

## Pantheon Report

Generated at 2018-12-20 06:35:44 (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.

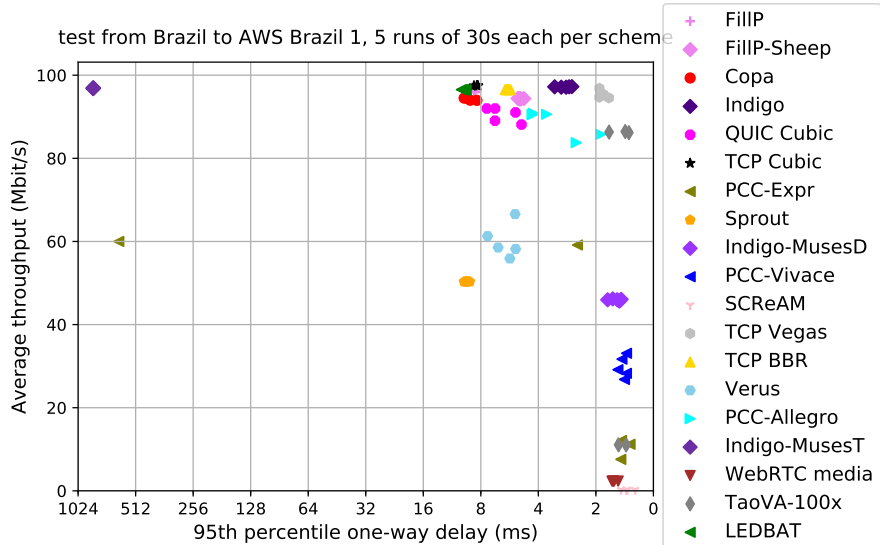
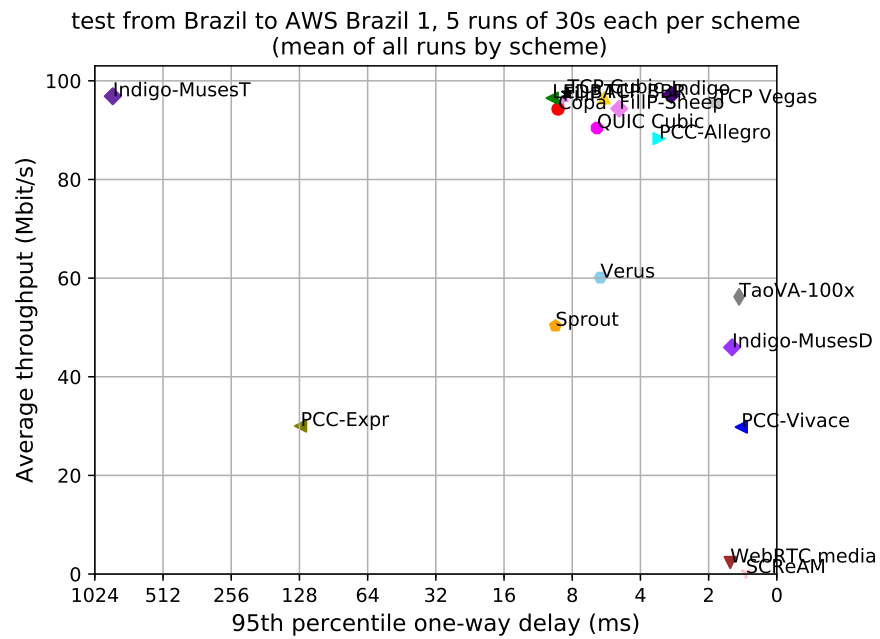
### System info:

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

### Git summary:

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

third\_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4  
third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.53	5.78	0.02
Copa	5	94.28	9.24	0.06
TCP Cubic	5	97.48	8.40	0.06
FillP	5	95.98	8.81	0.02
FillP-Sheep	5	94.35	4.96	0.01
Indigo	5	97.18	2.92	0.01
Indigo-MusesD	5	45.97	1.31	0.01
Indigo-MusesT	5	96.87	853.38	3.05
LEDBAT	5	96.49	9.81	0.09
PCC-Allegro	5	88.29	3.31	0.02
PCC-Expr	5	30.01	126.54	1.37
QUIC Cubic	5	90.44	6.22	0.01
SCReAM	5	0.22	0.91	0.00
Sprout	5	50.33	9.49	0.02
TaoVA-100x	5	56.21	1.11	0.01
TCP Vegas	5	95.47	1.78	0.01
Verus	5	60.10	6.01	0.01
PCC-Vivace	5	29.80	1.04	0.00
WebRTC media	5	2.35	1.37	0.02



Run 1: Statistics of TCP BBR

Start at: 2018-12-20 04:37:03

End at: 2018-12-20 04:37:33

Local clock offset: -1.448 ms

Remote clock offset: 0.157 ms

# Below is generated by plot.py at 2018-12-20 06:25:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.797 ms

Loss rate: 0.02%

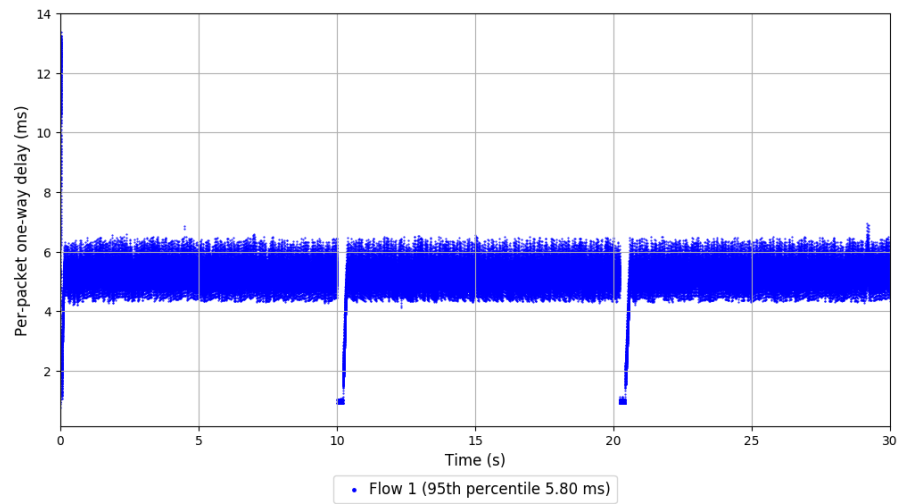
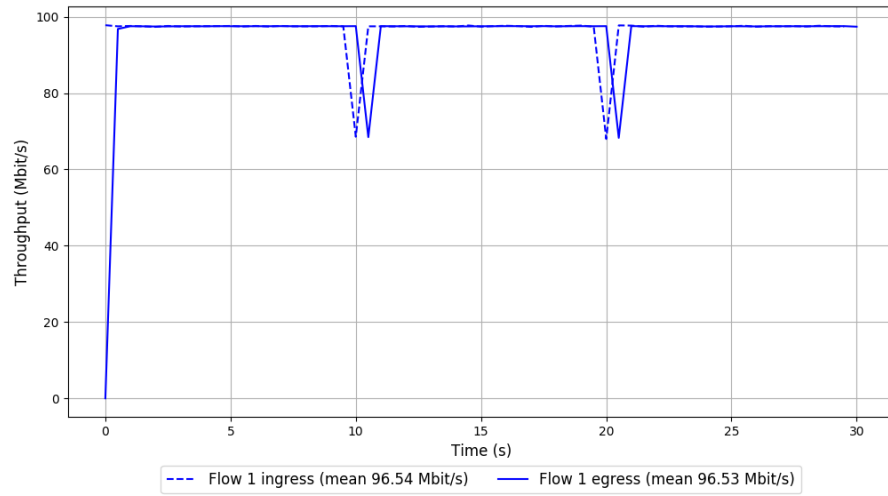
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.797 ms

Loss rate: 0.02%

### Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-20 04:58:23

End at: 2018-12-20 04:58:53

Local clock offset: -0.834 ms

Remote clock offset: 0.283 ms

# Below is generated by plot.py at 2018-12-20 06:25:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.959 ms

Loss rate: 0.02%

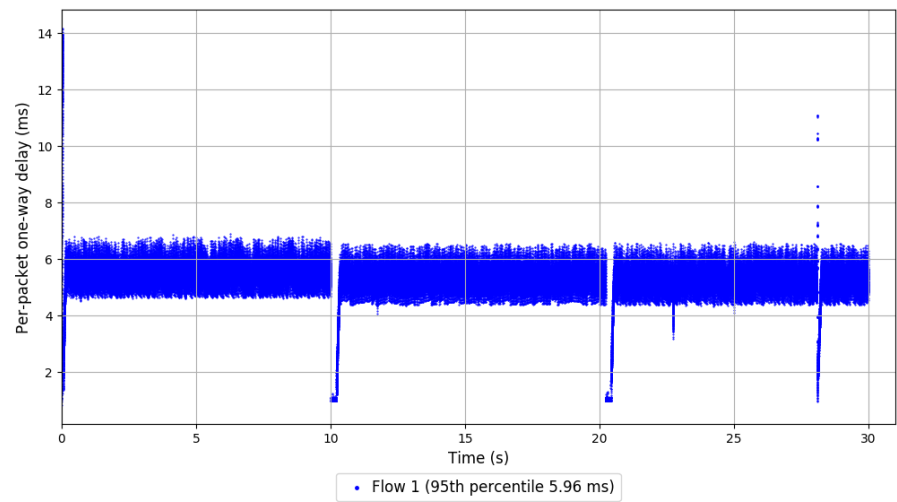
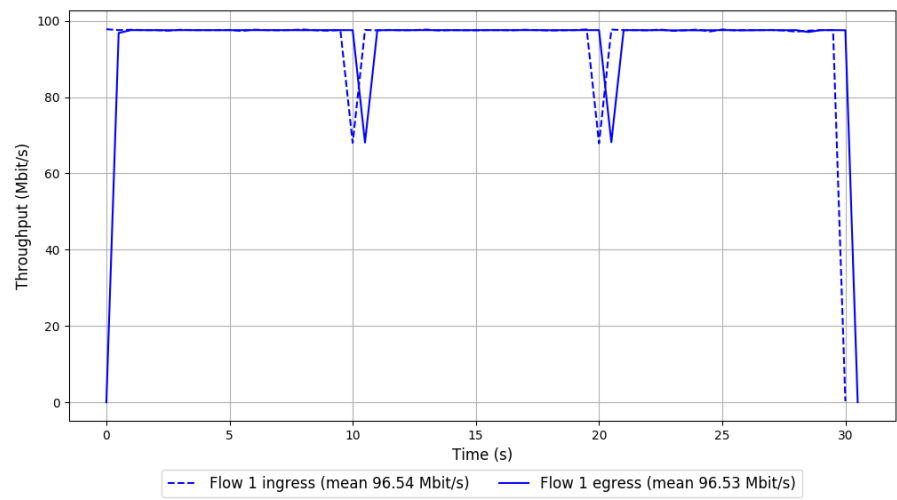
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.959 ms

Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-12-20 05:19:44

End at: 2018-12-20 05:20:14

Local clock offset: -5.934 ms

Remote clock offset: 0.505 ms

# Below is generated by plot.py at 2018-12-20 06:25:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.861 ms

Loss rate: 0.02%

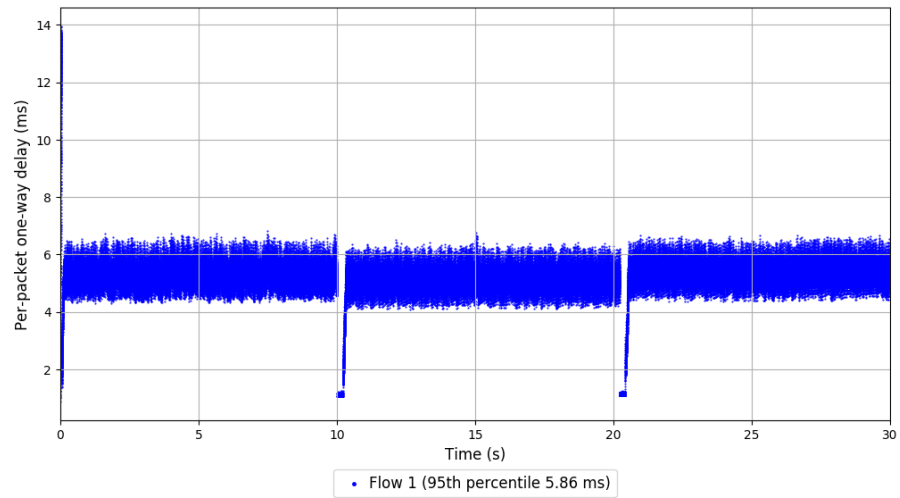
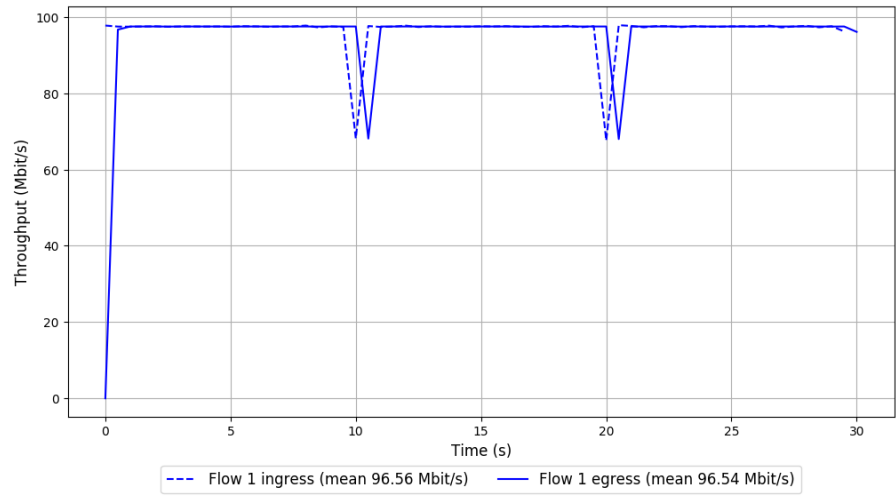
-- Flow 1:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.861 ms

Loss rate: 0.02%

### Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-12-20 05:41:09

End at: 2018-12-20 05:41:39

Local clock offset: -4.809 ms

Remote clock offset: 0.644 ms

# Below is generated by plot.py at 2018-12-20 06:25:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.595 ms

Loss rate: 0.02%

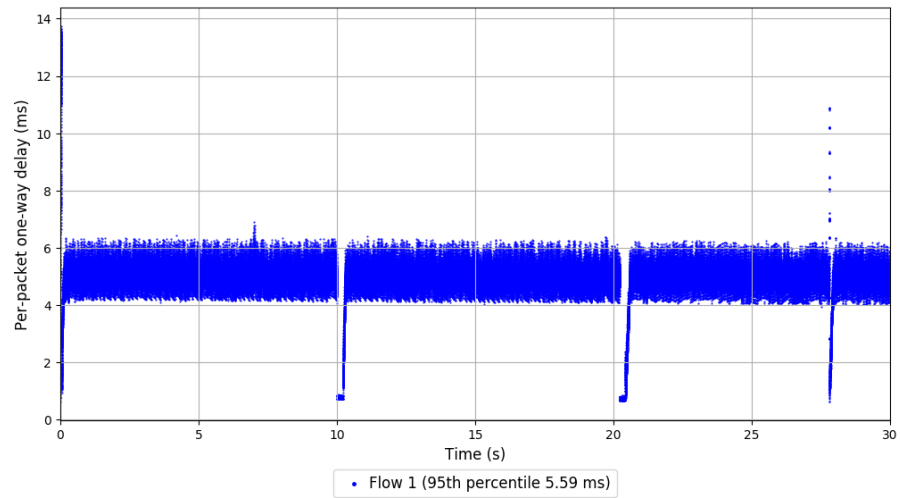
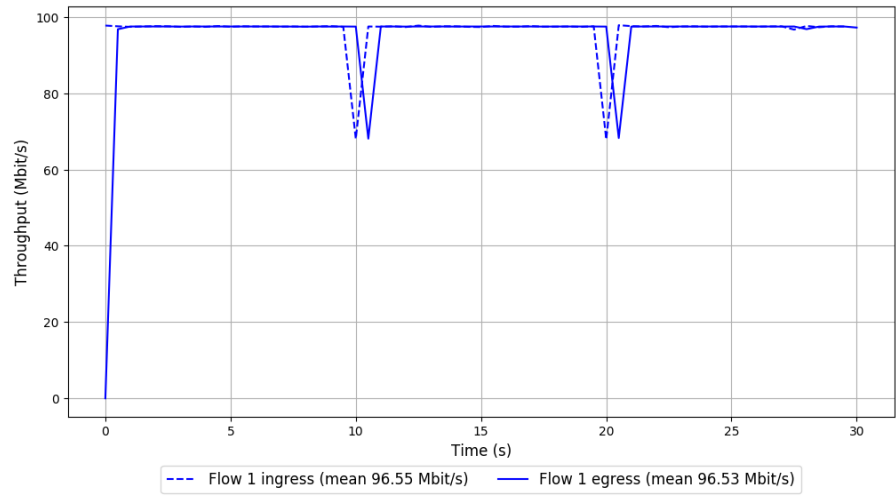
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.595 ms

Loss rate: 0.02%

#### Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2018-12-20 06:02:30

End at: 2018-12-20 06:03:00

Local clock offset: -1.938 ms

Remote clock offset: 0.73 ms

# Below is generated by plot.py at 2018-12-20 06:25:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.709 ms

Loss rate: 0.02%

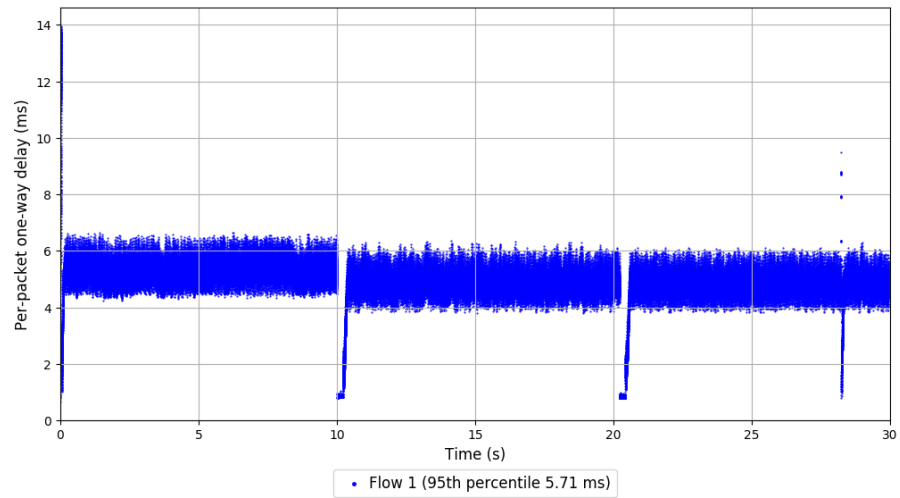
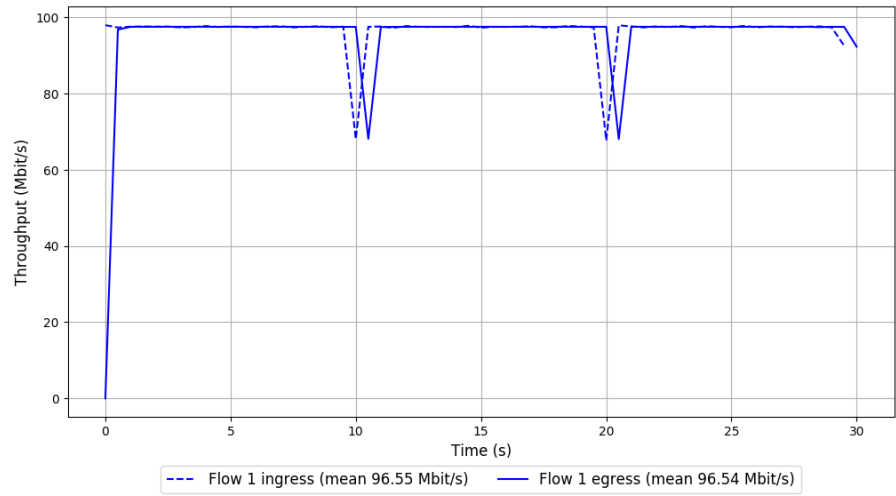
-- Flow 1:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.709 ms

Loss rate: 0.02%

### Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-12-20 04:40:23

End at: 2018-12-20 04:40:53

Local clock offset: -1.31 ms

Remote clock offset: 0.24 ms

# Below is generated by plot.py at 2018-12-20 06:26:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 9.779 ms

Loss rate: 0.06%

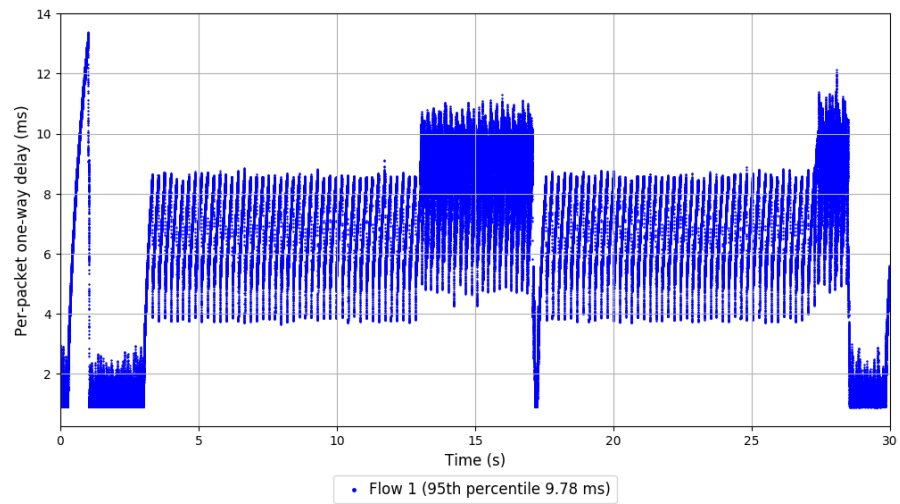
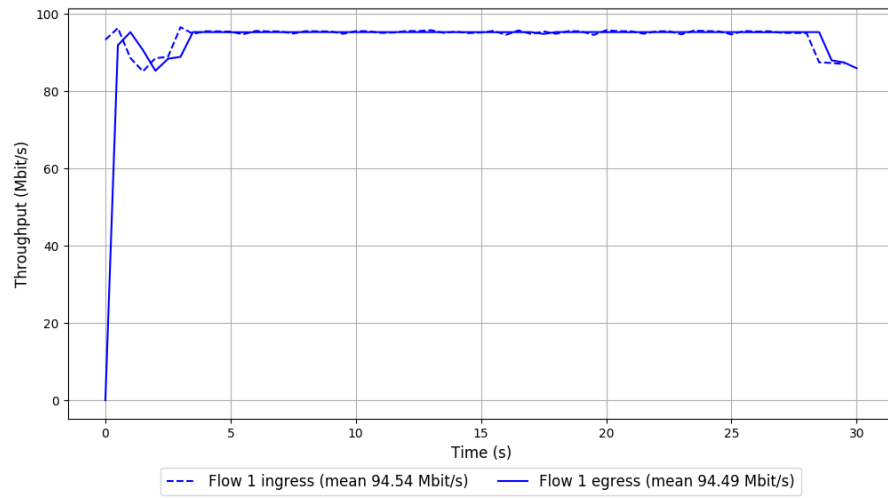
-- Flow 1:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 9.779 ms

Loss rate: 0.06%

## Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-12-20 05:01:43

End at: 2018-12-20 05:02:13

Local clock offset: -0.8 ms

Remote clock offset: 0.321 ms

# Below is generated by plot.py at 2018-12-20 06:26:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 93.94 Mbit/s

95th percentile per-packet one-way delay: 8.385 ms

Loss rate: 0.07%

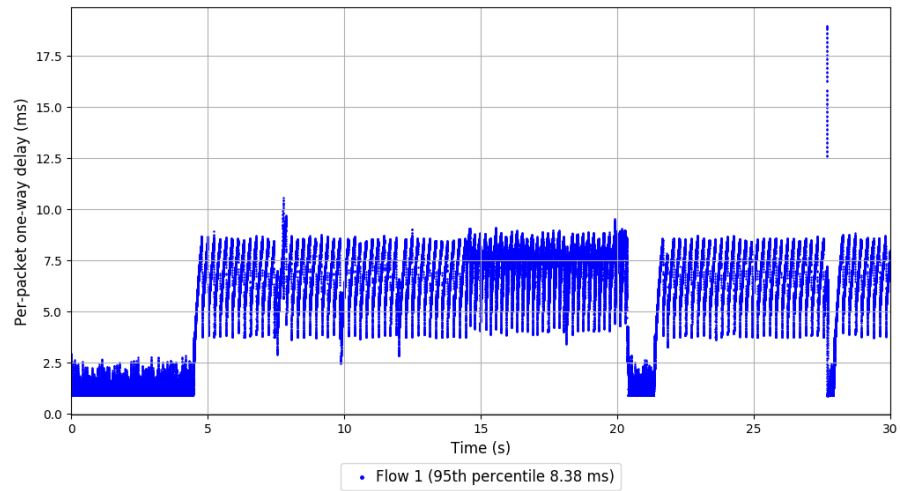
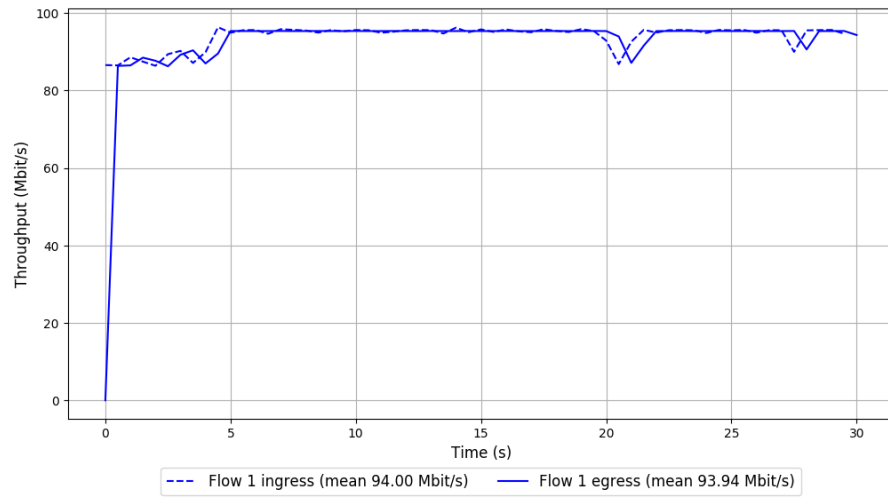
-- Flow 1:

Average throughput: 93.94 Mbit/s

95th percentile per-packet one-way delay: 8.385 ms

Loss rate: 0.07%

## Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-12-20 05:23:05

End at: 2018-12-20 05:23:35

Local clock offset: -6.427 ms

Remote clock offset: 0.534 ms

# Below is generated by plot.py at 2018-12-20 06:26:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.52 Mbit/s

95th percentile per-packet one-way delay: 9.519 ms

Loss rate: 0.07%

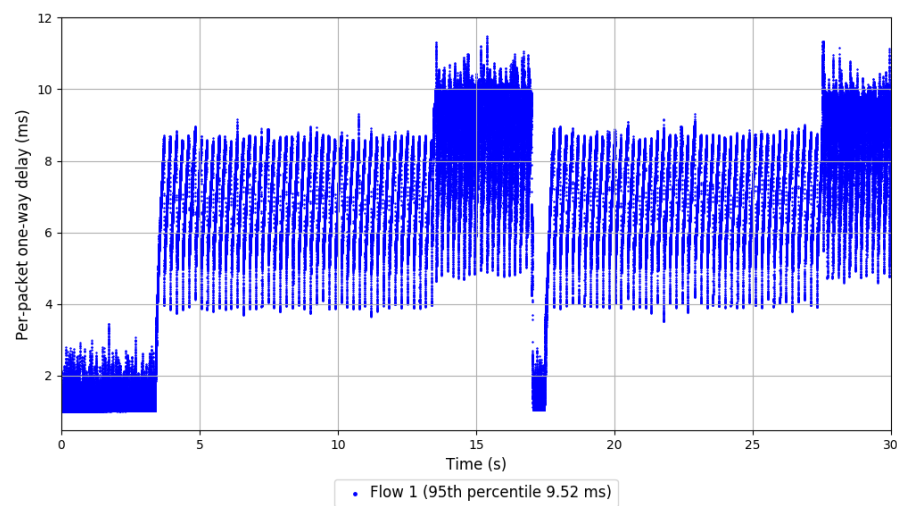
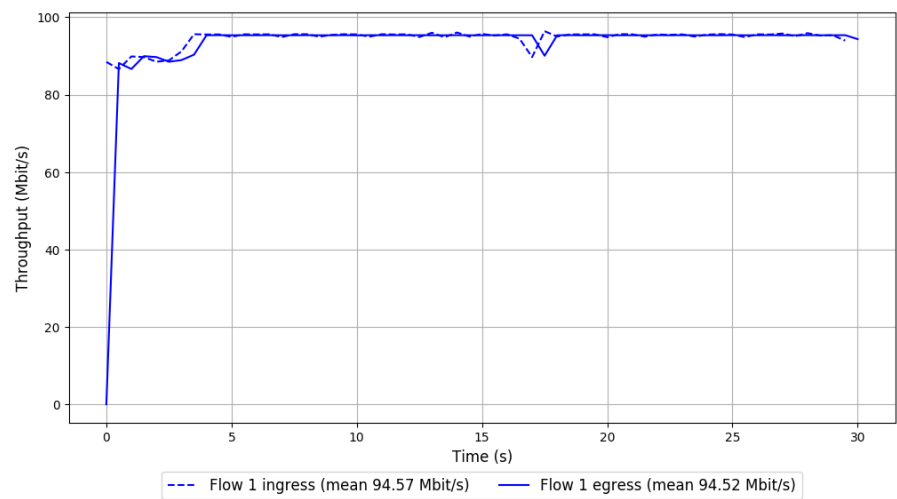
-- Flow 1:

Average throughput: 94.52 Mbit/s

95th percentile per-packet one-way delay: 9.519 ms

Loss rate: 0.07%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2018-12-20 05:44:30

End at: 2018-12-20 05:45:00

Local clock offset: -3.975 ms

Remote clock offset: 0.619 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 9.433 ms

Loss rate: 0.04%

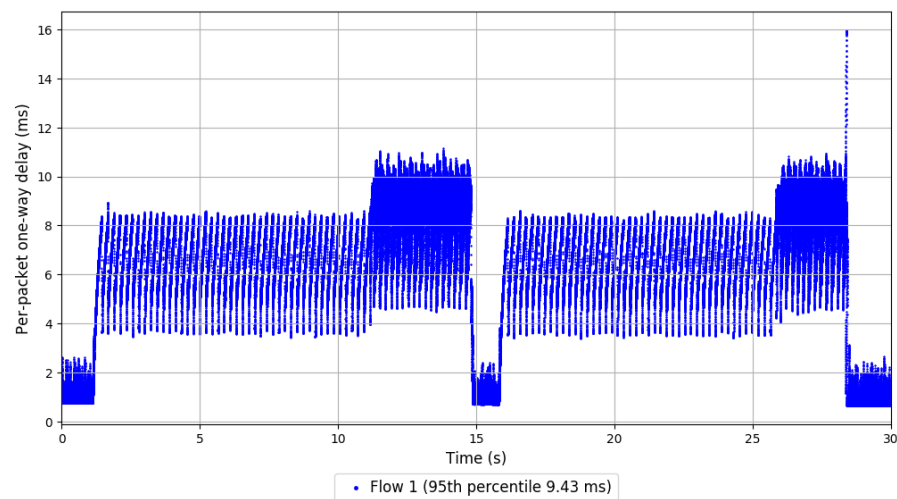
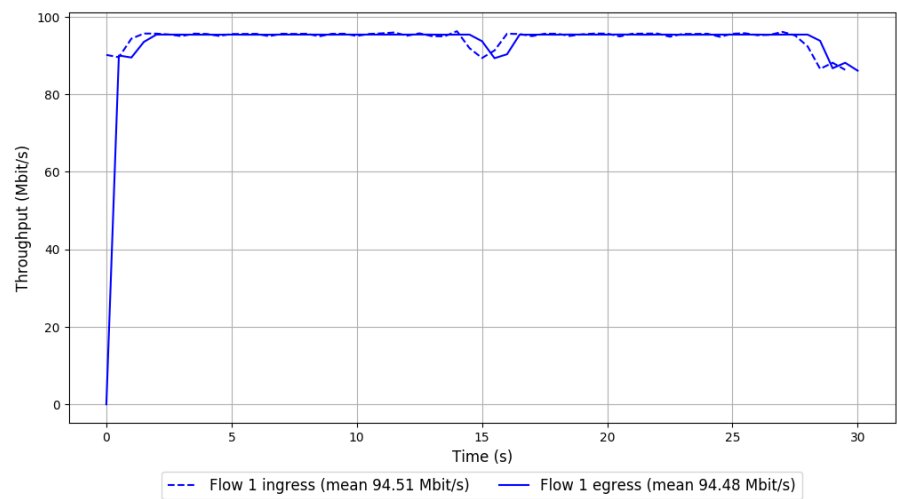
-- Flow 1:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 9.433 ms

Loss rate: 0.04%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-12-20 06:05:51

End at: 2018-12-20 06:06:21

Local clock offset: -2.048 ms

Remote clock offset: 0.672 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 93.98 Mbit/s

95th percentile per-packet one-way delay: 9.091 ms

Loss rate: 0.06%

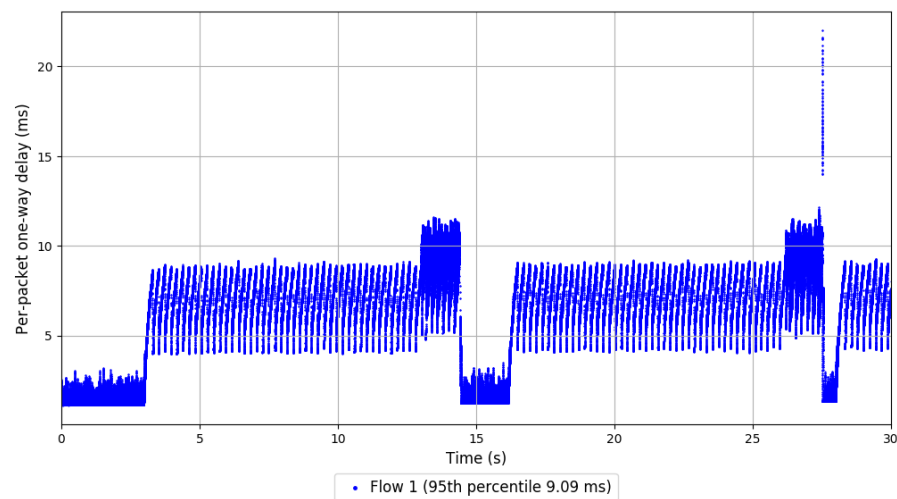
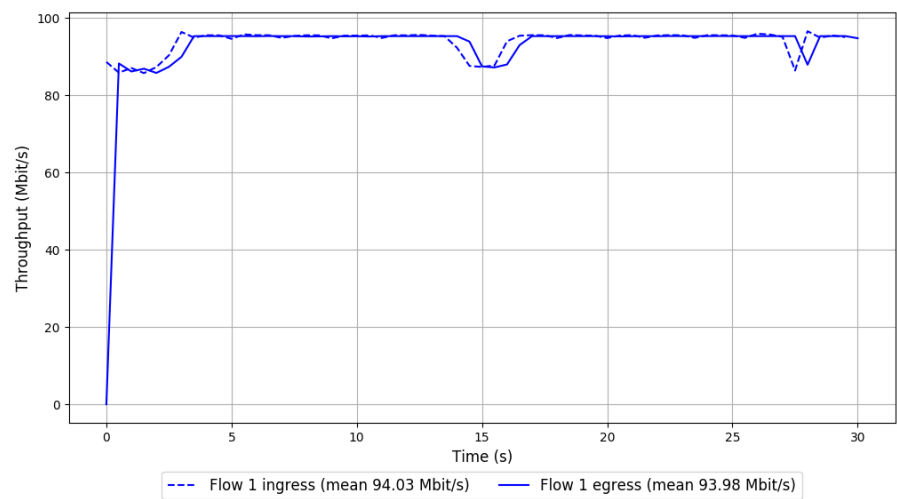
-- Flow 1:

Average throughput: 93.98 Mbit/s

95th percentile per-packet one-way delay: 9.091 ms

Loss rate: 0.06%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-12-20 04:41:35

End at: 2018-12-20 04:42:05

Local clock offset: -1.286 ms

Remote clock offset: 0.222 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.337 ms

Loss rate: 0.06%

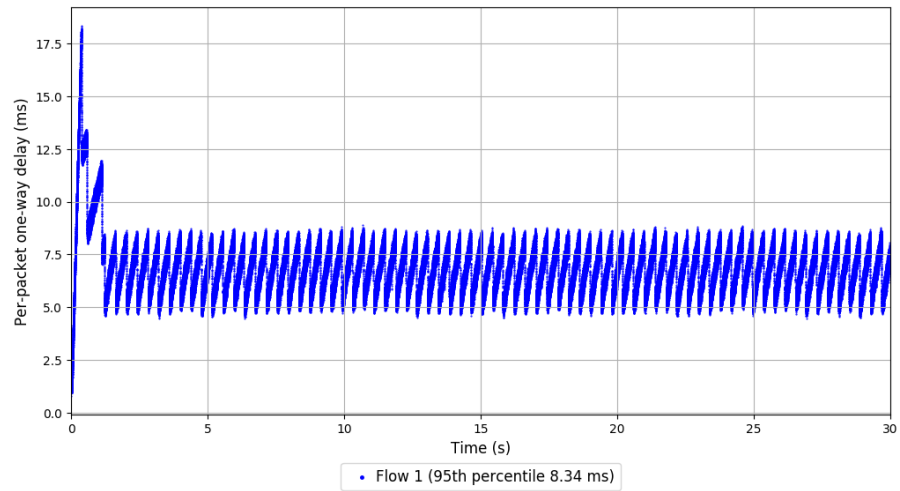
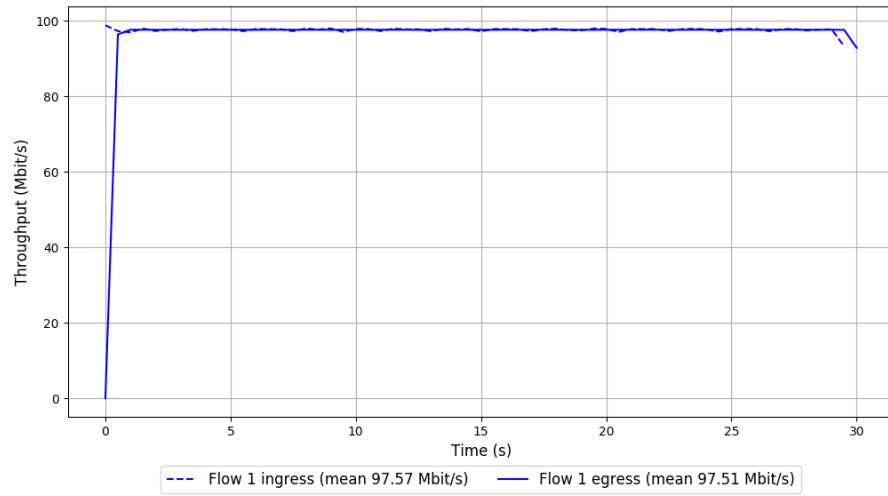
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.337 ms

Loss rate: 0.06%

### Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-12-20 05:02:54

End at: 2018-12-20 05:03:24

Local clock offset: -0.774 ms

Remote clock offset: 0.359 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.286 ms

Loss rate: 0.06%

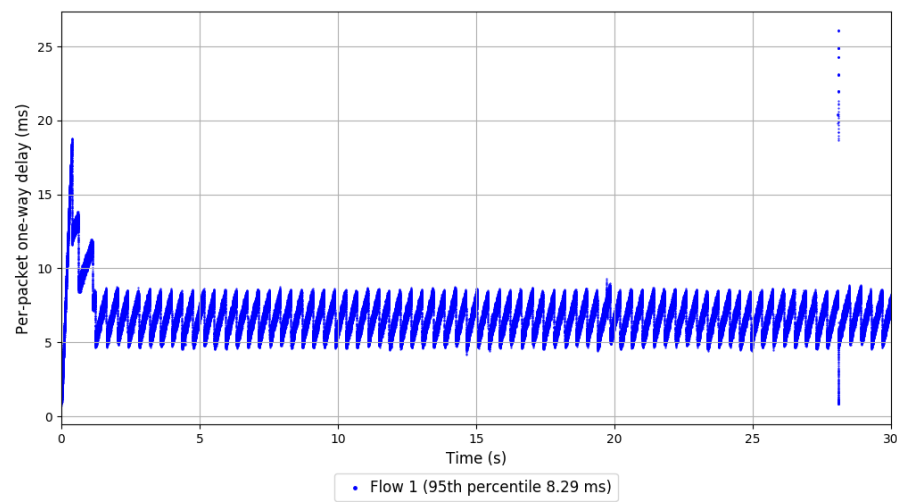
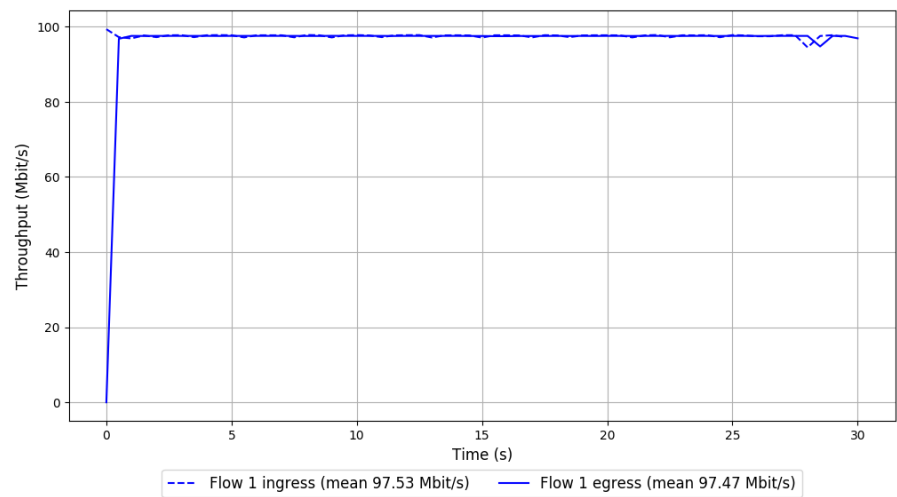
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 8.286 ms

Loss rate: 0.06%

Run 2: Report of TCP Cubic — Data Link





Run 3: Statistics of TCP Cubic

Start at: 2018-12-20 05:24:16

End at: 2018-12-20 05:24:46

Local clock offset: -6.591 ms

Remote clock offset: 0.561 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.396 ms

Loss rate: 0.06%

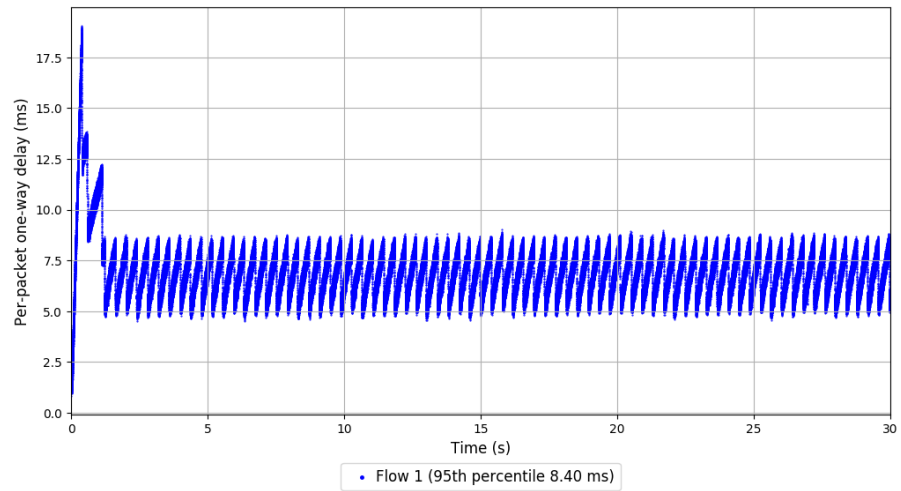
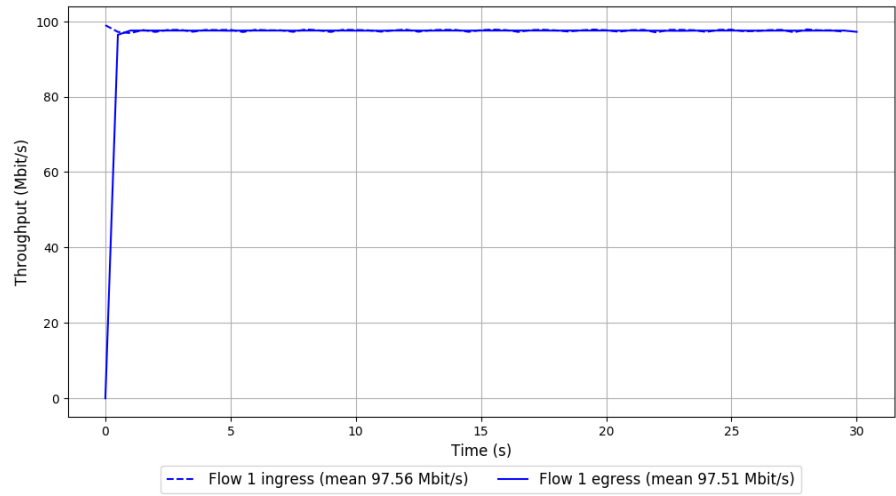
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.396 ms

Loss rate: 0.06%

### Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-12-20 05:45:41

End at: 2018-12-20 05:46:11

Local clock offset: -3.616 ms

Remote clock offset: 0.614 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.45 Mbit/s

95th percentile per-packet one-way delay: 8.309 ms

Loss rate: 0.05%

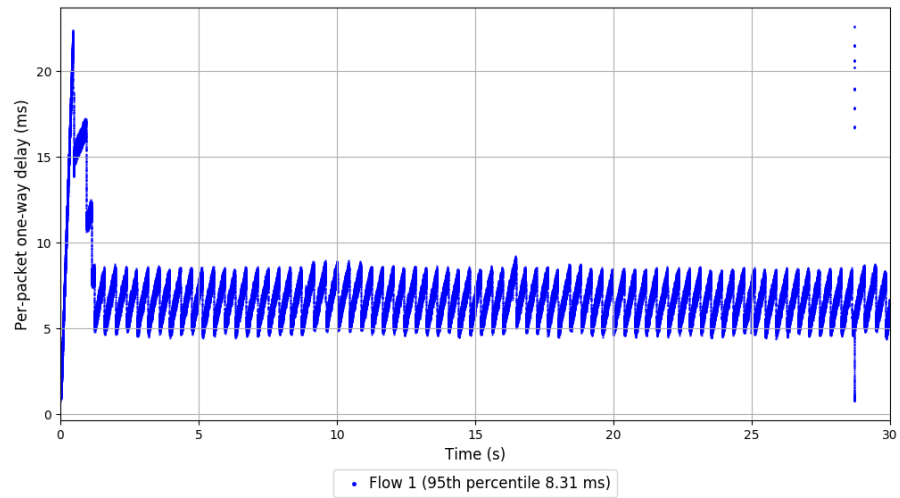
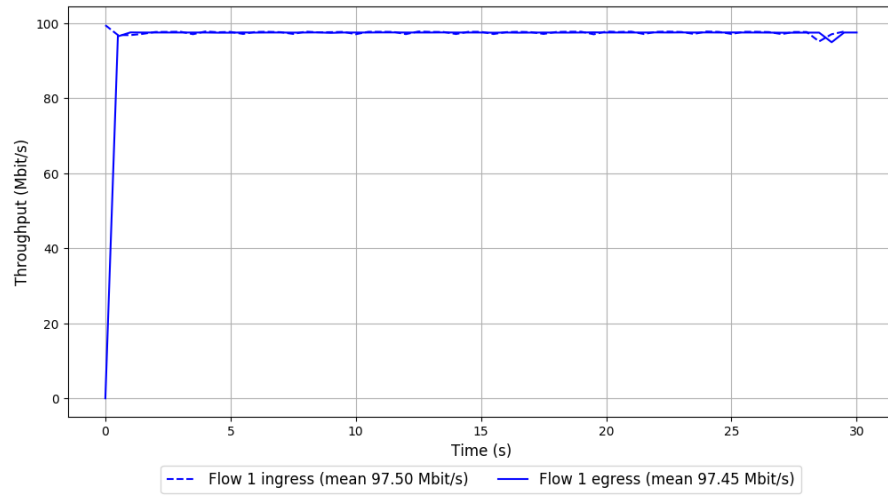
-- Flow 1:

Average throughput: 97.45 Mbit/s

95th percentile per-packet one-way delay: 8.309 ms

Loss rate: 0.05%

#### Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-12-20 06:07:02

End at: 2018-12-20 06:07:32

Local clock offset: -2.578 ms

Remote clock offset: 0.636 ms

# Below is generated by plot.py at 2018-12-20 06:27:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 8.690 ms

Loss rate: 0.05%

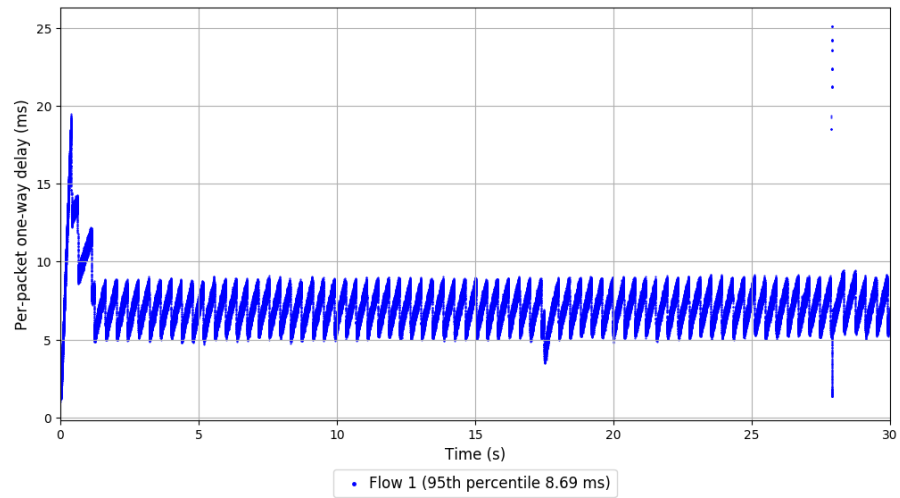
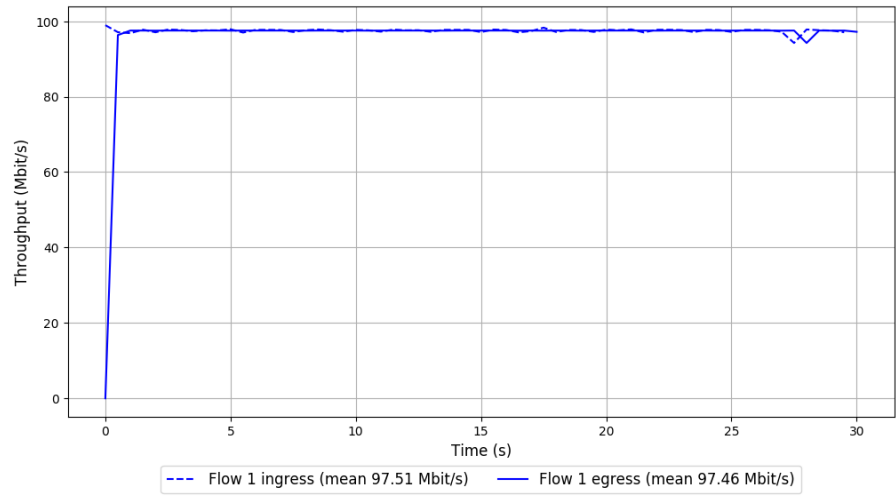
-- Flow 1:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 8.690 ms

Loss rate: 0.05%

### Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-12-20 04:50:35

End at: 2018-12-20 04:51:05

Local clock offset: -1.061 ms

Remote clock offset: 0.276 ms

# Below is generated by plot.py at 2018-12-20 06:28:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.593 ms

Loss rate: 0.02%

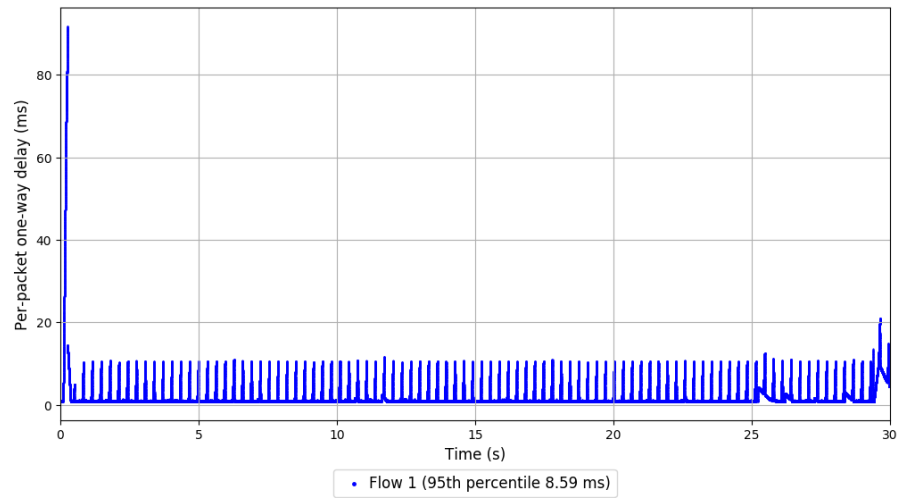
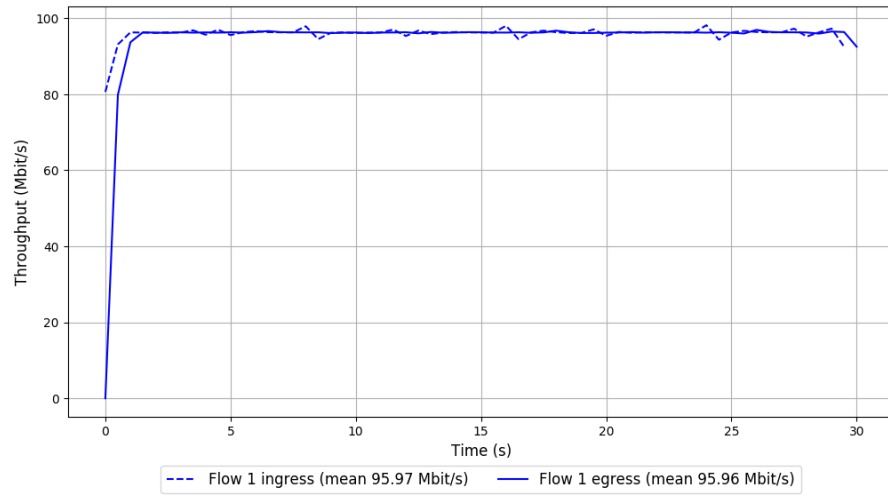
-- Flow 1:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.593 ms

