

Pantheon Report

Generated at 2018-07-17 08:40:03 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 ppp0 (*remote*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

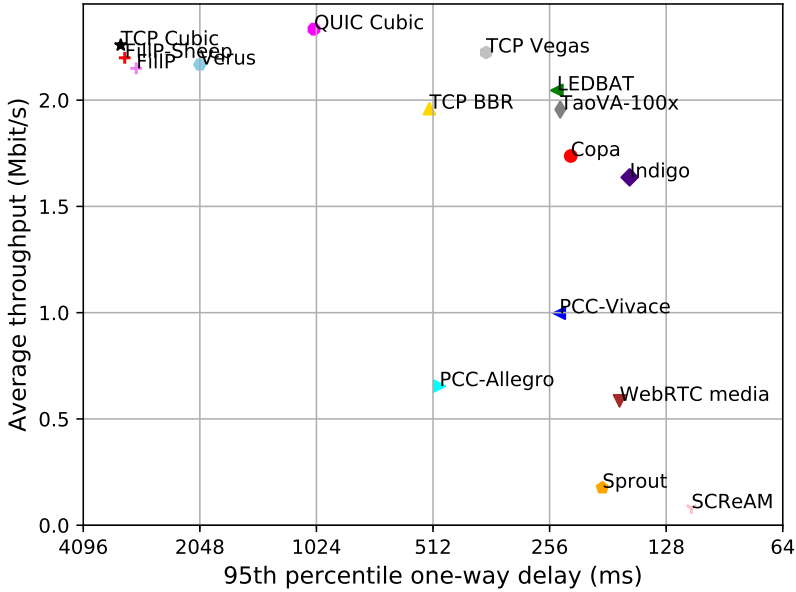
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

