flow 1 (95th percentile 115.18 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-19 07:13:35
End at: 2019-01-19 07:14:05
Local clock offset: -6.273 ms
Remote clock offset: 8.189 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.78 Mbit/s
95th percentile per-packet one-way delay: 123.563 ms
Loss rate: 6.66%
-- Flow 1:
Average throughput: 91.78 Mbit/s
95th percentile per-packet one-way delay: 123.563 ms
Loss rate: 6.66%
```
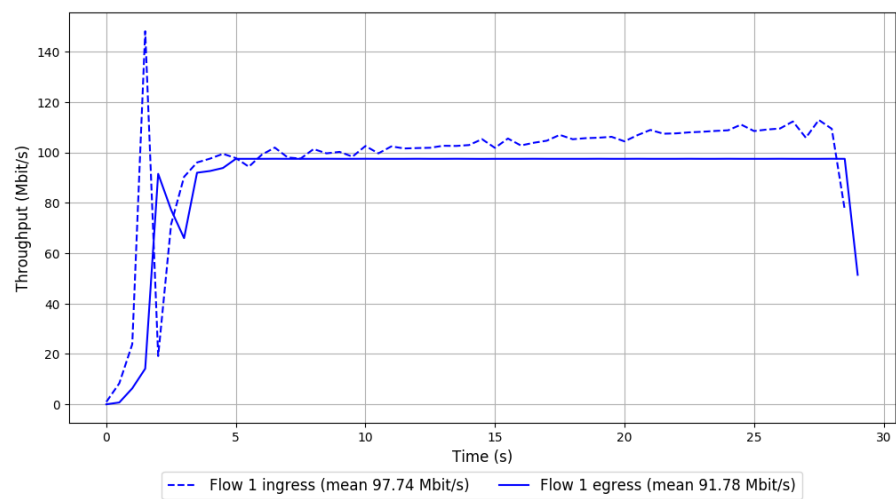
Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 97.74 Mbit/s)   Flow 1 egress (mean 91.78 Mbit/s)
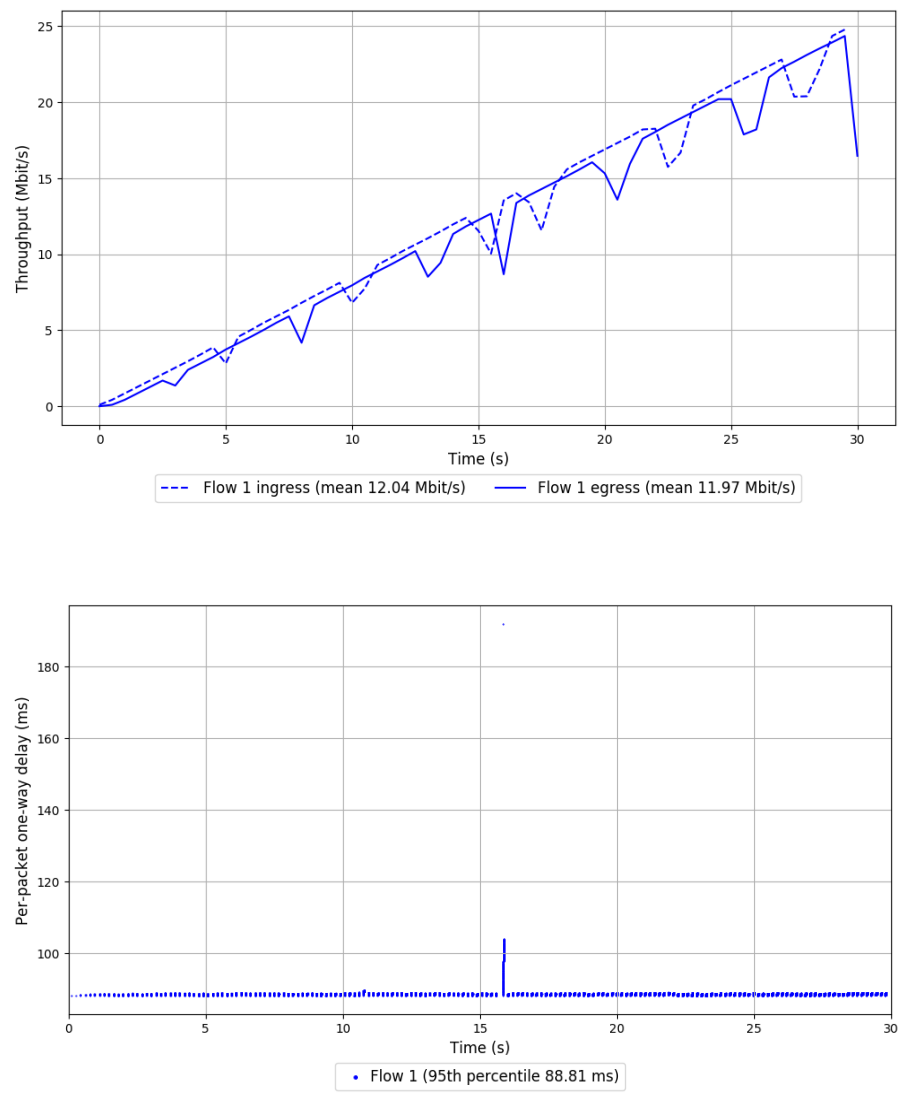

Flow 1 (95th percentile 123.56 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-01-19 05:37:44
End at: 2019-01-19 05:38:14
Local clock offset: -2.955 ms
Remote clock offset: 8.099 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 88.808 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 88.808 ms
Loss rate: 1.15%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-01-19 06:02:35
End at: 2019-01-19 06:03:05
Local clock offset: -6.908 ms
Remote clock offset: 5.532 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 91.379 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 91.379 ms
Loss rate: 1.15%
```
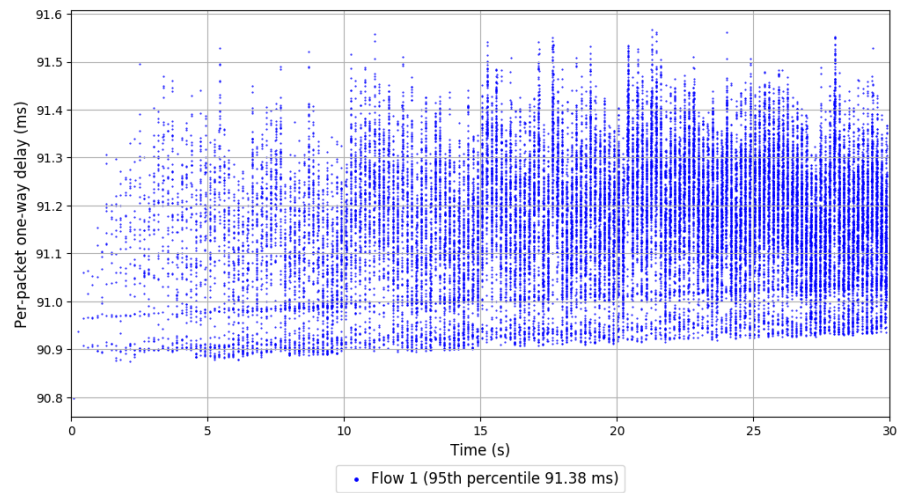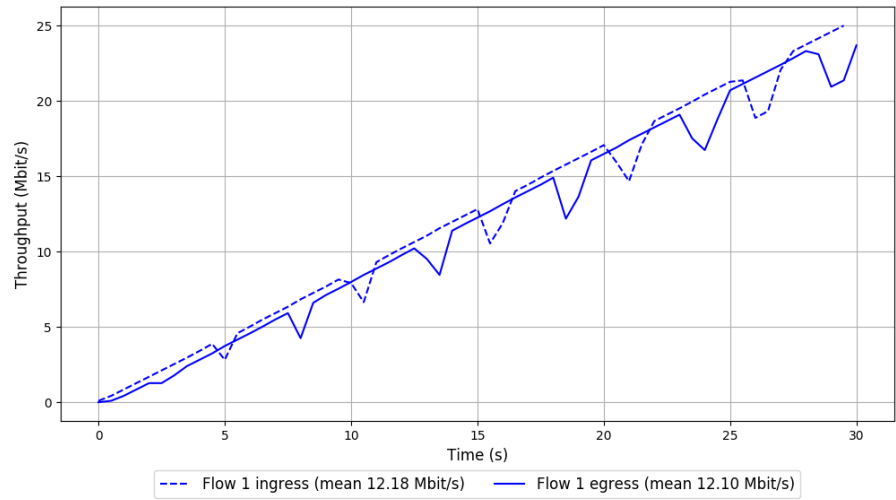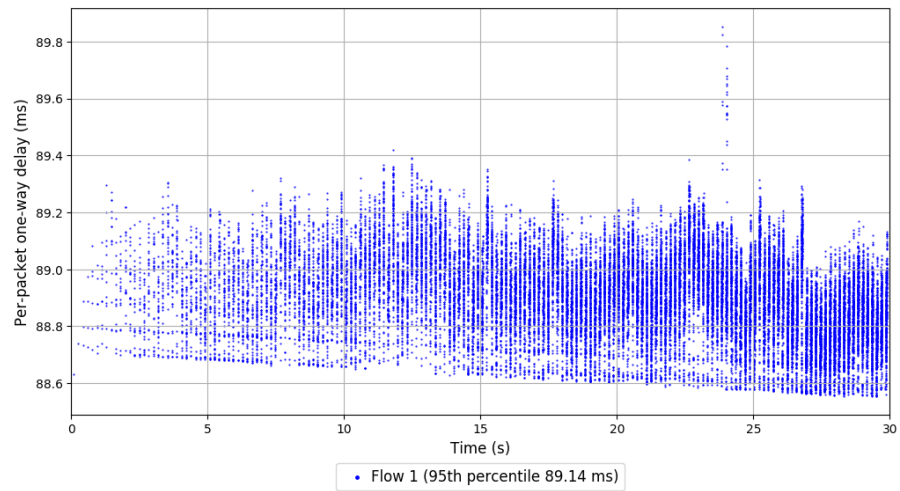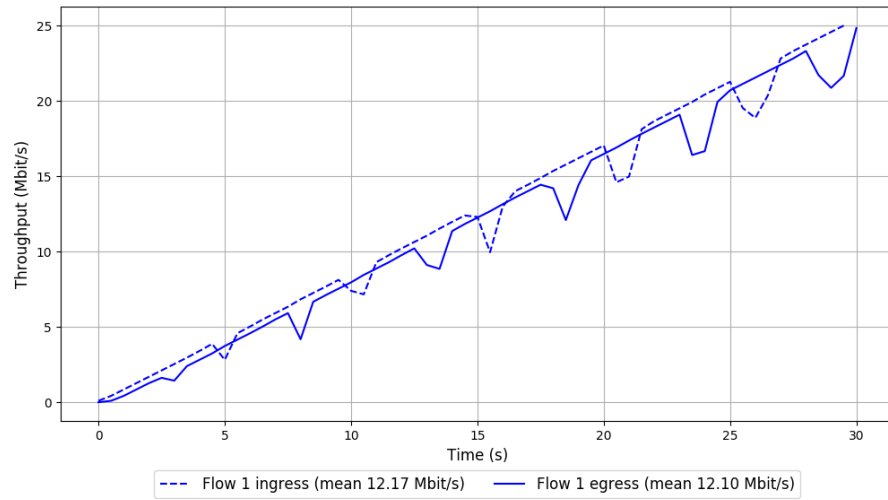
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-19 06:27:28
End at: 2019-01-19 06:27:58
Local clock offset: -3.474 ms
Remote clock offset: 5.719 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 89.142 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 89.142 ms
Loss rate: 1.15%
```
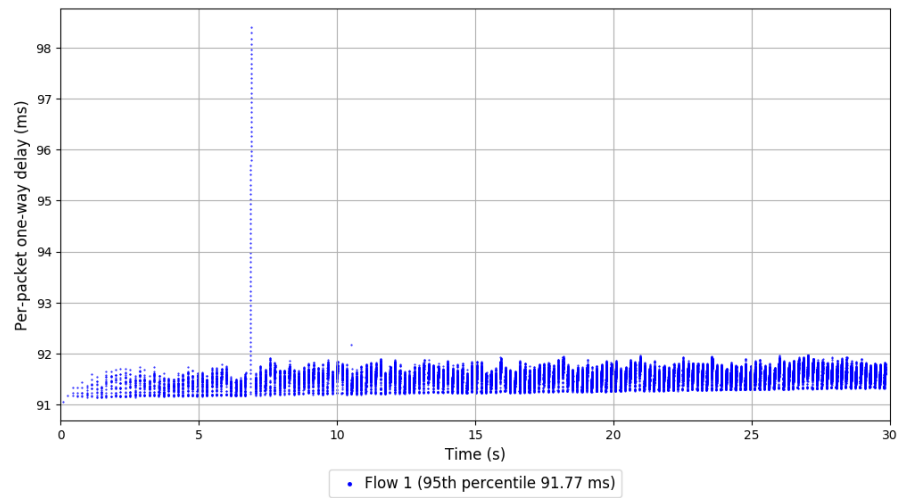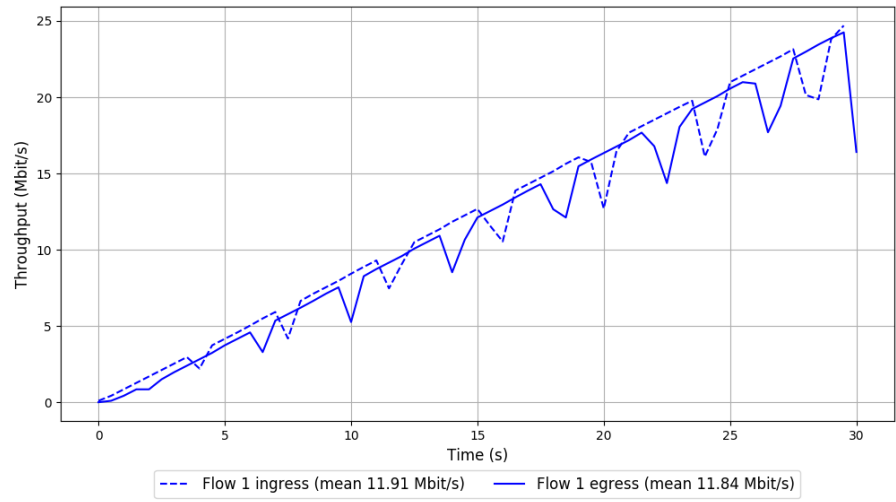
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 12.17 Mbit/s)   Flow 1 egress (mean 12.10 Mbit/s)

Flow 1 (95th percentile 89.14 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-19 06:52:20
End at: 2019-01-19 06:52:50
Local clock offset: -4.316 ms
Remote clock offset: 2.151 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 91.774 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 91.774 ms
Loss rate: 1.16%
```
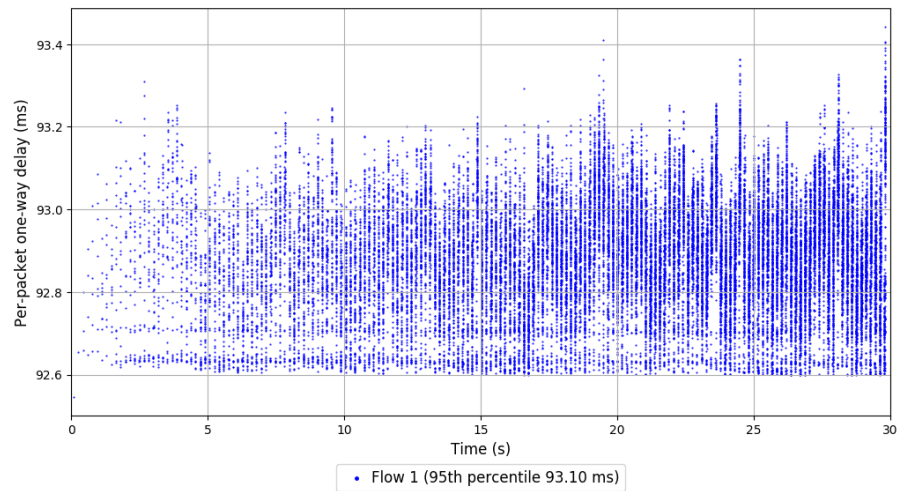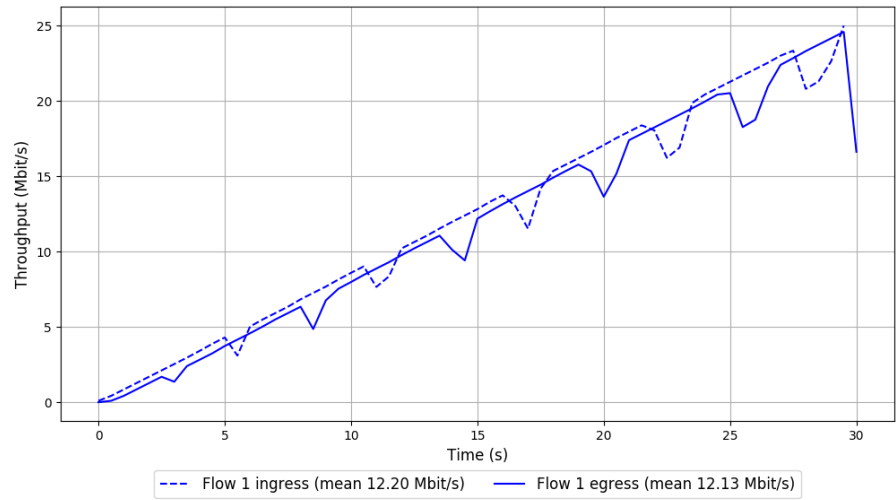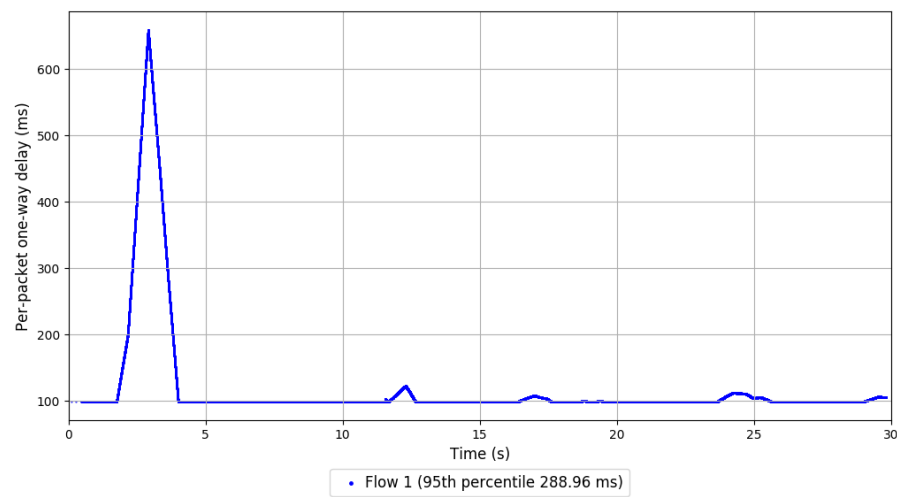
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 11.91 Mbit/s) --- Flow 1 egress (mean 11.84 Mbit/s)

• Flow 1 (95th percentile 91.77 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-01-19 07:17:14
End at: 2019-01-19 07:17:44
Local clock offset: -6.457 ms
Remote clock offset: 2.329 ms


