

Pantheon Report

Generated at 2018-11-30 12:56:16 (UTC).

Data path: Brazil on **p4p1** (*remote*) → AWS Brazil 1 on **ens5** (*local*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

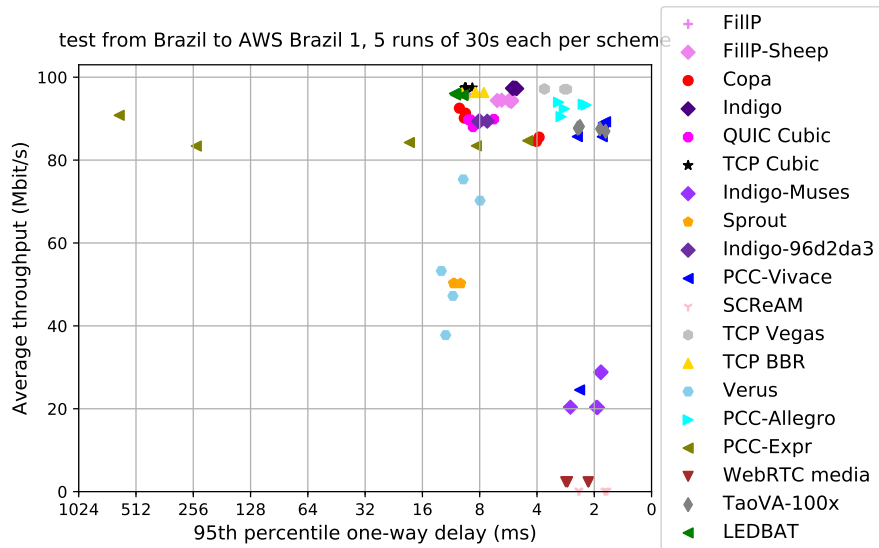
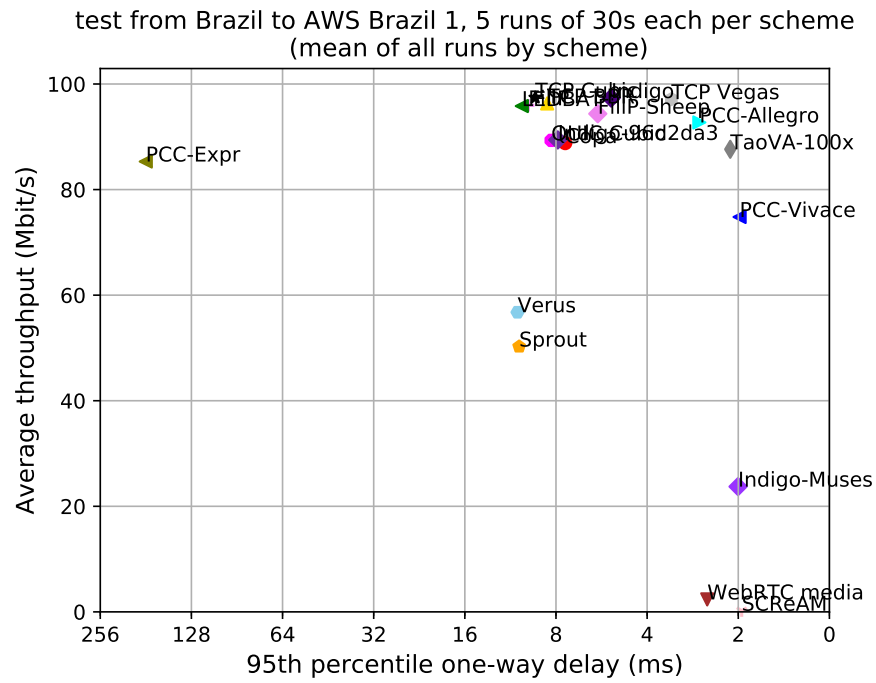
System info:

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

Git summary:

```
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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



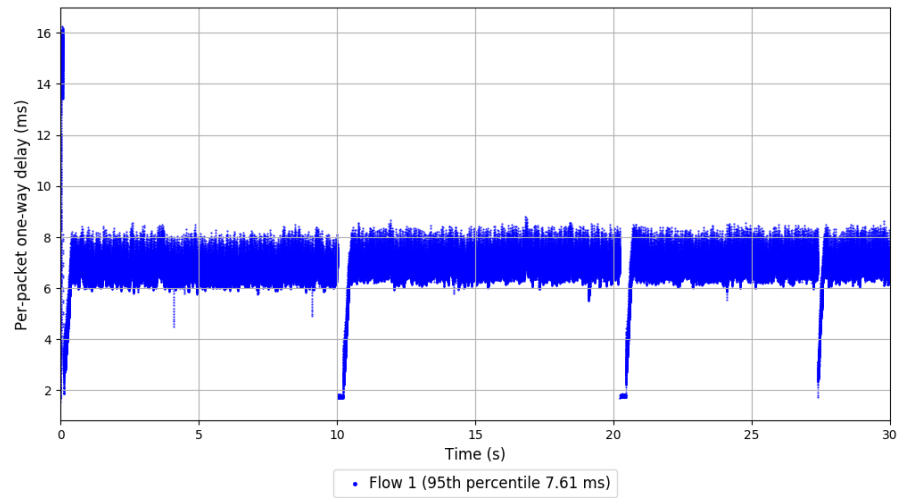
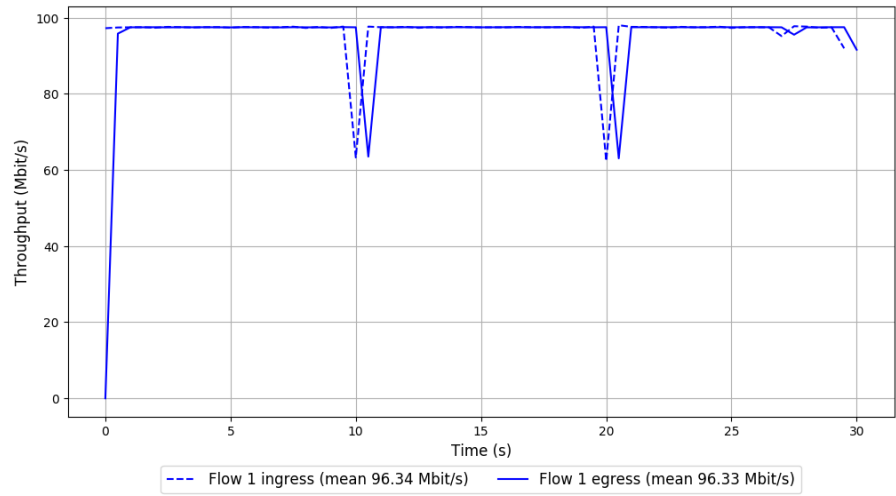
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.32	8.56	0.04
Copa	5	88.81	7.46	0.03
TCP Cubic	5	97.43	9.37	0.05
FillP	5	95.96	9.88	0.04
FillP-Sheep	5	94.36	5.82	0.02
Indigo	5	97.34	5.26	0.02
Indigo-96d2da3	5	89.40	7.89	0.02
LEDBAT	5	95.82	10.38	0.07
Indigo-Muses	5	23.73	2.00	0.01
PCC-Allegro	5	92.72	2.69	0.01
PCC-Expr	5	85.32	181.14	1.59
QUIC Cubic	5	89.32	8.30	0.02
SCReAM	5	0.22	1.92	0.03
Sprout	5	50.26	10.59	0.03
TaoVA-100x	5	87.63	2.13	0.01
TCP Vegas	5	97.13	3.33	0.01
Verus	5	56.76	10.72	0.02
PCC-Vivace	5	74.81	1.97	0.01
WebRTC media	5	2.36	2.53	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-11-30 11:11:27
End at: 2018-11-30 11:11:57
Local clock offset: -2.311 ms
Remote clock offset: -0.333 ms

Below is generated by plot.py at 2018-11-30 12:44:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.33 Mbit/s
95th percentile per-packet one-way delay: 7.608 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 96.33 Mbit/s
95th percentile per-packet one-way delay: 7.608 ms
Loss rate: 0.03%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-11-30 11:32:57

End at: 2018-11-30 11:33:27

Local clock offset: -2.656 ms

Remote clock offset: 0.03 ms

Below is generated by plot.py at 2018-11-30 12:44:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 8.450 ms

Loss rate: 0.03%

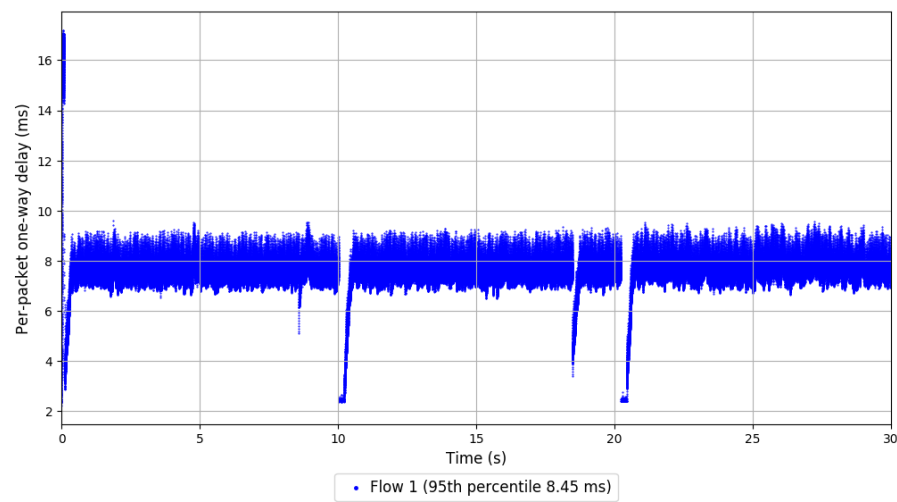
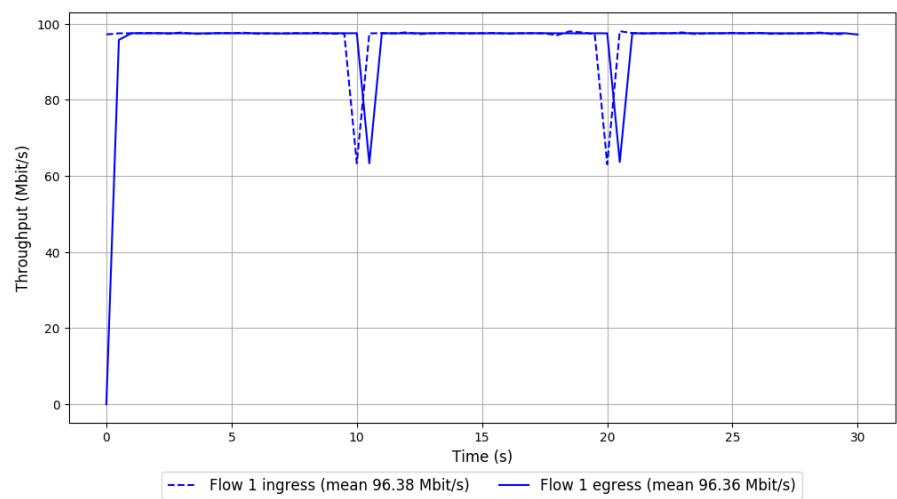
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 8.450 ms

Loss rate: 0.03%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-11-30 11:54:27

End at: 2018-11-30 11:54:57

Local clock offset: -2.475 ms

Remote clock offset: 0.281 ms

Below is generated by plot.py at 2018-11-30 12:44:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 8.416 ms

Loss rate: 0.03%

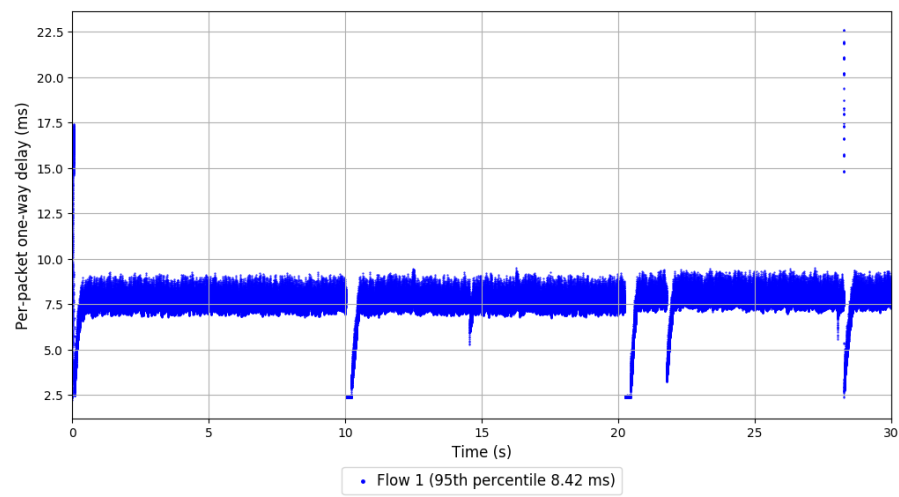
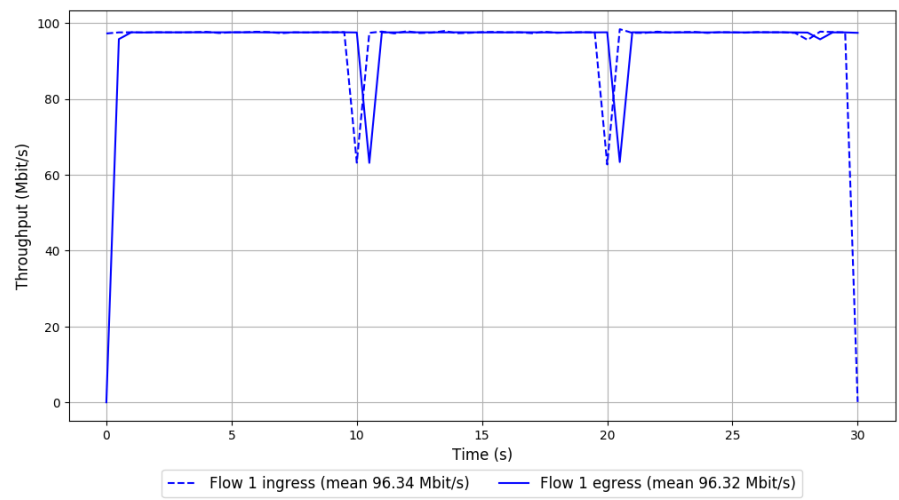
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 8.416 ms

Loss rate: 0.03%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-11-30 12:15:52

End at: 2018-11-30 12:16:22

Local clock offset: -2.5 ms

Remote clock offset: 0.454 ms

Below is generated by plot.py at 2018-11-30 12:44:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 8.409 ms

Loss rate: 0.03%

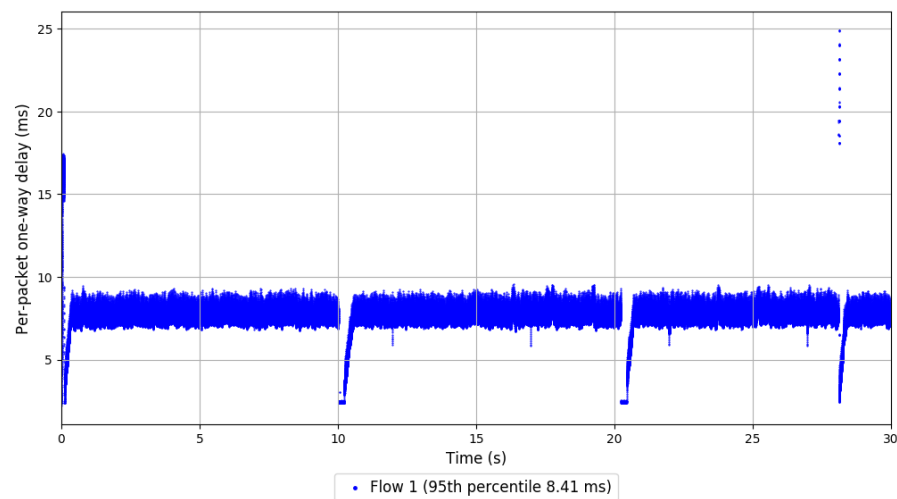
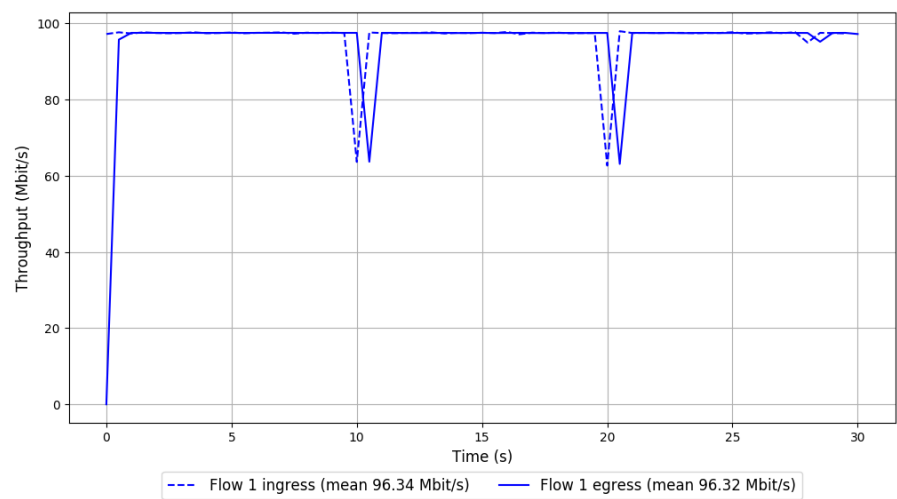
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 8.409 ms

Loss rate: 0.03%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-11-30 12:37:22

End at: 2018-11-30 12:37:52

Local clock offset: -3.446 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2018-11-30 12:44:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.902 ms

Loss rate: 0.09%

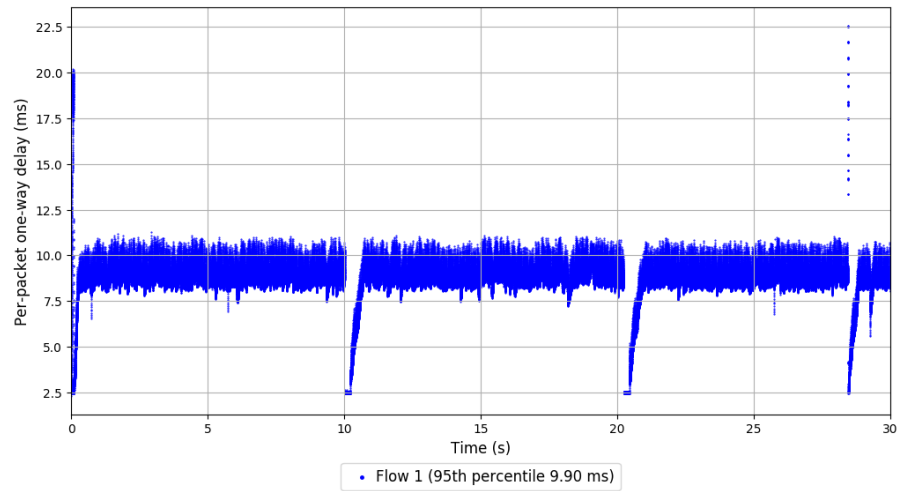
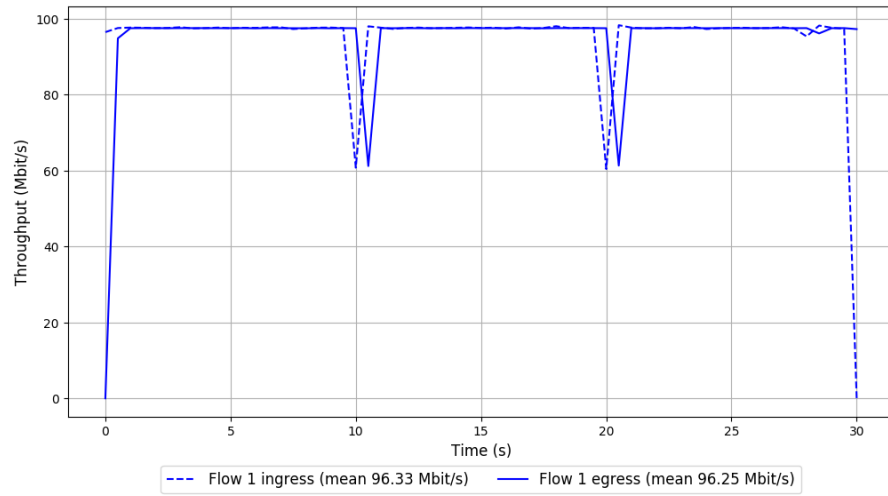
-- Flow 1:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 9.902 ms

Loss rate: 0.09%

Run 5: Report of TCP BBR — Data Link

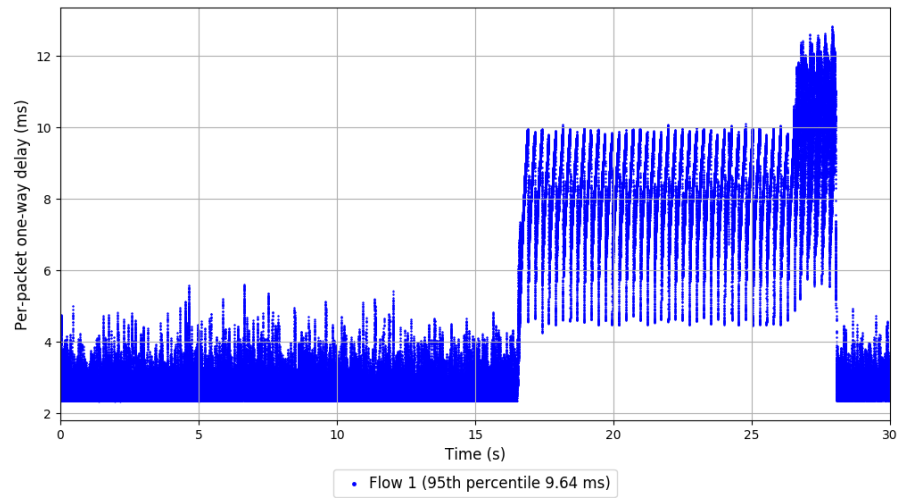
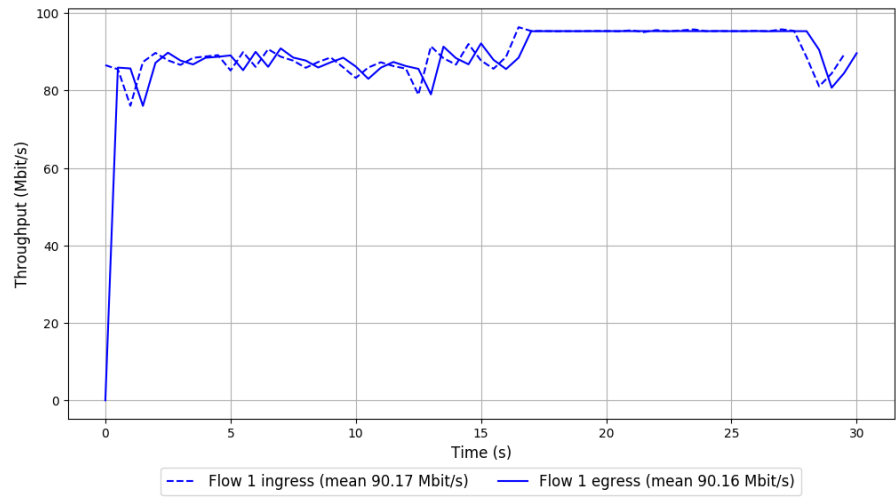


Run 1: Statistics of Copa

Start at: 2018-11-30 11:10:15
End at: 2018-11-30 11:10:45
Local clock offset: -1.52 ms
Remote clock offset: -0.243 ms

Below is generated by plot.py at 2018-11-30 12:45:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.16 Mbit/s
95th percentile per-packet one-way delay: 9.645 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 90.16 Mbit/s
95th percentile per-packet one-way delay: 9.645 ms
Loss rate: 0.02%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-11-30 11:31:45

End at: 2018-11-30 11:32:15

Local clock offset: -3.437 ms

Remote clock offset: 0.007 ms

Below is generated by plot.py at 2018-11-30 12:45:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.53 Mbit/s

95th percentile per-packet one-way delay: 10.225 ms

Loss rate: 0.04%

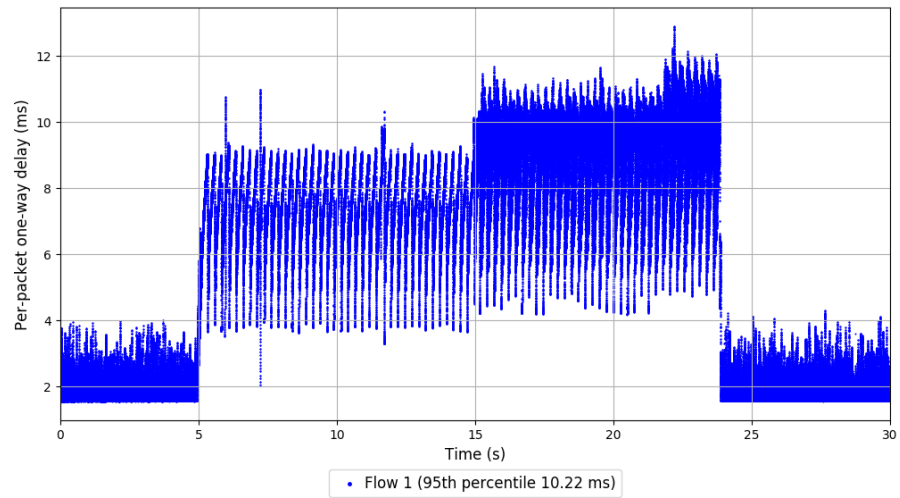
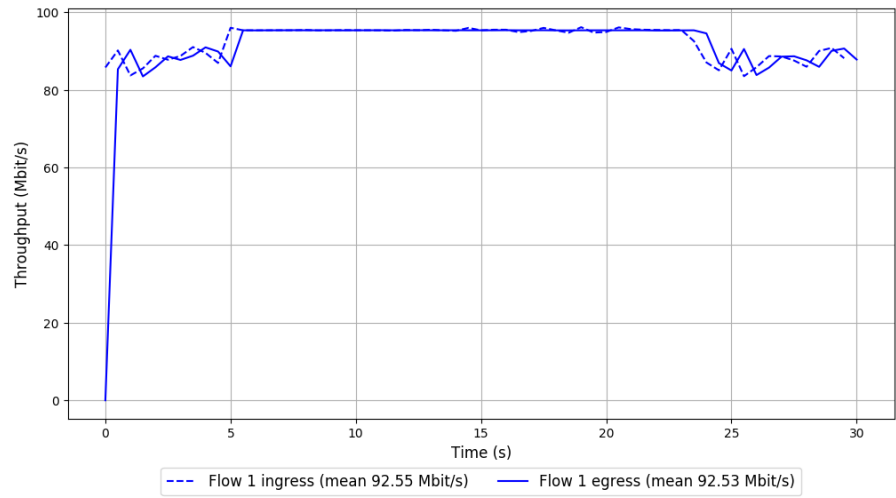
-- Flow 1:

Average throughput: 92.53 Mbit/s

95th percentile per-packet one-way delay: 10.225 ms

Loss rate: 0.04%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-11-30 11:53:16

End at: 2018-11-30 11:53:46

Local clock offset: -2.574 ms

Remote clock offset: 0.265 ms

Below is generated by plot.py at 2018-11-30 12:45:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.32 Mbit/s

95th percentile per-packet one-way delay: 9.494 ms

Loss rate: 0.05%

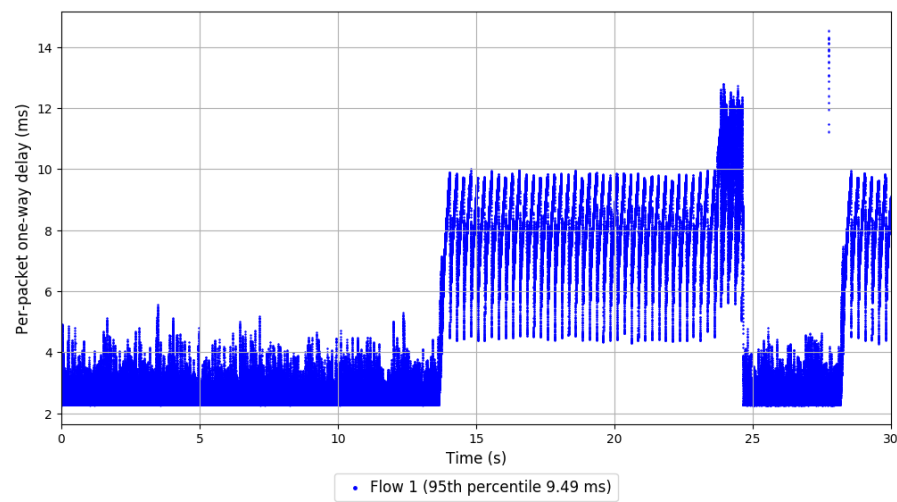
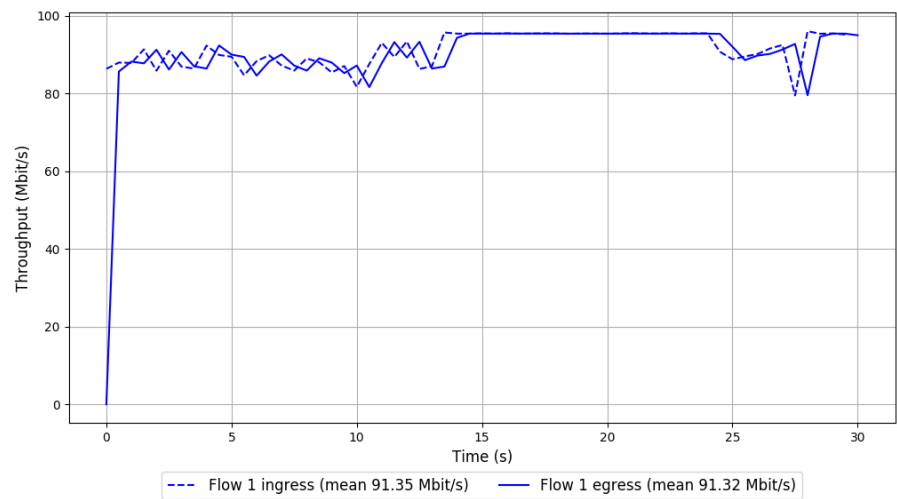
-- Flow 1:

Average throughput: 91.32 Mbit/s

95th percentile per-packet one-way delay: 9.494 ms

Loss rate: 0.05%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-11-30 12:14:42

End at: 2018-11-30 12:15:12

Local clock offset: -2.444 ms

Remote clock offset: 0.304 ms

Below is generated by plot.py at 2018-11-30 12:46:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.50 Mbit/s

95th percentile per-packet one-way delay: 4.024 ms

Loss rate: 0.01%

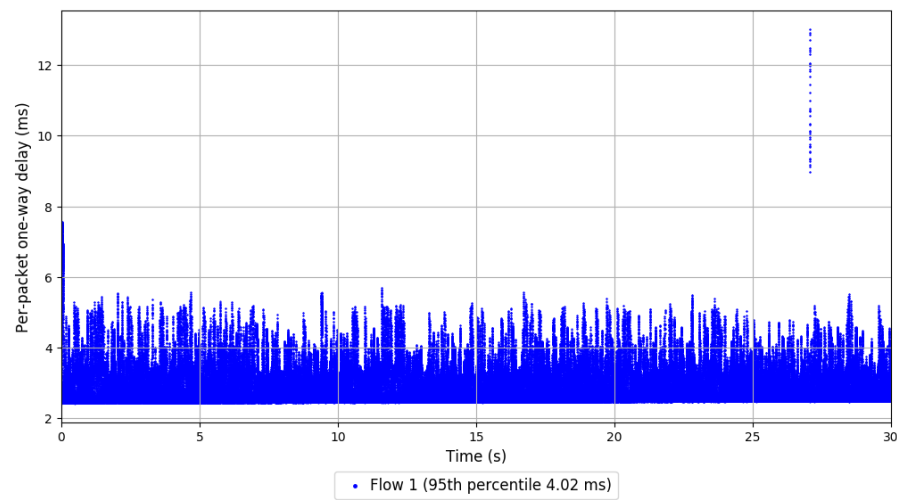
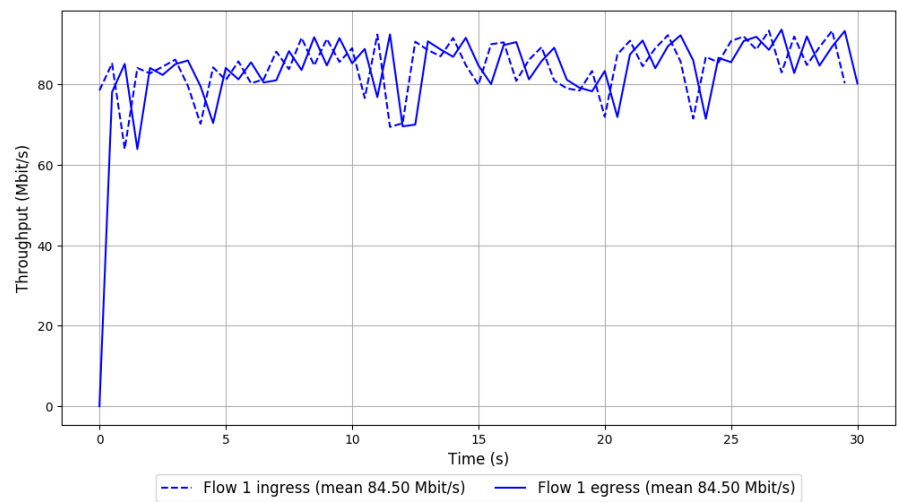
-- Flow 1:

Average throughput: 84.50 Mbit/s

95th percentile per-packet one-way delay: 4.024 ms

Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-11-30 12:36:12

End at: 2018-11-30 12:36:42

Local clock offset: -3.476 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2018-11-30 12:46:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.54 Mbit/s

95th percentile per-packet one-way delay: 3.898 ms

Loss rate: 0.01%

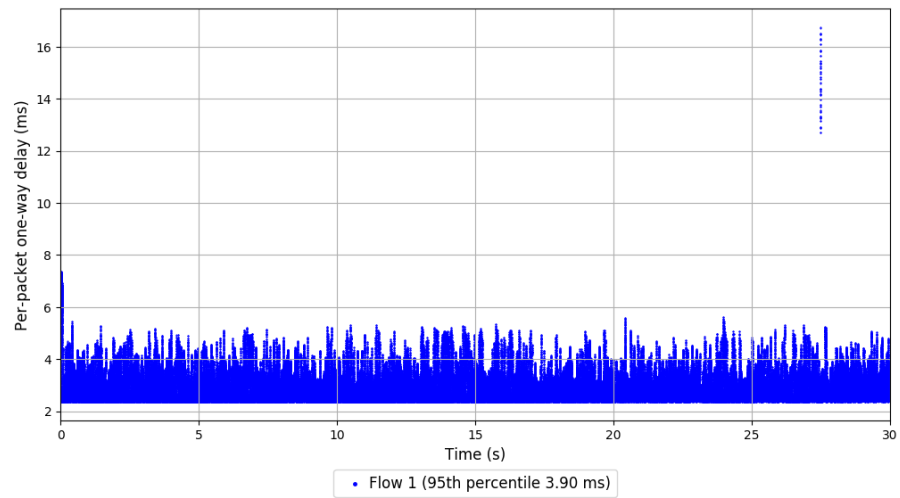
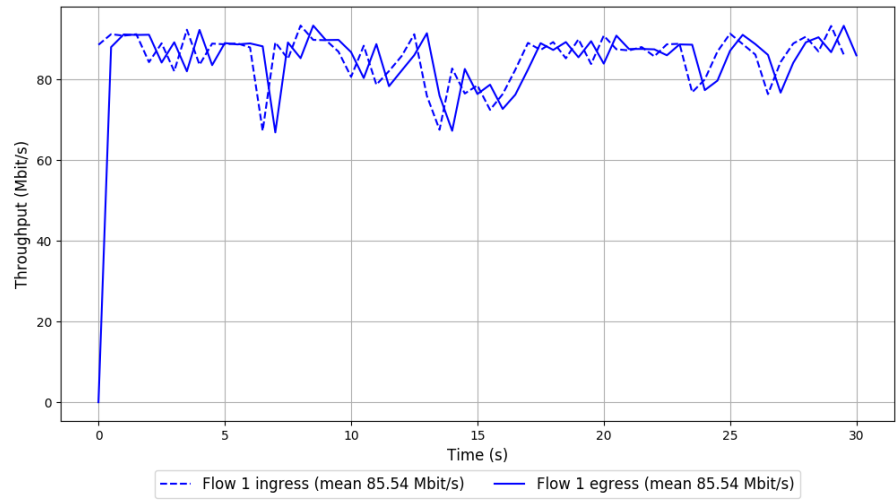
-- Flow 1:

Average throughput: 85.54 Mbit/s

95th percentile per-packet one-way delay: 3.898 ms