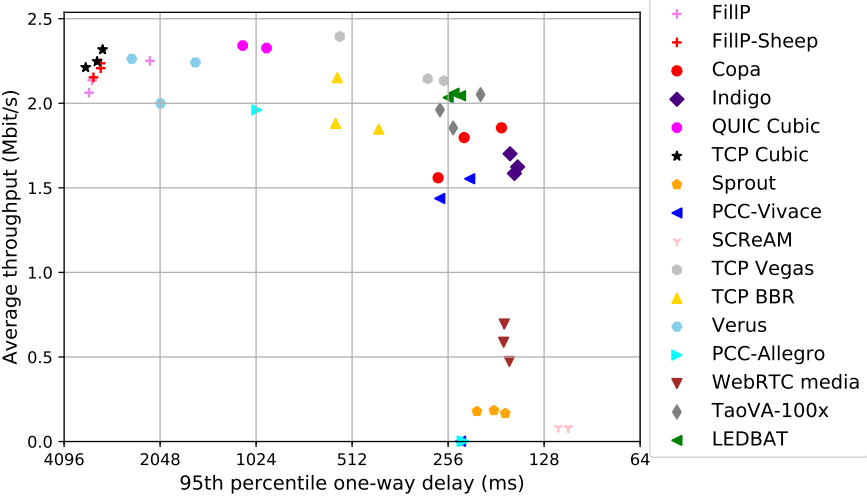
Git summary:

```
branch: master @ f7befc2d8410f41949e0ad8143a9aab40bab7edb
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Brazil 2 to Colombia ppp0, 3 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	1.96	522.95	1.19
Copa	3	1.74	225.77	0.11
TCP Cubic	3	2.26	3278.09	13.63
FillP	3	2.15	2989.22	58.20
FillP-Sheep	3	2.20	3201.04	21.81
Indigo	3	1.63	159.09	0.15
LEDBAT	3	2.04	245.17	0.41
PCC-Allegro	3	0.65	492.80	0.03
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	2	2.33	1038.86	3.62
SCReAM	3	0.08	110.17	0.13
Sprout	3	0.18	187.06	0.07
TaoVA-100x	3	1.95	240.29	0.26
TCP Vegas	3	2.22	373.43	0.44
Verus	3	2.17	2047.04	3.69
PCC-Vivace	3	1.00	241.69	0.05
WebRTC media	3	0.58	168.89	0.10

Run 1: Statistics of TCP BBR

Start at: 2018-07-17 07:42:27

End at: 2018-07-17 07:42:58

Local clock offset: 1.324 ms

Remote clock offset: -1.323 ms

Below is generated by plot.py at 2018-07-17 08:39:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 422.509 ms

Loss rate: 1.45%

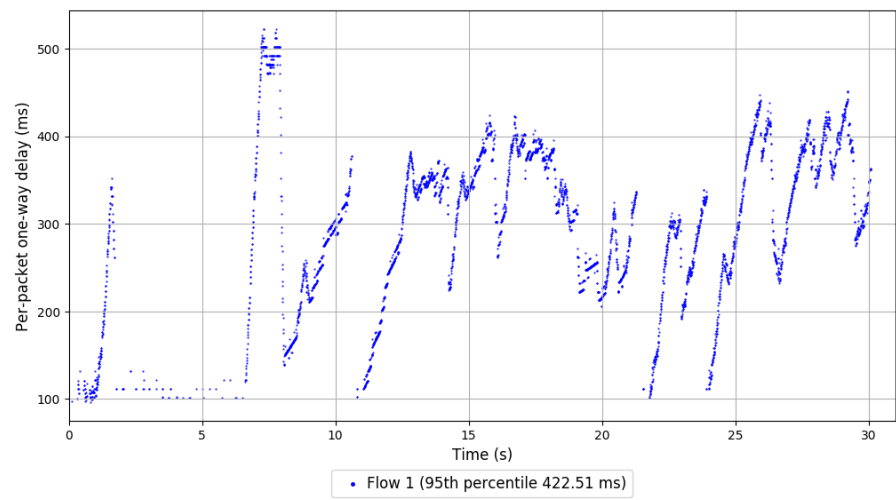
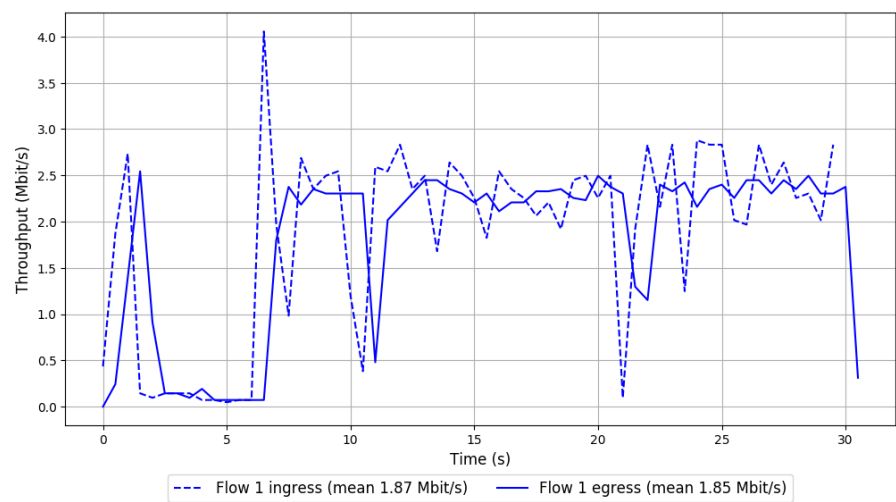
-- Flow 1:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 422.509 ms

Loss rate: 1.45%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-07-17 08:01:36

End at: 2018-07-17 08:02:06

Local clock offset: 0.781 ms

Remote clock offset: 10.064 ms

Below is generated by plot.py at 2018-07-17 08:39:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 576.898 ms

Loss rate: 0.99%

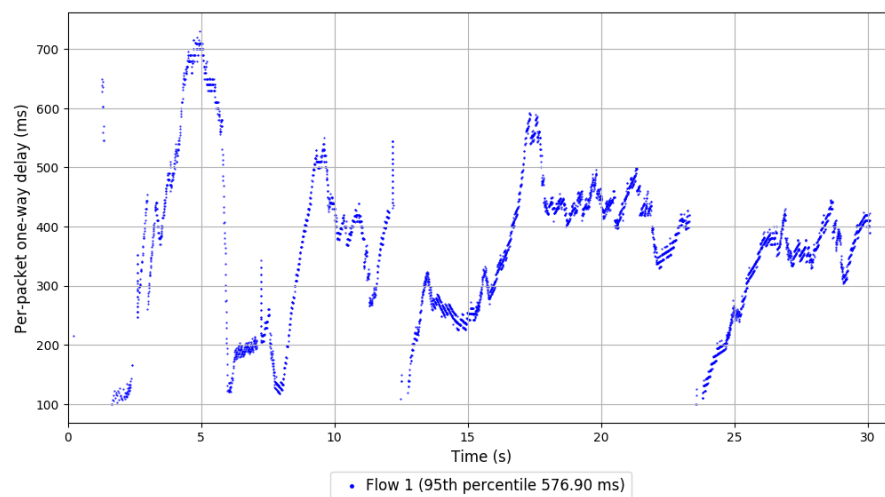
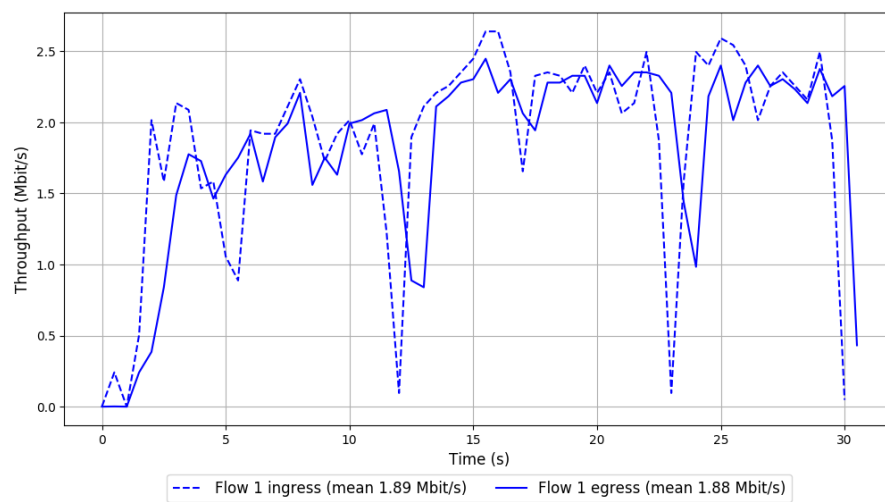
-- Flow 1:

Average throughput: 1.88 Mbit/s

95th percentile per-packet one-way delay: 576.898 ms

Loss rate: 0.99%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-07-17 08:20:49

End at: 2018-07-17 08:21:19

Local clock offset: 3.533 ms

Remote clock offset: 13.725 ms

Below is generated by plot.py at 2018-07-17 08:39:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.15 Mbit/s

95th percentile per-packet one-way delay: 569.445 ms

Loss rate: 1.14%

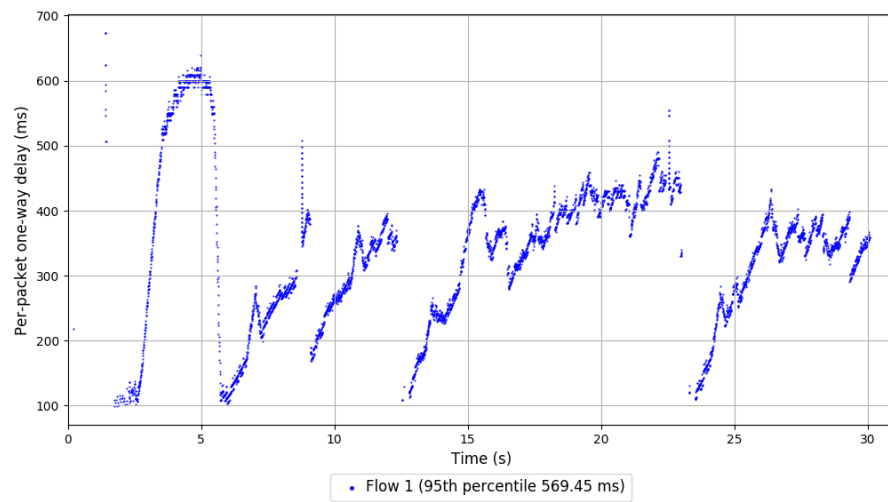
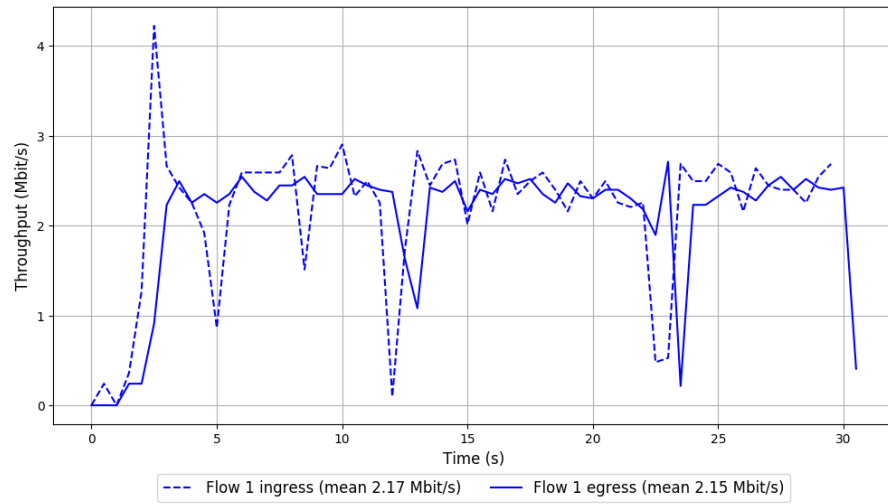
-- Flow 1:

Average throughput: 2.15 Mbit/s

95th percentile per-packet one-way delay: 569.445 ms

Loss rate: 1.14%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-07-17 07:58:14

End at: 2018-07-17 07:58:44

Local clock offset: 1.036 ms

Remote clock offset: 13.772 ms

Below is generated by plot.py at 2018-07-17 08:39:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 174.160 ms

Loss rate: 0.05%

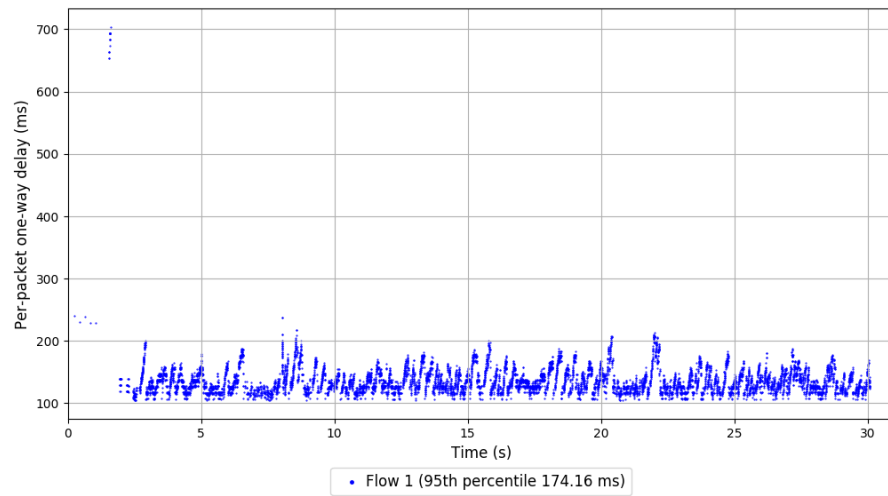
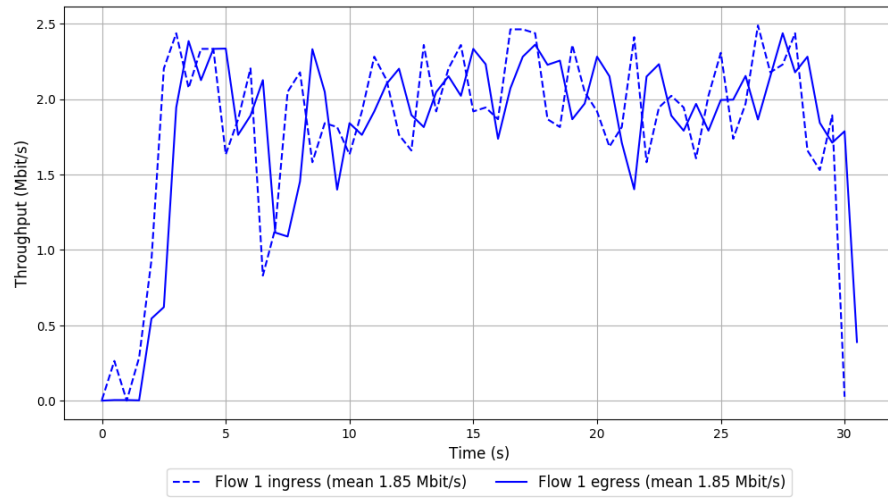
-- Flow 1:

Average throughput: 1.85 Mbit/s

95th percentile per-packet one-way delay: 174.160 ms

Loss rate: 0.05%

Run 1: Report of Copa — Data Link

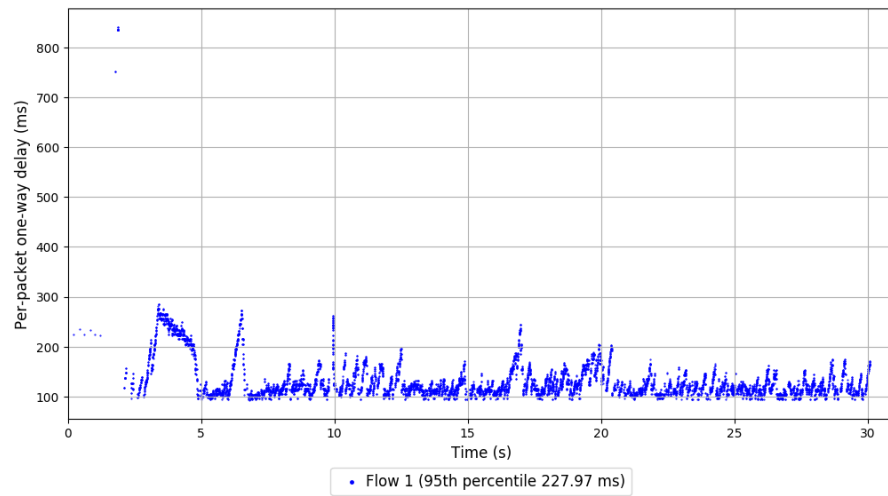
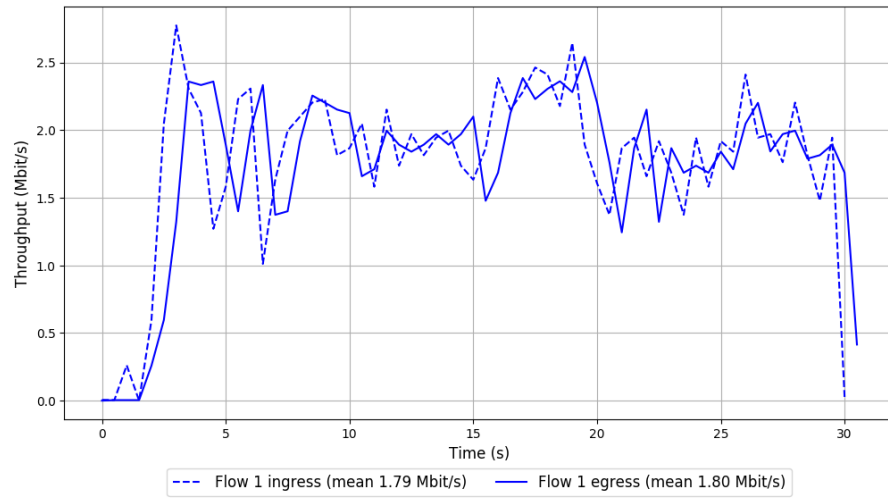


Run 2: Statistics of Copa

Start at: 2018-07-17 08:17:24
End at: 2018-07-17 08:17:54
Local clock offset: 2.806 ms
Remote clock offset: 13.436 ms

Below is generated by plot.py at 2018-07-17 08:39:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 227.968 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 227.968 ms
Loss rate: 0.17%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-07-17 08:36:34

End at: 2018-07-17 08:37:04

Local clock offset: -5.821 ms

Remote clock offset: 8.414 ms

Below is generated by plot.py at 2018-07-17 08:39:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 275.174 ms

Loss rate: 0.11%

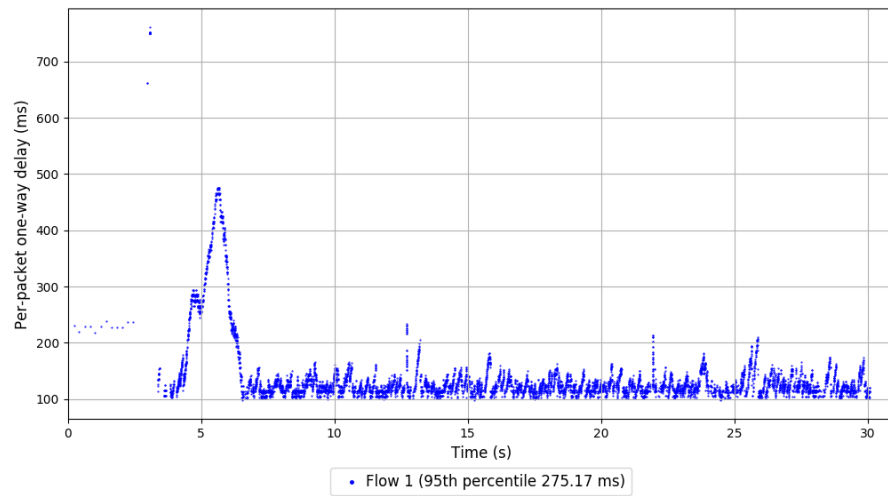
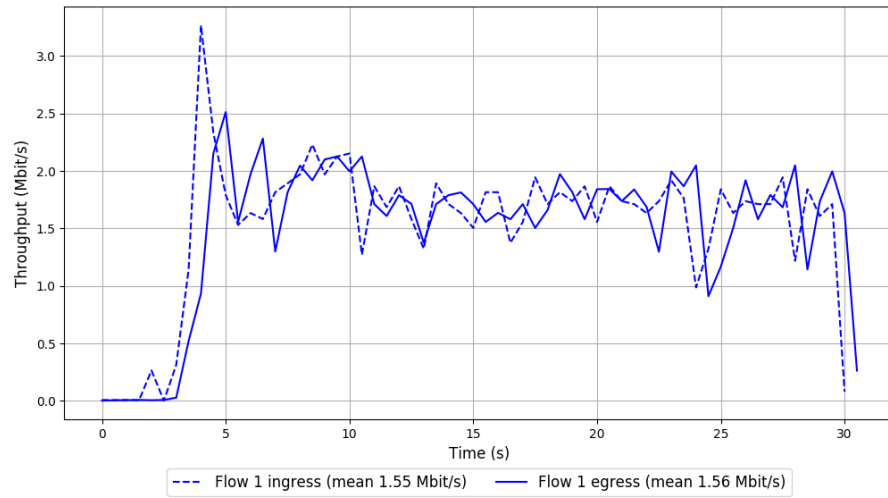
-- Flow 1:

Average throughput: 1.56 Mbit/s

95th percentile per-packet one-way delay: 275.174 ms

Loss rate: 0.11%

Run 3: Report of Copa — Data Link

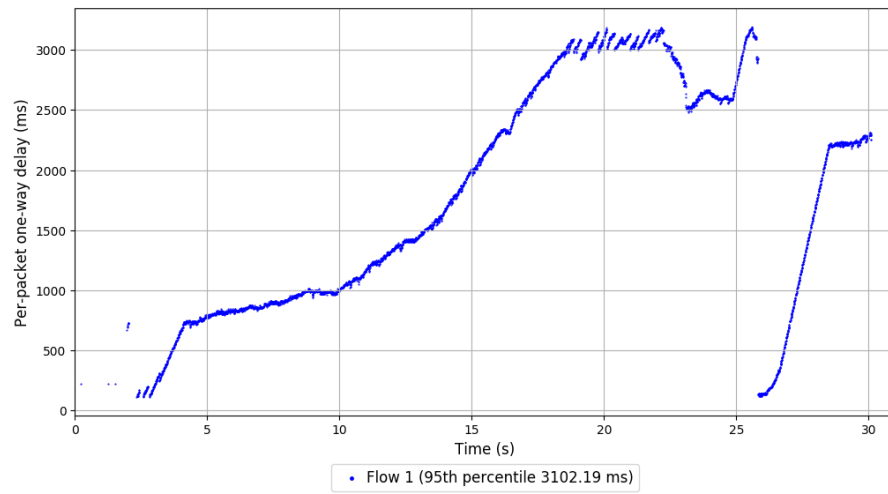
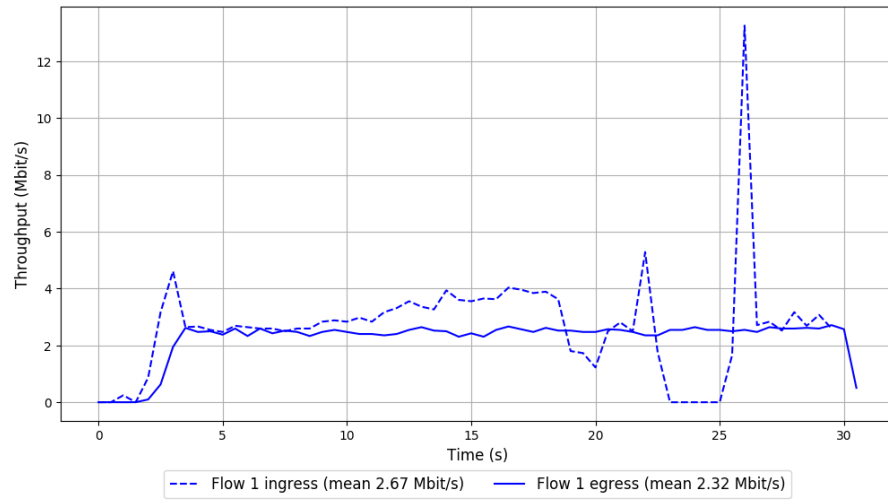


Run 1: Statistics of TCP Cubic

Start at: 2018-07-17 07:57:06
End at: 2018-07-17 07:57:36
Local clock offset: 1.266 ms
Remote clock offset: 14.402 ms

Below is generated by plot.py at 2018-07-17 08:39:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 3102.186 ms
Loss rate: 13.59%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 3102.186 ms
Loss rate: 13.59%

Run 1: Report of TCP Cubic — Data Link

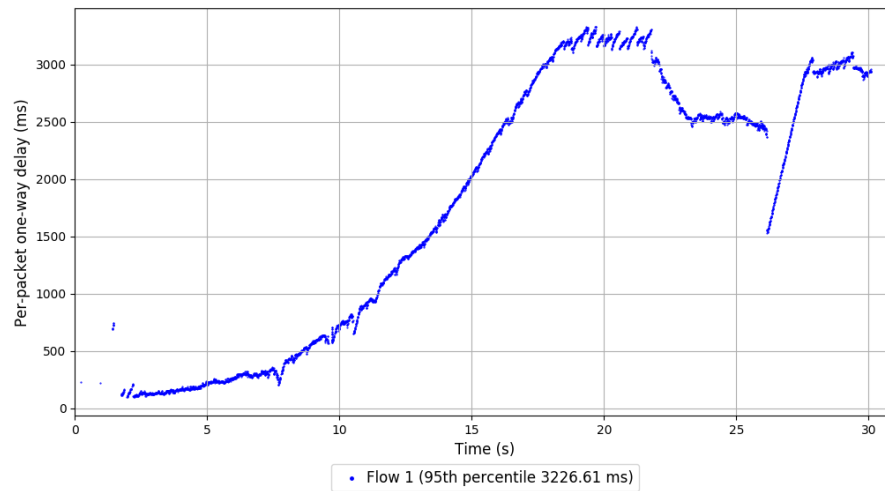
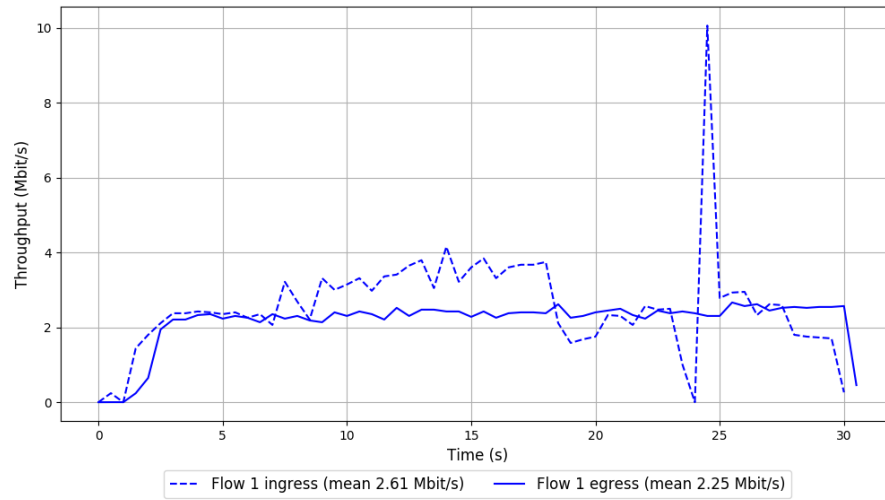


Run 2: Statistics of TCP Cubic

Start at: 2018-07-17 08:16:16
End at: 2018-07-17 08:16:46
Local clock offset: 2.542 ms
Remote clock offset: 13.294 ms

Below is generated by plot.py at 2018-07-17 08:39:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 3226.613 ms
Loss rate: 14.19%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 3226.613 ms
Loss rate: 14.19%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-07-17 08:35:26

End at: 2018-07-17 08:35:56

Local clock offset: -5.142 ms

Remote clock offset: 8.569 ms

Below is generated by plot.py at 2018-07-17 08:39:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3505.466 ms

Loss rate: 13.10%

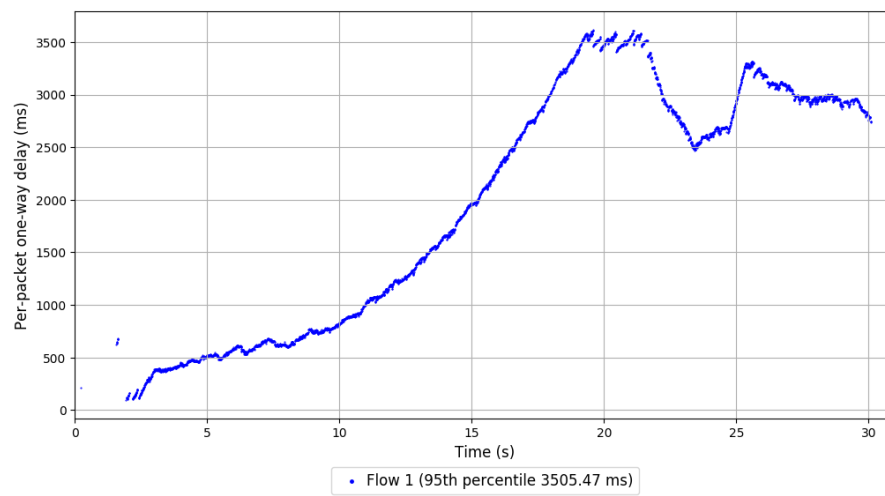
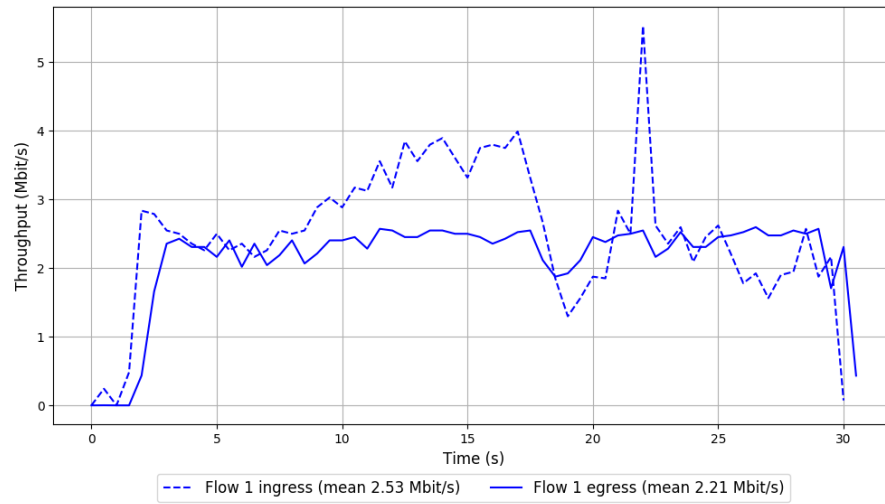
-- Flow 1:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3505.466 ms

Loss rate: 13.10%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-07-17 07:48:08

End at: 2018-07-17 07:48:38

Local clock offset: 0.284 ms

Remote clock offset: 6.559 ms

Below is generated by plot.py at 2018-07-17 08:39:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 3420.020 ms

Loss rate: 73.62%

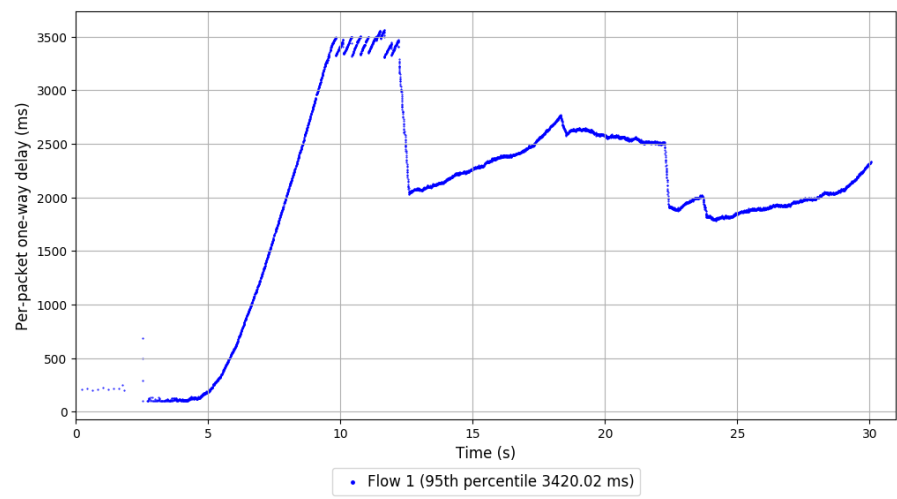
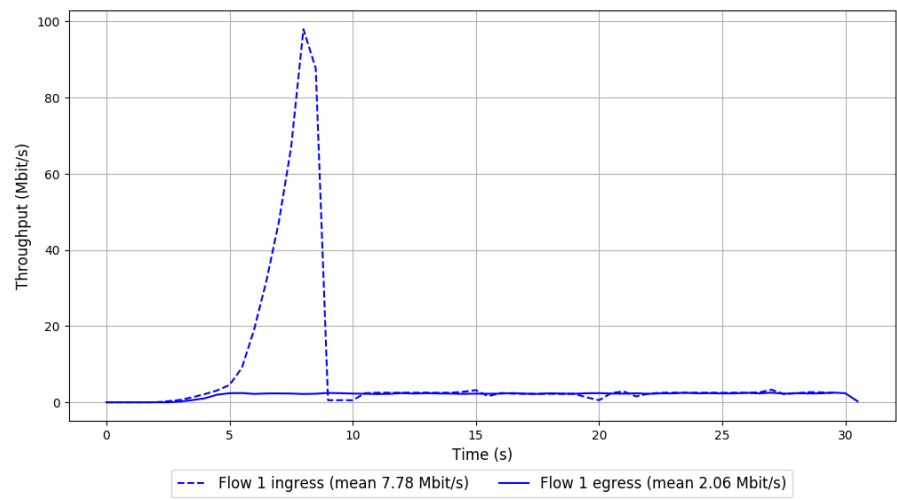
-- Flow 1:

Average throughput: 2.06 Mbit/s

95th percentile per-packet one-way delay: 3420.020 ms

Loss rate: 73.62%

Run 1: Report of FillP — Data Link

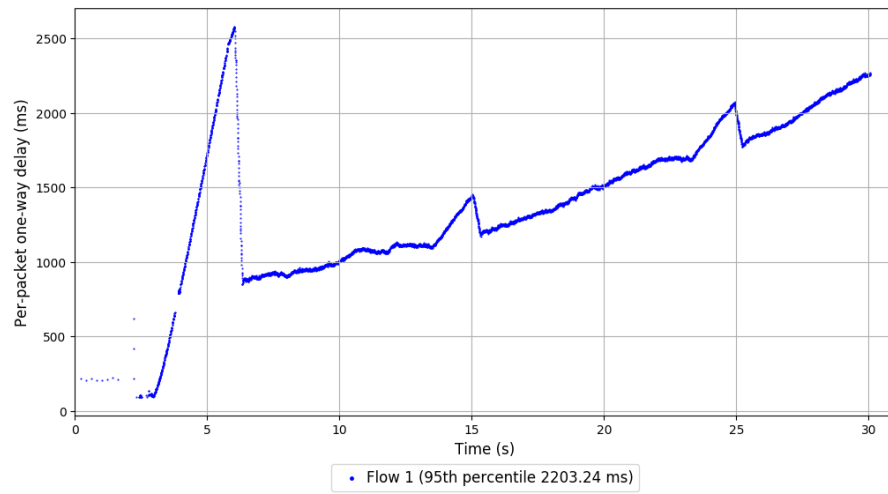
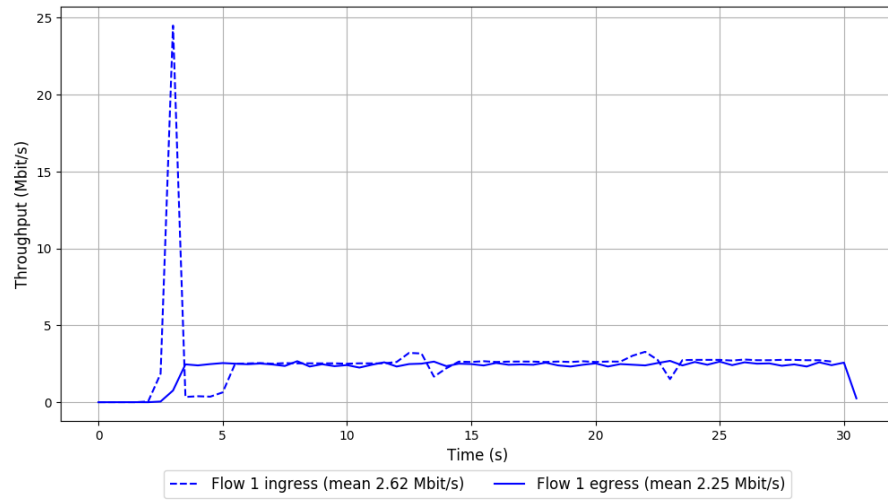


Run 2: Statistics of FillP

Start at: 2018-07-17 08:07:14
End at: 2018-07-17 08:07:44
Local clock offset: 1.084 ms
Remote clock offset: 11.593 ms

Below is generated by plot.py at 2018-07-17 08:39:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 2203.241 ms
Loss rate: 14.38%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 2203.241 ms
Loss rate: 14.38%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-07-17 08:26:27

End at: 2018-07-17 08:26:57

Local clock offset: 3.23 ms

Remote clock offset: 7.623 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 3344.405 ms

Loss rate: 86.60%

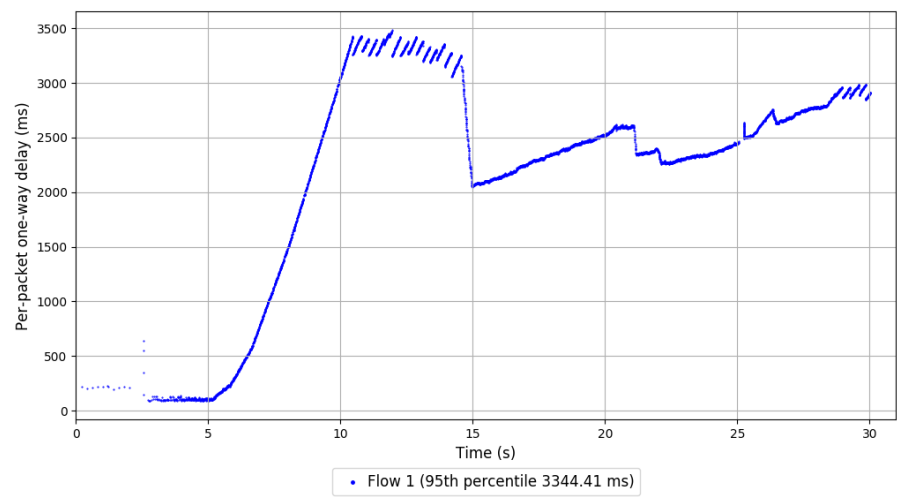
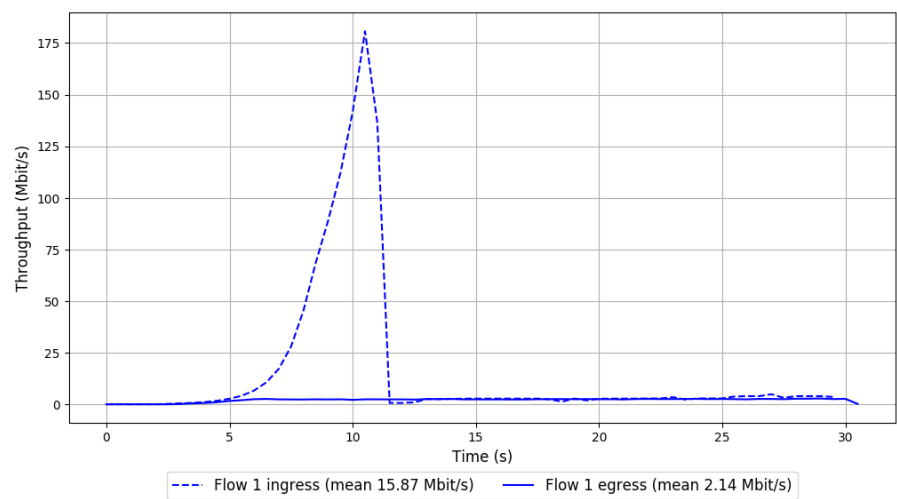
-- Flow 1:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 3344.405 ms

Loss rate: 86.60%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-07-17 07:43:38

End at: 2018-07-17 07:44:08

Local clock offset: 0.929 ms

Remote clock offset: -1.275 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3144.323 ms

Loss rate: 26.02%

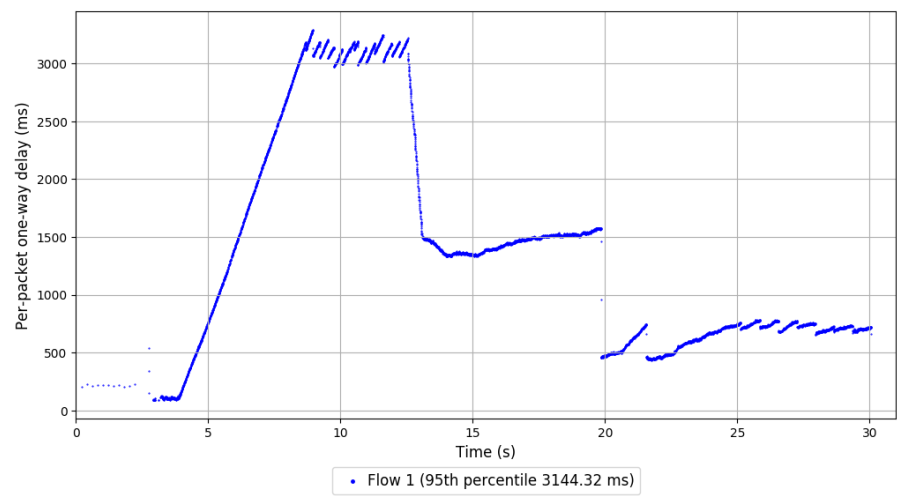
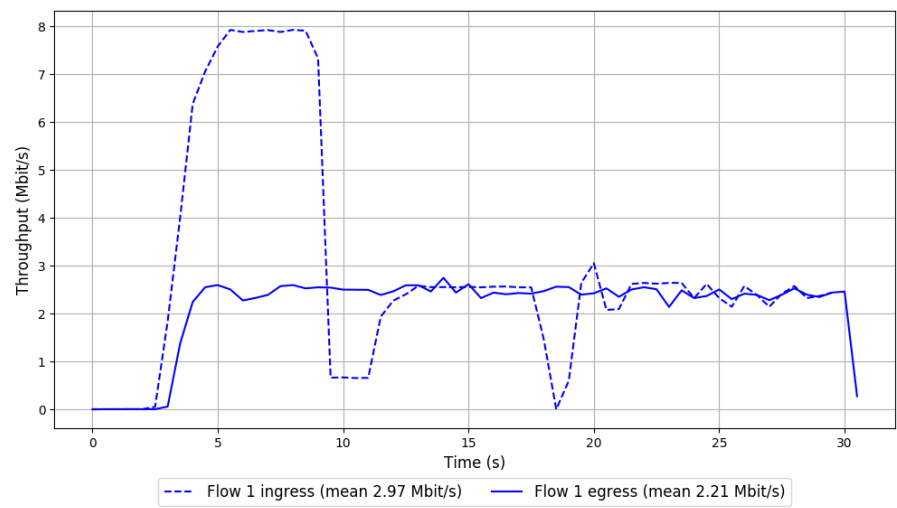
-- Flow 1:

Average throughput: 2.21 Mbit/s

95th percentile per-packet one-way delay: 3144.323 ms

Loss rate: 26.02%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-07-17 08:02:44

End at: 2018-07-17 08:03:14

Local clock offset: 0.703 ms

Remote clock offset: 14.38 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 3145.427 ms

Loss rate: 12.40%

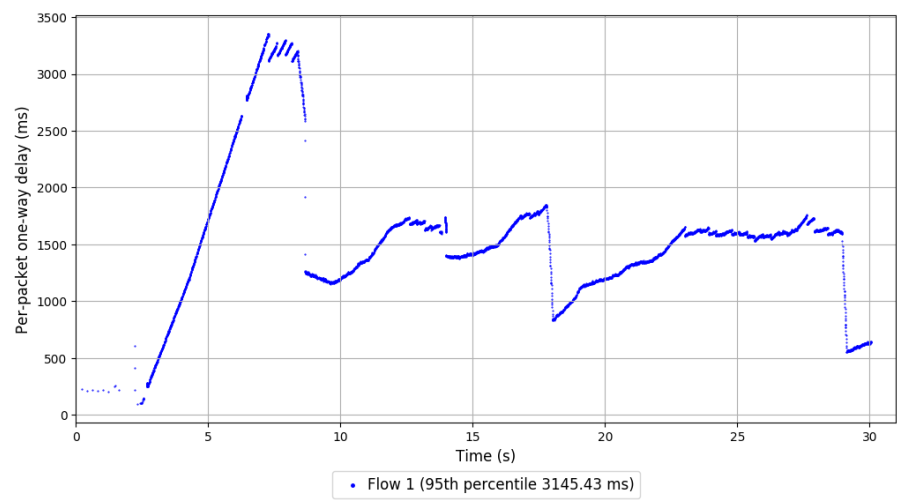
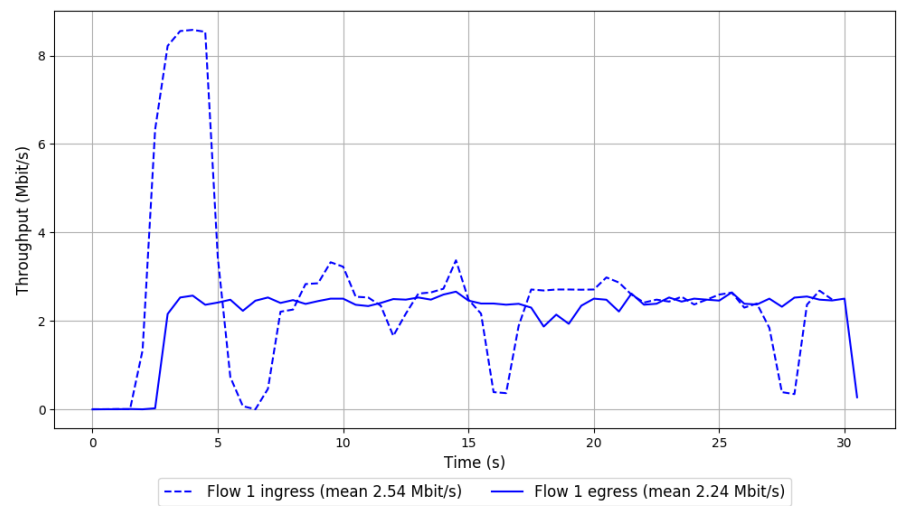
-- Flow 1:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 3145.427 ms

Loss rate: 12.40%

Run 2: Report of FillP-Sheep — Data Link

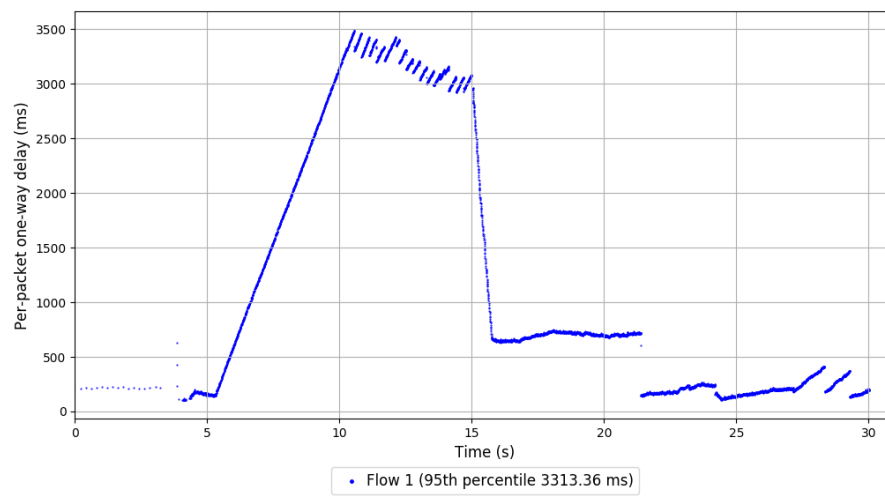
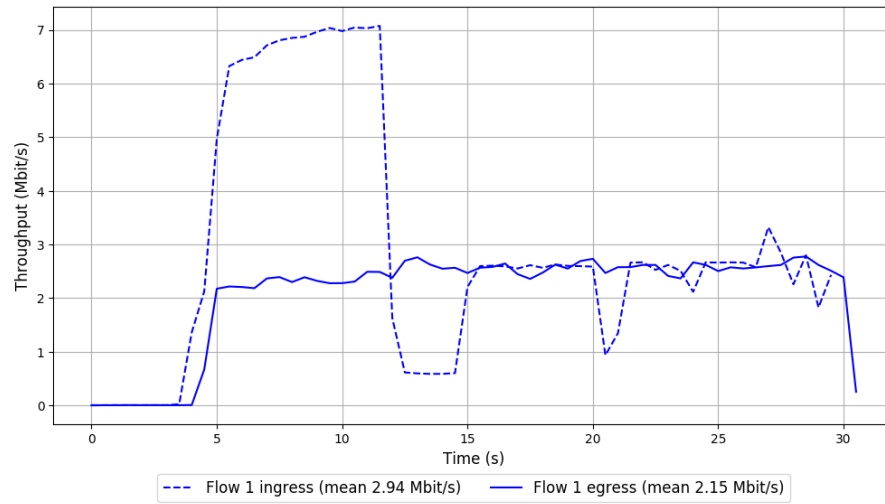


Run 3: Statistics of FillP-Sheep

Start at: 2018-07-17 08:21:57
End at: 2018-07-17 08:22:27
Local clock offset: 3.807 ms
Remote clock offset: 11.457 ms

Below is generated by plot.py at 2018-07-17 08:39:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 3313.356 ms
Loss rate: 27.01%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 3313.356 ms
Loss rate: 27.01%

Run 3: Report of FillP-Sheep — Data Link

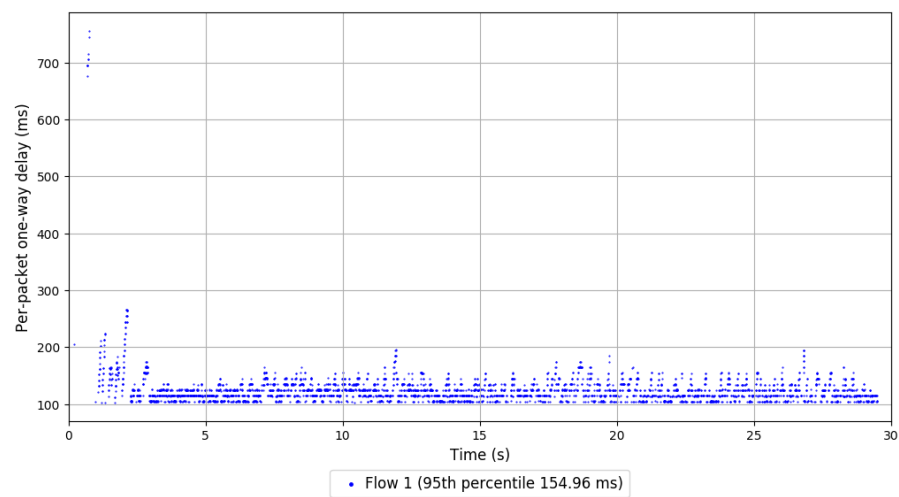
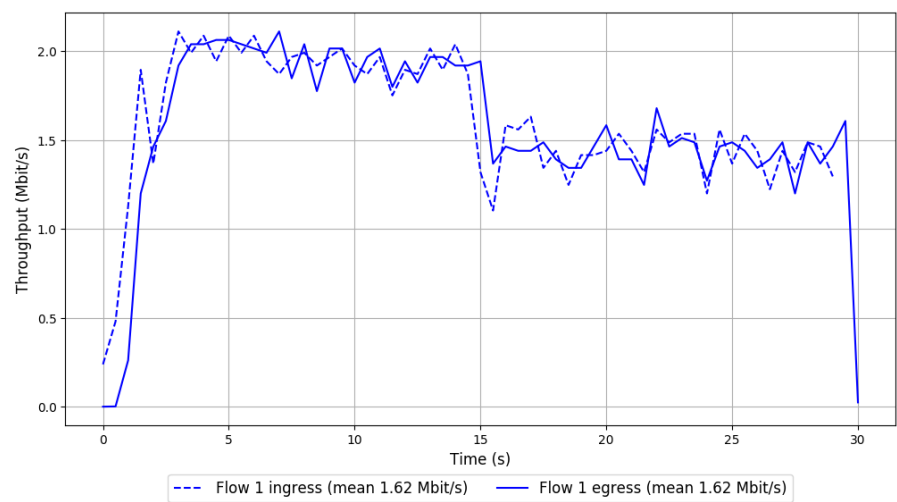


