Pantheon Report

Generated at 2019-01-03 07:46:58 (UTC).

Data path: Saudi Arabia on `enp2s0` (*remote*) →AWS India 2 on `ens5` (*local*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.
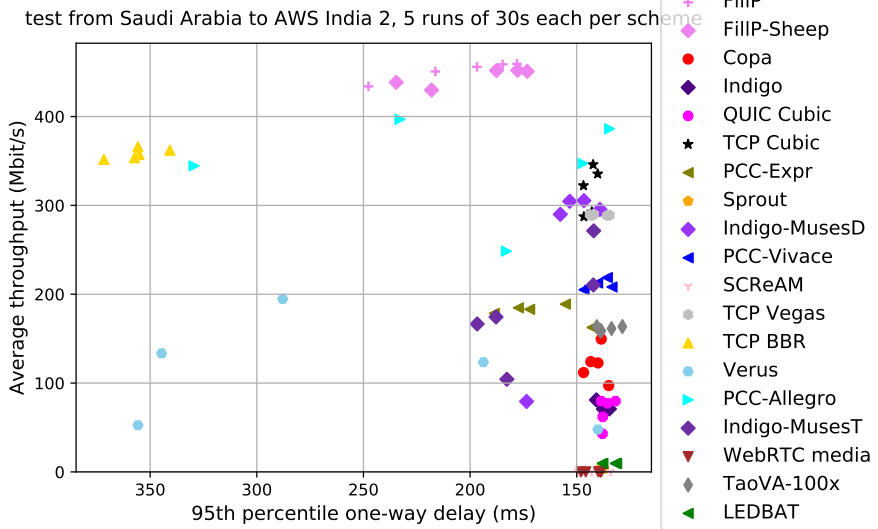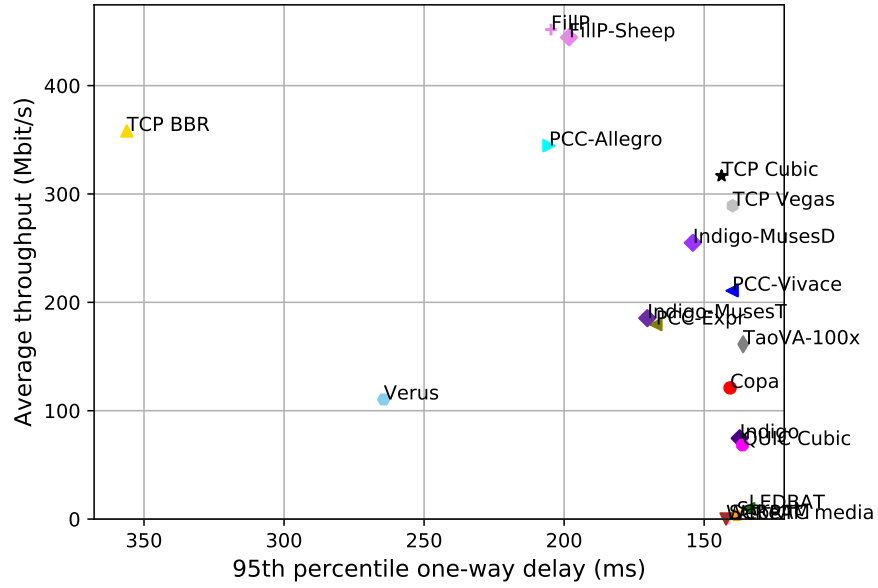
```
System info:
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
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 Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme
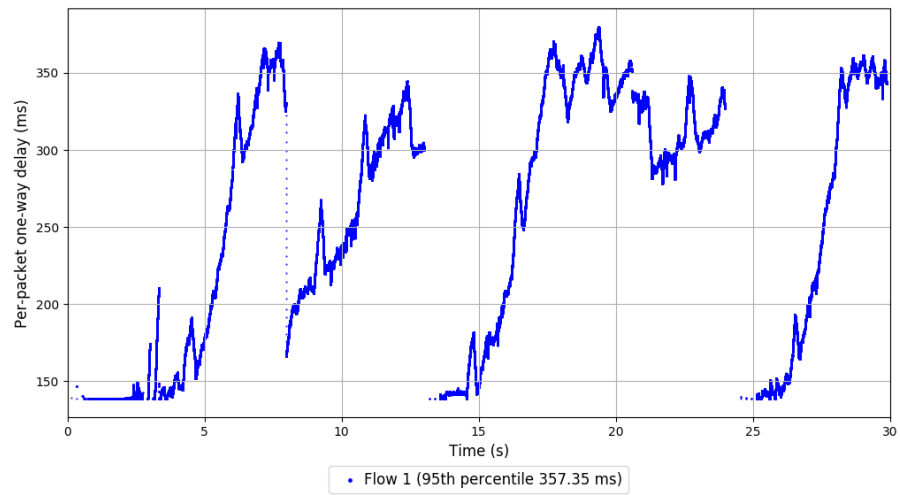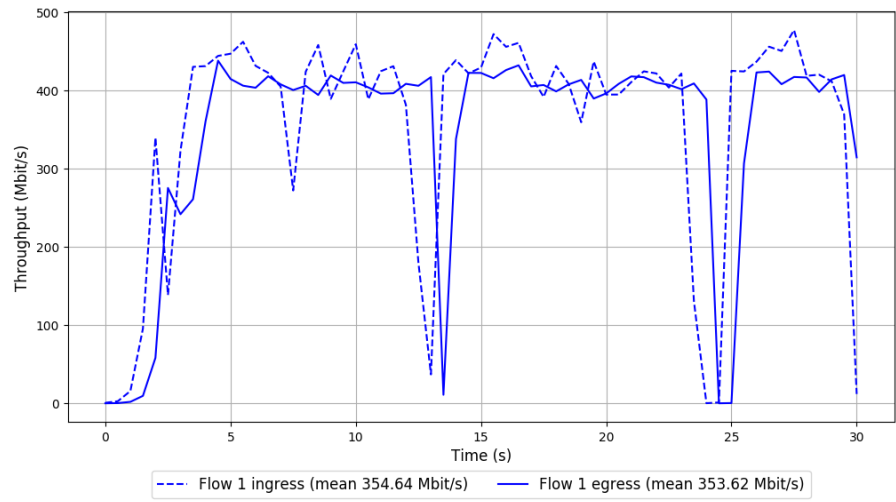(mean of all runs by scheme)

test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme

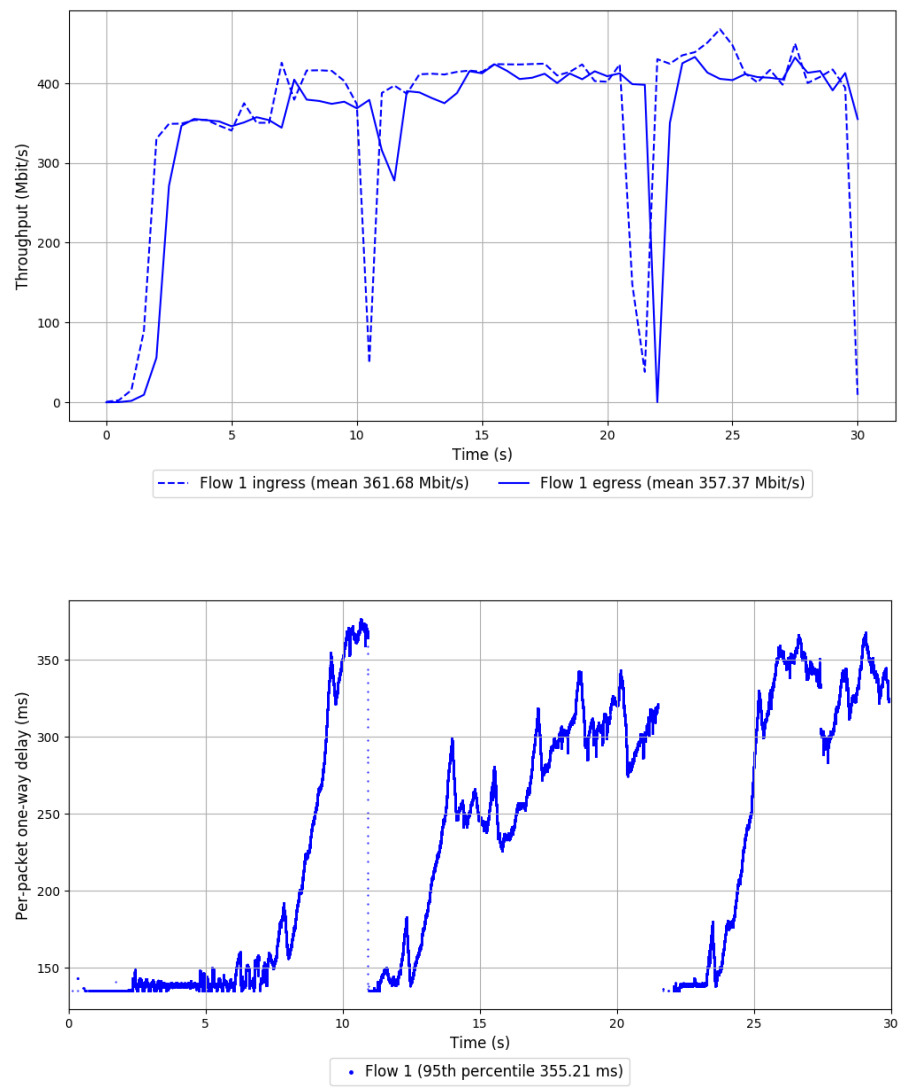| scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	358.17	356.15	1.88
Copa	5	121.06	140.74	0.75
TCP Cubic	5	316.73	143.78	0.70
FillP	5	451.74	204.68	2.07
FillP-Sheep	5	444.59	198.25	1.45
Indigo	5	74.57	137.32	0.66
Indigo-MusesD	5	254.91	154.04	0.84
Indigo-MusesT	5	185.41	170.30	0.86
LEDBAT	5	9.53	134.09	1.29
PCC-Allegro	5	344.62	205.39	0.67
PCC-Expr	5	179.52	167.25	0.73
QUIC Cubic	5	68.33	136.31	0.60
SCReAM	5	0.22	141.10	0.54
Sprout	5	3.45	138.35	0.74
TaoVA-100x	5	161.32	136.09	0.68
TCP Vegas	5	289.14	139.81	0.70
Verus	5	110.40	264.41	2.08
PCC-Vivace	5	210.72	140.01	0.79
WebRTC media	5	0.05	142.16	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-03 04:53:56
End at: 2019-01-03 04:54:26
Local clock offset: 1.829 ms
Remote clock offset: -40.998 ms

# Below is generated by plot.py at 2019-01-03 07:22:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 353.62 Mbit/s
95th percentile per-packet one-way delay: 357.350 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 353.62 Mbit/s
95th percentile per-packet one-way delay: 357.350 ms
Loss rate: 2.13%
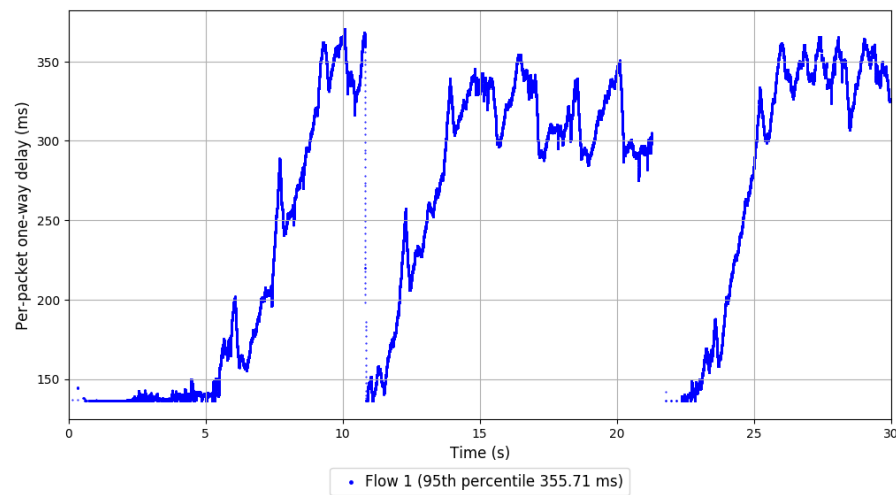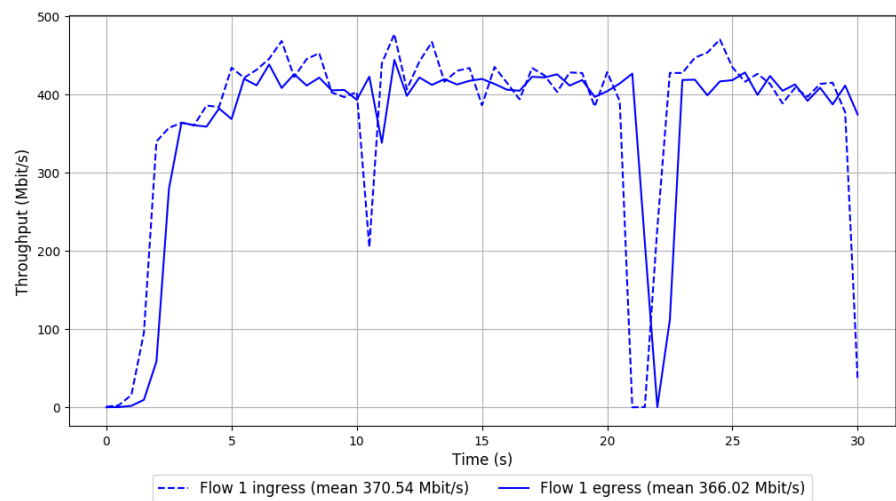```
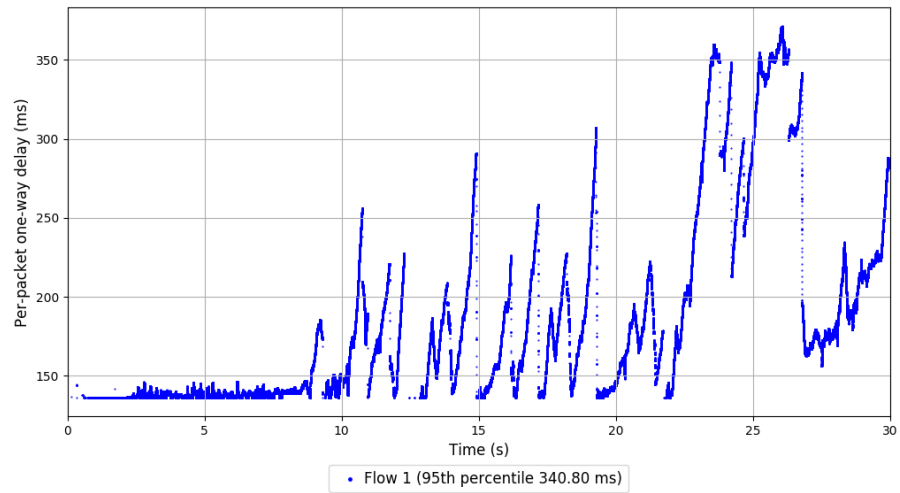
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-01-03 05:24:29
End at: 2019-01-03 05:24:59
Local clock offset: 2.388 ms
Remote clock offset: -37.213 ms

Below is generated by plot.py at 2019-01-03 07:22:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 357.37 Mbit/s
95th percentile per-packet one-way delay: 355.210 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 357.37 Mbit/s
95th percentile per-packet one-way delay: 355.210 ms
Loss rate: 1.94%
```
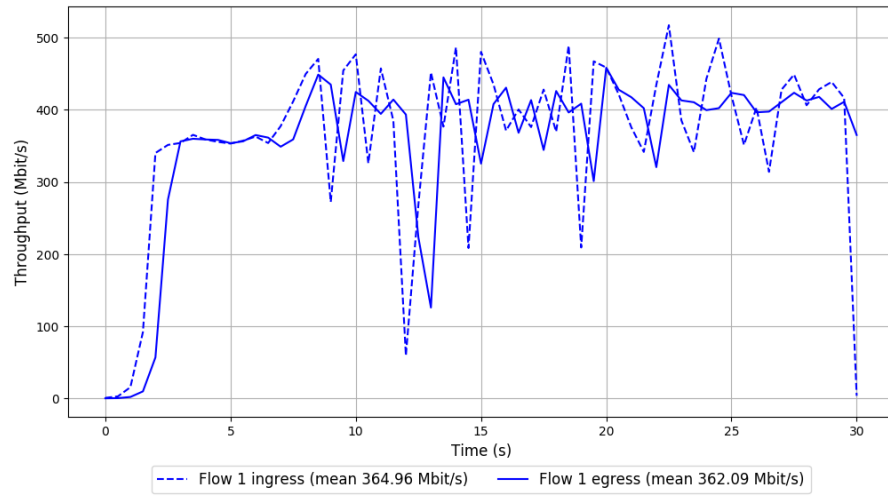
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-01-03 06:00:54
End at: 2019-01-03 06:01:24
Local clock offset: 0.137 ms
Remote clock offset: -39.183 ms

Below is generated by plot.py at 2019-01-03 07:22:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 366.02 Mbit/s
95th percentile per-packet one-way delay: 355.709 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 366.02 Mbit/s
95th percentile per-packet one-way delay: 355.709 ms
Loss rate: 1.99%
```
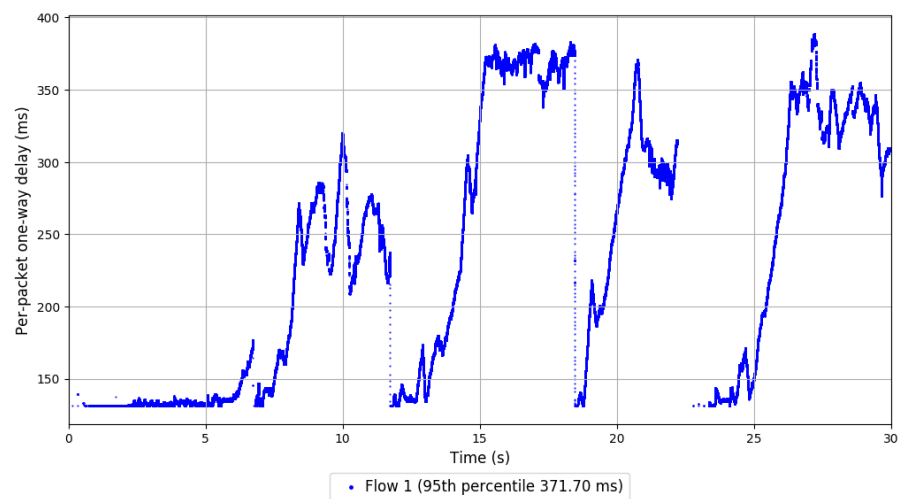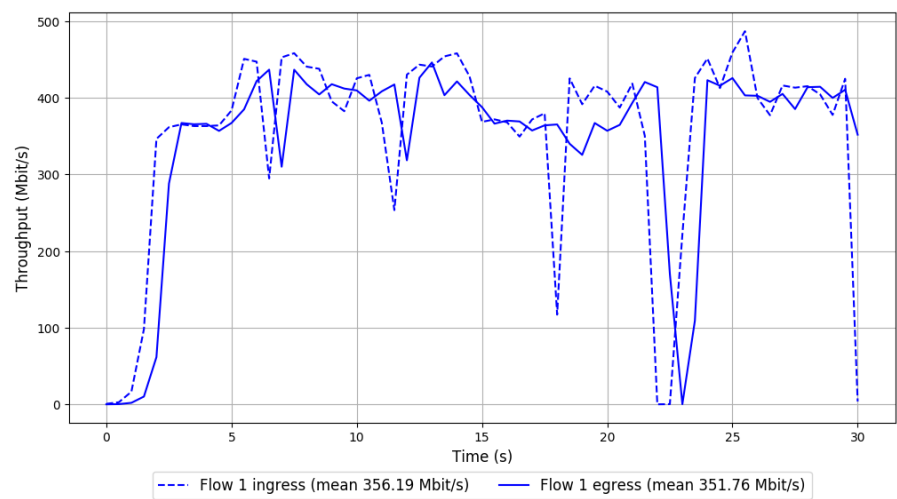
Run 3: Report of TCP BBR — Data Link



Flow 1 ingress (mean 370.54 Mbit/s)     Flow 1 egress (mean 366.02 Mbit/s)



Flow 1 (95th percentile 355.71 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-01-03 06:26:15
End at: 2019-01-03 06:26:45
Local clock offset: -0.516 ms
Remote clock offset: -42.461 ms

Below is generated by plot.py at 2019-01-03 07:22:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 362.09 Mbit/s
95th percentile per-packet one-way delay: 340.799 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 362.09 Mbit/s
95th percentile per-packet one-way delay: 340.799 ms
Loss rate: 1.44%
```
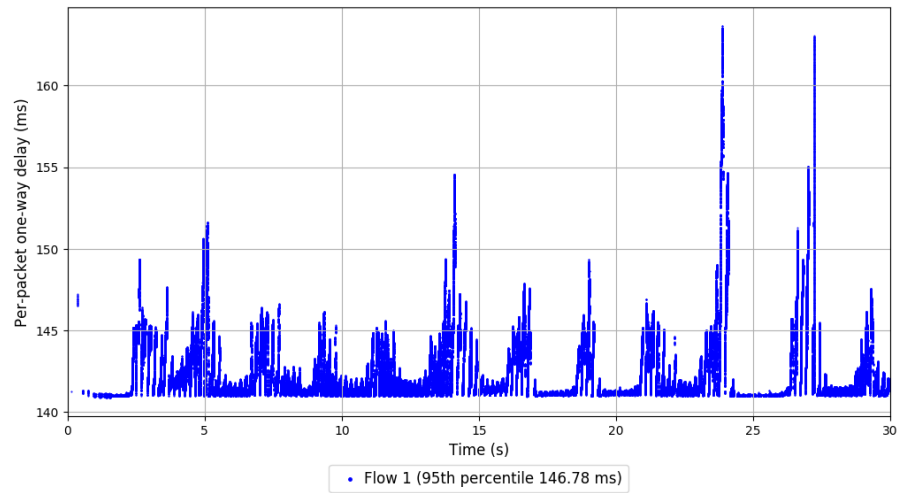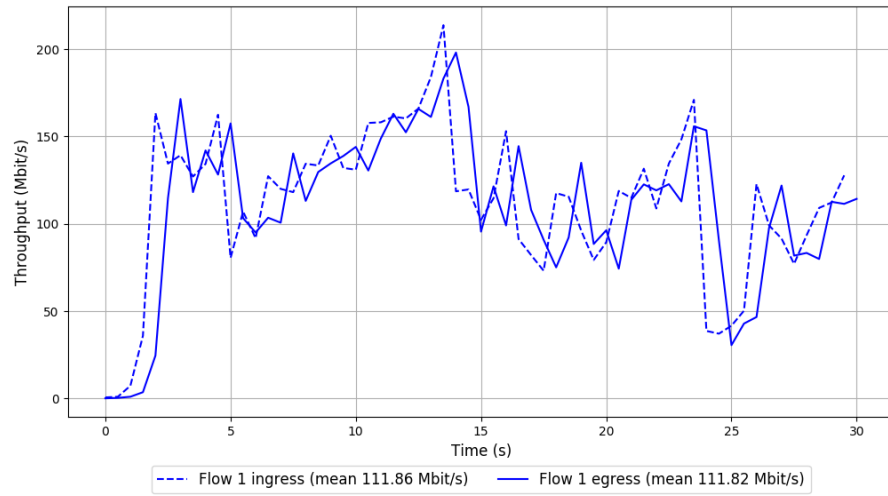
# Run 4: Report of TCP BBR — Data Link



Flow 1 ingress (mean 364.96 Mbit/s)    Flow 1 egress (mean 362.09 Mbit/s)



Flow 1 (95th percentile 340.80 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-01-03 06:57:05
End at: 2019-01-03 06:57:35
Local clock offset: 0.214 ms
Remote clock offset: -39.311 ms


# Below is generated by plot.py at 2019-01-03 07:22:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 351.76 Mbit/s
95th percentile per-packet one-way delay: 371.697 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 351.76 Mbit/s
95th percentile per-packet one-way delay: 371.697 ms
Loss rate: 1.89%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 356.19 Mbit/s)   Flow 1 egress (mean 351.76 Mbit/s)

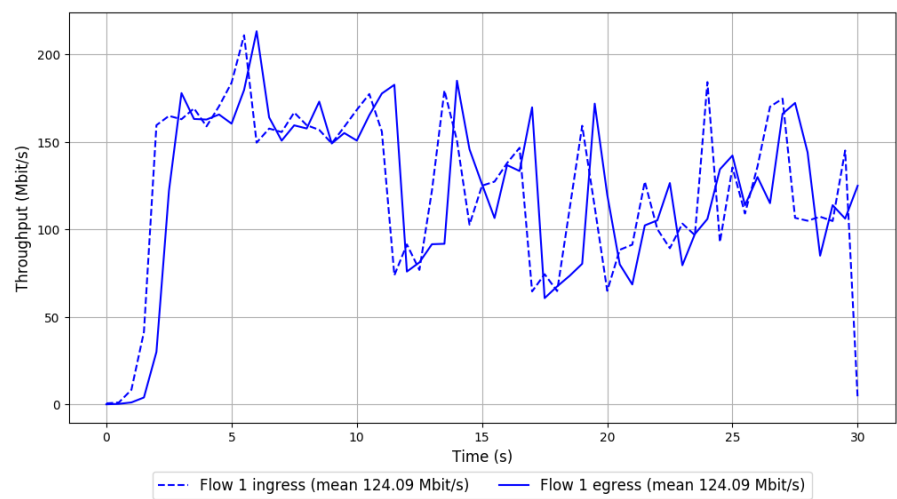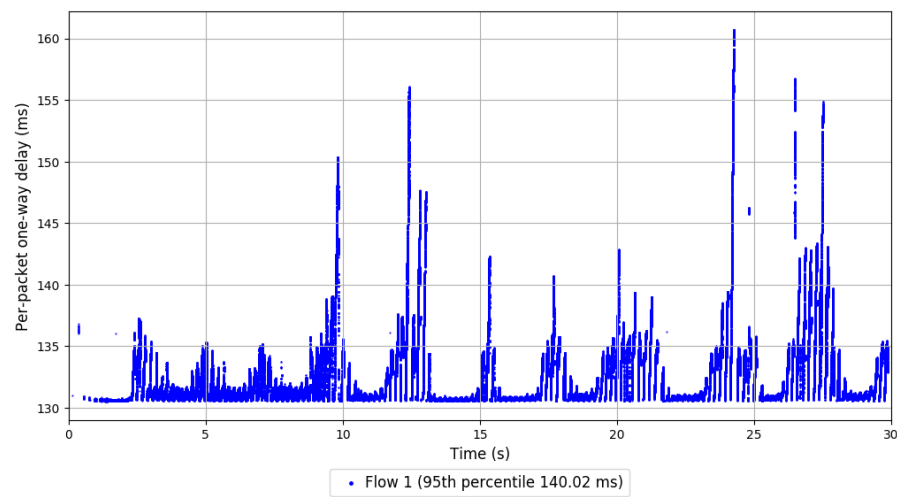

• Flow 1 (95th percentile 371.70 ms)

```
Run 1: Statistics of Copa

Start at: 2019-01-03 05:08:18
End at: 2019-01-03 05:08:48
Local clock offset: 3.347 ms
Remote clock offset: -42.962 ms

# Below is generated by plot.py at 2019-01-03 07:22:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 111.82 Mbit/s
95th percentile per-packet one-way delay: 146.777 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 111.82 Mbit/s
95th percentile per-packet one-way delay: 146.777 ms
Loss rate: 0.68%
```
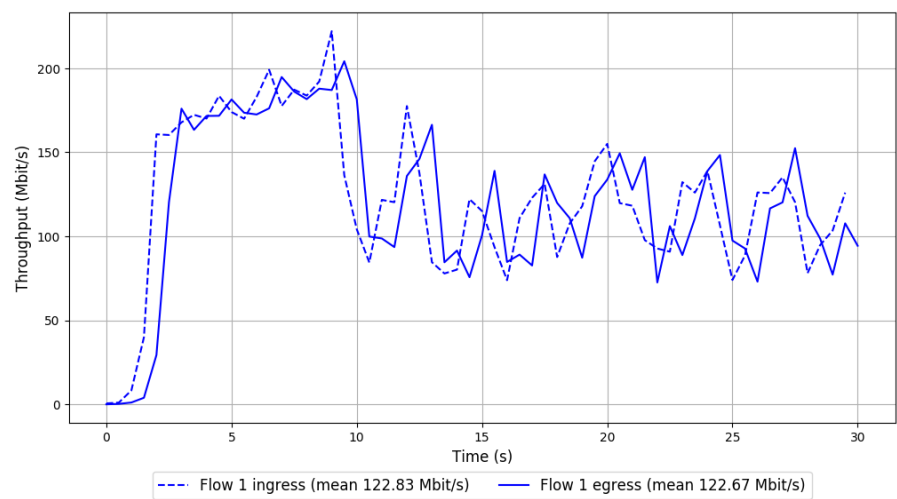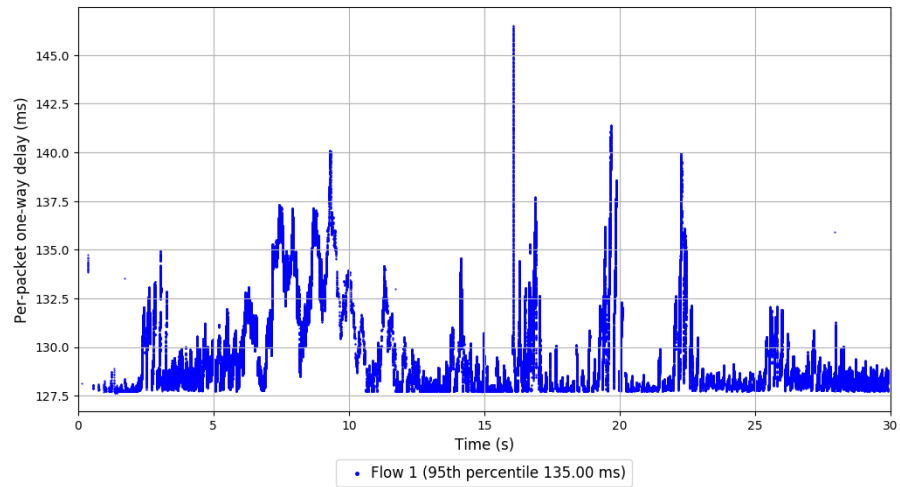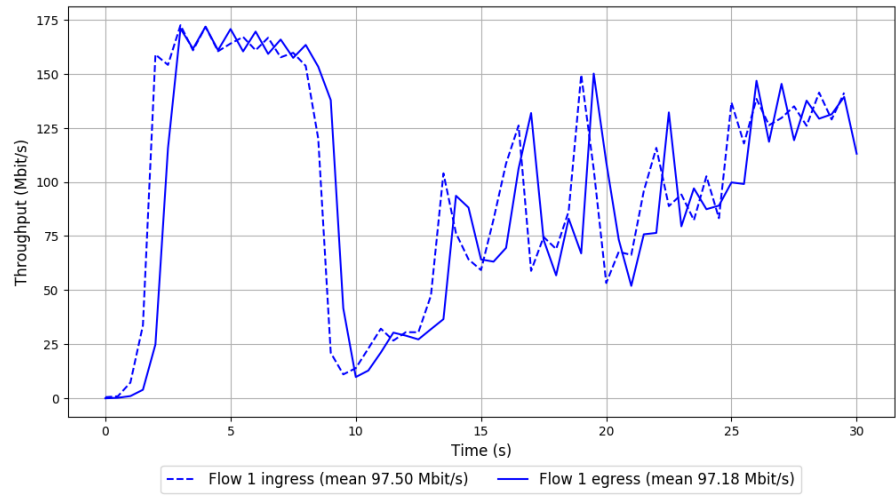
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 111.86 Mbit/s) —— Flow 1 egress (mean 111.82 Mbit/s)

• Flow 1 (95th percentile 146.78 ms)

```
Run 2: Statistics of Copa

Start at: 2019-01-03 05:44:18
End at: 2019-01-03 05:44:48
Local clock offset: -1.793 ms
Remote clock offset: -36.692 ms

# Below is generated by plot.py at 2019-01-03 07:22:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 124.09 Mbit/s
95th percentile per-packet one-way delay: 143.388 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 124.09 Mbit/s
95th percentile per-packet one-way delay: 143.388 ms
Loss rate: 0.65%
```
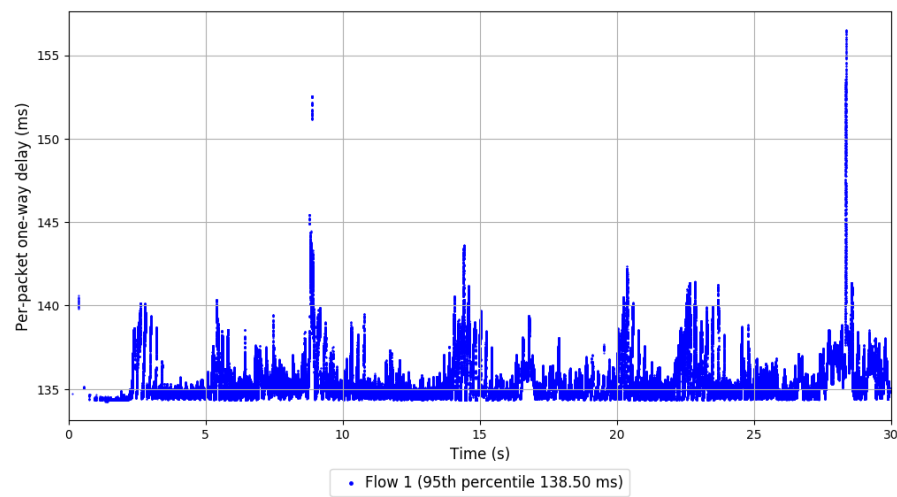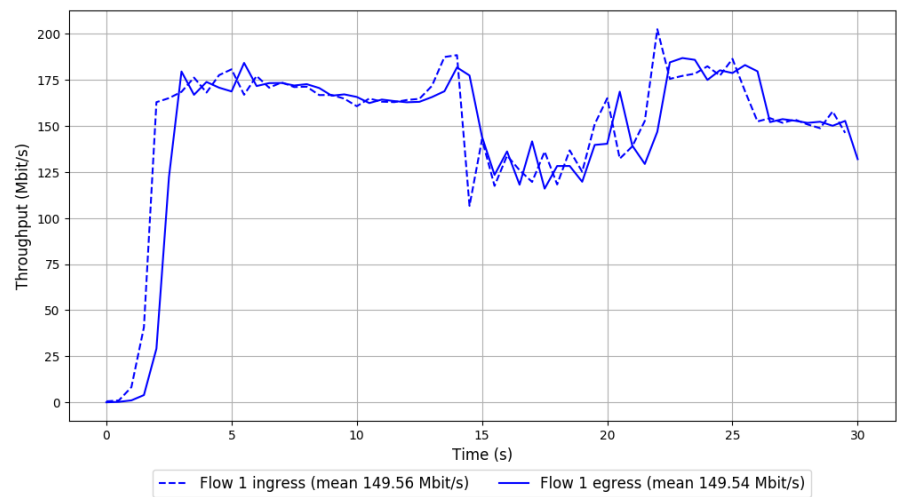
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-01-03 06:15:09
End at: 2019-01-03 06:15:39
Local clock offset: -1.987 ms
Remote clock offset: -39.246 ms

# Below is generated by plot.py at 2019-01-03 07:22:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 122.67 Mbit/s
95th percentile per-packet one-way delay: 140.022 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 122.67 Mbit/s
95th percentile per-packet one-way delay: 140.022 ms
Loss rate: 0.79%
```
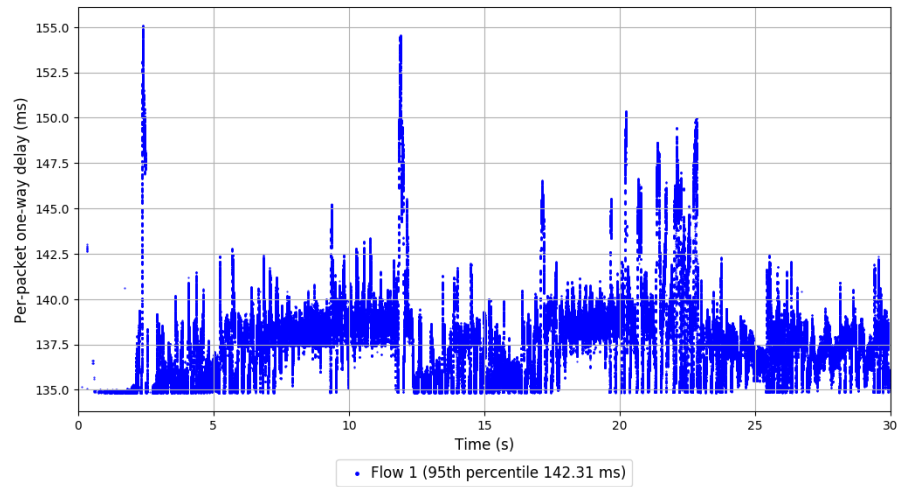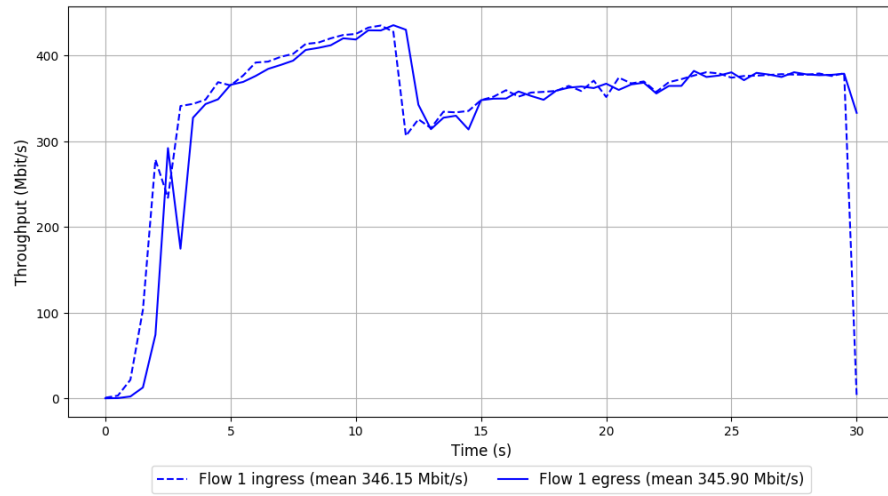
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 122.83 Mbit/s) ----- Flow 1 egress (mean 122.67 Mbit/s)

Flow 1 (95th percentile 140.02 ms)

```
Run 4: Statistics of Copa

Start at: 2019-01-03 06:40:29
End at: 2019-01-03 06:40:59
Local clock offset: 1.23 ms
Remote clock offset: -34.575 ms