Loss rate: 0.02%

## Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2018-12-20 05:11:57

End at: 2018-12-20 05:12:27

Local clock offset: -4.02 ms

Remote clock offset: 0.443 ms

# Below is generated by plot.py at 2018-12-20 06:28:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.667 ms

Loss rate: 0.01%

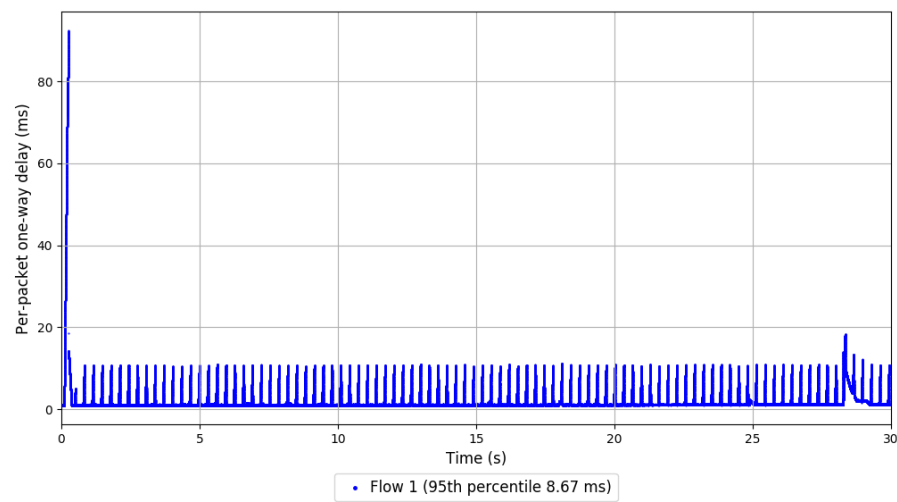
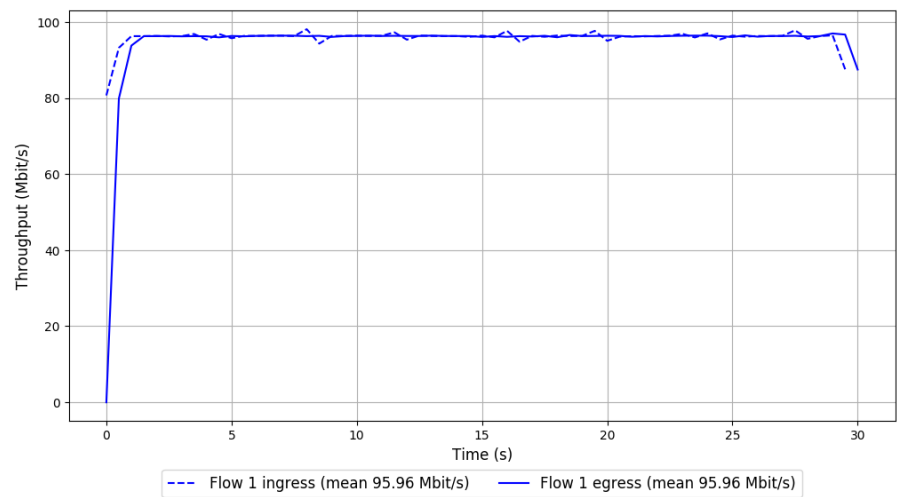
-- Flow 1:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.667 ms

Loss rate: 0.01%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-12-20 05:33:22

End at: 2018-12-20 05:33:52

Local clock offset: -7.425 ms

Remote clock offset: 0.461 ms

# Below is generated by plot.py at 2018-12-20 06:28:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 9.525 ms

Loss rate: 0.03%

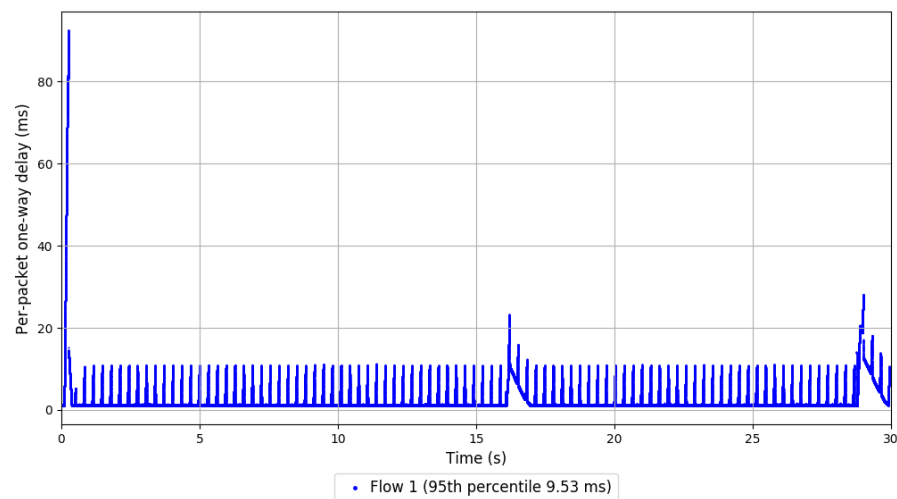
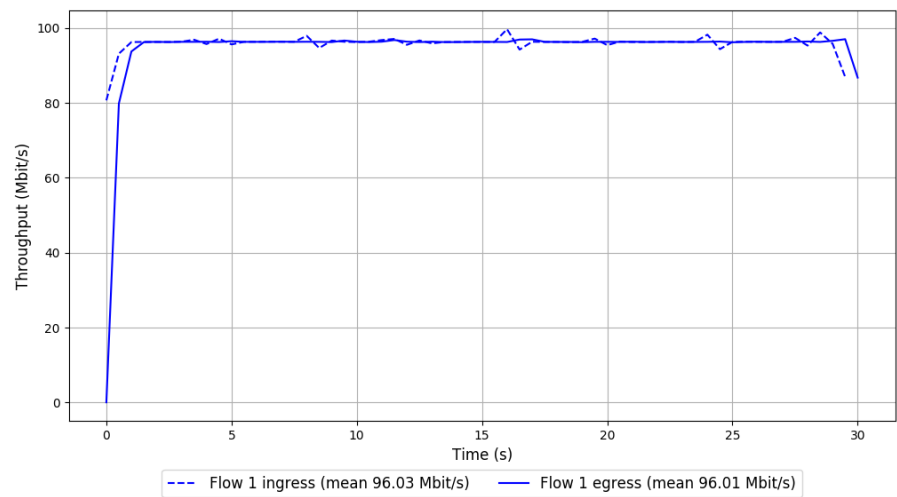
-- Flow 1:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 9.525 ms

Loss rate: 0.03%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-12-20 05:54:44

End at: 2018-12-20 05:55:14

Local clock offset: -2.384 ms

Remote clock offset: 0.716 ms

# Below is generated by plot.py at 2018-12-20 06:28:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 8.681 ms

Loss rate: 0.01%

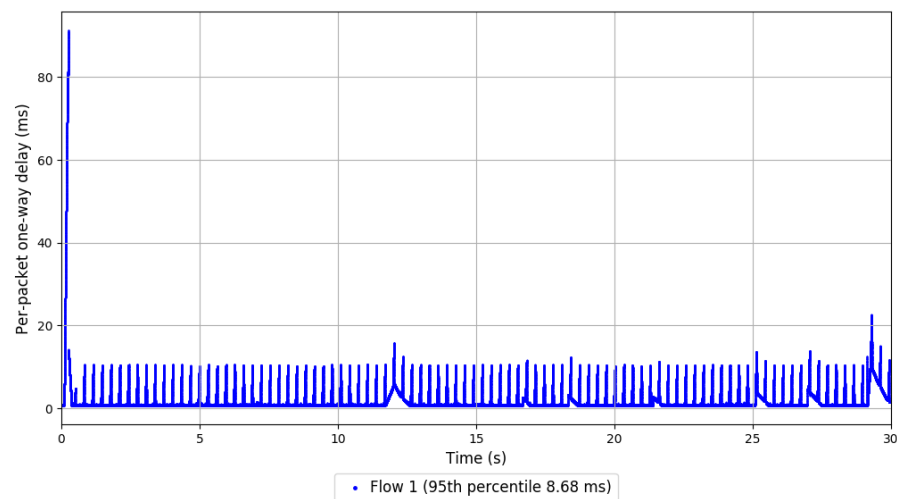
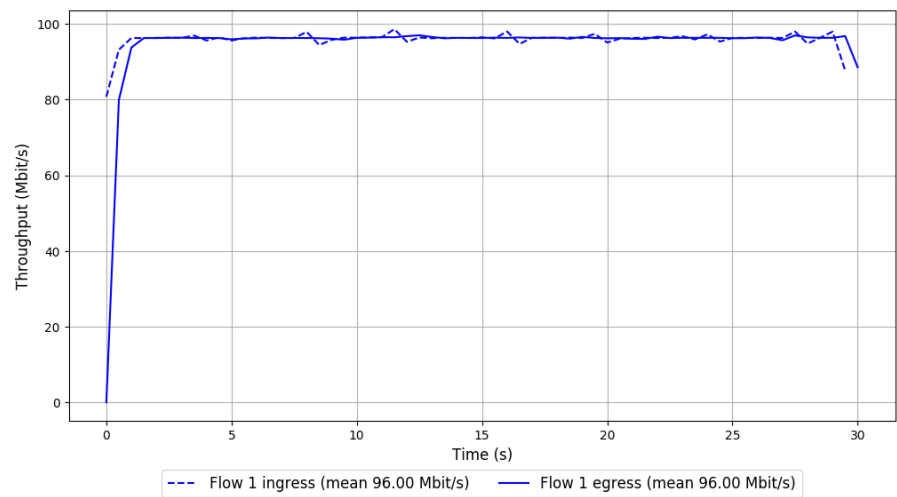
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 8.681 ms

Loss rate: 0.01%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-12-20 06:15:59

End at: 2018-12-20 06:16:29

Local clock offset: -5.182 ms

Remote clock offset: 0.628 ms

# Below is generated by plot.py at 2018-12-20 06:29:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 8.574 ms

Loss rate: 0.01%

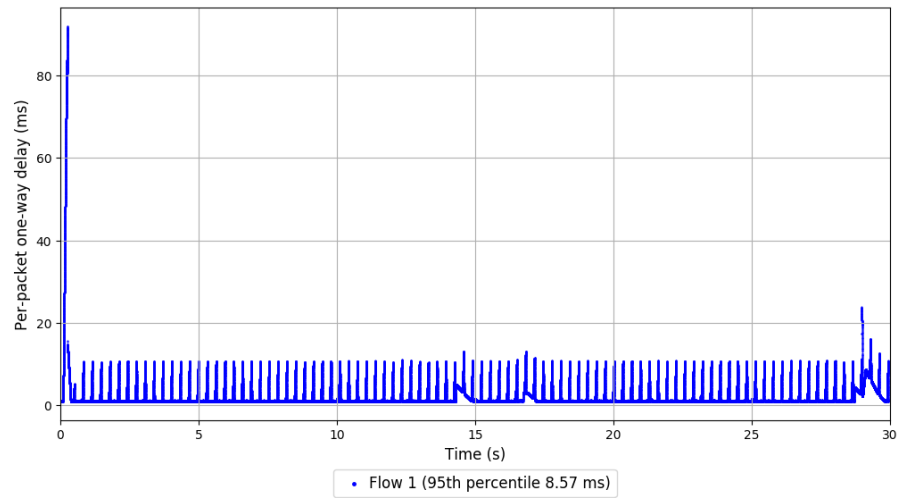
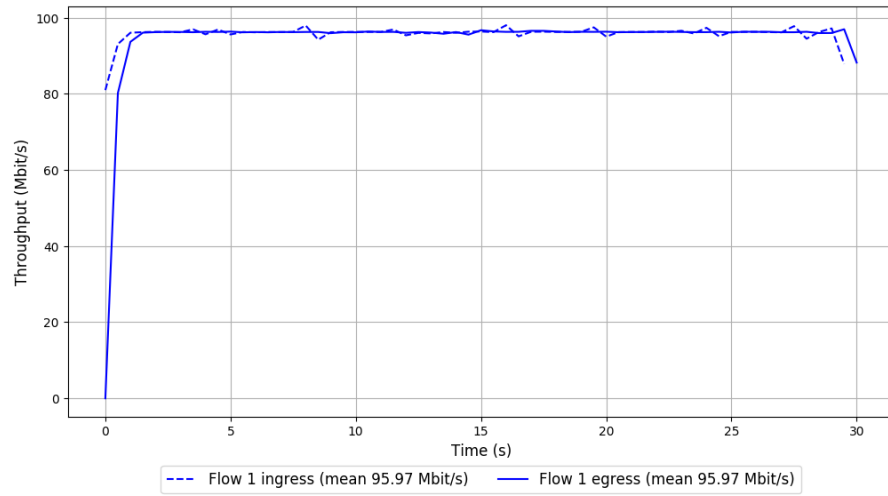
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 8.574 ms

Loss rate: 0.01%

### Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2018-12-20 04:56:08

End at: 2018-12-20 04:56:39

Local clock offset: -0.901 ms

Remote clock offset: 0.291 ms

# Below is generated by plot.py at 2018-12-20 06:29:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.36 Mbit/s

95th percentile per-packet one-way delay: 4.968 ms

Loss rate: 0.02%

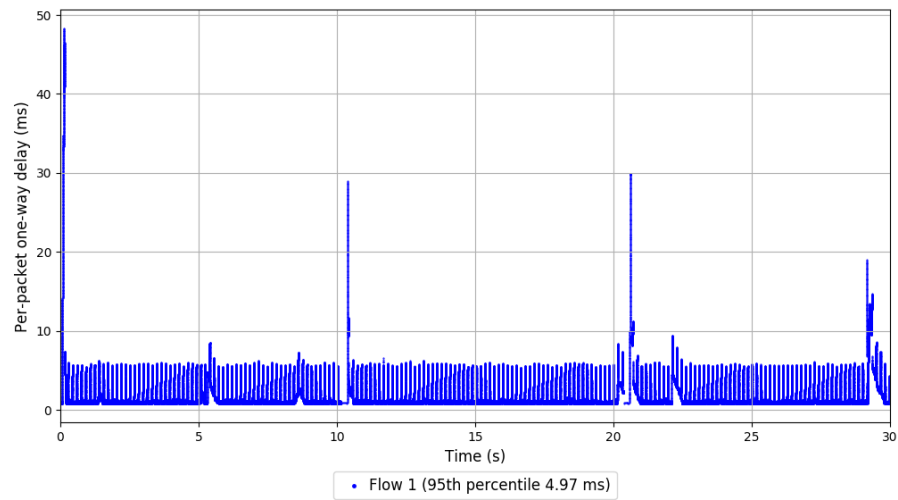
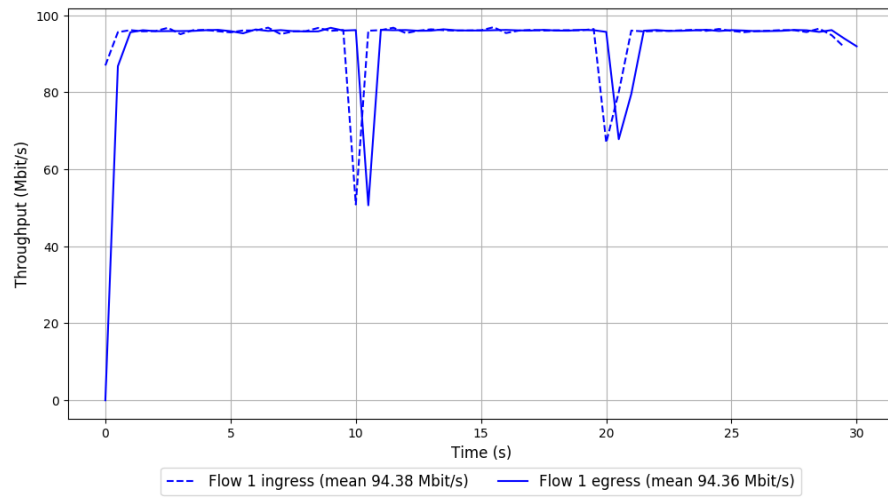
-- Flow 1:

Average throughput: 94.36 Mbit/s

95th percentile per-packet one-way delay: 4.968 ms

Loss rate: 0.02%

## Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-20 05:17:30

End at: 2018-12-20 05:18:00

Local clock offset: -5.52 ms

Remote clock offset: 0.536 ms

# Below is generated by plot.py at 2018-12-20 06:29:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.30 Mbit/s

95th percentile per-packet one-way delay: 5.021 ms

Loss rate: 0.01%

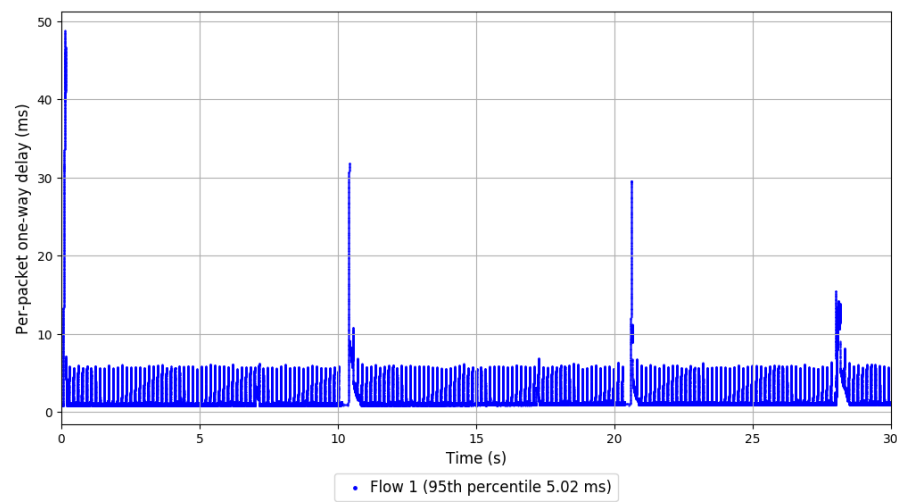
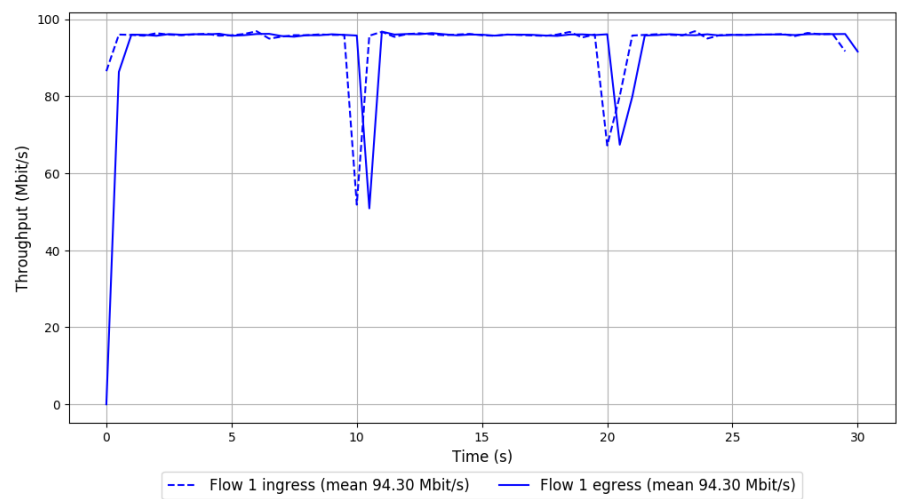
-- Flow 1:

Average throughput: 94.30 Mbit/s

95th percentile per-packet one-way delay: 5.021 ms

Loss rate: 0.01%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-12-20 05:38:55

End at: 2018-12-20 05:39:25

Local clock offset: -5.742 ms

Remote clock offset: 0.572 ms

# Below is generated by plot.py at 2018-12-20 06:29:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 4.766 ms

Loss rate: 0.01%

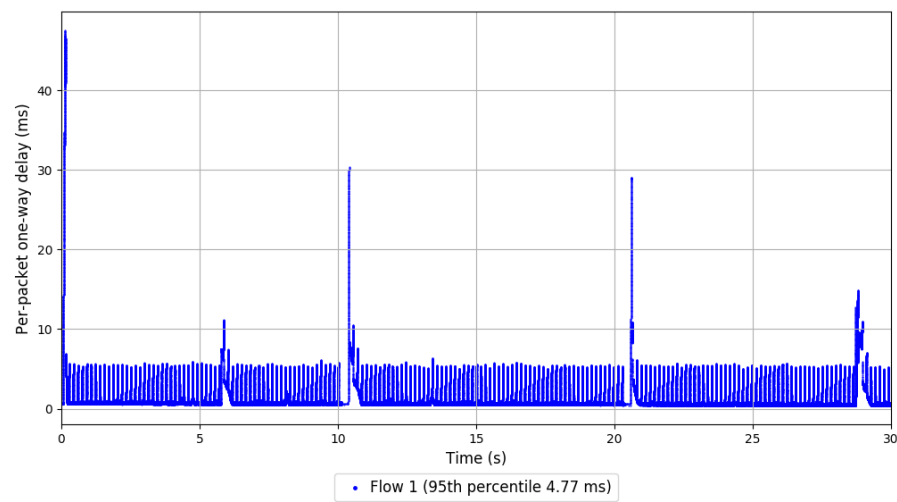
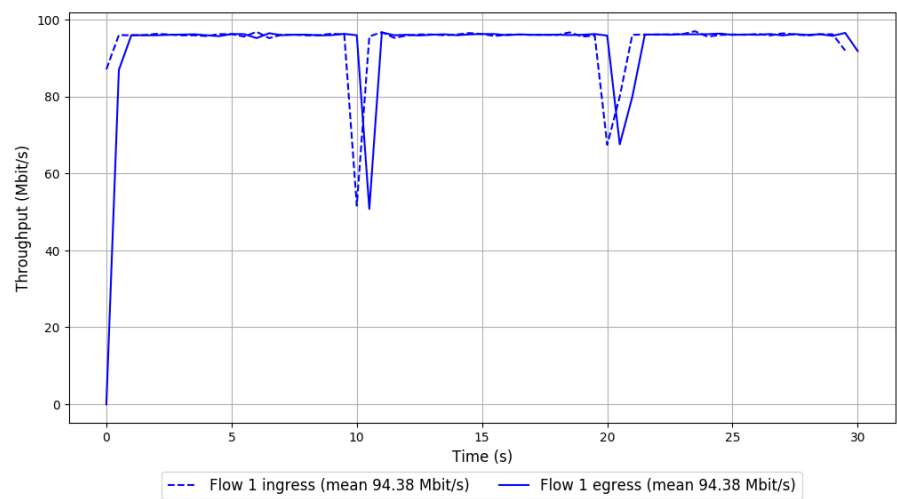
-- Flow 1:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 4.766 ms

Loss rate: 0.01%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-12-20 06:00:16

End at: 2018-12-20 06:00:46

Local clock offset: -2.0 ms

Remote clock offset: 0.717 ms

# Below is generated by plot.py at 2018-12-20 06:29:21

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.28 Mbit/s

95th percentile per-packet one-way delay: 4.945 ms

Loss rate: 0.02%

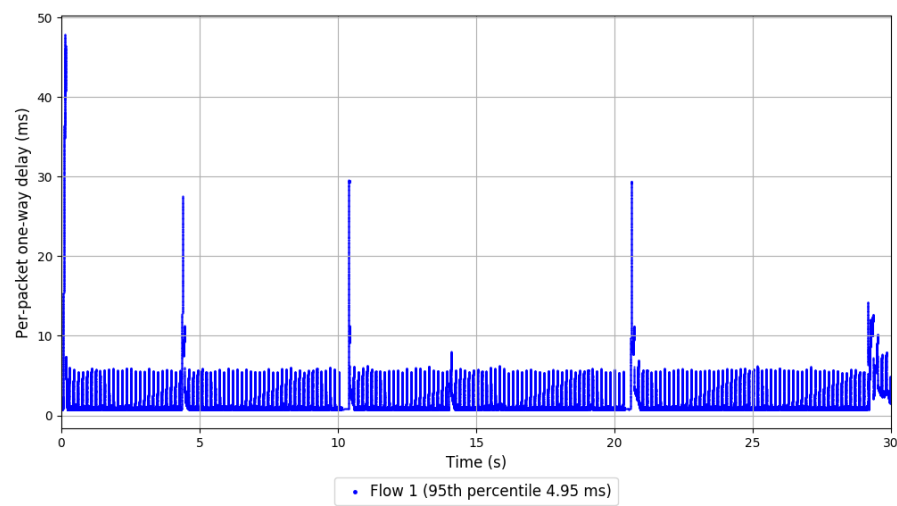
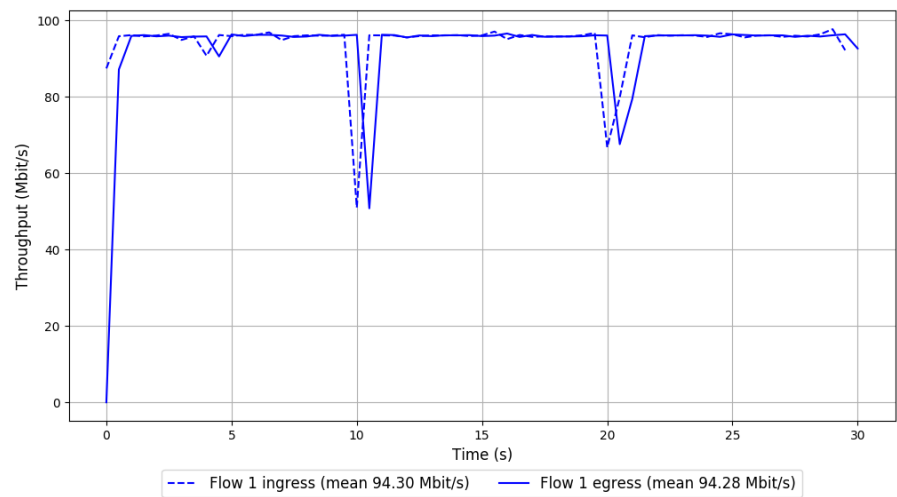
-- Flow 1:

Average throughput: 94.28 Mbit/s

95th percentile per-packet one-way delay: 4.945 ms

Loss rate: 0.02%

Run 4: Report of FillP-Sheep — Data Link





Run 5: Statistics of FillP-Sheep

Start at: 2018-12-20 06:21:32

End at: 2018-12-20 06:22:02

Local clock offset: -5.994 ms

Remote clock offset: 0.519 ms

# Below is generated by plot.py at 2018-12-20 06:29:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.41 Mbit/s

95th percentile per-packet one-way delay: 5.107 ms

Loss rate: 0.01%

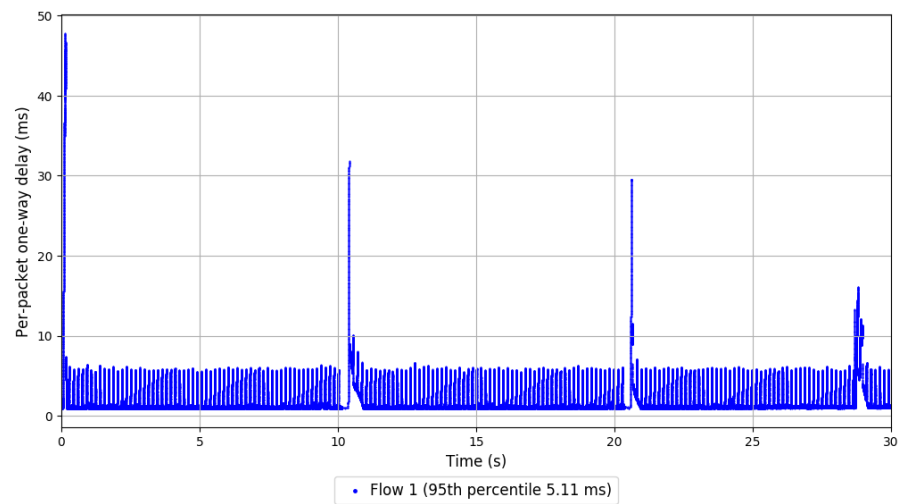
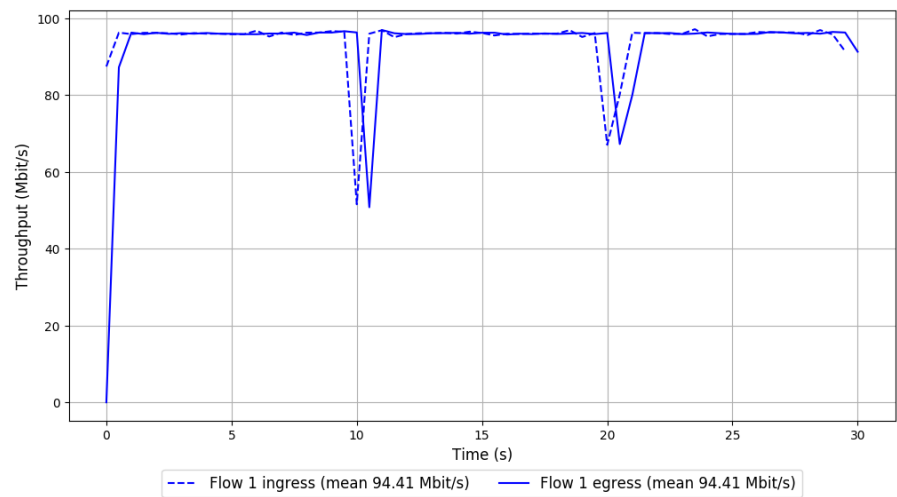
-- Flow 1:

Average throughput: 94.41 Mbit/s

95th percentile per-packet one-way delay: 5.107 ms

Loss rate: 0.01%

Run 5: Report of FillP-Sheep — Data Link

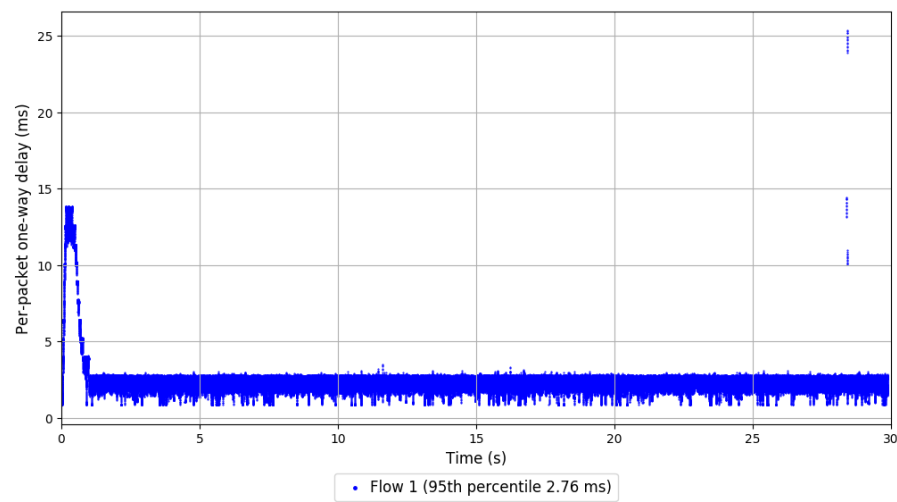
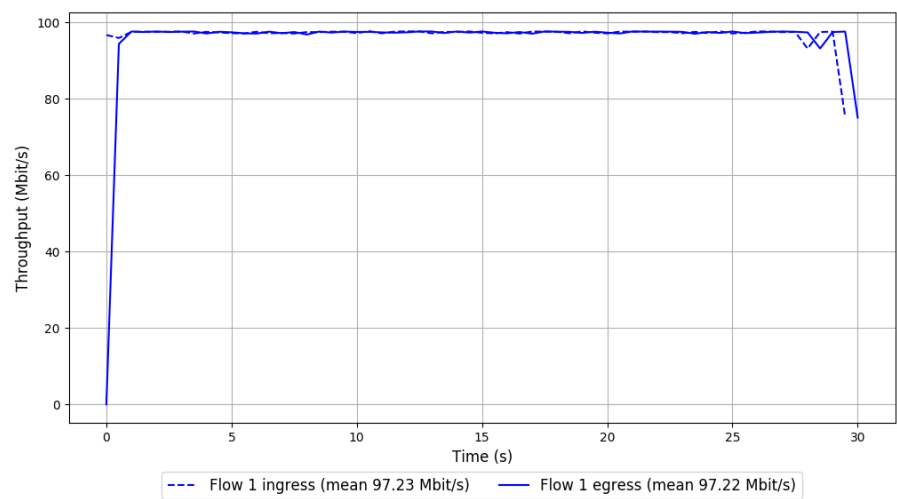


```
Run 1: Statistics of Indigo

Start at: 2018-12-20 04:43:51
End at: 2018-12-20 04:44:21
Local clock offset: -1.251 ms
Remote clock offset: 0.296 ms

# Below is generated by plot.py at 2018-12-20 06:29:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 2.761 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 2.761 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-20 05:05:11

End at: 2018-12-20 05:05:41

Local clock offset: -0.638 ms

Remote clock offset: 0.424 ms

# Below is generated by plot.py at 2018-12-20 06:29:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.21 Mbit/s

95th percentile per-packet one-way delay: 3.286 ms

Loss rate: 0.01%

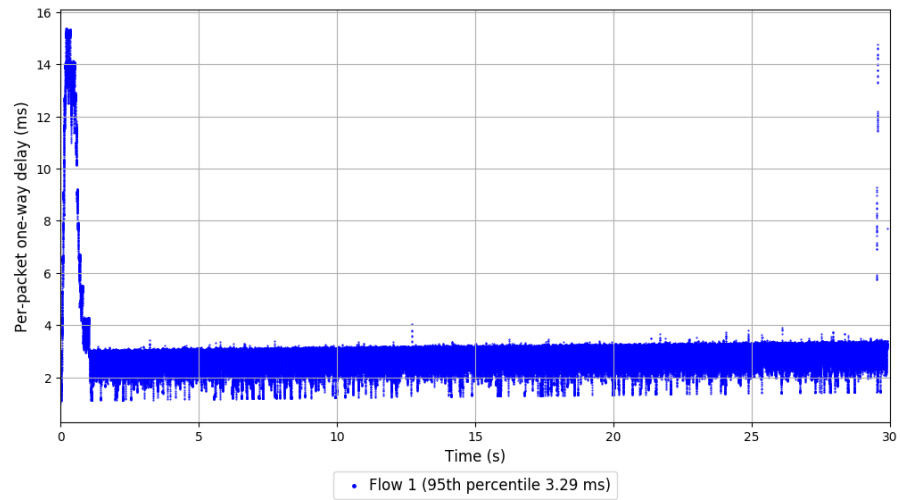
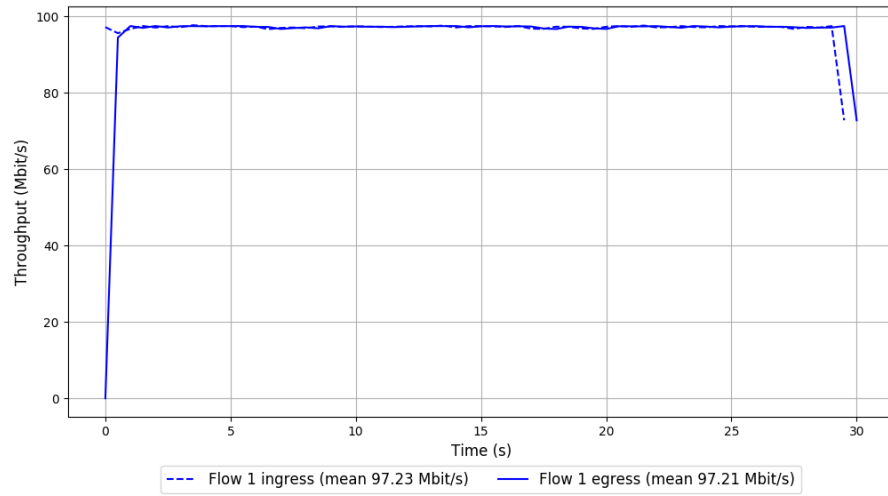
-- Flow 1:

Average throughput: 97.21 Mbit/s

95th percentile per-packet one-way delay: 3.286 ms

Loss rate: 0.01%

## Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-12-20 05:26:32

End at: 2018-12-20 05:27:02

Local clock offset: -6.839 ms

Remote clock offset: 0.619 ms

# Below is generated by plot.py at 2018-12-20 06:30:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.11 Mbit/s

95th percentile per-packet one-way delay: 2.863 ms

Loss rate: 0.01%

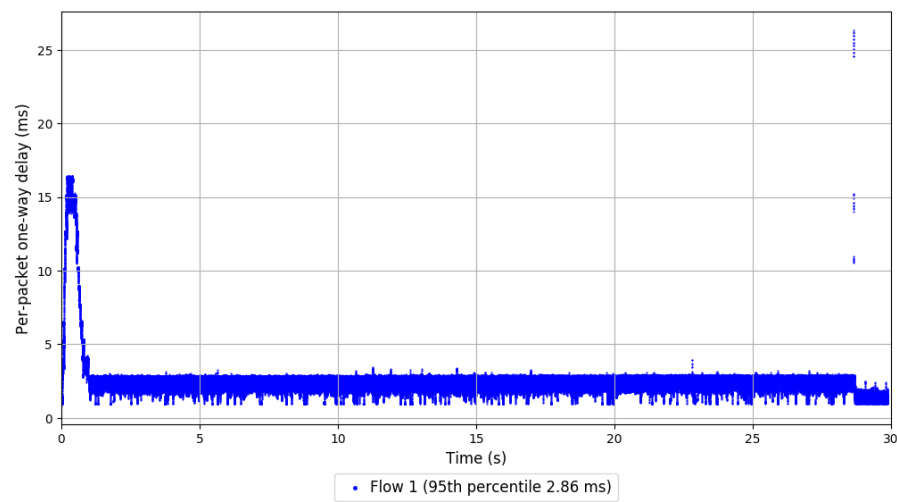
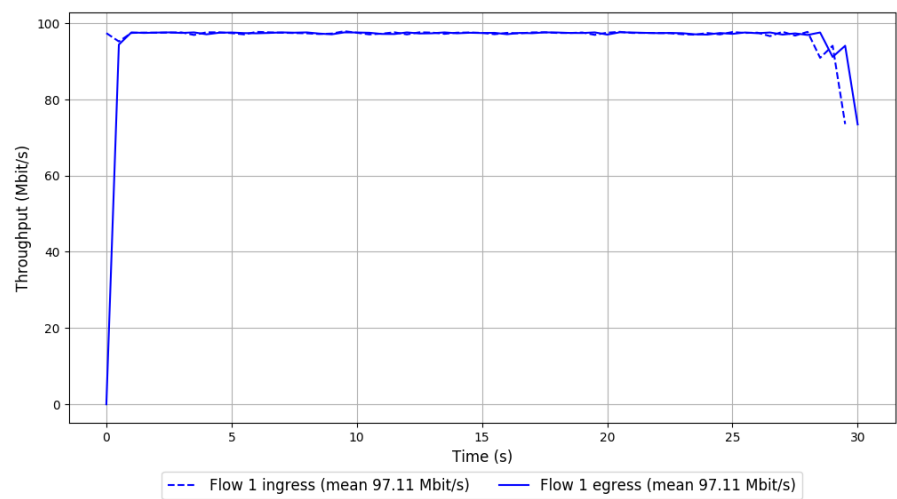
-- Flow 1:

Average throughput: 97.11 Mbit/s

95th percentile per-packet one-way delay: 2.863 ms

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2018-12-20 05:47:57

End at: 2018-12-20 05:48:27

Local clock offset: -3.278 ms

Remote clock offset: 0.644 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 2.671 ms

Loss rate: 0.02%

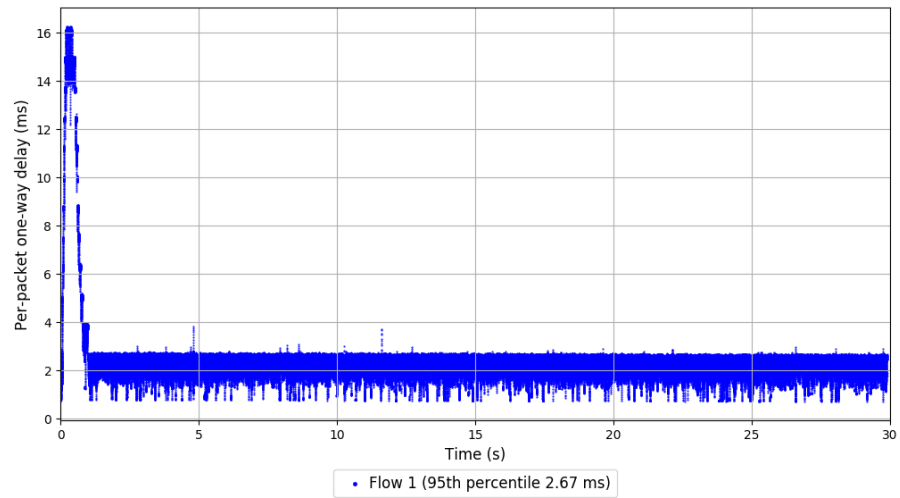
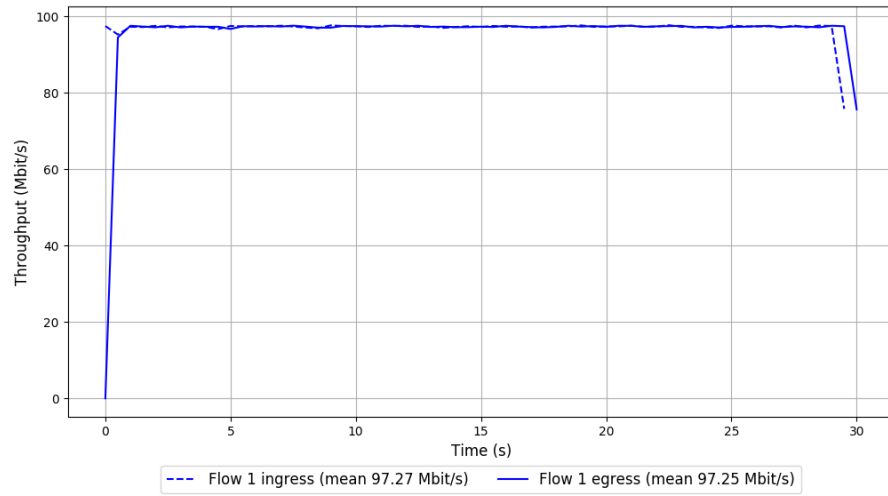
-- Flow 1:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 2.671 ms

Loss rate: 0.02%

#### Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-12-20 06:09:18

End at: 2018-12-20 06:09:48

Local clock offset: -3.495 ms

Remote clock offset: 0.722 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.12 Mbit/s

95th percentile per-packet one-way delay: 3.035 ms

Loss rate: 0.01%

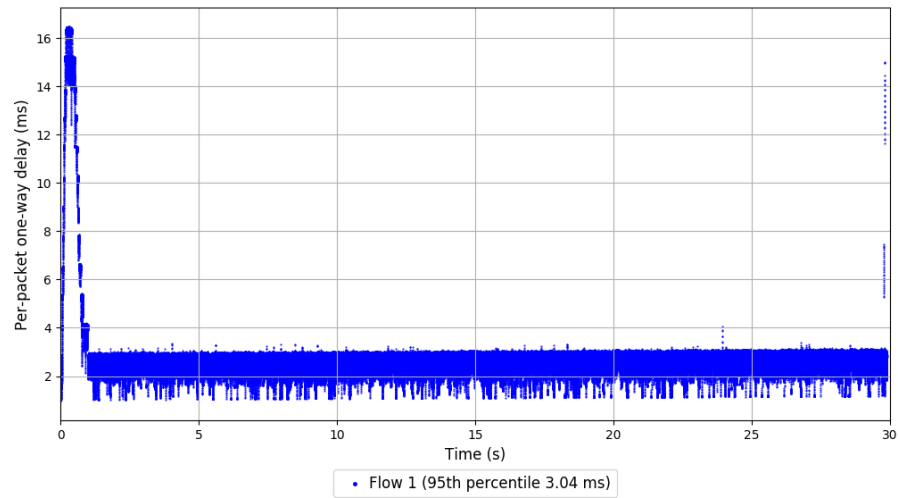
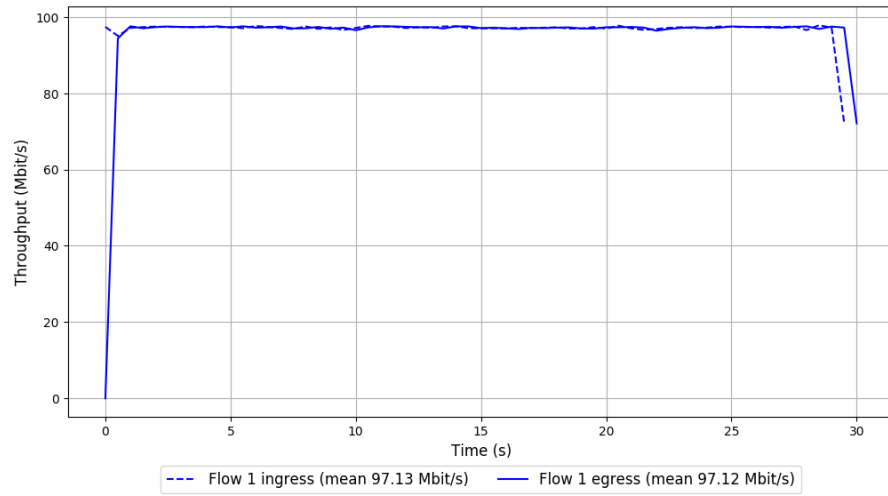
-- Flow 1:

Average throughput: 97.12 Mbit/s

95th percentile per-packet one-way delay: 3.035 ms

Loss rate: 0.01%

## Run 5: Report of Indigo — Data Link

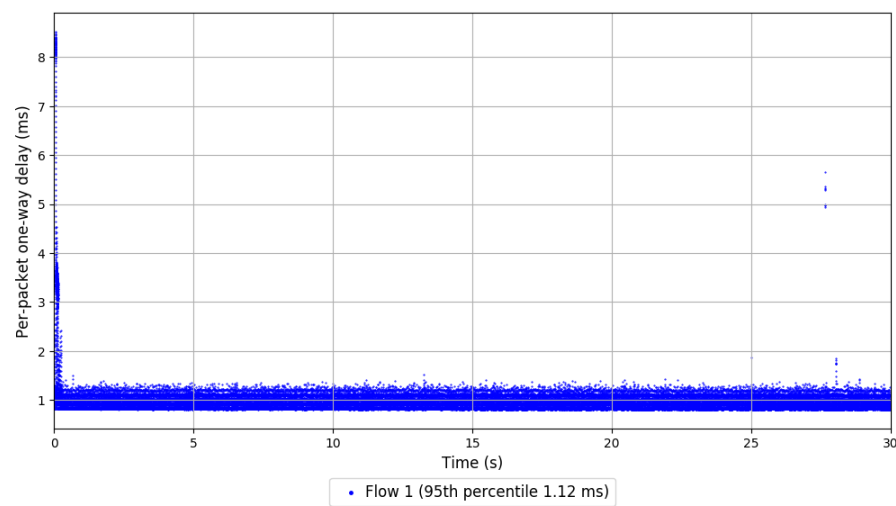
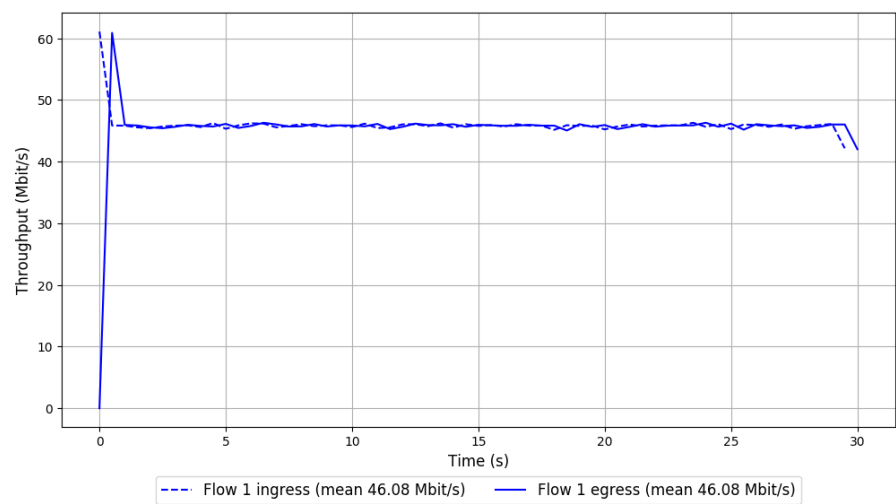


```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-20 04:46:06
End at: 2018-12-20 04:46:36
Local clock offset: -1.241 ms
Remote clock offset: 0.292 ms

# Below is generated by plot.py at 2018-12-20 06:30:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.08 Mbit/s
95th percentile per-packet one-way delay: 1.121 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 46.08 Mbit/s
95th percentile per-packet one-way delay: 1.121 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:07:31

End at: 2018-12-20 05:08:01

Local clock offset: -2.032 ms

Remote clock offset: 0.477 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 1.591 ms

Loss rate: 0.00%

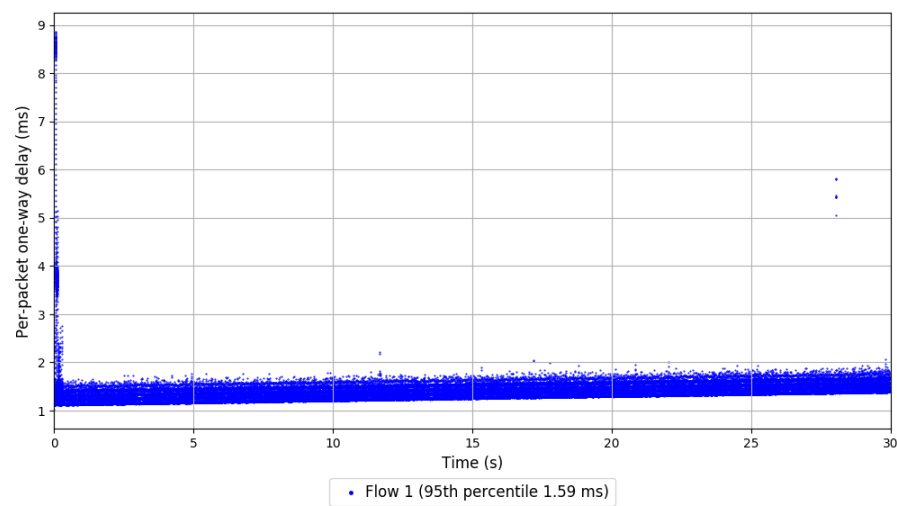
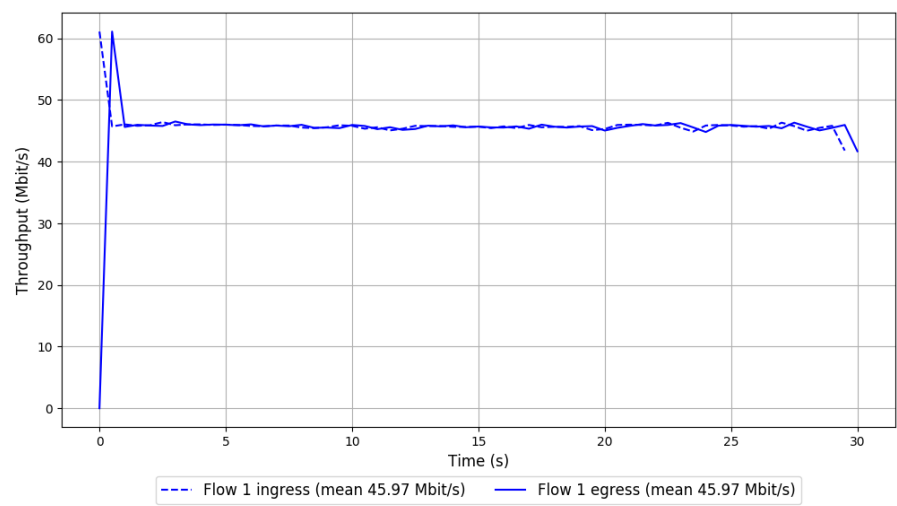
-- Flow 1:

Average throughput: 45.97 Mbit/s

95th percentile per-packet one-way delay: 1.591 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link





Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:28:52

End at: 2018-12-20 05:29:22

Local clock offset: -7.125 ms

Remote clock offset: 0.555 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 45.99 Mbit/s

95th percentile per-packet one-way delay: 1.259 ms

Loss rate: 0.01%

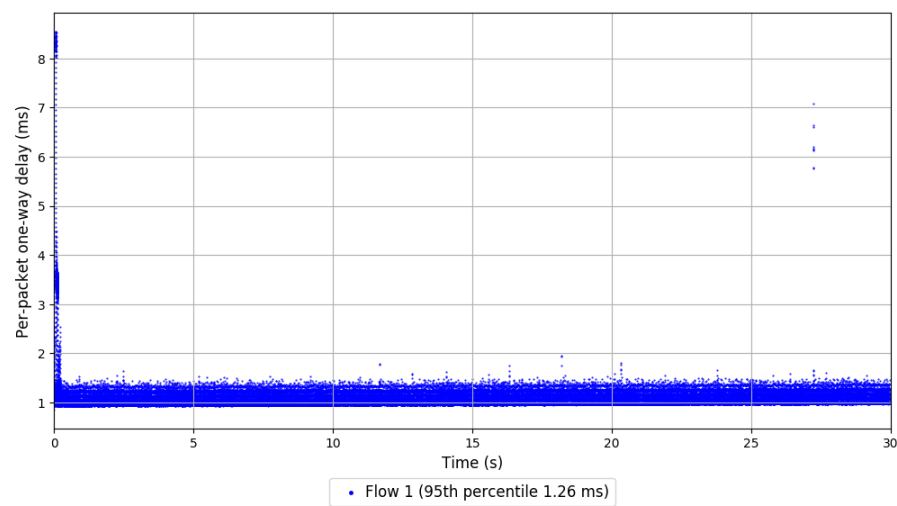
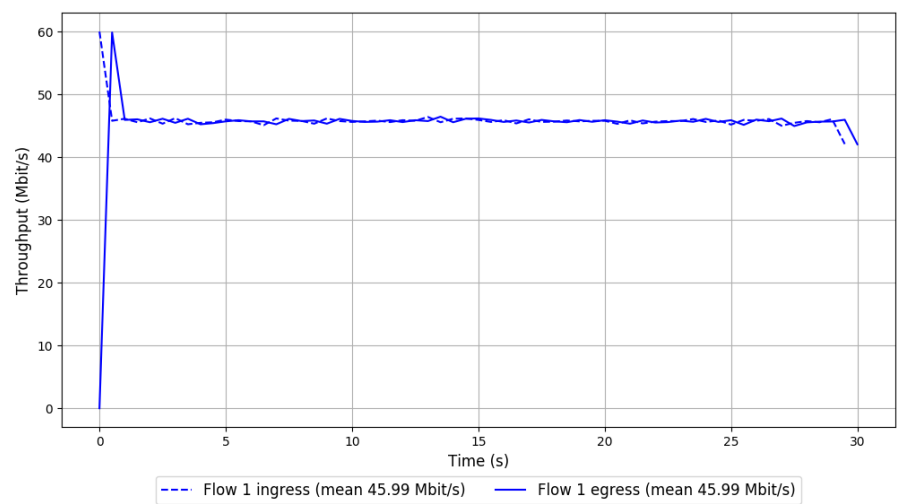
-- Flow 1:

Average throughput: 45.99 Mbit/s

95th percentile per-packet one-way delay: 1.259 ms

Loss rate: 0.01%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-20 05:50:17

End at: 2018-12-20 05:50:47

Local clock offset: -2.854 ms

Remote clock offset: 0.65 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 45.64 Mbit/s