```
Run 1: Statistics of Indigo

Start at: 2018-07-17 07:49:16
End at: 2018-07-17 07:49:46
Local clock offset: 0.383 ms
Remote clock offset: 7.583 ms

# Below is generated by plot.py at 2018-07-17 08:39:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 154.961 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 154.961 ms
Loss rate: 0.13%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-07-17 08:08:22

End at: 2018-07-17 08:08:52

Local clock offset: 1.156 ms

Remote clock offset: 12.991 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 158.622 ms

Loss rate: 0.13%

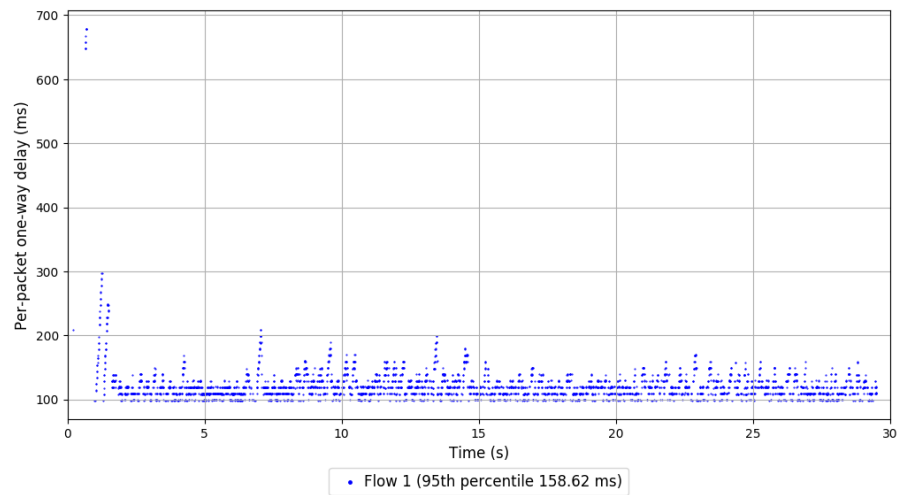
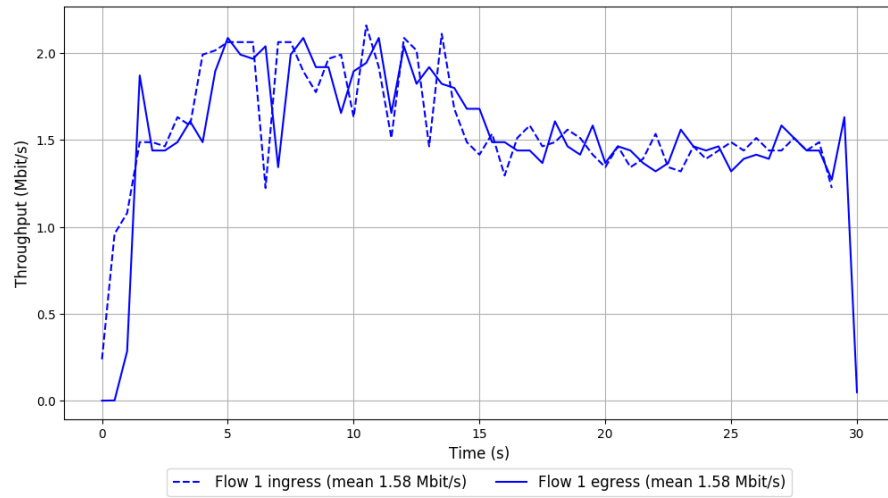
-- Flow 1:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 158.622 ms

Loss rate: 0.13%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-17 08:27:35

End at: 2018-07-17 08:28:05

Local clock offset: 1.622 ms

Remote clock offset: 11.749 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 163.679 ms

Loss rate: 0.20%

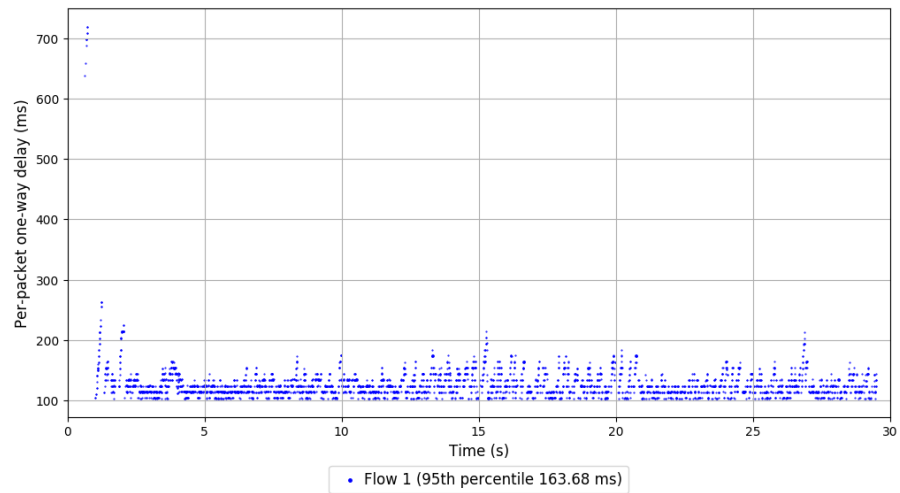
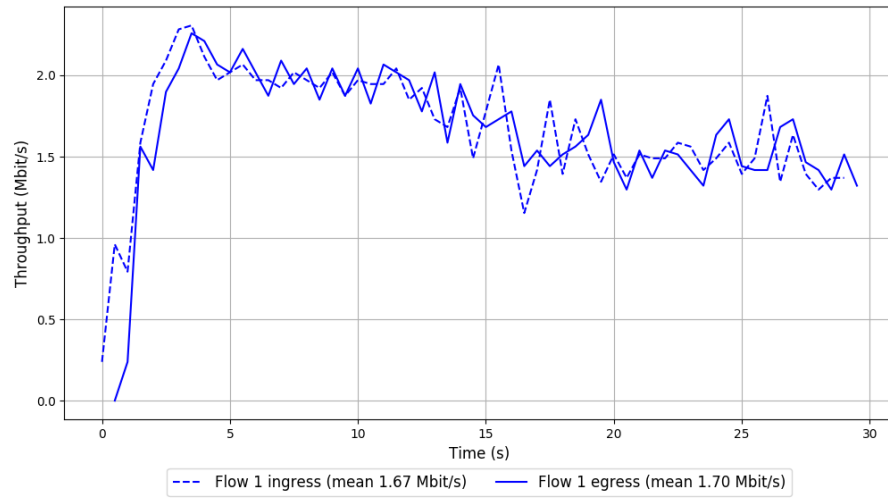
-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 163.679 ms