Loss rate: 0.01%

Run 5: Report of Copa — Data Link

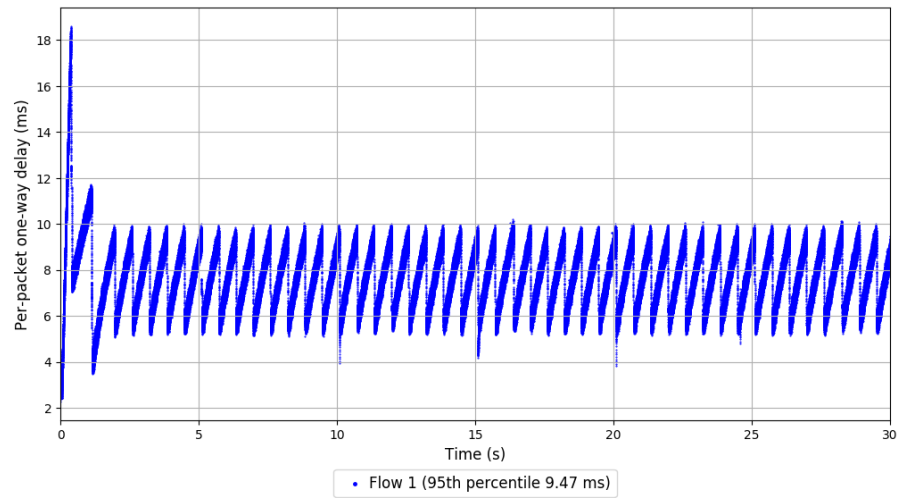
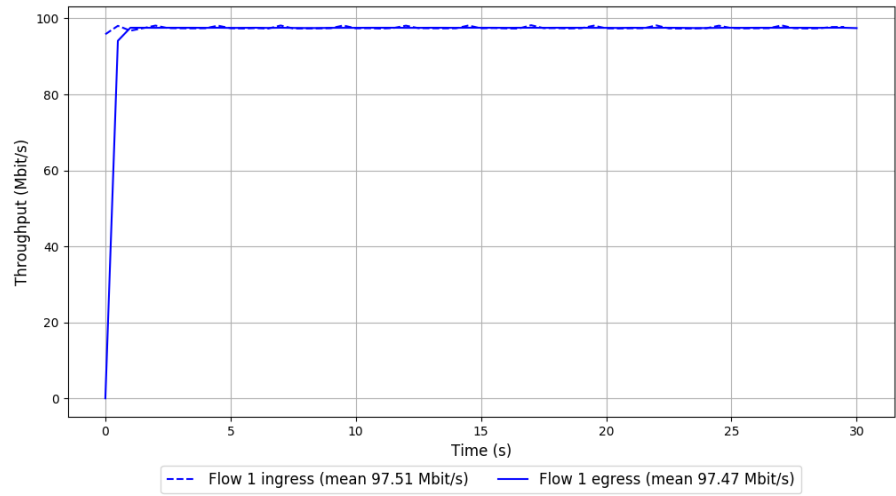


Run 1: Statistics of TCP Cubic

Start at: 2018-11-30 11:05:42
End at: 2018-11-30 11:06:12
Local clock offset: -1.464 ms
Remote clock offset: -0.432 ms

Below is generated by plot.py at 2018-11-30 12:46:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.474 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.474 ms
Loss rate: 0.05%

Run 1: Report of TCP Cubic — Data Link

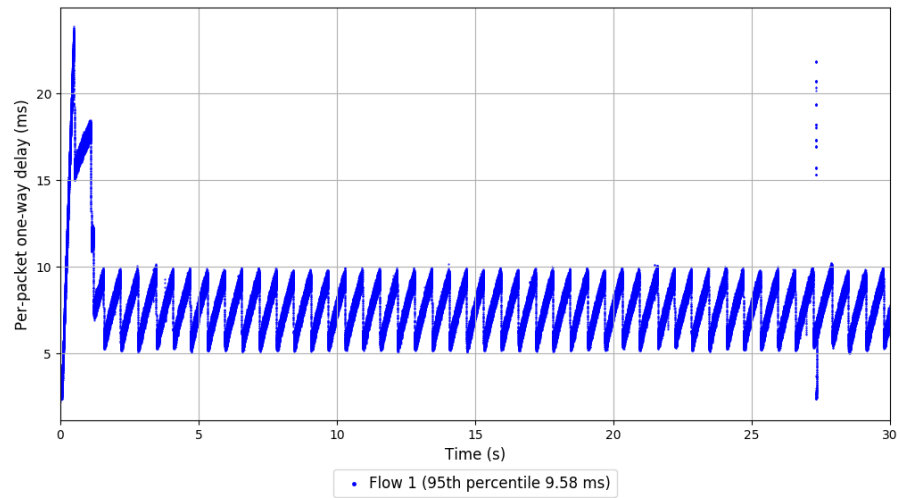
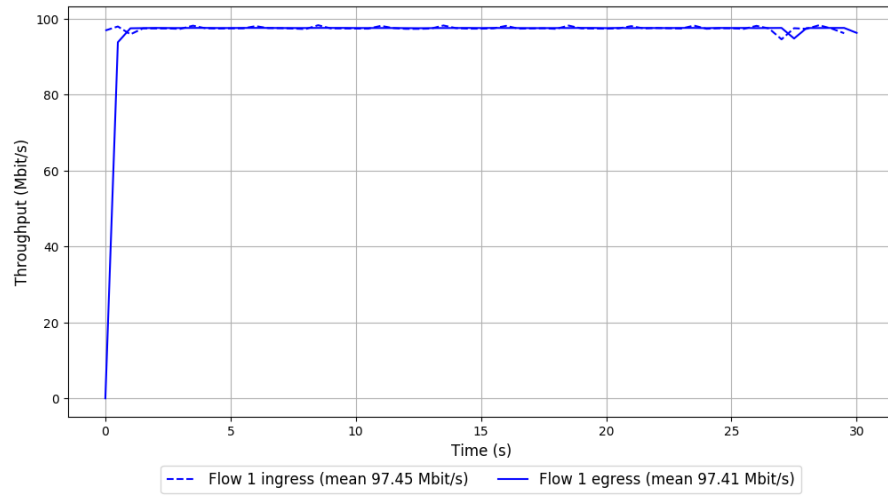


Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 11:27:12
End at: 2018-11-30 11:27:42
Local clock offset: -2.477 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-11-30 12:46:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 9.579 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 9.579 ms
Loss rate: 0.05%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 11:48:43

End at: 2018-11-30 11:49:13

Local clock offset: -2.669 ms

Remote clock offset: 0.226 ms

Below is generated by plot.py at 2018-11-30 12:46:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 9.488 ms

Loss rate: 0.05%

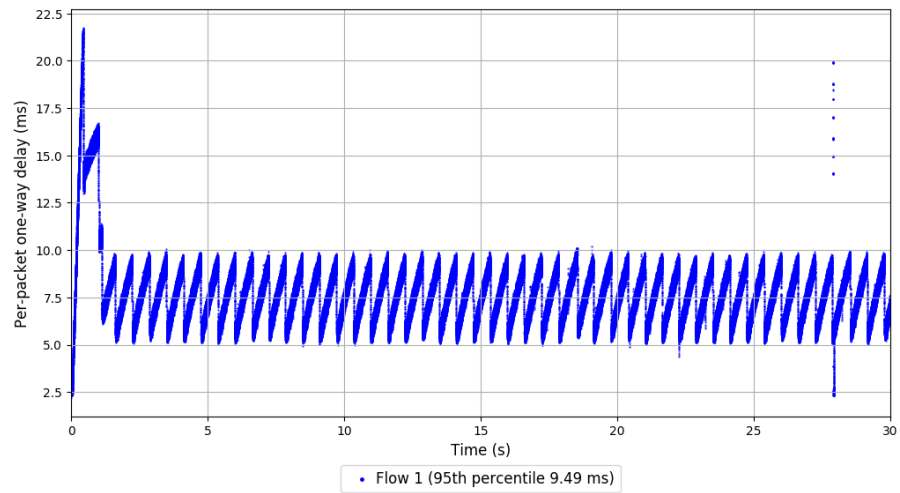
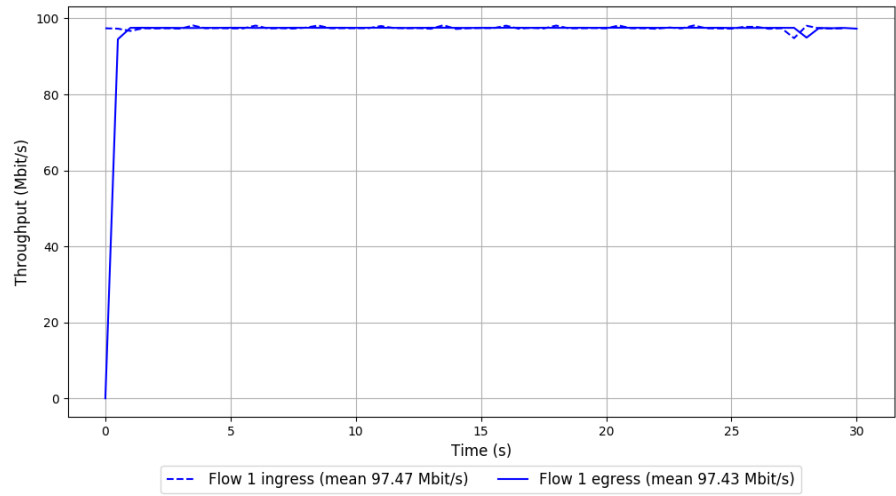
-- Flow 1:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 9.488 ms

Loss rate: 0.05%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 12:10:09

End at: 2018-11-30 12:10:39

Local clock offset: -2.359 ms

Remote clock offset: 0.363 ms

Below is generated by plot.py at 2018-11-30 12:46:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 9.564 ms

Loss rate: 0.05%

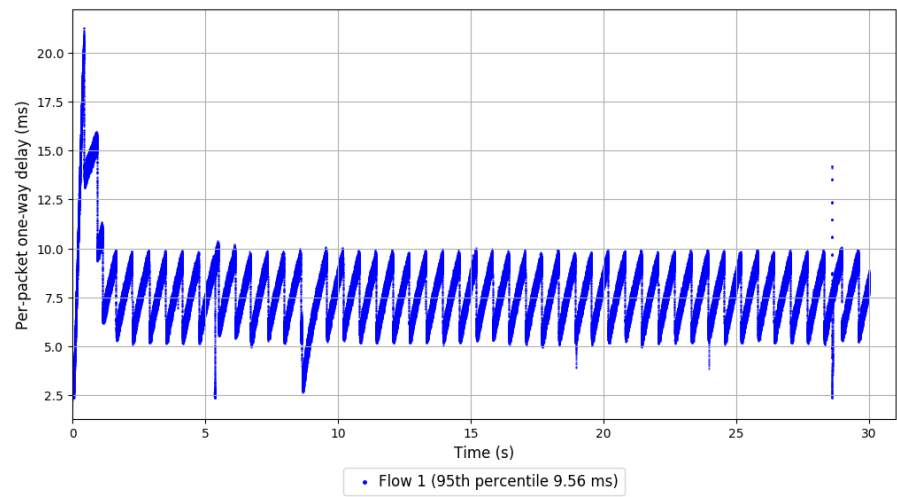
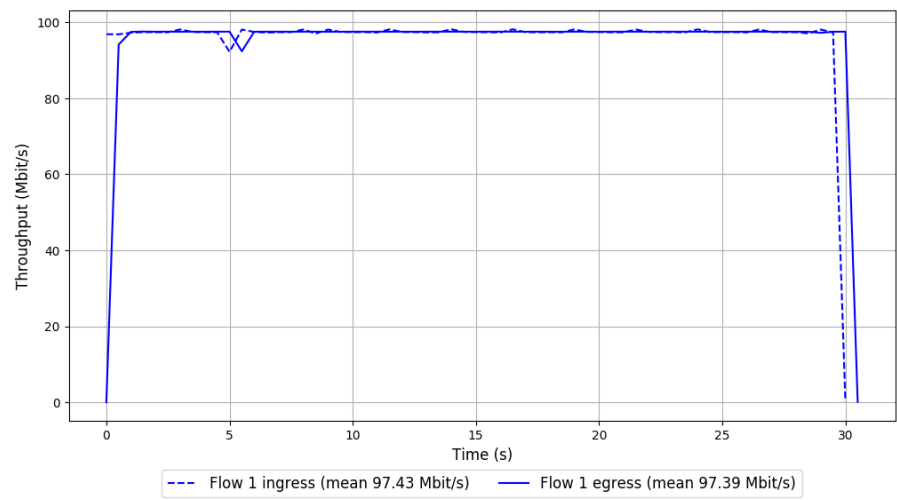
-- Flow 1:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 9.564 ms

Loss rate: 0.05%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 12:31:38

End at: 2018-11-30 12:32:09

Local clock offset: -4.089 ms

Remote clock offset: 0.529 ms

Below is generated by plot.py at 2018-11-30 12:46:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 8.741 ms

Loss rate: 0.05%

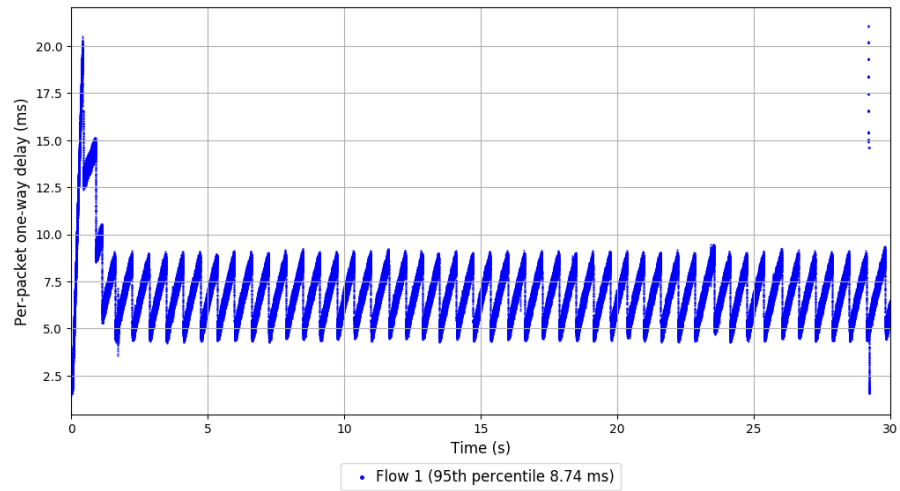
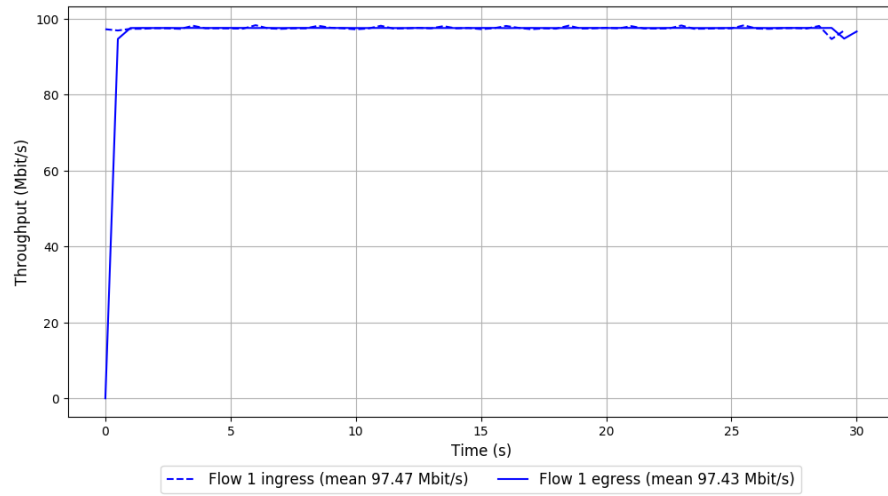
-- Flow 1:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 8.741 ms

Loss rate: 0.05%

Run 5: Report of TCP Cubic — Data Link

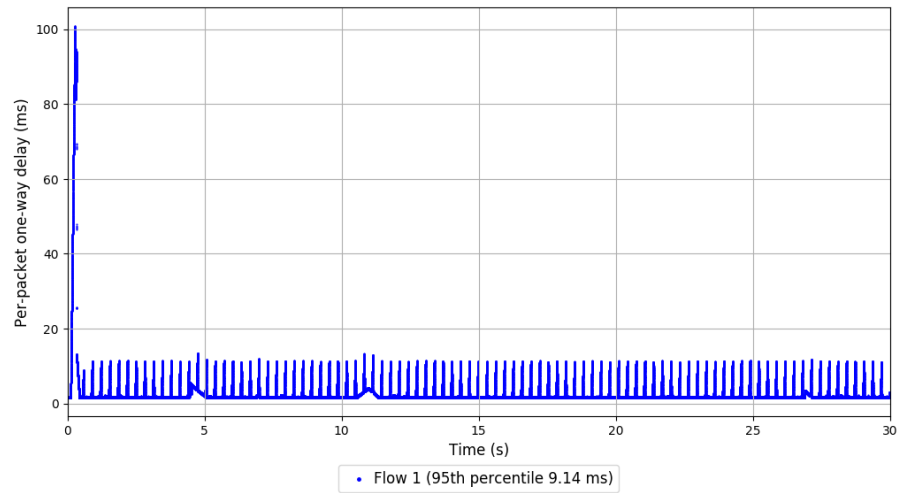
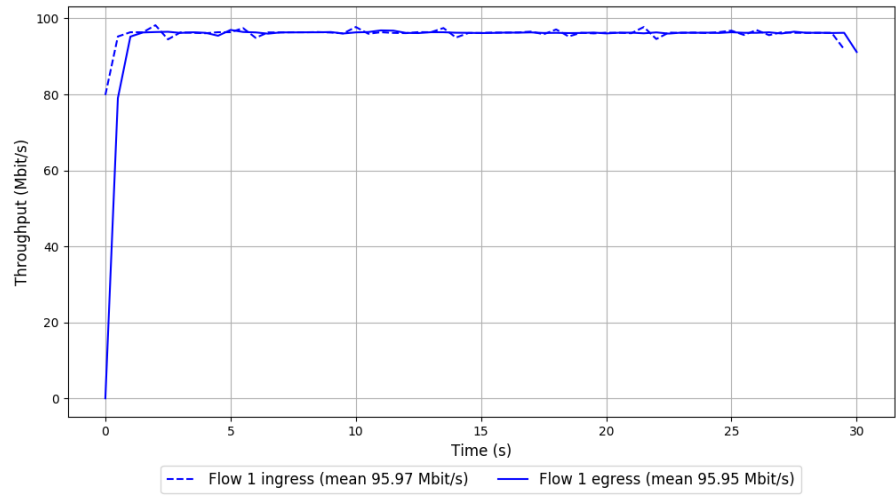


Run 1: Statistics of FillP

Start at: 2018-11-30 11:13:44
End at: 2018-11-30 11:14:14
Local clock offset: -2.341 ms
Remote clock offset: -0.308 ms

Below is generated by plot.py at 2018-11-30 12:46:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 9.144 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 9.144 ms
Loss rate: 0.03%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-11-30 11:35:14

End at: 2018-11-30 11:35:44

Local clock offset: -3.554 ms

Remote clock offset: 0.006 ms

Below is generated by plot.py at 2018-11-30 12:46:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 10.023 ms

Loss rate: 0.01%

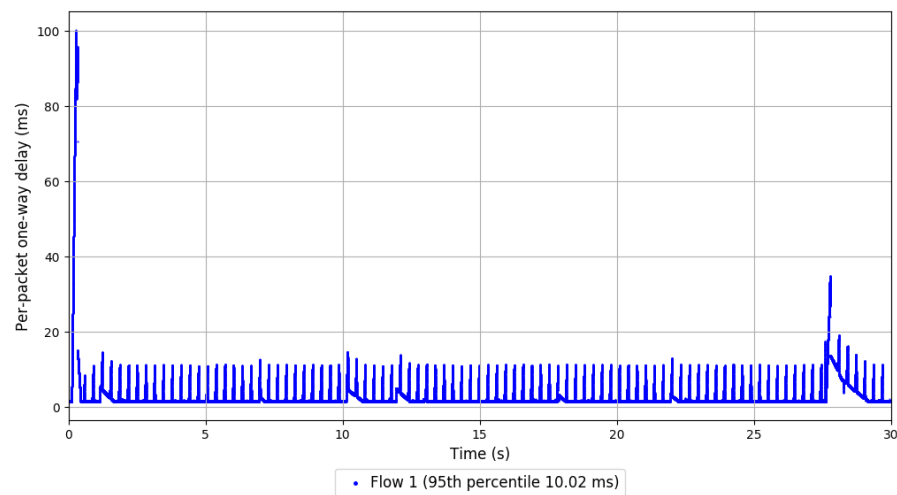
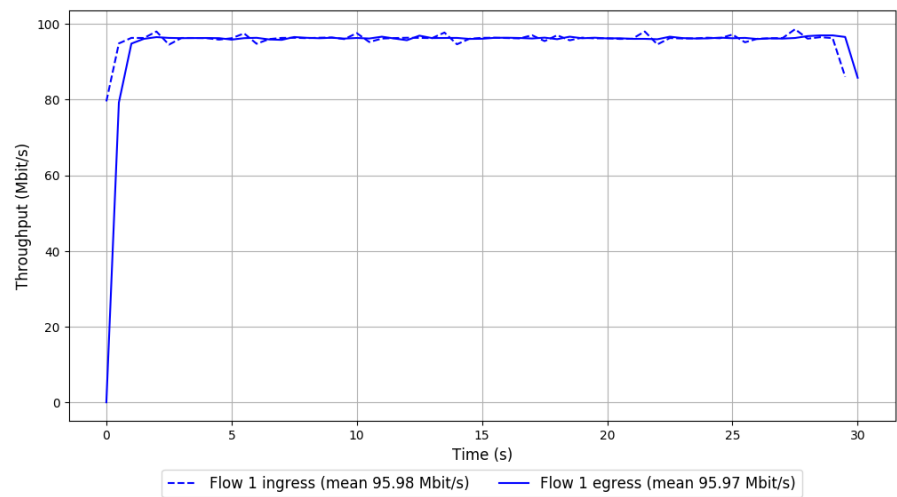
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 10.023 ms

Loss rate: 0.01%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-11-30 11:56:41

End at: 2018-11-30 11:57:11

Local clock offset: -2.437 ms

Remote clock offset: 0.371 ms

Below is generated by plot.py at 2018-11-30 12:46:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 10.492 ms

Loss rate: 0.04%

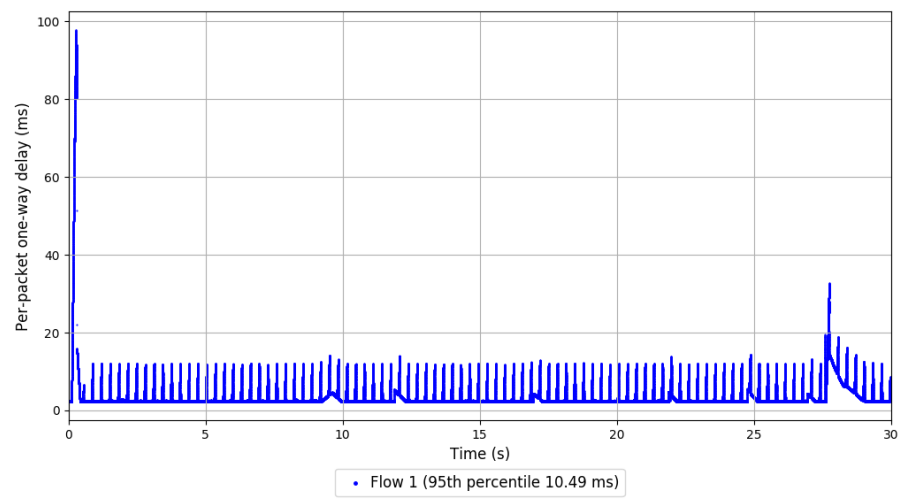
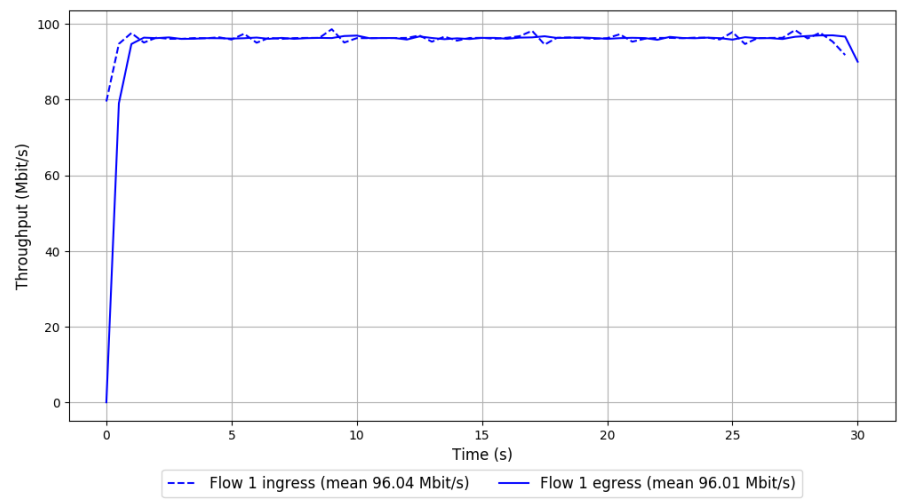
-- Flow 1:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 10.492 ms

Loss rate: 0.04%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-11-30 12:18:09

End at: 2018-11-30 12:18:39

Local clock offset: -3.463 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2018-11-30 12:46:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 9.841 ms

Loss rate: 0.05%

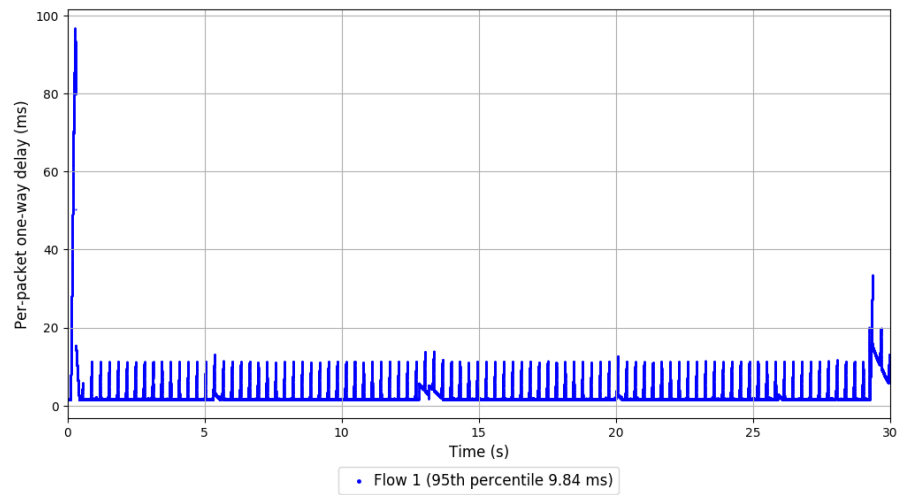
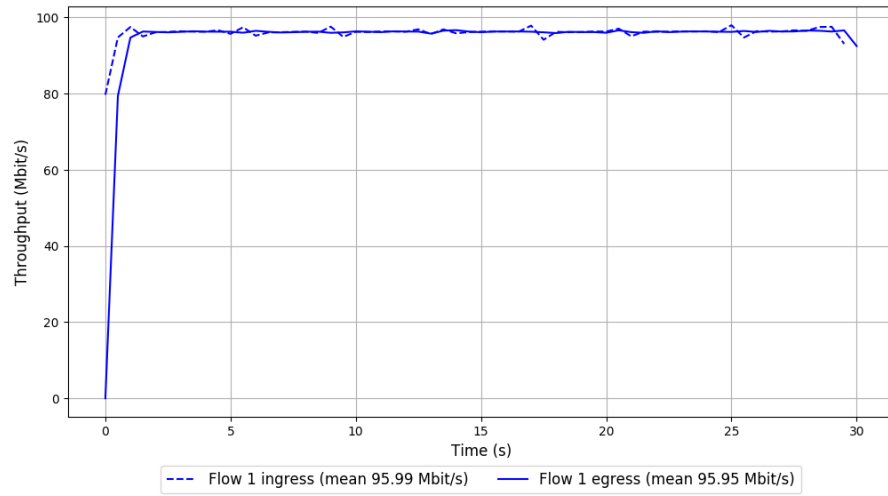
-- Flow 1:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 9.841 ms

Loss rate: 0.05%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-11-30 12:39:40

End at: 2018-11-30 12:40:10

Local clock offset: -4.274 ms

Remote clock offset: 0.495 ms

Below is generated by plot.py at 2018-11-30 12:47:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 9.886 ms

Loss rate: 0.05%

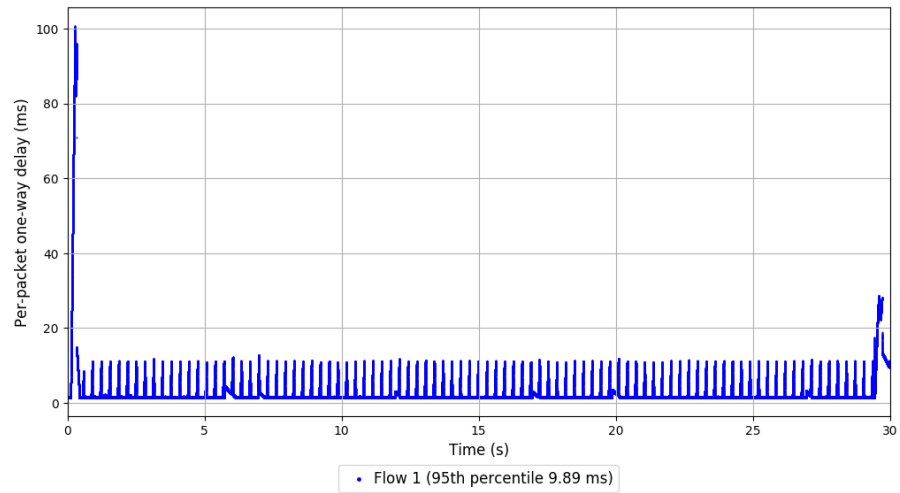
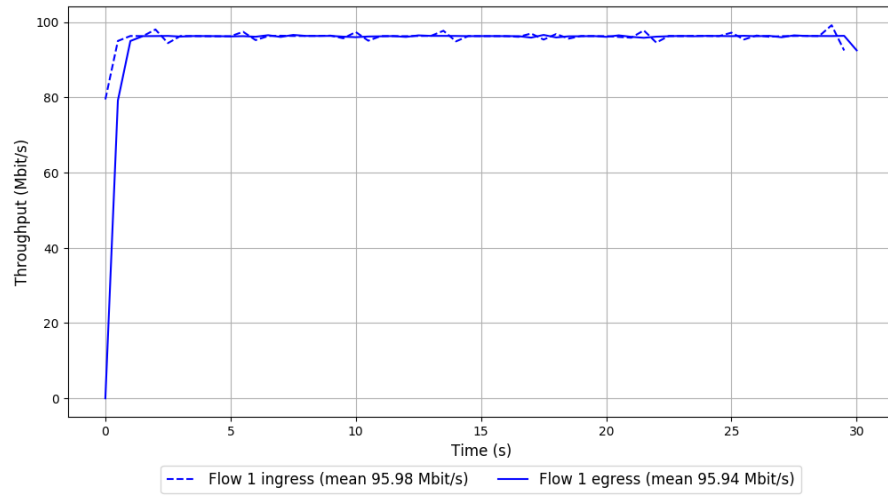
-- Flow 1:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 9.886 ms

Loss rate: 0.05%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

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

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

Local clock offset: -2.261 ms

Remote clock offset: -0.246 ms

Below is generated by plot.py at 2018-11-30 12:47:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.15 Mbit/s

95th percentile per-packet one-way delay: 5.455 ms

Loss rate: 0.01%

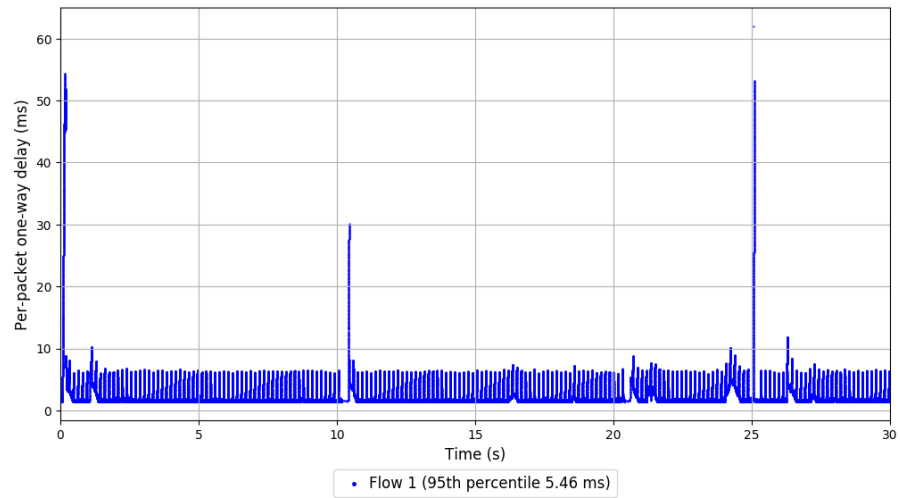
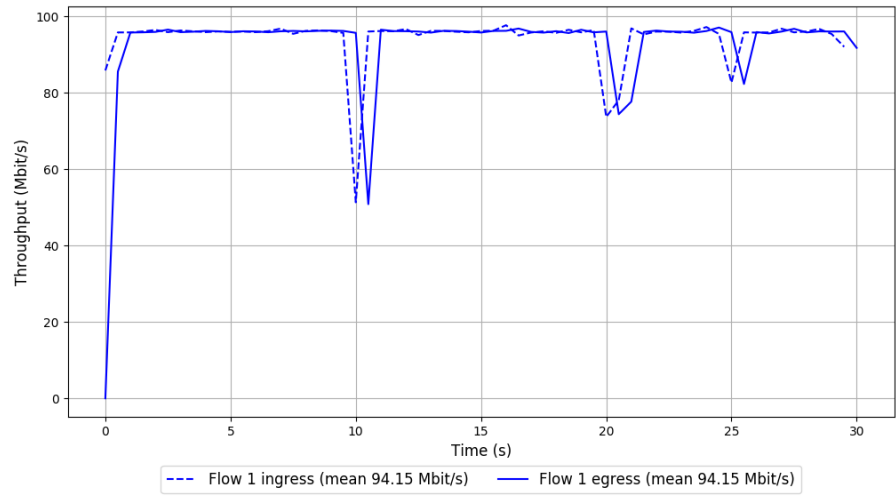
-- Flow 1:

Average throughput: 94.15 Mbit/s

95th percentile per-packet one-way delay: 5.455 ms

Loss rate: 0.01%

Run 1: Report of FillP-Sheep — Data Link

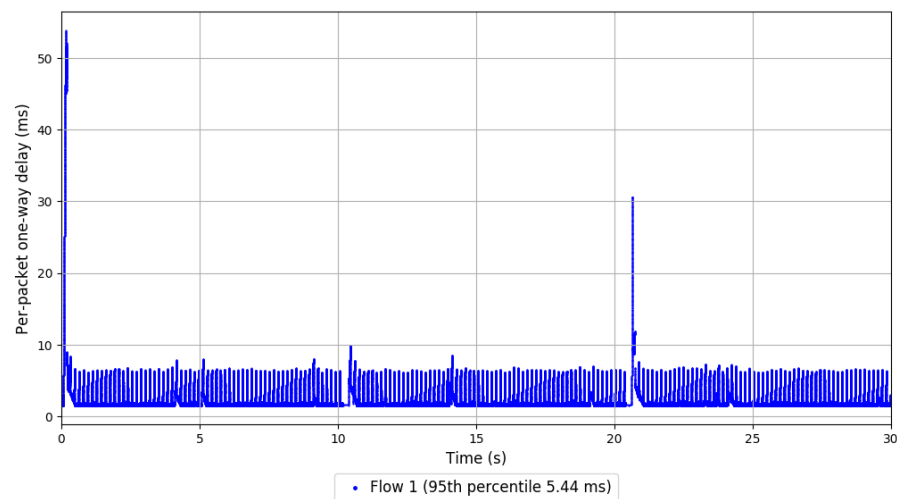
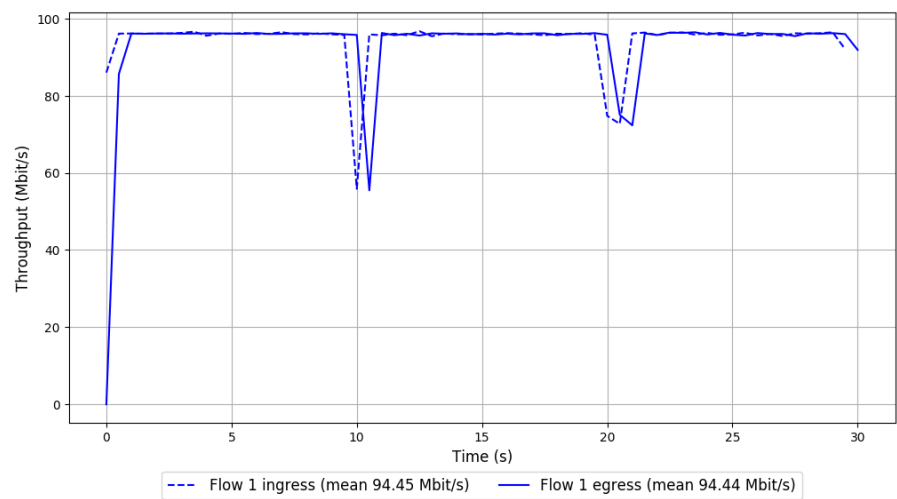


Run 2: Statistics of FillP-Sheep

Start at: 2018-11-30 11:30:38
End at: 2018-11-30 11:31:08
Local clock offset: -3.343 ms
Remote clock offset: -0.002 ms

Below is generated by plot.py at 2018-11-30 12:47:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.44 Mbit/s
95th percentile per-packet one-way delay: 5.443 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 94.44 Mbit/s
95th percentile per-packet one-way delay: 5.443 ms
Loss rate: 0.02%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-11-30 11:52:08

End at: 2018-11-30 11:52:38

Local clock offset: -2.548 ms

Remote clock offset: 0.298 ms

Below is generated by plot.py at 2018-11-30 12:47:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.46 Mbit/s

