

Pantheon Report

Generated at 2018-12-11 12:02:05 (UTC).

Data path: AWS California 1 on `ens5` (*local*) → Stanford on `eno1` (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

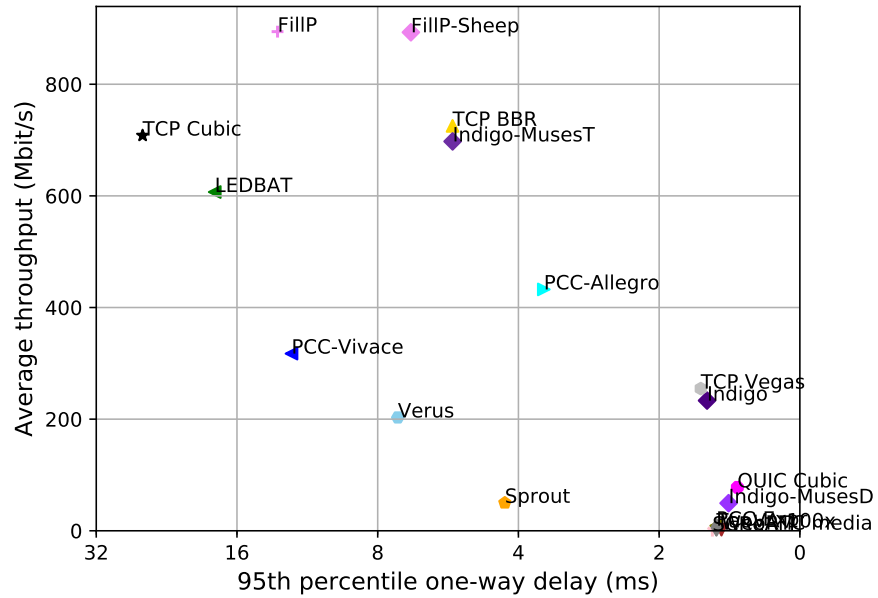
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

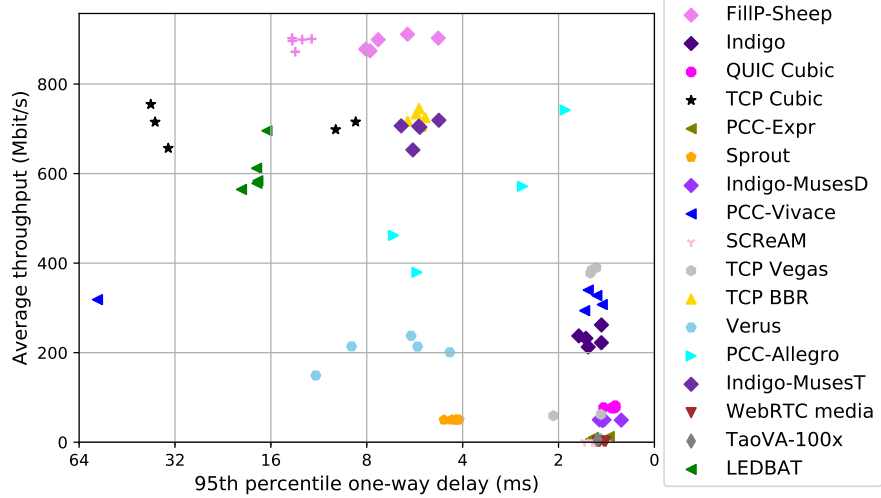
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS California 1 to Stanford, 5 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	725.42	5.53	0.02
Copa	0	N/A	N/A	N/A
TCP Cubic	5	708.09	25.47	0.07
FillP	5	894.23	13.10	3.33
FillP-Sheep	5	893.05	6.79	2.31
Indigo	5	233.27	1.32	0.00
Indigo-MusesD	5	49.46	1.01	0.00
Indigo-MusesT	5	697.58	5.53	0.06
LEDBAT	5	606.89	17.85	0.04
PCC-Allegro	5	432.39	3.53	0.08
PCC-Expr	4	9.14	1.19	17.83
QUIC Cubic	5	77.73	0.89	0.00
SCReAM	5	0.22	1.24	0.00
Sprout	5	50.08	4.28	0.03
TaoVA-100x	1	6.06	1.19	0.00
TCP Vegas	5	254.72	1.41	0.00
Verus	5	203.04	7.25	0.47
PCC-Vivace	5	317.41	12.23	0.00
WebRTC media	5	1.97	1.11	0.02

Run 1: Statistics of TCP BBR

Start at: 2018-12-11 09:20:06

End at: 2018-12-11 09:20:36

Local clock offset: 7.327 ms

Remote clock offset: 0.122 ms

Below is generated by plot.py at 2018-12-11 11:24:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 705.72 Mbit/s

95th percentile per-packet one-way delay: 5.389 ms

Loss rate: 0.02%

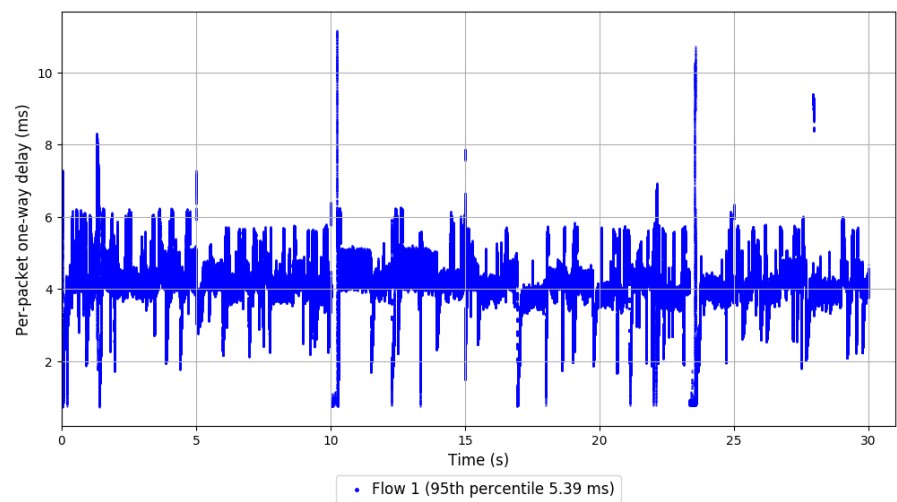
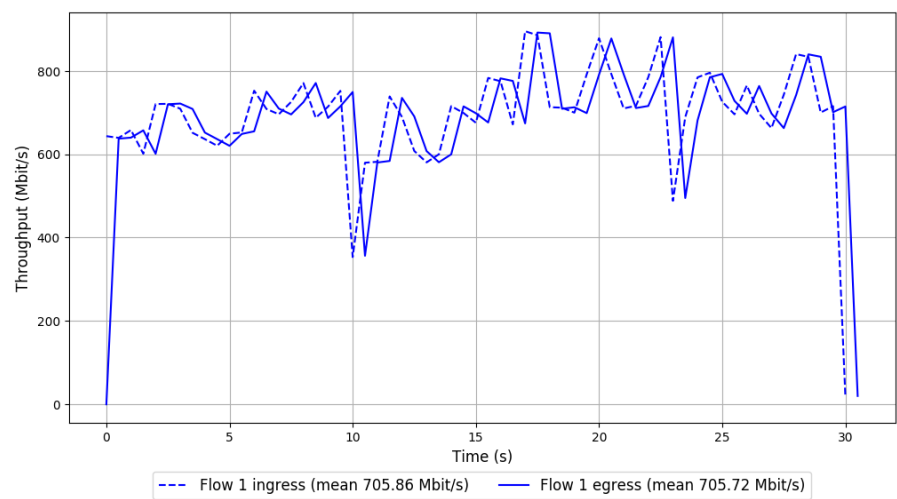
-- Flow 1:

Average throughput: 705.72 Mbit/s

95th percentile per-packet one-way delay: 5.389 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-11 09:46:45

End at: 2018-12-11 09:47:15

Local clock offset: 9.14 ms

Remote clock offset: 0.276 ms

Below is generated by plot.py at 2018-12-11 11:24:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 717.14 Mbit/s

95th percentile per-packet one-way delay: 5.953 ms

Loss rate: 0.02%

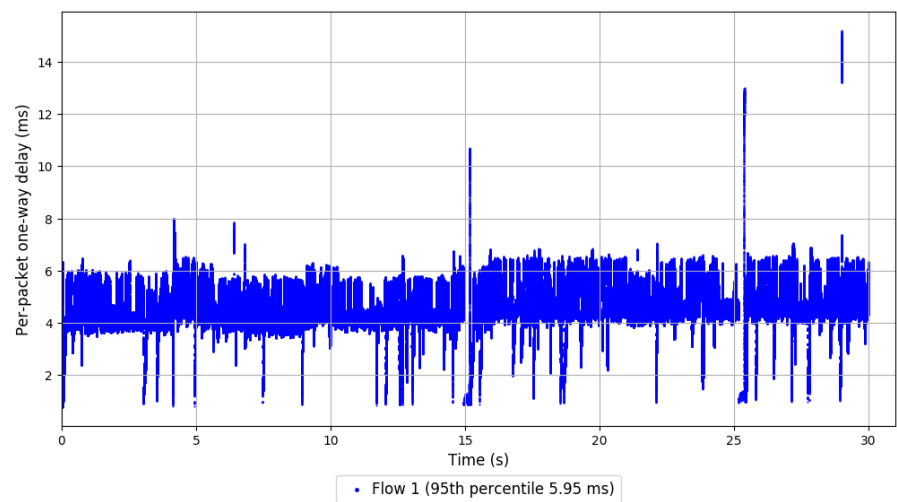
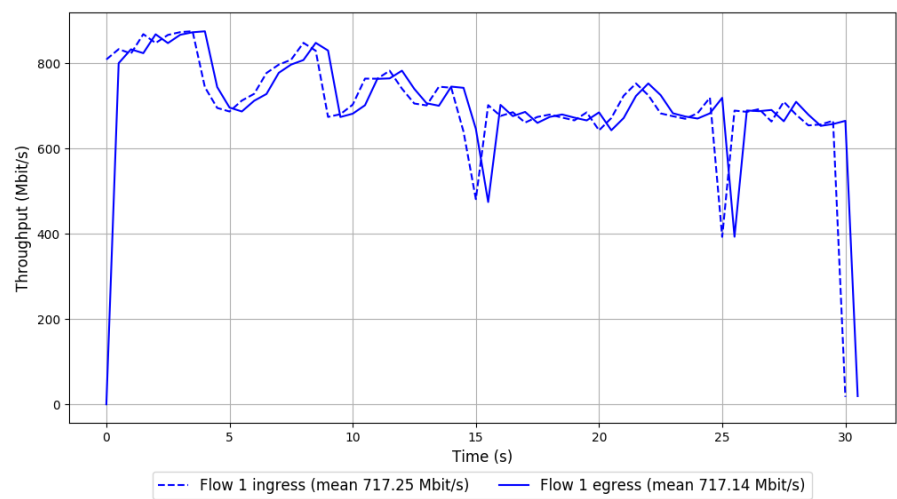
-- Flow 1:

Average throughput: 717.14 Mbit/s

95th percentile per-packet one-way delay: 5.953 ms

Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link

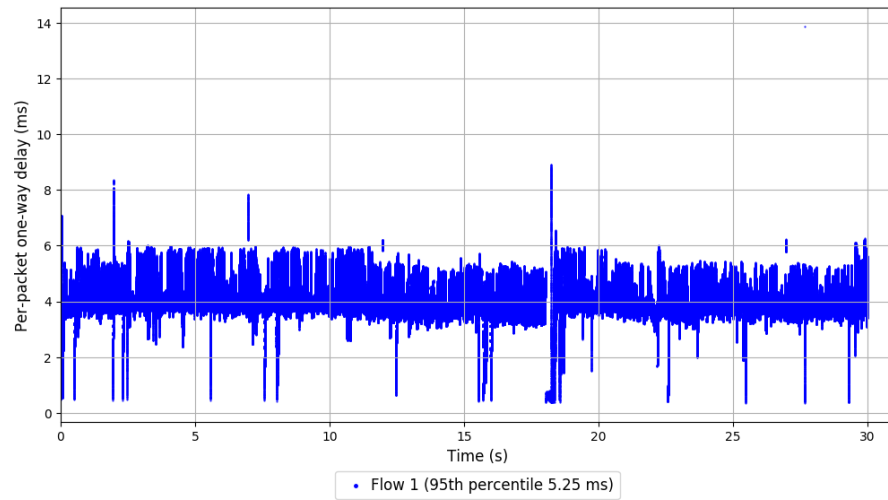
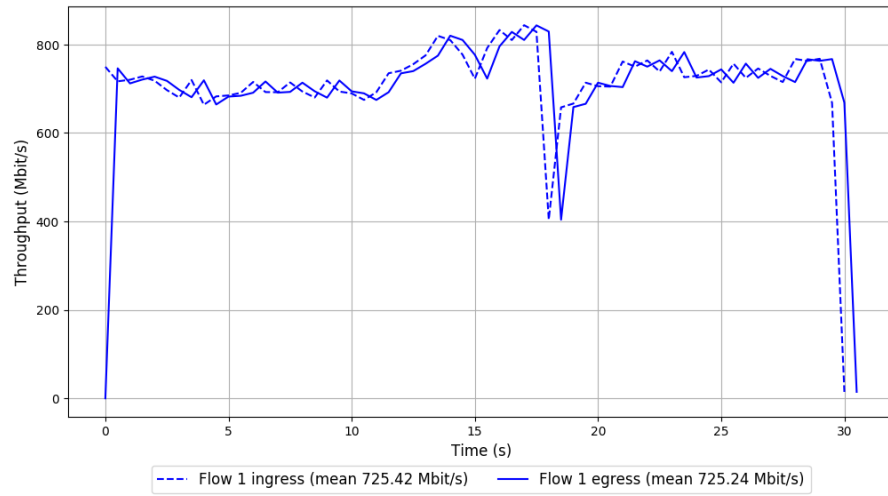


Run 3: Statistics of TCP BBR

Start at: 2018-12-11 10:13:10
End at: 2018-12-11 10:13:40
Local clock offset: 8.682 ms
Remote clock offset: -3.912 ms

Below is generated by plot.py at 2018-12-11 11:24:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 725.24 Mbit/s
95th percentile per-packet one-way delay: 5.248 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 725.24 Mbit/s
95th percentile per-packet one-way delay: 5.248 ms
Loss rate: 0.03%

Run 3: Report of TCP BBR — Data Link

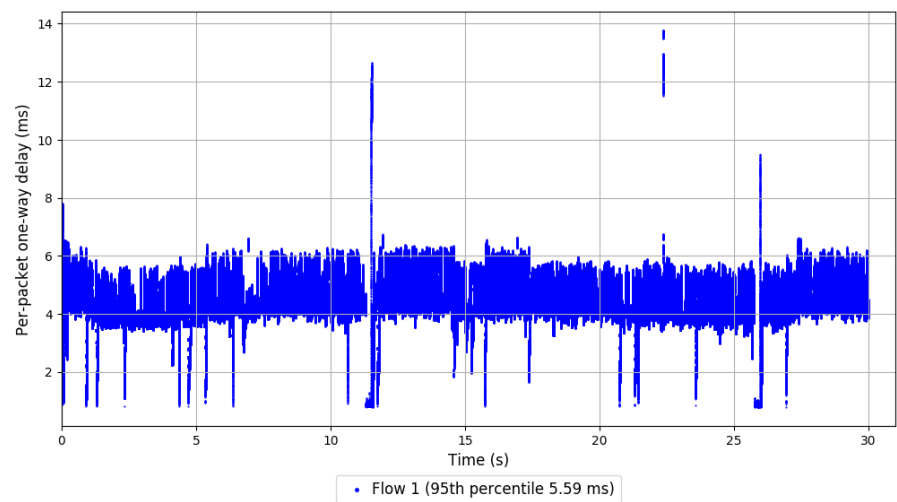
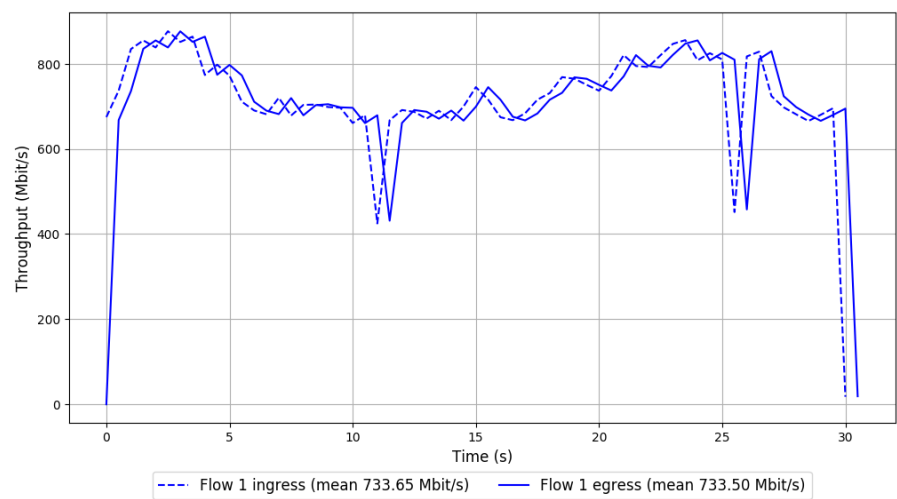


Run 4: Statistics of TCP BBR

Start at: 2018-12-11 10:39:13
End at: 2018-12-11 10:39:43
Local clock offset: 5.475 ms
Remote clock offset: -0.055 ms

Below is generated by plot.py at 2018-12-11 11:24:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 733.50 Mbit/s
95th percentile per-packet one-way delay: 5.592 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 733.50 Mbit/s
95th percentile per-packet one-way delay: 5.592 ms
Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-12-11 11:05:43

End at: 2018-12-11 11:06:13

Local clock offset: 5.495 ms

Remote clock offset: -2.004 ms

Below is generated by plot.py at 2018-12-11 11:24:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 745.51 Mbit/s

95th percentile per-packet one-way delay: 5.482 ms

Loss rate: 0.03%

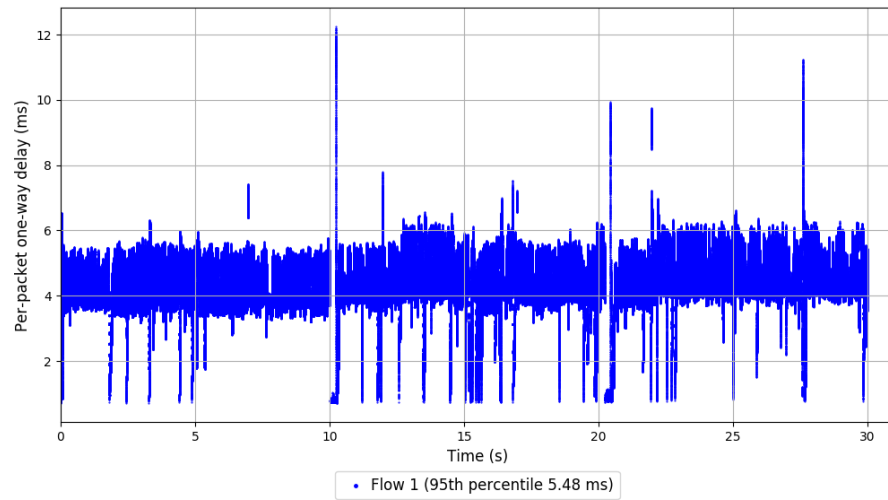
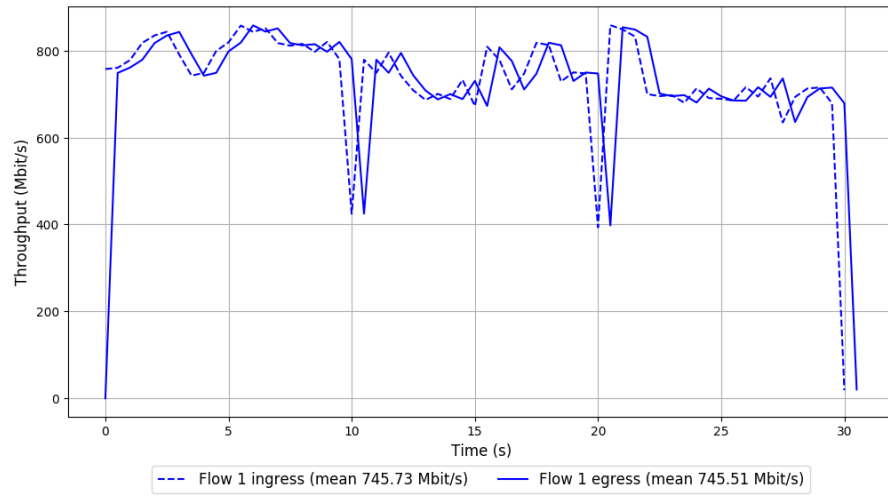
-- Flow 1:

Average throughput: 745.51 Mbit/s

95th percentile per-packet one-way delay: 5.482 ms

Loss rate: 0.03%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

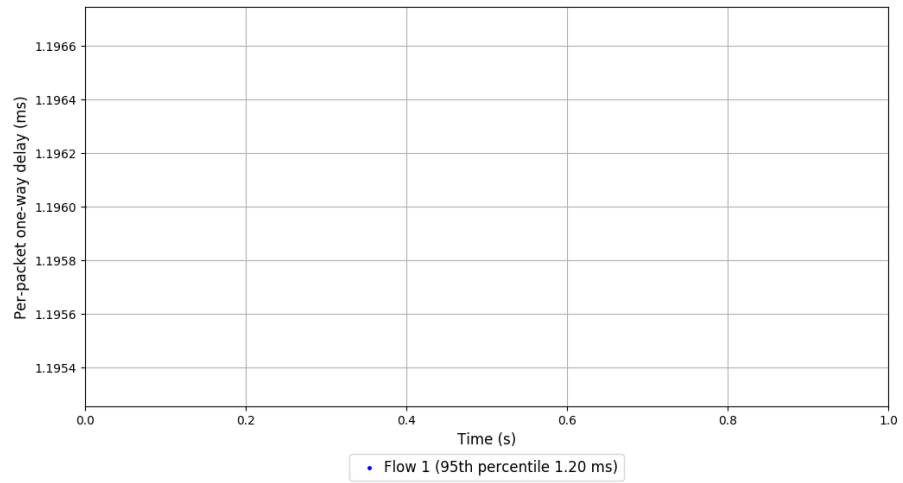
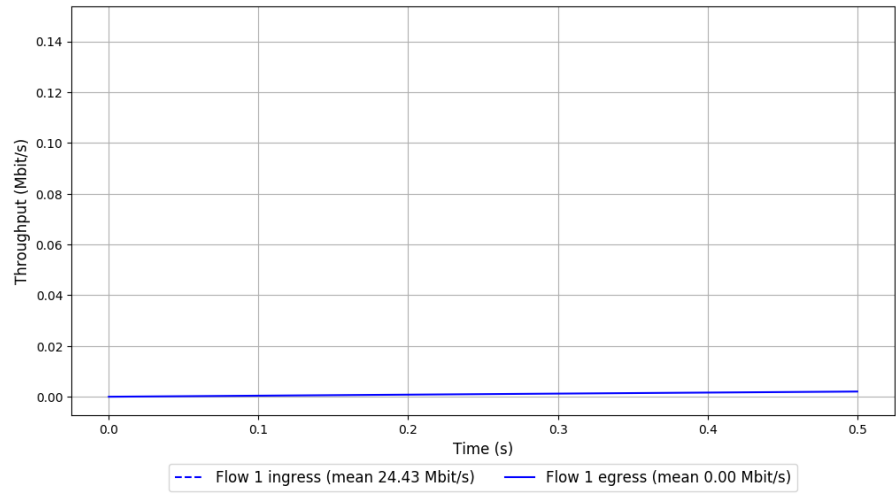
Start at: 2018-12-11 09:24:29

End at: 2018-12-11 09:24:59

Local clock offset: 7.562 ms

Remote clock offset: 0.135 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

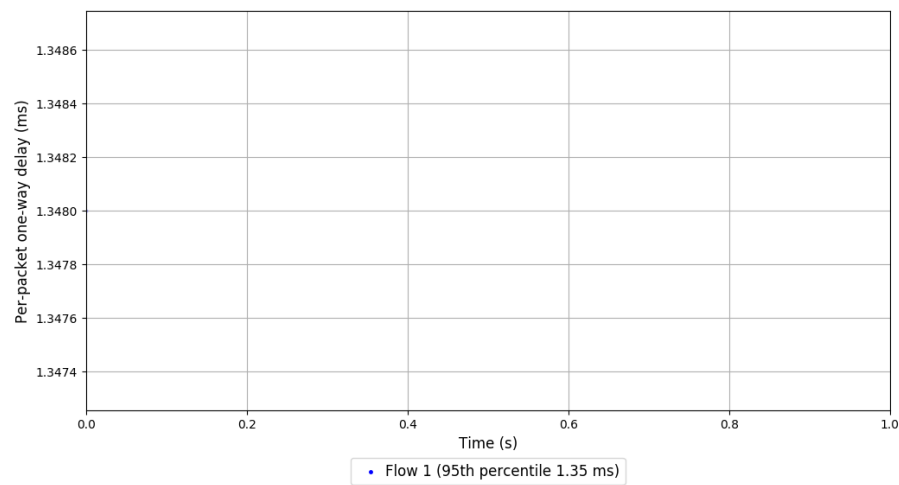
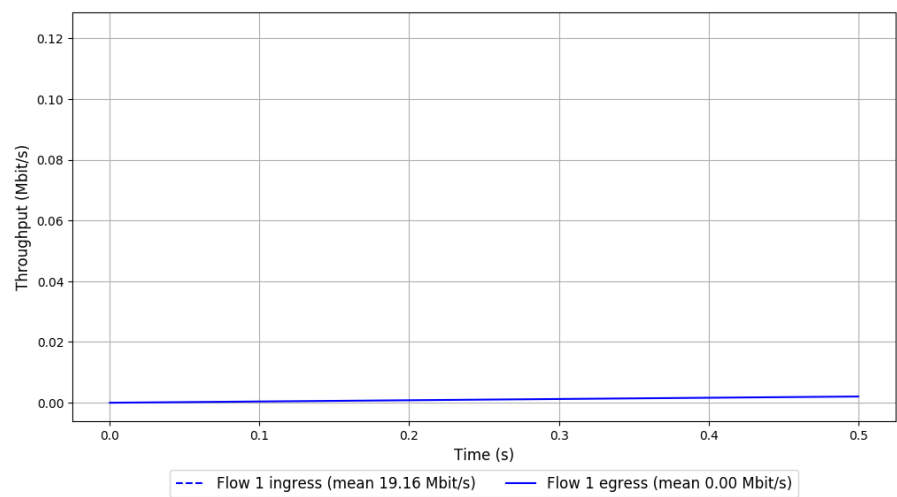
Start at: 2018-12-11 09:50:55

End at: 2018-12-11 09:51:25

Local clock offset: 9.432 ms

Remote clock offset: -1.032 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

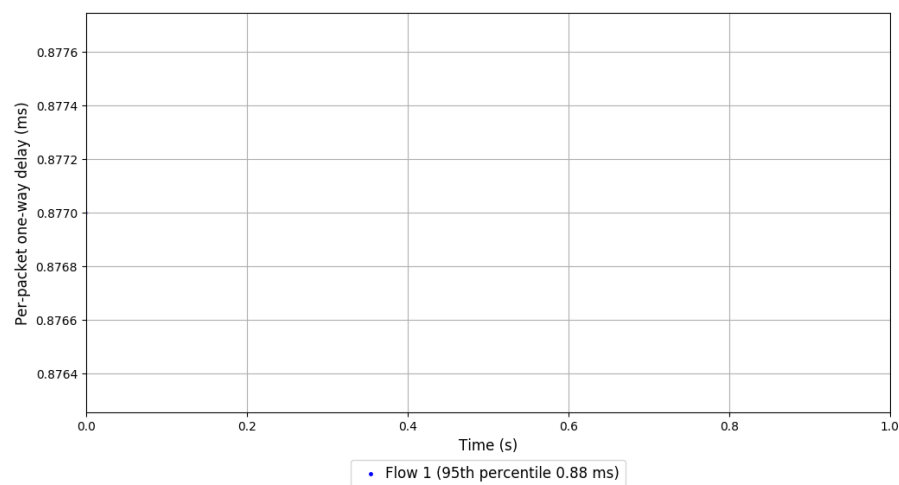
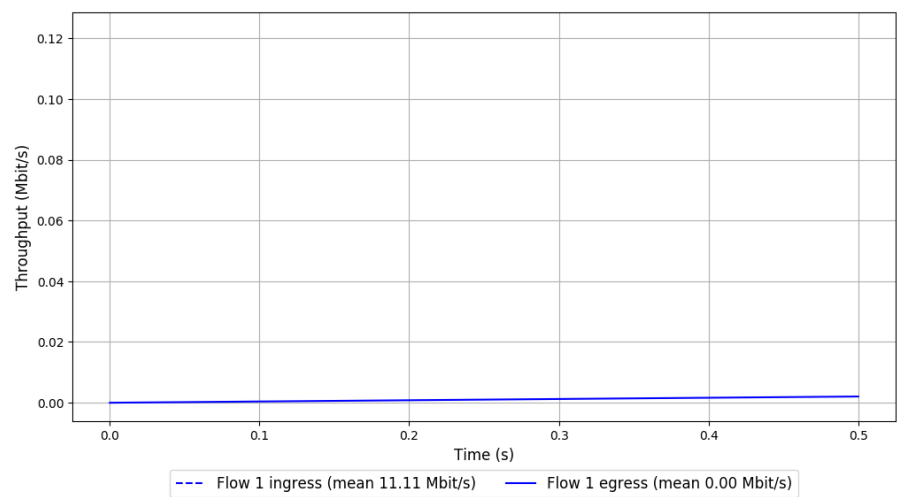
Start at: 2018-12-11 10:17:11

End at: 2018-12-11 10:17:41

Local clock offset: 7.492 ms

Remote clock offset: -4.074 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

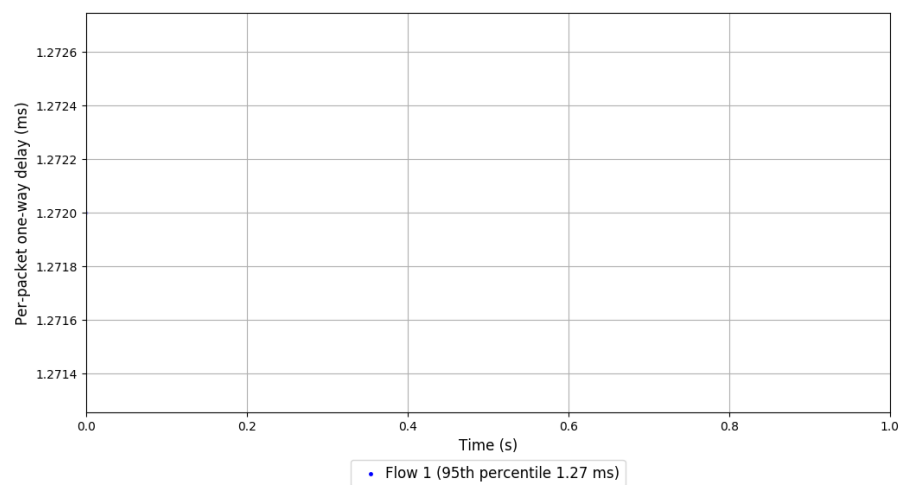
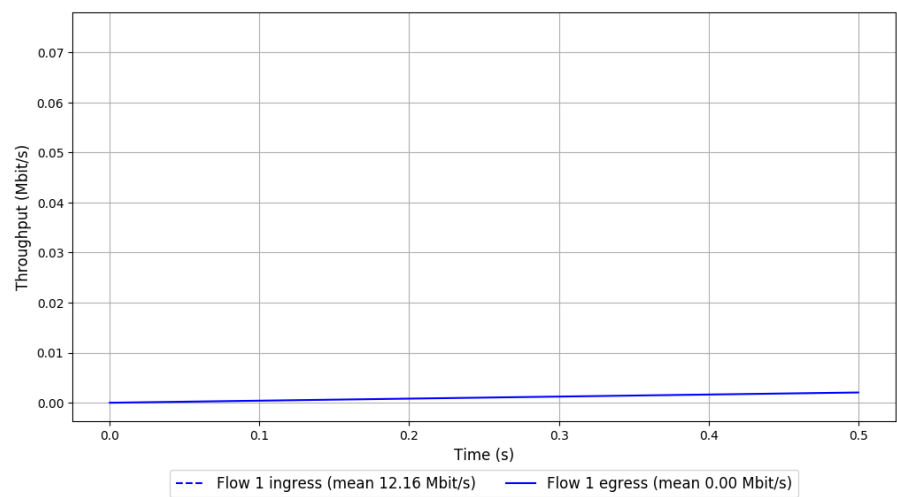
Start at: 2018-12-11 10:43:25

End at: 2018-12-11 10:43:55

Local clock offset: 5.587 ms

Remote clock offset: 0.234 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

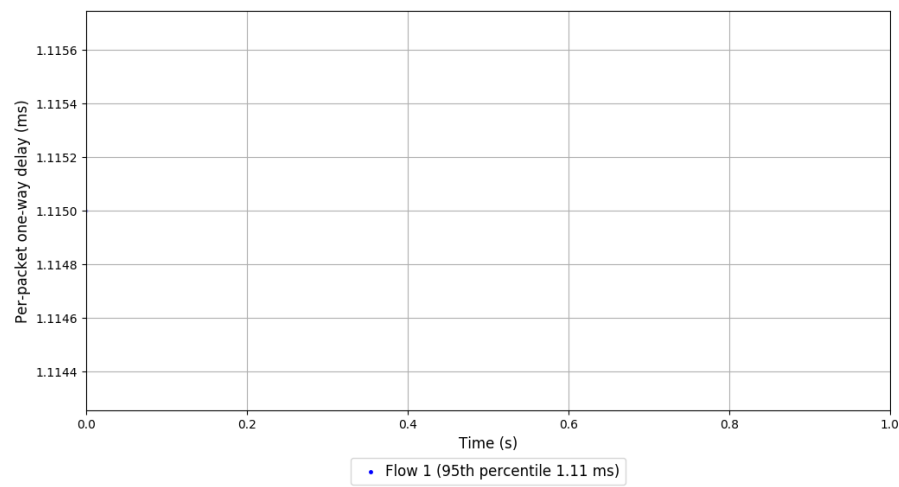
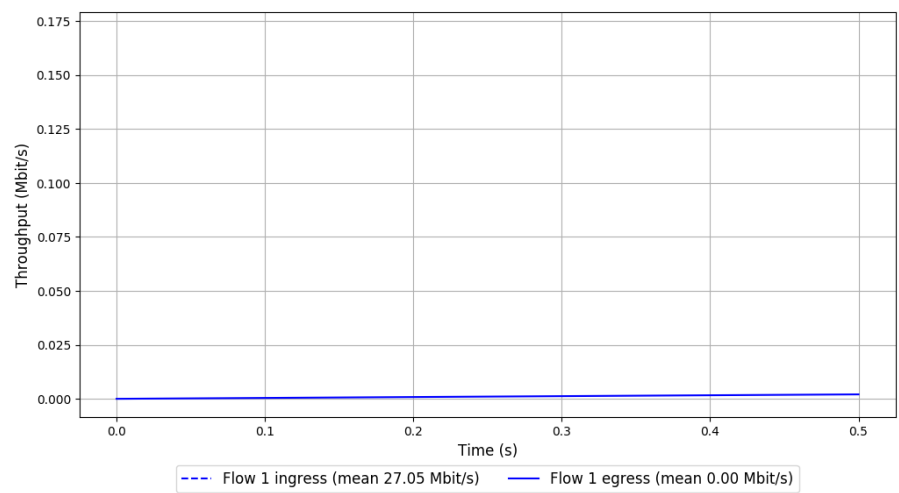
Start at: 2018-12-11 11:09:58

End at: 2018-12-11 11:10:28

Local clock offset: 5.462 ms

Remote clock offset: -2.501 ms

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 08:59:13

End at: 2018-12-11 08:59:43

Local clock offset: 6.847 ms

Remote clock offset: 0.037 ms

Below is generated by plot.py at 2018-12-11 11:24:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 698.26 Mbit/s

95th percentile per-packet one-way delay: 10.014 ms

Loss rate: 0.06%

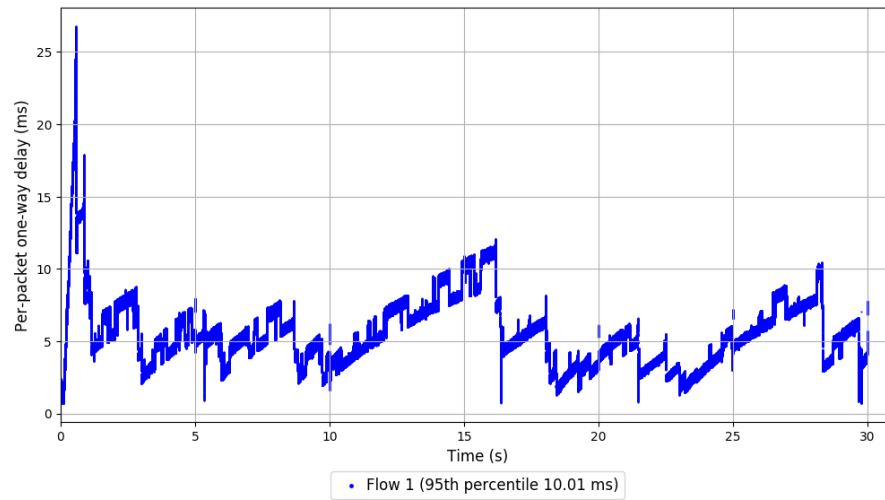
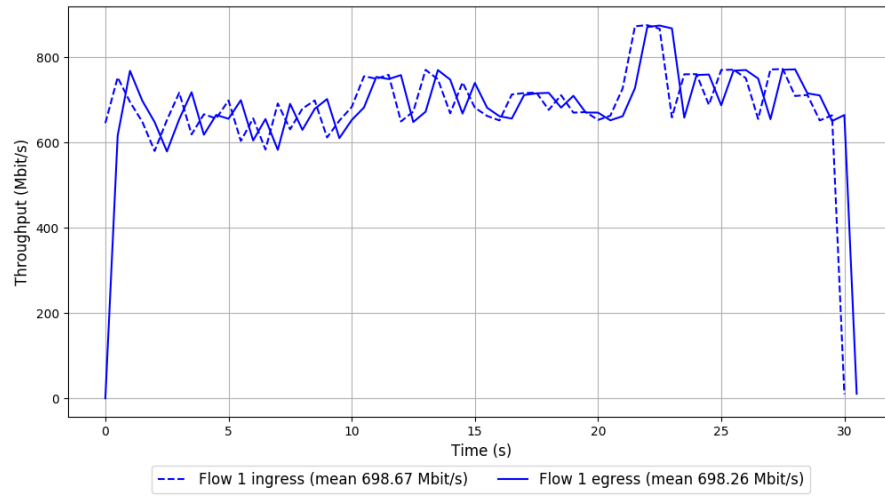
-- Flow 1:

Average throughput: 698.26 Mbit/s

95th percentile per-packet one-way delay: 10.014 ms

Loss rate: 0.06%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 09:25:42

End at: 2018-12-11 09:26:12

Local clock offset: 7.662 ms

Remote clock offset: 0.09 ms

Below is generated by plot.py at 2018-12-11 11:24:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 754.77 Mbit/s

95th percentile per-packet one-way delay: 38.122 ms

Loss rate: 0.07%

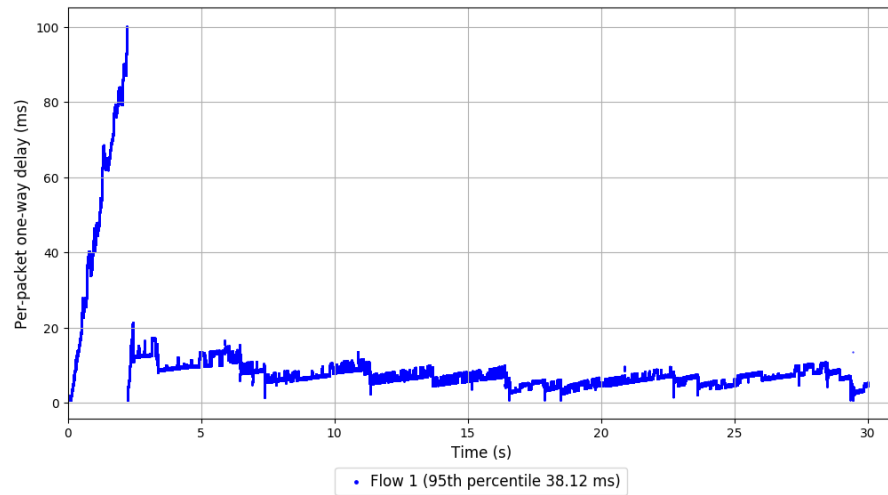
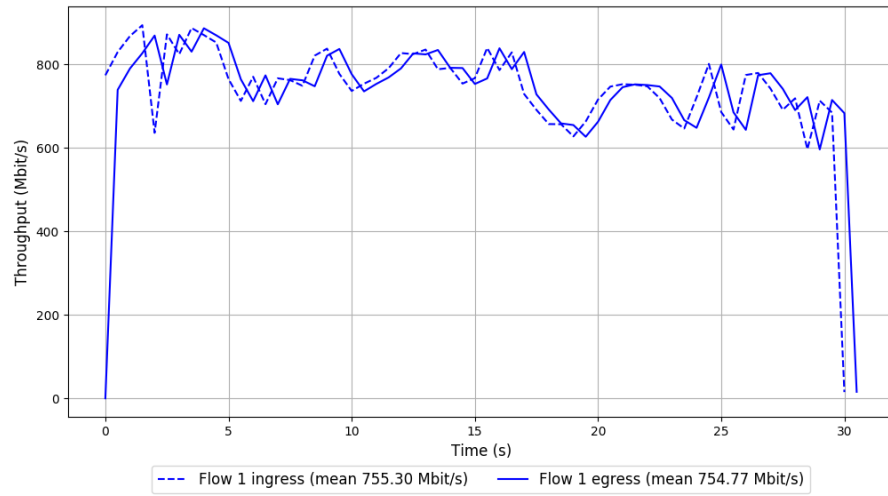
-- Flow 1:

Average throughput: 754.77 Mbit/s

95th percentile per-packet one-way delay: 38.122 ms

Loss rate: 0.07%

Run 2: Report of TCP Cubic — Data Link

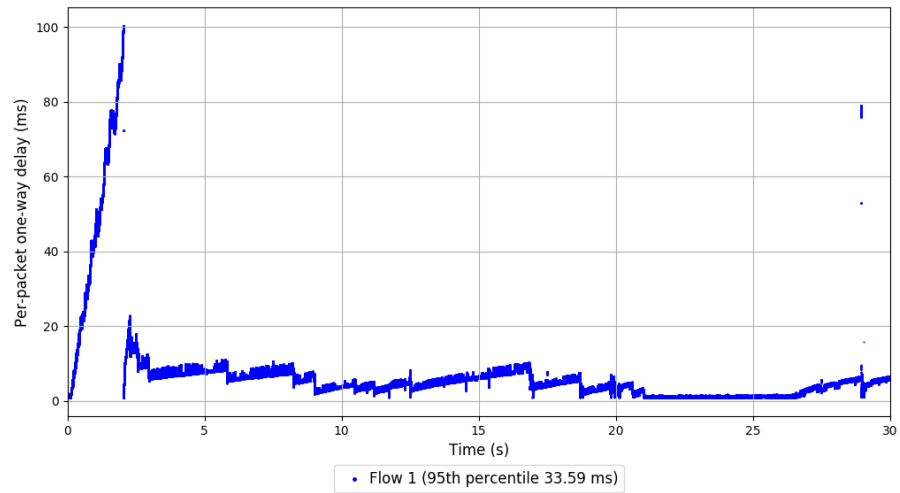
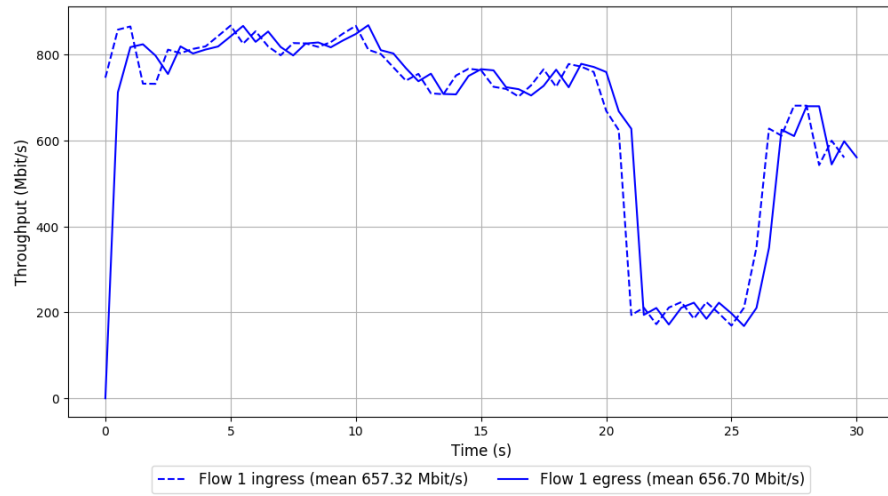


Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 09:52:08
End at: 2018-12-11 09:52:38
Local clock offset: 9.538 ms
Remote clock offset: -1.397 ms

Below is generated by plot.py at 2018-12-11 11:24:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 656.70 Mbit/s
95th percentile per-packet one-way delay: 33.592 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 656.70 Mbit/s
95th percentile per-packet one-way delay: 33.592 ms
Loss rate: 0.09%

Run 3: Report of TCP Cubic — Data Link

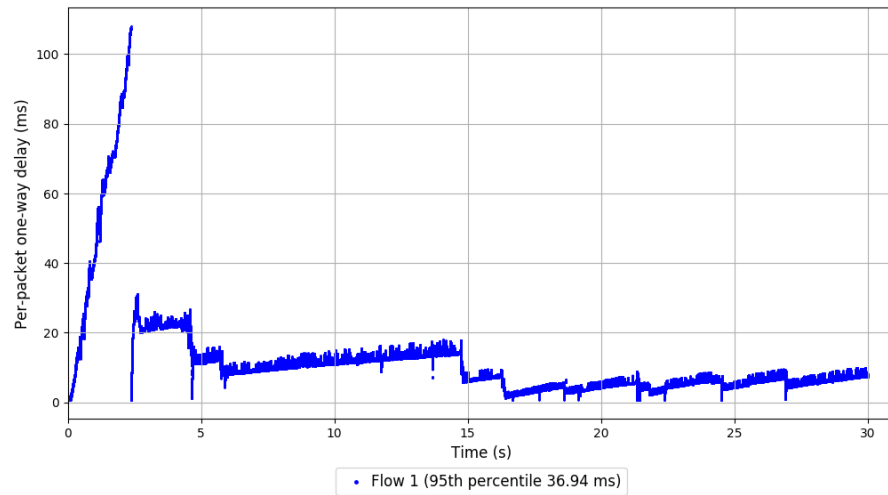
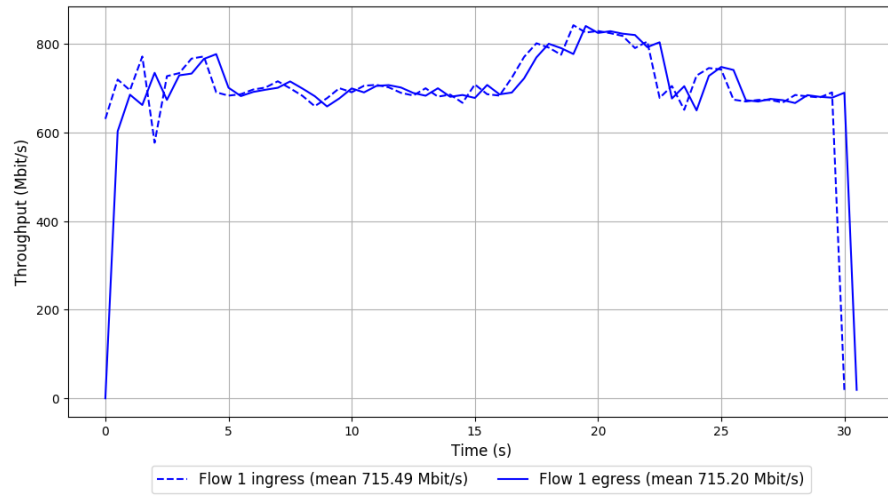


Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 10:18:23
End at: 2018-12-11 10:18:53
Local clock offset: 7.244 ms
Remote clock offset: -4.151 ms

Below is generated by plot.py at 2018-12-11 11:30:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 715.20 Mbit/s
95th percentile per-packet one-way delay: 36.941 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 715.20 Mbit/s
95th percentile per-packet one-way delay: 36.941 ms
Loss rate: 0.04%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 10:44:38

End at: 2018-12-11 10:45:08

Local clock offset: 5.59 ms

Remote clock offset: 0.254 ms

Below is generated by plot.py at 2018-12-11 11:30:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 715.52 Mbit/s

95th percentile per-packet one-way delay: 8.669 ms

Loss rate: 0.07%

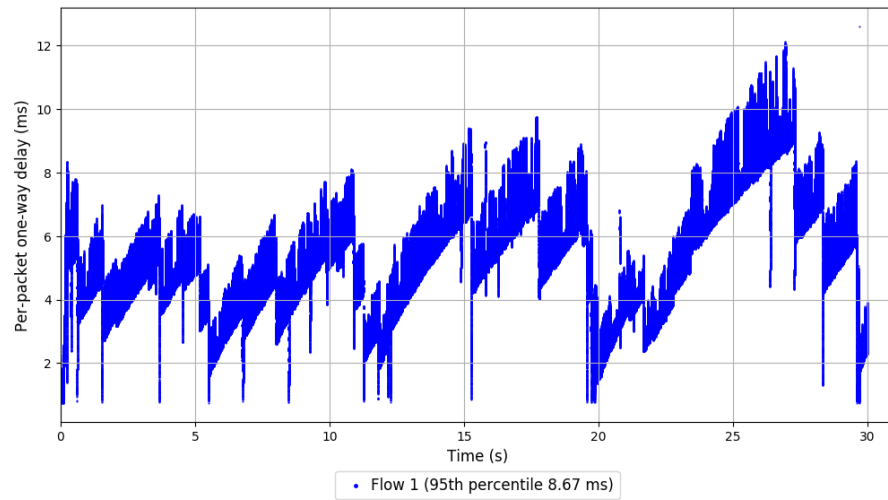
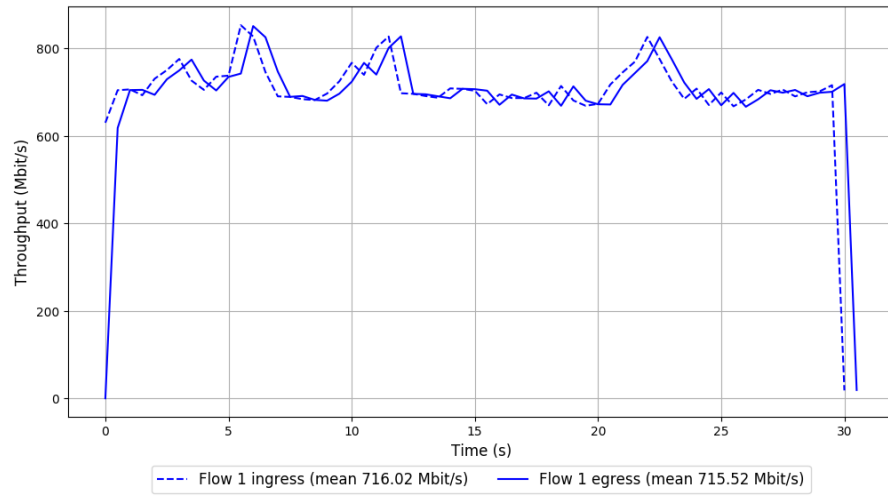
-- Flow 1:

Average throughput: 715.52 Mbit/s

95th percentile per-packet one-way delay: 8.669 ms

Loss rate: 0.07%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-12-11 09:17:06

End at: 2018-12-11 09:17:37

Local clock offset: 7.196 ms

Remote clock offset: 0.26 ms

Below is generated by plot.py at 2018-12-11 11:35:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 900.77 Mbit/s

95th percentile per-packet one-way delay: 11.912 ms

Loss rate: 3.52%

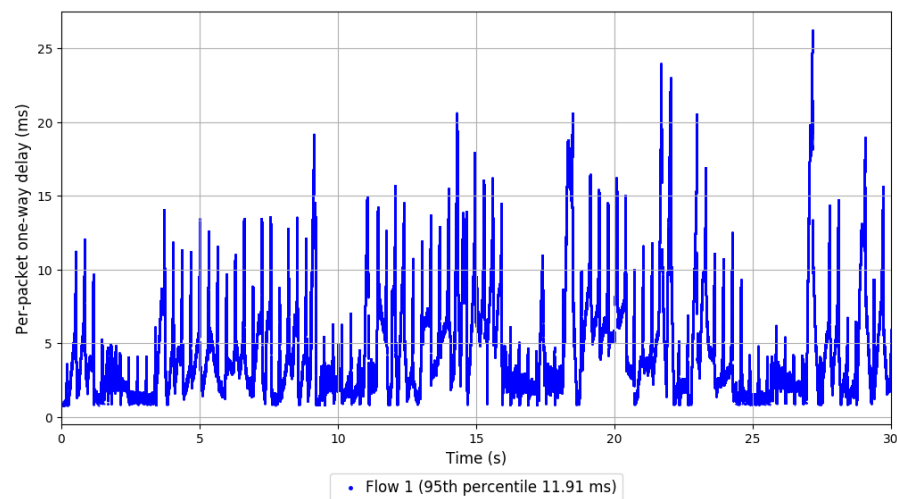
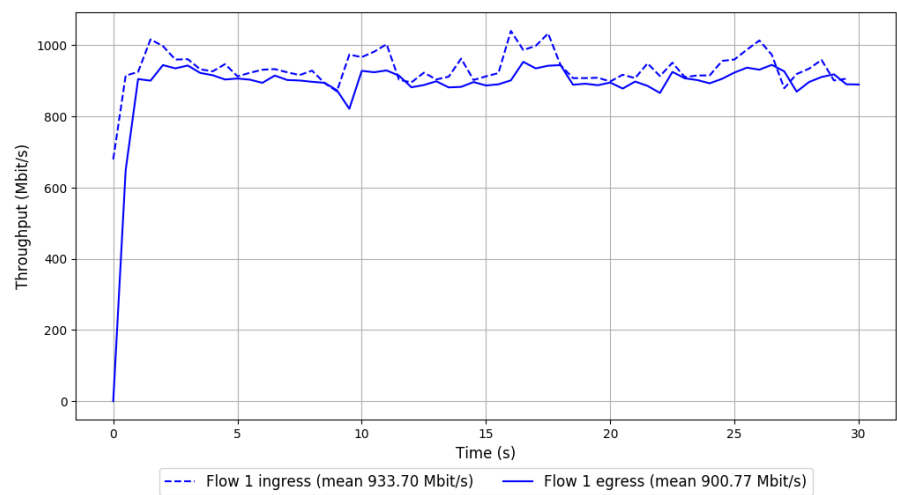
-- Flow 1:

Average throughput: 900.77 Mbit/s

95th percentile per-packet one-way delay: 11.912 ms

Loss rate: 3.52%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-12-11 09:43:45

End at: 2018-12-11 09:44:15

Local clock offset: 8.9 ms

Remote clock offset: 0.305 ms

Below is generated by plot.py at 2018-12-11 11:36:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 899.26 Mbit/s

95th percentile per-packet one-way delay: 12.761 ms

Loss rate: 3.78%

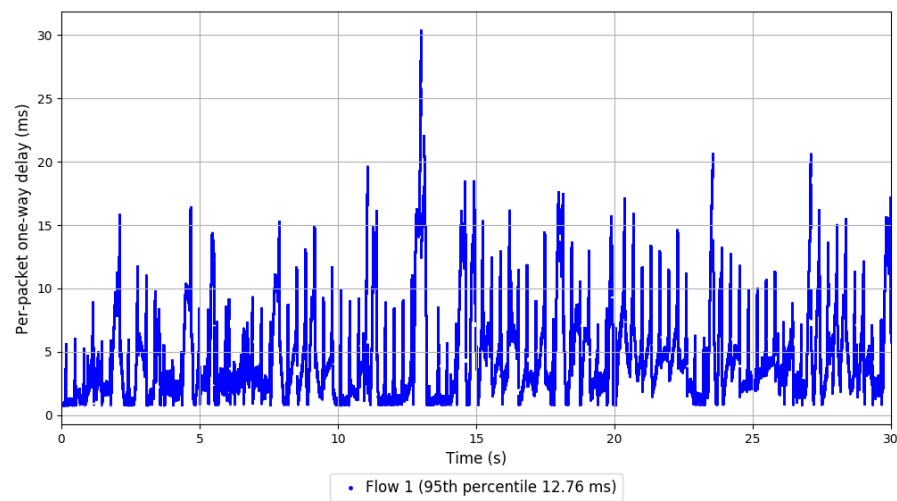
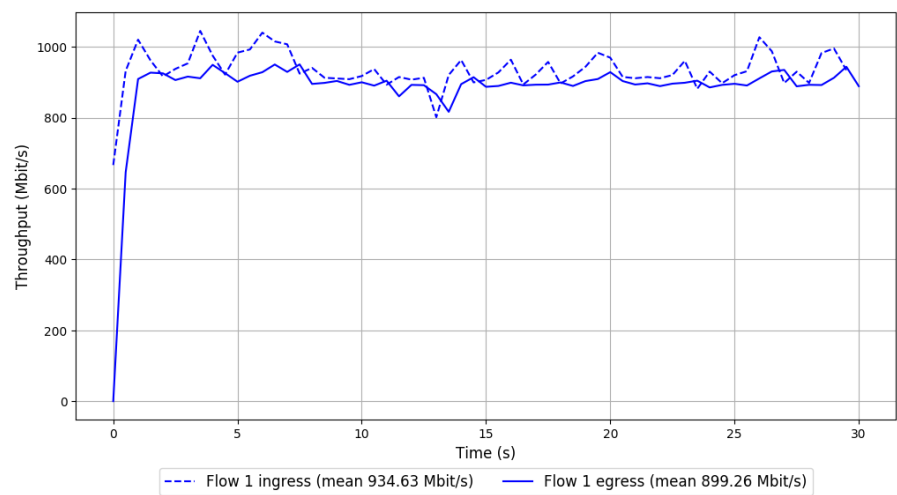
-- Flow 1:

Average throughput: 899.26 Mbit/s

95th percentile per-packet one-way delay: 12.761 ms

Loss rate: 3.78%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-12-11 10:10:11

End at: 2018-12-11 10:10:41

Local clock offset: 9.832 ms

Remote clock offset: -3.71 ms

Below is generated by plot.py at 2018-12-11 11:36:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 872.09 Mbit/s

95th percentile per-packet one-way delay: 13.412 ms

Loss rate: 2.44%

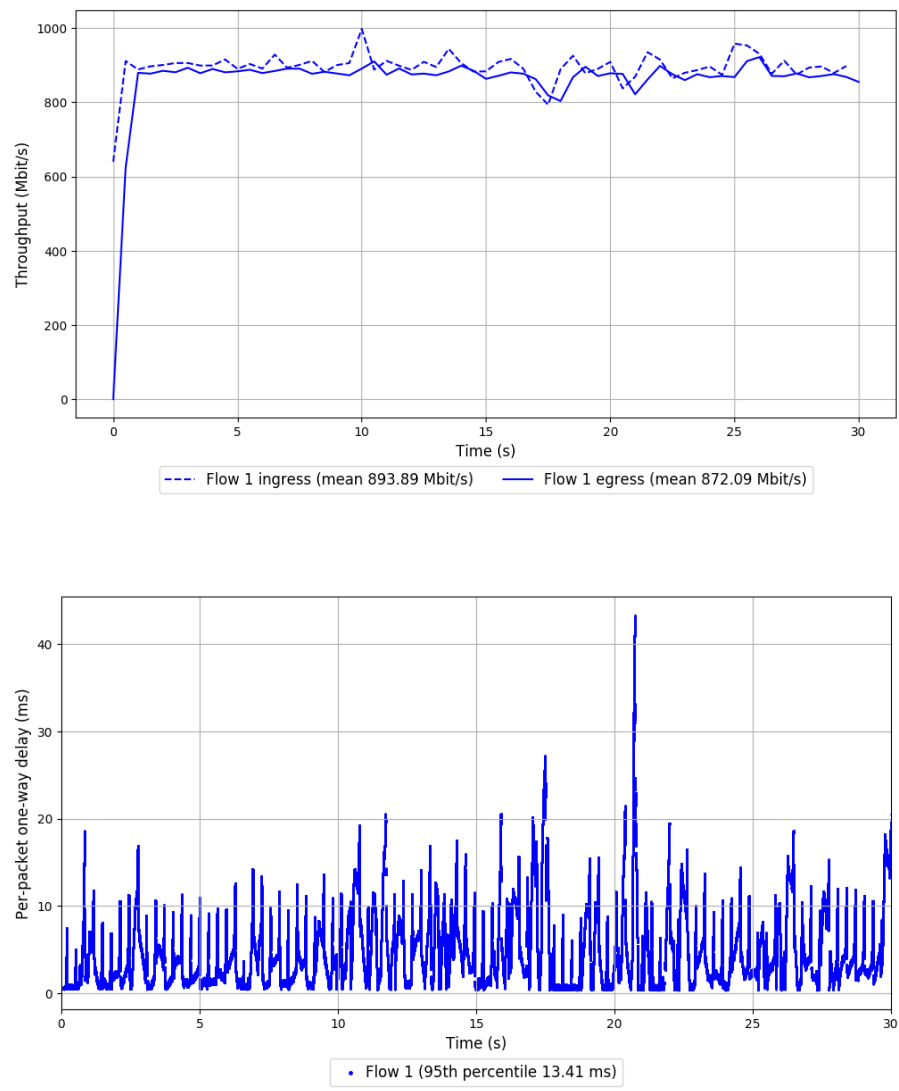
-- Flow 1:

Average throughput: 872.09 Mbit/s

95th percentile per-packet one-way delay: 13.412 ms

Loss rate: 2.44%

Run 3: Report of FillP — Data Link

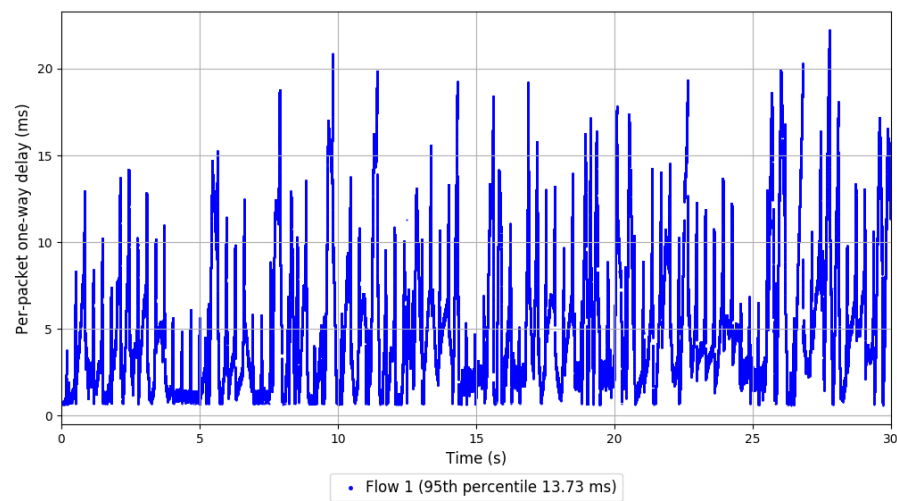
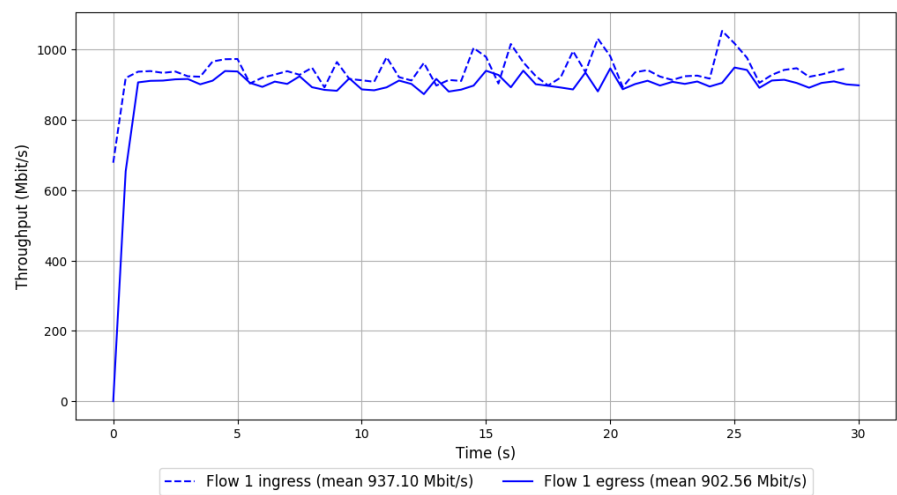


Run 4: Statistics of FillP

Start at: 2018-12-11 10:36:16
End at: 2018-12-11 10:36:46
Local clock offset: 5.56 ms
Remote clock offset: -0.394 ms

Below is generated by plot.py at 2018-12-11 11:36:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 902.56 Mbit/s
95th percentile per-packet one-way delay: 13.726 ms
Loss rate: 3.68%
-- Flow 1:
Average throughput: 902.56 Mbit/s
95th percentile per-packet one-way delay: 13.726 ms
Loss rate: 3.68%

Run 4: Report of FillP — Data Link

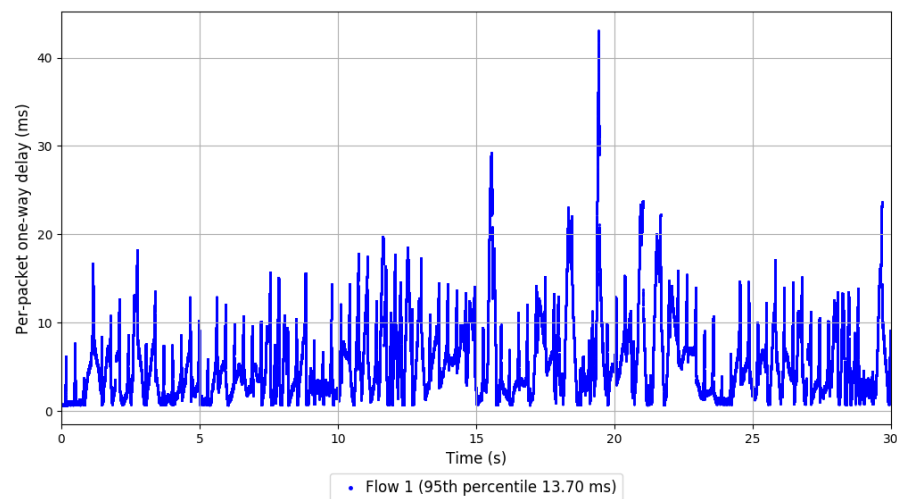
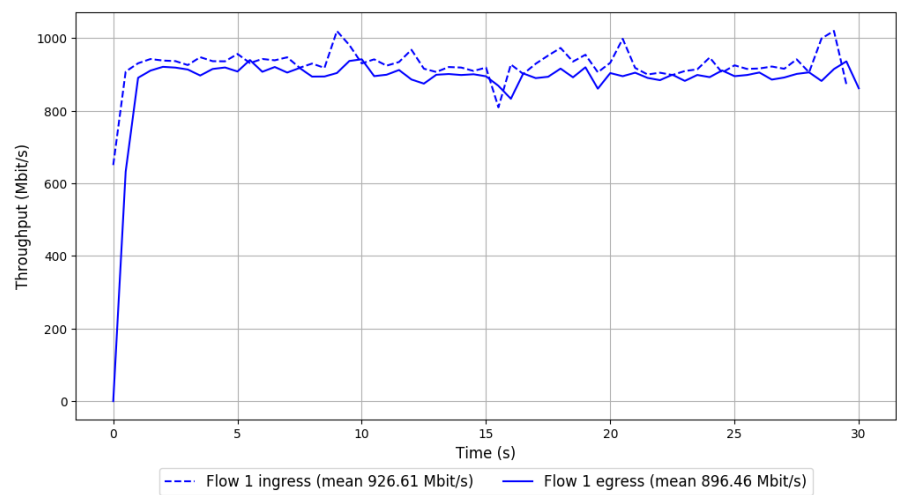


Run 5: Statistics of FillP

Start at: 2018-12-11 11:02:42
End at: 2018-12-11 11:03:12
Local clock offset: 5.528 ms
Remote clock offset: -1.522 ms

Below is generated by plot.py at 2018-12-11 11:36:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 896.46 Mbit/s
95th percentile per-packet one-way delay: 13.699 ms
Loss rate: 3.25%
-- Flow 1:
Average throughput: 896.46 Mbit/s
95th percentile per-packet one-way delay: 13.699 ms
Loss rate: 3.25%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 09:05:07

End at: 2018-12-11 09:05:37

Local clock offset: 6.95 ms

Remote clock offset: 0.122 ms

Below is generated by plot.py at 2018-12-11 11:36:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 902.54 Mbit/s

95th percentile per-packet one-way delay: 4.771 ms

Loss rate: 2.64%

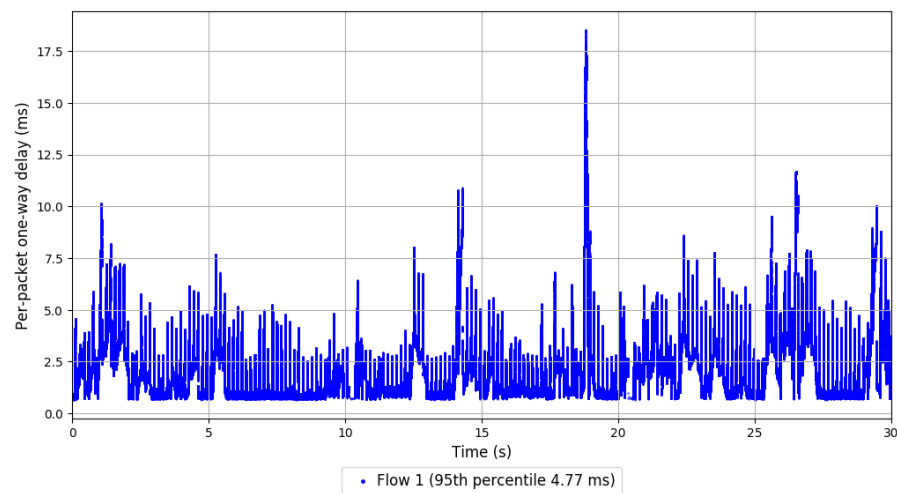
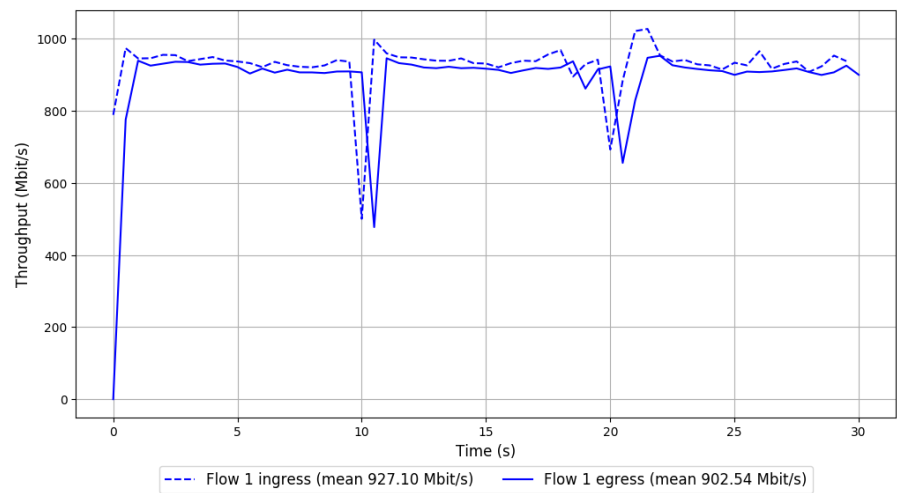
-- Flow 1:

Average throughput: 902.54 Mbit/s

95th percentile per-packet one-way delay: 4.771 ms

Loss rate: 2.64%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 09:31:34

End at: 2018-12-11 09:32:04

Local clock offset: 8.035 ms

Remote clock offset: 0.094 ms

Below is generated by plot.py at 2018-12-11 11:42:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 911.26 Mbit/s

95th percentile per-packet one-way delay: 5.958 ms

Loss rate: 2.28%

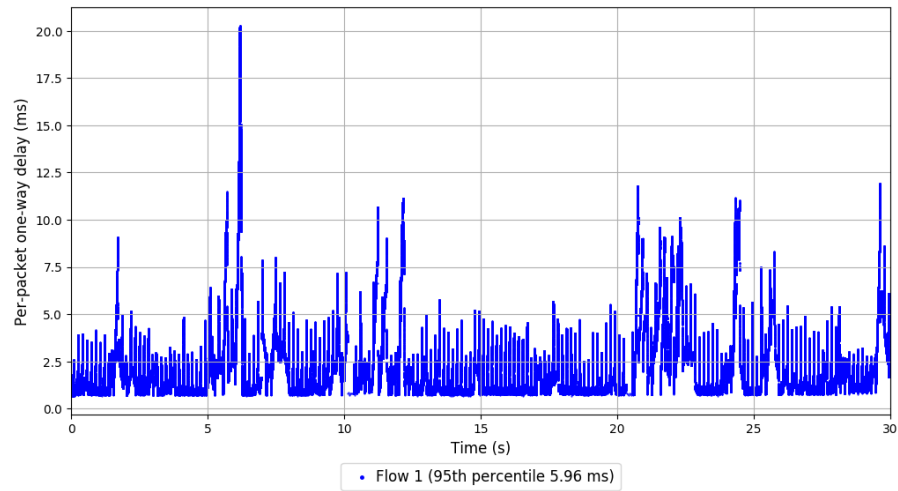
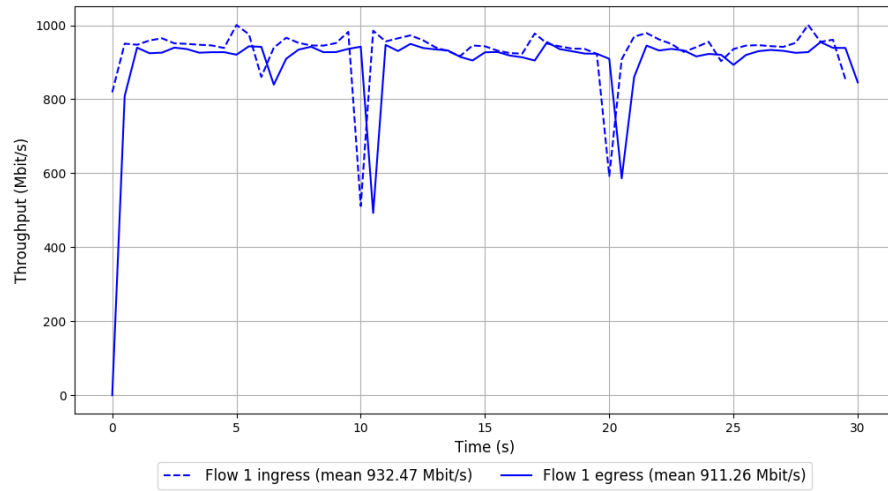
-- Flow 1:

Average throughput: 911.26 Mbit/s

95th percentile per-packet one-way delay: 5.958 ms

Loss rate: 2.28%

Run 2: Report of FillP-Sheep — Data Link

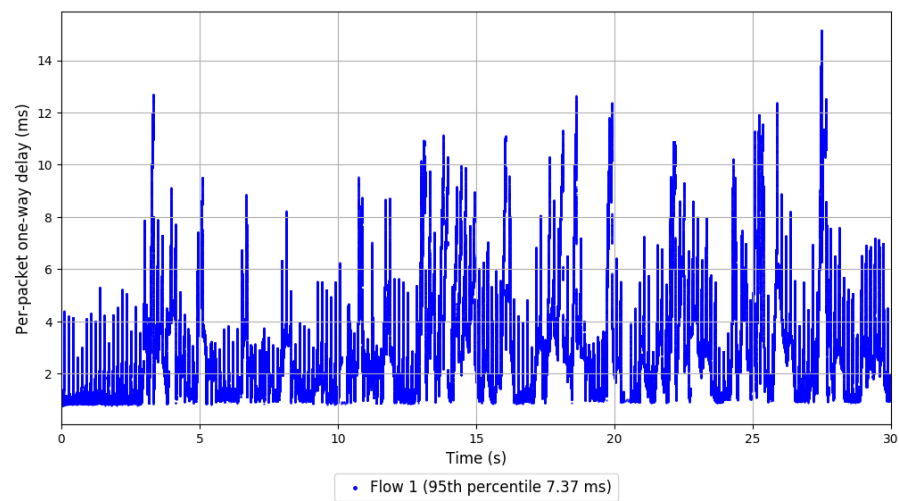
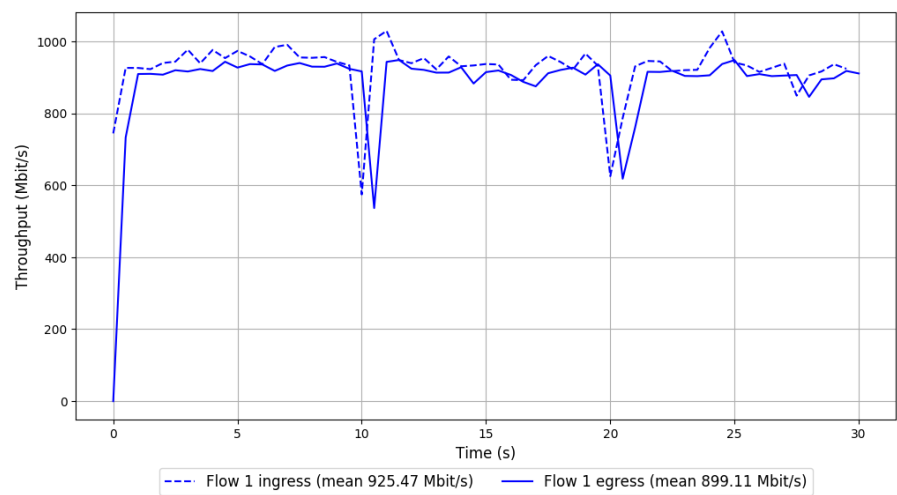


Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 09:58:00
End at: 2018-12-11 09:58:30
Local clock offset: 9.911 ms
Remote clock offset: -2.529 ms

Below is generated by plot.py at 2018-12-11 11:43:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 899.11 Mbit/s
95th percentile per-packet one-way delay: 7.366 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 899.11 Mbit/s
95th percentile per-packet one-way delay: 7.366 ms
Loss rate: 2.85%

Run 3: Report of FillP-Sheep — Data Link

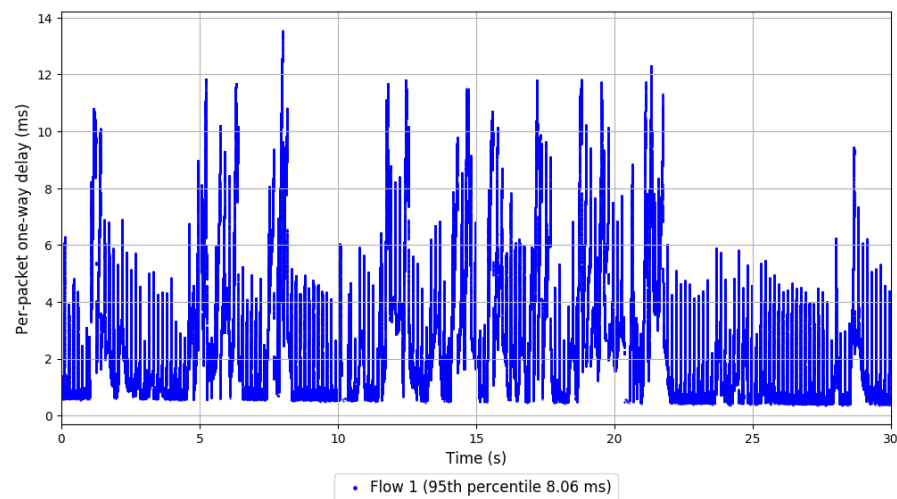
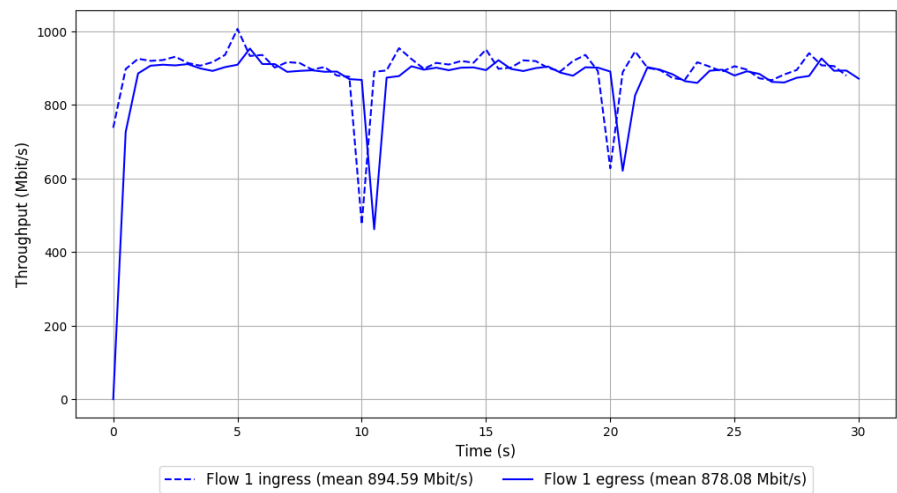


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 10:24:18
End at: 2018-12-11 10:24:48
Local clock offset: 6.36 ms
Remote clock offset: -2.861 ms

Below is generated by plot.py at 2018-12-11 11:47:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 878.08 Mbit/s
95th percentile per-packet one-way delay: 8.060 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 878.08 Mbit/s
95th percentile per-packet one-way delay: 8.060 ms
Loss rate: 1.85%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 10:50:30

End at: 2018-12-11 10:51:00

Local clock offset: 5.612 ms

Remote clock offset: 0.487 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 874.24 Mbit/s

95th percentile per-packet one-way delay: 7.811 ms

Loss rate: 1.95%

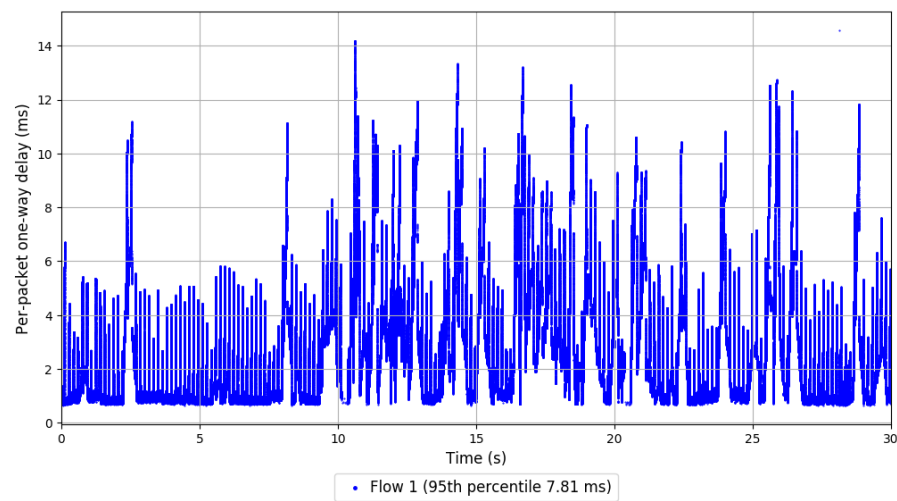
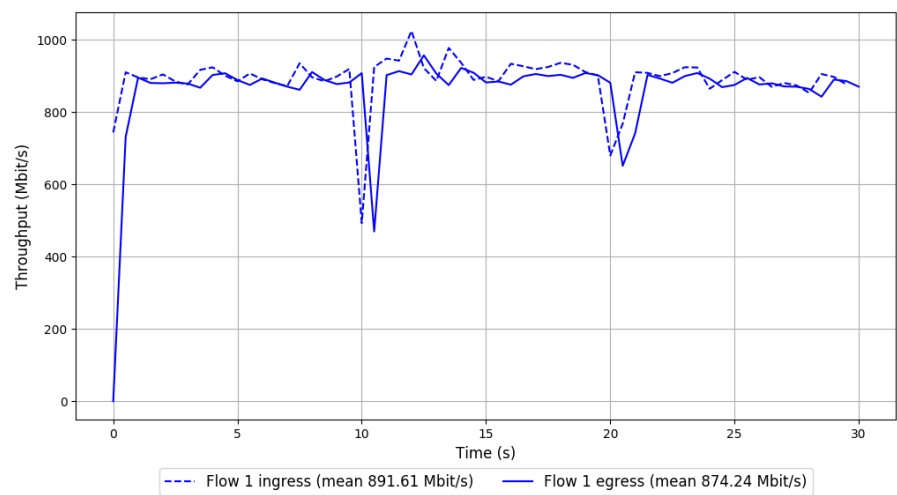
-- Flow 1:

Average throughput: 874.24 Mbit/s

95th percentile per-packet one-way delay: 7.811 ms

Loss rate: 1.95%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-12-11 09:07:57

End at: 2018-12-11 09:08:27

Local clock offset: 7.101 ms

Remote clock offset: 0.196 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 261.98 Mbit/s

95th percentile per-packet one-way delay: 1.105 ms

Loss rate: 0.00%

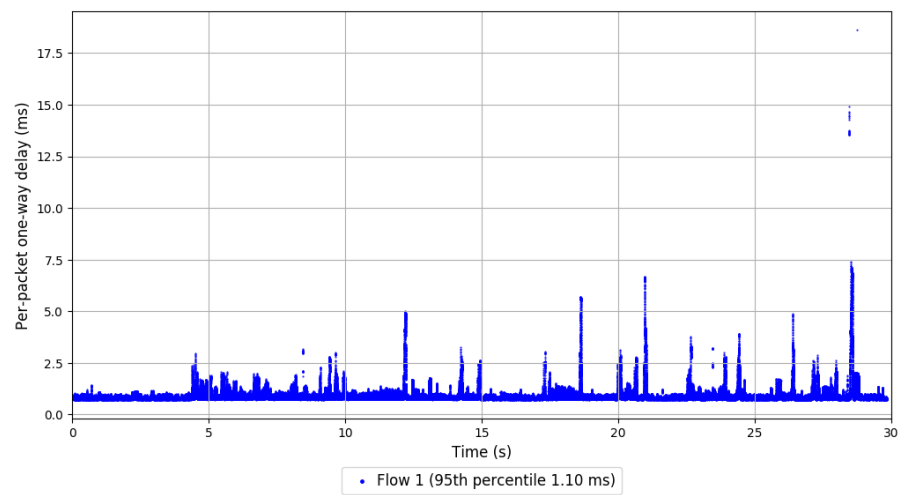
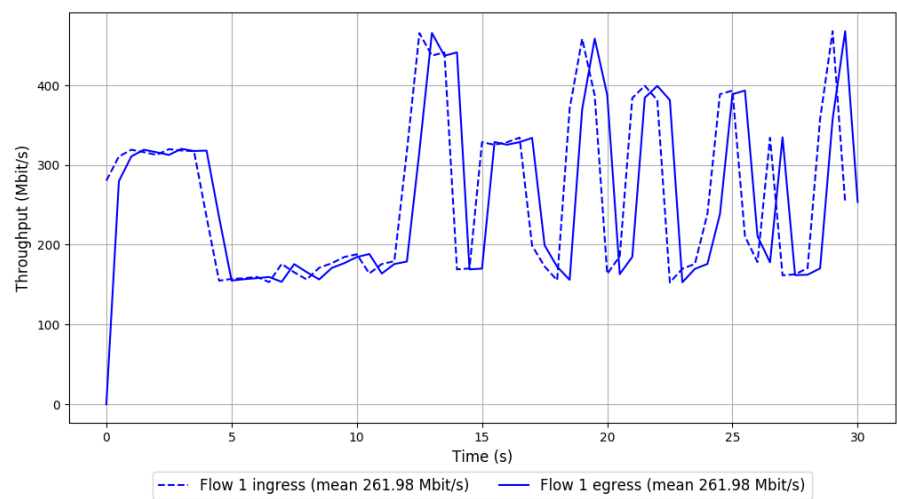
-- Flow 1:

Average throughput: 261.98 Mbit/s

95th percentile per-packet one-way delay: 1.105 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-11 09:34:25

End at: 2018-12-11 09:34:55

Local clock offset: 8.232 ms

Remote clock offset: 0.166 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 222.22 Mbit/s

95th percentile per-packet one-way delay: 1.106 ms

Loss rate: 0.00%

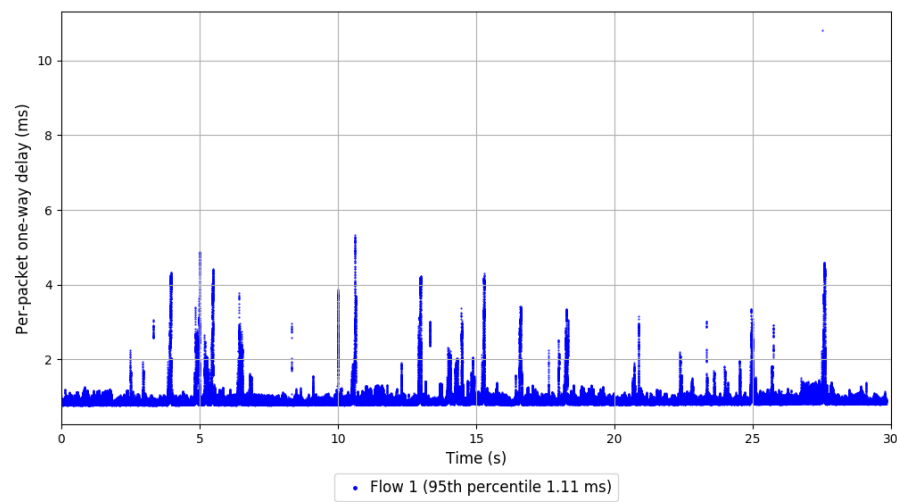
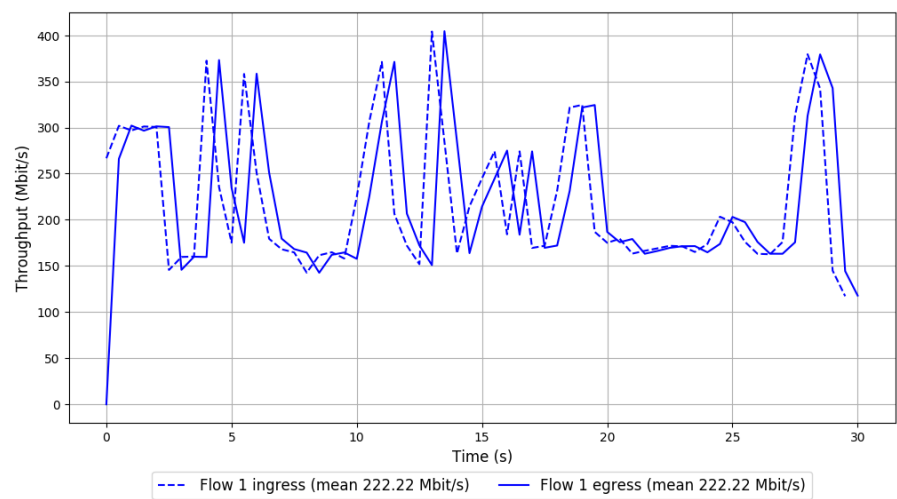
-- Flow 1:

Average throughput: 222.22 Mbit/s

95th percentile per-packet one-way delay: 1.106 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

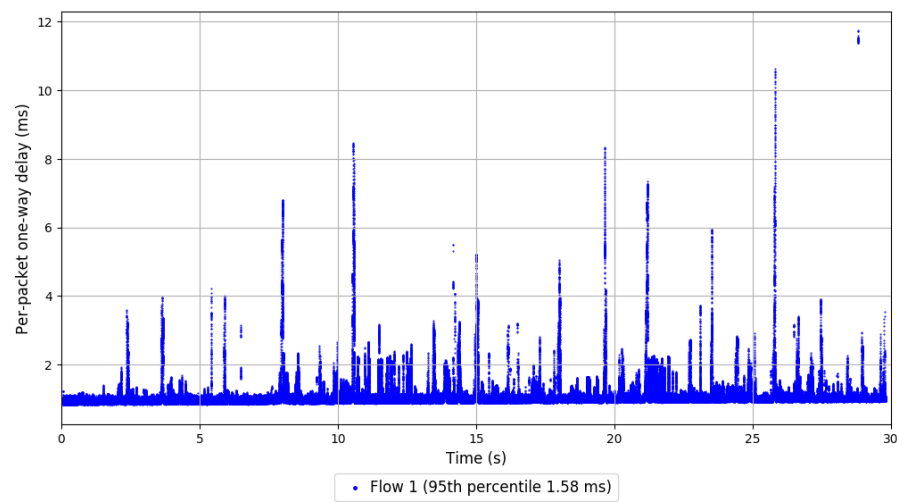
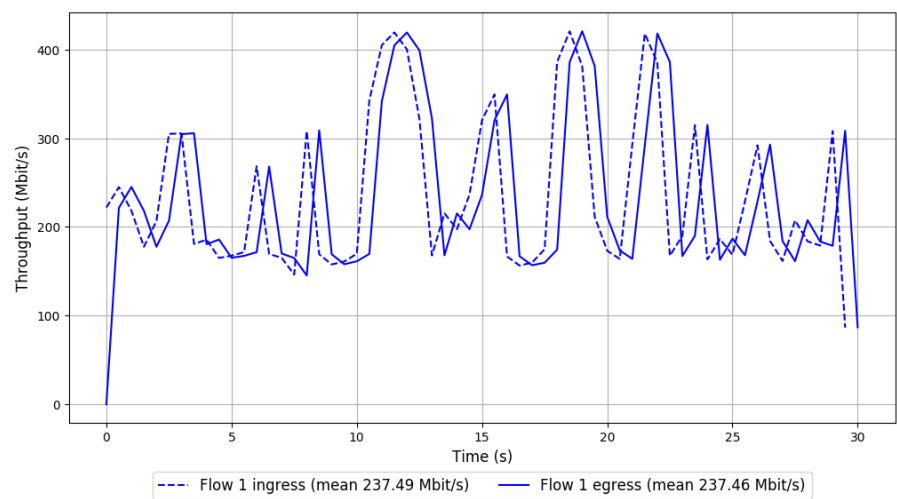


Run 3: Statistics of Indigo

Start at: 2018-12-11 10:00:51
End at: 2018-12-11 10:01:21
Local clock offset: 10.113 ms
Remote clock offset: -2.868 ms

Below is generated by plot.py at 2018-12-11 11:47:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 237.46 Mbit/s
95th percentile per-packet one-way delay: 1.577 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 237.46 Mbit/s
95th percentile per-packet one-way delay: 1.577 ms
Loss rate: 0.01%

Run 3: Report of Indigo — Data Link

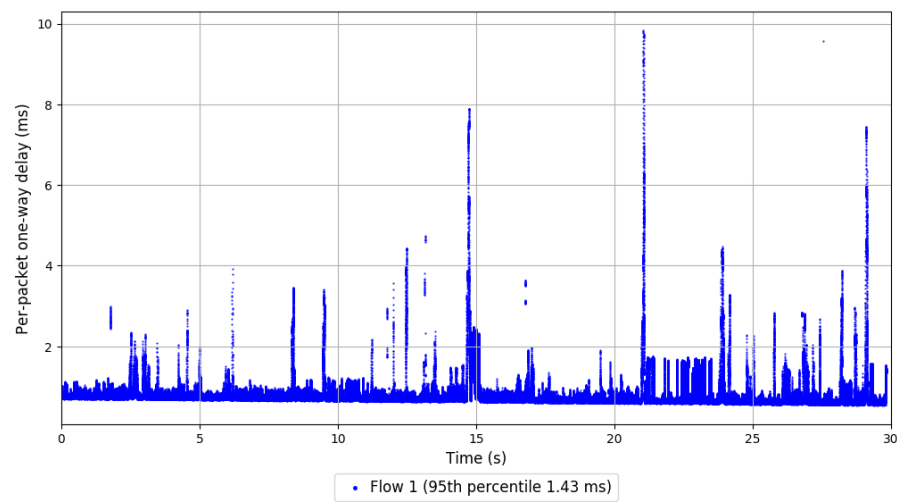
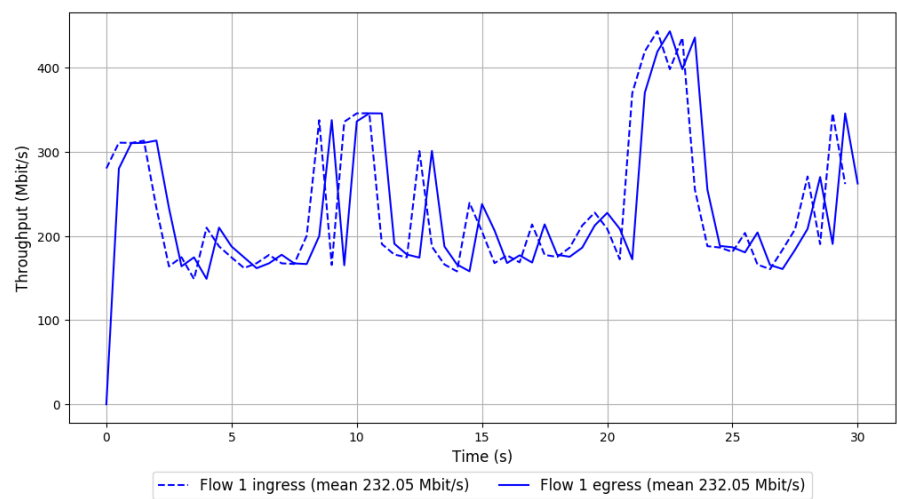


Run 4: Statistics of Indigo

Start at: 2018-12-11 10:27:07
End at: 2018-12-11 10:27:37
Local clock offset: 6.079 ms
Remote clock offset: -1.924 ms

Below is generated by plot.py at 2018-12-11 11:47:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 232.05 Mbit/s
95th percentile per-packet one-way delay: 1.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 232.05 Mbit/s
95th percentile per-packet one-way delay: 1.429 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-11 10:53:19

End at: 2018-12-11 10:53:49

Local clock offset: 5.613 ms

Remote clock offset: 0.598 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 212.64 Mbit/s

95th percentile per-packet one-way delay: 1.380 ms

Loss rate: 0.00%

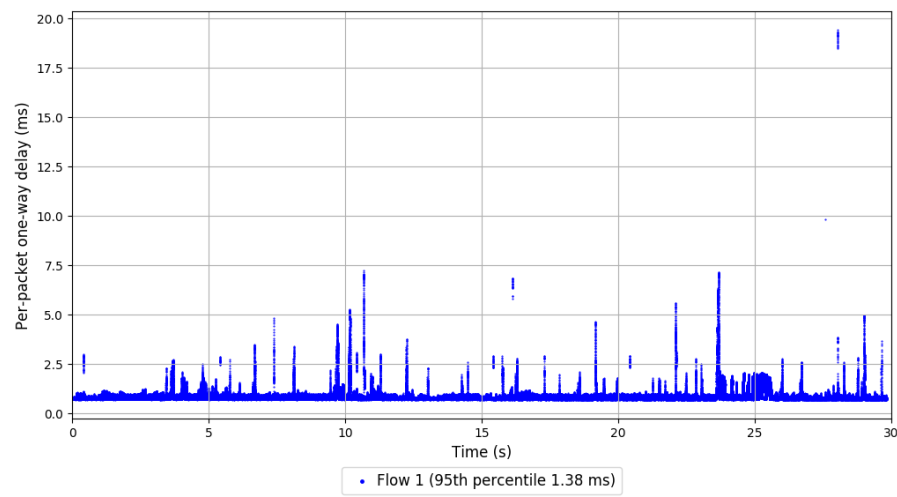
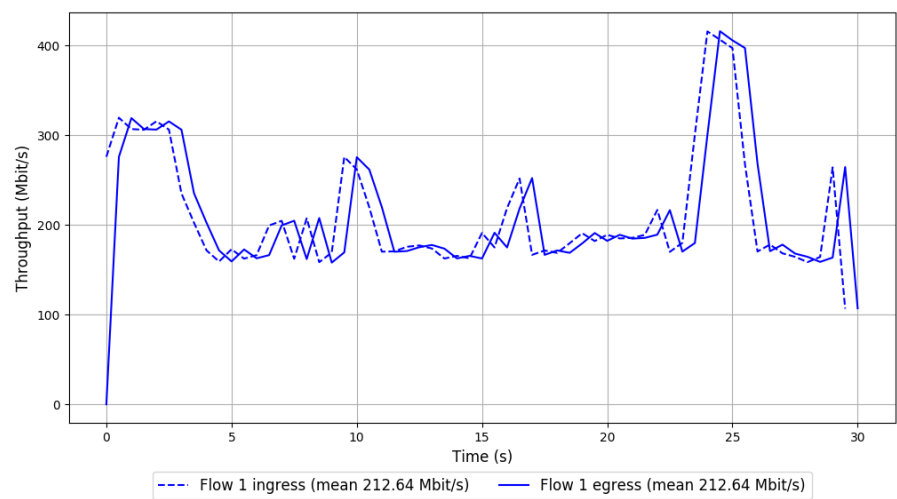
-- Flow 1:

Average throughput: 212.64 Mbit/s

95th percentile per-packet one-way delay: 1.380 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

