

Pantheon Report

Generated at 2018-09-06 16:16:40 (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.

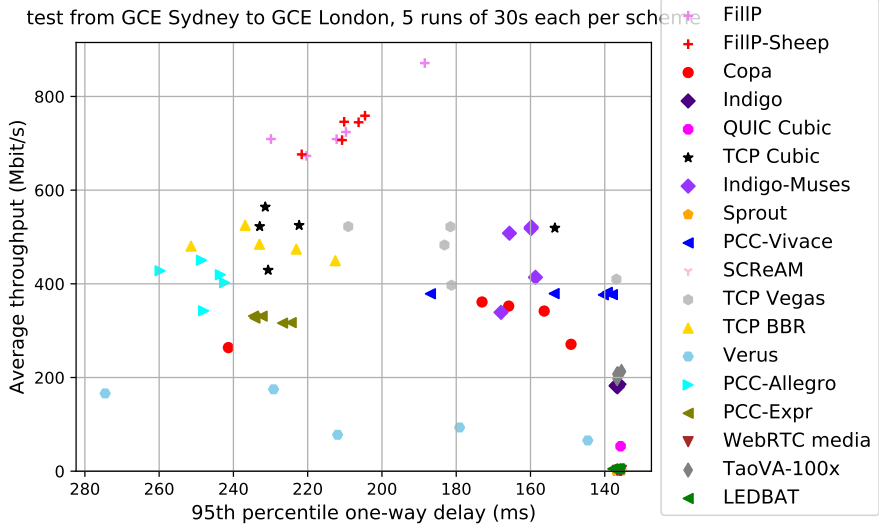
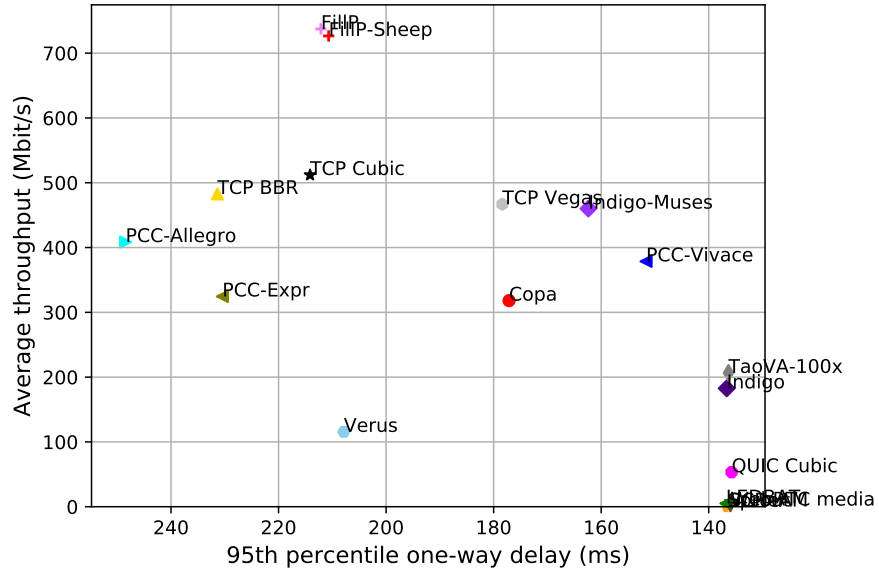
System info:

```
Linux 4.15.0-1018-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
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
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	482.69	231.37	1.39
Copa	5	318.07	177.13	0.12
TCP Cubic	5	511.96	214.14	0.14
FillP	5	737.34	212.12	5.22
FillP-Sheep	5	726.56	210.67	5.94
Indigo	5	182.63	136.65	0.00
LEDBAT	5	5.09	136.80	0.00
Indigo-Muses	5	460.07	162.38	0.00
PCC-Allegro	5	408.46	248.45	4.87
PCC-Expr	5	324.48	230.45	2.41
QUIC Cubic	1	53.34	135.74	0.00
SCReAM	5	0.22	136.19	0.00
Sprout	5	0.17	136.49	0.00
TaoVA-100x	5	206.53	136.34	0.00
TCP Vegas	5	466.82	178.39	0.09
Verus	5	115.53	207.86	1.85
PCC-Vivace	5	378.66	151.65	0.27
WebRTC media	5	1.78	135.98	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 12:57:38

End at: 2018-09-06 12:58:08

Local clock offset: -0.25 ms

Remote clock offset: -0.211 ms

Below is generated by plot.py at 2018-09-06 15:09:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 524.95 Mbit/s

95th percentile per-packet one-way delay: 236.830 ms

Loss rate: 1.39%

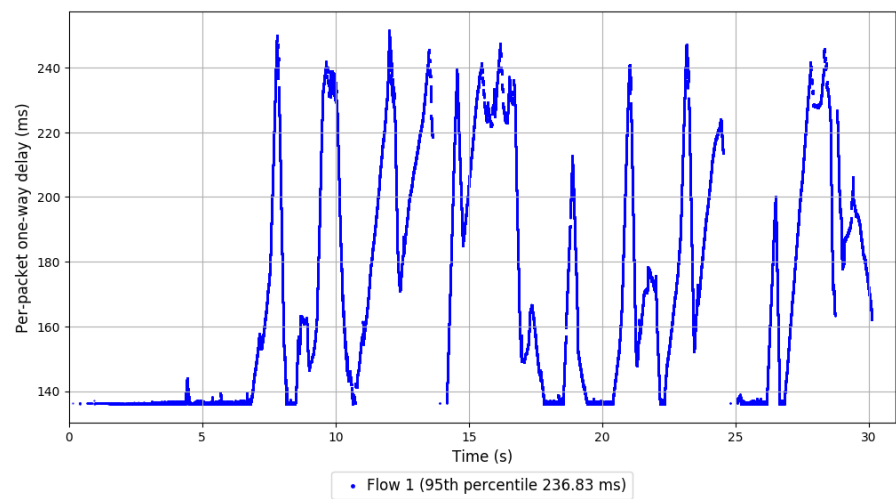
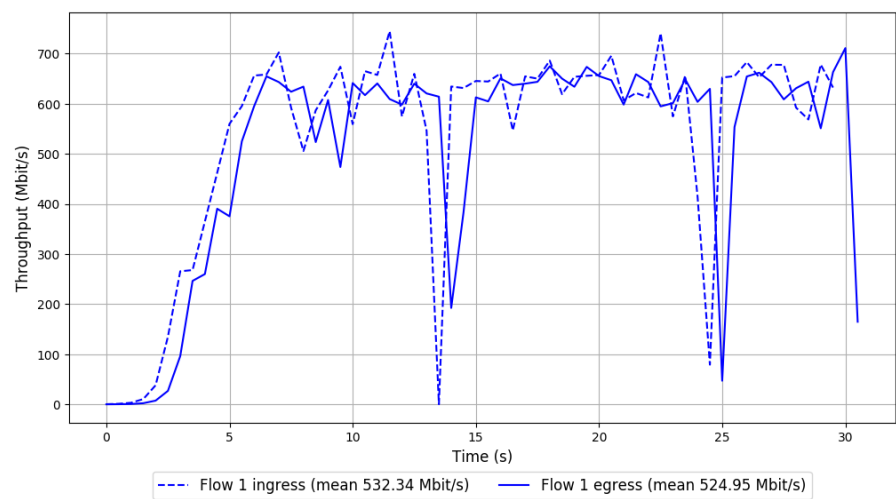
-- Flow 1:

Average throughput: 524.95 Mbit/s

95th percentile per-packet one-way delay: 236.830 ms

Loss rate: 1.39%

Run 1: Report of TCP BBR — Data Link

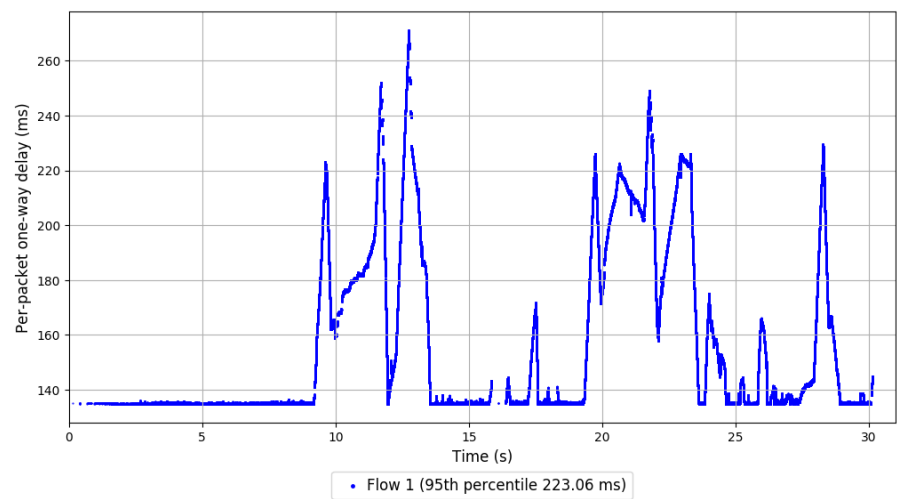
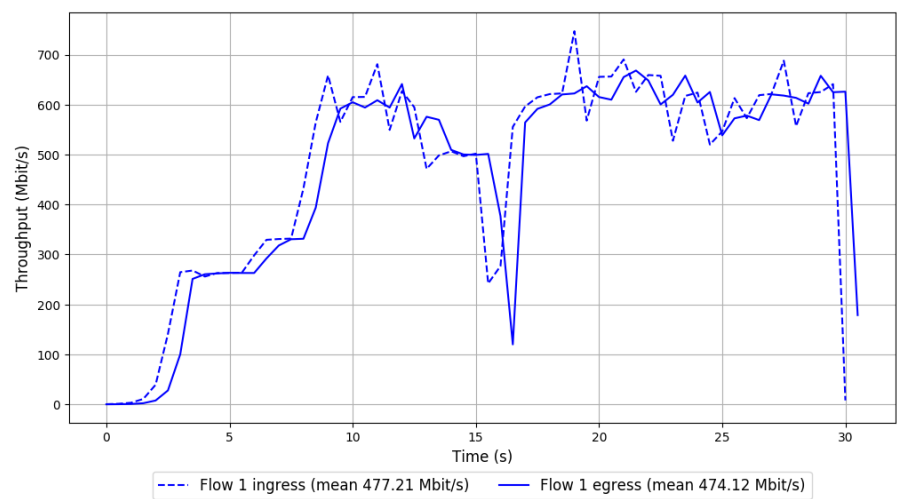


Run 2: Statistics of TCP BBR

Start at: 2018-09-06 13:24:31
End at: 2018-09-06 13:25:01
Local clock offset: -0.065 ms
Remote clock offset: -0.278 ms

Below is generated by plot.py at 2018-09-06 15:09:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 474.12 Mbit/s
95th percentile per-packet one-way delay: 223.059 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 474.12 Mbit/s
95th percentile per-packet one-way delay: 223.059 ms
Loss rate: 0.64%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-06 13:51:16

End at: 2018-09-06 13:51:46

Local clock offset: -0.078 ms

Remote clock offset: -0.21 ms

Below is generated by plot.py at 2018-09-06 15:09:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 484.56 Mbit/s

95th percentile per-packet one-way delay: 232.982 ms

Loss rate: 1.02%

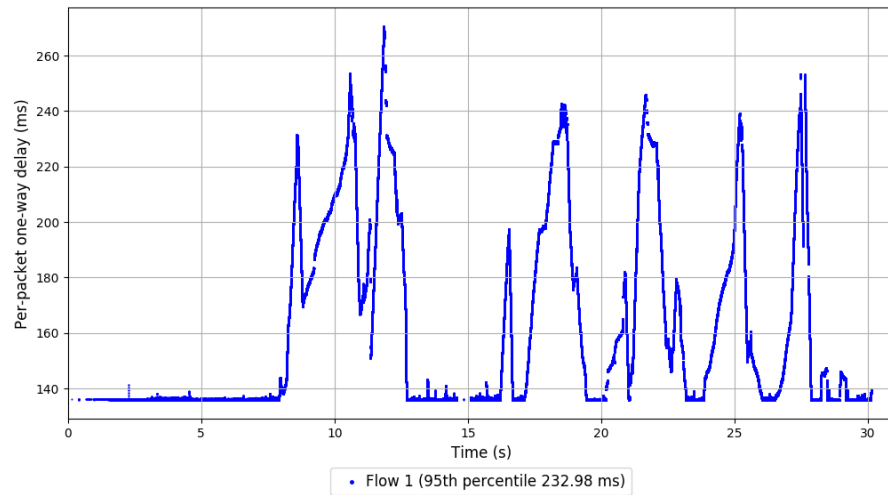
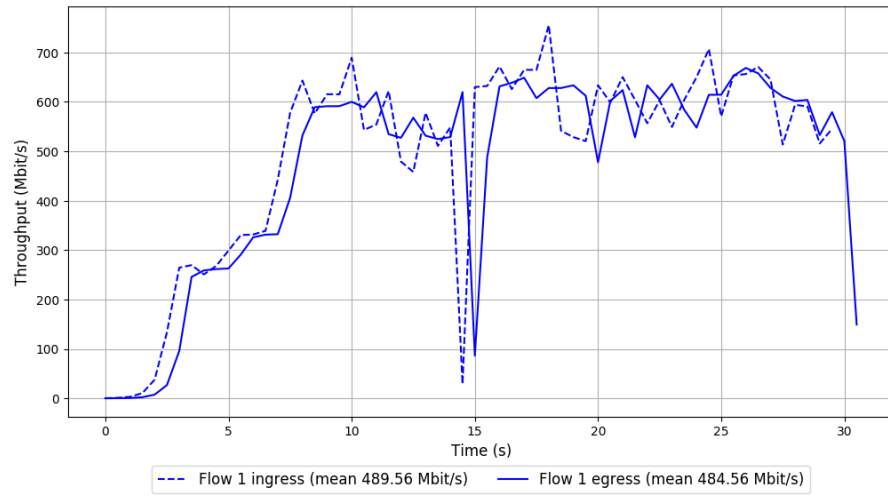
-- Flow 1:

Average throughput: 484.56 Mbit/s

95th percentile per-packet one-way delay: 232.982 ms

Loss rate: 1.02%

Run 3: Report of TCP BBR — Data Link

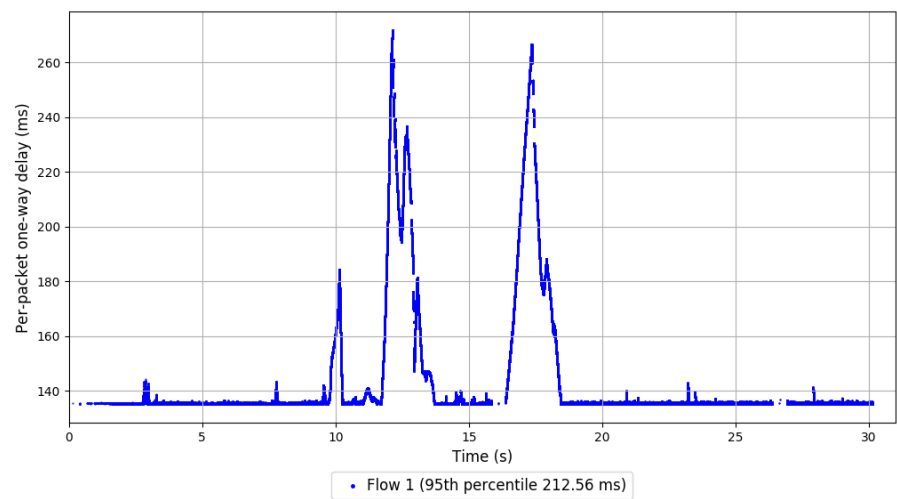
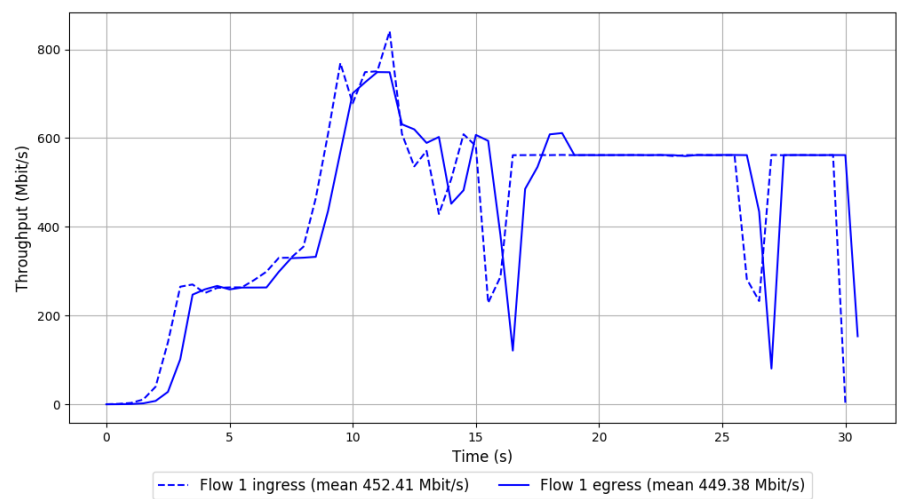


Run 4: Statistics of TCP BBR

Start at: 2018-09-06 14:18:13
End at: 2018-09-06 14:18:43
Local clock offset: -0.262 ms
Remote clock offset: -0.292 ms

Below is generated by plot.py at 2018-09-06 15:09:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 449.38 Mbit/s
95th percentile per-packet one-way delay: 212.564 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 449.38 Mbit/s
95th percentile per-packet one-way delay: 212.564 ms
Loss rate: 0.67%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-06 14:45:21

End at: 2018-09-06 14:45:51

Local clock offset: -0.222 ms

Remote clock offset: 0.126 ms

Below is generated by plot.py at 2018-09-06 15:09:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 480.46 Mbit/s

95th percentile per-packet one-way delay: 251.404 ms

Loss rate: 3.21%

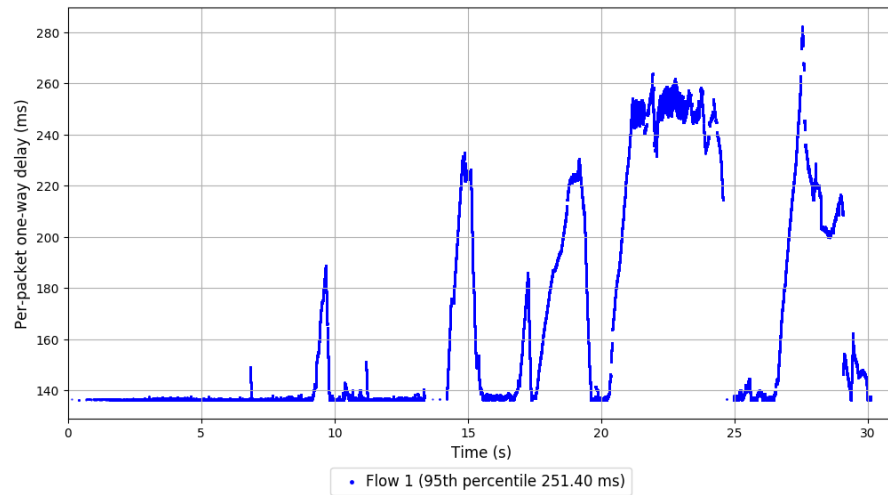
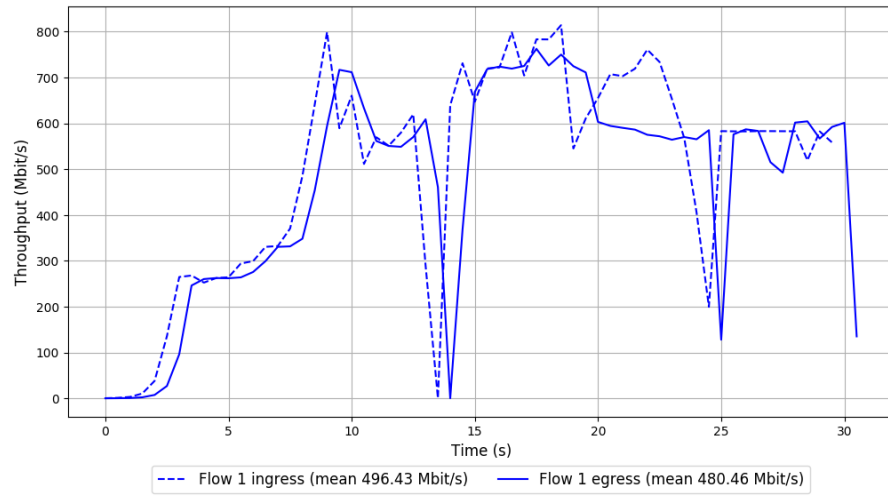
-- Flow 1:

Average throughput: 480.46 Mbit/s

95th percentile per-packet one-way delay: 251.404 ms

Loss rate: 3.21%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-06 12:59:19

End at: 2018-09-06 12:59:49

Local clock offset: -0.121 ms

Remote clock offset: -0.25 ms

Below is generated by plot.py at 2018-09-06 15:10:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 341.88 Mbit/s

95th percentile per-packet one-way delay: 156.315 ms

Loss rate: 0.03%

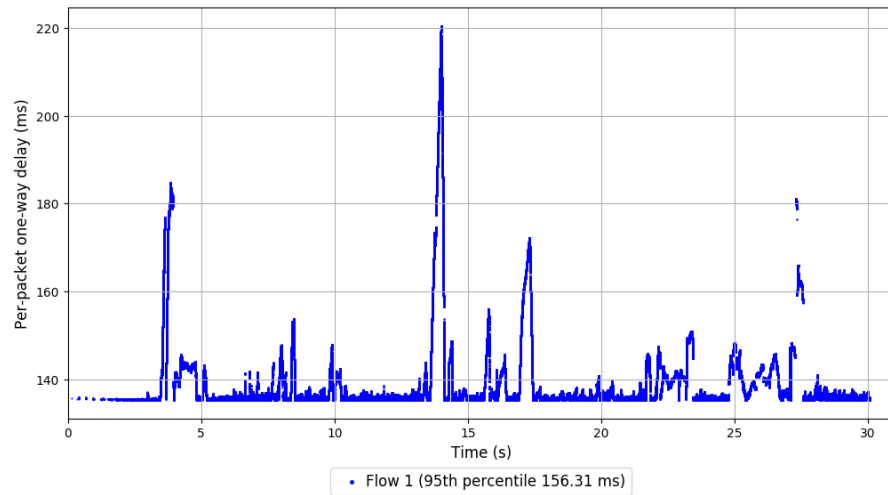
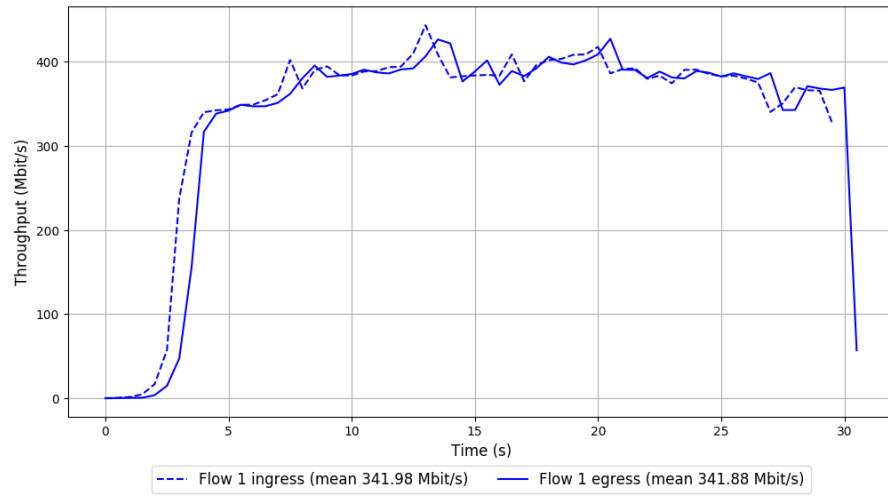
-- Flow 1:

Average throughput: 341.88 Mbit/s

95th percentile per-packet one-way delay: 156.315 ms

Loss rate: 0.03%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-06 13:26:11

End at: 2018-09-06 13:26:41

Local clock offset: -0.108 ms

Remote clock offset: 0.099 ms

Below is generated by plot.py at 2018-09-06 15:10:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 263.85 Mbit/s

95th percentile per-packet one-way delay: 241.345 ms

Loss rate: 0.46%

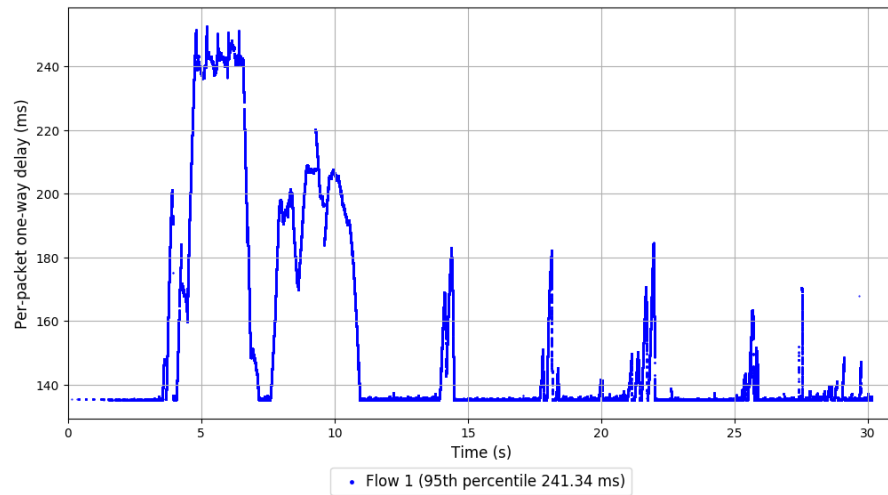
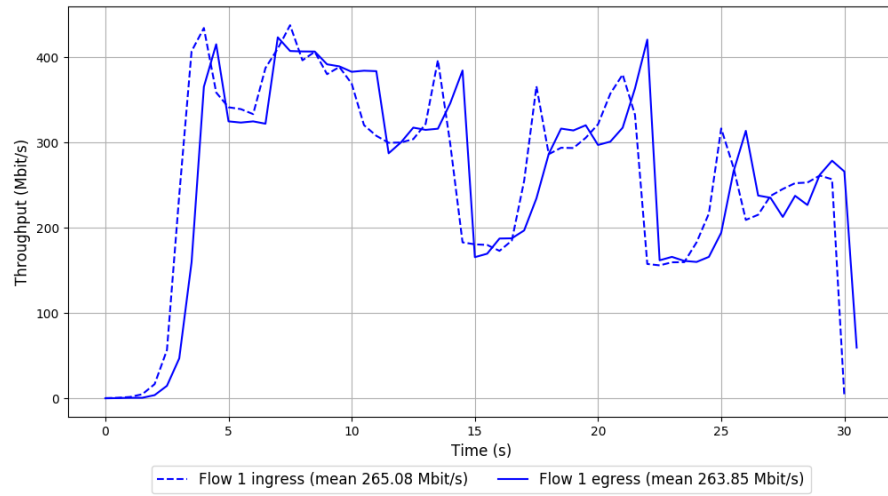
-- Flow 1:

Average throughput: 263.85 Mbit/s

95th percentile per-packet one-way delay: 241.345 ms

Loss rate: 0.46%

Run 2: Report of Copa — Data Link

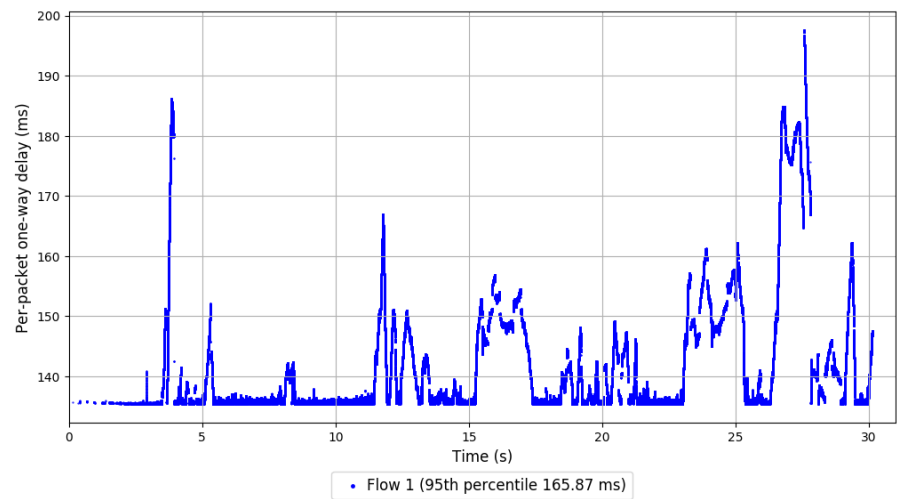
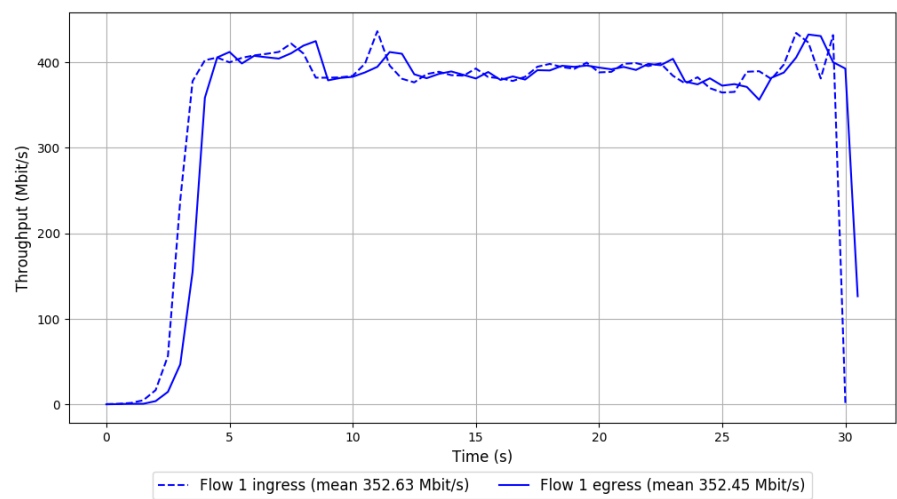


Run 3: Statistics of Copa

Start at: 2018-09-06 13:52:56
End at: 2018-09-06 13:53:26
Local clock offset: -0.154 ms
Remote clock offset: -0.206 ms

Below is generated by plot.py at 2018-09-06 15:10:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 352.45 Mbit/s
95th percentile per-packet one-way delay: 165.866 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 352.45 Mbit/s
95th percentile per-packet one-way delay: 165.866 ms
Loss rate: 0.05%

Run 3: Report of Copa — Data Link

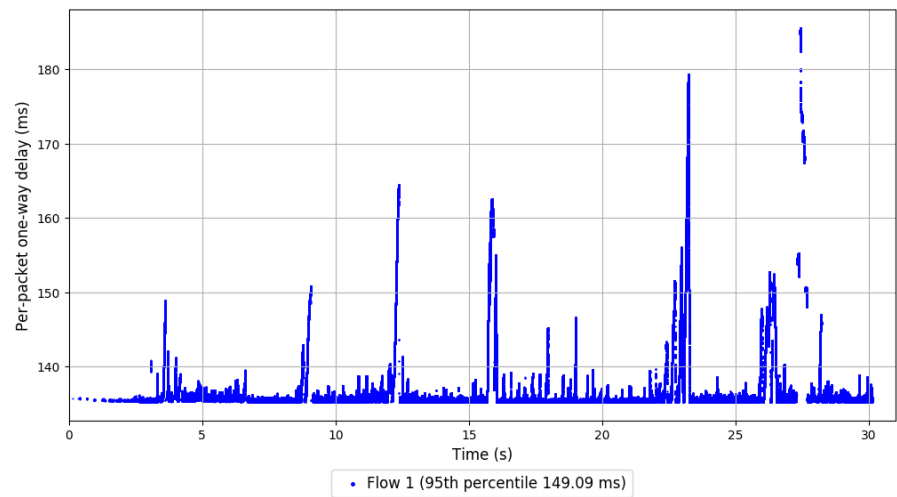
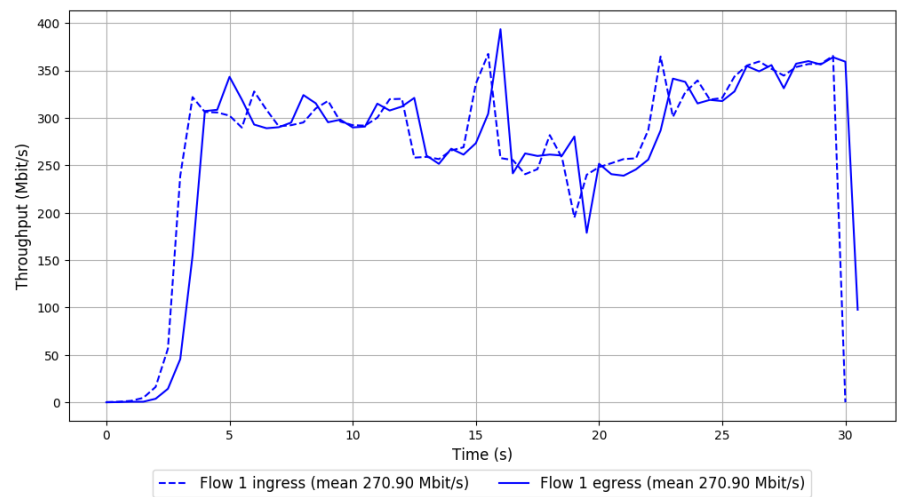


Run 4: Statistics of Copa

Start at: 2018-09-06 14:19:50
End at: 2018-09-06 14:20:20
Local clock offset: -0.293 ms
Remote clock offset: -0.267 ms

Below is generated by plot.py at 2018-09-06 15:16:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 270.90 Mbit/s