# Below is generated by plot.py at 2019-01-03 07:22:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.18 Mbit/s
95th percentile per-packet one-way delay: 134.996 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 97.18 Mbit/s
95th percentile per-packet one-way delay: 134.996 ms
Loss rate: 0.97%
```
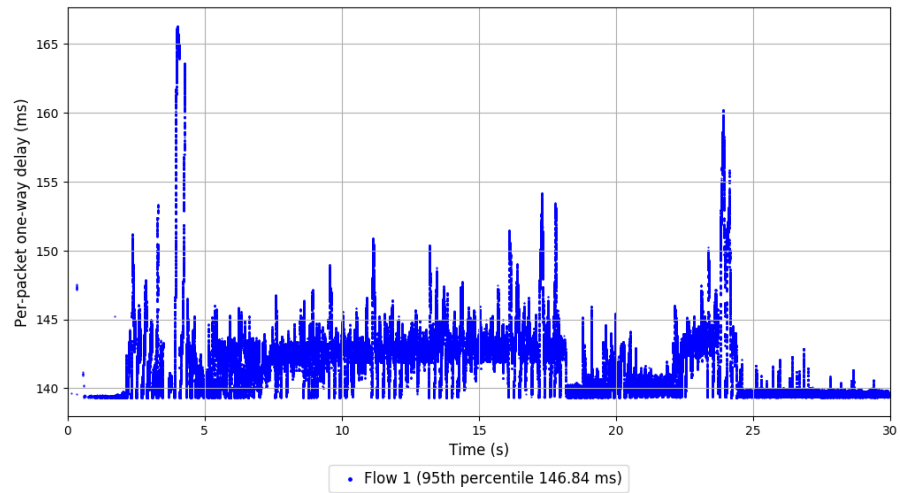
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-01-03 07:11:23
End at: 2019-01-03 07:11:53
Local clock offset: 2.897 ms
Remote clock offset: -38.908 ms


# Below is generated by plot.py at 2019-01-03 07:23:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 149.54 Mbit/s
95th percentile per-packet one-way delay: 138.500 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 149.54 Mbit/s
95th percentile per-packet one-way delay: 138.500 ms
Loss rate: 0.66%
```
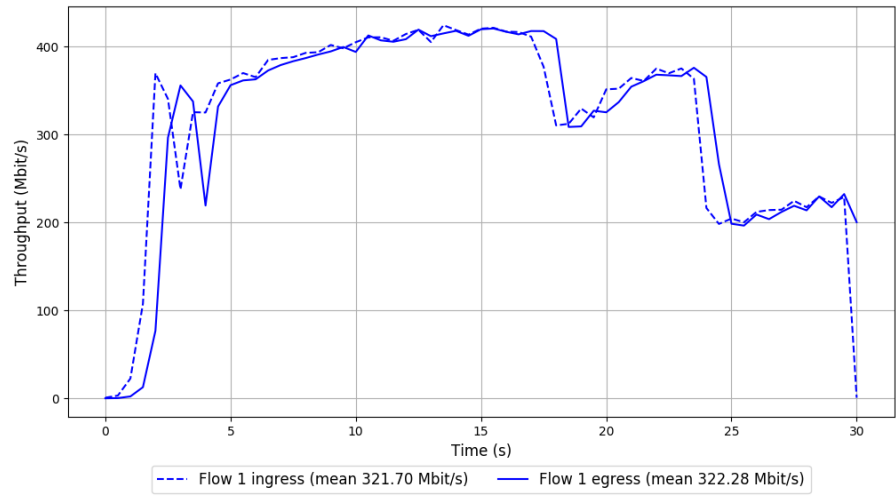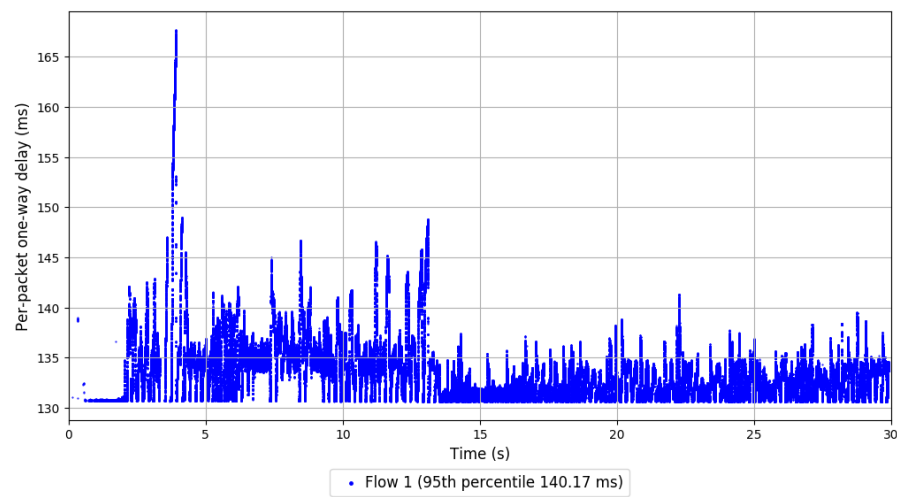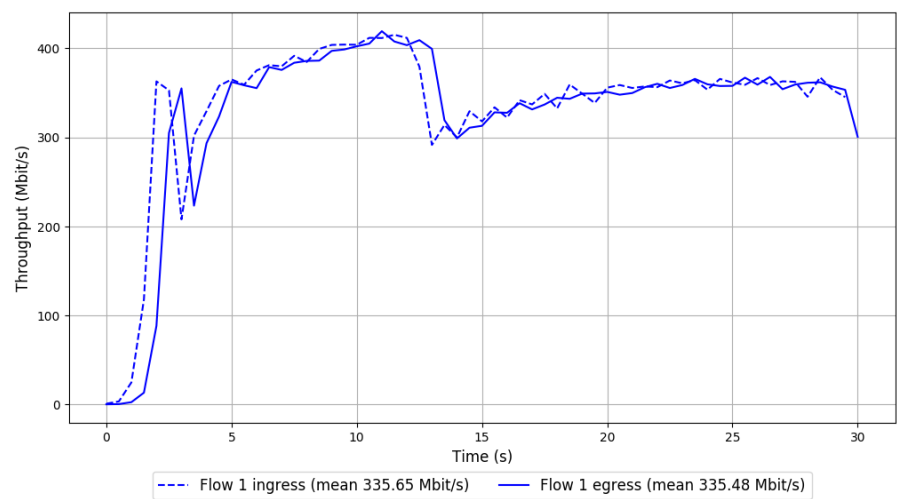
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-03 05:01:53
End at: 2019-01-03 05:02:23
Local clock offset: 3.168 ms
Remote clock offset: -36.153 ms


# Below is generated by plot.py at 2019-01-03 07:24:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 345.90 Mbit/s
95th percentile per-packet one-way delay: 142.312 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 345.90 Mbit/s
95th percentile per-packet one-way delay: 142.312 ms
Loss rate: 0.72%
```

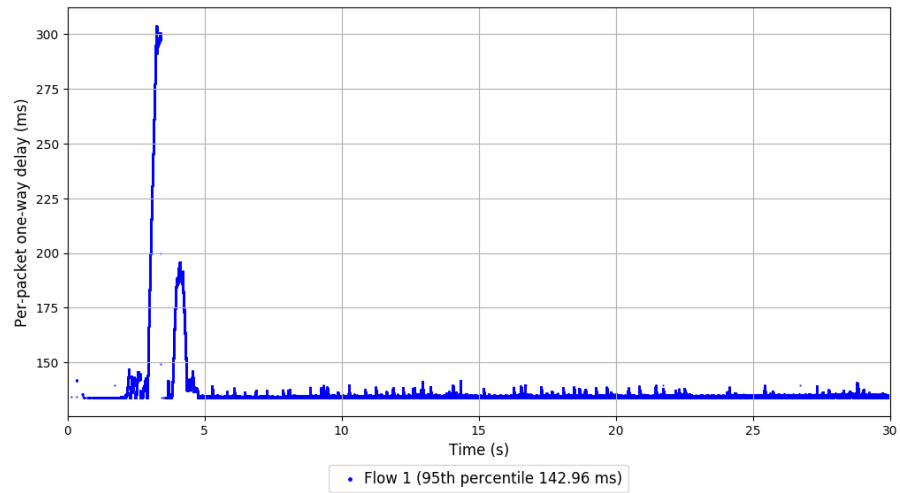Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-03 05:37:57
End at: 2019-01-03 05:38:27
Local clock offset: 3.432 ms
Remote clock offset: -39.195 ms


# Below is generated by plot.py at 2019-01-03 07:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 322.28 Mbit/s
95th percentile per-packet one-way delay: 146.838 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 322.28 Mbit/s
95th percentile per-packet one-way delay: 146.838 ms
Loss rate: 0.46%
```
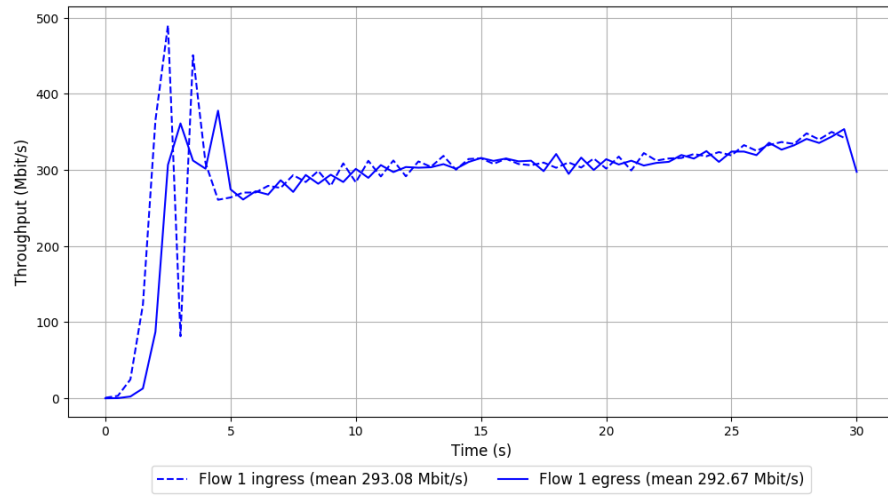
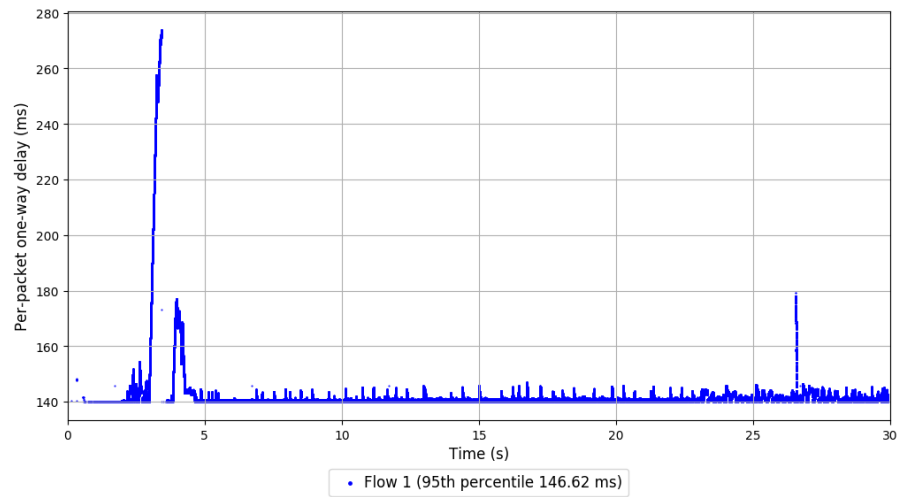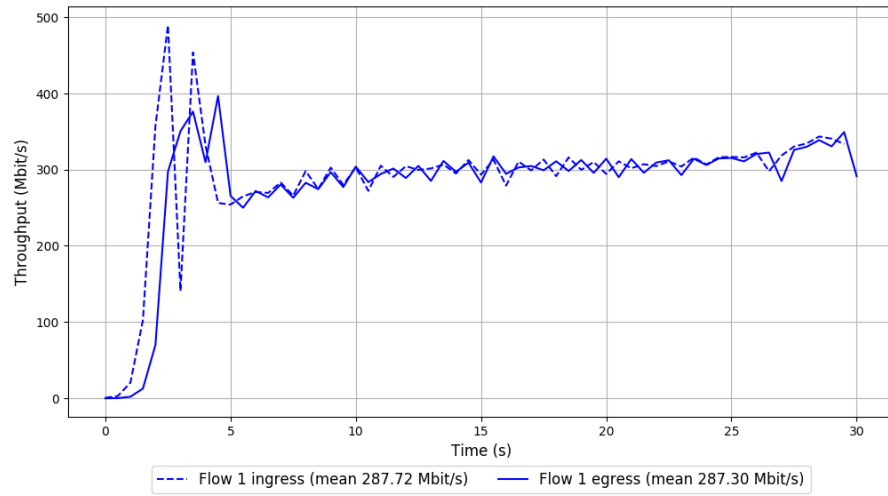Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-03 06:08:43
End at: 2019-01-03 06:09:13
Local clock offset: 1.003 ms
Remote clock offset: -35.695 ms


# Below is generated by plot.py at 2019-01-03 07:25:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 335.48 Mbit/s
95th percentile per-packet one-way delay: 140.167 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 335.48 Mbit/s
95th percentile per-packet one-way delay: 140.167 ms
Loss rate: 0.70%
```

Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-03 06:34:04
End at: 2019-01-03 06:34:34
Local clock offset: 1.955 ms
Remote clock offset: -39.935 ms


# Below is generated by plot.py at 2019-01-03 07:25:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 292.67 Mbit/s
95th percentile per-packet one-way delay: 142.957 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 292.67 Mbit/s
95th percentile per-packet one-way delay: 142.957 ms
Loss rate: 0.80%
```
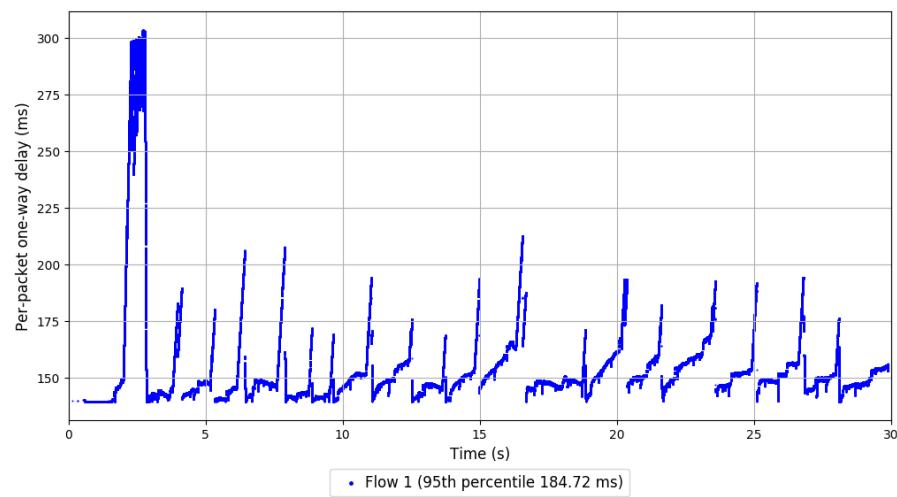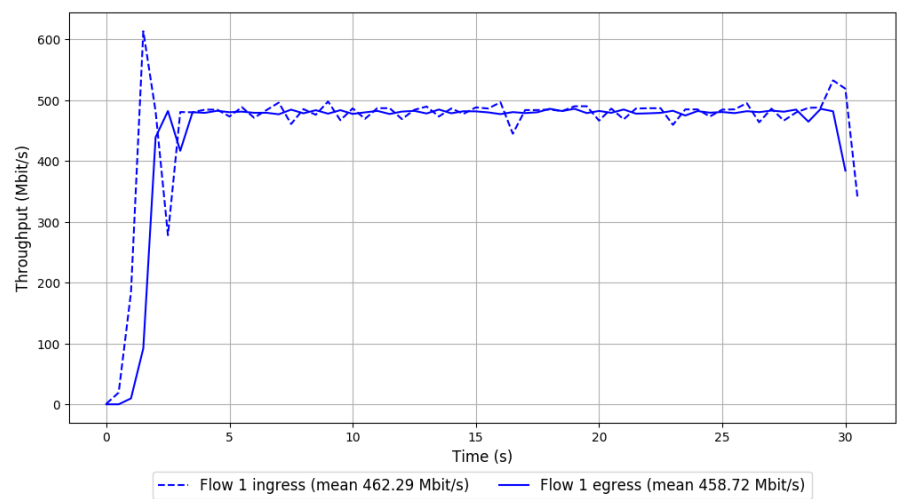
Run 4: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 293.08 Mbit/s) —— Flow 1 egress (mean 292.67 Mbit/s)

• Flow 1 (95th percentile 142.96 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-03 07:04:59
End at: 2019-01-03 07:05:29
Local clock offset: 1.136 ms
Remote clock offset: -45.369 ms


# Below is generated by plot.py at 2019-01-03 07:25:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 287.30 Mbit/s
95th percentile per-packet one-way delay: 146.622 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 287.30 Mbit/s
95th percentile per-packet one-way delay: 146.622 ms
Loss rate: 0.80%
```
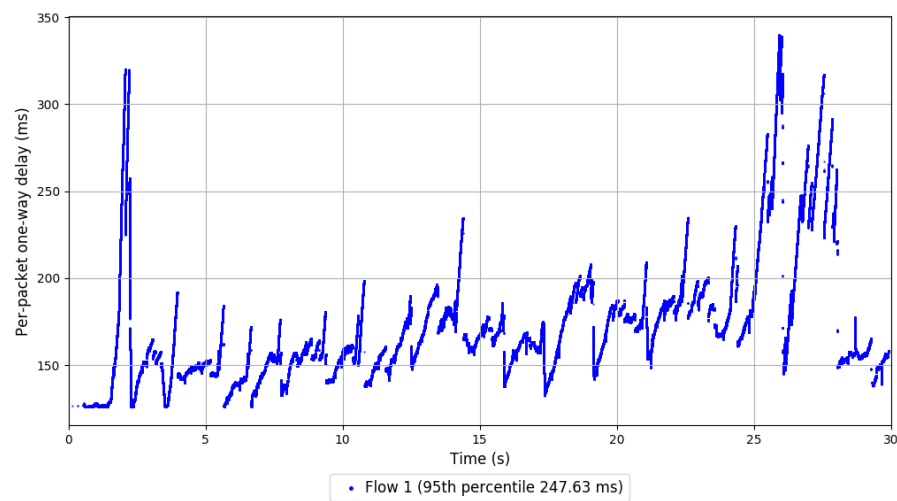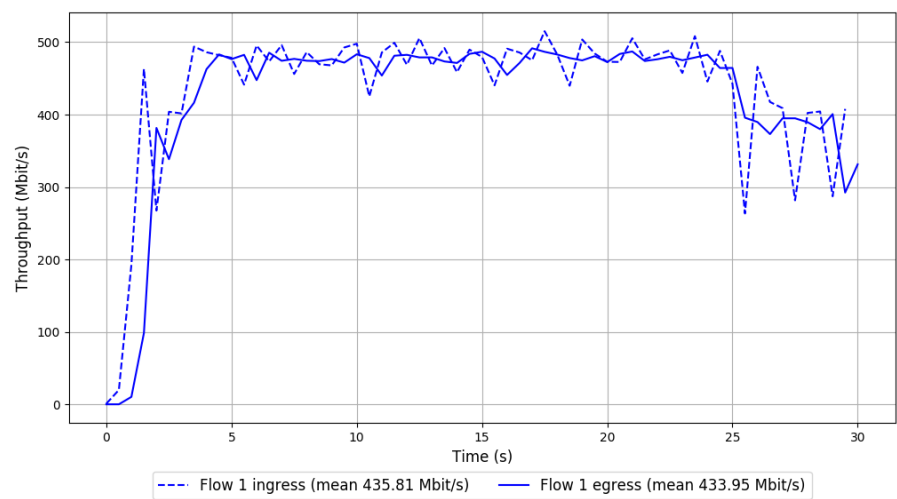
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 287.72 Mbit/s)   Flow 1 egress (mean 287.30 Mbit/s)
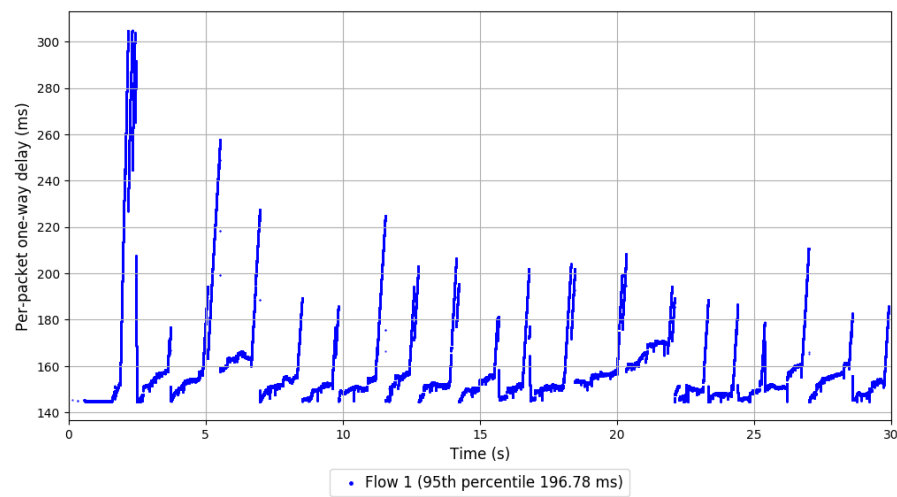

Flow 1 (95th percentile 146.62 ms)

```
Run 1: Statistics of FillP

Start at: 2019-01-03 04:51:03
End at: 2019-01-03 04:51:33
Local clock offset: -0.455 ms
Remote clock offset: -44.705 ms


# Below is generated by plot.py at 2019-01-03 07:27:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 458.72 Mbit/s
95th percentile per-packet one-way delay: 184.719 ms
Loss rate: 4.10%
-- Flow 1:
Average throughput: 458.72 Mbit/s
95th percentile per-packet one-way delay: 184.719 ms
Loss rate: 4.10%
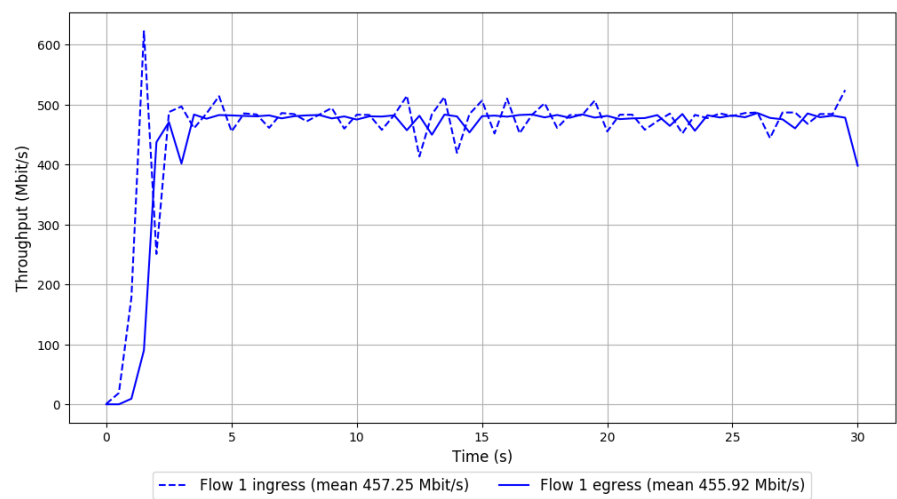```
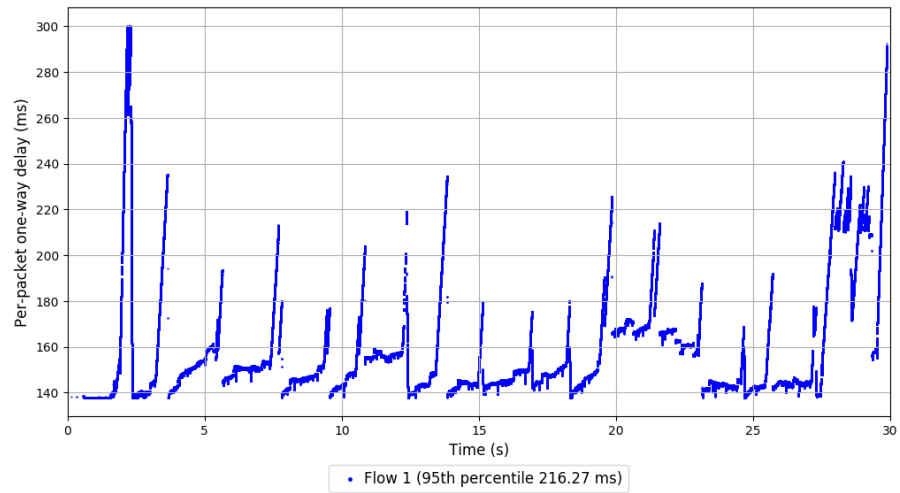
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-01-03 05:21:37
End at: 2019-01-03 05:22:07
Local clock offset: 0.221 ms
Remote clock offset: -30.586 ms

Below is generated by plot.py at 2019-01-03 07:28:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 433.95 Mbit/s
95th percentile per-packet one-way delay: 247.633 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 433.95 Mbit/s
95th percentile per-packet one-way delay: 247.633 ms
Loss rate: 1.08%
```
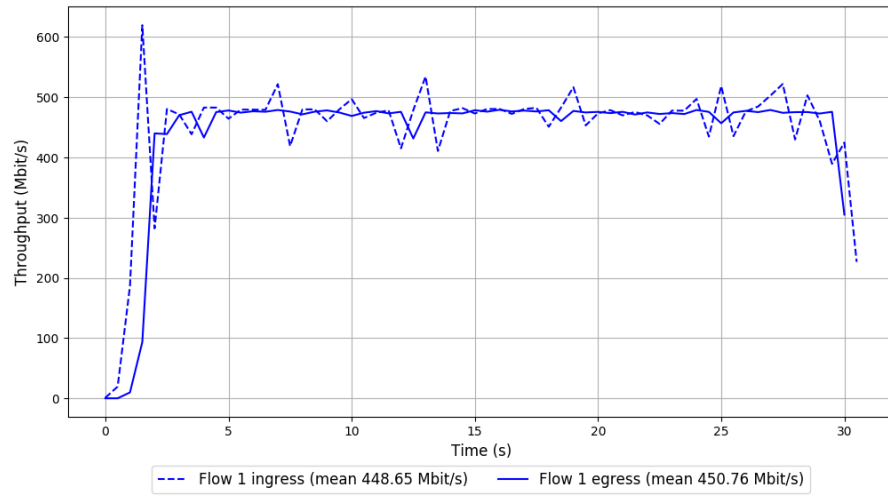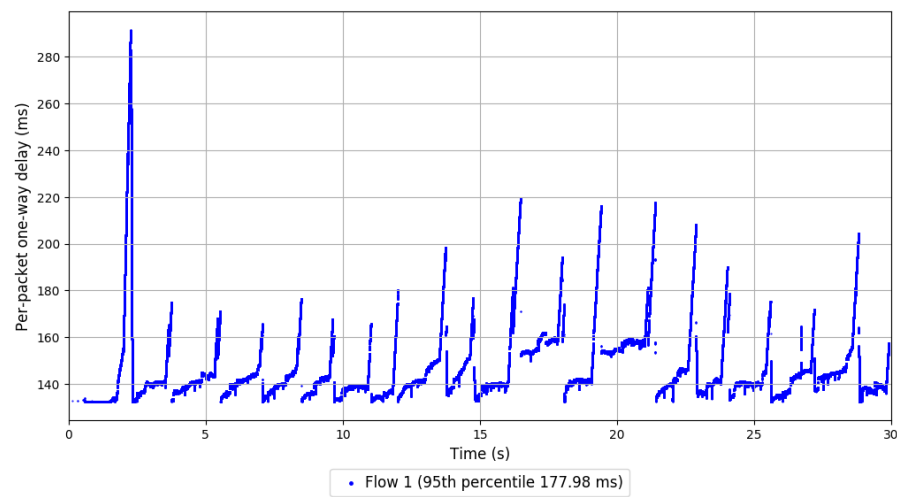
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-01-03 05:58:02
End at: 2019-01-03 05:58:32
Local clock offset: 2.74 ms
Remote clock offset: -43.862 ms

Below is generated by plot.py at 2019-01-03 07:30:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 455.92 Mbit/s
95th percentile per-packet one-way delay: 196.781 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 455.92 Mbit/s
95th percentile per-packet one-way delay: 196.781 ms
Loss rate: 1.05%
```
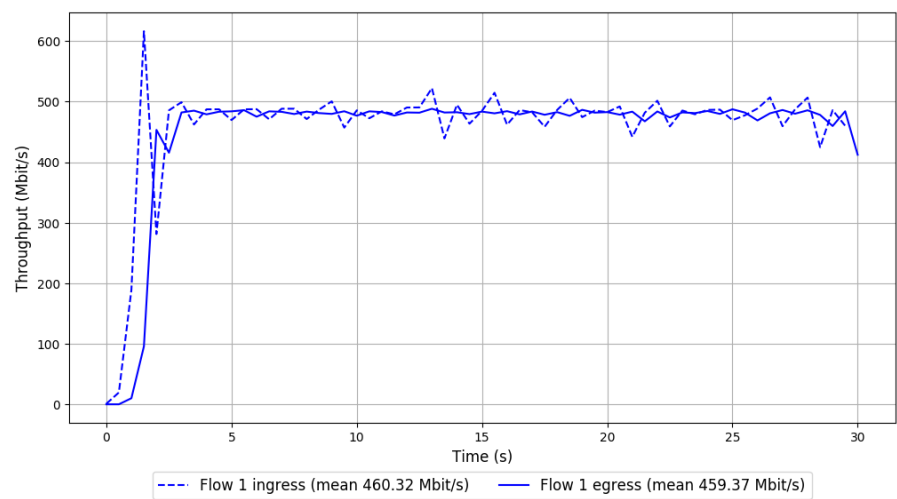
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-01-03 06:23:22
End at: 2019-01-03 06:23:52
Local clock offset: 1.363 ms
Remote clock offset: -42.501 ms

Below is generated by plot.py at 2019-01-03 07:30:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 450.76 Mbit/s
95th percentile per-packet one-way delay: 216.274 ms
Loss rate: 3.40%
-- Flow 1:
Average throughput: 450.76 Mbit/s
95th percentile per-packet one-way delay: 216.274 ms
Loss rate: 3.40%
```
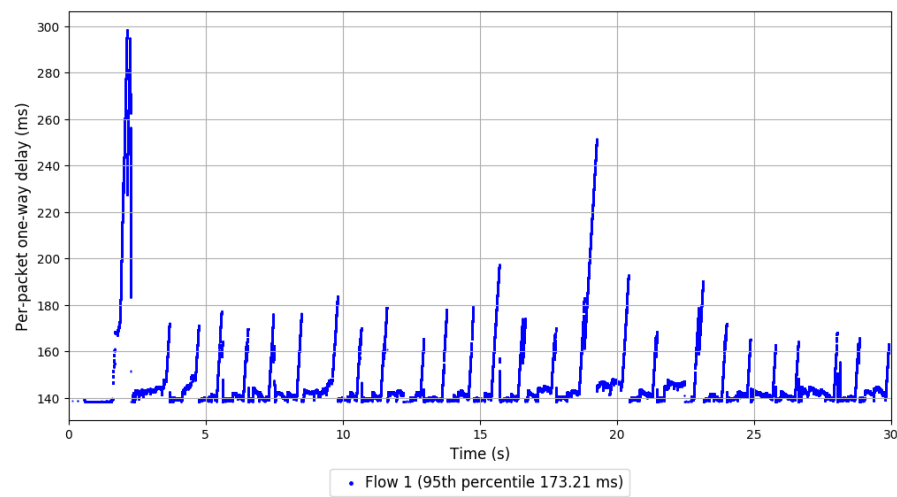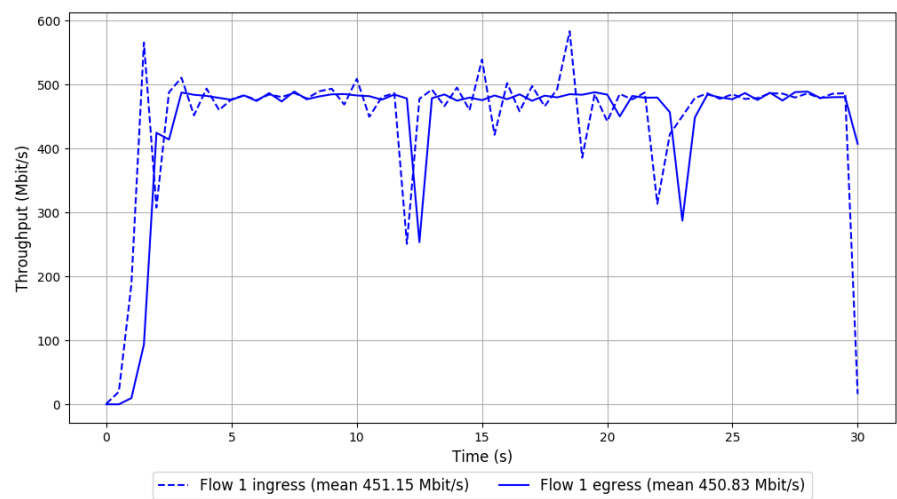
Run 4: Report of FillP — Data Link



Flow 1 ingress (mean 448.65 Mbit/s)    Flow 1 egress (mean 450.76 Mbit/s)



• Flow 1 (95th percentile 216.27 ms)

```
Run 5: Statistics of FillP

Start at: 2019-01-03 06:54:14
End at: 2019-01-03 06:54:44
Local clock offset: -0.042 ms
Remote clock offset: -41.014 ms

Below is generated by plot.py at 2019-01-03 07:31:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 459.37 Mbit/s
95th percentile per-packet one-way delay: 177.983 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 459.37 Mbit/s
95th percentile per-packet one-way delay: 177.983 ms
Loss rate: 0.73%
```
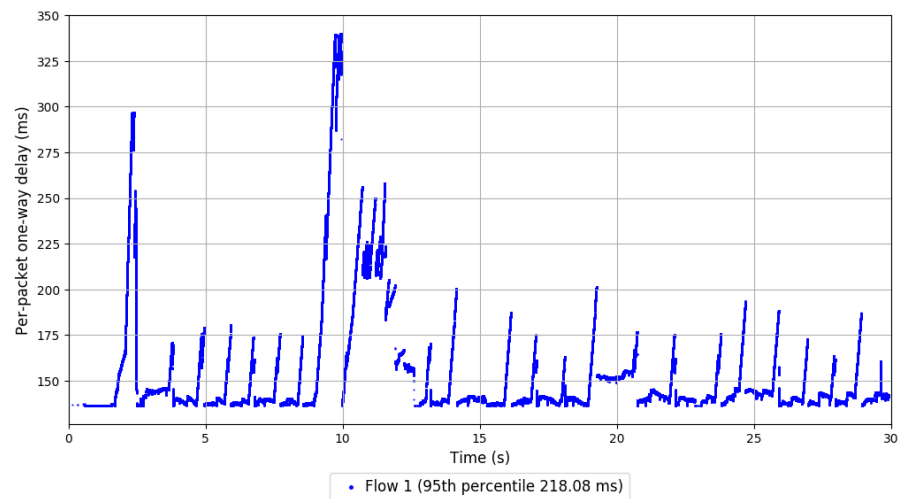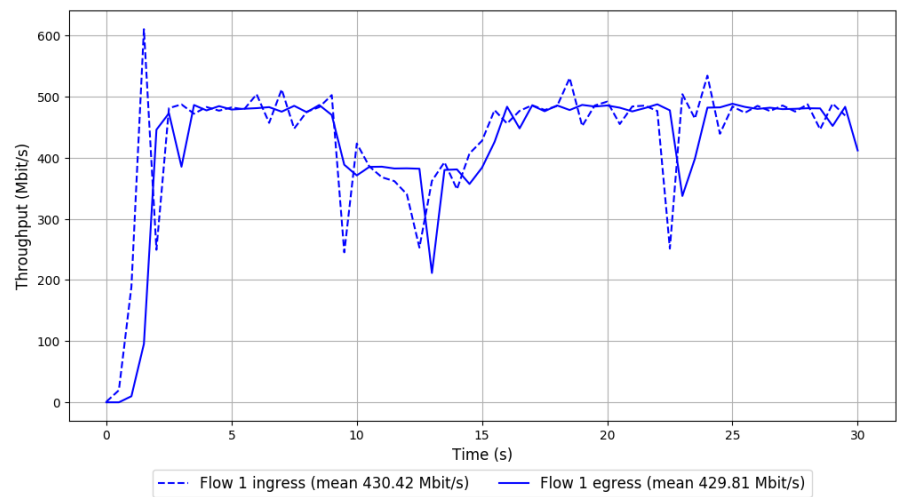
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-03 04:49:36
End at: 2019-01-03 04:50:06
Local clock offset: -0.181 ms
Remote clock offset: -43.765 ms

Below is generated by plot.py at 2019-01-03 07:31:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 450.83 Mbit/s
95th percentile per-packet one-way delay: 173.214 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 450.83 Mbit/s
95th percentile per-packet one-way delay: 173.214 ms
Loss rate: 0.87%
```
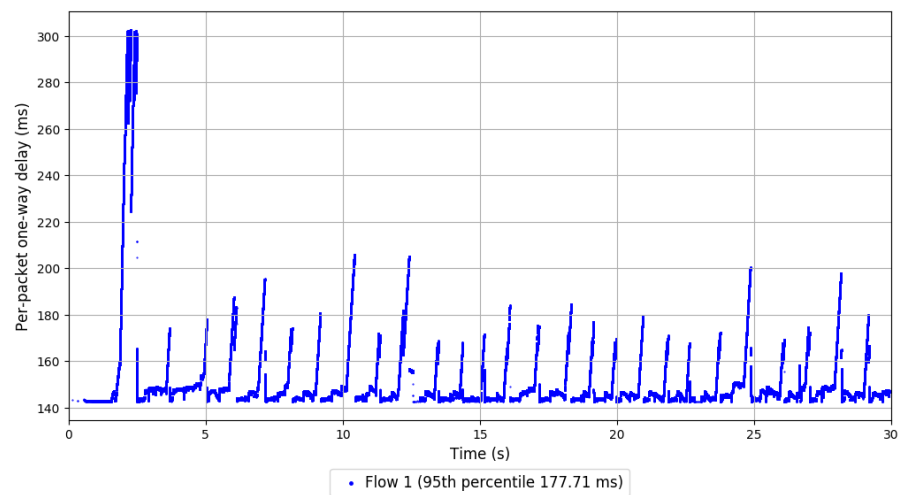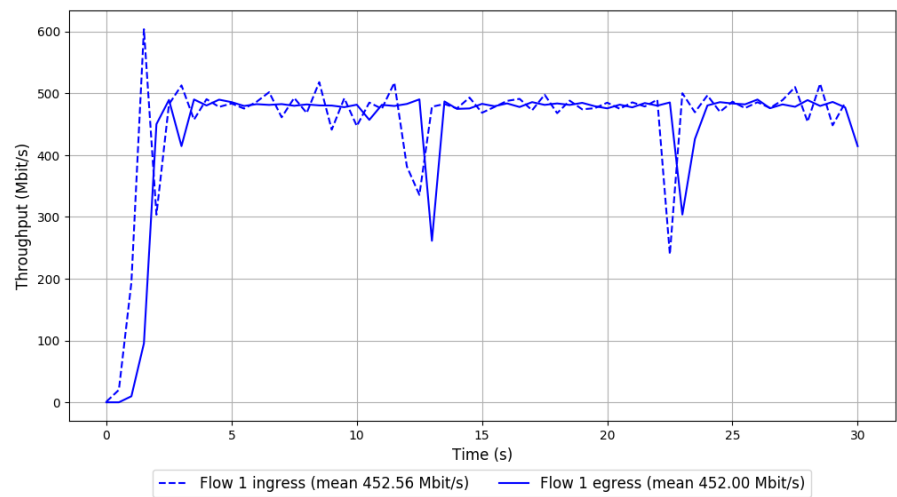
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-03 05:14:41
End at: 2019-01-03 05:15:11
Local clock offset: 1.568 ms
Remote clock offset: -38.905 ms

