Pantheon Report

Generated at 2019-06-28 08:46:34 (UTC).

Data path: GCE London on ens4 (*remote*) →GCE Sydney on ens4 (*local*).

Repeated the test of 22 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.
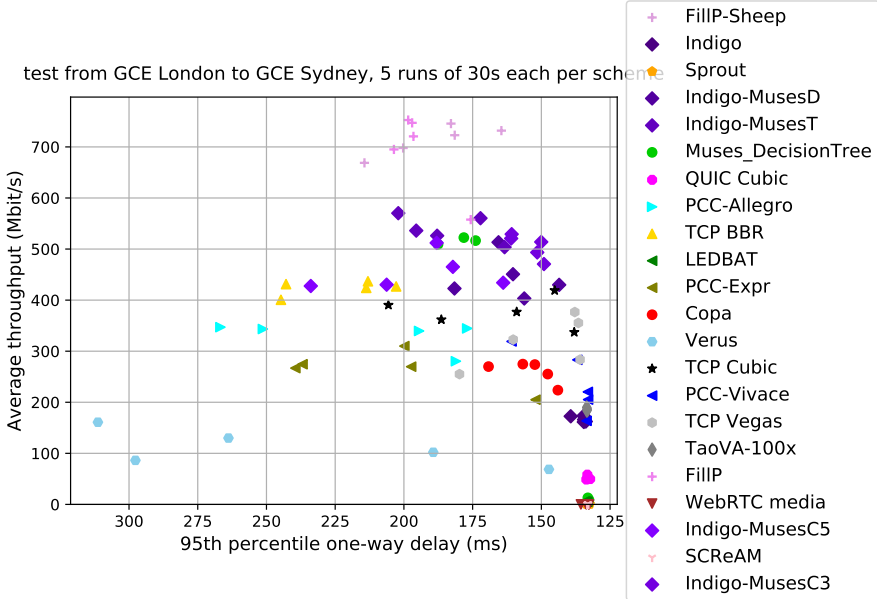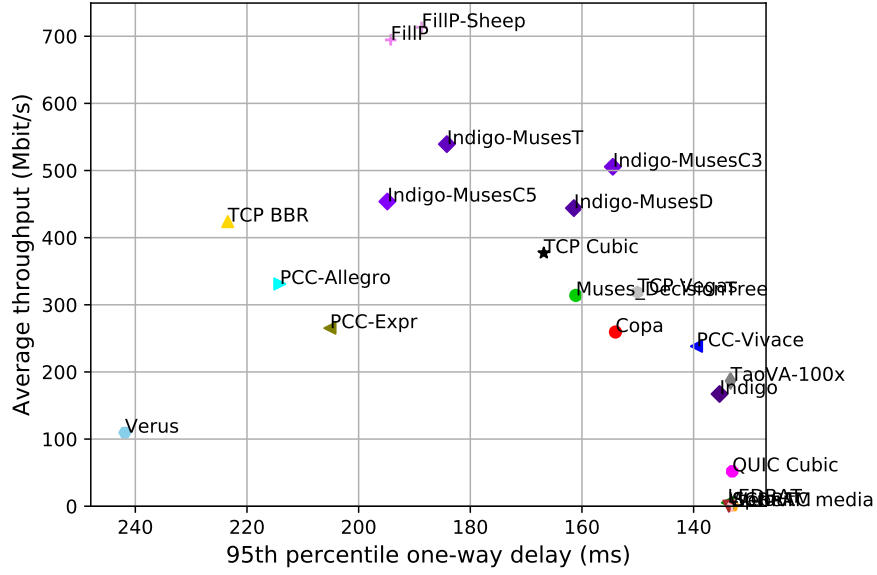
```
System info:
Linux 4.15.0-1032-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

```
Git summary:
branch: muses @ c3953d08f32ec7ebbdede2d2f0cbdeed262571ef
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 @ 11c9498ecb1596b02ccd896791a02d03172af7ed
 M helpers/__init__.pyc
 M helpers/context.pyc
 M helpers/utils.pyc
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 London to GCE Sydney, 5 runs of 30s each per scheme (mean of all runs by scheme)

test from GCE London to GCE Sydney, 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	423.95	223.44	1.88
Copa	5	259.46	154.00	0.96
TCP Cubic	5	377.07	166.84	1.02
FillP	5	694.61	194.26	2.51
FillP-Sheep	5	713.43	188.72	2.32
Indigo	5	167.15	135.36	0.86
Indigo-MusesC3	5	505.57	154.47	1.22
Indigo-MusesC5	5	453.83	194.86	1.23
Indigo-MusesD	5	444.00	161.45	1.36
Indigo-MusesT	5	539.31	184.20	1.23
LEDBAT	5	5.23	133.94	1.78
Muses_DecisionTree	5	314.01	161.10	1.17
PCC-Allegro	5	331.02	214.12	3.17
PCC-Expr	5	265.22	205.14	2.36
QUIC Cubic	5	51.95	133.08	1.37
SCReAM	5	0.15	133.11	0.80
Sprout	5	0.65	133.03	0.90
TaoVA-100x	5	186.76	133.38	0.99
TCP Vegas	5	318.66	150.06	0.80
Verus	5	109.56	241.87	6.63
PCC-Vivace	5	238.25	139.48	1.33
WebRTC media	4	0.05	133.68	0.00

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```
Run 1: Statistics of TCP BBR

Start at: 2019-06-28 04:42:03
End at: 2019-06-28 04:42:33
Local clock offset: 0.17 ms
Remote clock offset: -0.219 ms


# Below is generated by plot.py at 2019-06-28 07:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 431.33 Mbit/s
95th percentile per-packet one-way delay: 242.881 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 431.33 Mbit/s
95th percentile per-packet one-way delay: 242.881 ms
Loss rate: 1.74%
```
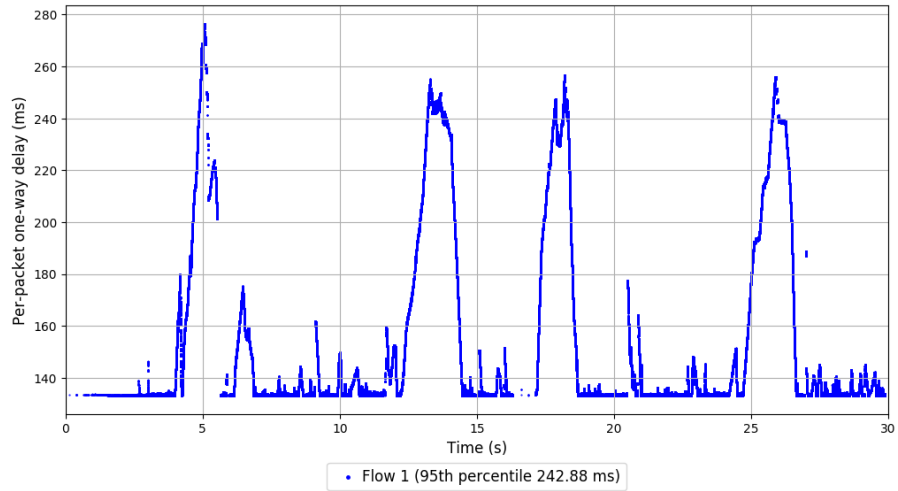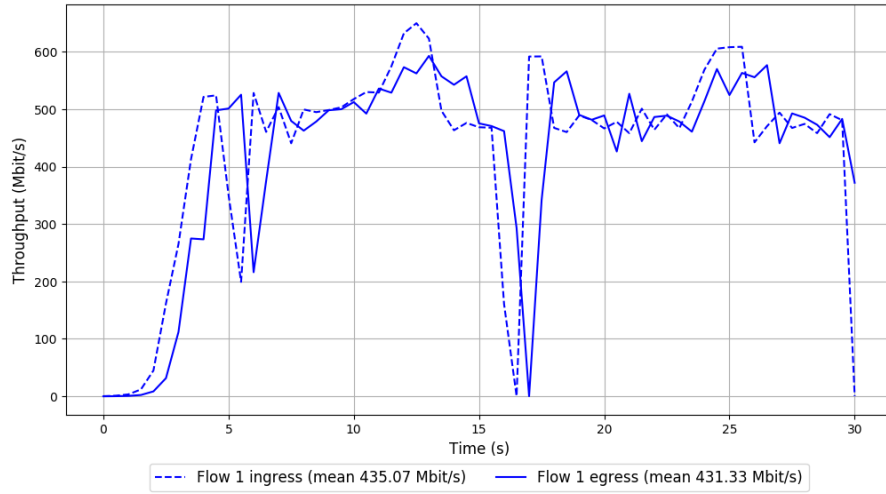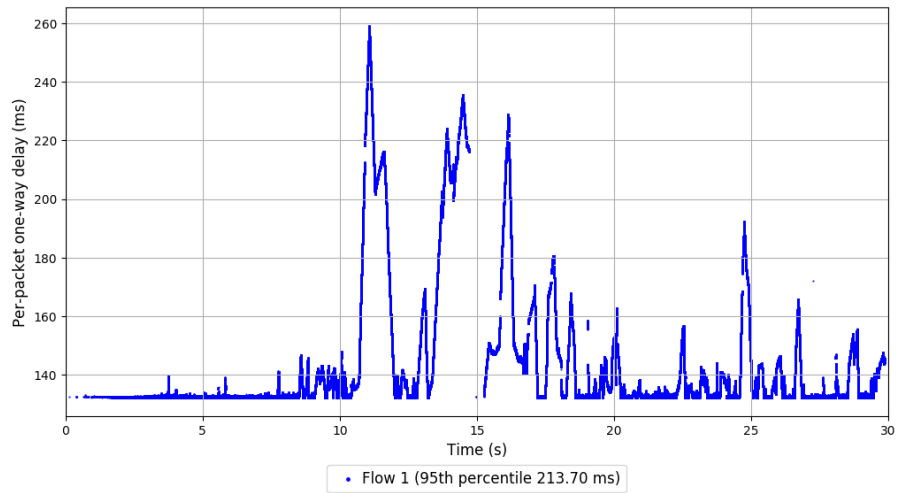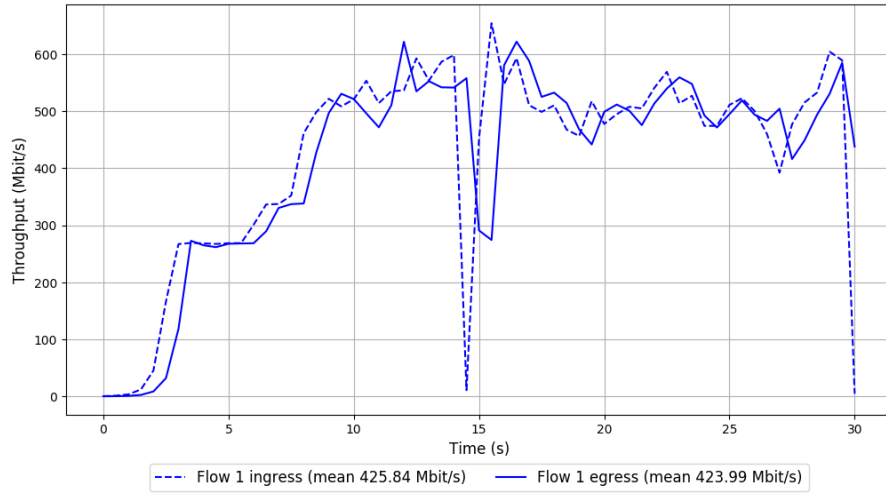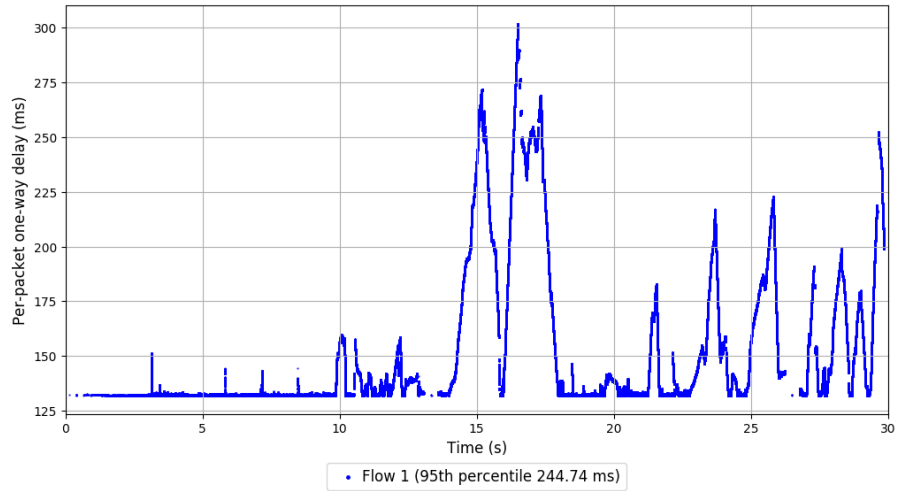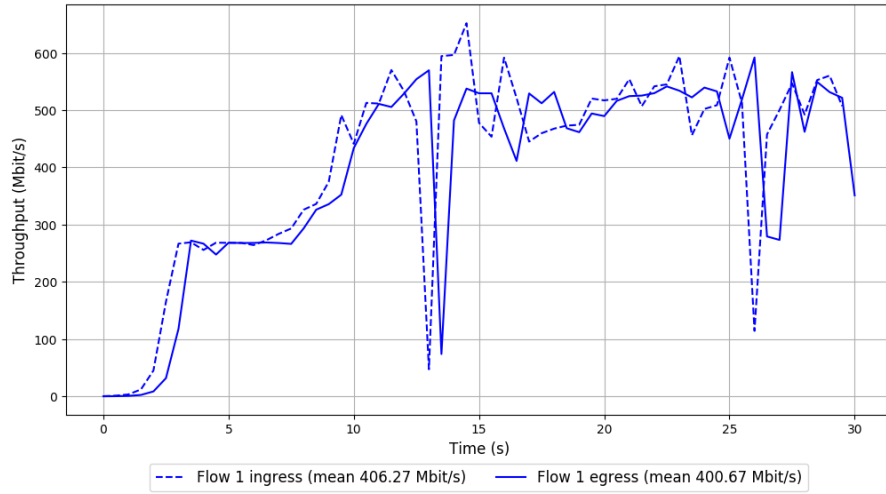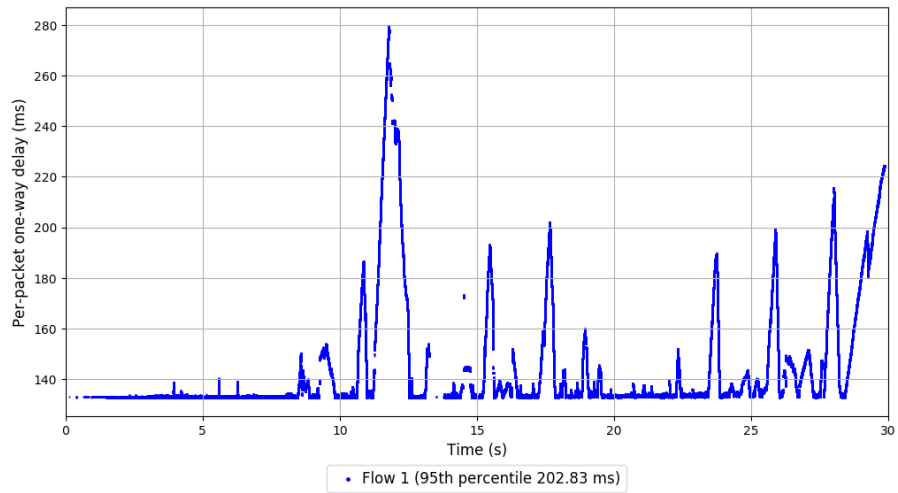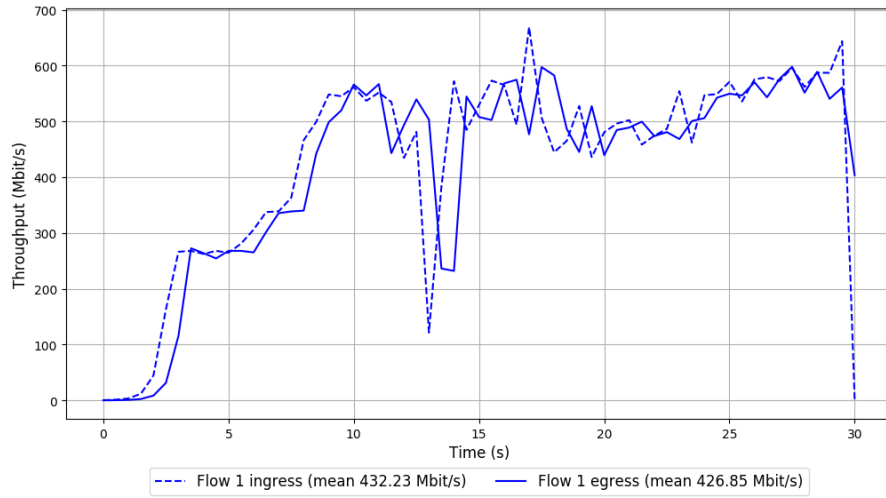
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-06-28 05:15:11
End at: 2019-06-28 05:15:41
Local clock offset: 0.269 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2019-06-28 07:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 423.99 Mbit/s
95th percentile per-packet one-way delay: 213.700 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 423.99 Mbit/s
95th percentile per-packet one-way delay: 213.700 ms
Loss rate: 1.32%
```
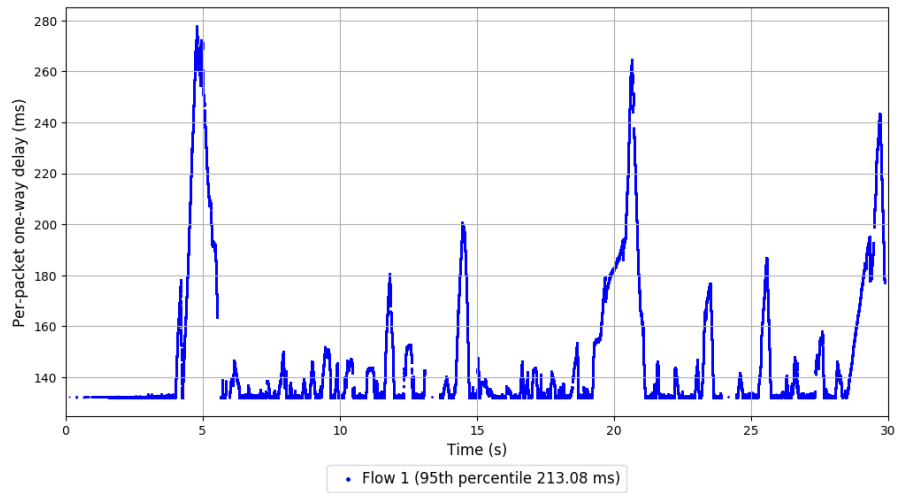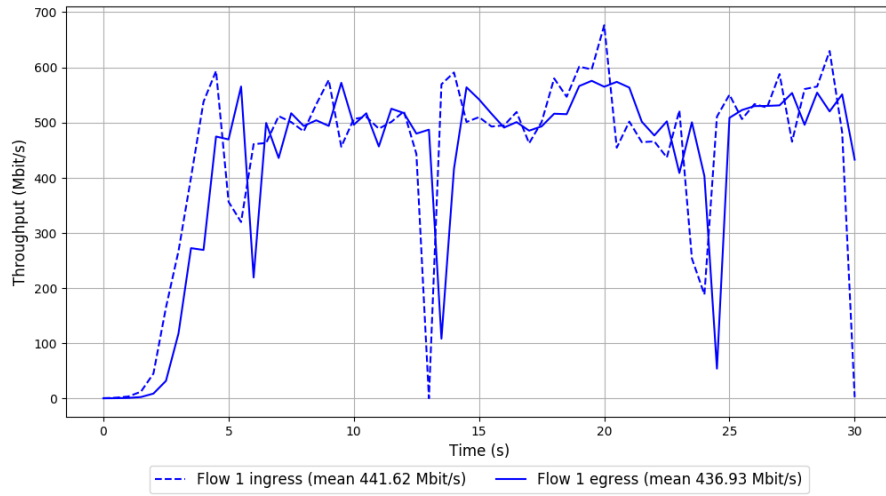
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 425.84 Mbit/s)   Flow 1 egress (mean 423.99 Mbit/s)

· Flow 1 (95th percentile 213.70 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2019-06-28 05:48:12
End at: 2019-06-28 05:48:42
Local clock offset: -0.391 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2019-06-28 07:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 400.67 Mbit/s
95th percentile per-packet one-way delay: 244.736 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 400.67 Mbit/s
95th percentile per-packet one-way delay: 244.736 ms
Loss rate: 2.26%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 406.27 Mbit/s)   Flow 1 egress (mean 400.67 Mbit/s)
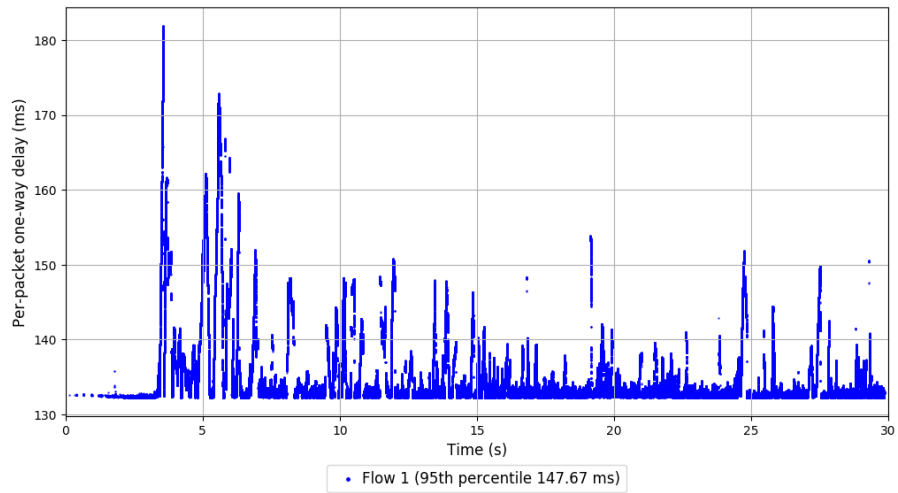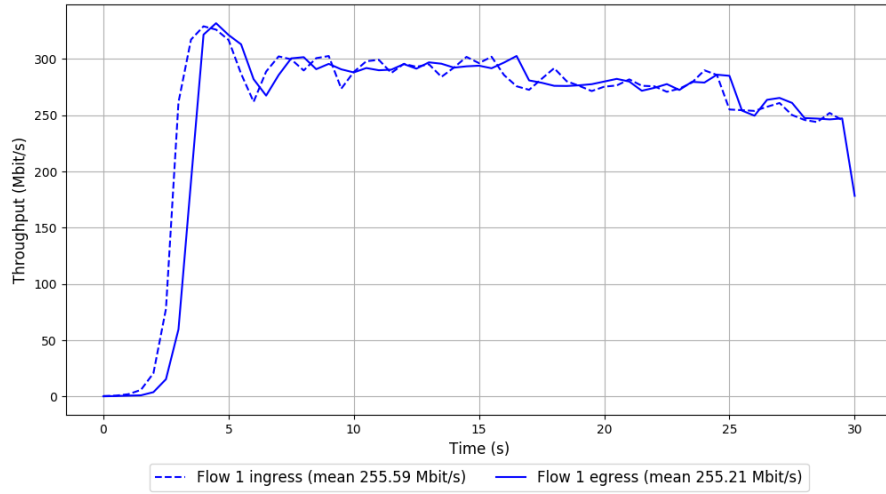

Flow 1 (95th percentile 244.74 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-06-28 06:21:15
End at: 2019-06-28 06:21:45
Local clock offset: -0.075 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2019-06-28 07:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 426.85 Mbit/s
95th percentile per-packet one-way delay: 202.826 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 426.85 Mbit/s
95th percentile per-packet one-way delay: 202.826 ms
Loss rate: 2.12%
```
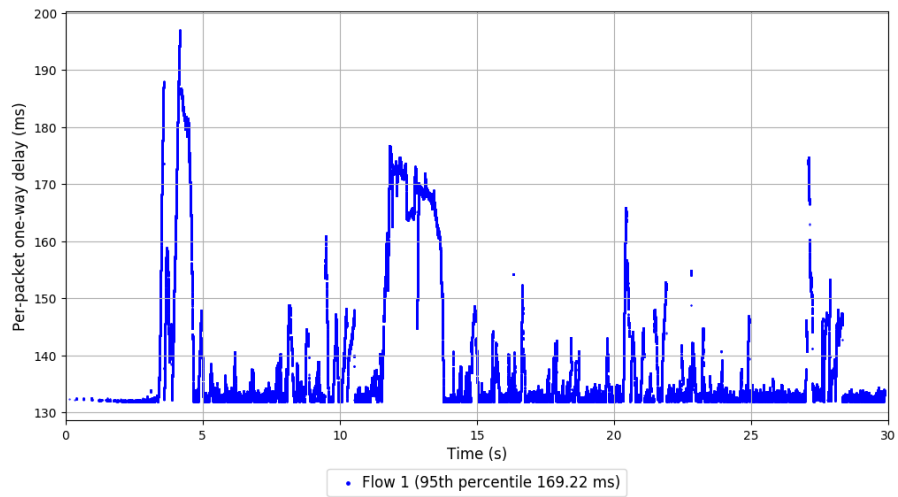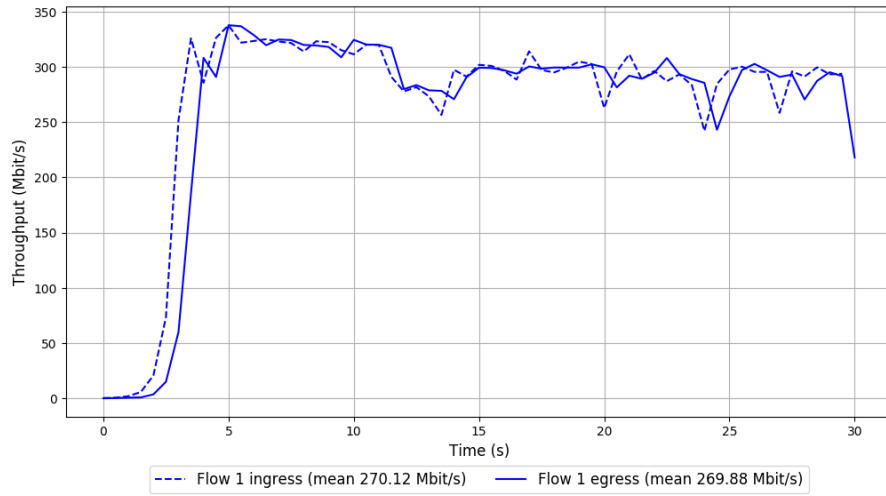
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-06-28 06:53:54
End at: 2019-06-28 06:54:24
Local clock offset: -0.473 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2019-06-28 07:21:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 436.93 Mbit/s
95th percentile per-packet one-way delay: 213.080 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 436.93 Mbit/s
95th percentile per-packet one-way delay: 213.080 ms
Loss rate: 1.94%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 441.62 Mbit/s) — — — Flow 1 egress (mean 436.93 Mbit/s)
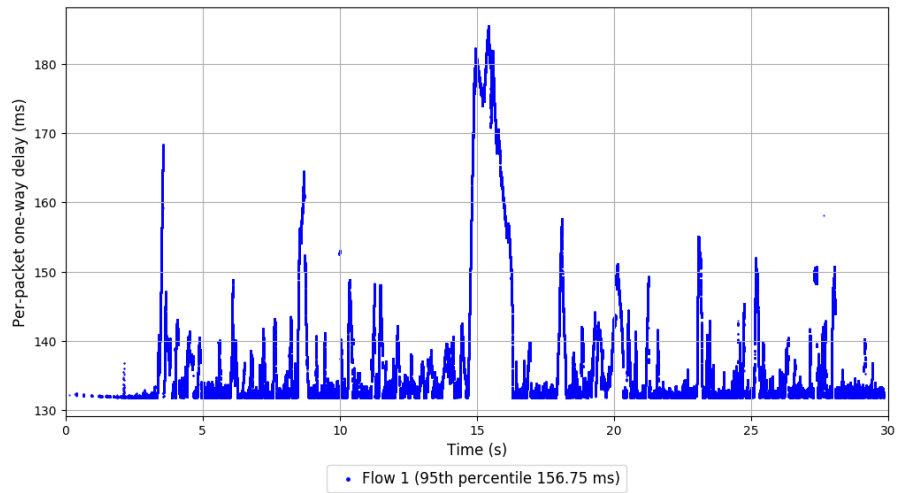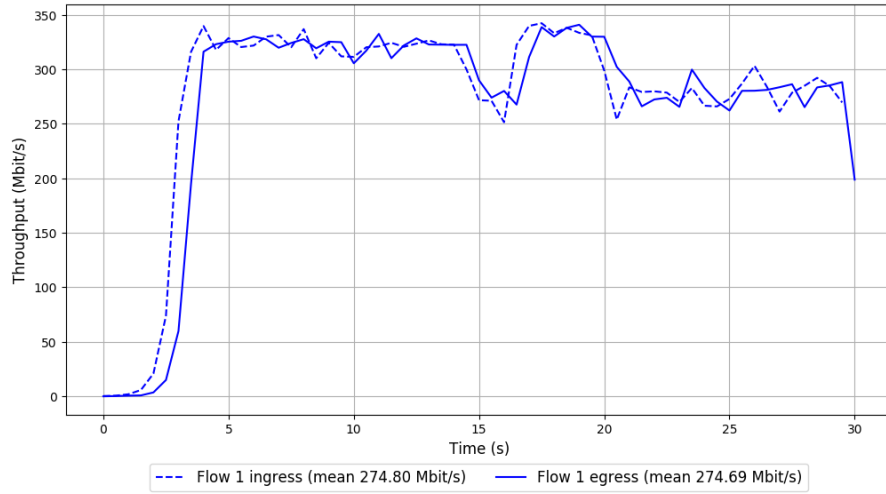

• Flow 1 (95th percentile 213.08 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-06-28 04:28:54
End at: 2019-06-28 04:29:24
Local clock offset: -0.077 ms
Remote clock offset: -0.192 ms


# Below is generated by plot.py at 2019-06-28 07:22:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 255.21 Mbit/s
95th percentile per-packet one-way delay: 147.671 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 255.21 Mbit/s
95th percentile per-packet one-way delay: 147.671 ms
Loss rate: 1.03%
```
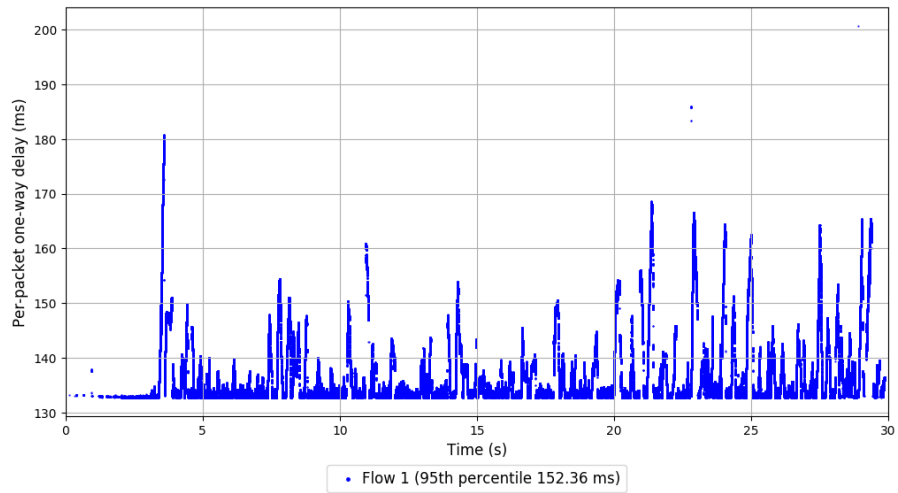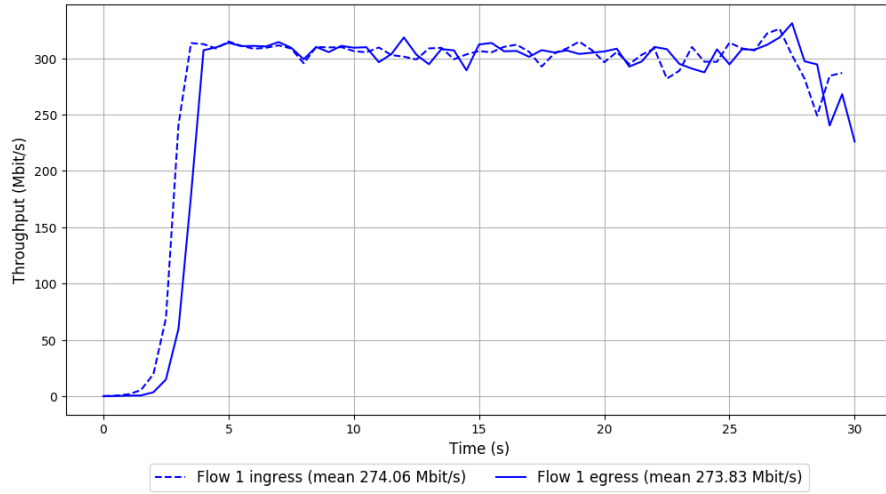
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-06-28 05:01:33
End at: 2019-06-28 05:02:03
Local clock offset: -0.462 ms
Remote clock offset: -0.488 ms


# Below is generated by plot.py at 2019-06-28 07:22:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 269.88 Mbit/s
95th percentile per-packet one-way delay: 169.218 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 269.88 Mbit/s
95th percentile per-packet one-way delay: 169.218 ms
Loss rate: 0.98%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-06-28 05:34:30
End at: 2019-06-28 05:35:00
Local clock offset: -0.425 ms
Remote clock offset: -0.127 ms


# Below is generated by plot.py at 2019-06-28 07:22:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 274.69 Mbit/s
95th percentile per-packet one-way delay: 156.747 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 274.69 Mbit/s
95th percentile per-packet one-way delay: 156.747 ms
Loss rate: 0.92%
```
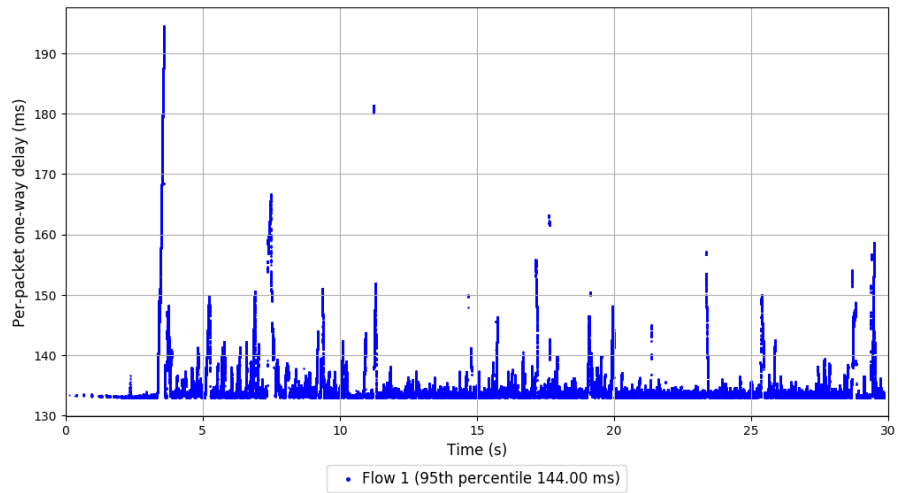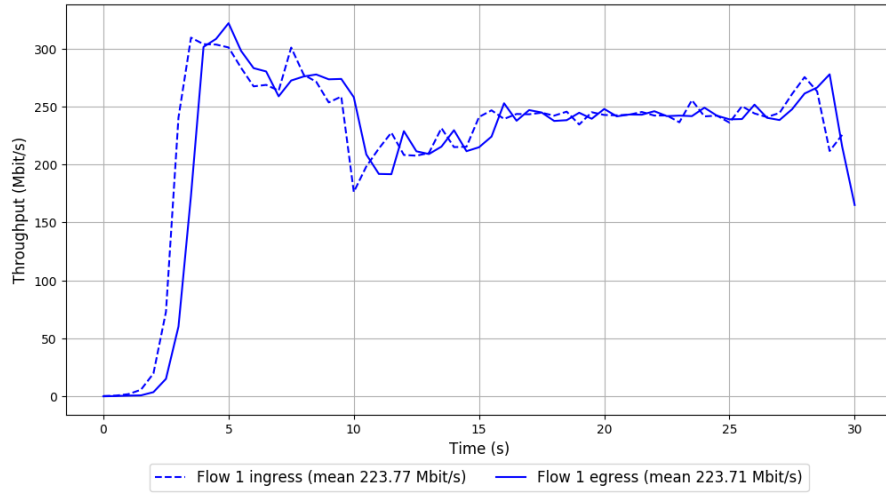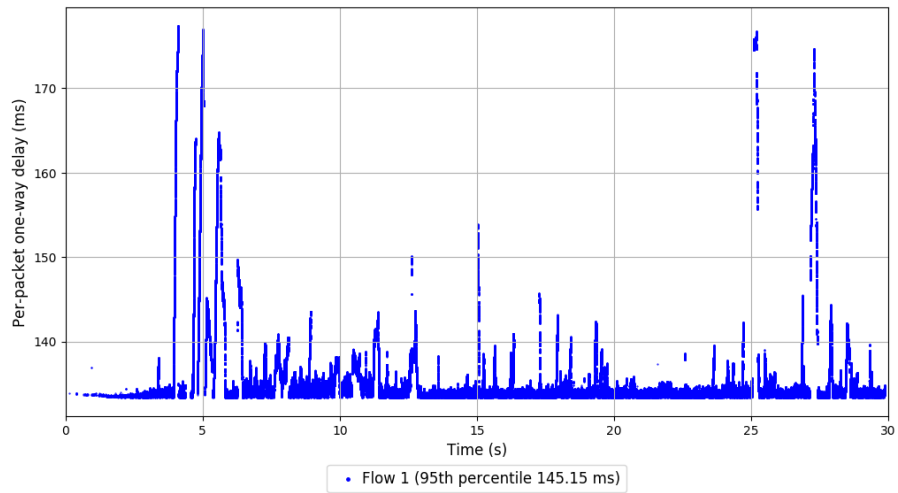
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 274.80 Mbit/s)   Flow 1 egress (mean 274.69 Mbit/s)

Flow 1 (95th percentile 156.75 ms)

```
Run 4: Statistics of Copa

Start at: 2019-06-28 06:07:31
End at: 2019-06-28 06:08:01
Local clock offset: -0.064 ms
Remote clock offset: -0.143 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 273.83 Mbit/s
95th percentile per-packet one-way delay: 152.364 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 273.83 Mbit/s
95th percentile per-packet one-way delay: 152.364 ms
Loss rate: 0.97%
```
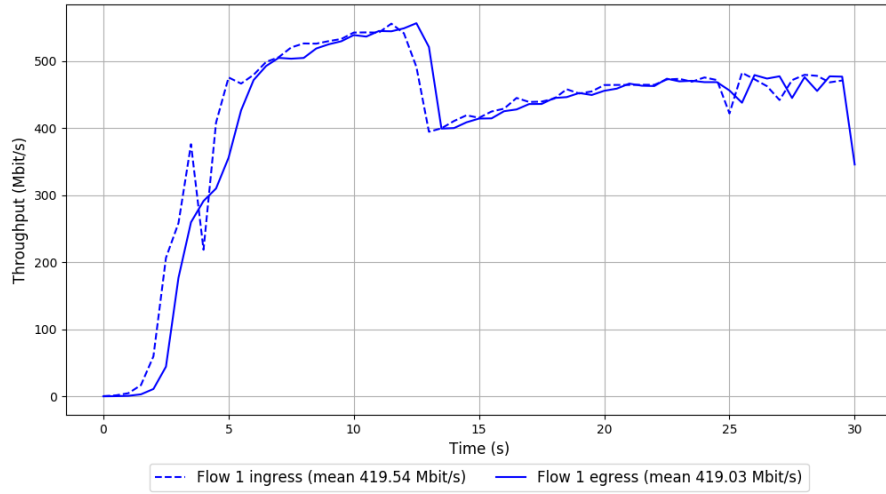
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 274.06 Mbit/s)   Flow 1 egress (mean 273.83 Mbit/s)
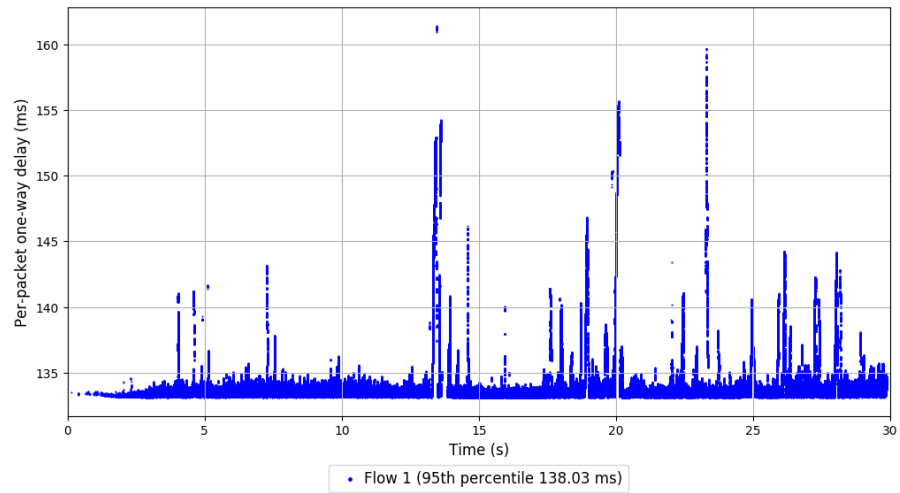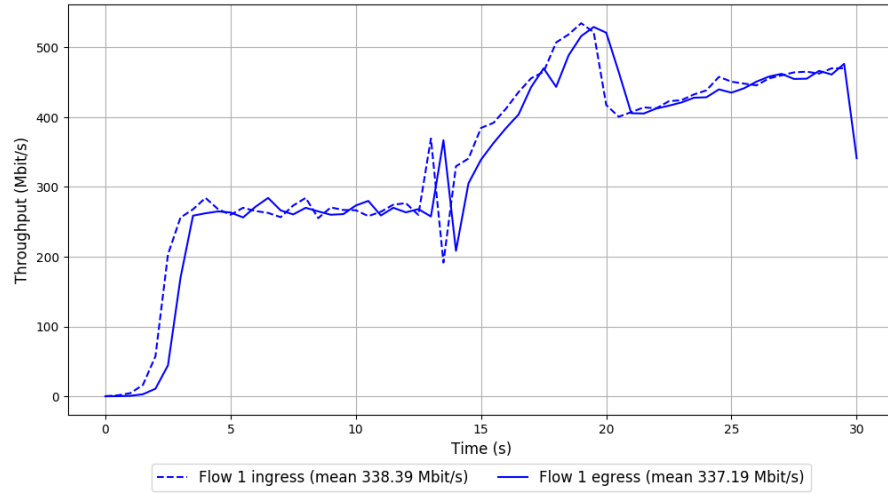

Flow 1 (95th percentile 152.36 ms)

