Pantheon Report

Generated at 2019-07-18 08:53:45 (UTC).

Data path: GCE Tokyo on `ens4` (*remote*) →GCE Iowa on `ens4` (*local*).

Repeated the test of 24 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.
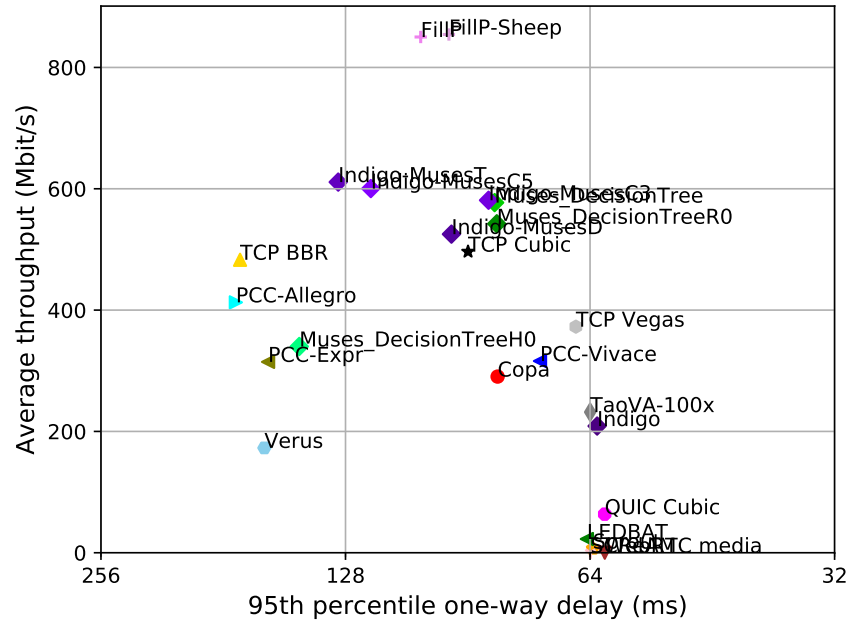
```
System info:
Linux 4.15.0-1036-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
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
```
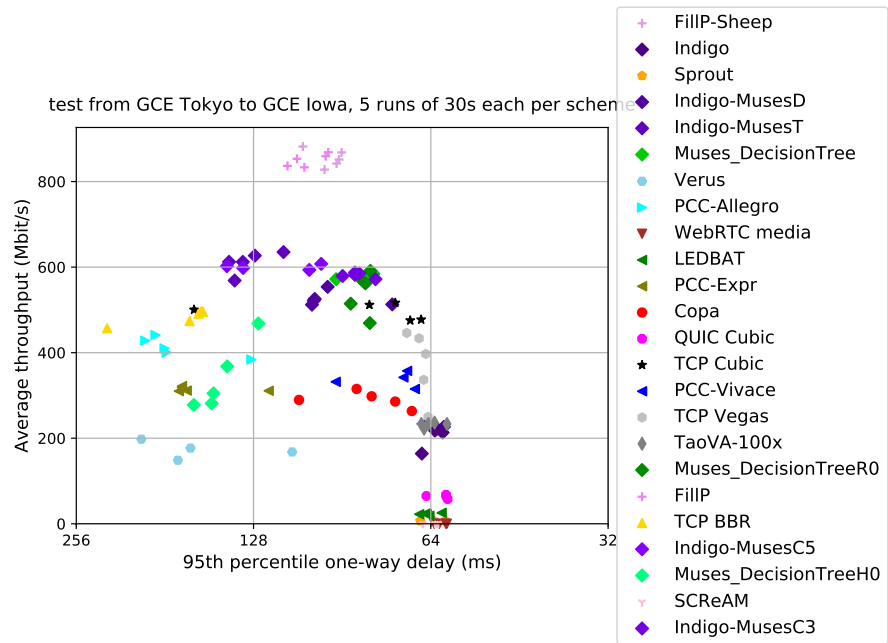
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE Tokyo to GCE Iowa, 5 runs of 30s each per scheme
(mean of all runs by scheme)

test from GCE Tokyo to GCE Iowa, 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	482.98	172.59	1.01
Copa	5	290.40	83.17	0.46
TCP Cubic	5	496.31	90.45	0.44
FillP	5	850.19	103.43	0.61
FillP-Sheep	5	854.29	95.48	0.49
Indigo	5	208.88	62.73	0.43
Indigo-MusesC3	5	581.08	85.34	0.49
Indigo-MusesC5	4	600.32	119.14	0.50
Indigo-MusesD	5	525.21	94.80	0.45
Indigo-MusesT	5	611.03	130.67	0.56
LEDBAT	5	22.68	64.58	0.72
Muses_DecisionTree	5	577.18	83.88	0.46
Muses_DecisionTreeH0	5	340.04	145.93	0.96
Muses_DecisionTreeR0	5	542.30	83.37	0.49
PCC-Allegro	5	412.74	174.65	2.73
PCC-Expr	5	314.62	159.42	2.44
QUIC Cubic	4	63.62	61.40	0.70
SCReAM	5	0.22	63.94	0.43
Sprout	5	6.85	63.52	0.46
TaoVA-100x	5	231.84	63.98	0.44
TCP Vegas	5	372.67	66.62	0.40
Verus	4	172.81	161.10	0.48
PCC-Vivace	5	316.01	73.76	0.51
WebRTC media	4	0.05	61.38	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-18 03:57:42
End at: 2019-07-18 03:58:12
Local clock offset: -0.002 ms
Remote clock offset: 0.427 ms


# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 495.49 Mbit/s
95th percentile per-packet one-way delay: 156.032 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 495.49 Mbit/s
95th percentile per-packet one-way delay: 156.032 ms
Loss rate: 0.82%
```
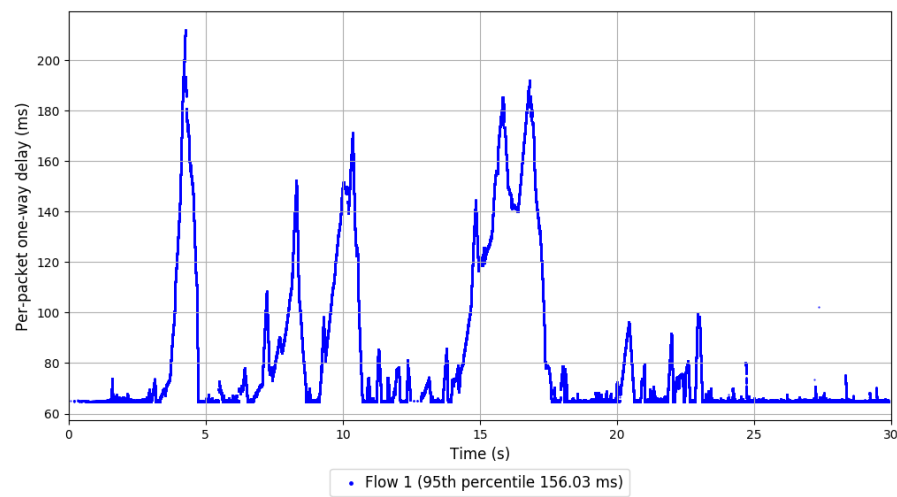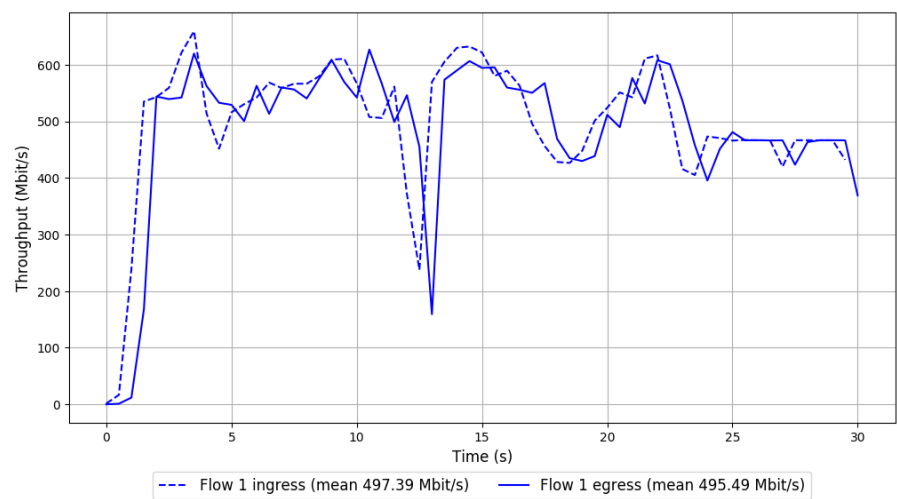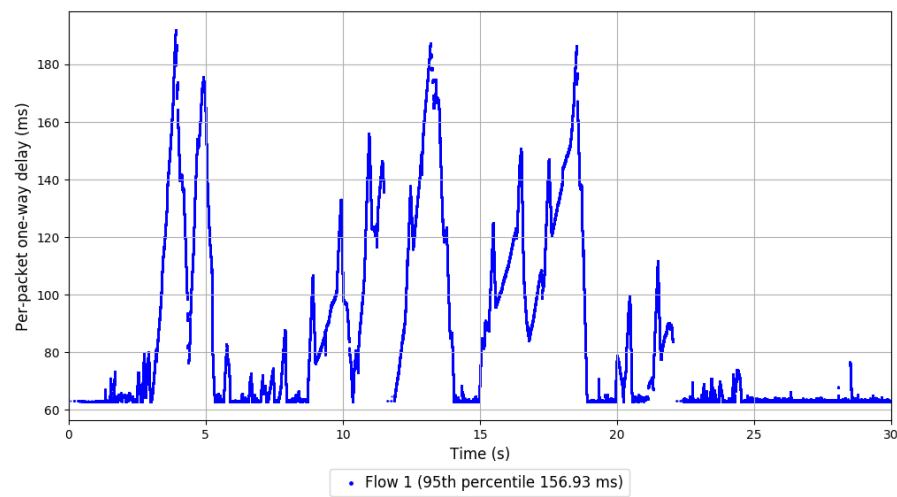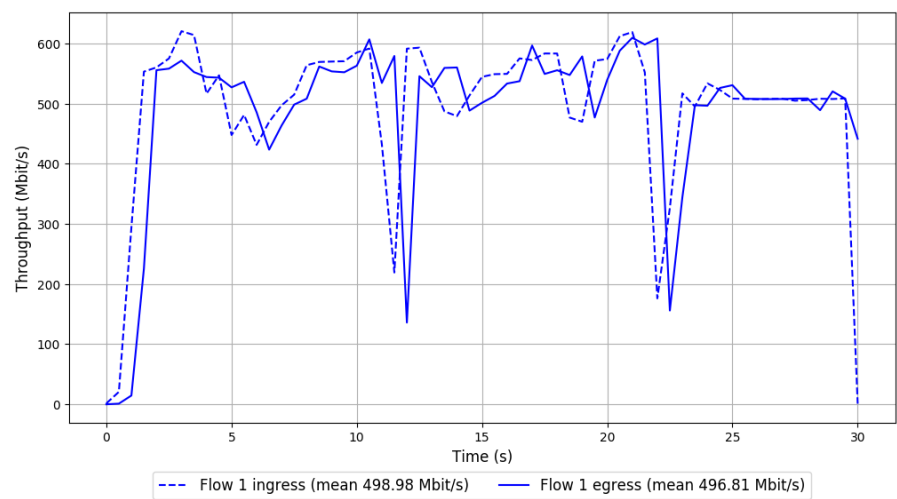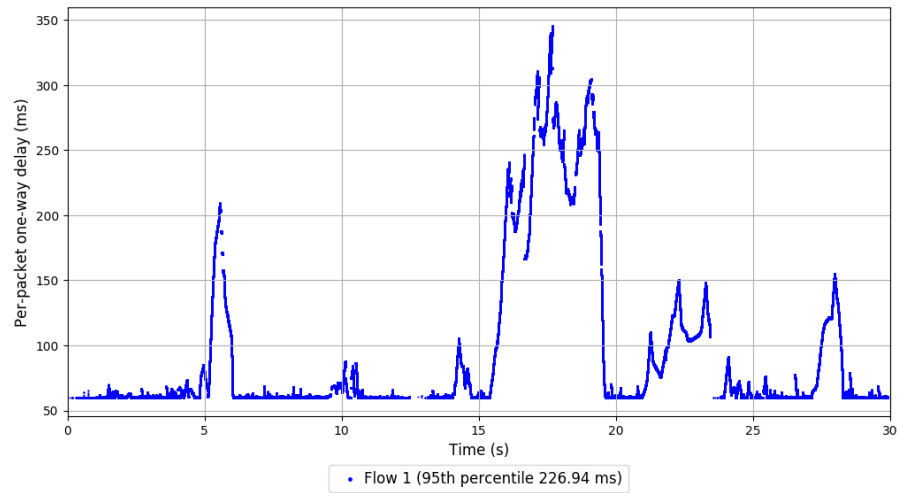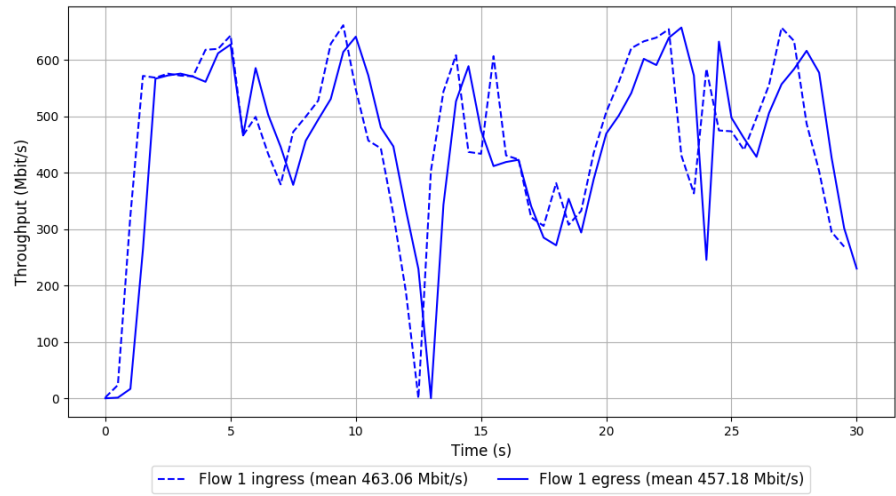
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-07-18 04:33:07
End at: 2019-07-18 04:33:37
Local clock offset: 0.044 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 496.81 Mbit/s
95th percentile per-packet one-way delay: 156.928 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 496.81 Mbit/s
95th percentile per-packet one-way delay: 156.928 ms
Loss rate: 0.86%
```
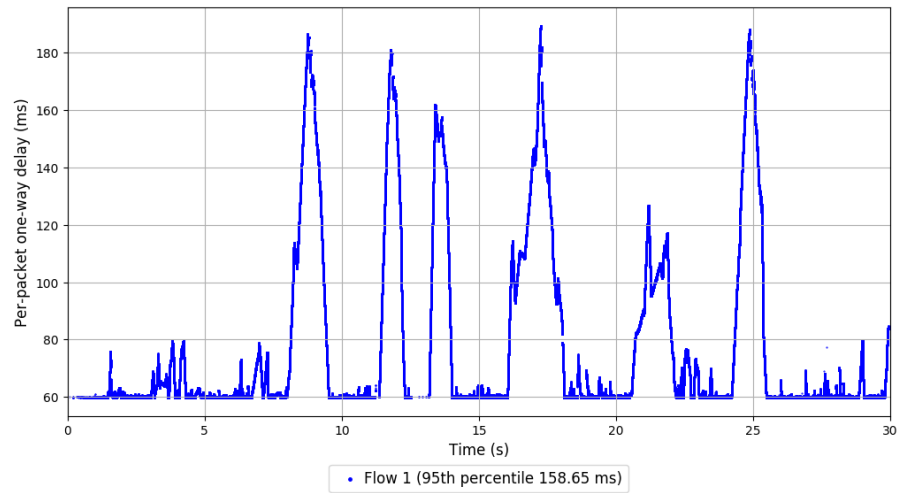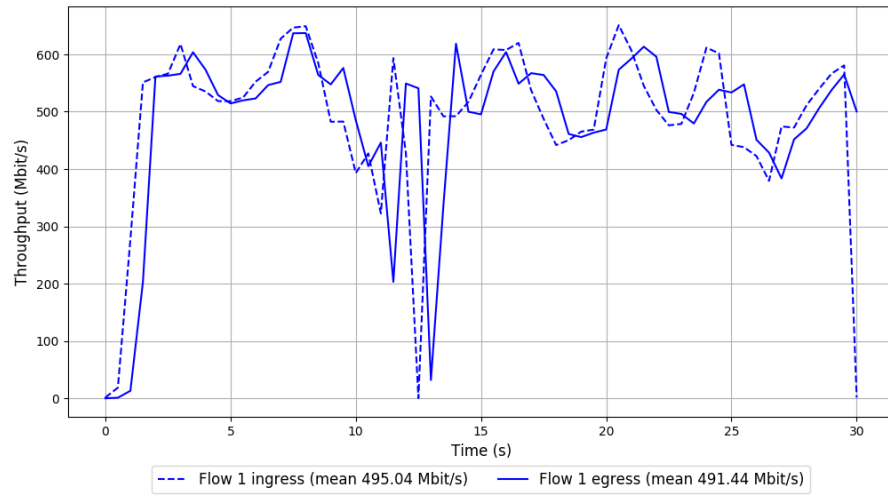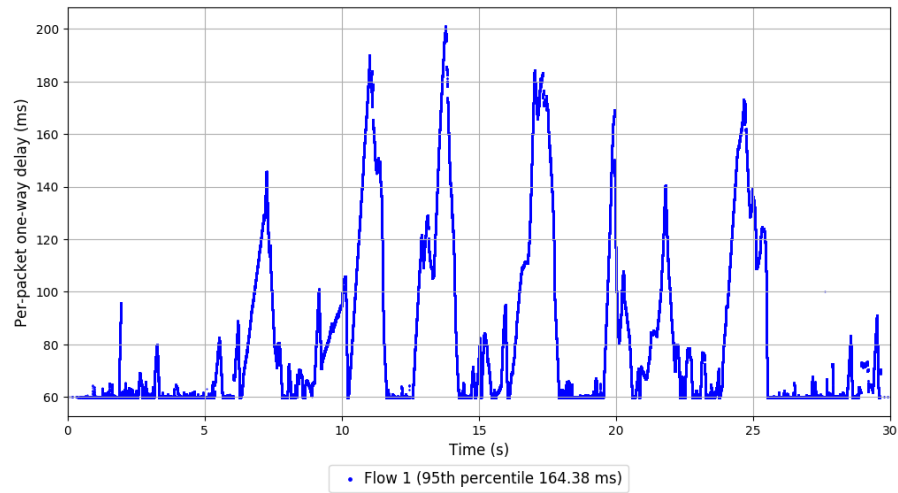
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-07-18 05:08:19
End at: 2019-07-18 05:08:49
Local clock offset: -0.046 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 457.18 Mbit/s
95th percentile per-packet one-way delay: 226.944 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 457.18 Mbit/s
95th percentile per-packet one-way delay: 226.944 ms
Loss rate: 1.68%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 463.06 Mbit/s)   Flow 1 egress (mean 457.18 Mbit/s)
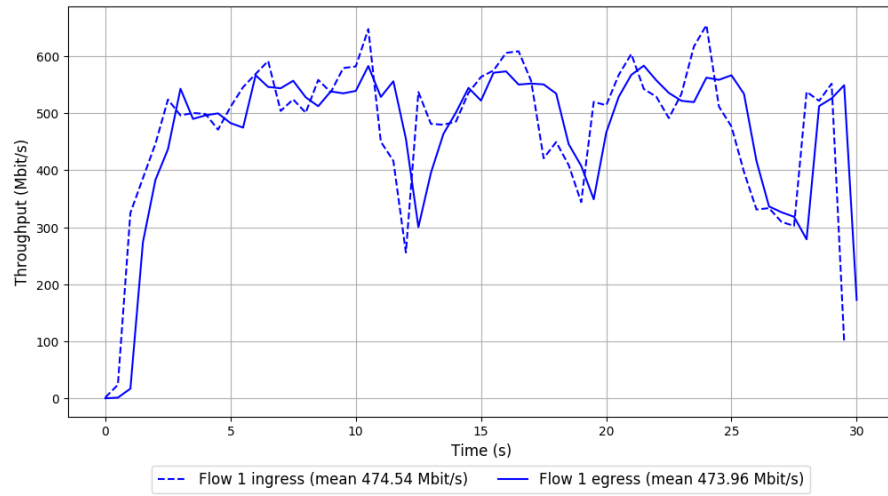

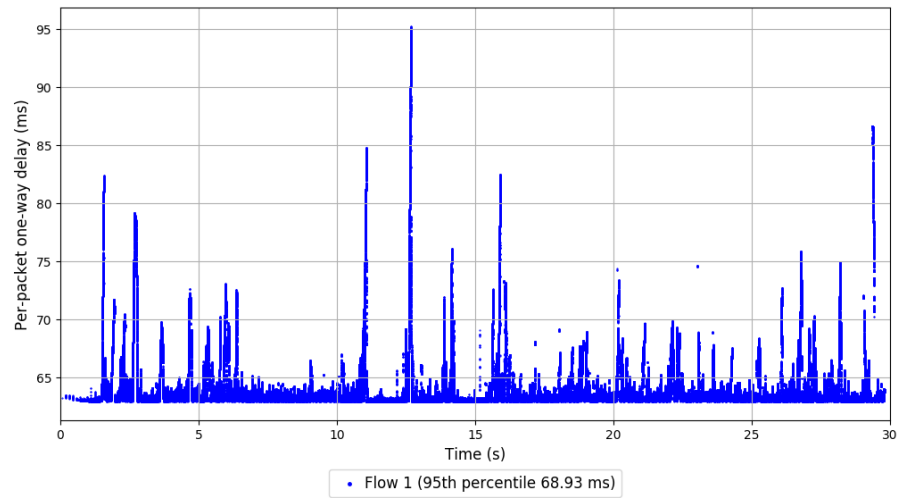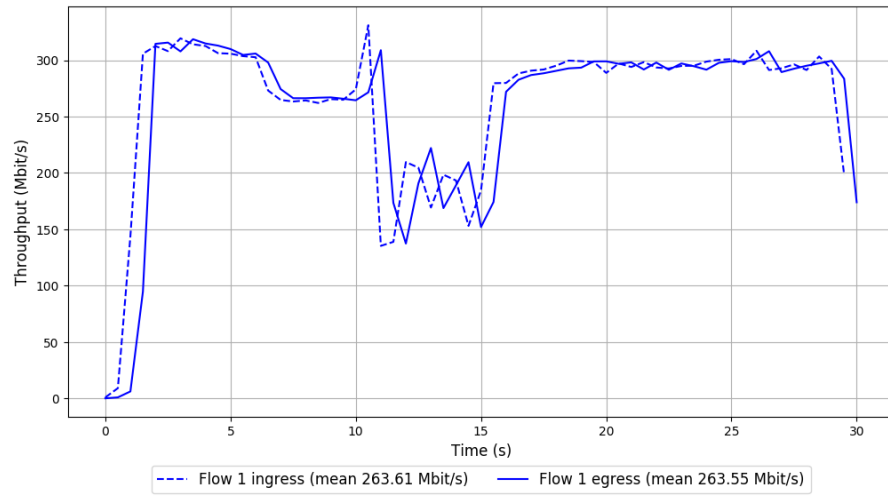
• Flow 1 (95th percentile 226.94 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-07-18 05:43:41
End at: 2019-07-18 05:44:11
Local clock offset: -0.033 ms
Remote clock offset: -0.186 ms


# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 491.44 Mbit/s
95th percentile per-packet one-way delay: 158.652 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 491.44 Mbit/s
95th percentile per-packet one-way delay: 158.652 ms
Loss rate: 1.14%
```

Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 495.04 Mbit/s) —— Flow 1 egress (mean 491.44 Mbit/s)

· Flow 1 (95th percentile 158.65 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-07-18 06:18:48
End at: 2019-07-18 06:19:18
Local clock offset: -0.107 ms
Remote clock offset: -0.174 ms


# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 473.96 Mbit/s
95th percentile per-packet one-way delay: 164.384 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 473.96 Mbit/s
95th percentile per-packet one-way delay: 164.384 ms
Loss rate: 0.56%
```
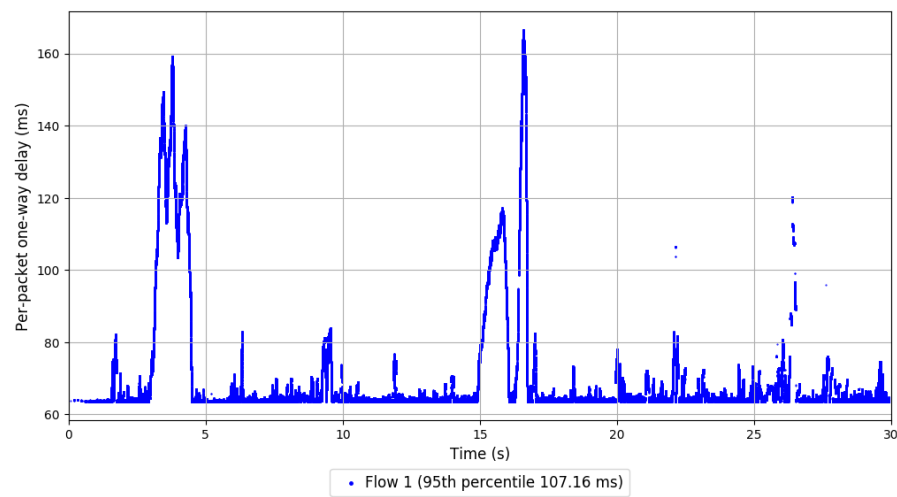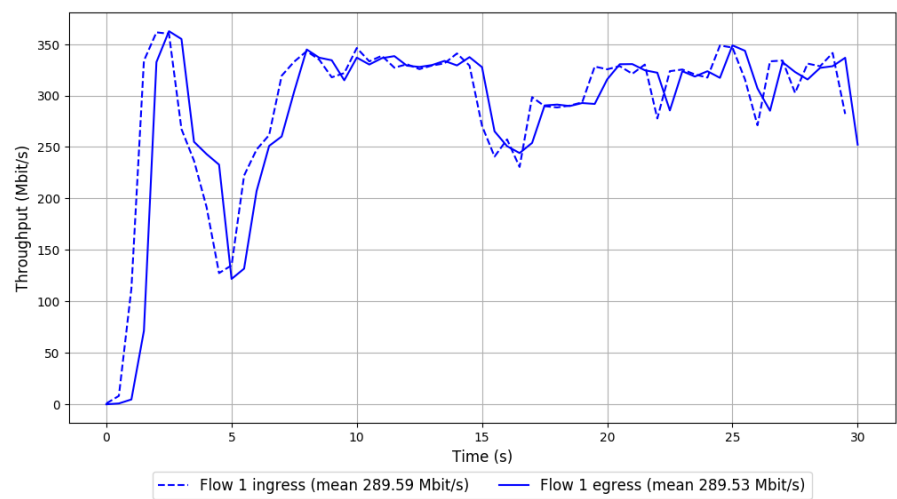
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 474.54 Mbit/s)   Flow 1 egress (mean 473.96 Mbit/s)

• Flow 1 (95th percentile 164.38 ms)

```
Run 1: Statistics of Copa

Start at: 2019-07-18 03:47:41
End at: 2019-07-18 03:48:11
Local clock offset: -0.079 ms
Remote clock offset: -0.343 ms


# Below is generated by plot.py at 2019-07-18 07:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 263.55 Mbit/s
95th percentile per-packet one-way delay: 68.933 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 263.55 Mbit/s
95th percentile per-packet one-way delay: 68.933 ms
Loss rate: 0.44%
```
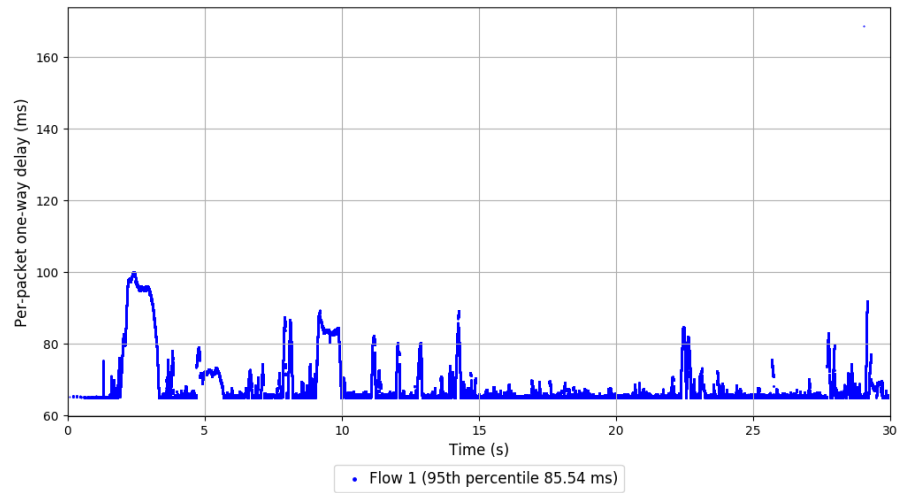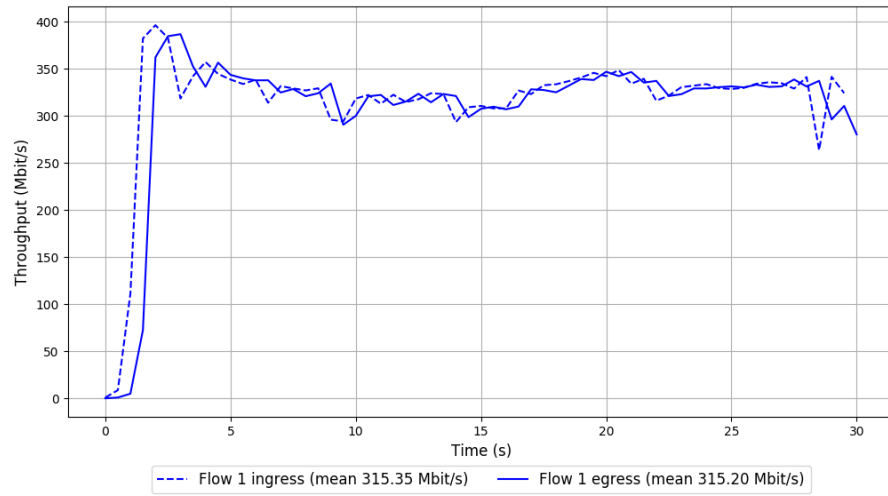
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 263.61 Mbit/s) — — — Flow 1 egress (mean 263.55 Mbit/s)
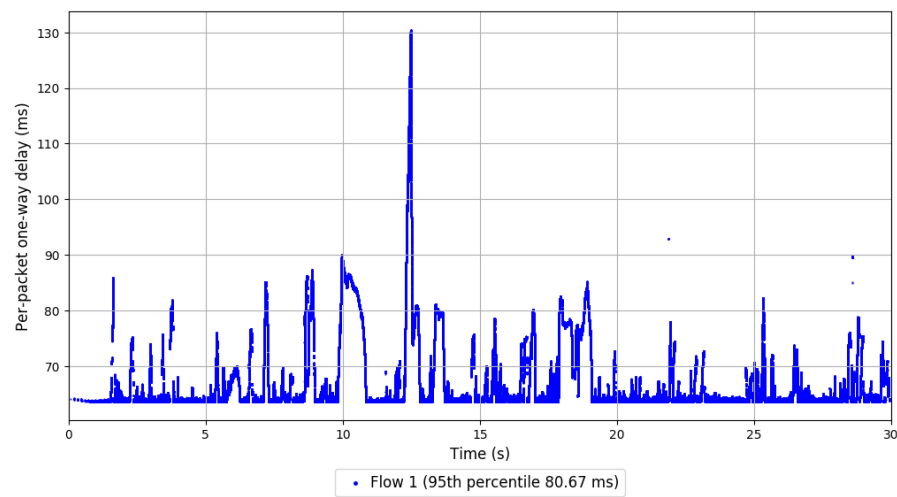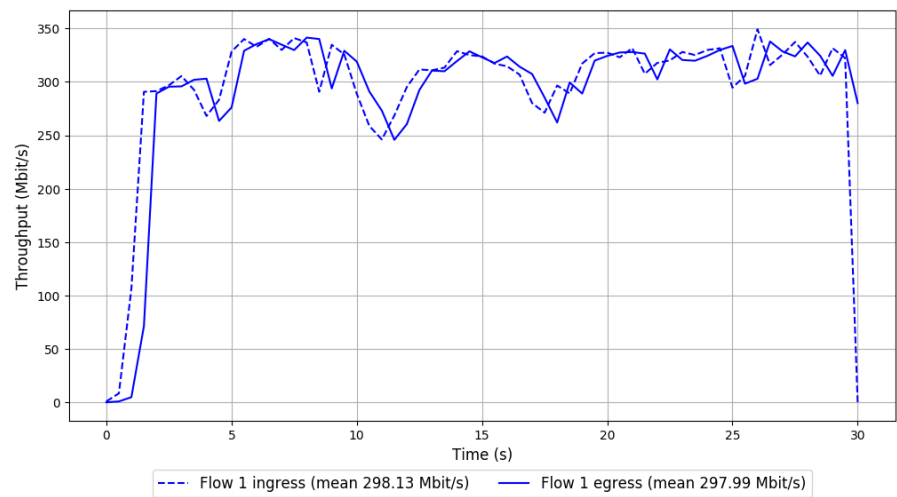

• Flow 1 (95th percentile 68.93 ms)

17

Run 2: Statistics of Copa

Start at: 2019-07-18 04:22:49
End at: 2019-07-18 04:23:19
Local clock offset: 0.073 ms
Remote clock offset: -0.3 ms

Below is generated by plot.py at 2019-07-18 07:06:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 289.53 Mbit/s
95th percentile per-packet one-way delay: 107.157 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 289.53 Mbit/s
95th percentile per-packet one-way delay: 107.157 ms
Loss rate: 0.45%
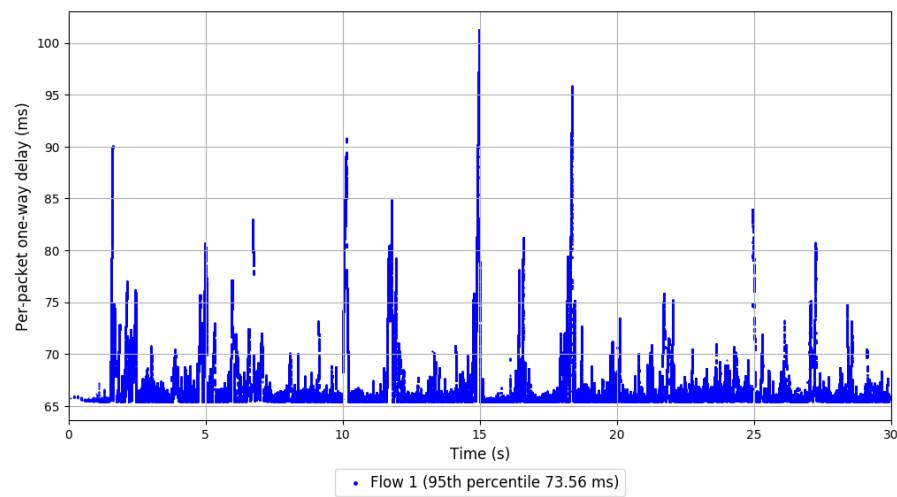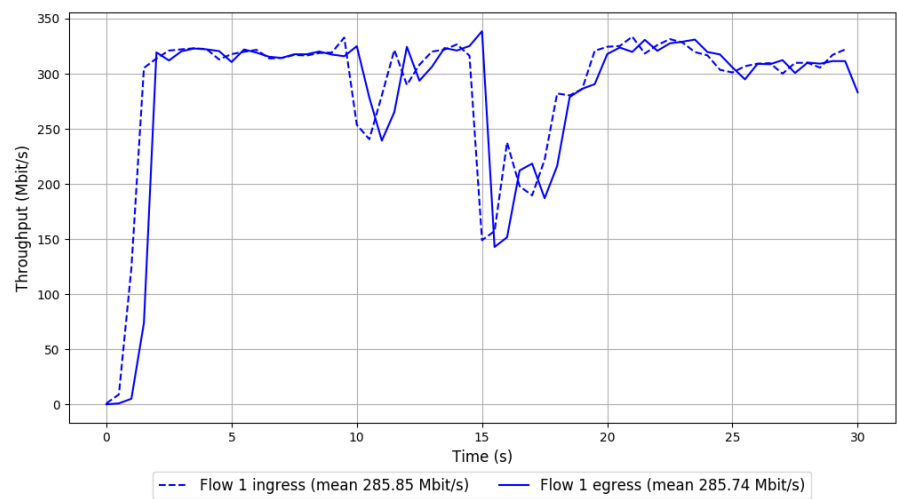
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-07-18 04:58:04
End at: 2019-07-18 04:58:34
Local clock offset: -0.007 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2019-07-18 07:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 315.20 Mbit/s
95th percentile per-packet one-way delay: 85.544 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 315.20 Mbit/s
95th percentile per-packet one-way delay: 85.544 ms
Loss rate: 0.48%
```
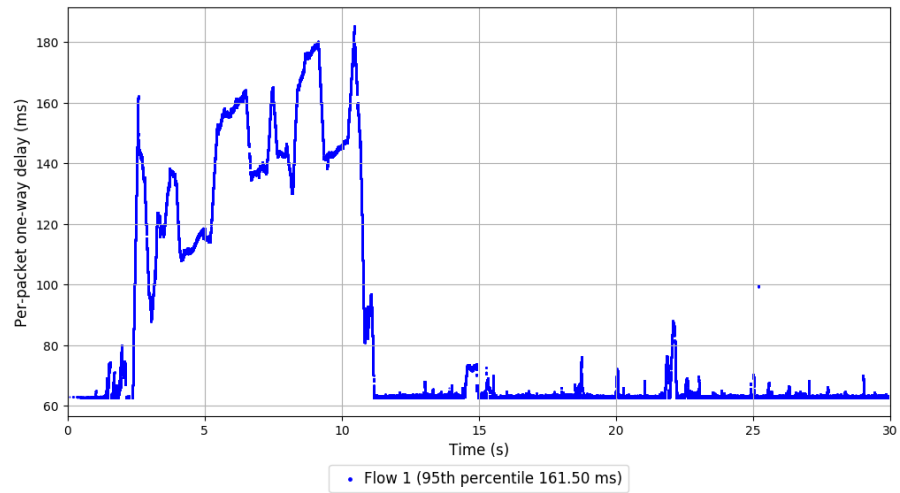
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 315.35 Mbit/s)   Flow 1 egress (mean 315.20 Mbit/s)

Flow 1 (95th percentile 85.54 ms)

```
Run 4: Statistics of Copa

Start at: 2019-07-18 05:33:19
End at: 2019-07-18 05:33:49
Local clock offset: -0.043 ms
Remote clock offset: -0.877 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 297.99 Mbit/s
95th percentile per-packet one-way delay: 80.669 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 297.99 Mbit/s
95th percentile per-packet one-way delay: 80.669 ms
Loss rate: 0.48%
```

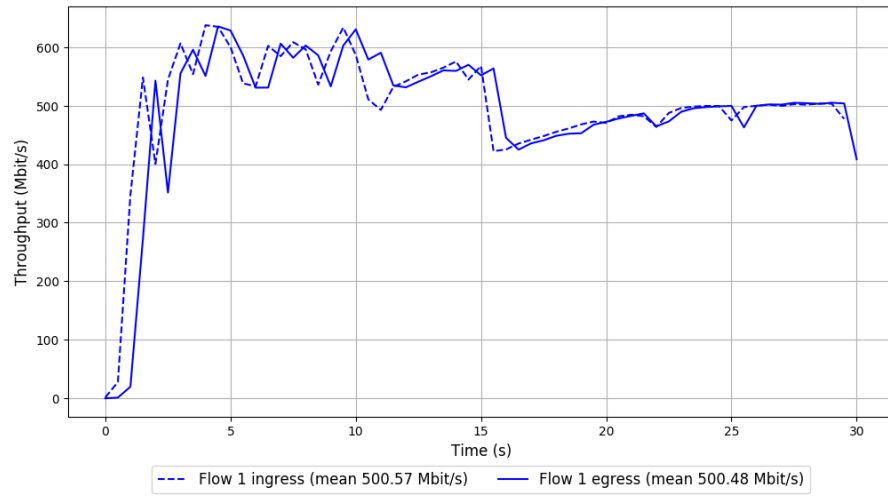Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-07-18 06:08:28
End at: 2019-07-18 06:08:58
Local clock offset: -0.047 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.74 Mbit/s
95th percentile per-packet one-way delay: 73.557 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 285.74 Mbit/s
95th percentile per-packet one-way delay: 73.557 ms
Loss rate: 0.47%
```

Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 285.85 Mbit/s)   Flow 1 egress (mean 285.74 Mbit/s)

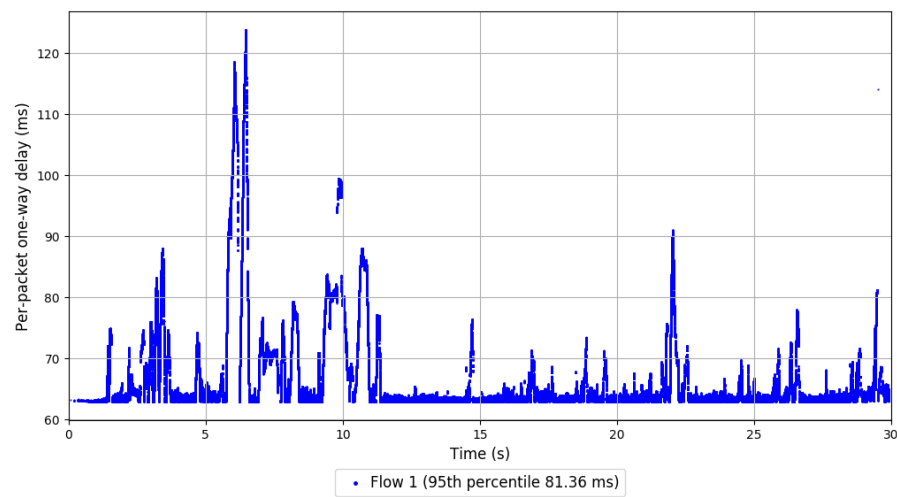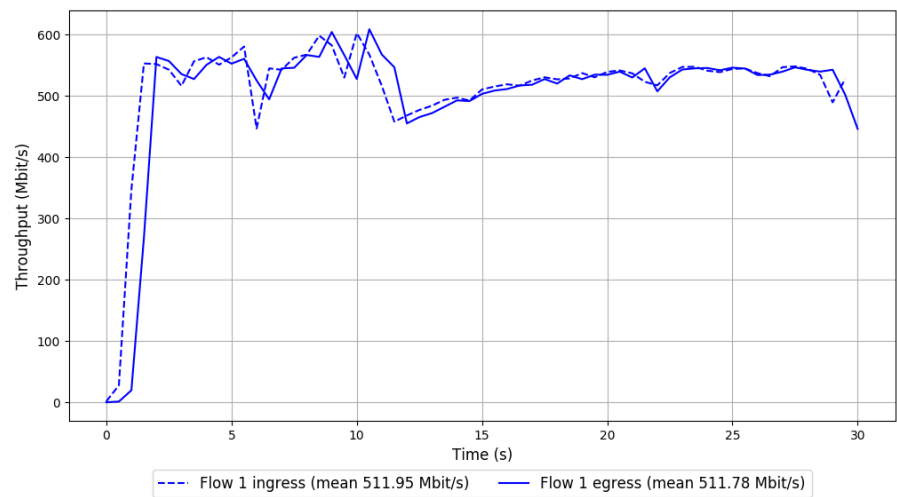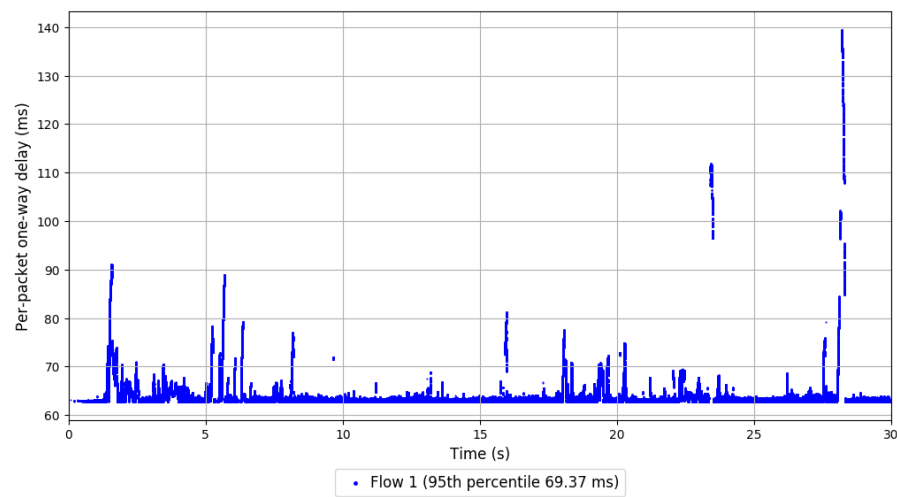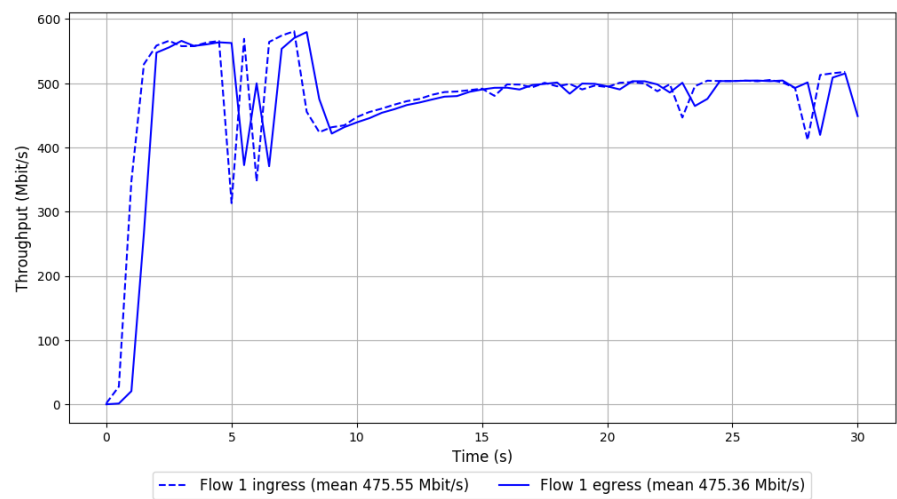Flow 1 (95th percentile 73.56 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-18 04:21:16
End at: 2019-07-18 04:21:46
Local clock offset: 0.098 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 500.48 Mbit/s
95th percentile per-packet one-way delay: 161.497 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 500.48 Mbit/s
95th percentile per-packet one-way delay: 161.497 ms
Loss rate: 0.44%
```
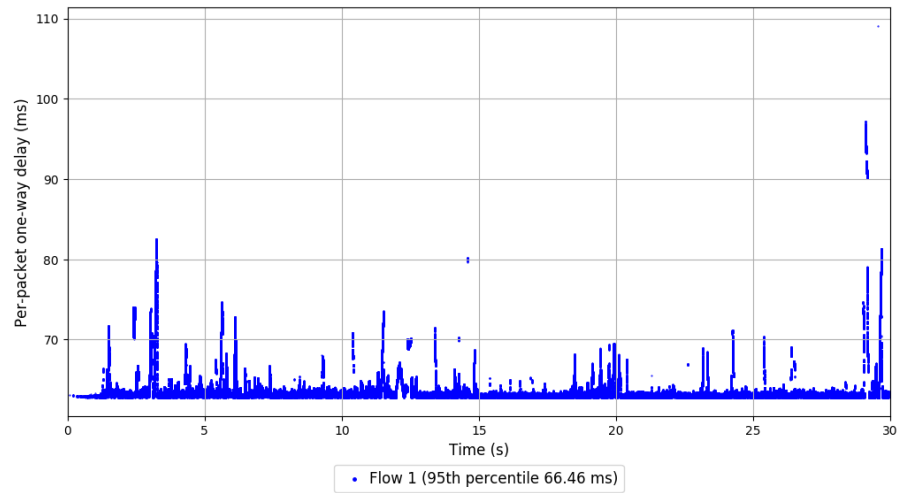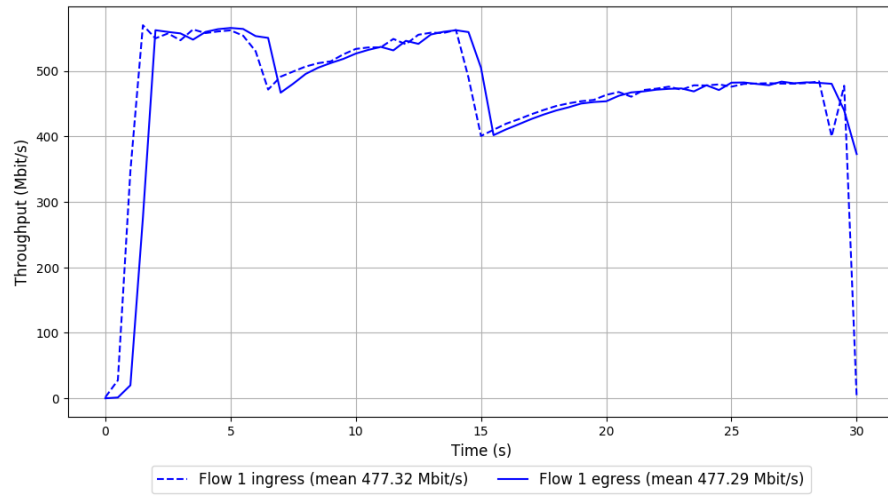
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-18 04:56:31
End at: 2019-07-18 04:57:01
Local clock offset: 0.0 ms
Remote clock offset: -0.088 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 511.78 Mbit/s
95th percentile per-packet one-way delay: 81.363 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 511.78 Mbit/s
95th percentile per-packet one-way delay: 81.363 ms
Loss rate: 0.45%
```

Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 511.95 Mbit/s) --- Flow 1 egress (mean 511.78 Mbit/s)
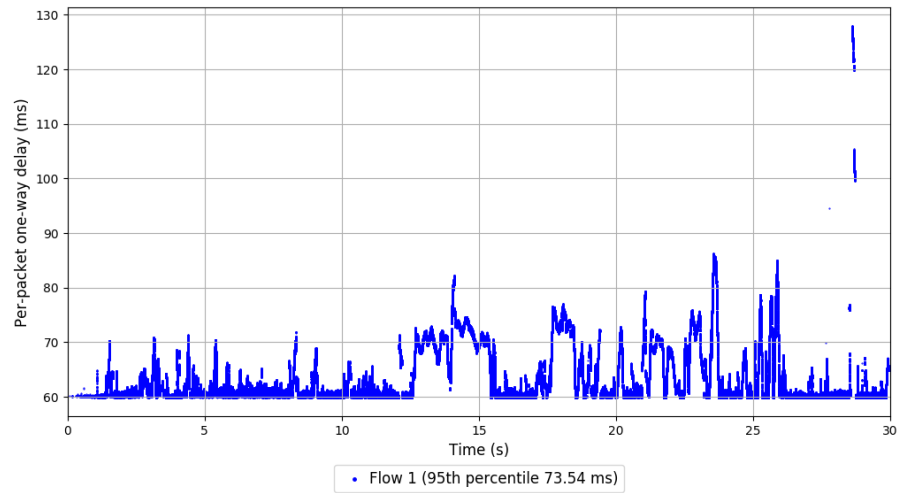

Flow 1 (95th percentile 81.36 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-18 05:31:48
End at: 2019-07-18 05:32:18
Local clock offset: -0.089 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 475.36 Mbit/s
95th percentile per-packet one-way delay: 69.367 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 475.36 Mbit/s
95th percentile per-packet one-way delay: 69.367 ms
Loss rate: 0.46%
```
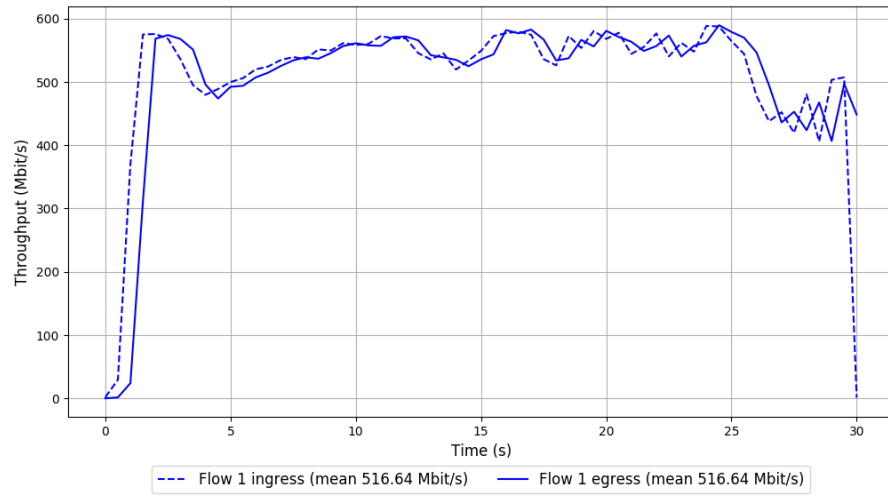
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-18 06:06:56
End at: 2019-07-18 06:07:26
Local clock offset: -0.029 ms
Remote clock offset: -0.163 ms


# Below is generated by plot.py at 2019-07-18 07:15:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 477.29 Mbit/s
95th percentile per-packet one-way delay: 66.464 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 477.29 Mbit/s
95th percentile per-packet one-way delay: 66.464 ms
Loss rate: 0.42%
```
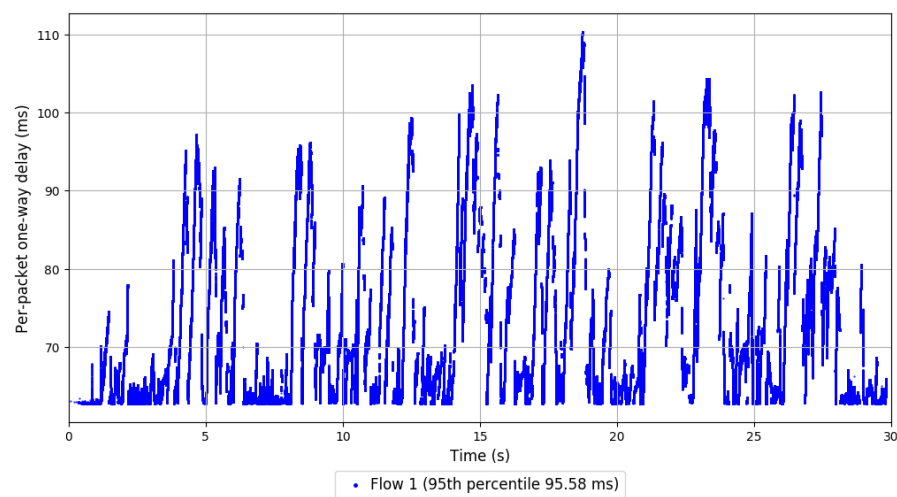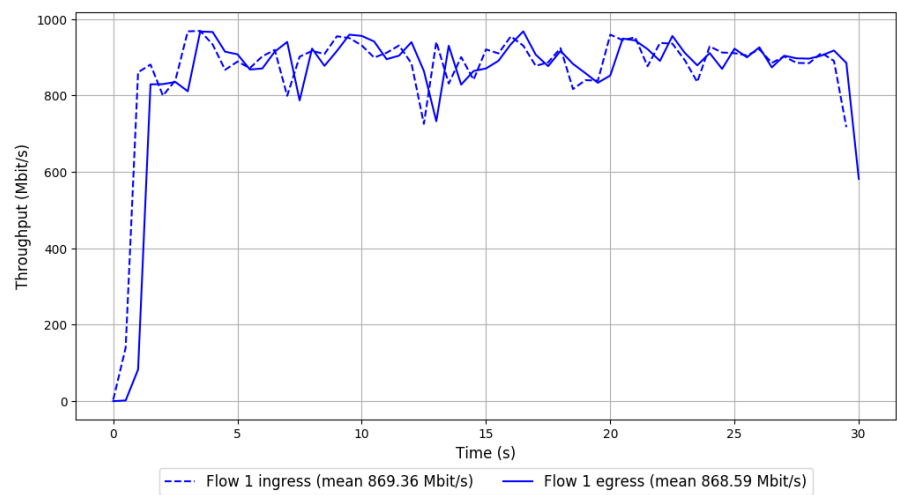
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-18 06:42:22
End at: 2019-07-18 06:42:52
Local clock offset: -0.11 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2019-07-18 07:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 516.64 Mbit/s
95th percentile per-packet one-way delay: 73.536 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 516.64 Mbit/s
95th percentile per-packet one-way delay: 73.536 ms
Loss rate: 0.41%
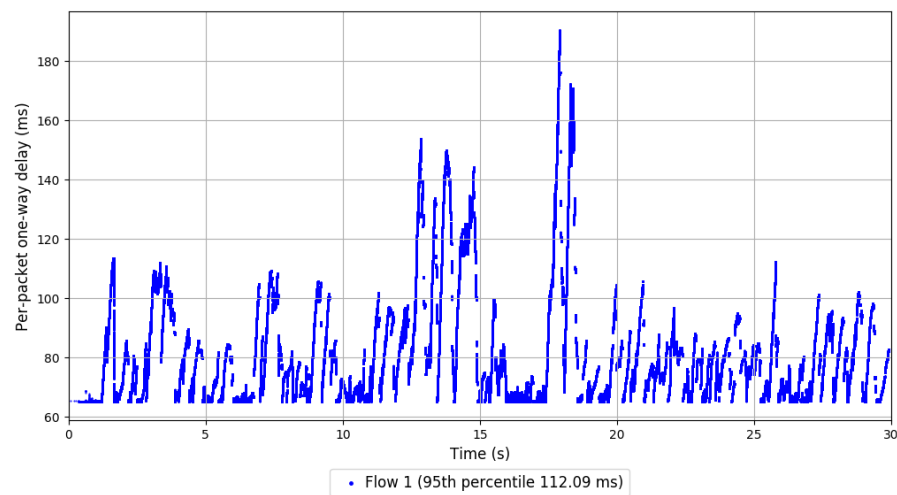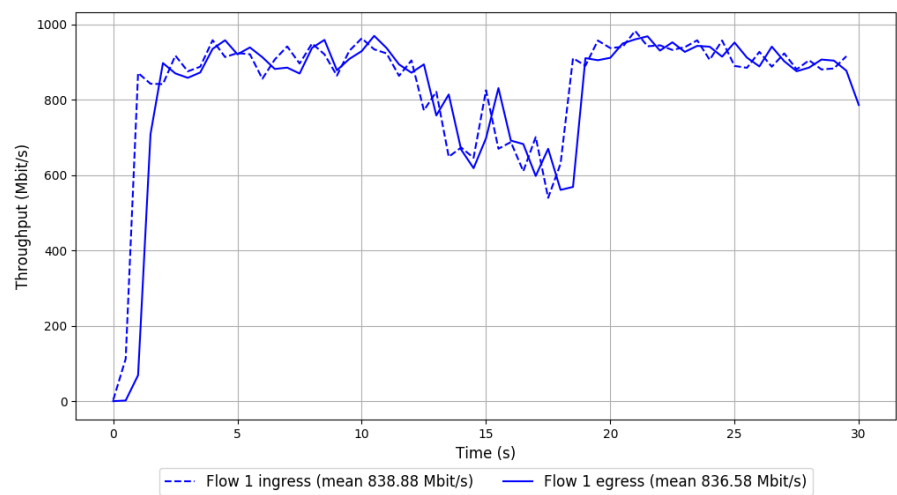```

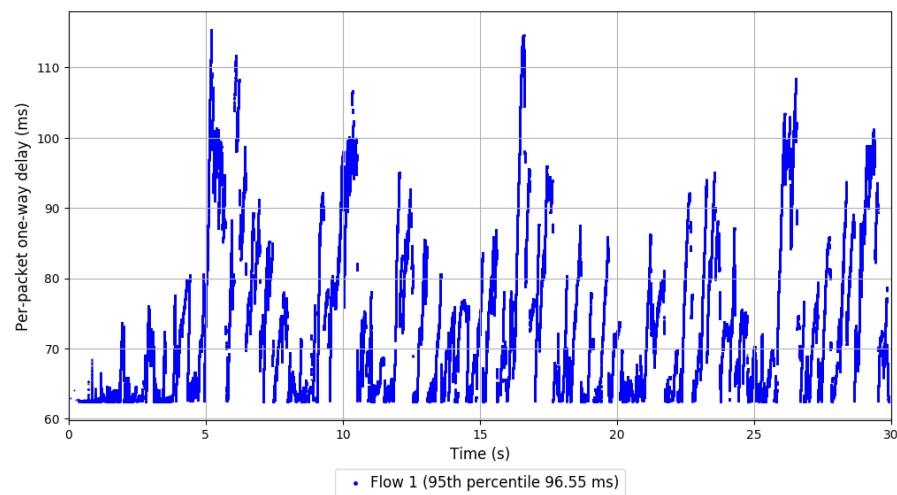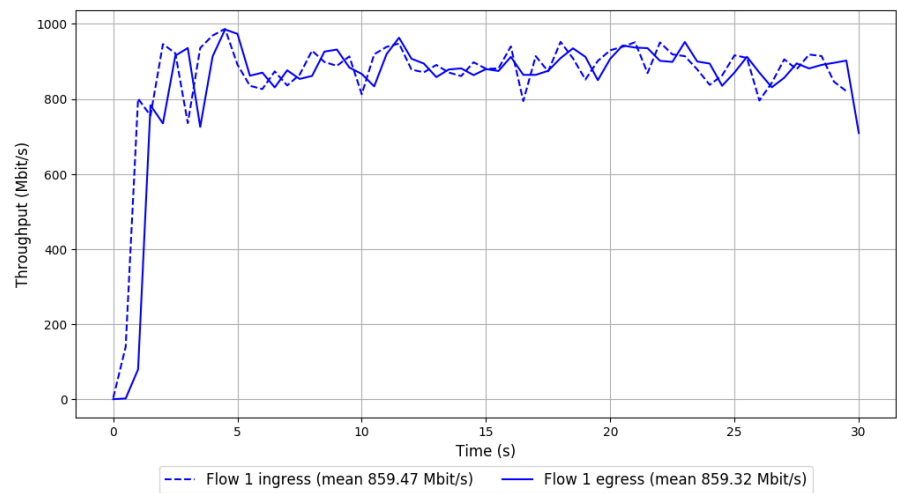Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-07-18 04:19:33
End at: 2019-07-18 04:20:03
Local clock offset: 0.064 ms
Remote clock offset: 0.056 ms


# Below is generated by plot.py at 2019-07-18 07:23:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 868.59 Mbit/s
95th percentile per-packet one-way delay: 95.576 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 868.59 Mbit/s
95th percentile per-packet one-way delay: 95.576 ms
Loss rate: 0.52%
```

Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 869.36 Mbit/s)   Flow 1 egress (mean 868.59 Mbit/s)

• Flow 1 (95th percentile 95.58 ms)

```
Run 2: Statistics of FillP

Start at: 2019-07-18 04:54:50
End at: 2019-07-18 04:55:20
Local clock offset: -0.015 ms
Remote clock offset: -0.045 ms


# Below is generated by plot.py at 2019-07-18 07:31:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 836.58 Mbit/s
95th percentile per-packet one-way delay: 112.093 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 836.58 Mbit/s
95th percentile per-packet one-way delay: 112.093 ms
Loss rate: 0.71%
```
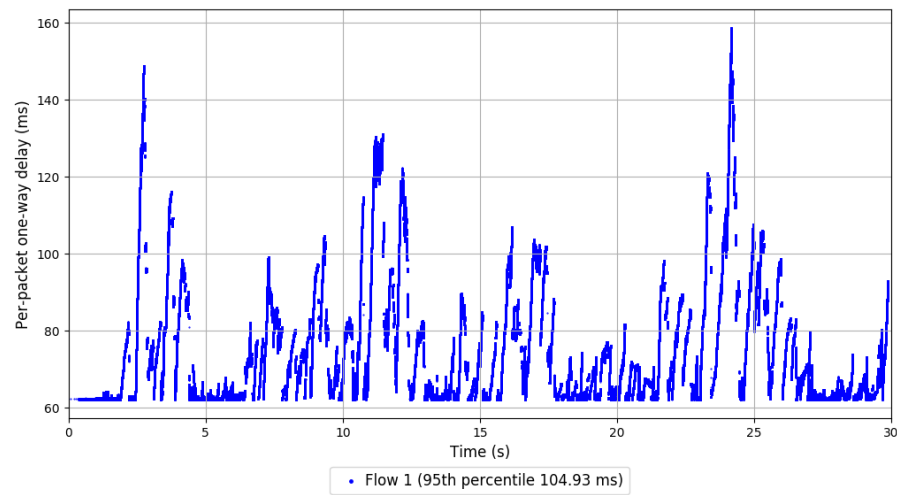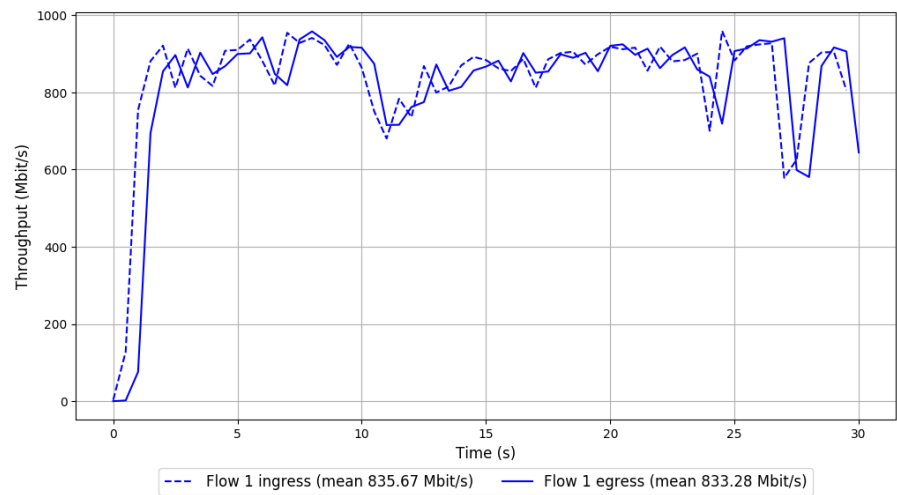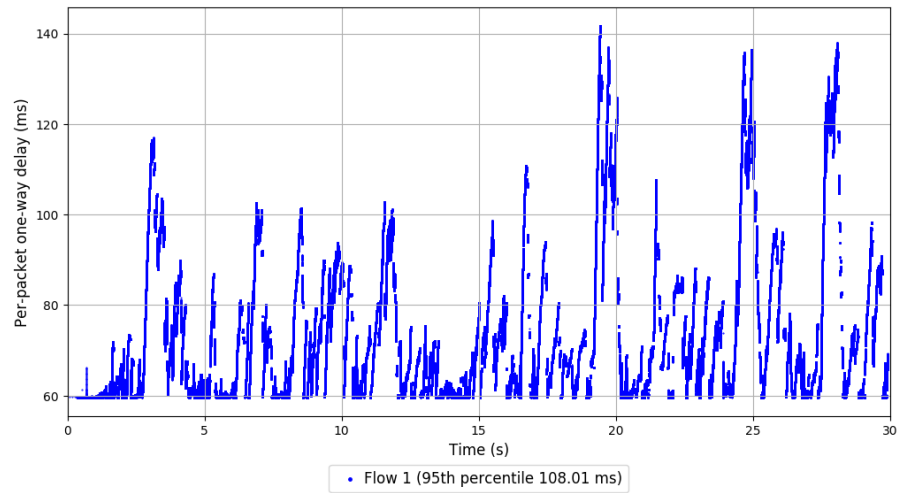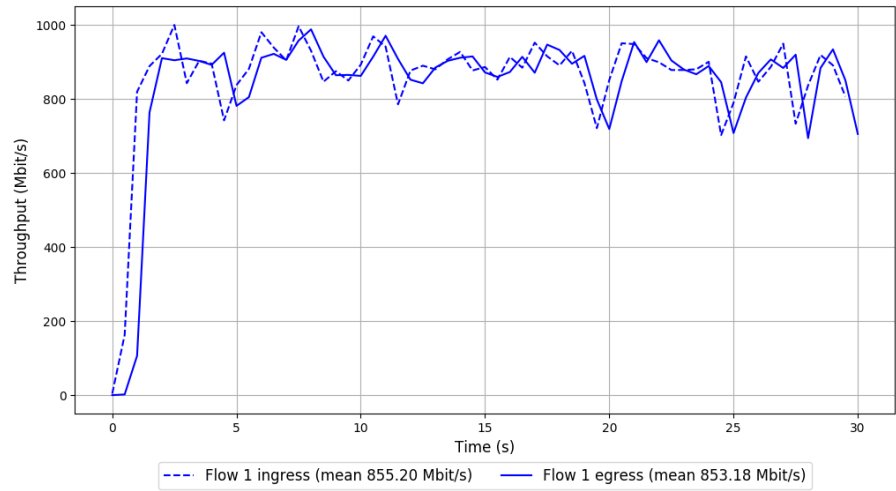
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-07-18 05:30:05
End at: 2019-07-18 05:30:35
Local clock offset: -0.059 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-07-18 07:32:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 859.32 Mbit/s
95th percentile per-packet one-way delay: 96.551 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 859.32 Mbit/s
95th percentile per-packet one-way delay: 96.551 ms
Loss rate: 0.45%
```

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 859.47 Mbit/s) — — — Flow 1 egress (mean 859.32 Mbit/s)

• Flow 1 (95th percentile 96.55 ms)

```
Run 4: Statistics of FillP

Start at: 2019-07-18 06:05:14
End at: 2019-07-18 06:05:44
Local clock offset: -0.039 ms
Remote clock offset: 0.73 ms


# Below is generated by plot.py at 2019-07-18 07:32:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 833.28 Mbit/s
95th percentile per-packet one-way delay: 104.932 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 833.28 Mbit/s
95th percentile per-packet one-way delay: 104.932 ms
Loss rate: 0.71%
```
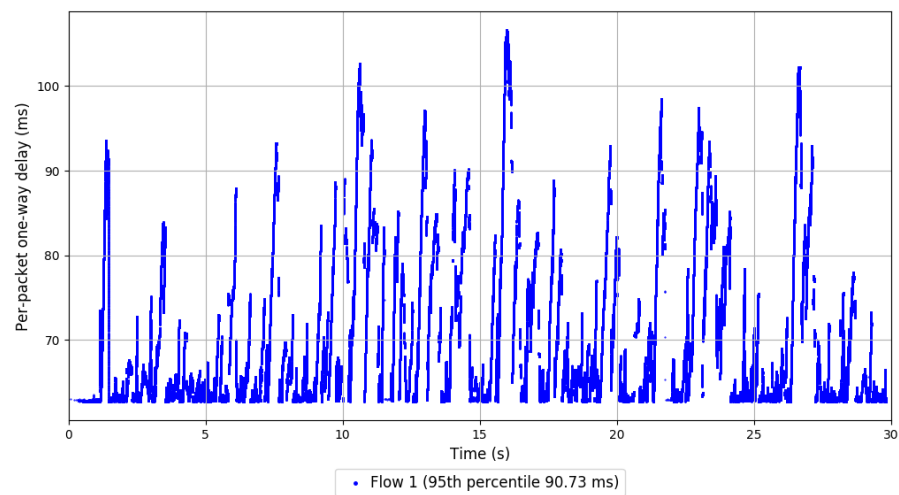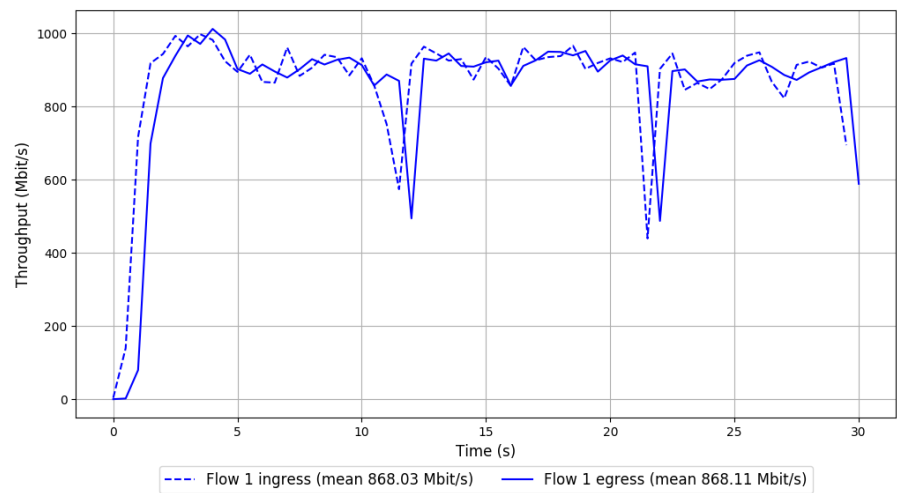
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 835.67 Mbit/s)   Flow 1 egress (mean 833.28 Mbit/s)

• Flow 1 (95th percentile 104.93 ms)

```
Run 5: Statistics of FillP

Start at: 2019-07-18 06:40:38
End at: 2019-07-18 06:41:09
Local clock offset: -0.125 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2019-07-18 07:32:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 853.18 Mbit/s
95th percentile per-packet one-way delay: 108.010 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 853.18 Mbit/s
95th percentile per-packet one-way delay: 108.010 ms
Loss rate: 0.65%
```
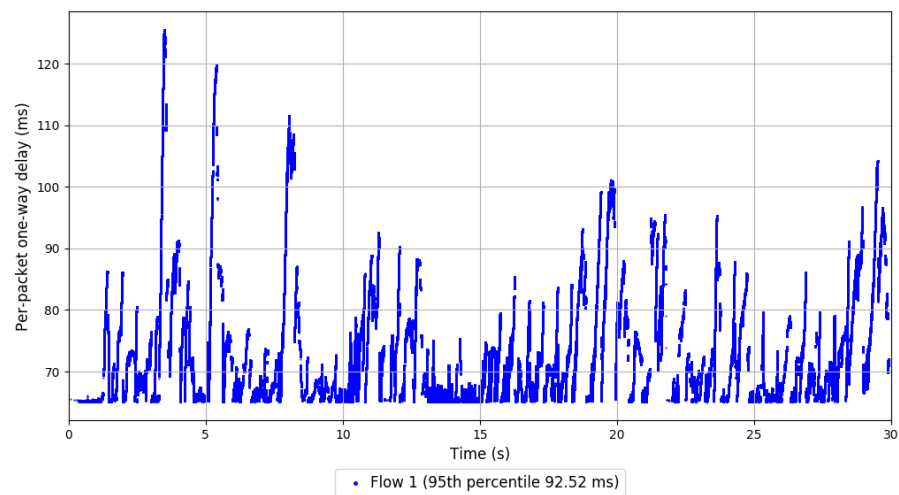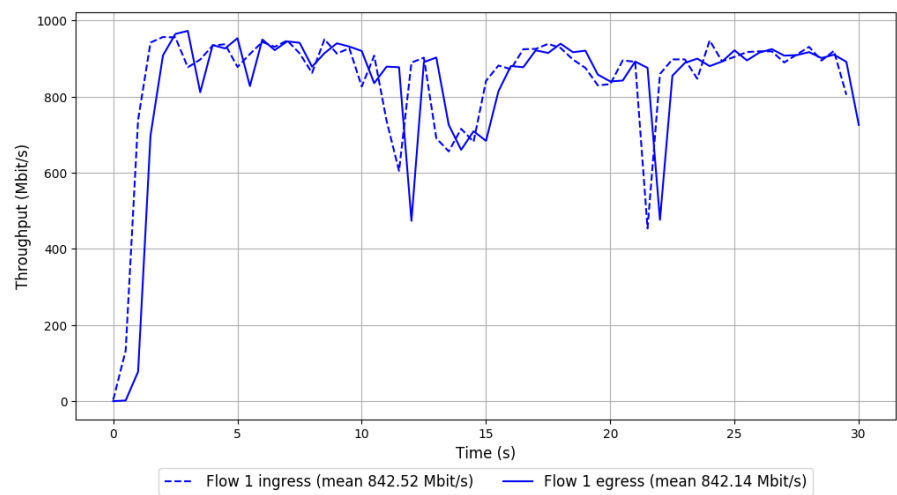
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 855.20 Mbit/s)   Flow 1 egress (mean 853.18 Mbit/s)
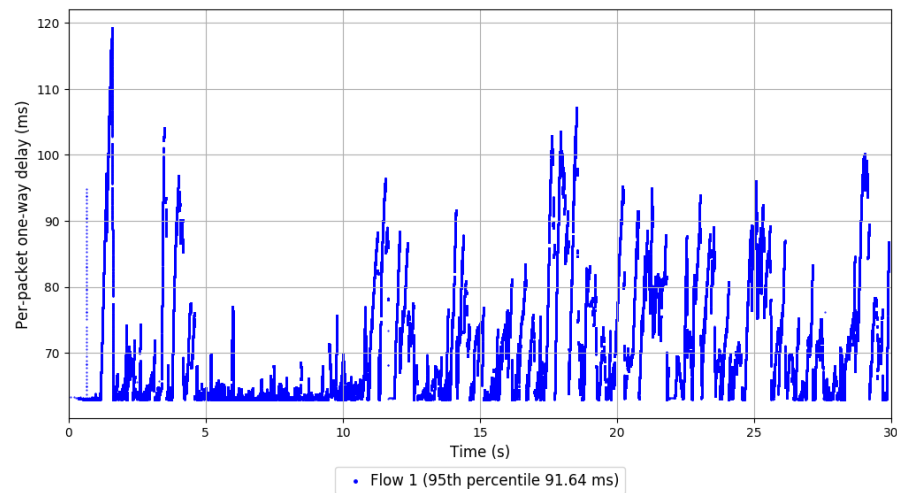

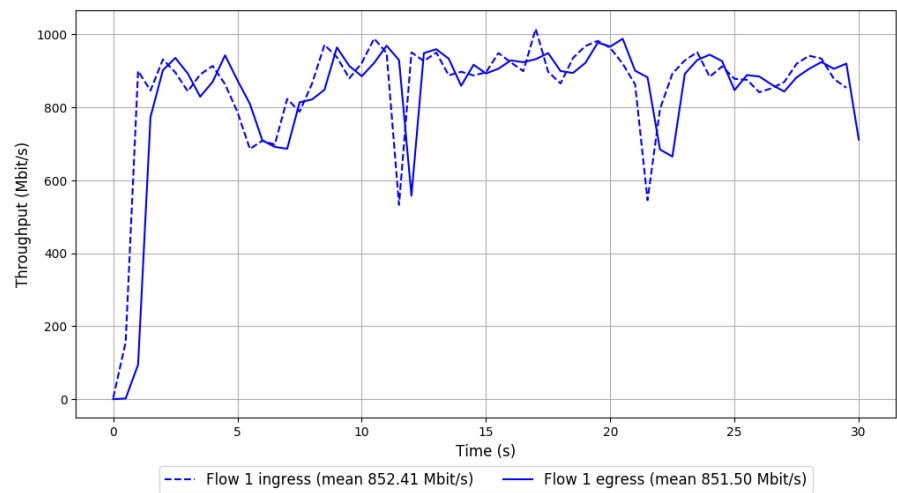
• Flow 1 (95th percentile 108.01 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-18 04:11:10
End at: 2019-07-18 04:11:40
Local clock offset: 0.067 ms
Remote clock offset: -0.578 ms


# Below is generated by plot.py at 2019-07-18 07:32:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 868.11 Mbit/s
95th percentile per-packet one-way delay: 90.726 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 868.11 Mbit/s
95th percentile per-packet one-way delay: 90.726 ms
Loss rate: 0.42%
```

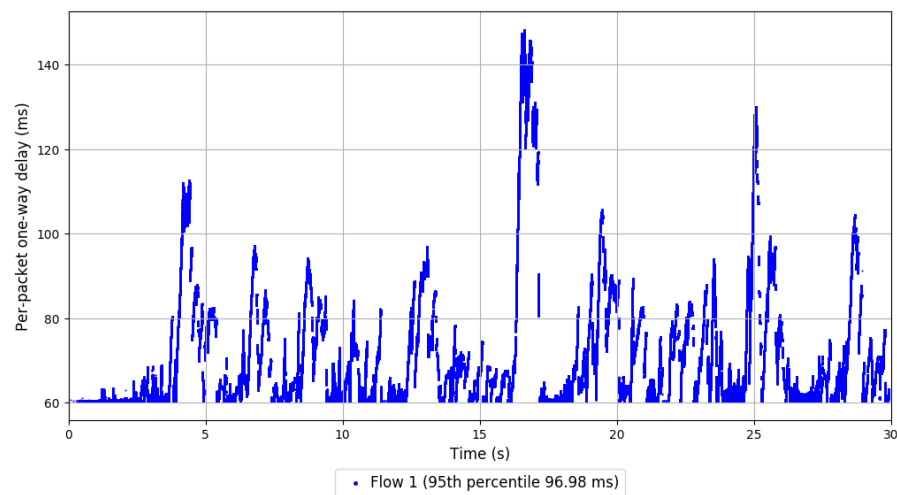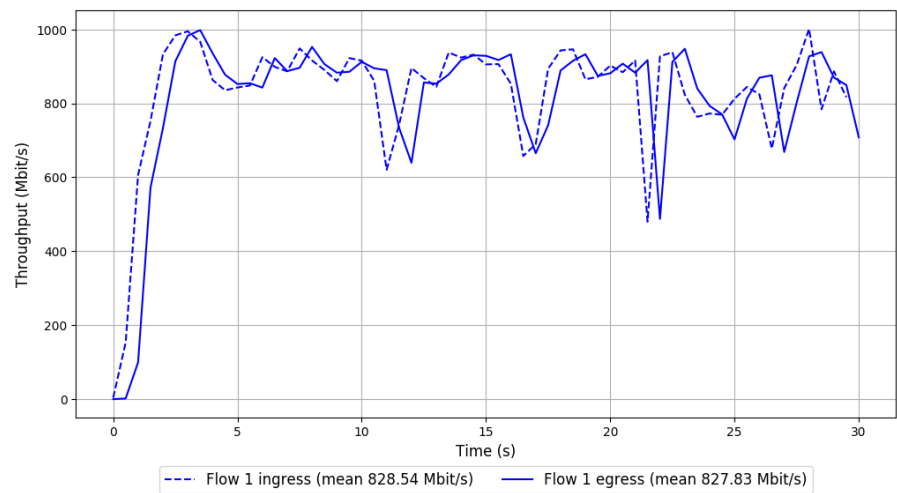Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-18 04:46:31
End at: 2019-07-18 04:47:01
Local clock offset: -0.027 ms
Remote clock offset: 0.08 ms


# Below is generated by plot.py at 2019-07-18 07:32:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 842.14 Mbit/s
95th percentile per-packet one-way delay: 92.518 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 842.14 Mbit/s
95th percentile per-packet one-way delay: 92.518 ms
Loss rate: 0.48%
```

Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 842.52 Mbit/s) --- Flow 1 egress (mean 842.14 Mbit/s)
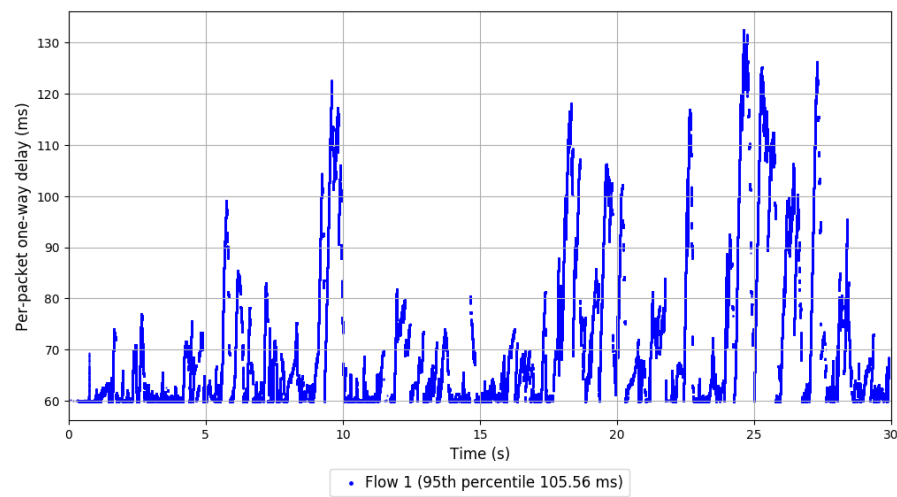
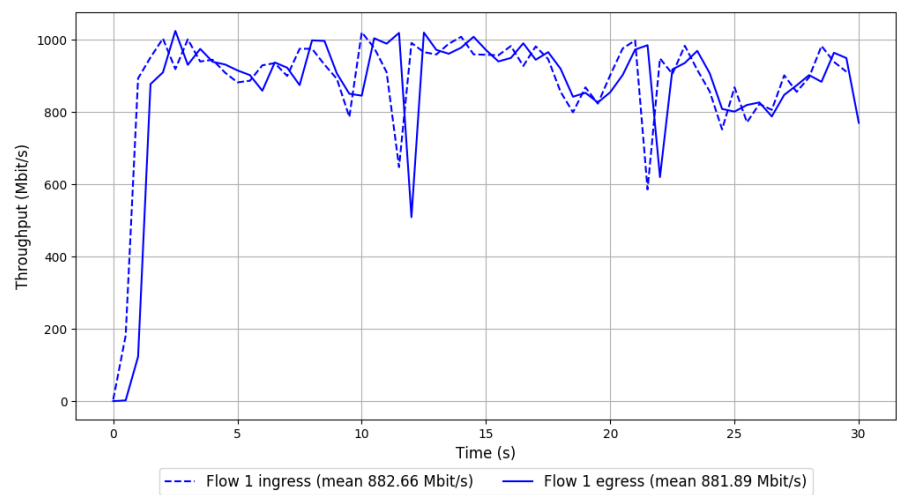