95th percentile per-packet one-way delay: 1.183 ms

Loss rate: 0.01%

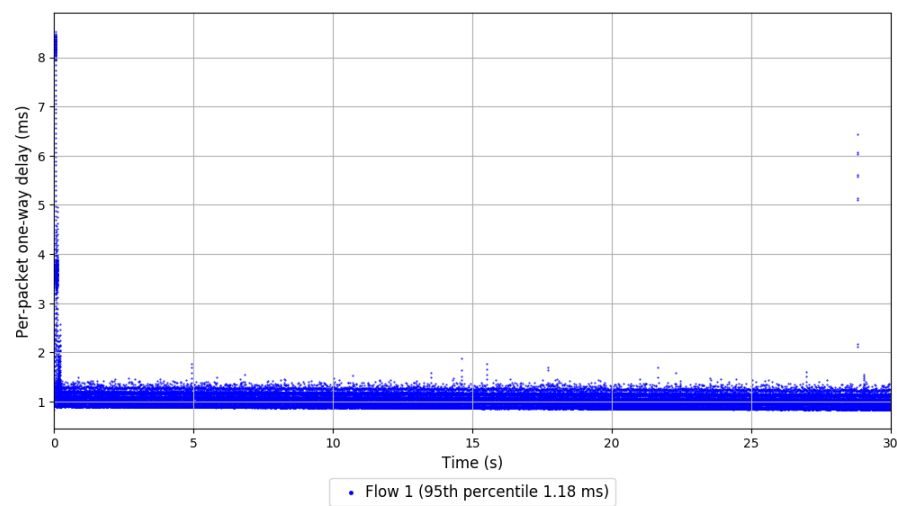
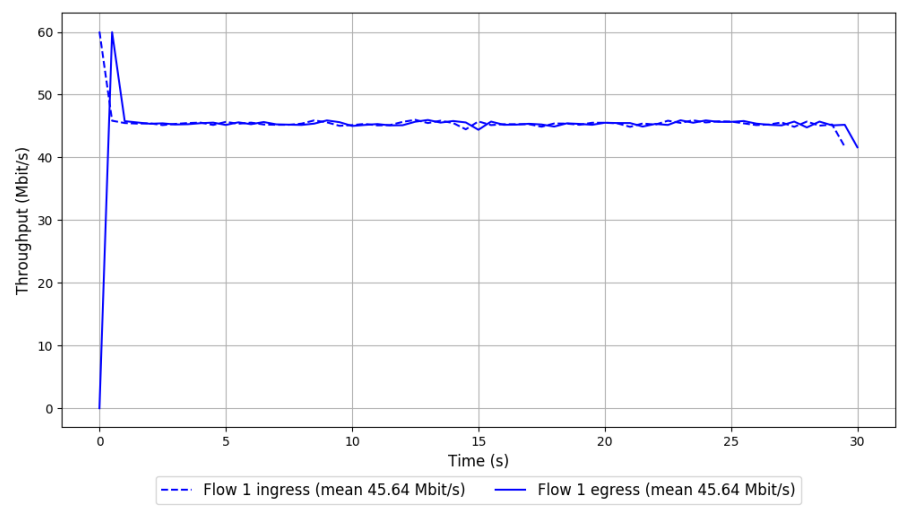
-- Flow 1:

Average throughput: 45.64 Mbit/s

95th percentile per-packet one-way delay: 1.183 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-20 06:11:33

End at: 2018-12-20 06:12:03

Local clock offset: -4.189 ms

Remote clock offset: 0.688 ms

# Below is generated by plot.py at 2018-12-20 06:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 46.18 Mbit/s

95th percentile per-packet one-way delay: 1.413 ms

Loss rate: 0.01%

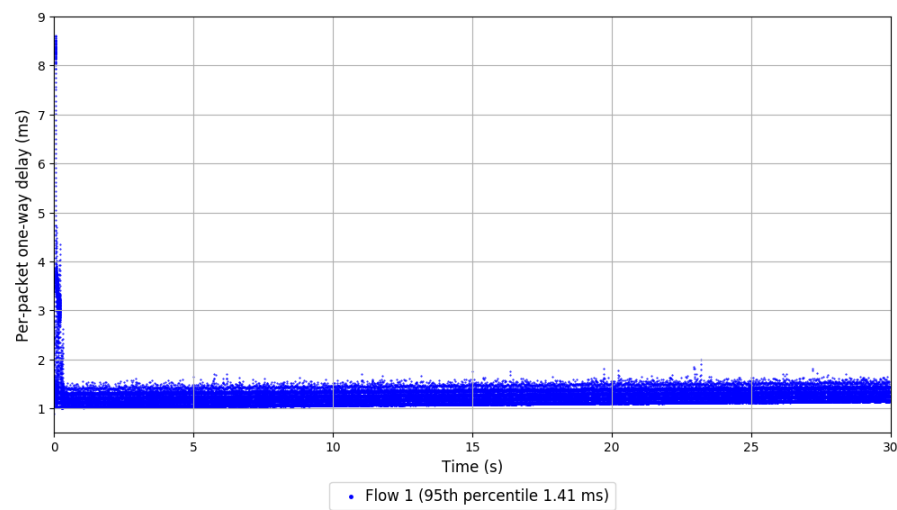
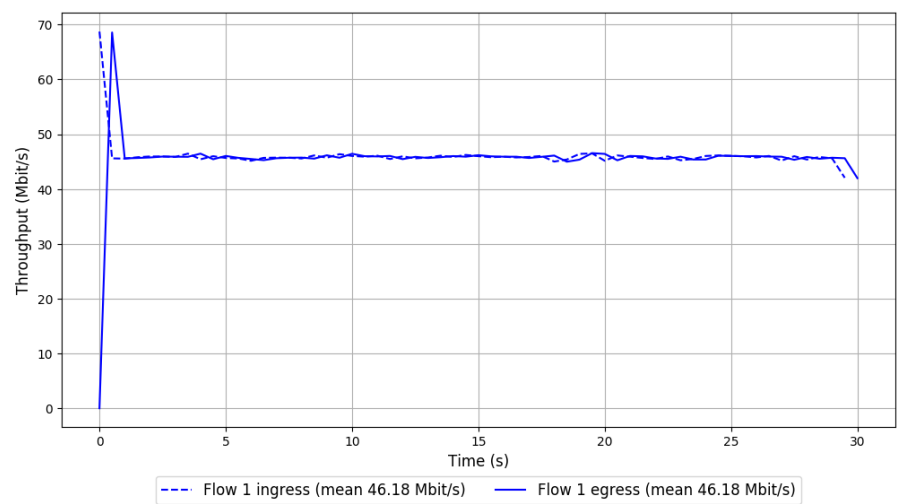
-- Flow 1:

Average throughput: 46.18 Mbit/s

95th percentile per-packet one-way delay: 1.413 ms

Loss rate: 0.01%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-20 04:42:43

End at: 2018-12-20 04:43:13

Local clock offset: -1.339 ms

Remote clock offset: 0.191 ms

# Below is generated by plot.py at 2018-12-20 06:30:44

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.77 Mbit/s

95th percentile per-packet one-way delay: 854.062 ms

Loss rate: 3.98%

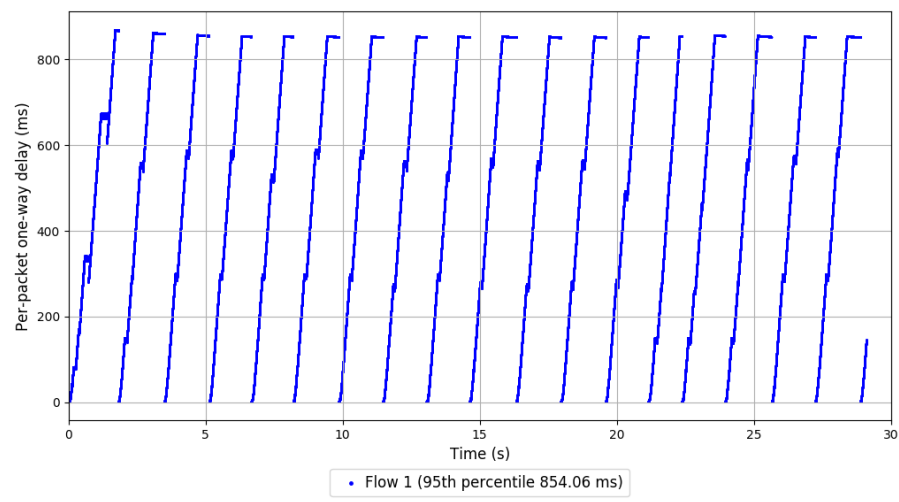
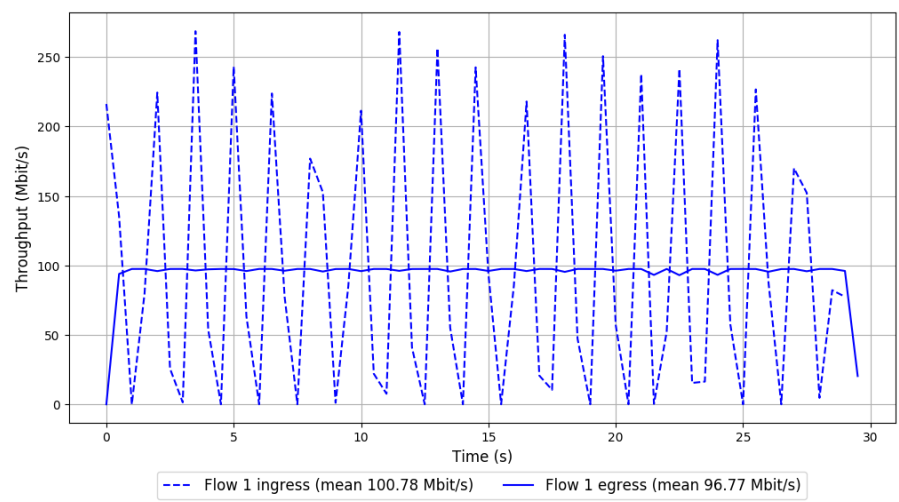
-- Flow 1:

Average throughput: 96.77 Mbit/s

95th percentile per-packet one-way delay: 854.062 ms

Loss rate: 3.98%

Run 1: Report of Indigo-MusesT — Data Link





Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-20 05:04:02

End at: 2018-12-20 05:04:32

Local clock offset: -0.657 ms

Remote clock offset: 0.467 ms

# Below is generated by plot.py at 2018-12-20 06:30:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 853.234 ms

Loss rate: 3.83%

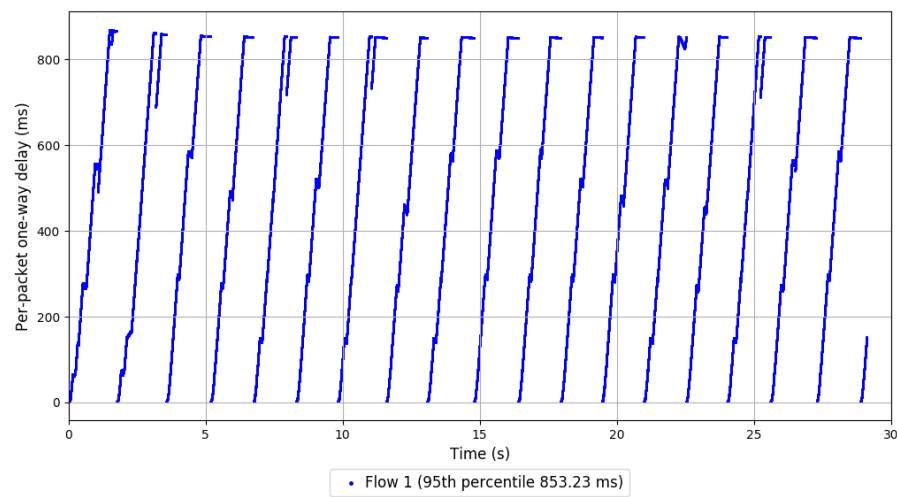
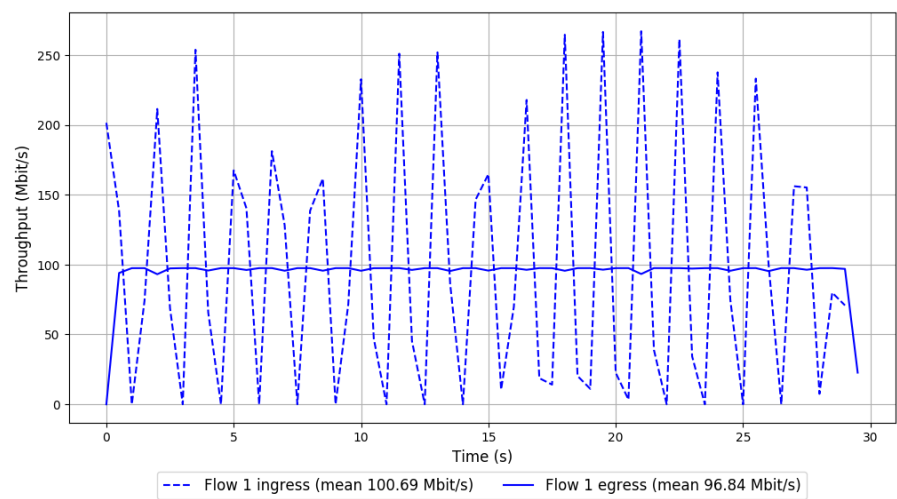
-- Flow 1:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 853.234 ms

Loss rate: 3.83%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-20 05:25:24

End at: 2018-12-20 05:25:54

Local clock offset: -6.779 ms

Remote clock offset: 0.595 ms

# Below is generated by plot.py at 2018-12-20 06:30:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 852.982 ms

Loss rate: 2.49%

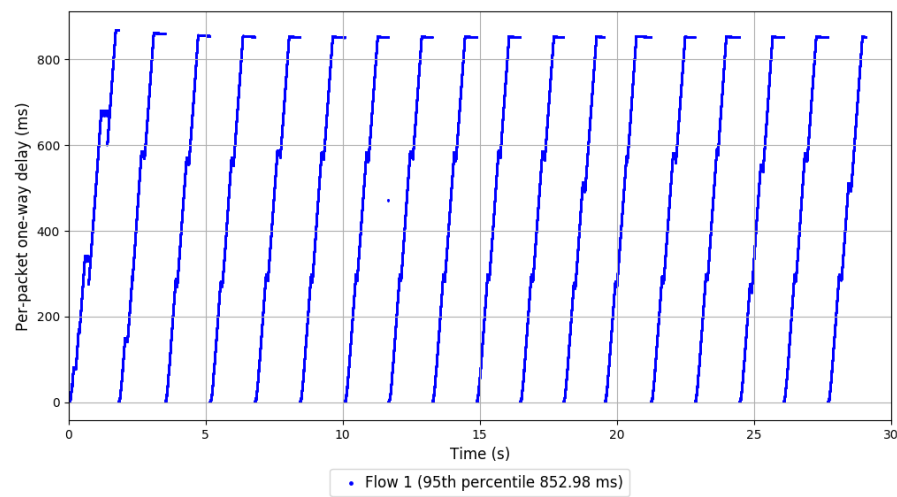
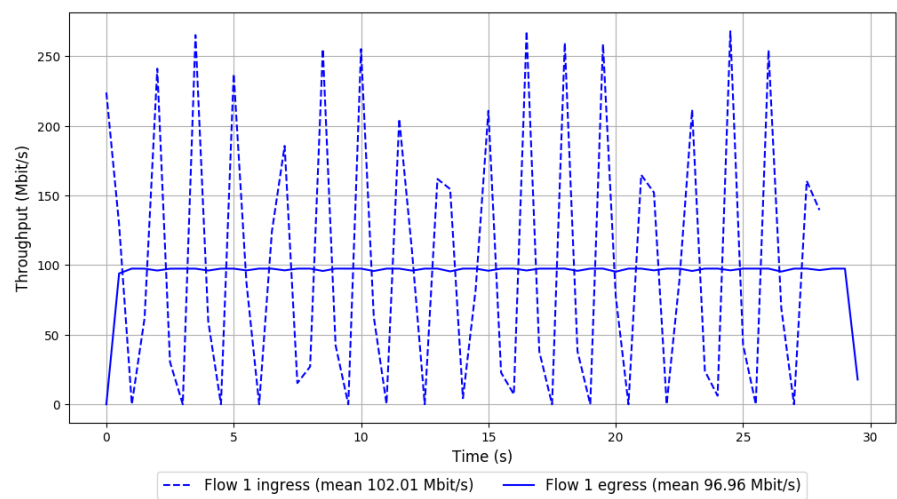
-- Flow 1:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 852.982 ms

Loss rate: 2.49%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-20 05:46:49

End at: 2018-12-20 05:47:19

Local clock offset: -3.415 ms

Remote clock offset: 0.617 ms

# Below is generated by plot.py at 2018-12-20 06:31:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 852.985 ms

Loss rate: 2.56%

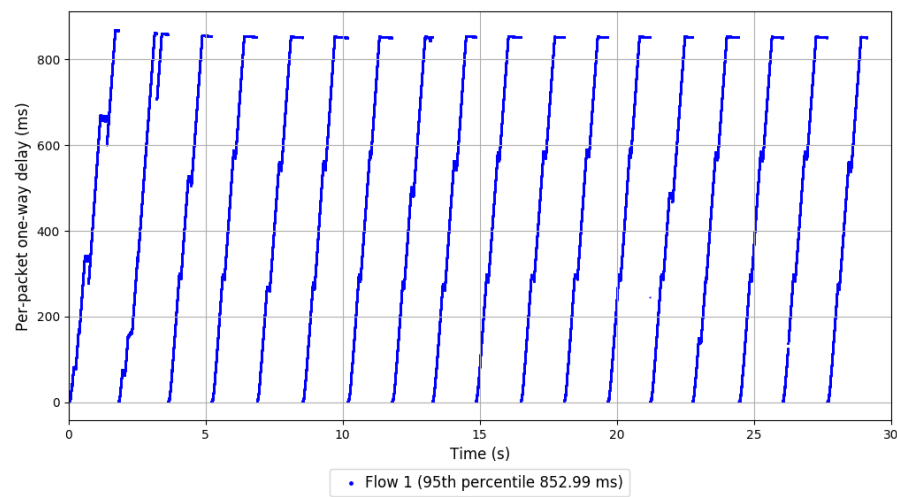
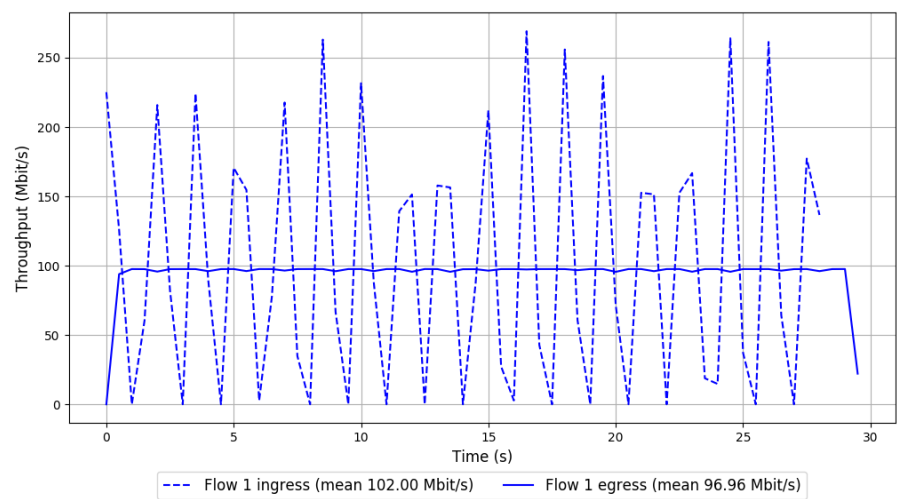
-- Flow 1:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 852.985 ms

Loss rate: 2.56%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-20 06:08:10

End at: 2018-12-20 06:08:40

Local clock offset: -3.069 ms

Remote clock offset: 0.602 ms

# Below is generated by plot.py at 2018-12-20 06:31:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 853.617 ms

Loss rate: 2.40%

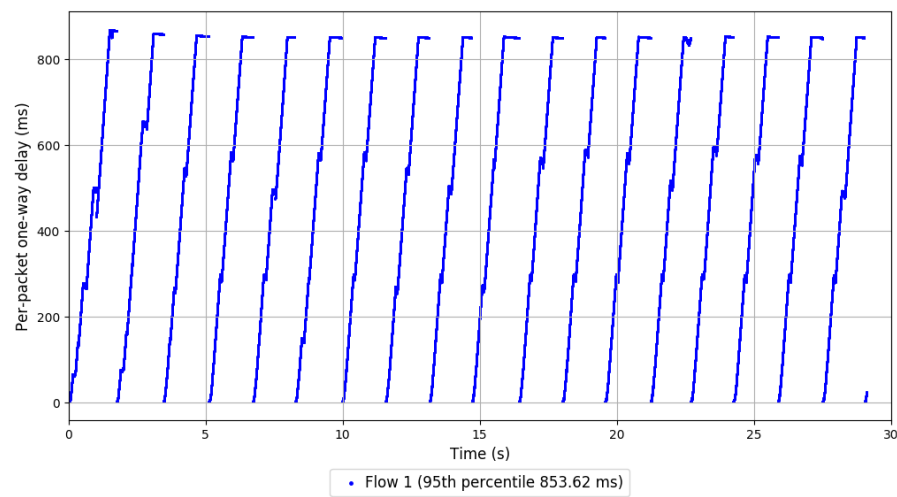
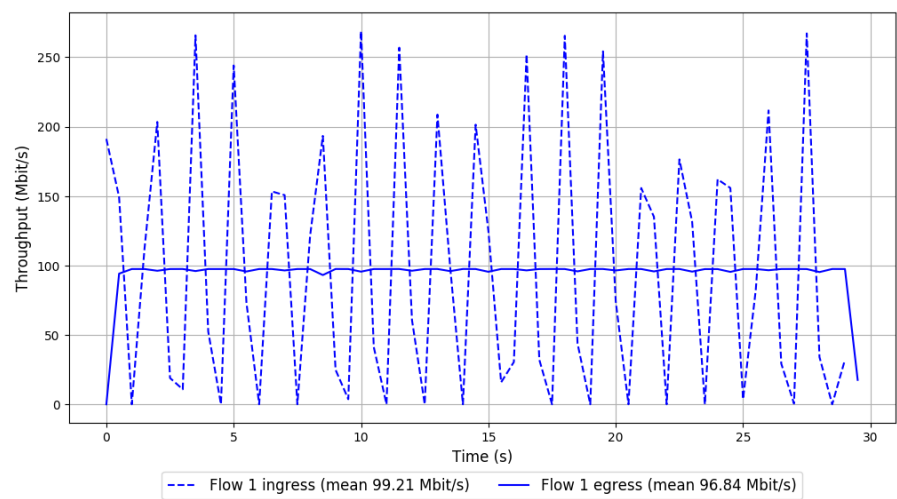
-- Flow 1:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 853.617 ms