```
Run 5: Statistics of Copa

Start at: 2019-06-28 06:40:42
End at: 2019-06-28 06:41:12
Local clock offset: 0.08 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 223.71 Mbit/s
95th percentile per-packet one-way delay: 143.995 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 223.71 Mbit/s
95th percentile per-packet one-way delay: 143.995 ms
Loss rate: 0.92%
```

Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-06-28 04:40:28
End at: 2019-06-28 04:40:58
Local clock offset: 0.276 ms
Remote clock offset: -0.215 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 419.03 Mbit/s
95th percentile per-packet one-way delay: 145.150 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 419.03 Mbit/s
95th percentile per-packet one-way delay: 145.150 ms
Loss rate: 1.01%
```
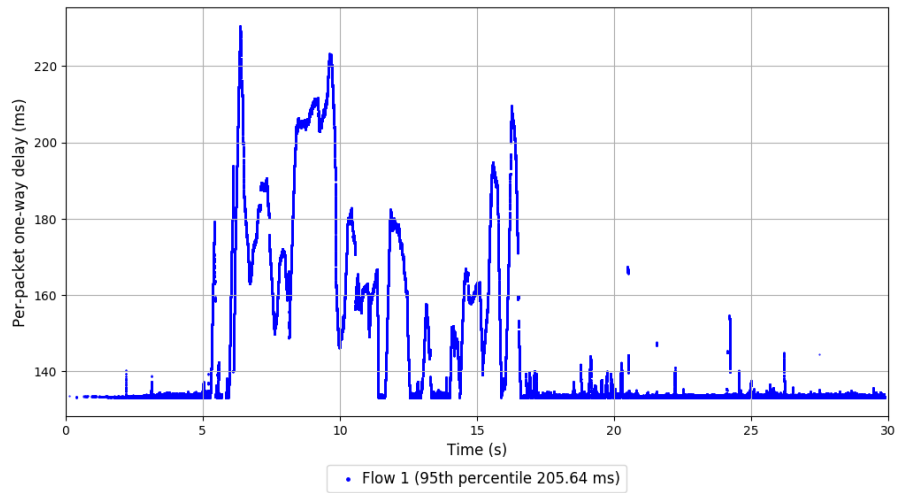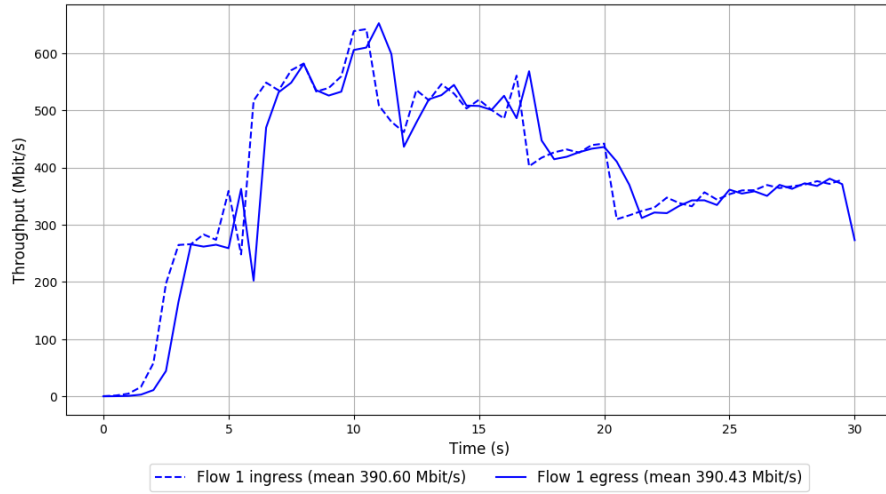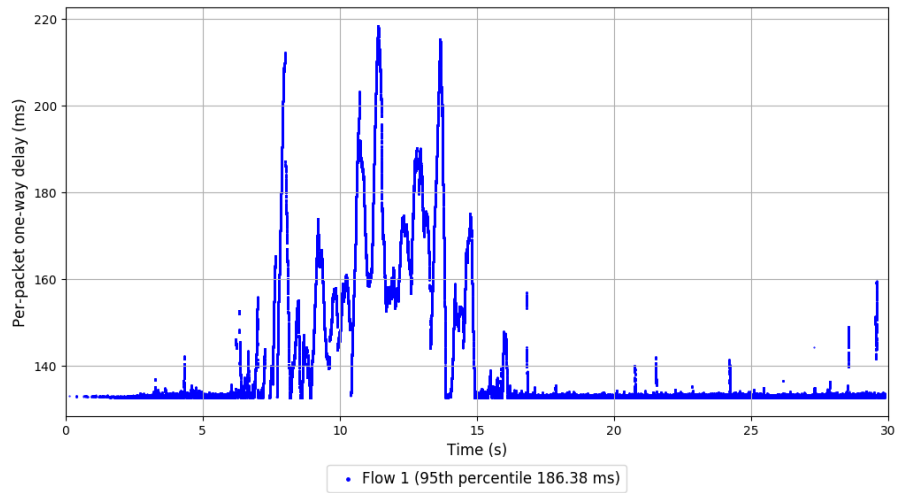
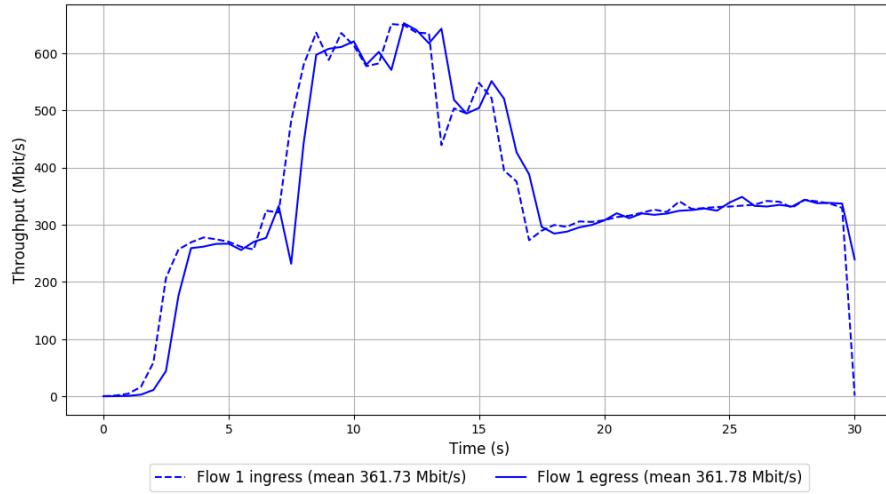Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-06-28 05:13:40
End at: 2019-06-28 05:14:10
Local clock offset: 0.135 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 337.19 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 337.19 Mbit/s
95th percentile per-packet one-way delay: 138.033 ms
Loss rate: 1.24%
```
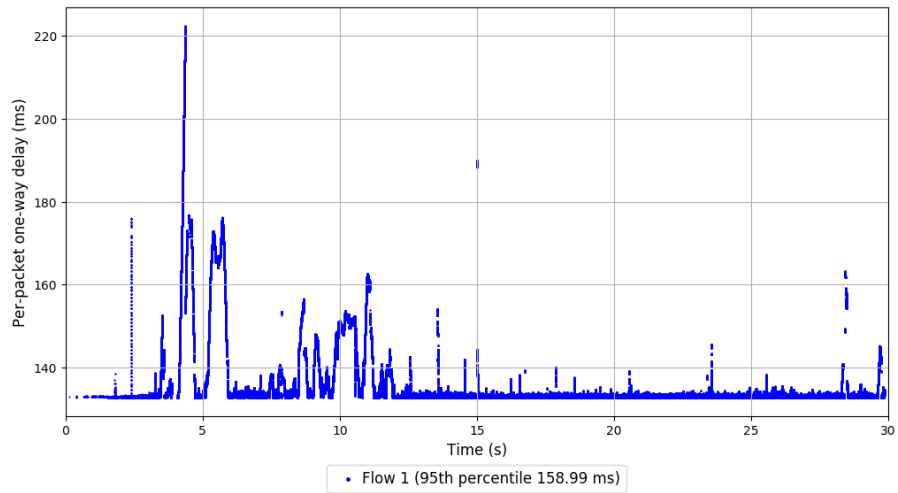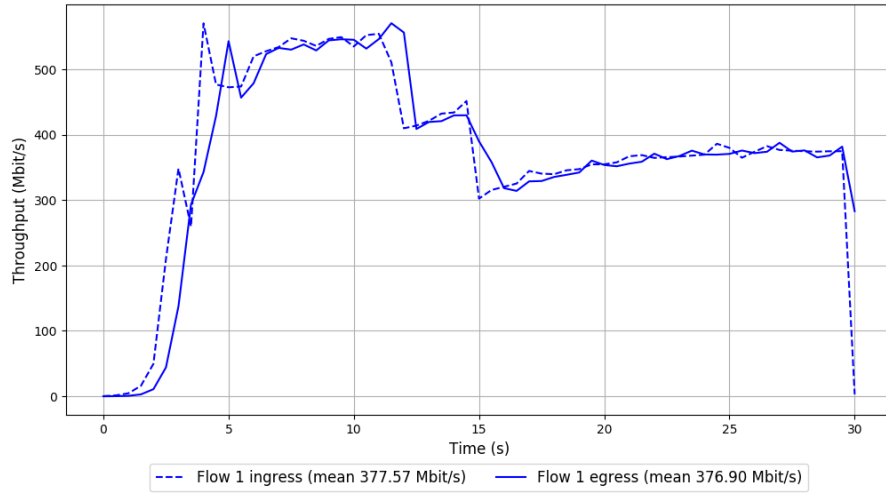
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-06-28 05:46:39
End at: 2019-06-28 05:47:09
Local clock offset: -0.005 ms
Remote clock offset: -0.13 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 390.43 Mbit/s
95th percentile per-packet one-way delay: 205.643 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 390.43 Mbit/s
95th percentile per-packet one-way delay: 205.643 ms
Loss rate: 0.93%
```

Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-06-28 06:19:43
End at: 2019-06-28 06:20:13
Local clock offset: 0.335 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 361.78 Mbit/s
95th percentile per-packet one-way delay: 186.382 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 361.78 Mbit/s
95th percentile per-packet one-way delay: 186.382 ms
Loss rate: 0.87%
```
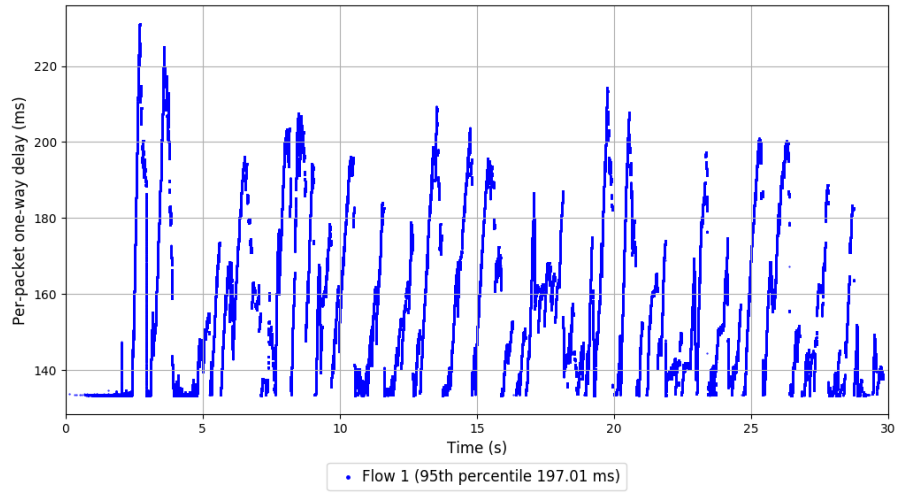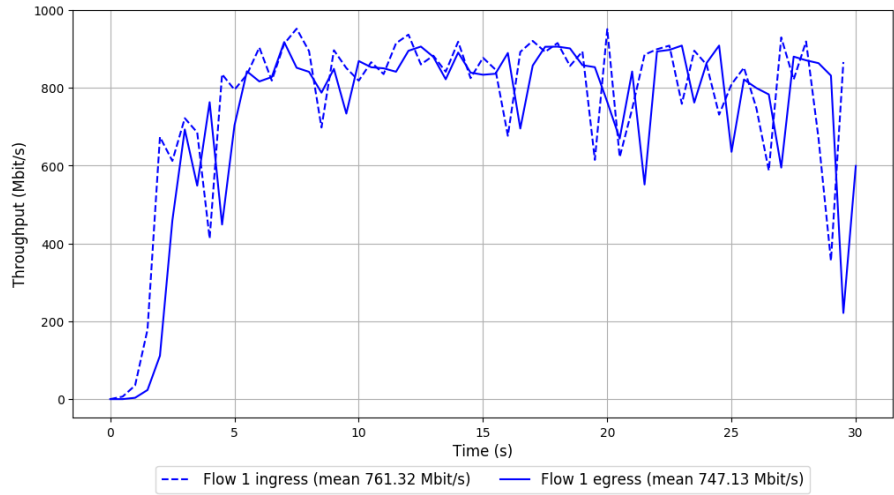
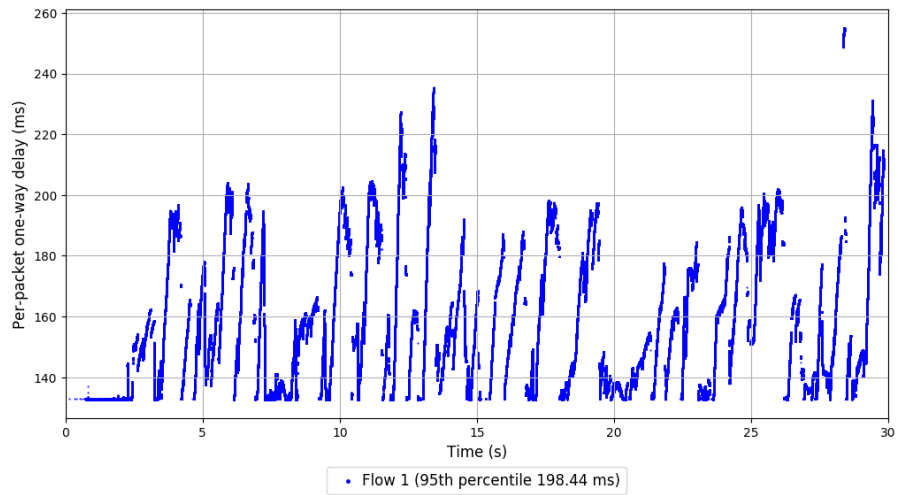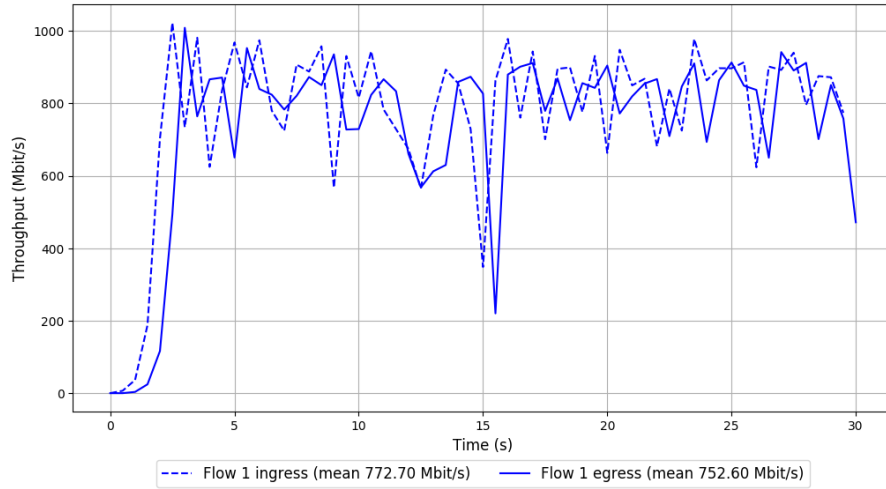Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-06-28 06:52:21
End at: 2019-06-28 06:52:51
Local clock offset: -0.065 ms
Remote clock offset: -0.073 ms


# Below is generated by plot.py at 2019-06-28 07:30:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 376.90 Mbit/s
95th percentile per-packet one-way delay: 158.985 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 376.90 Mbit/s
95th percentile per-packet one-way delay: 158.985 ms
Loss rate: 1.06%
```

Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 377.57 Mbit/s) —— Flow 1 egress (mean 376.90 Mbit/s)

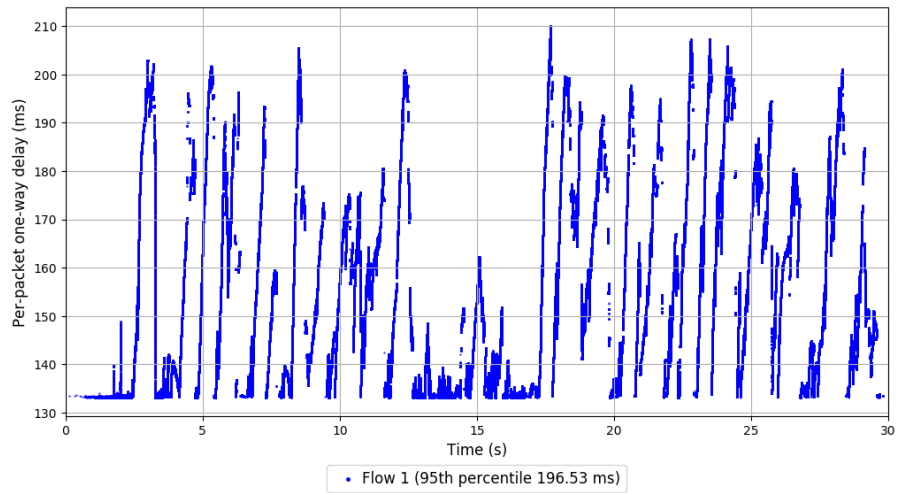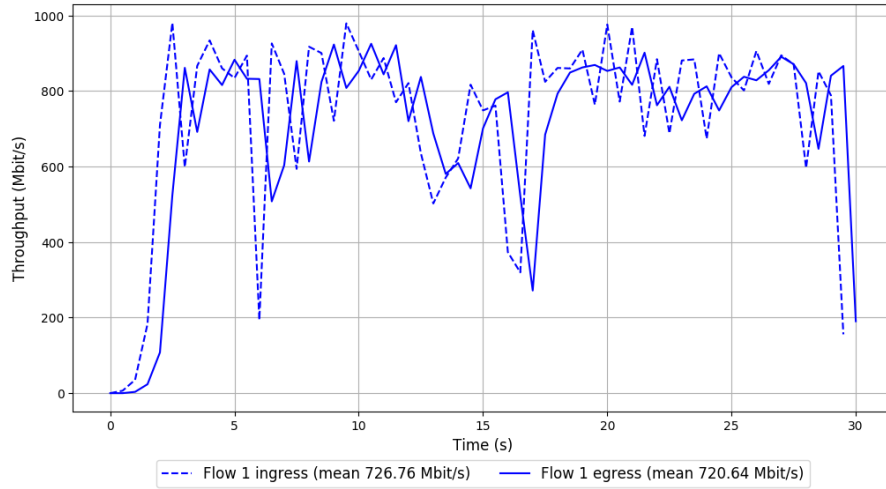
• Flow 1 (95th percentile 158.99 ms)

```
Run 1: Statistics of FillP

Start at: 2019-06-28 04:47:47
End at: 2019-06-28 04:48:17
Local clock offset: 0.324 ms
Remote clock offset: -0.237 ms


# Below is generated by plot.py at 2019-06-28 07:39:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 747.13 Mbit/s
95th percentile per-packet one-way delay: 197.006 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 747.13 Mbit/s
95th percentile per-packet one-way delay: 197.006 ms
Loss rate: 2.74%
```

Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-06-28 05:20:51
End at: 2019-06-28 05:21:21
Local clock offset: -0.013 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2019-06-28 07:44:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 752.60 Mbit/s
95th percentile per-packet one-way delay: 198.440 ms
Loss rate: 3.47%
-- Flow 1:
Average throughput: 752.60 Mbit/s
95th percentile per-packet one-way delay: 198.440 ms
Loss rate: 3.47%
```
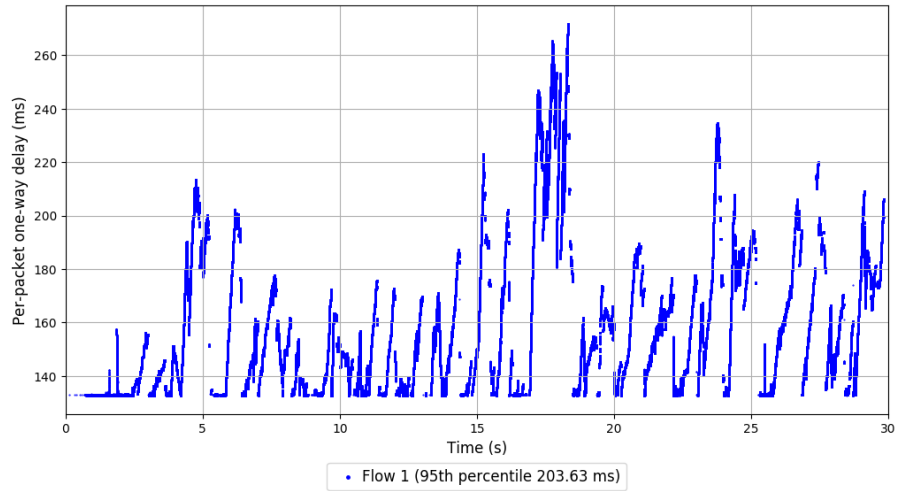
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-06-28 05:53:47
End at: 2019-06-28 05:54:17
Local clock offset: 0.424 ms
Remote clock offset: -0.102 ms


# Below is generated by plot.py at 2019-06-28 07:45:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 720.64 Mbit/s
95th percentile per-packet one-way delay: 196.532 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 720.64 Mbit/s
95th percentile per-packet one-way delay: 196.532 ms
Loss rate: 1.77%
```
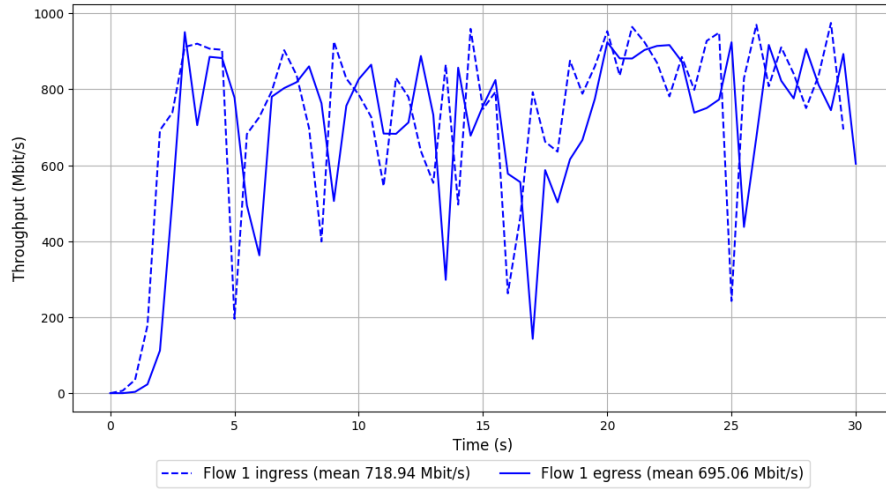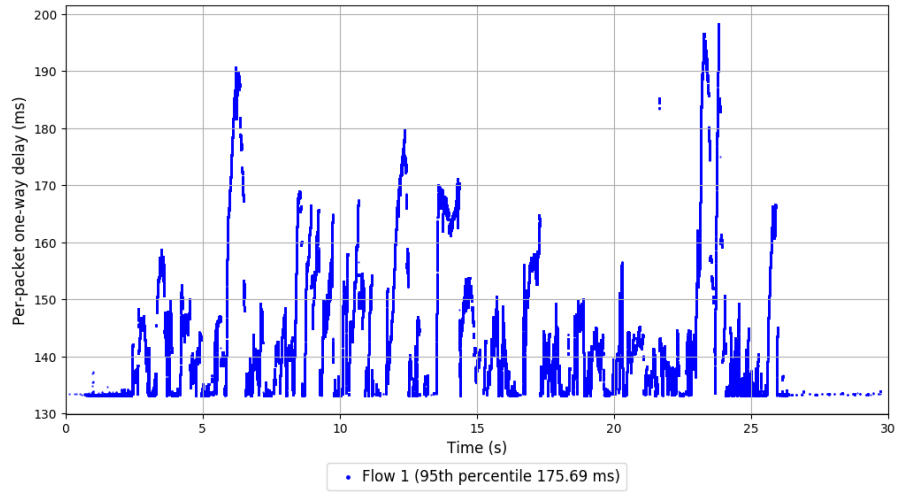
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-06-28 06:26:58
End at: 2019-06-28 06:27:28
Local clock offset: -0.073 ms
Remote clock offset: -0.52 ms


# Below is generated by plot.py at 2019-06-28 07:45:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 695.06 Mbit/s
95th percentile per-packet one-way delay: 203.634 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 695.06 Mbit/s
95th percentile per-packet one-way delay: 203.634 ms
Loss rate: 4.18%
```

Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-06-28 06:59:38
End at: 2019-06-28 07:00:08
Local clock offset: 0.279 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-06-28 07:45:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 557.64 Mbit/s
95th percentile per-packet one-way delay: 175.693 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 557.64 Mbit/s
95th percentile per-packet one-way delay: 175.693 ms
Loss rate: 0.41%
```
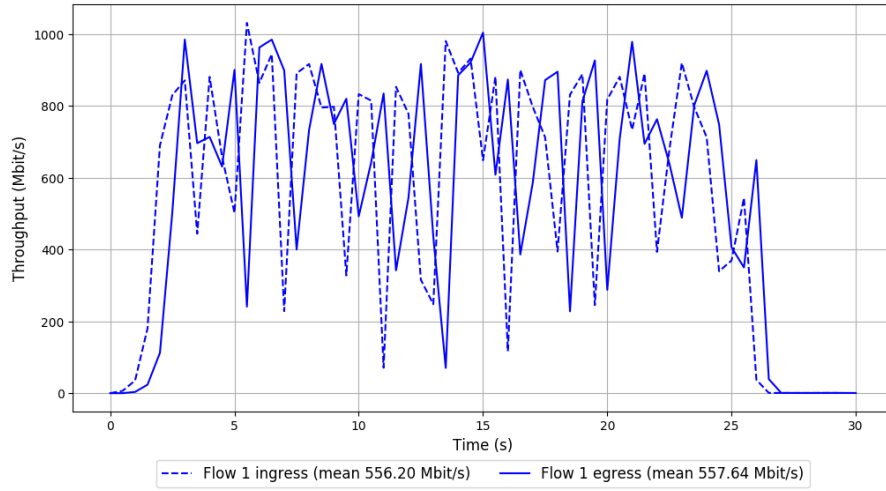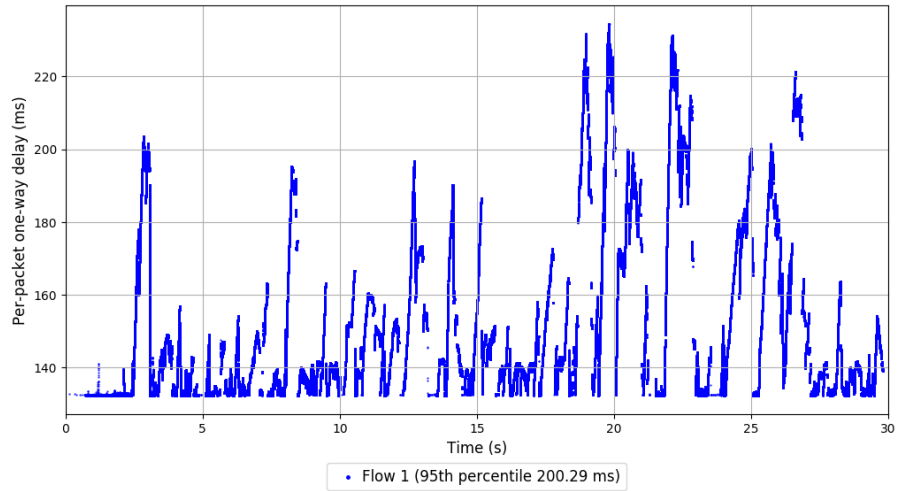
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-06-28 04:32:05
End at: 2019-06-28 04:32:35
Local clock offset: -0.077 ms
Remote clock offset: -0.24 ms


# Below is generated by plot.py at 2019-06-28 07:45:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 697.90 Mbit/s
95th percentile per-packet one-way delay: 200.288 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 697.90 Mbit/s
95th percentile per-packet one-way delay: 200.288 ms
Loss rate: 2.67%
```
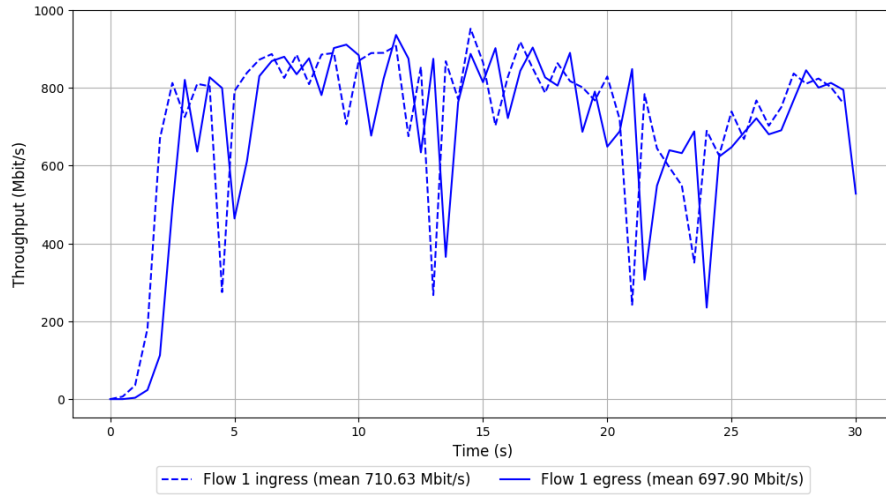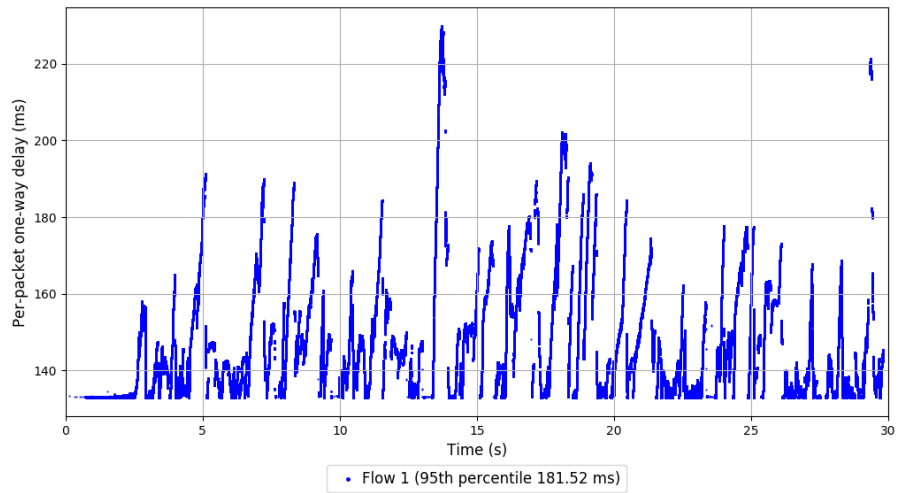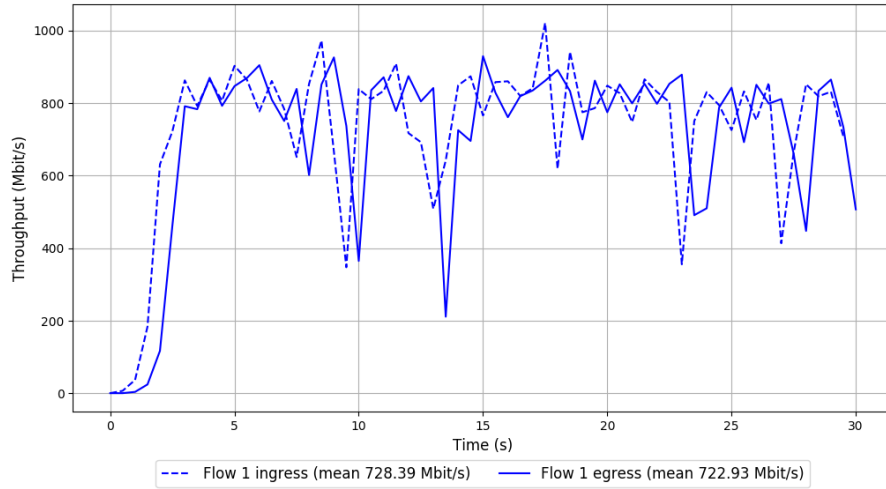
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-06-28 05:04:36
End at: 2019-06-28 05:05:06
Local clock offset: -0.042 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-06-28 07:45:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 722.93 Mbit/s
95th percentile per-packet one-way delay: 181.516 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 722.93 Mbit/s
95th percentile per-packet one-way delay: 181.516 ms
Loss rate: 1.63%
```
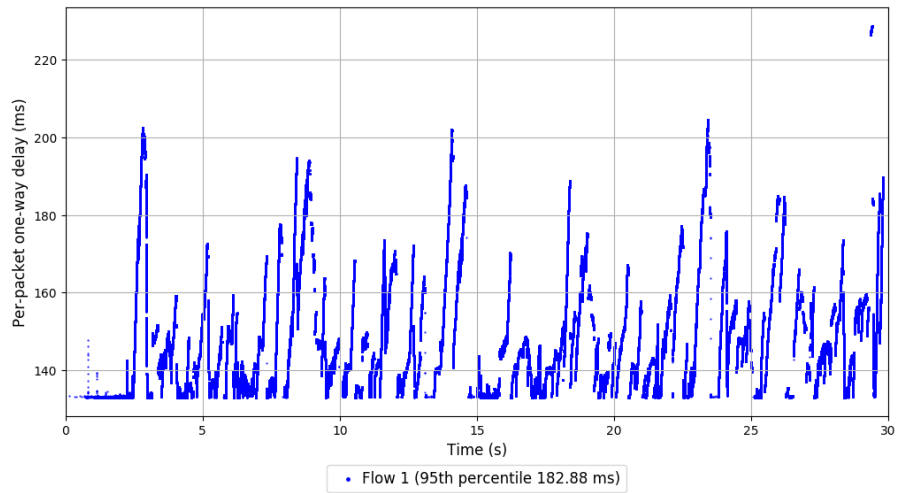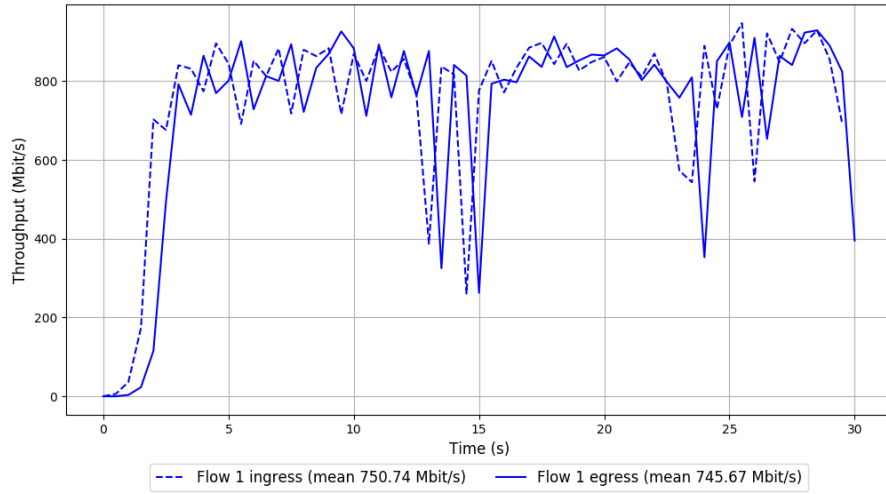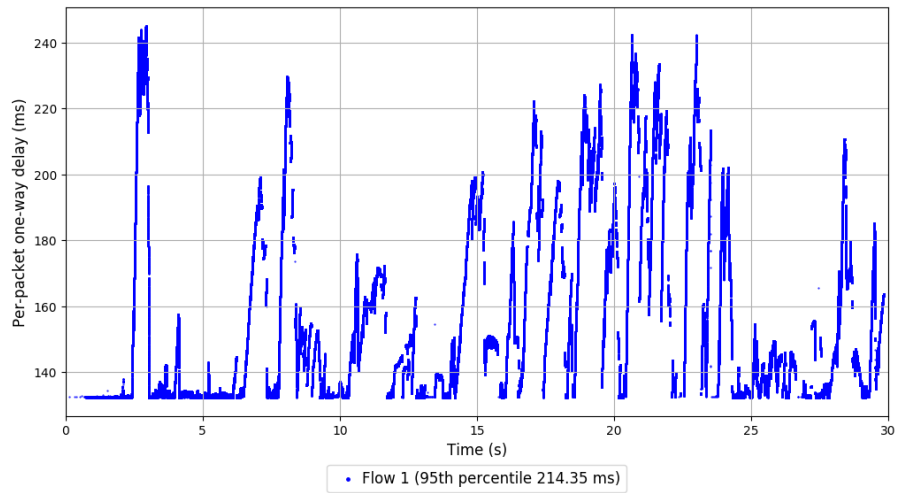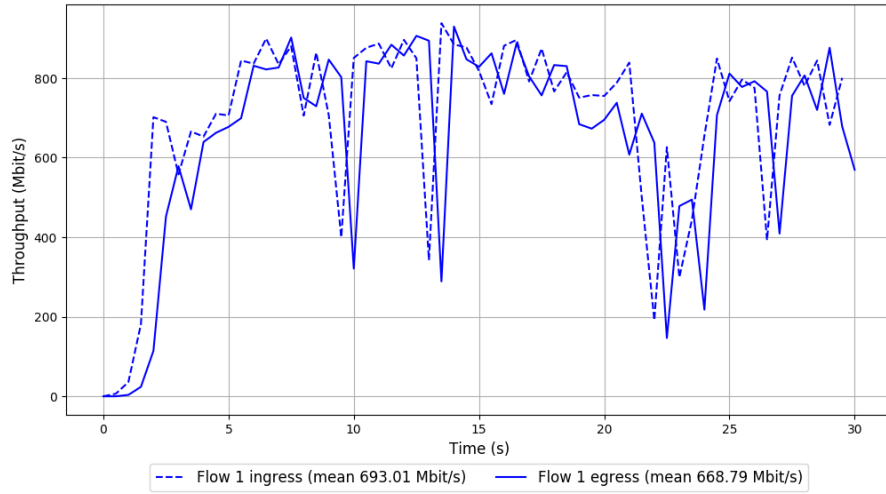
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 728.39 Mbit/s)   Flow 1 egress (mean 722.93 Mbit/s)

• Flow 1 (95th percentile 181.52 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-06-28 05:37:39
End at: 2019-06-28 05:38:09
Local clock offset: 0.022 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-06-28 07:46:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 745.67 Mbit/s
95th percentile per-packet one-way delay: 182.885 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 745.67 Mbit/s
95th percentile per-packet one-way delay: 182.885 ms
Loss rate: 1.56%
```

Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-06-28 06:10:46
End at: 2019-06-28 06:11:16
Local clock offset: -0.054 ms
Remote clock offset: -0.159 ms


# Below is generated by plot.py at 2019-06-28 07:55:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 668.79 Mbit/s
95th percentile per-packet one-way delay: 214.352 ms
Loss rate: 4.35%
-- Flow 1:
Average throughput: 668.79 Mbit/s
95th percentile per-packet one-way delay: 214.352 ms
Loss rate: 4.35%
```

Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-06-28 06:43:44
End at: 2019-06-28 06:44:14
Local clock offset: -0.083 ms
Remote clock offset: -0.146 ms


# Below is generated by plot.py at 2019-06-28 07:59:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 731.88 Mbit/s
95th percentile per-packet one-way delay: 164.540 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 731.88 Mbit/s
95th percentile per-packet one-way delay: 164.540 ms
Loss rate: 1.38%
```
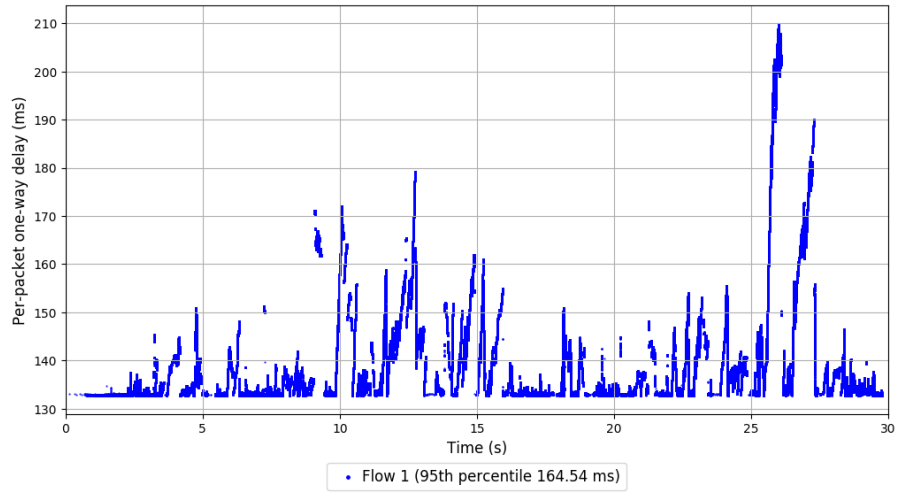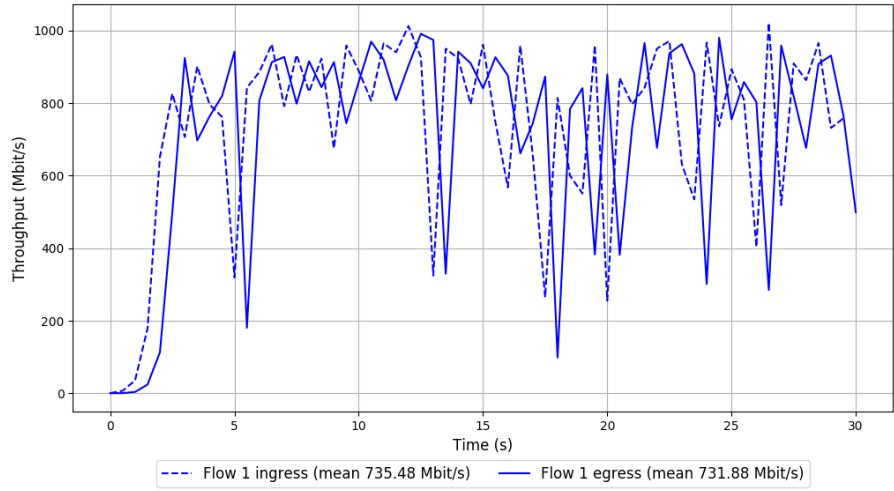
Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-06-28 04:23:19
End at: 2019-06-28 04:23:49
Local clock offset: -0.08 ms
Remote clock offset: 0.221 ms


# Below is generated by plot.py at 2019-06-28 07:59:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 162.32 Mbit/s
95th percentile per-packet one-way delay: 133.833 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 162.32 Mbit/s
95th percentile per-packet one-way delay: 133.833 ms
Loss rate: 0.88%
```
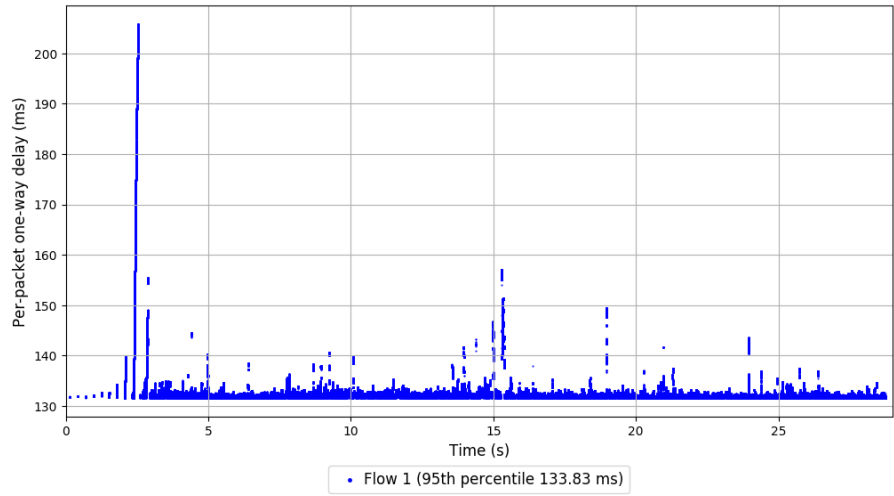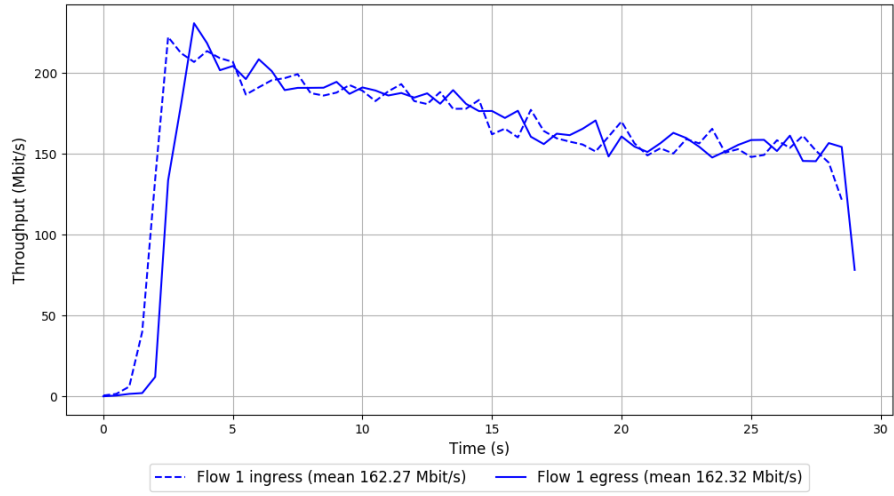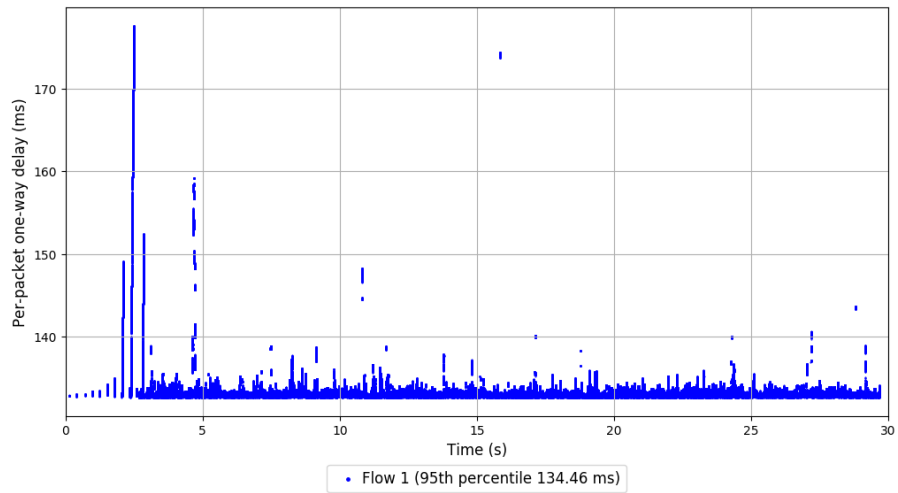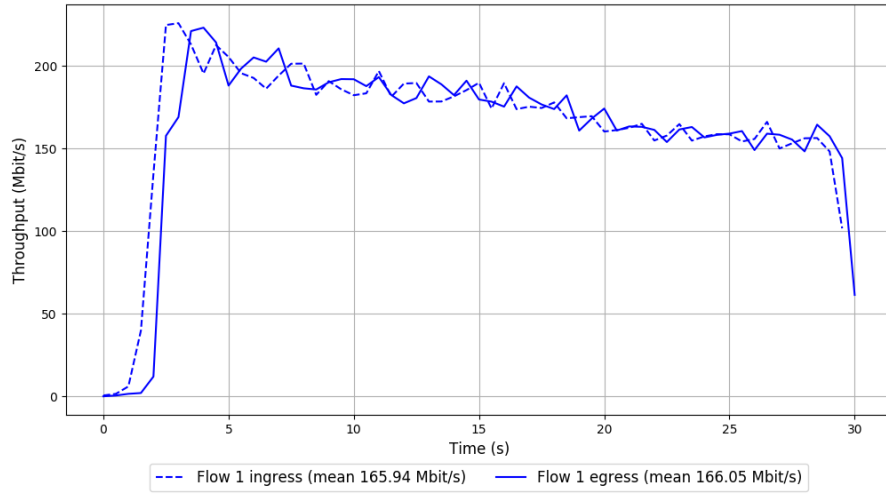
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-06-28 04:55:55
End at: 2019-06-28 04:56:26
Local clock offset: -0.017 ms
Remote clock offset: -0.182 ms