• Flow 1 (95th percentile 92.52 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-18 05:21:40
End at: 2019-07-18 05:22:10
Local clock offset: -0.05 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2019-07-18 07:33:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 851.50 Mbit/s
95th percentile per-packet one-way delay: 91.636 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 851.50 Mbit/s
95th percentile per-packet one-way delay: 91.636 ms
Loss rate: 0.54%
```
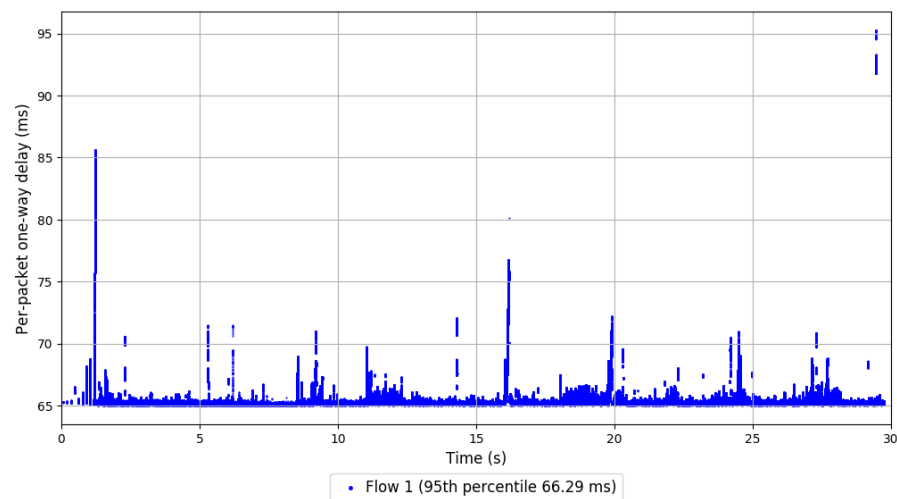
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 852.41 Mbit/s)   Flow 1 egress (mean 851.50 Mbit/s)

Flow 1 (95th percentile 91.64 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-18 05:56:53
End at: 2019-07-18 05:57:23
Local clock offset: -0.051 ms
Remote clock offset: -0.516 ms


# Below is generated by plot.py at 2019-07-18 07:44:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 827.83 Mbit/s
95th percentile per-packet one-way delay: 96.984 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 827.83 Mbit/s
95th percentile per-packet one-way delay: 96.984 ms
Loss rate: 0.50%
```
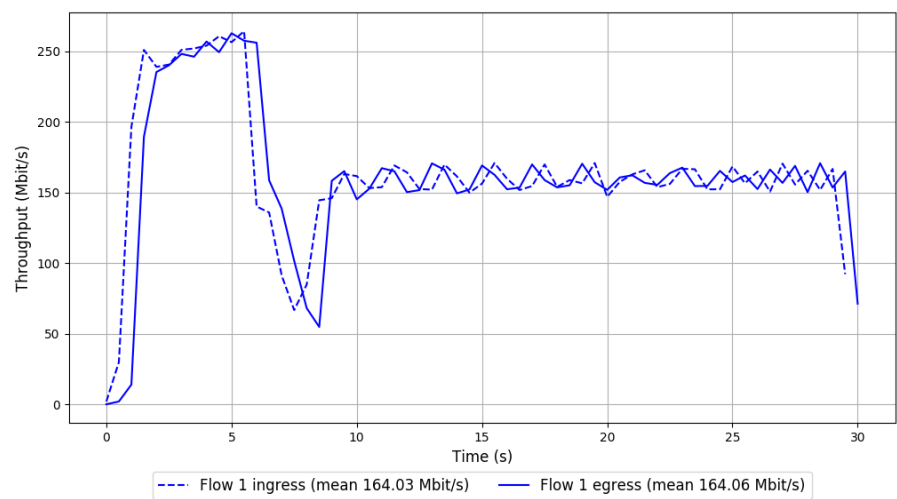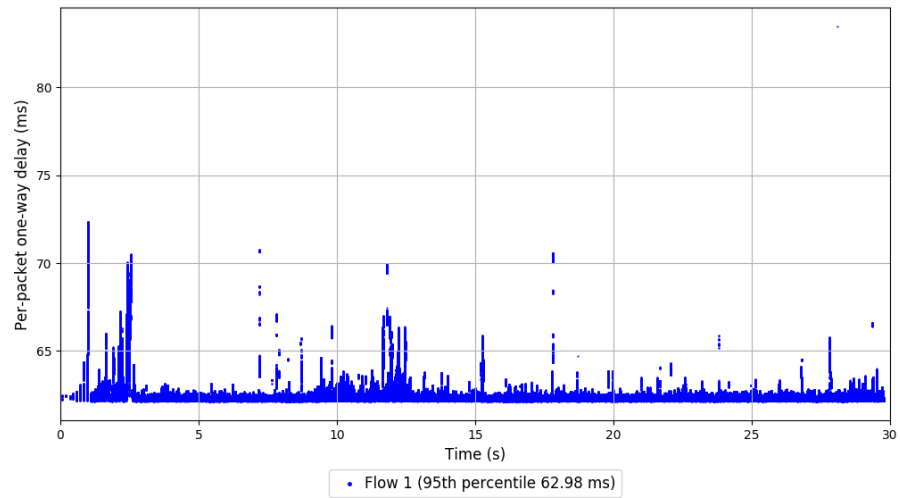
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-18 06:32:16
End at: 2019-07-18 06:32:46
Local clock offset: -0.07 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 881.89 Mbit/s
95th percentile per-packet one-way delay: 105.555 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 881.89 Mbit/s
95th percentile per-packet one-way delay: 105.555 ms
Loss rate: 0.50%
```

Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-07-18 03:53:41
End at: 2019-07-18 03:54:11
Local clock offset: -0.025 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 164.06 Mbit/s
95th percentile per-packet one-way delay: 66.288 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 164.06 Mbit/s
95th percentile per-packet one-way delay: 66.288 ms
Loss rate: 0.42%
```
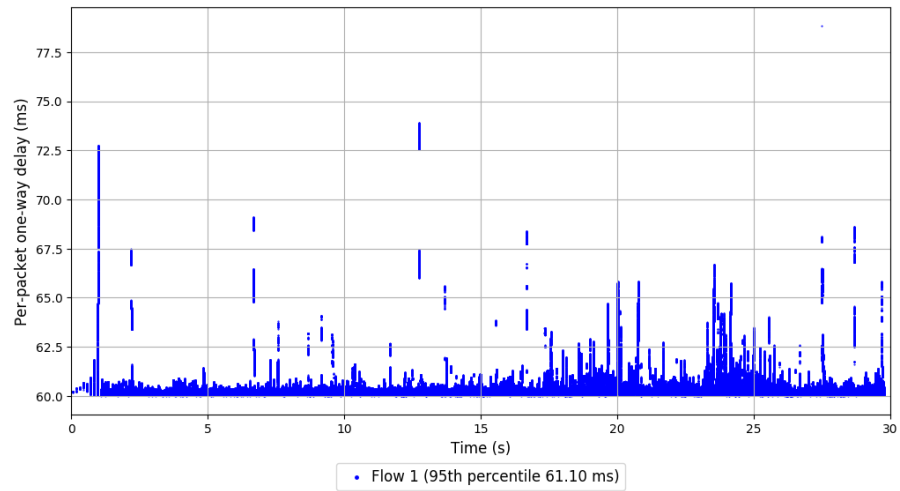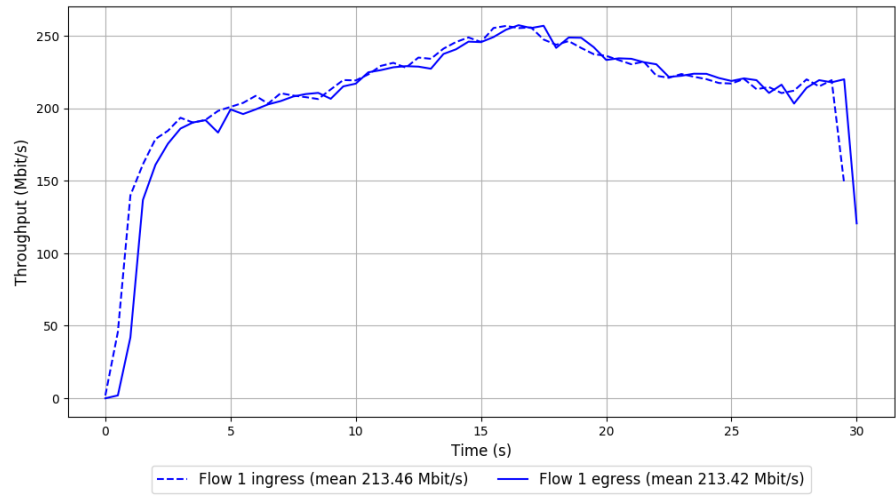
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-07-18 04:28:59
End at: 2019-07-18 04:29:29
Local clock offset: 0.072 ms
Remote clock offset: -0.003 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.06 Mbit/s
95th percentile per-packet one-way delay: 62.975 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 218.06 Mbit/s
95th percentile per-packet one-way delay: 62.975 ms
Loss rate: 0.44%
```
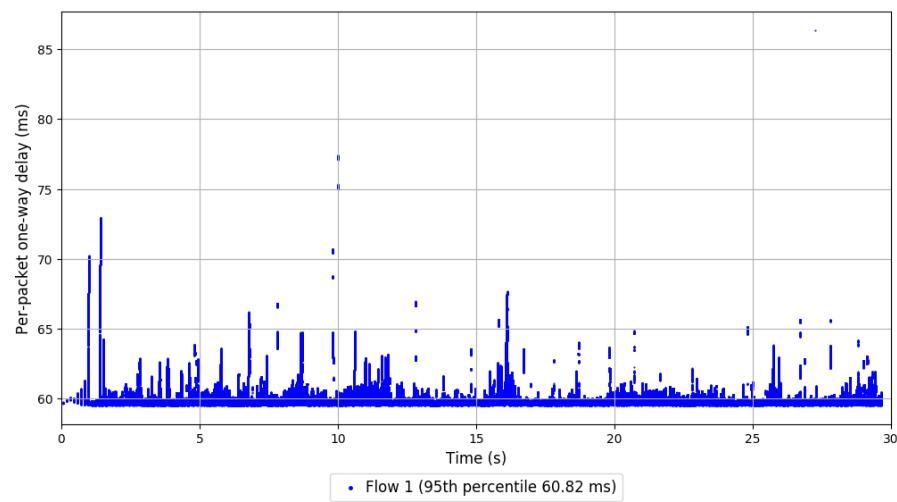
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-07-18 05:04:10
End at: 2019-07-18 05:04:40
Local clock offset: -0.026 ms
Remote clock offset: -0.181 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.42 Mbit/s
95th percentile per-packet one-way delay: 61.105 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 213.42 Mbit/s
95th percentile per-packet one-way delay: 61.105 ms
Loss rate: 0.43%
```
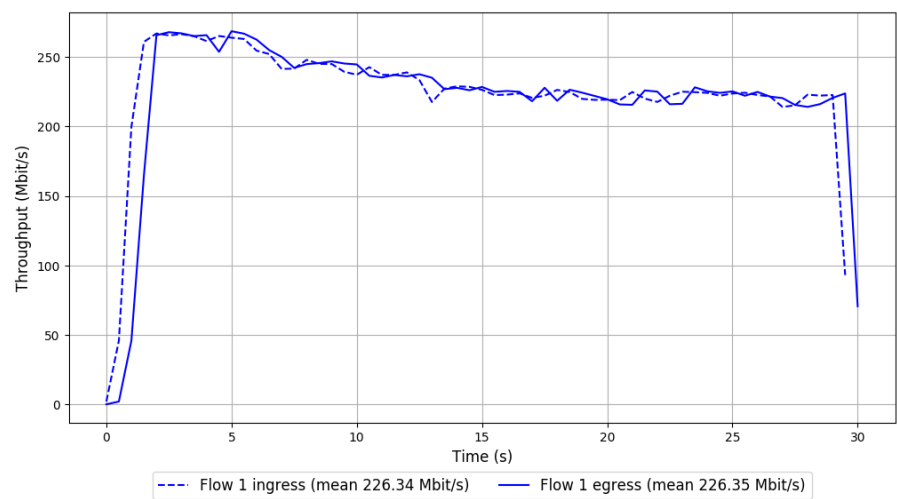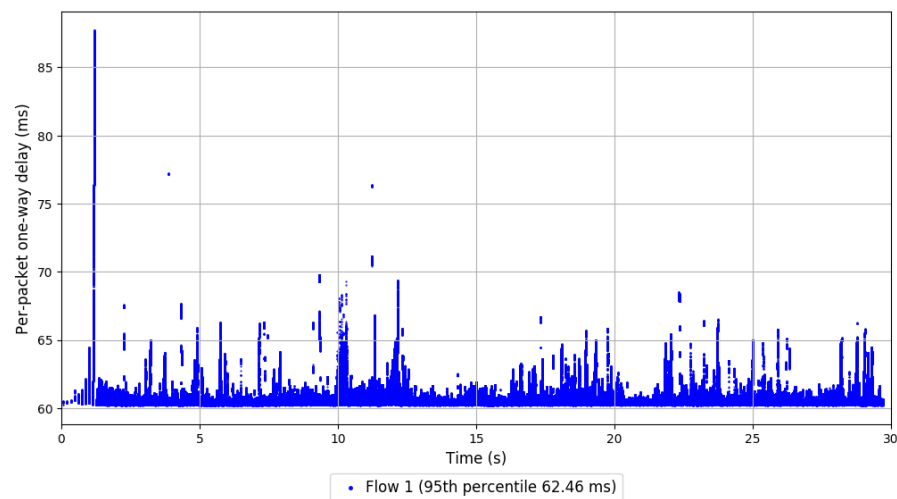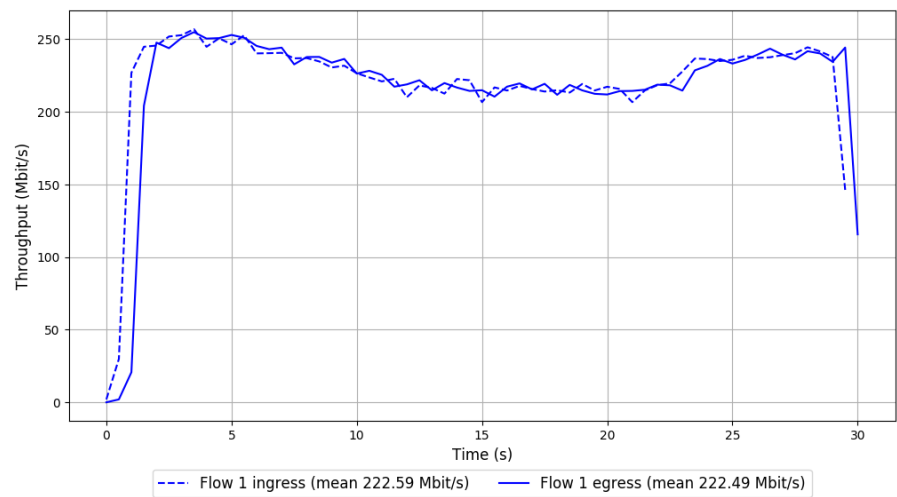
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-07-18 05:39:31
End at: 2019-07-18 05:40:01
Local clock offset: -0.08 ms
Remote clock offset: 0.458 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 226.35 Mbit/s
95th percentile per-packet one-way delay: 60.824 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 226.35 Mbit/s
95th percentile per-packet one-way delay: 60.824 ms
Loss rate: 0.41%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-07-18 06:14:39
End at: 2019-07-18 06:15:09
Local clock offset: -0.059 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 222.49 Mbit/s
95th percentile per-packet one-way delay: 62.462 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 222.49 Mbit/s
95th percentile per-packet one-way delay: 62.462 ms
Loss rate: 0.46%
```
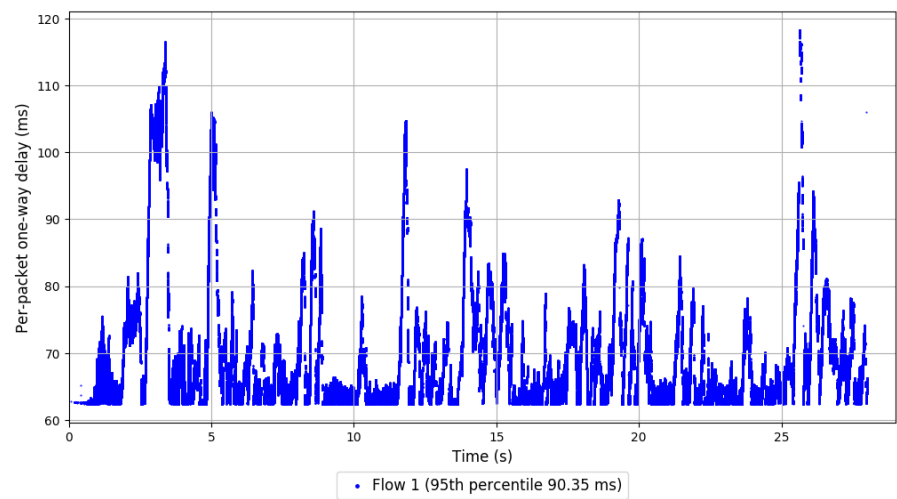
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-18 04:00:49
End at: 2019-07-18 04:01:19
Local clock offset: 0.006 ms
Remote clock offset: 0.255 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 579.28 Mbit/s
95th percentile per-packet one-way delay: 90.353 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 579.28 Mbit/s
95th percentile per-packet one-way delay: 90.353 ms
Loss rate: 0.42%
```
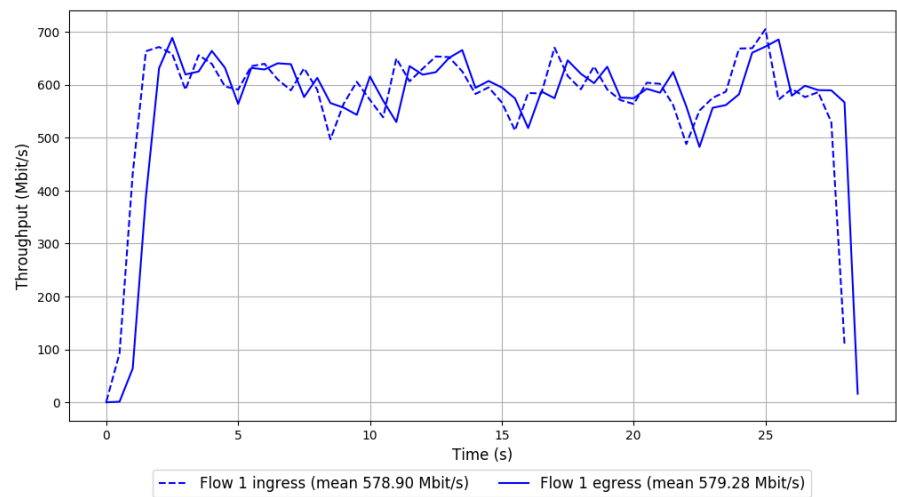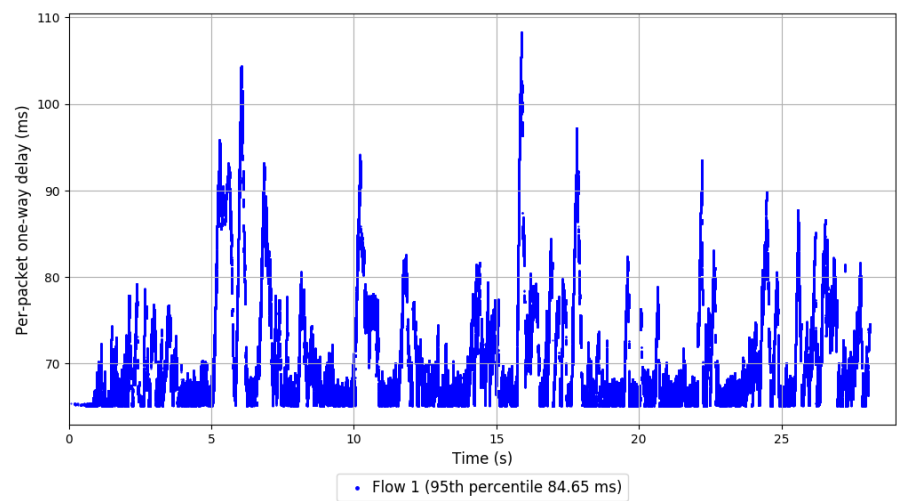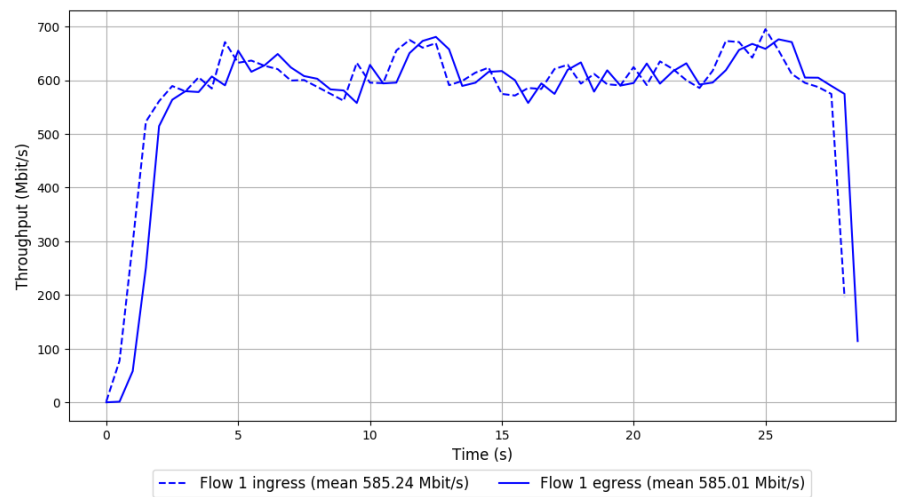
Run 1: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 578.90 Mbit/s)   Flow 1 egress (mean 579.28 Mbit/s)
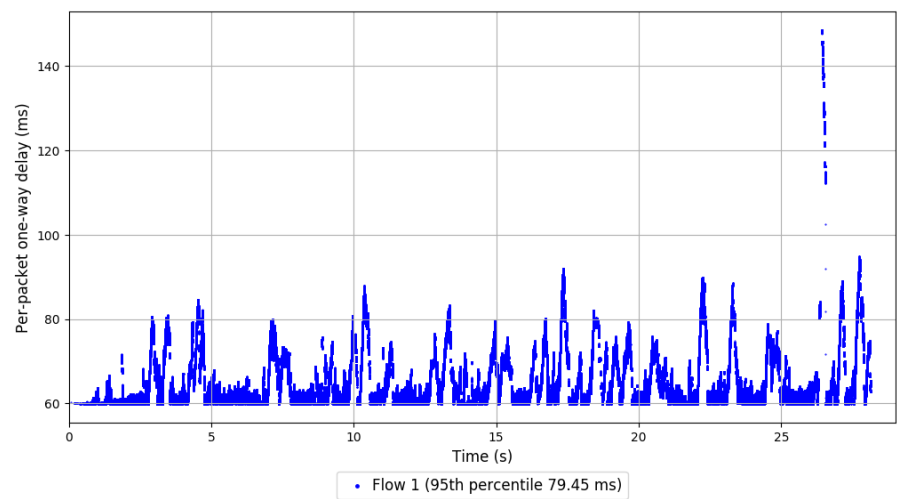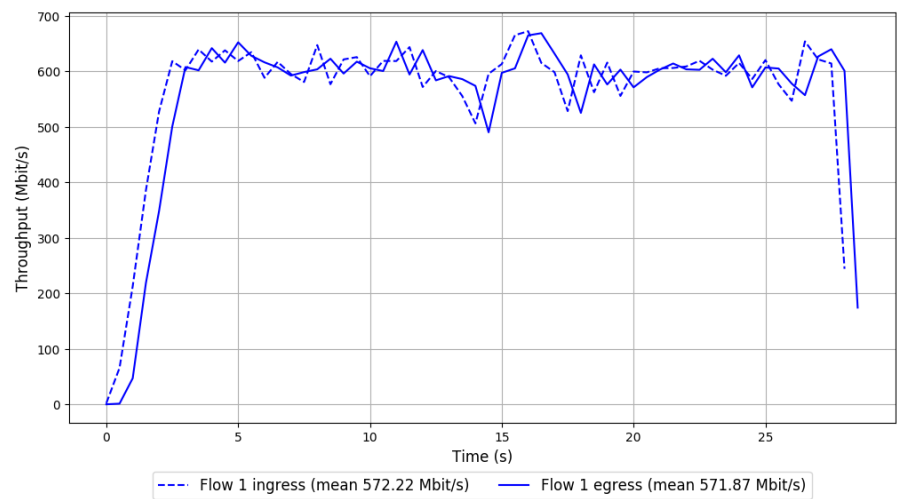

Flow 1 (95th percentile 90.35 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-18 04:36:12
End at: 2019-07-18 04:36:42
Local clock offset: 0.019 ms
Remote clock offset: 0.092 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 585.01 Mbit/s
95th percentile per-packet one-way delay: 84.646 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 585.01 Mbit/s
95th percentile per-packet one-way delay: 84.646 ms
Loss rate: 0.50%
```
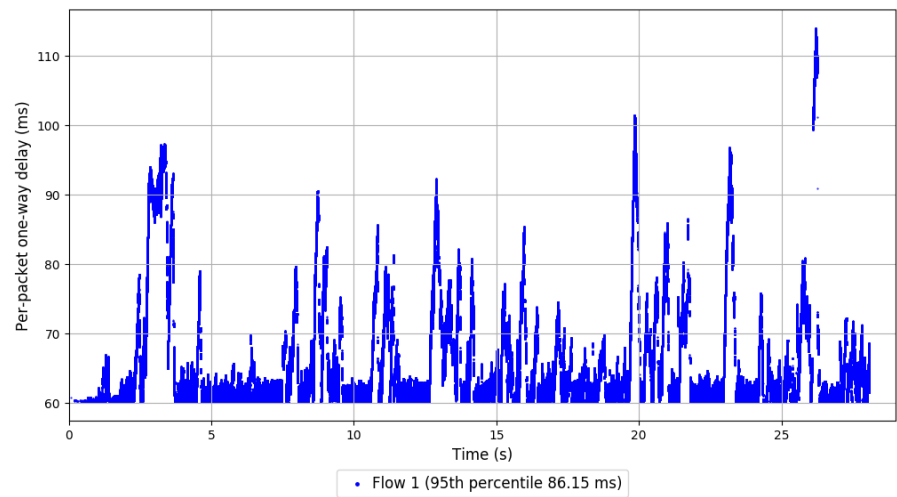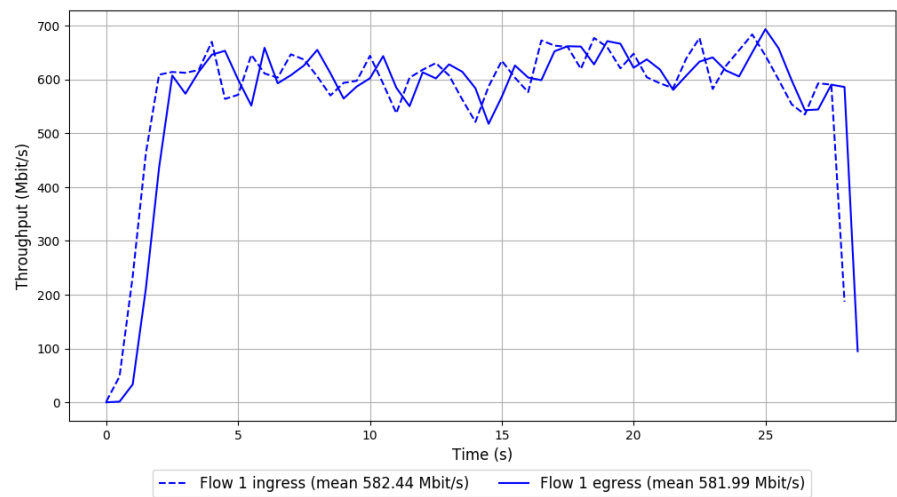
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-18 05:11:17
End at: 2019-07-18 05:11:47
Local clock offset: -0.053 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 571.87 Mbit/s
95th percentile per-packet one-way delay: 79.453 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 571.87 Mbit/s
95th percentile per-packet one-way delay: 79.453 ms
Loss rate: 0.51%
```

Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 572.22 Mbit/s)   Flow 1 egress (mean 571.87 Mbit/s)
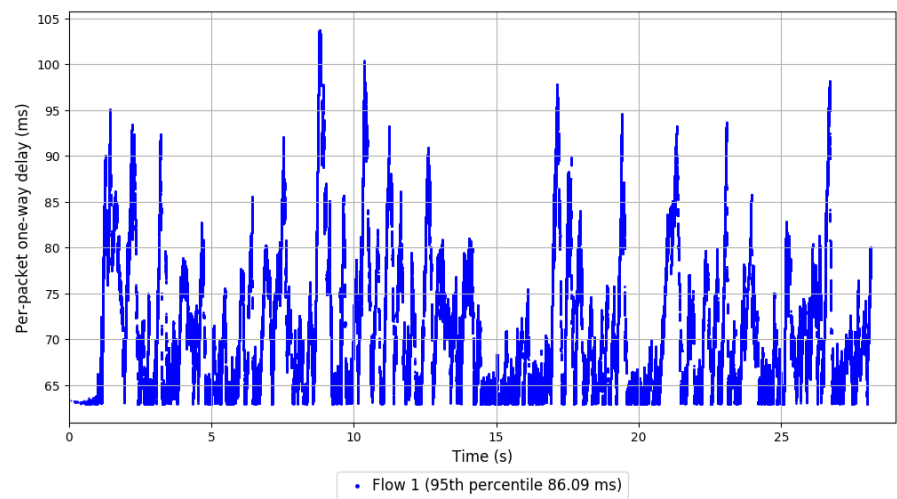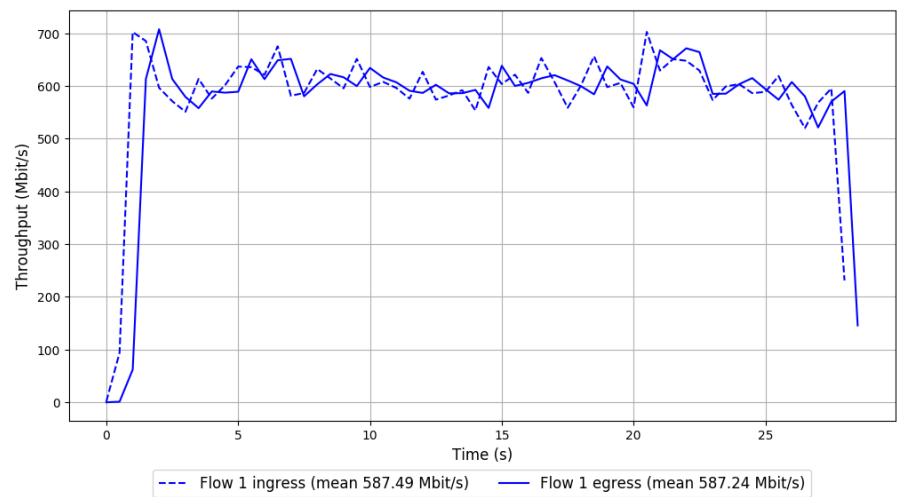

· Flow 1 (95th percentile 79.45 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-18 05:46:47
End at: 2019-07-18 05:47:17
Local clock offset: -0.071 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 581.99 Mbit/s
95th percentile per-packet one-way delay: 86.148 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 581.99 Mbit/s
95th percentile per-packet one-way delay: 86.148 ms
Loss rate: 0.53%
```

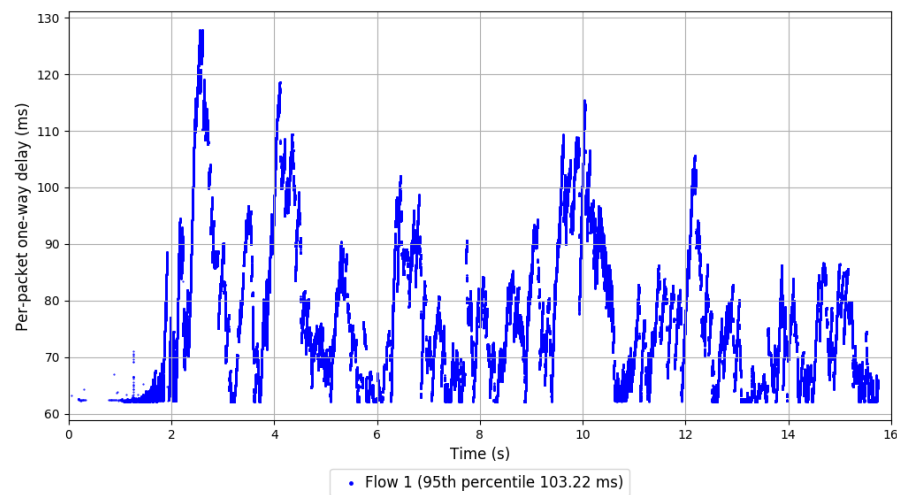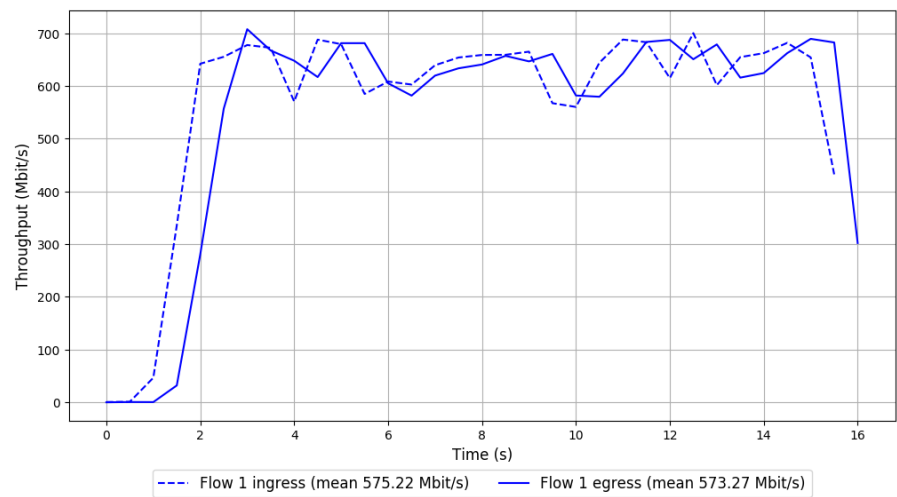Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-18 06:21:55
End at: 2019-07-18 06:22:25
Local clock offset: -0.057 ms
Remote clock offset: -0.235 ms


# Below is generated by plot.py at 2019-07-18 07:50:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 587.24 Mbit/s
95th percentile per-packet one-way delay: 86.095 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 587.24 Mbit/s
95th percentile per-packet one-way delay: 86.095 ms
Loss rate: 0.49%
```
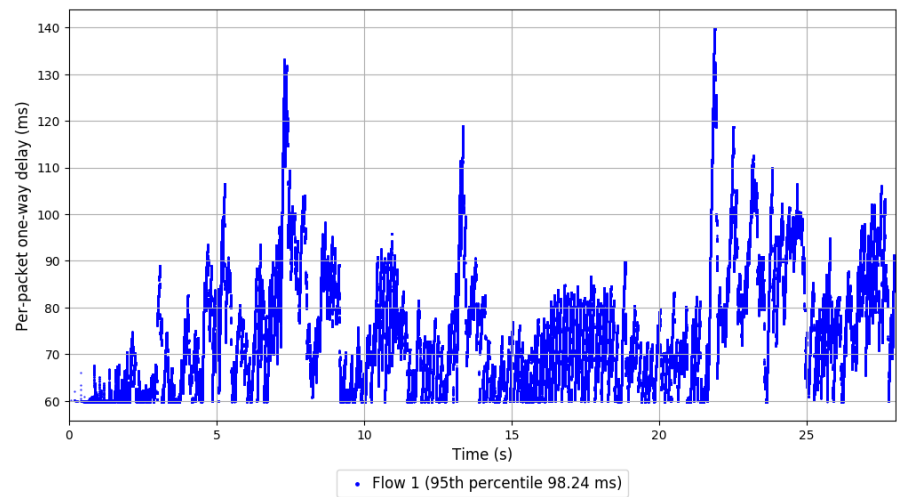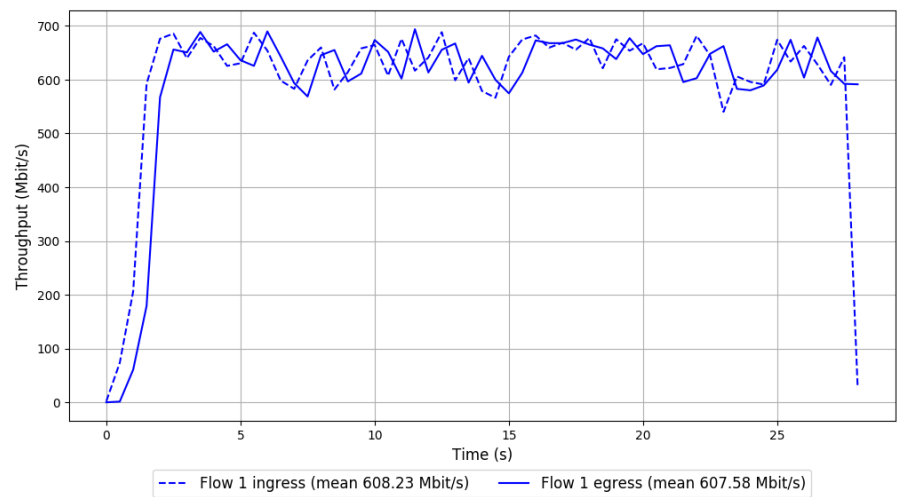
Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 587.49 Mbit/s) —— Flow 1 egress (mean 587.24 Mbit/s)

• Flow 1 (95th percentile 86.09 ms)

Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-18 03:49:15
End at: 2019-07-18 03:49:45
Local clock offset: -0.08 ms
Remote clock offset: -0.172 ms

Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-18 04:24:24
End at: 2019-07-18 04:24:54
Local clock offset: 0.08 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-07-18 07:53:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 607.58 Mbit/s
95th percentile per-packet one-way delay: 98.243 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 607.58 Mbit/s
95th percentile per-packet one-way delay: 98.243 ms
Loss rate: 0.54%
```

Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-18 04:59:41
End at: 2019-07-18 05:00:11
Local clock offset: -0.043 ms
Remote clock offset: 0.042 ms


# Below is generated by plot.py at 2019-07-18 07:54:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 593.46 Mbit/s
95th percentile per-packet one-way delay: 102.924 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 593.46 Mbit/s
95th percentile per-packet one-way delay: 102.924 ms
Loss rate: 0.44%
```
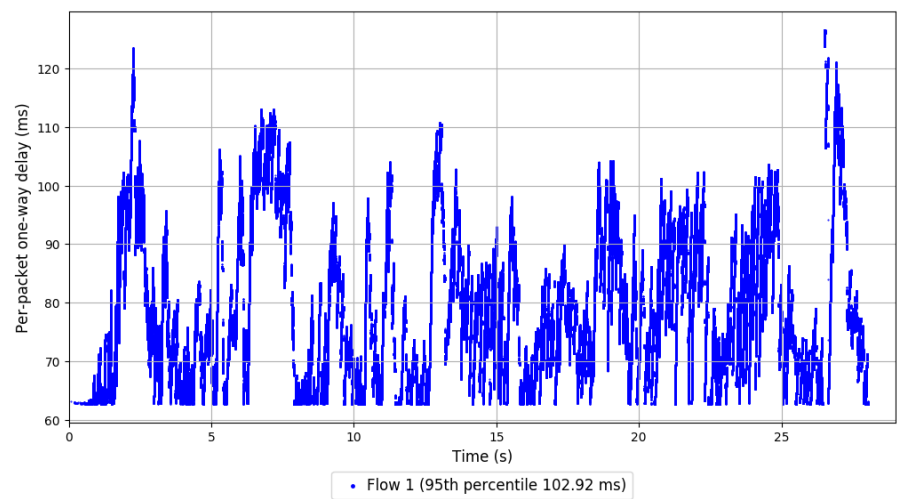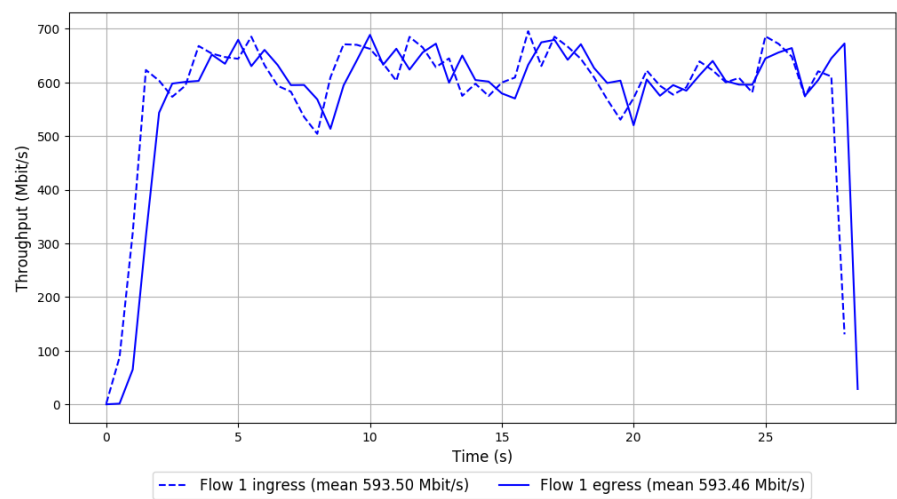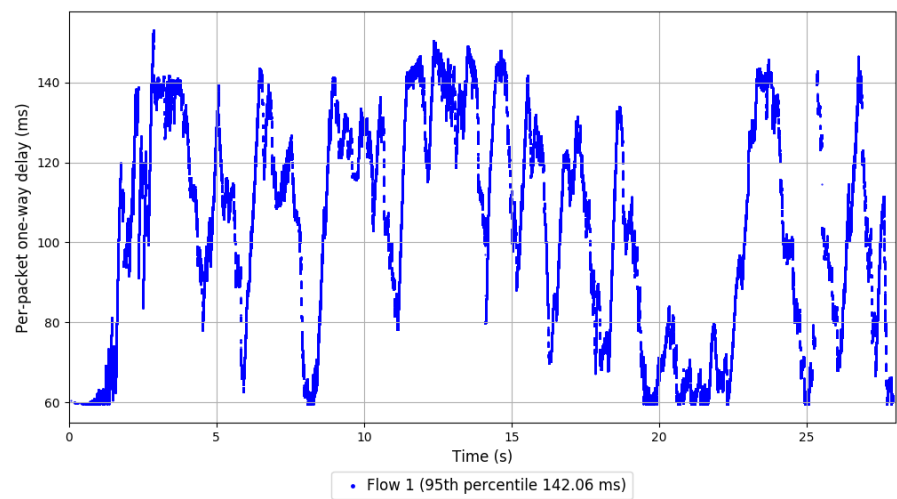
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 593.50 Mbit/s)   Flow 1 egress (mean 593.46 Mbit/s)
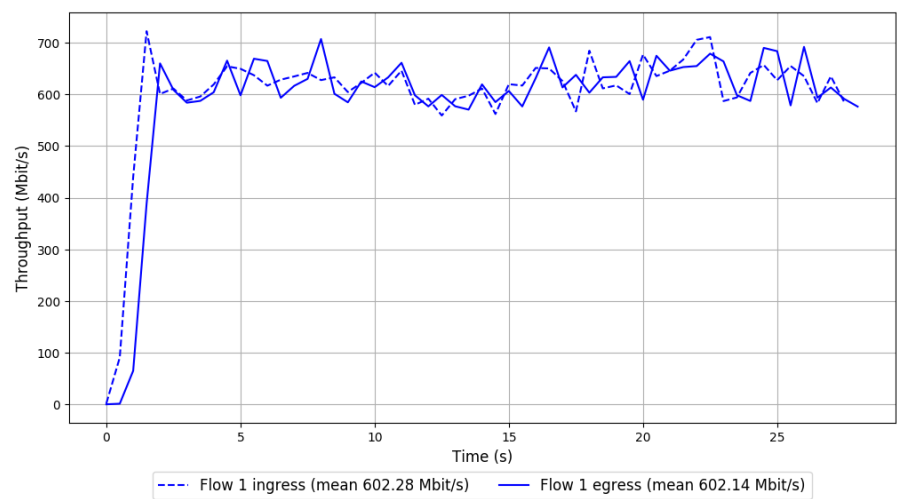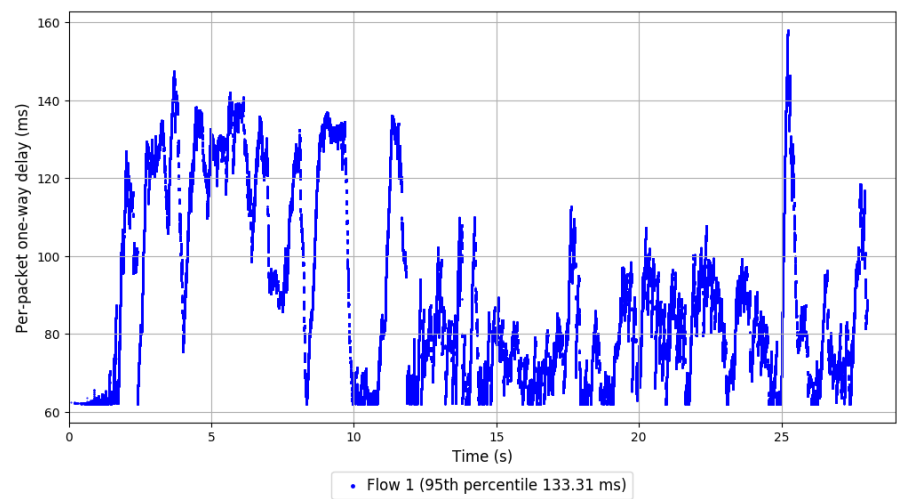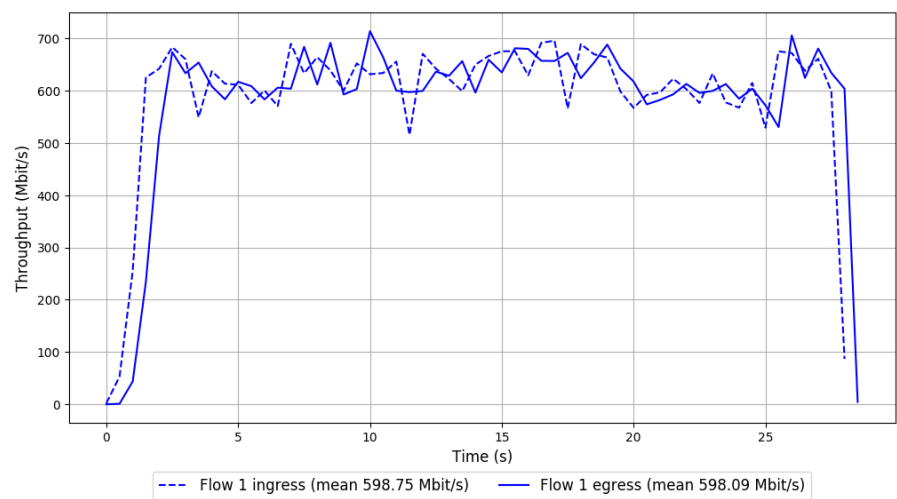

Flow 1 (95th percentile 102.92 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-18 05:34:55
End at: 2019-07-18 05:35:25
Local clock offset: -0.063 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2019-07-18 07:55:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 602.14 Mbit/s
95th percentile per-packet one-way delay: 142.065 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 602.14 Mbit/s
95th percentile per-packet one-way delay: 142.065 ms
Loss rate: 0.47%
```

Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 602.28 Mbit/s)   Flow 1 egress (mean 602.14 Mbit/s)
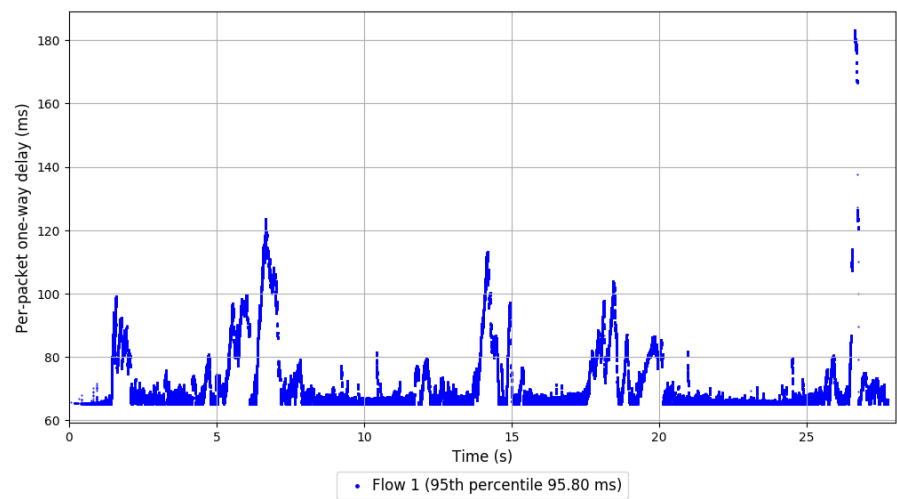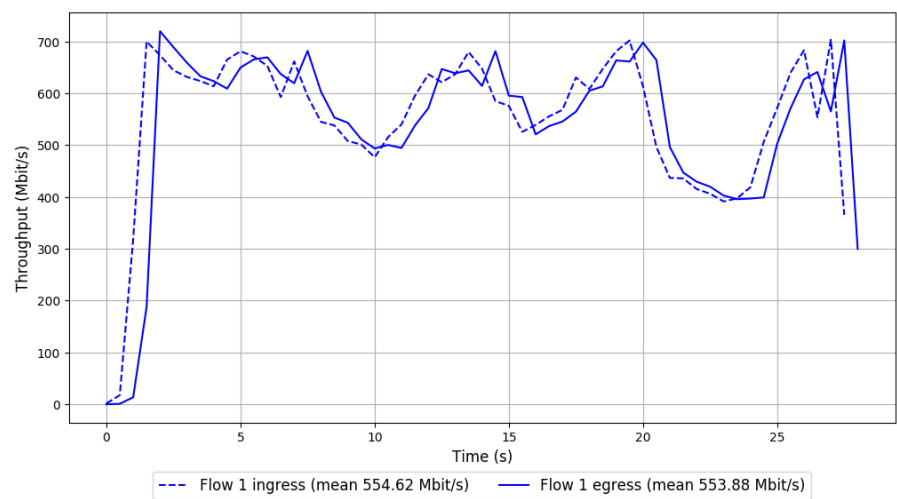

Flow 1 (95th percentile 142.06 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-18 06:10:02
End at: 2019-07-18 06:10:32
Local clock offset: -0.052 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-07-18 07:57:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 598.09 Mbit/s
95th percentile per-packet one-way delay: 133.310 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 598.09 Mbit/s
95th percentile per-packet one-way delay: 133.310 ms
Loss rate: 0.56%
```

Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 598.75 Mbit/s)   Flow 1 egress (mean 598.09 Mbit/s)

Flow 1 (95th percentile 133.31 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-18 04:05:27
End at: 2019-07-18 04:05:57
Local clock offset: 0.051 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-07-18 07:58:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 553.88 Mbit/s
95th percentile per-packet one-way delay: 95.801 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 553.88 Mbit/s
95th percentile per-packet one-way delay: 95.801 ms
Loss rate: 0.61%
```
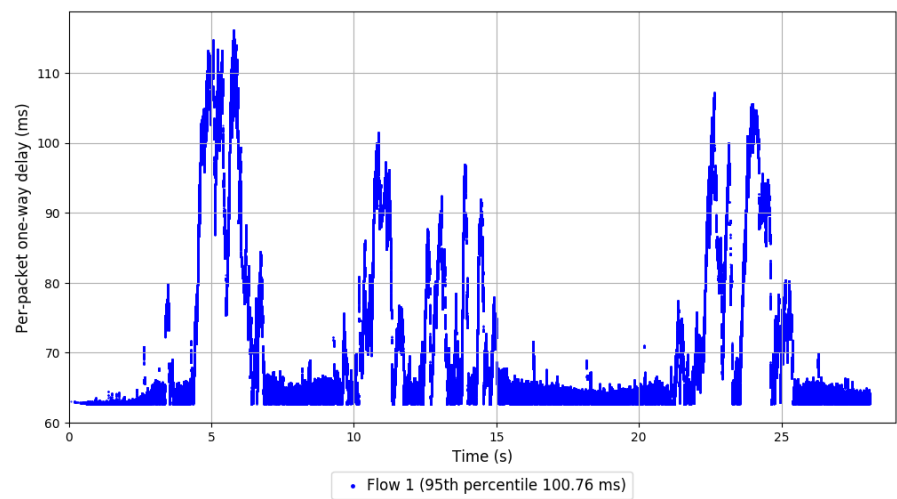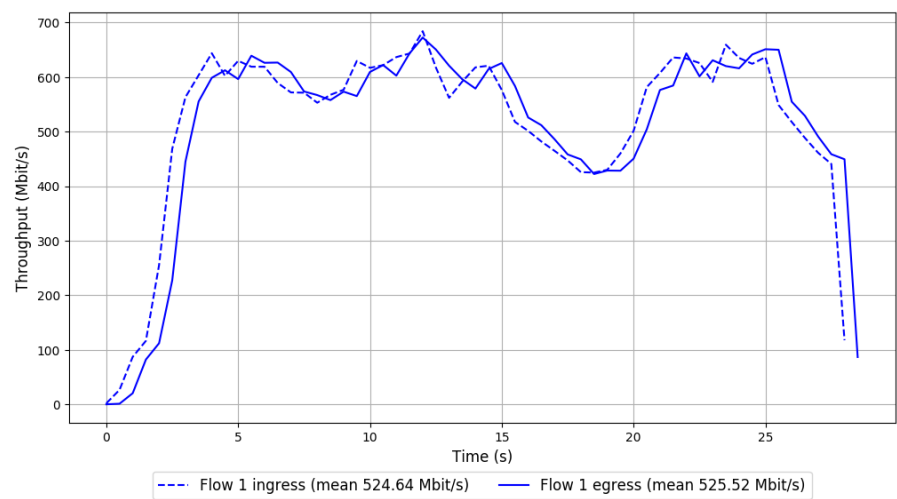
Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 554.62 Mbit/s) — — — Flow 1 egress (mean 553.88 Mbit/s) ———

Flow 1 (95th percentile 95.80 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-18 04:40:46
End at: 2019-07-18 04:41:16
Local clock offset: 0.042 ms
Remote clock offset: 0.041 ms


# Below is generated by plot.py at 2019-07-18 07:58:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 525.52 Mbit/s
95th percentile per-packet one-way delay: 100.760 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 525.52 Mbit/s
95th percentile per-packet one-way delay: 100.760 ms
Loss rate: 0.29%
```
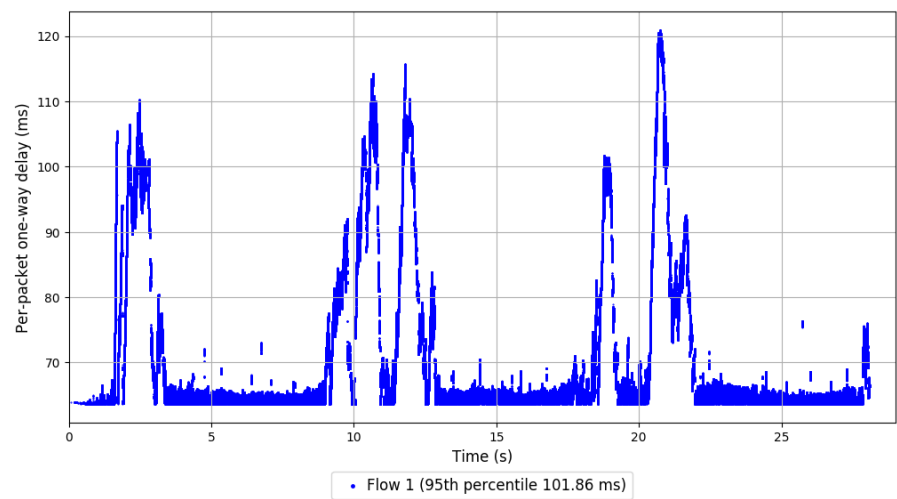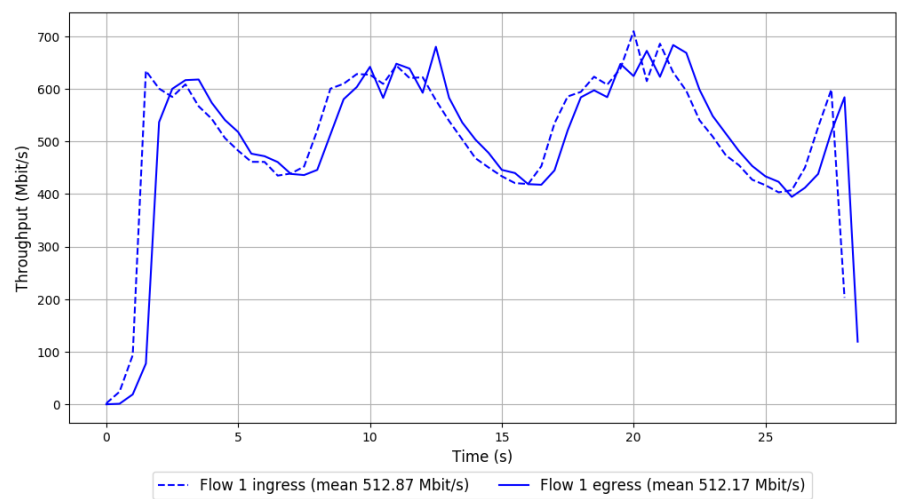
Run 2: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 524.64 Mbit/s)   Flow 1 egress (mean 525.52 Mbit/s)
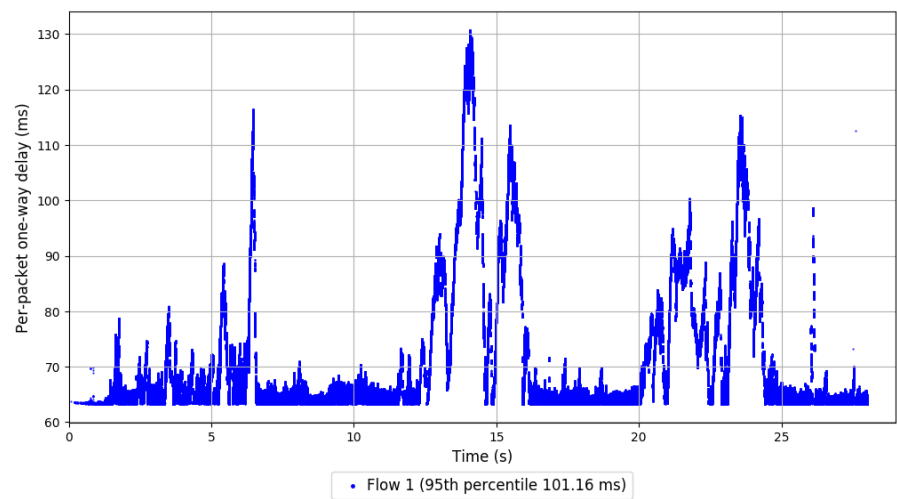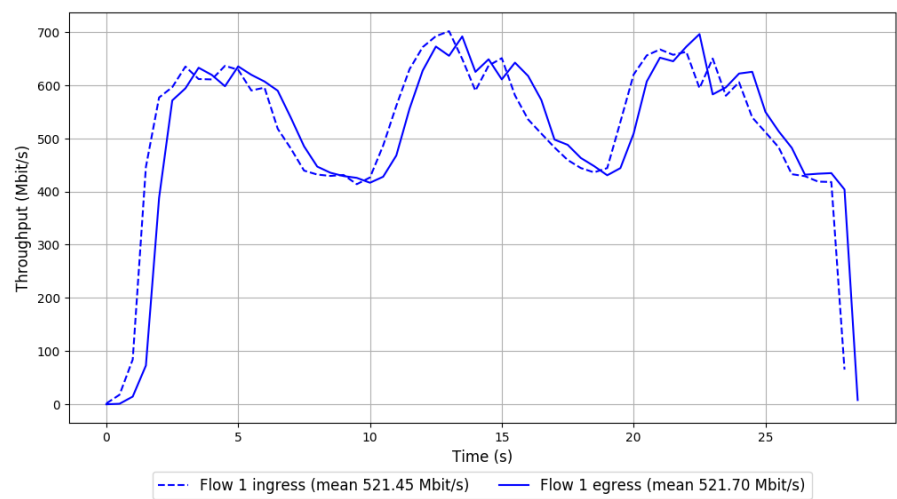

Flow 1 (95th percentile 100.76 ms)

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-18 05:15:59
End at: 2019-07-18 05:16:29
Local clock offset: -0.029 ms
Remote clock offset: -0.897 ms


