

## Pantheon Report

Generated at 2018-10-02 20:26:21 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

### System info:

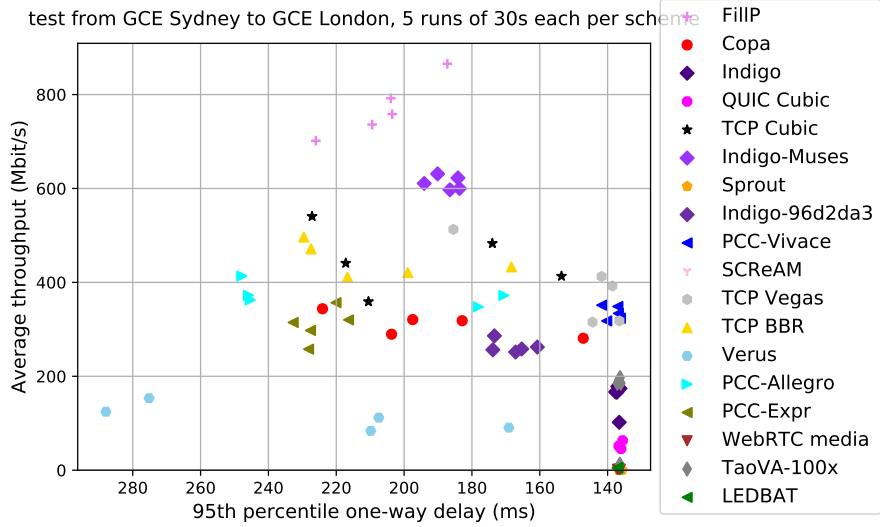
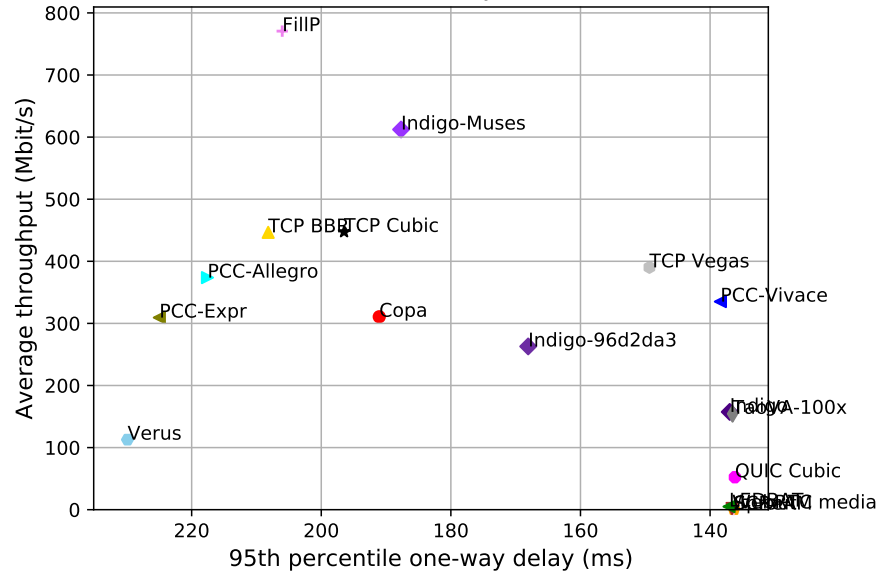
```
Linux 4.15.0-1019-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 GCE Sydney to GCE London, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



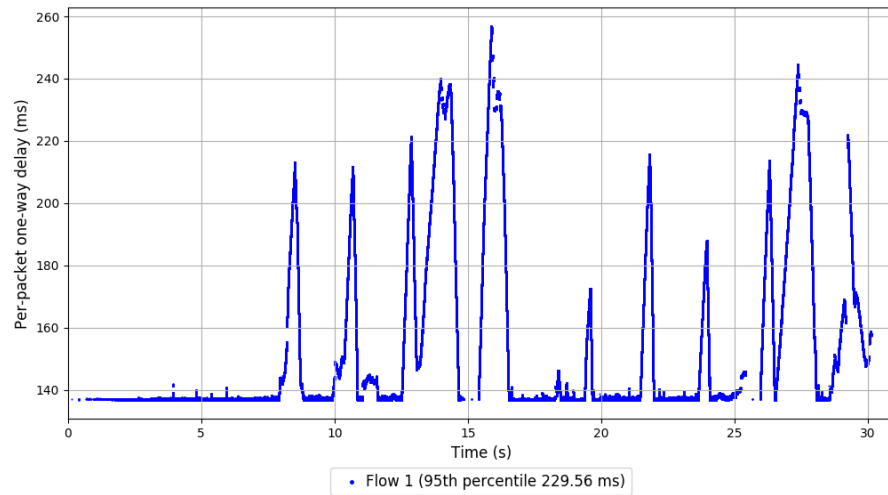
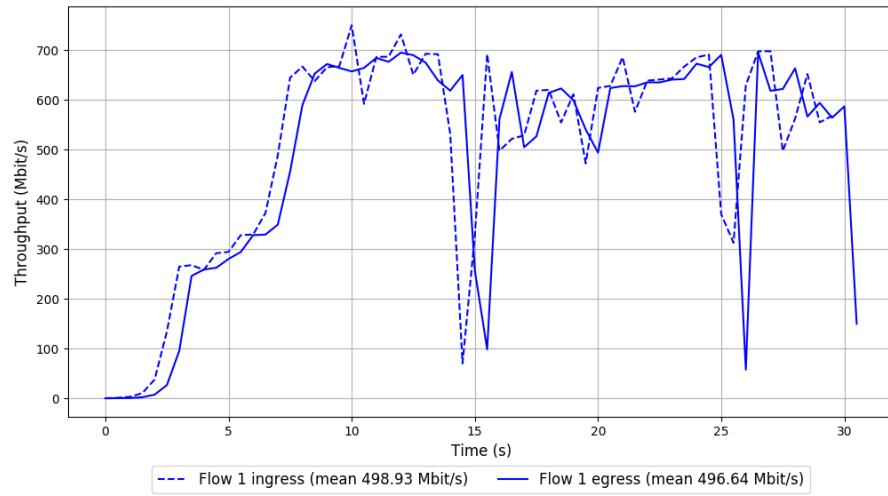
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	446.63	208.19	0.44
Copa	5	310.71	191.05	0.05
TCP Cubic	5	447.35	196.48	0.06
FillP	5	770.66	206.02	4.79
Indigo	5	157.45	136.97	0.00
Indigo-96d2da3	5	262.91	168.07	0.05
LEDBAT	5	5.02	137.08	0.00
Indigo-Muses	5	612.25	187.69	0.29
PCC-Allegro	5	373.72	217.56	1.95
PCC-Expr	5	309.36	224.99	1.66
QUIC Cubic	4	52.29	136.17	0.00
SCReAM	5	0.22	136.41	0.00
Sprout	5	0.42	136.32	0.00
TaoVA-100x	5	154.43	136.53	0.00
TCP Vegas	5	390.21	149.36	0.00
Verus	5	112.80	229.90	5.51
PCC-Vivace	5	335.11	138.41	0.04
WebRTC media	5	1.92	136.61	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-02 16:59:16  
End at: 2018-10-02 16:59:46  
Local clock offset: -0.536 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-10-02 19:07:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 496.64 Mbit/s  
95th percentile per-packet one-way delay: 229.564 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 496.64 Mbit/s  
95th percentile per-packet one-way delay: 229.564 ms  
Loss rate: 0.46%

## Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-02 17:25:53

End at: 2018-10-02 17:26:23

Local clock offset: -0.45 ms

Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-10-02 19:07:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 421.01 Mbit/s

95th percentile per-packet one-way delay: 198.907 ms

Loss rate: 0.40%

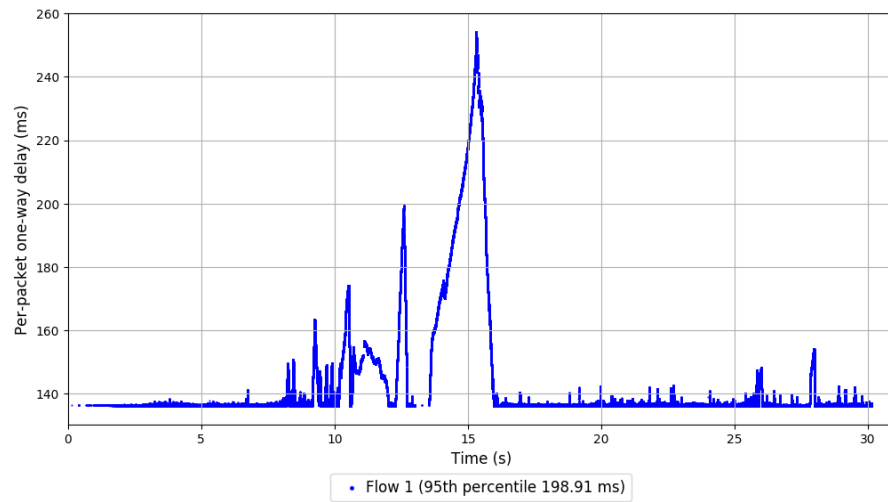
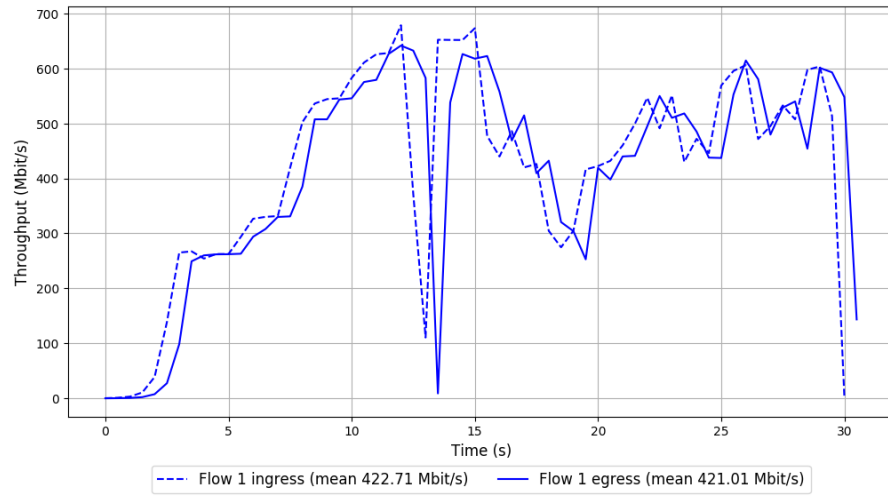
-- Flow 1:

Average throughput: 421.01 Mbit/s

95th percentile per-packet one-way delay: 198.907 ms

Loss rate: 0.40%

## Run 2: Report of TCP BBR — Data Link





Run 3: Statistics of TCP BBR

Start at: 2018-10-02 17:52:28

End at: 2018-10-02 17:52:58

Local clock offset: -0.528 ms

Remote clock offset: 0.218 ms

# Below is generated by plot.py at 2018-10-02 19:07:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 411.07 Mbit/s

95th percentile per-packet one-way delay: 216.687 ms

Loss rate: 0.48%

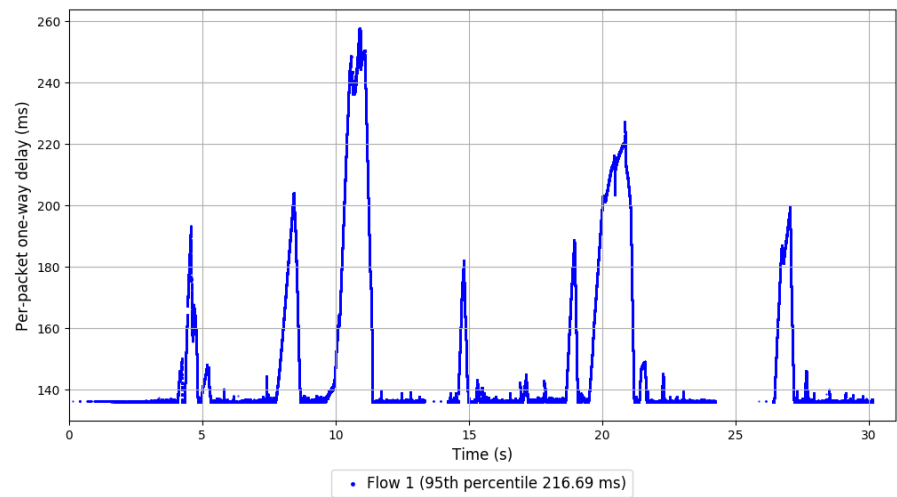
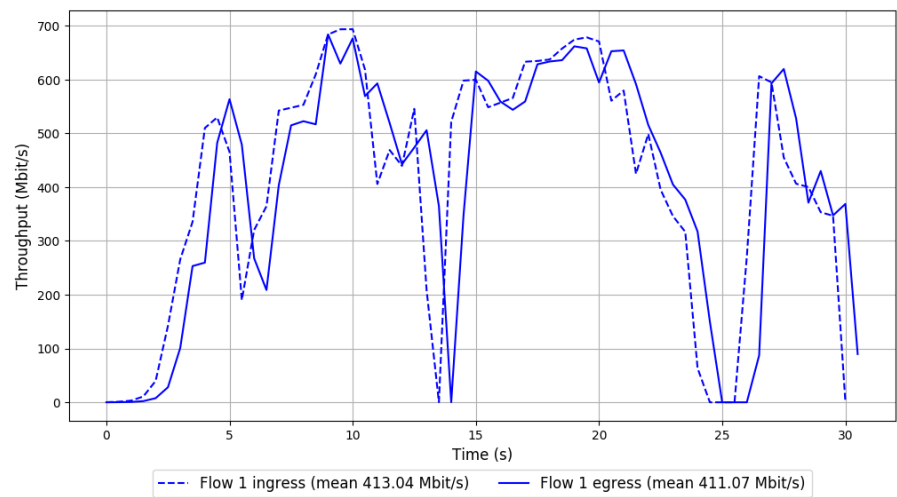
-- Flow 1:

Average throughput: 411.07 Mbit/s

95th percentile per-packet one-way delay: 216.687 ms

Loss rate: 0.48%

Run 3: Report of TCP BBR — Data Link

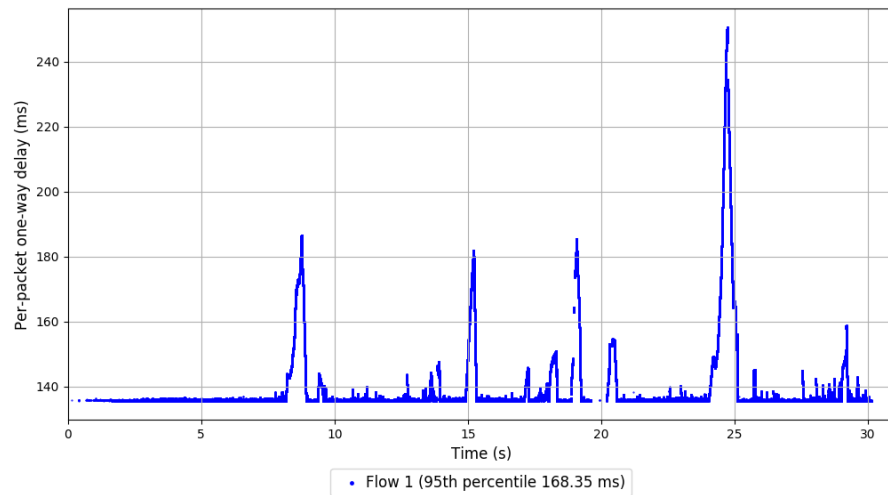
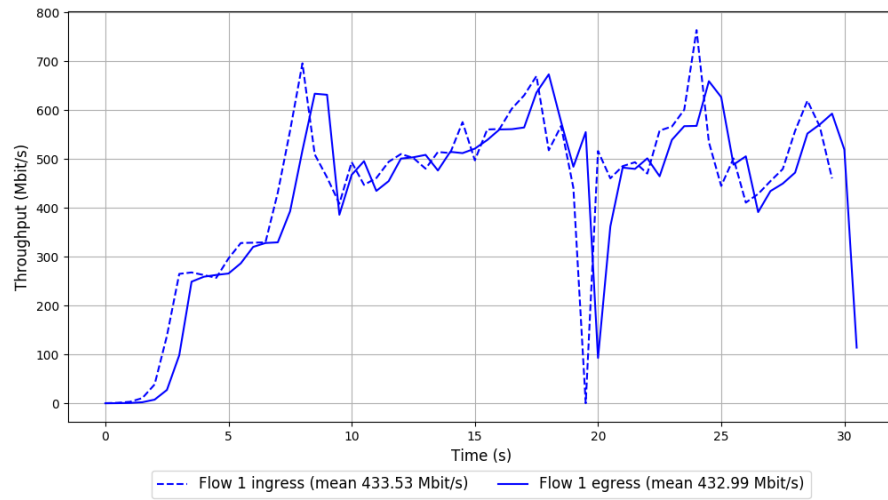


Run 4: Statistics of TCP BBR

Start at: 2018-10-02 18:19:13  
End at: 2018-10-02 18:19:43  
Local clock offset: -0.752 ms  
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2018-10-02 19:07:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 432.99 Mbit/s  
95th percentile per-packet one-way delay: 168.350 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 432.99 Mbit/s  
95th percentile per-packet one-way delay: 168.350 ms  
Loss rate: 0.13%

#### Run 4: Report of TCP BBR — Data Link

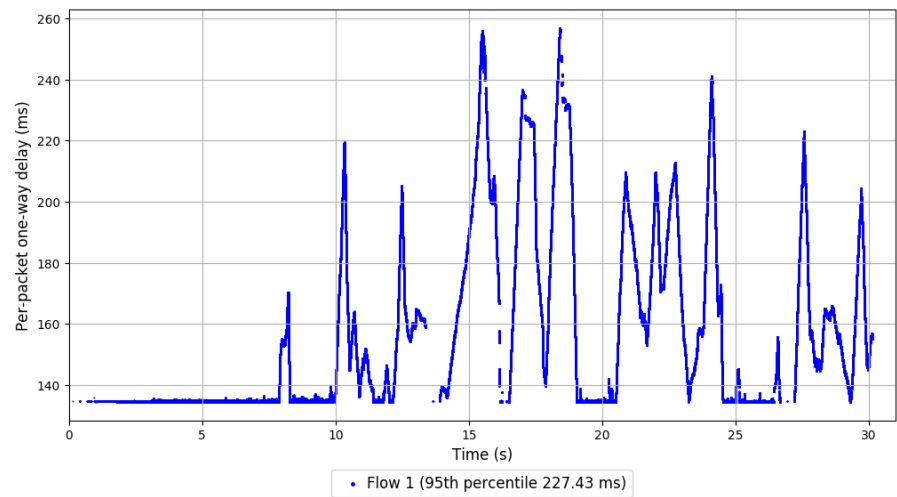
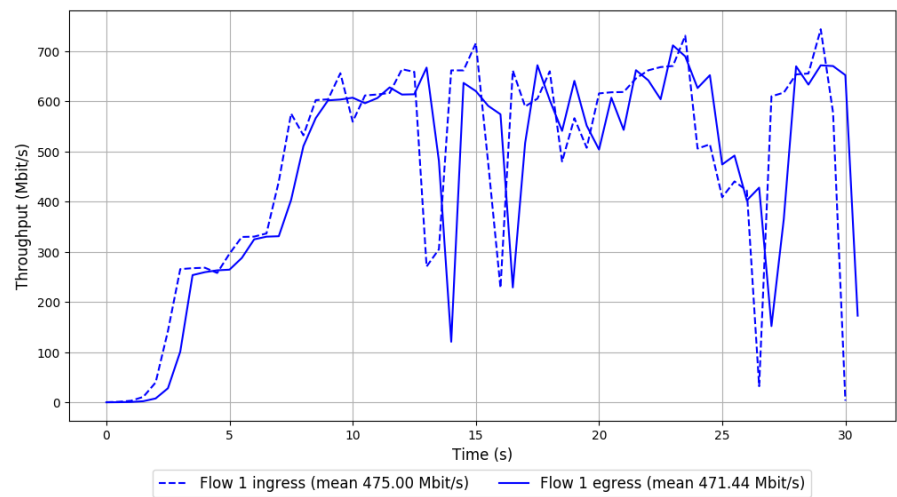


Run 5: Statistics of TCP BBR

Start at: 2018-10-02 18:45:32  
End at: 2018-10-02 18:46:02  
Local clock offset: -0.709 ms  
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-10-02 19:07:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 471.44 Mbit/s  
95th percentile per-packet one-way delay: 227.432 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 471.44 Mbit/s  
95th percentile per-packet one-way delay: 227.432 ms  
Loss rate: 0.74%

Run 5: Report of TCP BBR — Data Link

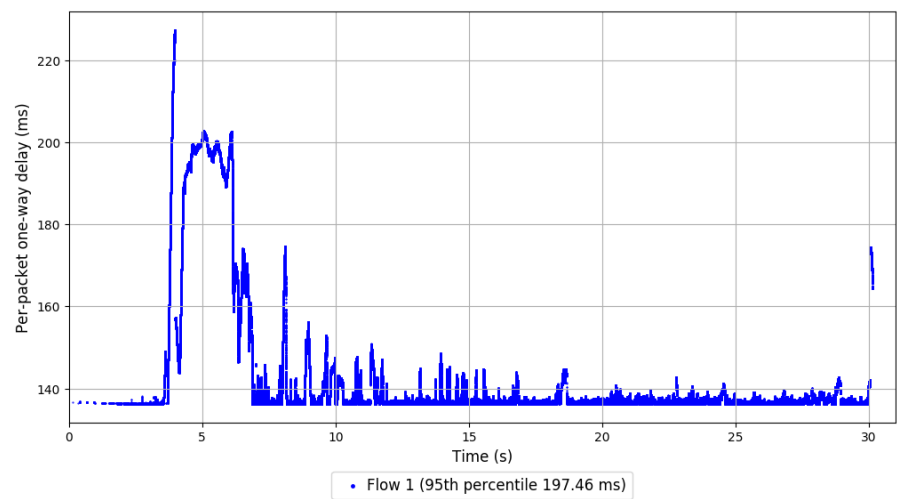
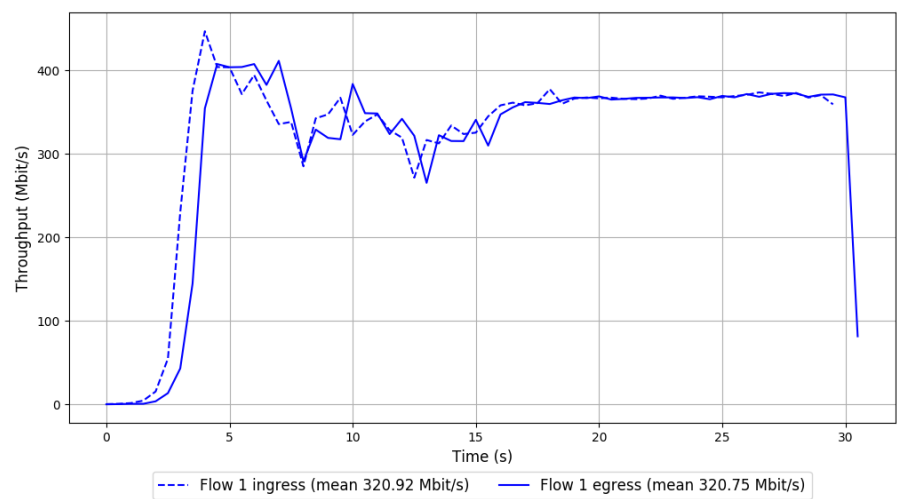


Run 1: Statistics of Copa

Start at: 2018-10-02 16:45:58  
End at: 2018-10-02 16:46:28  
Local clock offset: -0.498 ms  
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2018-10-02 19:09:10  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 320.75 Mbit/s  
95th percentile per-packet one-way delay: 197.459 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 320.75 Mbit/s  
95th percentile per-packet one-way delay: 197.459 ms  
Loss rate: 0.05%

Run 1: Report of Copa — Data Link



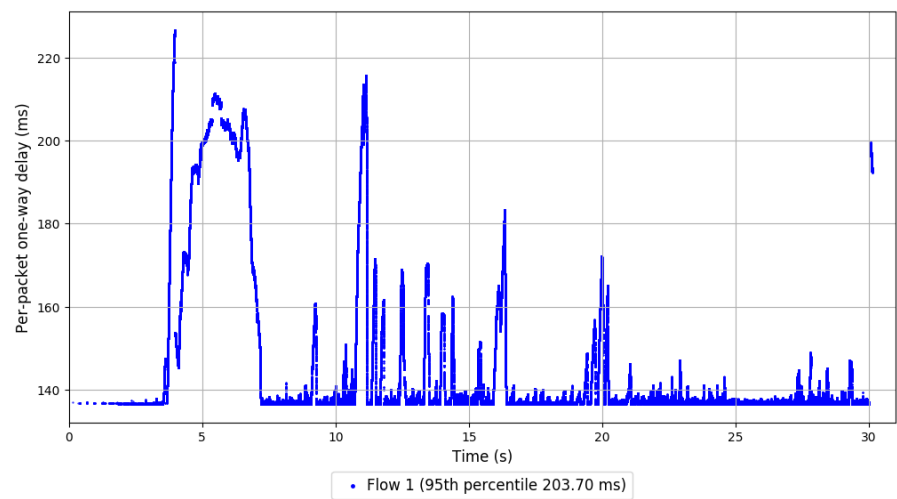
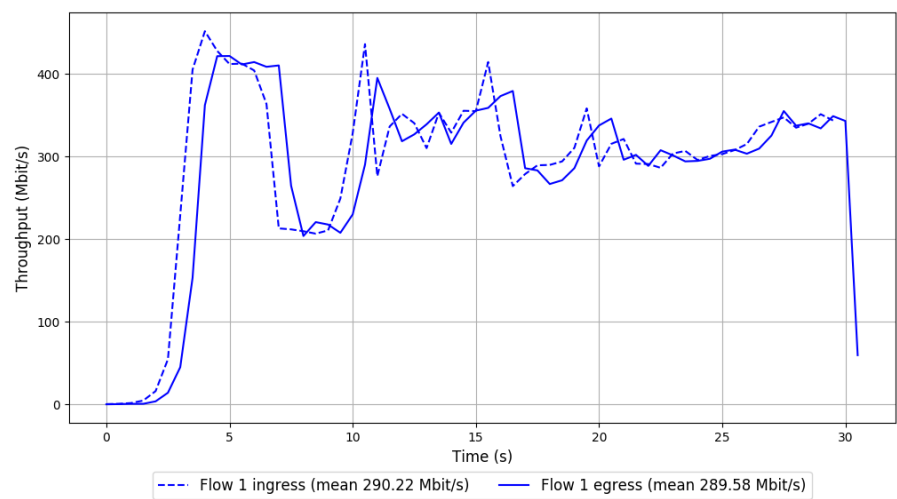


Run 2: Statistics of Copa

Start at: 2018-10-02 17:12:48  
End at: 2018-10-02 17:13:18  
Local clock offset: -0.452 ms  
Remote clock offset: 0.248 ms

# Below is generated by plot.py at 2018-10-02 19:09:10  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 289.58 Mbit/s  
95th percentile per-packet one-way delay: 203.697 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 289.58 Mbit/s  
95th percentile per-packet one-way delay: 203.697 ms  
Loss rate: 0.22%

Run 2: Report of Copa — Data Link

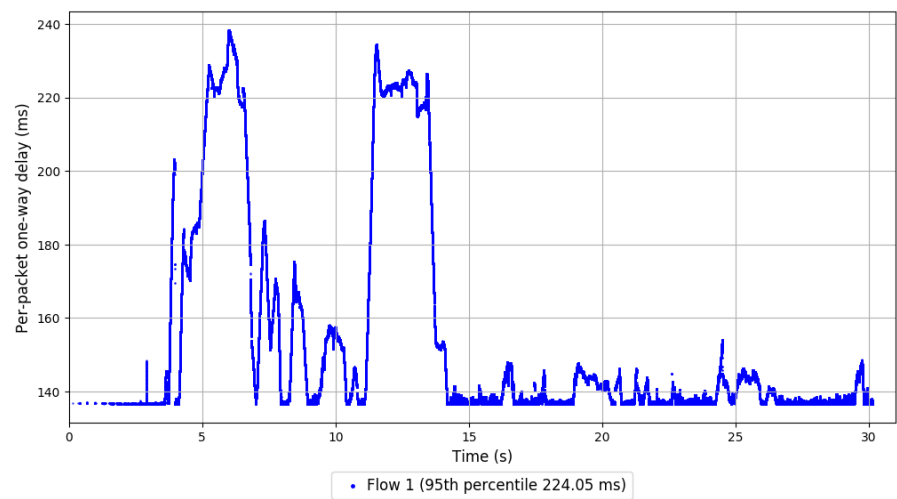
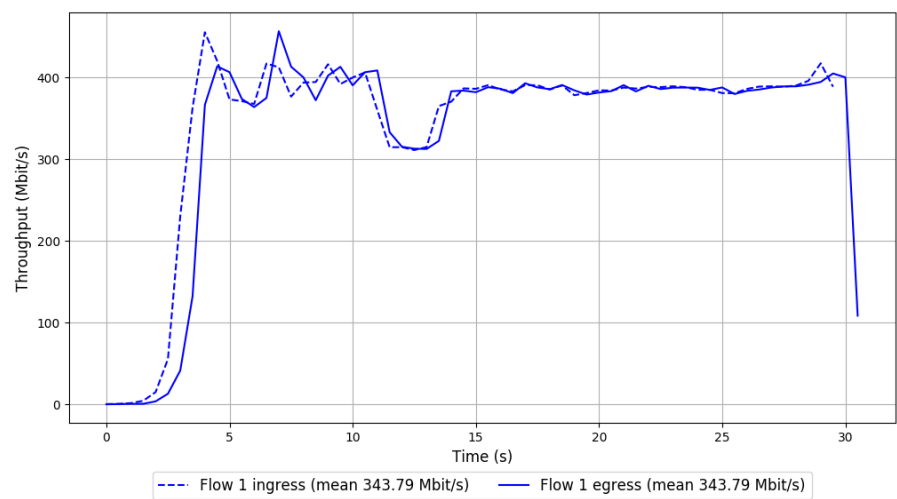


Run 3: Statistics of Copa

Start at: 2018-10-02 17:39:17  
End at: 2018-10-02 17:39:47  
Local clock offset: -0.58 ms  
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-10-02 19:09:59  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 343.79 Mbit/s  
95th percentile per-packet one-way delay: 224.052 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 343.79 Mbit/s  
95th percentile per-packet one-way delay: 224.052 ms  
Loss rate: 0.00%

Run 3: Report of Copa — Data Link

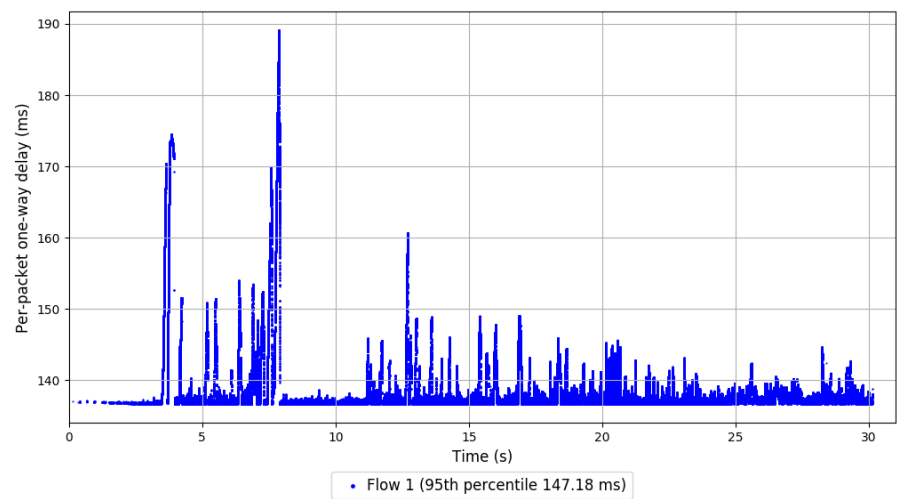
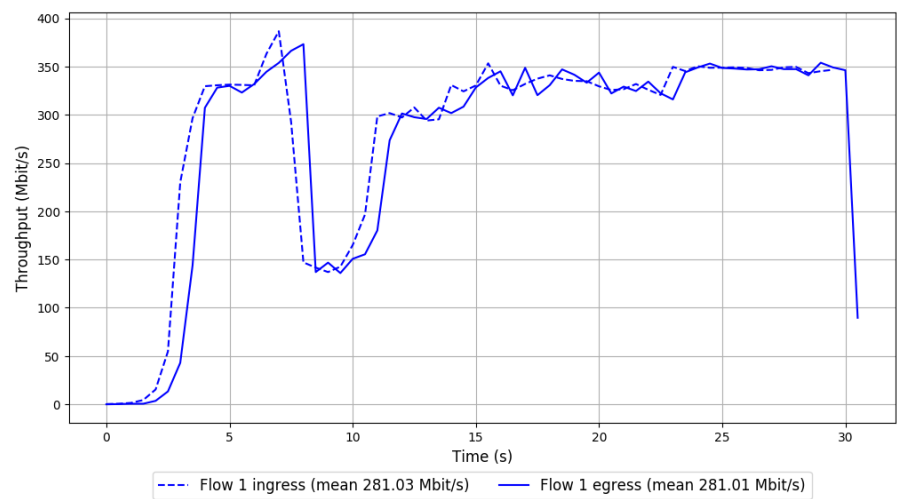


Run 4: Statistics of Copa

Start at: 2018-10-02 18:06:00  
End at: 2018-10-02 18:06:30  
Local clock offset: -0.761 ms  
Remote clock offset: 0.215 ms

# Below is generated by plot.py at 2018-10-02 19:17:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 281.01 Mbit/s  
95th percentile per-packet one-way delay: 147.182 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 281.01 Mbit/s  
95th percentile per-packet one-way delay: 147.182 ms  
Loss rate: 0.00%

Run 4: Report of Copa — Data Link

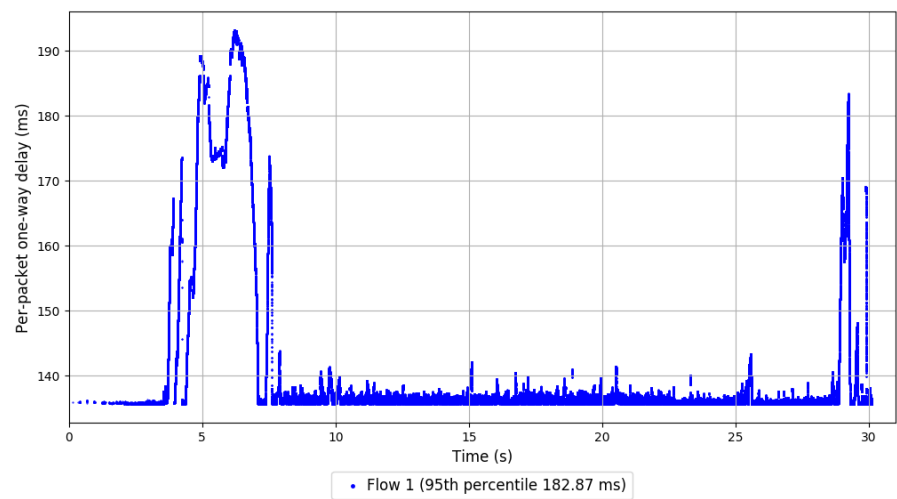
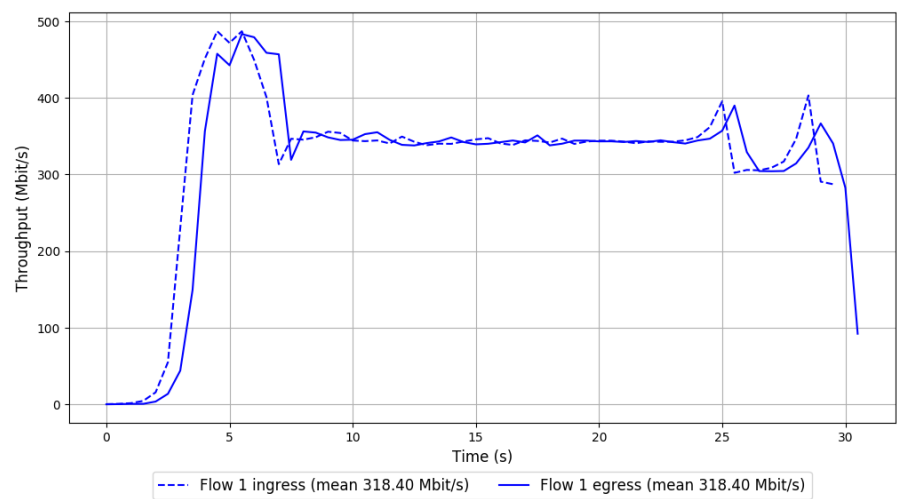


Run 5: Statistics of Copa

Start at: 2018-10-02 18:32:15  
End at: 2018-10-02 18:32:45  
Local clock offset: -0.627 ms  
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-10-02 19:18:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 318.40 Mbit/s  
95th percentile per-packet one-way delay: 182.872 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 318.40 Mbit/s  
95th percentile per-packet one-way delay: 182.872 ms  
Loss rate: 0.00%

Run 5: Report of Copa — Data Link



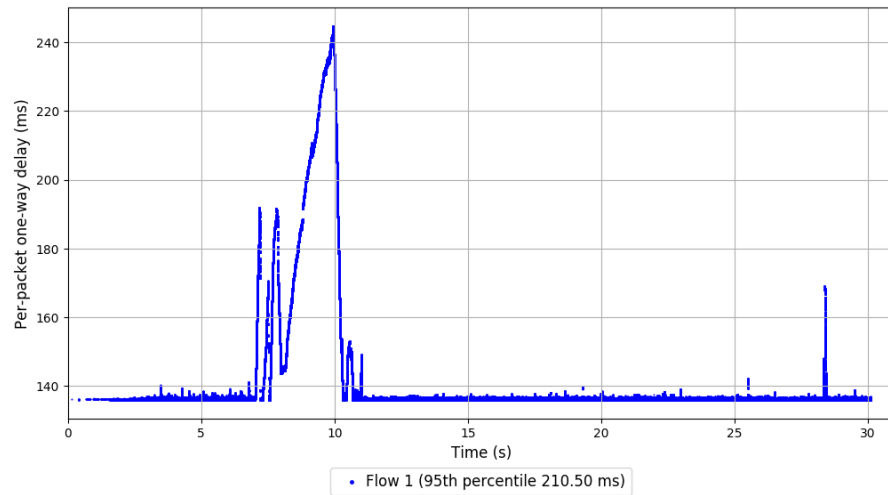
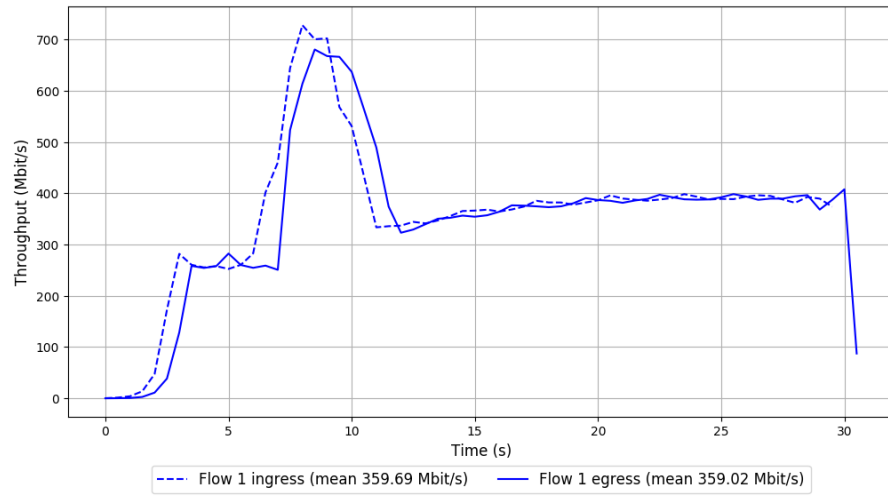


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 16:43:18  