Loss rate: 0.20%

Run 3: Report of Indigo — Data Link

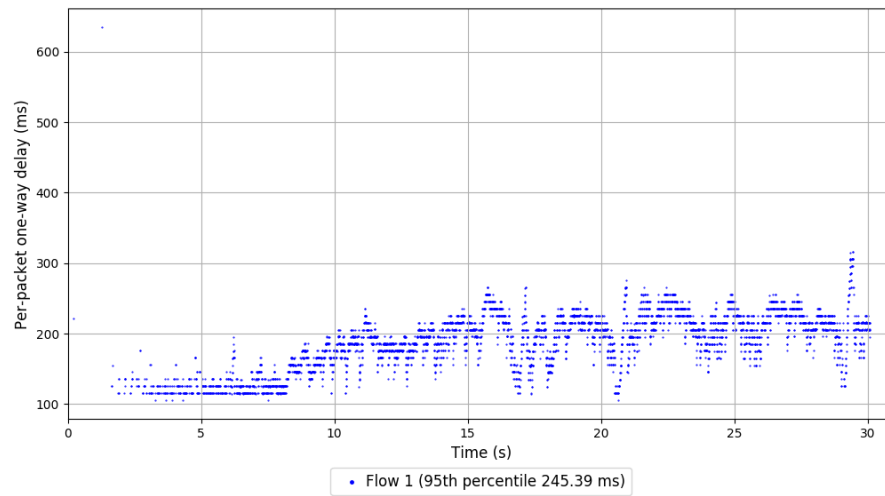
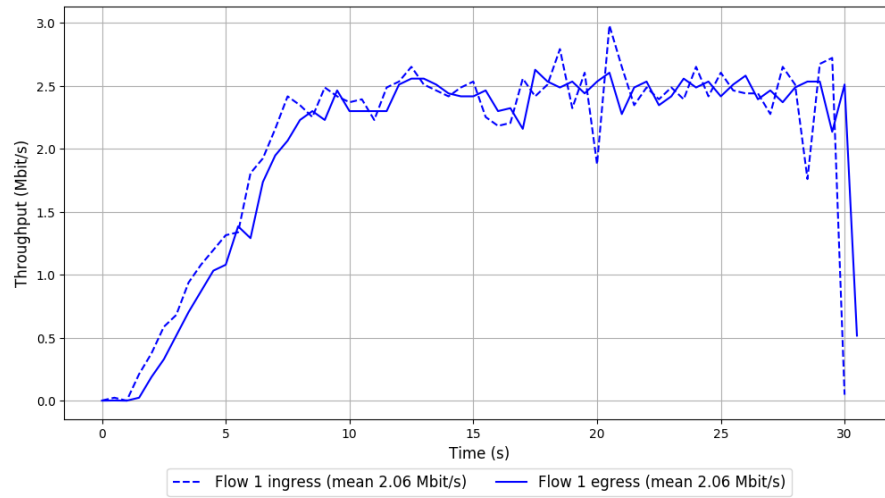


Run 1: Statistics of LEDBAT

Start at: 2018-07-17 07:59:22
End at: 2018-07-17 07:59:52
Local clock offset: 0.913 ms
Remote clock offset: 15.351 ms

Below is generated by plot.py at 2018-07-17 08:39:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 245.387 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 245.387 ms
Loss rate: 0.53%

Run 1: Report of LEDBAT — Data Link

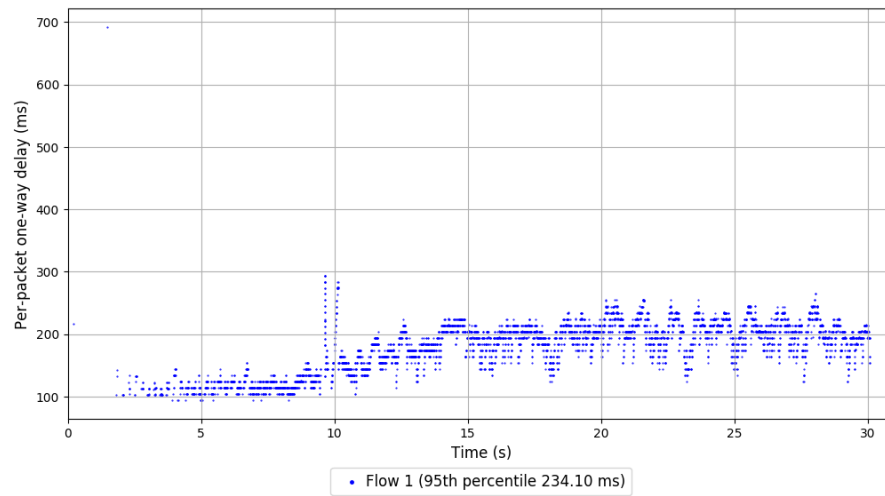
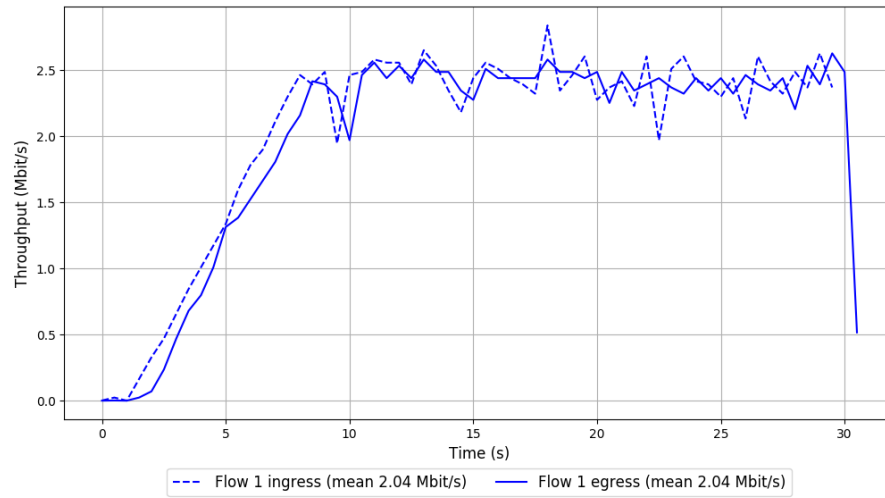


Run 2: Statistics of LEDBAT

Start at: 2018-07-17 08:18:34
End at: 2018-07-17 08:19:04
Local clock offset: 3.057 ms
Remote clock offset: 13.661 ms

Below is generated by plot.py at 2018-07-17 08:39:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 234.103 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 234.103 ms
Loss rate: 0.29%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-07-17 08:37:42

End at: 2018-07-17 08:38:12

Local clock offset: -6.278 ms

Remote clock offset: 7.914 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.03 Mbit/s

95th percentile per-packet one-way delay: 256.031 ms

Loss rate: 0.42%

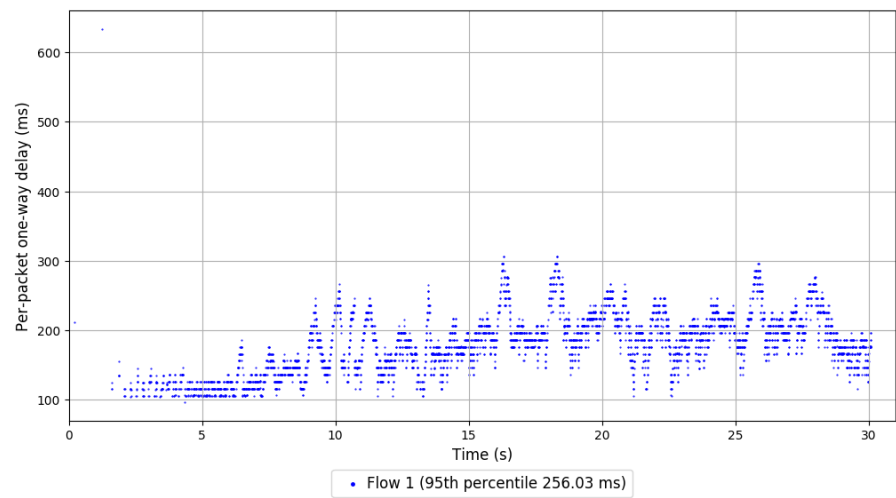
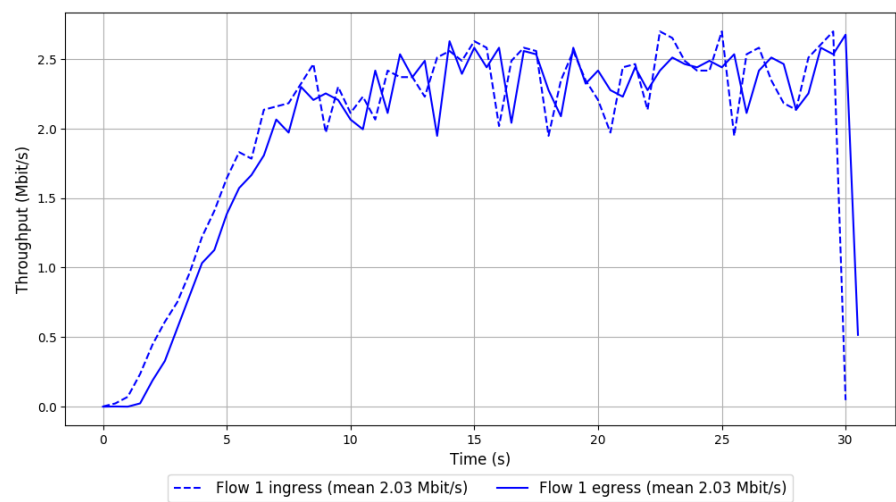
-- Flow 1:

Average throughput: 2.03 Mbit/s

95th percentile per-packet one-way delay: 256.031 ms

Loss rate: 0.42%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-07-17 07:52:38

End at: 2018-07-17 07:53:08

Local clock offset: 0.918 ms

Remote clock offset: 10.772 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 231.312 ms

Loss rate: 0.00%

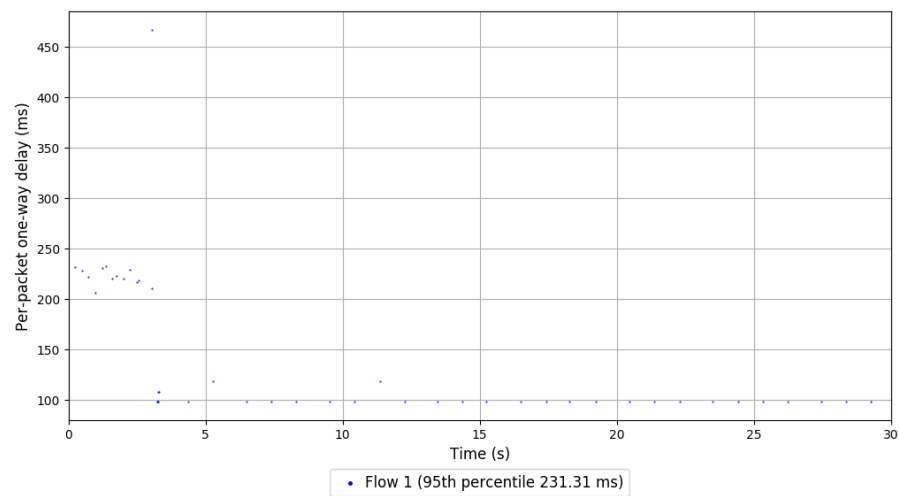
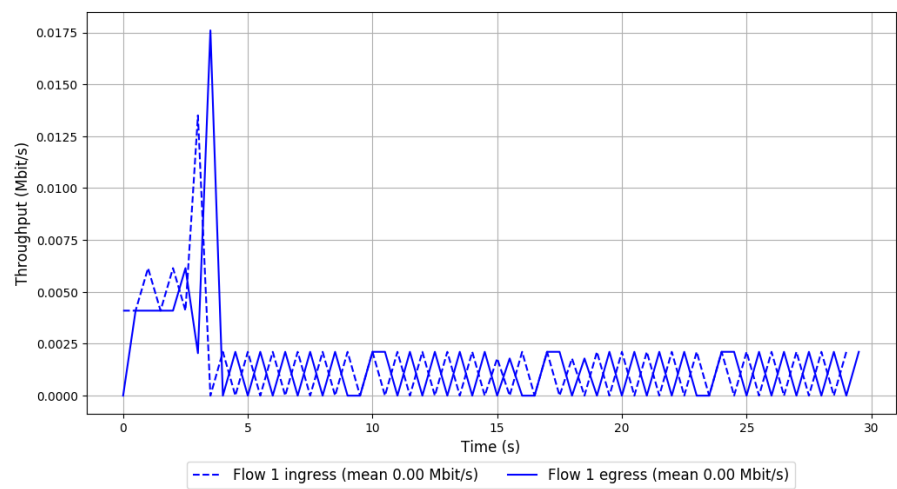
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 231.312 ms

Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-17 08:11:46

End at: 2018-07-17 08:12:16

Local clock offset: 1.627 ms

Remote clock offset: 12.502 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 1018.513 ms

Loss rate: 0.08%

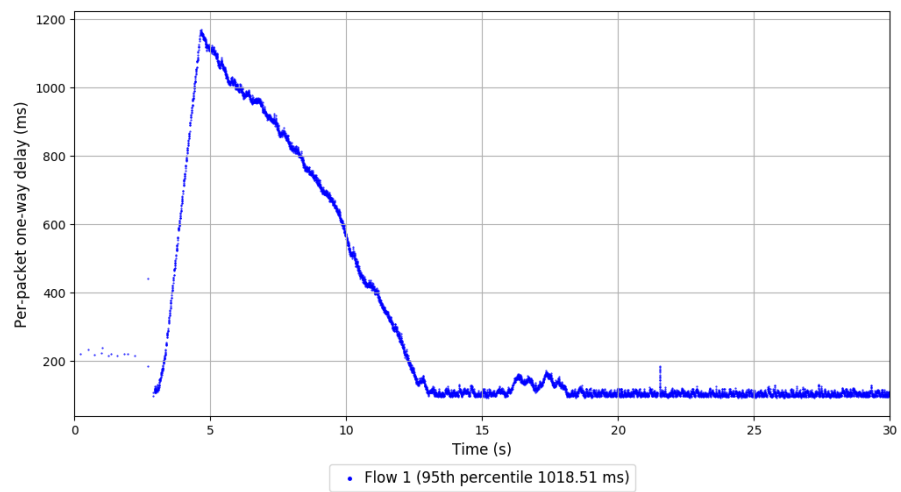
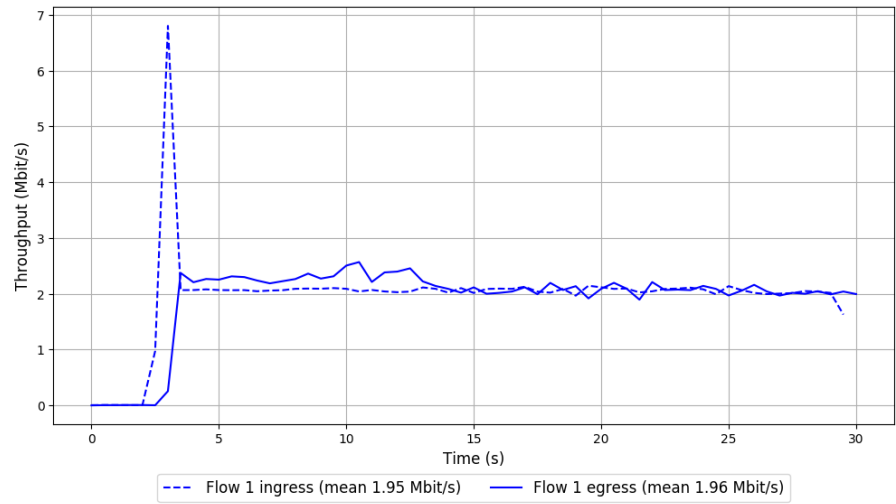
-- Flow 1:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 1018.513 ms

Loss rate: 0.08%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-17 08:30:56

End at: 2018-07-17 08:31:27

Local clock offset: -2.094 ms

Remote clock offset: 5.201 ms

Below is generated by plot.py at 2018-07-17 08:39:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 228.565 ms

Loss rate: 0.00%

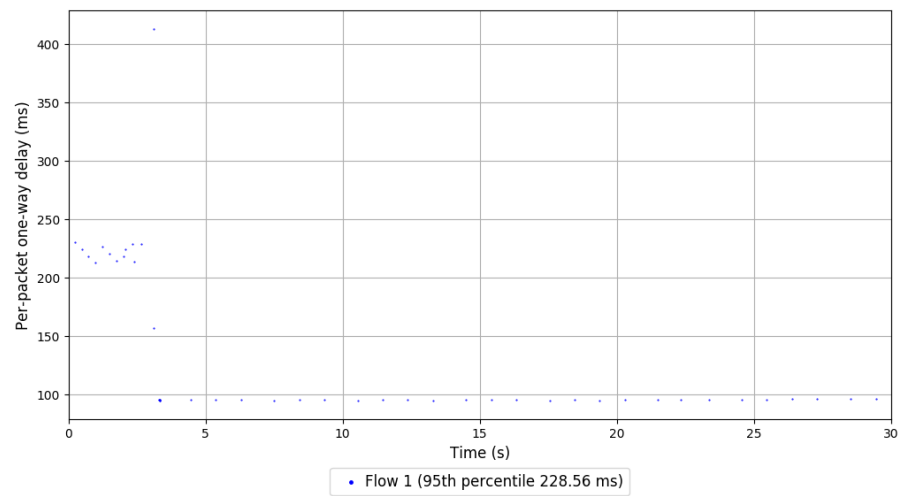
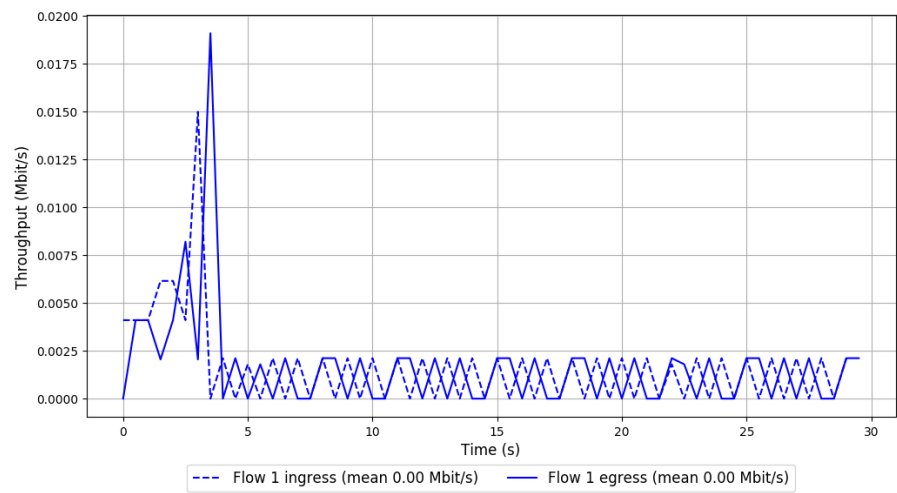
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 228.565 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

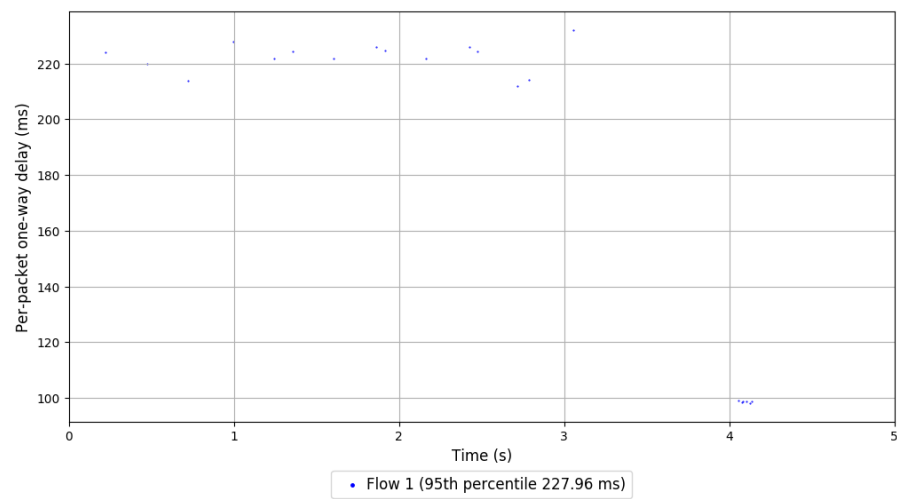
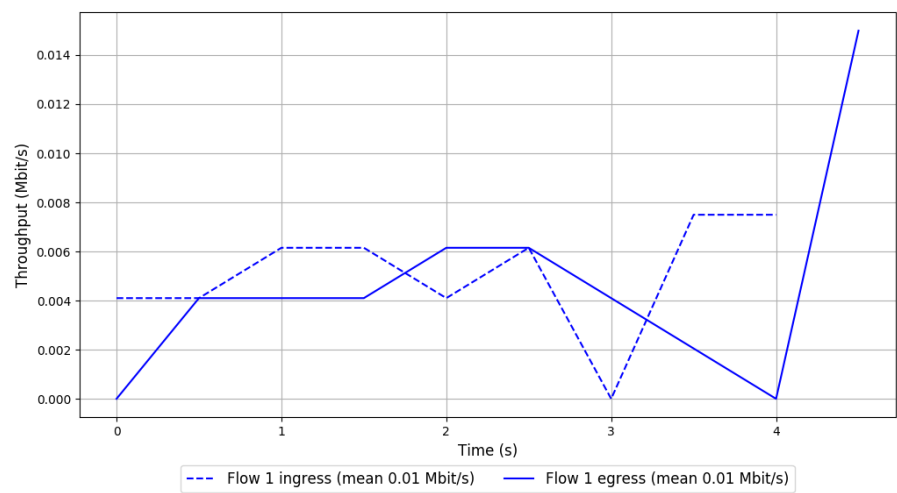
Start at: 2018-07-17 07:55:59