Below is generated by plot.py at 2019-01-03 07:31:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 429.81 Mbit/s
95th percentile per-packet one-way delay: 218.079 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 429.81 Mbit/s
95th percentile per-packet one-way delay: 218.079 ms
Loss rate: 0.80%
```
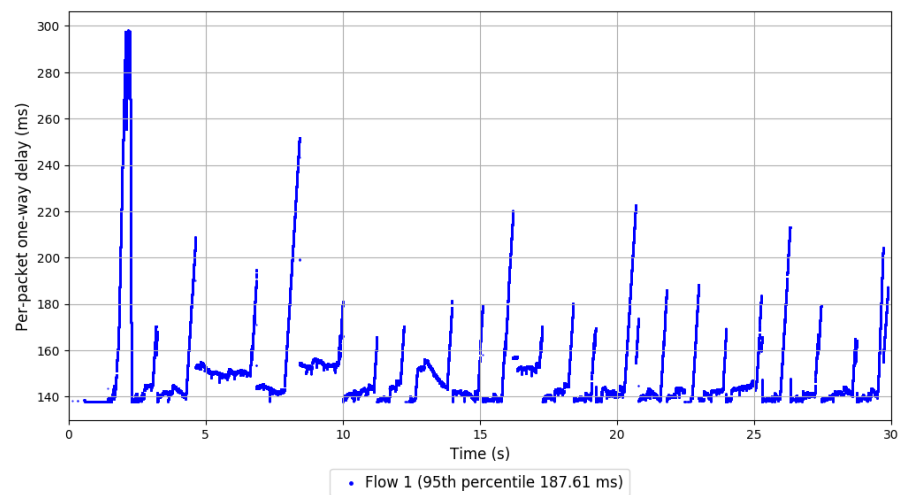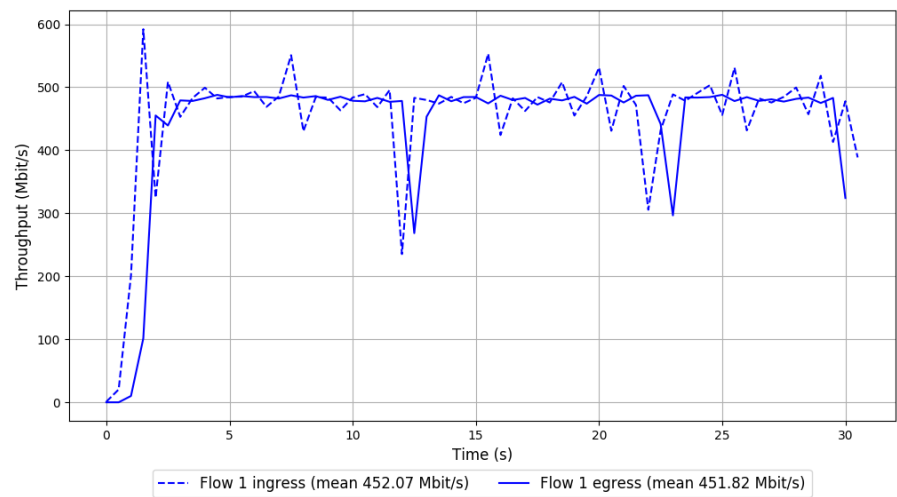
Run 2: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 430.42 Mbit/s) ---  Flow 1 egress (mean 429.81 Mbit/s) ——
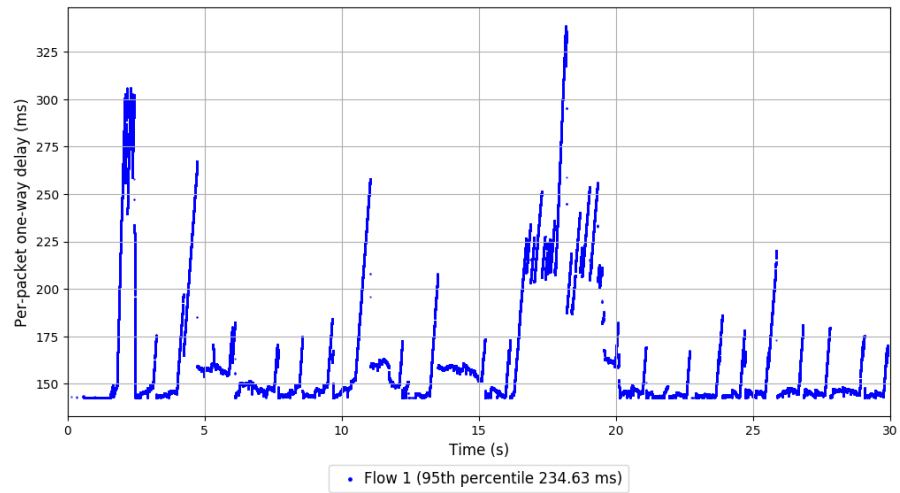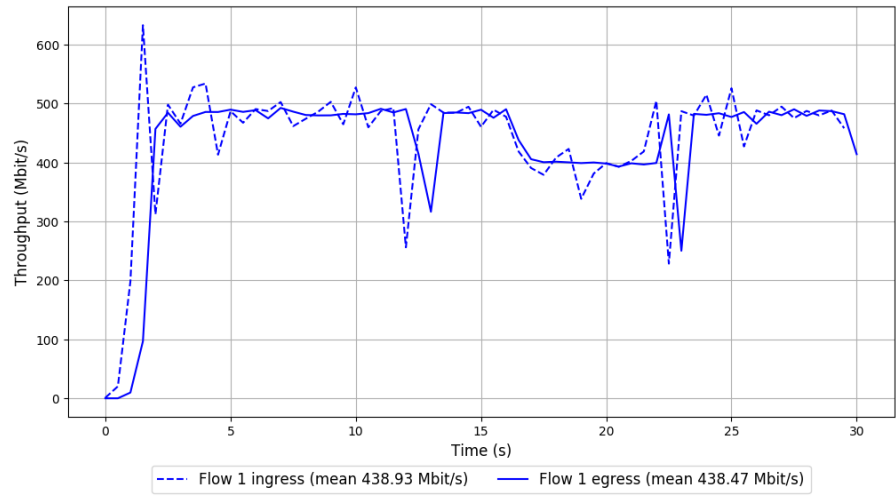


Flow 1 (95th percentile 218.08 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-03 05:56:25
End at: 2019-01-03 05:56:55
Local clock offset: 2.38 ms
Remote clock offset: -41.519 ms


# Below is generated by plot.py at 2019-01-03 07:31:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 452.00 Mbit/s
95th percentile per-packet one-way delay: 177.708 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 452.00 Mbit/s
95th percentile per-packet one-way delay: 177.708 ms
Loss rate: 0.78%
```

Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 452.56 Mbit/s) --- Flow 1 egress (mean 452.00 Mbit/s)

Flow 1 (95th percentile 177.71 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-03 06:21:53
End at: 2019-01-03 06:22:23
Local clock offset: 1.837 ms
Remote clock offset: -41.693 ms


# Below is generated by plot.py at 2019-01-03 07:34:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 451.82 Mbit/s
95th percentile per-packet one-way delay: 187.614 ms
Loss rate: 4.06%
-- Flow 1:
Average throughput: 451.82 Mbit/s
95th percentile per-packet one-way delay: 187.614 ms
Loss rate: 4.06%
```
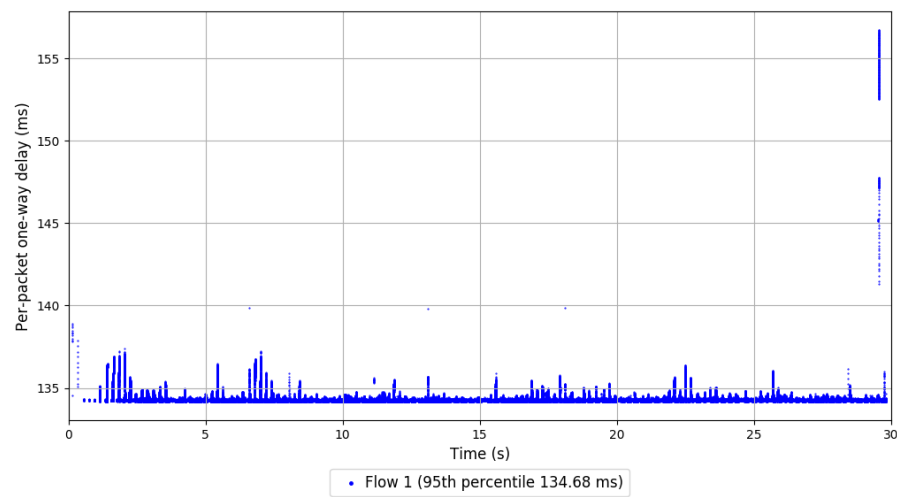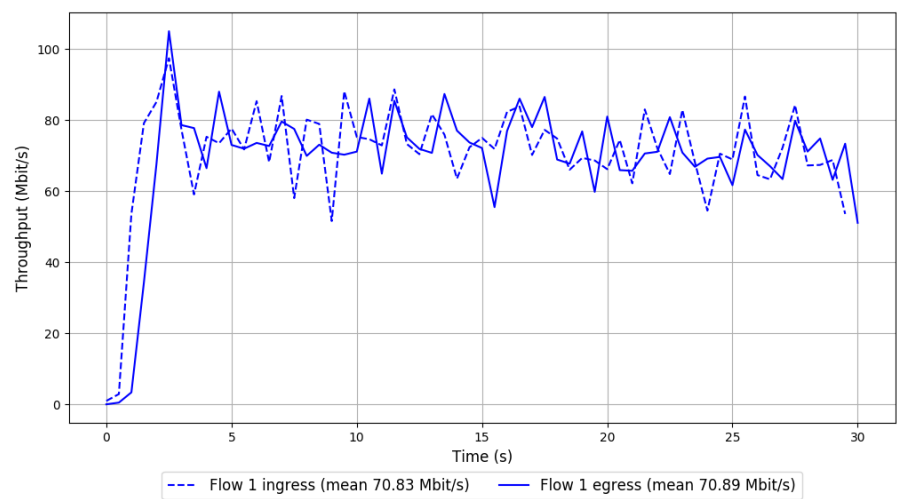
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-03 06:52:47
End at: 2019-01-03 06:53:17
Local clock offset: 2.071 ms
Remote clock offset: -48.083 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 438.47 Mbit/s
95th percentile per-packet one-way delay: 234.635 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 438.47 Mbit/s
95th percentile per-packet one-way delay: 234.635 ms
Loss rate: 0.76%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 438.93 Mbit/s)   Flow 1 egress (mean 438.47 Mbit/s)
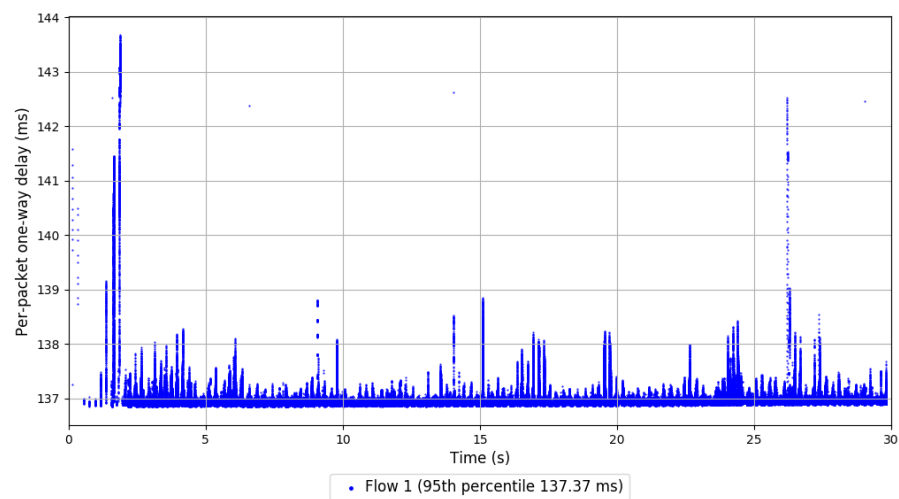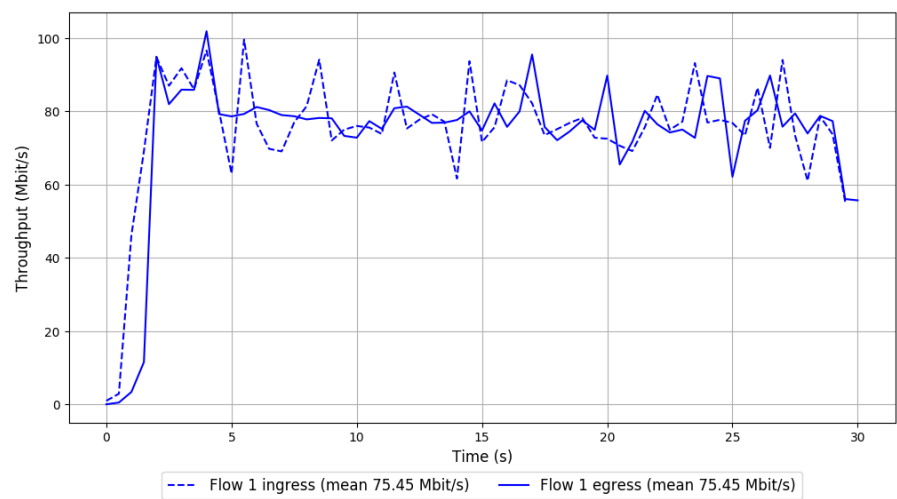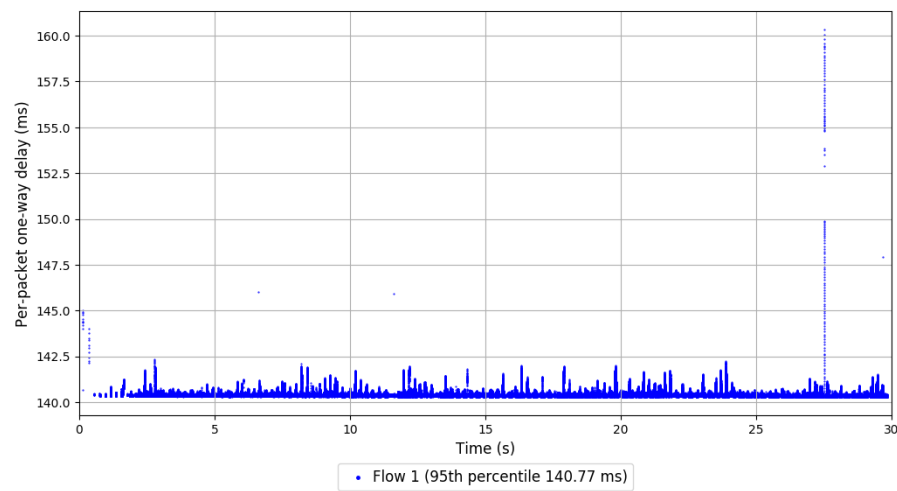

Flow 1 (95th percentile 234.63 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-01-03 05:09:38
End at: 2019-01-03 05:10:08
Local clock offset: 2.375 ms
Remote clock offset: -37.065 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 134.680 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 70.89 Mbit/s
95th percentile per-packet one-way delay: 134.680 ms
Loss rate: 0.56%
```
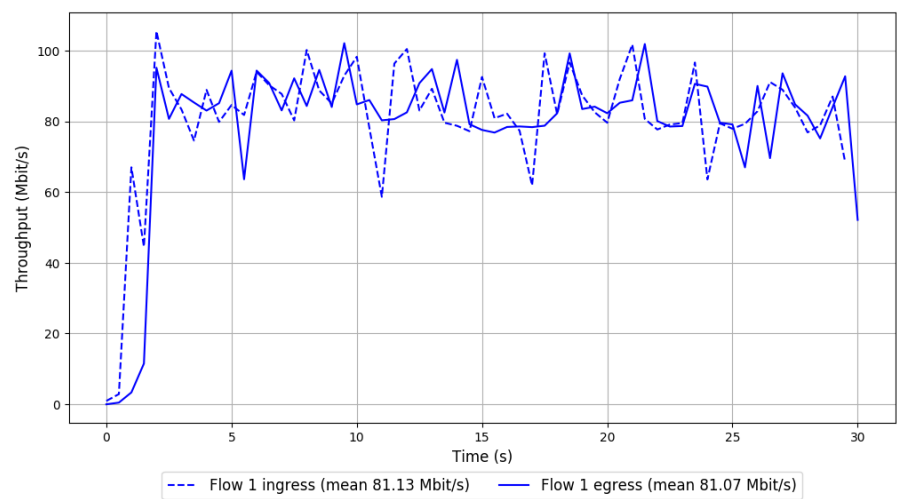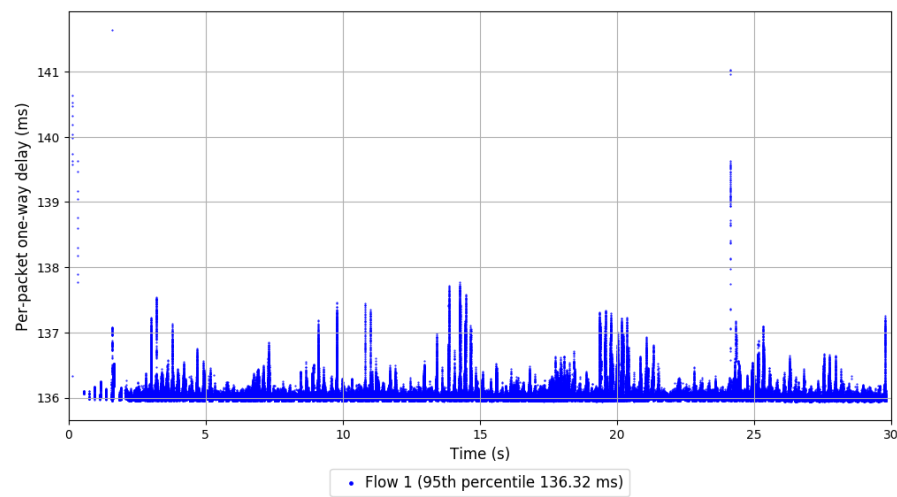
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-01-03 05:45:39
End at: 2019-01-03 05:46:09
Local clock offset: 3.924 ms
Remote clock offset: -35.756 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.45 Mbit/s
95th percentile per-packet one-way delay: 137.374 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 75.45 Mbit/s
95th percentile per-packet one-way delay: 137.374 ms
Loss rate: 0.65%
```
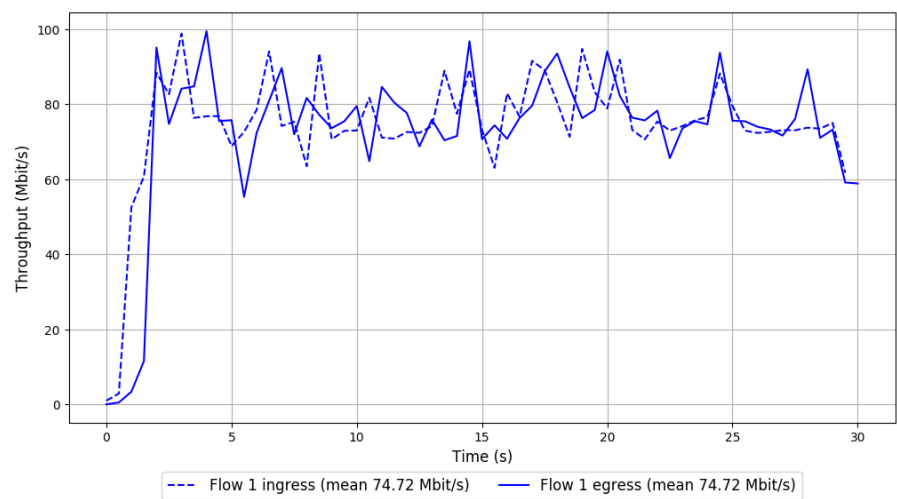
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-03 06:16:30
End at: 2019-01-03 06:17:00
Local clock offset: 2.286 ms
Remote clock offset: -43.739 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.07 Mbit/s
95th percentile per-packet one-way delay: 140.767 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 81.07 Mbit/s
95th percentile per-packet one-way delay: 140.767 ms
Loss rate: 0.73%
```
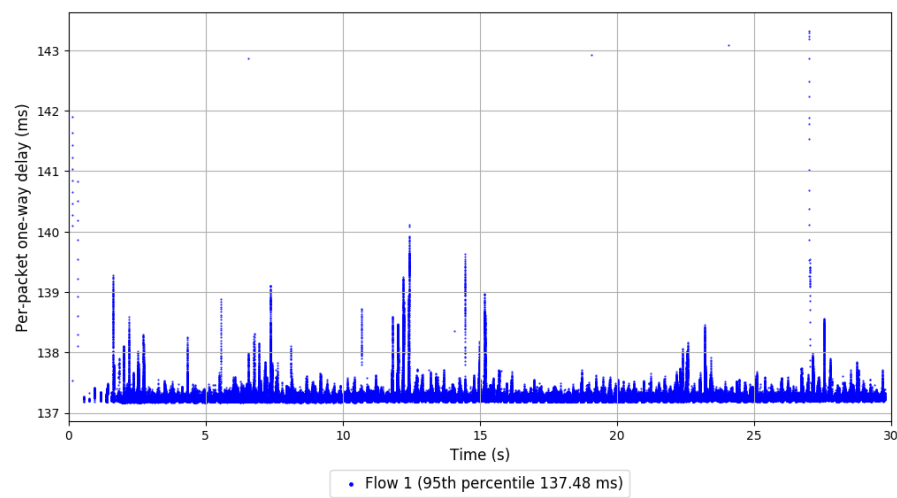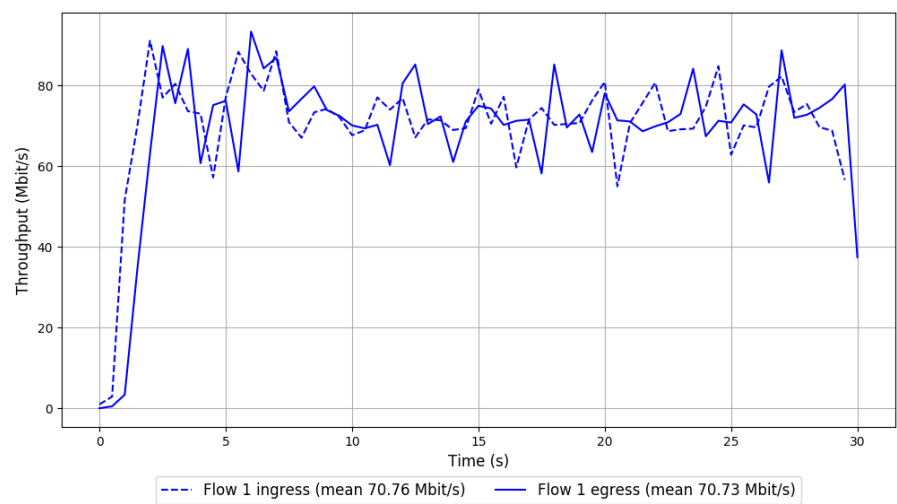
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-01-03 06:41:48
End at: 2019-01-03 06:42:18
Local clock offset: 0.793 ms
Remote clock offset: -42.184 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.72 Mbit/s
95th percentile per-packet one-way delay: 136.321 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 74.72 Mbit/s
95th percentile per-packet one-way delay: 136.321 ms
Loss rate: 0.67%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-03 07:12:46
End at: 2019-01-03 07:13:16
Local clock offset: 0.493 ms
Remote clock offset: -42.619 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.73 Mbit/s
95th percentile per-packet one-way delay: 137.476 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 70.73 Mbit/s
95th percentile per-packet one-way delay: 137.476 ms
Loss rate: 0.70%
```
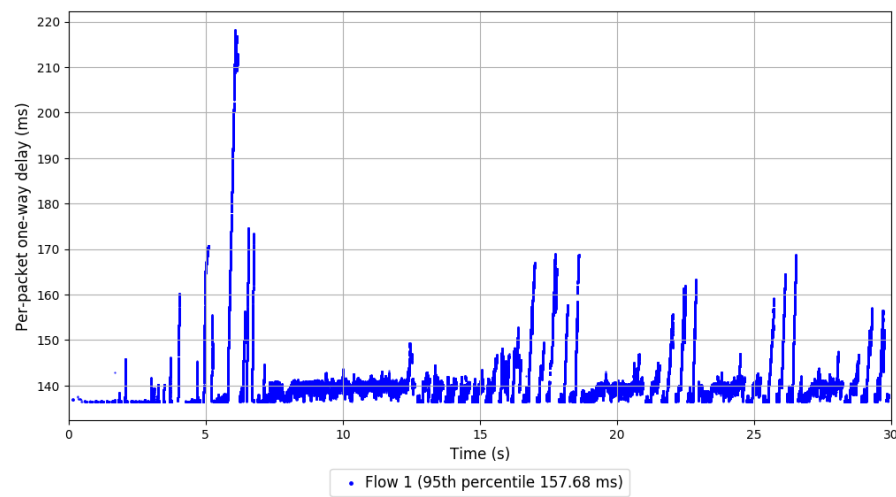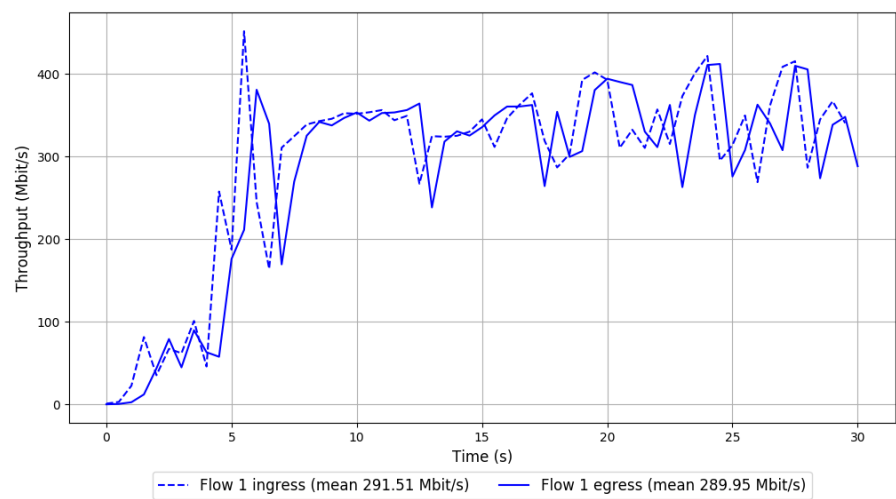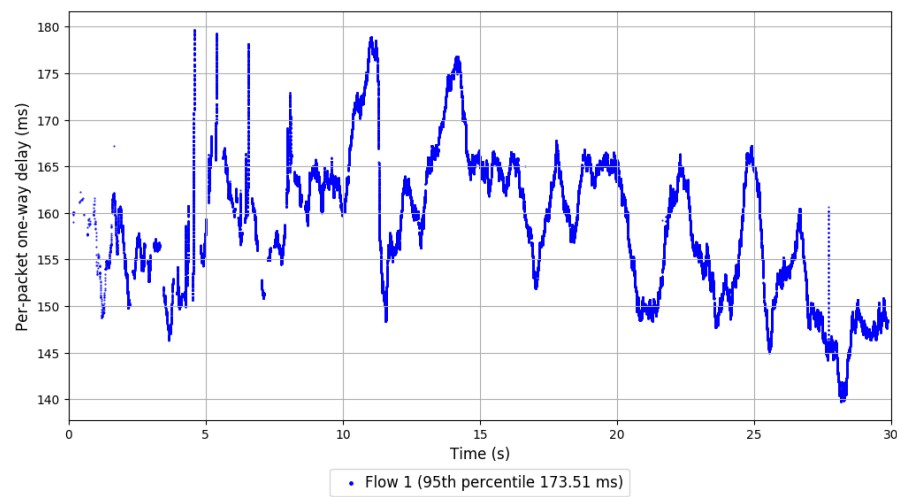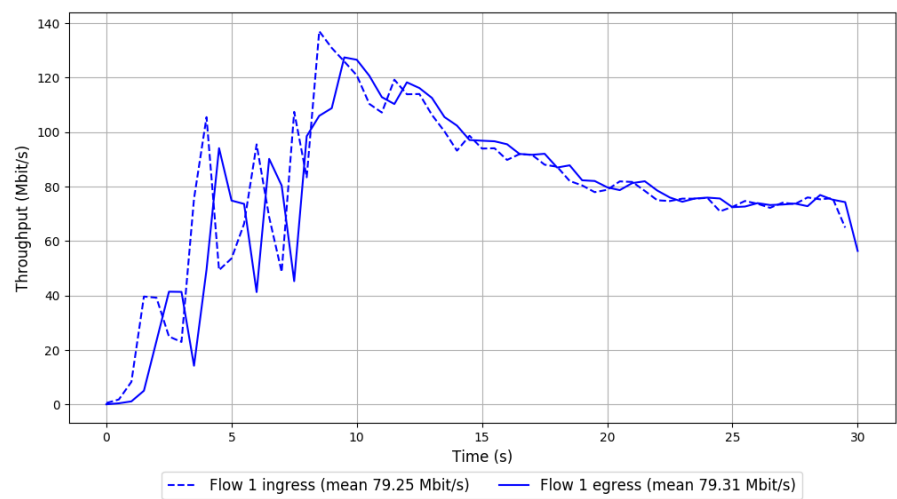
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-03 04:46:50
End at: 2019-01-03 04:47:20
Local clock offset: 1.274 ms
Remote clock offset: -40.846 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 289.95 Mbit/s
95th percentile per-packet one-way delay: 157.684 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 289.95 Mbit/s
95th percentile per-packet one-way delay: 157.684 ms
Loss rate: 1.19%
```

Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:12:08
End at: 2019-01-03 05:12:38
Local clock offset: 0.492 ms
Remote clock offset: -33.818 ms


# Below is generated by plot.py at 2019-01-03 07:34:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.31 Mbit/s
95th percentile per-packet one-way delay: 173.513 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 79.31 Mbit/s
95th percentile per-packet one-way delay: 173.513 ms
Loss rate: 0.67%
```
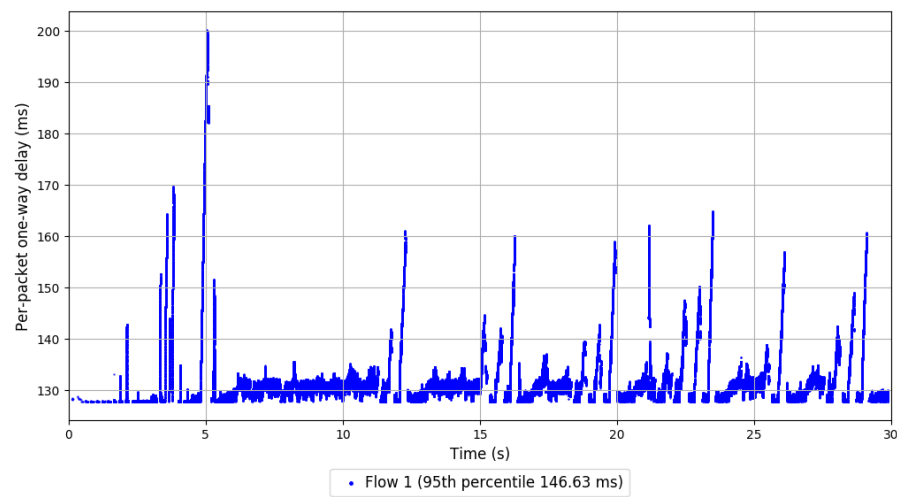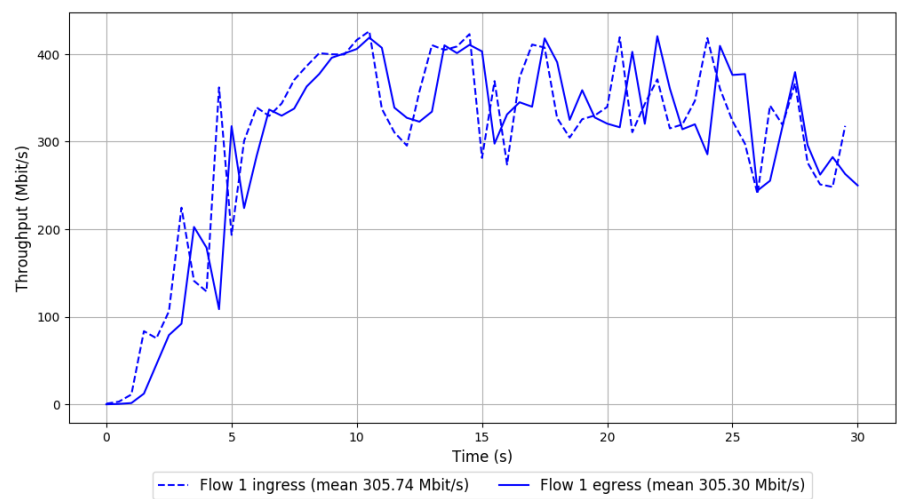
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:48:12
End at: 2019-01-03 05:48:42
Local clock offset: 1.785 ms
Remote clock offset: -27.171 ms


# Below is generated by plot.py at 2019-01-03 07:35:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 305.30 Mbit/s
95th percentile per-packet one-way delay: 146.635 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 305.30 Mbit/s
95th percentile per-packet one-way delay: 146.635 ms
Loss rate: 0.79%
```

Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:19:06
End at: 2019-01-03 06:19:36
Local clock offset: 1.971 ms
Remote clock offset: -41.568 ms


# Below is generated by plot.py at 2019-01-03 07:35:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 304.60 Mbit/s
95th percentile per-packet one-way delay: 153.271 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 304.60 Mbit/s
95th percentile per-packet one-way delay: 153.271 ms
Loss rate: 0.50%
```
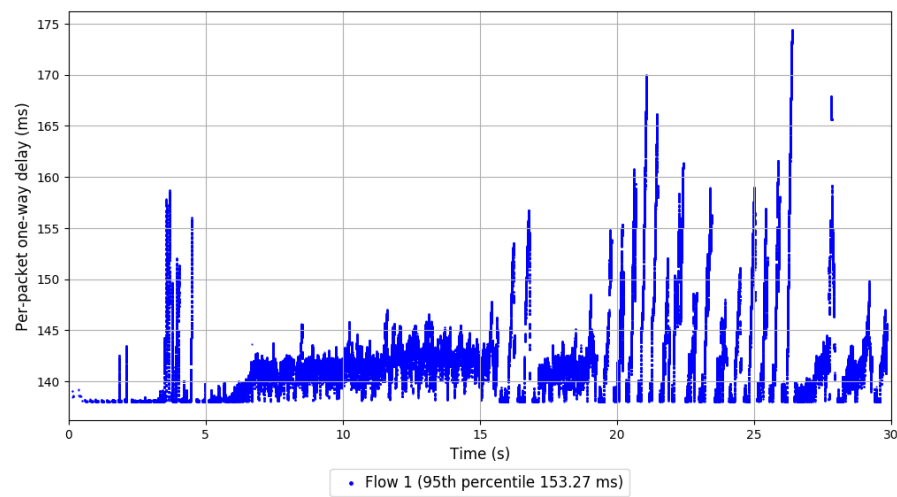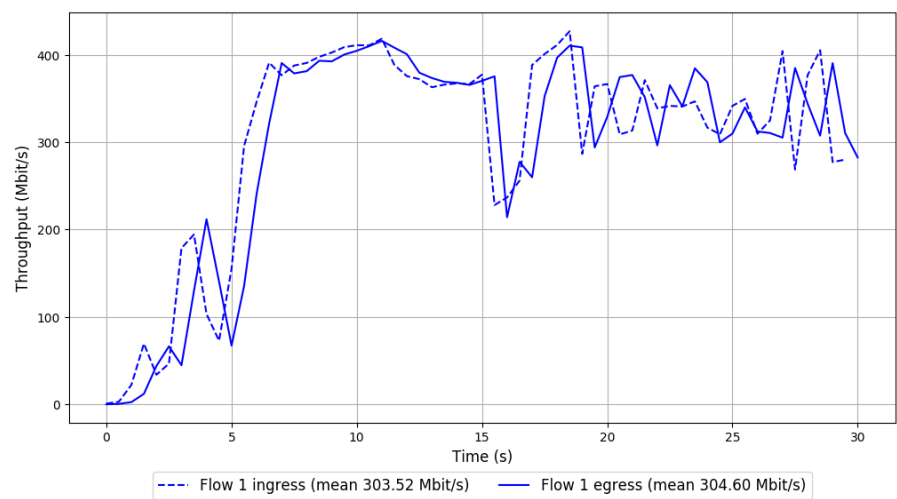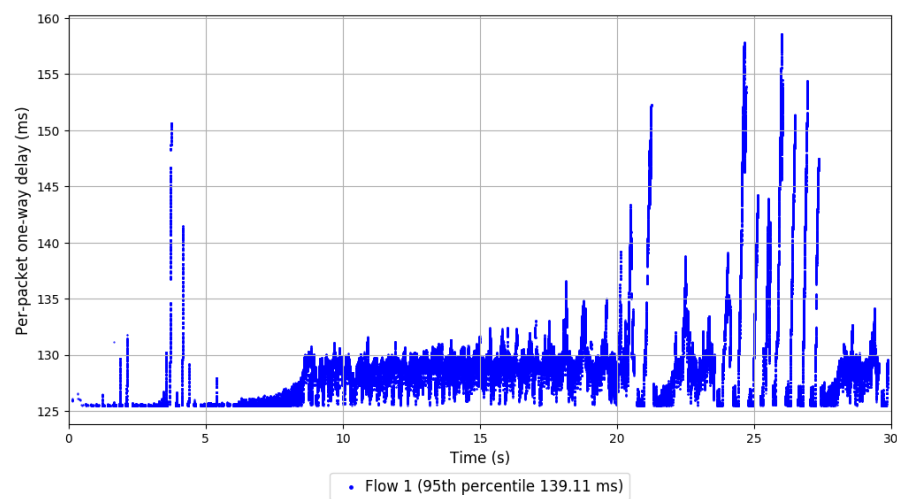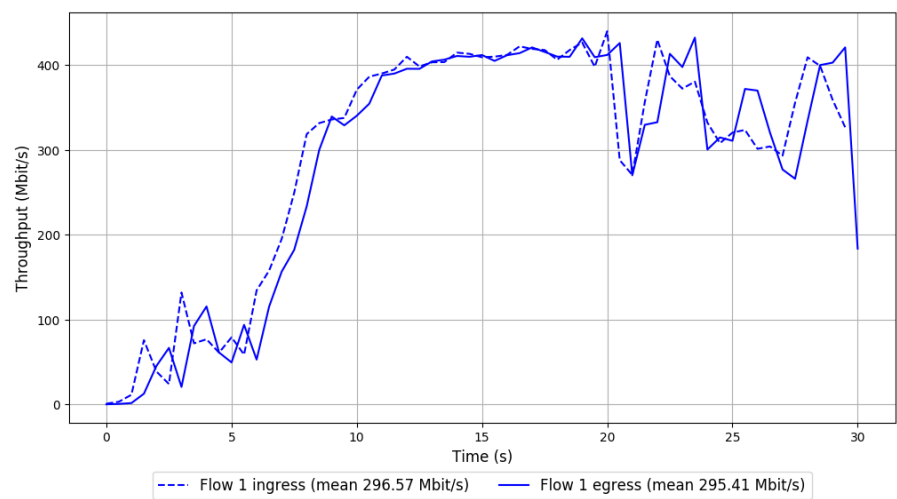
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:44:26
End at: 2019-01-03 06:44:56
Local clock offset: 1.059 ms
Remote clock offset: -32.549 ms


# Below is generated by plot.py at 2019-01-03 07:35:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 295.41 Mbit/s
95th percentile per-packet one-way delay: 139.111 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 295.41 Mbit/s
95th percentile per-packet one-way delay: 139.111 ms
Loss rate: 1.04%
```