95th percentile per-packet one-way delay: 6.134 ms

Loss rate: 0.02%

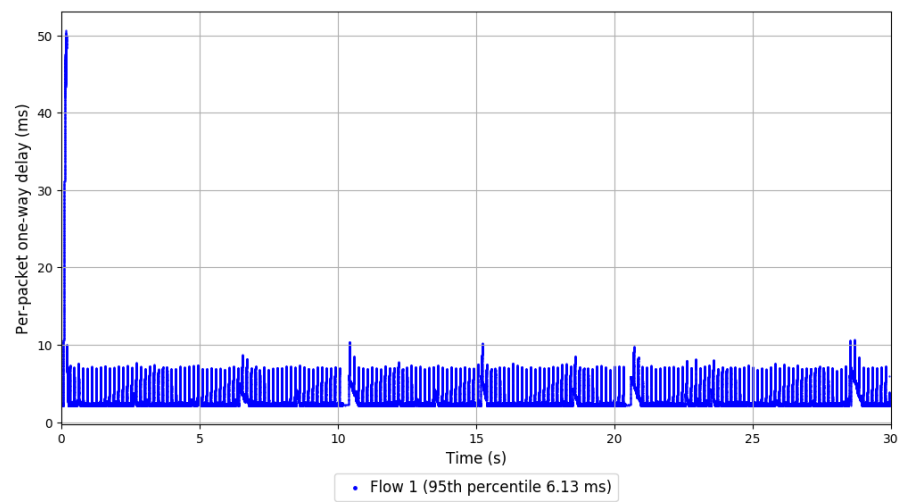
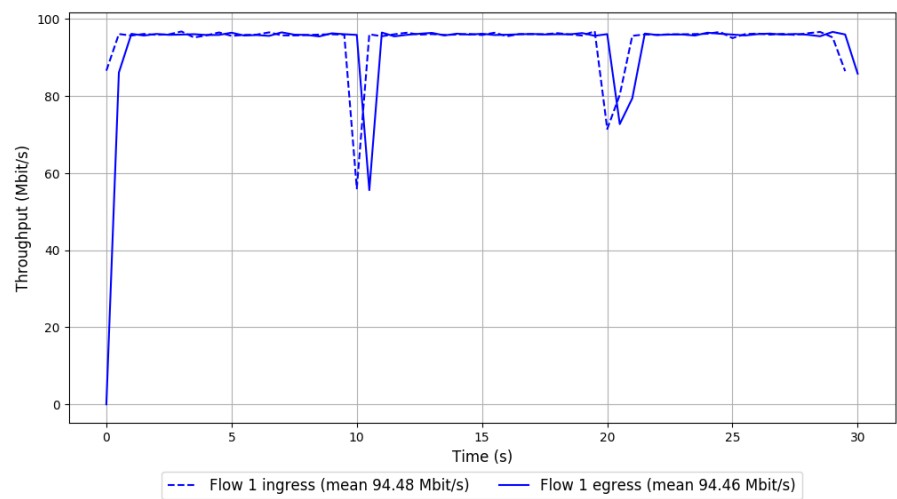
-- Flow 1:

Average throughput: 94.46 Mbit/s

95th percentile per-packet one-way delay: 6.134 ms

Loss rate: 0.02%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-11-30 12:13:34

End at: 2018-11-30 12:14:04

Local clock offset: -3.14 ms

Remote clock offset: 0.434 ms

Below is generated by plot.py at 2018-11-30 12:48:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.39 Mbit/s

95th percentile per-packet one-way delay: 5.608 ms

Loss rate: 0.01%

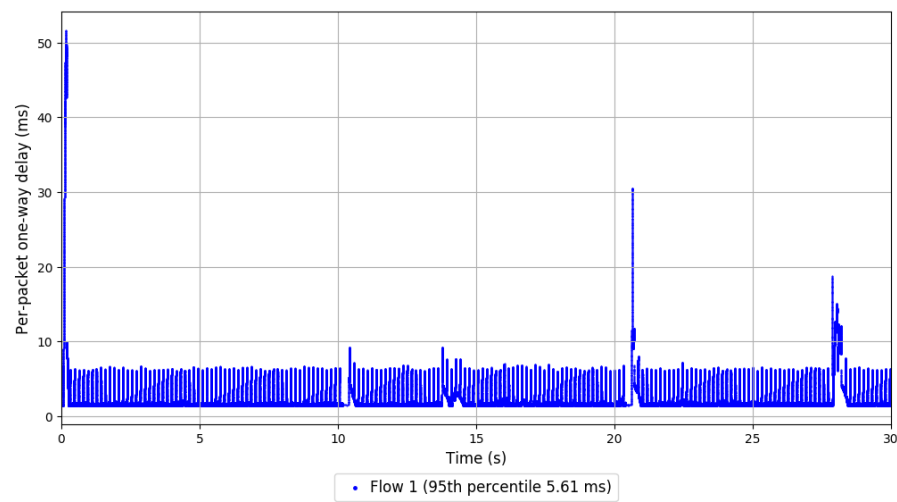
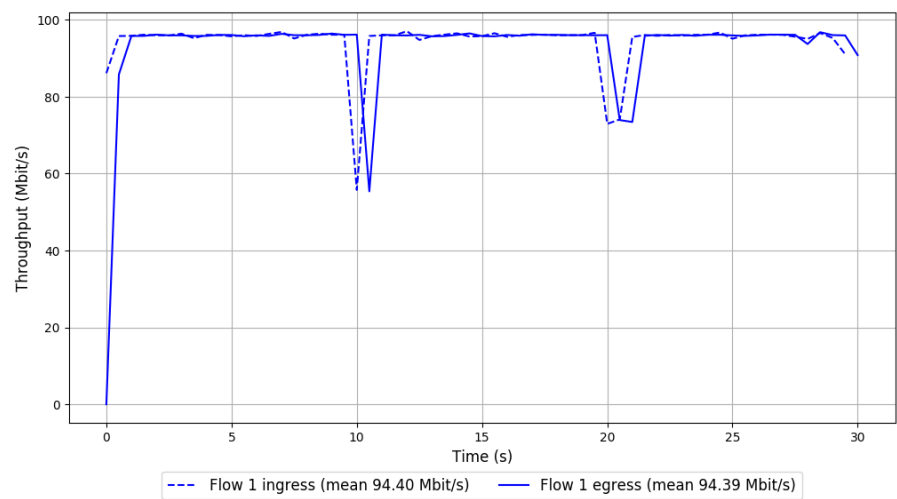
-- Flow 1:

Average throughput: 94.39 Mbit/s

95th percentile per-packet one-way delay: 5.608 ms

Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-11-30 12:35:04

End at: 2018-11-30 12:35:34

Local clock offset: -3.391 ms

Remote clock offset: 0.533 ms

Below is generated by plot.py at 2018-11-30 12:48:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 6.470 ms

Loss rate: 0.03%

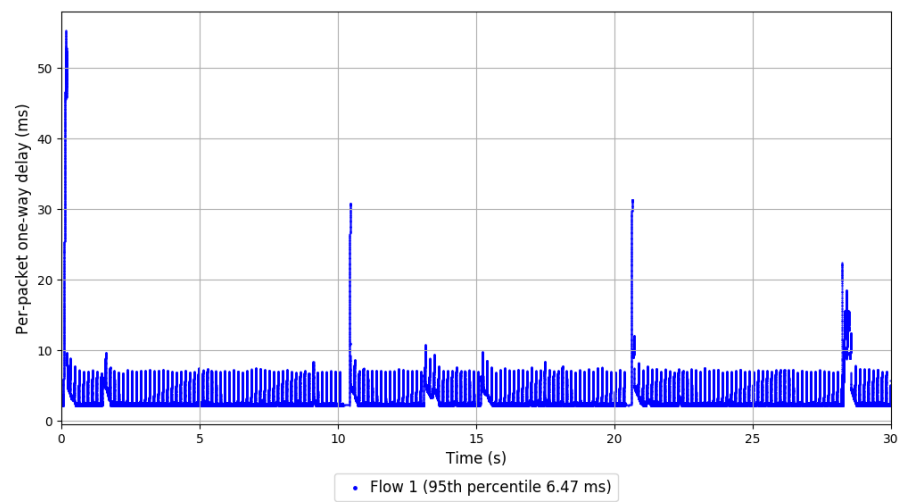
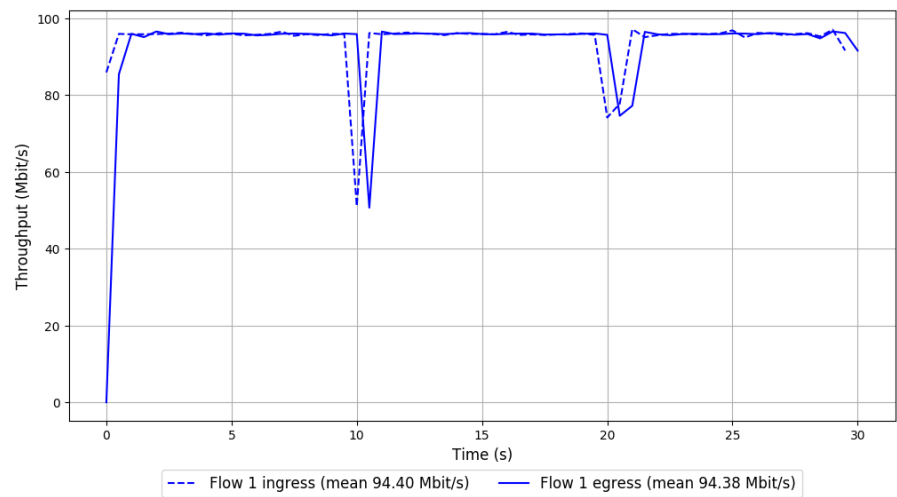
-- Flow 1:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 6.470 ms

Loss rate: 0.03%

Run 5: Report of FillP-Sheep — Data Link

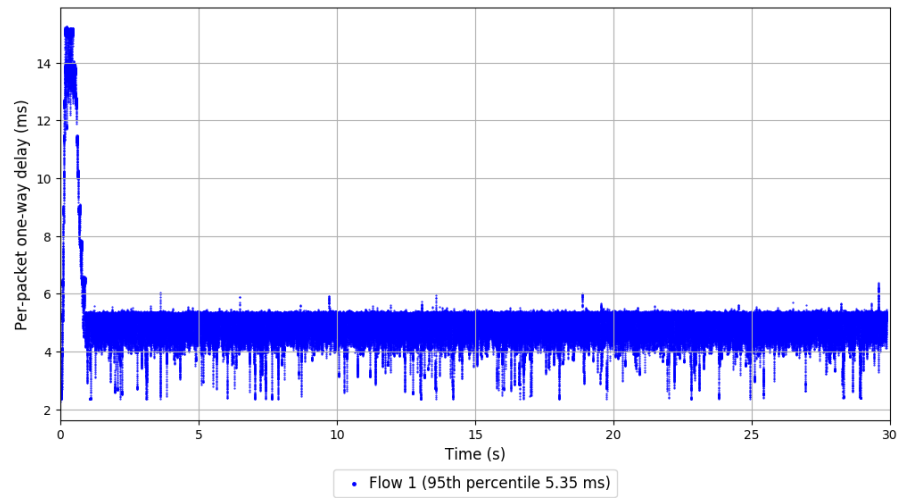
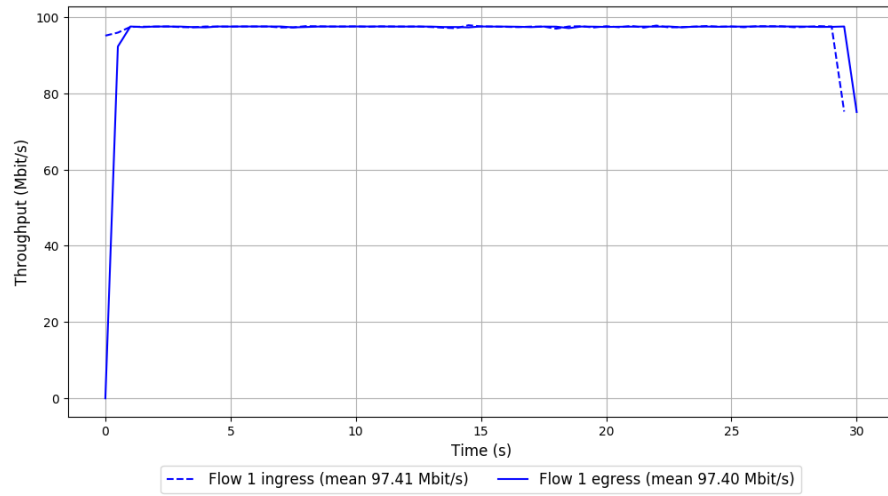


Run 1: Statistics of Indigo

Start at: 2018-11-30 11:06:50
End at: 2018-11-30 11:07:20
Local clock offset: -1.492 ms
Remote clock offset: -0.341 ms

Below is generated by plot.py at 2018-11-30 12:48:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 5.348 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 5.348 ms
Loss rate: 0.03%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-11-30 11:28:21

End at: 2018-11-30 11:28:51

Local clock offset: -2.509 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-11-30 12:48:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.171 ms

Loss rate: 0.02%

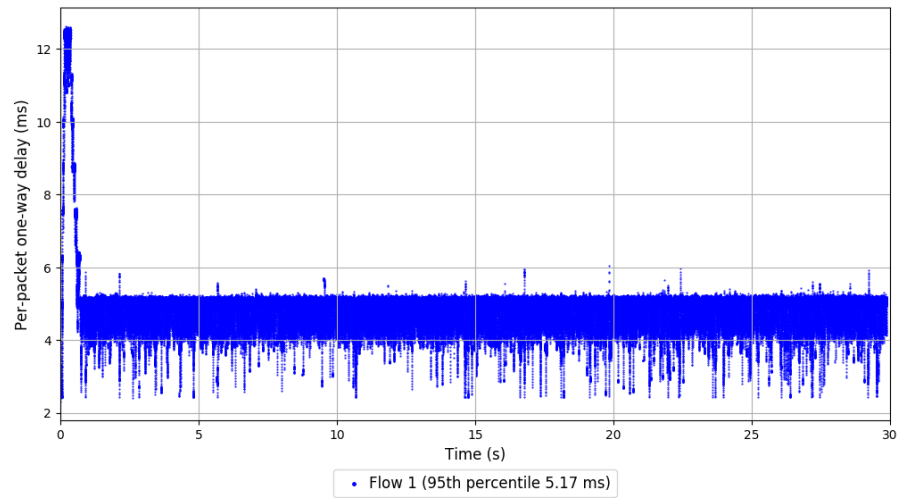
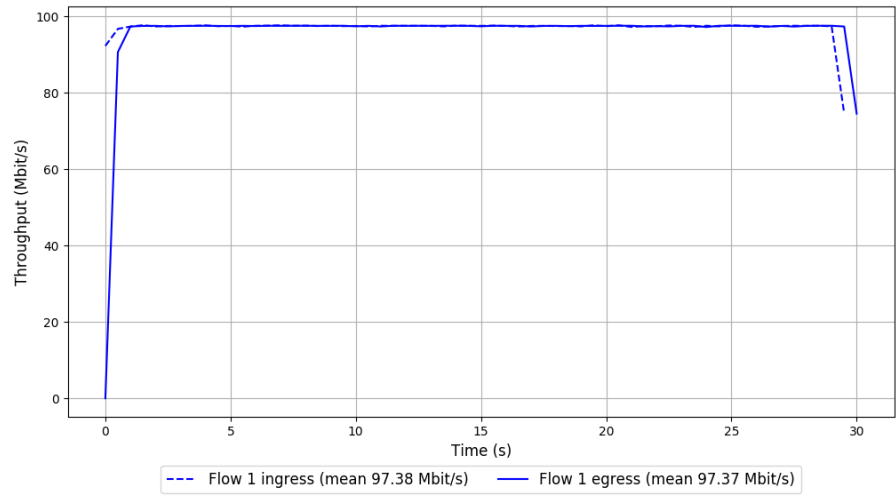
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.171 ms

Loss rate: 0.02%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-11-30 11:49:51

End at: 2018-11-30 11:50:21

Local clock offset: -2.616 ms

Remote clock offset: 0.28 ms

Below is generated by plot.py at 2018-11-30 12:48:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.282 ms

Loss rate: 0.02%

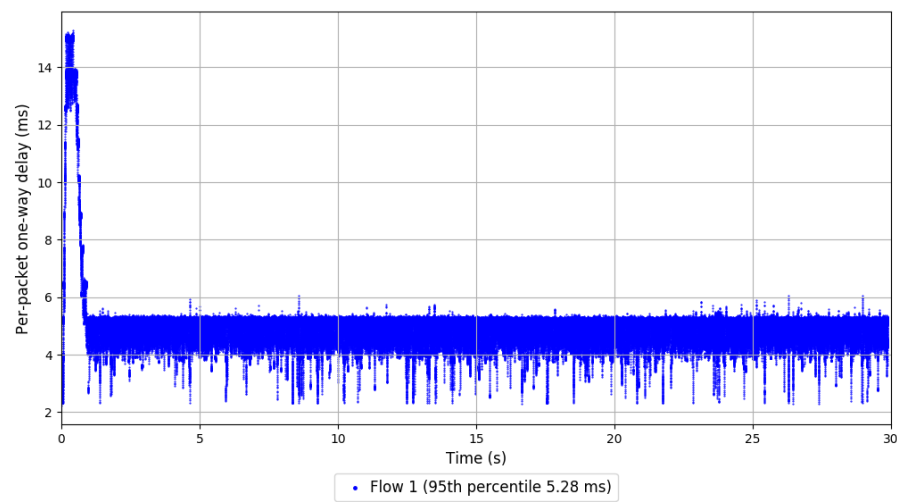
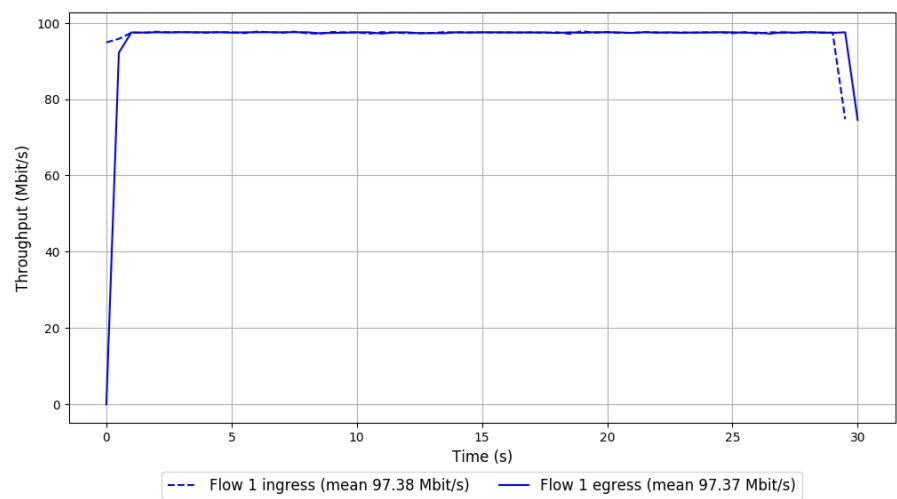
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.282 ms

Loss rate: 0.02%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-11-30 12:11:17

End at: 2018-11-30 12:11:47

Local clock offset: -2.382 ms

Remote clock offset: 0.37 ms

Below is generated by plot.py at 2018-11-30 12:48:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 5.113 ms

Loss rate: 0.02%

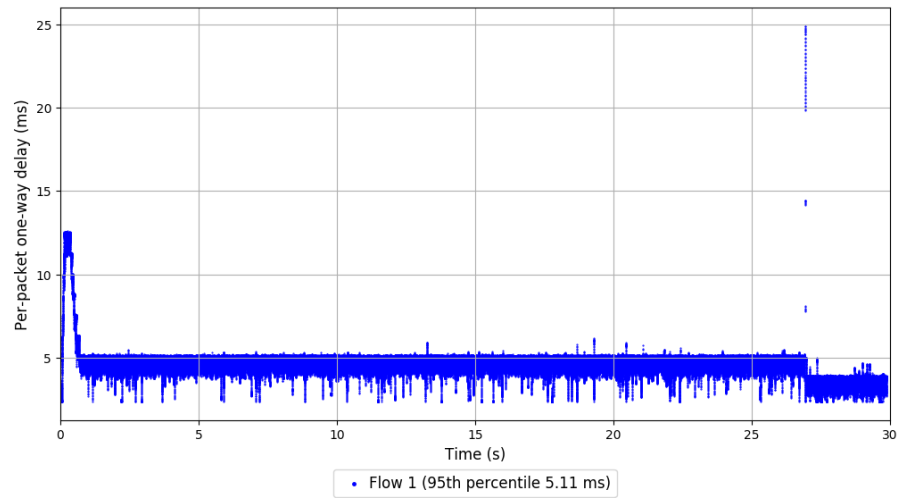
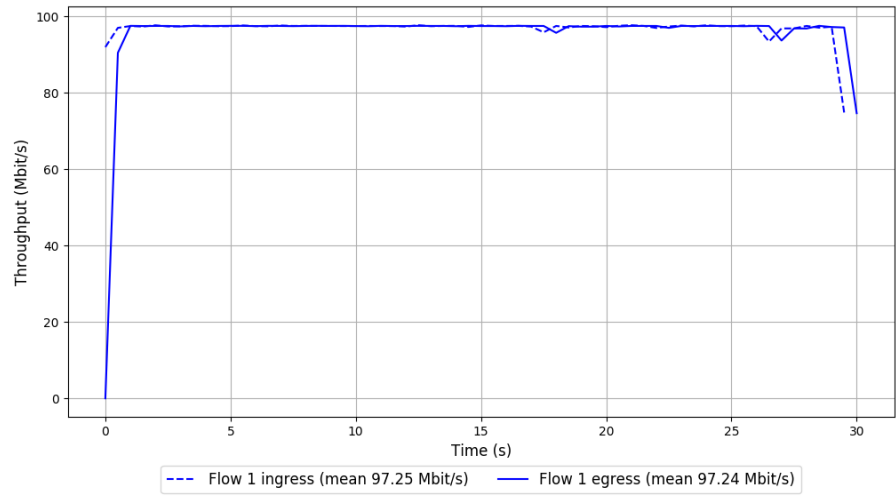
-- Flow 1:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 5.113 ms

Loss rate: 0.02%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-11-30 12:32:47

End at: 2018-11-30 12:33:17

Local clock offset: -3.358 ms

Remote clock offset: 0.452 ms

Below is generated by plot.py at 2018-11-30 12:48:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 5.381 ms

Loss rate: 0.02%

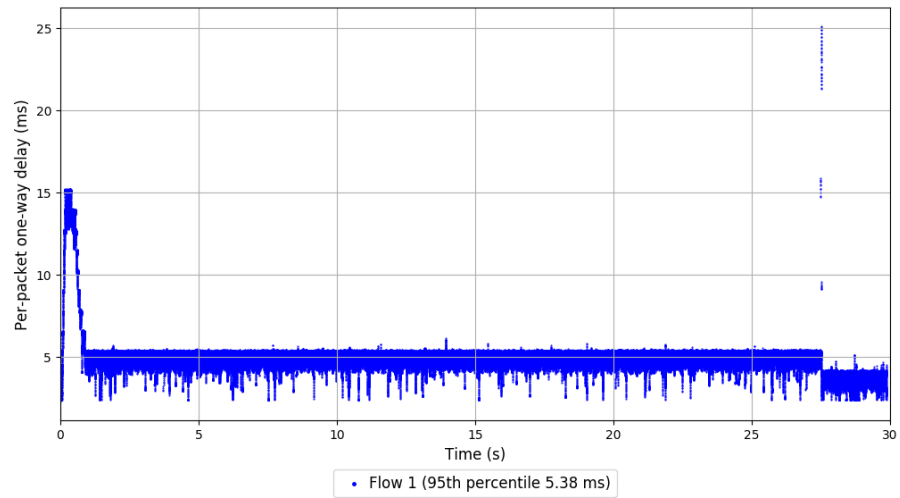
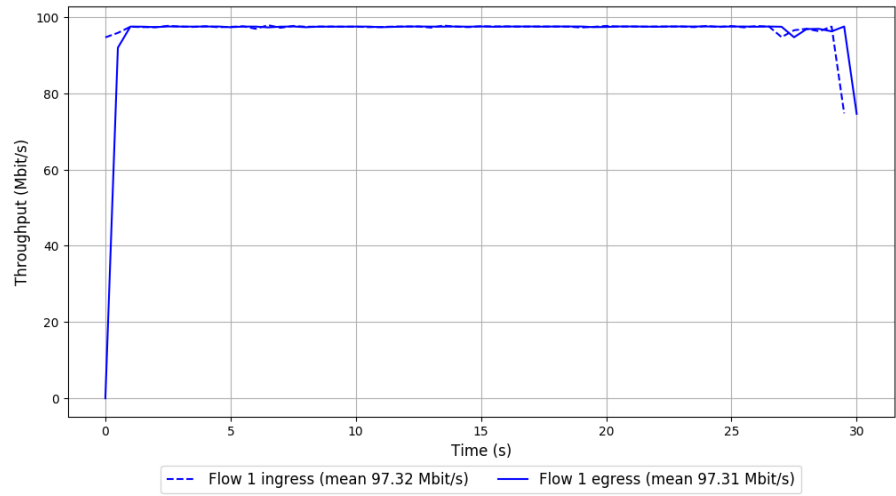
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 5.381 ms

Loss rate: 0.02%

Run 5: Report of Indigo — Data Link

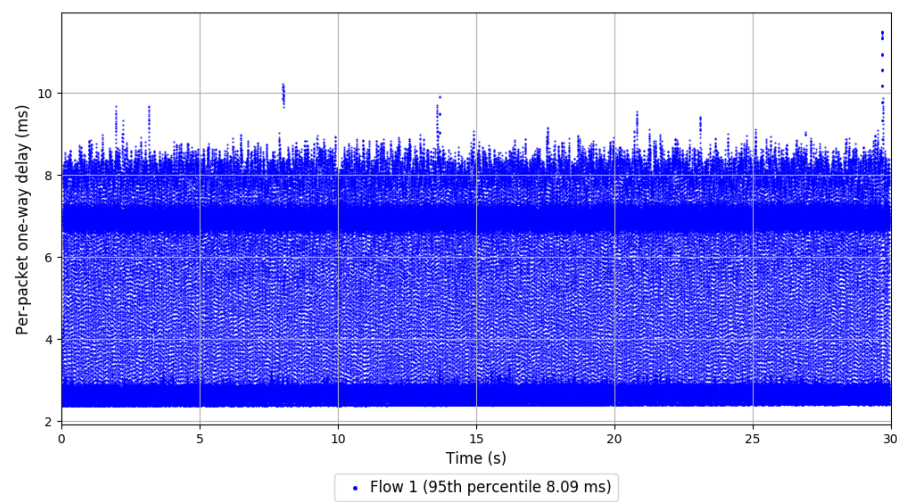
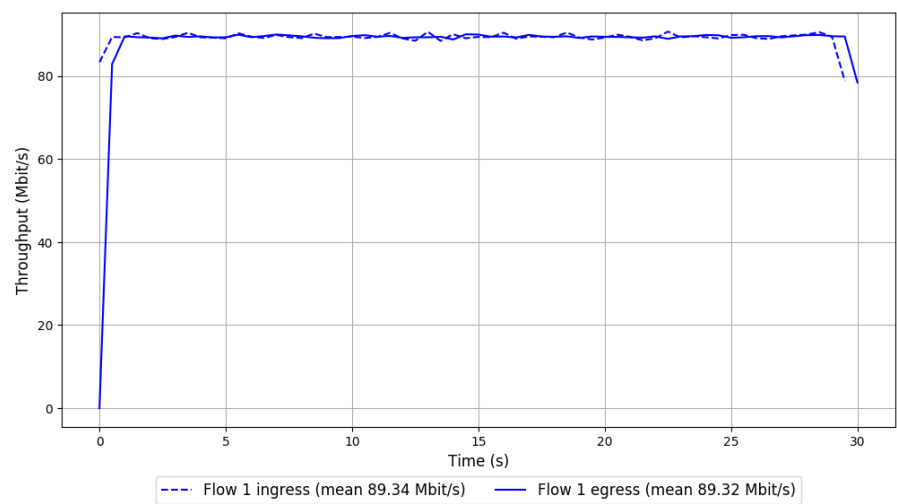


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-30 11:00:09
End at: 2018-11-30 11:00:39
Local clock offset: -1.132 ms
Remote clock offset: -0.361 ms

Below is generated by plot.py at 2018-11-30 12:48:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.32 Mbit/s
95th percentile per-packet one-way delay: 8.091 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 89.32 Mbit/s
95th percentile per-packet one-way delay: 8.091 ms
Loss rate: 0.03%

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

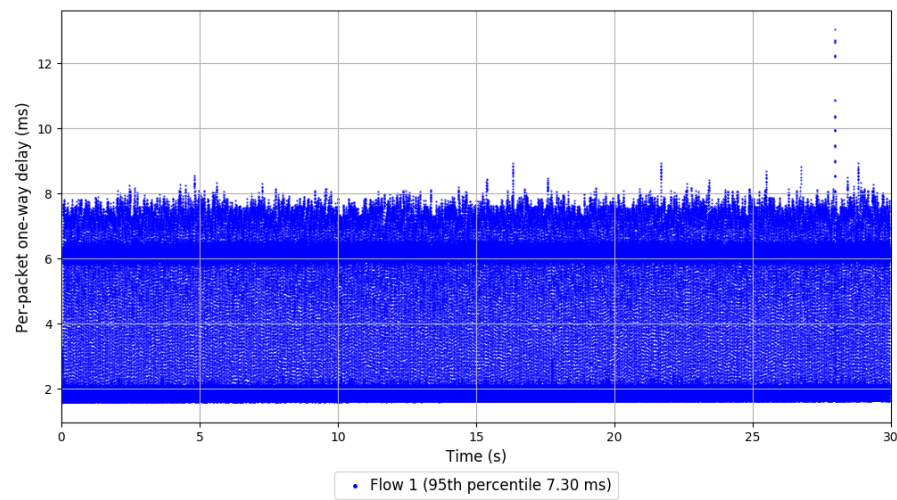
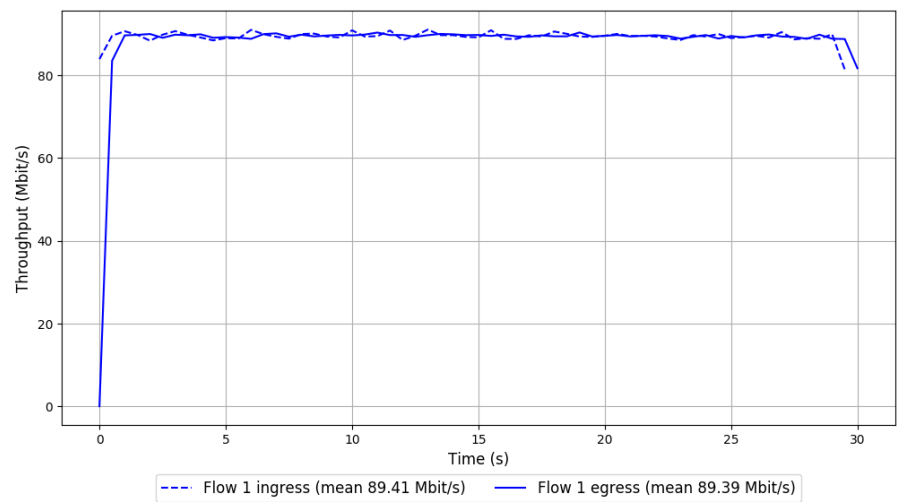


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-30 11:21:39
End at: 2018-11-30 11:22:09
Local clock offset: -2.968 ms
Remote clock offset: -0.076 ms

Below is generated by plot.py at 2018-11-30 12:49:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 7.302 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 7.302 ms
Loss rate: 0.02%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-30 11:43:08

End at: 2018-11-30 11:43:38

Local clock offset: -2.947 ms

Remote clock offset: 0.12 ms

Below is generated by plot.py at 2018-11-30 12:49:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.49 Mbit/s

95th percentile per-packet one-way delay: 8.026 ms

Loss rate: 0.01%

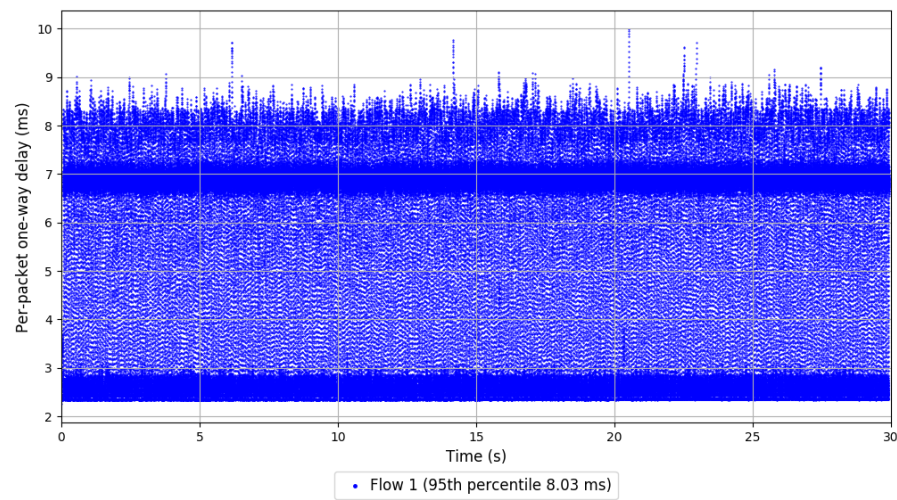
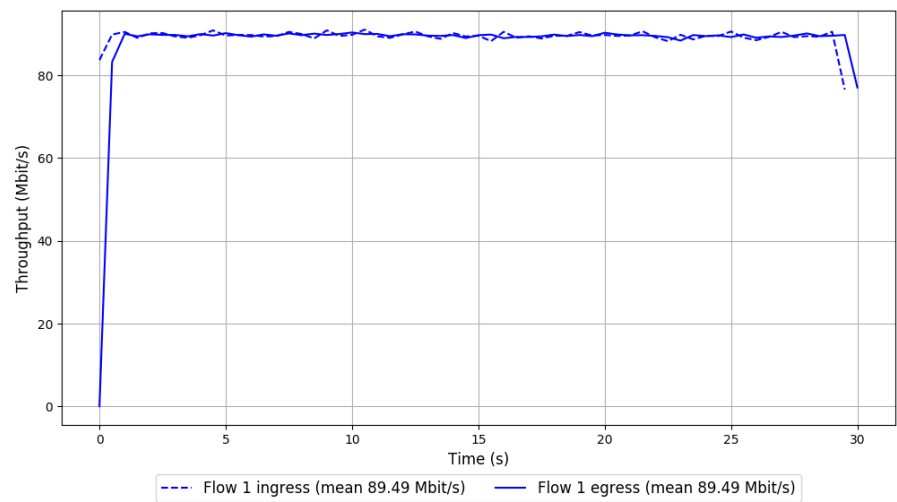
-- Flow 1:

Average throughput: 89.49 Mbit/s

95th percentile per-packet one-way delay: 8.026 ms

Loss rate: 0.01%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-30 12:04:35

End at: 2018-11-30 12:05:05

Local clock offset: -2.446 ms

Remote clock offset: 0.277 ms

Below is generated by plot.py at 2018-11-30 12:49:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.41 Mbit/s

95th percentile per-packet one-way delay: 8.021 ms

Loss rate: 0.01%

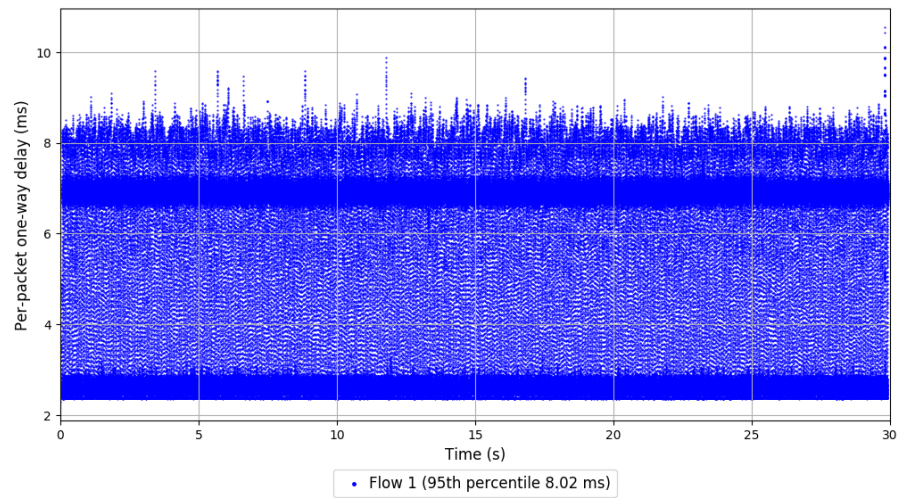
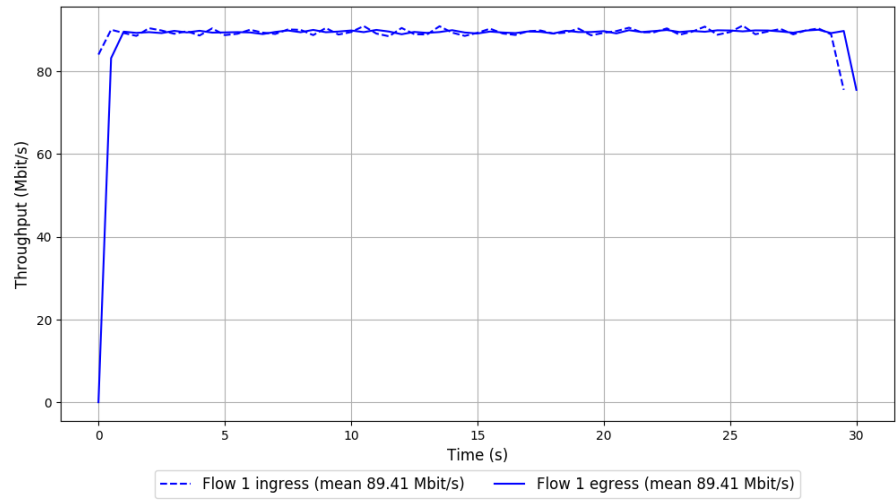
-- Flow 1:

Average throughput: 89.41 Mbit/s

95th percentile per-packet one-way delay: 8.021 ms

Loss rate: 0.01%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-30 12:26:03

End at: 2018-11-30 12:26:33

Local clock offset: -3.136 ms

Remote clock offset: 0.513 ms

Below is generated by plot.py at 2018-11-30 12:49:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.41 Mbit/s

95th percentile per-packet one-way delay: 8.014 ms

Loss rate: 0.02%

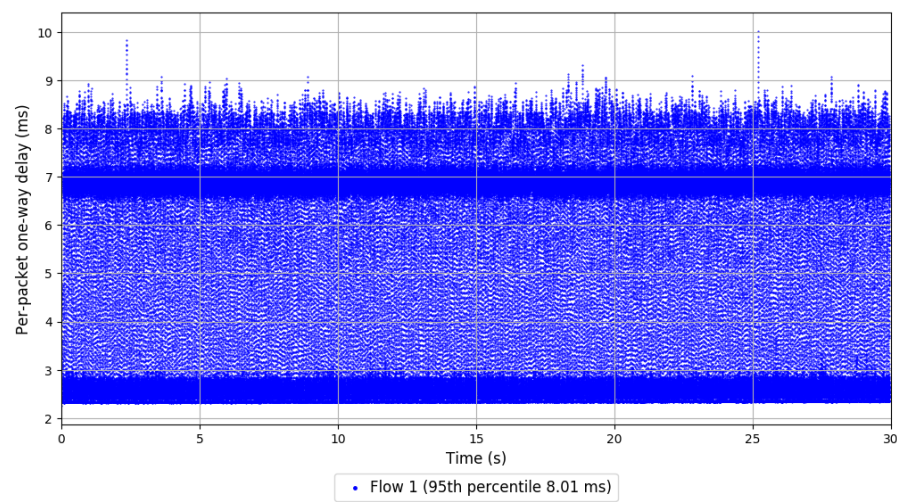
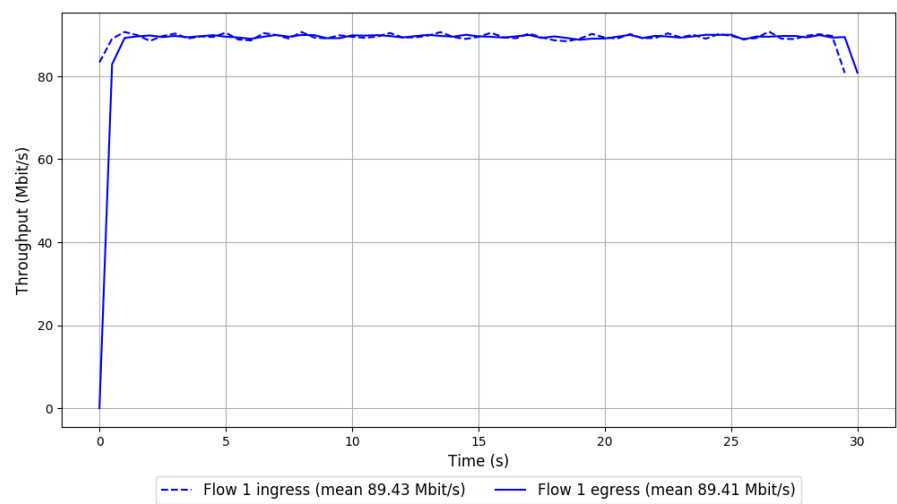