End at: 2018-07-17 07:56:30

Local clock offset: 1.52 ms

Remote clock offset: 7.943 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

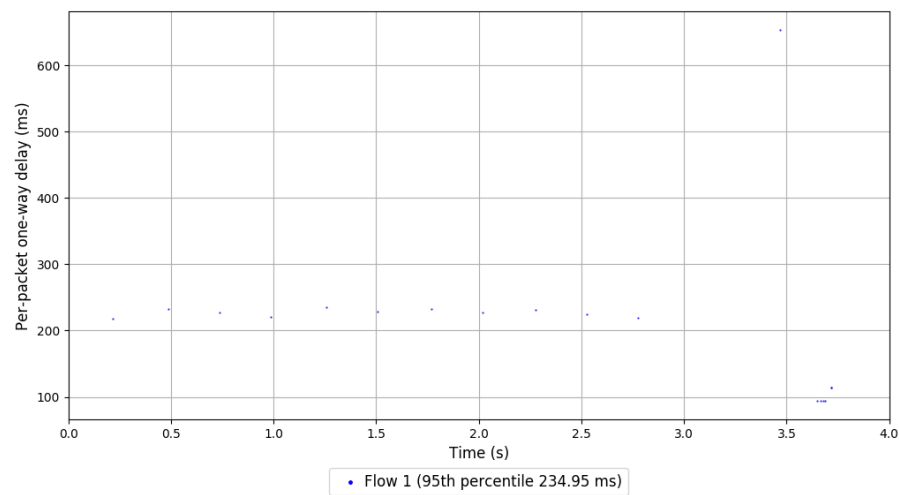
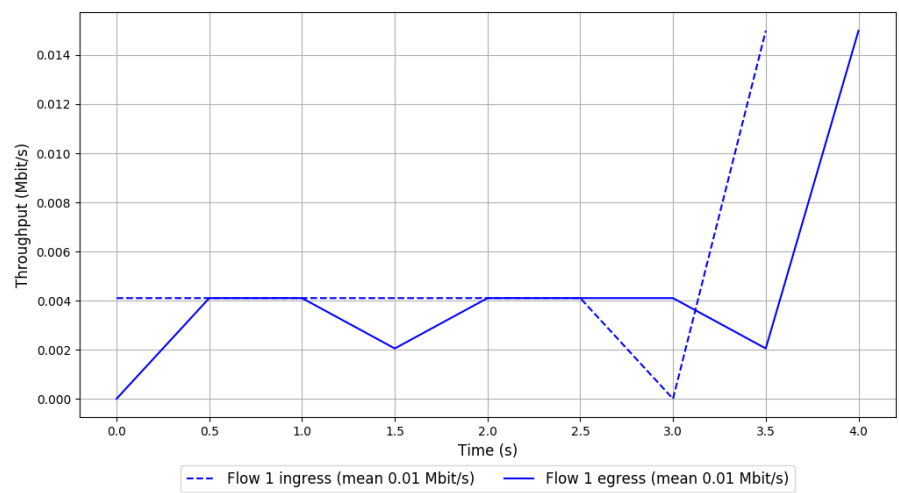
Start at: 2018-07-17 08:15:09

End at: 2018-07-17 08:15:39

Local clock offset: 2.346 ms

Remote clock offset: 13.01 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

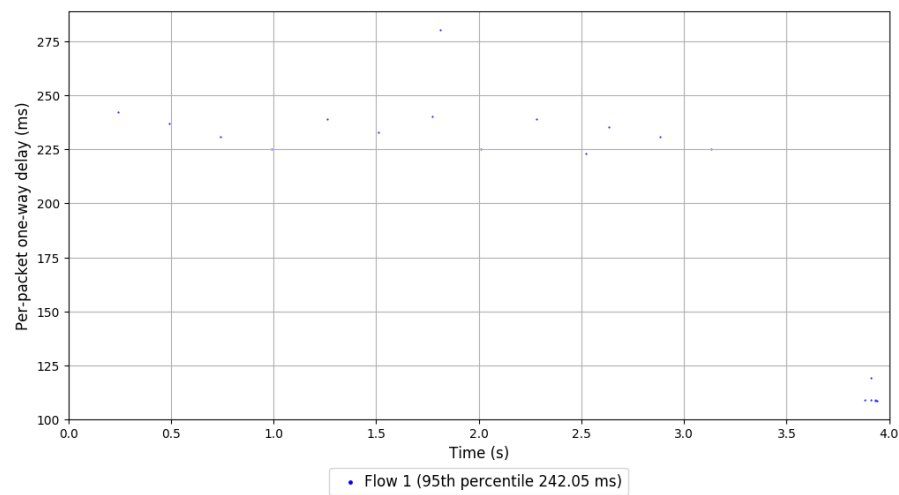
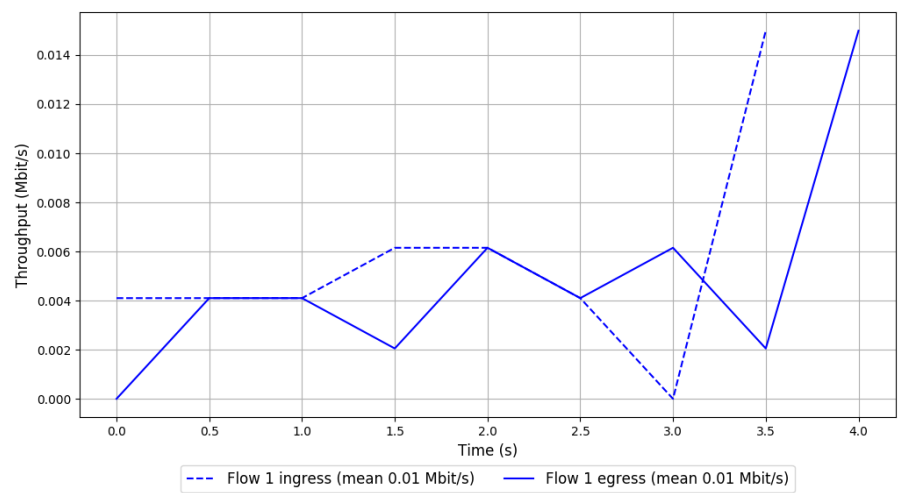
Start at: 2018-07-17 08:34:19

End at: 2018-07-17 08:34:49

Local clock offset: -4.562 ms

Remote clock offset: 8.847 ms

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

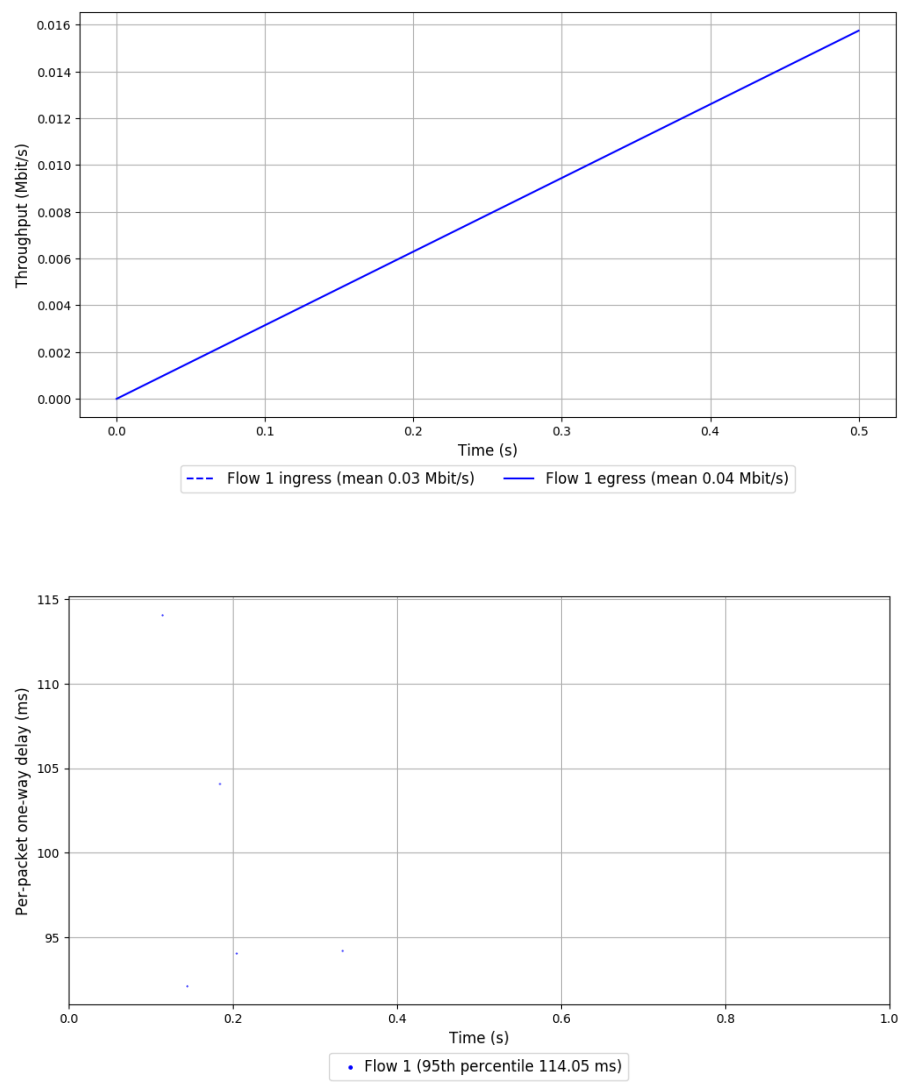
Start at: 2018-07-17 07:54:52

End at: 2018-07-17 07:55:22

Local clock offset: 1.398 ms

Remote clock offset: 7.241 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-17 08:14:01

End at: 2018-07-17 08:14:31

Local clock offset: 2.044 ms

Remote clock offset: 16.689 ms

Below is generated by plot.py at 2018-07-17 08:39:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 949.583 ms

Loss rate: 3.42%

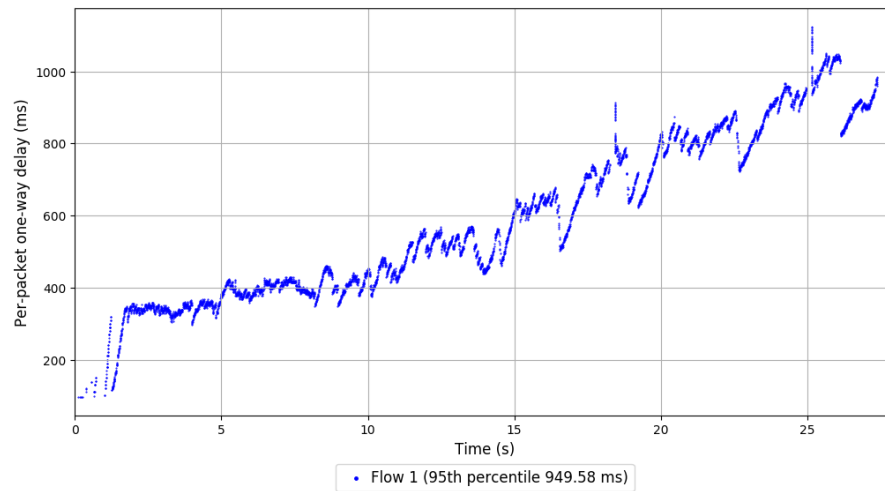
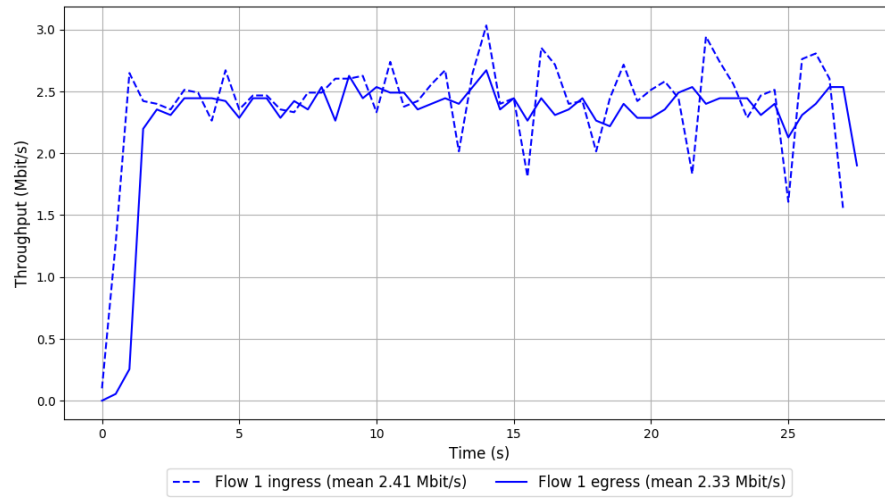
-- Flow 1:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 949.583 ms

Loss rate: 3.42%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-17 08:33:11

End at: 2018-07-17 08:33:41

Local clock offset: -3.954 ms

Remote clock offset: 8.327 ms

Below is generated by plot.py at 2018-07-17 08:39:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1128.146 ms

Loss rate: 3.82%

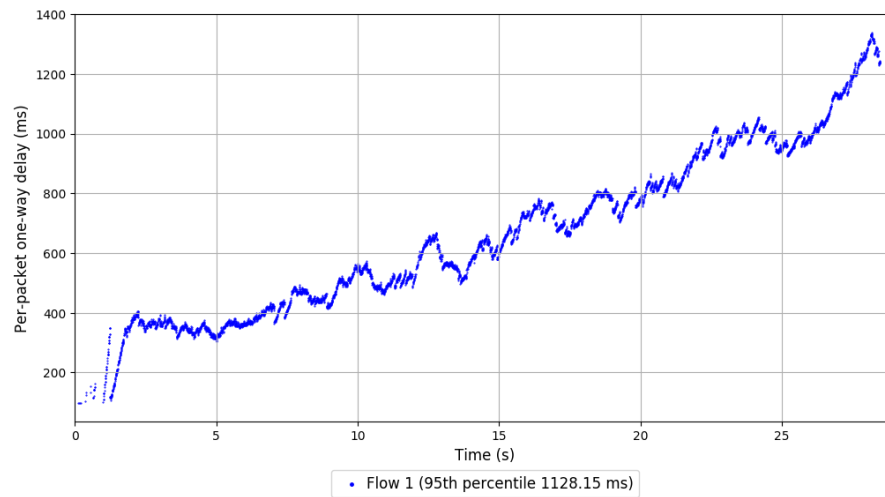
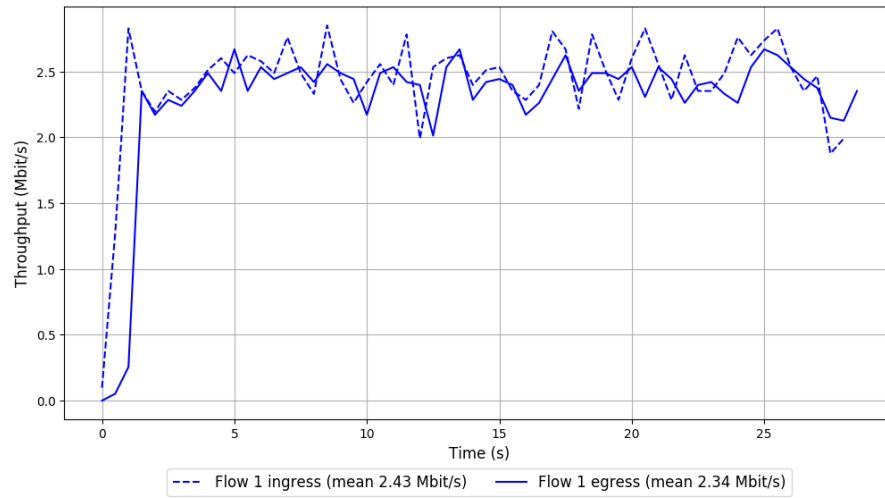
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1128.146 ms

Loss rate: 3.82%

Run 3: Report of QUIC Cubic — Data Link

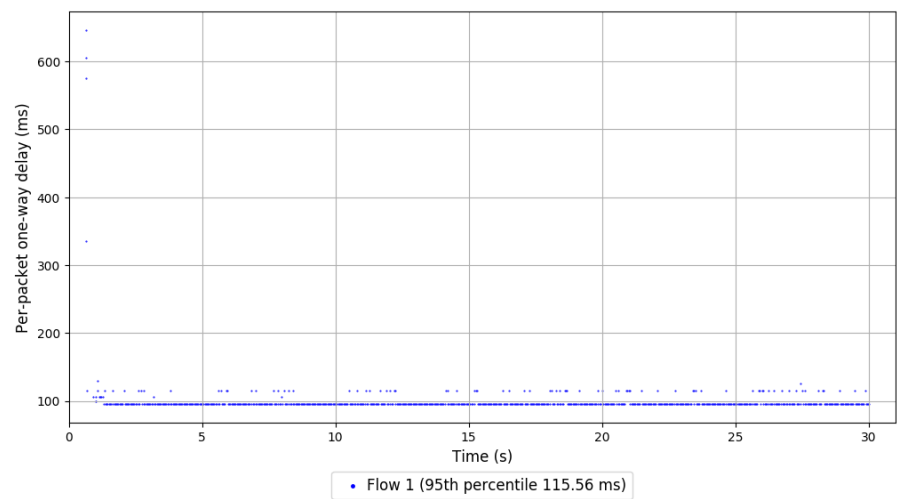
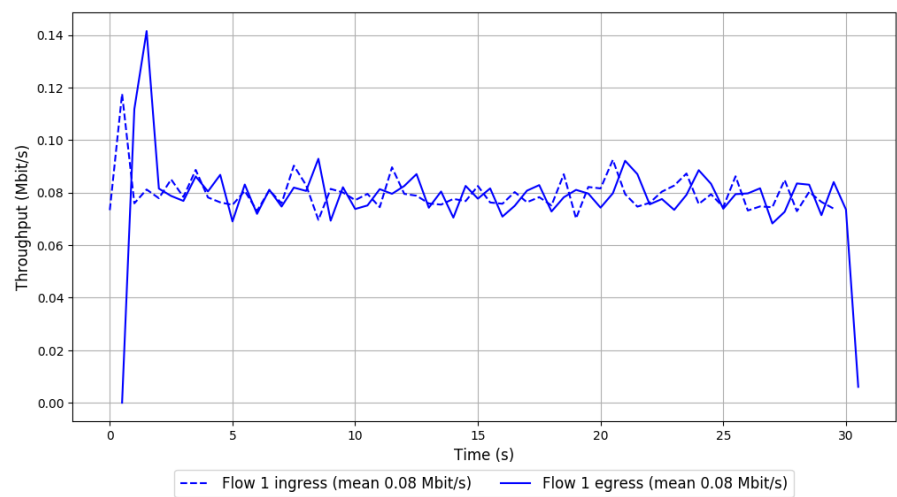


```
Run 1: Statistics of SCReAM

Start at: 2018-07-17 07:51:31
End at: 2018-07-17 07:52:01
Local clock offset: 0.702 ms
Remote clock offset: 6.201 ms

# Below is generated by plot.py at 2018-07-17 08:39:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 115.555 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 115.555 ms
Loss rate: 0.13%
```