End at: 2018-10-02 16:43:48  
Local clock offset: -0.51 ms  
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2018-10-02 19:18:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 359.02 Mbit/s  
95th percentile per-packet one-way delay: 210.501 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 359.02 Mbit/s  
95th percentile per-packet one-way delay: 210.501 ms  
Loss rate: 0.19%

## Run 1: Report of TCP Cubic — Data Link

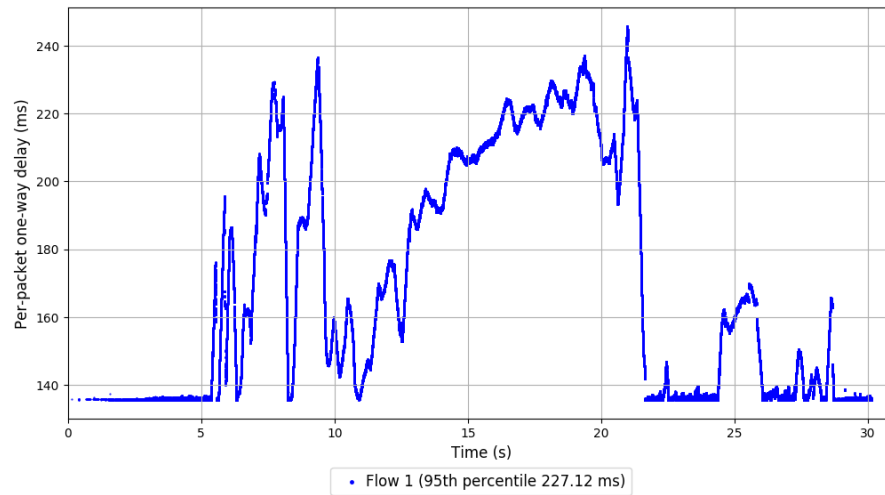
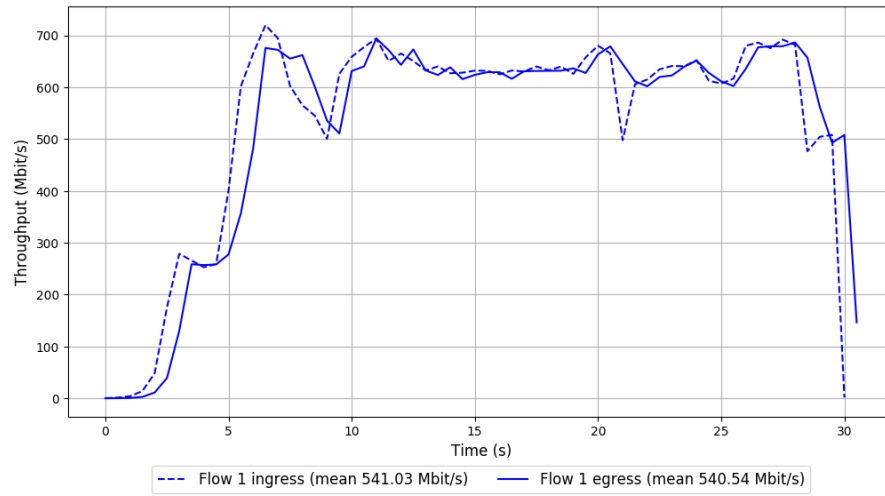


Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 17:09:52  
End at: 2018-10-02 17:10:22  
Local clock offset: -0.601 ms  
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2018-10-02 19:18:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 540.54 Mbit/s  
95th percentile per-packet one-way delay: 227.125 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 540.54 Mbit/s  
95th percentile per-packet one-way delay: 227.125 ms  
Loss rate: 0.09%

## Run 2: Report of TCP Cubic — Data Link

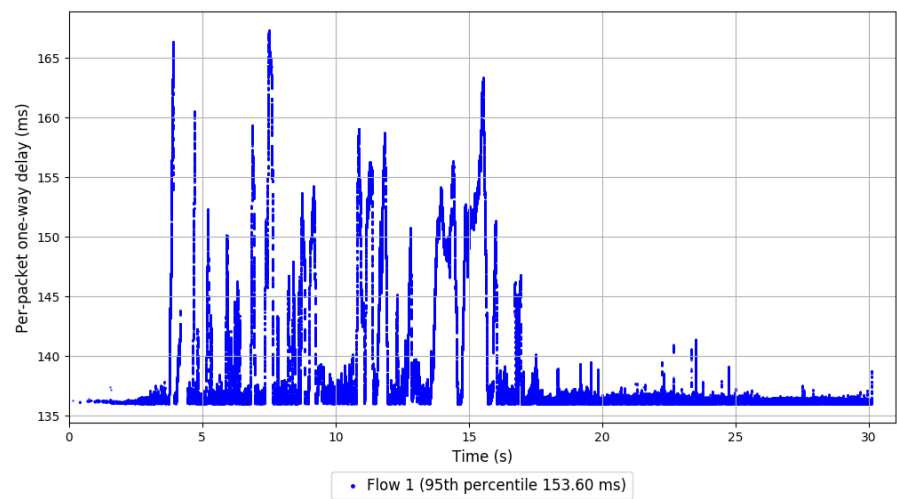
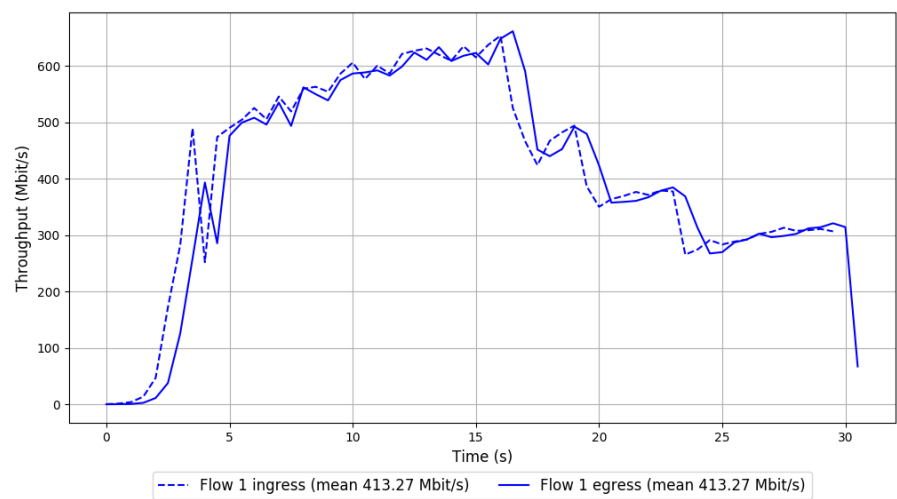


Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 17:36:29  
End at: 2018-10-02 17:36:59  
Local clock offset: -0.688 ms  
Remote clock offset: -0.429 ms

# Below is generated by plot.py at 2018-10-02 19:18:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 413.27 Mbit/s  
95th percentile per-packet one-way delay: 153.597 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 413.27 Mbit/s  
95th percentile per-packet one-way delay: 153.597 ms  
Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 18:03:07

End at: 2018-10-02 18:03:37

Local clock offset: -0.581 ms

Remote clock offset: 0.221 ms

# Below is generated by plot.py at 2018-10-02 19:19:00

# Datalink statistics

-- Total of 1 flow:

Average throughput: 482.97 Mbit/s

95th percentile per-packet one-way delay: 173.983 ms

Loss rate: 0.01%

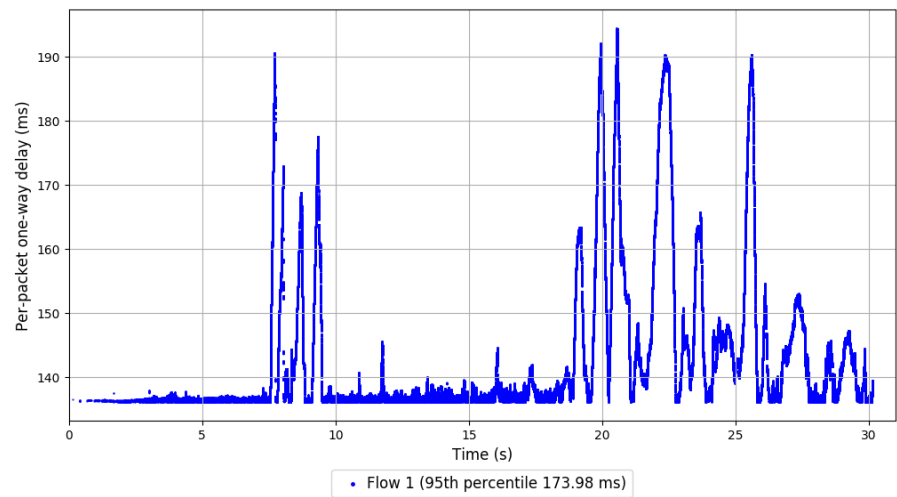
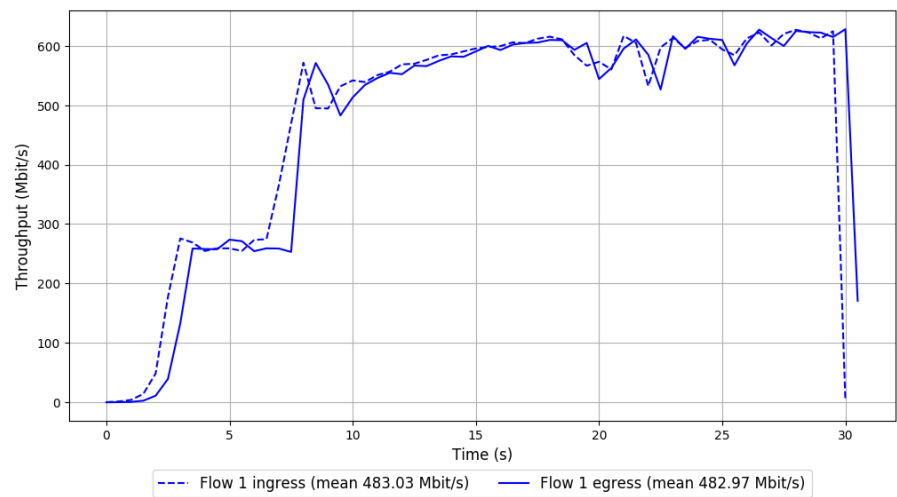
-- Flow 1:

Average throughput: 482.97 Mbit/s

95th percentile per-packet one-way delay: 173.983 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



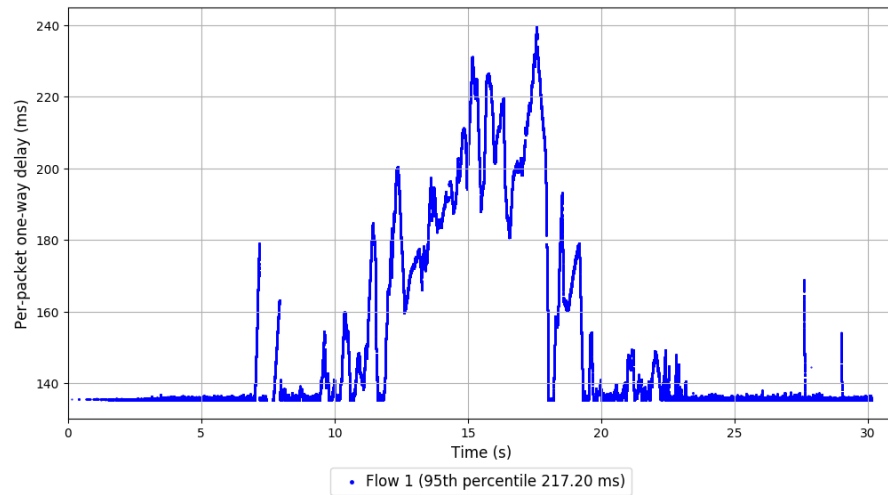
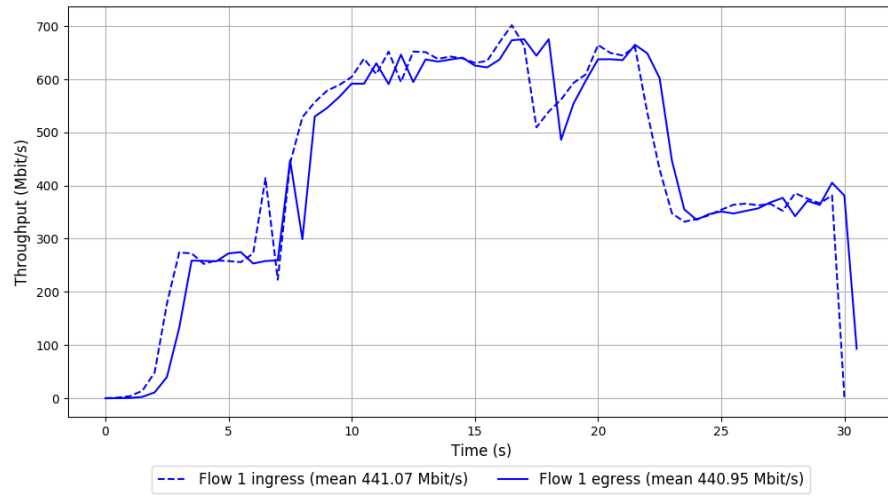


Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 18:29:24  
End at: 2018-10-02 18:29:55  
Local clock offset: -0.644 ms  
Remote clock offset: -0.143 ms

# Below is generated by plot.py at 2018-10-02 19:19:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 440.95 Mbit/s  
95th percentile per-packet one-way delay: 217.201 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 440.95 Mbit/s  
95th percentile per-packet one-way delay: 217.201 ms  
Loss rate: 0.03%

### Run 5: Report of TCP Cubic — Data Link

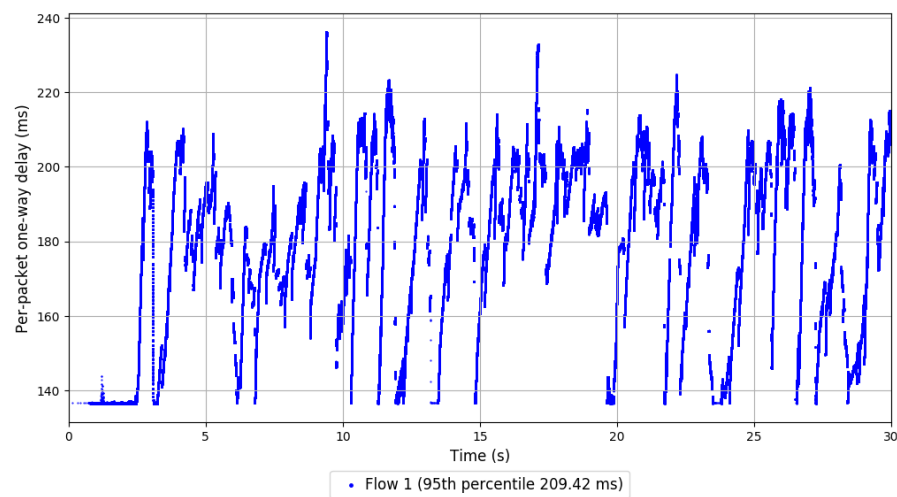
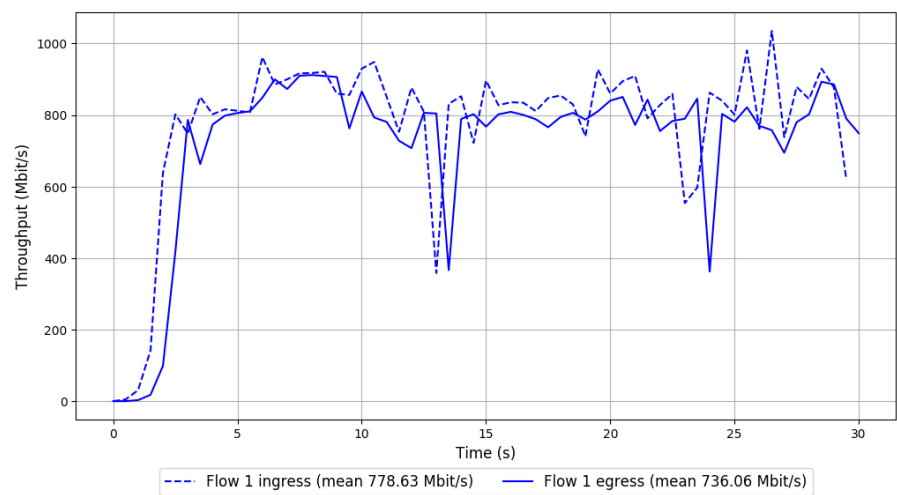


Run 1: Statistics of FillP

Start at: 2018-10-02 16:49:06  
End at: 2018-10-02 16:49:36  
Local clock offset: -0.449 ms  
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2018-10-02 19:30:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 736.06 Mbit/s  
95th percentile per-packet one-way delay: 209.419 ms  
Loss rate: 5.45%  
-- Flow 1:  
Average throughput: 736.06 Mbit/s  
95th percentile per-packet one-way delay: 209.419 ms  
Loss rate: 5.45%

Run 1: Report of FillP — Data Link

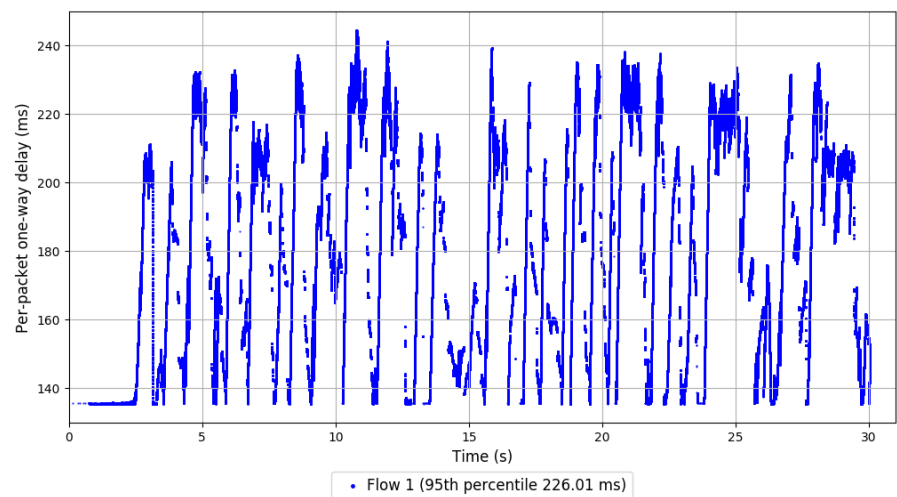
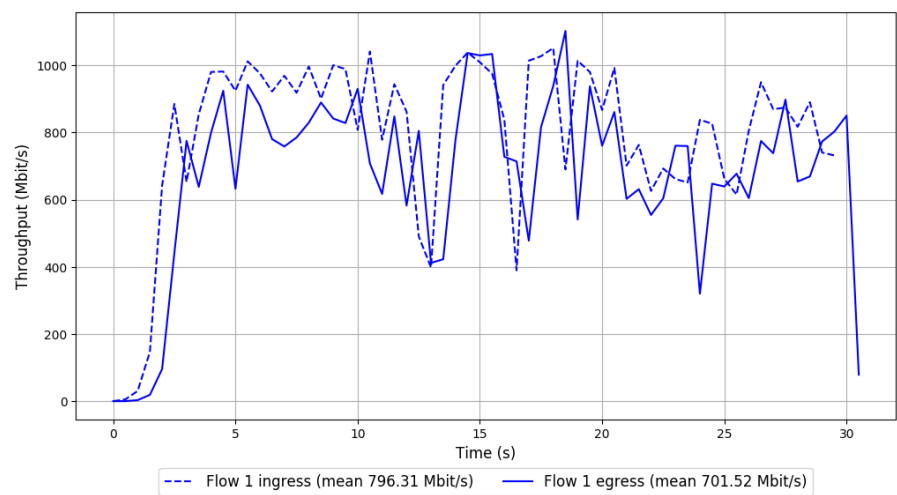


Run 2: Statistics of FillP

Start at: 2018-10-02 17:15:53  
End at: 2018-10-02 17:16:23  
Local clock offset: -0.308 ms  
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-10-02 19:34:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 701.52 Mbit/s  
95th percentile per-packet one-way delay: 226.013 ms  
Loss rate: 11.90%  
-- Flow 1:  
Average throughput: 701.52 Mbit/s  
95th percentile per-packet one-way delay: 226.013 ms  
Loss rate: 11.90%

Run 2: Report of FillP — Data Link

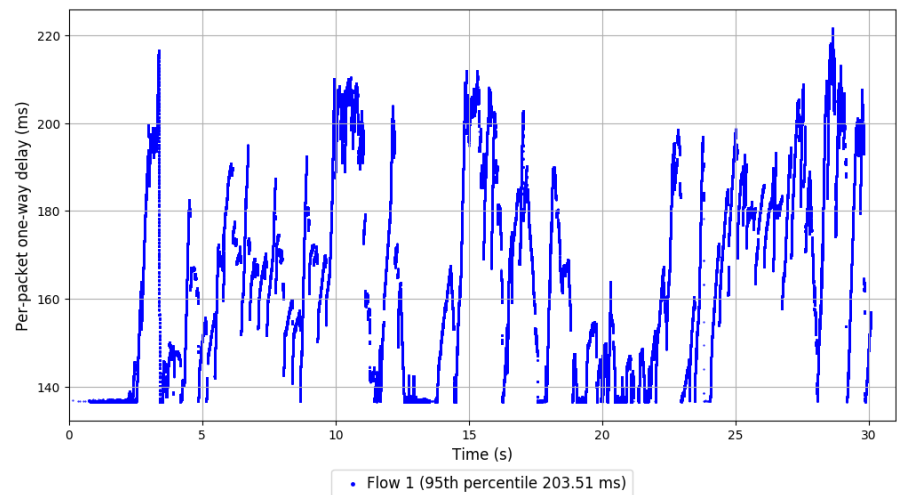
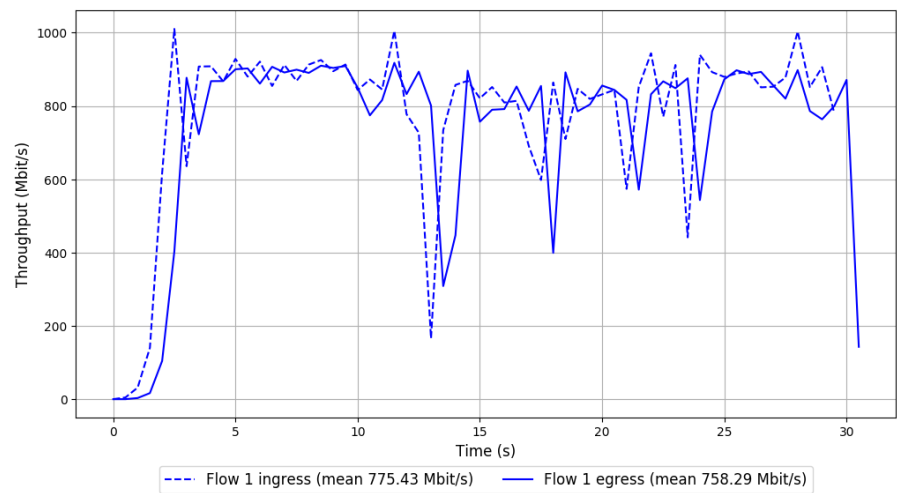


Run 3: Statistics of FillP

Start at: 2018-10-02 17:42:27  
End at: 2018-10-02 17:42:57  
Local clock offset: -0.523 ms  
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-10-02 19:38:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 758.29 Mbit/s  
95th percentile per-packet one-way delay: 203.509 ms  
Loss rate: 2.21%  
-- Flow 1:  
Average throughput: 758.29 Mbit/s  
95th percentile per-packet one-way delay: 203.509 ms  
Loss rate: 2.21%

Run 3: Report of FillP — Data Link





Run 4: Statistics of FillP

Start at: 2018-10-02 18:09:05

End at: 2018-10-02 18:09:35

Local clock offset: -0.481 ms

Remote clock offset: 0.174 ms

# Below is generated by plot.py at 2018-10-02 19:39:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 791.96 Mbit/s

95th percentile per-packet one-way delay: 203.917 ms

Loss rate: 3.50%

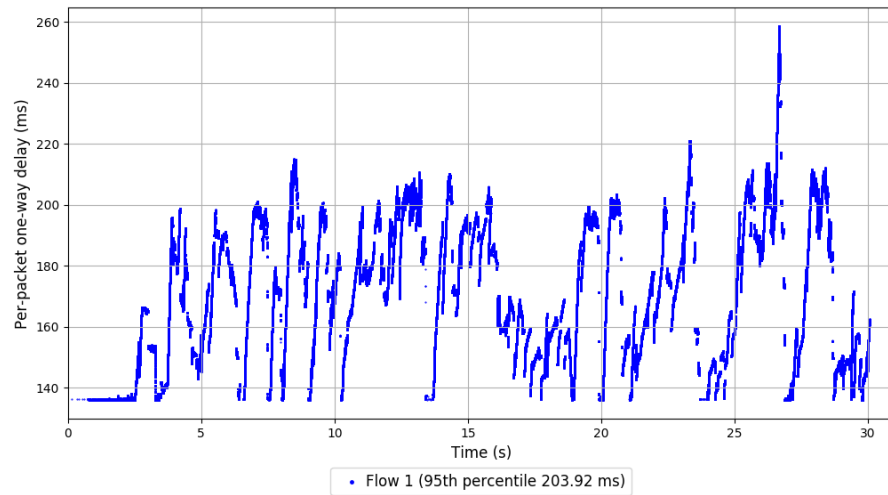
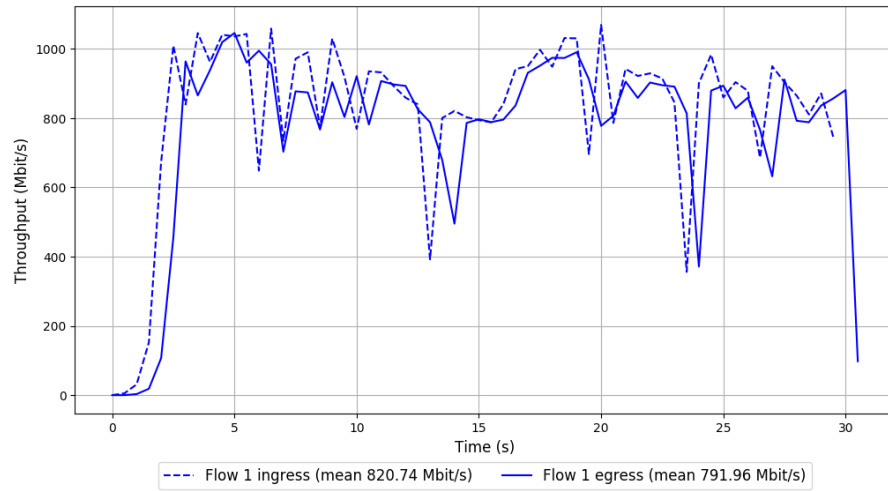
-- Flow 1:

Average throughput: 791.96 Mbit/s

95th percentile per-packet one-way delay: 203.917 ms

Loss rate: 3.50%

#### Run 4: Report of FillP — Data Link

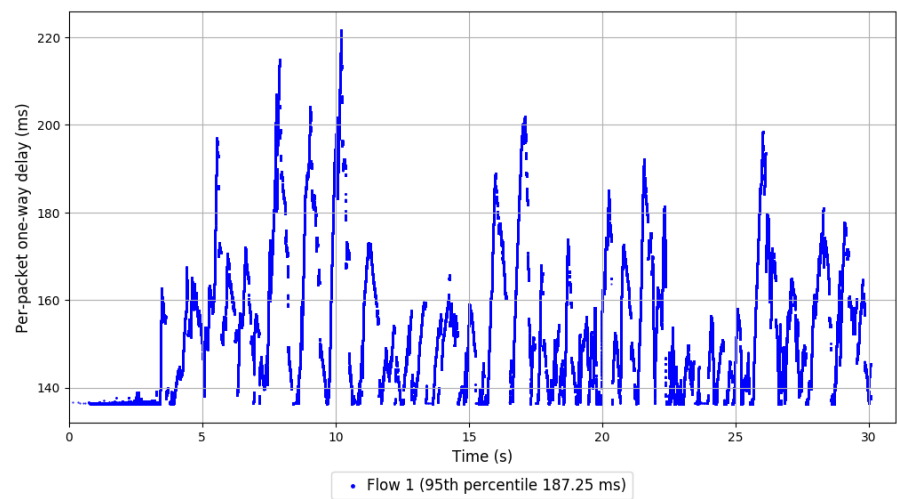
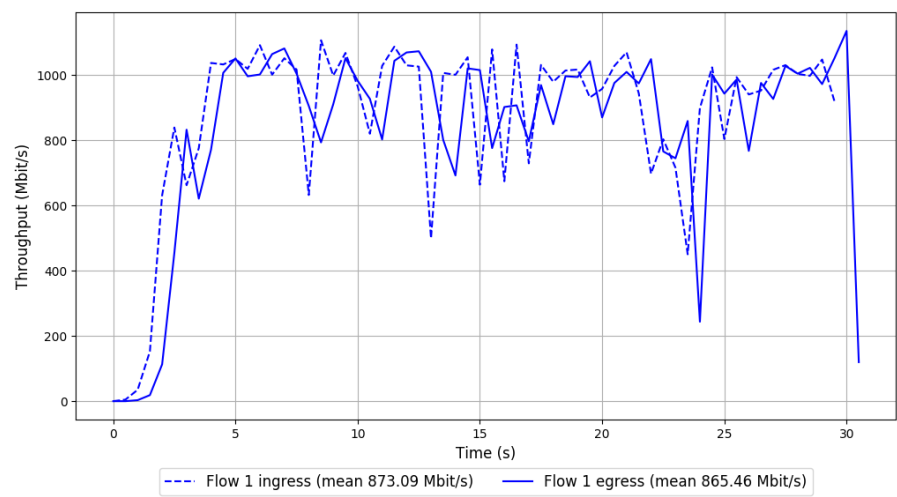


Run 5: Statistics of FillP

Start at: 2018-10-02 18:35:22  
End at: 2018-10-02 18:35:52  
Local clock offset: -0.615 ms  
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 865.46 Mbit/s  
95th percentile per-packet one-way delay: 187.254 ms  
Loss rate: 0.87%  
-- Flow 1:  
Average throughput: 865.46 Mbit/s  
95th percentile per-packet one-way delay: 187.254 ms  
Loss rate: 0.87%

Run 5: Report of FillP — Data Link



Run 1: Statistics of Indigo

Start at: 2018-10-02 16:36:02

End at: 2018-10-02 16:36:32

Local clock offset: -0.43 ms

Remote clock offset: -0.534 ms

# Below is generated by plot.py at 2018-10-02 19:43:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 102.01 Mbit/s

95th percentile per-packet one-way delay: 136.575 ms

Loss rate: 0.00%

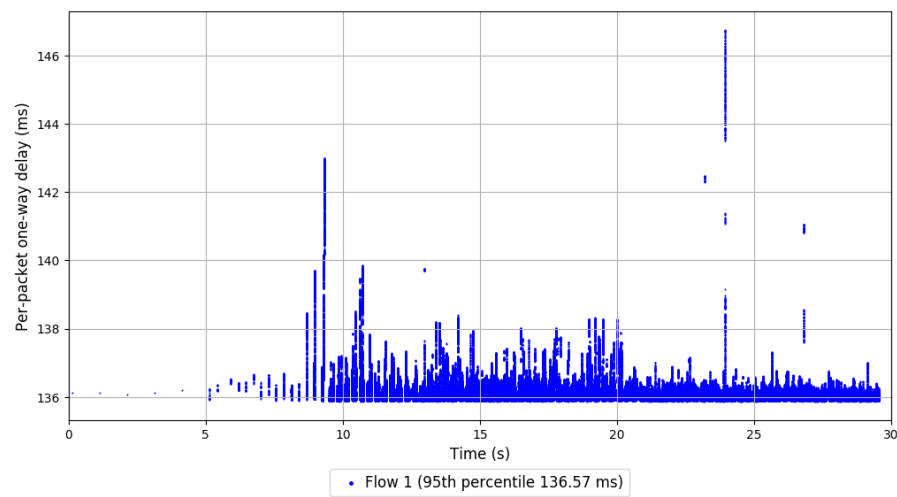
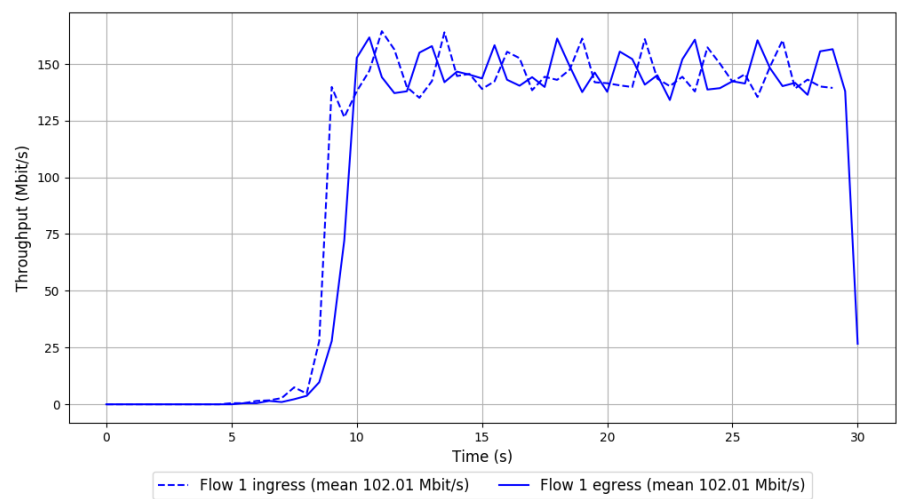
-- Flow 1:

Average throughput: 102.01 Mbit/s

95th percentile per-packet one-way delay: 136.575 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

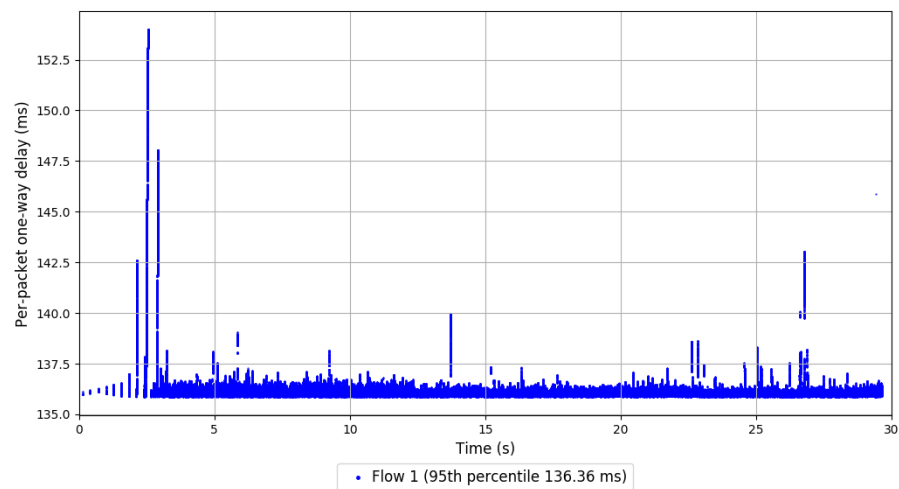
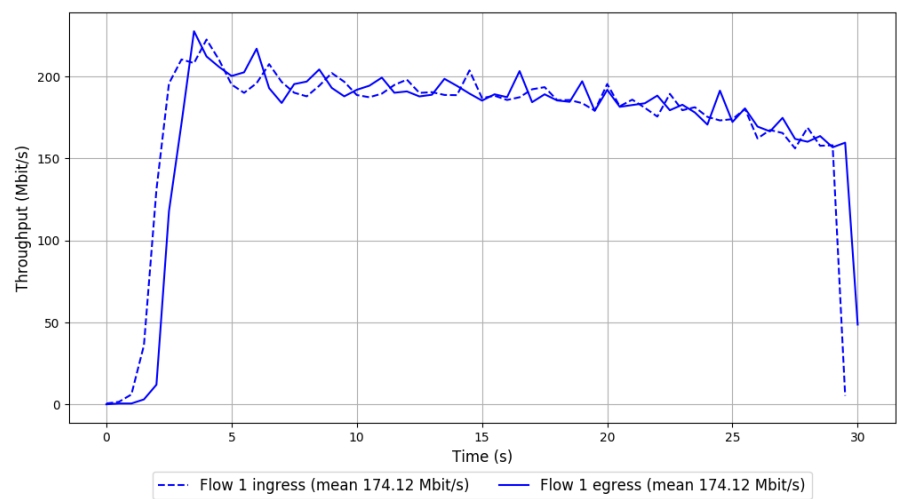


Run 2: Statistics of Indigo

Start at: 2018-10-02 17:02:31  
End at: 2018-10-02 17:03:01  
Local clock offset: -0.513 ms  
Remote clock offset: -0.478 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 174.12 Mbit/s  
95th percentile per-packet one-way delay: 136.358 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 174.12 Mbit/s  
95th percentile per-packet one-way delay: 136.358 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



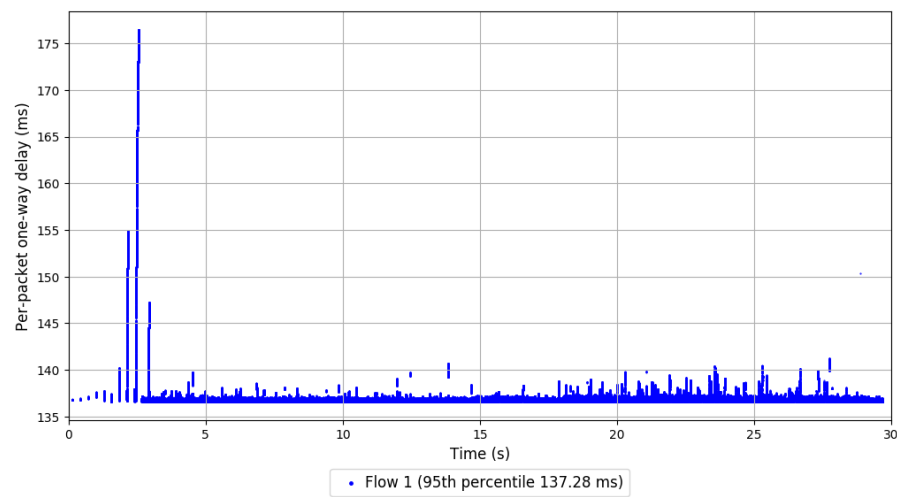
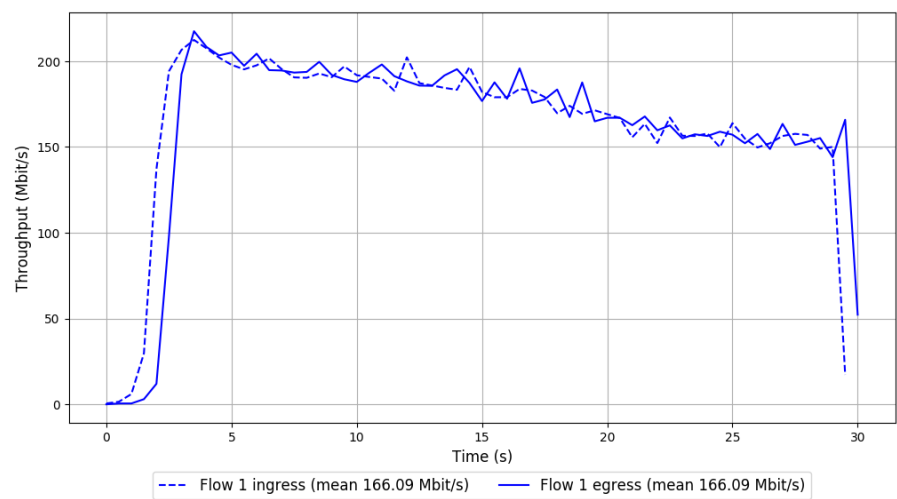


Run 3: Statistics of Indigo

Start at: 2018-10-02 17:29:09  
End at: 2018-10-02 17:29:39  