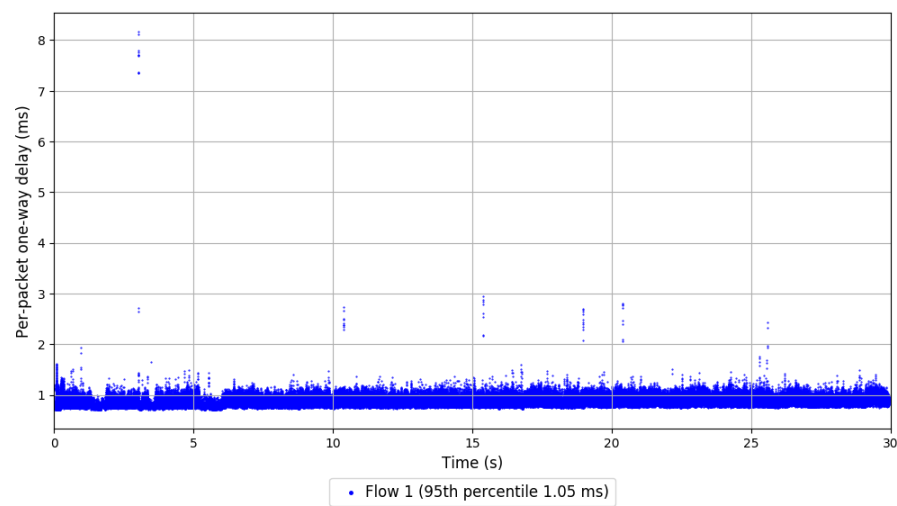
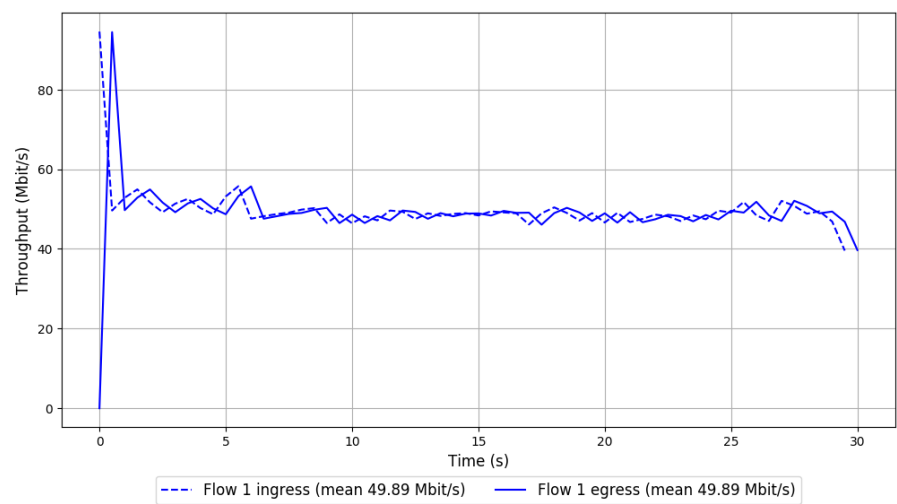


```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 09:15:52
End at: 2018-12-11 09:16:22
Local clock offset: 7.153 ms
Remote clock offset: 0.201 ms

# Below is generated by plot.py at 2018-12-11 11:47:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.89 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.89 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 09:42:30

End at: 2018-12-11 09:43:01

Local clock offset: 8.815 ms

Remote clock offset: 0.224 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 48.84 Mbit/s

95th percentile per-packet one-way delay: 1.086 ms

Loss rate: 0.00%

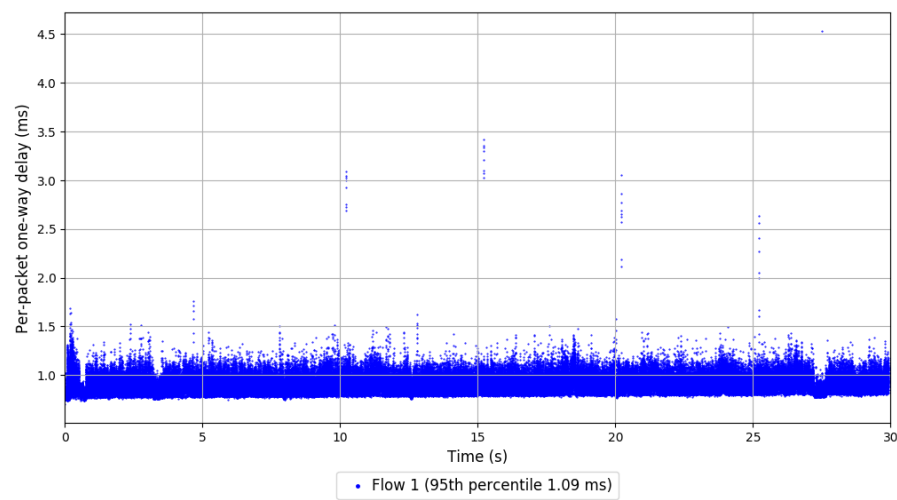
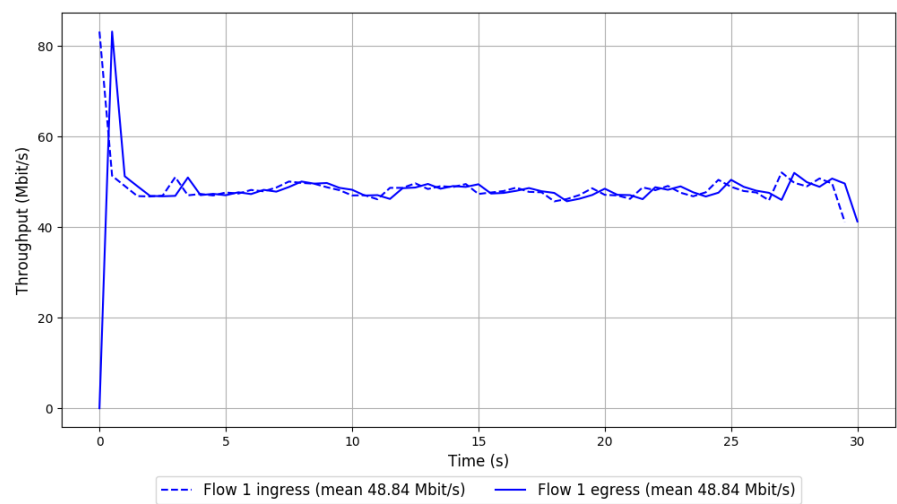
-- Flow 1:

Average throughput: 48.84 Mbit/s

95th percentile per-packet one-way delay: 1.086 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 10:08:56

End at: 2018-12-11 10:09:26

Local clock offset: 10.471 ms

Remote clock offset: -3.627 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.36 Mbit/s

95th percentile per-packet one-way delay: 0.691 ms

Loss rate: 0.00%

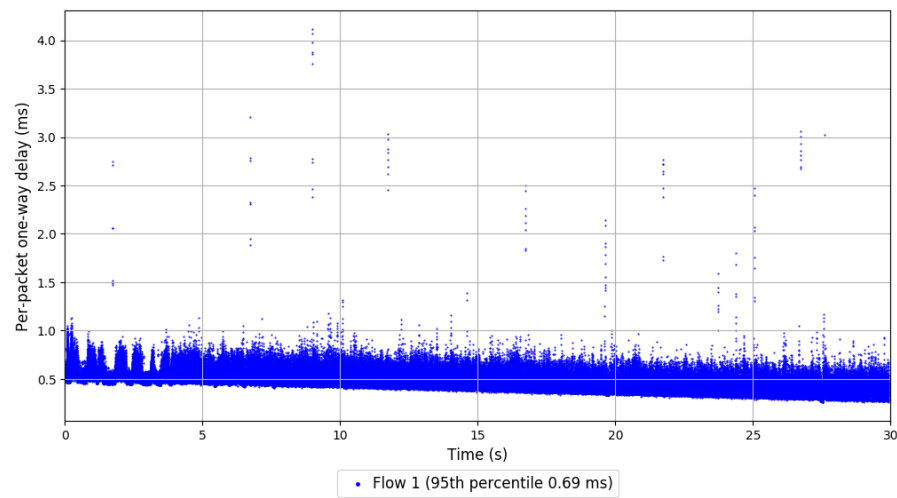
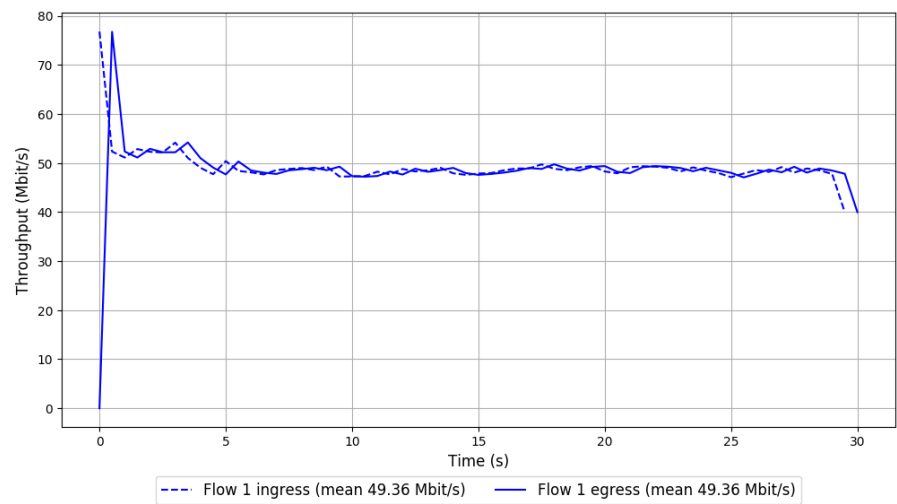
-- Flow 1:

Average throughput: 49.36 Mbit/s

95th percentile per-packet one-way delay: 0.691 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 10:35:02

End at: 2018-12-11 10:35:32

Local clock offset: 5.606 ms

Remote clock offset: -0.408 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.14 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.00%

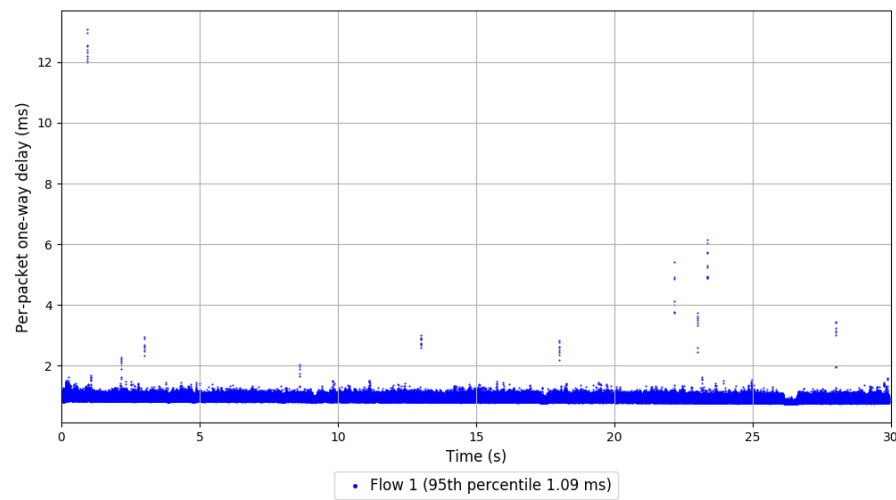
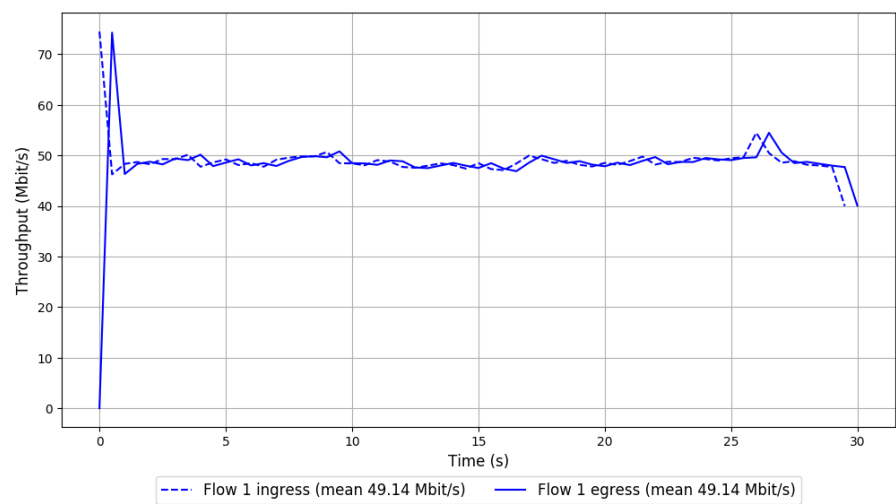
-- Flow 1:

Average throughput: 49.14 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 11:01:28

End at: 2018-12-11 11:01:58

Local clock offset: 5.548 ms

Remote clock offset: -1.167 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.05 Mbit/s

95th percentile per-packet one-way delay: 1.149 ms

Loss rate: 0.00%

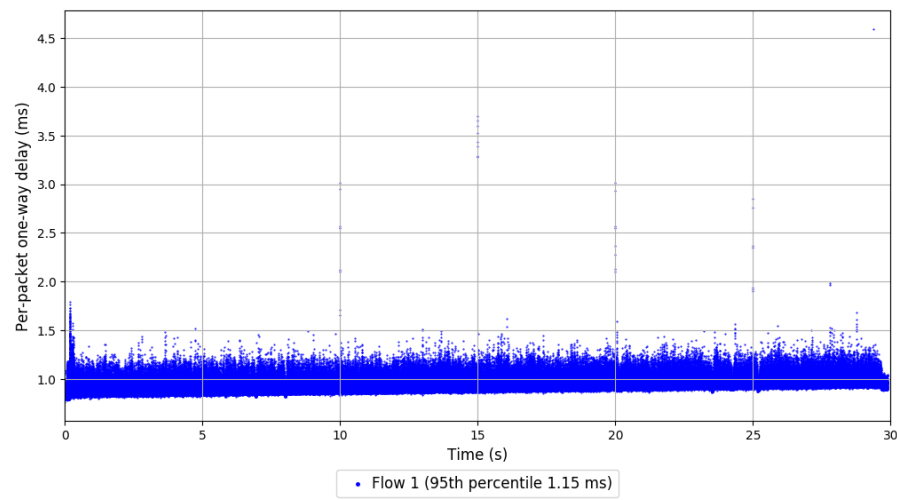
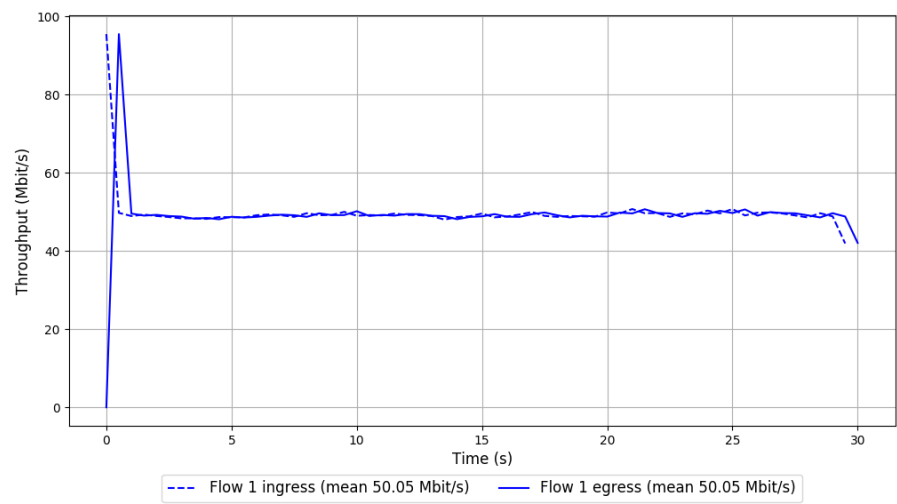
-- Flow 1:

Average throughput: 50.05 Mbit/s

95th percentile per-packet one-way delay: 1.149 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 09:02:03

End at: 2018-12-11 09:02:33

Local clock offset: 6.837 ms

Remote clock offset: 0.154 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 719.15 Mbit/s

95th percentile per-packet one-way delay: 4.751 ms

Loss rate: 0.03%

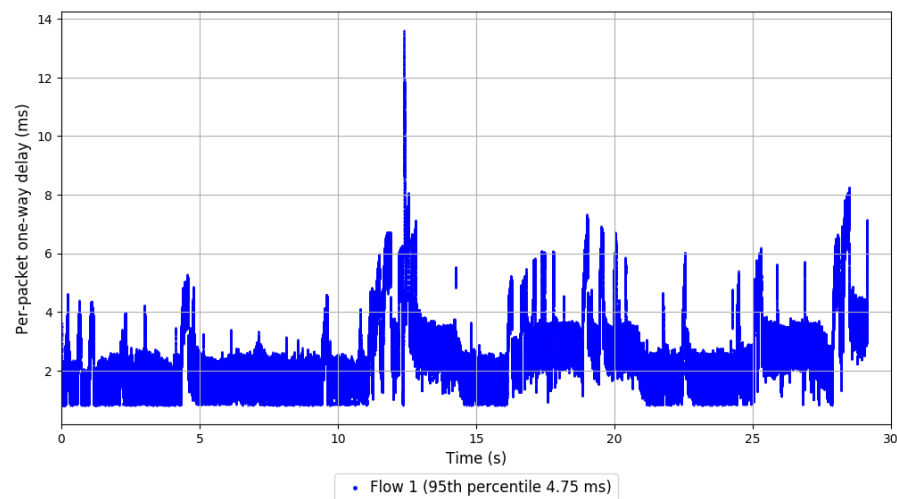
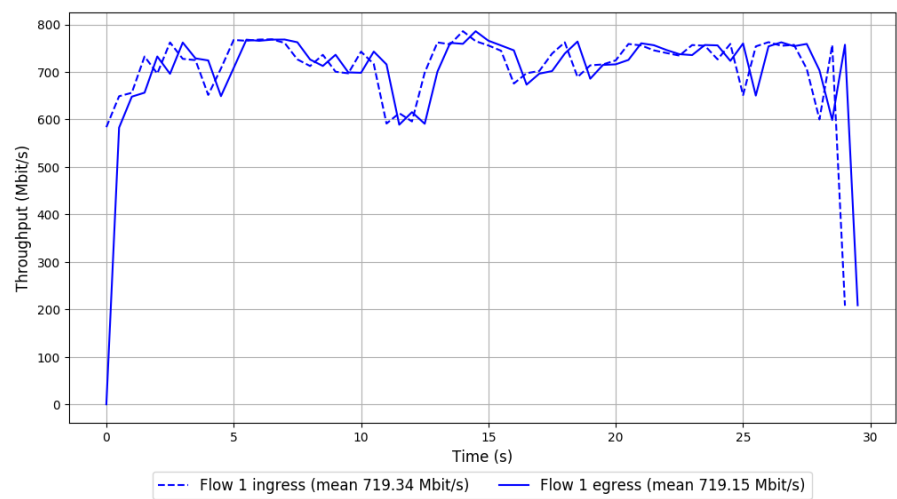
-- Flow 1:

Average throughput: 719.15 Mbit/s

95th percentile per-packet one-way delay: 4.751 ms

Loss rate: 0.03%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 09:28:34

End at: 2018-12-11 09:29:04

Local clock offset: 7.822 ms

Remote clock offset: 0.177 ms

Below is generated by plot.py at 2018-12-11 11:47:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 652.83 Mbit/s

95th percentile per-packet one-way delay: 5.732 ms

Loss rate: 0.04%

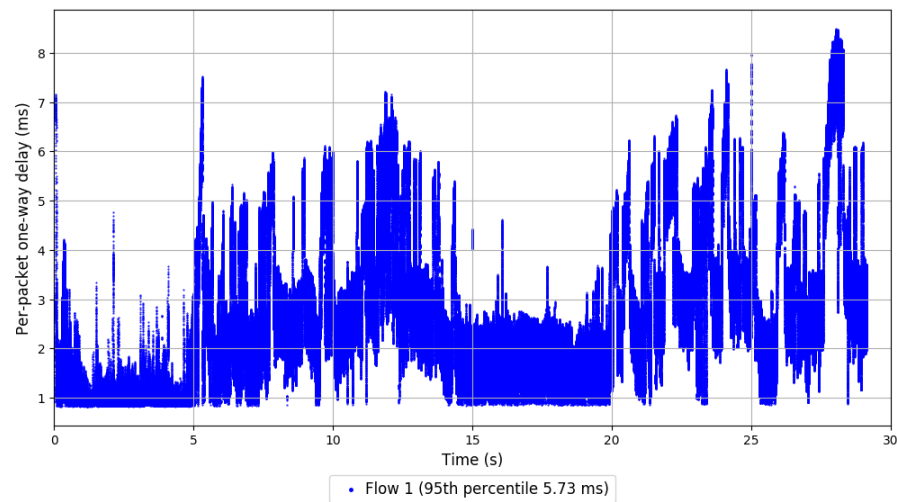
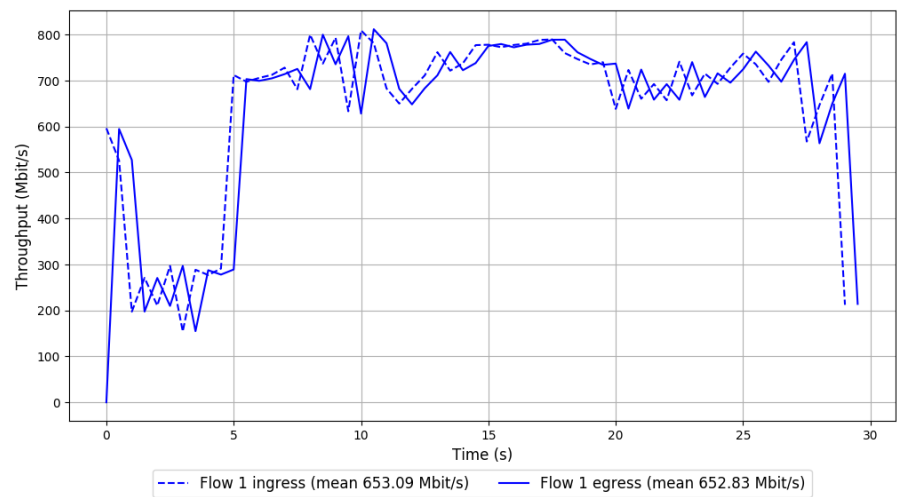
-- Flow 1:

Average throughput: 652.83 Mbit/s

95th percentile per-packet one-way delay: 5.732 ms

Loss rate: 0.04%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-11 09:54:57

End at: 2018-12-11 09:55:27

Local clock offset: 9.698 ms

Remote clock offset: -2.022 ms

Below is generated by plot.py at 2018-12-11 11:47:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 706.62 Mbit/s

95th percentile per-packet one-way delay: 6.236 ms

Loss rate: 0.10%

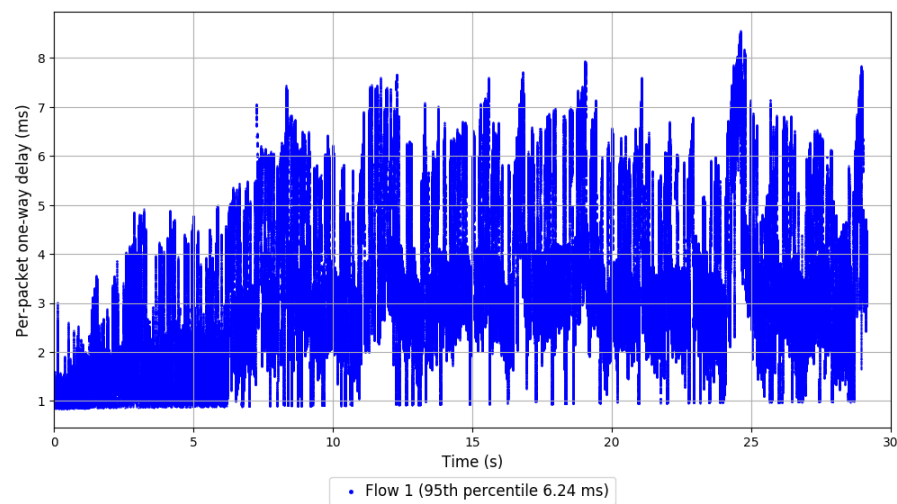
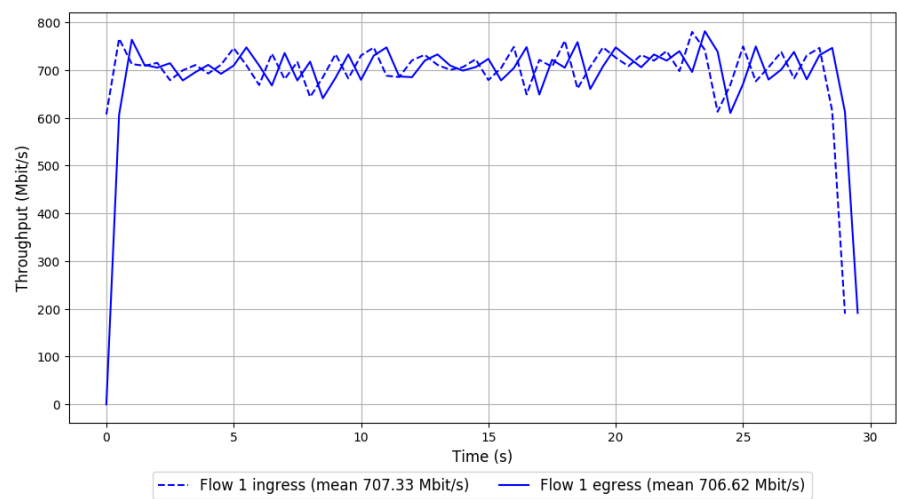
-- Flow 1:

Average throughput: 706.62 Mbit/s

95th percentile per-packet one-way delay: 6.236 ms

Loss rate: 0.10%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 10:21:15

End at: 2018-12-11 10:21:45

Local clock offset: 6.722 ms

Remote clock offset: -4.297 ms

Below is generated by plot.py at 2018-12-11 11:48:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 705.86 Mbit/s

95th percentile per-packet one-way delay: 5.490 ms

Loss rate: 0.05%

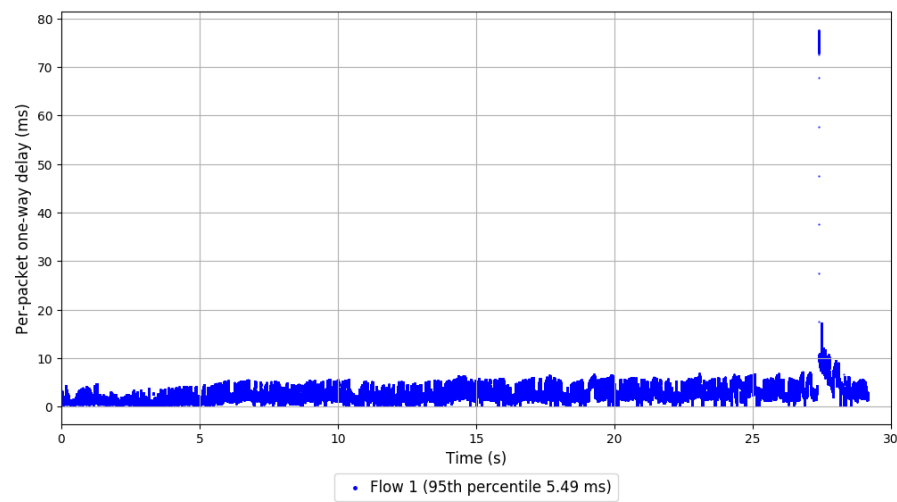
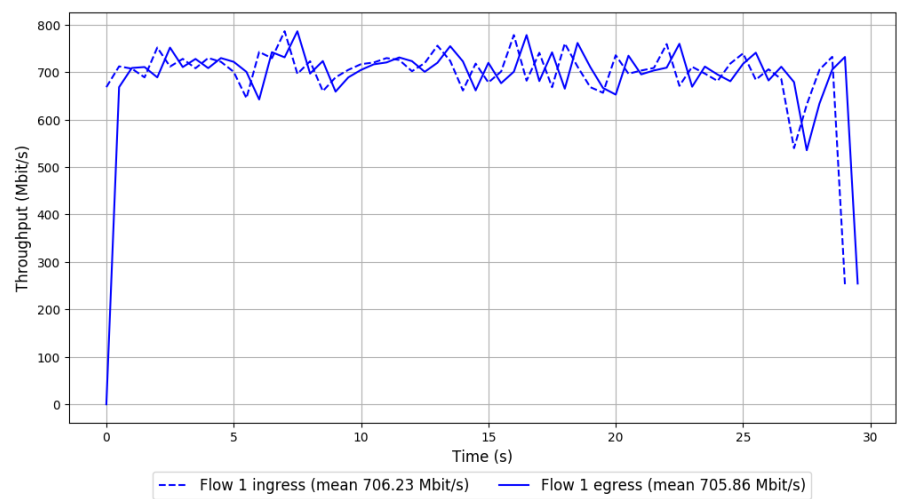
-- Flow 1:

Average throughput: 705.86 Mbit/s

95th percentile per-packet one-way delay: 5.490 ms

Loss rate: 0.05%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 10:47:29

End at: 2018-12-11 10:47:59

Local clock offset: 5.61 ms

Remote clock offset: 0.337 ms

Below is generated by plot.py at 2018-12-11 11:50:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 703.42 Mbit/s

95th percentile per-packet one-way delay: 5.450 ms

Loss rate: 0.06%

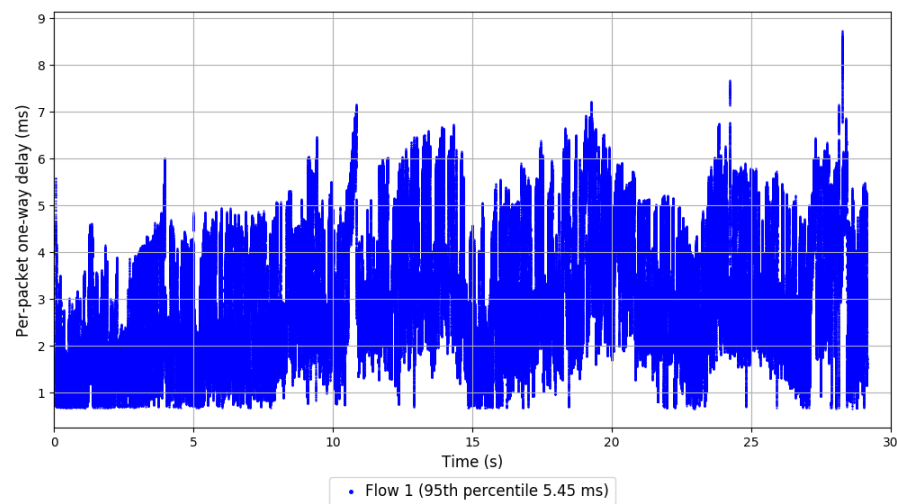
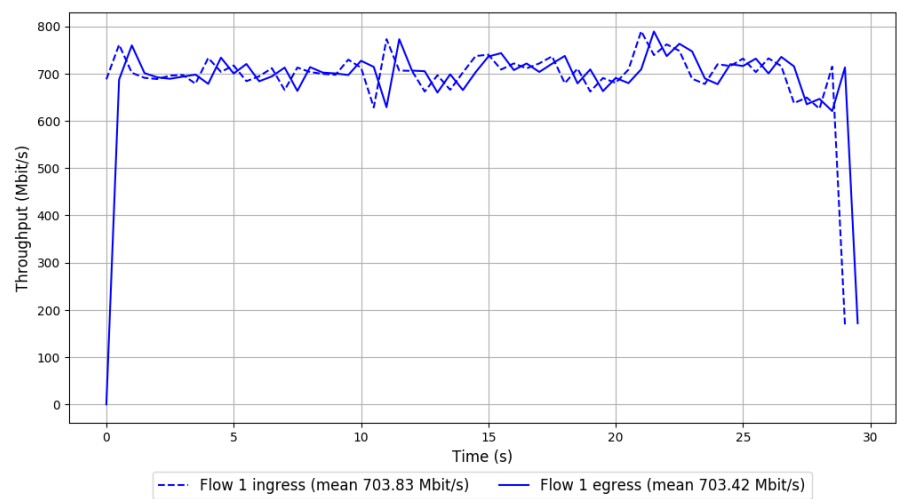
-- Flow 1:

Average throughput: 703.42 Mbit/s

95th percentile per-packet one-way delay: 5.450 ms

Loss rate: 0.06%

Run 5: Report of Indigo-MusesT — Data Link

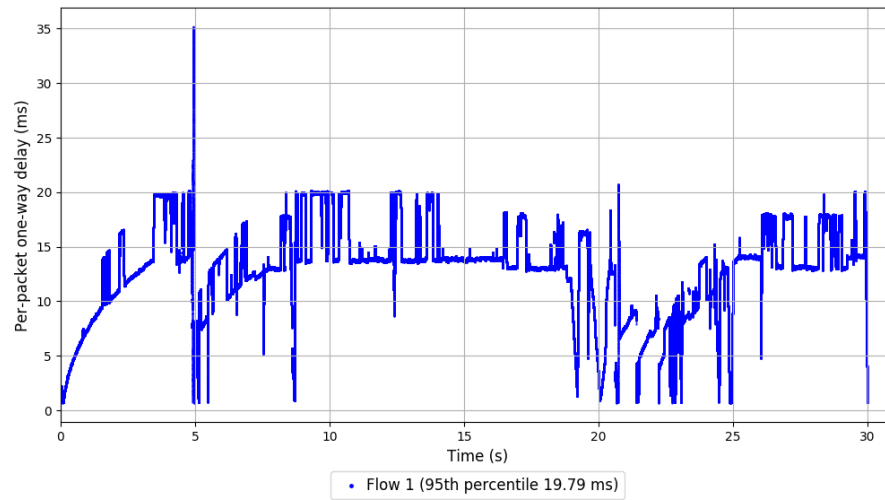
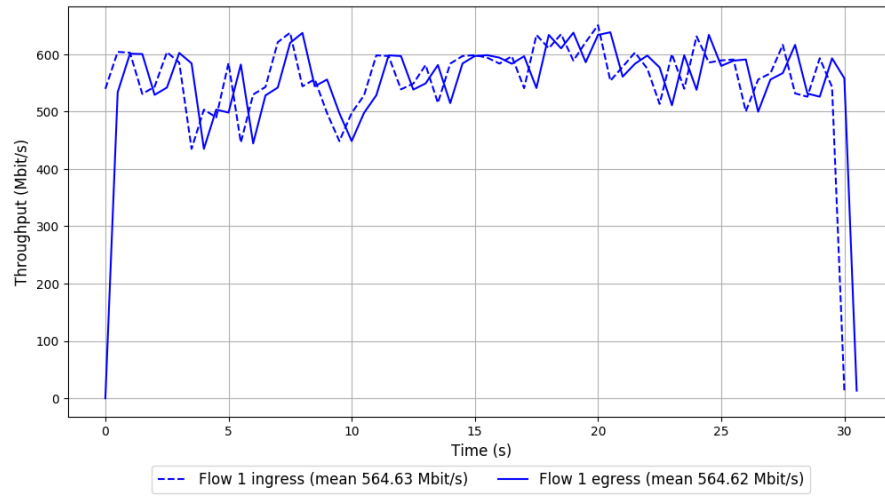



```
Run 1: Statistics of LEDBAT

Start at: 2018-12-11 09:10:35
End at: 2018-12-11 09:11:05
Local clock offset: 7.098 ms
Remote clock offset: 0.262 ms

# Below is generated by plot.py at 2018-12-11 11:50:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 564.62 Mbit/s
95th percentile per-packet one-way delay: 19.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 564.62 Mbit/s
95th percentile per-packet one-way delay: 19.785 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-12-11 09:37:12

End at: 2018-12-11 09:37:42

Local clock offset: 8.434 ms

Remote clock offset: 0.18 ms

Below is generated by plot.py at 2018-12-11 11:54:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 611.93 Mbit/s

95th percentile per-packet one-way delay: 17.742 ms

Loss rate: 0.04%

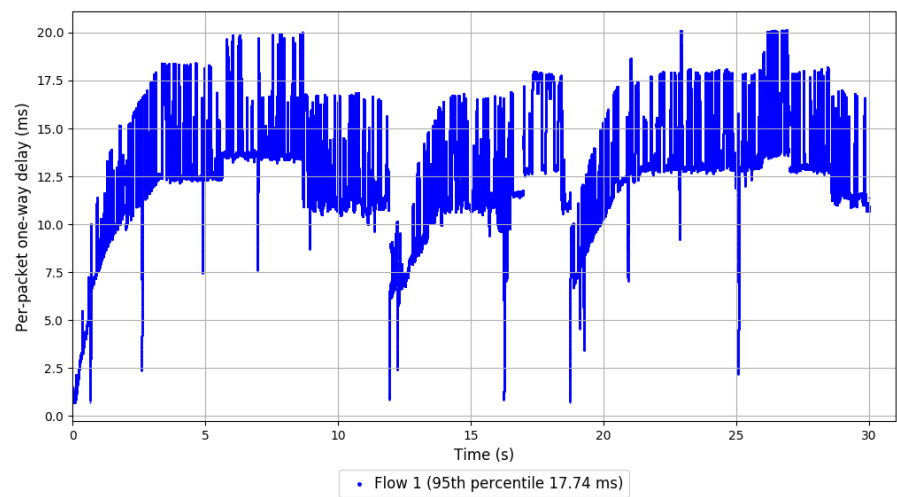
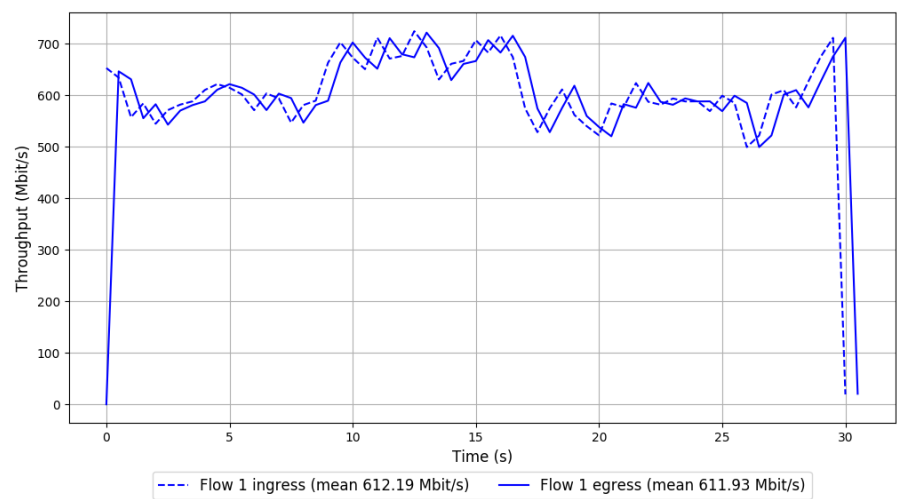
-- Flow 1:

Average throughput: 611.93 Mbit/s

95th percentile per-packet one-way delay: 17.742 ms

Loss rate: 0.04%

Run 2: Report of LEDBAT — Data Link

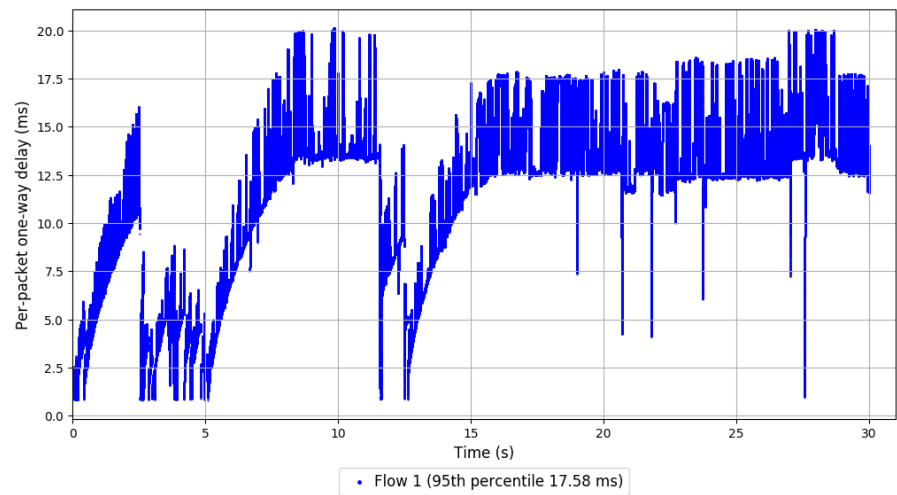
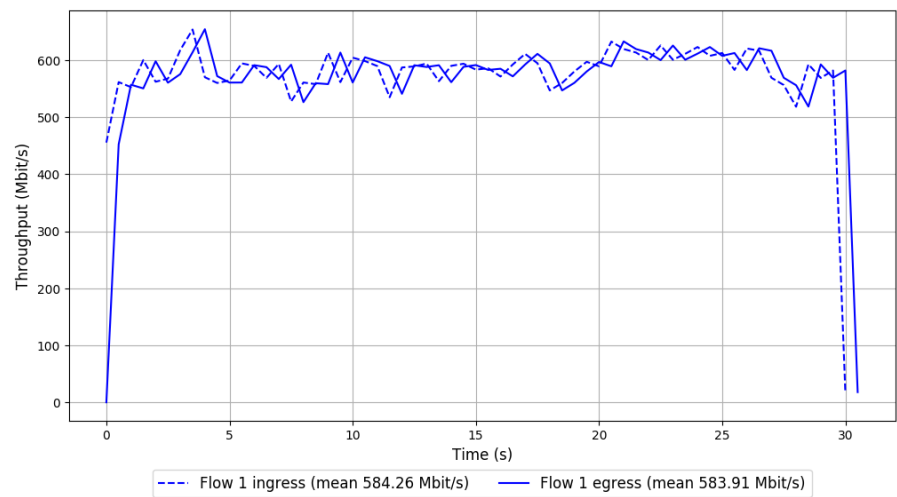


Run 3: Statistics of LEDBAT

Start at: 2018-12-11 10:03:39
End at: 2018-12-11 10:04:09
Local clock offset: 10.309 ms
Remote clock offset: -3.131 ms

Below is generated by plot.py at 2018-12-11 11:54:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 583.91 Mbit/s
95th percentile per-packet one-way delay: 17.583 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 583.91 Mbit/s
95th percentile per-packet one-way delay: 17.583 ms
Loss rate: 0.06%

Run 3: Report of LEDBAT — Data Link

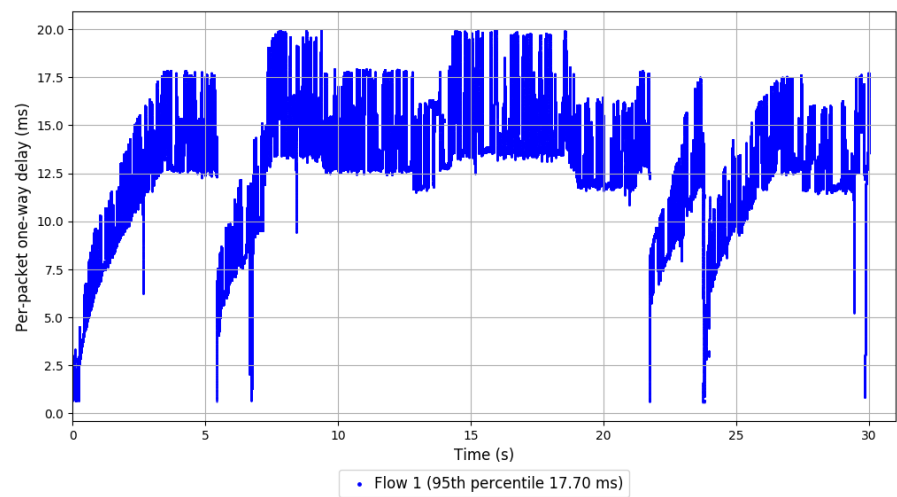
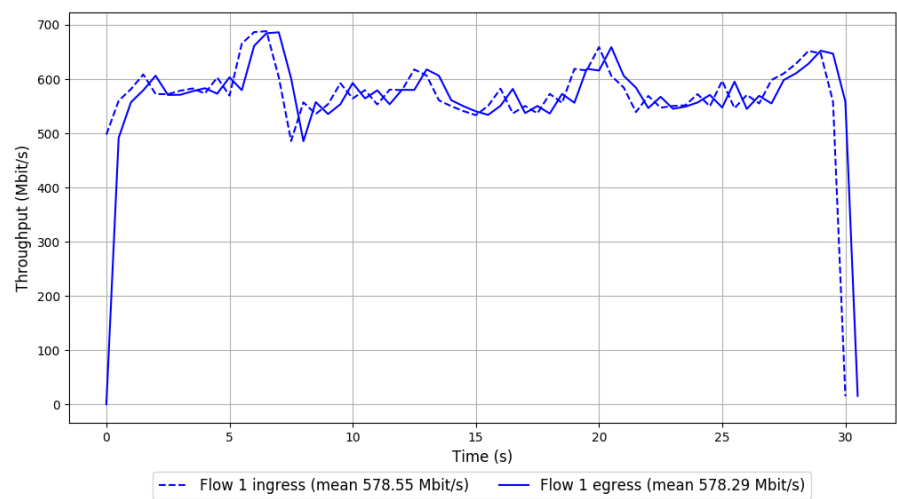


Run 4: Statistics of LEDBAT

Start at: 2018-12-11 10:29:44
End at: 2018-12-11 10:30:14
Local clock offset: 5.884 ms
Remote clock offset: -1.404 ms

Below is generated by plot.py at 2018-12-11 11:54:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 578.29 Mbit/s
95th percentile per-packet one-way delay: 17.701 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 578.29 Mbit/s
95th percentile per-packet one-way delay: 17.701 ms
Loss rate: 0.05%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-12-11 10:56:06

End at: 2018-12-11 10:56:36

Local clock offset: 5.585 ms

Remote clock offset: 0.402 ms

Below is generated by plot.py at 2018-12-11 11:55:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 695.71 Mbit/s

95th percentile per-packet one-way delay: 16.461 ms

Loss rate: 0.04%

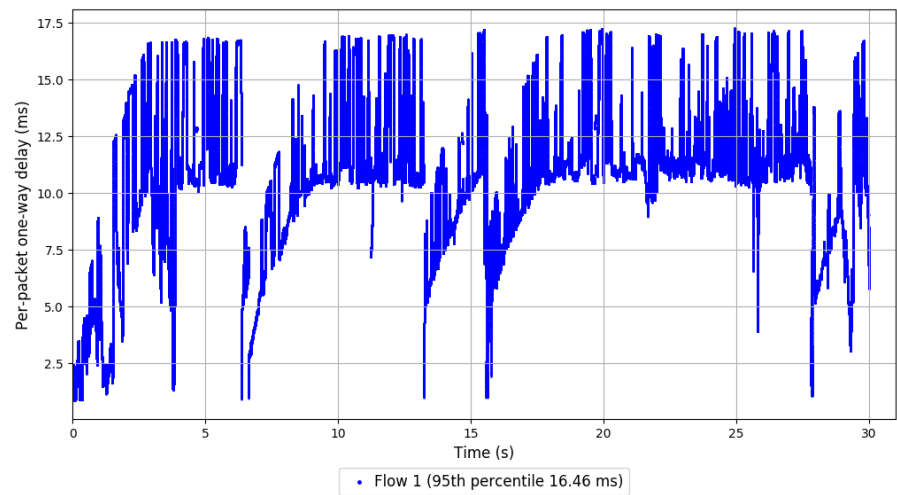
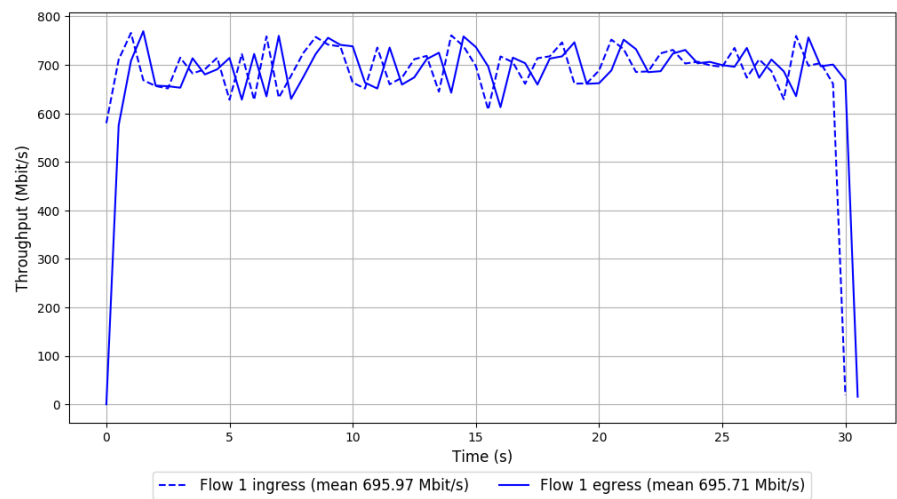
-- Flow 1:

Average throughput: 695.71 Mbit/s

95th percentile per-packet one-way delay: 16.461 ms

Loss rate: 0.04%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 09:22:59

End at: 2018-12-11 09:23:29

Local clock offset: 7.485 ms

Remote clock offset: 0.18 ms

Below is generated by plot.py at 2018-12-11 11:56:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 741.90 Mbit/s

95th percentile per-packet one-way delay: 1.862 ms

Loss rate: 0.04%

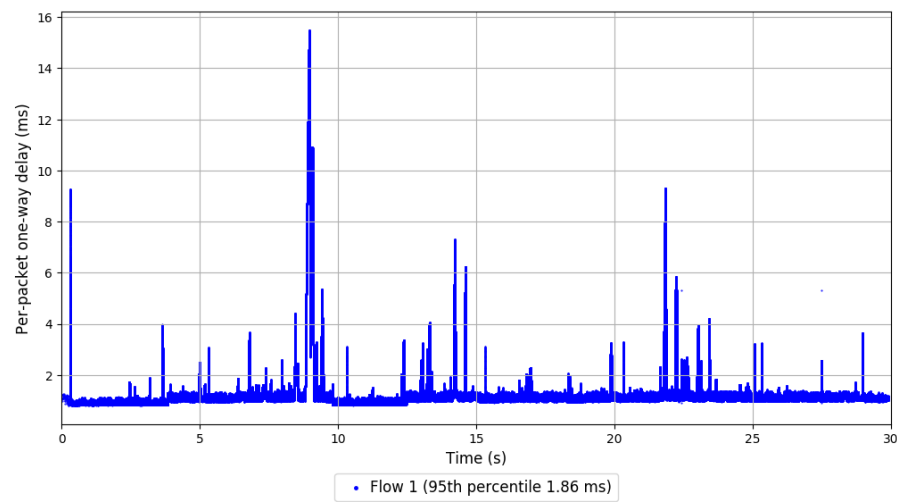
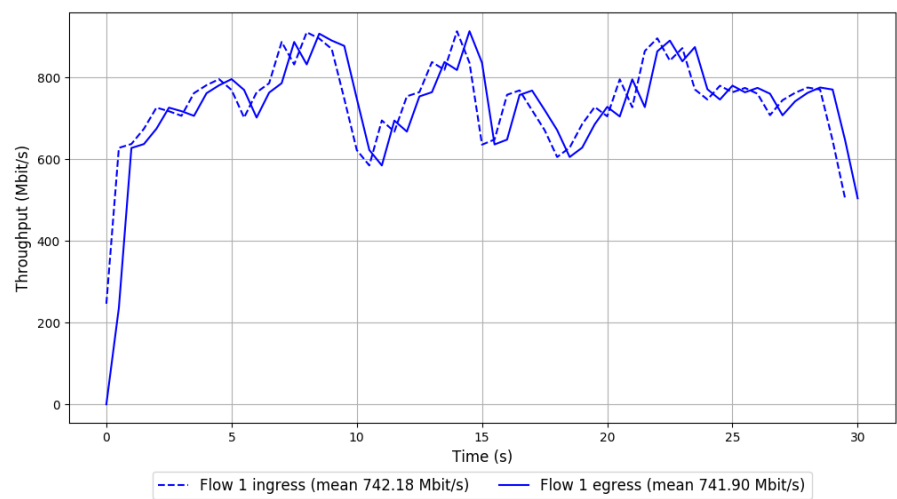
-- Flow 1:

Average throughput: 741.90 Mbit/s

95th percentile per-packet one-way delay: 1.862 ms

Loss rate: 0.04%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 09:49:34

End at: 2018-12-11 09:50:04

Local clock offset: 9.336 ms

Remote clock offset: -0.636 ms

Below is generated by plot.py at 2018-12-11 11:56:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 379.52 Mbit/s

95th percentile per-packet one-way delay: 5.564 ms

Loss rate: 0.06%

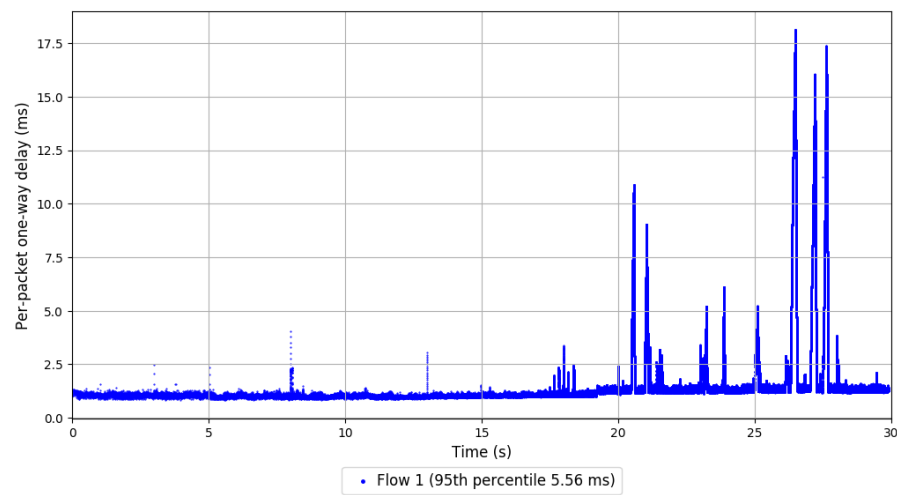
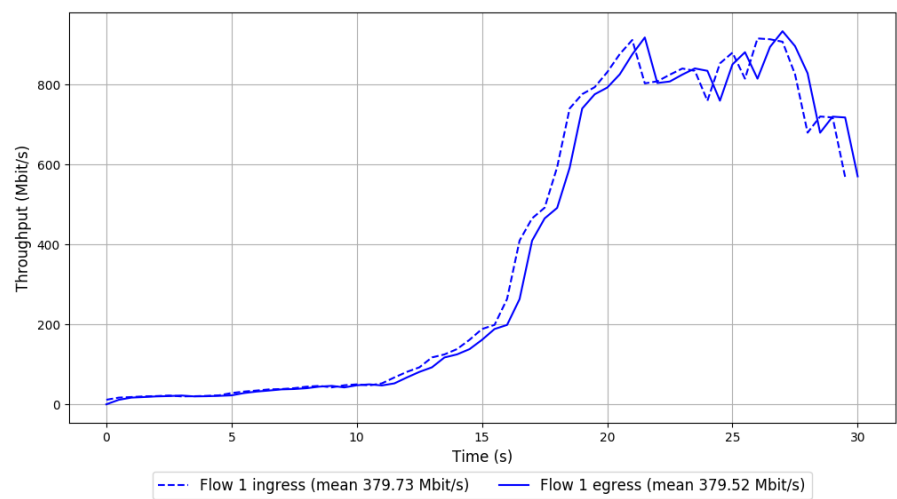
-- Flow 1:

Average throughput: 379.52 Mbit/s

95th percentile per-packet one-way delay: 5.564 ms

Loss rate: 0.06%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 10:15:58

End at: 2018-12-11 10:16:28

Local clock offset: 7.818 ms

Remote clock offset: -3.951 ms

Below is generated by plot.py at 2018-12-11 11:56:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.11 Mbit/s

95th percentile per-packet one-way delay: 1.034 ms

Loss rate: 0.00%

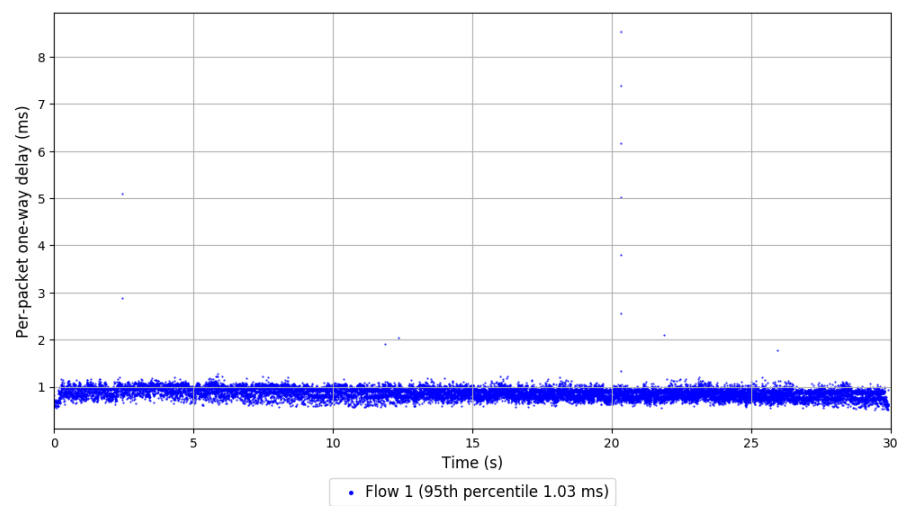
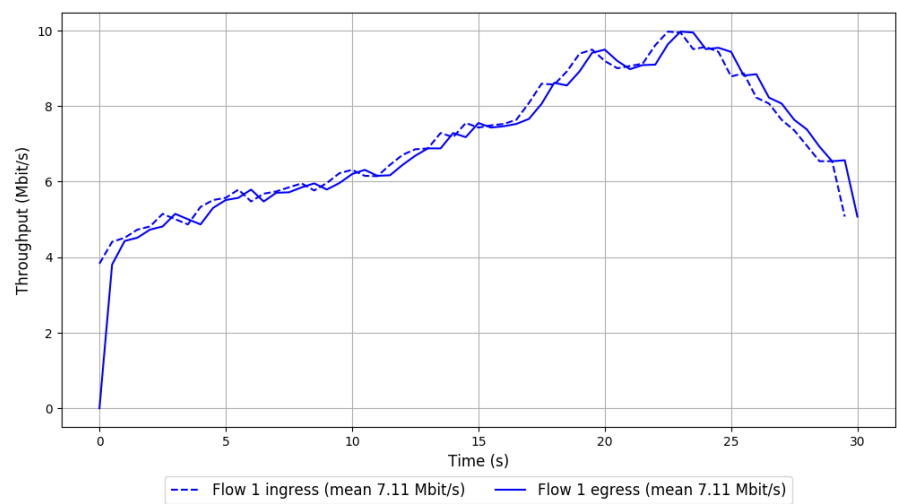
-- Flow 1:

Average throughput: 7.11 Mbit/s

95th percentile per-packet one-way delay: 1.034 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 10:42:02

End at: 2018-12-11 10:42:32

Local clock offset: 5.559 ms

Remote clock offset: 0.035 ms

Below is generated by plot.py at 2018-12-11 11:56:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 461.92 Mbit/s

95th percentile per-packet one-way delay: 6.592 ms

Loss rate: 0.13%

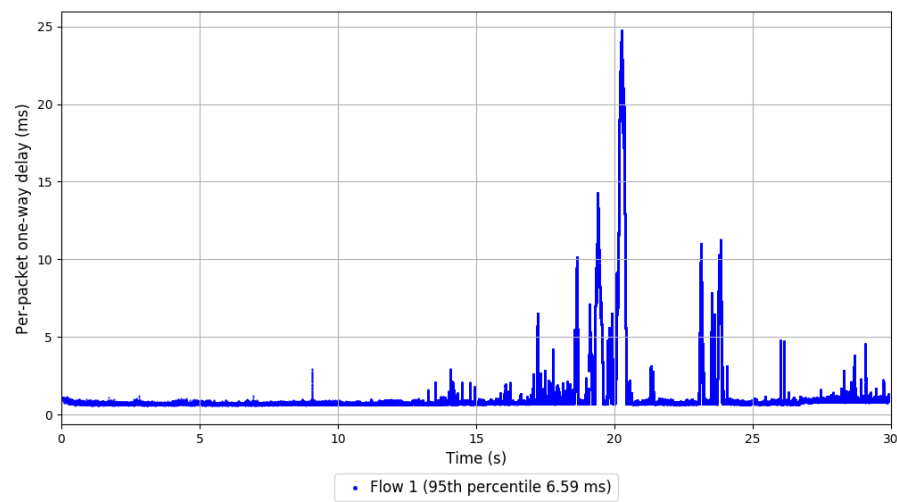
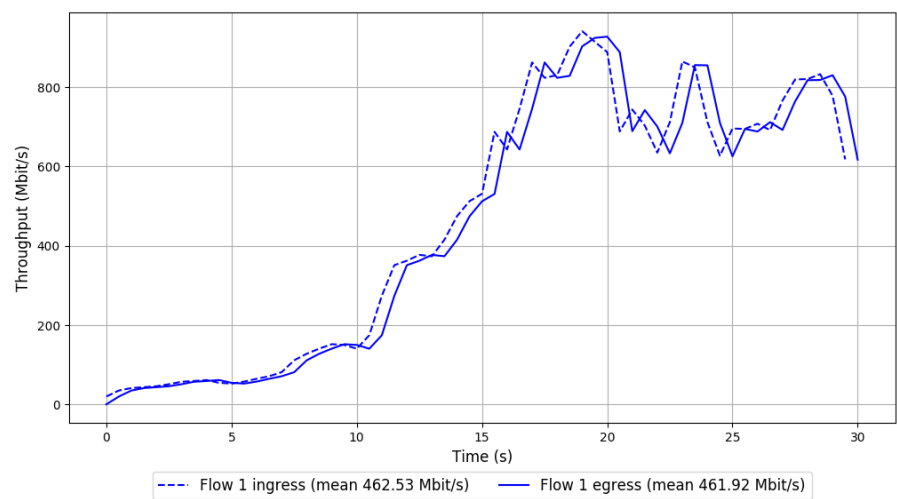
-- Flow 1:

Average throughput: 461.92 Mbit/s

95th percentile per-packet one-way delay: 6.592 ms

Loss rate: 0.13%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 11:08:32

End at: 2018-12-11 11:09:02

Local clock offset: 5.467 ms

Remote clock offset: -2.303 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 571.52 Mbit/s

95th percentile per-packet one-way delay: 2.595 ms

Loss rate: 0.16%

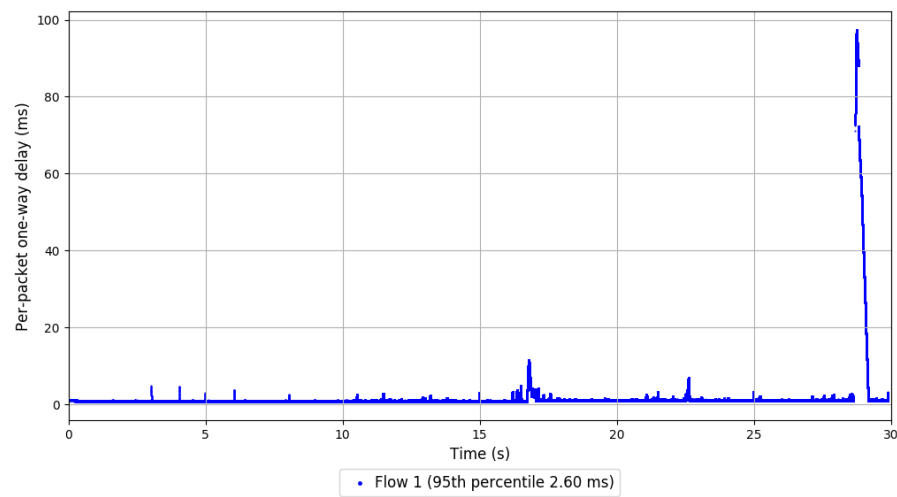
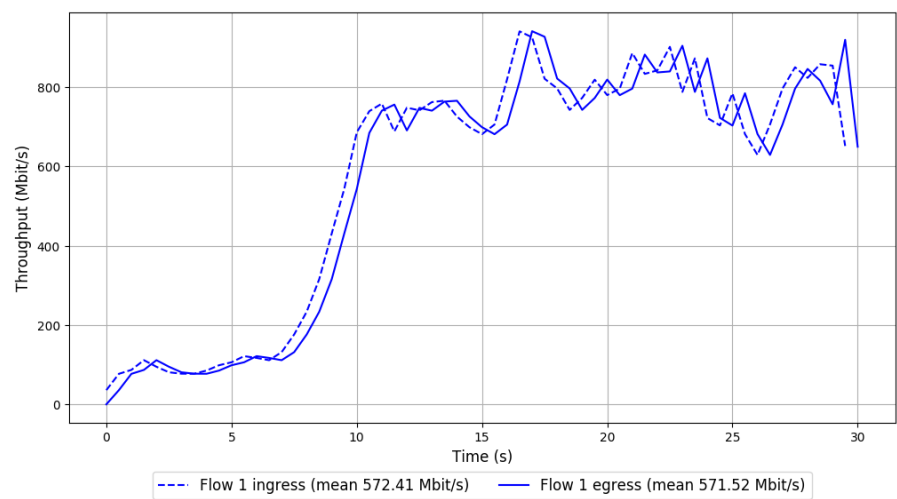
-- Flow 1:

Average throughput: 571.52 Mbit/s

95th percentile per-packet one-way delay: 2.595 ms

Loss rate: 0.16%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

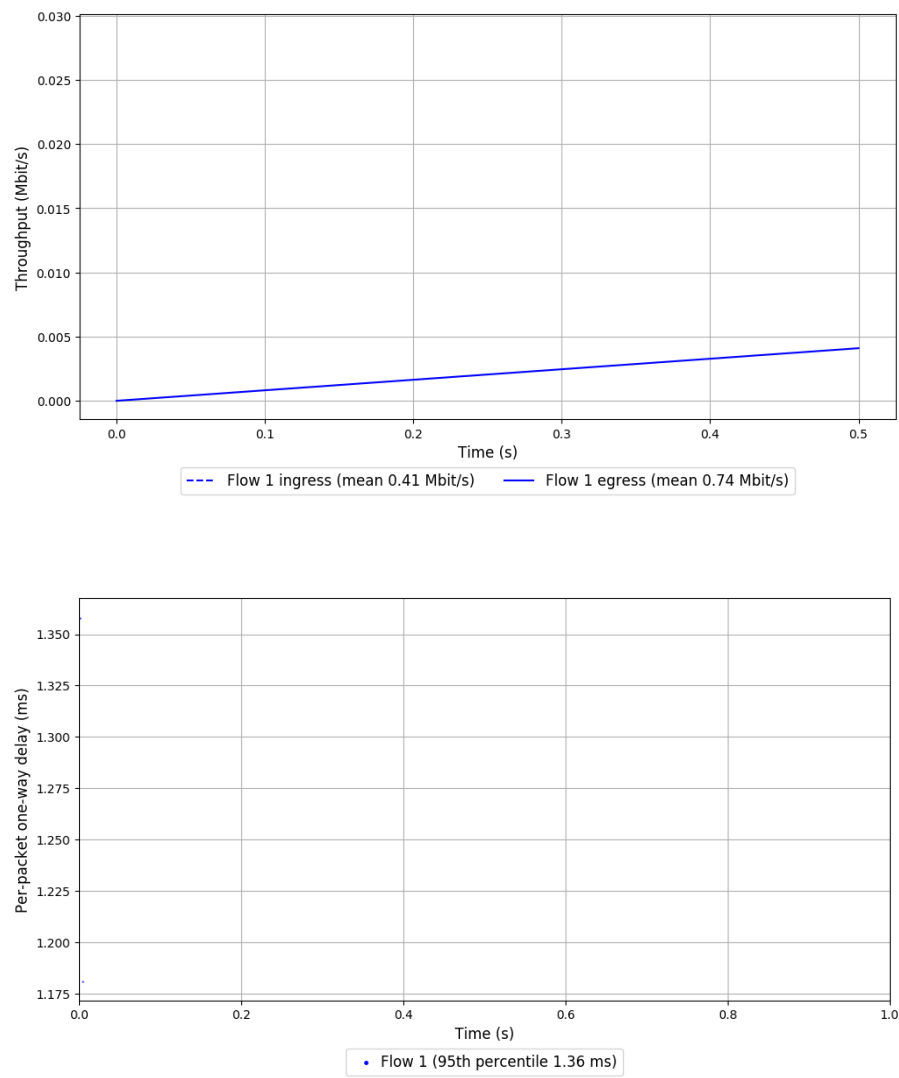
Start at: 2018-12-11 09:06:44

End at: 2018-12-11 09:07:14

Local clock offset: 7.024 ms

Remote clock offset: 0.186 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 09:33:12

End at: 2018-12-11 09:33:42

Local clock offset: 8.146 ms

Remote clock offset: 0.224 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.12 Mbit/s

95th percentile per-packet one-way delay: 1.332 ms

Loss rate: 18.86%

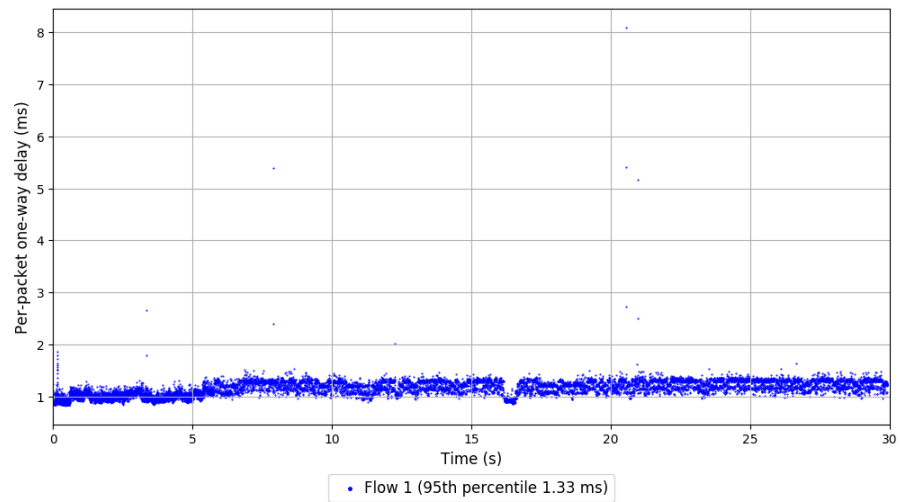
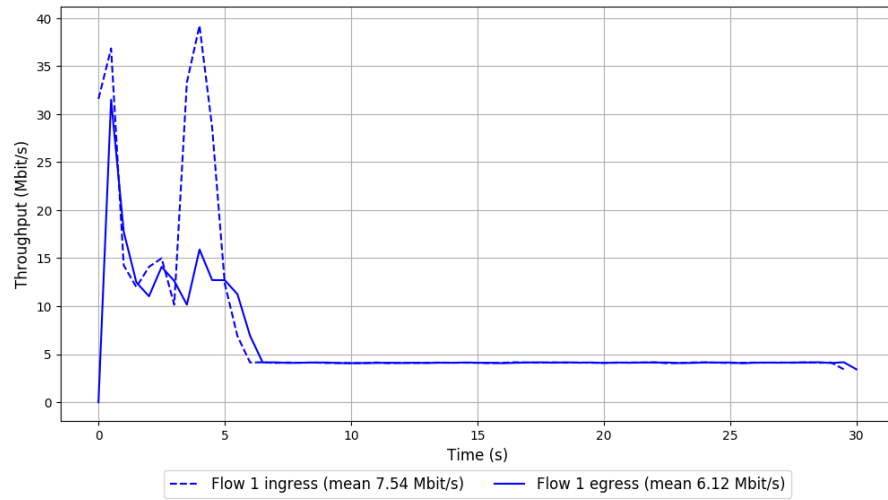
-- Flow 1:

Average throughput: 6.12 Mbit/s

95th percentile per-packet one-way delay: 1.332 ms

Loss rate: 18.86%

Run 2: Report of PCC-Expr — Data Link

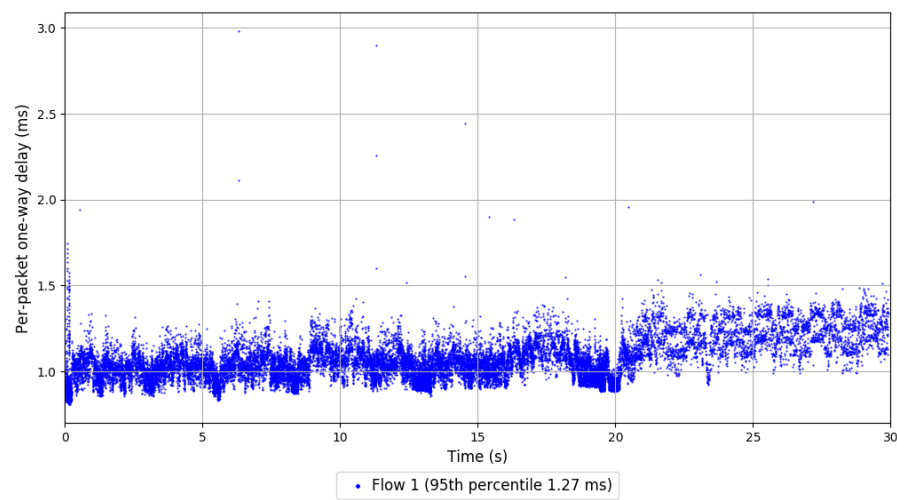
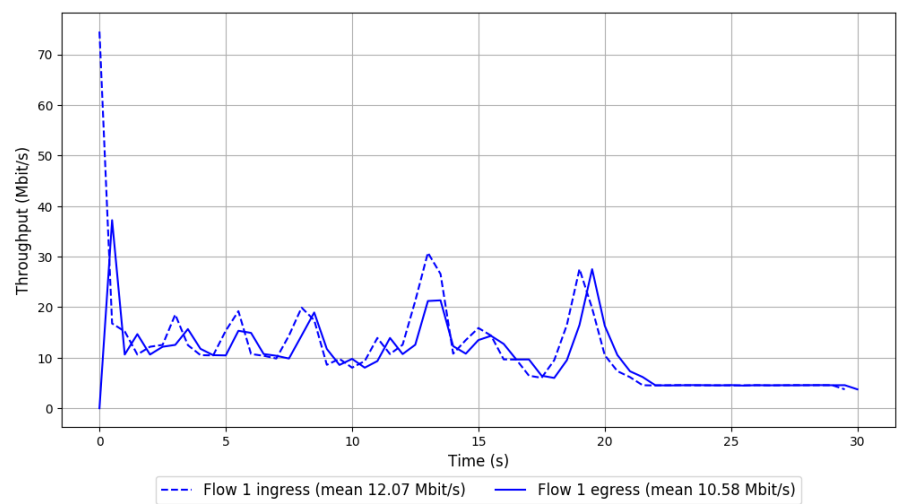


Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 09:59:38
End at: 2018-12-11 10:00:08
Local clock offset: 10.027 ms
Remote clock offset: -2.725 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 12.33%
-- Flow 1:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 12.33%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 10:25:54

End at: 2018-12-11 10:26:24

Local clock offset: 6.184 ms

Remote clock offset: -2.316 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 0.942 ms

Loss rate: 33.37%

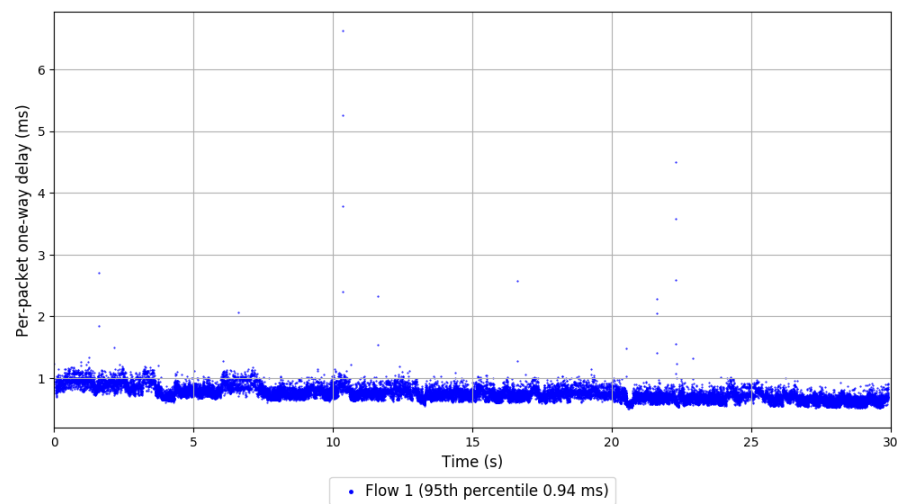
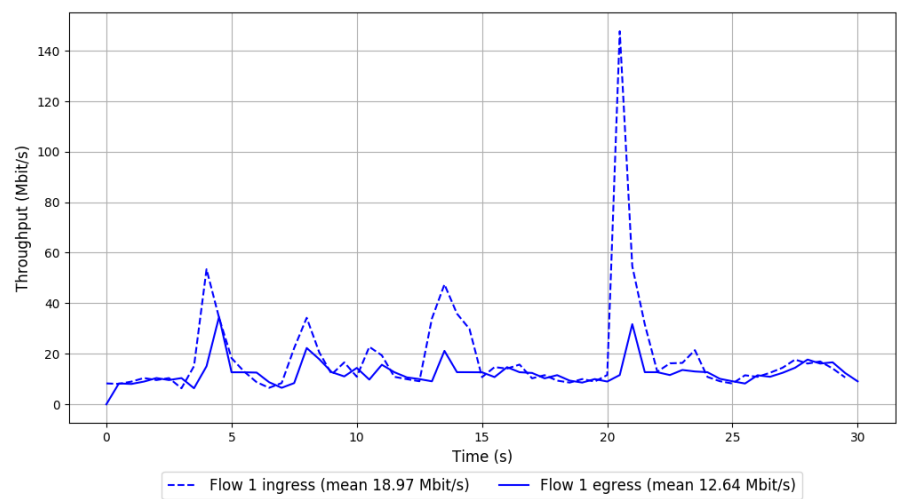
-- Flow 1:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 0.942 ms

Loss rate: 33.37%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-12-11 10:52:06

End at: 2018-12-11 10:52:36

Local clock offset: 5.613 ms

Remote clock offset: 0.646 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.23 Mbit/s

95th percentile per-packet one-way delay: 1.212 ms

Loss rate: 6.77%

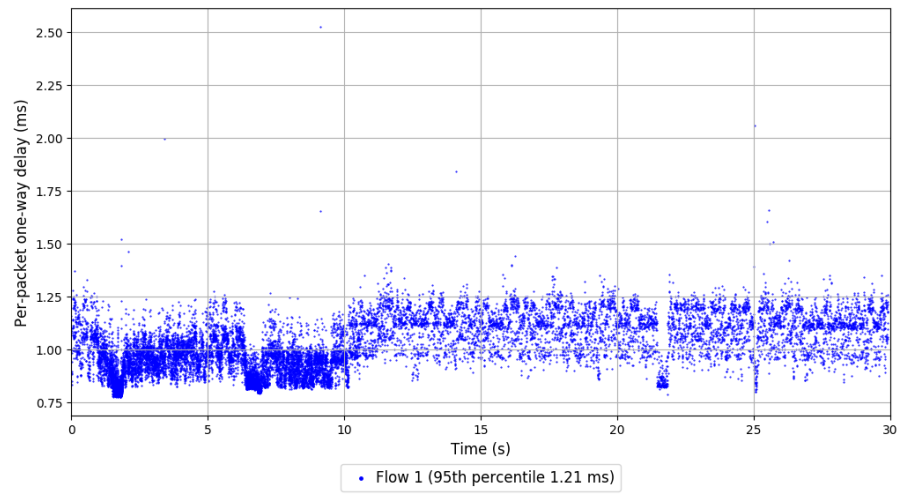
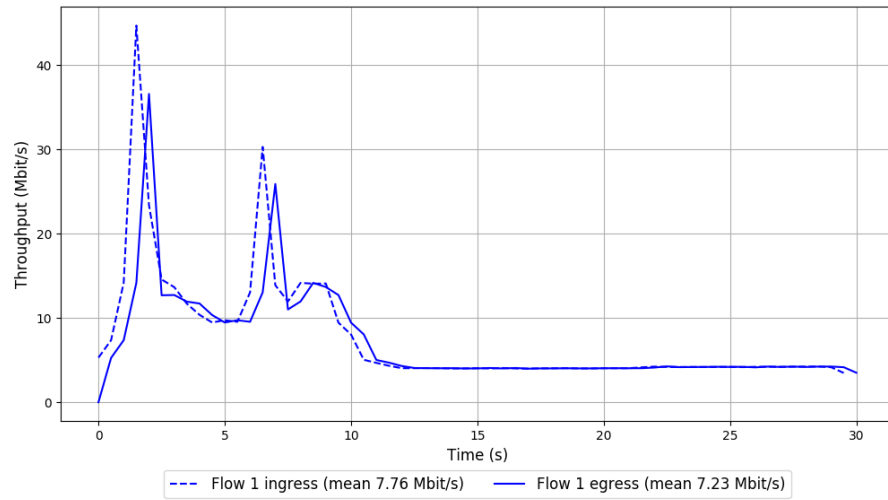
-- Flow 1:

Average throughput: 7.23 Mbit/s

95th percentile per-packet one-way delay: 1.212 ms

Loss rate: 6.77%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 09:00:48

End at: 2018-12-11 09:01:18

Local clock offset: 6.827 ms

Remote clock offset: 0.092 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.49 Mbit/s

95th percentile per-packet one-way delay: 0.891 ms

Loss rate: 0.00%

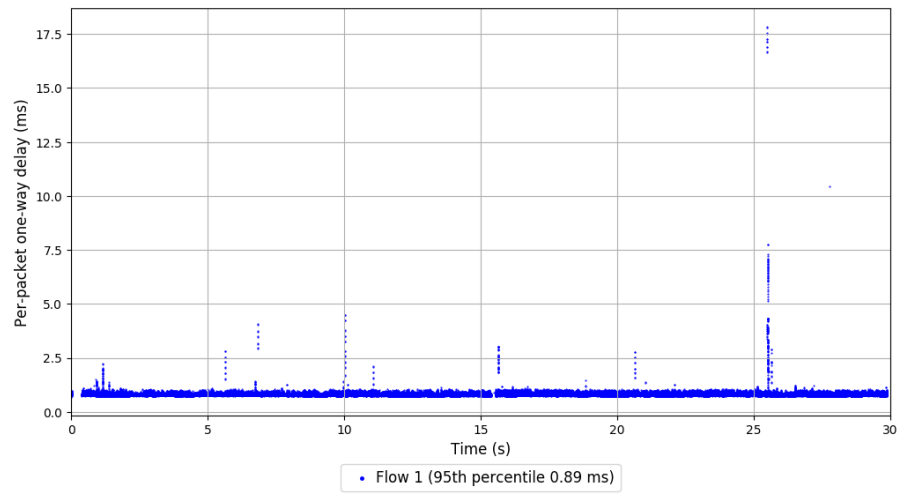
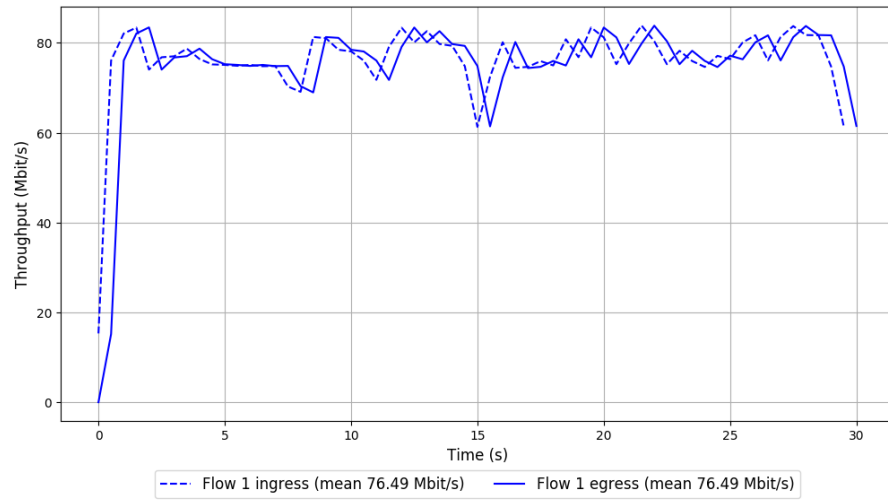
-- Flow 1:

Average throughput: 76.49 Mbit/s

95th percentile per-packet one-way delay: 0.891 ms

Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 09:27:19

End at: 2018-12-11 09:27:49

Local clock offset: 7.746 ms

Remote clock offset: 0.096 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.99 Mbit/s

95th percentile per-packet one-way delay: 0.859 ms

Loss rate: 0.00%

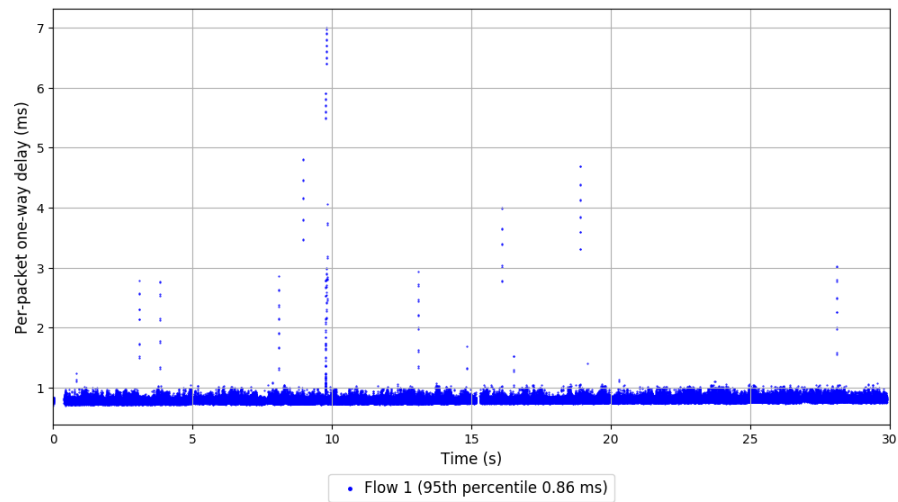
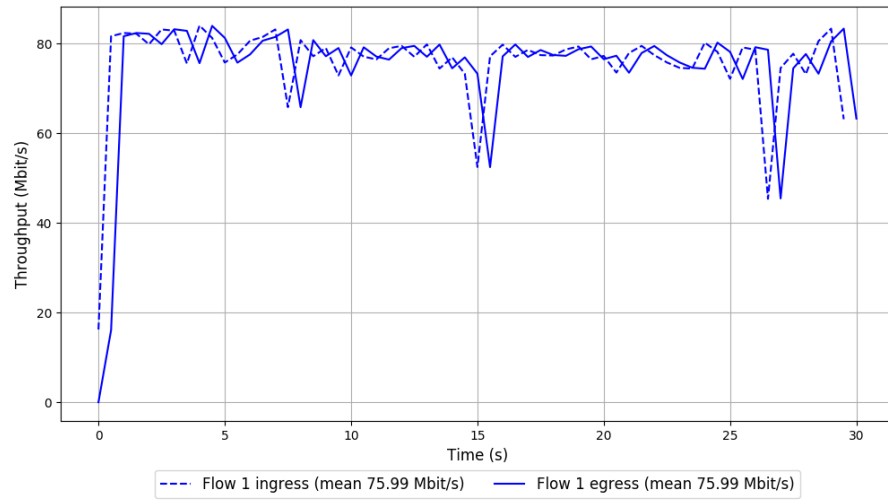
-- Flow 1:

Average throughput: 75.99 Mbit/s

95th percentile per-packet one-way delay: 0.859 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 09:53:42

End at: 2018-12-11 09:54:12

Local clock offset: 9.612 ms

Remote clock offset: -1.759 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.39 Mbit/s

95th percentile per-packet one-way delay: 1.061 ms

Loss rate: 0.00%

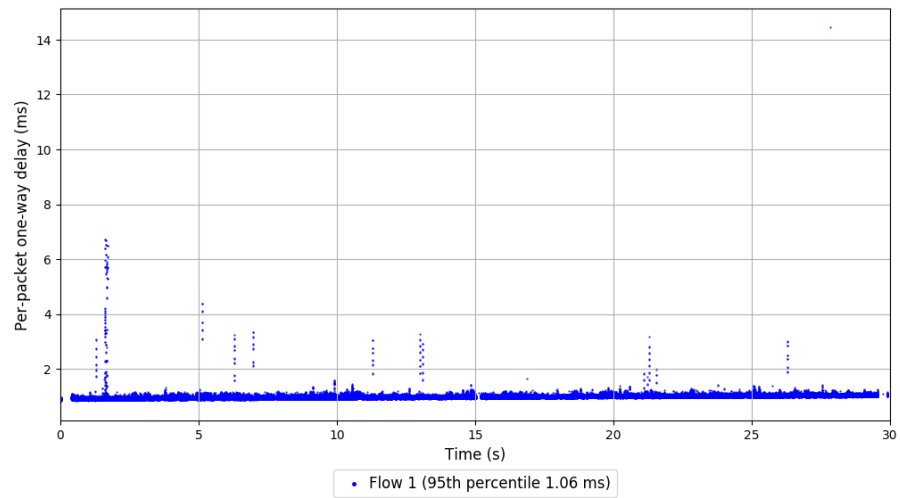
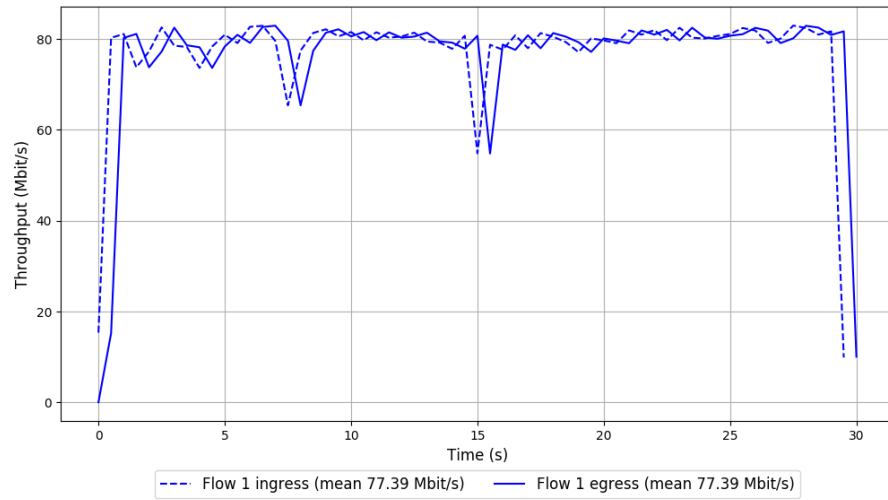
-- Flow 1:

Average throughput: 77.39 Mbit/s

95th percentile per-packet one-way delay: 1.061 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 10:20:00

End at: 2018-12-11 10:20:30

Local clock offset: 6.926 ms

Remote clock offset: -4.177 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.60 Mbit/s

95th percentile per-packet one-way delay: 0.816 ms

Loss rate: 0.00%

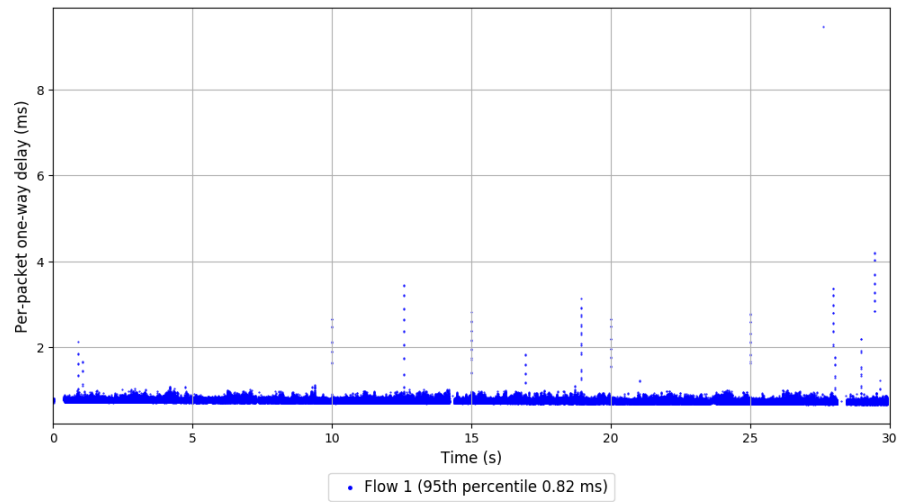
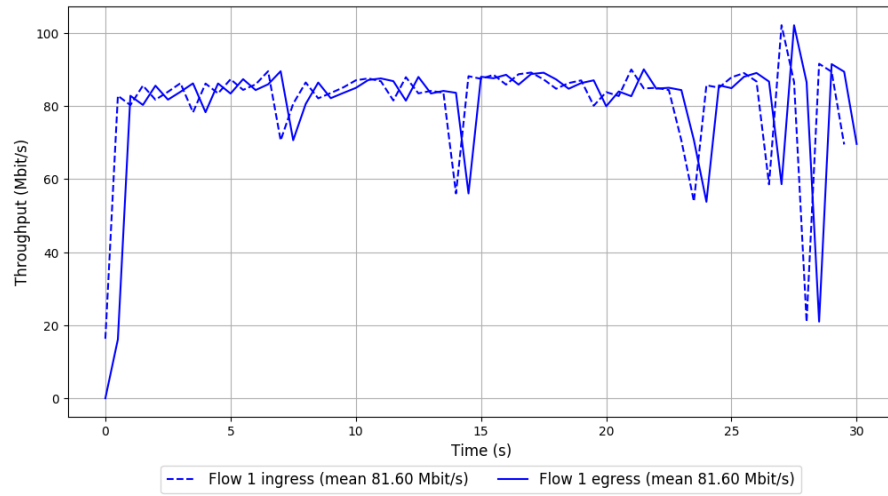
-- Flow 1:

Average throughput: 81.60 Mbit/s

95th percentile per-packet one-way delay: 0.816 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 10:46:14

End at: 2018-12-11 10:46:44

Local clock offset: 5.603 ms

Remote clock offset: 0.301 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.20 Mbit/s

95th percentile per-packet one-way delay: 0.816 ms

Loss rate: 0.00%

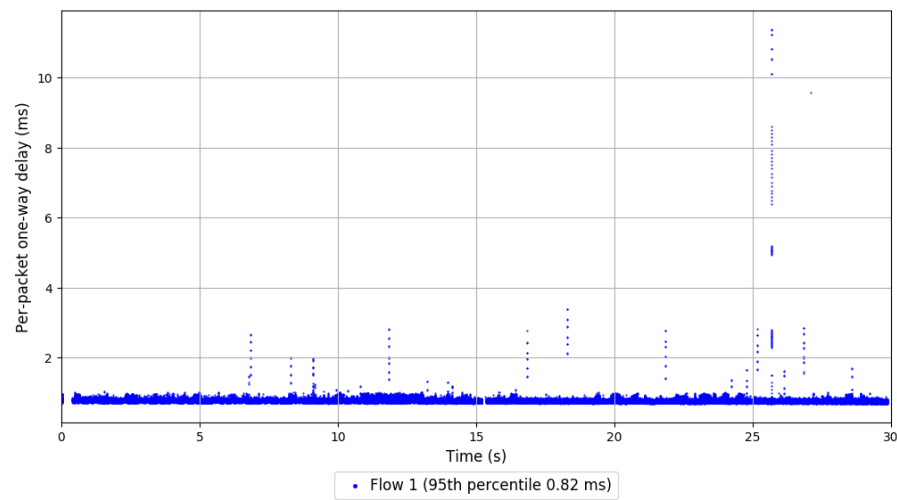
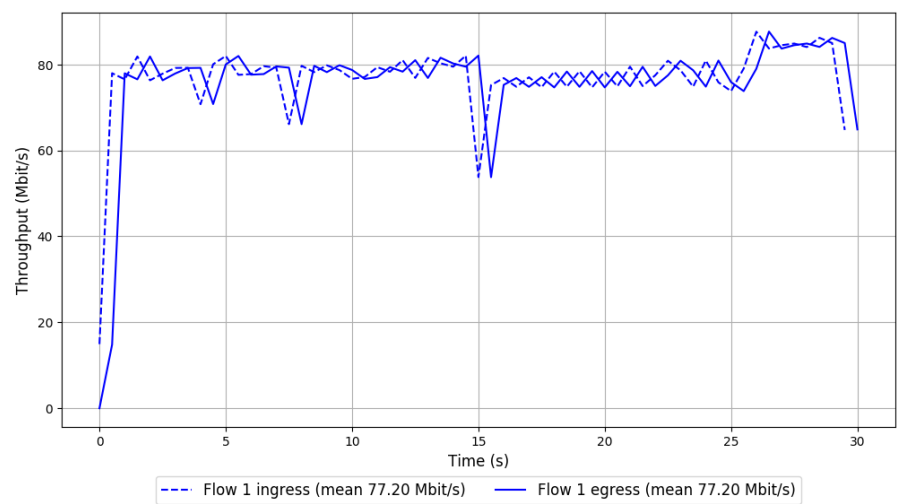
-- Flow 1:

Average throughput: 77.20 Mbit/s

95th percentile per-packet one-way delay: 0.816 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