95th percentile per-packet one-way delay: 149.085 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 270.90 Mbit/s
95th percentile per-packet one-way delay: 149.085 ms
Loss rate: 0.00%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-06 14:47:01

End at: 2018-09-06 14:47:31

Local clock offset: -0.143 ms

Remote clock offset: 0.191 ms

Below is generated by plot.py at 2018-09-06 15:18:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 361.26 Mbit/s

95th percentile per-packet one-way delay: 173.050 ms

Loss rate: 0.06%

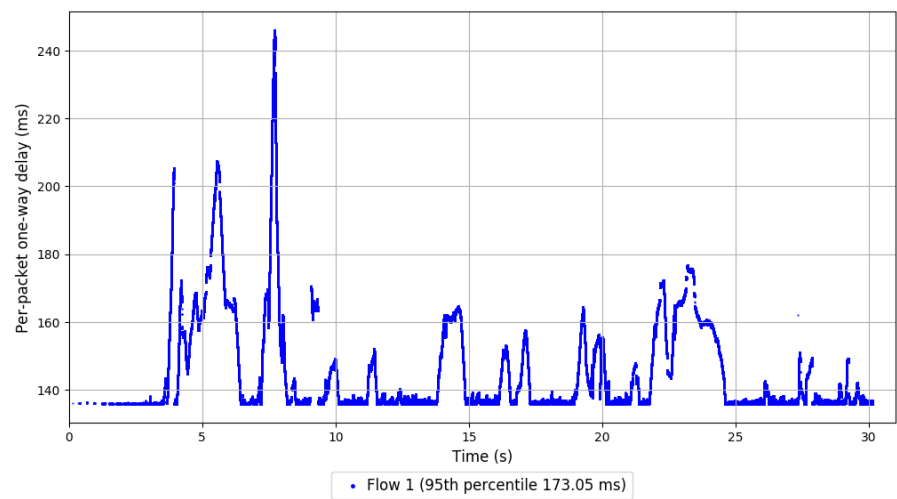
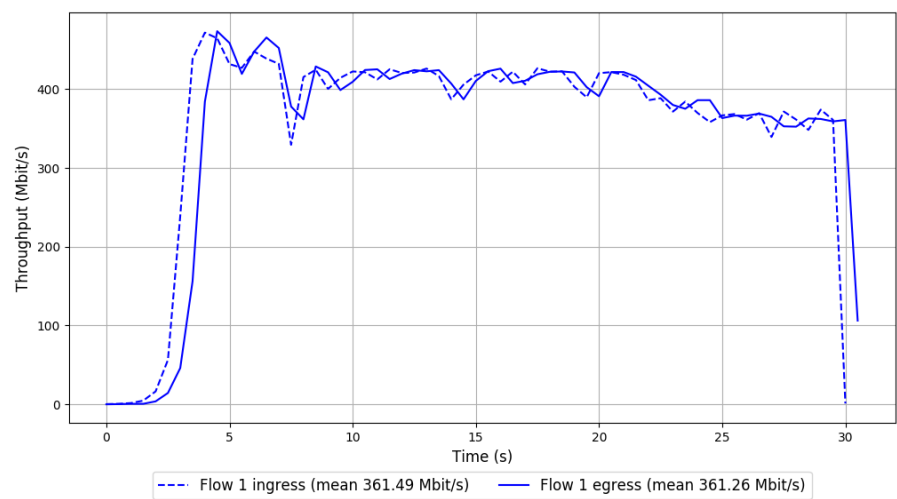
-- Flow 1:

Average throughput: 361.26 Mbit/s

95th percentile per-packet one-way delay: 173.050 ms

Loss rate: 0.06%

Run 5: Report of Copa — Data Link

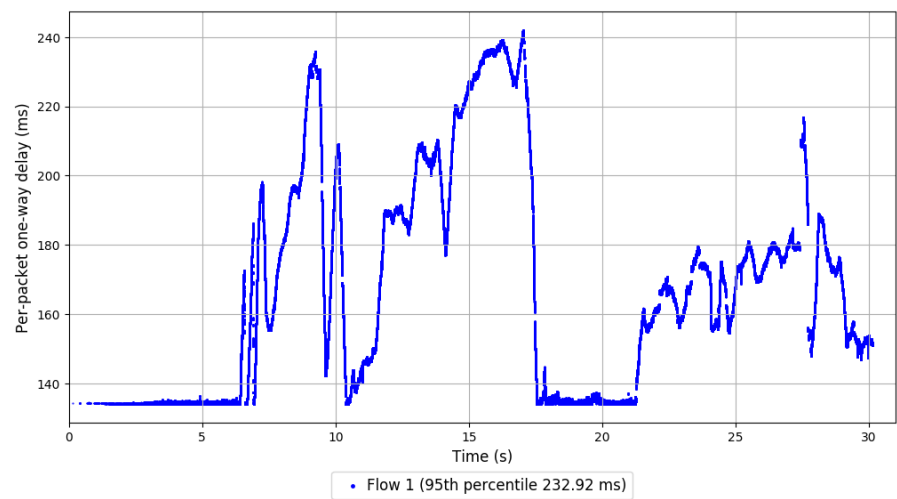
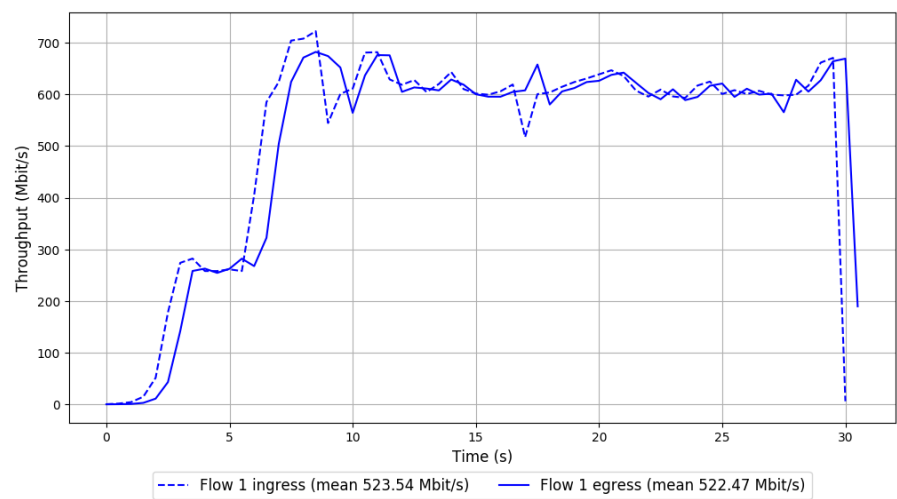


Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 13:02:33
End at: 2018-09-06 13:03:03
Local clock offset: -0.187 ms
Remote clock offset: -0.271 ms

Below is generated by plot.py at 2018-09-06 15:18:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 522.47 Mbit/s
95th percentile per-packet one-way delay: 232.919 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 522.47 Mbit/s
95th percentile per-packet one-way delay: 232.919 ms
Loss rate: 0.20%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 13:29:18

End at: 2018-09-06 13:29:48

Local clock offset: -0.086 ms

Remote clock offset: 0.085 ms

Below is generated by plot.py at 2018-09-06 15:18:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 564.07 Mbit/s

95th percentile per-packet one-way delay: 231.415 ms

Loss rate: 0.19%

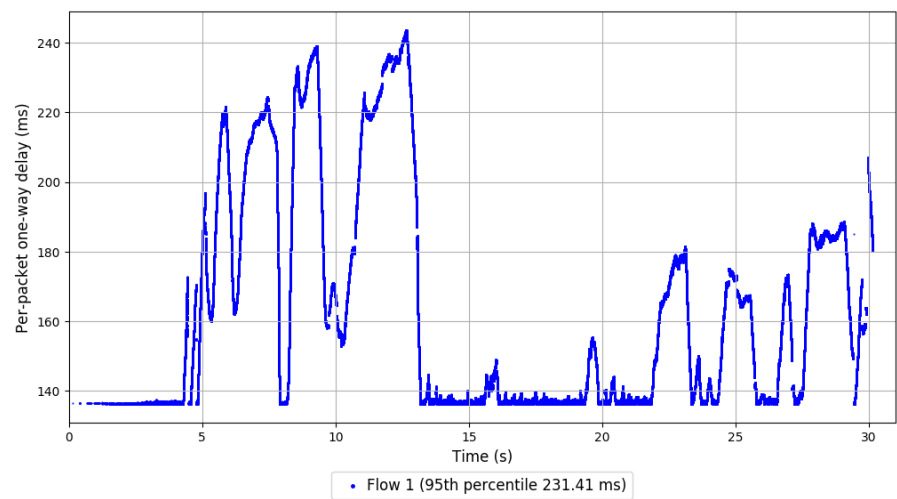
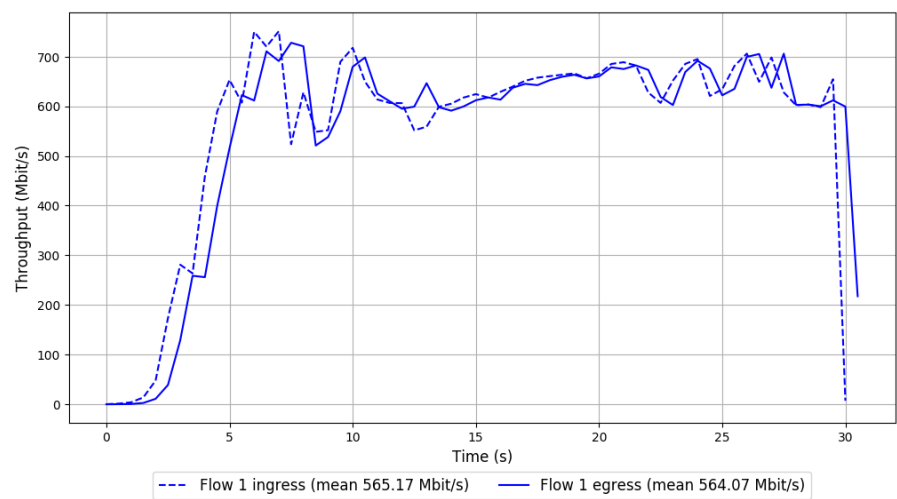
-- Flow 1:

Average throughput: 564.07 Mbit/s

95th percentile per-packet one-way delay: 231.415 ms

Loss rate: 0.19%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 13:56:11

End at: 2018-09-06 13:56:41

Local clock offset: -0.031 ms

Remote clock offset: 0.499 ms

Below is generated by plot.py at 2018-09-06 15:18:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 524.91 Mbit/s

95th percentile per-packet one-way delay: 222.295 ms

Loss rate: 0.18%

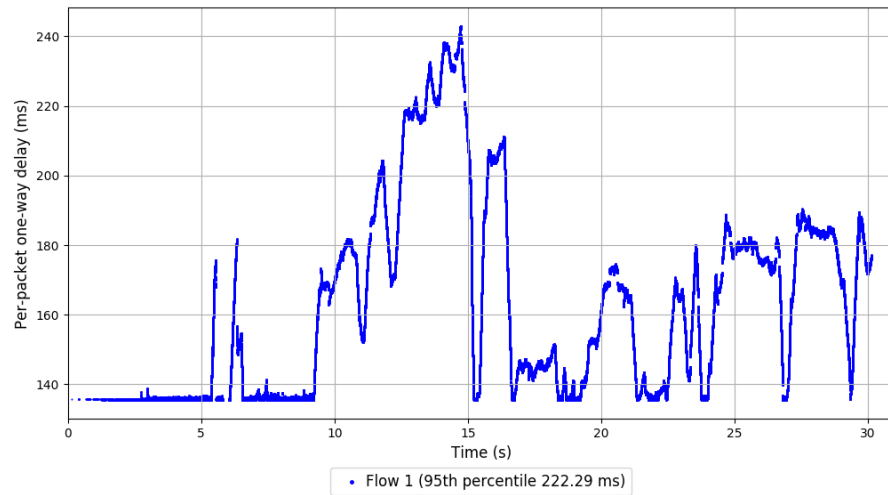
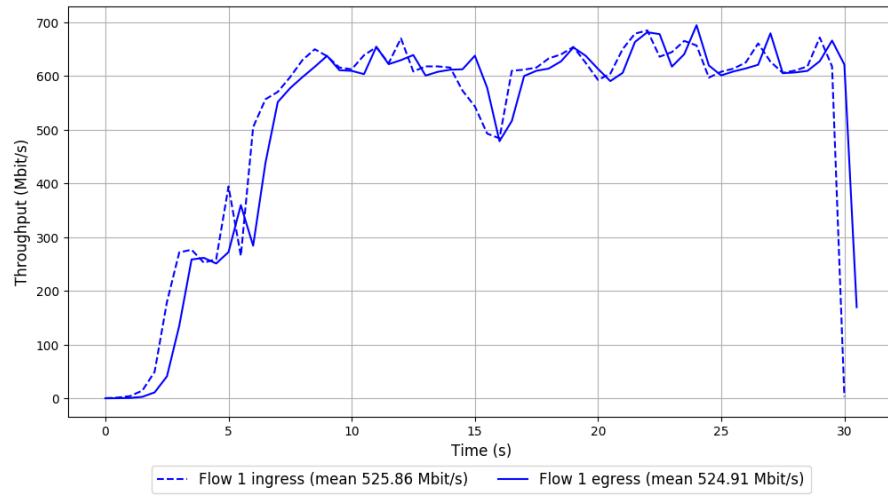
-- Flow 1:

Average throughput: 524.91 Mbit/s

95th percentile per-packet one-way delay: 222.295 ms

Loss rate: 0.18%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 14:23:00

End at: 2018-09-06 14:23:30

Local clock offset: -0.051 ms

Remote clock offset: 0.13 ms

Below is generated by plot.py at 2018-09-06 15:18:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 519.15 Mbit/s

95th percentile per-packet one-way delay: 153.431 ms

Loss rate: 0.00%

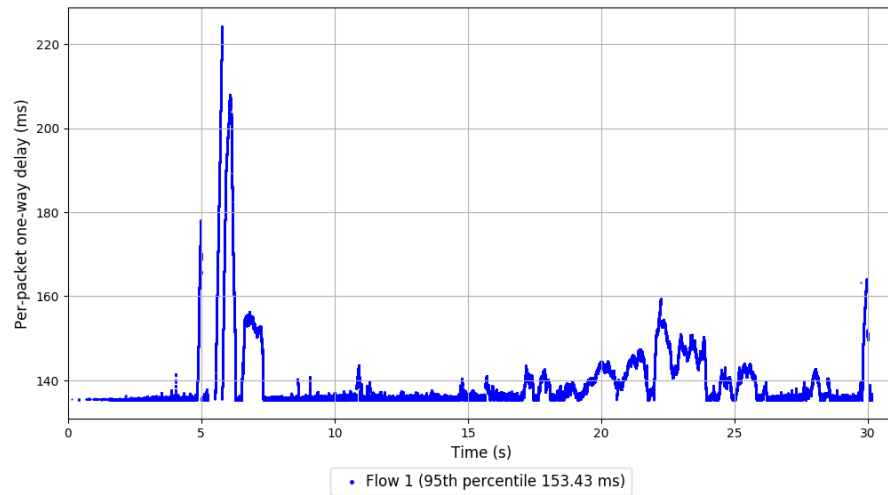
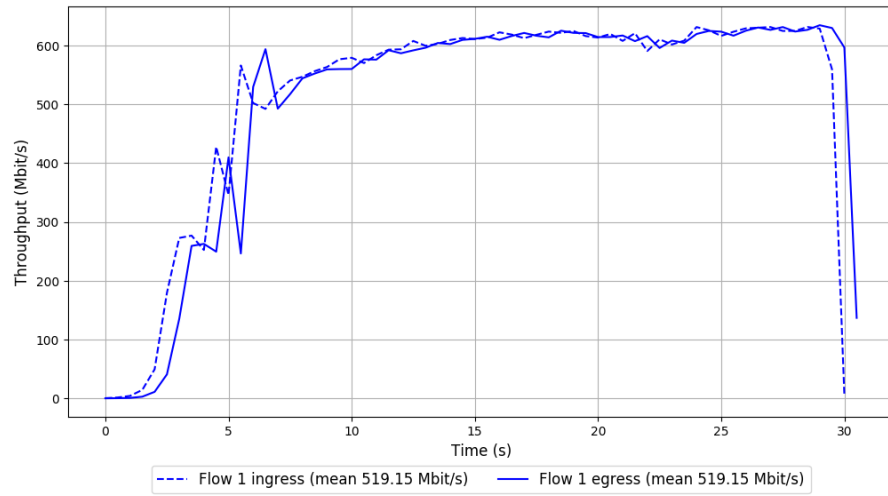
-- Flow 1:

Average throughput: 519.15 Mbit/s

95th percentile per-packet one-way delay: 153.431 ms

Loss rate: 0.00%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 14:50:19

End at: 2018-09-06 14:50:49

Local clock offset: -0.207 ms

Remote clock offset: 0.142 ms

Below is generated by plot.py at 2018-09-06 15:18:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 429.22 Mbit/s

95th percentile per-packet one-way delay: 230.644 ms

Loss rate: 0.14%

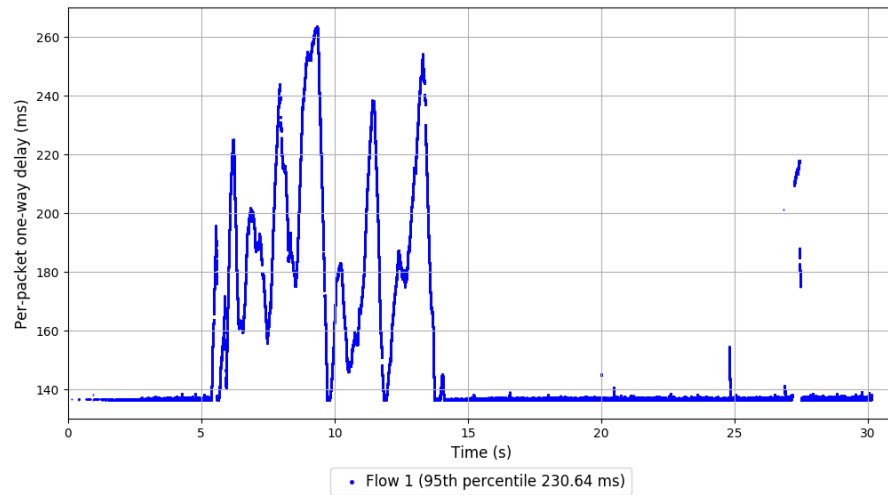
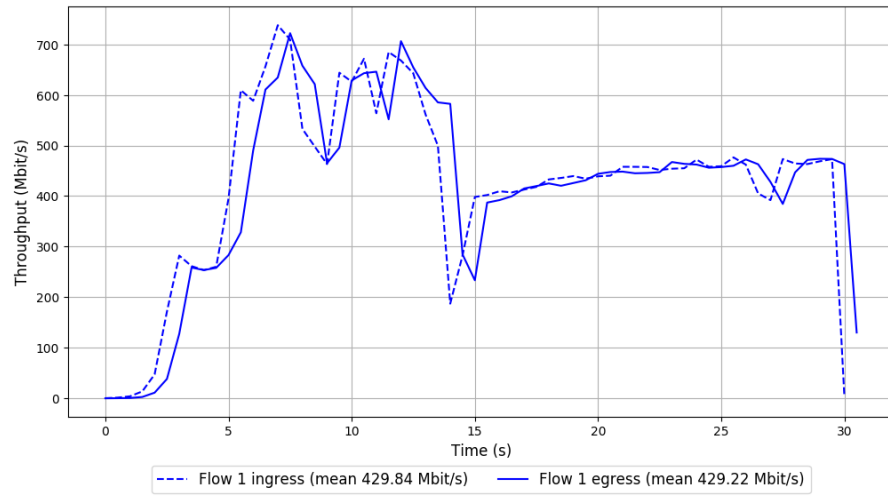
-- Flow 1:

Average throughput: 429.22 Mbit/s

95th percentile per-packet one-way delay: 230.644 ms

Loss rate: 0.14%

Run 5: Report of TCP Cubic — Data Link

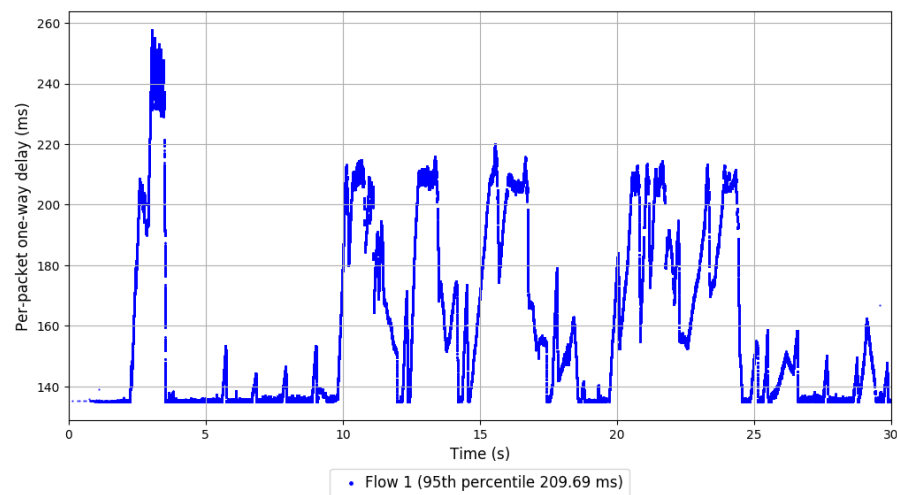
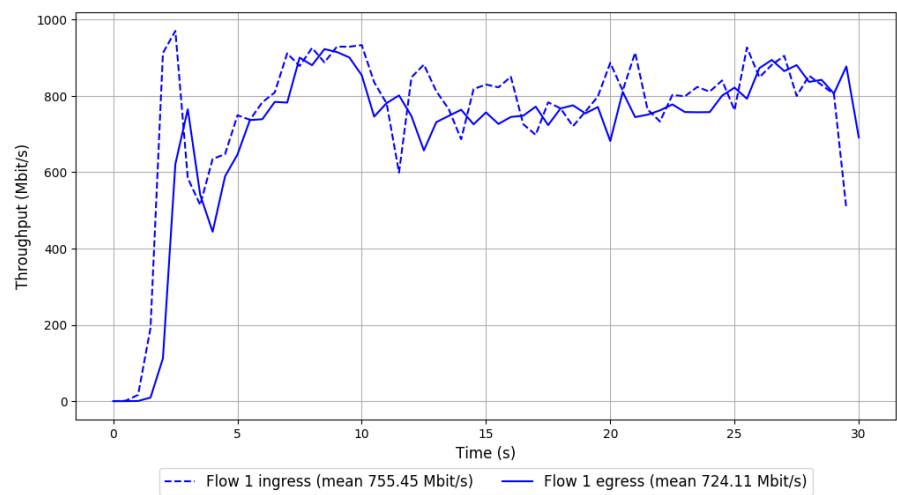


Run 1: Statistics of FillP

Start at: 2018-09-06 12:40:15
End at: 2018-09-06 12:40:45
Local clock offset: -0.028 ms
Remote clock offset: -0.228 ms

Below is generated by plot.py at 2018-09-06 15:24:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 724.11 Mbit/s
95th percentile per-packet one-way delay: 209.694 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 724.11 Mbit/s
95th percentile per-packet one-way delay: 209.694 ms
Loss rate: 4.15%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-06 13:07:00

End at: 2018-09-06 13:07:30

Local clock offset: -0.116 ms

Remote clock offset: 0.14 ms

Below is generated by plot.py at 2018-09-06 15:30:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 673.24 Mbit/s

95th percentile per-packet one-way delay: 220.325 ms

Loss rate: 9.37%

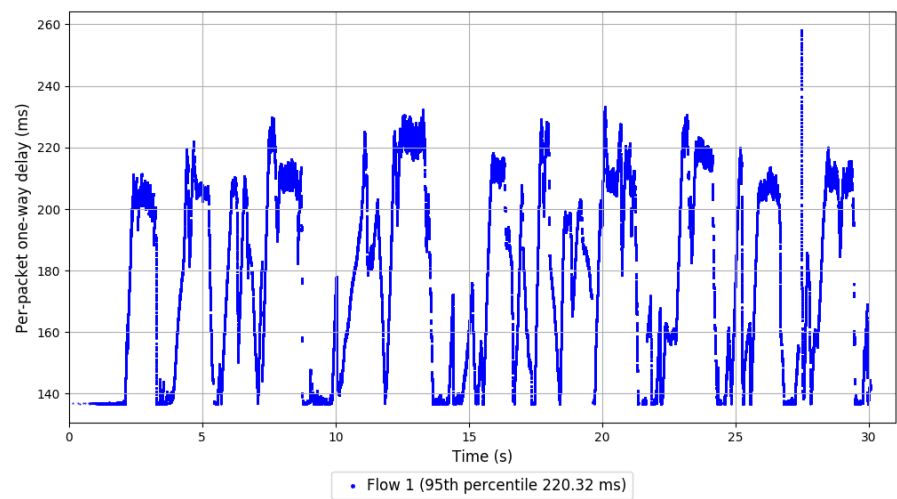
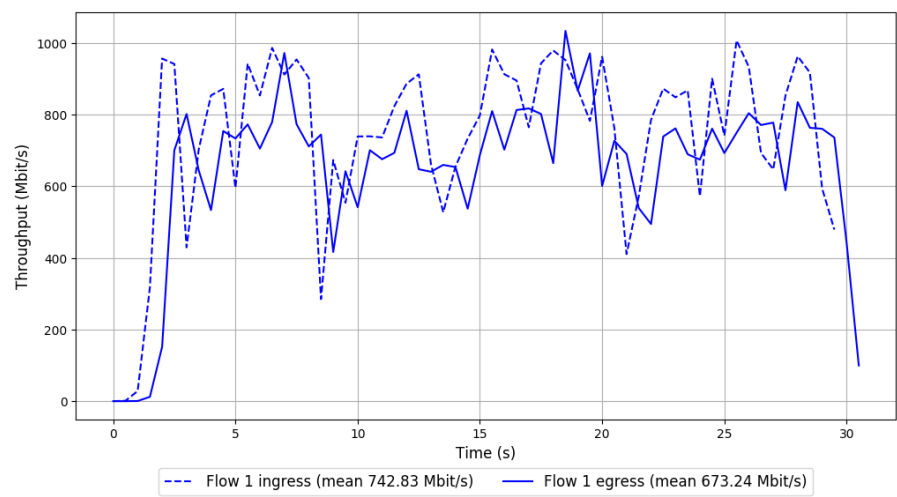
-- Flow 1:

Average throughput: 673.24 Mbit/s

95th percentile per-packet one-way delay: 220.325 ms

Loss rate: 9.37%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-06 13:33:52

End at: 2018-09-06 13:34:22

Local clock offset: 0.063 ms

Remote clock offset: 0.101 ms

Below is generated by plot.py at 2018-09-06 15:32:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 709.14 Mbit/s

95th percentile per-packet one-way delay: 229.893 ms

Loss rate: 5.64%

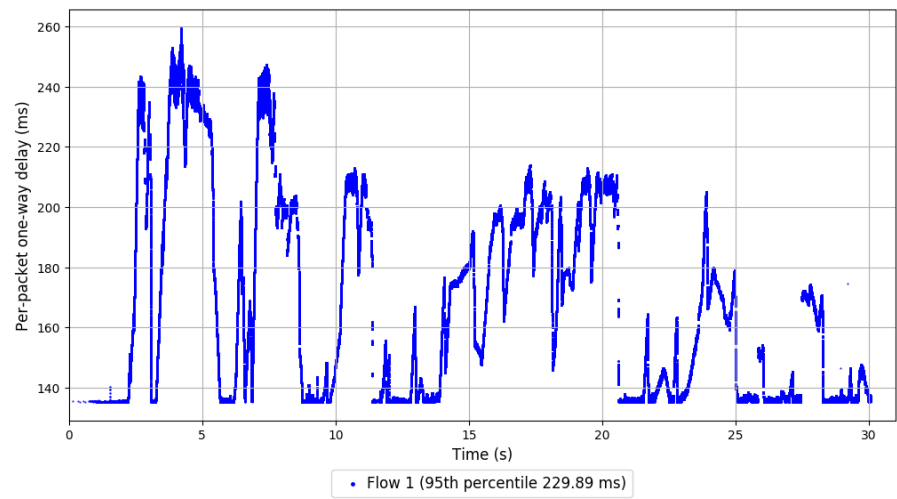
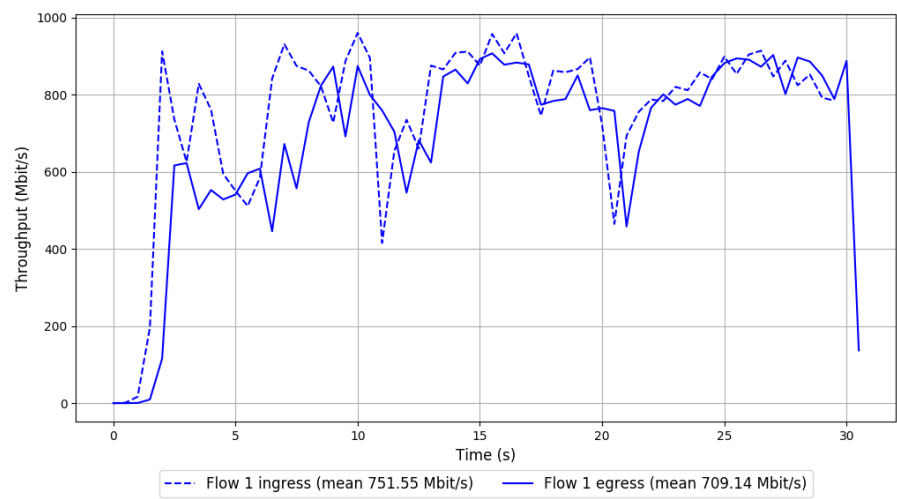
-- Flow 1:

Average throughput: 709.14 Mbit/s

95th percentile per-packet one-way delay: 229.893 ms

Loss rate: 5.64%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-06 14:00:39

End at: 2018-09-06 14:01:09

Local clock offset: -0.044 ms

Remote clock offset: 0.123 ms

Below is generated by plot.py at 2018-09-06 15:32:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 708.97 Mbit/s

95th percentile per-packet one-way delay: 212.208 ms

Loss rate: 6.19%

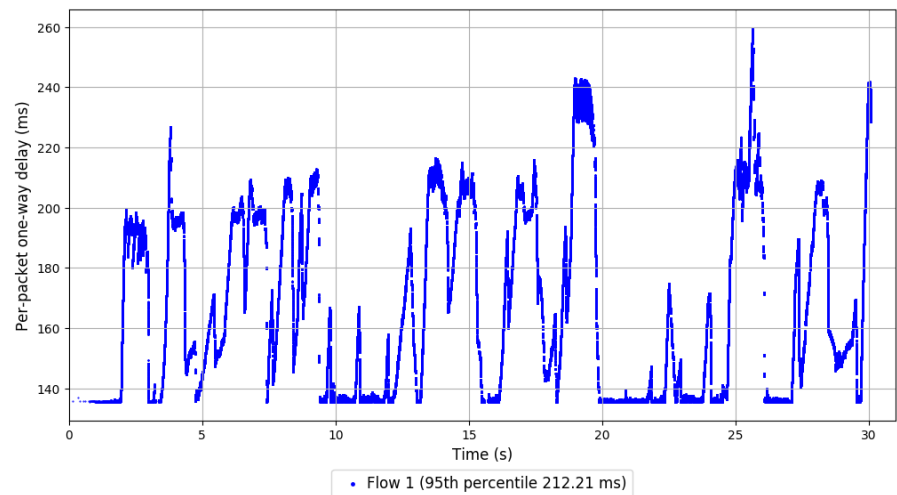
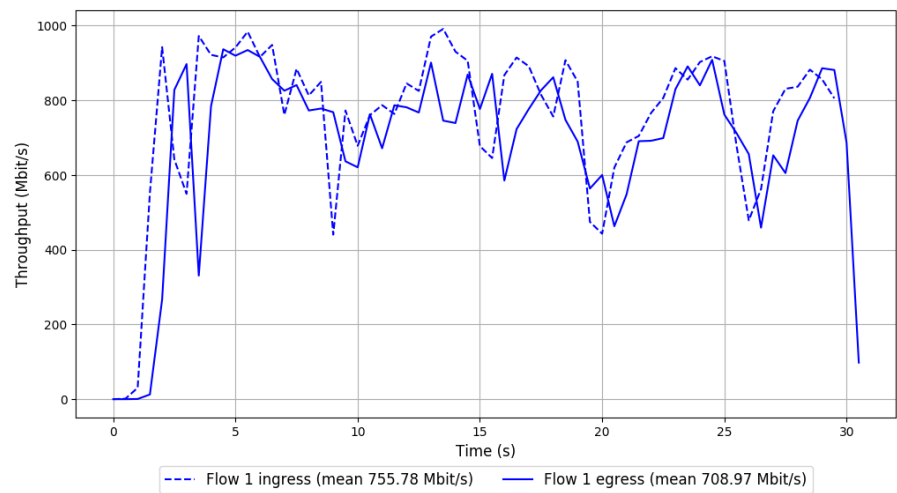
-- Flow 1:

Average throughput: 708.97 Mbit/s

95th percentile per-packet one-way delay: 212.208 ms

Loss rate: 6.19%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-06 14:27:27

