

Pantheon Report

Generated at 2018-12-02 02:58:20 (UTC).

Data path: AWS India 2 on `ens5` (*local*) → Stanford on `eno1` (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

System info:

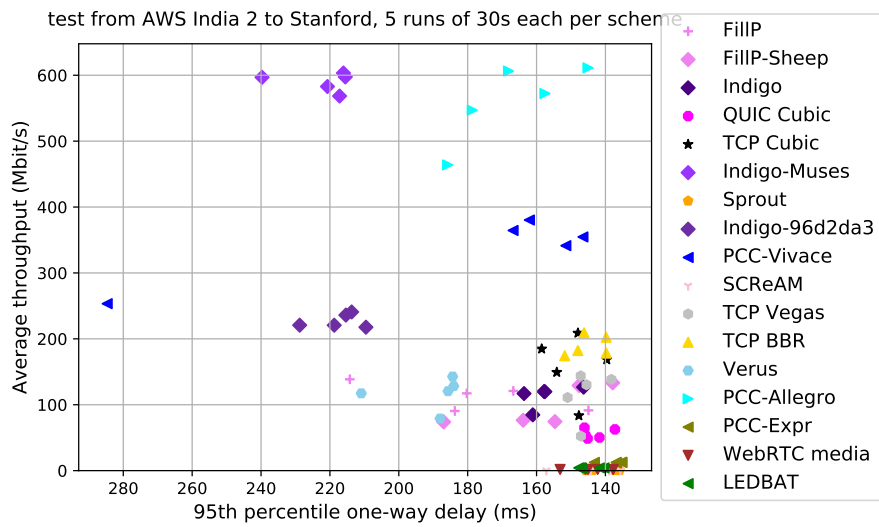
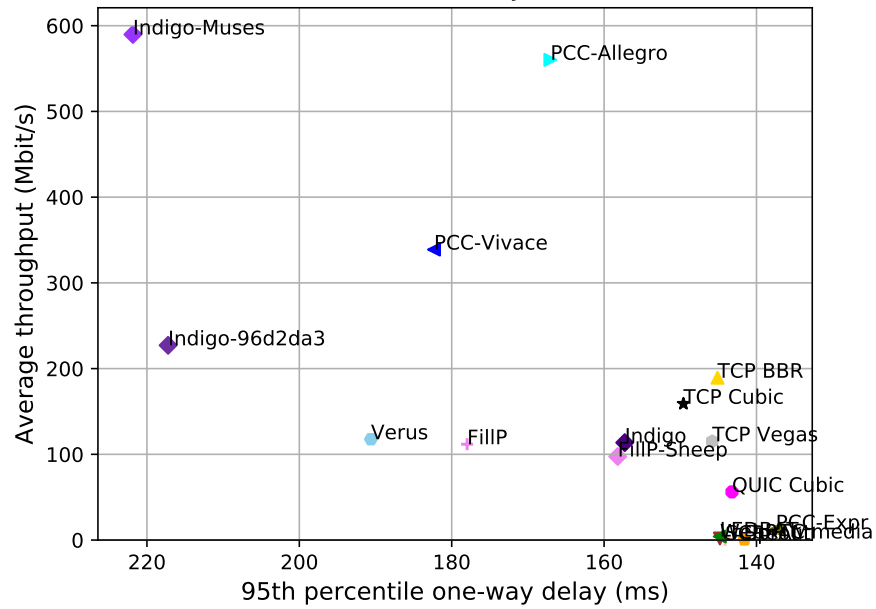
```
Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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-quick @ 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 AWS India 2 to Stanford, 5 runs of 30s each per scheme
(mean of all runs by 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	189.34	145.11	0.02
Copa	0	N/A	N/A	N/A
TCP Cubic	5	158.95	149.59	0.04
FillP	5	111.76	177.98	3.95
FillP-Sheep	5	97.47	158.21	2.66
Indigo	5	113.64	157.29	0.04
Indigo-96d2da3	5	227.18	217.22	15.55
LEDBAT	5	4.15	144.83	0.00
Indigo-Muses	5	589.80	221.84	1.82
PCC-Allegro	5	560.19	167.05	2.41
PCC-Expr	5	12.45	137.48	30.87
QUIC Cubic	5	56.18	143.22	0.01
SCReAM	5	0.22	144.11	0.00
Sprout	5	0.39	141.58	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	115.16	145.81	0.02
Verus	5	117.59	190.60	11.30
PCC-Vivace	5	338.83	182.33	0.55
WebRTC media	5	1.80	144.80	0.01

Run 1: Statistics of TCP BBR

Start at: 2018-12-02 00:44:03

End at: 2018-12-02 00:44:33

Local clock offset: 4.748 ms

Remote clock offset: -0.495 ms

Below is generated by plot.py at 2018-12-02 02:40:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 209.25 Mbit/s

95th percentile per-packet one-way delay: 146.208 ms

Loss rate: 0.04%

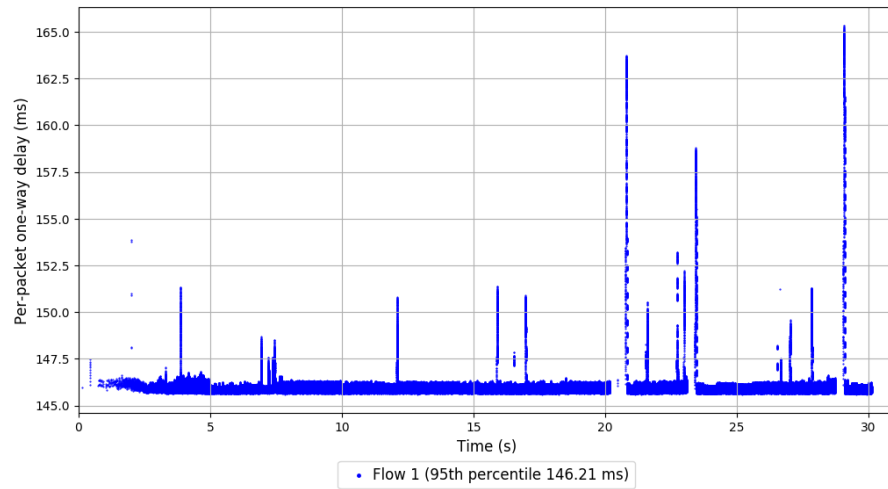
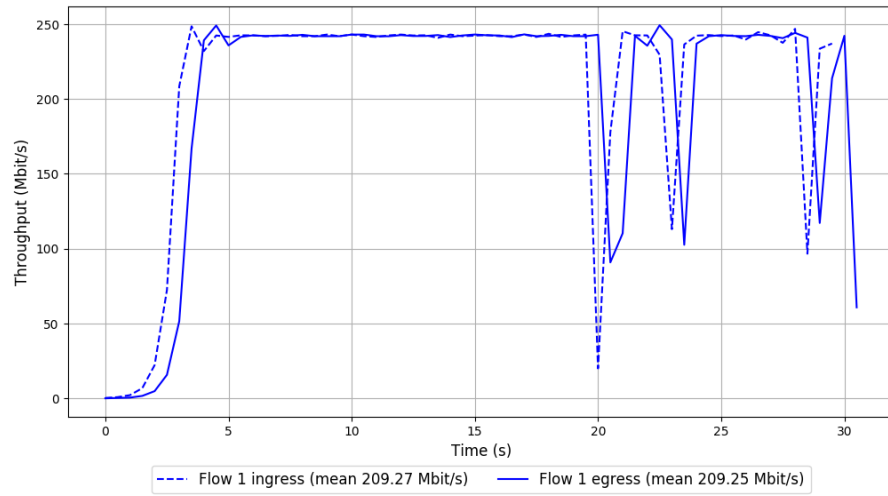
-- Flow 1:

Average throughput: 209.25 Mbit/s

95th percentile per-packet one-way delay: 146.208 ms

Loss rate: 0.04%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-02 01:11:23

End at: 2018-12-02 01:11:53

Local clock offset: 7.107 ms

Remote clock offset: 1.864 ms

Below is generated by plot.py at 2018-12-02 02:40:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 174.29 Mbit/s

95th percentile per-packet one-way delay: 151.822 ms

Loss rate: 0.01%

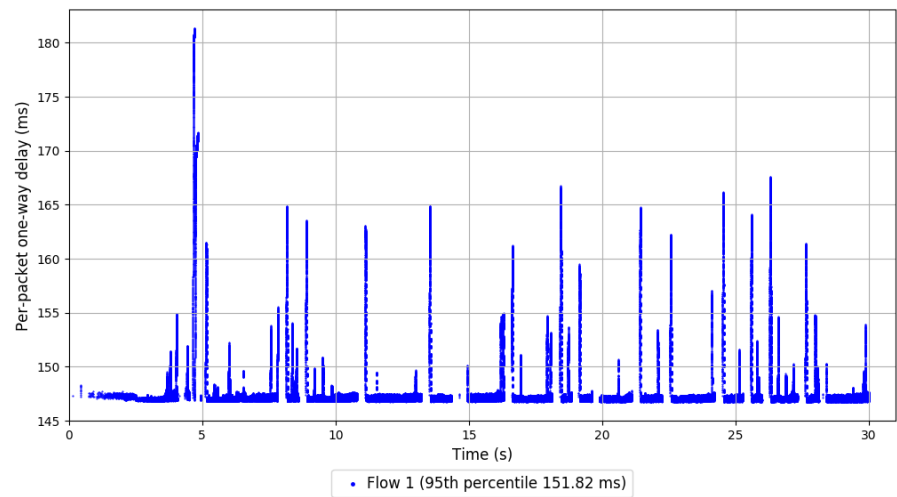
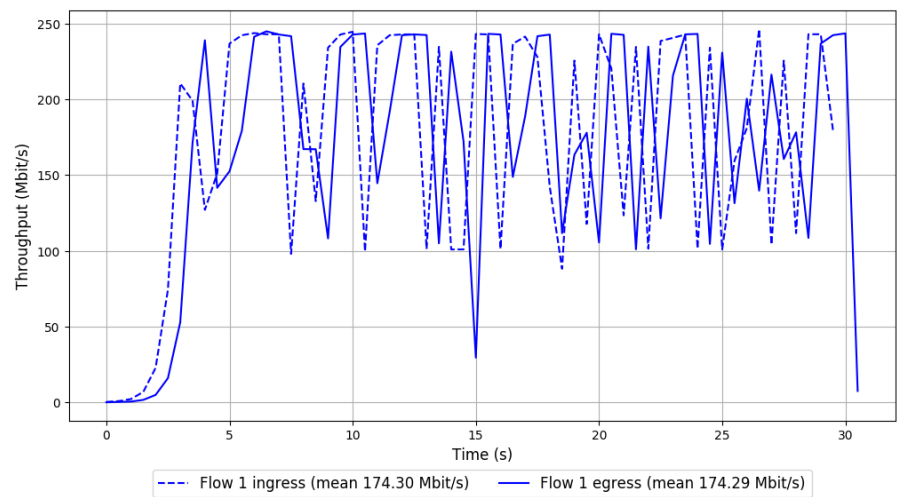
-- Flow 1:

Average throughput: 174.29 Mbit/s

95th percentile per-packet one-way delay: 151.822 ms

Loss rate: 0.01%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-12-02 01:38:34

End at: 2018-12-02 01:39:04

Local clock offset: 7.472 ms

Remote clock offset: 3.059 ms

Below is generated by plot.py at 2018-12-02 02:40:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 202.47 Mbit/s

95th percentile per-packet one-way delay: 139.782 ms

Loss rate: 0.01%

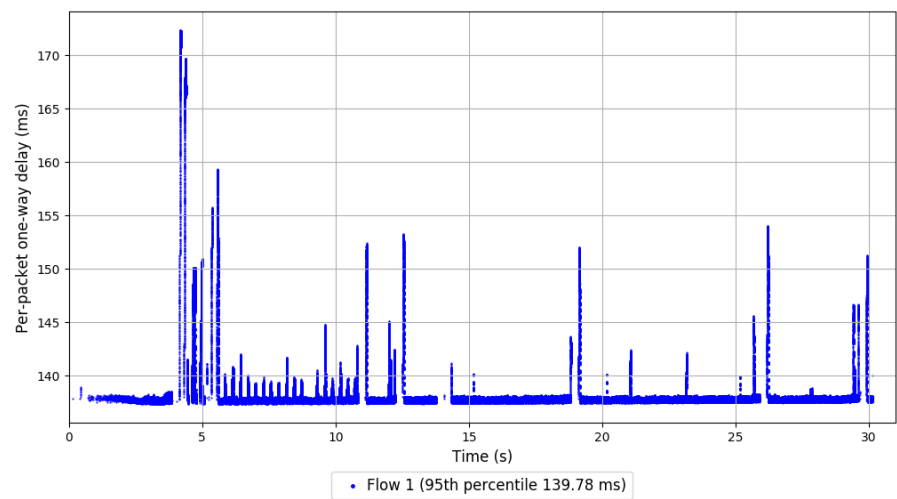
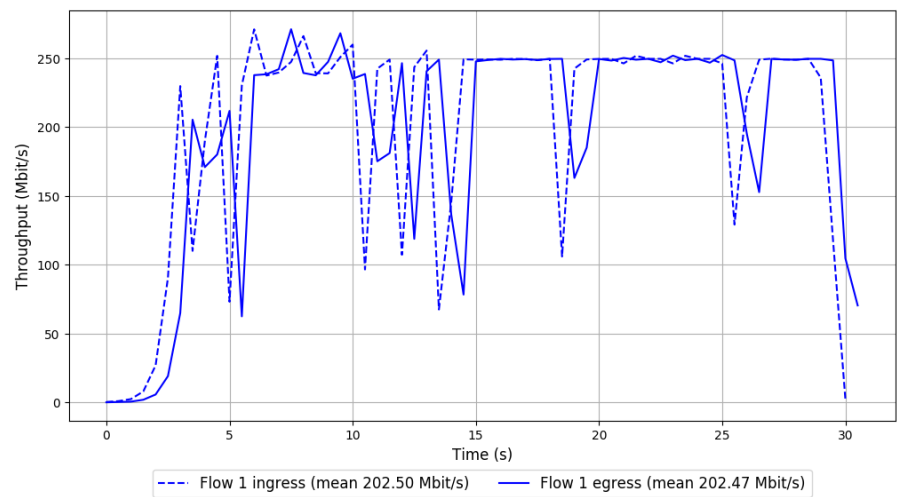
-- Flow 1:

Average throughput: 202.47 Mbit/s

95th percentile per-packet one-way delay: 139.782 ms

Loss rate: 0.01%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-12-02 02:05:50

End at: 2018-12-02 02:06:20

Local clock offset: 8.154 ms

Remote clock offset: -0.735 ms

Below is generated by plot.py at 2018-12-02 02:40:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 182.29 Mbit/s

95th percentile per-packet one-way delay: 148.000 ms

Loss rate: 0.05%

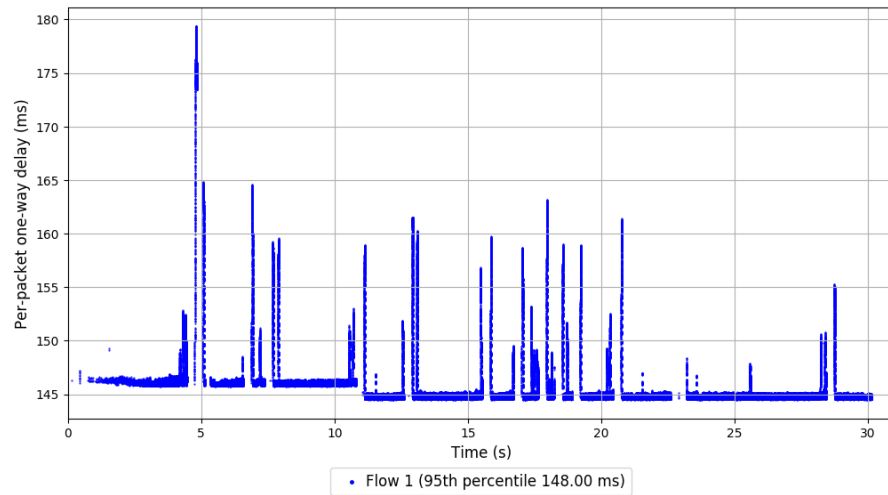
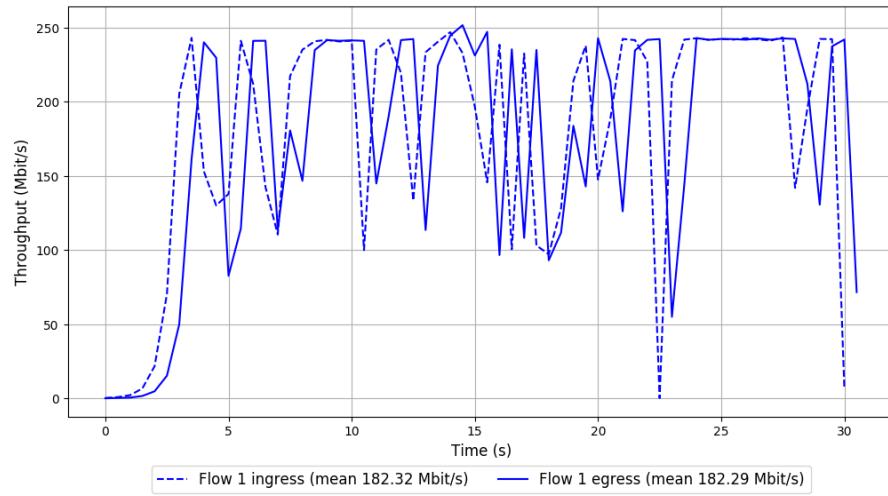
-- Flow 1:

Average throughput: 182.29 Mbit/s

95th percentile per-packet one-way delay: 148.000 ms

Loss rate: 0.05%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-12-02 02:32:55

End at: 2018-12-02 02:33:25

Local clock offset: 6.237 ms

Remote clock offset: -0.523 ms

Below is generated by plot.py at 2018-12-02 02:40:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 178.39 Mbit/s

95th percentile per-packet one-way delay: 139.753 ms

Loss rate: 0.01%

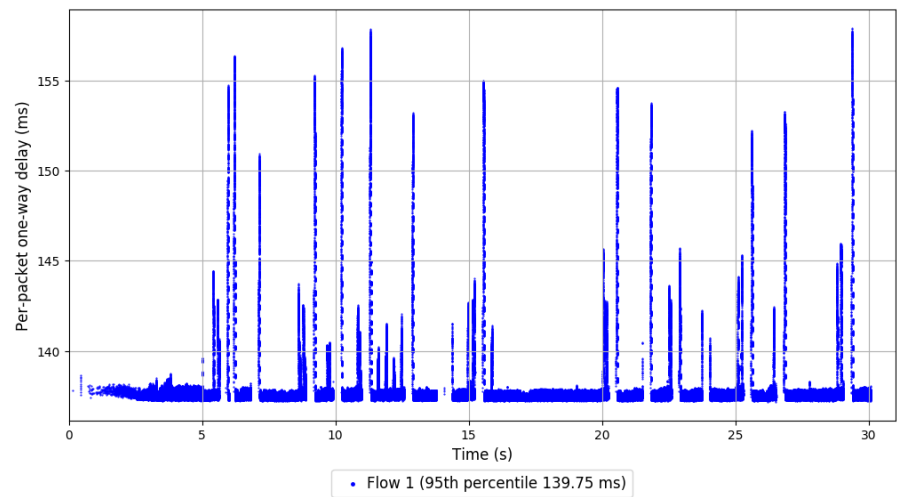
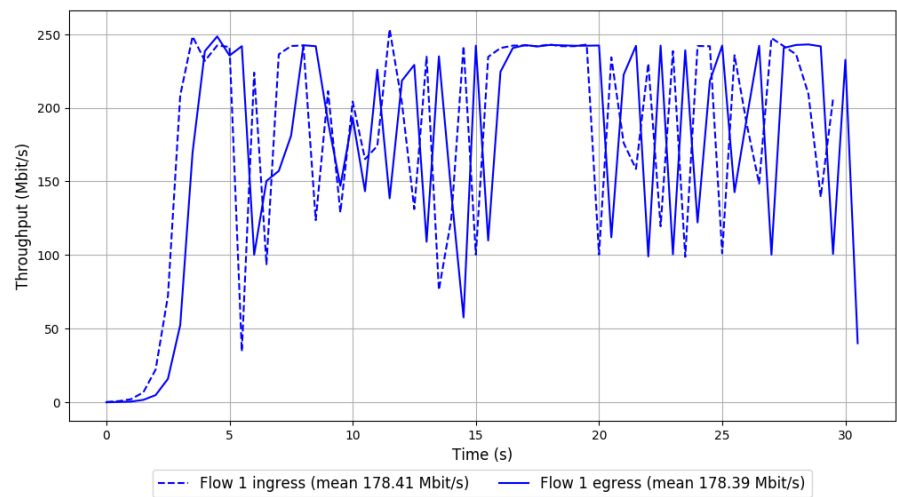
-- Flow 1:

Average throughput: 178.39 Mbit/s

95th percentile per-packet one-way delay: 139.753 ms

Loss rate: 0.01%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

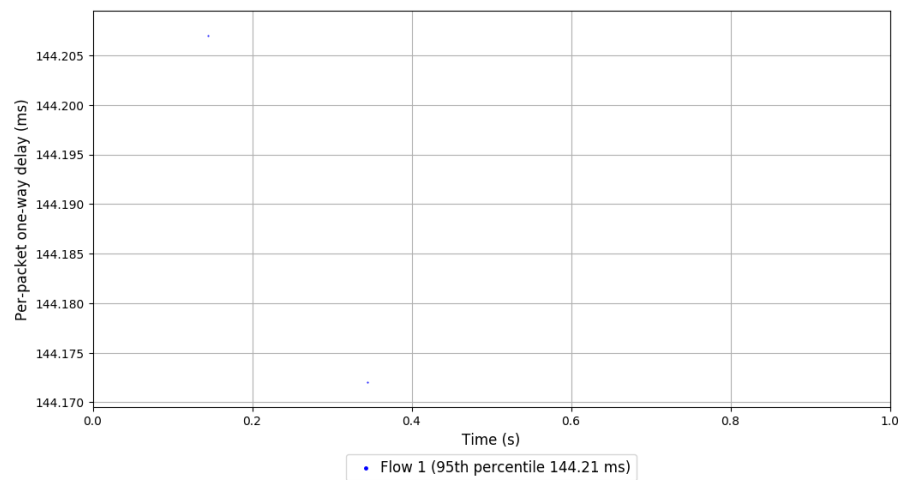
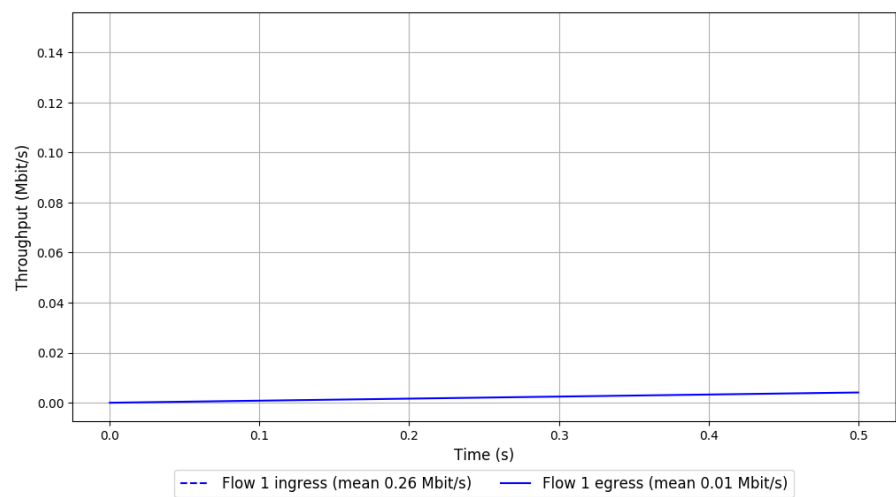
Start at: 2018-12-02 00:24:01

End at: 2018-12-02 00:24:31

Local clock offset: -2.901 ms

Remote clock offset: -0.922 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

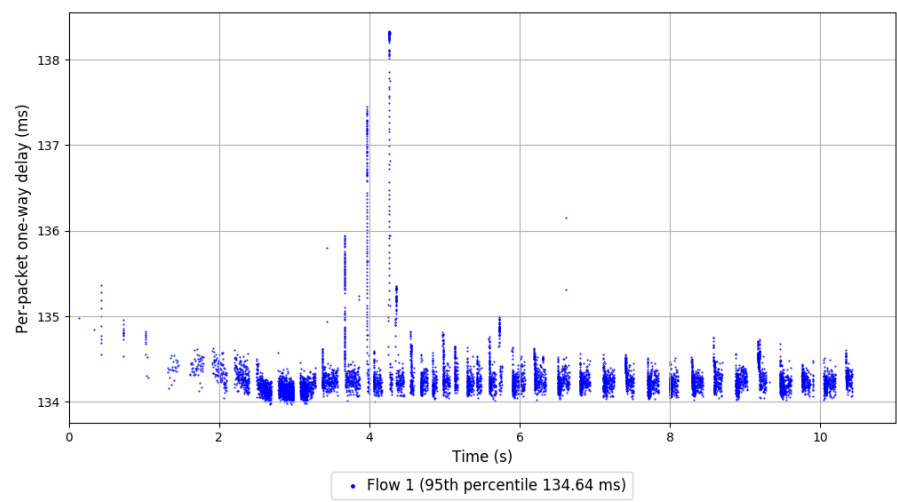
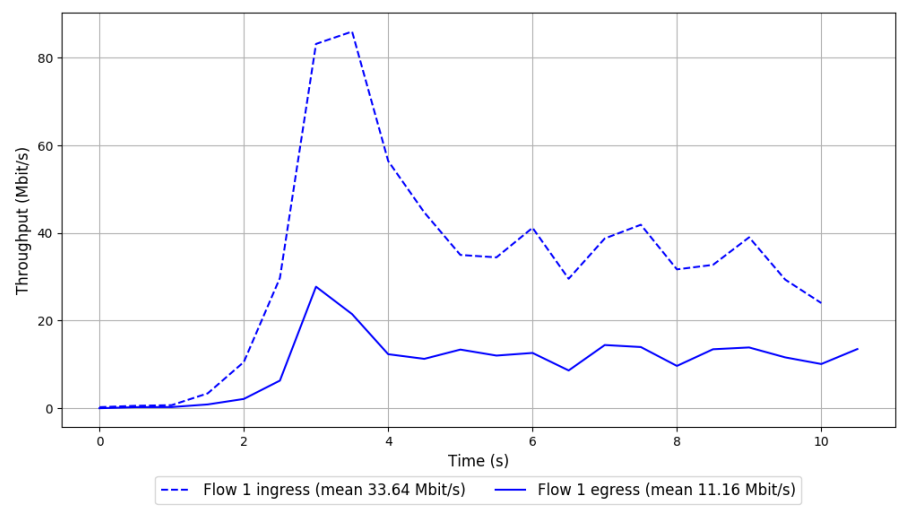
Start at: 2018-12-02 00:51:14

End at: 2018-12-02 00:51:44

Local clock offset: 6.555 ms

Remote clock offset: -0.605 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

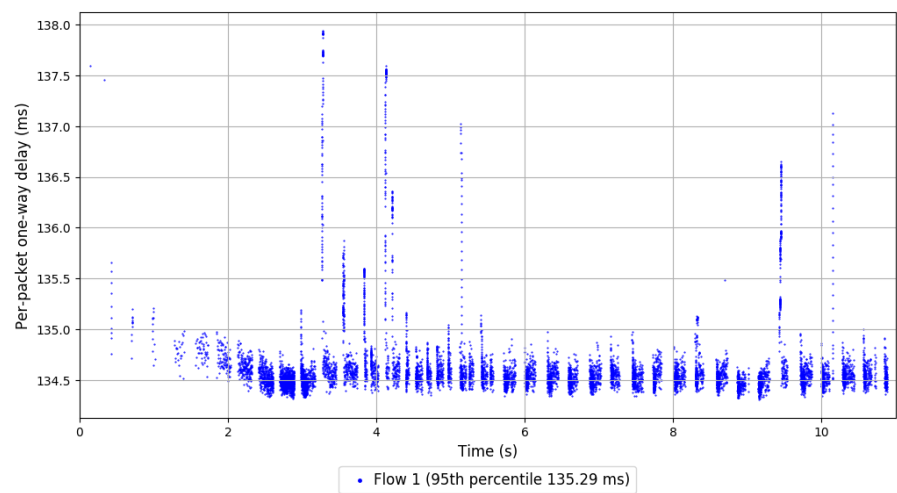
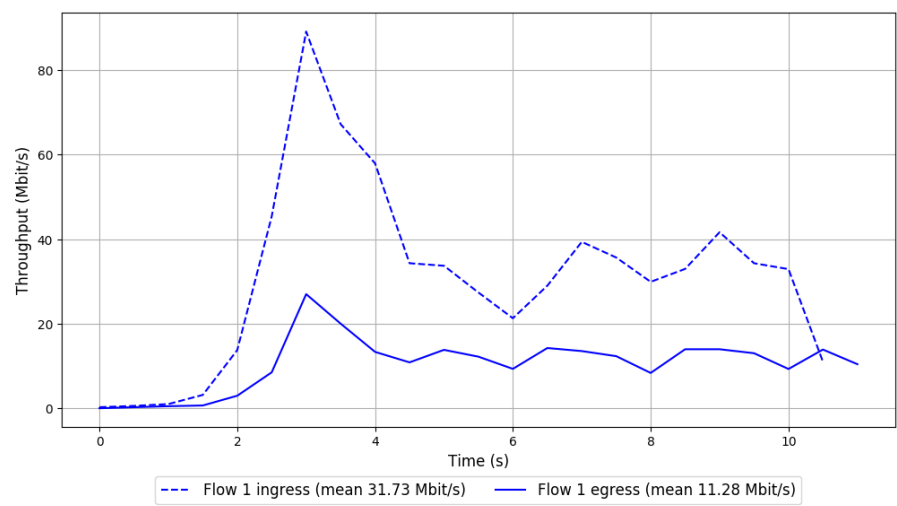
Start at: 2018-12-02 01:18:34

End at: 2018-12-02 01:19:04

Local clock offset: 7.41 ms

Remote clock offset: 2.863 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

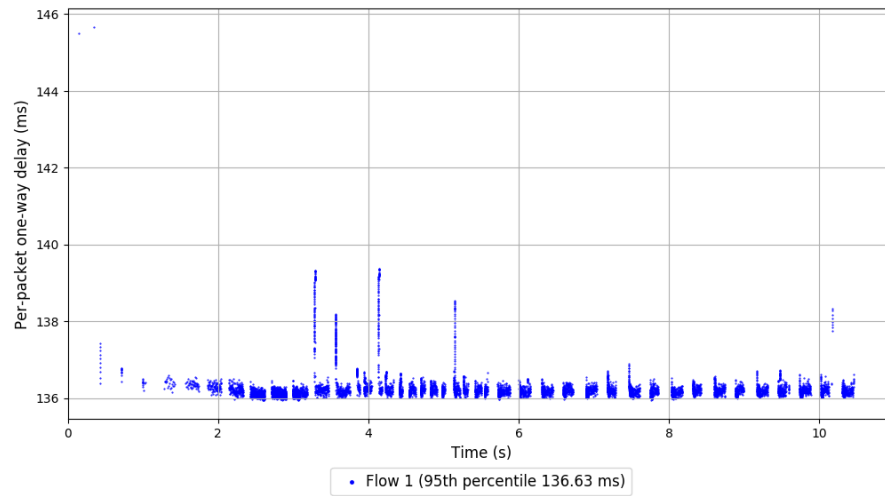
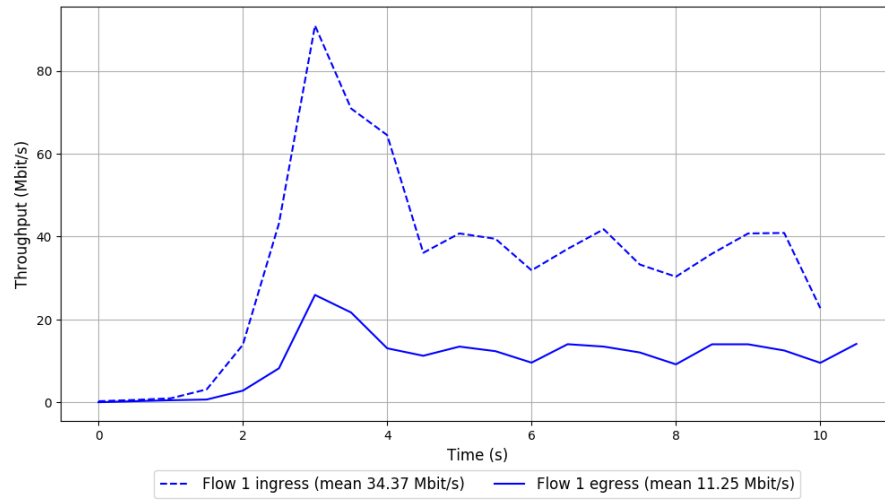
Start at: 2018-12-02 01:45:45

End at: 2018-12-02 01:46:15

Local clock offset: 7.739 ms

Remote clock offset: 1.115 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

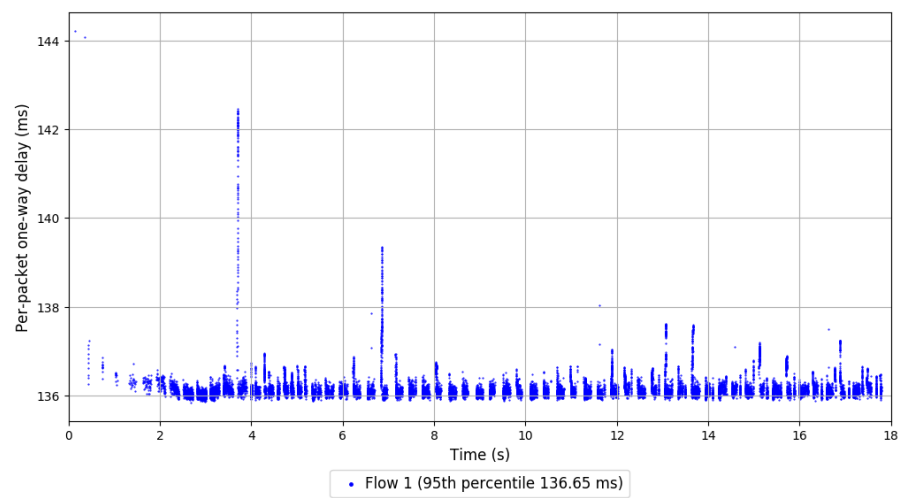
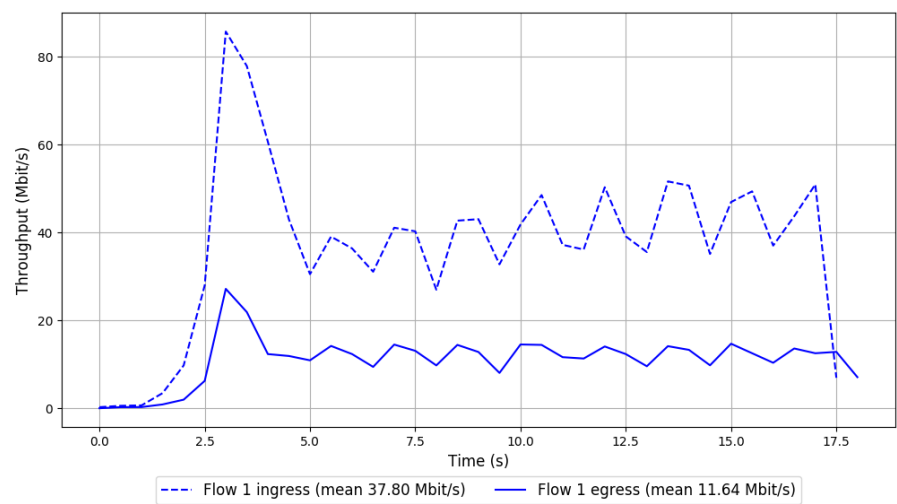
Start at: 2018-12-02 02:12:54

End at: 2018-12-02 02:13:24

Local clock offset: 7.258 ms

Remote clock offset: -0.85 ms

Run 5: Report of Copa — Data Link

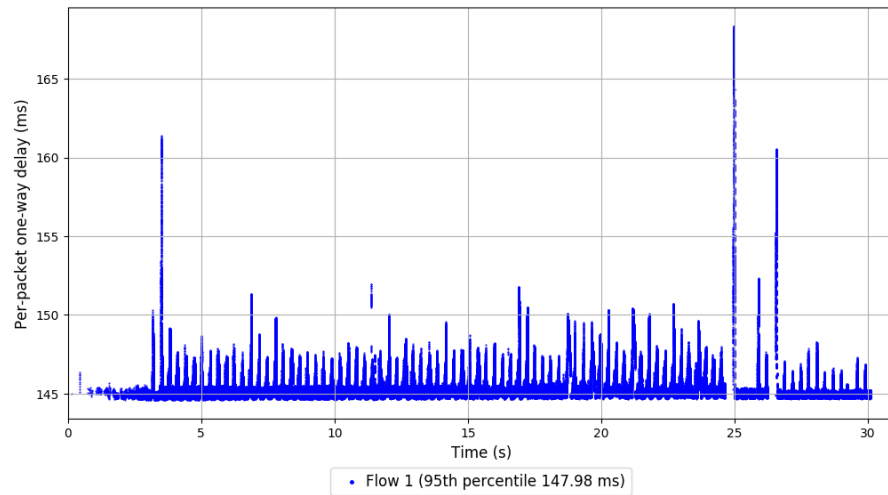
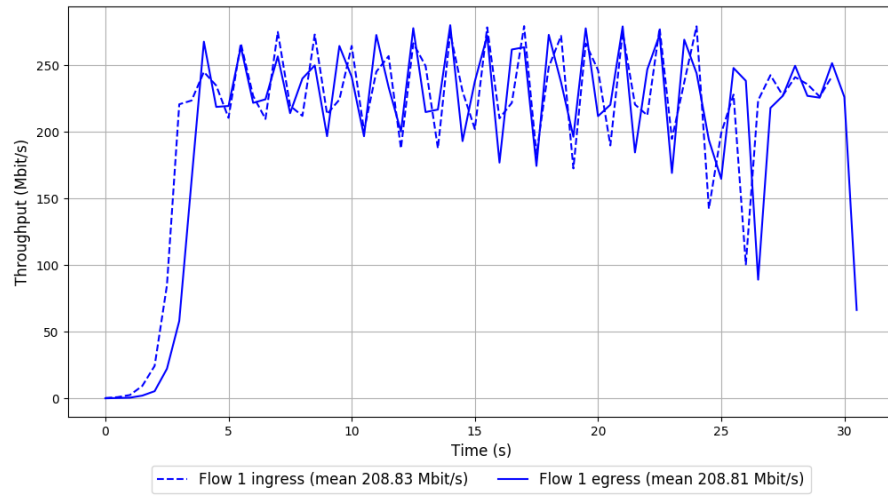


Run 1: Statistics of TCP Cubic

Start at: 2018-12-02 00:19:47
End at: 2018-12-02 00:20:17
Local clock offset: 4.541 ms
Remote clock offset: -0.643 ms

Below is generated by plot.py at 2018-12-02 02:40:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 208.81 Mbit/s
95th percentile per-packet one-way delay: 147.984 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 208.81 Mbit/s
95th percentile per-packet one-way delay: 147.984 ms
Loss rate: 0.04%

Run 1: Report of TCP Cubic — Data Link

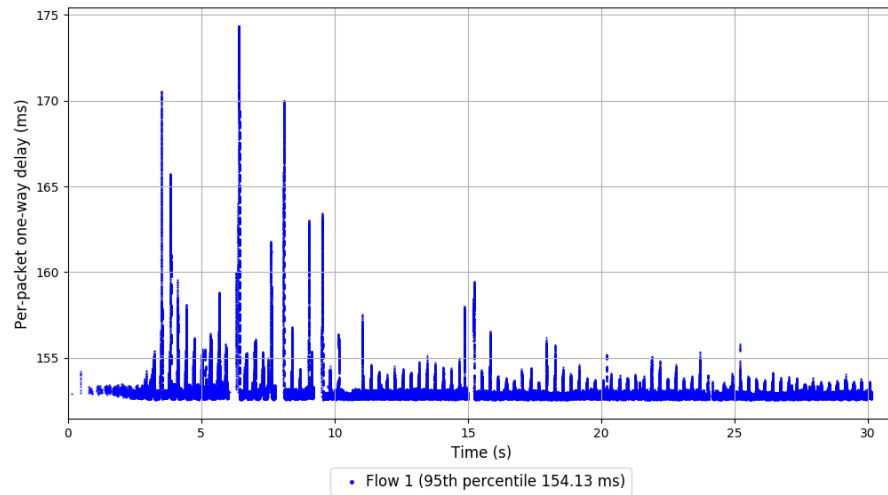
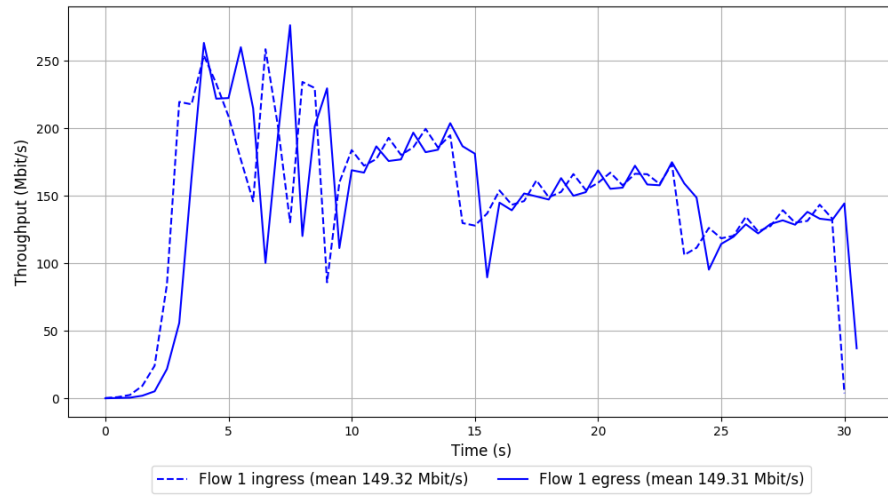


Run 2: Statistics of TCP Cubic

Start at: 2018-12-02 00:47:02
End at: 2018-12-02 00:47:32
Local clock offset: -2.353 ms
Remote clock offset: -0.518 ms

Below is generated by plot.py at 2018-12-02 02:40:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 149.31 Mbit/s
95th percentile per-packet one-way delay: 154.133 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 149.31 Mbit/s
95th percentile per-packet one-way delay: 154.133 ms
Loss rate: 0.04%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-12-02 01:14:21

End at: 2018-12-02 01:14:51

Local clock offset: -3.113 ms