Local clock offset: -0.68 ms  
Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 166.09 Mbit/s  
95th percentile per-packet one-way delay: 137.275 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 166.09 Mbit/s  
95th percentile per-packet one-way delay: 137.275 ms  
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

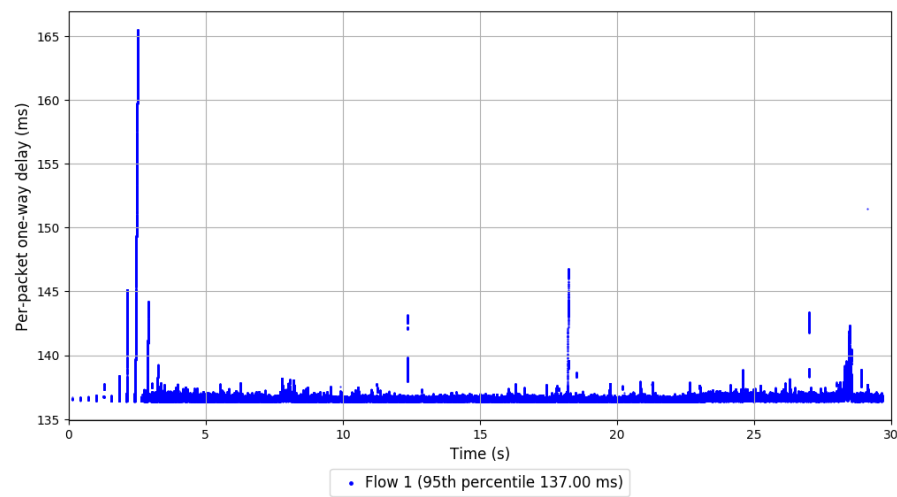
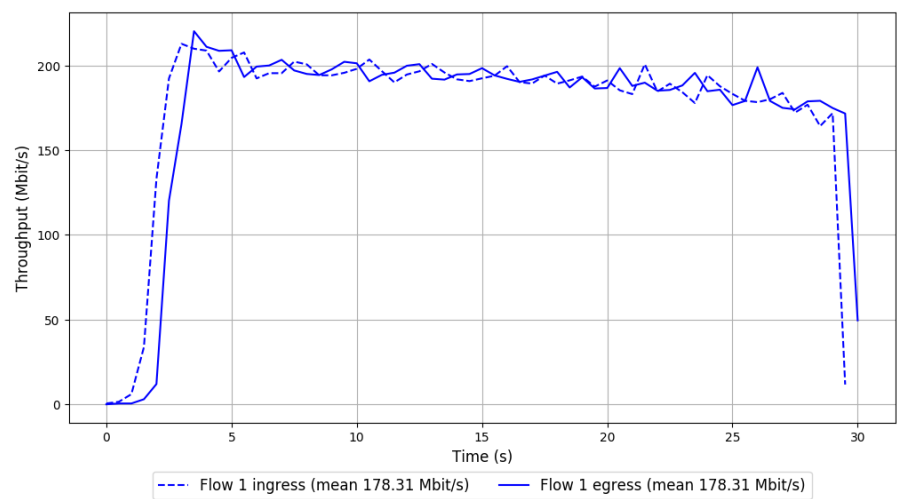


Run 4: Statistics of Indigo

Start at: 2018-10-02 17:55:39  
End at: 2018-10-02 17:56:09  
Local clock offset: -0.775 ms  
Remote clock offset: -0.163 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 178.31 Mbit/s  
95th percentile per-packet one-way delay: 137.002 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 178.31 Mbit/s  
95th percentile per-packet one-way delay: 137.002 ms  
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-02 18:22:21

End at: 2018-10-02 18:22:51

Local clock offset: -0.858 ms

Remote clock offset: 0.247 ms

# Below is generated by plot.py at 2018-10-02 19:43:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 166.71 Mbit/s

95th percentile per-packet one-way delay: 137.652 ms

Loss rate: 0.00%

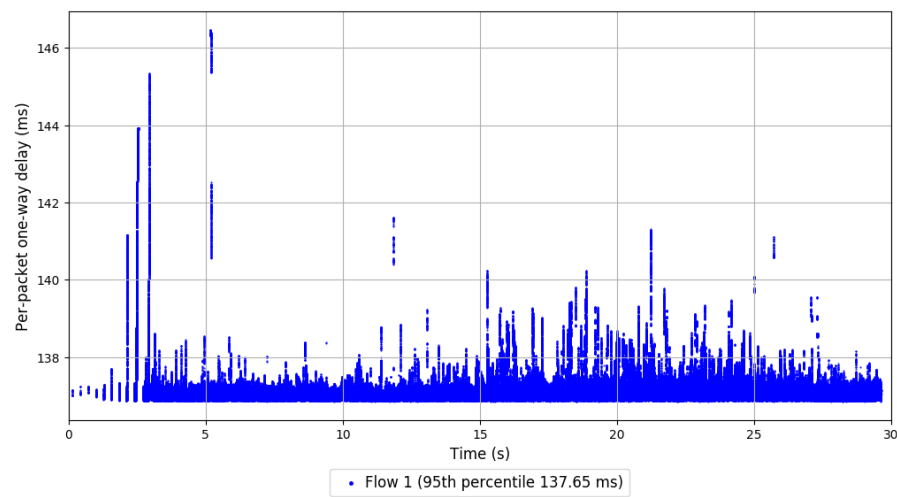
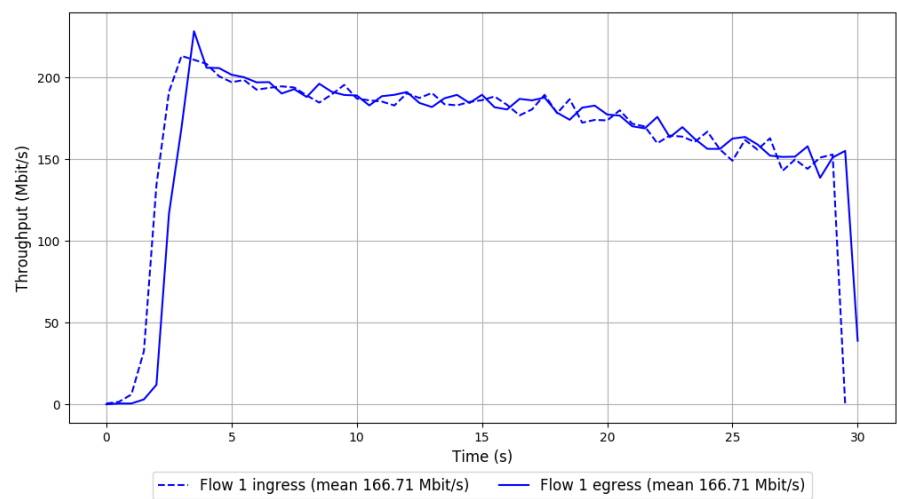
-- Flow 1:

Average throughput: 166.71 Mbit/s

95th percentile per-packet one-way delay: 137.652 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

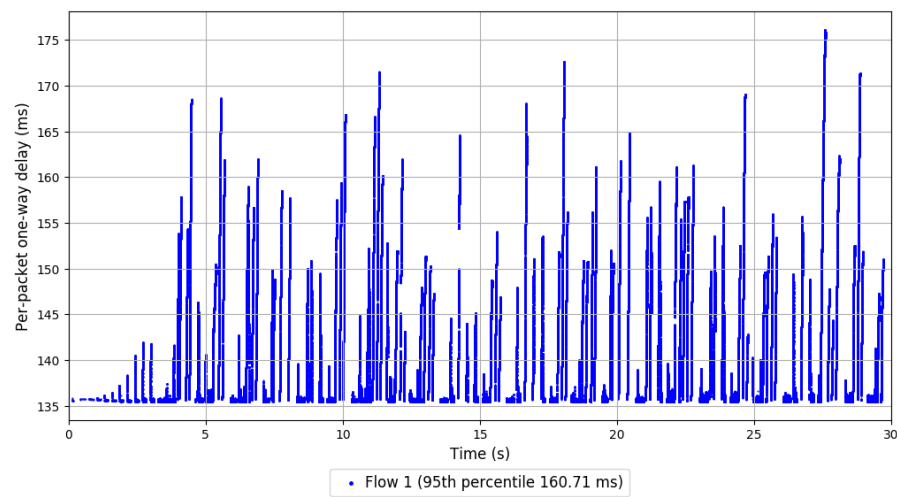
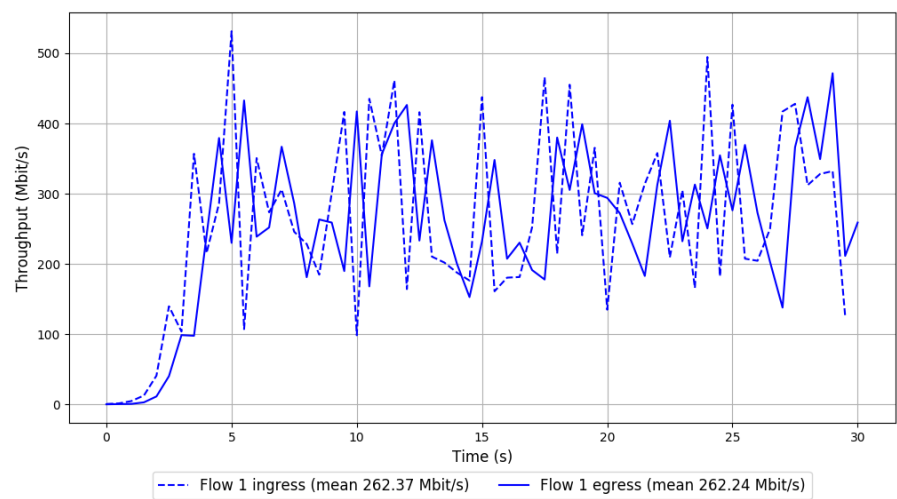


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 16:47:41  
End at: 2018-10-02 16:48:11  
Local clock offset: -0.663 ms  
Remote clock offset: -0.488 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 262.24 Mbit/s  
95th percentile per-packet one-way delay: 160.711 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 262.24 Mbit/s  
95th percentile per-packet one-way delay: 160.711 ms  
Loss rate: 0.00%

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





Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 17:14:28

End at: 2018-10-02 17:14:59

Local clock offset: -0.4 ms

Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-10-02 19:43:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 256.39 Mbit/s

95th percentile per-packet one-way delay: 173.827 ms

Loss rate: 0.00%

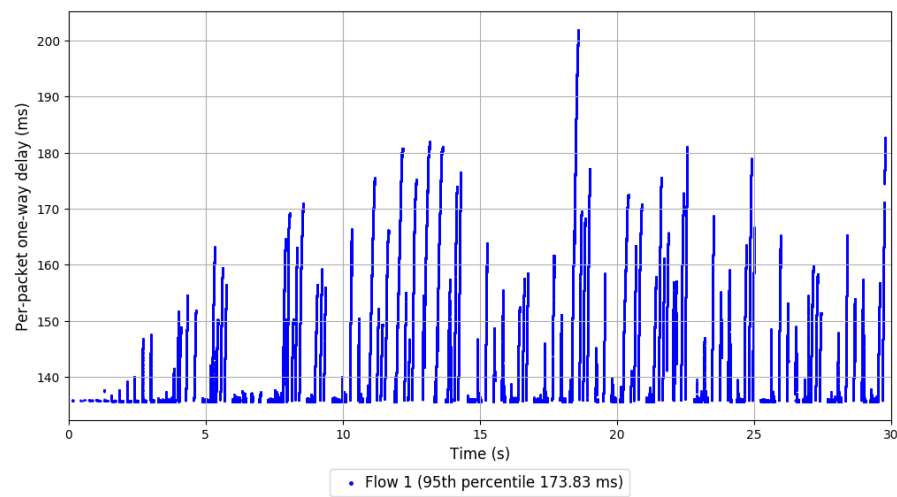
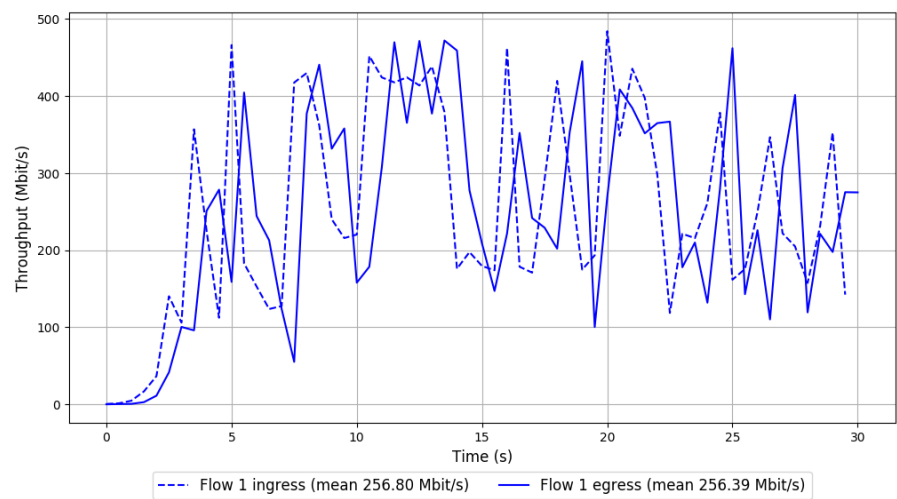
-- Flow 1:

Average throughput: 256.39 Mbit/s

95th percentile per-packet one-way delay: 173.827 ms

Loss rate: 0.00%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 17:41:03

End at: 2018-10-02 17:41:33

Local clock offset: -0.637 ms

Remote clock offset: 0.297 ms

# Below is generated by plot.py at 2018-10-02 19:43:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 251.68 Mbit/s

95th percentile per-packet one-way delay: 167.126 ms

Loss rate: 0.25%

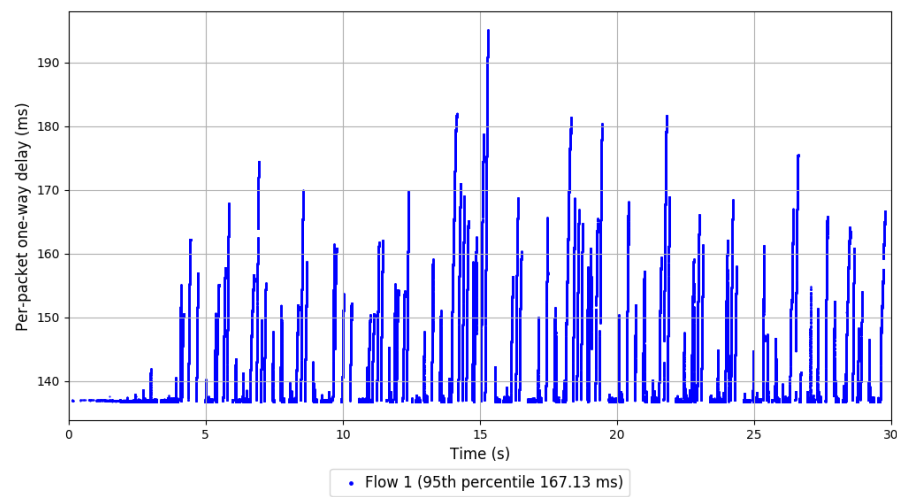
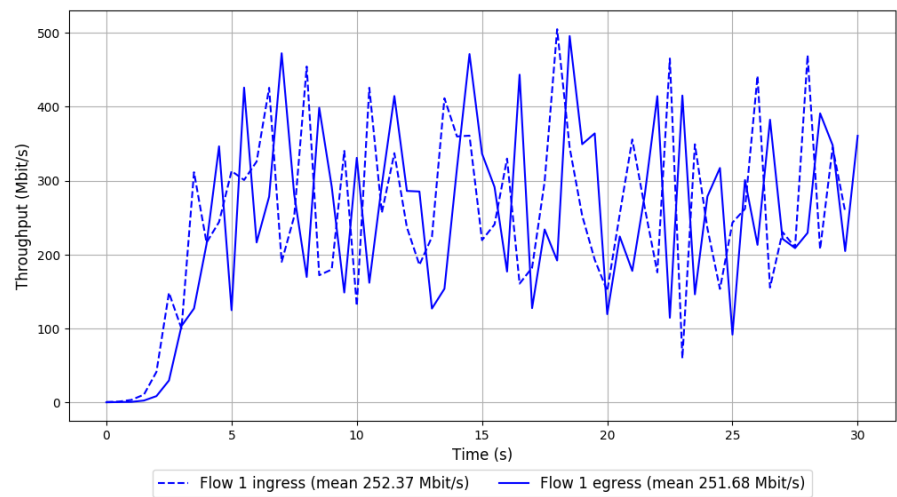
-- Flow 1:

Average throughput: 251.68 Mbit/s

95th percentile per-packet one-way delay: 167.126 ms

Loss rate: 0.25%

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

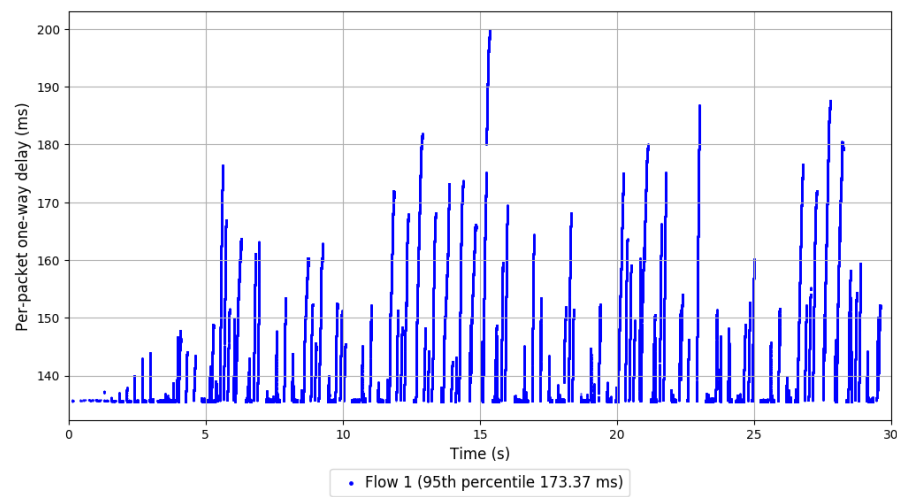
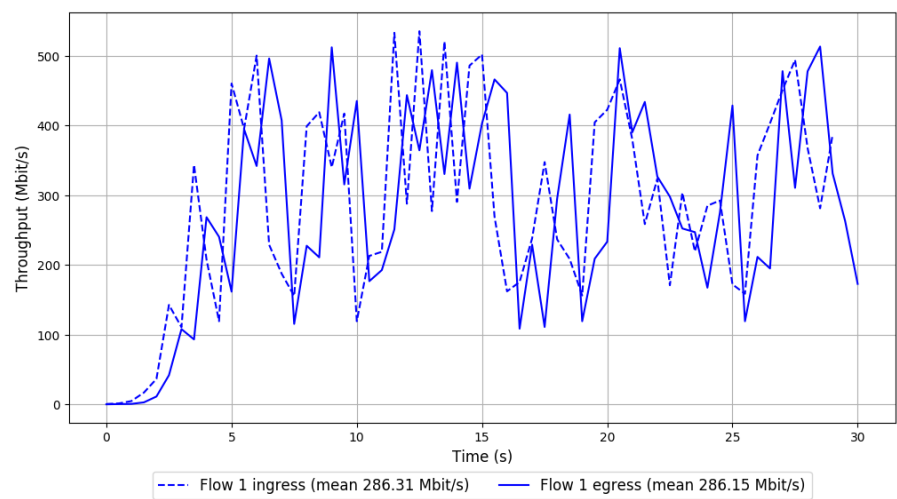


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 18:07:39  
End at: 2018-10-02 18:08:09  
Local clock offset: -0.503 ms  
Remote clock offset: -0.176 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 286.15 Mbit/s  
95th percentile per-packet one-way delay: 173.373 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 286.15 Mbit/s  
95th percentile per-packet one-way delay: 173.373 ms  
Loss rate: 0.00%

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

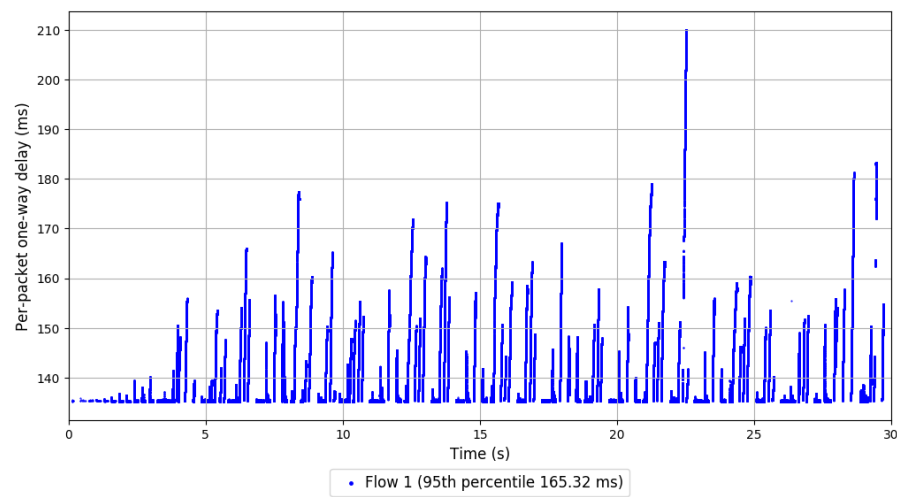
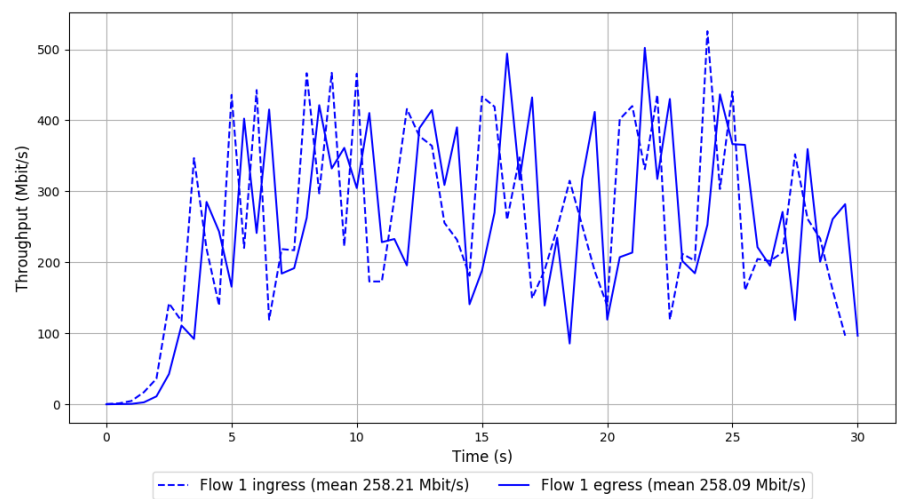


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 18:33:58  
End at: 2018-10-02 18:34:28  
Local clock offset: -0.456 ms  
Remote clock offset: -0.478 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 258.09 Mbit/s  
95th percentile per-packet one-way delay: 165.316 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 258.09 Mbit/s  
95th percentile per-packet one-way delay: 165.316 ms  
Loss rate: 0.00%

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



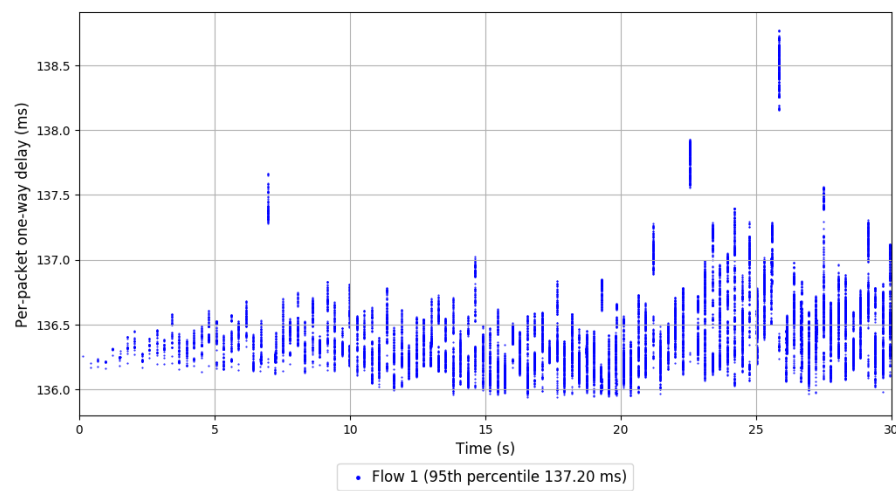
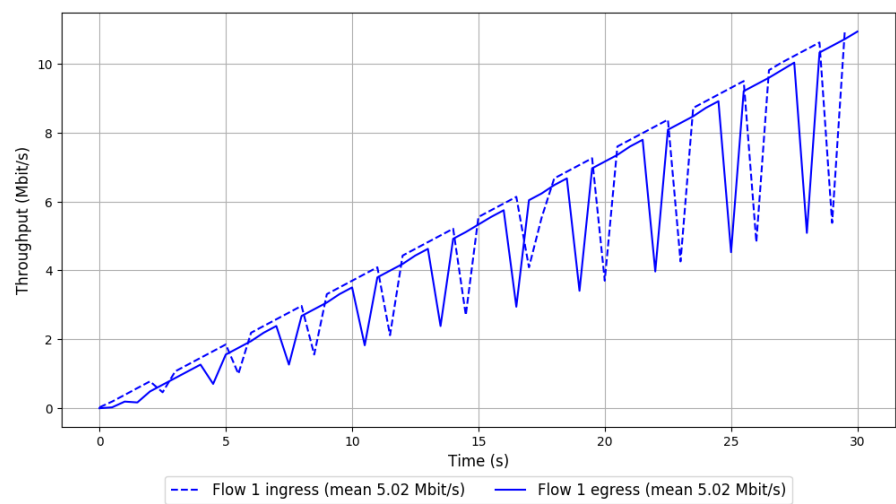


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 16:53:27
End at: 2018-10-02 16:53:57
Local clock offset: -0.424 ms
Remote clock offset: -0.482 ms

# Below is generated by plot.py at 2018-10-02 19:43:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.197 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 137.197 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

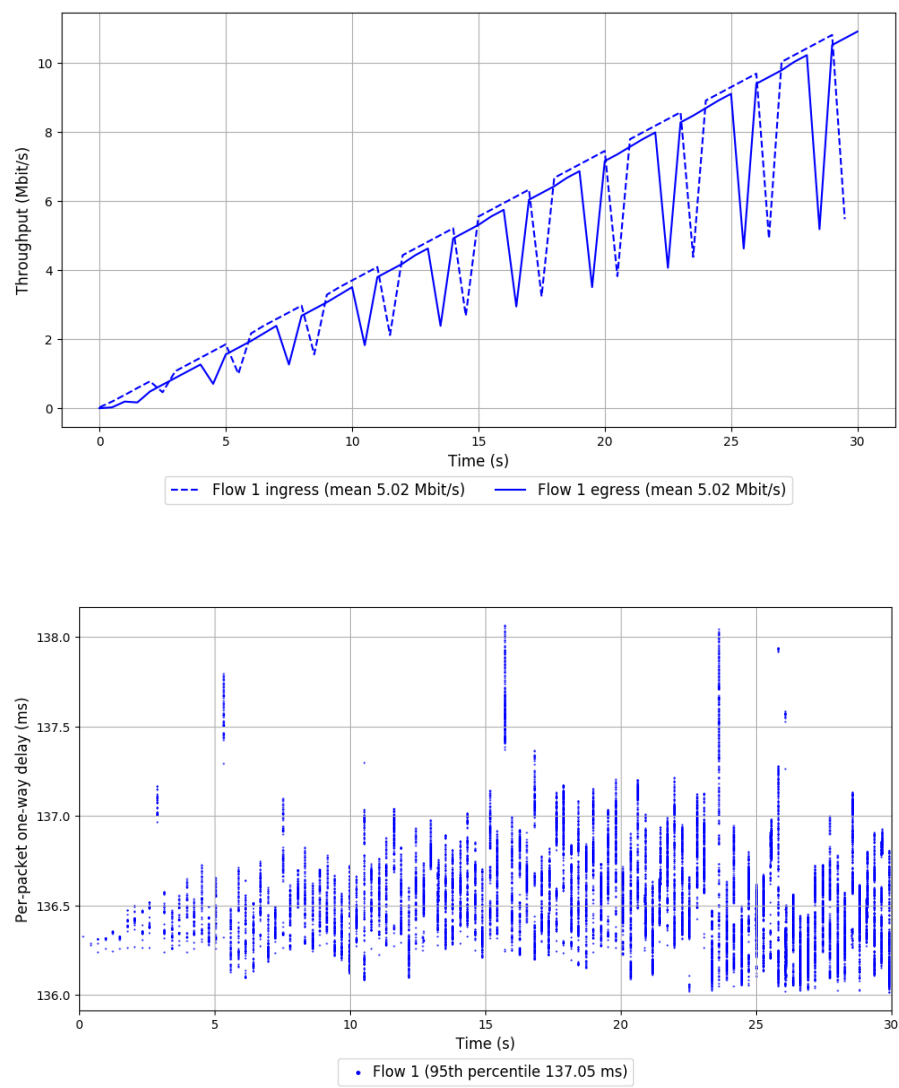


Run 2: Statistics of LEDBAT

Start at: 2018-10-02 17:20:11  
End at: 2018-10-02 17:20:41  
Local clock offset: -0.356 ms  
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.050 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.050 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

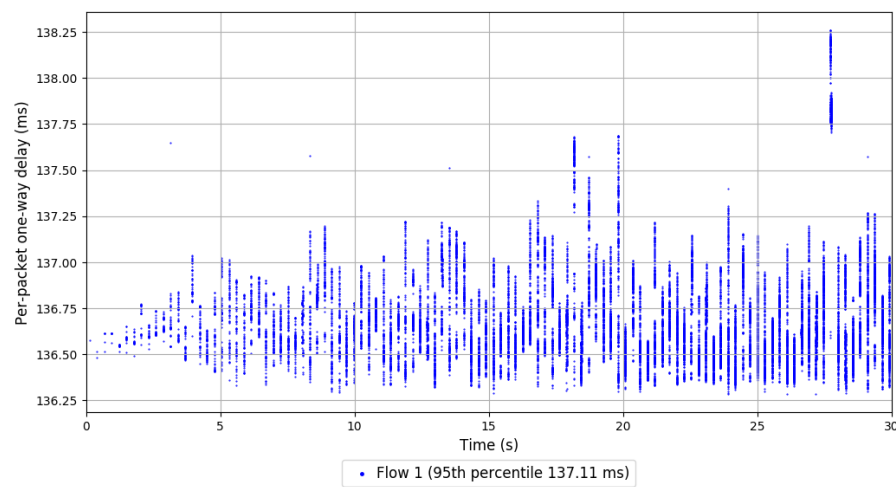
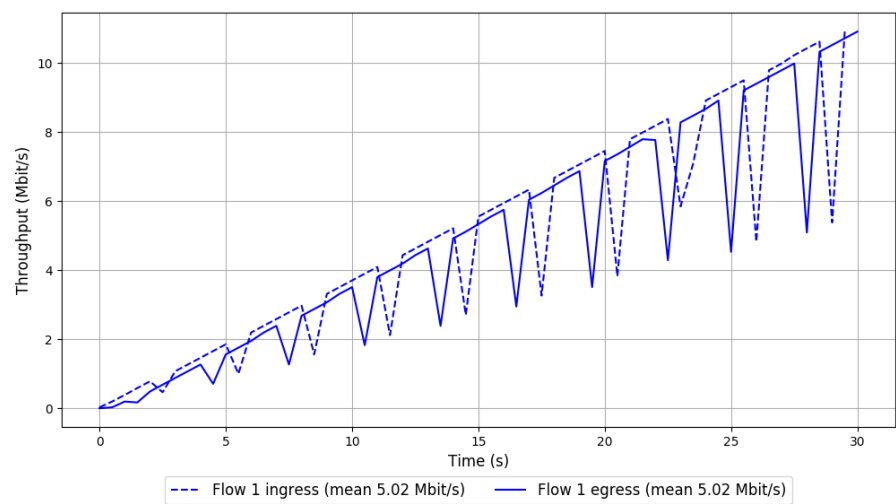


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 17:46:43  
End at: 2018-10-02 17:47:13  
Local clock offset: -0.563 ms  
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.114 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.114 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

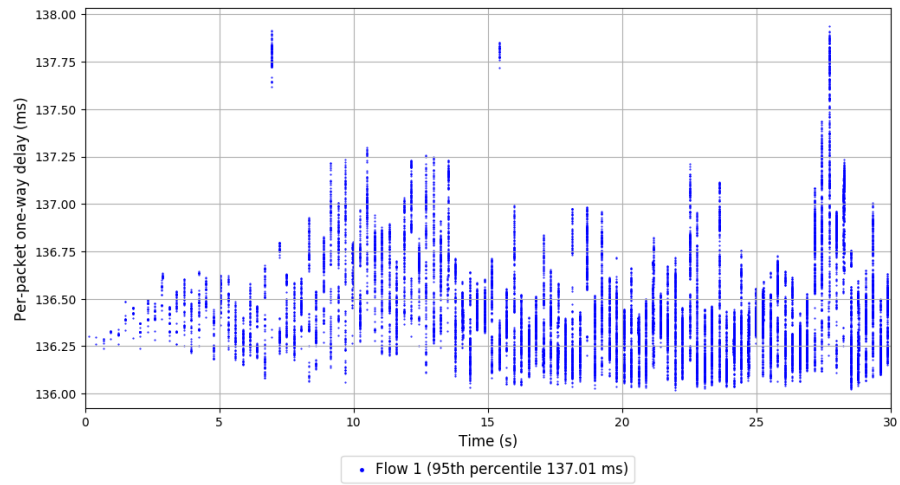
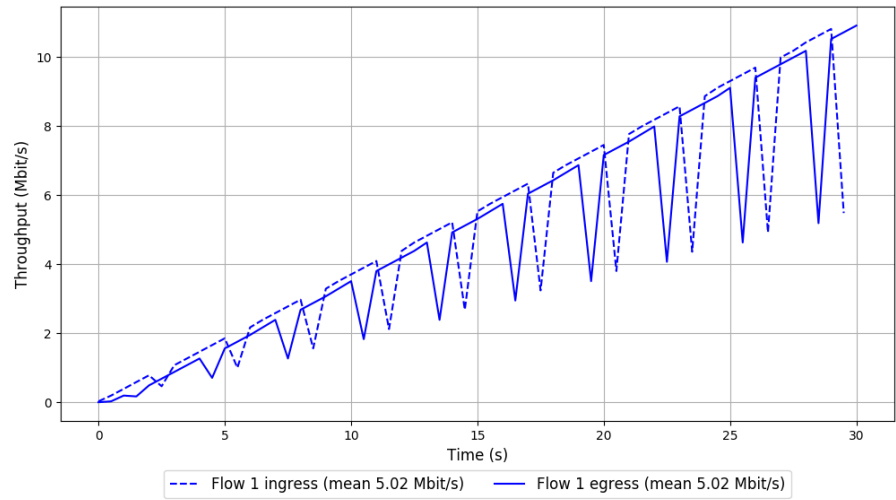


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 18:13:24  
End at: 2018-10-02 18:13:54  
Local clock offset: -0.431 ms  
Remote clock offset: -0.129 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.012 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.012 ms  
Loss rate: 0.00%

#### Run 4: Report of LEDBAT — Data Link



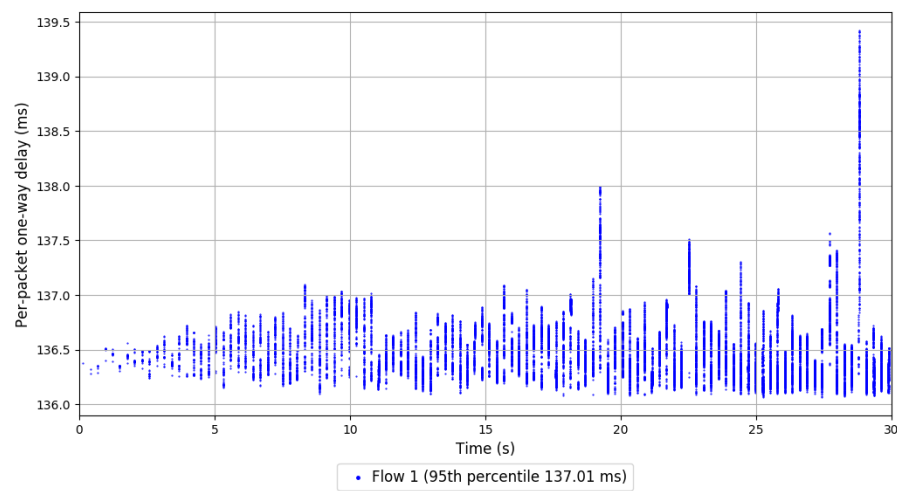
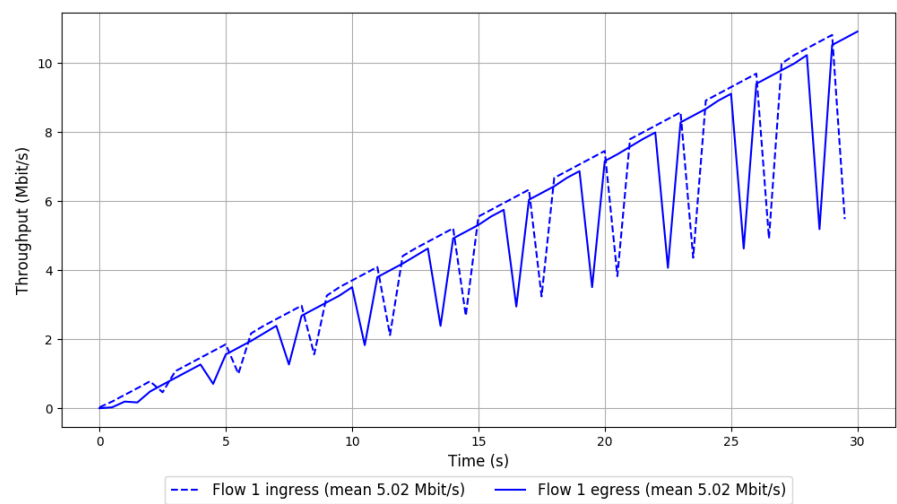


Run 5: Statistics of LEDBAT

Start at: 2018-10-02 18:39:42  
End at: 2018-10-02 18:40:12  
Local clock offset: -0.609 ms  
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-10-02 19:43:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.013 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 5.02 Mbit/s  
95th percentile per-packet one-way delay: 137.013 ms  
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

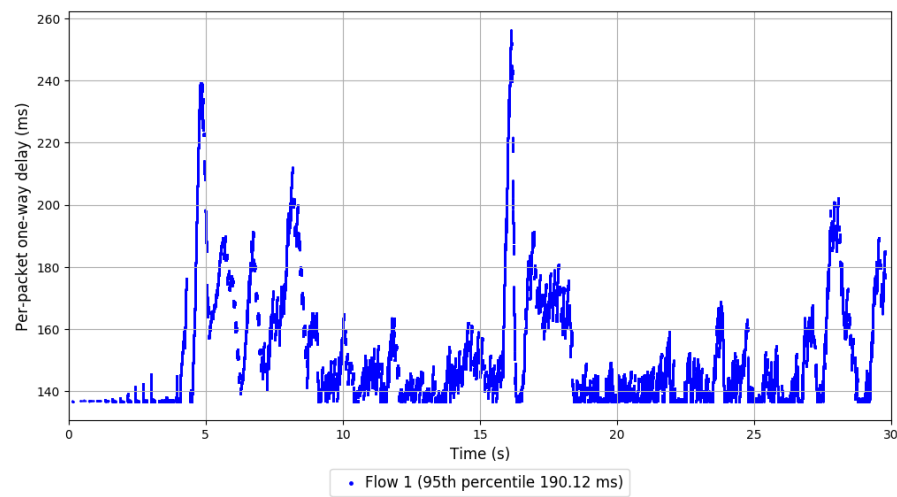
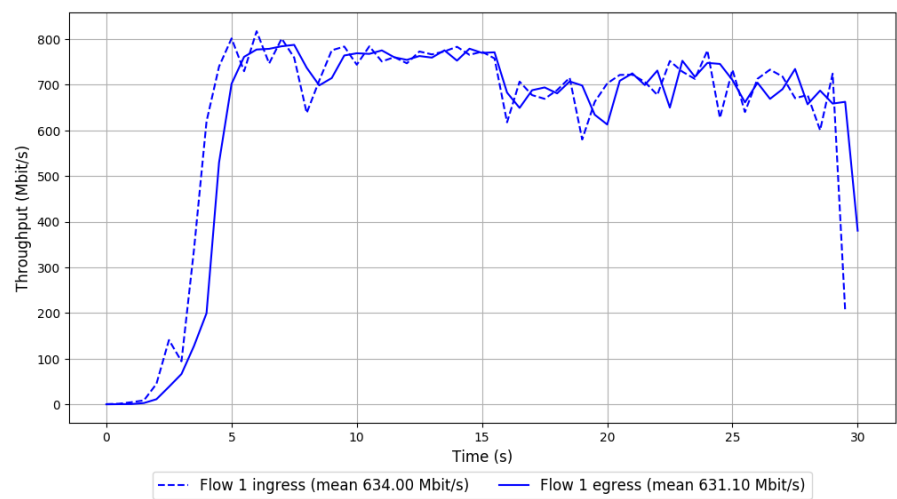


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 16:56:21
End at: 2018-10-02 16:56:51
Local clock offset: -0.427 ms
Remote clock offset: 0.253 ms

# Below is generated by plot.py at 2018-10-02 19:49:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 631.10 Mbit/s
95th percentile per-packet one-way delay: 190.115 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 631.10 Mbit/s
95th percentile per-packet one-way delay: 190.115 ms
Loss rate: 0.45%
```