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:10:53
End at: 2019-01-03 05:11:23
Local clock offset: 0.488 ms
Remote clock offset: -44.47 ms


# Below is generated by plot.py at 2019-01-03 07:35:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 104.29 Mbit/s
95th percentile per-packet one-way delay: 182.757 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 104.29 Mbit/s
95th percentile per-packet one-way delay: 182.757 ms
Loss rate: 0.81%
```
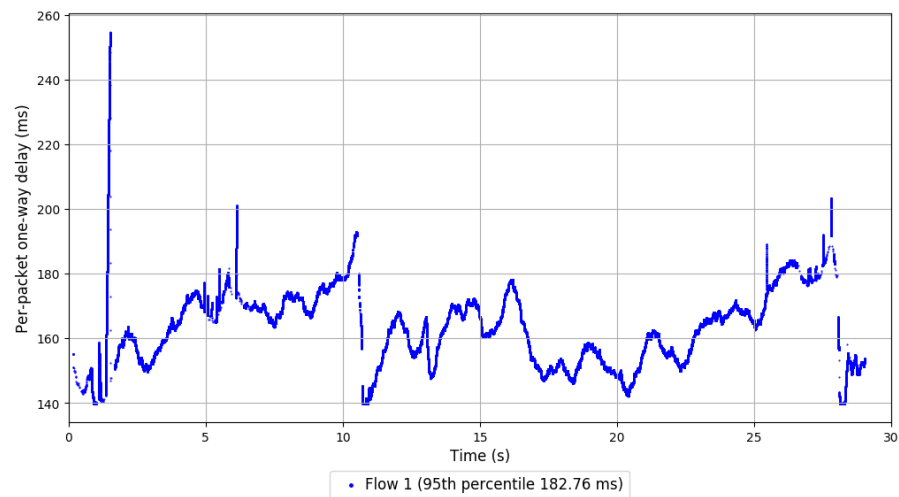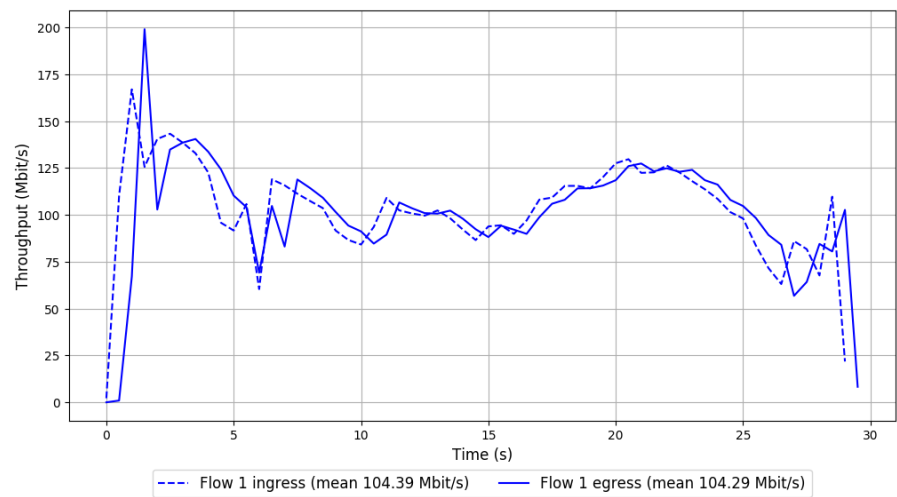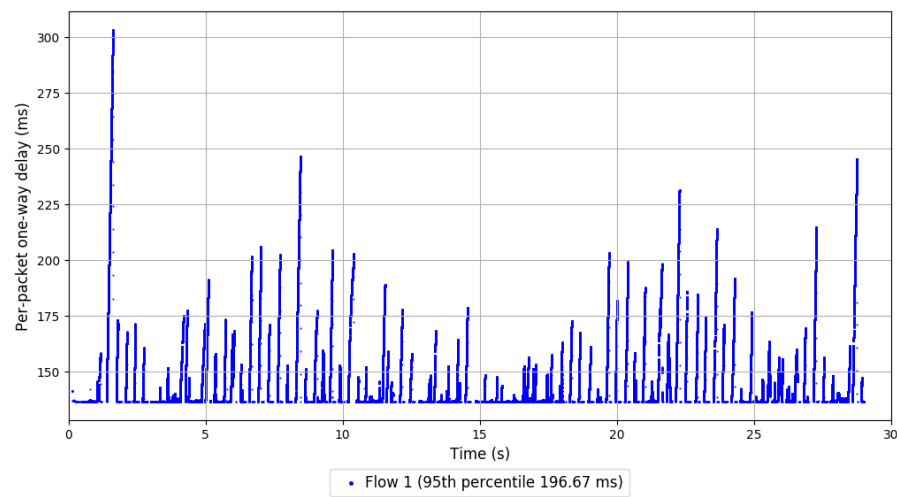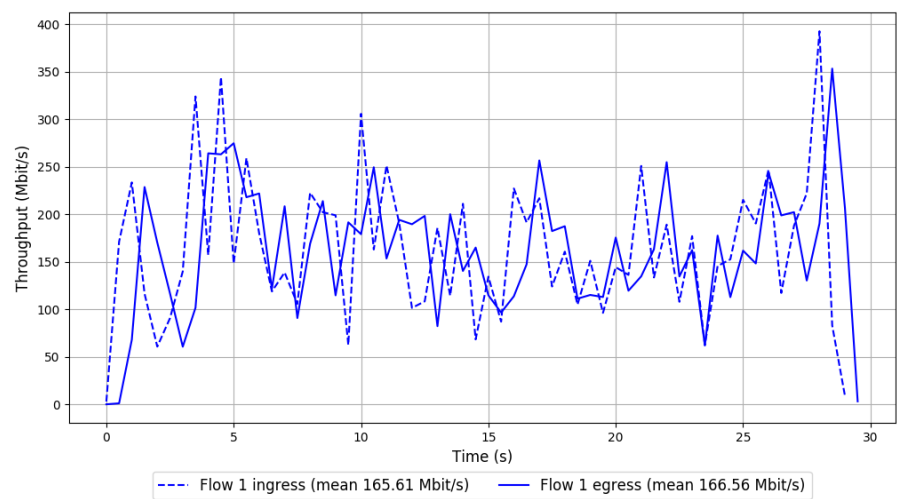
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:46:54
End at: 2019-01-03 05:47:24
Local clock offset: 2.028 ms
Remote clock offset: -37.166 ms


# Below is generated by plot.py at 2019-01-03 07:35:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 166.56 Mbit/s
95th percentile per-packet one-way delay: 196.669 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 166.56 Mbit/s
95th percentile per-packet one-way delay: 196.669 ms
Loss rate: 0.12%
```

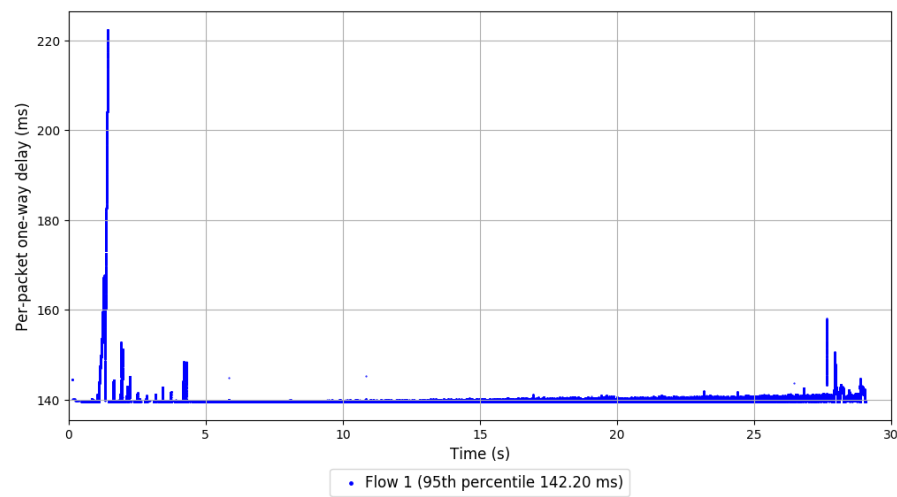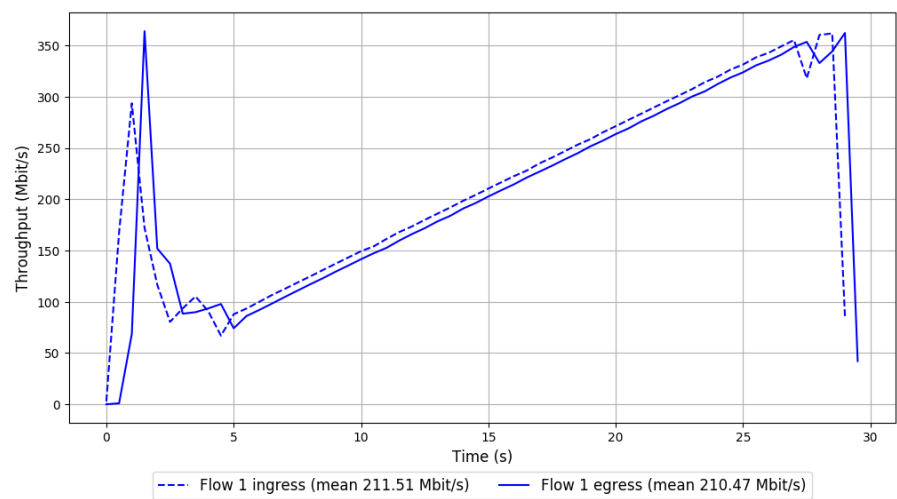Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-03 06:17:46
End at: 2019-01-03 06:18:16
Local clock offset: 2.371 ms
Remote clock offset: -42.983 ms


# Below is generated by plot.py at 2019-01-03 07:35:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 210.47 Mbit/s
95th percentile per-packet one-way delay: 142.197 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 210.47 Mbit/s
95th percentile per-packet one-way delay: 142.197 ms
Loss rate: 1.17%
```

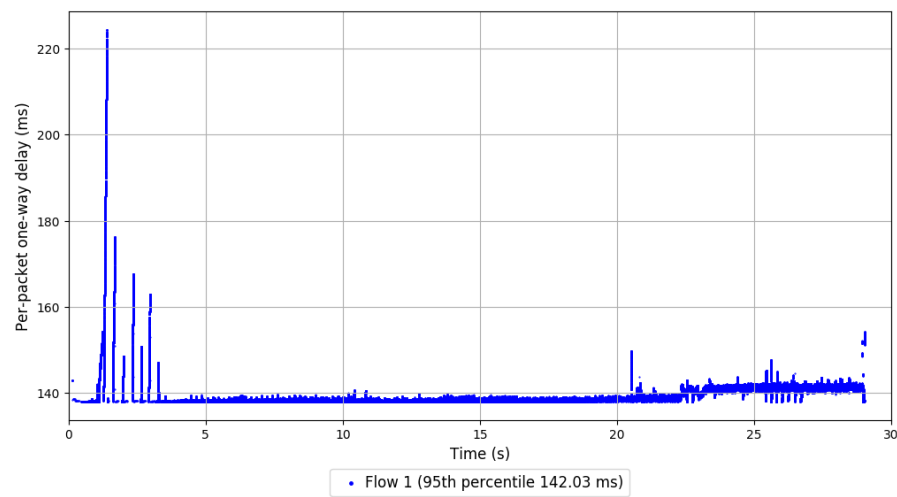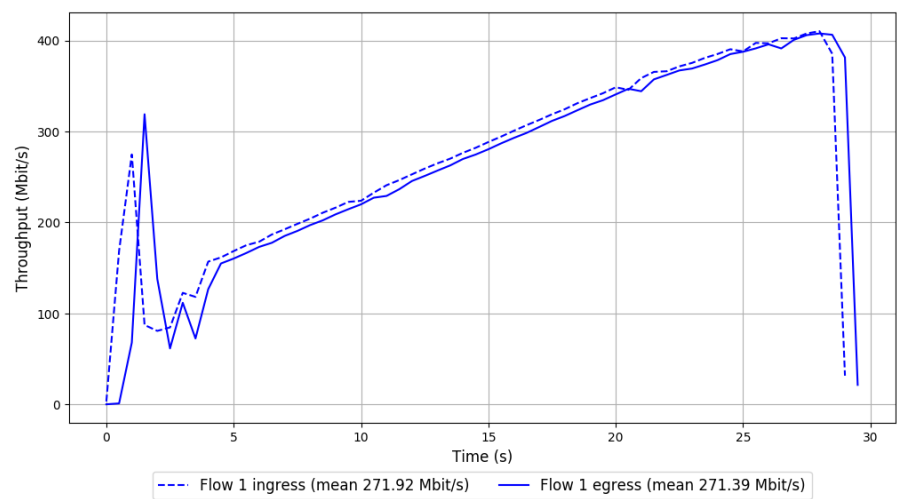Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-03 06:43:03
End at: 2019-01-03 06:43:33
Local clock offset: 1.398 ms
Remote clock offset: -43.344 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 271.39 Mbit/s
95th percentile per-packet one-way delay: 142.034 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 271.39 Mbit/s
95th percentile per-packet one-way delay: 142.034 ms
Loss rate: 0.83%
```

Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-03 07:14:01
End at: 2019-01-03 07:14:31
Local clock offset: -0.36 ms
Remote clock offset: -41.345 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 174.36 Mbit/s
95th percentile per-packet one-way delay: 187.831 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 174.36 Mbit/s
95th percentile per-packet one-way delay: 187.831 ms
Loss rate: 1.37%
```
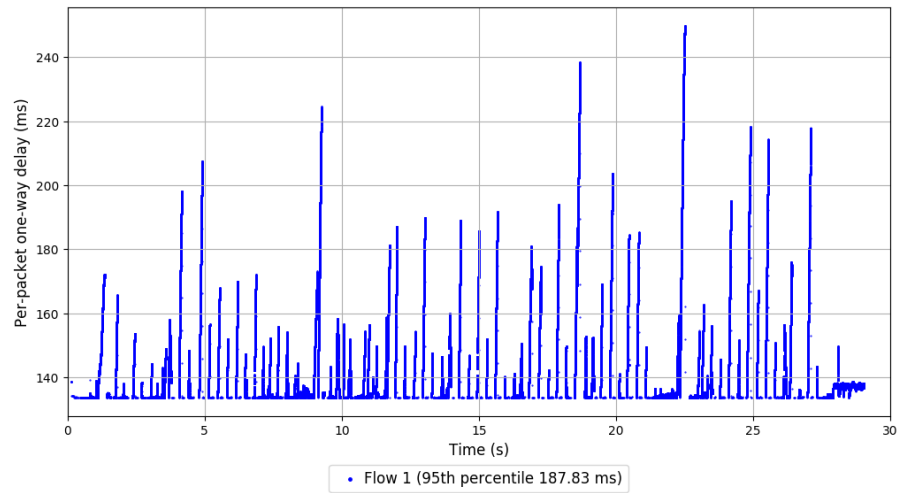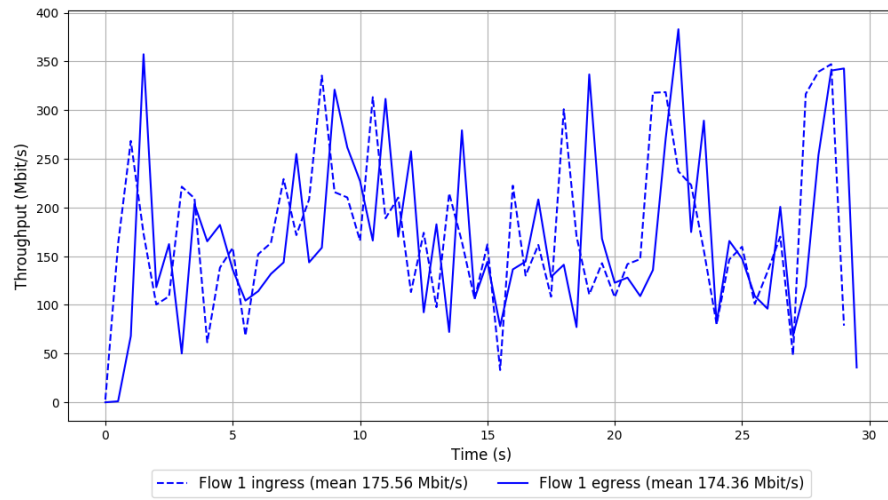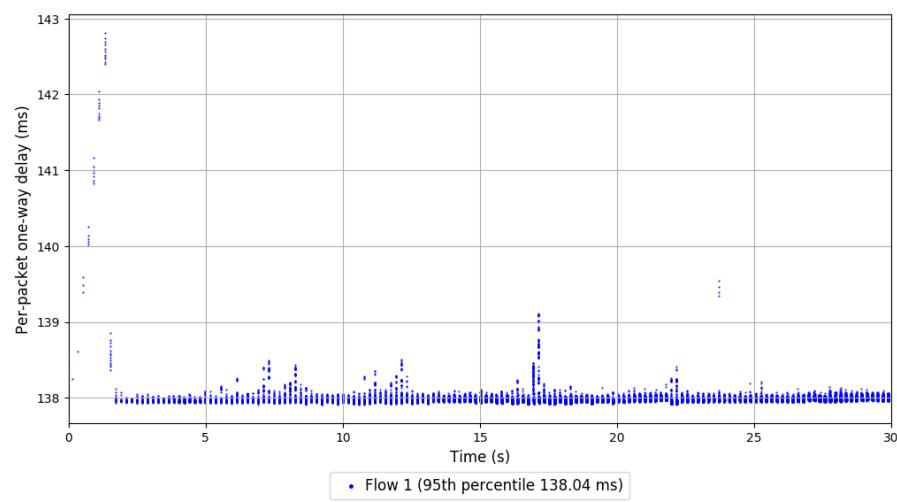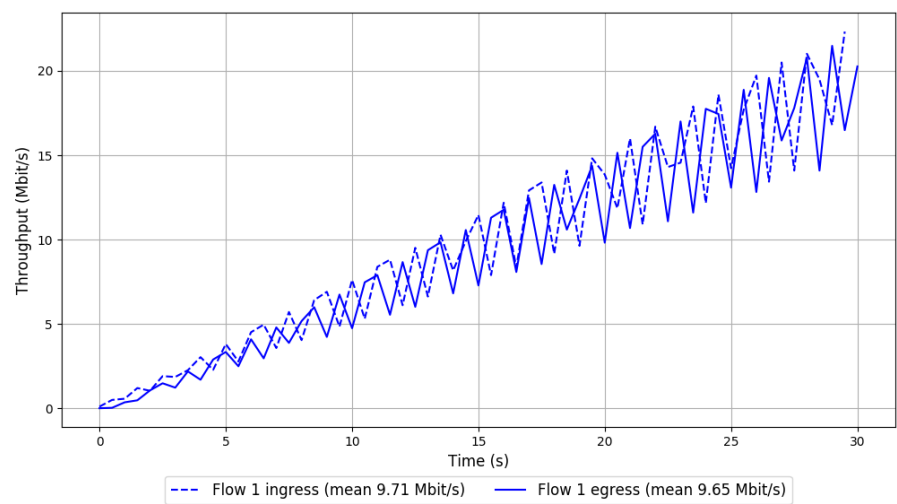
Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-01-03 05:07:06
End at: 2019-01-03 05:07:36
Local clock offset: 1.101 ms
Remote clock offset: -42.134 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 138.038 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 138.038 ms
Loss rate: 1.29%
```

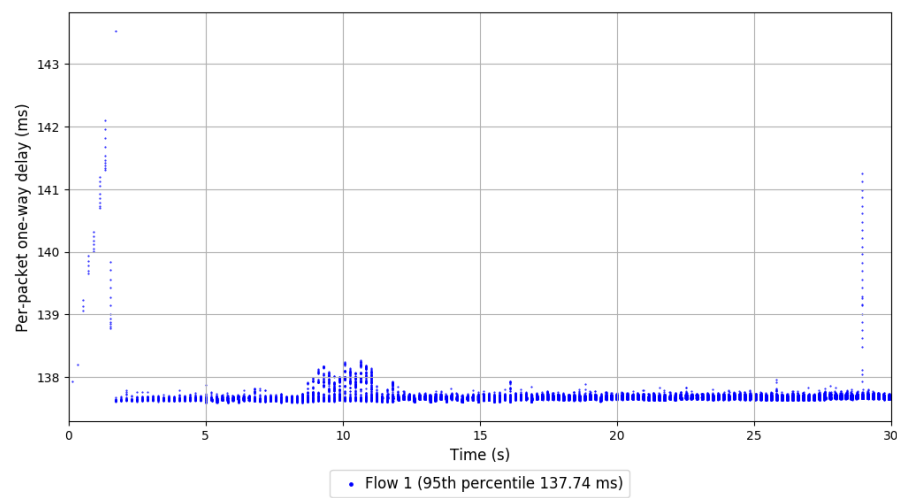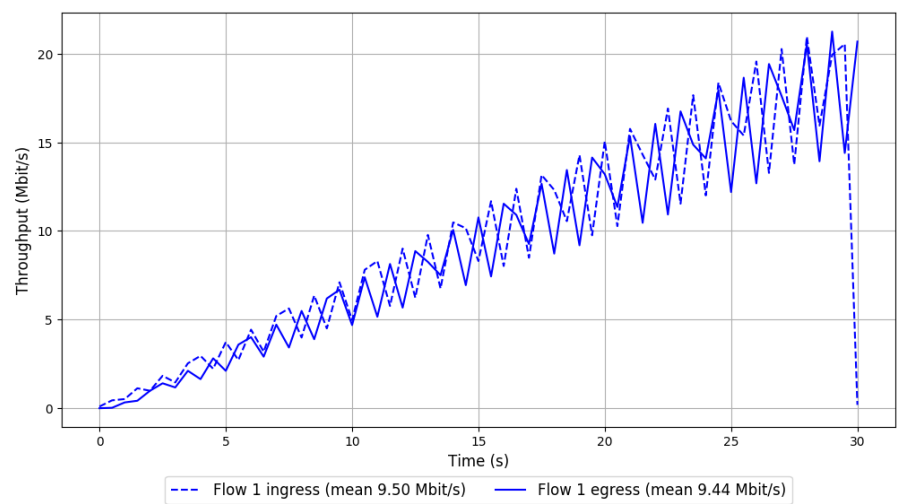Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-01-03 05:43:07
End at: 2019-01-03 05:43:37
Local clock offset: 1.356 ms
Remote clock offset: -37.805 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.44 Mbit/s
95th percentile per-packet one-way delay: 137.736 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 9.44 Mbit/s
95th percentile per-packet one-way delay: 137.736 ms
Loss rate: 1.28%
```
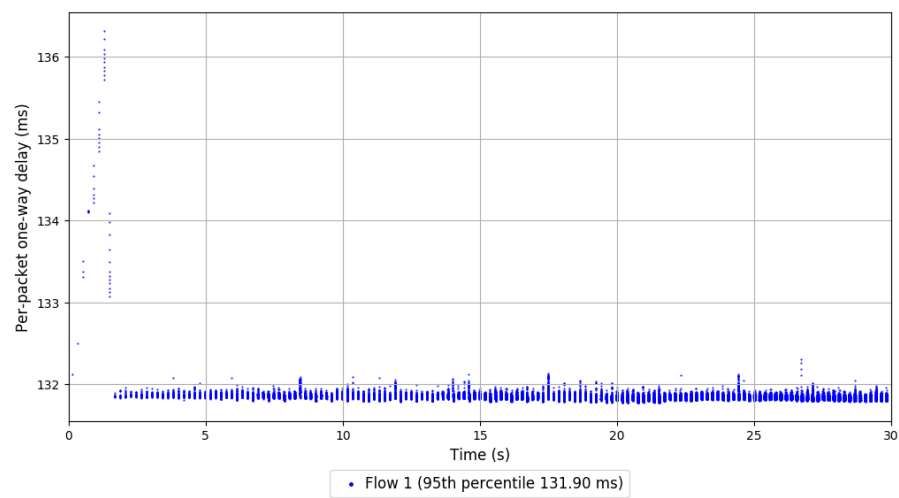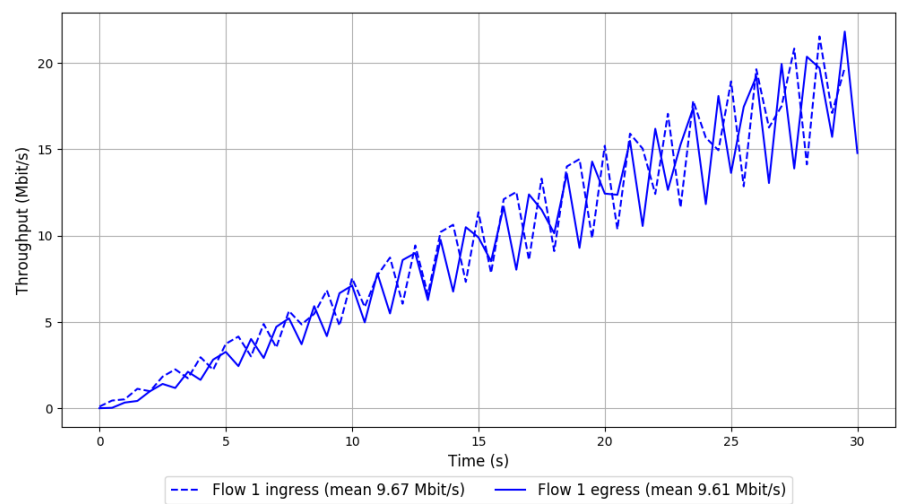
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-03 06:13:58
End at: 2019-01-03 06:14:28
Local clock offset: -0.432 ms
Remote clock offset: -38.808 ms

# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 131.899 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 131.899 ms
Loss rate: 1.29%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 9.67 Mbit/s)   Flow 1 egress (mean 9.61 Mbit/s)
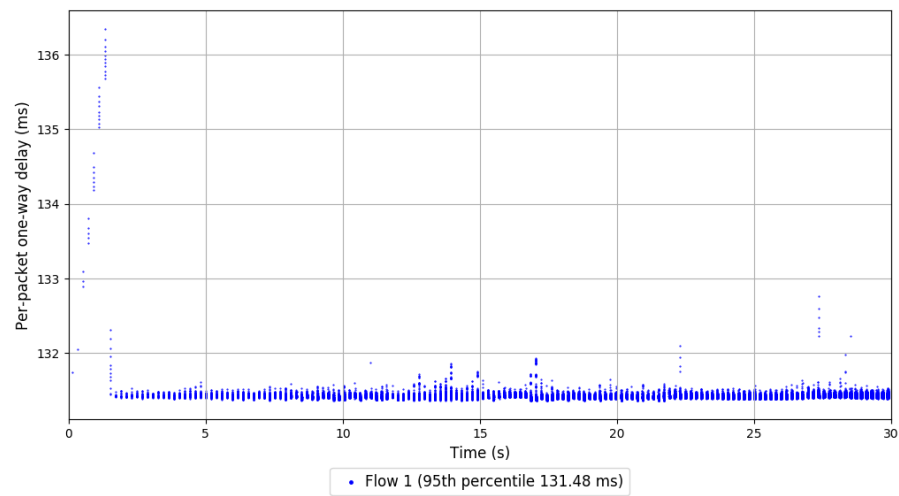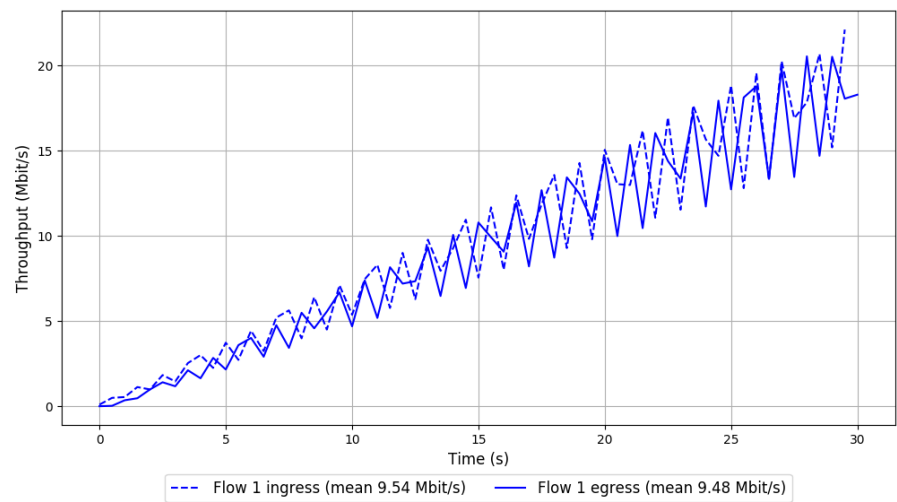

• Flow 1 (95th percentile 131.90 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-03 06:39:17
End at: 2019-01-03 06:39:47
Local clock offset: -0.921 ms
Remote clock offset: -38.959 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 131.478 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 131.478 ms
Loss rate: 1.30%
```

Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 9.54 Mbit/s)   Flow 1 egress (mean 9.48 Mbit/s)

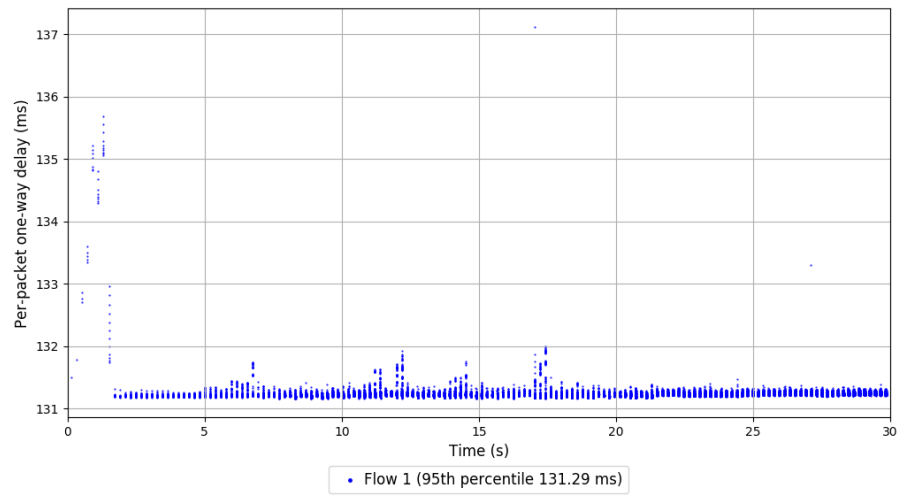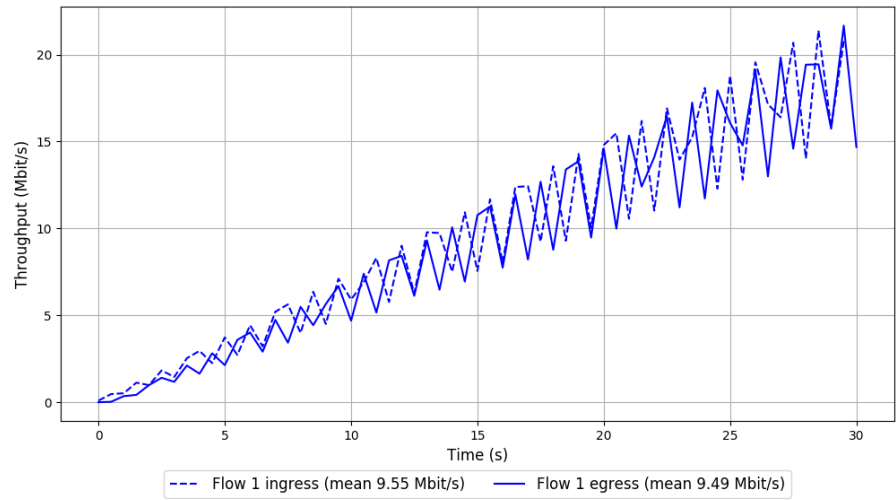Flow 1 (95th percentile 131.48 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-01-03 07:10:11
End at: 2019-01-03 07:10:41
Local clock offset: 1.973 ms
Remote clock offset: -35.61 ms


# Below is generated by plot.py at 2019-01-03 07:36:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 131.291 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 131.291 ms
Loss rate: 1.30%
```

Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 9.55 Mbit/s) — — —   Flow 1 egress (mean 9.49 Mbit/s) ———
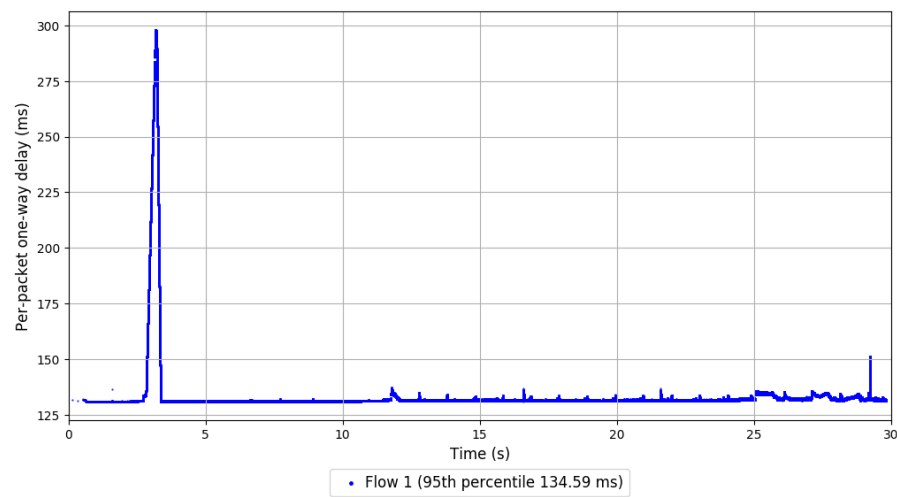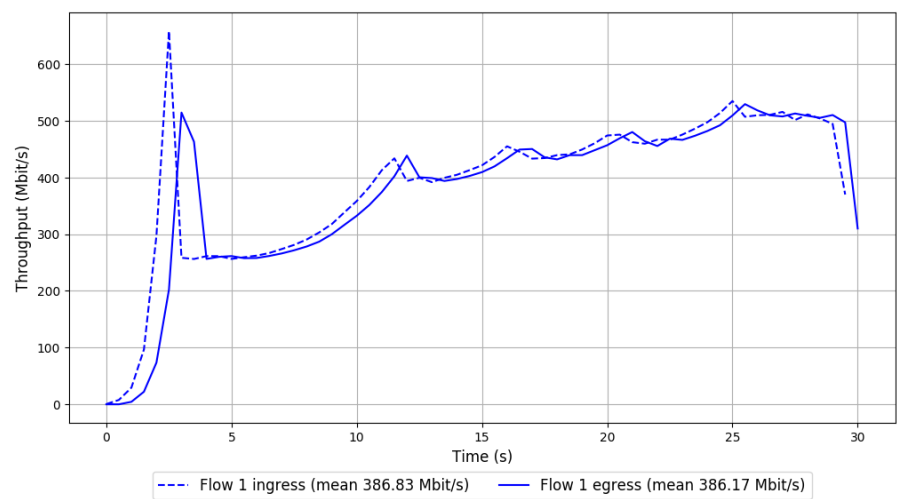

• Flow 1 (95th percentile 131.29 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-03 04:48:13
End at: 2019-01-03 04:48:43
Local clock offset: -0.793 ms
Remote clock offset: -38.719 ms


# Below is generated by plot.py at 2019-01-03 07:38:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 386.17 Mbit/s
95th percentile per-packet one-way delay: 134.595 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 386.17 Mbit/s
95th percentile per-packet one-way delay: 134.595 ms
Loss rate: 0.82%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-03 05:13:22
End at: 2019-01-03 05:13:52
Local clock offset: 1.953 ms
Remote clock offset: -35.799 ms


# Below is generated by plot.py at 2019-01-03 07:38:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.43 Mbit/s
95th percentile per-packet one-way delay: 182.968 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 248.43 Mbit/s
95th percentile per-packet one-way delay: 182.968 ms
Loss rate: 0.90%
```
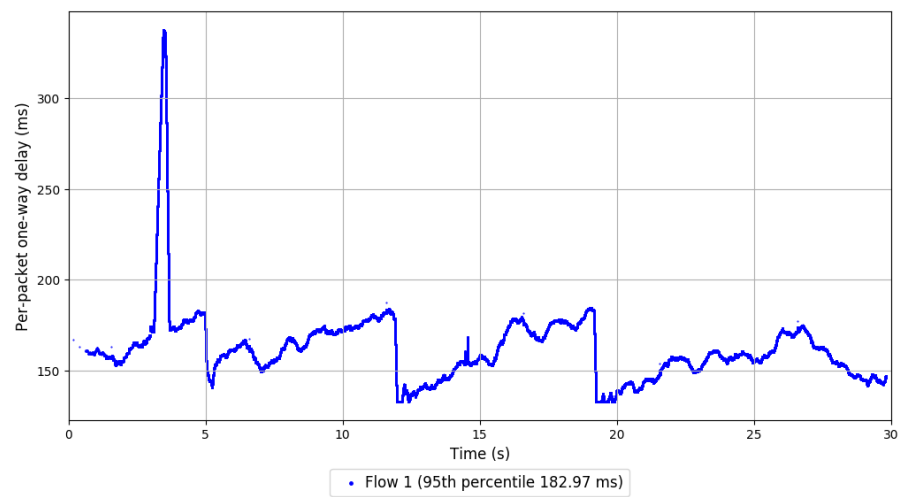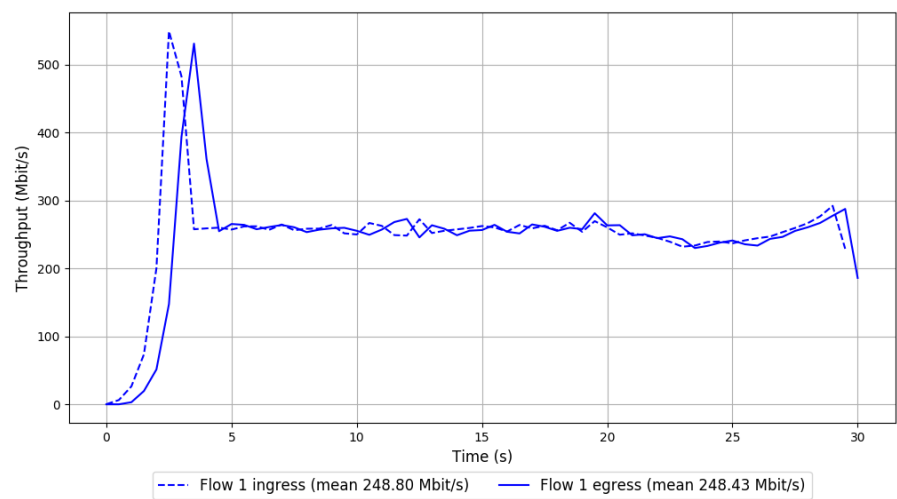
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-03 05:49:36
End at: 2019-01-03 05:50:06
Local clock offset: 2.639 ms
Remote clock offset: -33.216 ms