End at: 2018-09-06 14:27:57

Local clock offset: -0.198 ms

Remote clock offset: 0.425 ms

Below is generated by plot.py at 2018-09-06 15:35:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 871.26 Mbit/s

95th percentile per-packet one-way delay: 188.463 ms

Loss rate: 0.74%

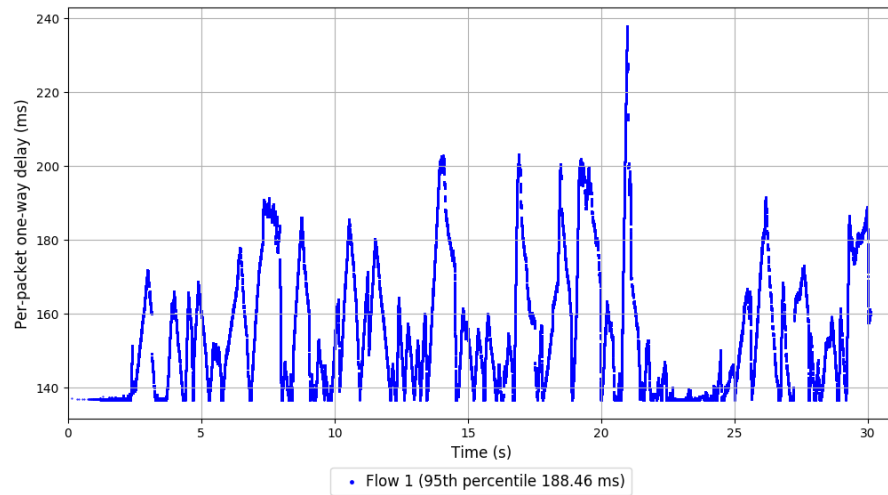
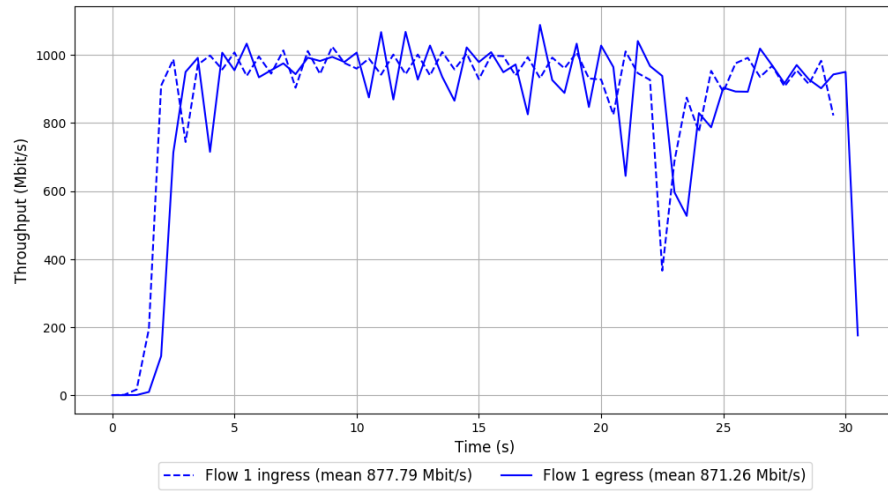
-- Flow 1:

Average throughput: 871.26 Mbit/s

95th percentile per-packet one-way delay: 188.463 ms

Loss rate: 0.74%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 12:41:58

End at: 2018-09-06 12:42:28

Local clock offset: -0.23 ms

Remote clock offset: -0.235 ms

Below is generated by plot.py at 2018-09-06 15:35:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 744.87 Mbit/s

95th percentile per-packet one-way delay: 206.288 ms

Loss rate: 3.14%

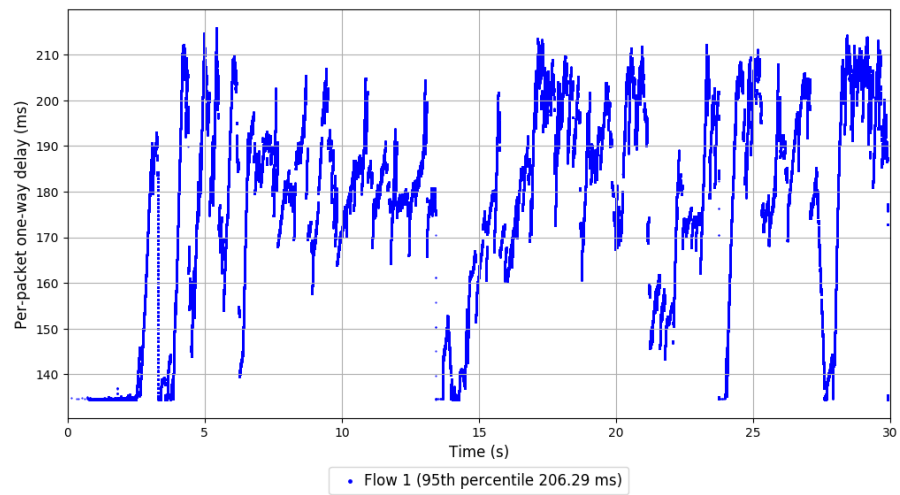
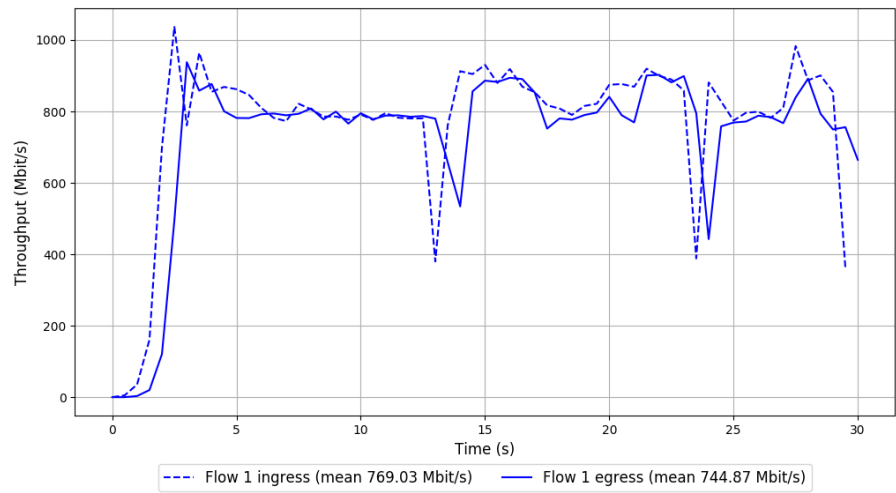
-- Flow 1:

Average throughput: 744.87 Mbit/s

95th percentile per-packet one-way delay: 206.288 ms

Loss rate: 3.14%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 13:08:41

End at: 2018-09-06 13:09:11

Local clock offset: -0.12 ms

Remote clock offset: 0.472 ms

Below is generated by plot.py at 2018-09-06 15:35:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 745.88 Mbit/s

95th percentile per-packet one-way delay: 210.175 ms

Loss rate: 4.33%

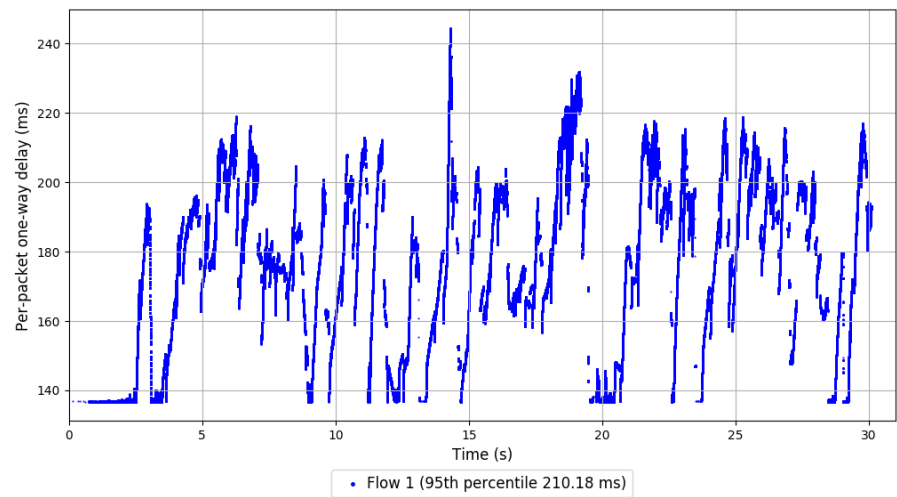
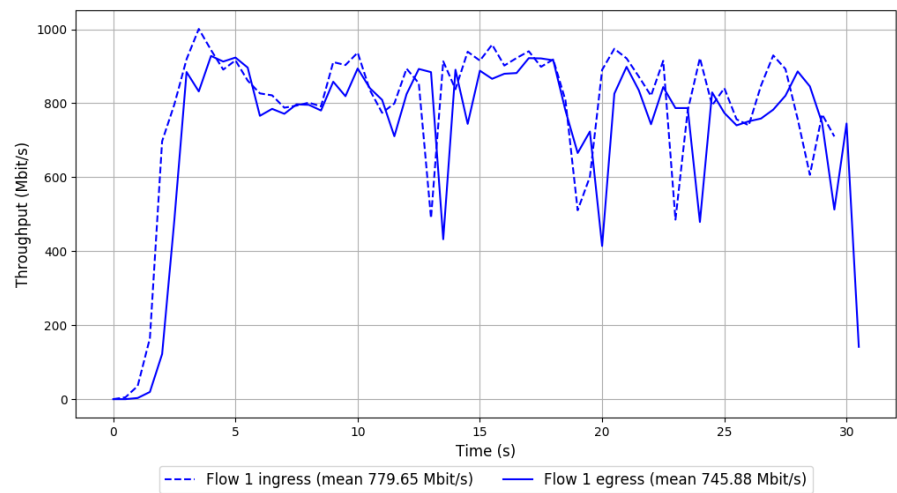
-- Flow 1:

Average throughput: 745.88 Mbit/s

95th percentile per-packet one-way delay: 210.175 ms

Loss rate: 4.33%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 13:35:34

End at: 2018-09-06 13:36:04

Local clock offset: -0.05 ms

Remote clock offset: 0.154 ms

Below is generated by plot.py at 2018-09-06 15:35:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 676.35 Mbit/s

95th percentile per-packet one-way delay: 221.607 ms

Loss rate: 11.53%

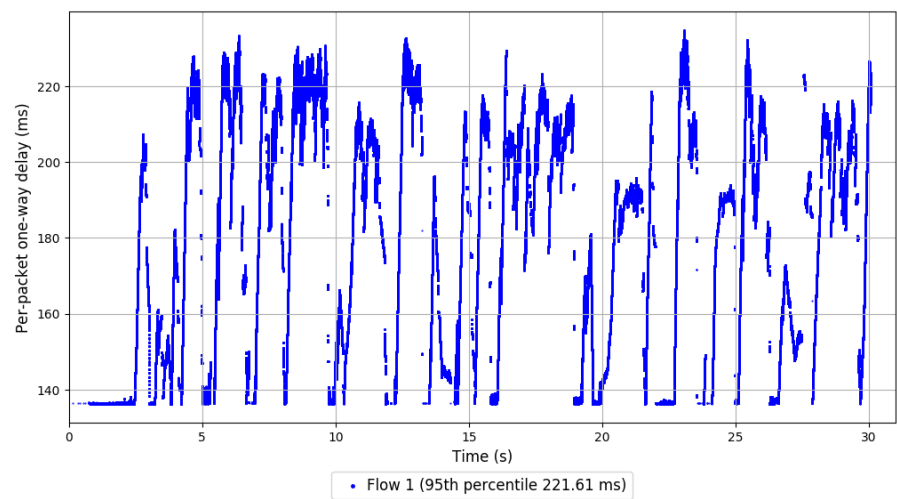
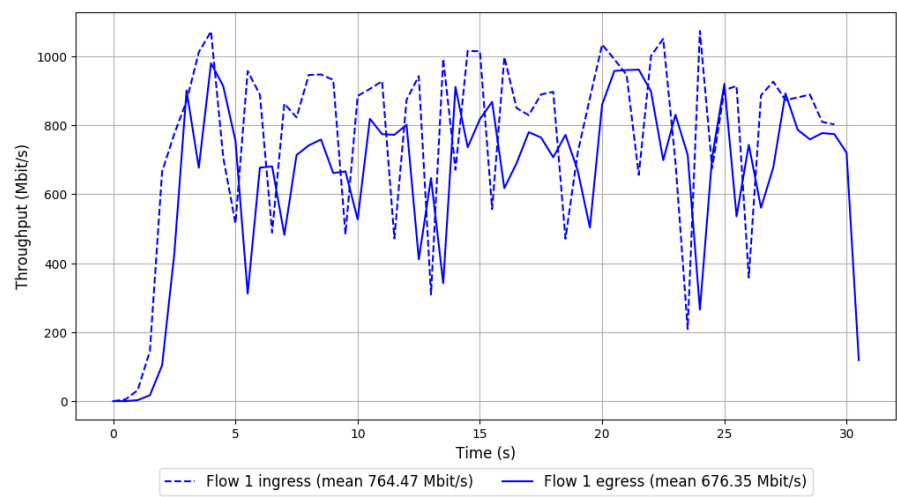
-- Flow 1:

Average throughput: 676.35 Mbit/s

95th percentile per-packet one-way delay: 221.607 ms

Loss rate: 11.53%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 14:02:21

End at: 2018-09-06 14:02:51

Local clock offset: -0.078 ms

Remote clock offset: 0.171 ms

Below is generated by plot.py at 2018-09-06 15:42:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 758.87 Mbit/s

95th percentile per-packet one-way delay: 204.561 ms

Loss rate: 4.78%

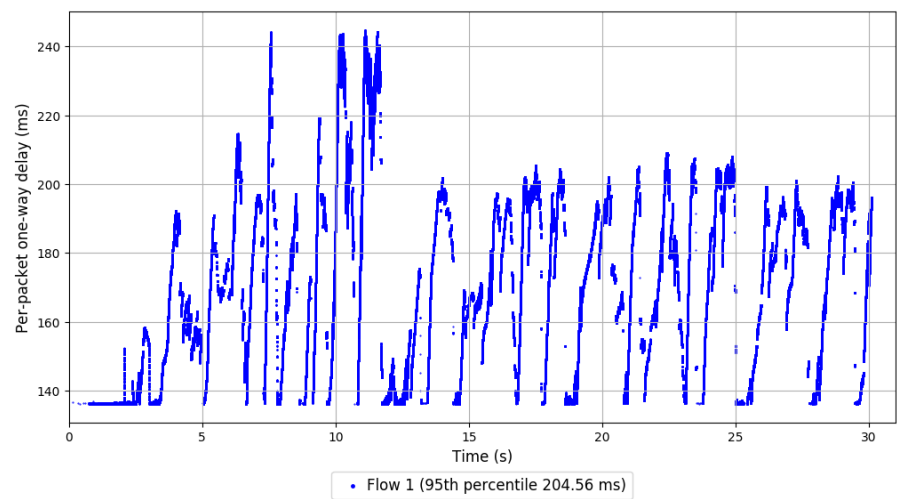
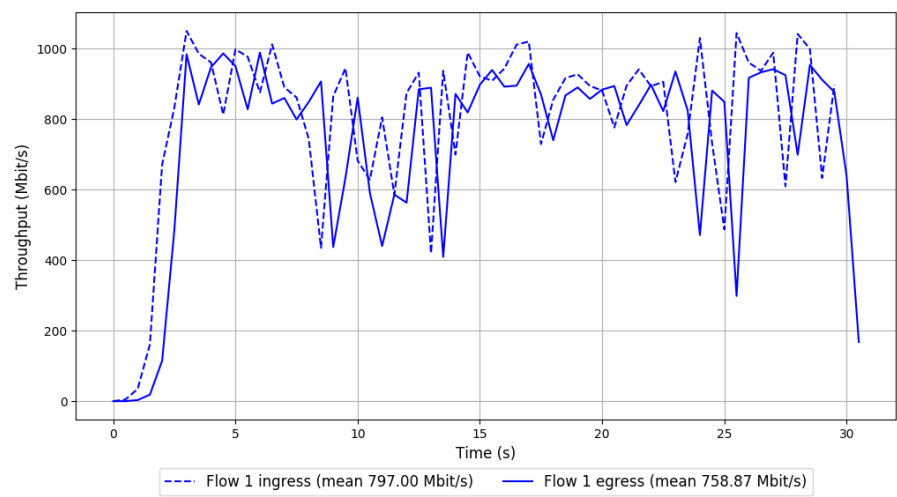
-- Flow 1:

Average throughput: 758.87 Mbit/s

95th percentile per-packet one-way delay: 204.561 ms

Loss rate: 4.78%

Run 4: Report of FillP-Sheep — Data Link

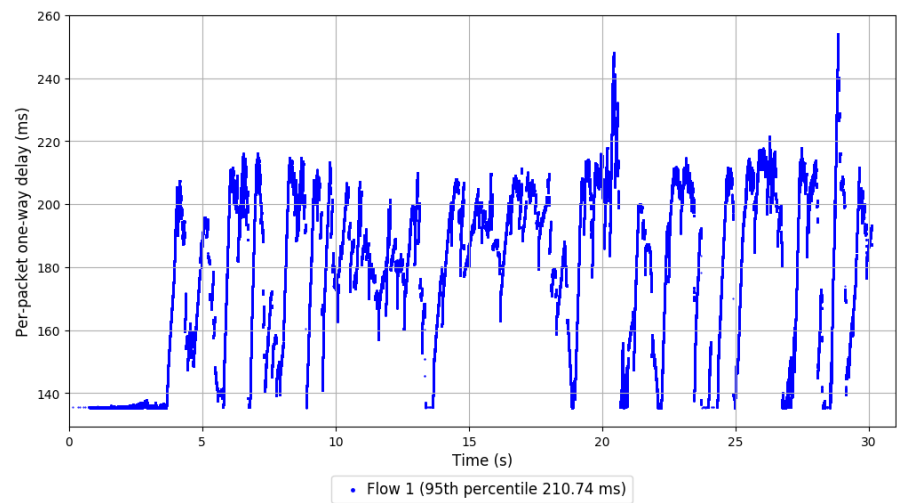
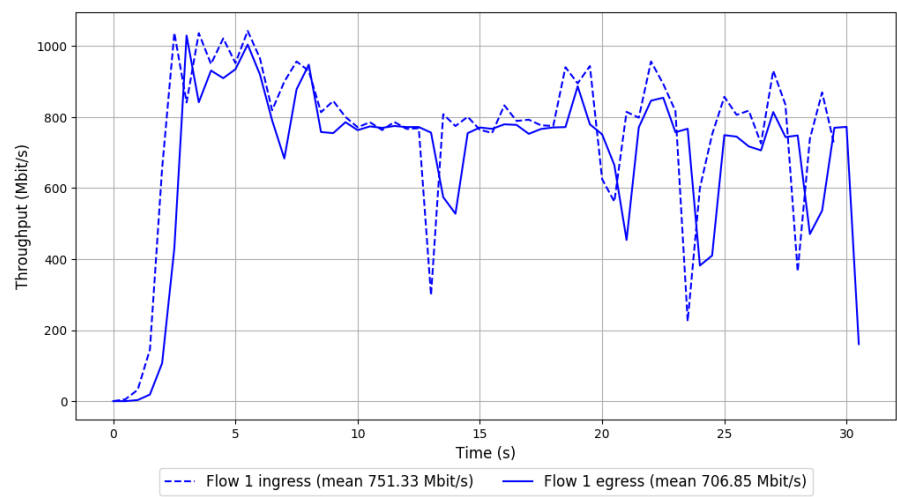


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 14:29:16
End at: 2018-09-06 14:29:46
Local clock offset: -0.165 ms
Remote clock offset: -0.236 ms

Below is generated by plot.py at 2018-09-06 15:45:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 706.85 Mbit/s
95th percentile per-packet one-way delay: 210.740 ms
Loss rate: 5.92%
-- Flow 1:
Average throughput: 706.85 Mbit/s
95th percentile per-packet one-way delay: 210.740 ms
Loss rate: 5.92%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-06 12:51:41

End at: 2018-09-06 12:52:11

Local clock offset: -0.107 ms

Remote clock offset: 0.154 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 182.24 Mbit/s

95th percentile per-packet one-way delay: 136.937 ms

Loss rate: 0.01%

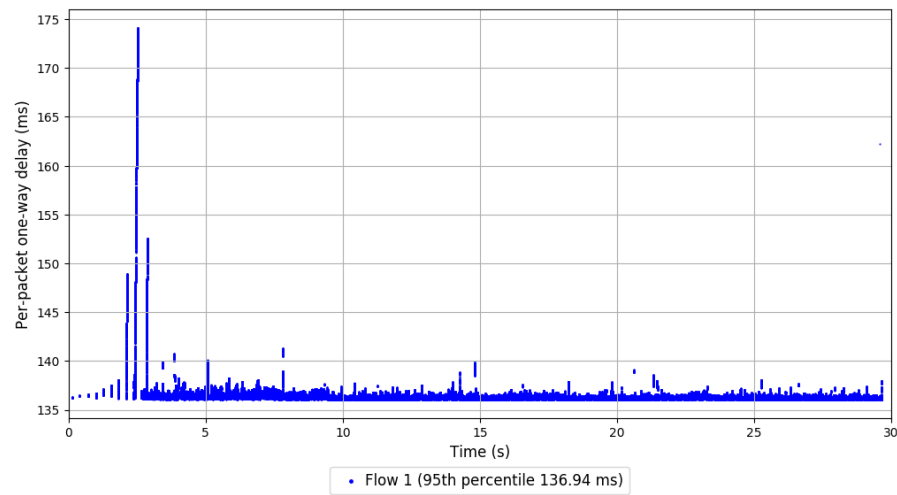
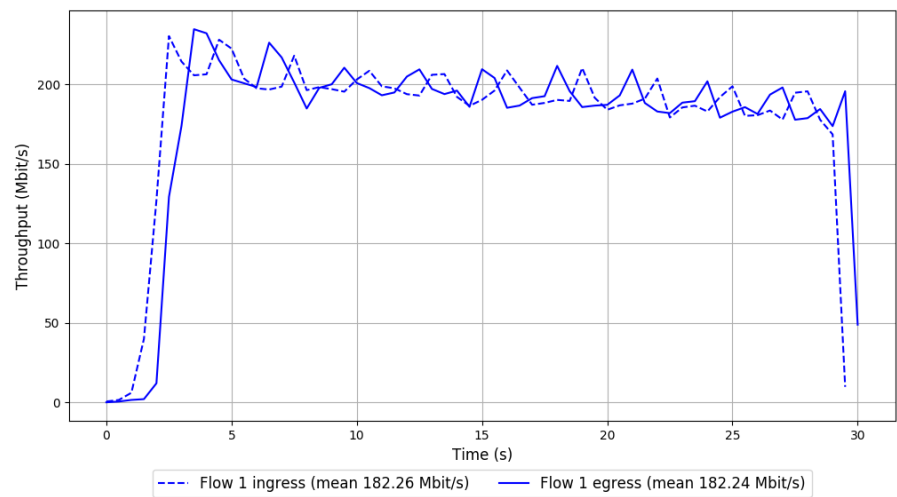
-- Flow 1:

Average throughput: 182.24 Mbit/s

95th percentile per-packet one-way delay: 136.937 ms

Loss rate: 0.01%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-06 13:18:45

End at: 2018-09-06 13:19:15

Local clock offset: 0.028 ms

Remote clock offset: 0.1 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 180.18 Mbit/s

95th percentile per-packet one-way delay: 136.592 ms

Loss rate: 0.00%

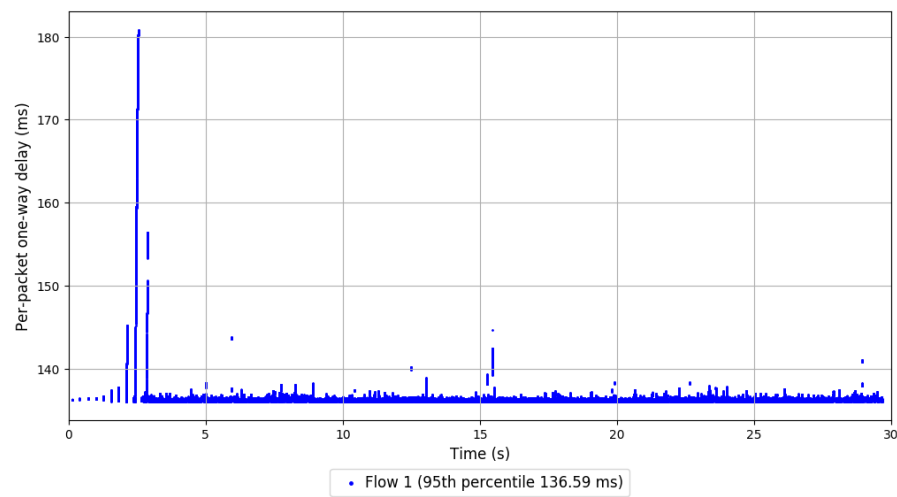
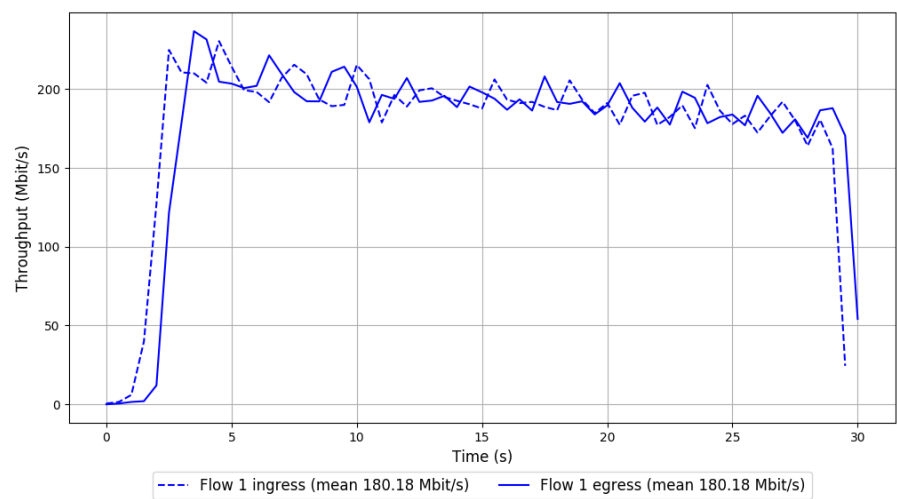
-- Flow 1:

Average throughput: 180.18 Mbit/s

95th percentile per-packet one-way delay: 136.592 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-06 13:45:24

End at: 2018-09-06 13:45:54

Local clock offset: -0.157 ms

Remote clock offset: 0.147 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 185.56 Mbit/s

95th percentile per-packet one-way delay: 136.177 ms

Loss rate: 0.00%

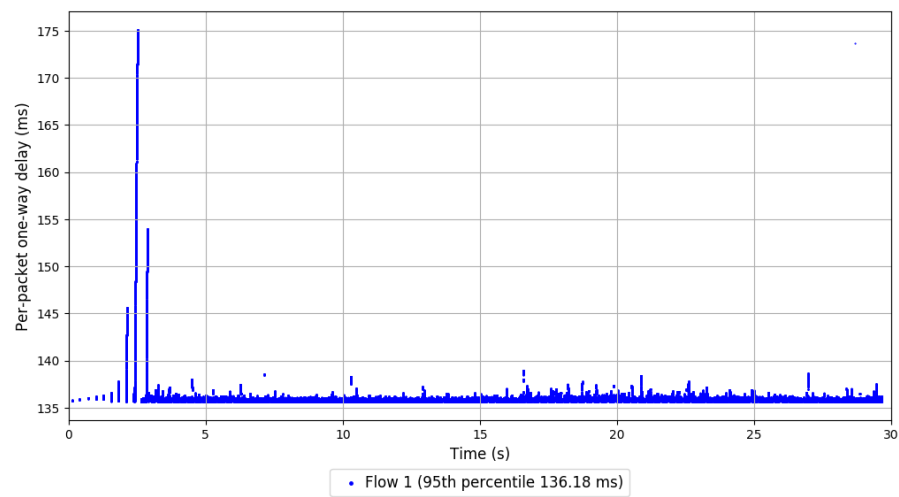
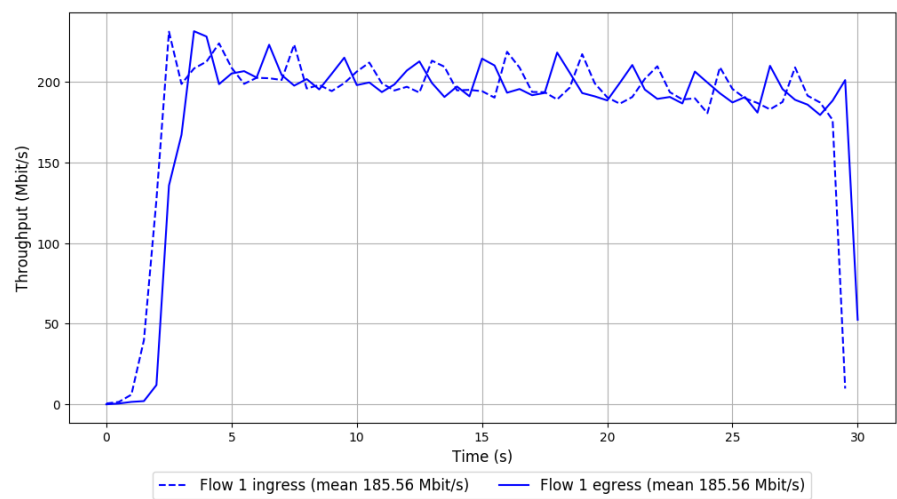
-- Flow 1:

Average throughput: 185.56 Mbit/s

95th percentile per-packet one-way delay: 136.177 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-06 14:12:11

End at: 2018-09-06 14:12:41

Local clock offset: -0.303 ms

Remote clock offset: 0.111 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 182.74 Mbit/s

95th percentile per-packet one-way delay: 136.886 ms

Loss rate: 0.00%

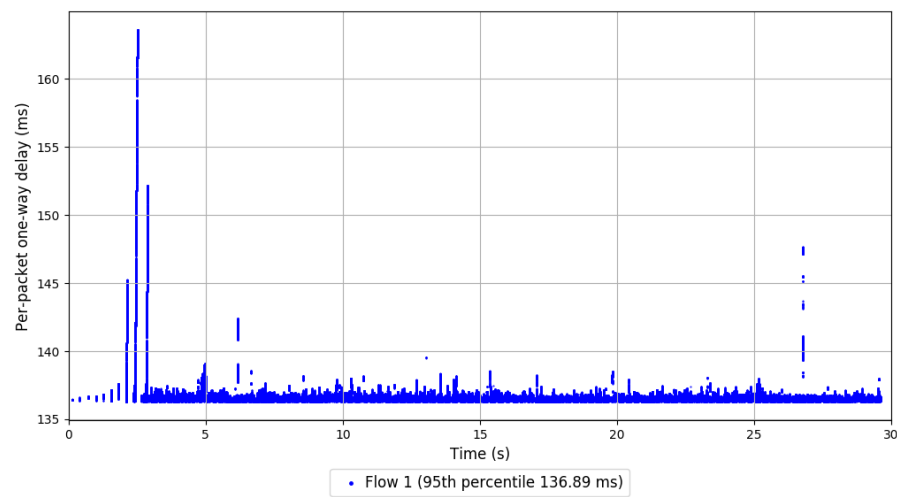
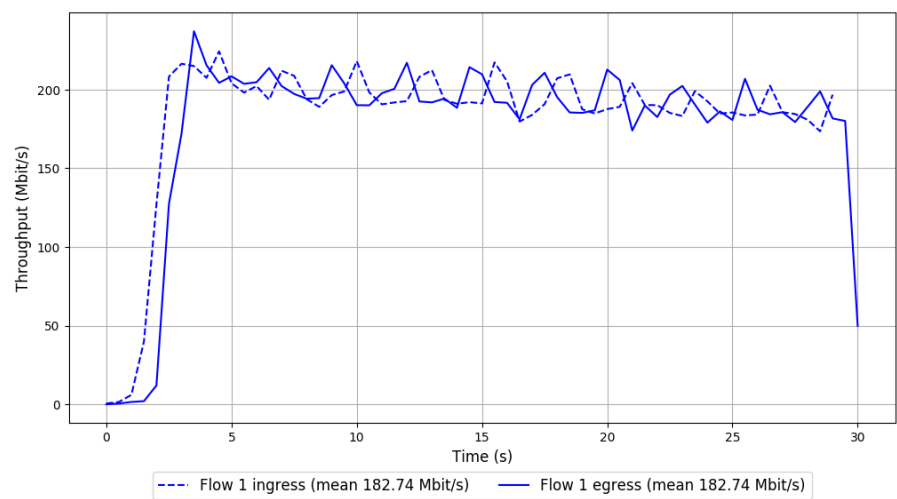
-- Flow 1:

Average throughput: 182.74 Mbit/s

95th percentile per-packet one-way delay: 136.886 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-06 14:39:19

End at: 2018-09-06 14:39:49

Local clock offset: -0.097 ms

Remote clock offset: 0.107 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 182.45 Mbit/s

95th percentile per-packet one-way delay: 136.672 ms

Loss rate: 0.00%

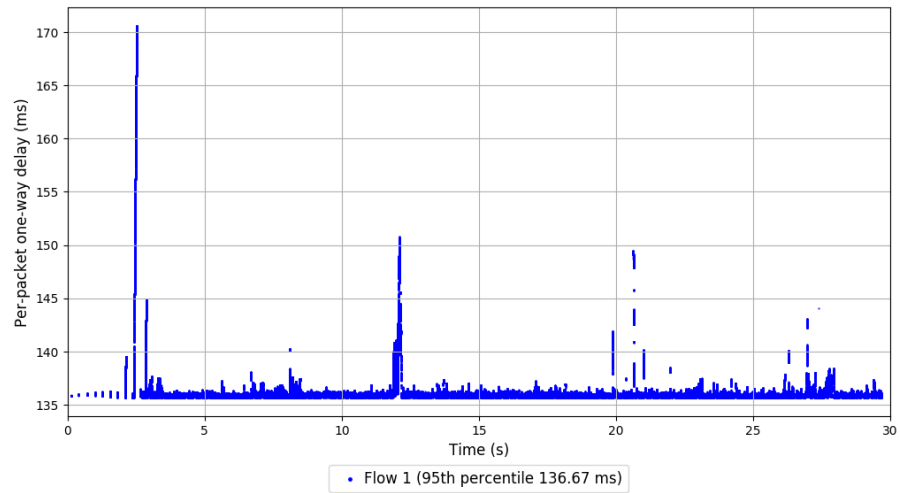
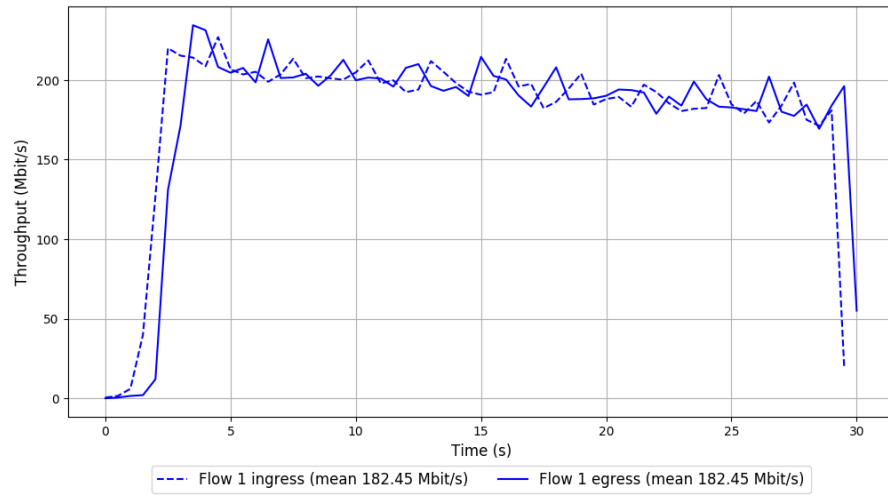
-- Flow 1:

Average throughput: 182.45 Mbit/s

95th percentile per-packet one-way delay: 136.672 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

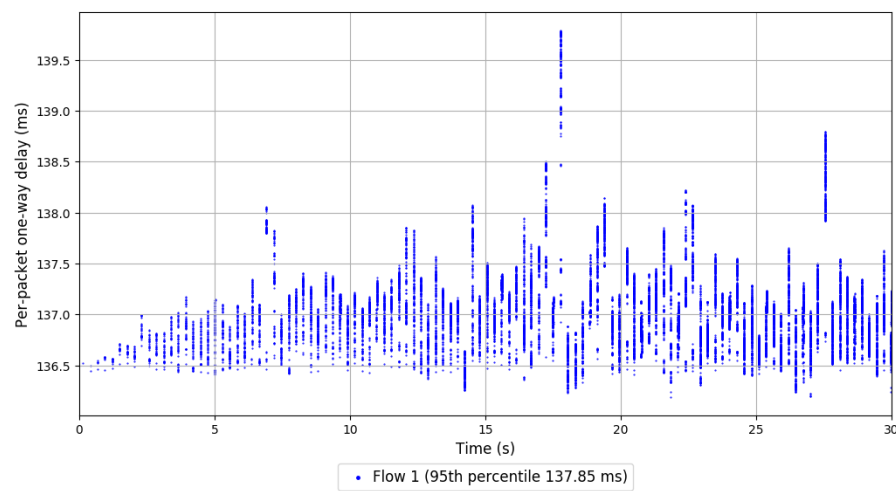
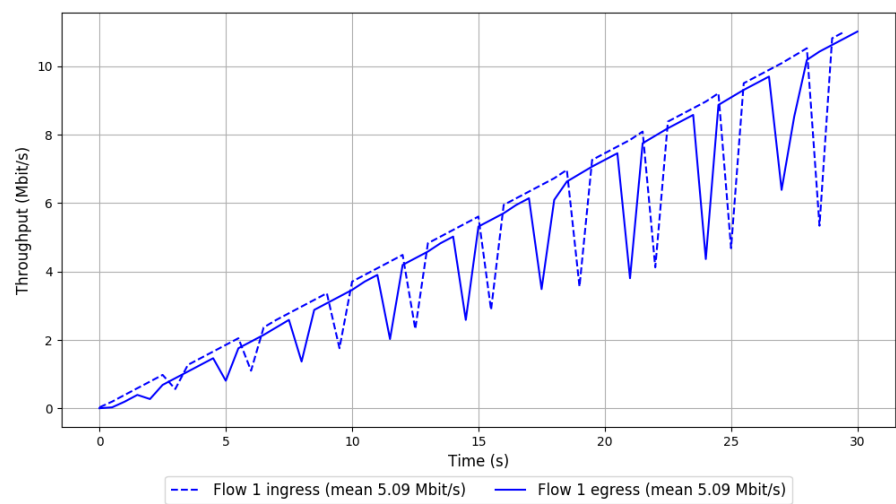