Run 1: Report of Indigo-Muses — Data Link

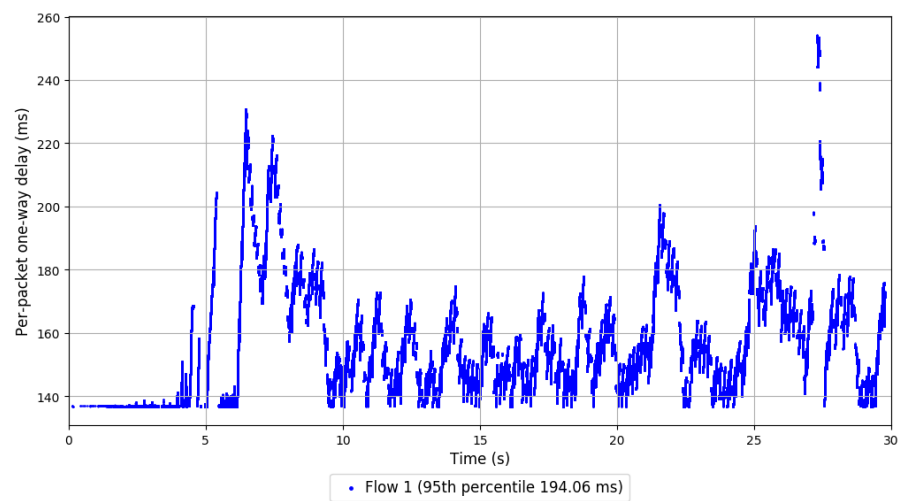
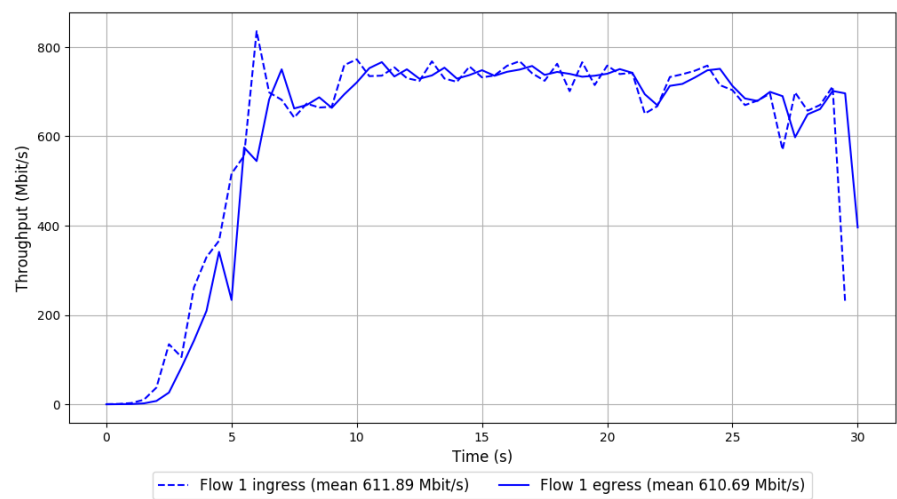


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 17:22:59  
End at: 2018-10-02 17:23:29  
Local clock offset: -0.619 ms  
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-10-02 19:51:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 610.69 Mbit/s  
95th percentile per-packet one-way delay: 194.057 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 610.69 Mbit/s  
95th percentile per-packet one-way delay: 194.057 ms  
Loss rate: 0.20%

Run 2: Report of Indigo-Muses — Data Link

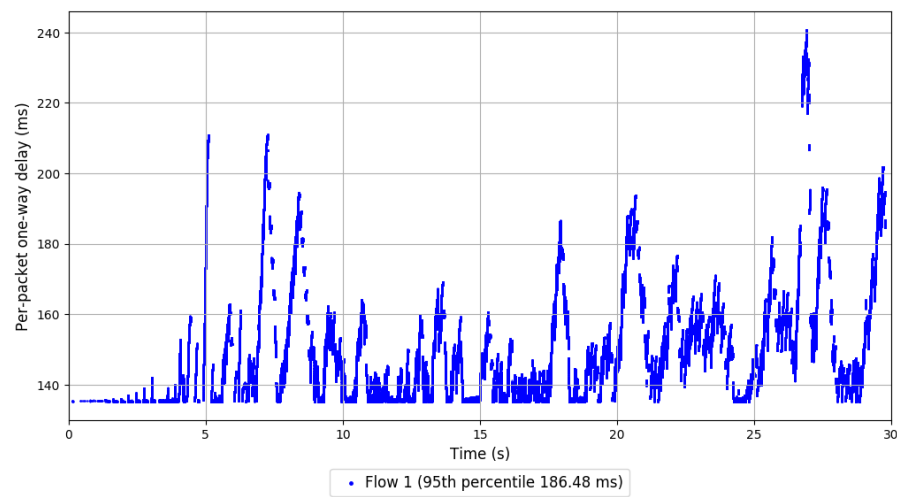
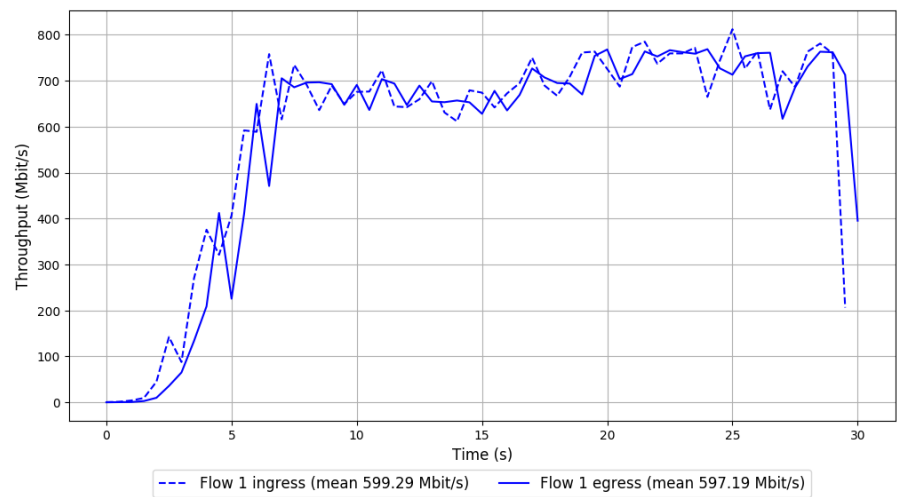


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 17:49:34  
End at: 2018-10-02 17:50:04  
Local clock offset: -0.28 ms  
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2018-10-02 19:51:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 597.19 Mbit/s  
95th percentile per-packet one-way delay: 186.482 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 597.19 Mbit/s  
95th percentile per-packet one-way delay: 186.482 ms  
Loss rate: 0.35%

Run 3: Report of Indigo-Muses — Data Link



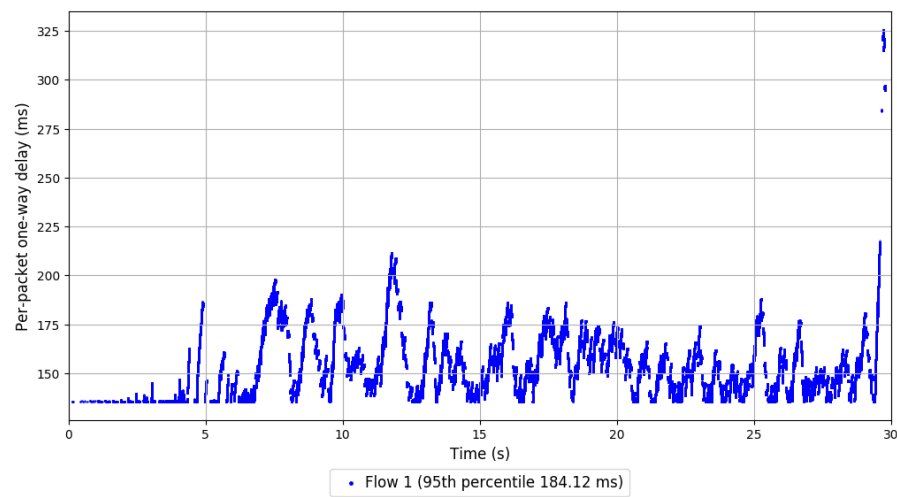
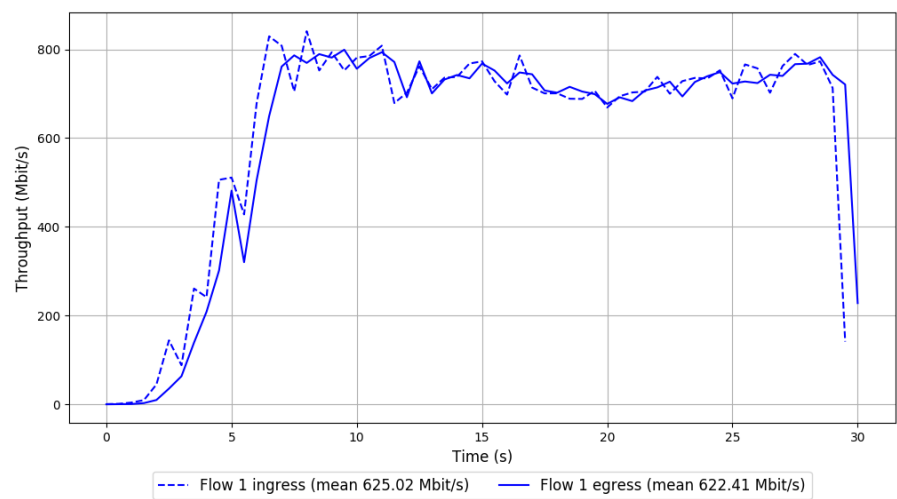


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 18:16:17  
End at: 2018-10-02 18:16:47  
Local clock offset: -0.776 ms  
Remote clock offset: -0.517 ms

# Below is generated by plot.py at 2018-10-02 19:52:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 622.41 Mbit/s  
95th percentile per-packet one-way delay: 184.125 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 622.41 Mbit/s  
95th percentile per-packet one-way delay: 184.125 ms  
Loss rate: 0.41%

Run 4: Report of Indigo-Muses — Data Link

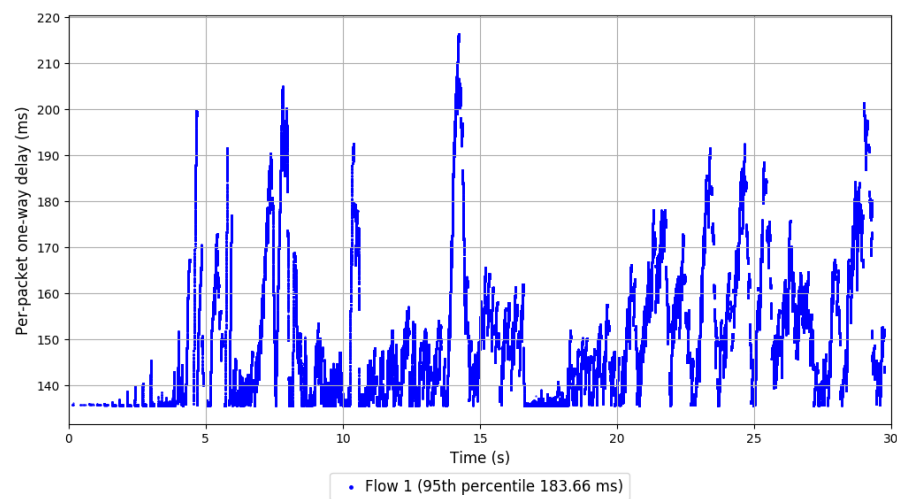
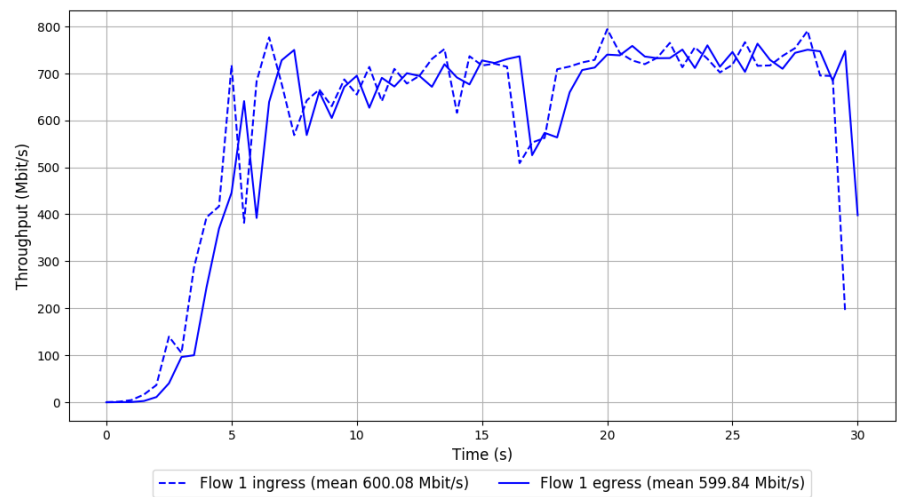


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 18:42:39  
End at: 2018-10-02 18:43:09  
Local clock offset: -0.641 ms  
Remote clock offset: -0.111 ms

# Below is generated by plot.py at 2018-10-02 19:53:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 599.84 Mbit/s  
95th percentile per-packet one-way delay: 183.663 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 599.84 Mbit/s  
95th percentile per-packet one-way delay: 183.663 ms  
Loss rate: 0.04%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 16:40:03

End at: 2018-10-02 16:40:33

Local clock offset: -0.516 ms

Remote clock offset: -0.156 ms

# Below is generated by plot.py at 2018-10-02 19:54:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 347.77 Mbit/s

95th percentile per-packet one-way delay: 178.121 ms

Loss rate: 0.77%

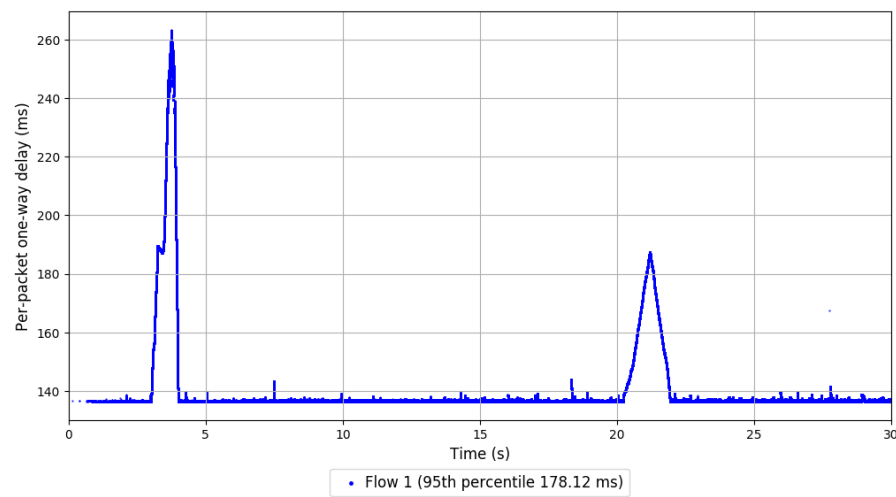
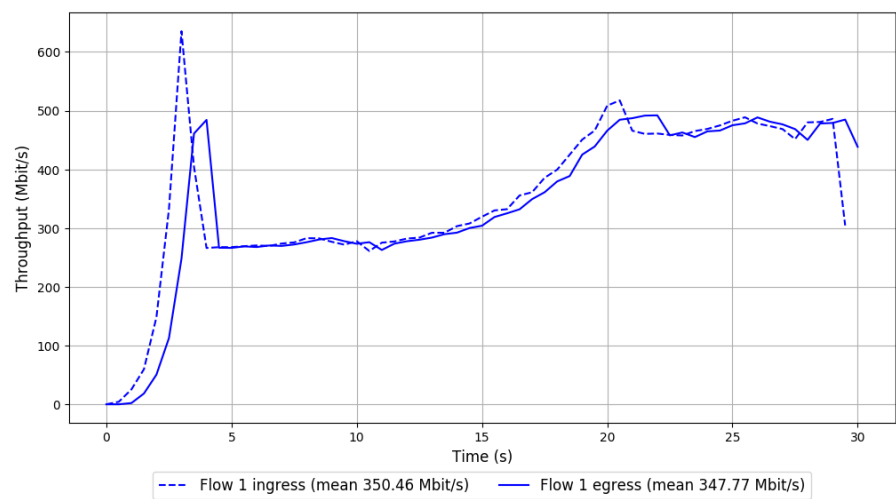
-- Flow 1:

Average throughput: 347.77 Mbit/s

95th percentile per-packet one-way delay: 178.121 ms

Loss rate: 0.77%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 17:06:39

End at: 2018-10-02 17:07:10

Local clock offset: -0.63 ms

Remote clock offset: -0.134 ms

# Below is generated by plot.py at 2018-10-02 19:55:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 372.24 Mbit/s

95th percentile per-packet one-way delay: 170.567 ms

Loss rate: 1.52%

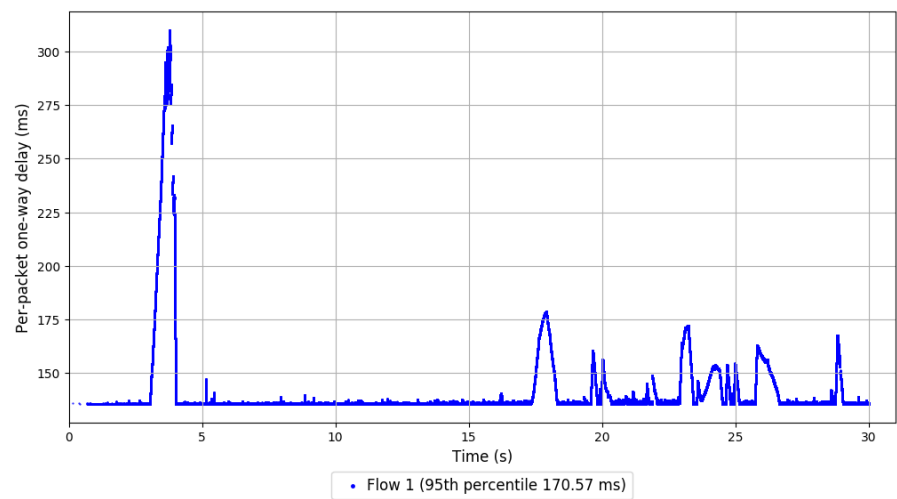
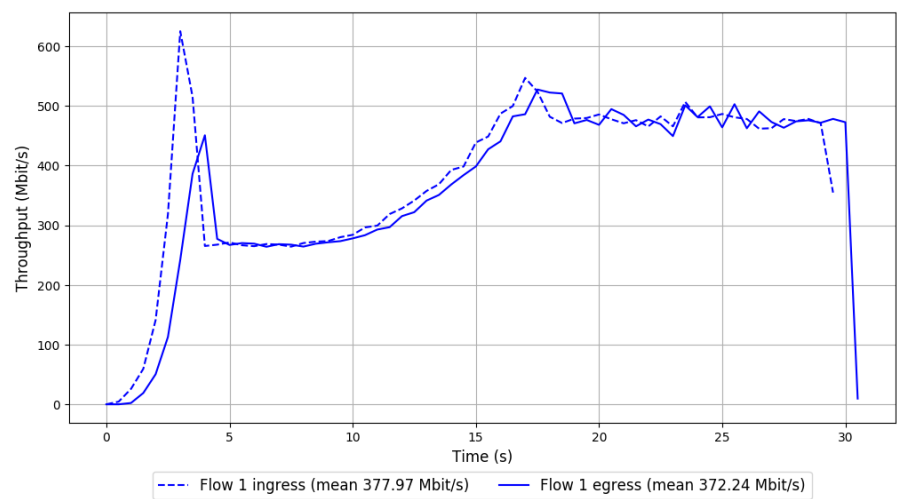
-- Flow 1:

Average throughput: 372.24 Mbit/s

95th percentile per-packet one-way delay: 170.567 ms

Loss rate: 1.52%

Run 2: Report of PCC-Allegro — Data Link





Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 17:33:16

End at: 2018-10-02 17:33:46

Local clock offset: -0.284 ms

Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2018-10-02 19:59:44

# Datalink statistics

-- Total of 1 flow:

Average throughput: 362.56 Mbit/s

95th percentile per-packet one-way delay: 245.376 ms

Loss rate: 1.34%

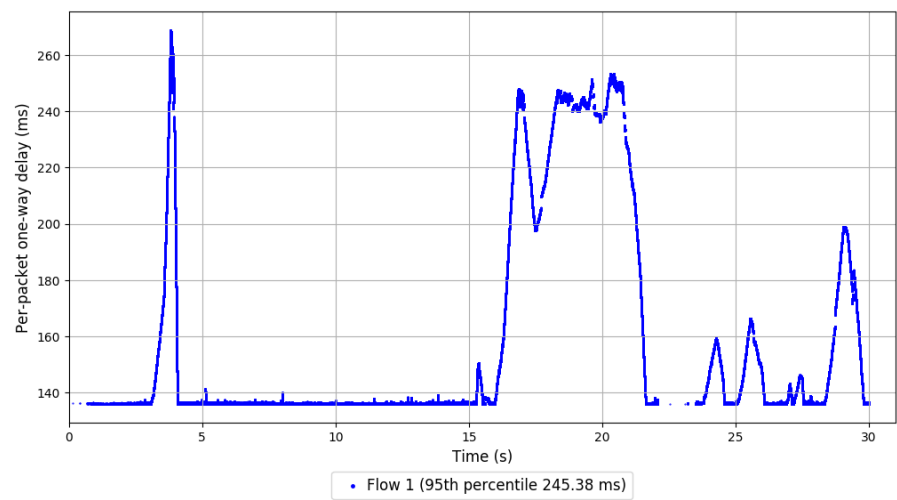
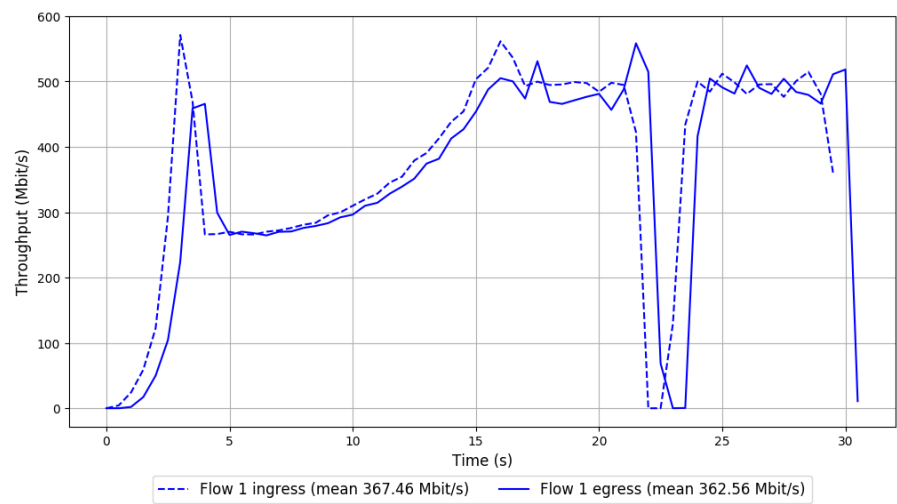
-- Flow 1:

Average throughput: 362.56 Mbit/s

95th percentile per-packet one-way delay: 245.376 ms

Loss rate: 1.34%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 17:59:49

End at: 2018-10-02 18:00:19

Local clock offset: -0.352 ms

Remote clock offset: 0.188 ms

# Below is generated by plot.py at 2018-10-02 20:09:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 413.51 Mbit/s

95th percentile per-packet one-way delay: 247.845 ms

Loss rate: 3.66%

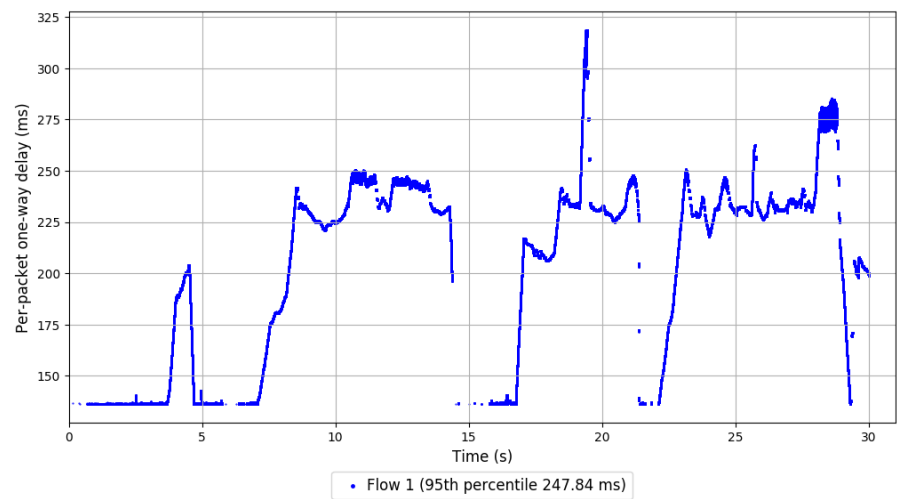
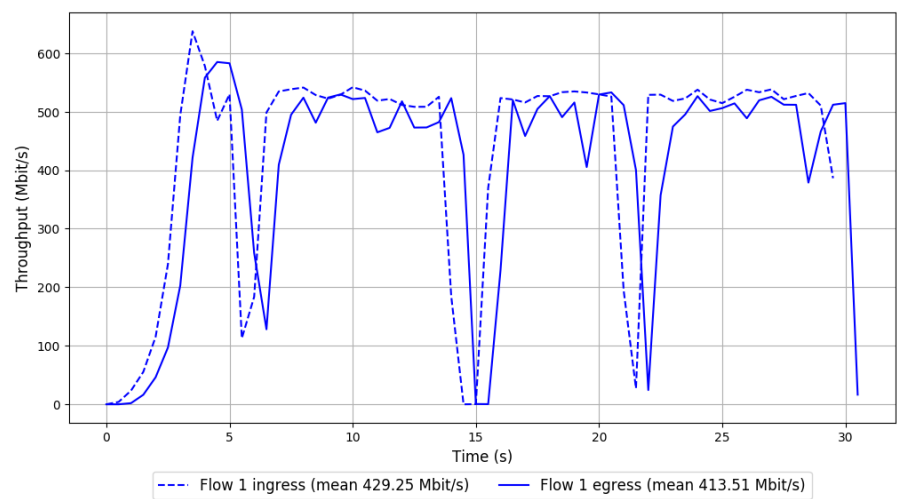
-- Flow 1:

Average throughput: 413.51 Mbit/s

95th percentile per-packet one-way delay: 247.845 ms

Loss rate: 3.66%

Run 4: Report of PCC-Allegro — Data Link

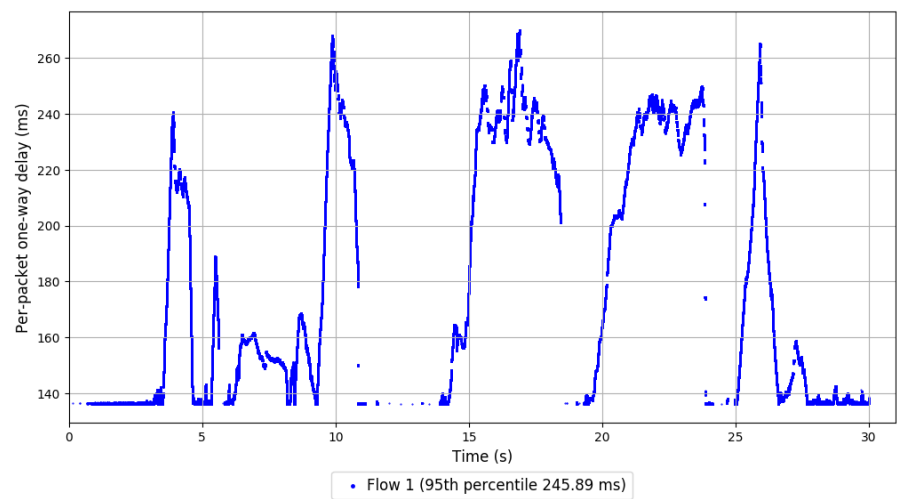
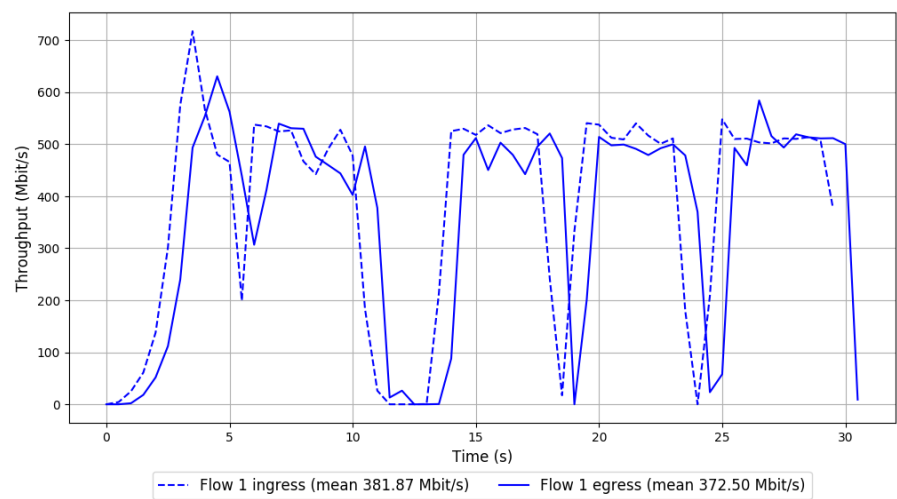


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 18:26:10  
End at: 2018-10-02 18:26:40  
Local clock offset: -0.513 ms  
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2018-10-02 20:09:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 372.50 Mbit/s  
95th percentile per-packet one-way delay: 245.891 ms  
Loss rate: 2.45%  
-- Flow 1:  
Average throughput: 372.50 Mbit/s  
95th percentile per-packet one-way delay: 245.891 ms  
Loss rate: 2.45%

Run 5: Report of PCC-Allegro — Data Link

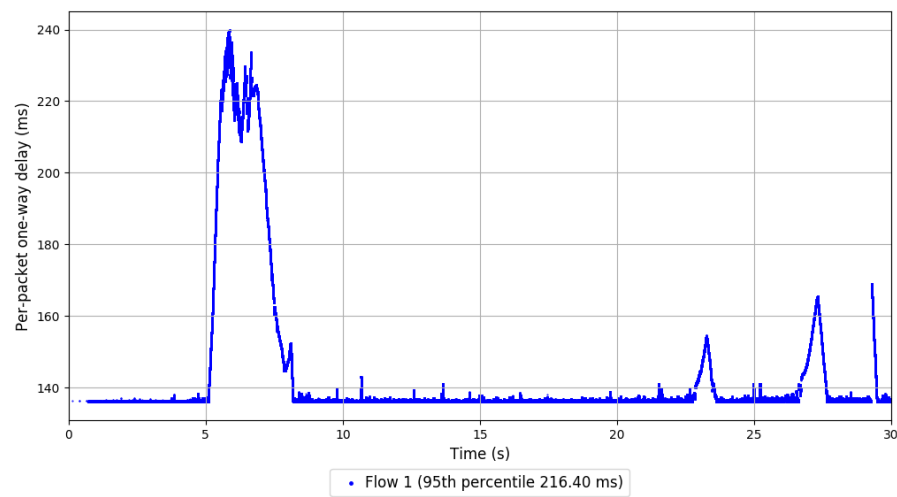
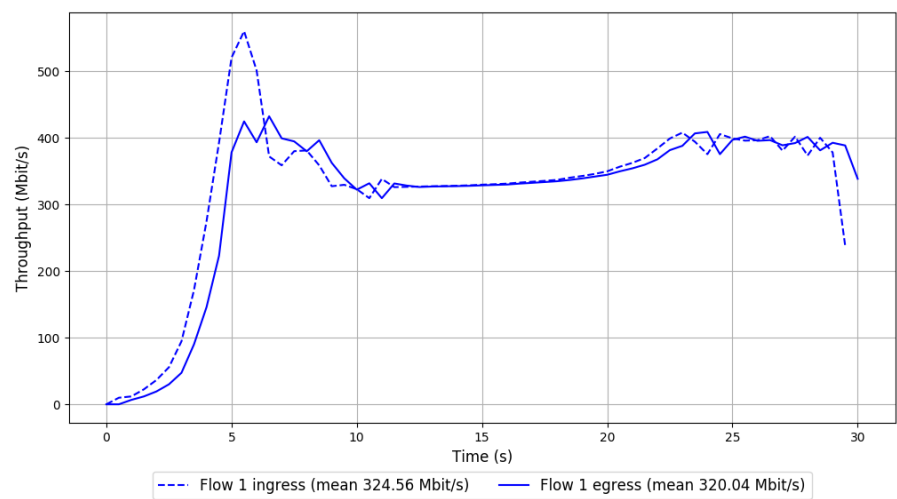


Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 16:54:38  
End at: 2018-10-02 16:55:08  
Local clock offset: -0.296 ms  
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-10-02 20:09:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 320.04 Mbit/s  
95th percentile per-packet one-way delay: 216.397 ms  
Loss rate: 1.39%  
-- Flow 1:  
Average throughput: 320.04 Mbit/s  
95th percentile per-packet one-way delay: 216.397 ms  
Loss rate: 1.39%

Run 1: Report of PCC-Expr — Data Link



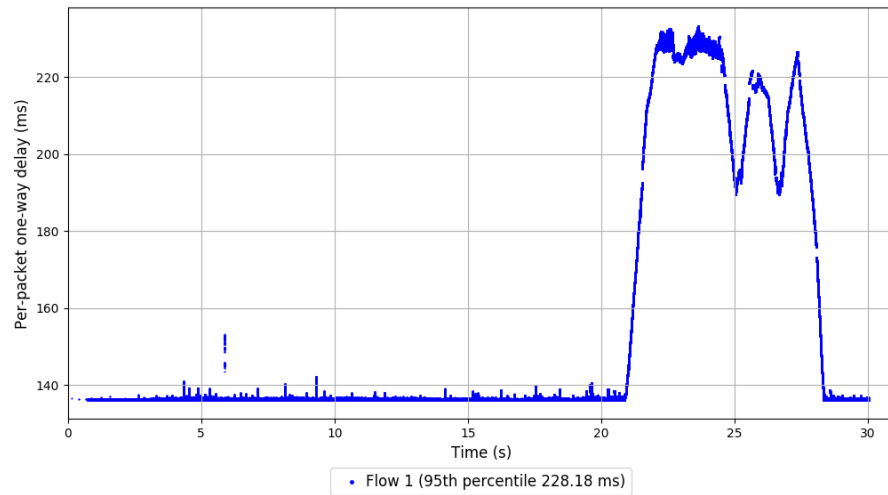
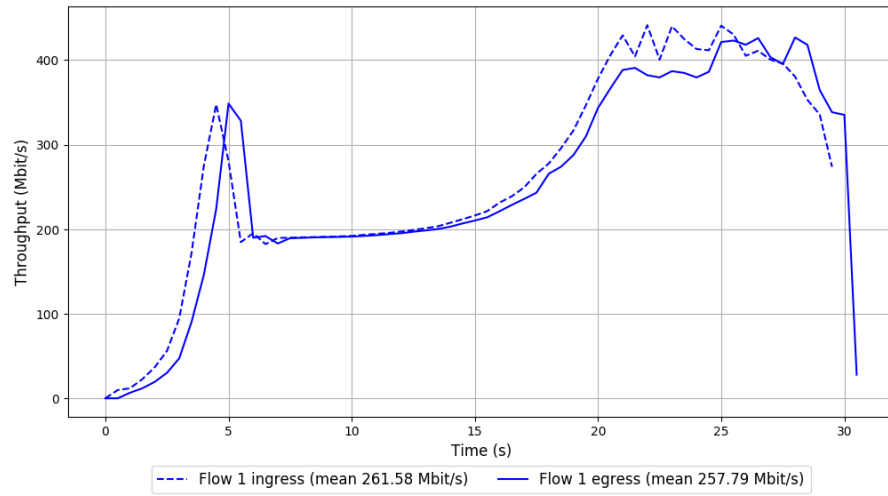


Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 17:21:22  
End at: 2018-10-02 17:21:52  
Local clock offset: -0.406 ms  
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2018-10-02 20:09:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 257.79 Mbit/s  
95th percentile per-packet one-way delay: 228.176 ms  
Loss rate: 1.45%  
-- Flow 1:  
Average throughput: 257.79 Mbit/s  
95th percentile per-packet one-way delay: 228.176 ms  
Loss rate: 1.45%

## Run 2: Report of PCC-Expr — Data Link

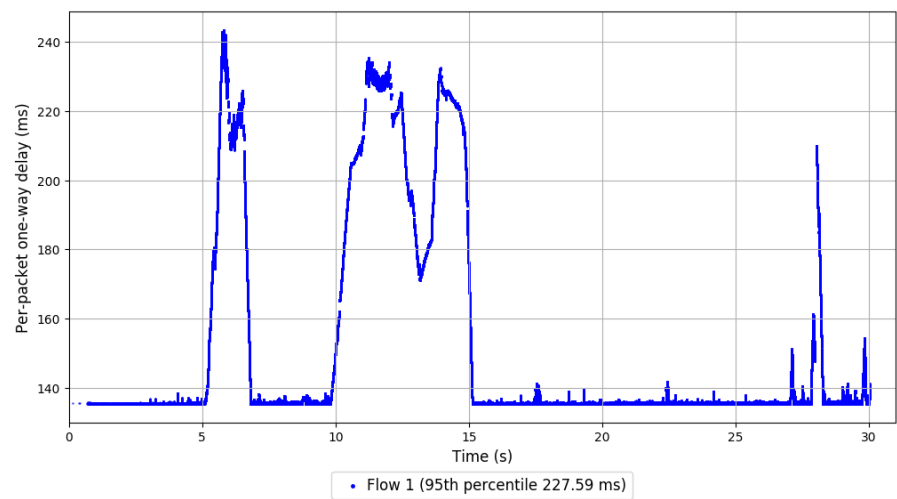
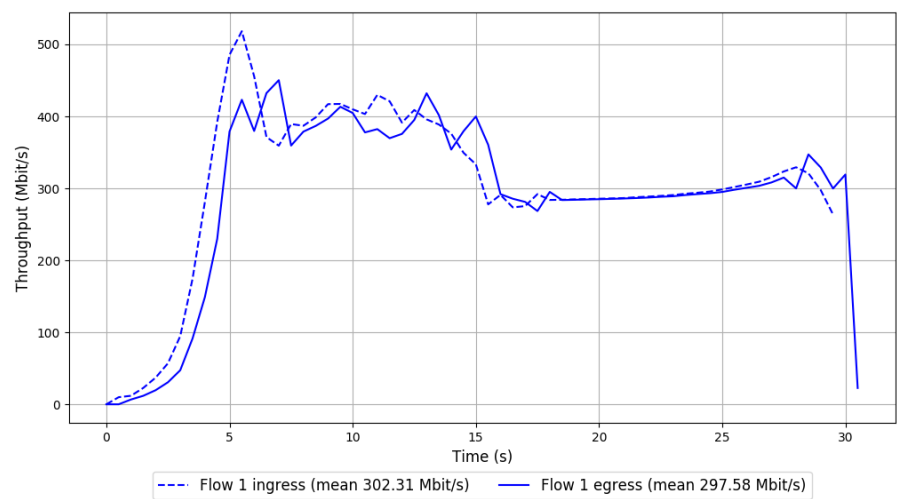


Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 17:47:54  
End at: 2018-10-02 17:48:24  
Local clock offset: -0.634 ms  
Remote clock offset: -0.526 ms

# Below is generated by plot.py at 2018-10-02 20:09:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 297.58 Mbit/s  
95th percentile per-packet one-way delay: 227.595 ms  
Loss rate: 1.56%  
-- Flow 1:  
Average throughput: 297.58 Mbit/s  
95th percentile per-packet one-way delay: 227.595 ms  
Loss rate: 1.56%

Run 3: Report of PCC-Expr — Data Link

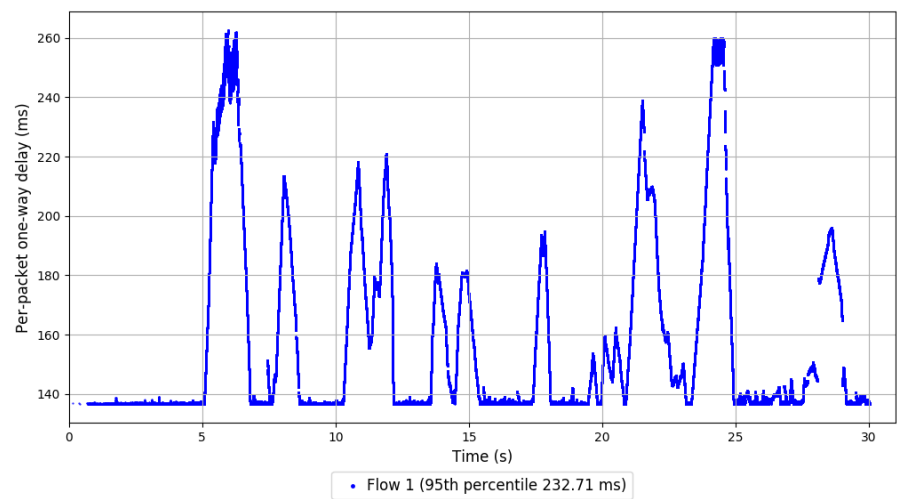
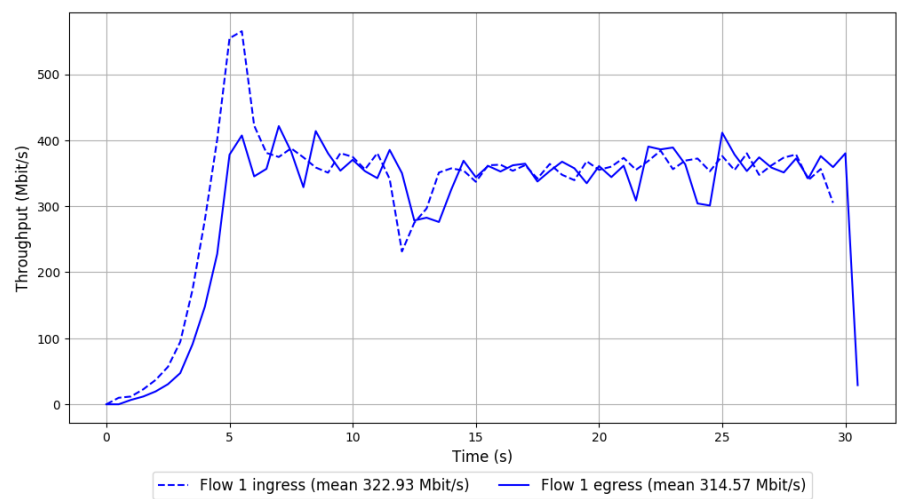


Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 18:14:35  
End at: 2018-10-02 18:15:05  
Local clock offset: -0.722 ms  
Remote clock offset: -0.148 ms

# Below is generated by plot.py at 2018-10-02 20:09:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 314.57 Mbit/s  
95th percentile per-packet one-way delay: 232.705 ms  
Loss rate: 2.59%  
-- Flow 1:  
Average throughput: 314.57 Mbit/s  
95th percentile per-packet one-way delay: 232.705 ms  
Loss rate: 2.59%

Run 4: Report of PCC-Expr — Data Link

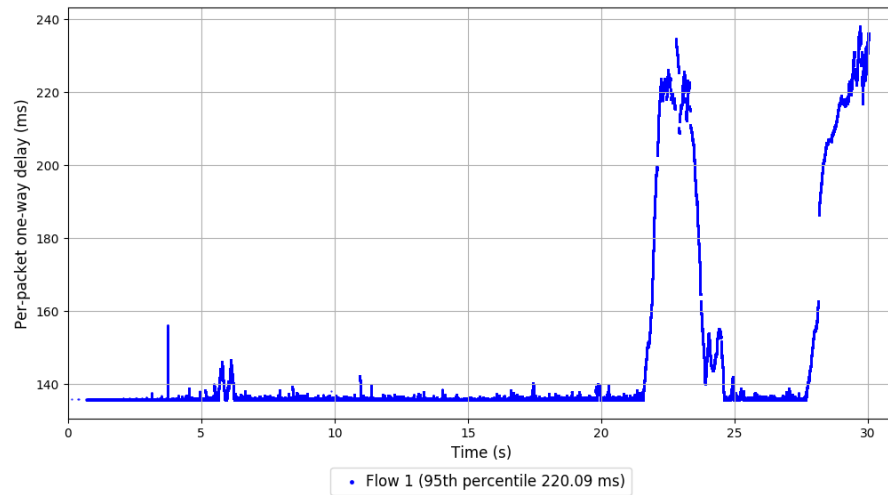
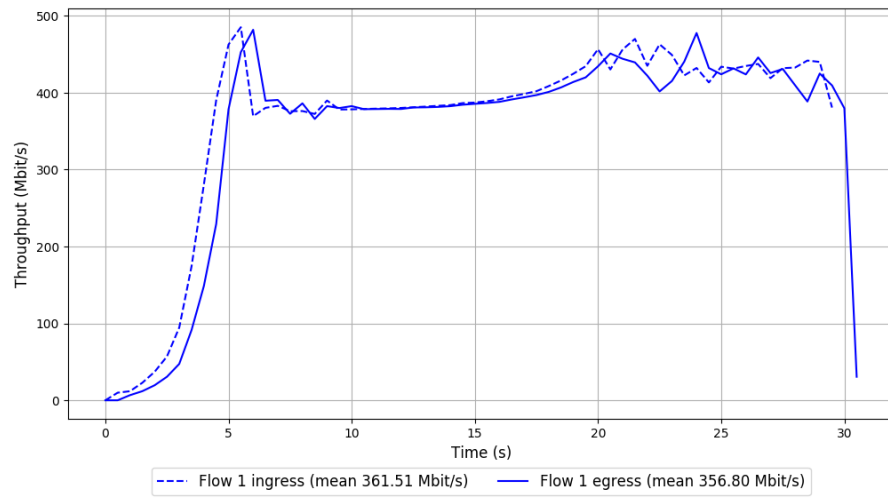


Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 18:40:53  
End at: 2018-10-02 18:41:23  
Local clock offset: -0.617 ms  
Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 356.80 Mbit/s  
95th percentile per-packet one-way delay: 220.085 ms  
Loss rate: 1.30%  
-- Flow 1:  
Average throughput: 356.80 Mbit/s  
95th percentile per-packet one-way delay: 220.085 ms  
Loss rate: 1.30%

## Run 5: Report of PCC-Expr — Data Link





Run 1: Statistics of QUIC Cubic

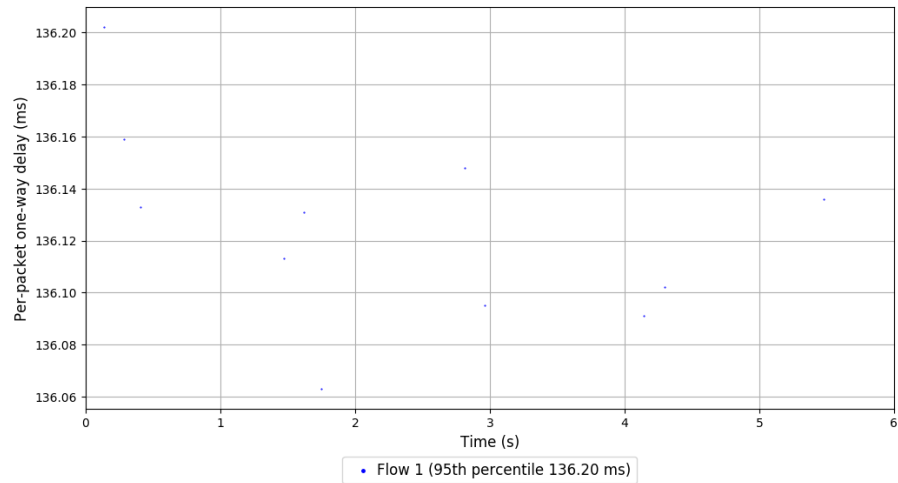
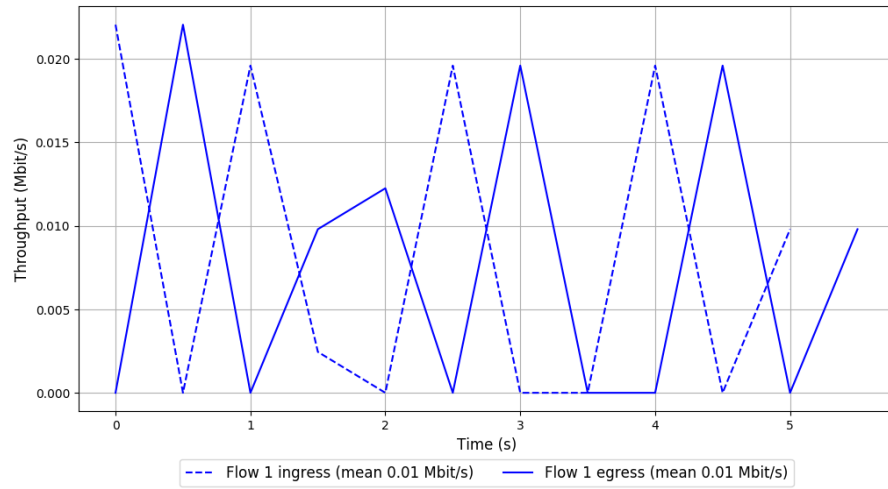
Start at: 2018-10-02 16:44:49

End at: 2018-10-02 16:45:19

Local clock offset: -0.195 ms

Remote clock offset: -0.15 ms

### Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 17:11:34

End at: 2018-10-02 17:12:04

Local clock offset: -0.225 ms

Remote clock offset: -0.126 ms

# Below is generated by plot.py at 2018-10-02 20:12:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 63.27 Mbit/s

95th percentile per-packet one-way delay: 135.571 ms

Loss rate: 0.00%

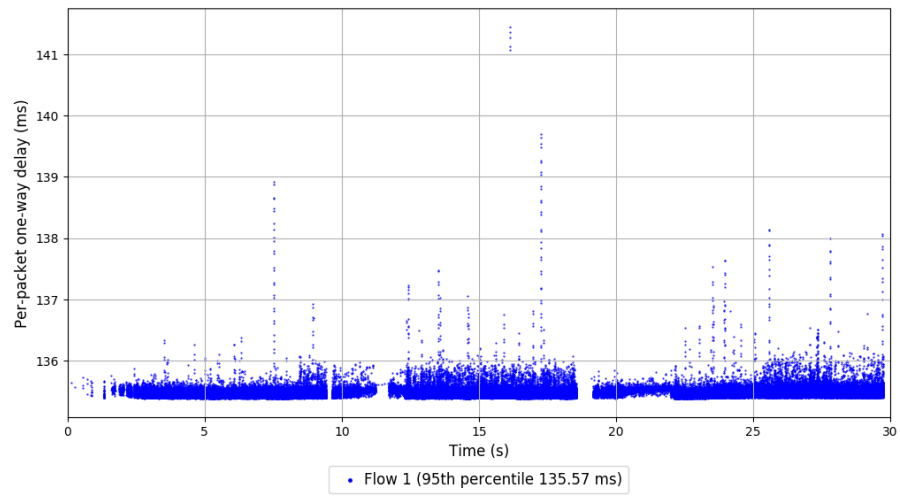
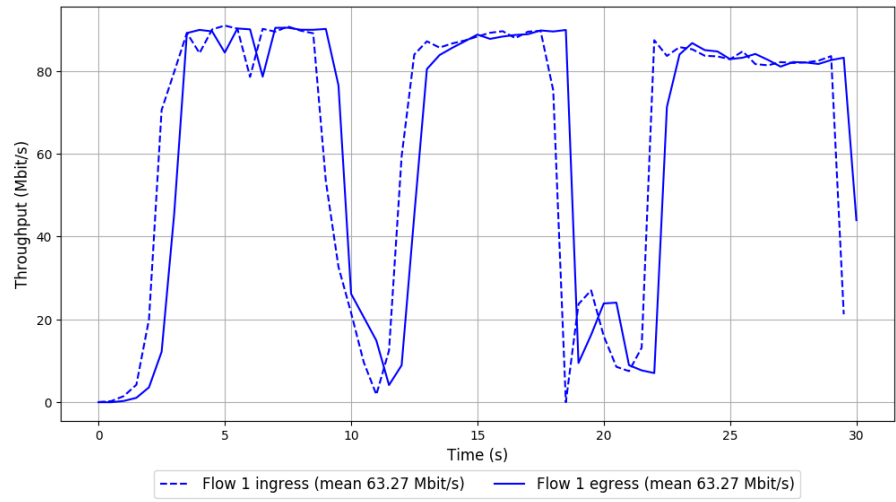
-- Flow 1:

Average throughput: 63.27 Mbit/s

95th percentile per-packet one-way delay: 135.571 ms

Loss rate: 0.00%

## Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 17:38:03

End at: 2018-10-02 17:38:34

Local clock offset: -0.457 ms

Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-10-02 20:12:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 48.65 Mbit/s

95th percentile per-packet one-way delay: 136.383 ms

Loss rate: 0.00%

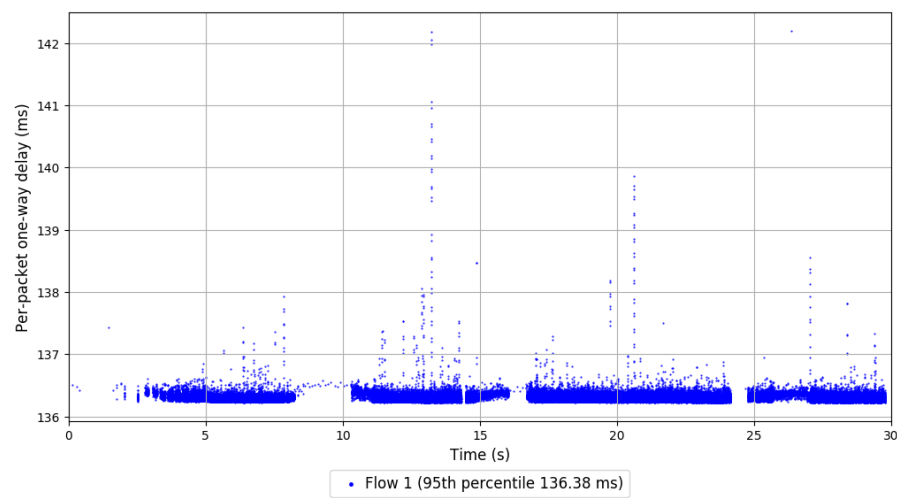
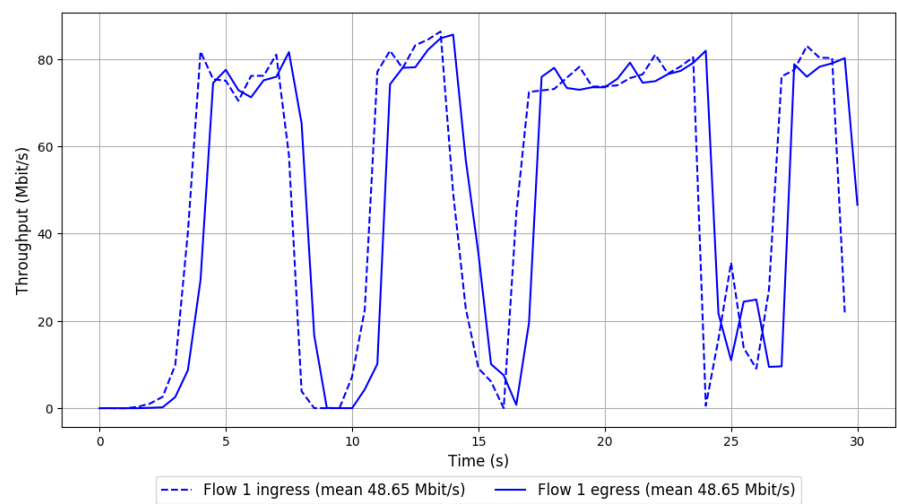
-- Flow 1:

Average throughput: 48.65 Mbit/s

95th percentile per-packet one-way delay: 136.383 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

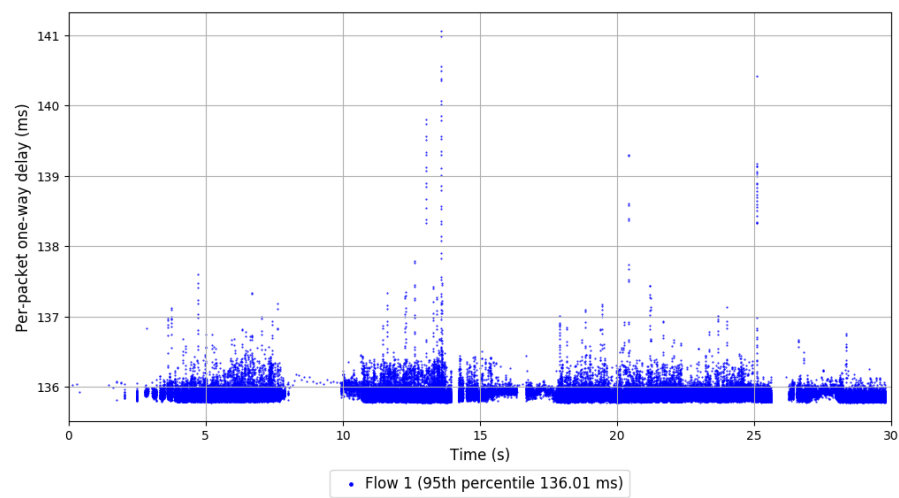
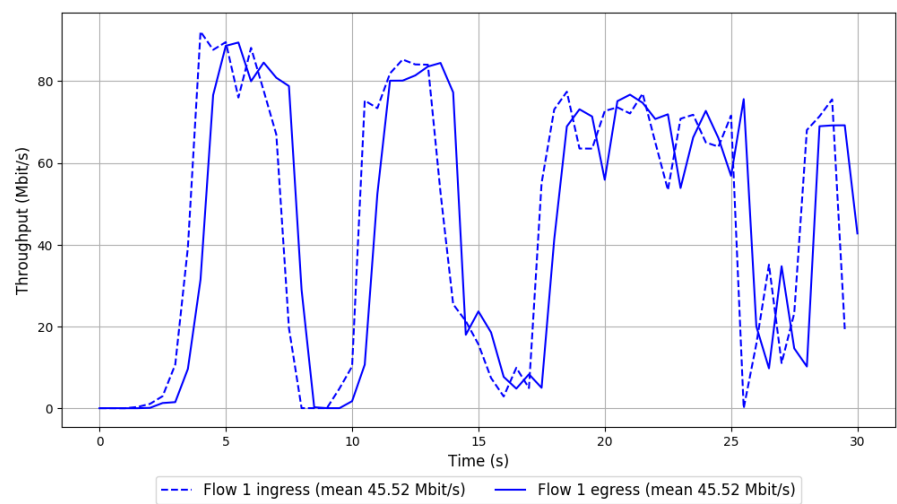


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 18:04:47  
End at: 2018-10-02 18:05:17  
Local clock offset: -0.725 ms  
Remote clock offset: -0.592 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 45.52 Mbit/s  
95th percentile per-packet one-way delay: 136.011 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 45.52 Mbit/s  
95th percentile per-packet one-way delay: 136.011 ms  
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link





Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 18:31:01

End at: 2018-10-02 18:31:31

Local clock offset: -0.493 ms

Remote clock offset: 0.222 ms

# Below is generated by plot.py at 2018-10-02 20:12:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 51.72 Mbit/s

95th percentile per-packet one-way delay: 136.719 ms

Loss rate: 0.00%

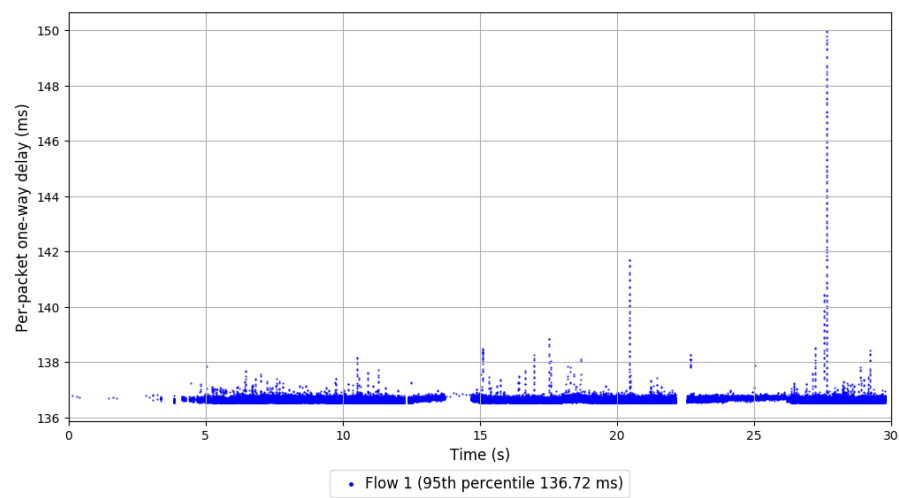
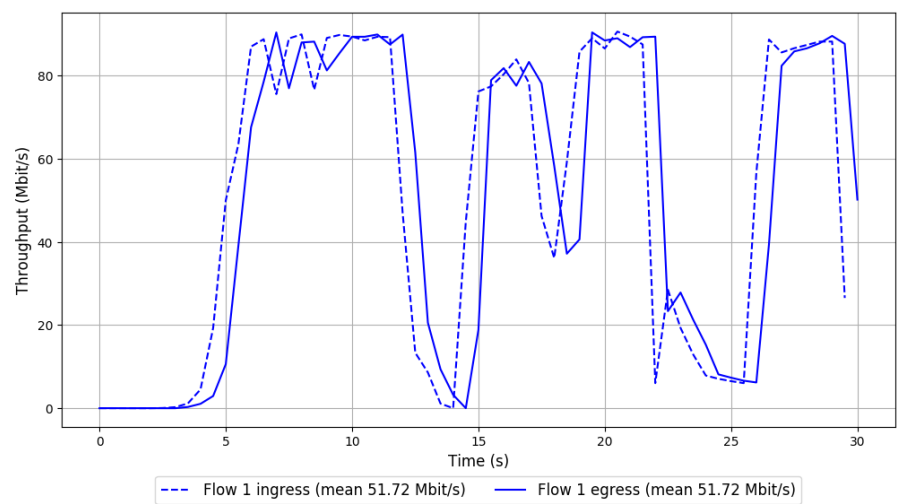
-- Flow 1:

Average throughput: 51.72 Mbit/s

95th percentile per-packet one-way delay: 136.719 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

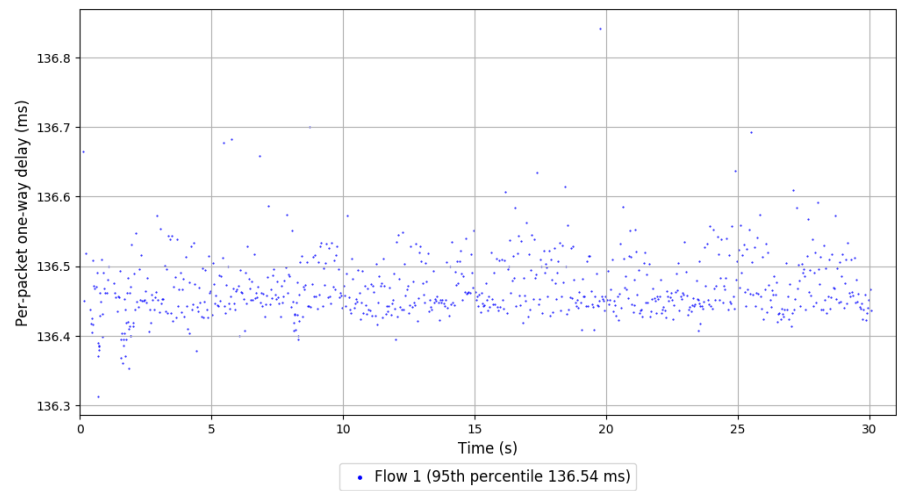
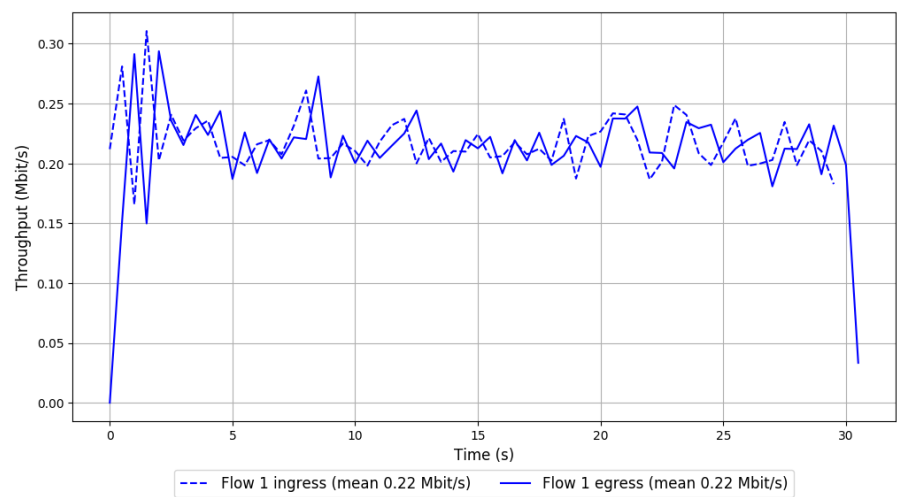


Run 1: Statistics of SCReAM

Start at: 2018-10-02 16:38:54  
End at: 2018-10-02 16:39:24  
Local clock offset: -0.407 ms  
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.544 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.544 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

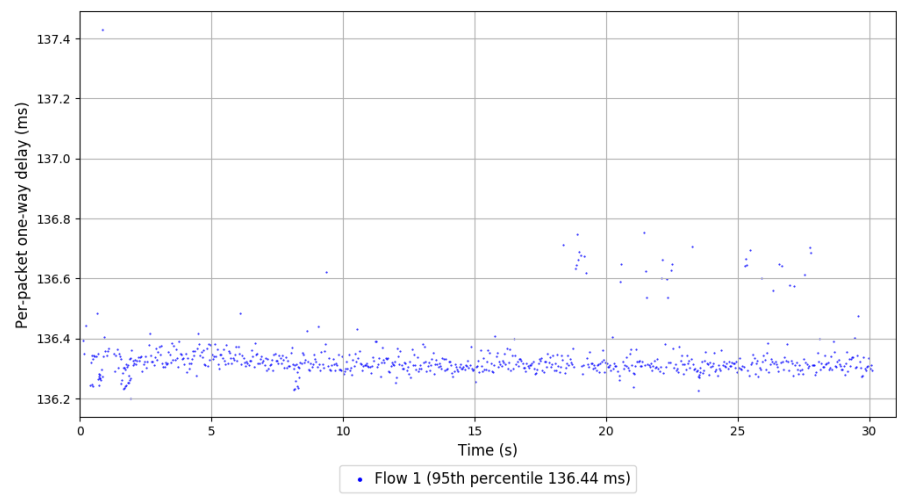
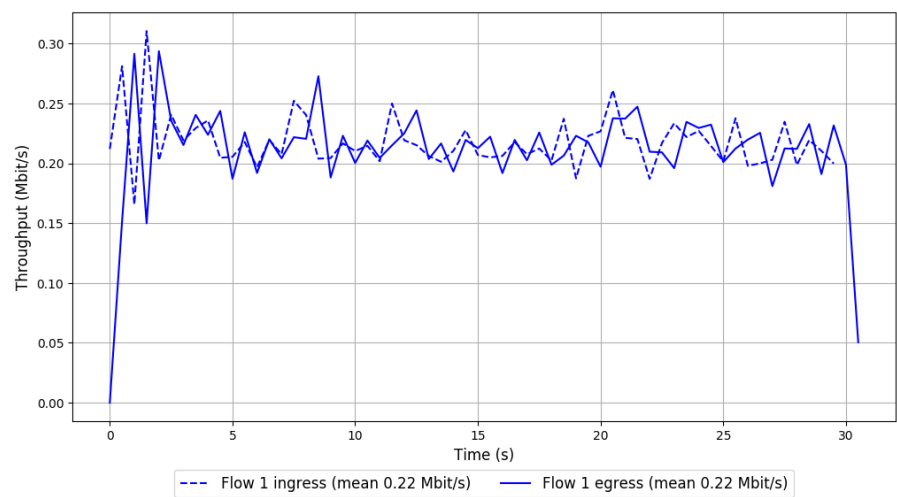


Run 2: Statistics of SCReAM

Start at: 2018-10-02 17:05:30  
End at: 2018-10-02 17:06:00  
Local clock offset: -0.325 ms  
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.442 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.442 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

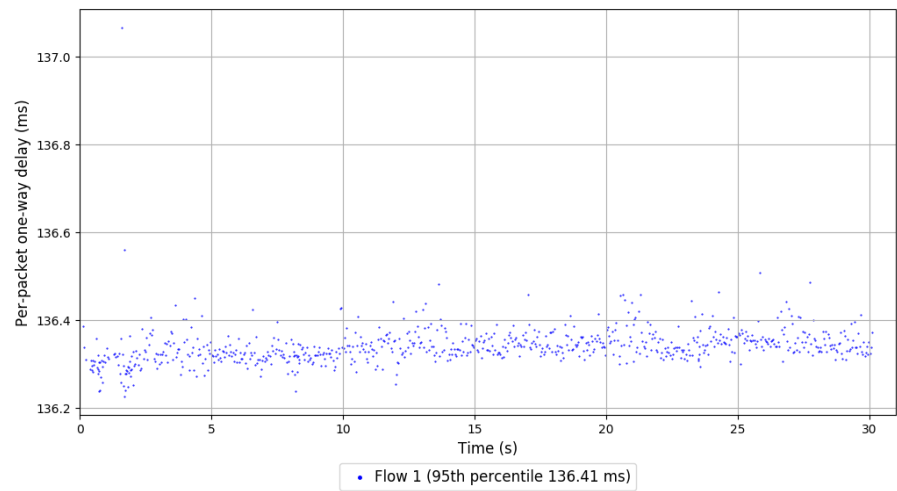
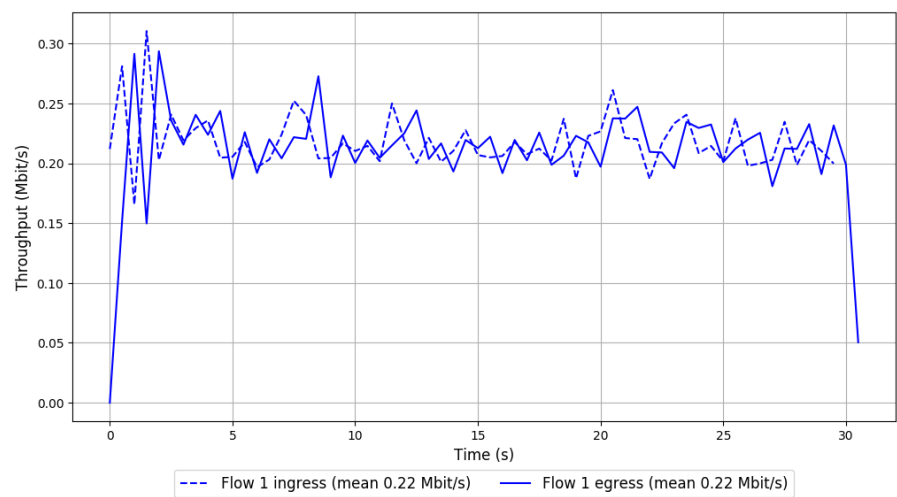


Run 3: Statistics of SCReAM

Start at: 2018-10-02 17:32:06  
End at: 2018-10-02 17:32:36  
Local clock offset: -0.496 ms  
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.406 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.406 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



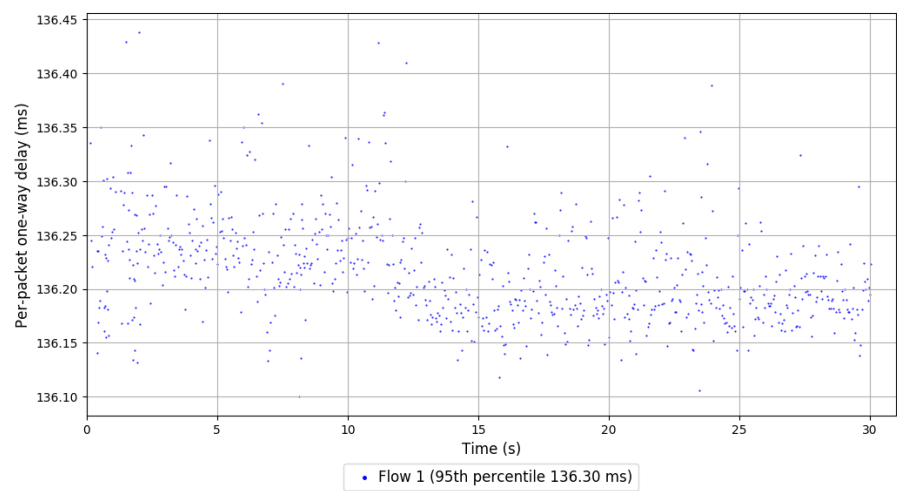
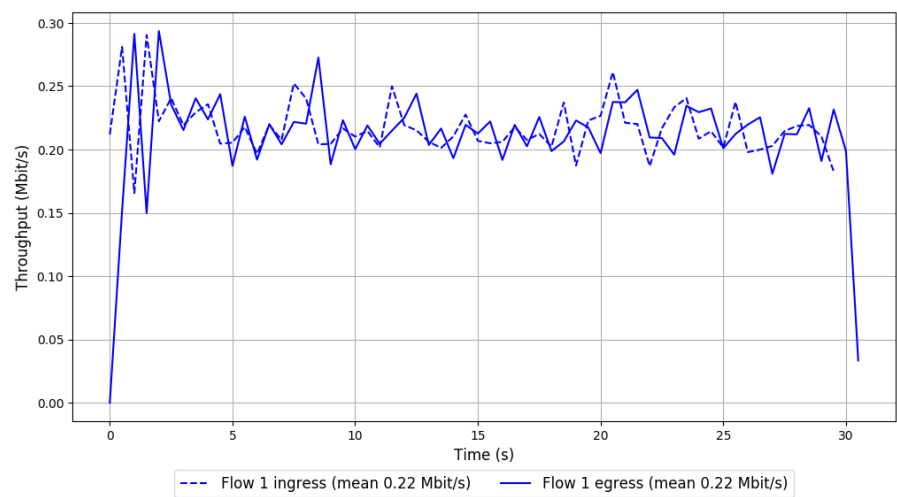


Run 4: Statistics of SCReAM

Start at: 2018-10-02 17:58:39  
End at: 2018-10-02 17:59:09  
Local clock offset: -0.429 ms  
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.301 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.301 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

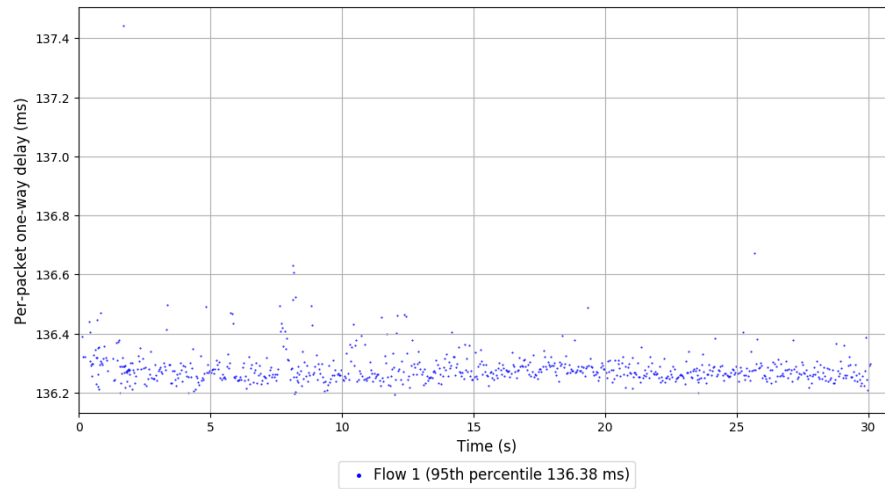
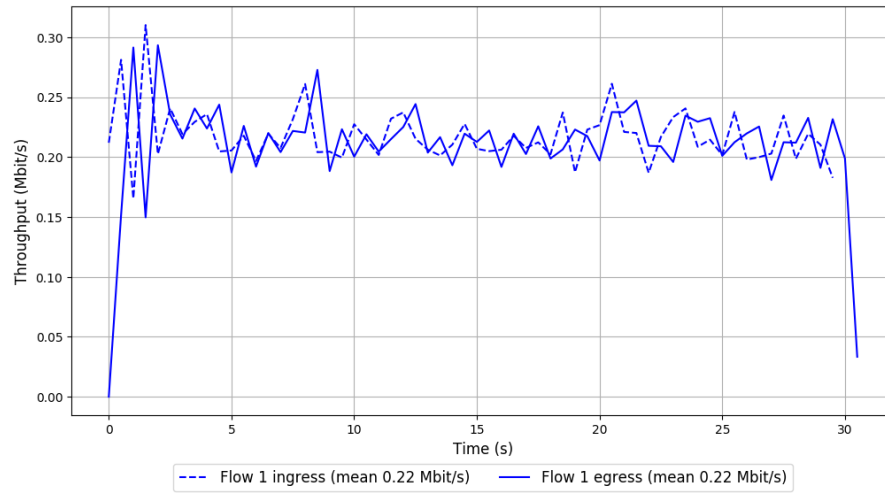


Run 5: Statistics of SCReAM

Start at: 2018-10-02 18:25:01  
End at: 2018-10-02 18:25:31  
Local clock offset: -0.643 ms  
Remote clock offset: -0.133 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.381 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 136.381 ms  
Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link

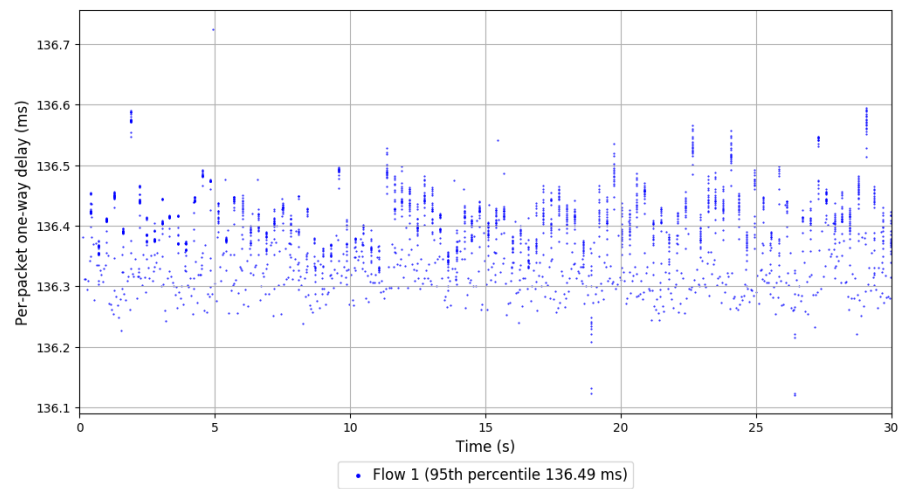
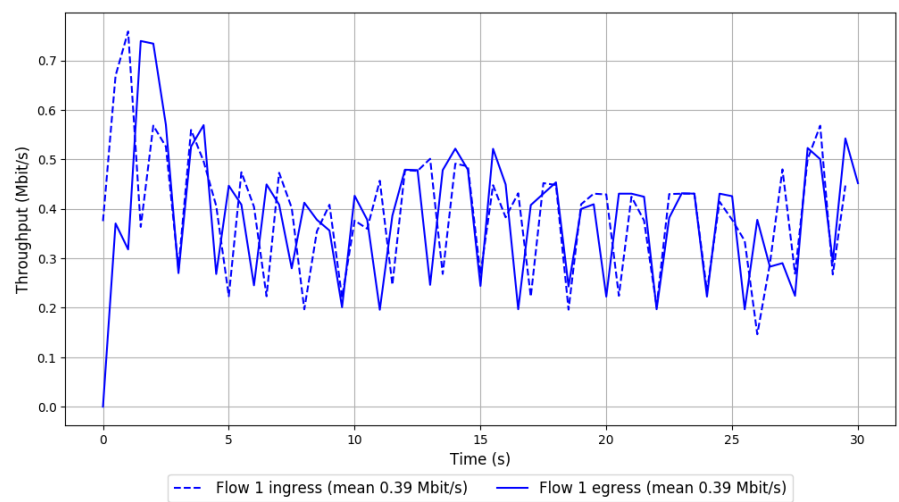


Run 1: Statistics of Sprout

Start at: 2018-10-02 16:58:06  
End at: 2018-10-02 16:58:36  
Local clock offset: -0.305 ms  
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 136.491 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.39 Mbit/s  
95th percentile per-packet one-way delay: 136.491 ms  
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-02 17:24:43

End at: 2018-10-02 17:25:13

Local clock offset: -0.291 ms

Remote clock offset: 0.278 ms

# Below is generated by plot.py at 2018-10-02 20:12:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 136.744 ms

Loss rate: 0.00%

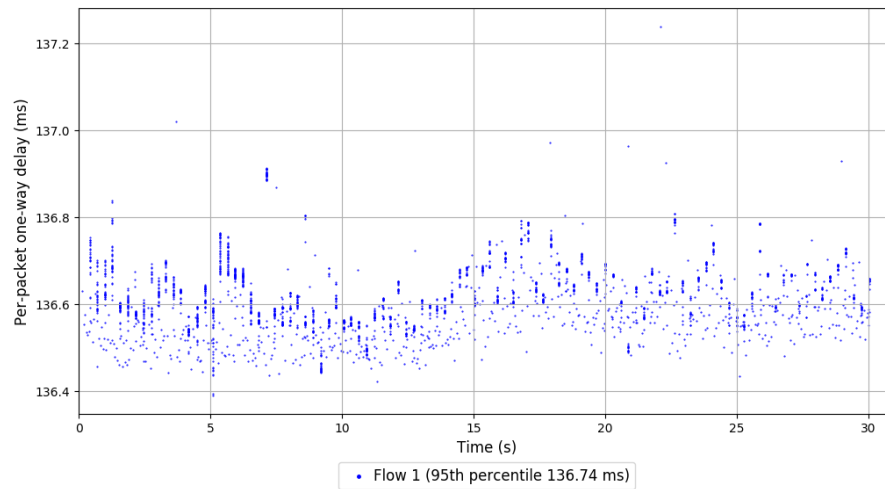
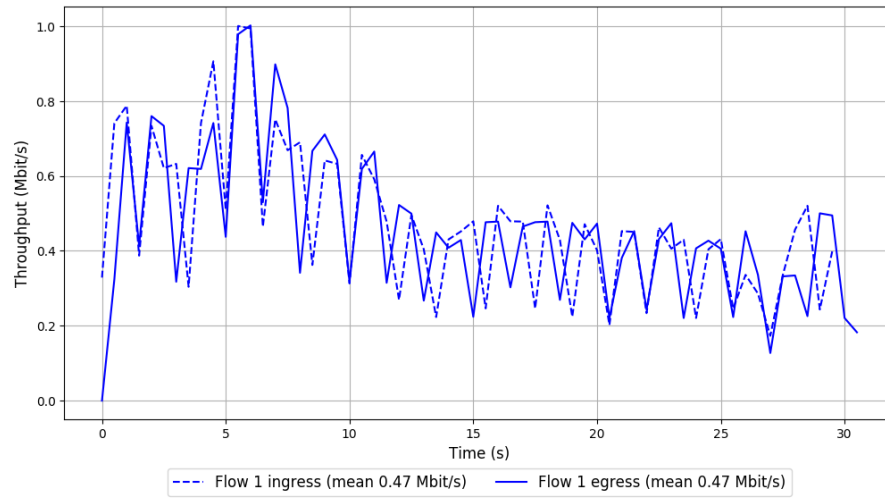
-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 136.744 ms

Loss rate: 0.00%

## Run 2: Report of Sprout — Data Link



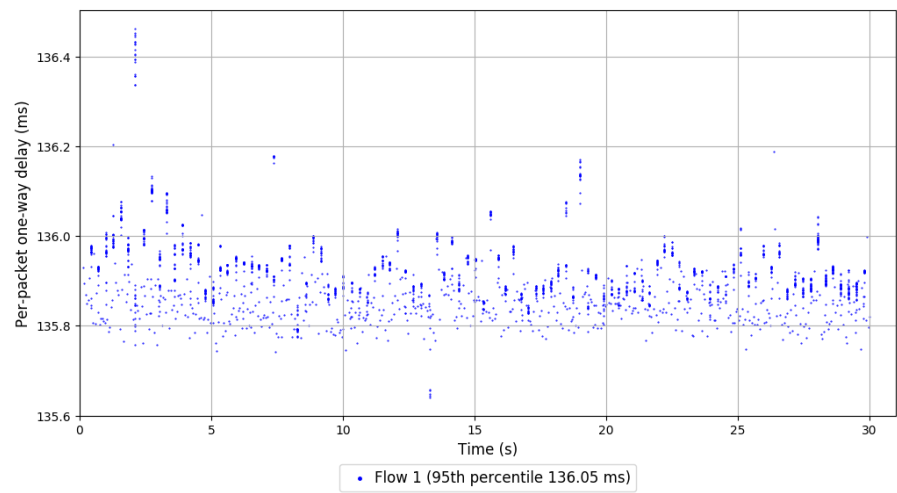
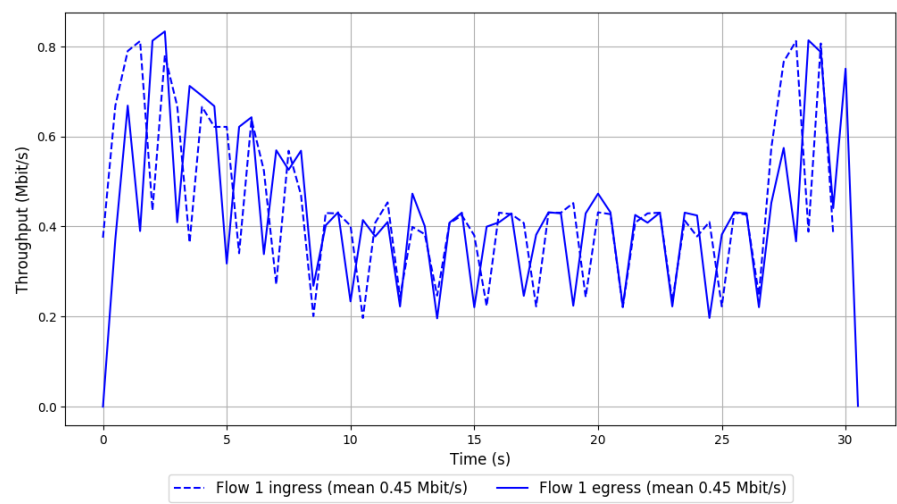


Run 3: Statistics of Sprout

Start at: 2018-10-02 17:51:18  
End at: 2018-10-02 17:51:48  
Local clock offset: -0.594 ms  
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.45 Mbit/s  
95th percentile per-packet one-way delay: 136.048 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.45 Mbit/s  
95th percentile per-packet one-way delay: 136.048 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

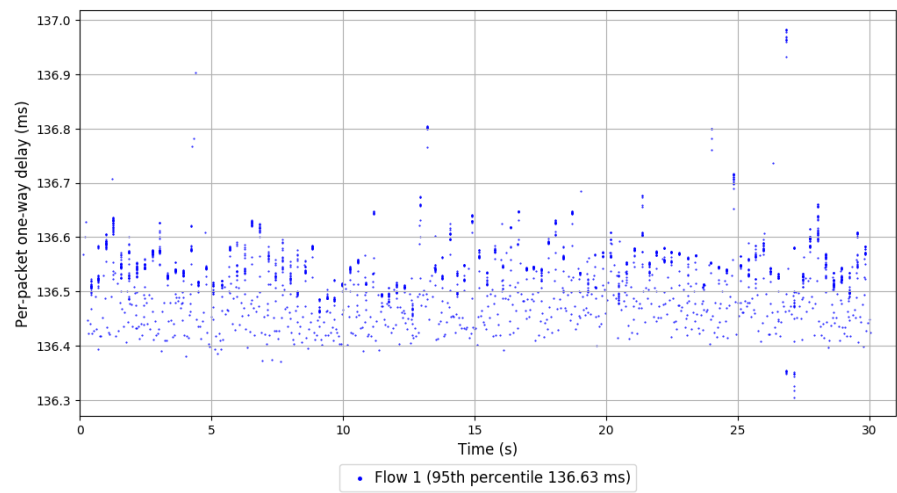
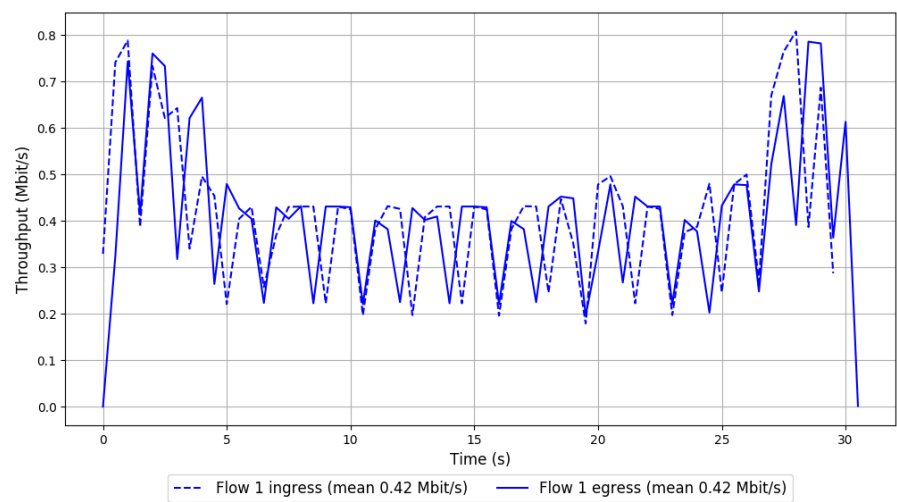


Run 4: Statistics of Sprout

Start at: 2018-10-02 18:18:03  
End at: 2018-10-02 18:18:34  
Local clock offset: -0.472 ms  
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2018-10-02 20:12:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 136.631 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 136.631 ms  
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-10-02 18:44:22

End at: 2018-10-02 18:44:52

Local clock offset: -0.494 ms

Remote clock offset: 0.199 ms

# Below is generated by plot.py at 2018-10-02 20:12:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 135.663 ms

Loss rate: 0.00%

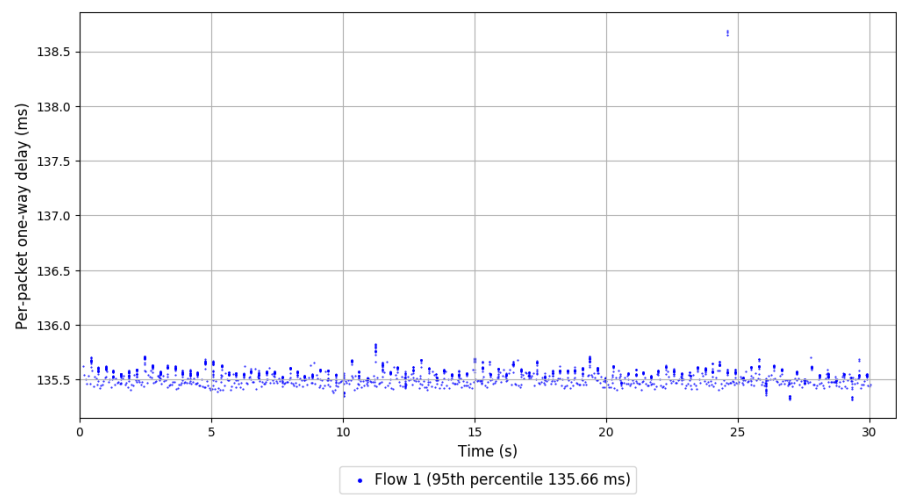
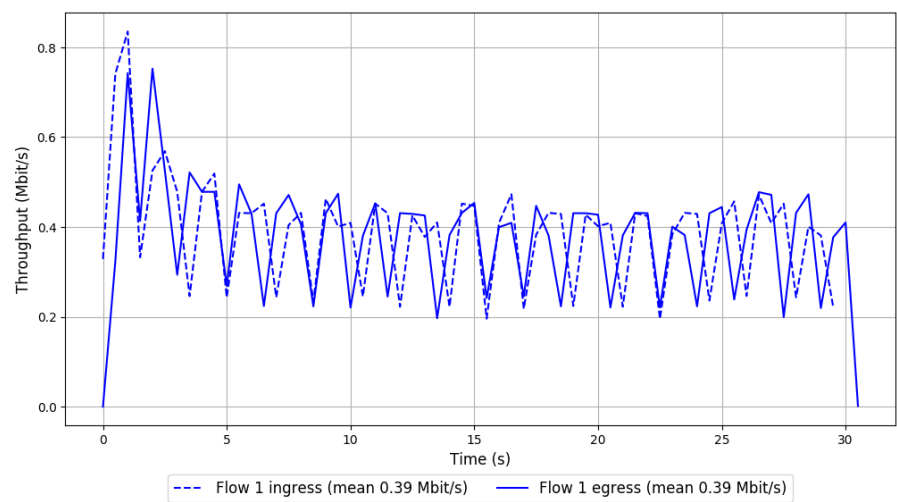
-- Flow 1:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 135.663 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-10-02 16:37:24

End at: 2018-10-02 16:37:54

Local clock offset: -0.444 ms

Remote clock offset: 0.165 ms

# Below is generated by plot.py at 2018-10-02 20:13:27

# Datalink statistics

-- Total of 1 flow:

Average throughput: 185.09 Mbit/s

95th percentile per-packet one-way delay: 137.131 ms

Loss rate: 0.00%

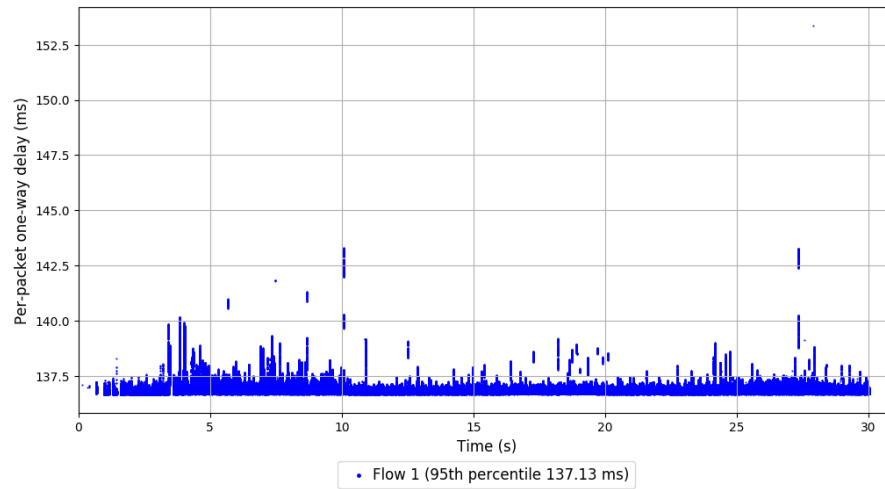
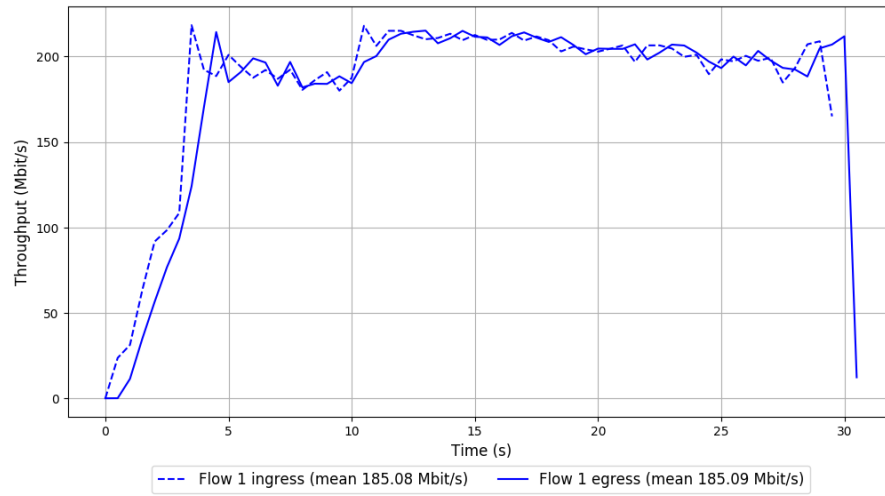
-- Flow 1:

Average throughput: 185.09 Mbit/s

95th percentile per-packet one-way delay: 137.131 ms

Loss rate: 0.00%

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



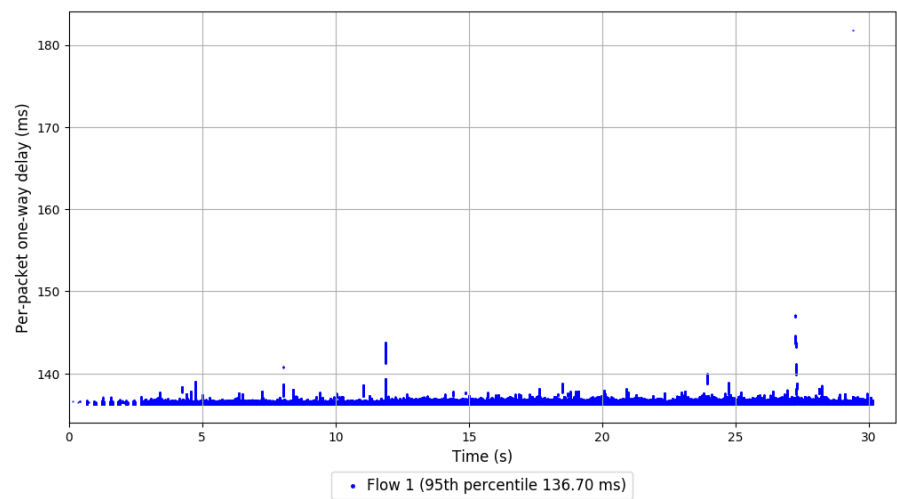
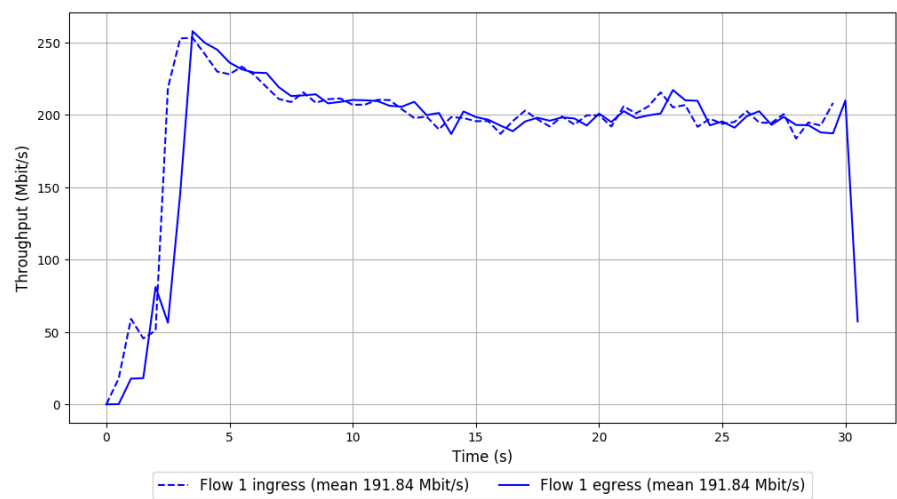