# Below is generated by plot.py at 2019-01-03 07:39:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 396.85 Mbit/s
95th percentile per-packet one-way delay: 232.863 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 396.85 Mbit/s
95th percentile per-packet one-way delay: 232.863 ms
Loss rate: 0.04%
```
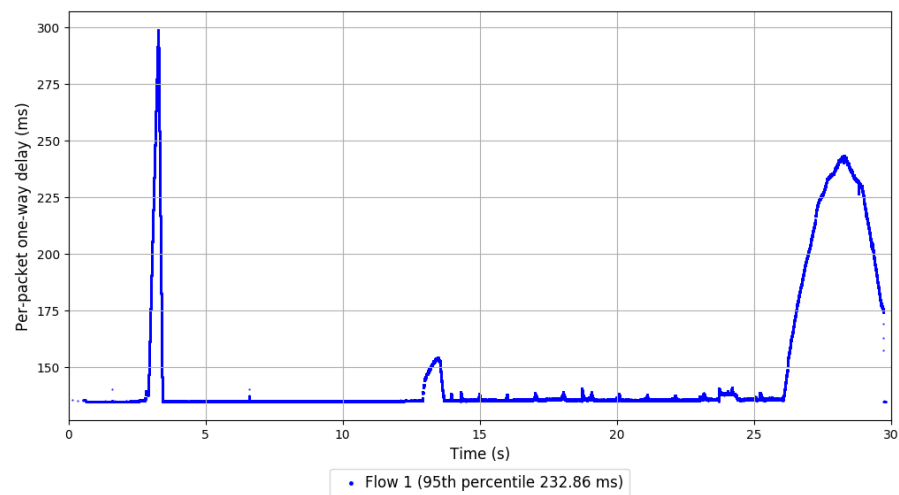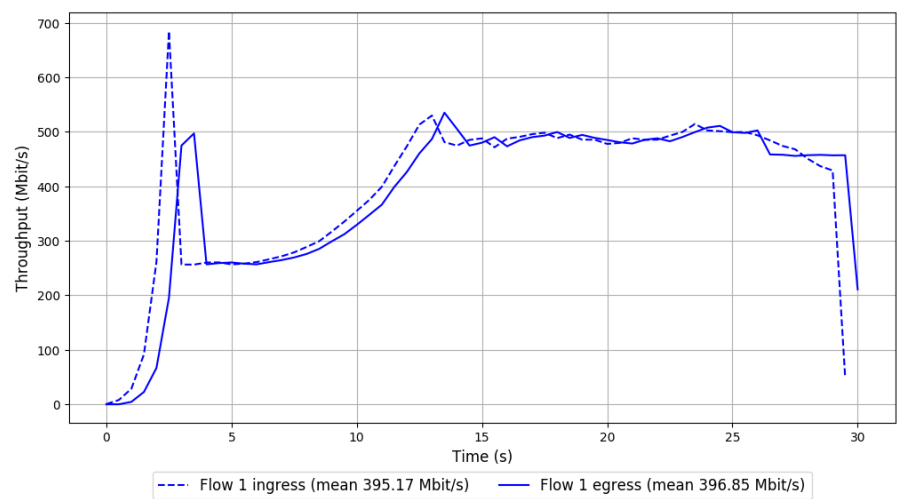
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 395.17 Mbit/s) — Flow 1 egress (mean 396.85 Mbit/s)

• Flow 1 (95th percentile 232.86 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-03 06:20:30
End at: 2019-01-03 06:21:00
Local clock offset: 1.635 ms
Remote clock offset: -45.459 ms


# Below is generated by plot.py at 2019-01-03 07:39:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 347.22 Mbit/s
95th percentile per-packet one-way delay: 147.082 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 347.22 Mbit/s
95th percentile per-packet one-way delay: 147.082 ms
Loss rate: 1.31%
```
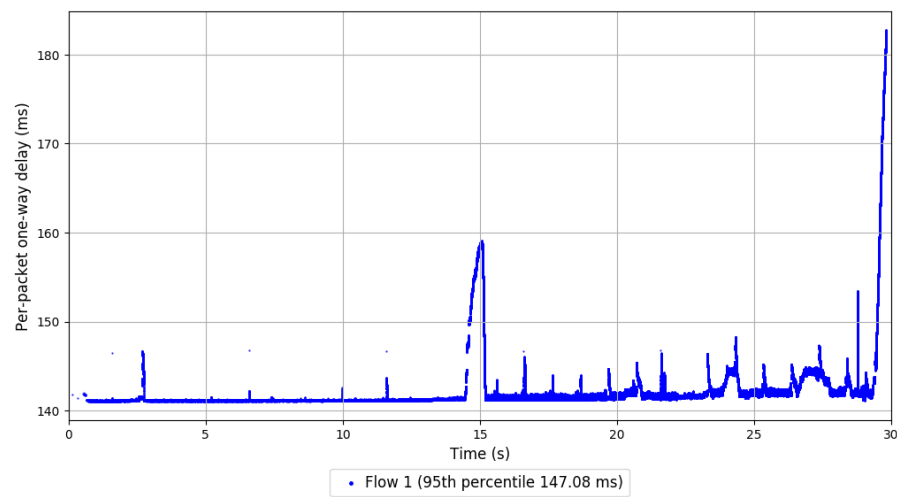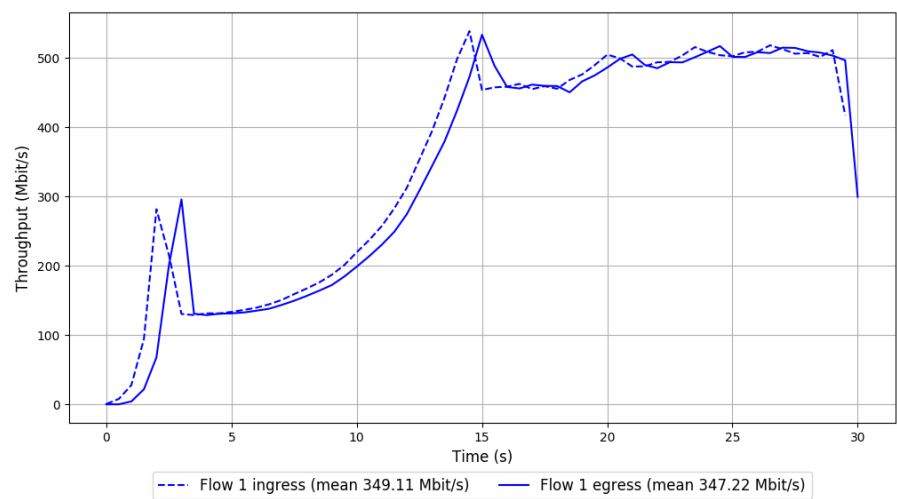
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-03 06:51:16
End at: 2019-01-03 06:51:46
Local clock offset: 0.286 ms
Remote clock offset: -39.781 ms


# Below is generated by plot.py at 2019-01-03 07:39:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 344.43 Mbit/s
95th percentile per-packet one-way delay: 329.441 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 344.43 Mbit/s
95th percentile per-packet one-way delay: 329.441 ms
Loss rate: 0.30%
```
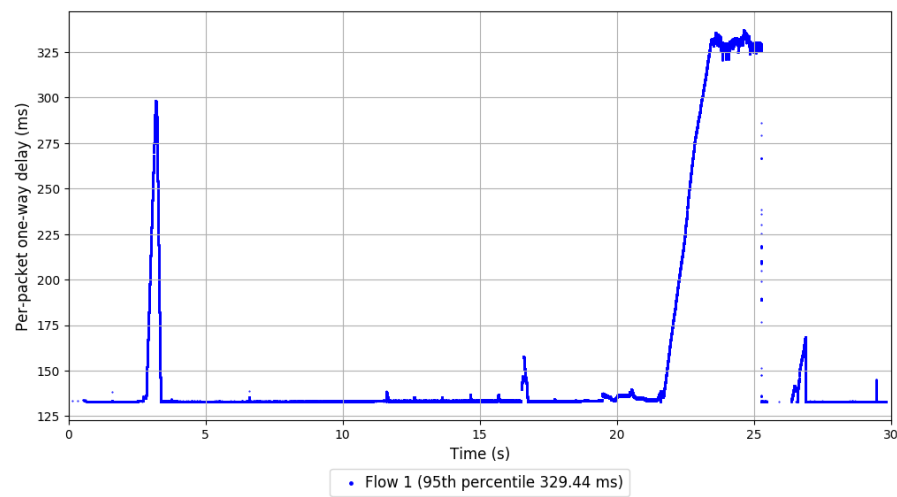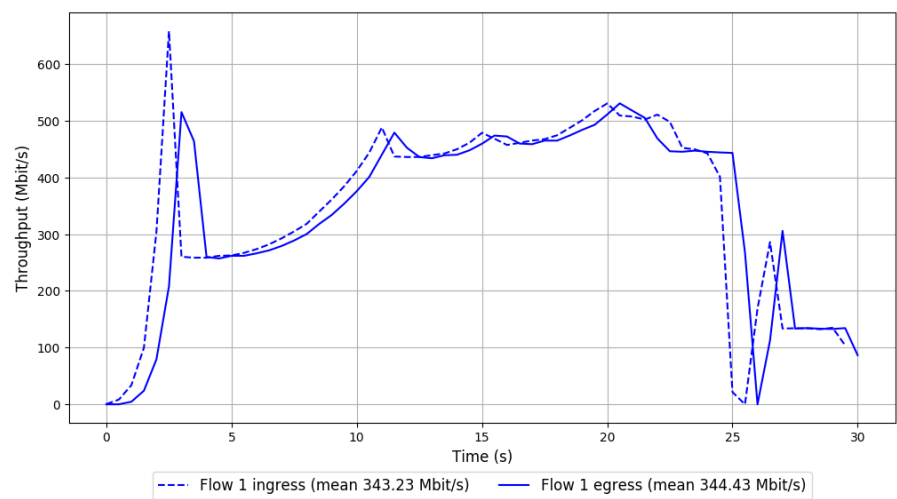
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 343.23 Mbit/s) Flow 1 egress (mean 344.43 Mbit/s)

Flow 1 (95th percentile 329.44 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-03 05:05:42
End at: 2019-01-03 05:06:12
Local clock offset: 1.031 ms
Remote clock offset: -40.66 ms


# Below is generated by plot.py at 2019-01-03 07:39:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 178.44 Mbit/s
95th percentile per-packet one-way delay: 188.661 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 178.44 Mbit/s
95th percentile per-packet one-way delay: 188.661 ms
Loss rate: 0.70%
```
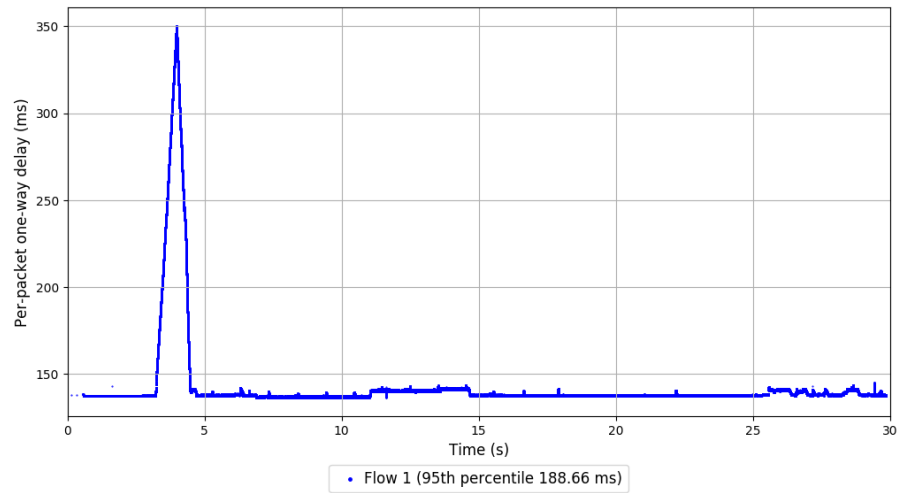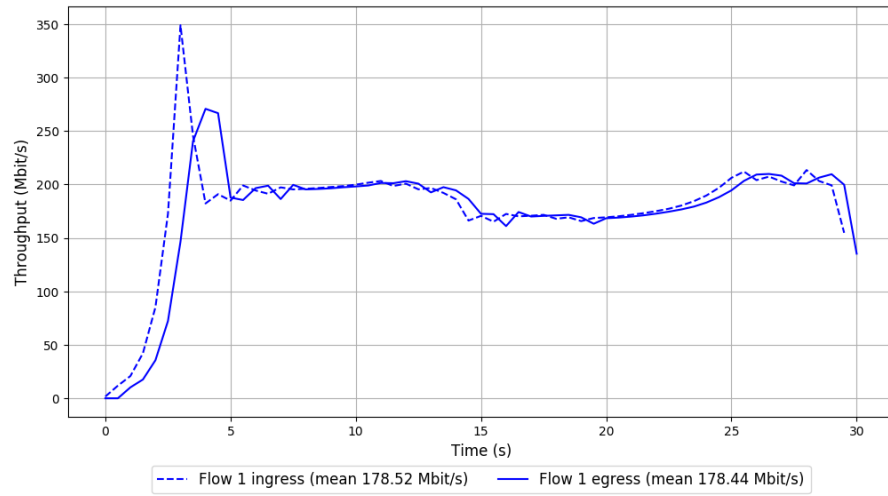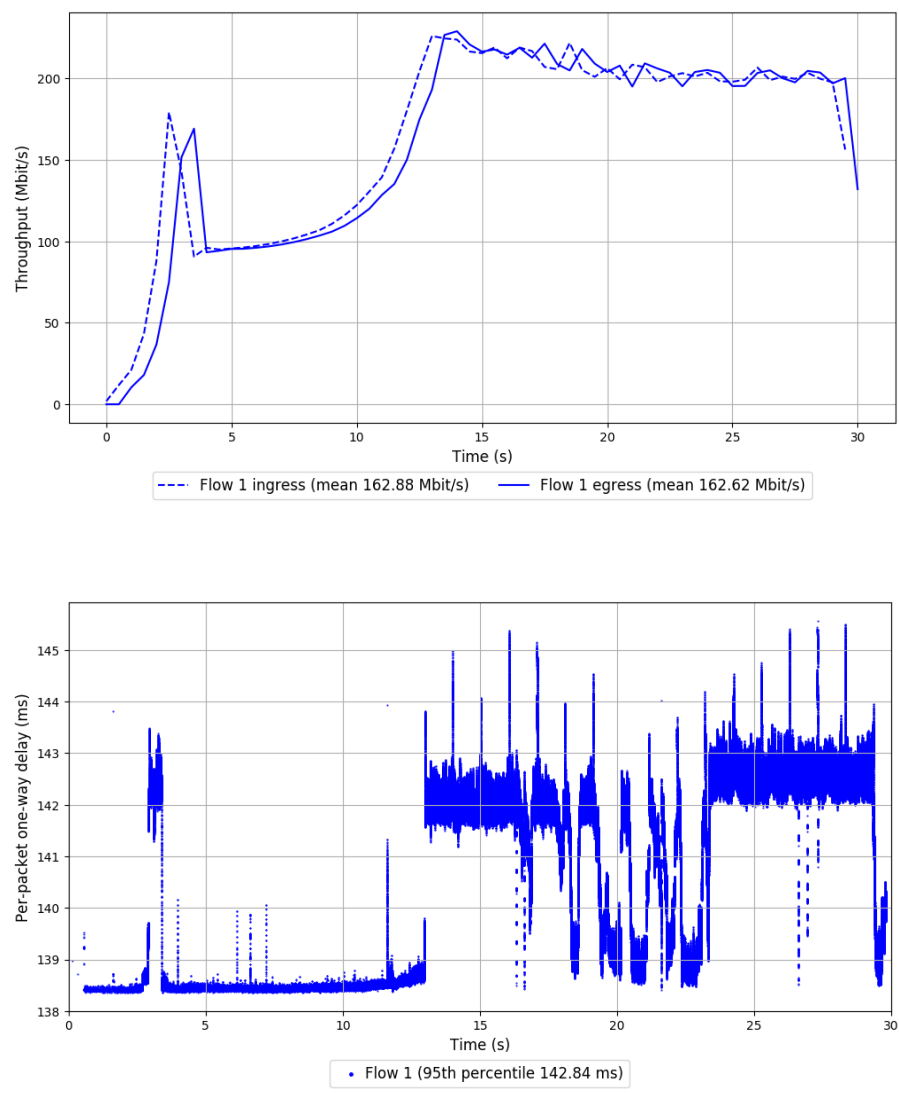
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-03 05:41:43
End at: 2019-01-03 05:42:13
Local clock offset: 3.648 ms
Remote clock offset: -36.413 ms


# Below is generated by plot.py at 2019-01-03 07:39:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 162.62 Mbit/s
95th percentile per-packet one-way delay: 142.842 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 162.62 Mbit/s
95th percentile per-packet one-way delay: 142.842 ms
Loss rate: 0.81%
```

Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 162.88 Mbit/s) --- Flow 1 egress (mean 162.62 Mbit/s)
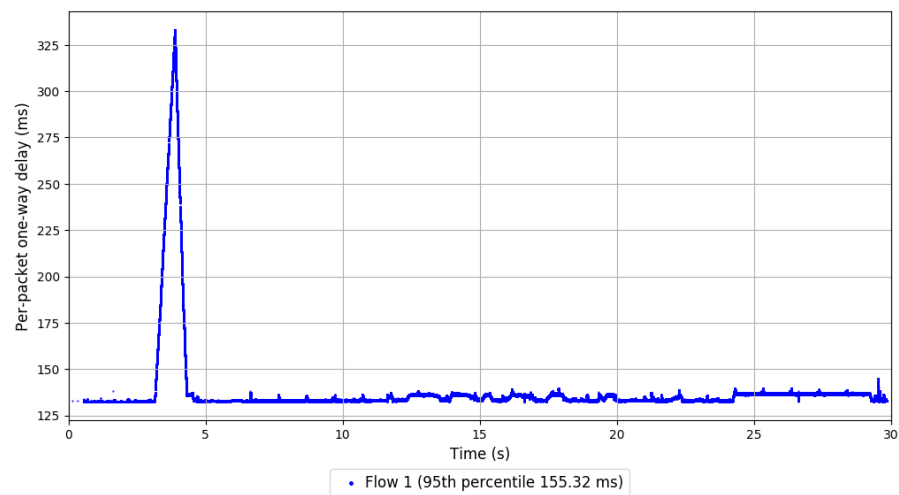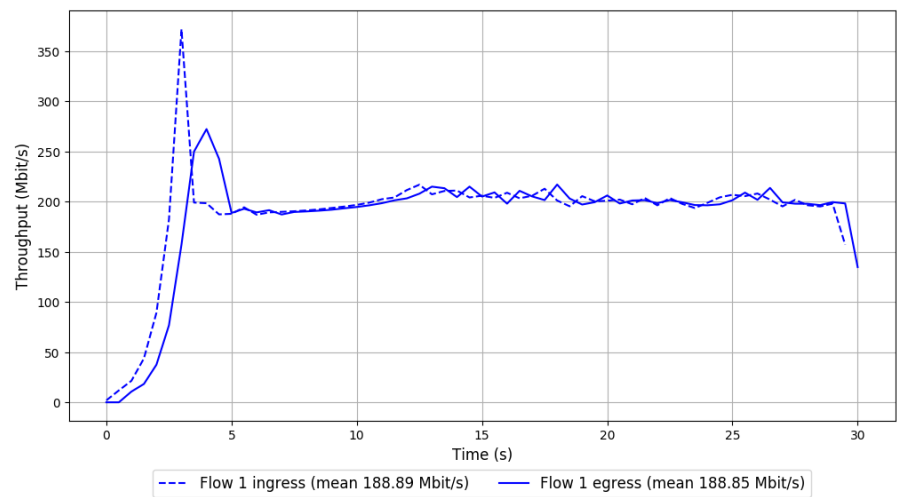

• Flow 1 (95th percentile 142.84 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-03 06:12:32
End at: 2019-01-03 06:13:02
Local clock offset: 0.87 ms
Remote clock offset: -38.077 ms


# Below is generated by plot.py at 2019-01-03 07:40:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.85 Mbit/s
95th percentile per-packet one-way delay: 155.325 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 188.85 Mbit/s
95th percentile per-packet one-way delay: 155.325 ms
Loss rate: 0.67%
```
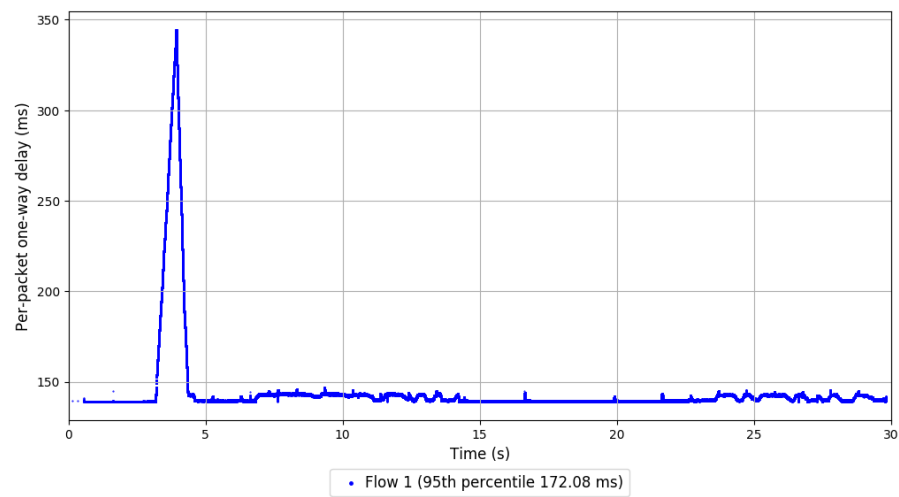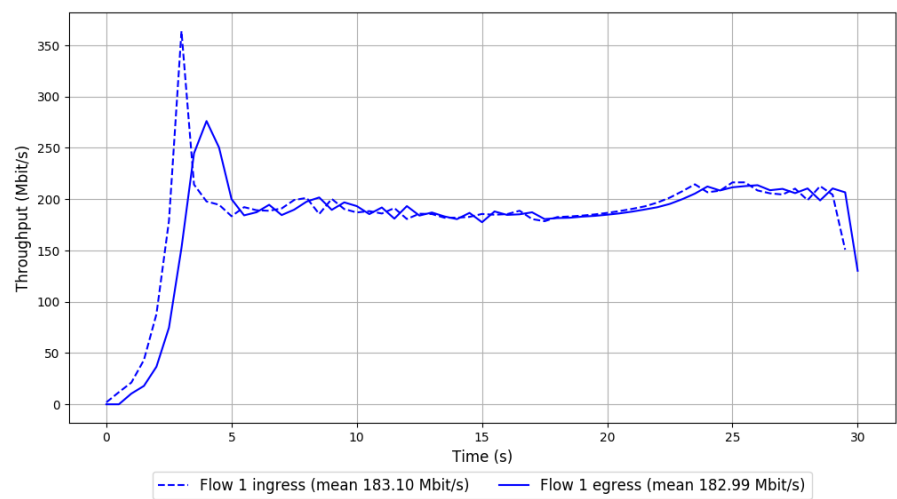
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-03 06:37:52
End at: 2019-01-03 06:38:22
Local clock offset: 2.561 ms
Remote clock offset: -43.103 ms

# Below is generated by plot.py at 2019-01-03 07:41:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 182.99 Mbit/s
95th percentile per-packet one-way delay: 172.083 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 182.99 Mbit/s
95th percentile per-packet one-way delay: 172.083 ms
Loss rate: 0.71%
```

Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 183.10 Mbit/s)   Flow 1 egress (mean 182.99 Mbit/s)
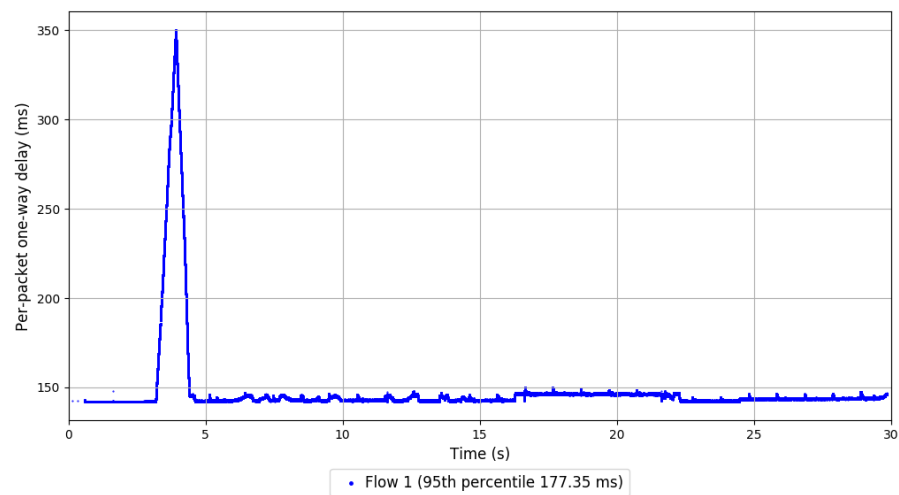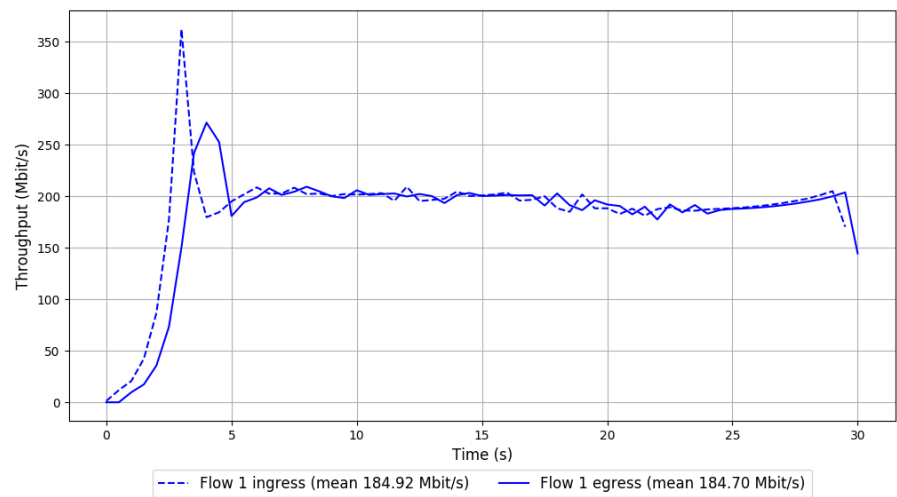

Flow 1 (95th percentile 172.08 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-03 07:08:46
End at: 2019-01-03 07:09:16
Local clock offset: 1.643 ms
Remote clock offset: -47.83 ms


# Below is generated by plot.py at 2019-01-03 07:42:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 184.70 Mbit/s
95th percentile per-packet one-way delay: 177.350 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 184.70 Mbit/s
95th percentile per-packet one-way delay: 177.350 ms
Loss rate: 0.77%
```
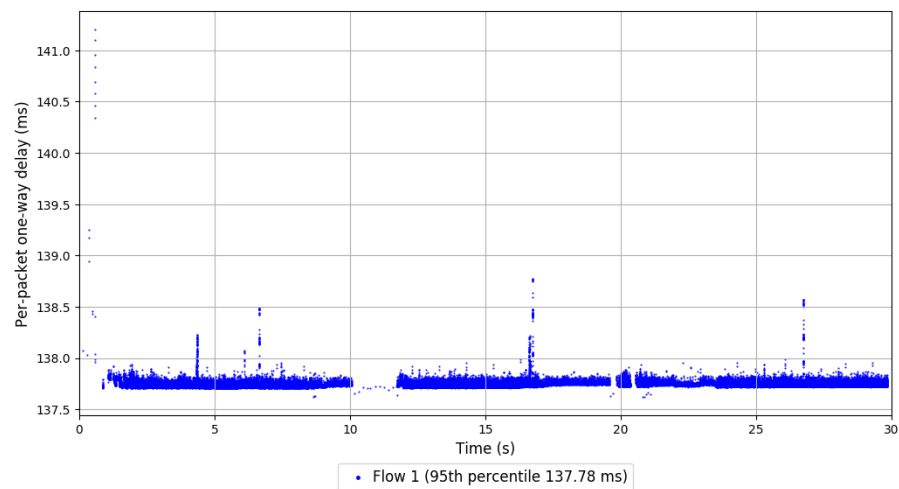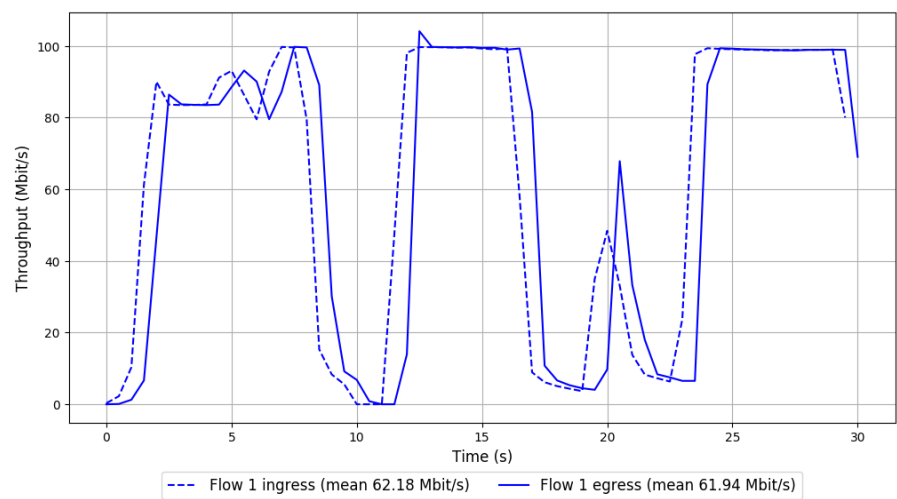
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 05:04:28
End at: 2019-01-03 05:04:58
Local clock offset: 0.07 ms
Remote clock offset: -41.723 ms


# Below is generated by plot.py at 2019-01-03 07:42:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.94 Mbit/s
95th percentile per-packet one-way delay: 137.779 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 61.94 Mbit/s
95th percentile per-packet one-way delay: 137.779 ms
Loss rate: 1.03%
```

Run 1: Report of QUIC Cubic — Data Link
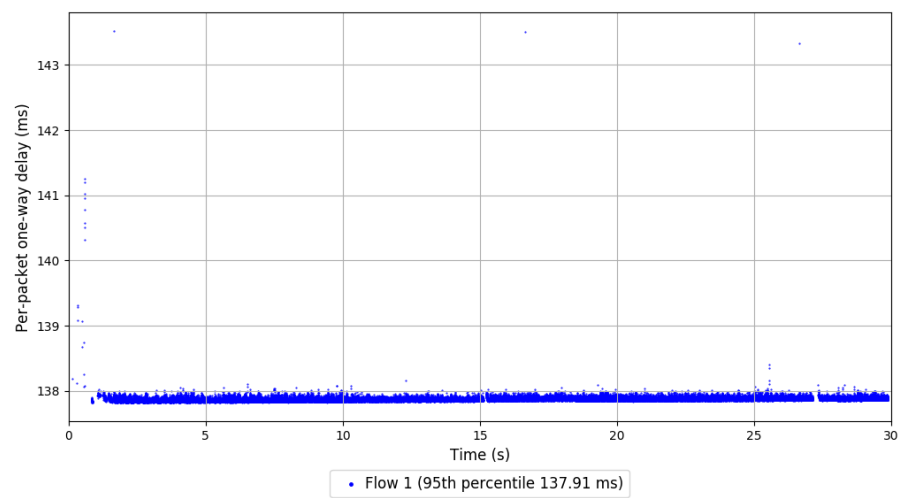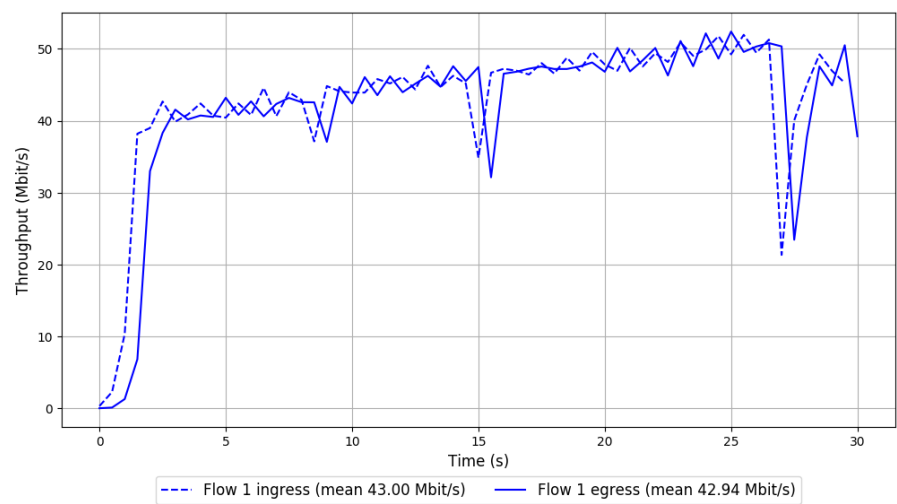

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```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-03 05:40:30
End at: 2019-01-03 05:41:00
Local clock offset: 2.696 ms
Remote clock offset: -36.863 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 137.907 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 137.907 ms
Loss rate: 0.78%
```

Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.00 Mbit/s)   ——— Flow 1 egress (mean 42.94 Mbit/s)
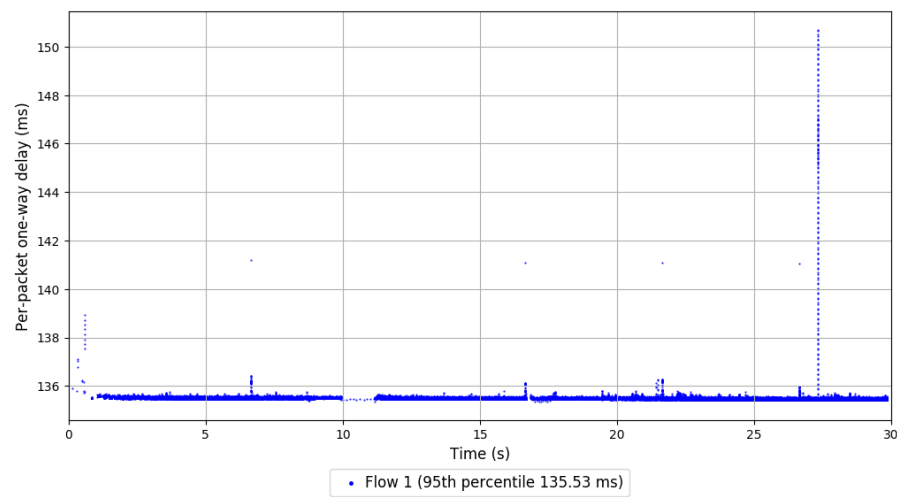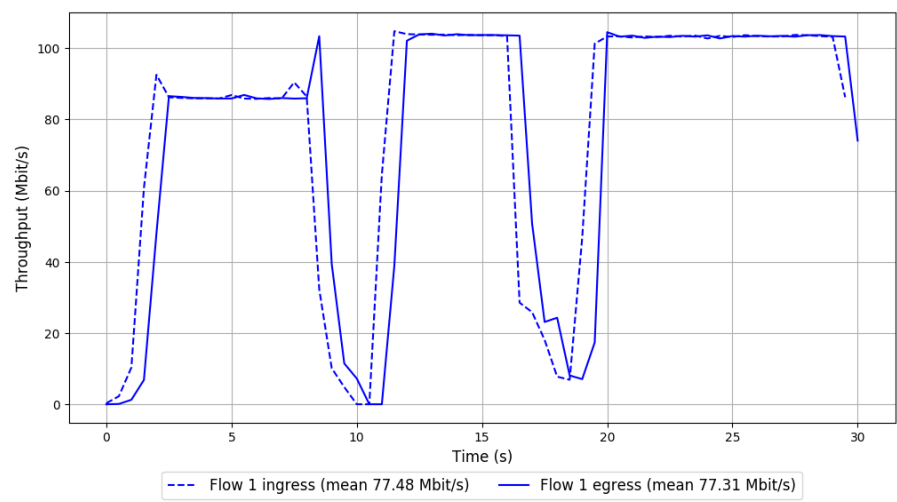