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 12:46:09
End at: 2018-09-06 12:46:39
Local clock offset: -0.276 ms
Remote clock offset: 0.458 ms

# Below is generated by plot.py at 2018-09-06 15:45:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 137.848 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 137.848 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

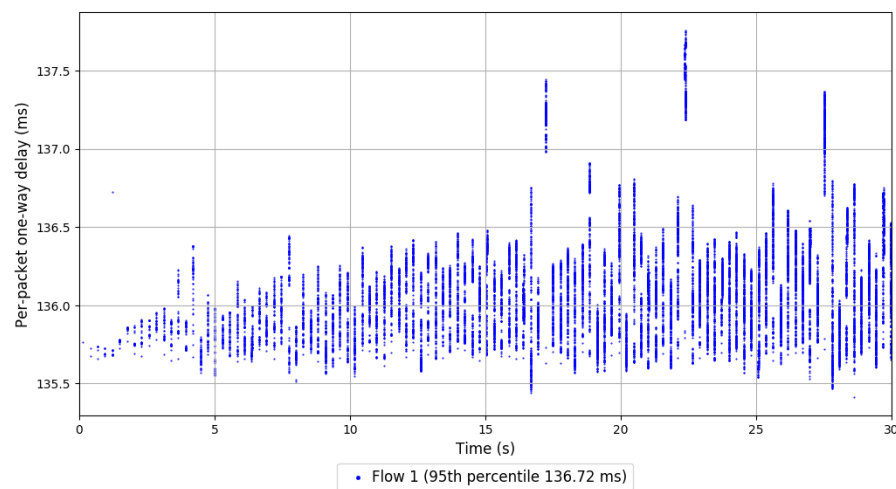
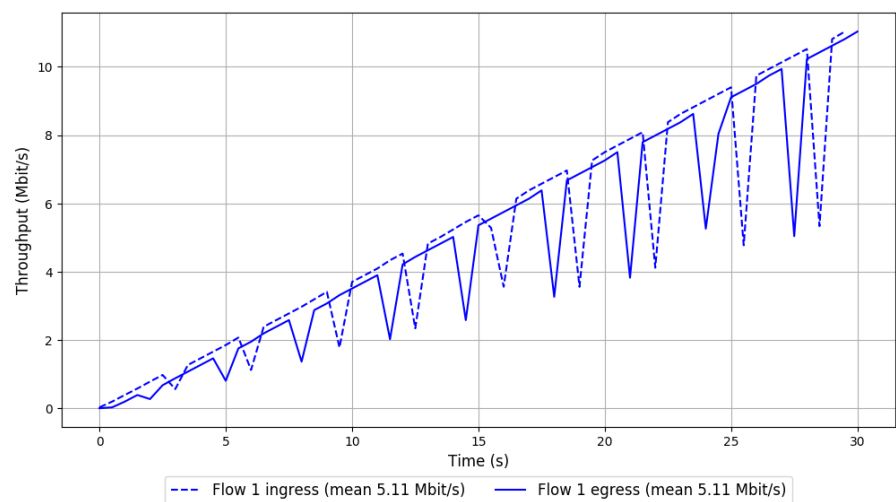


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 13:13:03
End at: 2018-09-06 13:13:33
Local clock offset: -0.228 ms
Remote clock offset: -0.241 ms

Below is generated by plot.py at 2018-09-06 15:45:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-06 13:39:43

End at: 2018-09-06 13:40:13

Local clock offset: 0.02 ms

Remote clock offset: 0.108 ms

Below is generated by plot.py at 2018-09-06 15:45:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.09 Mbit/s

95th percentile per-packet one-way delay: 137.089 ms

Loss rate: 0.00%

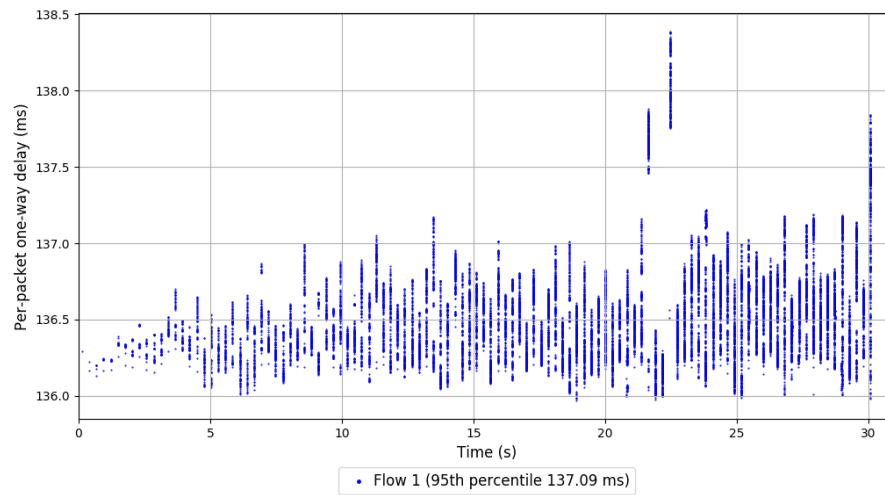
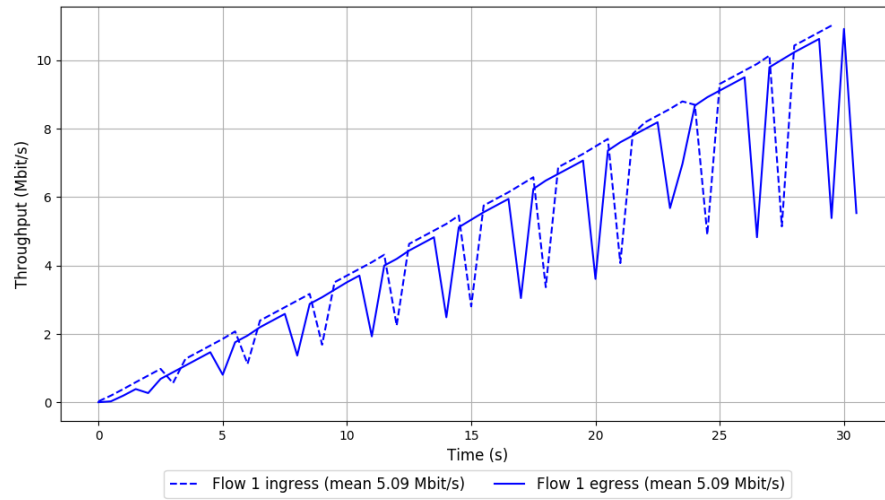
-- Flow 1:

Average throughput: 5.09 Mbit/s

95th percentile per-packet one-way delay: 137.089 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

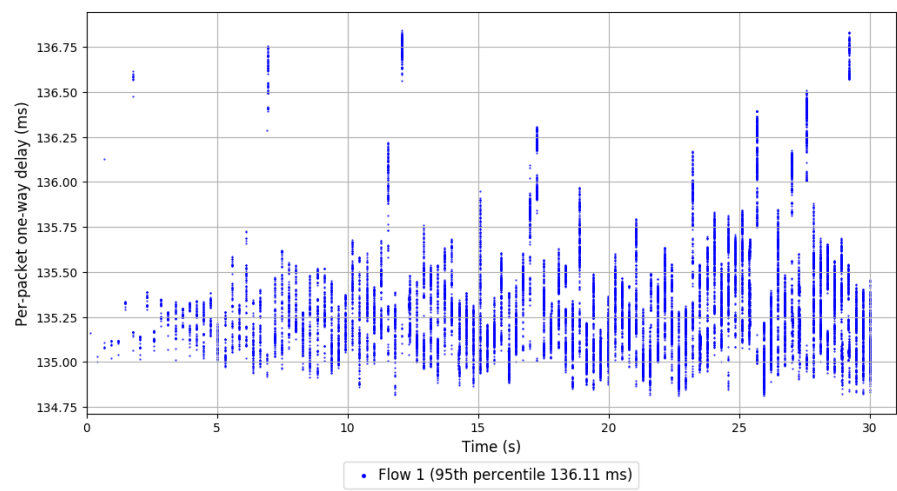
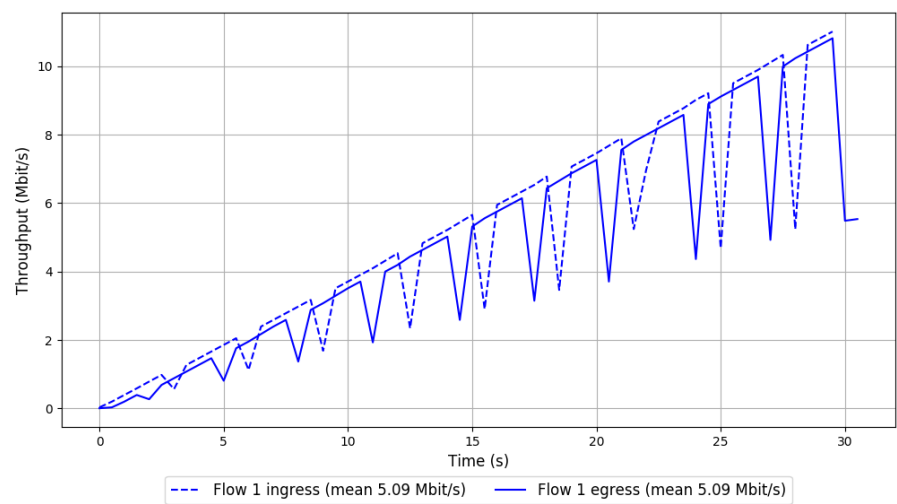


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 14:06:35
End at: 2018-09-06 14:07:06
Local clock offset: -0.184 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-09-06 15:45:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 136.106 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 136.106 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

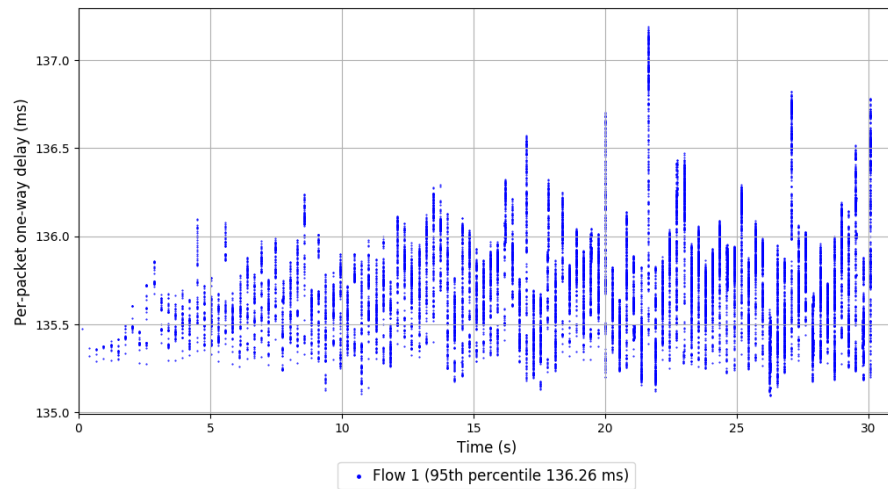
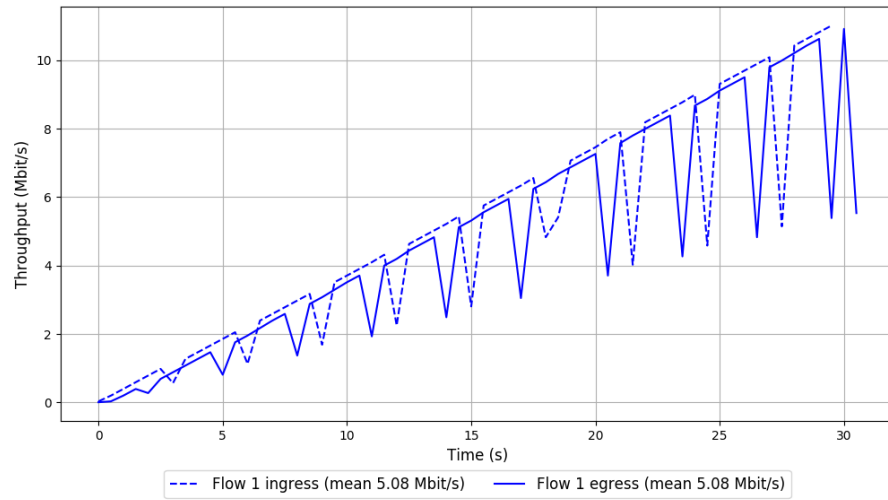


Run 5: Statistics of LEDBAT

Start at: 2018-09-06 14:33:36
End at: 2018-09-06 14:34:06
Local clock offset: 0.019 ms
Remote clock offset: -0.257 ms

Below is generated by plot.py at 2018-09-06 15:45:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 136.257 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 136.257 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

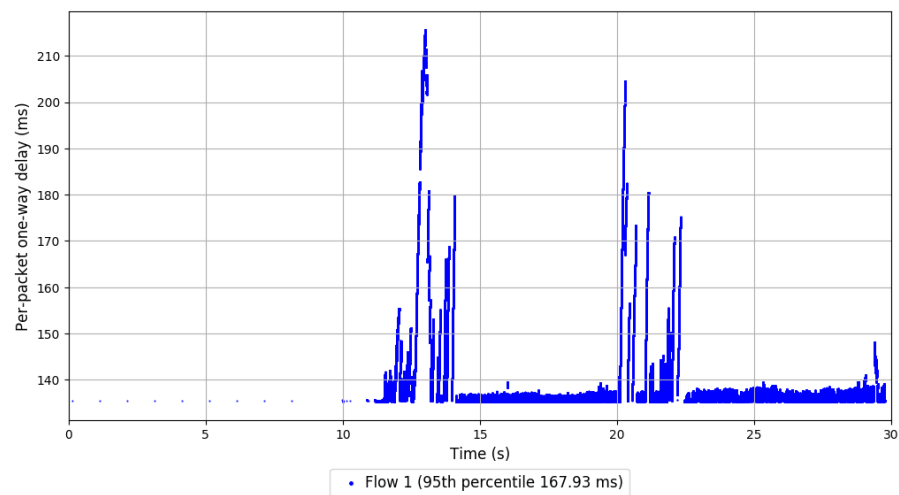
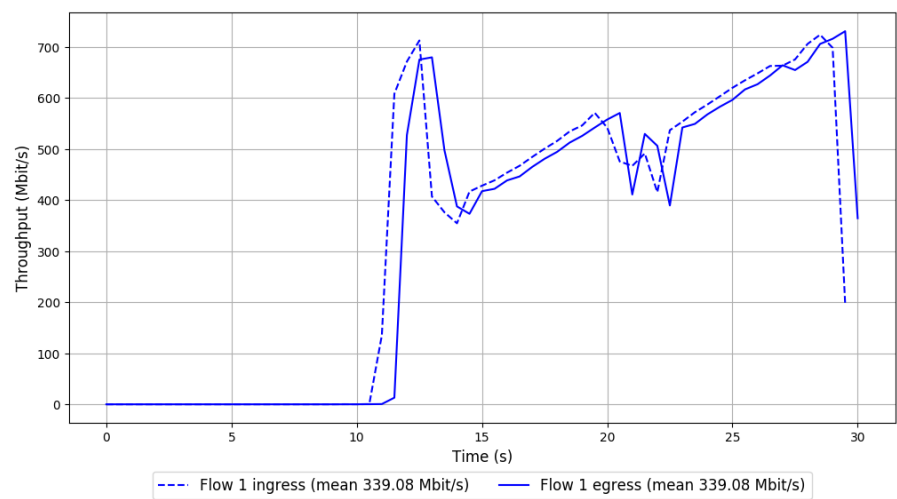


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 12:47:20
End at: 2018-09-06 12:47:50
Local clock offset: -0.067 ms
Remote clock offset: -0.232 ms

Below is generated by plot.py at 2018-09-06 15:45:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 339.08 Mbit/s
95th percentile per-packet one-way delay: 167.934 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 339.08 Mbit/s
95th percentile per-packet one-way delay: 167.934 ms
Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 13:14:14

End at: 2018-09-06 13:14:44

Local clock offset: 0.075 ms

Remote clock offset: 0.071 ms

Below is generated by plot.py at 2018-09-06 15:46:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 521.25 Mbit/s

95th percentile per-packet one-way delay: 159.774 ms

Loss rate: 0.00%

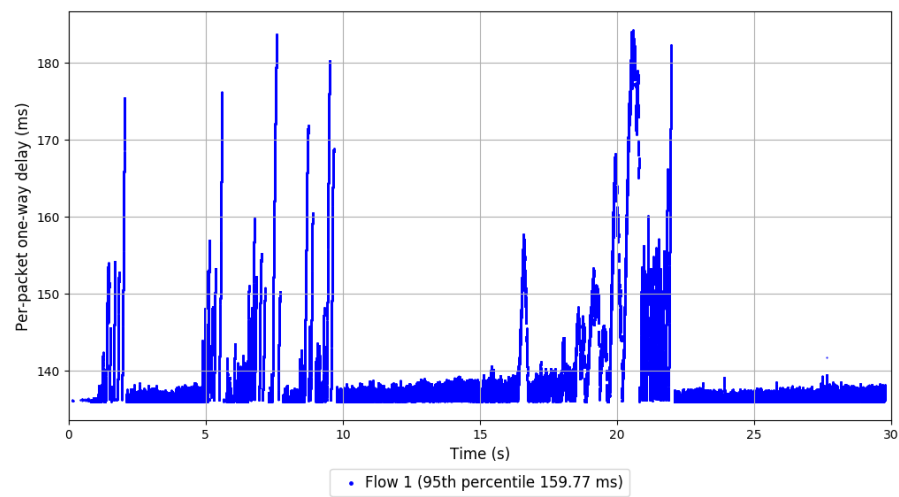
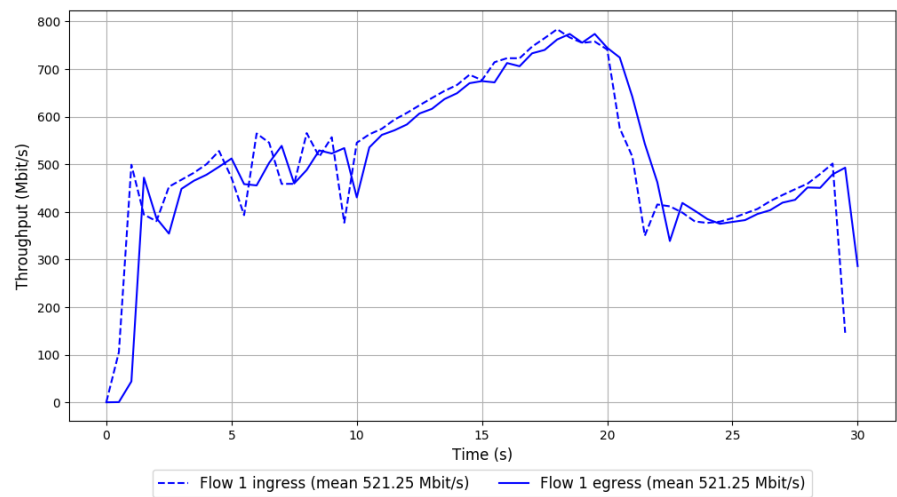
-- Flow 1:

Average throughput: 521.25 Mbit/s

95th percentile per-packet one-way delay: 159.774 ms

Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 13:40:54

End at: 2018-09-06 13:41:24

Local clock offset: -0.179 ms

Remote clock offset: 0.454 ms

Below is generated by plot.py at 2018-09-06 15:46:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 508.02 Mbit/s

95th percentile per-packet one-way delay: 165.666 ms

Loss rate: 0.00%

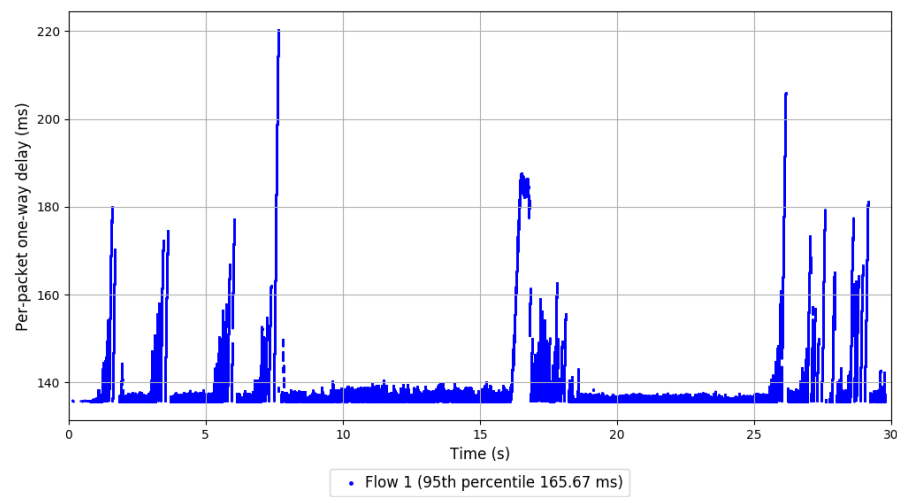
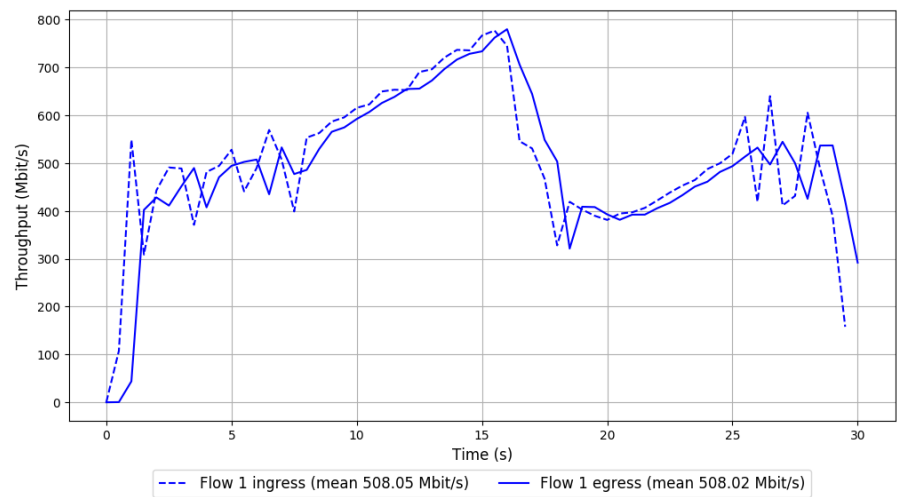
-- Flow 1:

Average throughput: 508.02 Mbit/s

95th percentile per-packet one-way delay: 165.666 ms

Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

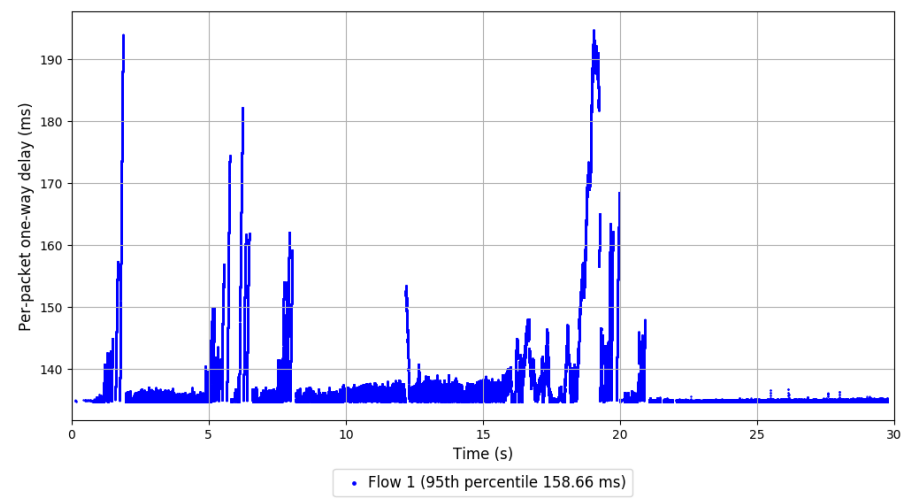
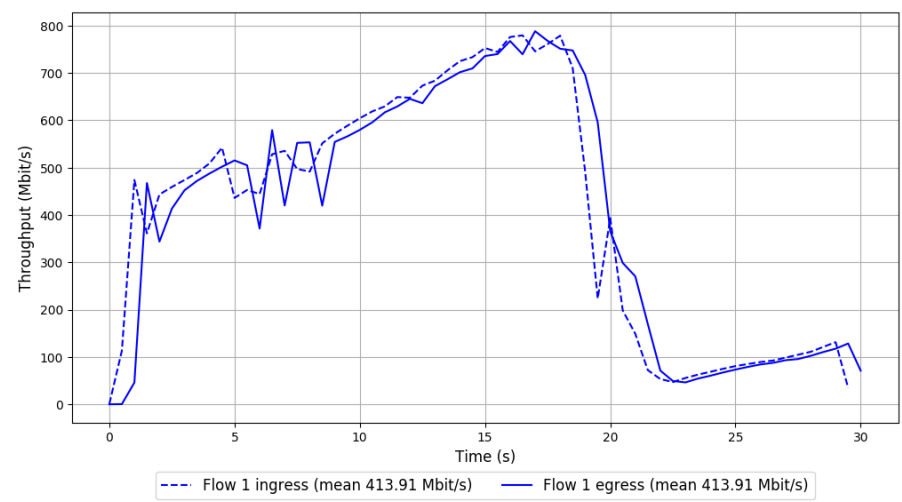


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 14:07:46
End at: 2018-09-06 14:08:16
Local clock offset: -0.107 ms
Remote clock offset: -0.226 ms

Below is generated by plot.py at 2018-09-06 15:46:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 413.91 Mbit/s
95th percentile per-packet one-way delay: 158.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 413.91 Mbit/s
95th percentile per-packet one-way delay: 158.664 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 14:34:47

End at: 2018-09-06 14:35:17

Local clock offset: -0.063 ms

Remote clock offset: 0.095 ms

Below is generated by plot.py at 2018-09-06 15:47:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 518.07 Mbit/s

95th percentile per-packet one-way delay: 159.859 ms

Loss rate: 0.00%

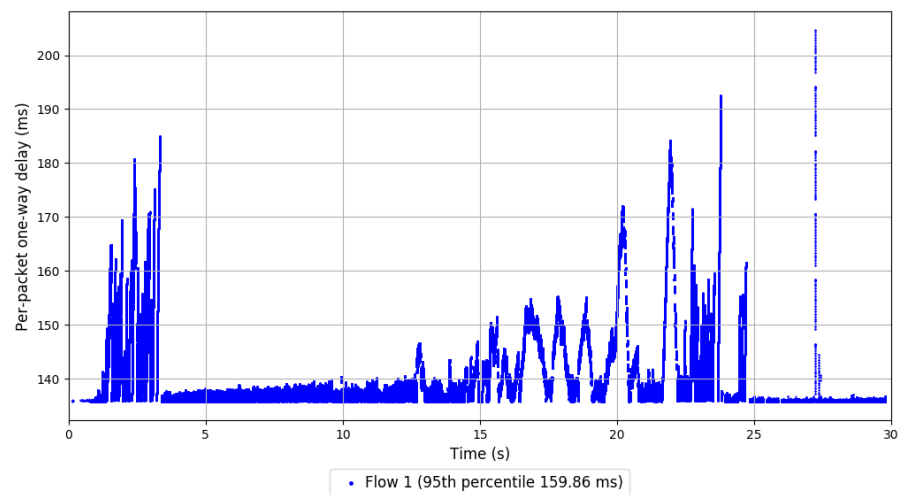
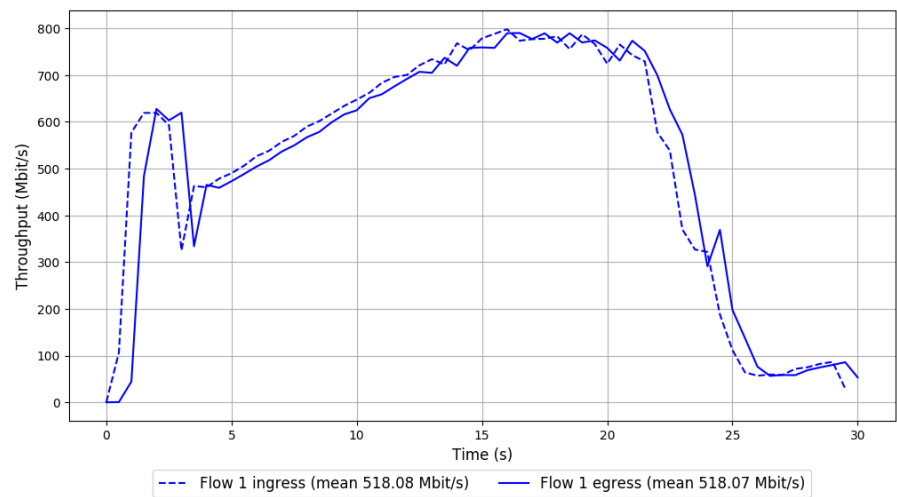
-- Flow 1:

Average throughput: 518.07 Mbit/s

95th percentile per-packet one-way delay: 159.859 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 12:55:57

End at: 2018-09-06 12:56:27

Local clock offset: -0.325 ms

Remote clock offset: -0.217 ms

Below is generated by plot.py at 2018-09-06 15:52:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 419.40 Mbit/s

95th percentile per-packet one-way delay: 243.512 ms

Loss rate: 3.04%

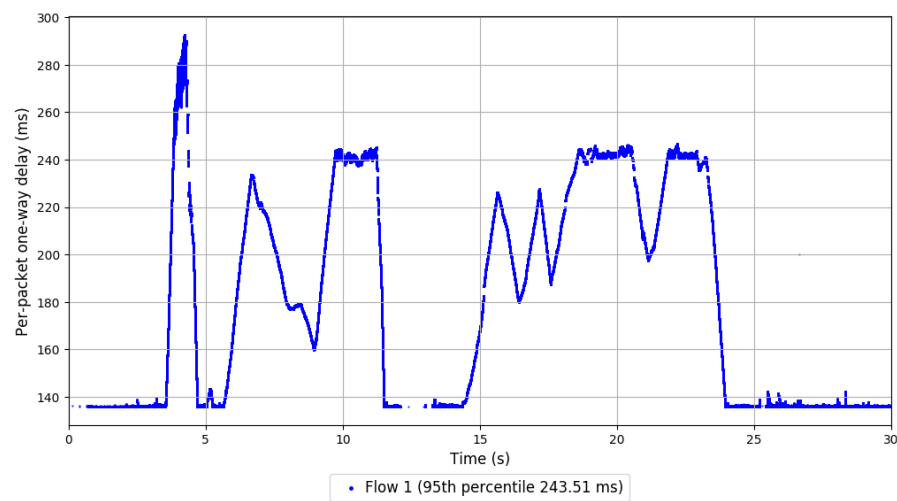
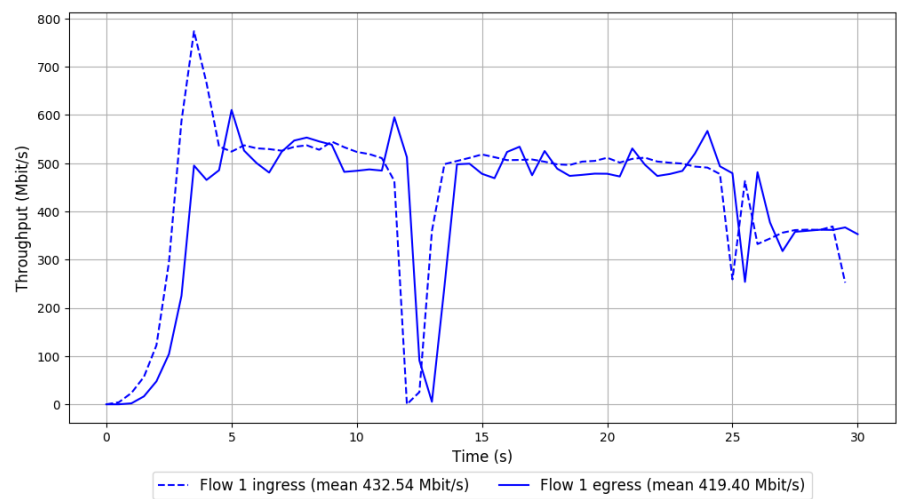
-- Flow 1:

Average throughput: 419.40 Mbit/s

95th percentile per-packet one-way delay: 243.512 ms

Loss rate: 3.04%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 13:22:56

End at: 2018-09-06 13:23:26

Local clock offset: -0.205 ms

Remote clock offset: -0.319 ms

Below is generated by plot.py at 2018-09-06 15:53:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 342.46 Mbit/s

95th percentile per-packet one-way delay: 248.020 ms

Loss rate: 9.11%