Remote clock offset: 2.265 ms

Below is generated by plot.py at 2018-12-02 02:40:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 184.75 Mbit/s

95th percentile per-packet one-way delay: 158.513 ms

Loss rate: 0.03%

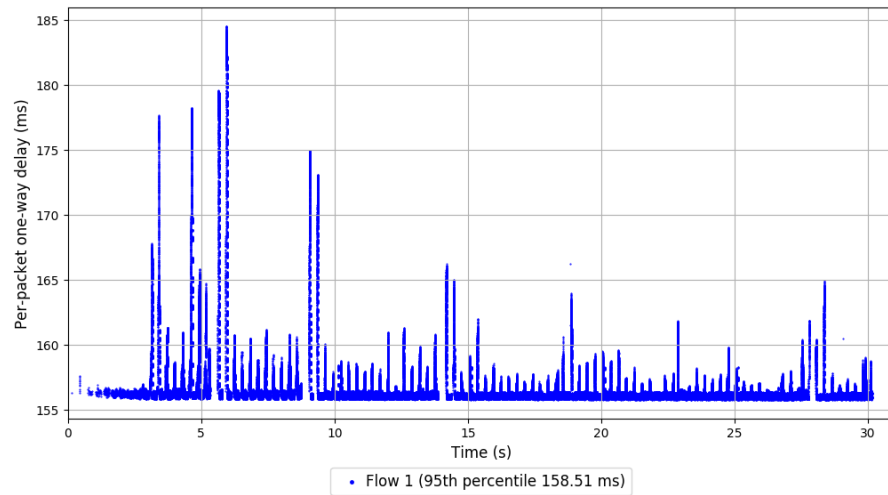
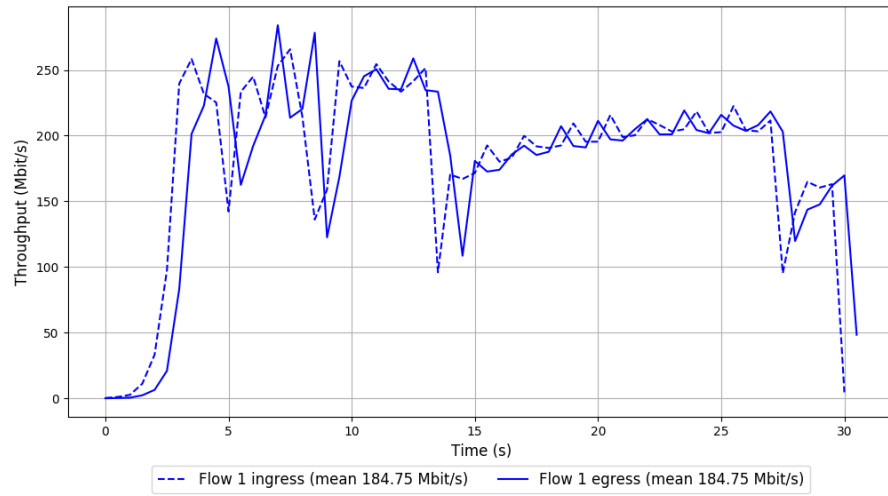
-- Flow 1:

Average throughput: 184.75 Mbit/s

95th percentile per-packet one-way delay: 158.513 ms

Loss rate: 0.03%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-12-02 01:41:33

End at: 2018-12-02 01:42:03

Local clock offset: 8.61 ms

Remote clock offset: 2.019 ms

Below is generated by plot.py at 2018-12-02 02:41:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 168.41 Mbit/s

95th percentile per-packet one-way delay: 139.609 ms

Loss rate: 0.01%

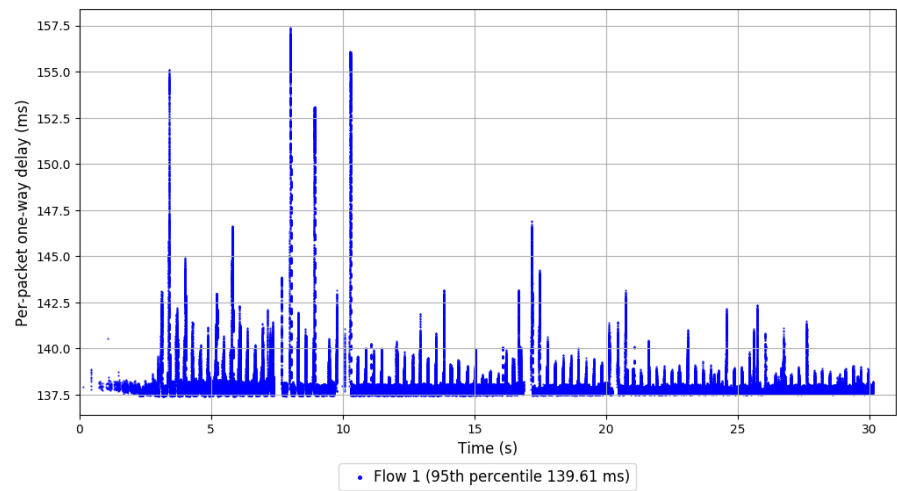
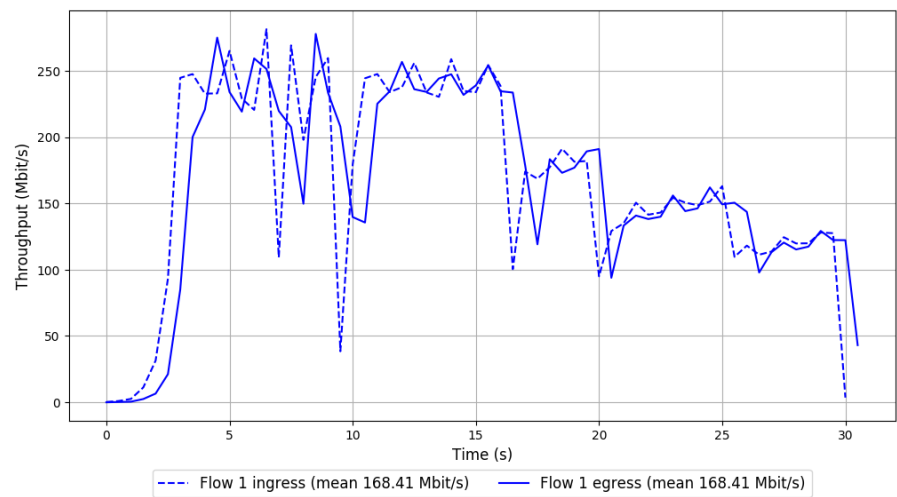
-- Flow 1:

Average throughput: 168.41 Mbit/s

95th percentile per-packet one-way delay: 139.609 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-12-02 02:08:49

End at: 2018-12-02 02:09:19

Local clock offset: 7.023 ms

Remote clock offset: -0.91 ms

Below is generated by plot.py at 2018-12-02 02:41:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.49 Mbit/s

95th percentile per-packet one-way delay: 147.711 ms

Loss rate: 0.06%

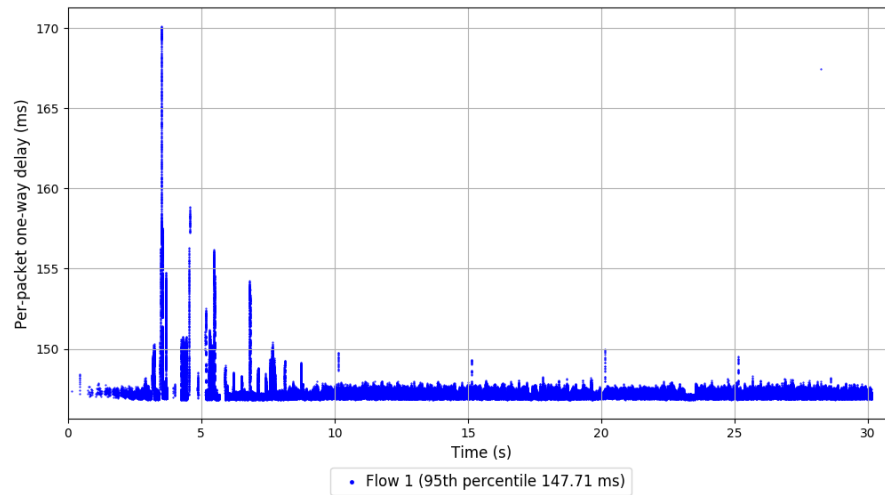
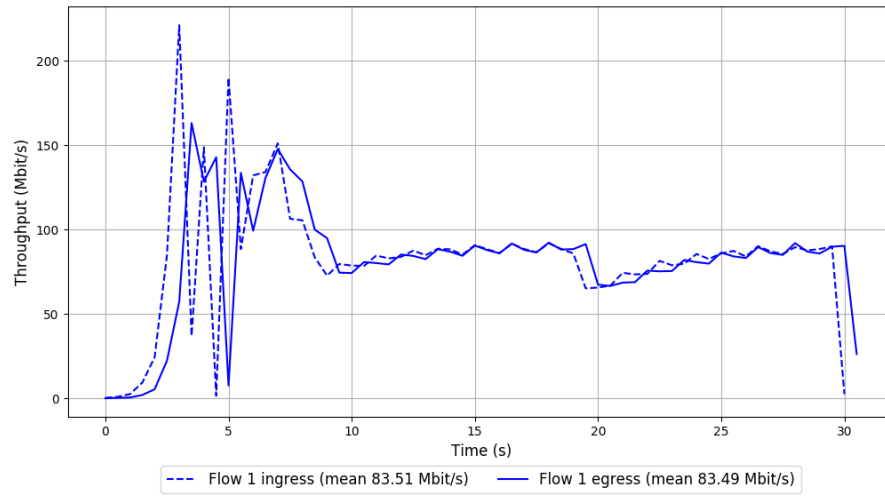
-- Flow 1:

Average throughput: 83.49 Mbit/s

95th percentile per-packet one-way delay: 147.711 ms

Loss rate: 0.06%

Run 5: Report of TCP Cubic — Data Link

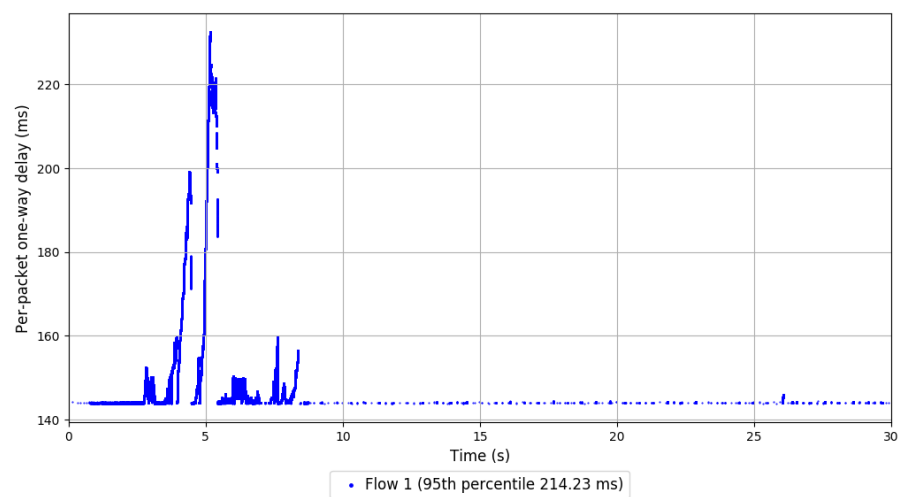
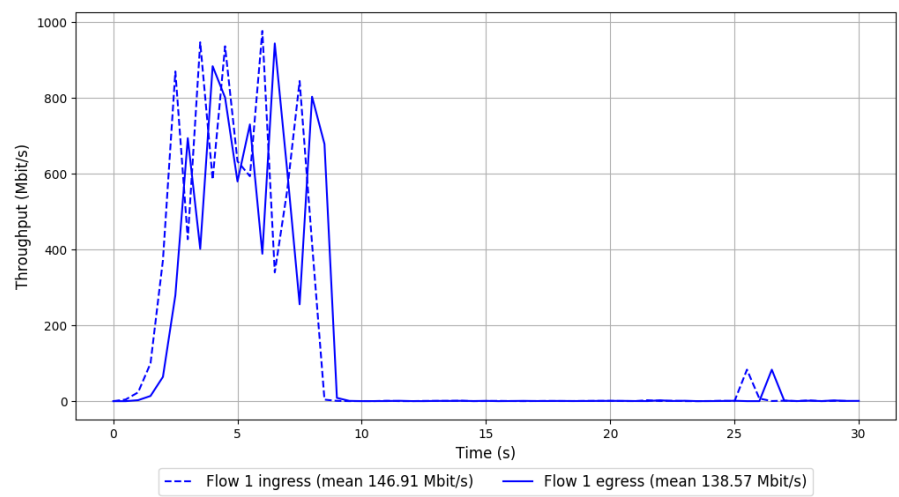


Run 1: Statistics of FillP

Start at: 2018-12-02 00:26:37
End at: 2018-12-02 00:27:07
Local clock offset: 5.283 ms
Remote clock offset: -1.096 ms

Below is generated by plot.py at 2018-12-02 02:41:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 138.57 Mbit/s
95th percentile per-packet one-way delay: 214.228 ms
Loss rate: 5.68%
-- Flow 1:
Average throughput: 138.57 Mbit/s
95th percentile per-packet one-way delay: 214.228 ms
Loss rate: 5.68%

Run 1: Report of FillP — Data Link

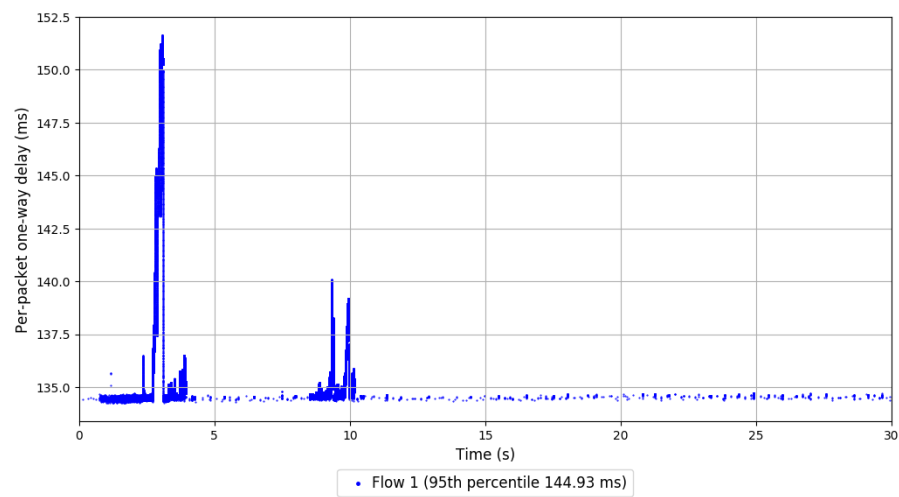
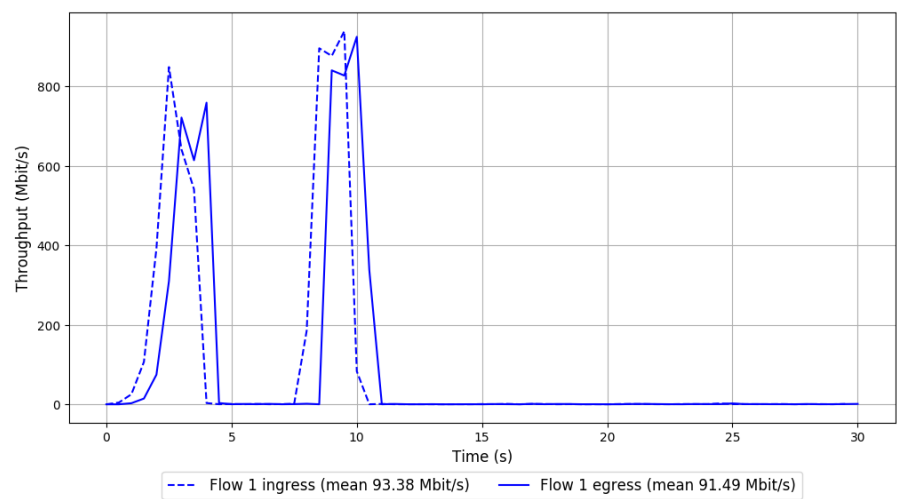


Run 2: Statistics of FillP

Start at: 2018-12-02 00:53:52
End at: 2018-12-02 00:54:22
Local clock offset: 7.469 ms
Remote clock offset: -0.582 ms

Below is generated by plot.py at 2018-12-02 02:41:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.49 Mbit/s
95th percentile per-packet one-way delay: 144.933 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 91.49 Mbit/s
95th percentile per-packet one-way delay: 144.933 ms
Loss rate: 2.03%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-12-02 01:21:12

End at: 2018-12-02 01:21:42

Local clock offset: 8.301 ms

Remote clock offset: 3.009 ms

Below is generated by plot.py at 2018-12-02 02:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 120.96 Mbit/s

95th percentile per-packet one-way delay: 166.742 ms

Loss rate: 2.58%

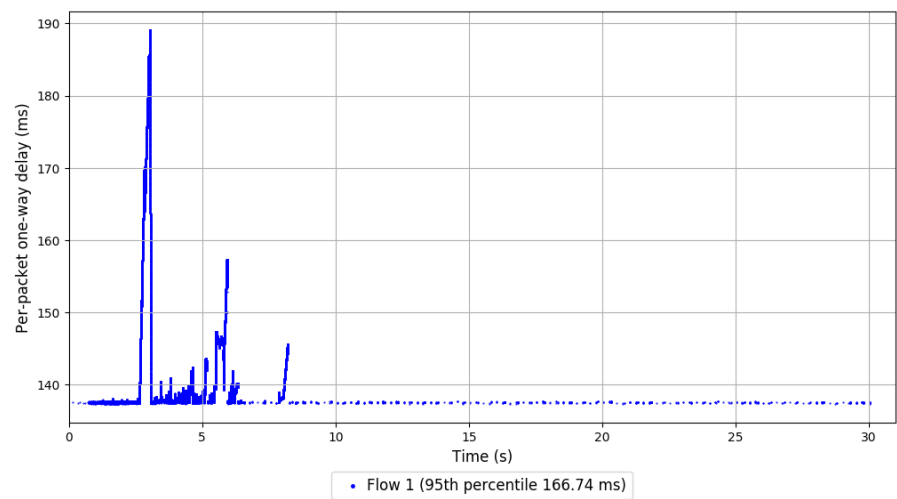
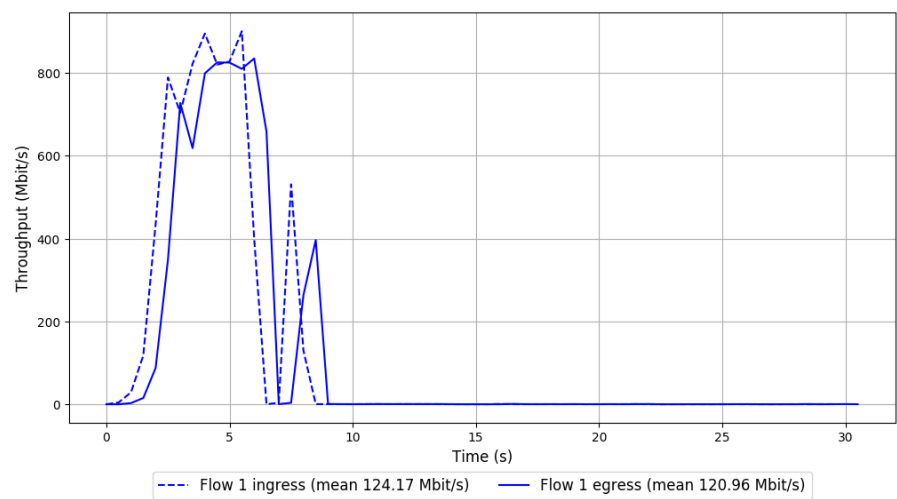
-- Flow 1:

Average throughput: 120.96 Mbit/s

95th percentile per-packet one-way delay: 166.742 ms

Loss rate: 2.58%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-12-02 01:48:23

End at: 2018-12-02 01:48:53

Local clock offset: 7.346 ms

Remote clock offset: 0.54 ms

Below is generated by plot.py at 2018-12-02 02:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 117.26 Mbit/s

95th percentile per-packet one-way delay: 180.262 ms

Loss rate: 4.47%

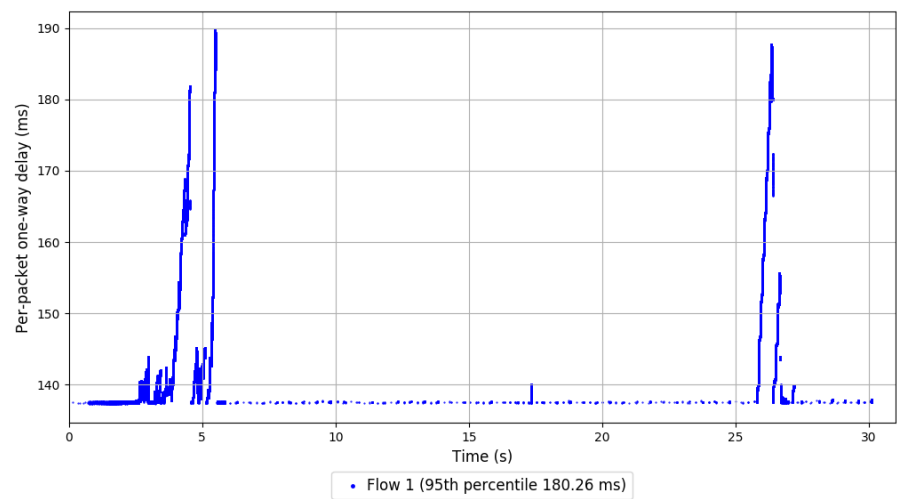
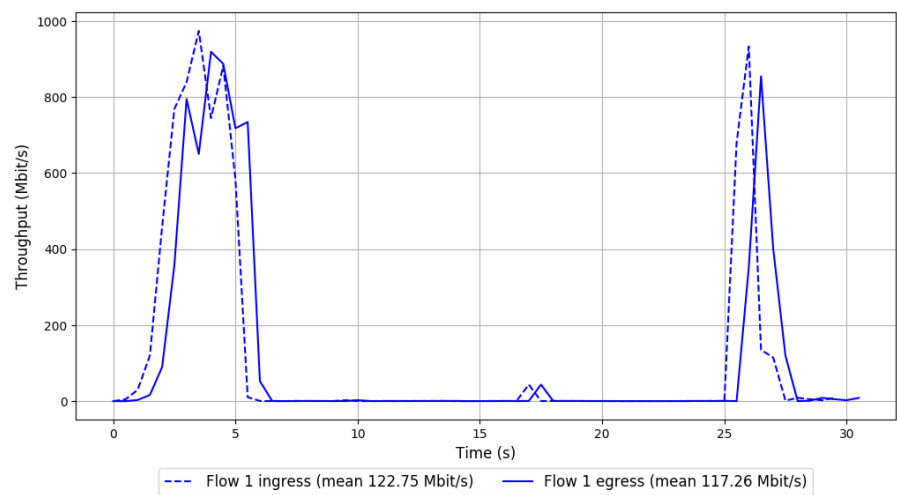
-- Flow 1:

Average throughput: 117.26 Mbit/s

95th percentile per-packet one-way delay: 180.262 ms

Loss rate: 4.47%

Run 4: Report of FillP — Data Link

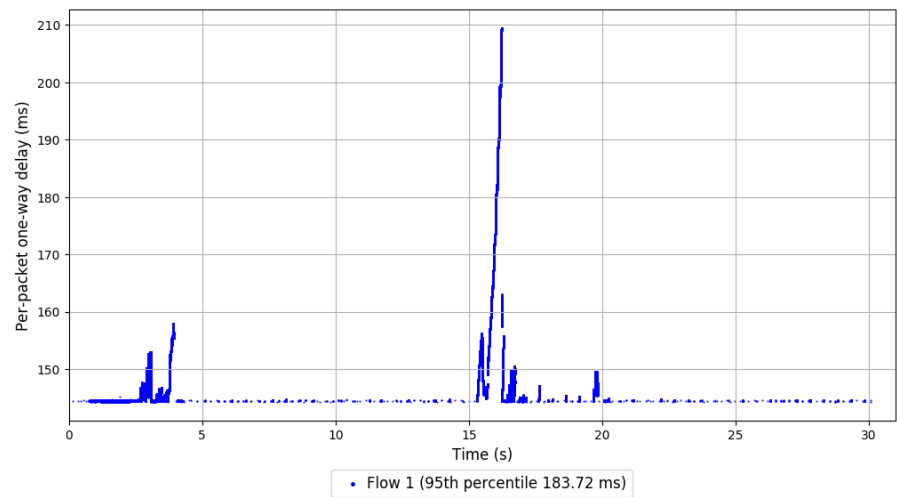
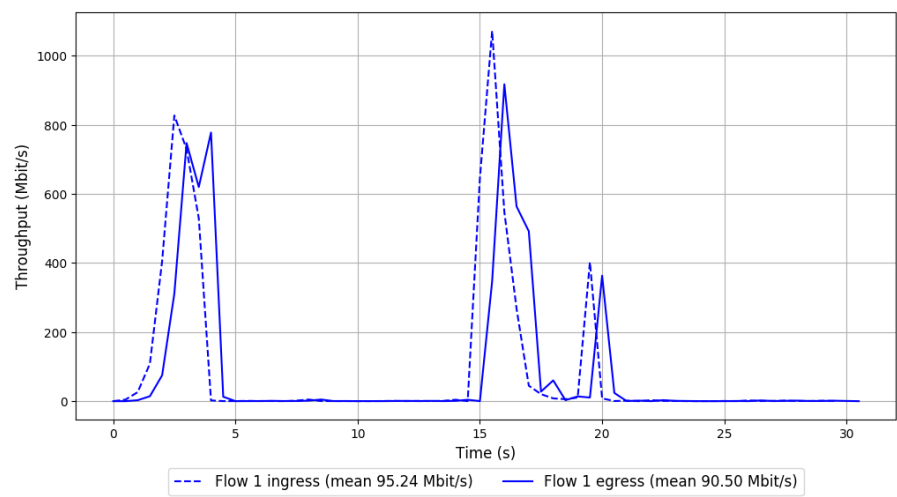


Run 5: Statistics of FillP

Start at: 2018-12-02 02:15:33
End at: 2018-12-02 02:16:03
Local clock offset: 6.965 ms
Remote clock offset: -0.756 ms

Below is generated by plot.py at 2018-12-02 02:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.50 Mbit/s
95th percentile per-packet one-way delay: 183.720 ms
Loss rate: 4.98%
-- Flow 1:
Average throughput: 90.50 Mbit/s
95th percentile per-packet one-way delay: 183.720 ms
Loss rate: 4.98%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-12-02 00:38:43

End at: 2018-12-02 00:39:13

Local clock offset: 5.047 ms

Remote clock offset: -0.573 ms

Below is generated by plot.py at 2018-12-02 02:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.97 Mbit/s

95th percentile per-packet one-way delay: 186.971 ms

Loss rate: 3.11%

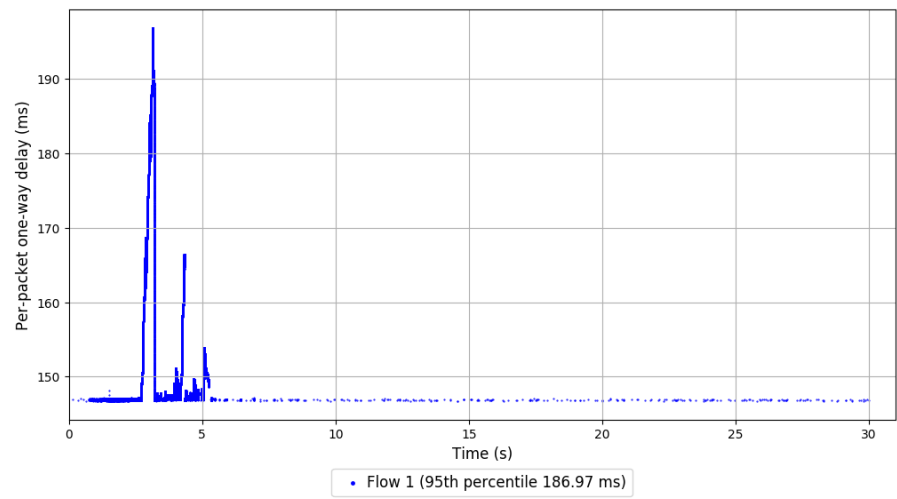
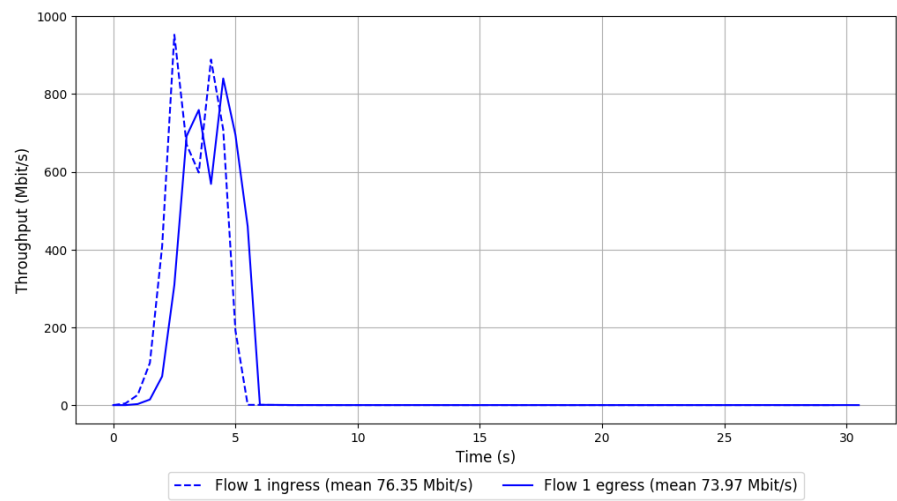
-- Flow 1:

Average throughput: 73.97 Mbit/s

95th percentile per-packet one-way delay: 186.971 ms

Loss rate: 3.11%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-02 01:06:01

End at: 2018-12-02 01:06:31

Local clock offset: 6.934 ms

Remote clock offset: 0.556 ms

Below is generated by plot.py at 2018-12-02 02:42:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 133.26 Mbit/s

95th percentile per-packet one-way delay: 137.898 ms

Loss rate: 0.90%

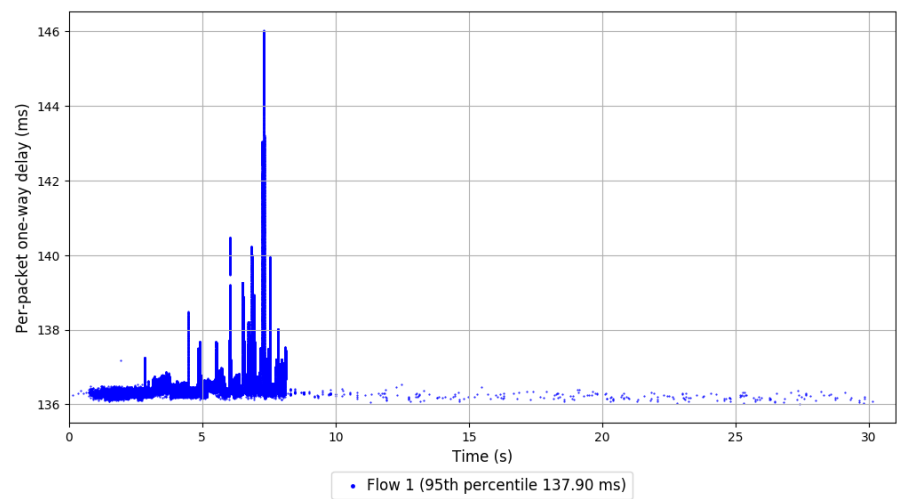
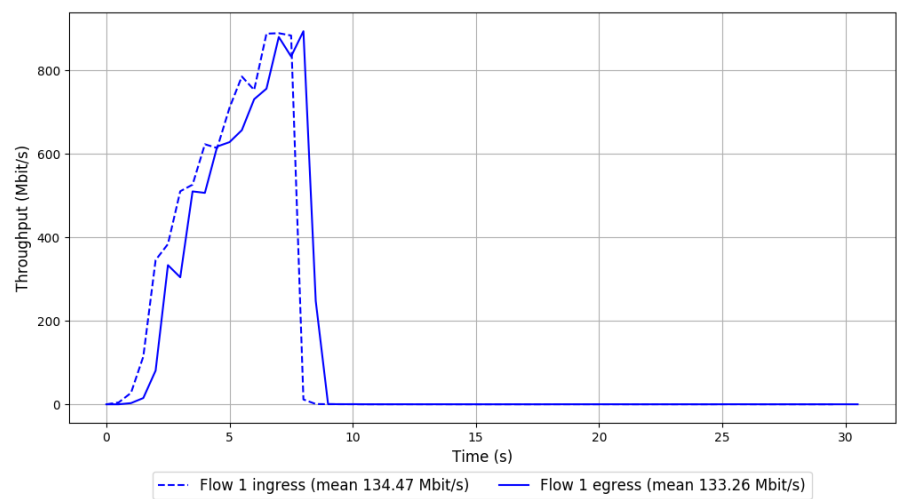
-- Flow 1:

Average throughput: 133.26 Mbit/s

95th percentile per-packet one-way delay: 137.898 ms

Loss rate: 0.90%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-12-02 01:33:14

End at: 2018-12-02 01:33:44

Local clock offset: 7.665 ms

Remote clock offset: 3.751 ms

Below is generated by plot.py at 2018-12-02 02:42:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 74.44 Mbit/s

95th percentile per-packet one-way delay: 154.663 ms

Loss rate: 3.30%

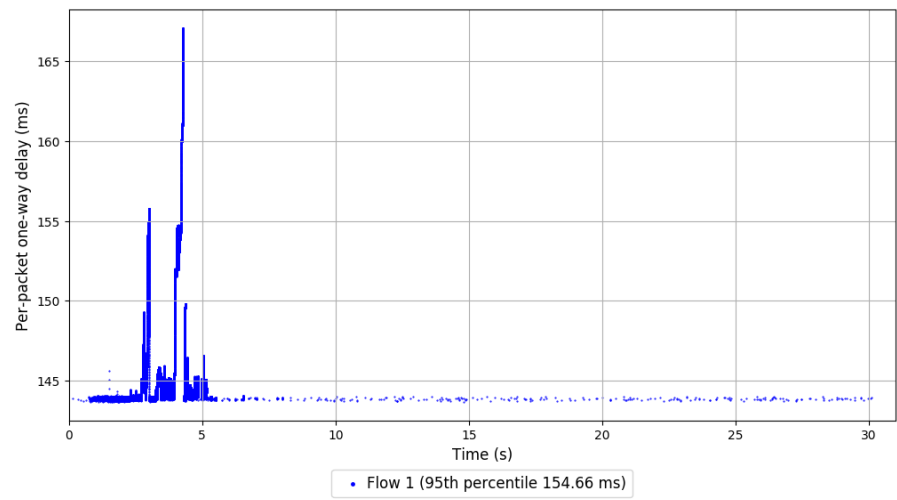
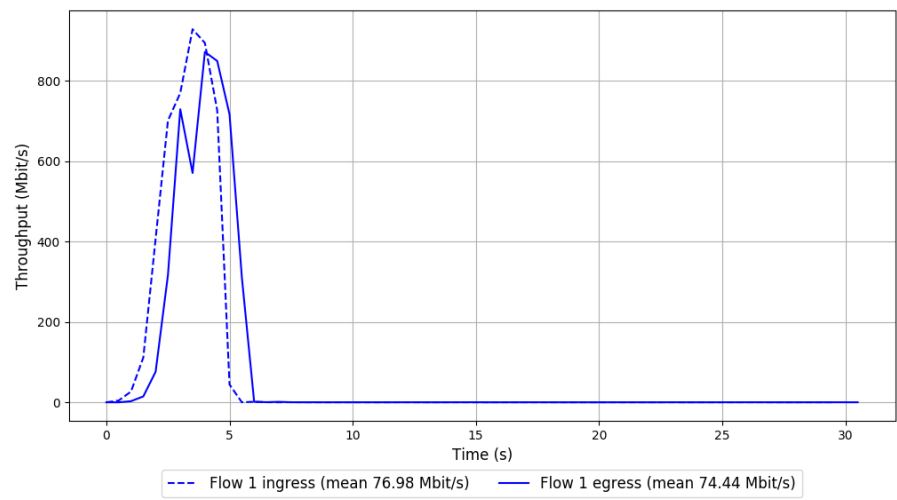
-- Flow 1:

Average throughput: 74.44 Mbit/s

95th percentile per-packet one-way delay: 154.663 ms

Loss rate: 3.30%

Run 3: Report of FillP-Sheep — Data Link

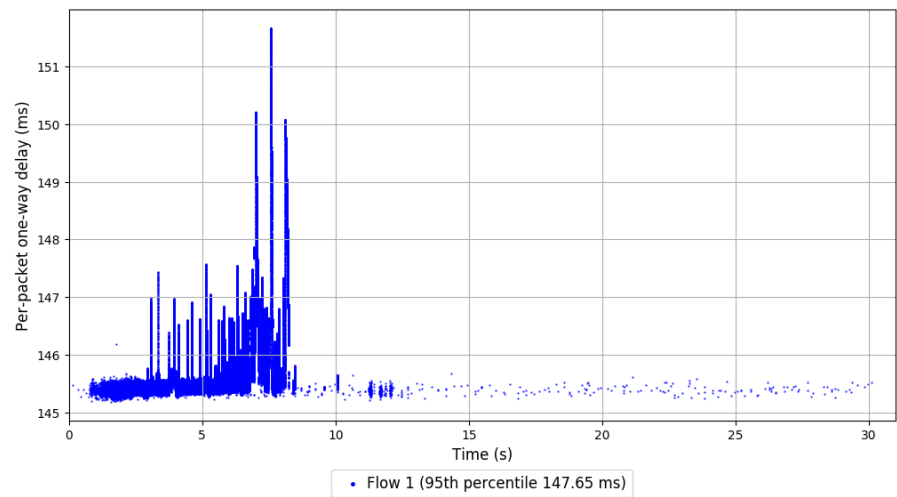
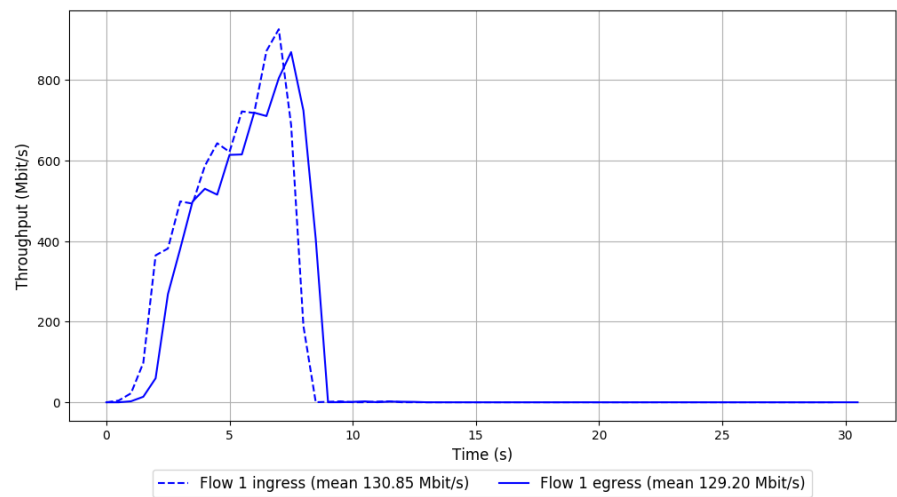


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-02 02:00:29
End at: 2018-12-02 02:00:59
Local clock offset: 7.39 ms
Remote clock offset: -0.544 ms

Below is generated by plot.py at 2018-12-02 02:43:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 129.20 Mbit/s
95th percentile per-packet one-way delay: 147.651 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 129.20 Mbit/s