-- Flow 1:

Average throughput: 89.41 Mbit/s

95th percentile per-packet one-way delay: 8.014 ms

Loss rate: 0.02%

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

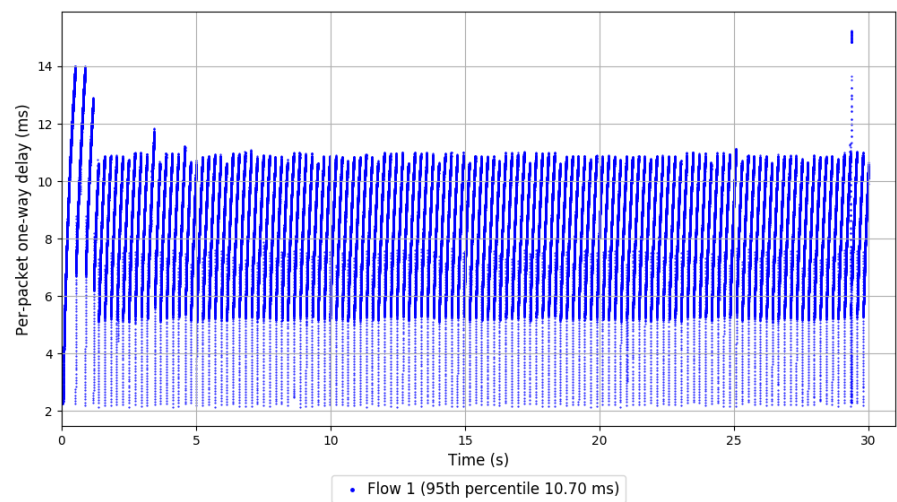
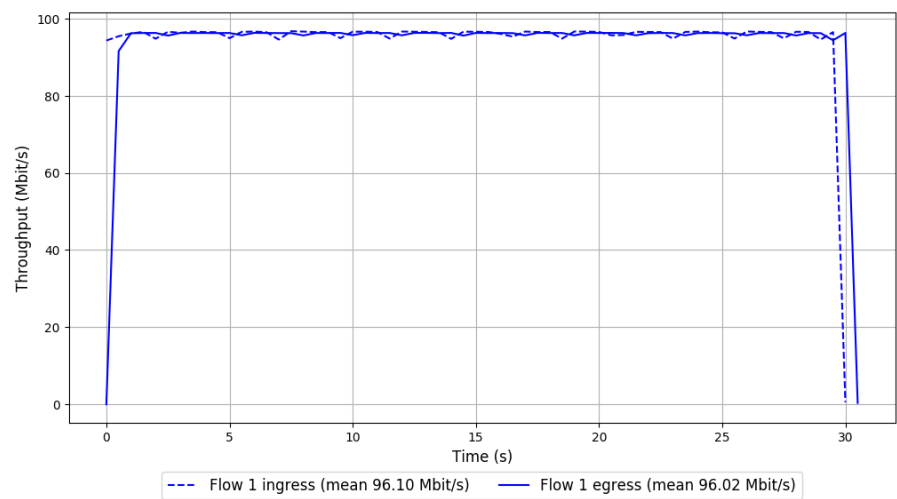


```
Run 1: Statistics of LEDBAT

Start at: 2018-11-30 11:04:33
End at: 2018-11-30 11:05:03
Local clock offset: -1.424 ms
Remote clock offset: -0.304 ms

# Below is generated by plot.py at 2018-11-30 12:50:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 10.696 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 10.696 ms
Loss rate: 0.09%
```

Run 1: Report of LEDBAT — Data Link

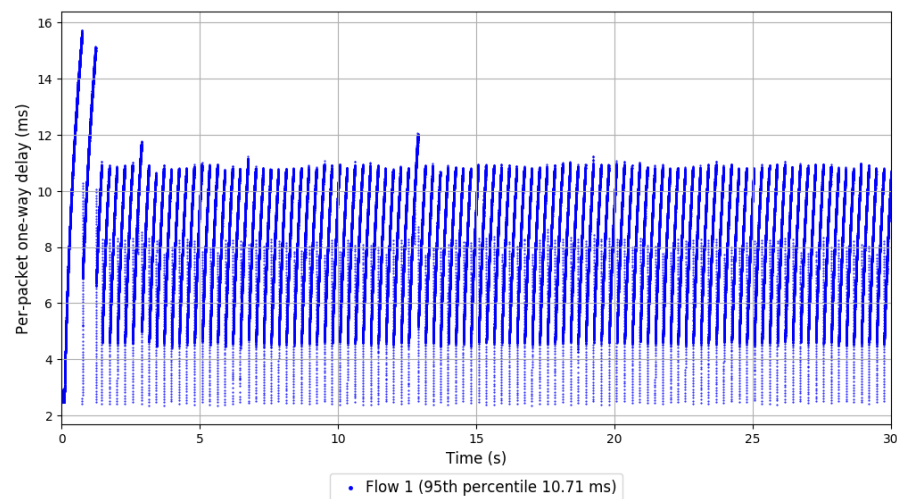
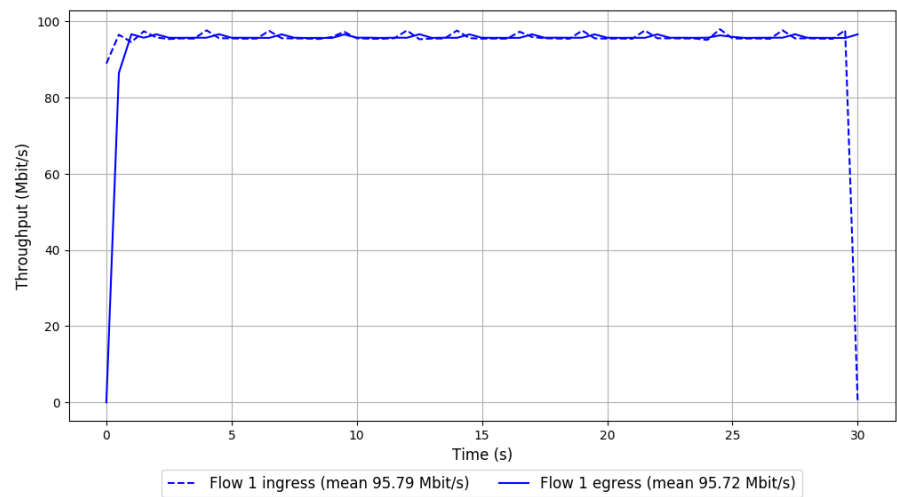


Run 2: Statistics of LEDBAT

Start at: 2018-11-30 11:26:03
End at: 2018-11-30 11:26:33
Local clock offset: -2.428 ms
Remote clock offset: -0.143 ms

Below is generated by plot.py at 2018-11-30 12:50:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 10.707 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 10.707 ms
Loss rate: 0.08%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-11-30 11:47:33

End at: 2018-11-30 11:48:04

Local clock offset: -3.485 ms

Remote clock offset: 0.18 ms

Below is generated by plot.py at 2018-11-30 12:50:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 9.795 ms

Loss rate: 0.07%

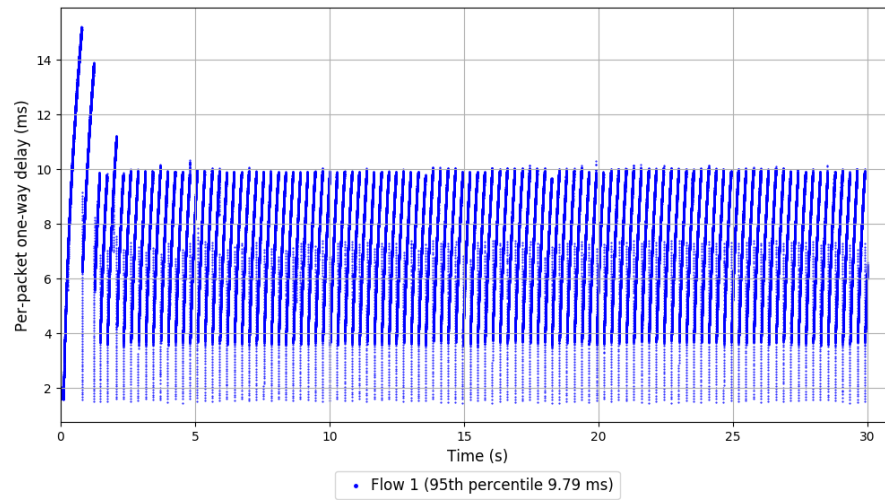
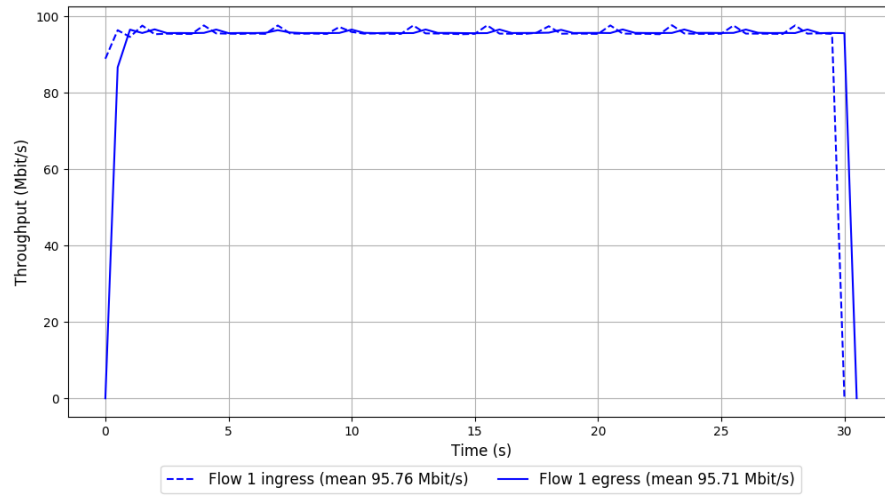
-- Flow 1:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 9.795 ms

Loss rate: 0.07%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-11-30 12:08:59

End at: 2018-11-30 12:09:29

Local clock offset: -3.134 ms

Remote clock offset: 0.352 ms

Below is generated by plot.py at 2018-11-30 12:50:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.60 Mbit/s

95th percentile per-packet one-way delay: 9.813 ms

Loss rate: 0.07%

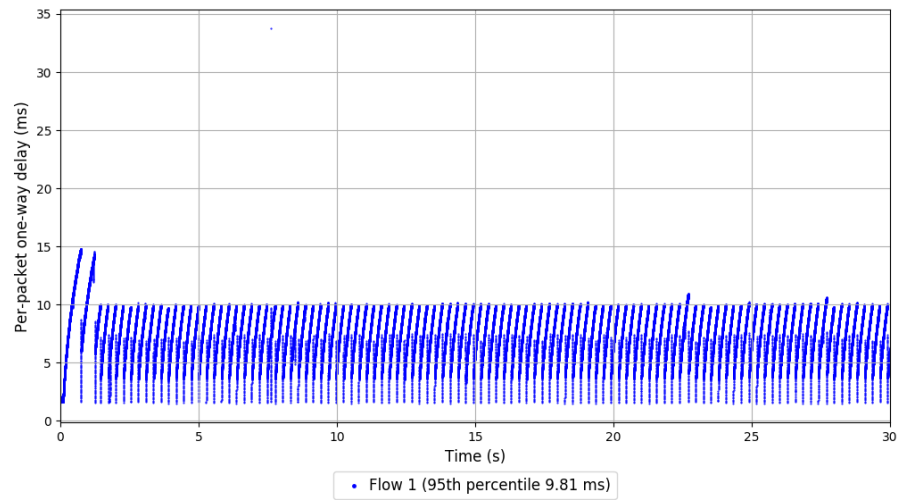
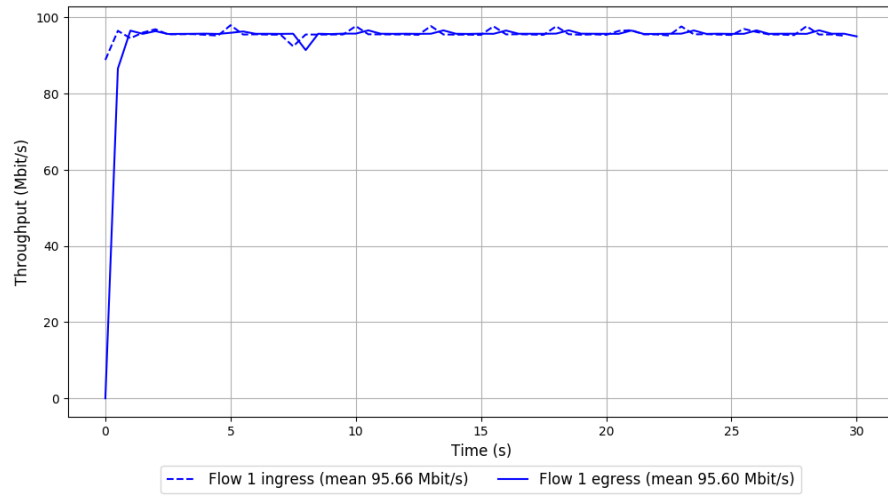
-- Flow 1:

Average throughput: 95.60 Mbit/s

95th percentile per-packet one-way delay: 9.813 ms

Loss rate: 0.07%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-11-30 12:30:29

End at: 2018-11-30 12:30:59

Local clock offset: -3.272 ms

Remote clock offset: 0.453 ms

Below is generated by plot.py at 2018-11-30 12:50:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.06 Mbit/s

95th percentile per-packet one-way delay: 10.867 ms

Loss rate: 0.05%

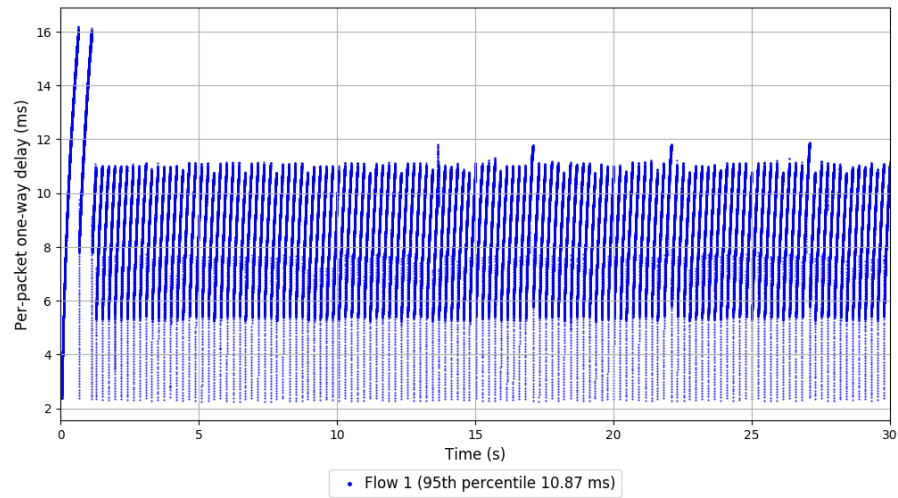
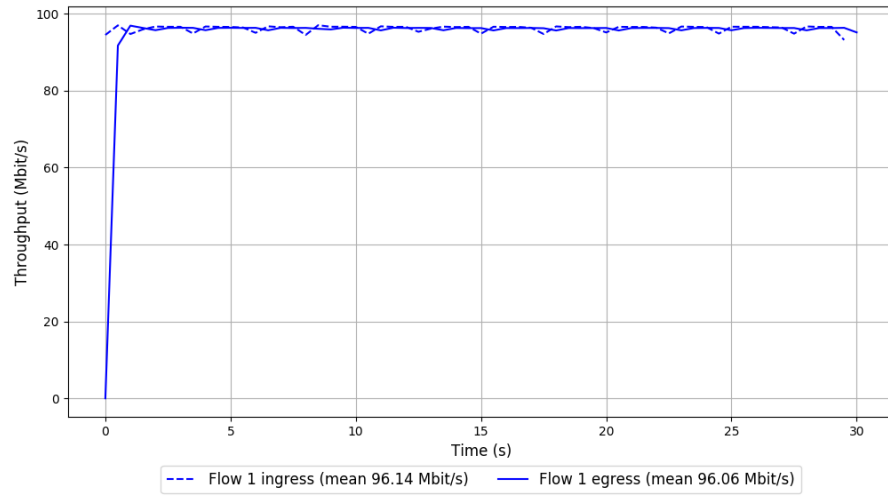
-- Flow 1:

Average throughput: 96.06 Mbit/s

95th percentile per-packet one-way delay: 10.867 ms

Loss rate: 0.05%

Run 5: Report of LEDBAT — Data Link

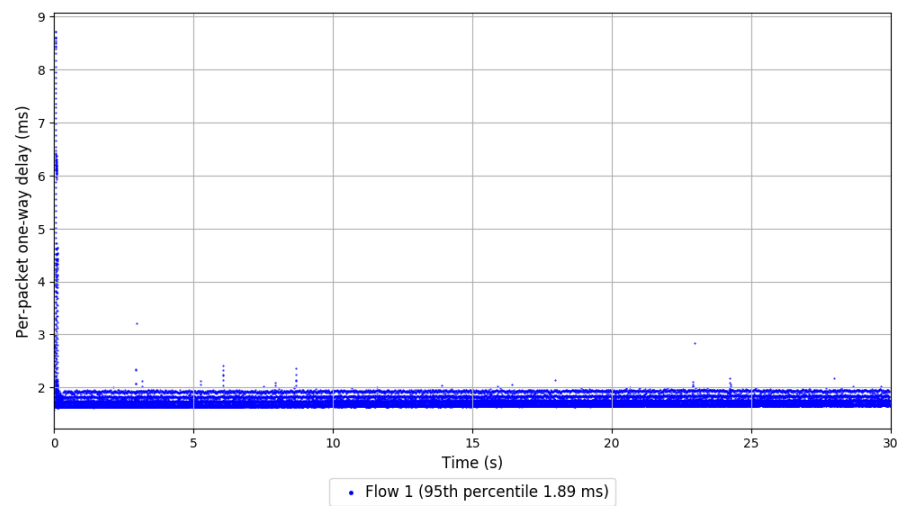
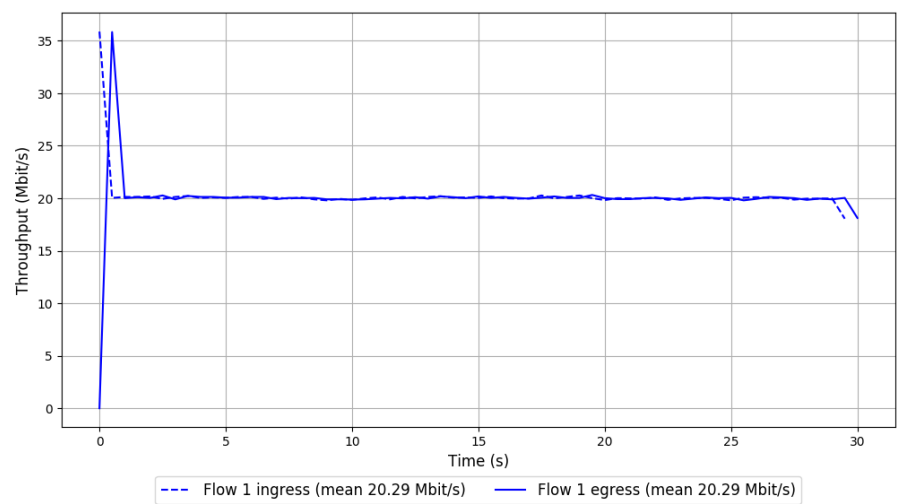


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 11:02:21
End at: 2018-11-30 11:02:51
Local clock offset: -2.033 ms
Remote clock offset: -0.382 ms

# Below is generated by plot.py at 2018-11-30 12:50:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.29 Mbit/s
95th percentile per-packet one-way delay: 1.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 20.29 Mbit/s
95th percentile per-packet one-way delay: 1.887 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

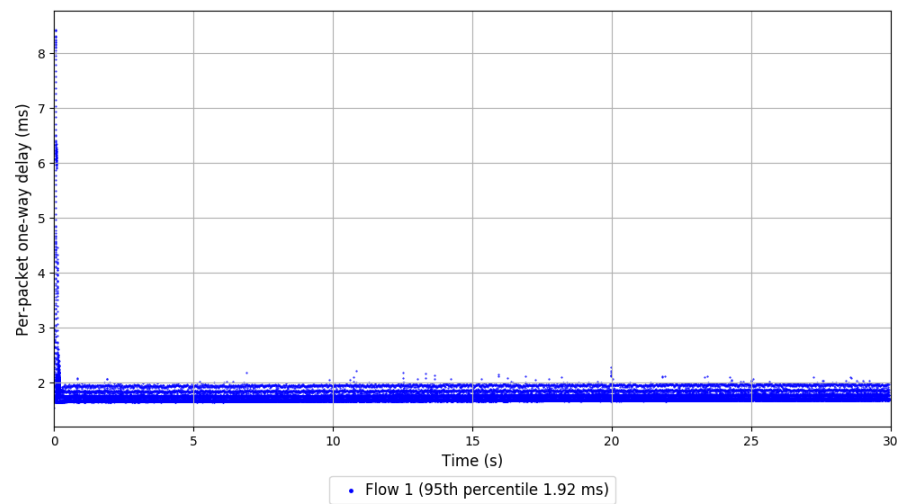
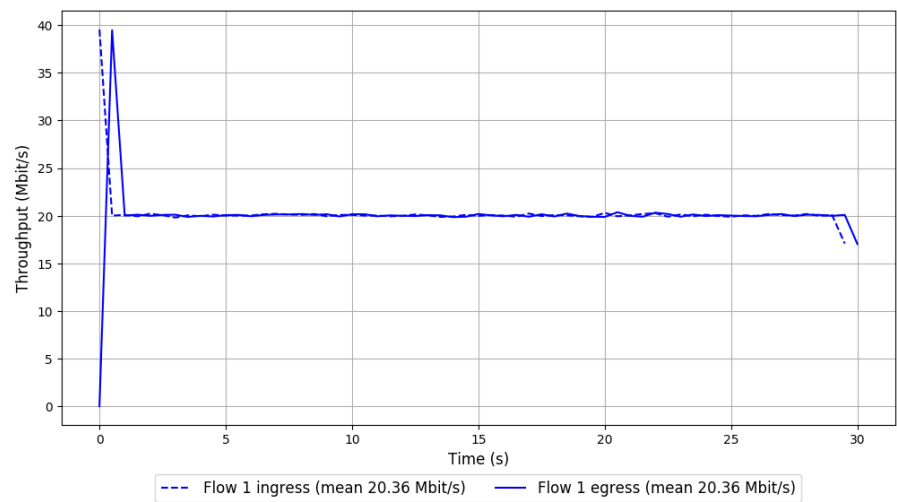


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 11:23:51
End at: 2018-11-30 11:24:21
Local clock offset: -3.102 ms
Remote clock offset: -0.112 ms

Below is generated by plot.py at 2018-11-30 12:50:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 20.36 Mbit/s
95th percentile per-packet one-way delay: 1.922 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 20.36 Mbit/s
95th percentile per-packet one-way delay: 1.922 ms
Loss rate: 0.01%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 11:45:20

End at: 2018-11-30 11:45:50

Local clock offset: -3.626 ms

Remote clock offset: 0.216 ms

Below is generated by plot.py at 2018-11-30 12:50:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.90 Mbit/s

95th percentile per-packet one-way delay: 1.765 ms

Loss rate: 0.01%

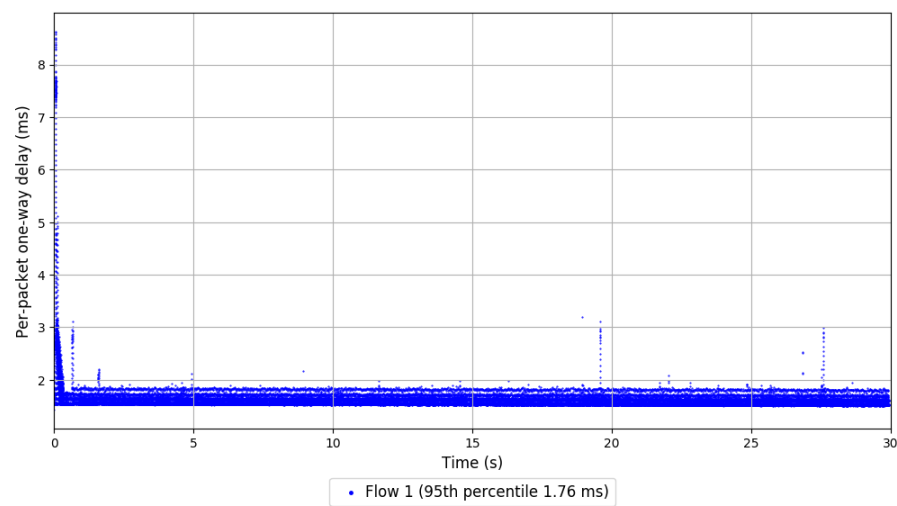
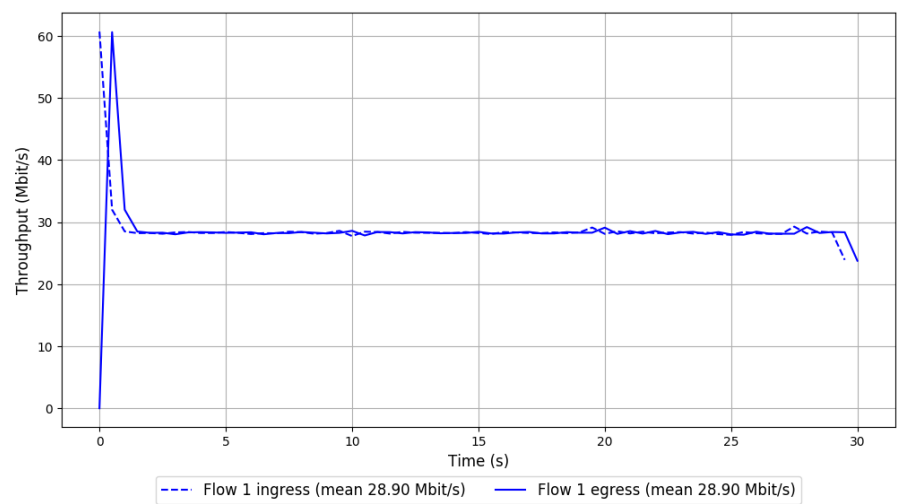
-- Flow 1:

Average throughput: 28.90 Mbit/s

95th percentile per-packet one-way delay: 1.765 ms

Loss rate: 0.01%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 12:06:47

End at: 2018-11-30 12:07:17

Local clock offset: -2.377 ms

Remote clock offset: 0.284 ms

Below is generated by plot.py at 2018-11-30 12:50:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 20.39 Mbit/s

95th percentile per-packet one-way delay: 2.670 ms

Loss rate: 0.01%

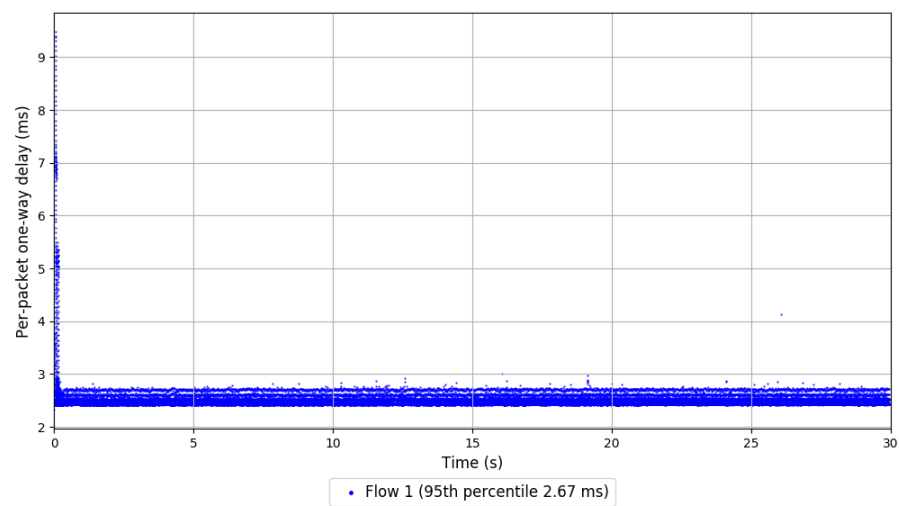
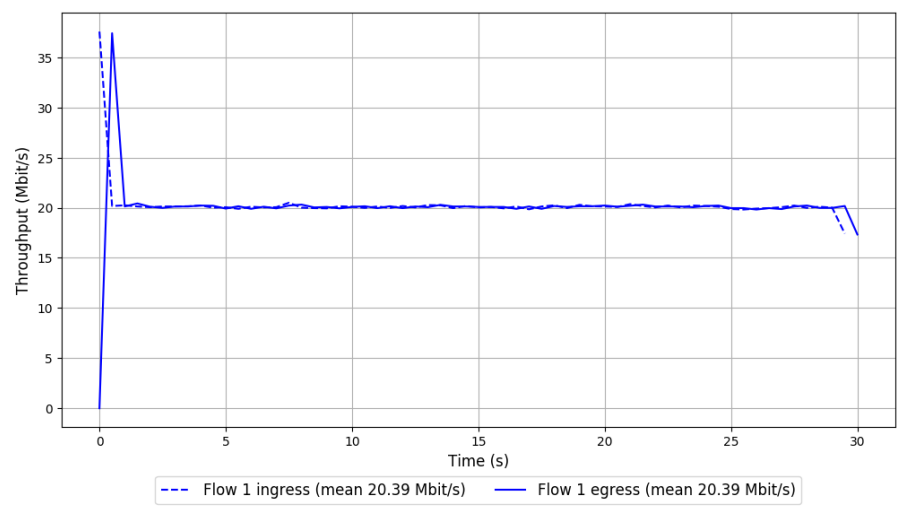
-- Flow 1:

Average throughput: 20.39 Mbit/s

95th percentile per-packet one-way delay: 2.670 ms

Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 12:28:15

End at: 2018-11-30 12:28:45

Local clock offset: -3.988 ms

Remote clock offset: 0.518 ms

Below is generated by plot.py at 2018-11-30 12:50:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.72 Mbit/s

95th percentile per-packet one-way delay: 1.773 ms

Loss rate: 0.01%

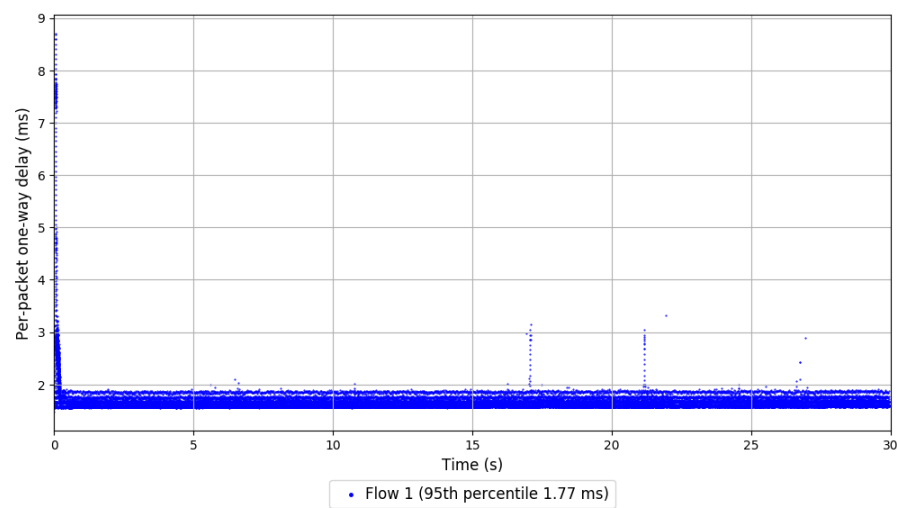
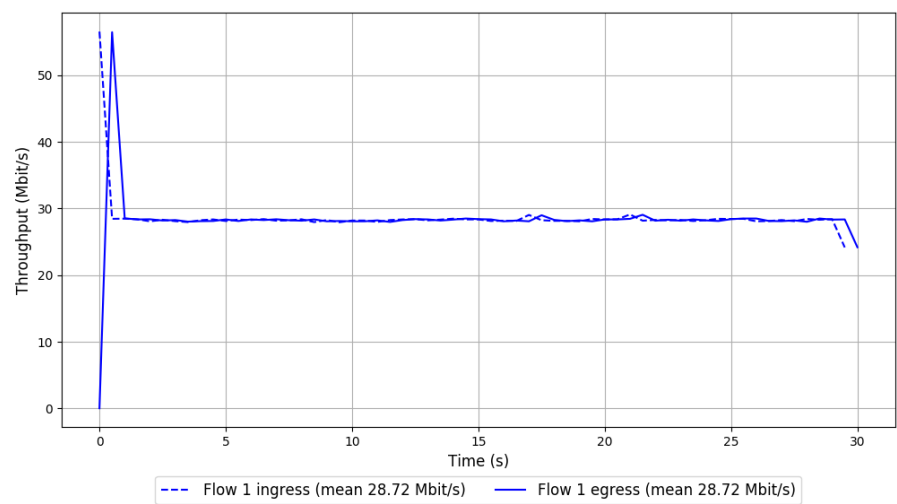
-- Flow 1:

Average throughput: 28.72 Mbit/s

95th percentile per-packet one-way delay: 1.773 ms

Loss rate: 0.01%

Run 5: Report of Indigo-Muses — Data Link

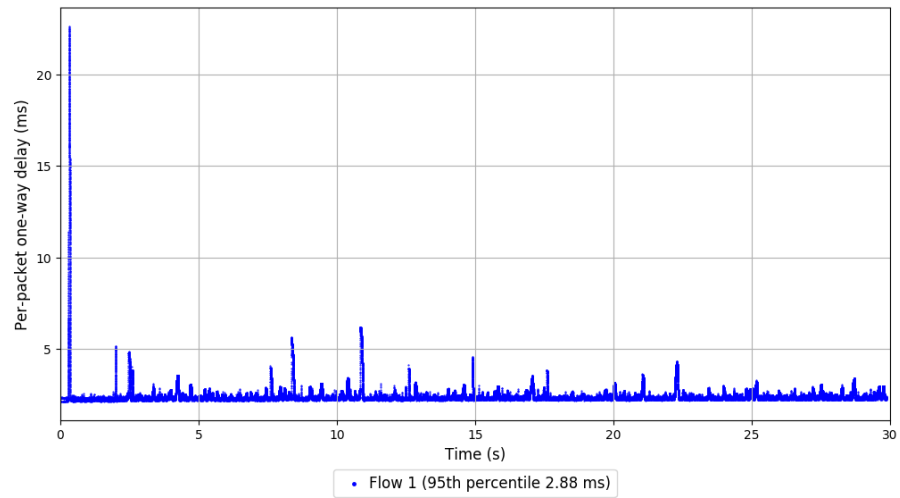
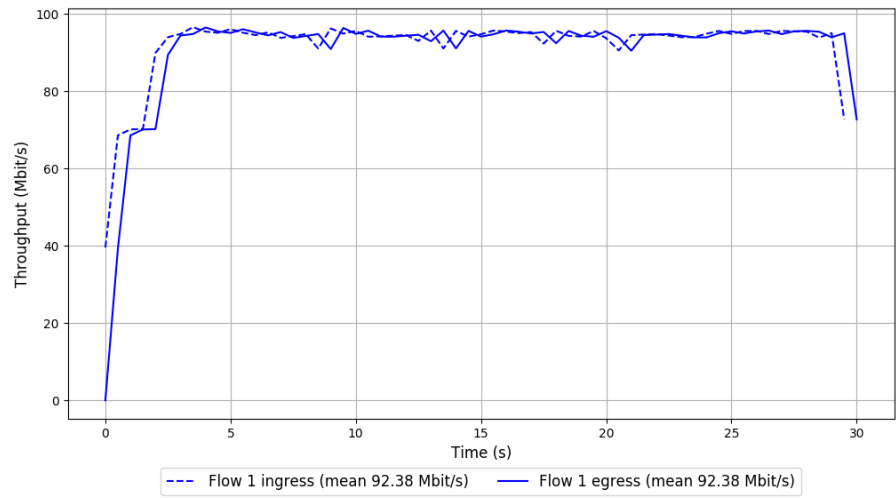


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-30 10:56:52
End at: 2018-11-30 10:57:22
Local clock offset: -0.95 ms
Remote clock offset: -0.331 ms

# Below is generated by plot.py at 2018-11-30 12:50:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 2.876 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 2.876 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Allegro — Data Link

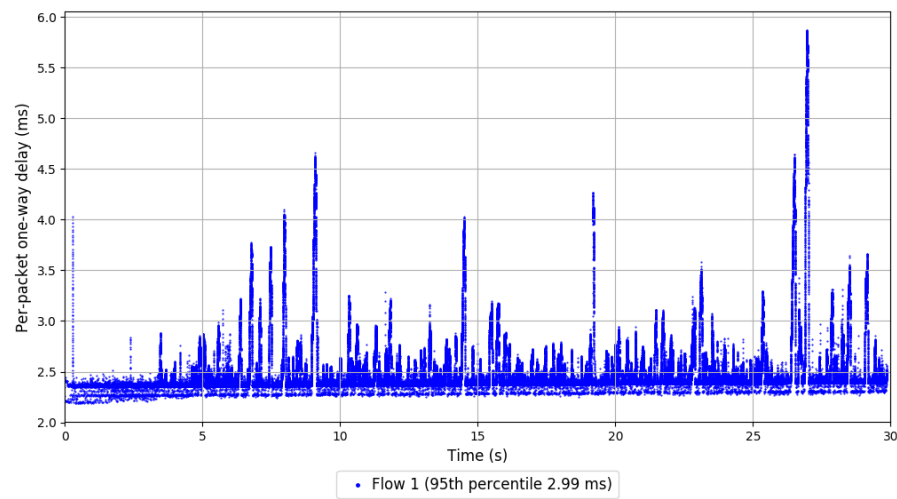
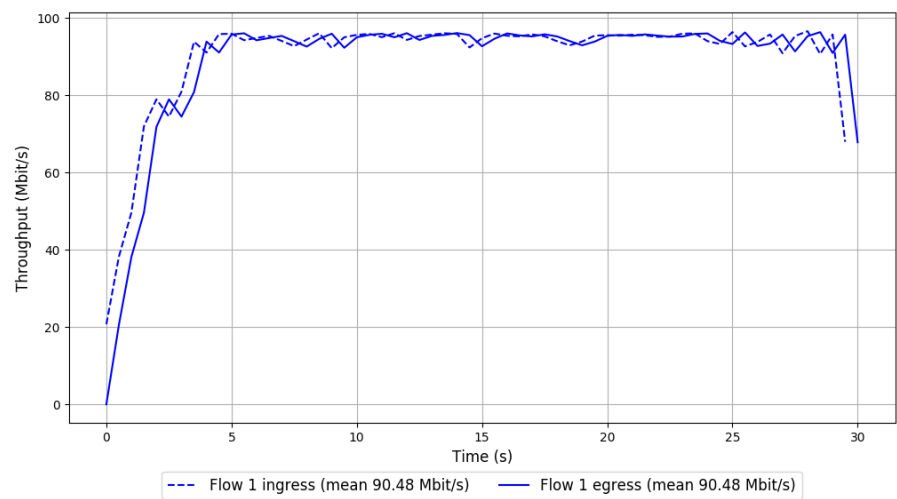


Run 2: Statistics of PCC-Allegro

Start at: 2018-11-30 11:18:22
End at: 2018-11-30 11:18:52
Local clock offset: -1.968 ms