• Flow 1 (95th percentile 137.91 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-03 06:11:18
End at: 2019-01-03 06:11:48
Local clock offset: 0.712 ms
Remote clock offset: -39.685 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.31 Mbit/s
95th percentile per-packet one-way delay: 135.531 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 77.31 Mbit/s
95th percentile per-packet one-way delay: 135.531 ms
Loss rate: 0.87%
```

Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 77.48 Mbit/s)   Flow 1 egress (mean 77.31 Mbit/s)
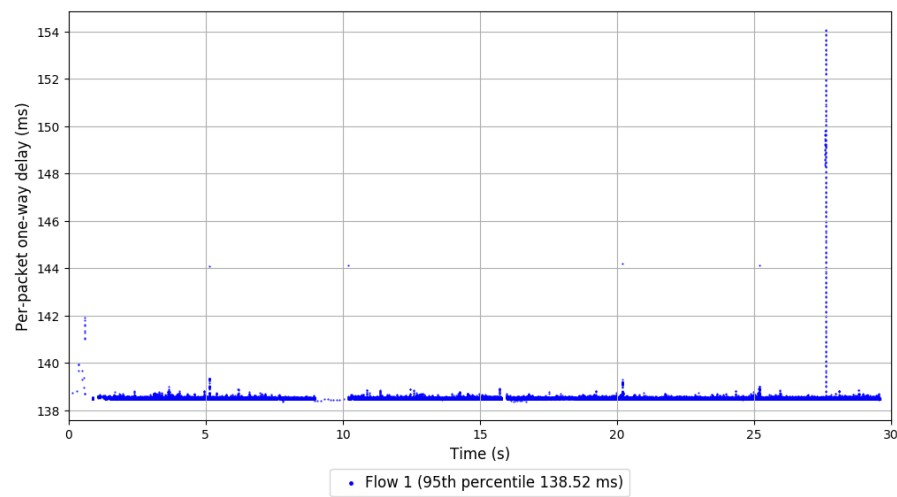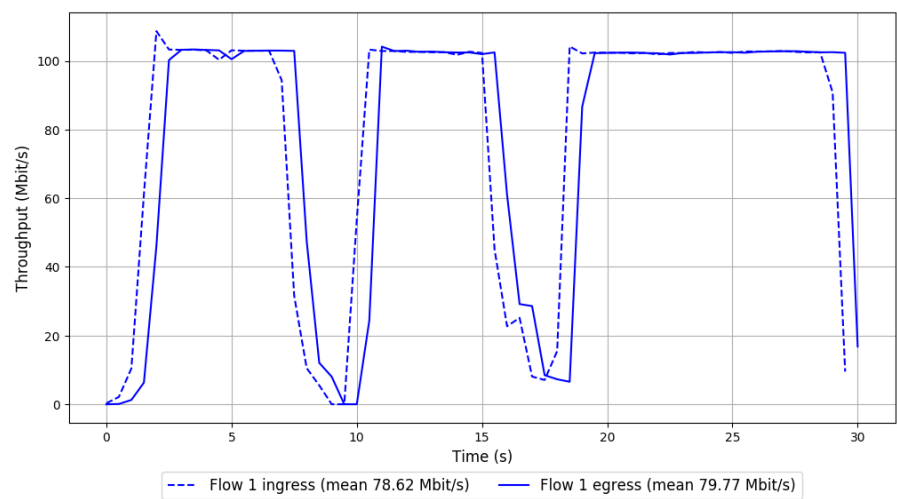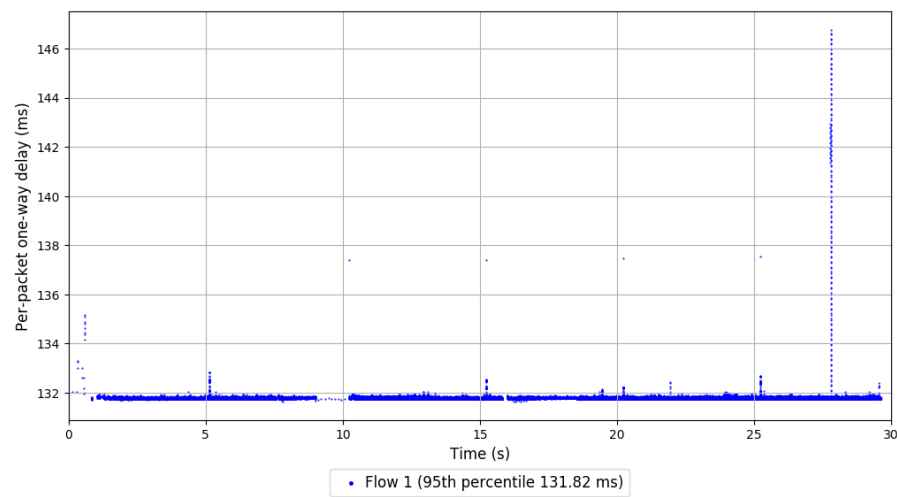

Flow 1 (95th percentile 135.53 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-03 06:36:37
End at: 2019-01-03 06:37:07
Local clock offset: 2.804 ms
Remote clock offset: -42.652 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.77 Mbit/s
95th percentile per-packet one-way delay: 138.523 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 79.77 Mbit/s
95th percentile per-packet one-way delay: 138.523 ms
Loss rate: 0.20%
```
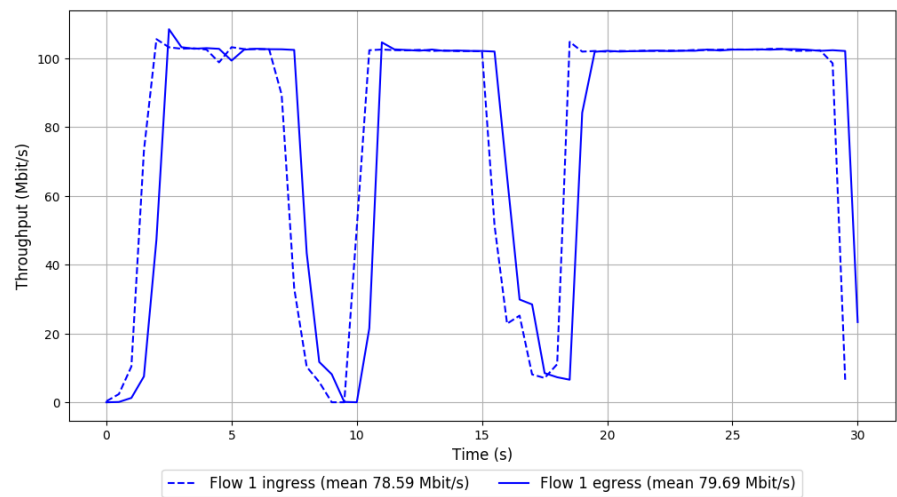
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-03 07:07:31
End at: 2019-01-03 07:08:01
Local clock offset: -1.744 ms
Remote clock offset: -41.181 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.69 Mbit/s
95th percentile per-packet one-way delay: 131.816 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 79.69 Mbit/s
95th percentile per-packet one-way delay: 131.816 ms
Loss rate: 0.14%
```
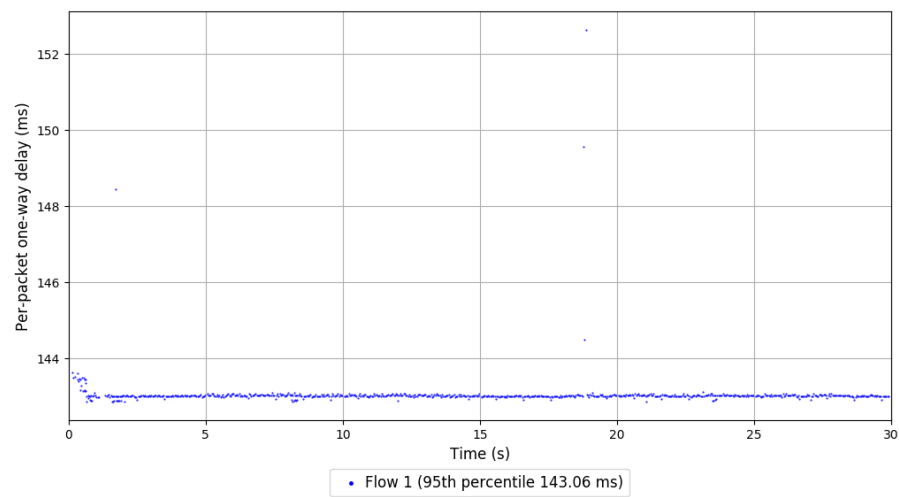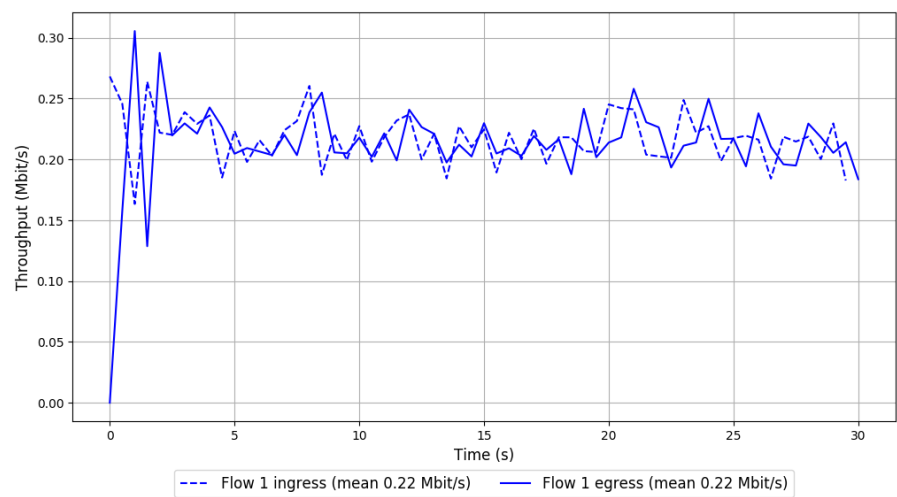
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-01-03 04:59:19
End at: 2019-01-03 04:59:49
Local clock offset: 2.258 ms
Remote clock offset: -45.168 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 143.065 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 143.065 ms
Loss rate: 0.51%
```

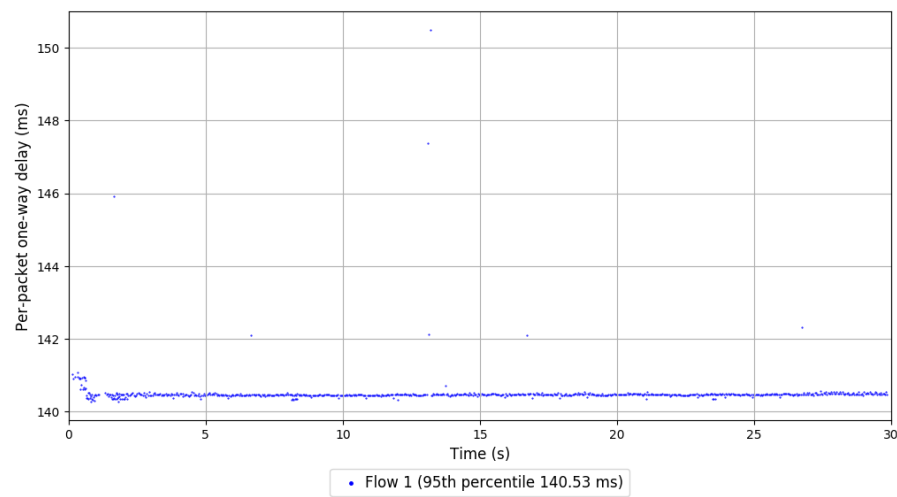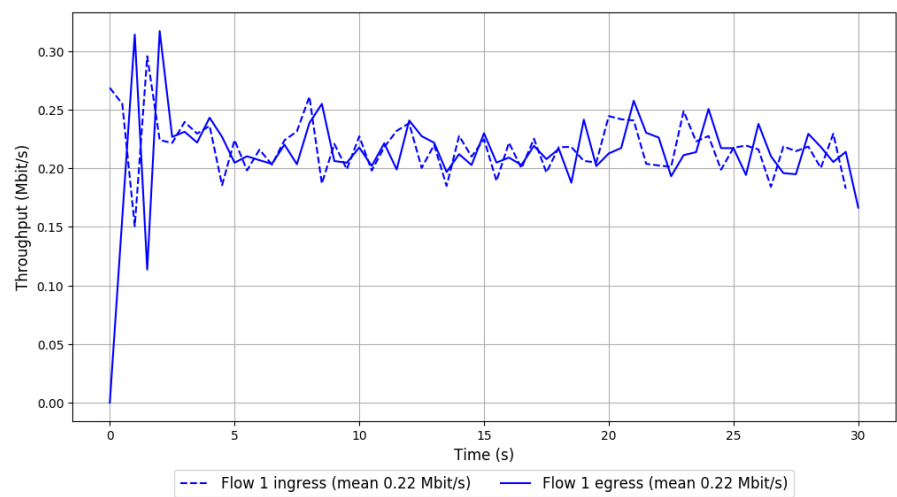Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-01-03 05:35:23
End at: 2019-01-03 05:35:53
Local clock offset: 2.26 ms
Remote clock offset: -40.508 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.532 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.532 ms
Loss rate: 0.64%
```

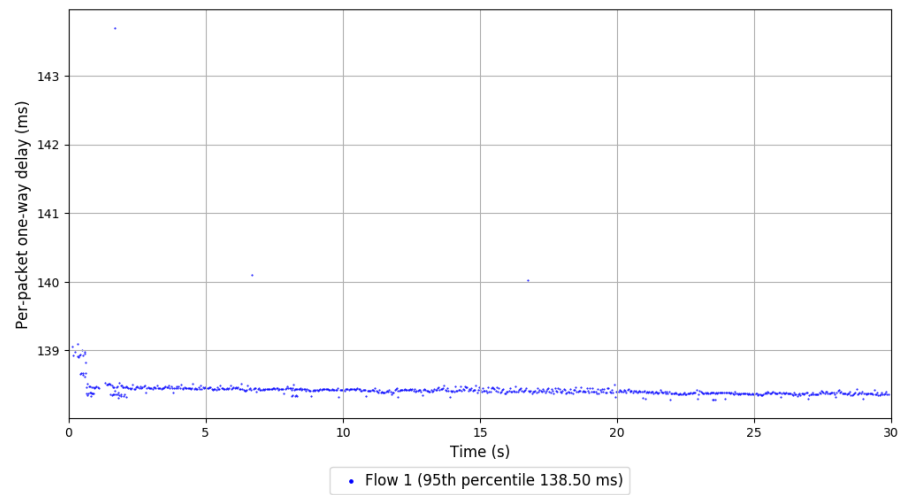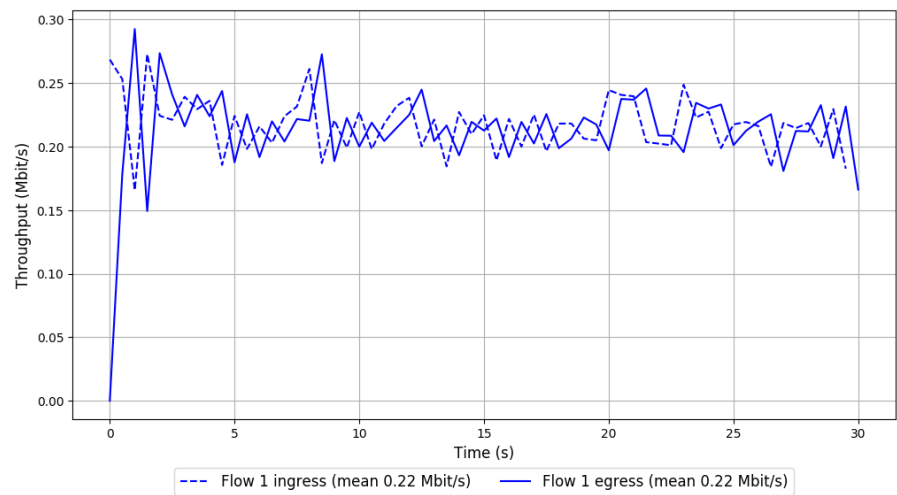Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-01-03 06:06:09
End at: 2019-01-03 06:06:39
Local clock offset: 1.543 ms
Remote clock offset: -41.325 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.496 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.496 ms
Loss rate: 0.51%
```

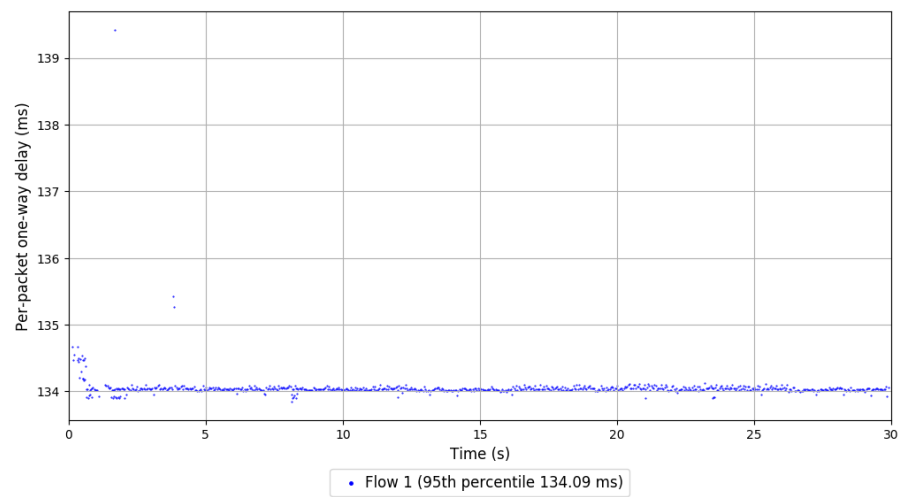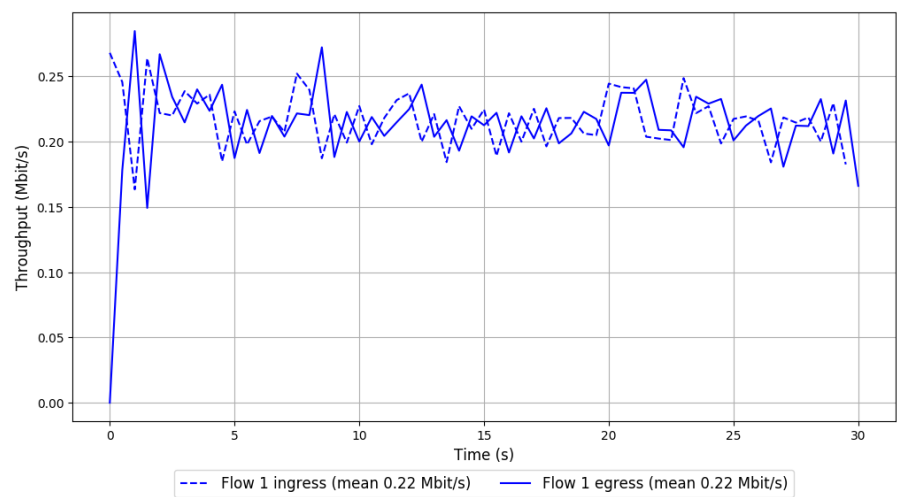# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-01-03 06:31:30
End at: 2019-01-03 06:32:00
Local clock offset: 1.588 ms
Remote clock offset: -39.271 ms

# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.093 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.093 ms
Loss rate: 0.51%
```

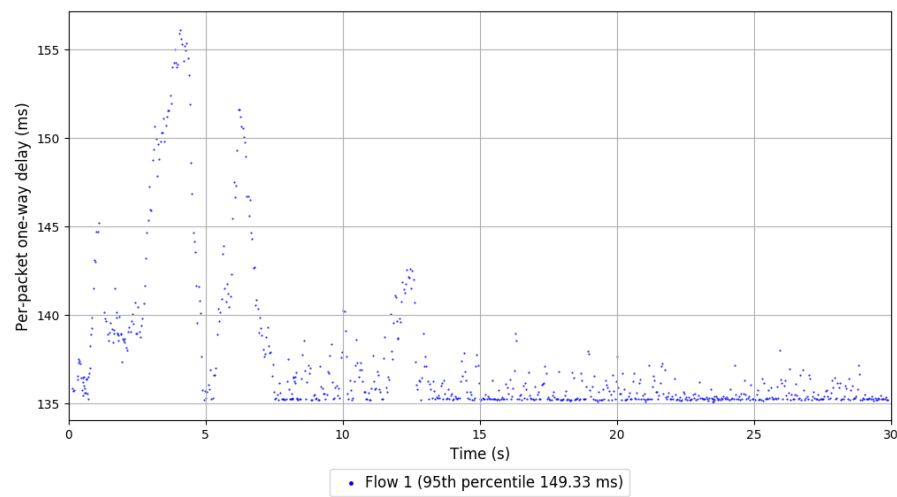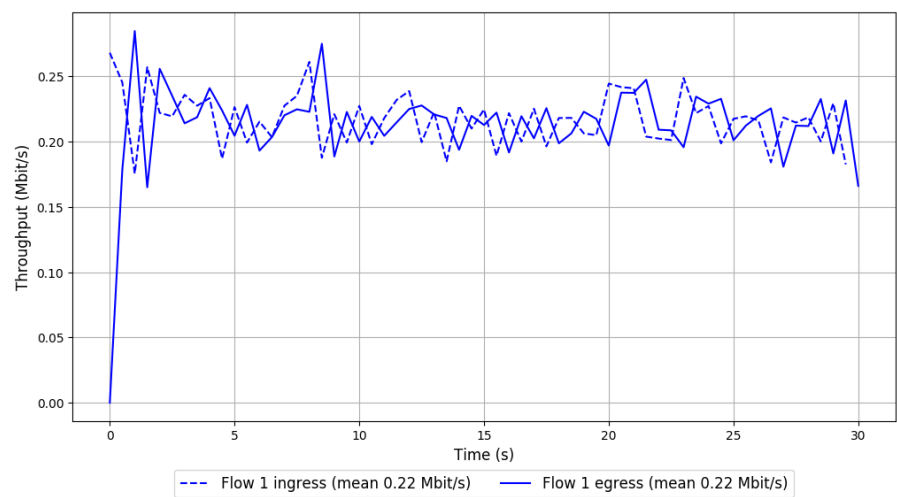Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-01-03 07:02:25
End at: 2019-01-03 07:02:55
Local clock offset: 2.64 ms
Remote clock offset: -40.547 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.328 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 149.328 ms
Loss rate: 0.51%
```
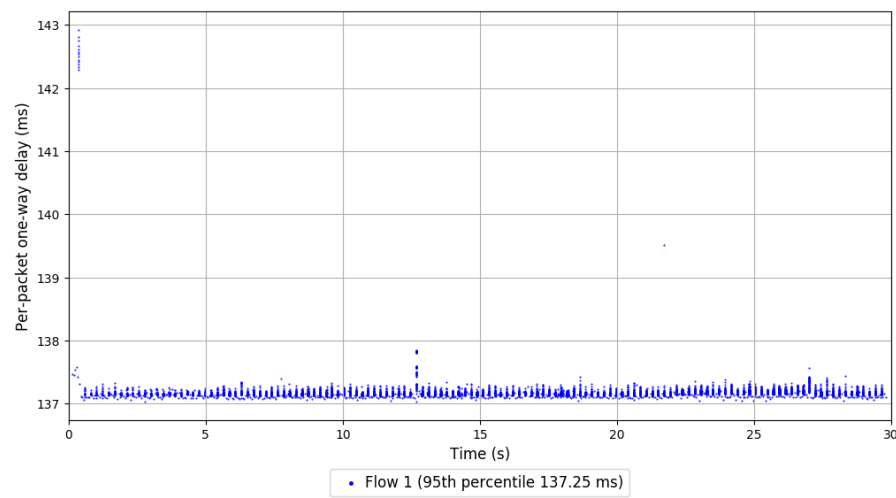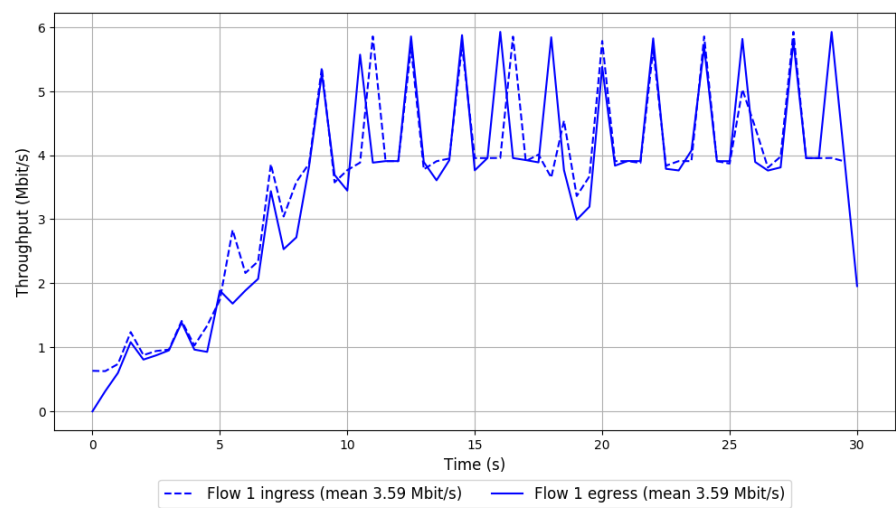
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-01-03 04:56:47
End at: 2019-01-03 04:57:17
Local clock offset: -0.703 ms
Remote clock offset: -43.454 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 137.247 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 137.247 ms
Loss rate: 0.91%
```
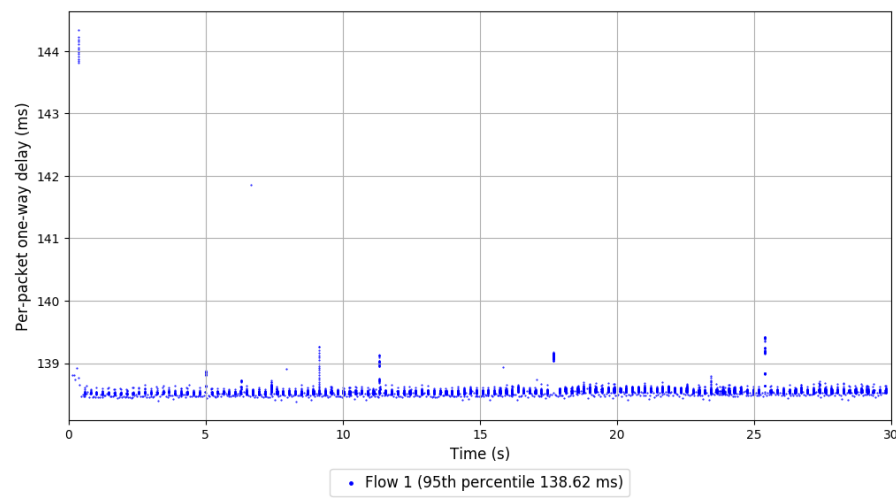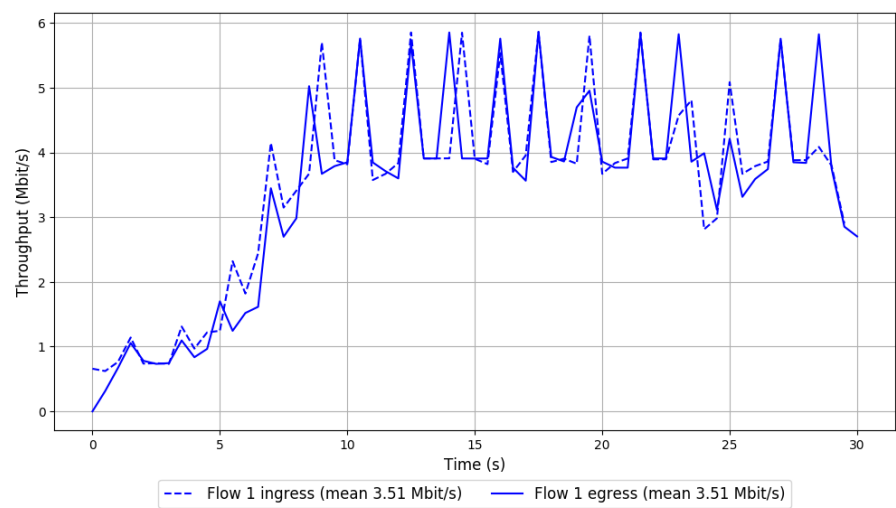
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-03 05:32:54
End at: 2019-01-03 05:33:24
Local clock offset: 1.886 ms
Remote clock offset: -40.301 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 138.616 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 138.616 ms
Loss rate: 0.70%
```
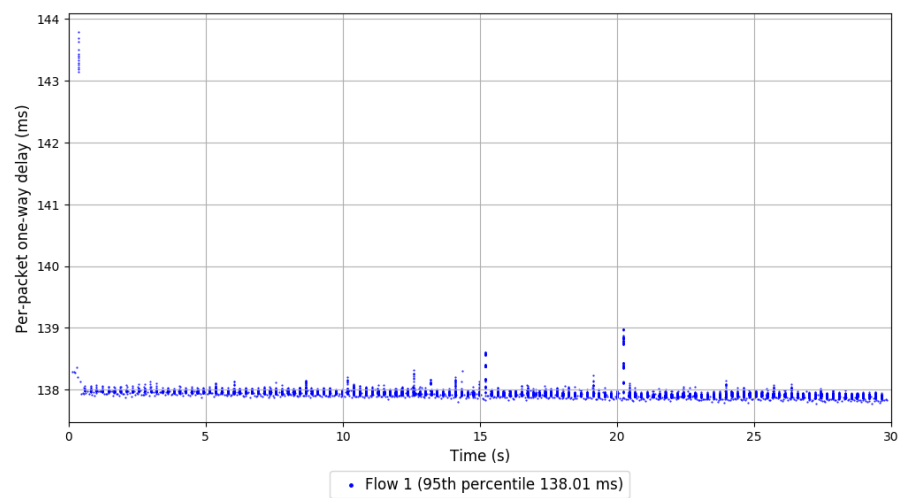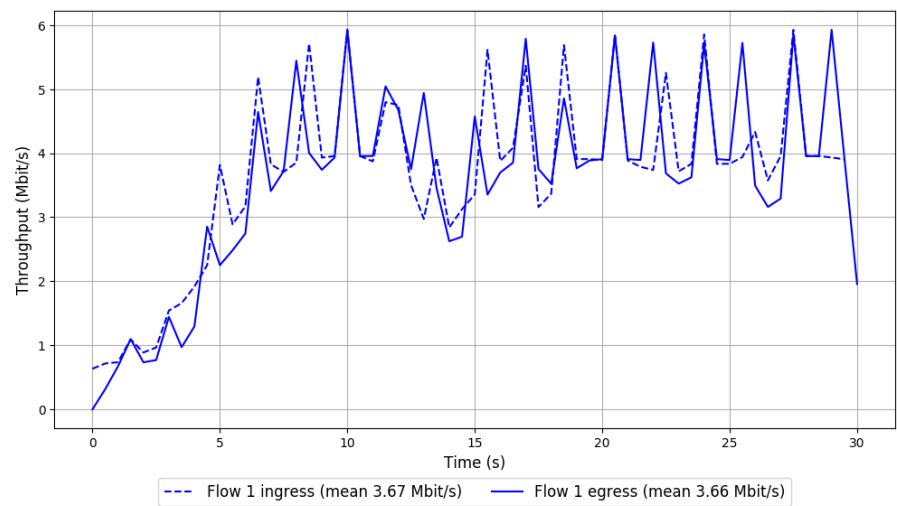
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-03 06:03:45
End at: 2019-01-03 06:04:15
Local clock offset: -0.871 ms
Remote clock offset: -42.464 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 138.012 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 138.012 ms
Loss rate: 0.89%
```

Run 3: Report of Sprout — Data Link

Flow 1 ingress (mean 3.67 Mbit/s)   Flow 1 egress (mean 3.66 Mbit/s)

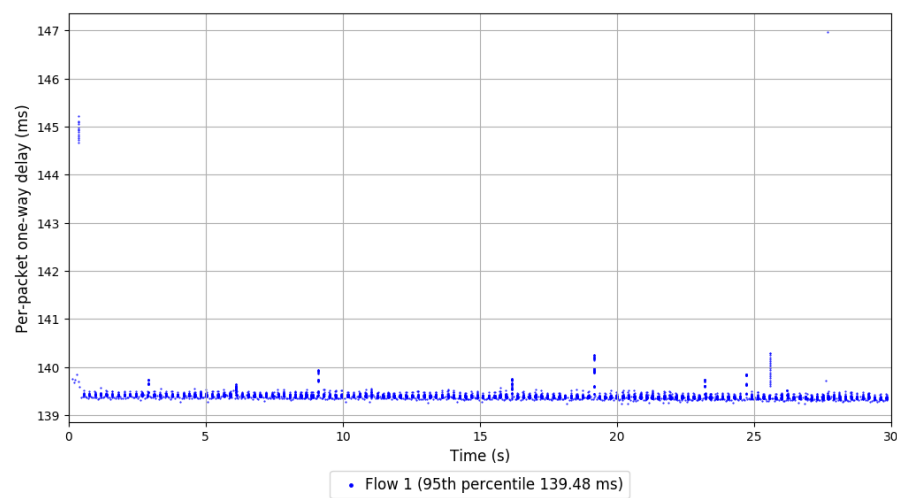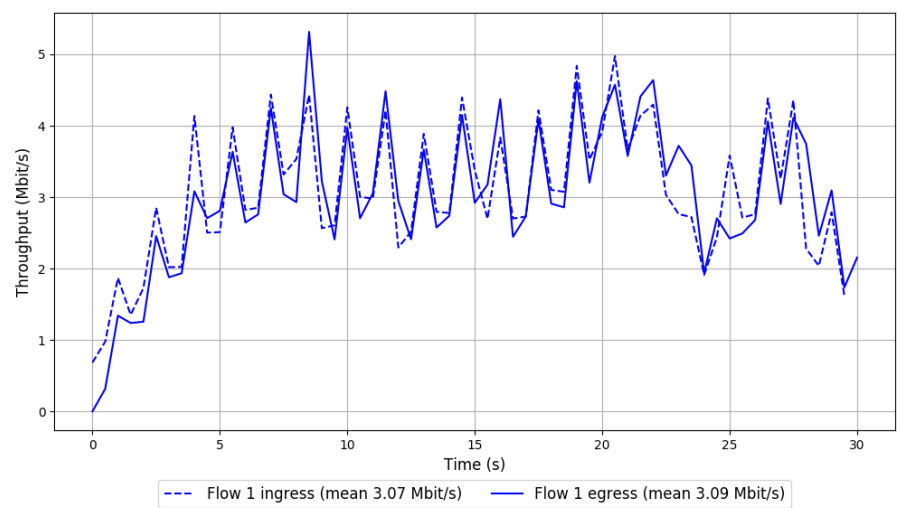• Flow 1 (95th percentile 138.01 ms)

```
Run 4: Statistics of Sprout

Start at: 2019-01-03 06:29:06
End at: 2019-01-03 06:29:36
Local clock offset: 1.604 ms
Remote clock offset: -45.739 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 139.481 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 139.481 ms
Loss rate: 0.28%
```

Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 3.07 Mbit/s)   Flow 1 egress (mean 3.09 Mbit/s)

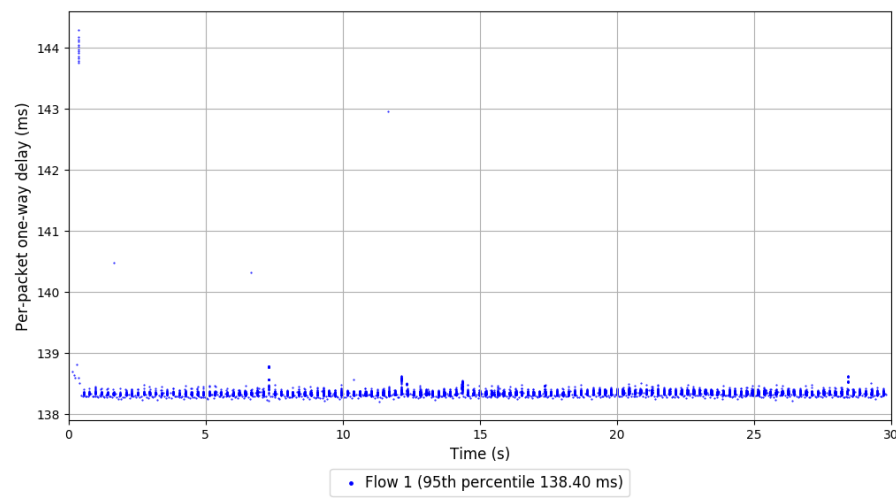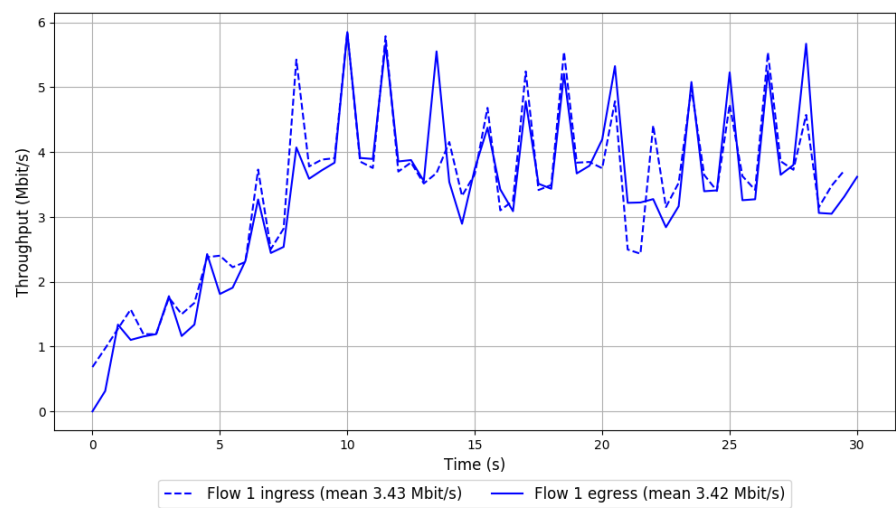Flow 1 (95th percentile 139.48 ms)

```
Run 5: Statistics of Sprout

Start at: 2019-01-03 06:59:56
End at: 2019-01-03 07:00:26
Local clock offset: 1.129 ms
Remote clock offset: -44.226 ms