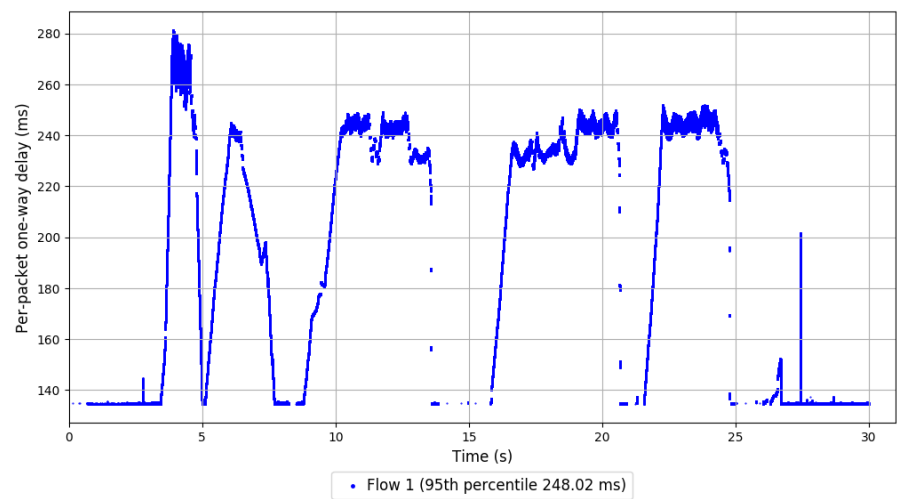
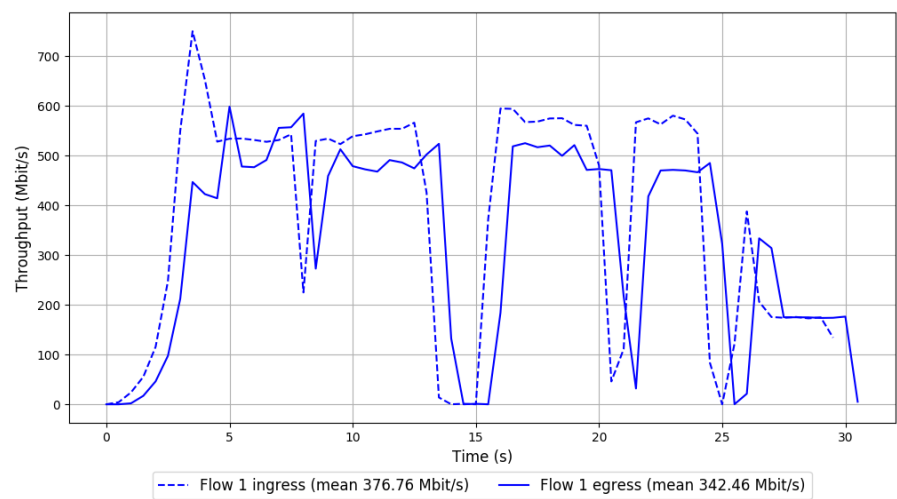
-- Flow 1:

Average throughput: 342.46 Mbit/s

95th percentile per-packet one-way delay: 248.020 ms

Loss rate: 9.11%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 13:49:36

End at: 2018-09-06 13:50:06

Local clock offset: -0.176 ms

Remote clock offset: 0.476 ms

Below is generated by plot.py at 2018-09-06 15:55:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 402.32 Mbit/s

95th percentile per-packet one-way delay: 242.348 ms

Loss rate: 2.33%

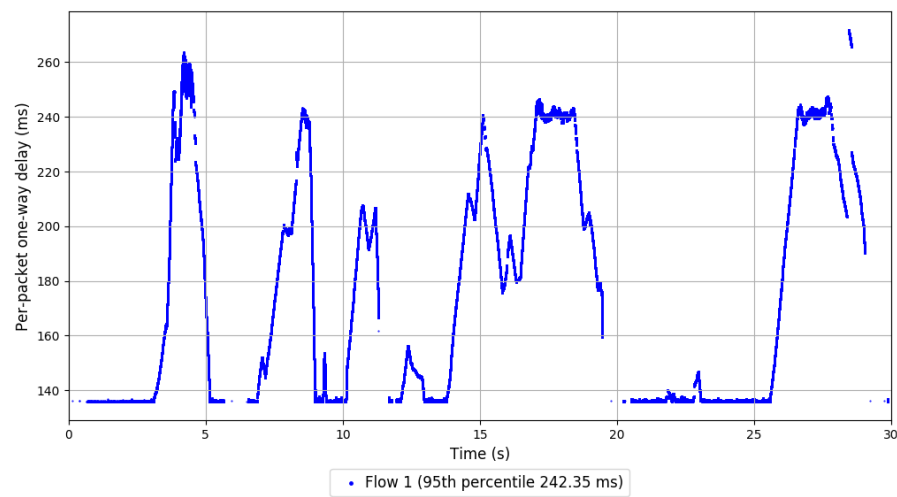
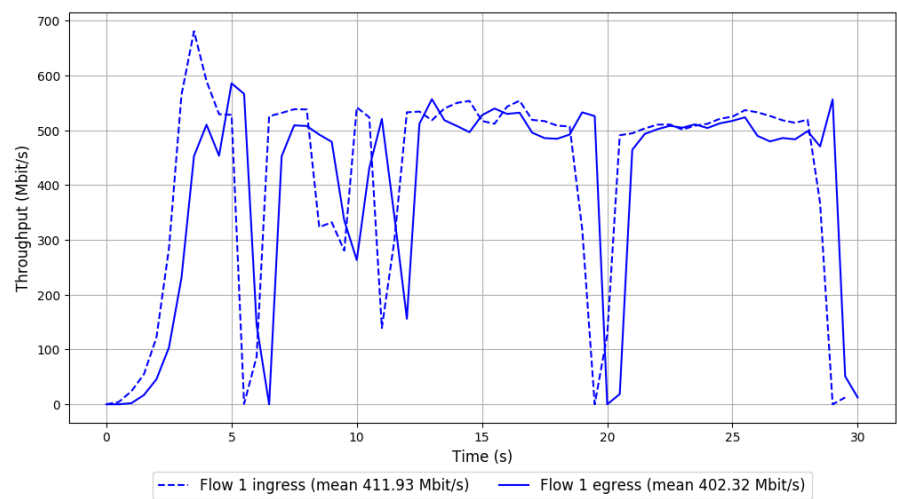
-- Flow 1:

Average throughput: 402.32 Mbit/s

95th percentile per-packet one-way delay: 242.348 ms

Loss rate: 2.33%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 14:16:30

End at: 2018-09-06 14:17:00

Local clock offset: -0.06 ms

Remote clock offset: -0.241 ms

Below is generated by plot.py at 2018-09-06 16:00:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 450.28 Mbit/s

95th percentile per-packet one-way delay: 248.612 ms

Loss rate: 4.19%

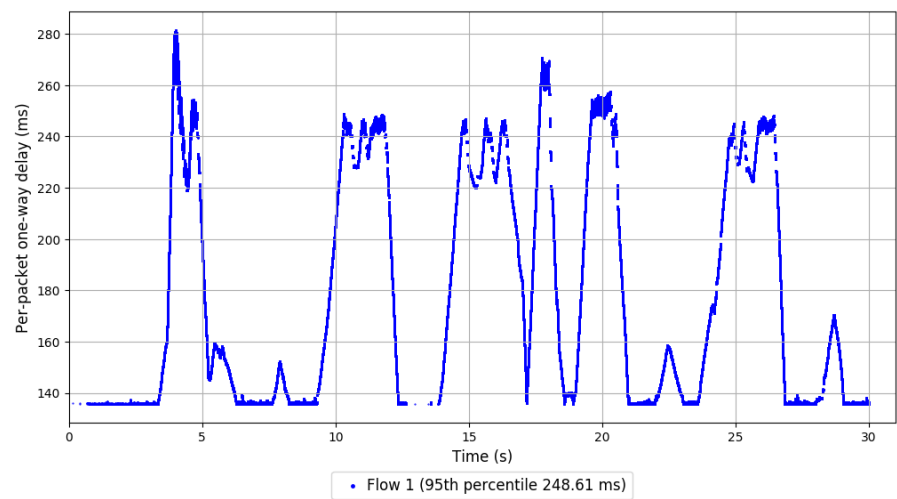
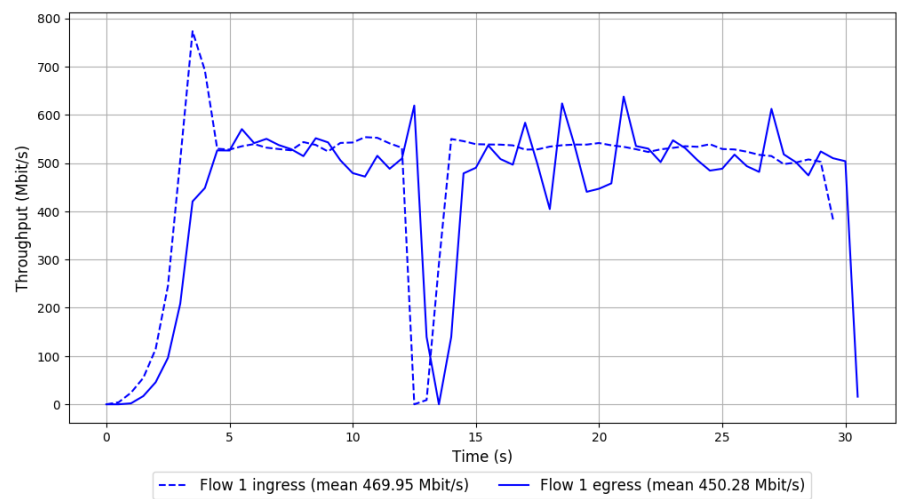
-- Flow 1:

Average throughput: 450.28 Mbit/s

95th percentile per-packet one-way delay: 248.612 ms

Loss rate: 4.19%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 14:43:39

End at: 2018-09-06 14:44:09

Local clock offset: -0.236 ms

Remote clock offset: 0.118 ms

Below is generated by plot.py at 2018-09-06 16:00:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 427.85 Mbit/s

95th percentile per-packet one-way delay: 259.747 ms

Loss rate: 5.70%

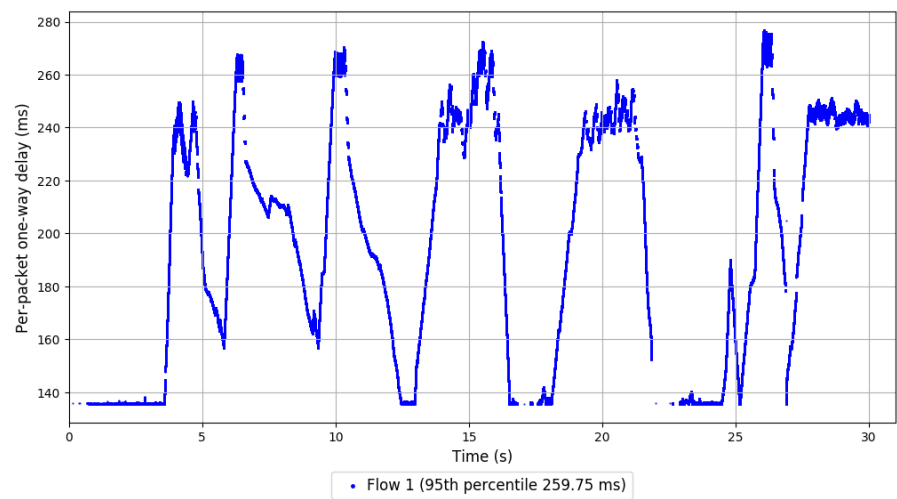
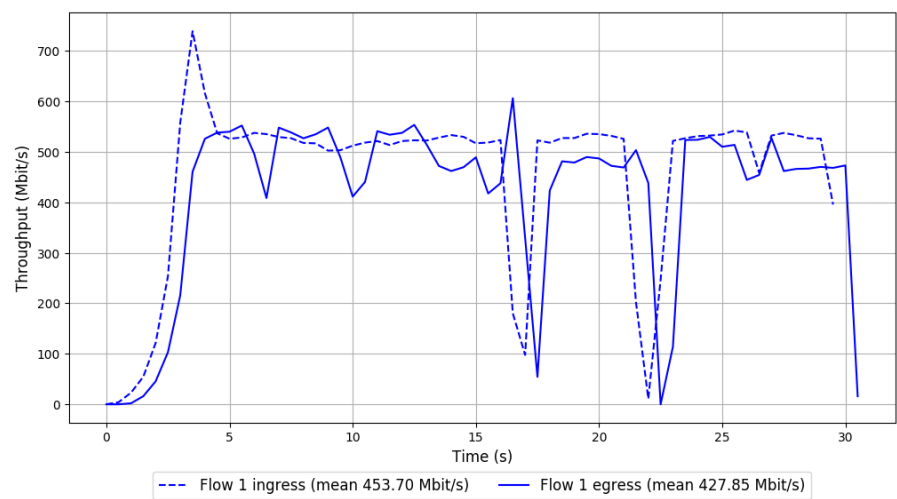
-- Flow 1:

Average throughput: 427.85 Mbit/s

95th percentile per-packet one-way delay: 259.747 ms

Loss rate: 5.70%

Run 5: Report of PCC-Allegro — Data Link

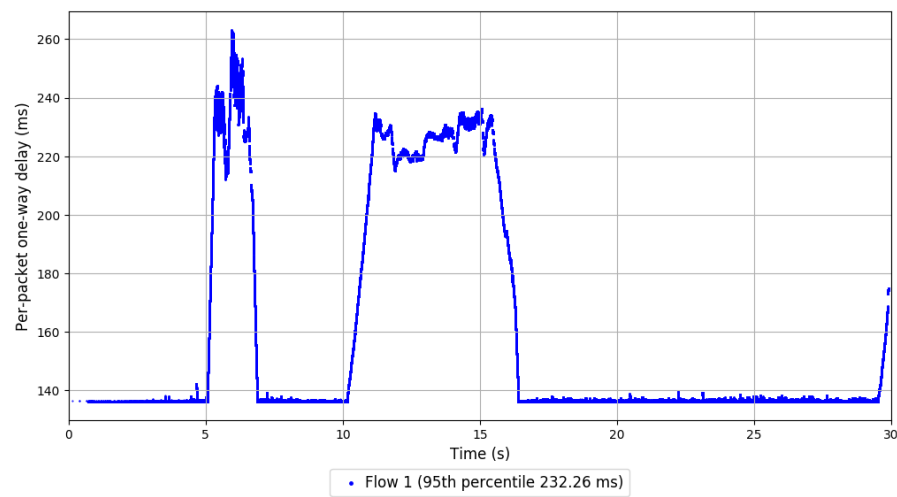
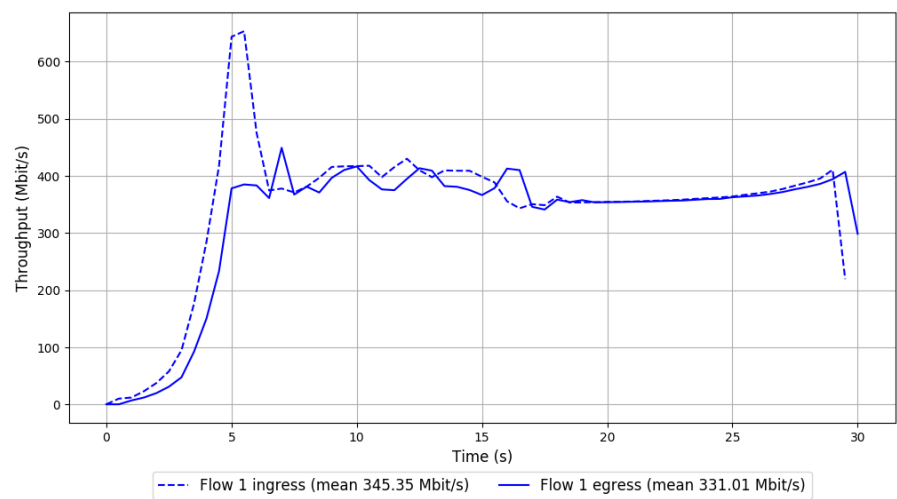


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 12:49:58
End at: 2018-09-06 12:50:28
Local clock offset: 0.073 ms
Remote clock offset: 0.144 ms

# Below is generated by plot.py at 2018-09-06 16:00:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 331.01 Mbit/s
95th percentile per-packet one-way delay: 232.265 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 331.01 Mbit/s
95th percentile per-packet one-way delay: 232.265 ms
Loss rate: 4.15%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 13:17:03

End at: 2018-09-06 13:17:33

Local clock offset: 0.061 ms

Remote clock offset: 0.073 ms

Below is generated by plot.py at 2018-09-06 16:00:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 317.19 Mbit/s

95th percentile per-packet one-way delay: 224.448 ms

Loss rate: 1.48%

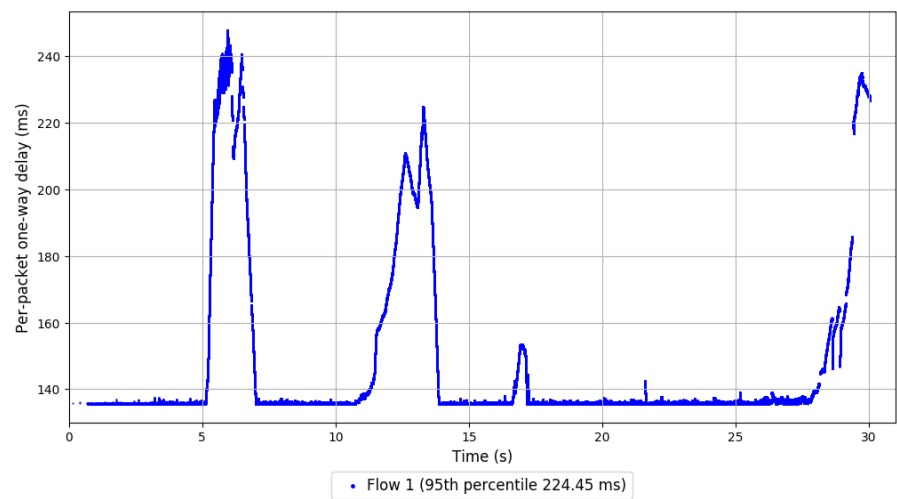
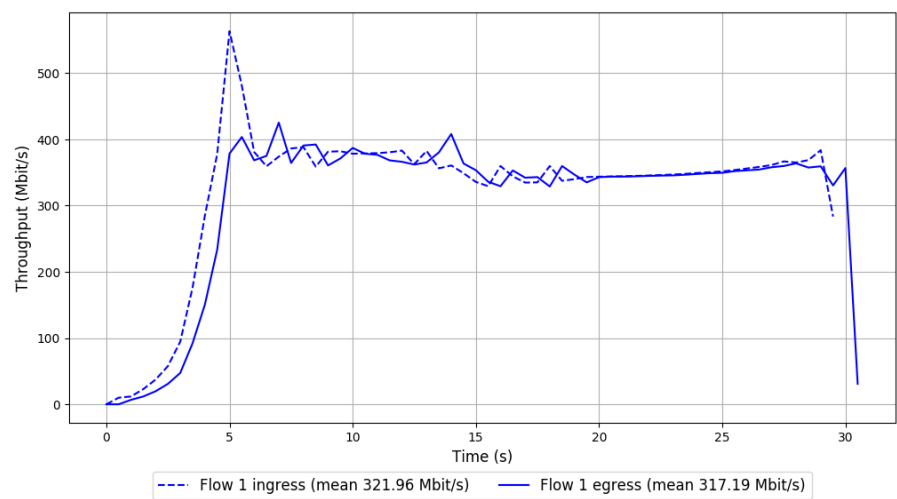
-- Flow 1:

Average throughput: 317.19 Mbit/s

95th percentile per-packet one-way delay: 224.448 ms

Loss rate: 1.48%

Run 2: Report of PCC-Expr — Data Link

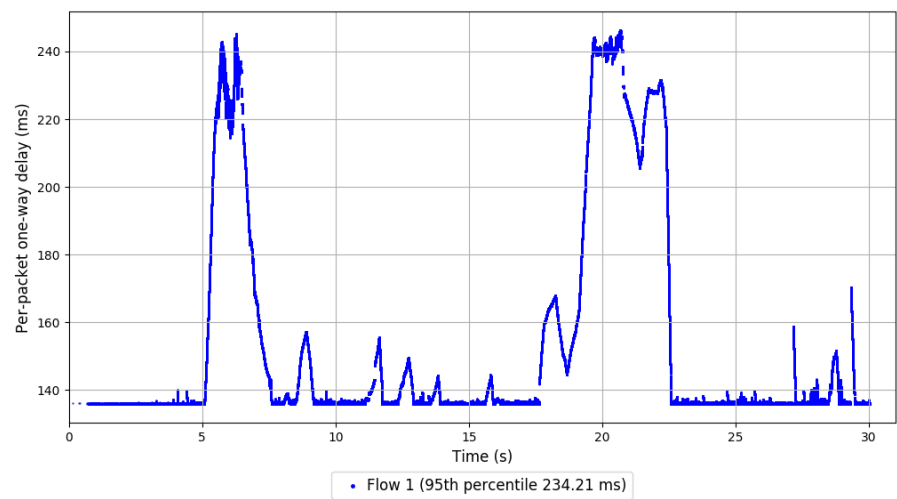
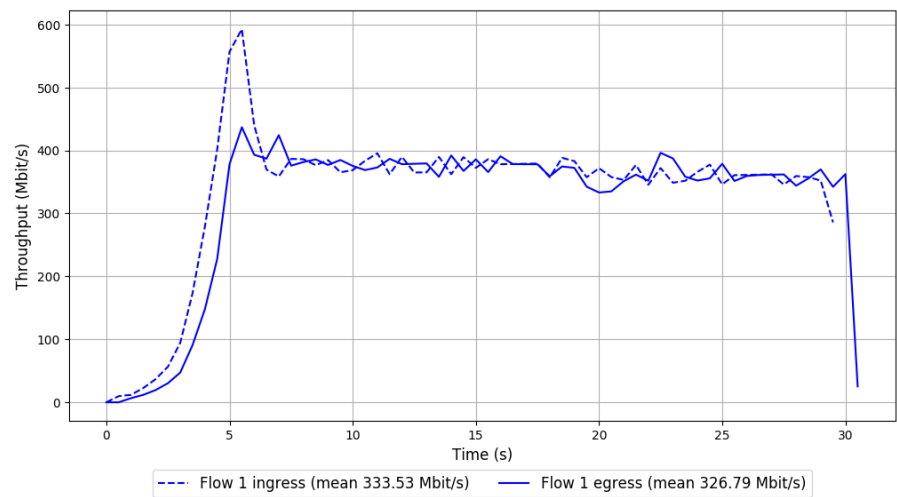


Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 13:43:41
End at: 2018-09-06 13:44:11
Local clock offset: -0.265 ms
Remote clock offset: -0.247 ms

Below is generated by plot.py at 2018-09-06 16:00:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 326.79 Mbit/s
95th percentile per-packet one-way delay: 234.210 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 326.79 Mbit/s
95th percentile per-packet one-way delay: 234.210 ms
Loss rate: 2.02%

Run 3: Report of PCC-Expr — Data Link

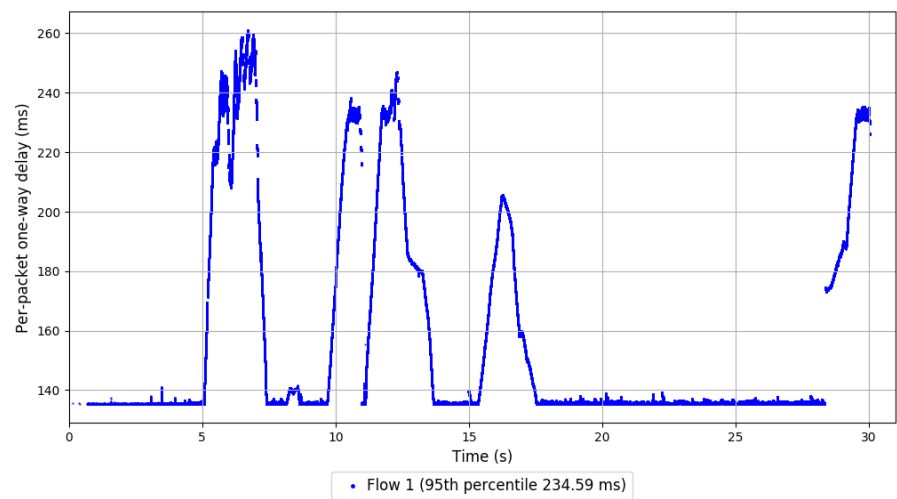
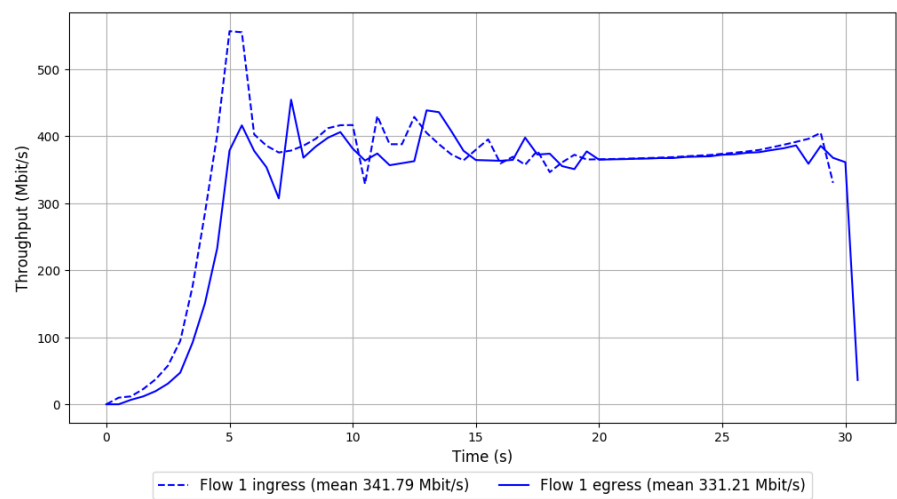


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 14:10:28
End at: 2018-09-06 14:10:58
Local clock offset: -0.236 ms
Remote clock offset: -0.248 ms

Below is generated by plot.py at 2018-09-06 16:04:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 331.21 Mbit/s
95th percentile per-packet one-way delay: 234.588 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 331.21 Mbit/s
95th percentile per-packet one-way delay: 234.588 ms
Loss rate: 3.09%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 14:37:37

End at: 2018-09-06 14:38:07

Local clock offset: -0.185 ms

Remote clock offset: 0.076 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 316.21 Mbit/s

95th percentile per-packet one-way delay: 226.763 ms

Loss rate: 1.29%

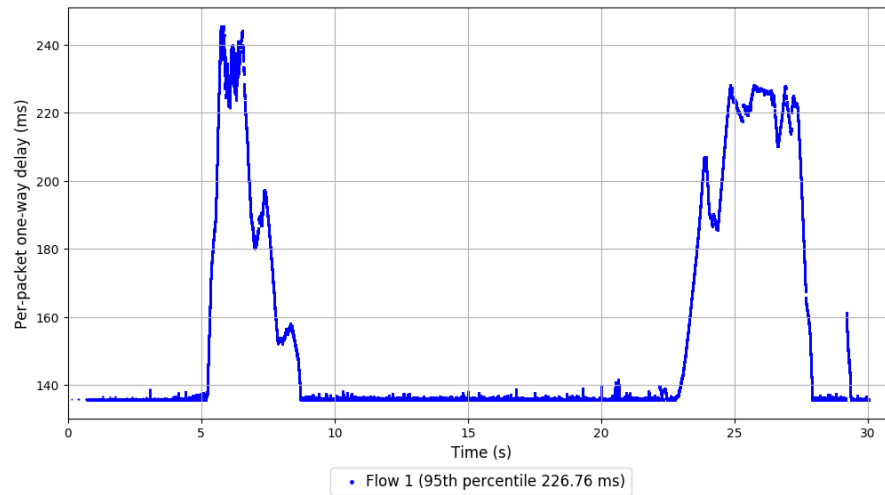
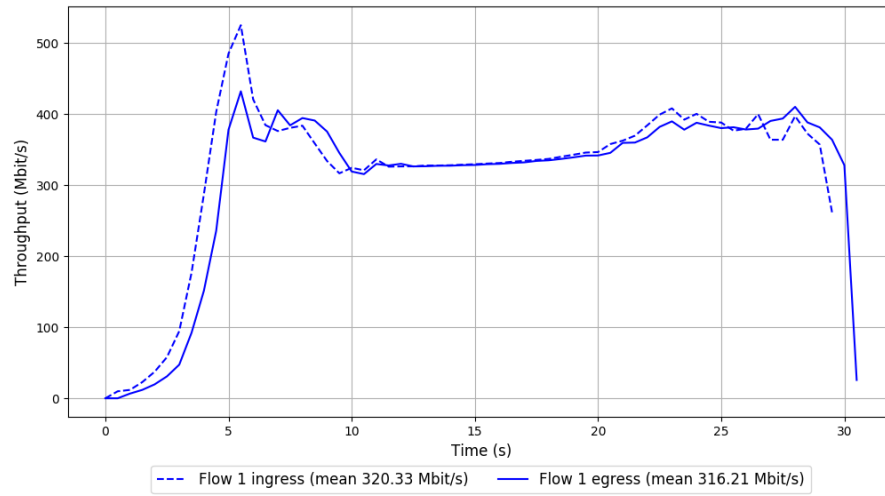
-- Flow 1:

Average throughput: 316.21 Mbit/s

95th percentile per-packet one-way delay: 226.763 ms

Loss rate: 1.29%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

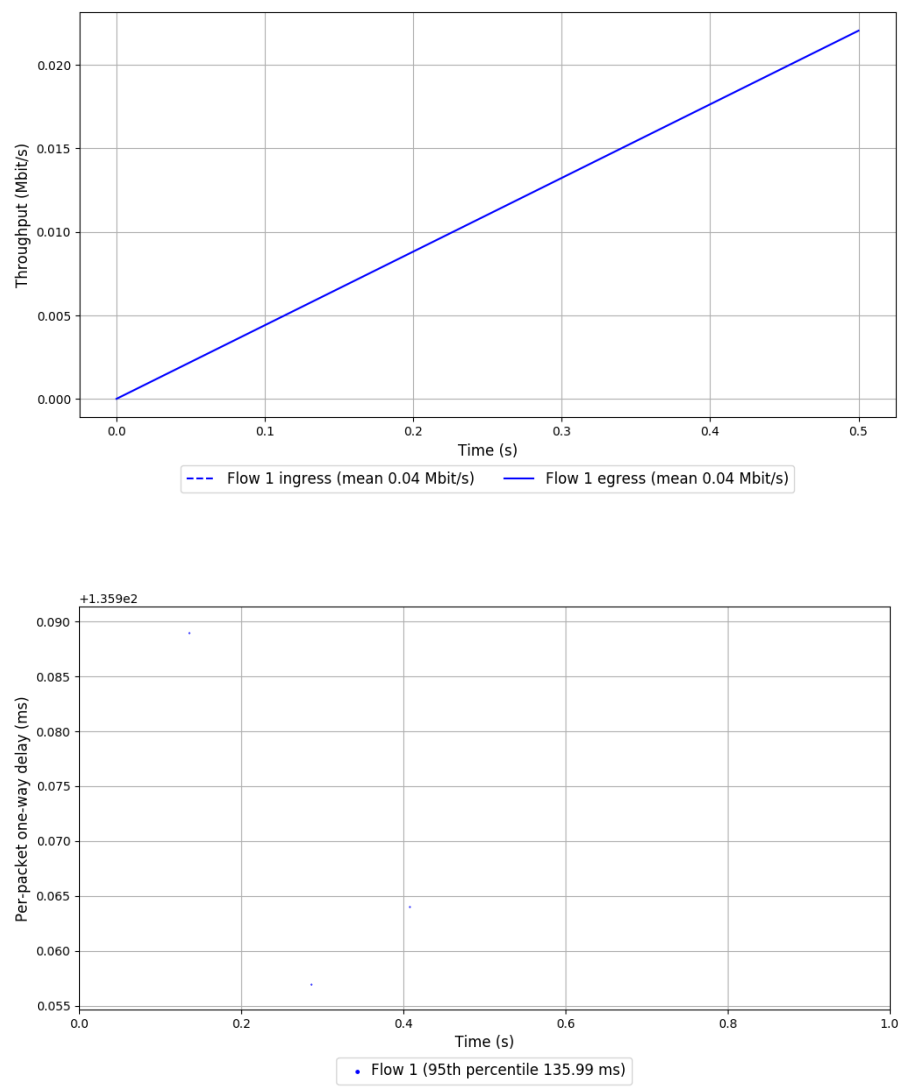
Start at: 2018-09-06 12:37:27

End at: 2018-09-06 12:37:57

Local clock offset: 0.017 ms

Remote clock offset: 0.47 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

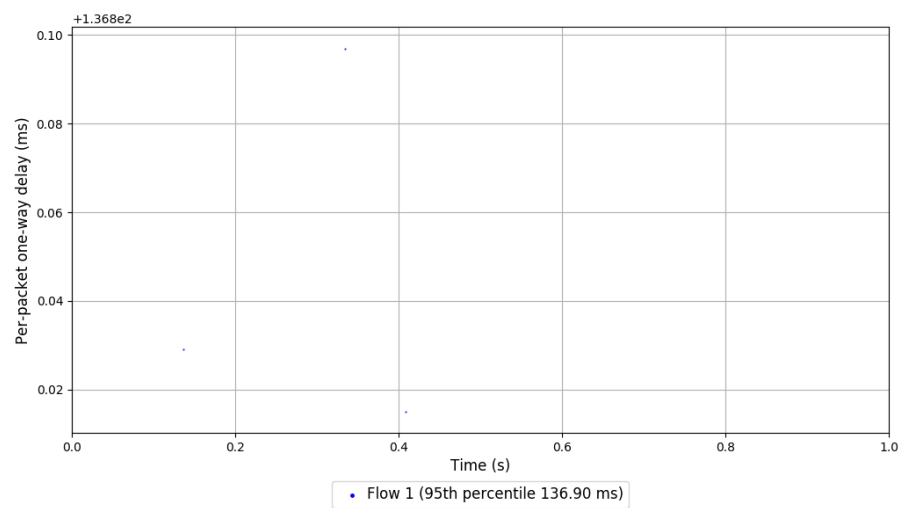
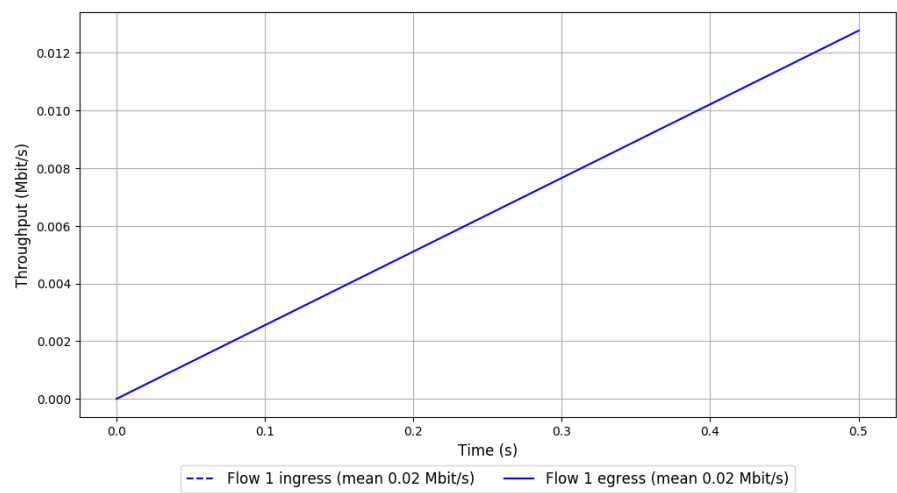
Start at: 2018-09-06 13:04:13

End at: 2018-09-06 13:04:43

Local clock offset: -0.291 ms

Remote clock offset: 0.465 ms

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 13:31:00

End at: 2018-09-06 13:31:30

Local clock offset: 0.041 ms

Remote clock offset: 0.091 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 53.34 Mbit/s

95th percentile per-packet one-way delay: 135.740 ms

Loss rate: 0.00%

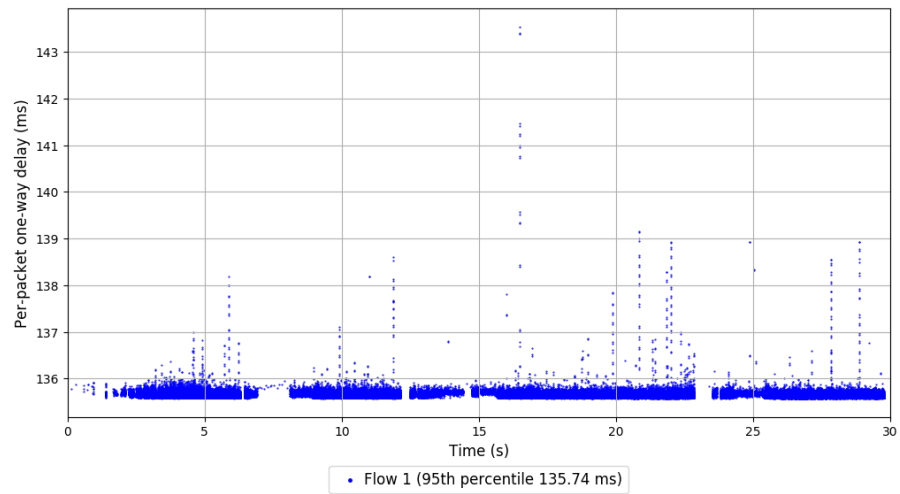
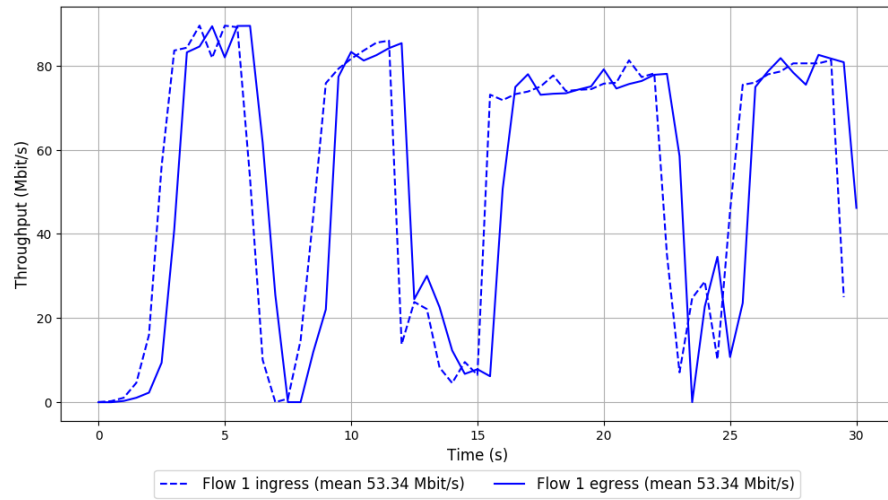
-- Flow 1:

Average throughput: 53.34 Mbit/s

95th percentile per-packet one-way delay: 135.740 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

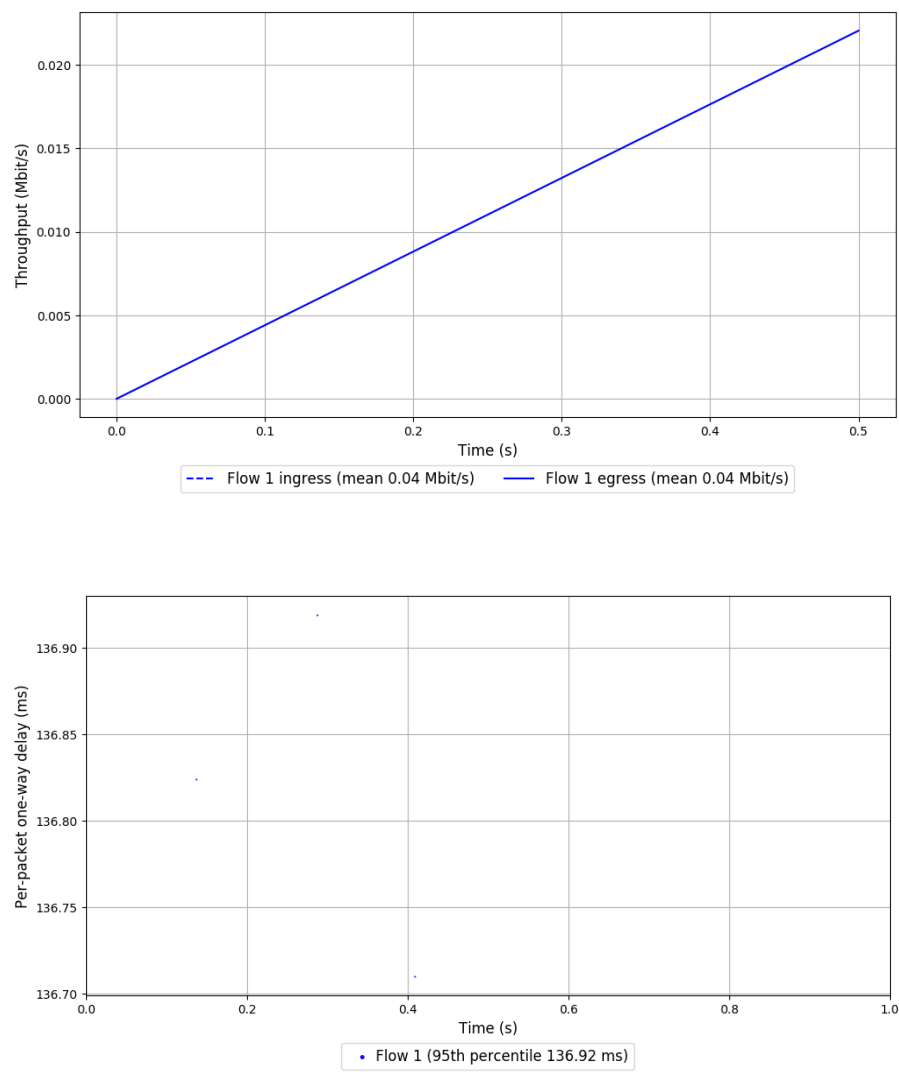
Start at: 2018-09-06 13:57:51

End at: 2018-09-06 13:58:21

Local clock offset: -0.242 ms

Remote clock offset: 0.458 ms