Run 1: Report of SReAM — Data Link

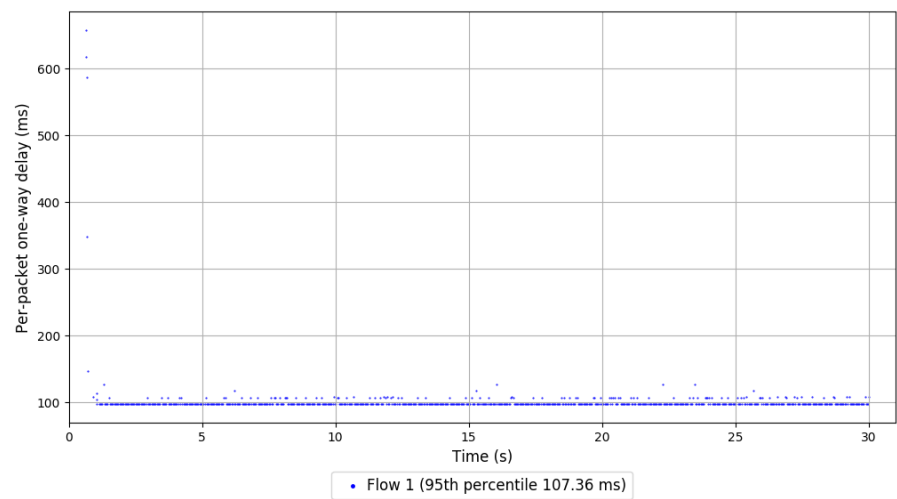
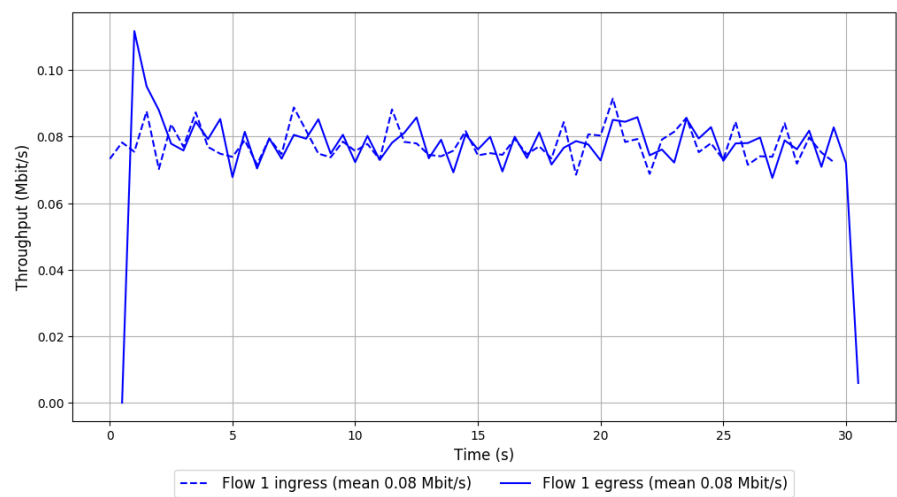


Run 2: Statistics of SCReAM

Start at: 2018-07-17 08:10:38
End at: 2018-07-17 08:11:08
Local clock offset: 1.565 ms
Remote clock offset: 13.326 ms

Below is generated by plot.py at 2018-07-17 08:39:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 107.364 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 107.364 ms
Loss rate: 0.13%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-07-17 08:29:49

End at: 2018-07-17 08:30:19

Local clock offset: -1.104 ms

Remote clock offset: 6.942 ms

Below is generated by plot.py at 2018-07-17 08:39:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 107.600 ms

Loss rate: 0.13%

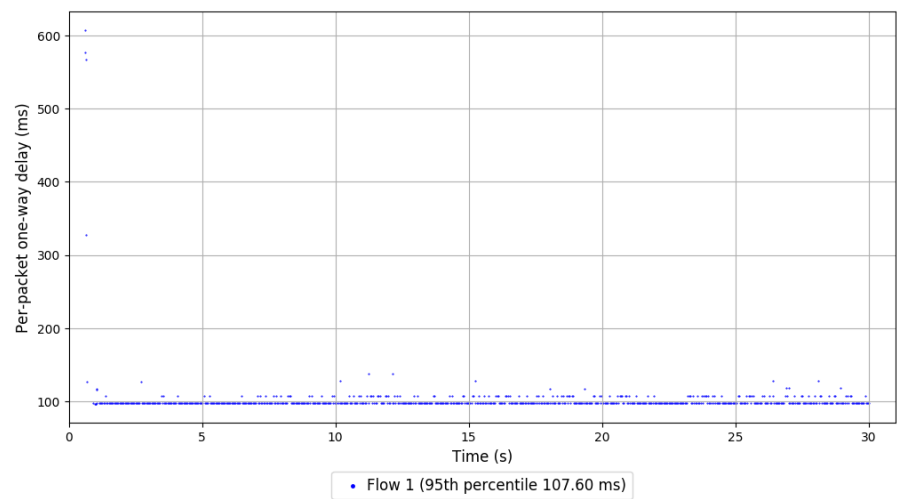
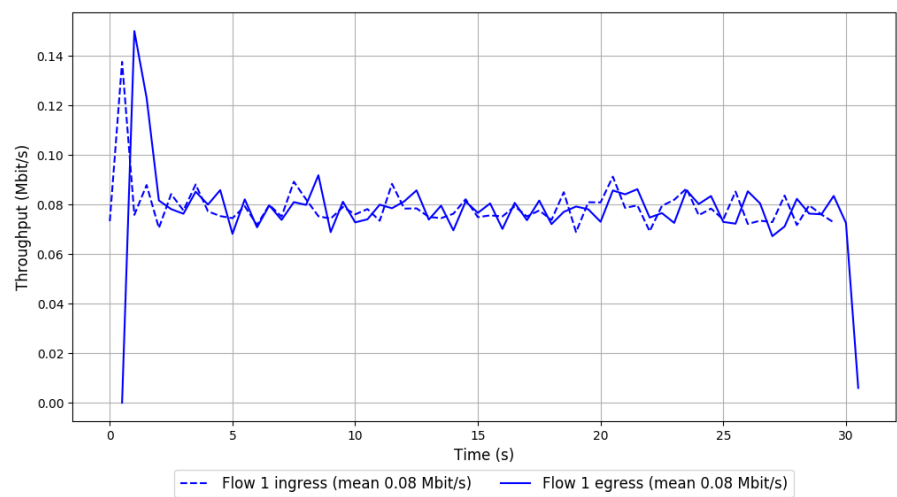
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 107.600 ms

Loss rate: 0.13%

Run 3: Report of SReAM — Data Link

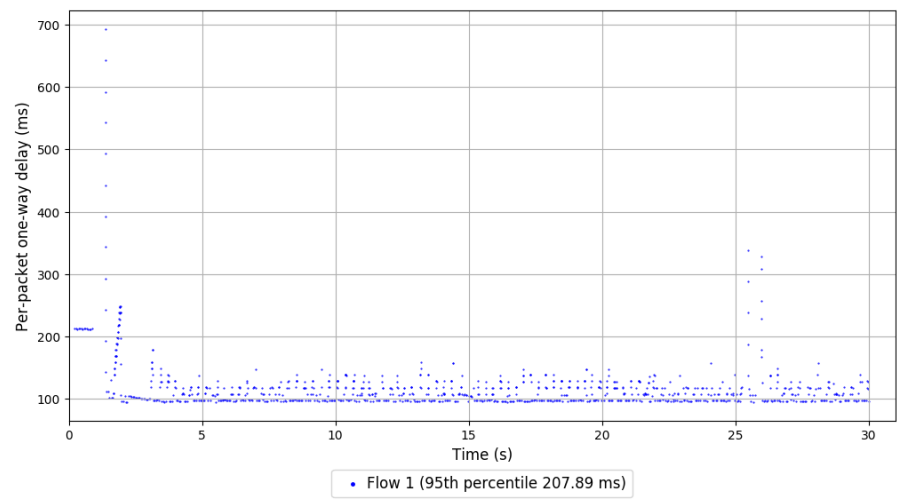
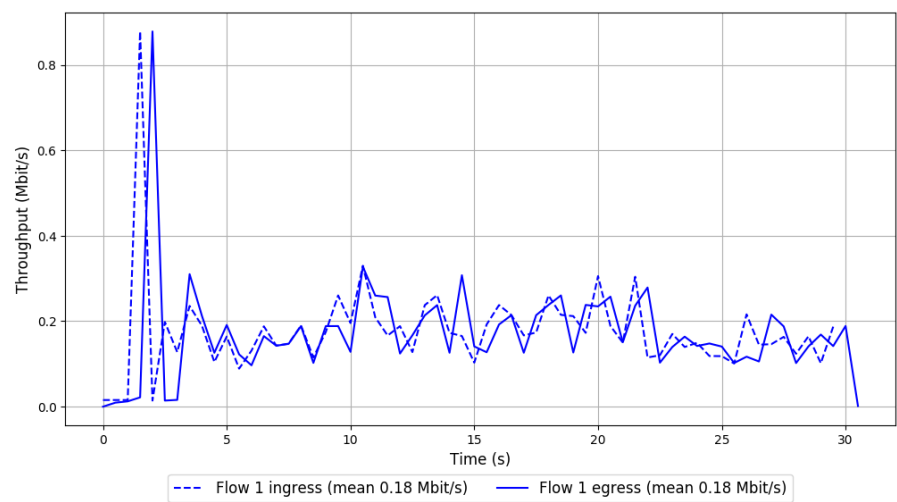


Run 1: Statistics of Sprout

Start at: 2018-07-17 08:00:29
End at: 2018-07-17 08:00:59
Local clock offset: 0.83 ms
Remote clock offset: 14.697 ms

Below is generated by plot.py at 2018-07-17 08:39:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 207.892 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 207.892 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

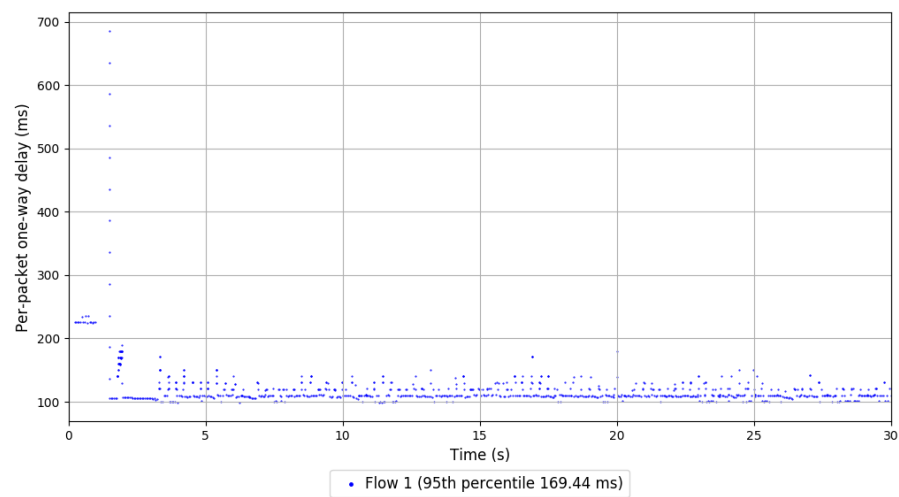
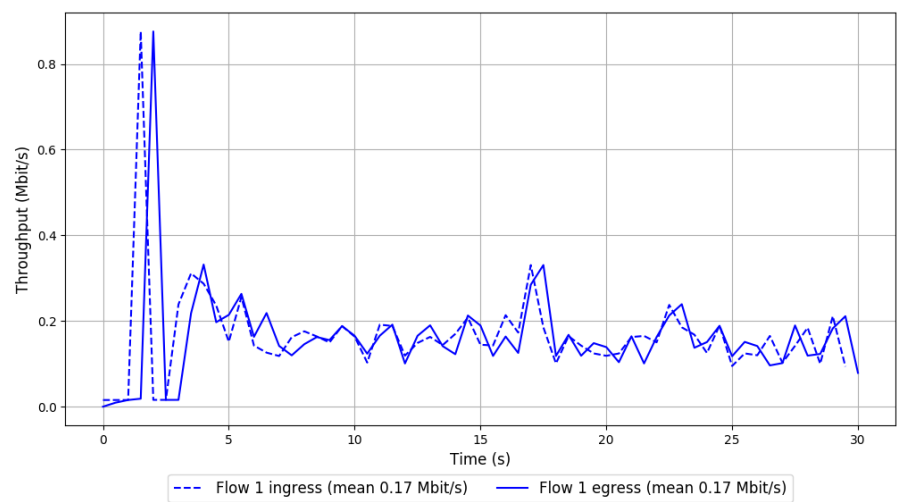


Run 2: Statistics of Sprout

Start at: 2018-07-17 08:19:42
End at: 2018-07-17 08:20:12
Local clock offset: 3.303 ms
Remote clock offset: 17.582 ms

Below is generated by plot.py at 2018-07-17 08:39:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 169.438 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 169.438 ms
Loss rate: 0.20%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-07-17 08:38:49

End at: 2018-07-17 08:39:19

Local clock offset: -6.612 ms

Remote clock offset: 3.787 ms

Below is generated by plot.py at 2018-07-17 08:39:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 183.858 ms

Loss rate: 0.00%

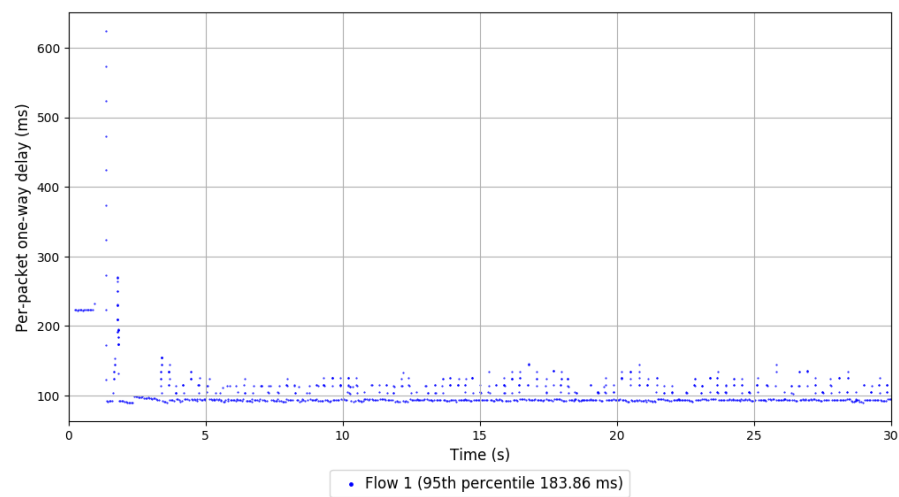
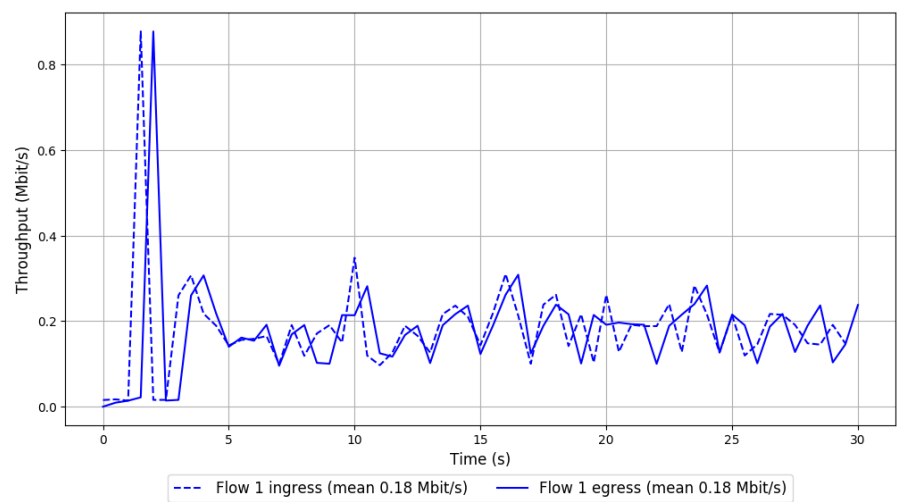
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 183.858 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

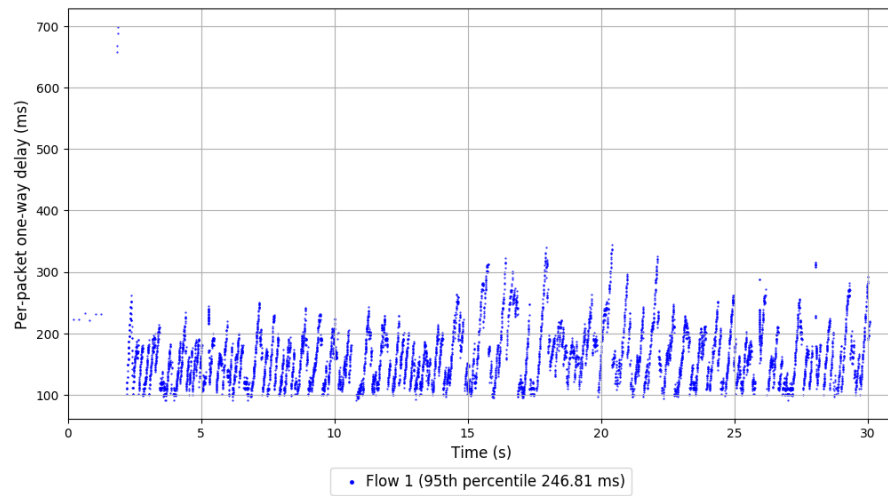
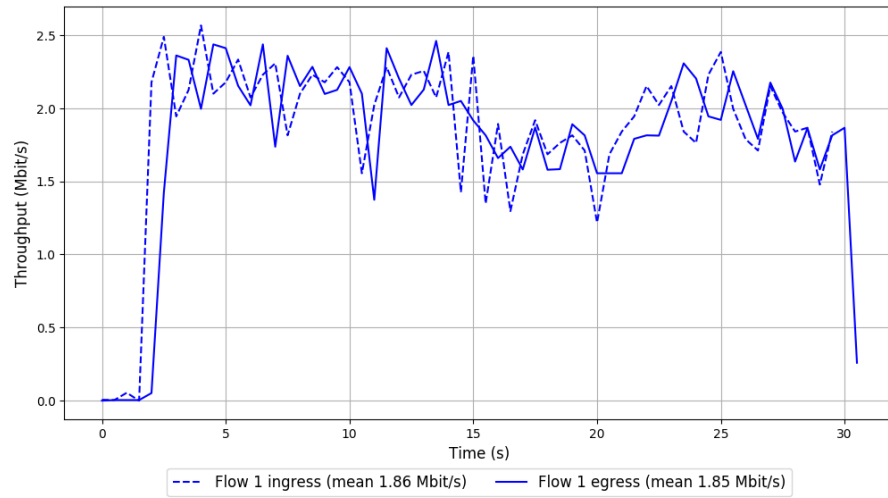


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-17 07:44:45
End at: 2018-07-17 07:45:15
Local clock offset: 0.516 ms
Remote clock offset: -1.476 ms

# Below is generated by plot.py at 2018-07-17 08:39:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 246.810 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 246.810 ms
Loss rate: 0.33%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-17 08:03:51

End at: 2018-07-17 08:04:21

Local clock offset: 0.834 ms

Remote clock offset: 10.781 ms

Below is generated by plot.py at 2018-07-17 08:39:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 271.554 ms