# Below is generated by plot.py at 2019-01-03 07:42:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 138.398 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 138.398 ms
Loss rate: 0.92%
```

Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 3.43 Mbit/s) — — — Flow 1 egress (mean 3.42 Mbit/s)

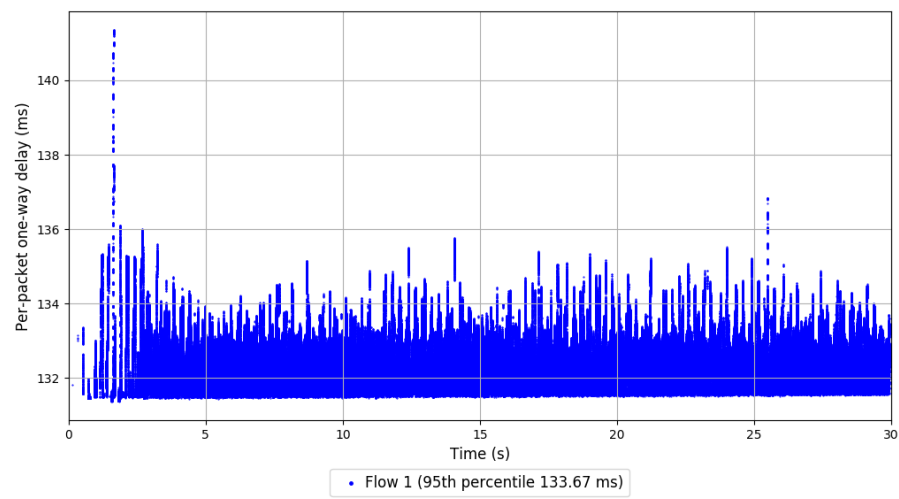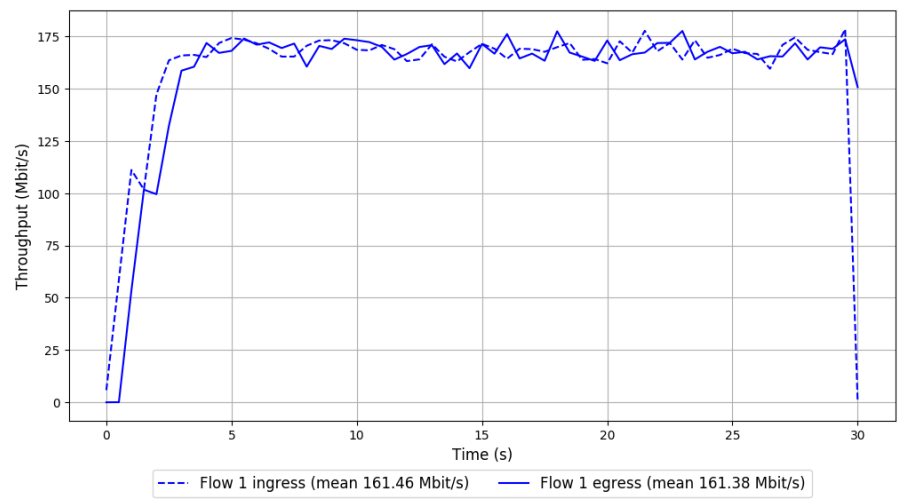Flow 1 (95th percentile 138.40 ms)

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

Start at: 2019-01-03 04:52:32
End at: 2019-01-03 04:53:02
Local clock offset: 3.285 ms
Remote clock offset: -32.715 ms


# Below is generated by plot.py at 2019-01-03 07:42:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 161.38 Mbit/s
95th percentile per-packet one-way delay: 133.667 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 161.38 Mbit/s
95th percentile per-packet one-way delay: 133.667 ms
Loss rate: 0.70%
```
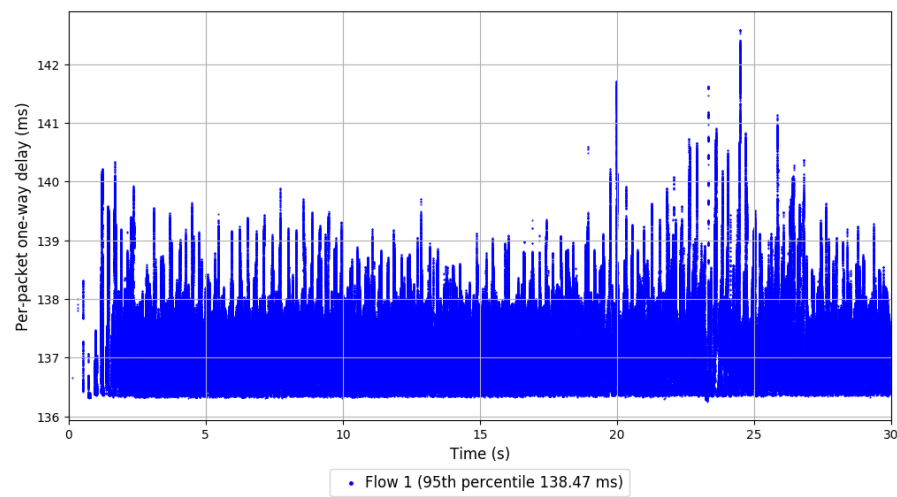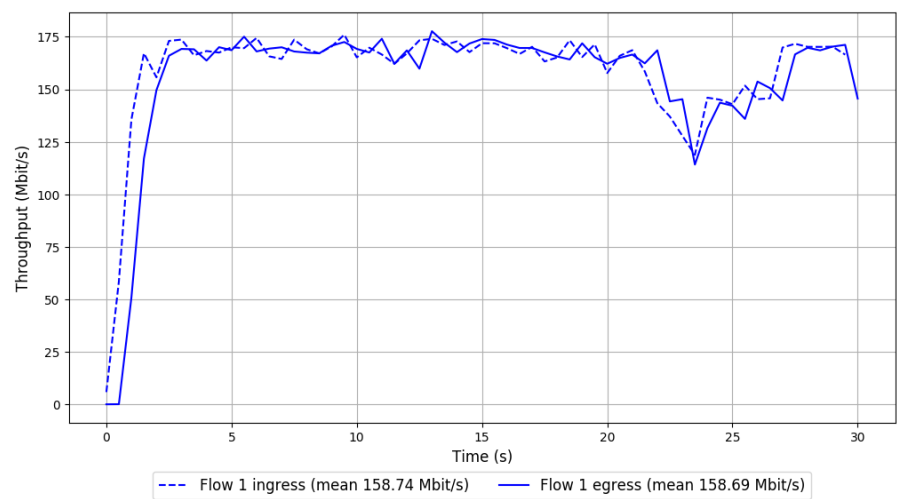
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-03 05:23:04
End at: 2019-01-03 05:23:34
Local clock offset: 1.979 ms
Remote clock offset: -37.587 ms


# Below is generated by plot.py at 2019-01-03 07:42:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 158.69 Mbit/s
95th percentile per-packet one-way delay: 138.471 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 158.69 Mbit/s
95th percentile per-packet one-way delay: 138.471 ms
Loss rate: 0.69%
```
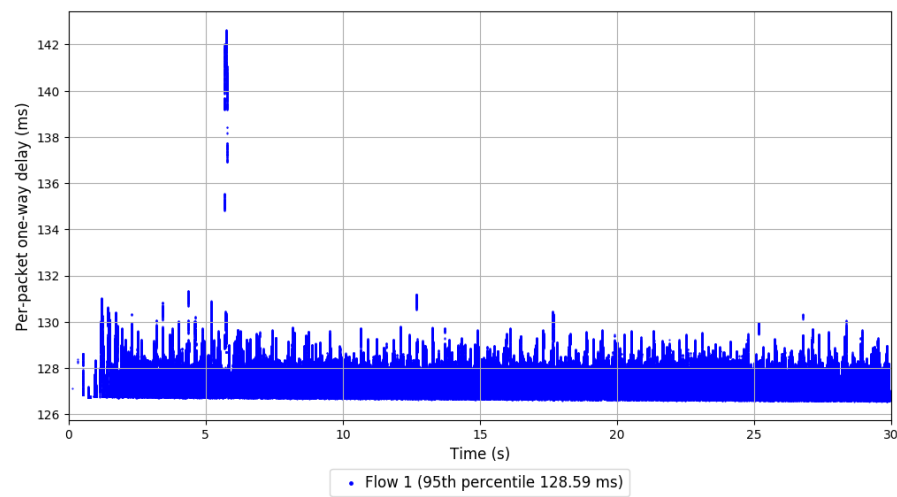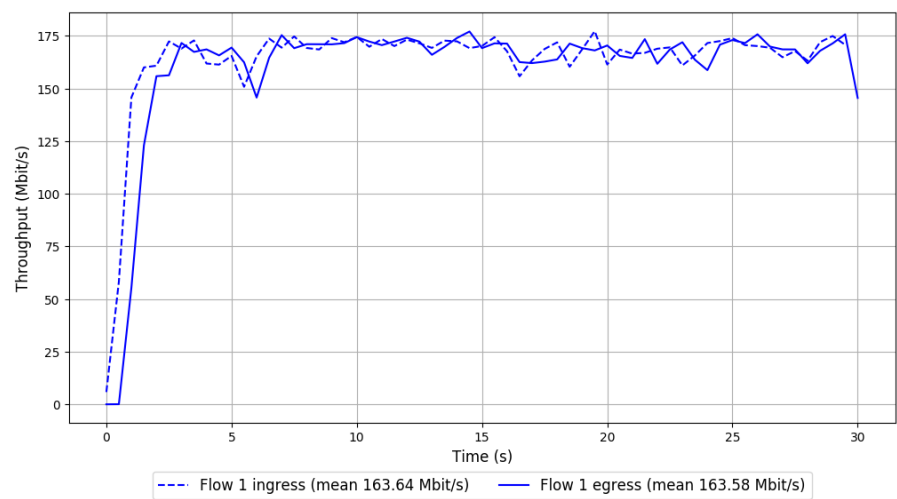
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-03 05:59:29
End at: 2019-01-03 05:59:59
Local clock offset: -0.432 ms
Remote clock offset: -29.901 ms


# Below is generated by plot.py at 2019-01-03 07:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 163.58 Mbit/s
95th percentile per-packet one-way delay: 128.594 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 163.58 Mbit/s
95th percentile per-packet one-way delay: 128.594 ms
Loss rate: 0.68%
```
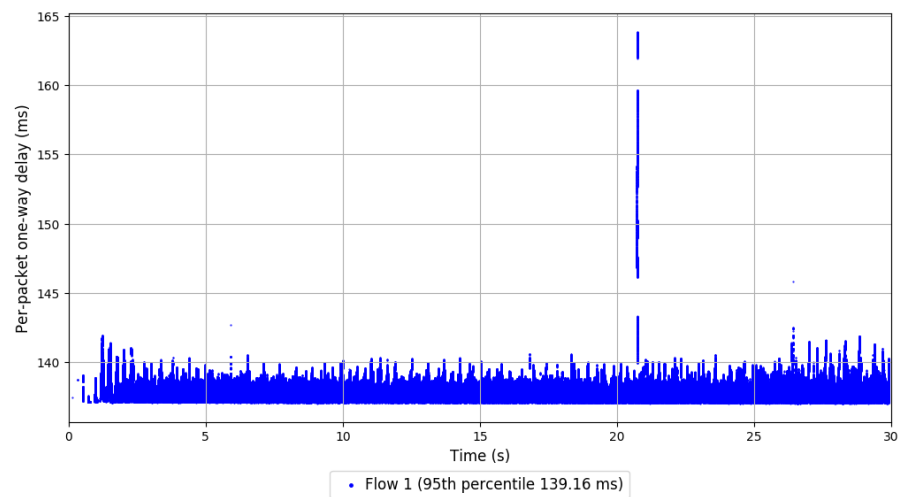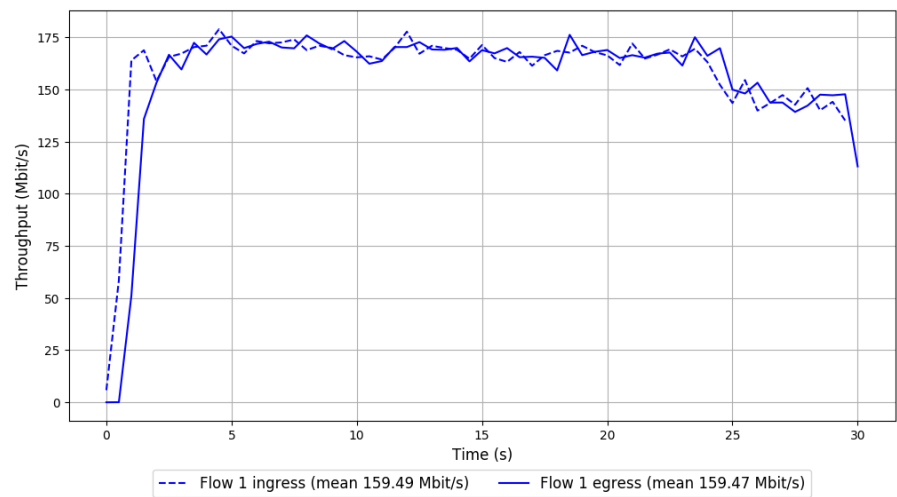
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-03 06:24:50
End at: 2019-01-03 06:25:20
Local clock offset: -0.831 ms
Remote clock offset: -44.116 ms


# Below is generated by plot.py at 2019-01-03 07:43:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 159.47 Mbit/s
95th percentile per-packet one-way delay: 139.163 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 159.47 Mbit/s
95th percentile per-packet one-way delay: 139.163 ms
Loss rate: 0.61%
```

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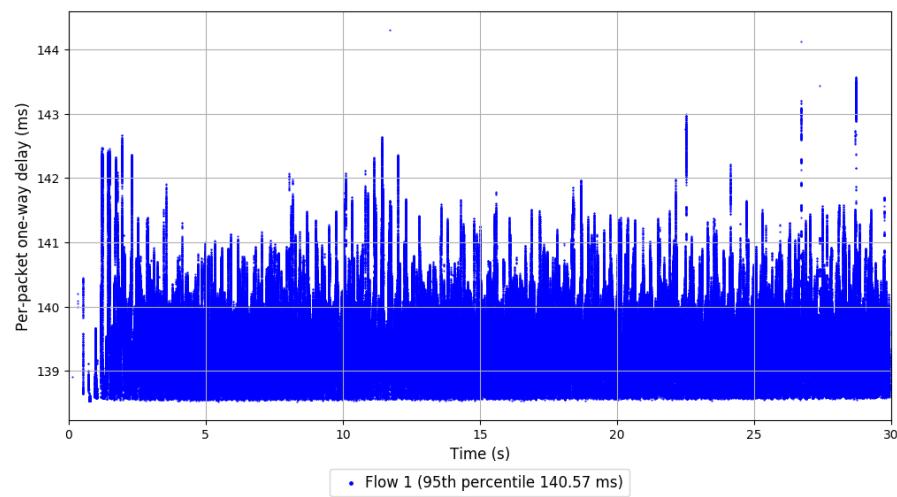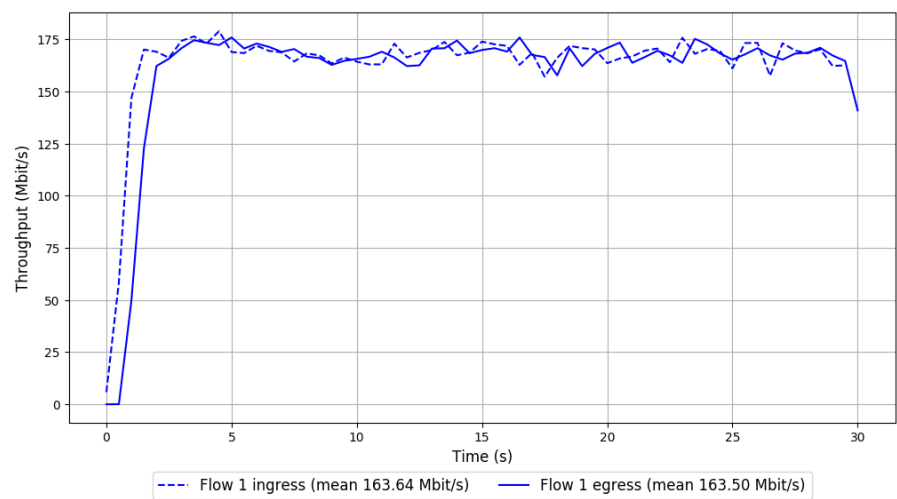

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```
Run 5: Statistics of TaoVA-100x

Start at: 2019-01-03 06:55:41
End at: 2019-01-03 06:56:11
Local clock offset: 1.894 ms
Remote clock offset: -43.567 ms


# Below is generated by plot.py at 2019-01-03 07:43:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 163.50 Mbit/s
95th percentile per-packet one-way delay: 140.571 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 163.50 Mbit/s
95th percentile per-packet one-way delay: 140.571 ms
Loss rate: 0.72%
```
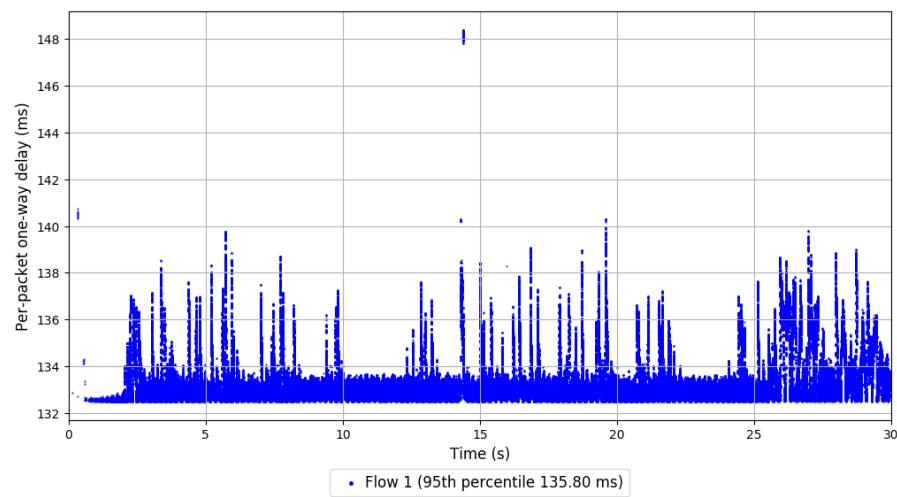
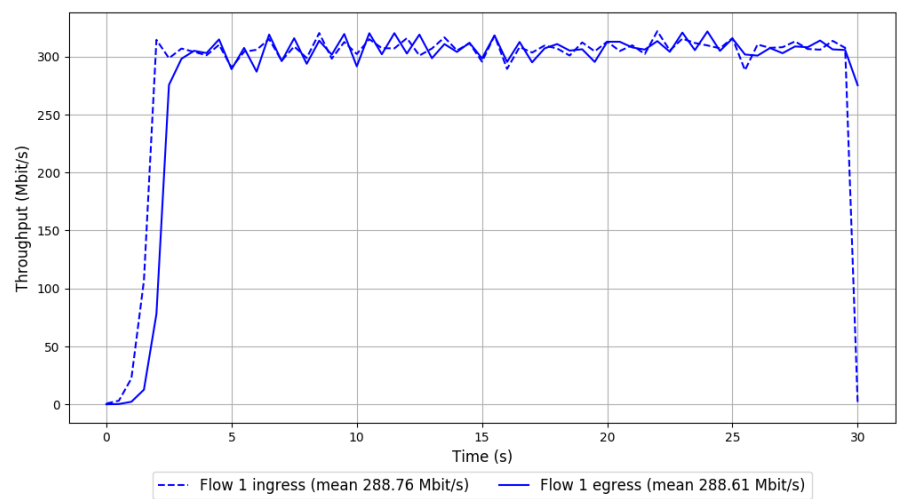# Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-03 04:55:23
End at: 2019-01-03 04:55:53
Local clock offset: -0.577 ms
Remote clock offset: -38.744 ms


# Below is generated by plot.py at 2019-01-03 07:44:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 288.61 Mbit/s
95th percentile per-packet one-way delay: 135.800 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 288.61 Mbit/s
95th percentile per-packet one-way delay: 135.800 ms
Loss rate: 0.70%
```

Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 288.76 Mbit/s)   Flow 1 egress (mean 288.61 Mbit/s)
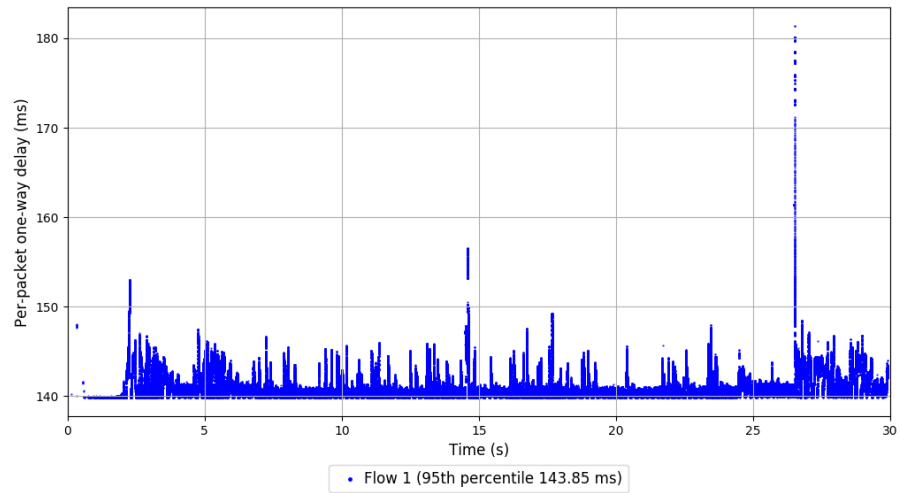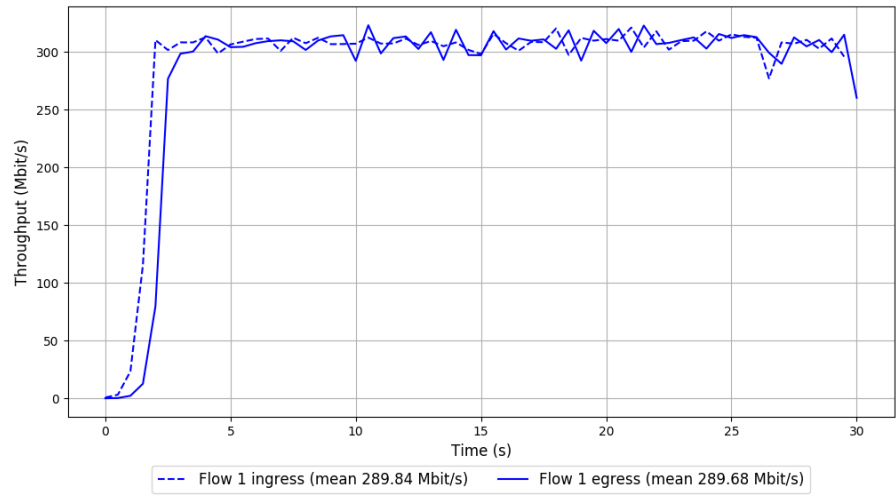

Flow 1 (95th percentile 135.80 ms)

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```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-03 05:31:22
End at: 2019-01-03 05:31:52
Local clock offset: 5.211 ms
Remote clock offset: -37.026 ms


# Below is generated by plot.py at 2019-01-03 07:44:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 289.68 Mbit/s
95th percentile per-packet one-way delay: 143.850 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 289.68 Mbit/s
95th percentile per-packet one-way delay: 143.850 ms
Loss rate: 0.70%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 289.84 Mbit/s)   Flow 1 egress (mean 289.68 Mbit/s)
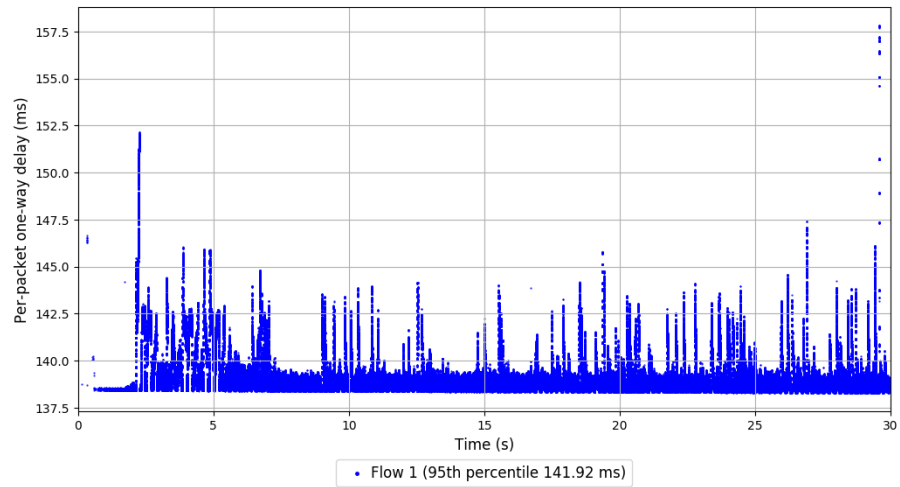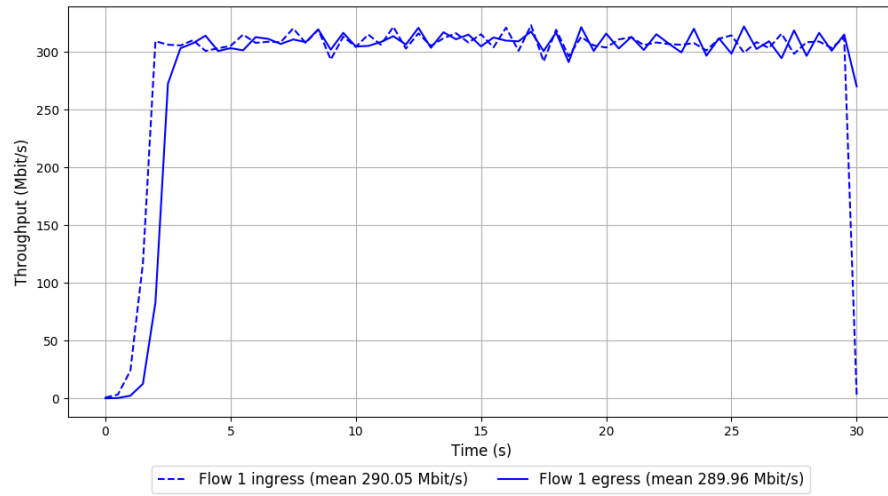

Flow 1 (95th percentile 143.85 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-03 06:02:22
End at: 2019-01-03 06:02:52
Local clock offset: 1.546 ms
Remote clock offset: -40.489 ms


# Below is generated by plot.py at 2019-01-03 07:45:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 289.96 Mbit/s
95th percentile per-packet one-way delay: 141.919 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 289.96 Mbit/s
95th percentile per-packet one-way delay: 141.919 ms
Loss rate: 0.68%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 290.05 Mbit/s) —— Flow 1 egress (mean 289.96 Mbit/s)
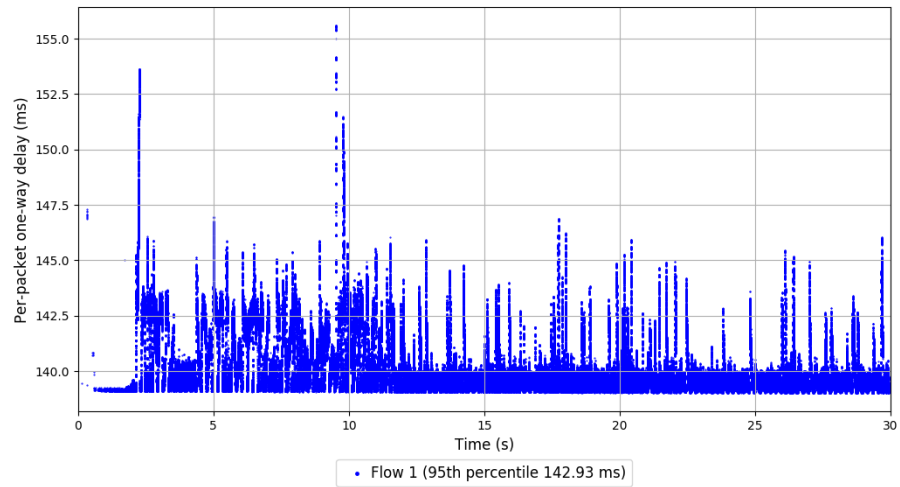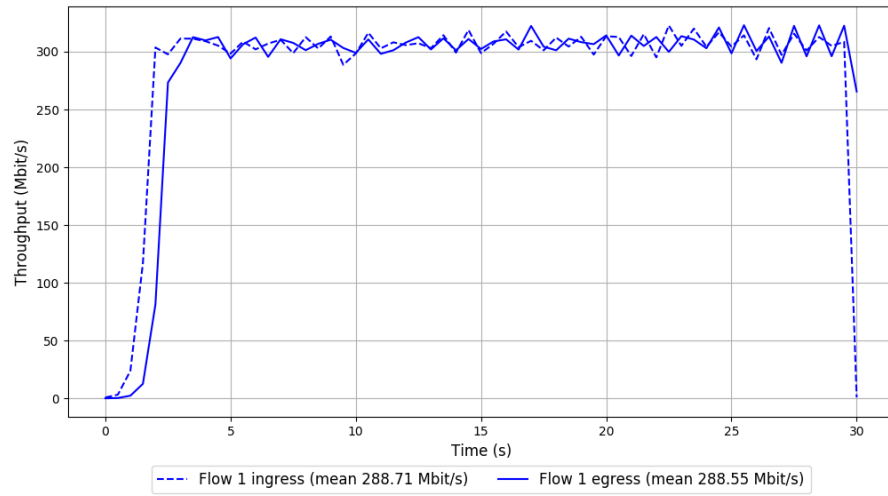

• Flow 1 (95th percentile 141.92 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-03 06:27:42
End at: 2019-01-03 06:28:12
Local clock offset: 1.587 ms
Remote clock offset: -44.157 ms


# Below is generated by plot.py at 2019-01-03 07:45:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 288.55 Mbit/s
95th percentile per-packet one-way delay: 142.933 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 288.55 Mbit/s
95th percentile per-packet one-way delay: 142.933 ms
Loss rate: 0.70%
```

Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 288.71 Mbit/s)   Flow 1 egress (mean 288.55 Mbit/s)
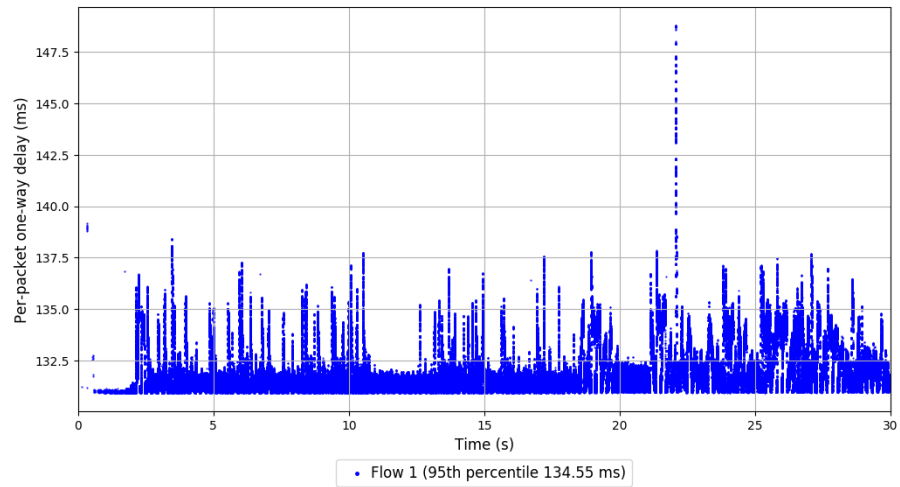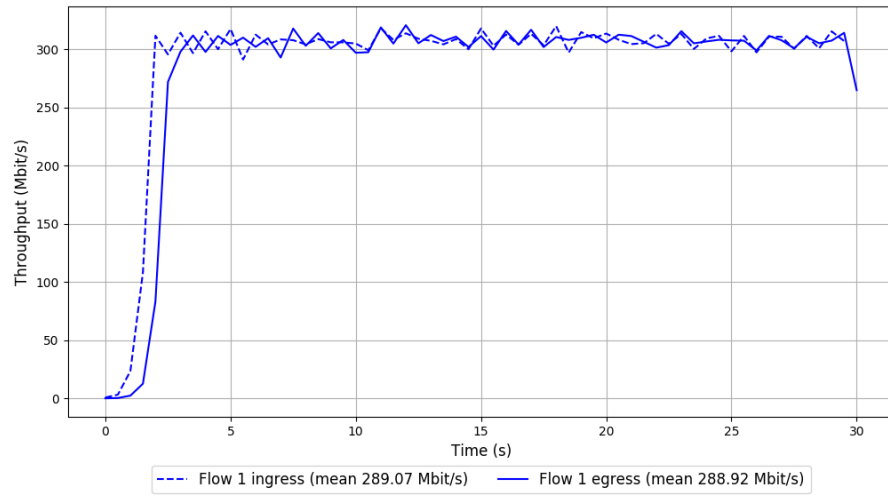

Flow 1 (95th percentile 142.93 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-03 06:58:33
End at: 2019-01-03 06:59:03
Local clock offset: -5.344 ms
Remote clock offset: -43.05 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 288.92 Mbit/s
95th percentile per-packet one-way delay: 134.551 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 288.92 Mbit/s
95th percentile per-packet one-way delay: 134.551 ms
Loss rate: 0.70%
```

Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 289.07 Mbit/s)   Flow 1 egress (mean 288.92 Mbit/s)
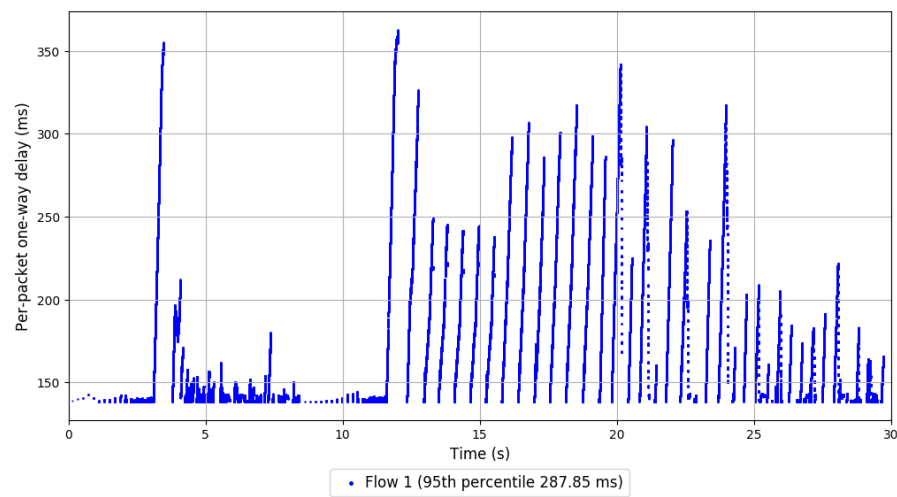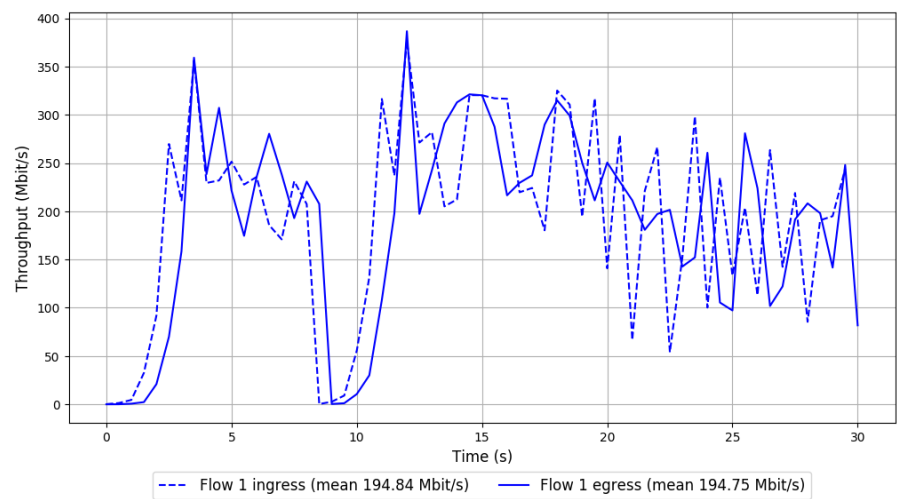

• Flow 1 (95th percentile 134.55 ms)