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 17:04:00  
End at: 2018-10-02 17:04:30  
Local clock offset: -0.499 ms  
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-10-02 20:13:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 191.84 Mbit/s  
95th percentile per-packet one-way delay: 136.699 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 191.84 Mbit/s  
95th percentile per-packet one-way delay: 136.699 ms  
Loss rate: 0.00%

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

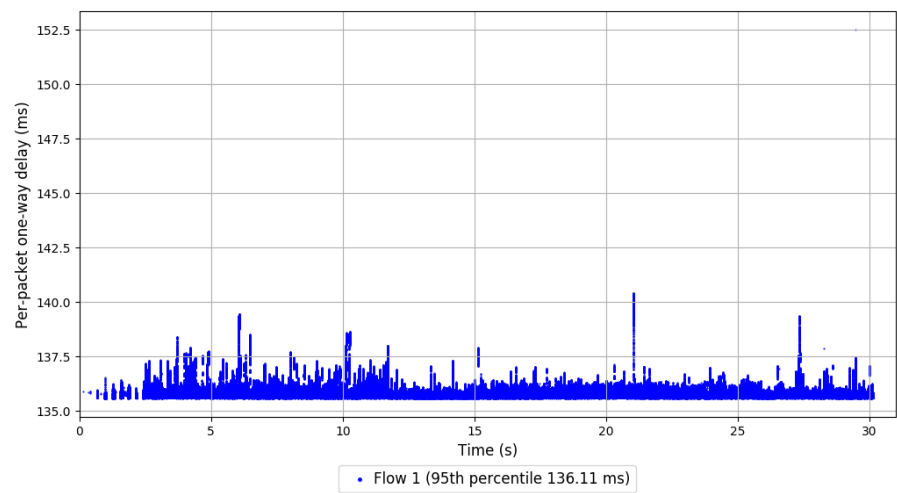
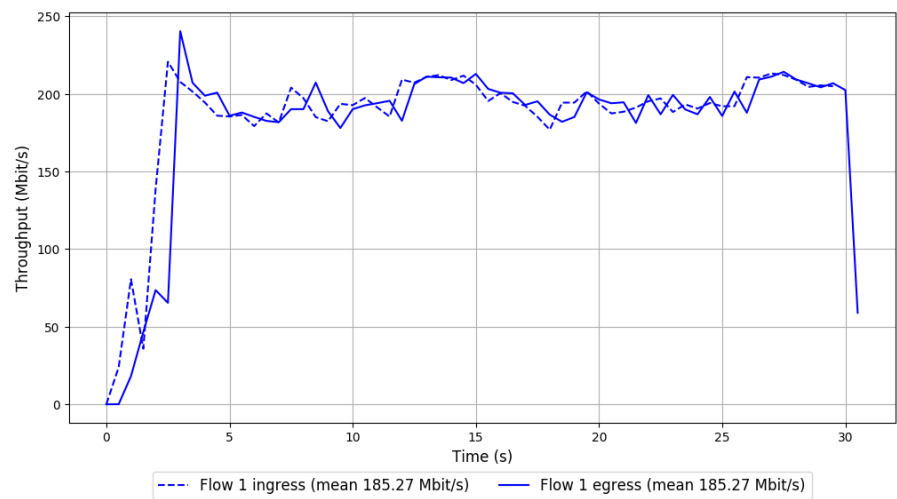


Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 17:30:36  
End at: 2018-10-02 17:31:06  
Local clock offset: -0.533 ms  
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-10-02 20:13:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 185.27 Mbit/s  
95th percentile per-packet one-way delay: 136.112 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 185.27 Mbit/s  
95th percentile per-packet one-way delay: 136.112 ms  
Loss rate: 0.00%

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

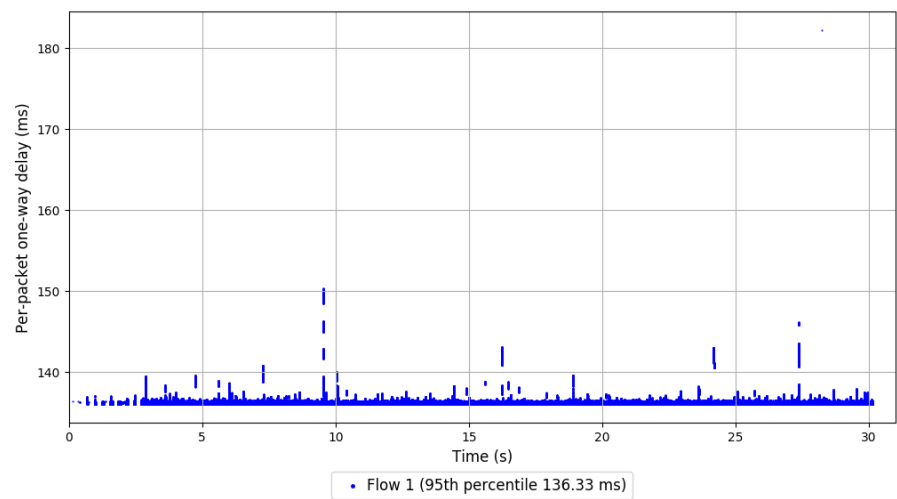
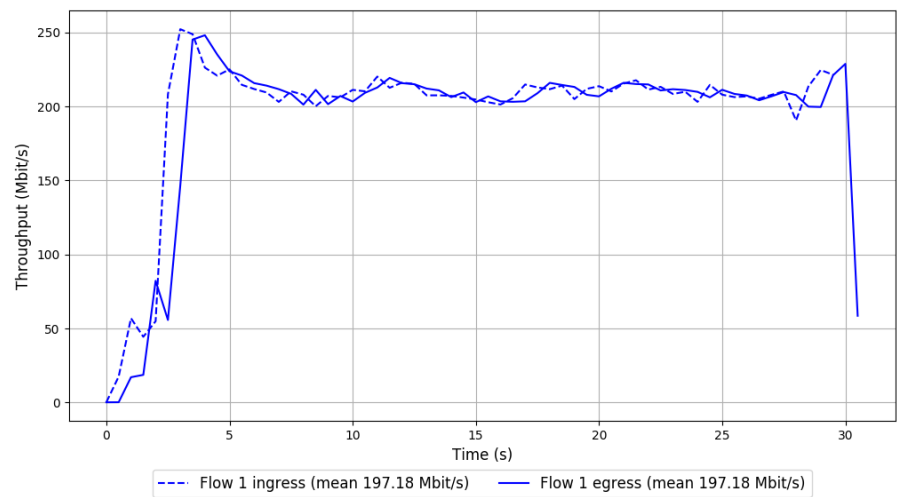


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-02 17:57:08  
End at: 2018-10-02 17:57:38  
Local clock offset: -0.325 ms  
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2018-10-02 20:15:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 197.18 Mbit/s  
95th percentile per-packet one-way delay: 136.327 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 197.18 Mbit/s  
95th percentile per-packet one-way delay: 136.327 ms  
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 18:23:49

End at: 2018-10-02 18:24:19

Local clock offset: -0.547 ms

Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2018-10-02 20:15:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.77 Mbit/s

95th percentile per-packet one-way delay: 136.405 ms

Loss rate: 0.00%

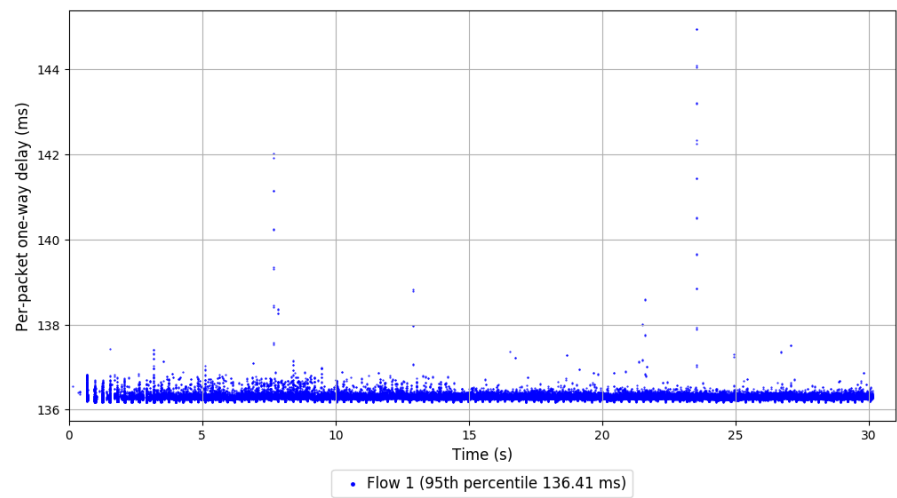
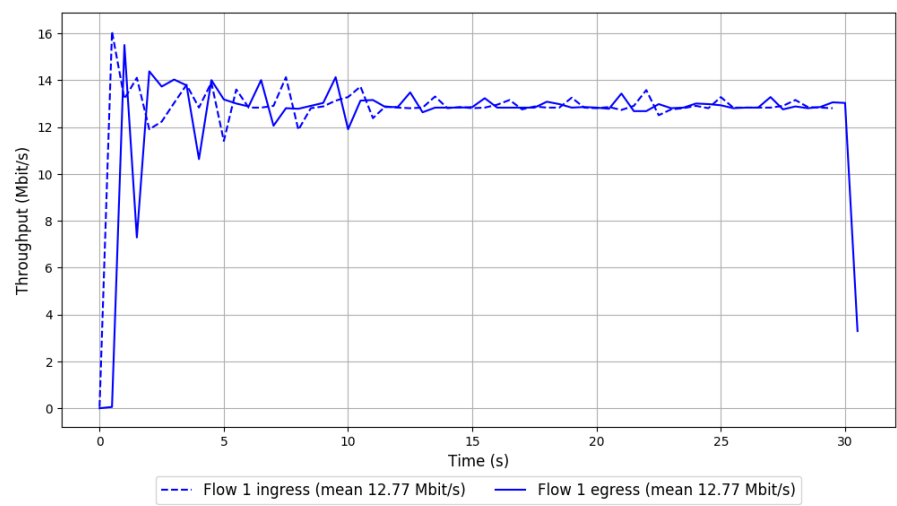
-- Flow 1:

Average throughput: 12.77 Mbit/s

95th percentile per-packet one-way delay: 136.405 ms

Loss rate: 0.00%

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



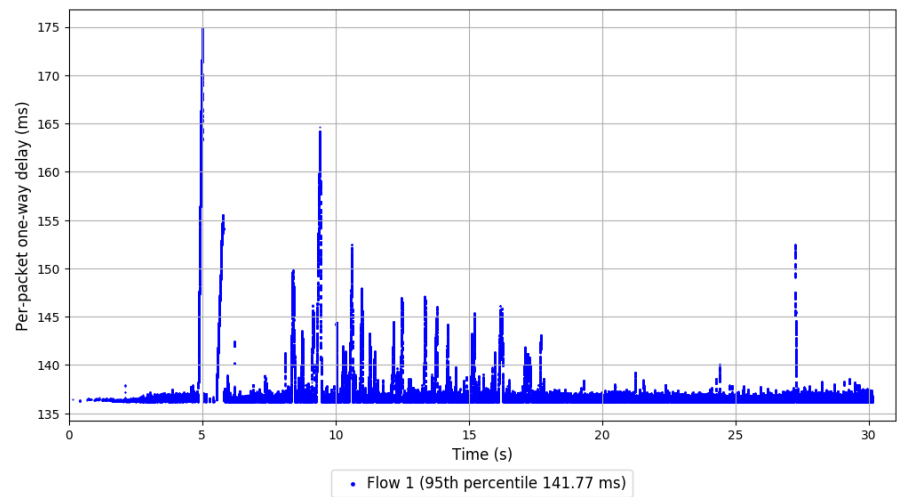
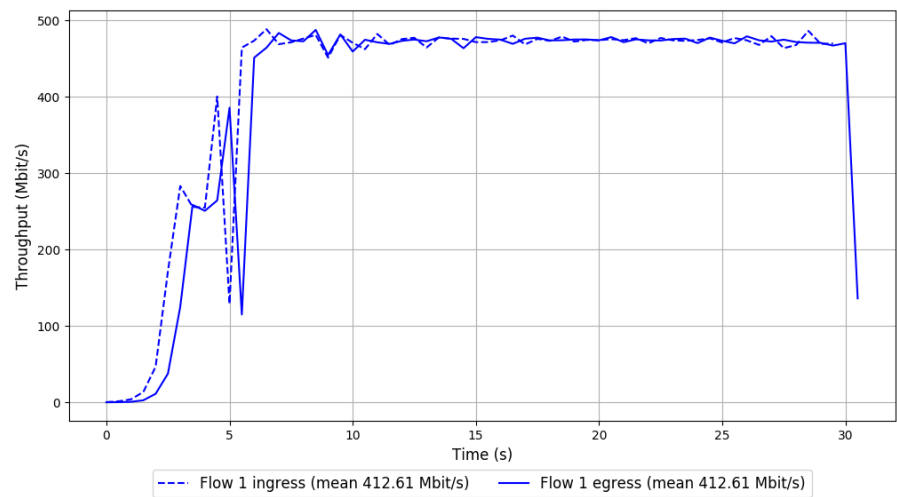


Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 17:00:56  
End at: 2018-10-02 17:01:26  
Local clock offset: -0.522 ms  
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2018-10-02 20:18:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 412.61 Mbit/s  
95th percentile per-packet one-way delay: 141.773 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 412.61 Mbit/s  
95th percentile per-packet one-way delay: 141.773 ms  
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

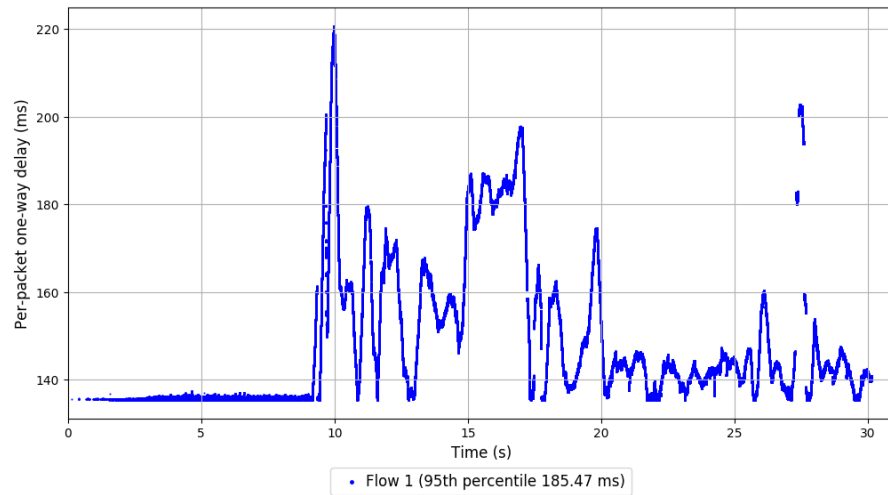
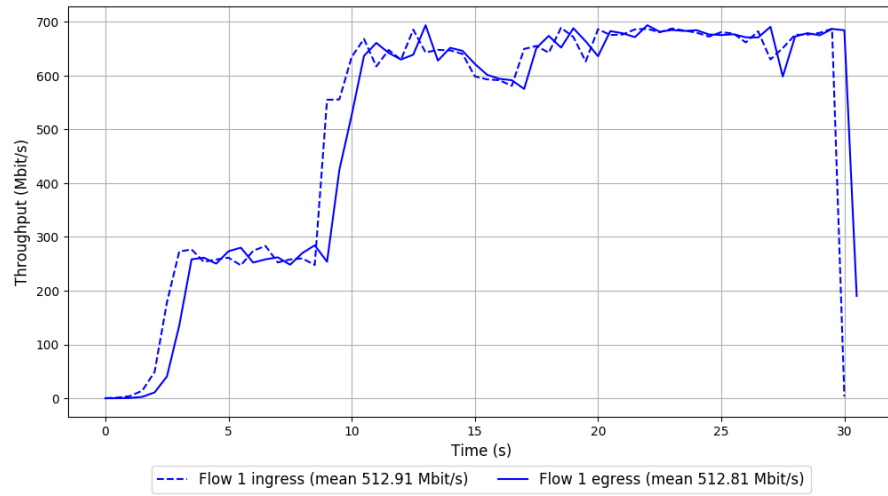


Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 17:27:29  
End at: 2018-10-02 17:27:59  
Local clock offset: -0.488 ms  
Remote clock offset: -0.083 ms

# Below is generated by plot.py at 2018-10-02 20:21:04  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 512.81 Mbit/s  
95th percentile per-packet one-way delay: 185.474 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 512.81 Mbit/s  
95th percentile per-packet one-way delay: 185.474 ms  
Loss rate: 0.01%

## Run 2: Report of TCP Vegas — Data Link

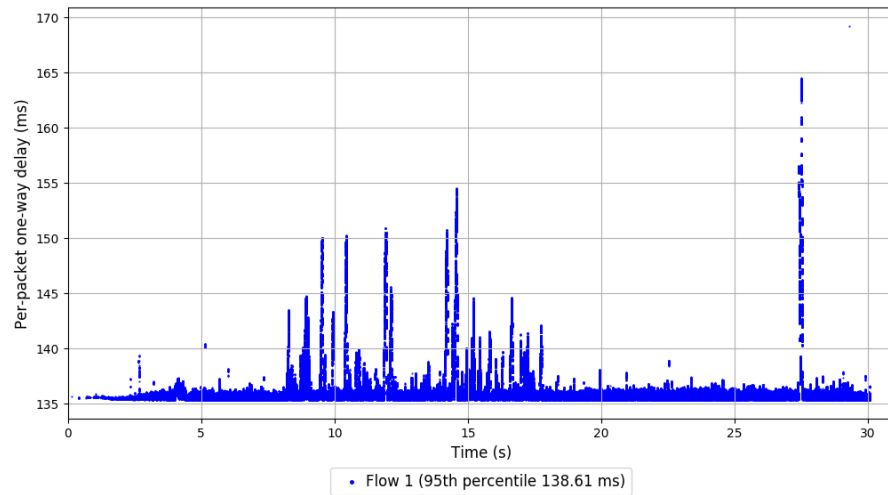
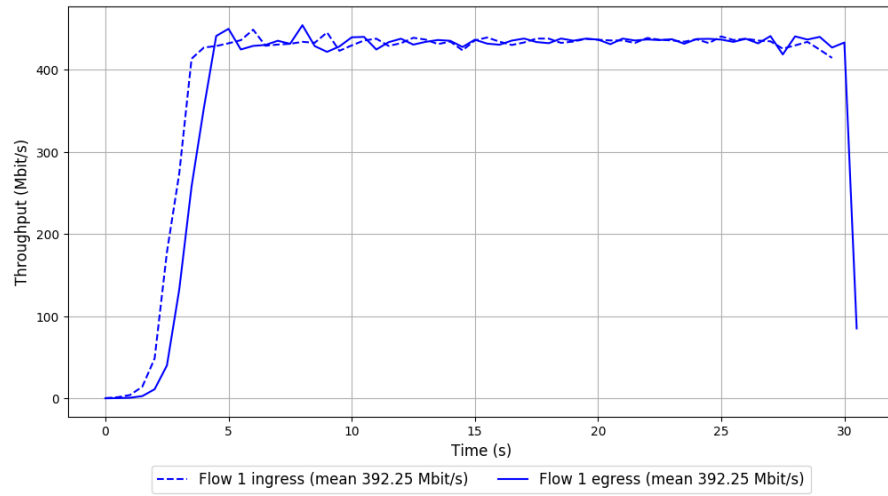


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 17:54:07  
End at: 2018-10-02 17:54:37  
Local clock offset: -0.498 ms  
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-10-02 20:21:04  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 392.25 Mbit/s  
95th percentile per-packet one-way delay: 138.606 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 392.25 Mbit/s  
95th percentile per-packet one-way delay: 138.606 ms  
Loss rate: 0.00%

### Run 3: Report of TCP Vegas — Data Link

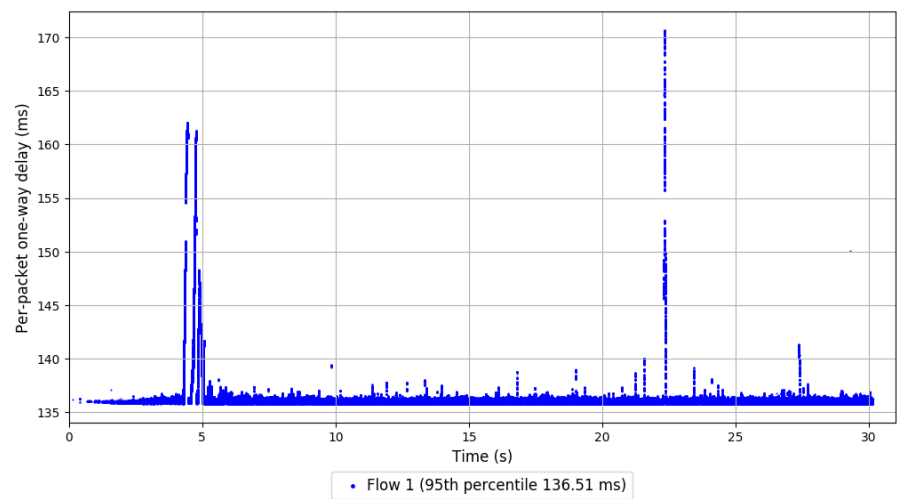
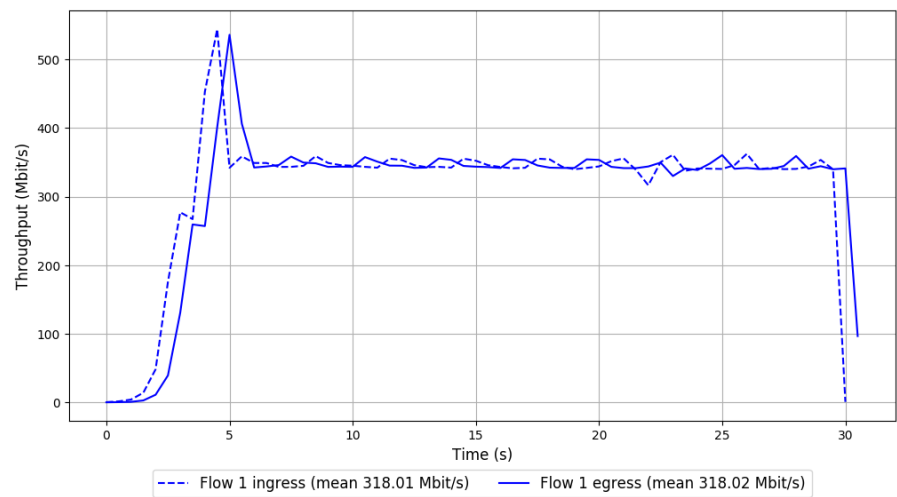


Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 18:20:52  
End at: 2018-10-02 18:21:22  
Local clock offset: -0.707 ms  
Remote clock offset: -0.479 ms

# Below is generated by plot.py at 2018-10-02 20:21:04  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 318.02 Mbit/s  
95th percentile per-packet one-way delay: 136.510 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 318.02 Mbit/s  
95th percentile per-packet one-way delay: 136.510 ms  
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



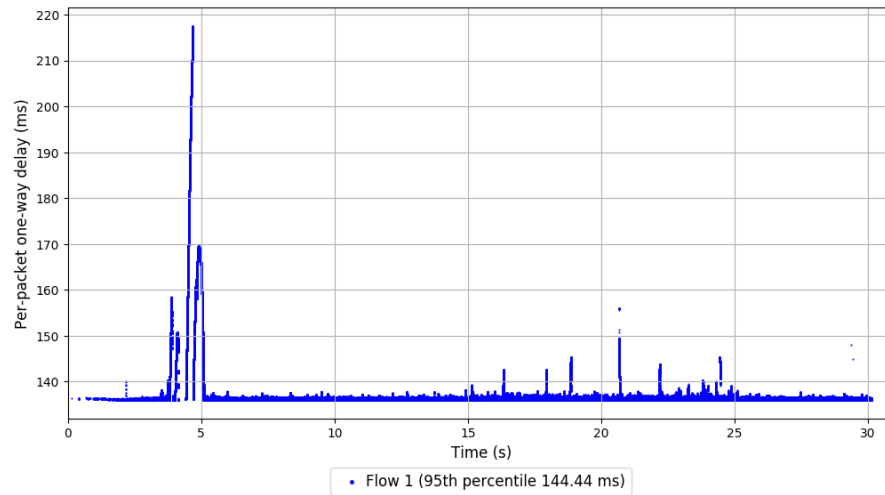
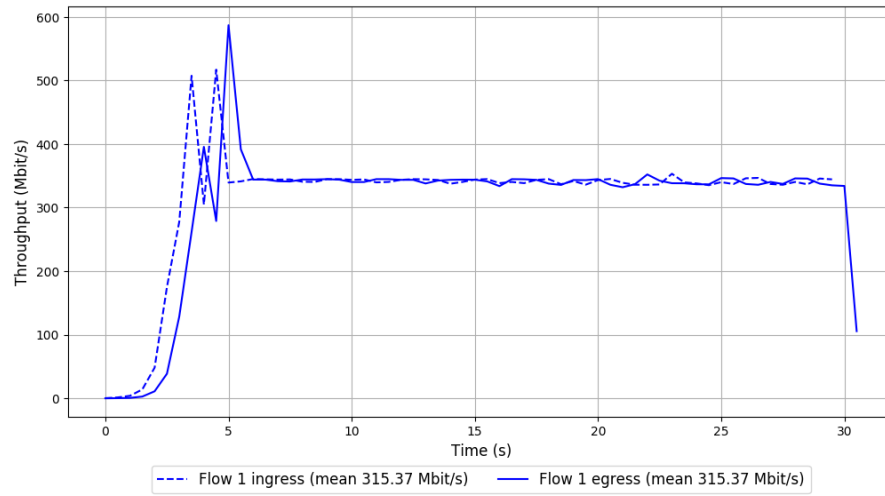


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 18:47:12  
End at: 2018-10-02 18:47:42  
Local clock offset: -0.922 ms  
Remote clock offset: -0.154 ms

# Below is generated by plot.py at 2018-10-02 20:21:17  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 315.37 Mbit/s  
95th percentile per-packet one-way delay: 144.445 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 315.37 Mbit/s  
95th percentile per-packet one-way delay: 144.445 ms  
Loss rate: 0.00%

### Run 5: Report of TCP Vegas — Data Link

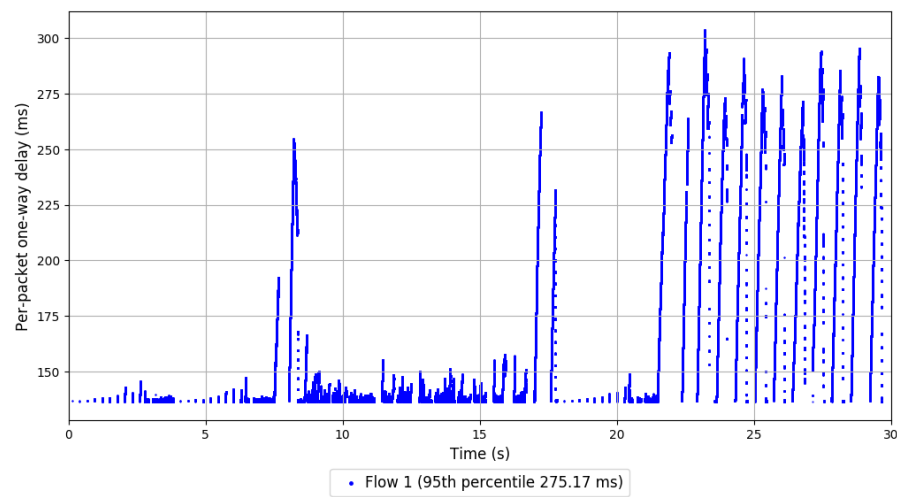
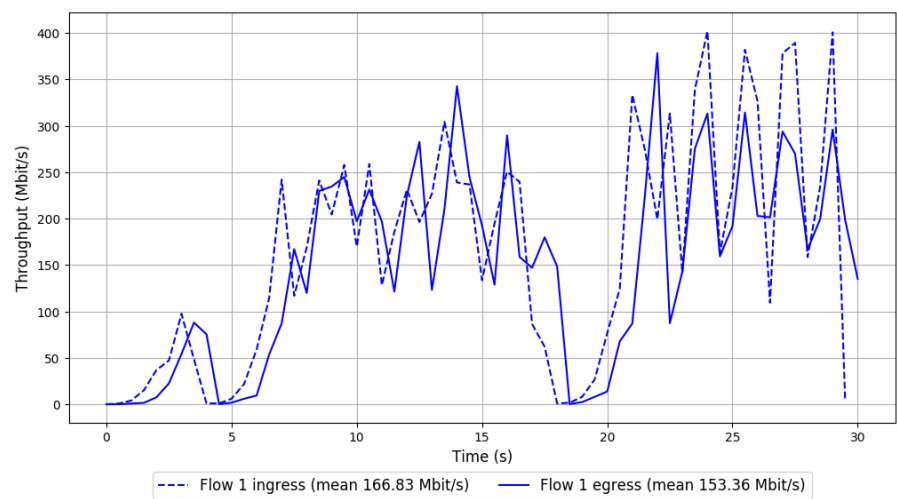


Run 1: Statistics of Verus

Start at: 2018-10-02 16:52:00  
End at: 2018-10-02 16:52:30  
Local clock offset: -0.579 ms  
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-10-02 20:21:17  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 153.36 Mbit/s  
95th percentile per-packet one-way delay: 275.171 ms  
Loss rate: 8.07%  
-- Flow 1:  
Average throughput: 153.36 Mbit/s  
95th percentile per-packet one-way delay: 275.171 ms  
Loss rate: 8.07%

Run 1: Report of Verus — Data Link

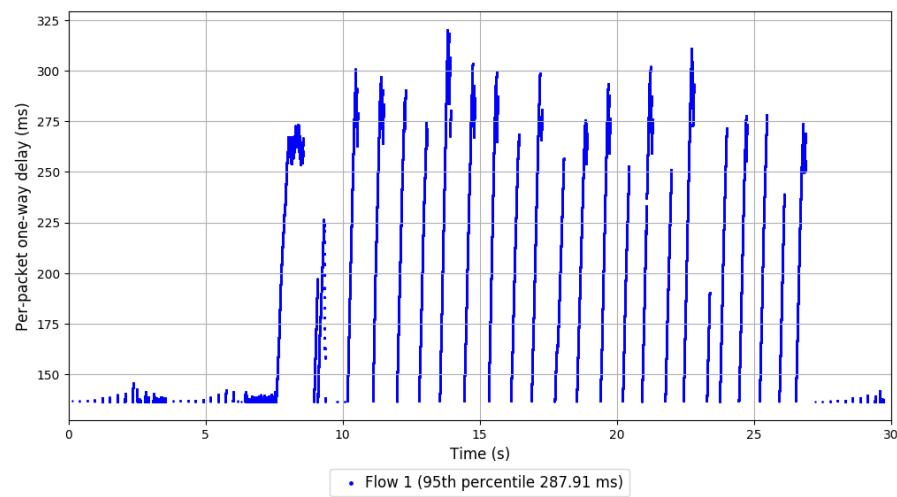
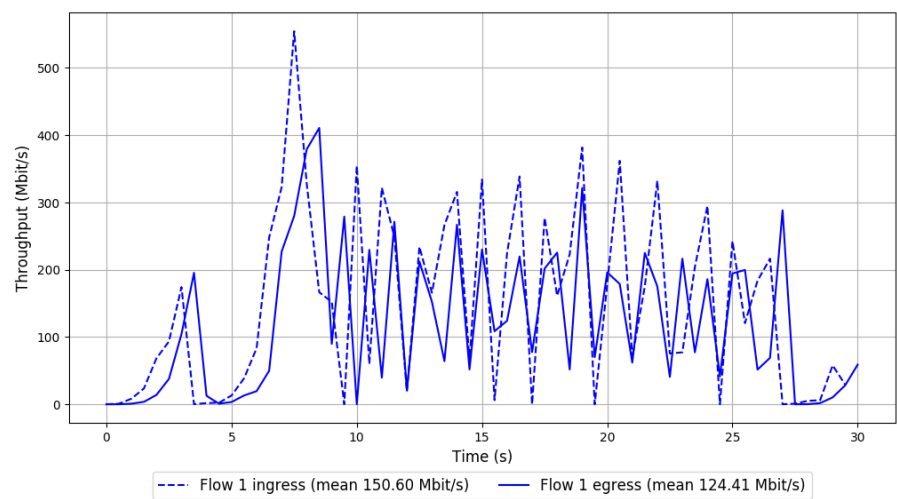


Run 2: Statistics of Verus

Start at: 2018-10-02 17:18:47  
End at: 2018-10-02 17:19:17  
Local clock offset: -0.684 ms  
Remote clock offset: -0.108 ms

# Below is generated by plot.py at 2018-10-02 20:21:17  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 124.41 Mbit/s  
95th percentile per-packet one-way delay: 287.913 ms  
Loss rate: 17.39%  
-- Flow 1:  
Average throughput: 124.41 Mbit/s  
95th percentile per-packet one-way delay: 287.913 ms  
Loss rate: 17.39%

Run 2: Report of Verus — Data Link

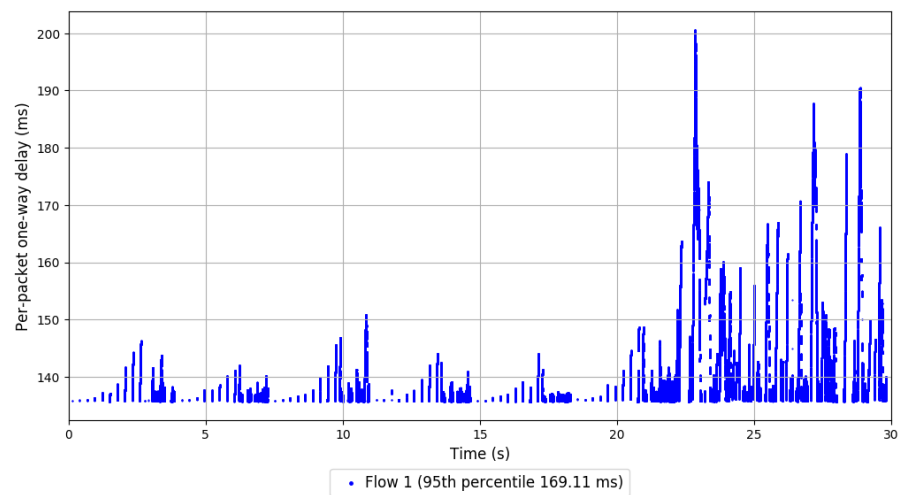
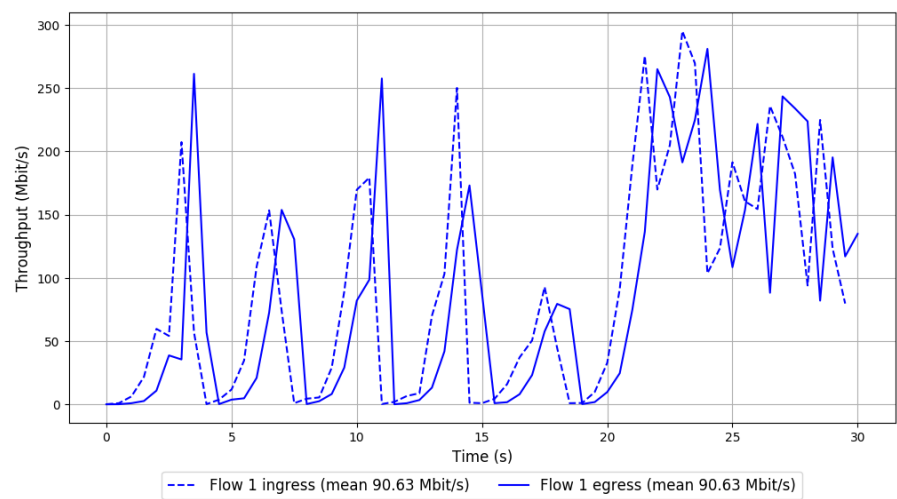


