

Pantheon Report

Generated at 2018-11-15 09:47:03 (UTC).

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

Repeated the test of 18 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.

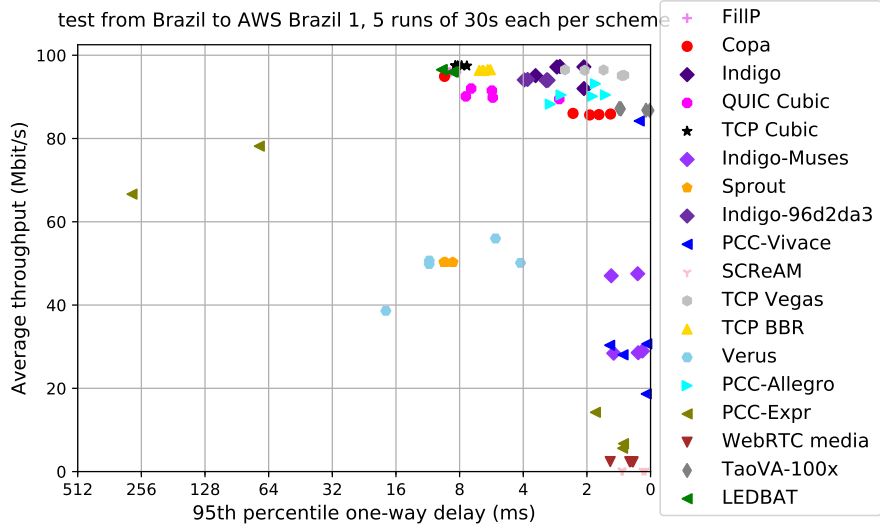
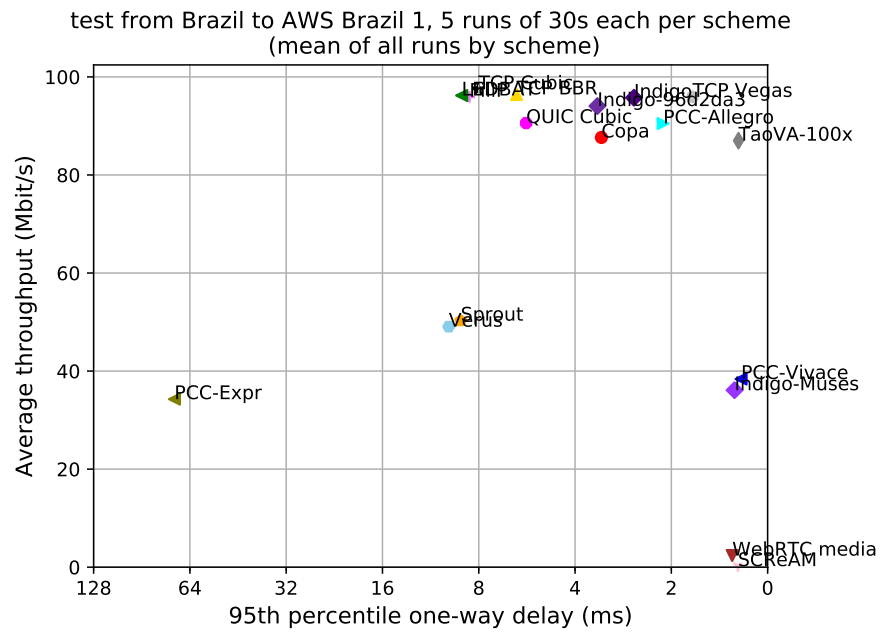
System info:

```
Linux 4.15.0-1023-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 @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
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	96.43	6.10	0.02
Copa	5	87.65	3.31	0.02
TCP Cubic	5	97.48	8.03	0.05
FillP	5	95.94	8.56	0.03
Indigo	5	95.76	2.62	0.01
Indigo-96d2da3	5	94.05	3.41	0.01
LEDBAT	5	96.21	9.05	0.08
Indigo-Muses	5	36.10	0.69	0.01
PCC-Allegro	5	90.49	2.12	0.01
PCC-Expr	5	34.27	71.56	0.08
QUIC Cubic	5	90.59	5.69	0.01
SCReAM	5	0.22	0.62	0.05
Sprout	5	50.28	9.11	0.02
TaoVA-100x	5	87.00	0.61	0.01
TCP Vegas	5	95.93	1.56	0.01
Verus	5	49.06	9.93	0.04
PCC-Vivace	5	38.39	0.55	0.01
WebRTC media	5	2.36	0.74	0.01

Run 1: Statistics of TCP BBR

Start at: 2018-11-15 08:05:02

End at: 2018-11-15 08:05:32

Local clock offset: -5.924 ms

Remote clock offset: -0.295 ms

Below is generated by plot.py at 2018-11-15 09:37:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.722 ms

Loss rate: 0.02%

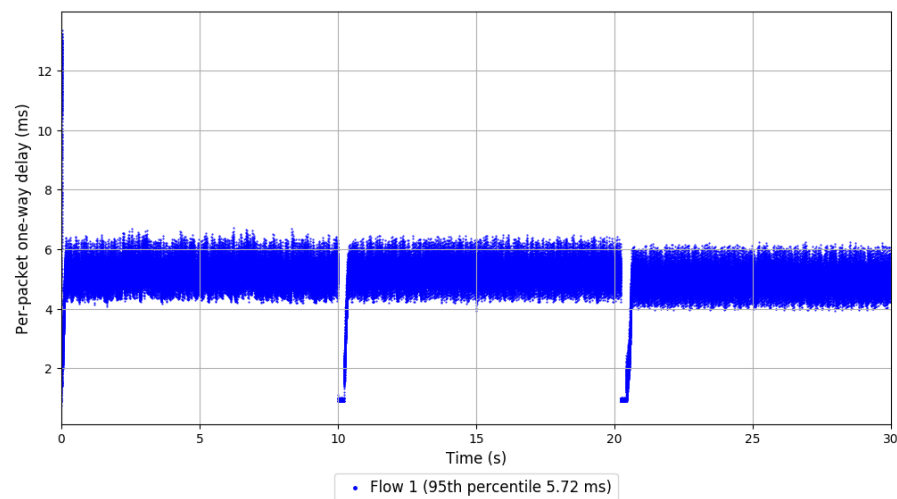
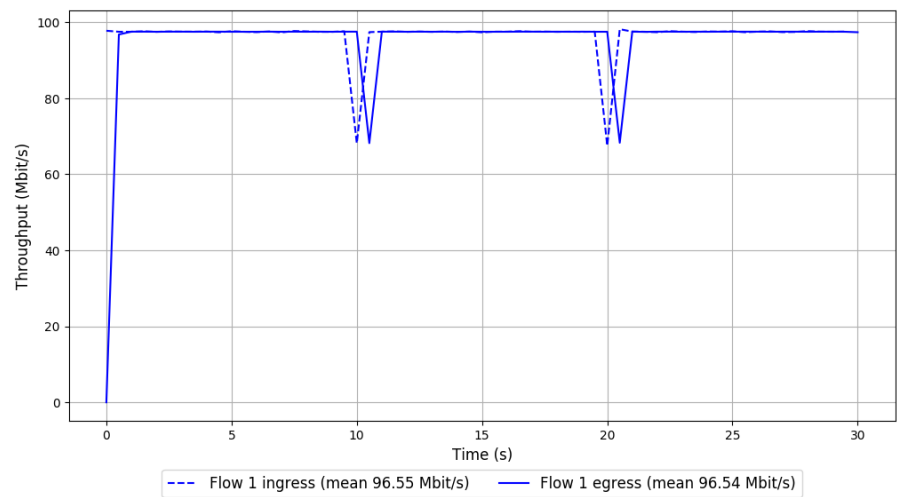
-- Flow 1:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.722 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link

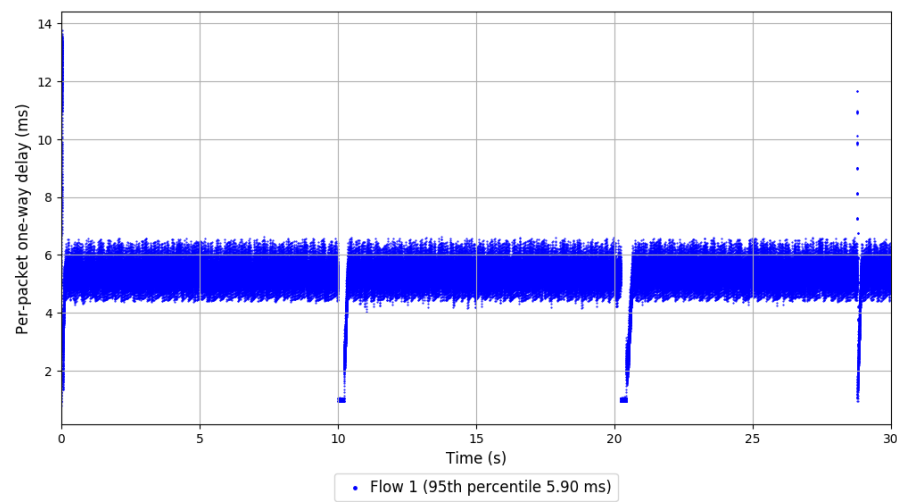
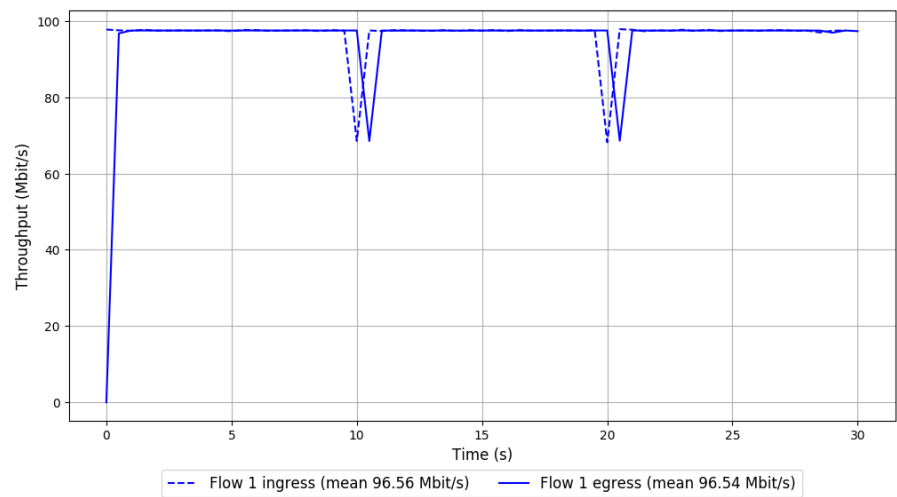


Run 2: Statistics of TCP BBR

Start at: 2018-11-15 08:25:19
End at: 2018-11-15 08:25:49
Local clock offset: -5.914 ms
Remote clock offset: -0.193 ms

Below is generated by plot.py at 2018-11-15 09:37:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.54 Mbit/s
95th percentile per-packet one-way delay: 5.896 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.54 Mbit/s
95th percentile per-packet one-way delay: 5.896 ms
Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-11-15 08:45:35

End at: 2018-11-15 08:46:05

Local clock offset: -2.624 ms

Remote clock offset: 0.089 ms

Below is generated by plot.py at 2018-11-15 09:37:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 6.240 ms

Loss rate: 0.02%

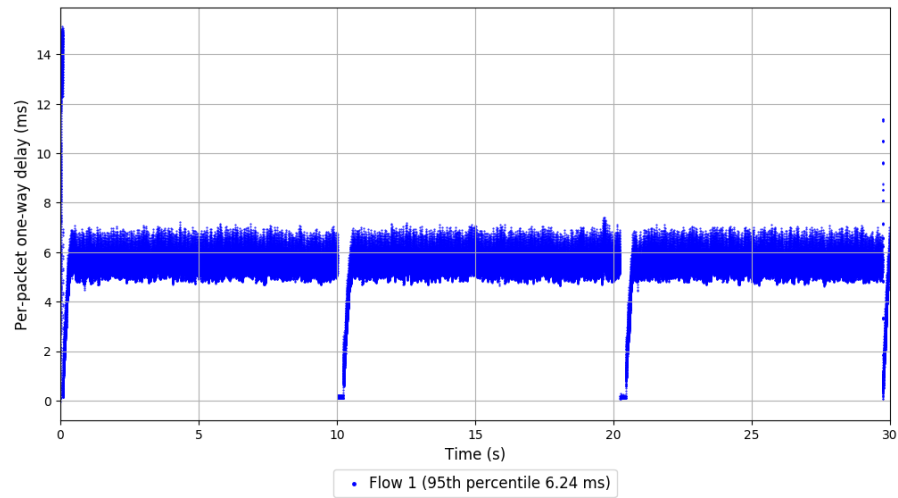
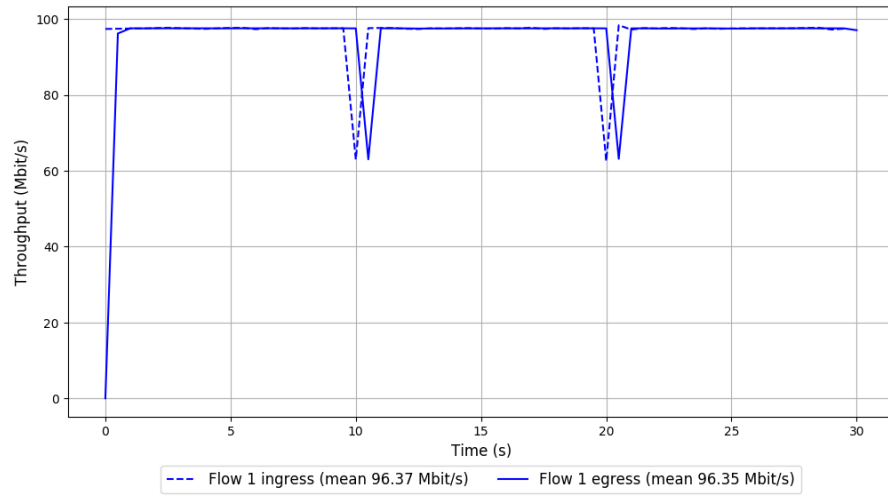
-- Flow 1:

Average throughput: 96.35 Mbit/s

95th percentile per-packet one-way delay: 6.240 ms

Loss rate: 0.02%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-11-15 09:05:47

End at: 2018-11-15 09:06:17

Local clock offset: -1.345 ms

Remote clock offset: 0.191 ms

Below is generated by plot.py at 2018-11-15 09:37:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 6.160 ms

Loss rate: 0.02%

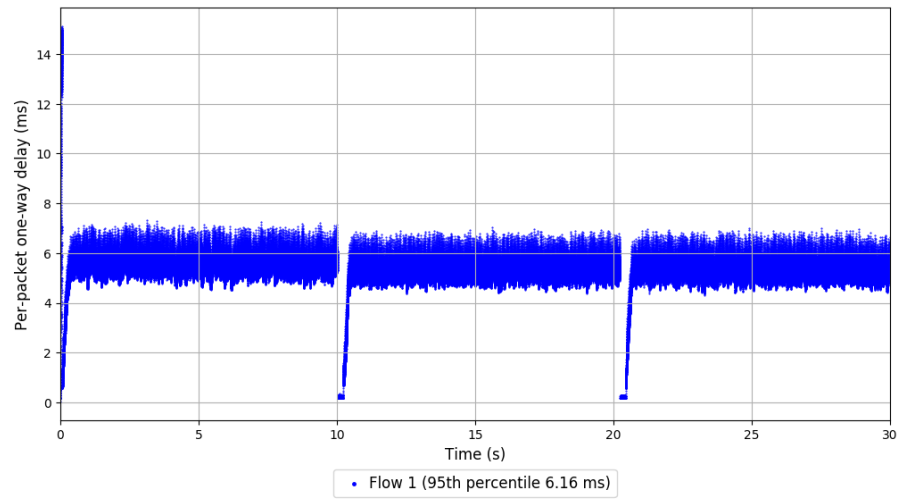
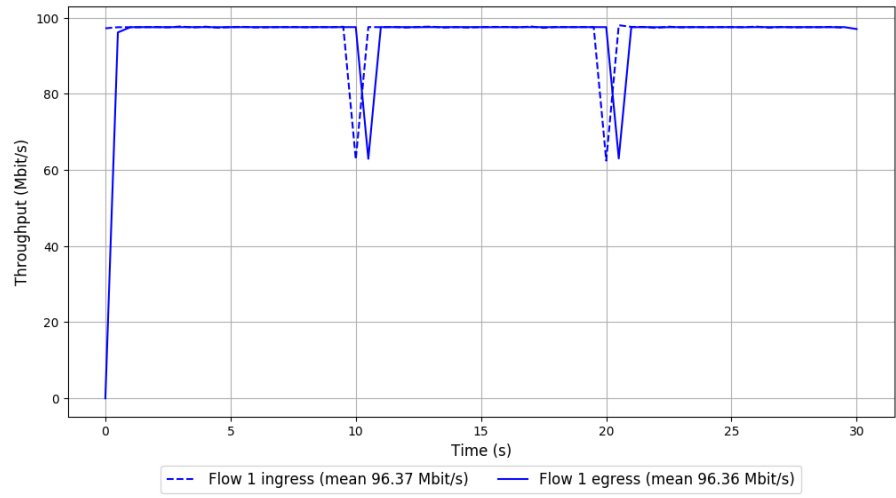
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 6.160 ms

Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-11-15 09:26:06

End at: 2018-11-15 09:26:36

Local clock offset: -0.379 ms

Remote clock offset: 0.274 ms

Below is generated by plot.py at 2018-11-15 09:37:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 6.457 ms

Loss rate: 0.02%

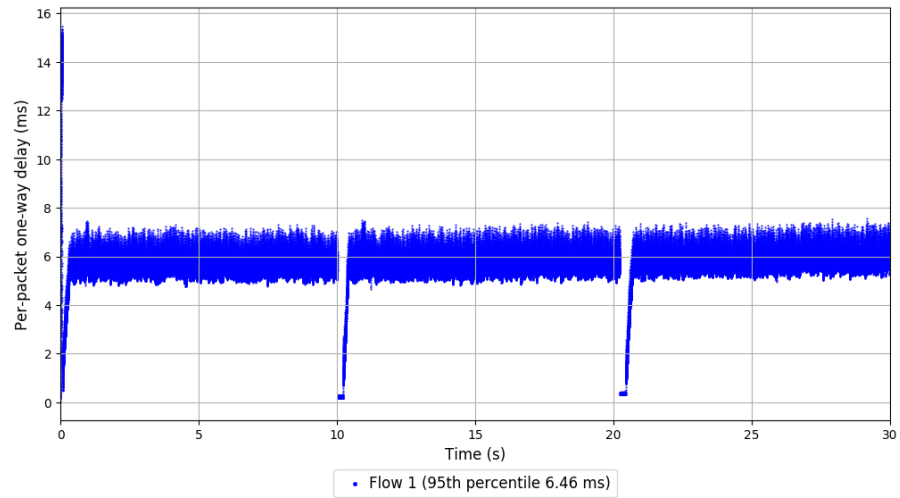
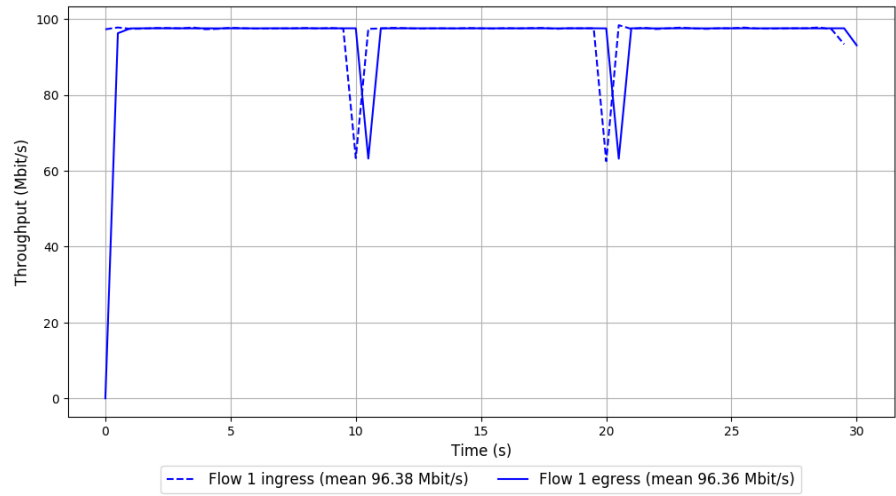
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 6.457 ms

Loss rate: 0.02%

Run 5: Report of TCP BBR — Data Link

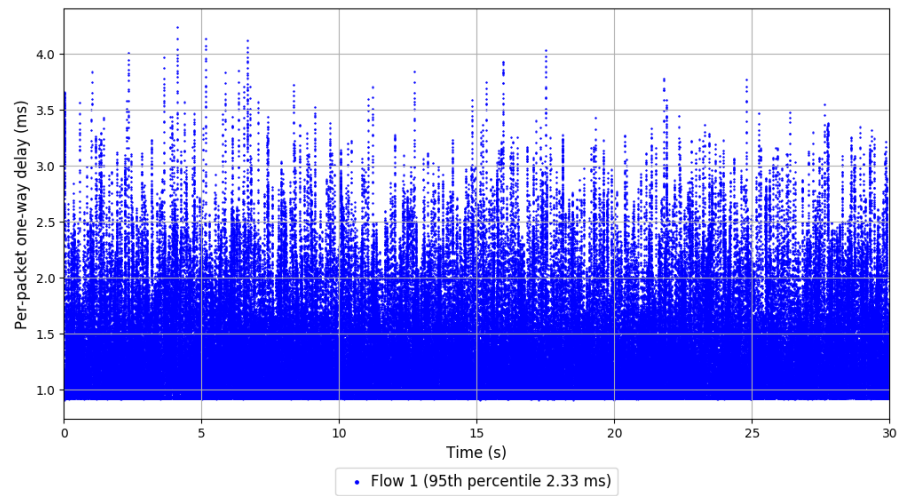
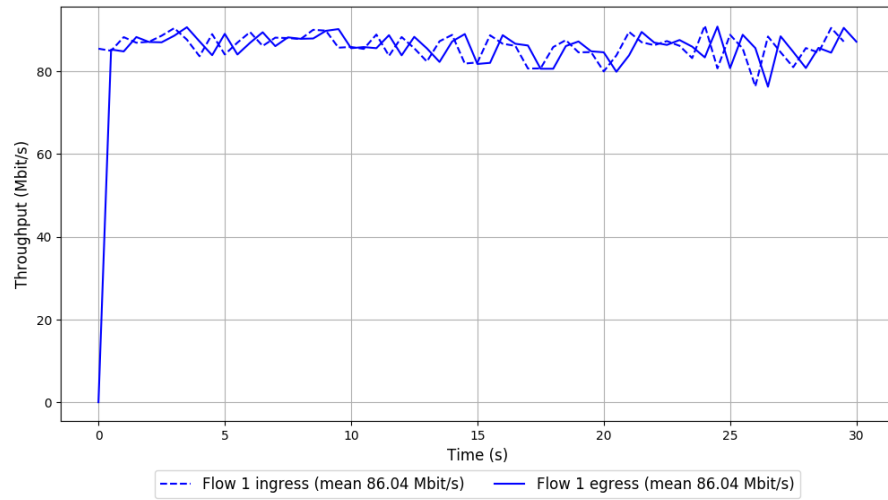


Run 1: Statistics of Copa

Start at: 2018-11-15 08:09:35
End at: 2018-11-15 08:10:05
Local clock offset: -5.892 ms
Remote clock offset: -0.314 ms

Below is generated by plot.py at 2018-11-15 09:37:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.04 Mbit/s
95th percentile per-packet one-way delay: 2.326 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 86.04 Mbit/s
95th percentile per-packet one-way delay: 2.326 ms
Loss rate: 0.01%

Run 1: Report of Copa — Data Link

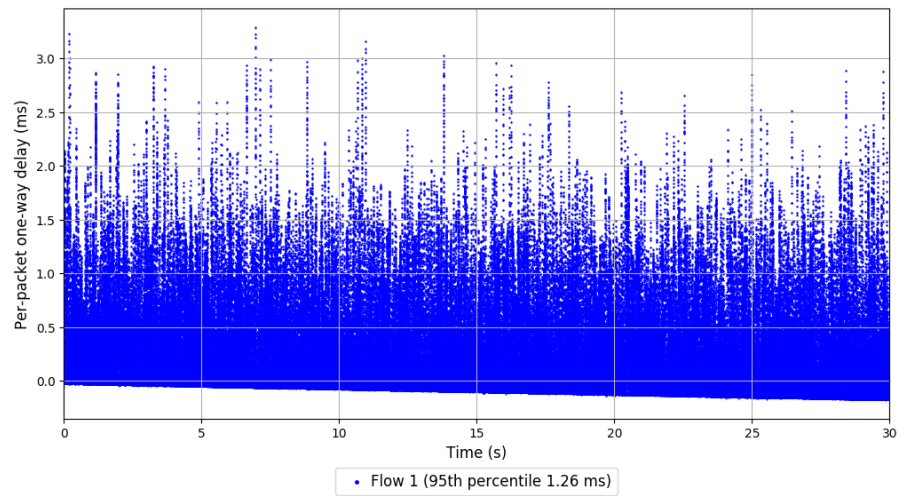
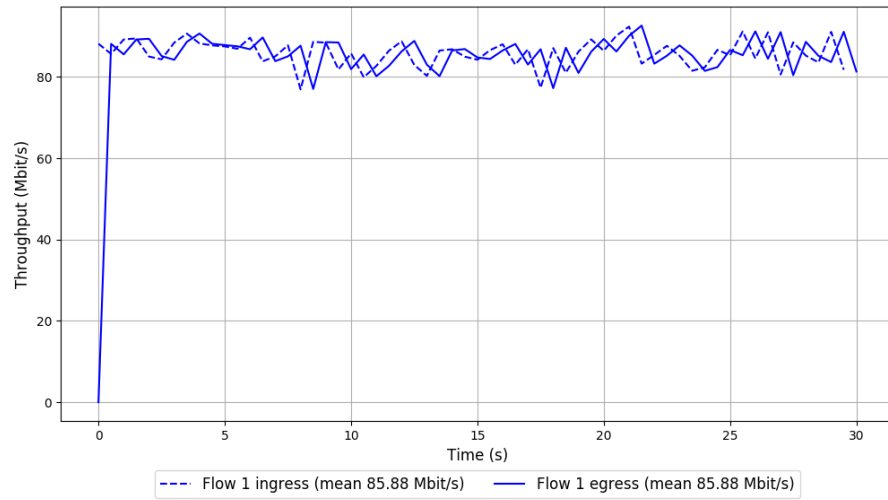


Run 2: Statistics of Copa

Start at: 2018-11-15 08:29:51
End at: 2018-11-15 08:30:21
Local clock offset: -5.476 ms
Remote clock offset: -0.127 ms

Below is generated by plot.py at 2018-11-15 09:38:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 1.257 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 1.257 ms
Loss rate: 0.01%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-11-15 08:50:03

End at: 2018-11-15 08:50:33

Local clock offset: -1.56 ms

Remote clock offset: 0.131 ms

Below is generated by plot.py at 2018-11-15 09:38:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.92 Mbit/s

95th percentile per-packet one-way delay: 9.428 ms

Loss rate: 0.07%

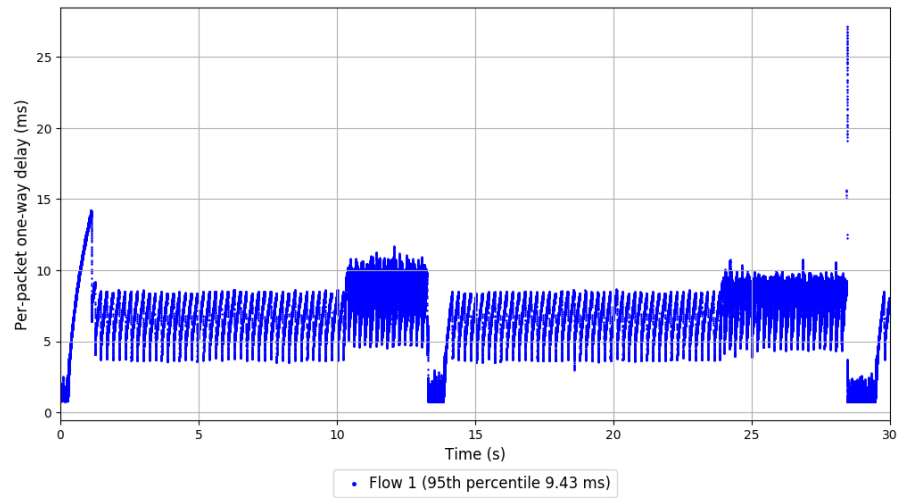
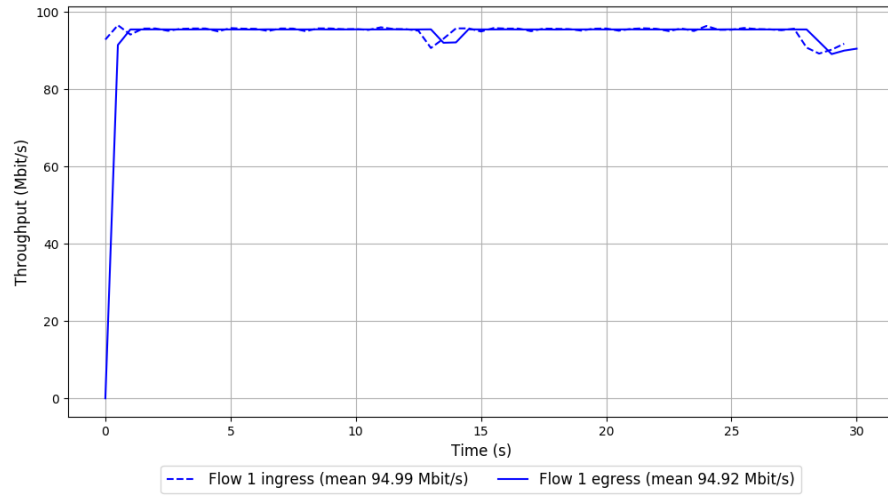
-- Flow 1:

Average throughput: 94.92 Mbit/s

95th percentile per-packet one-way delay: 9.428 ms

Loss rate: 0.07%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-11-15 09:10:18

End at: 2018-11-15 09:10:48

Local clock offset: -1.12 ms

Remote clock offset: 0.175 ms

Below is generated by plot.py at 2018-11-15 09:39:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.75 Mbit/s

95th percentile per-packet one-way delay: 1.621 ms

Loss rate: 0.01%

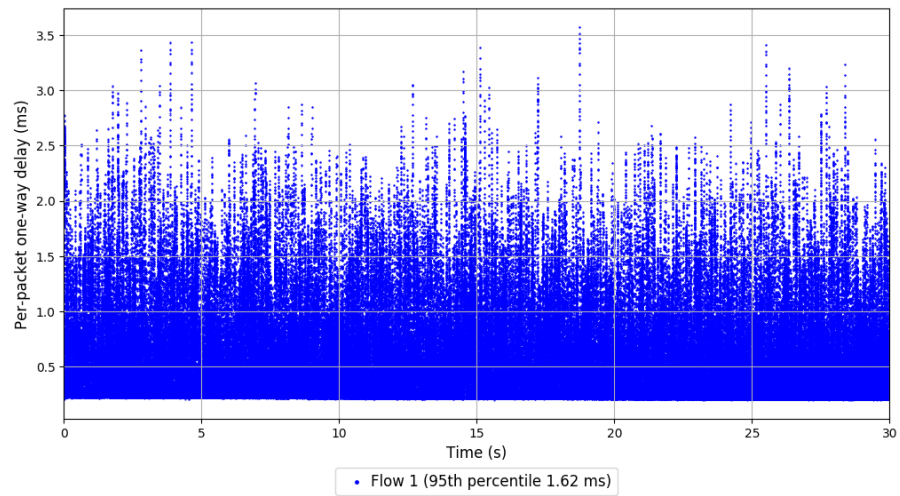
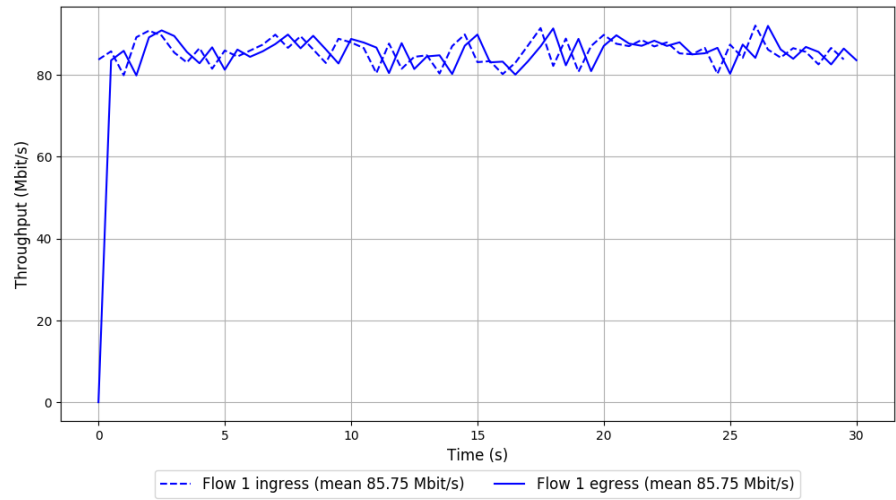
-- Flow 1:

Average throughput: 85.75 Mbit/s

95th percentile per-packet one-way delay: 1.621 ms

Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-11-15 09:30:34

End at: 2018-11-15 09:31:04

Local clock offset: -3.323 ms

Remote clock offset: 0.315 ms

Below is generated by plot.py at 2018-11-15 09:39:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.66 Mbit/s

95th percentile per-packet one-way delay: 1.914 ms

Loss rate: 0.01%

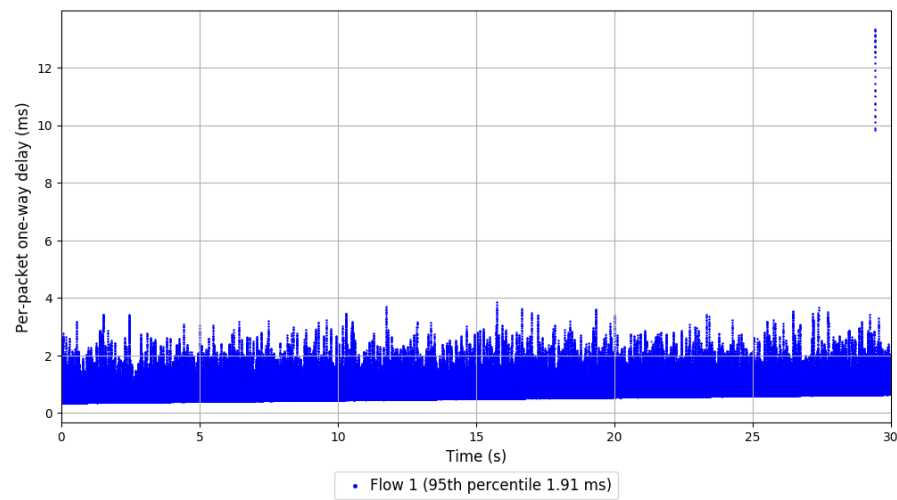
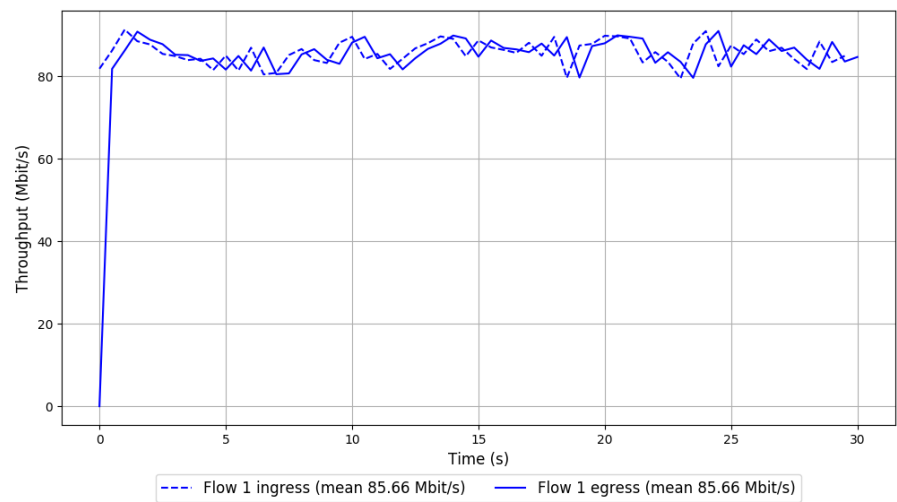
-- Flow 1:

Average throughput: 85.66 Mbit/s

95th percentile per-packet one-way delay: 1.914 ms

Loss rate: 0.01%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-11-15 08:10:45

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

Local clock offset: -5.876 ms

Remote clock offset: -0.34 ms

Below is generated by plot.py at 2018-11-15 09:39:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.380 ms

Loss rate: 0.05%

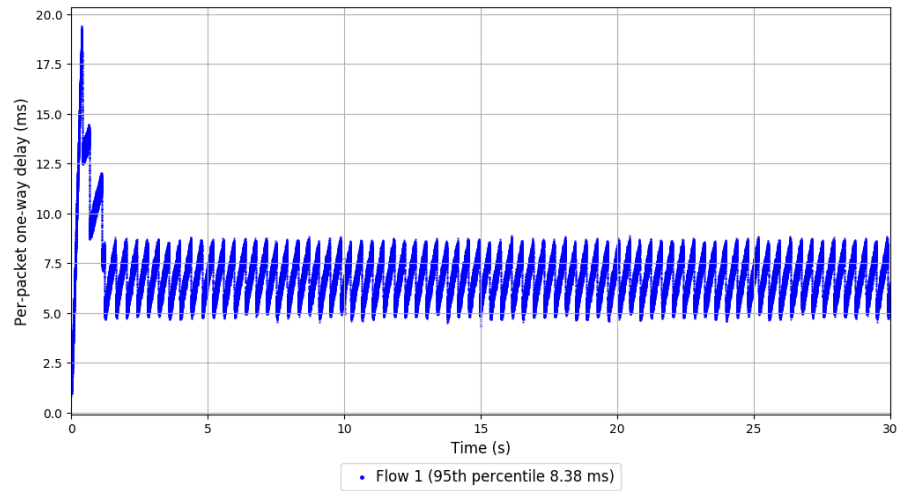
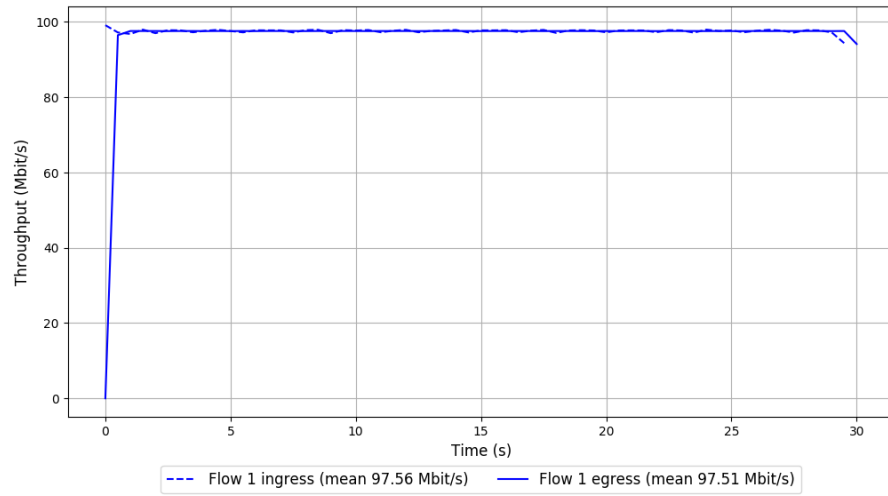
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.380 ms

Loss rate: 0.05%

Run 1: Report of TCP Cubic — Data Link

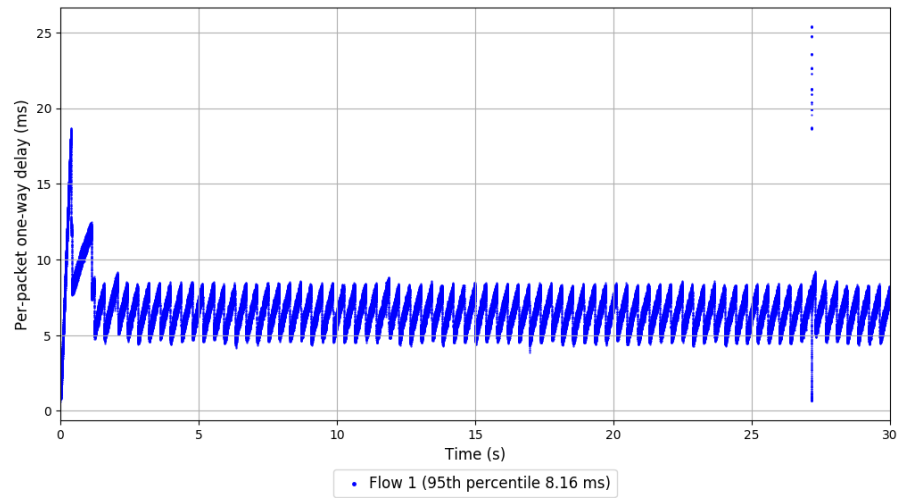
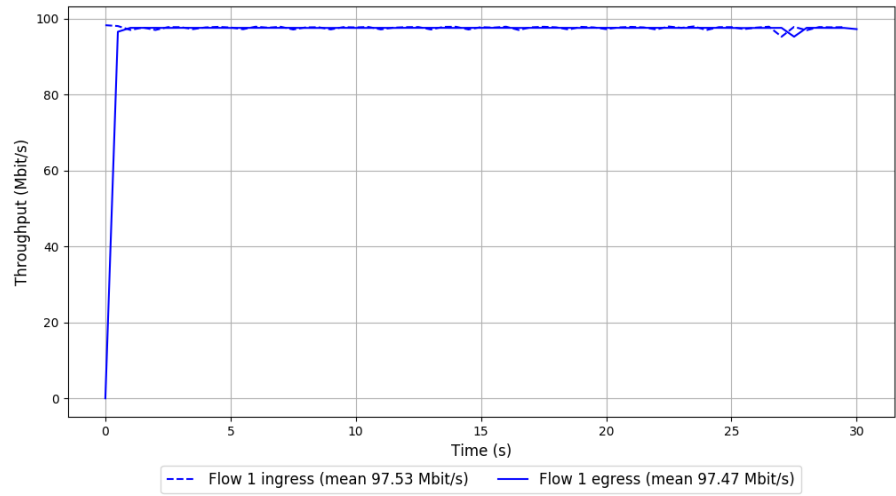


Run 2: Statistics of TCP Cubic

Start at: 2018-11-15 08:31:02
End at: 2018-11-15 08:31:32
Local clock offset: -4.346 ms
Remote clock offset: -0.126 ms

Below is generated by plot.py at 2018-11-15 09:39:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 8.163 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 8.163 ms
Loss rate: 0.06%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-11-15 08:51:14

End at: 2018-11-15 08:51:44

Local clock offset: -2.187 ms

Remote clock offset: 0.131 ms

Below is generated by plot.py at 2018-11-15 09:39:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 7.394 ms

Loss rate: 0.05%

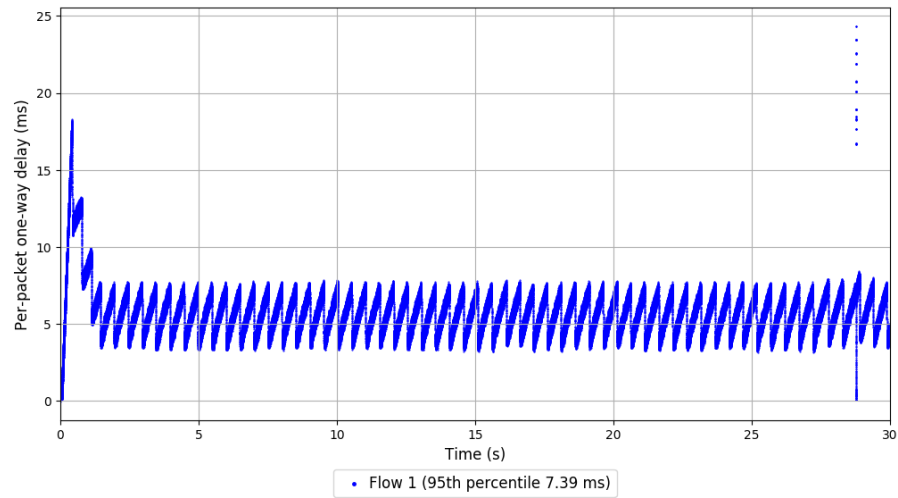
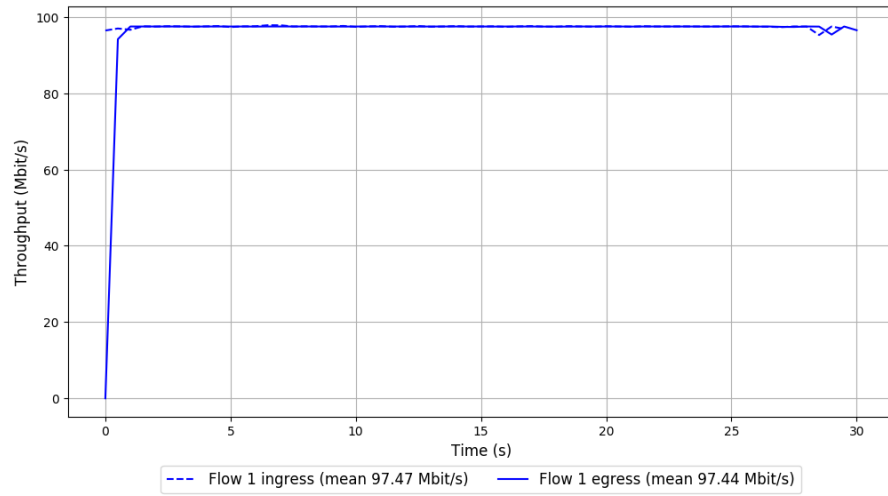
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 7.394 ms

Loss rate: 0.05%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-11-15 09:11:29

End at: 2018-11-15 09:11:59

Local clock offset: -0.279 ms

Remote clock offset: 0.233 ms

Below is generated by plot.py at 2018-11-15 09:39:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.372 ms

Loss rate: 0.05%

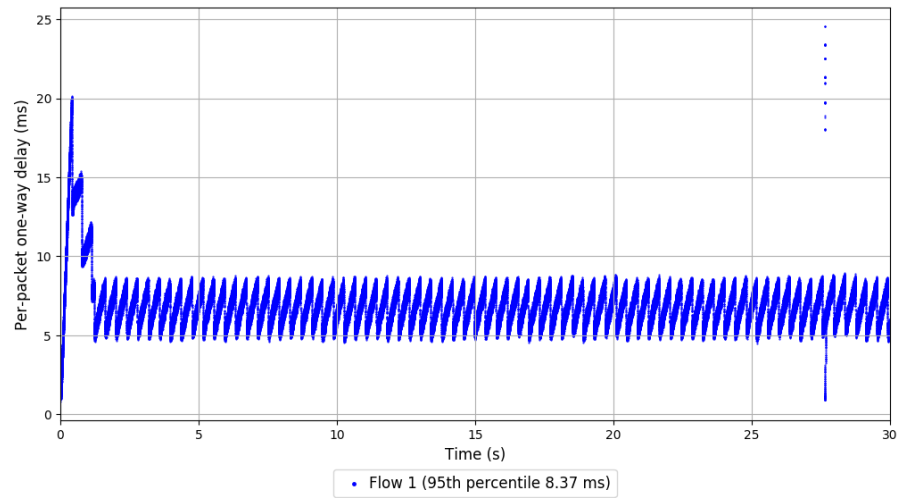
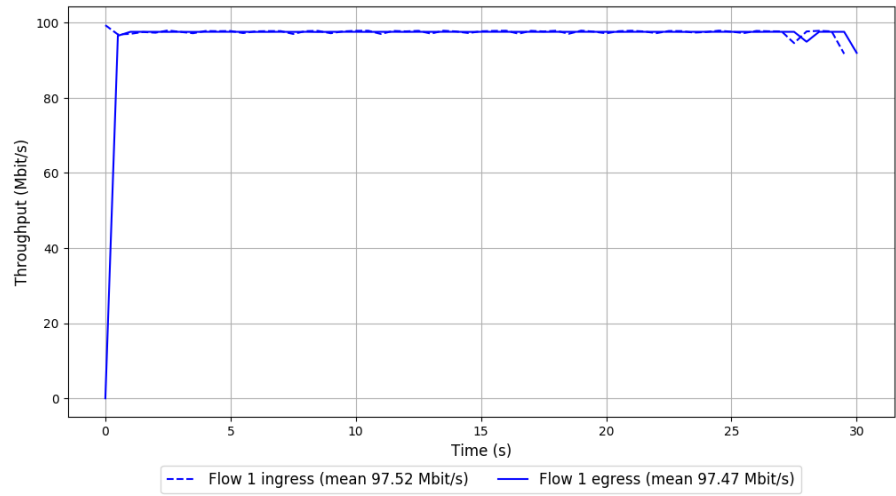
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.372 ms

Loss rate: 0.05%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-11-15 09:31:45