# Below is generated by plot.py at 2019-07-18 07:58:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 512.17 Mbit/s
95th percentile per-packet one-way delay: 101.860 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 512.17 Mbit/s
95th percentile per-packet one-way delay: 101.860 ms
Loss rate: 0.59%
```
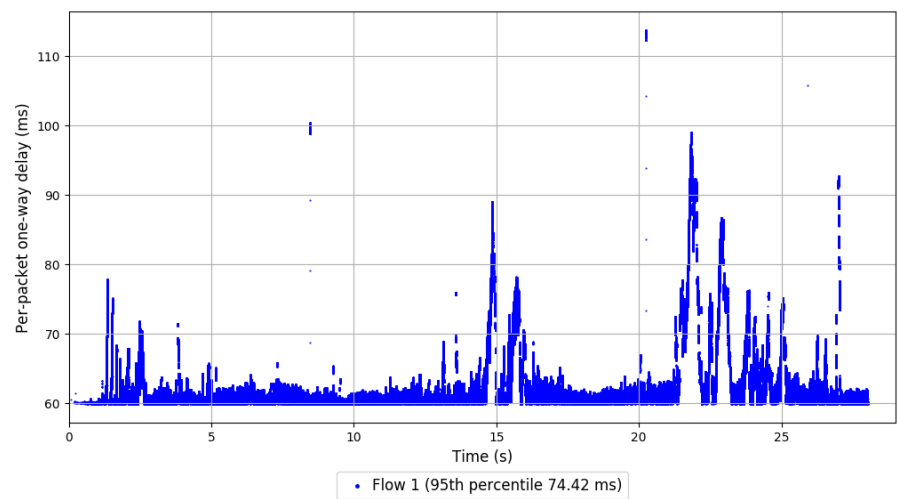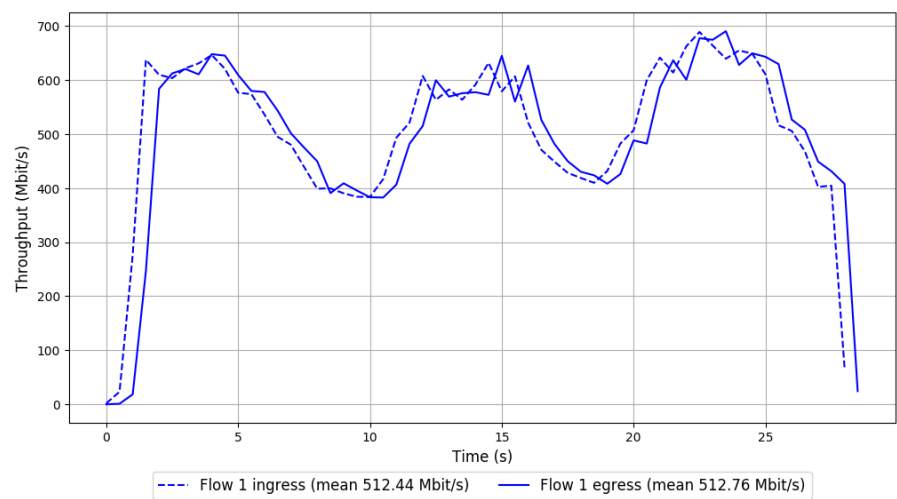
Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 512.87 Mbit/s)   Flow 1 egress (mean 512.17 Mbit/s)

Flow 1 (95th percentile 101.86 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-18 05:51:21
End at: 2019-07-18 05:51:51
Local clock offset: 0.11 ms
Remote clock offset: -0.231 ms


# Below is generated by plot.py at 2019-07-18 07:59:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.70 Mbit/s
95th percentile per-packet one-way delay: 101.155 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 521.70 Mbit/s
95th percentile per-packet one-way delay: 101.155 ms
Loss rate: 0.39%
```
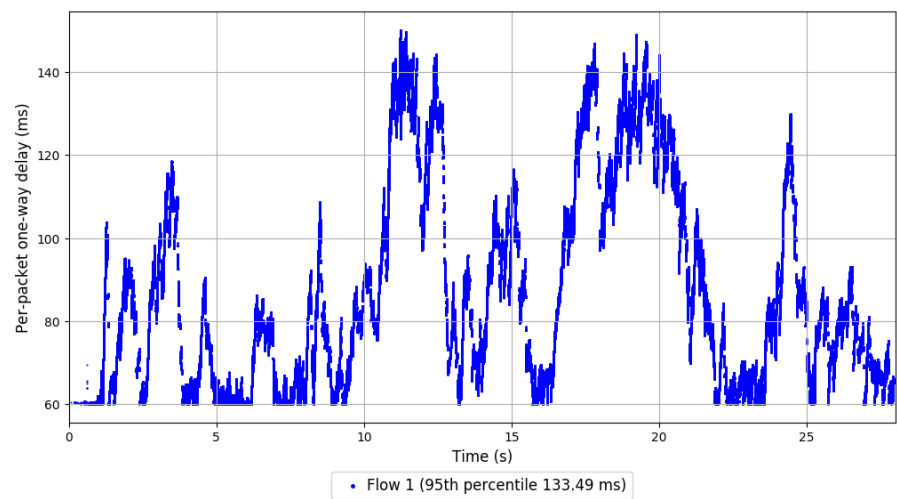
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-18 06:26:31
End at: 2019-07-18 06:27:01
Local clock offset: -0.06 ms
Remote clock offset: -0.362 ms


# Below is generated by plot.py at 2019-07-18 08:02:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 512.76 Mbit/s
95th percentile per-packet one-way delay: 74.423 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 512.76 Mbit/s
95th percentile per-packet one-way delay: 74.423 ms
Loss rate: 0.35%
```
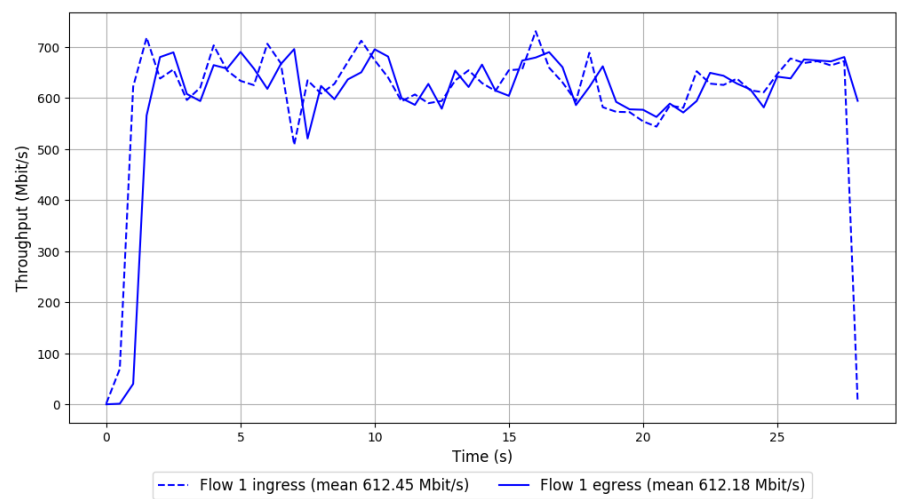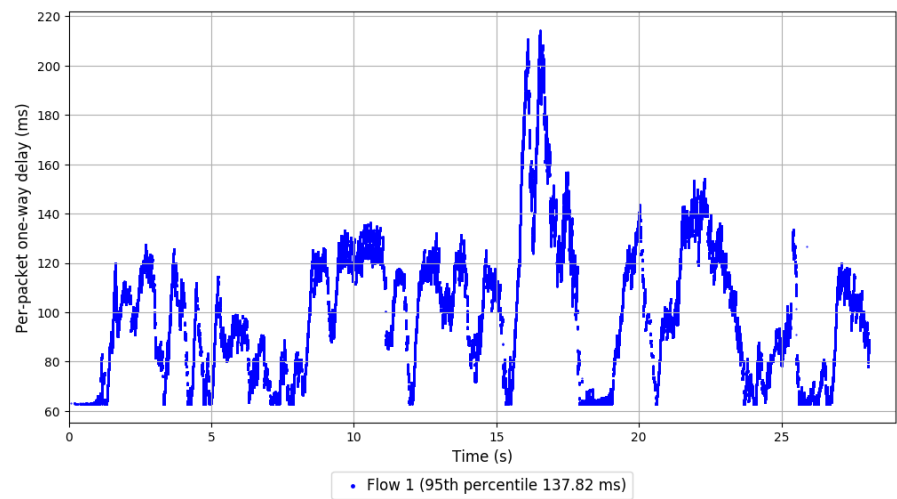
Run 5: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 512.44 Mbit/s) ——— Flow 1 egress (mean 512.76 Mbit/s)
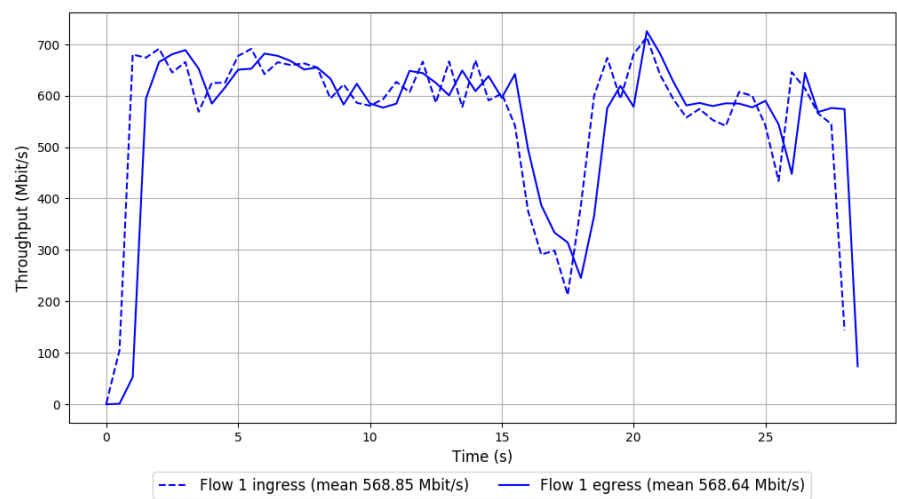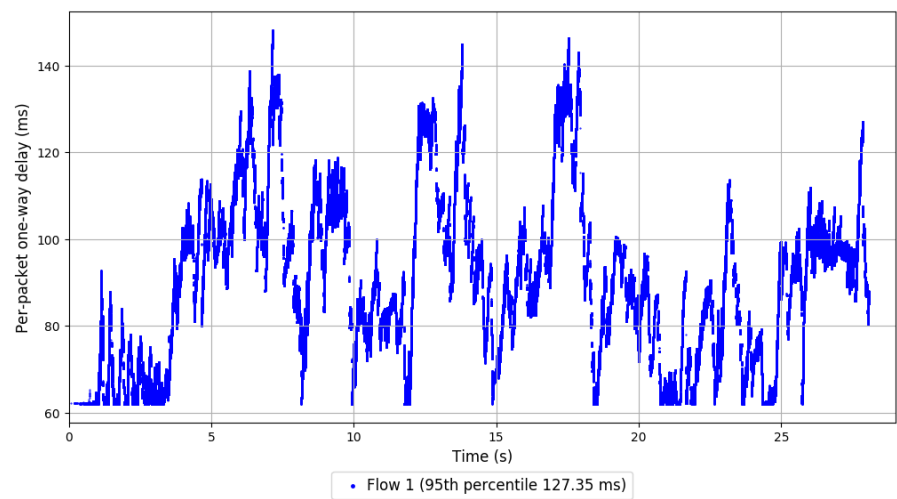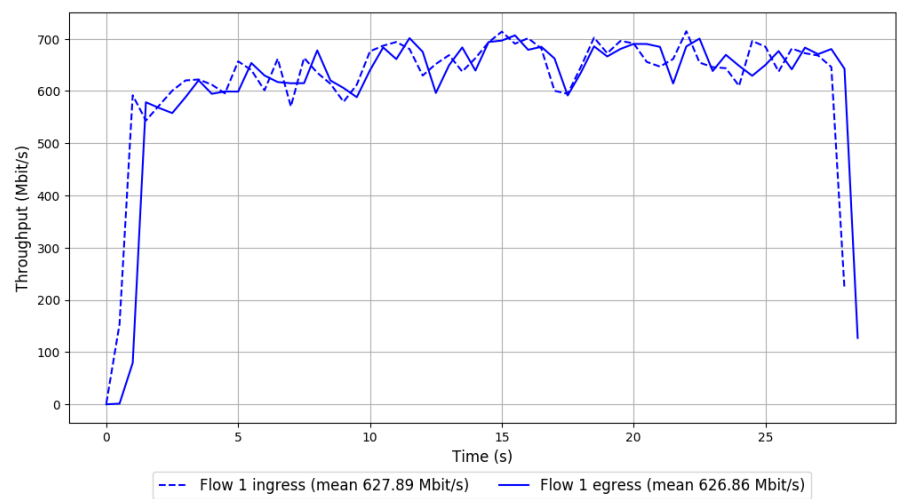

• Flow 1 (95th percentile 74.42 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-18 04:02:25
End at: 2019-07-18 04:02:55
Local clock offset: 0.003 ms
Remote clock offset: -0.208 ms


# Below is generated by plot.py at 2019-07-18 08:04:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 612.18 Mbit/s
95th percentile per-packet one-way delay: 133.485 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 612.18 Mbit/s
95th percentile per-packet one-way delay: 133.485 ms
Loss rate: 0.49%
```

Run 1: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 612.45 Mbit/s)   Flow 1 egress (mean 612.18 Mbit/s)
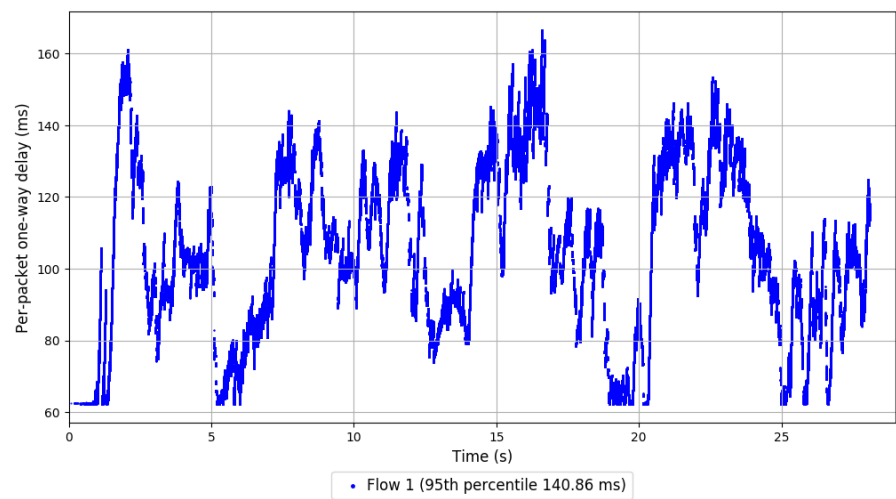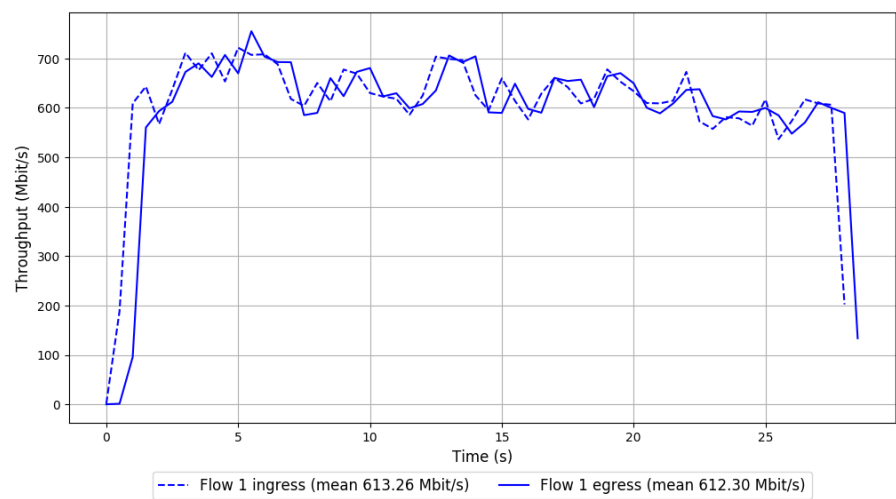

Flow 1 (95th percentile 133.49 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-18 04:37:48
End at: 2019-07-18 04:38:18
Local clock offset: 0.033 ms
Remote clock offset: -0.108 ms


# Below is generated by plot.py at 2019-07-18 08:04:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 568.64 Mbit/s
95th percentile per-packet one-way delay: 137.820 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 568.64 Mbit/s
95th percentile per-packet one-way delay: 137.820 ms
Loss rate: 0.50%
```
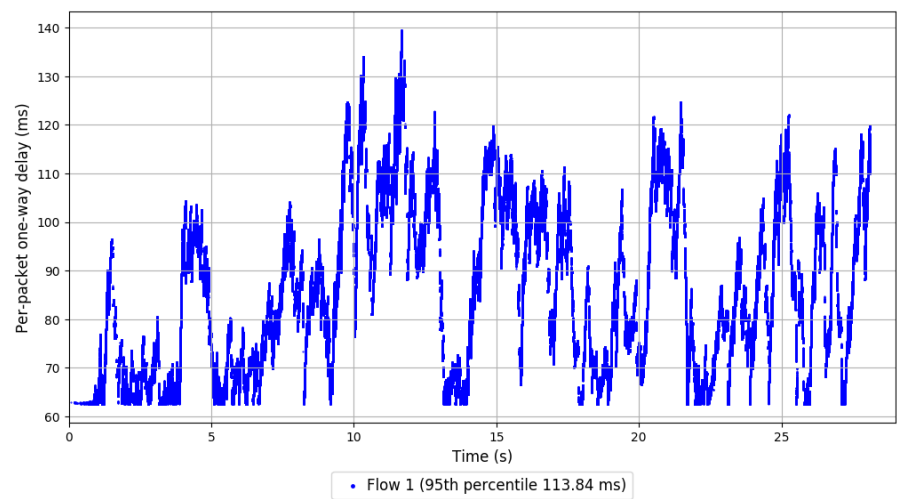
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-18 05:12:51
End at: 2019-07-18 05:13:21
Local clock offset: -0.063 ms
Remote clock offset: -0.123 ms


# Below is generated by plot.py at 2019-07-18 08:07:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 626.86 Mbit/s
95th percentile per-packet one-way delay: 127.352 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 626.86 Mbit/s
95th percentile per-packet one-way delay: 127.352 ms
Loss rate: 0.61%
```
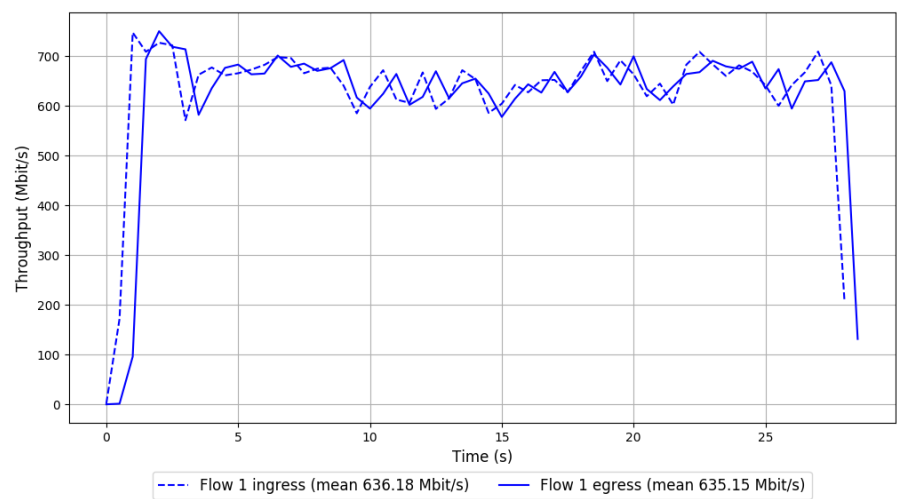
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-18 05:48:23
End at: 2019-07-18 05:48:53
Local clock offset: -0.036 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2019-07-18 08:08:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 612.30 Mbit/s
95th percentile per-packet one-way delay: 140.861 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 612.30 Mbit/s
95th percentile per-packet one-way delay: 140.861 ms
Loss rate: 0.60%
```
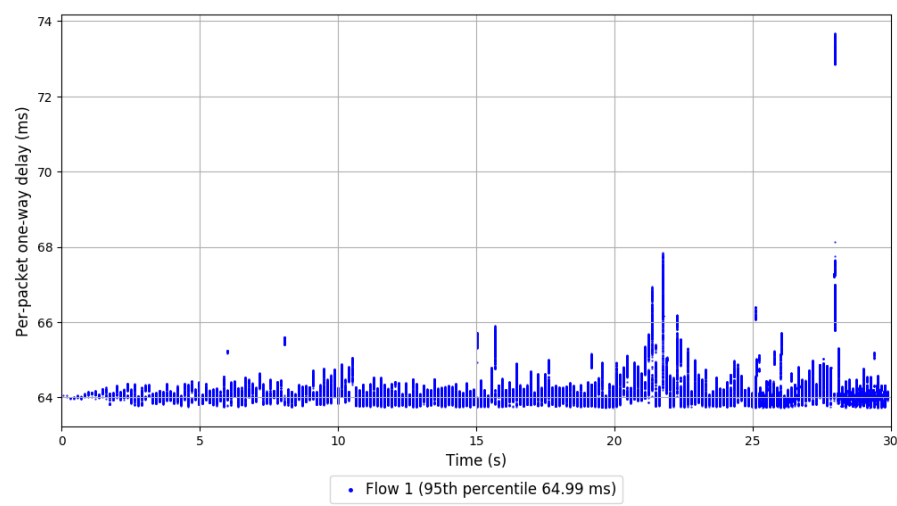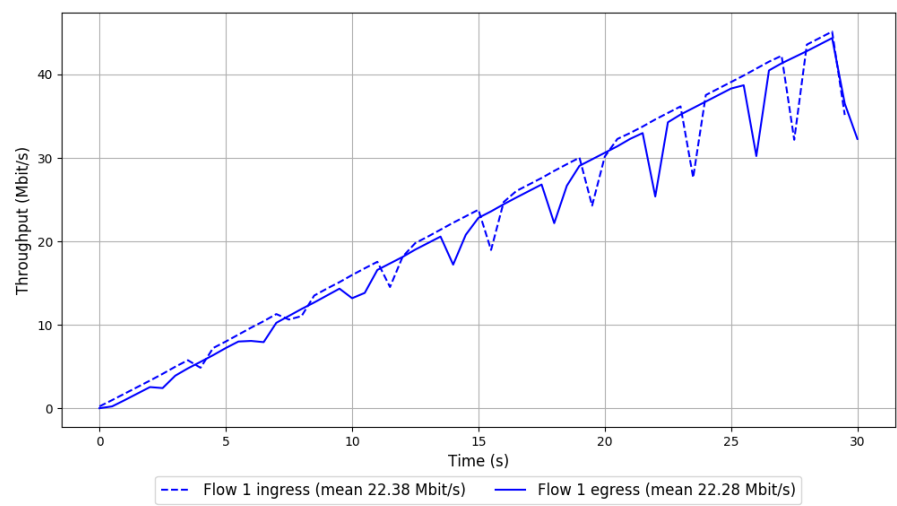
Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 613.26 Mbit/s)   Flow 1 egress (mean 612.30 Mbit/s)

Flow 1 (95th percentile 140.86 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-18 06:23:31
End at: 2019-07-18 06:24:01
Local clock offset: -0.097 ms
Remote clock offset: -0.166 ms


# Below is generated by plot.py at 2019-07-18 08:09:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 635.15 Mbit/s
95th percentile per-packet one-way delay: 113.840 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 635.15 Mbit/s
95th percentile per-packet one-way delay: 113.840 ms
Loss rate: 0.61%
```

Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 636.18 Mbit/s) — Flow 1 egress (mean 635.15 Mbit/s)
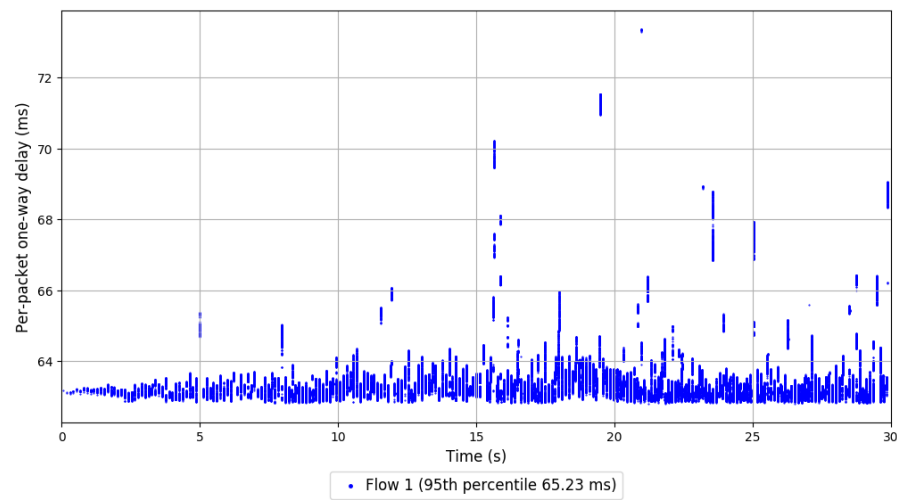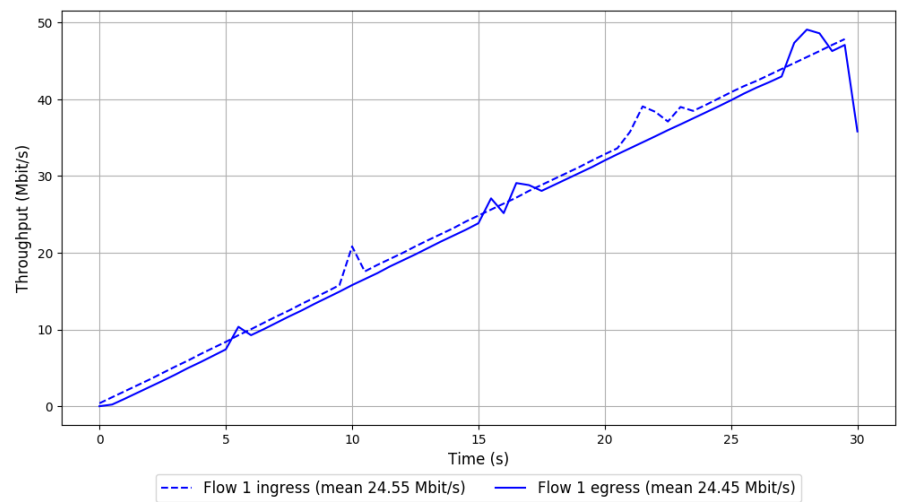

• Flow 1 (95th percentile 113.84 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-07-18 04:14:30
End at: 2019-07-18 04:15:00
Local clock offset: 0.08 ms
Remote clock offset: -0.822 ms


# Below is generated by plot.py at 2019-07-18 08:09:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.28 Mbit/s
95th percentile per-packet one-way delay: 64.989 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 22.28 Mbit/s
95th percentile per-packet one-way delay: 64.989 ms
Loss rate: 0.86%
```
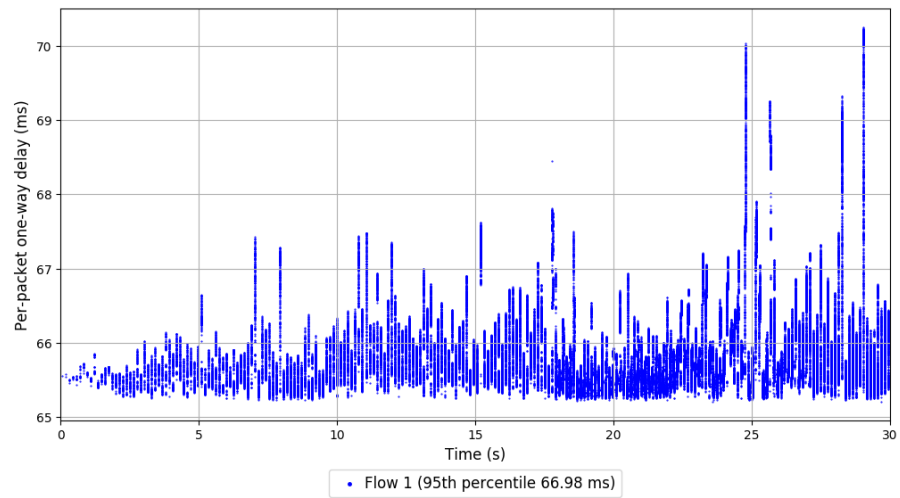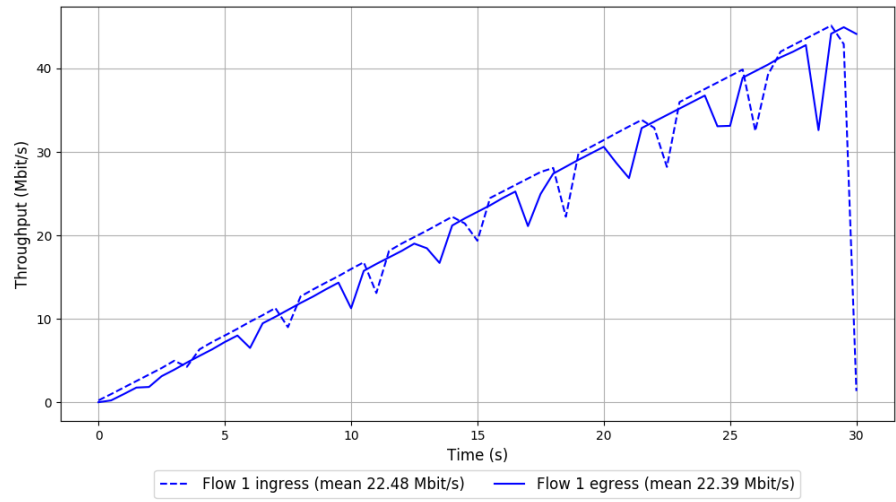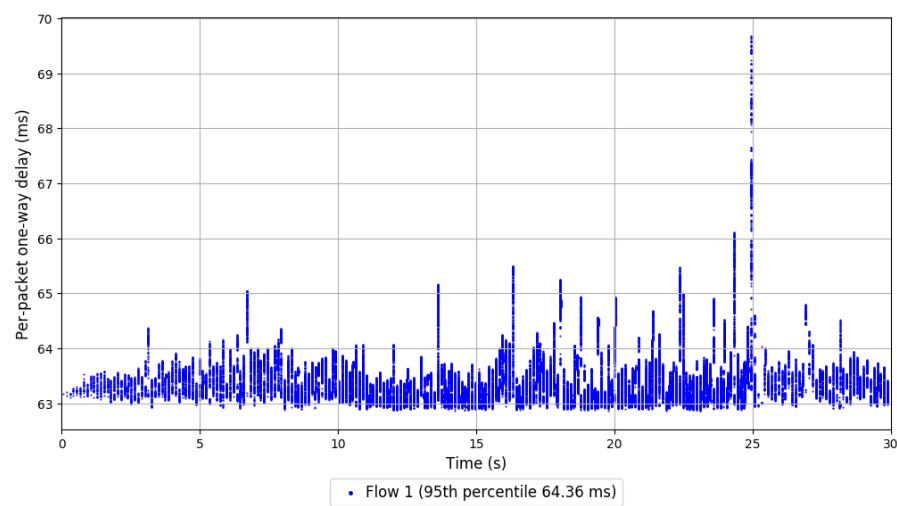
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 22.38 Mbit/s) --- Flow 1 egress (mean 22.28 Mbit/s)

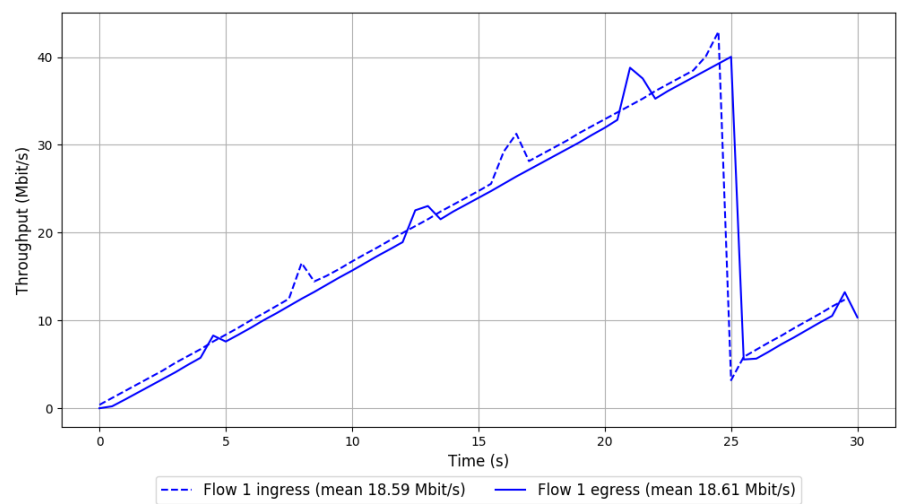

· Flow 1 (95th percentile 64.99 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-07-18 04:49:50
End at: 2019-07-18 04:50:20
Local clock offset: -0.003 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-07-18 08:09:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 65.228 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 65.228 ms
Loss rate: 0.82%
```

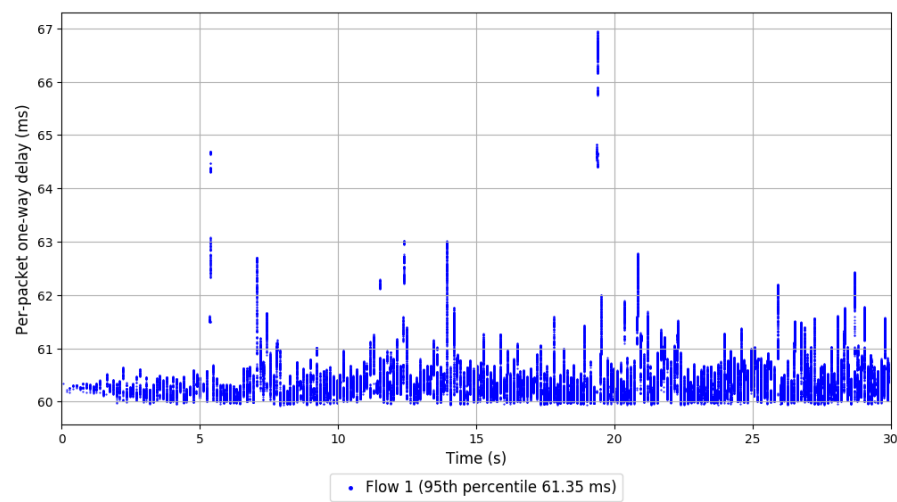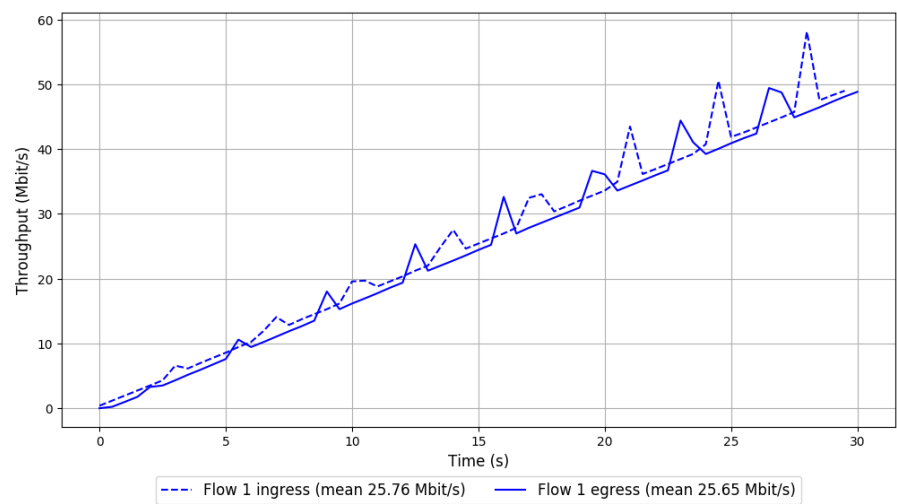## Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-07-18 05:25:00
End at: 2019-07-18 05:25:30
Local clock offset: -0.095 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2019-07-18 08:09:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.39 Mbit/s
95th percentile per-packet one-way delay: 66.979 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 22.39 Mbit/s
95th percentile per-packet one-way delay: 66.979 ms
Loss rate: 0.85%
```
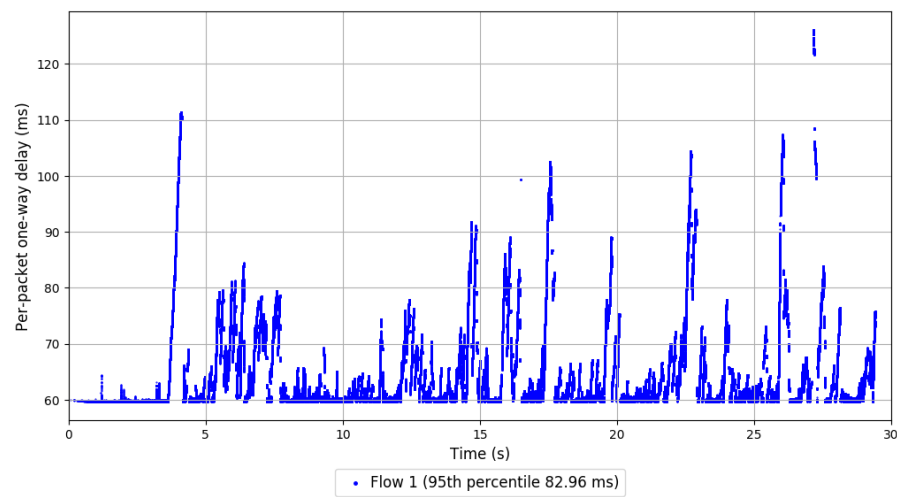
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 22.48 Mbit/s) ----   Flow 1 egress (mean 22.39 Mbit/s) ——

• Flow 1 (95th percentile 66.98 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-07-18 06:00:10
End at: 2019-07-18 06:00:40
Local clock offset: -0.024 ms
Remote clock offset: -0.755 ms


# Below is generated by plot.py at 2019-07-18 08:09:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 64.358 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 64.358 ms
Loss rate: 0.28%
```

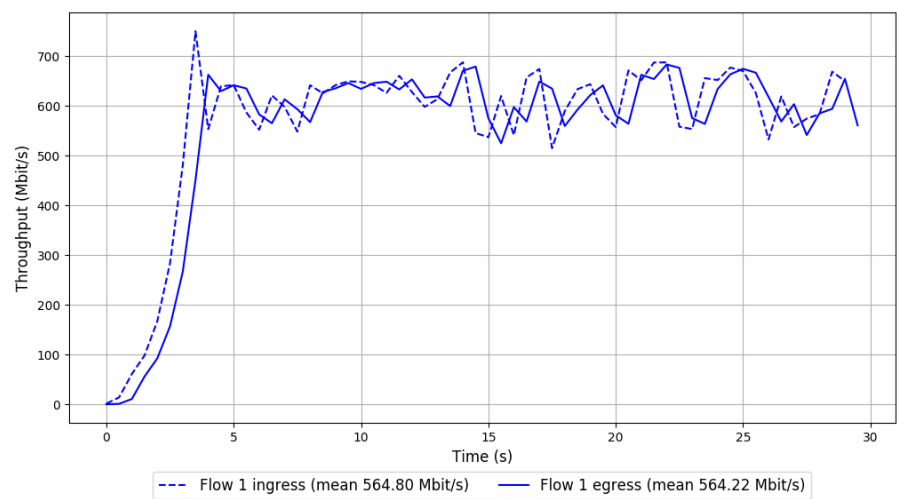# Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 18.59 Mbit/s) --- Flow 1 egress (mean 18.61 Mbit/s)
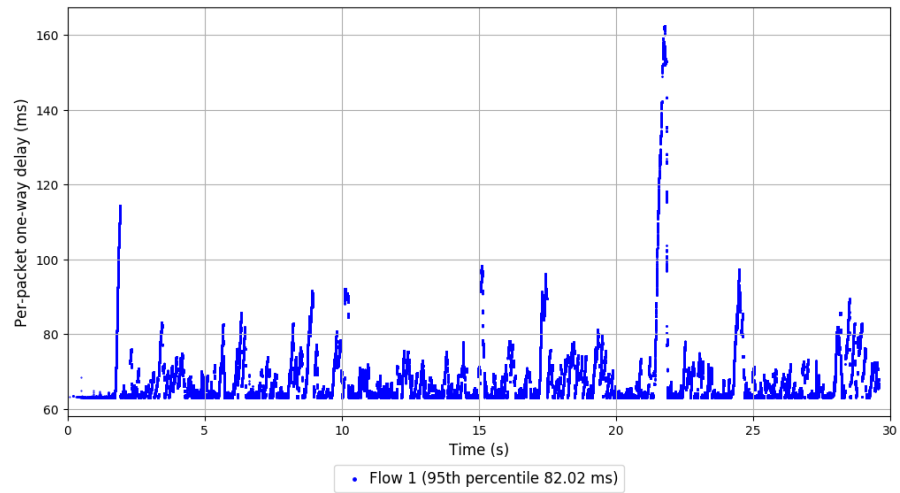

Flow 1 (95th percentile 64.36 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-07-18 06:35:36
End at: 2019-07-18 06:36:06
Local clock offset: -0.096 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-07-18 08:09:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 61.351 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 61.351 ms
Loss rate: 0.80%
```

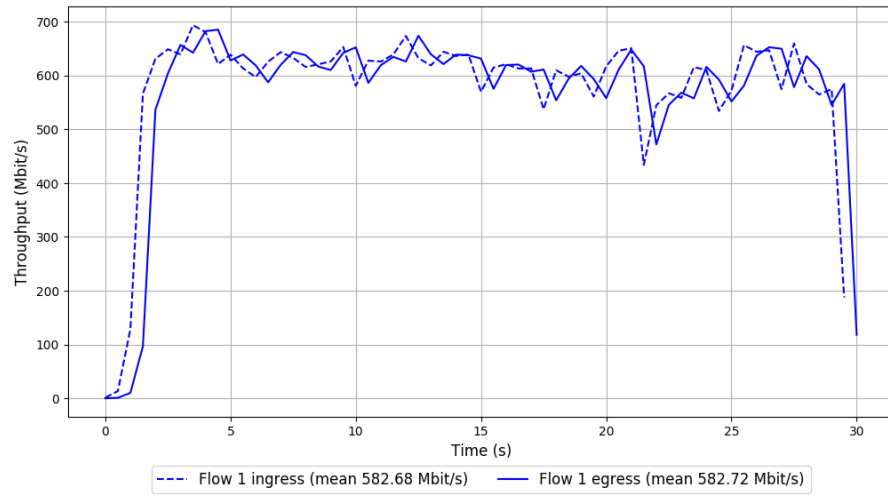Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 04:12:54
End at: 2019-07-18 04:13:24
Local clock offset: 0.049 ms
Remote clock offset: 0.051 ms


# Below is generated by plot.py at 2019-07-18 08:10:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 564.22 Mbit/s
95th percentile per-packet one-way delay: 82.963 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 564.22 Mbit/s
95th percentile per-packet one-way delay: 82.963 ms
Loss rate: 0.53%
```
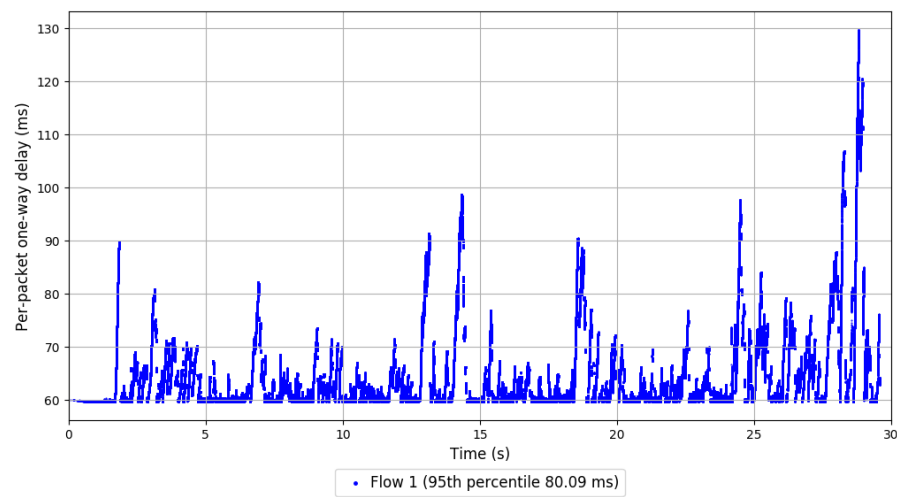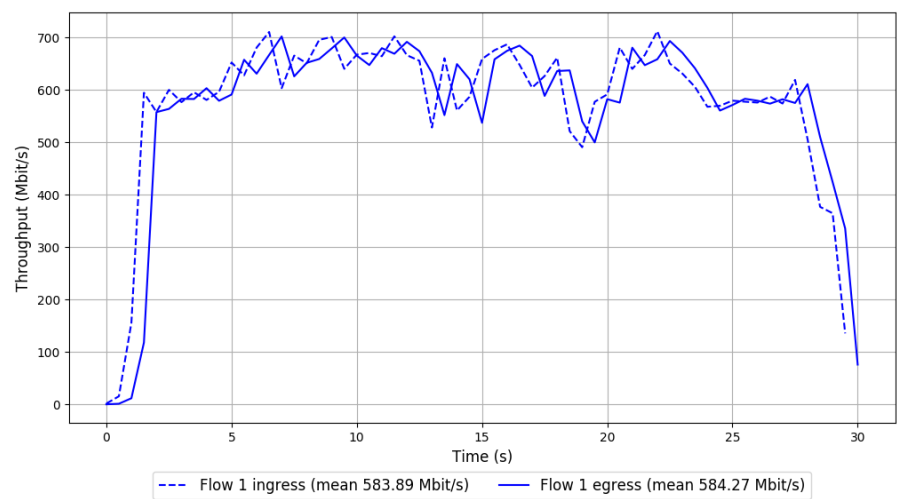
Run 1: Report of Muses_DecisionTree — Data Link

Run 2: Statistics of Muses_DecisionTree

Start at: 2019-07-18 04:48:13
End at: 2019-07-18 04:48:43
Local clock offset: -0.003 ms
Remote clock offset: -0.167 ms