# Below is generated by plot.py at 2019-06-28 07:59:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 166.05 Mbit/s
95th percentile per-packet one-way delay: 134.462 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 166.05 Mbit/s
95th percentile per-packet one-way delay: 134.462 ms
Loss rate: 0.83%
```
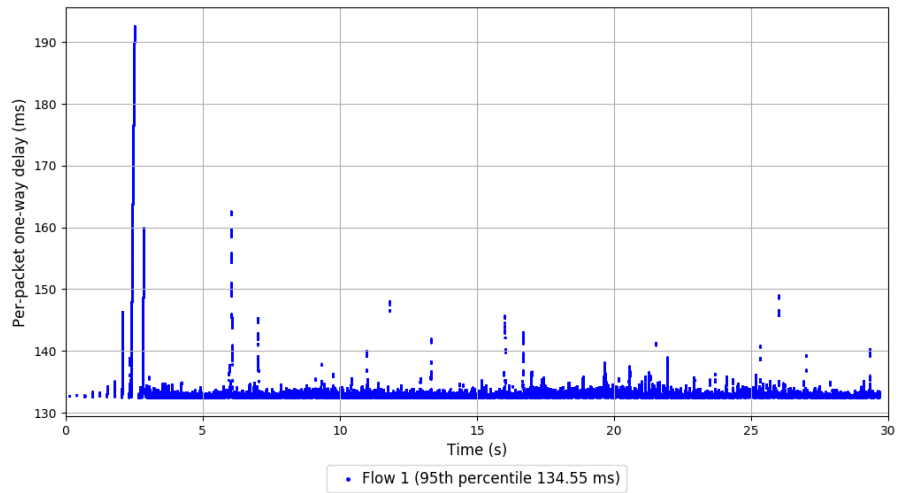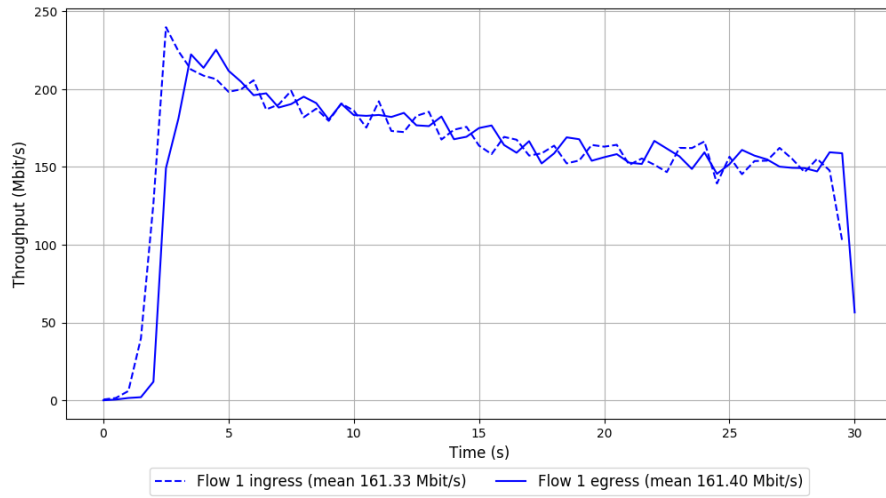
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-06-28 05:28:58
End at: 2019-06-28 05:29:28
Local clock offset: 0.247 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2019-06-28 07:59:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 134.550 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 134.550 ms
Loss rate: 0.85%
```
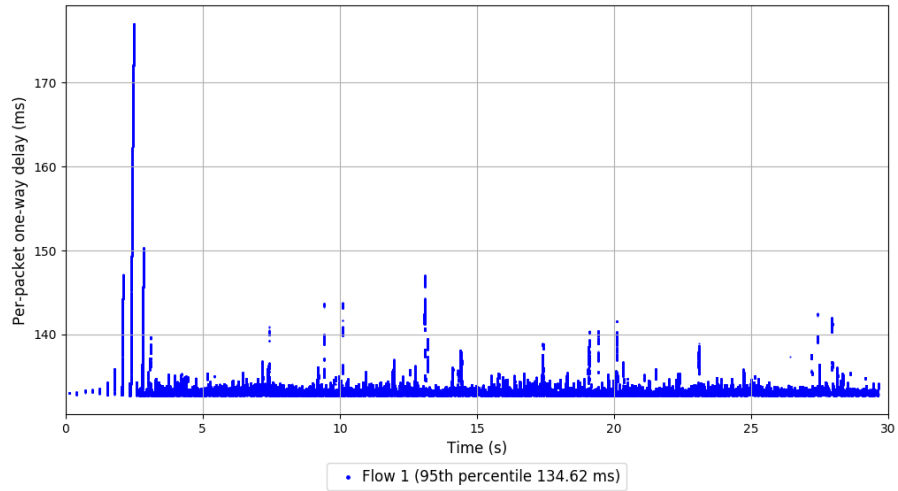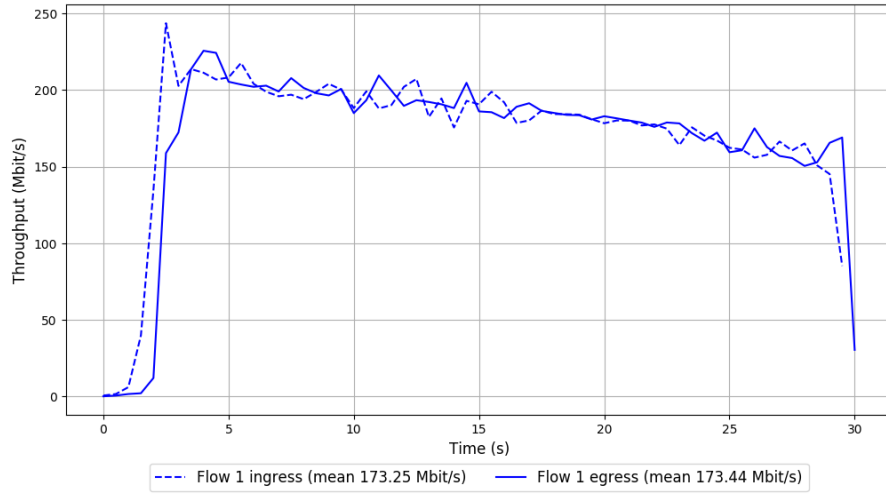
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-06-28 06:01:51
End at: 2019-06-28 06:02:21
Local clock offset: -0.046 ms
Remote clock offset: -0.121 ms


# Below is generated by plot.py at 2019-06-28 07:59:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 173.44 Mbit/s
95th percentile per-packet one-way delay: 134.622 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 173.44 Mbit/s
95th percentile per-packet one-way delay: 134.622 ms
Loss rate: 0.79%
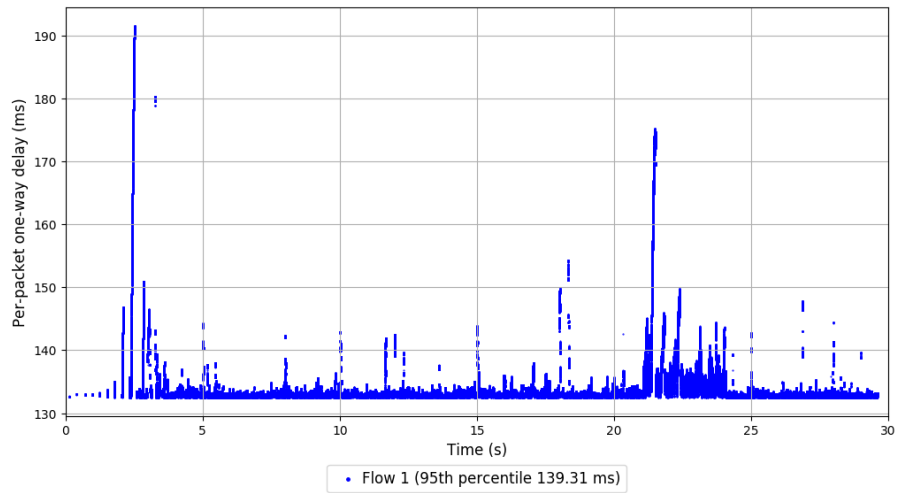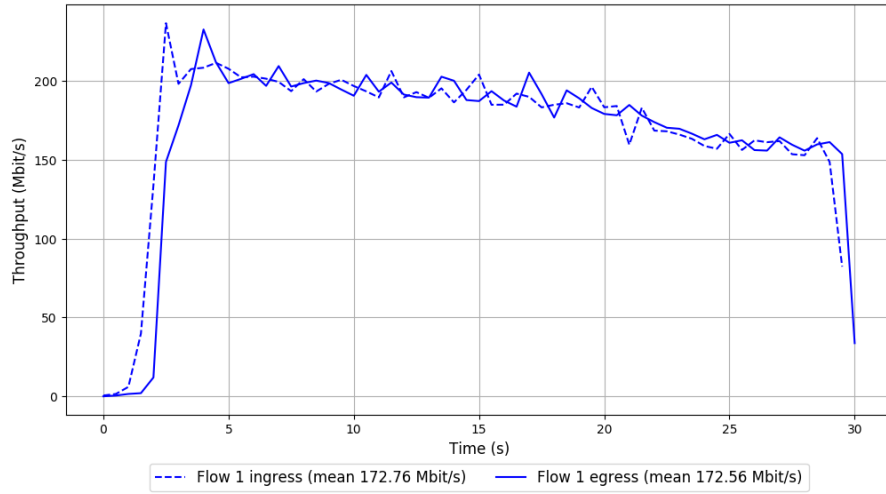```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-06-28 06:34:56
End at: 2019-06-28 06:35:26
Local clock offset: -0.331 ms
Remote clock offset: -0.122 ms

Below is generated by plot.py at 2019-06-28 07:59:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 172.56 Mbit/s
95th percentile per-packet one-way delay: 139.315 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 172.56 Mbit/s
95th percentile per-packet one-way delay: 139.315 ms
Loss rate: 0.97%
```
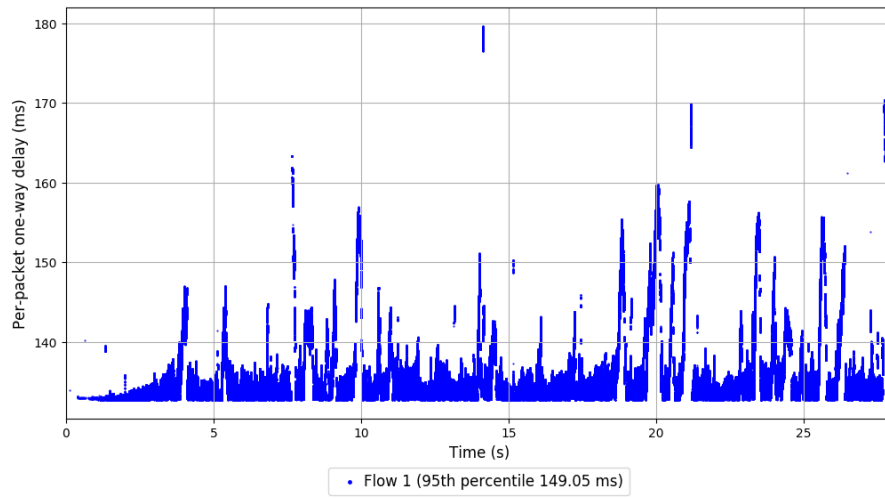
# Run 5: Report of Indigo — Data Link



Flow 1 ingress (mean 172.76 Mbit/s)    Flow 1 egress (mean 172.56 Mbit/s)



• Flow 1 (95th percentile 139.31 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-06-28 04:21:44
End at: 2019-06-28 04:22:14
Local clock offset: -0.117 ms
Remote clock offset: -0.15 ms

Below is generated by plot.py at 2019-06-28 07:59:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 470.63 Mbit/s
95th percentile per-packet one-way delay: 149.052 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 470.63 Mbit/s
95th percentile per-packet one-way delay: 149.052 ms
Loss rate: 1.15%
```
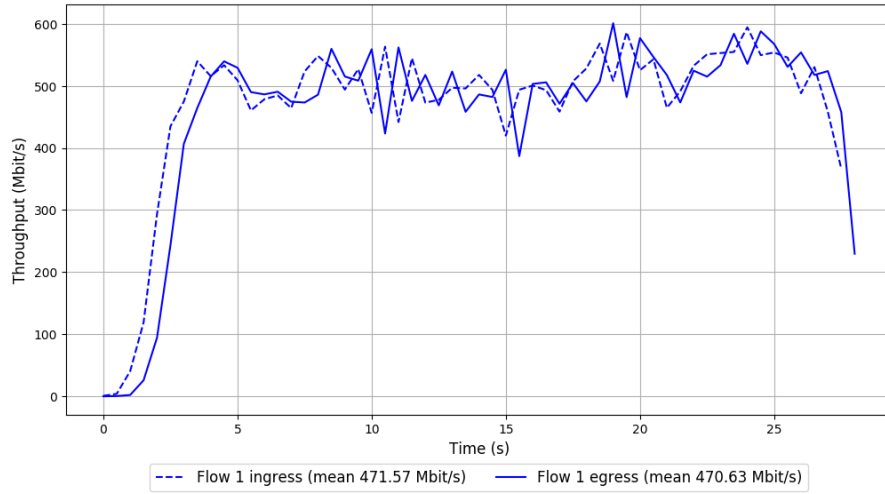
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-06-28 04:54:17
End at: 2019-06-28 04:54:47
Local clock offset: 0.138 ms
Remote clock offset: -0.161 ms

Below is generated by plot.py at 2019-06-28 07:59:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 513.91 Mbit/s
95th percentile per-packet one-way delay: 150.043 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 513.91 Mbit/s
95th percentile per-packet one-way delay: 150.043 ms
Loss rate: 1.11%
```
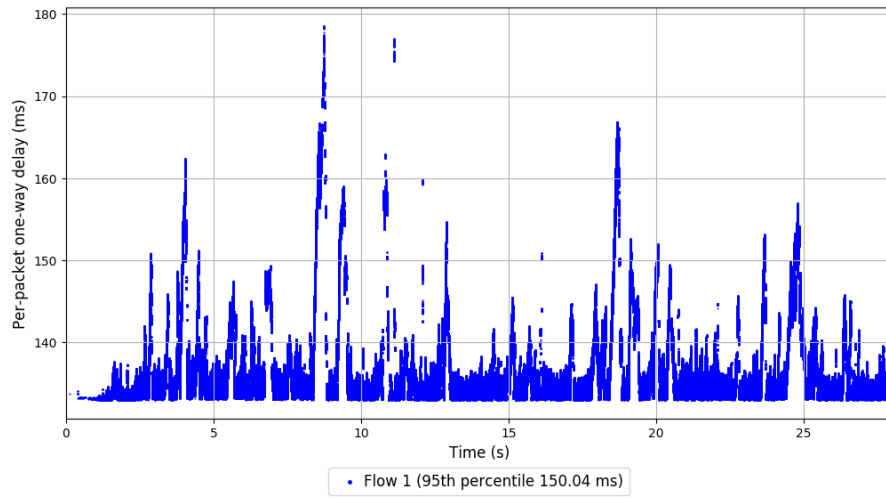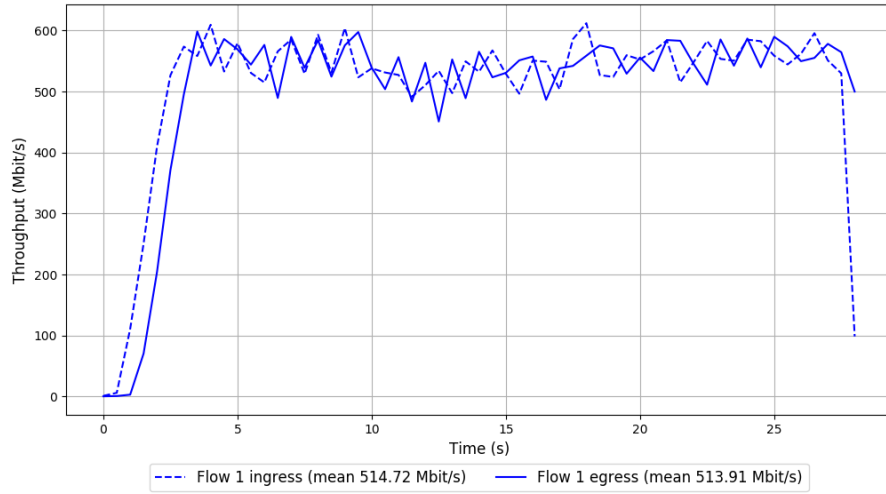
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-06-28 05:27:19
End at: 2019-06-28 05:27:49
Local clock offset: -0.424 ms
Remote clock offset: -0.14 ms

Below is generated by plot.py at 2019-06-28 08:00:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 529.13 Mbit/s
95th percentile per-packet one-way delay: 160.794 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 529.13 Mbit/s
95th percentile per-packet one-way delay: 160.794 ms
Loss rate: 1.09%
```
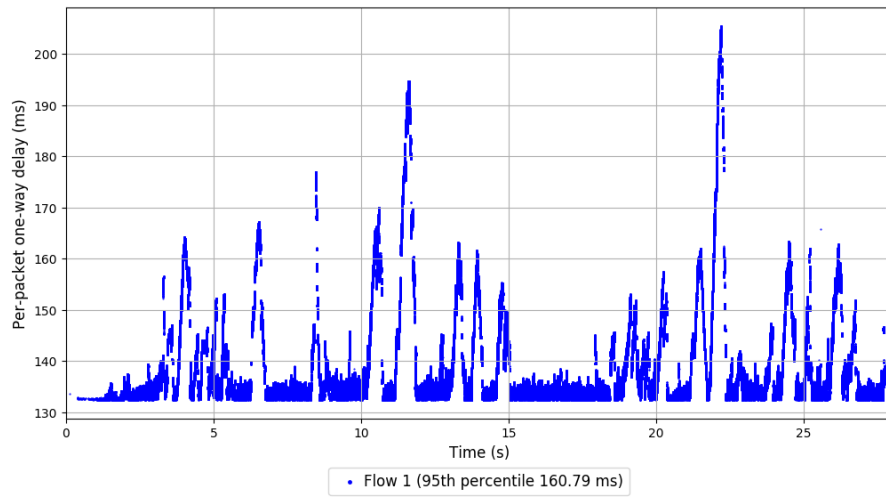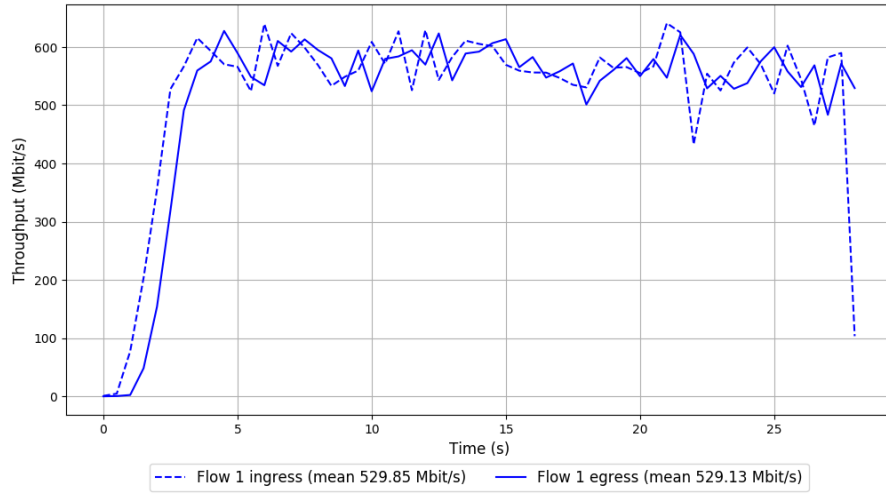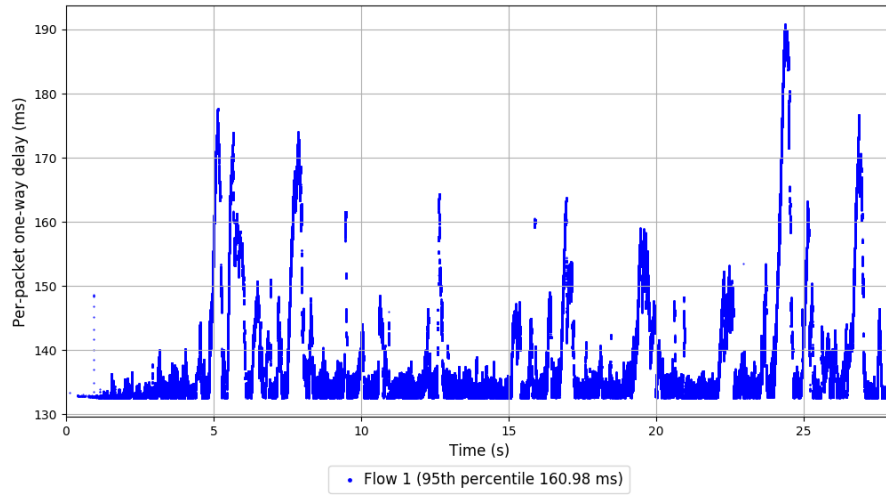
Run 3: Report of Indigo-MusesC3 — Data Link



Flow 1 ingress (mean 529.85 Mbit/s)    Flow 1 egress (mean 529.13 Mbit/s)



Flow 1 (95th percentile 160.79 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-06-28 06:00:12
End at: 2019-06-28 06:00:42
Local clock offset: -0.39 ms
Remote clock offset: -0.165 ms

Below is generated by plot.py at 2019-06-28 08:00:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 520.78 Mbit/s
95th percentile per-packet one-way delay: 160.984 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 520.78 Mbit/s
95th percentile per-packet one-way delay: 160.984 ms
Loss rate: 1.46%
```
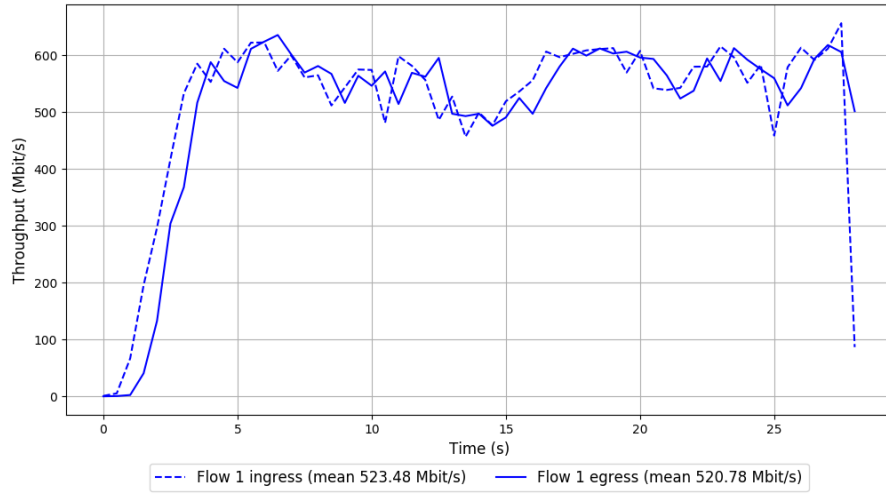
Run 4: Report of Indigo-MusesC3 — Data Link



Flow 1 ingress (mean 523.48 Mbit/s) ---- Flow 1 egress (mean 520.78 Mbit/s)
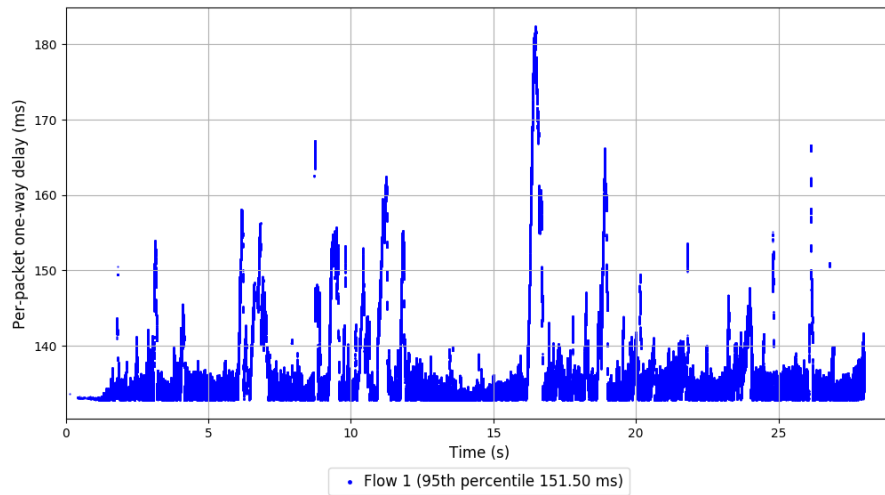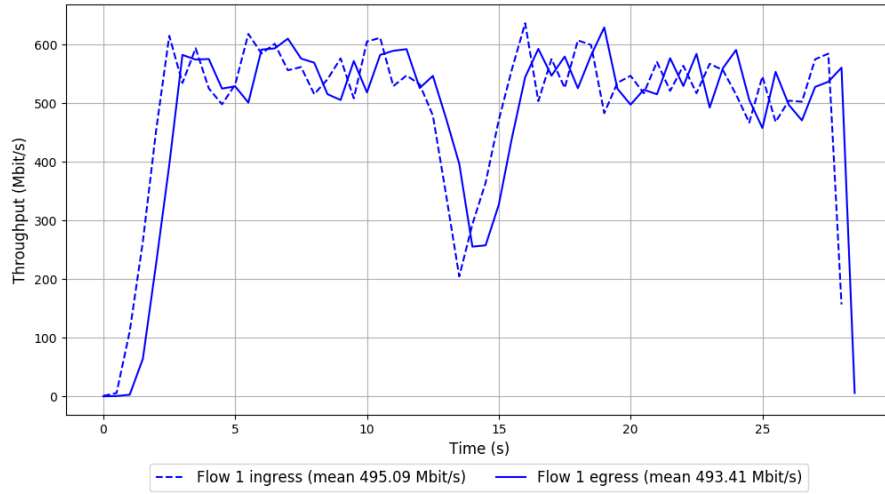


Flow 1 (95th percentile 160.98 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-06-28 06:33:19
End at: 2019-06-28 06:33:49
Local clock offset: -0.301 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-06-28 08:00:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 493.41 Mbit/s
95th percentile per-packet one-way delay: 151.495 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 493.41 Mbit/s
95th percentile per-packet one-way delay: 151.495 ms
Loss rate: 1.28%
```

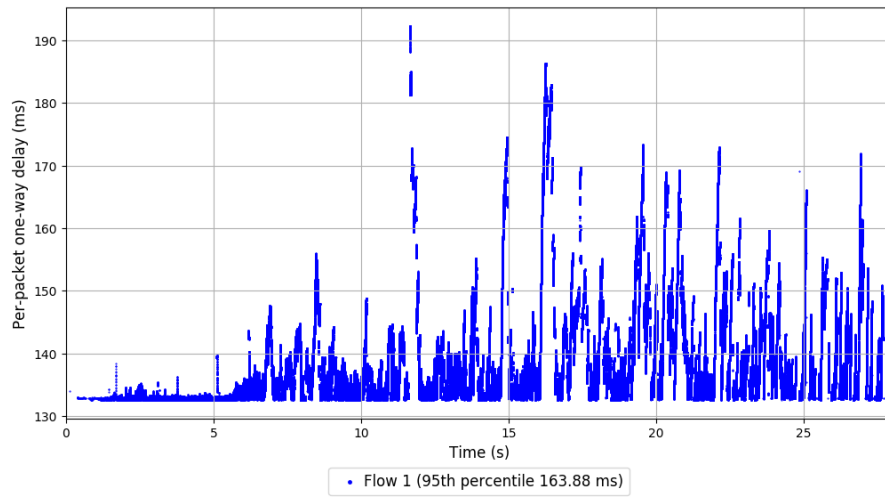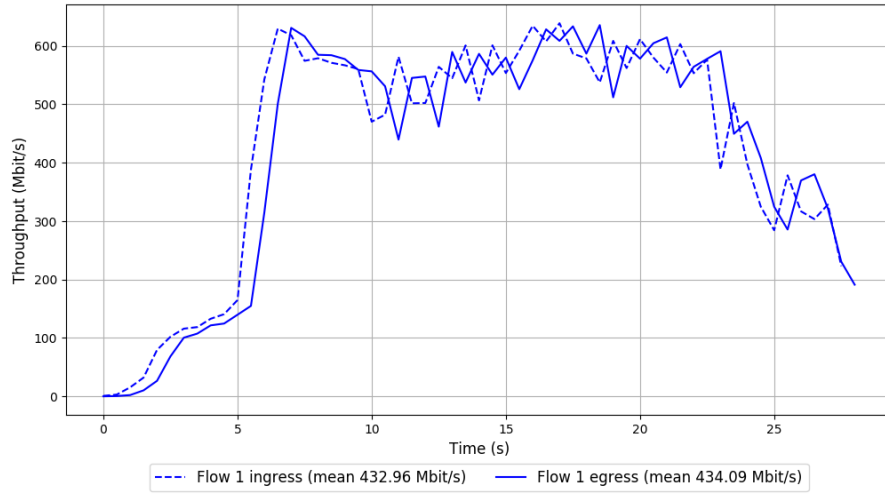Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-06-28 04:26:10
End at: 2019-06-28 04:26:40
Local clock offset: 0.297 ms
Remote clock offset: -0.113 ms


# Below is generated by plot.py at 2019-06-28 08:00:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 434.09 Mbit/s
95th percentile per-packet one-way delay: 163.877 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 434.09 Mbit/s
95th percentile per-packet one-way delay: 163.877 ms
Loss rate: 0.71%
```

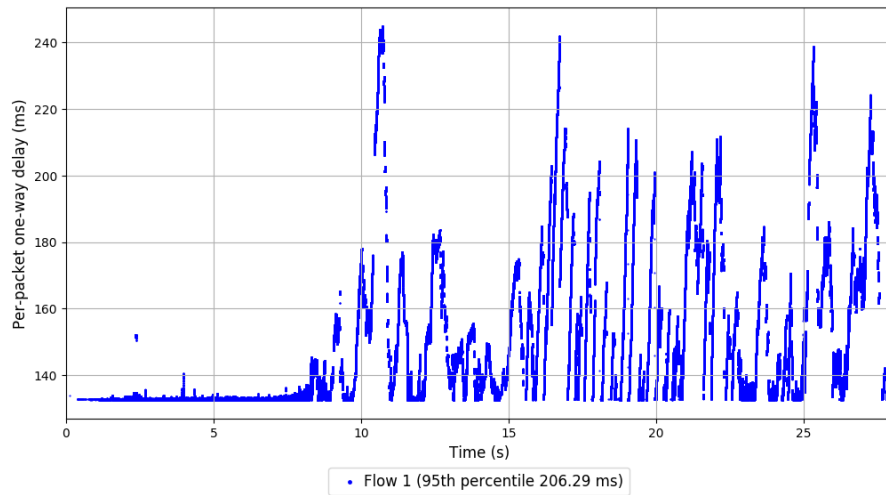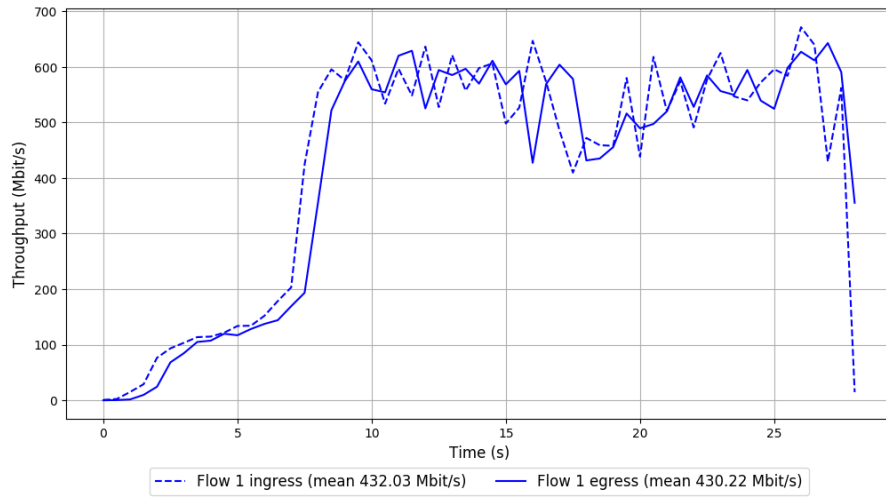Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-06-28 04:58:49
End at: 2019-06-28 04:59:19
Local clock offset: -0.292 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-06-28 08:03:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 430.22 Mbit/s
95th percentile per-packet one-way delay: 206.287 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 430.22 Mbit/s
95th percentile per-packet one-way delay: 206.287 ms
Loss rate: 1.35%
```

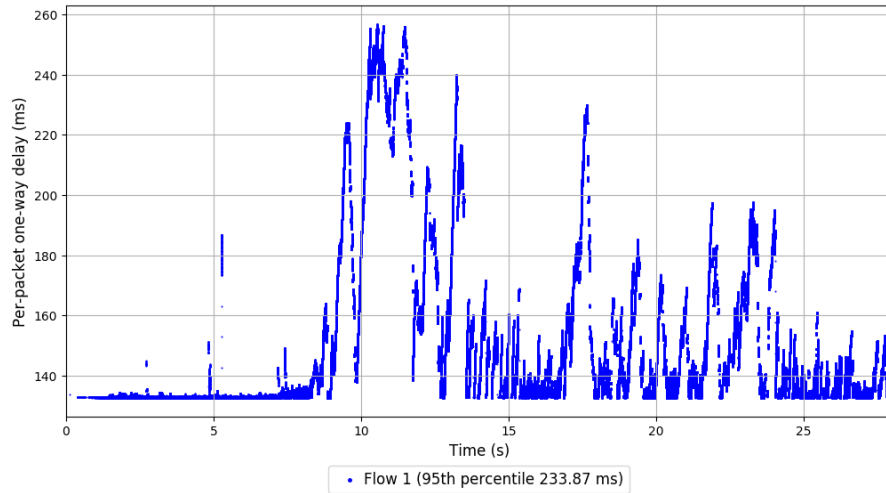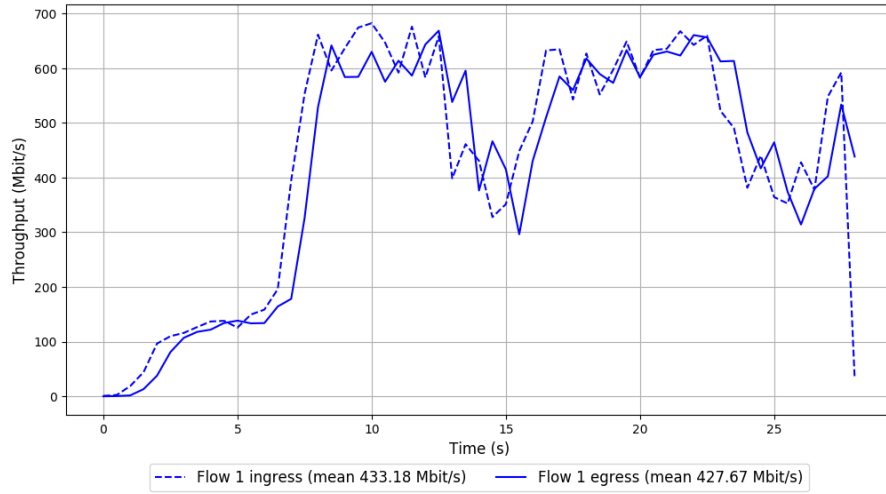Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-06-28 05:31:46
End at: 2019-06-28 05:32:16
Local clock offset: -0.133 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-06-28 08:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 427.67 Mbit/s
95th percentile per-packet one-way delay: 233.873 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 427.67 Mbit/s
95th percentile per-packet one-way delay: 233.873 ms
Loss rate: 2.22%
```

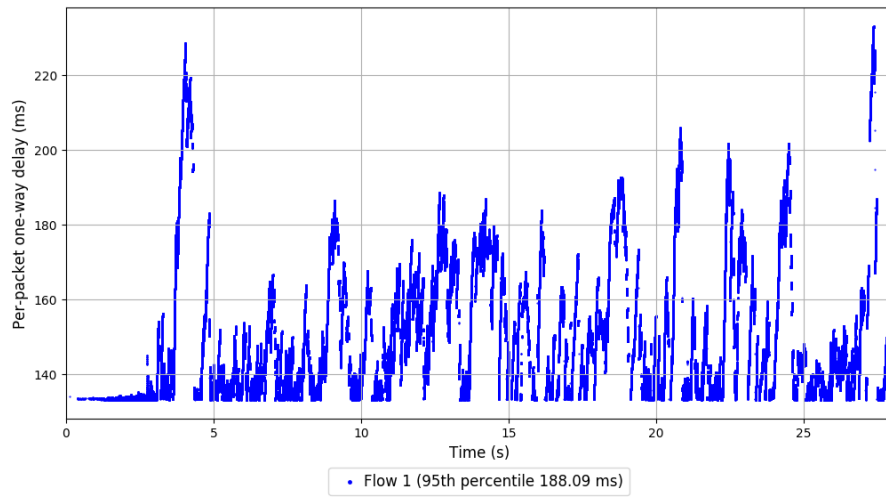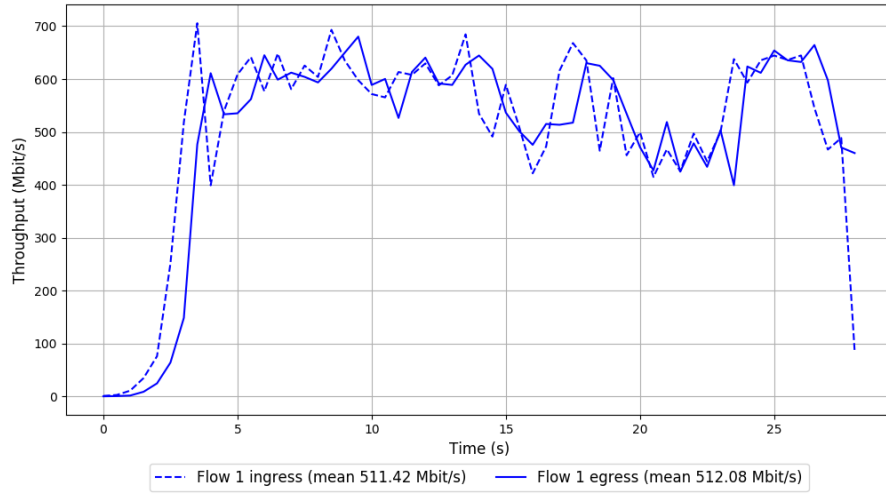Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-06-28 06:04:42
End at: 2019-06-28 06:05:12
Local clock offset: -0.038 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2019-06-28 08:08:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 512.08 Mbit/s
95th percentile per-packet one-way delay: 188.085 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 512.08 Mbit/s
95th percentile per-packet one-way delay: 188.085 ms
Loss rate: 0.83%
```

Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 511.42 Mbit/s) ---- Flow 1 egress (mean 512.08 Mbit/s)