End at: 2018-11-15 09:32:15

Local clock offset: -3.913 ms

Remote clock offset: 0.332 ms

Below is generated by plot.py at 2018-11-15 09:39:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 7.833 ms

Loss rate: 0.06%

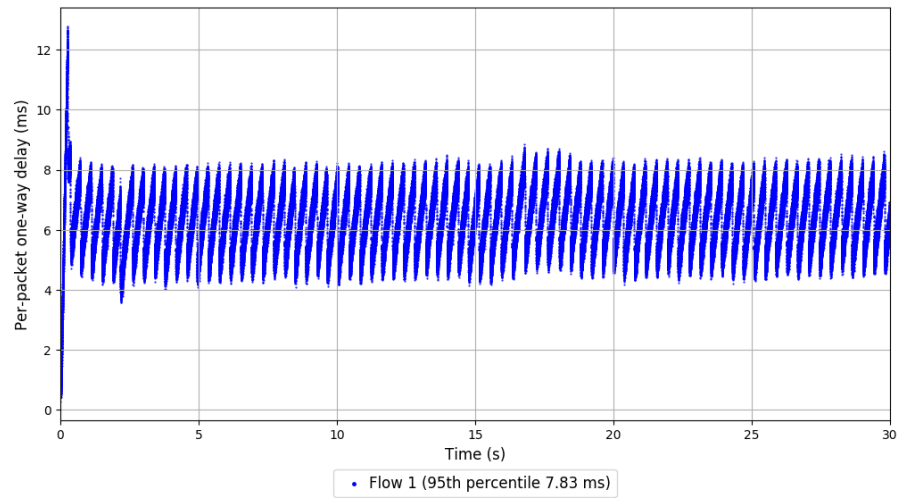
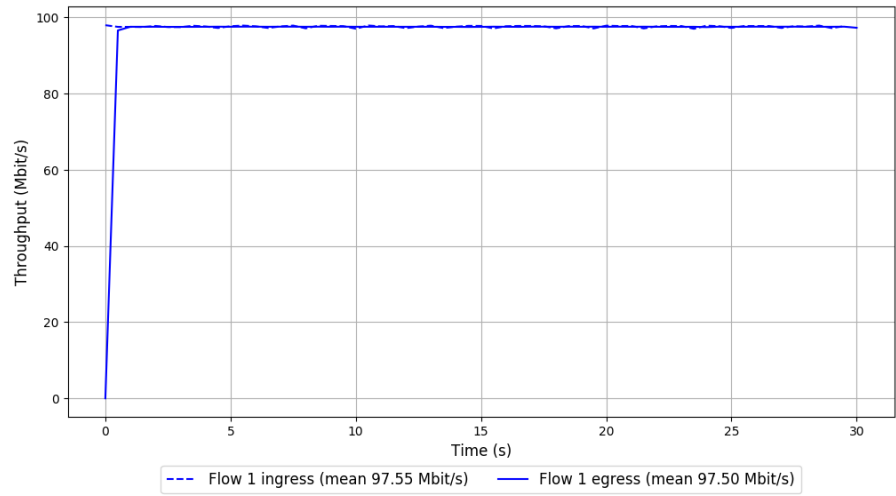
-- Flow 1:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 7.833 ms

Loss rate: 0.06%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-11-15 07:57:18

End at: 2018-11-15 07:57:48

Local clock offset: -6.116 ms

Remote clock offset: -0.47 ms

Below is generated by plot.py at 2018-11-15 09:39:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 8.299 ms

Loss rate: 0.01%

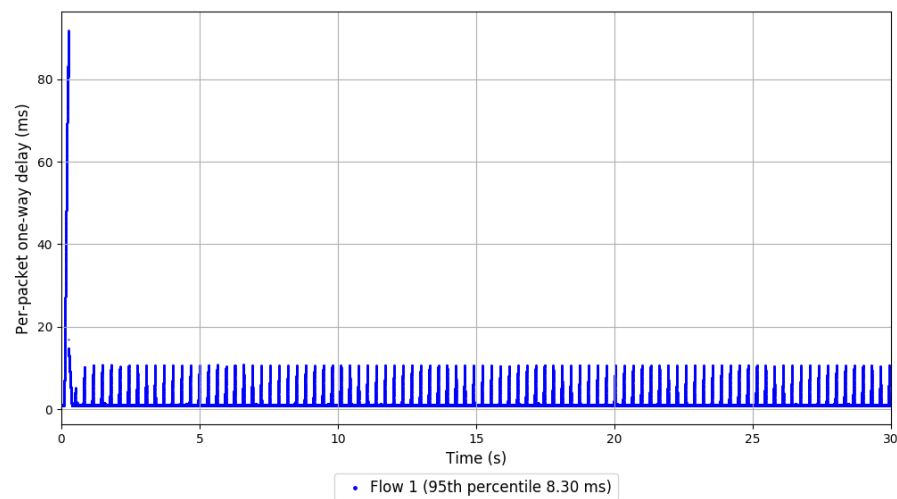
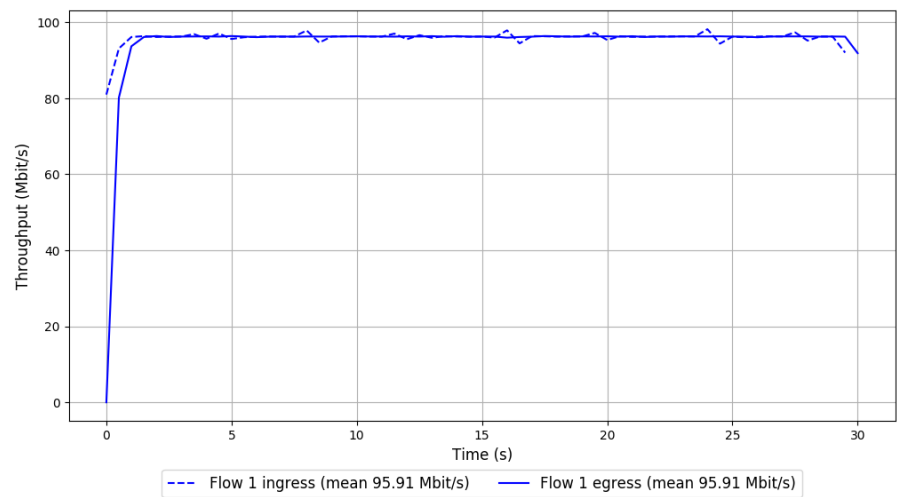
-- Flow 1:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 8.299 ms

Loss rate: 0.01%

Run 1: Report of FillP — Data Link

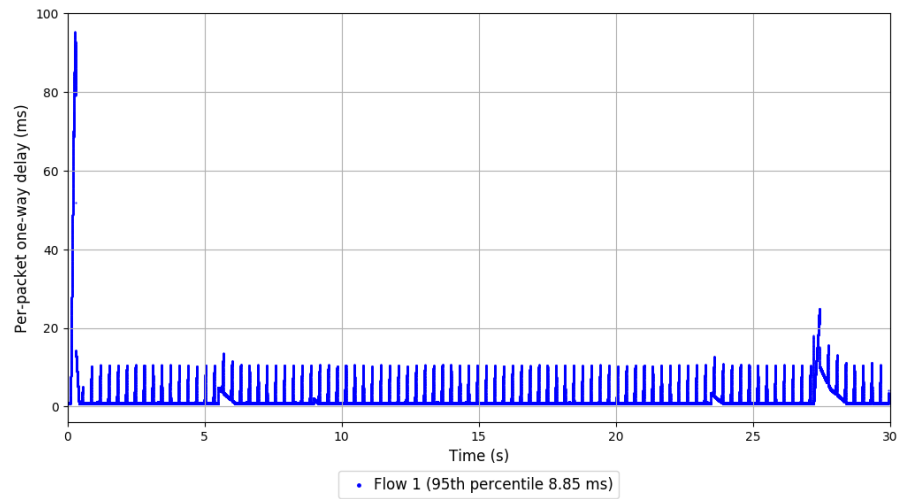
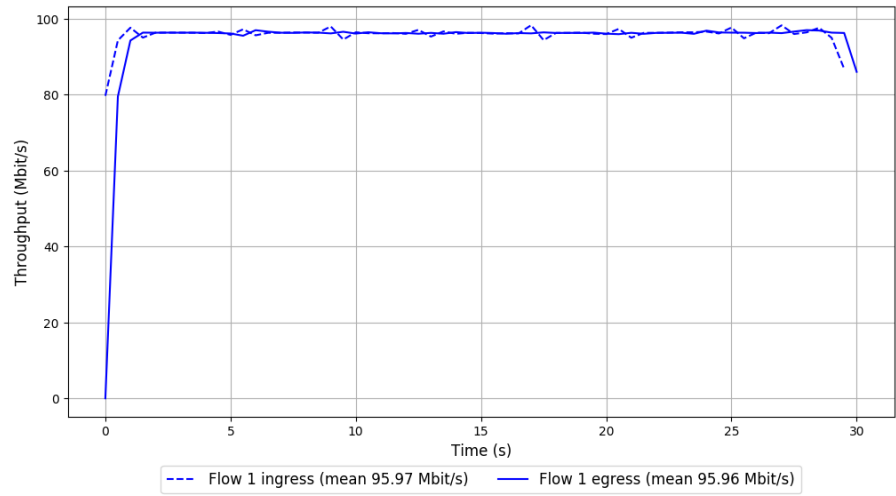


Run 2: Statistics of FillP

Start at: 2018-11-15 08:17:34
End at: 2018-11-15 08:18:04
Local clock offset: -5.877 ms
Remote clock offset: -0.241 ms

Below is generated by plot.py at 2018-11-15 09:39:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 8.849 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 8.849 ms
Loss rate: 0.02%

Run 2: Report of FillP — Data Link

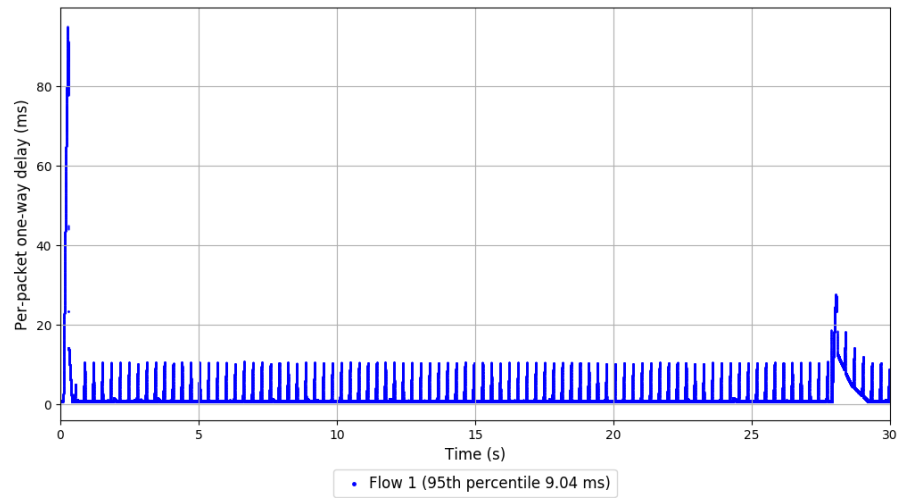
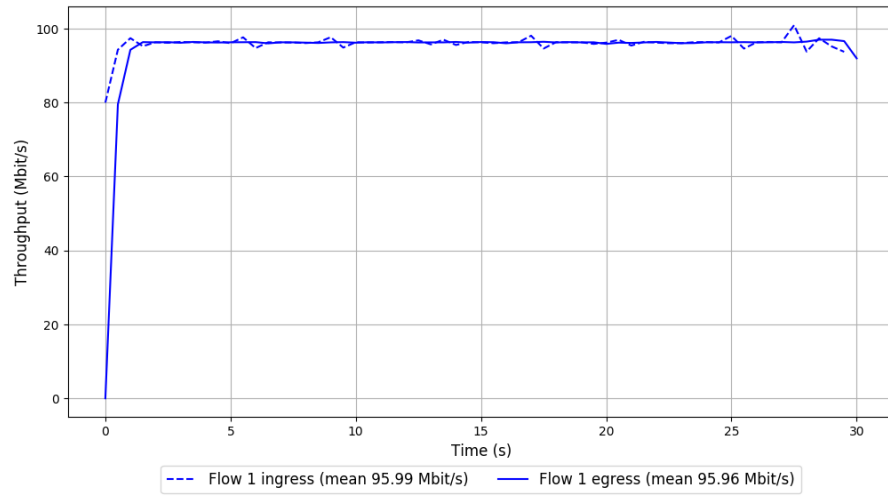


Run 3: Statistics of FillP

Start at: 2018-11-15 08:37:51
End at: 2018-11-15 08:38:21
Local clock offset: -2.837 ms
Remote clock offset: -0.082 ms

Below is generated by plot.py at 2018-11-15 09:39:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 9.039 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 9.039 ms
Loss rate: 0.04%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-11-15 08:58:03

End at: 2018-11-15 08:58:33

Local clock offset: -1.002 ms

Remote clock offset: 0.107 ms

Below is generated by plot.py at 2018-11-15 09:39:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 8.327 ms

Loss rate: 0.04%

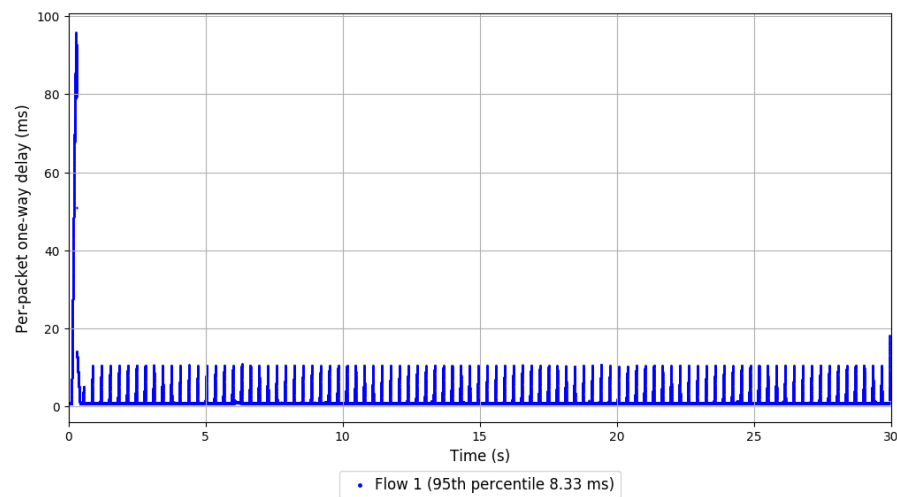
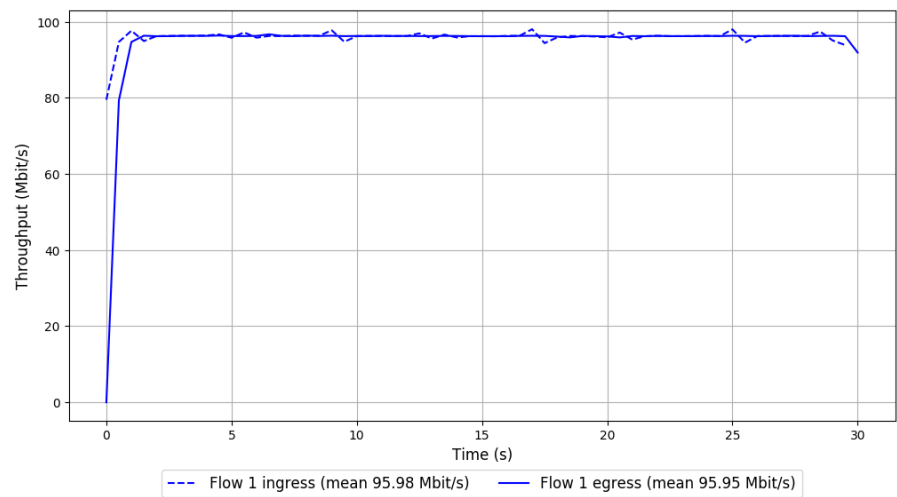
-- Flow 1:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 8.327 ms

Loss rate: 0.04%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-11-15 09:18:21

End at: 2018-11-15 09:18:51

Local clock offset: 0.021 ms

Remote clock offset: 0.254 ms

Below is generated by plot.py at 2018-11-15 09:40:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 8.276 ms

Loss rate: 0.04%

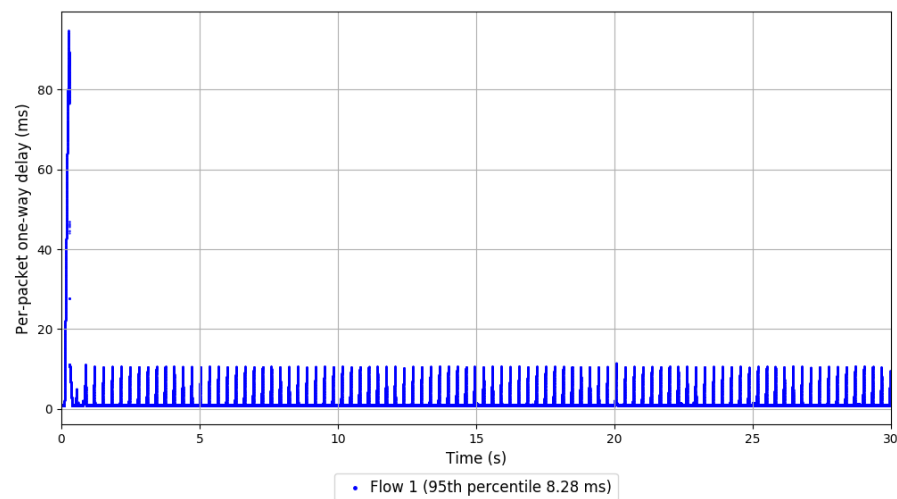
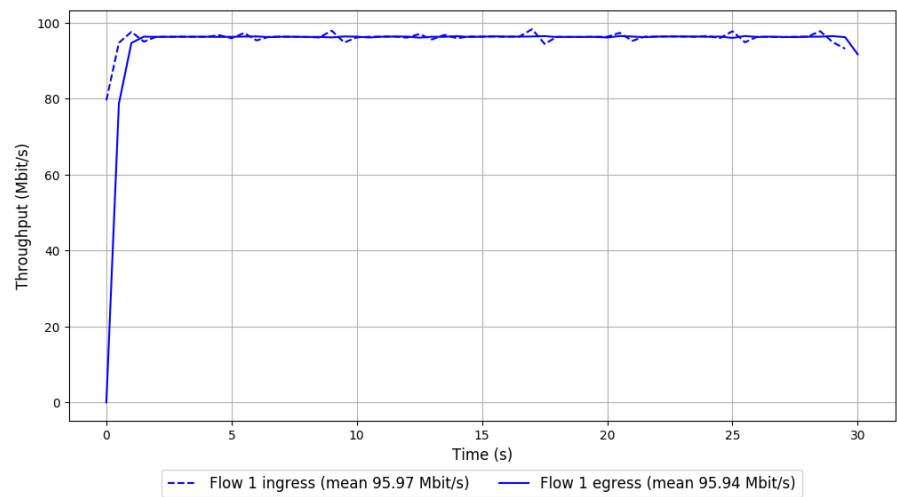
-- Flow 1:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 8.276 ms

Loss rate: 0.04%

Run 5: Report of FillP — Data Link

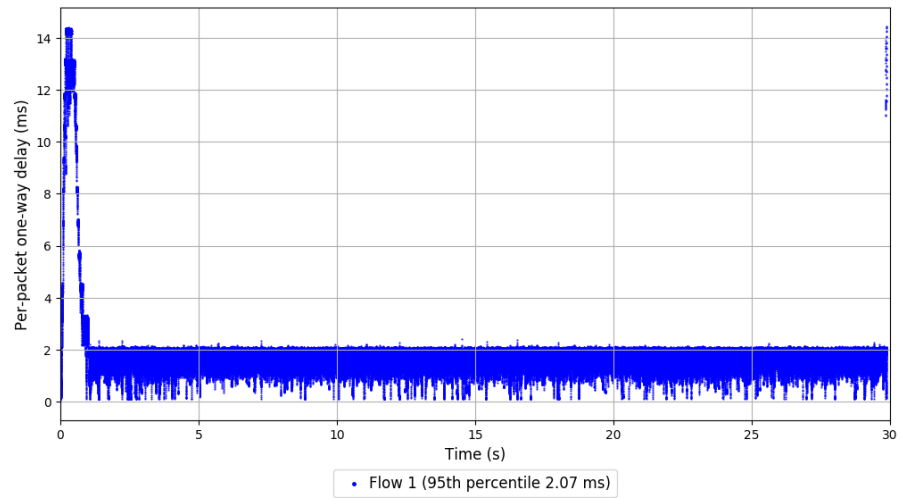
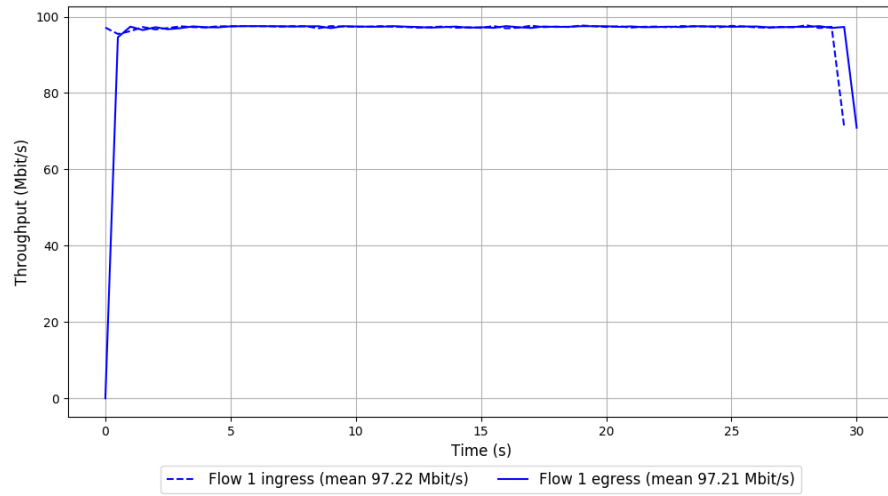


Run 1: Statistics of Indigo

Start at: 2018-11-15 08:11:54
End at: 2018-11-15 08:12:24
Local clock offset: -6.656 ms
Remote clock offset: -0.257 ms

Below is generated by plot.py at 2018-11-15 09:40:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 2.067 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 2.067 ms
Loss rate: 0.01%

Run 1: Report of Indigo — Data Link

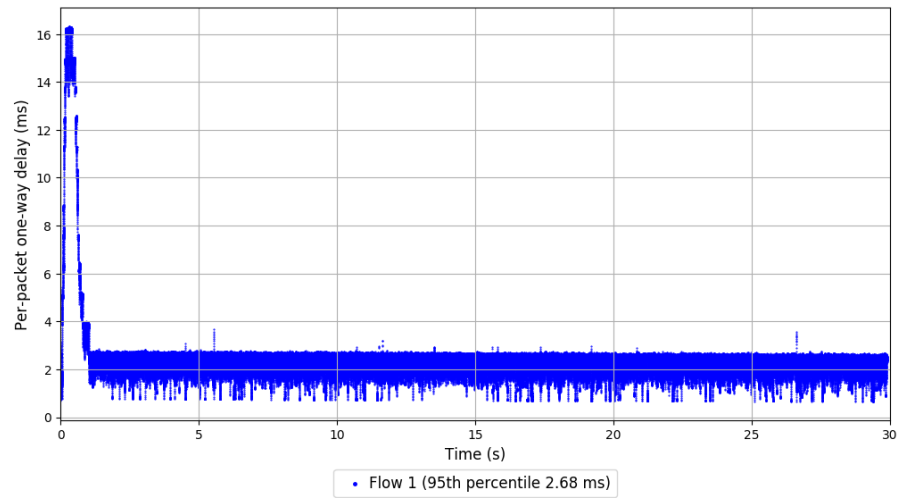
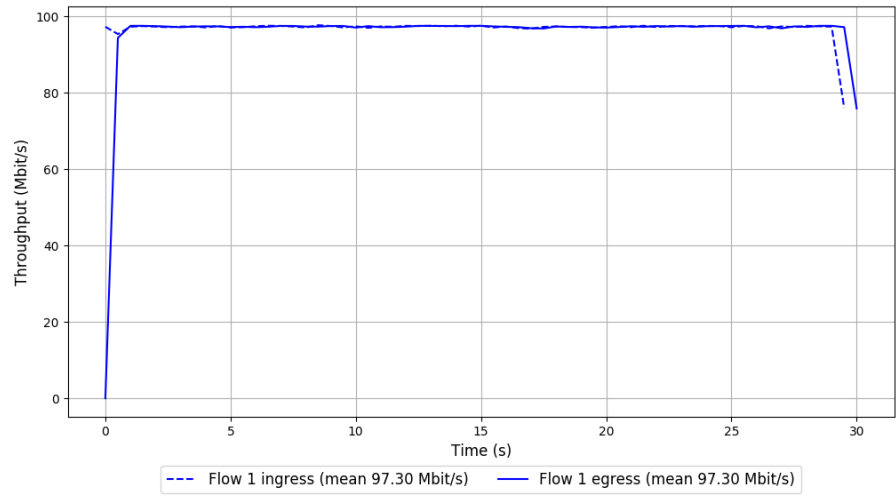


Run 2: Statistics of Indigo

Start at: 2018-11-15 08:32:10
End at: 2018-11-15 08:32:40
Local clock offset: -3.969 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-11-15 09:40:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.30 Mbit/s
95th percentile per-packet one-way delay: 2.684 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.30 Mbit/s
95th percentile per-packet one-way delay: 2.684 ms
Loss rate: 0.01%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-11-15 08:52:22

End at: 2018-11-15 08:52:52

Local clock offset: -1.36 ms

Remote clock offset: 0.153 ms

Below is generated by plot.py at 2018-11-15 09:40:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.18 Mbit/s

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

Loss rate: 0.01%

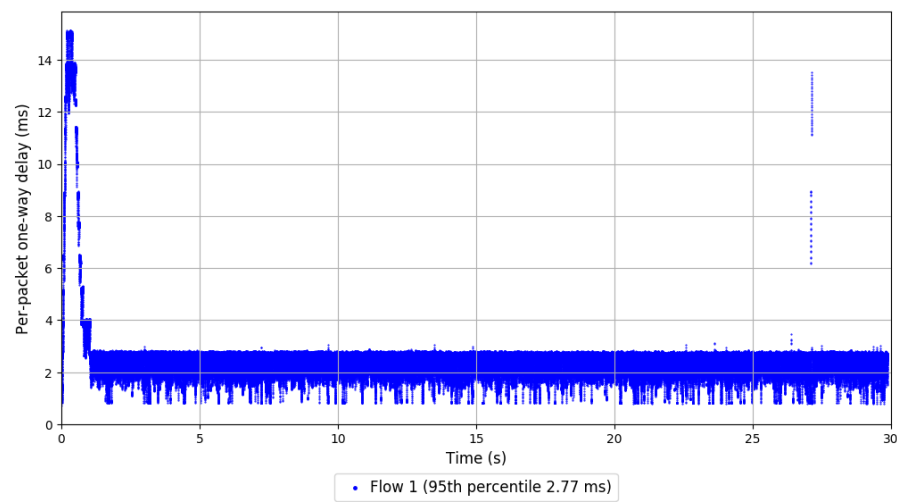
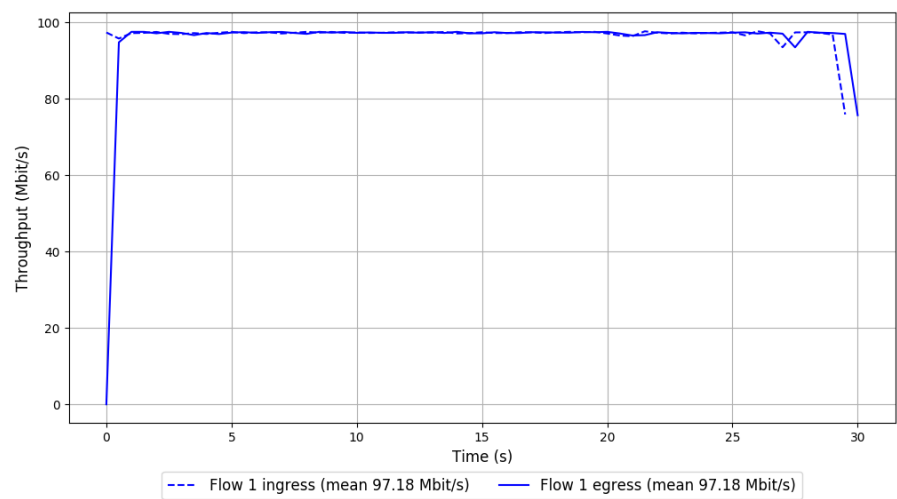
-- Flow 1:

Average throughput: 97.18 Mbit/s

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

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-11-15 09:12:37

End at: 2018-11-15 09:13:07

Local clock offset: -1.002 ms

Remote clock offset: 0.253 ms

Below is generated by plot.py at 2018-11-15 09:40:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 2.065 ms

Loss rate: 0.01%

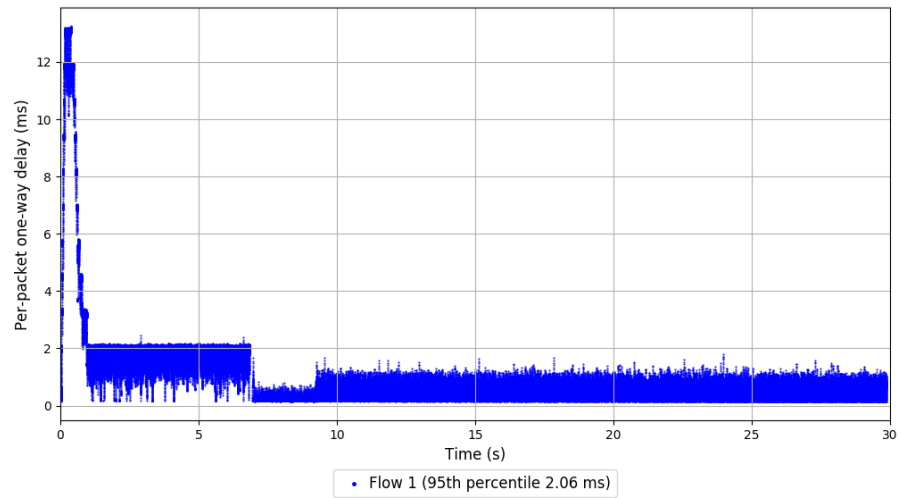
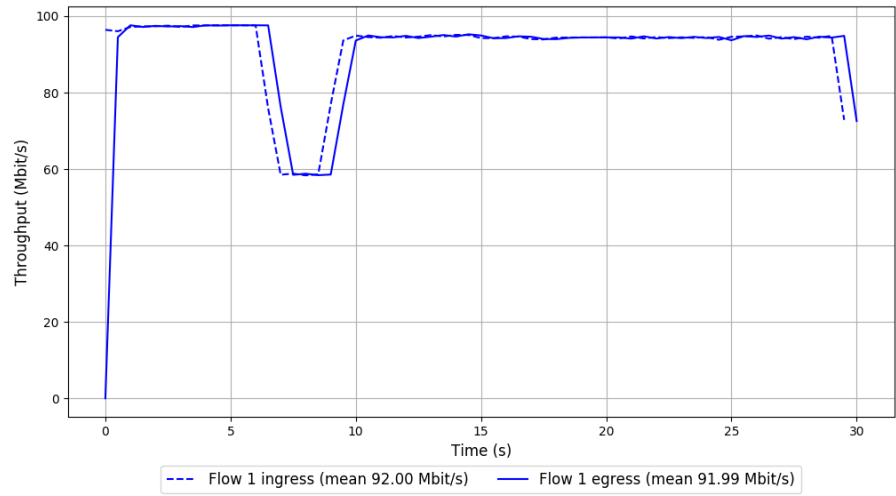
-- Flow 1:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 2.065 ms

Loss rate: 0.01%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-11-15 09:32:53

End at: 2018-11-15 09:33:23

Local clock offset: -4.6 ms

Remote clock offset: 0.238 ms

Below is generated by plot.py at 2018-11-15 09:40:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 3.498 ms

Loss rate: 0.01%

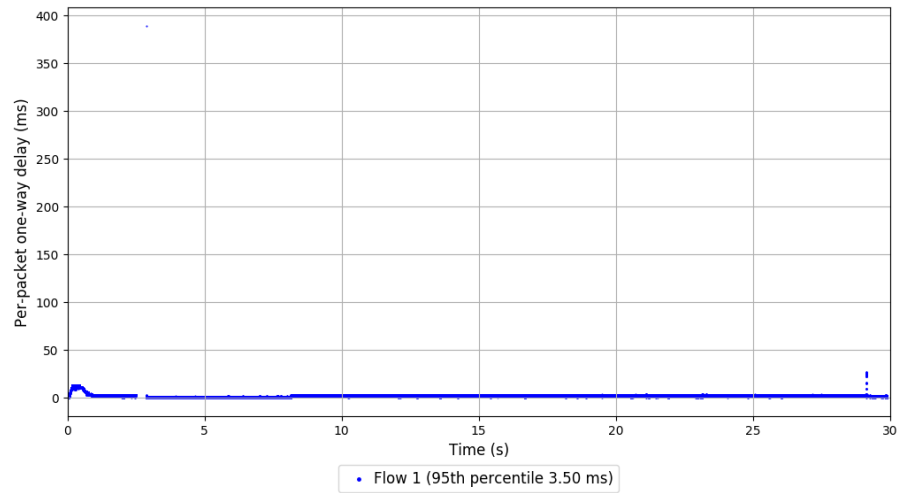
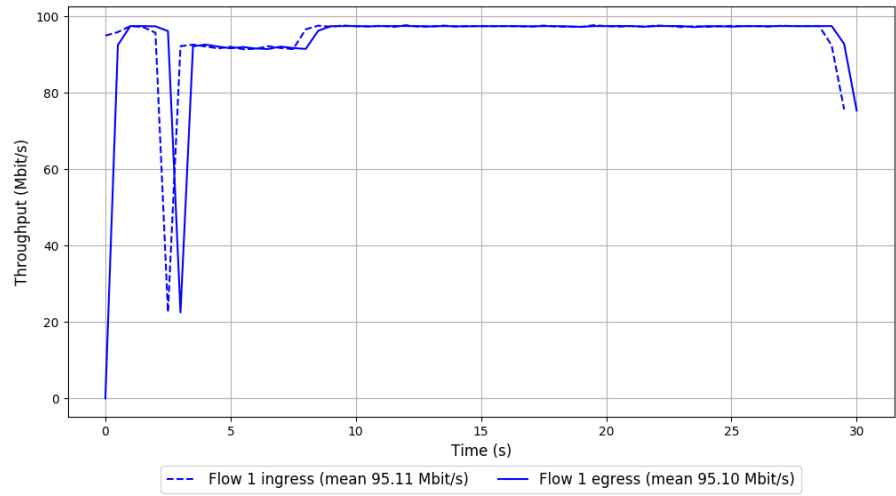
-- Flow 1:

Average throughput: 95.10 Mbit/s

95th percentile per-packet one-way delay: 3.498 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:01:44

End at: 2018-11-15 08:02:14

Local clock offset: -5.964 ms

Remote clock offset: -0.406 ms

Below is generated by plot.py at 2018-11-15 09:40:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.08 Mbit/s

95th percentile per-packet one-way delay: 3.957 ms

Loss rate: 0.02%

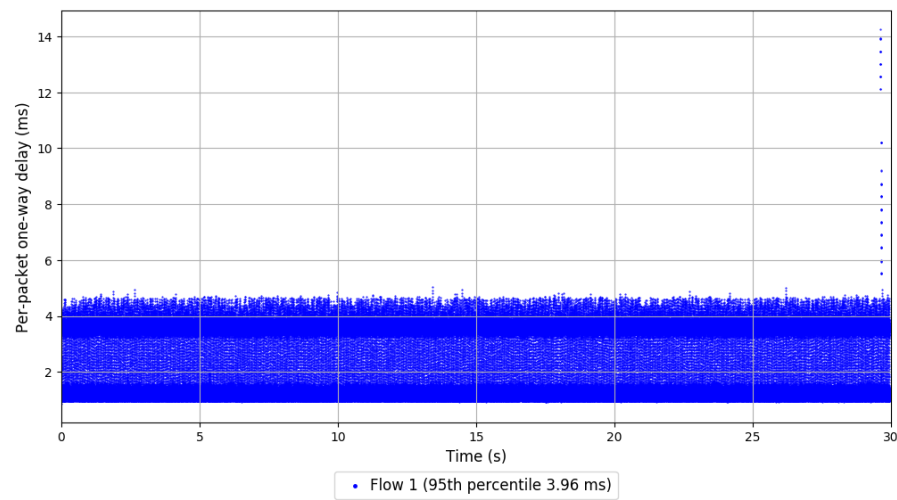
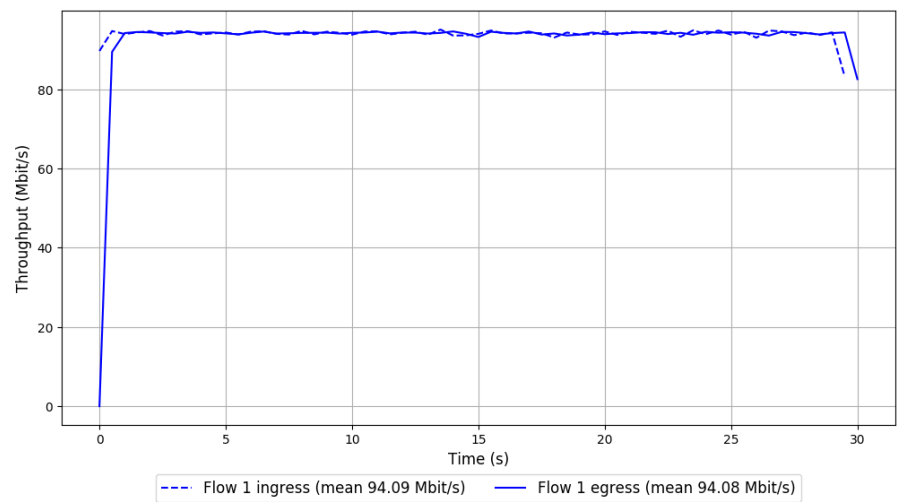
-- Flow 1:

Average throughput: 94.08 Mbit/s

95th percentile per-packet one-way delay: 3.957 ms

Loss rate: 0.02%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:22:01

End at: 2018-11-15 08:22:31

Local clock offset: -6.652 ms

Remote clock offset: -0.17 ms

Below is generated by plot.py at 2018-11-15 09:40:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.89 Mbit/s

95th percentile per-packet one-way delay: 3.113 ms

Loss rate: 0.01%

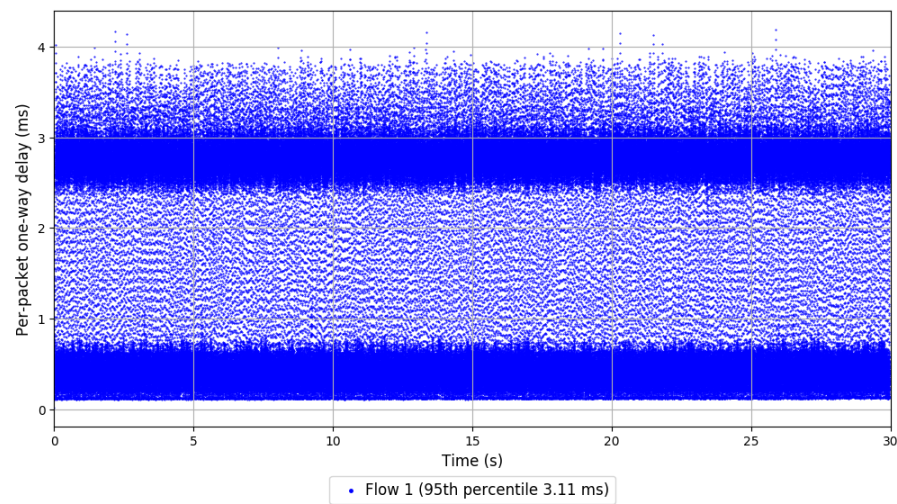
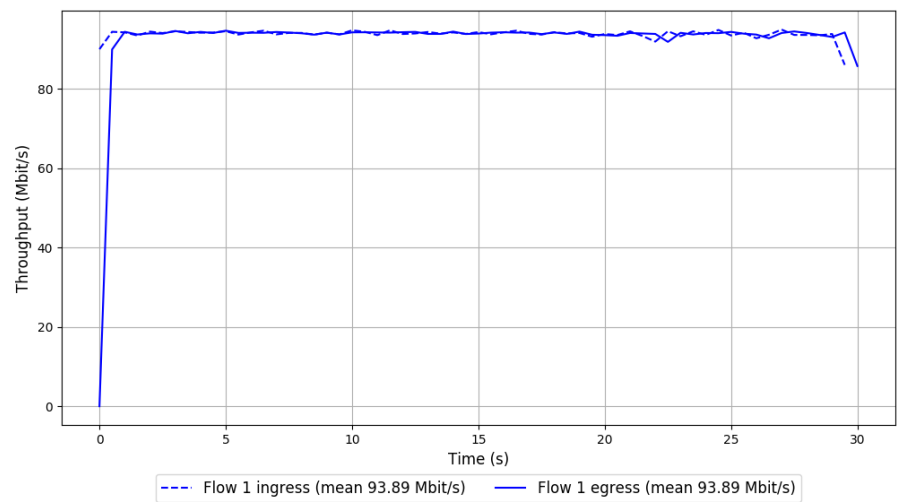
-- Flow 1:

Average throughput: 93.89 Mbit/s

95th percentile per-packet one-way delay: 3.113 ms

Loss rate: 0.01%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:42:17

End at: 2018-11-15 08:42:47

Local clock offset: -2.969 ms

Remote clock offset: 0.044 ms

Below is generated by plot.py at 2018-11-15 09:41:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.99 Mbit/s

95th percentile per-packet one-way delay: 3.053 ms

Loss rate: 0.01%

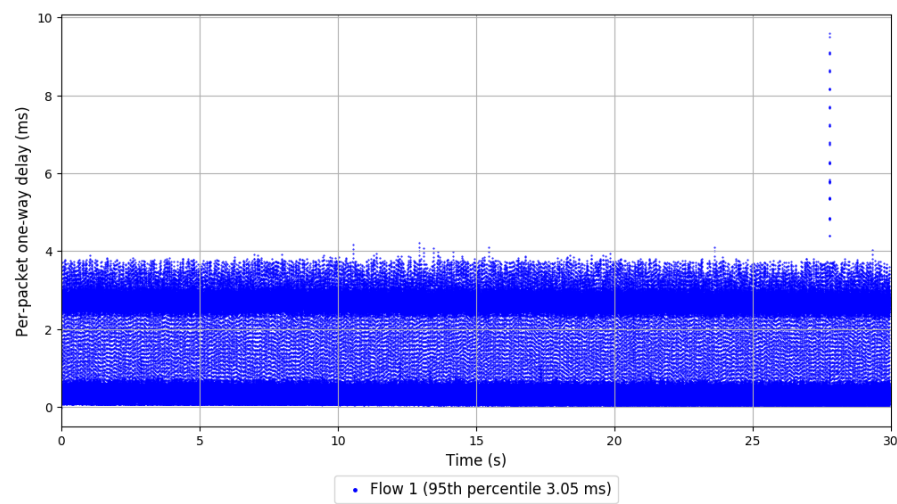
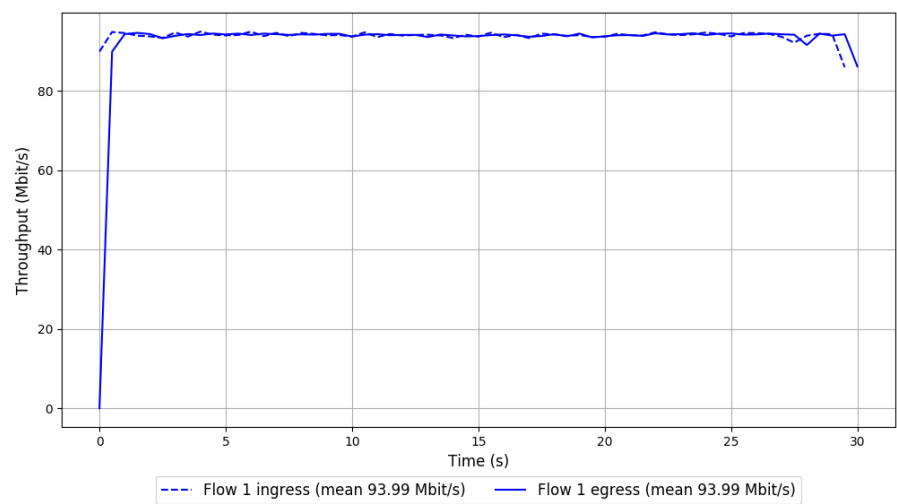
-- Flow 1:

Average throughput: 93.99 Mbit/s

95th percentile per-packet one-way delay: 3.053 ms

Loss rate: 0.01%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-15 09:02:29

End at: 2018-11-15 09:02:59

Local clock offset: -1.514 ms

Remote clock offset: 0.235 ms

Below is generated by plot.py at 2018-11-15 09:41:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.13 Mbit/s

95th percentile per-packet one-way delay: 3.090 ms

Loss rate: 0.02%

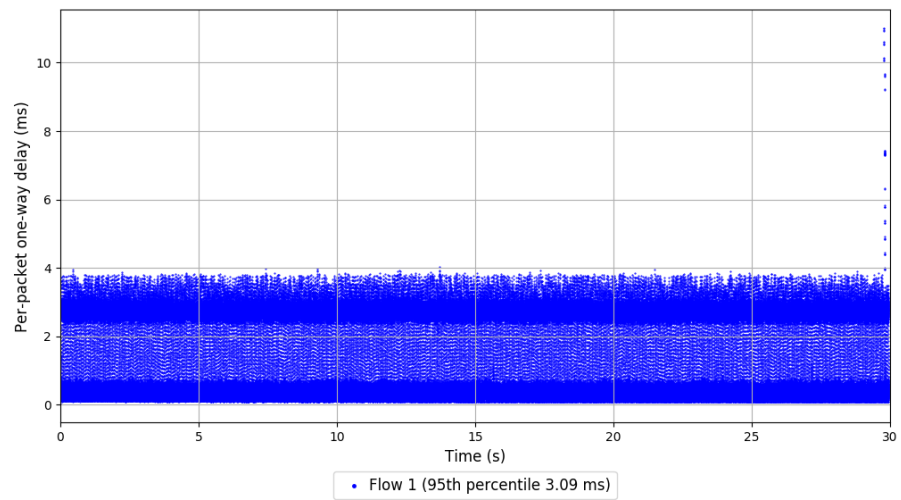
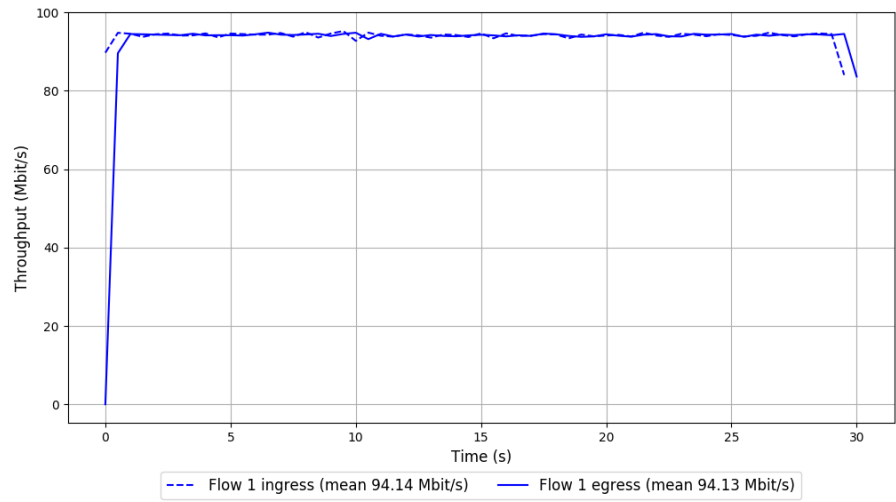
-- Flow 1:

Average throughput: 94.13 Mbit/s

95th percentile per-packet one-way delay: 3.090 ms

Loss rate: 0.02%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-15 09:22:48

End at: 2018-11-15 09:23:18

Local clock offset: 0.228 ms

Remote clock offset: 0.37 ms

Below is generated by plot.py at 2018-11-15 09:41:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 3.817 ms

Loss rate: 0.01%

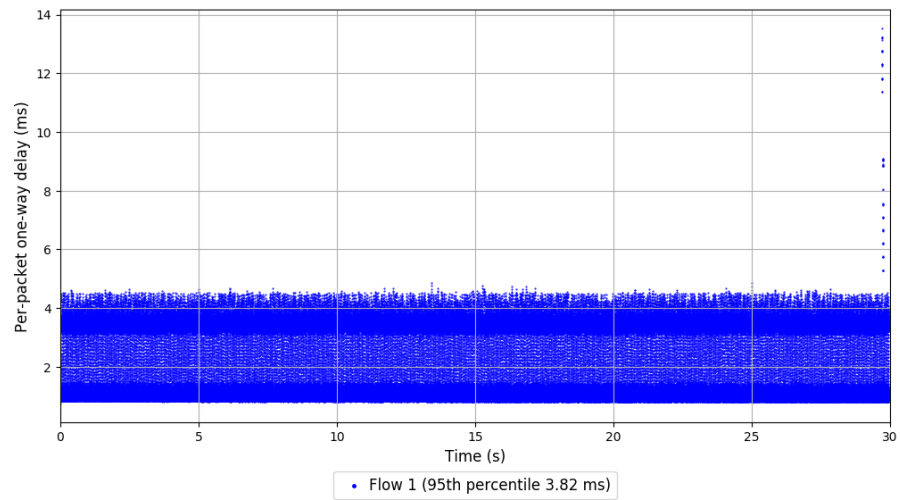
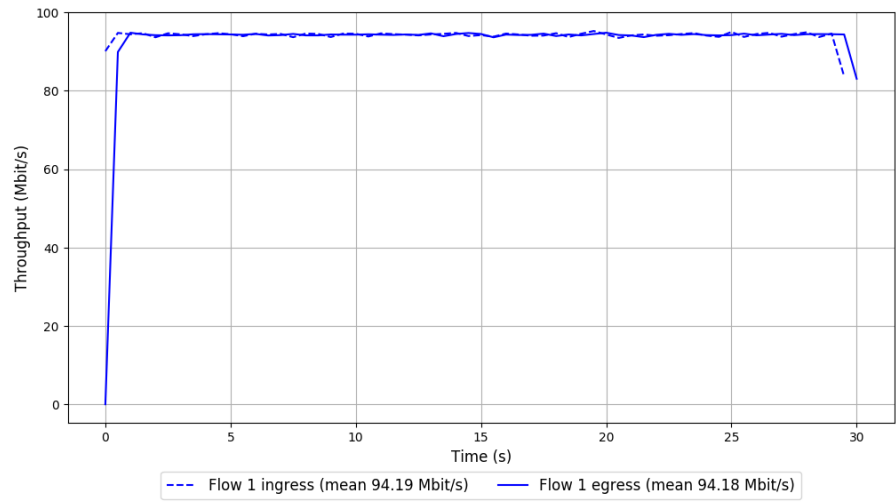
-- Flow 1:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 3.817 ms

Loss rate: 0.01%

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

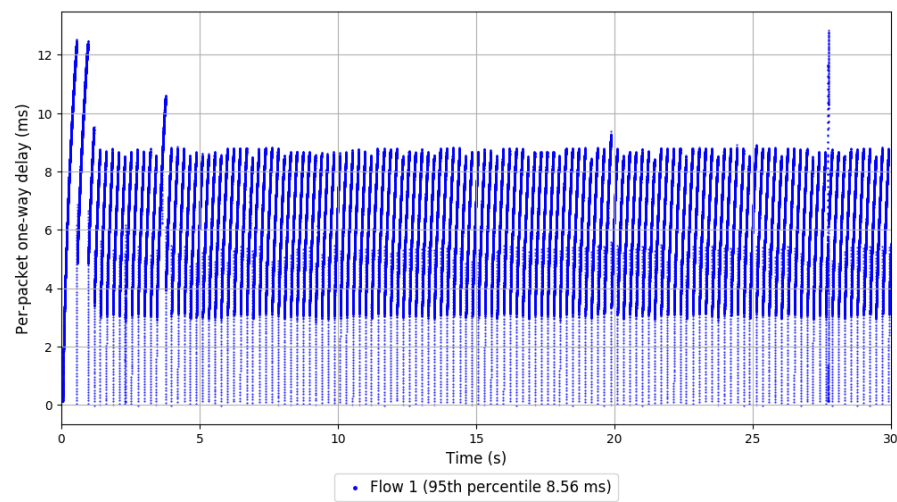
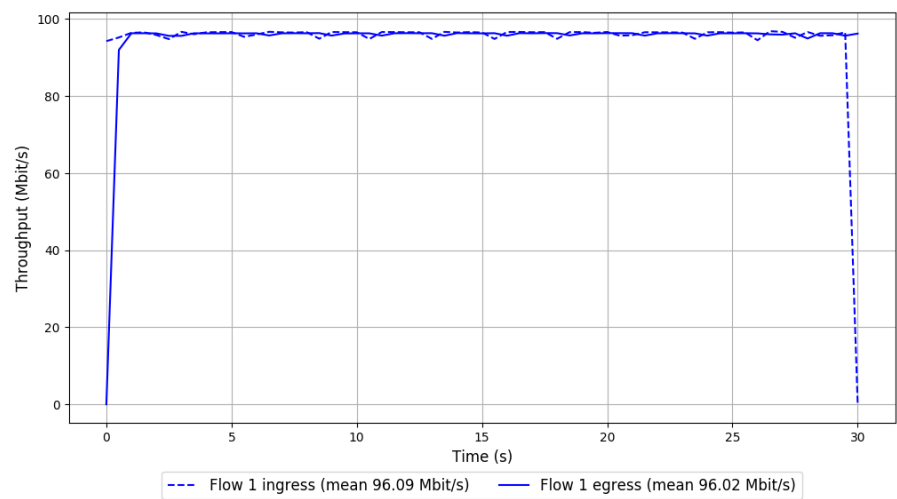