Below is generated by plot.py at 2019-07-18 08:11:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 582.72 Mbit/s
95th percentile per-packet one-way delay: 82.024 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 582.72 Mbit/s
95th percentile per-packet one-way delay: 82.024 ms
Loss rate: 0.43%
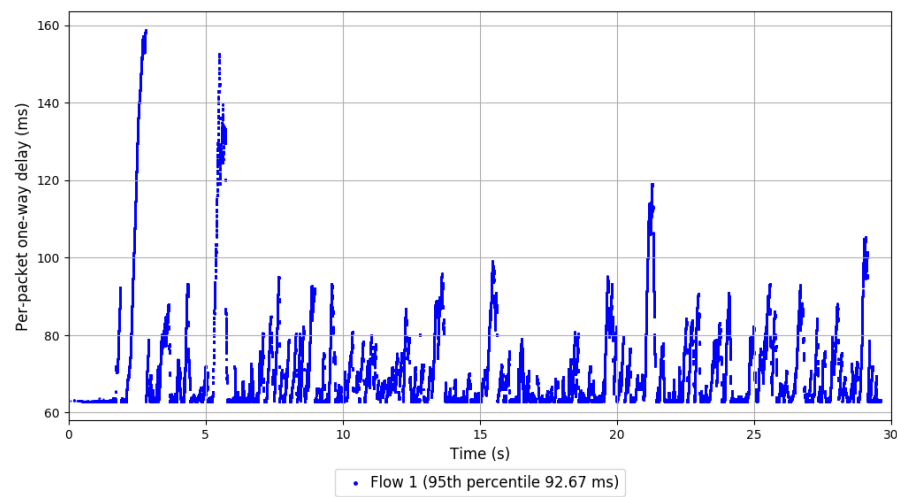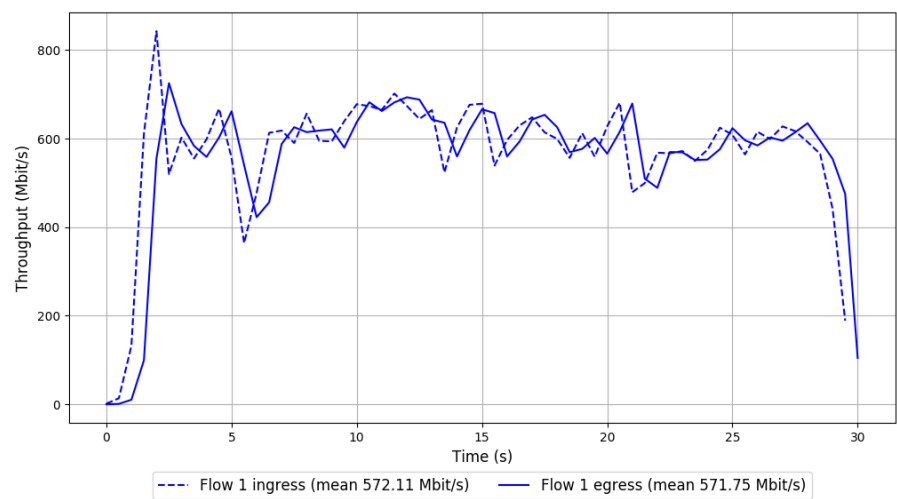
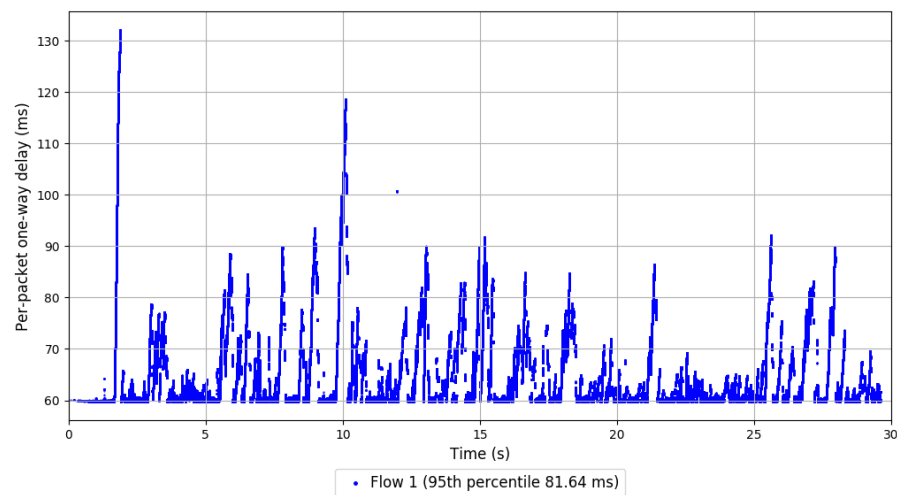Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 05:23:23
End at: 2019-07-18 05:23:53
Local clock offset: -0.053 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-07-18 08:13:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 584.27 Mbit/s
95th percentile per-packet one-way delay: 80.090 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 584.27 Mbit/s
95th percentile per-packet one-way delay: 80.090 ms
Loss rate: 0.36%
```

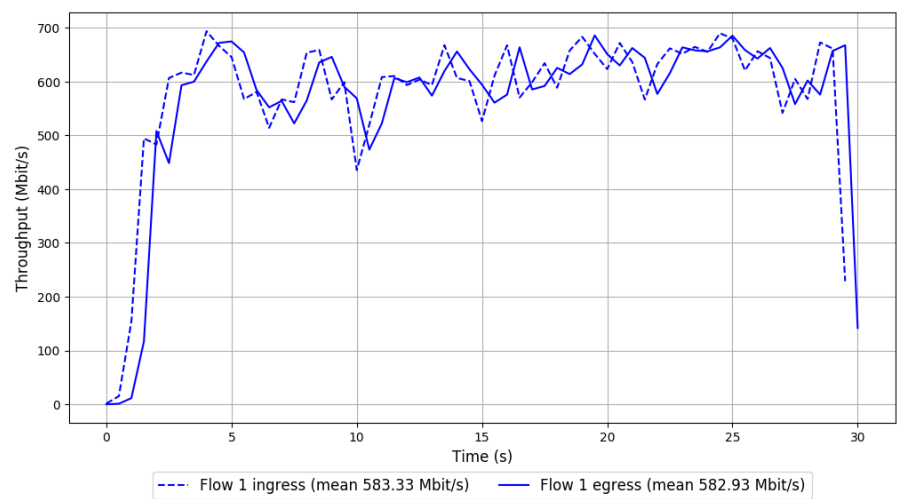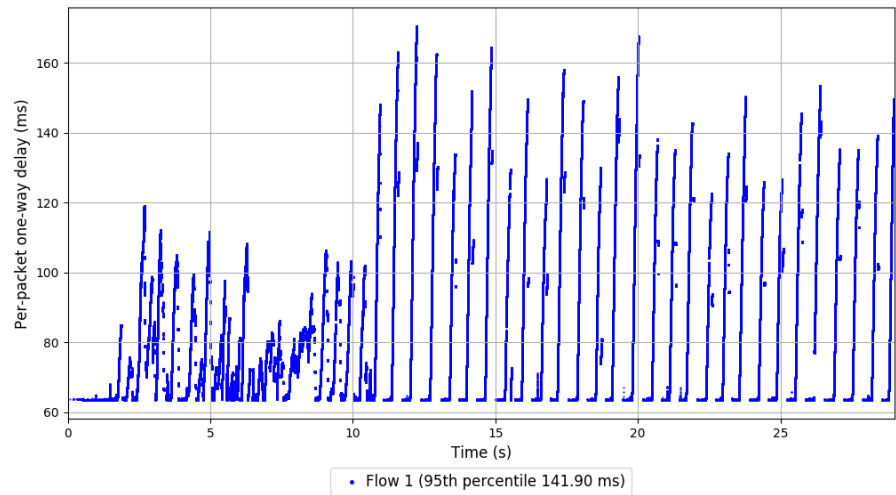Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 05:58:34
End at: 2019-07-18 05:59:04
Local clock offset: -0.052 ms
Remote clock offset: -0.199 ms


# Below is generated by plot.py at 2019-07-18 08:15:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 571.75 Mbit/s
95th percentile per-packet one-way delay: 92.675 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 571.75 Mbit/s
95th percentile per-packet one-way delay: 92.675 ms
Loss rate: 0.49%
```
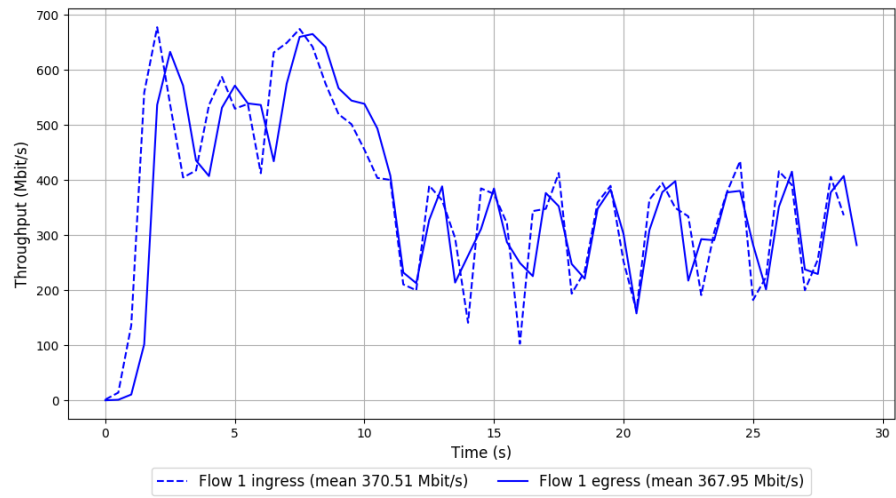
Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 06:34:00
End at: 2019-07-18 06:34:30
Local clock offset: -0.12 ms
Remote clock offset: -0.173 ms


# Below is generated by plot.py at 2019-07-18 08:16:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 582.93 Mbit/s
95th percentile per-packet one-way delay: 81.639 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 582.93 Mbit/s
95th percentile per-packet one-way delay: 81.639 ms
Loss rate: 0.48%
```
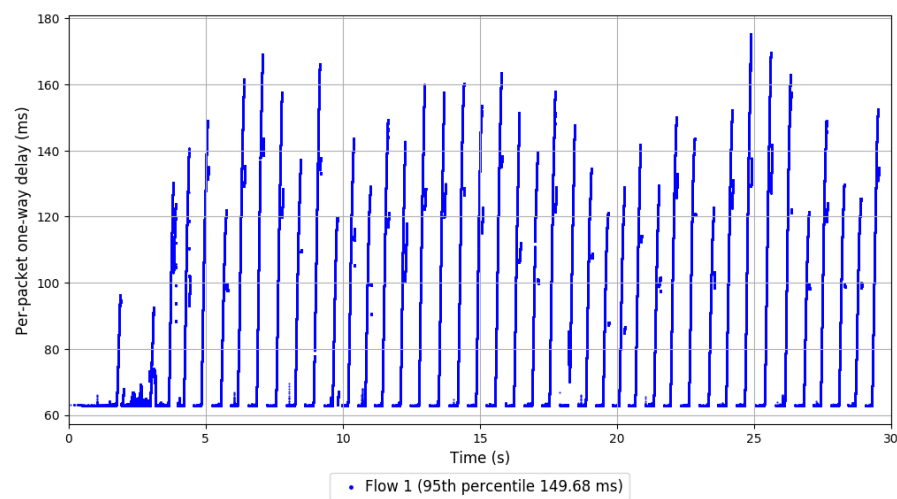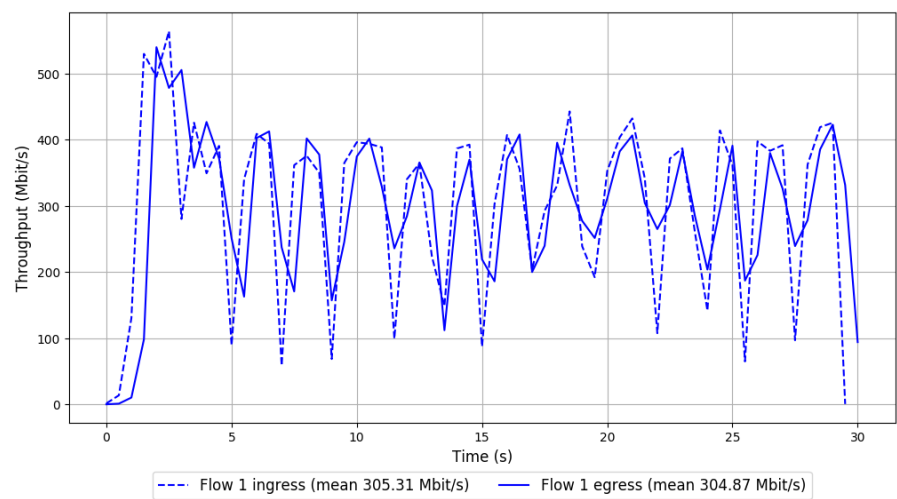
Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 04:04:01
End at: 2019-07-18 04:04:31
Local clock offset: 0.036 ms
Remote clock offset: -0.732 ms


# Below is generated by plot.py at 2019-07-18 08:16:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 367.95 Mbit/s
95th percentile per-packet one-way delay: 141.903 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 367.95 Mbit/s
95th percentile per-packet one-way delay: 141.903 ms
Loss rate: 0.60%
```

Run 1: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 370.51 Mbit/s) --- Flow 1 egress (mean 367.95 Mbit/s)

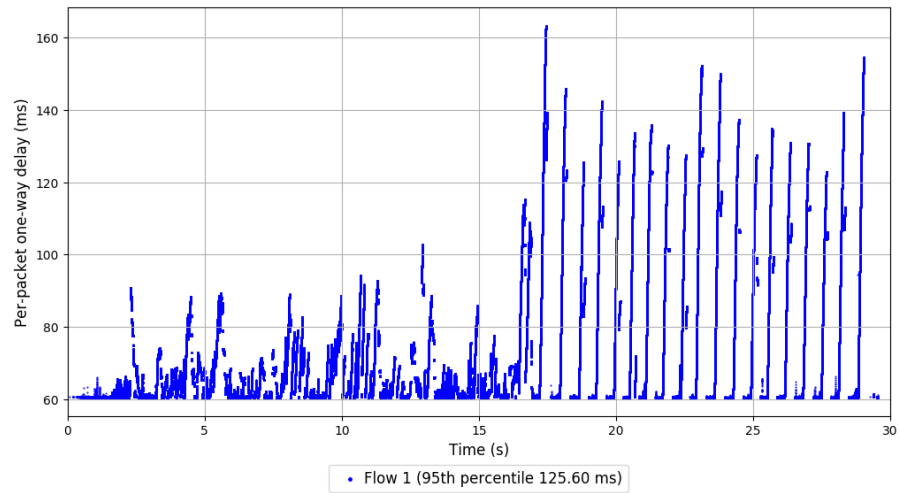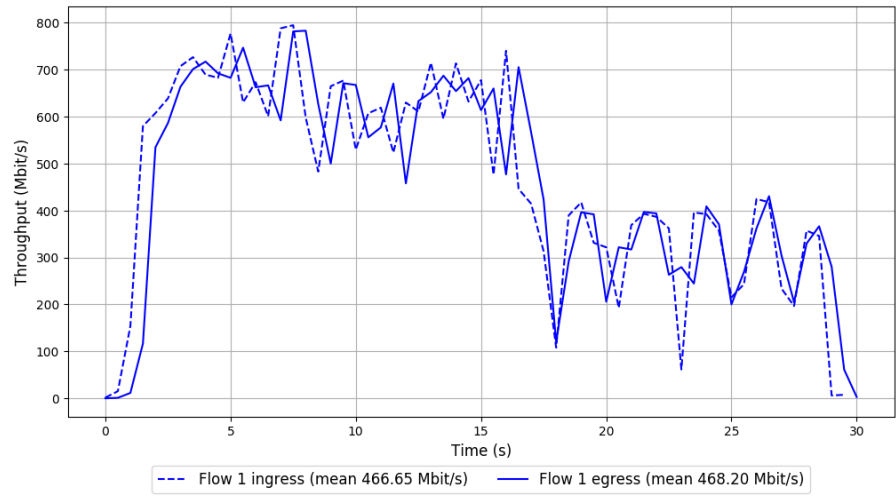
Flow 1 (95th percentile 141.90 ms)

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 04:39:22
End at: 2019-07-18 04:39:52
Local clock offset: -0.005 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2019-07-18 08:16:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 304.87 Mbit/s
95th percentile per-packet one-way delay: 149.681 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 304.87 Mbit/s
95th percentile per-packet one-way delay: 149.681 ms
Loss rate: 0.62%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 05:14:28
End at: 2019-07-18 05:14:58
Local clock offset: -0.033 ms
Remote clock offset: -0.625 ms


# Below is generated by plot.py at 2019-07-18 08:17:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 468.20 Mbit/s
95th percentile per-packet one-way delay: 125.603 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 468.20 Mbit/s
95th percentile per-packet one-way delay: 125.603 ms
Loss rate: 0.09%
```
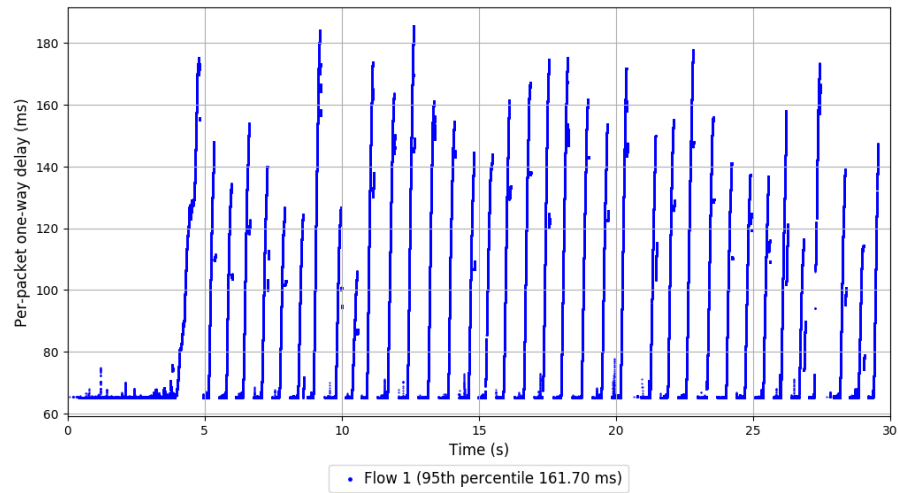
Run 3: Report of Muses_DecisionTreeH0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 05:49:59
End at: 2019-07-18 05:50:29
Local clock offset: -0.034 ms
Remote clock offset: -0.18 ms


# Below is generated by plot.py at 2019-07-18 08:17:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 277.81 Mbit/s
95th percentile per-packet one-way delay: 161.696 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 277.81 Mbit/s
95th percentile per-packet one-way delay: 161.696 ms
Loss rate: 2.61%
```
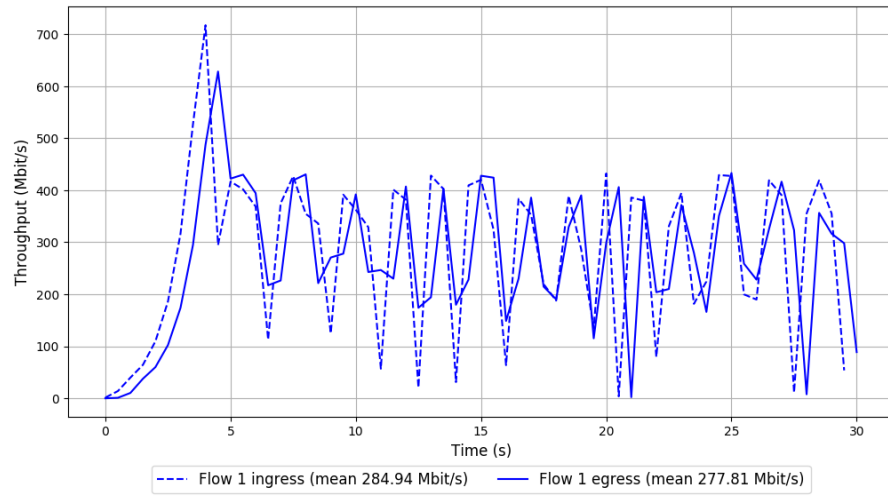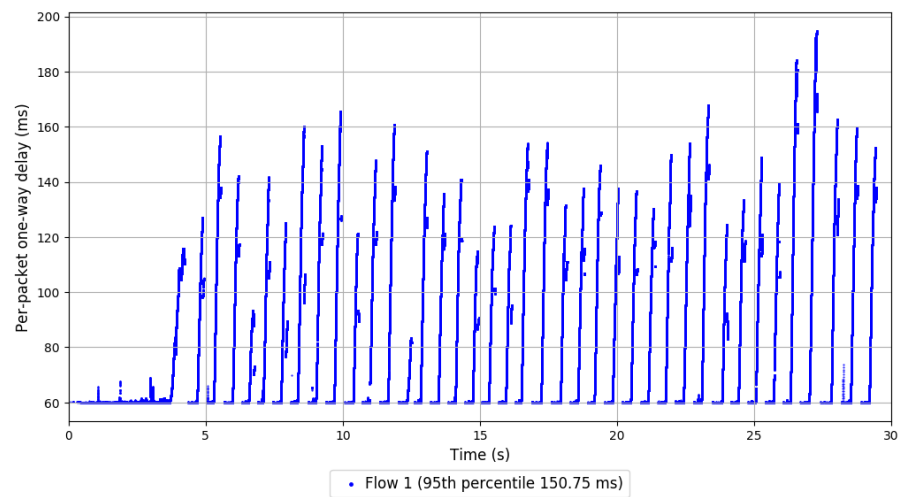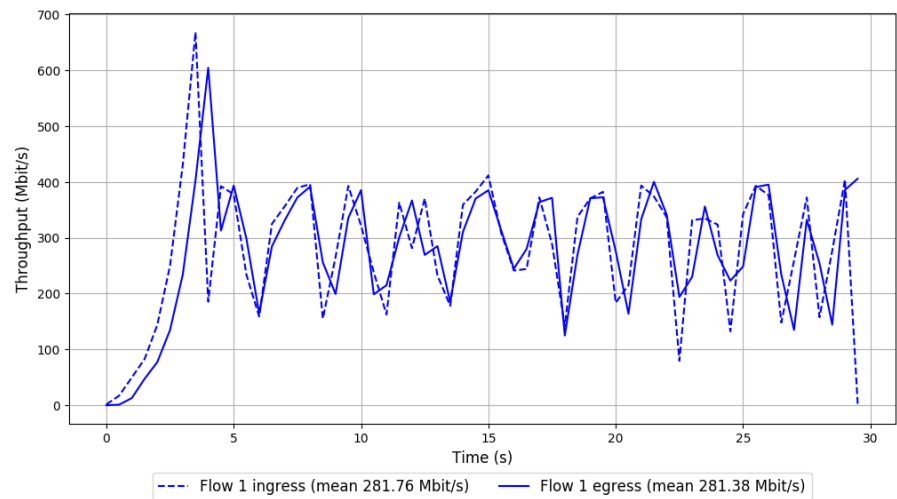
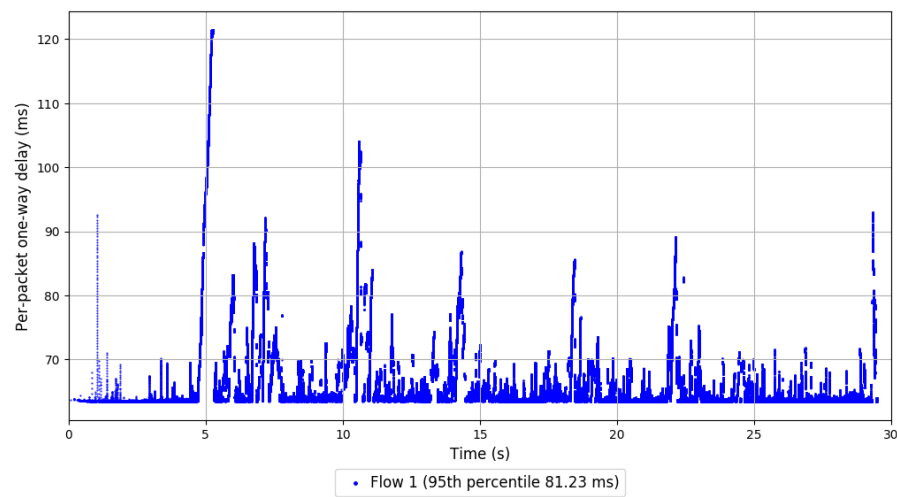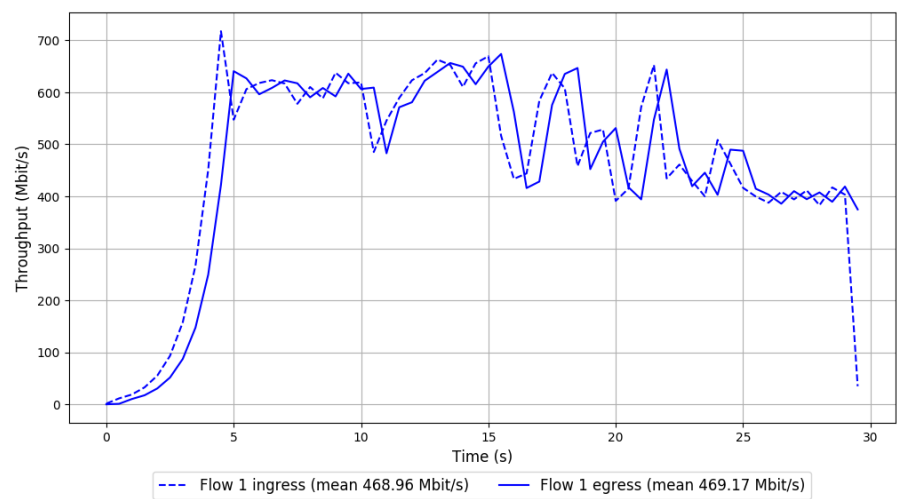Run 4: Report of Muses_DecisionTreeH0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 06:25:08
End at: 2019-07-18 06:25:38
Local clock offset: -0.066 ms
Remote clock offset: -0.257 ms


# Below is generated by plot.py at 2019-07-18 08:17:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 281.38 Mbit/s
95th percentile per-packet one-way delay: 150.750 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 281.38 Mbit/s
95th percentile per-packet one-way delay: 150.750 ms
Loss rate: 0.89%
```

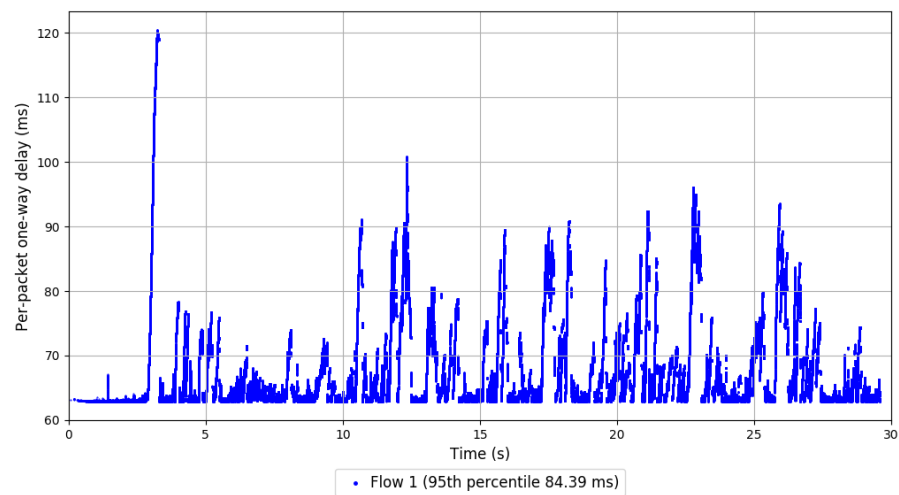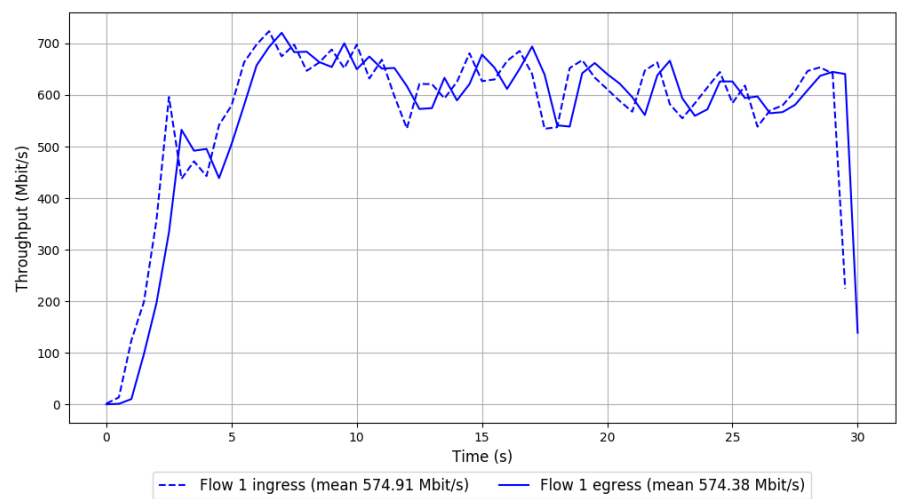Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 04:08:09
End at: 2019-07-18 04:08:39
Local clock offset: 0.103 ms
Remote clock offset: -0.707 ms


# Below is generated by plot.py at 2019-07-18 08:20:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 469.17 Mbit/s
95th percentile per-packet one-way delay: 81.233 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 469.17 Mbit/s
95th percentile per-packet one-way delay: 81.233 ms
Loss rate: 0.39%
```

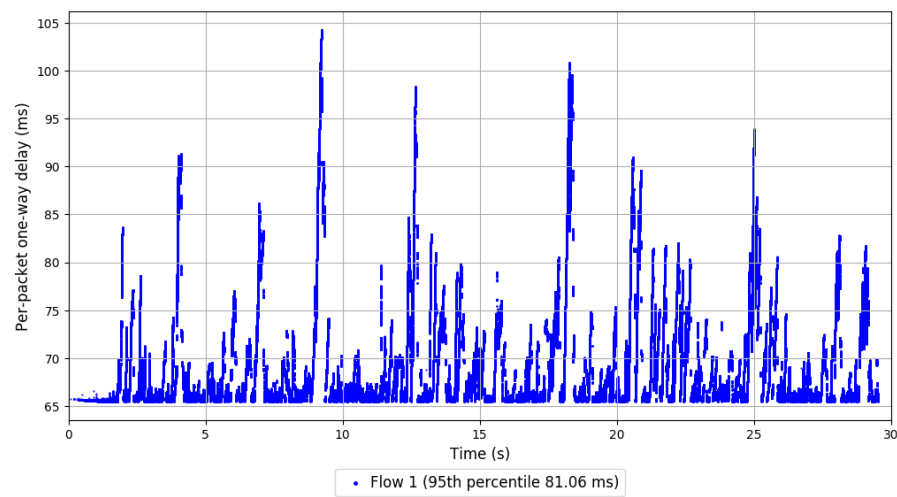Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 04:43:27
End at: 2019-07-18 04:43:57
Local clock offset: -0.029 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2019-07-18 08:23:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 574.38 Mbit/s
95th percentile per-packet one-way delay: 84.394 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 574.38 Mbit/s
95th percentile per-packet one-way delay: 84.394 ms
Loss rate: 0.52%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 574.91 Mbit/s) --- Flow 1 egress (mean 574.38 Mbit/s)

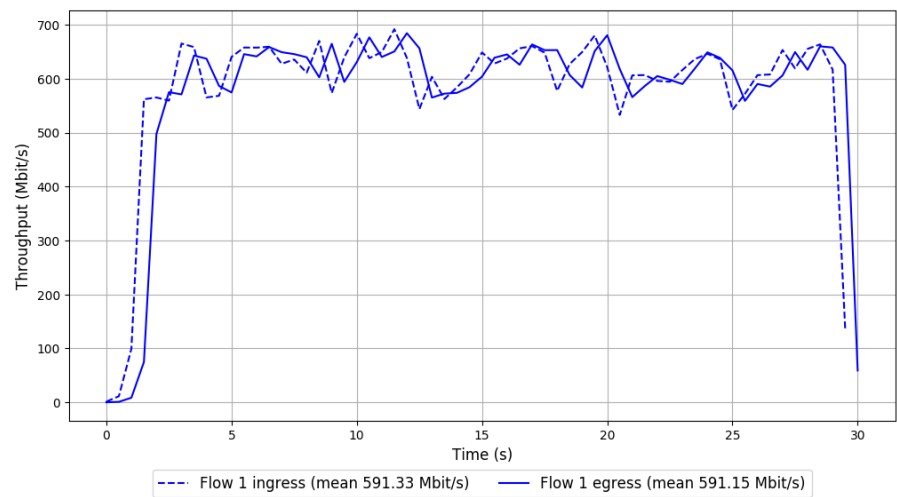
Flow 1 (95th percentile 84.39 ms)

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 05:18:38
End at: 2019-07-18 05:19:08
Local clock offset: -0.063 ms
Remote clock offset: -0.117 ms


# Below is generated by plot.py at 2019-07-18 08:24:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 591.15 Mbit/s
95th percentile per-packet one-way delay: 81.058 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 591.15 Mbit/s
95th percentile per-packet one-way delay: 81.058 ms
Loss rate: 0.47%
```
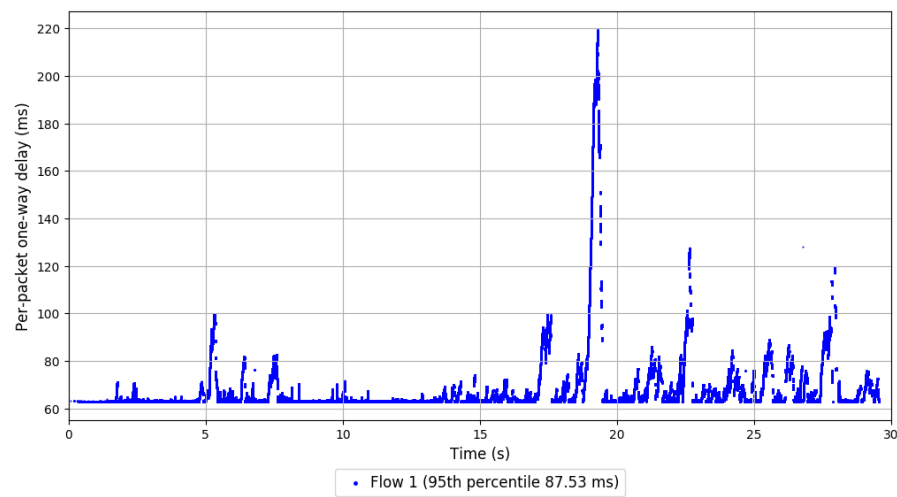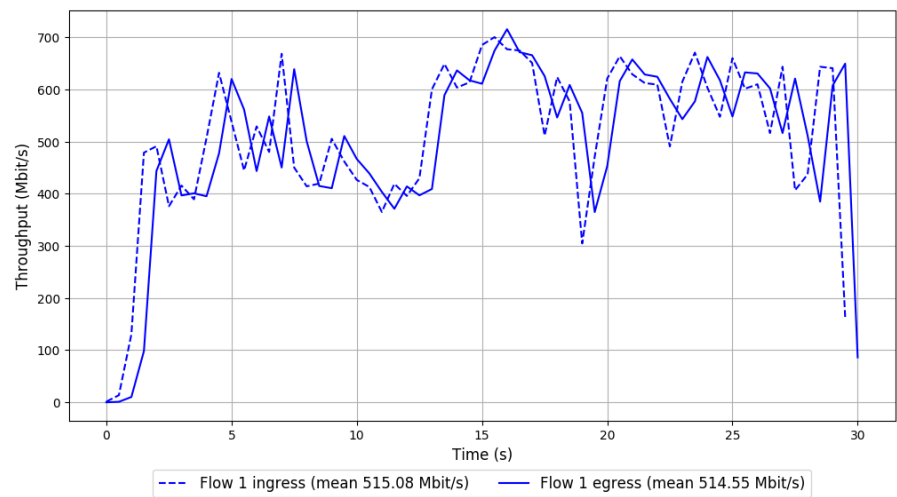
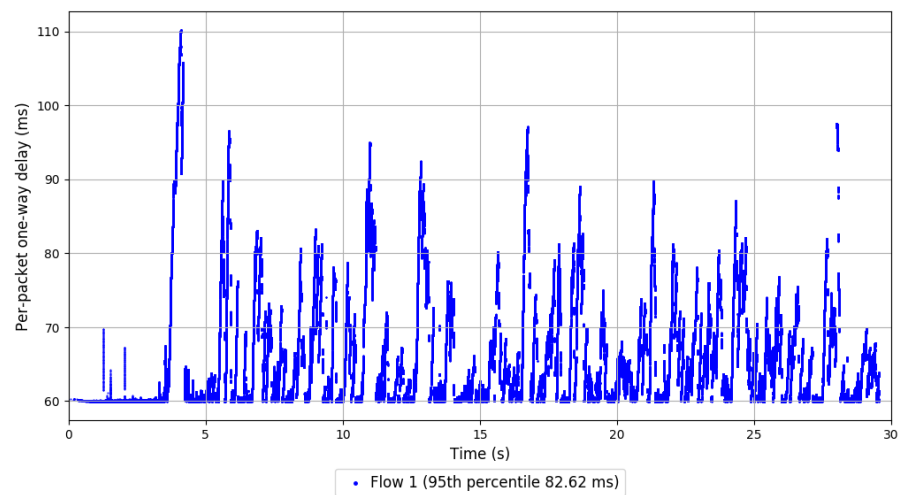Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 05:54:00
End at: 2019-07-18 05:54:30
Local clock offset: -0.037 ms
Remote clock offset: -0.13 ms


# Below is generated by plot.py at 2019-07-18 08:24:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 514.55 Mbit/s
95th percentile per-packet one-way delay: 87.535 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 514.55 Mbit/s
95th percentile per-packet one-way delay: 87.535 ms
Loss rate: 0.53%
```

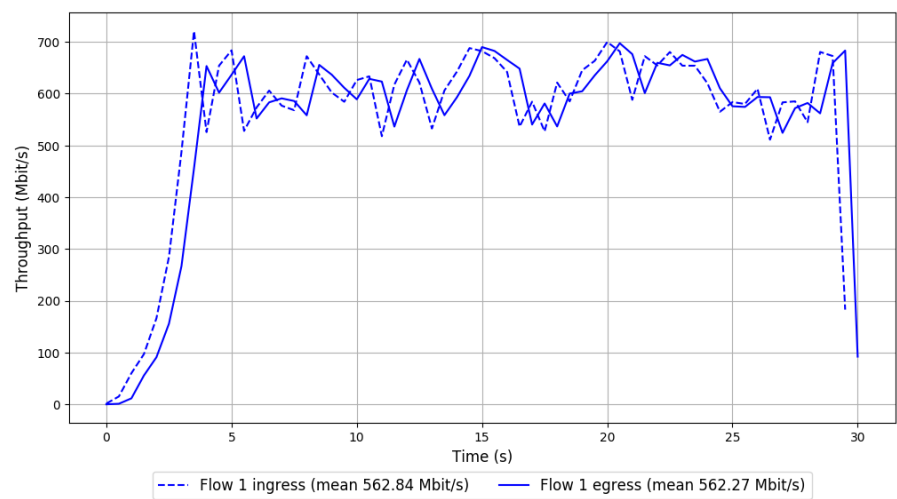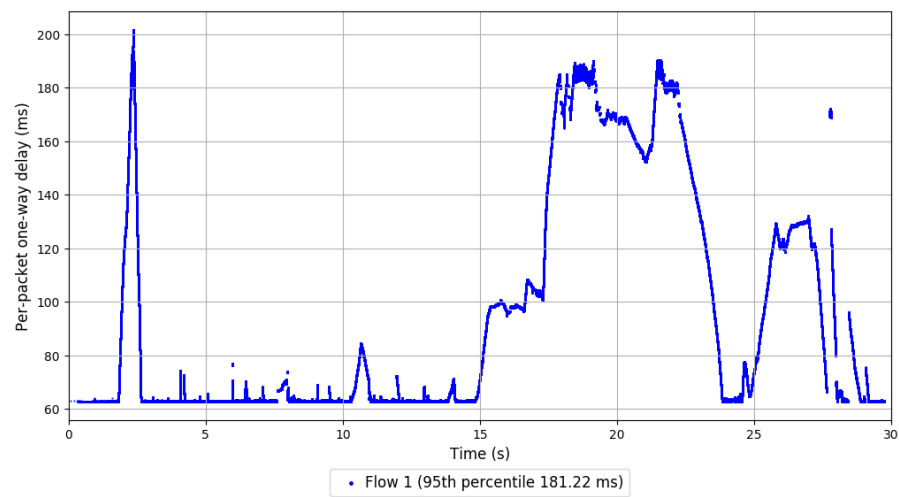Run 4: Report of Muses_DecisionTreeR0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 06:29:11
End at: 2019-07-18 06:29:41
Local clock offset: -0.077 ms
Remote clock offset: -0.173 ms


# Below is generated by plot.py at 2019-07-18 08:25:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 562.27 Mbit/s
95th percentile per-packet one-way delay: 82.621 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 562.27 Mbit/s
95th percentile per-packet one-way delay: 82.621 ms
Loss rate: 0.52%
```

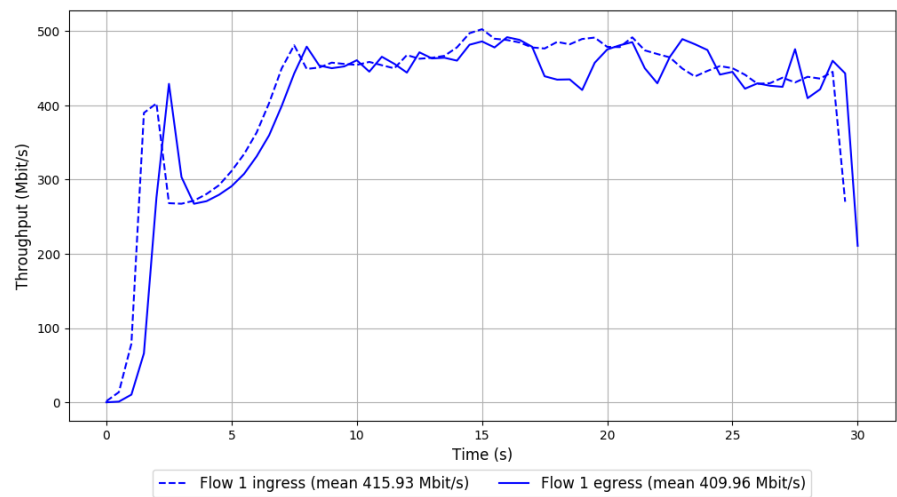Run 5: Report of Muses_DecisionTreeR0 — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-18 04:16:49
End at: 2019-07-18 04:17:19
Local clock offset: 0.121 ms
Remote clock offset: 0.047 ms


# Below is generated by plot.py at 2019-07-18 08:28:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 409.96 Mbit/s
95th percentile per-packet one-way delay: 181.222 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 409.96 Mbit/s
95th percentile per-packet one-way delay: 181.222 ms
Loss rate: 1.86%
```

Run 1: Report of PCC-Allegro — Data Link
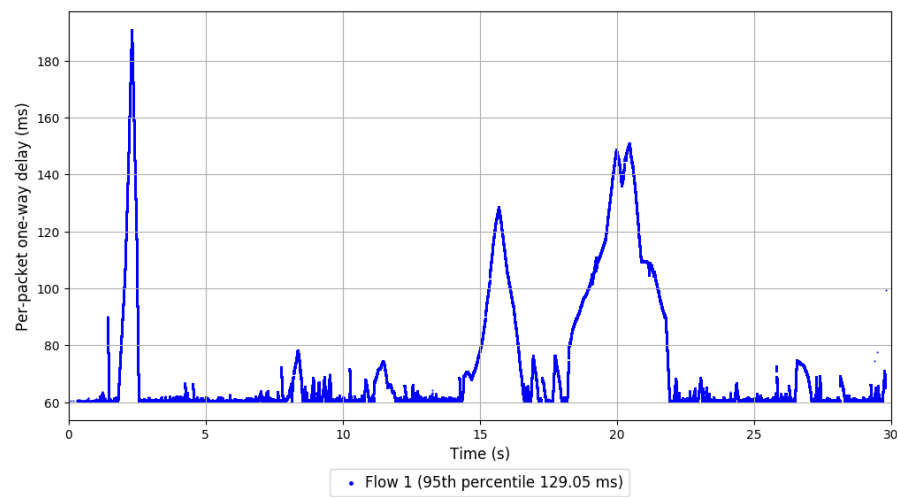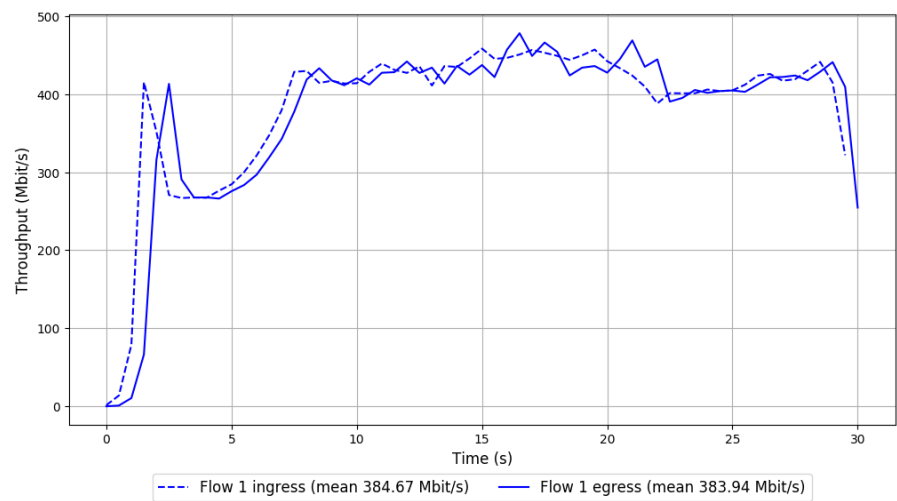

147

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-18 04:52:09
End at: 2019-07-18 04:52:39
Local clock offset: -0.041 ms
Remote clock offset: -0.106 ms