Run 3: Statistics of Verus

Start at: 2018-10-02 17:45:23  
End at: 2018-10-02 17:45:53  
Local clock offset: -0.514 ms  
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-10-02 20:21:17  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.63 Mbit/s  
95th percentile per-packet one-way delay: 169.112 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 90.63 Mbit/s  
95th percentile per-packet one-way delay: 169.112 ms  
Loss rate: 0.00%

Run 3: Report of Verus — Data Link



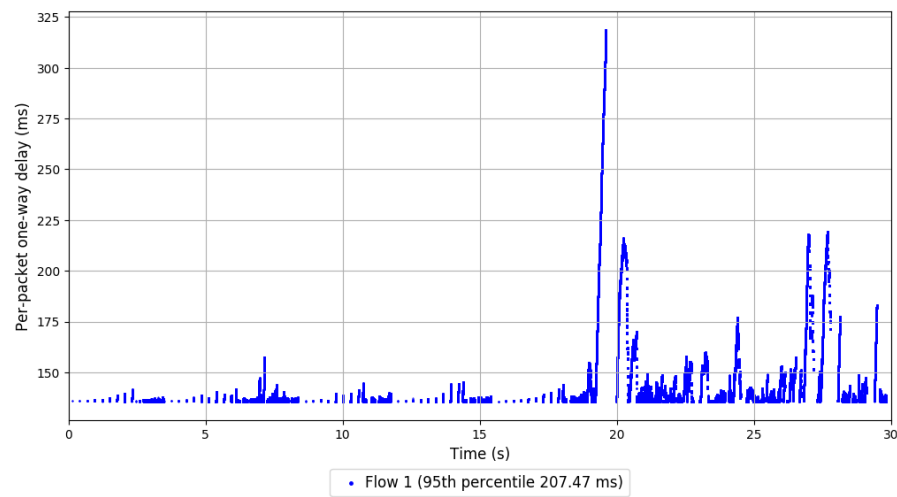
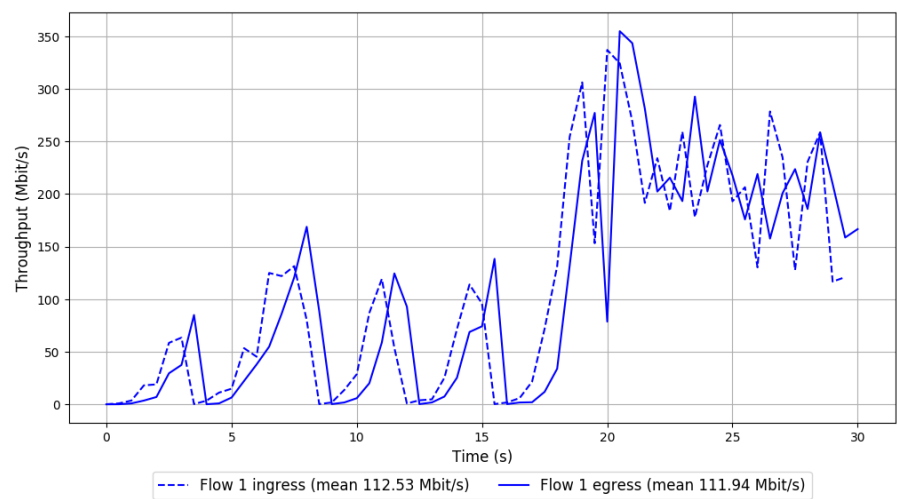


Run 4: Statistics of Verus

Start at: 2018-10-02 18:12:02  
End at: 2018-10-02 18:12:32  
Local clock offset: -0.561 ms  
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2018-10-02 20:22:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 111.94 Mbit/s  
95th percentile per-packet one-way delay: 207.473 ms  
Loss rate: 0.51%  
-- Flow 1:  
Average throughput: 111.94 Mbit/s  
95th percentile per-packet one-way delay: 207.473 ms  
Loss rate: 0.51%

Run 4: Report of Verus — Data Link

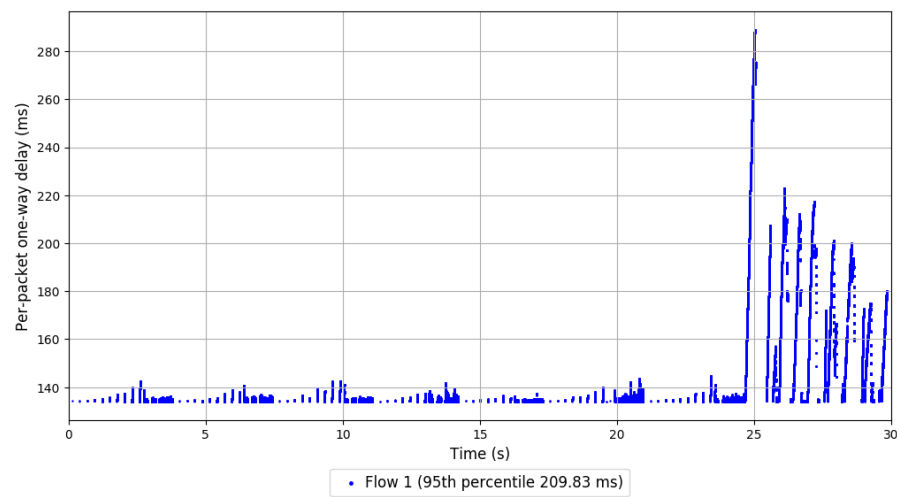
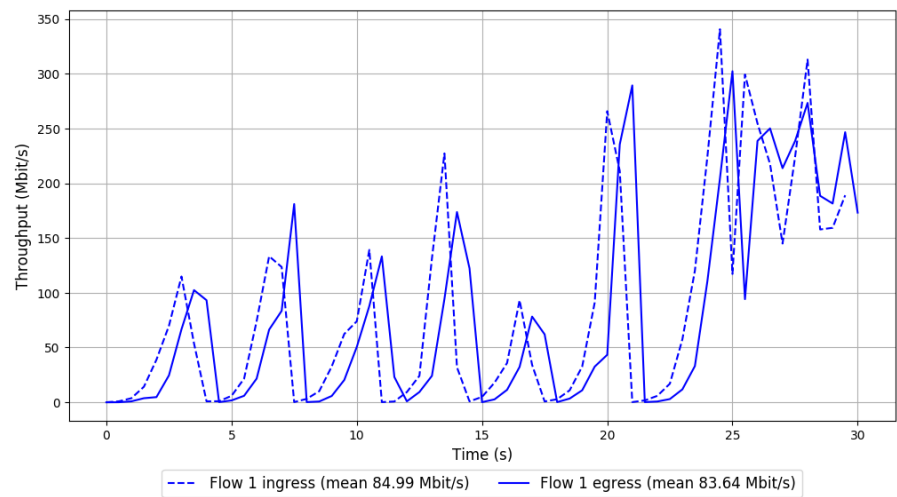


Run 5: Statistics of Verus

Start at: 2018-10-02 18:38:22  
End at: 2018-10-02 18:38:52  
Local clock offset: -0.591 ms  
Remote clock offset: -0.498 ms

# Below is generated by plot.py at 2018-10-02 20:22:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 83.64 Mbit/s  
95th percentile per-packet one-way delay: 209.829 ms  
Loss rate: 1.58%  
-- Flow 1:  
Average throughput: 83.64 Mbit/s  
95th percentile per-packet one-way delay: 209.829 ms  
Loss rate: 1.58%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 16:41:41

End at: 2018-10-02 16:42:11

Local clock offset: -0.382 ms

Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2018-10-02 20:26:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 351.39 Mbit/s

95th percentile per-packet one-way delay: 141.743 ms

Loss rate: 0.03%

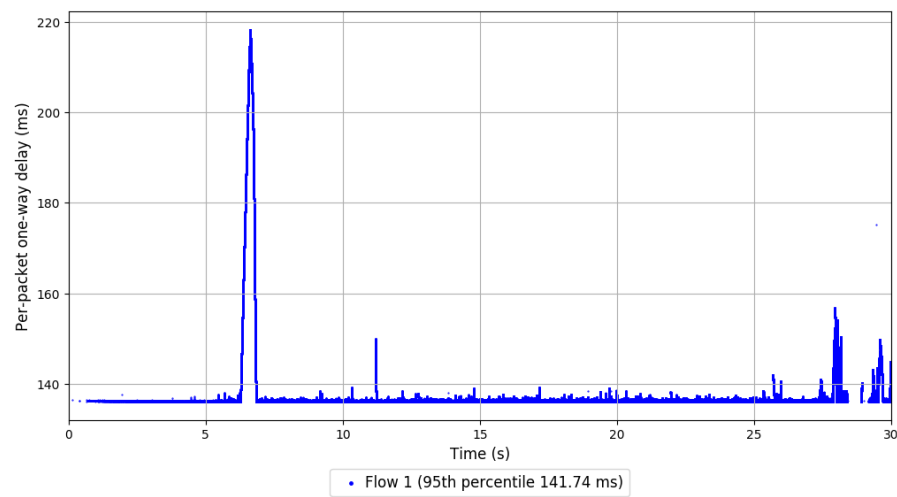
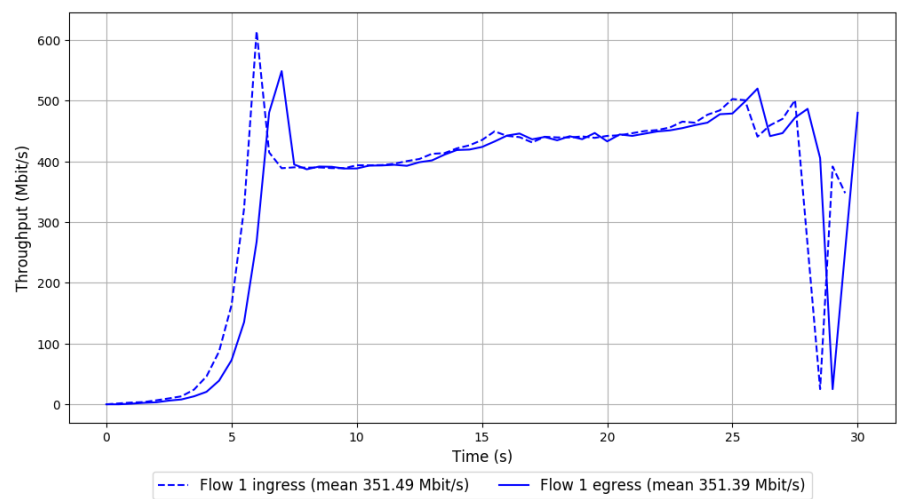
-- Flow 1:

Average throughput: 351.39 Mbit/s

95th percentile per-packet one-way delay: 141.743 ms

Loss rate: 0.03%

Run 1: Report of PCC-Vivace — Data Link

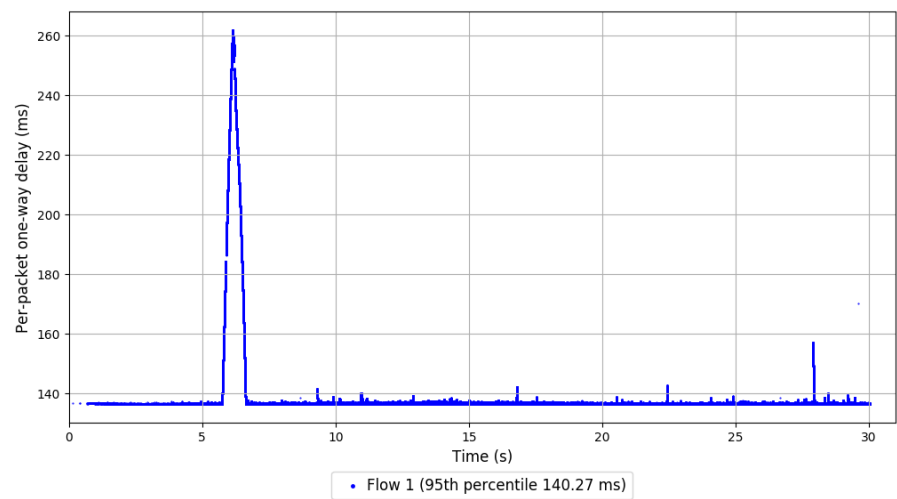
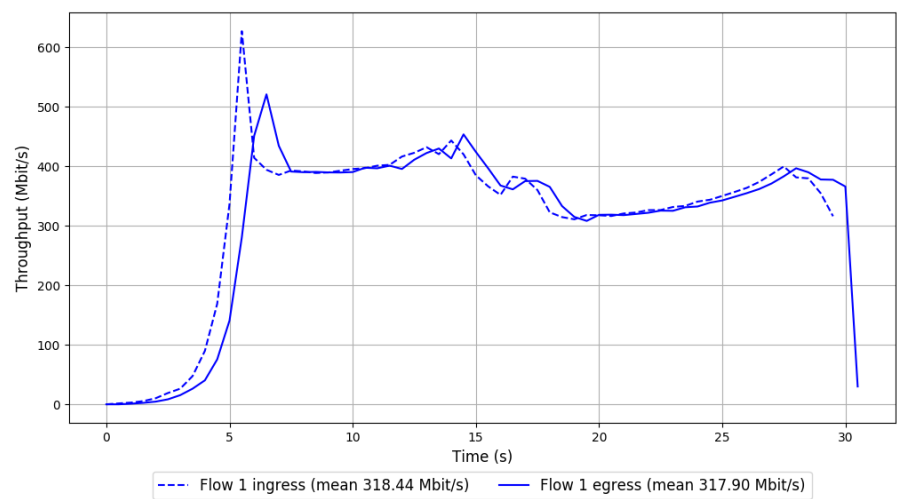


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 17:08:18  
End at: 2018-10-02 17:08:48  
Local clock offset: -0.605 ms  
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-10-02 20:26:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 317.90 Mbit/s  
95th percentile per-packet one-way delay: 140.271 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 317.90 Mbit/s  
95th percentile per-packet one-way delay: 140.271 ms  
Loss rate: 0.17%

Run 2: Report of PCC-Vivace — Data Link





Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 17:34:53

End at: 2018-10-02 17:35:23

Local clock offset: -0.555 ms

Remote clock offset: 0.252 ms

# Below is generated by plot.py at 2018-10-02 20:26:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 333.89 Mbit/s

95th percentile per-packet one-way delay: 136.816 ms

Loss rate: 0.00%

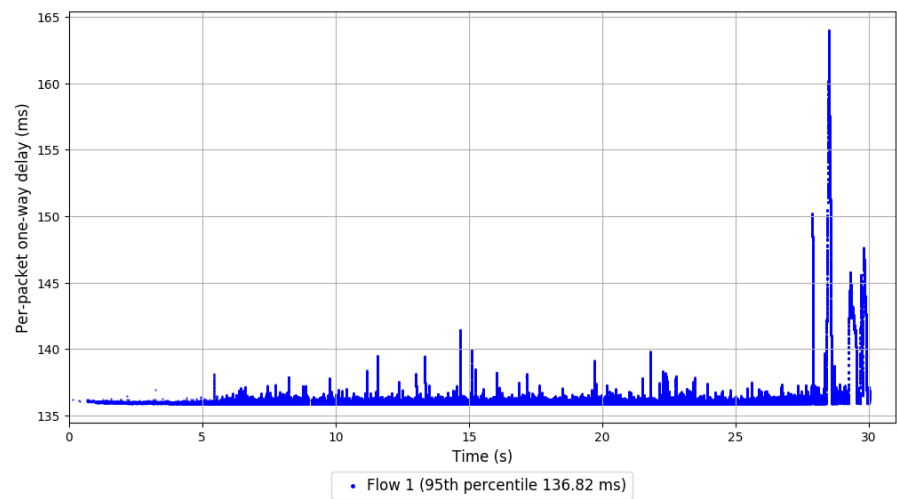
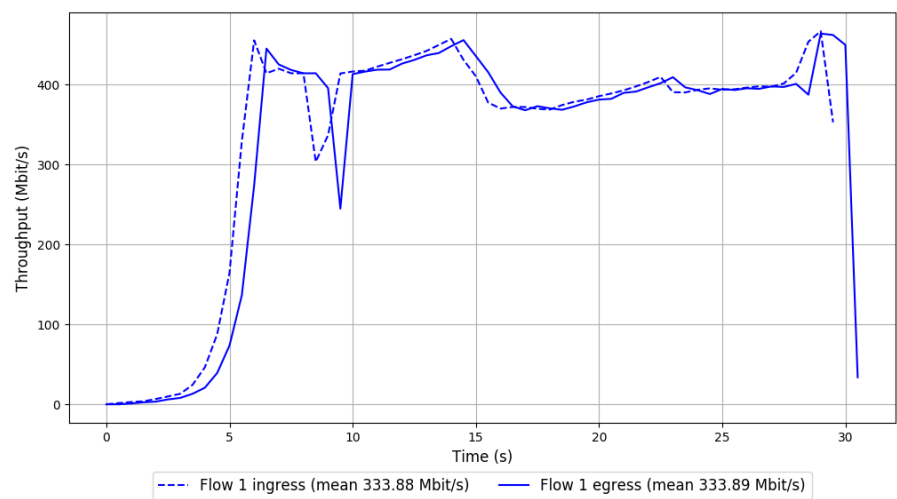
-- Flow 1:

Average throughput: 333.89 Mbit/s

95th percentile per-packet one-way delay: 136.816 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

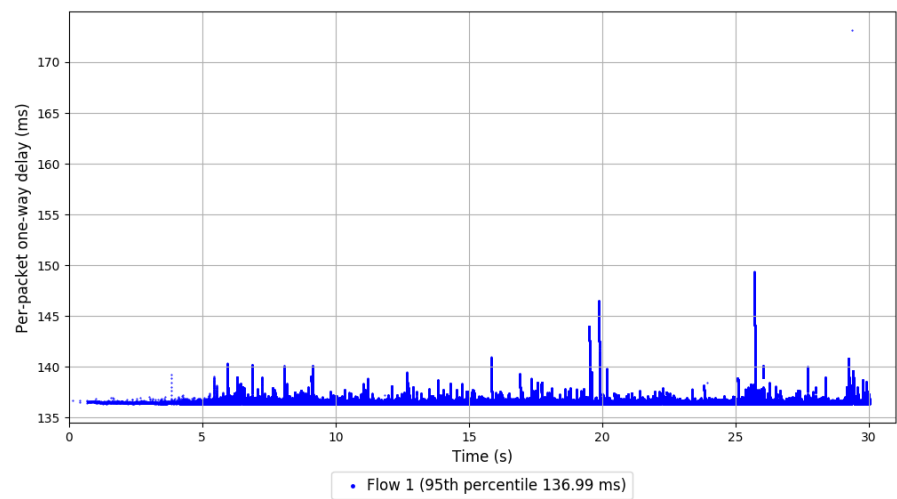
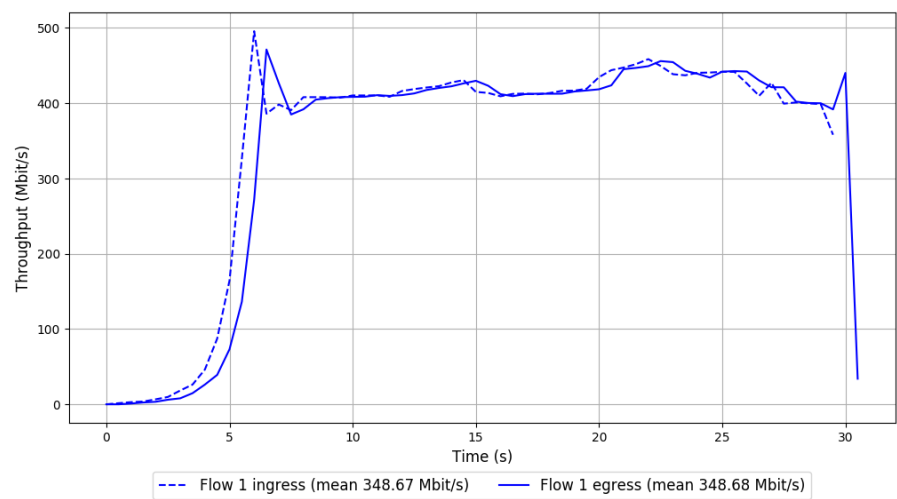


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 18:01:30  
End at: 2018-10-02 18:02:00  
Local clock offset: -0.755 ms  
Remote clock offset: -0.205 ms

# Below is generated by plot.py at 2018-10-02 20:26:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 348.68 Mbit/s  
95th percentile per-packet one-way delay: 136.992 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 348.68 Mbit/s  
95th percentile per-packet one-way delay: 136.992 ms  
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

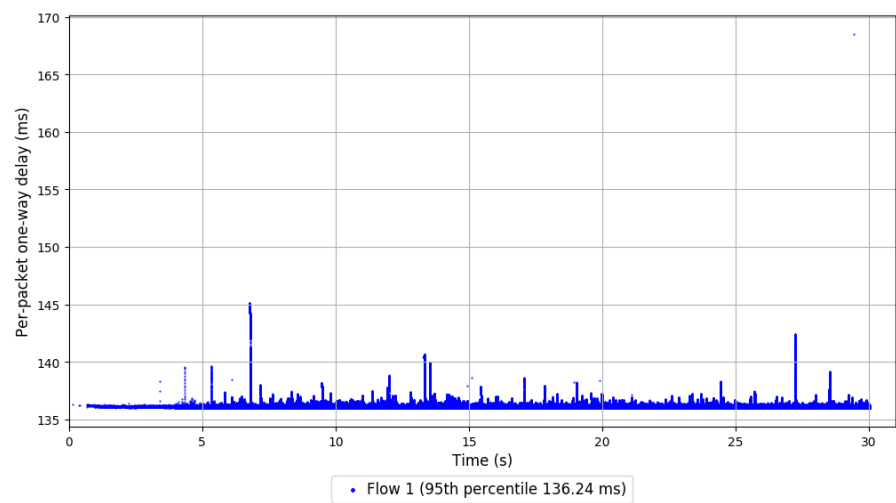
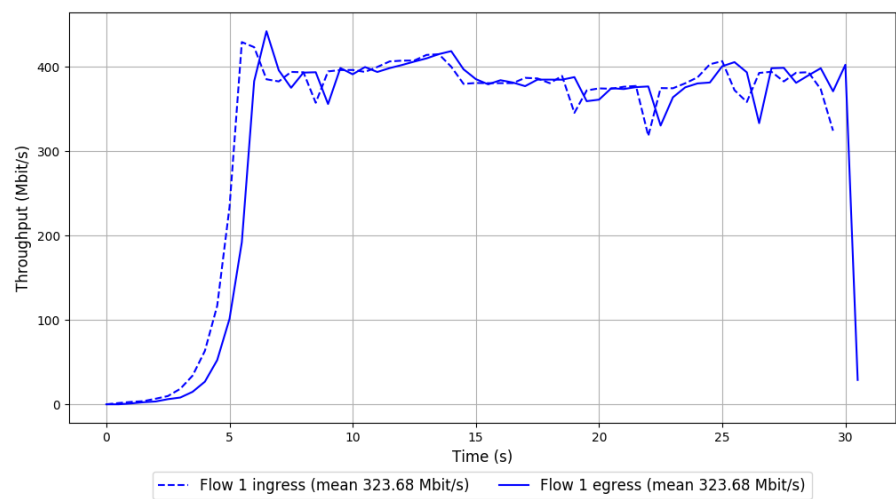


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 18:27:49  
End at: 2018-10-02 18:28:19  
Local clock offset: -0.615 ms  
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2018-10-02 20:26:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 323.68 Mbit/s  
95th percentile per-packet one-way delay: 136.238 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 323.68 Mbit/s  
95th percentile per-packet one-way delay: 136.238 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-10-02 16:50:50

End at: 2018-10-02 16:51:20

Local clock offset: -0.317 ms

Remote clock offset: 0.226 ms

# Below is generated by plot.py at 2018-10-02 20:26:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.05 Mbit/s

95th percentile per-packet one-way delay: 136.375 ms

Loss rate: 0.00%

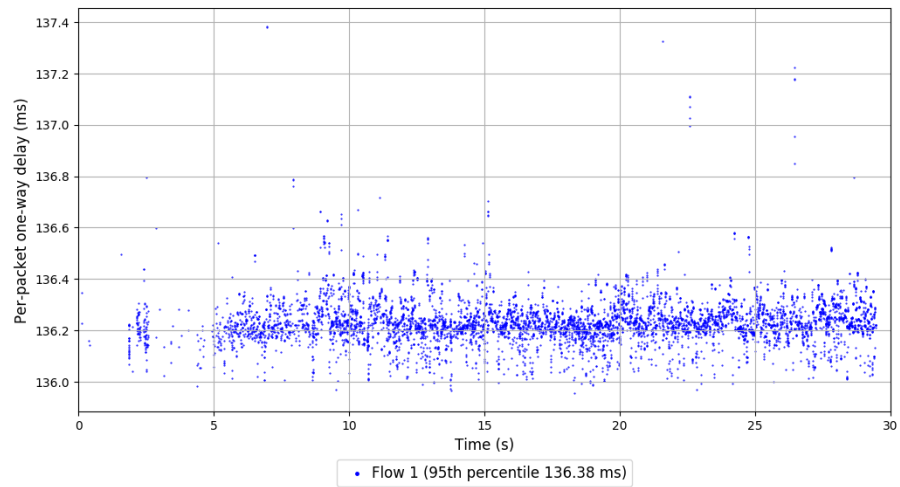
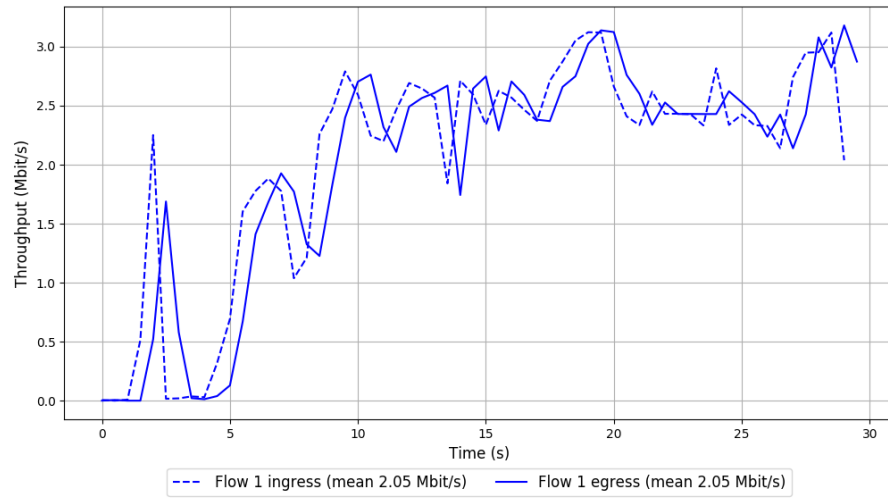
-- Flow 1:

Average throughput: 2.05 Mbit/s

95th percentile per-packet one-way delay: 136.375 ms

Loss rate: 0.00%

# Run 1: Report of WebRTC media — Data Link



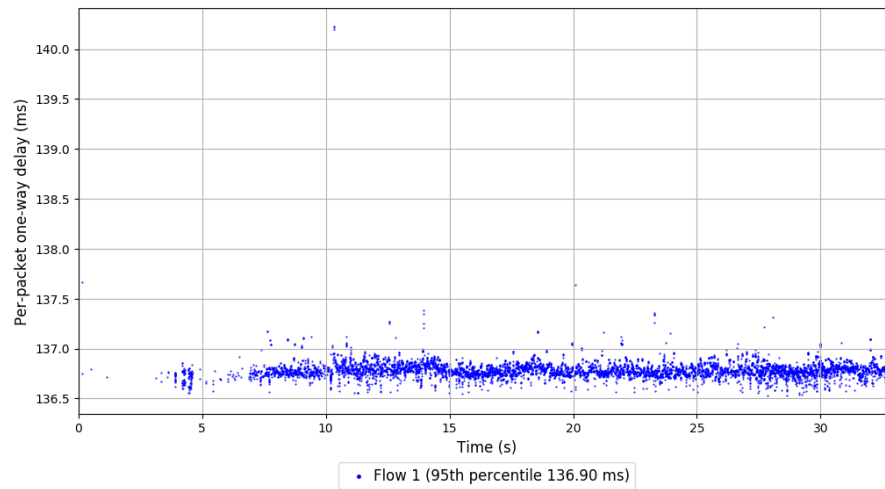
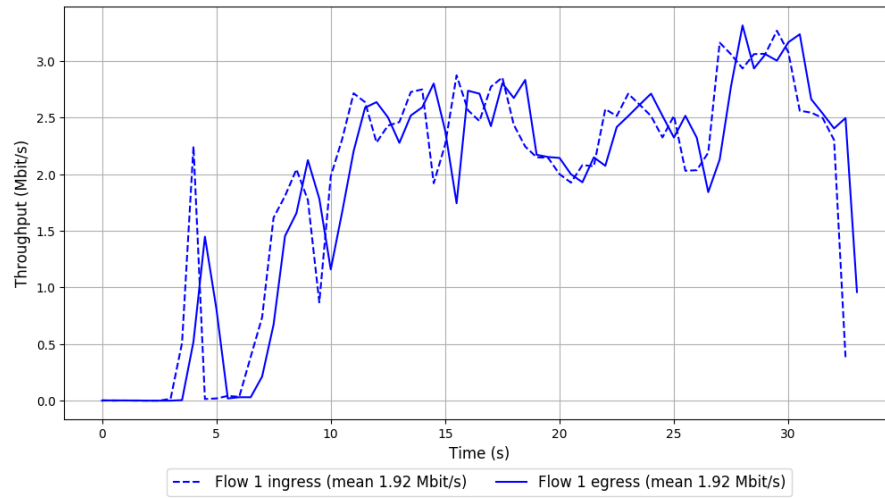


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 17:17:37  
End at: 2018-10-02 17:18:07  
Local clock offset: -0.616 ms  
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-10-02 20:26:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 136.899 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 136.899 ms  
Loss rate: 0.00%

## Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-10-02 17:44:12

End at: 2018-10-02 17:44:42

Local clock offset: -0.497 ms

Remote clock offset: 0.25 ms

# Below is generated by plot.py at 2018-10-02 20:26:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 136.396 ms

Loss rate: 0.00%

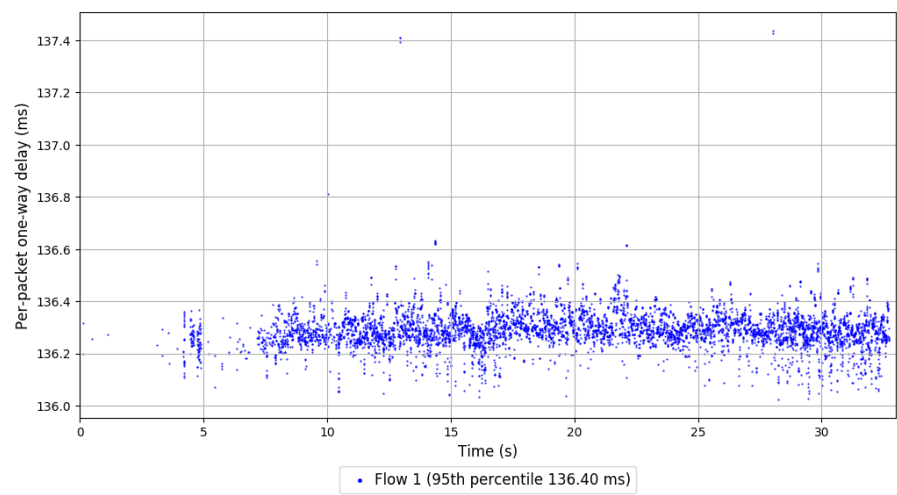
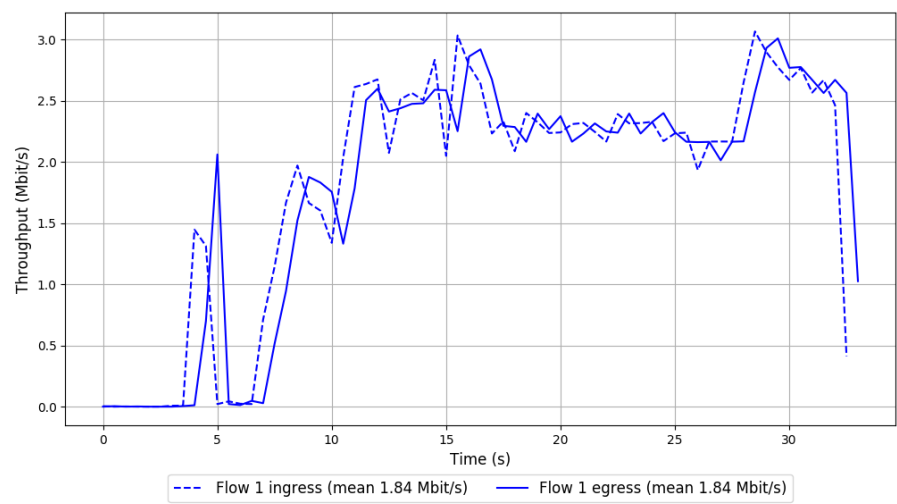
-- Flow 1:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 136.396 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-10-02 18:10:52

End at: 2018-10-02 18:11:22

Local clock offset: -0.554 ms

Remote clock offset: 0.218 ms

# Below is generated by plot.py at 2018-10-02 20:26:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 137.105 ms

Loss rate: 0.00%

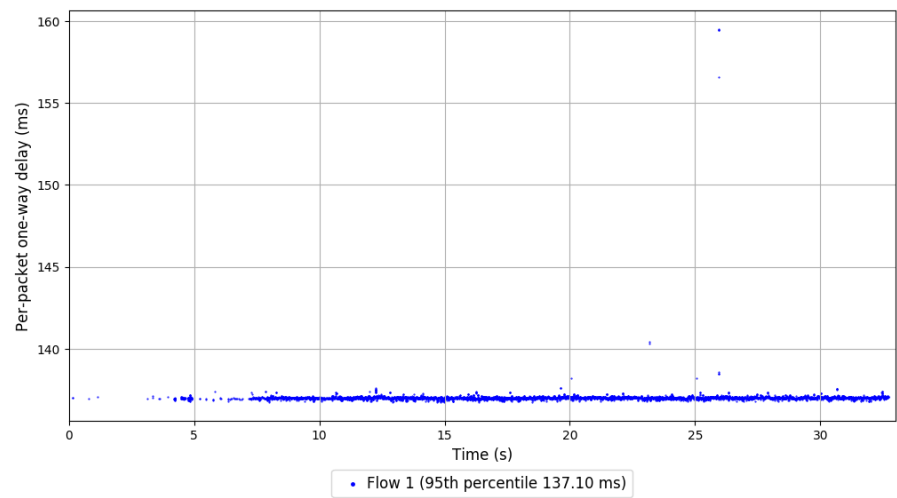
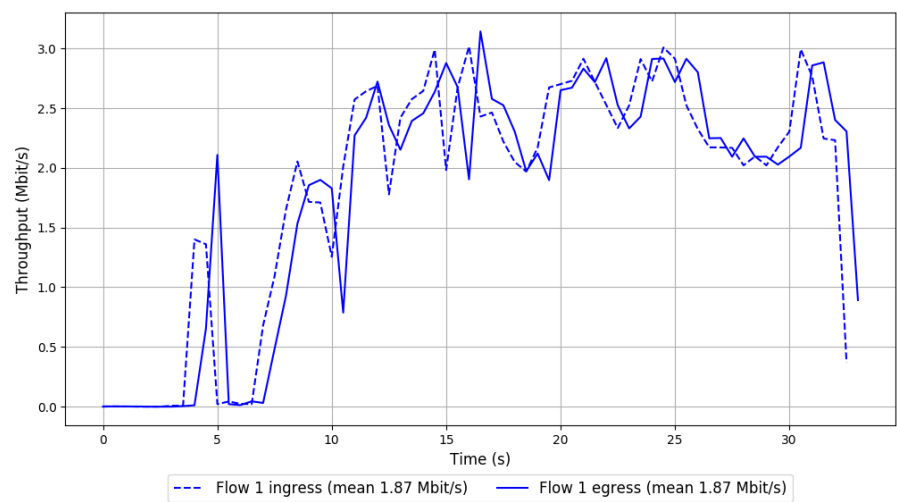
-- Flow 1:

Average throughput: 1.87 Mbit/s

95th percentile per-packet one-way delay: 137.105 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 18:37:12  
End at: 2018-10-02 18:37:42  
Local clock offset: -0.764 ms  
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2018-10-02 20:26:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 136.286 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 136.286 ms  
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