# Below is generated by plot.py at 2019-01-19 07:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 93.104 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 93.104 ms
Loss rate: 1.15%
```

Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 12.20 Mbit/s)   Flow 1 egress (mean 12.13 Mbit/s)

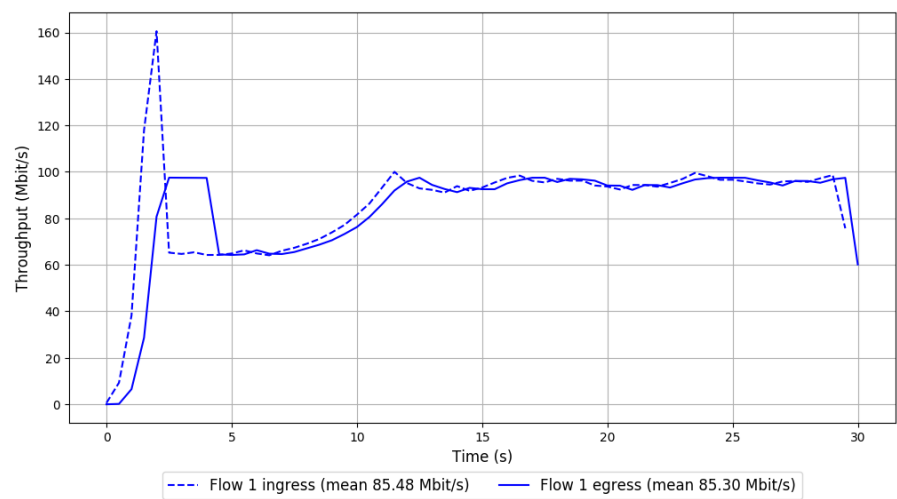Flow 1 (95th percentile 93.10 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-19 05:40:04
End at: 2019-01-19 05:40:34
Local clock offset: -3.022 ms
Remote clock offset: 4.33 ms


# Below is generated by plot.py at 2019-01-19 07:31:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.30 Mbit/s
95th percentile per-packet one-way delay: 288.962 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 85.30 Mbit/s
95th percentile per-packet one-way delay: 288.962 ms
Loss rate: 0.80%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-19 06:04:55
End at: 2019-01-19 06:05:25
Local clock offset: -7.115 ms
Remote clock offset: 4.499 ms


# Below is generated by plot.py at 2019-01-19 07:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.40 Mbit/s
95th percentile per-packet one-way delay: 236.226 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 86.40 Mbit/s
95th percentile per-packet one-way delay: 236.226 ms
Loss rate: 0.70%
```
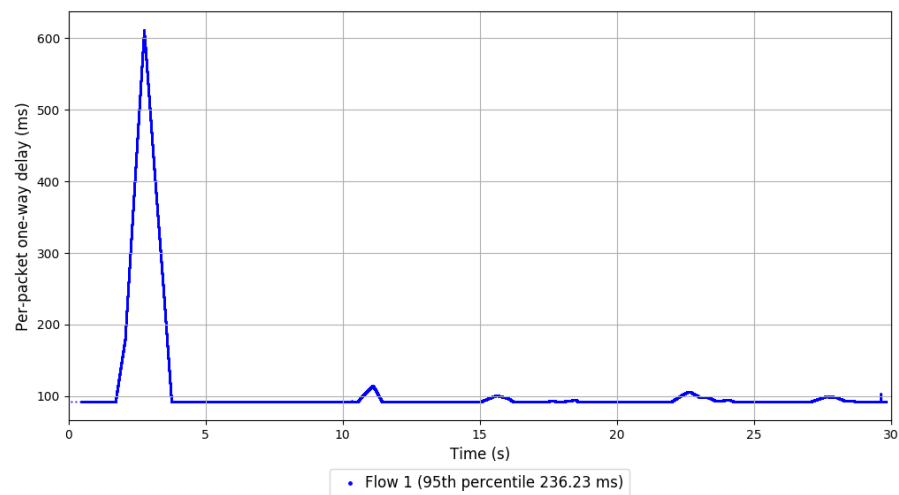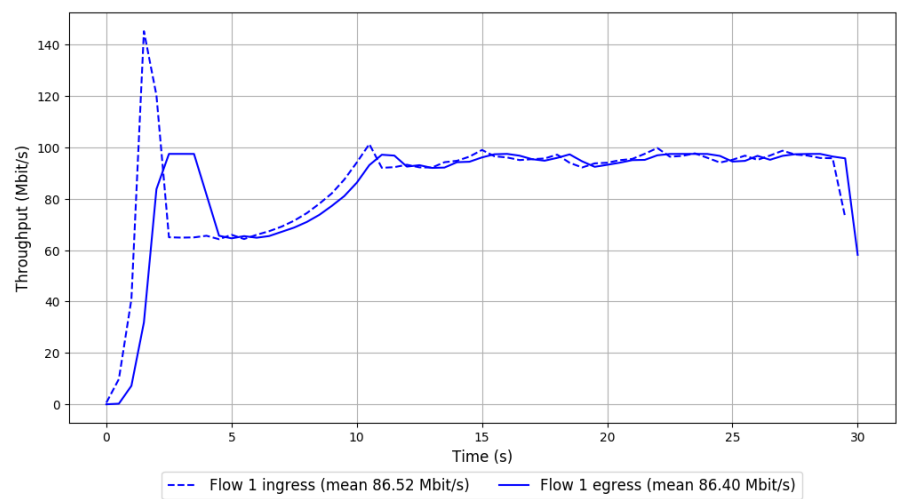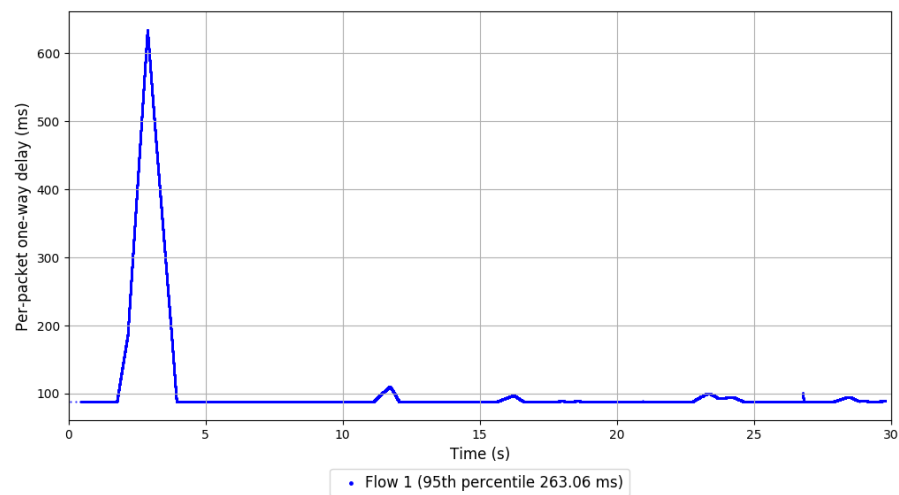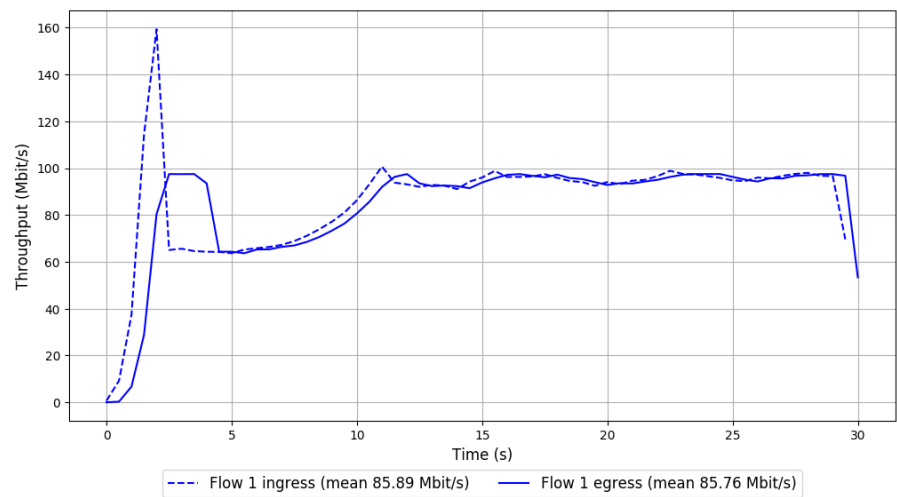
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 86.52 Mbit/s) ——— Flow 1 egress (mean 86.40 Mbit/s)

• Flow 1 (95th percentile 236.23 ms)

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```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-19 06:29:48
End at: 2019-01-19 06:30:18
Local clock offset: -3.019 ms
Remote clock offset: 6.437 ms


# Below is generated by plot.py at 2019-01-19 07:31:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.76 Mbit/s
95th percentile per-packet one-way delay: 263.065 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 85.76 Mbit/s
95th percentile per-packet one-way delay: 263.065 ms
Loss rate: 0.73%
```
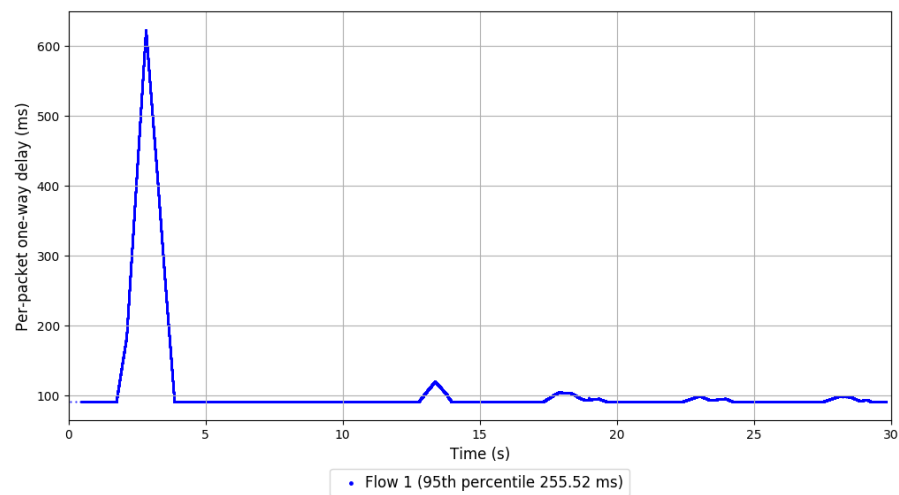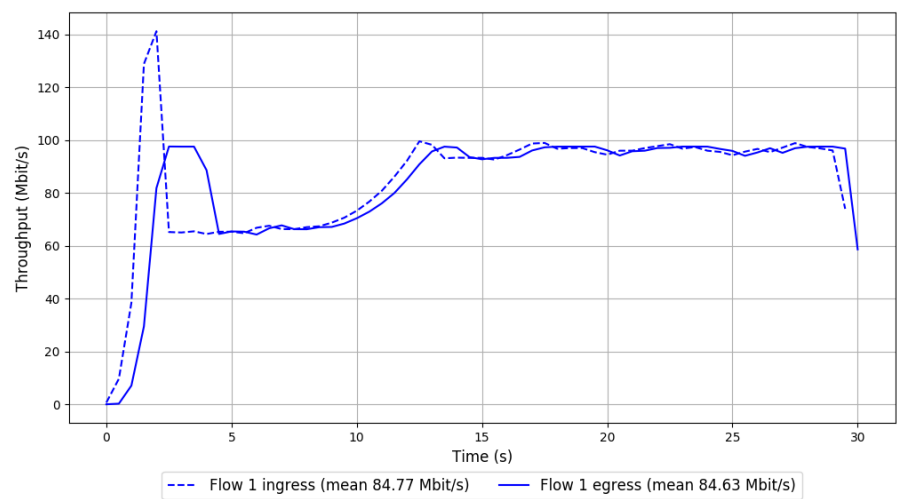
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 85.89 Mbit/s)   Flow 1 egress (mean 85.76 Mbit/s)

Flow 1 (95th percentile 263.06 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-19 06:54:40
End at: 2019-01-19 06:55:11
Local clock offset: -4.165 ms
Remote clock offset: 2.508 ms


# Below is generated by plot.py at 2019-01-19 07:31:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.63 Mbit/s
95th percentile per-packet one-way delay: 255.519 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 84.63 Mbit/s
95th percentile per-packet one-way delay: 255.519 ms
Loss rate: 0.74%
```
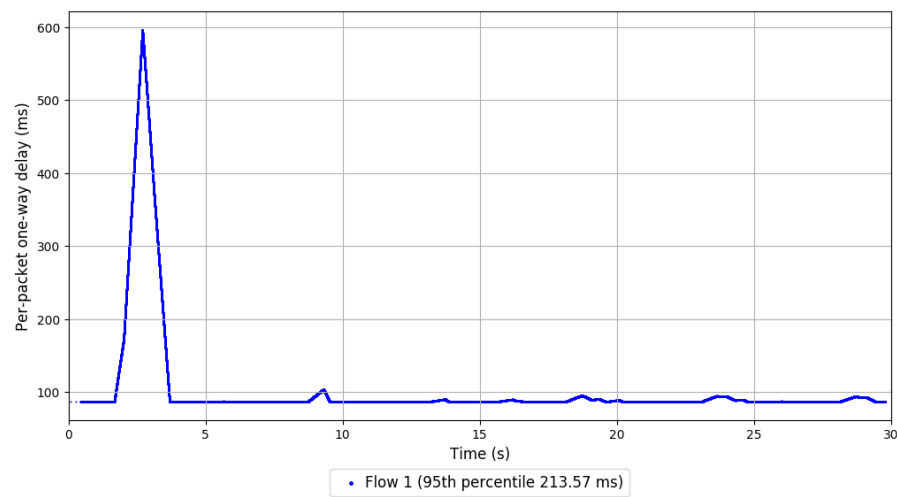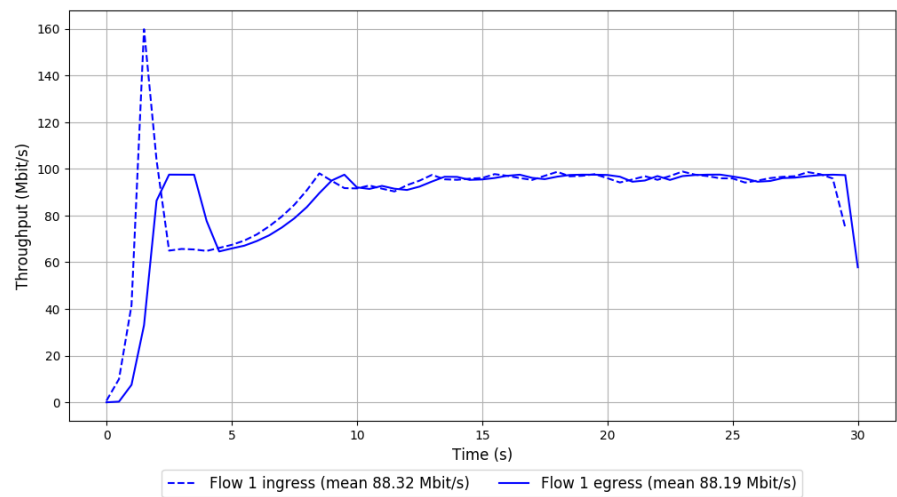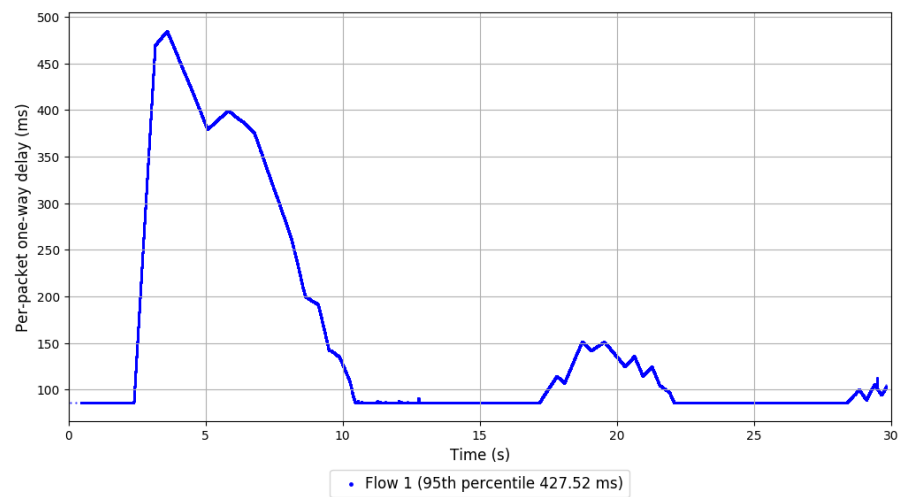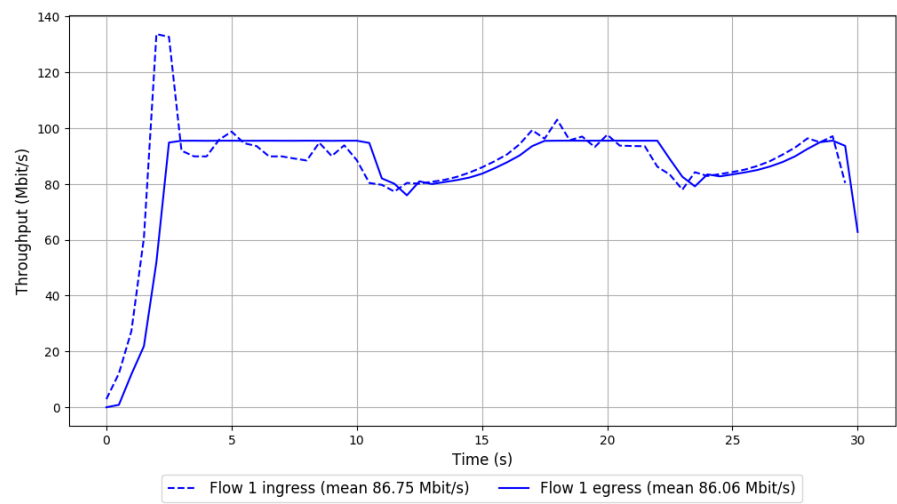
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 84.77 Mbit/s)　　Flow 1 egress (mean 84.63 Mbit/s)

Flow 1 (95th percentile 255.52 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-19 07:19:34
End at: 2019-01-19 07:20:04
Local clock offset: -7.203 ms
Remote clock offset: 7.229 ms


# Below is generated by plot.py at 2019-01-19 07:32:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.19 Mbit/s
95th percentile per-packet one-way delay: 213.574 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 88.19 Mbit/s
95th percentile per-packet one-way delay: 213.574 ms
Loss rate: 0.71%
```

Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 88.32 Mbit/s) — Flow 1 egress (mean 88.19 Mbit/s)

Flow 1 (95th percentile 213.57 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-19 05:31:42
End at: 2019-01-19 05:32:12
Local clock offset: -2.181 ms
Remote clock offset: 10.104 ms


# Below is generated by plot.py at 2019-01-19 07:32:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.06 Mbit/s
95th percentile per-packet one-way delay: 427.519 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 86.06 Mbit/s
95th percentile per-packet one-way delay: 427.519 ms
Loss rate: 1.36%
```
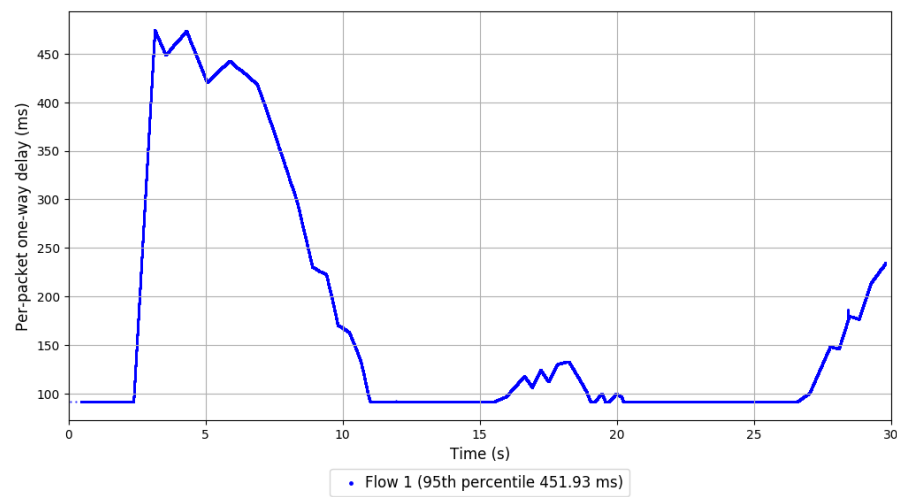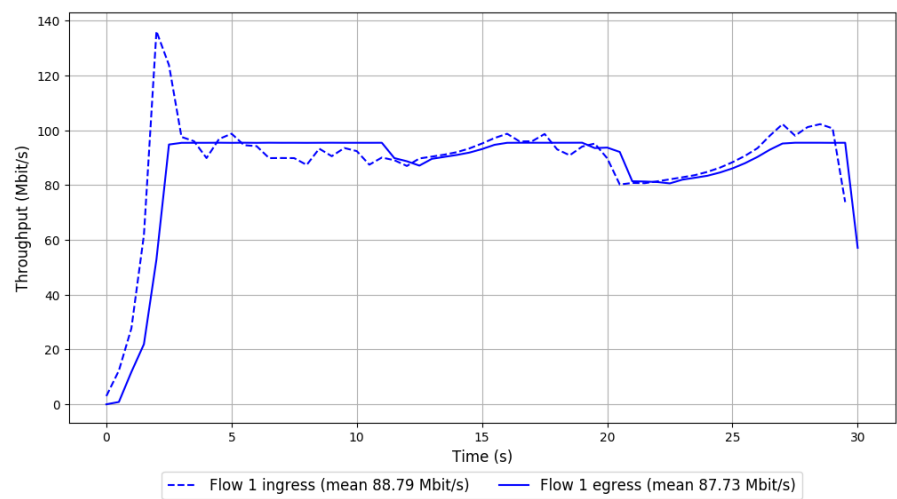
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 86.75 Mbit/s) ----- Flow 1 egress (mean 86.06 Mbit/s) ———

Flow 1 (95th percentile 427.52 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-19 05:56:34
End at: 2019-01-19 05:57:04
Local clock offset: -5.145 ms
Remote clock offset: 5.446 ms