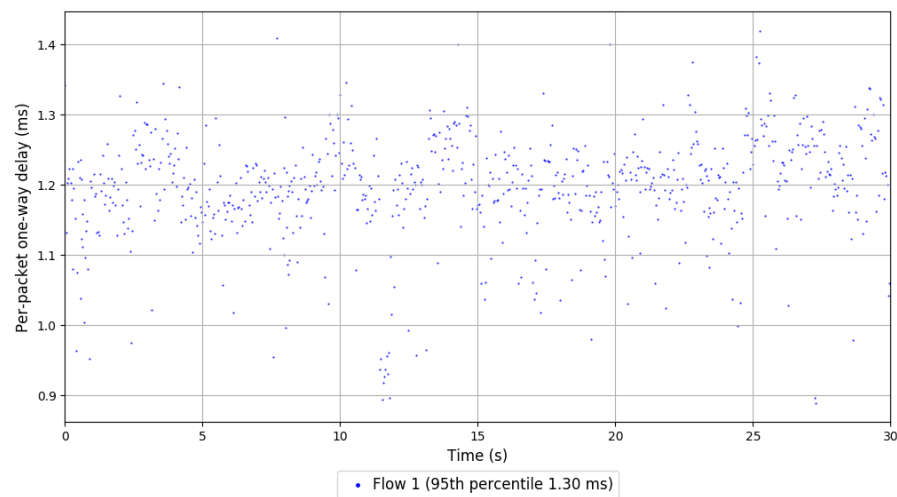
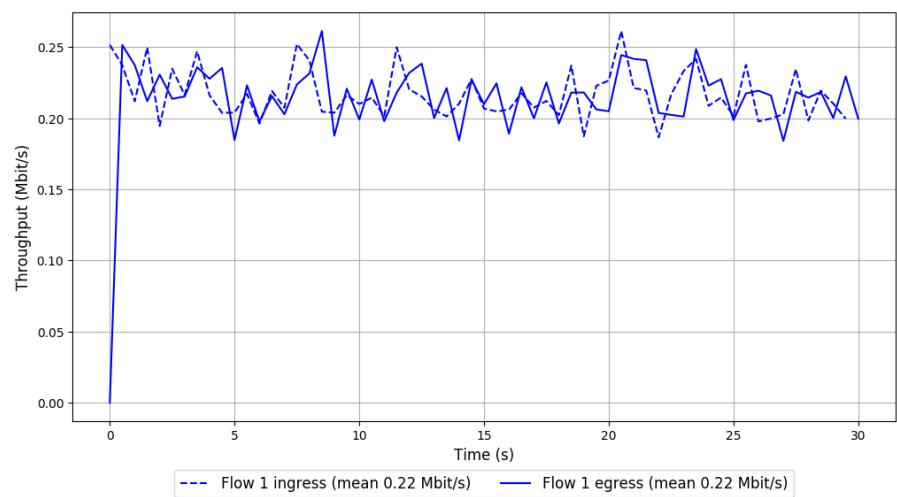



```
Run 1: Statistics of SCReAM

Start at: 2018-12-11 09:21:46
End at: 2018-12-11 09:22:16
Local clock offset: 7.436 ms
Remote clock offset: 0.22 ms

# Below is generated by plot.py at 2018-12-11 11:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.300 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.300 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

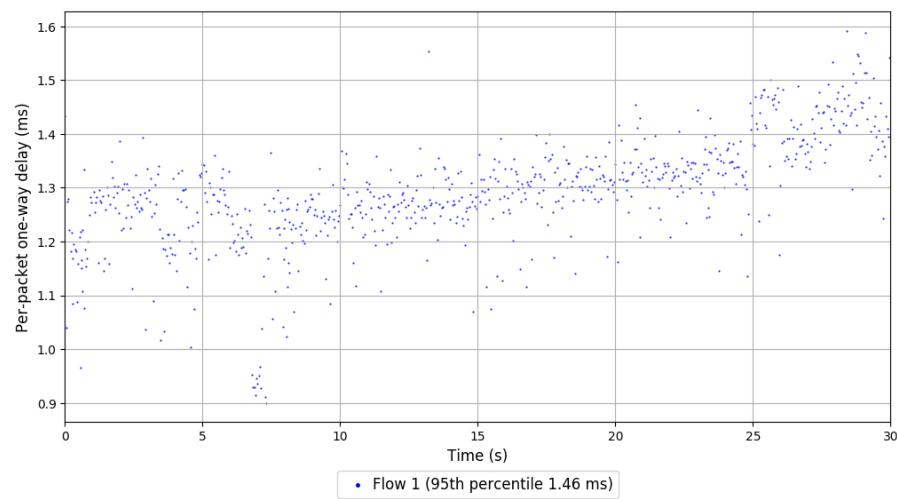
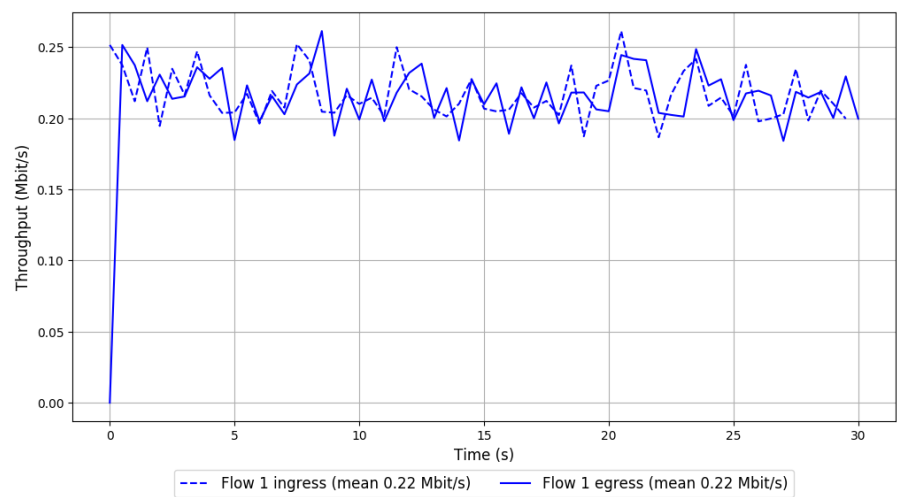


Run 2: Statistics of SCReAM

Start at: 2018-12-11 09:48:21
End at: 2018-12-11 09:48:51
Local clock offset: 9.228 ms
Remote clock offset: -0.281 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.457 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

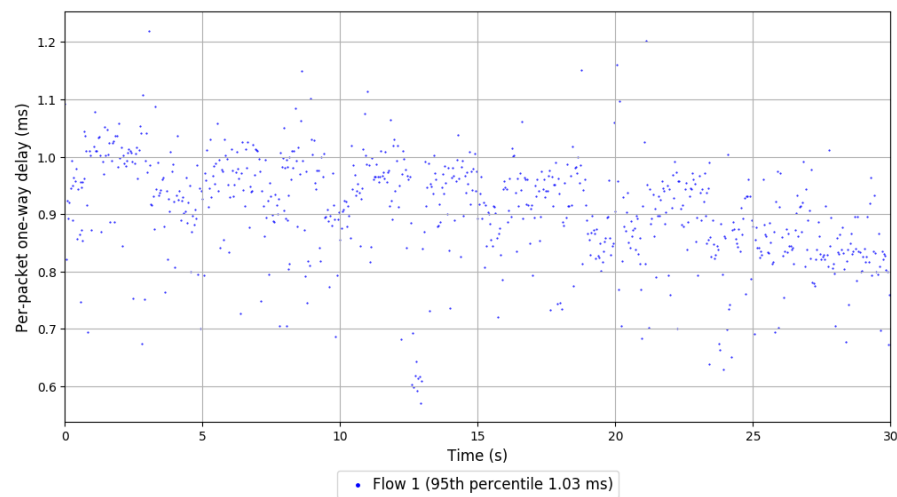
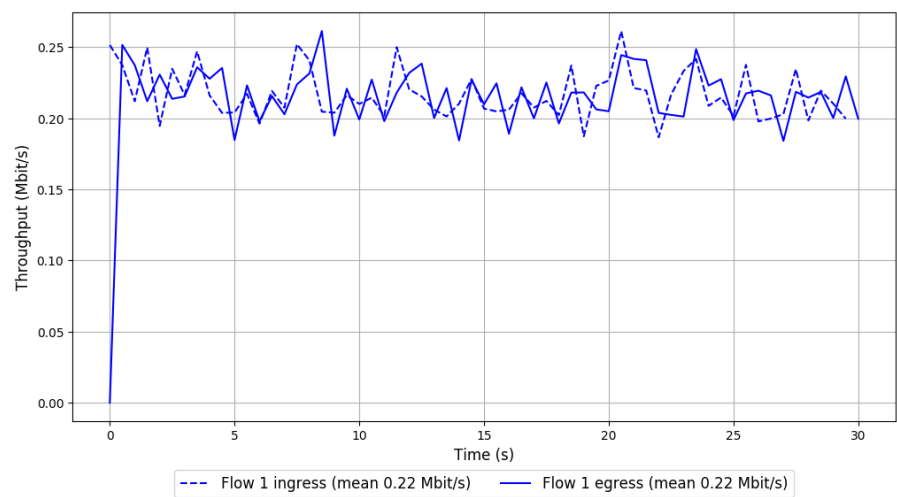


Run 3: Statistics of SCReAM

Start at: 2018-12-11 10:14:45
End at: 2018-12-11 10:15:15
Local clock offset: 8.108 ms
Remote clock offset: -3.945 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-11 10:40:49

End at: 2018-12-11 10:41:19

Local clock offset: 5.524 ms

Remote clock offset: 0.0 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.185 ms

Loss rate: 0.00%

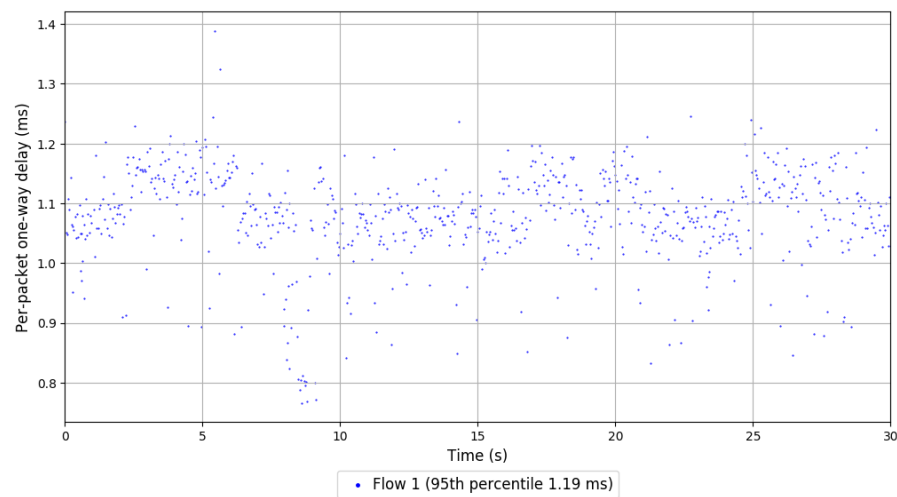
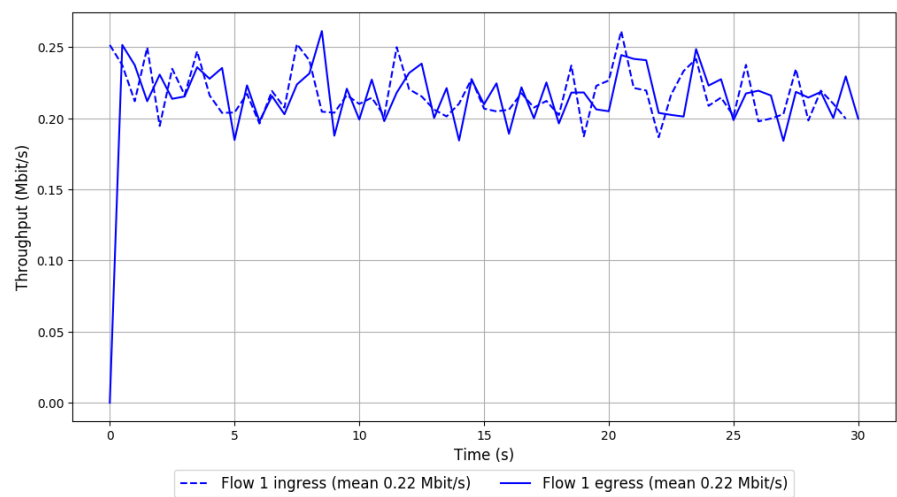
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.185 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

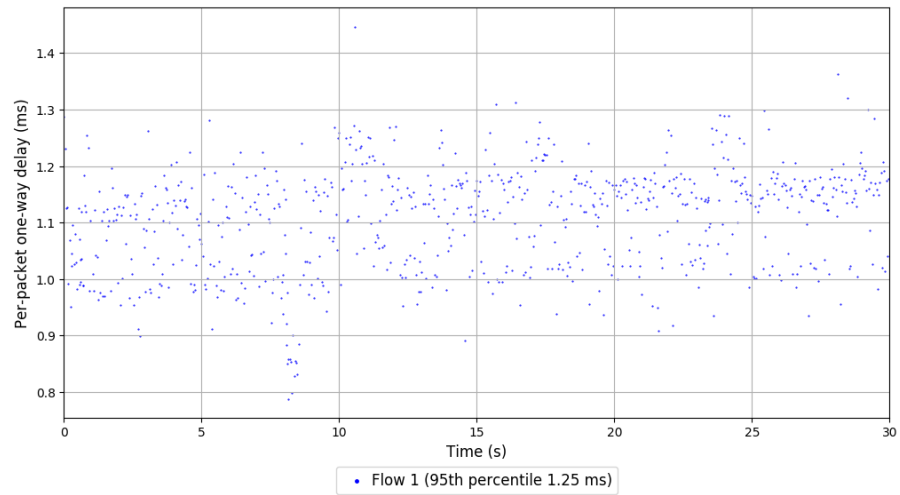
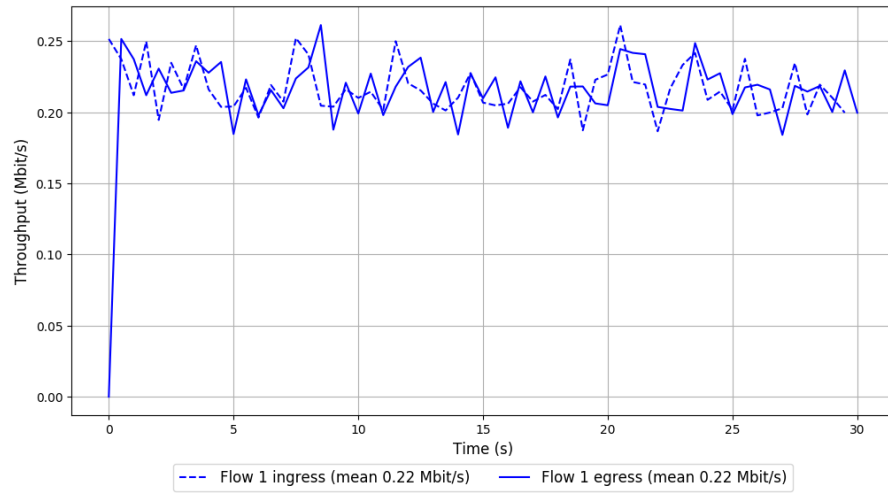


Run 5: Statistics of SCReAM

Start at: 2018-12-11 11:07:20
End at: 2018-12-11 11:07:50
Local clock offset: 5.479 ms
Remote clock offset: -2.168 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.247 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-12-11 09:14:38

End at: 2018-12-11 09:15:08

Local clock offset: 7.12 ms

Remote clock offset: 0.233 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.09 Mbit/s

95th percentile per-packet one-way delay: 4.326 ms

Loss rate: 0.02%

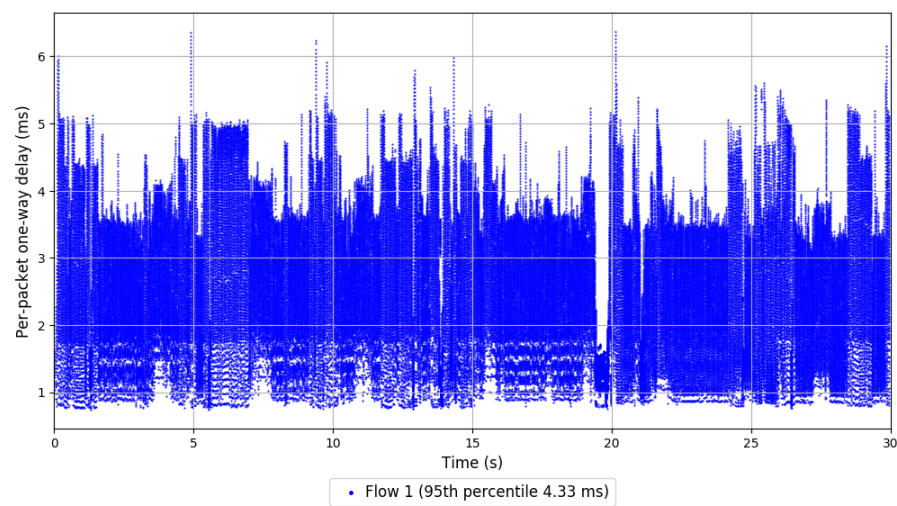
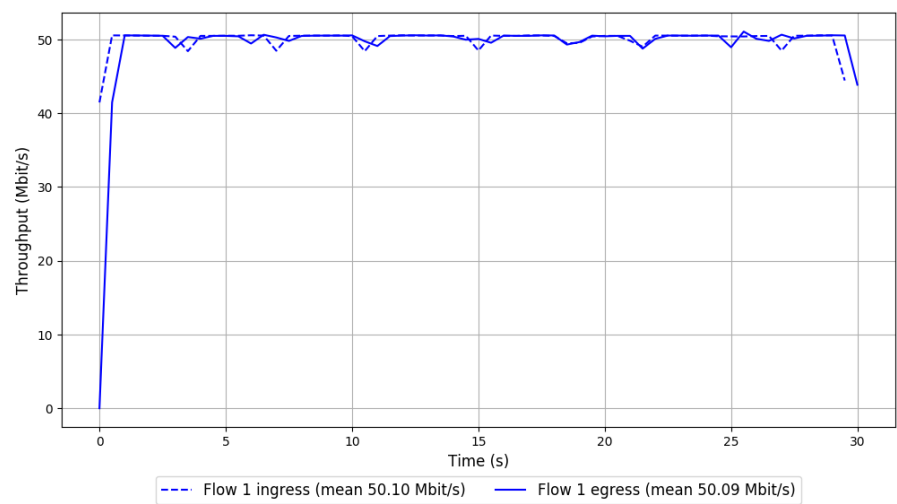
-- Flow 1:

Average throughput: 50.09 Mbit/s

95th percentile per-packet one-way delay: 4.326 ms

Loss rate: 0.02%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-12-11 09:41:17

End at: 2018-12-11 09:41:47

Local clock offset: 8.725 ms

Remote clock offset: 0.231 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 4.207 ms

Loss rate: 0.00%

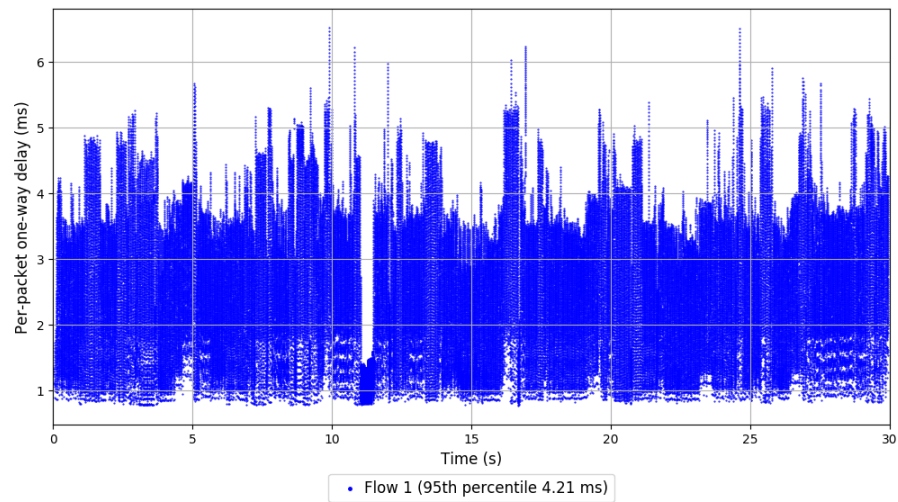
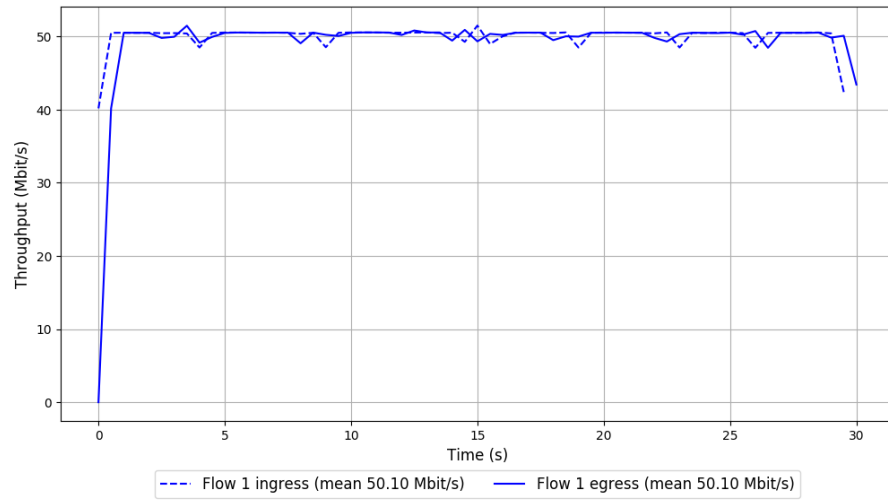
-- Flow 1:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 4.207 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

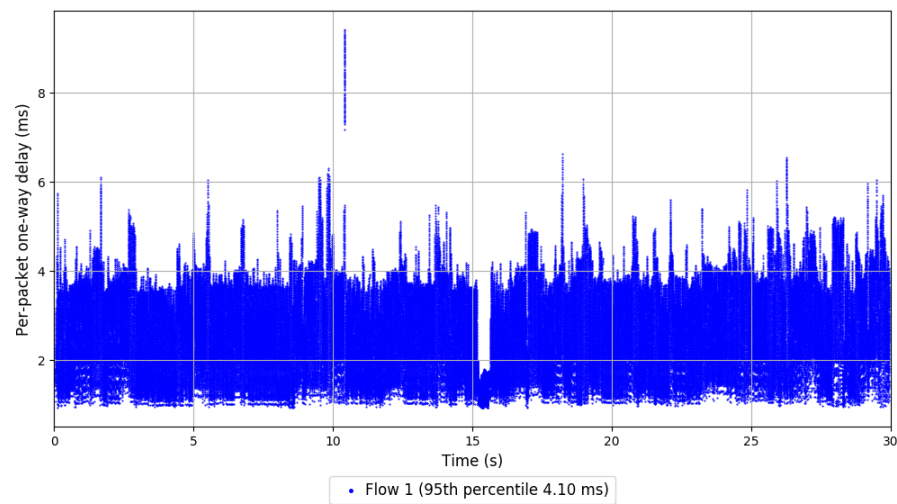
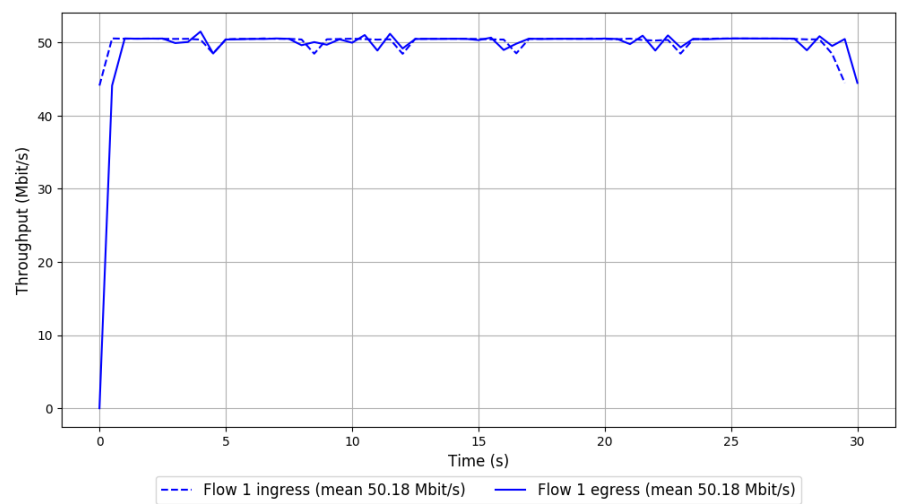


Run 3: Statistics of Sprout

Start at: 2018-12-11 10:07:42
End at: 2018-12-11 10:08:13
Local clock offset: 10.605 ms
Remote clock offset: -3.415 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.18 Mbit/s
95th percentile per-packet one-way delay: 4.099 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.18 Mbit/s
95th percentile per-packet one-way delay: 4.099 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-12-11 10:33:48

End at: 2018-12-11 10:34:18

Local clock offset: 5.669 ms

Remote clock offset: -0.7 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 4.179 ms

Loss rate: 0.03%

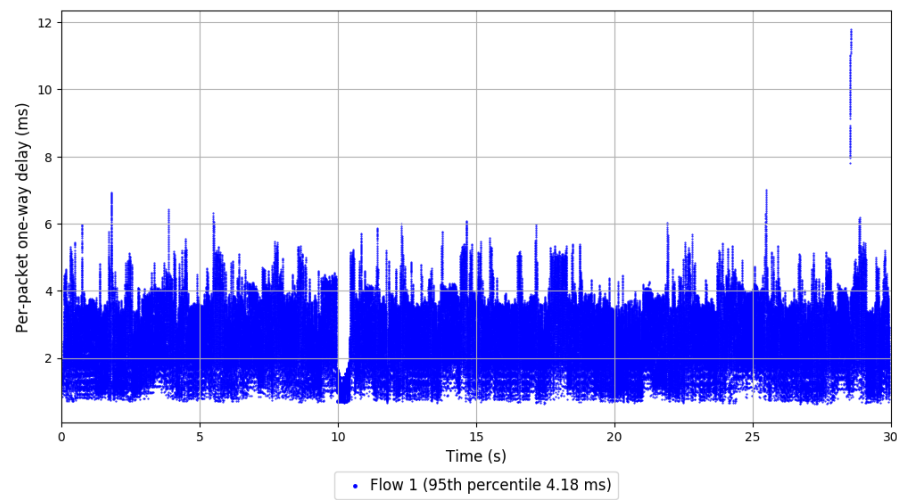
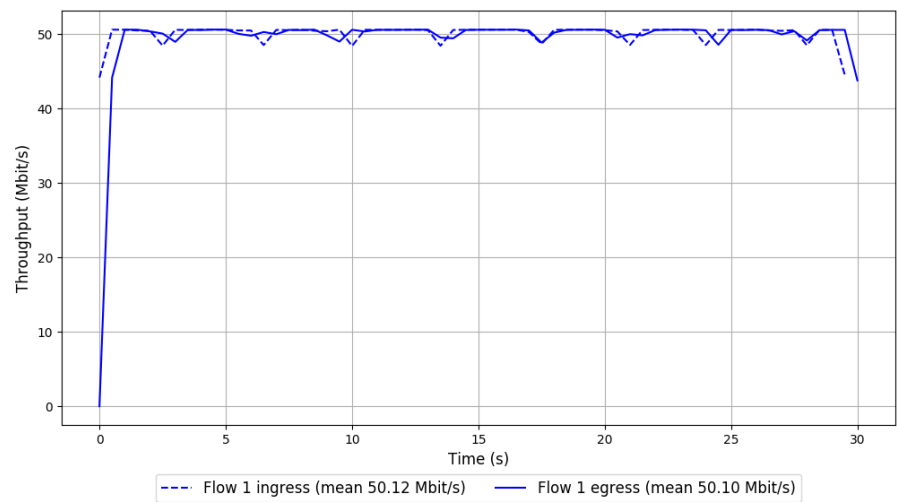
-- Flow 1:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 4.179 ms

Loss rate: 0.03%

Run 4: Report of Sprout — Data Link

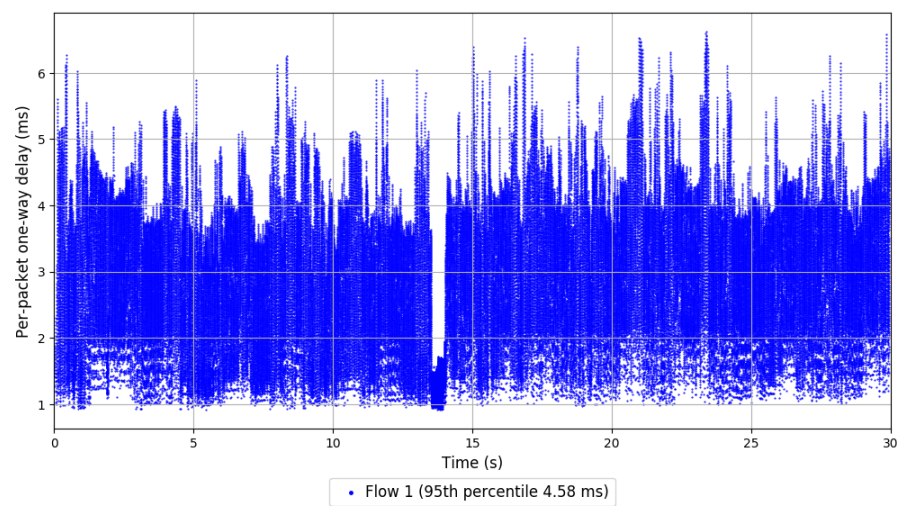
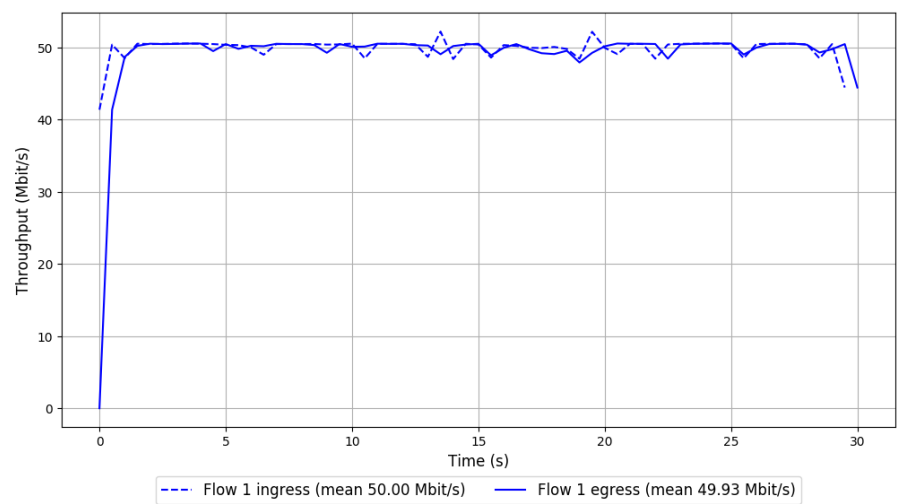


Run 5: Statistics of Sprout

Start at: 2018-12-11 11:00:14
End at: 2018-12-11 11:00:44
Local clock offset: 5.544 ms
Remote clock offset: -0.857 ms

Below is generated by plot.py at 2018-12-11 11:58:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.575 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.575 ms
Loss rate: 0.12%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 09:13:25

End at: 2018-12-11 09:13:55

Local clock offset: 7.094 ms

Remote clock offset: 0.301 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.06 Mbit/s

95th percentile per-packet one-way delay: 1.186 ms

Loss rate: 0.00%

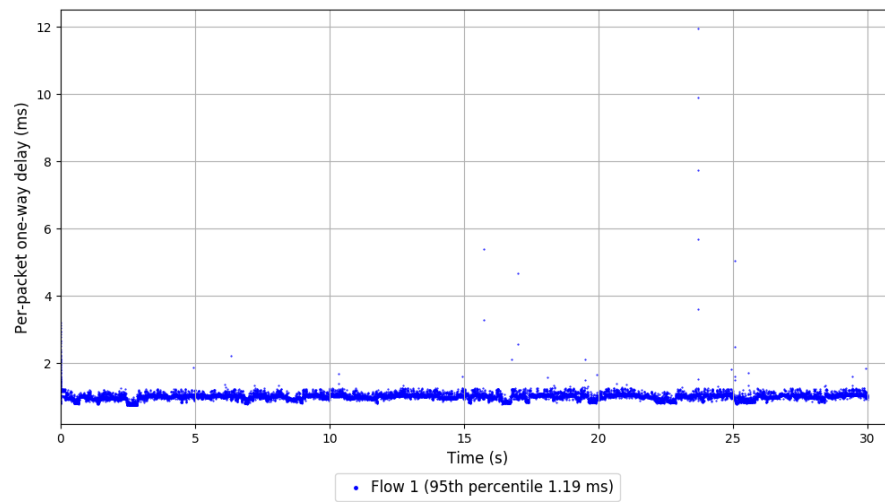
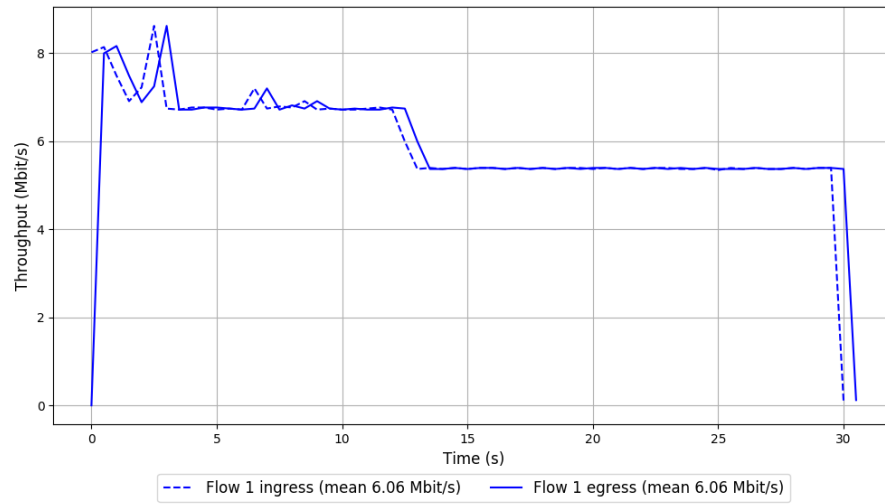
-- Flow 1:

Average throughput: 6.06 Mbit/s

95th percentile per-packet one-way delay: 1.186 ms

Loss rate: 0.00%

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



Run 2: Statistics of TaoVA-100x

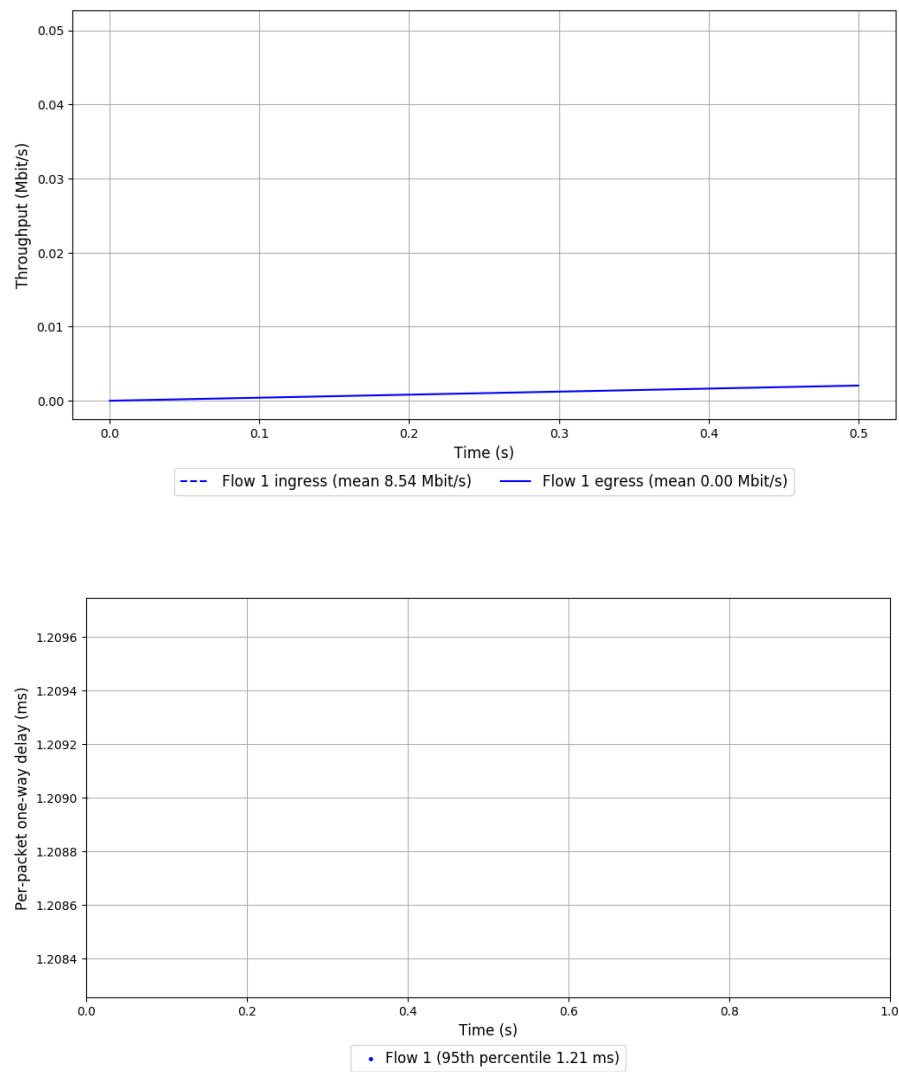
Start at: 2018-12-11 09:40:04

End at: 2018-12-11 09:40:34

Local clock offset: 8.626 ms

Remote clock offset: 0.2 ms

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



Run 3: Statistics of TaoVA-100x

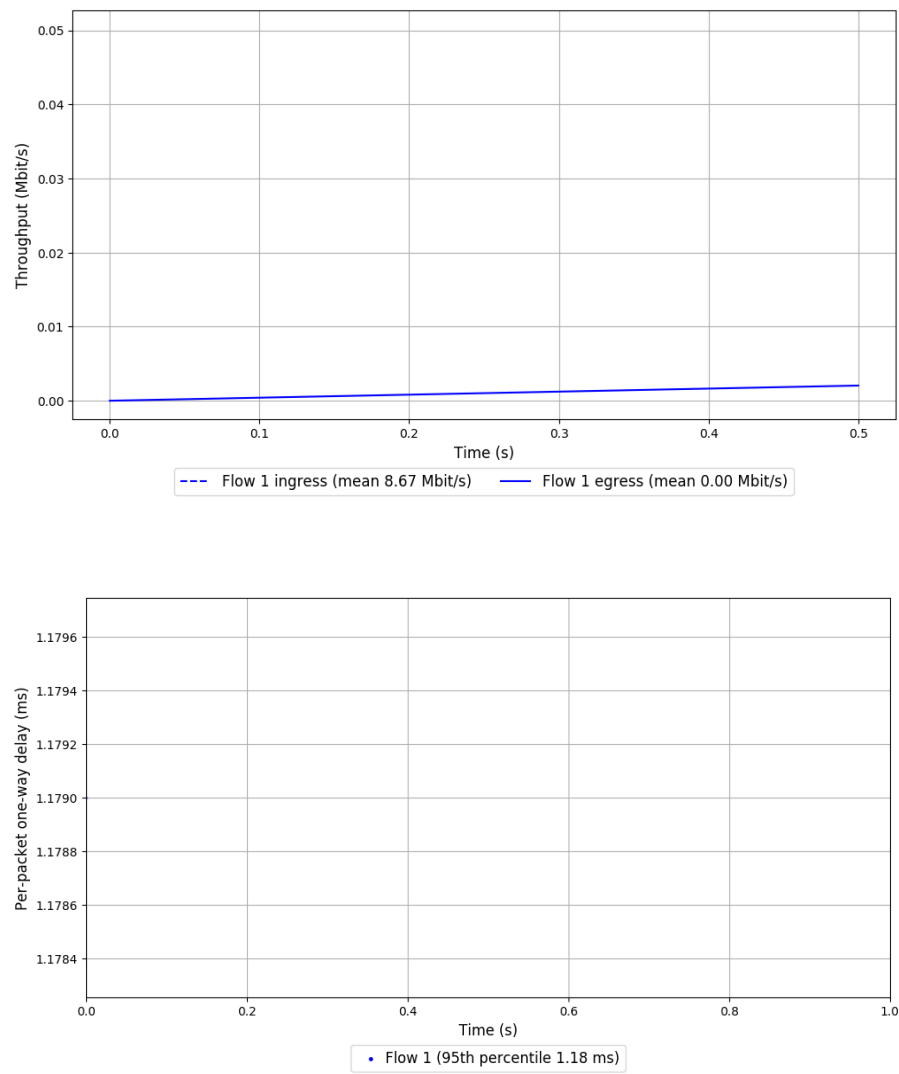
Start at: 2018-12-11 10:06:30

End at: 2018-12-11 10:07:00

Local clock offset: 10.514 ms

Remote clock offset: -3.475 ms

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



Run 4: Statistics of TaoVA-100x

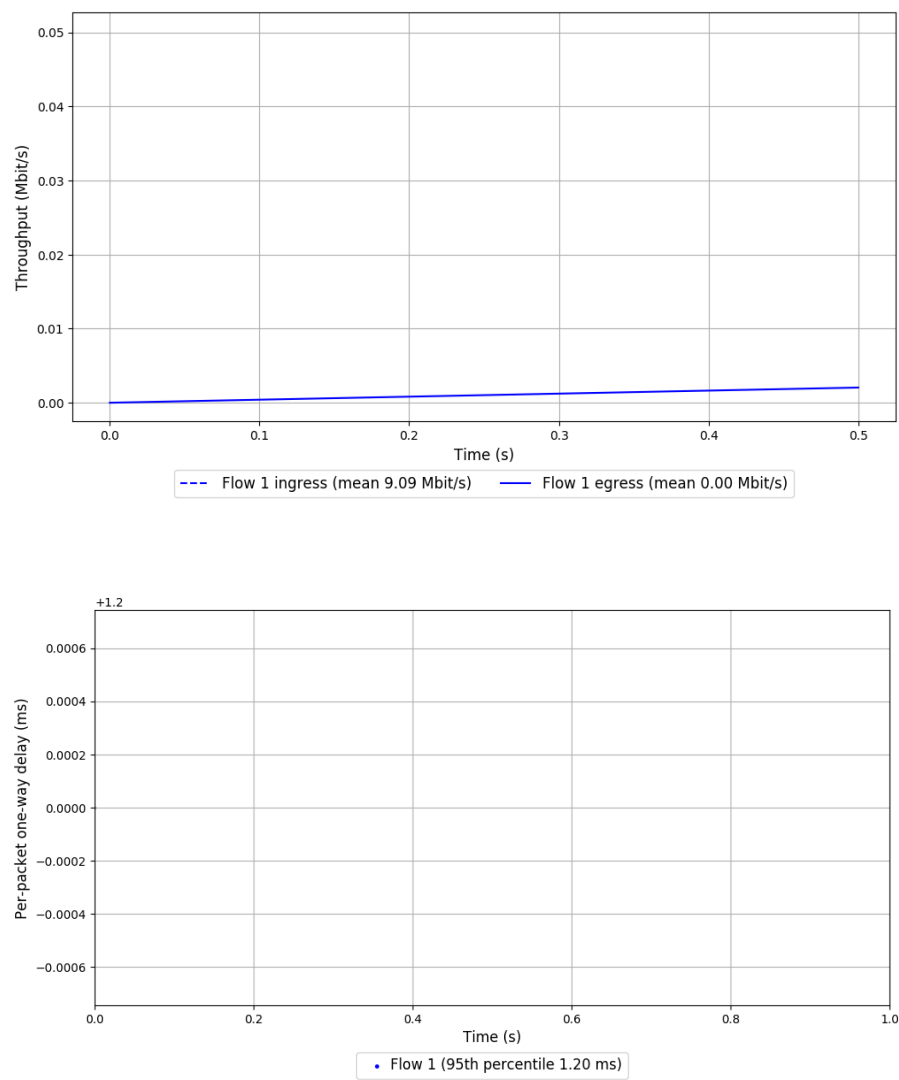
Start at: 2018-12-11 10:32:35

End at: 2018-12-11 10:33:05

Local clock offset: 5.725 ms

Remote clock offset: -0.843 ms

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



Run 5: Statistics of TaoVA-100x

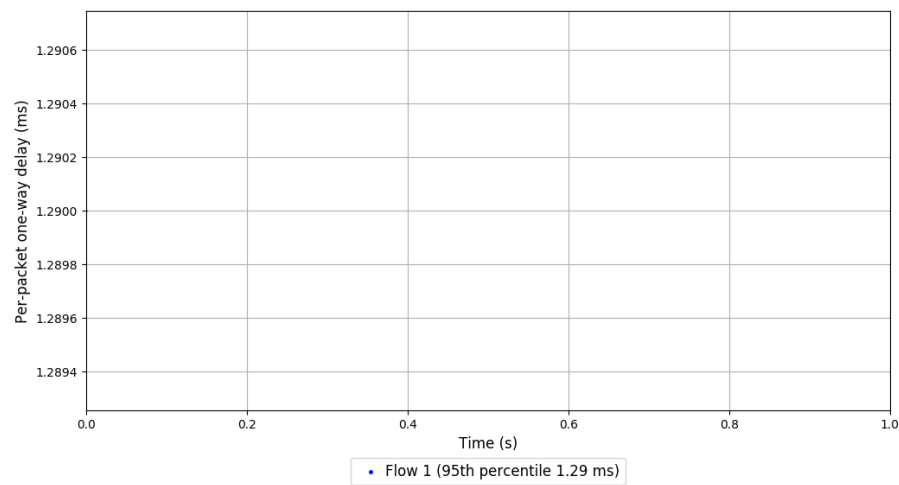
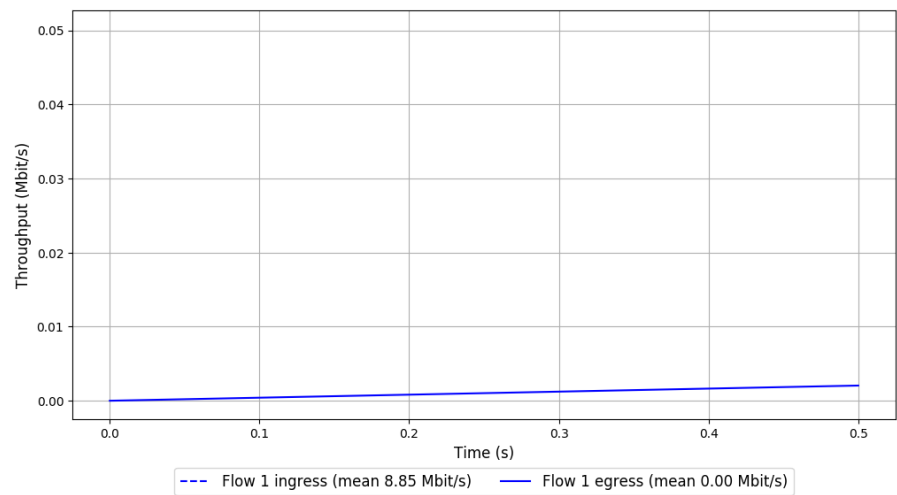
Start at: 2018-12-11 10:59:01

End at: 2018-12-11 10:59:31

Local clock offset: 5.567 ms

Remote clock offset: -0.565 ms

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



Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 09:09:21

End at: 2018-12-11 09:09:51

Local clock offset: 7.137 ms

Remote clock offset: 0.253 ms

Below is generated by plot.py at 2018-12-11 11:58:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 2.076 ms

Loss rate: 0.01%

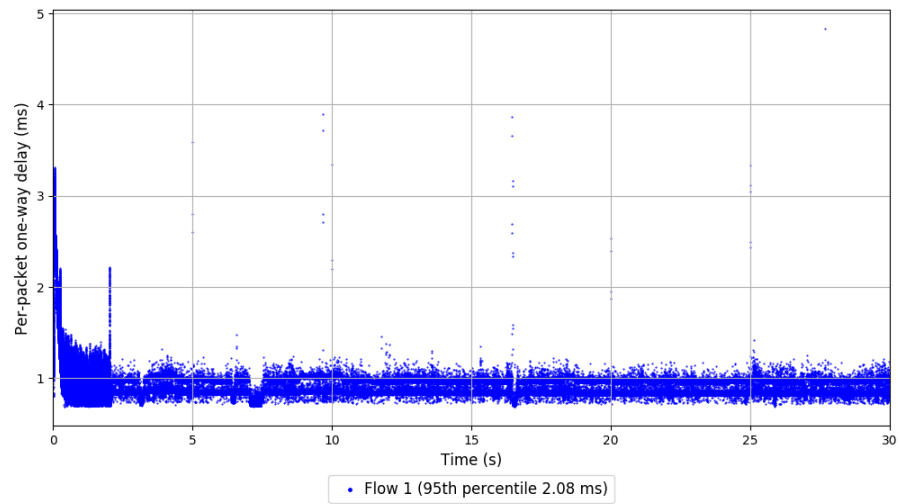
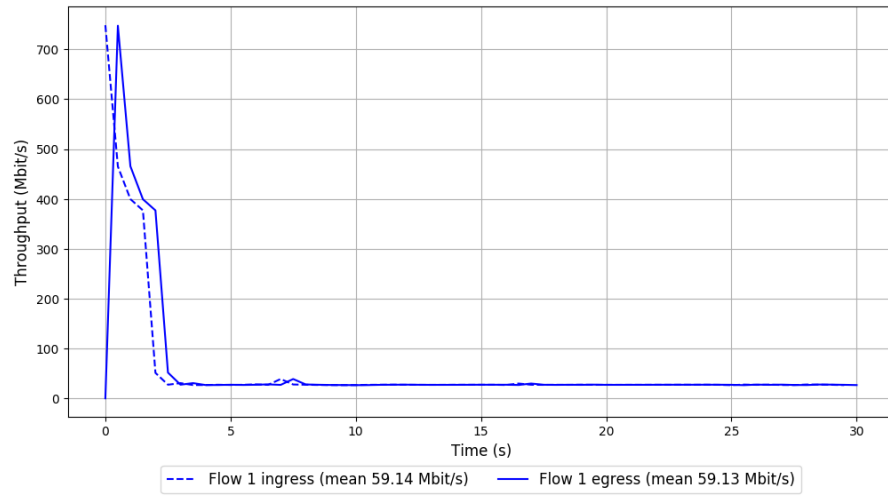
-- Flow 1:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 2.076 ms

Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 09:35:47

End at: 2018-12-11 09:36:17

Local clock offset: 8.341 ms

Remote clock offset: 0.298 ms

Below is generated by plot.py at 2018-12-11 11:59:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 377.80 Mbit/s

95th percentile per-packet one-way delay: 1.334 ms

Loss rate: 0.00%

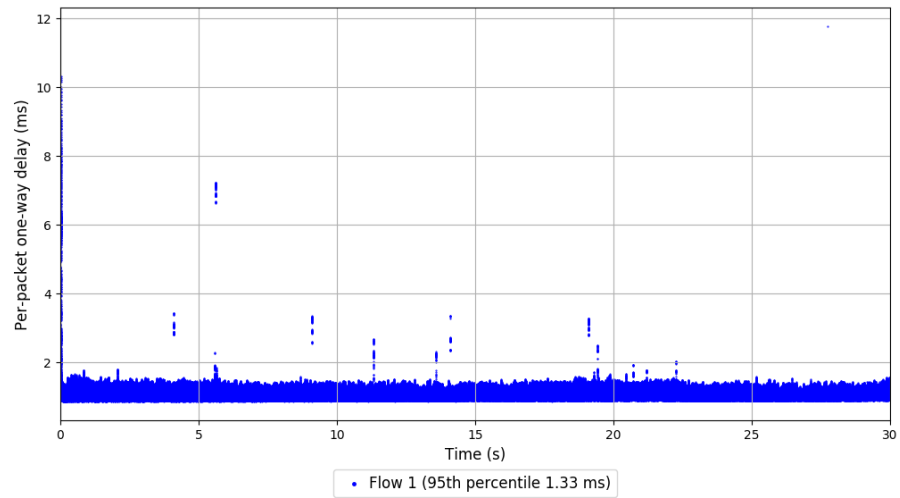
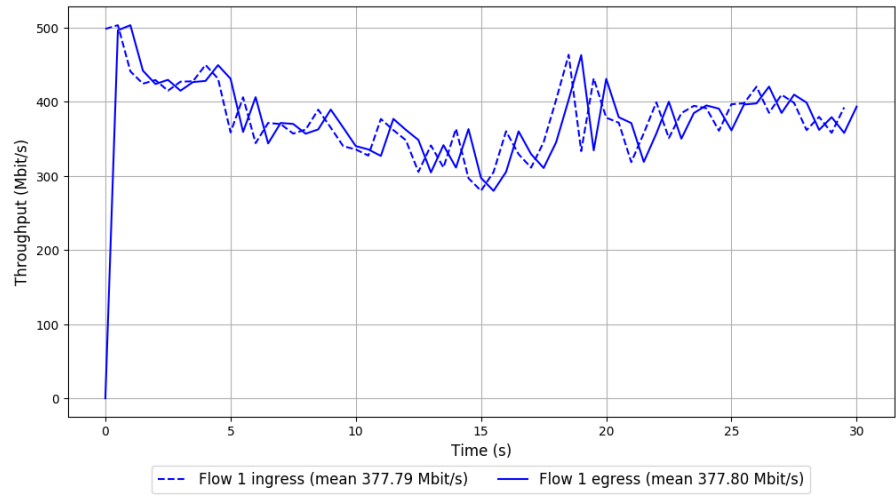
-- Flow 1:

Average throughput: 377.80 Mbit/s

95th percentile per-packet one-way delay: 1.334 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

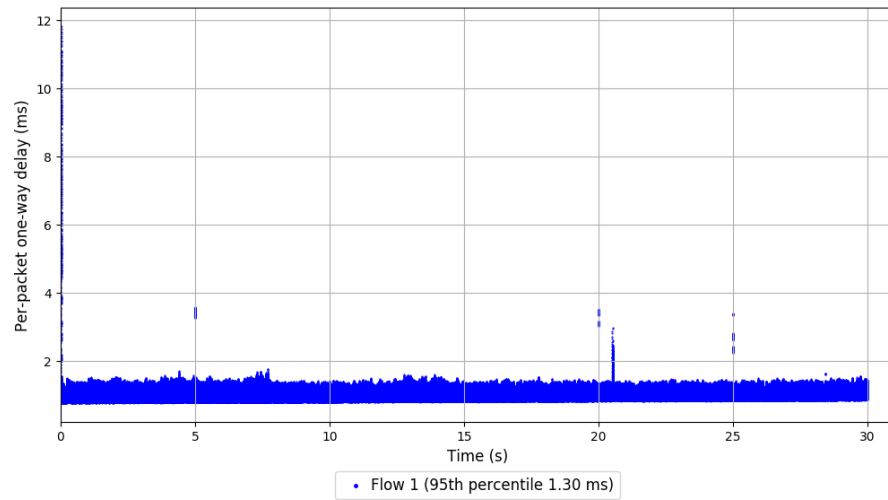
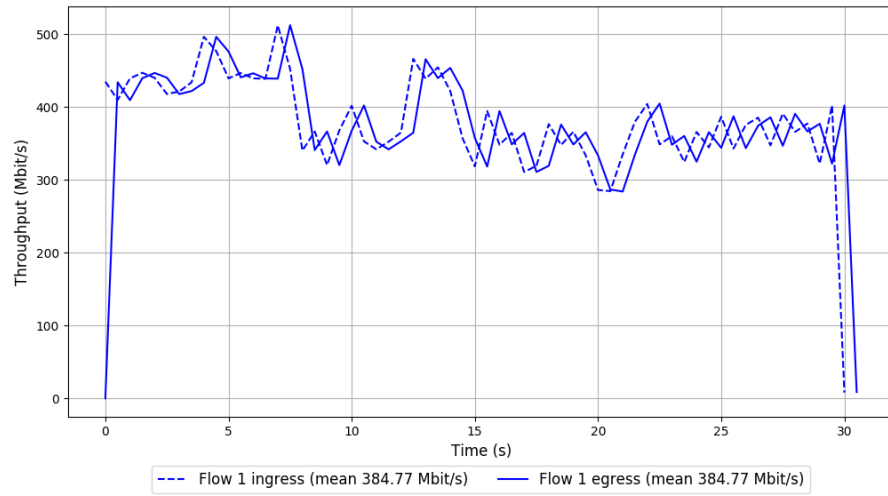


Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 10:02:14
End at: 2018-12-11 10:02:44
Local clock offset: 10.228 ms
Remote clock offset: -3.059 ms

Below is generated by plot.py at 2018-12-11 12:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 384.77 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 384.77 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

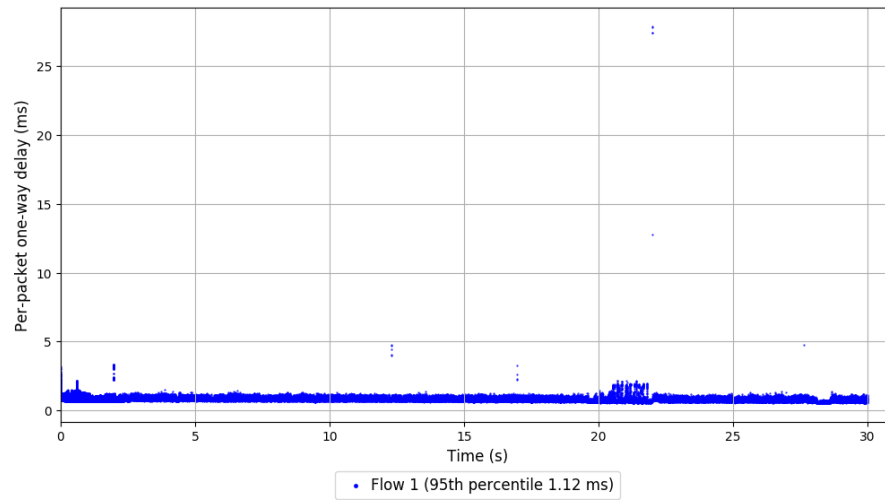
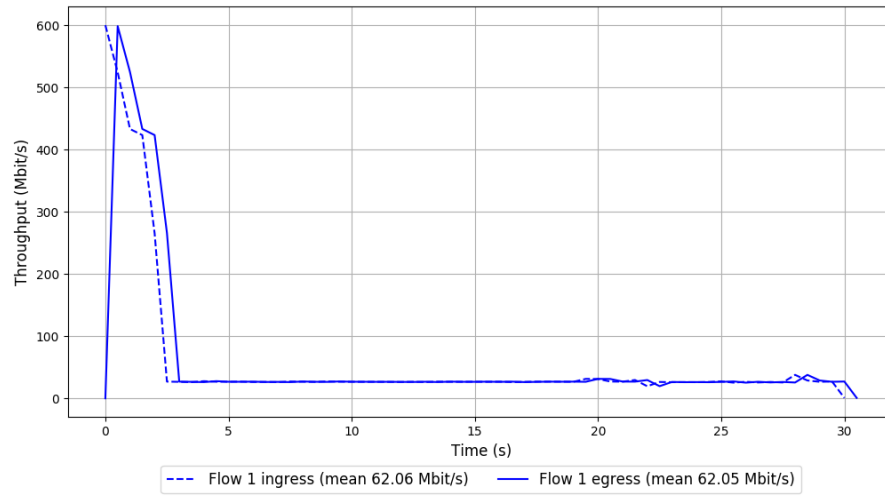


Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 10:28:30
End at: 2018-12-11 10:29:00
Local clock offset: 5.989 ms
Remote clock offset: -1.611 ms

Below is generated by plot.py at 2018-12-11 12:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 62.05 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 62.05 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 10:54:41

End at: 2018-12-11 10:55:11

Local clock offset: 5.612 ms

Remote clock offset: 0.681 ms

Below is generated by plot.py at 2018-12-11 12:00:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 389.84 Mbit/s