```
Run 1: Statistics of LEDBAT

Start at: 2018-11-15 07:56:08
End at: 2018-11-15 07:56:38
Local clock offset: -6.831 ms
Remote clock offset: -0.335 ms

# Below is generated by plot.py at 2018-11-15 09:41:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 8.564 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 8.564 ms
Loss rate: 0.08%
```

Run 1: Report of LEDBAT — Data Link

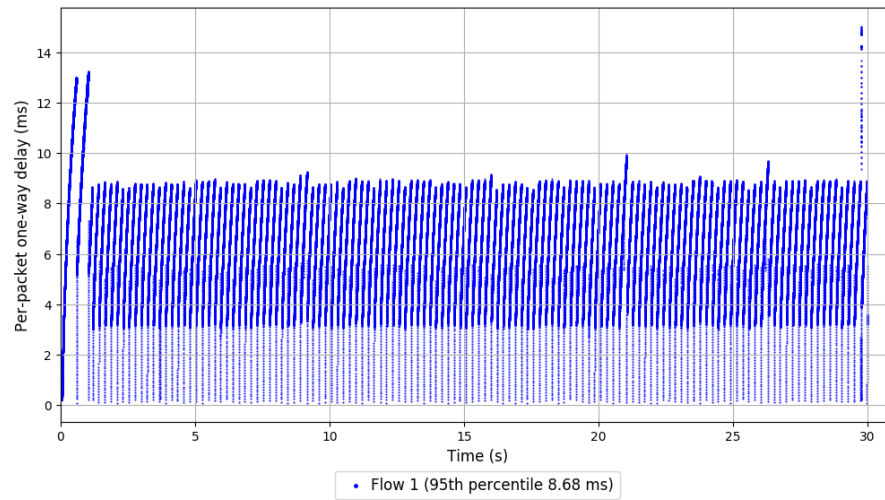
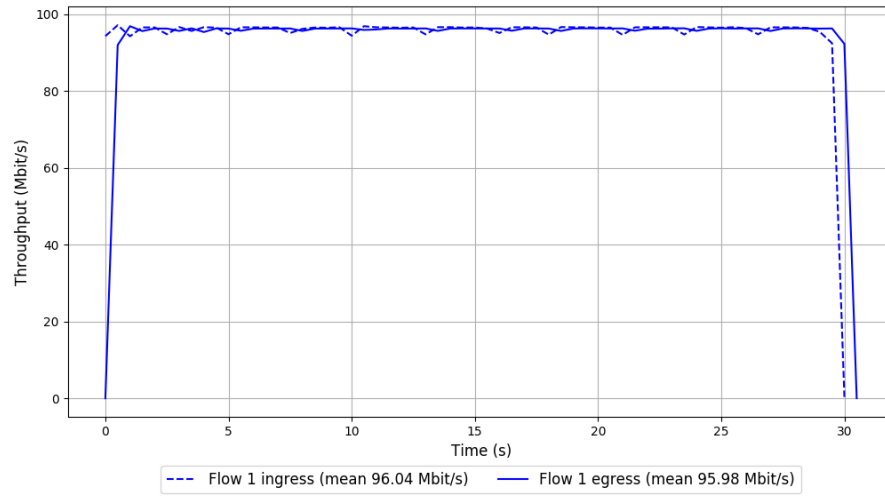


Run 2: Statistics of LEDBAT

Start at: 2018-11-15 08:16:25
End at: 2018-11-15 08:16:55
Local clock offset: -6.661 ms
Remote clock offset: -0.354 ms

Below is generated by plot.py at 2018-11-15 09:41:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 8.683 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 8.683 ms
Loss rate: 0.07%

Run 2: Report of LEDBAT — Data Link

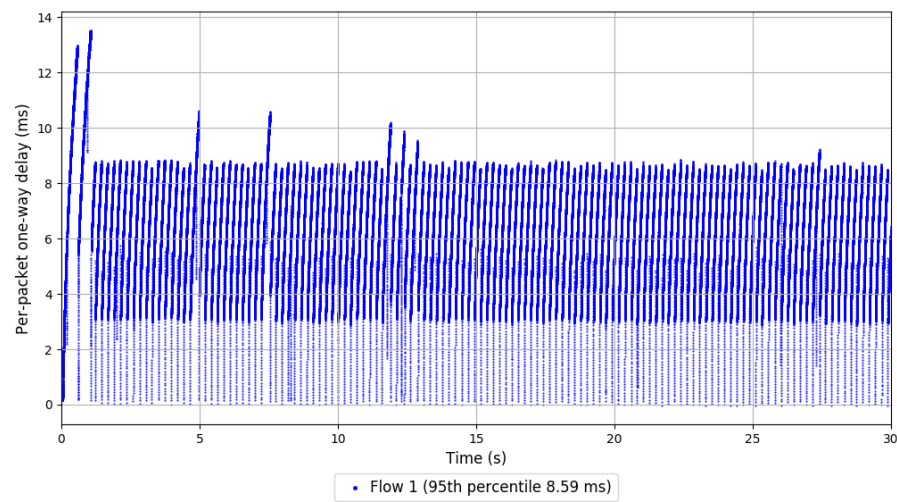
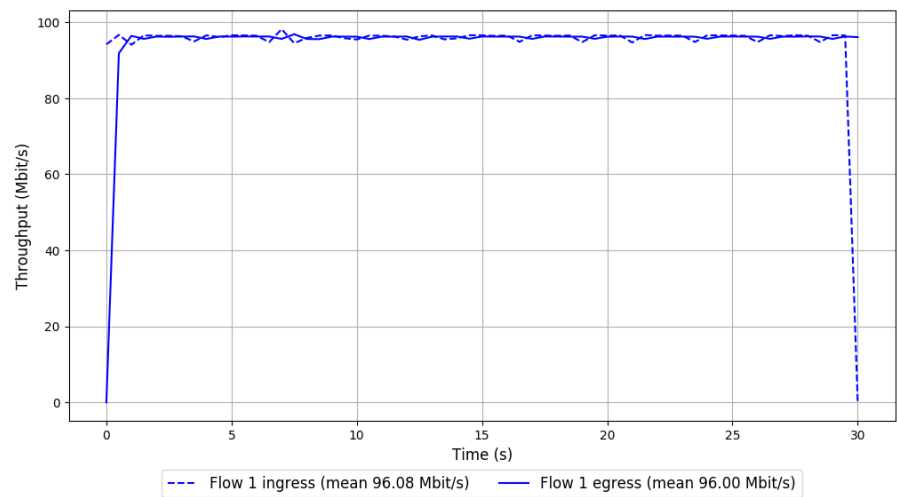


Run 3: Statistics of LEDBAT

Start at: 2018-11-15 08:36:42
End at: 2018-11-15 08:37:12
Local clock offset: -3.777 ms
Remote clock offset: -0.132 ms

Below is generated by plot.py at 2018-11-15 09:42:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 8.588 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 8.588 ms
Loss rate: 0.08%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-11-15 08:56:53

End at: 2018-11-15 08:57:23

Local clock offset: -1.077 ms

Remote clock offset: 0.064 ms

Below is generated by plot.py at 2018-11-15 09:42:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.52 Mbit/s

95th percentile per-packet one-way delay: 9.747 ms

Loss rate: 0.07%

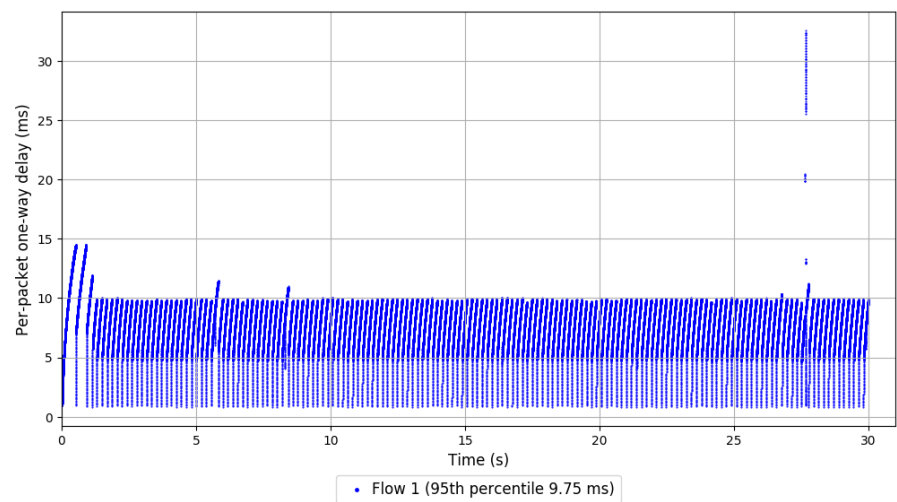
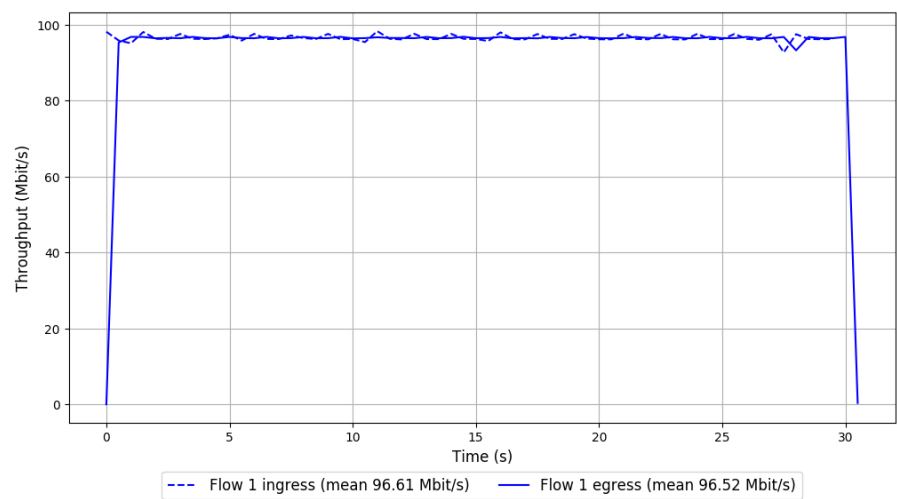
-- Flow 1:

Average throughput: 96.52 Mbit/s

95th percentile per-packet one-way delay: 9.747 ms

Loss rate: 0.07%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-11-15 09:17:12

End at: 2018-11-15 09:17:42

Local clock offset: -0.033 ms

Remote clock offset: 0.277 ms

Below is generated by plot.py at 2018-11-15 09:42:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 9.666 ms

Loss rate: 0.10%

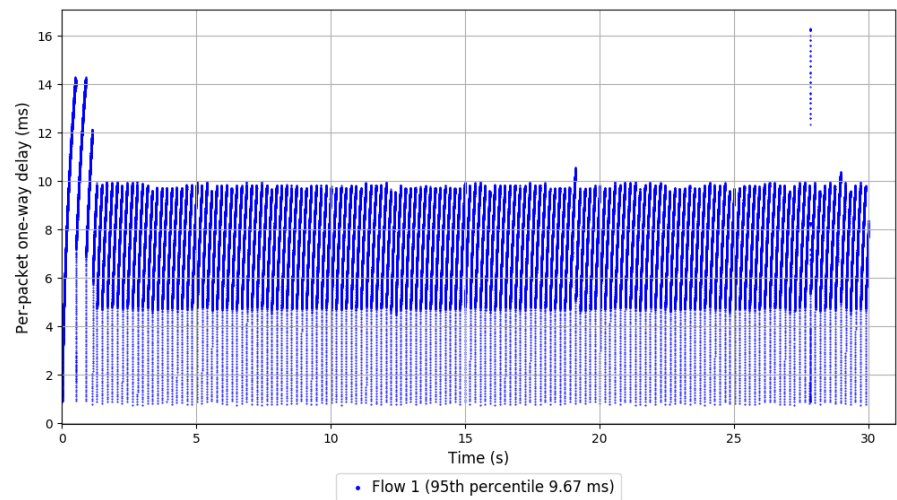
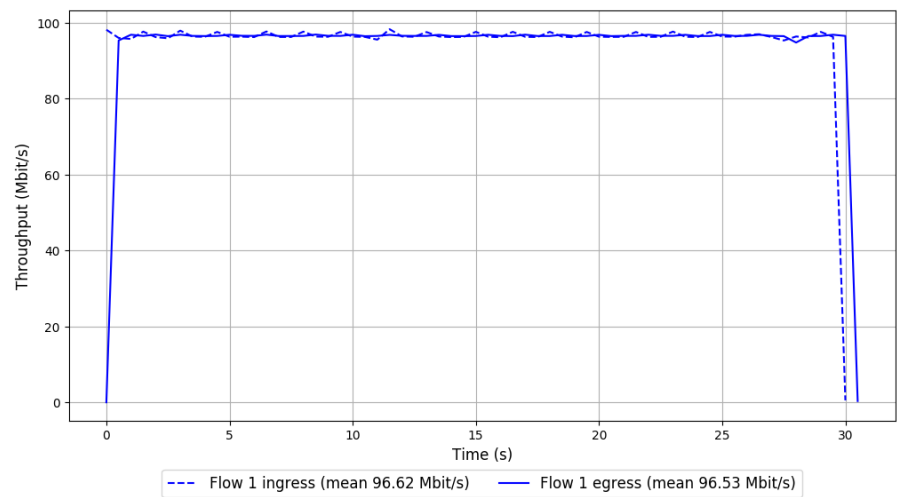
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 9.666 ms

Loss rate: 0.10%

Run 5: Report of LEDBAT — Data Link

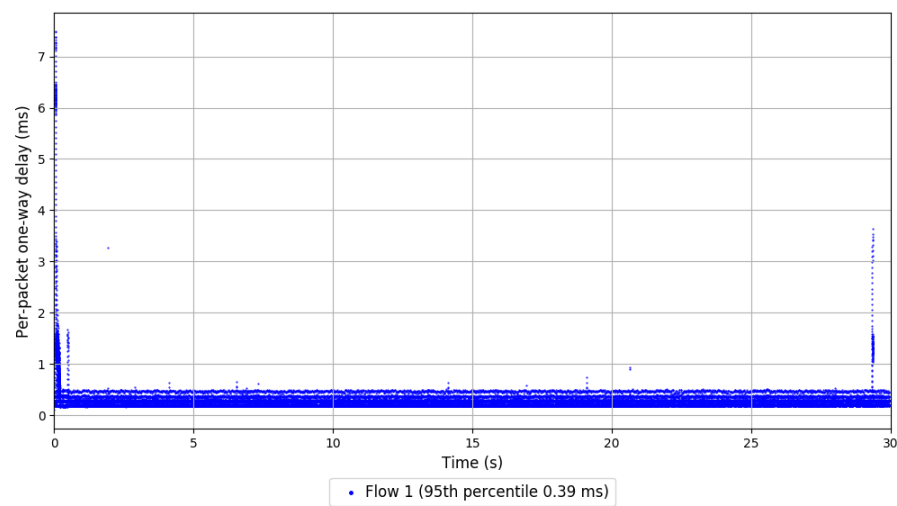
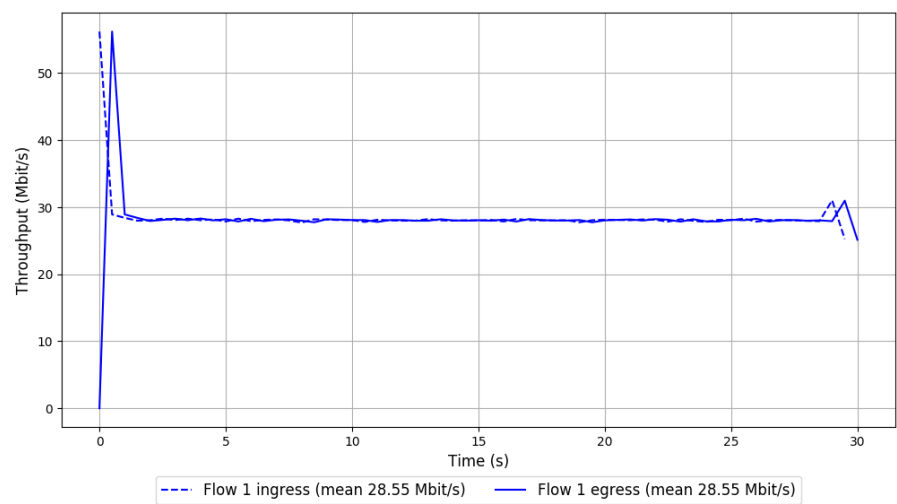


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-15 07:55:03
End at: 2018-11-15 07:55:33
Local clock offset: -6.806 ms
Remote clock offset: -0.38 ms

# Below is generated by plot.py at 2018-11-15 09:42:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.55 Mbit/s
95th percentile per-packet one-way delay: 0.388 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 28.55 Mbit/s
95th percentile per-packet one-way delay: 0.388 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-Muses — Data Link

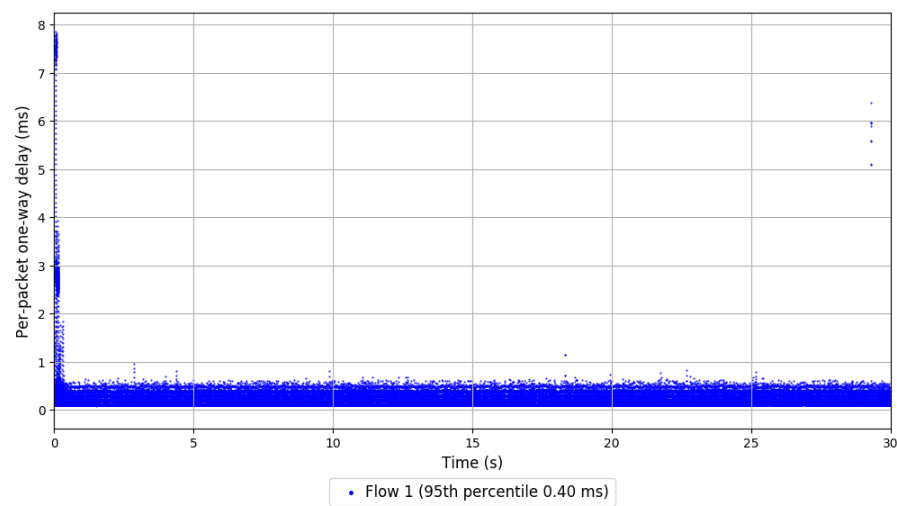
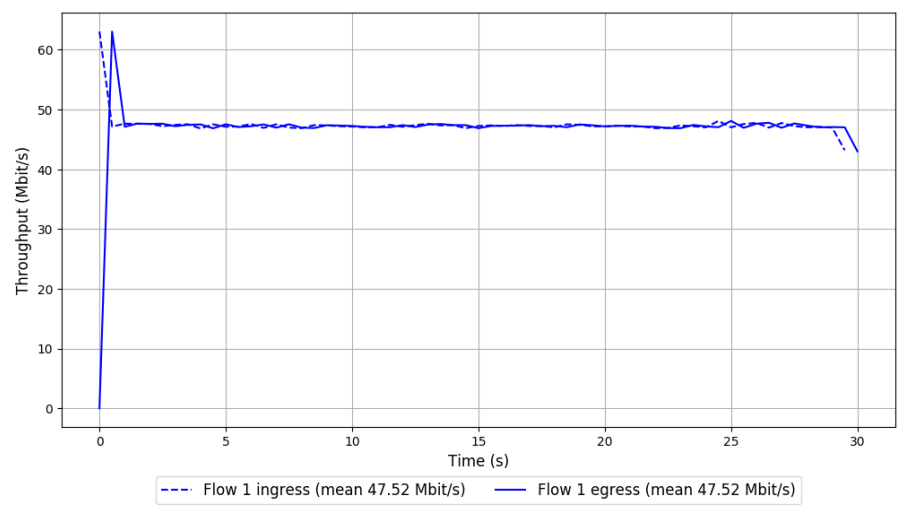


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-15 08:15:19
End at: 2018-11-15 08:15:49
Local clock offset: -6.645 ms
Remote clock offset: -0.222 ms

Below is generated by plot.py at 2018-11-15 09:42:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.52 Mbit/s
95th percentile per-packet one-way delay: 0.404 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.52 Mbit/s
95th percentile per-packet one-way delay: 0.404 ms
Loss rate: 0.01%

Run 2: Report of Indigo-Muses — Data Link

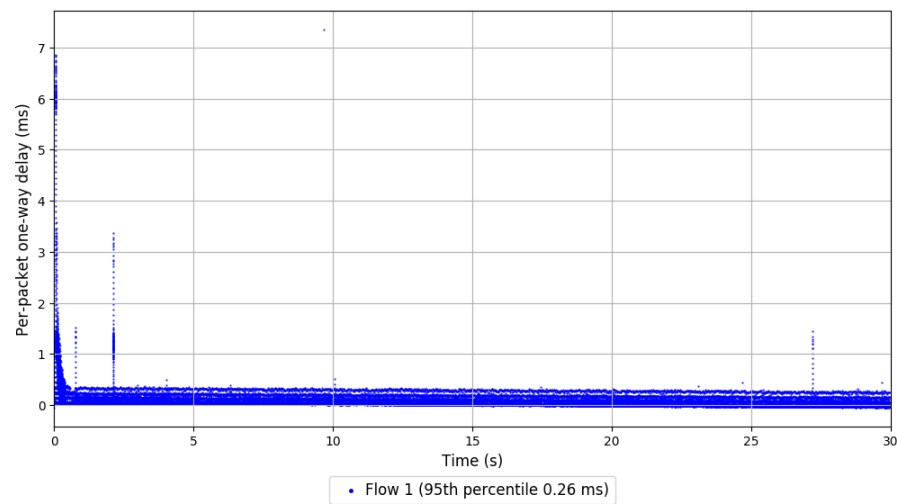
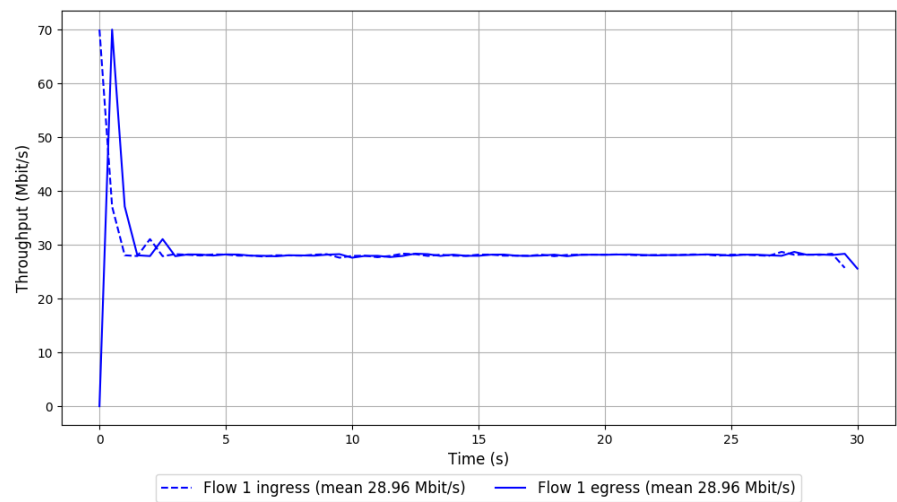


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-15 08:35:36
End at: 2018-11-15 08:36:06
Local clock offset: -3.963 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-11-15 09:42:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 0.255 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 0.255 ms
Loss rate: 0.01%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-11-15 08:55:48

End at: 2018-11-15 08:56:18

Local clock offset: -1.138 ms

Remote clock offset: 0.087 ms

Below is generated by plot.py at 2018-11-15 09:42:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.43 Mbit/s

95th percentile per-packet one-way delay: 1.158 ms

Loss rate: 0.01%

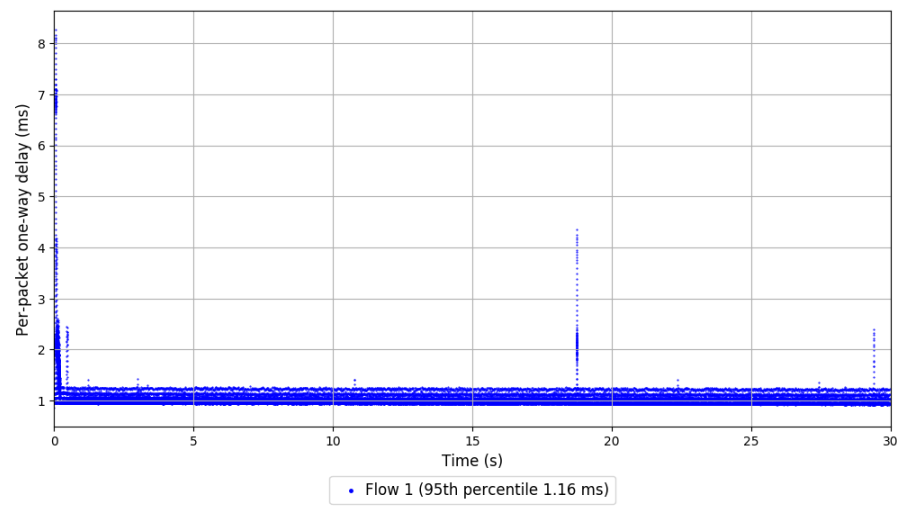
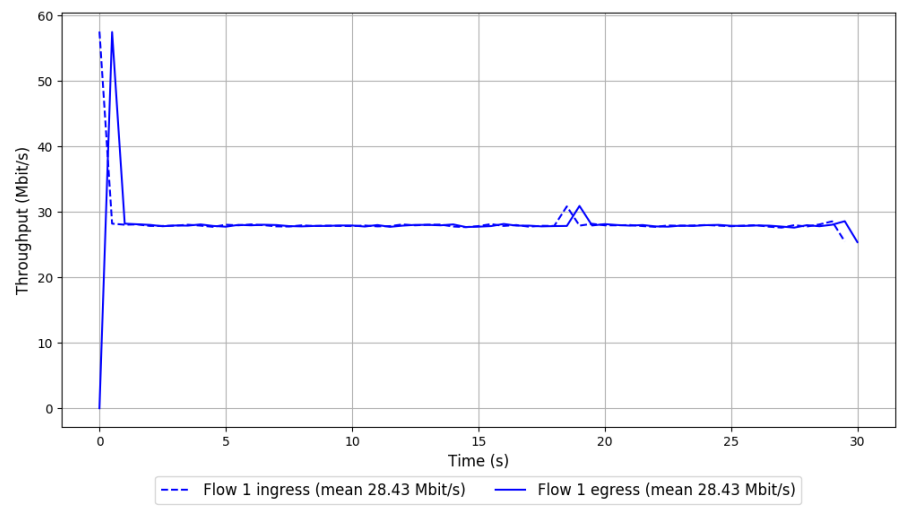
-- Flow 1:

Average throughput: 28.43 Mbit/s

95th percentile per-packet one-way delay: 1.158 ms

Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-11-15 09:16:06

End at: 2018-11-15 09:16:36

Local clock offset: -0.088 ms

Remote clock offset: 0.245 ms

Below is generated by plot.py at 2018-11-15 09:42:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.03 Mbit/s

95th percentile per-packet one-way delay: 1.235 ms

Loss rate: 0.01%

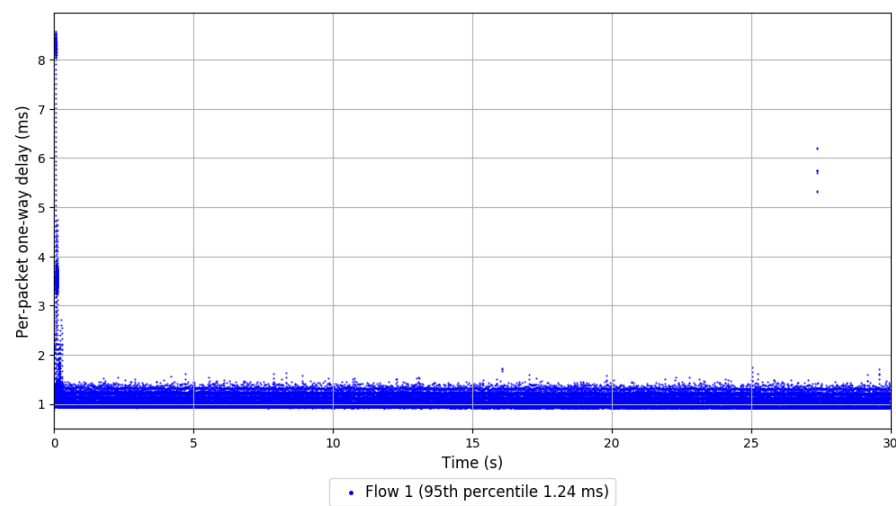
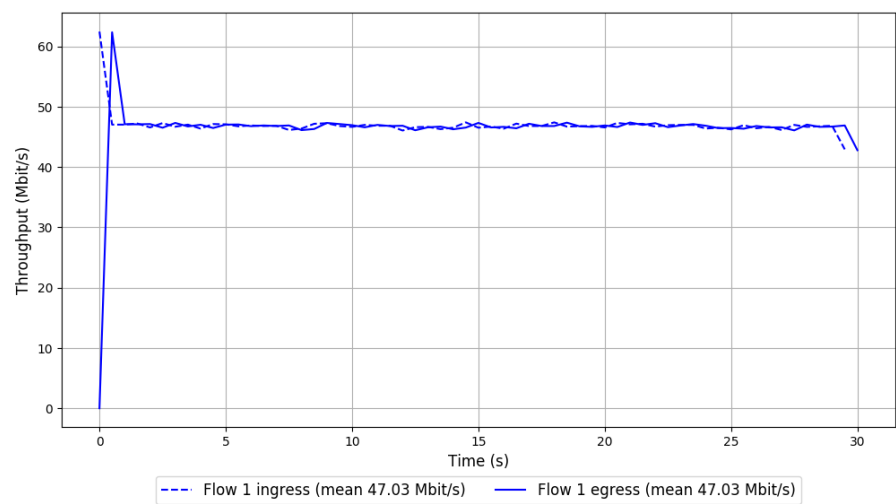
-- Flow 1:

Average throughput: 47.03 Mbit/s

95th percentile per-packet one-way delay: 1.235 ms

Loss rate: 0.01%

Run 5: Report of Indigo-Muses — Data Link

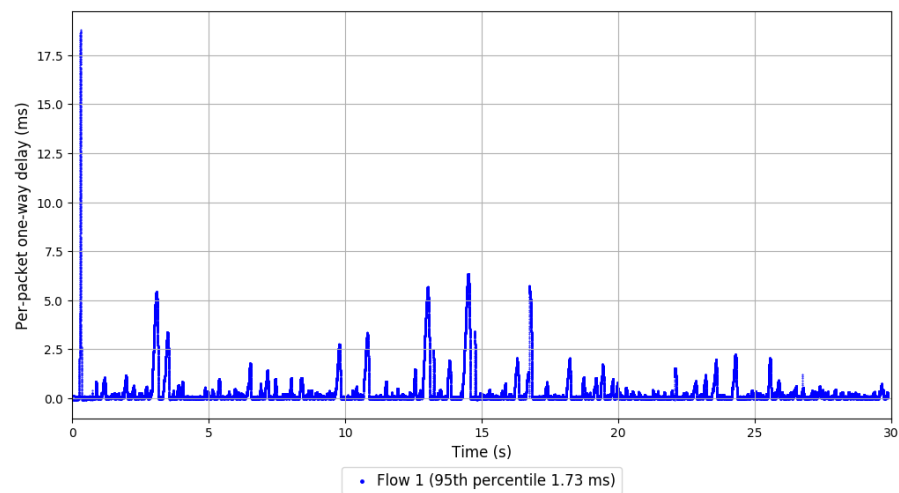
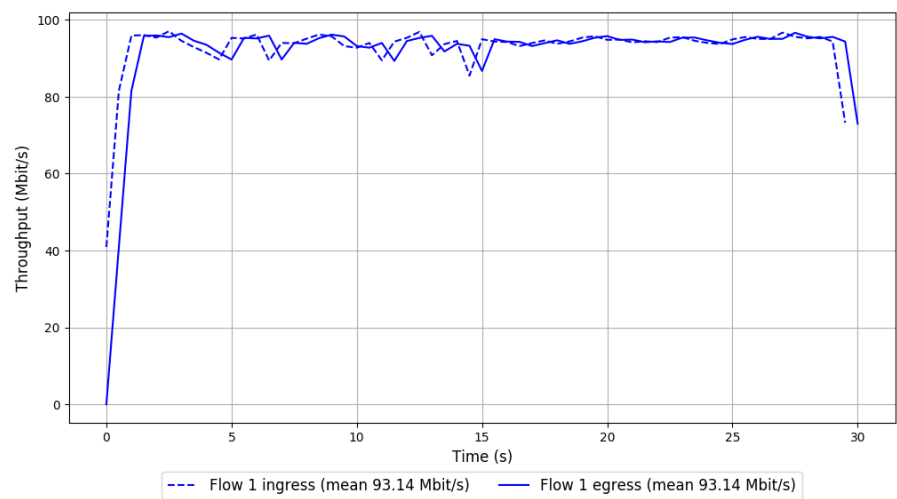


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-15 08:00:37
End at: 2018-11-15 08:01:07
Local clock offset: -6.815 ms
Remote clock offset: -0.369 ms

# Below is generated by plot.py at 2018-11-15 09:42:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 1.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 1.731 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-11-15 08:20:54

End at: 2018-11-15 08:21:24

Local clock offset: -6.659 ms

Remote clock offset: -0.215 ms

Below is generated by plot.py at 2018-11-15 09:42:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.47 Mbit/s

95th percentile per-packet one-way delay: 1.417 ms

Loss rate: 0.01%

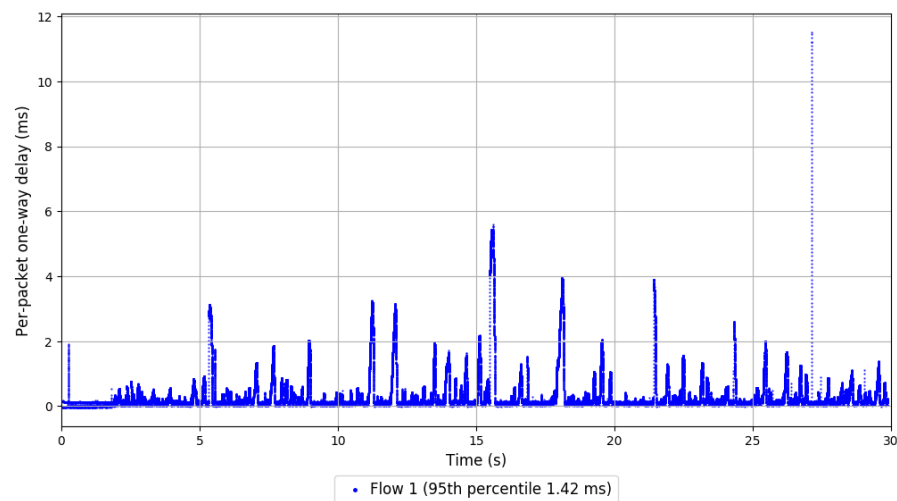
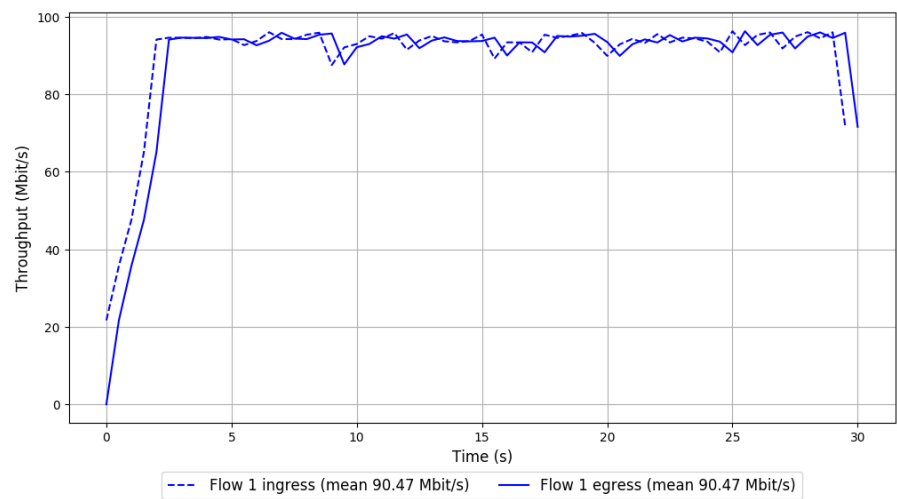
-- Flow 1:

Average throughput: 90.47 Mbit/s

95th percentile per-packet one-way delay: 1.417 ms

Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-11-15 08:41:10