Remote clock offset: -0.113 ms

Below is generated by plot.py at 2018-11-30 12:50:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 2.989 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 2.989 ms
Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 11:39:51

End at: 2018-11-30 11:40:21

Local clock offset: -2.831 ms

Remote clock offset: 0.122 ms

Below is generated by plot.py at 2018-11-30 12:51:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.97 Mbit/s

95th percentile per-packet one-way delay: 3.083 ms

Loss rate: 0.01%

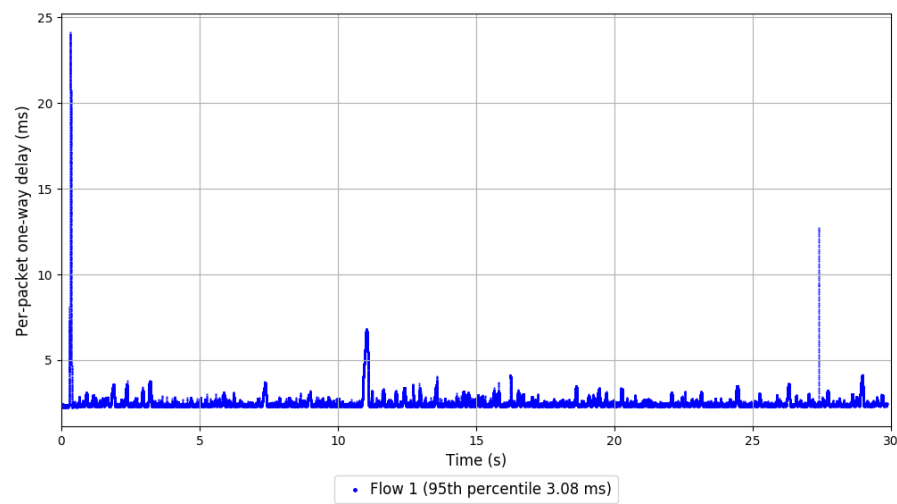
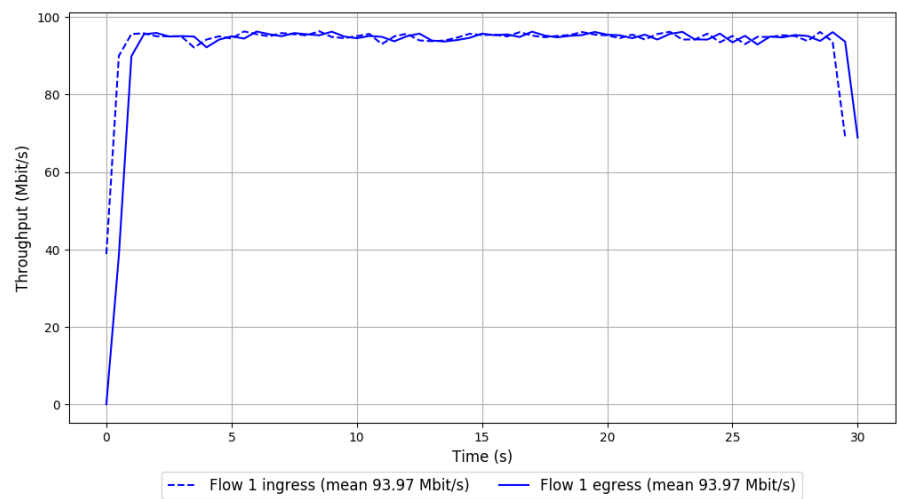
-- Flow 1:

Average throughput: 93.97 Mbit/s

95th percentile per-packet one-way delay: 3.083 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-11-30 12:01:18

End at: 2018-11-30 12:01:48

Local clock offset: -3.229 ms

Remote clock offset: 0.333 ms

Below is generated by plot.py at 2018-11-30 12:51:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.28 Mbit/s

95th percentile per-packet one-way delay: 2.207 ms

Loss rate: 0.01%

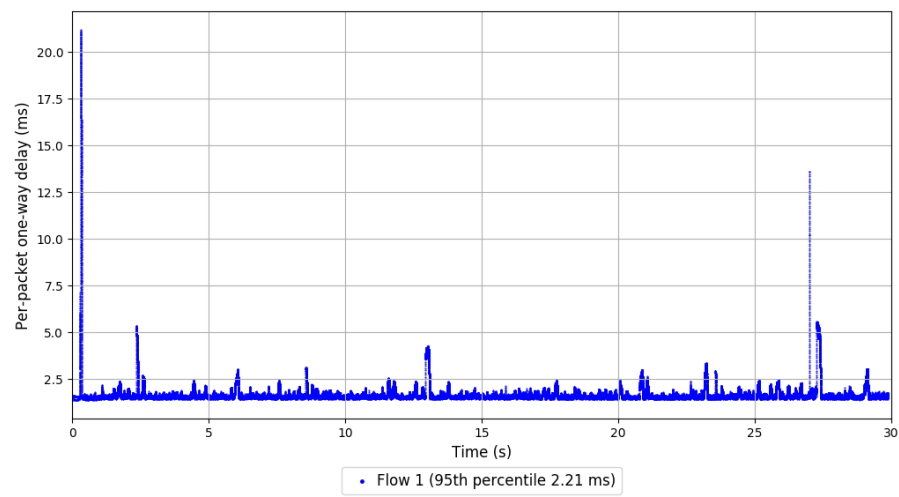
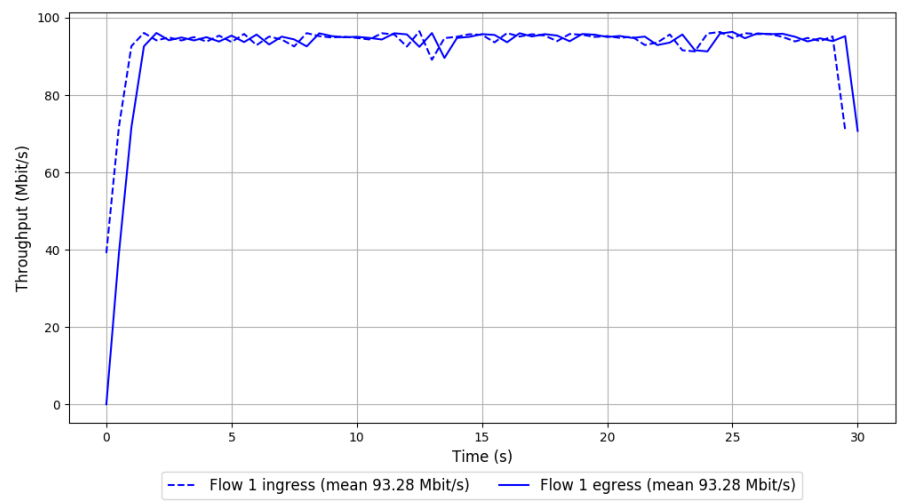
-- Flow 1:

Average throughput: 93.28 Mbit/s

95th percentile per-packet one-way delay: 2.207 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 12:22:46

End at: 2018-11-30 12:23:16

Local clock offset: -3.819 ms

Remote clock offset: 0.42 ms

Below is generated by plot.py at 2018-11-30 12:51:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.48 Mbit/s

95th percentile per-packet one-way delay: 2.286 ms

Loss rate: 0.01%

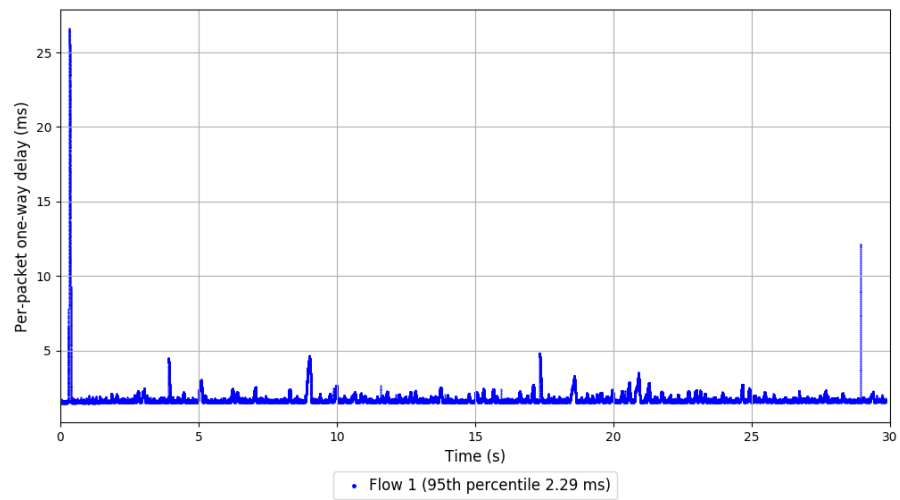
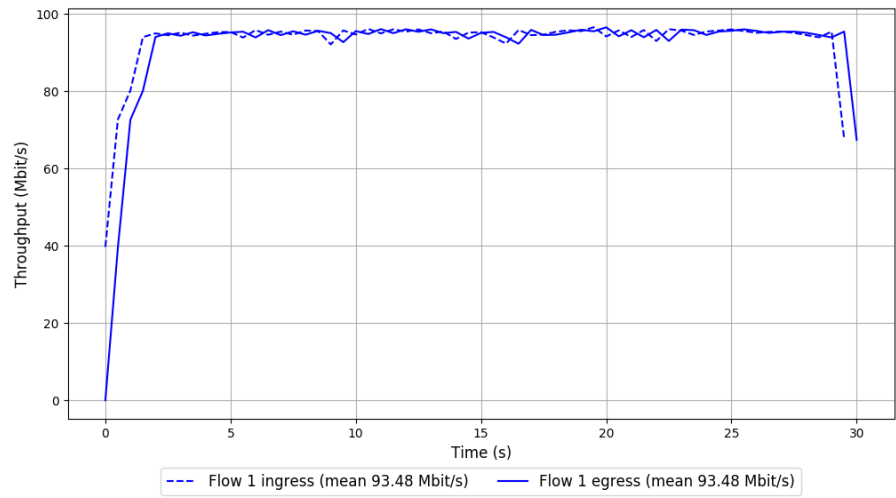
-- Flow 1:

Average throughput: 93.48 Mbit/s

95th percentile per-packet one-way delay: 2.286 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link

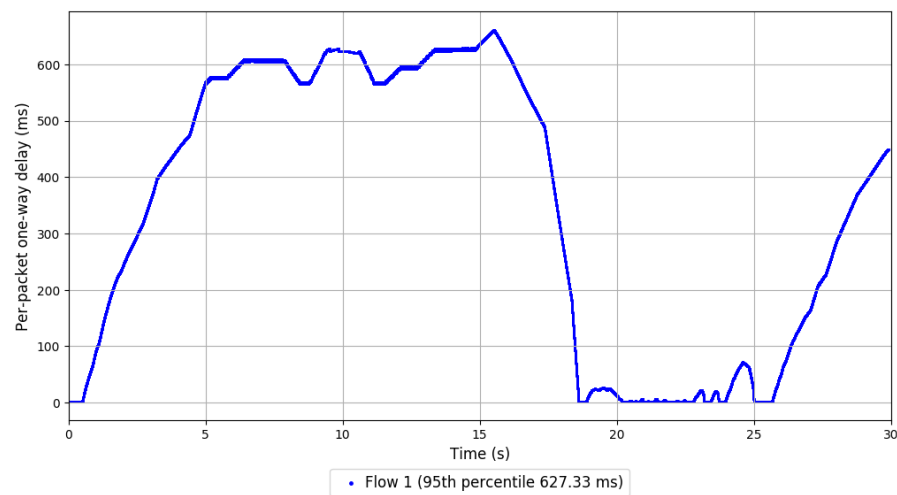
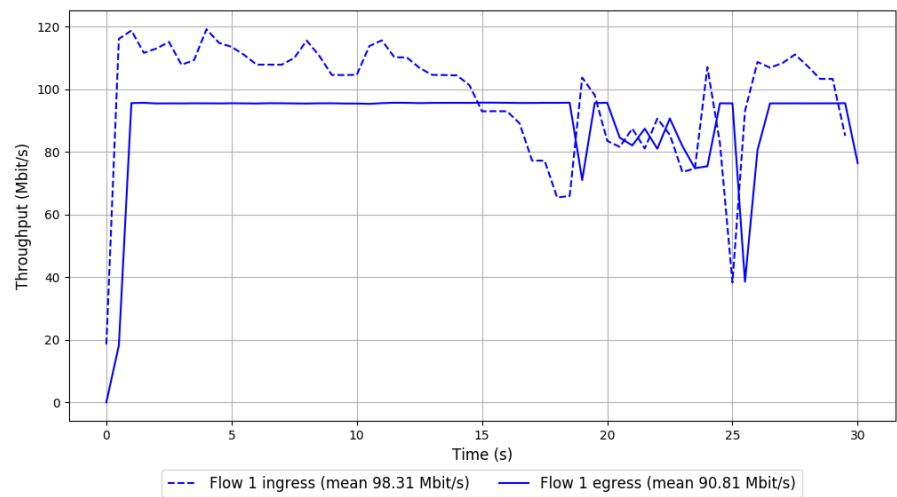


Run 1: Statistics of PCC-Expr

Start at: 2018-11-30 11:14:51
End at: 2018-11-30 11:15:21
Local clock offset: -2.378 ms
Remote clock offset: -0.216 ms

Below is generated by plot.py at 2018-11-30 12:52:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.81 Mbit/s
95th percentile per-packet one-way delay: 627.325 ms
Loss rate: 7.64%
-- Flow 1:
Average throughput: 90.81 Mbit/s
95th percentile per-packet one-way delay: 627.325 ms
Loss rate: 7.64%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 11:36:21

End at: 2018-11-30 11:36:51

Local clock offset: -3.558 ms

Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-11-30 12:52:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.69 Mbit/s

95th percentile per-packet one-way delay: 4.474 ms

Loss rate: 0.01%

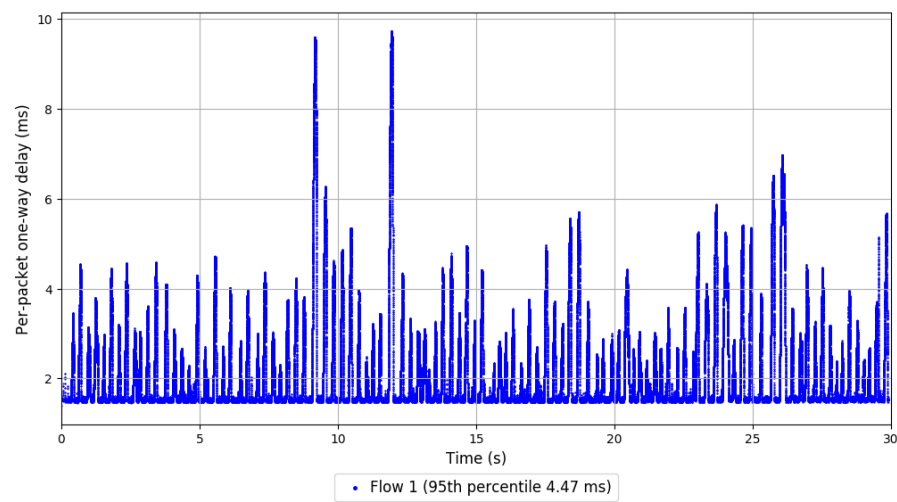
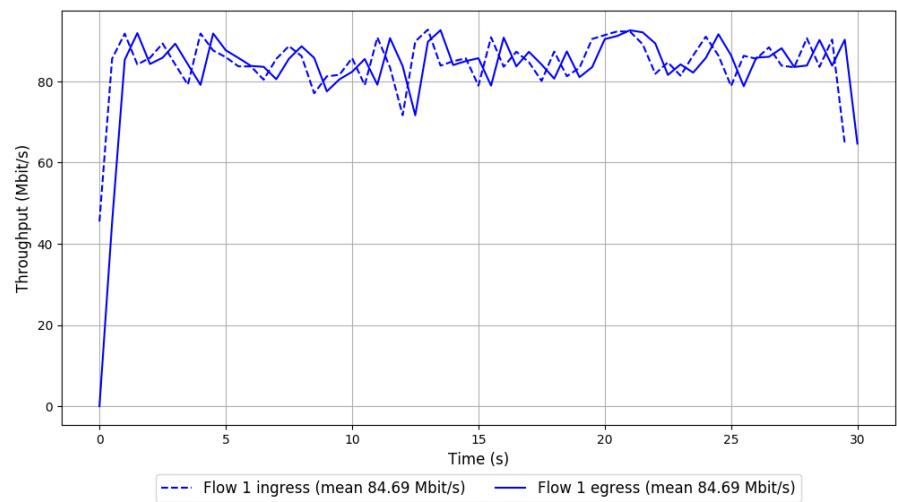
-- Flow 1:

Average throughput: 84.69 Mbit/s

95th percentile per-packet one-way delay: 4.474 ms

Loss rate: 0.01%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 11:57:48

End at: 2018-11-30 11:58:18

Local clock offset: -2.494 ms

Remote clock offset: 0.354 ms

Below is generated by plot.py at 2018-11-30 12:52:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.25 Mbit/s

95th percentile per-packet one-way delay: 18.737 ms

Loss rate: 0.03%

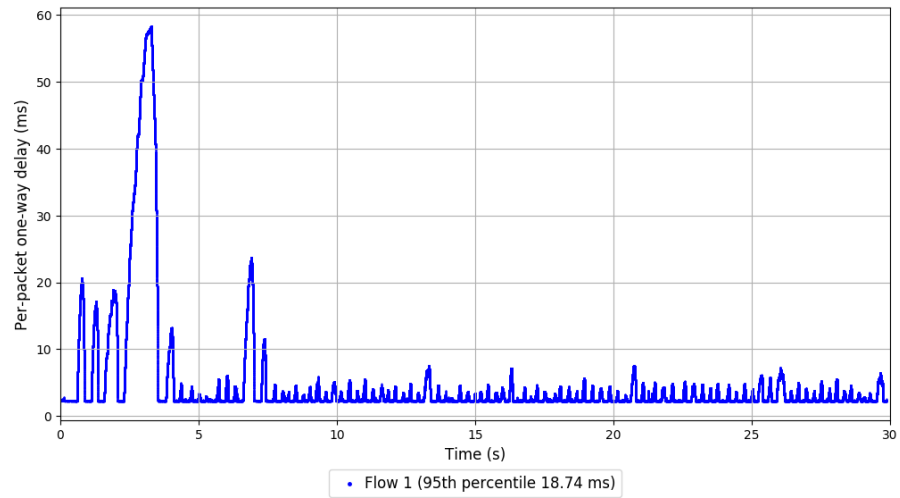
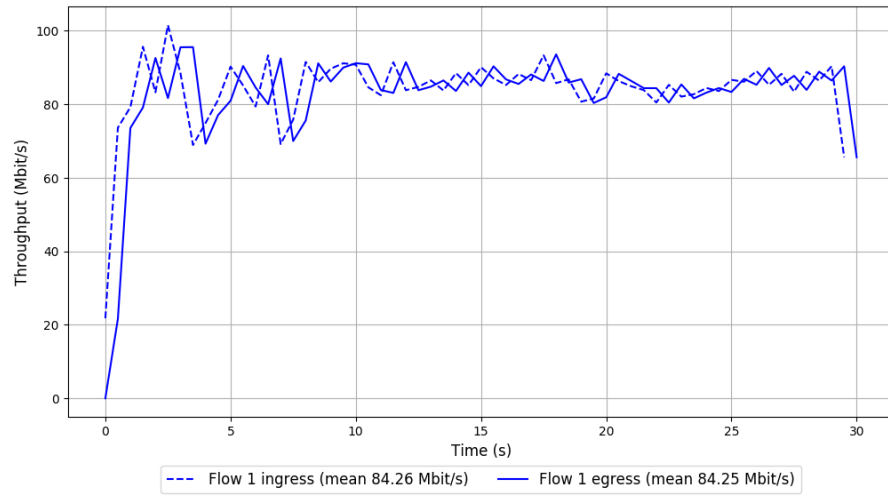
-- Flow 1:

Average throughput: 84.25 Mbit/s

95th percentile per-packet one-way delay: 18.737 ms

Loss rate: 0.03%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 12:19:17

End at: 2018-11-30 12:19:47

Local clock offset: -2.76 ms

Remote clock offset: 0.431 ms

Below is generated by plot.py at 2018-11-30 12:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.44 Mbit/s

95th percentile per-packet one-way delay: 8.331 ms

Loss rate: 0.02%

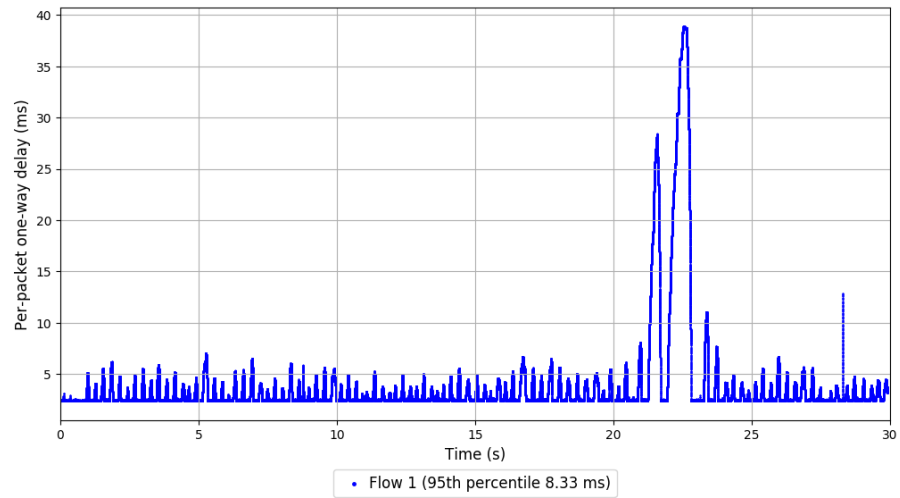
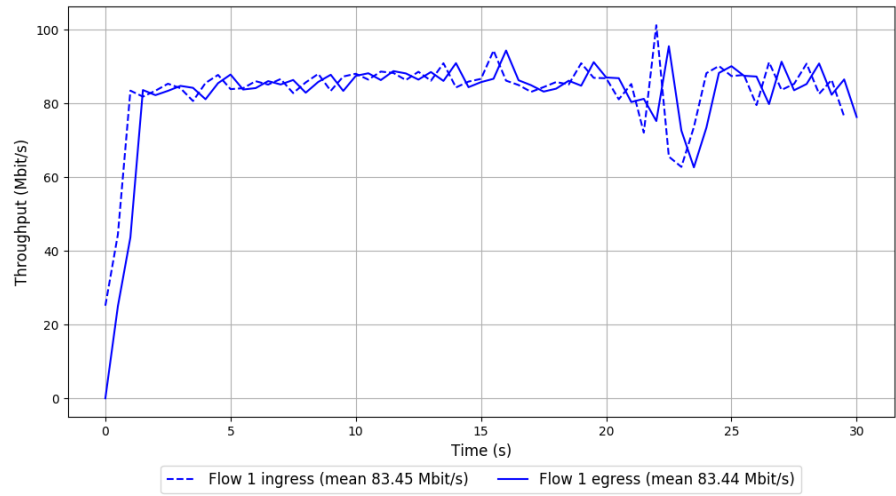
-- Flow 1:

Average throughput: 83.44 Mbit/s

95th percentile per-packet one-way delay: 8.331 ms

Loss rate: 0.02%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 12:40:47

End at: 2018-11-30 12:41:17

Local clock offset: -3.509 ms

Remote clock offset: 0.429 ms

Below is generated by plot.py at 2018-11-30 12:52:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.39 Mbit/s

95th percentile per-packet one-way delay: 246.853 ms

Loss rate: 0.23%

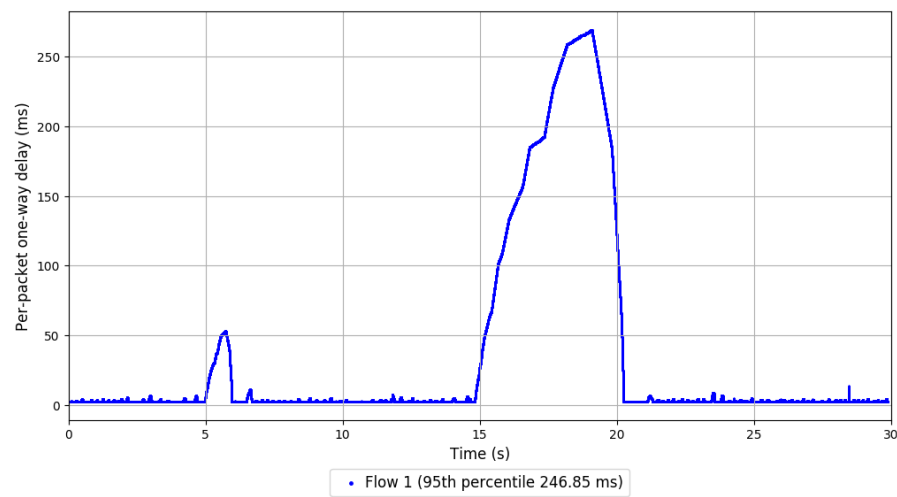
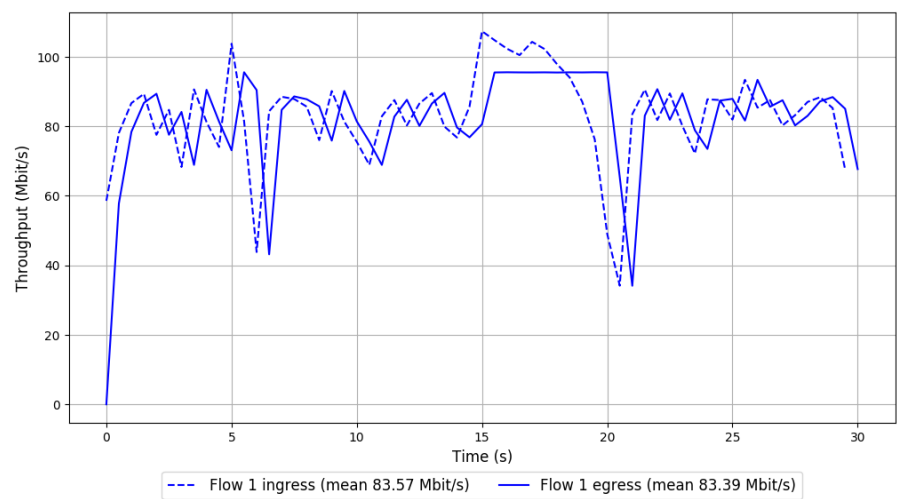
-- Flow 1:

Average throughput: 83.39 Mbit/s

95th percentile per-packet one-way delay: 246.853 ms

Loss rate: 0.23%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 11:08:00

End at: 2018-11-30 11:08:30

Local clock offset: -1.465 ms

Remote clock offset: -0.258 ms

Below is generated by plot.py at 2018-11-30 12:52:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 7.990 ms

Loss rate: 0.02%

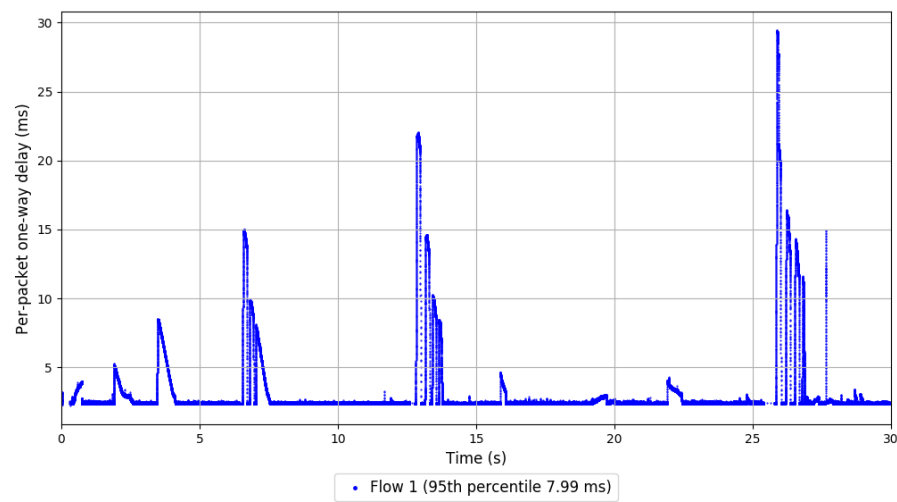
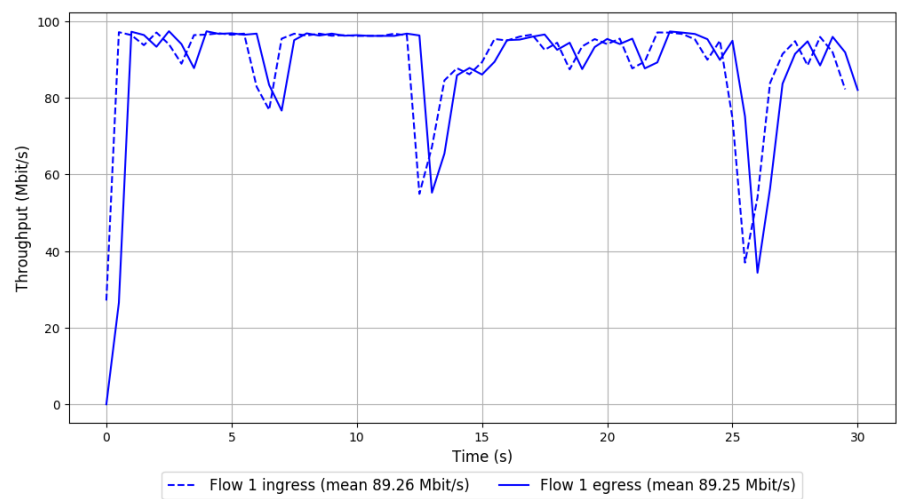
-- Flow 1:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 7.990 ms

Loss rate: 0.02%

Run 1: Report of QUIC Cubic — Data Link

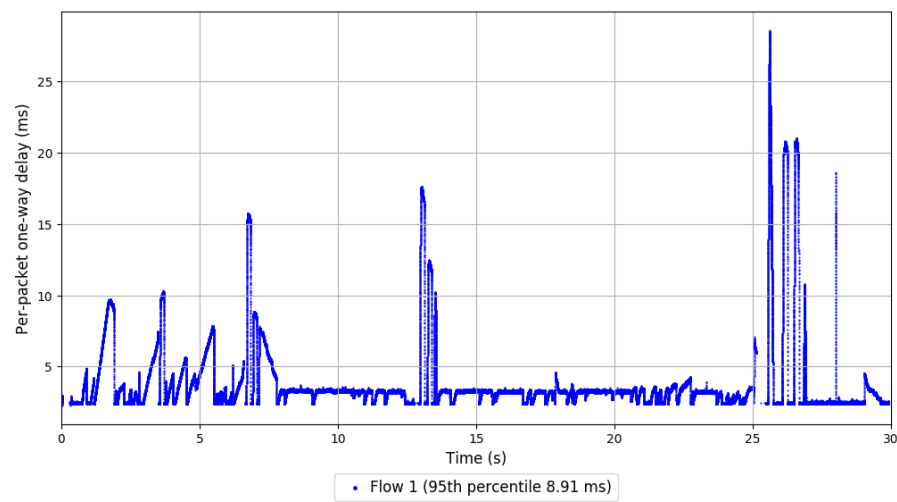
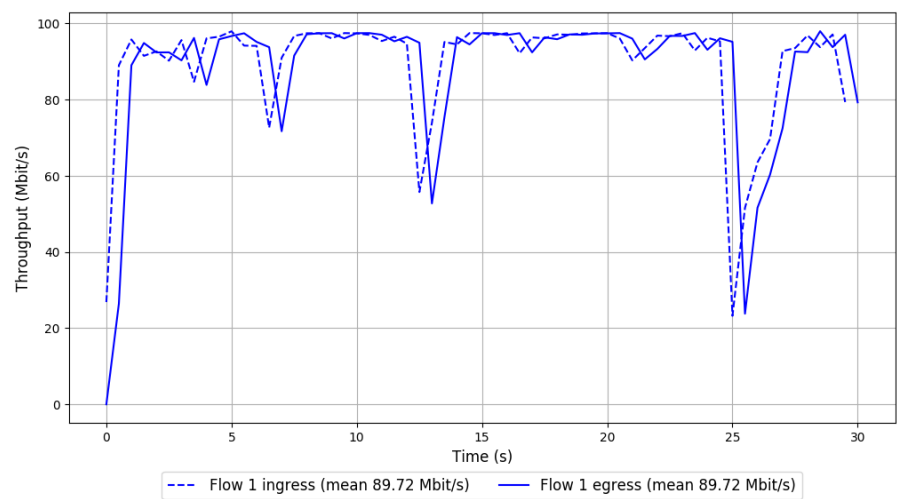


Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 11:29:30
End at: 2018-11-30 11:30:00
Local clock offset: -2.556 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-11-30 12:52:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.72 Mbit/s
95th percentile per-packet one-way delay: 8.913 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 89.72 Mbit/s
95th percentile per-packet one-way delay: 8.913 ms
Loss rate: 0.02%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 11:51:00

End at: 2018-11-30 11:51:30

Local clock offset: -2.582 ms

Remote clock offset: 0.161 ms

Below is generated by plot.py at 2018-11-30 12:52:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.02 Mbit/s

95th percentile per-packet one-way delay: 8.679 ms

Loss rate: 0.02%

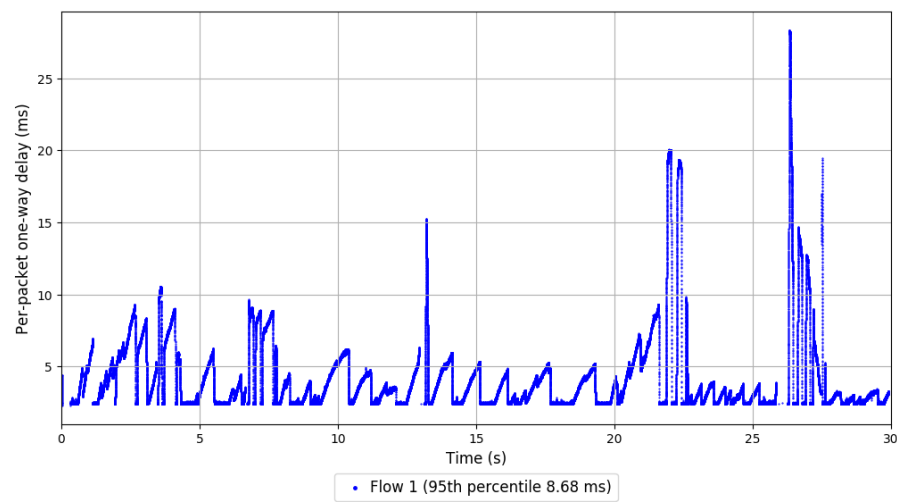
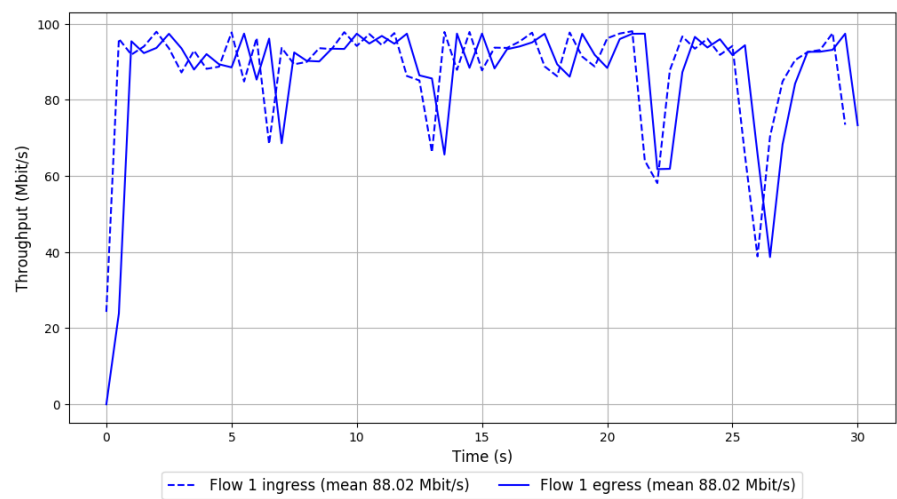
-- Flow 1:

Average throughput: 88.02 Mbit/s

95th percentile per-packet one-way delay: 8.679 ms

Loss rate: 0.02%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 12:12:26