# Below is generated by plot.py at 2019-01-19 07:33:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.73 Mbit/s
95th percentile per-packet one-way delay: 451.929 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 87.73 Mbit/s
95th percentile per-packet one-way delay: 451.929 ms
Loss rate: 1.76%
```
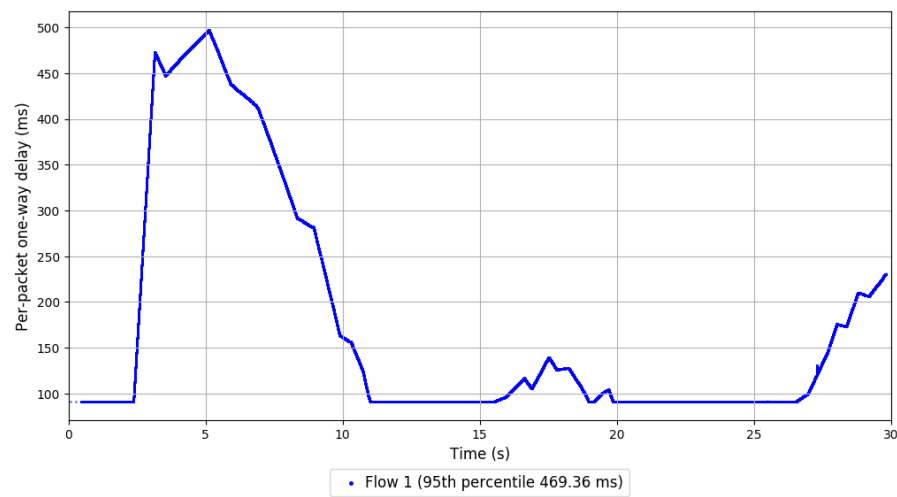
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-19 06:21:26
End at: 2019-01-19 06:21:56
Local clock offset: -5.197 ms
Remote clock offset: 3.806 ms


# Below is generated by plot.py at 2019-01-19 07:33:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.71 Mbit/s
95th percentile per-packet one-way delay: 469.355 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 87.71 Mbit/s
95th percentile per-packet one-way delay: 469.355 ms
Loss rate: 1.75%
```
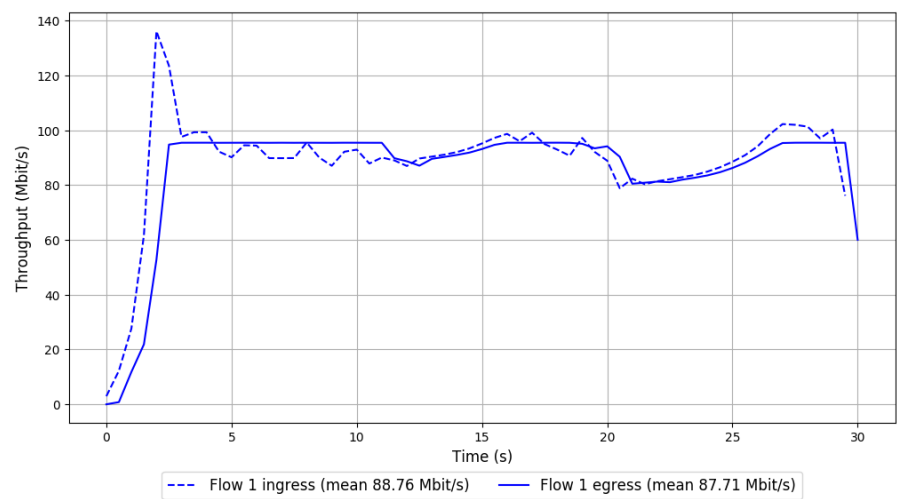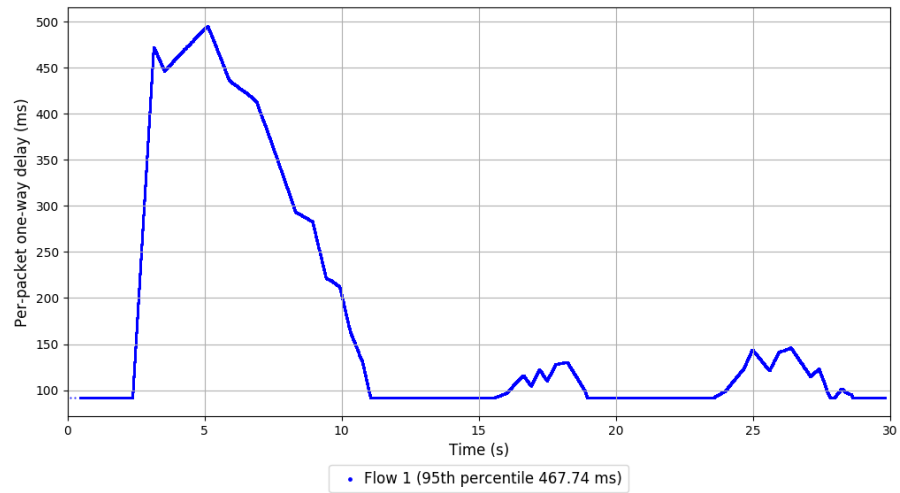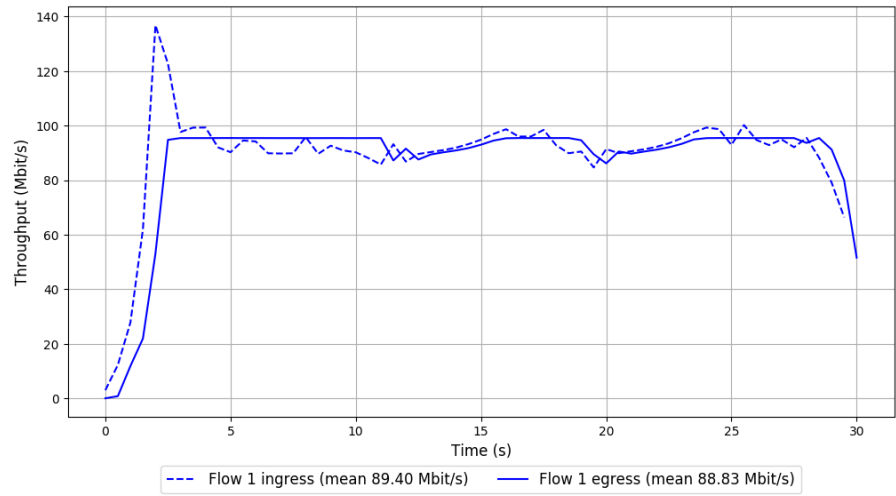
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 88.76 Mbit/s) ----   Flow 1 egress (mean 87.71 Mbit/s) ———

• Flow 1 (95th percentile 469.36 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-19 06:46:19
End at: 2019-01-19 06:46:49
Local clock offset: -2.403 ms
Remote clock offset: 0.642 ms


# Below is generated by plot.py at 2019-01-19 07:33:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.83 Mbit/s
95th percentile per-packet one-way delay: 467.744 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 88.83 Mbit/s
95th percentile per-packet one-way delay: 467.744 ms
Loss rate: 1.21%
```
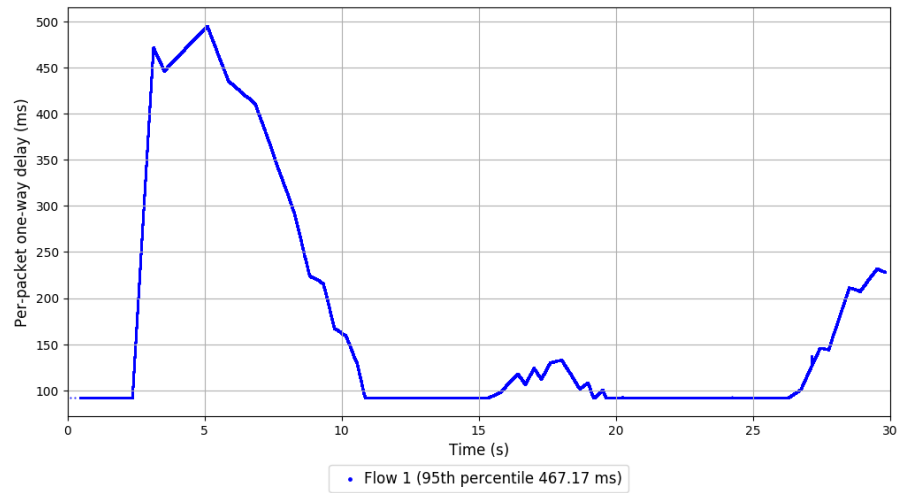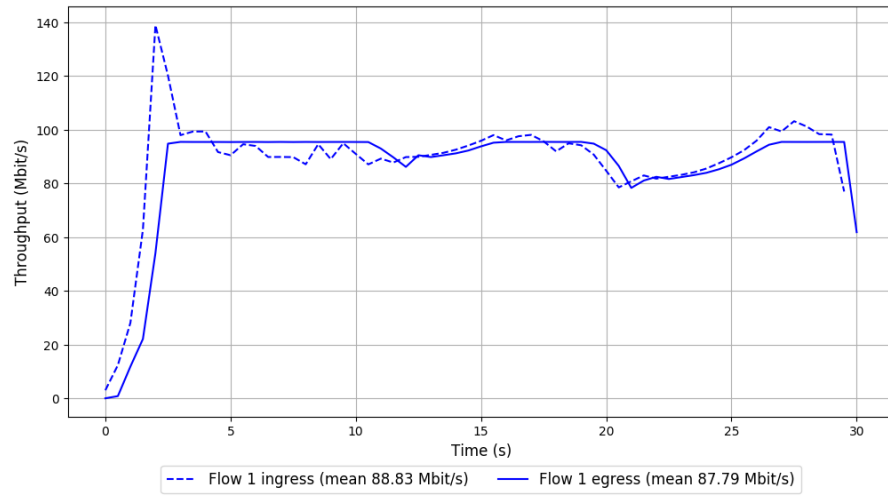
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 89.40 Mbit/s)   Flow 1 egress (mean 88.83 Mbit/s)

Flow 1 (95th percentile 467.74 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-19 07:11:12
End at: 2019-01-19 07:11:42
Local clock offset: -6.885 ms
Remote clock offset: 2.121 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.79 Mbit/s
95th percentile per-packet one-way delay: 467.173 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 87.79 Mbit/s
95th percentile per-packet one-way delay: 467.173 ms
Loss rate: 1.74%
```
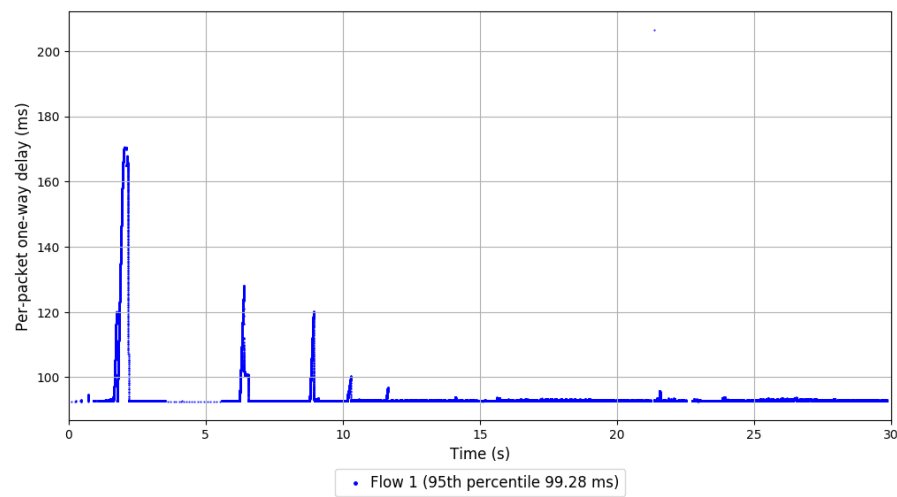
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-19 05:41:14
End at: 2019-01-19 05:41:44
Local clock offset: -2.209 ms
Remote clock offset: 4.265 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 99.278 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 99.278 ms
Loss rate: 0.86%
```
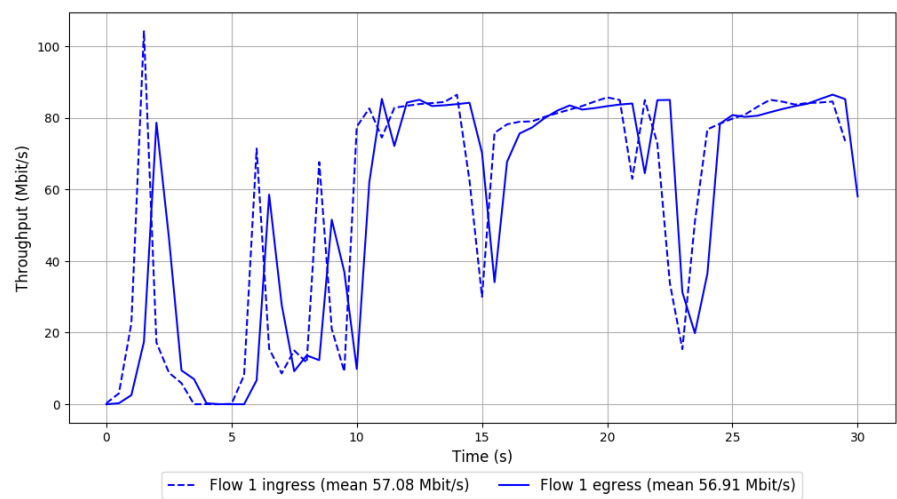
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-19 06:06:05
End at: 2019-01-19 06:06:35
Local clock offset: -7.253 ms
Remote clock offset: 4.388 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.52 Mbit/s
95th percentile per-packet one-way delay: 99.329 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 52.52 Mbit/s
95th percentile per-packet one-way delay: 99.329 ms
Loss rate: 1.03%
```
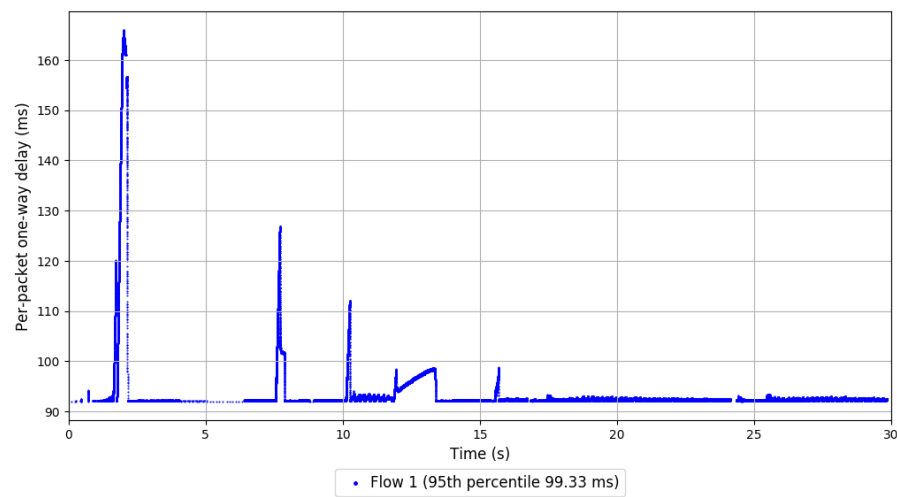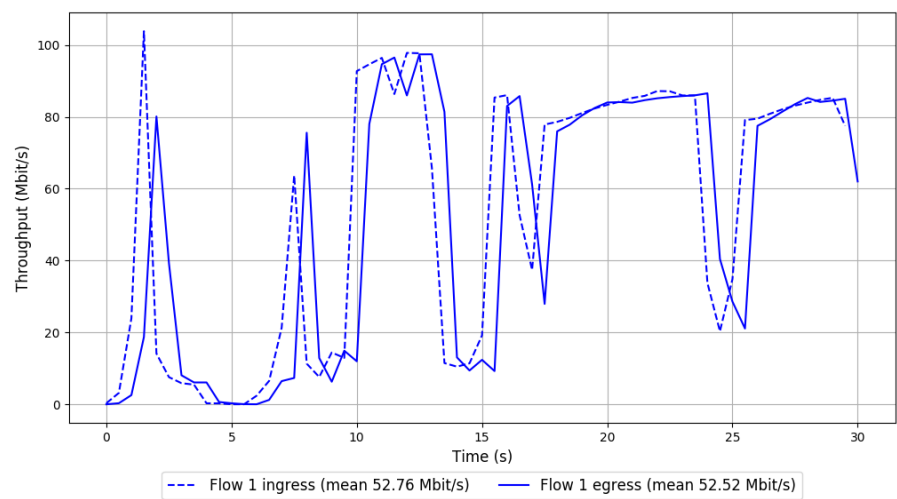
Run 2: Report of QUIC Cubic — Data Link

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```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-19 06:30:58
End at: 2019-01-19 06:31:28
Local clock offset: -2.859 ms
Remote clock offset: 1.368 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.67 Mbit/s
95th percentile per-packet one-way delay: 103.246 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 62.67 Mbit/s
95th percentile per-packet one-way delay: 103.246 ms
Loss rate: 0.88%
```
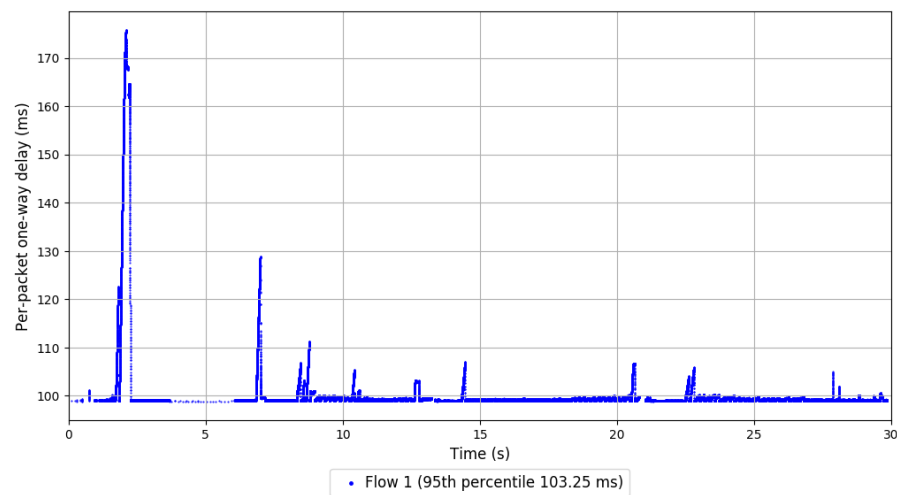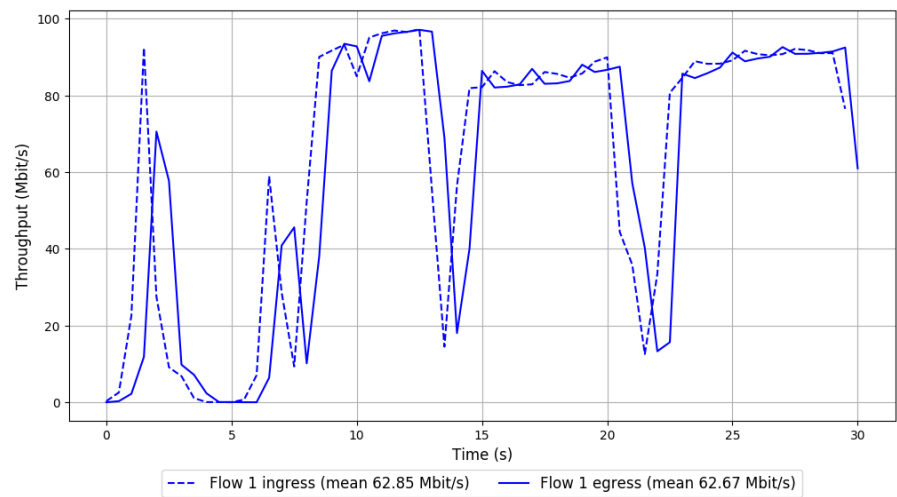
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-19 06:55:51
End at: 2019-01-19 06:56:21
Local clock offset: -5.194 ms
Remote clock offset: 1.49 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 98.360 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 98.360 ms
Loss rate: 0.86%
```
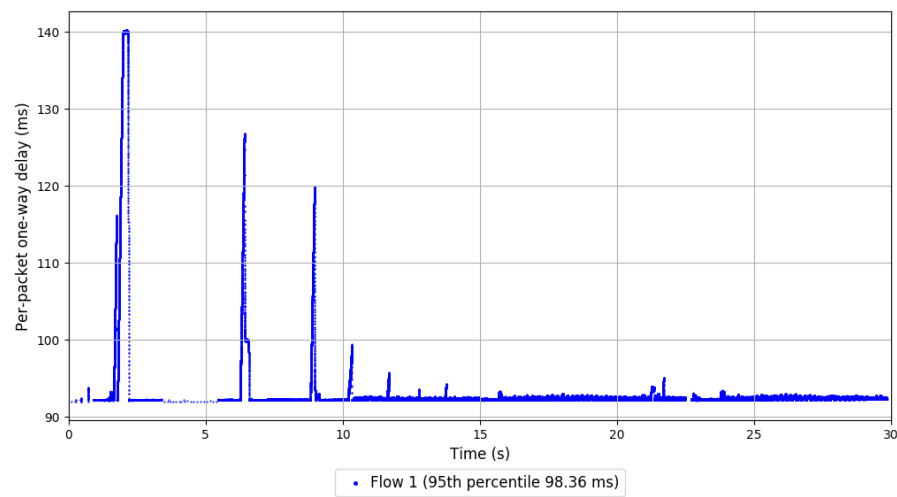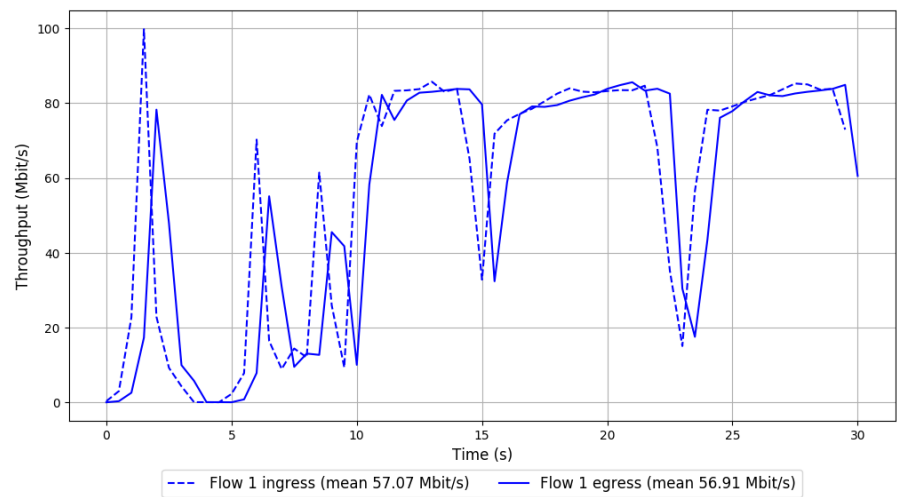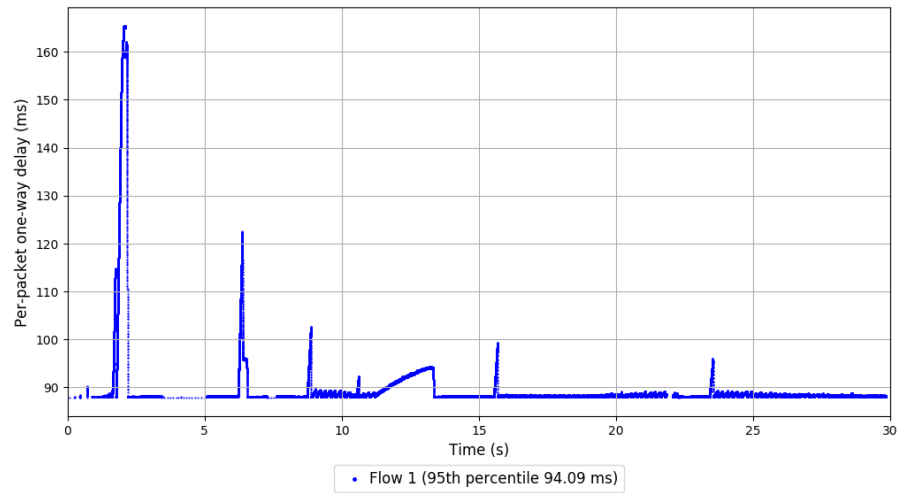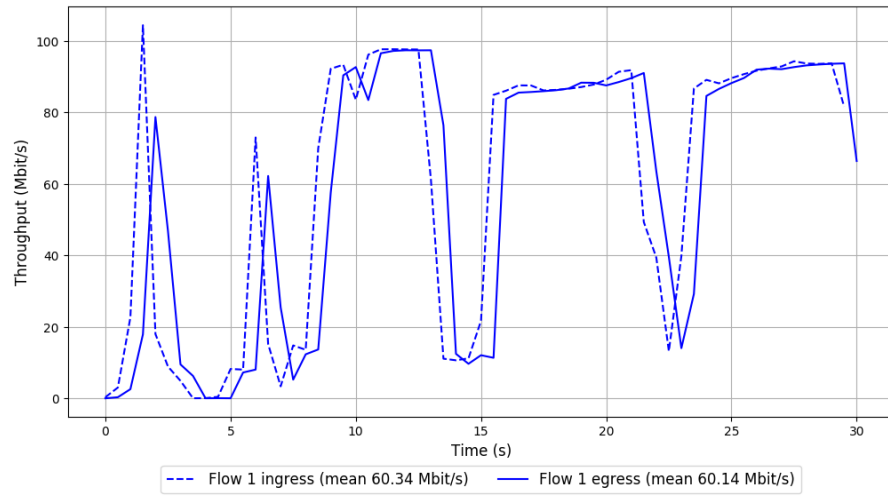
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.07 Mbit/s)   Flow 1 egress (mean 56.91 Mbit/s)