```
Run 1: Statistics of Verus

Start at: 2019-01-03 04:57:57
End at: 2019-01-03 04:58:27
Local clock offset: 1.843 ms
Remote clock offset: -41.109 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 194.75 Mbit/s
95th percentile per-packet one-way delay: 287.851 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 194.75 Mbit/s
95th percentile per-packet one-way delay: 287.851 ms
Loss rate: 1.42%
```
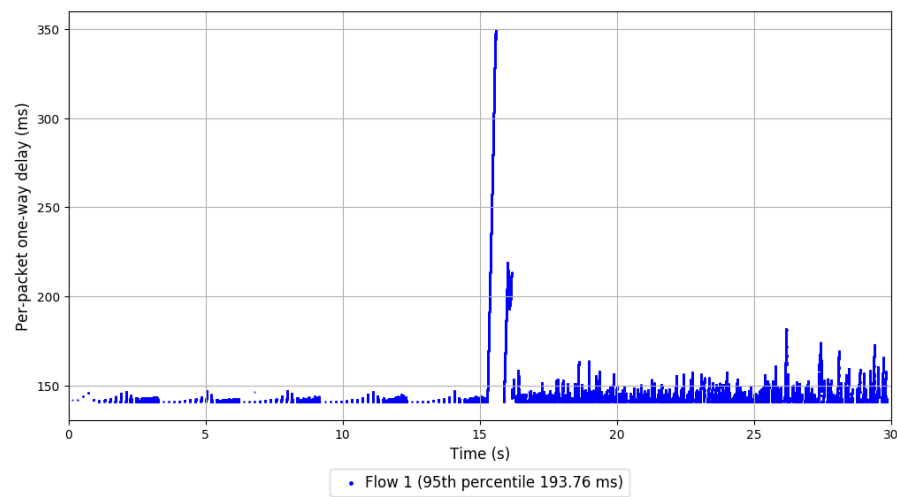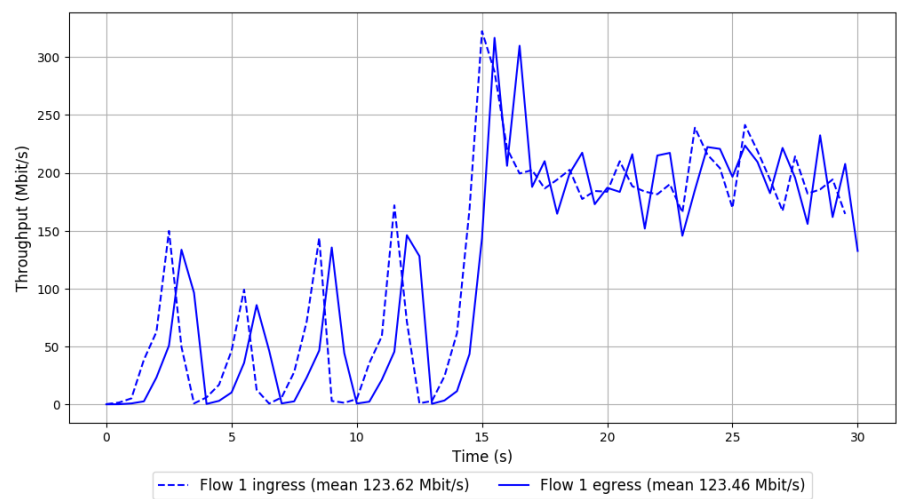
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-01-03 05:34:05
End at: 2019-01-03 05:34:35
Local clock offset: 2.901 ms
Remote clock offset: -40.289 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 123.46 Mbit/s
95th percentile per-packet one-way delay: 193.759 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 123.46 Mbit/s
95th percentile per-packet one-way delay: 193.759 ms
Loss rate: 1.05%
```
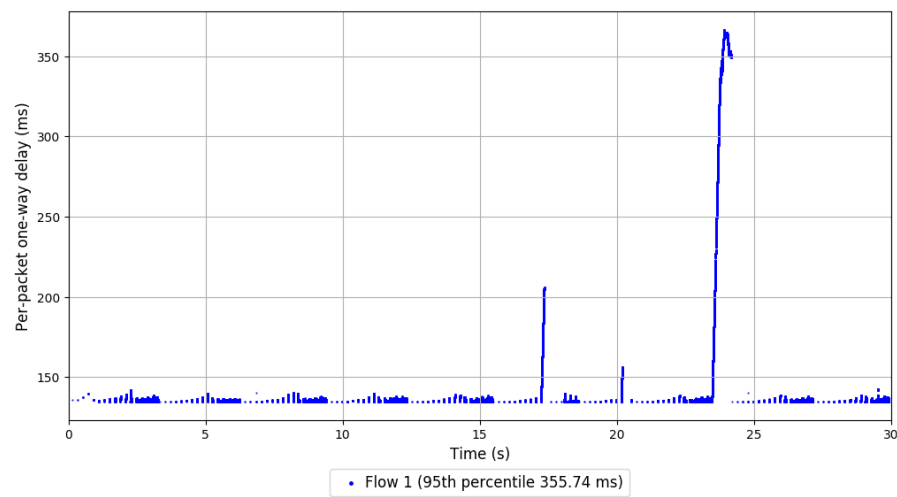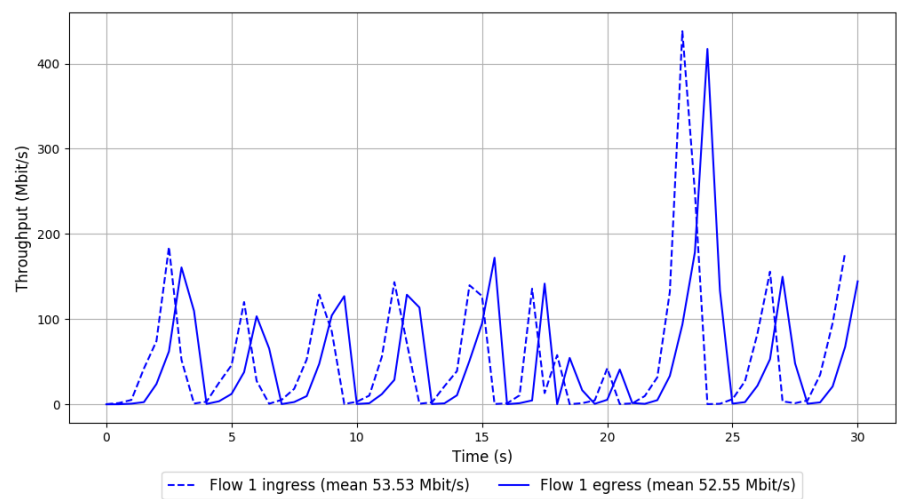
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-01-03 06:04:56
End at: 2019-01-03 06:05:26
Local clock offset: -0.161 ms
Remote clock offset: -39.279 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.55 Mbit/s
95th percentile per-packet one-way delay: 355.740 ms
Loss rate: 2.46%
-- Flow 1:
Average throughput: 52.55 Mbit/s
95th percentile per-packet one-way delay: 355.740 ms
Loss rate: 2.46%
```
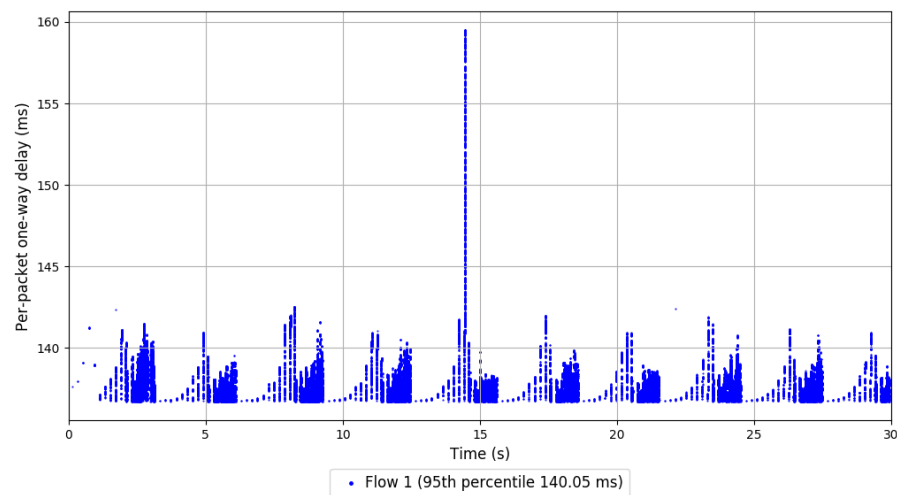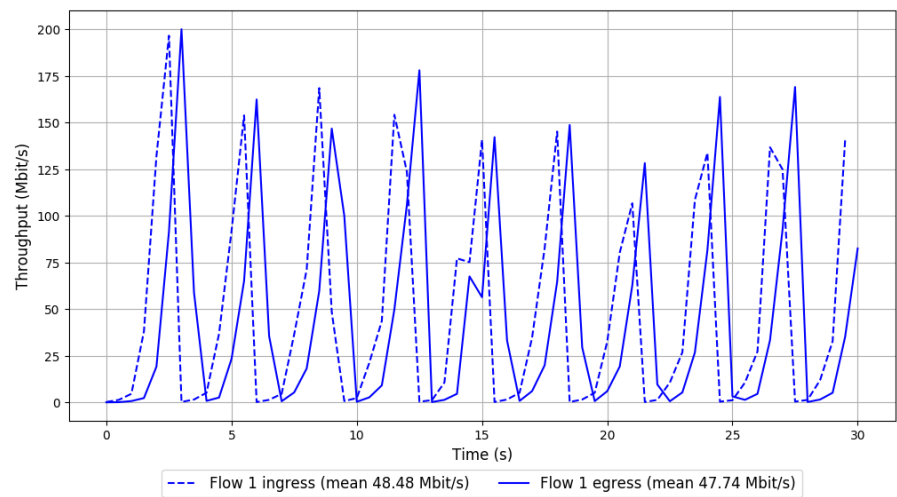
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-01-03 06:30:16
End at: 2019-01-03 06:30:46
Local clock offset: 1.497 ms
Remote clock offset: -42.15 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.74 Mbit/s
95th percentile per-packet one-way delay: 140.052 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 47.74 Mbit/s
95th percentile per-packet one-way delay: 140.052 ms
Loss rate: 2.16%
```

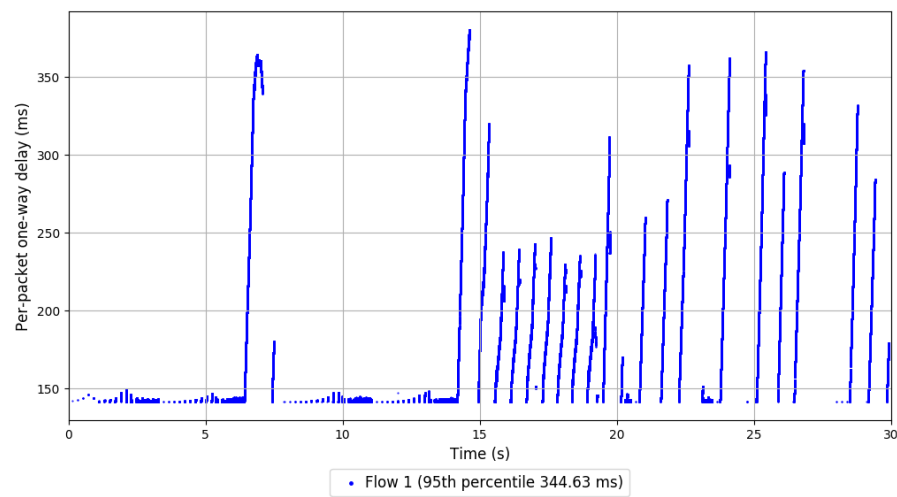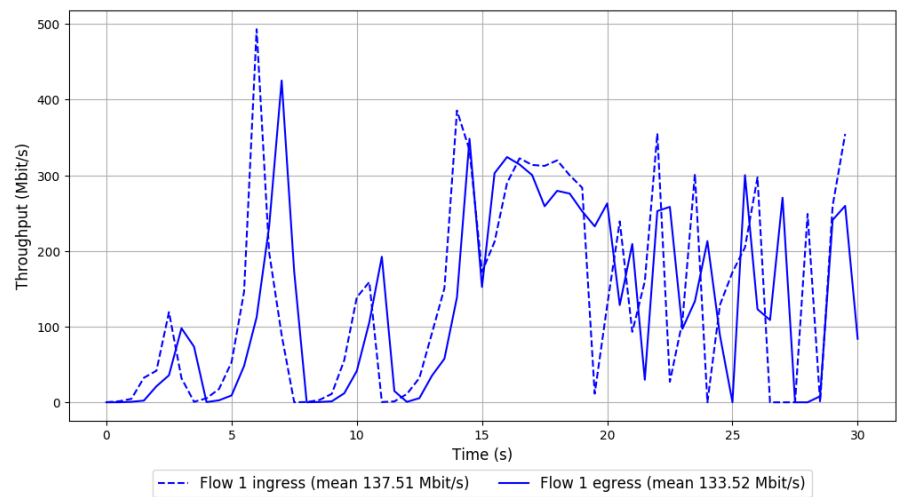Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-01-03 07:01:06
End at: 2019-01-03 07:01:36
Local clock offset: 1.294 ms
Remote clock offset: -46.756 ms


# Below is generated by plot.py at 2019-01-03 07:46:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 133.52 Mbit/s
95th percentile per-packet one-way delay: 344.635 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 133.52 Mbit/s
95th percentile per-packet one-way delay: 344.635 ms
Loss rate: 3.32%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 137.51 Mbit/s)   Flow 1 egress (mean 133.52 Mbit/s)

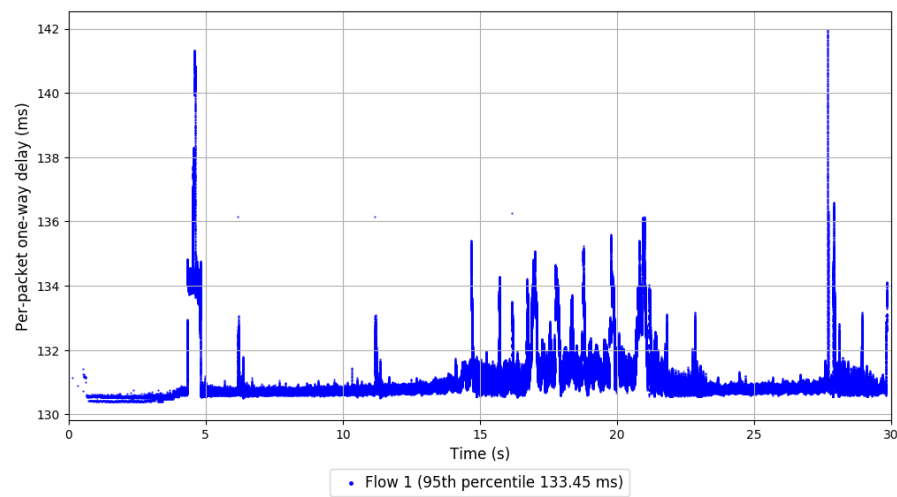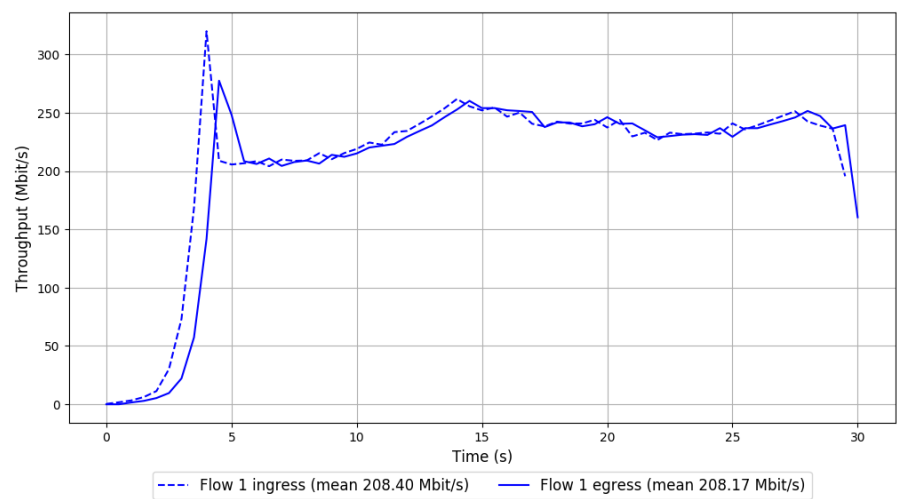Flow 1 (95th percentile 344.63 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-03 05:00:29
End at: 2019-01-03 05:00:59
Local clock offset: 0.958 ms
Remote clock offset: -33.756 ms

# Below is generated by plot.py at 2019-01-03 07:46:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 208.17 Mbit/s
95th percentile per-packet one-way delay: 133.447 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 208.17 Mbit/s
95th percentile per-packet one-way delay: 133.447 ms
Loss rate: 0.76%
```
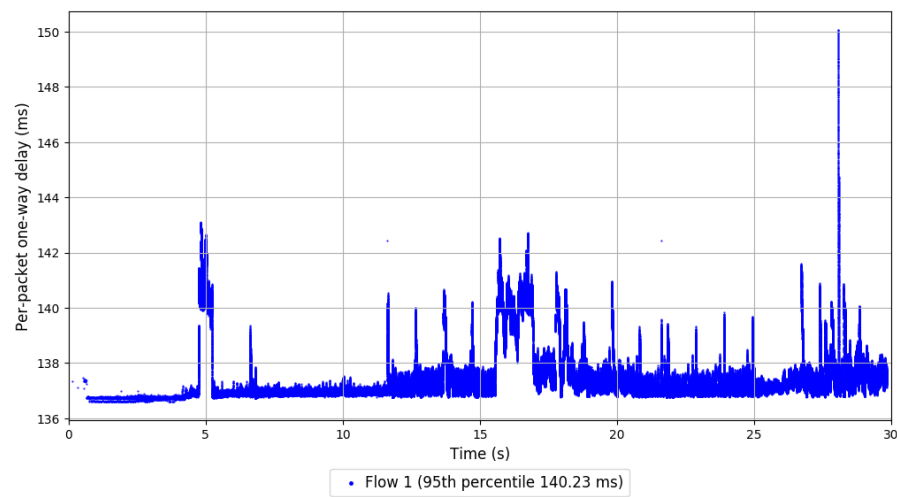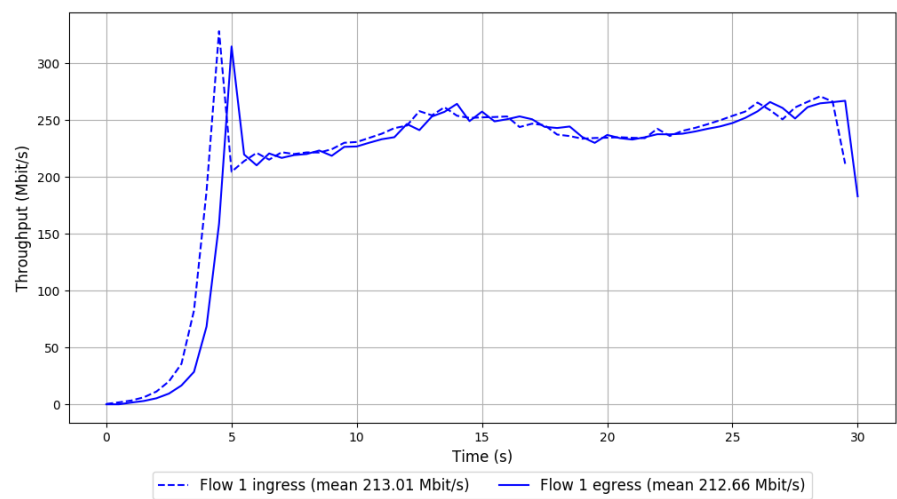
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-03 05:36:32
End at: 2019-01-03 05:37:03
Local clock offset: 3.252 ms
Remote clock offset: -35.845 ms


# Below is generated by plot.py at 2019-01-03 07:46:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 212.66 Mbit/s
95th percentile per-packet one-way delay: 140.226 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 212.66 Mbit/s
95th percentile per-packet one-way delay: 140.226 ms
Loss rate: 0.81%
```
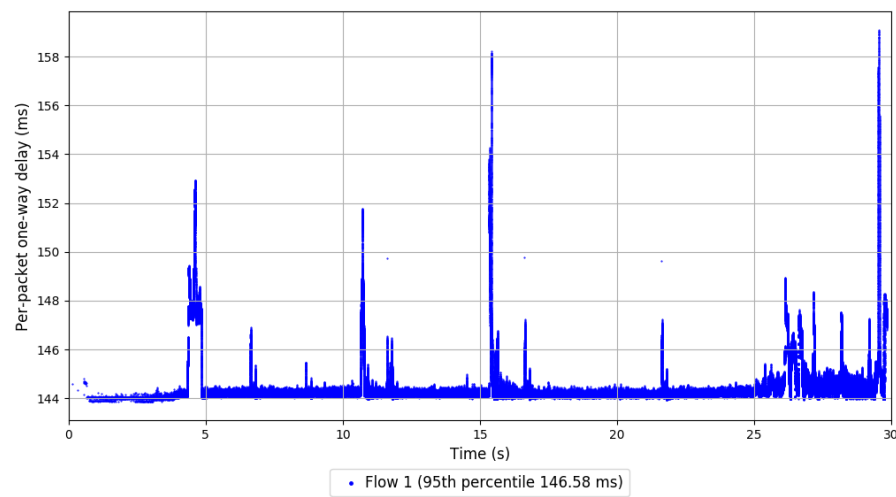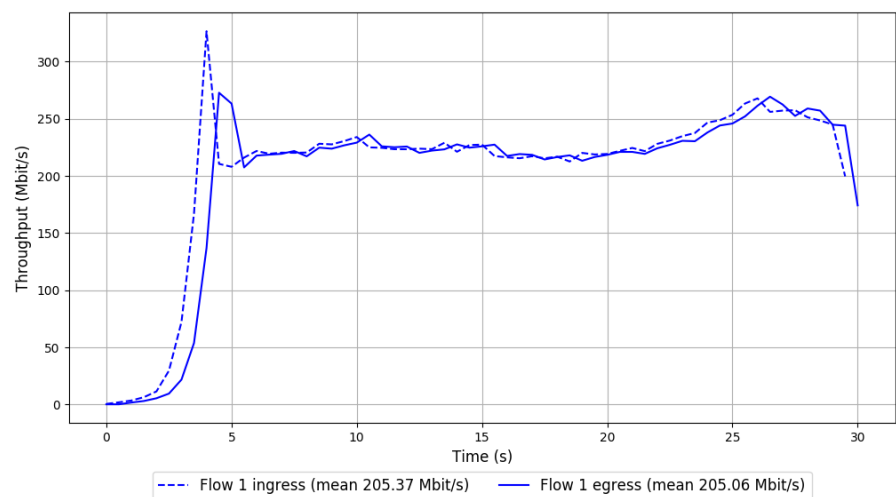
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-03 06:07:19
End at: 2019-01-03 06:07:49
Local clock offset: 2.768 ms
Remote clock offset: -47.058 ms


# Below is generated by plot.py at 2019-01-03 07:46:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 205.06 Mbit/s
95th percentile per-packet one-way delay: 146.576 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 205.06 Mbit/s
95th percentile per-packet one-way delay: 146.576 ms
Loss rate: 0.80%
```
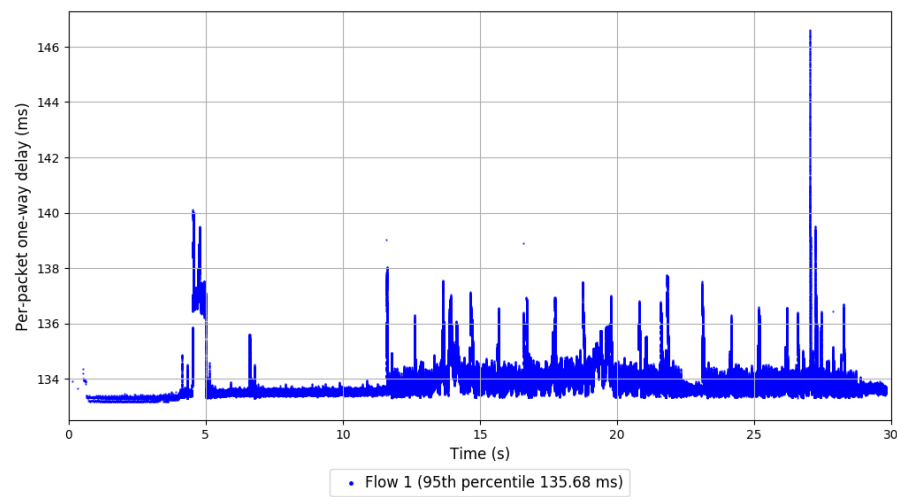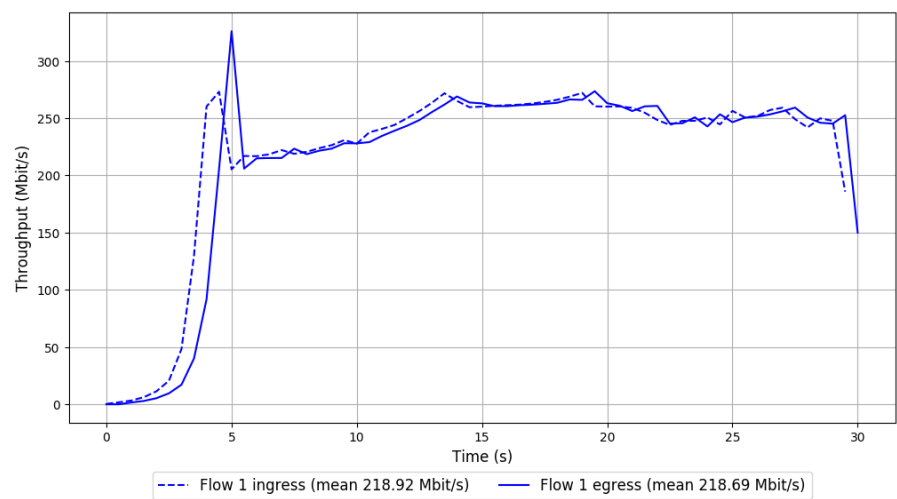
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-03 06:32:39
End at: 2019-01-03 06:33:09
Local clock offset: 2.558 ms
Remote clock offset: -37.692 ms


# Below is generated by plot.py at 2019-01-03 07:46:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.69 Mbit/s
95th percentile per-packet one-way delay: 135.678 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 218.69 Mbit/s
95th percentile per-packet one-way delay: 135.678 ms
Loss rate: 0.76%
```
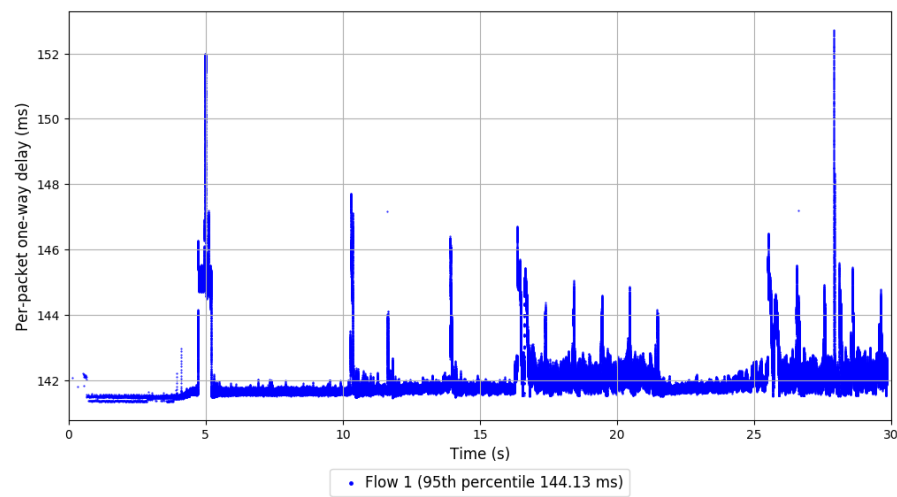
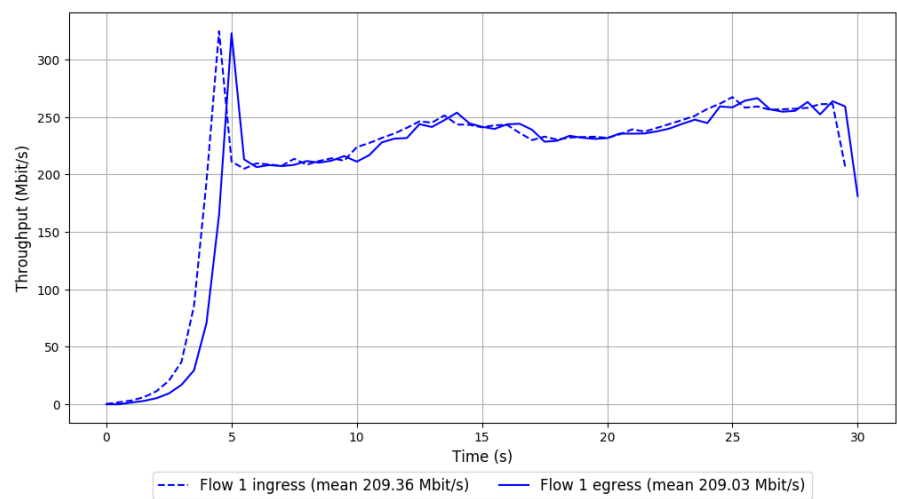Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-03 07:03:35
End at: 2019-01-03 07:04:05
Local clock offset: 2.205 ms
Remote clock offset: -46.27 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 209.03 Mbit/s
95th percentile per-packet one-way delay: 144.127 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 209.03 Mbit/s
95th percentile per-packet one-way delay: 144.127 ms
Loss rate: 0.80%
```
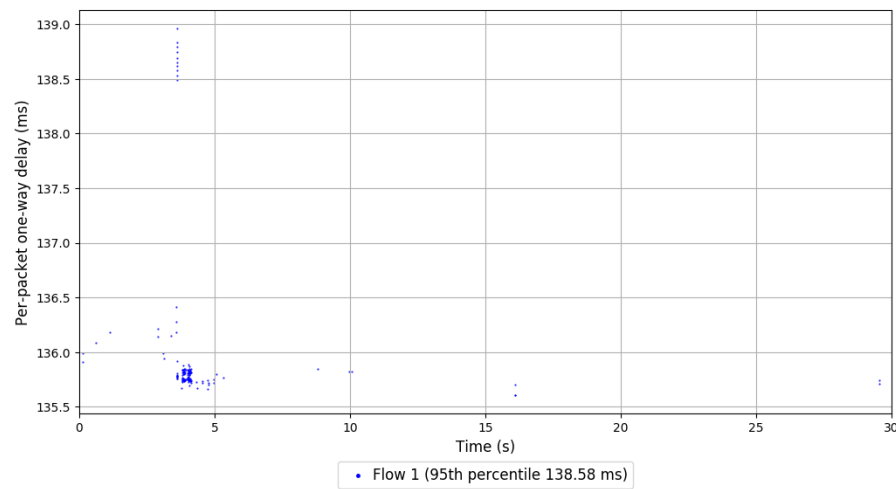
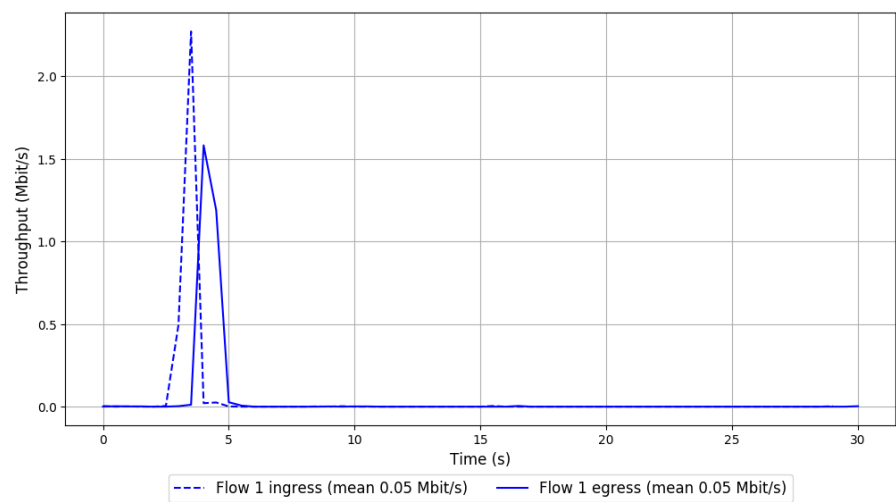Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-03 05:03:19
End at: 2019-01-03 05:03:49
Local clock offset: 2.05 ms
Remote clock offset: -37.736 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 138.582 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 138.582 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-01-03 05:39:21
End at: 2019-01-03 05:39:51
Local clock offset: 2.8 ms
Remote clock offset: -35.176 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 138.791 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 138.791 ms
Loss rate: 0.00%
```
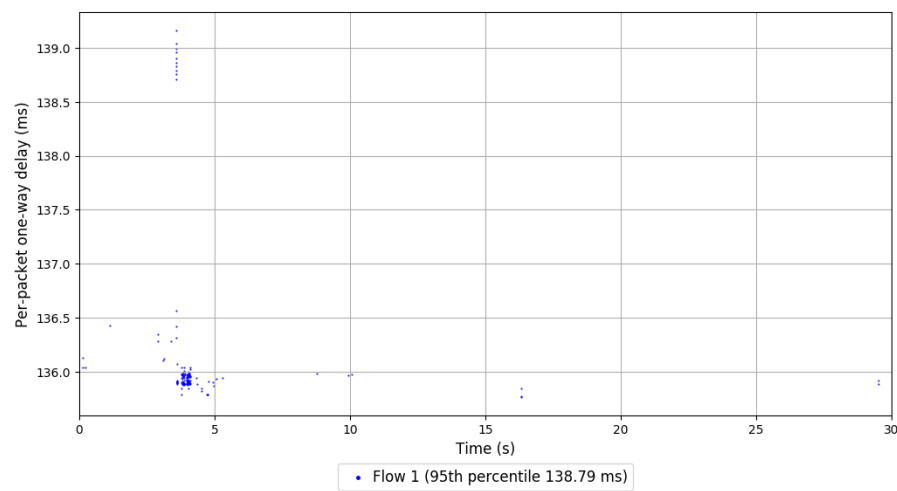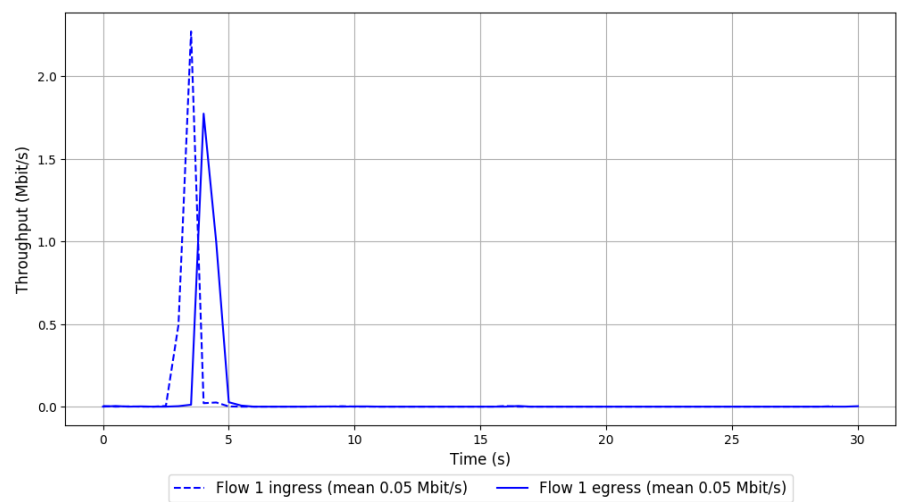
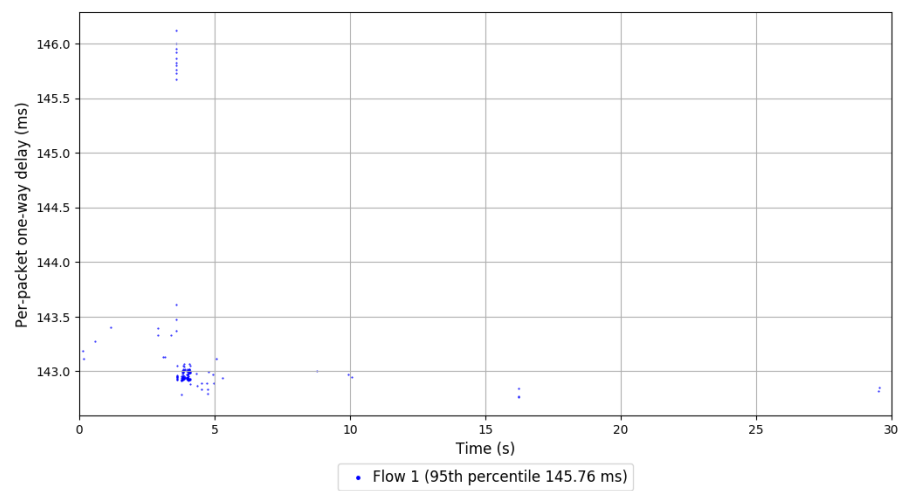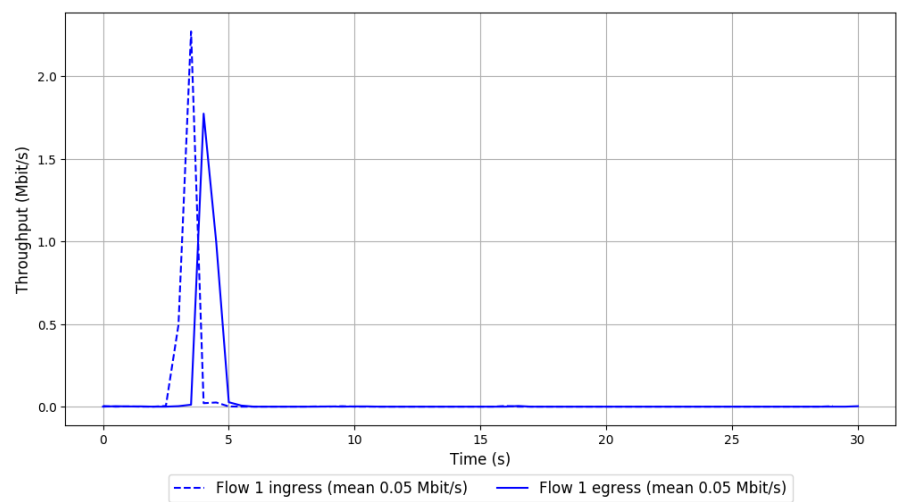Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-03 06:10:08
End at: 2019-01-03 06:10:38
Local clock offset: 1.976 ms
Remote clock offset: -45.993 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 145.760 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 145.760 ms
Loss rate: 0.00%
```

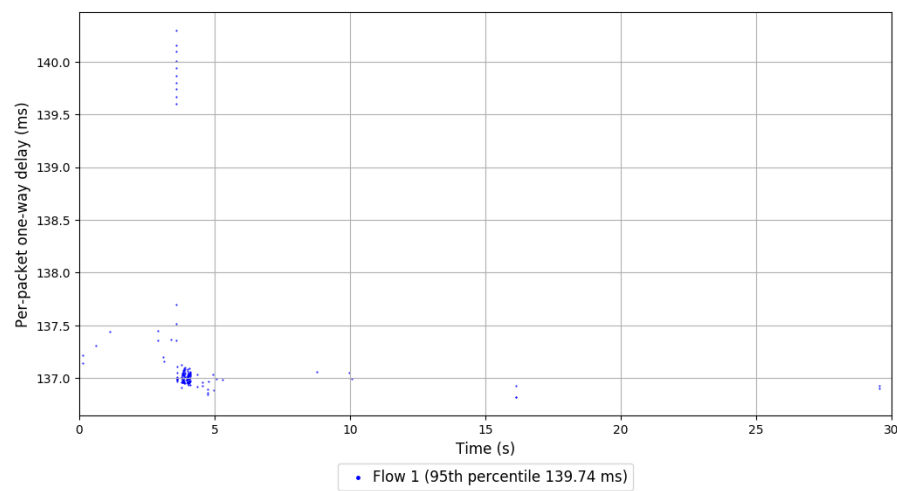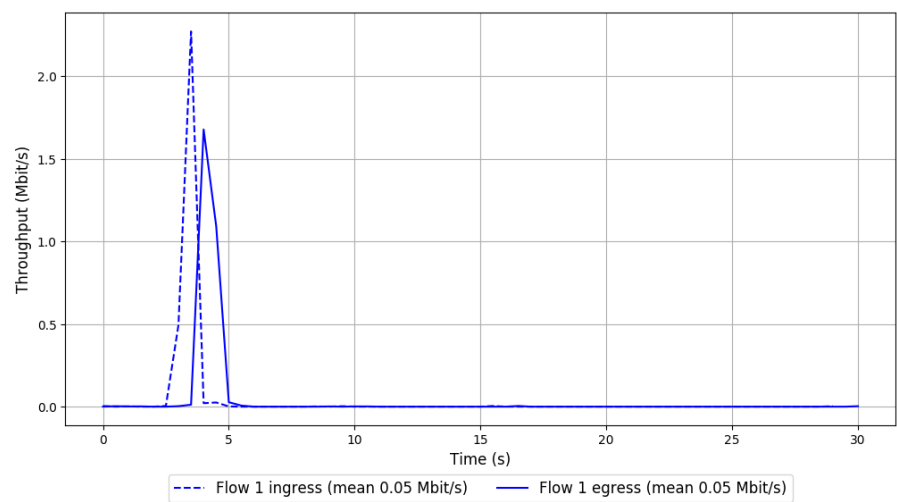Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-03 06:35:28
End at: 2019-01-03 06:35:58
Local clock offset: 3.321 ms
Remote clock offset: -41.611 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 139.740 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 139.740 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-03 07:06:22
End at: 2019-01-03 07:06:52
Local clock offset: 3.269 ms
Remote clock offset: -48.433 ms


# Below is generated by plot.py at 2019-01-03 07:46:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 147.935 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 147.935 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link