95th percentile per-packet one-way delay: 147.651 ms
Loss rate: 1.26%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-12-02 02:27:35

End at: 2018-12-02 02:28:05

Local clock offset: -4.837 ms

Remote clock offset: -0.48 ms

Below is generated by plot.py at 2018-12-02 02:43:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.48 Mbit/s

95th percentile per-packet one-way delay: 163.881 ms

Loss rate: 4.75%

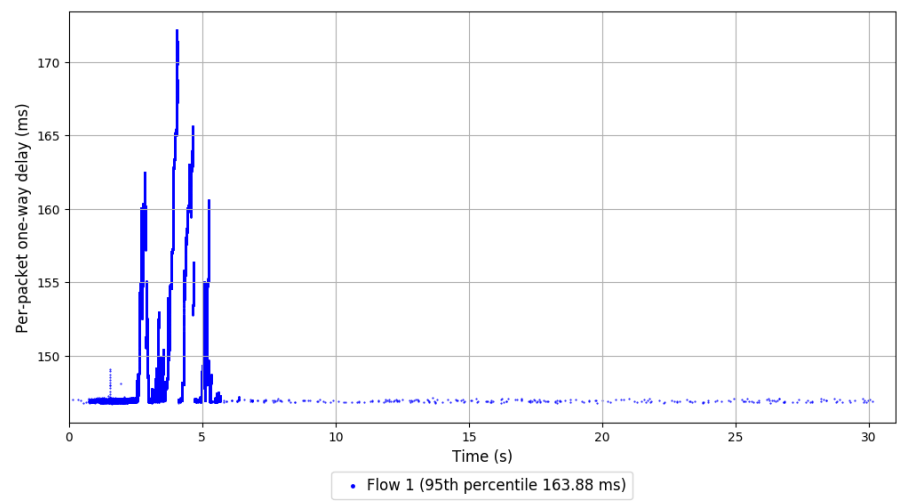
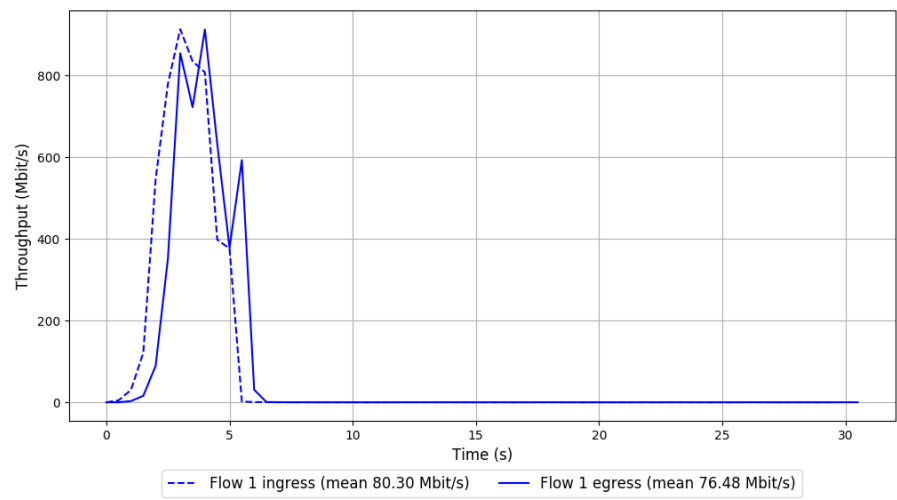
-- Flow 1:

Average throughput: 76.48 Mbit/s

95th percentile per-packet one-way delay: 163.881 ms

Loss rate: 4.75%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-12-02 00:32:52

End at: 2018-12-02 00:33:22

Local clock offset: 5.275 ms

Remote clock offset: -0.692 ms

Below is generated by plot.py at 2018-12-02 02:43:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 126.68 Mbit/s

95th percentile per-packet one-way delay: 146.348 ms

Loss rate: 0.00%

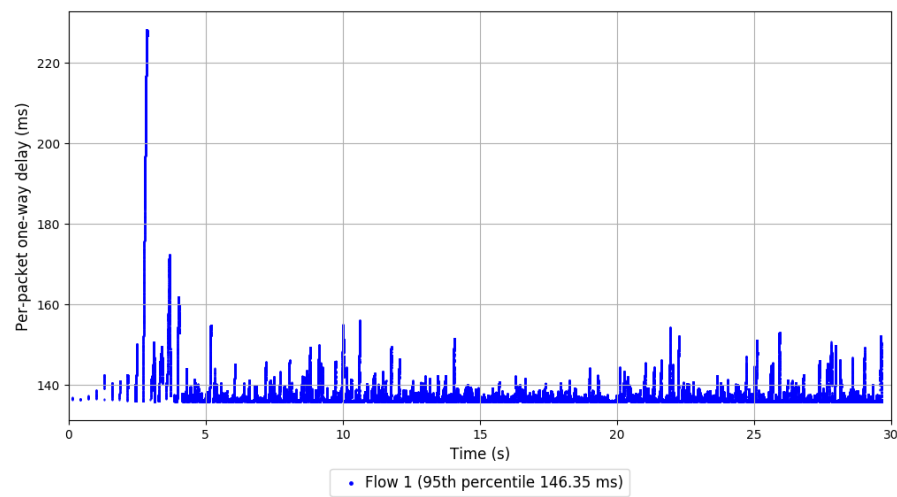
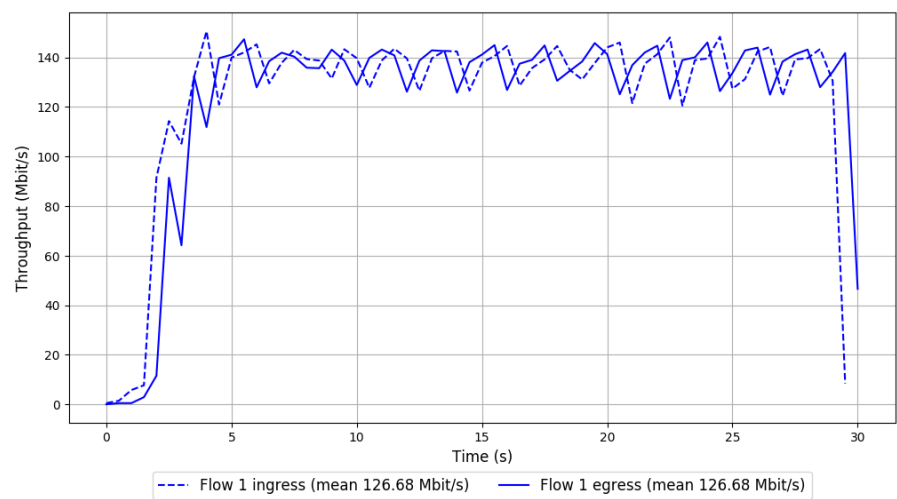
-- Flow 1:

Average throughput: 126.68 Mbit/s

95th percentile per-packet one-way delay: 146.348 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

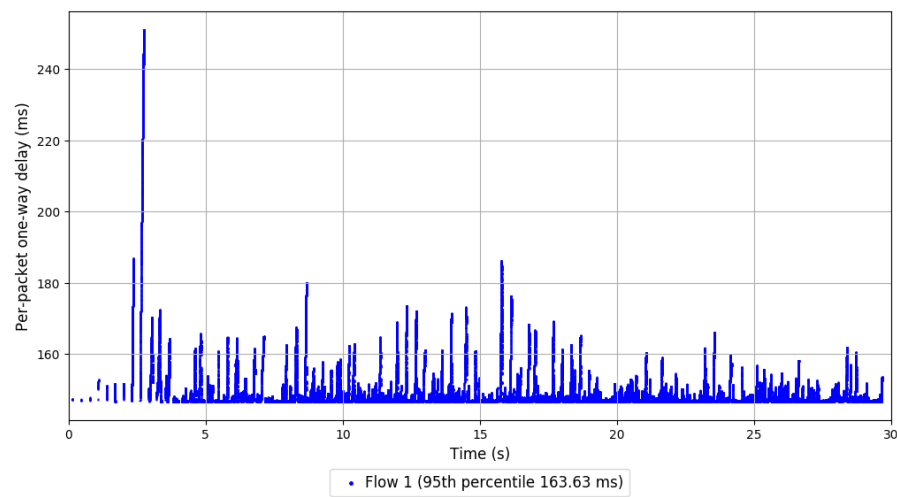
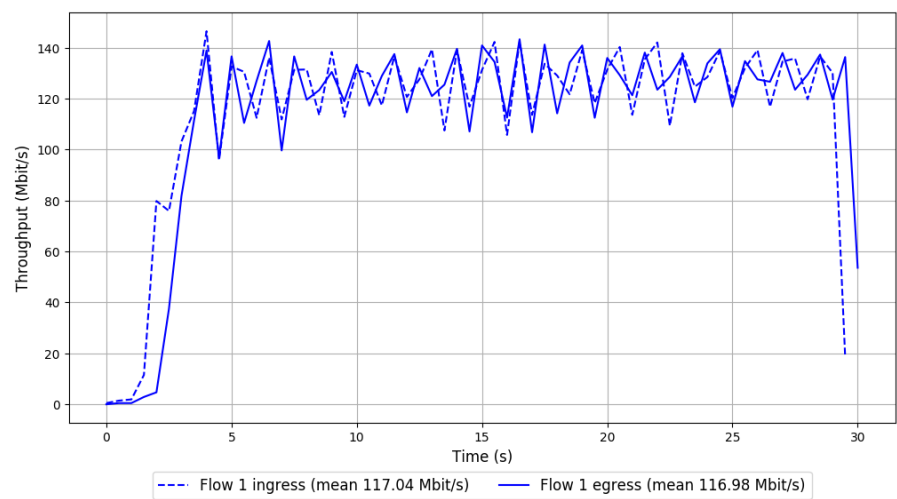


Run 2: Statistics of Indigo

Start at: 2018-12-02 01:00:04
End at: 2018-12-02 01:00:35
Local clock offset: 7.009 ms
Remote clock offset: -0.601 ms

Below is generated by plot.py at 2018-12-02 02:43:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 116.98 Mbit/s
95th percentile per-packet one-way delay: 163.634 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 116.98 Mbit/s
95th percentile per-packet one-way delay: 163.634 ms
Loss rate: 0.07%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-12-02 01:27:20

End at: 2018-12-02 01:27:50

Local clock offset: 7.223 ms

Remote clock offset: 3.569 ms

Below is generated by plot.py at 2018-12-02 02:43:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.66 Mbit/s

95th percentile per-packet one-way delay: 161.089 ms

Loss rate: 0.07%

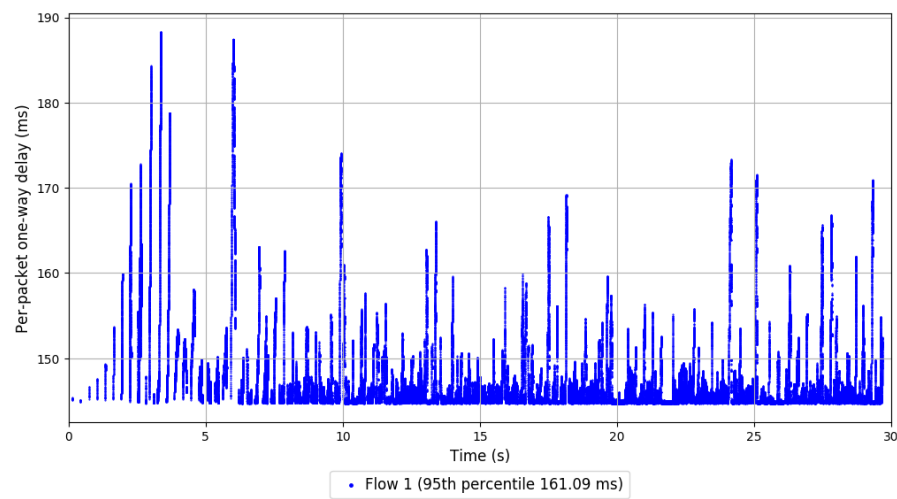
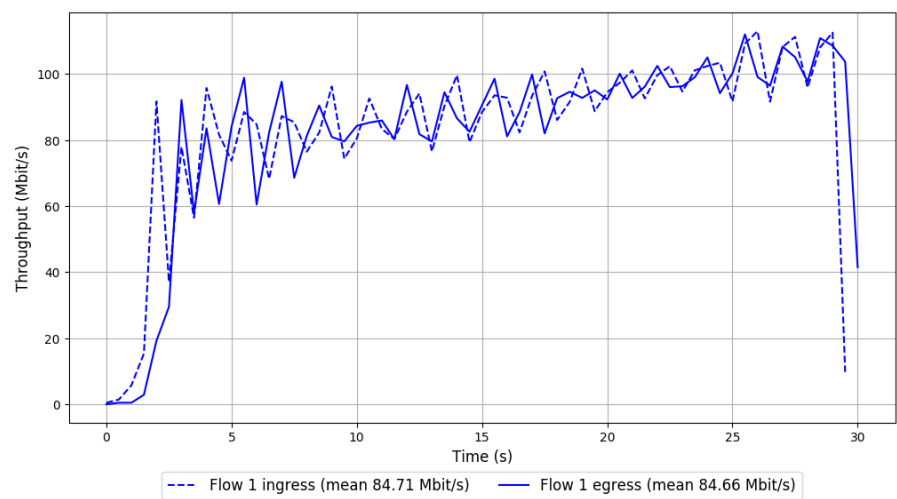
-- Flow 1:

Average throughput: 84.66 Mbit/s

95th percentile per-packet one-way delay: 161.089 ms

Loss rate: 0.07%

Run 3: Report of Indigo — Data Link

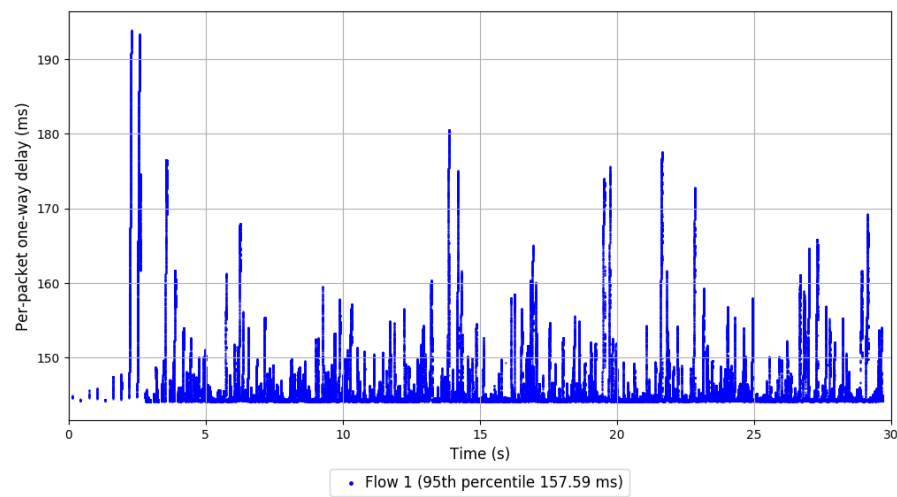
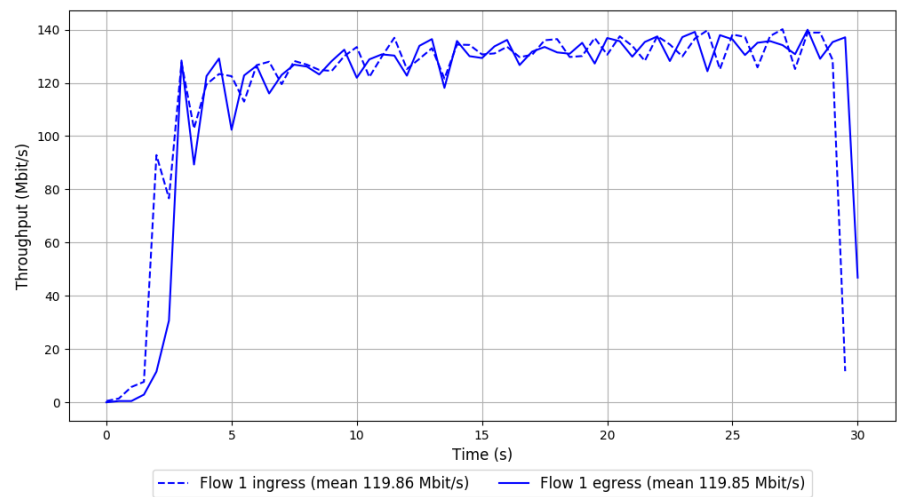


Run 4: Statistics of Indigo

Start at: 2018-12-02 01:54:34
End at: 2018-12-02 01:55:04
Local clock offset: 7.491 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-12-02 02:43:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 119.85 Mbit/s
95th percentile per-packet one-way delay: 157.588 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 119.85 Mbit/s
95th percentile per-packet one-way delay: 157.588 ms
Loss rate: 0.03%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-02 02:21:42

End at: 2018-12-02 02:22:12

Local clock offset: 6.759 ms

Remote clock offset: -0.558 ms

Below is generated by plot.py at 2018-12-02 02:43:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 120.03 Mbit/s

95th percentile per-packet one-way delay: 157.805 ms

Loss rate: 0.01%

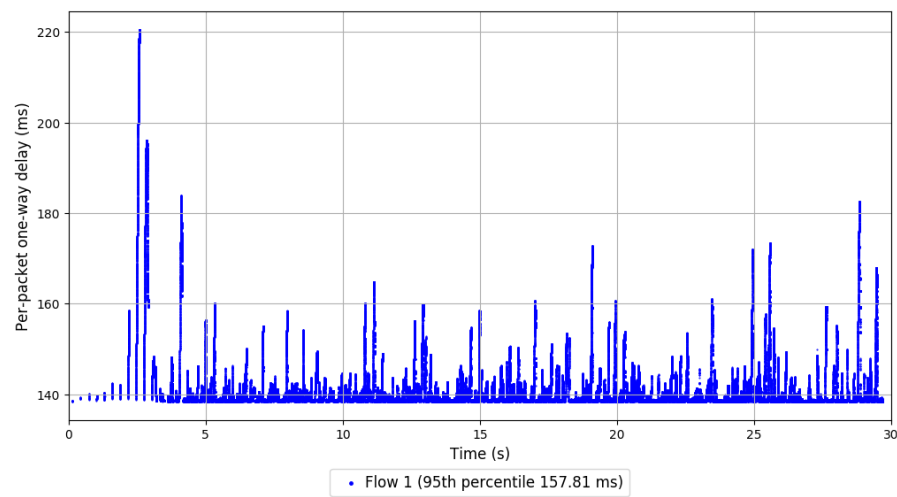
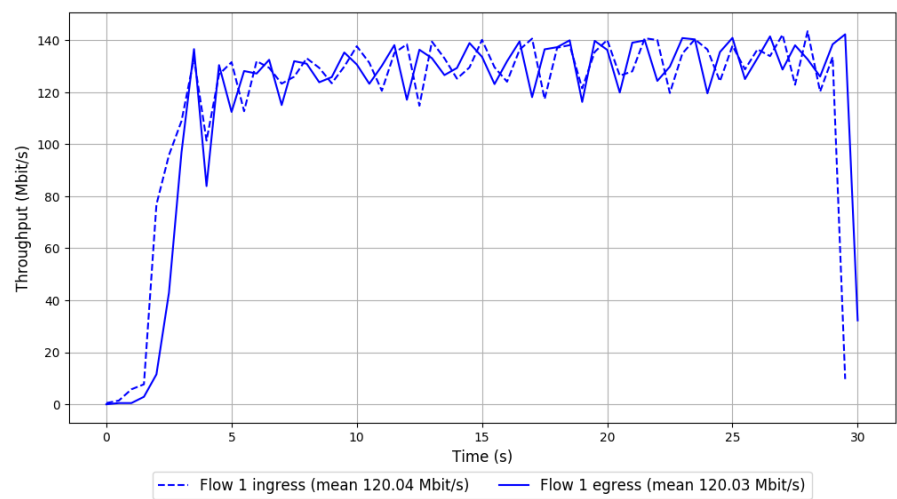
-- Flow 1:

Average throughput: 120.03 Mbit/s

95th percentile per-packet one-way delay: 157.805 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-12-02 00:45:32

End at: 2018-12-02 00:46:02

Local clock offset: 5.749 ms

Remote clock offset: -0.46 ms

Below is generated by plot.py at 2018-12-02 02:45:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 220.65 Mbit/s

95th percentile per-packet one-way delay: 218.749 ms

Loss rate: 15.75%

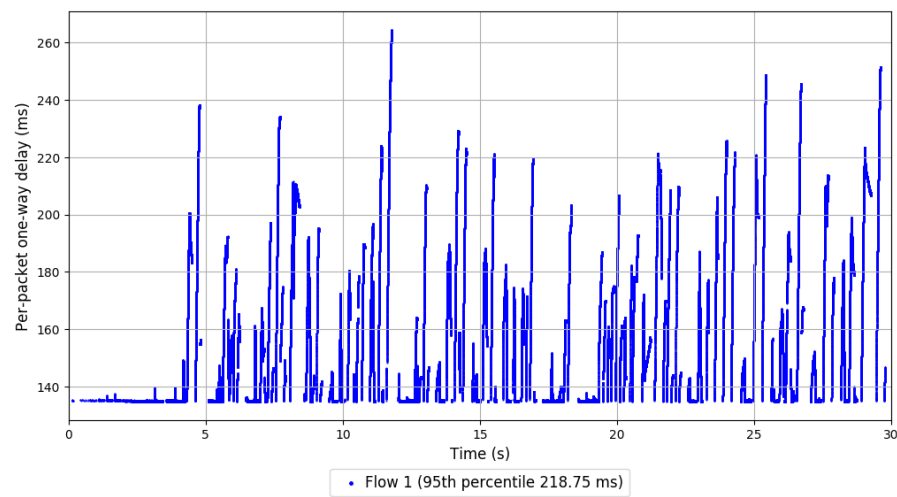
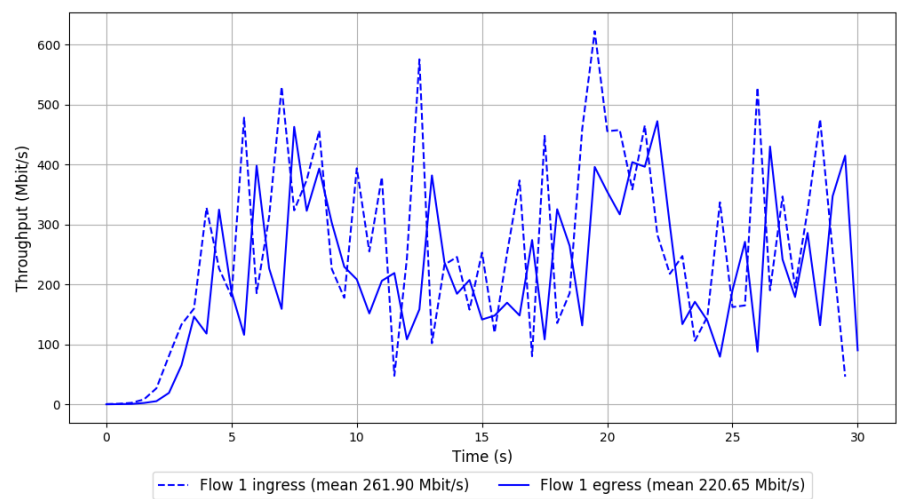
-- Flow 1:

Average throughput: 220.65 Mbit/s

95th percentile per-packet one-way delay: 218.749 ms

Loss rate: 15.75%

Run 1: Report of Indigo-96d2da3 — Data Link



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-12-02 01:12:51

End at: 2018-12-02 01:13:21

Local clock offset: -0.64 ms

Remote clock offset: 2.084 ms

Below is generated by plot.py at 2018-12-02 02:45:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 217.67 Mbit/s

95th percentile per-packet one-way delay: 209.541 ms

Loss rate: 16.93%

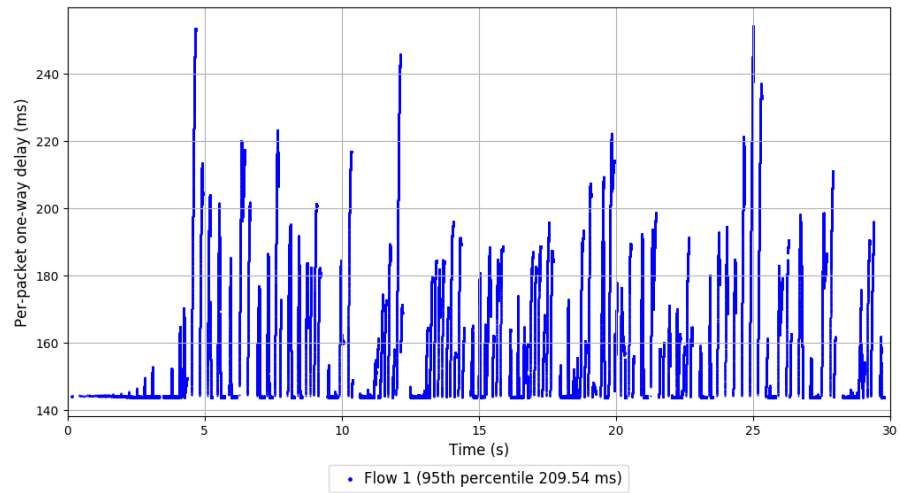
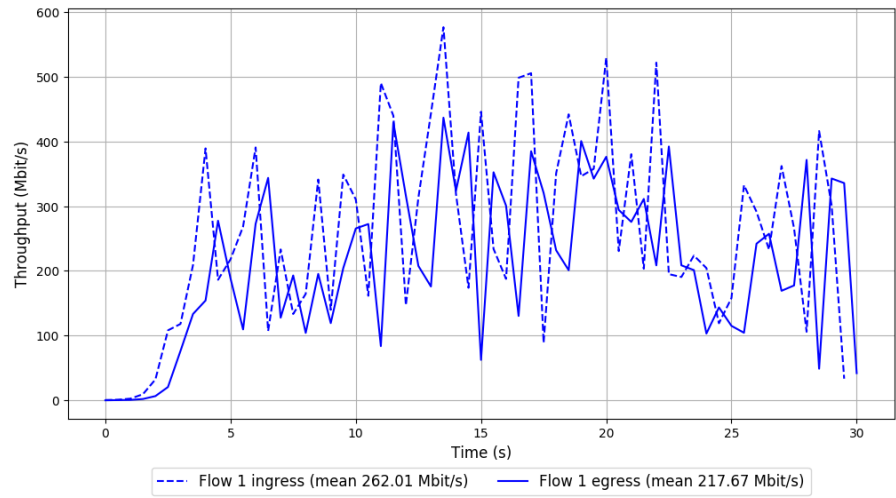
-- Flow 1:

Average throughput: 217.67 Mbit/s

95th percentile per-packet one-way delay: 209.541 ms

Loss rate: 16.93%

Run 2: Report of Indigo-96d2da3 — Data Link



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-12-02 01:40:03

End at: 2018-12-02 01:40:33

Local clock offset: 7.662 ms

Remote clock offset: 2.636 ms

Below is generated by plot.py at 2018-12-02 02:45:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 240.79 Mbit/s

95th percentile per-packet one-way delay: 213.689 ms

Loss rate: 10.85%

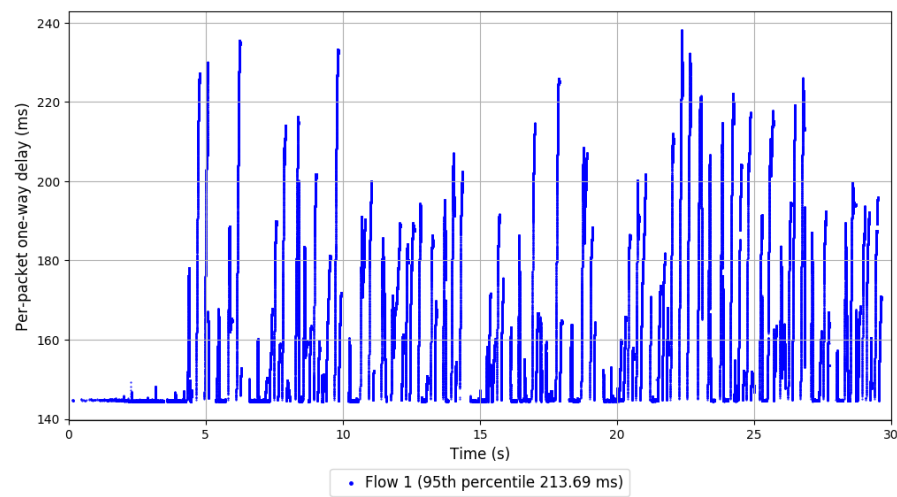
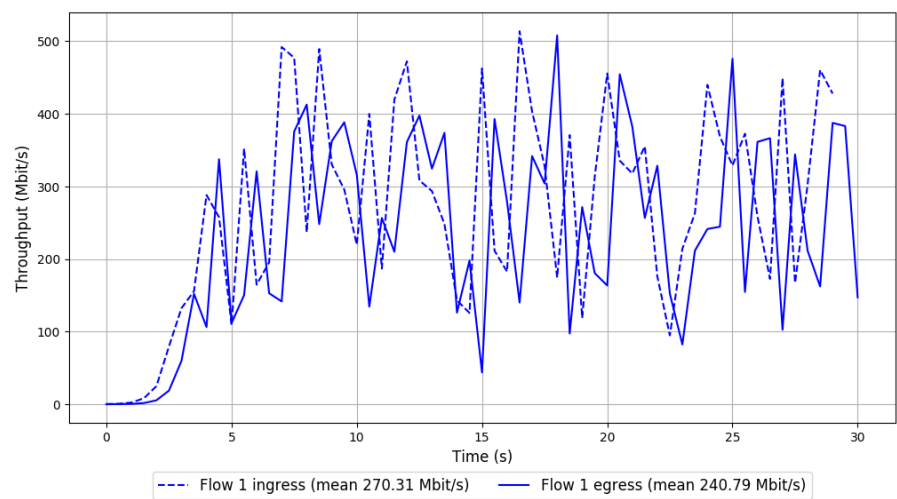
-- Flow 1:

Average throughput: 240.79 Mbit/s

95th percentile per-packet one-way delay: 213.689 ms

Loss rate: 10.85%

Run 3: Report of Indigo-96d2da3 — Data Link

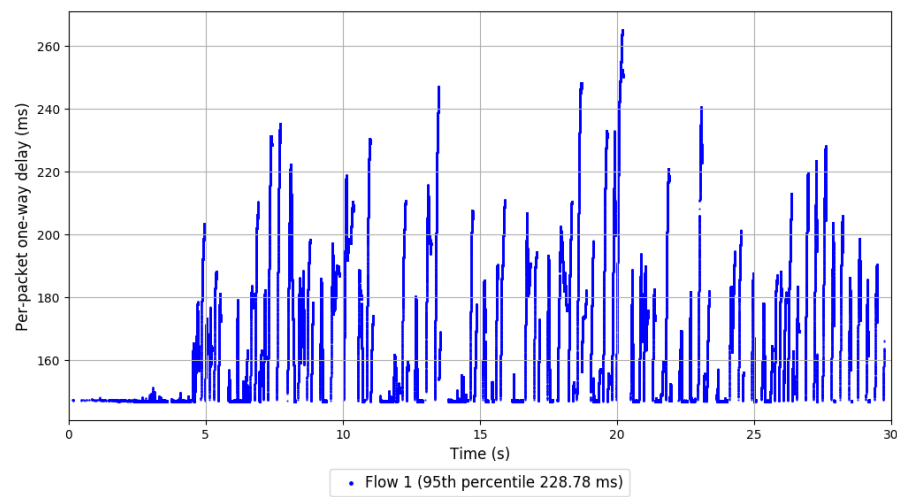
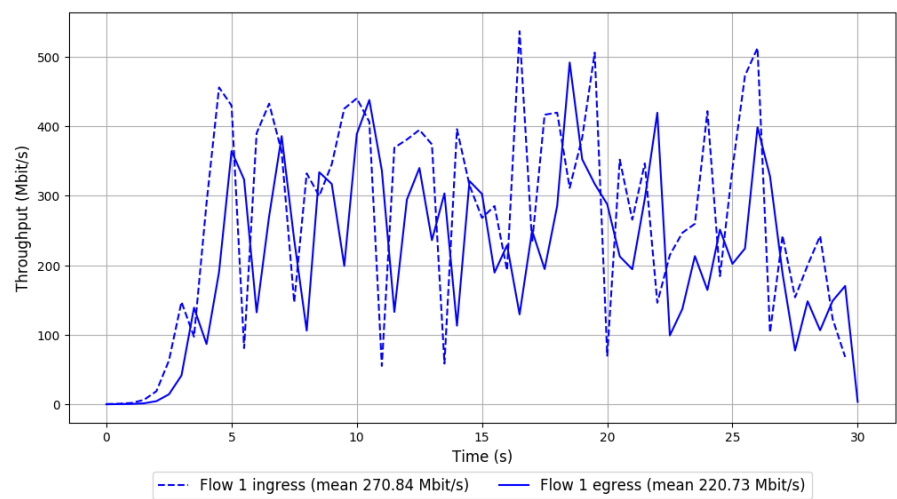


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-12-02 02:07:19
End at: 2018-12-02 02:07:49
Local clock offset: 7.156 ms
Remote clock offset: -0.789 ms

Below is generated by plot.py at 2018-12-02 02:45:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 220.73 Mbit/s
95th percentile per-packet one-way delay: 228.779 ms
Loss rate: 18.53%
-- Flow 1:
Average throughput: 220.73 Mbit/s
95th percentile per-packet one-way delay: 228.779 ms
Loss rate: 18.53%

Run 4: Report of Indigo-96d2da3 — Data Link

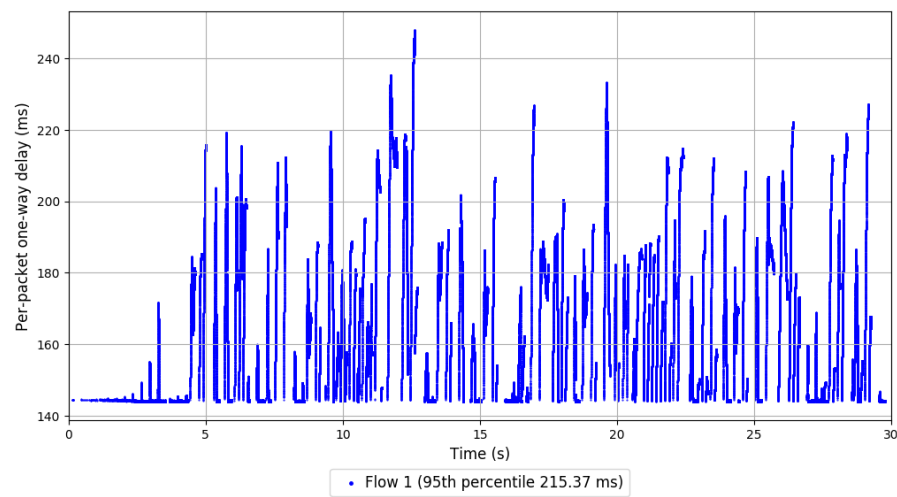
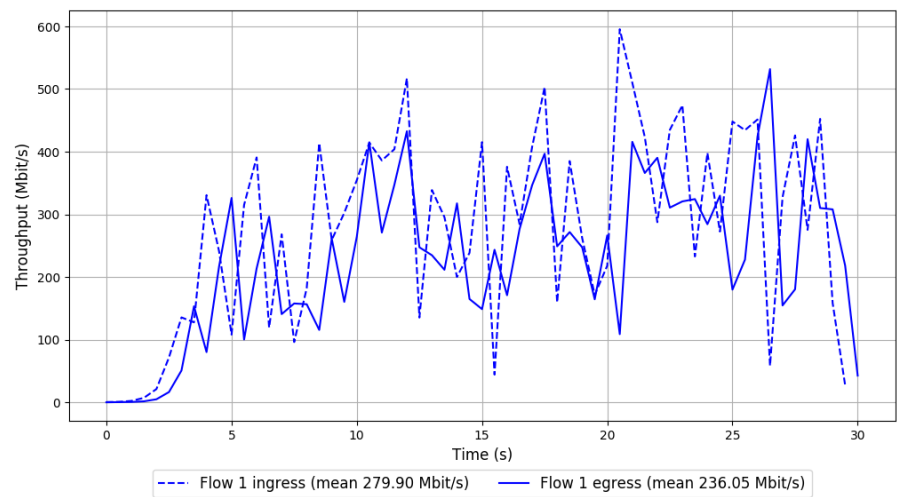


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-12-02 02:34:26
End at: 2018-12-02 02:34:56
Local clock offset: 6.07 ms
Remote clock offset: -0.602 ms

Below is generated by plot.py at 2018-12-02 02:45:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 236.05 Mbit/s
95th percentile per-packet one-way delay: 215.366 ms
Loss rate: 15.69%
-- Flow 1:
Average throughput: 236.05 Mbit/s
95th percentile per-packet one-way delay: 215.366 ms
Loss rate: 15.69%

Run 5: Report of Indigo-96d2da3 — Data Link

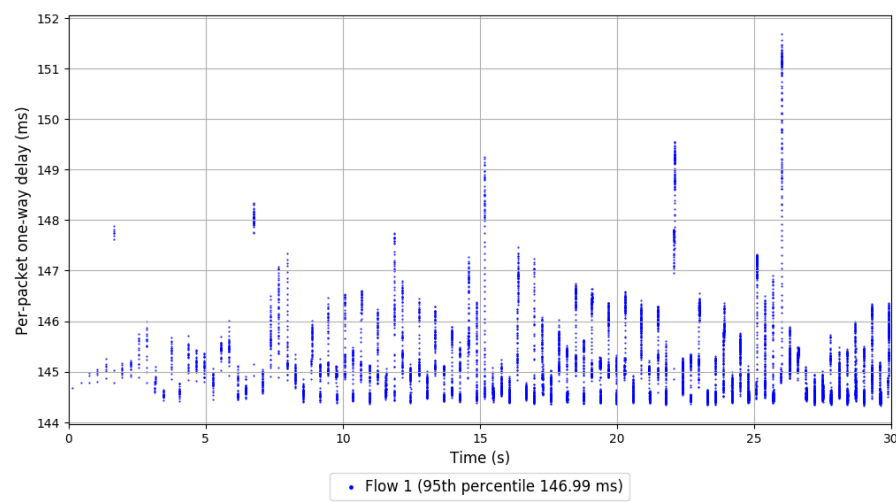
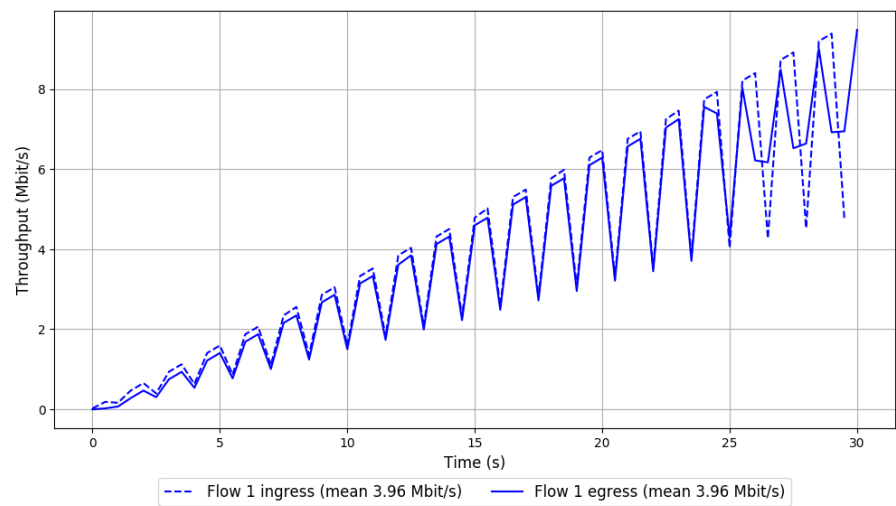