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

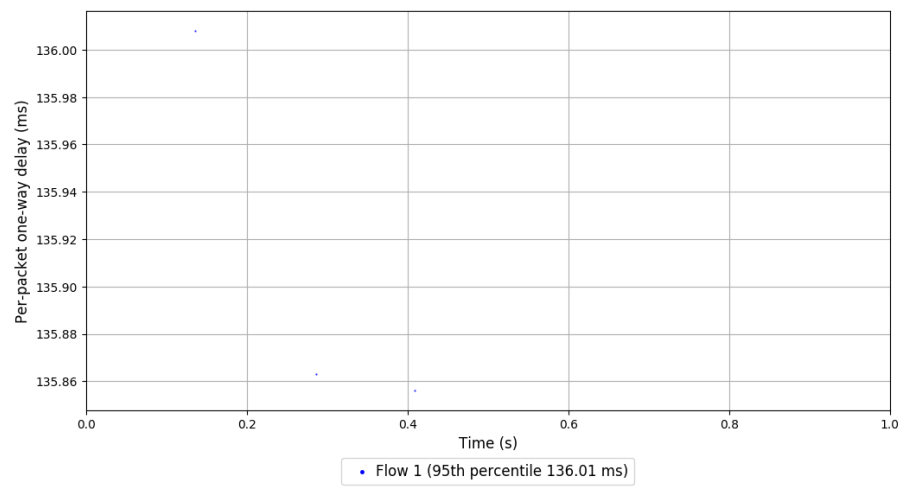
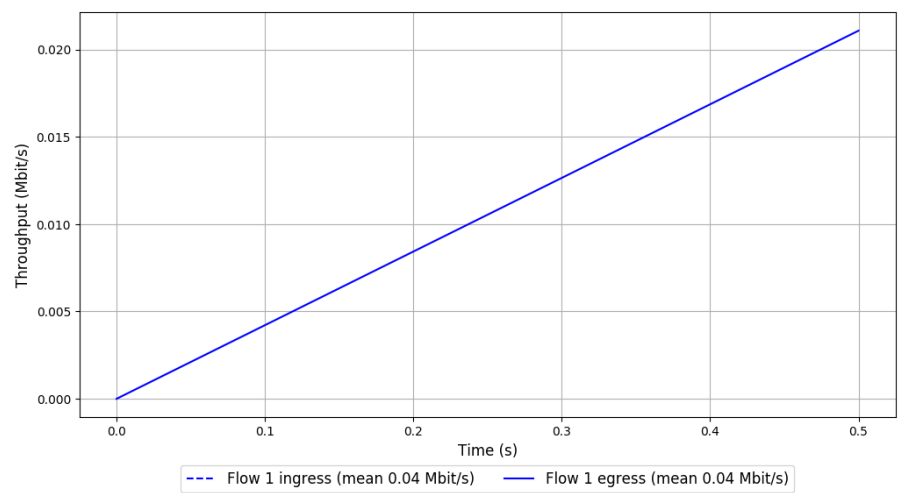
Start at: 2018-09-06 14:24:39

End at: 2018-09-06 14:25:09

Local clock offset: -0.328 ms

Remote clock offset: -0.259 ms

Run 5: Report of QUIC Cubic — Data Link

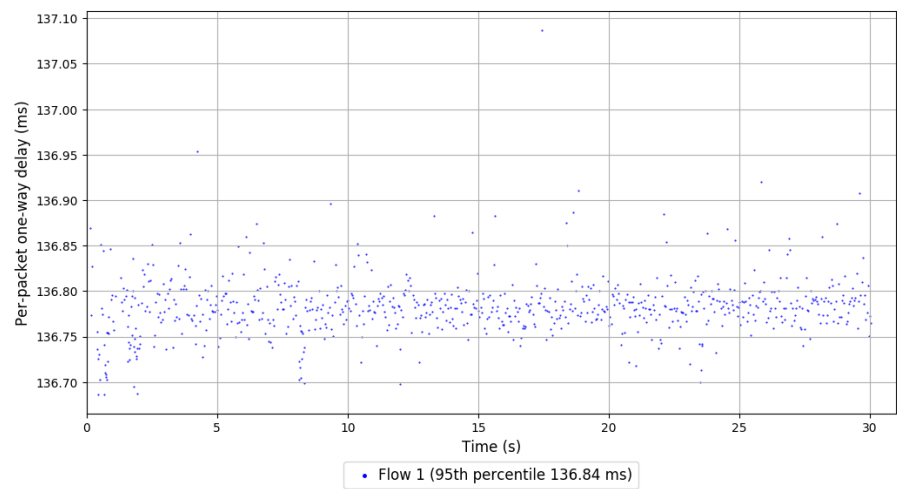
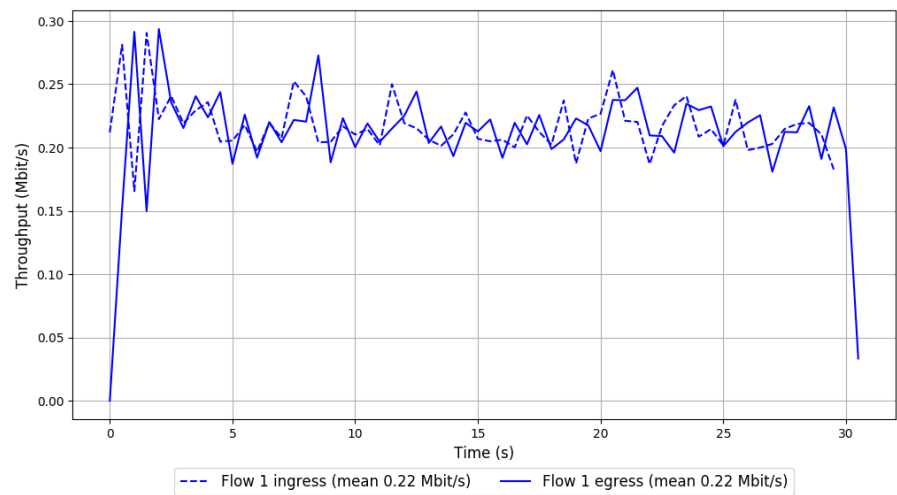


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 12:45:00
End at: 2018-09-06 12:45:30
Local clock offset: -0.207 ms
Remote clock offset: 0.517 ms

# Below is generated by plot.py at 2018-09-06 16:04:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.836 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

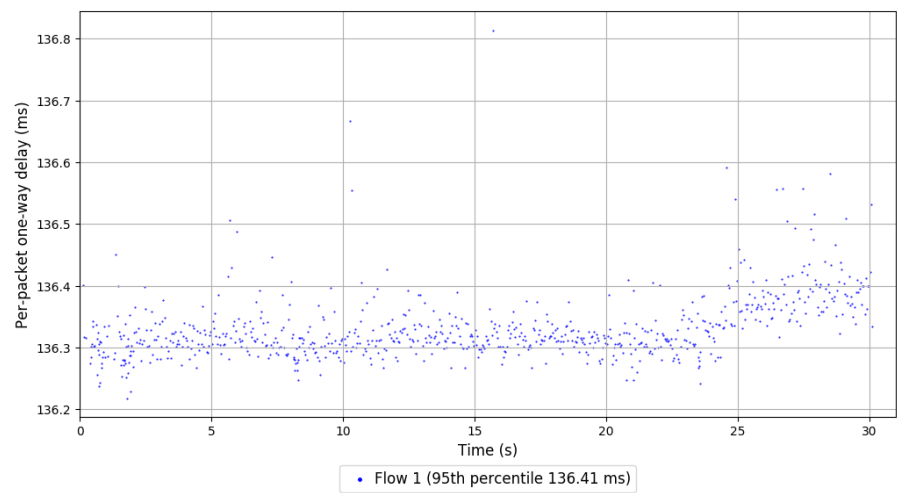
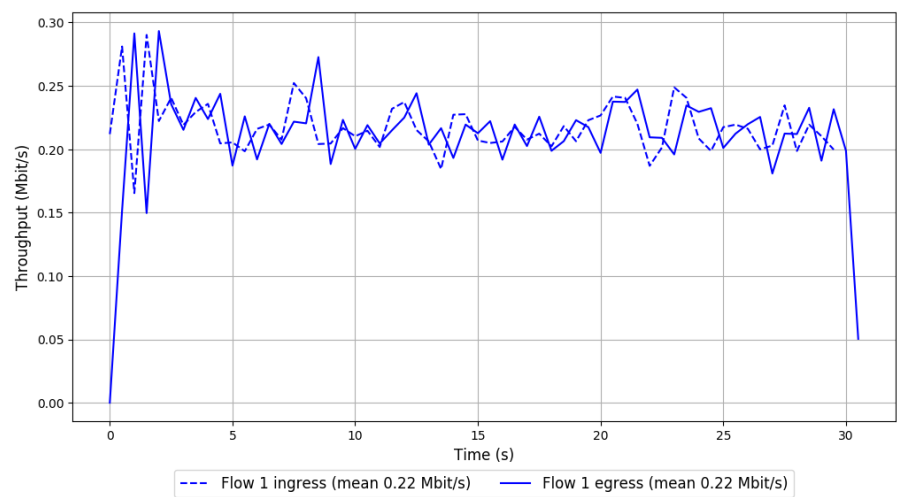


```
Run 2: Statistics of SCReAM

Start at: 2018-09-06 13:11:54
End at: 2018-09-06 13:12:24
Local clock offset: 0.066 ms
Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2018-09-06 16:04:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.415 ms
Loss rate: 0.00%
```

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-06 13:38:33

End at: 2018-09-06 13:39:04

Local clock offset: -0.3 ms

Remote clock offset: 0.471 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.578 ms

Loss rate: 0.00%

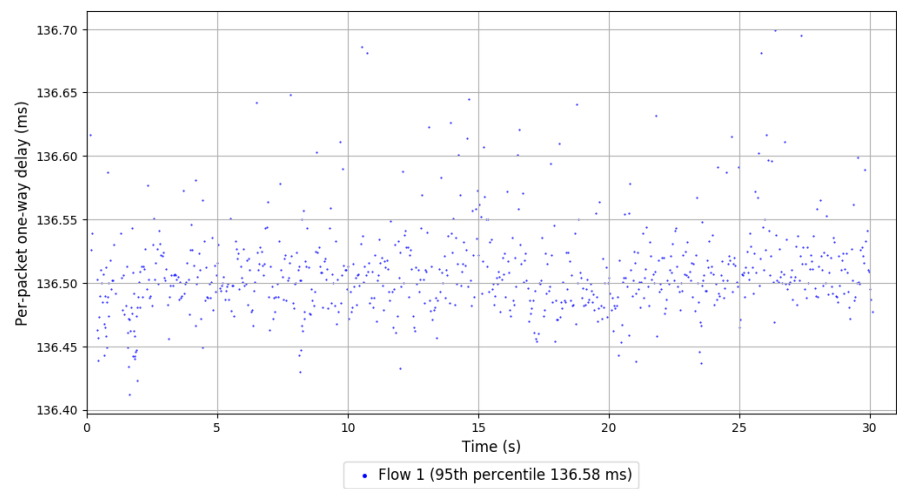
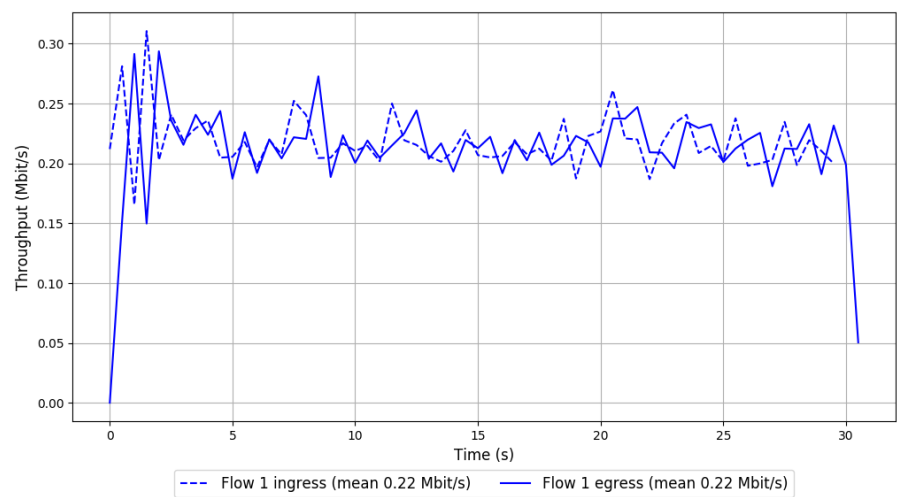
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.578 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-06 14:05:26

End at: 2018-09-06 14:05:56

Local clock offset: -0.07 ms

Remote clock offset: -0.2 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.047 ms

Loss rate: 0.00%

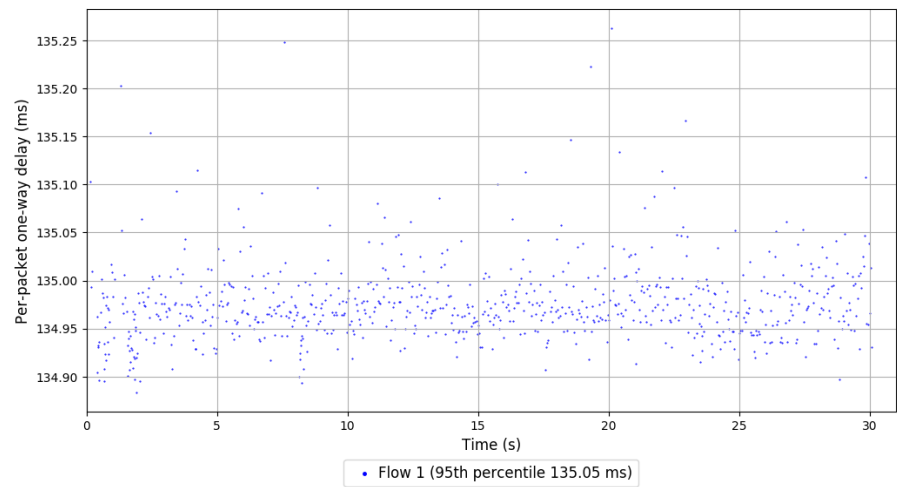
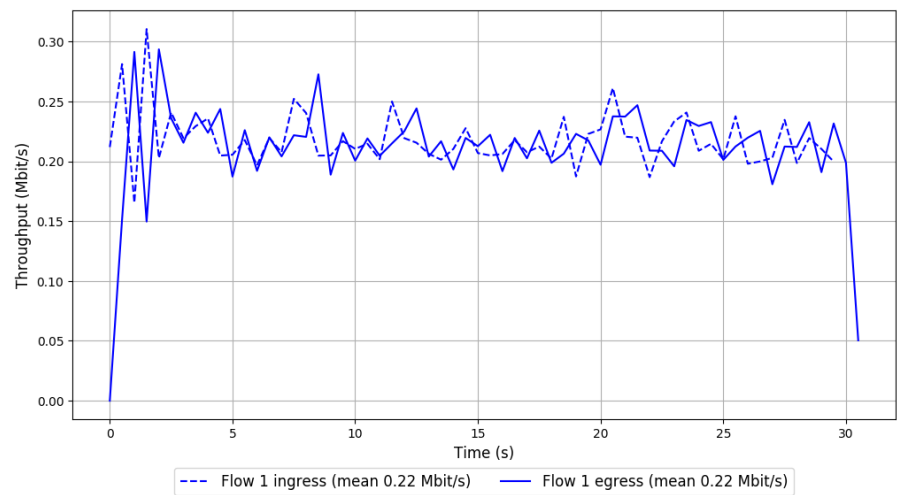
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 135.047 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-06 14:32:27

End at: 2018-09-06 14:32:57

Local clock offset: -0.399 ms

Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.073 ms

Loss rate: 0.00%

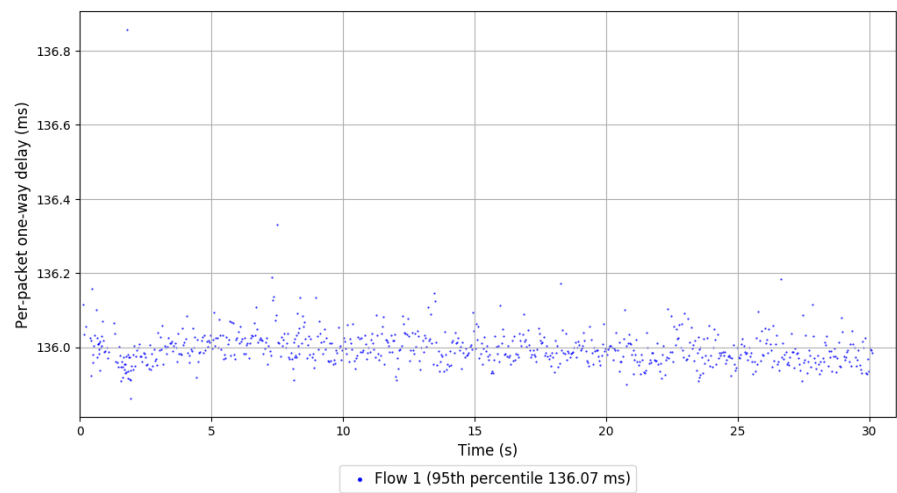
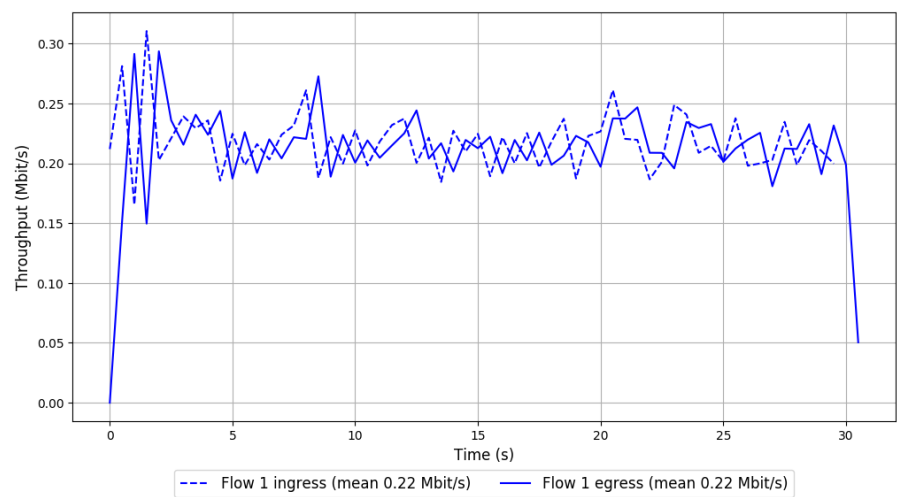
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 136.073 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-06 12:48:49

End at: 2018-09-06 12:49:19

Local clock offset: -0.159 ms

Remote clock offset: 0.178 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 136.829 ms

Loss rate: 0.00%

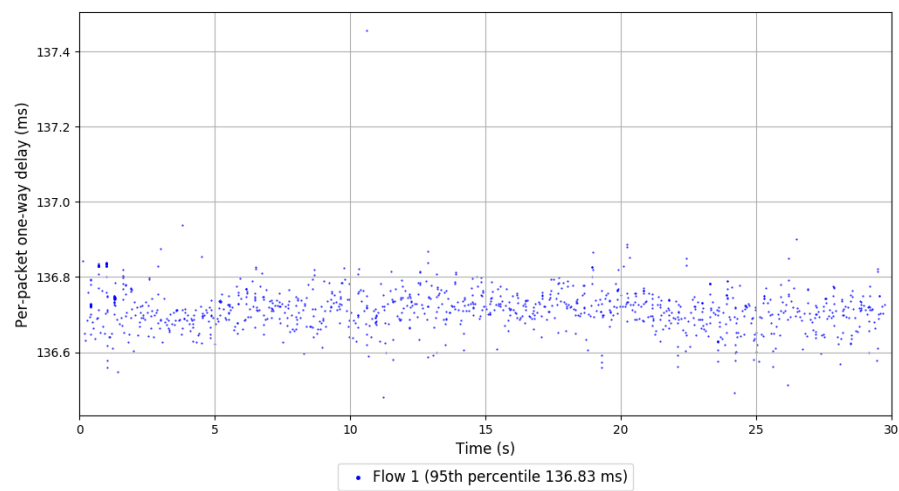
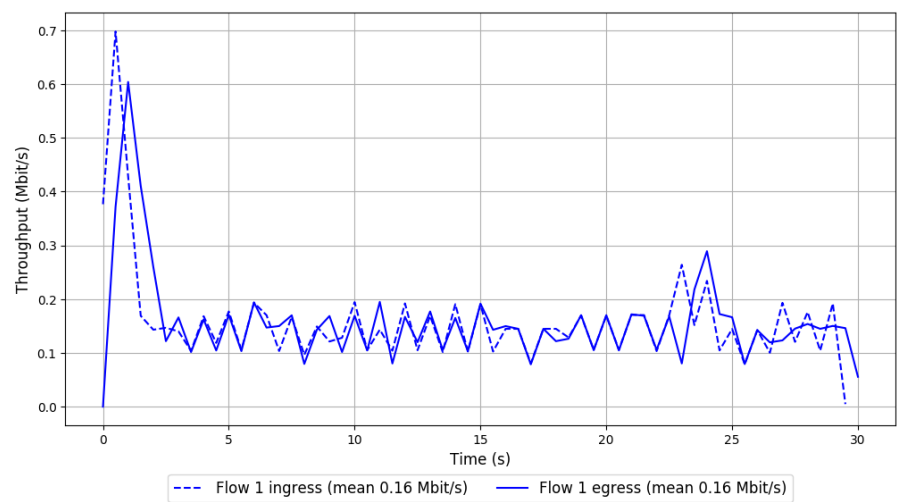
-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 136.829 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-06 13:15:53

End at: 2018-09-06 13:16:23

Local clock offset: -0.092 ms

Remote clock offset: 0.44 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 136.834 ms

Loss rate: 0.00%

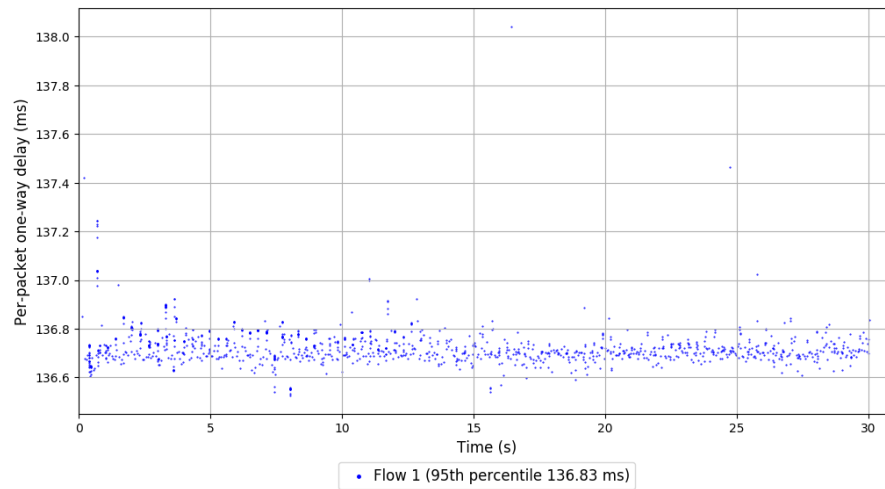
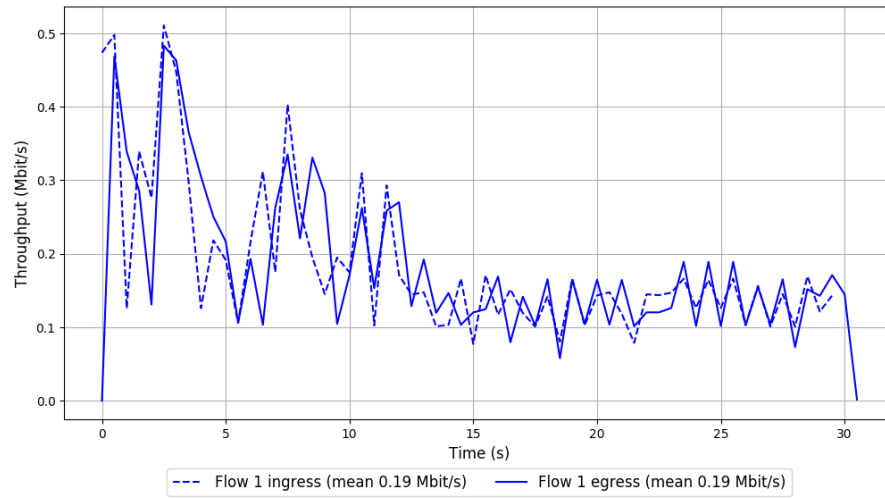
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 136.834 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-09-06 13:42:31

End at: 2018-09-06 13:43:01

Local clock offset: -0.19 ms

Remote clock offset: 0.471 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 136.468 ms

Loss rate: 0.00%

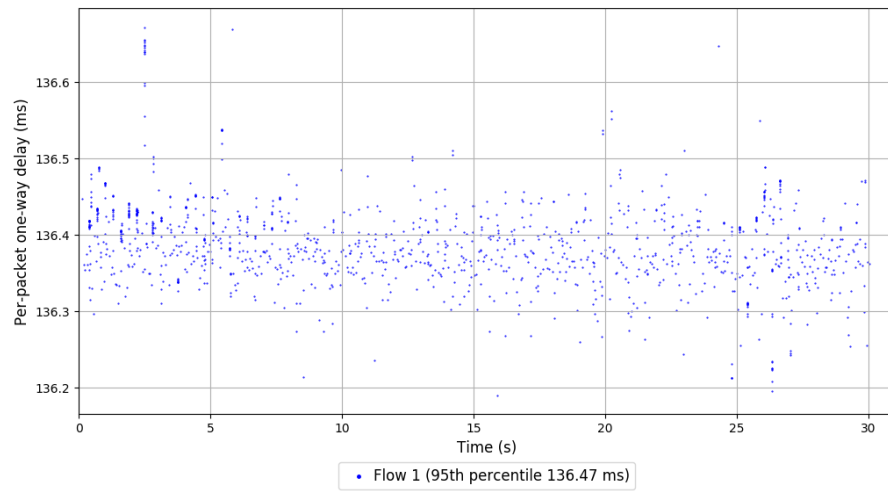
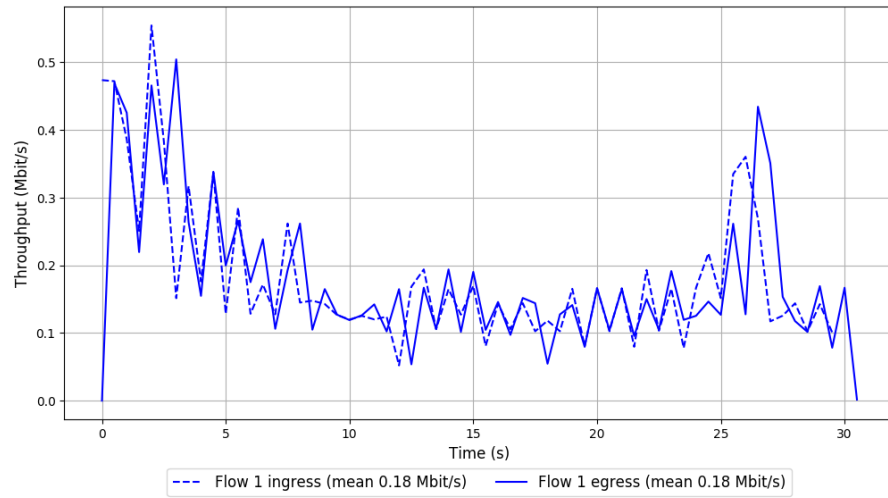
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 136.468 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

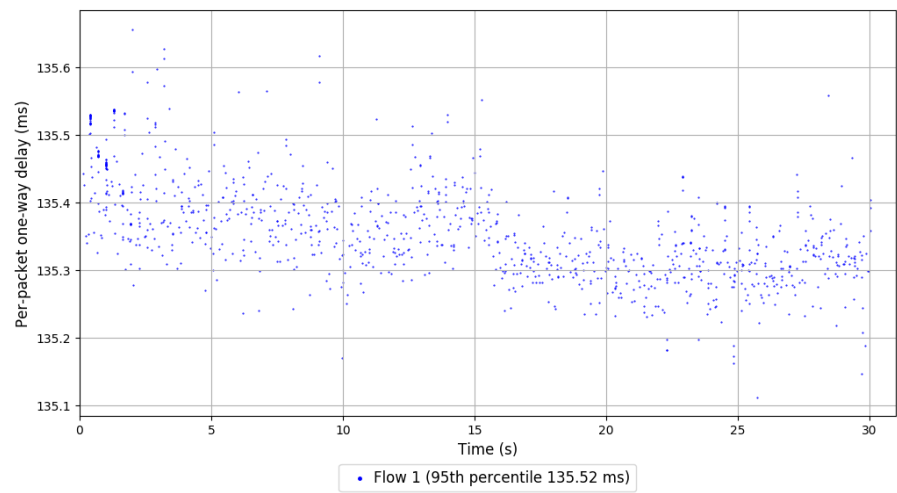
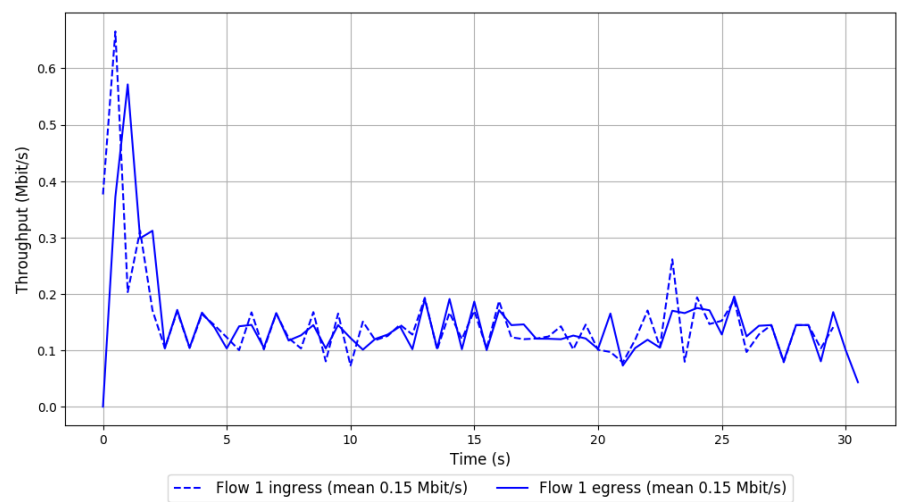


Run 4: Statistics of Sprout

Start at: 2018-09-06 14:09:19
End at: 2018-09-06 14:09:49
Local clock offset: -0.125 ms
Remote clock offset: 0.096 ms

Below is generated by plot.py at 2018-09-06 16:04:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 135.516 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 135.516 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-06 14:36:27

End at: 2018-09-06 14:36:57

Local clock offset: -0.139 ms

Remote clock offset: 0.447 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 136.818 ms

Loss rate: 0.00%

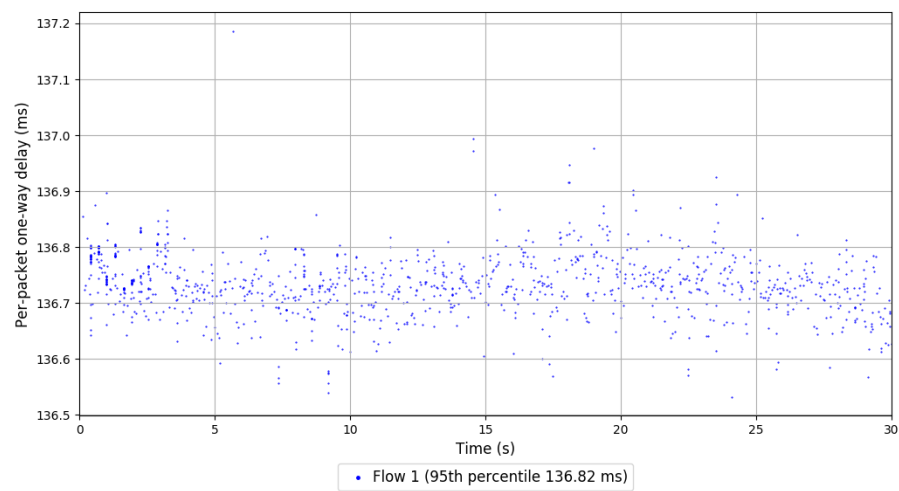
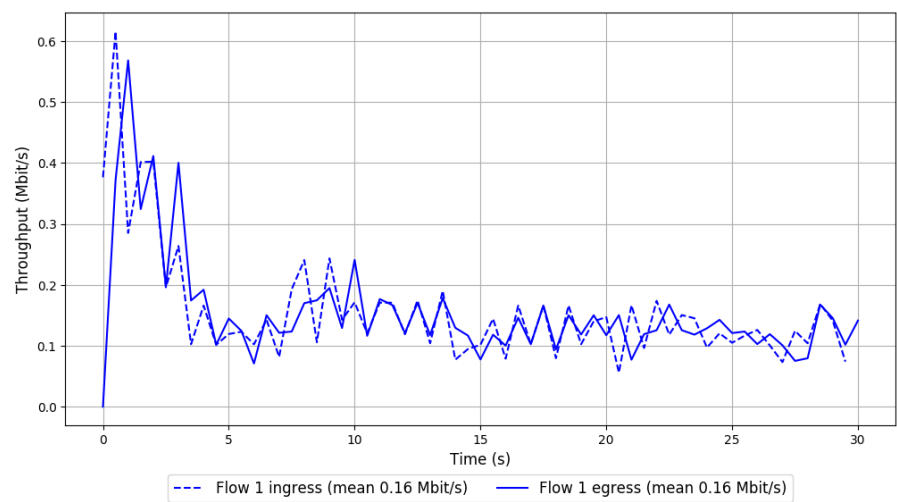
-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 136.818 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

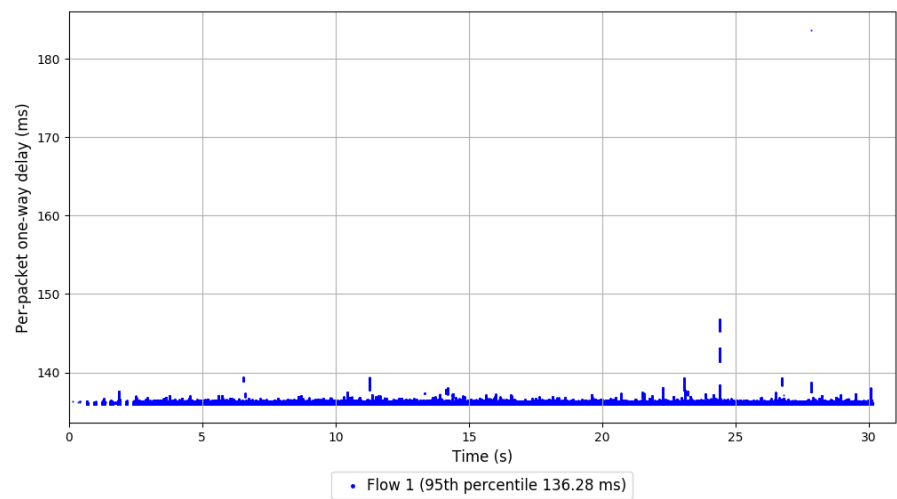
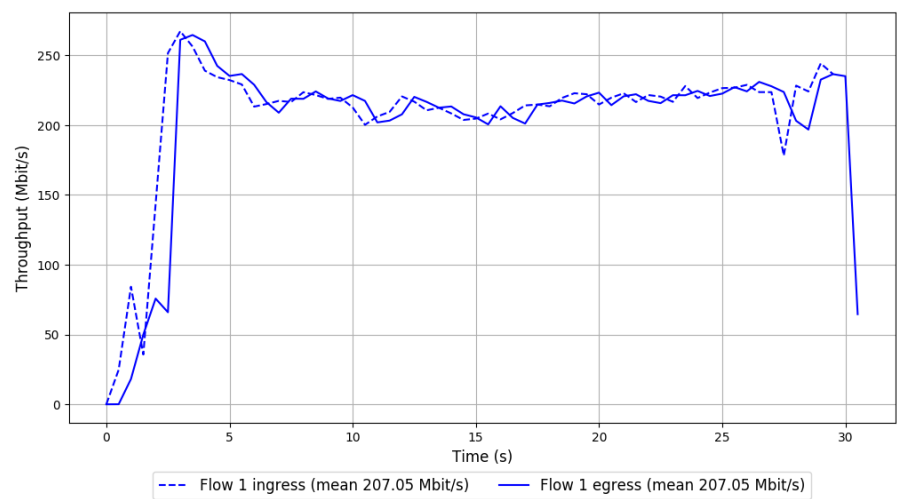


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 13:01:03
End at: 2018-09-06 13:01:33
Local clock offset: 0.0 ms
Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-09-06 16:04:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 207.05 Mbit/s
95th percentile per-packet one-way delay: 136.282 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.05 Mbit/s
95th percentile per-packet one-way delay: 136.282 ms
Loss rate: 0.00%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 13:27:48

End at: 2018-09-06 13:28:18

Local clock offset: -0.09 ms

Remote clock offset: 0.087 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 197.64 Mbit/s

95th percentile per-packet one-way delay: 136.675 ms

Loss rate: 0.00%

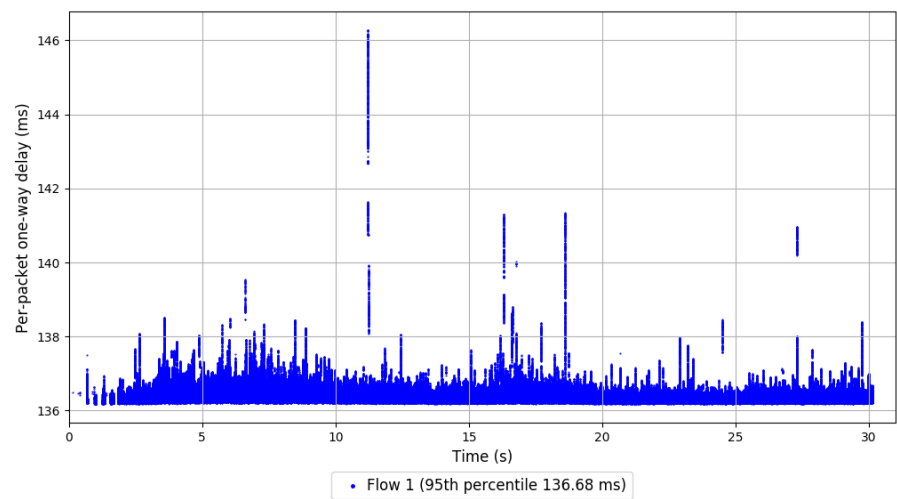
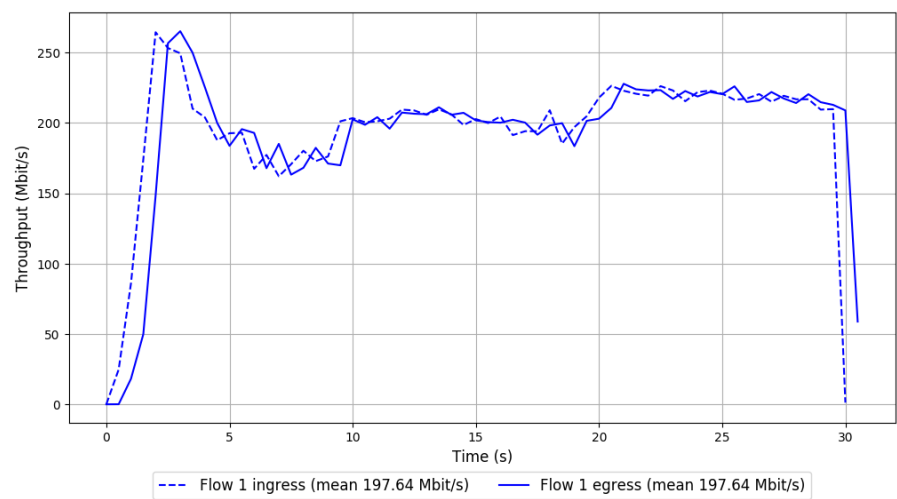
-- Flow 1:

Average throughput: 197.64 Mbit/s

95th percentile per-packet one-way delay: 136.675 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 13:54:40

End at: 2018-09-06 13:55:10

Local clock offset: -0.094 ms

Remote clock offset: 0.492 ms

Below is generated by plot.py at 2018-09-06 16:04:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 207.18 Mbit/s

95th percentile per-packet one-way delay: 136.715 ms

Loss rate: 0.00%

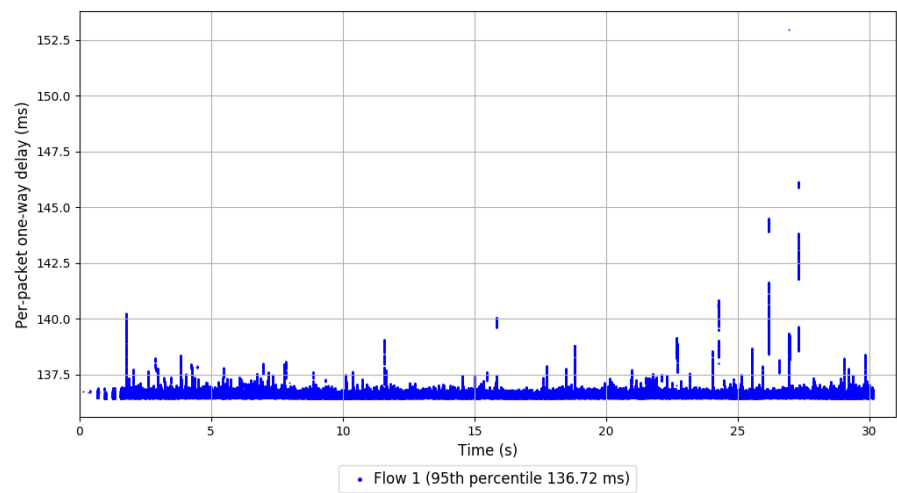
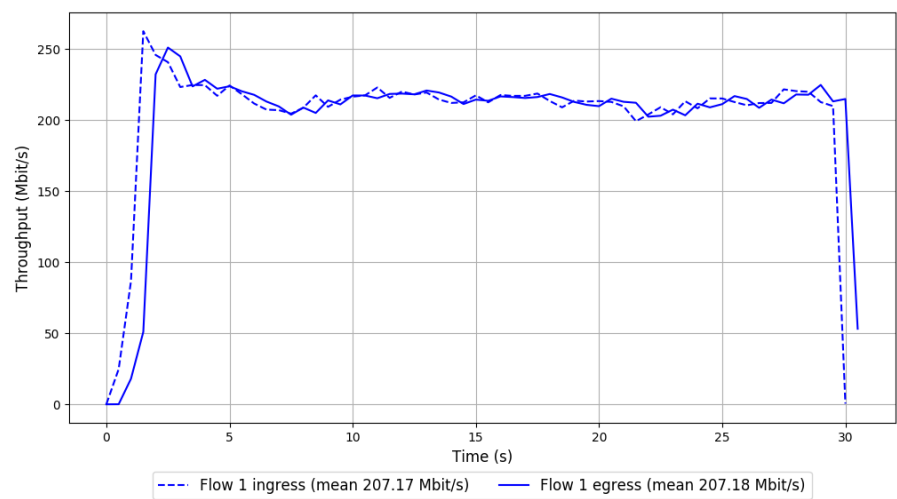
-- Flow 1:

Average throughput: 207.18 Mbit/s

95th percentile per-packet one-way delay: 136.715 ms

Loss rate: 0.00%