End at: 2018-11-30 12:12:56

Local clock offset: -3.204 ms

Remote clock offset: 0.438 ms

Below is generated by plot.py at 2018-11-30 12:53:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.88 Mbit/s

95th percentile per-packet one-way delay: 6.741 ms

Loss rate: 0.02%

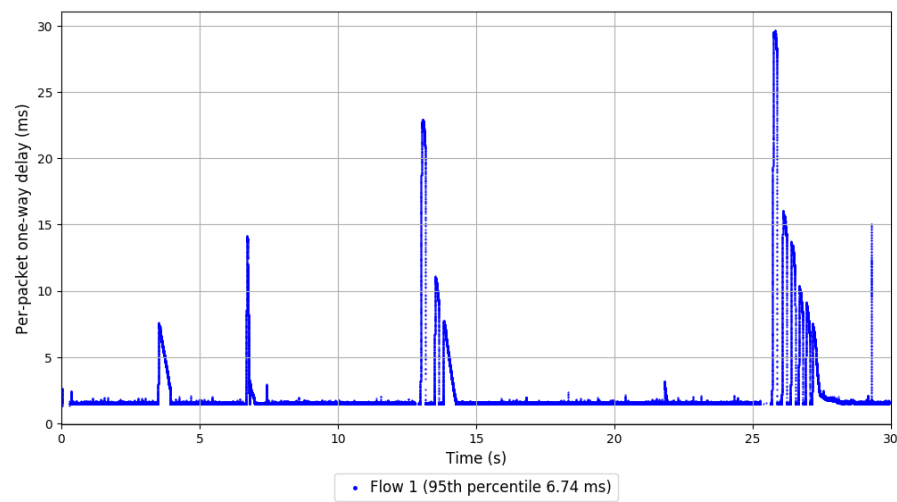
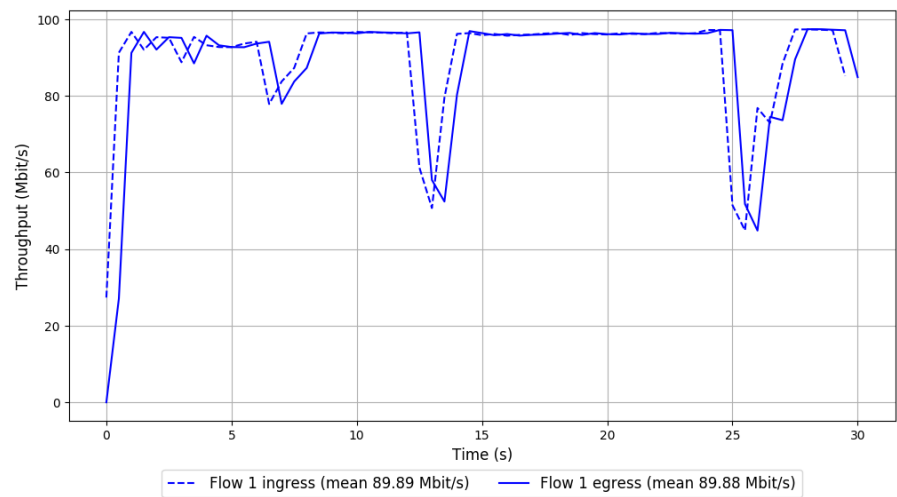
-- Flow 1:

Average throughput: 89.88 Mbit/s

95th percentile per-packet one-way delay: 6.741 ms

Loss rate: 0.02%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 12:33:56

End at: 2018-11-30 12:34:26

Local clock offset: -3.452 ms

Remote clock offset: 0.434 ms

Below is generated by plot.py at 2018-11-30 12:53:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.74 Mbit/s

95th percentile per-packet one-way delay: 9.167 ms

Loss rate: 0.02%

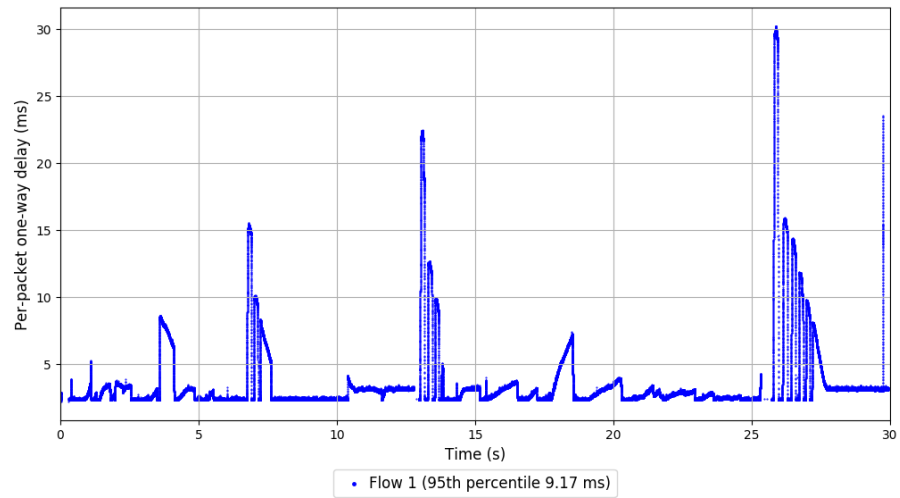
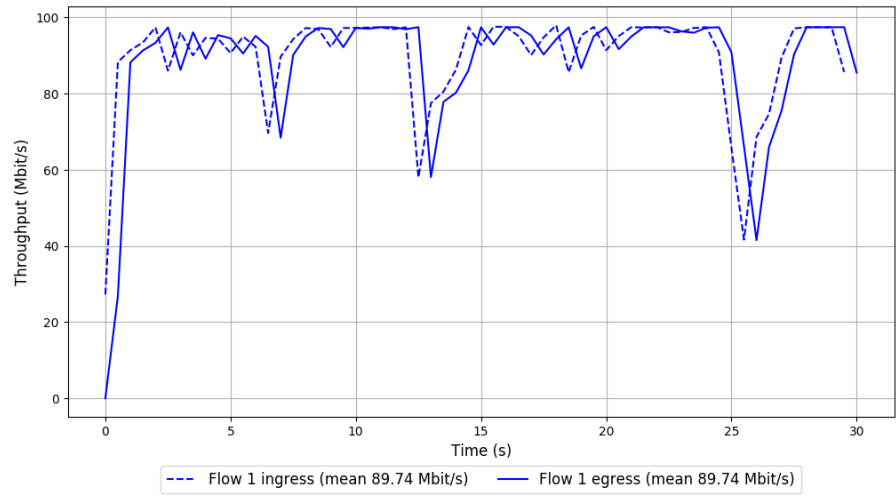
-- Flow 1:

Average throughput: 89.74 Mbit/s

95th percentile per-packet one-way delay: 9.167 ms

Loss rate: 0.02%

Run 5: Report of QUIC Cubic — Data Link

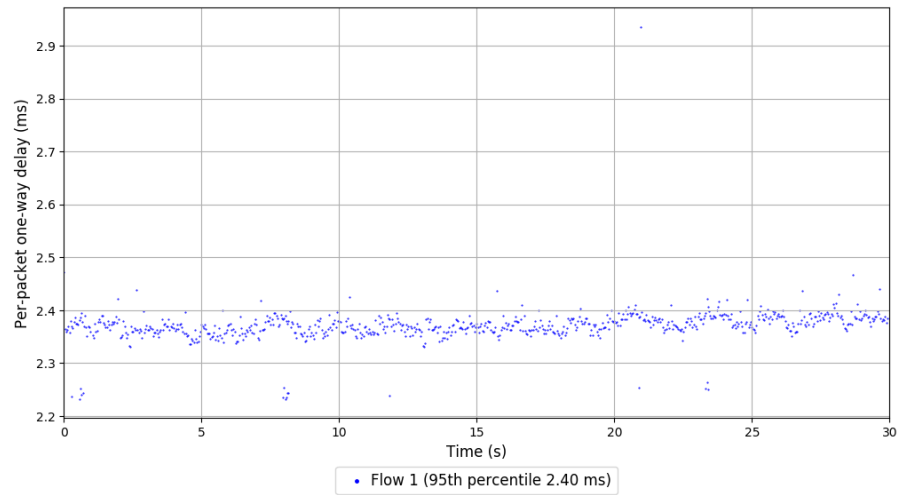
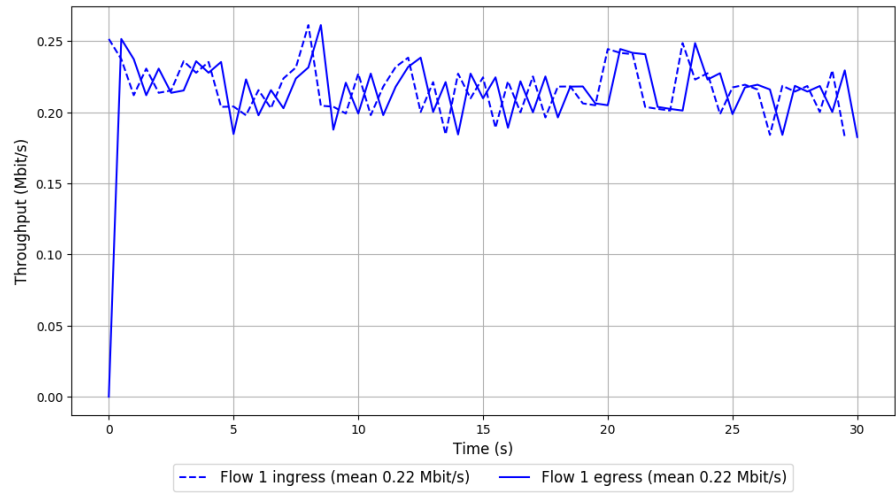


Run 1: Statistics of SCReAM

Start at: 2018-11-30 10:59:05
End at: 2018-11-30 10:59:35
Local clock offset: -1.067 ms
Remote clock offset: -0.335 ms

Below is generated by plot.py at 2018-11-30 12:53:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.398 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.398 ms
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

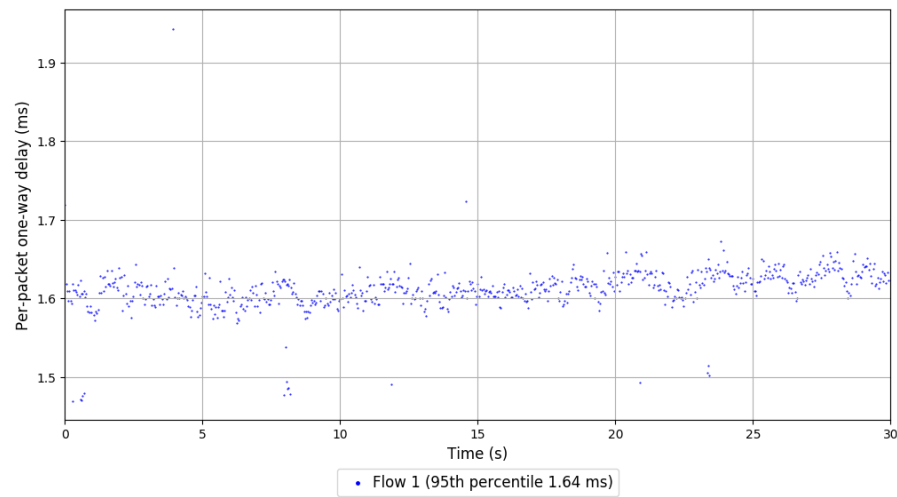
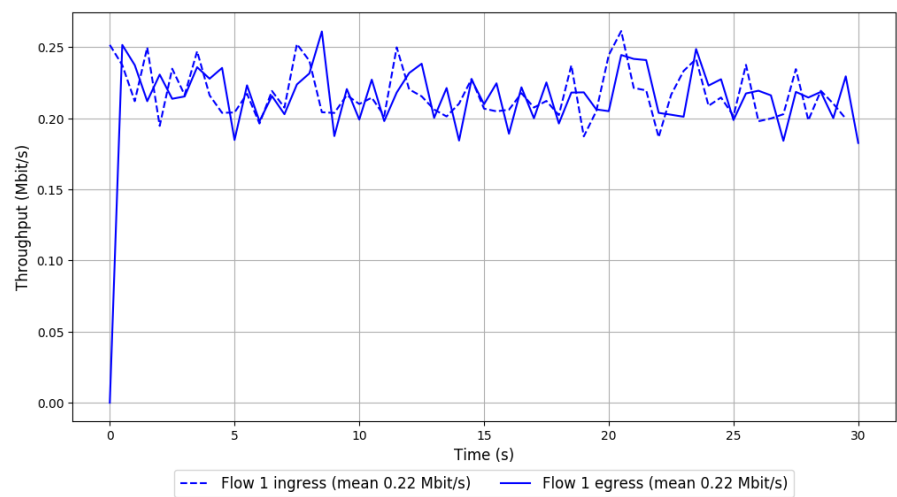


Run 2: Statistics of SCReAM

Start at: 2018-11-30 11:20:35
End at: 2018-11-30 11:21:05
Local clock offset: -2.95 ms
Remote clock offset: -0.145 ms

Below is generated by plot.py at 2018-11-30 12:53:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.641 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.641 ms
Loss rate: 0.13%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-11-30 11:42:03

End at: 2018-11-30 11:42:33

Local clock offset: -2.905 ms

Remote clock offset: 0.091 ms

Below is generated by plot.py at 2018-11-30 12:53:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.422 ms

Loss rate: 0.00%

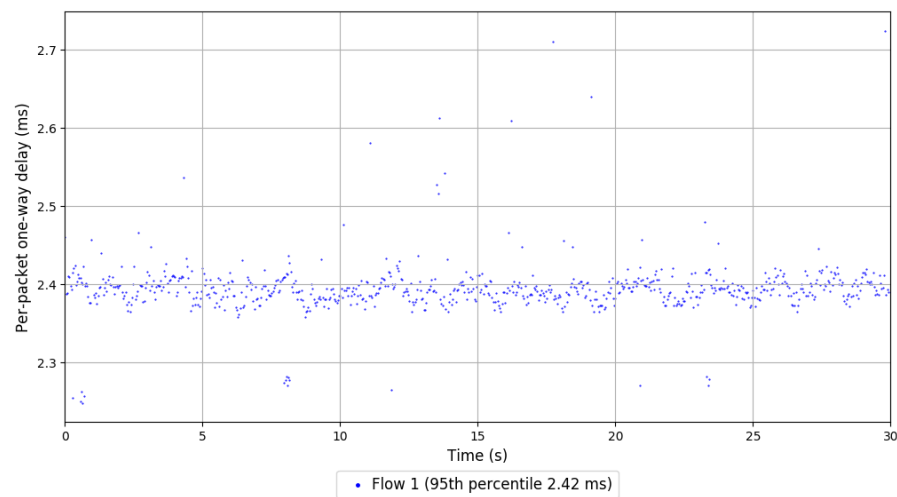
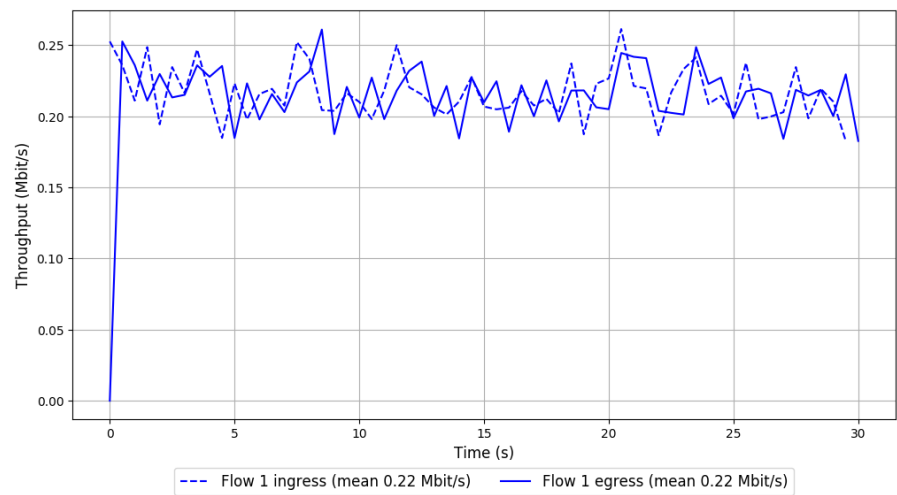
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.422 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-11-30 12:03:30

End at: 2018-11-30 12:04:00

Local clock offset: -3.158 ms

Remote clock offset: 0.334 ms

Below is generated by plot.py at 2018-11-30 12:53:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.616 ms

Loss rate: 0.00%

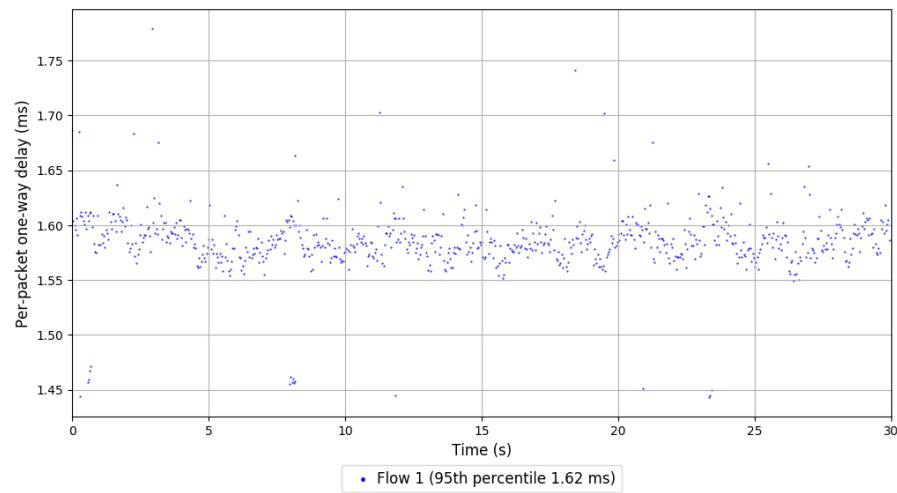
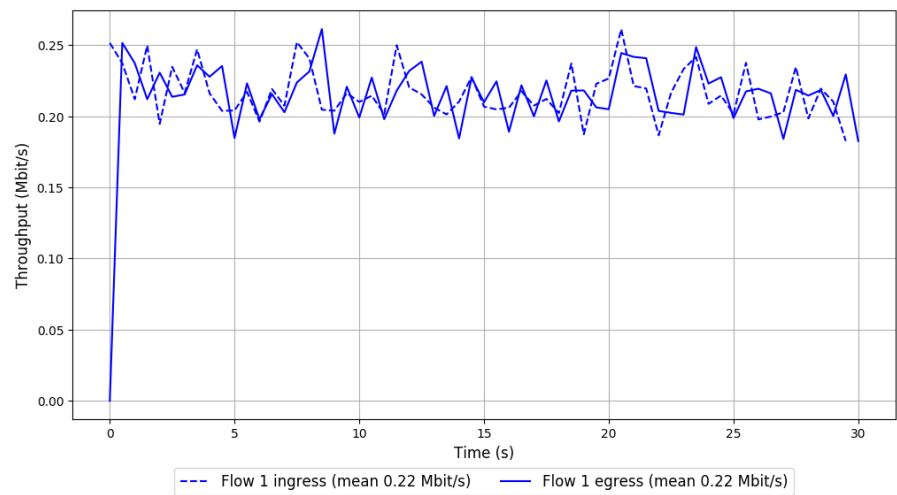
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.616 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-11-30 12:24:59

End at: 2018-11-30 12:25:29

Local clock offset: -3.917 ms

Remote clock offset: 0.505 ms

Below is generated by plot.py at 2018-11-30 12:53:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.546 ms

Loss rate: 0.00%

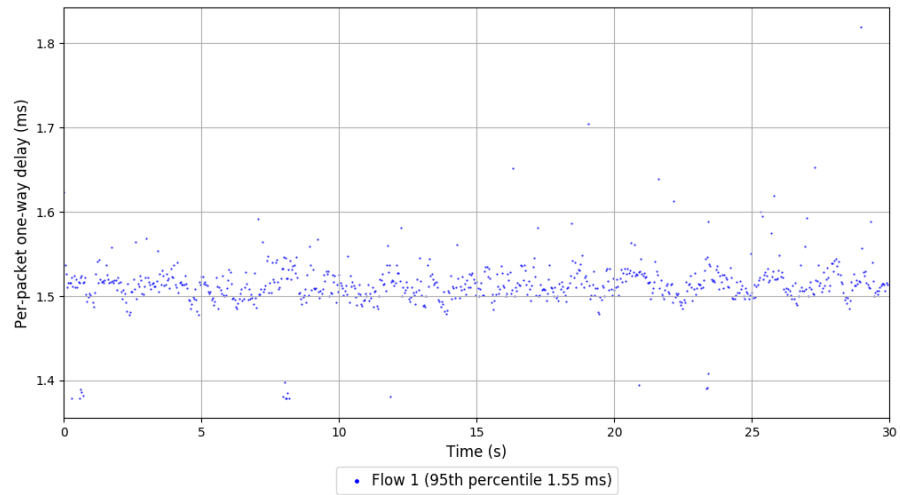
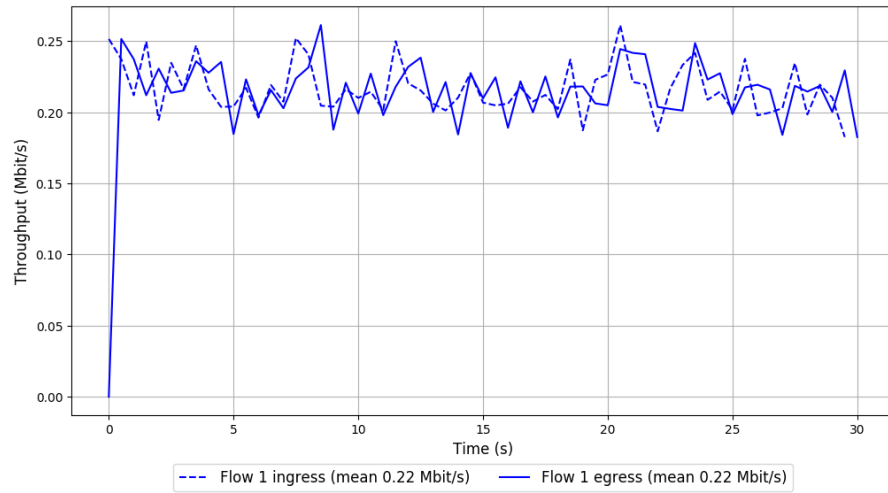
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.546 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

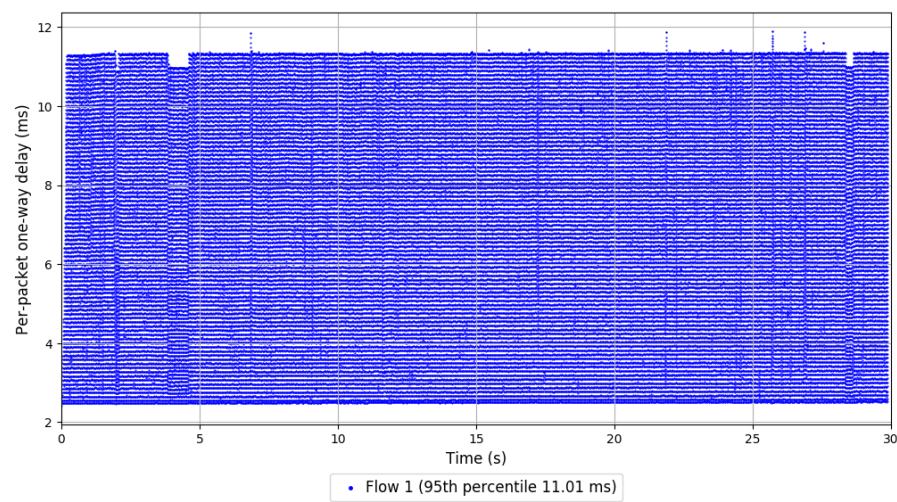
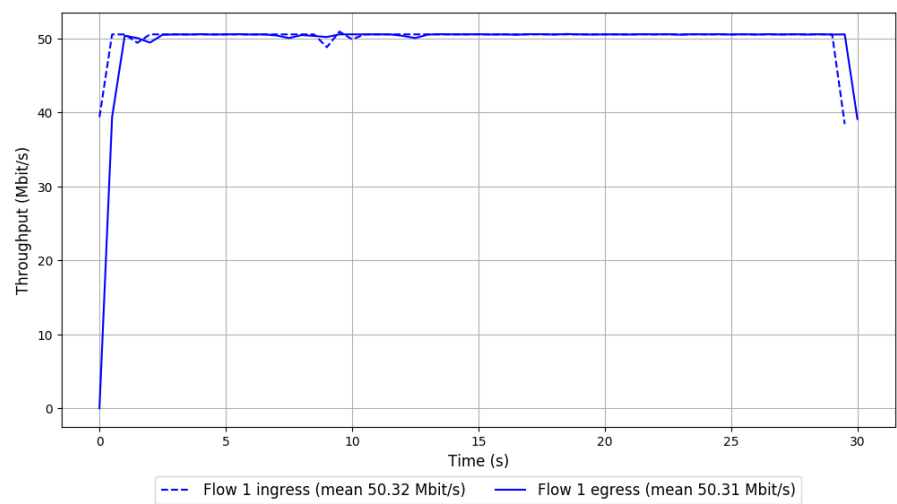


Run 1: Statistics of Sprout

Start at: 2018-11-30 10:57:59
End at: 2018-11-30 10:58:29
Local clock offset: -0.959 ms
Remote clock offset: -0.411 ms

Below is generated by plot.py at 2018-11-30 12:53:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 11.008 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 11.008 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

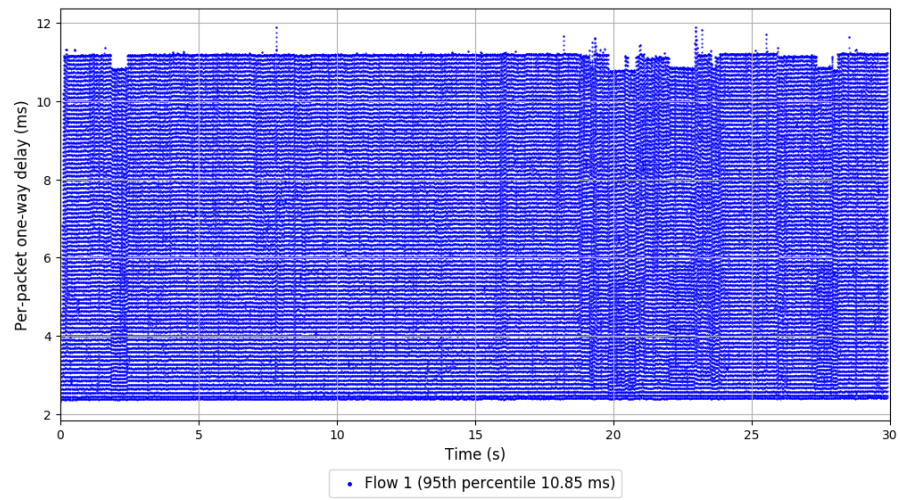
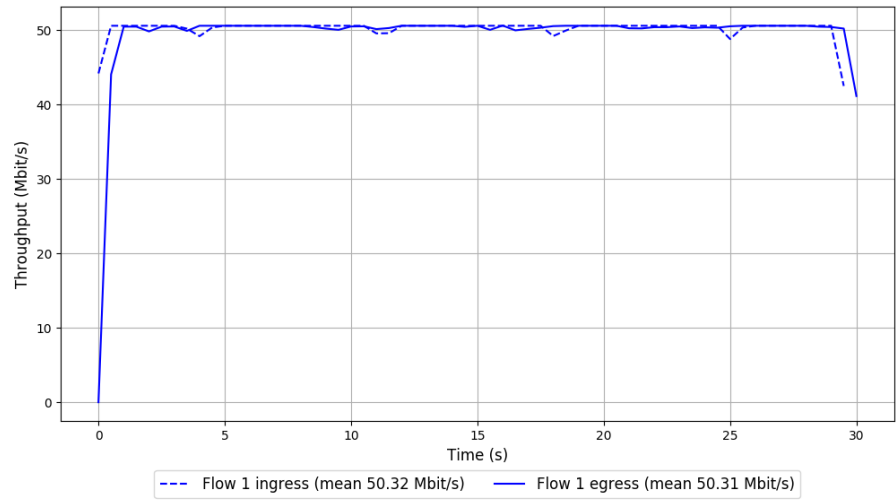


Run 2: Statistics of Sprout

Start at: 2018-11-30 11:19:29
End at: 2018-11-30 11:19:59
Local clock offset: -2.062 ms
Remote clock offset: -0.095 ms

Below is generated by plot.py at 2018-11-30 12:53:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 10.849 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 10.849 ms
Loss rate: 0.07%

Run 2: Report of Sprout — Data Link

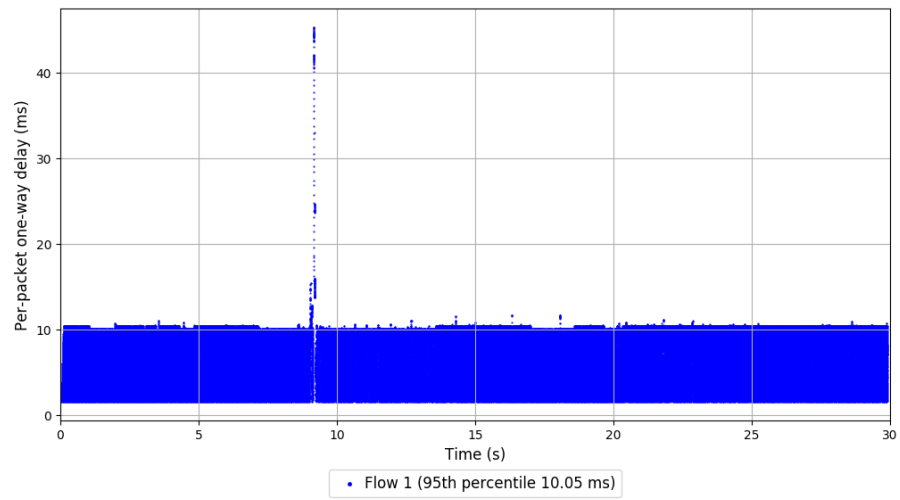
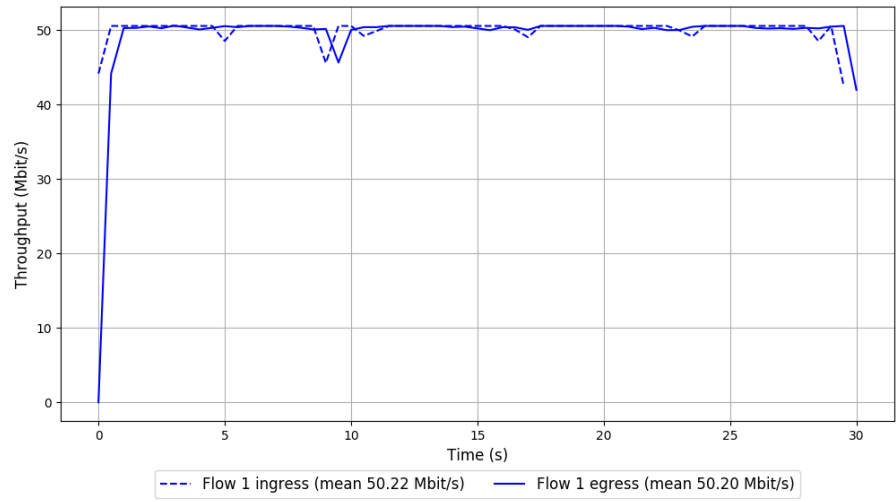


Run 3: Statistics of Sprout

Start at: 2018-11-30 11:40:58
End at: 2018-11-30 11:41:28
Local clock offset: -3.612 ms
Remote clock offset: 0.161 ms

Below is generated by plot.py at 2018-11-30 12:53:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 10.054 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 10.054 ms
Loss rate: 0.02%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-11-30 12:02:25

End at: 2018-11-30 12:02:55

Local clock offset: -3.167 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2018-11-30 12:53:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 10.088 ms

Loss rate: 0.05%

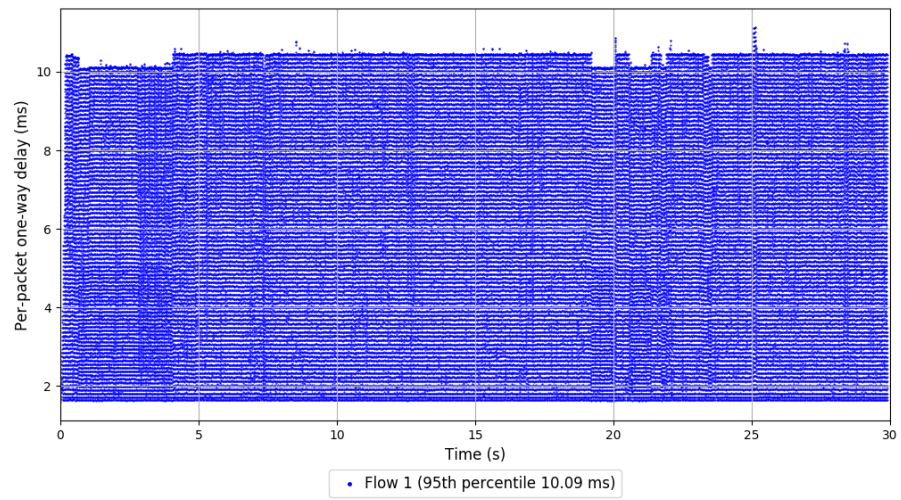
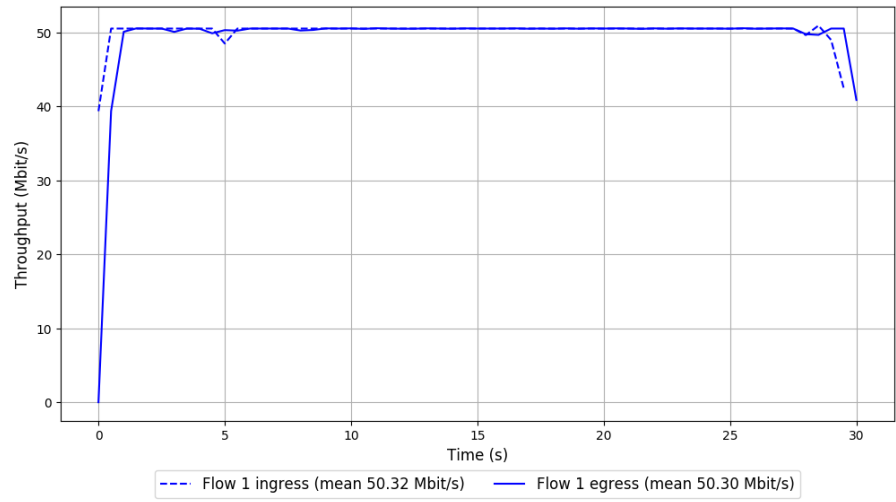
-- Flow 1:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 10.088 ms

Loss rate: 0.05%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-11-30 12:23:53

End at: 2018-11-30 12:24:23

Local clock offset: -3.051 ms

Remote clock offset: 0.438 ms

Below is generated by plot.py at 2018-11-30 12:53:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.20 Mbit/s

95th percentile per-packet one-way delay: 10.932 ms

Loss rate: 0.01%

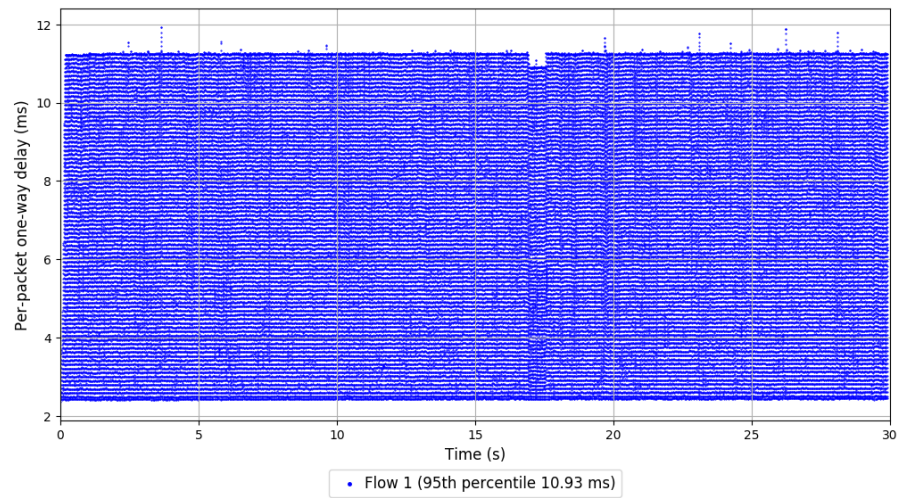
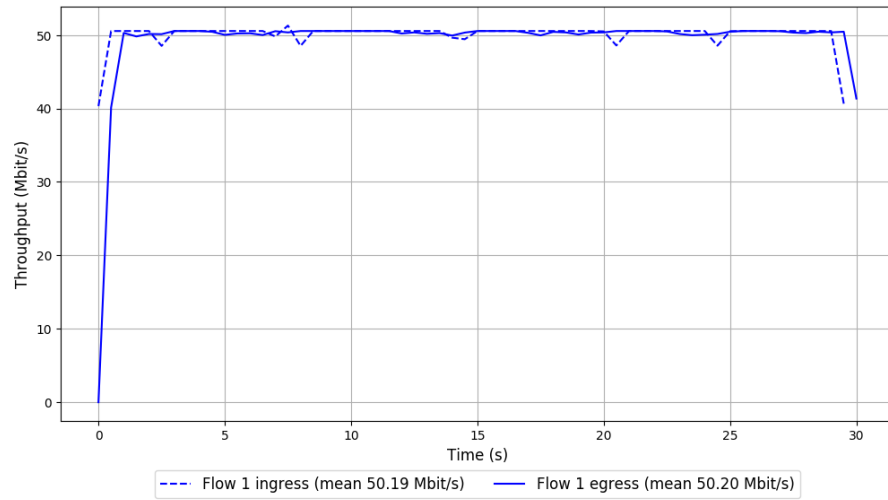
-- Flow 1:

Average throughput: 50.20 Mbit/s

95th percentile per-packet one-way delay: 10.932 ms

Loss rate: 0.01%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-11-30 10:54:33

End at: 2018-11-30 10:55:03

Local clock offset: -0.689 ms

Remote clock offset: -0.315 ms

Below is generated by plot.py at 2018-11-30 12:54:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.10 Mbit/s

95th percentile per-packet one-way delay: 2.374 ms

Loss rate: 0.01%

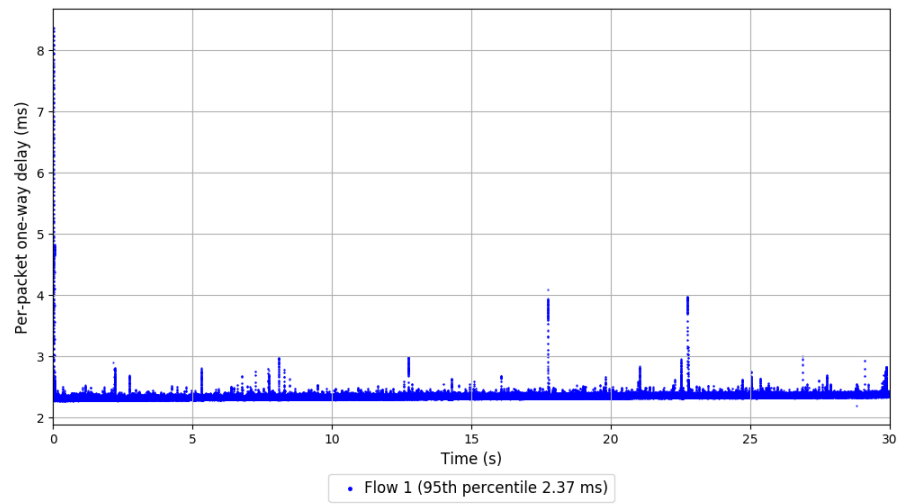
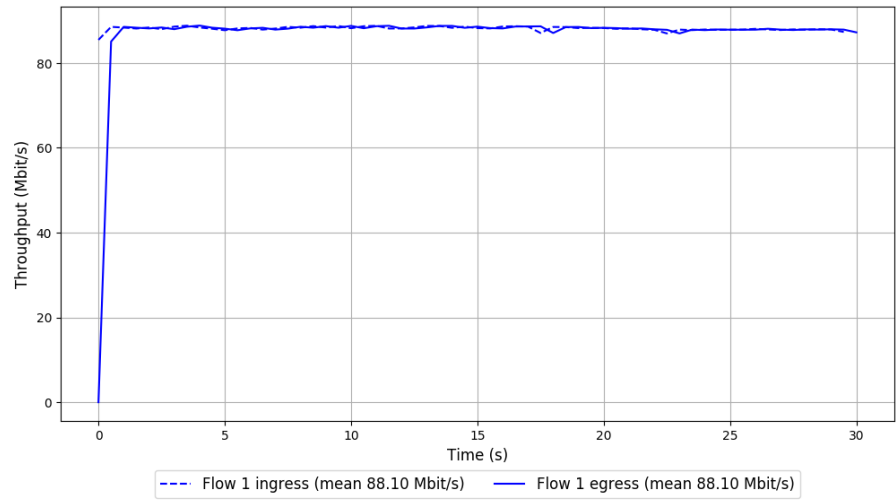