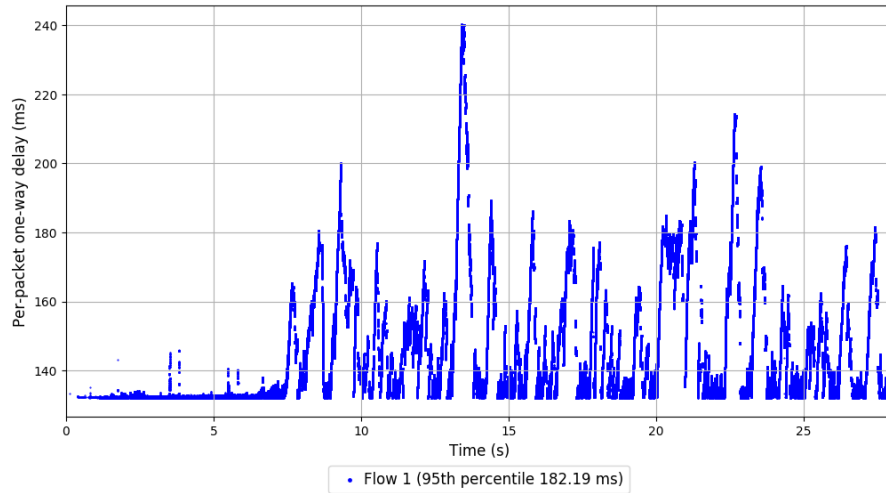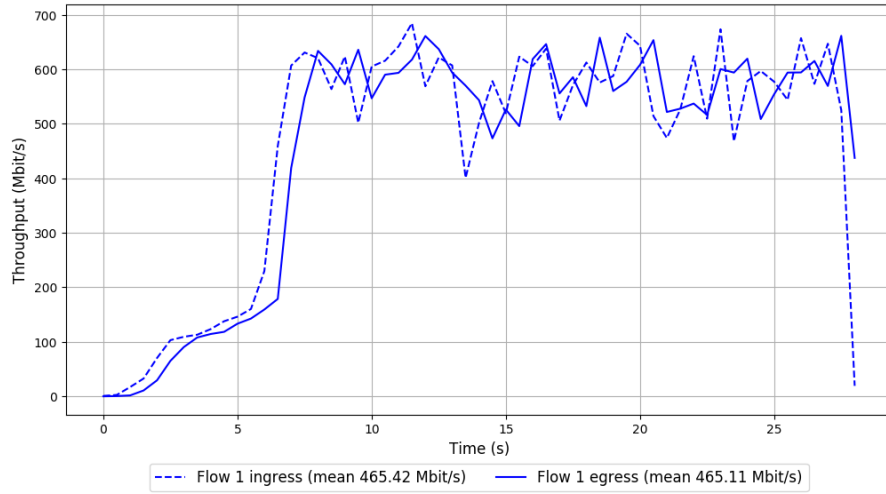• Flow 1 (95th percentile 188.09 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-06-28 06:37:56
End at: 2019-06-28 06:38:26
Local clock offset: -0.337 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2019-06-28 08:08:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 465.11 Mbit/s
95th percentile per-packet one-way delay: 182.187 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 465.11 Mbit/s
95th percentile per-packet one-way delay: 182.187 ms
Loss rate: 1.02%
```

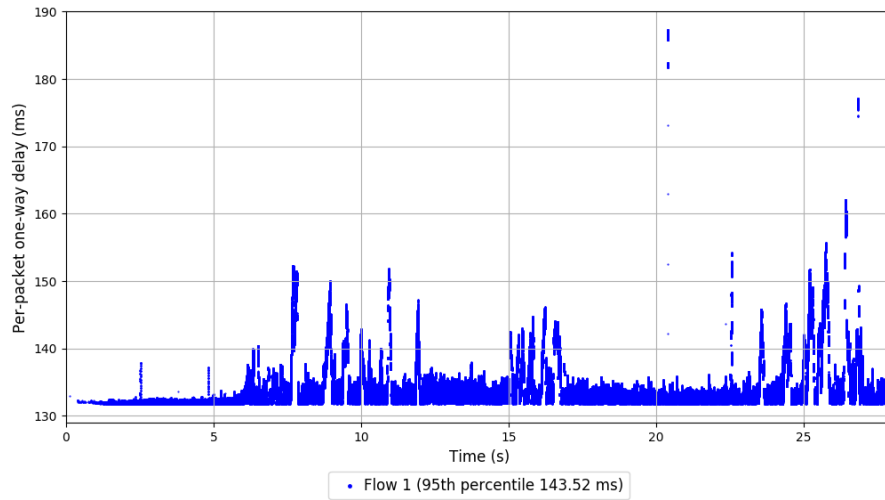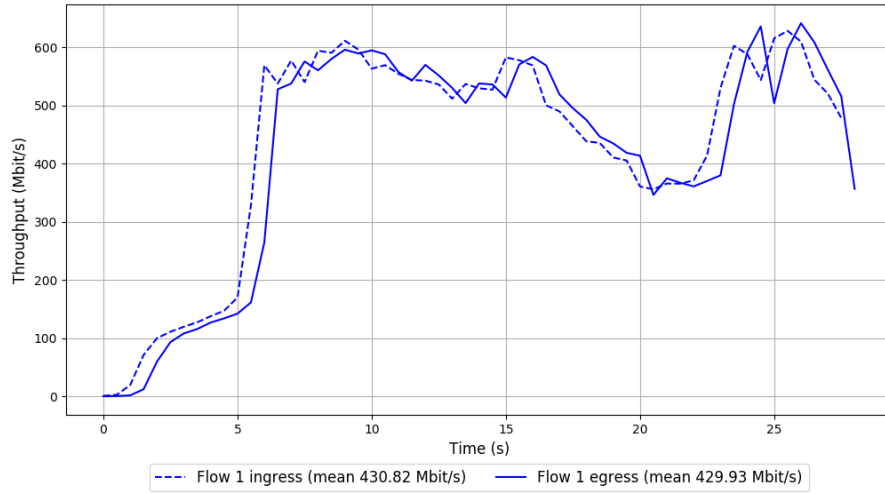Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-06-28 04:36:31
End at: 2019-06-28 04:37:01
Local clock offset: -0.244 ms
Remote clock offset: -0.193 ms


# Below is generated by plot.py at 2019-06-28 08:08:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 429.93 Mbit/s
95th percentile per-packet one-way delay: 143.516 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 429.93 Mbit/s
95th percentile per-packet one-way delay: 143.516 ms
Loss rate: 1.17%
```

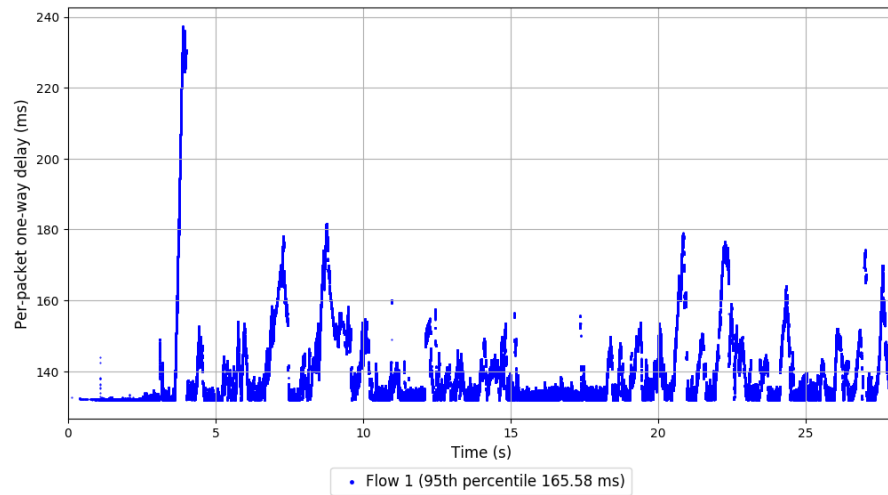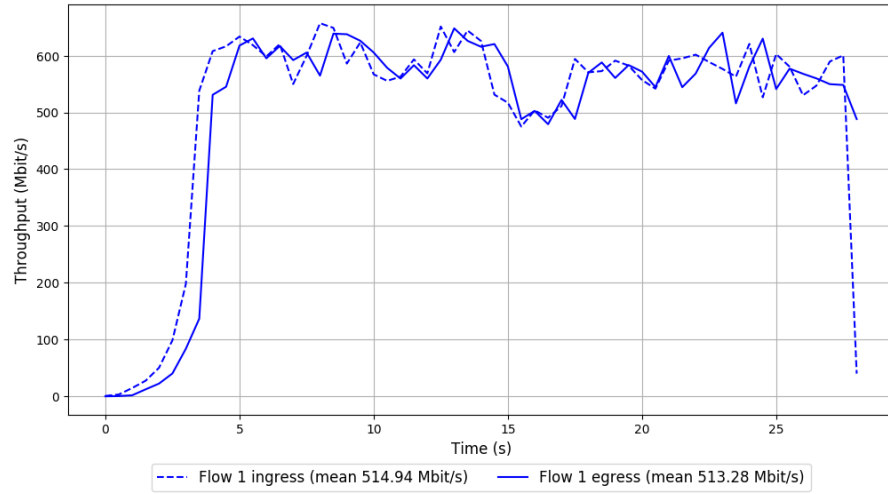# Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-06-28 05:09:10
End at: 2019-06-28 05:09:40
Local clock offset: -0.054 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-06-28 08:09:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 513.28 Mbit/s
95th percentile per-packet one-way delay: 165.581 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 513.28 Mbit/s
95th percentile per-packet one-way delay: 165.581 ms
Loss rate: 1.27%
```

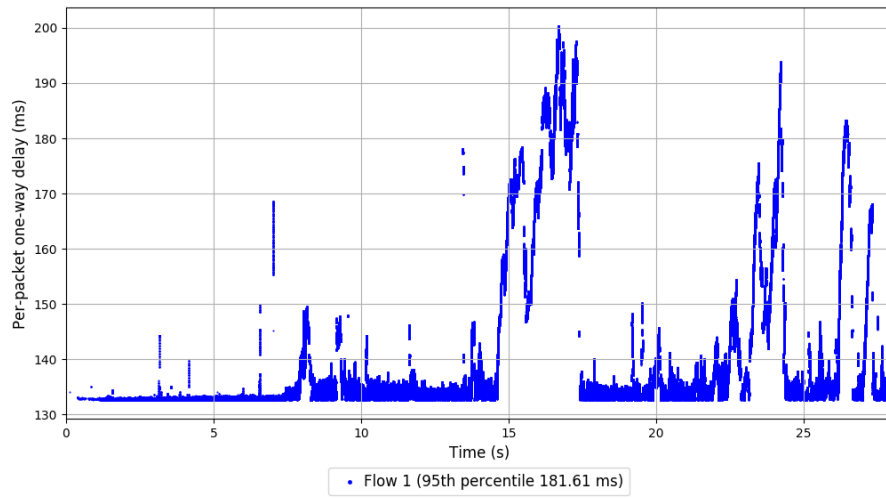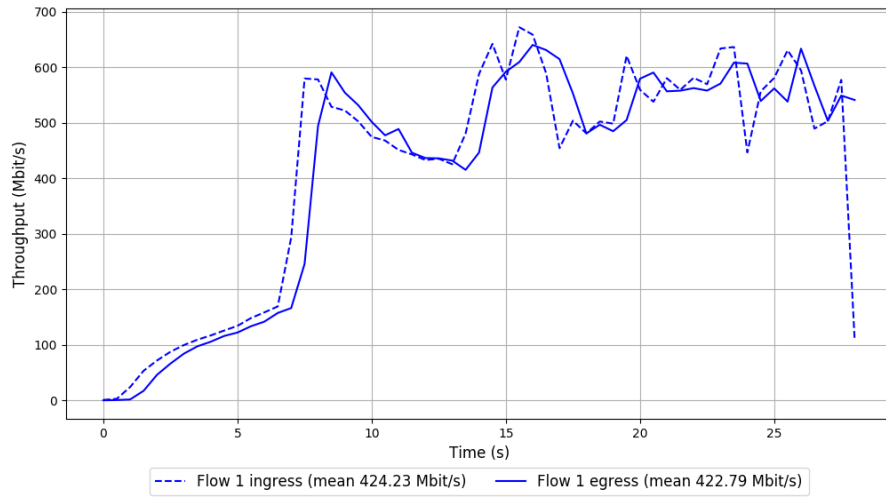Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-06-28 05:42:14
End at: 2019-06-28 05:42:44
Local clock offset: -0.174 ms
Remote clock offset: -0.147 ms


# Below is generated by plot.py at 2019-06-28 08:09:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 422.79 Mbit/s
95th percentile per-packet one-way delay: 181.609 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 422.79 Mbit/s
95th percentile per-packet one-way delay: 181.609 ms
Loss rate: 1.28%
```

Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 424.23 Mbit/s)   Flow 1 egress (mean 422.79 Mbit/s)
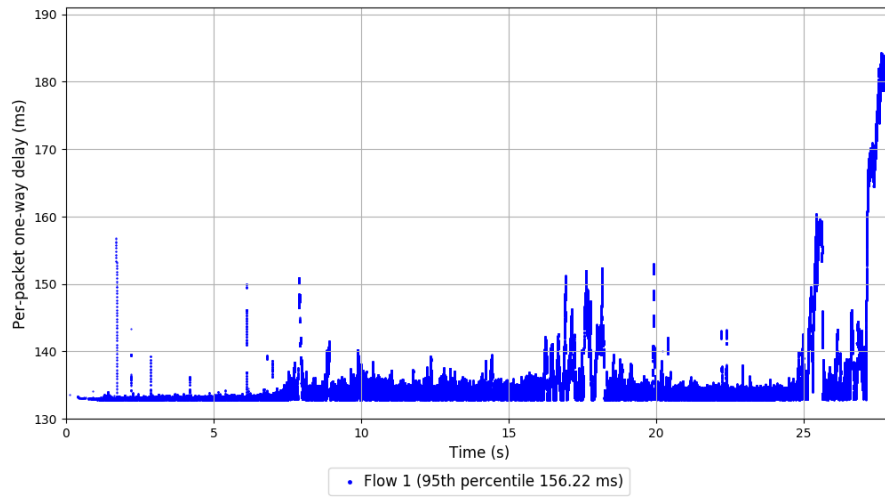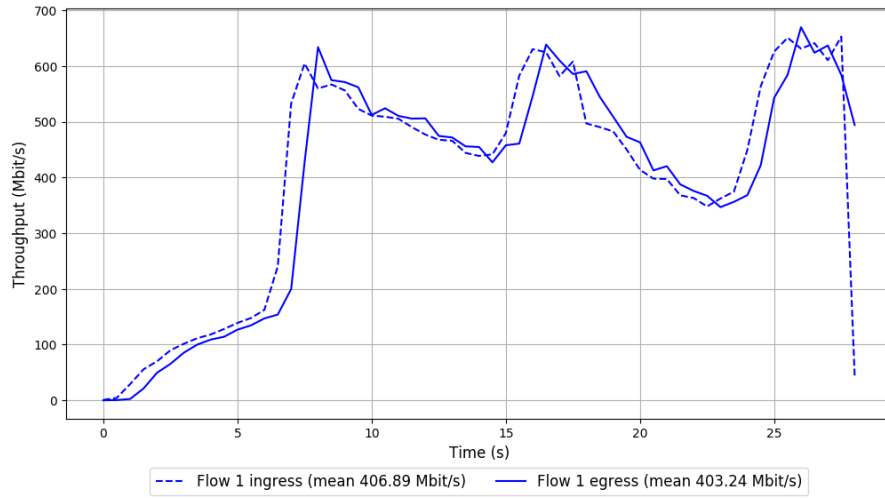

Flow 1 (95th percentile 181.61 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-06-28 06:15:20
End at: 2019-06-28 06:15:50
Local clock offset: -0.061 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2019-06-28 08:09:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 403.24 Mbit/s
95th percentile per-packet one-way delay: 156.218 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 403.24 Mbit/s
95th percentile per-packet one-way delay: 156.218 ms
Loss rate: 1.84%
```

Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 406.89 Mbit/s) --- Flow 1 egress (mean 403.24 Mbit/s)

Flow 1 (95th percentile 156.22 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-06-28 06:48:22
End at: 2019-06-28 06:48:52
Local clock offset: 0.196 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-06-28 08:11:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 450.74 Mbit/s
95th percentile per-packet one-way delay: 160.320 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 450.74 Mbit/s
95th percentile per-packet one-way delay: 160.320 ms
Loss rate: 1.26%
```
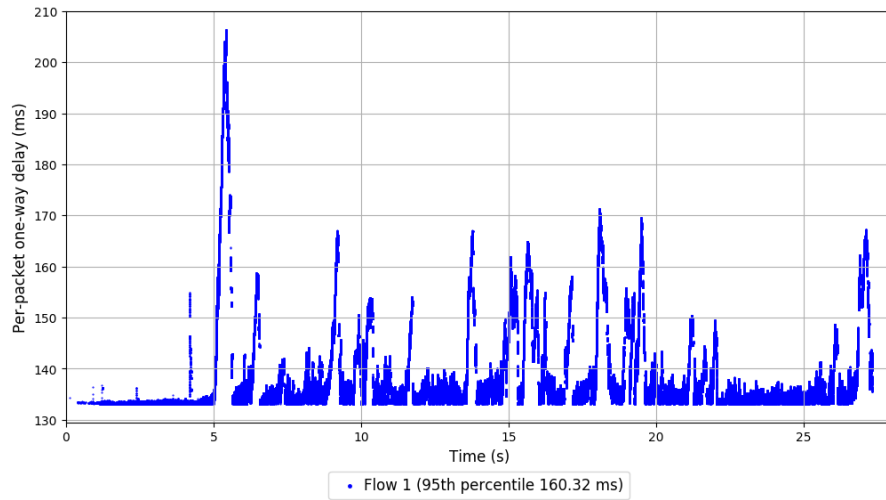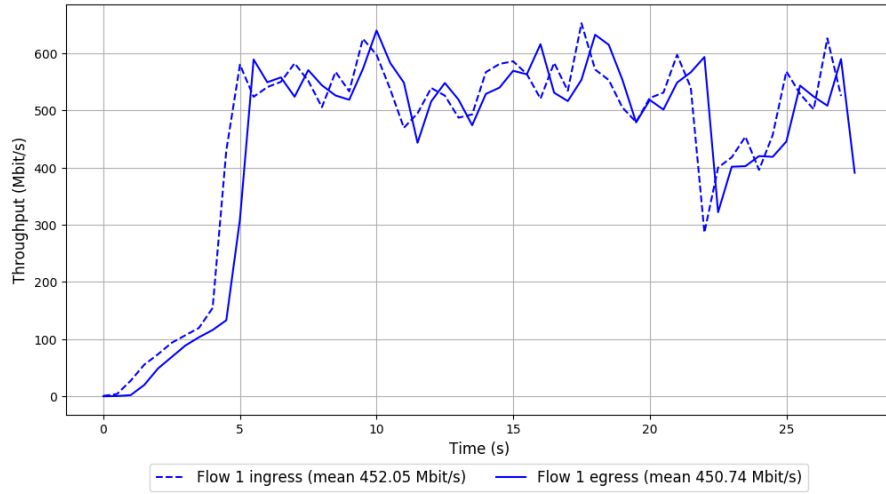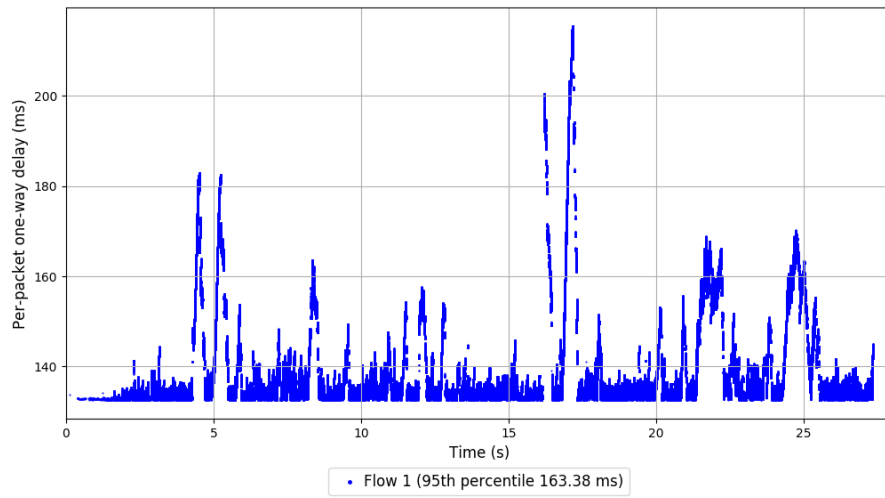
Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 452.05 Mbit/s) --- Flow 1 egress (mean 450.74 Mbit/s)

• Flow 1 (95th percentile 160.32 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-06-28 04:20:05
End at: 2019-06-28 04:20:35
Local clock offset: -0.299 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-06-28 08:12:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 503.67 Mbit/s
95th percentile per-packet one-way delay: 163.381 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 503.67 Mbit/s
95th percentile per-packet one-way delay: 163.381 ms
Loss rate: 1.11%
```
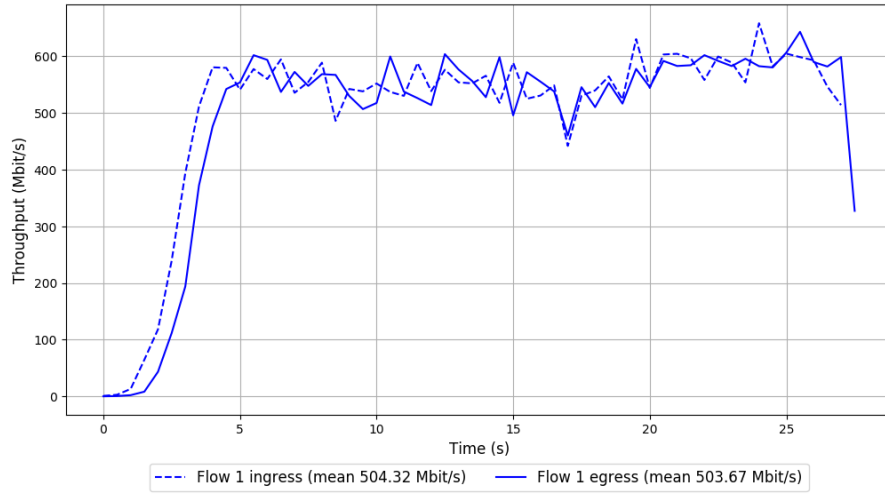
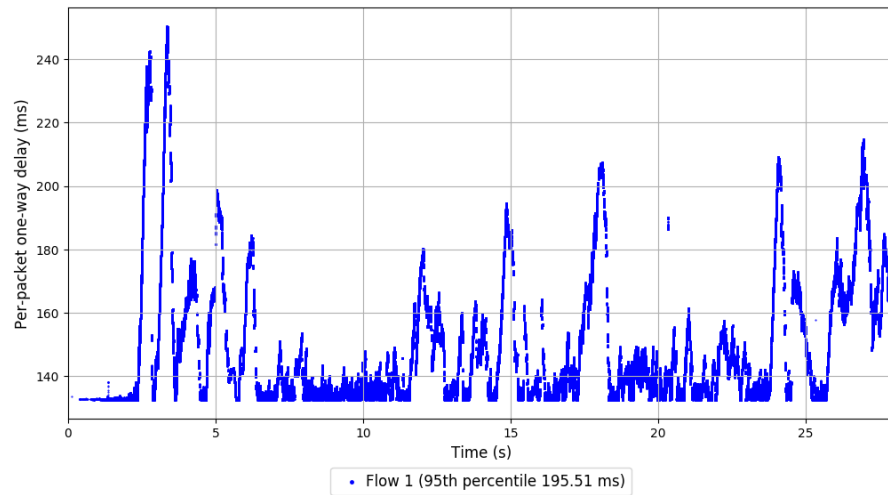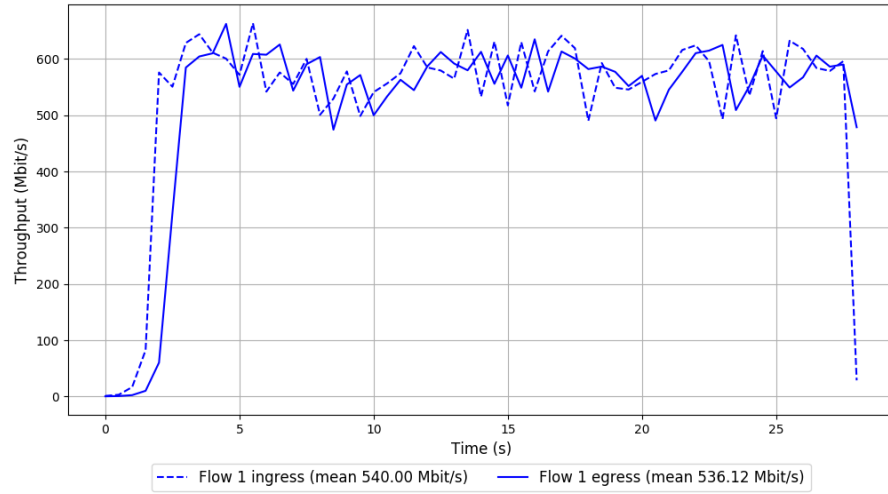Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-06-28 04:52:37
End at: 2019-06-28 04:53:08
Local clock offset: -0.308 ms
Remote clock offset: -0.184 ms


# Below is generated by plot.py at 2019-06-28 08:17:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 536.12 Mbit/s
95th percentile per-packet one-way delay: 195.515 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 536.12 Mbit/s
95th percentile per-packet one-way delay: 195.515 ms
Loss rate: 1.67%
```

Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-06-28 05:25:38
End at: 2019-06-28 05:26:08
Local clock offset: -0.007 ms
Remote clock offset: -0.506 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 570.24 Mbit/s
95th percentile per-packet one-way delay: 202.047 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 570.24 Mbit/s
95th percentile per-packet one-way delay: 202.047 ms
Loss rate: 1.00%
```
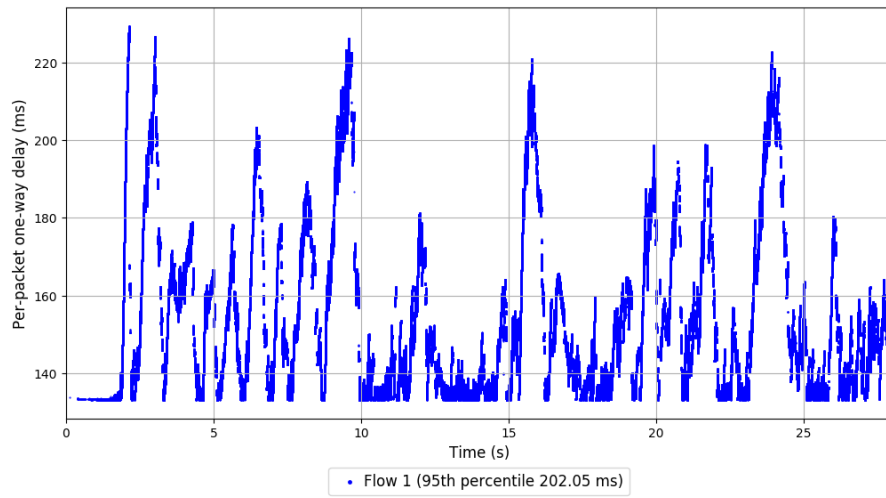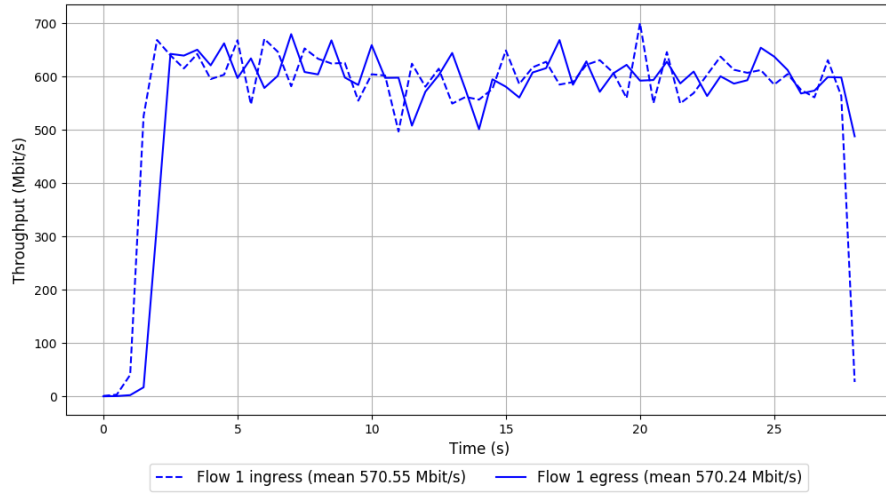
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 570.55 Mbit/s) —— Flow 1 egress (mean 570.24 Mbit/s)
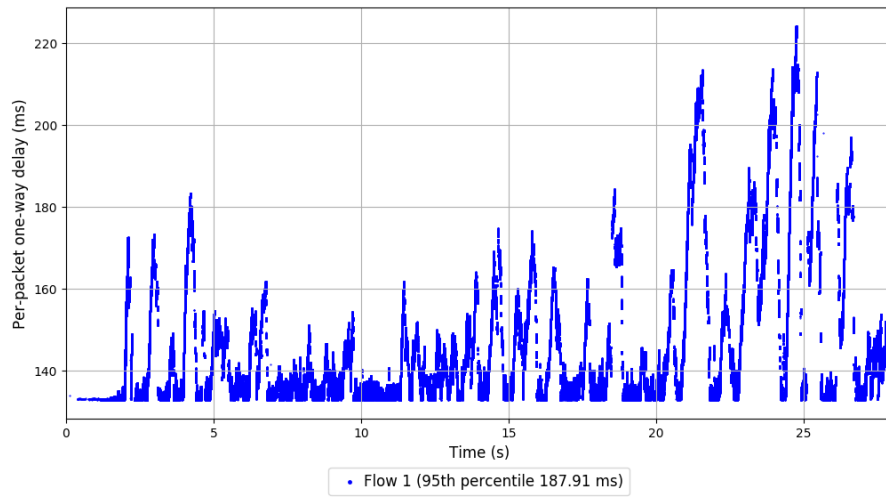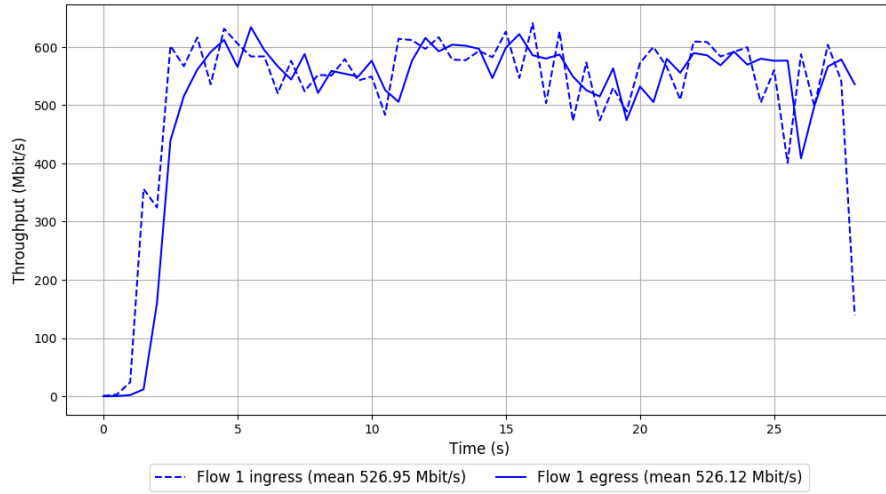

• Flow 1 (95th percentile 202.05 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-06-28 05:58:33
End at: 2019-06-28 05:59:03
Local clock offset: -0.038 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 526.12 Mbit/s
95th percentile per-packet one-way delay: 187.910 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 526.12 Mbit/s
95th percentile per-packet one-way delay: 187.910 ms
Loss rate: 1.11%
```
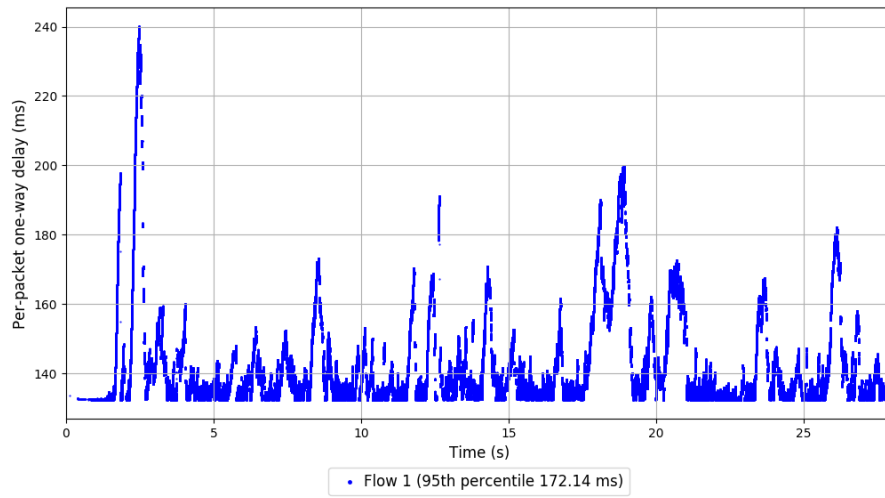
Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 526.95 Mbit/s) — — — — — Flow 1 egress (mean 526.12 Mbit/s)

• Flow 1 (95th percentile 187.91 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-06-28 06:31:39
End at: 2019-06-28 06:32:09
Local clock offset: -0.273 ms
Remote clock offset: 0.228 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 560.40 Mbit/s
95th percentile per-packet one-way delay: 172.144 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 560.40 Mbit/s
95th percentile per-packet one-way delay: 172.144 ms
Loss rate: 1.27%
```
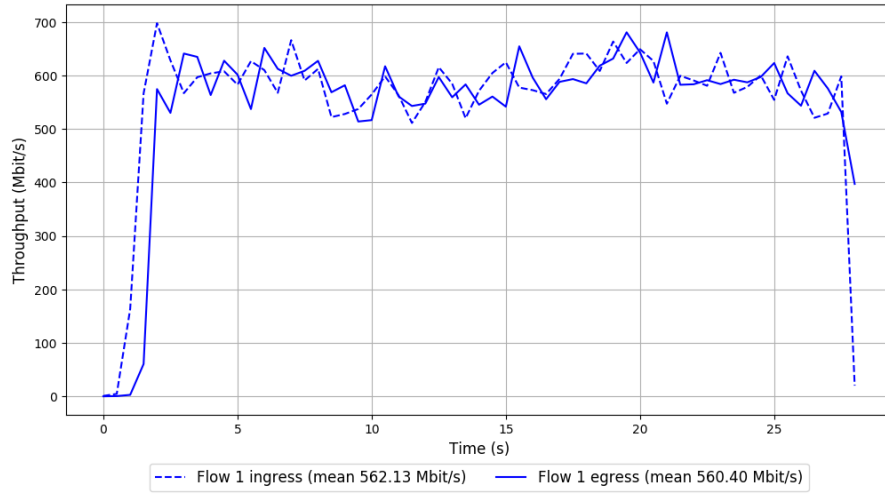
Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-06-28 04:46:35
End at: 2019-06-28 04:47:05
Local clock offset: -0.552 ms
Remote clock offset: -0.248 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 133.281 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 133.281 ms
Loss rate: 1.79%
```
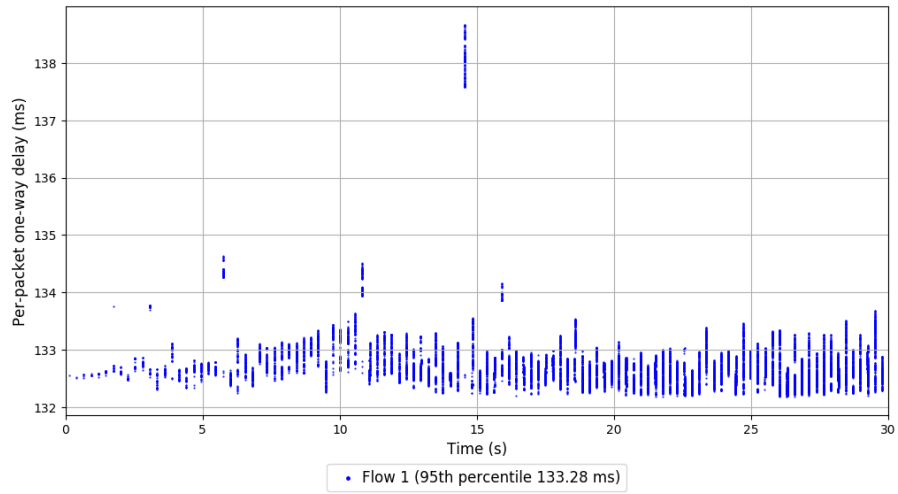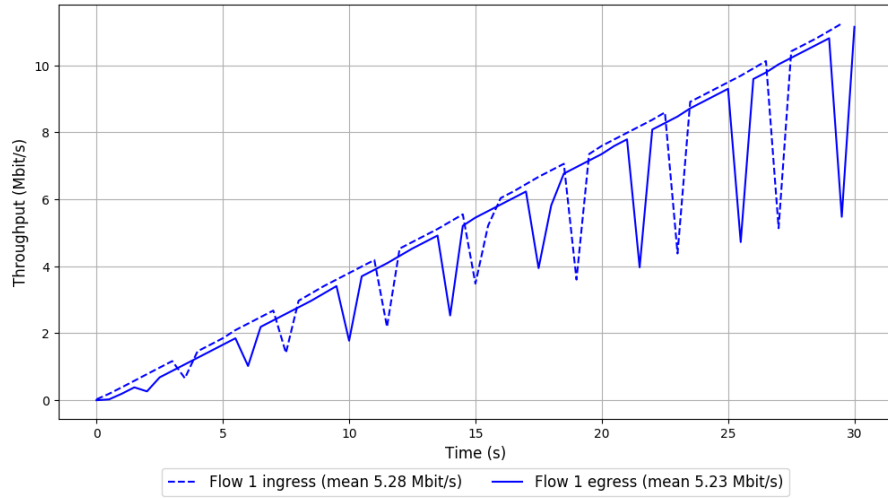
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 5.28 Mbit/s)   Flow 1 egress (mean 5.23 Mbit/s)

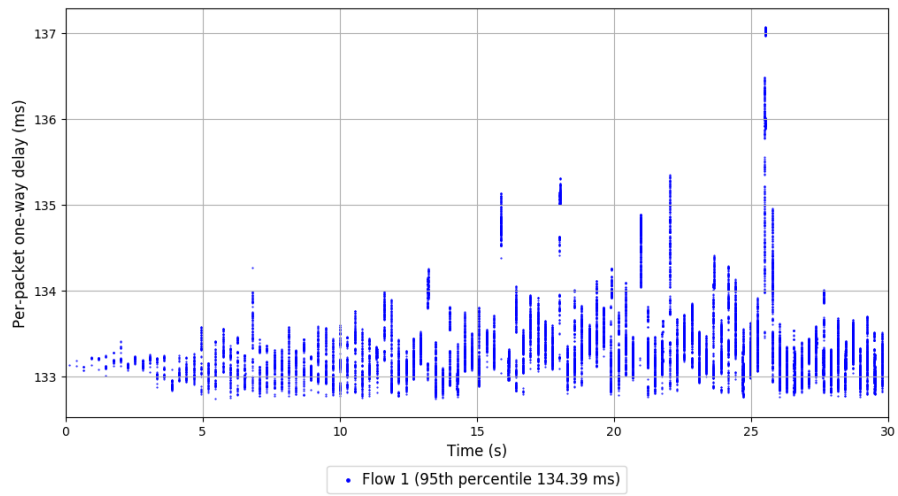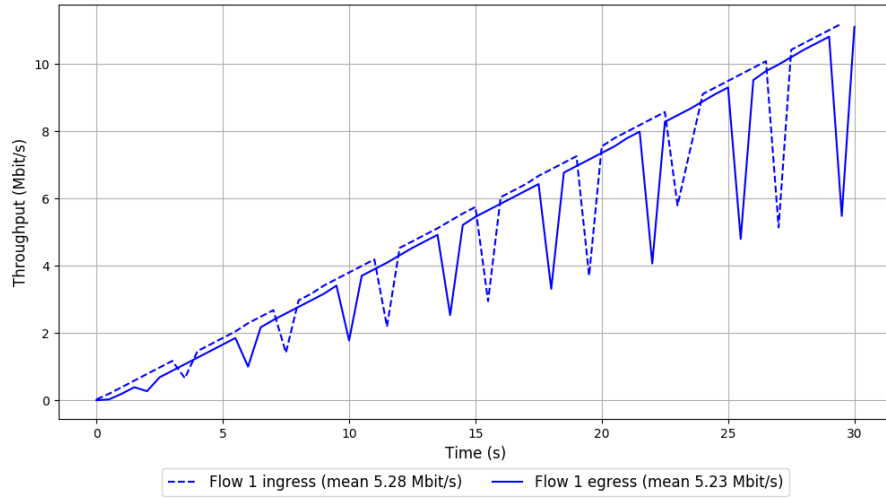Flow 1 (95th percentile 133.28 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-06-28 05:19:39
End at: 2019-06-28 05:20:09
Local clock offset: 0.01 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 134.386 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 134.386 ms
Loss rate: 1.78%
```

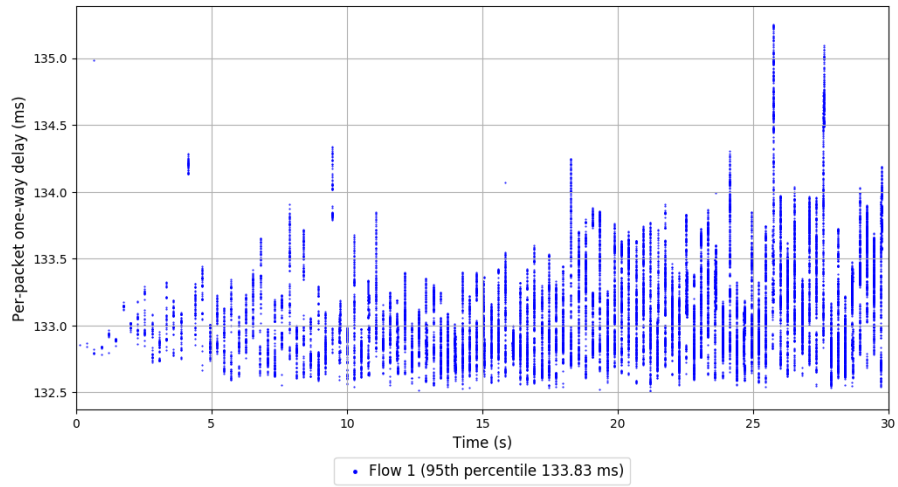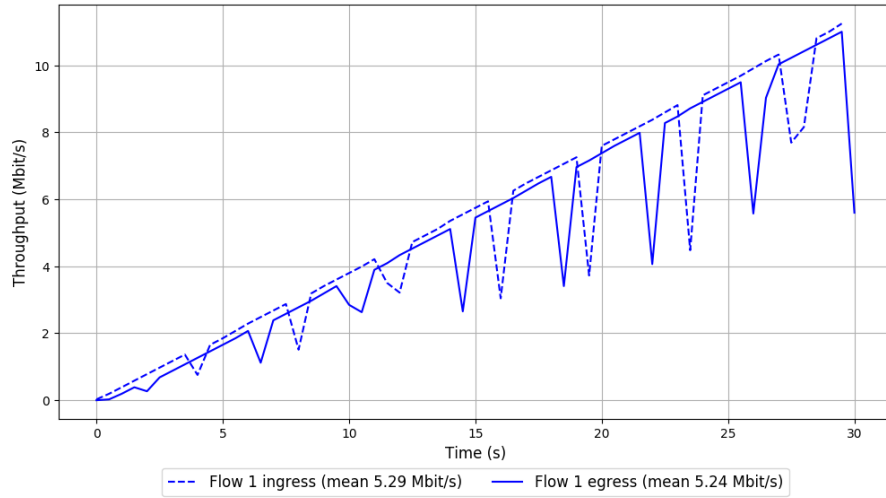Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-06-28 05:52:35
End at: 2019-06-28 05:53:05
Local clock offset: 0.274 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 133.828 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 133.828 ms
Loss rate: 1.79%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 5.29 Mbit/s) --- Flow 1 egress (mean 5.24 Mbit/s)

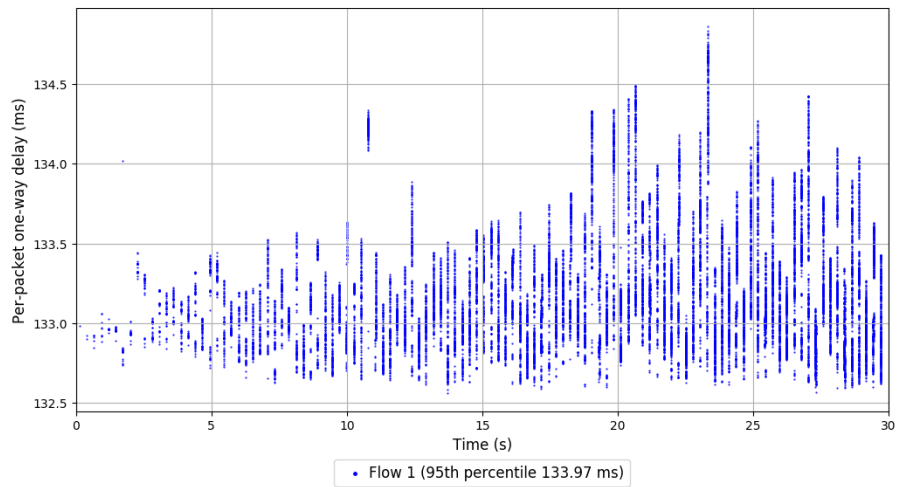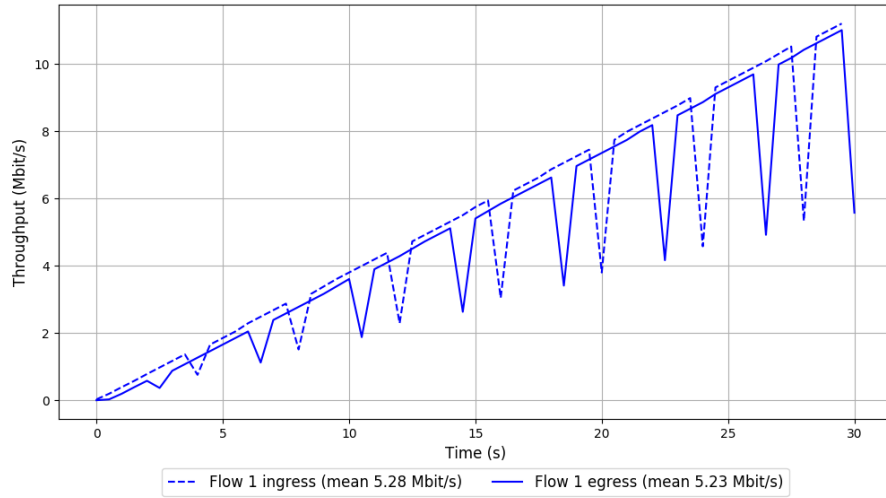Flow 1 (95th percentile 133.83 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-06-28 06:25:46
End at: 2019-06-28 06:26:16
Local clock offset: -0.236 ms
Remote clock offset: -0.139 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 133.968 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 133.968 ms
Loss rate: 1.78%
```

Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 5.28 Mbit/s)   Flow 1 egress (mean 5.23 Mbit/s)

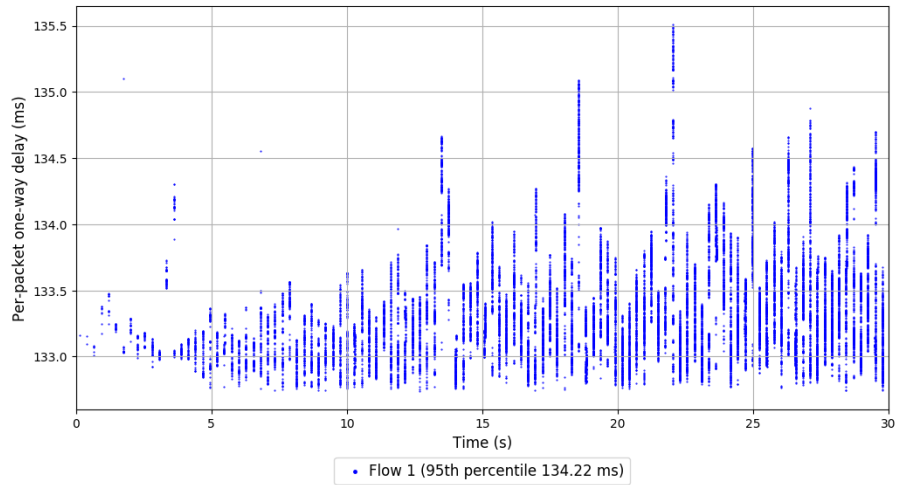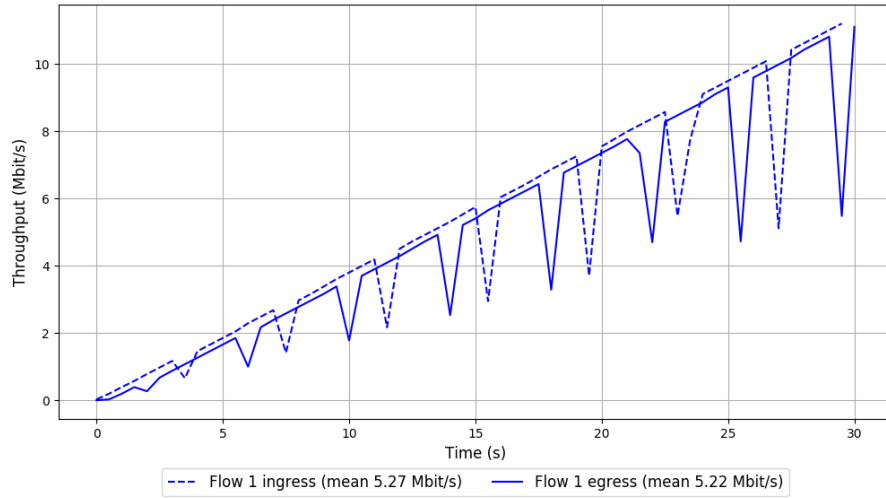Flow 1 (95th percentile 133.97 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-06-28 06:58:26
End at: 2019-06-28 06:58:56
Local clock offset: -0.075 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 134.217 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 134.217 ms
Loss rate: 1.78%
```
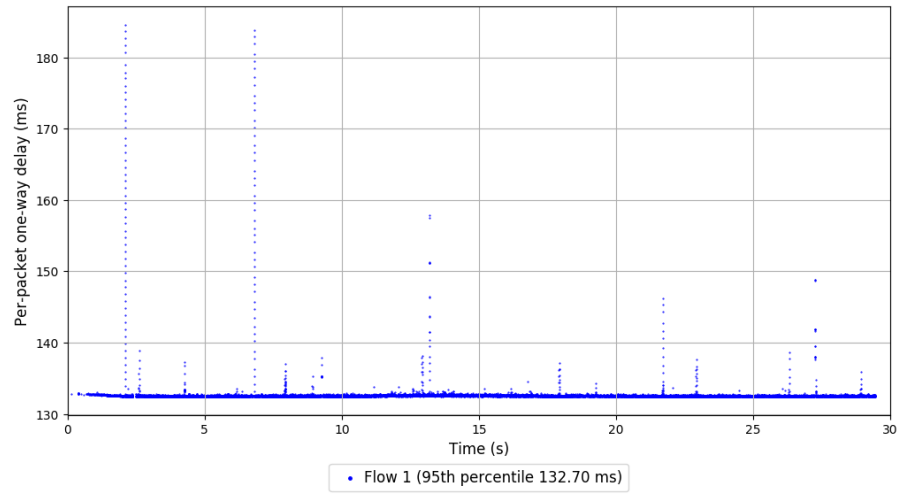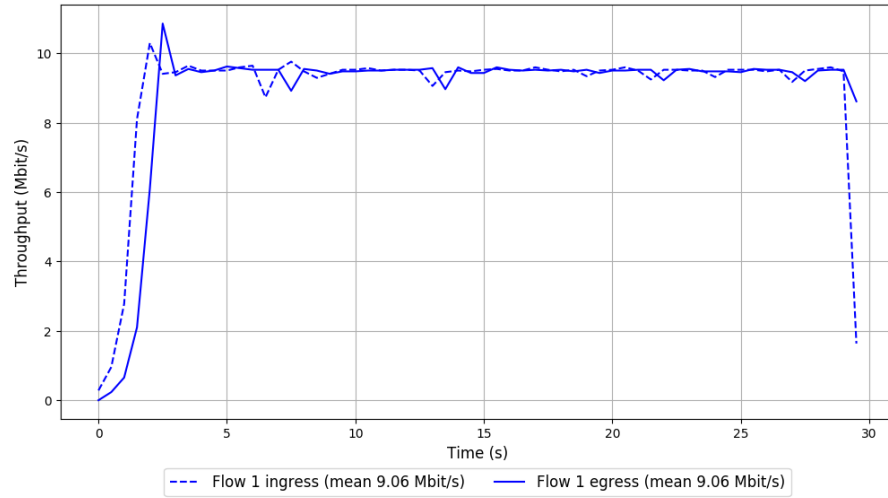
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 5.27 Mbit/s)   Flow 1 egress (mean 5.22 Mbit/s)

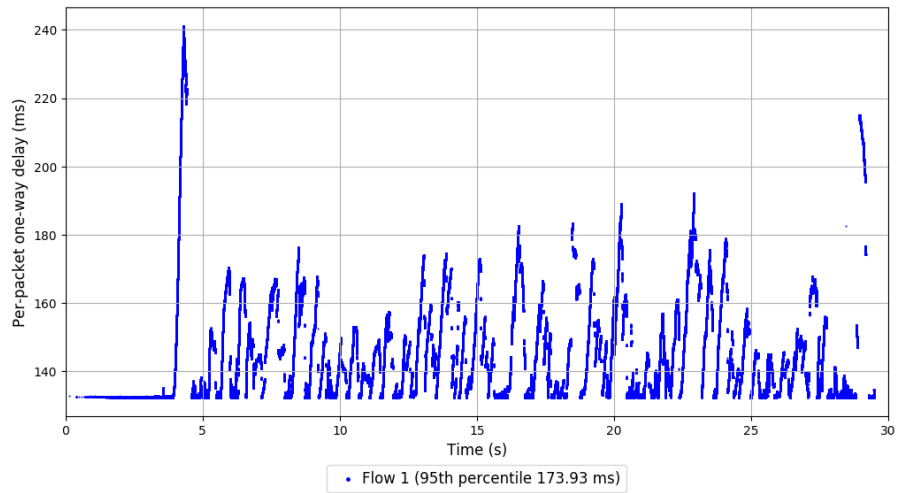
Flow 1 (95th percentile 134.22 ms)

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 04:39:16
End at: 2019-06-28 04:39:46
Local clock offset: -0.345 ms
Remote clock offset: -0.23 ms


# Below is generated by plot.py at 2019-06-28 08:18:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 132.699 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 132.699 ms
Loss rate: 0.95%
```

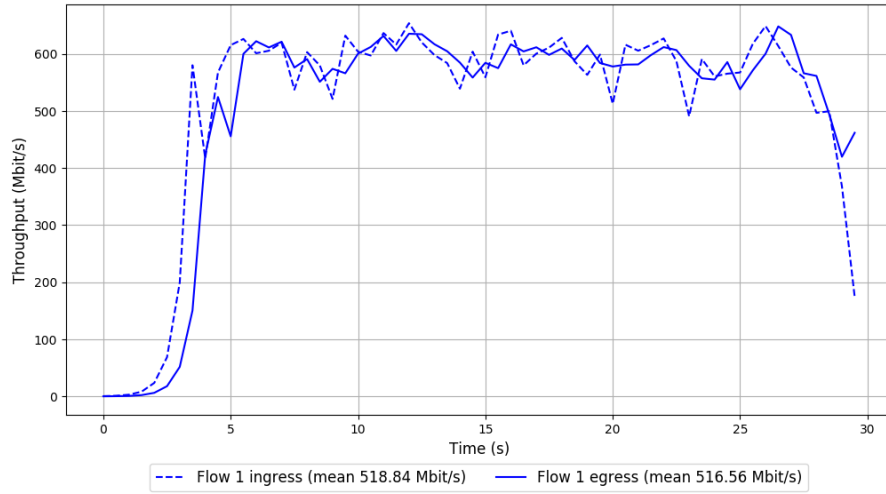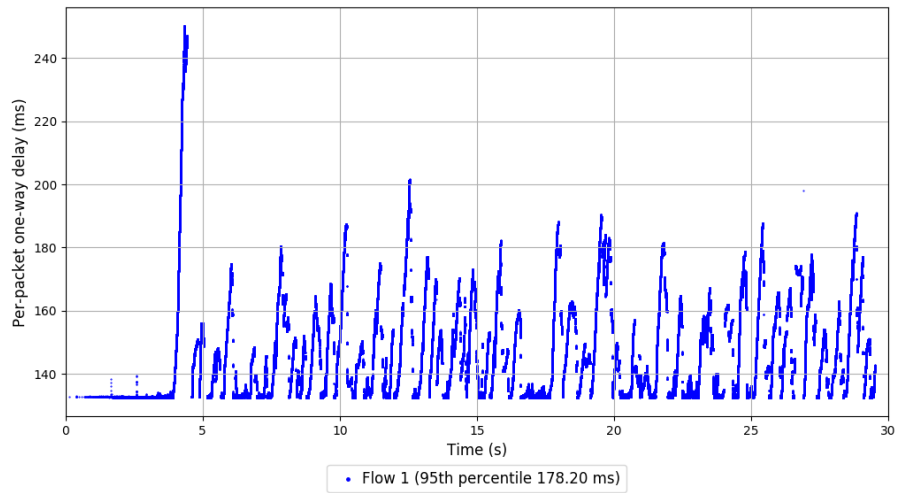Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 05:12:00
End at: 2019-06-28 05:12:30
Local clock offset: -0.378 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-06-28 08:18:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 516.56 Mbit/s
95th percentile per-packet one-way delay: 173.930 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 516.56 Mbit/s
95th percentile per-packet one-way delay: 173.930 ms
Loss rate: 1.34%
```

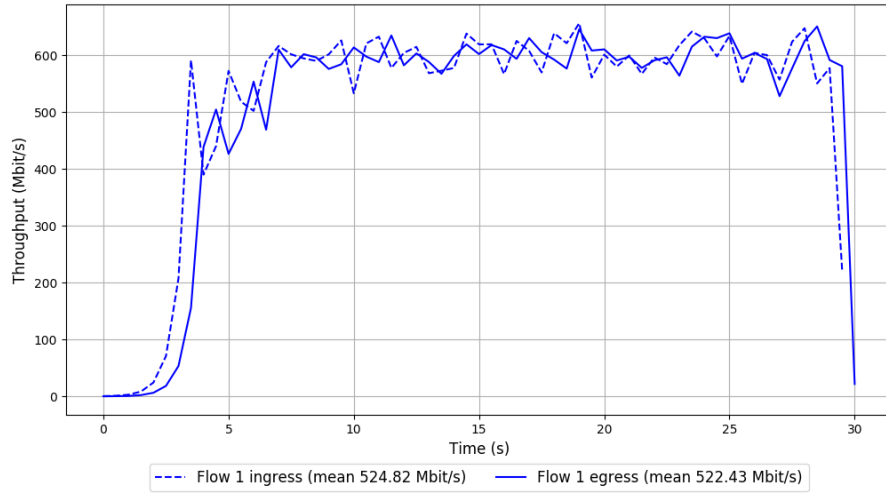Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 05:44:59
End at: 2019-06-28 05:45:29
Local clock offset: 0.425 ms
Remote clock offset: -0.169 ms


# Below is generated by plot.py at 2019-06-28 08:19:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 522.43 Mbit/s
95th percentile per-packet one-way delay: 178.203 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 522.43 Mbit/s
95th percentile per-packet one-way delay: 178.203 ms
Loss rate: 1.35%
```

Run 3: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 524.82 Mbit/s)   Flow 1 egress (mean 522.43 Mbit/s)

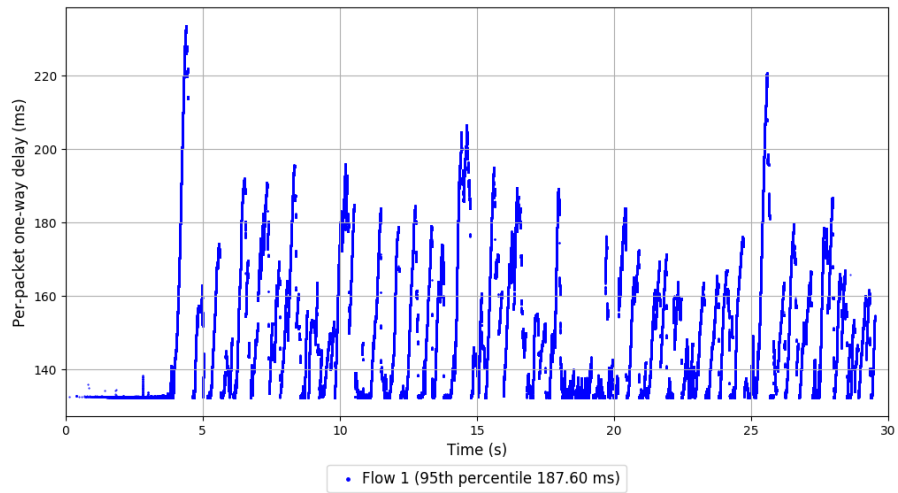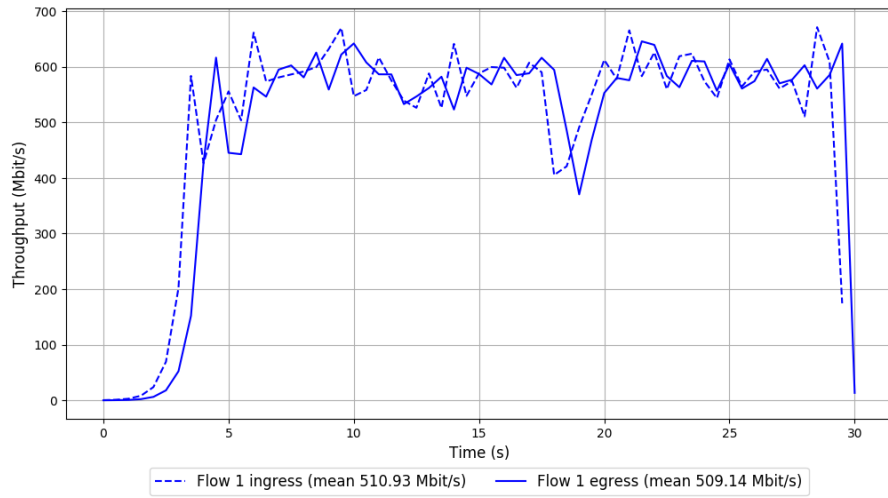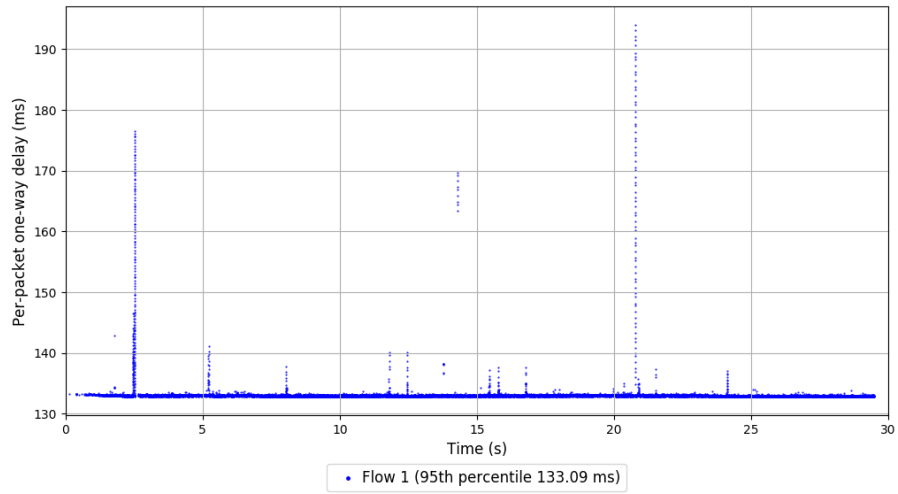• Flow 1 (95th percentile 178.20 ms)

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 06:18:03
End at: 2019-06-28 06:18:33
Local clock offset: 0.064 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-06-28 08:21:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 509.14 Mbit/s
95th percentile per-packet one-way delay: 187.599 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 509.14 Mbit/s
95th percentile per-packet one-way delay: 187.599 ms
Loss rate: 1.24%
```

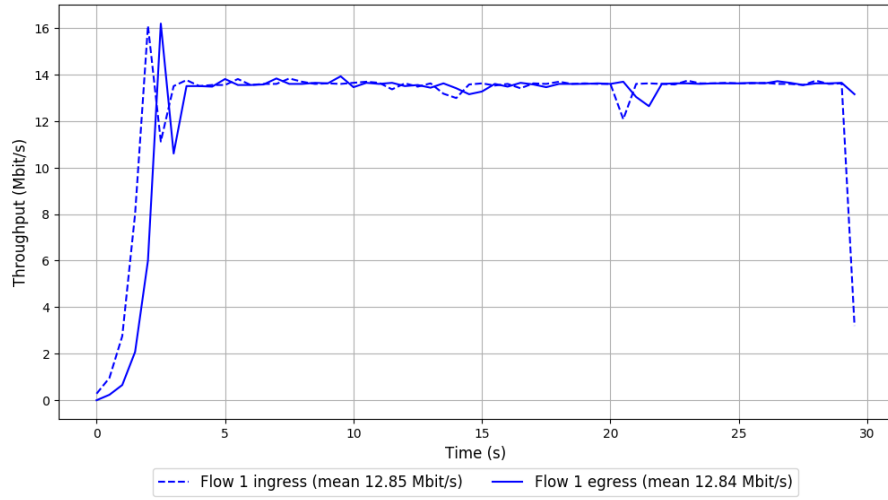Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 06:51:09
End at: 2019-06-28 06:51:39
Local clock offset: -0.278 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2019-06-28 08:21:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.84 Mbit/s
95th percentile per-packet one-way delay: 133.086 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 12.84 Mbit/s
95th percentile per-packet one-way delay: 133.086 ms
Loss rate: 0.95%
```
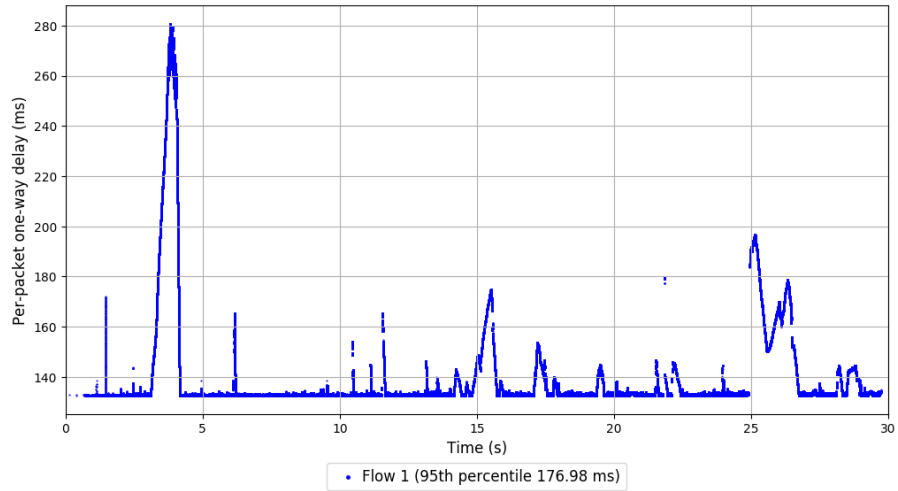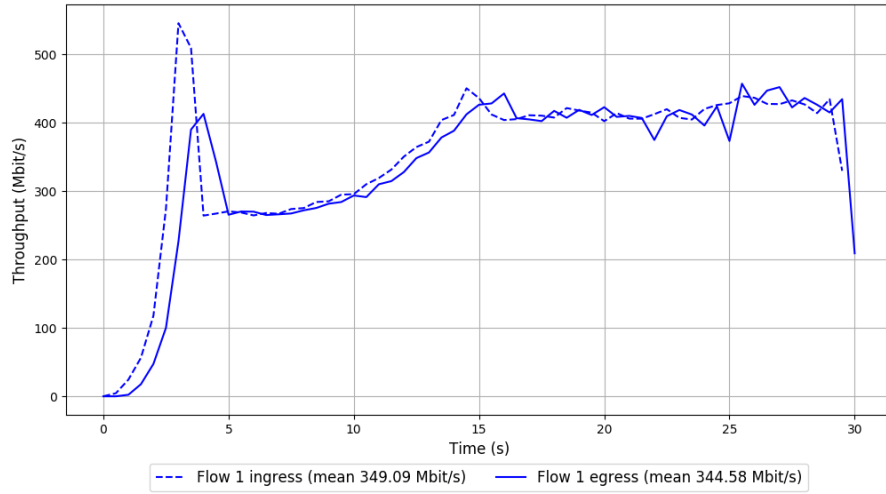
Run 5: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 12.85 Mbit/s) ——— Flow 1 egress (mean 12.84 Mbit/s)

• Flow 1 (95th percentile 133.09 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-06-28 04:44:58
End at: 2019-06-28 04:45:28
Local clock offset: -0.335 ms
Remote clock offset: -0.216 ms

# Below is generated by plot.py at 2019-06-28 08:25:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 344.58 Mbit/s
95th percentile per-packet one-way delay: 176.978 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 344.58 Mbit/s
95th percentile per-packet one-way delay: 176.978 ms
Loss rate: 2.17%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-06-28 05:18:03
End at: 2019-06-28 05:18:33
Local clock offset: -0.374 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-06-28 08:29:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 339.63 Mbit/s
95th percentile per-packet one-way delay: 194.483 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 339.63 Mbit/s
95th percentile per-packet one-way delay: 194.483 ms
Loss rate: 2.36%
```
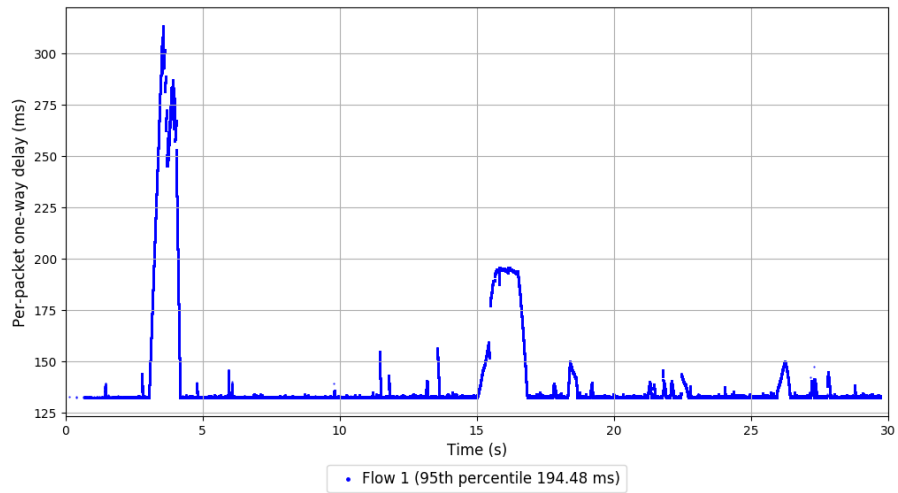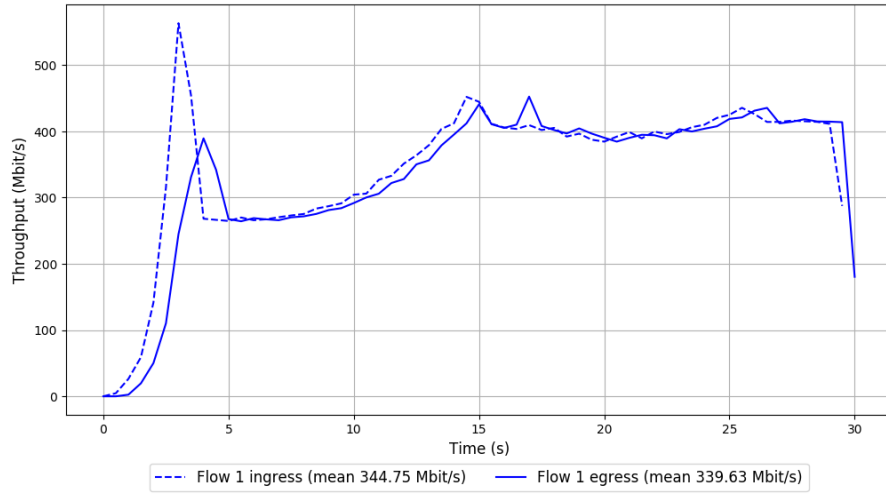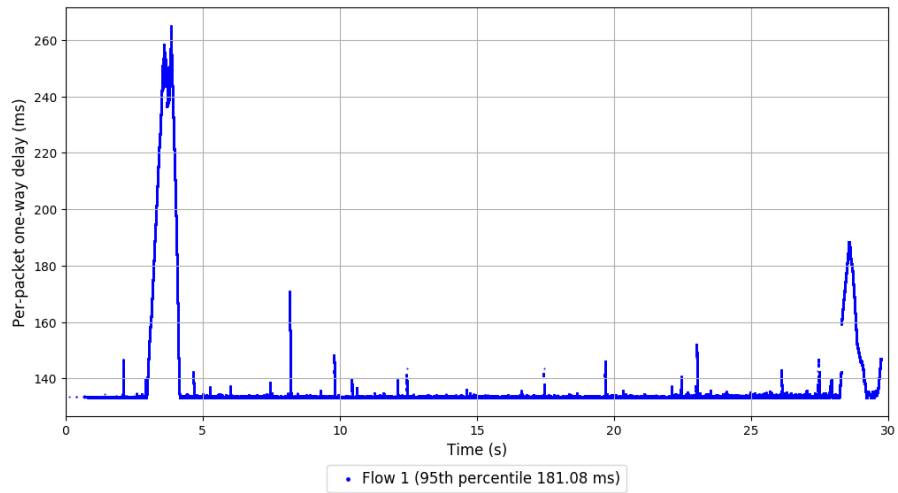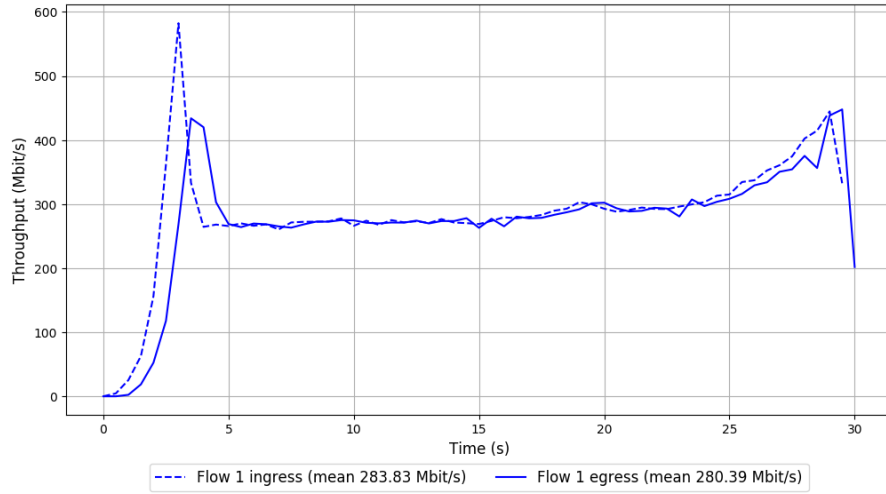
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 344.75 Mbit/s)   Flow 1 egress (mean 339.63 Mbit/s)

• Flow 1 (95th percentile 194.48 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-06-28 05:51:03
End at: 2019-06-28 05:51:33
Local clock offset: 0.434 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-06-28 08:29:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 280.39 Mbit/s
95th percentile per-packet one-way delay: 181.080 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 280.39 Mbit/s
95th percentile per-packet one-way delay: 181.080 ms
Loss rate: 2.09%
```
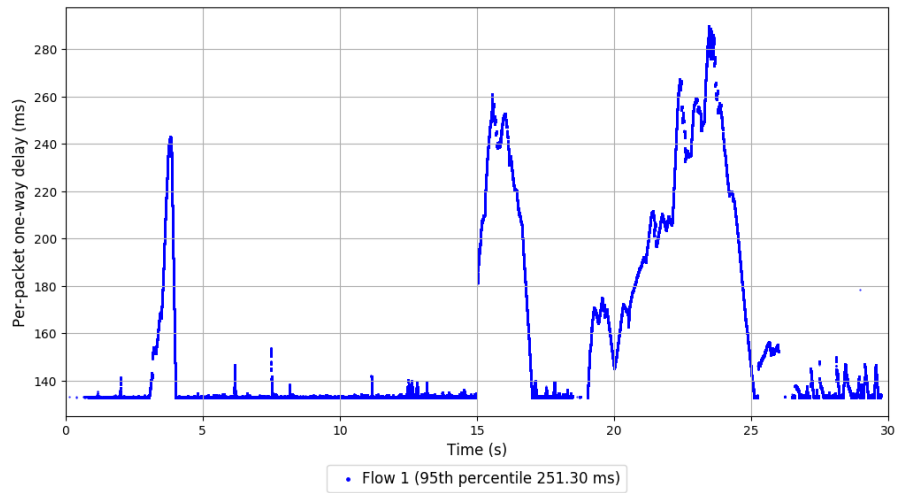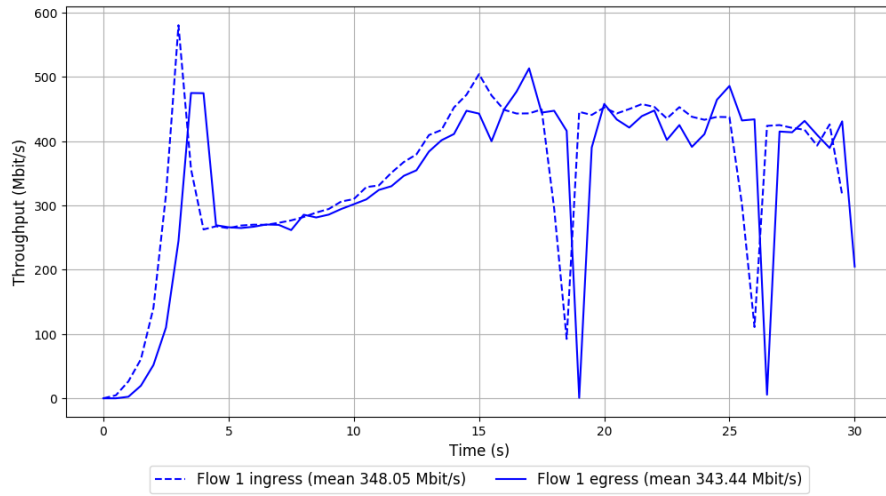
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 283.83 Mbit/s) —— Flow 1 egress (mean 280.39 Mbit/s)

• Flow 1 (95th percentile 181.08 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-06-28 06:24:08
End at: 2019-06-28 06:24:38
Local clock offset: -0.081 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2019-06-28 08:30:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.44 Mbit/s
95th percentile per-packet one-way delay: 251.299 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 343.44 Mbit/s
95th percentile per-packet one-way delay: 251.299 ms
Loss rate: 2.21%
```

Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-06-28 06:56:48
End at: 2019-06-28 06:57:18
Local clock offset: -0.33 ms
Remote clock offset: -0.043 ms


# Below is generated by plot.py at 2019-06-28 08:31:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 347.05 Mbit/s
95th percentile per-packet one-way delay: 266.745 ms
Loss rate: 7.04%
-- Flow 1:
Average throughput: 347.05 Mbit/s
95th percentile per-packet one-way delay: 266.745 ms
Loss rate: 7.04%
```
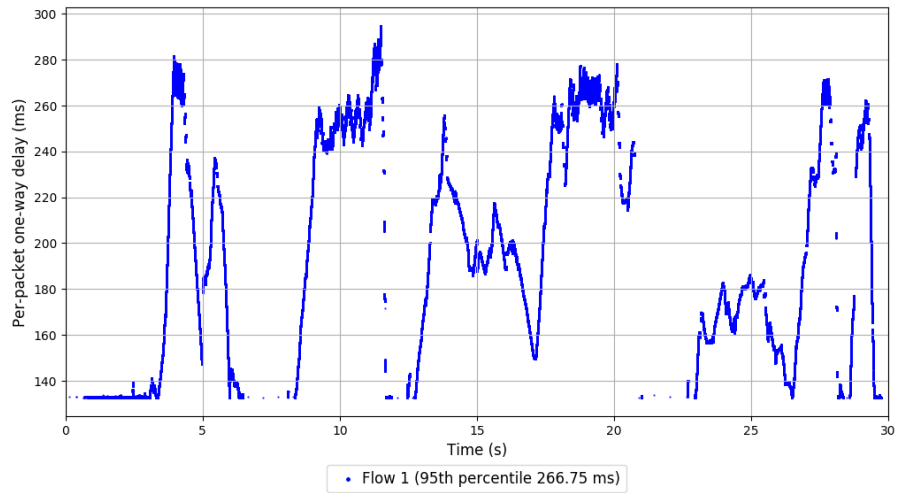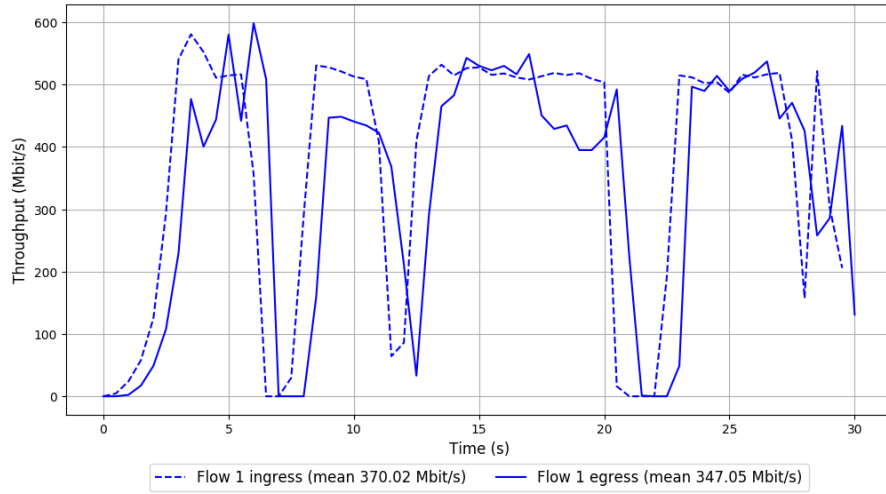
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 370.02 Mbit/s) --- Flow 1 egress (mean 347.05 Mbit/s)

Flow 1 (95th percentile 266.75 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-06-28 04:33:48
End at: 2019-06-28 04:34:18
Local clock offset: -0.101 ms
Remote clock offset: -0.207 ms


# Below is generated by plot.py at 2019-06-28 08:31:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 205.02 Mbit/s
95th percentile per-packet one-way delay: 152.119 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 205.02 Mbit/s
95th percentile per-packet one-way delay: 152.119 ms
Loss rate: 1.55%
```
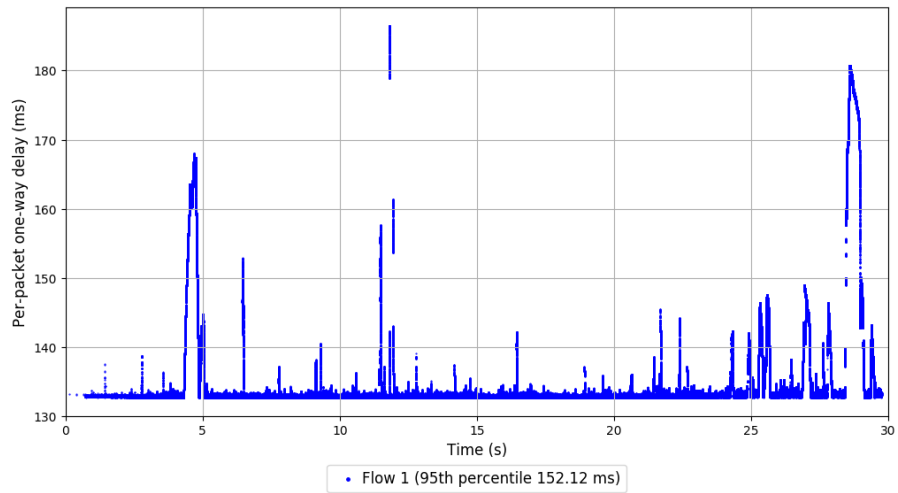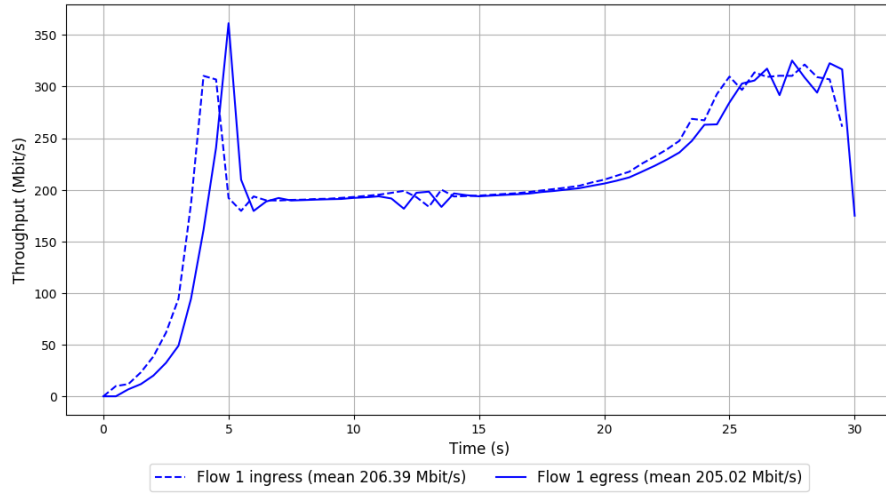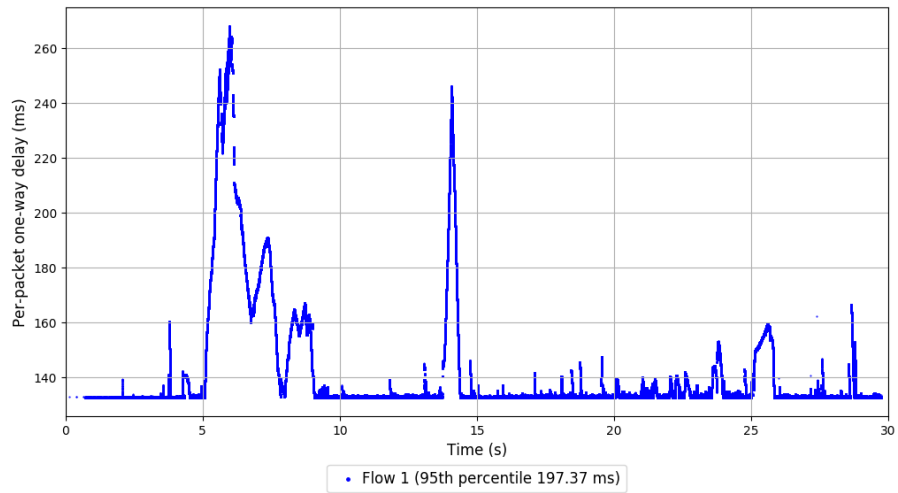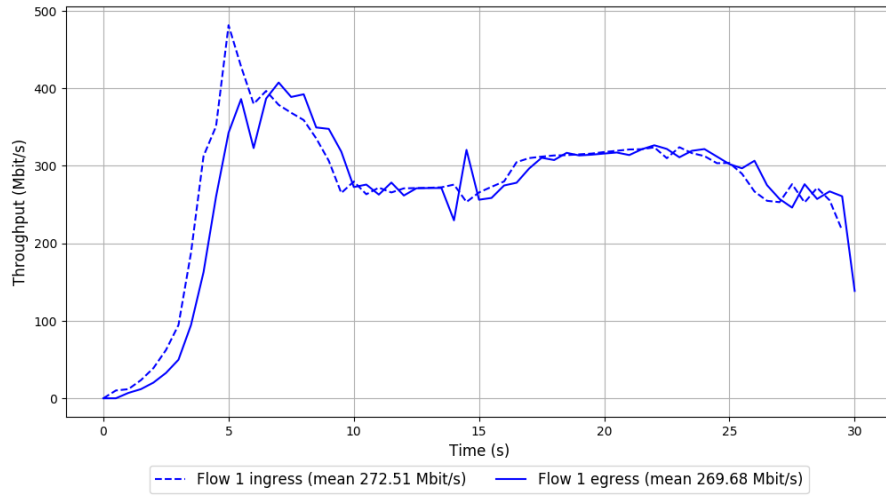
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 206.39 Mbit/s)   Flow 1 egress (mean 205.02 Mbit/s)

Flow 1 (95th percentile 152.12 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-06-28 05:06:21
End at: 2019-06-28 05:06:51
Local clock offset: -0.448 ms
Remote clock offset: -0.093 ms


# Below is generated by plot.py at 2019-06-28 08:31:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 269.68 Mbit/s
95th percentile per-packet one-way delay: 197.369 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 269.68 Mbit/s
95th percentile per-packet one-way delay: 197.369 ms
Loss rate: 1.92%
```

Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-06-28 05:39:24
End at: 2019-06-28 05:39:54
Local clock offset: -0.244 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2019-06-28 08:32:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 266.88 Mbit/s
95th percentile per-packet one-way delay: 239.498 ms
Loss rate: 3.25%
-- Flow 1:
Average throughput: 266.88 Mbit/s
95th percentile per-packet one-way delay: 239.498 ms
Loss rate: 3.25%
```
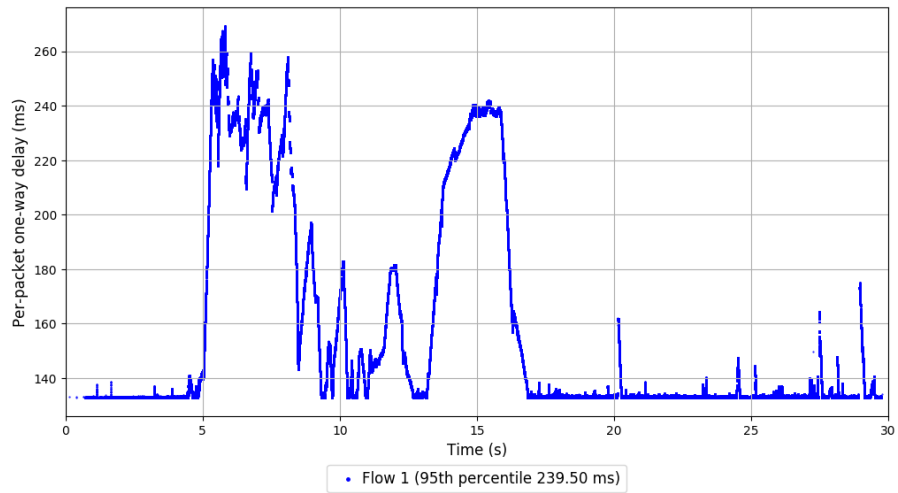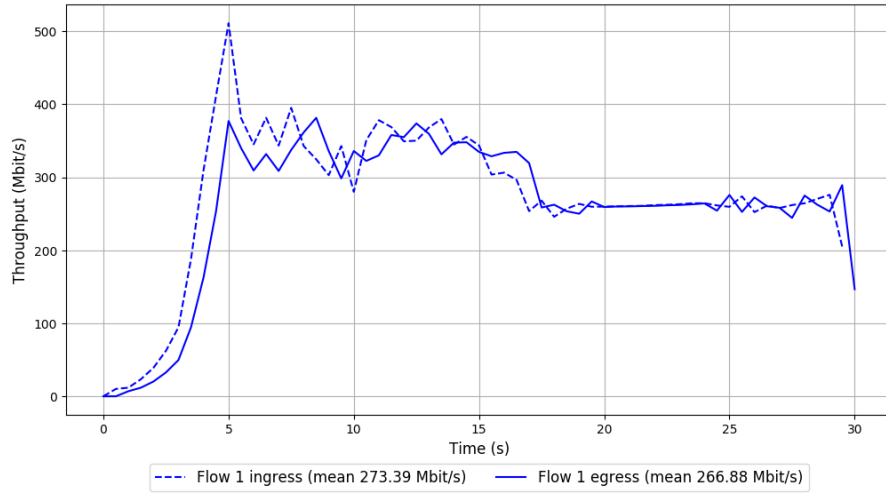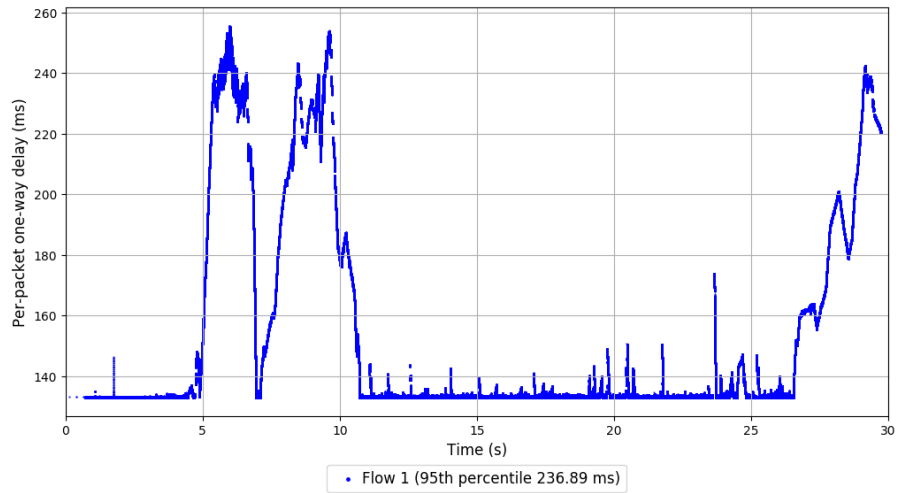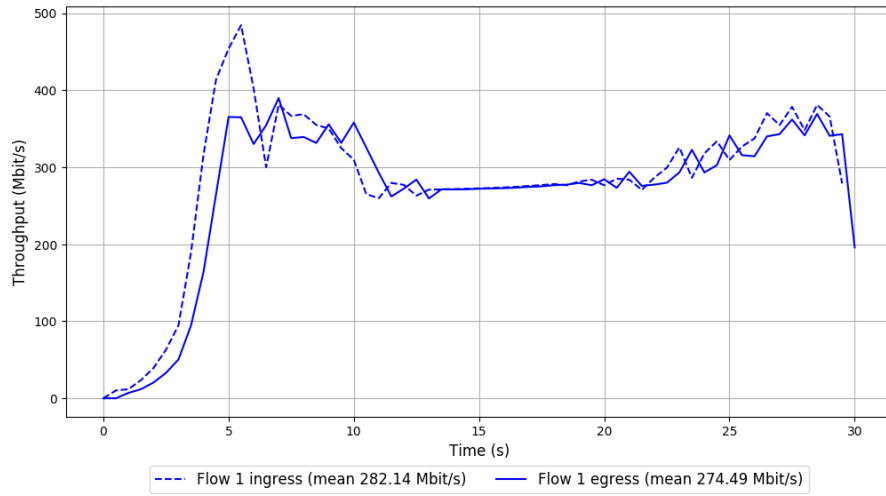
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 273.39 Mbit/s)   Flow 1 egress (mean 266.88 Mbit/s)
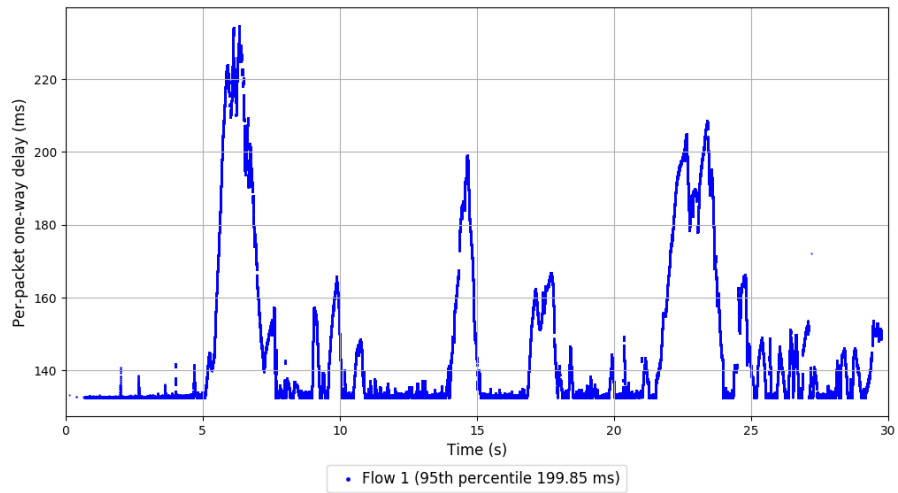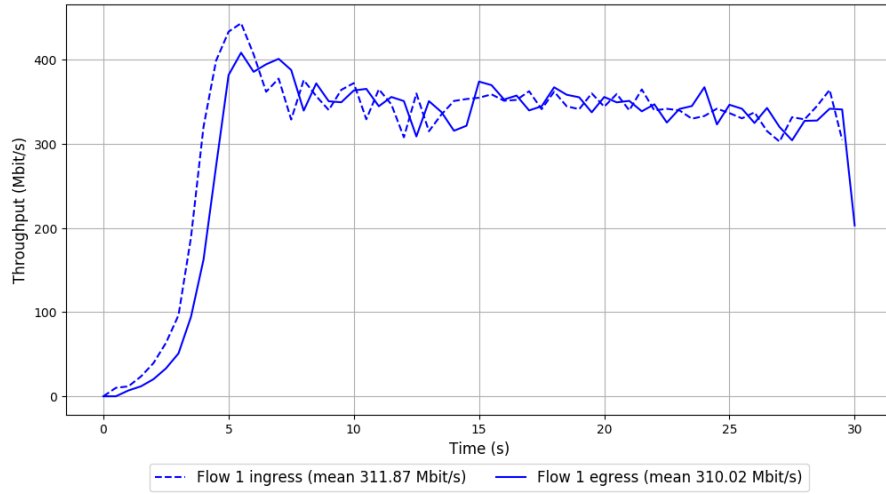

Flow 1 (95th percentile 239.50 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-06-28 06:12:30
End at: 2019-06-28 06:13:00
Local clock offset: 0.108 ms
Remote clock offset: -0.168 ms


# Below is generated by plot.py at 2019-06-28 08:37:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 274.49 Mbit/s
95th percentile per-packet one-way delay: 236.886 ms
Loss rate: 3.58%
-- Flow 1:
Average throughput: 274.49 Mbit/s
95th percentile per-packet one-way delay: 236.886 ms
Loss rate: 3.58%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-06-28 06:45:29
End at: 2019-06-28 06:45:59
Local clock offset: 0.072 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 310.02 Mbit/s
95th percentile per-packet one-way delay: 199.851 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 310.02 Mbit/s
95th percentile per-packet one-way delay: 199.851 ms
Loss rate: 1.48%
```
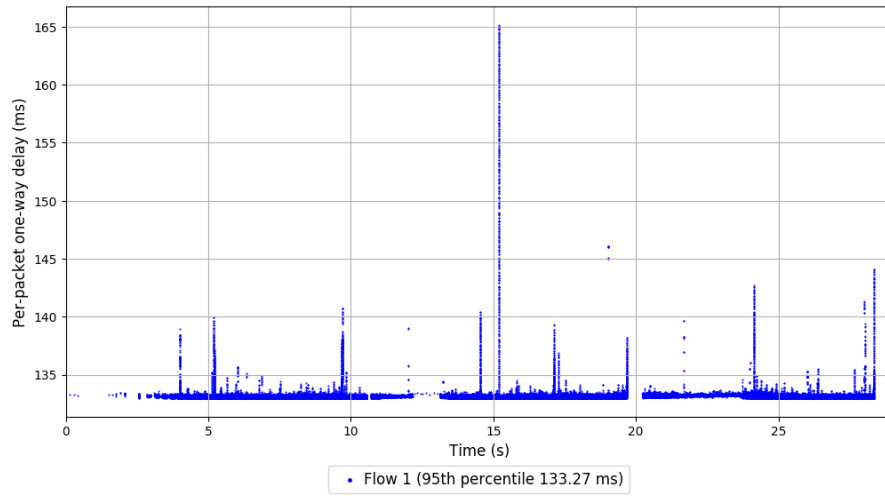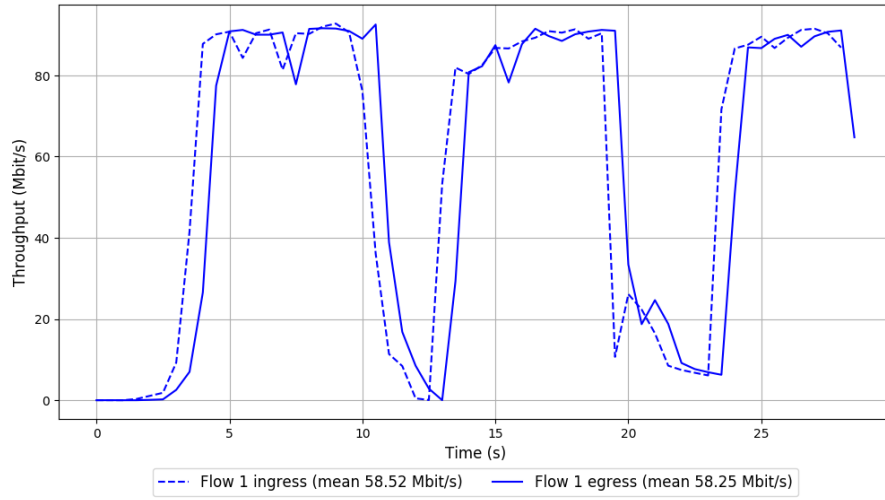
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 311.87 Mbit/s) --- Flow 1 egress (mean 310.02 Mbit/s)

• Flow 1 (95th percentile 199.85 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-06-28 04:43:43
End at: 2019-06-28 04:44:13
Local clock offset: 0.18 ms
Remote clock offset: -0.222 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 133.273 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 133.273 ms
Loss rate: 1.39%
```
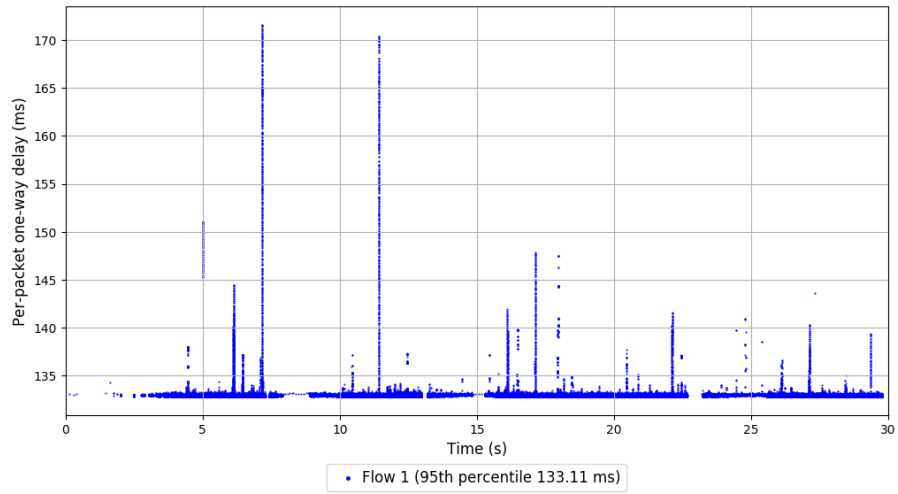
Run 1: Report of QUIC Cubic — Data Link

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```
Run 2: Statistics of QUIC Cubic

Start at: 2019-06-28 05:16:48
End at: 2019-06-28 05:17:18
Local clock offset: -0.152 ms
Remote clock offset: -0.102 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.66 Mbit/s
95th percentile per-packet one-way delay: 133.110 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 52.66 Mbit/s
95th percentile per-packet one-way delay: 133.110 ms
Loss rate: 1.29%
```
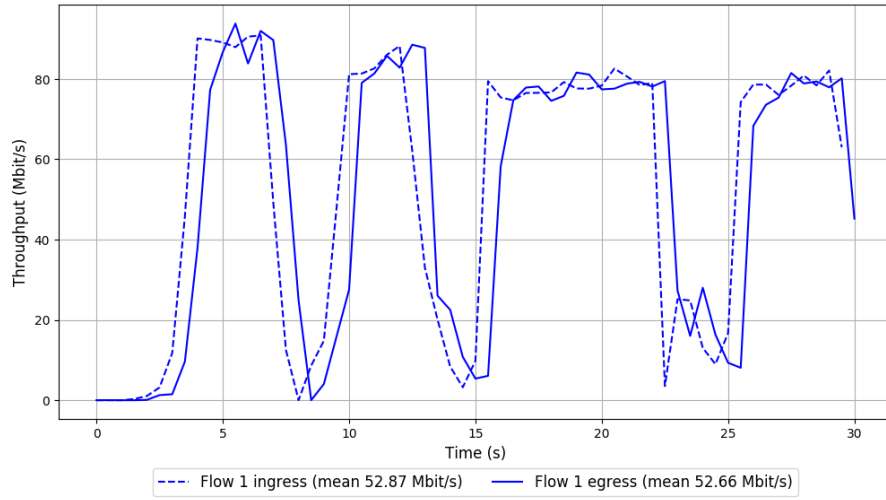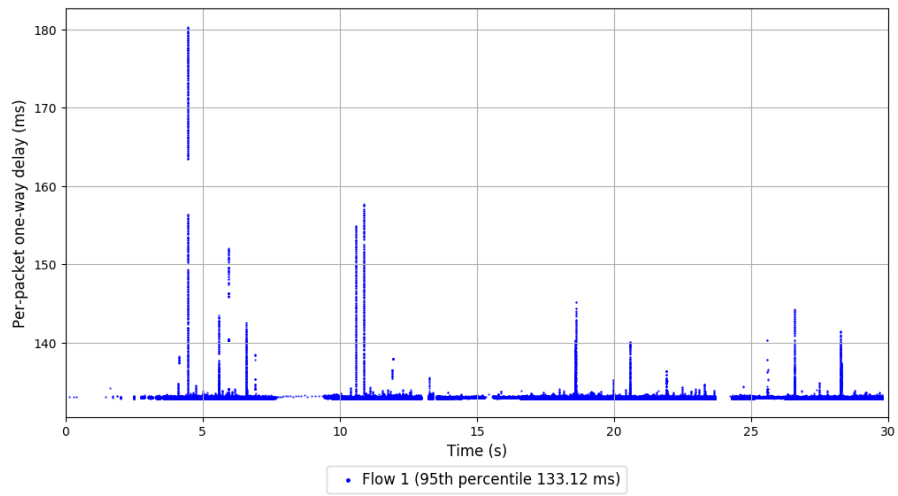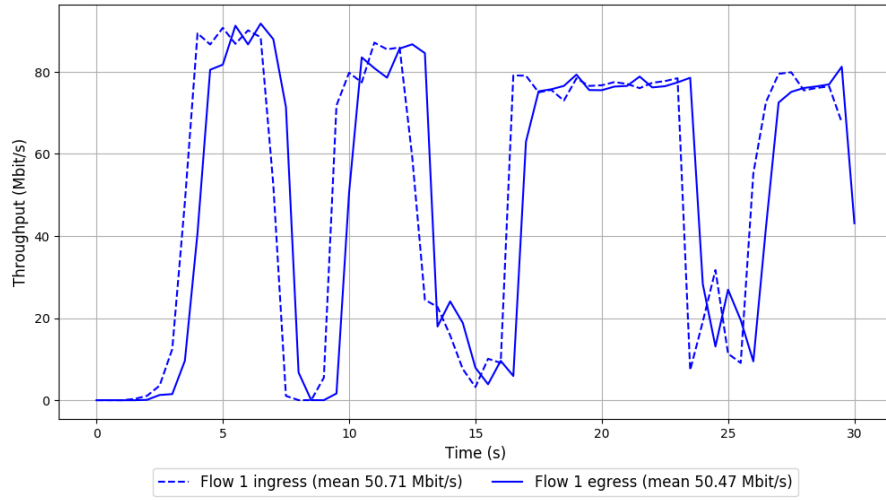
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-06-28 05:49:49
End at: 2019-06-28 05:50:19
Local clock offset: -0.001 ms
Remote clock offset: -0.126 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.47 Mbit/s
95th percentile per-packet one-way delay: 133.117 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 50.47 Mbit/s
95th percentile per-packet one-way delay: 133.117 ms
Loss rate: 1.37%
```

Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-06-28 06:22:54
End at: 2019-06-28 06:23:24
Local clock offset: 0.238 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.70 Mbit/s
95th percentile per-packet one-way delay: 133.643 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 48.70 Mbit/s
95th percentile per-packet one-way delay: 133.643 ms
Loss rate: 1.40%
```
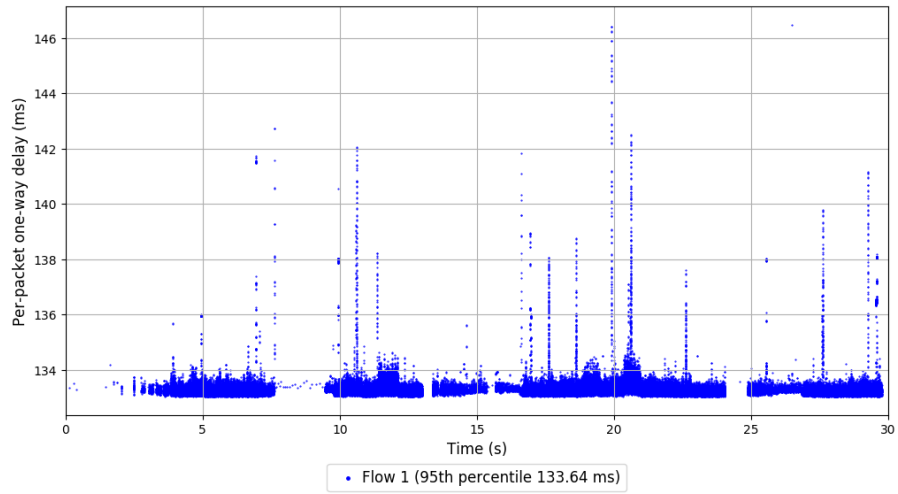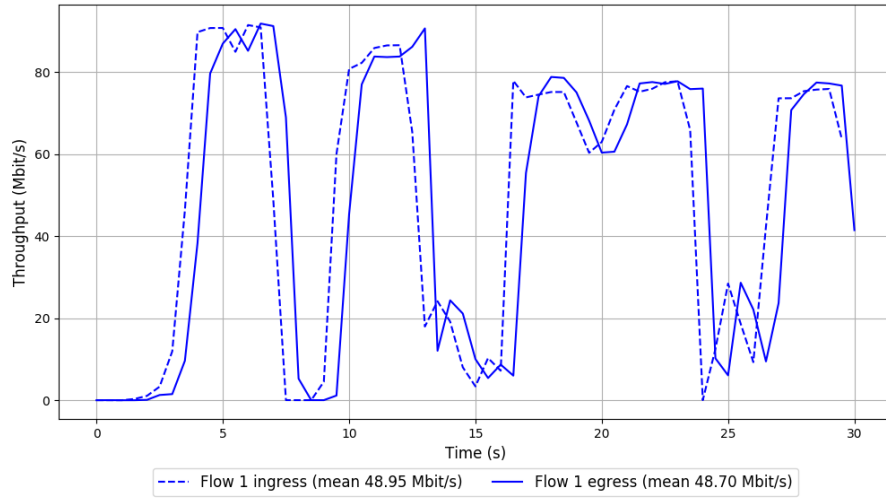
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-06-28 06:55:34
End at: 2019-06-28 06:56:04
Local clock offset: -0.325 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.67 Mbit/s
95th percentile per-packet one-way delay: 132.250 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 49.67 Mbit/s
95th percentile per-packet one-way delay: 132.250 ms
Loss rate: 1.39%
```
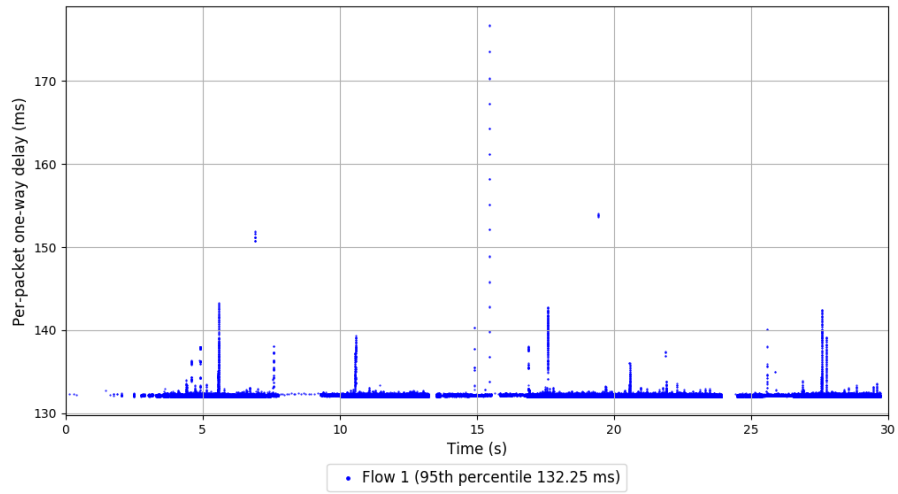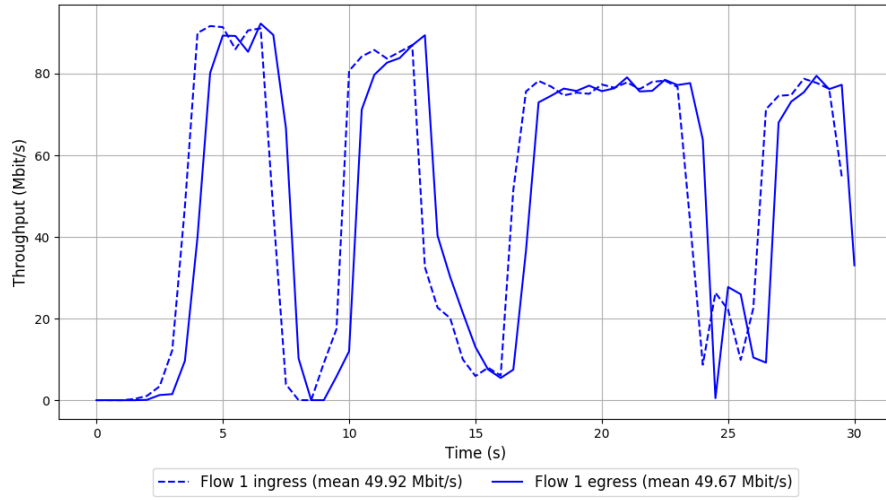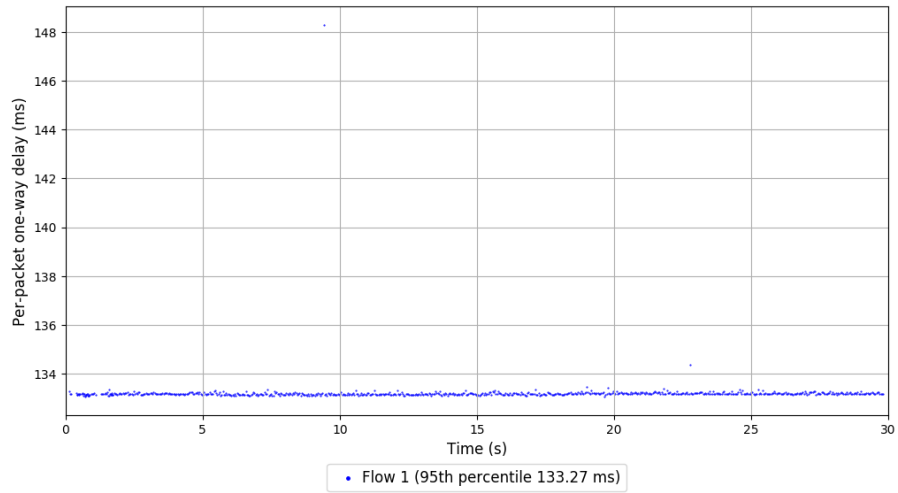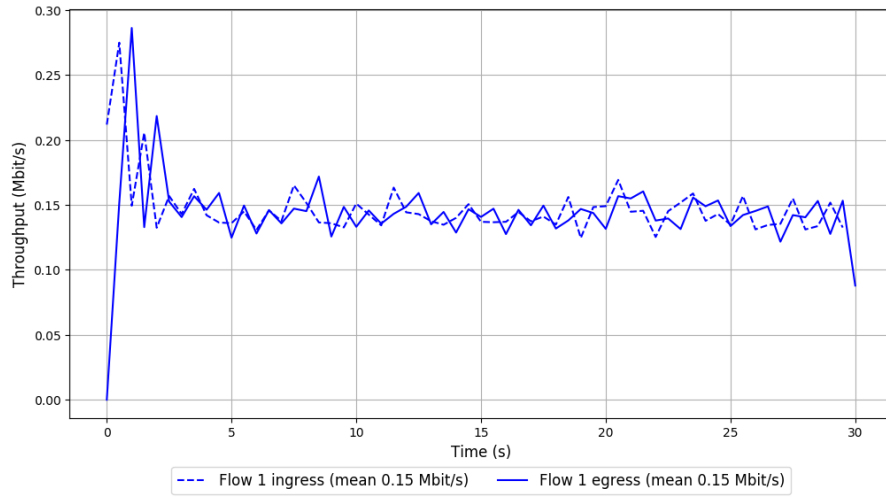
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-06-28 04:35:20
End at: 2019-06-28 04:35:50
Local clock offset: -0.055 ms
Remote clock offset: -0.222 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.266 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.266 ms
Loss rate: 0.88%
```

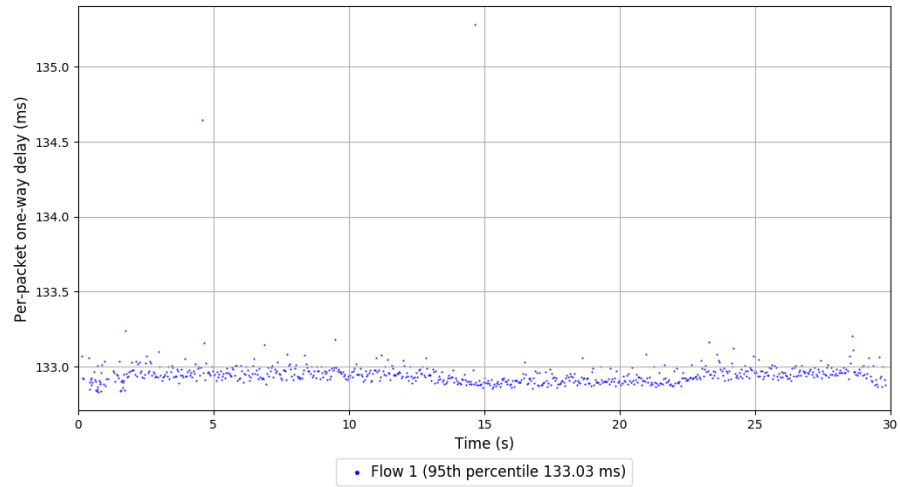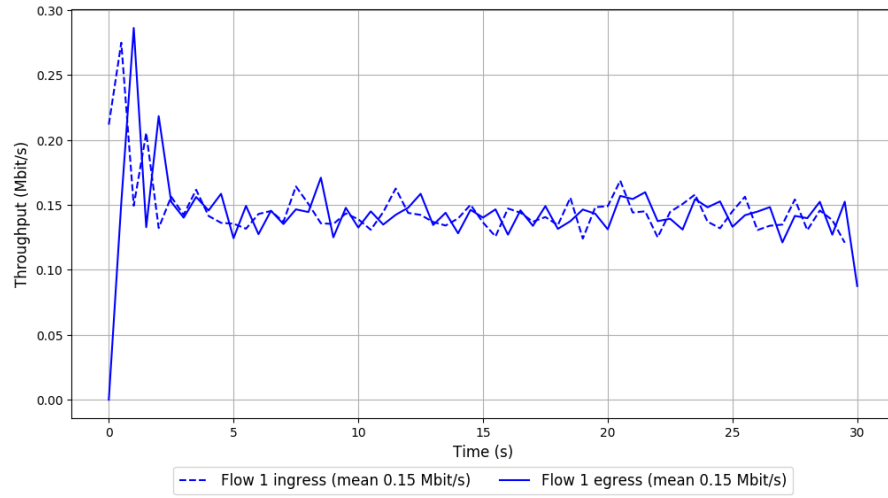Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-06-28 05:08:00
End at: 2019-06-28 05:08:30
Local clock offset: -0.017 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.034 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.034 ms
Loss rate: 0.75%
```

Run 2: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.15 Mbit/s) --- Flow 1 egress (mean 0.15 Mbit/s)

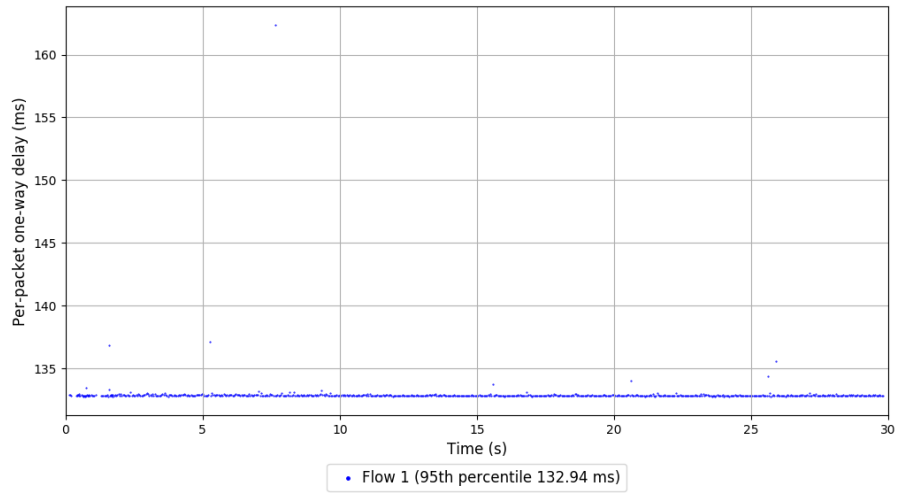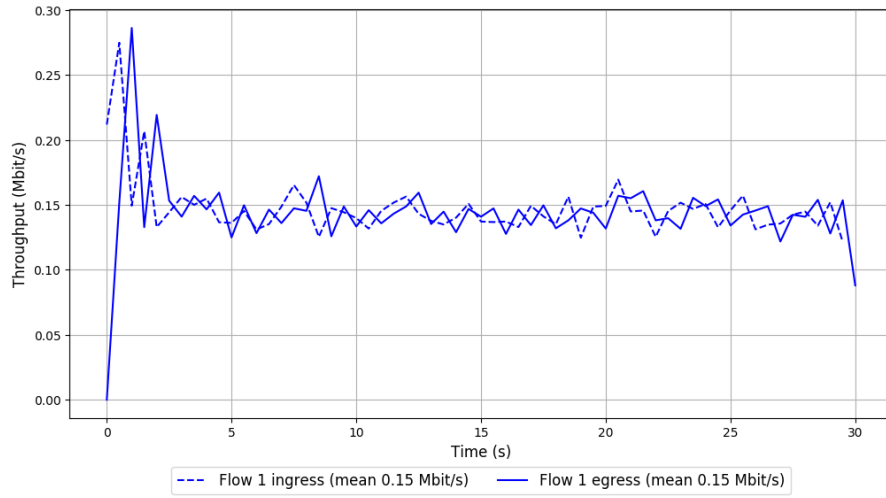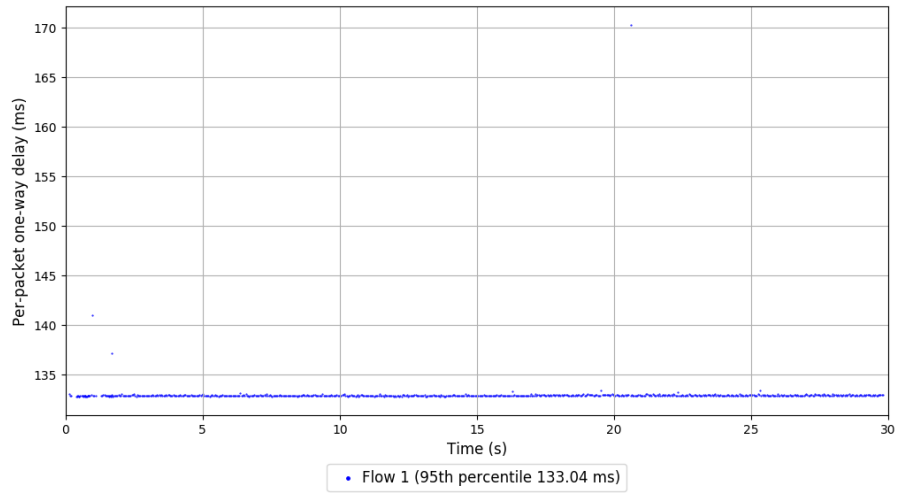Flow 1 (95th percentile 133.03 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-06-28 05:41:04
End at: 2019-06-28 05:41:34
Local clock offset: -0.241 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.937 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.937 ms
Loss rate: 0.75%
```

Run 3: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.15 Mbit/s)   Flow 1 egress (mean 0.15 Mbit/s)

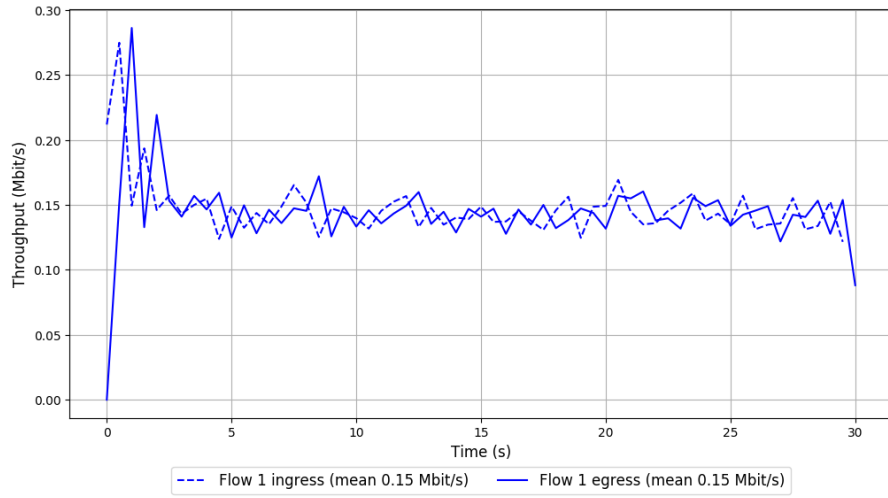Flow 1 (95th percentile 132.94 ms)

```
Run 4: Statistics of SCReAM

Start at: 2019-06-28 06:14:09
End at: 2019-06-28 06:14:39
Local clock offset: -0.231 ms
Remote clock offset: -0.173 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.037 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.037 ms
Loss rate: 0.75%
```
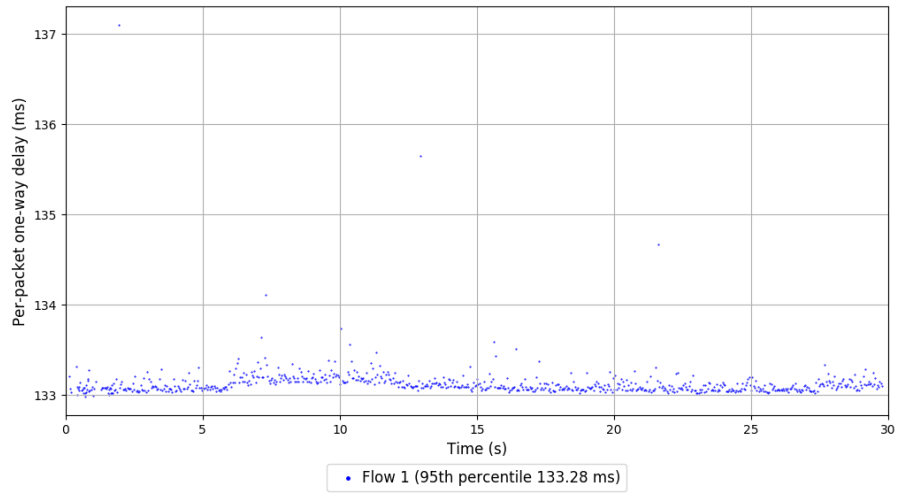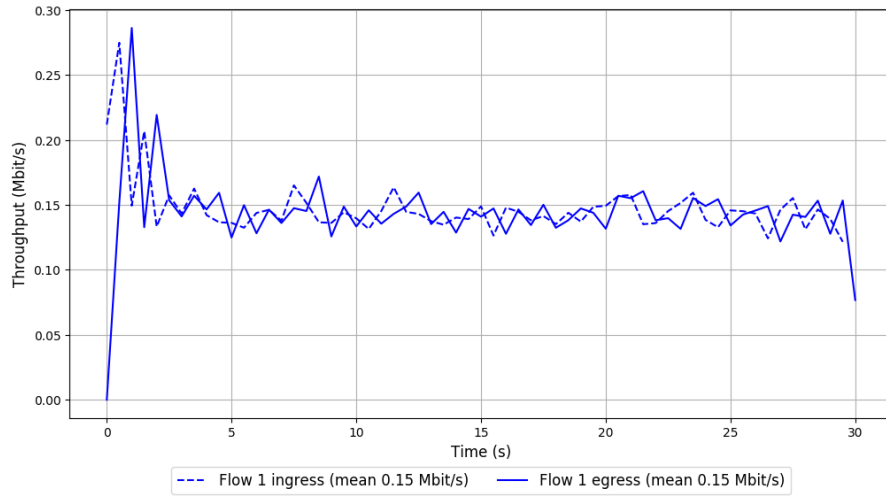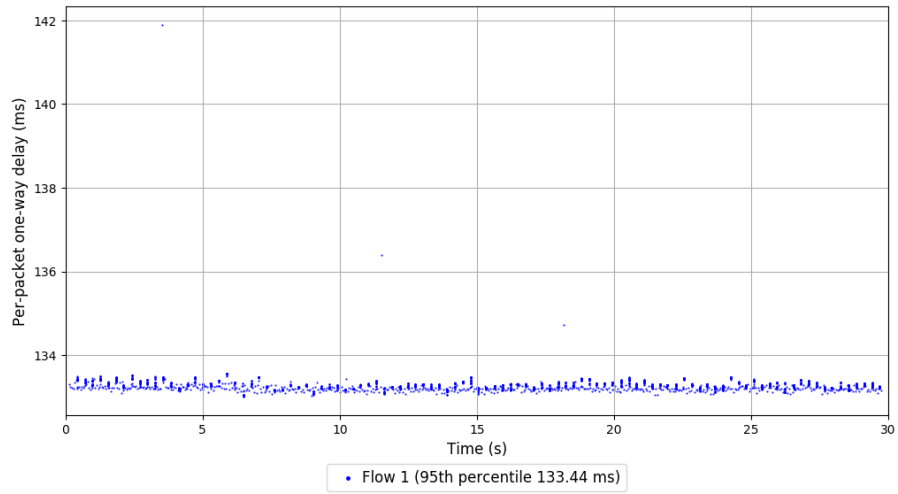
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-06-28 06:47:11
End at: 2019-06-28 06:47:41
Local clock offset: 0.353 ms
Remote clock offset: 0.274 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.275 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.275 ms
Loss rate: 0.88%
```

Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.15 Mbit/s) --- Flow 1 egress (mean 0.15 Mbit/s)

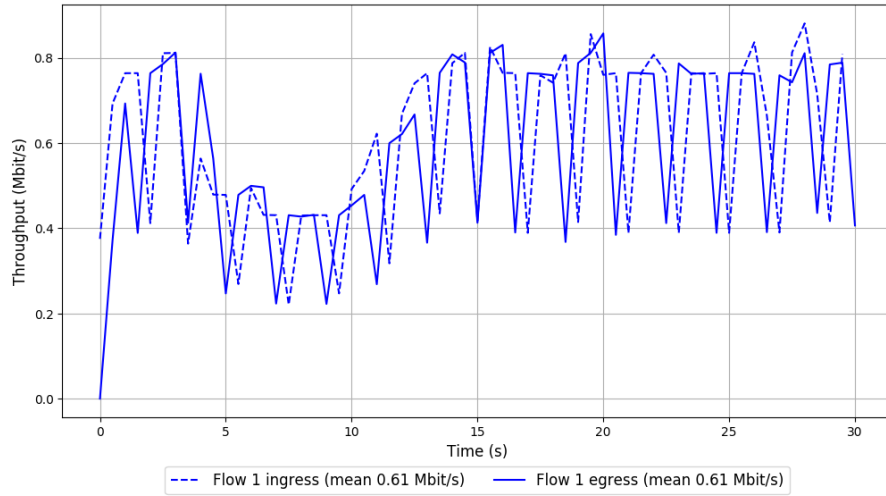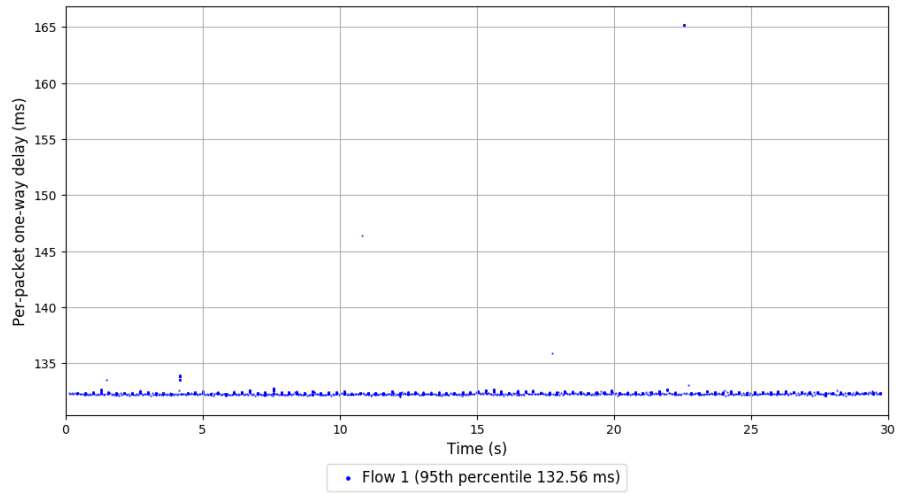Flow 1 (95th percentile 133.28 ms)

164