Loss rate: 2.40%

Run 5: Report of Indigo-MusesT — Data Link



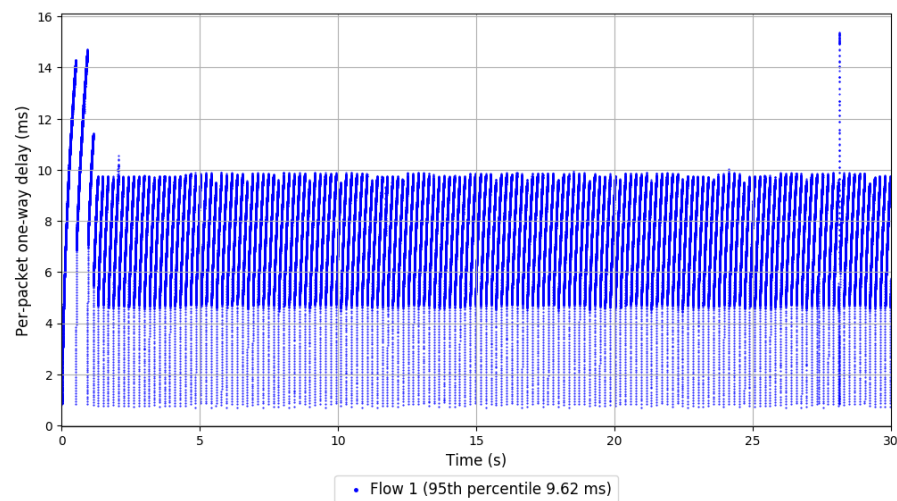
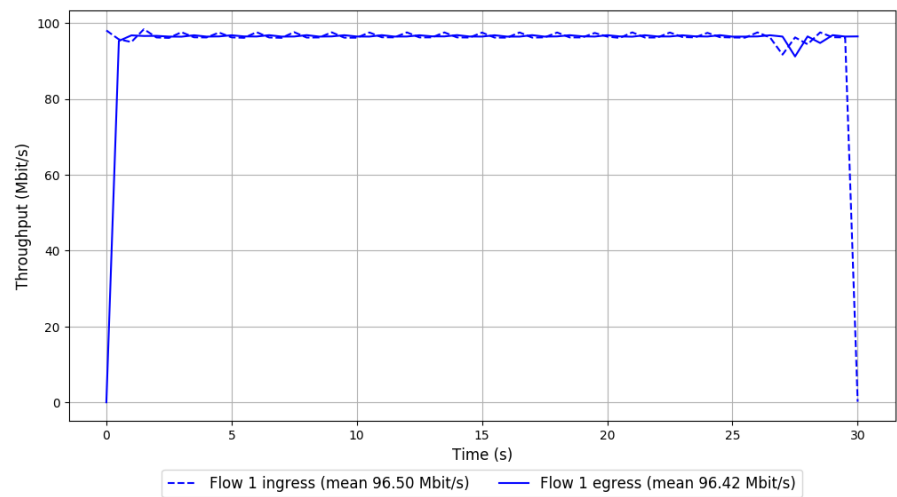


```
Run 1: Statistics of LEDBAT

Start at: 2018-12-20 04:47:12
End at: 2018-12-20 04:47:42
Local clock offset: -1.212 ms
Remote clock offset: 0.262 ms

# Below is generated by plot.py at 2018-12-20 06:31:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.42 Mbit/s
95th percentile per-packet one-way delay: 9.619 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.42 Mbit/s
95th percentile per-packet one-way delay: 9.619 ms
Loss rate: 0.09%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-12-20 05:08:37

End at: 2018-12-20 05:09:07

Local clock offset: -2.565 ms

Remote clock offset: 0.41 ms

# Below is generated by plot.py at 2018-12-20 06:31:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 10.118 ms

Loss rate: 0.08%

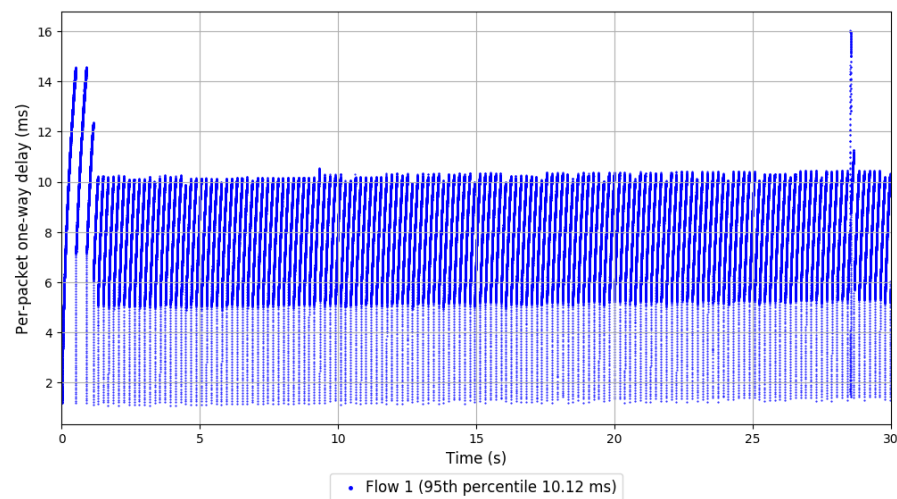
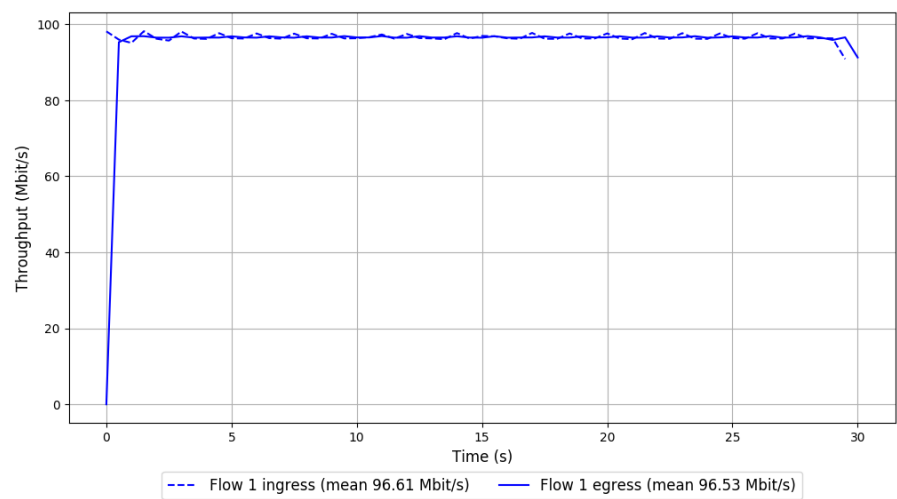
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 10.118 ms

Loss rate: 0.08%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-12-20 05:29:58

End at: 2018-12-20 05:30:29

Local clock offset: -7.171 ms

Remote clock offset: 0.537 ms

# Below is generated by plot.py at 2018-12-20 06:31:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.49 Mbit/s

95th percentile per-packet one-way delay: 9.825 ms

Loss rate: 0.09%

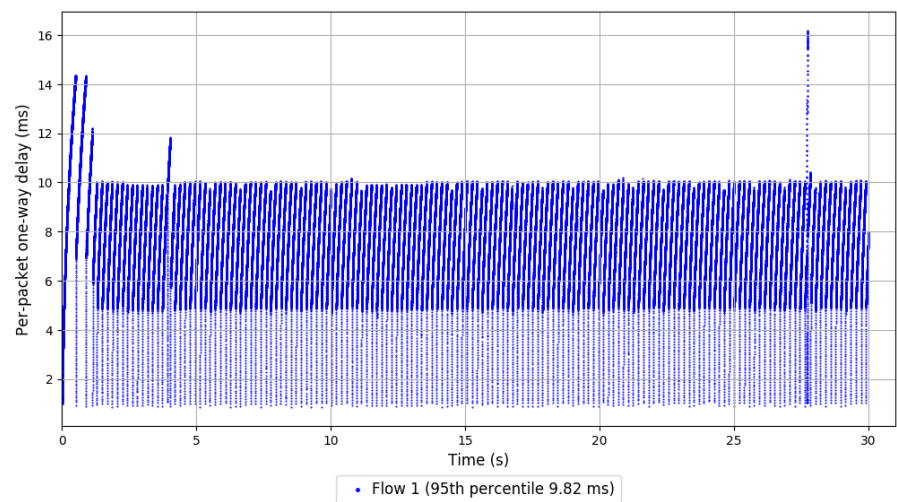
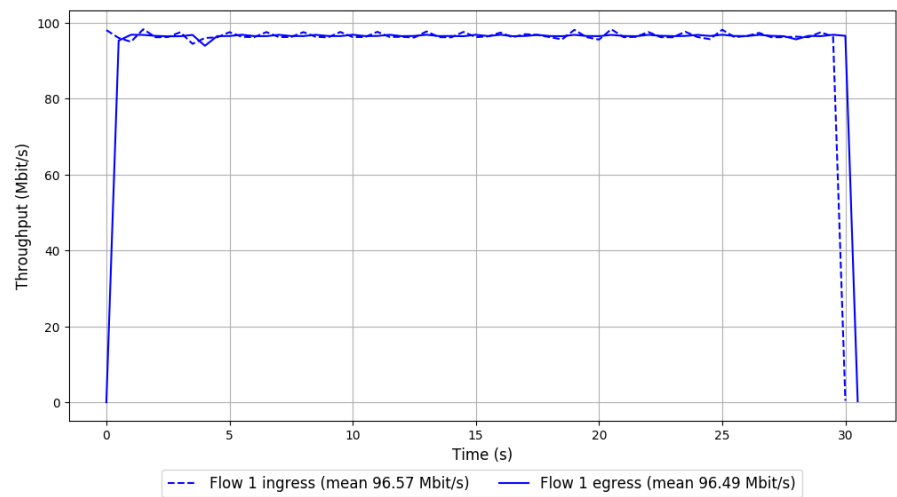
-- Flow 1:

Average throughput: 96.49 Mbit/s

95th percentile per-packet one-way delay: 9.825 ms

Loss rate: 0.09%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-12-20 05:51:24

End at: 2018-12-20 05:51:54

Local clock offset: -2.736 ms

Remote clock offset: 0.699 ms

# Below is generated by plot.py at 2018-12-20 06:31:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 9.556 ms

Loss rate: 0.08%

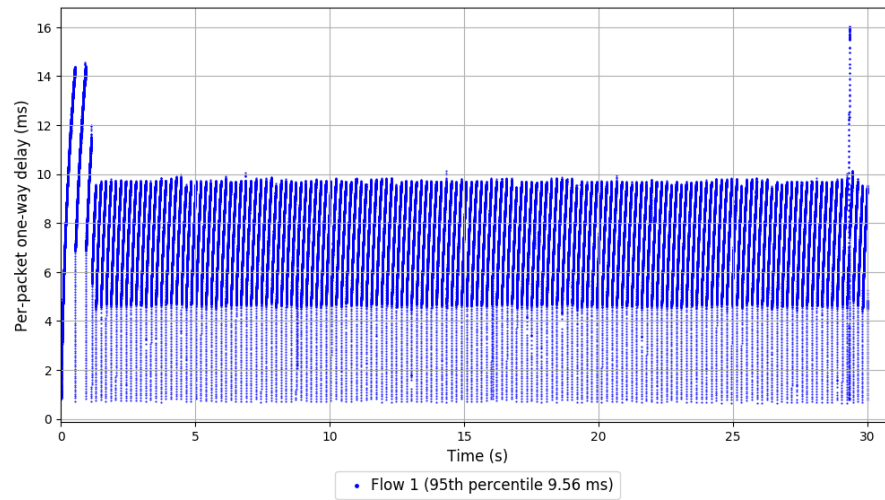
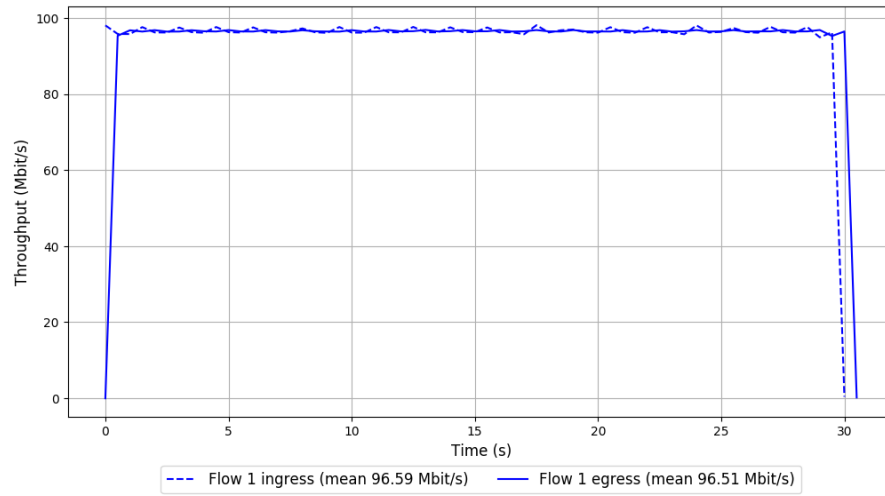
-- Flow 1:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 9.556 ms

Loss rate: 0.08%

#### Run 4: Report of LEDBAT — Data Link





Run 5: Statistics of LEDBAT

Start at: 2018-12-20 06:12:39

End at: 2018-12-20 06:13:09

Local clock offset: -4.479 ms

Remote clock offset: 0.603 ms

# Below is generated by plot.py at 2018-12-20 06:32:00

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 9.915 ms

Loss rate: 0.09%

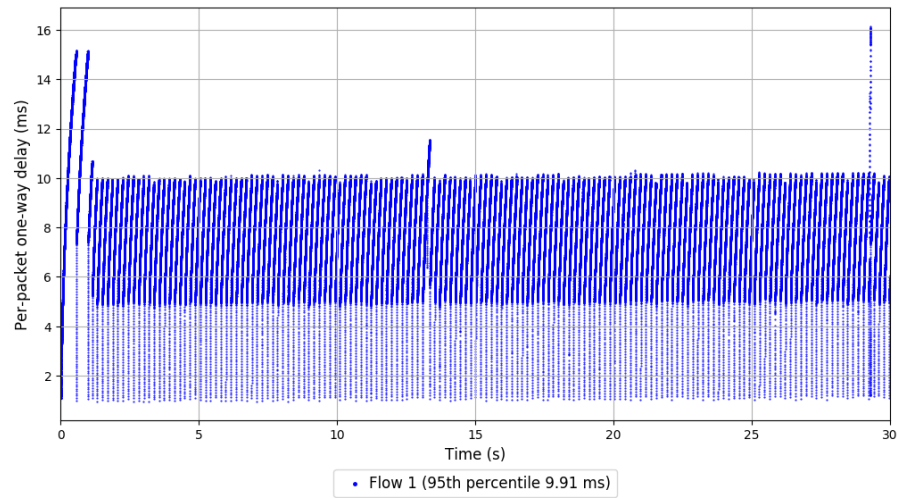
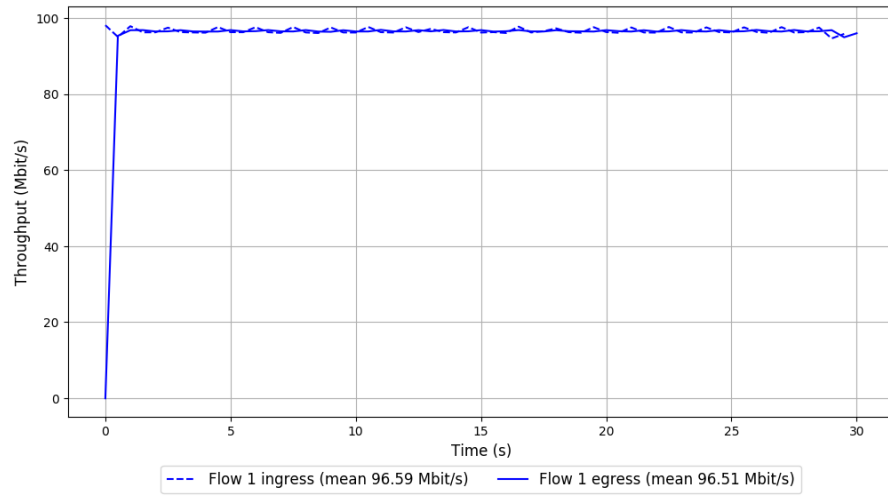
-- Flow 1:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 9.915 ms

Loss rate: 0.09%

### Run 5: Report of LEDBAT — Data Link

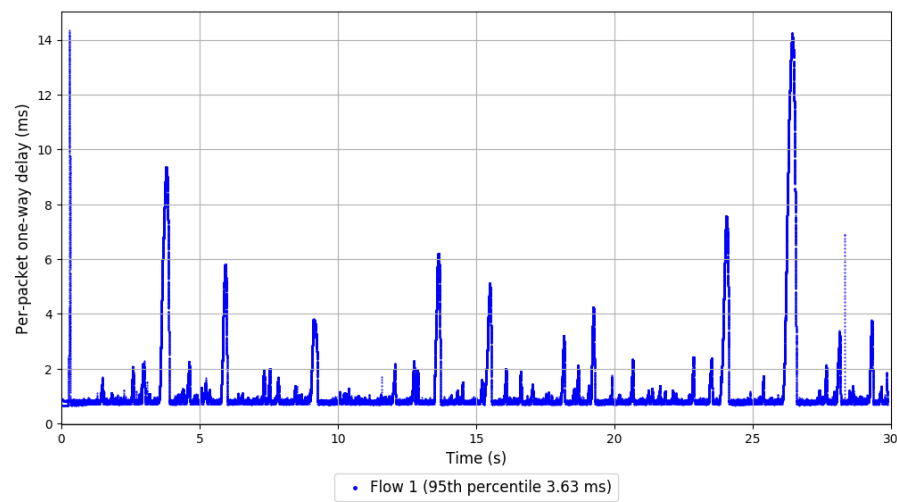
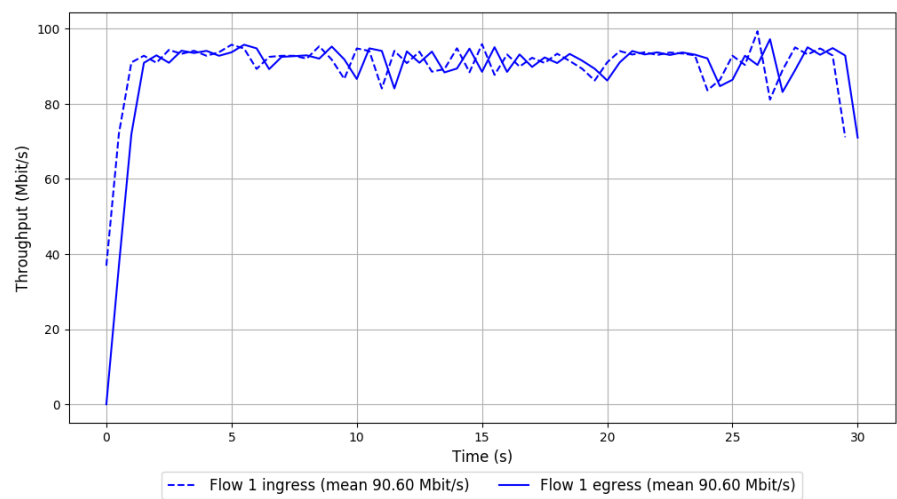


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-12-20 04:57:16
End at: 2018-12-20 04:57:46
Local clock offset: -0.92 ms
Remote clock offset: 0.365 ms

# Below is generated by plot.py at 2018-12-20 06:32:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.60 Mbit/s
95th percentile per-packet one-way delay: 3.626 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 90.60 Mbit/s
95th percentile per-packet one-way delay: 3.626 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-20 05:18:37

End at: 2018-12-20 05:19:08

Local clock offset: -5.77 ms

Remote clock offset: 0.496 ms

# Below is generated by plot.py at 2018-12-20 06:32:01

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 4.250 ms

Loss rate: 0.06%

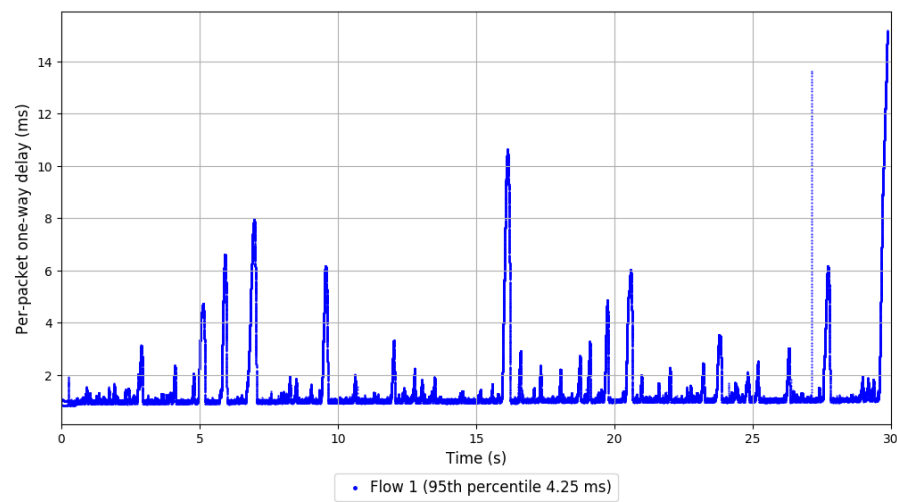
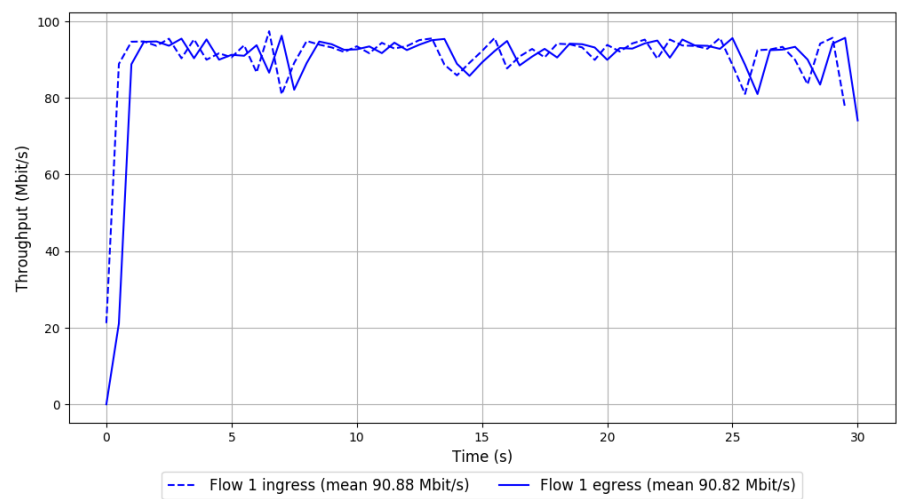
-- Flow 1:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 4.250 ms

Loss rate: 0.06%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-20 05:40:03

End at: 2018-12-20 05:40:33

Local clock offset: -5.237 ms

Remote clock offset: 0.58 ms

# Below is generated by plot.py at 2018-12-20 06:32:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.77 Mbit/s

95th percentile per-packet one-way delay: 1.830 ms

Loss rate: 0.01%

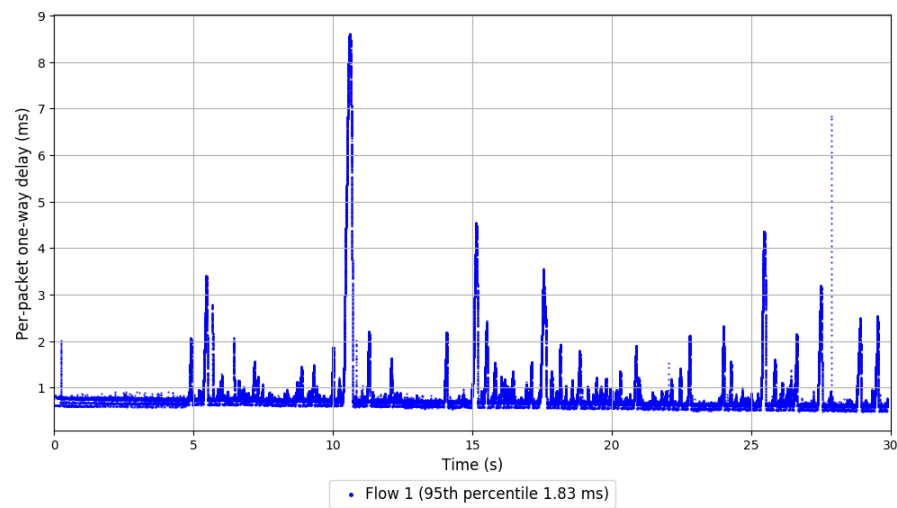
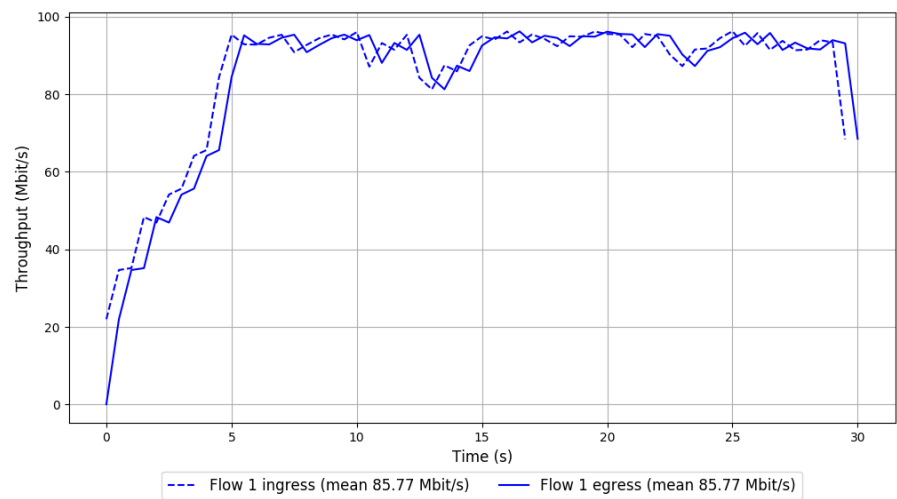
-- Flow 1:

Average throughput: 85.77 Mbit/s

95th percentile per-packet one-way delay: 1.830 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link





Run 4: Statistics of PCC-Allegro

Start at: 2018-12-20 06:01:24

End at: 2018-12-20 06:01:54

Local clock offset: -1.927 ms

Remote clock offset: 0.676 ms

# Below is generated by plot.py at 2018-12-20 06:32:18

# Datalink statistics

-- Total of 1 flow:

Average throughput: 83.78 Mbit/s

95th percentile per-packet one-way delay: 2.535 ms

Loss rate: 0.01%

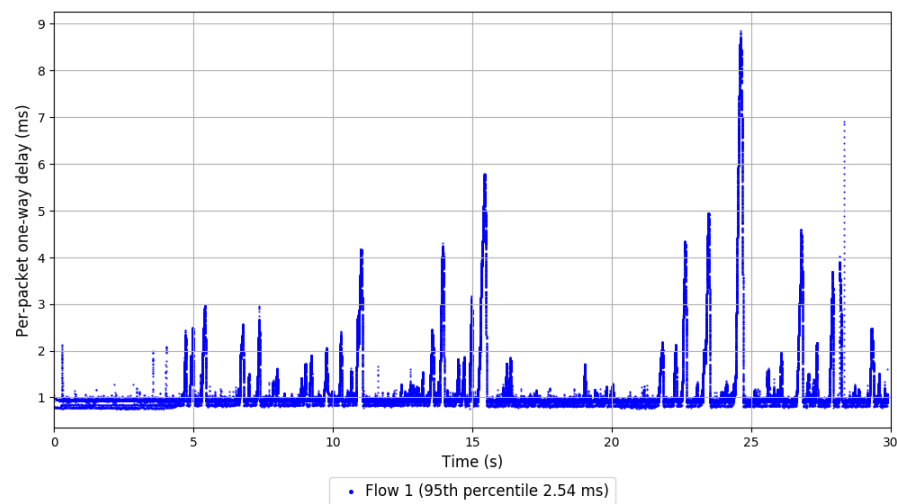
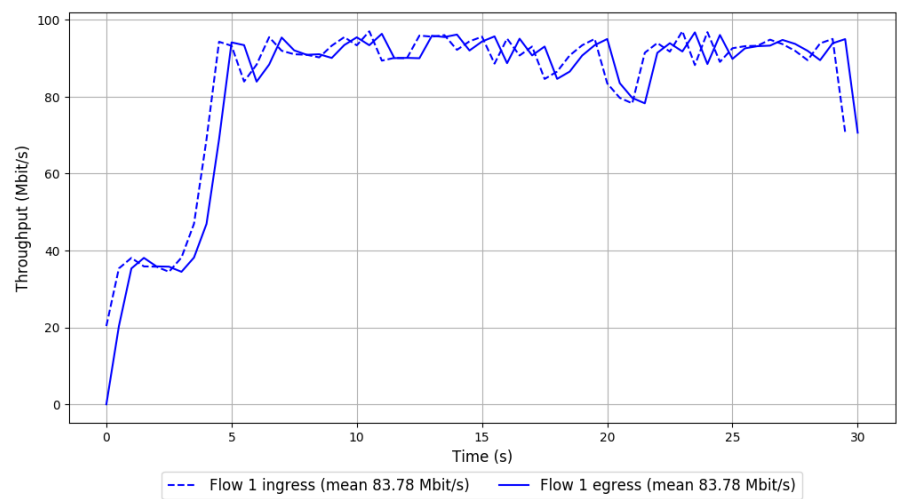
-- Flow 1:

Average throughput: 83.78 Mbit/s

95th percentile per-packet one-way delay: 2.535 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-20 06:22:40