```
Run 1: Statistics of LEDBAT

Start at: 2018-12-02 00:34:19
End at: 2018-12-02 00:34:49
Local clock offset: 5.212 ms
Remote clock offset: -0.724 ms

# Below is generated by plot.py at 2018-12-02 02:45:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 146.993 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 146.993 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

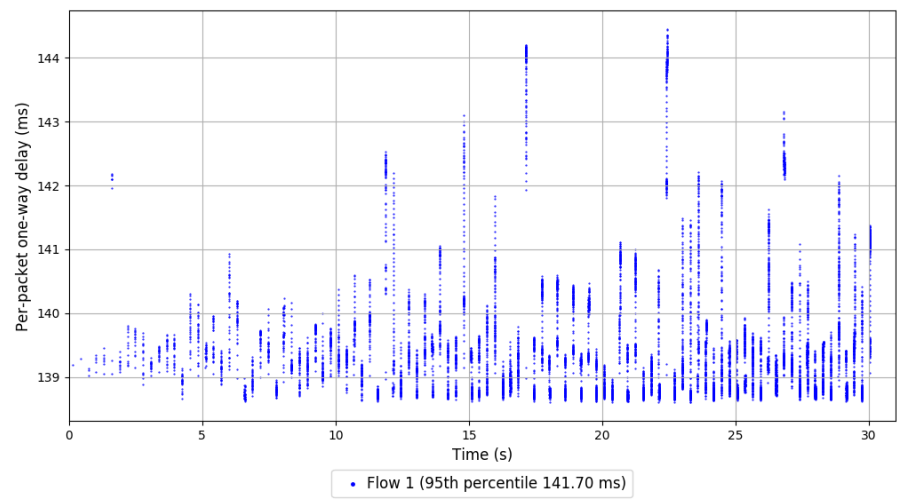
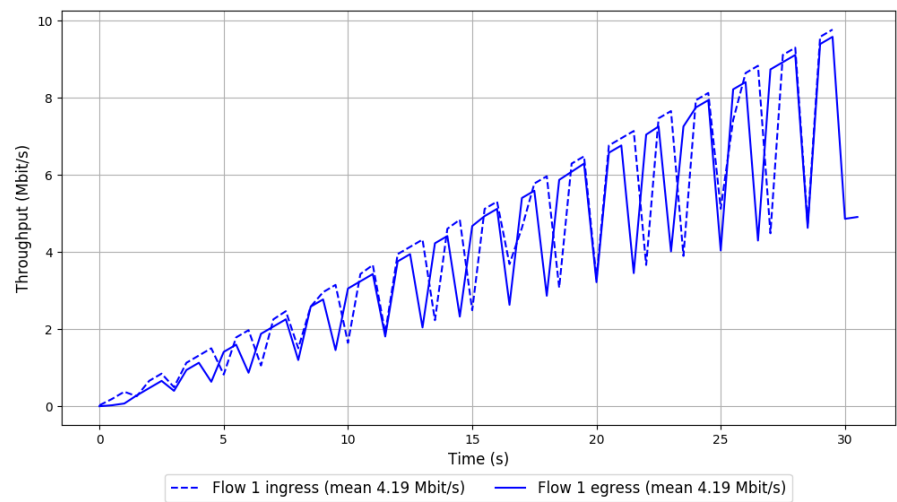


Run 2: Statistics of LEDBAT

Start at: 2018-12-02 01:01:31
End at: 2018-12-02 01:02:01
Local clock offset: 6.846 ms
Remote clock offset: -0.664 ms

Below is generated by plot.py at 2018-12-02 02:45:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 141.704 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 141.704 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-12-02 01:28:45

End at: 2018-12-02 01:29:15

Local clock offset: 8.571 ms

Remote clock offset: 3.636 ms

Below is generated by plot.py at 2018-12-02 02:45:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.19 Mbit/s

95th percentile per-packet one-way delay: 147.769 ms

Loss rate: 0.00%

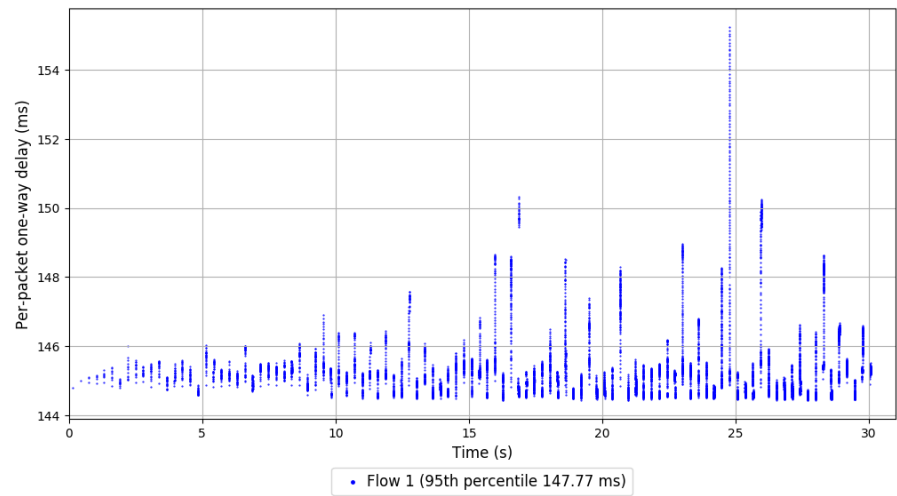
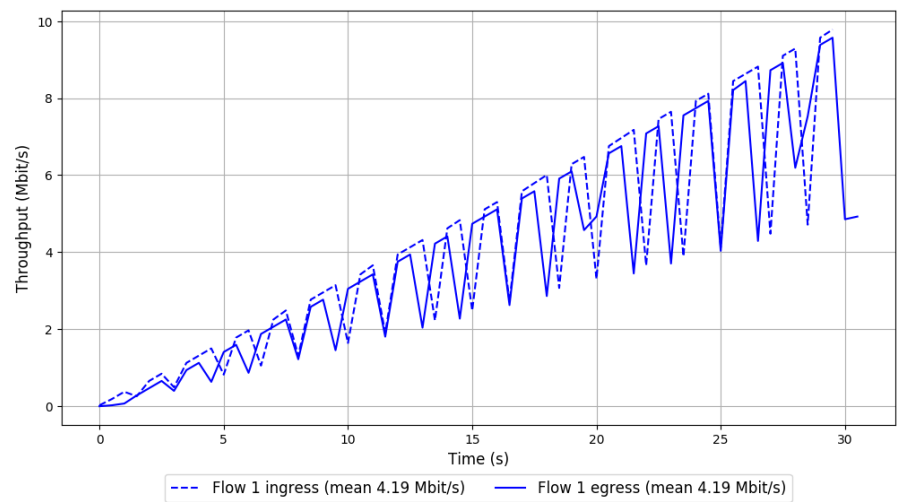
-- Flow 1:

Average throughput: 4.19 Mbit/s

95th percentile per-packet one-way delay: 147.769 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

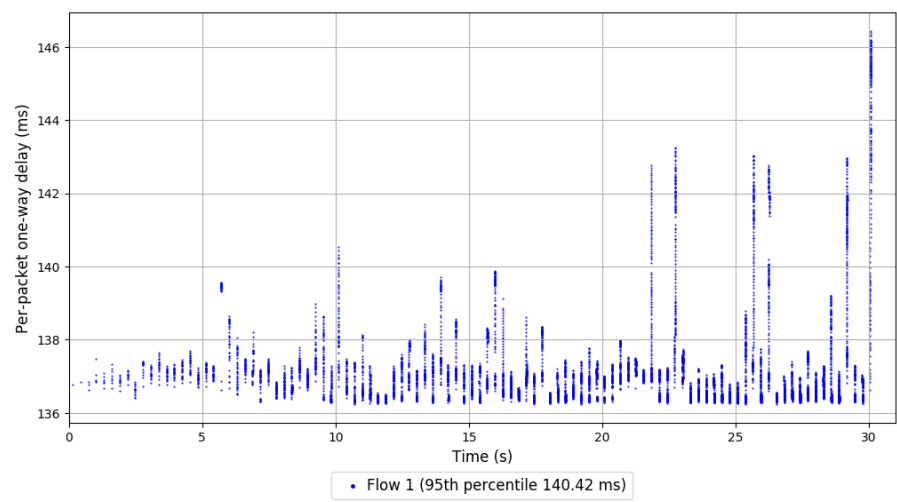
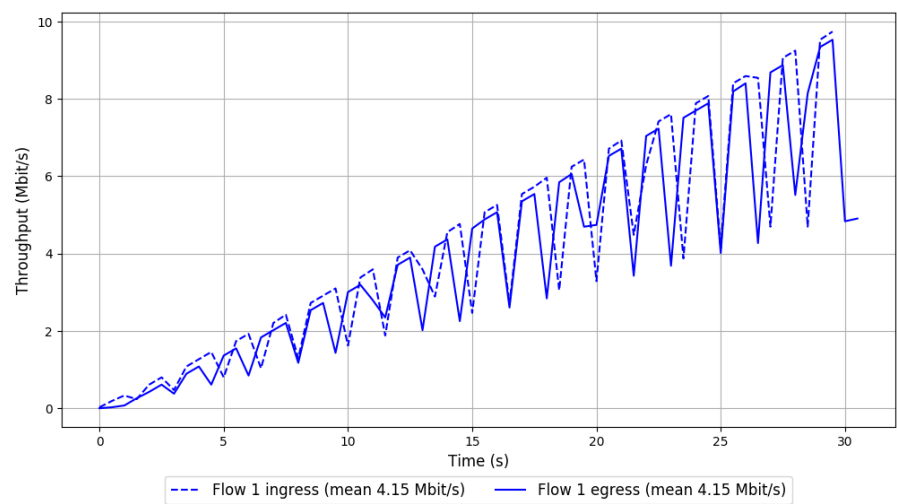


```
Run 4: Statistics of LEDBAT

Start at: 2018-12-02 01:56:01
End at: 2018-12-02 01:56:31
Local clock offset: 7.197 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2018-12-02 02:45:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 140.423 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 140.423 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

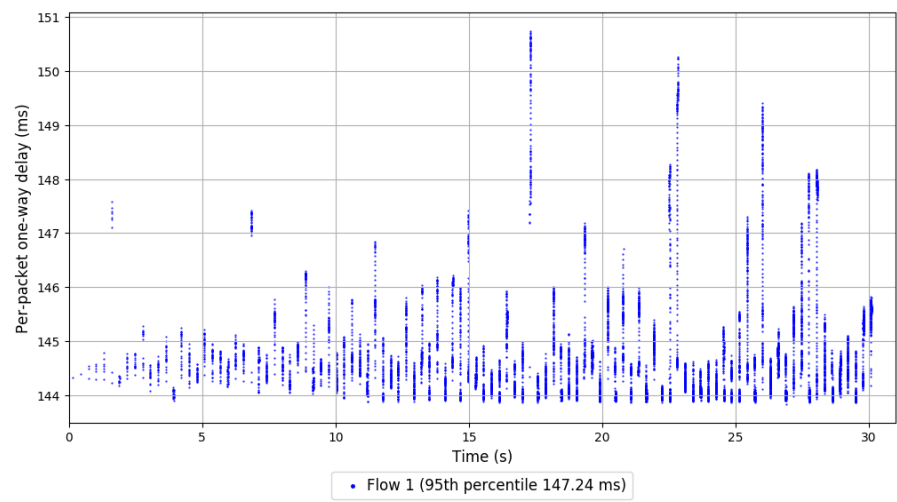
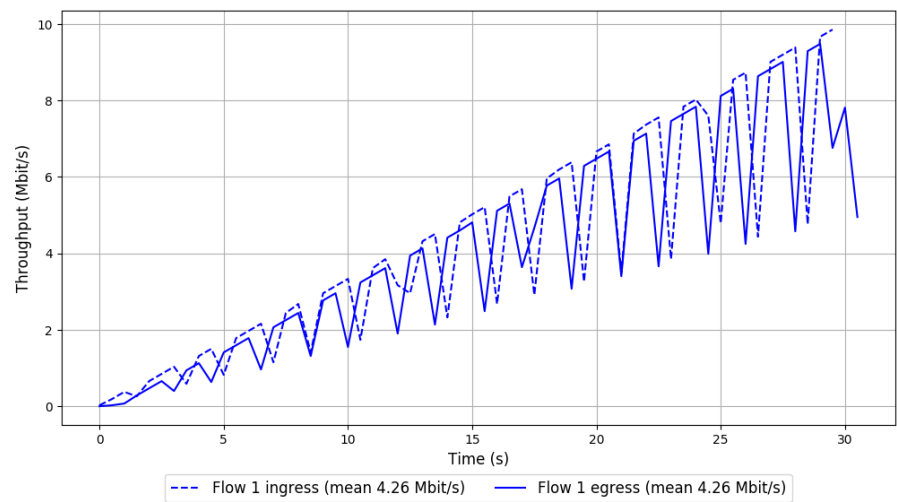


Run 5: Statistics of LEDBAT

Start at: 2018-12-02 02:23:09
End at: 2018-12-02 02:23:39
Local clock offset: 6.535 ms
Remote clock offset: -0.589 ms

Below is generated by plot.py at 2018-12-02 02:45:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 147.242 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 147.242 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

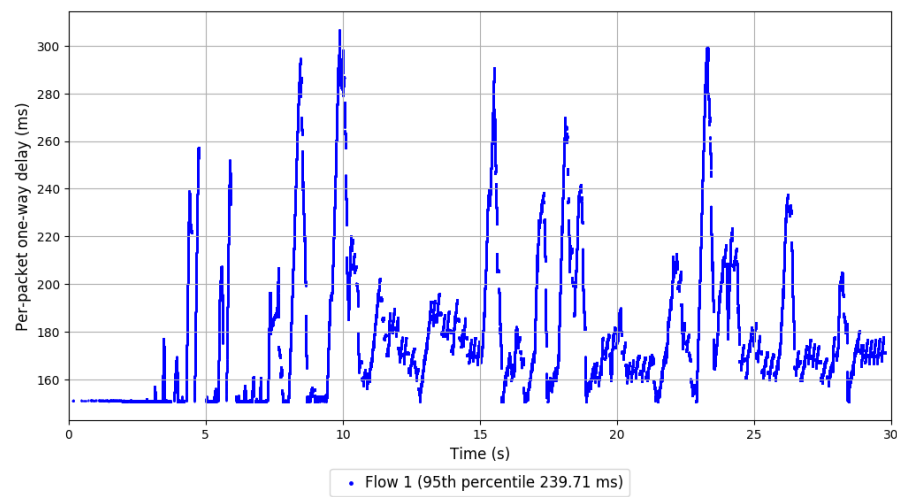
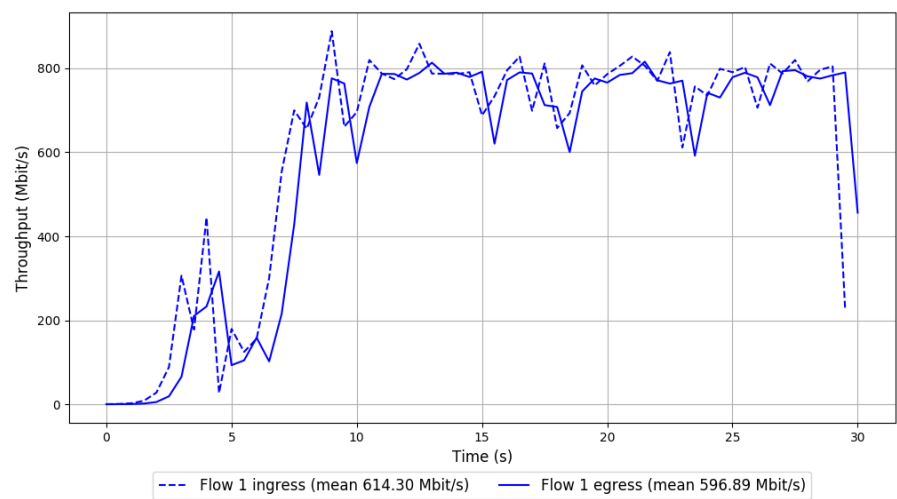



```
Run 1: Statistics of Indigo-Muses

Start at: 2018-12-02 00:31:05
End at: 2018-12-02 00:31:35
Local clock offset: -6.886 ms
Remote clock offset: -0.858 ms