95th percentile per-packet one-way delay: 1.212 ms

Loss rate: 0.00%

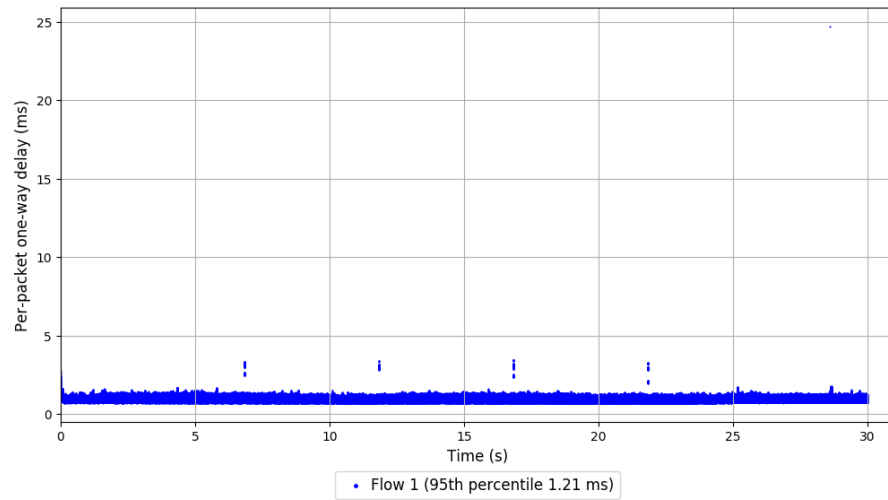
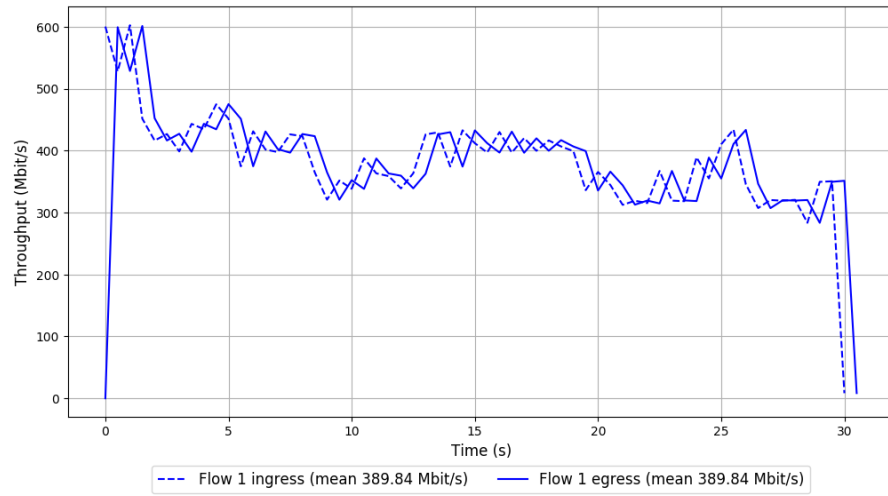
-- Flow 1:

Average throughput: 389.84 Mbit/s

95th percentile per-packet one-way delay: 1.212 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-12-11 09:18:44

End at: 2018-12-11 09:19:14

Local clock offset: 7.257 ms

Remote clock offset: 0.241 ms

Below is generated by plot.py at 2018-12-11 12:00:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 200.91 Mbit/s

95th percentile per-packet one-way delay: 4.388 ms

Loss rate: 0.07%

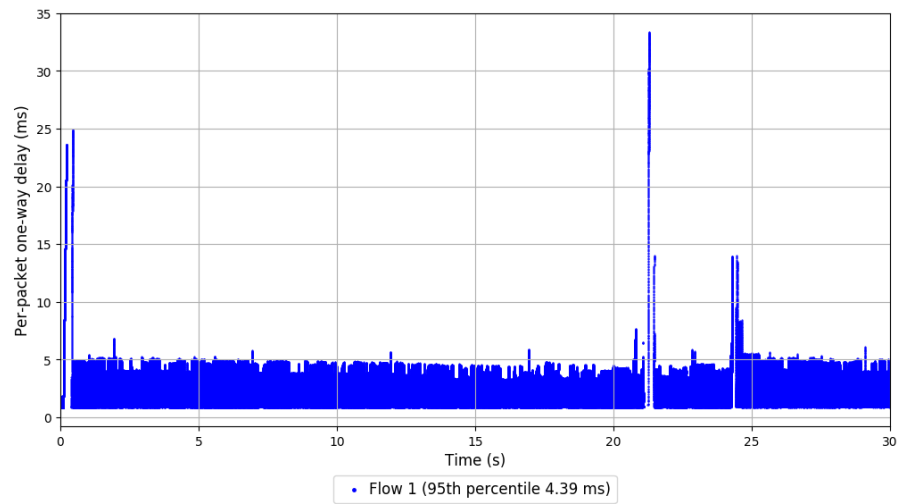
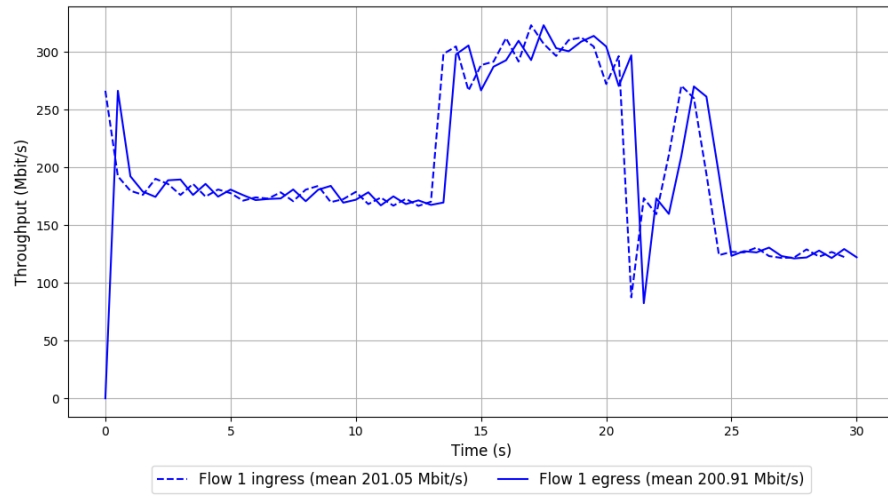
-- Flow 1:

Average throughput: 200.91 Mbit/s

95th percentile per-packet one-way delay: 4.388 ms

Loss rate: 0.07%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-12-11 09:45:23

End at: 2018-12-11 09:45:53

Local clock offset: 9.022 ms

Remote clock offset: 0.325 ms

Below is generated by plot.py at 2018-12-11 12:00:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 213.96 Mbit/s

95th percentile per-packet one-way delay: 8.929 ms

Loss rate: 0.43%

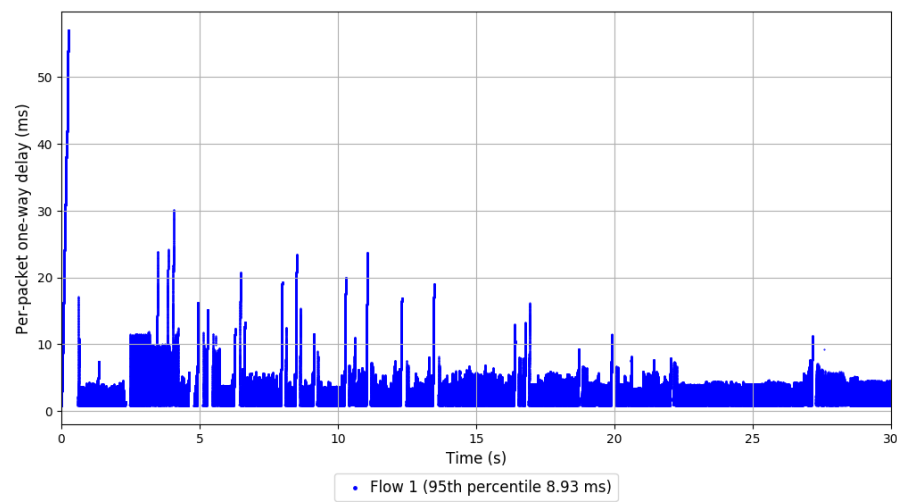
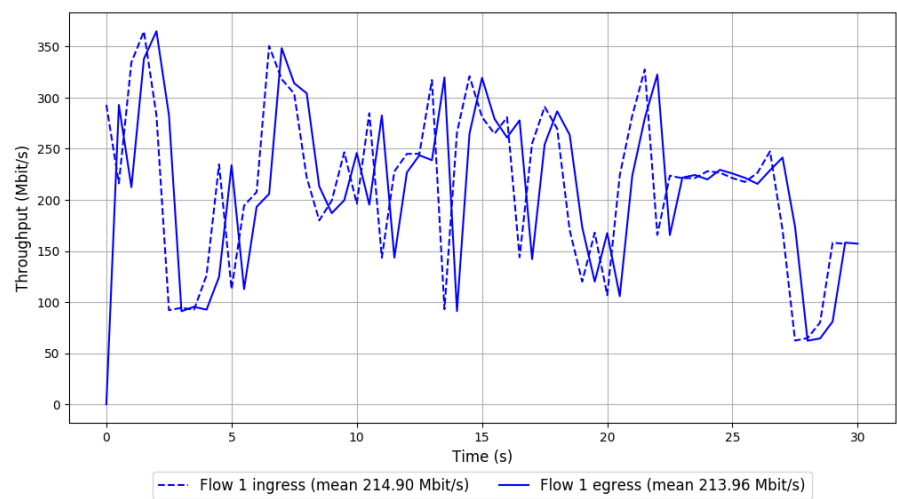
-- Flow 1:

Average throughput: 213.96 Mbit/s

95th percentile per-packet one-way delay: 8.929 ms

Loss rate: 0.43%

Run 2: Report of Verus — Data Link

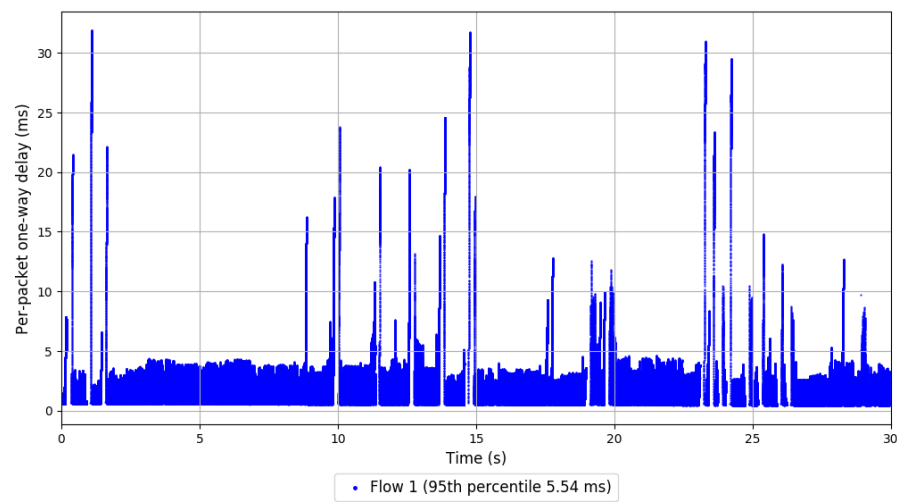
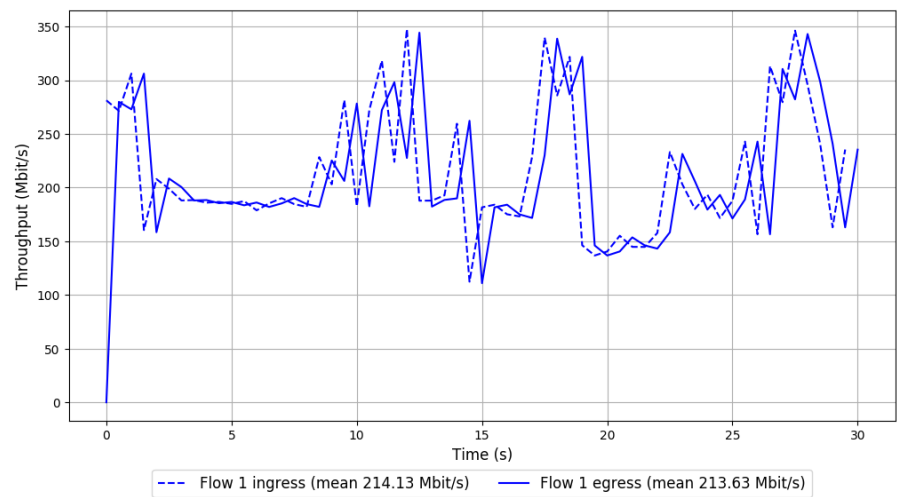


Run 3: Statistics of Verus

Start at: 2018-12-11 10:11:48
End at: 2018-12-11 10:12:18
Local clock offset: 9.135 ms
Remote clock offset: -3.742 ms

Below is generated by plot.py at 2018-12-11 12:00:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 213.63 Mbit/s
95th percentile per-packet one-way delay: 5.540 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 213.63 Mbit/s
95th percentile per-packet one-way delay: 5.540 ms
Loss rate: 0.23%

Run 3: Report of Verus — Data Link

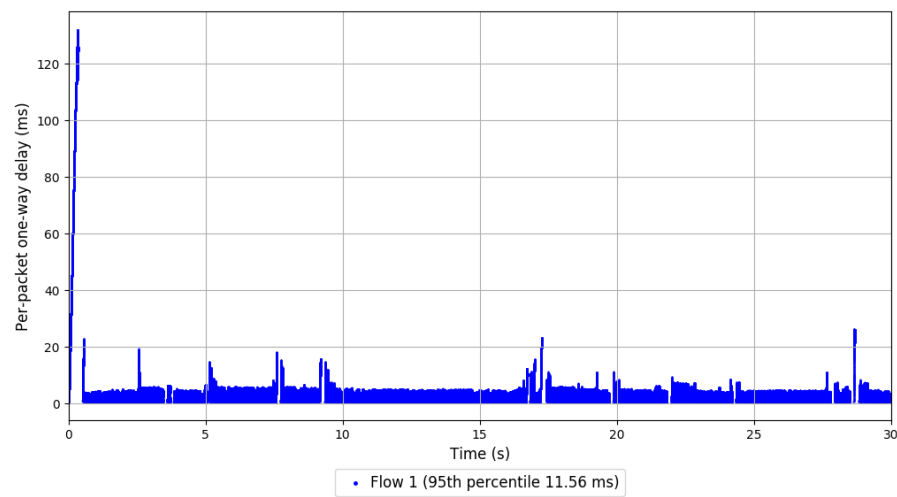
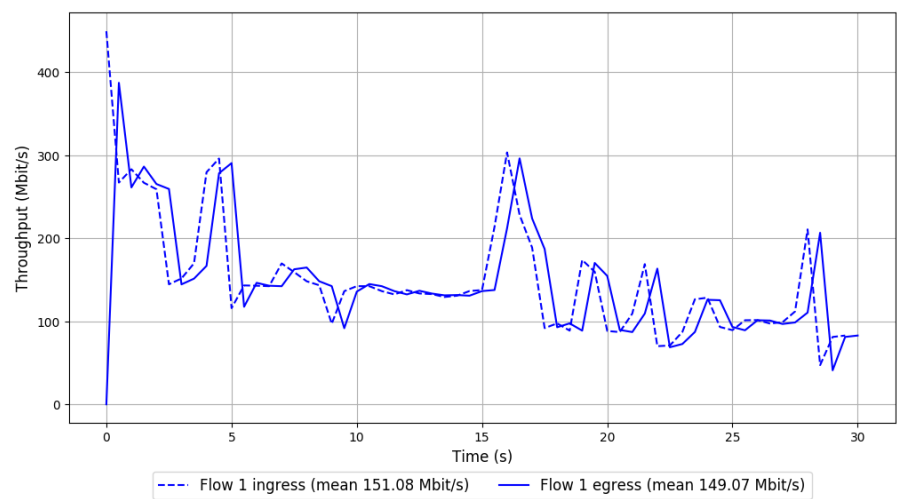


Run 4: Statistics of Verus

Start at: 2018-12-11 10:37:54
End at: 2018-12-11 10:38:24
Local clock offset: 5.499 ms
Remote clock offset: -0.214 ms

Below is generated by plot.py at 2018-12-11 12:00:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 149.07 Mbit/s
95th percentile per-packet one-way delay: 11.560 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 149.07 Mbit/s
95th percentile per-packet one-way delay: 11.560 ms
Loss rate: 1.33%

Run 4: Report of Verus — Data Link

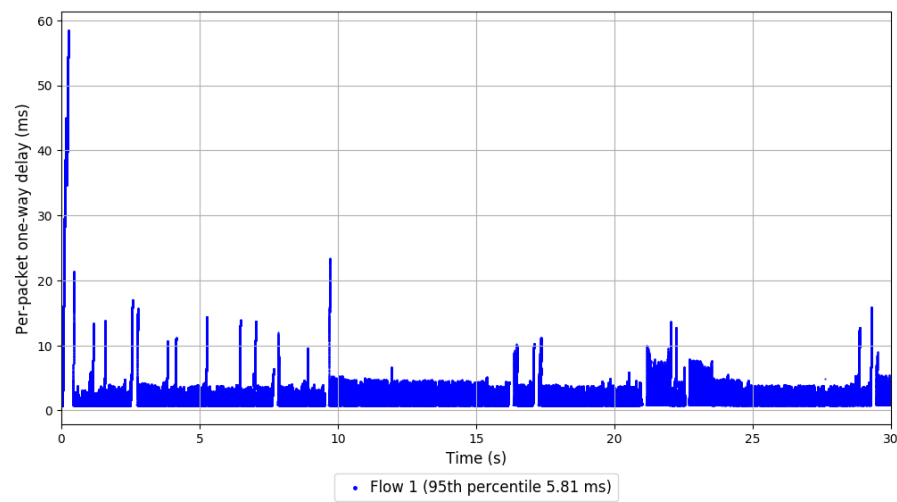
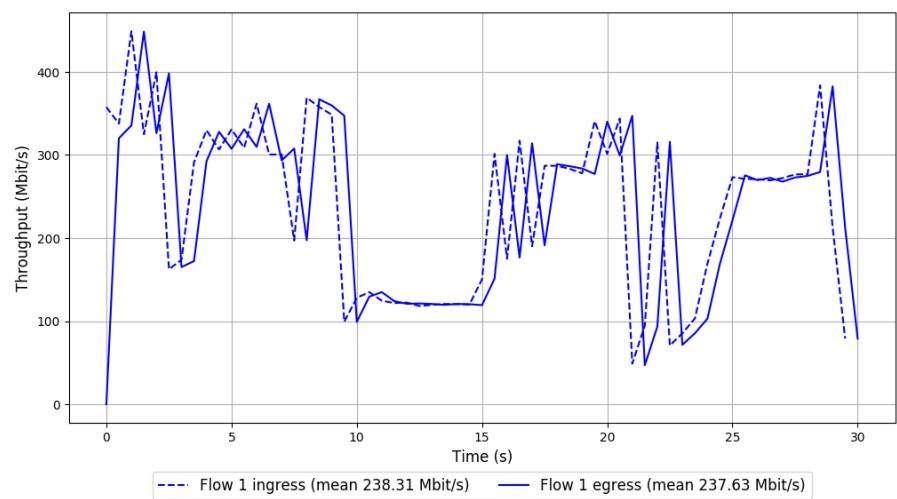


Run 5: Statistics of Verus

Start at: 2018-12-11 11:04:20
End at: 2018-12-11 11:04:50
Local clock offset: 5.508 ms
Remote clock offset: -1.772 ms

Below is generated by plot.py at 2018-12-11 12:00:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 237.63 Mbit/s
95th percentile per-packet one-way delay: 5.810 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 237.63 Mbit/s
95th percentile per-packet one-way delay: 5.810 ms
Loss rate: 0.28%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 09:03:39

End at: 2018-12-11 09:04:09

Local clock offset: 6.896 ms

Remote clock offset: 0.188 ms

Below is generated by plot.py at 2018-12-11 12:01:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 339.75 Mbit/s

95th percentile per-packet one-way delay: 1.381 ms

Loss rate: 0.00%

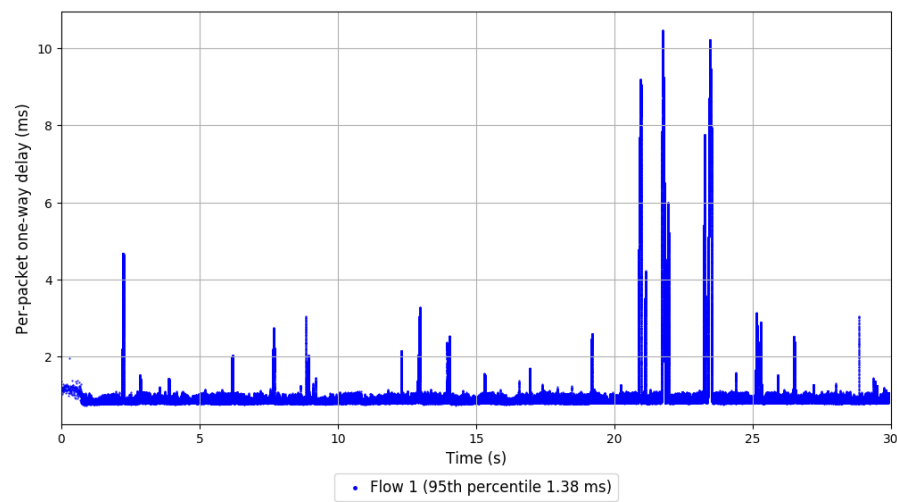
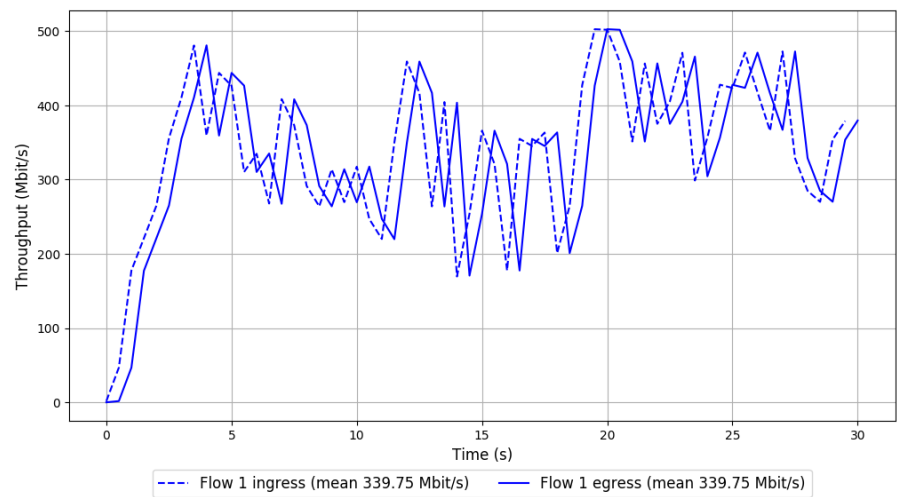
-- Flow 1:

Average throughput: 339.75 Mbit/s

95th percentile per-packet one-way delay: 1.381 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 09:30:08

End at: 2018-12-11 09:30:38

Local clock offset: 7.93 ms

Remote clock offset: 0.14 ms

Below is generated by plot.py at 2018-12-11 12:01:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 307.38 Mbit/s

95th percentile per-packet one-way delay: 1.088 ms

Loss rate: 0.00%

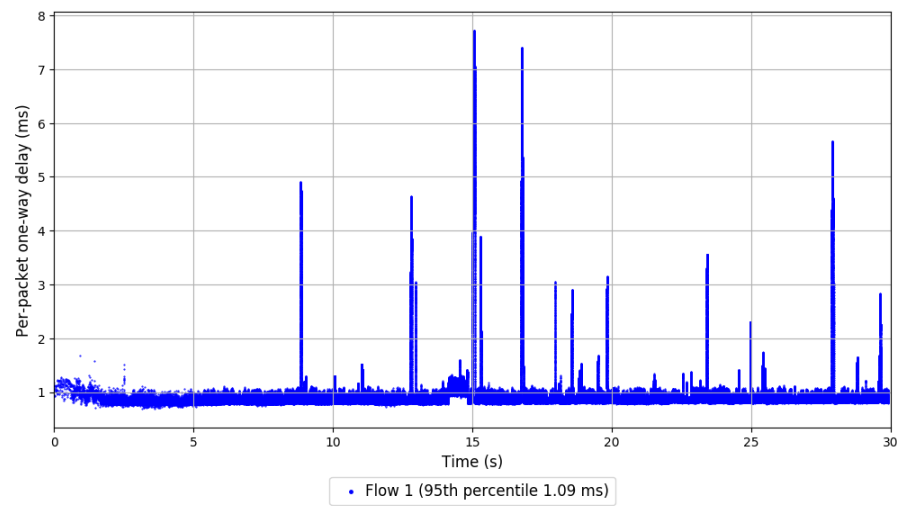
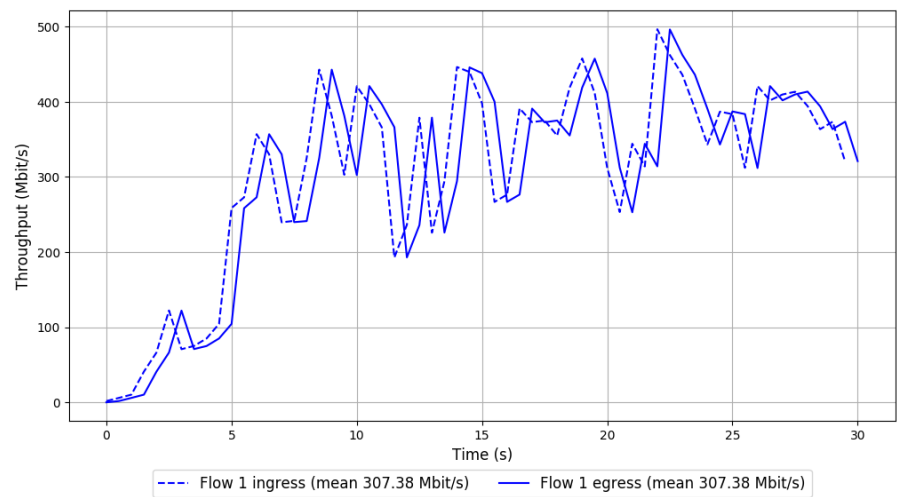
-- Flow 1:

Average throughput: 307.38 Mbit/s

95th percentile per-packet one-way delay: 1.088 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 09:56:33

End at: 2018-12-11 09:57:03

Local clock offset: 9.821 ms

Remote clock offset: -2.253 ms

Below is generated by plot.py at 2018-12-11 12:02:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 327.66 Mbit/s

95th percentile per-packet one-way delay: 1.201 ms

Loss rate: 0.01%

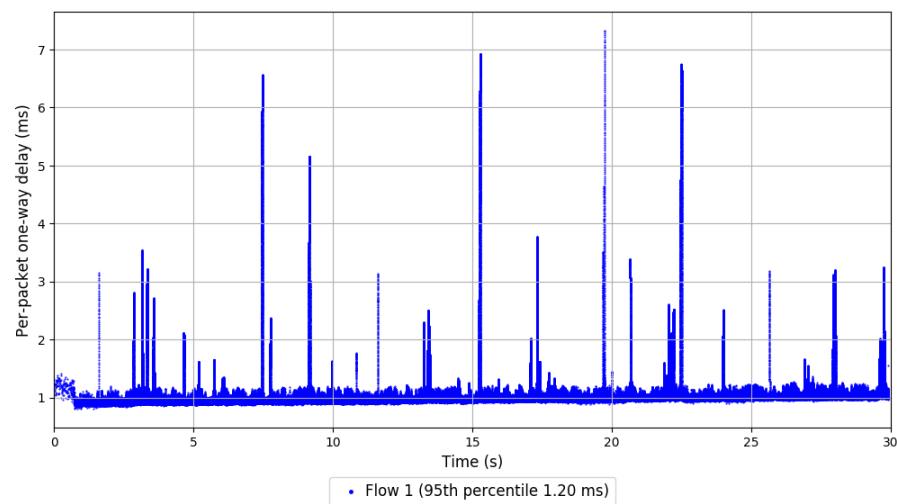
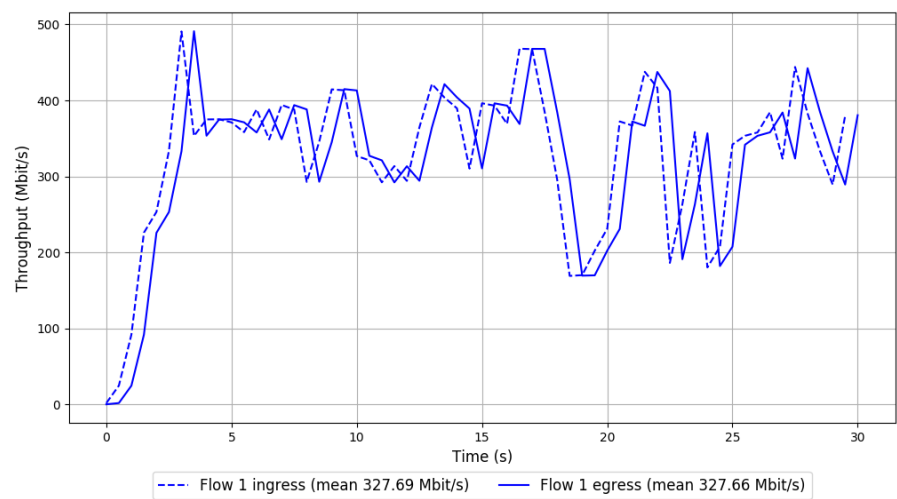
-- Flow 1:

Average throughput: 327.66 Mbit/s

95th percentile per-packet one-way delay: 1.201 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link

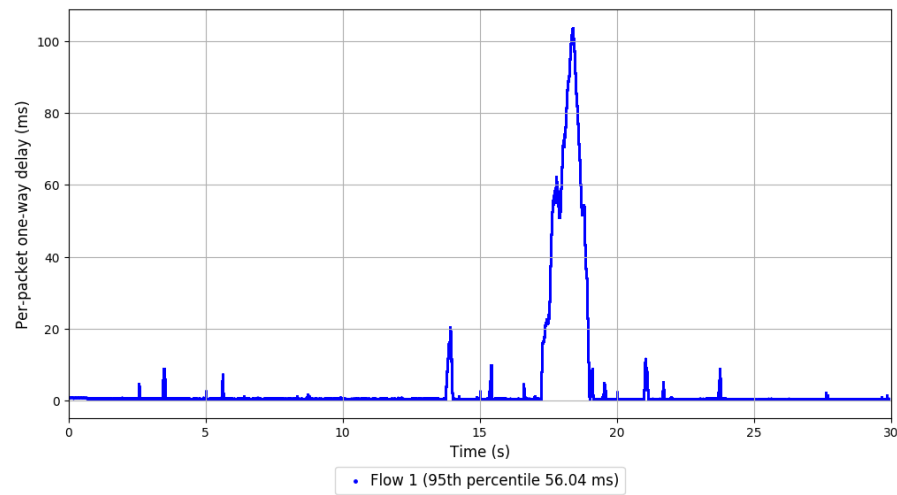
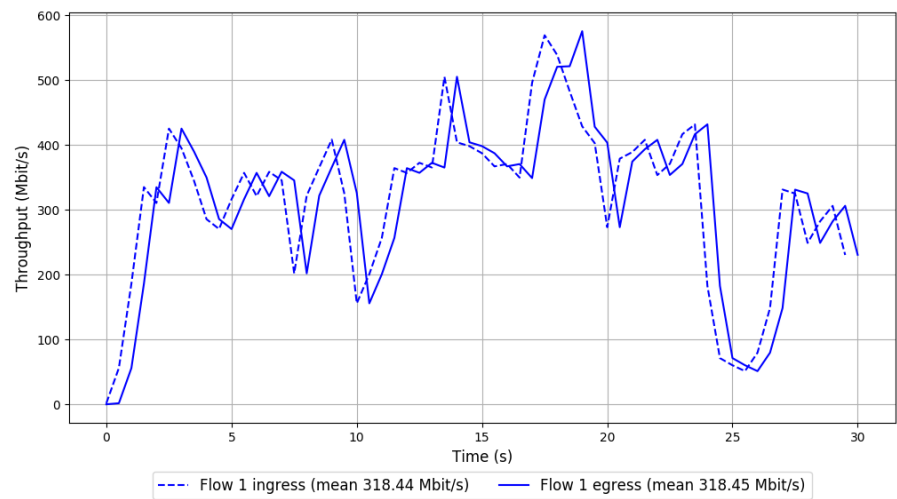


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 10:22:51
End at: 2018-12-11 10:23:21
Local clock offset: 6.512 ms
Remote clock offset: -3.456 ms

Below is generated by plot.py at 2018-12-11 12:02:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 318.45 Mbit/s
95th percentile per-packet one-way delay: 56.042 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 318.45 Mbit/s
95th percentile per-packet one-way delay: 56.042 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 10:49:04

End at: 2018-12-11 10:49:34

Local clock offset: 5.625 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2018-12-11 12:02:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 293.81 Mbit/s

95th percentile per-packet one-way delay: 1.455 ms

Loss rate: 0.00%

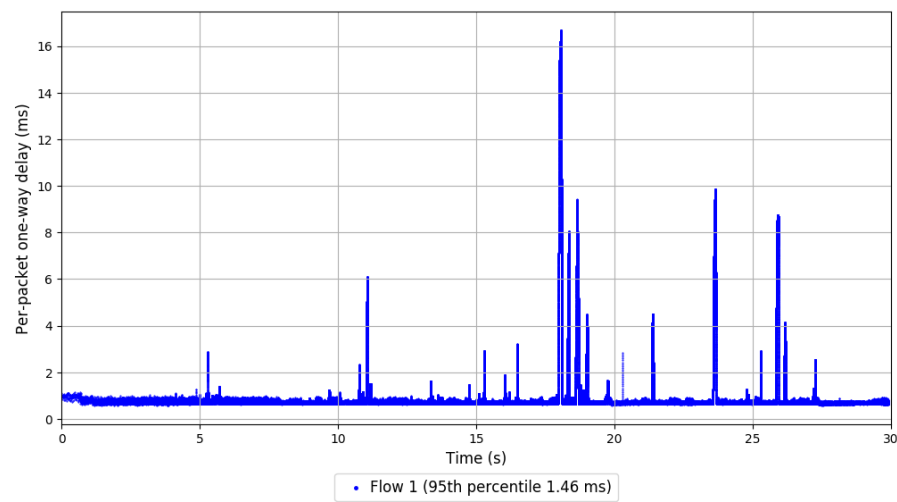
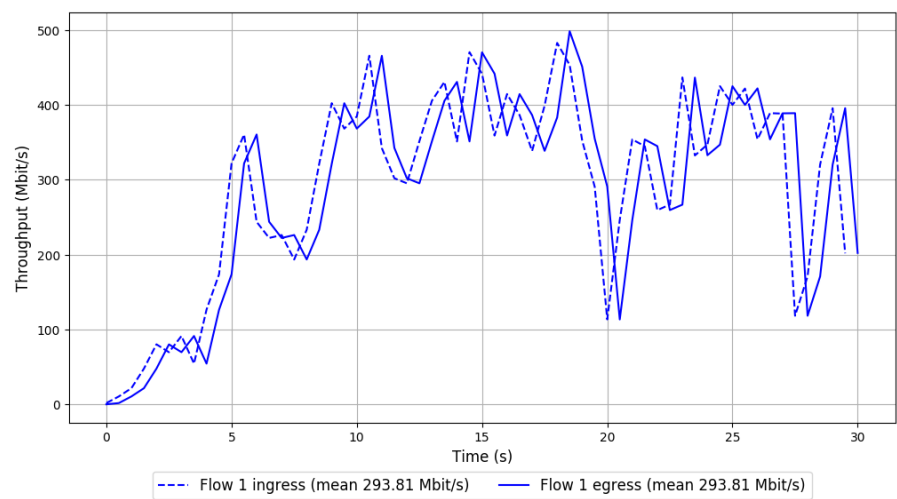
-- Flow 1:

Average throughput: 293.81 Mbit/s

95th percentile per-packet one-way delay: 1.455 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-12-11 09:12:13

End at: 2018-12-11 09:12:43

Local clock offset: 7.091 ms

Remote clock offset: 0.293 ms

Below is generated by plot.py at 2018-12-11 12:02:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 1.057 ms

Loss rate: 0.00%

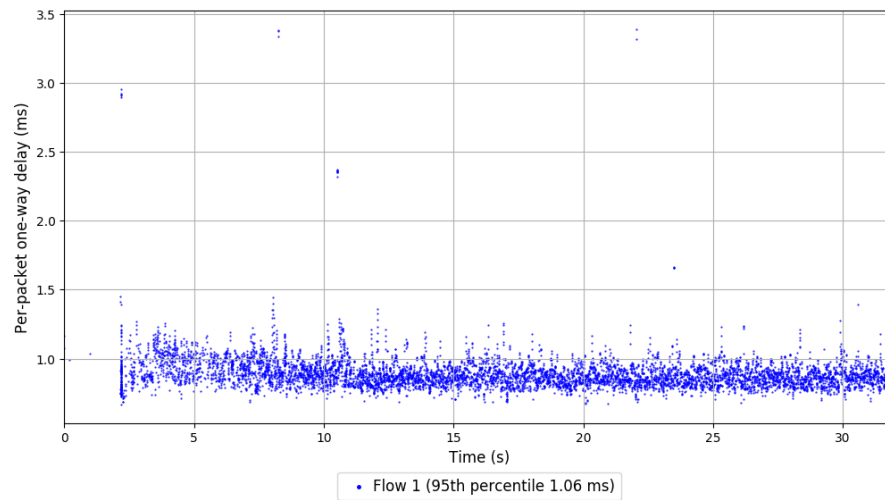
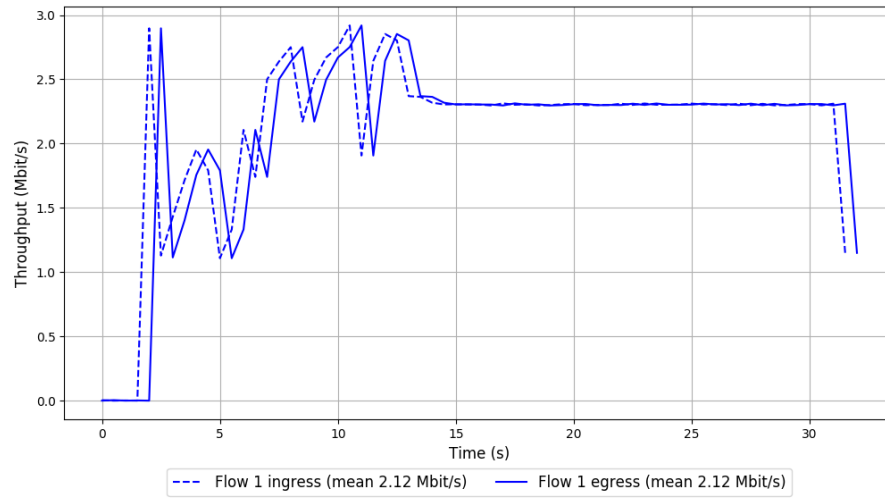
-- Flow 1:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 1.057 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-12-11 09:38:51

End at: 2018-12-11 09:39:21

Local clock offset: 8.541 ms

Remote clock offset: 0.21 ms

Below is generated by plot.py at 2018-12-11 12:02:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 1.137 ms

Loss rate: 0.00%

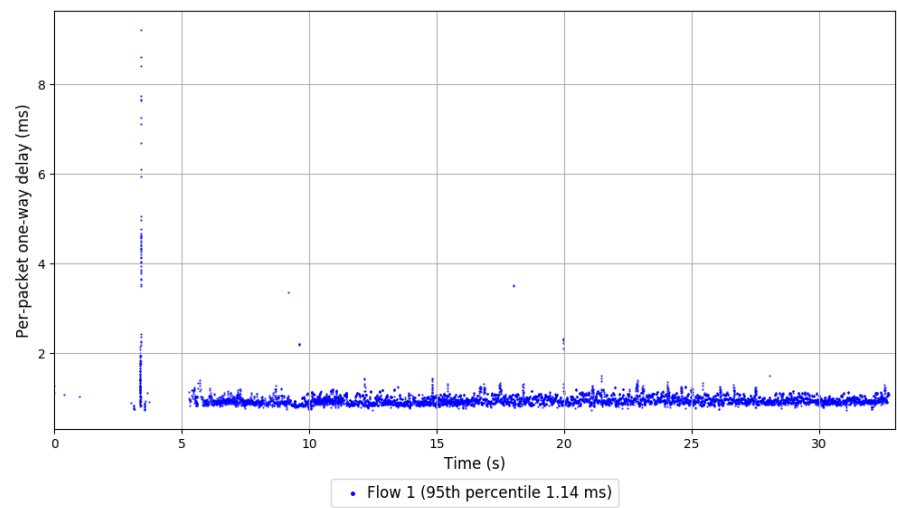
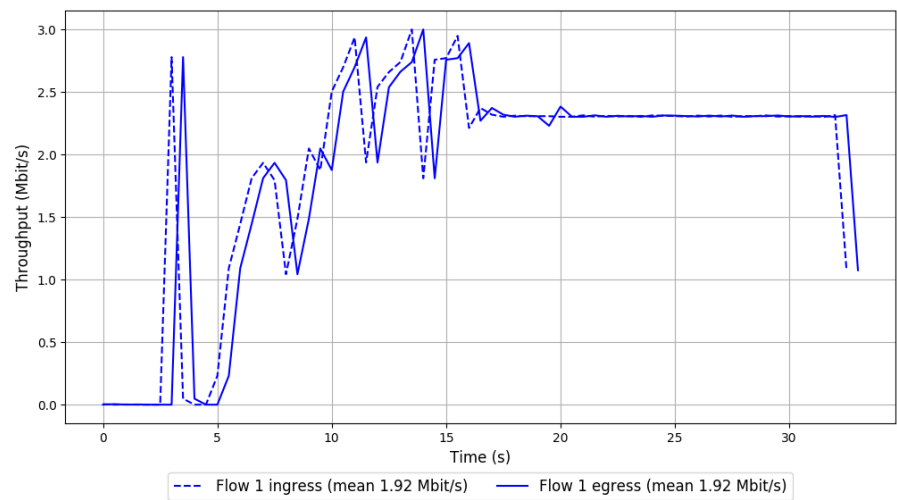
-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 1.137 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

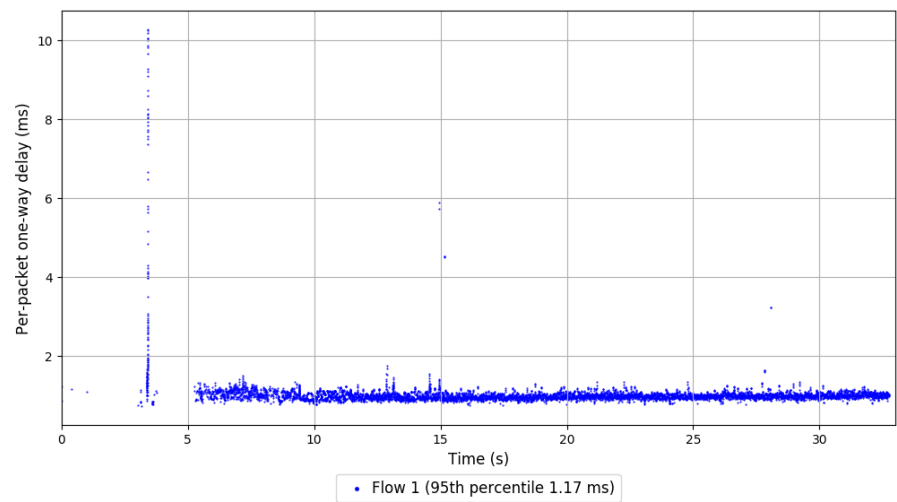
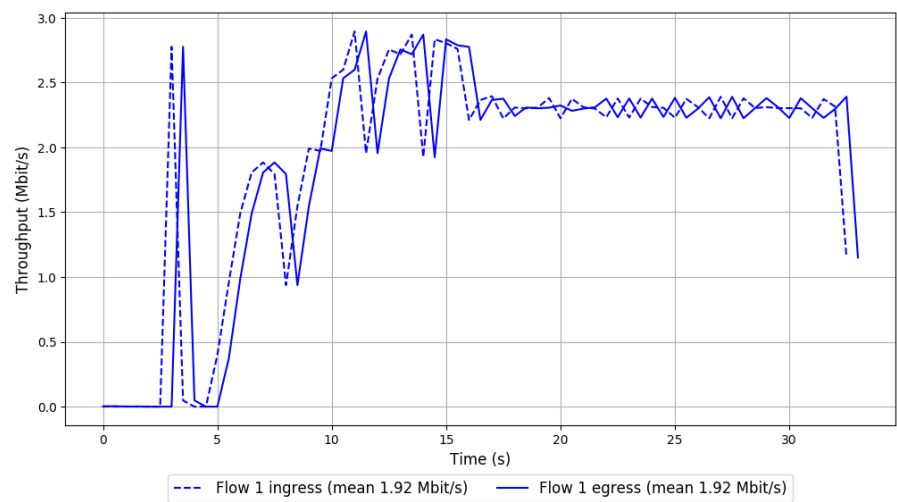


Run 3: Statistics of WebRTC media

Start at: 2018-12-11 10:05:17
End at: 2018-12-11 10:05:47
Local clock offset: 10.416 ms
Remote clock offset: -3.349 ms

Below is generated by plot.py at 2018-12-11 12:02:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-11 10:31:22

End at: 2018-12-11 10:31:52

Local clock offset: 5.785 ms

Remote clock offset: -0.99 ms

Below is generated by plot.py at 2018-12-11 12:02:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 1.015 ms

Loss rate: 0.00%

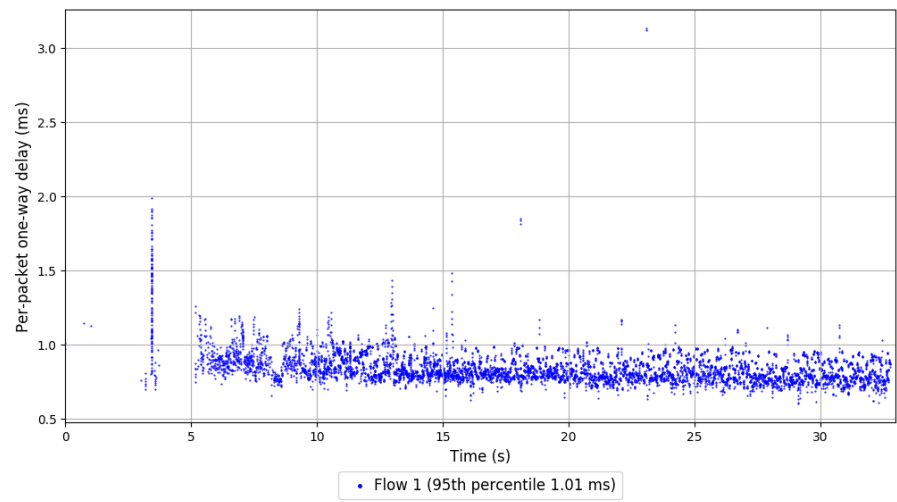
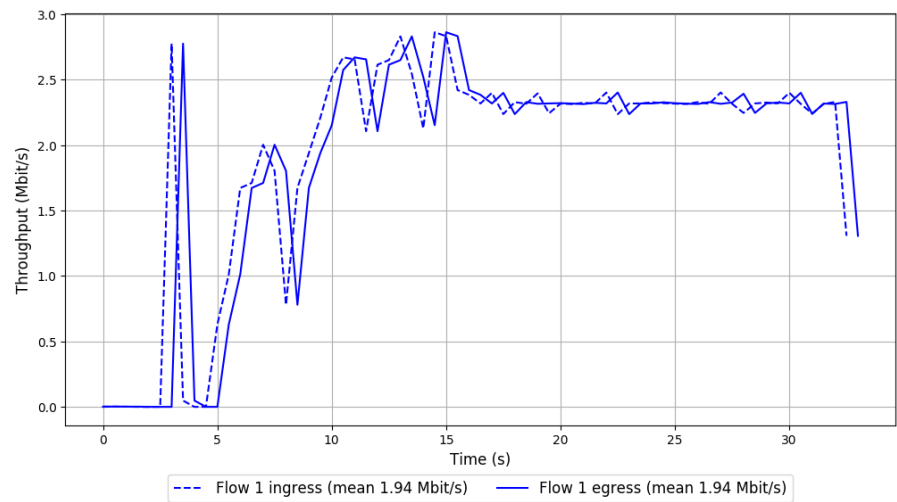
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 1.015 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-11 10:57:49
End at: 2018-12-11 10:58:19
Local clock offset: 5.575 ms
Remote clock offset: -0.293 ms

Below is generated by plot.py at 2018-12-11 12:02:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.195 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.195 ms
Loss rate: 0.09%

Run 5: Report of WebRTC media — Data Link