Loss rate: 0.33%

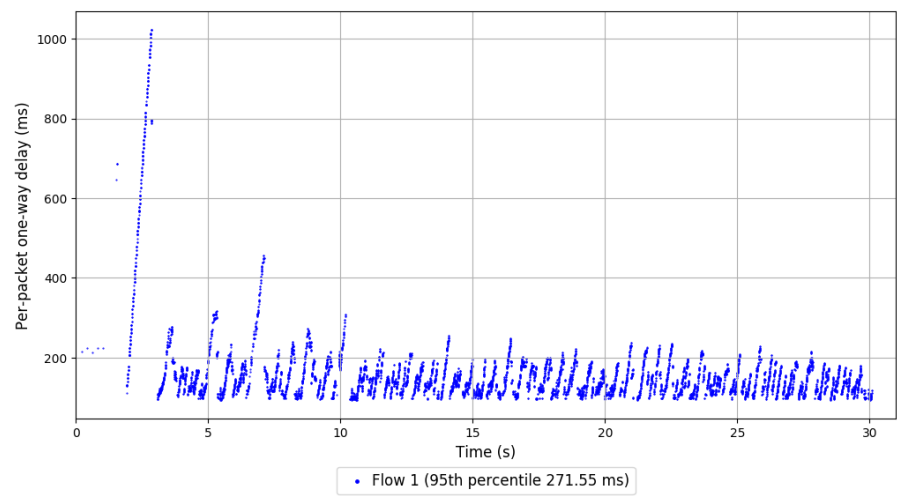
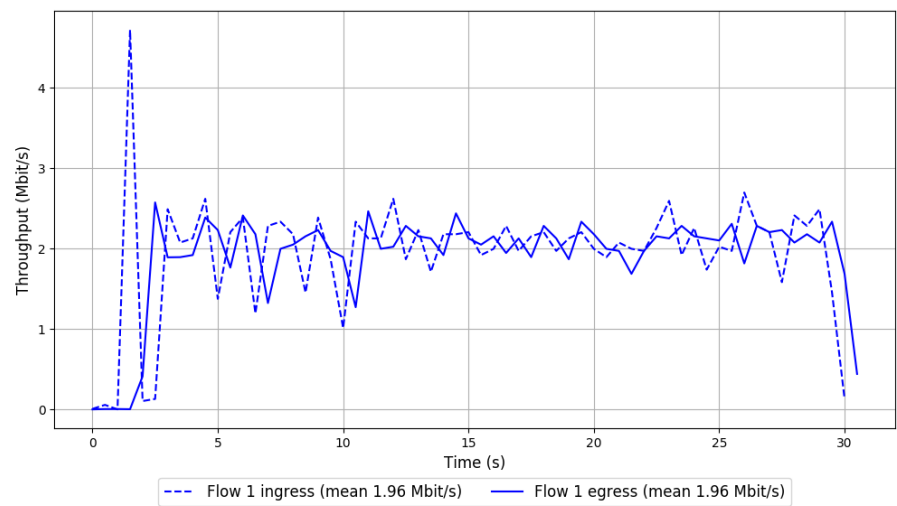
-- Flow 1:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 271.554 ms

Loss rate: 0.33%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-17 08:23:05

End at: 2018-07-17 08:23:35

Local clock offset: 4.028 ms

Remote clock offset: 11.243 ms

Below is generated by plot.py at 2018-07-17 08:39:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.05 Mbit/s

95th percentile per-packet one-way delay: 202.515 ms

Loss rate: 0.13%

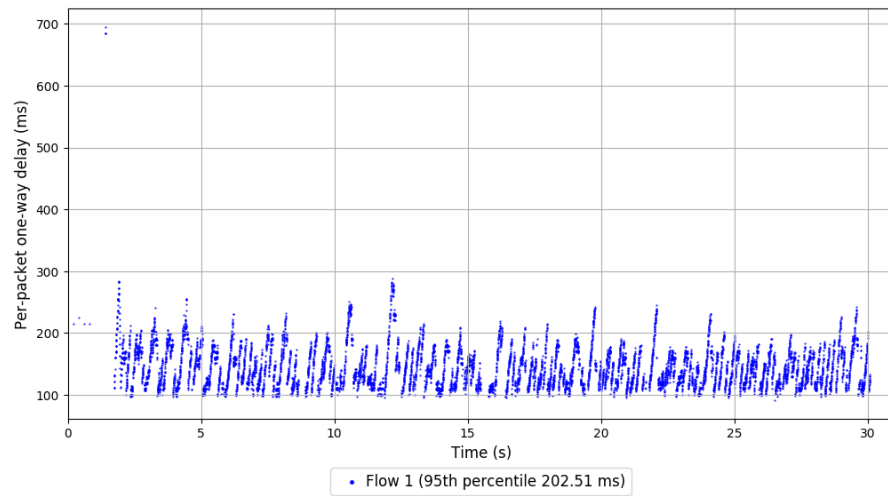
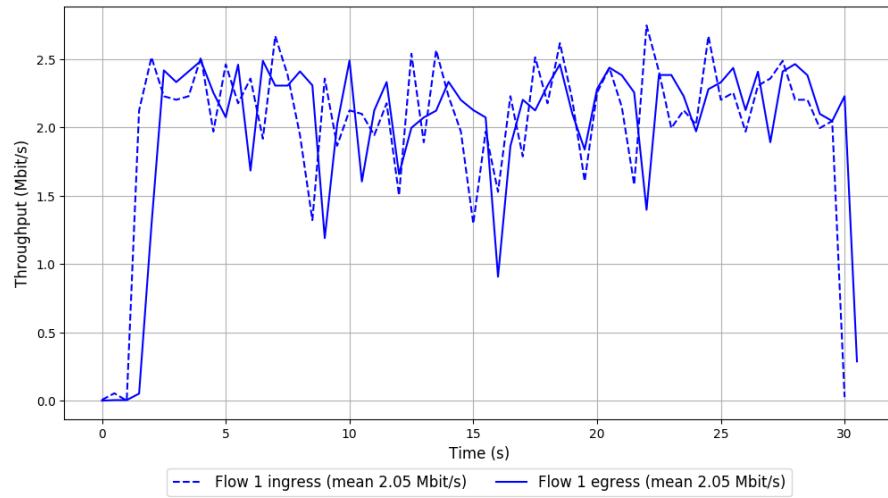
-- Flow 1:

Average throughput: 2.05 Mbit/s

95th percentile per-packet one-way delay: 202.515 ms

Loss rate: 0.13%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-07-17 07:53:45

End at: 2018-07-17 07:54:15

Local clock offset: 1.17 ms

Remote clock offset: 6.54 ms

Below is generated by plot.py at 2018-07-17 08:39:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 559.722 ms

Loss rate: 0.85%

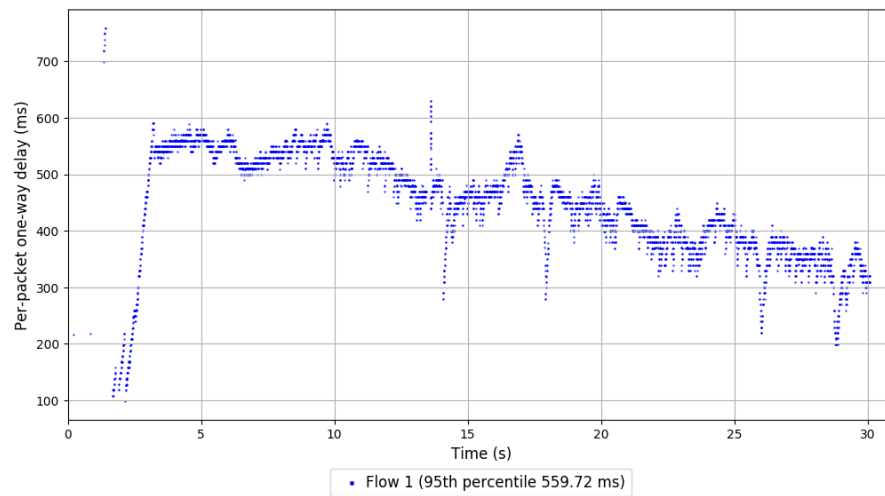
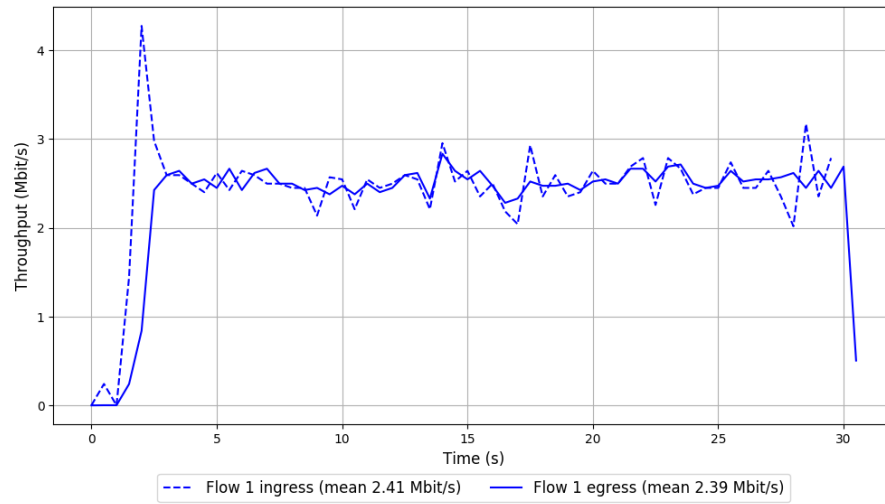
-- Flow 1:

Average throughput: 2.39 Mbit/s

95th percentile per-packet one-way delay: 559.722 ms

Loss rate: 0.85%

Run 1: Report of TCP Vegas — Data Link

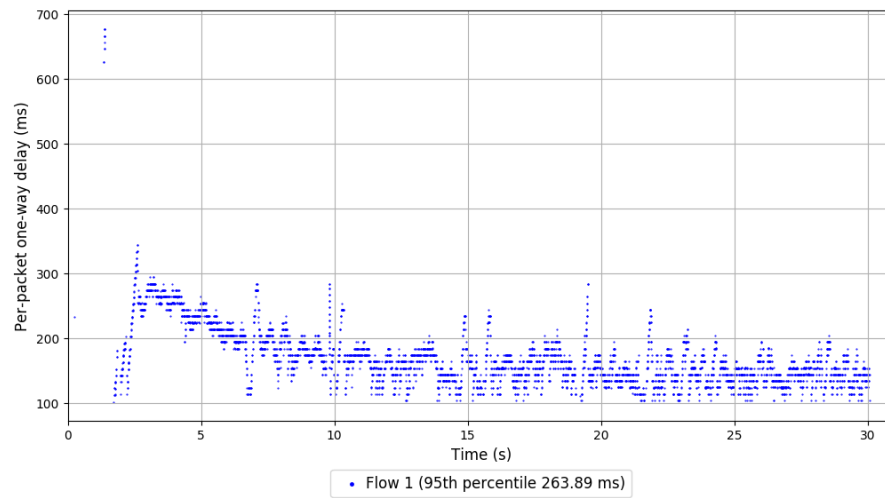
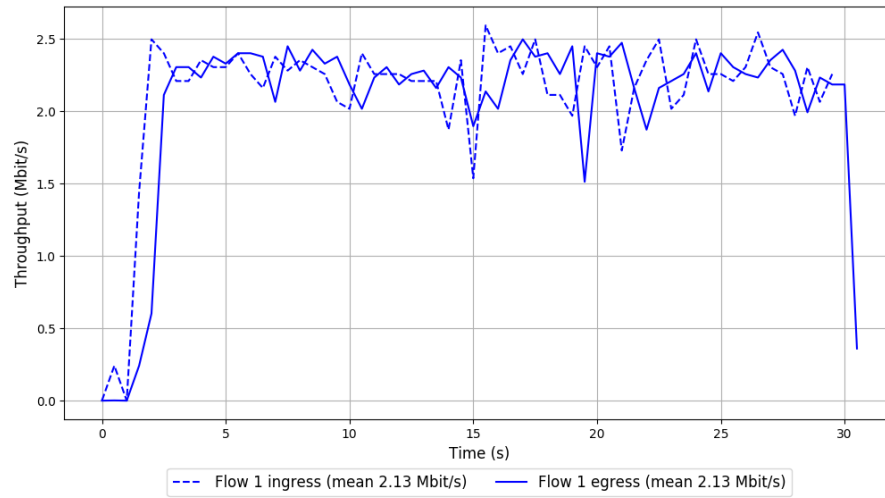


Run 2: Statistics of TCP Vegas

Start at: 2018-07-17 08:12:53
End at: 2018-07-17 08:13:23
Local clock offset: 1.864 ms
Remote clock offset: 18.739 ms

Below is generated by plot.py at 2018-07-17 08:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 263.892 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 263.892 ms
Loss rate: 0.28%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-17 08:32:03

End at: 2018-07-17 08:32:33

Local clock offset: -3.084 ms

Remote clock offset: 5.745 ms

Below is generated by plot.py at 2018-07-17 08:39:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 296.663 ms

Loss rate: 0.19%

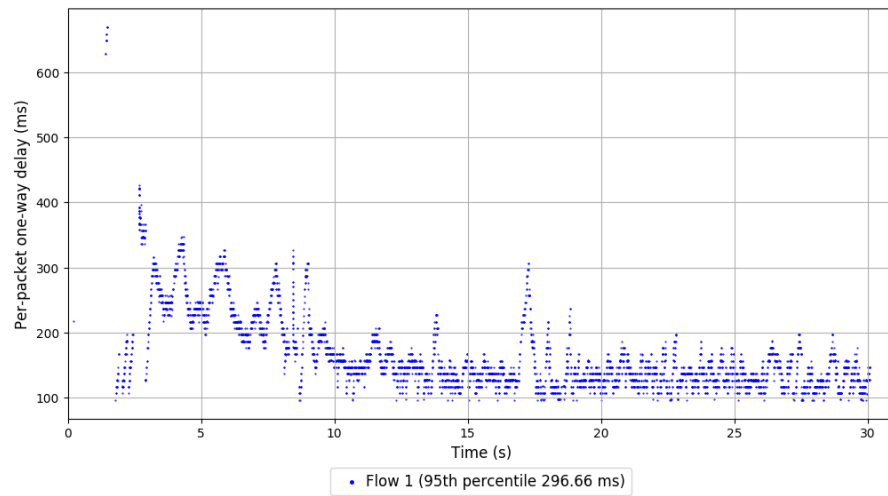
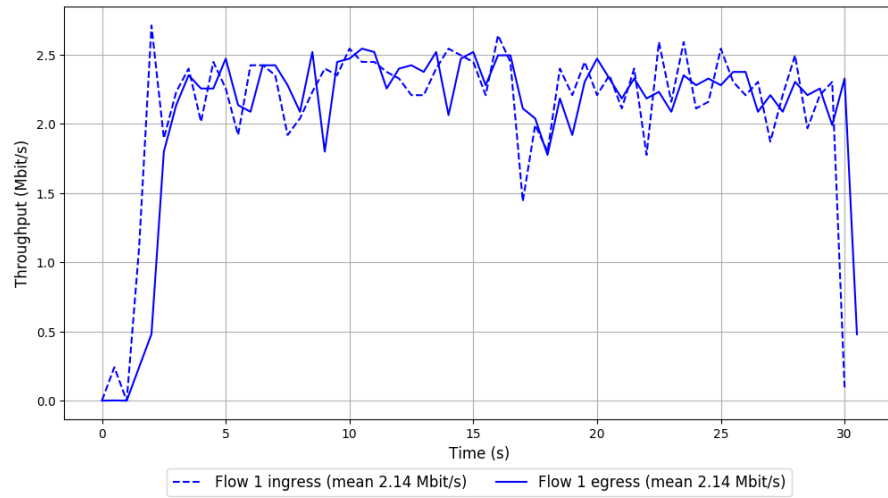
-- Flow 1:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 296.663 ms

Loss rate: 0.19%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-07-17 07:45:53

End at: 2018-07-17 07:46:23

Local clock offset: 0.252 ms

Remote clock offset: 3.627 ms

Below is generated by plot.py at 2018-07-17 08:39:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 2041.160 ms

Loss rate: 3.10%

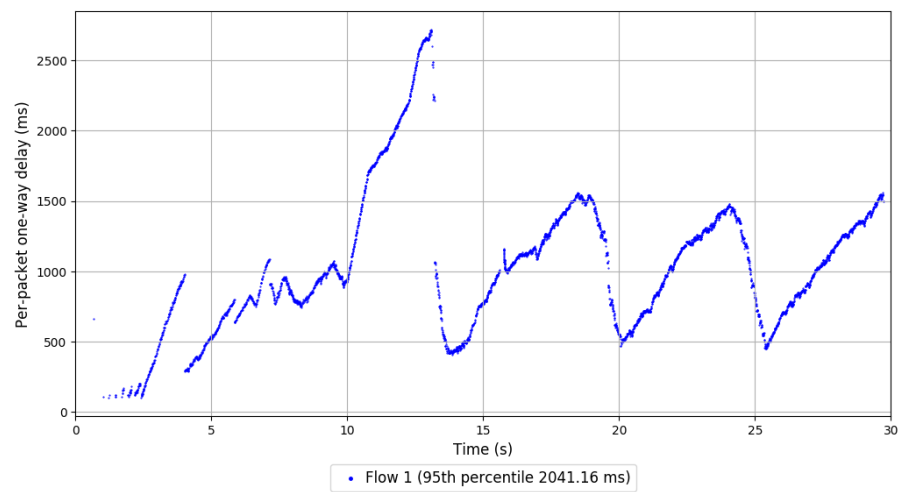
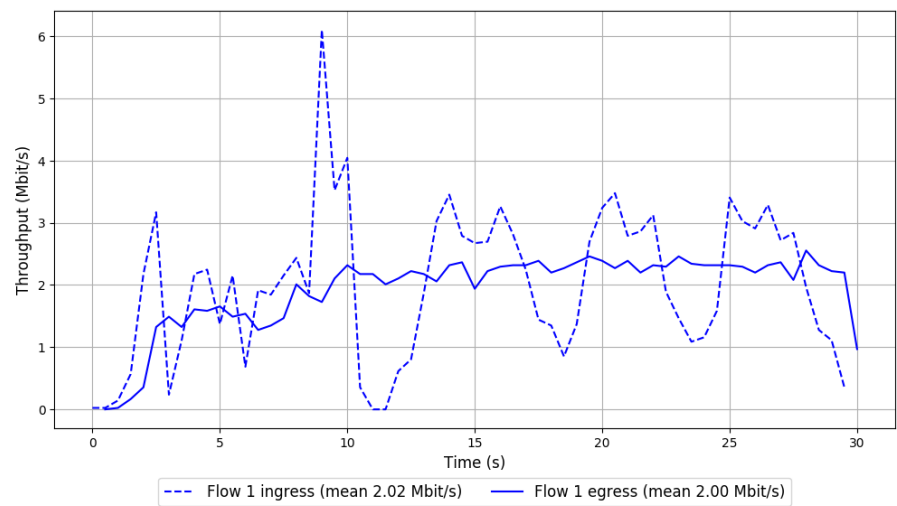
-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 2041.160 ms

Loss rate: 3.10%

Run 1: Report of Verus — Data Link

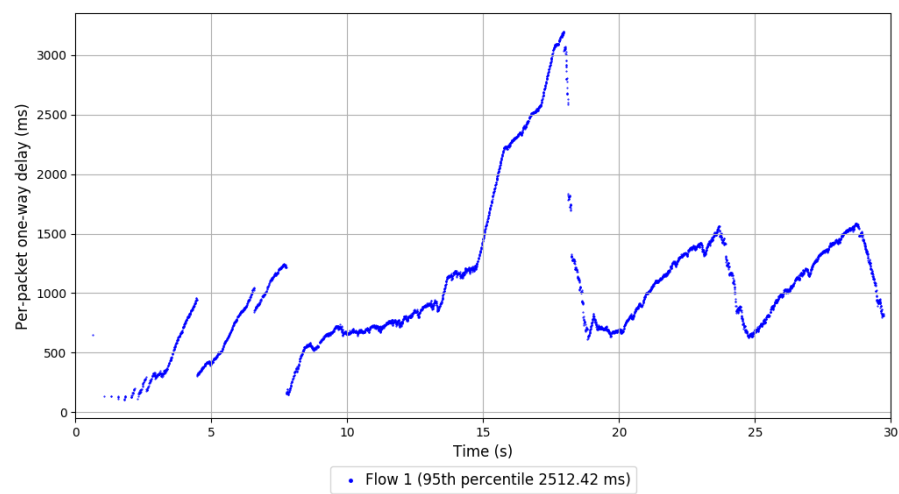
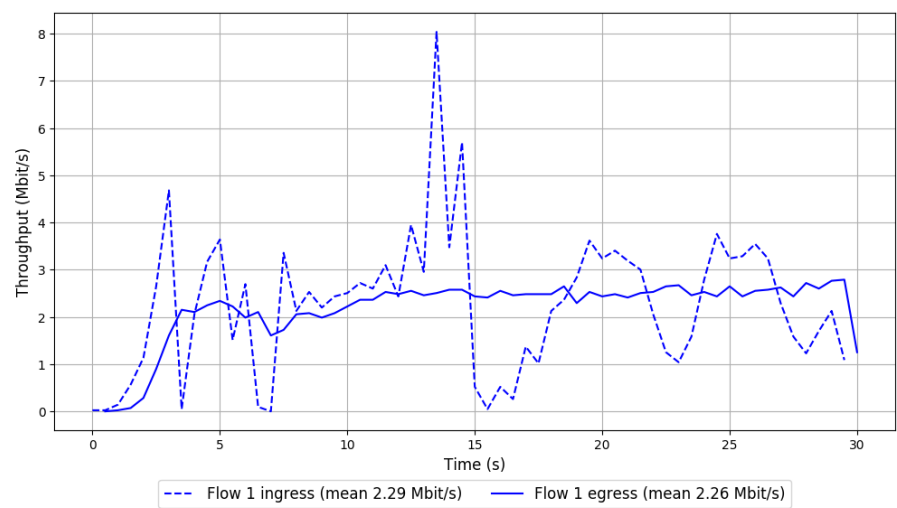