End at: 2018-11-15 08:41:41

Local clock offset: -2.34 ms

Remote clock offset: -0.017 ms

Below is generated by plot.py at 2018-11-15 09:43:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.44 Mbit/s

95th percentile per-packet one-way delay: 2.651 ms

Loss rate: 0.01%

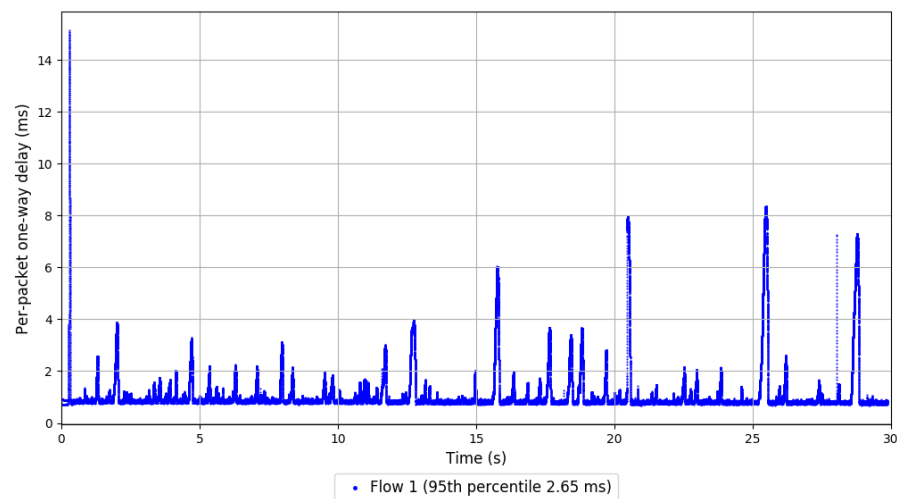
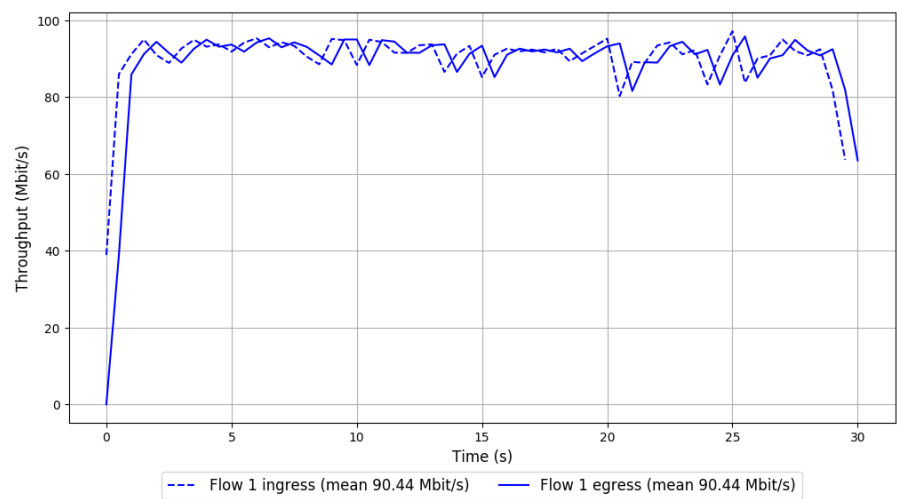
-- Flow 1:

Average throughput: 90.44 Mbit/s

95th percentile per-packet one-way delay: 2.651 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-11-15 09:01:22

End at: 2018-11-15 09:01:52

Local clock offset: -0.817 ms

Remote clock offset: 0.216 ms

Below is generated by plot.py at 2018-11-15 09:43:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.25 Mbit/s

95th percentile per-packet one-way delay: 2.979 ms

Loss rate: 0.01%

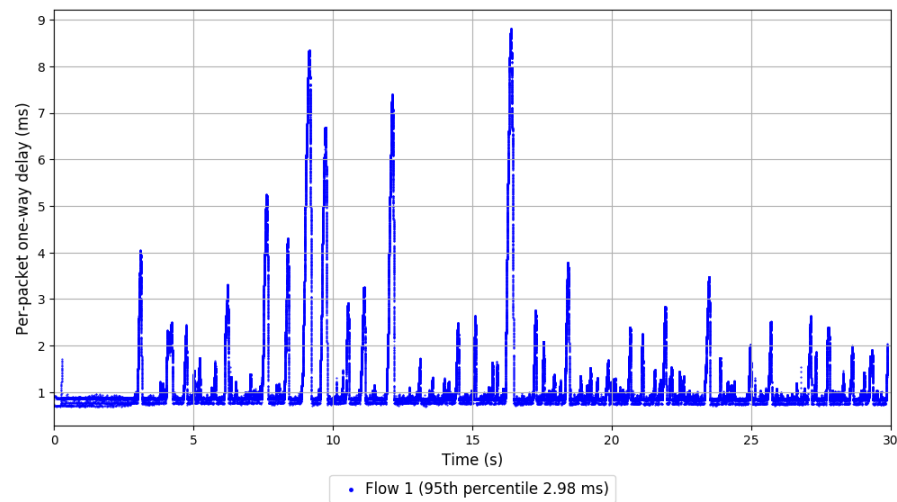
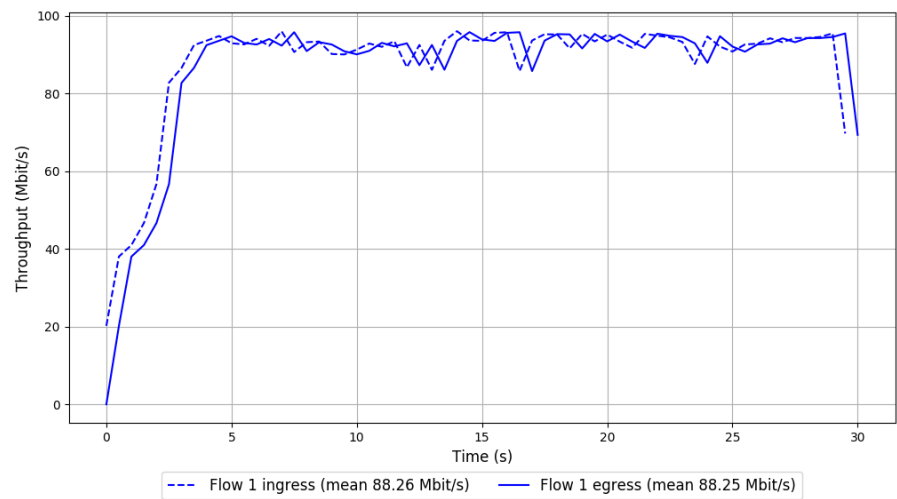
-- Flow 1:

Average throughput: 88.25 Mbit/s

95th percentile per-packet one-way delay: 2.979 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-11-15 09:21:41

End at: 2018-11-15 09:22:11

Local clock offset: 0.173 ms

Remote clock offset: 0.347 ms

Below is generated by plot.py at 2018-11-15 09:43:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.14 Mbit/s

95th percentile per-packet one-way delay: 1.828 ms

Loss rate: 0.01%

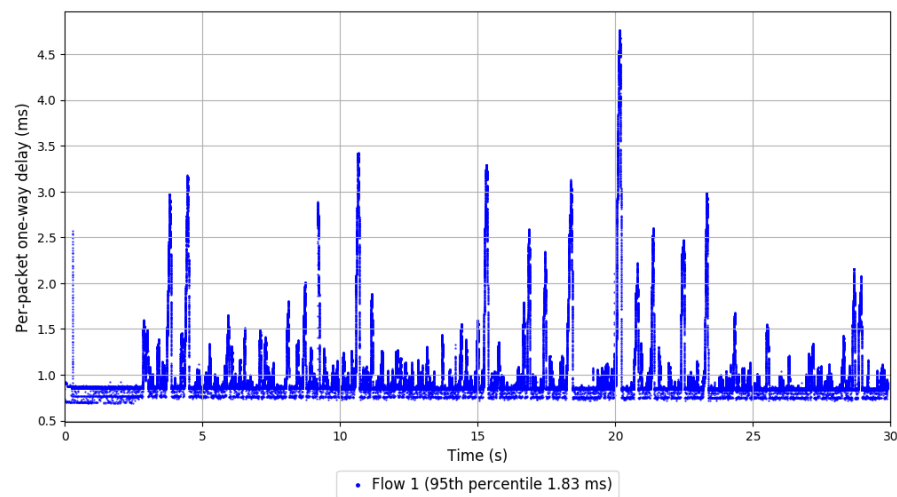
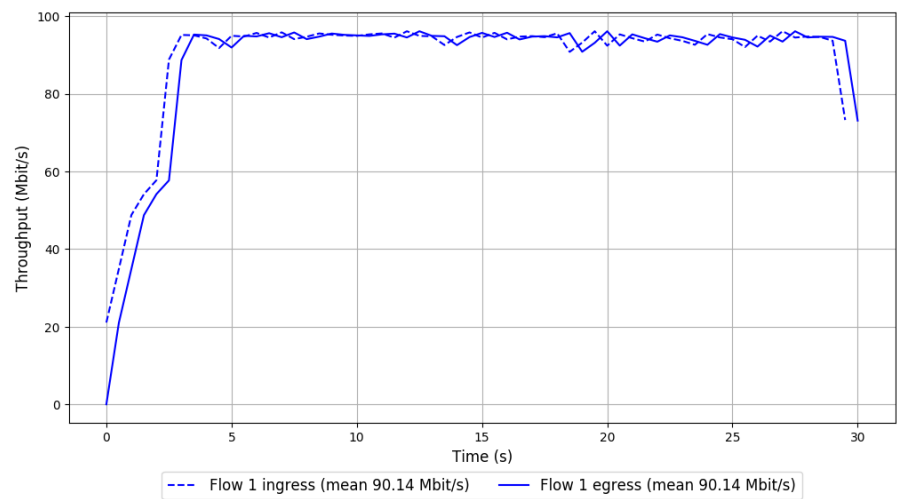
-- Flow 1:

Average throughput: 90.14 Mbit/s

95th percentile per-packet one-way delay: 1.828 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link

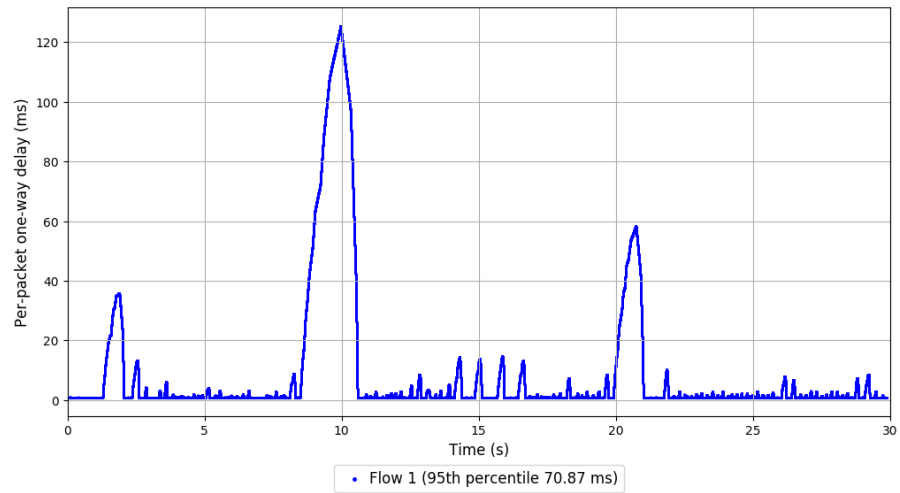
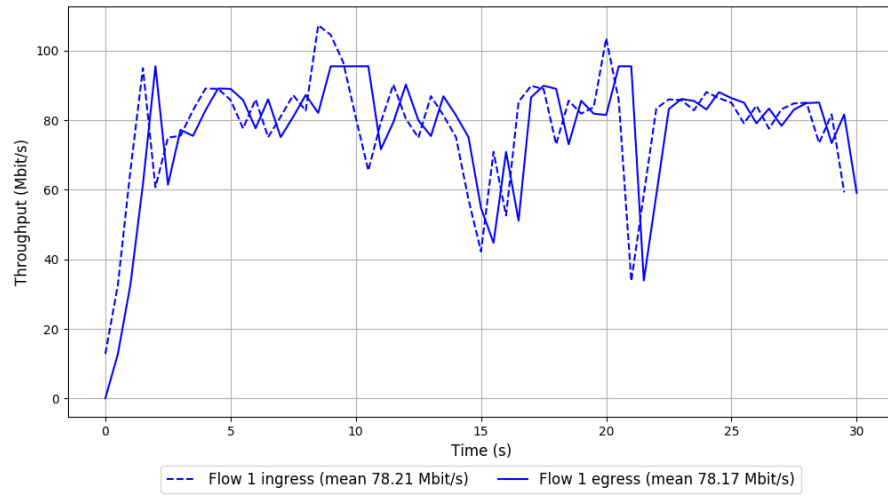


Run 1: Statistics of PCC-Expr

Start at: 2018-11-15 08:06:10
End at: 2018-11-15 08:06:40
Local clock offset: -5.923 ms
Remote clock offset: -0.363 ms

Below is generated by plot.py at 2018-11-15 09:43:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 78.17 Mbit/s
95th percentile per-packet one-way delay: 70.871 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 78.17 Mbit/s
95th percentile per-packet one-way delay: 70.871 ms
Loss rate: 0.06%

Run 1: Report of PCC-Expr — Data Link

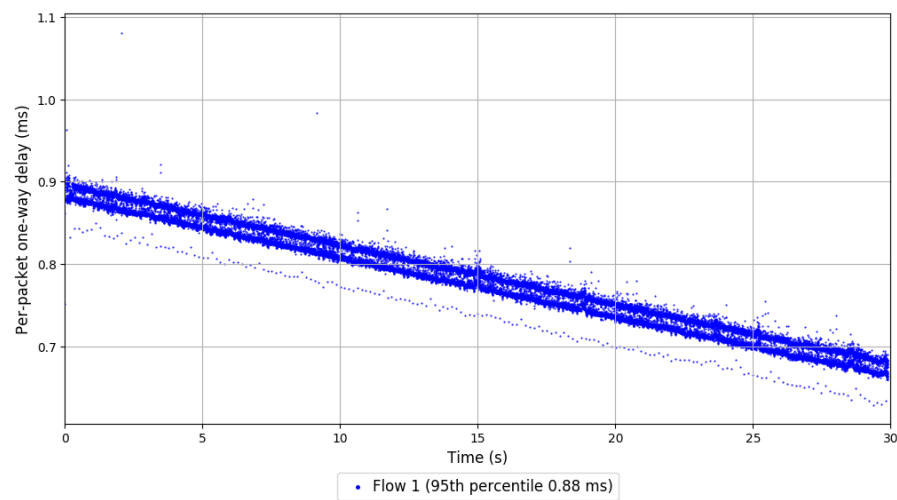
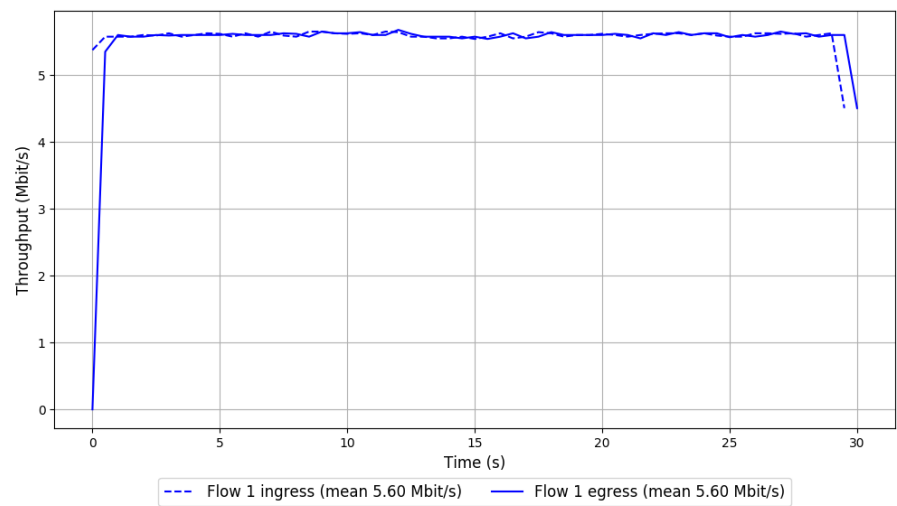


Run 2: Statistics of PCC-Expr

Start at: 2018-11-15 08:26:27
End at: 2018-11-15 08:26:57
Local clock offset: -5.92 ms
Remote clock offset: -0.208 ms

Below is generated by plot.py at 2018-11-15 09:43:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 0.878 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 0.878 ms
Loss rate: 0.01%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-11-15 08:46:43

End at: 2018-11-15 08:47:13

Local clock offset: -1.781 ms

Remote clock offset: 0.108 ms

Below is generated by plot.py at 2018-11-15 09:43:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.72 Mbit/s

95th percentile per-packet one-way delay: 0.851 ms

Loss rate: 0.01%

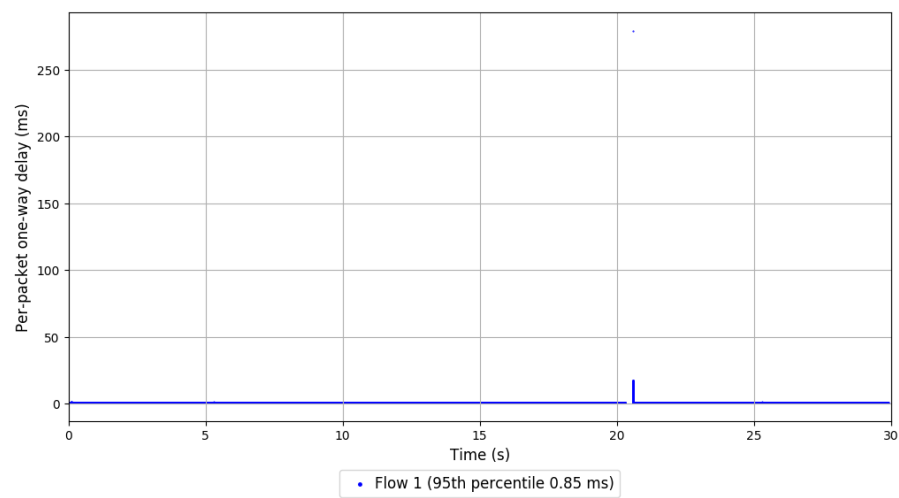
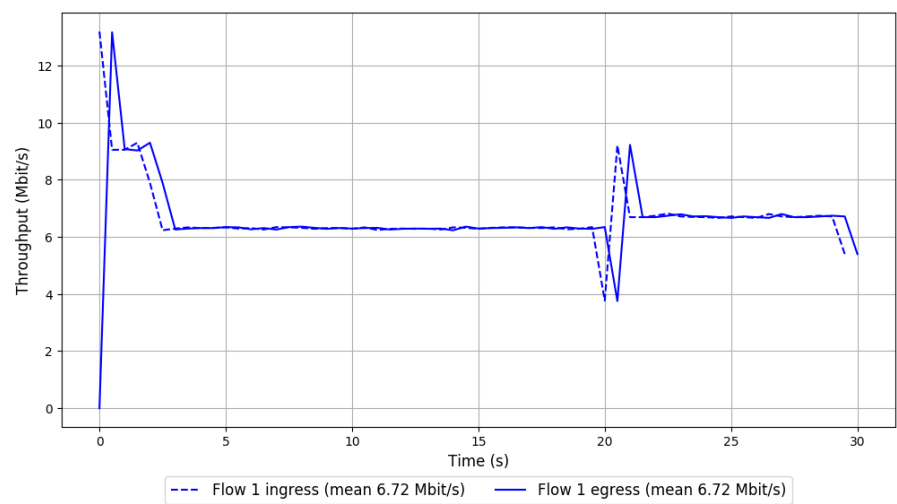
-- Flow 1:

Average throughput: 6.72 Mbit/s

95th percentile per-packet one-way delay: 0.851 ms

Loss rate: 0.01%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-11-15 09:06:55

End at: 2018-11-15 09:07:25

Local clock offset: -0.526 ms

Remote clock offset: 0.161 ms

Below is generated by plot.py at 2018-11-15 09:43:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.64 Mbit/s

95th percentile per-packet one-way delay: 283.489 ms

Loss rate: 0.34%

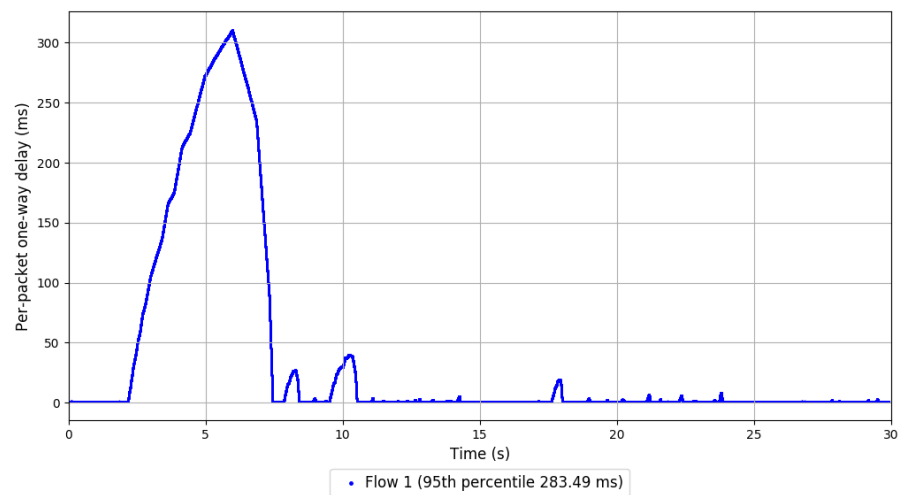
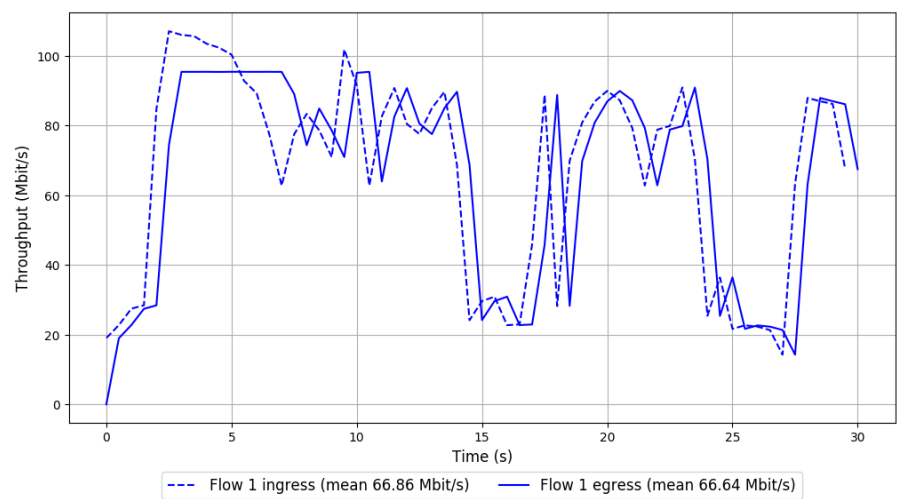
-- Flow 1:

Average throughput: 66.64 Mbit/s

95th percentile per-packet one-way delay: 283.489 ms

Loss rate: 0.34%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-11-15 09:27:14

End at: 2018-11-15 09:27:44

Local clock offset: 0.024 ms

Remote clock offset: 0.324 ms

Below is generated by plot.py at 2018-11-15 09:43:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.24 Mbit/s

95th percentile per-packet one-way delay: 1.733 ms

Loss rate: 0.00%

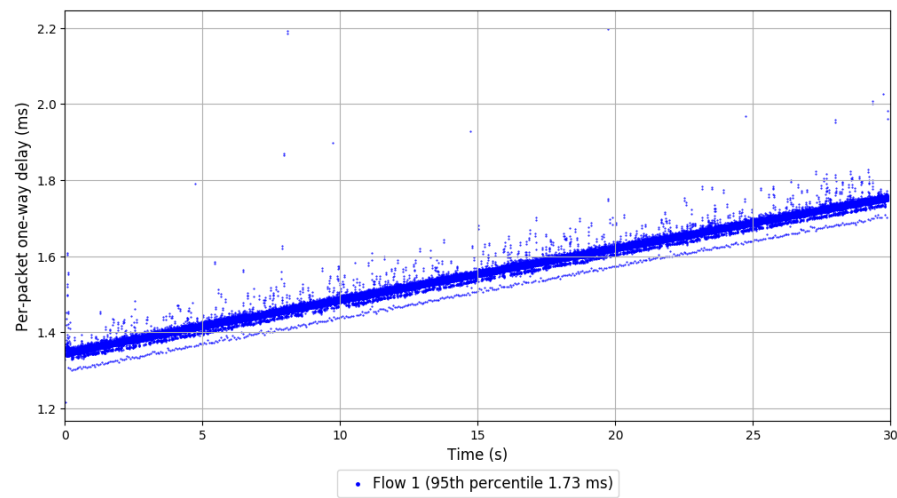
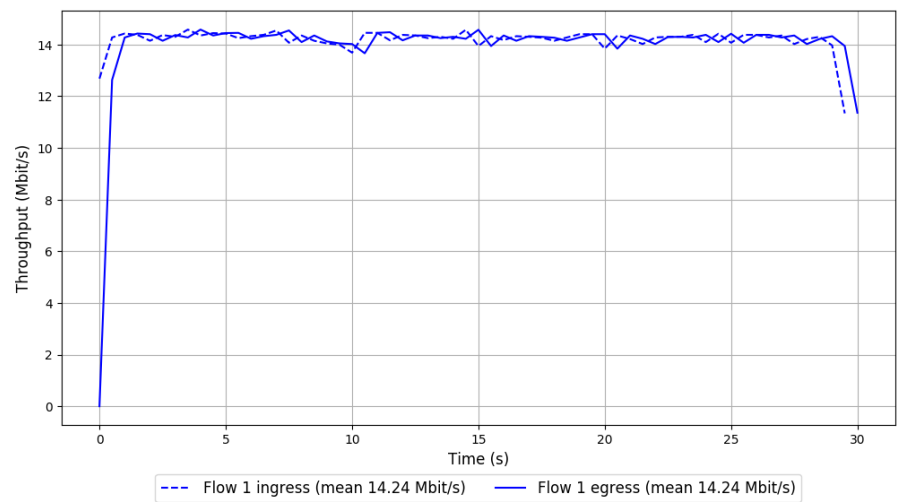
-- Flow 1:

Average throughput: 14.24 Mbit/s

95th percentile per-packet one-way delay: 1.733 ms

Loss rate: 0.00%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-15 07:58:25

End at: 2018-11-15 07:58:55

Local clock offset: -6.788 ms

Remote clock offset: -0.373 ms

Below is generated by plot.py at 2018-11-15 09:43:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.49 Mbit/s

95th percentile per-packet one-way delay: 2.702 ms

Loss rate: 0.01%

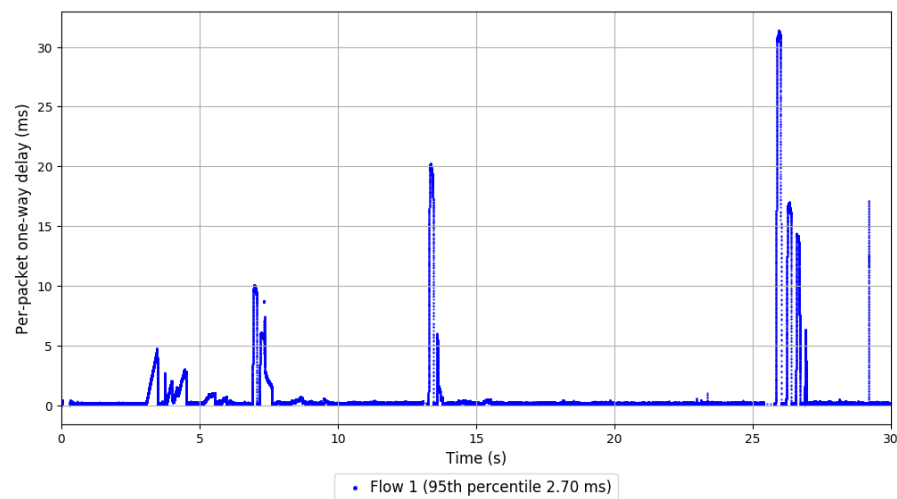
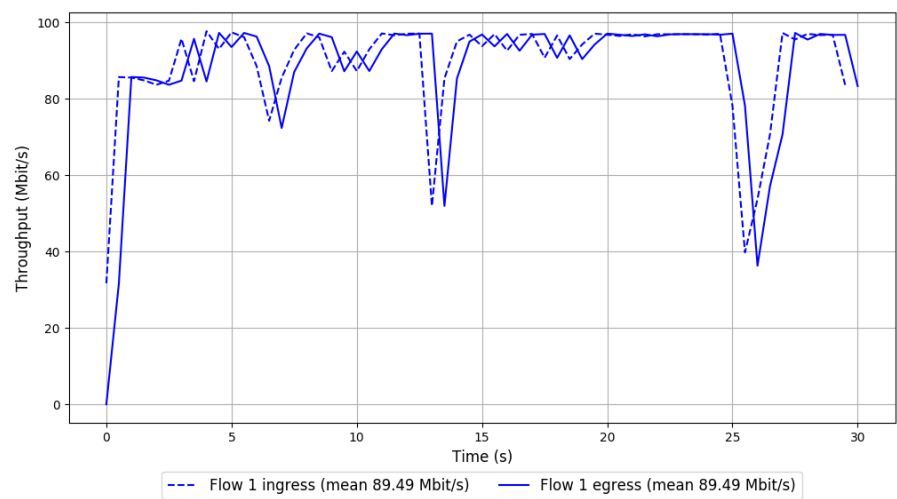
-- Flow 1:

Average throughput: 89.49 Mbit/s

95th percentile per-packet one-way delay: 2.702 ms

Loss rate: 0.01%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-15 08:18:42

End at: 2018-11-15 08:19:12

Local clock offset: -5.885 ms

Remote clock offset: -0.261 ms

Below is generated by plot.py at 2018-11-15 09:44:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.50 Mbit/s

95th percentile per-packet one-way delay: 5.629 ms

Loss rate: 0.01%

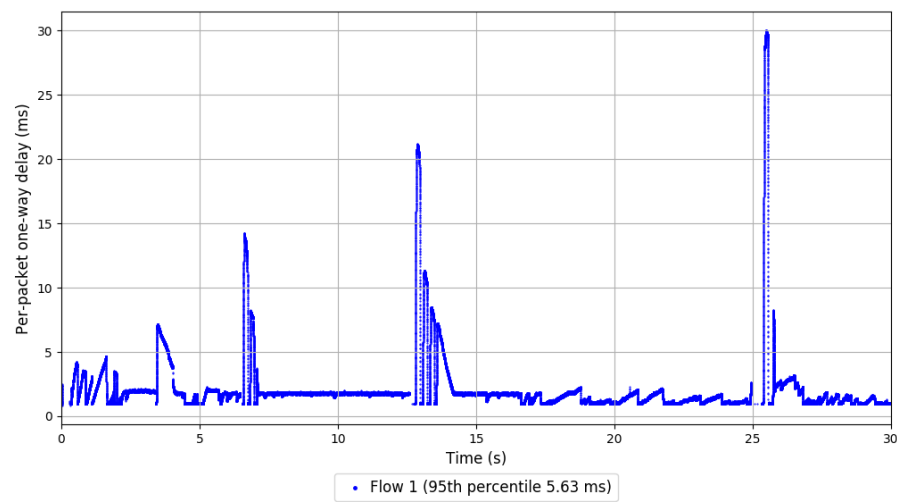
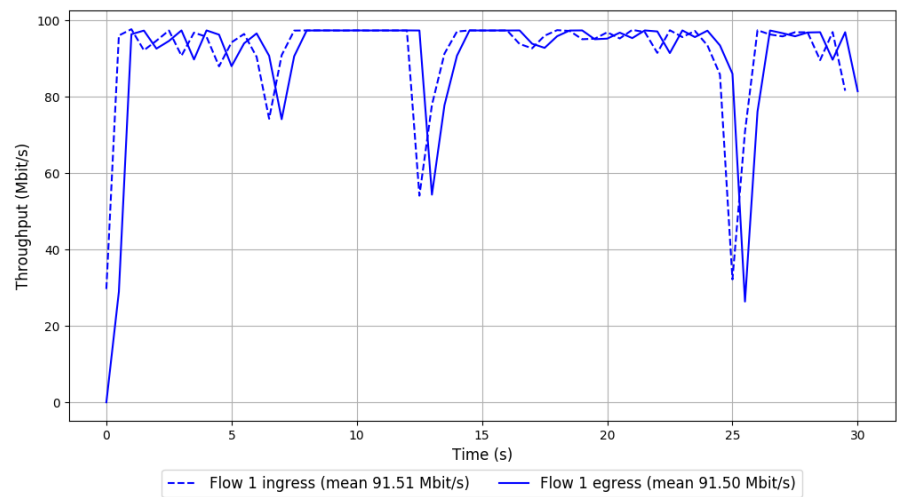
-- Flow 1:

Average throughput: 91.50 Mbit/s

95th percentile per-packet one-way delay: 5.629 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-15 08:38:58

End at: 2018-11-15 08:39:28

Local clock offset: -3.456 ms

Remote clock offset: -0.103 ms

Below is generated by plot.py at 2018-11-15 09:44:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.84 Mbit/s

95th percentile per-packet one-way delay: 5.576 ms

Loss rate: 0.01%

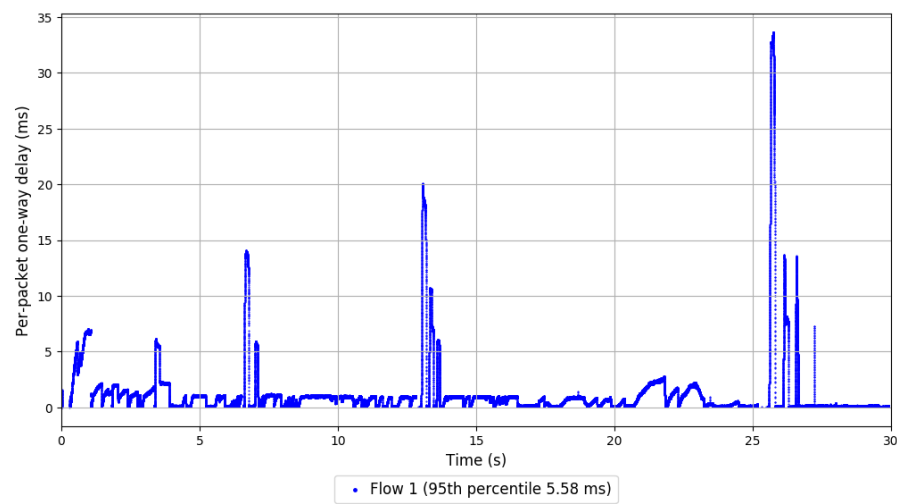
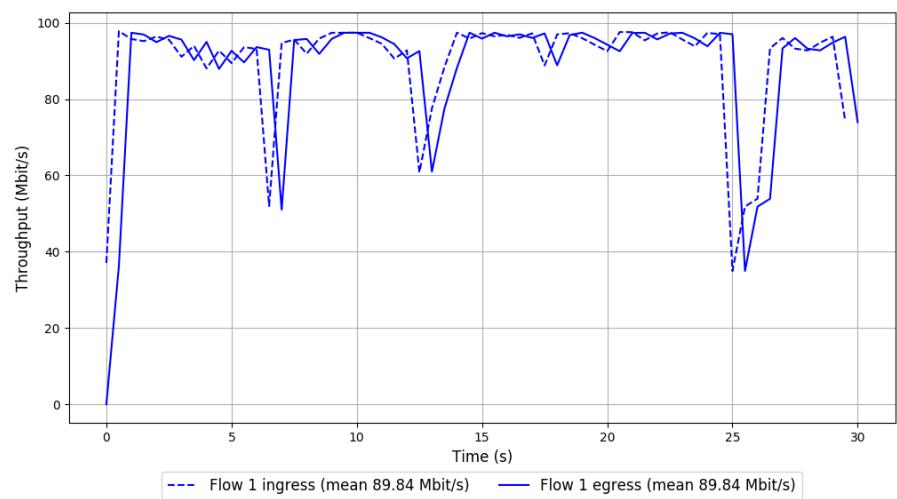
-- Flow 1:

Average throughput: 89.84 Mbit/s

95th percentile per-packet one-way delay: 5.576 ms

Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-15 08:59:10

End at: 2018-11-15 08:59:40

Local clock offset: -1.774 ms

Remote clock offset: 0.2 ms