End at: 2018-12-20 06:23:10

Local clock offset: -6.119 ms

Remote clock offset: 0.533 ms

# Below is generated by plot.py at 2018-12-20 06:32:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 4.315 ms

Loss rate: 0.01%

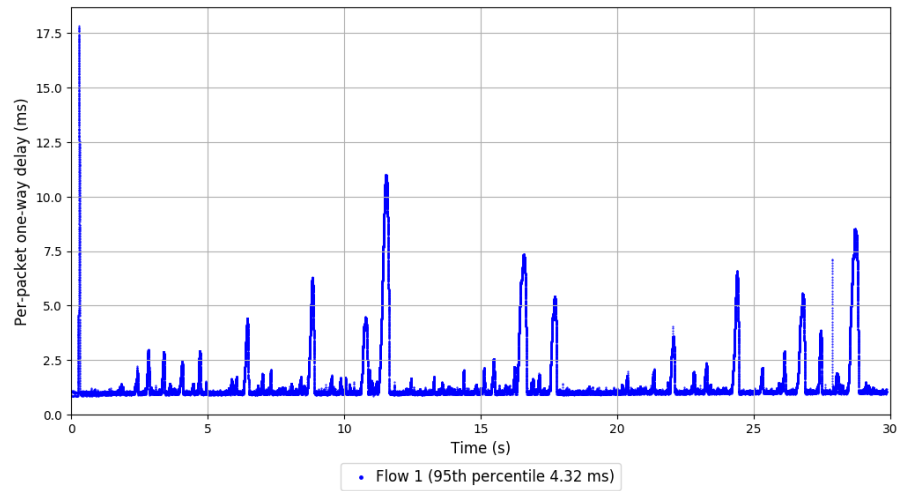
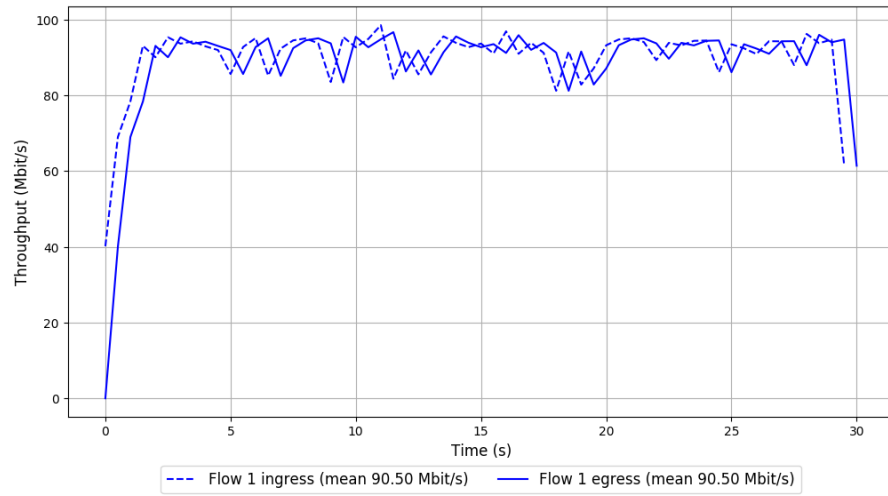
-- Flow 1:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 4.315 ms

Loss rate: 0.01%

### Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-12-20 04:49:27

End at: 2018-12-20 04:49:57

Local clock offset: -1.09 ms

Remote clock offset: 0.207 ms

# Below is generated by plot.py at 2018-12-20 06:32:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 59.14 Mbit/s

95th percentile per-packet one-way delay: 2.498 ms

Loss rate: 0.00%

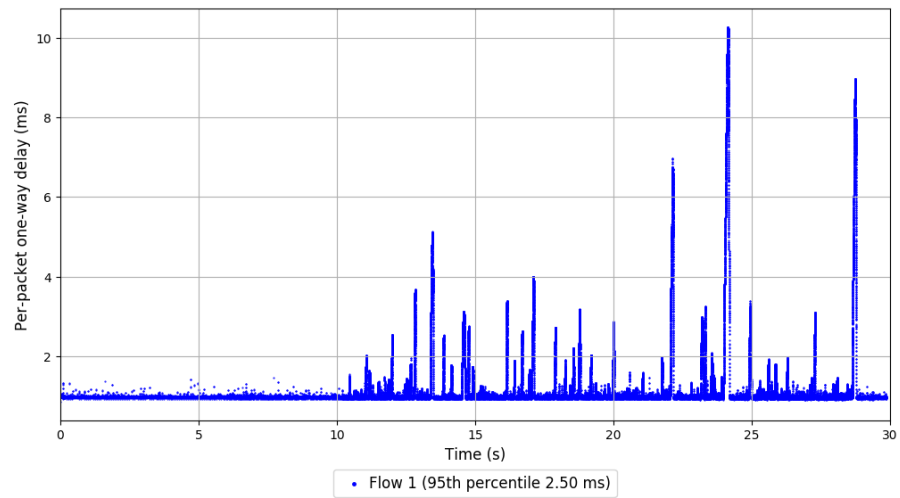
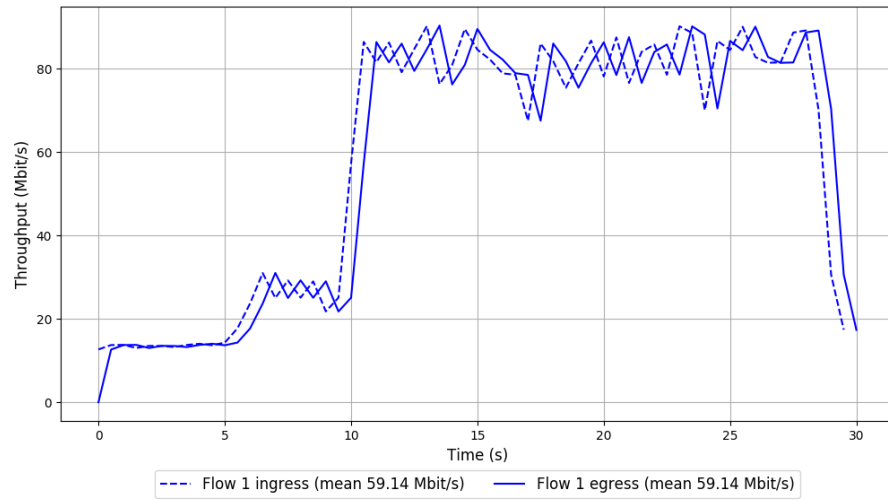
-- Flow 1:

Average throughput: 59.14 Mbit/s

95th percentile per-packet one-way delay: 2.498 ms

Loss rate: 0.00%

# Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-20 05:10:52

End at: 2018-12-20 05:11:22

Local clock offset: -3.702 ms

Remote clock offset: 0.484 ms

# Below is generated by plot.py at 2018-12-20 06:32:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 1.134 ms

Loss rate: 0.01%

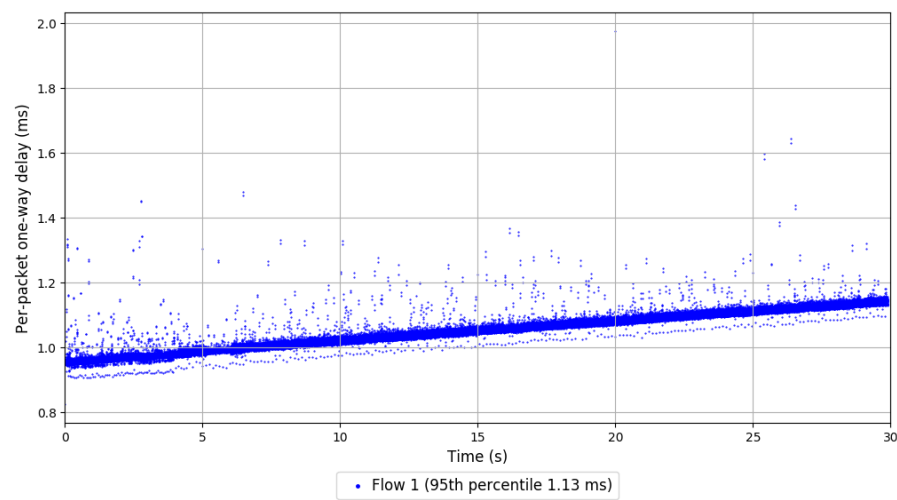
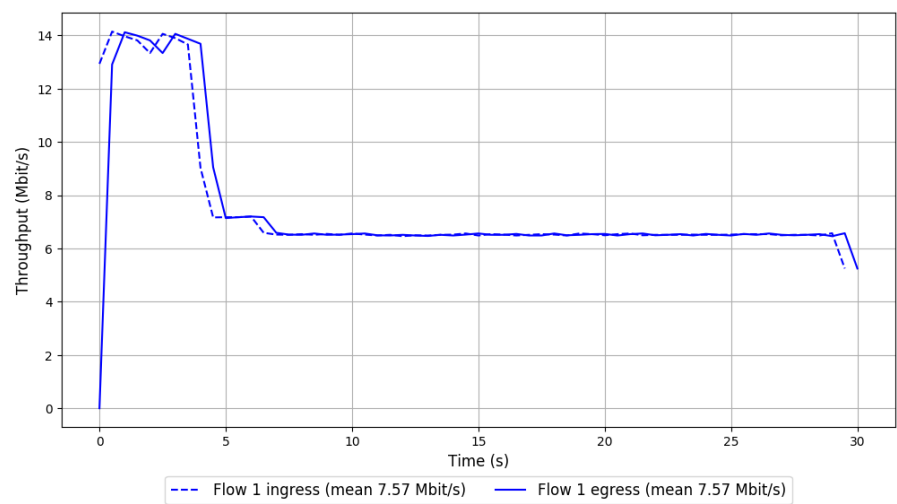
-- Flow 1:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 1.134 ms

Loss rate: 0.01%

Run 2: Report of PCC-Expr — Data Link





Run 3: Statistics of PCC-Expr

Start at: 2018-12-20 05:32:13

End at: 2018-12-20 05:32:43

Local clock offset: -7.35 ms

Remote clock offset: 0.626 ms

# Below is generated by plot.py at 2018-12-20 06:33:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 60.00 Mbit/s

95th percentile per-packet one-way delay: 627.131 ms

Loss rate: 6.85%

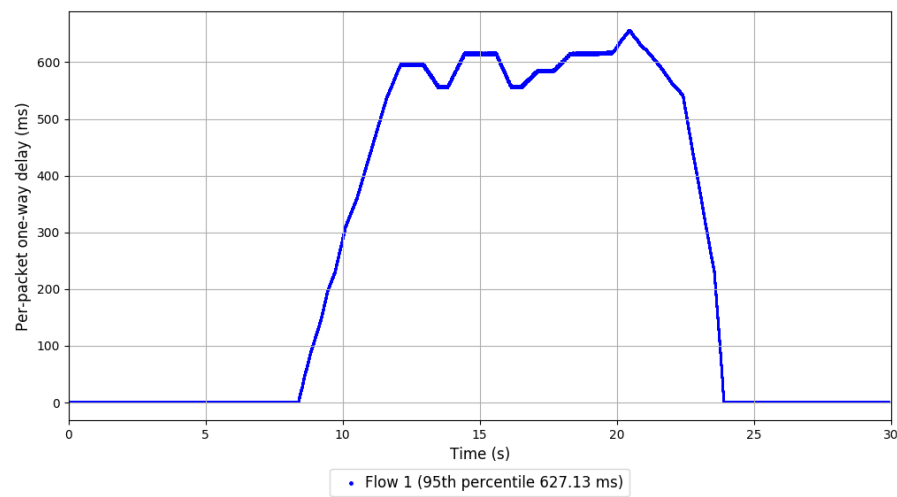
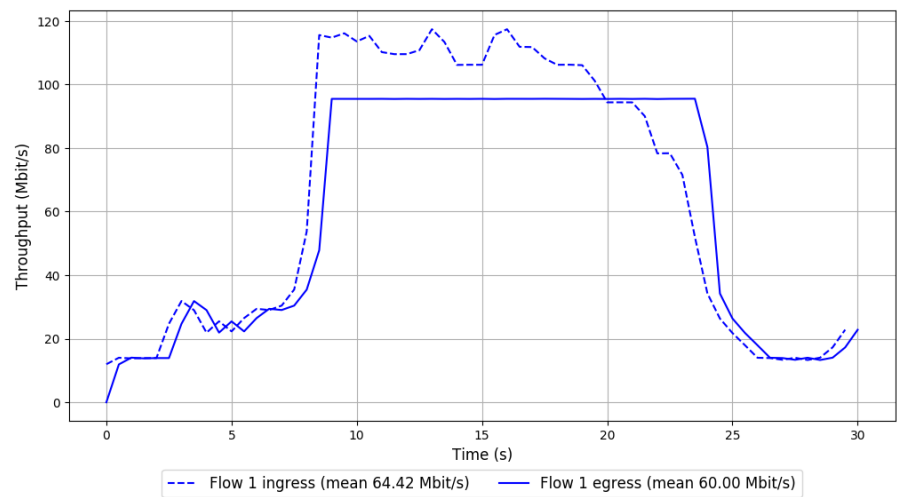
-- Flow 1:

Average throughput: 60.00 Mbit/s

95th percentile per-packet one-way delay: 627.131 ms

Loss rate: 6.85%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-20 05:53:39

End at: 2018-12-20 05:54:09

Local clock offset: -2.546 ms

Remote clock offset: 0.699 ms

# Below is generated by plot.py at 2018-12-20 06:33:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 11.21 Mbit/s

95th percentile per-packet one-way delay: 0.813 ms

Loss rate: 0.00%

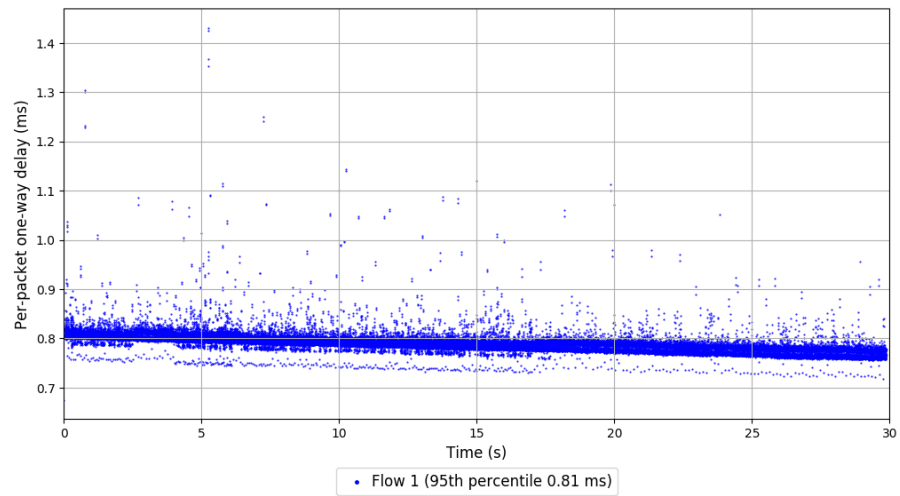
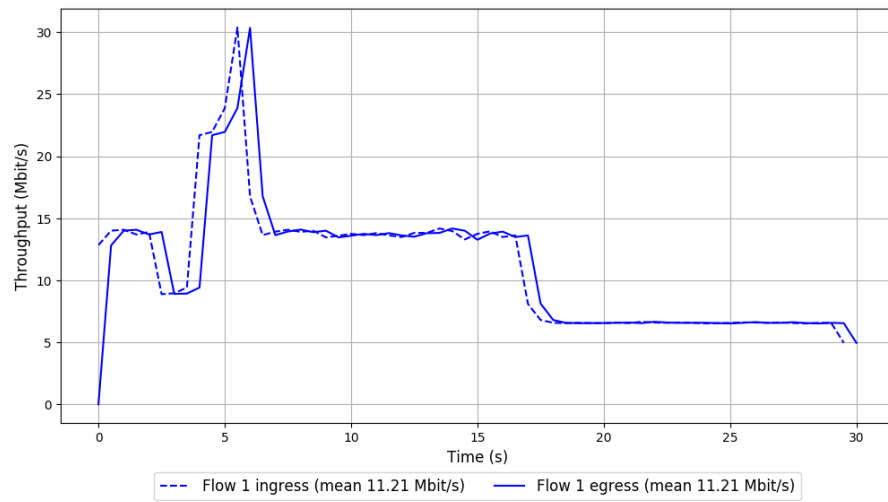
-- Flow 1:

Average throughput: 11.21 Mbit/s

95th percentile per-packet one-way delay: 0.813 ms

Loss rate: 0.00%

#### Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-12-20 06:14:54

End at: 2018-12-20 06:15:24

Local clock offset: -4.987 ms

Remote clock offset: 0.625 ms

# Below is generated by plot.py at 2018-12-20 06:33:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.12 Mbit/s

95th percentile per-packet one-way delay: 1.108 ms

Loss rate: 0.00%

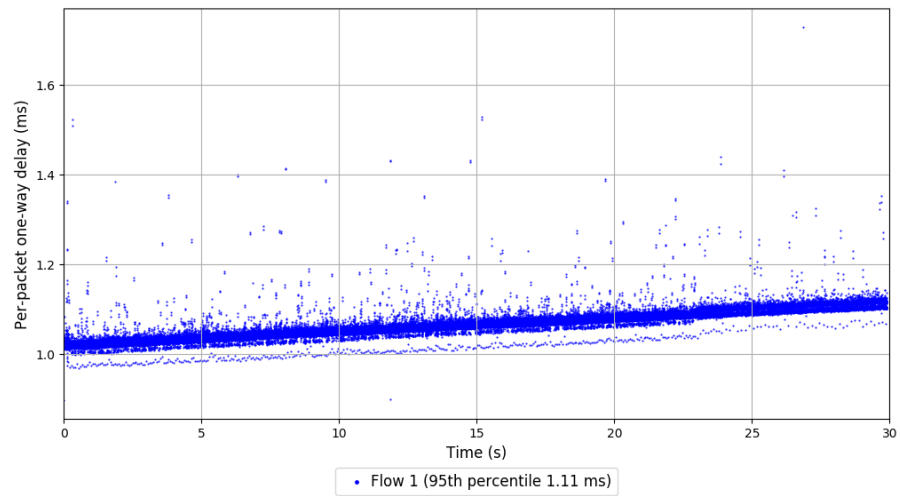
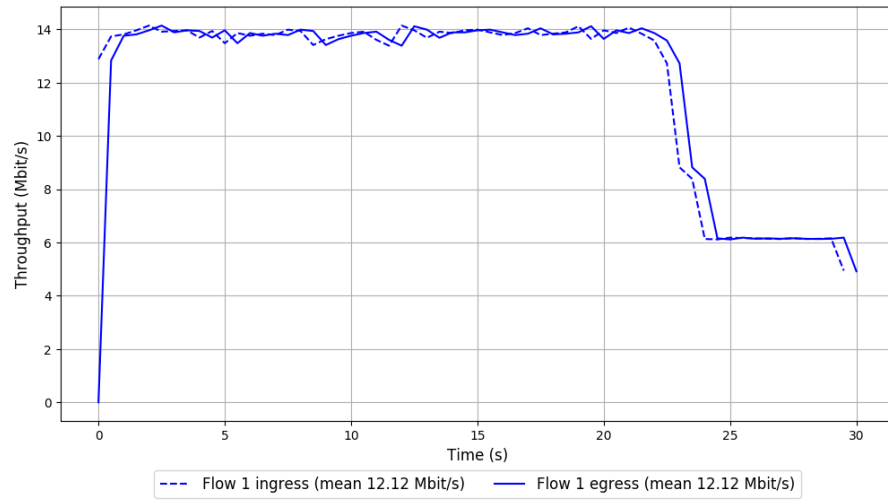
-- Flow 1:

Average throughput: 12.12 Mbit/s

95th percentile per-packet one-way delay: 1.108 ms

Loss rate: 0.00%

## Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-12-20 04:52:49

End at: 2018-12-20 04:53:19

Local clock offset: -0.994 ms

Remote clock offset: 0.296 ms

# Below is generated by plot.py at 2018-12-20 06:33:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.13 Mbit/s

95th percentile per-packet one-way delay: 4.901 ms

Loss rate: 0.01%

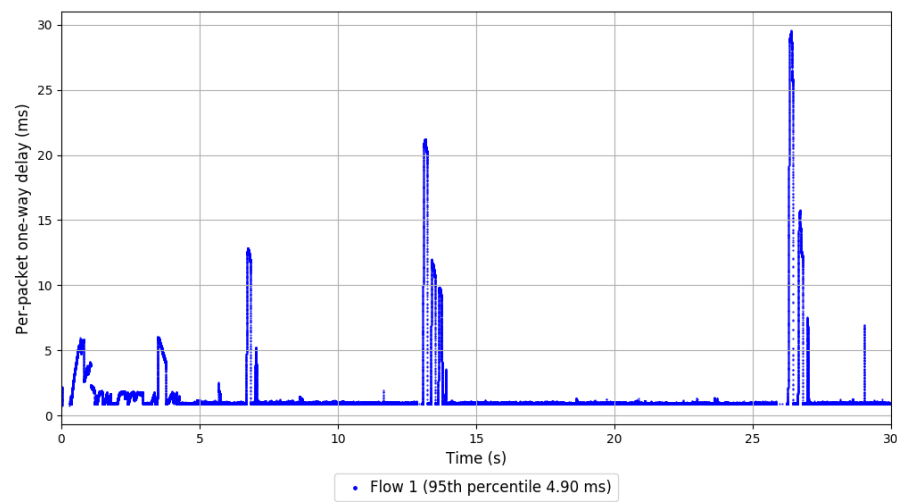
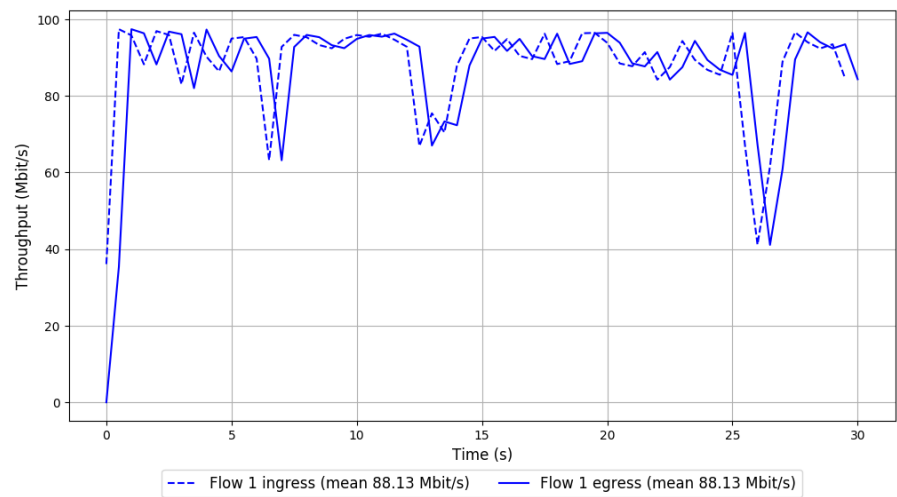
-- Flow 1:

Average throughput: 88.13 Mbit/s

95th percentile per-packet one-way delay: 4.901 ms

Loss rate: 0.01%

Run 1: Report of QUIC Cubic — Data Link





Run 2: Statistics of QUIC Cubic

Start at: 2018-12-20 05:14:10

End at: 2018-12-20 05:14:40

Local clock offset: -4.689 ms

Remote clock offset: 0.536 ms

# Below is generated by plot.py at 2018-12-20 06:33:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.05 Mbit/s

95th percentile per-packet one-way delay: 6.746 ms

Loss rate: 0.01%

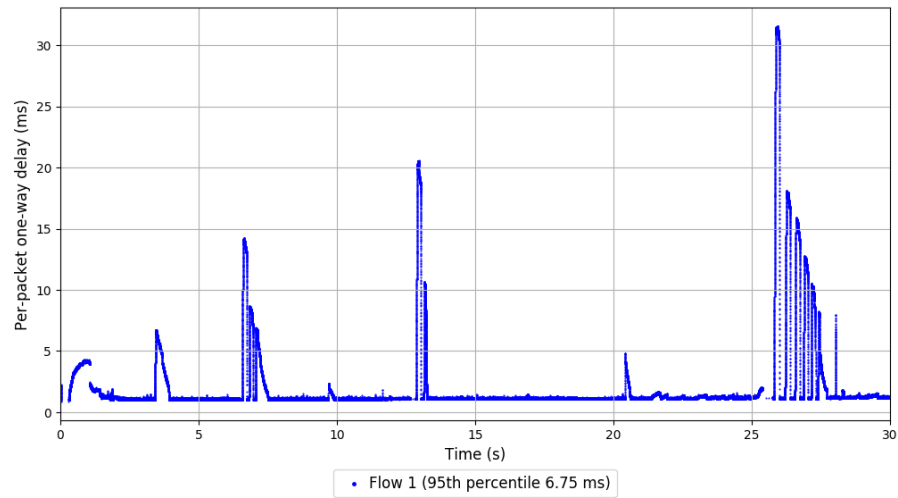
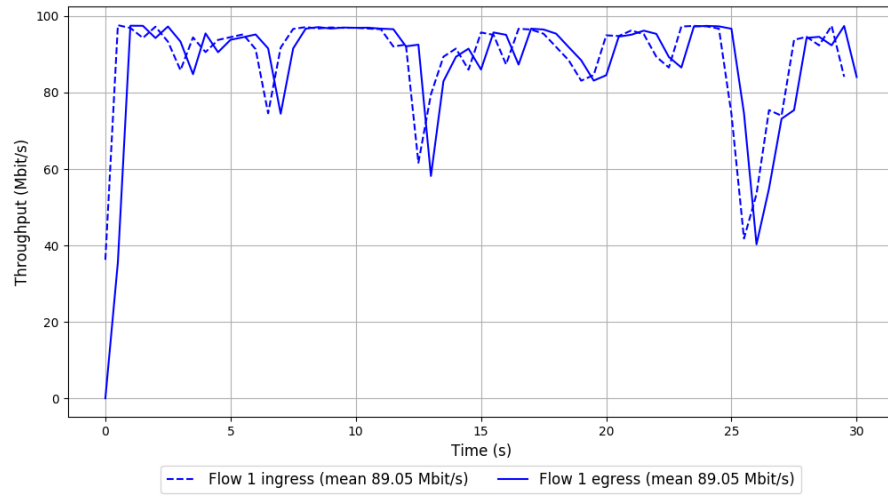
-- Flow 1:

Average throughput: 89.05 Mbit/s

95th percentile per-packet one-way delay: 6.746 ms

Loss rate: 0.01%

## Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-20 05:35:35

End at: 2018-12-20 05:36:05

Local clock offset: -7.411 ms

Remote clock offset: 0.621 ms

# Below is generated by plot.py at 2018-12-20 06:33:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.04 Mbit/s

95th percentile per-packet one-way delay: 5.268 ms

Loss rate: 0.01%

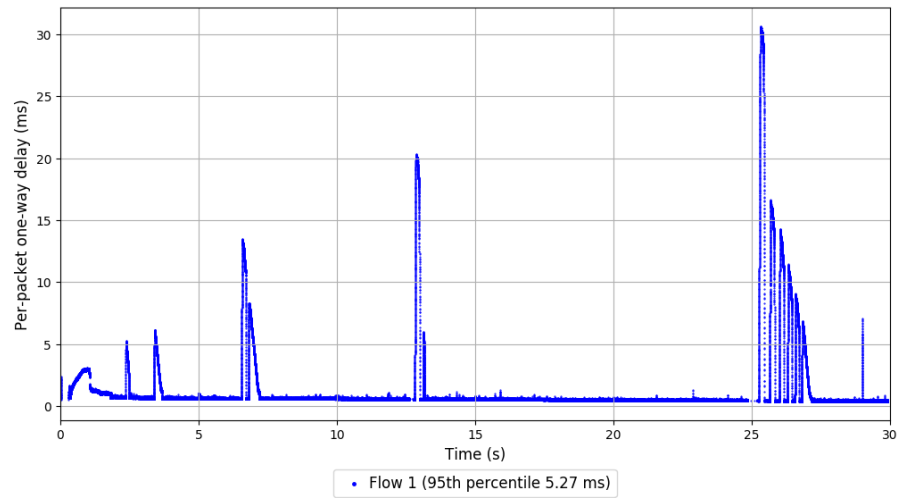
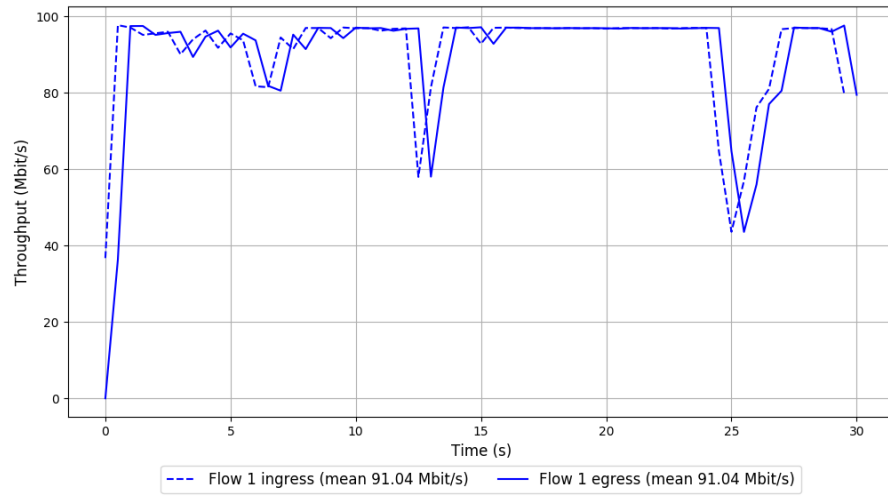
-- Flow 1:

Average throughput: 91.04 Mbit/s

95th percentile per-packet one-way delay: 5.268 ms