# Below is generated by plot.py at 2018-12-02 02:50:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 596.89 Mbit/s
95th percentile per-packet one-way delay: 239.705 ms
Loss rate: 2.84%
-- Flow 1:
Average throughput: 596.89 Mbit/s
95th percentile per-packet one-way delay: 239.705 ms
Loss rate: 2.84%
```

Run 1: Report of Indigo-Muses — Data Link

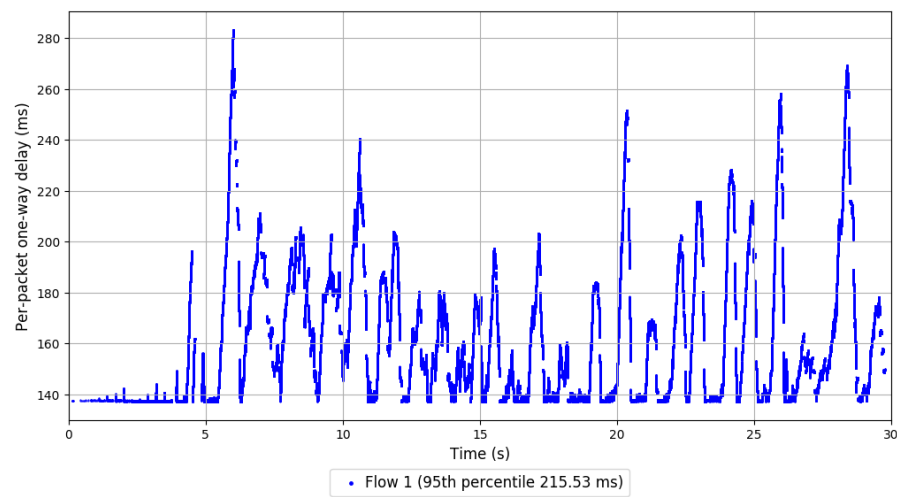
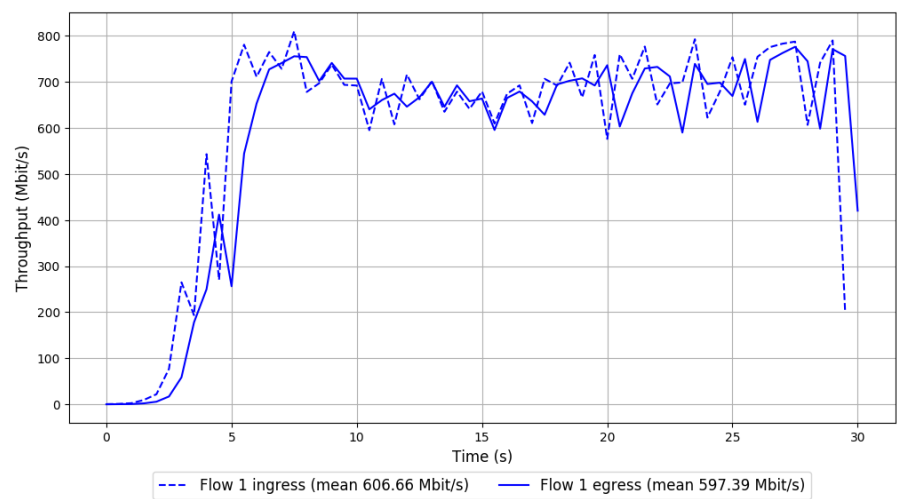


Run 2: Statistics of Indigo-Muses

Start at: 2018-12-02 00:58:18
End at: 2018-12-02 00:58:48
Local clock offset: 6.842 ms
Remote clock offset: -0.649 ms

Below is generated by plot.py at 2018-12-02 02:50:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 597.39 Mbit/s
95th percentile per-packet one-way delay: 215.526 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 597.39 Mbit/s
95th percentile per-packet one-way delay: 215.526 ms
Loss rate: 1.53%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-12-02 01:25:33

End at: 2018-12-02 01:26:03

Local clock offset: 7.369 ms

Remote clock offset: 3.351 ms

Below is generated by plot.py at 2018-12-02 02:50:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 603.38 Mbit/s

95th percentile per-packet one-way delay: 216.081 ms

Loss rate: 1.36%

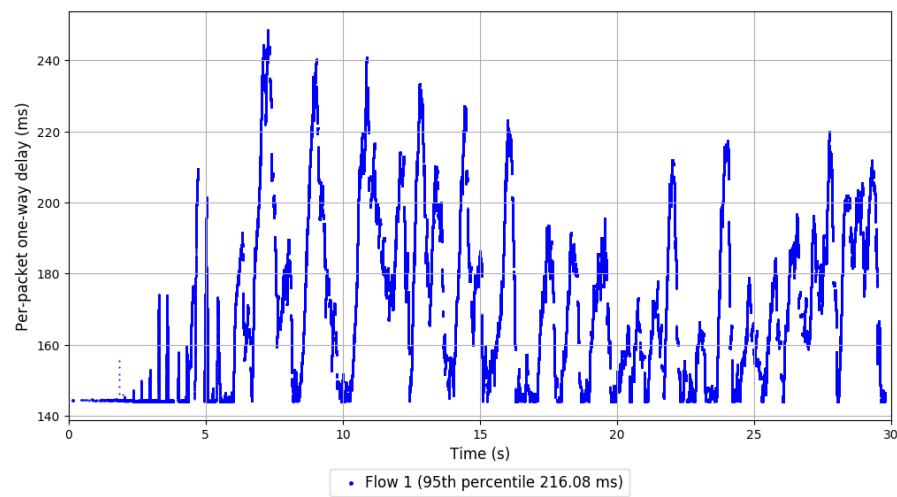
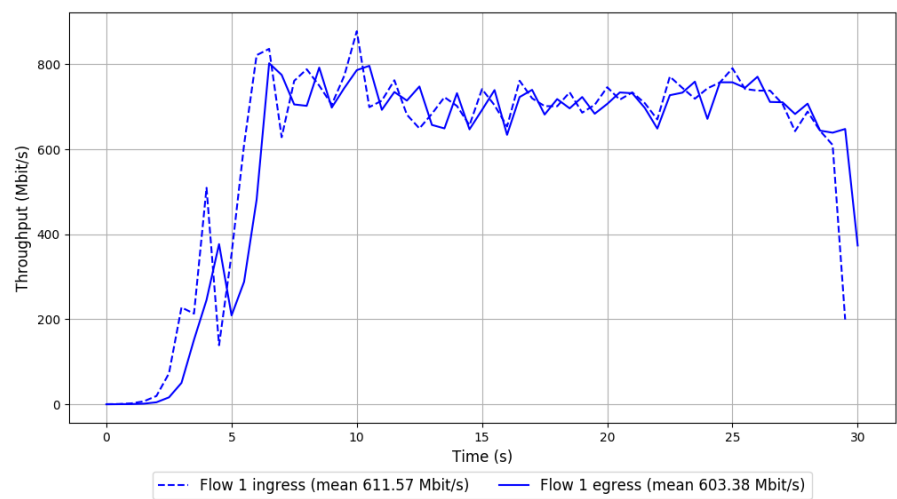
-- Flow 1:

Average throughput: 603.38 Mbit/s

95th percentile per-packet one-way delay: 216.081 ms

Loss rate: 1.36%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-12-02 01:52:48

End at: 2018-12-02 01:53:18

Local clock offset: 0.347 ms

Remote clock offset: 0.118 ms

Below is generated by plot.py at 2018-12-02 02:52:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 582.88 Mbit/s

95th percentile per-packet one-way delay: 220.708 ms

Loss rate: 1.32%

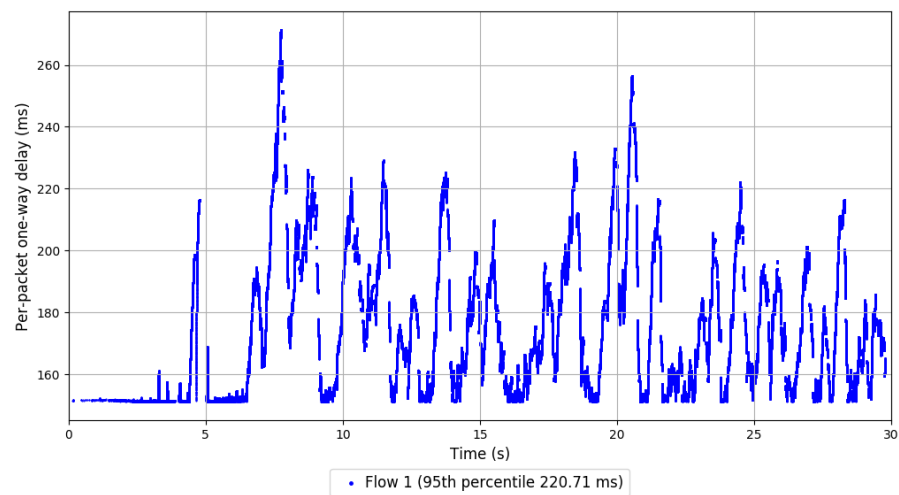
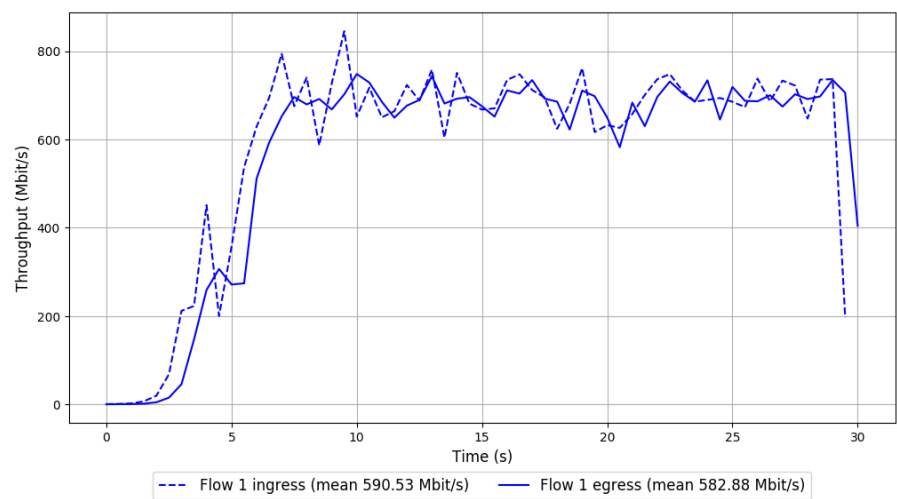
-- Flow 1:

Average throughput: 582.88 Mbit/s

95th percentile per-packet one-way delay: 220.708 ms

Loss rate: 1.32%

Run 4: Report of Indigo-Muses — Data Link

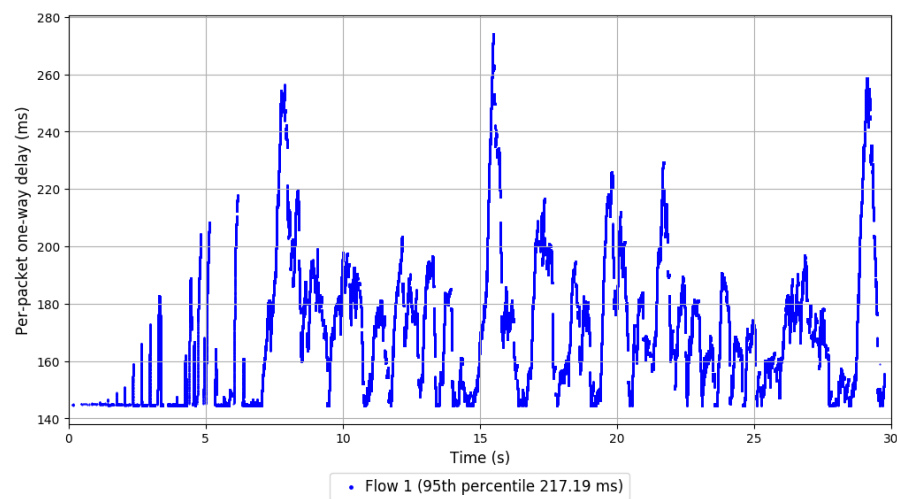
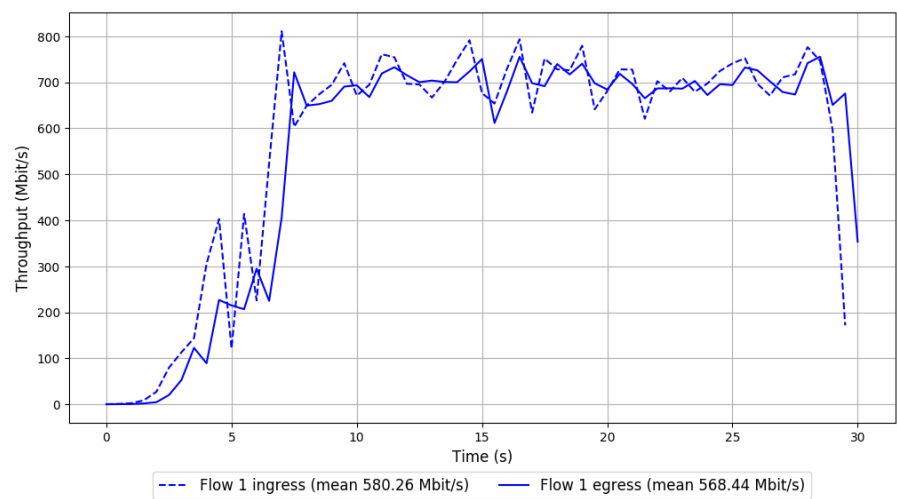


Run 5: Statistics of Indigo-Muses

Start at: 2018-12-02 02:19:57
End at: 2018-12-02 02:20:27
Local clock offset: 6.758 ms
Remote clock offset: -0.517 ms

Below is generated by plot.py at 2018-12-02 02:52:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 568.44 Mbit/s
95th percentile per-packet one-way delay: 217.192 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 568.44 Mbit/s
95th percentile per-packet one-way delay: 217.192 ms
Loss rate: 2.06%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-12-02 00:29:25

End at: 2018-12-02 00:29:55

Local clock offset: 5.305 ms

Remote clock offset: -1.076 ms

Below is generated by plot.py at 2018-12-02 02:52:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 611.21 Mbit/s

95th percentile per-packet one-way delay: 145.067 ms

Loss rate: 1.86%

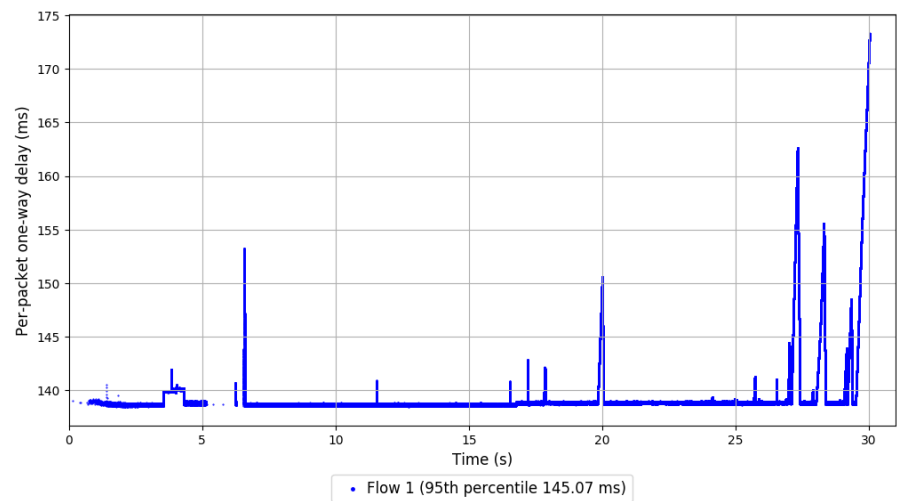
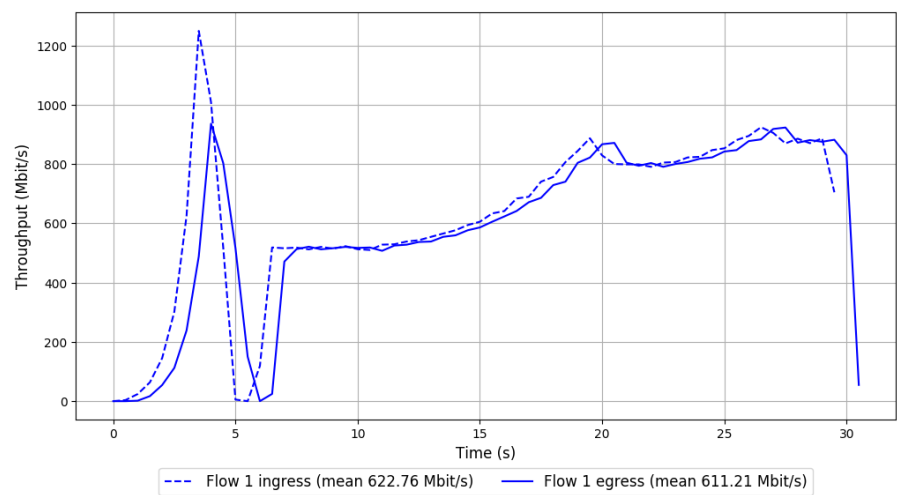
-- Flow 1:

Average throughput: 611.21 Mbit/s

95th percentile per-packet one-way delay: 145.067 ms

Loss rate: 1.86%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-02 00:56:38

End at: 2018-12-02 00:57:08

Local clock offset: -5.818 ms

Remote clock offset: -0.601 ms

Below is generated by plot.py at 2018-12-02 02:52:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 606.45 Mbit/s

95th percentile per-packet one-way delay: 168.140 ms

Loss rate: 1.88%

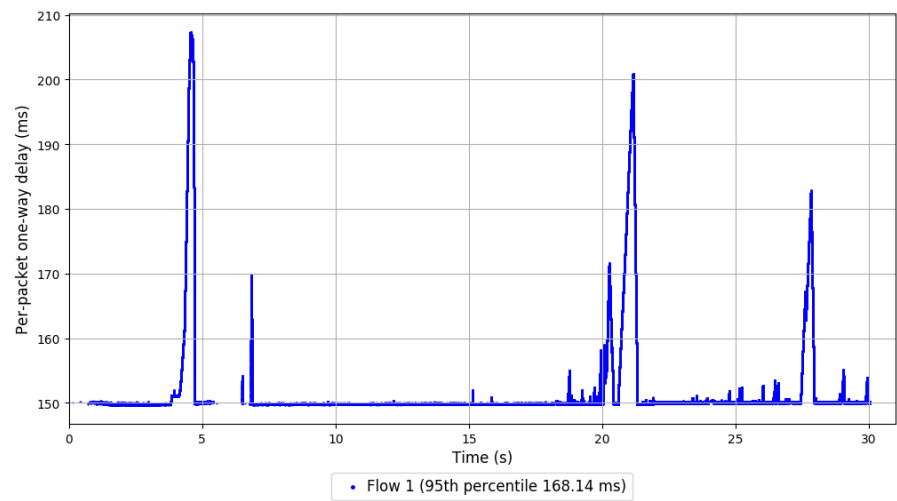
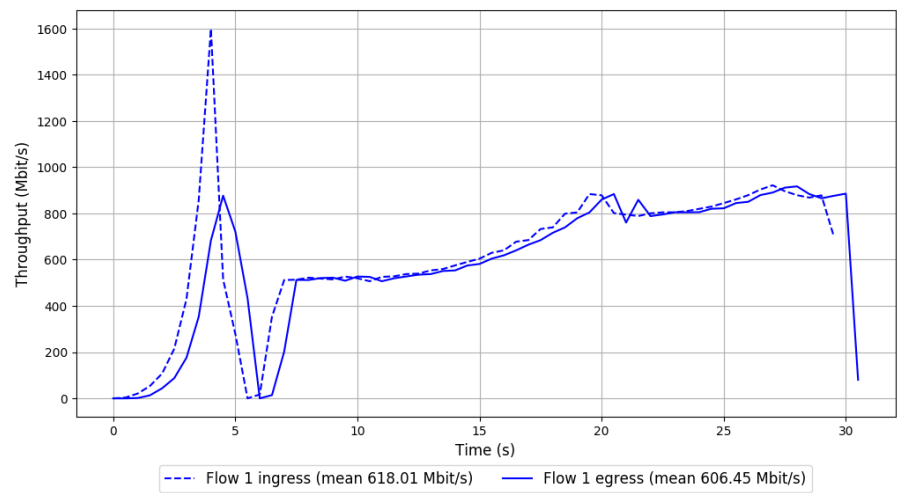
-- Flow 1:

Average throughput: 606.45 Mbit/s

95th percentile per-packet one-way delay: 168.140 ms

Loss rate: 1.88%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-02 01:23:58

End at: 2018-12-02 01:24:28

Local clock offset: -3.89 ms

Remote clock offset: 3.257 ms

Below is generated by plot.py at 2018-12-02 02:52:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 463.96 Mbit/s

95th percentile per-packet one-way delay: 185.802 ms

Loss rate: 3.48%

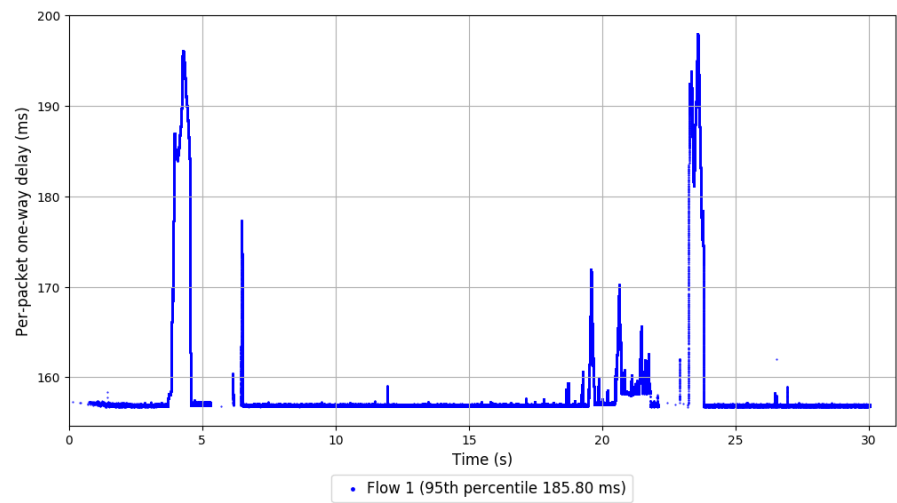
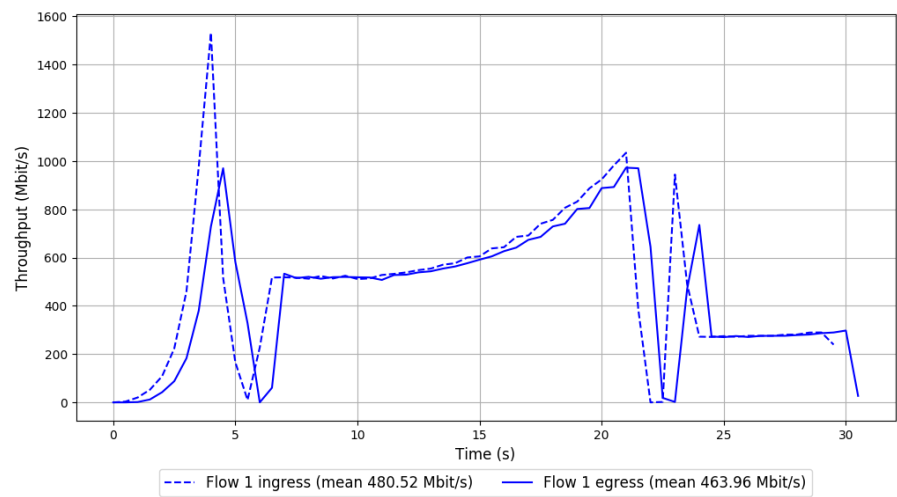
-- Flow 1:

Average throughput: 463.96 Mbit/s

95th percentile per-packet one-way delay: 185.802 ms

Loss rate: 3.48%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-02 01:51:09

End at: 2018-12-02 01:51:39

Local clock offset: 7.581 ms

Remote clock offset: 0.205 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 572.35 Mbit/s

95th percentile per-packet one-way delay: 157.569 ms

Loss rate: 2.14%

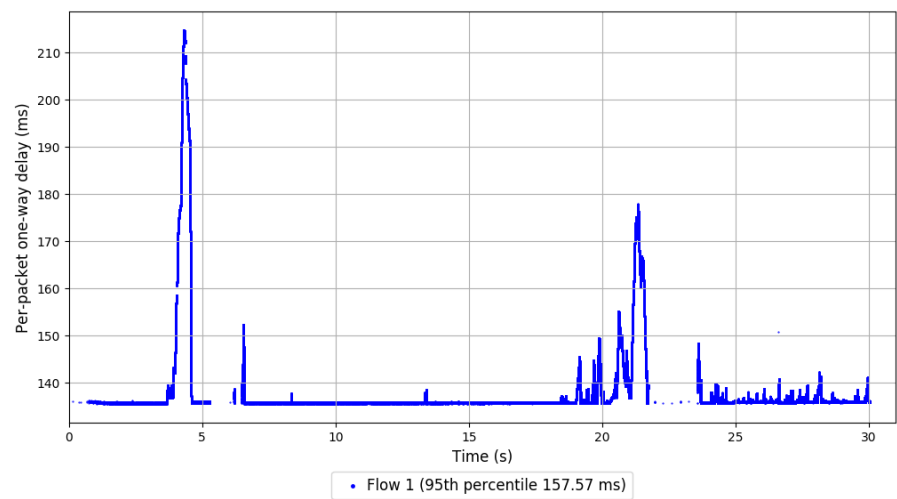
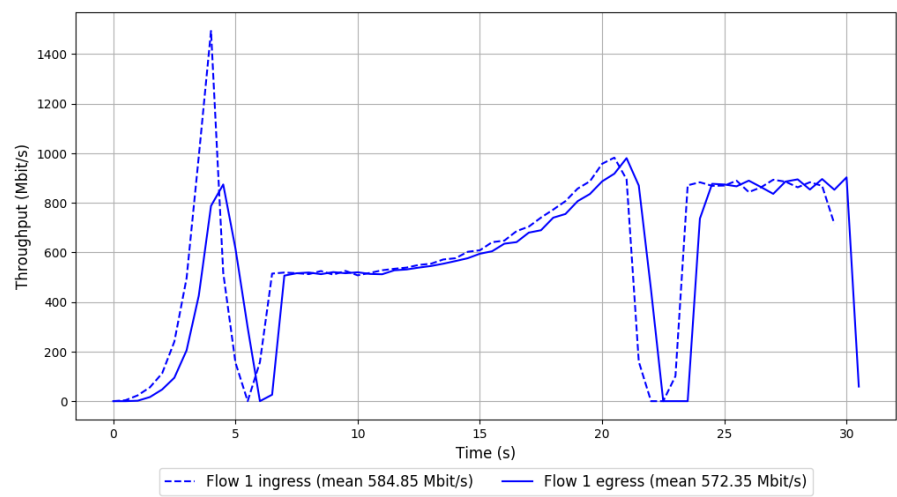
-- Flow 1:

Average throughput: 572.35 Mbit/s

95th percentile per-packet one-way delay: 157.569 ms

Loss rate: 2.14%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-02 02:18:18

End at: 2018-12-02 02:18:48

Local clock offset: 6.874 ms

Remote clock offset: -0.558 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 546.98 Mbit/s

95th percentile per-packet one-way delay: 178.674 ms

Loss rate: 2.69%

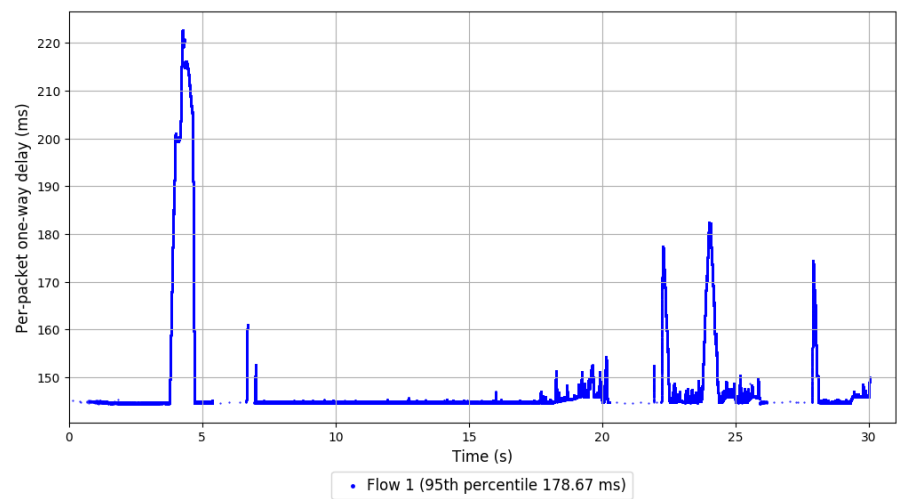
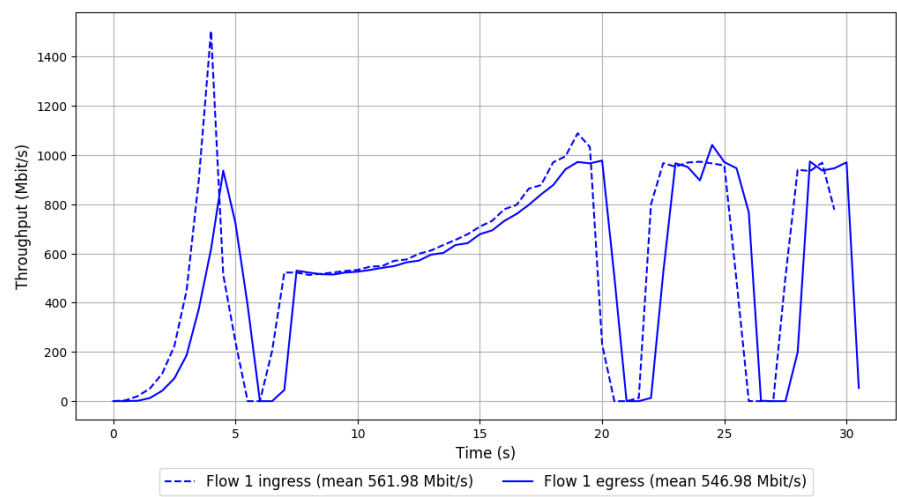
-- Flow 1:

Average throughput: 546.98 Mbit/s

95th percentile per-packet one-way delay: 178.674 ms

Loss rate: 2.69%

Run 5: Report of PCC-Allegro — Data Link

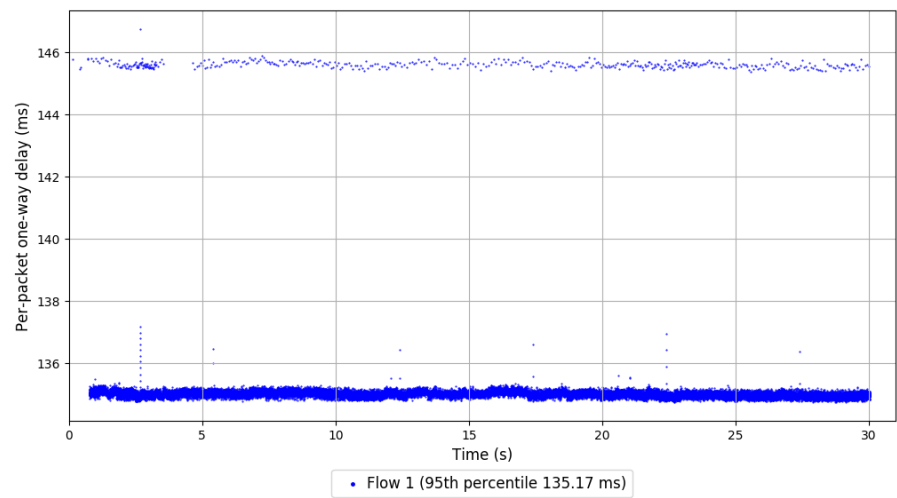
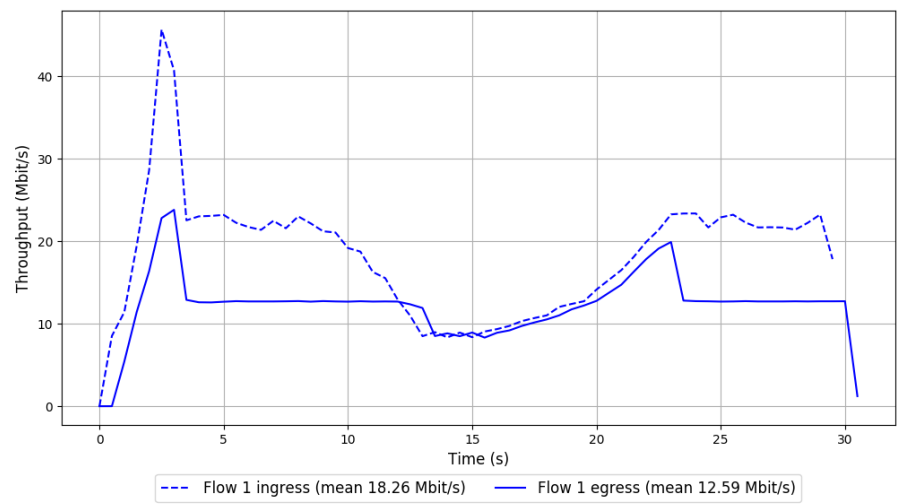


```
Run 1: Statistics of PCC-Expr

Start at: 2018-12-02 00:42:42
End at: 2018-12-02 00:43:12
Local clock offset: 6.225 ms
Remote clock offset: -0.49 ms

# Below is generated by plot.py at 2018-12-02 02:56:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 135.170 ms
Loss rate: 31.05%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 135.170 ms
Loss rate: 31.05%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-02 01:10:02

End at: 2018-12-02 01:10:32

Local clock offset: 6.884 ms

Remote clock offset: 1.649 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.96 Mbit/s

95th percentile per-packet one-way delay: 136.755 ms

Loss rate: 33.12%

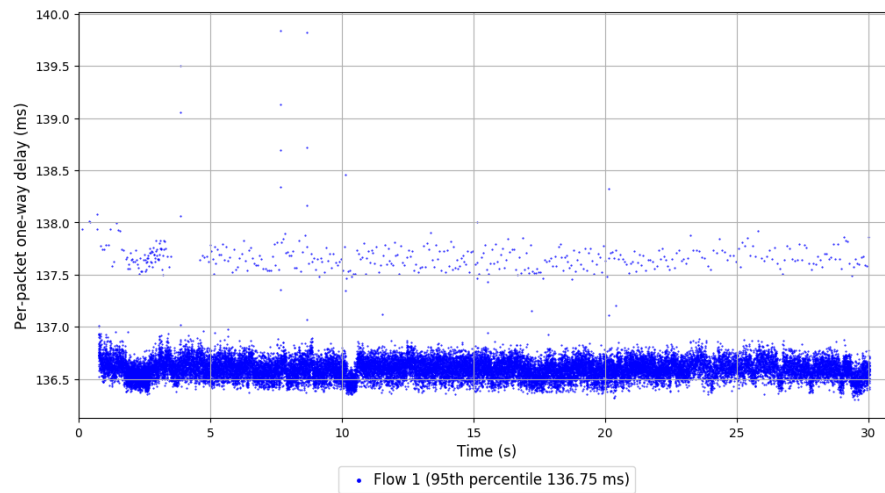
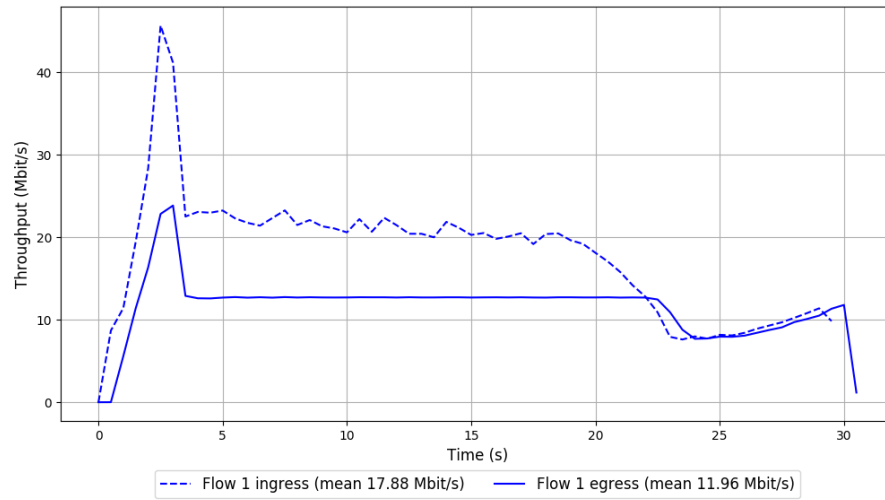
-- Flow 1:

Average throughput: 11.96 Mbit/s

95th percentile per-packet one-way delay: 136.755 ms

Loss rate: 33.12%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-12-02 01:37:13

End at: 2018-12-02 01:37:43

Local clock offset: 7.434 ms

Remote clock offset: 3.77 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.48 Mbit/s

95th percentile per-packet one-way delay: 136.915 ms

Loss rate: 29.75%

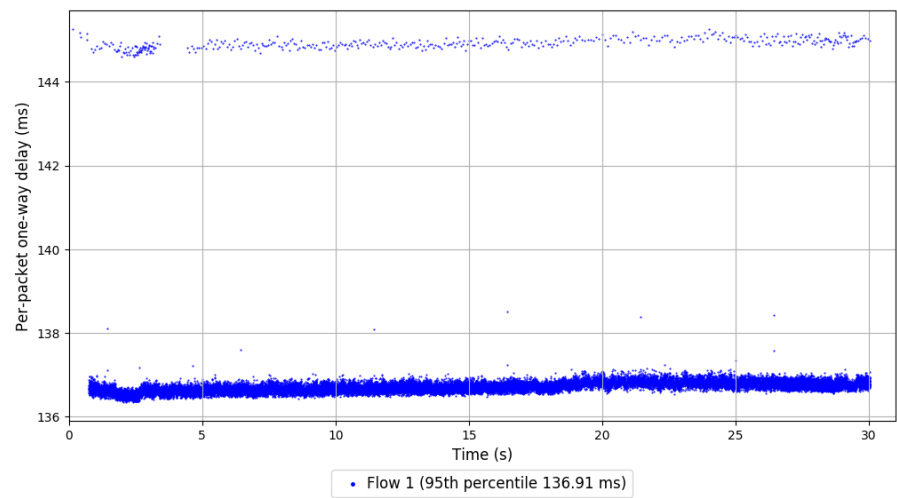
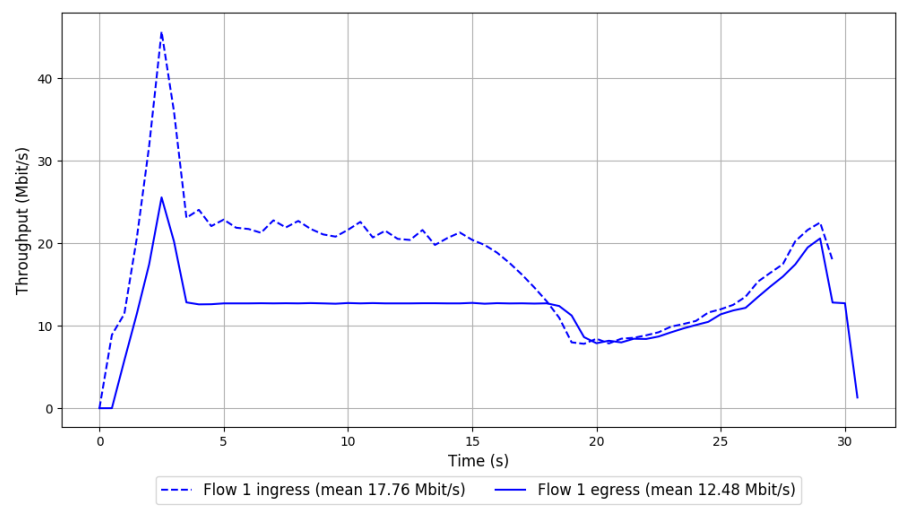
-- Flow 1:

Average throughput: 12.48 Mbit/s

95th percentile per-packet one-way delay: 136.915 ms

Loss rate: 29.75%

Run 3: Report of PCC-Expr — Data Link

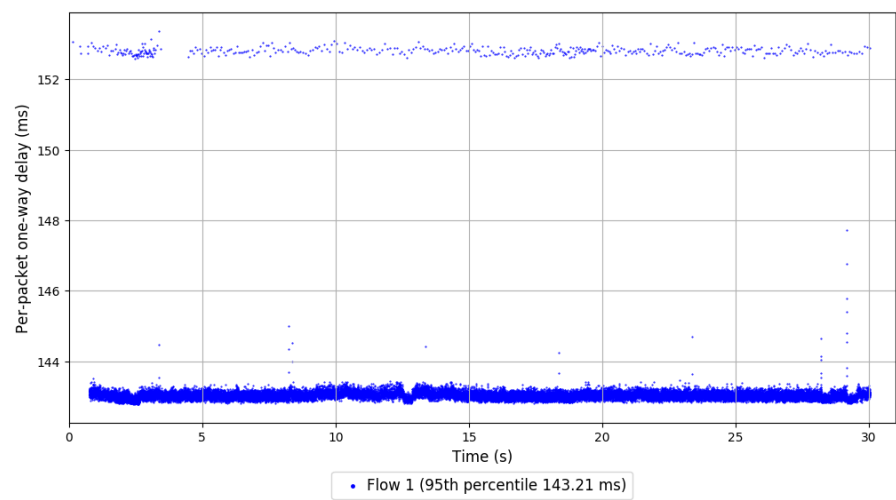
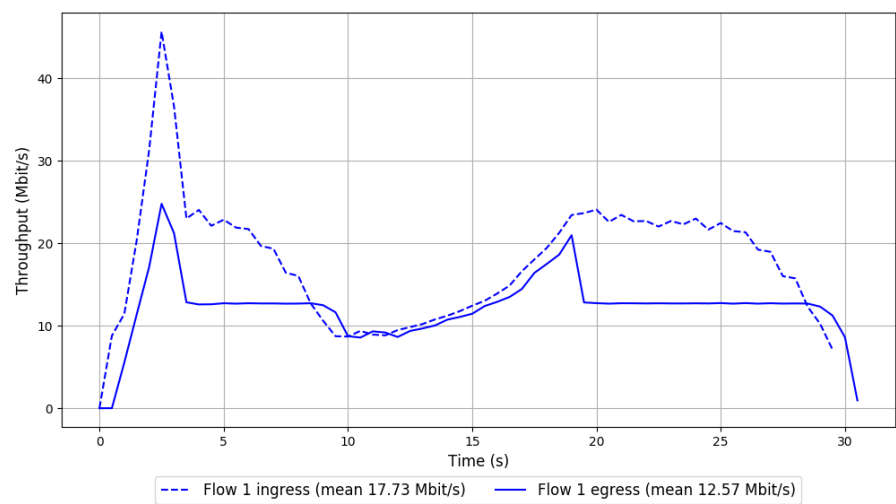


Run 4: Statistics of PCC-Expr

Start at: 2018-12-02 02:04:30
End at: 2018-12-02 02:05:00
Local clock offset: 0.095 ms
Remote clock offset: -0.635 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 143.214 ms
Loss rate: 29.12%
-- Flow 1:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 143.214 ms
Loss rate: 29.12%

Run 4: Report of PCC-Expr — Data Link

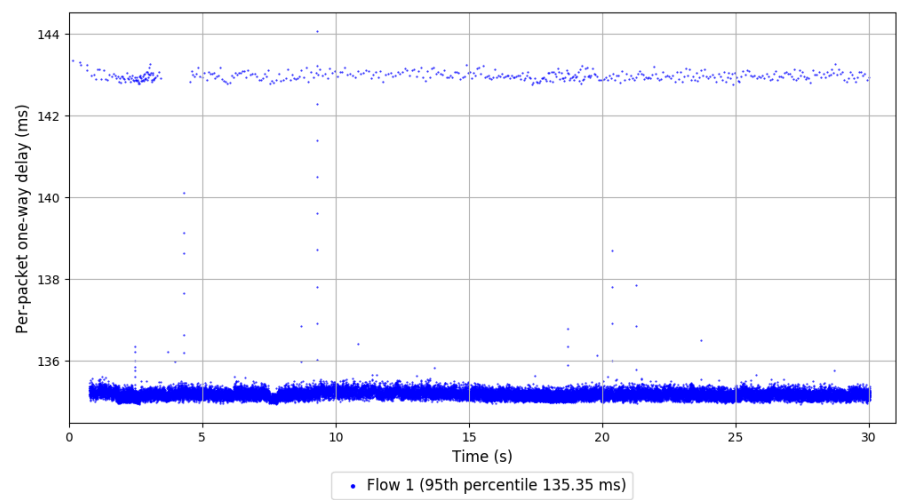
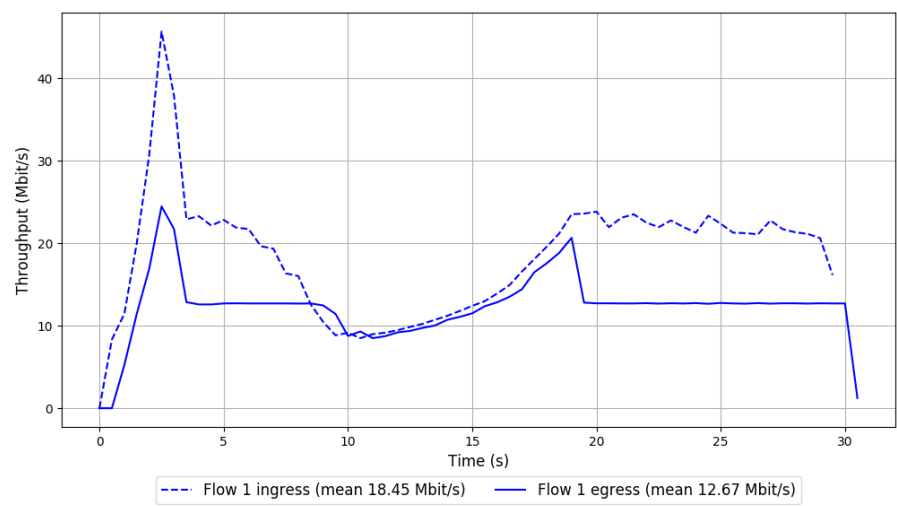


Run 5: Statistics of PCC-Expr

Start at: 2018-12-02 02:31:35
End at: 2018-12-02 02:32:05
Local clock offset: 6.348 ms
Remote clock offset: -0.418 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 135.354 ms
Loss rate: 31.33%
-- Flow 1:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 135.354 ms
Loss rate: 31.33%

Run 5: Report of PCC-Expr — Data Link

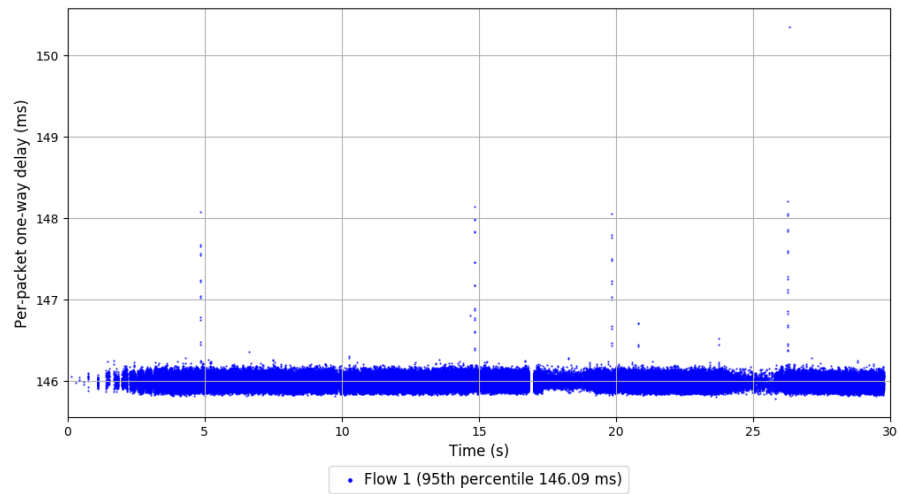
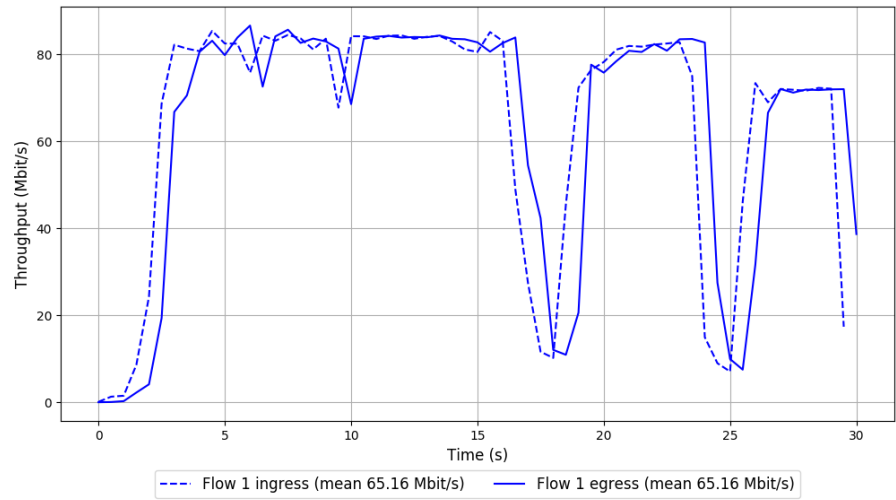


Run 1: Statistics of QUIC Cubic

Start at: 2018-12-02 00:28:03
End at: 2018-12-02 00:28:33
Local clock offset: -4.799 ms
Remote clock offset: -1.117 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 146.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 146.092 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-12-02 00:55:15

End at: 2018-12-02 00:55:45

Local clock offset: 6.532 ms

Remote clock offset: -0.622 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 62.57 Mbit/s

95th percentile per-packet one-way delay: 137.253 ms

Loss rate: 0.01%

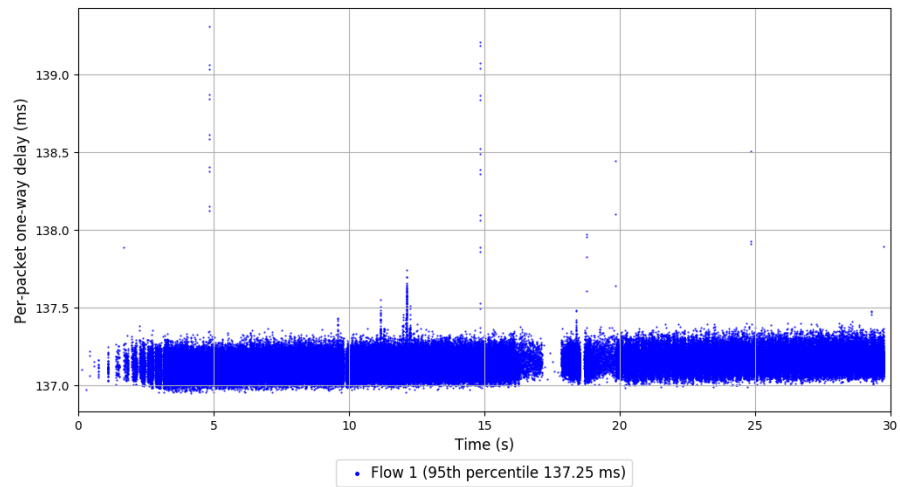
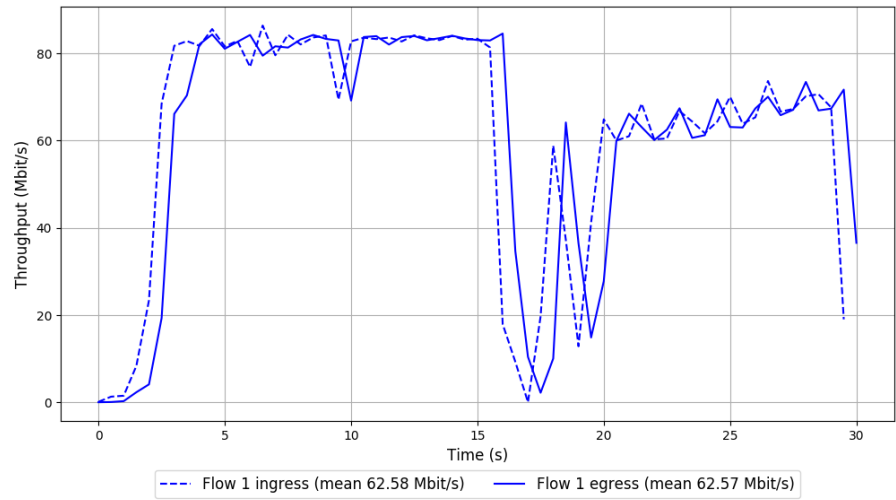
-- Flow 1:

Average throughput: 62.57 Mbit/s

95th percentile per-packet one-way delay: 137.253 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-02 01:22:36

End at: 2018-12-02 01:23:06

Local clock offset: 7.273 ms

Remote clock offset: 3.141 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.19 Mbit/s

95th percentile per-packet one-way delay: 145.843 ms

Loss rate: 0.02%

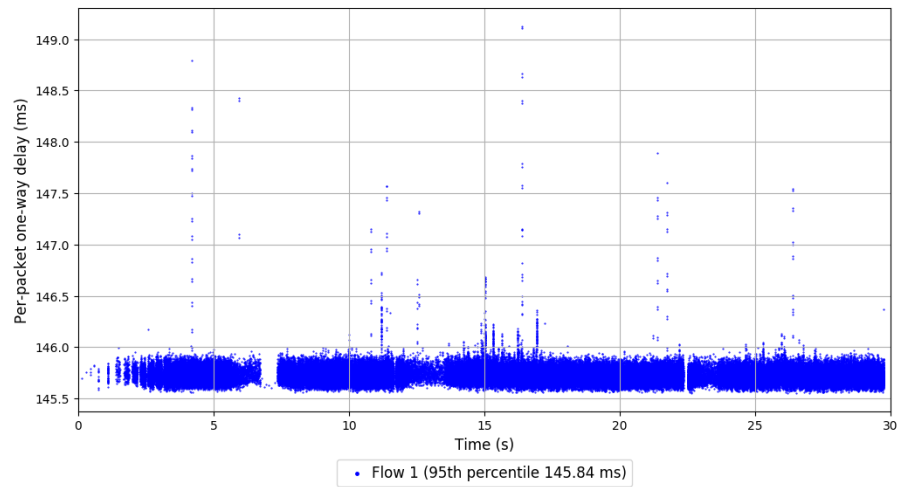
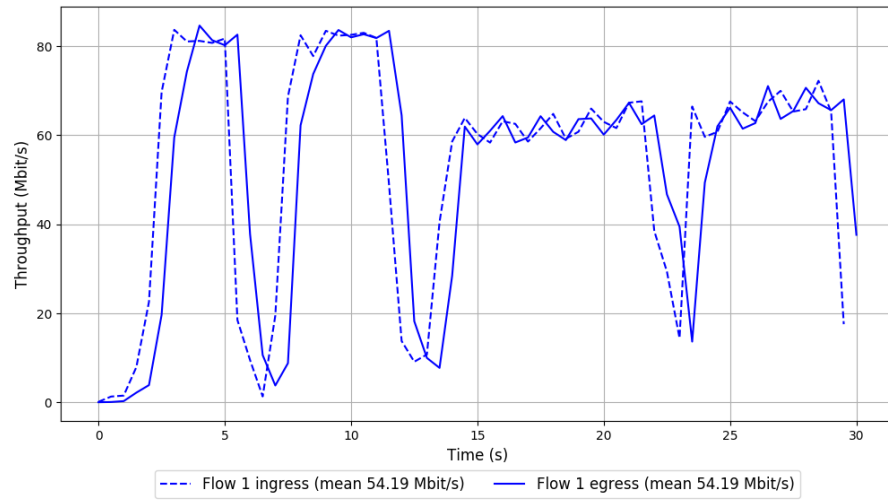
-- Flow 1:

Average throughput: 54.19 Mbit/s

95th percentile per-packet one-way delay: 145.843 ms

Loss rate: 0.02%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-02 01:49:47

End at: 2018-12-02 01:50:17

Local clock offset: 11.413 ms

Remote clock offset: 0.346 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 141.725 ms

Loss rate: 0.01%

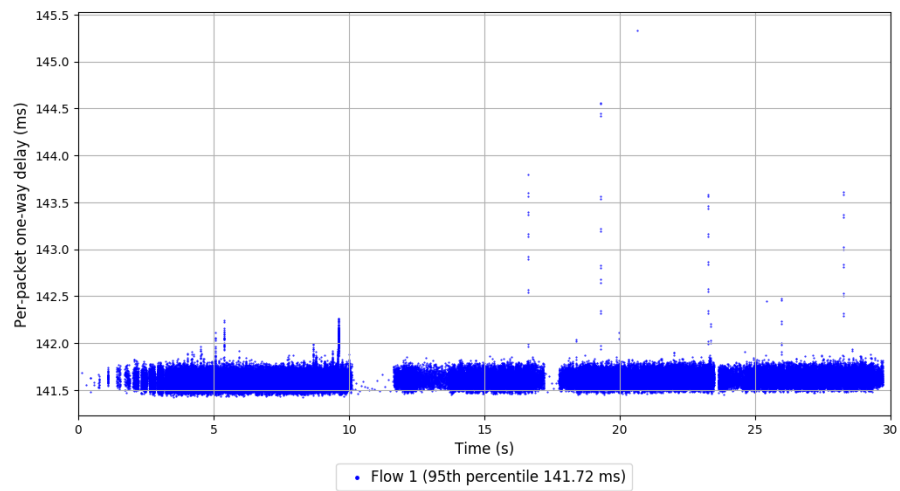
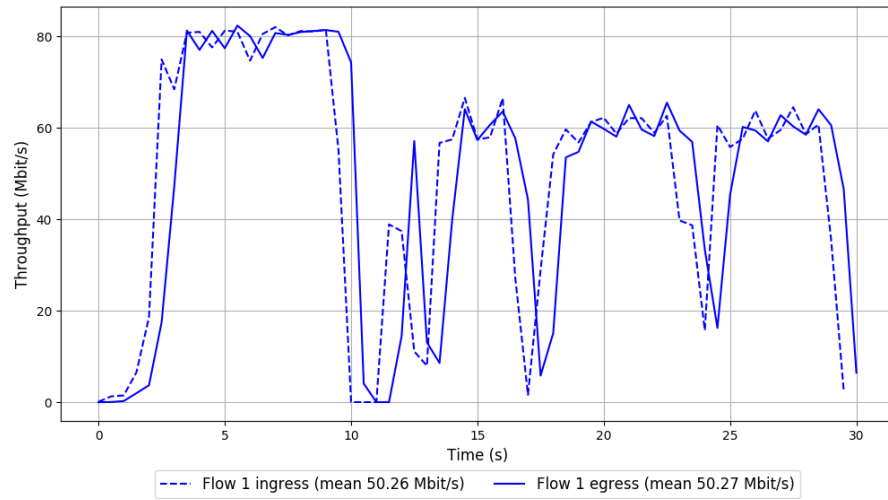
-- Flow 1:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 141.725 ms

Loss rate: 0.01%

Run 4: Report of QUIC Cubic — Data Link

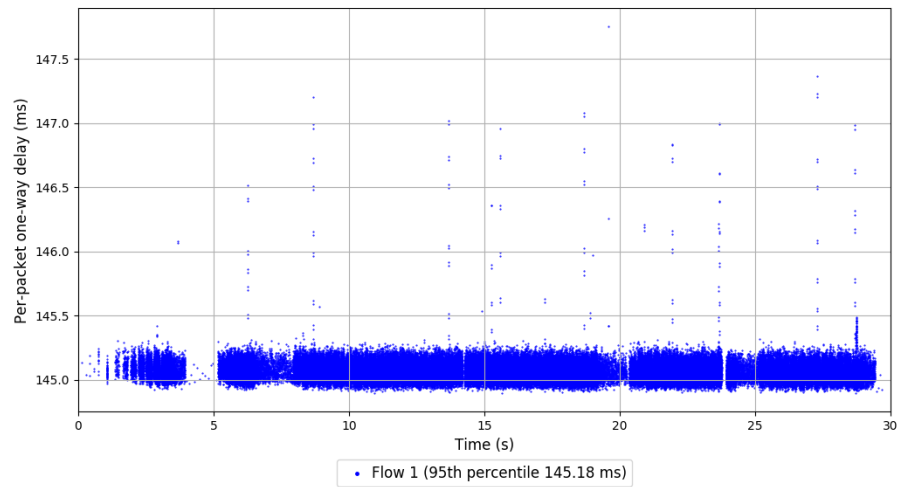
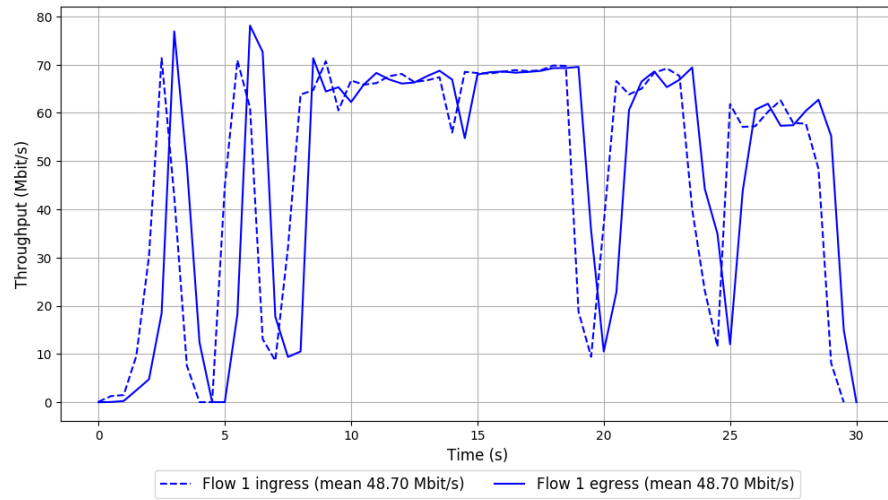


Run 5: Statistics of QUIC Cubic

Start at: 2018-12-02 02:16:56
End at: 2018-12-02 02:17:27
Local clock offset: -0.828 ms
Remote clock offset: -0.719 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.70 Mbit/s
95th percentile per-packet one-way delay: 145.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.70 Mbit/s
95th percentile per-packet one-way delay: 145.176 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

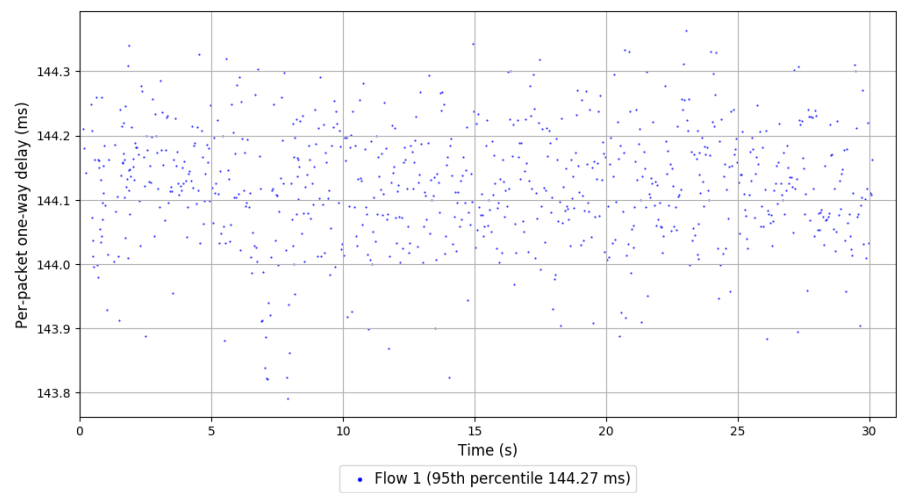
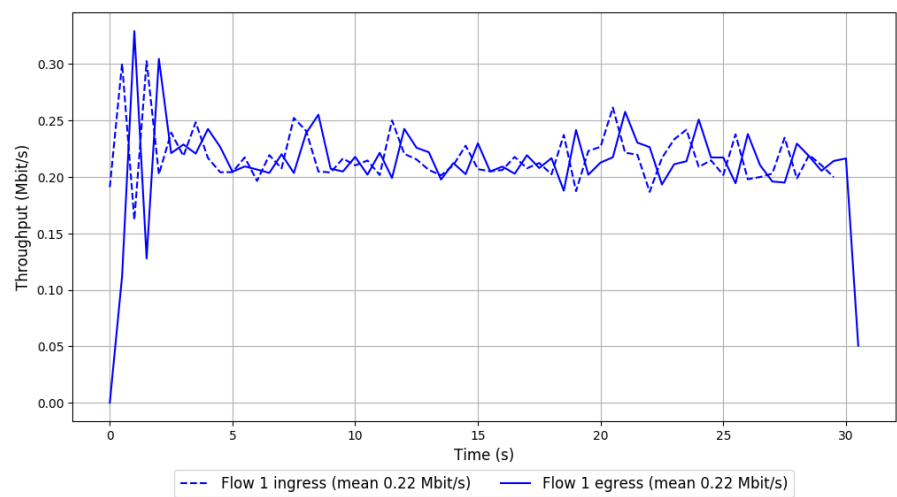


Run 1: Statistics of SCReAM

Start at: 2018-12-02 00:40:05
End at: 2018-12-02 00:40:36
Local clock offset: -2.714 ms
Remote clock offset: -0.543 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 144.267 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 144.267 ms
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-12-02 01:07:26

End at: 2018-12-02 01:07:56

Local clock offset: -5.214 ms

Remote clock offset: 1.027 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 157.164 ms

Loss rate: 0.00%

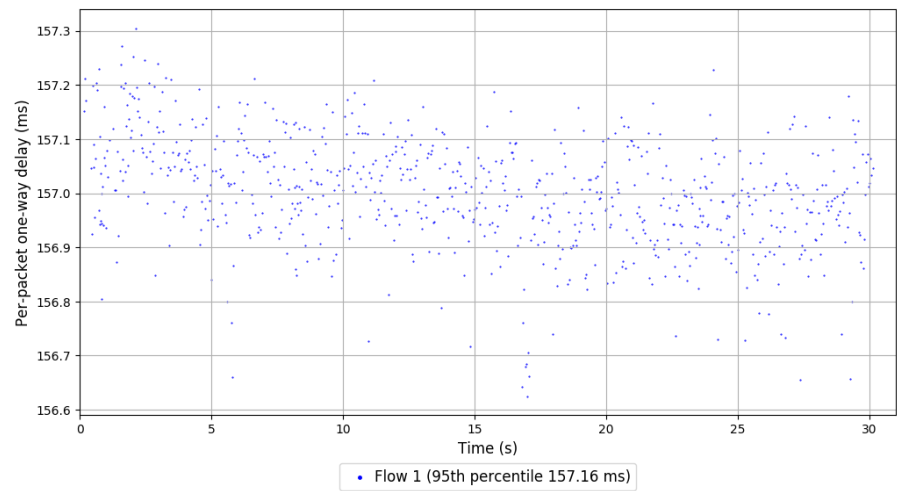
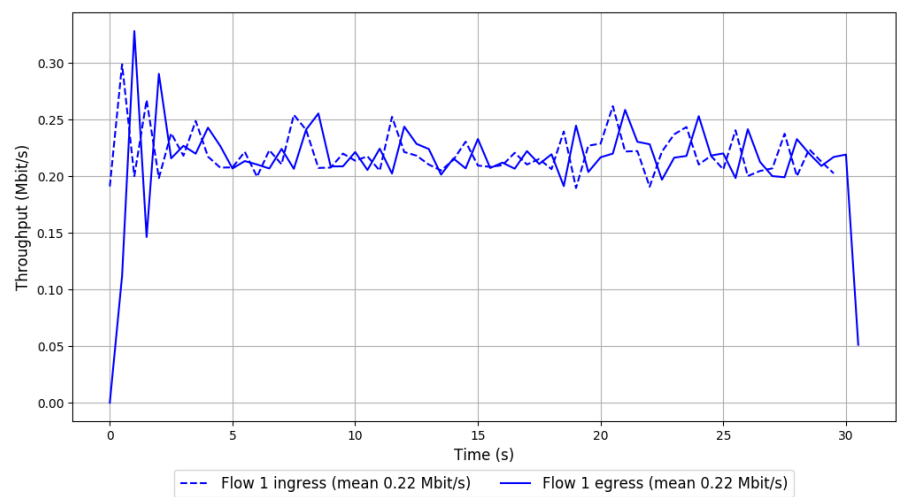
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 157.164 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-12-02 01:34:36

End at: 2018-12-02 01:35:07

Local clock offset: 8.52 ms

Remote clock offset: 3.815 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.664 ms

Loss rate: 0.00%

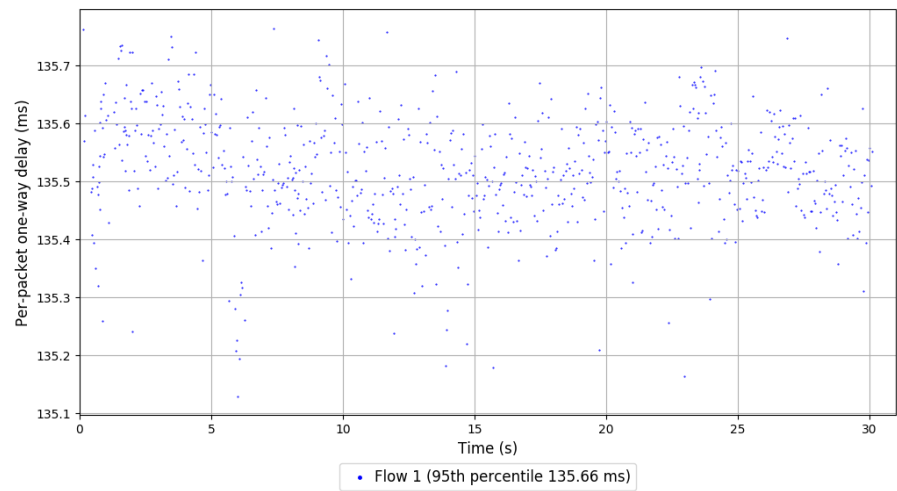
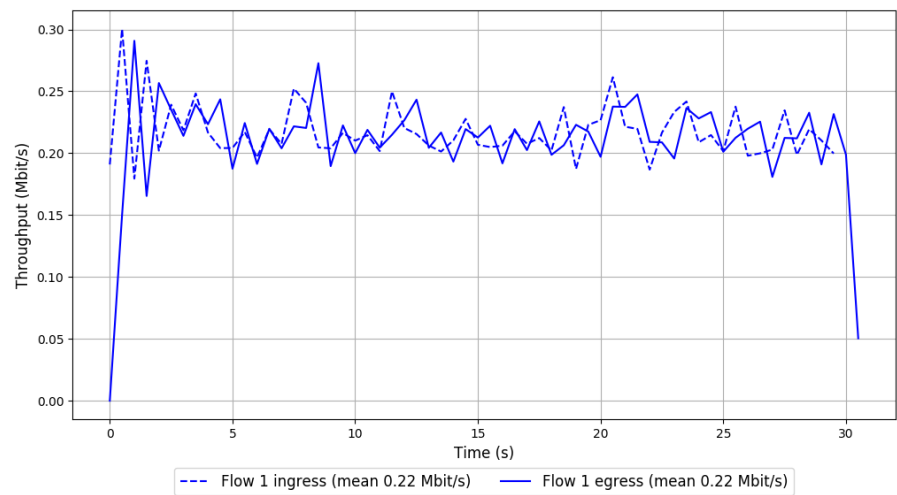
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.664 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

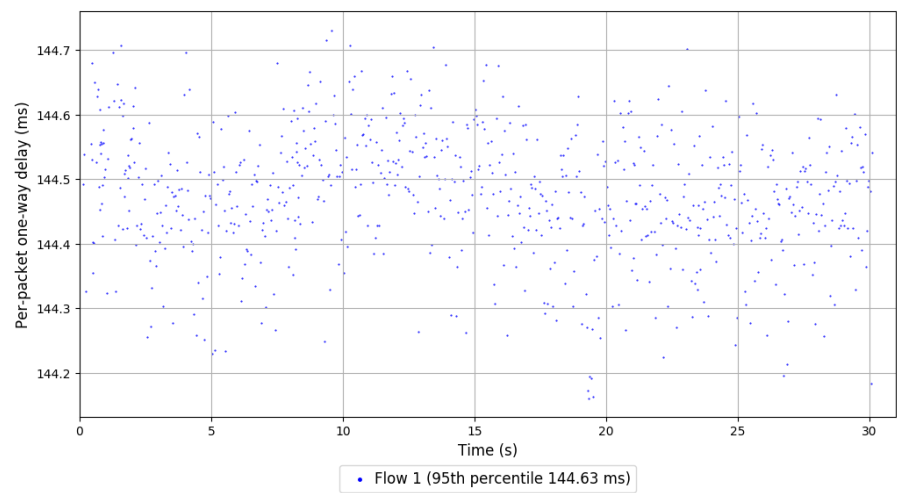
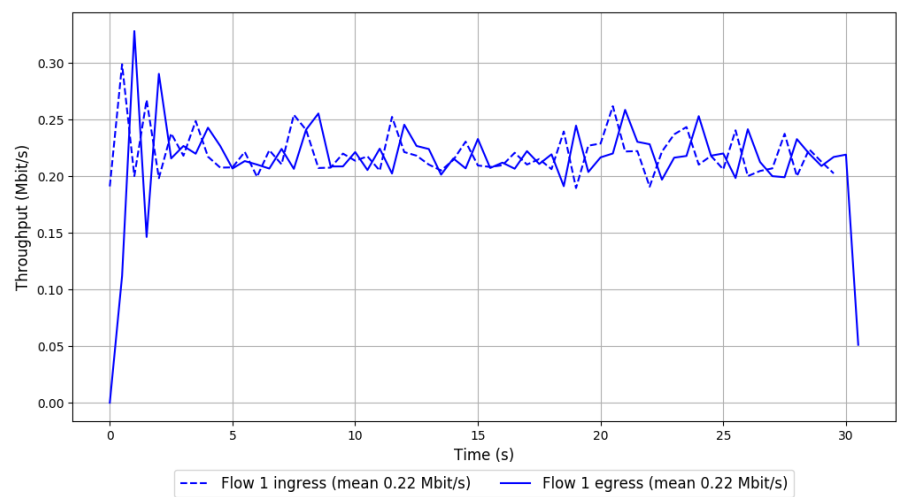


Run 4: Statistics of SCReAM

Start at: 2018-12-02 02:01:53
End at: 2018-12-02 02:02:23
Local clock offset: 7.475 ms
Remote clock offset: -0.588 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 144.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 144.629 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

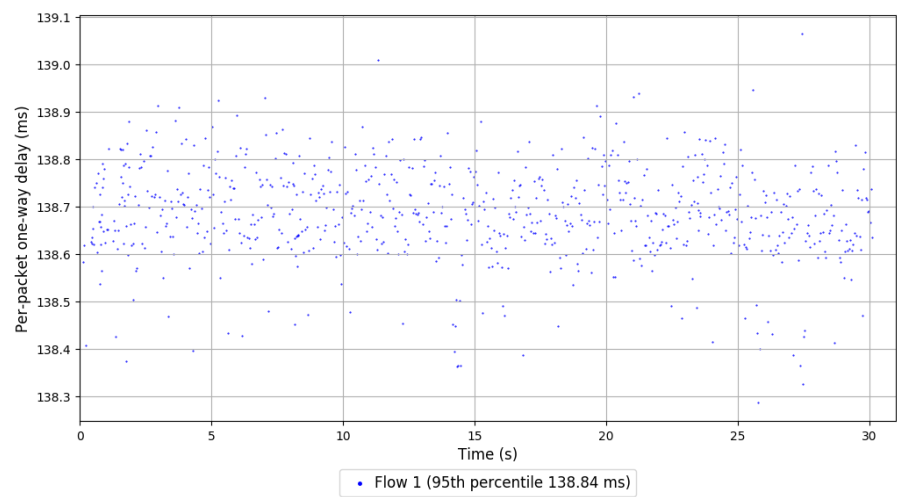
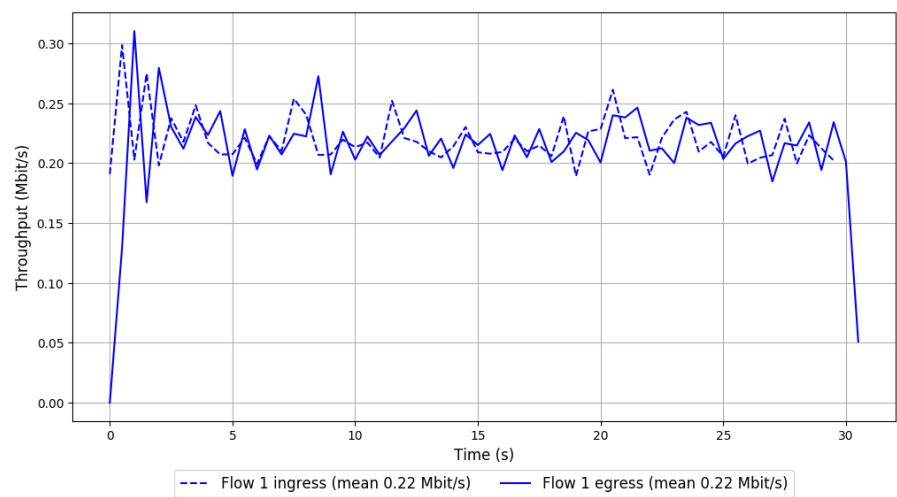


Run 5: Statistics of SCReAM

Start at: 2018-12-02 02:28:58
End at: 2018-12-02 02:29:28
Local clock offset: 6.548 ms
Remote clock offset: -0.521 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.837 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.837 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

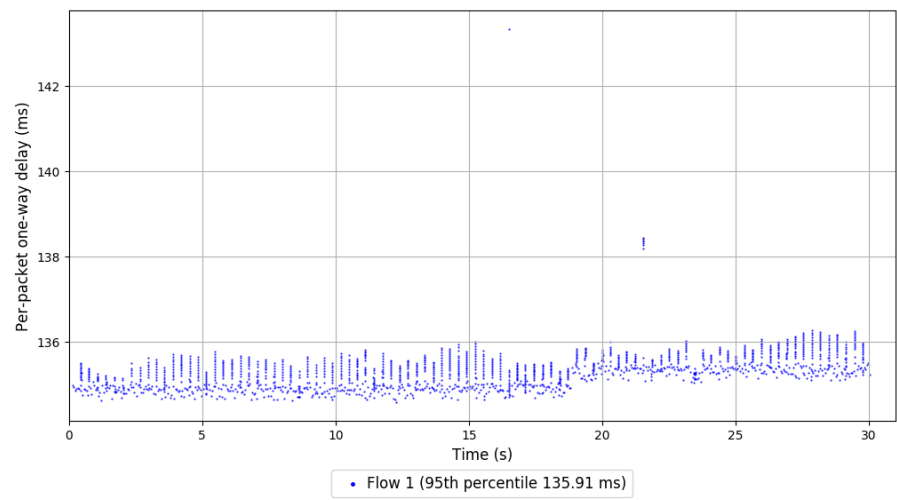
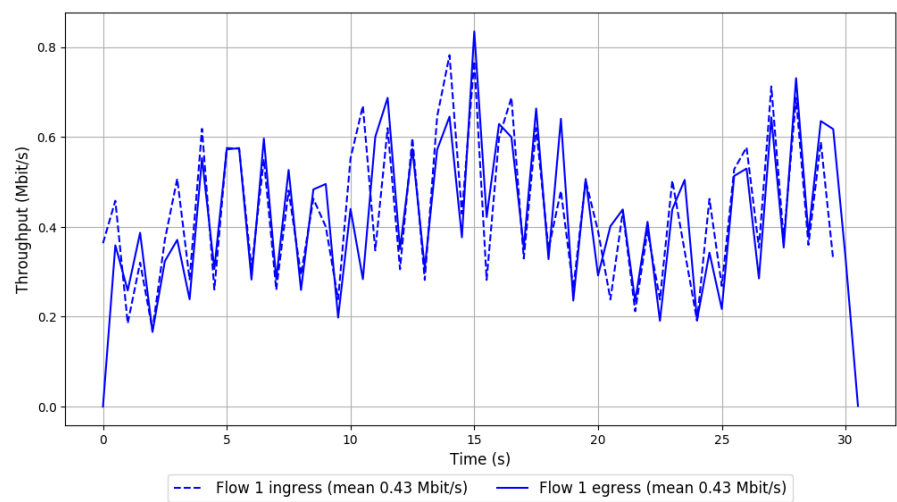


Run 1: Statistics of Sprout

Start at: 2018-12-02 00:25:19
End at: 2018-12-02 00:25:49
Local clock offset: 6.36 ms
Remote clock offset: -0.994 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 135.911 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 135.911 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

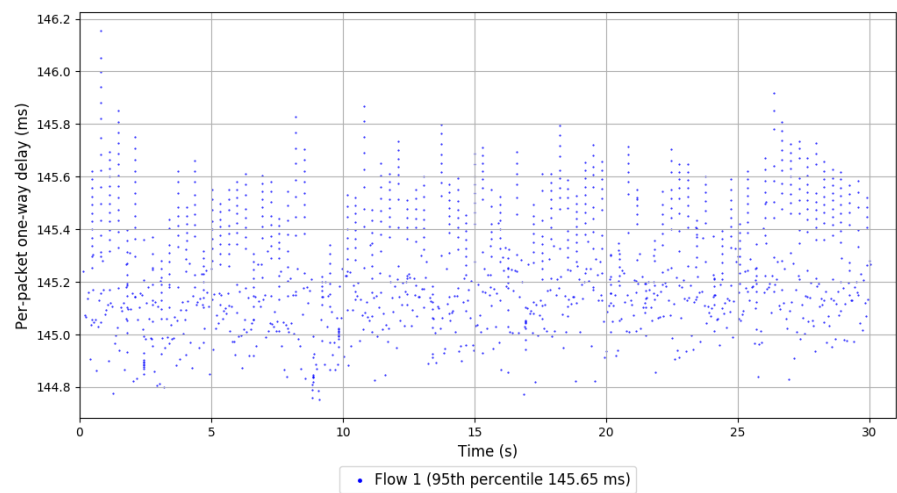
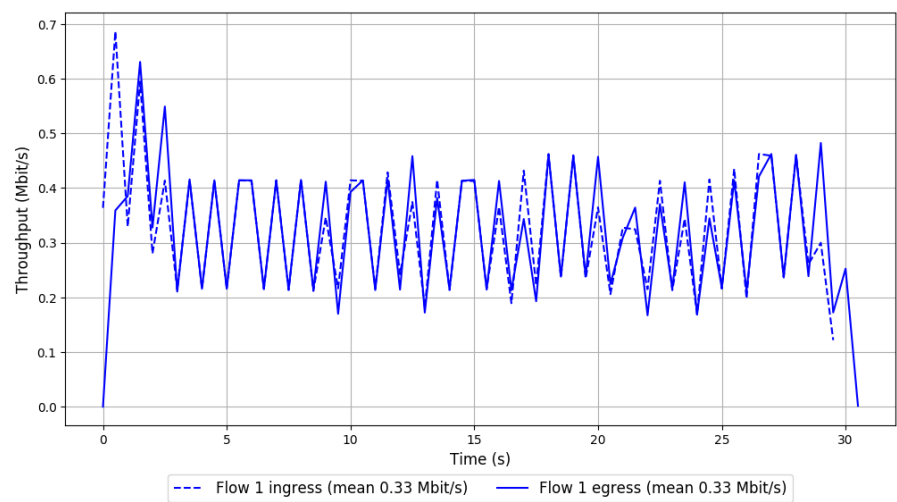


Run 2: Statistics of Sprout

Start at: 2018-12-02 00:52:34
End at: 2018-12-02 00:53:04
Local clock offset: 6.789 ms
Remote clock offset: -0.504 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 145.652 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 145.652 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-12-02 01:19:53

End at: 2018-12-02 01:20:23

Local clock offset: 8.51 ms

Remote clock offset: 3.017 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 145.388 ms

Loss rate: 0.00%

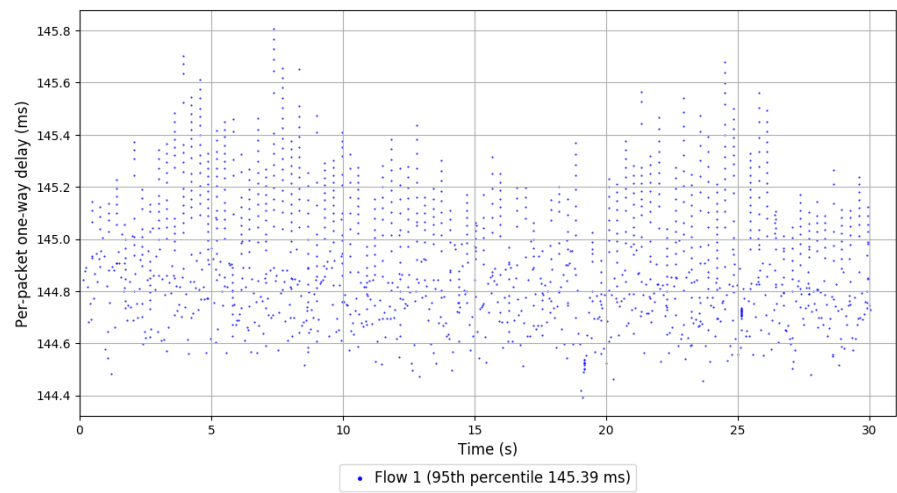
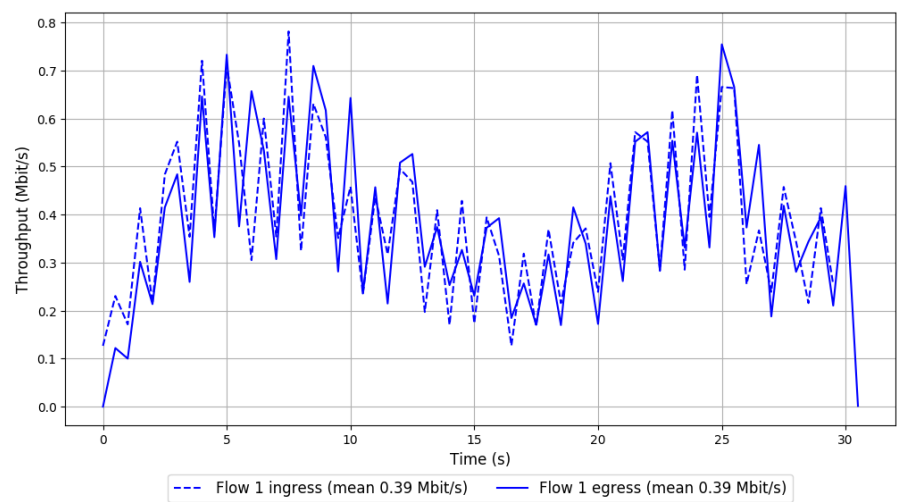
-- Flow 1:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 145.388 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-12-02 01:47:05

End at: 2018-12-02 01:47:35

Local clock offset: 7.454 ms

Remote clock offset: 0.846 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 137.164 ms

Loss rate: 0.00%

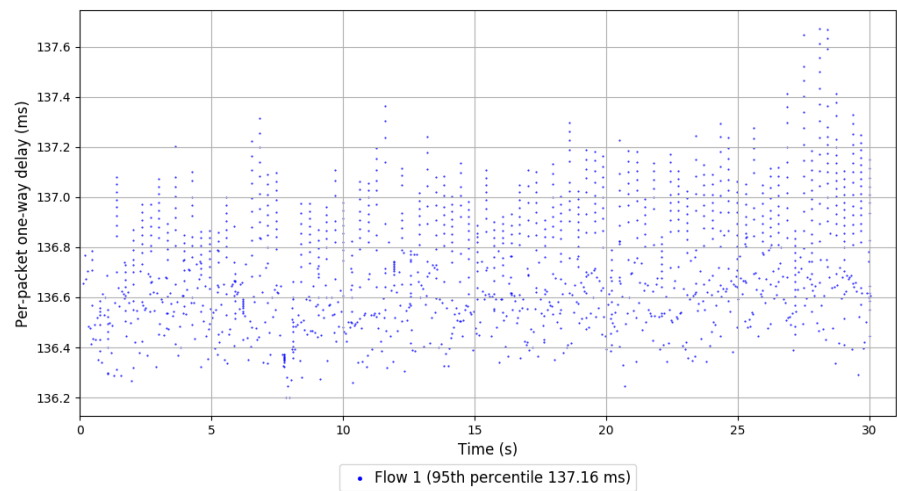
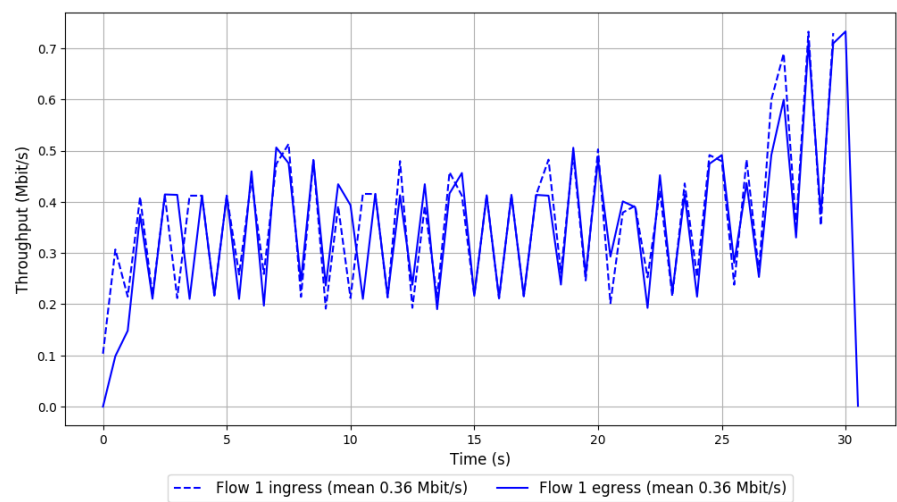
-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 137.164 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

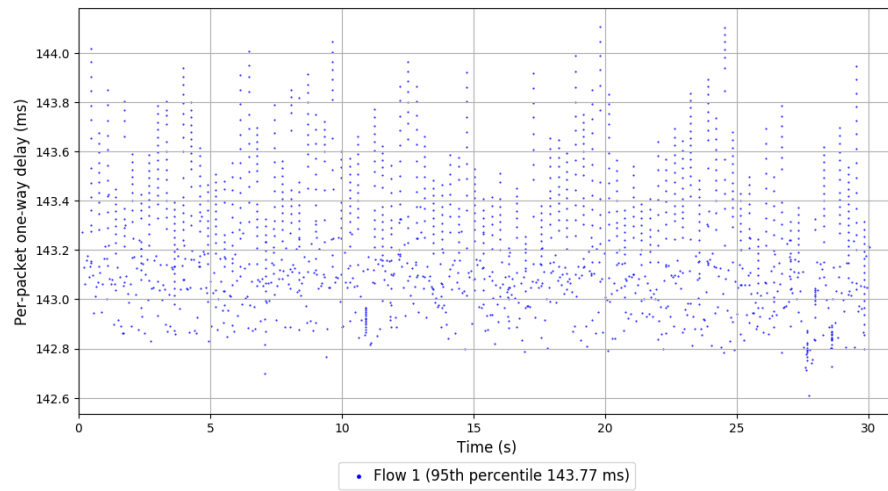
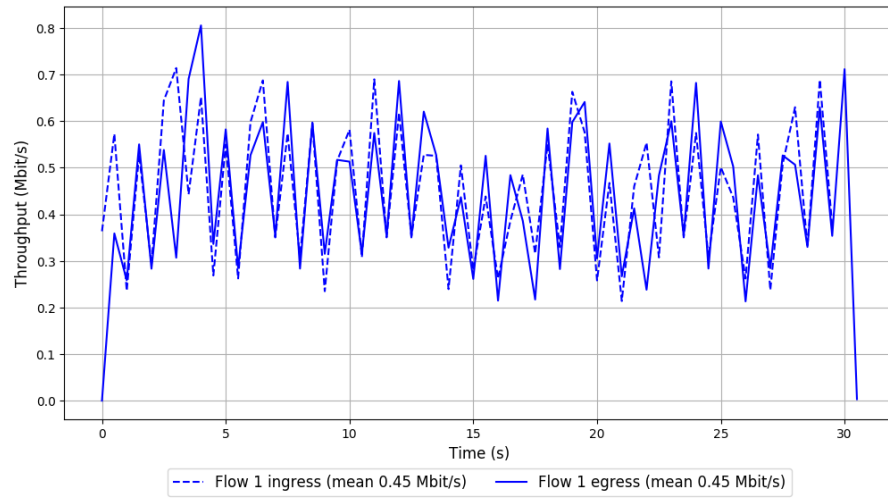


Run 5: Statistics of Sprout

Start at: 2018-12-02 02:14:15
End at: 2018-12-02 02:14:45
Local clock offset: -0.058 ms
Remote clock offset: -0.758 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 143.771 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 143.771 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