Below is generated by plot.py at 2018-11-15 09:44:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.12 Mbit/s

95th percentile per-packet one-way delay: 7.475 ms

Loss rate: 0.01%

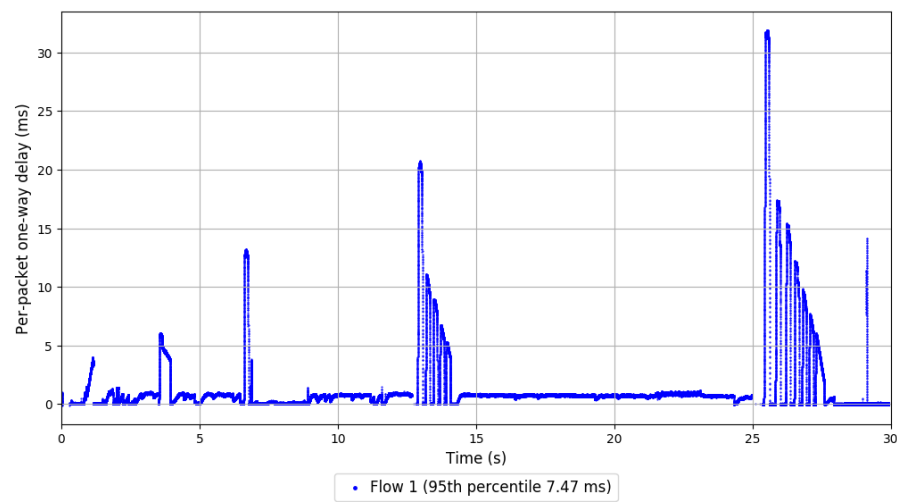
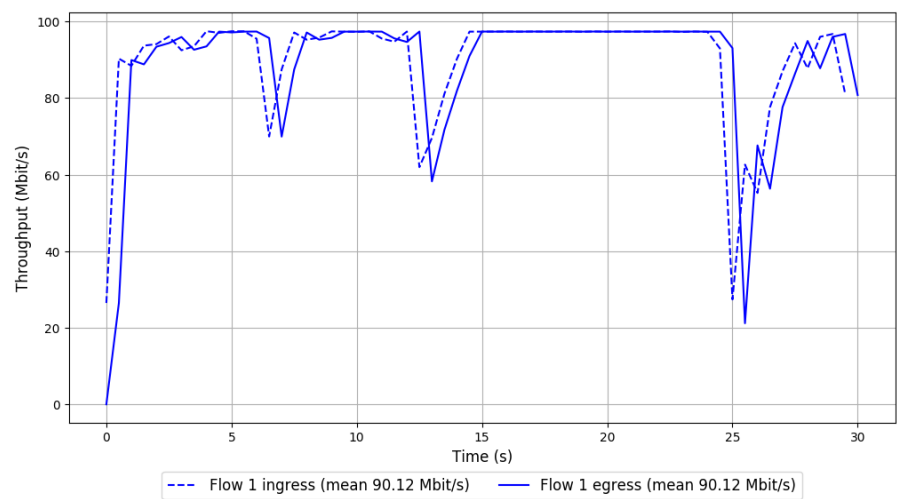
-- Flow 1:

Average throughput: 90.12 Mbit/s

95th percentile per-packet one-way delay: 7.475 ms

Loss rate: 0.01%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-11-15 09:19:28

End at: 2018-11-15 09:19:58

Local clock offset: 0.003 ms

Remote clock offset: 0.329 ms

Below is generated by plot.py at 2018-11-15 09:44:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.01 Mbit/s

95th percentile per-packet one-way delay: 7.054 ms

Loss rate: 0.01%

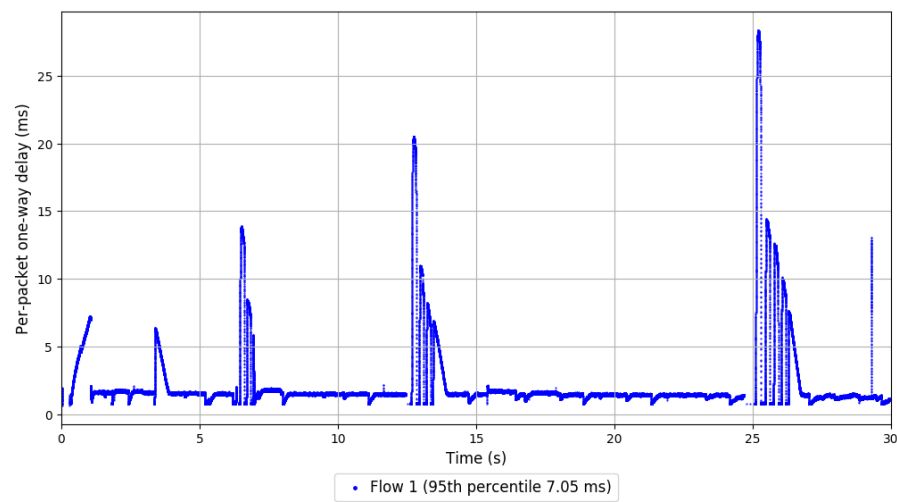
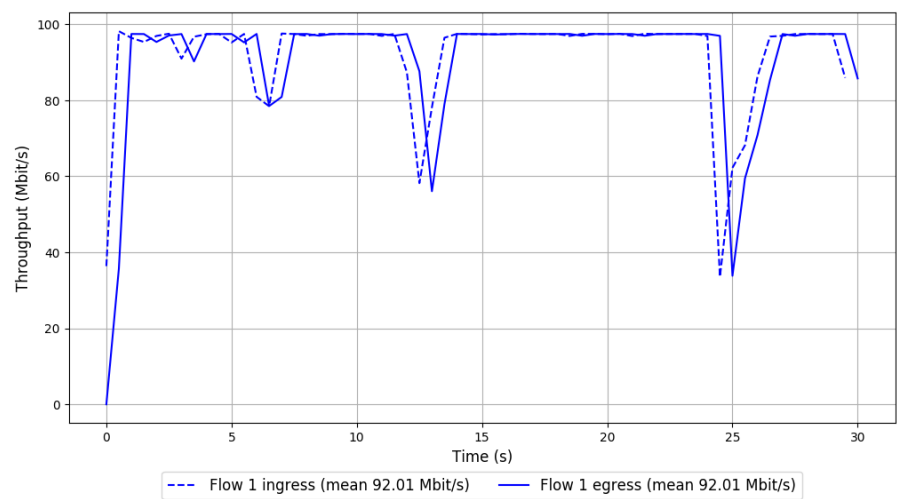
-- Flow 1:

Average throughput: 92.01 Mbit/s

95th percentile per-packet one-way delay: 7.054 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link

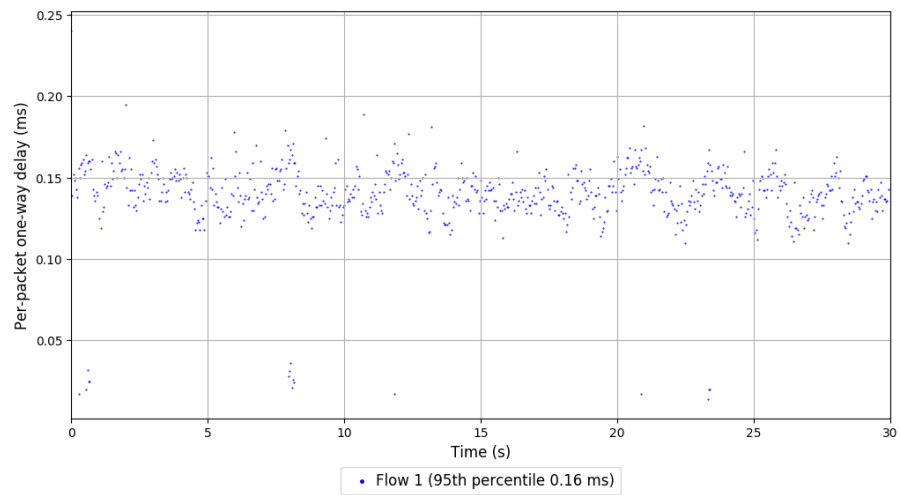
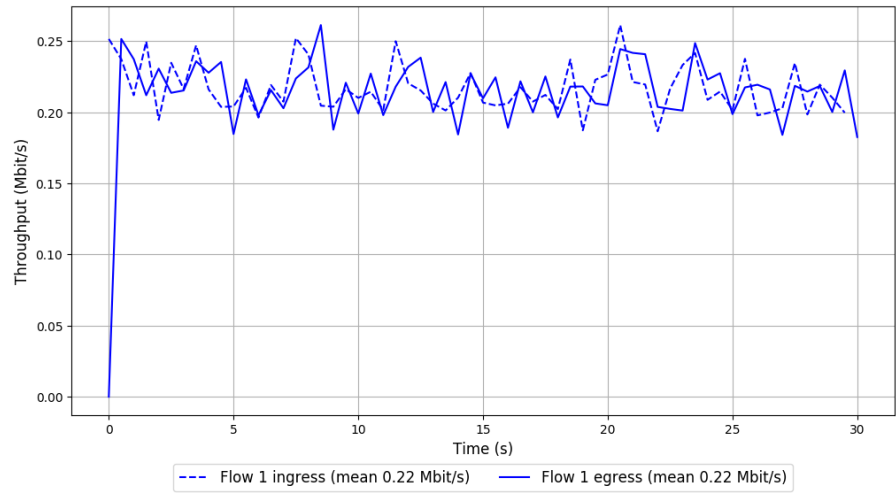


Run 1: Statistics of SCReAM

Start at: 2018-11-15 08:03:58
End at: 2018-11-15 08:04:28
Local clock offset: -6.698 ms
Remote clock offset: -0.355 ms

Below is generated by plot.py at 2018-11-15 09:44:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.162 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.162 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link

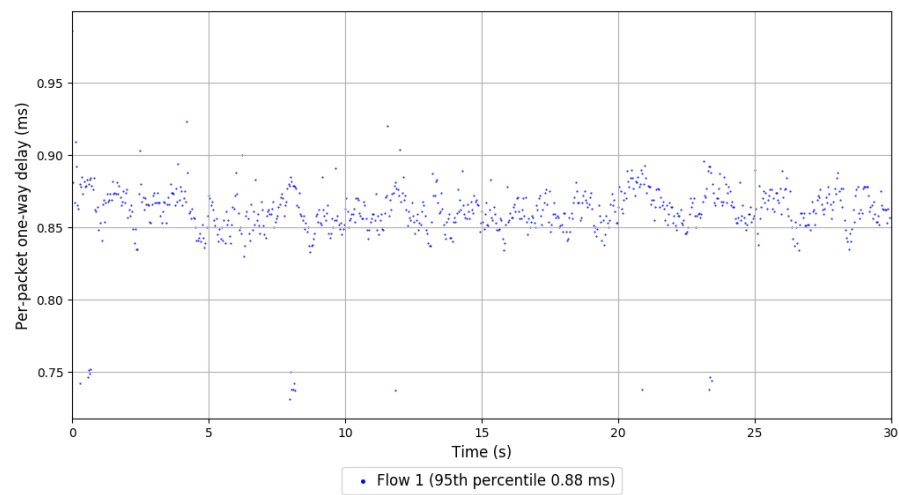
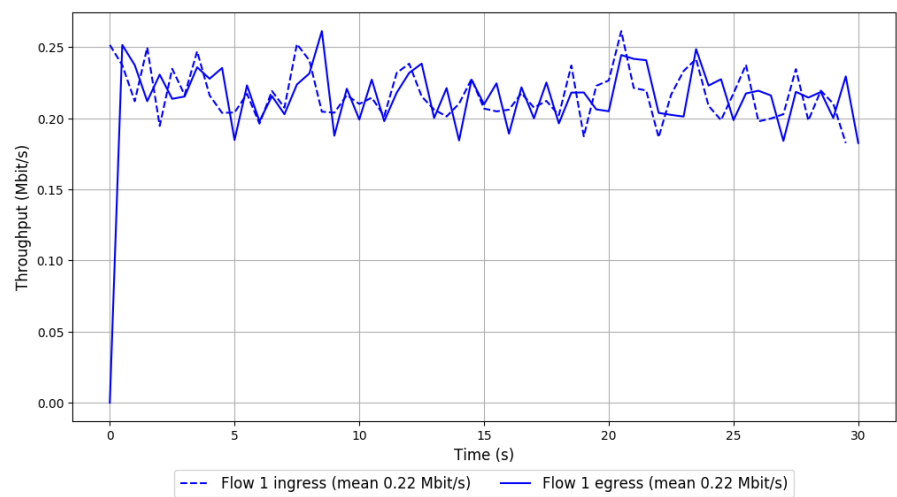


Run 2: Statistics of SCReAM

Start at: 2018-11-15 08:24:15
End at: 2018-11-15 08:24:45
Local clock offset: -5.91 ms
Remote clock offset: -0.148 ms

Below is generated by plot.py at 2018-11-15 09:44:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.884 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.884 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

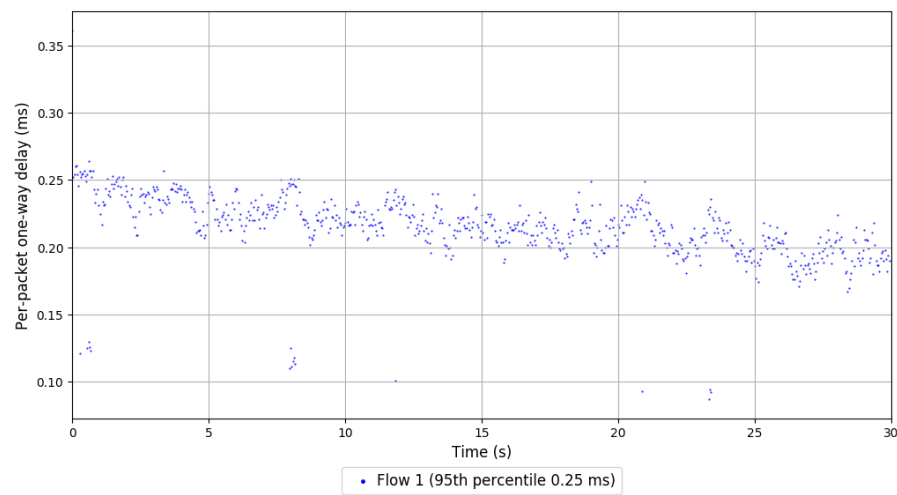
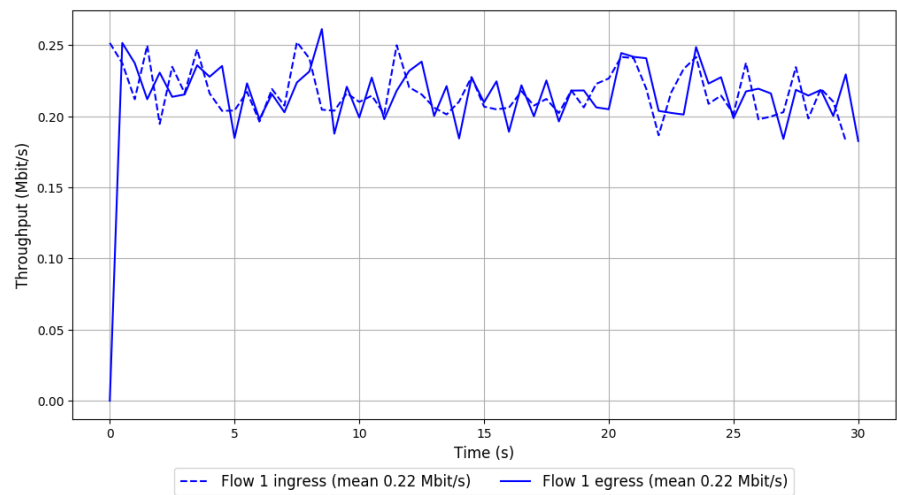


Run 3: Statistics of SCReAM

Start at: 2018-11-15 08:44:31
End at: 2018-11-15 08:45:01
Local clock offset: -2.729 ms
Remote clock offset: -0.078 ms

Below is generated by plot.py at 2018-11-15 09:44:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.247 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-11-15 09:04:43

End at: 2018-11-15 09:05:13

Local clock offset: -0.646 ms

Remote clock offset: 0.184 ms

Below is generated by plot.py at 2018-11-15 09:44:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.912 ms

Loss rate: 0.13%

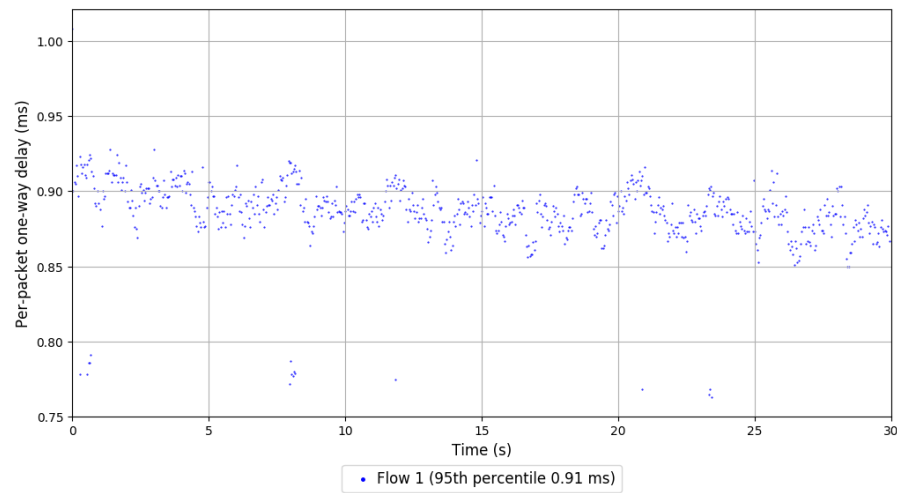
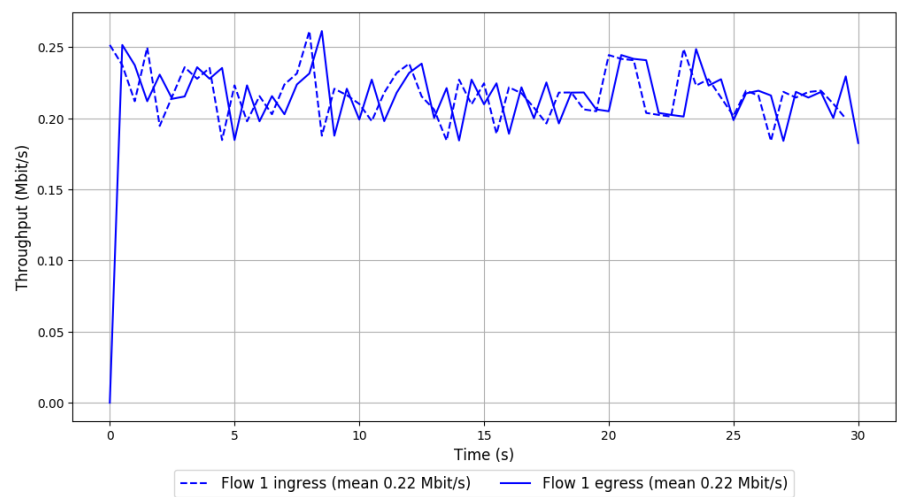
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.912 ms

Loss rate: 0.13%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-11-15 09:25:01

End at: 2018-11-15 09:25:31

Local clock offset: 0.278 ms

Remote clock offset: 0.287 ms

Below is generated by plot.py at 2018-11-15 09:44:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.880 ms

Loss rate: 0.00%

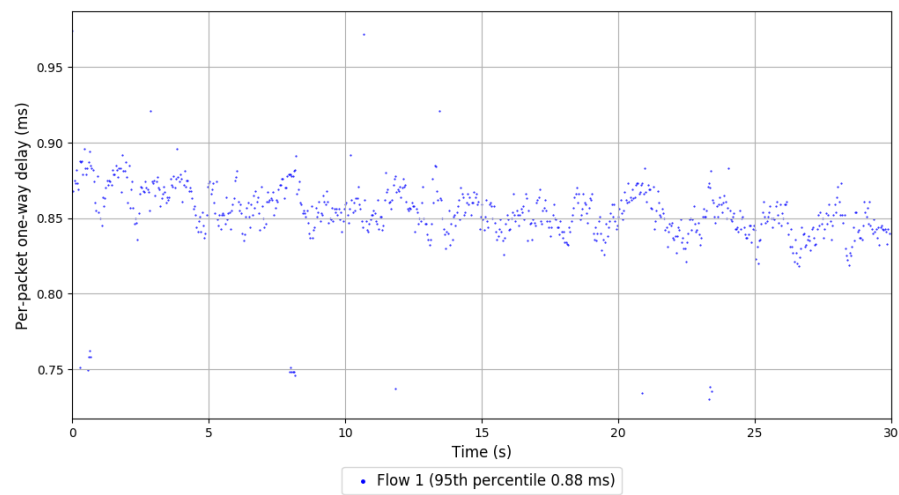
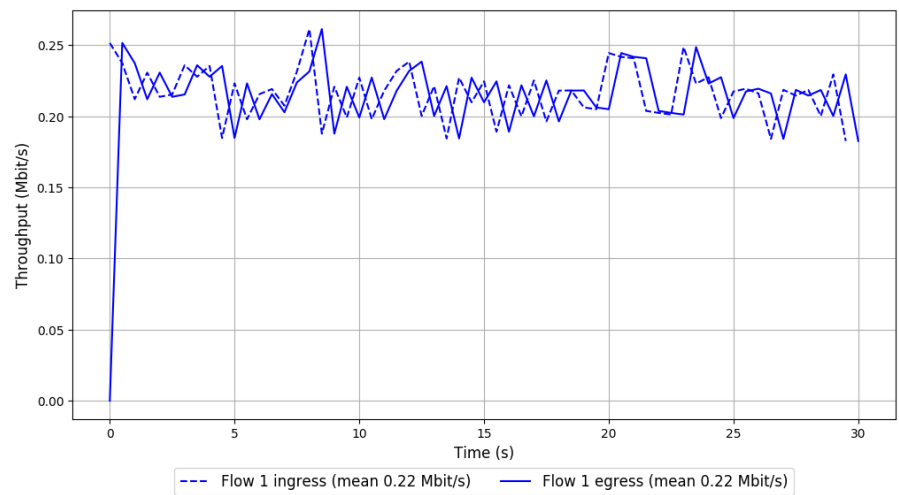
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.880 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

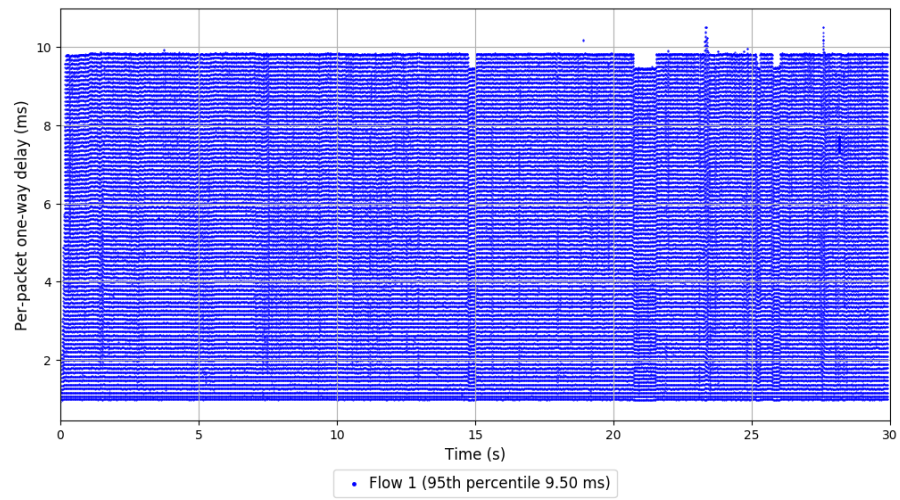
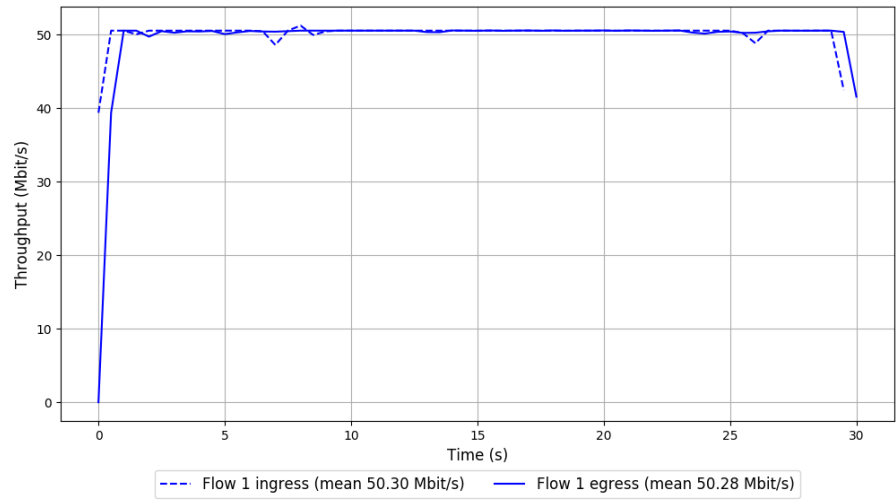


Run 1: Statistics of Sprout

Start at: 2018-11-15 08:02:52
End at: 2018-11-15 08:03:22
Local clock offset: -5.943 ms
Remote clock offset: -0.382 ms

Below is generated by plot.py at 2018-11-15 09:44:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 9.499 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 9.499 ms
Loss rate: 0.04%

Run 1: Report of Sprout — Data Link

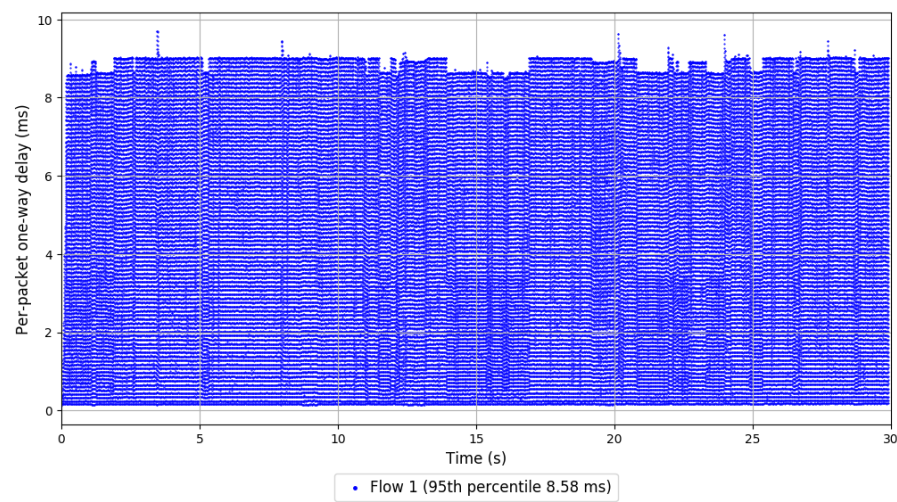
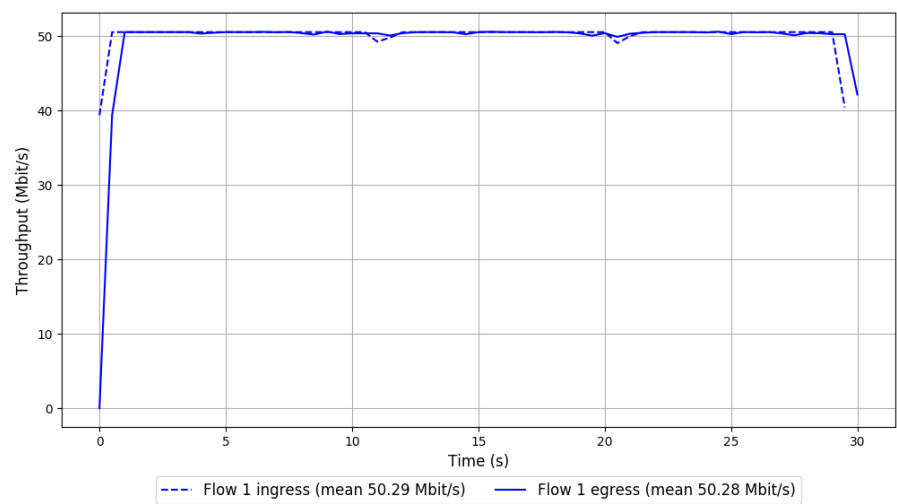


Run 2: Statistics of Sprout

Start at: 2018-11-15 08:23:09
End at: 2018-11-15 08:23:39
Local clock offset: -6.665 ms
Remote clock offset: -0.173 ms

Below is generated by plot.py at 2018-11-15 09:44:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 8.581 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 8.581 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-11-15 08:43:25

End at: 2018-11-15 08:43:55

Local clock offset: -2.073 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-11-15 09:44:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 9.479 ms

Loss rate: 0.00%

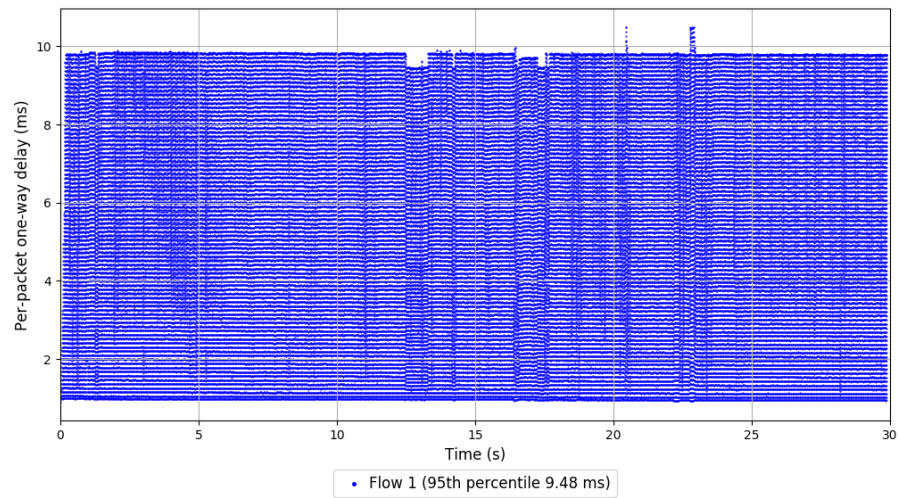
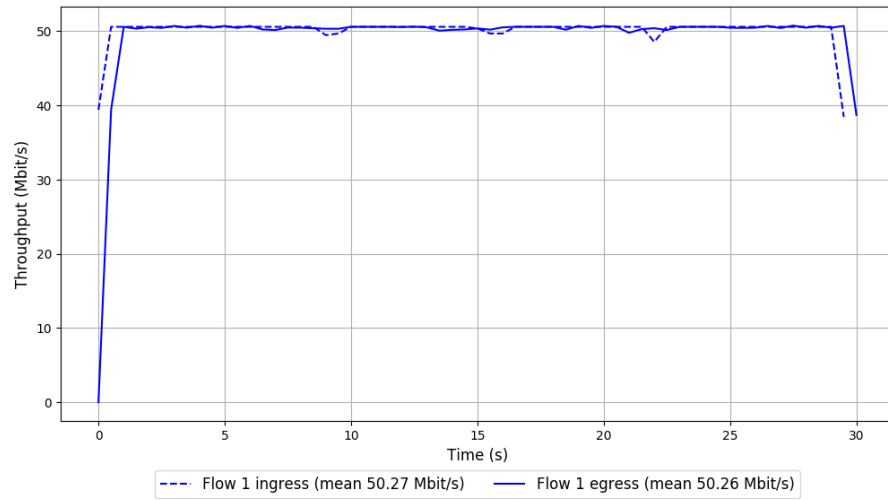
-- Flow 1:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 9.479 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-11-15 09:03:37

End at: 2018-11-15 09:04:07

Local clock offset: -0.69 ms

Remote clock offset: 0.235 ms

Below is generated by plot.py at 2018-11-15 09:44:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.31 Mbit/s

95th percentile per-packet one-way delay: 9.326 ms

Loss rate: 0.06%

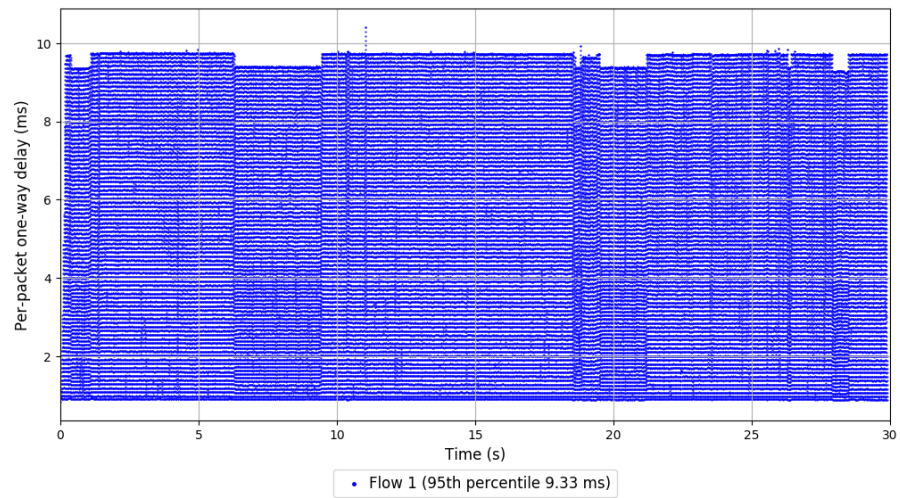
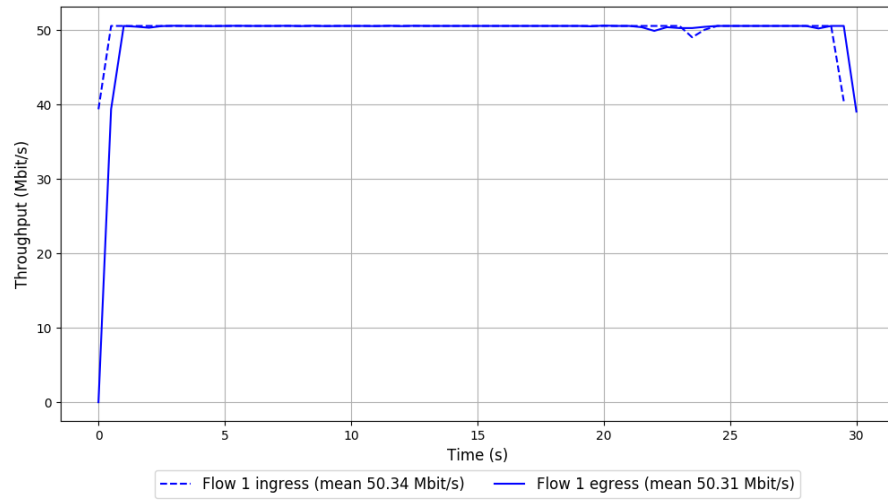
-- Flow 1:

Average throughput: 50.31 Mbit/s

95th percentile per-packet one-way delay: 9.326 ms

Loss rate: 0.06%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-11-15 09:23:56

End at: 2018-11-15 09:24:26

Local clock offset: -0.487 ms

Remote clock offset: 0.295 ms

Below is generated by plot.py at 2018-11-15 09:44:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 8.666 ms

Loss rate: 0.00%

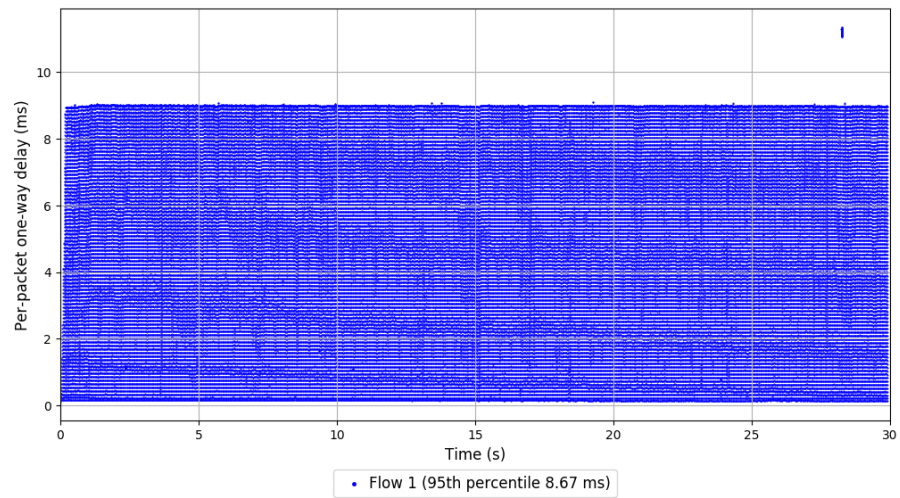
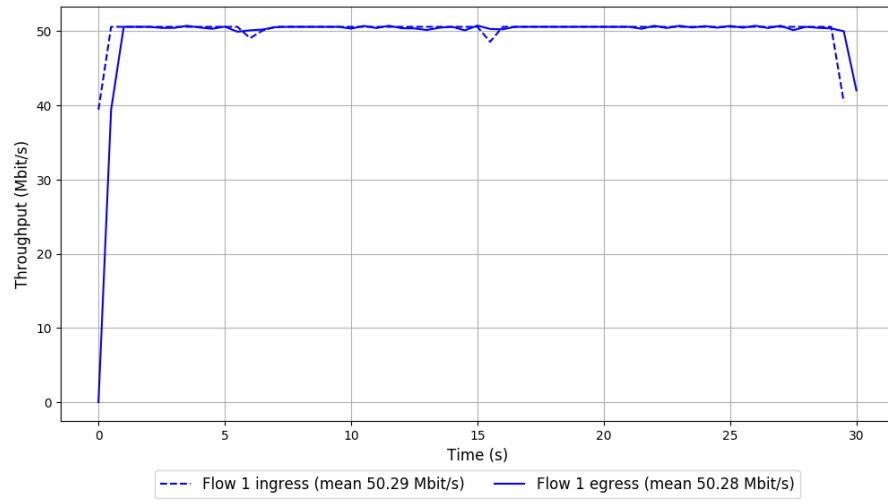
-- Flow 1:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 8.666 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

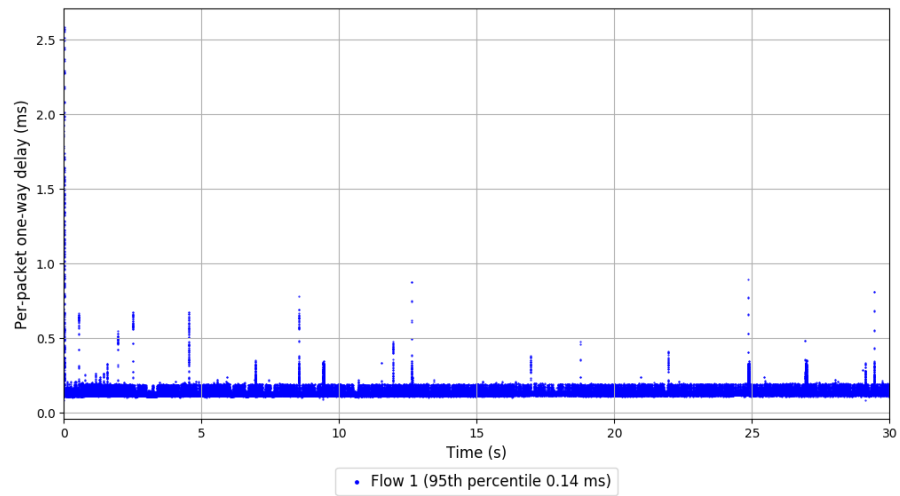
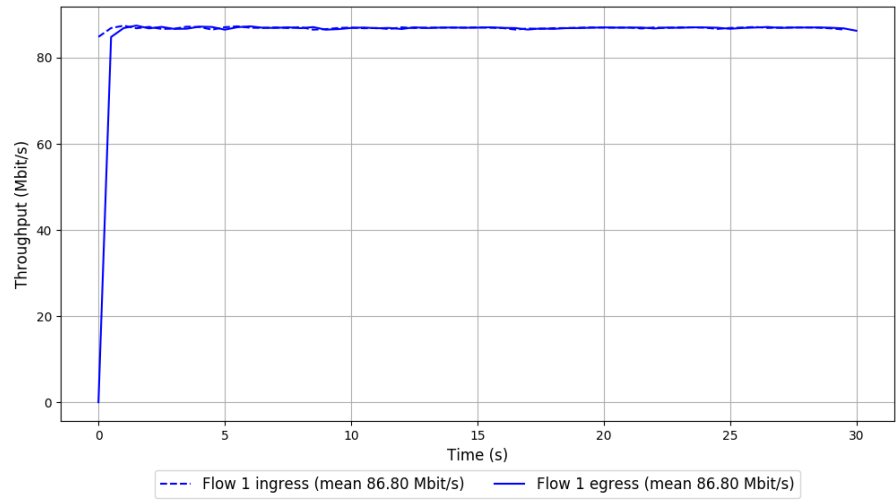


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-11-15 07:53:52
End at: 2018-11-15 07:54:22
Local clock offset: -6.791 ms
Remote clock offset: -0.319 ms

# Below is generated by plot.py at 2018-11-15 09:46:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.80 Mbit/s
95th percentile per-packet one-way delay: 0.141 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 86.80 Mbit/s
95th percentile per-packet one-way delay: 0.141 ms
Loss rate: 0.01%
```