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

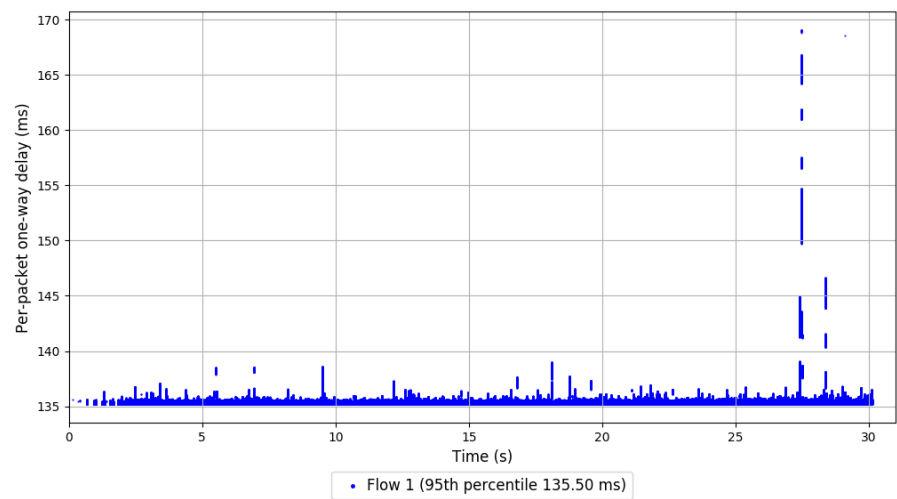
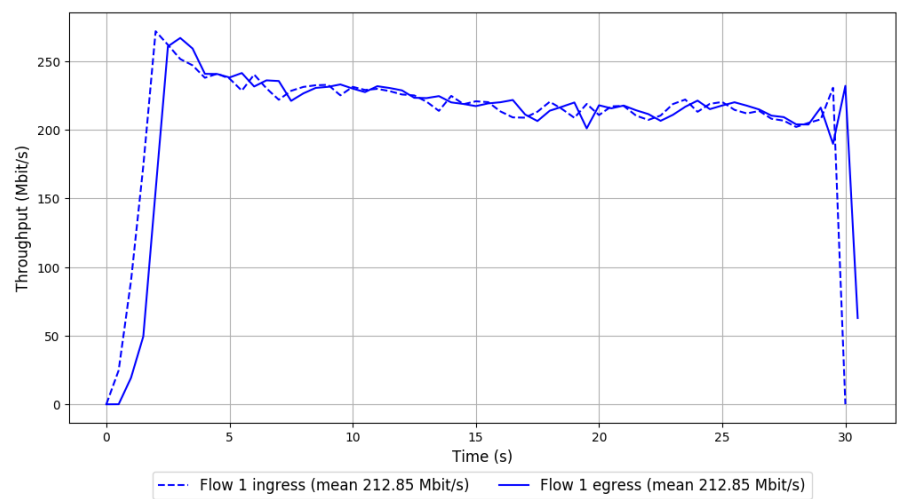


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 14:21:28
End at: 2018-09-06 14:21:58
Local clock offset: -0.026 ms
Remote clock offset: -0.204 ms

Below is generated by plot.py at 2018-09-06 16:06:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 212.85 Mbit/s
95th percentile per-packet one-way delay: 135.498 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.85 Mbit/s
95th percentile per-packet one-way delay: 135.498 ms
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 14:48:48

End at: 2018-09-06 14:49:18

Local clock offset: -0.231 ms

Remote clock offset: 0.099 ms

Below is generated by plot.py at 2018-09-06 16:07:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 207.95 Mbit/s

95th percentile per-packet one-way delay: 136.516 ms

Loss rate: 0.00%

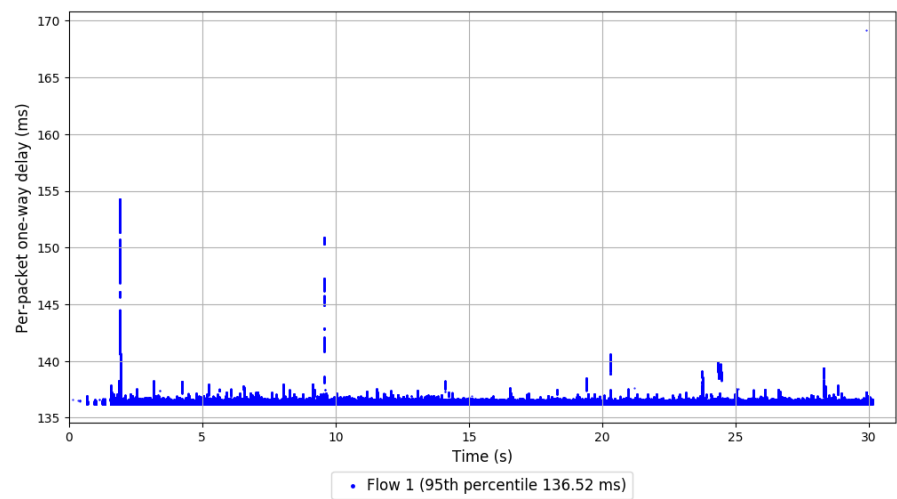
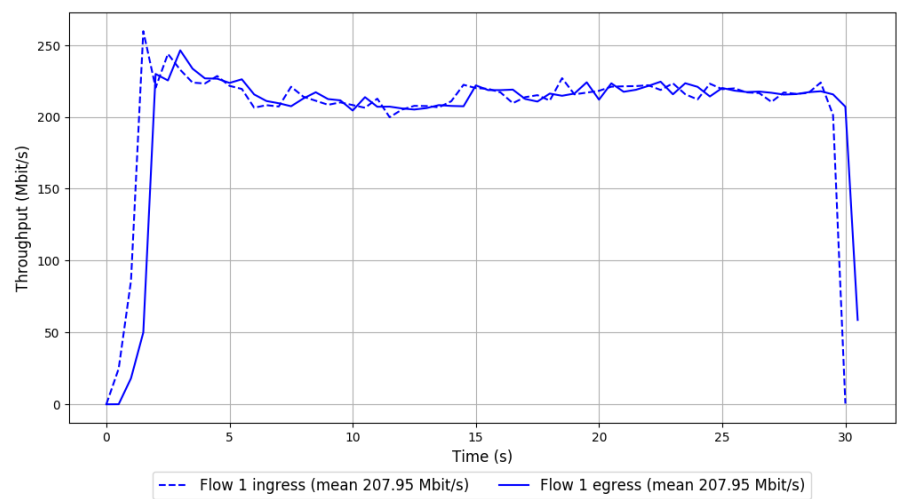
-- Flow 1:

Average throughput: 207.95 Mbit/s

95th percentile per-packet one-way delay: 136.516 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 12:54:20

End at: 2018-09-06 12:54:50

Local clock offset: -0.207 ms

Remote clock offset: 0.15 ms

Below is generated by plot.py at 2018-09-06 16:09:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 482.91 Mbit/s

95th percentile per-packet one-way delay: 183.173 ms

Loss rate: 0.16%

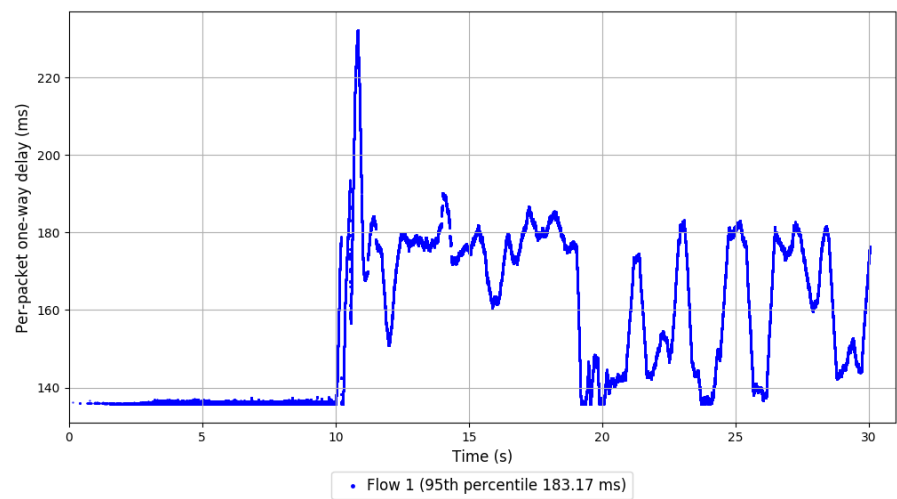
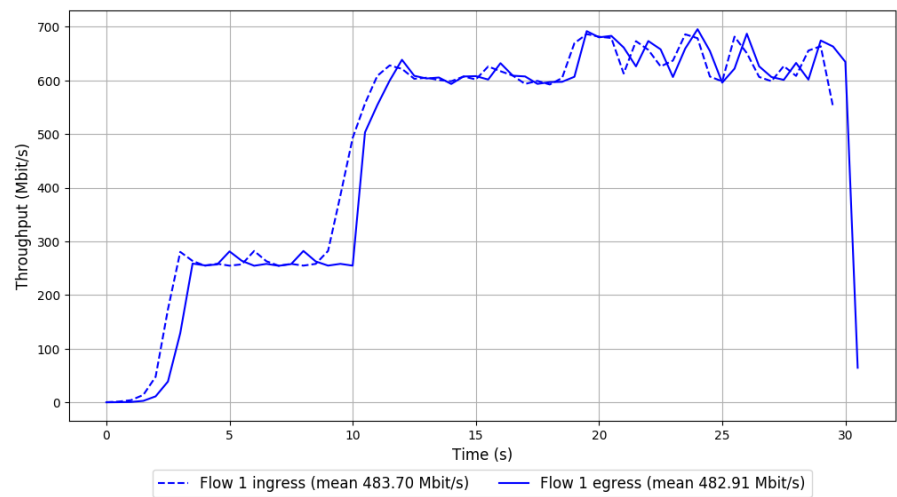
-- Flow 1:

Average throughput: 482.91 Mbit/s

95th percentile per-packet one-way delay: 183.173 ms

Loss rate: 0.16%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 13:21:24

End at: 2018-09-06 13:21:54

Local clock offset: -0.12 ms

Remote clock offset: 0.089 ms

Below is generated by plot.py at 2018-09-06 16:10:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 396.99 Mbit/s

95th percentile per-packet one-way delay: 181.281 ms

Loss rate: 0.20%

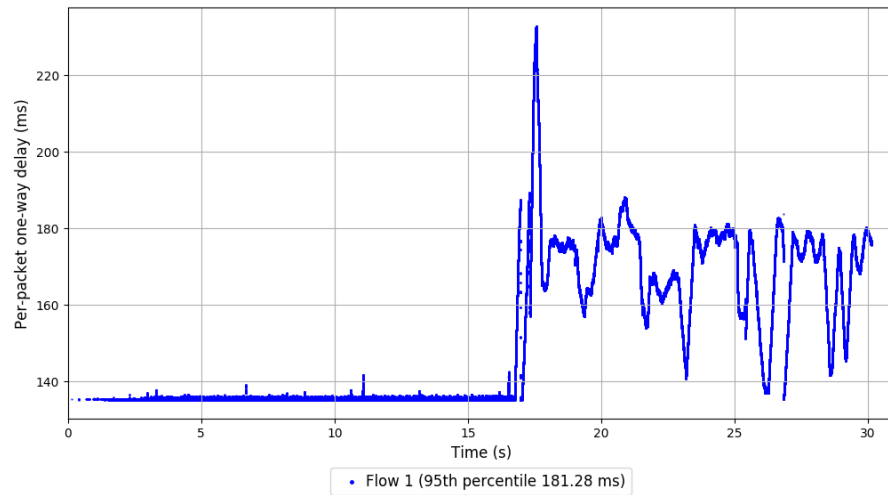
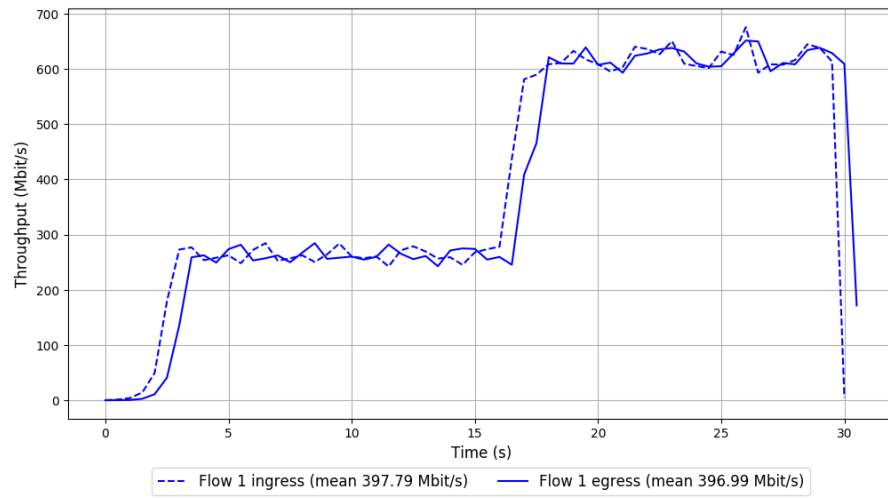
-- Flow 1:

Average throughput: 396.99 Mbit/s

95th percentile per-packet one-way delay: 181.281 ms

Loss rate: 0.20%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 13:48:03

End at: 2018-09-06 13:48:33

Local clock offset: -0.17 ms

Remote clock offset: 0.502 ms

Below is generated by plot.py at 2018-09-06 16:11:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 409.96 Mbit/s

95th percentile per-packet one-way delay: 136.861 ms

Loss rate: 0.00%

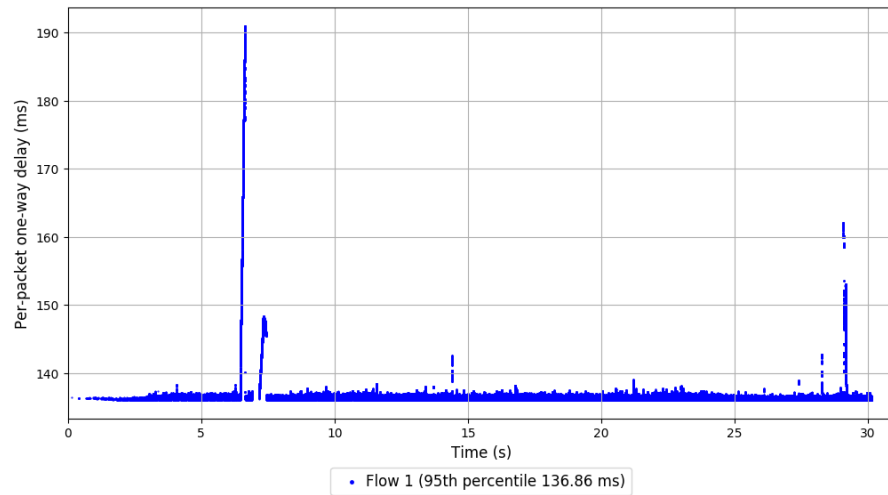
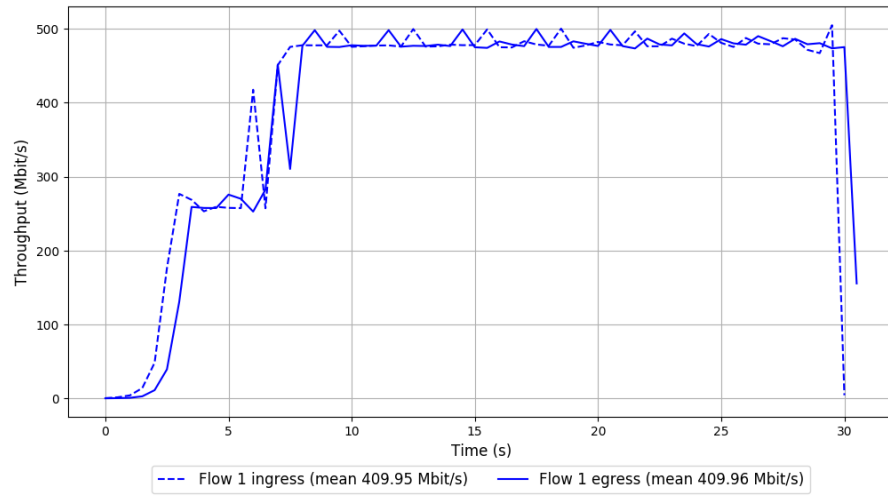
-- Flow 1:

Average throughput: 409.96 Mbit/s

95th percentile per-packet one-way delay: 136.861 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

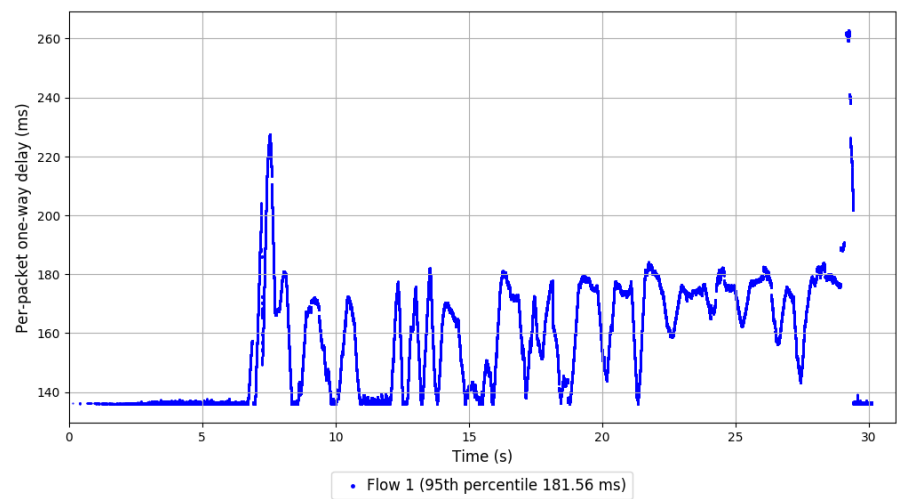
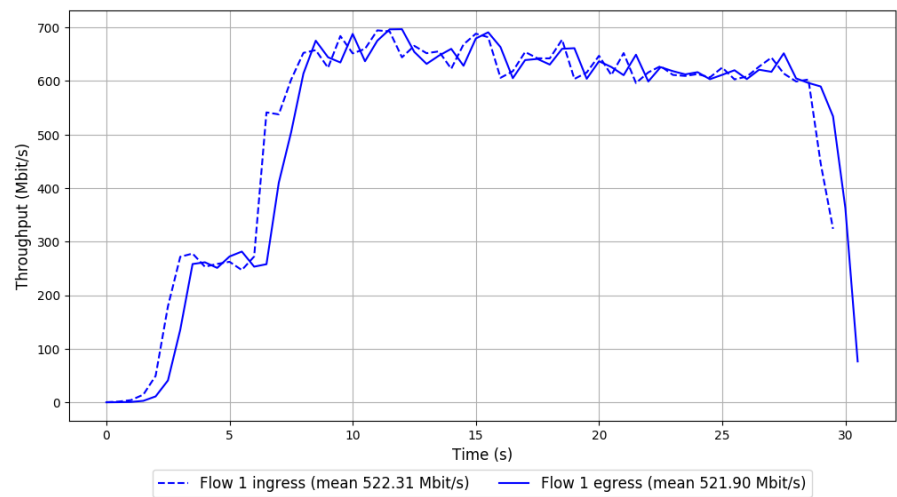


Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 14:14:50
End at: 2018-09-06 14:15:20
Local clock offset: -0.091 ms
Remote clock offset: -0.231 ms

Below is generated by plot.py at 2018-09-06 16:13:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 521.90 Mbit/s
95th percentile per-packet one-way delay: 181.564 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 521.90 Mbit/s
95th percentile per-packet one-way delay: 181.564 ms
Loss rate: 0.08%

Run 4: Report of TCP Vegas — Data Link

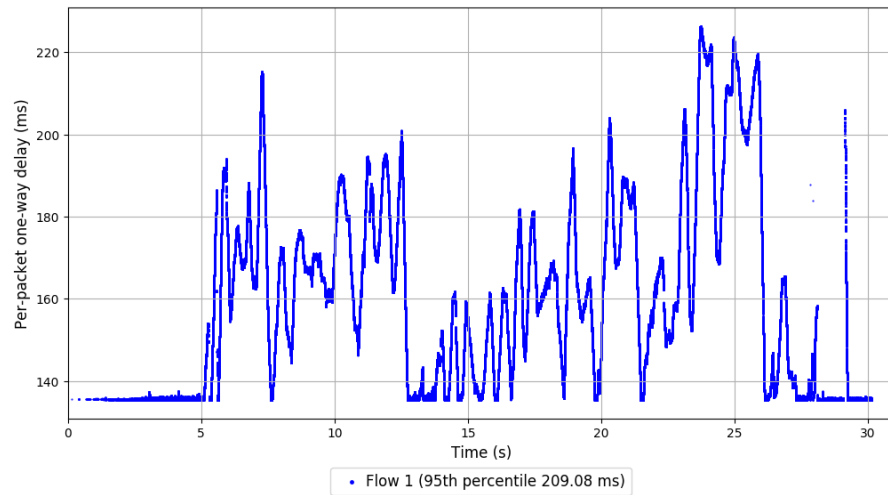
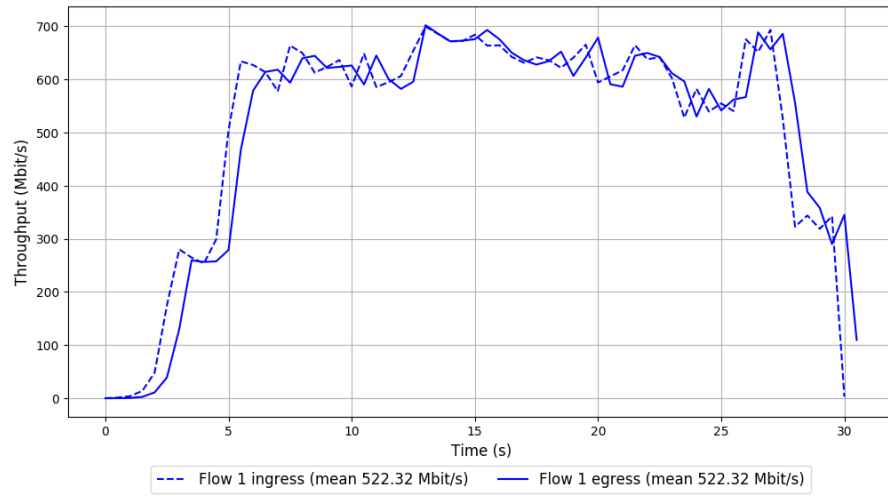


Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 14:41:58
End at: 2018-09-06 14:42:28
Local clock offset: -0.178 ms
Remote clock offset: -0.275 ms

Below is generated by plot.py at 2018-09-06 16:13:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 522.32 Mbit/s
95th percentile per-packet one-way delay: 209.078 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 522.32 Mbit/s
95th percentile per-packet one-way delay: 209.078 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-06 12:43:42

End at: 2018-09-06 12:44:12

Local clock offset: 0.116 ms

Remote clock offset: 0.138 ms

Below is generated by plot.py at 2018-09-06 16:13:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.73 Mbit/s

95th percentile per-packet one-way delay: 211.935 ms

Loss rate: 1.75%

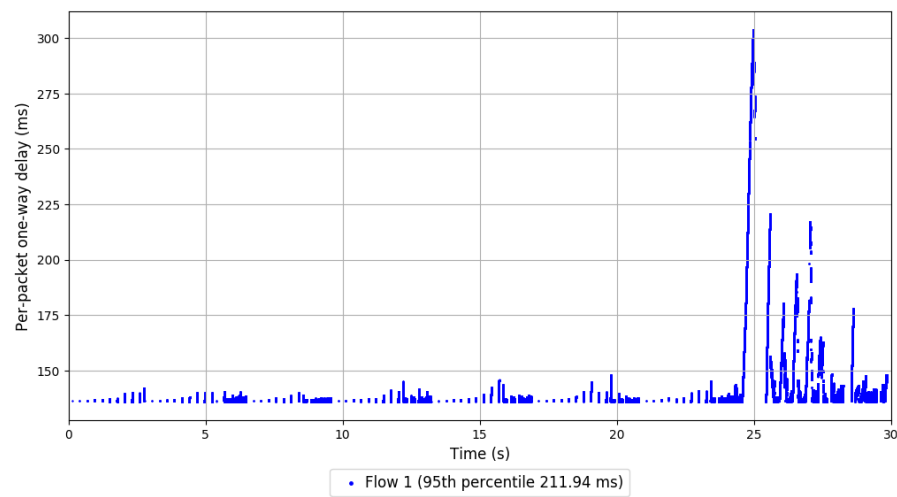
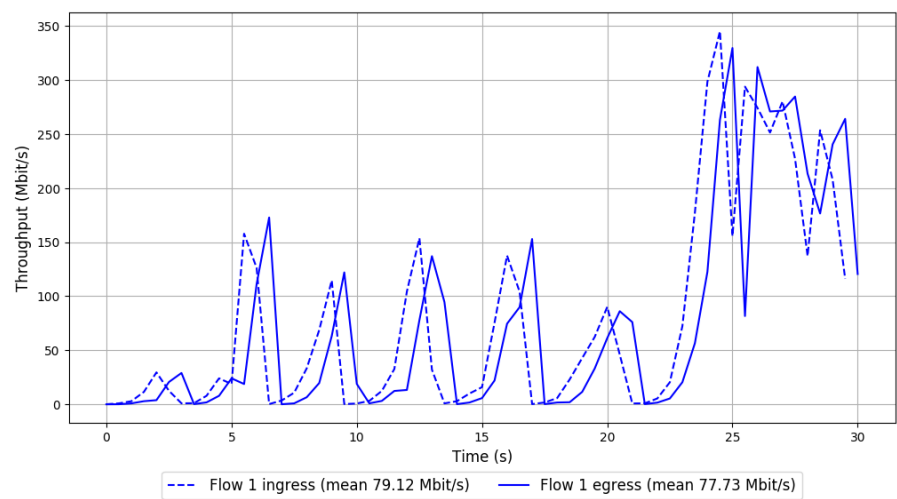
-- Flow 1:

Average throughput: 77.73 Mbit/s

95th percentile per-packet one-way delay: 211.935 ms

Loss rate: 1.75%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-06 13:10:26

End at: 2018-09-06 13:10:56

Local clock offset: 0.061 ms

Remote clock offset: 0.128 ms

Below is generated by plot.py at 2018-09-06 16:13:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 166.06 Mbit/s

95th percentile per-packet one-way delay: 274.538 ms

Loss rate: 7.14%

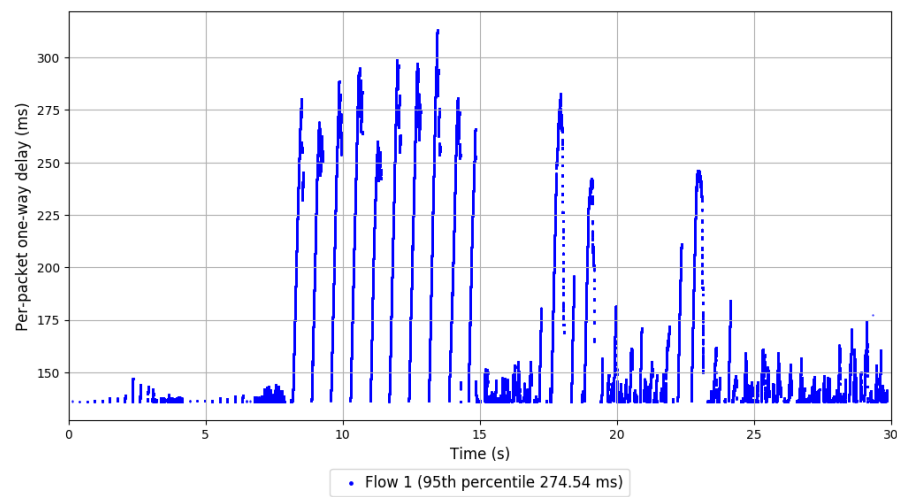
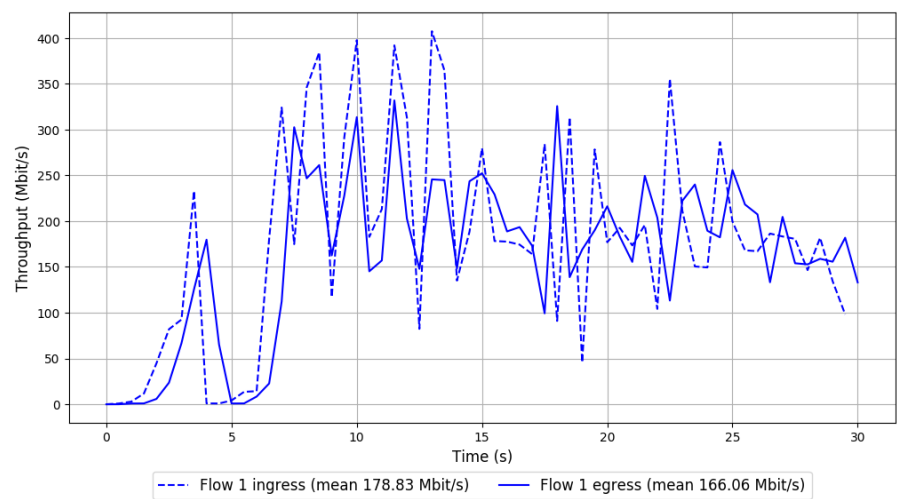
-- Flow 1:

Average throughput: 166.06 Mbit/s

95th percentile per-packet one-way delay: 274.538 ms

Loss rate: 7.14%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-06 13:37:16

End at: 2018-09-06 13:37:46

Local clock offset: -0.124 ms

Remote clock offset: 0.092 ms

Below is generated by plot.py at 2018-09-06 16:13:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.70 Mbit/s

95th percentile per-packet one-way delay: 144.577 ms

Loss rate: 0.00%

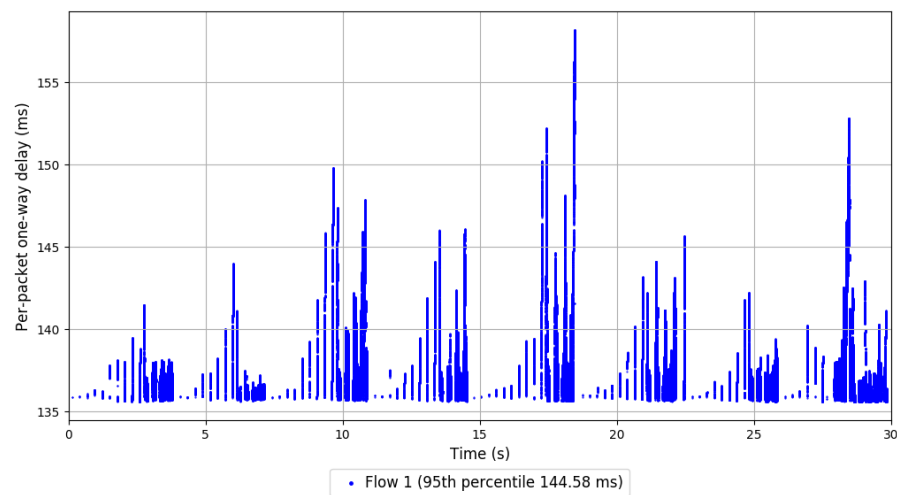
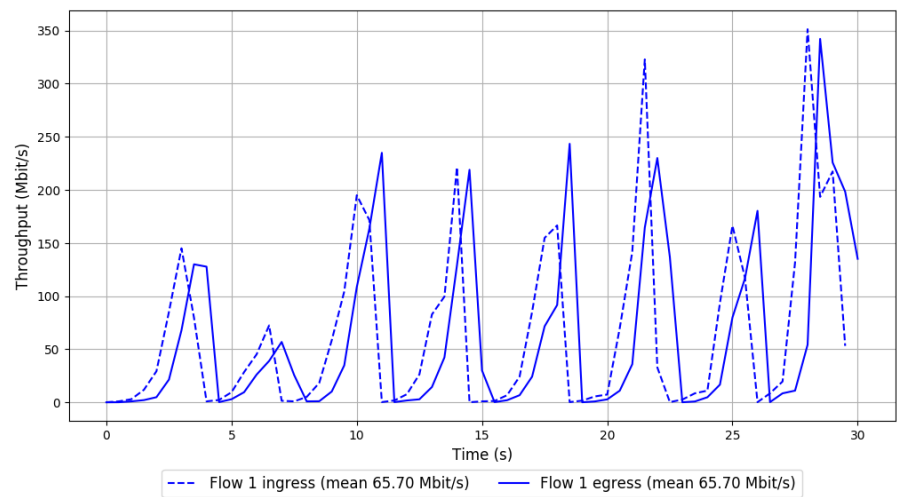
-- Flow 1:

Average throughput: 65.70 Mbit/s

95th percentile per-packet one-way delay: 144.577 ms

Loss rate: 0.00%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-06 14:04:06

End at: 2018-09-06 14:04:36

Local clock offset: -0.206 ms

Remote clock offset: 0.501 ms

Below is generated by plot.py at 2018-09-06 16:13:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.36 Mbit/s