-- Flow 1:

Average throughput: 88.10 Mbit/s

95th percentile per-packet one-way delay: 2.374 ms

Loss rate: 0.01%

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

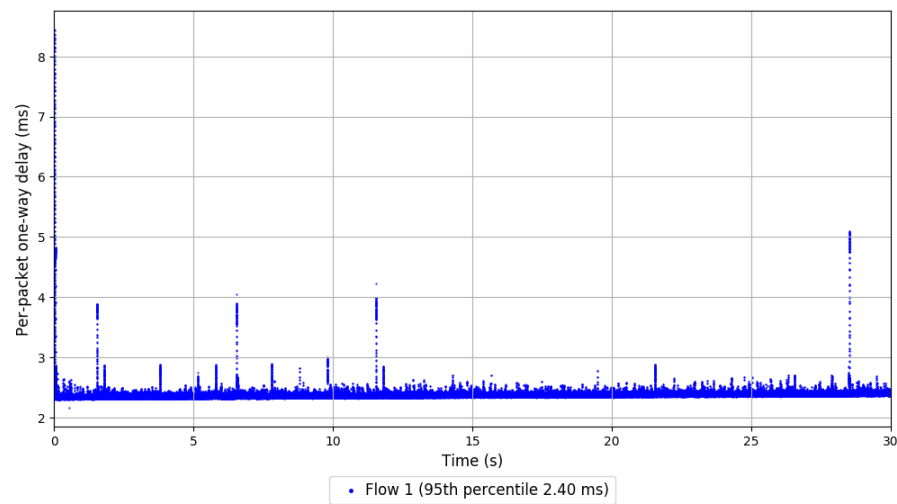
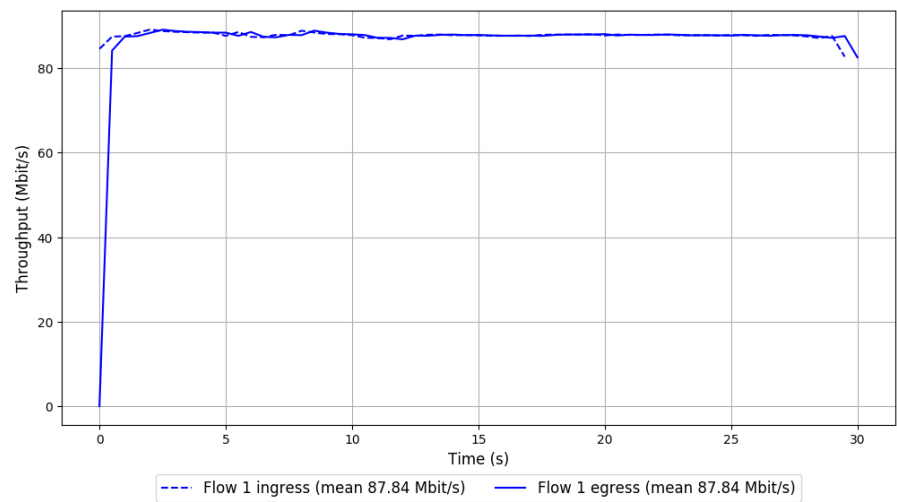


Run 2: Statistics of TaoVA-100x

Start at: 2018-11-30 11:16:03
End at: 2018-11-30 11:16:33
Local clock offset: -1.835 ms
Remote clock offset: -0.191 ms

Below is generated by plot.py at 2018-11-30 12:54:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.84 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 0.01%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-11-30 11:37:32

End at: 2018-11-30 11:38:02

Local clock offset: -2.757 ms

Remote clock offset: 0.083 ms

Below is generated by plot.py at 2018-11-30 12:54:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.71 Mbit/s

95th percentile per-packet one-way delay: 2.446 ms

Loss rate: 0.01%

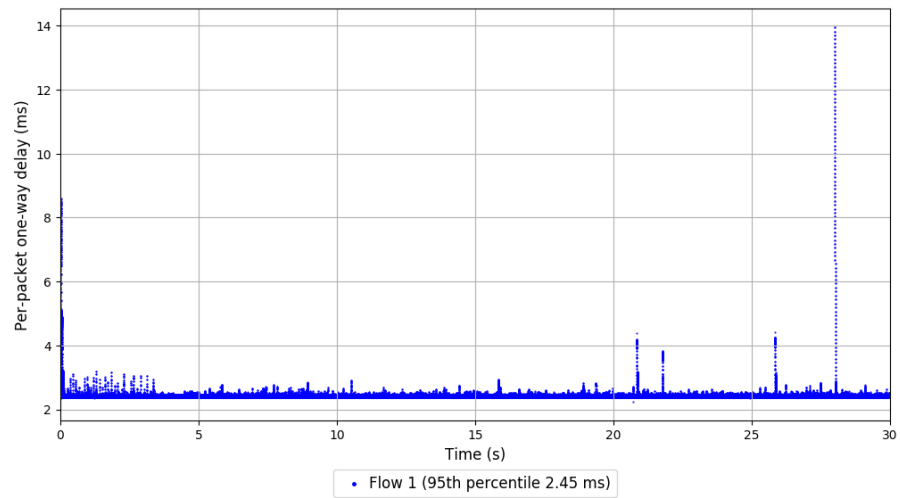
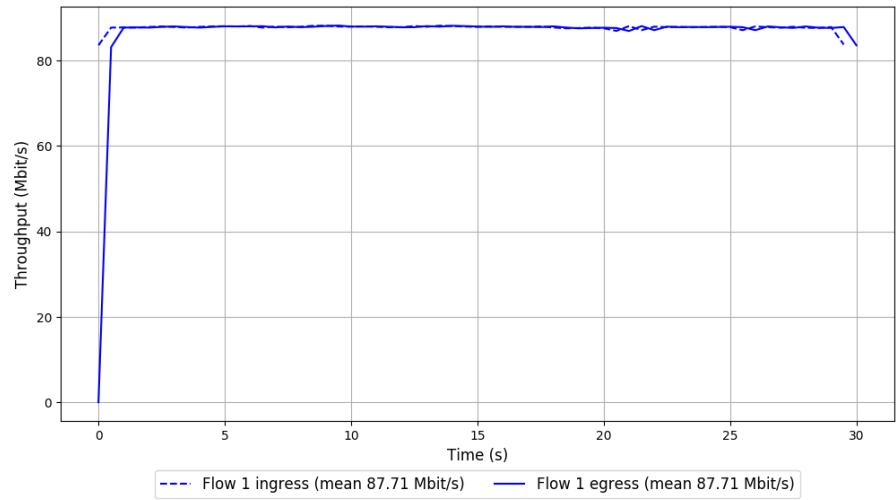
-- Flow 1:

Average throughput: 87.71 Mbit/s

95th percentile per-packet one-way delay: 2.446 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-11-30 11:58:59

End at: 2018-11-30 11:59:29

Local clock offset: -3.182 ms

Remote clock offset: 0.341 ms

Below is generated by plot.py at 2018-11-30 12:55:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.96 Mbit/s

95th percentile per-packet one-way delay: 1.603 ms

Loss rate: 0.01%

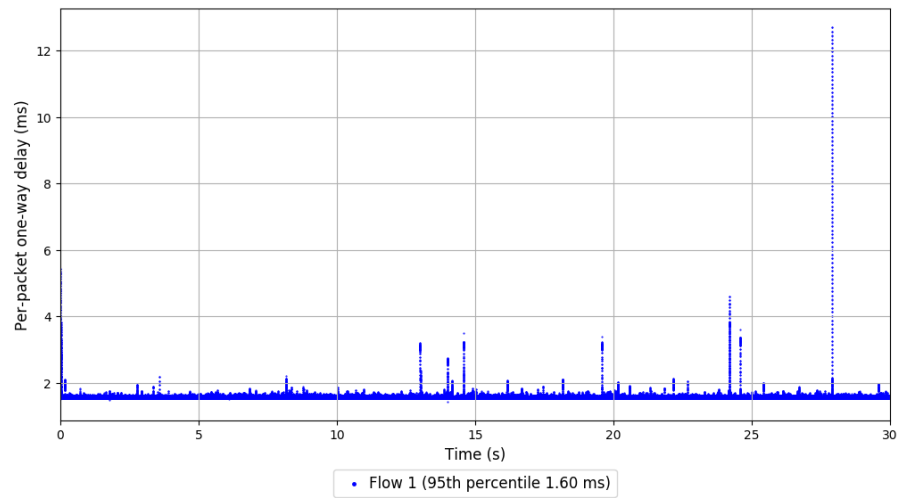
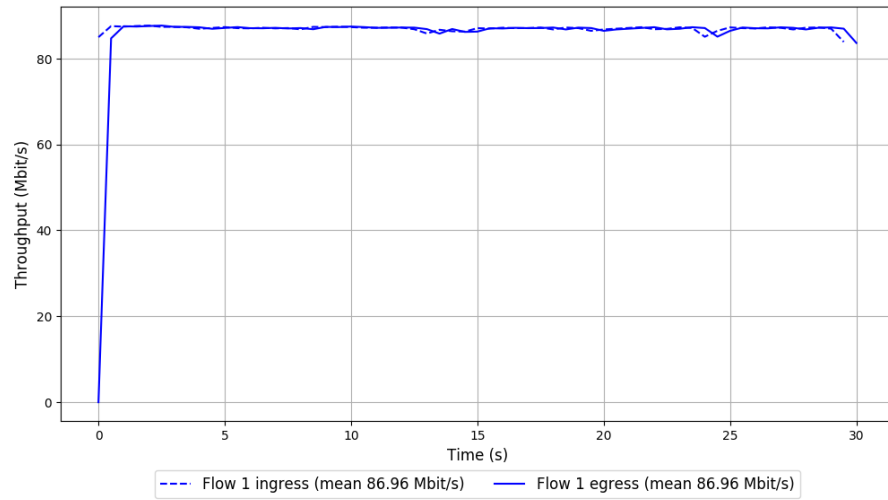
-- Flow 1:

Average throughput: 86.96 Mbit/s

95th percentile per-packet one-way delay: 1.603 ms

Loss rate: 0.01%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-11-30 12:20:27

End at: 2018-11-30 12:20:57

Local clock offset: -3.62 ms

Remote clock offset: 0.33 ms

Below is generated by plot.py at 2018-11-30 12:55:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.54 Mbit/s

95th percentile per-packet one-way delay: 1.801 ms

Loss rate: 0.01%

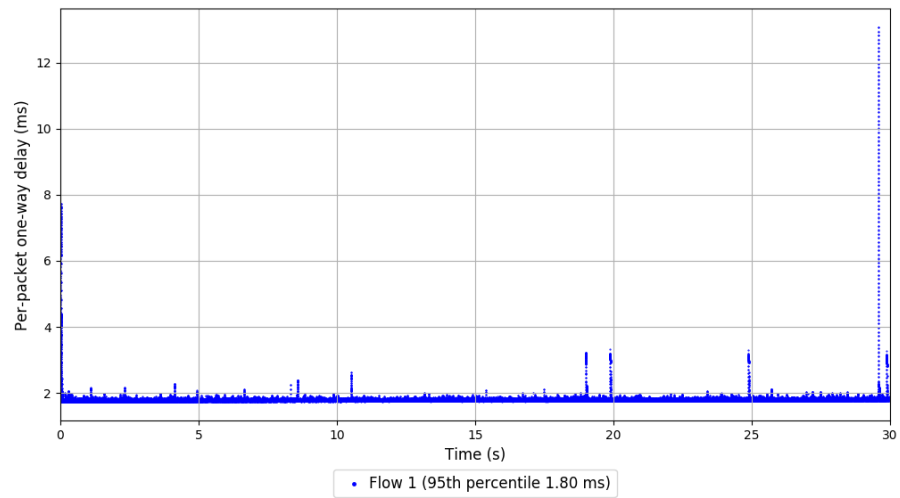
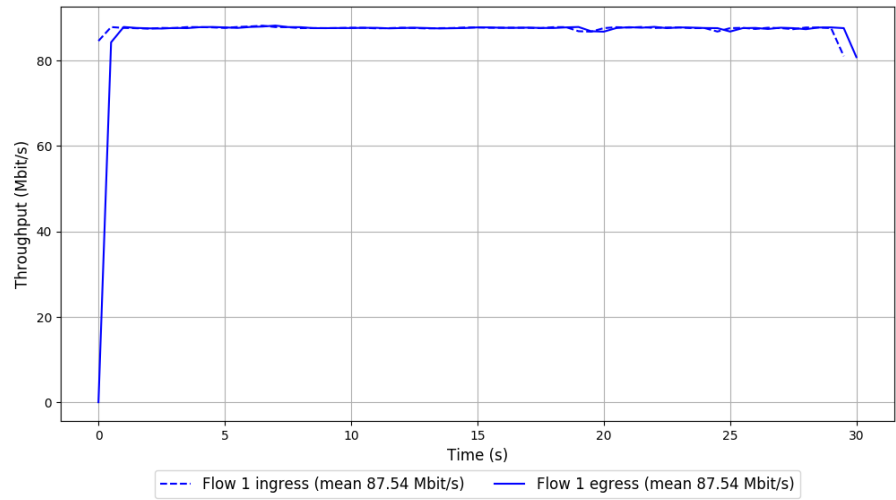
-- Flow 1:

Average throughput: 87.54 Mbit/s

95th percentile per-packet one-way delay: 1.801 ms

Loss rate: 0.01%

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

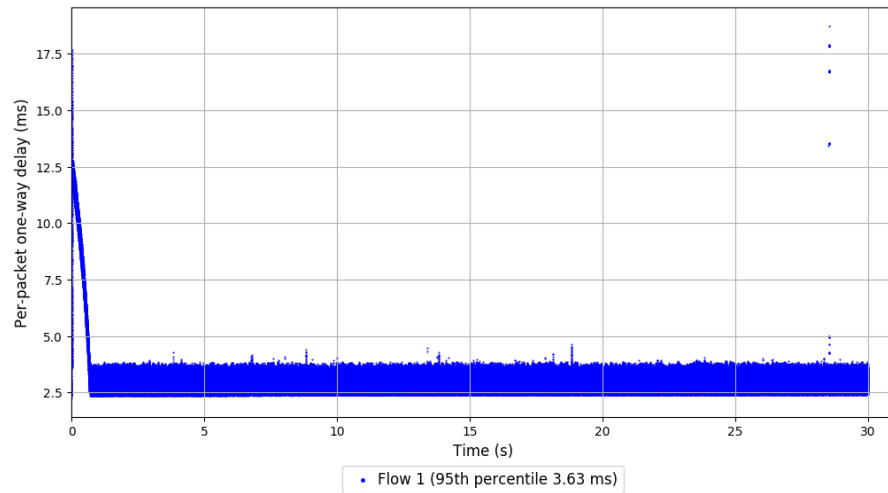
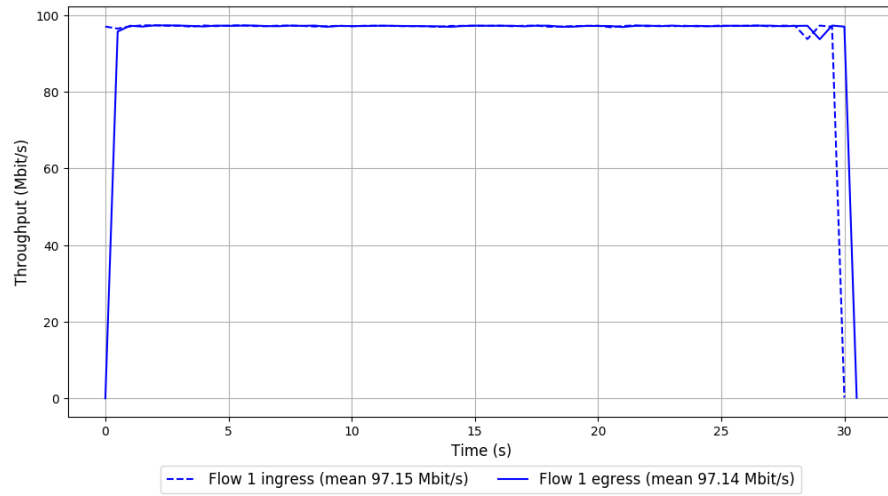


Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 10:55:44
End at: 2018-11-30 10:56:14
Local clock offset: -0.747 ms
Remote clock offset: -0.325 ms

Below is generated by plot.py at 2018-11-30 12:55:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 3.632 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 3.632 ms
Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link

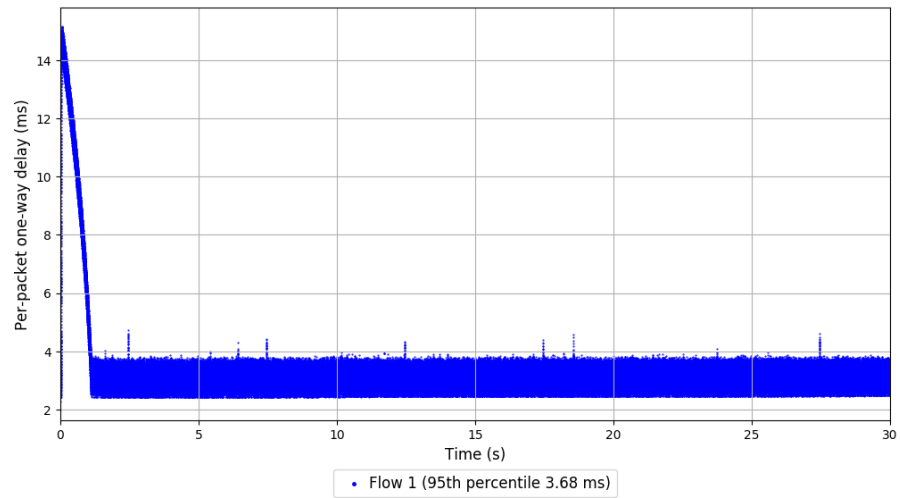
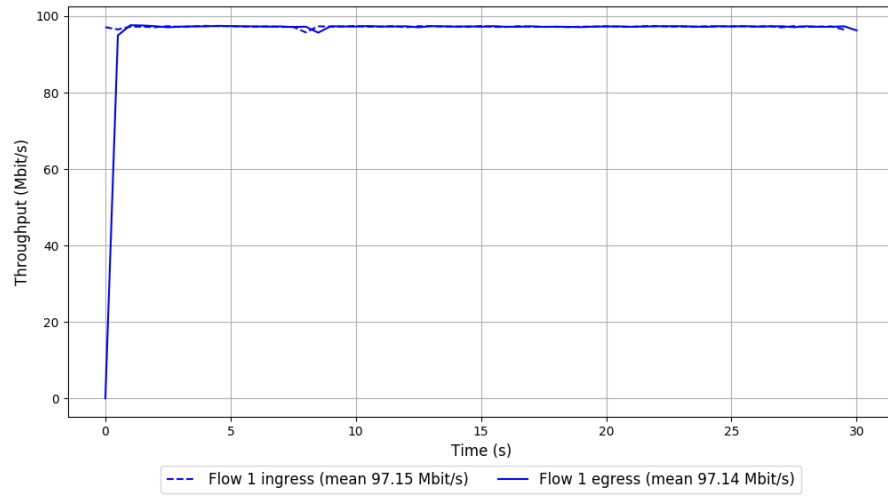


Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 11:17:14
End at: 2018-11-30 11:17:44
Local clock offset: -1.852 ms
Remote clock offset: -0.164 ms

Below is generated by plot.py at 2018-11-30 12:55:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 3.680 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 3.680 ms
Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 11:38:43

End at: 2018-11-30 11:39:13

Local clock offset: -3.567 ms

Remote clock offset: 0.105 ms

Below is generated by plot.py at 2018-11-30 12:55:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 2.878 ms

Loss rate: 0.01%

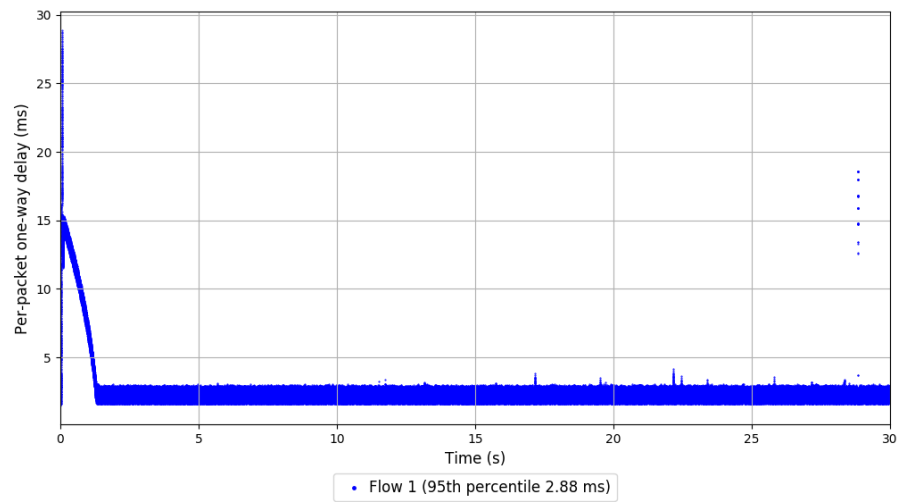
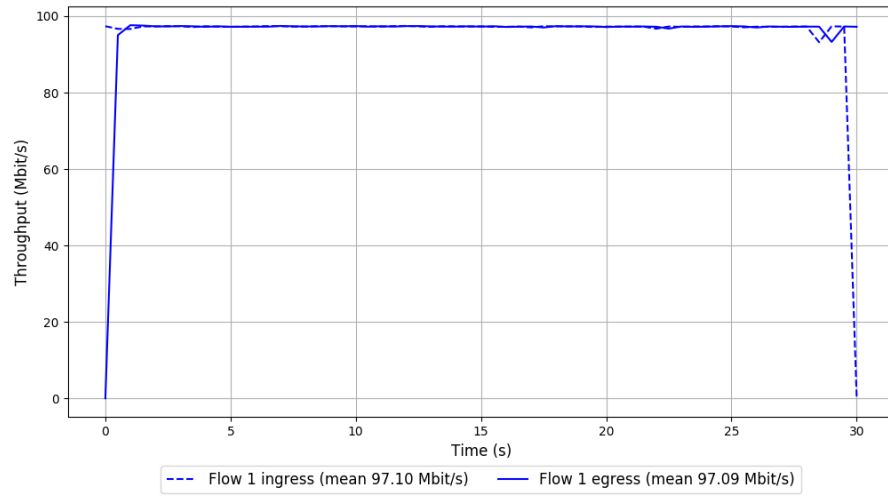
-- Flow 1:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 2.878 ms

Loss rate: 0.01%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 12:00:09

End at: 2018-11-30 12:00:39

Local clock offset: -3.185 ms

Remote clock offset: 0.306 ms

Below is generated by plot.py at 2018-11-30 12:55:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 2.778 ms

Loss rate: 0.01%

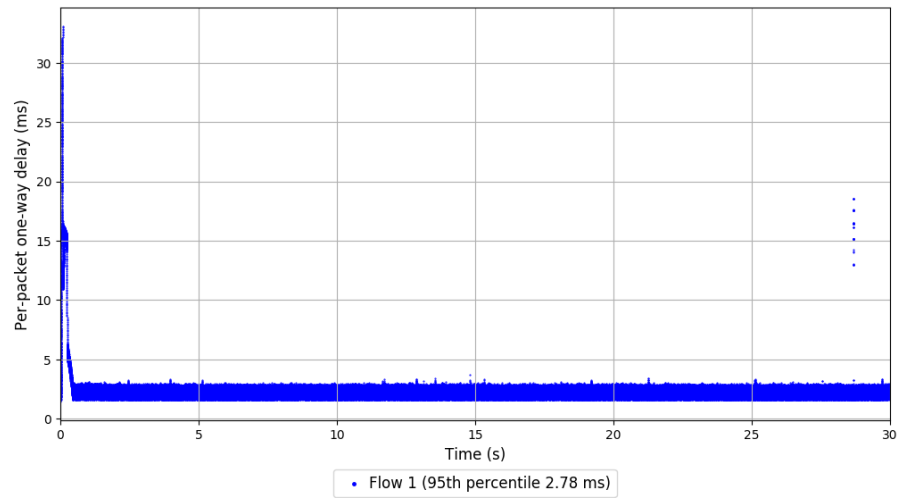
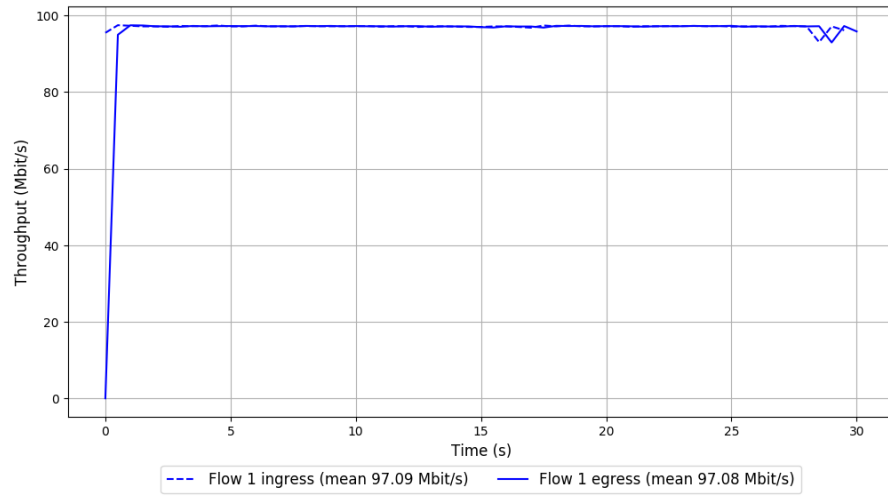
-- Flow 1:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 2.778 ms

Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 12:21:38

End at: 2018-11-30 12:22:08

Local clock offset: -2.908 ms

Remote clock offset: 0.429 ms

Below is generated by plot.py at 2018-11-30 12:55:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.20 Mbit/s

95th percentile per-packet one-way delay: 3.664 ms

Loss rate: 0.01%

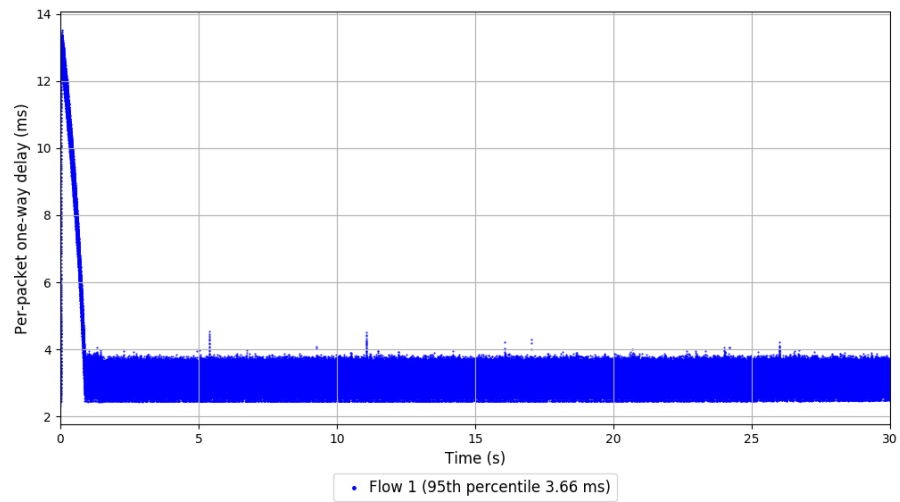
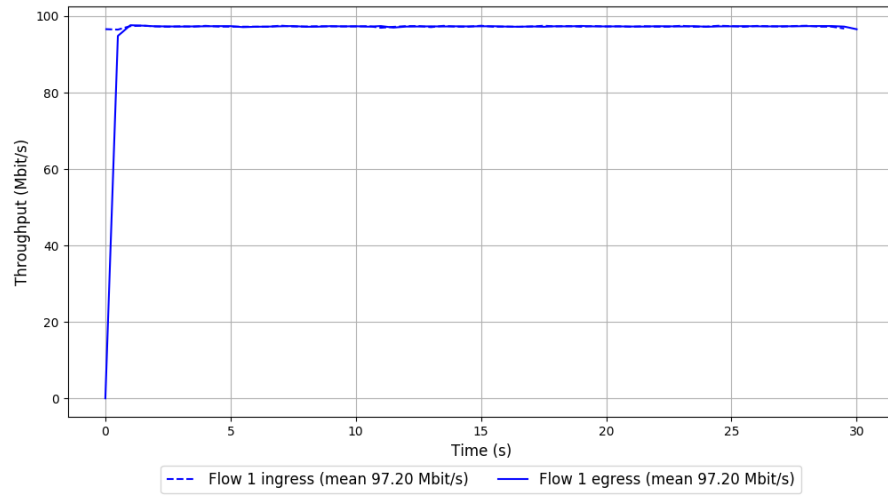
-- Flow 1:

Average throughput: 97.20 Mbit/s

95th percentile per-packet one-way delay: 3.664 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link

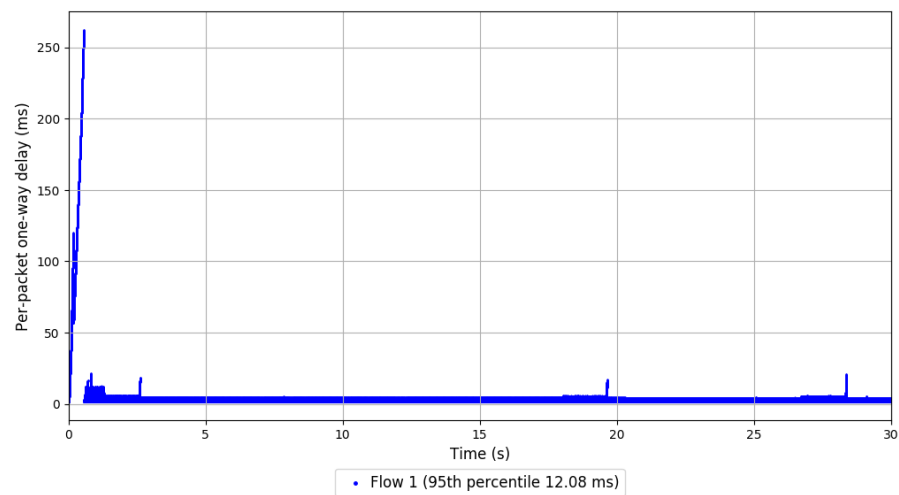
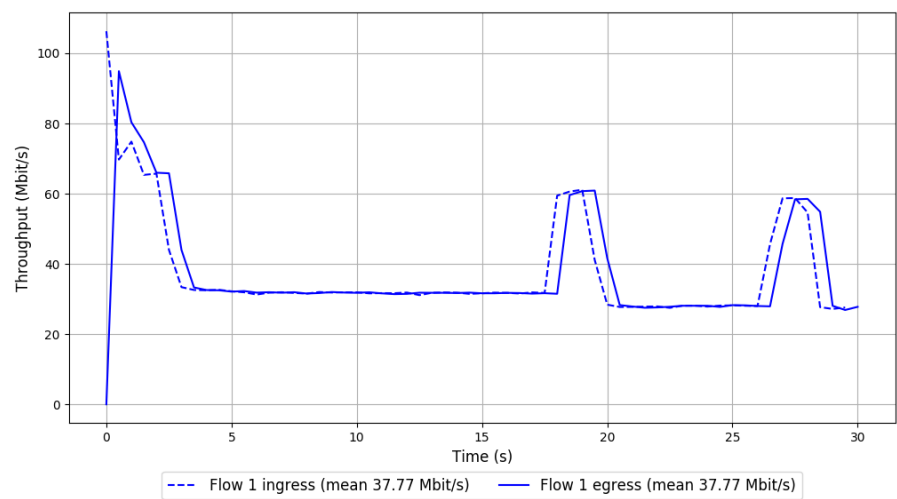


Run 1: Statistics of Verus

Start at: 2018-11-30 11:03:27
End at: 2018-11-30 11:03:57
Local clock offset: -2.145 ms
Remote clock offset: -0.317 ms

Below is generated by plot.py at 2018-11-30 12:55:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.77 Mbit/s
95th percentile per-packet one-way delay: 12.077 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 37.77 Mbit/s
95th percentile per-packet one-way delay: 12.077 ms
Loss rate: 0.01%

Run 1: Report of Verus — Data Link

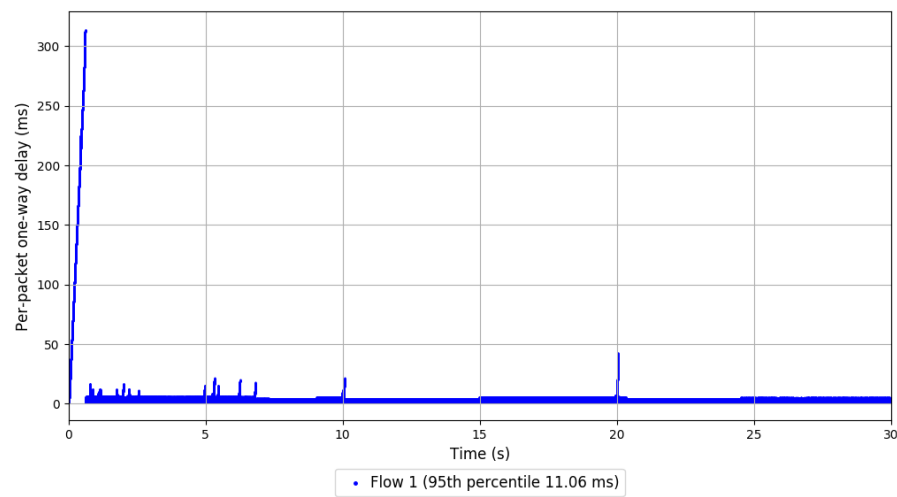
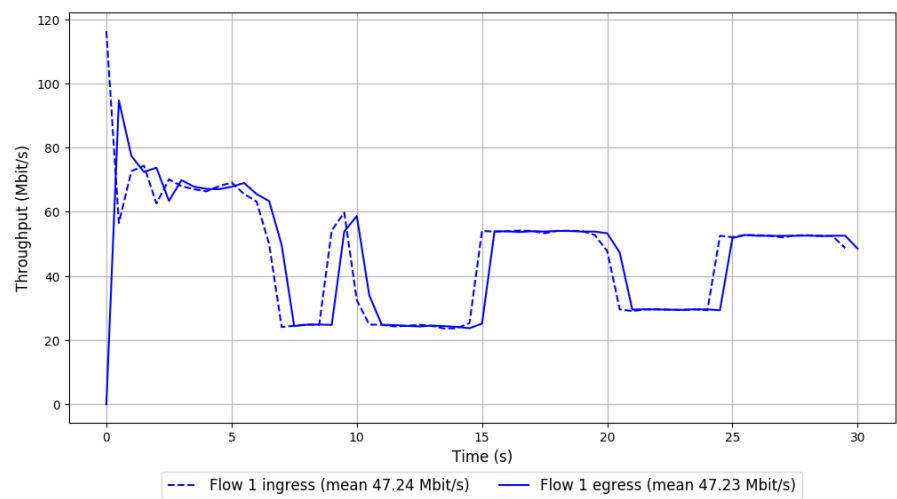


Run 2: Statistics of Verus

Start at: 2018-11-30 11:24:56
End at: 2018-11-30 11:25:26
Local clock offset: -3.142 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-11-30 12:55:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.23 Mbit/s
95th percentile per-packet one-way delay: 11.062 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 47.23 Mbit/s
95th percentile per-packet one-way delay: 11.062 ms
Loss rate: 0.03%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-11-30 11:46:25

End at: 2018-11-30 11:46:56

Local clock offset: -3.549 ms

Remote clock offset: 0.195 ms

Below is generated by plot.py at 2018-11-30 12:55:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.22 Mbit/s

95th percentile per-packet one-way delay: 7.967 ms

Loss rate: 0.01%

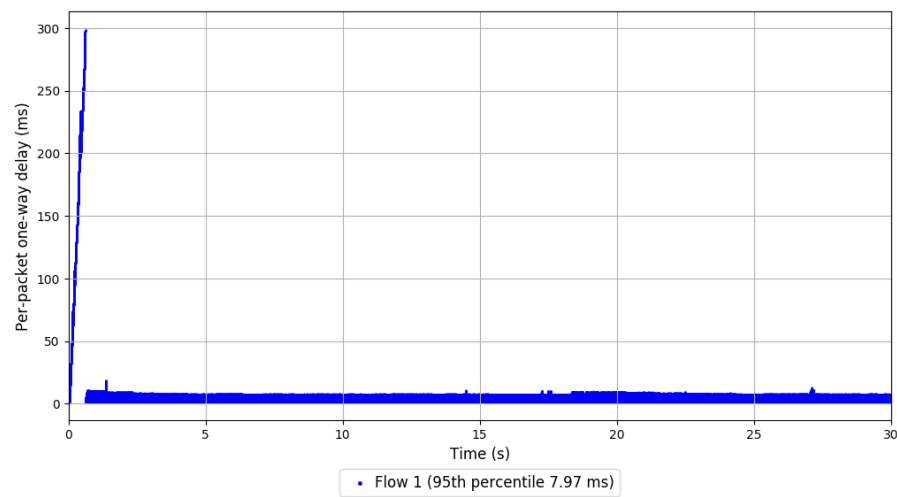