• Flow 1 (95th percentile 98.36 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-19 07:20:45
End at: 2019-01-19 07:21:15
Local clock offset: -6.367 ms
Remote clock offset: 7.277 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.14 Mbit/s
95th percentile per-packet one-way delay: 94.092 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 60.14 Mbit/s
95th percentile per-packet one-way delay: 94.092 ms
Loss rate: 0.90%
```

Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-01-19 05:19:54
End at: 2019-01-19 05:20:24
Local clock offset: -2.069 ms
Remote clock offset: 8.567 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.645 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.645 ms
Loss rate: 0.64%
```
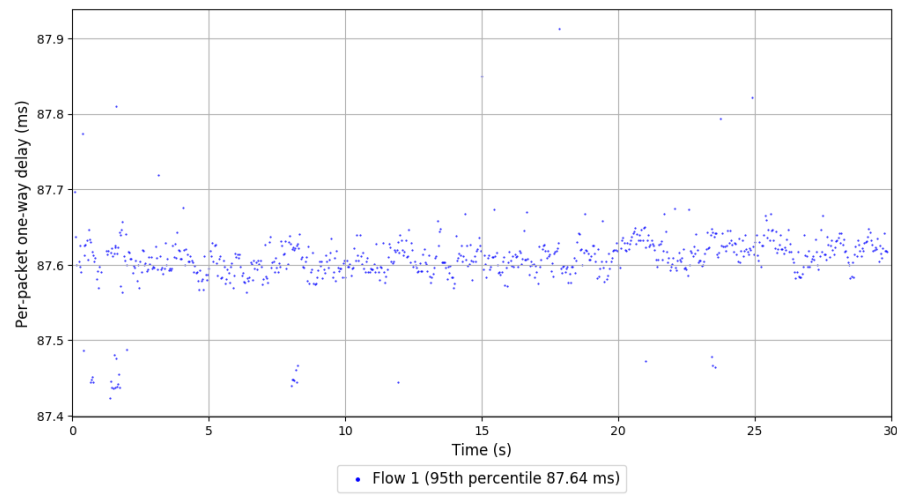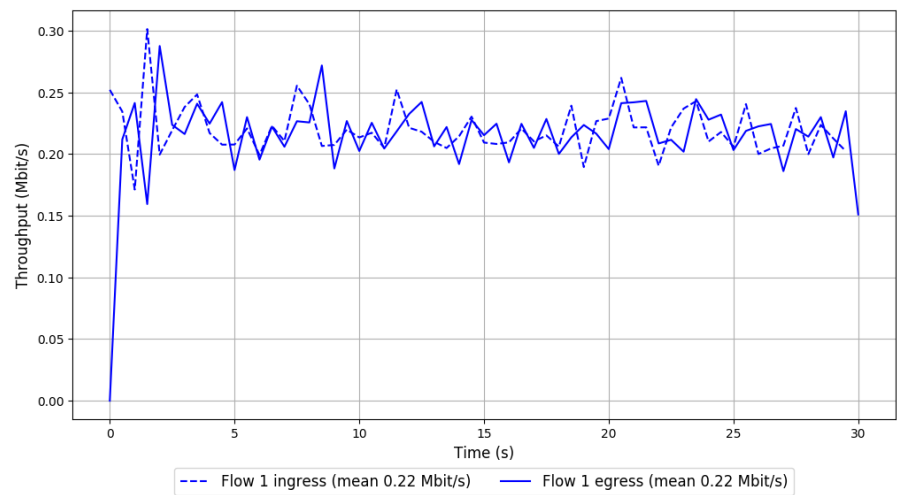
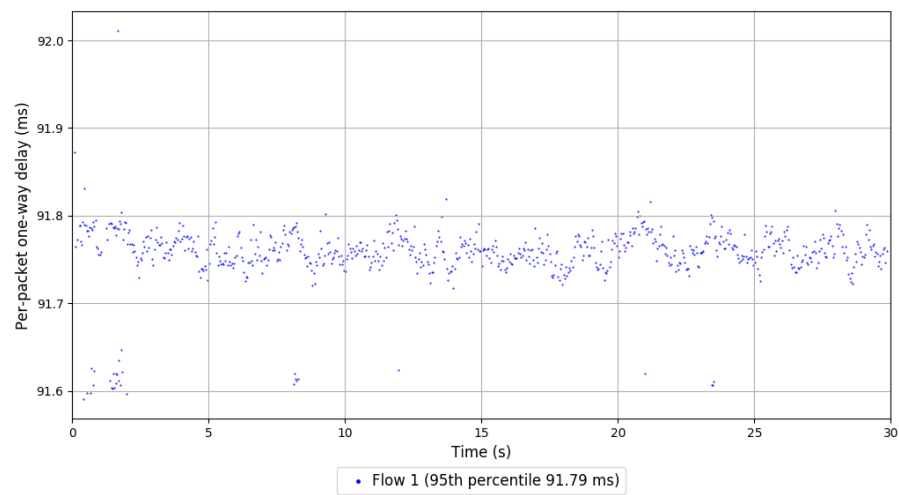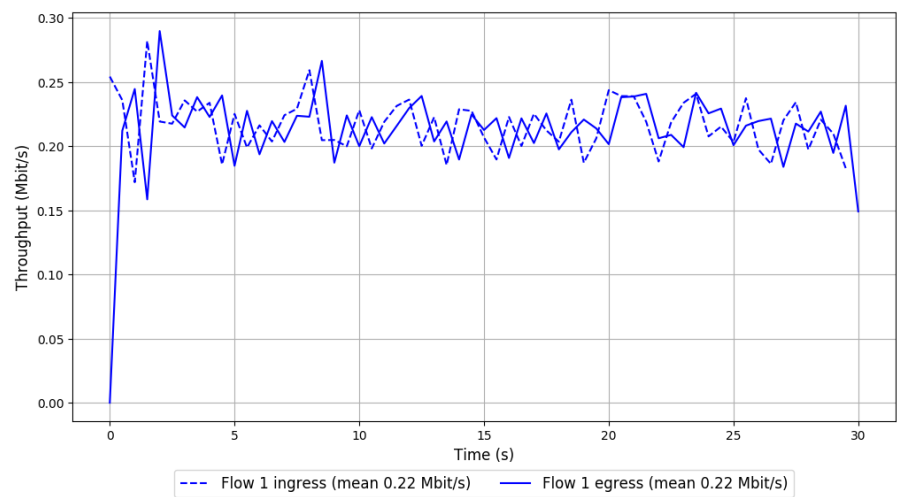Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-01-19 05:44:48
End at: 2019-01-19 05:45:18
Local clock offset: -2.98 ms
Remote clock offset: 10.345 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.790 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.790 ms
Loss rate: 0.51%
```
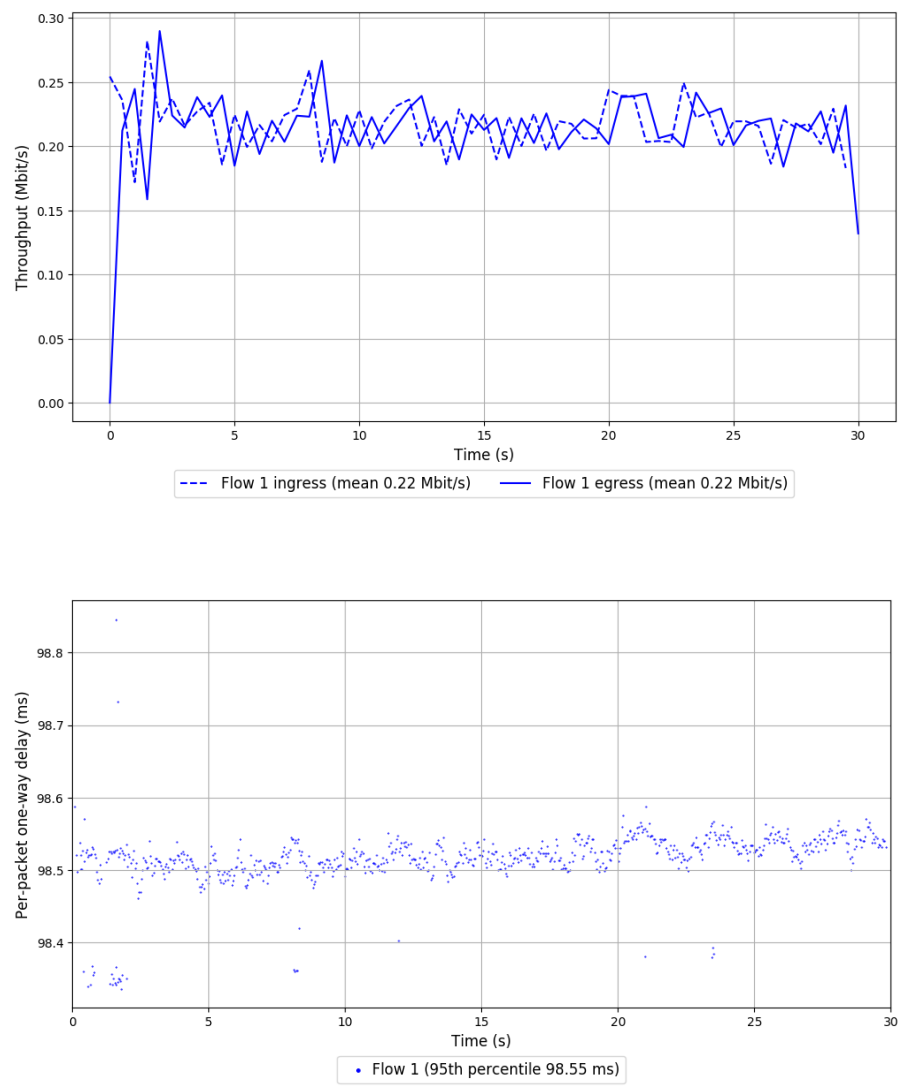
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-01-19 06:09:38
End at: 2019-01-19 06:10:08
Local clock offset: -7.546 ms
Remote clock offset: 4.336 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.553 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.553 ms
Loss rate: 0.64%
```
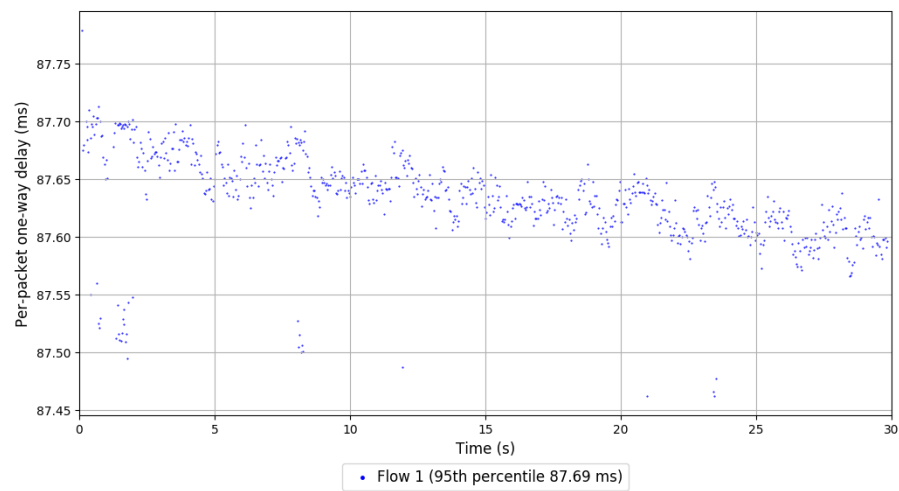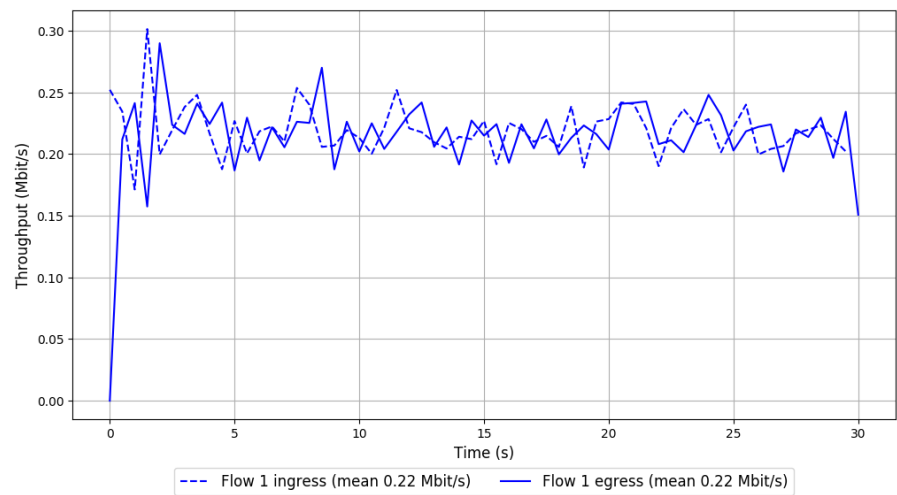
Run 3: Report of SCReAM — Data Link

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

• Flow 1 (95th percentile 98.55 ms)

```
Run 4: Statistics of SCReAM

Start at: 2019-01-19 06:34:31
End at: 2019-01-19 06:35:01
Local clock offset: -3.187 ms
Remote clock offset: 4.933 ms

# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.690 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.690 ms
Loss rate: 0.64%
```
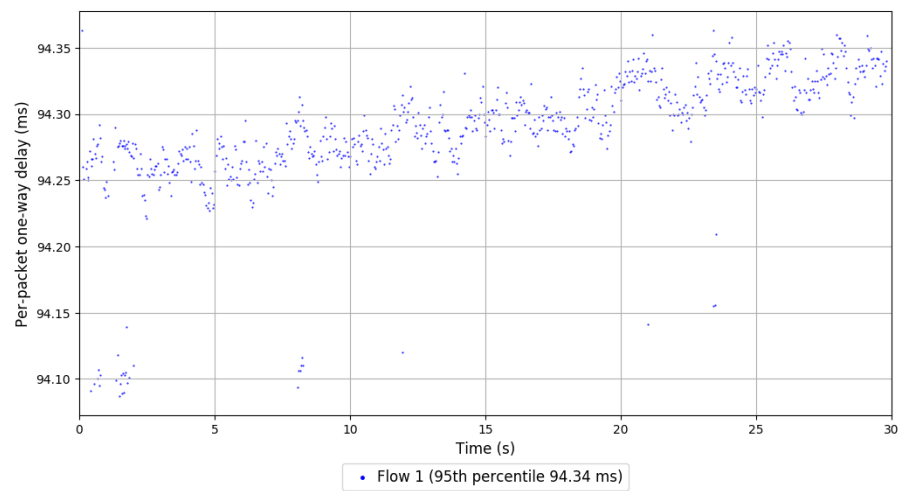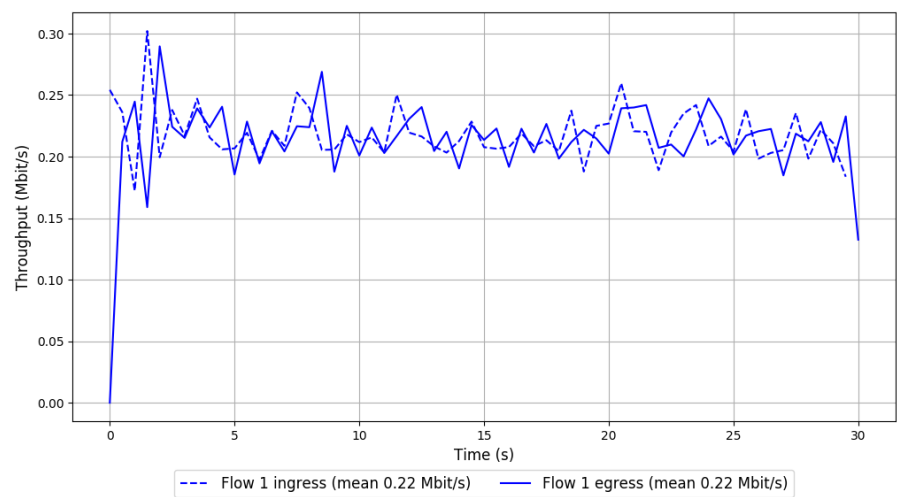
Run 4: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 87.69 ms)

```
Run 5: Statistics of SCReAM

Start at: 2019-01-19 06:59:24
End at: 2019-01-19 06:59:54
Local clock offset: -5.01 ms
Remote clock offset: 6.628 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.343 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 94.343 ms
Loss rate: 0.64%
```
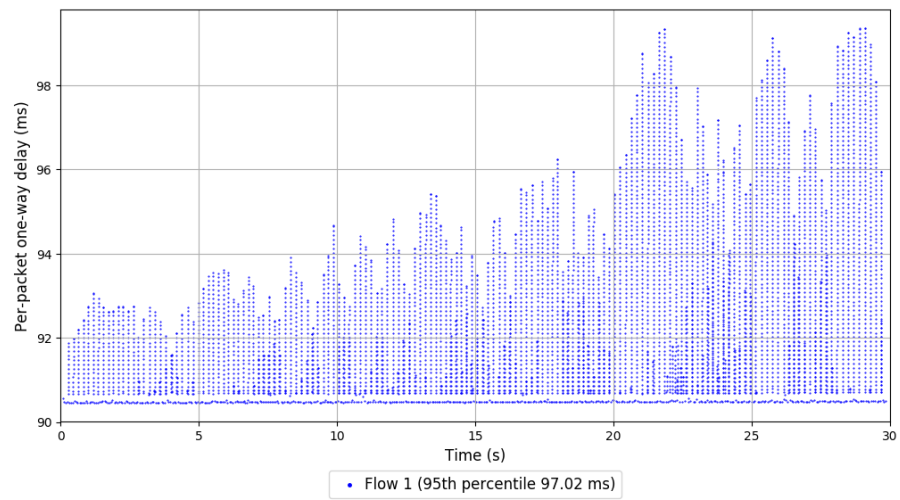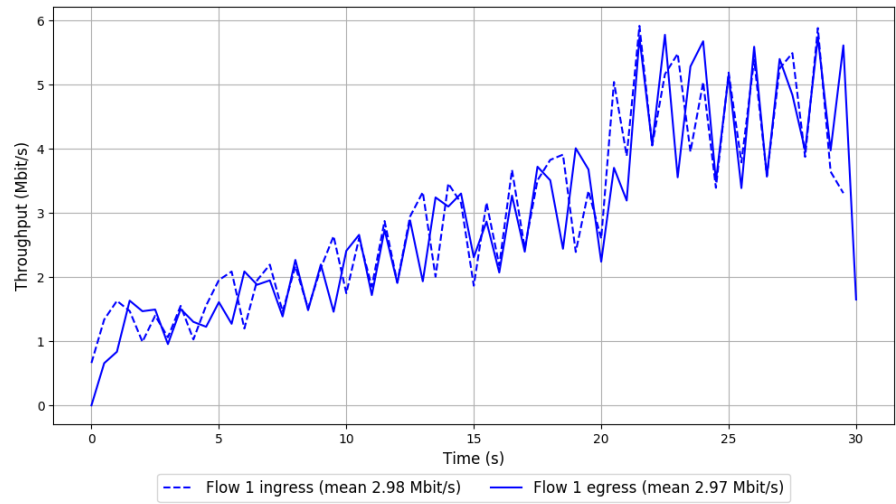
Run 5: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 94.34 ms)

```
Run 1: Statistics of Sprout

Start at: 2019-01-19 05:22:13
End at: 2019-01-19 05:22:43
Local clock offset: -2.894 ms
Remote clock offset: 4.825 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 97.016 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 97.016 ms
Loss rate: 0.93%
```

Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-19 05:47:07
End at: 2019-01-19 05:47:37
Local clock offset: -2.21 ms
Remote clock offset: 8.24 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 94.789 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 94.789 ms
Loss rate: 0.63%
```
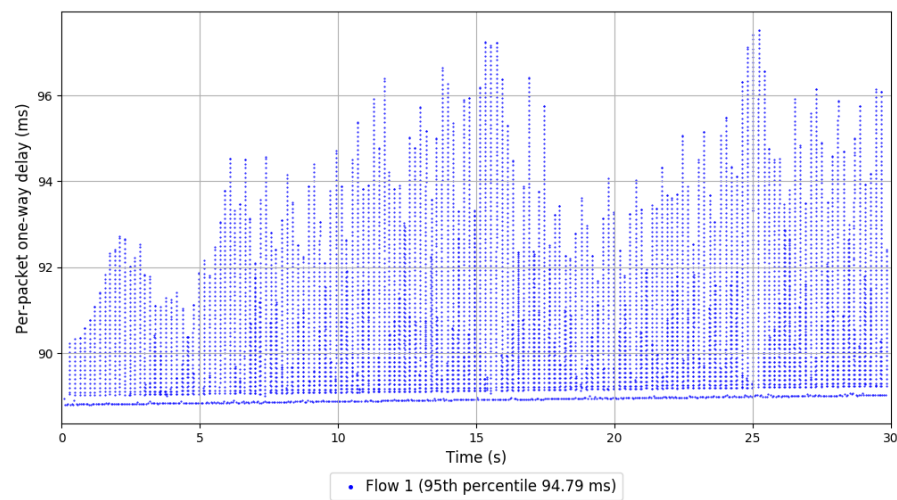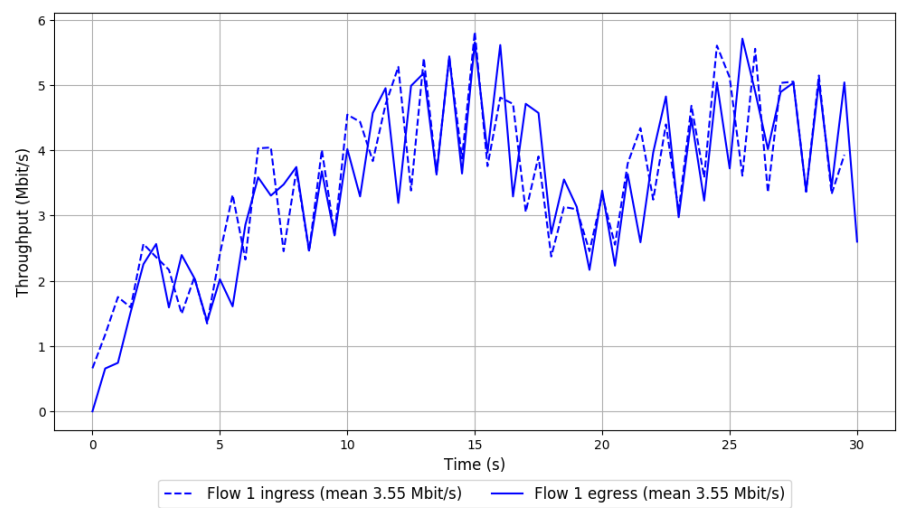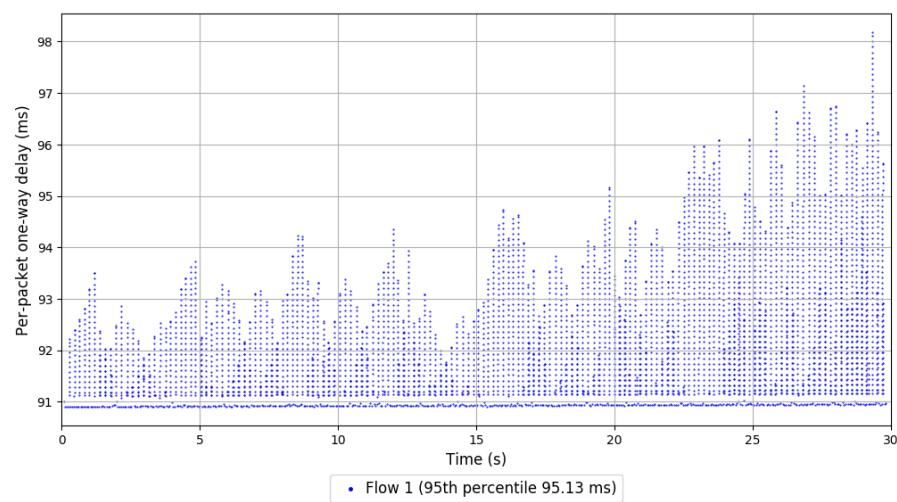
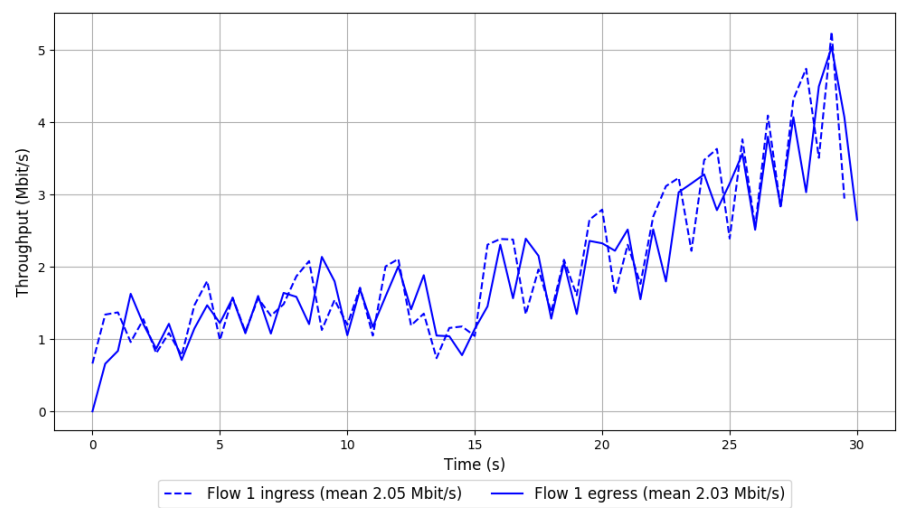Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-19 06:11:57
End at: 2019-01-19 06:12:27
Local clock offset: -6.996 ms
Remote clock offset: 5.731 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 95.130 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 95.130 ms
Loss rate: 1.21%
```

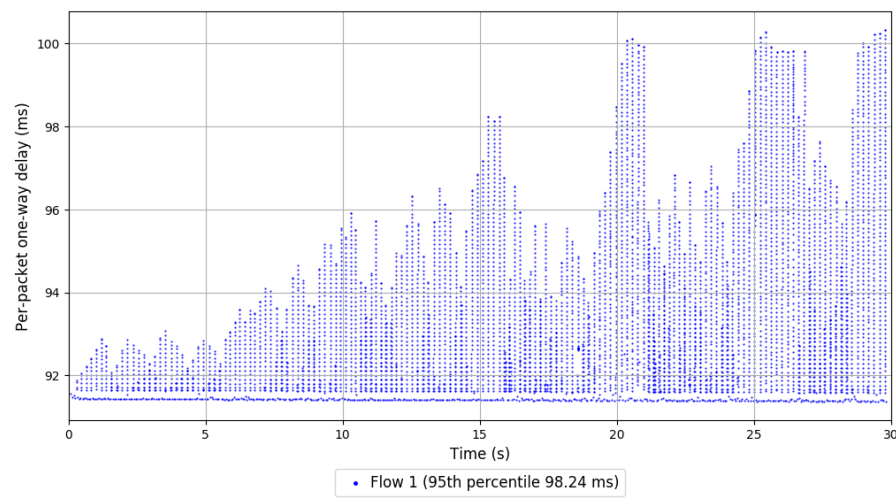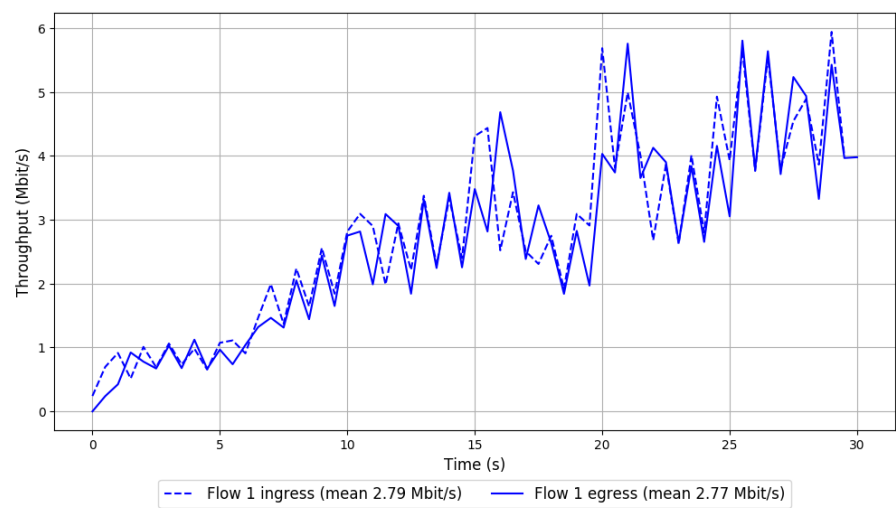Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-01-19 06:36:50
End at: 2019-01-19 06:37:20
Local clock offset: -2.218 ms
Remote clock offset: 2.218 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 98.238 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 98.238 ms
Loss rate: 1.20%
```

Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-01-19 07:01:43
End at: 2019-01-19 07:02:13
Local clock offset: -5.392 ms
Remote clock offset: 6.886 ms


# Below is generated by plot.py at 2019-01-19 07:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 92.520 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 92.520 ms
Loss rate: 0.86%
```
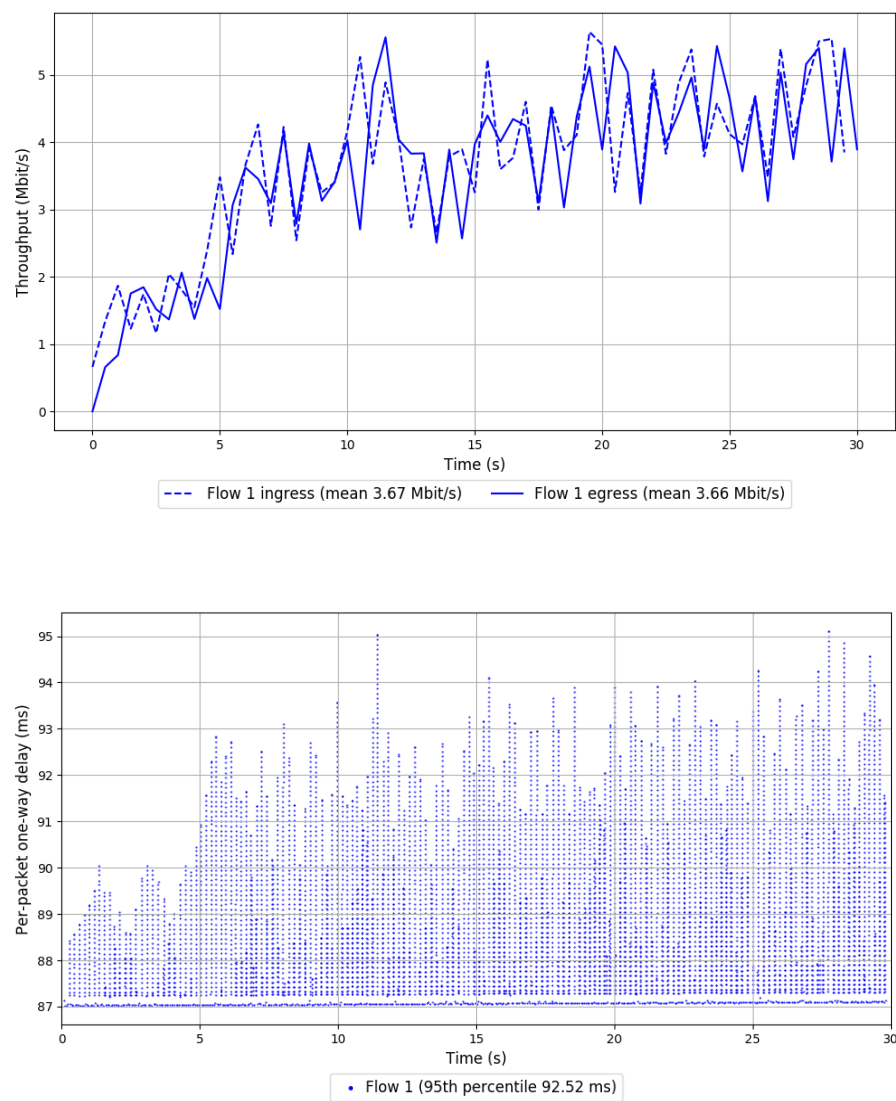
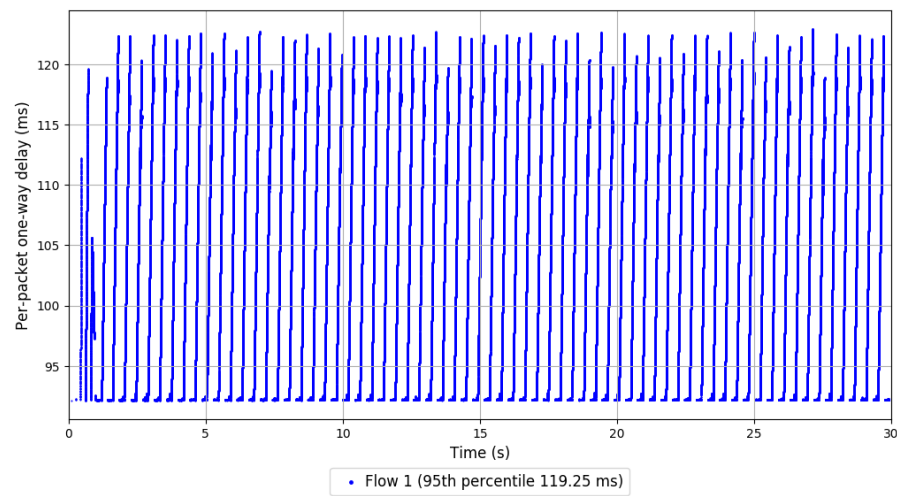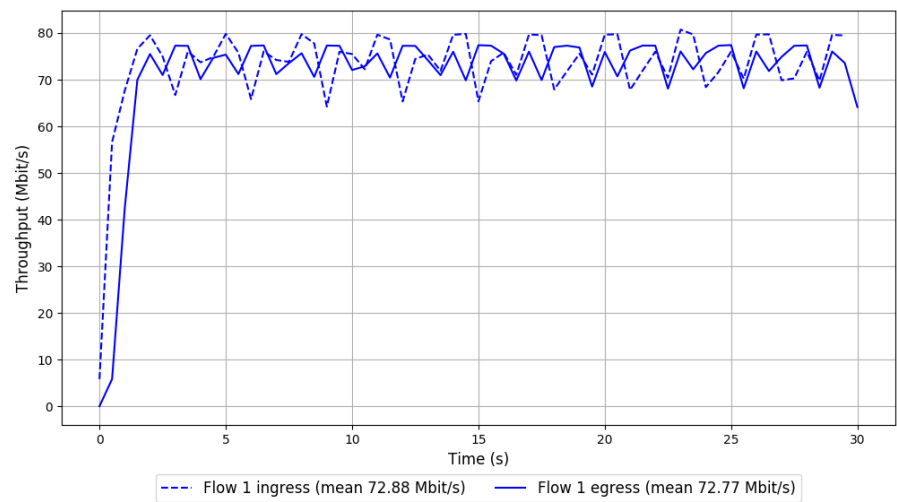Run 5: Report of Sprout — Data Link

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

Start at: 2019-01-19 05:35:16
End at: 2019-01-19 05:35:46
Local clock offset: -2.953 ms
Remote clock offset: 4.139 ms


# Below is generated by plot.py at 2019-01-19 07:34:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.77 Mbit/s
95th percentile per-packet one-way delay: 119.255 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 72.77 Mbit/s
95th percentile per-packet one-way delay: 119.255 ms
Loss rate: 0.73%
```
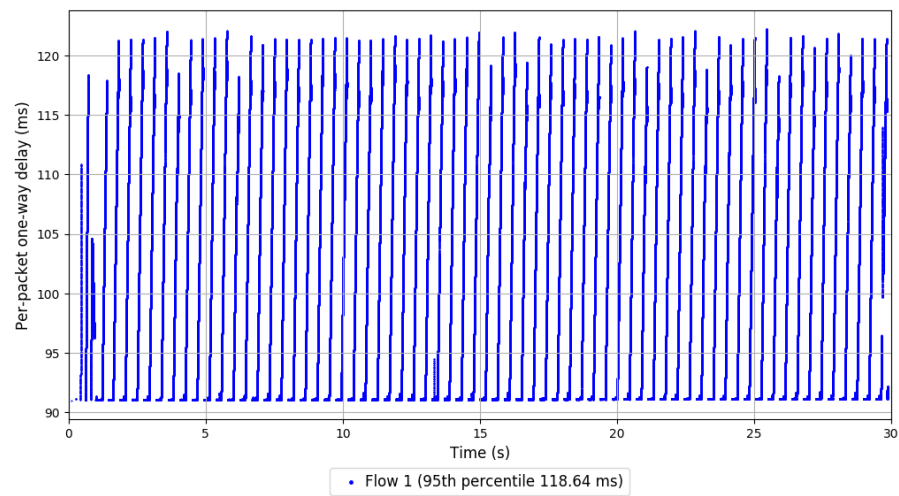
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 72.88 Mbit/s) --- Flow 1 egress (mean 72.77 Mbit/s)

• Flow 1 (95th percentile 119.25 ms)

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

Start at: 2019-01-19 06:00:08
End at: 2019-01-19 06:00:38
Local clock offset: -5.82 ms
Remote clock offset: 5.547 ms


# Below is generated by plot.py at 2019-01-19 07:34:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.22 Mbit/s
95th percentile per-packet one-way delay: 118.639 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 72.22 Mbit/s
95th percentile per-packet one-way delay: 118.639 ms
Loss rate: 0.65%
```
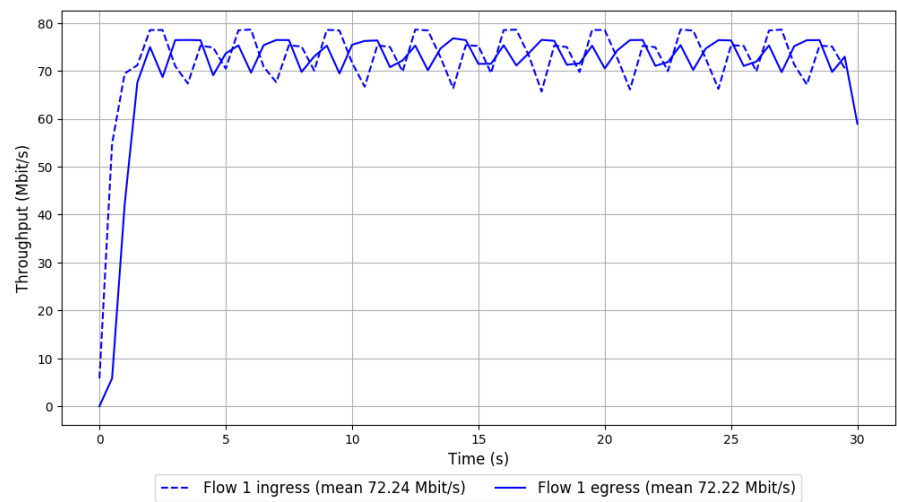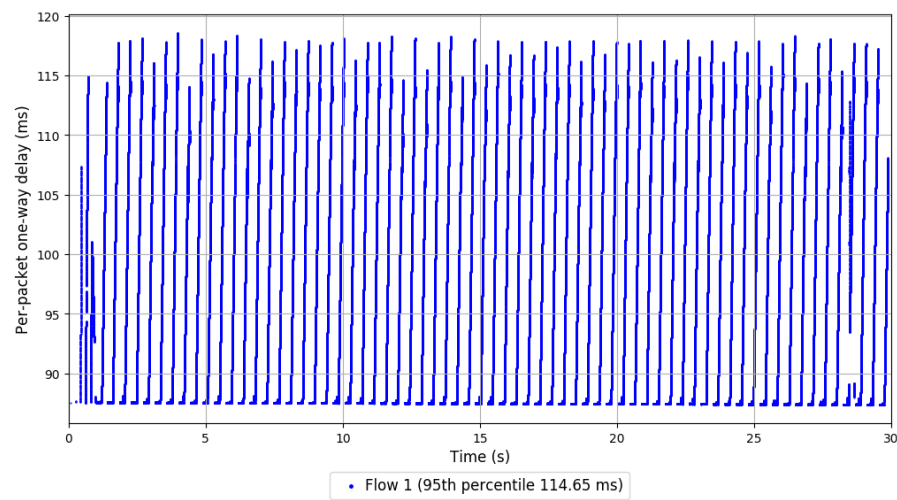
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-19 06:25:00
End at: 2019-01-19 06:25:30
Local clock offset: -4.16 ms
Remote clock offset: 6.773 ms


# Below is generated by plot.py at 2019-01-19 07:34:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.48 Mbit/s
95th percentile per-packet one-way delay: 114.651 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 72.48 Mbit/s
95th percentile per-packet one-way delay: 114.651 ms
Loss rate: 0.56%
```
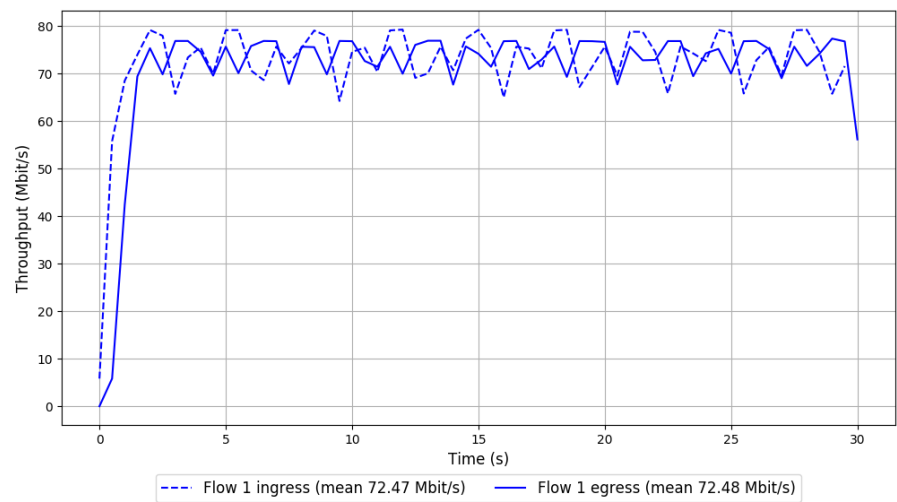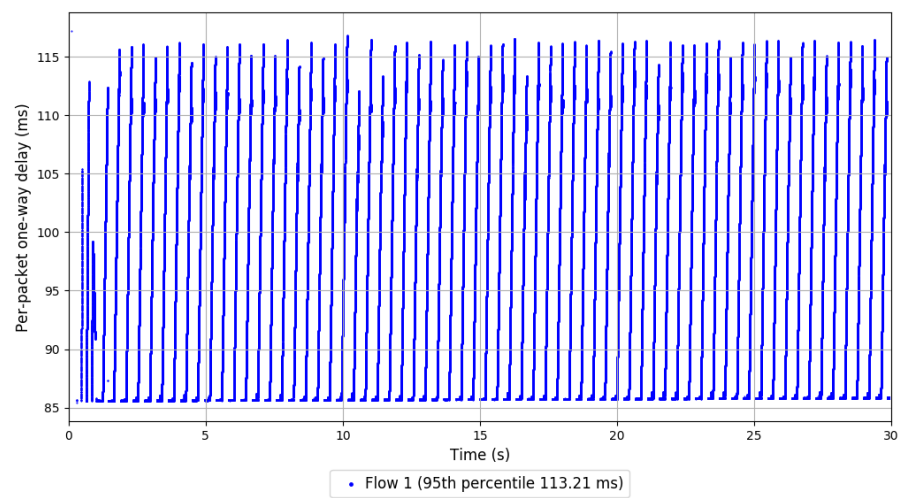
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 72.47 Mbit/s) --- Flow 1 egress (mean 72.48 Mbit/s)

• Flow 1 (95th percentile 114.65 ms)

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

Start at: 2019-01-19 06:49:53
End at: 2019-01-19 06:50:23
Local clock offset: -3.561 ms
Remote clock offset: 6.797 ms


# Below is generated by plot.py at 2019-01-19 07:34:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.21 Mbit/s
95th percentile per-packet one-way delay: 113.214 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 72.21 Mbit/s
95th percentile per-packet one-way delay: 113.214 ms
Loss rate: 0.58%
```
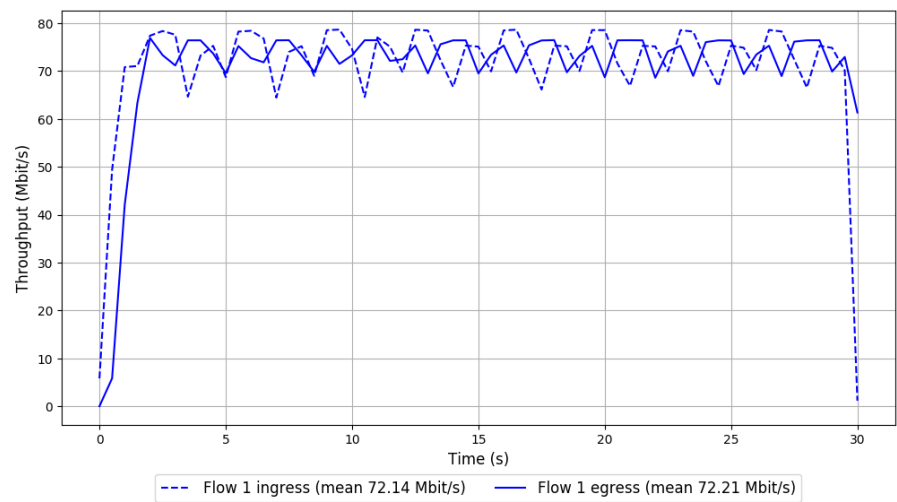
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-19 07:14:47
End at: 2019-01-19 07:15:17
Local clock offset: -6.322 ms
Remote clock offset: 2.325 ms