```
Run 1: Statistics of Sprout

Start at: 2019-06-28 04:38:05
End at: 2019-06-28 04:38:35
Local clock offset: 0.069 ms
Remote clock offset: -0.209 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 133.439 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 133.439 ms
Loss rate: 1.12%
```

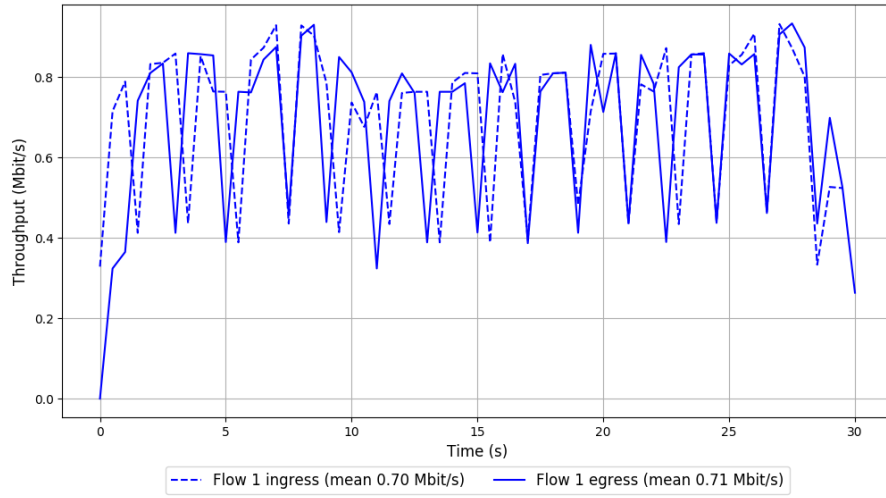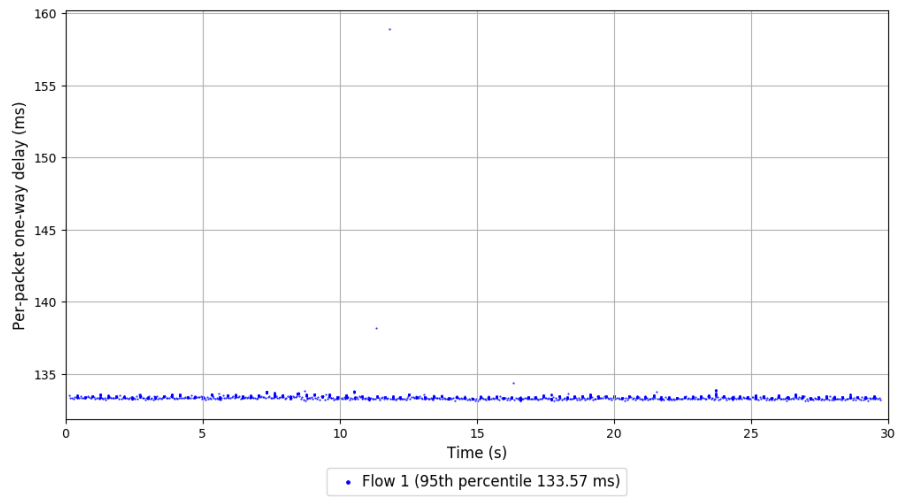Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-06-28 05:10:49
End at: 2019-06-28 05:11:19
Local clock offset: -0.005 ms
Remote clock offset: -0.159 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 132.564 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 132.564 ms
Loss rate: 0.63%
```

Run 2: Report of Sprout — Data Link

Flow 1 ingress (mean 0.70 Mbit/s) -----   Flow 1 egress (mean 0.71 Mbit/s) ———
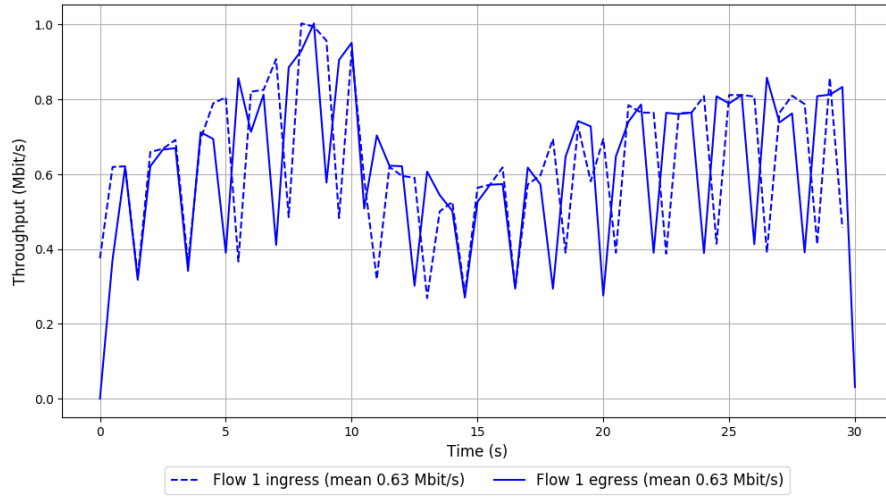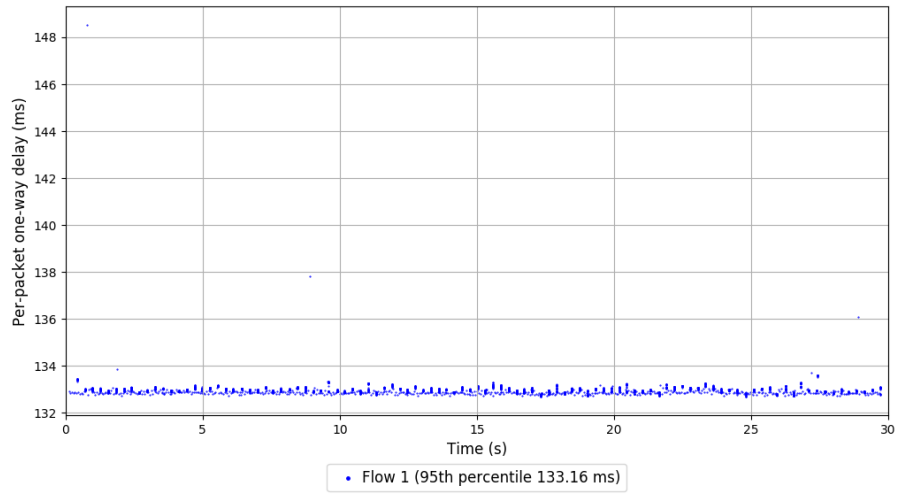

• Flow 1 (95th percentile 132.56 ms)

```
Run 3: Statistics of Sprout

Start at: 2019-06-28 05:43:48
End at: 2019-06-28 05:44:18
Local clock offset: -0.002 ms
Remote clock offset: -0.128 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 133.571 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 133.571 ms
Loss rate: 1.20%
```

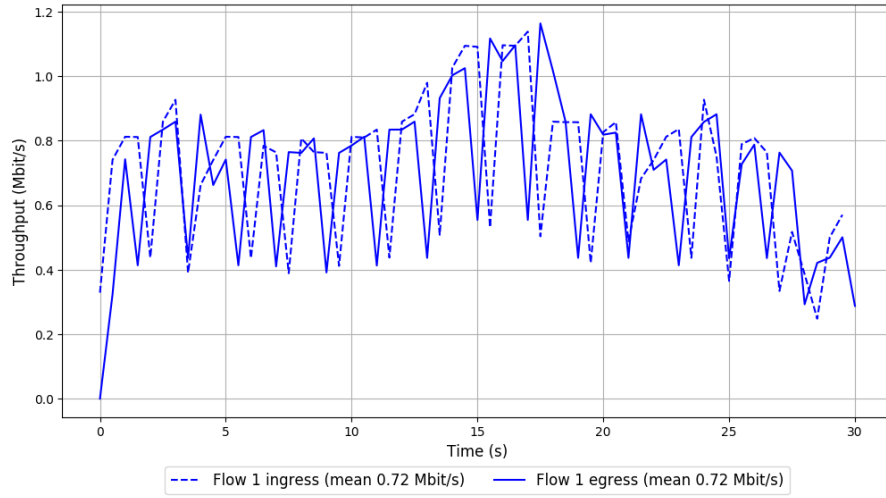Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-06-28 06:16:52
End at: 2019-06-28 06:17:22
Local clock offset: -0.268 ms
Remote clock offset: -0.156 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 133.162 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 133.162 ms
Loss rate: 0.67%
```
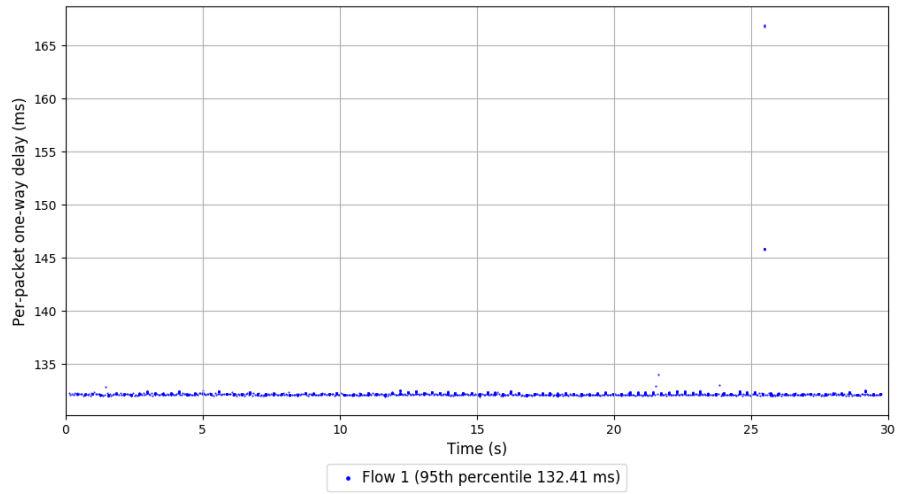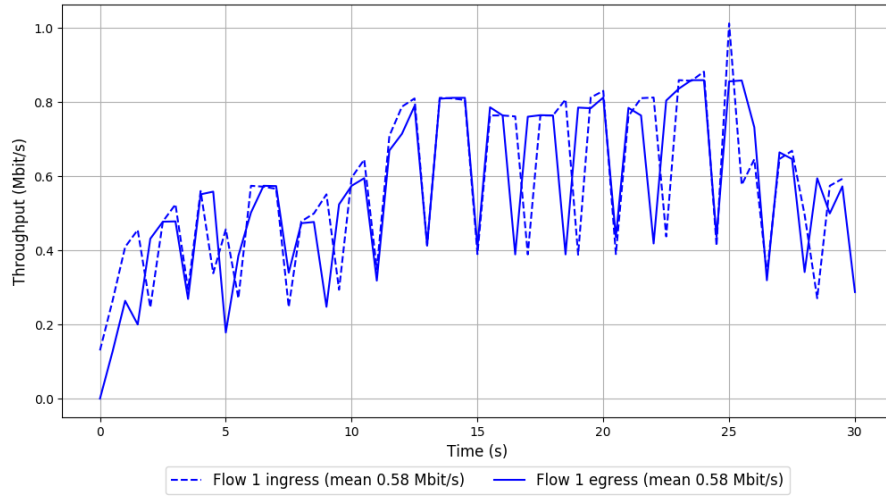
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-06-28 06:49:58
End at: 2019-06-28 06:50:28
Local clock offset: -0.067 ms
Remote clock offset: 0.287 ms


# Below is generated by plot.py at 2019-06-28 08:37:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 132.415 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 132.415 ms
Loss rate: 0.90%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2019-06-28 04:51:06
End at: 2019-06-28 04:51:36
Local clock offset: -0.38 ms
Remote clock offset: -0.205 ms


# Below is generated by plot.py at 2019-06-28 08:38:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.88 Mbit/s
95th percentile per-packet one-way delay: 133.353 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 188.88 Mbit/s
95th percentile per-packet one-way delay: 133.353 ms
Loss rate: 0.91%
```
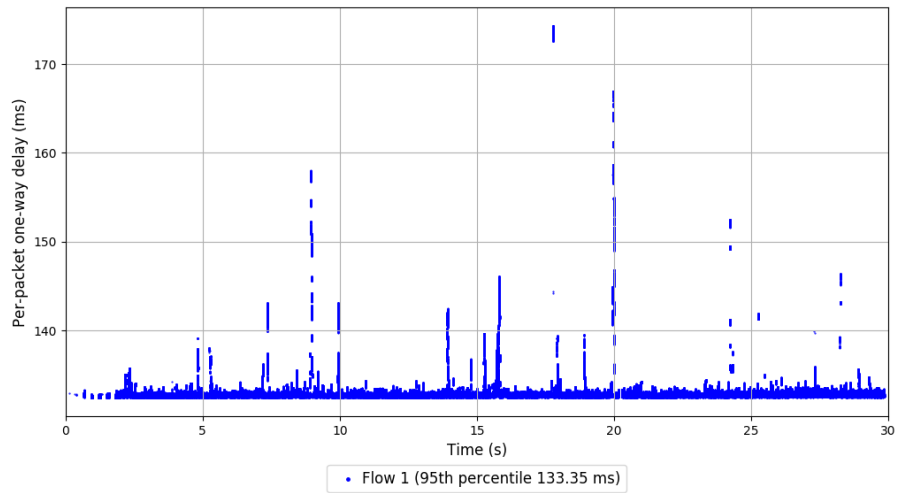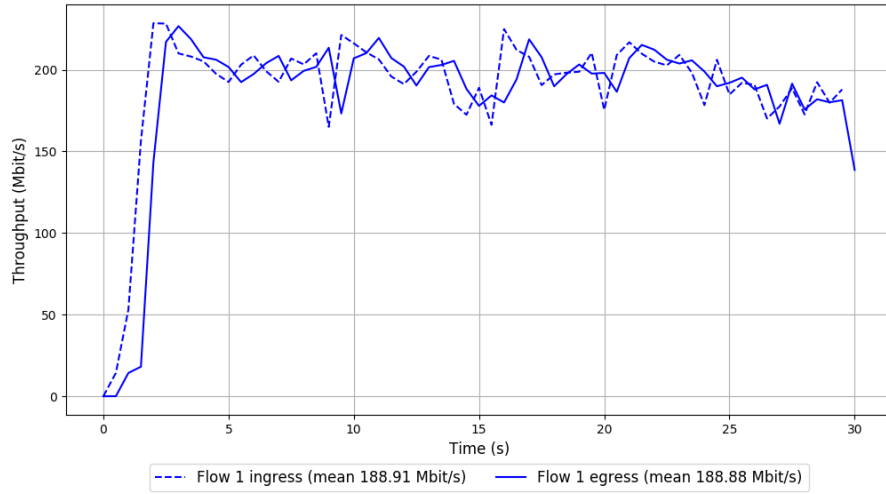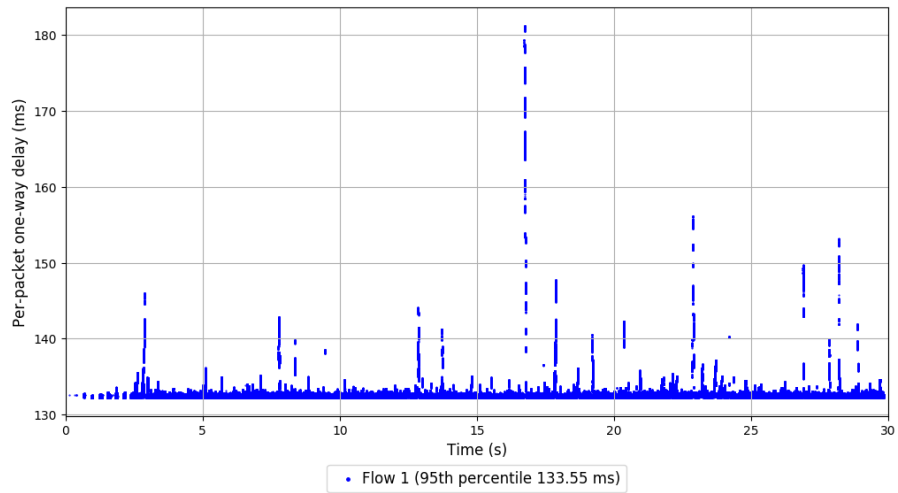
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-06-28 05:24:07
End at: 2019-06-28 05:24:37
Local clock offset: -0.363 ms
Remote clock offset: -0.128 ms


# Below is generated by plot.py at 2019-06-28 08:38:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 189.88 Mbit/s
95th percentile per-packet one-way delay: 133.554 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 189.88 Mbit/s
95th percentile per-packet one-way delay: 133.554 ms
Loss rate: 1.02%
```
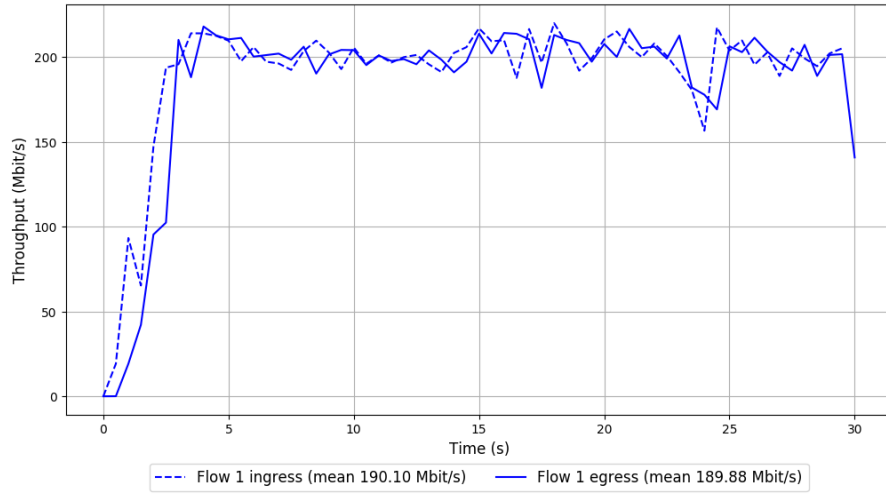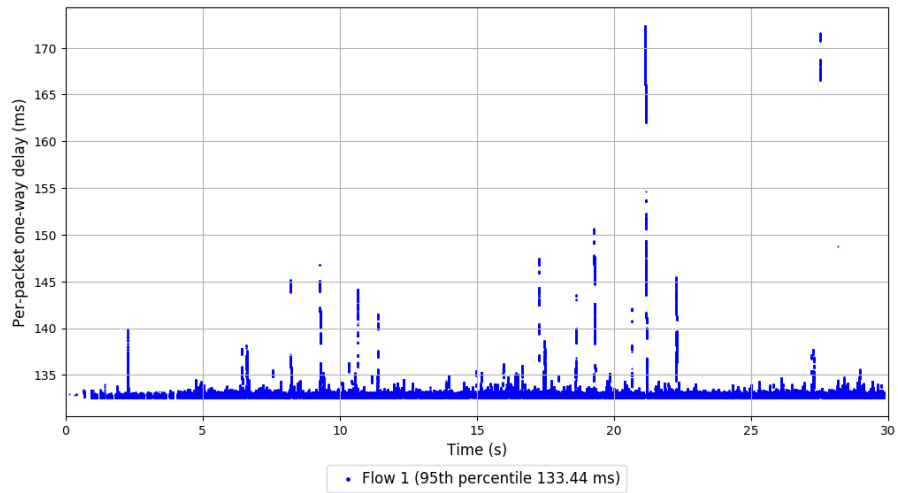
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-06-28 05:57:02
End at: 2019-06-28 05:57:32
Local clock offset: -0.145 ms
Remote clock offset: -0.115 ms


# Below is generated by plot.py at 2019-06-28 08:38:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 183.77 Mbit/s
95th percentile per-packet one-way delay: 133.443 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 183.77 Mbit/s
95th percentile per-packet one-way delay: 133.443 ms
Loss rate: 1.05%
```
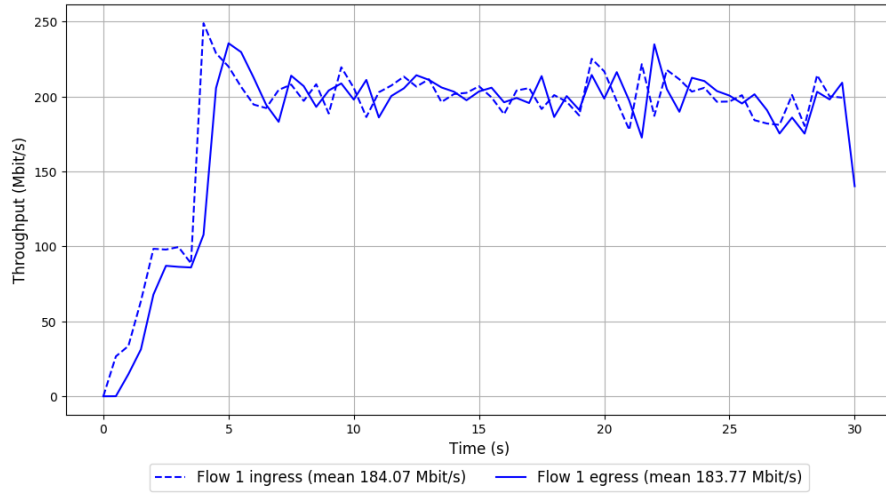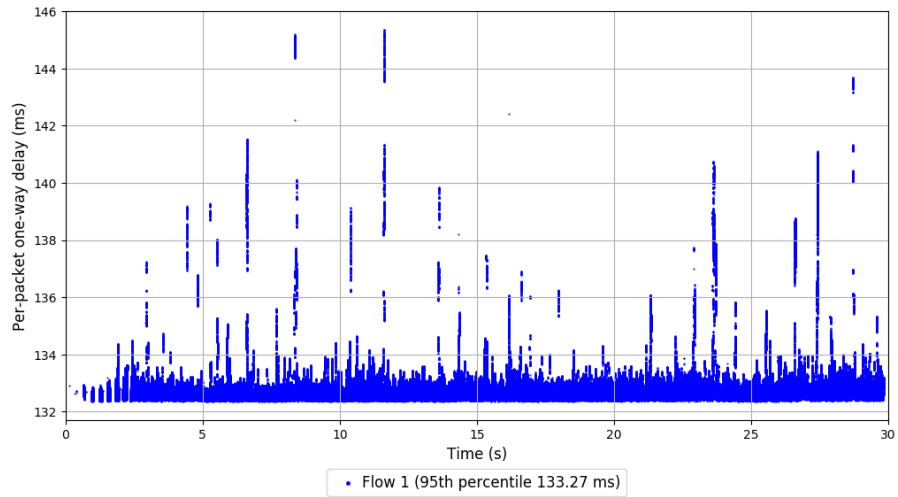
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 184.07 Mbit/s) --- Flow 1 egress (mean 183.77 Mbit/s)

Flow 1 (95th percentile 133.44 ms)

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

Start at: 2019-06-28 06:30:08
End at: 2019-06-28 06:30:38
Local clock offset: 0.35 ms
Remote clock offset: -0.193 ms


# Below is generated by plot.py at 2019-06-28 08:38:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 184.74 Mbit/s
95th percentile per-packet one-way delay: 133.267 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 184.74 Mbit/s
95th percentile per-packet one-way delay: 133.267 ms
Loss rate: 0.92%
```
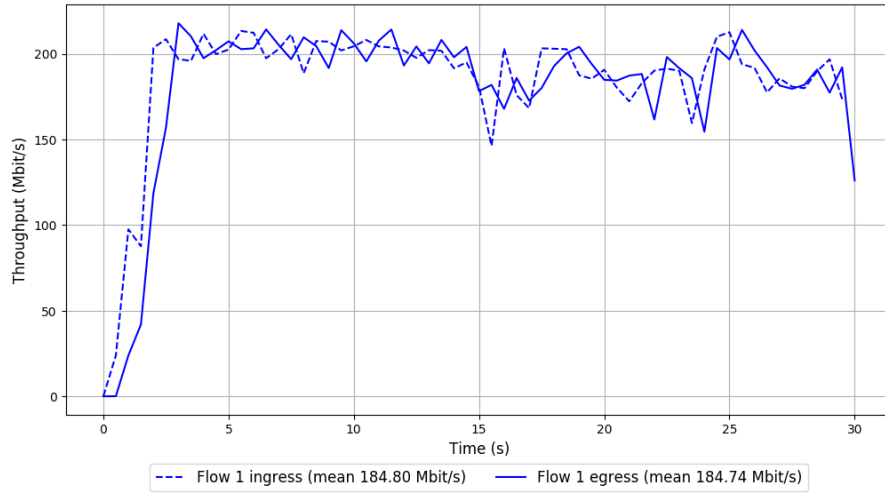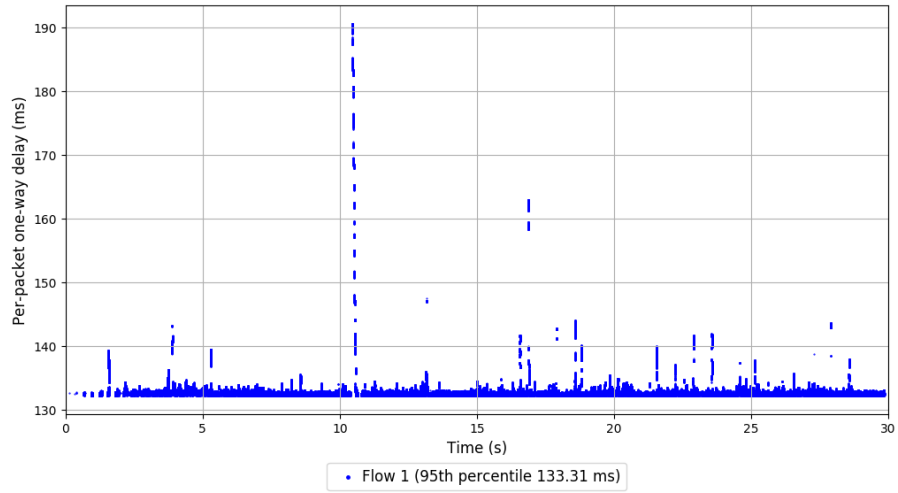
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 184.80 Mbit/s) -----   Flow 1 egress (mean 184.74 Mbit/s) ———

• Flow 1 (95th percentile 133.27 ms)

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

Start at: 2019-06-28 07:02:43
End at: 2019-06-28 07:03:13
Local clock offset: -0.137 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2019-06-28 08:38:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 186.53 Mbit/s
95th percentile per-packet one-way delay: 133.308 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 186.53 Mbit/s
95th percentile per-packet one-way delay: 133.308 ms
Loss rate: 1.05%
```
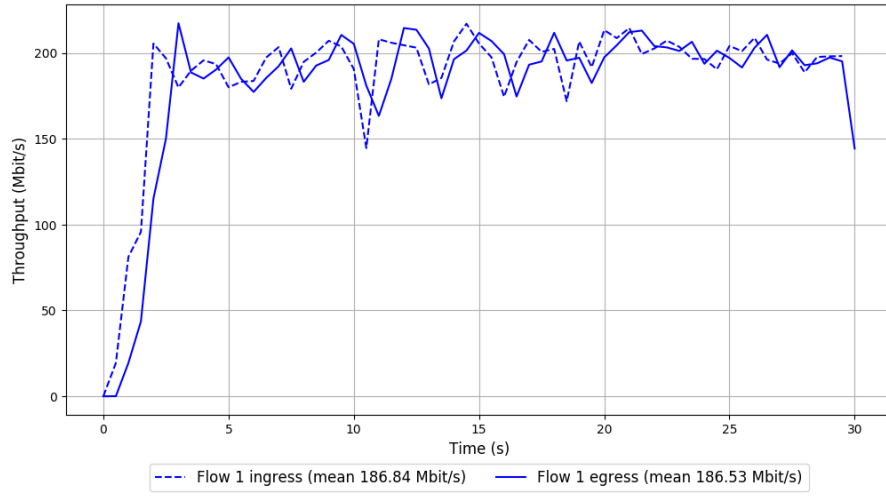
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 186.84 Mbit/s)   Flow 1 egress (mean 186.53 Mbit/s)

Flow 1 (95th percentile 133.31 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-06-28 04:49:33
End at: 2019-06-28 04:50:03
Local clock offset: 0.297 ms
Remote clock offset: -0.248 ms


# Below is generated by plot.py at 2019-06-28 08:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 376.65 Mbit/s
95th percentile per-packet one-way delay: 137.834 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 376.65 Mbit/s
95th percentile per-packet one-way delay: 137.834 ms
Loss rate: 0.61%
```
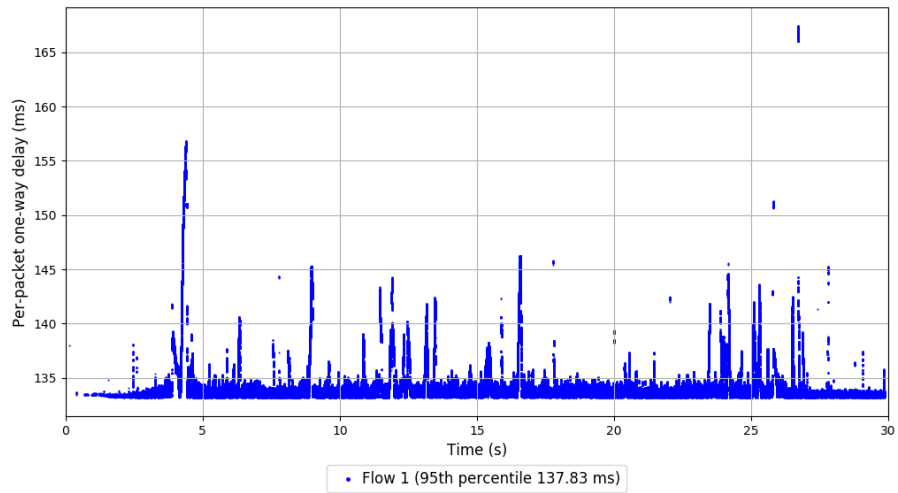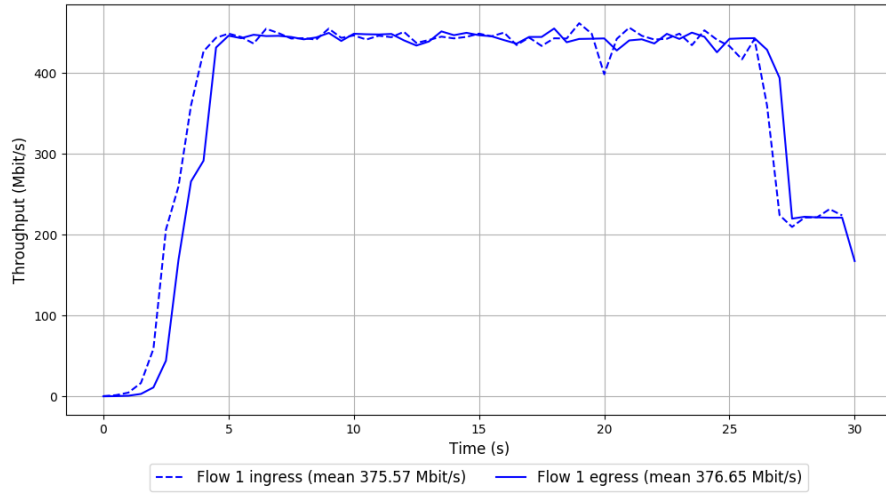
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-06-28 05:22:37
End at: 2019-06-28 05:23:07
Local clock offset: 0.106 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-06-28 08:43:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 322.71 Mbit/s
95th percentile per-packet one-way delay: 160.238 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 322.71 Mbit/s
95th percentile per-packet one-way delay: 160.238 ms
Loss rate: 1.01%
```
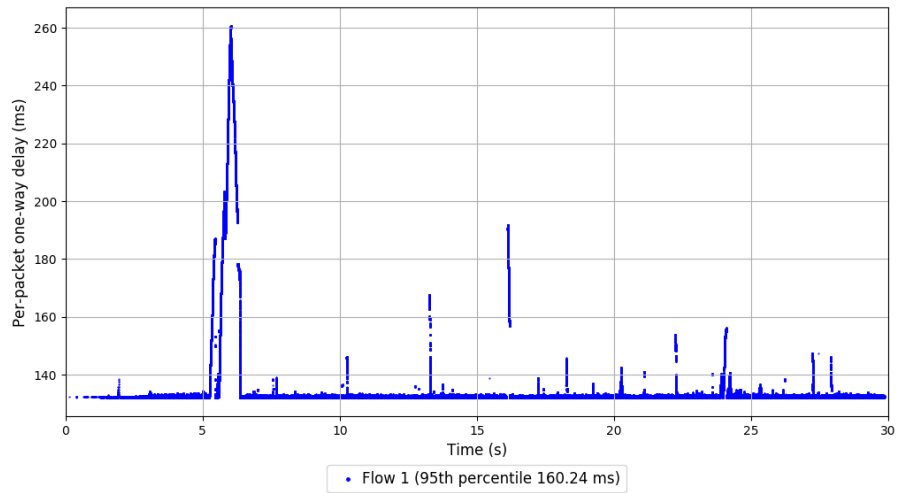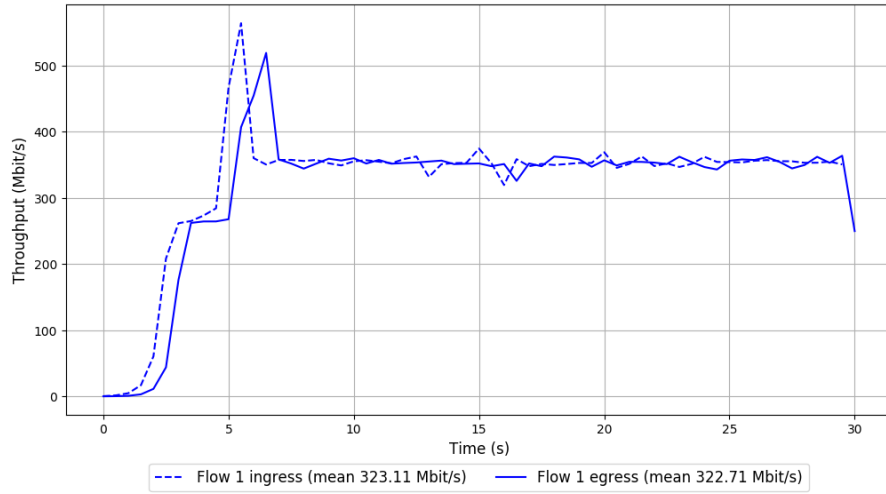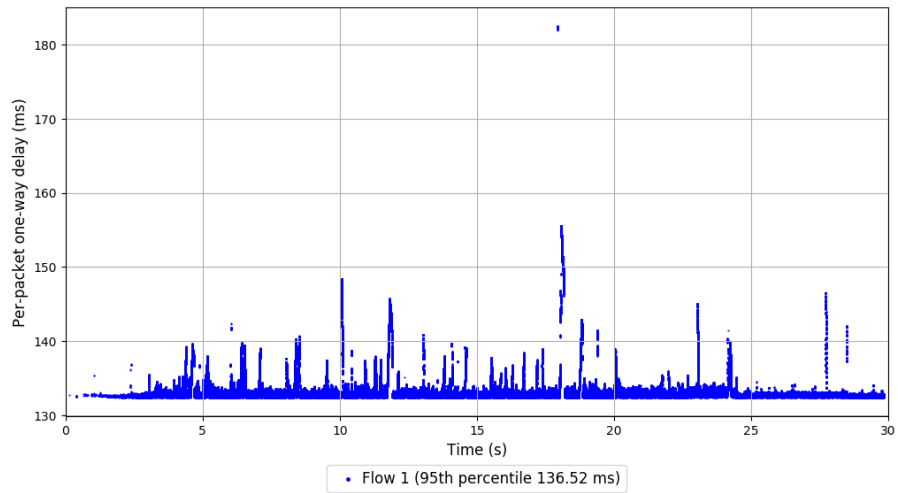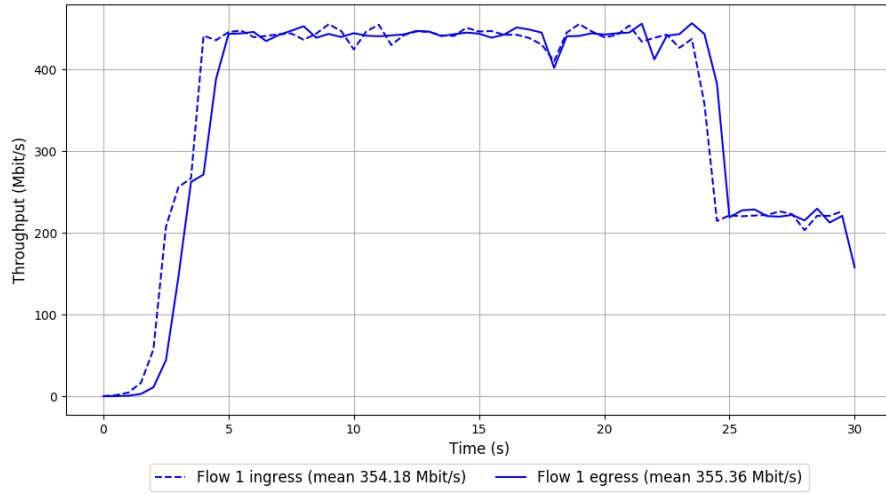
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 323.11 Mbit/s)   Flow 1 egress (mean 322.71 Mbit/s)
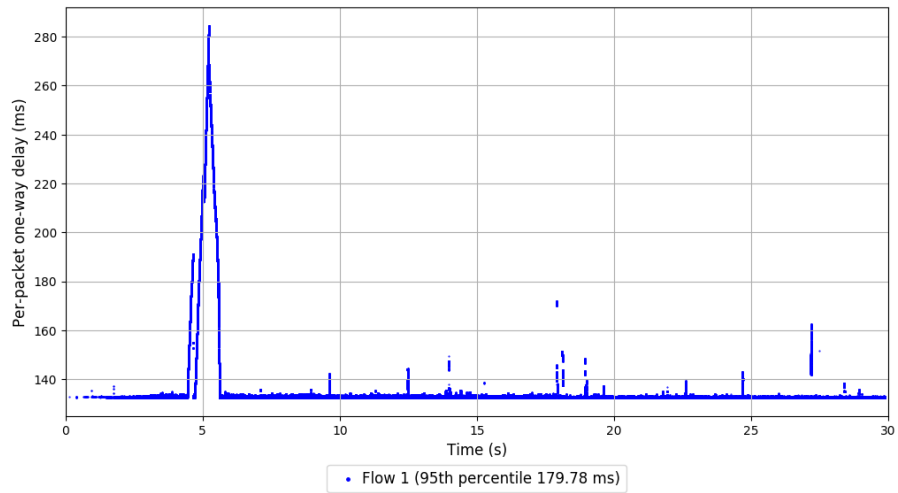