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

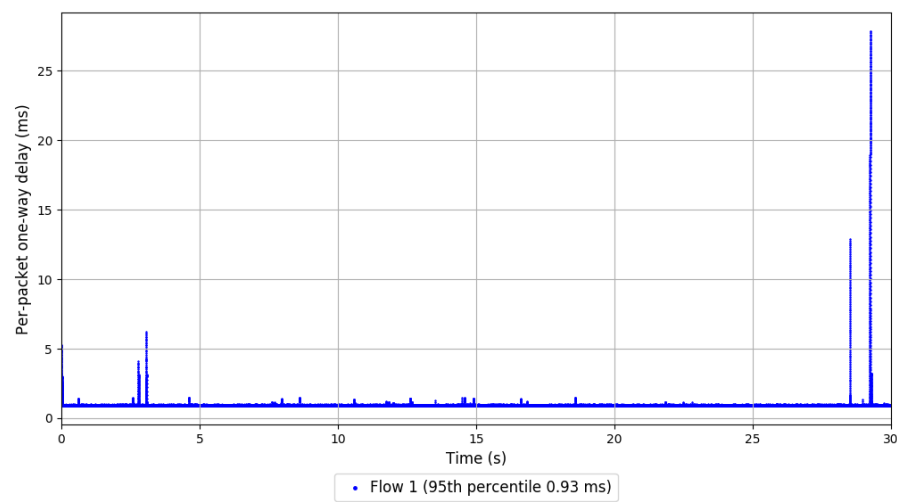
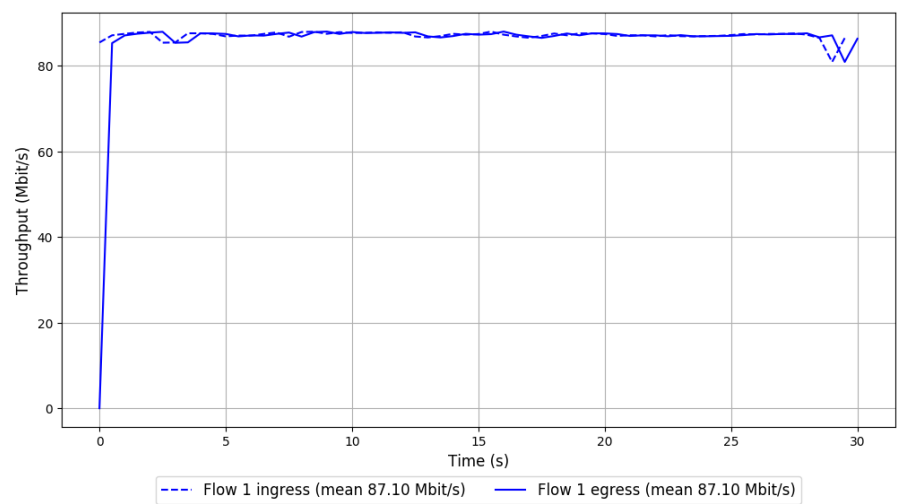