# Below is generated by plot.py at 2019-01-19 07:34:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.18 Mbit/s
95th percentile per-packet one-way delay: 119.025 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 73.18 Mbit/s
95th percentile per-packet one-way delay: 119.025 ms
Loss rate: 0.82%
```
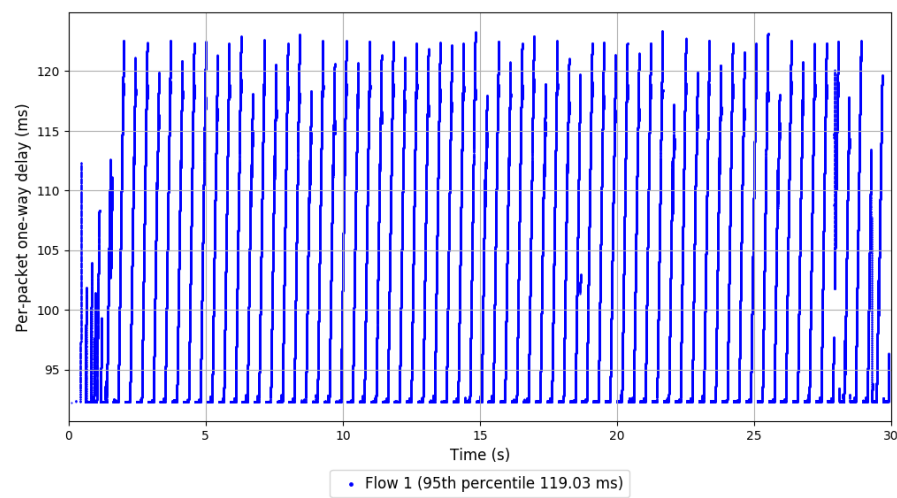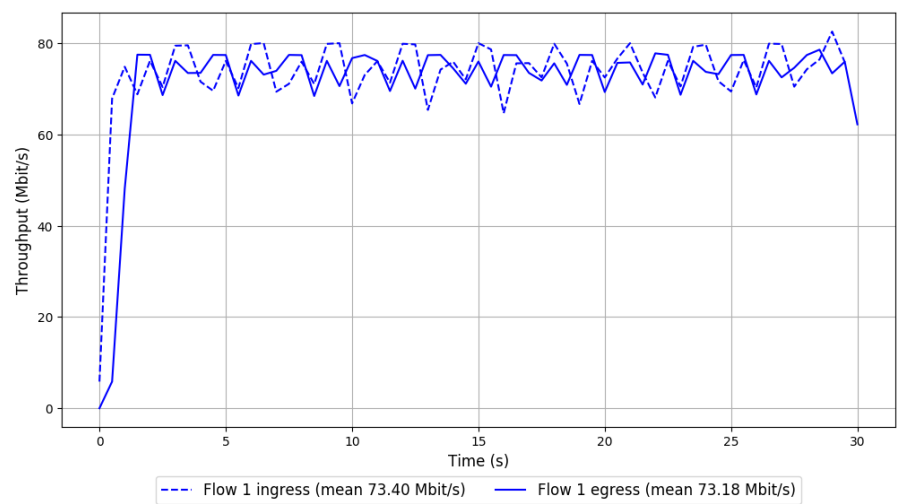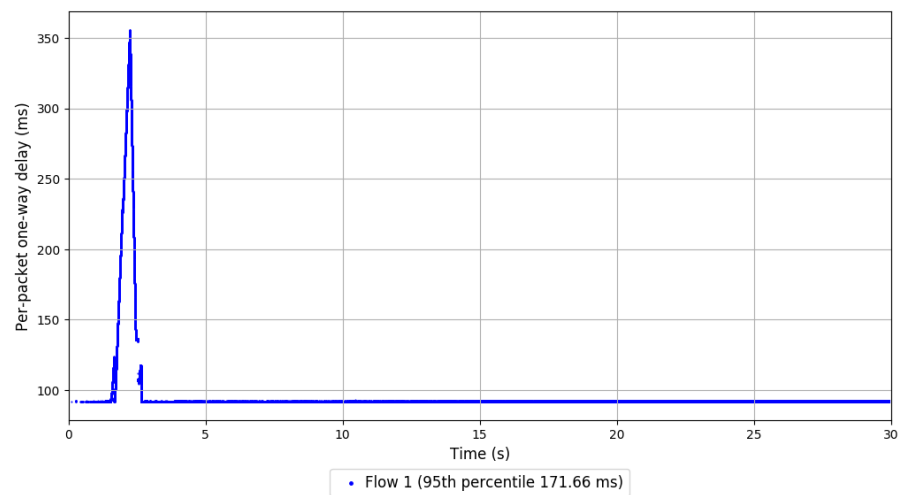
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 73.40 Mbit/s)   Flow 1 egress (mean 73.18 Mbit/s)

Flow 1 (95th percentile 119.03 ms)

174

```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-19 05:25:46
End at: 2019-01-19 05:26:16
Local clock offset: -2.87 ms
Remote clock offset: 3.739 ms


# Below is generated by plot.py at 2019-01-19 07:34:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.12 Mbit/s
95th percentile per-packet one-way delay: 171.660 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.12 Mbit/s
95th percentile per-packet one-way delay: 171.660 ms
Loss rate: 0.66%
```
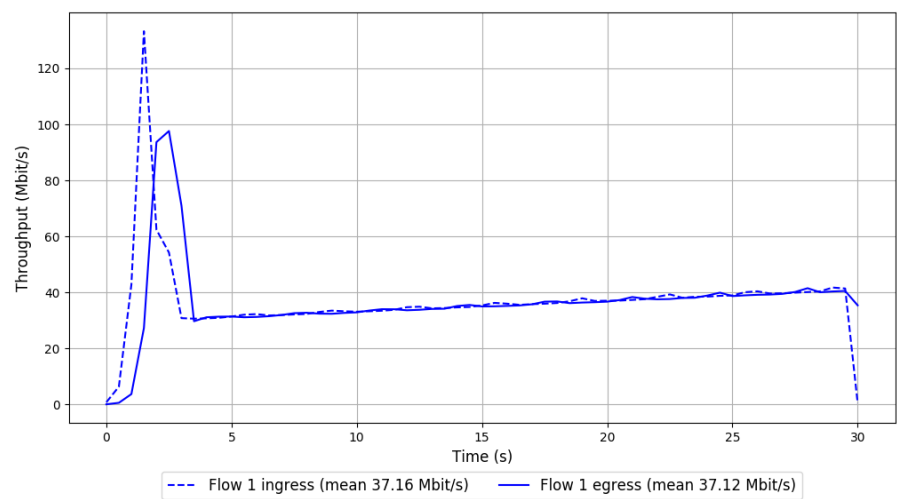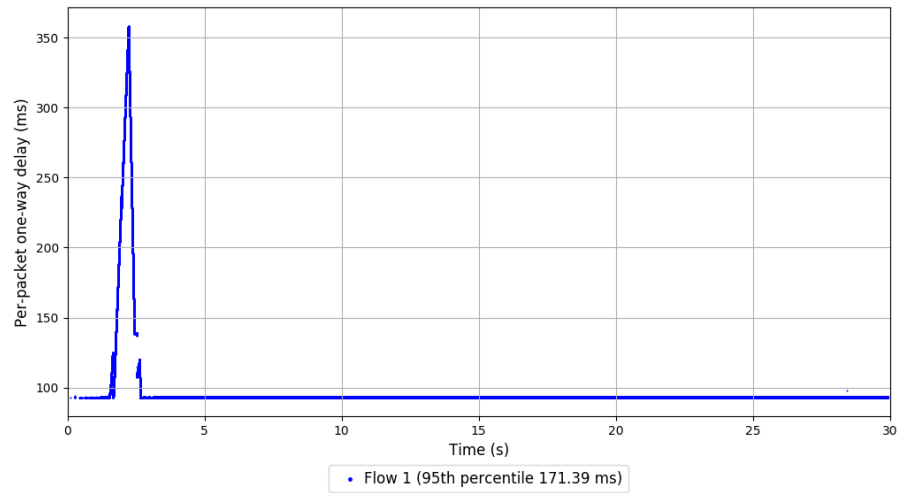
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.16 Mbit/s) --- Flow 1 egress (mean 37.12 Mbit/s)

Flow 1 (95th percentile 171.66 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-19 05:50:40
End at: 2019-01-19 05:51:10
Local clock offset: -3.655 ms
Remote clock offset: 4.256 ms


# Below is generated by plot.py at 2019-01-19 07:34:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.50 Mbit/s
95th percentile per-packet one-way delay: 171.391 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.50 Mbit/s
95th percentile per-packet one-way delay: 171.391 ms
Loss rate: 0.66%
```
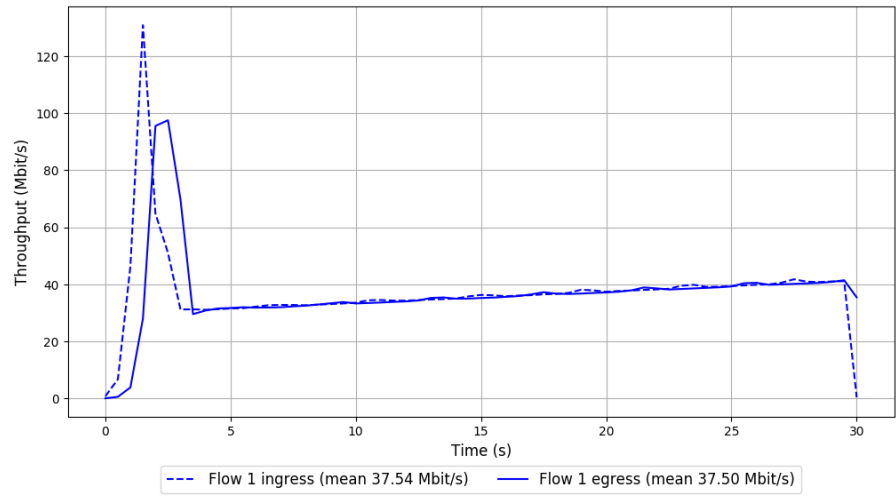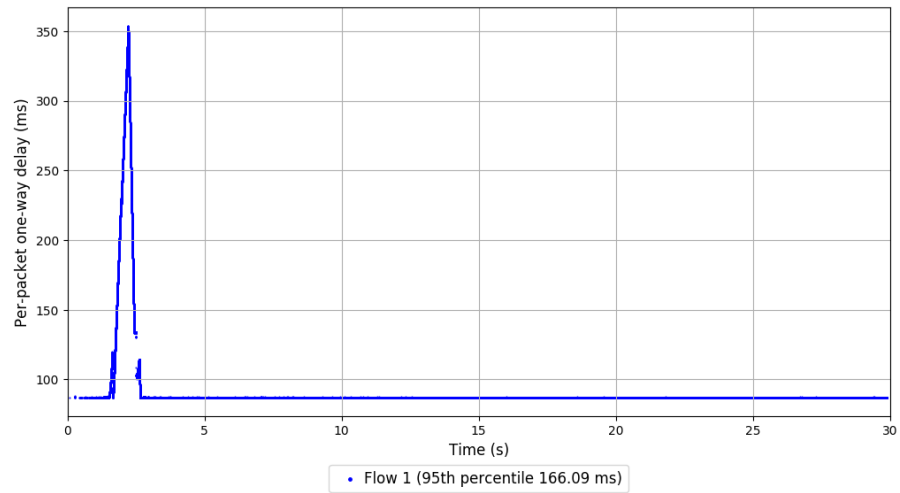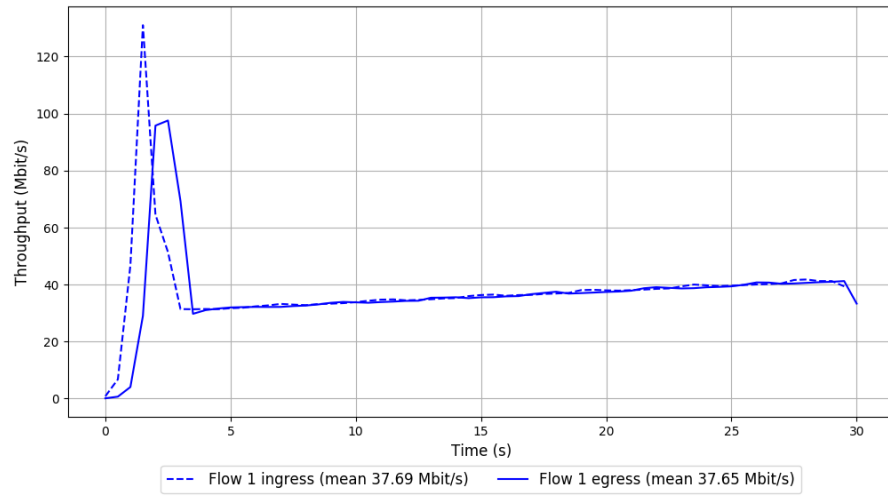
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-19 06:15:30
End at: 2019-01-19 06:16:00
Local clock offset: -7.242 ms
Remote clock offset: 9.451 ms


# Below is generated by plot.py at 2019-01-19 07:34:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.65 Mbit/s
95th percentile per-packet one-way delay: 166.085 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.65 Mbit/s
95th percentile per-packet one-way delay: 166.085 ms
Loss rate: 0.66%
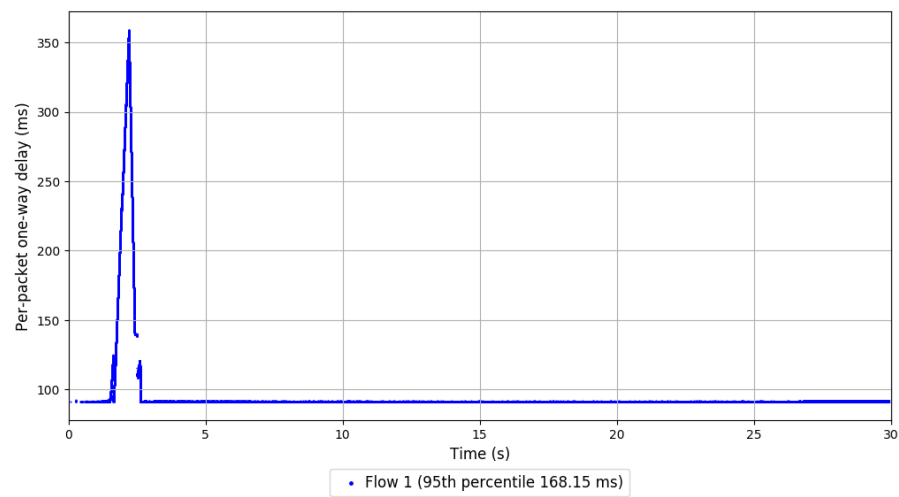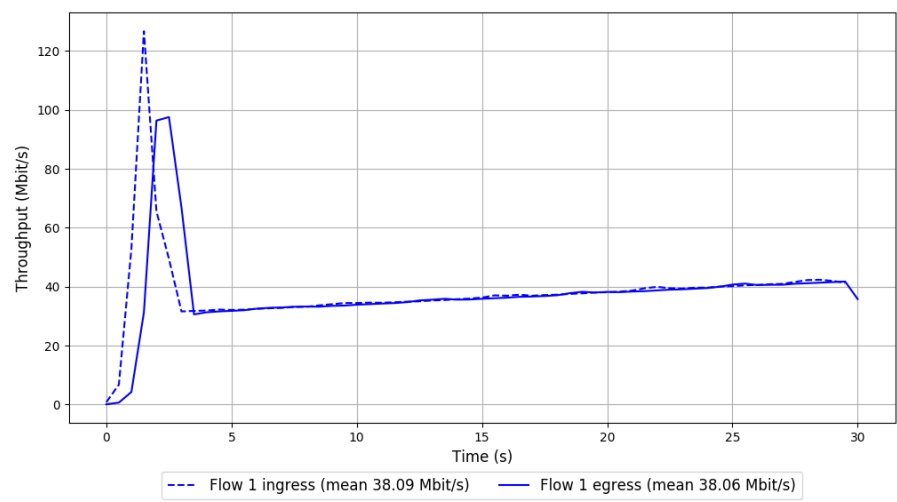```

Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-19 06:40:23
End at: 2019-01-19 06:40:53
Local clock offset: -2.709 ms
Remote clock offset: 0.838 ms

Below is generated by plot.py at 2019-01-19 07:34:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.06 Mbit/s
95th percentile per-packet one-way delay: 168.152 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 38.06 Mbit/s
95th percentile per-packet one-way delay: 168.152 ms
Loss rate: 0.66%
```
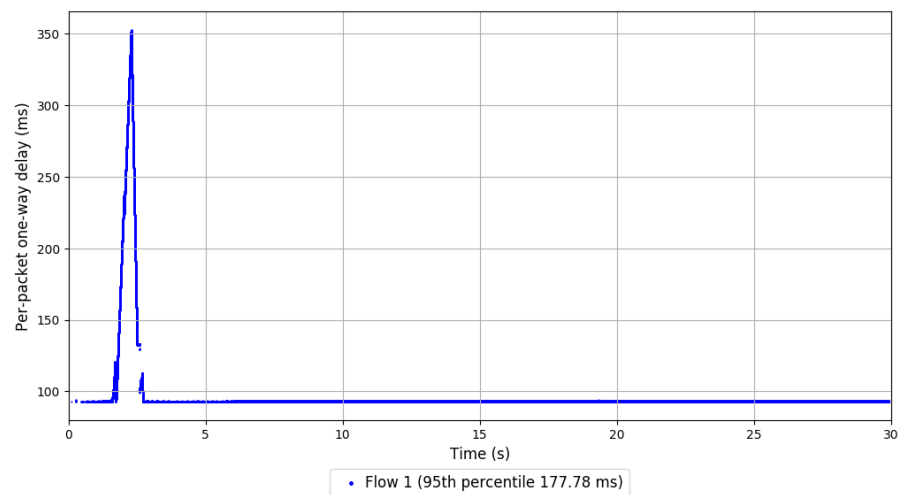
Run 4: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 38.09 Mbit/s)   Flow 1 egress (mean 38.06 Mbit/s)



• Flow 1 (95th percentile 168.15 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-19 07:05:16
End at: 2019-01-19 07:05:46
Local clock offset: -6.43 ms
Remote clock offset: 6.986 ms

Below is generated by plot.py at 2019-01-19 07:34:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 36.10 Mbit/s
95th percentile per-packet one-way delay: 177.780 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 36.10 Mbit/s
95th percentile per-packet one-way delay: 177.780 ms
Loss rate: 0.69%
```
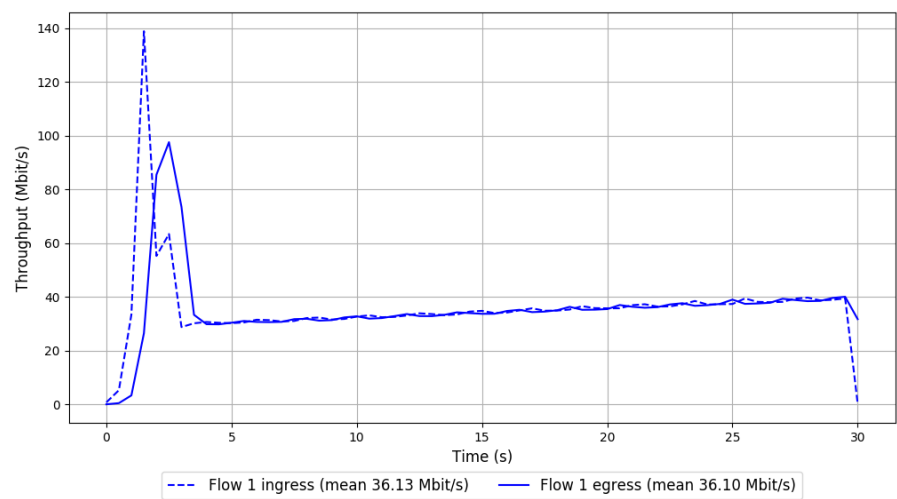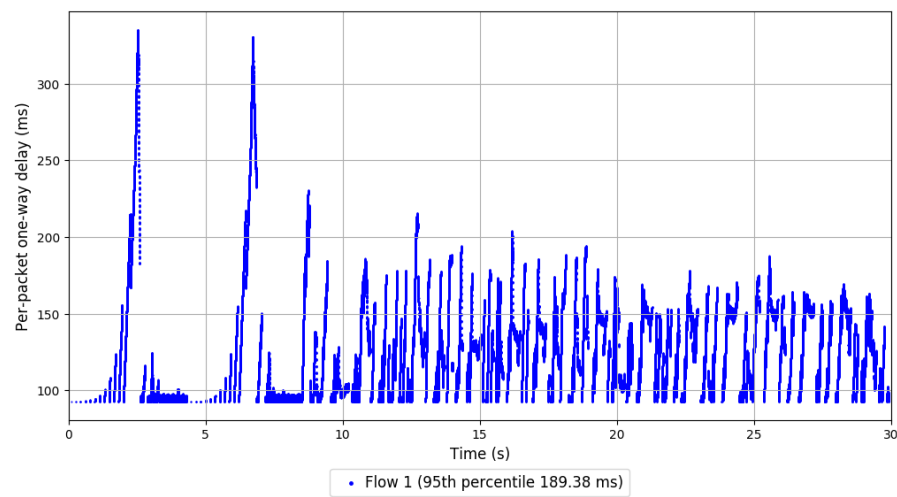
## Run 5: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 36.13 Mbit/s)    Flow 1 egress (mean 36.10 Mbit/s)