• Flow 1 (95th percentile 160.24 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-06-28 05:55:31
End at: 2019-06-28 05:56:01
Local clock offset: -0.04 ms
Remote clock offset: 0.226 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 355.36 Mbit/s
95th percentile per-packet one-way delay: 136.523 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 355.36 Mbit/s
95th percentile per-packet one-way delay: 136.523 ms
Loss rate: 0.56%
```
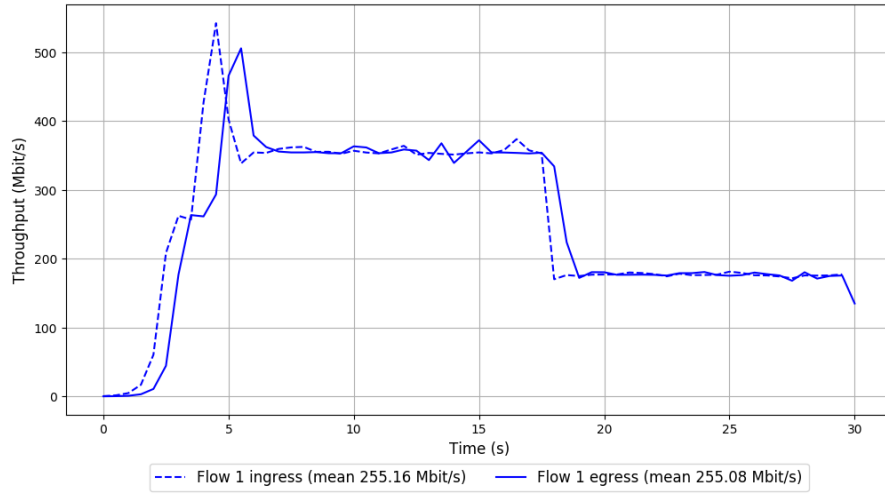
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-06-28 06:28:42
End at: 2019-06-28 06:29:12
Local clock offset: -0.315 ms
Remote clock offset: -0.173 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 255.08 Mbit/s
95th percentile per-packet one-way delay: 179.784 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 255.08 Mbit/s
95th percentile per-packet one-way delay: 179.784 ms
Loss rate: 0.92%
```
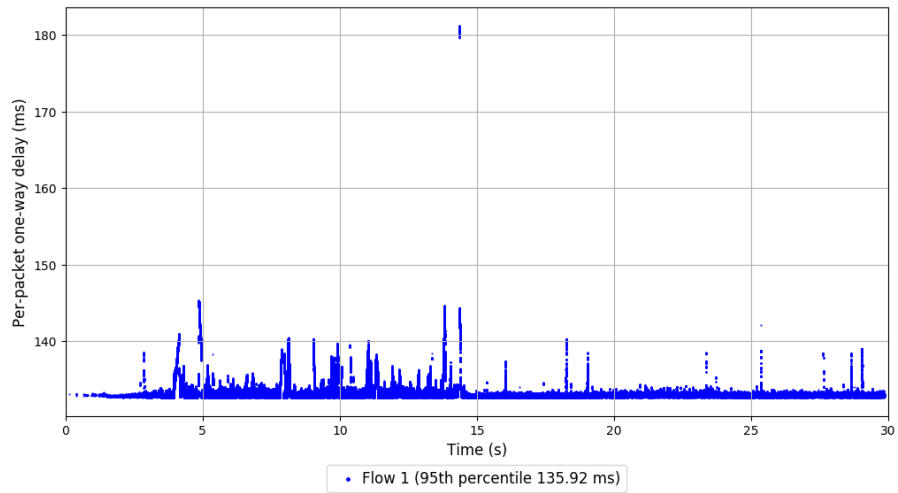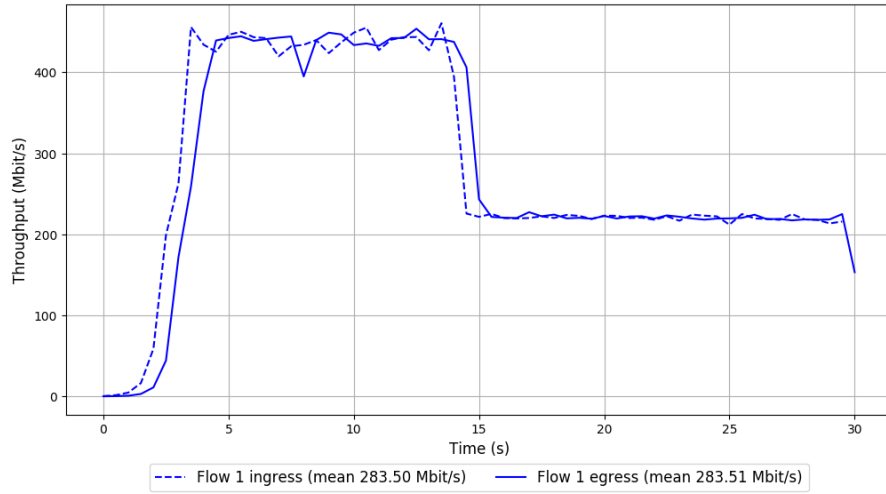
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-06-28 07:01:15
End at: 2019-06-28 07:01:45
Local clock offset: -0.047 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 283.51 Mbit/s
95th percentile per-packet one-way delay: 135.920 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 283.51 Mbit/s
95th percentile per-packet one-way delay: 135.920 ms
Loss rate: 0.89%
```
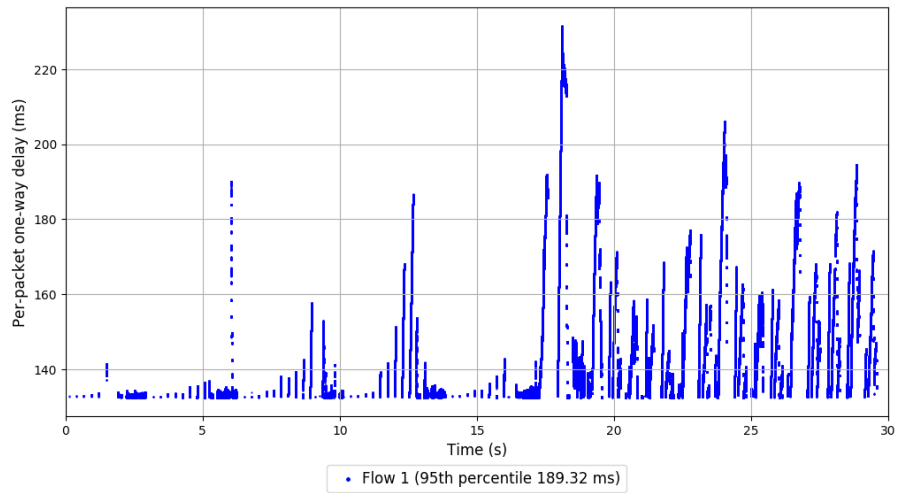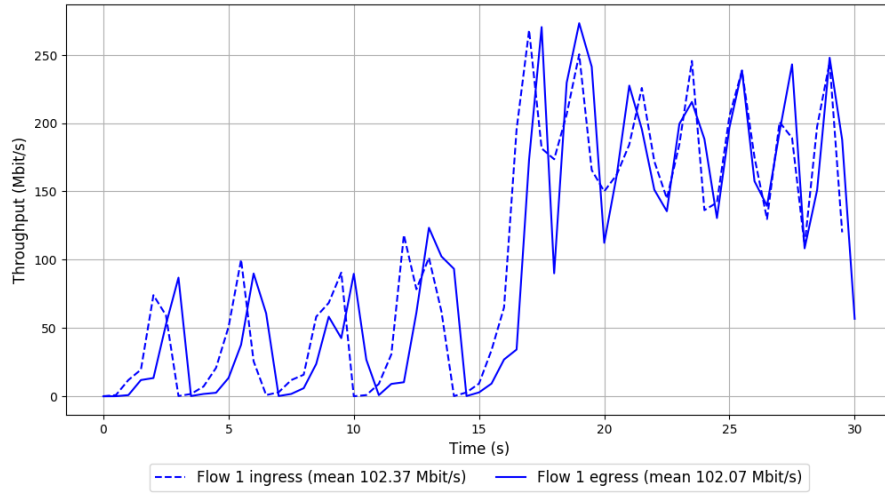
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-06-28 04:24:47
End at: 2019-06-28 04:25:17
Local clock offset: -0.483 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 102.07 Mbit/s
95th percentile per-packet one-way delay: 189.316 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 102.07 Mbit/s
95th percentile per-packet one-way delay: 189.316 ms
Loss rate: 1.96%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-06-28 04:57:24
End at: 2019-06-28 04:57:54
Local clock offset: -0.265 ms
Remote clock offset: -0.147 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 129.91 Mbit/s
95th percentile per-packet one-way delay: 263.823 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 129.91 Mbit/s
95th percentile per-packet one-way delay: 263.823 ms
Loss rate: 0.40%
```
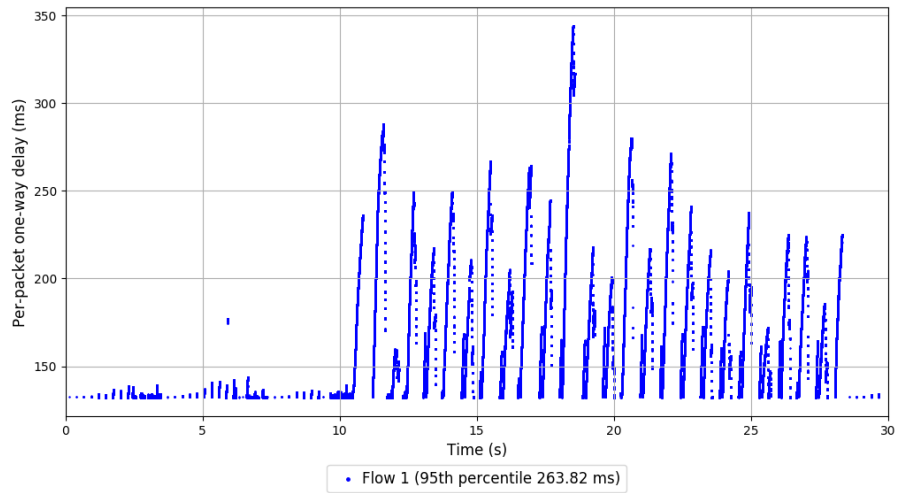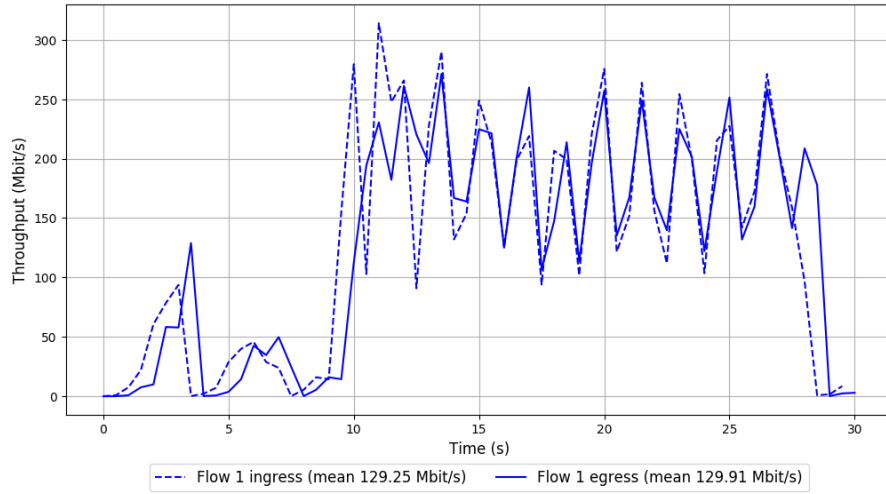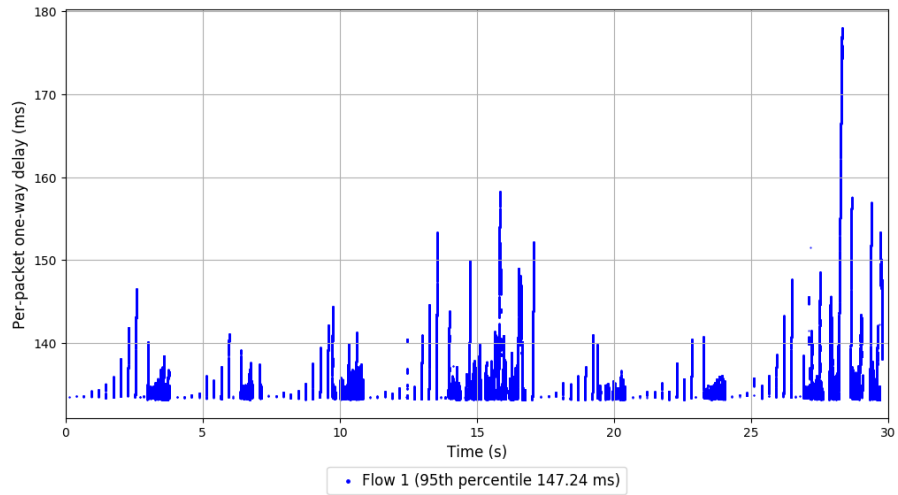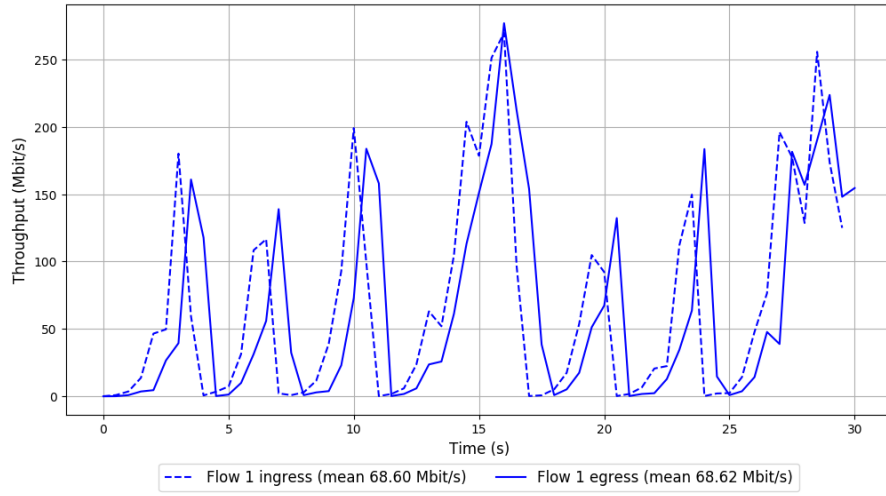
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-06-28 05:30:27
End at: 2019-06-28 05:30:57
Local clock offset: 0.388 ms
Remote clock offset: -0.111 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 147.237 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 147.237 ms
Loss rate: 0.96%
```

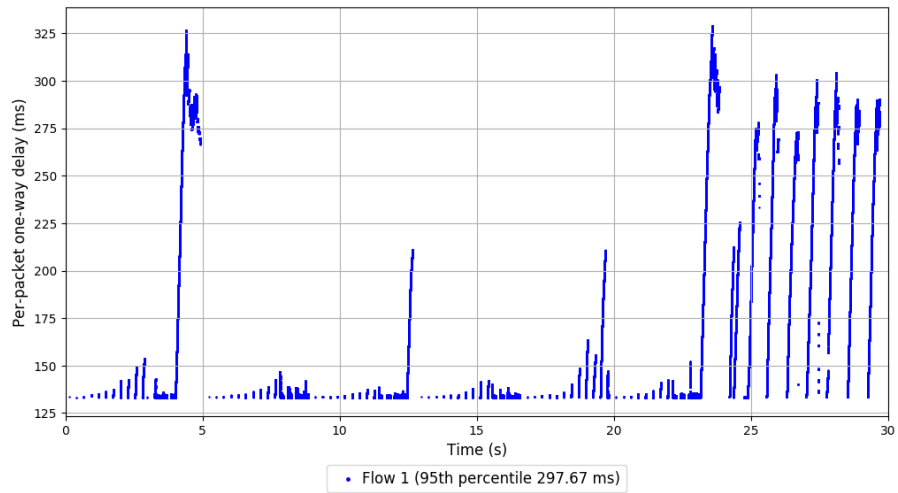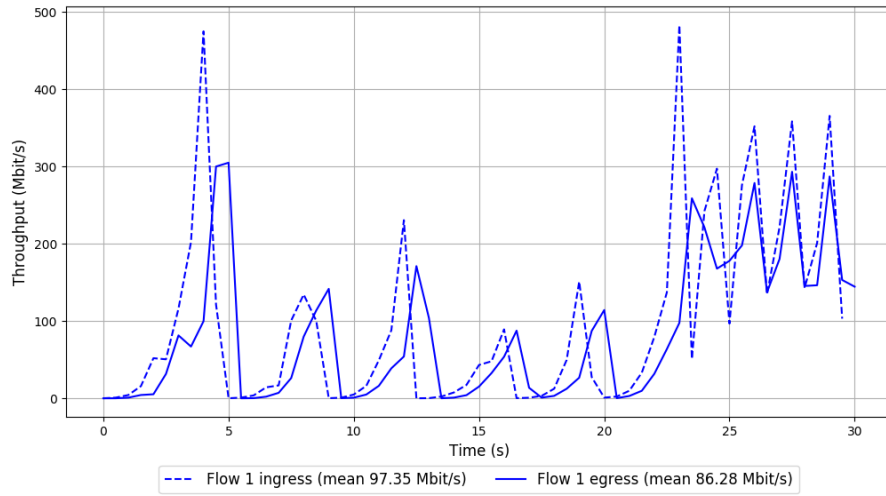Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-06-28 06:03:21
End at: 2019-06-28 06:03:51
Local clock offset: 0.373 ms
Remote clock offset: -0.093 ms


# Below is generated by plot.py at 2019-06-28 08:44:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.28 Mbit/s
95th percentile per-packet one-way delay: 297.665 ms
Loss rate: 12.59%
-- Flow 1:
Average throughput: 86.28 Mbit/s
95th percentile per-packet one-way delay: 297.665 ms
Loss rate: 12.59%
```
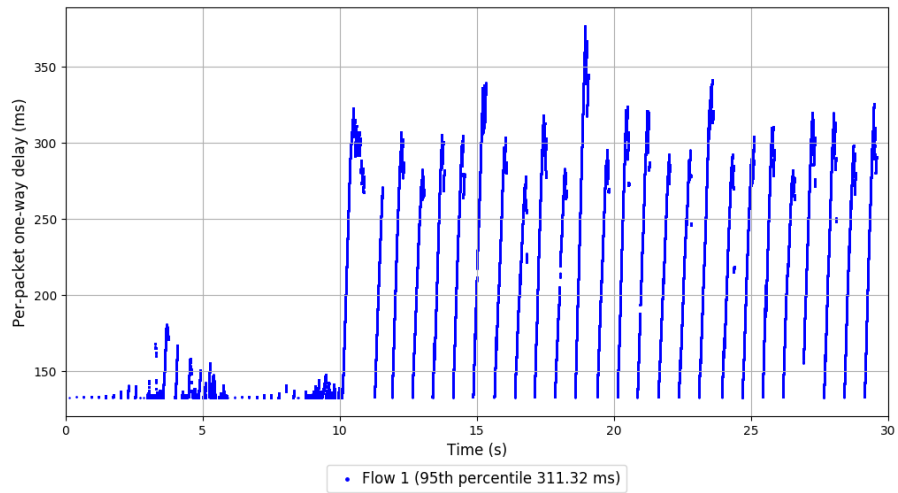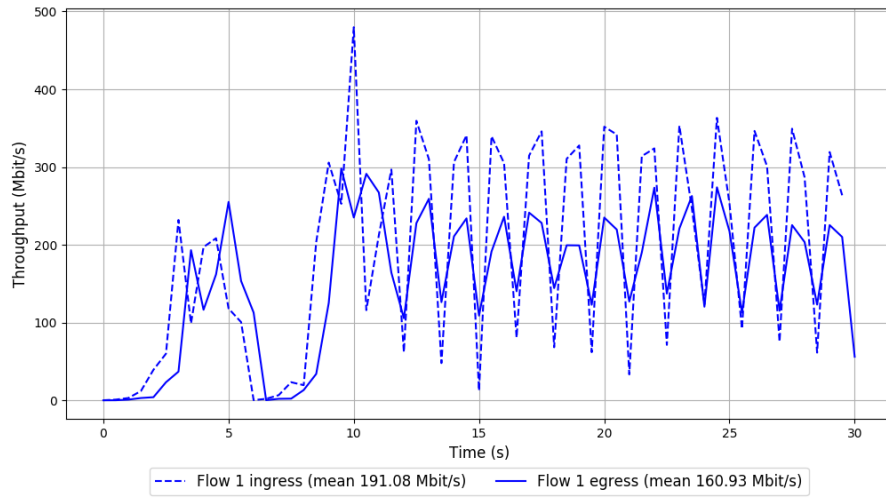
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-06-28 06:36:26
End at: 2019-06-28 06:36:56
Local clock offset: -0.112 ms
Remote clock offset: -0.148 ms


# Below is generated by plot.py at 2019-06-28 08:46:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 160.93 Mbit/s
95th percentile per-packet one-way delay: 311.316 ms
Loss rate: 17.23%
-- Flow 1:
Average throughput: 160.93 Mbit/s
95th percentile per-packet one-way delay: 311.316 ms
Loss rate: 17.23%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-06-28 04:30:32
End at: 2019-06-28 04:31:02
Local clock offset: 0.099 ms
Remote clock offset: -0.235 ms


# Below is generated by plot.py at 2019-06-28 08:46:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 283.02 Mbit/s
95th percentile per-packet one-way delay: 136.919 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 283.02 Mbit/s
95th percentile per-packet one-way delay: 136.919 ms
Loss rate: 1.02%
```
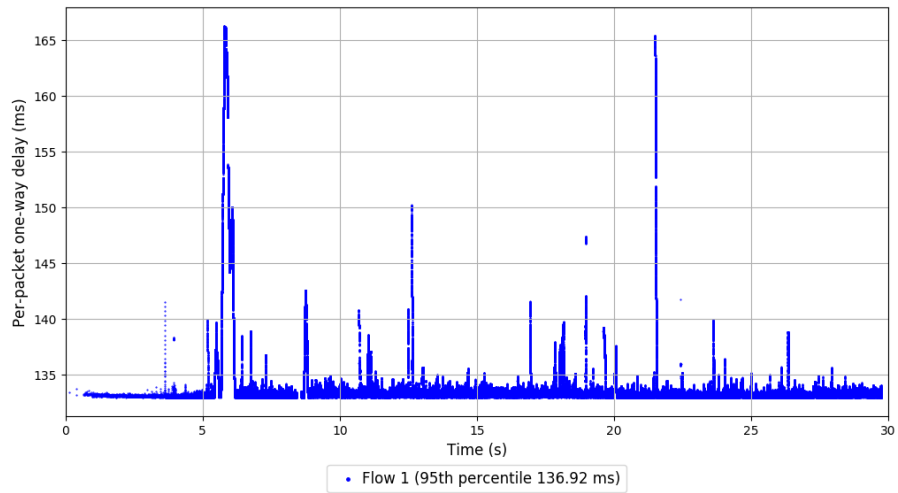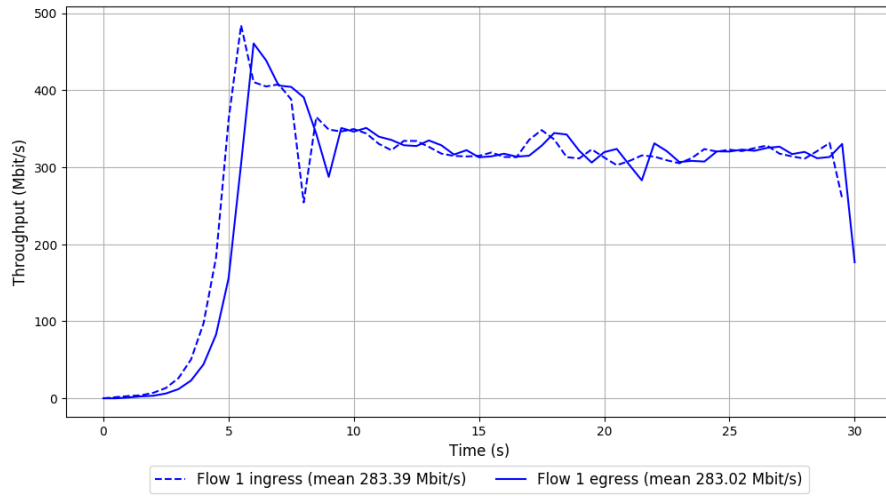
Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 283.39 Mbit/s)   Flow 1 egress (mean 283.02 Mbit/s)

Flow 1 (95th percentile 136.92 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-06-28 05:03:12
End at: 2019-06-28 05:03:42
Local clock offset: 0.146 ms
Remote clock offset: -0.113 ms


# Below is generated by plot.py at 2019-06-28 08:46:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 163.58 Mbit/s
95th percentile per-packet one-way delay: 133.554 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 163.58 Mbit/s
95th percentile per-packet one-way delay: 133.554 ms
Loss rate: 2.19%
```
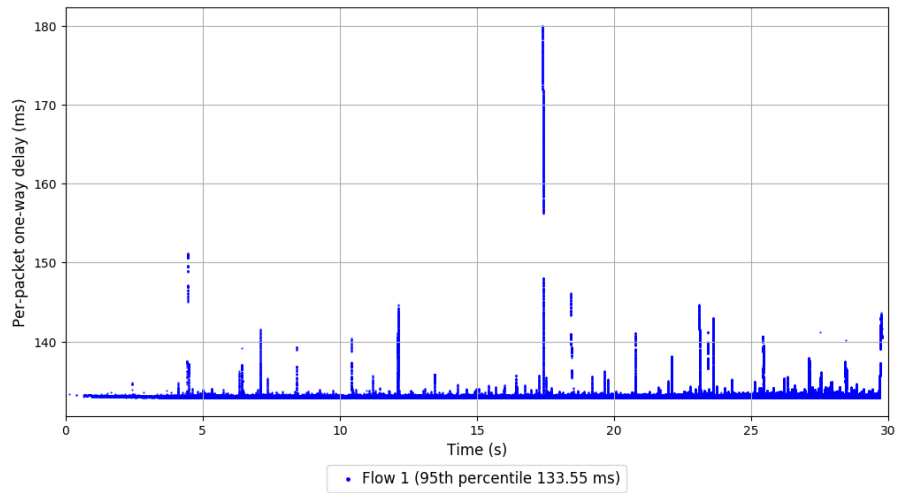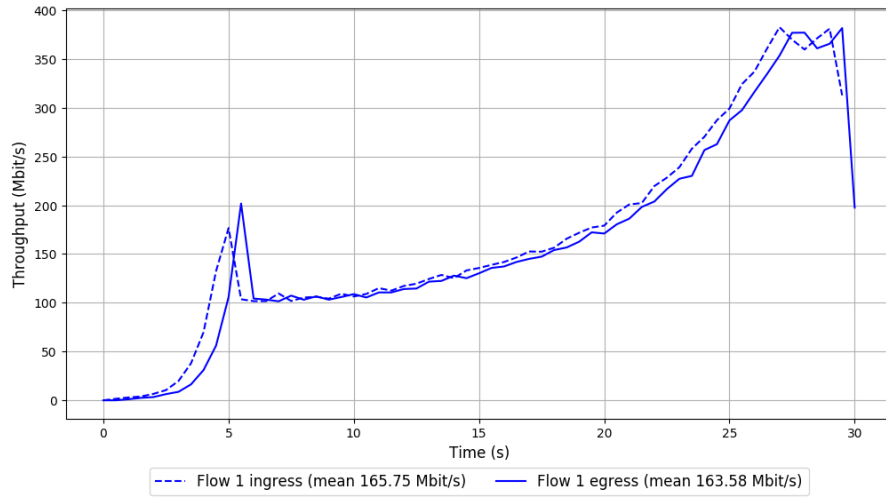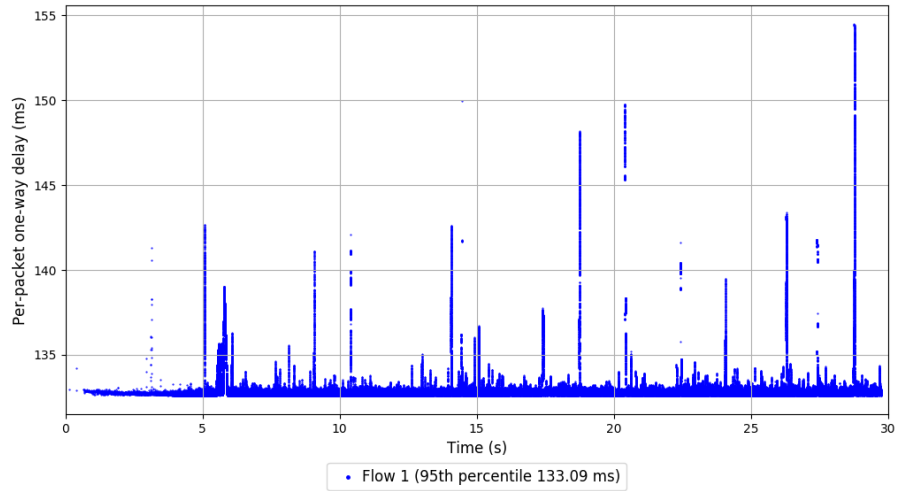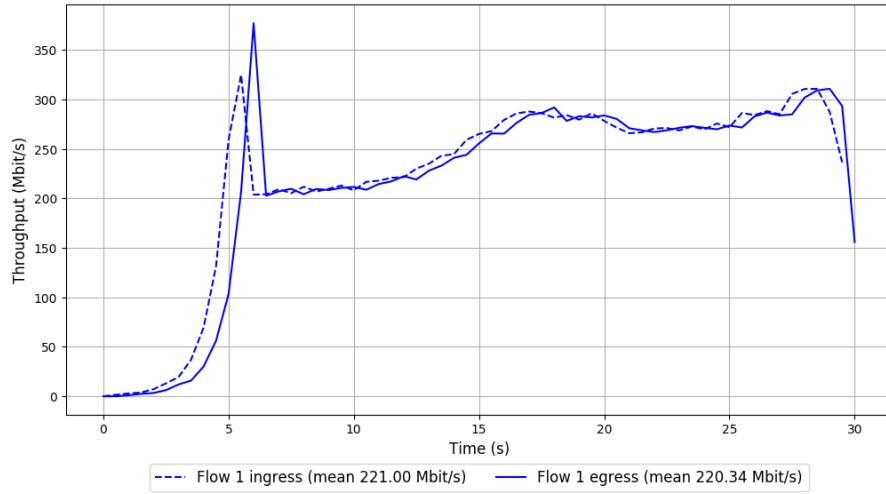
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-06-28 05:36:10
End at: 2019-06-28 05:36:40
Local clock offset: -0.388 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-06-28 08:46:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.34 Mbit/s
95th percentile per-packet one-way delay: 133.090 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 220.34 Mbit/s
95th percentile per-packet one-way delay: 133.090 ms
Loss rate: 1.19%
```
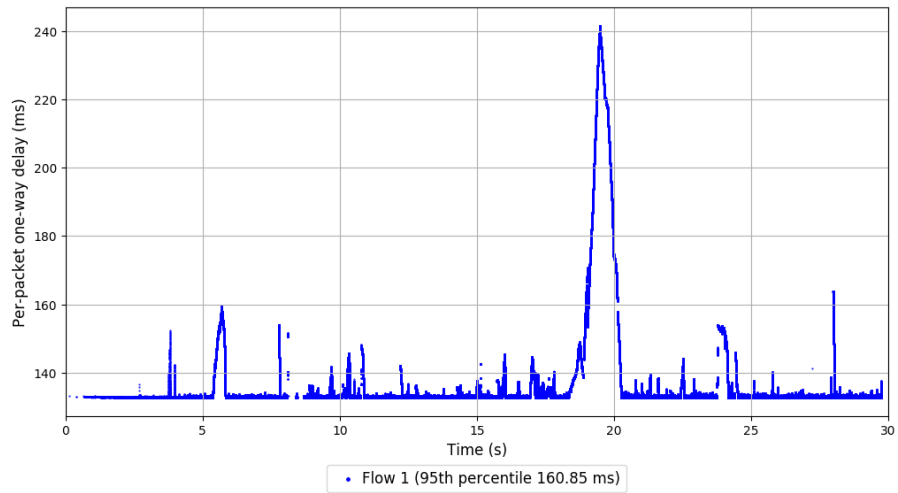
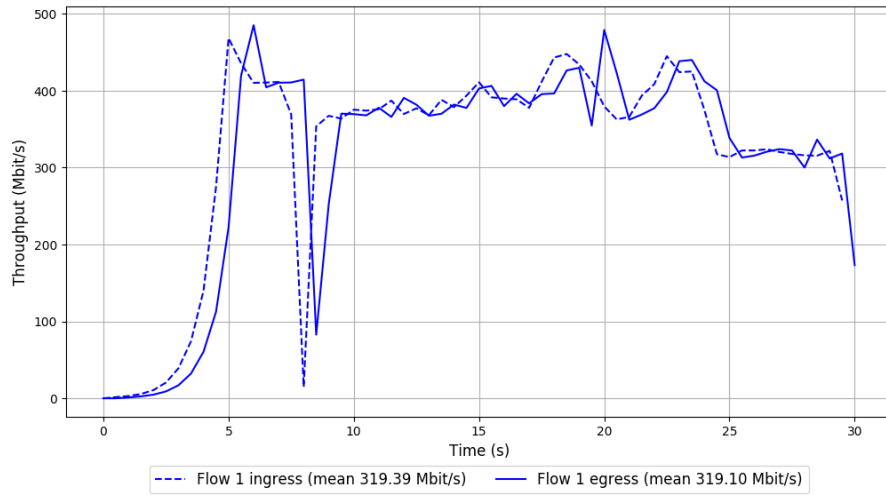Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-06-28 06:09:11
End at: 2019-06-28 06:09:41
Local clock offset: -0.069 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 319.10 Mbit/s
95th percentile per-packet one-way delay: 160.849 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 319.10 Mbit/s
95th percentile per-packet one-way delay: 160.849 ms
Loss rate: 0.99%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 319.39 Mbit/s) ---- Flow 1 egress (mean 319.10 Mbit/s) ——

Flow 1 (95th percentile 160.85 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-06-28 06:42:17
End at: 2019-06-28 06:42:47
Local clock offset: 0.351 ms
Remote clock offset: -0.145 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 205.23 Mbit/s
95th percentile per-packet one-way delay: 133.004 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 205.23 Mbit/s
95th percentile per-packet one-way delay: 133.004 ms
Loss rate: 1.28%
```
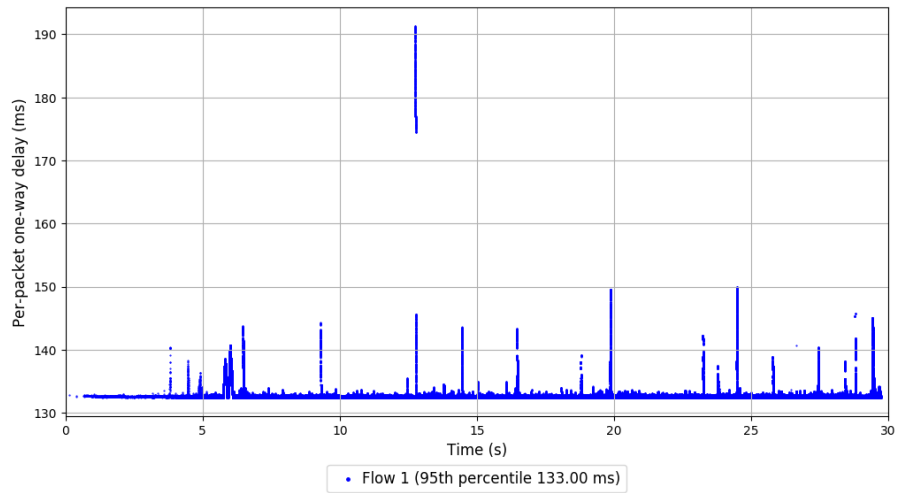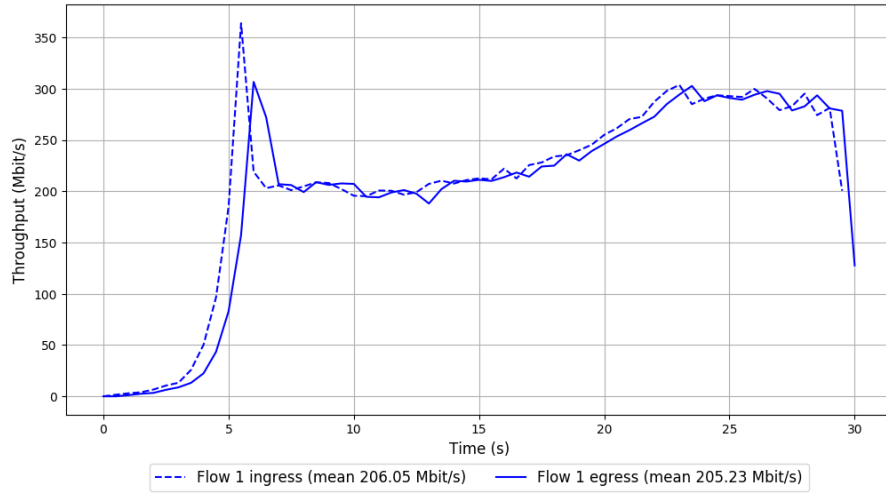
Run 5: Report of PCC-Vivace — Data Link
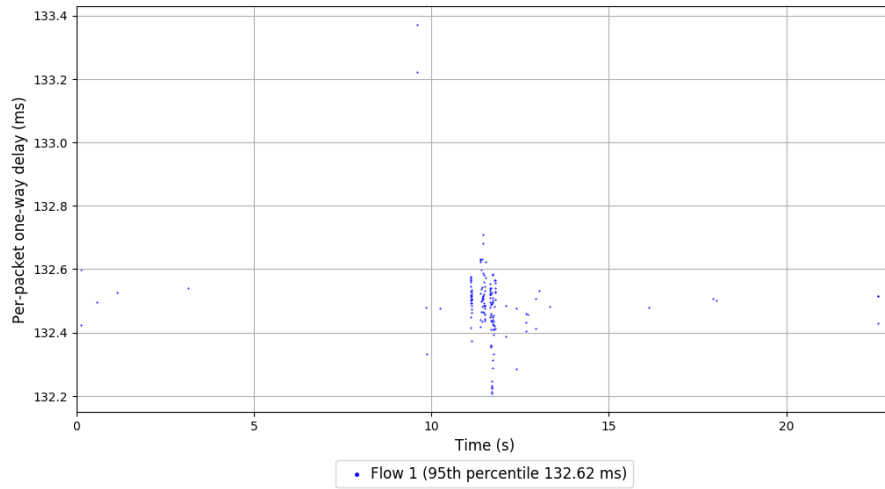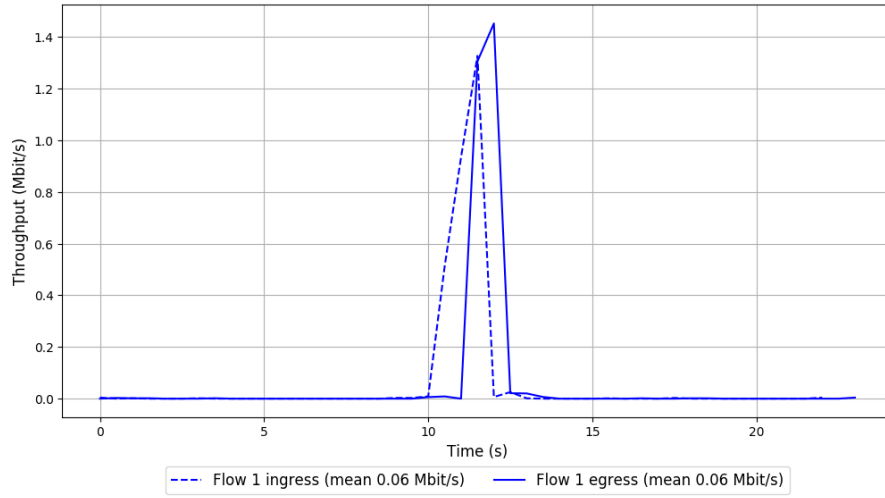
```
Run 1: Statistics of WebRTC media

Start at: 2019-06-28 04:27:44
End at: 2019-06-28 04:28:14
Local clock offset: 0.133 ms
Remote clock offset: -0.174 ms
```

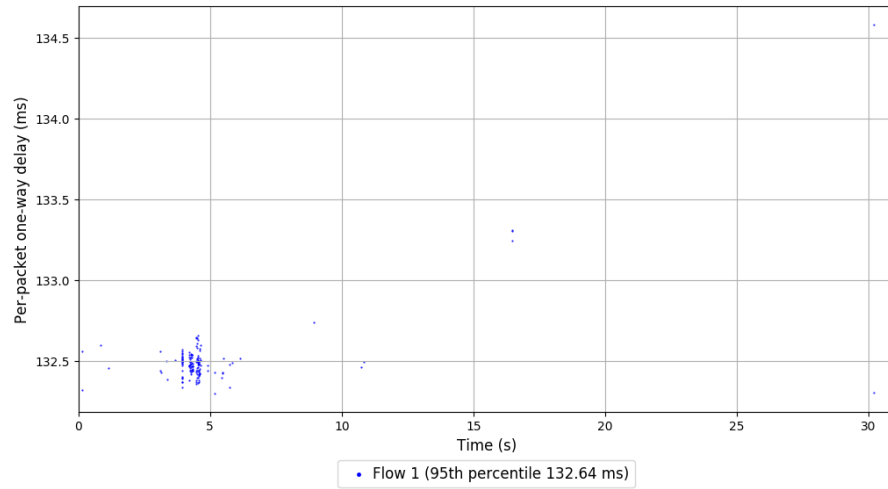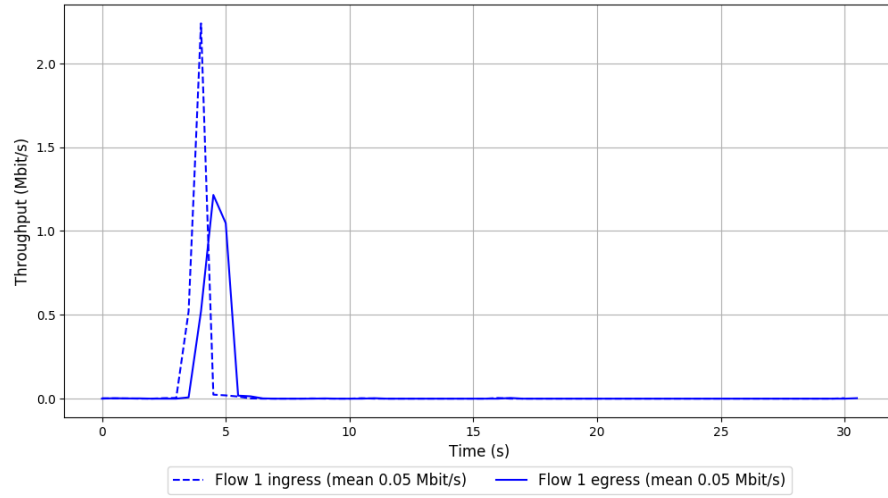Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-06-28 05:00:23
End at: 2019-06-28 05:00:53
Local clock offset: -0.449 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.642 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.642 ms
Loss rate: 0.00%
```

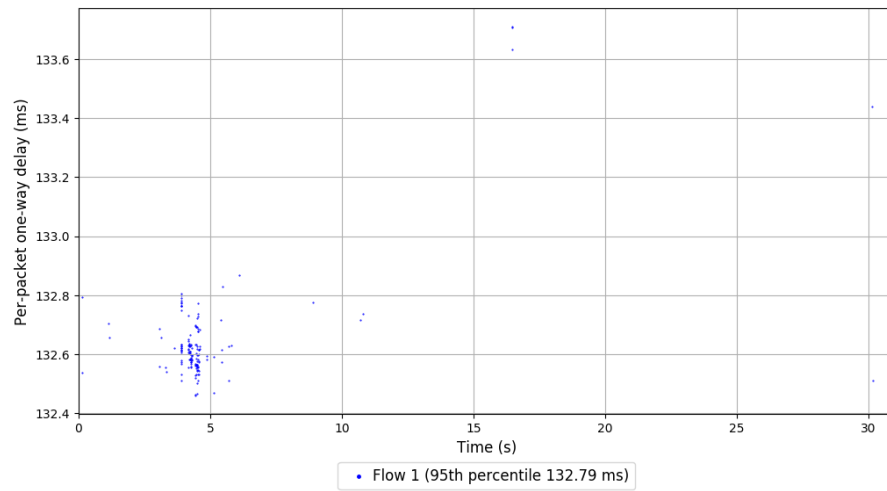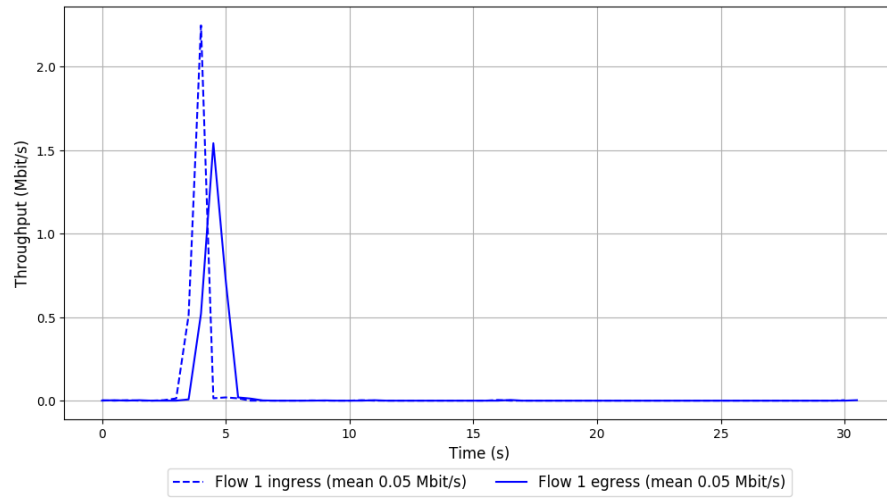Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-06-28 05:33:20
End at: 2019-06-28 05:33:50
Local clock offset: 0.043 ms
Remote clock offset: -0.133 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.795 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.795 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-06-28 06:06:20
End at: 2019-06-28 06:06:50
Local clock offset: 0.172 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.683 ms
Loss rate: 0.00%
```
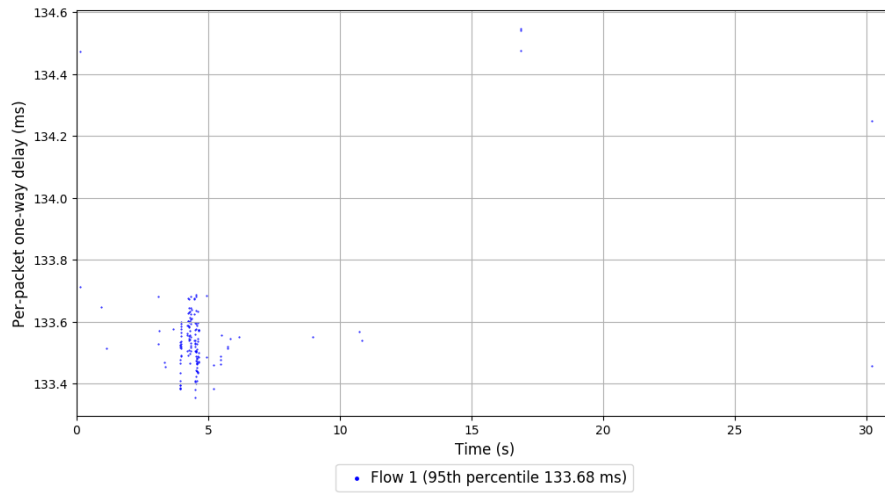
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-06-28 06:39:32
End at: 2019-06-28 06:40:02
Local clock offset: -0.071 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-06-28 08:46:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 135.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 135.613 ms
Loss rate: 0.00%
```
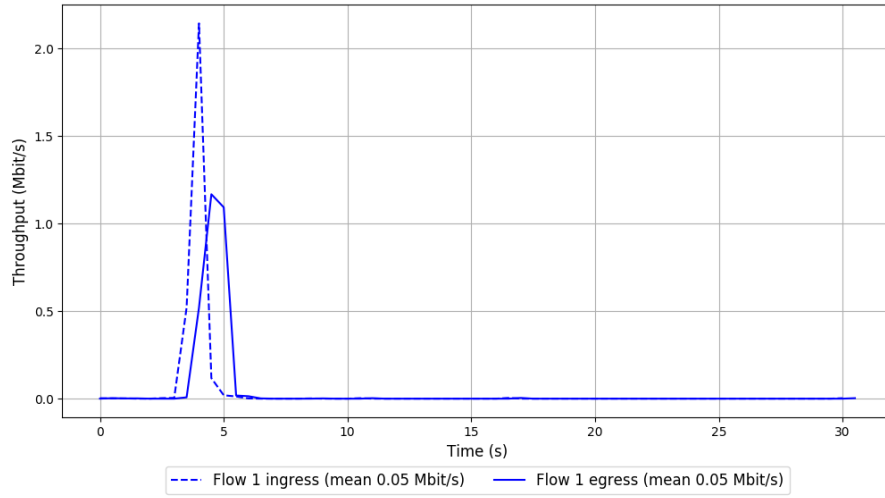
Run 5: Report of WebRTC media — Data Link