Run 2: Statistics of TaoVA-100x

Start at: 2018-11-15 08:14:08
End at: 2018-11-15 08:14:38
Local clock offset: -5.932 ms
Remote clock offset: -0.314 ms

Below is generated by plot.py at 2018-11-15 09:46:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 0.928 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 0.928 ms
Loss rate: 0.01%

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

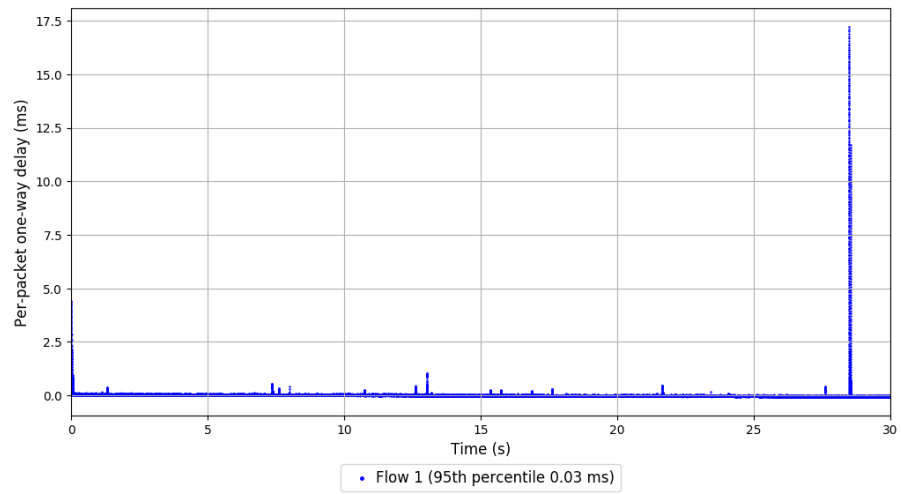
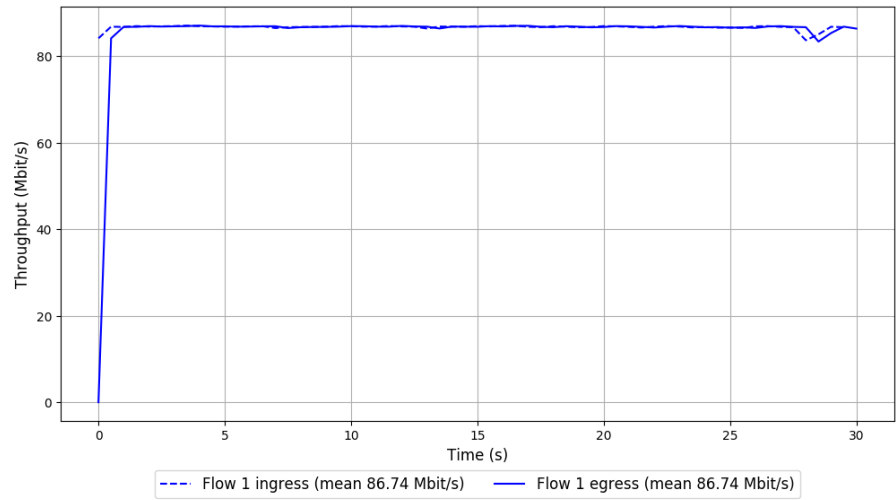


Run 3: Statistics of TaoVA-100x

Start at: 2018-11-15 08:34:25
End at: 2018-11-15 08:34:55
Local clock offset: -4.182 ms
Remote clock offset: -0.022 ms

Below is generated by plot.py at 2018-11-15 09:46:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.74 Mbit/s
95th percentile per-packet one-way delay: 0.027 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 86.74 Mbit/s
95th percentile per-packet one-way delay: 0.027 ms
Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-11-15 08:54:37

End at: 2018-11-15 08:55:07

Local clock offset: -1.212 ms

Remote clock offset: 0.09 ms

Below is generated by plot.py at 2018-11-15 09:46:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.14 Mbit/s

95th percentile per-packet one-way delay: 0.949 ms

Loss rate: 0.01%

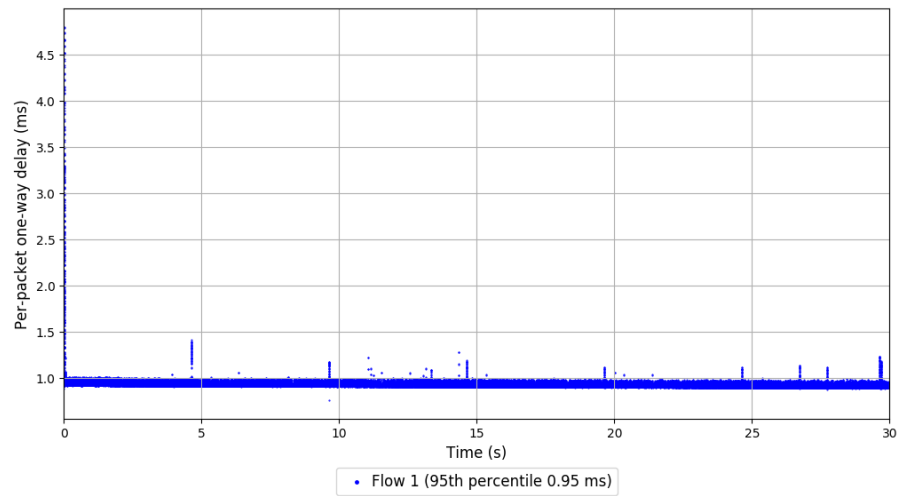
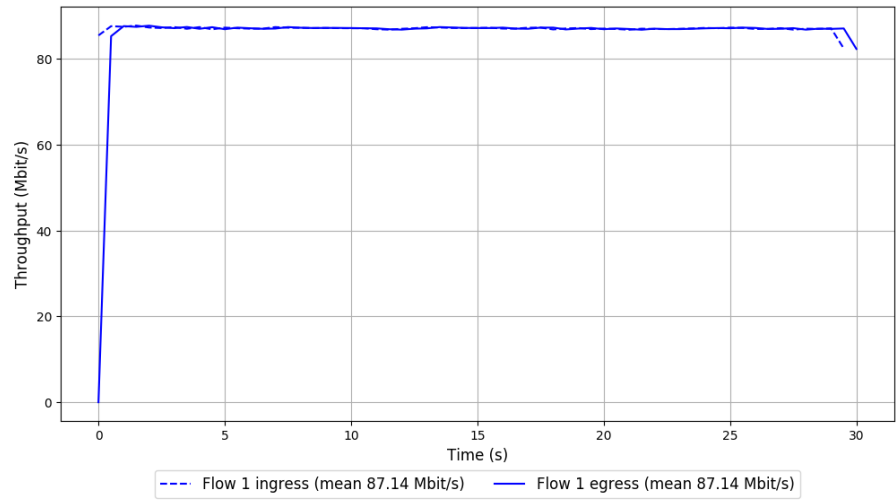
-- Flow 1:

Average throughput: 87.14 Mbit/s

95th percentile per-packet one-way delay: 0.949 ms

Loss rate: 0.01%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-11-15 09:14:55

End at: 2018-11-15 09:15:25

Local clock offset: -0.138 ms

Remote clock offset: 0.216 ms

Below is generated by plot.py at 2018-11-15 09:46:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.21 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 0.01%

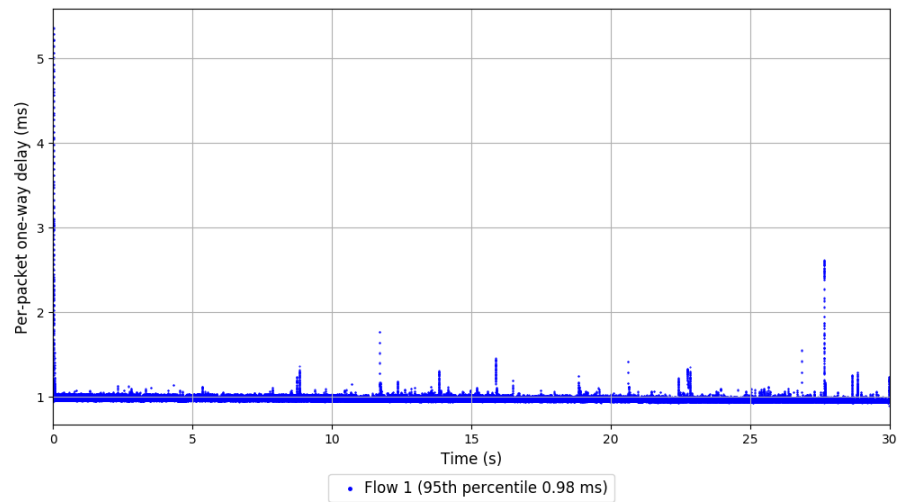
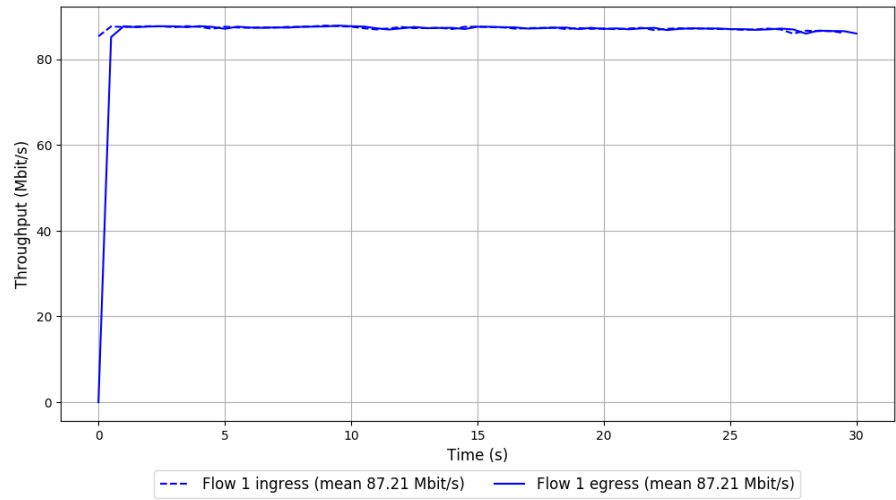
-- Flow 1:

Average throughput: 87.21 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 0.01%

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

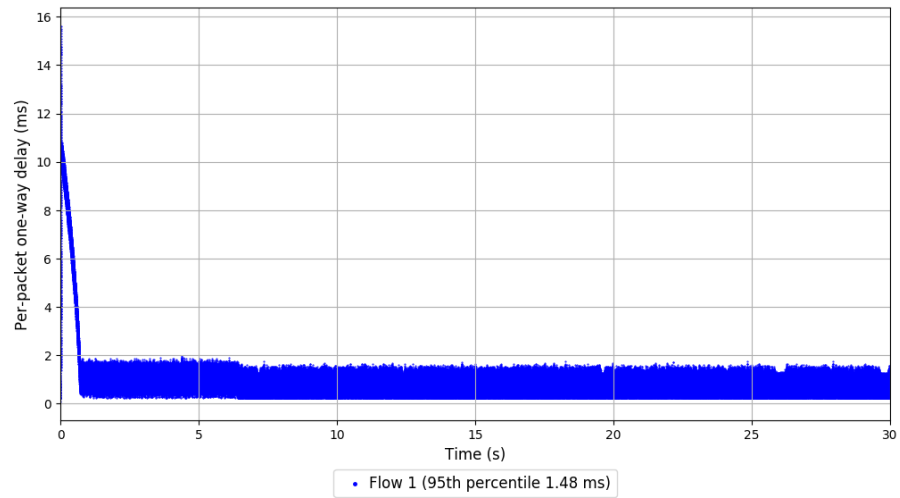
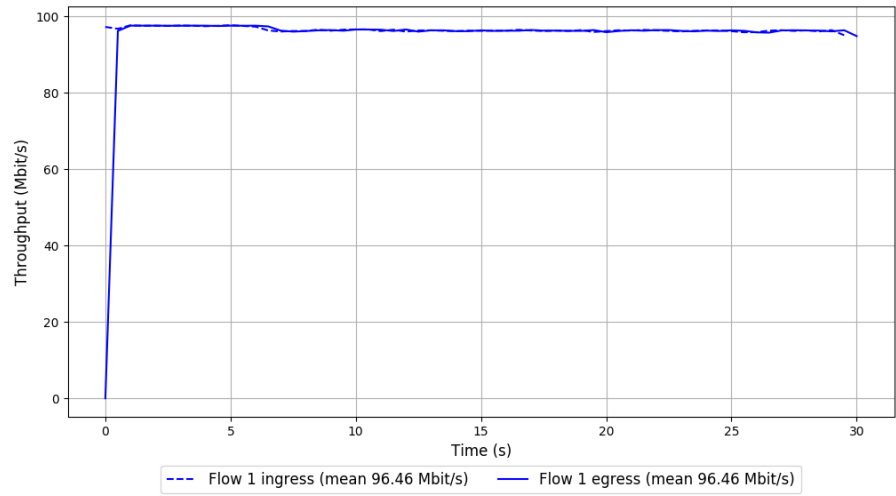


Run 1: Statistics of TCP Vegas

Start at: 2018-11-15 08:08:27
End at: 2018-11-15 08:08:57
Local clock offset: -6.672 ms
Remote clock offset: -0.378 ms

Below is generated by plot.py at 2018-11-15 09:46:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.46 Mbit/s
95th percentile per-packet one-way delay: 1.476 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 96.46 Mbit/s
95th percentile per-packet one-way delay: 1.476 ms
Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link

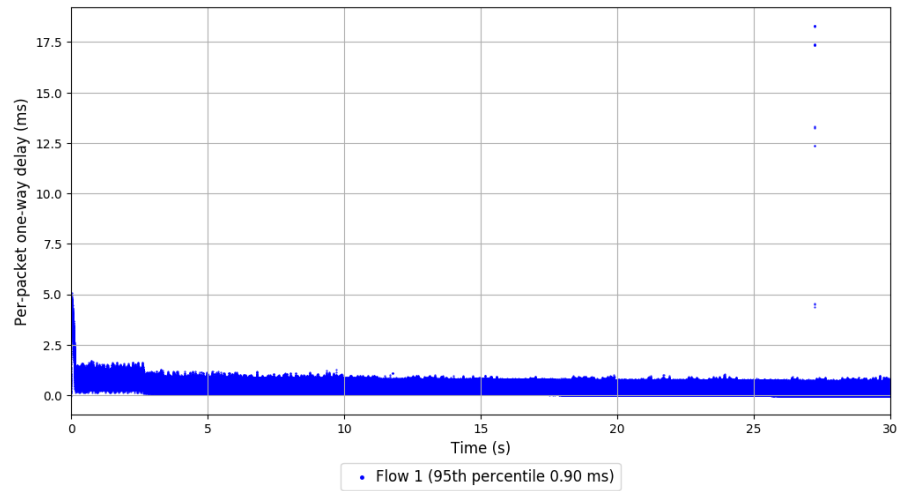
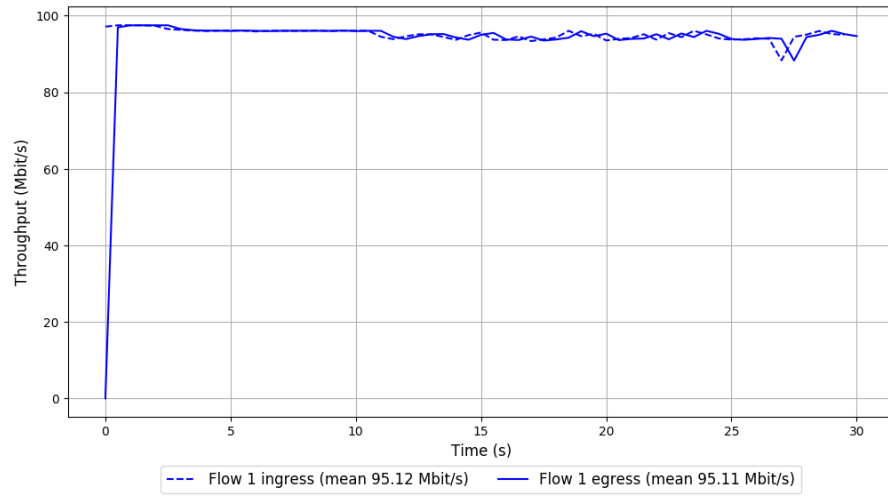


Run 2: Statistics of TCP Vegas

Start at: 2018-11-15 08:28:43
End at: 2018-11-15 08:29:13
Local clock offset: -5.829 ms
Remote clock offset: -0.243 ms

Below is generated by plot.py at 2018-11-15 09:46:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 0.903 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 0.903 ms
Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link

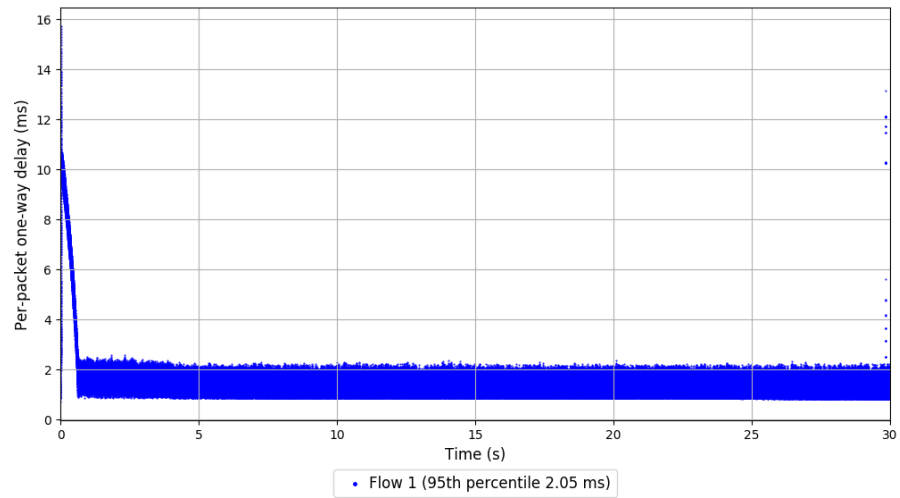
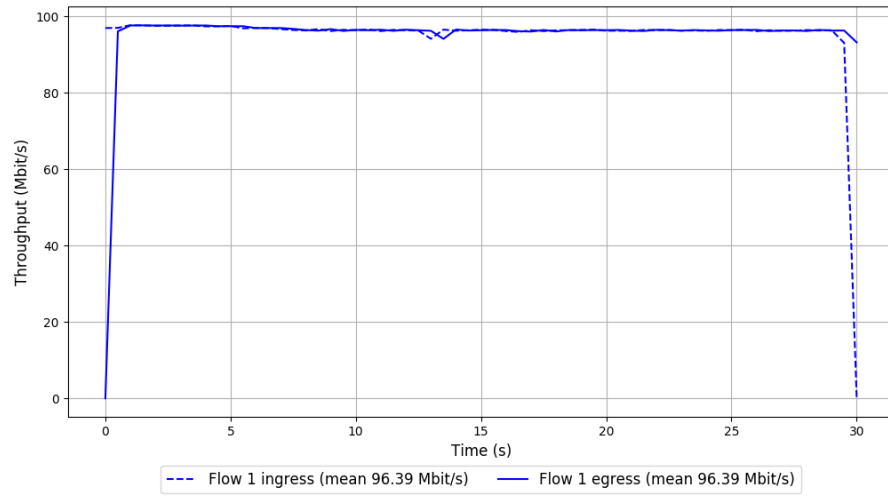


Run 3: Statistics of TCP Vegas

Start at: 2018-11-15 08:48:55
End at: 2018-11-15 08:49:25
Local clock offset: -1.596 ms
Remote clock offset: 0.101 ms

Below is generated by plot.py at 2018-11-15 09:46:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 2.051 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 2.051 ms
Loss rate: 0.01%

Run 3: Report of TCP Vegas — Data Link

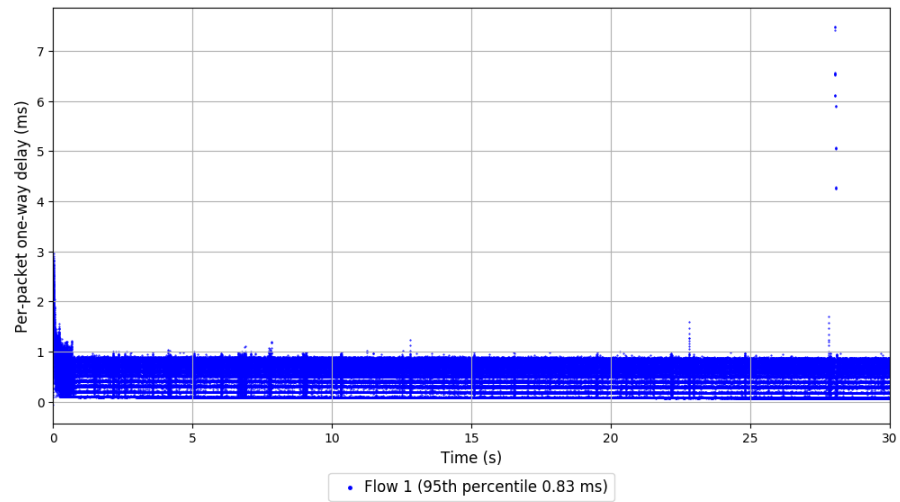
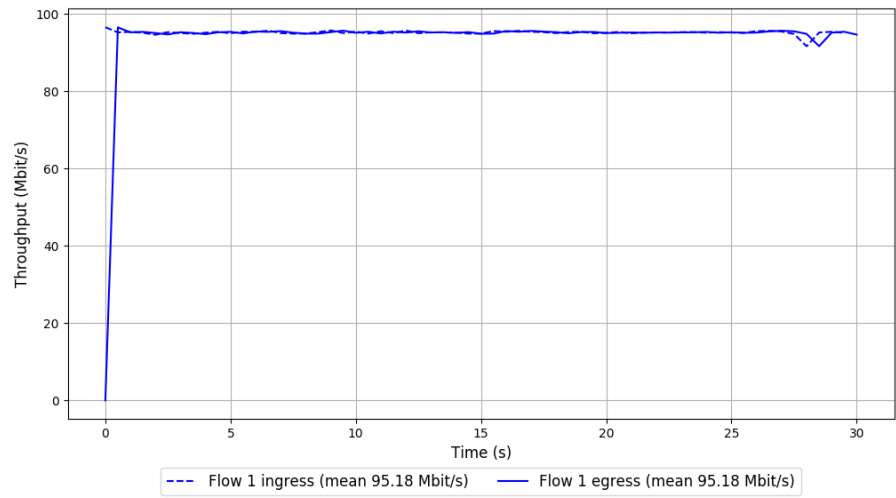


Run 4: Statistics of TCP Vegas

Start at: 2018-11-15 09:09:10
End at: 2018-11-15 09:09:40
Local clock offset: -1.177 ms
Remote clock offset: 0.294 ms

Below is generated by plot.py at 2018-11-15 09:46:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 0.828 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 0.828 ms
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-11-15 09:29:26

End at: 2018-11-15 09:29:56

Local clock offset: -1.762 ms

Remote clock offset: 0.37 ms

Below is generated by plot.py at 2018-11-15 09:46:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 2.540 ms

Loss rate: 0.01%

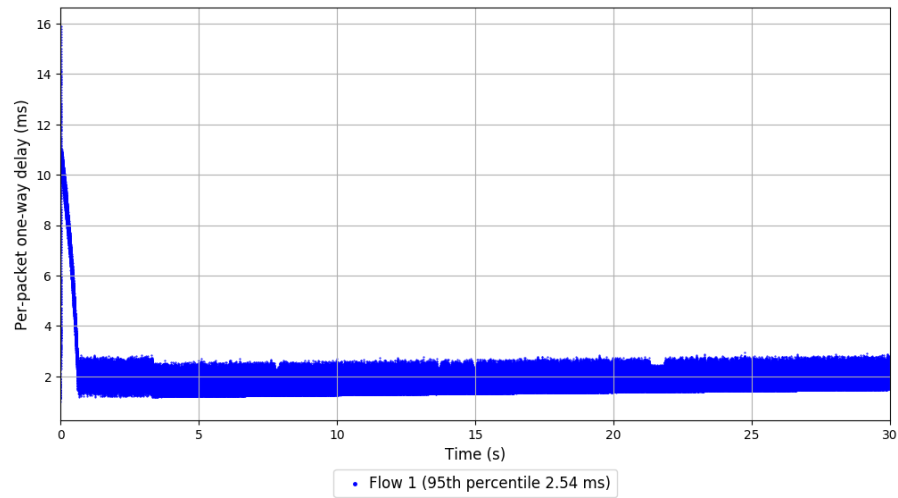
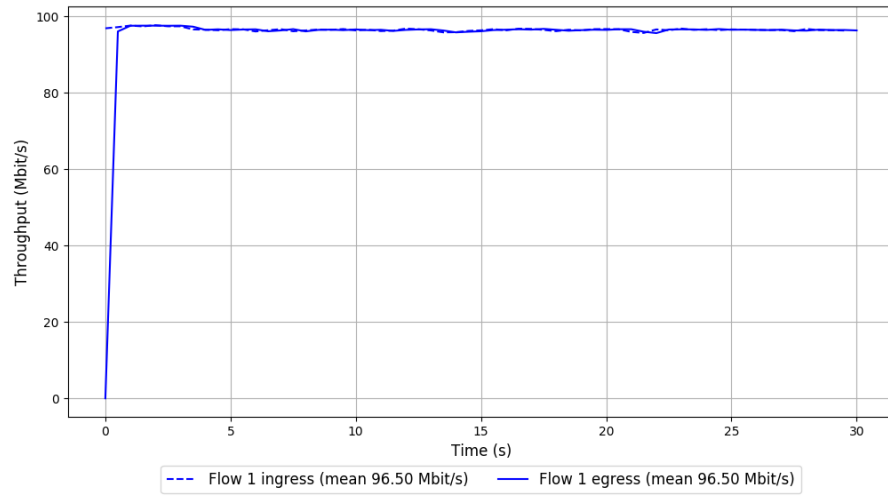
-- Flow 1:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 2.540 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link

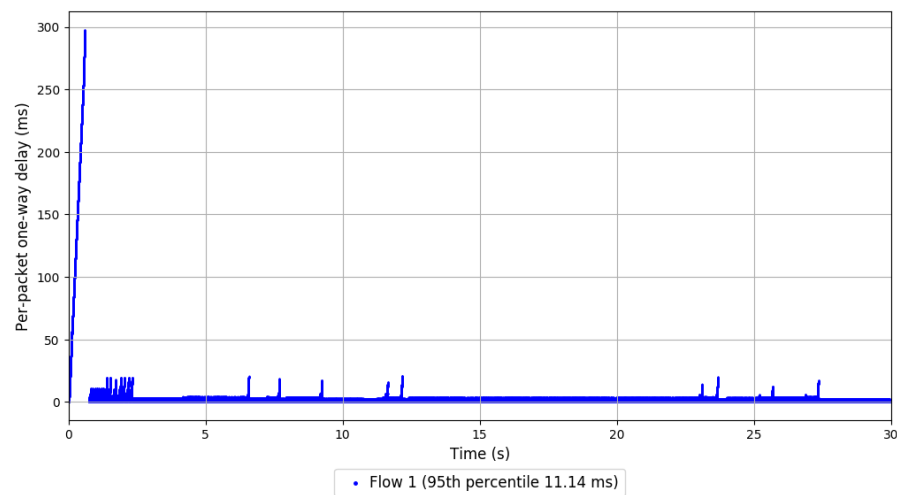
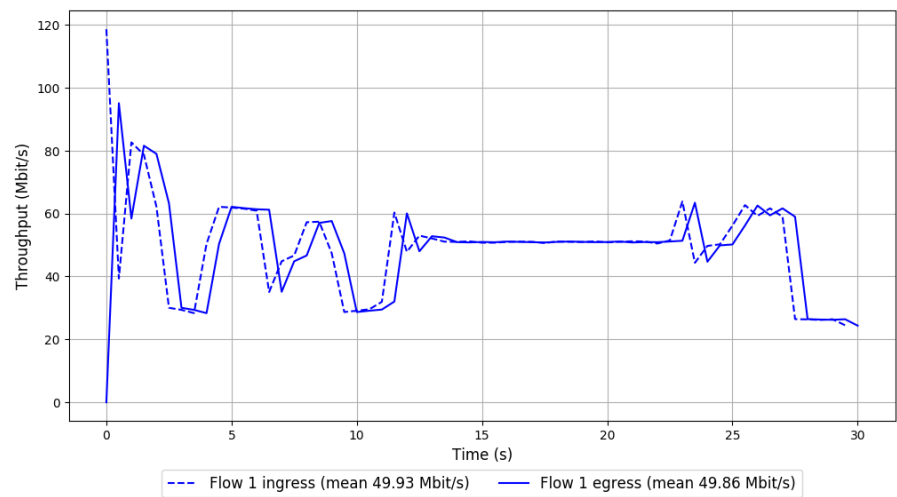


Run 1: Statistics of Verus

Start at: 2018-11-15 08:07:20
End at: 2018-11-15 08:07:50
Local clock offset: -6.681 ms
Remote clock offset: -0.281 ms

Below is generated by plot.py at 2018-11-15 09:46:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 11.140 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 11.140 ms
Loss rate: 0.14%

Run 1: Report of Verus — Data Link

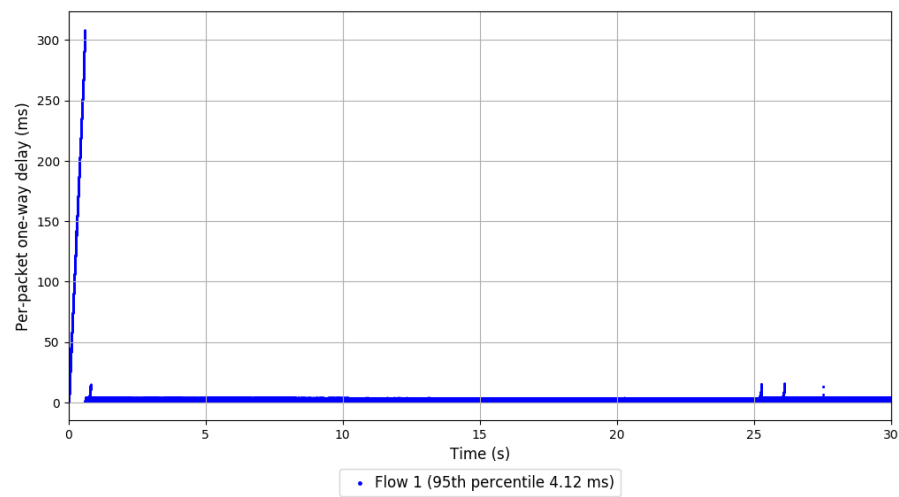
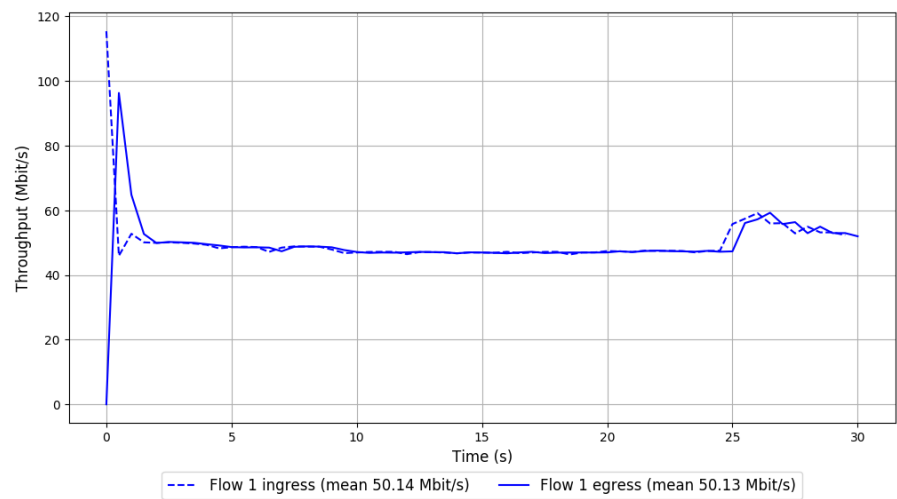


Run 2: Statistics of Verus

Start at: 2018-11-15 08:27:37
End at: 2018-11-15 08:28:07
Local clock offset: -5.594 ms
Remote clock offset: -0.155 ms

Below is generated by plot.py at 2018-11-15 09:46:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.13 Mbit/s
95th percentile per-packet one-way delay: 4.121 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.13 Mbit/s
95th percentile per-packet one-way delay: 4.121 ms
Loss rate: 0.03%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-11-15 08:47:48

End at: 2018-11-15 08:48:18

Local clock offset: -1.695 ms

Remote clock offset: 0.083 ms

Below is generated by plot.py at 2018-11-15 09:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.68 Mbit/s

95th percentile per-packet one-way delay: 11.127 ms

Loss rate: 0.02%

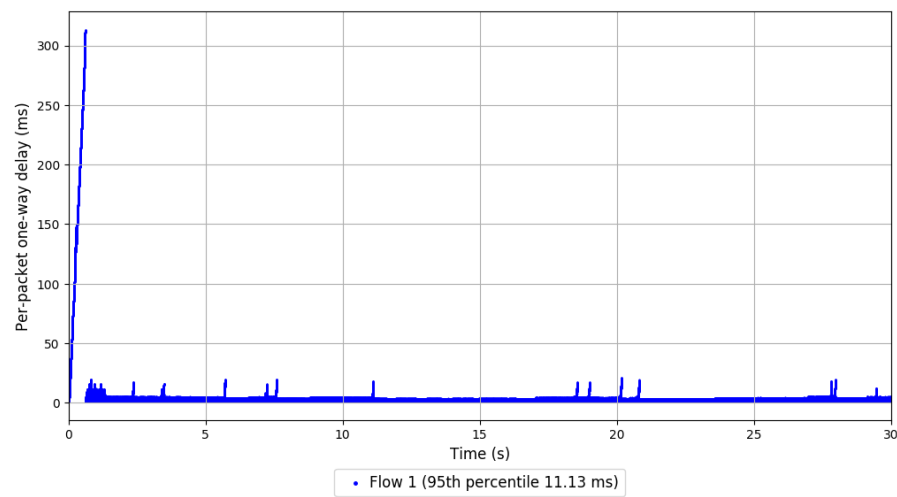
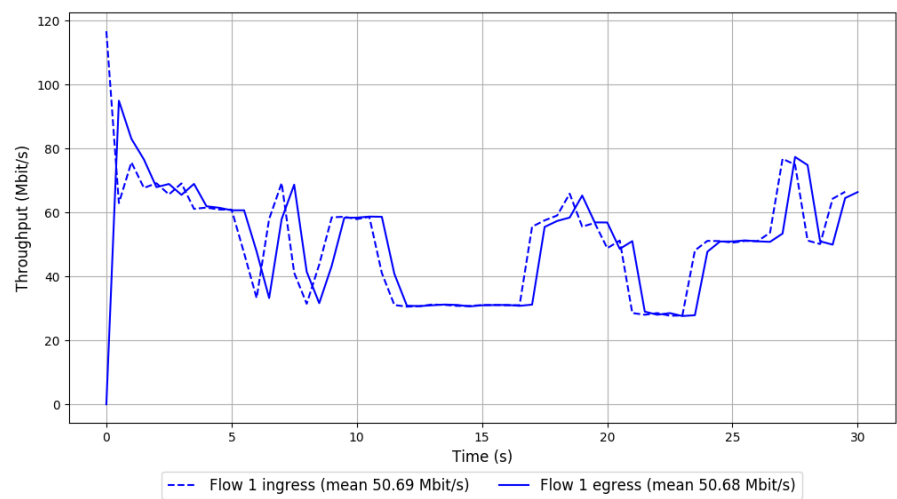
-- Flow 1:

Average throughput: 50.68 Mbit/s

95th percentile per-packet one-way delay: 11.127 ms

Loss rate: 0.02%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-11-15 09:08:04

End at: 2018-11-15 09:08:34

Local clock offset: -0.544 ms

Remote clock offset: 0.226 ms

Below is generated by plot.py at 2018-11-15 09:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.62 Mbit/s

95th percentile per-packet one-way delay: 17.855 ms

Loss rate: 0.01%

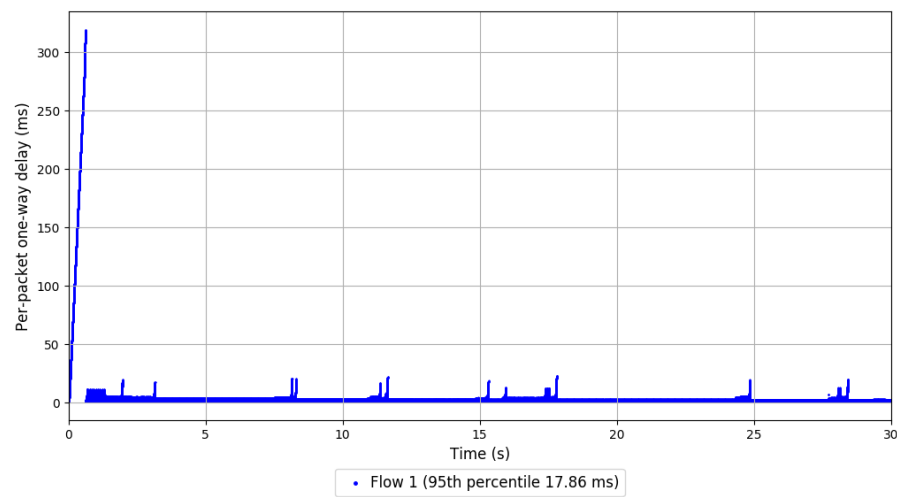
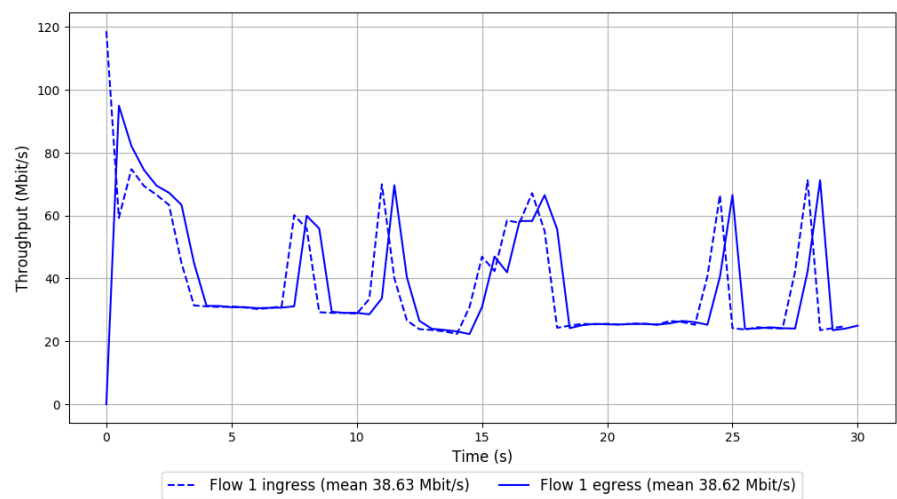
-- Flow 1:

Average throughput: 38.62 Mbit/s

95th percentile per-packet one-way delay: 17.855 ms

Loss rate: 0.01%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-11-15 09:28:19

End at: 2018-11-15 09:28:49

Local clock offset: -0.824 ms

Remote clock offset: 0.309 ms

Below is generated by plot.py at 2018-11-15 09:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 55.99 Mbit/s

95th percentile per-packet one-way delay: 5.410 ms

Loss rate: 0.01%

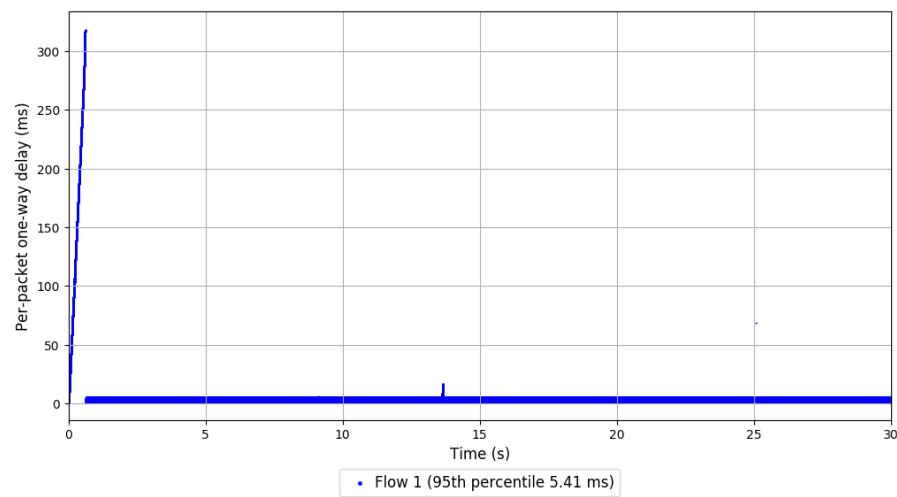
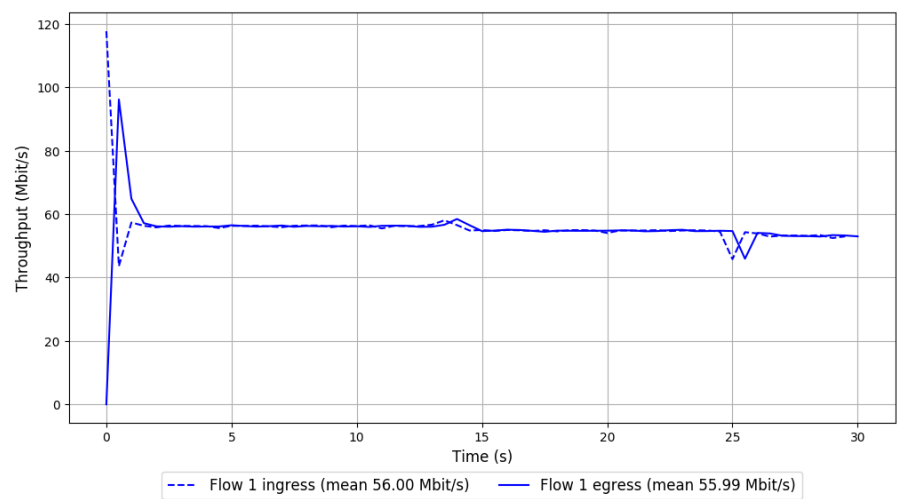
-- Flow 1:

Average throughput: 55.99 Mbit/s

95th percentile per-packet one-way delay: 5.410 ms

Loss rate: 0.01%

Run 5: Report of Verus — Data Link

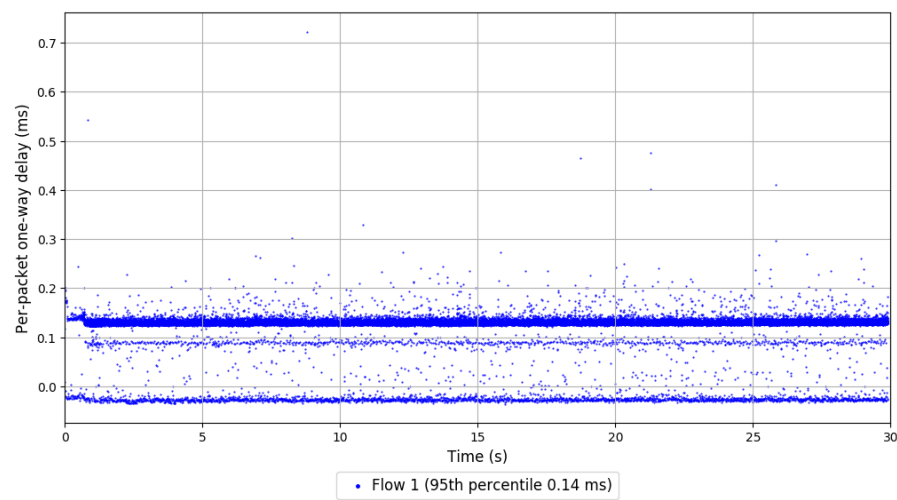
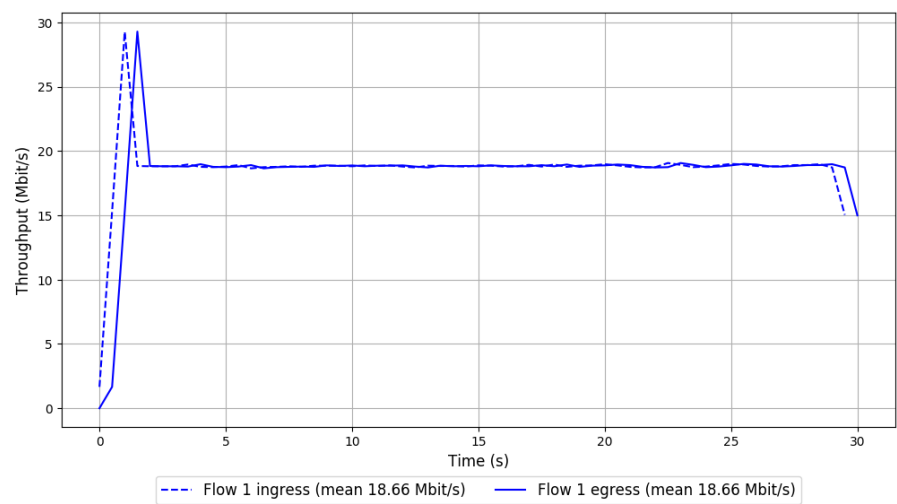


Run 1: Statistics of PCC-Vivace

Start at: 2018-11-15 08:13:03
End at: 2018-11-15 08:13:33
Local clock offset: -6.658 ms
Remote clock offset: -0.272 ms

Below is generated by plot.py at 2018-11-15 09:46:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.66 Mbit/s
95th percentile per-packet one-way delay: 0.137 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 18.66 Mbit/s
95th percentile per-packet one-way delay: 0.137 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

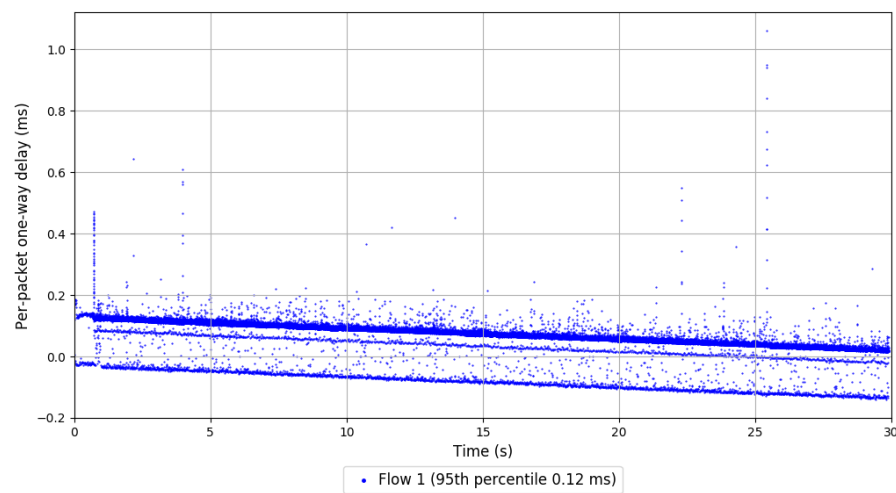
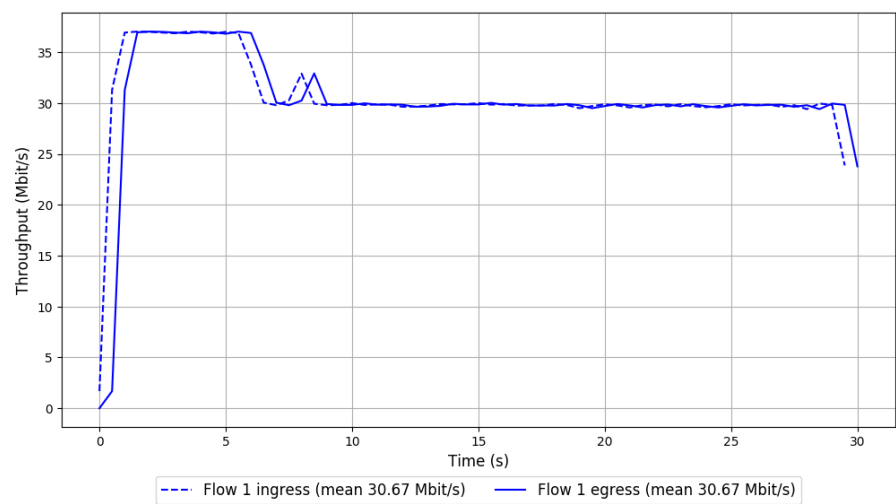


Run 2: Statistics of PCC-Vivace

Start at: 2018-11-15 08:33:19
End at: 2018-11-15 08:33:49
Local clock offset: -4.432 ms
Remote clock offset: -0.158 ms

Below is generated by plot.py at 2018-11-15 09:46:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 0.119 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 0.119 ms
Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-15 08:53:31

End at: 2018-11-15 08:54:01

Local clock offset: -1.265 ms

Remote clock offset: 0.151 ms

Below is generated by plot.py at 2018-11-15 09:46:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 28.05 Mbit/s

95th percentile per-packet one-way delay: 0.865 ms

Loss rate: 0.01%

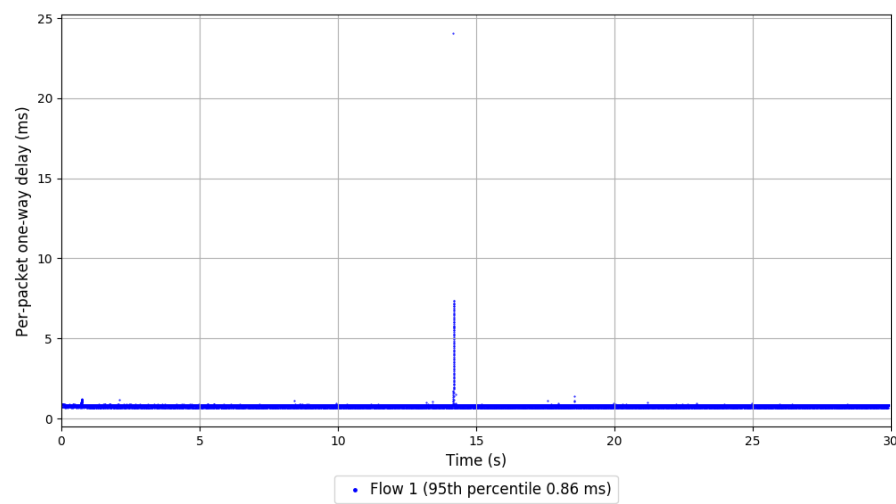
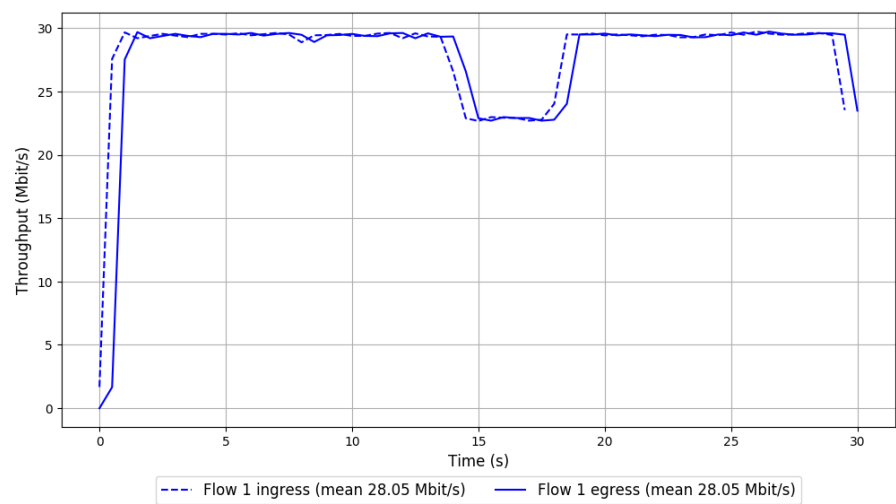
-- Flow 1:

Average throughput: 28.05 Mbit/s

95th percentile per-packet one-way delay: 0.865 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-11-15 09:13:46

End at: 2018-11-15 09:14:16

Local clock offset: -0.955 ms

Remote clock offset: 0.233 ms

Below is generated by plot.py at 2018-11-15 09:47:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.21 Mbit/s

95th percentile per-packet one-way delay: 0.356 ms

Loss rate: 0.01%

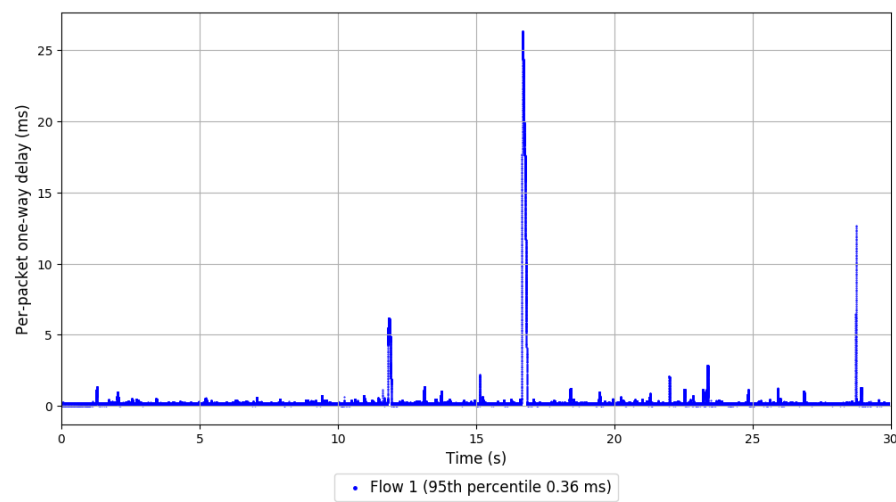
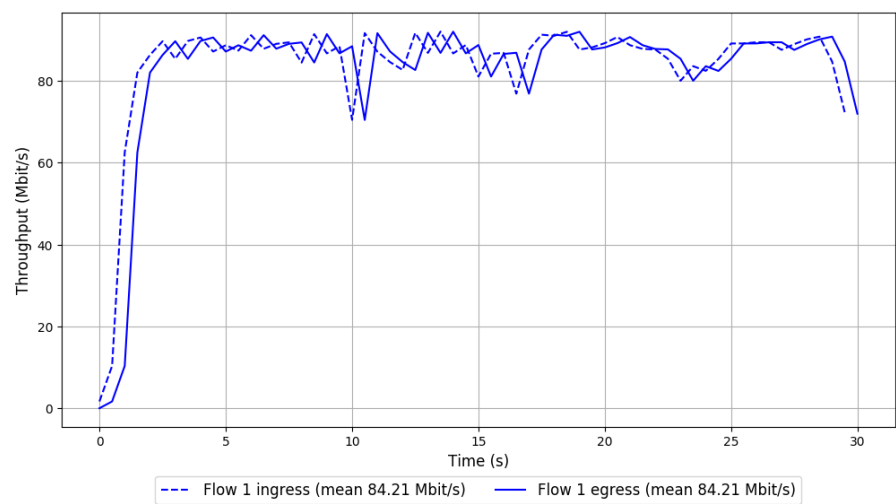
-- Flow 1:

Average throughput: 84.21 Mbit/s

95th percentile per-packet one-way delay: 0.356 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-11-15 09:34:02

End at: 2018-11-15 09:34:32

Local clock offset: -4.322 ms

Remote clock offset: 0.333 ms

Below is generated by plot.py at 2018-11-15 09:47:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.34 Mbit/s

95th percentile per-packet one-way delay: 1.285 ms

Loss rate: 0.01%

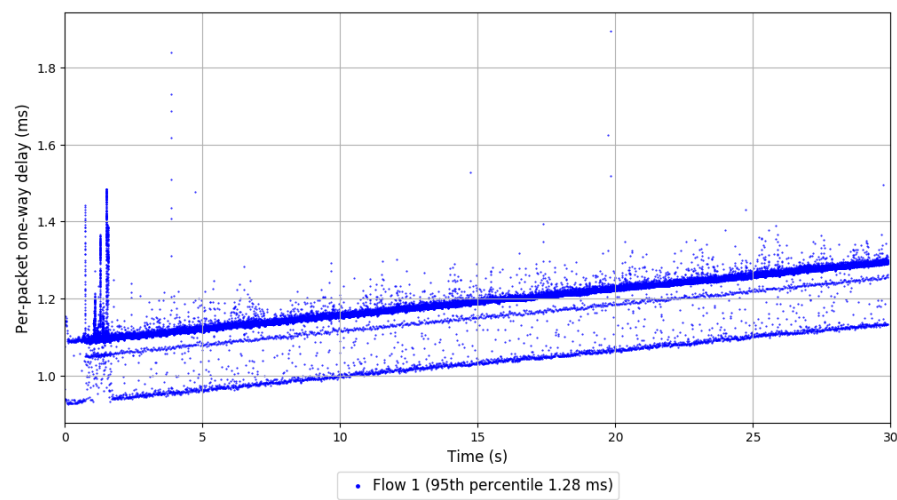
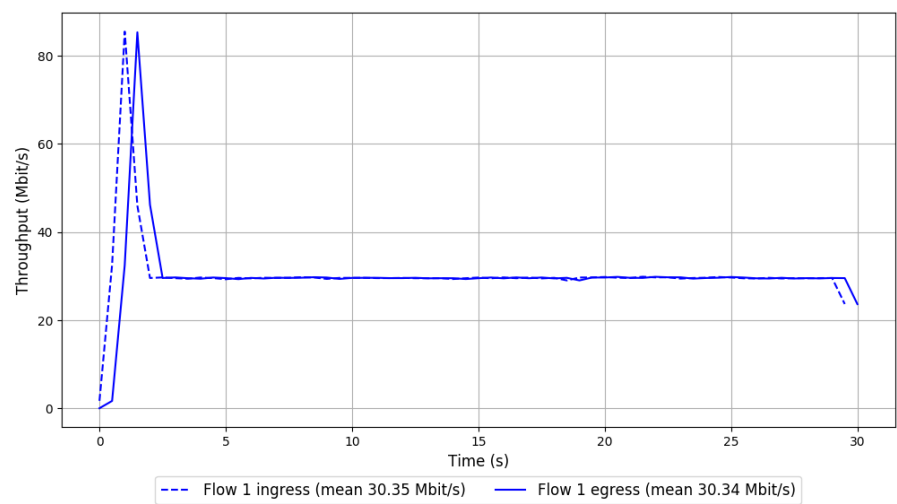
-- Flow 1:

Average throughput: 30.34 Mbit/s

95th percentile per-packet one-way delay: 1.285 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

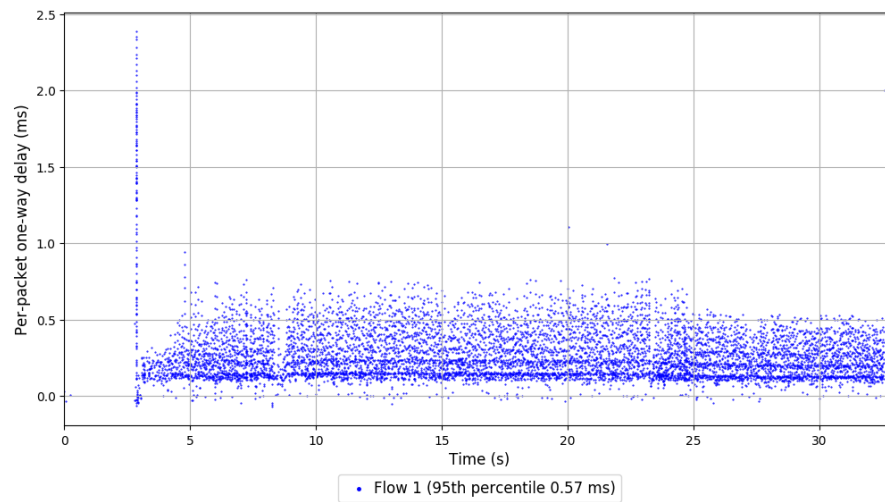
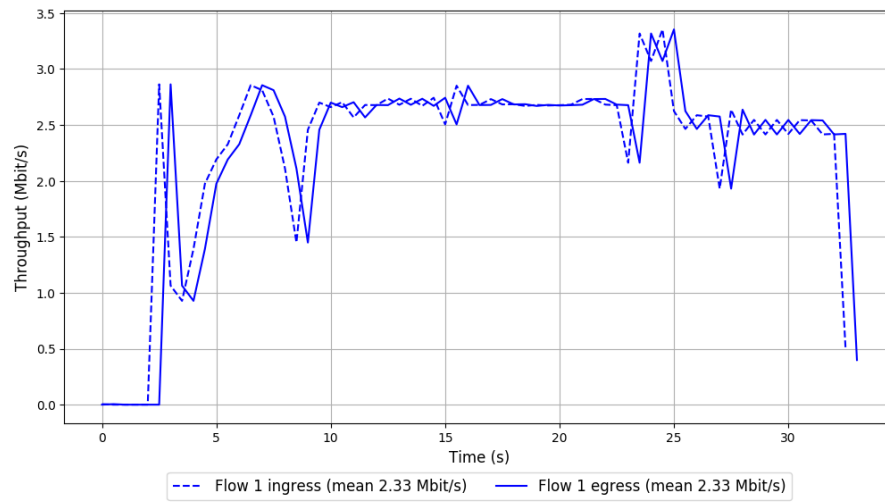


Run 1: Statistics of WebRTC media

Start at: 2018-11-15 07:59:33
End at: 2018-11-15 08:00:03
Local clock offset: -6.765 ms
Remote clock offset: -0.321 ms

Below is generated by plot.py at 2018-11-15 09:47:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 0.573 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 0.573 ms
Loss rate: 0.07%

Run 1: Report of WebRTC media — Data Link

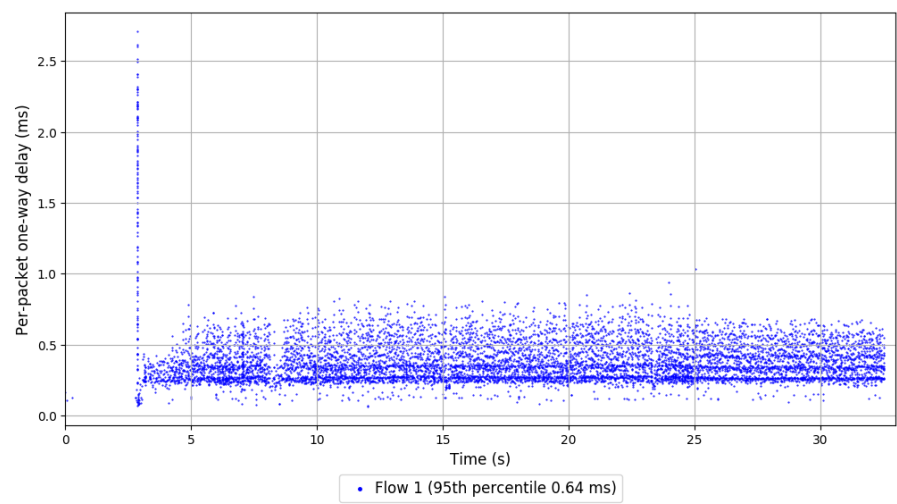
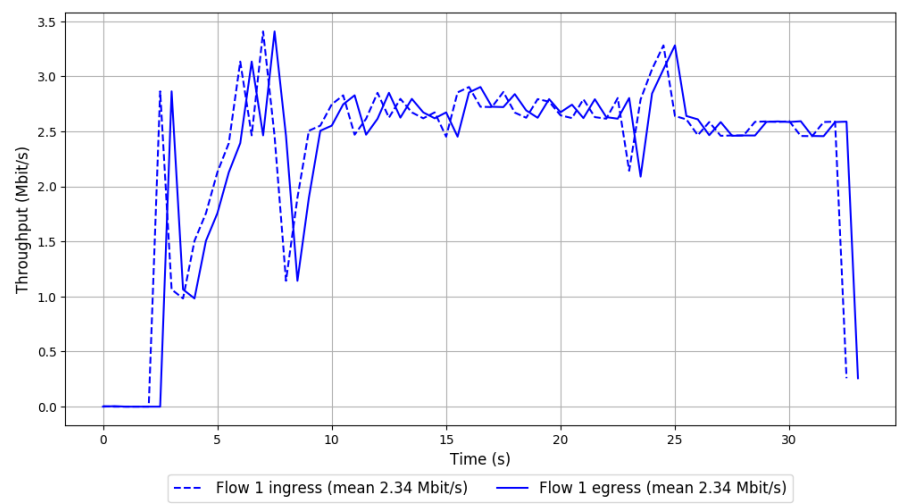


Run 2: Statistics of WebRTC media

Start at: 2018-11-15 08:19:50
End at: 2018-11-15 08:20:20
Local clock offset: -6.651 ms
Remote clock offset: -0.314 ms

Below is generated by plot.py at 2018-11-15 09:47:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 0.642 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 0.642 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-11-15 08:40:06

End at: 2018-11-15 08:40:36

Local clock offset: -2.475 ms

Remote clock offset: 0.028 ms

Below is generated by plot.py at 2018-11-15 09:47:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 1.266 ms

Loss rate: 0.00%

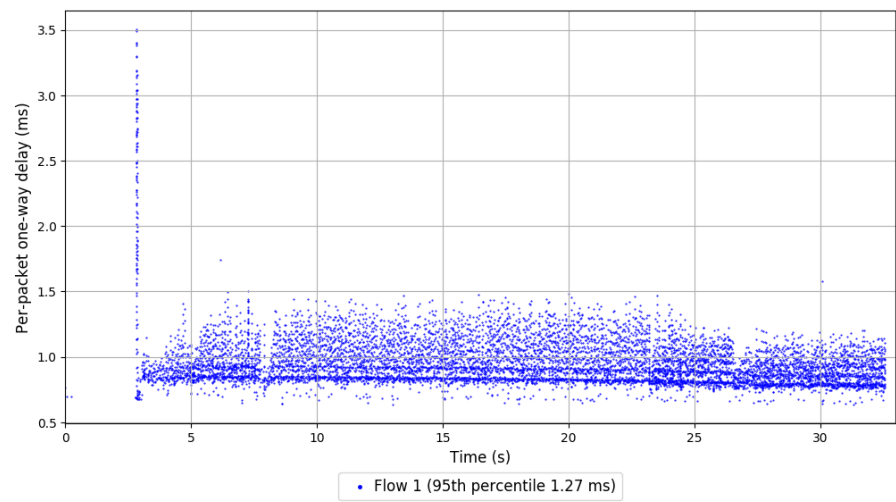
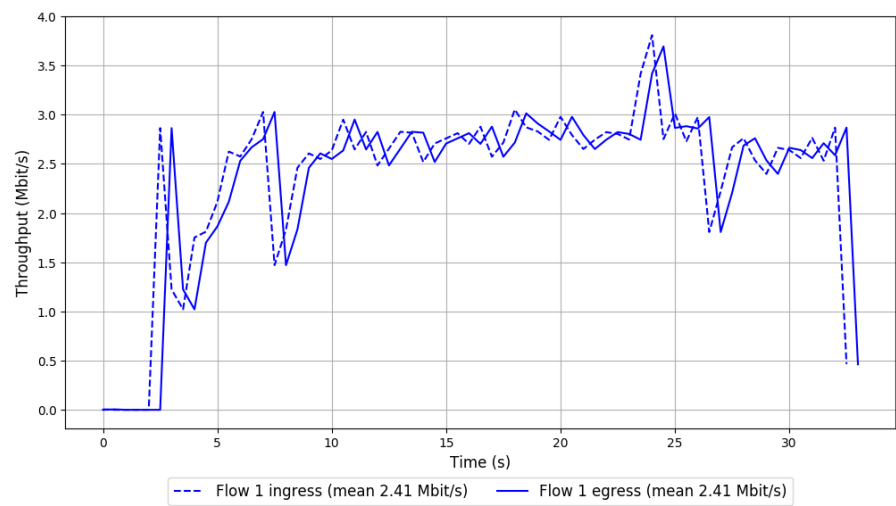
-- Flow 1:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 1.266 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-11-15 09:00:18

End at: 2018-11-15 09:00:48

Local clock offset: -1.644 ms

Remote clock offset: 0.152 ms

Below is generated by plot.py at 2018-11-15 09:47:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 0.653 ms

Loss rate: 0.00%

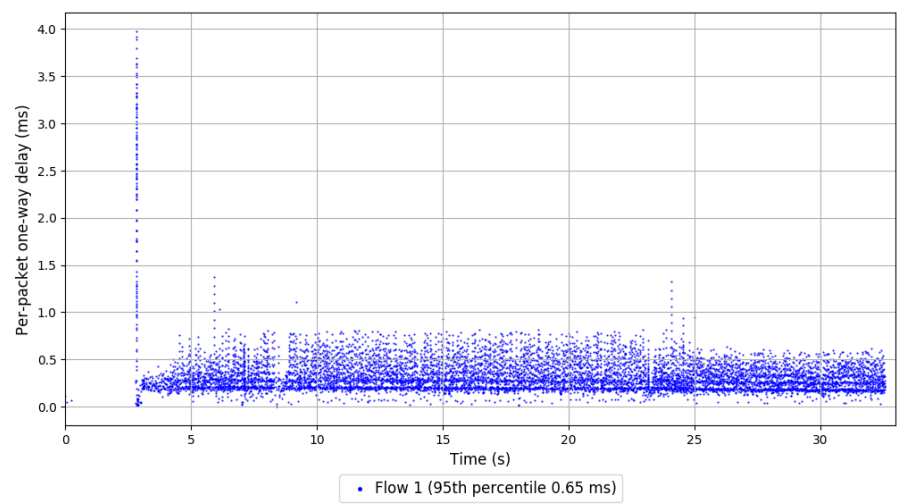
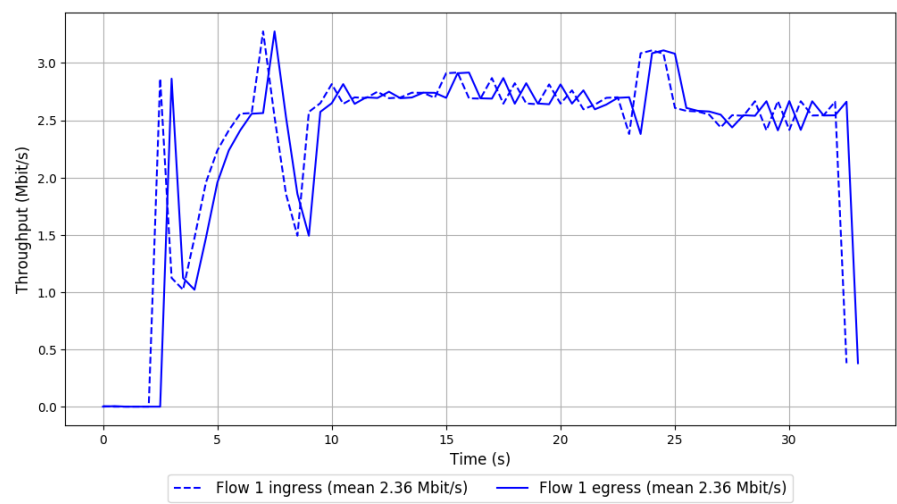
-- Flow 1:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 0.653 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-15 09:20:36

End at: 2018-11-15 09:21:07

Local clock offset: -0.628 ms

Remote clock offset: 0.331 ms

Below is generated by plot.py at 2018-11-15 09:47:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 0.547 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 0.547 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