# Below is generated by plot.py at 2019-07-18 08:29:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 383.94 Mbit/s
95th percentile per-packet one-way delay: 129.054 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 383.94 Mbit/s
95th percentile per-packet one-way delay: 129.054 ms
Loss rate: 0.55%
```
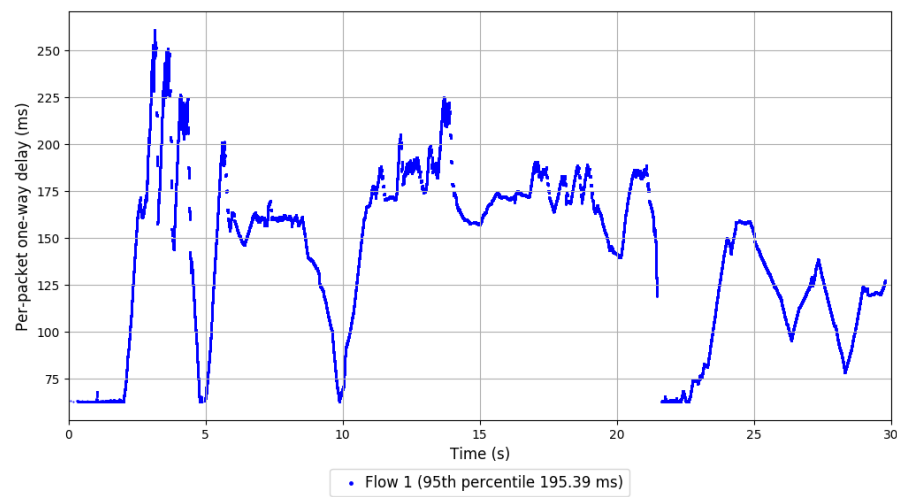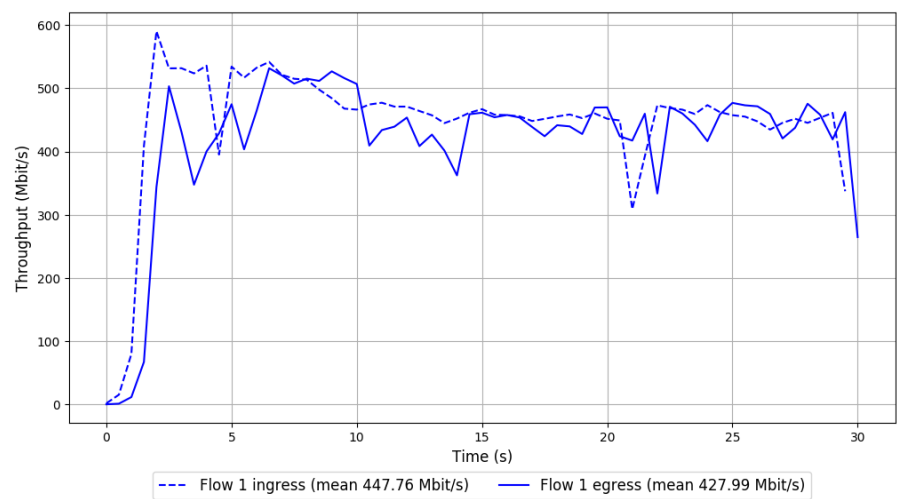
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 384.67 Mbit/s)   Flow 1 egress (mean 383.94 Mbit/s)
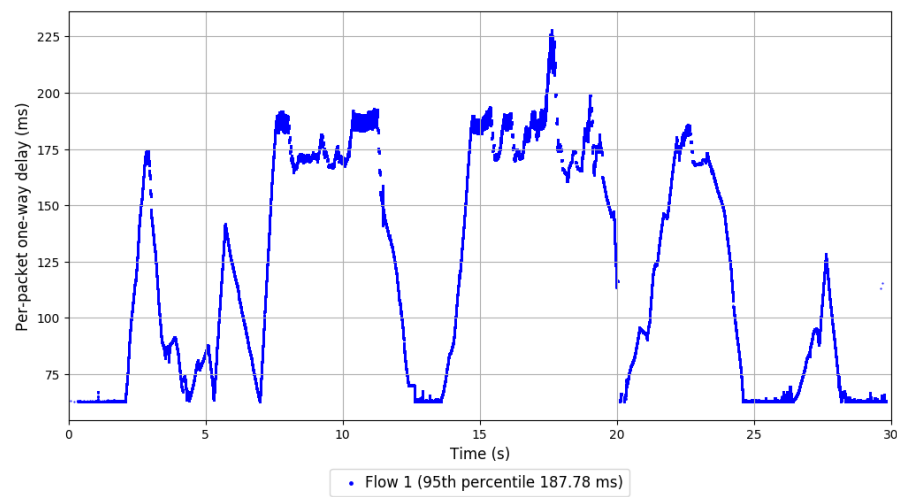

• Flow 1 (95th percentile 129.05 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-18 05:27:19
End at: 2019-07-18 05:27:49
Local clock offset: -0.054 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2019-07-18 08:32:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 427.99 Mbit/s
95th percentile per-packet one-way delay: 195.390 ms
Loss rate: 4.83%
-- Flow 1:
Average throughput: 427.99 Mbit/s
95th percentile per-packet one-way delay: 195.390 ms
Loss rate: 4.83%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 447.76 Mbit/s)   Flow 1 egress (mean 427.99 Mbit/s)
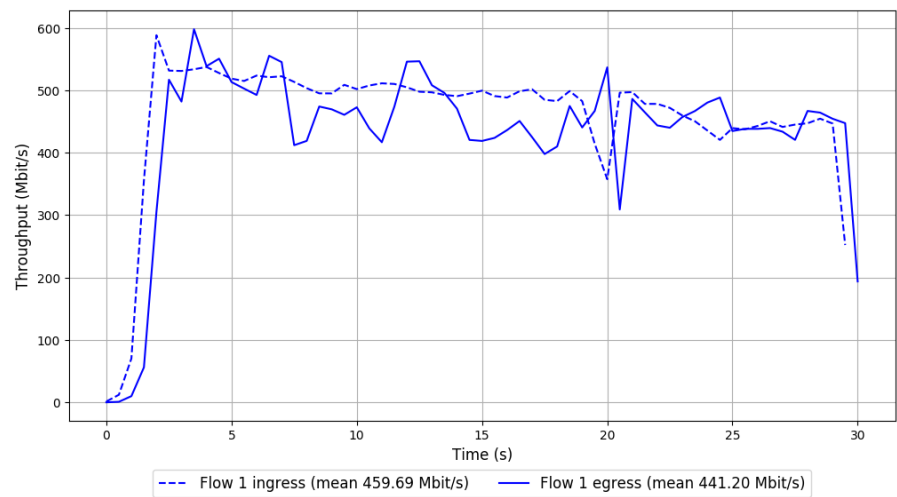

Flow 1 (95th percentile 195.39 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-18 06:02:29
End at: 2019-07-18 06:02:59
Local clock offset: -0.025 ms
Remote clock offset: -0.049 ms


# Below is generated by plot.py at 2019-07-18 08:36:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 441.20 Mbit/s
95th percentile per-packet one-way delay: 187.776 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 441.20 Mbit/s
95th percentile per-packet one-way delay: 187.776 ms
Loss rate: 4.43%
```
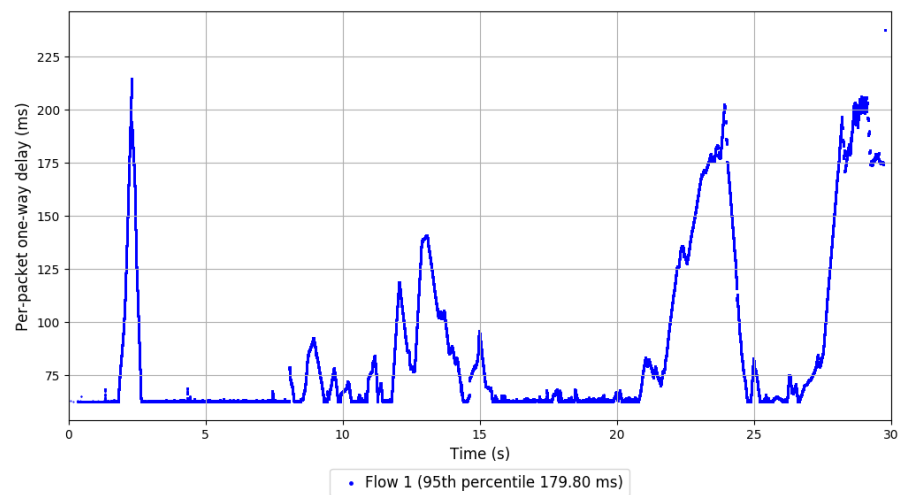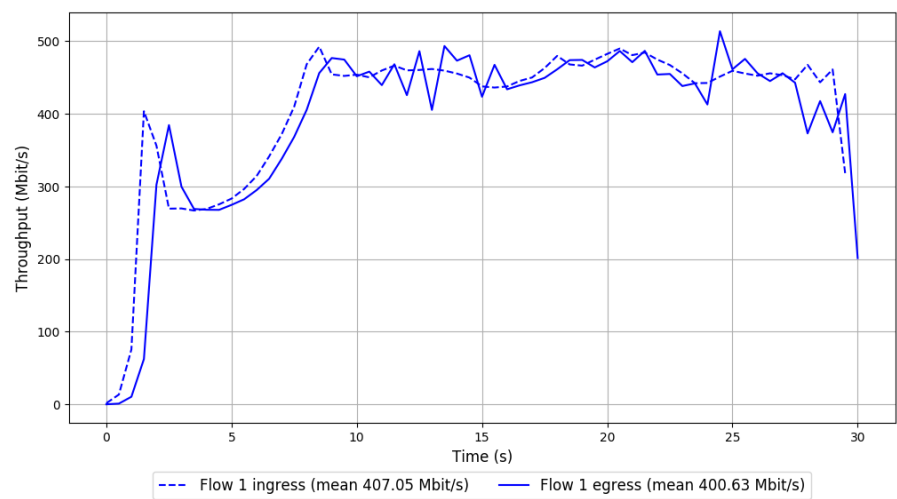
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 459.69 Mbit/s) — Flow 1 egress (mean 441.20 Mbit/s)
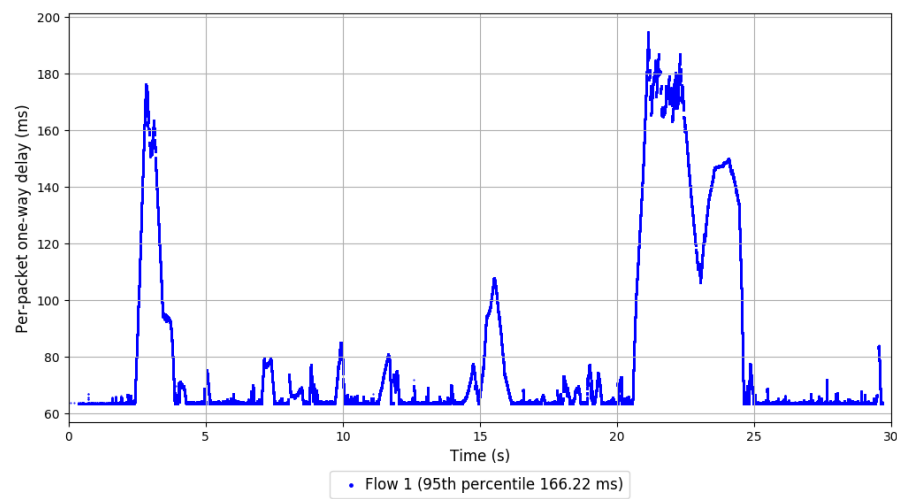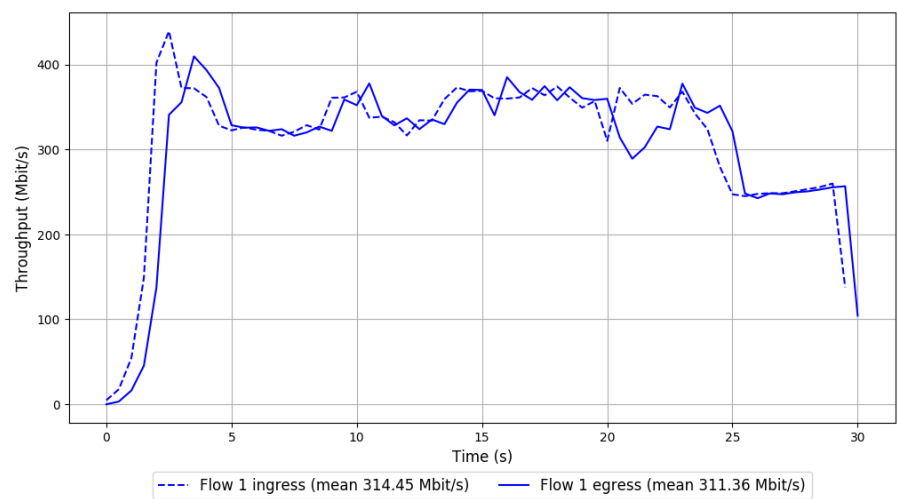

Flow 1 (95th percentile 187.78 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-18 06:37:56
End at: 2019-07-18 06:38:26
Local clock offset: -0.08 ms
Remote clock offset: -0.499 ms


# Below is generated by plot.py at 2019-07-18 08:38:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 400.63 Mbit/s
95th percentile per-packet one-way delay: 179.804 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 400.63 Mbit/s
95th percentile per-packet one-way delay: 179.804 ms
Loss rate: 1.99%
```
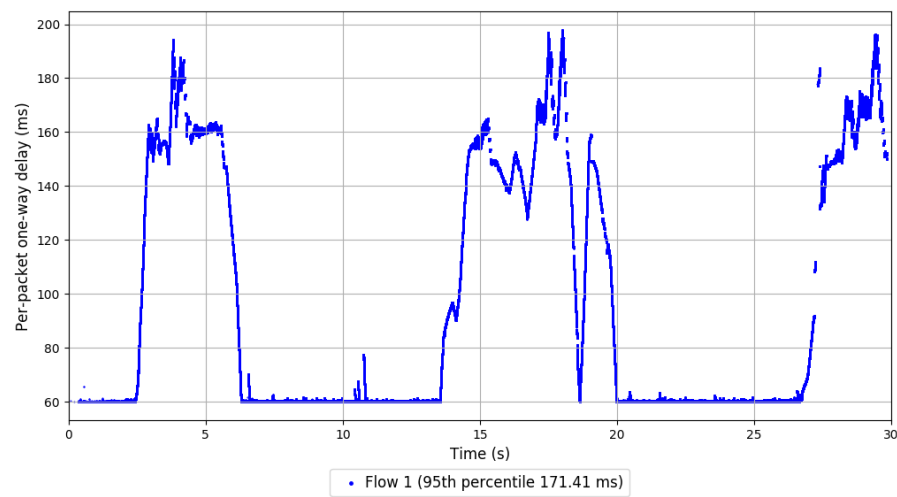
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-18 03:50:38
End at: 2019-07-18 03:51:08
Local clock offset: -0.056 ms
Remote clock offset: -0.846 ms


# Below is generated by plot.py at 2019-07-18 08:38:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 311.36 Mbit/s
95th percentile per-packet one-way delay: 166.222 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 311.36 Mbit/s
95th percentile per-packet one-way delay: 166.222 ms
Loss rate: 1.41%
```
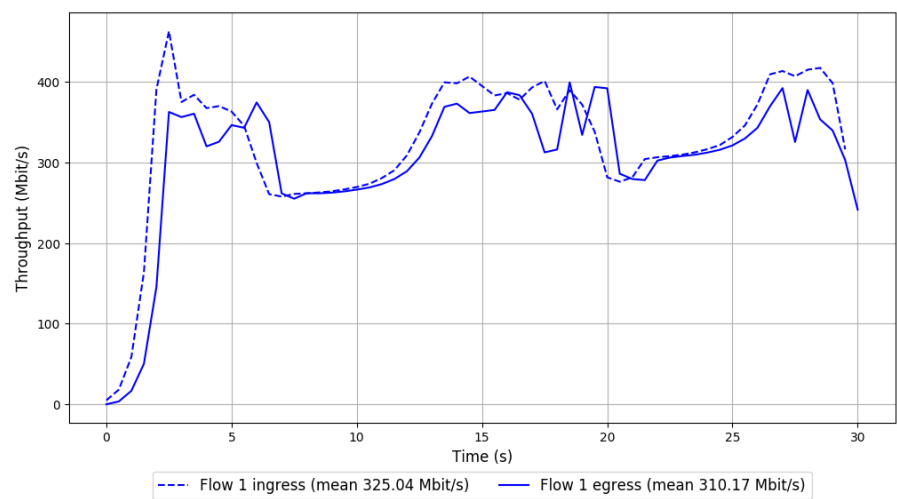
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 314.45 Mbit/s) ----   Flow 1 egress (mean 311.36 Mbit/s) ———
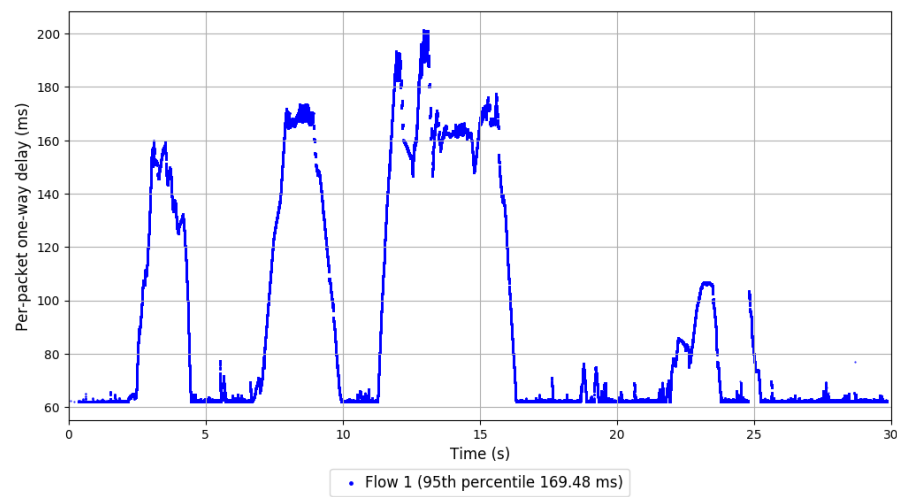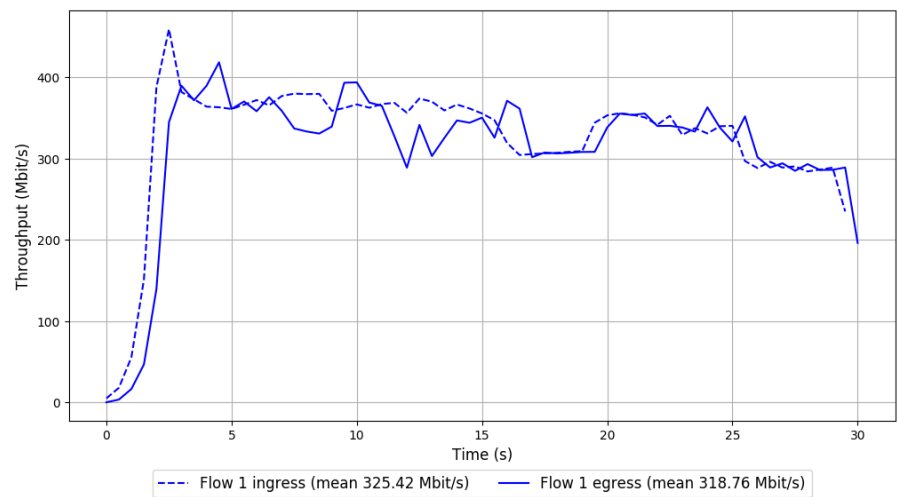

• Flow 1 (95th percentile 166.22 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-18 04:26:00
End at: 2019-07-18 04:26:30
Local clock offset: 0.079 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2019-07-18 08:38:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 310.17 Mbit/s
95th percentile per-packet one-way delay: 171.406 ms
Loss rate: 4.98%
-- Flow 1:
Average throughput: 310.17 Mbit/s
95th percentile per-packet one-way delay: 171.406 ms
Loss rate: 4.98%
```

Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-18 05:01:16
End at: 2019-07-18 05:01:46
Local clock offset: -0.019 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-07-18 08:38:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 318.76 Mbit/s
95th percentile per-packet one-way delay: 169.478 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 318.76 Mbit/s
95th percentile per-packet one-way delay: 169.478 ms
Loss rate: 2.47%
```

Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-18 05:36:31
End at: 2019-07-18 05:37:01
Local clock offset: -0.081 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2019-07-18 08:39:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 310.93 Mbit/s
95th percentile per-packet one-way delay: 120.657 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 310.93 Mbit/s
95th percentile per-packet one-way delay: 120.657 ms
Loss rate: 0.55%
```
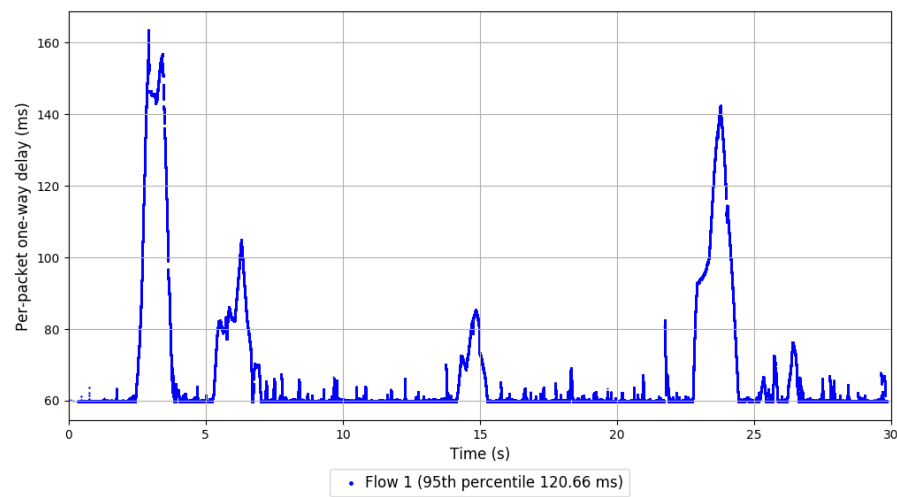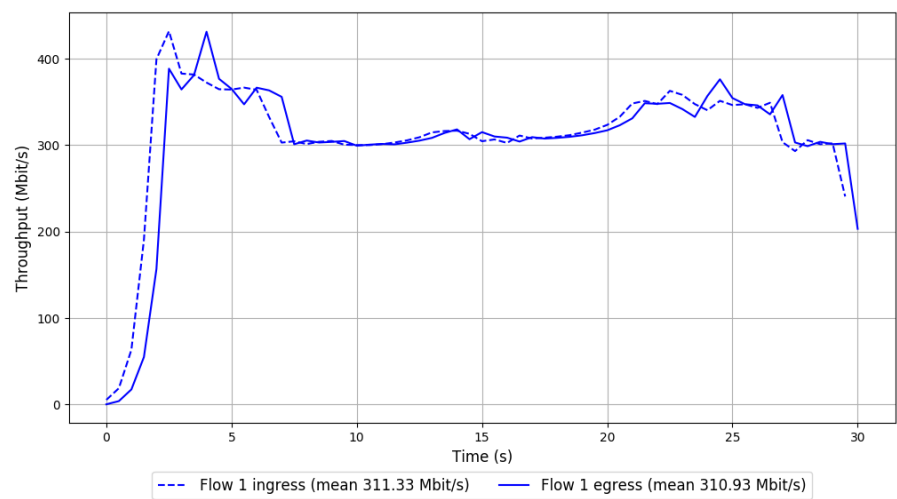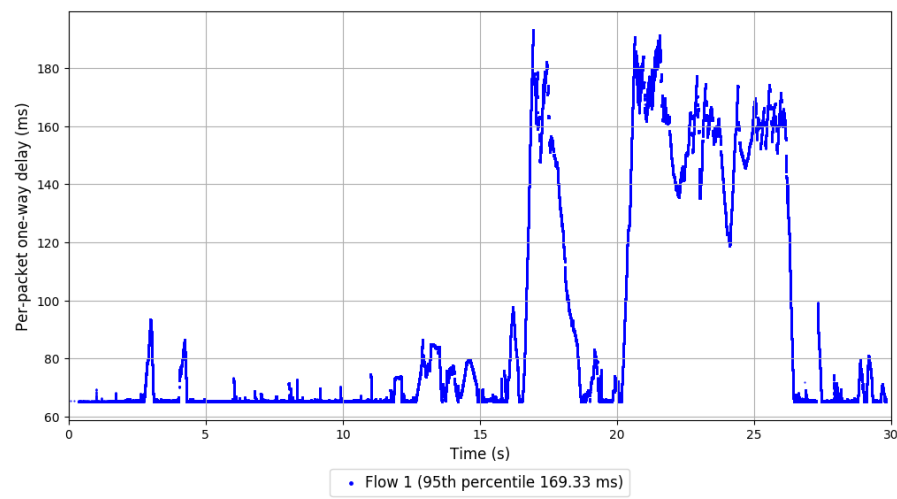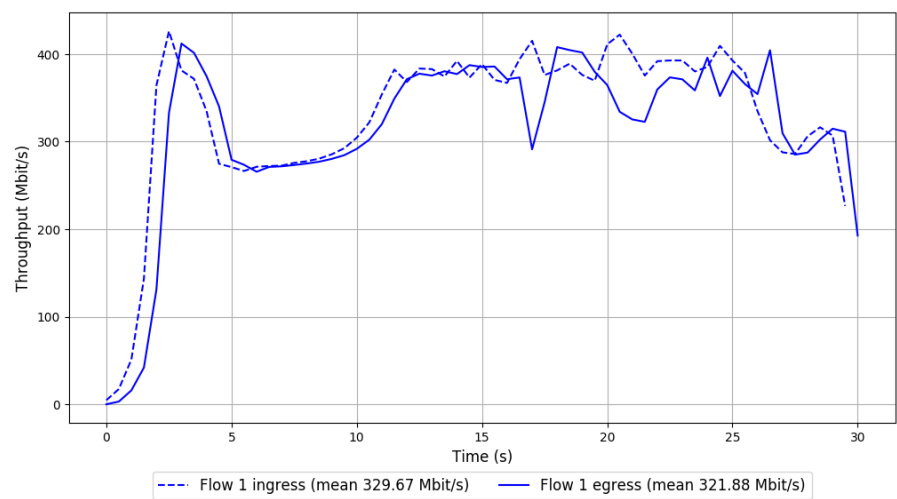
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-18 06:11:38
End at: 2019-07-18 06:12:08
Local clock offset: -0.039 ms
Remote clock offset: -0.155 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 321.88 Mbit/s
95th percentile per-packet one-way delay: 169.331 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 321.88 Mbit/s
95th percentile per-packet one-way delay: 169.331 ms
Loss rate: 2.79%
```

Run 5: Report of PCC-Expr — Data Link
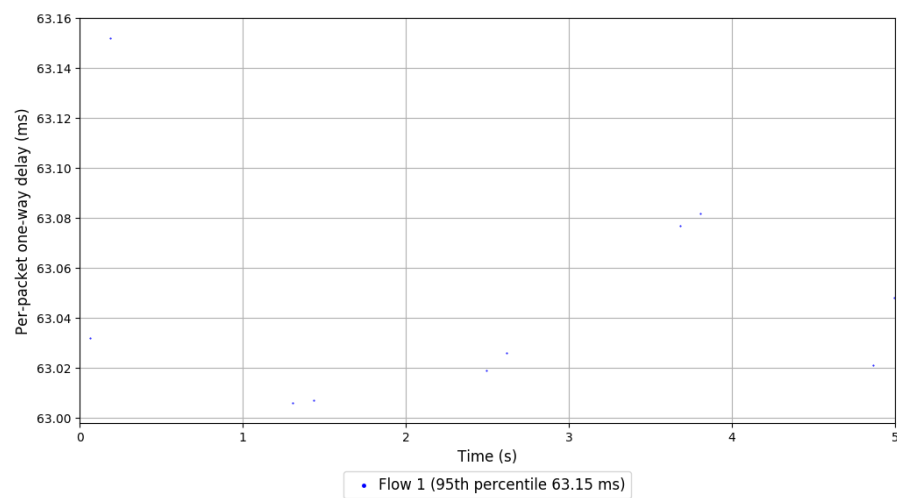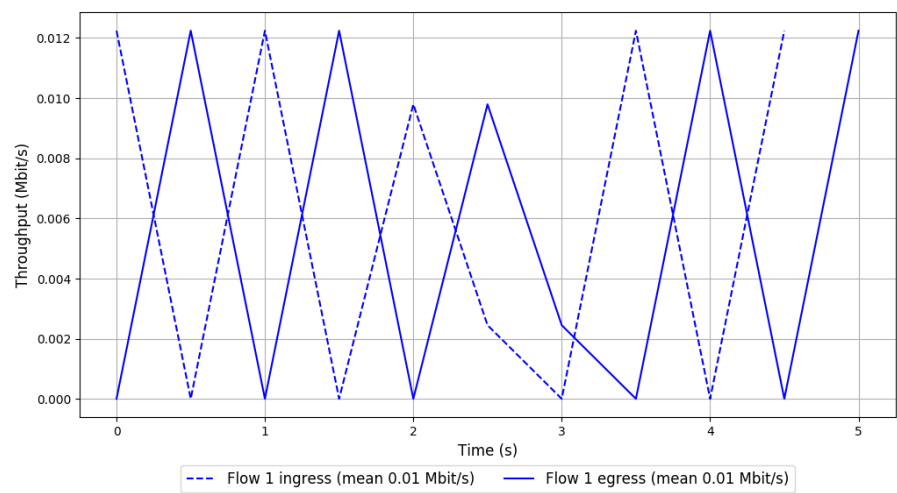
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-18 03:55:05
End at: 2019-07-18 03:55:35
Local clock offset: -0.034 ms
Remote clock offset: -0.206 ms

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-18 04:30:27
End at: 2019-07-18 04:30:57
Local clock offset: 0.031 ms
Remote clock offset: -0.023 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.07 Mbit/s
95th percentile per-packet one-way delay: 65.122 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 65.07 Mbit/s
95th percentile per-packet one-way delay: 65.122 ms
Loss rate: 0.71%
```
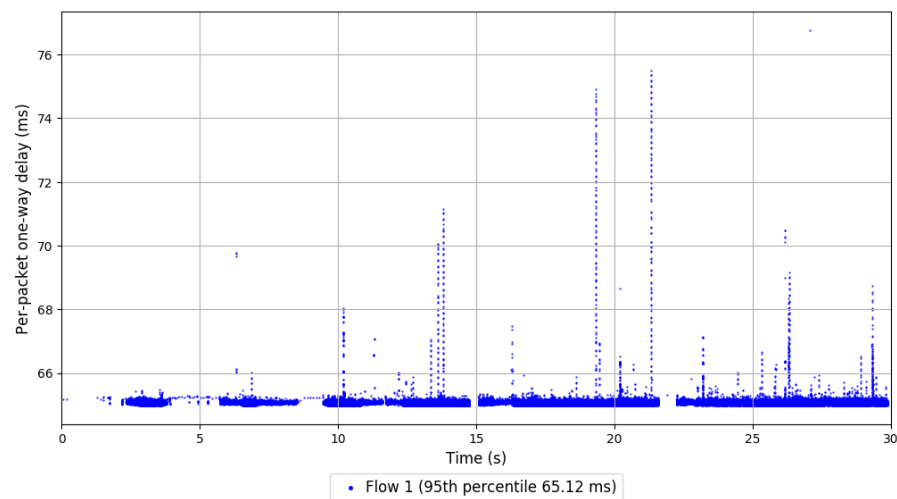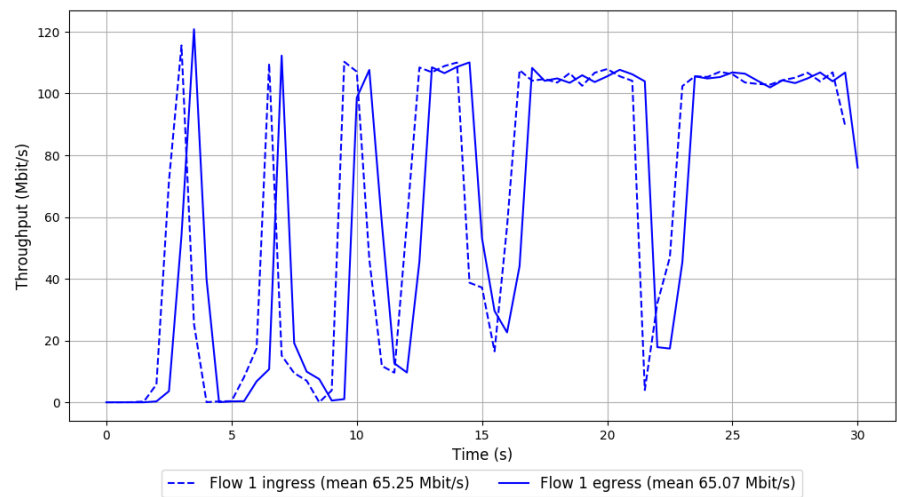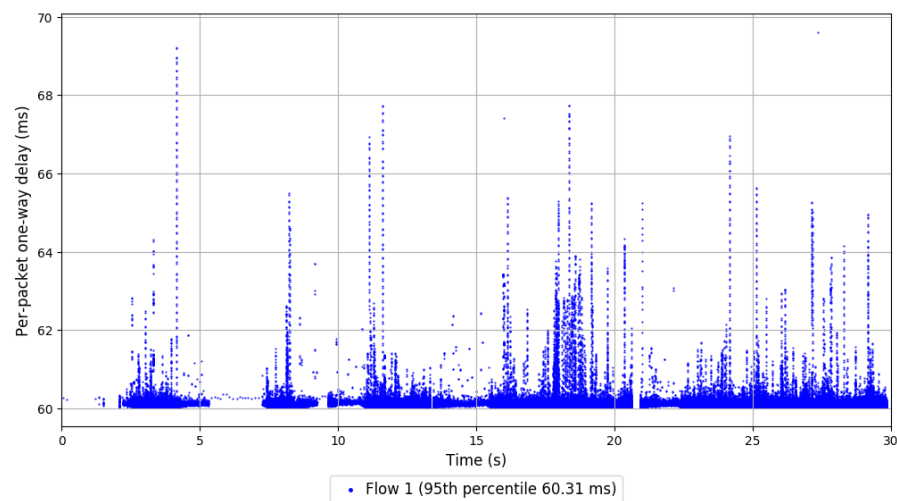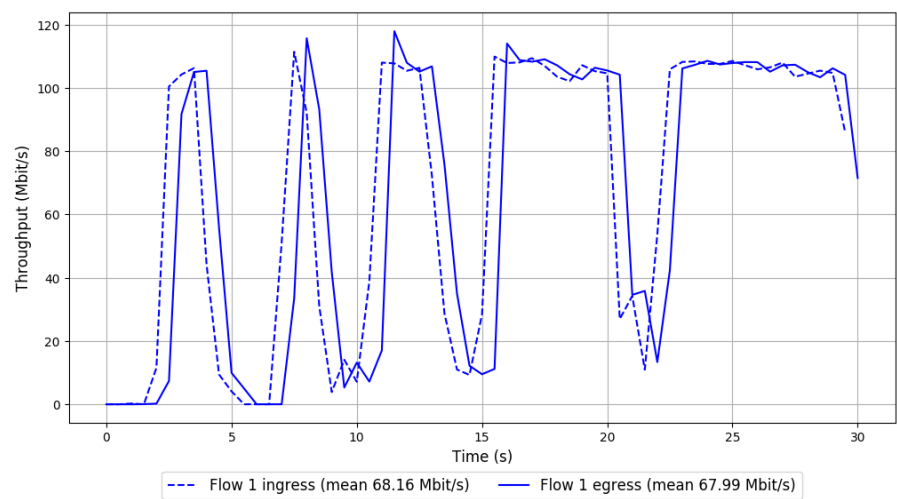
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-18 05:05:37
End at: 2019-07-18 05:06:07
Local clock offset: -0.002 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.99 Mbit/s
95th percentile per-packet one-way delay: 60.315 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 67.99 Mbit/s
95th percentile per-packet one-way delay: 60.315 ms
Loss rate: 0.67%
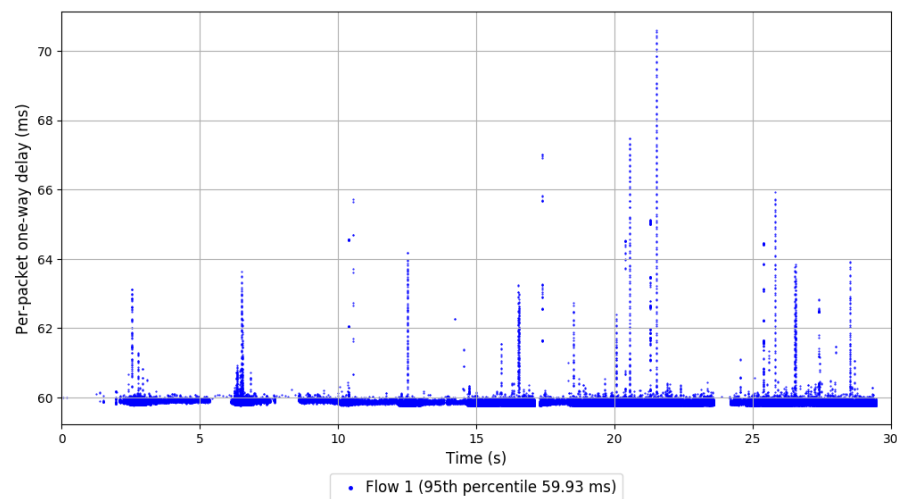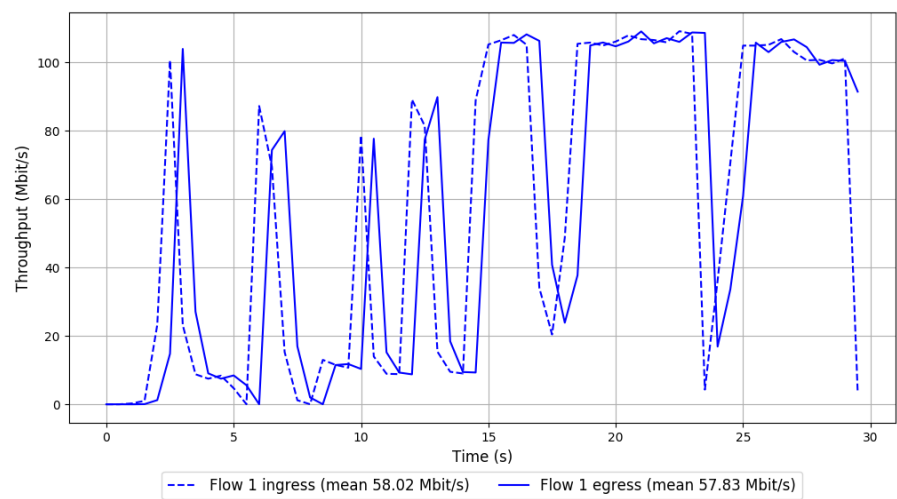```

Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-18 05:41:00
End at: 2019-07-18 05:41:30
Local clock offset: -0.08 ms
Remote clock offset: -0.063 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.83 Mbit/s
95th percentile per-packet one-way delay: 59.931 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 57.83 Mbit/s
95th percentile per-packet one-way delay: 59.931 ms
Loss rate: 0.73%
```

Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.02 Mbit/s)   Flow 1 egress (mean 57.83 Mbit/s)

Flow 1 (95th percentile 59.93 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-18 06:16:08
End at: 2019-07-18 06:16:38
Local clock offset: -0.057 ms
Remote clock offset: -0.149 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.59 Mbit/s
95th percentile per-packet one-way delay: 60.227 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 63.59 Mbit/s
95th percentile per-packet one-way delay: 60.227 ms
Loss rate: 0.68%
```
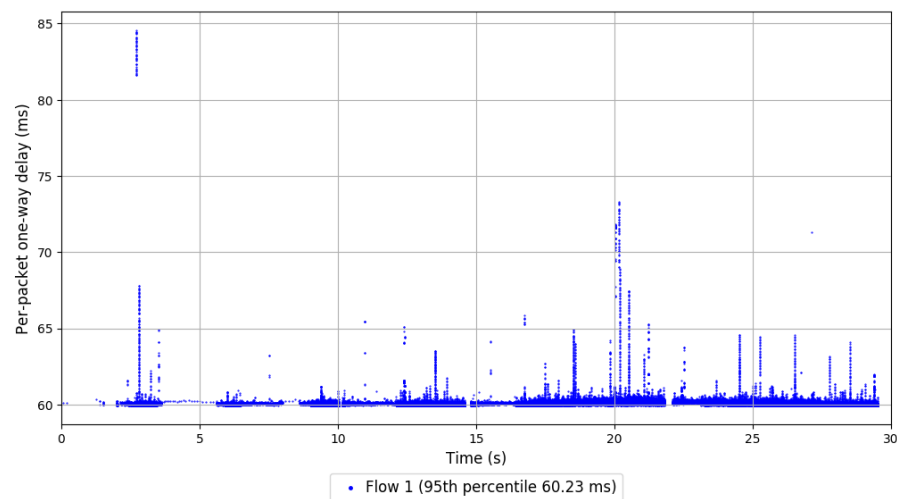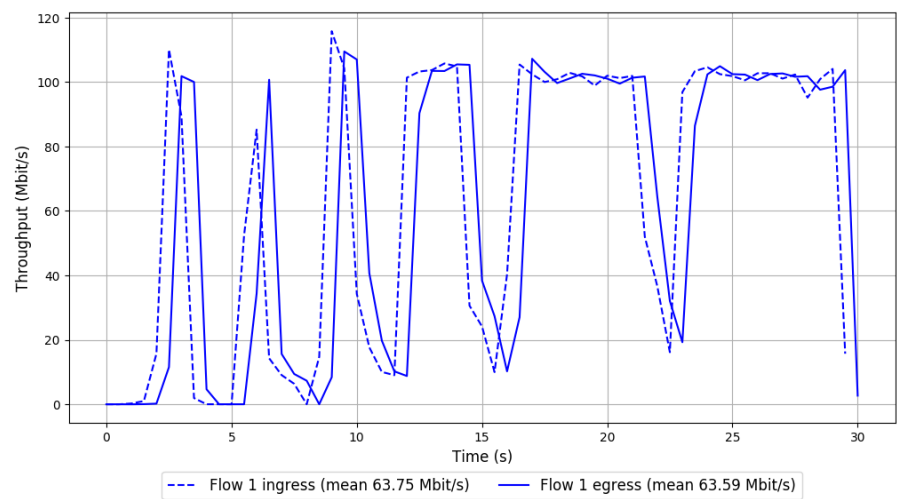
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.75 Mbit/s)   Flow 1 egress (mean 63.59 Mbit/s)
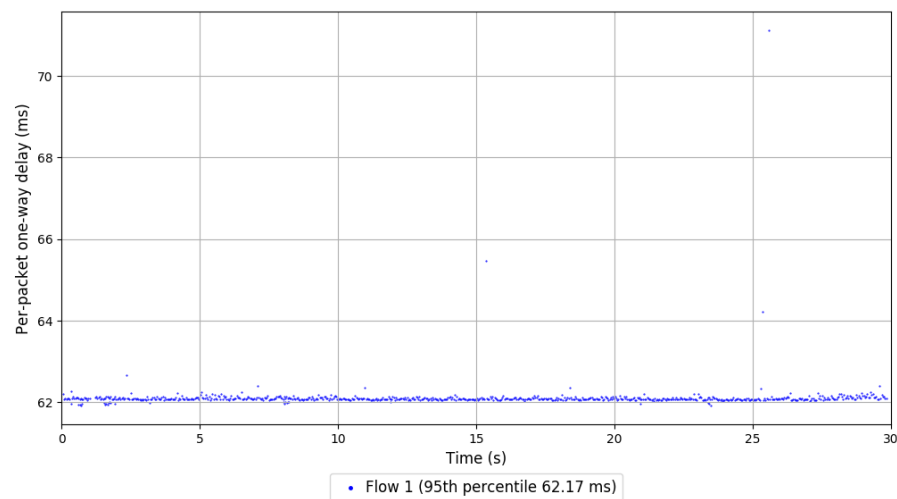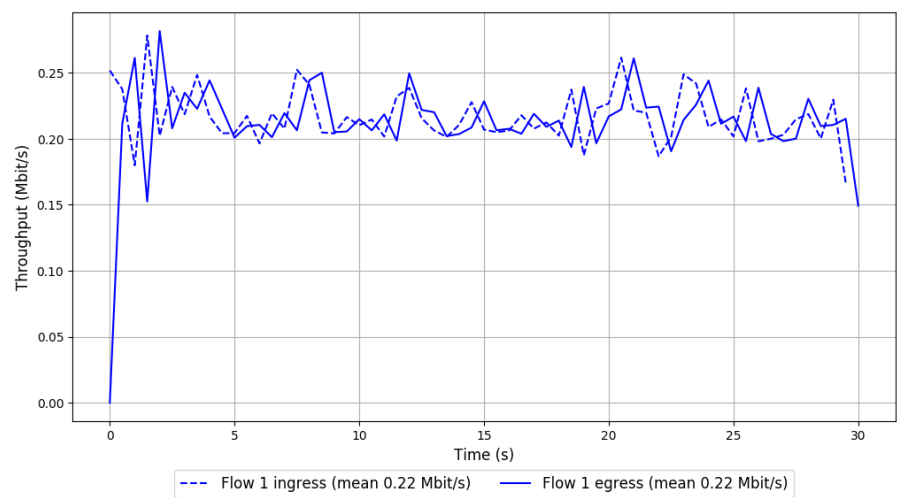

Flow 1 (95th percentile 60.23 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-07-18 04:07:01
End at: 2019-07-18 04:07:31
Local clock offset: 0.029 ms
Remote clock offset: 0.214 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.166 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.166 ms
Loss rate: 0.38%
```

Run 1: 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 62.17 ms)

```
Run 2: Statistics of SCReAM

Start at: 2019-07-18 04:42:19
End at: 2019-07-18 04:42:49
Local clock offset: -0.027 ms
Remote clock offset: -0.703 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.162 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.162 ms
Loss rate: 0.38%
```
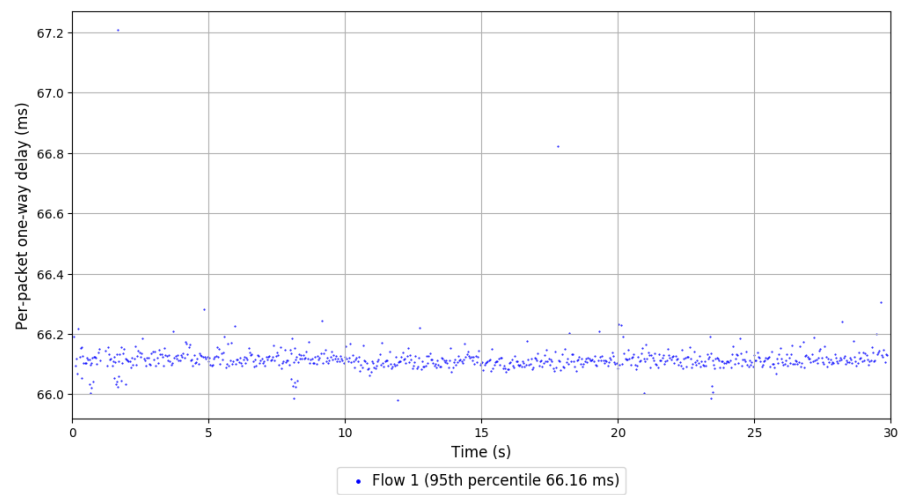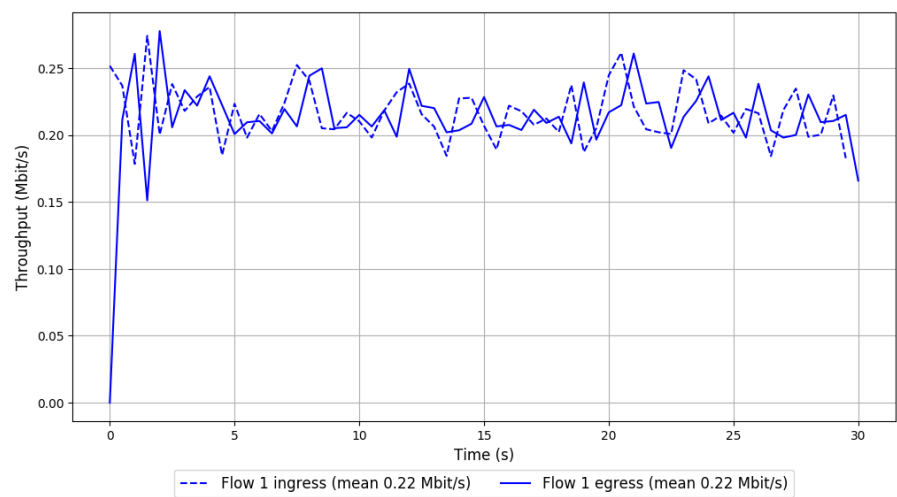
Run 2: Report of SCReAM — Data Link

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

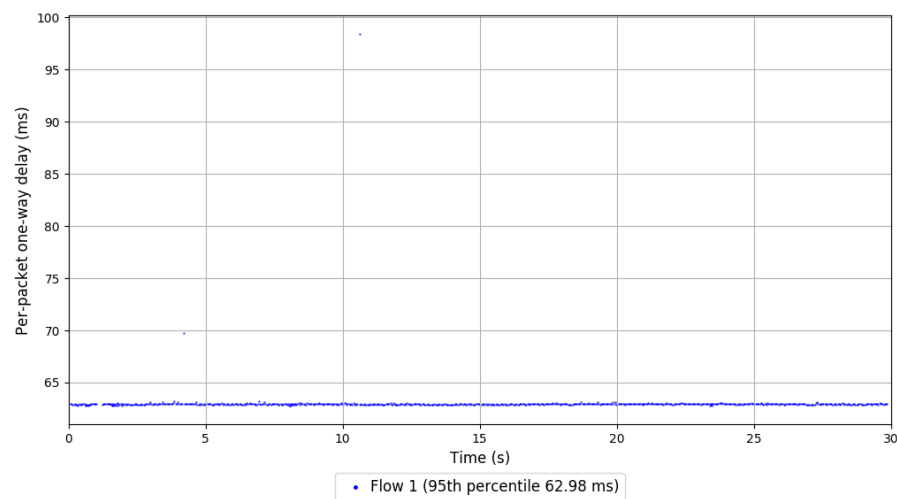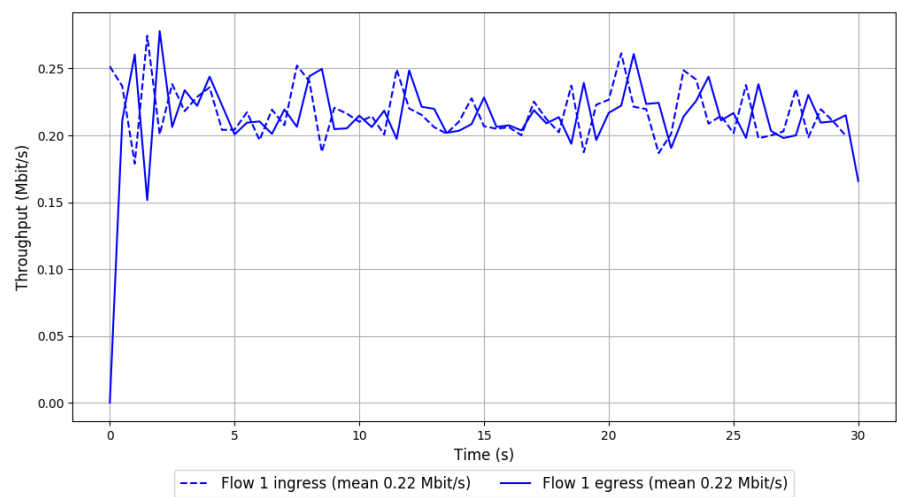
Flow 1 (95th percentile 66.16 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-07-18 05:17:30
End at: 2019-07-18 05:18:00
Local clock offset: -0.012 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.980 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.980 ms
Loss rate: 0.51%
```

Run 3: Report of SCReAM — Data Link

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

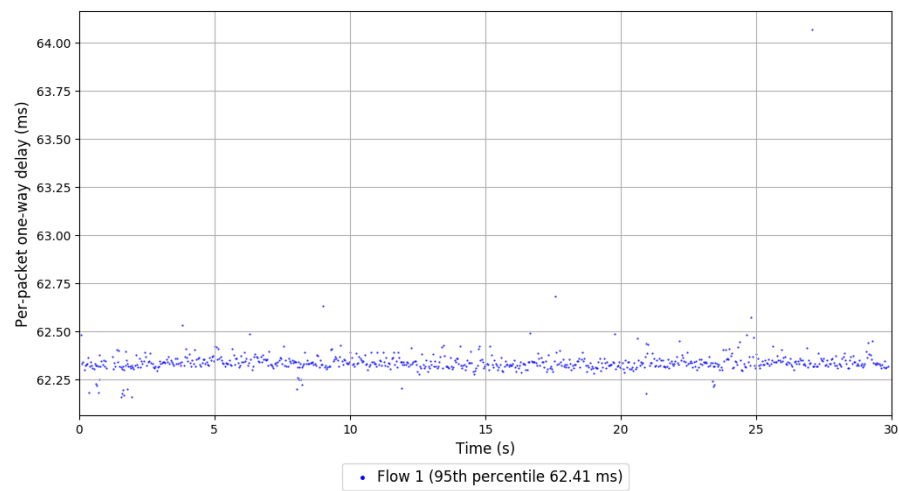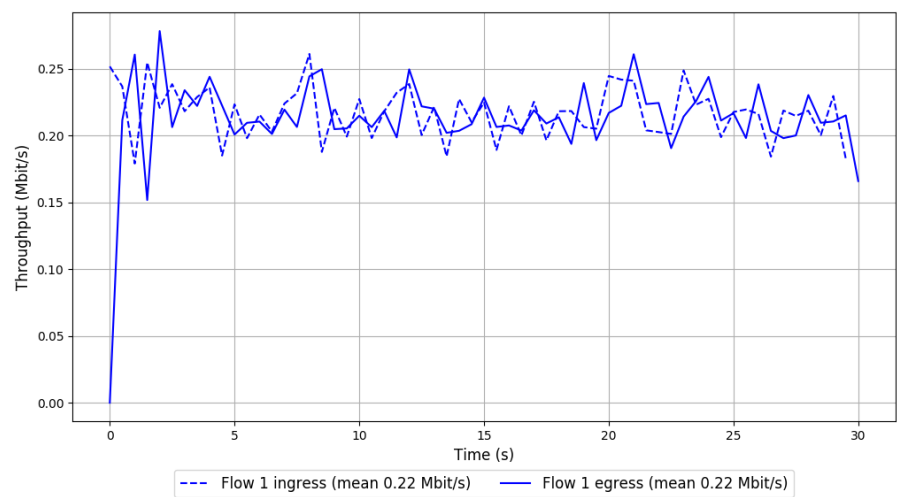Flow 1 (95th percentile 62.98 ms)