Run 2: Statistics of Verus

Start at: 2018-07-17 08:04:59
End at: 2018-07-17 08:05:29
Local clock offset: 0.887 ms
Remote clock offset: 12.196 ms

Below is generated by plot.py at 2018-07-17 08:39:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 2512.417 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 2512.417 ms
Loss rate: 3.24%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-07-17 08:24:12

End at: 2018-07-17 08:24:42

Local clock offset: 4.238 ms

Remote clock offset: 9.275 ms

Below is generated by plot.py at 2018-07-17 08:40:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 1587.557 ms

Loss rate: 4.72%

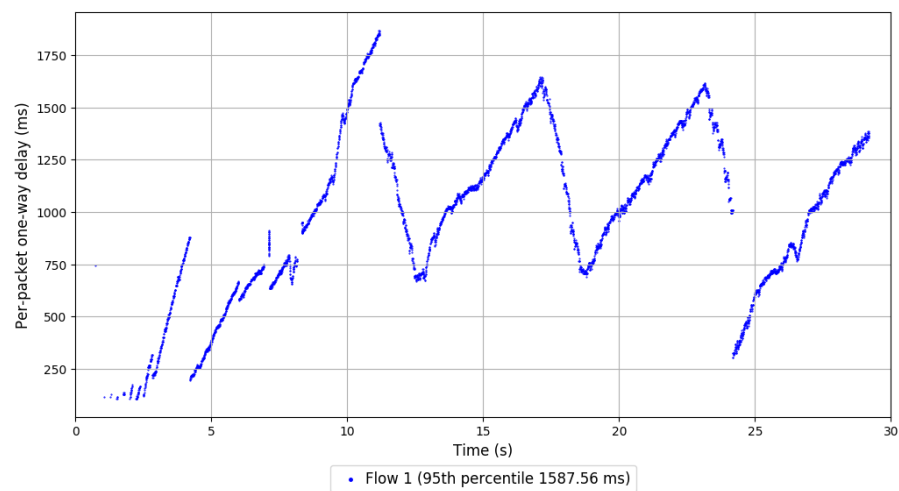
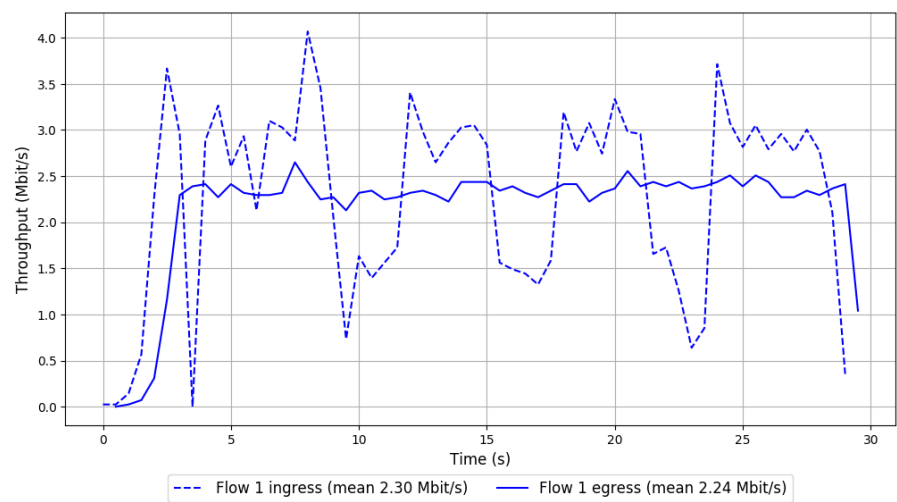
-- Flow 1:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 1587.557 ms

Loss rate: 4.72%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-07-17 07:47:00

End at: 2018-07-17 07:47:30

Local clock offset: 0.262 ms

Remote clock offset: 1.318 ms

Below is generated by plot.py at 2018-07-17 08:40:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 219.088 ms

Loss rate: 0.07%

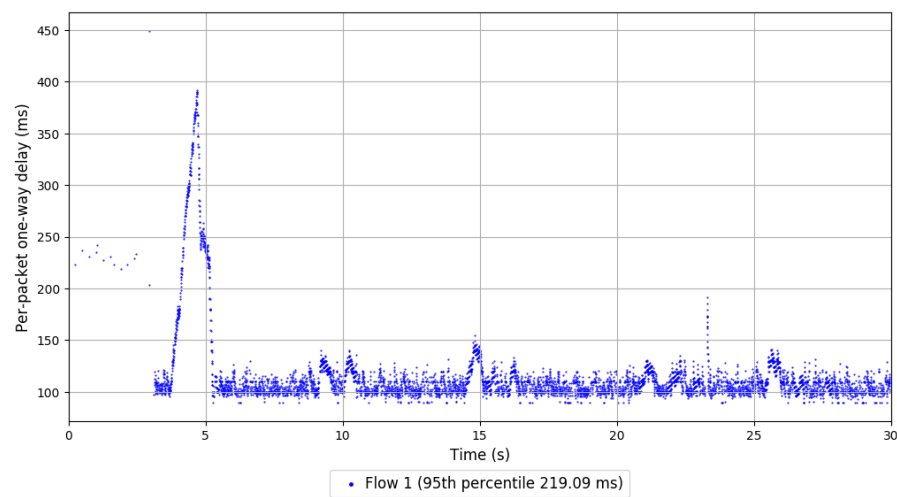
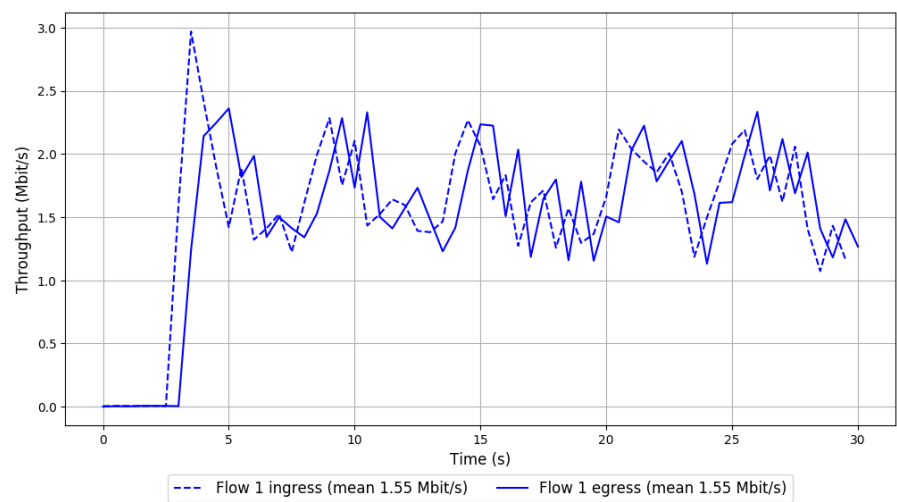
-- Flow 1:

Average throughput: 1.55 Mbit/s

95th percentile per-packet one-way delay: 219.088 ms

Loss rate: 0.07%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-07-17 08:06:06

End at: 2018-07-17 08:06:37

Local clock offset: 0.946 ms

Remote clock offset: 17.395 ms

Below is generated by plot.py at 2018-07-17 08:40:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 271.978 ms

Loss rate: 0.08%

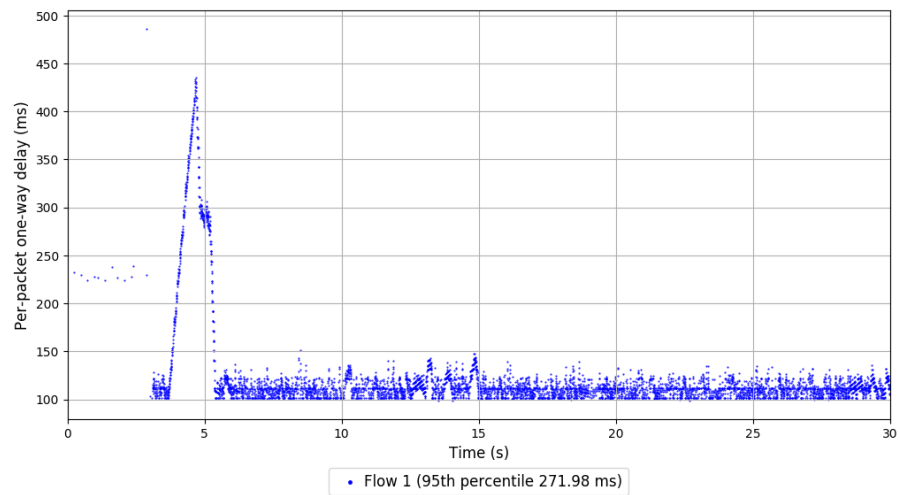
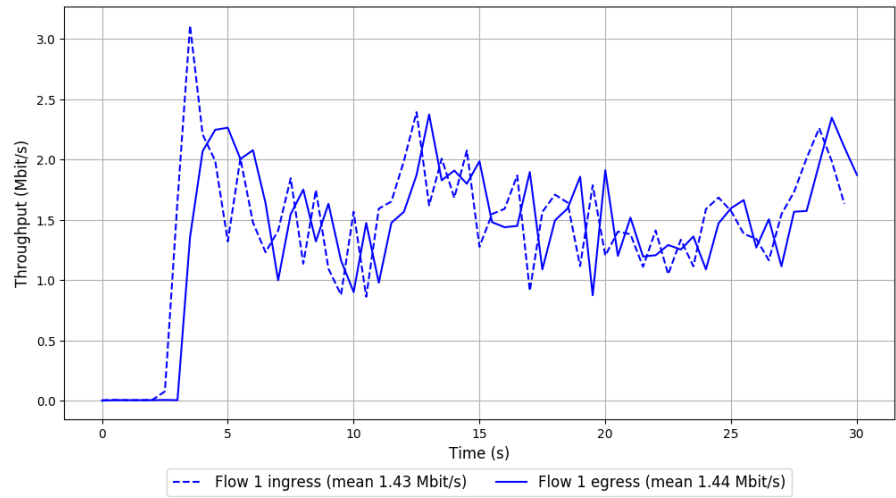
-- Flow 1:

Average throughput: 1.44 Mbit/s

95th percentile per-packet one-way delay: 271.978 ms

Loss rate: 0.08%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-07-17 08:25:20

End at: 2018-07-17 08:25:50

Local clock offset: 4.533 ms

Remote clock offset: 9.326 ms

Below is generated by plot.py at 2018-07-17 08:40:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 234.016 ms

Loss rate: 0.00%

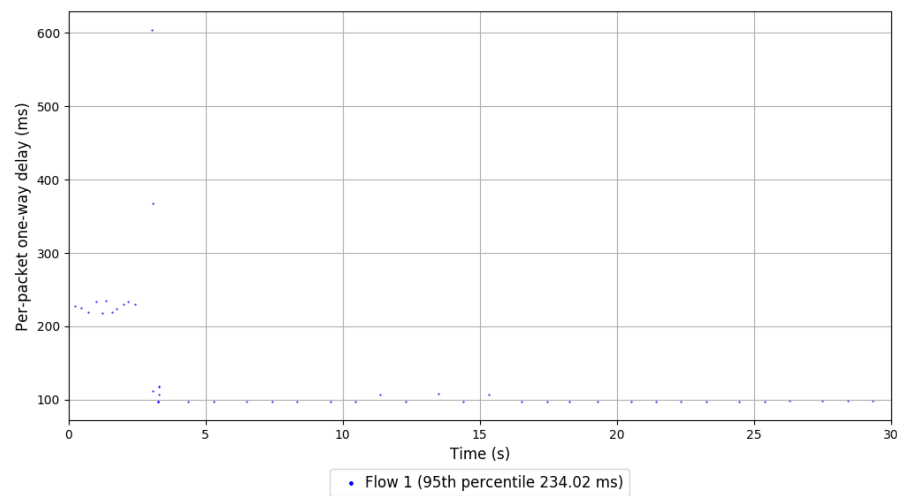
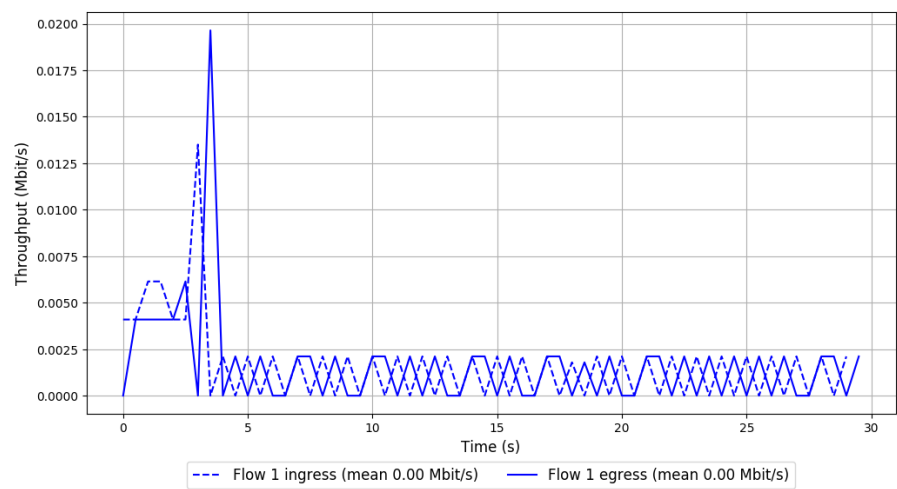
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 234.016 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-07-17 07:50:23

End at: 2018-07-17 07:50:53

Local clock offset: 0.523 ms

Remote clock offset: 7.86 ms

Below is generated by plot.py at 2018-07-17 08:40:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 164.554 ms

Loss rate: 0.06%

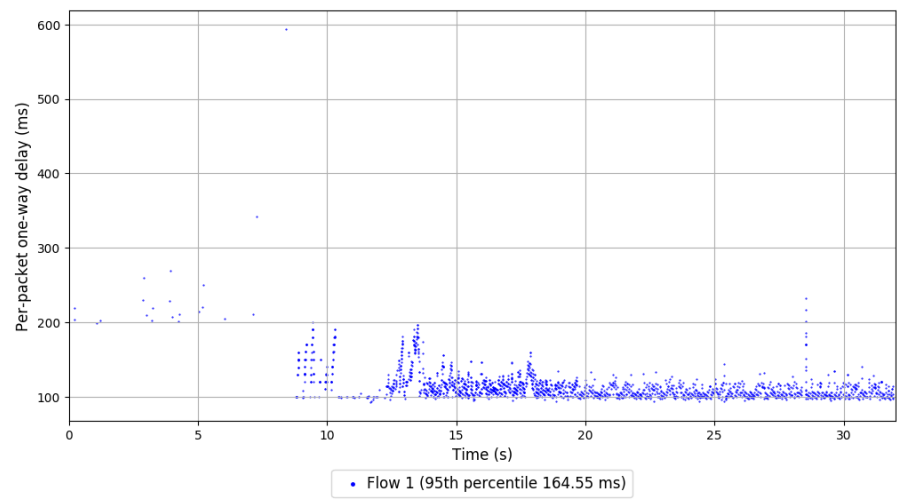
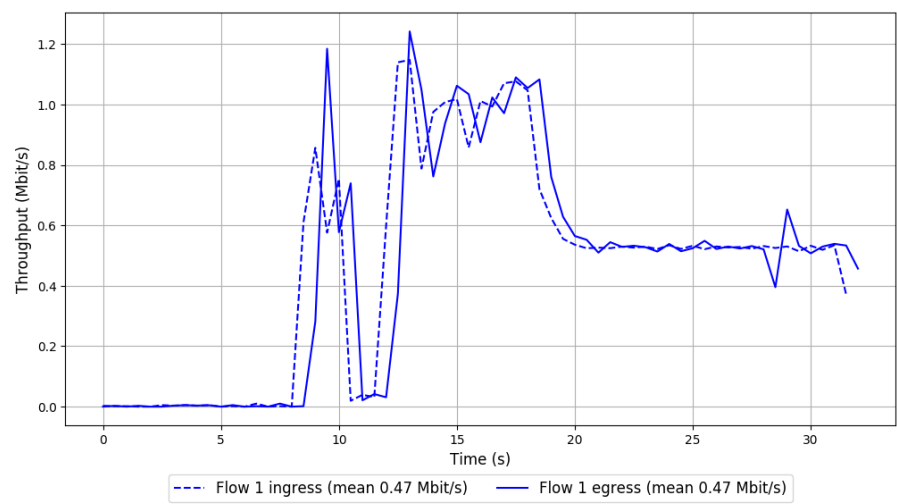
-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 164.554 ms

Loss rate: 0.06%

Run 1: Report of WebRTC media — Data Link

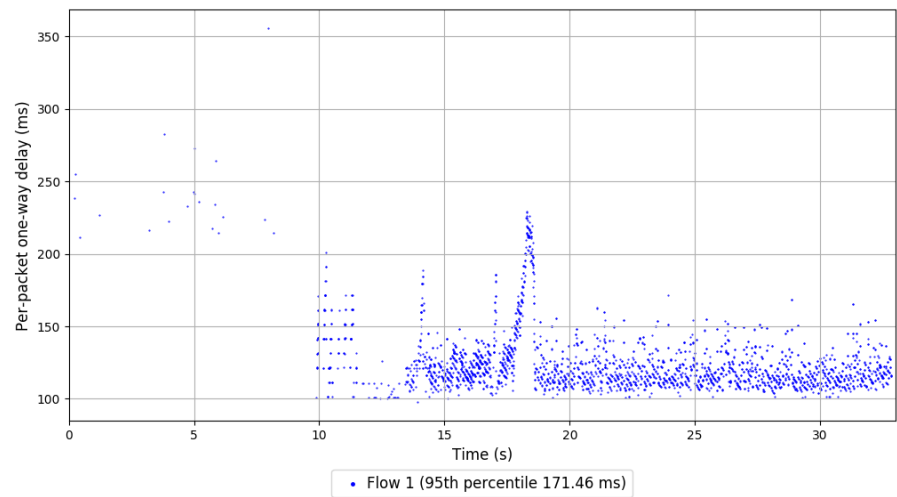
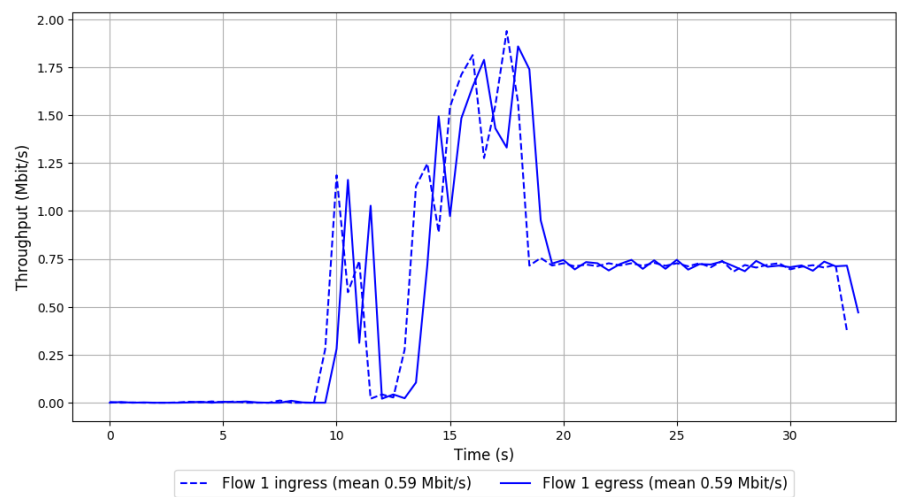


Run 2: Statistics of WebRTC media

Start at: 2018-07-17 08:09:31
End at: 2018-07-17 08:10:01
Local clock offset: 1.322 ms
Remote clock offset: 17.043 ms

Below is generated by plot.py at 2018-07-17 08:40:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 171.460 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 171.460 ms
Loss rate: 0.13%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-17 08:28:42

End at: 2018-07-17 08:29:12

Local clock offset: 0.099 ms

Remote clock offset: 6.379 ms

Below is generated by plot.py at 2018-07-17 08:40:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.69 Mbit/s

95th percentile per-packet one-way delay: 170.659 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 0.69 Mbit/s

95th percentile per-packet one-way delay: 170.659 ms

Loss rate: 0.11%

Run 3: Report of WebRTC media — Data Link