Flow 1 (95th percentile 177.78 ms)

```
Run 1: Statistics of Verus

Start at: 2019-01-19 05:42:25
End at: 2019-01-19 05:42:55
Local clock offset: -2.222 ms
Remote clock offset: 4.36 ms

Below is generated by plot.py at 2019-01-19 07:34:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 66.58 Mbit/s
95th percentile per-packet one-way delay: 189.378 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 66.58 Mbit/s
95th percentile per-packet one-way delay: 189.378 ms
Loss rate: 1.20%
```
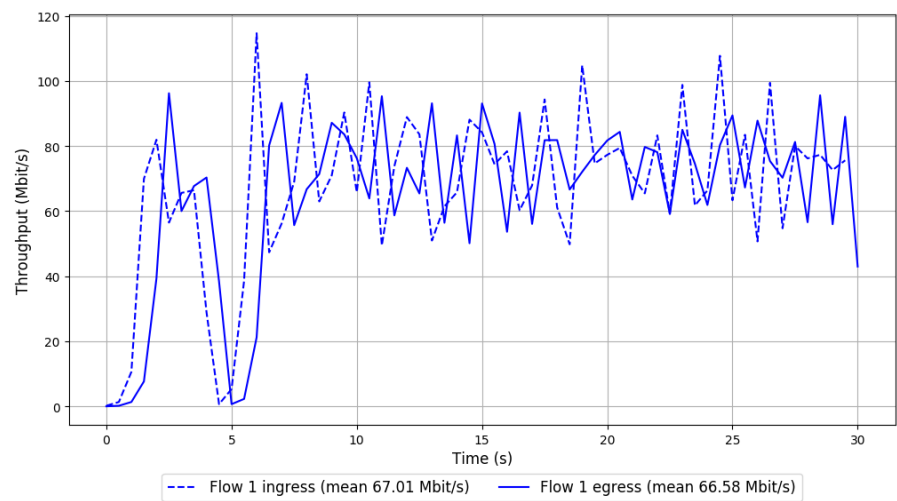
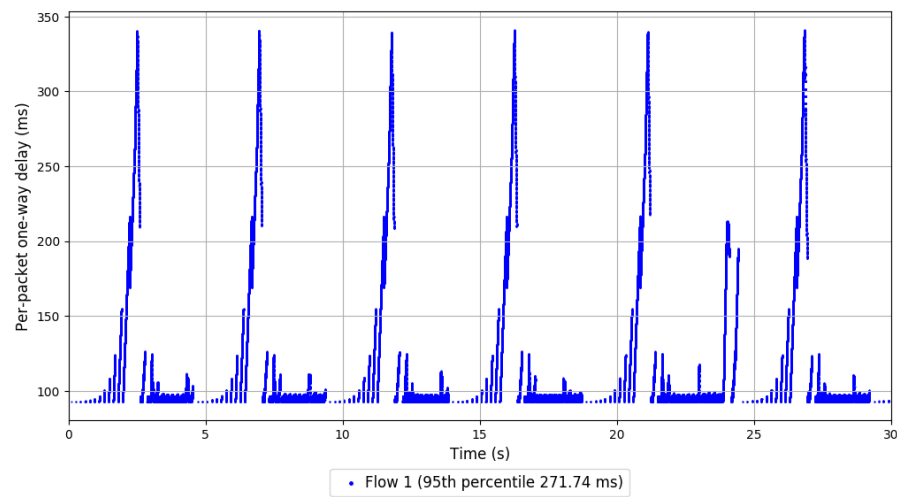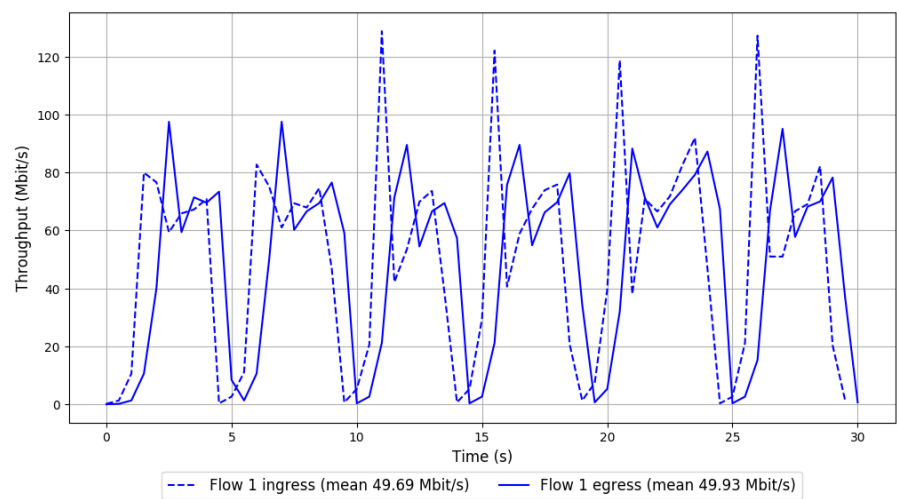Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-01-19 06:07:16
End at: 2019-01-19 06:07:46
Local clock offset: -6.583 ms
Remote clock offset: 4.414 ms


# Below is generated by plot.py at 2019-01-19 07:34:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 271.744 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 271.744 ms
Loss rate: 0.09%
```

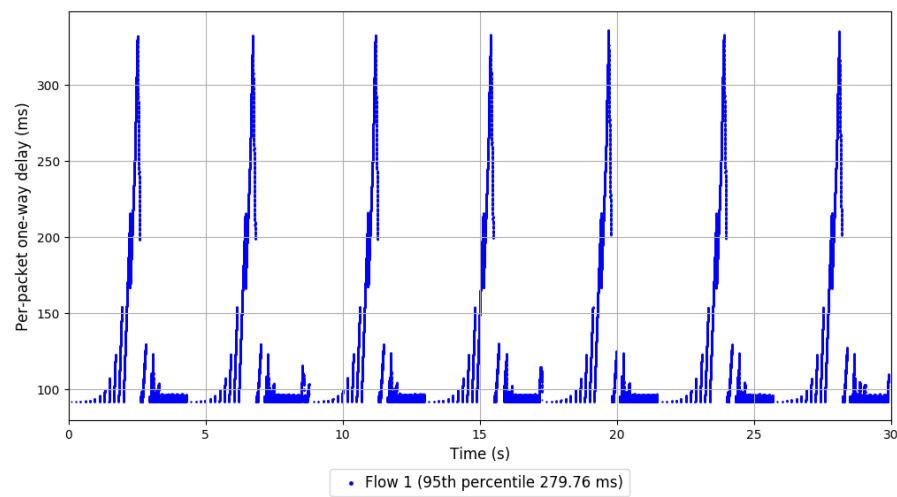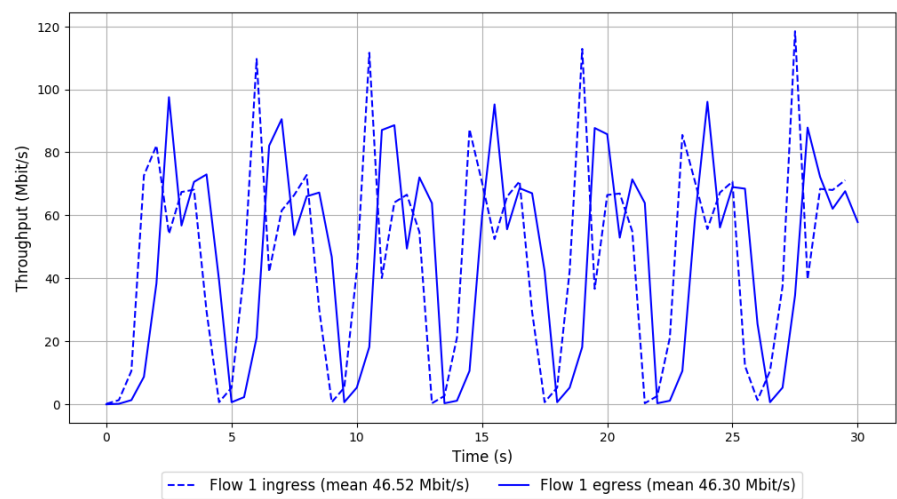Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-01-19 06:32:09
End at: 2019-01-19 06:32:39
Local clock offset: -3.509 ms
Remote clock offset: 1.298 ms


# Below is generated by plot.py at 2019-01-19 07:35:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 279.762 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 279.762 ms
Loss rate: 1.03%
```

Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-01-19 06:57:02
End at: 2019-01-19 06:57:32
Local clock offset: -5.415 ms
Remote clock offset: 5.264 ms


# Below is generated by plot.py at 2019-01-19 07:35:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 274.211 ms
Loss rate: 2.59%
-- Flow 1:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 274.211 ms
Loss rate: 2.59%
```
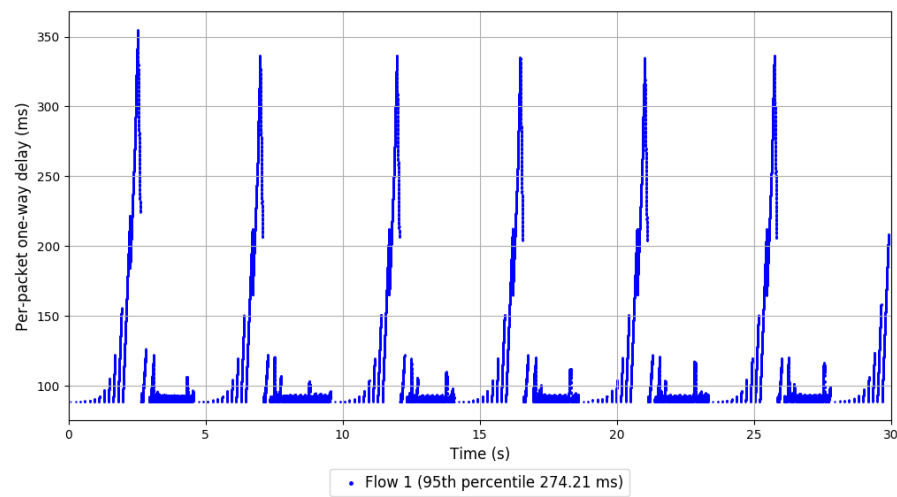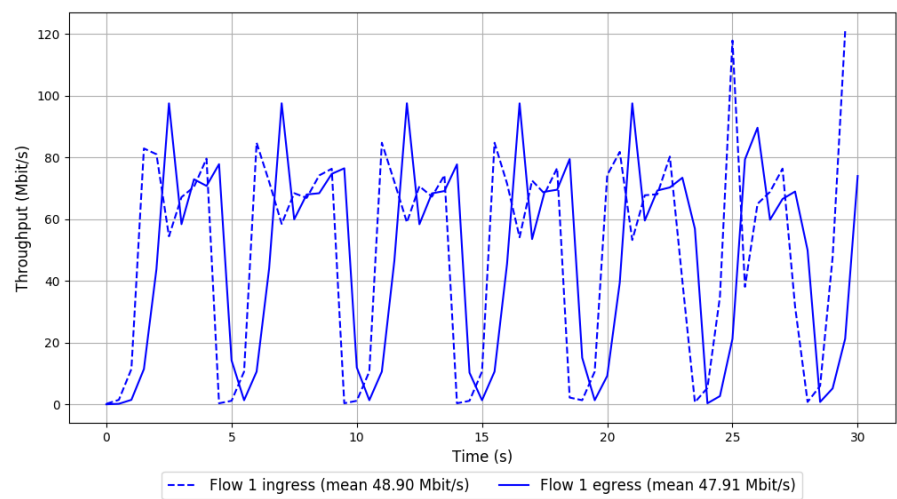
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-01-19 07:21:56
End at: 2019-01-19 07:22:26
Local clock offset: -6.326 ms
Remote clock offset: 3.489 ms


# Below is generated by plot.py at 2019-01-19 07:35:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.31 Mbit/s
95th percentile per-packet one-way delay: 271.147 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 47.31 Mbit/s
95th percentile per-packet one-way delay: 271.147 ms
Loss rate: 0.28%
```
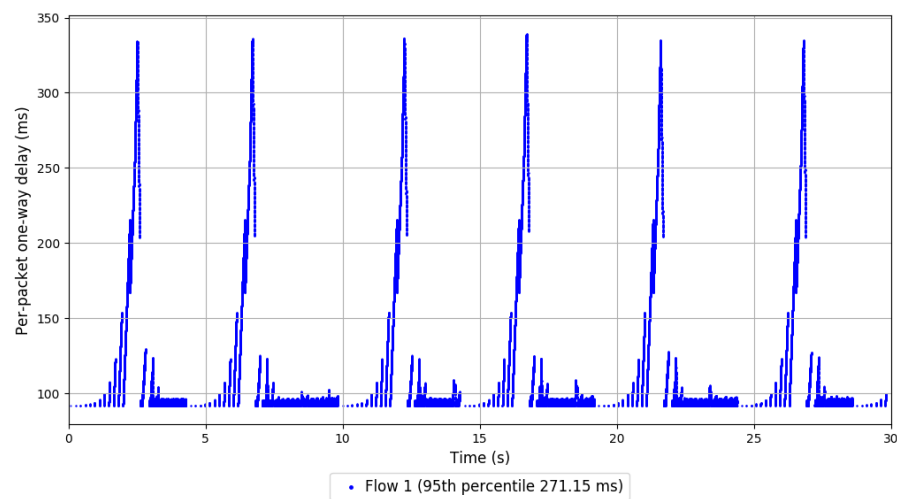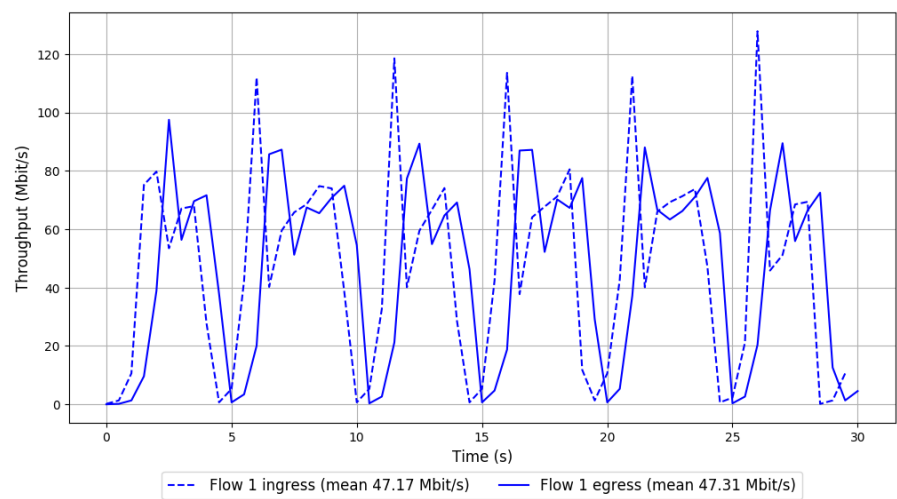
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-19 05:30:30
End at: 2019-01-19 05:31:00
Local clock offset: -2.92 ms
Remote clock offset: 4.039 ms