```
Run 4: Statistics of SCReAM

Start at: 2019-07-18 05:52:52
End at: 2019-07-18 05:53:22
Local clock offset: -0.069 ms
Remote clock offset: -0.232 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.405 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.405 ms
Loss rate: 0.38%
```

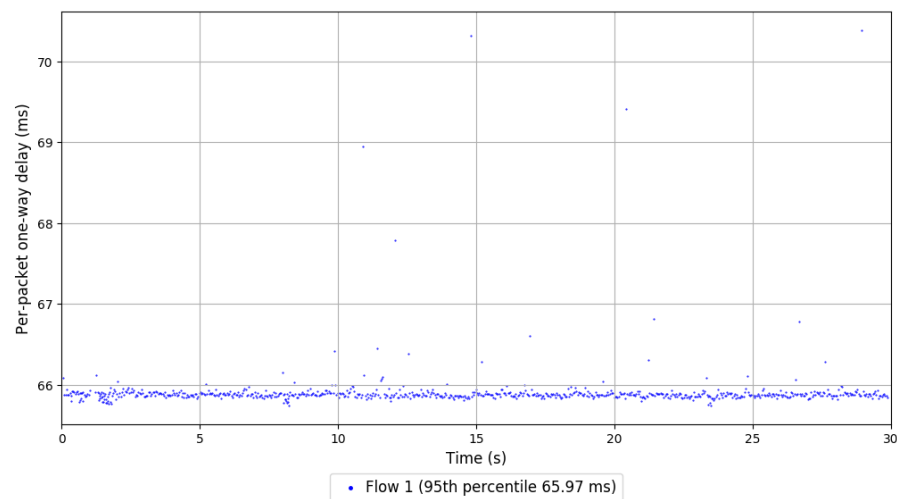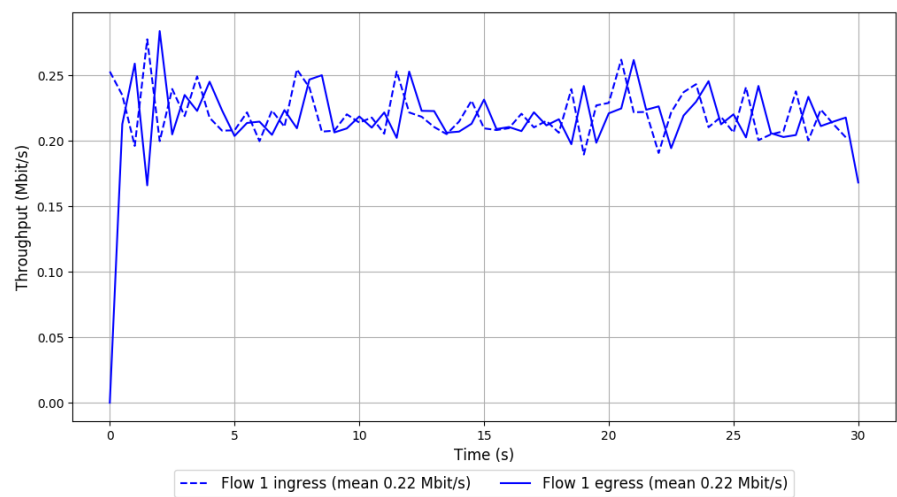# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-07-18 06:28:03
End at: 2019-07-18 06:28:33
Local clock offset: -0.07 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.972 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.972 ms
Loss rate: 0.51%
```

Run 5: Report of SCReAM — Data Link

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

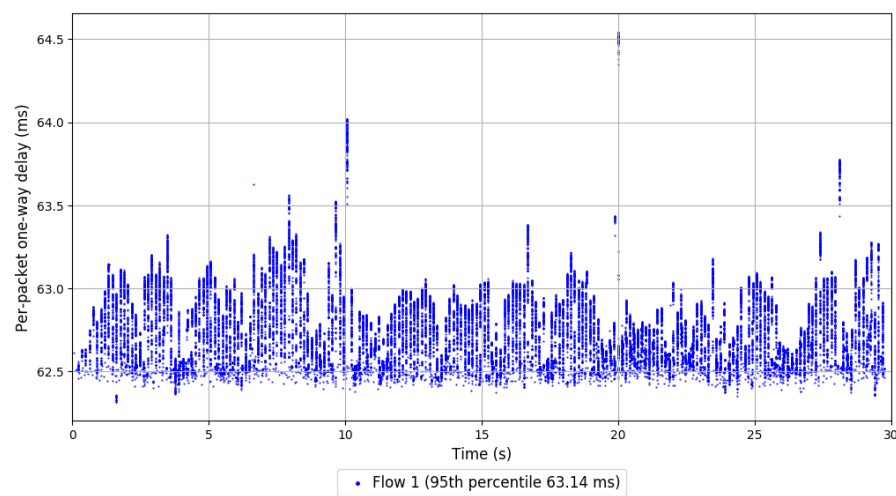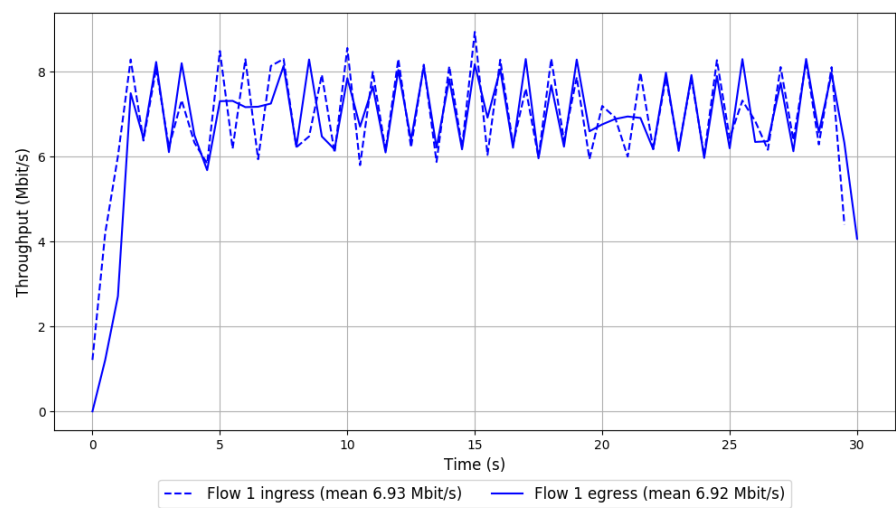Flow 1 (95th percentile 65.97 ms)

185

```
Run 1: Statistics of Sprout

Start at: 2019-07-18 04:15:40
End at: 2019-07-18 04:16:10
Local clock offset: 0.066 ms
Remote clock offset: -0.139 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 63.141 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 63.141 ms
Loss rate: 0.55%
```

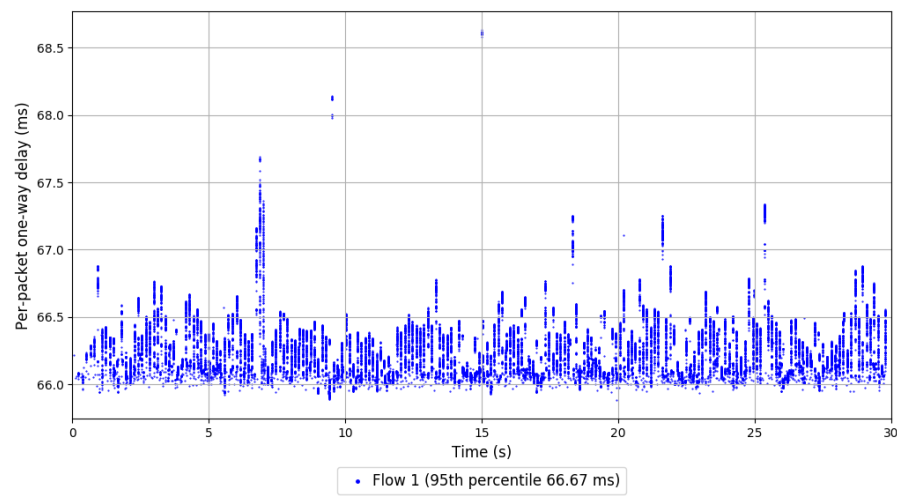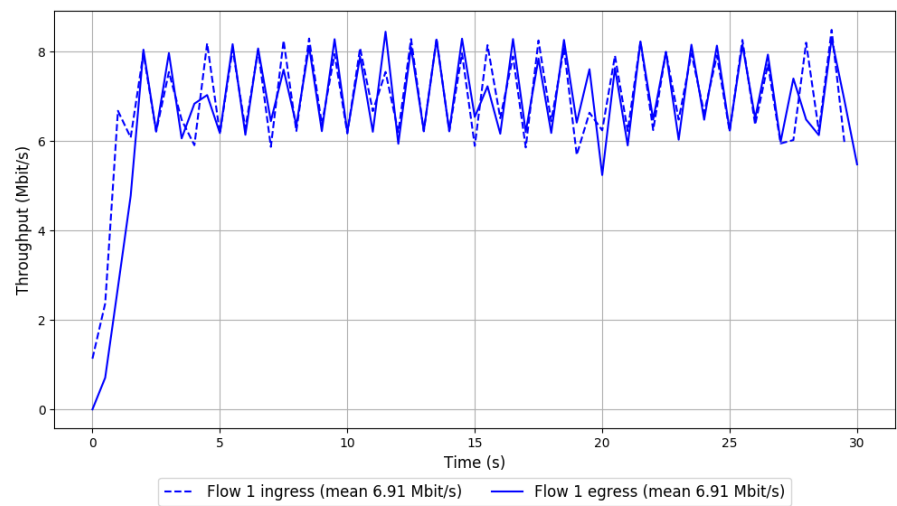Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-07-18 04:51:00
End at: 2019-07-18 04:51:30
Local clock offset: -0.016 ms
Remote clock offset: -0.549 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 66.666 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 66.666 ms
Loss rate: 0.50%
```

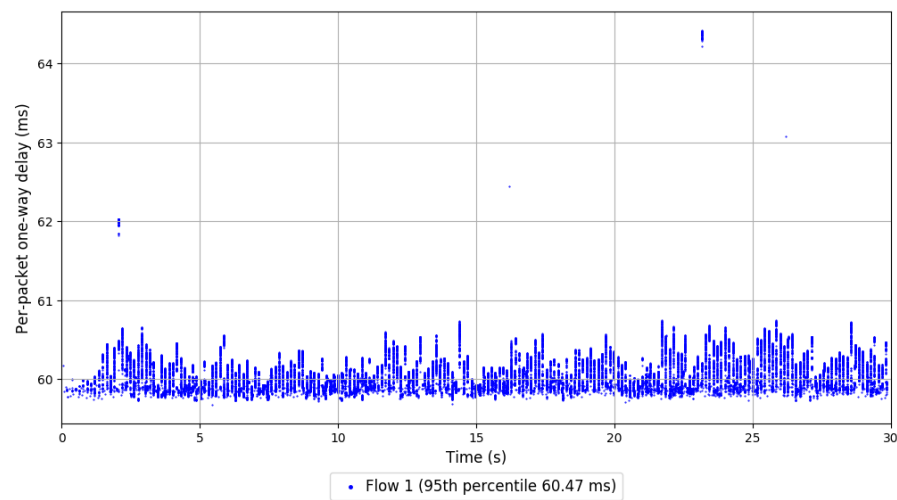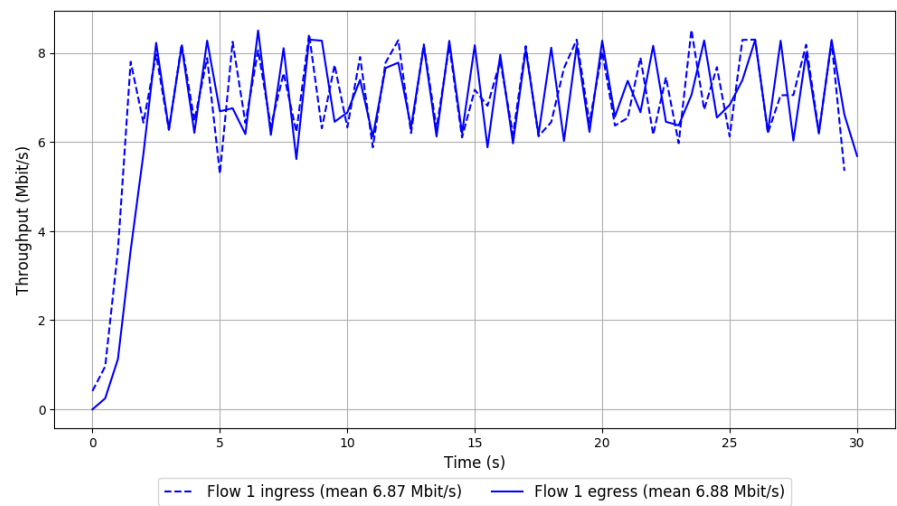## Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-07-18 05:26:10
End at: 2019-07-18 05:26:40
Local clock offset: -0.048 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 60.467 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 60.467 ms
Loss rate: 0.32%
```

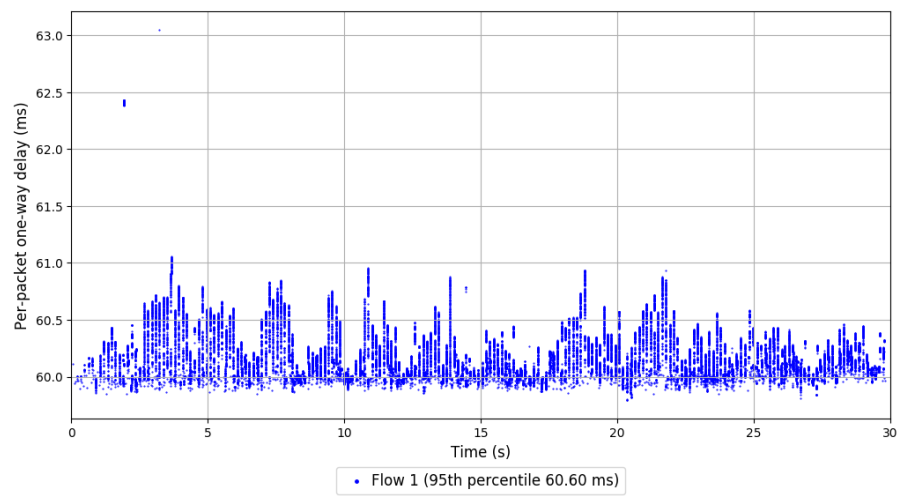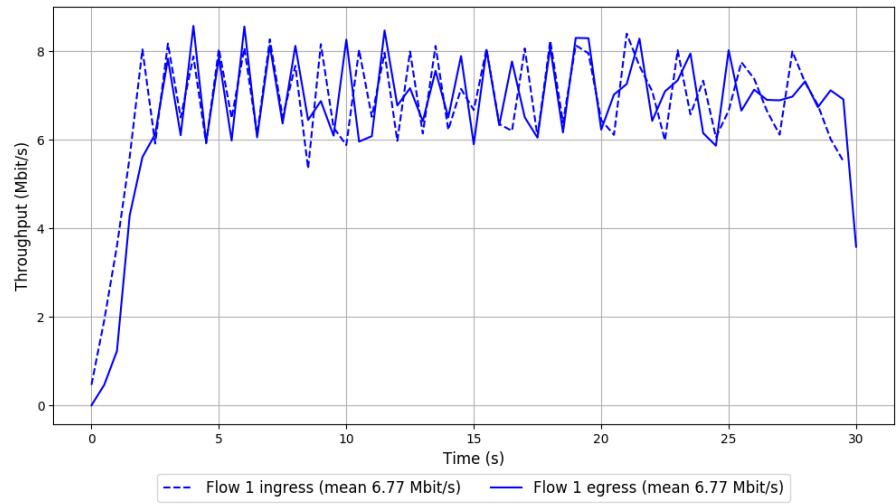## Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-07-18 06:01:21
End at: 2019-07-18 06:01:51
Local clock offset: -0.067 ms
Remote clock offset: -0.182 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 60.600 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 60.600 ms
Loss rate: 0.48%
```

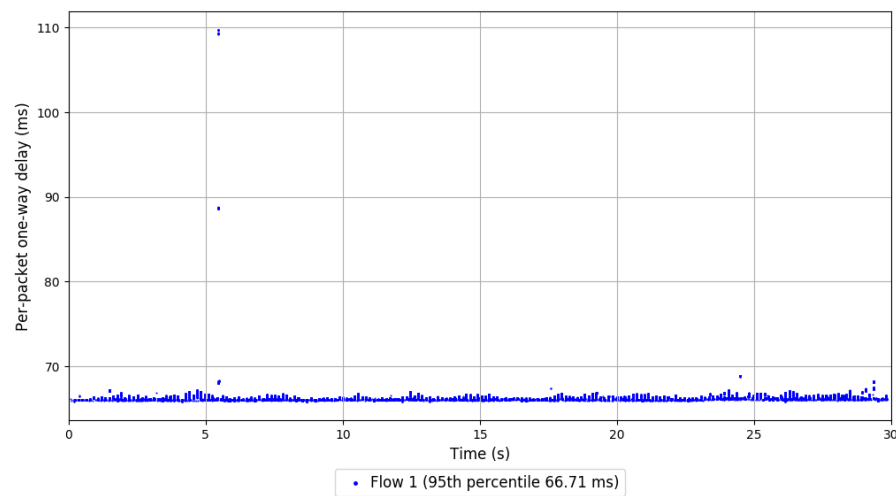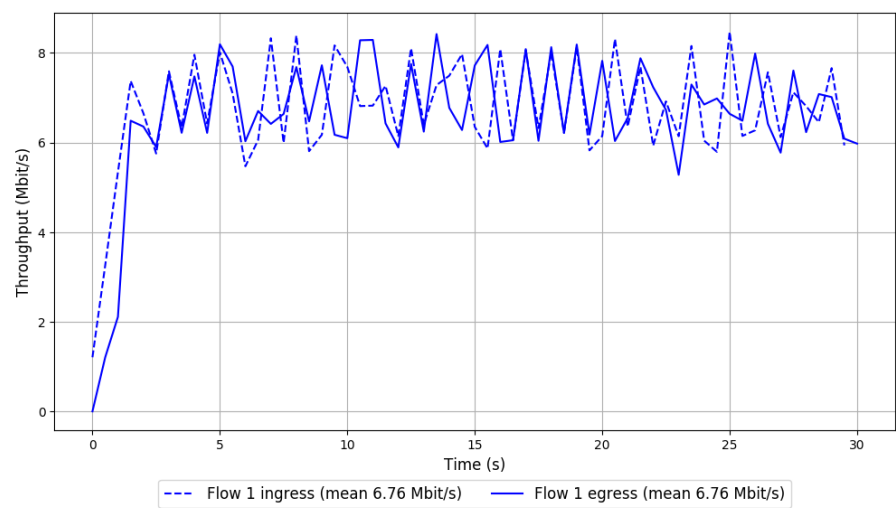## Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-07-18 06:36:47
End at: 2019-07-18 06:37:17
Local clock offset: -0.093 ms
Remote clock offset: -0.394 ms


# Below is generated by plot.py at 2019-07-18 08:39:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 66.709 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 66.709 ms
Loss rate: 0.47%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2019-07-18 03:56:13
End at: 2019-07-18 03:56:43
Local clock offset: 0.023 ms
Remote clock offset: -0.568 ms


# Below is generated by plot.py at 2019-07-18 08:44:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.33 Mbit/s
95th percentile per-packet one-way delay: 66.414 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 233.33 Mbit/s
95th percentile per-packet one-way delay: 66.414 ms
Loss rate: 0.43%
```
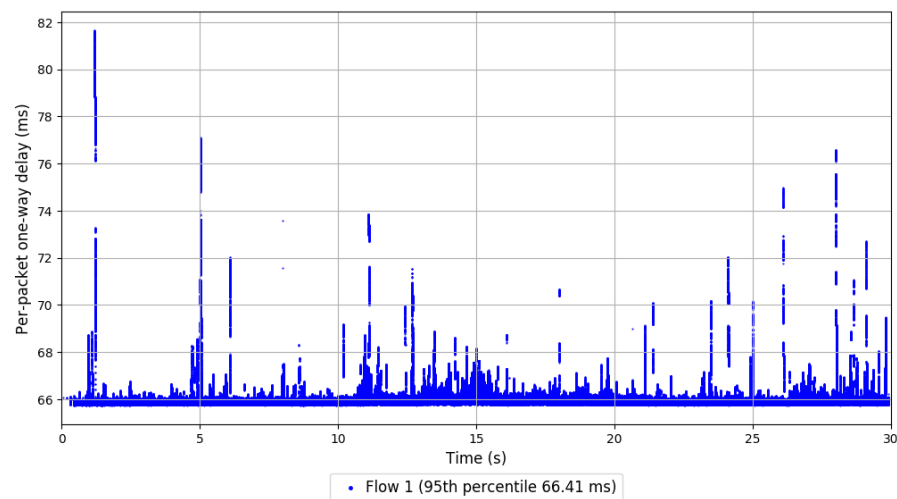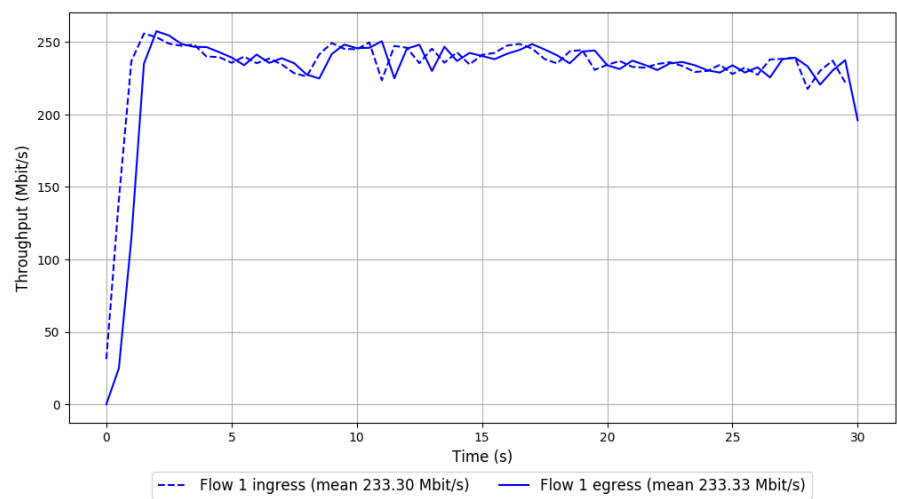
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 233.30 Mbit/s)   Flow 1 egress (mean 233.33 Mbit/s)

• Flow 1 (95th percentile 66.41 ms)

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

Start at: 2019-07-18 04:31:39
End at: 2019-07-18 04:32:09
Local clock offset: 0.05 ms
Remote clock offset: 0.275 ms


# Below is generated by plot.py at 2019-07-18 08:44:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 222.54 Mbit/s
95th percentile per-packet one-way delay: 65.704 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 222.54 Mbit/s
95th percentile per-packet one-way delay: 65.704 ms
Loss rate: 0.45%
```
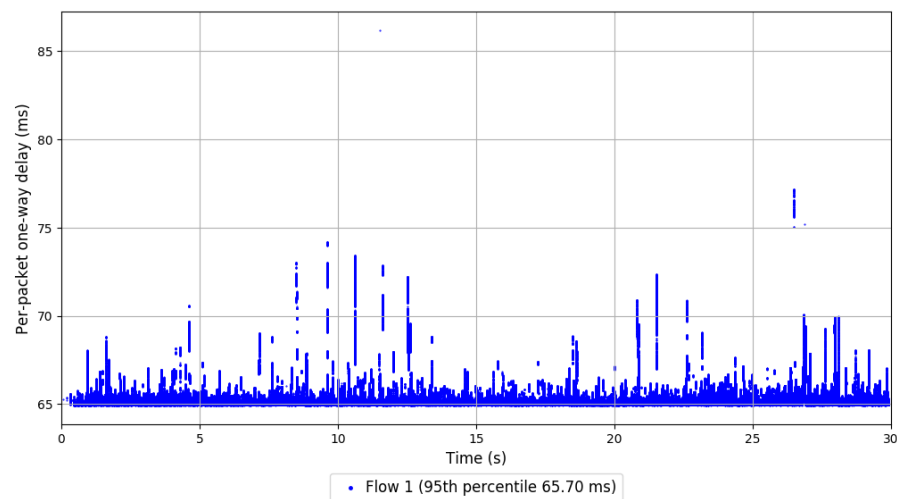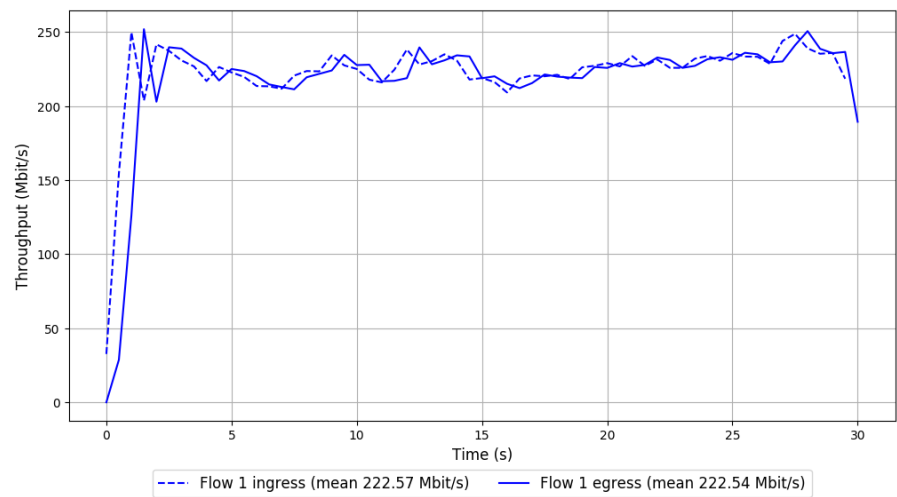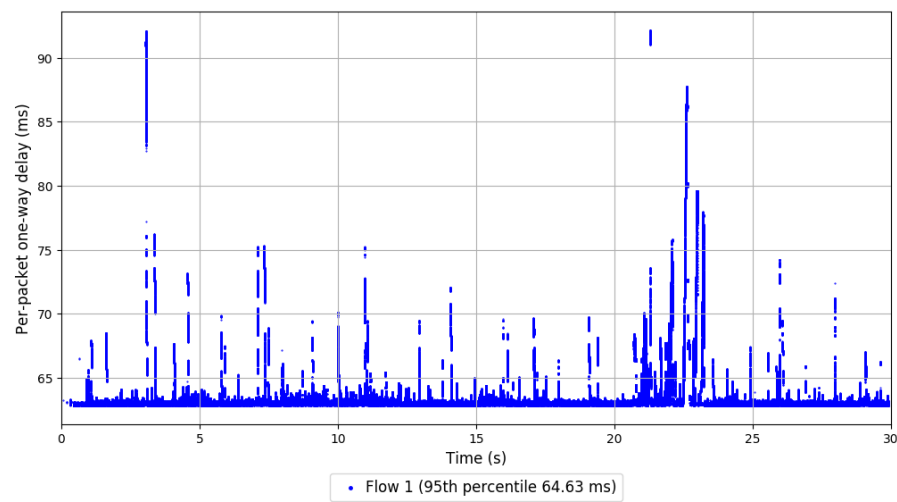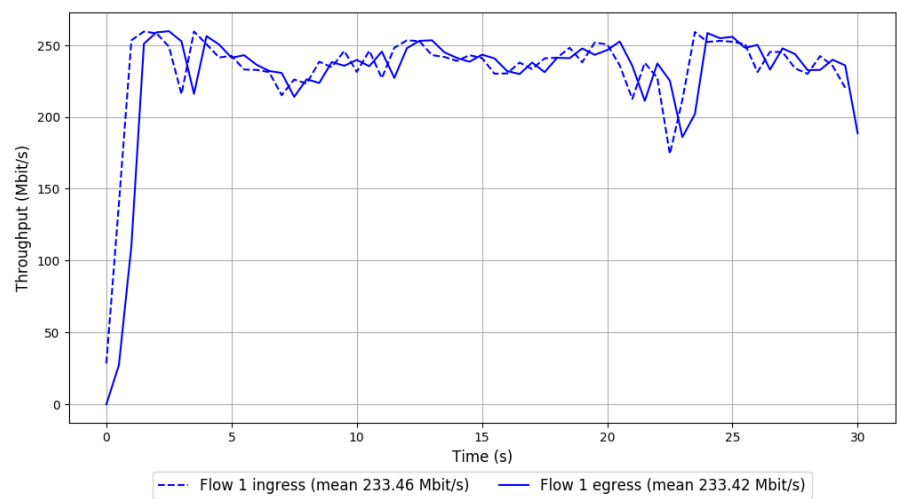
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-18 05:06:50
End at: 2019-07-18 05:07:20
Local clock offset: -0.011 ms
Remote clock offset: -0.684 ms


# Below is generated by plot.py at 2019-07-18 08:44:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.42 Mbit/s
95th percentile per-packet one-way delay: 64.629 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 233.42 Mbit/s
95th percentile per-packet one-way delay: 64.629 ms
Loss rate: 0.44%
```

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

Flow 1 ingress (mean 233.46 Mbit/s)   Flow 1 egress (mean 233.42 Mbit/s)

Flow 1 (95th percentile 64.63 ms)

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

Start at: 2019-07-18 05:42:11
End at: 2019-07-18 05:42:41
Local clock offset: -0.05 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2019-07-18 08:44:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 236.45 Mbit/s
95th percentile per-packet one-way delay: 63.075 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 236.45 Mbit/s
95th percentile per-packet one-way delay: 63.075 ms
Loss rate: 0.45%
```
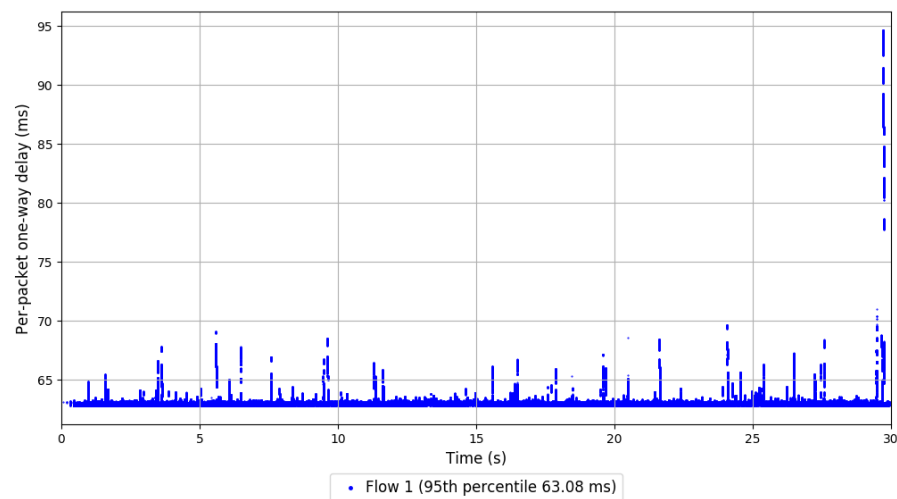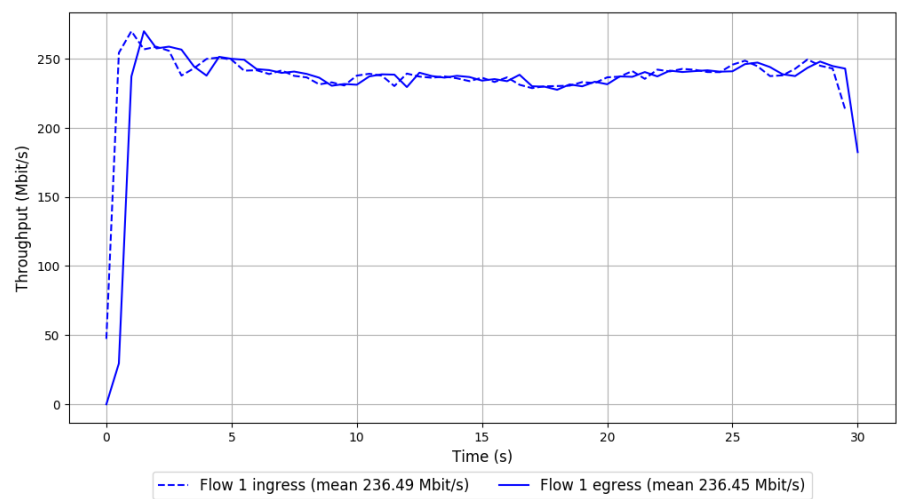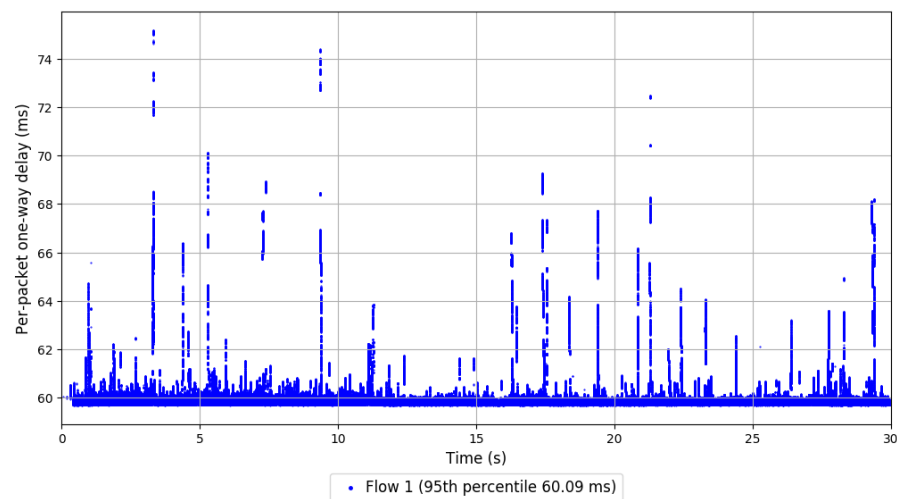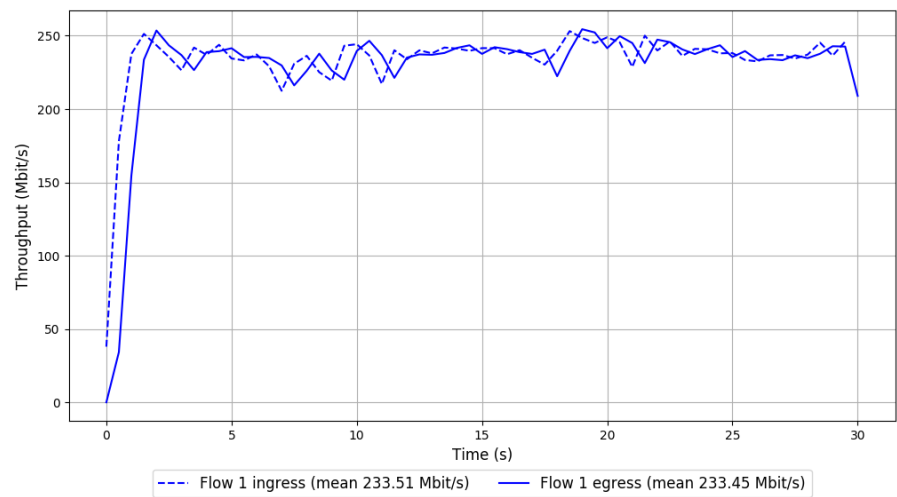
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-18 06:17:19
End at: 2019-07-18 06:17:49
Local clock offset: -0.096 ms
Remote clock offset: -0.189 ms


# Below is generated by plot.py at 2019-07-18 08:44:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.45 Mbit/s
95th percentile per-packet one-way delay: 60.086 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 233.45 Mbit/s
95th percentile per-packet one-way delay: 60.086 ms
Loss rate: 0.44%
```

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

```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-18 04:09:41
End at: 2019-07-18 04:10:11
Local clock offset: 0.03 ms
Remote clock offset: -0.69 ms


# Below is generated by plot.py at 2019-07-18 08:46:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 433.61 Mbit/s
95th percentile per-packet one-way delay: 66.994 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 433.61 Mbit/s
95th percentile per-packet one-way delay: 66.994 ms
Loss rate: 0.45%
```
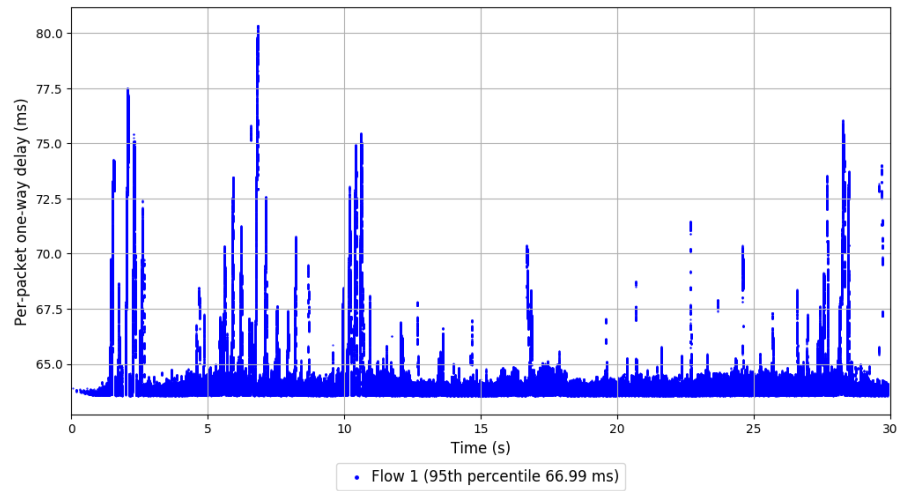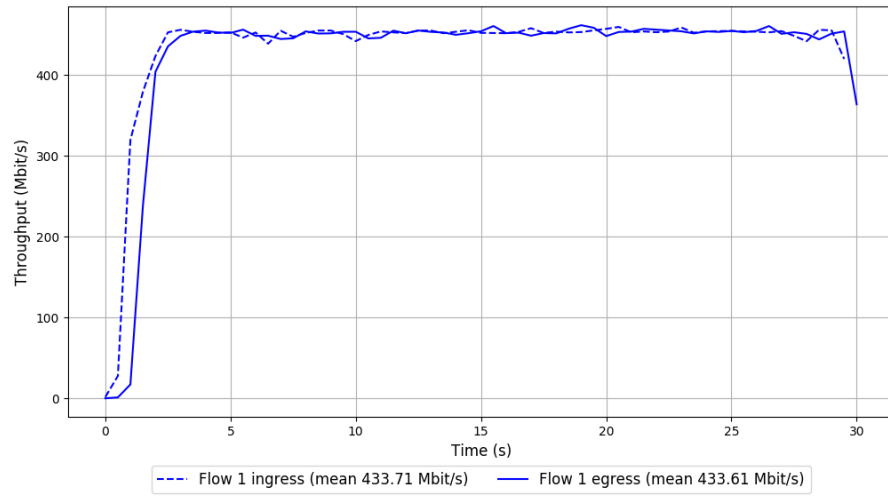
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-18 04:45:04
End at: 2019-07-18 04:45:34
Local clock offset: -0.015 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2019-07-18 08:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 397.11 Mbit/s
95th percentile per-packet one-way delay: 65.287 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 397.11 Mbit/s
95th percentile per-packet one-way delay: 65.287 ms
Loss rate: 0.25%
```
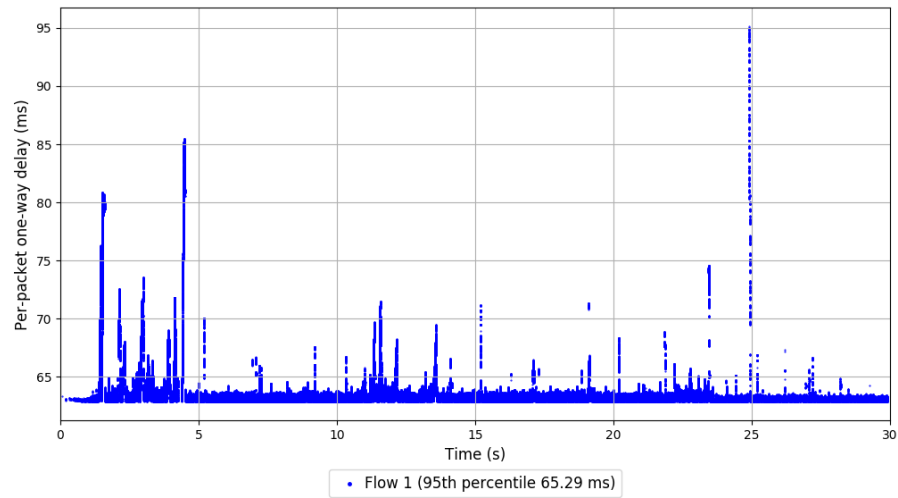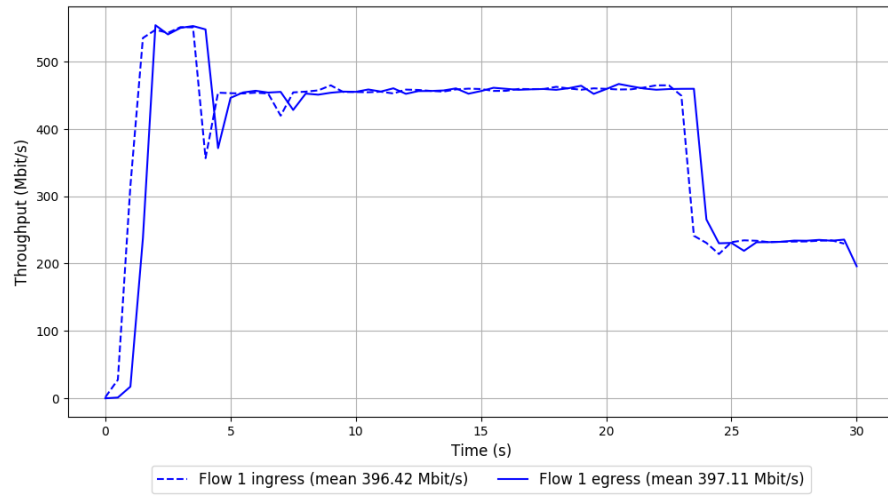
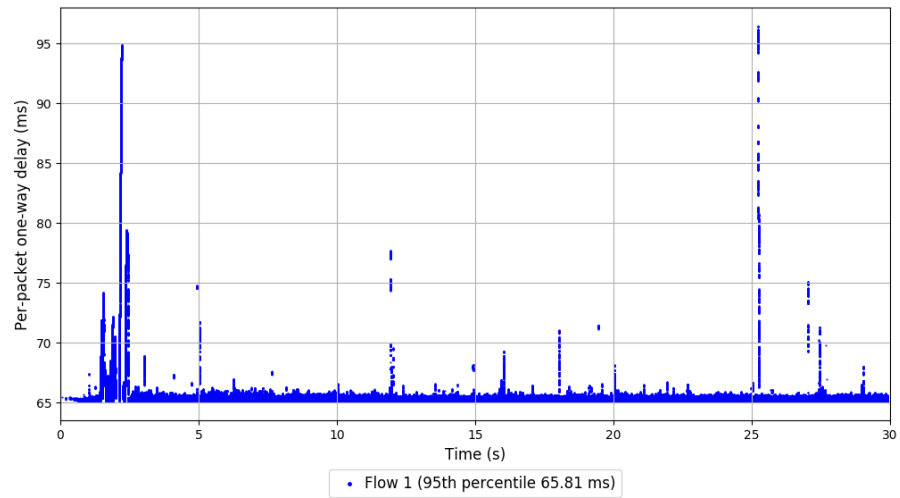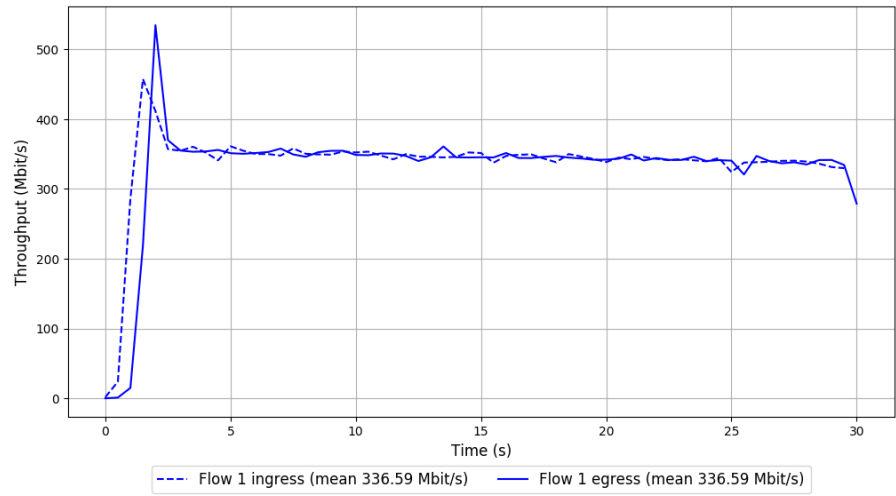Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-18 05:20:16
End at: 2019-07-18 05:20:46
Local clock offset: -0.045 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2019-07-18 08:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 336.59 Mbit/s
95th percentile per-packet one-way delay: 65.805 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 336.59 Mbit/s
95th percentile per-packet one-way delay: 65.805 ms
Loss rate: 0.44%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 336.59 Mbit/s) — — — Flow 1 egress (mean 336.59 Mbit/s)
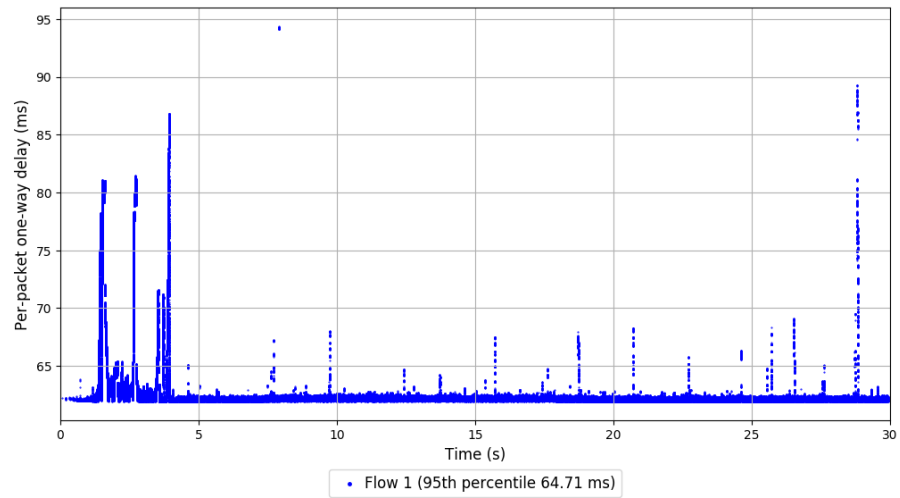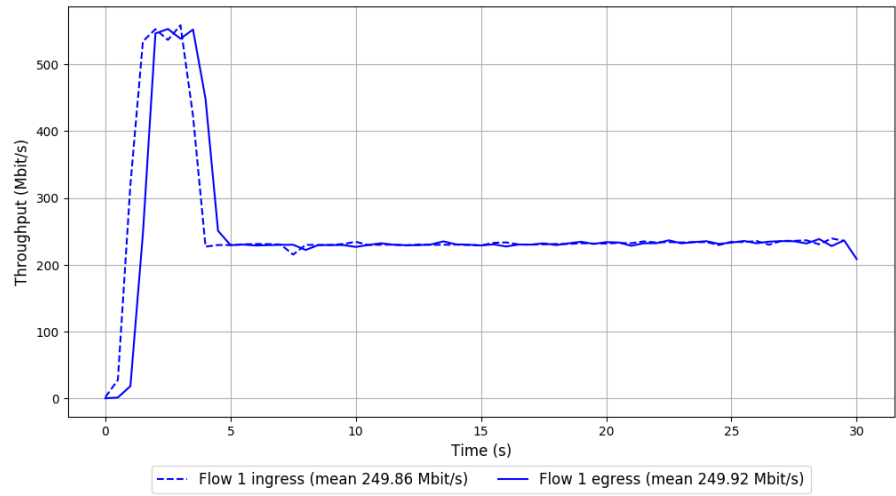

Flow 1 (95th percentile 65.81 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-18 05:55:33
End at: 2019-07-18 05:56:03
Local clock offset: -0.056 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-07-18 08:48:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 249.92 Mbit/s
95th percentile per-packet one-way delay: 64.712 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 249.92 Mbit/s
95th percentile per-packet one-way delay: 64.712 ms
Loss rate: 0.40%
```

Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 249.86 Mbit/s) —— Flow 1 egress (mean 249.92 Mbit/s)
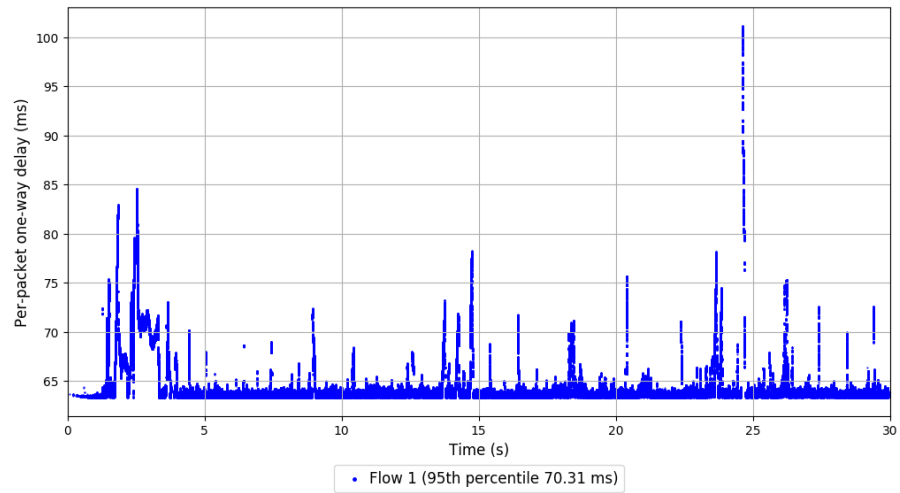
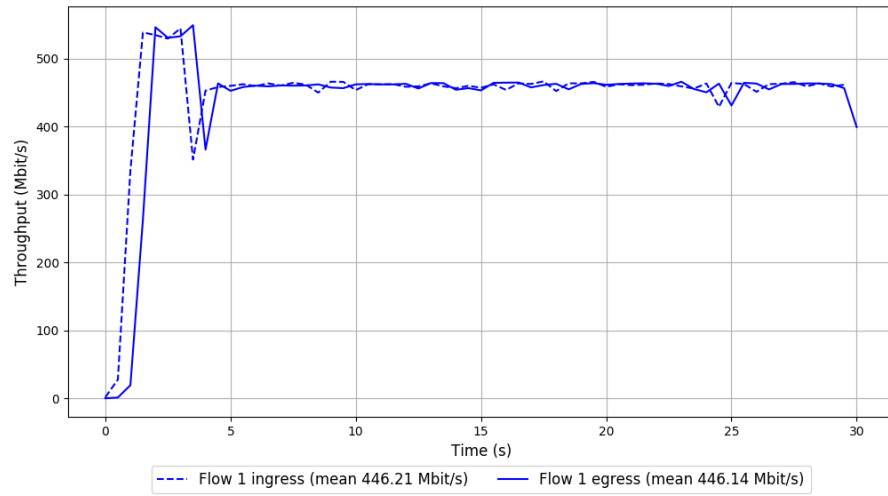

• Flow 1 (95th percentile 64.71 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-18 06:30:46
End at: 2019-07-18 06:31:16
Local clock offset: -0.075 ms
Remote clock offset: -0.176 ms


# Below is generated by plot.py at 2019-07-18 08:52:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 446.14 Mbit/s
95th percentile per-packet one-way delay: 70.313 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 446.14 Mbit/s
95th percentile per-packet one-way delay: 70.313 ms
Loss rate: 0.44%
```

Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 446.21 Mbit/s)   Flow 1 egress (mean 446.14 Mbit/s)
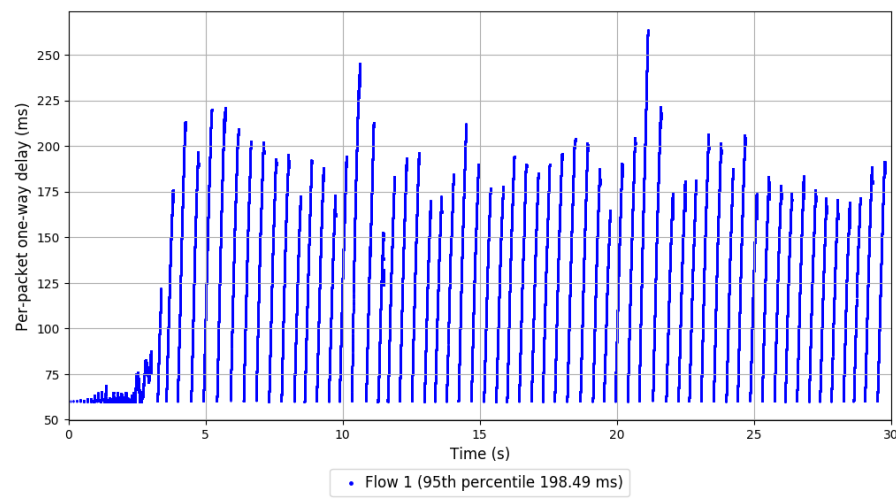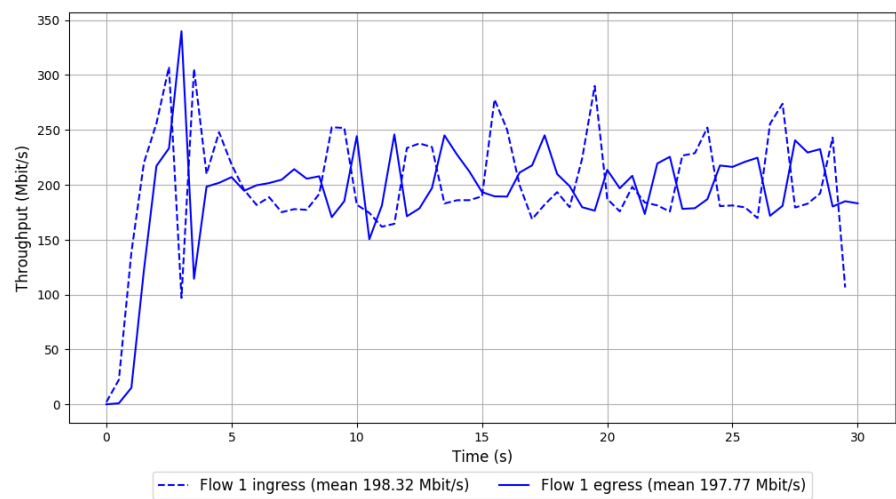

Flow 1 (95th percentile 70.31 ms)

```
Run 1: Statistics of Verus

Start at: 2019-07-18 03:52:15
End at: 2019-07-18 03:52:45
Local clock offset: -0.029 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-07-18 08:52:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 197.77 Mbit/s
95th percentile per-packet one-way delay: 198.490 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 197.77 Mbit/s
95th percentile per-packet one-way delay: 198.490 ms
Loss rate: 0.91%
```
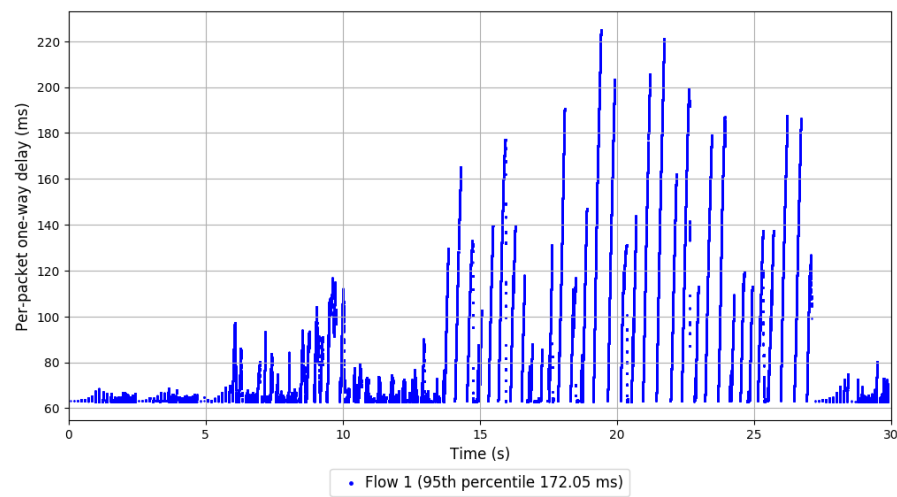
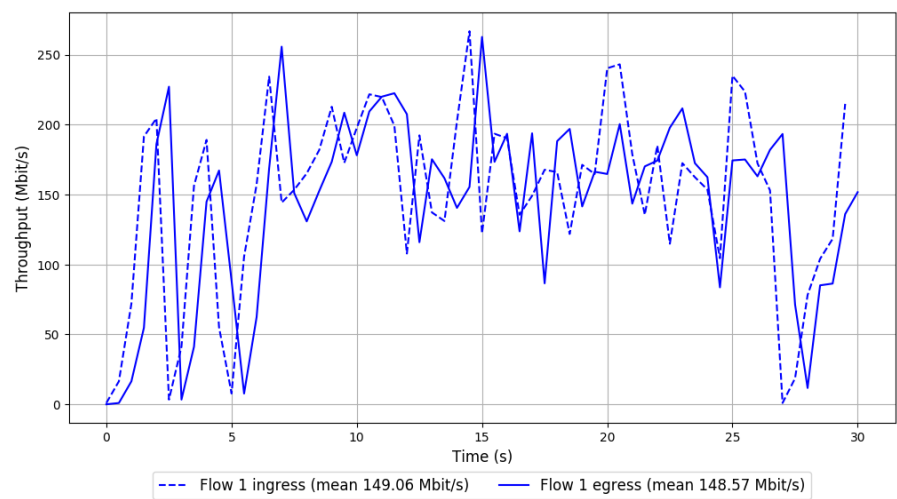Run 1: Report of Verus — Data Link

217

```
Run 2: Statistics of Verus

Start at: 2019-07-18 04:27:37
End at: 2019-07-18 04:28:07
Local clock offset: 0.083 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2019-07-18 08:52:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 148.57 Mbit/s
95th percentile per-packet one-way delay: 172.050 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 148.57 Mbit/s
95th percentile per-packet one-way delay: 172.050 ms
Loss rate: 0.76%
```

Run 2: Report of Verus — Data Link
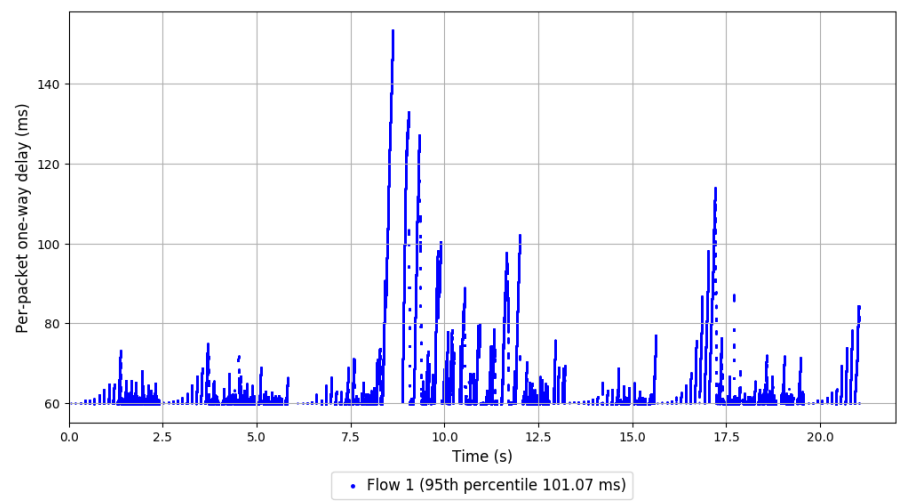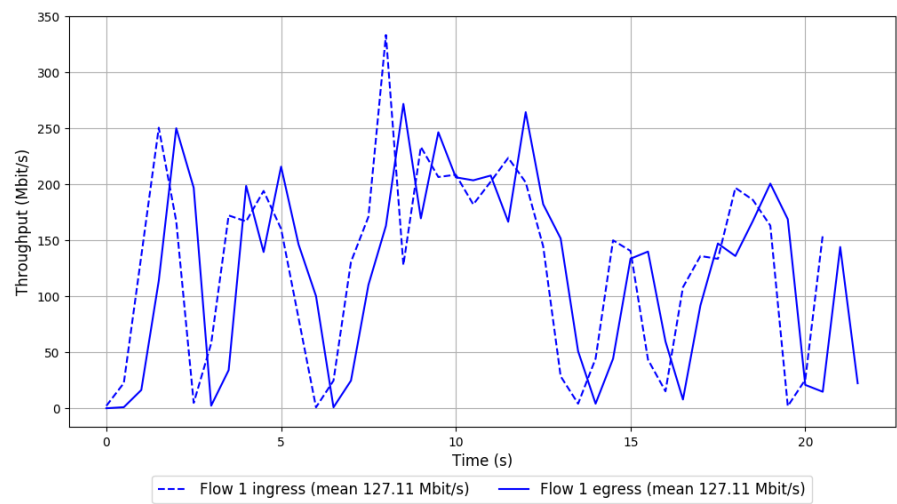
```
Run 3: Statistics of Verus

Start at: 2019-07-18 05:02:53
End at: 2019-07-18 05:03:23
Local clock offset: 0.008 ms
Remote clock offset: -0.159 ms
```
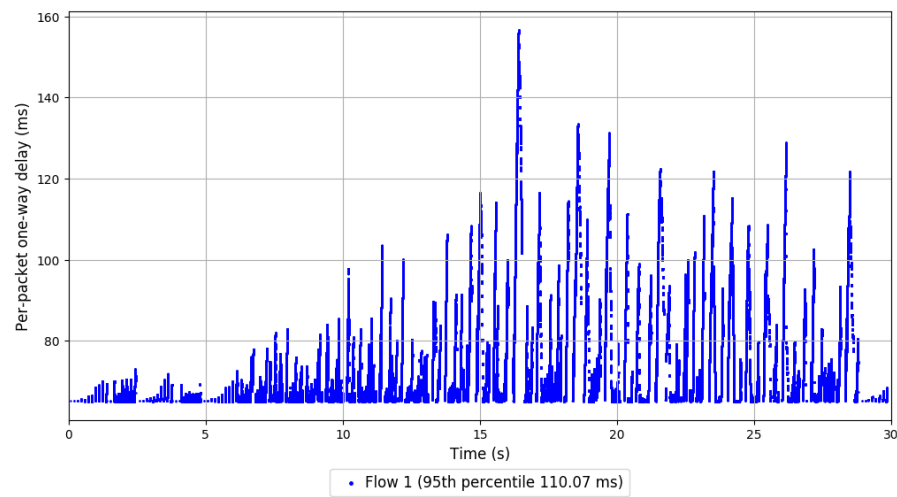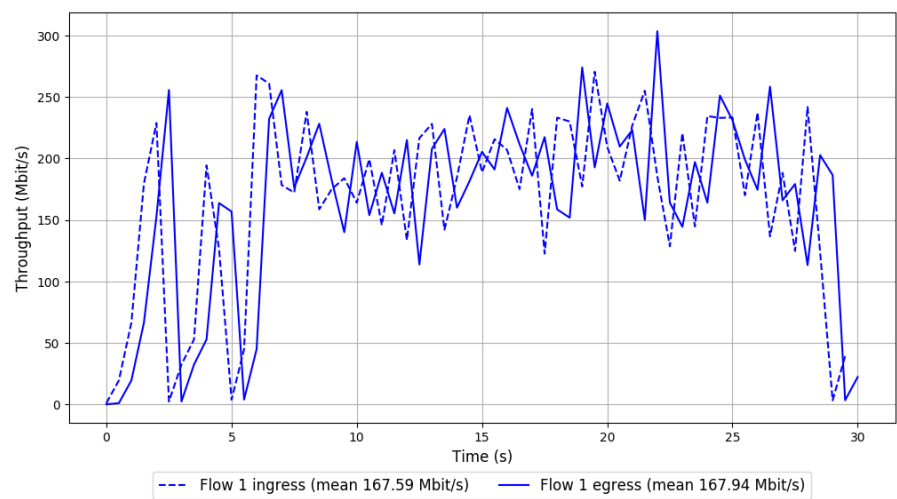
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-07-18 05:38:07
End at: 2019-07-18 05:38:37
Local clock offset: -0.065 ms
Remote clock offset: -0.102 ms


# Below is generated by plot.py at 2019-07-18 08:52:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 167.94 Mbit/s
95th percentile per-packet one-way delay: 110.069 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 167.94 Mbit/s
95th percentile per-packet one-way delay: 110.069 ms
Loss rate: 0.24%
```

Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 167.59 Mbit/s) — — —   Flow 1 egress (mean 167.94 Mbit/s) ————

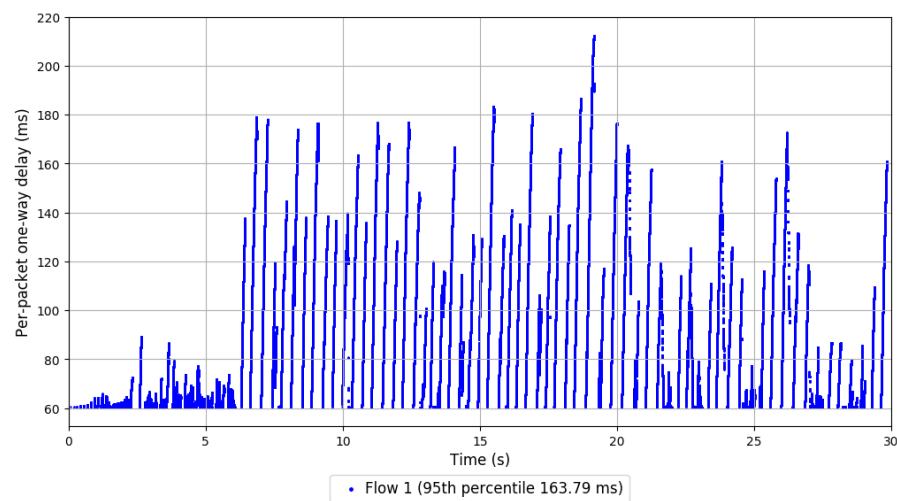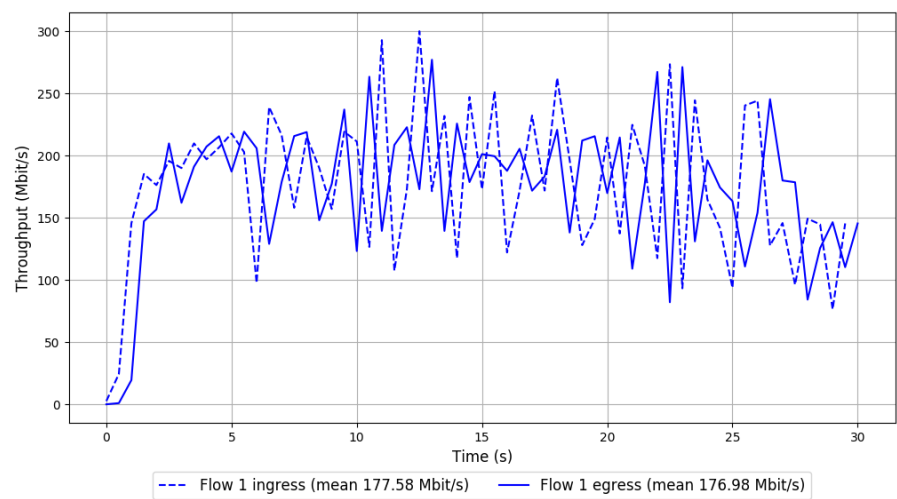
• Flow 1 (95th percentile 110.07 ms)

```
Run 5: Statistics of Verus

Start at: 2019-07-18 06:13:15
End at: 2019-07-18 06:13:45
Local clock offset: -0.042 ms
Remote clock offset: -0.133 ms


# Below is generated by plot.py at 2019-07-18 08:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.98 Mbit/s
95th percentile per-packet one-way delay: 163.789 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 176.98 Mbit/s
95th percentile per-packet one-way delay: 163.789 ms
Loss rate: 0.00%
```
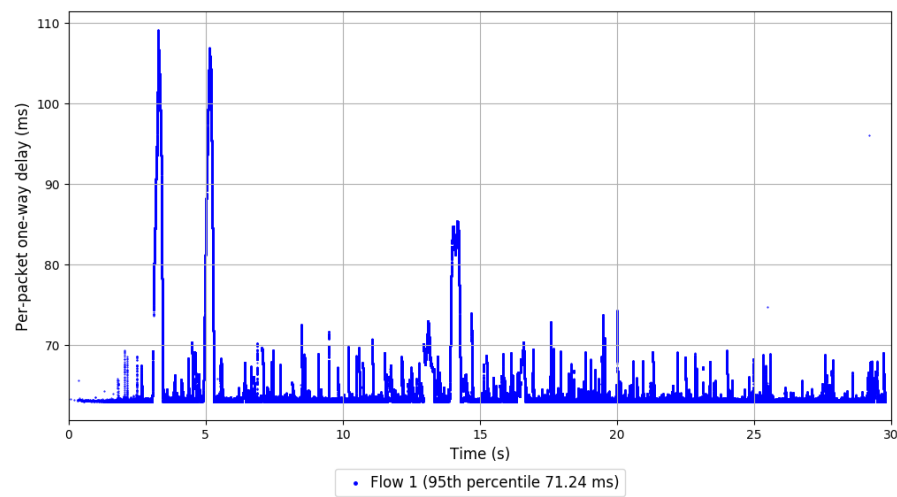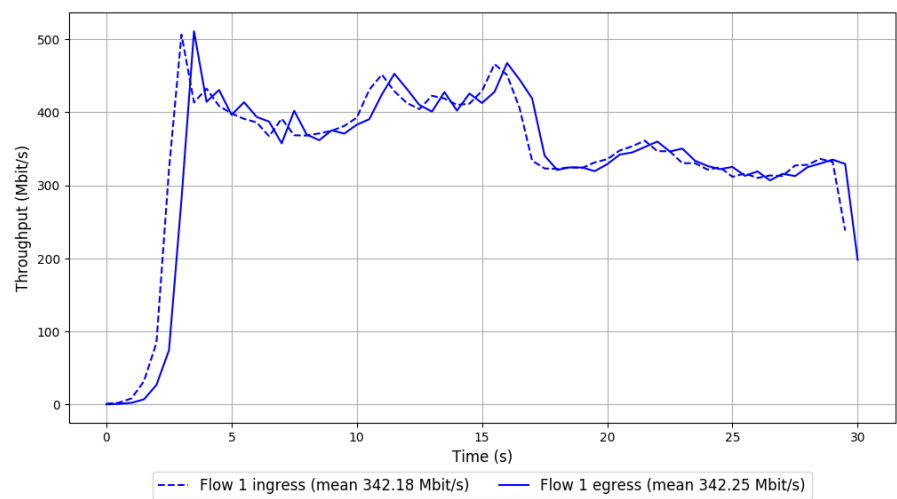
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-18 03:59:18
End at: 2019-07-18 03:59:48
Local clock offset: -0.003 ms
Remote clock offset: -0.194 ms


# Below is generated by plot.py at 2019-07-18 08:53:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 342.25 Mbit/s
95th percentile per-packet one-way delay: 71.238 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 342.25 Mbit/s
95th percentile per-packet one-way delay: 71.238 ms
Loss rate: 0.41%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 342.18 Mbit/s)   Flow 1 egress (mean 342.25 Mbit/s)

Flow 1 (95th percentile 71.24 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-18 04:34:42
End at: 2019-07-18 04:35:12
Local clock offset: 0.037 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2019-07-18 08:53:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 315.11 Mbit/s
95th percentile per-packet one-way delay: 68.122 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 315.11 Mbit/s
95th percentile per-packet one-way delay: 68.122 ms
Loss rate: 0.59%
```
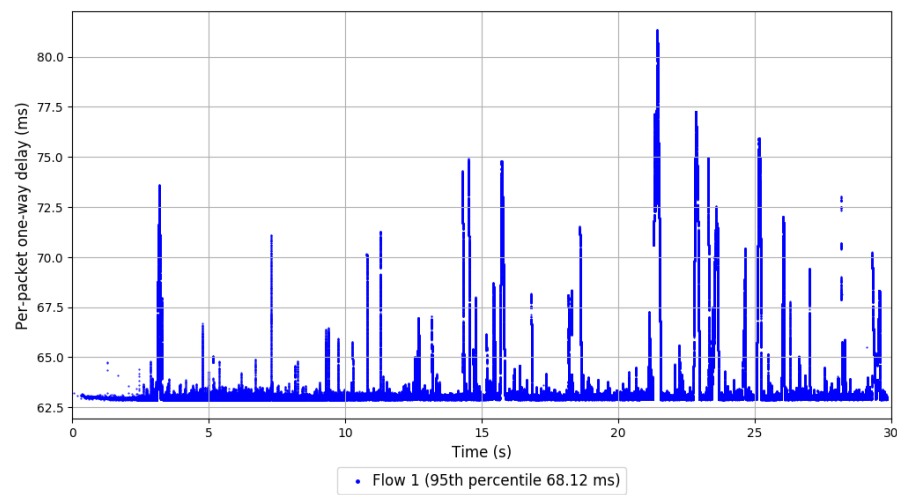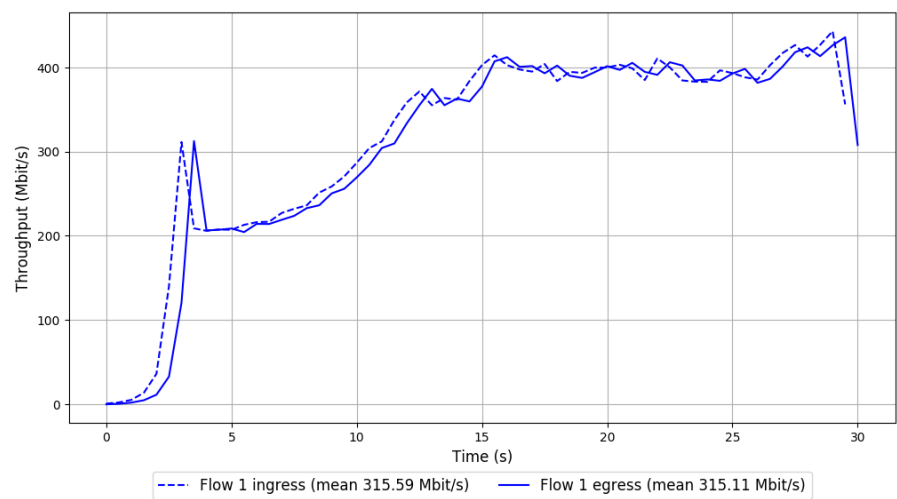
Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 315.59 Mbit/s) ----   Flow 1 egress (mean 315.11 Mbit/s) ——

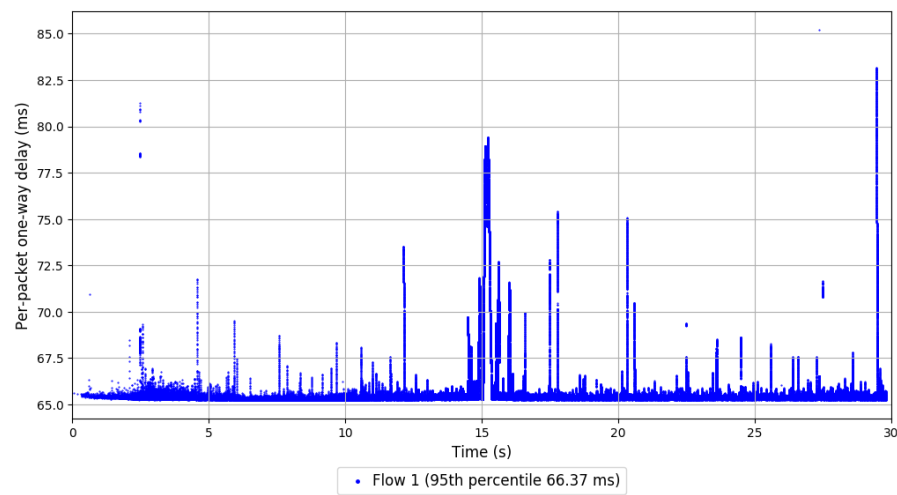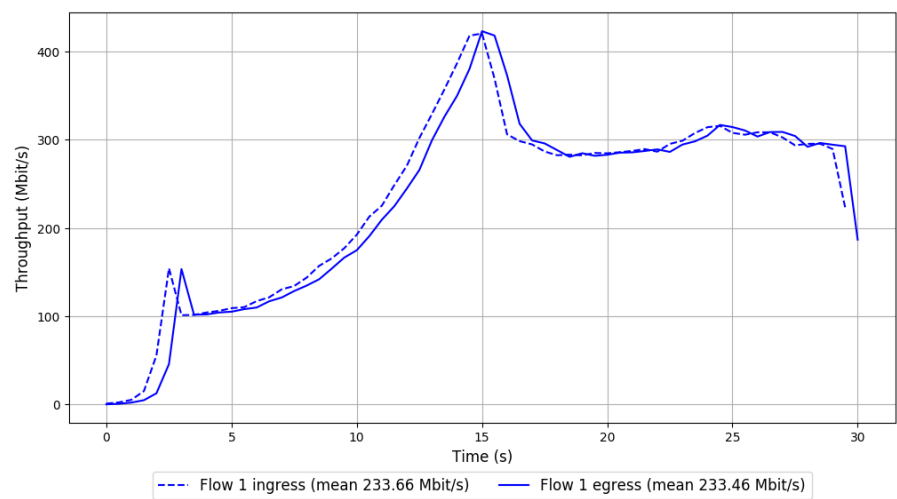· Flow 1 (95th percentile 68.12 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-18 05:09:53
End at: 2019-07-18 05:10:23
Local clock offset: -0.021 ms
Remote clock offset: -0.129 ms


# Below is generated by plot.py at 2019-07-18 08:53:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.46 Mbit/s
95th percentile per-packet one-way delay: 66.373 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 233.46 Mbit/s
95th percentile per-packet one-way delay: 66.373 ms
Loss rate: 0.53%
```

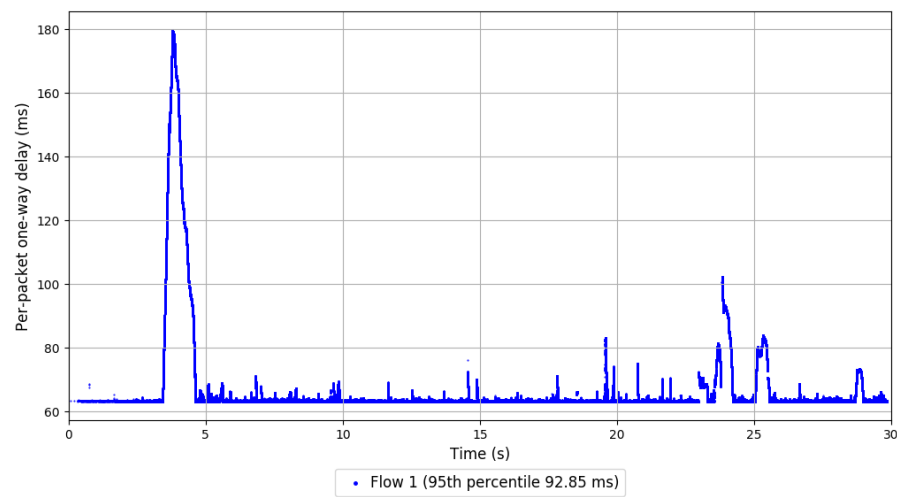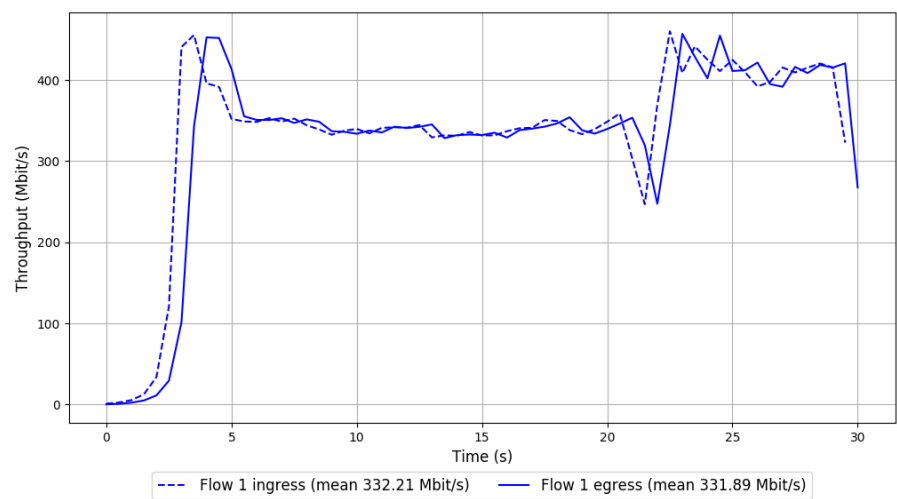## Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-18 05:45:17
End at: 2019-07-18 05:45:47
Local clock offset: -0.054 ms
Remote clock offset: -0.152 ms

# Below is generated by plot.py at 2019-07-18 08:53:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 331.89 Mbit/s
95th percentile per-packet one-way delay: 92.847 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 331.89 Mbit/s
95th percentile per-packet one-way delay: 92.847 ms
Loss rate: 0.53%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 332.21 Mbit/s) —— Flow 1 egress (mean 331.89 Mbit/s)
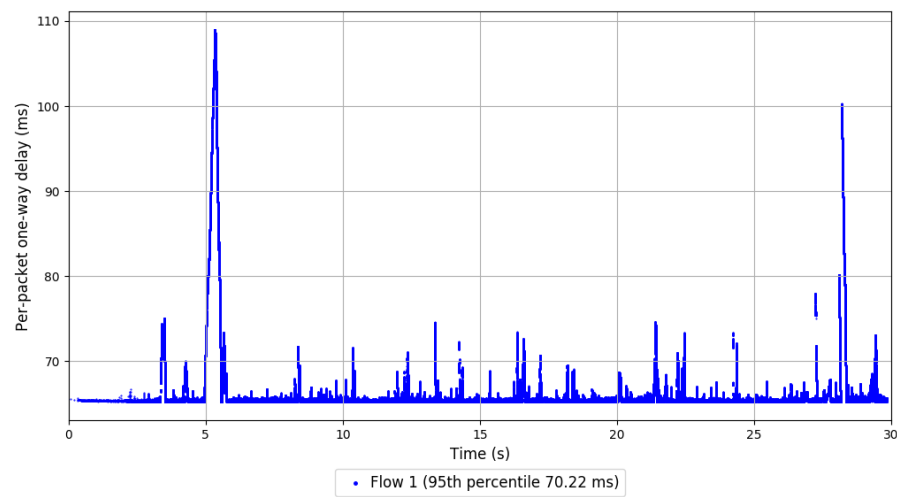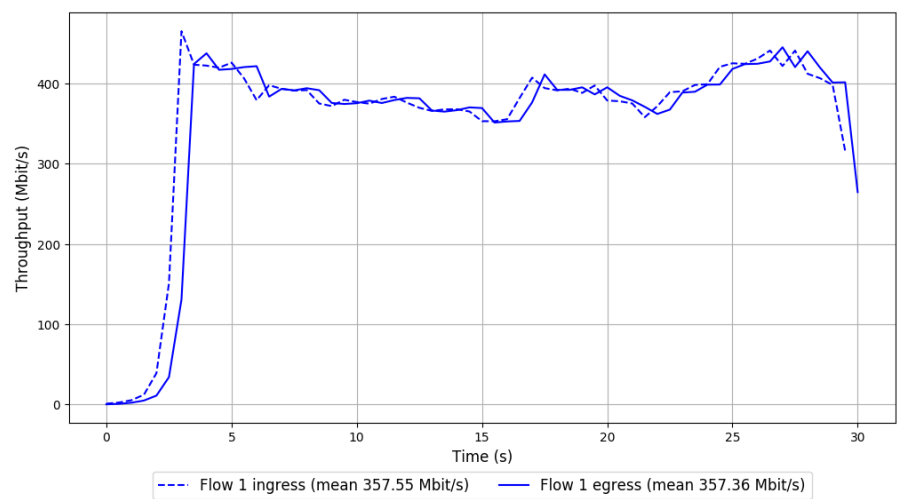

Flow 1 (95th percentile 92.85 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-18 06:20:23
End at: 2019-07-18 06:20:53
Local clock offset: -0.085 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-07-18 08:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.36 Mbit/s
95th percentile per-packet one-way delay: 70.224 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 357.36 Mbit/s
95th percentile per-packet one-way delay: 70.224 ms
Loss rate: 0.48%
```

Run 5: Report of PCC-Vivace — Data Link
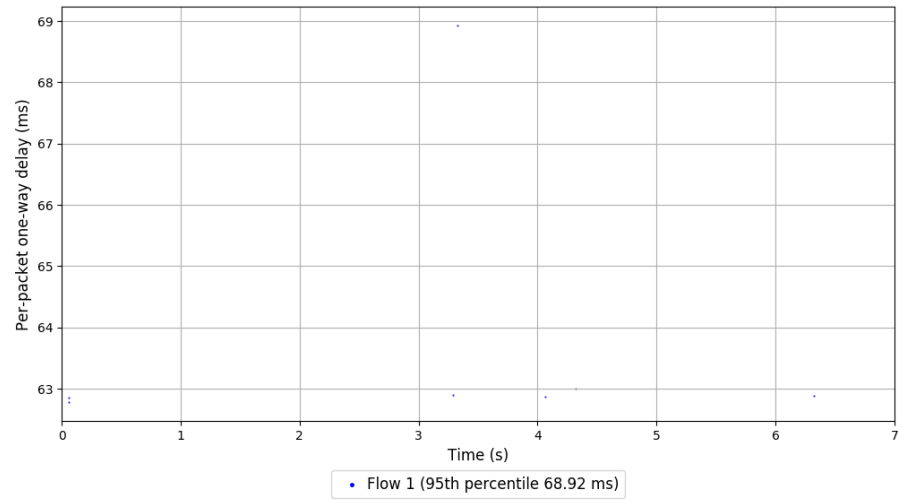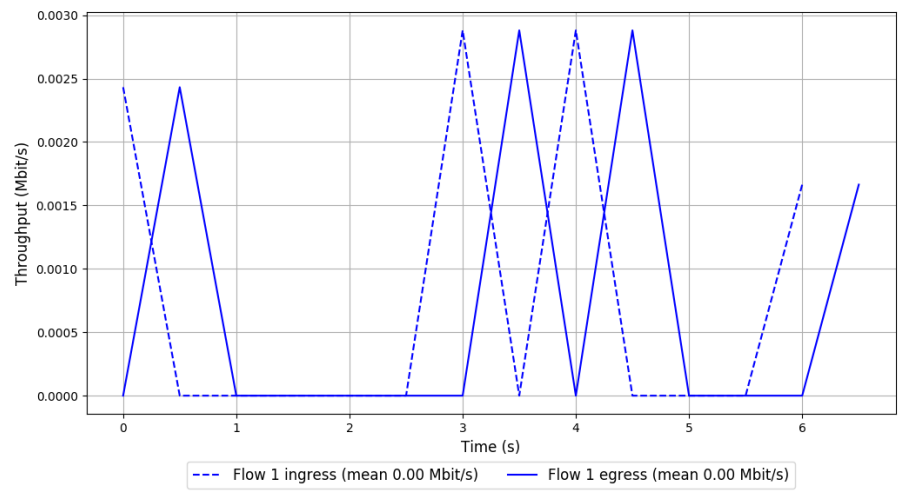
Run 1: Statistics of WebRTC media

Start at: 2019-07-18 04:18:25
End at: 2019-07-18 04:18:55
Local clock offset: 0.05 ms
Remote clock offset: 0.065 ms

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-07-18 04:53:42
End at: 2019-07-18 04:54:12
Local clock offset: 0.01 ms
Remote clock offset: 0.067 ms


# Below is generated by plot.py at 2019-07-18 08:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.132 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-07-18 05:28:57
End at: 2019-07-18 05:29:27
Local clock offset: -0.049 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2019-07-18 08:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 60.332 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 60.332 ms
Loss rate: 0.00%
```
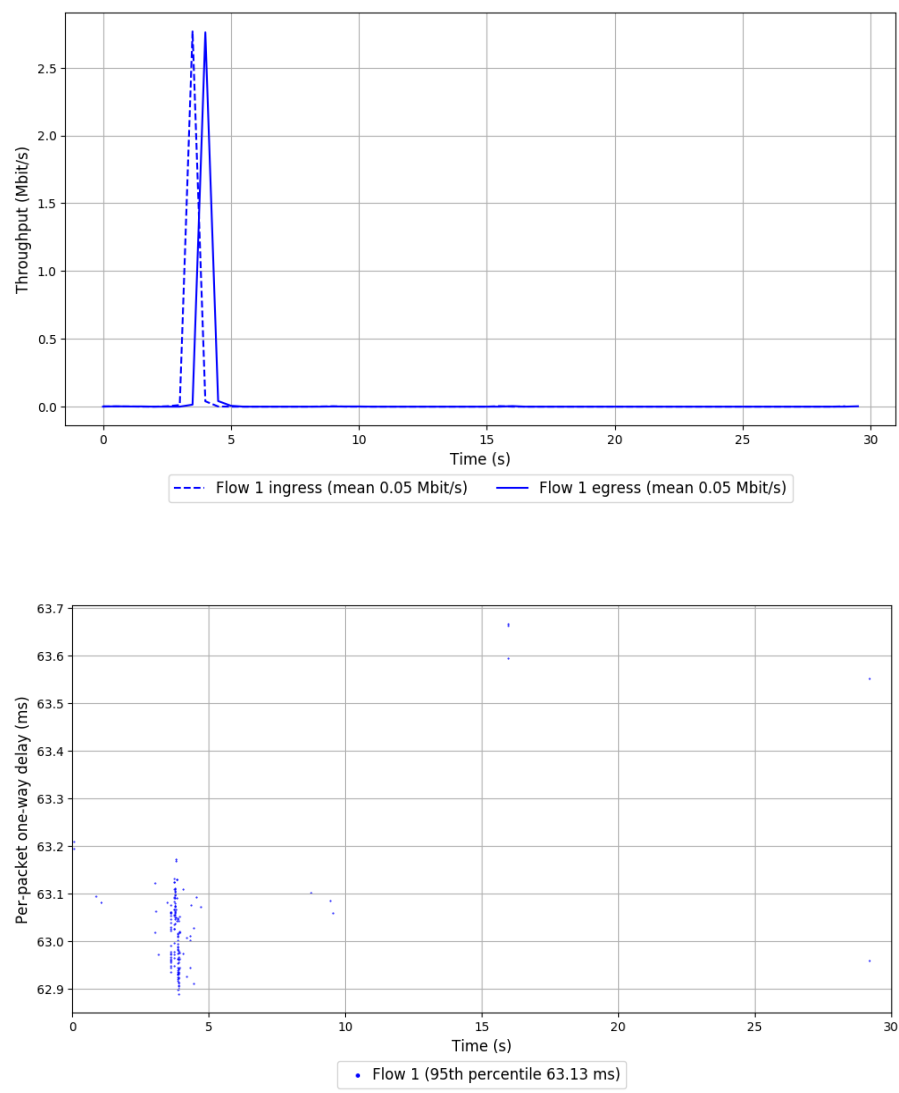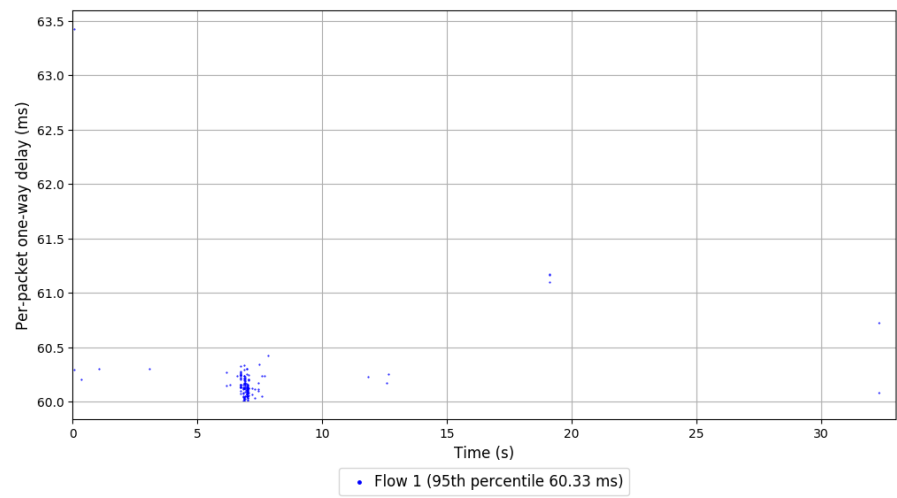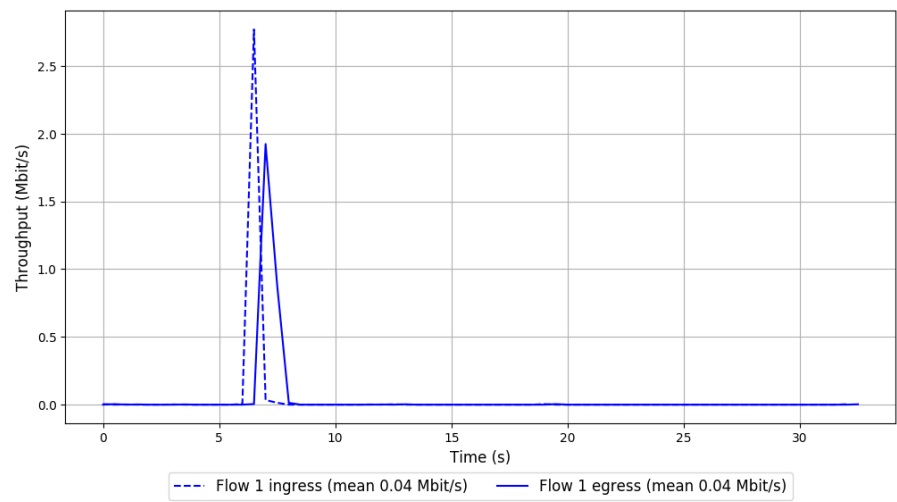
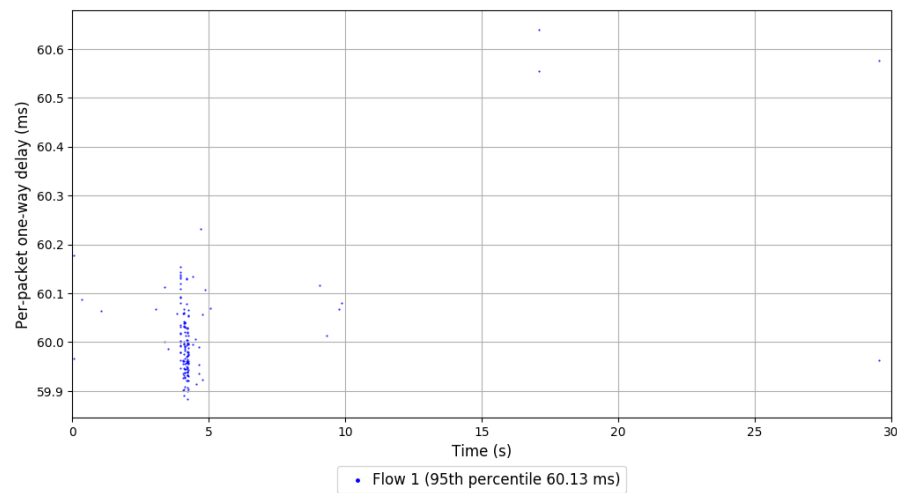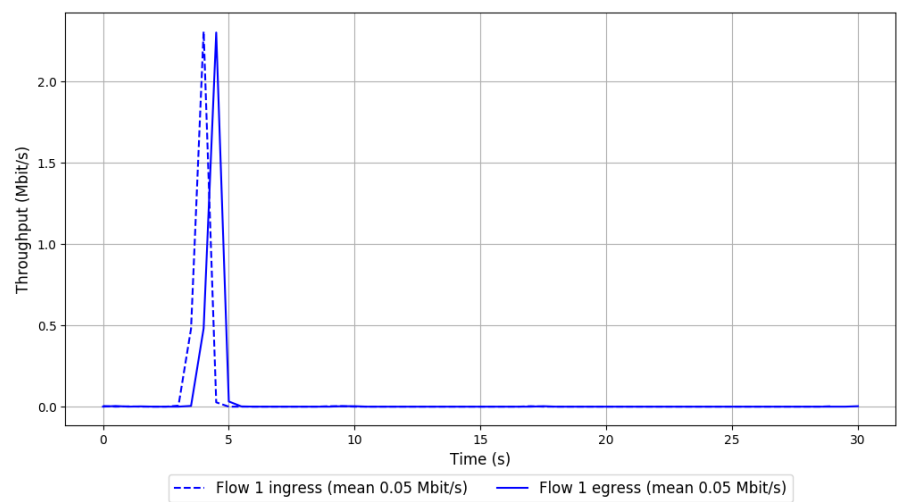Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-07-18 06:04:06
End at: 2019-07-18 06:04:36
Local clock offset: -0.046 ms
Remote clock offset: -0.171 ms


# Below is generated by plot.py at 2019-07-18 08:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.135 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.05 Mbit/s)   Flow 1 egress (mean 0.05 Mbit/s)

Flow 1 (95th percentile 60.13 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2019-07-18 06:39:31
End at: 2019-07-18 06:40:01
Local clock offset: -0.103 ms
Remote clock offset: 0.502 ms


# Below is generated by plot.py at 2019-07-18 08:53:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.928 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link