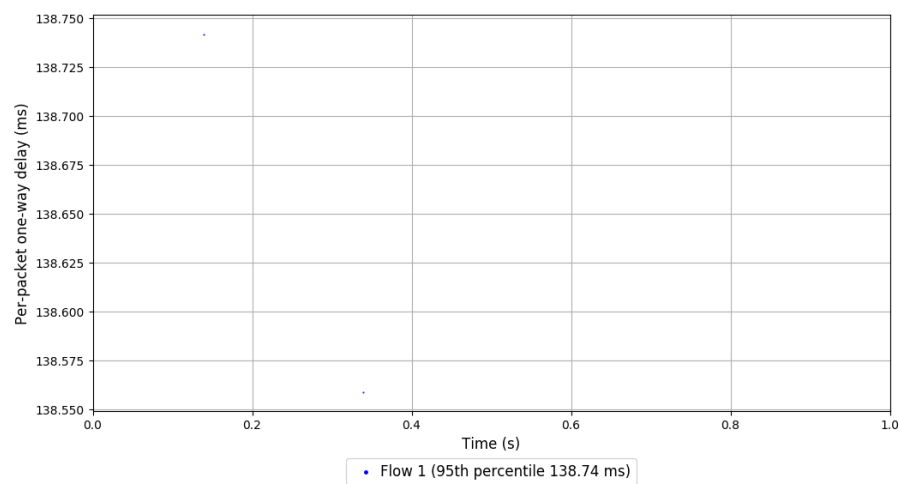
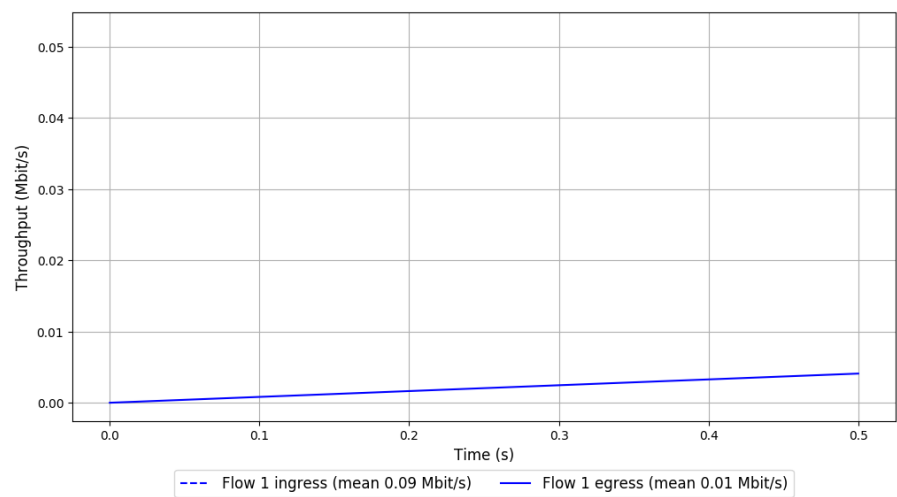
Start at: 2018-12-02 00:41:24

End at: 2018-12-02 00:41:54

Local clock offset: 5.114 ms

Remote clock offset: -0.504 ms

Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

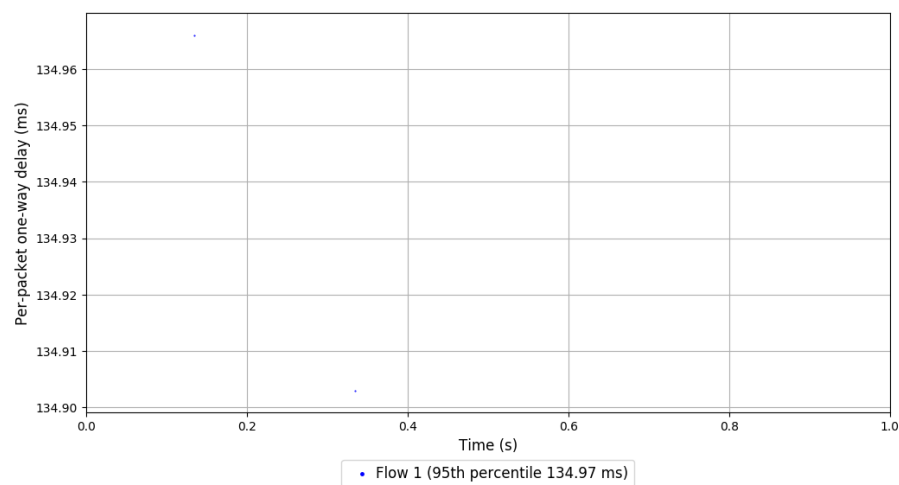
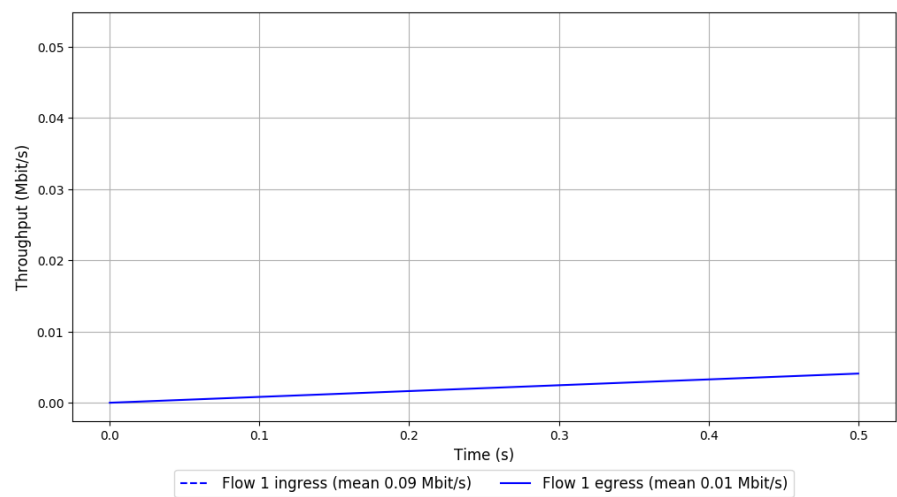
Start at: 2018-12-02 01:08:44

End at: 2018-12-02 01:09:14

Local clock offset: 8.21 ms

Remote clock offset: 1.24 ms

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



Run 3: Statistics of TaoVA-100x

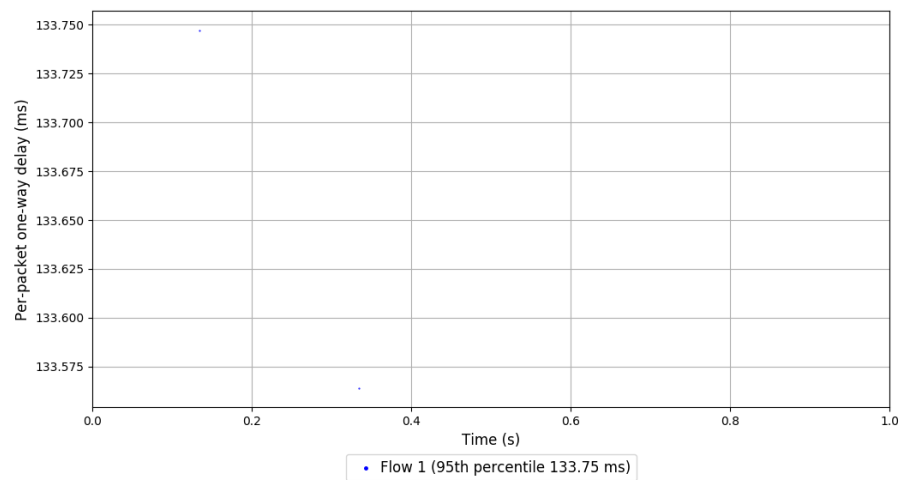
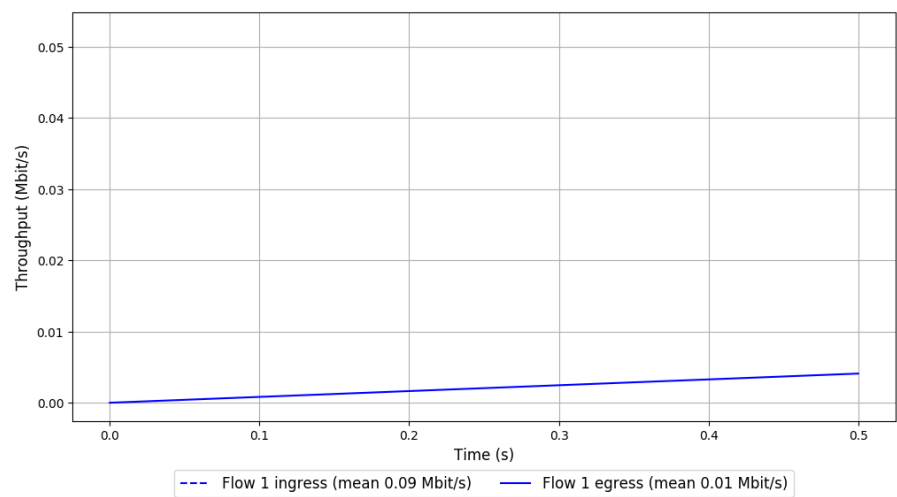
Start at: 2018-12-02 01:35:55

End at: 2018-12-02 01:36:25

Local clock offset: 8.882 ms

Remote clock offset: 3.917 ms

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



Run 4: Statistics of TaoVA-100x

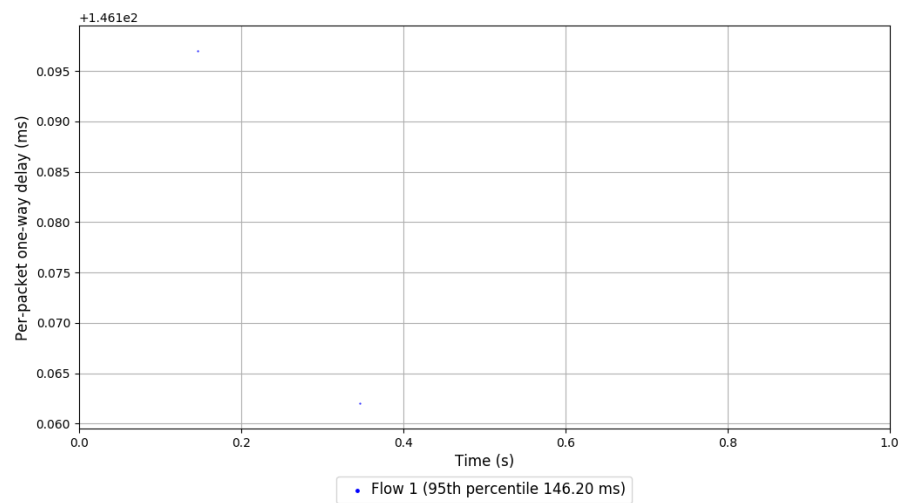
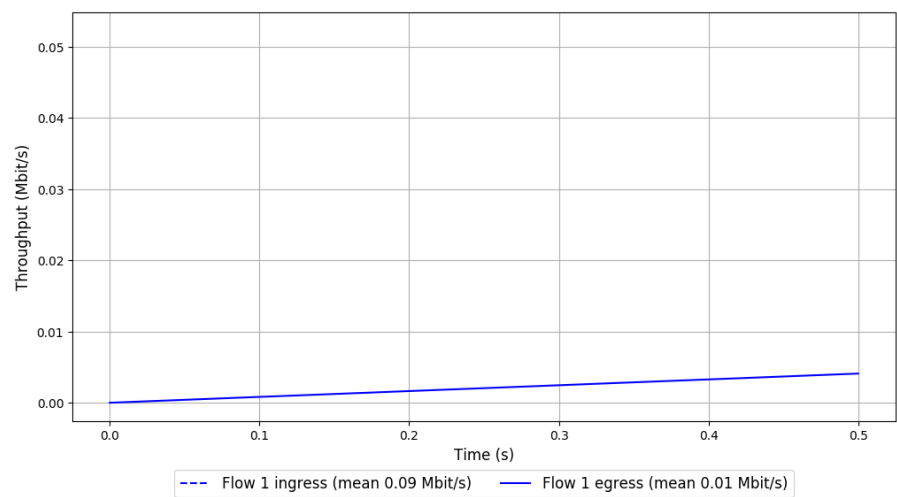
Start at: 2018-12-02 02:03:12

End at: 2018-12-02 02:03:42

Local clock offset: 8.171 ms

Remote clock offset: -0.628 ms

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



Run 5: Statistics of TaoVA-100x

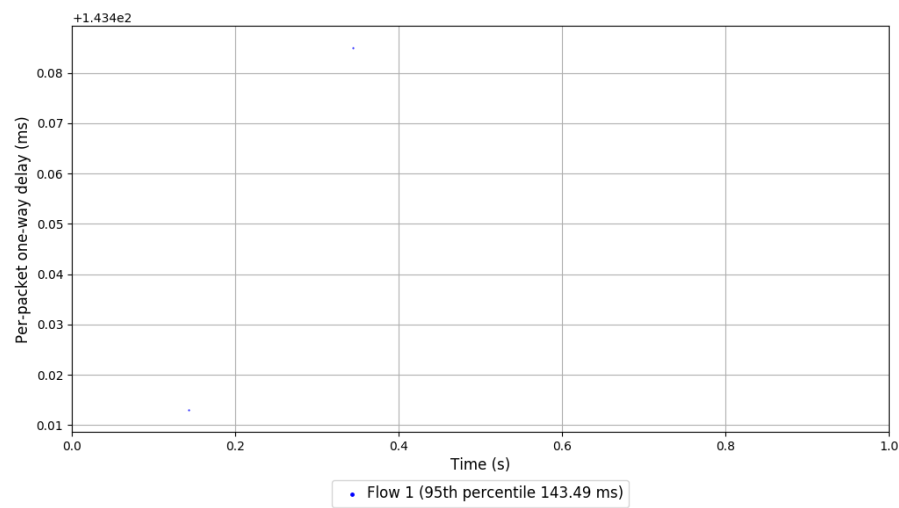
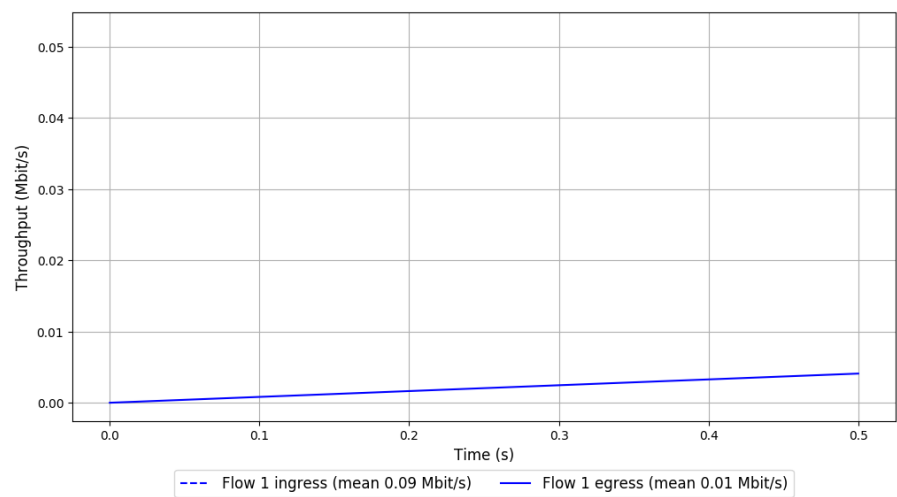
Start at: 2018-12-02 02:30:17

End at: 2018-12-02 02:30:47

Local clock offset: -0.73 ms

Remote clock offset: -0.526 ms

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

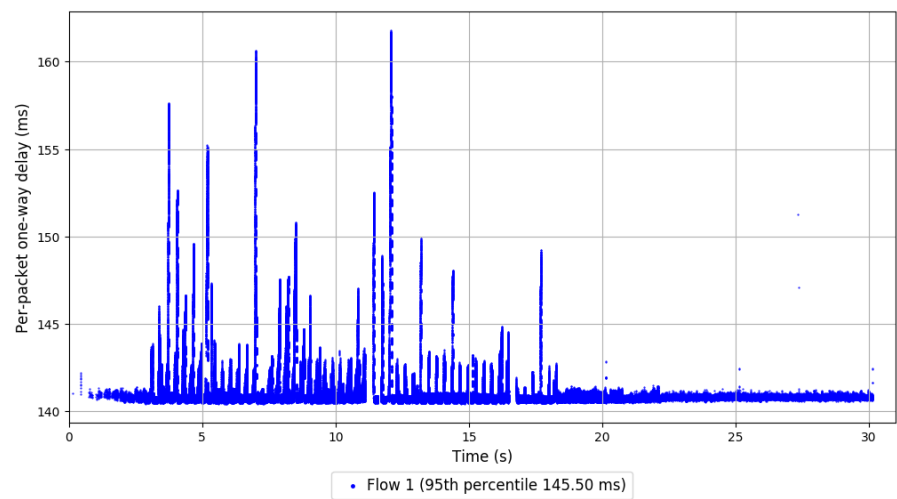
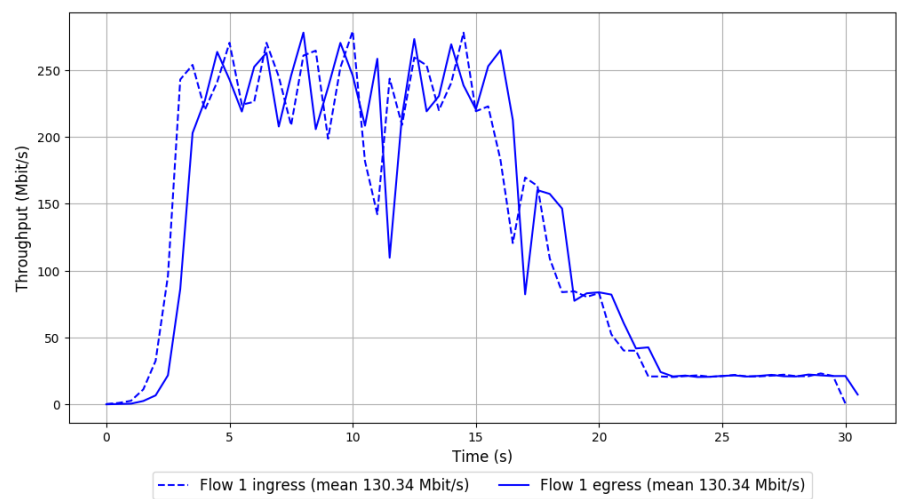


Run 1: Statistics of TCP Vegas

Start at: 2018-12-02 00:22:35
End at: 2018-12-02 00:23:05
Local clock offset: 8.993 ms
Remote clock offset: -0.834 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 130.34 Mbit/s
95th percentile per-packet one-way delay: 145.505 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 130.34 Mbit/s
95th percentile per-packet one-way delay: 145.505 ms
Loss rate: 0.03%

Run 1: Report of TCP Vegas — Data Link

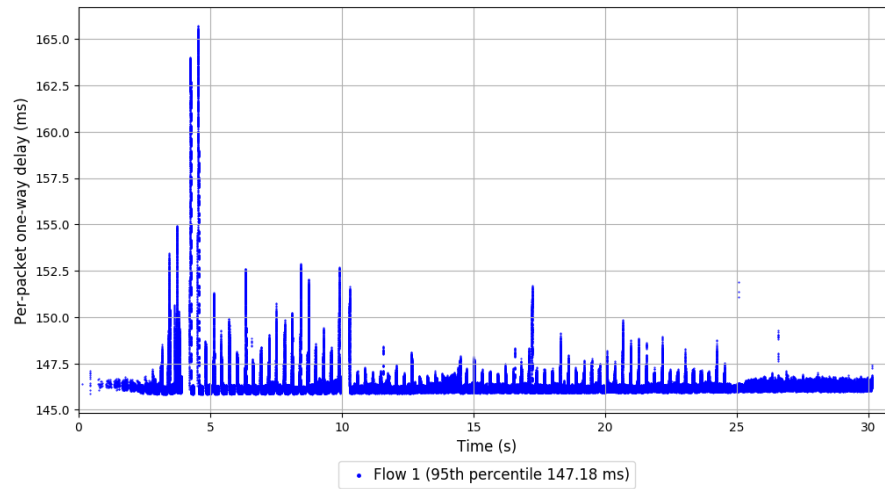
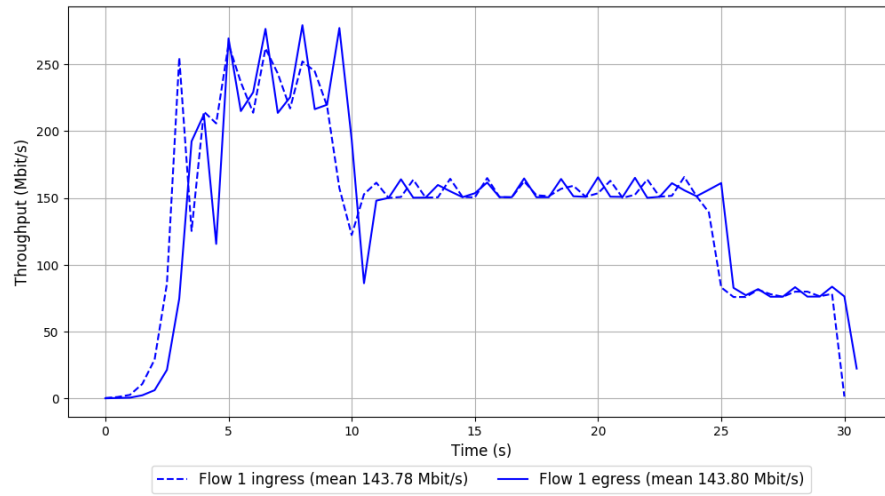


Run 2: Statistics of TCP Vegas

Start at: 2018-12-02 00:49:48
End at: 2018-12-02 00:50:18
Local clock offset: -2.096 ms
Remote clock offset: -0.546 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 143.80 Mbit/s
95th percentile per-packet one-way delay: 147.175 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 143.80 Mbit/s
95th percentile per-packet one-way delay: 147.175 ms
Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-12-02 01:17:07

End at: 2018-12-02 01:17:38

Local clock offset: 7.344 ms

Remote clock offset: 2.603 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 138.41 Mbit/s

95th percentile per-packet one-way delay: 138.290 ms

Loss rate: 0.00%

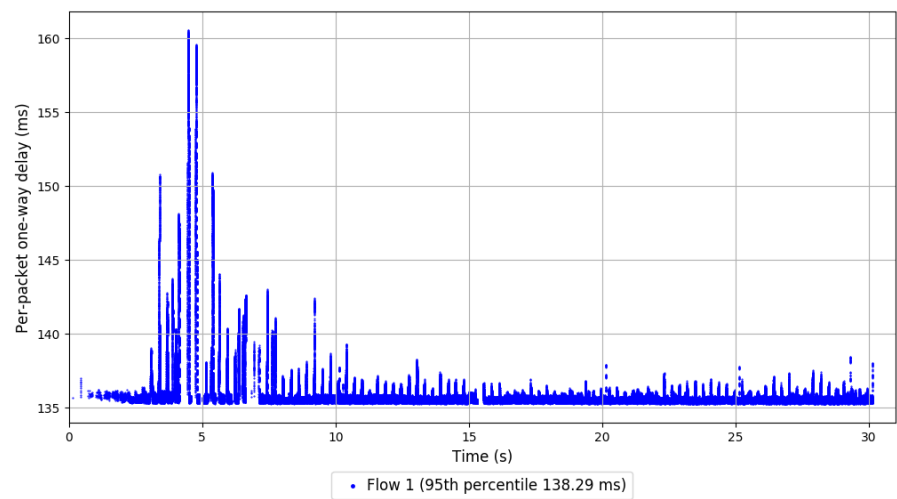
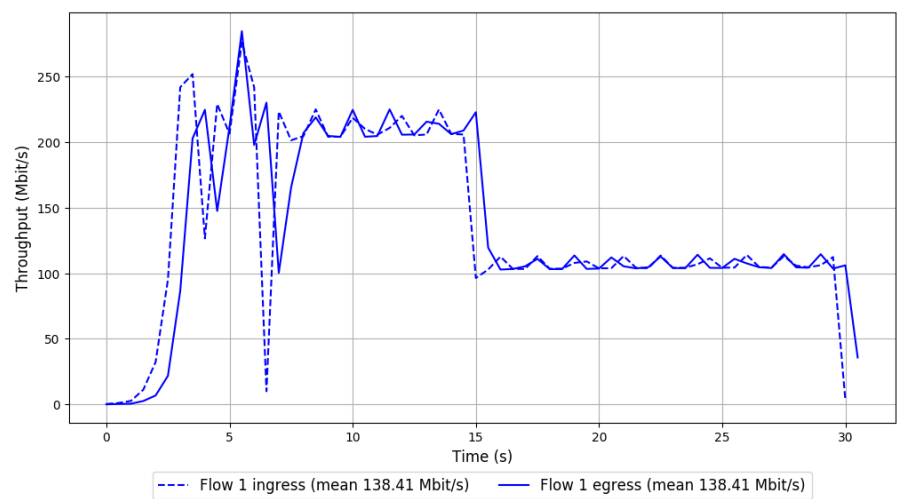
-- Flow 1:

Average throughput: 138.41 Mbit/s

95th percentile per-packet one-way delay: 138.290 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-12-02 01:44:20

End at: 2018-12-02 01:44:50

Local clock offset: 8.535 ms

Remote clock offset: 1.349 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 110.93 Mbit/s

95th percentile per-packet one-way delay: 150.980 ms

Loss rate: 0.03%

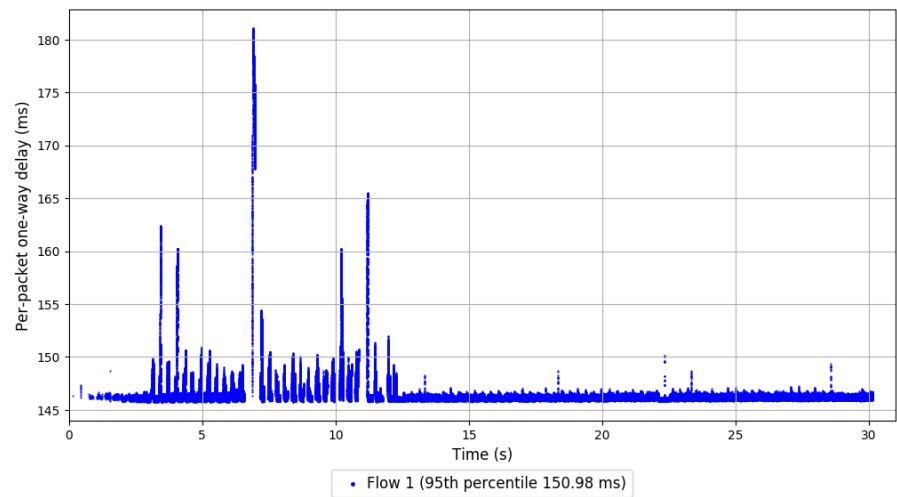
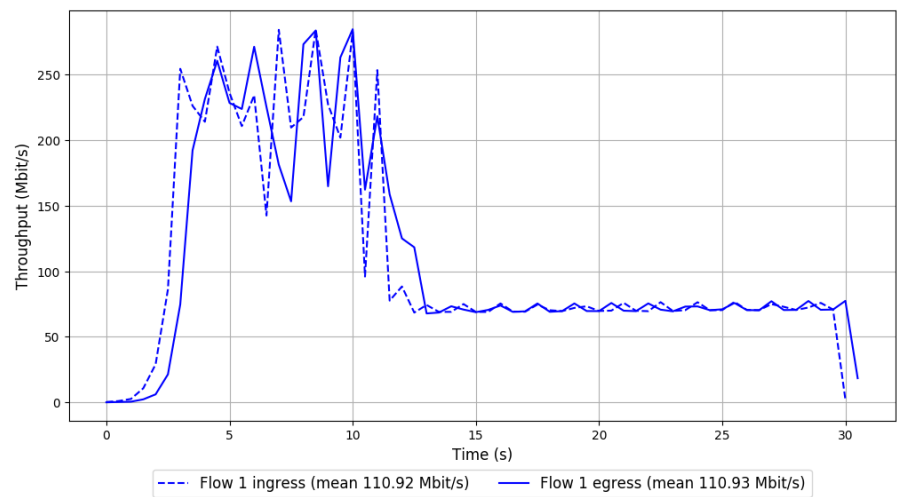
-- Flow 1:

Average throughput: 110.93 Mbit/s

95th percentile per-packet one-way delay: 150.980 ms

Loss rate: 0.03%

Run 4: Report of TCP Vegas — Data Link

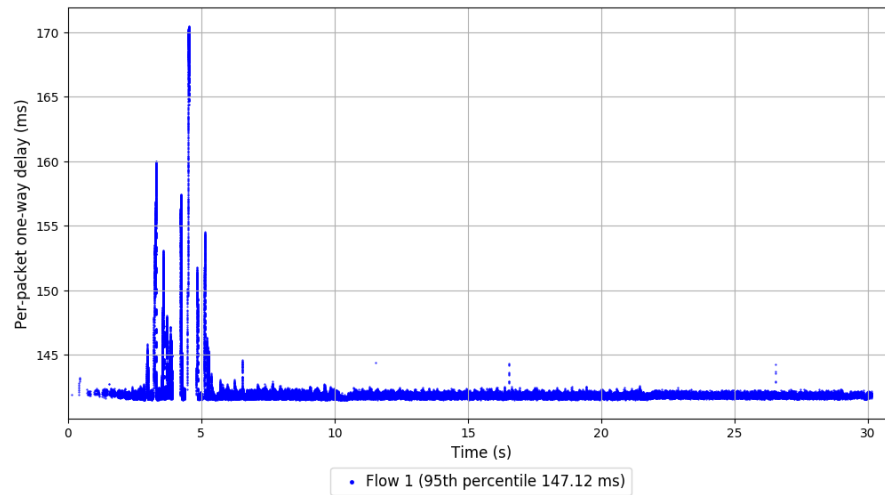
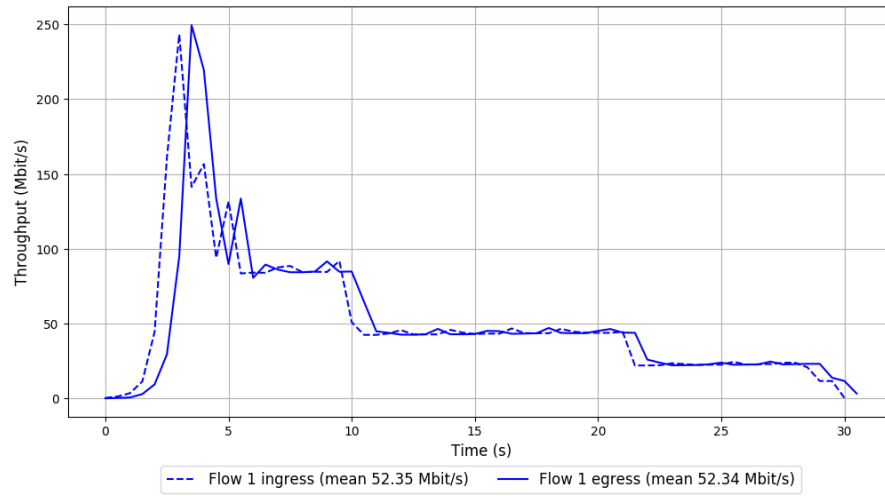


Run 5: Statistics of TCP Vegas

Start at: 2018-12-02 02:11:32
End at: 2018-12-02 02:12:02
Local clock offset: 0.019 ms
Remote clock offset: -0.935 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 52.34 Mbit/s
95th percentile per-packet one-way delay: 147.118 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.34 Mbit/s
95th percentile per-packet one-way delay: 147.118 ms
Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-12-02 00:37:15

End at: 2018-12-02 00:37:45

Local clock offset: 6.428 ms

Remote clock offset: -0.57 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 142.79 Mbit/s

95th percentile per-packet one-way delay: 184.359 ms

Loss rate: 11.43%

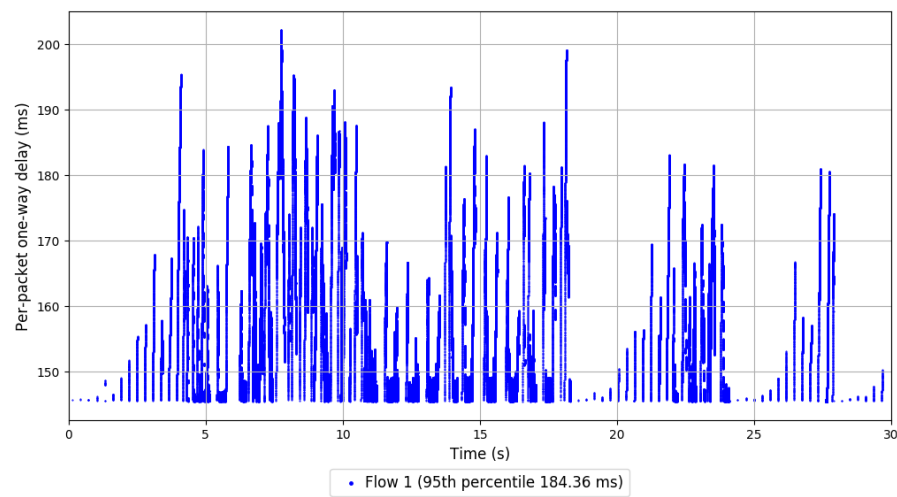
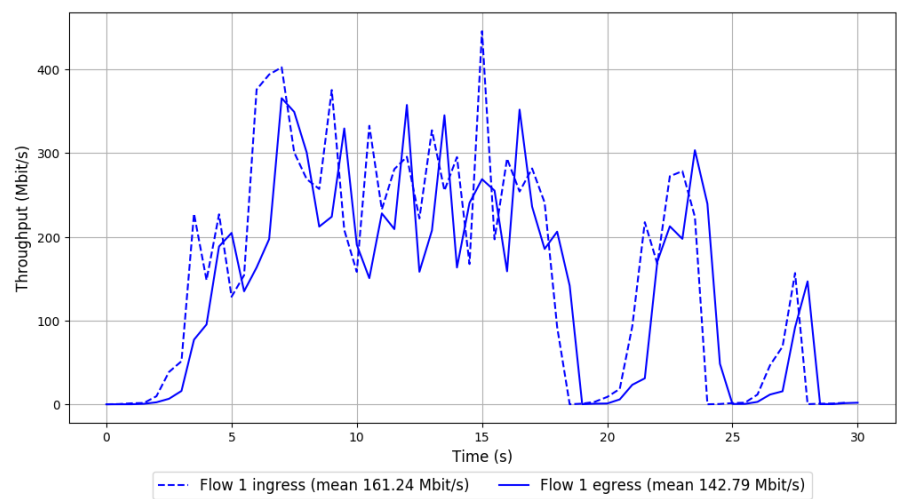
-- Flow 1:

Average throughput: 142.79 Mbit/s

95th percentile per-packet one-way delay: 184.359 ms

Loss rate: 11.43%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-12-02 01:04:34

End at: 2018-12-02 01:05:04

Local clock offset: 6.954 ms

Remote clock offset: 0.124 ms

Below is generated by plot.py at 2018-12-02 02:56:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 120.58 Mbit/s

95th percentile per-packet one-way delay: 185.696 ms

Loss rate: 7.25%

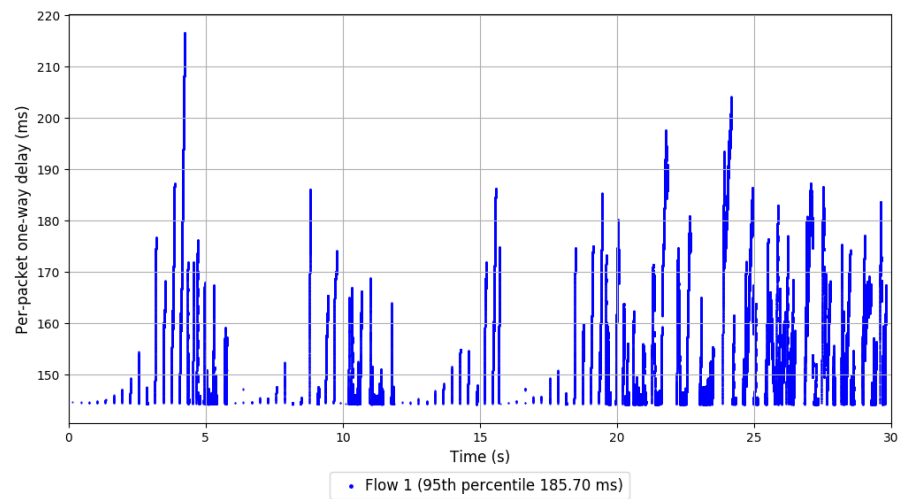
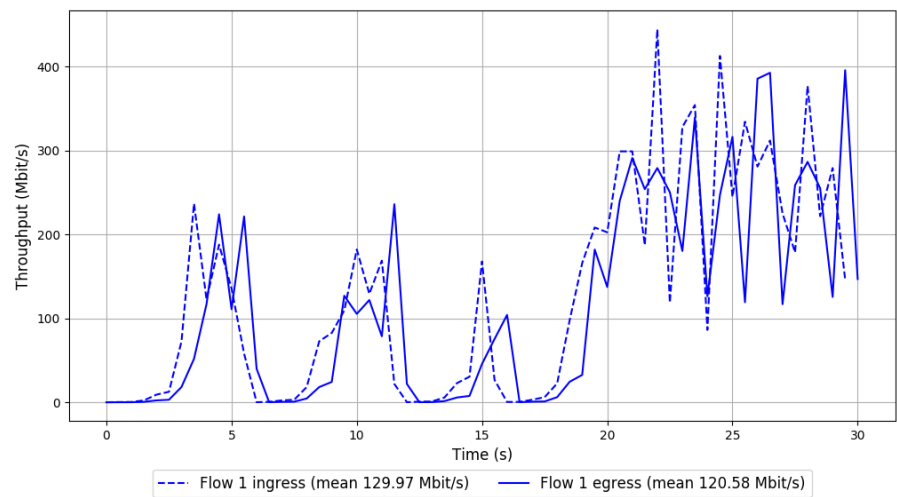
-- Flow 1:

Average throughput: 120.58 Mbit/s

95th percentile per-packet one-way delay: 185.696 ms

Loss rate: 7.25%

Run 2: Report of Verus — Data Link

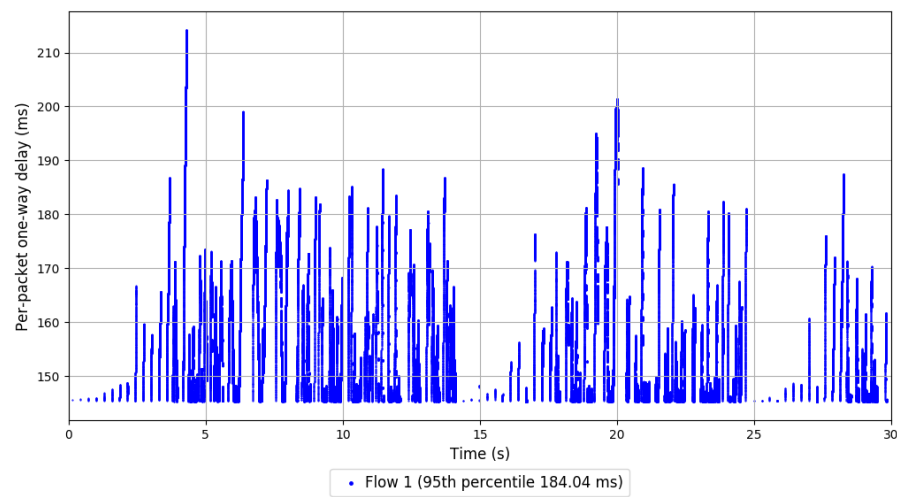
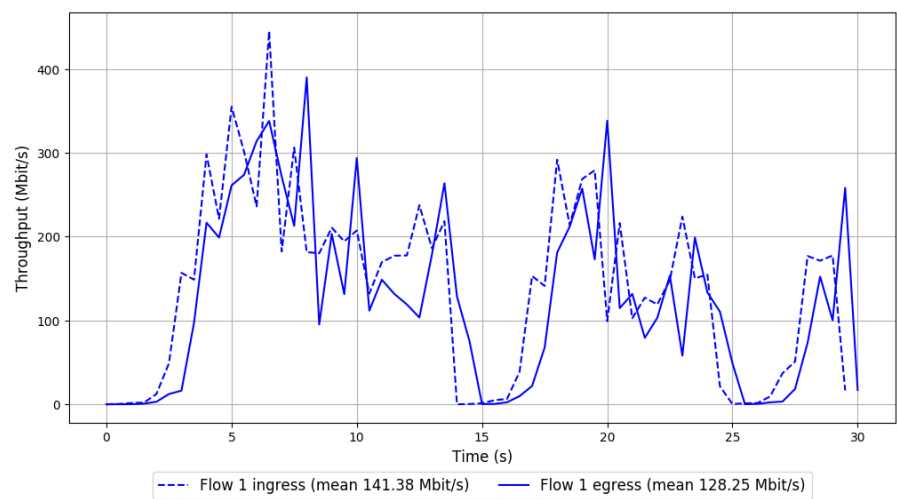


Run 3: Statistics of Verus

Start at: 2018-12-02 01:31:46
End at: 2018-12-02 01:32:16
Local clock offset: -0.399 ms
Remote clock offset: 3.65 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 128.25 Mbit/s
95th percentile per-packet one-way delay: 184.041 ms
Loss rate: 9.30%
-- Flow 1:
Average throughput: 128.25 Mbit/s
95th percentile per-packet one-way delay: 184.041 ms
Loss rate: 9.30%

Run 3: Report of Verus — Data Link

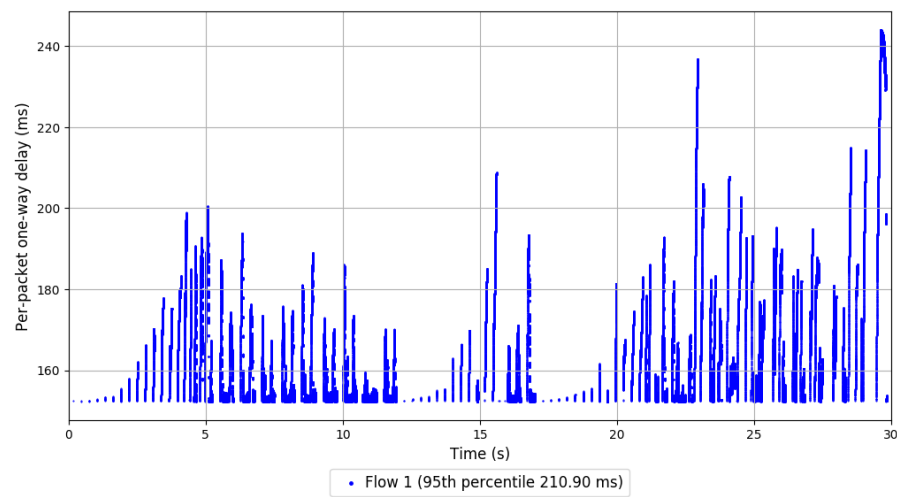
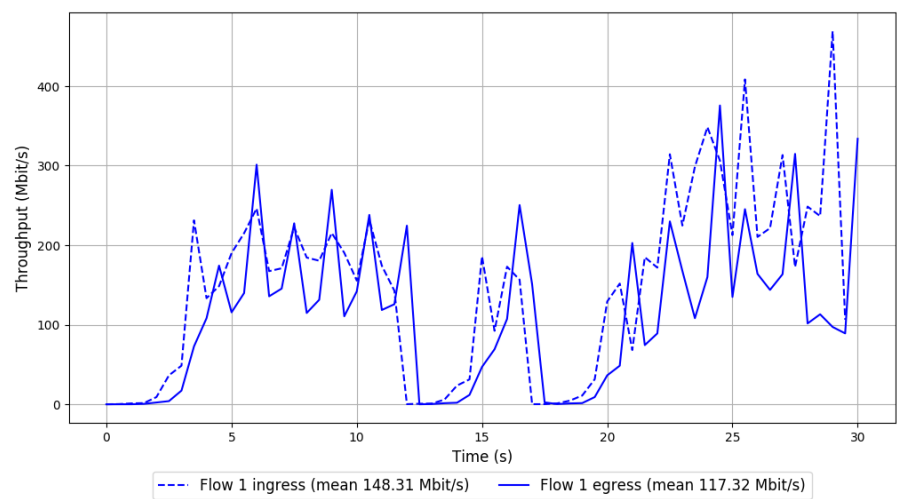


Run 4: Statistics of Verus

Start at: 2018-12-02 01:59:01
End at: 2018-12-02 01:59:31
Local clock offset: -0.658 ms
Remote clock offset: -0.425 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 117.32 Mbit/s
95th percentile per-packet one-way delay: 210.900 ms
Loss rate: 20.93%
-- Flow 1:
Average throughput: 117.32 Mbit/s
95th percentile per-packet one-way delay: 210.900 ms
Loss rate: 20.93%

Run 4: Report of Verus — Data Link

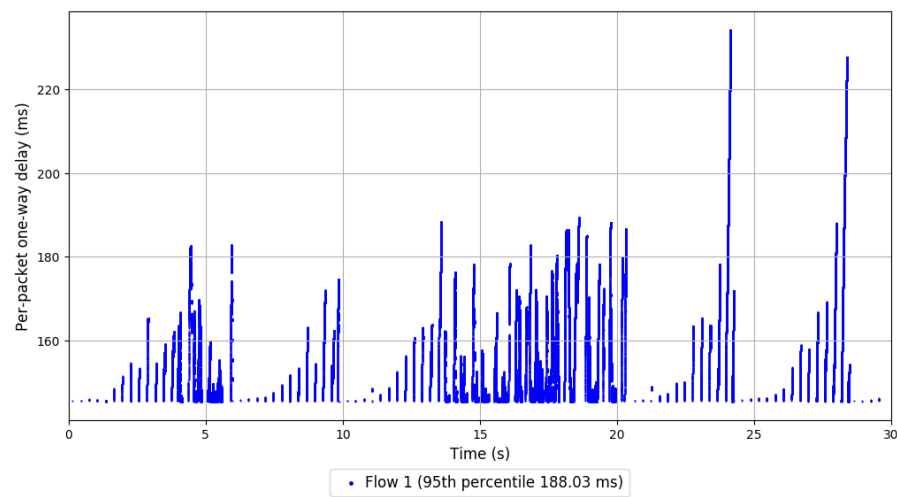
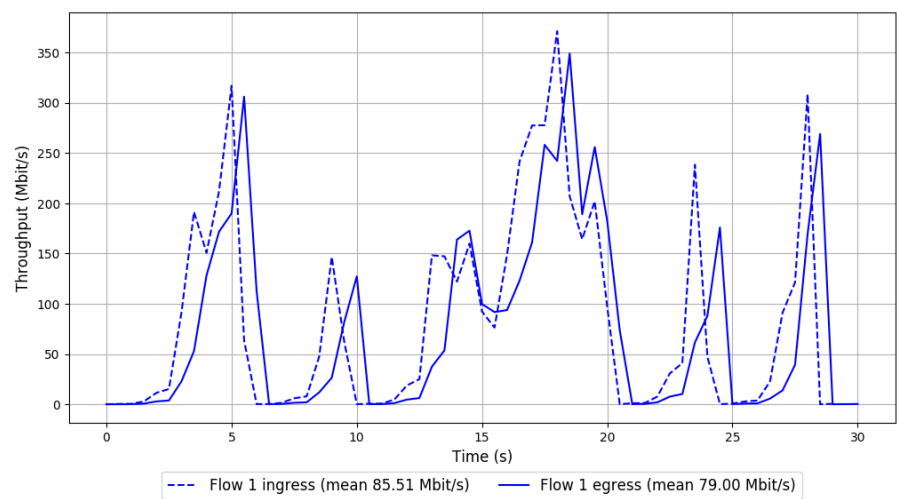


Run 5: Statistics of Verus

Start at: 2018-12-02 02:26:11
End at: 2018-12-02 02:26:41
Local clock offset: 6.528 ms
Remote clock offset: -0.489 ms

Below is generated by plot.py at 2018-12-02 02:56:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 79.00 Mbit/s
95th percentile per-packet one-way delay: 188.029 ms
Loss rate: 7.61%
-- Flow 1:
Average throughput: 79.00 Mbit/s
95th percentile per-packet one-way delay: 188.029 ms
Loss rate: 7.61%

Run 5: Report of Verus — Data Link

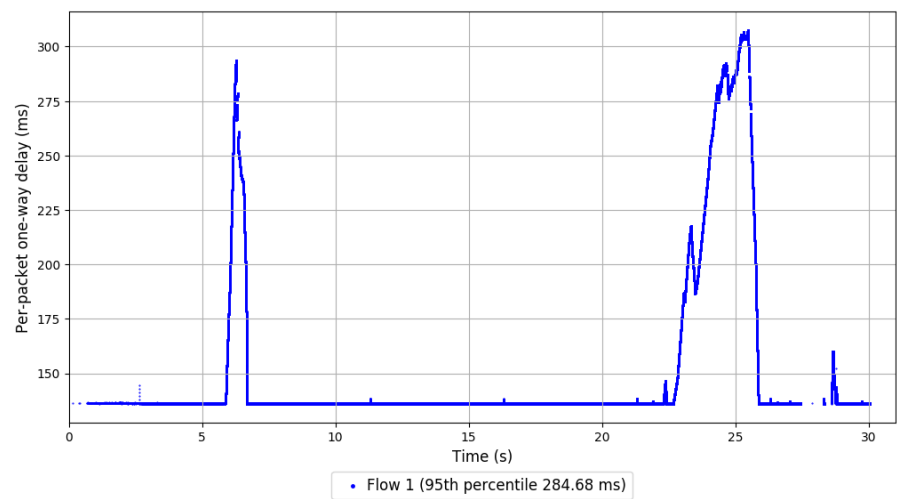
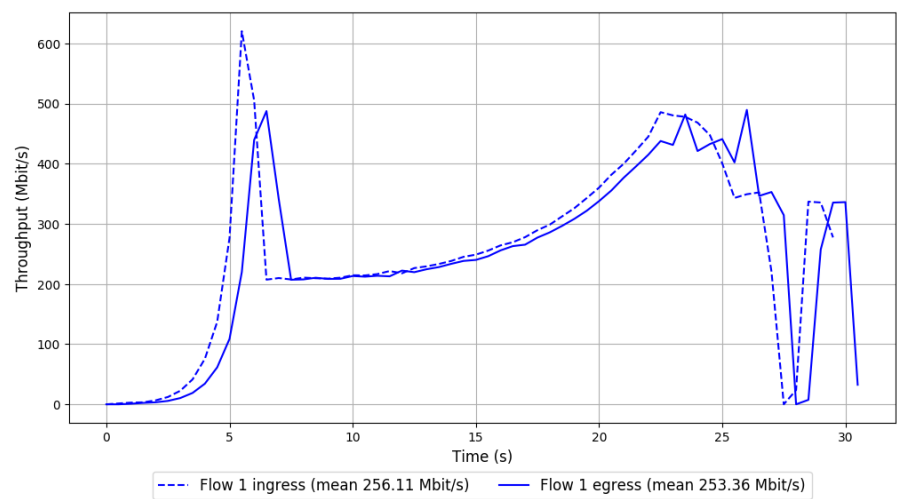


Run 1: Statistics of PCC-Vivace

Start at: 2018-12-02 00:35:39
End at: 2018-12-02 00:36:09
Local clock offset: 5.311 ms
Remote clock offset: -0.678 ms

Below is generated by plot.py at 2018-12-02 02:57:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 253.36 Mbit/s
95th percentile per-packet one-way delay: 284.682 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 253.36 Mbit/s
95th percentile per-packet one-way delay: 284.682 ms
Loss rate: 1.08%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-02 01:02:50

End at: 2018-12-02 01:03:20

Local clock offset: 6.907 ms

Remote clock offset: -0.584 ms

Below is generated by plot.py at 2018-12-02 02:58:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 380.29 Mbit/s

95th percentile per-packet one-way delay: 162.089 ms

Loss rate: 0.47%

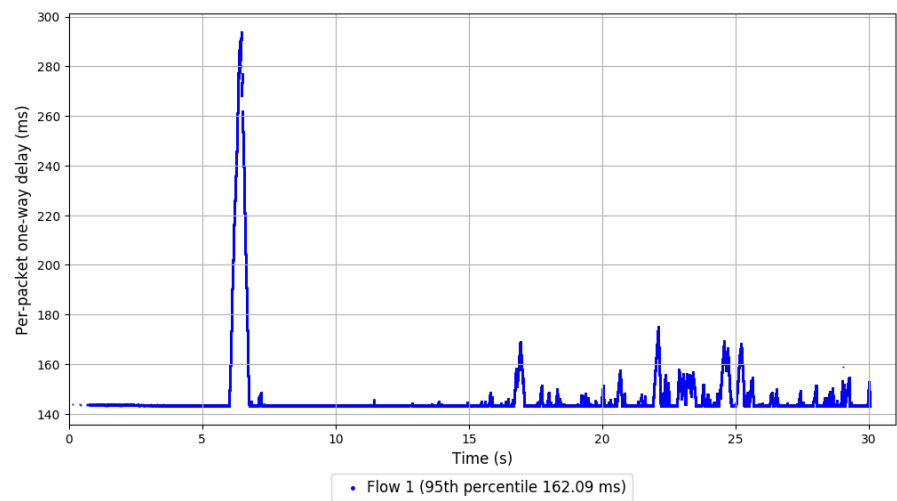
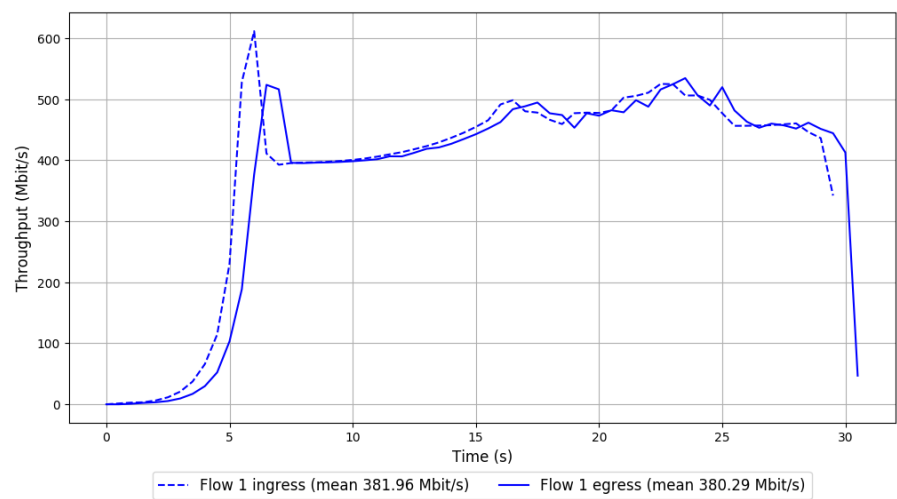
-- Flow 1:

Average throughput: 380.29 Mbit/s

95th percentile per-packet one-way delay: 162.089 ms

Loss rate: 0.47%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-02 01:30:05

End at: 2018-12-02 01:30:35

Local clock offset: 7.389 ms

Remote clock offset: 3.668 ms

Below is generated by plot.py at 2018-12-02 02:58:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 354.64 Mbit/s

95th percentile per-packet one-way delay: 146.541 ms

Loss rate: 0.53%

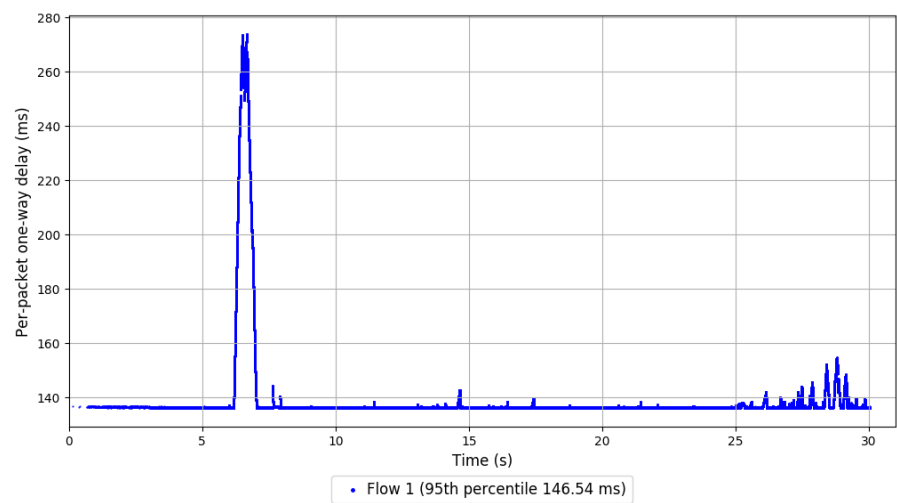
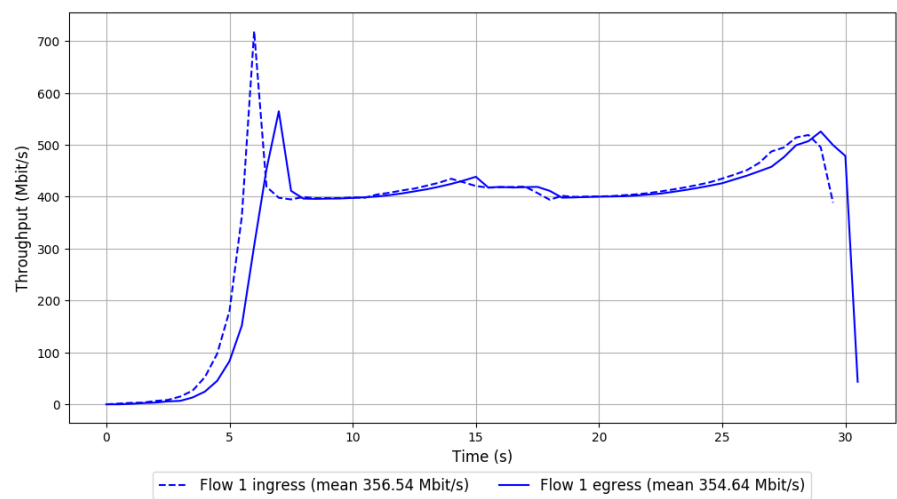
-- Flow 1:

Average throughput: 354.64 Mbit/s

95th percentile per-packet one-way delay: 146.541 ms

Loss rate: 0.53%

Run 3: Report of PCC-Vivace — Data Link

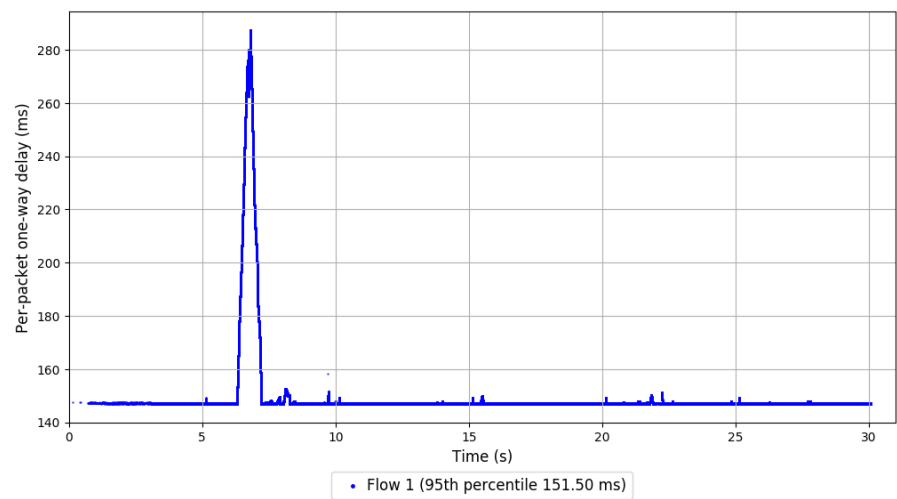
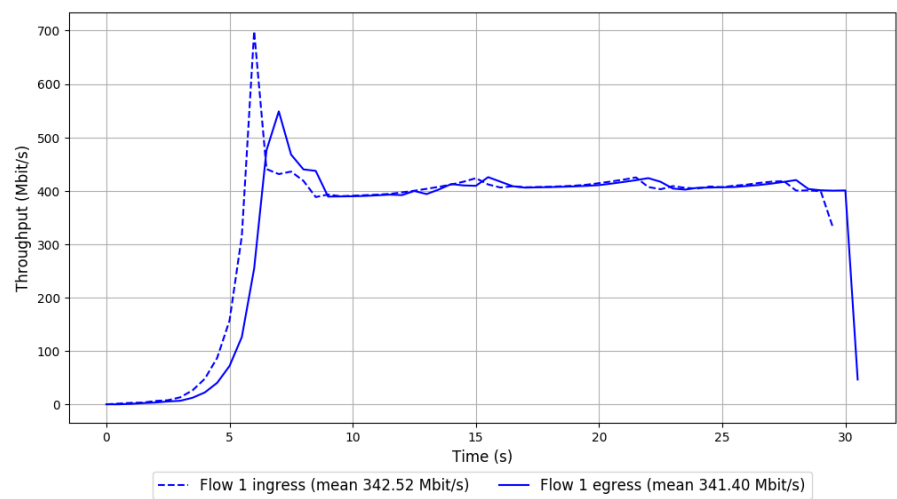


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-02 01:57:20
End at: 2018-12-02 01:57:50
Local clock offset: -4.07 ms
Remote clock offset: -0.337 ms

Below is generated by plot.py at 2018-12-02 02:58:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 341.40 Mbit/s
95th percentile per-packet one-way delay: 151.501 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 341.40 Mbit/s
95th percentile per-packet one-way delay: 151.501 ms
Loss rate: 0.33%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-02 02:24:28

End at: 2018-12-02 02:24:58

Local clock offset: 6.309 ms

Remote clock offset: -0.524 ms

Below is generated by plot.py at 2018-12-02 02:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 364.46 Mbit/s

95th percentile per-packet one-way delay: 166.827 ms

Loss rate: 0.33%

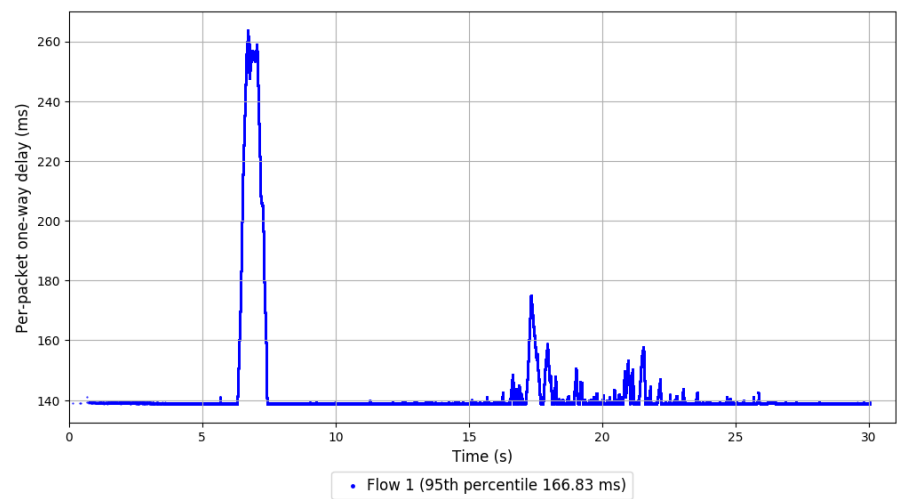
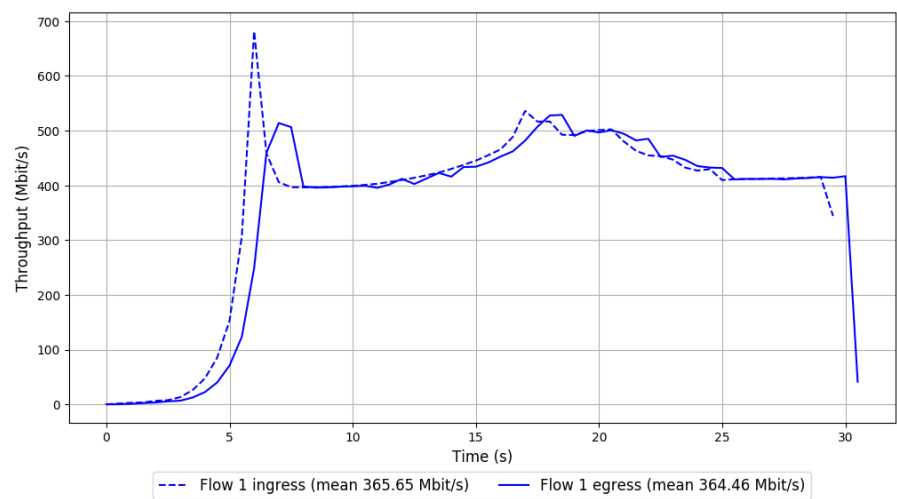
-- Flow 1:

Average throughput: 364.46 Mbit/s

95th percentile per-packet one-way delay: 166.827 ms

Loss rate: 0.33%

Run 5: Report of PCC-Vivace — Data Link

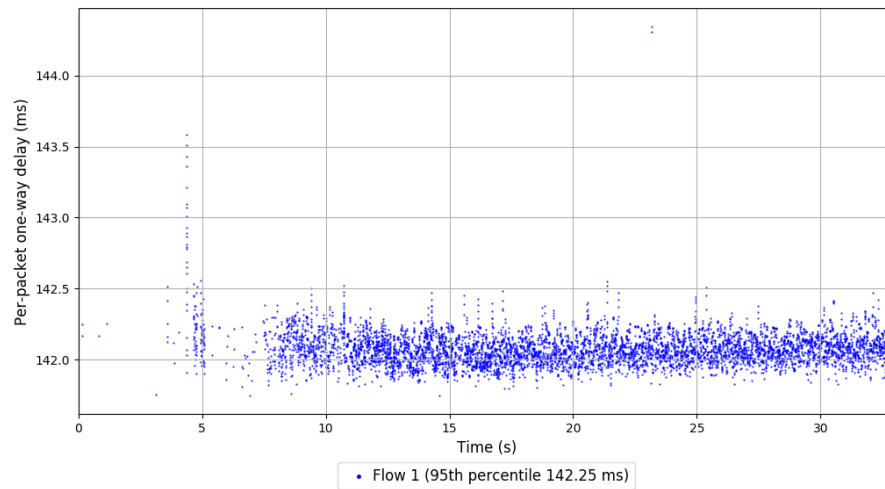
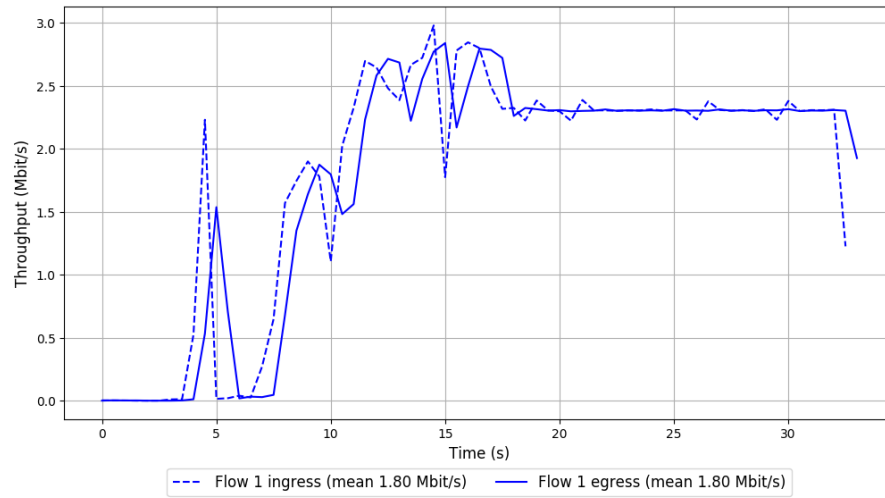


```
Run 1: Statistics of WebRTC media

Start at: 2018-12-02 00:21:16
End at: 2018-12-02 00:21:46
Local clock offset: -1.089 ms
Remote clock offset: -0.744 ms

# Below is generated by plot.py at 2018-12-02 02:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 142.255 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 142.255 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

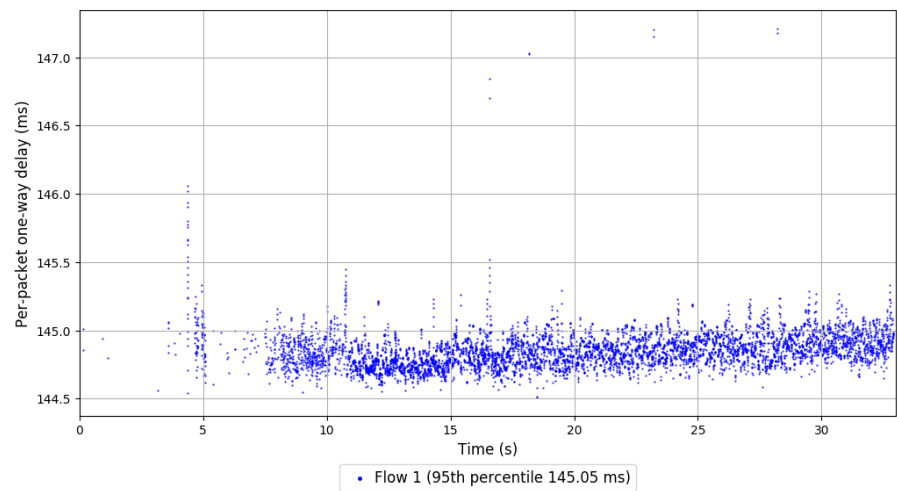
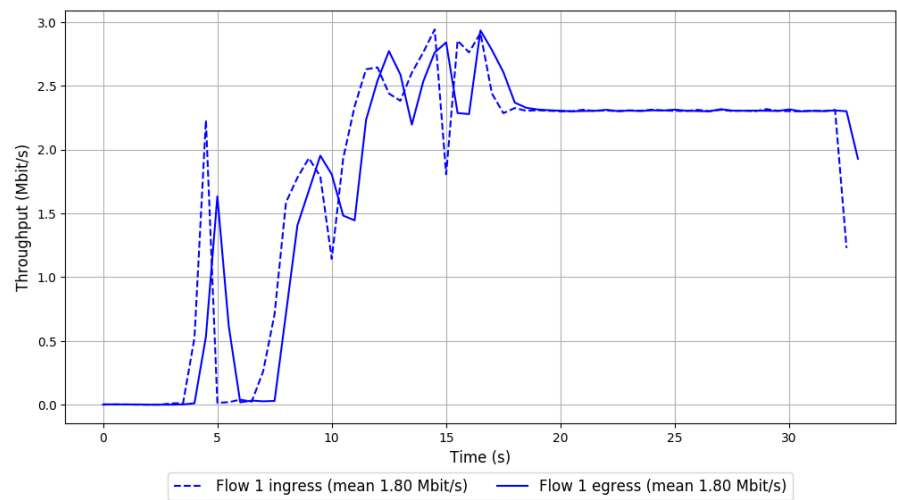


Run 2: Statistics of WebRTC media

Start at: 2018-12-02 00:48:29
End at: 2018-12-02 00:48:59
Local clock offset: -2.41 ms
Remote clock offset: -0.553 ms

Below is generated by plot.py at 2018-12-02 02:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 145.048 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 145.048 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-12-02 01:15:48

End at: 2018-12-02 01:16:18

Local clock offset: 8.419 ms

Remote clock offset: 2.445 ms

Below is generated by plot.py at 2018-12-02 02:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 145.792 ms

Loss rate: 0.06%

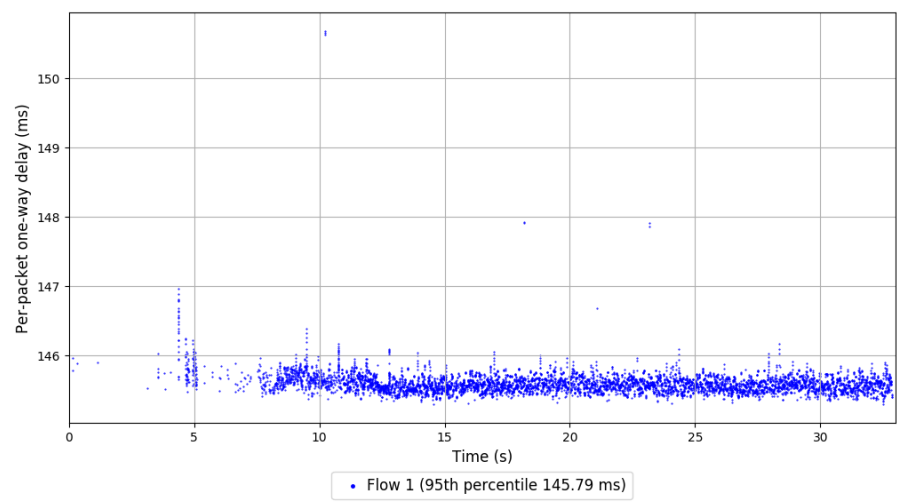
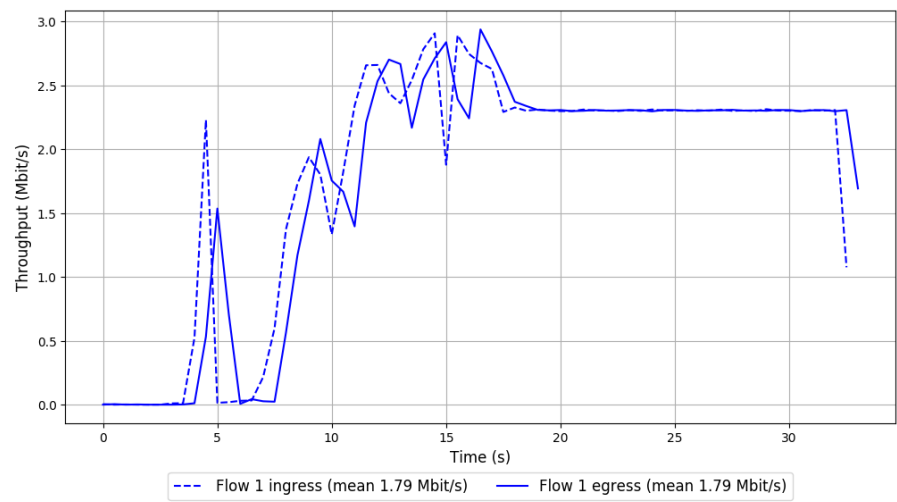
-- Flow 1:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 145.792 ms

Loss rate: 0.06%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-02 01:43:01

End at: 2018-12-02 01:43:31

Local clock offset: 0.443 ms

Remote clock offset: 1.639 ms

Below is generated by plot.py at 2018-12-02 02:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 153.162 ms

Loss rate: 0.00%

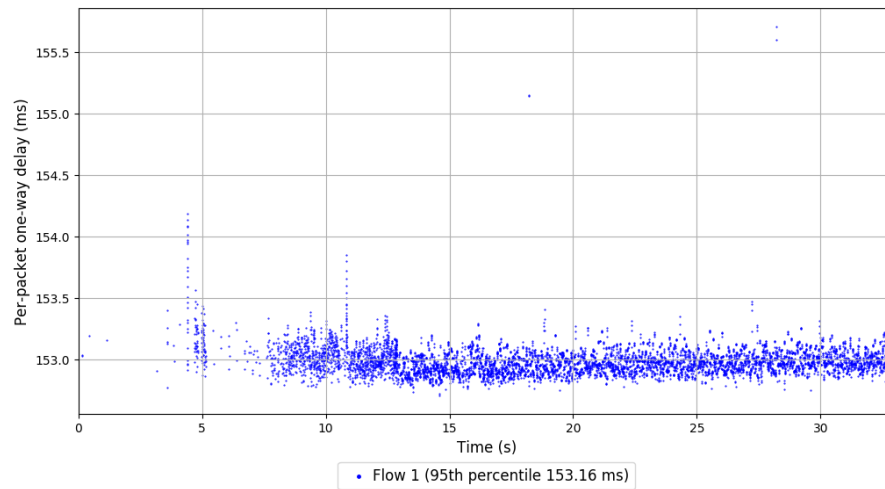
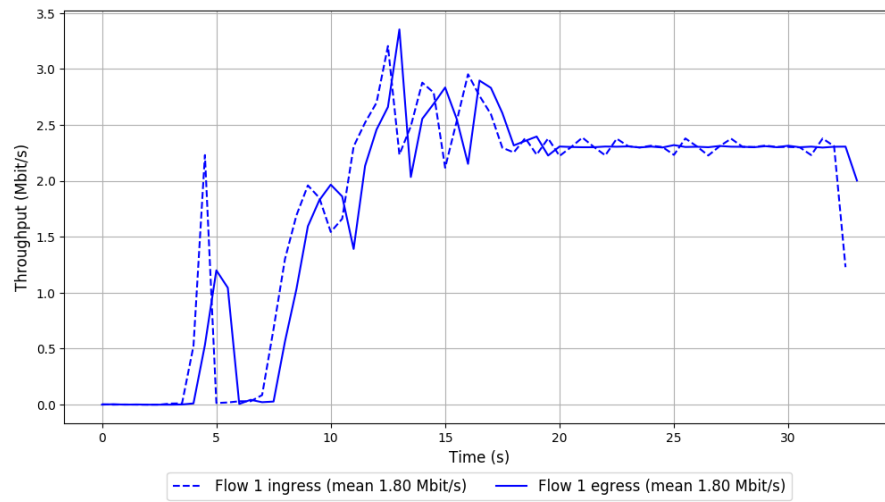
-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 153.162 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-02 02:10:13
End at: 2018-12-02 02:10:43
Local clock offset: 8.309 ms
Remote clock offset: -0.918 ms

Below is generated by plot.py at 2018-12-02 02:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 137.756 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 137.756 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