# Below is generated by plot.py at 2019-01-19 07:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.12 Mbit/s
95th percentile per-packet one-way delay: 125.955 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 76.12 Mbit/s
95th percentile per-packet one-way delay: 125.955 ms
Loss rate: 0.80%
```
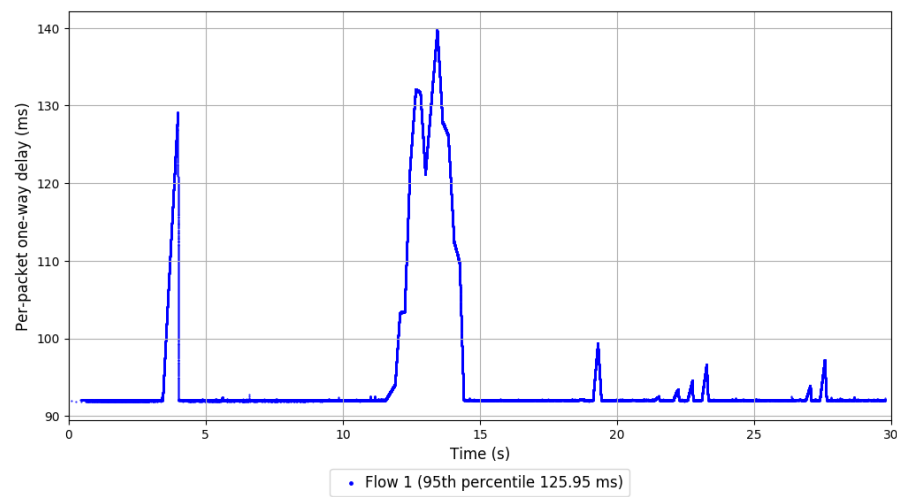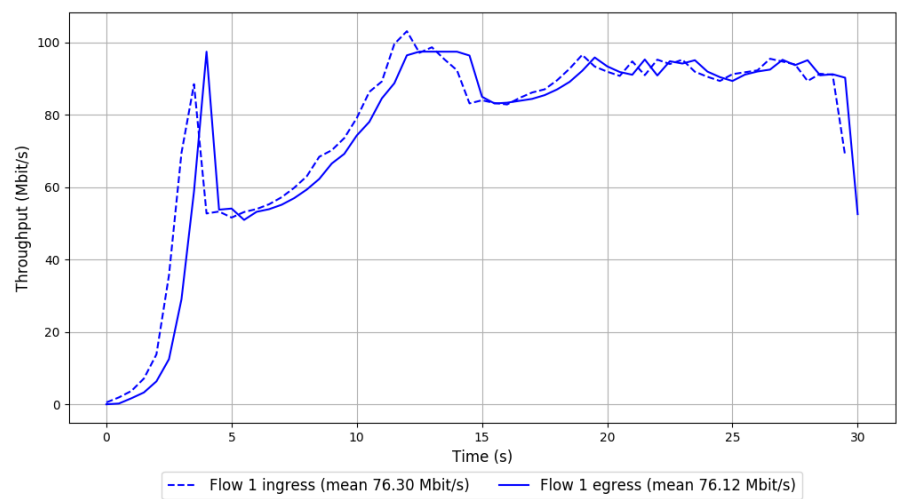
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-19 05:55:21
End at: 2019-01-19 05:55:51
Local clock offset: -5.663 ms
Remote clock offset: 5.375 ms


# Below is generated by plot.py at 2019-01-19 07:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 124.800 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 124.800 ms
Loss rate: 0.76%
```
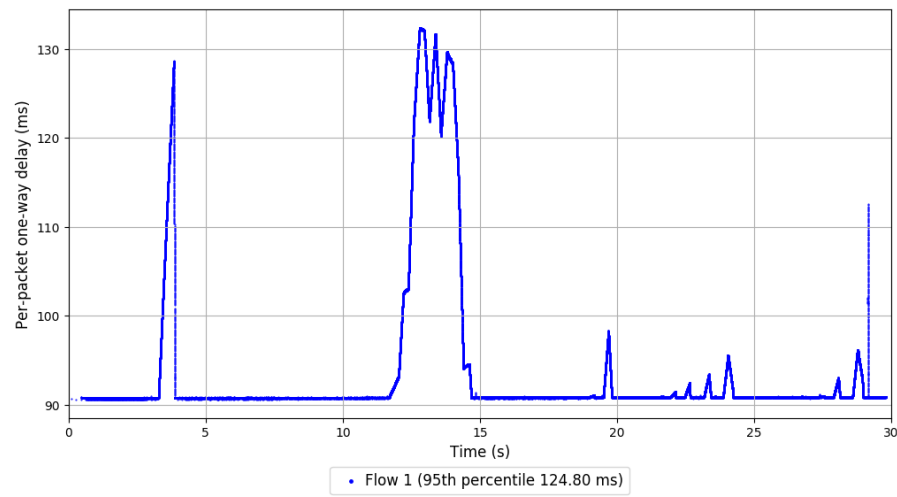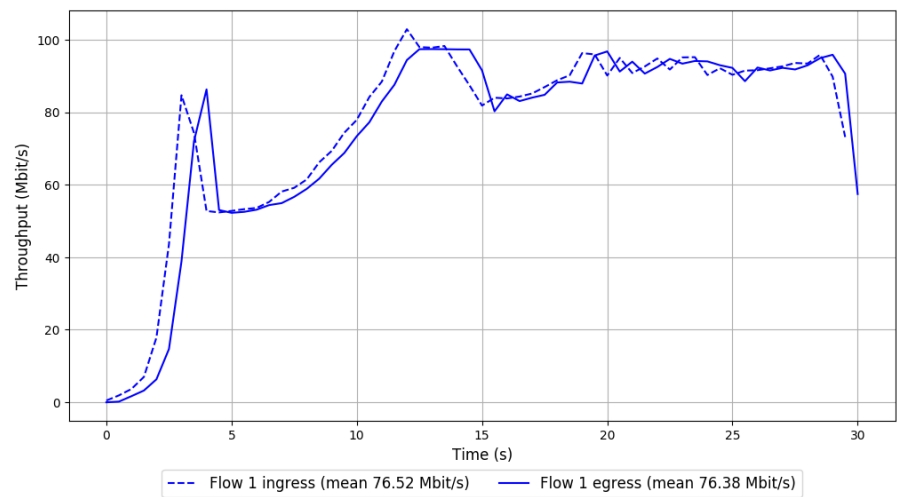
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-19 06:20:13
End at: 2019-01-19 06:20:43
Local clock offset: -5.782 ms
Remote clock offset: 4.074 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.13 Mbit/s
95th percentile per-packet one-way delay: 125.964 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 76.13 Mbit/s
95th percentile per-packet one-way delay: 125.964 ms
Loss rate: 0.74%
```
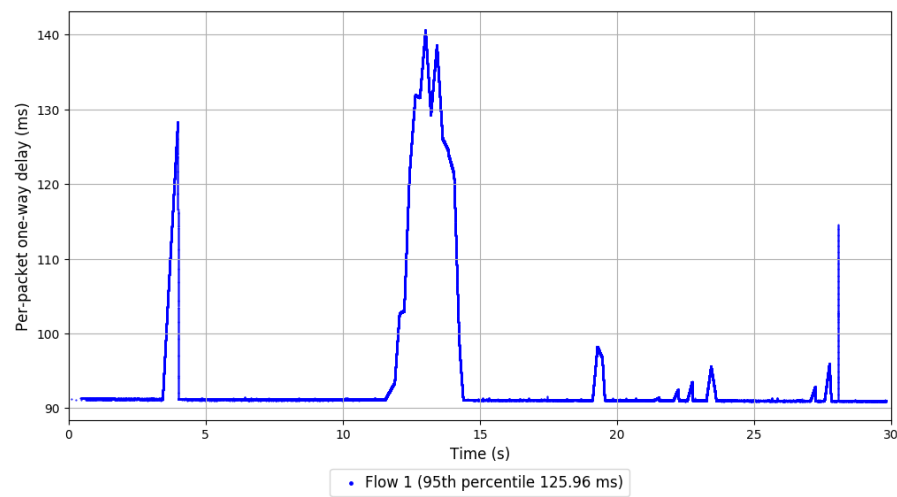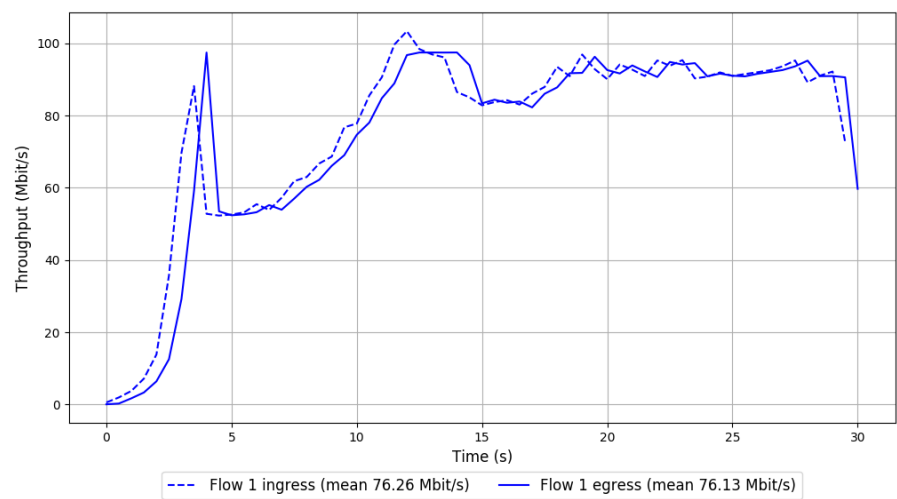
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-19 06:45:06
End at: 2019-01-19 06:45:36
Local clock offset: -2.449 ms
Remote clock offset: 4.602 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.80 Mbit/s
95th percentile per-packet one-way delay: 124.727 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 75.80 Mbit/s
95th percentile per-packet one-way delay: 124.727 ms
Loss rate: 0.75%
```
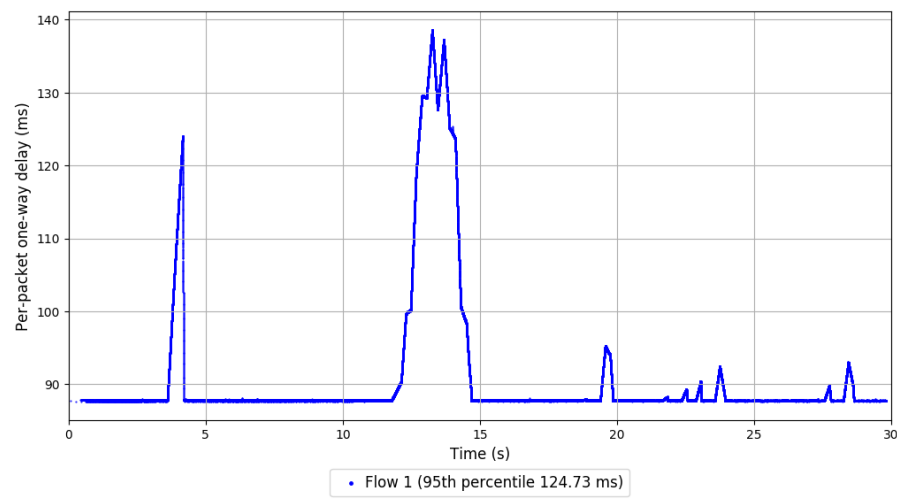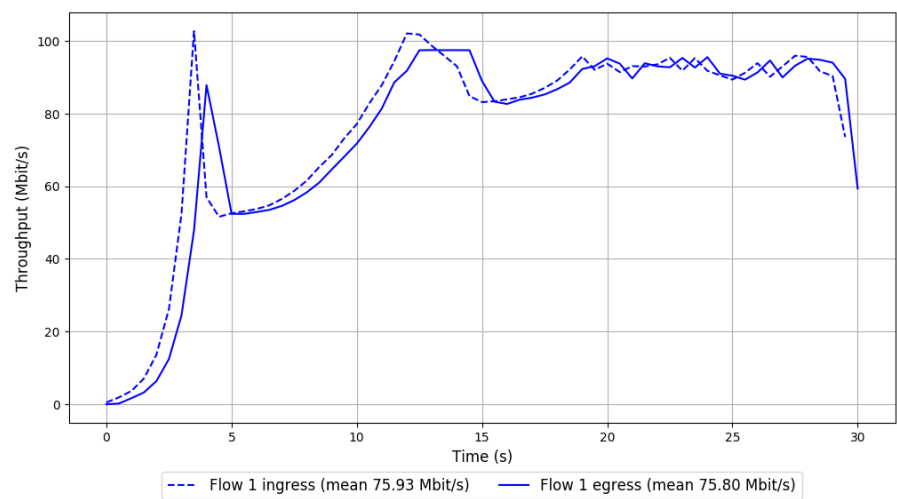
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-19 07:10:00
End at: 2019-01-19 07:10:30
Local clock offset: -6.05 ms
Remote clock offset: 3.276 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.13 Mbit/s
95th percentile per-packet one-way delay: 100.159 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 77.13 Mbit/s
95th percentile per-packet one-way delay: 100.159 ms
Loss rate: 0.71%
```
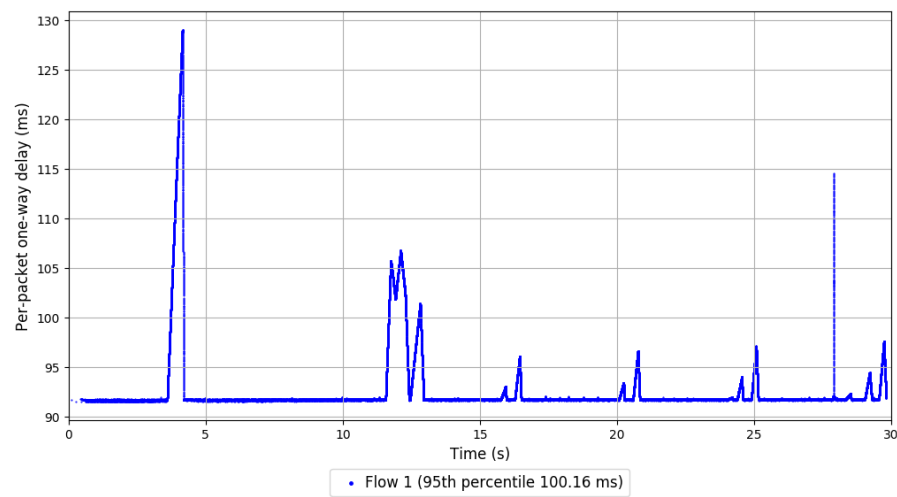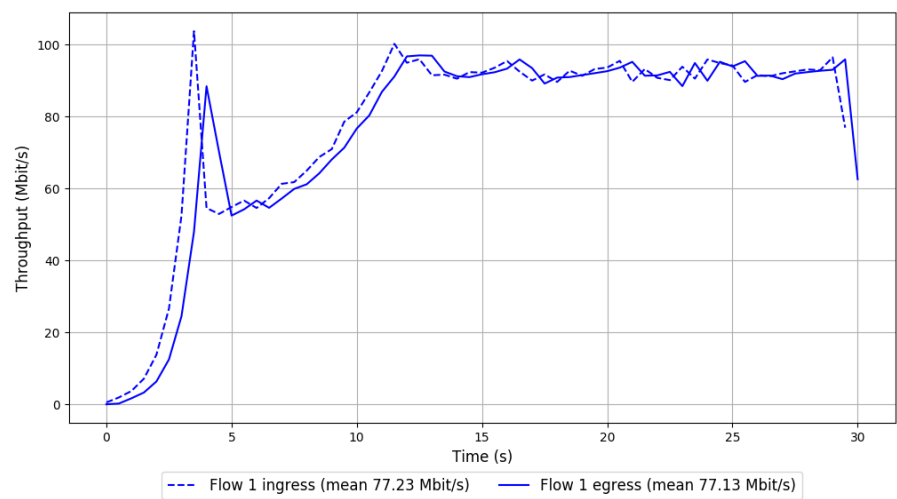
Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 77.23 Mbit/s)   Flow 1 egress (mean 77.13 Mbit/s)

Flow 1 (95th percentile 100.16 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-19 05:32:57
End at: 2019-01-19 05:33:27
Local clock offset: -2.936 ms
Remote clock offset: 8.801 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.783 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.783 ms
Loss rate: 0.29%
```
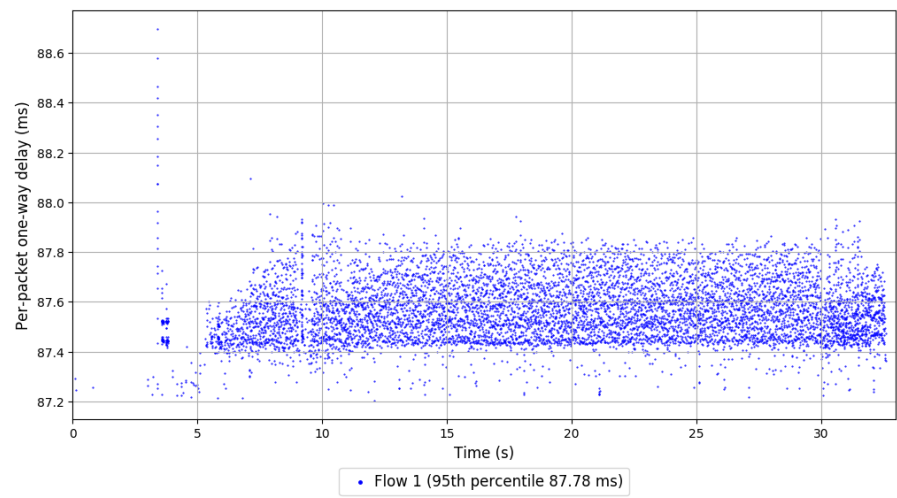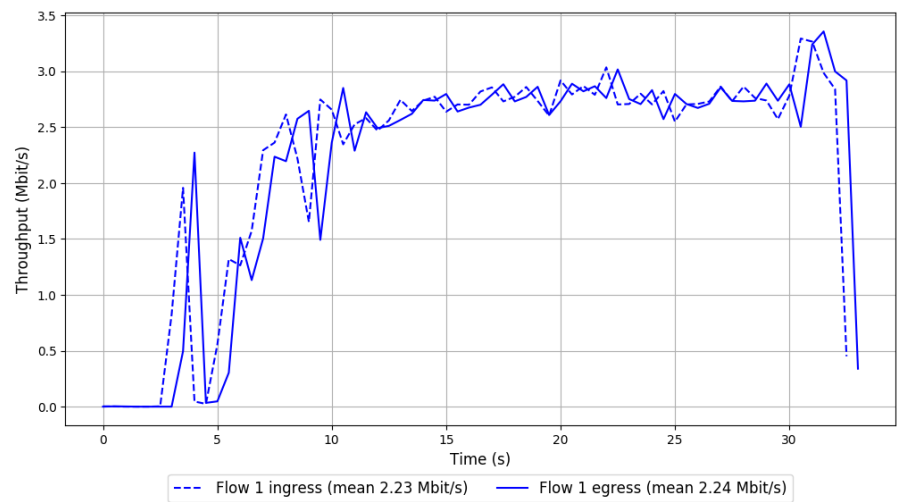
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-01-19 05:57:48
End at: 2019-01-19 05:58:18
Local clock offset: -6.148 ms
Remote clock offset: 9.107 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 93.954 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 93.954 ms
Loss rate: 0.33%
```
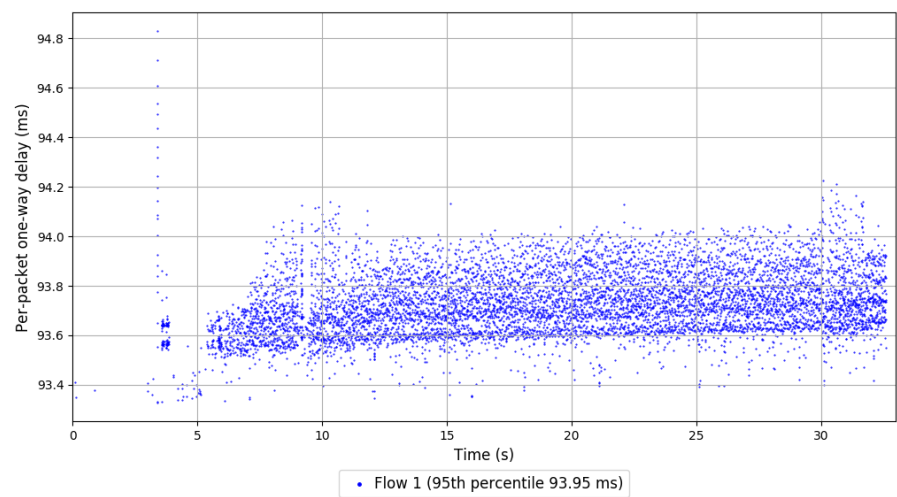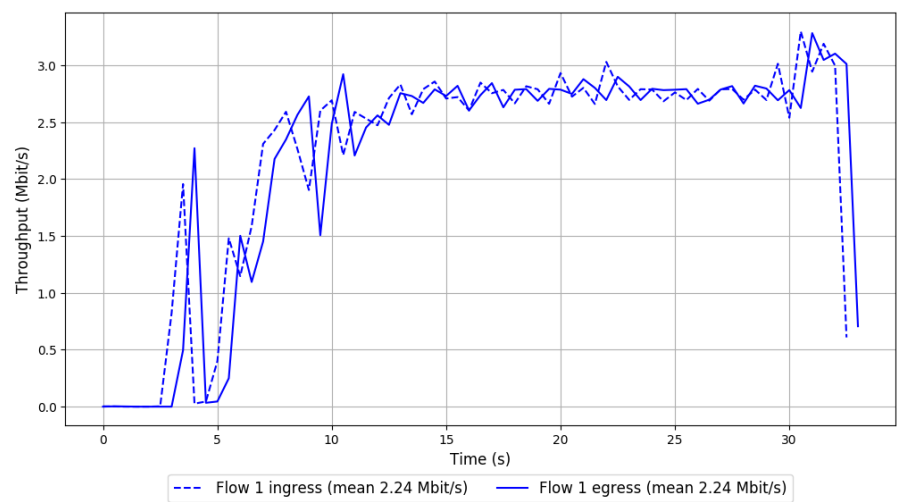
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-19 06:22:41
End at: 2019-01-19 06:23:11
Local clock offset: -5.5 ms
Remote clock offset: 7.279 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.199 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.199 ms
Loss rate: 0.34%
```
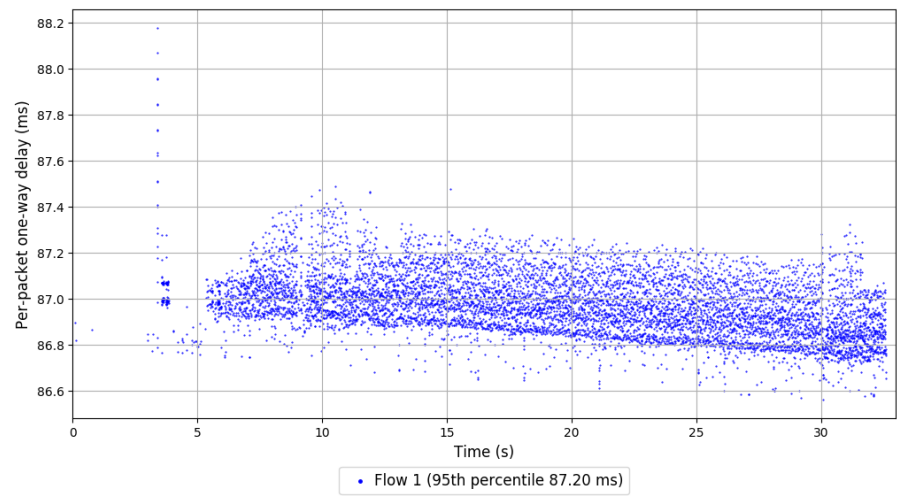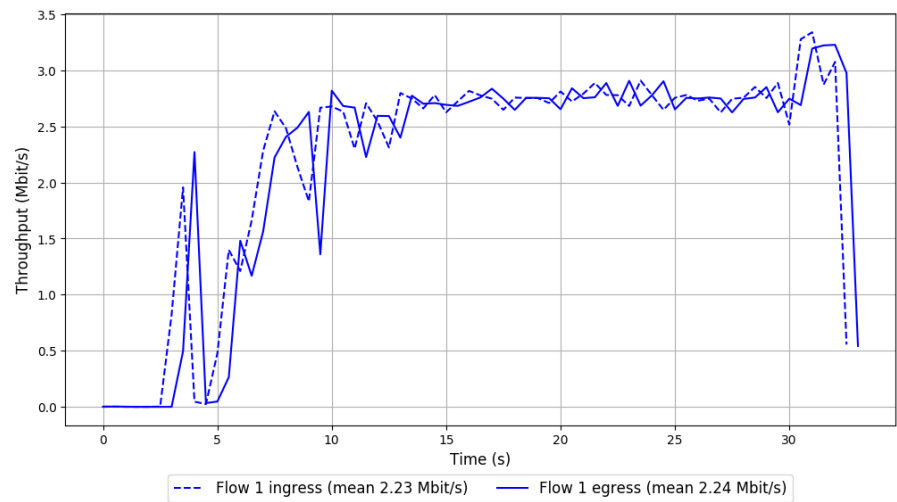
Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.23 Mbit/s) —— Flow 1 egress (mean 2.24 Mbit/s)

• Flow 1 (95th percentile 87.20 ms)

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-19 06:47:33
End at: 2019-01-19 06:48:03
Local clock offset: -2.58 ms
Remote clock offset: 4.294 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 88.884 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 88.884 ms
Loss rate: 0.32%
```
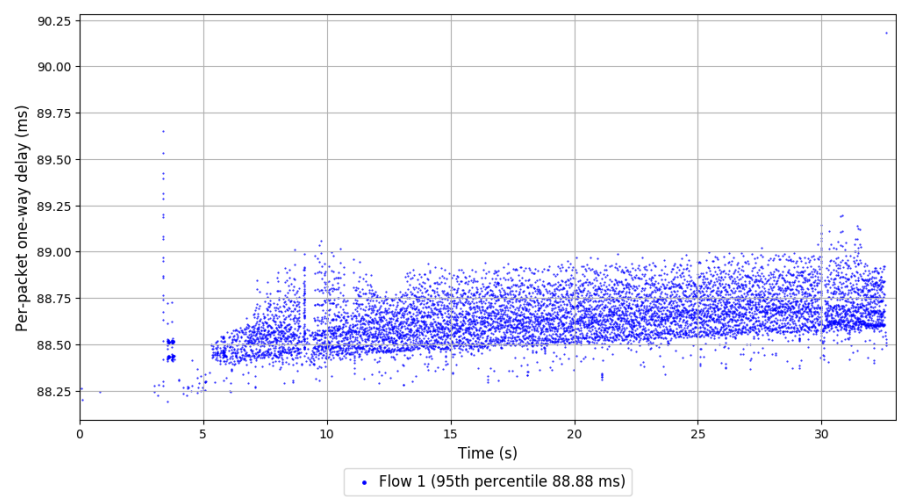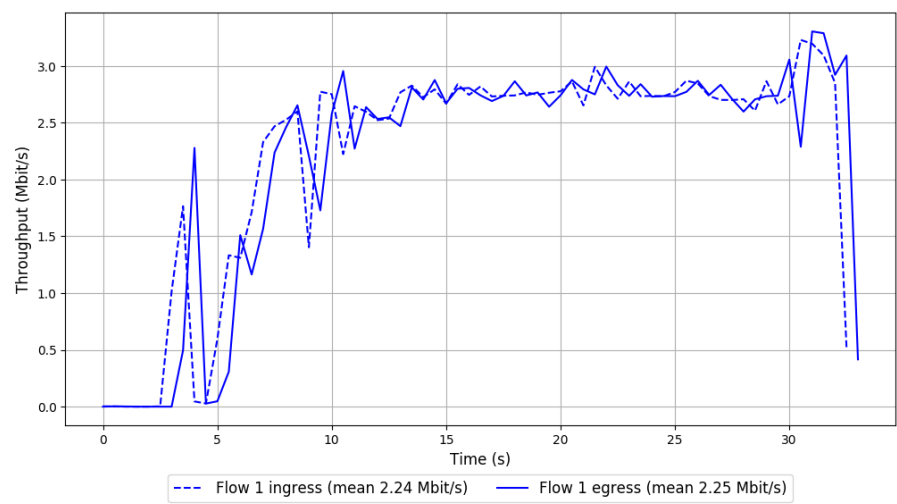
Run 4: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.24 Mbit/s)   Flow 1 egress (mean 2.25 Mbit/s)

Flow 1 (95th percentile 88.88 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-19 07:12:27
End at: 2019-01-19 07:12:57
Local clock offset: -6.986 ms
Remote clock offset: 7.208 ms


# Below is generated by plot.py at 2019-01-19 07:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.430 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 87.430 ms
Loss rate: 0.41%
```

Run 5: Report of WebRTC media — Data Link