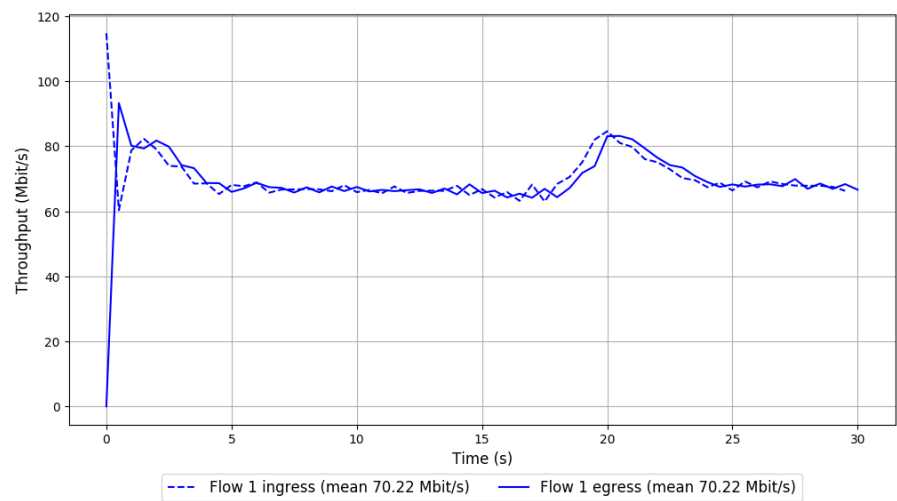
-- Flow 1:

Average throughput: 70.22 Mbit/s

95th percentile per-packet one-way delay: 7.967 ms

Loss rate: 0.01%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-11-30 12:07:52

End at: 2018-11-30 12:08:22

Local clock offset: -2.367 ms

Remote clock offset: 0.397 ms

Below is generated by plot.py at 2018-11-30 12:55:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 53.25 Mbit/s

95th percentile per-packet one-way delay: 12.727 ms

Loss rate: 0.01%

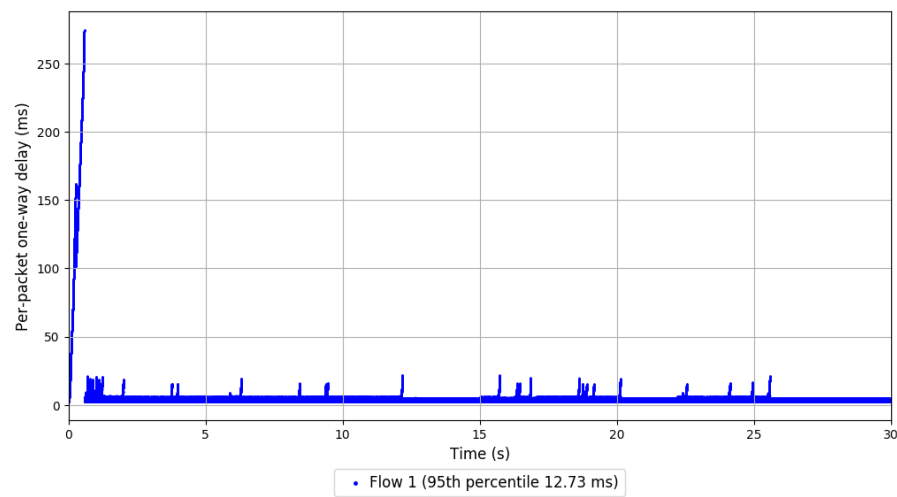
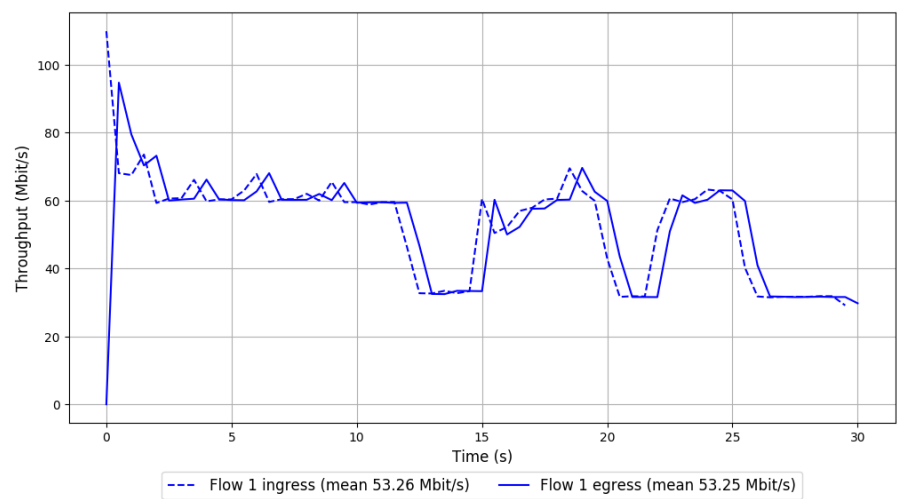
-- Flow 1:

Average throughput: 53.25 Mbit/s

95th percentile per-packet one-way delay: 12.727 ms

Loss rate: 0.01%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-11-30 12:29:21

End at: 2018-11-30 12:29:51

Local clock offset: -4.034 ms

Remote clock offset: 0.528 ms

Below is generated by plot.py at 2018-11-30 12:55:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 75.35 Mbit/s

95th percentile per-packet one-way delay: 9.762 ms

Loss rate: 0.06%

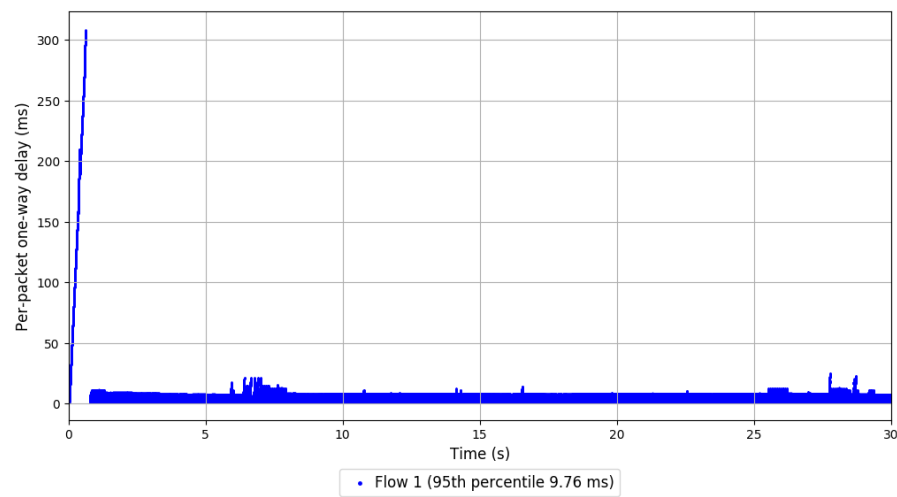
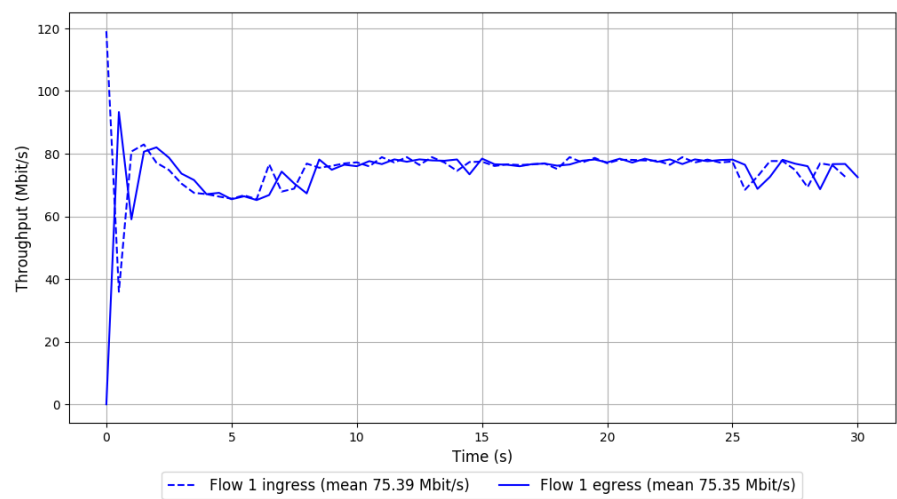
-- Flow 1:

Average throughput: 75.35 Mbit/s

95th percentile per-packet one-way delay: 9.762 ms

Loss rate: 0.06%

Run 5: Report of Verus — Data Link

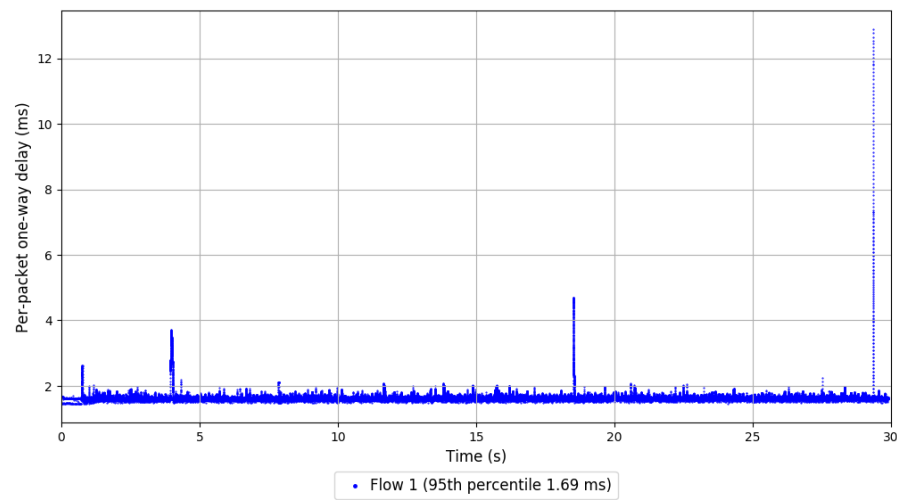
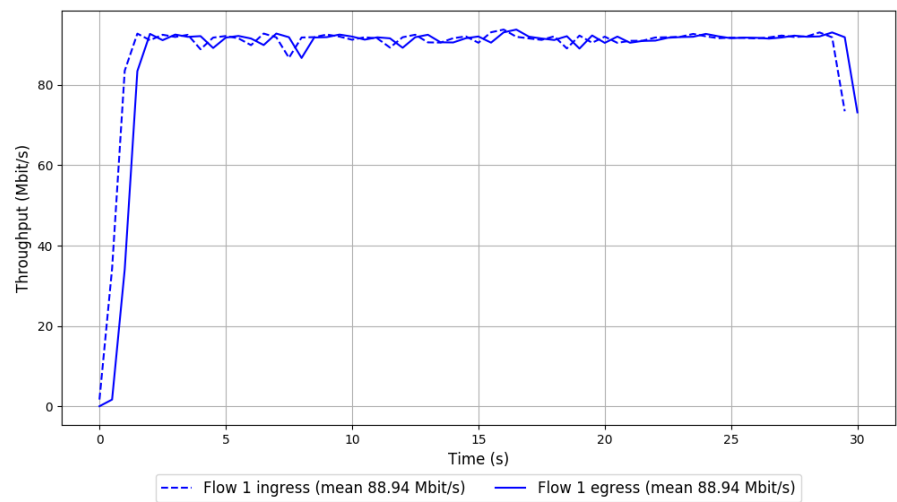


Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 11:12:35
End at: 2018-11-30 11:13:05
Local clock offset: -2.313 ms
Remote clock offset: -0.236 ms

Below is generated by plot.py at 2018-11-30 12:56:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.94 Mbit/s
95th percentile per-packet one-way delay: 1.685 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 88.94 Mbit/s
95th percentile per-packet one-way delay: 1.685 ms
Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 11:34:05

End at: 2018-11-30 11:34:35

Local clock offset: -3.525 ms

Remote clock offset: 0.059 ms

Below is generated by plot.py at 2018-11-30 12:56:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 1.606 ms

Loss rate: 0.01%

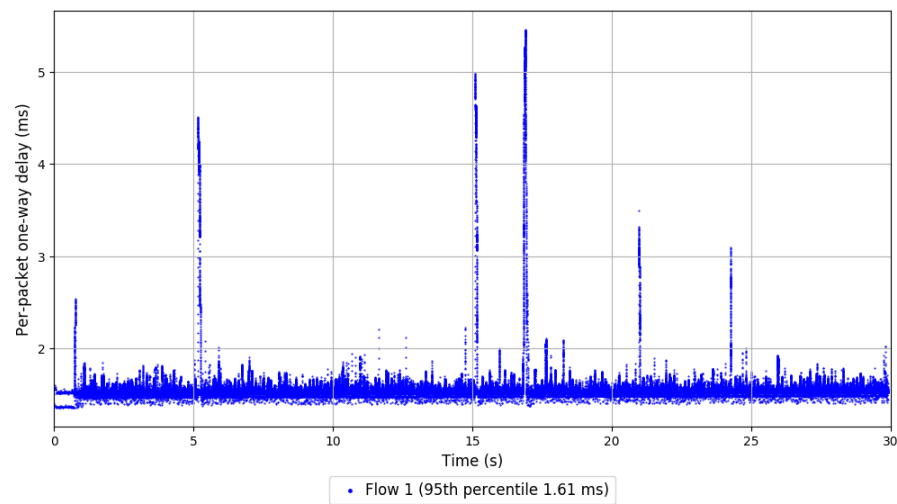
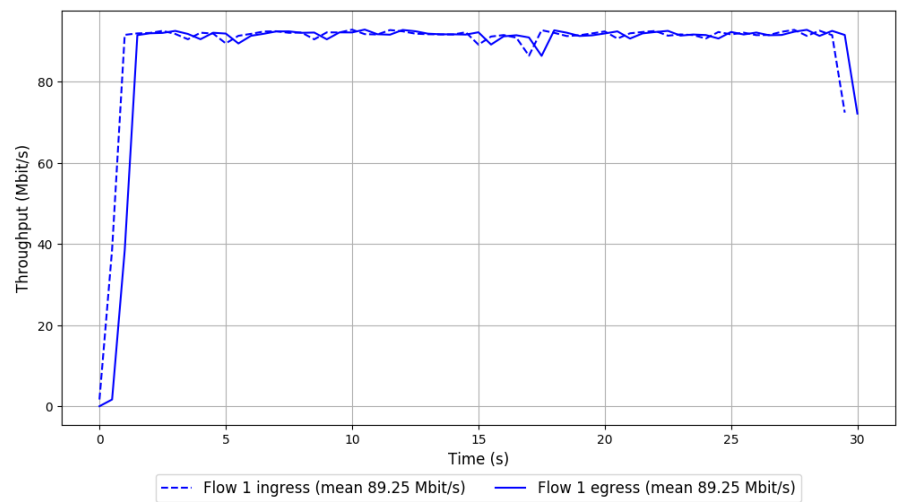
-- Flow 1:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 1.606 ms

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 11:55:35

End at: 2018-11-30 11:56:05

Local clock offset: -2.448 ms

Remote clock offset: 0.287 ms

Below is generated by plot.py at 2018-11-30 12:56:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 24.54 Mbit/s

95th percentile per-packet one-way delay: 2.389 ms

Loss rate: 0.01%

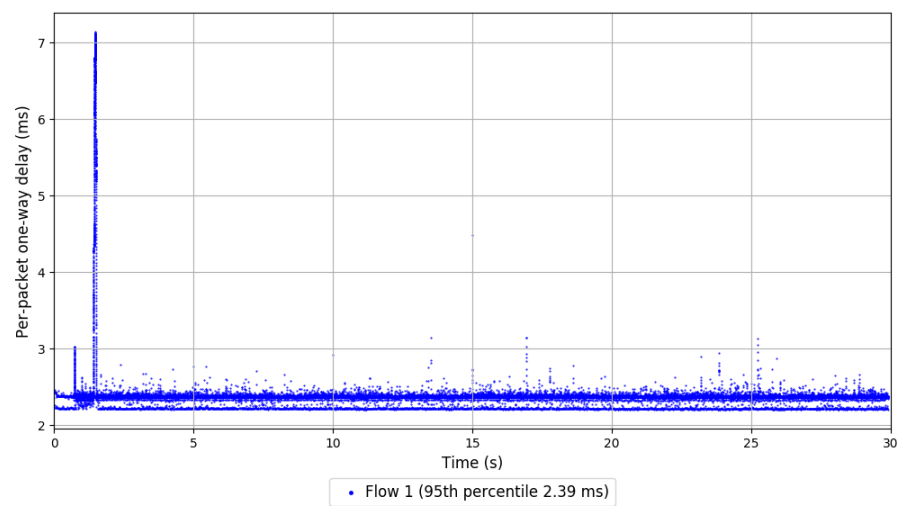
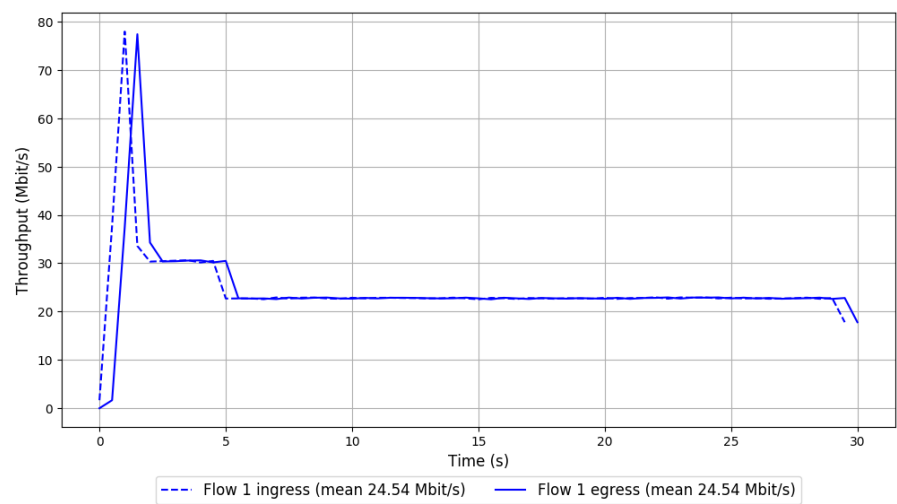
-- Flow 1:

Average throughput: 24.54 Mbit/s

95th percentile per-packet one-way delay: 2.389 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 12:17:00

End at: 2018-11-30 12:17:30

Local clock offset: -3.361 ms

Remote clock offset: 0.481 ms

Below is generated by plot.py at 2018-11-30 12:56:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.65 Mbit/s

95th percentile per-packet one-way delay: 1.722 ms

Loss rate: 0.01%

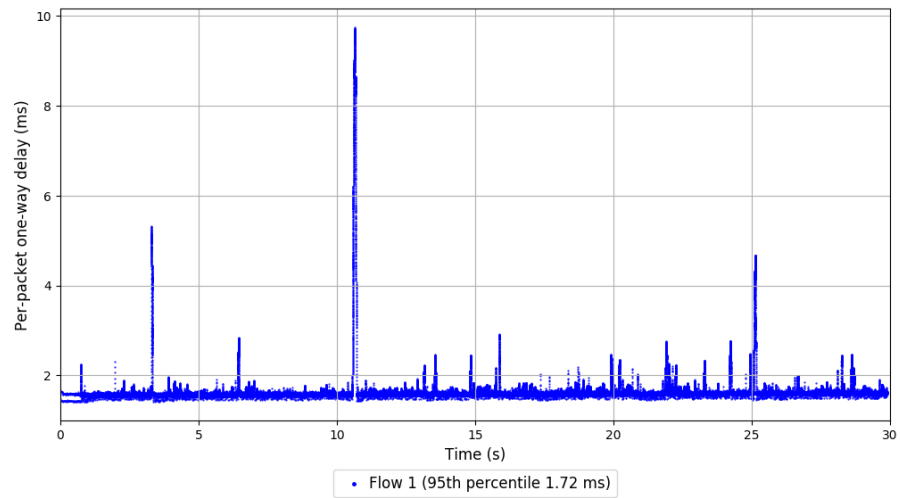
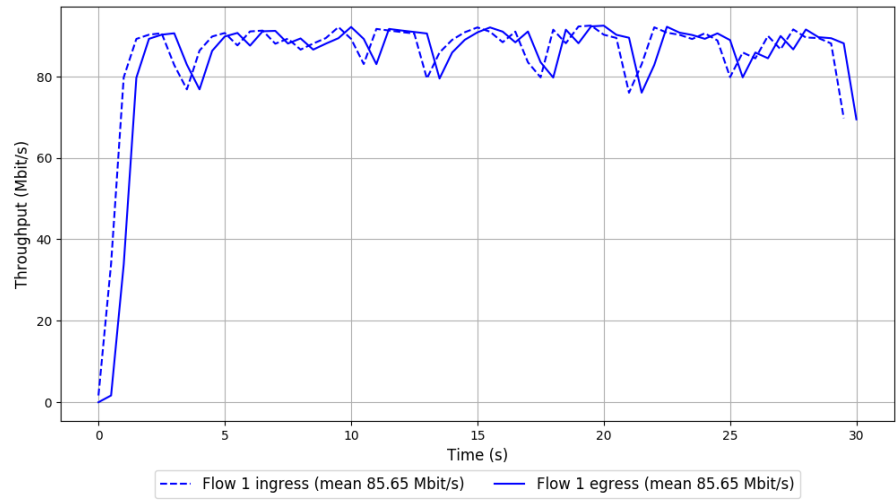
-- Flow 1:

Average throughput: 85.65 Mbit/s

95th percentile per-packet one-way delay: 1.722 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 12:38:30

End at: 2018-11-30 12:39:00

Local clock offset: -3.517 ms

Remote clock offset: 0.485 ms

Below is generated by plot.py at 2018-11-30 12:56:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.67 Mbit/s

95th percentile per-packet one-way delay: 2.456 ms

Loss rate: 0.01%

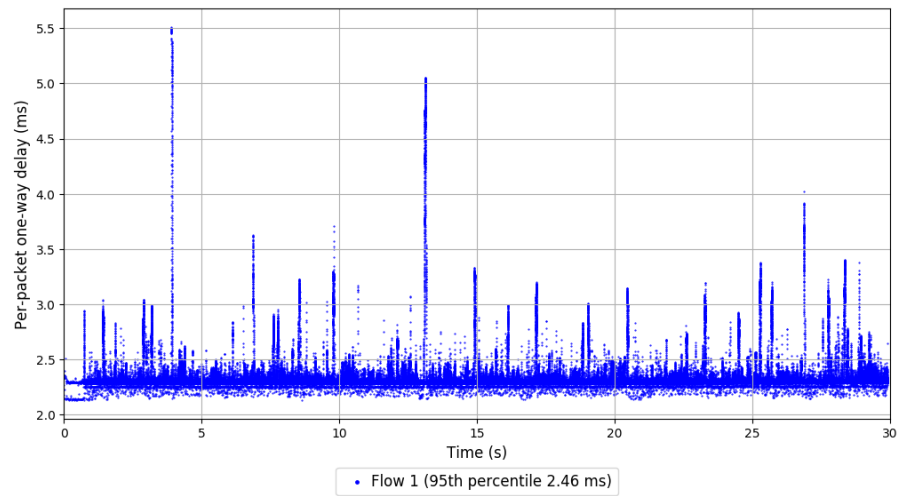
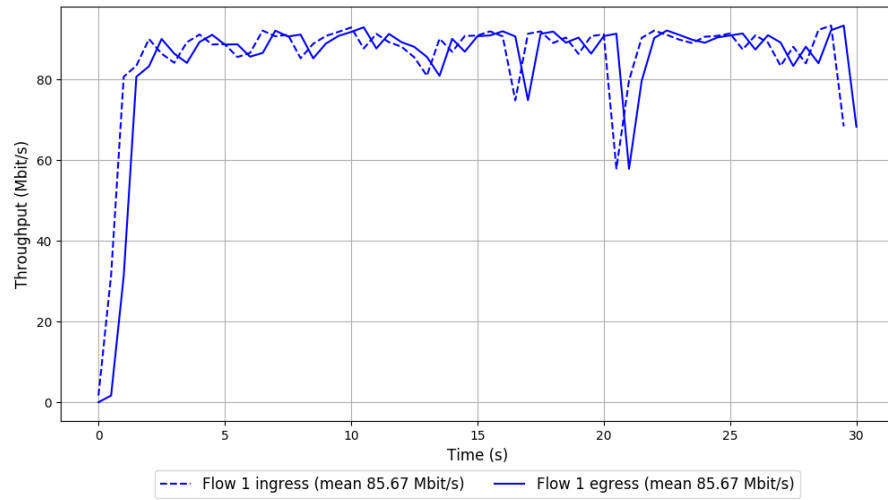
-- Flow 1:

Average throughput: 85.67 Mbit/s

95th percentile per-packet one-way delay: 2.456 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

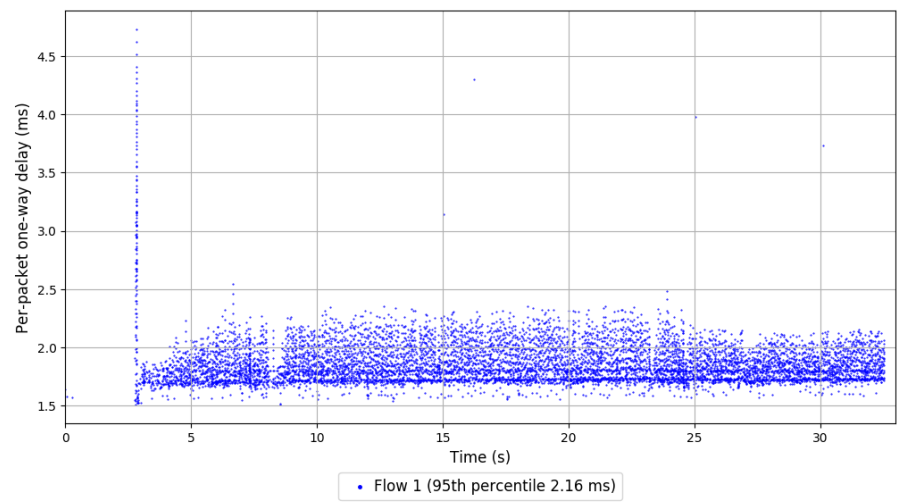
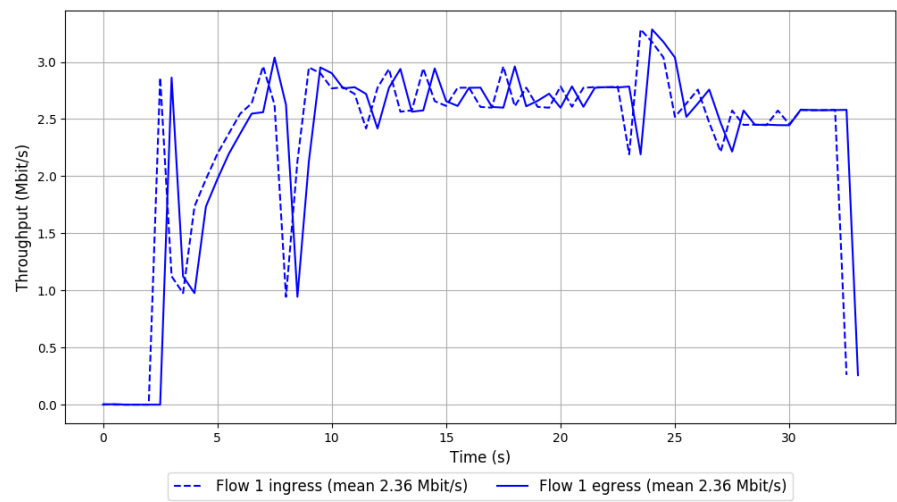


Run 1: Statistics of WebRTC media

Start at: 2018-11-30 11:01:17
End at: 2018-11-30 11:01:47
Local clock offset: -1.964 ms
Remote clock offset: -0.393 ms

Below is generated by plot.py at 2018-11-30 12:56:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 2.156 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 2.156 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

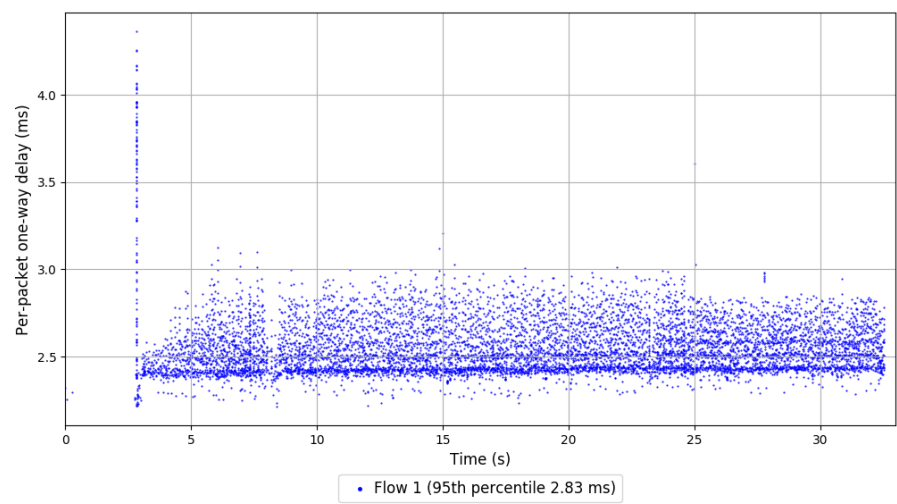
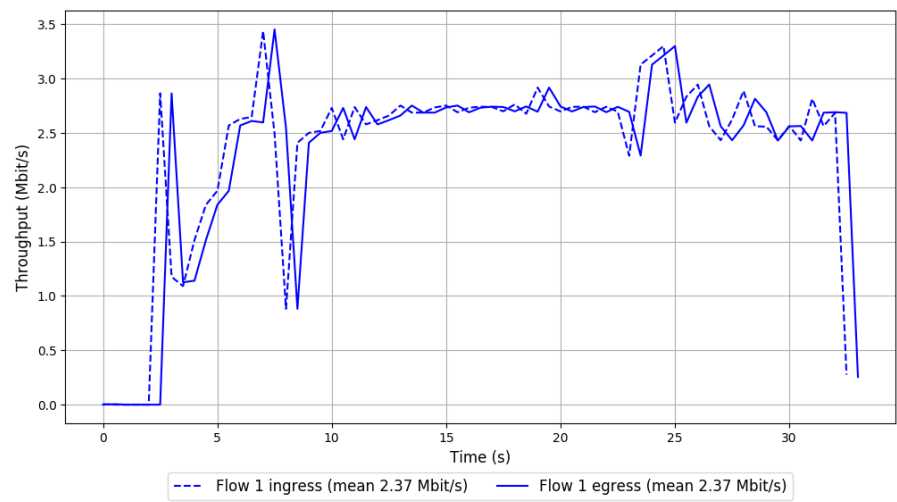


Run 2: Statistics of WebRTC media

Start at: 2018-11-30 11:22:47
End at: 2018-11-30 11:23:17
Local clock offset: -2.329 ms
Remote clock offset: -0.138 ms

Below is generated by plot.py at 2018-11-30 12:56:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 2.826 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 2.826 ms
Loss rate: 0.01%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-11-30 11:44:16

End at: 2018-11-30 11:44:46

Local clock offset: -2.899 ms

Remote clock offset: 0.182 ms

Below is generated by plot.py at 2018-11-30 12:56:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 2.765 ms

Loss rate: 0.00%

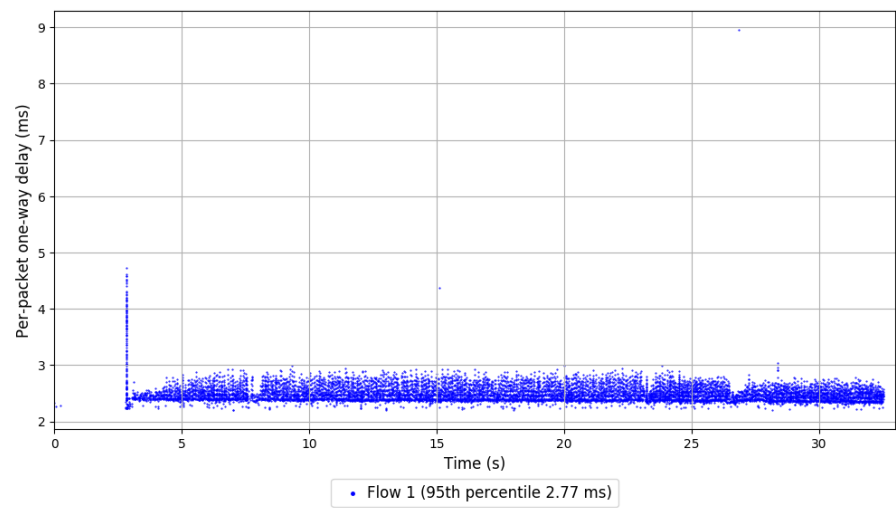
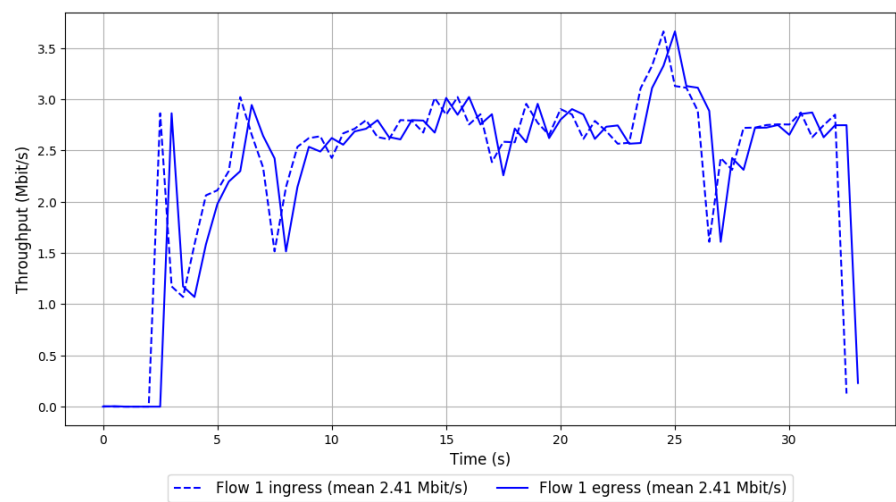
-- Flow 1:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 2.765 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-11-30 12:05:42

End at: 2018-11-30 12:06:12

Local clock offset: -2.432 ms

Remote clock offset: 0.302 ms

Below is generated by plot.py at 2018-11-30 12:56:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.32 Mbit/s

95th percentile per-packet one-way delay: 2.775 ms

Loss rate: 0.00%

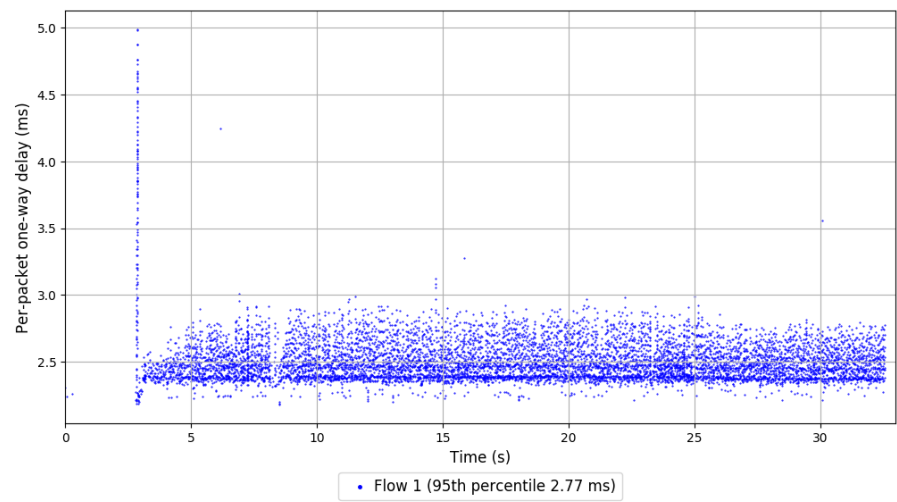
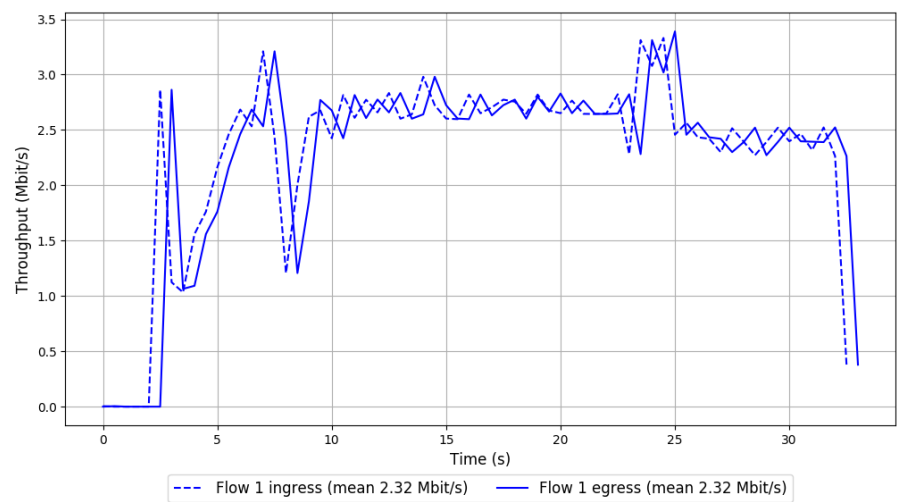
-- Flow 1:

Average throughput: 2.32 Mbit/s

95th percentile per-packet one-way delay: 2.775 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-30 12:27:11

End at: 2018-11-30 12:27:41

Local clock offset: -3.939 ms

Remote clock offset: 0.442 ms

Below is generated by plot.py at 2018-11-30 12:56:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.142 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 2.142 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