95th percentile per-packet one-way delay: 179.094 ms

Loss rate: 0.00%

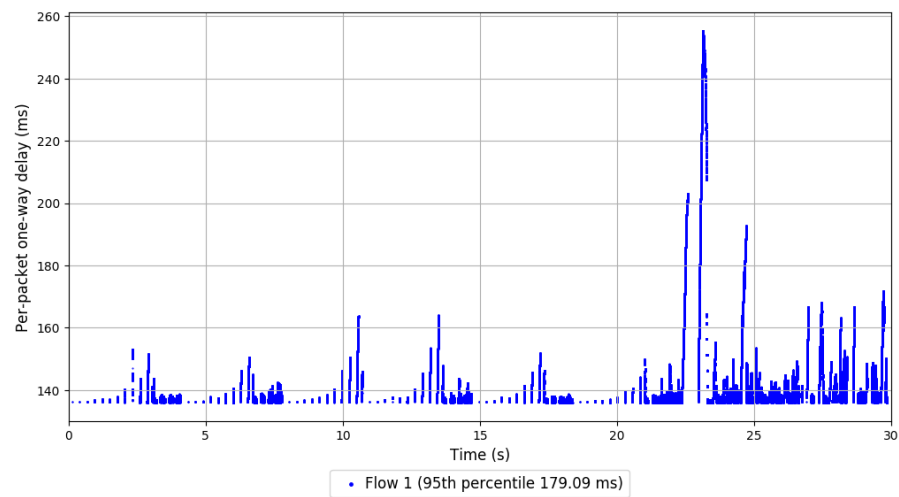
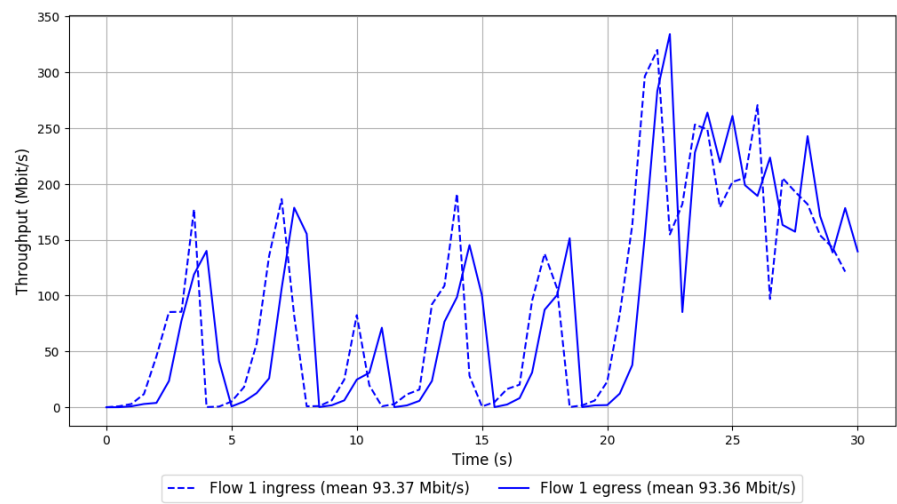
-- Flow 1:

Average throughput: 93.36 Mbit/s

95th percentile per-packet one-way delay: 179.094 ms

Loss rate: 0.00%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-06 14:30:59

End at: 2018-09-06 14:31:29

Local clock offset: -0.061 ms

Remote clock offset: 0.073 ms

Below is generated by plot.py at 2018-09-06 16:14:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 174.81 Mbit/s

95th percentile per-packet one-way delay: 229.180 ms

Loss rate: 0.38%

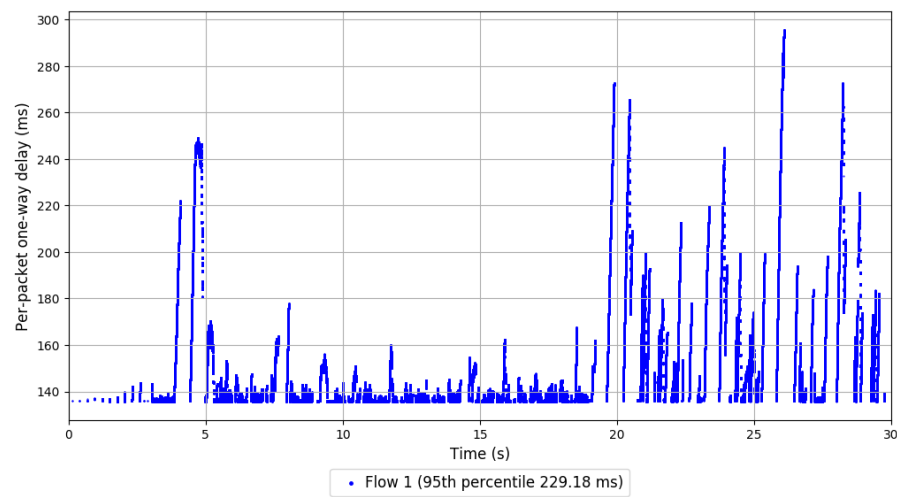
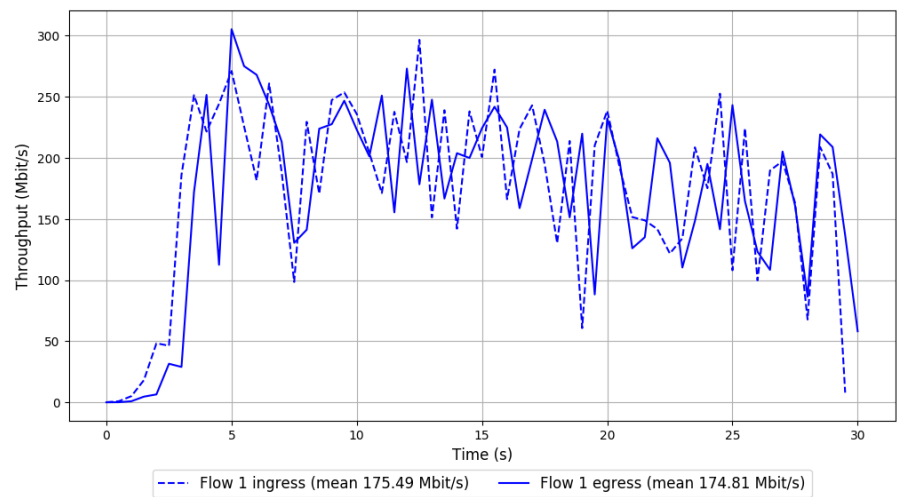
-- Flow 1:

Average throughput: 174.81 Mbit/s

95th percentile per-packet one-way delay: 229.180 ms

Loss rate: 0.38%

Run 5: Report of Verus — Data Link

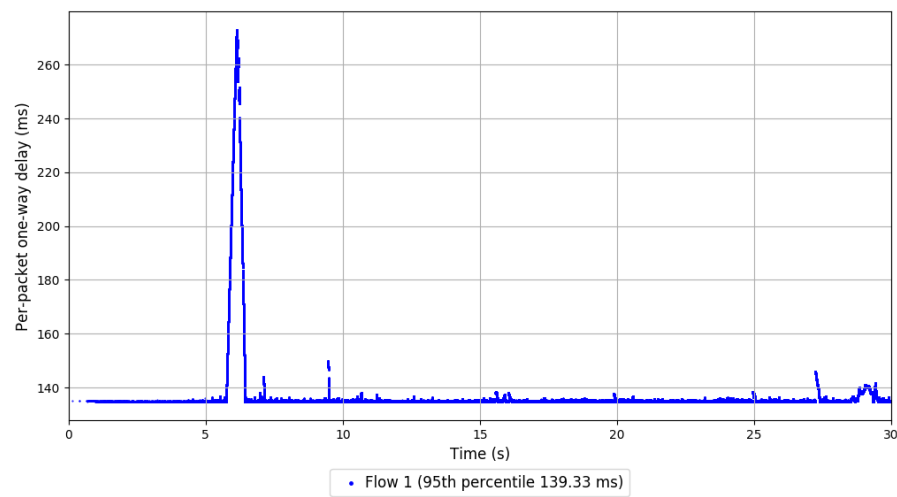
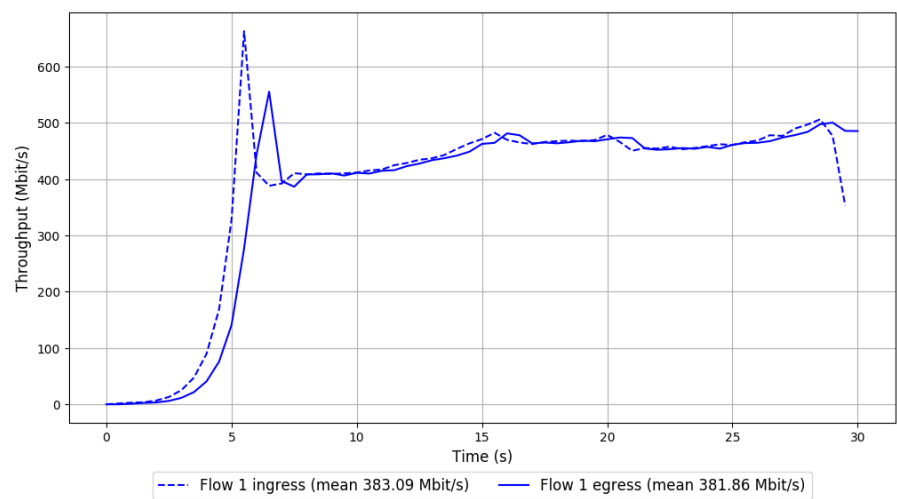


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 12:38:37
End at: 2018-09-06 12:39:07
Local clock offset: -0.146 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-09-06 16:16:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 381.86 Mbit/s
95th percentile per-packet one-way delay: 139.330 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 381.86 Mbit/s
95th percentile per-packet one-way delay: 139.330 ms
Loss rate: 0.32%

Run 1: Report of PCC-Vivace — Data Link

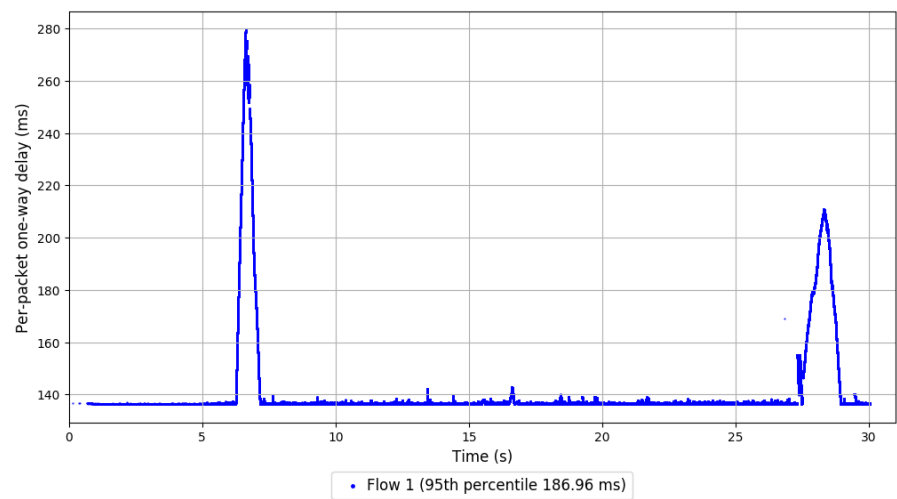
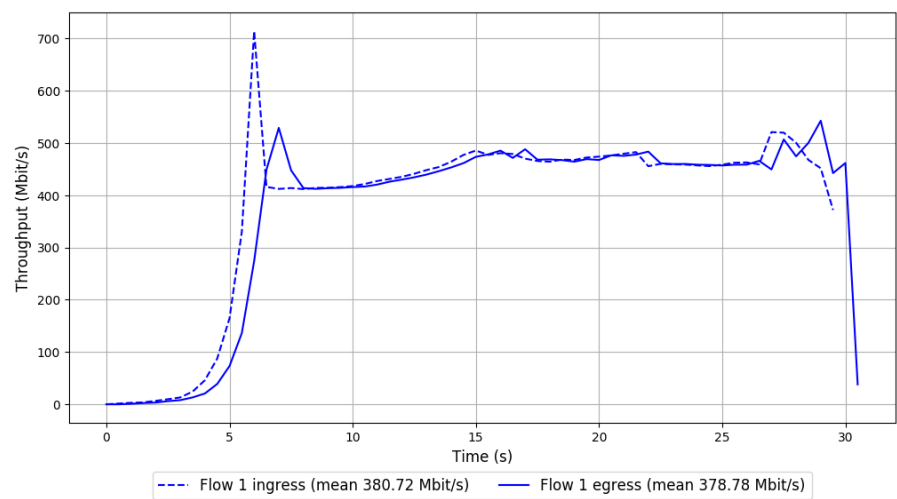


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 13:05:22
End at: 2018-09-06 13:05:52
Local clock offset: -0.287 ms
Remote clock offset: -0.264 ms

Below is generated by plot.py at 2018-09-06 16:16:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 378.78 Mbit/s
95th percentile per-packet one-way delay: 186.955 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 378.78 Mbit/s
95th percentile per-packet one-way delay: 186.955 ms
Loss rate: 0.51%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 13:32:13

End at: 2018-09-06 13:32:43

Local clock offset: -0.098 ms

Remote clock offset: 0.047 ms

Below is generated by plot.py at 2018-09-06 16:16:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 376.98 Mbit/s

95th percentile per-packet one-way delay: 137.956 ms

Loss rate: 0.10%

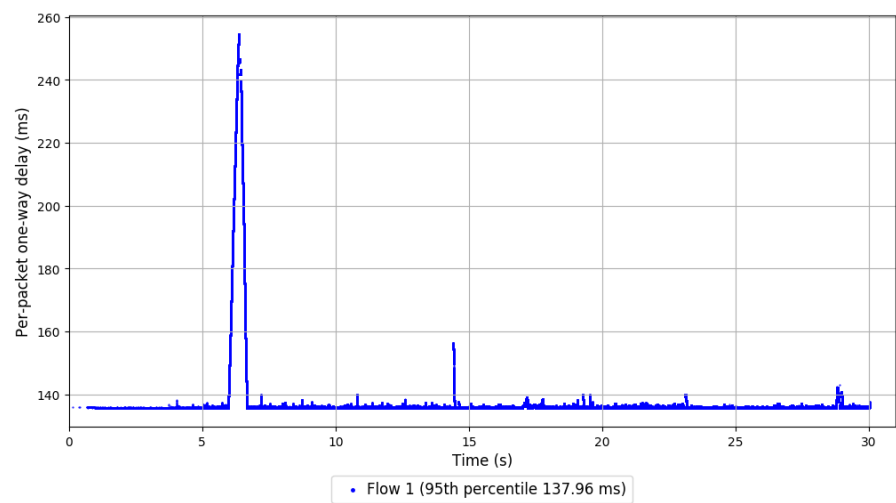
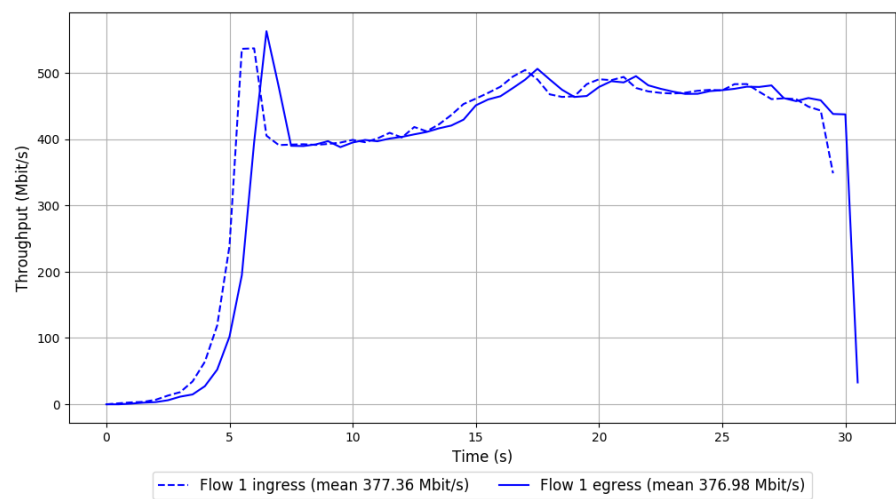
-- Flow 1:

Average throughput: 376.98 Mbit/s

95th percentile per-packet one-way delay: 137.956 ms

Loss rate: 0.10%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 13:59:00

End at: 2018-09-06 13:59:30

Local clock offset: -0.155 ms

Remote clock offset: 0.488 ms

Below is generated by plot.py at 2018-09-06 16:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 379.20 Mbit/s

95th percentile per-packet one-way delay: 153.642 ms

Loss rate: 0.41%

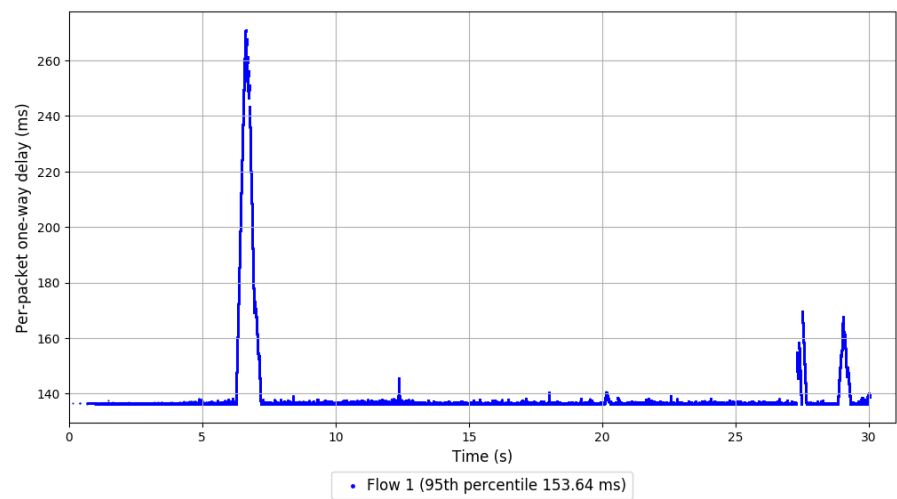
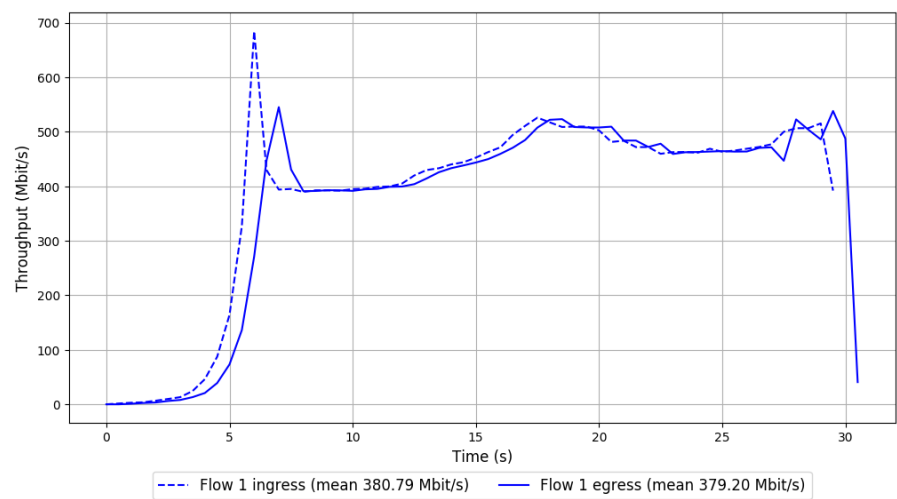
-- Flow 1:

Average throughput: 379.20 Mbit/s

95th percentile per-packet one-way delay: 153.642 ms

Loss rate: 0.41%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 14:25:48

End at: 2018-09-06 14:26:18

Local clock offset: -0.103 ms

Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-09-06 16:16:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 376.49 Mbit/s

95th percentile per-packet one-way delay: 140.385 ms

Loss rate: 0.00%

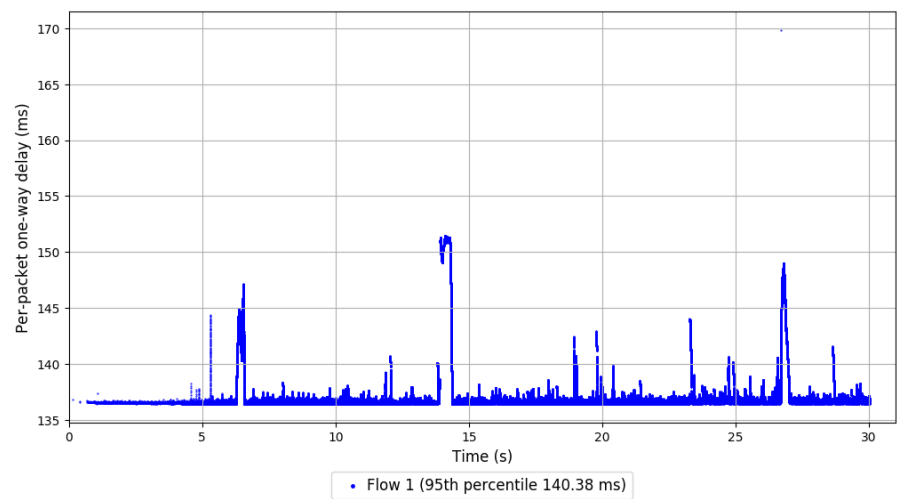
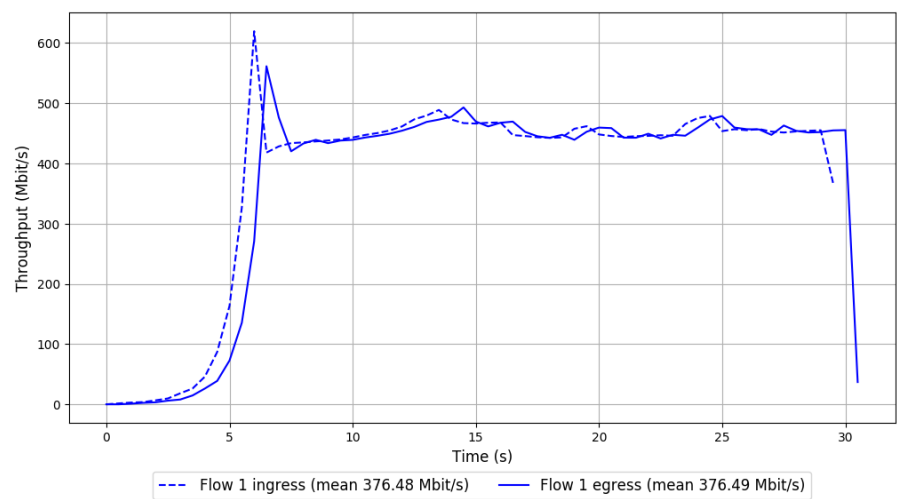
-- Flow 1:

Average throughput: 376.49 Mbit/s

95th percentile per-packet one-way delay: 140.385 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

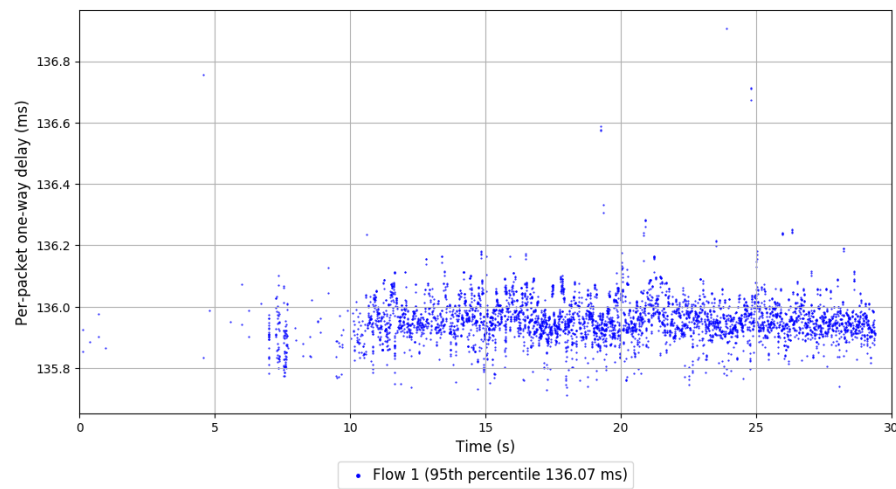
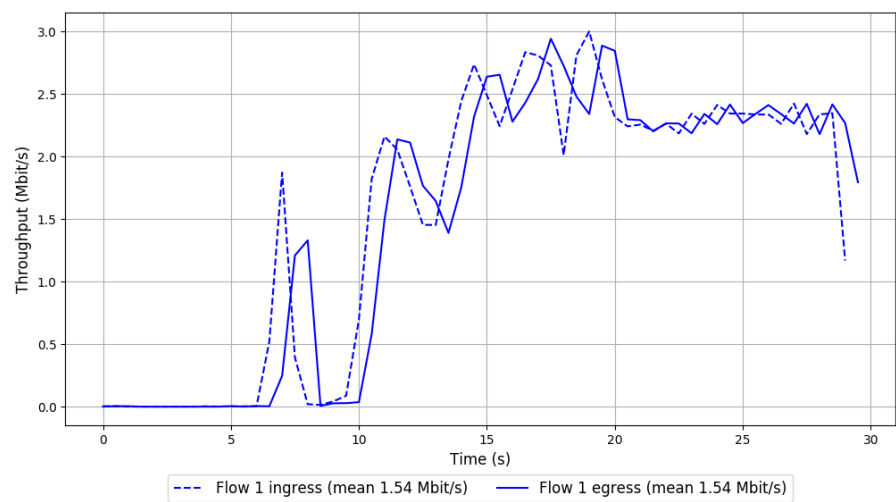


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 12:53:10
End at: 2018-09-06 12:53:40
Local clock offset: -0.227 ms
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2018-09-06 16:16:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 136.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 136.067 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

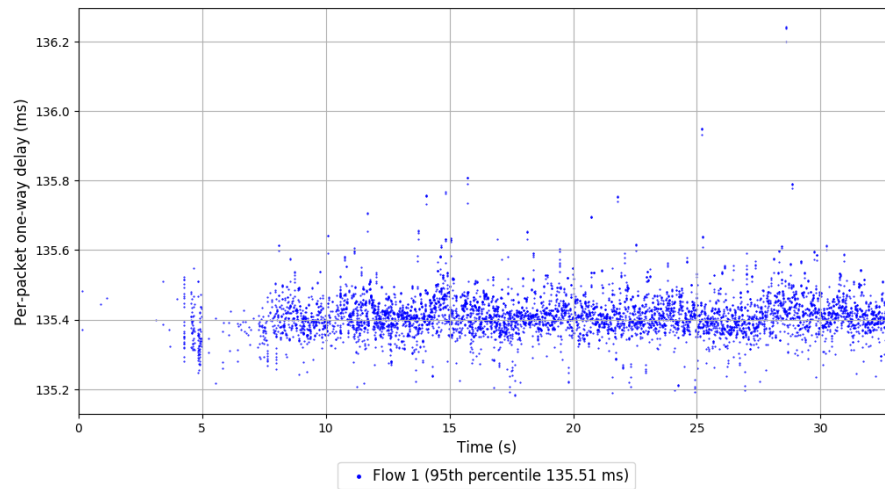
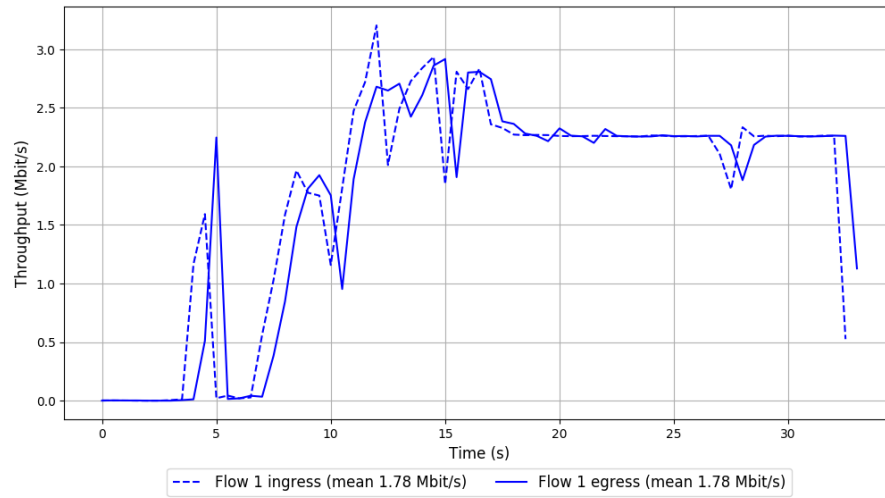


Run 2: Statistics of WebRTC media

Start at: 2018-09-06 13:20:14
End at: 2018-09-06 13:20:44
Local clock offset: -0.076 ms
Remote clock offset: -0.265 ms

Below is generated by plot.py at 2018-09-06 16:16:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 135.511 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 135.511 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-06 13:46:53

End at: 2018-09-06 13:47:23

Local clock offset: -0.243 ms

Remote clock offset: 0.139 ms

Below is generated by plot.py at 2018-09-06 16:16:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 135.946 ms

Loss rate: 0.00%

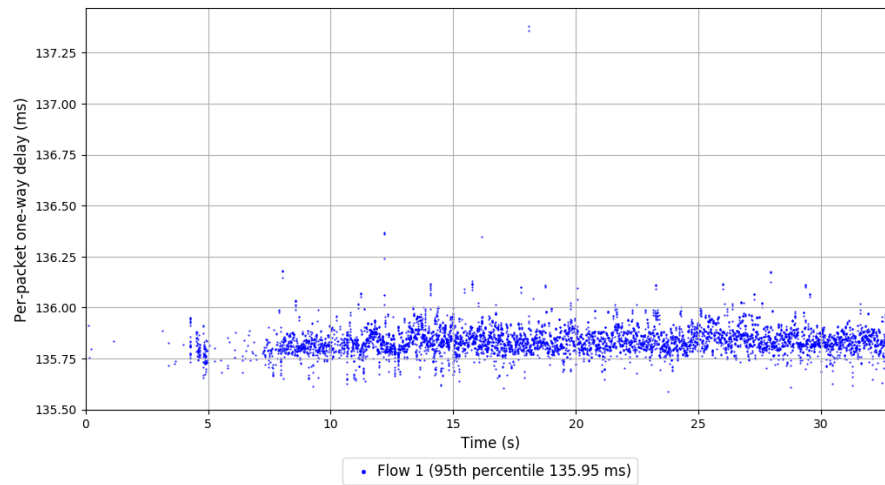
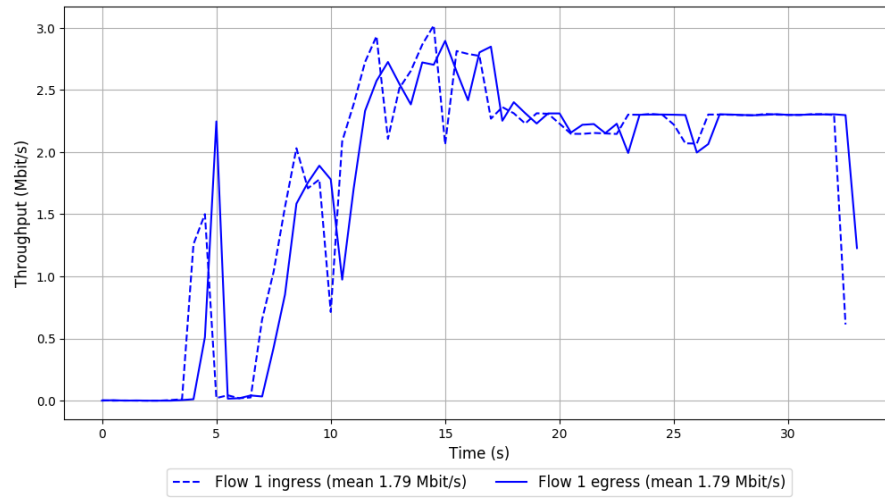
-- Flow 1:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 135.946 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

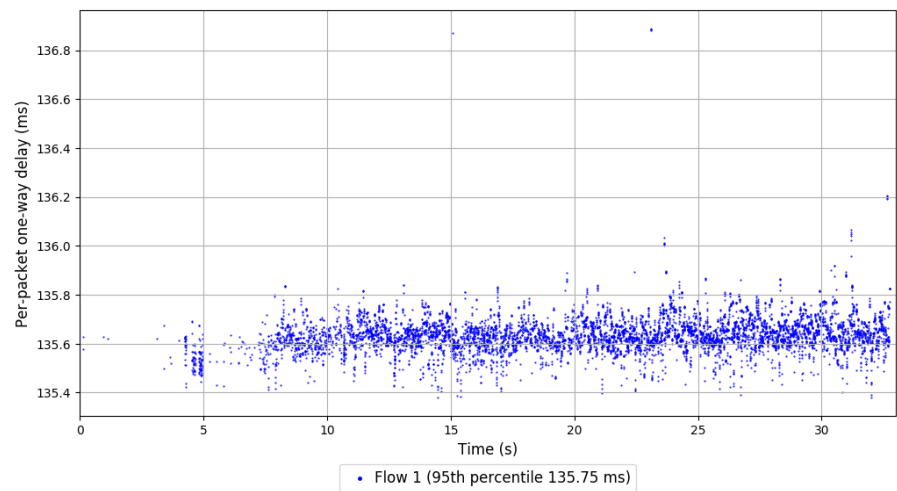
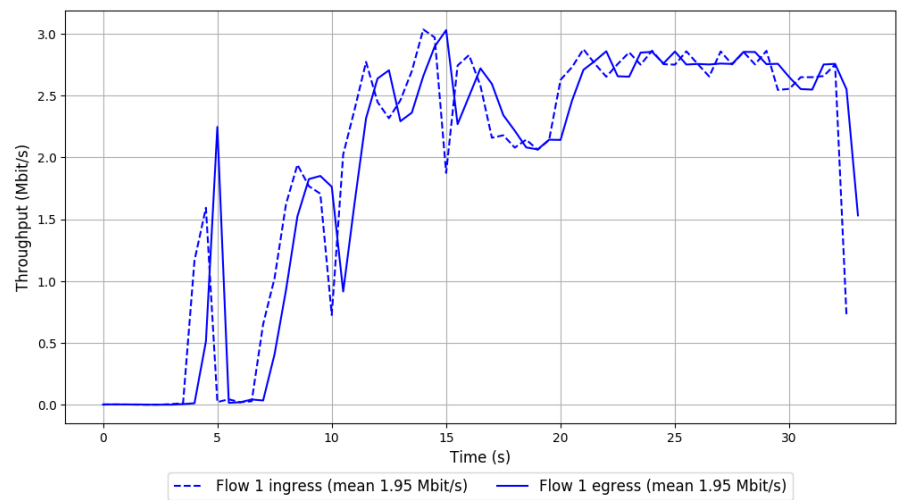


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 14:13:40
End at: 2018-09-06 14:14:10
Local clock offset: -0.277 ms
Remote clock offset: -0.269 ms

Below is generated by plot.py at 2018-09-06 16:16:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 135.749 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 135.749 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 14:40:48

End at: 2018-09-06 14:41:18

Local clock offset: -0.235 ms

Remote clock offset: 0.101 ms

Below is generated by plot.py at 2018-09-06 16:16:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 136.616 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 136.616 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