Loss rate: 0.01%

### Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-20 05:56:57

End at: 2018-12-20 05:57:27

Local clock offset: -2.286 ms

Remote clock offset: 0.657 ms

# Below is generated by plot.py at 2018-12-20 06:33:24

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 7.446 ms

Loss rate: 0.01%

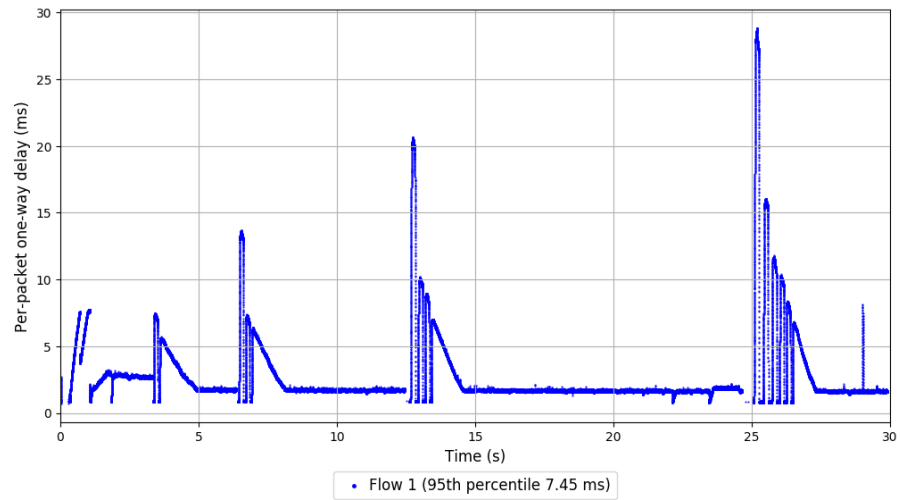
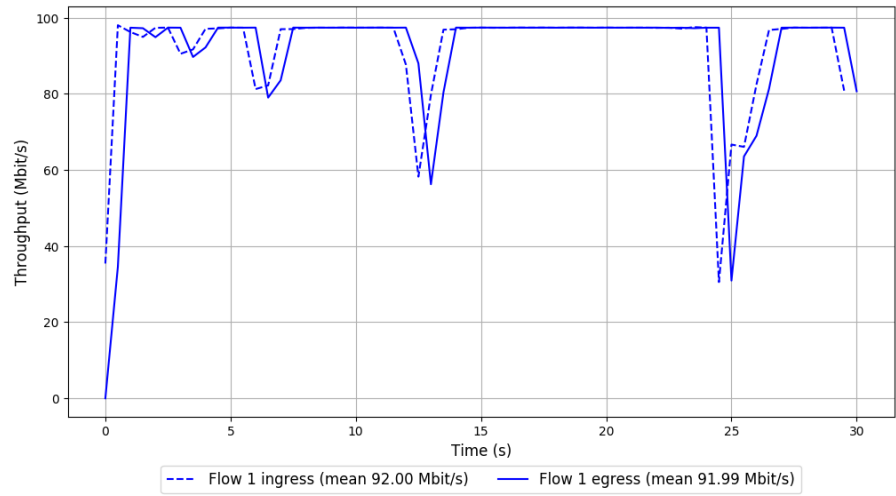
-- Flow 1:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 7.446 ms

Loss rate: 0.01%

#### Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-20 06:18:13

End at: 2018-12-20 06:18:43

Local clock offset: -5.585 ms

Remote clock offset: 0.648 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 6.740 ms

Loss rate: 0.01%

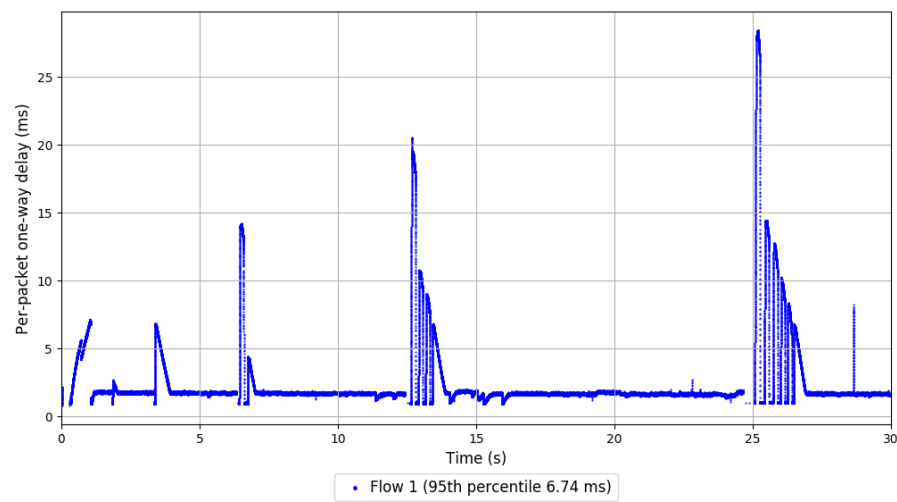
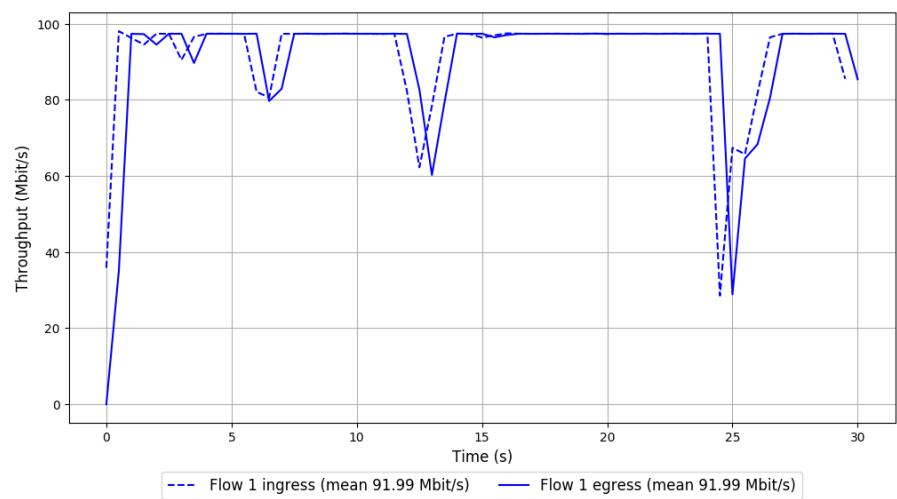
-- Flow 1:

Average throughput: 91.99 Mbit/s

95th percentile per-packet one-way delay: 6.740 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link





Run 1: Statistics of SCReAM

Start at: 2018-12-20 04:53:57

End at: 2018-12-20 04:54:27

Local clock offset: -1.013 ms

Remote clock offset: 0.272 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.00%

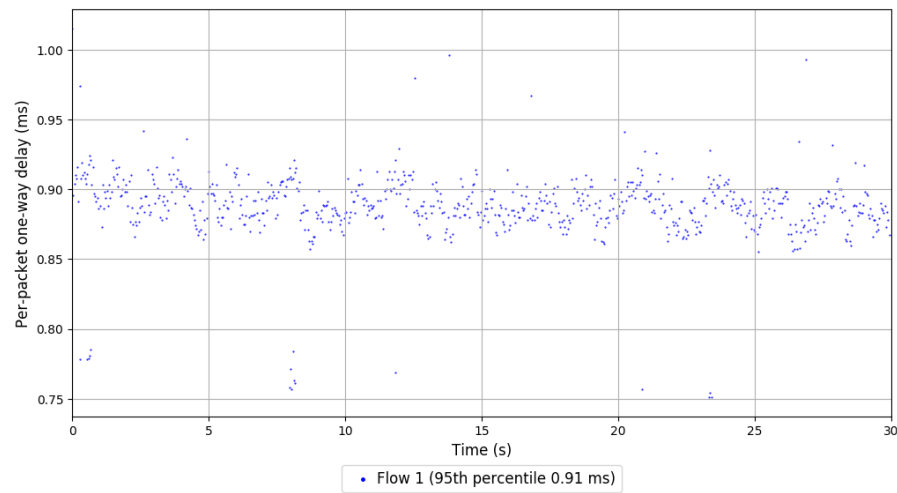
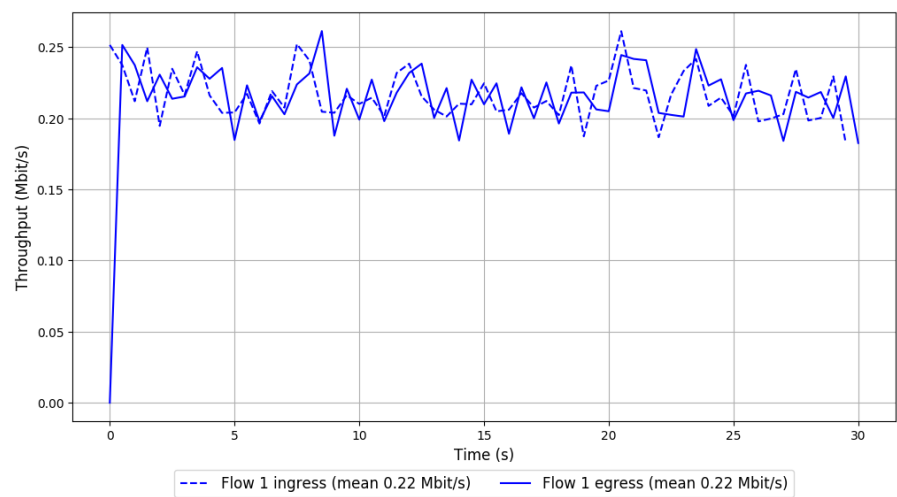
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.00%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-12-20 05:15:18

End at: 2018-12-20 05:15:48

Local clock offset: -4.988 ms

Remote clock offset: 0.537 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.126 ms

Loss rate: 0.00%

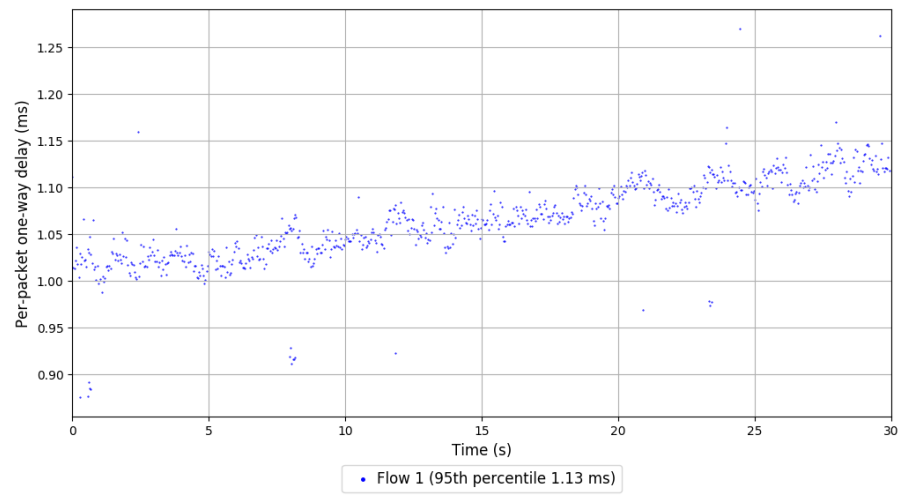
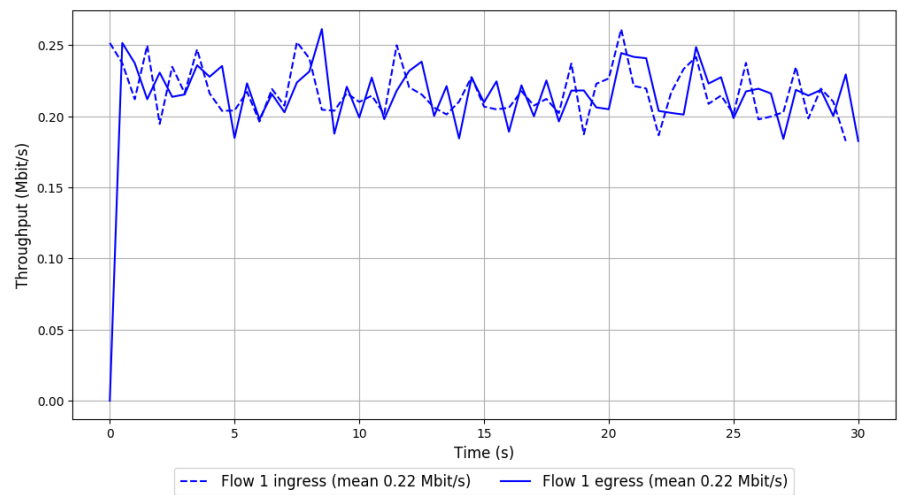
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.126 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-12-20 05:36:43

End at: 2018-12-20 05:37:13

Local clock offset: -6.814 ms

Remote clock offset: 0.584 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.638 ms

Loss rate: 0.00%

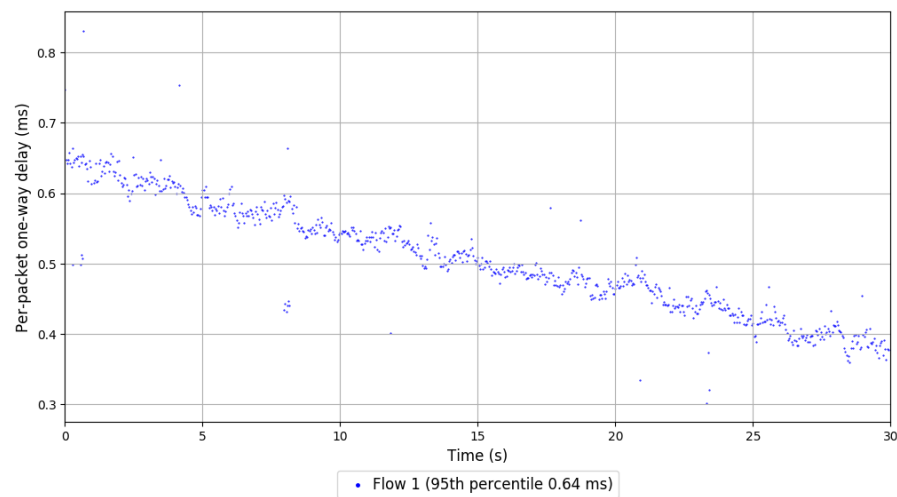
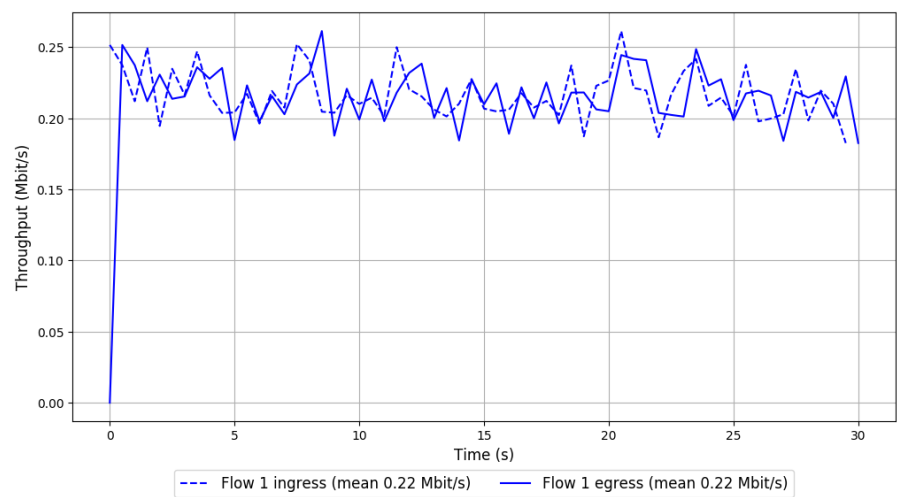
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.638 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-20 05:58:05

End at: 2018-12-20 05:58:35

Local clock offset: -2.155 ms

Remote clock offset: 0.661 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.917 ms

Loss rate: 0.00%

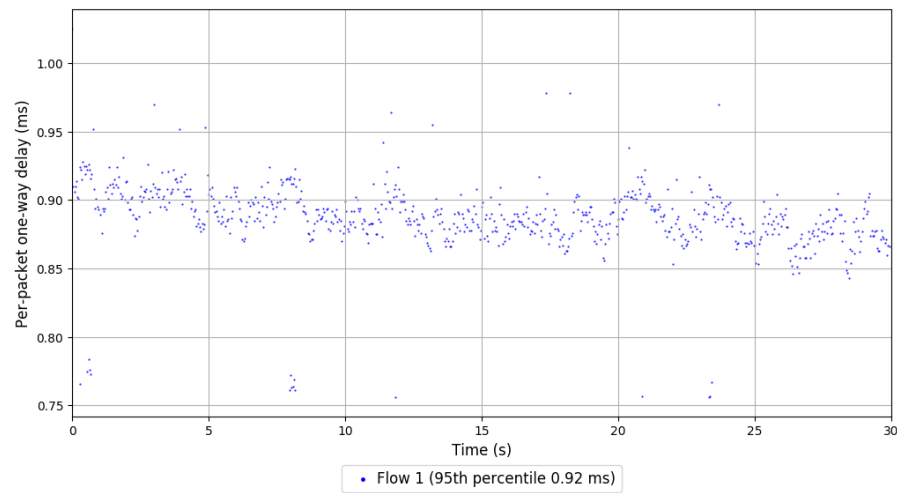
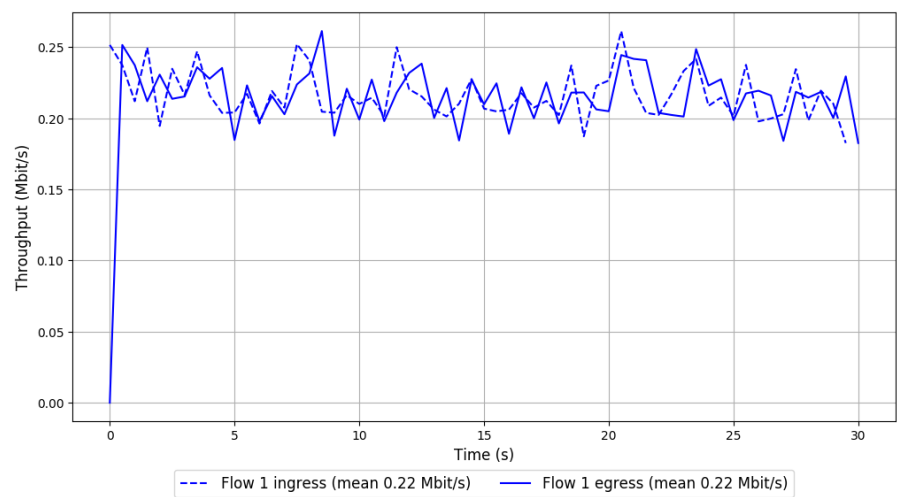
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.917 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link





Run 5: Statistics of SCReAM

Start at: 2018-12-20 06:19:21

End at: 2018-12-20 06:19:51

Local clock offset: -5.795 ms

Remote clock offset: 0.633 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.945 ms

Loss rate: 0.00%

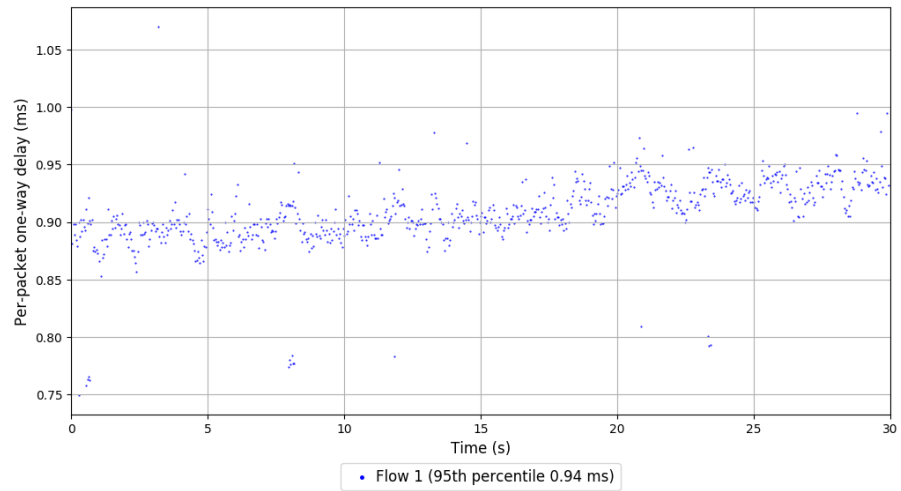
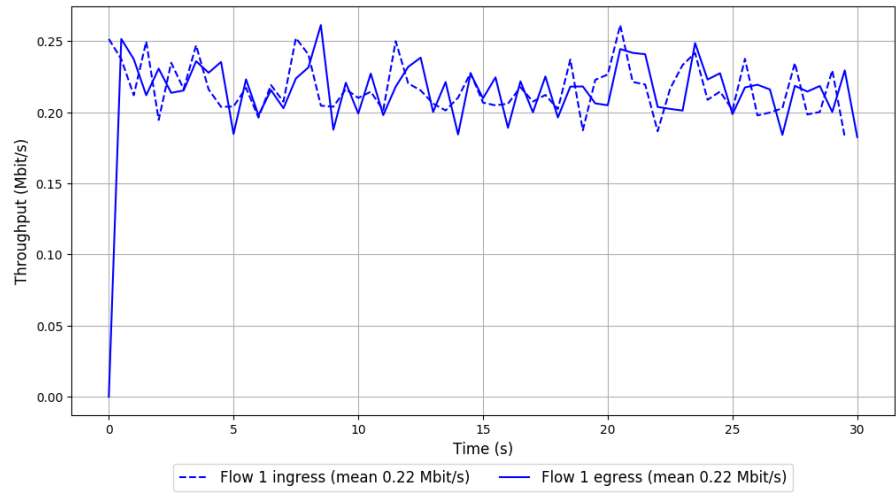
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.945 ms

Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-12-20 04:48:21

End at: 2018-12-20 04:48:51

Local clock offset: -1.12 ms

Remote clock offset: 0.246 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.38 Mbit/s

95th percentile per-packet one-way delay: 9.402 ms

Loss rate: 0.04%

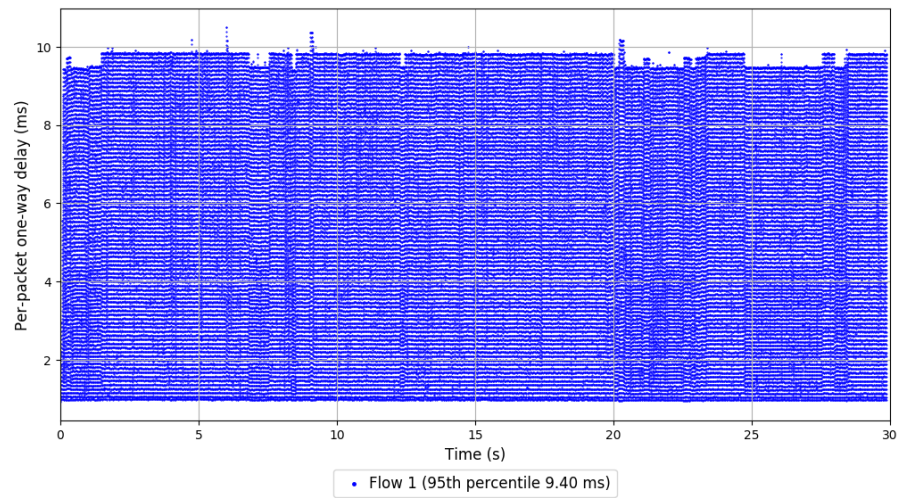
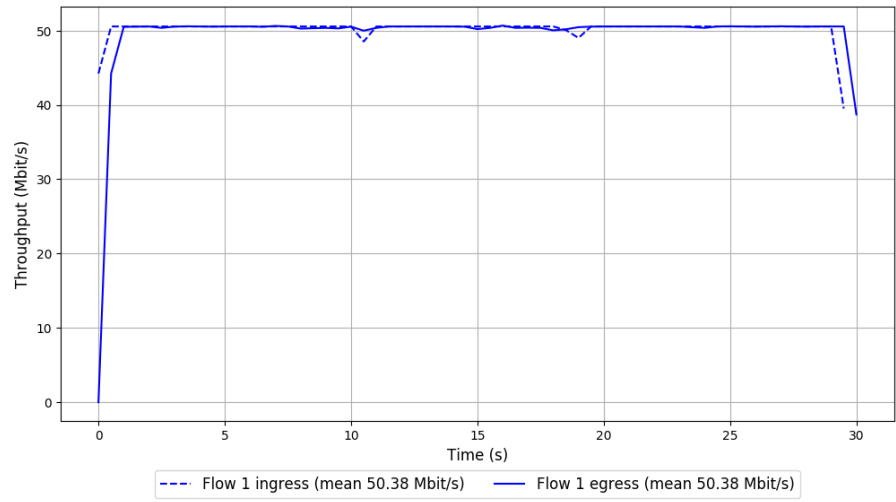
-- Flow 1:

Average throughput: 50.38 Mbit/s

95th percentile per-packet one-way delay: 9.402 ms

Loss rate: 0.04%

## Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-12-20 05:09:47

End at: 2018-12-20 05:10:17

Local clock offset: -3.068 ms

Remote clock offset: 0.51 ms

# Below is generated by plot.py at 2018-12-20 06:33:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.791 ms

Loss rate: 0.03%

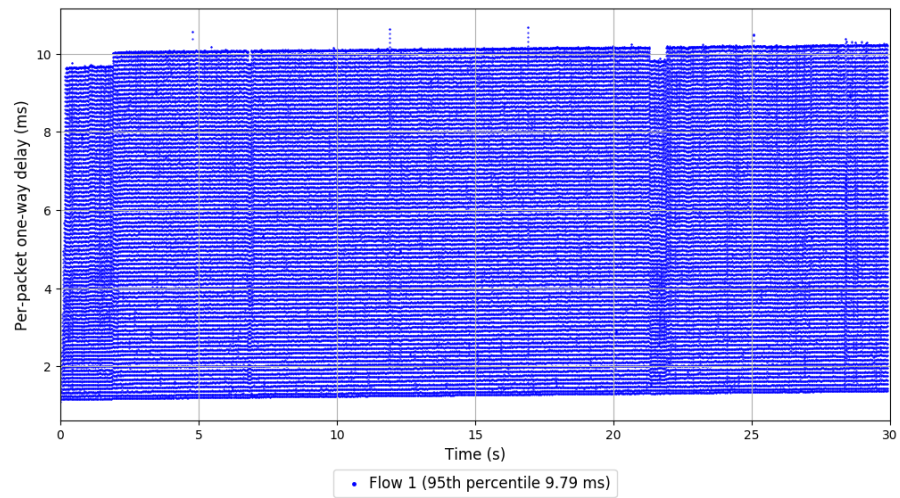
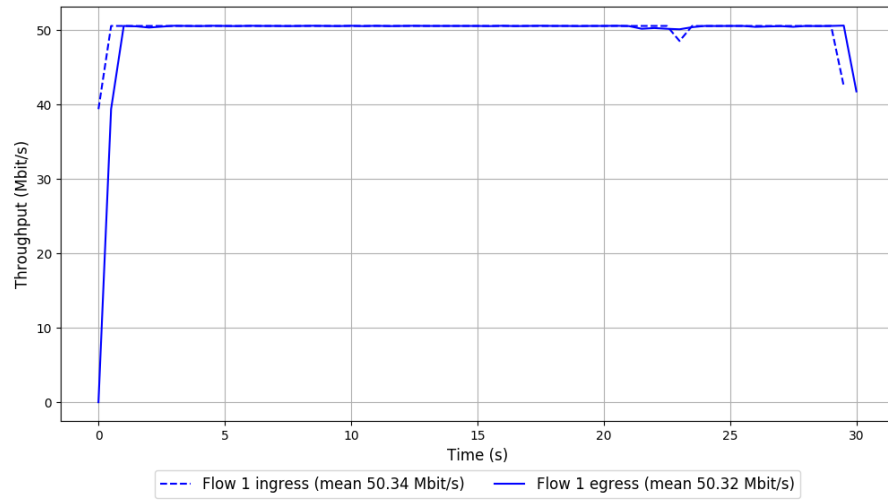
-- Flow 1:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.791 ms

Loss rate: 0.03%

## Run 2: Report of Sprout — Data Link

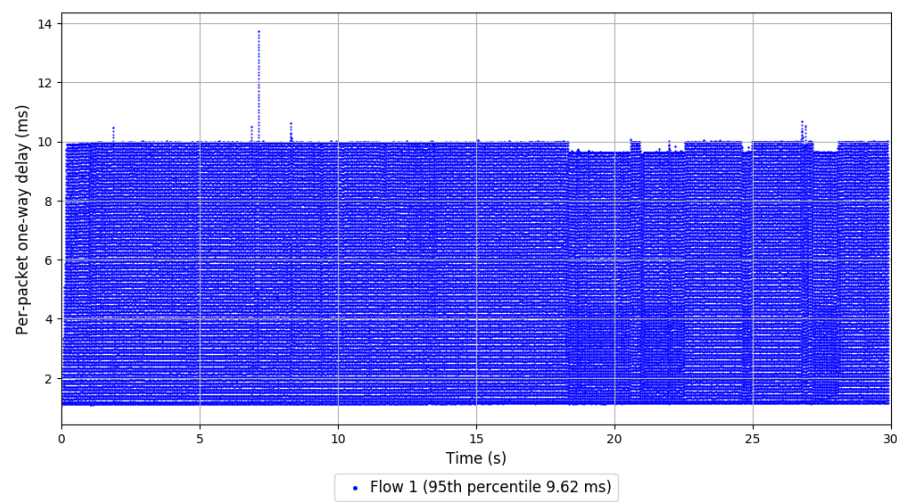
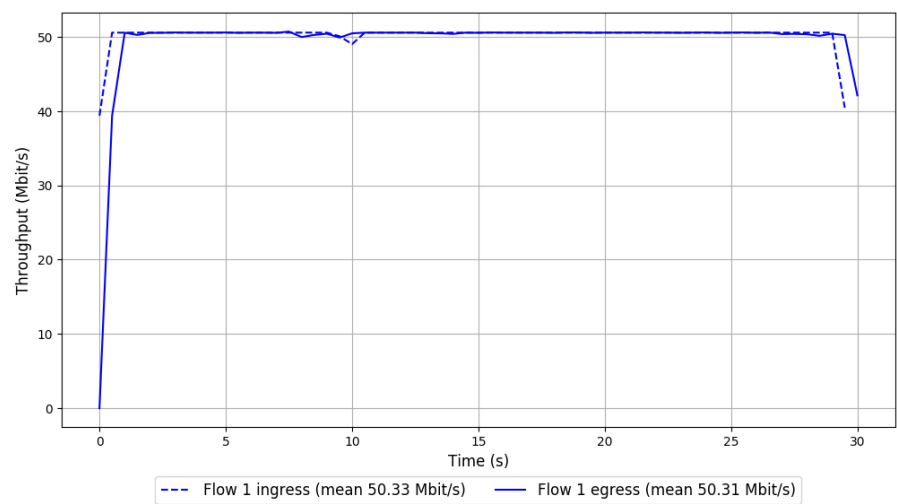


Run 3: Statistics of Sprout

Start at: 2018-12-20 05:31:08  
End at: 2018-12-20 05:31:38  
Local clock offset: -7.259 ms  
Remote clock offset: 0.476 ms

# Below is generated by plot.py at 2018-12-20 06:33:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.31 Mbit/s  
95th percentile per-packet one-way delay: 9.623 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.31 Mbit/s  
95th percentile per-packet one-way delay: 9.623 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link





Run 4: Statistics of Sprout

Start at: 2018-12-20 05:52:33

End at: 2018-12-20 05:53:03

Local clock offset: -2.612 ms

Remote clock offset: 0.713 ms

# Below is generated by plot.py at 2018-12-20 06:33:44

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.142 ms

Loss rate: 0.04%

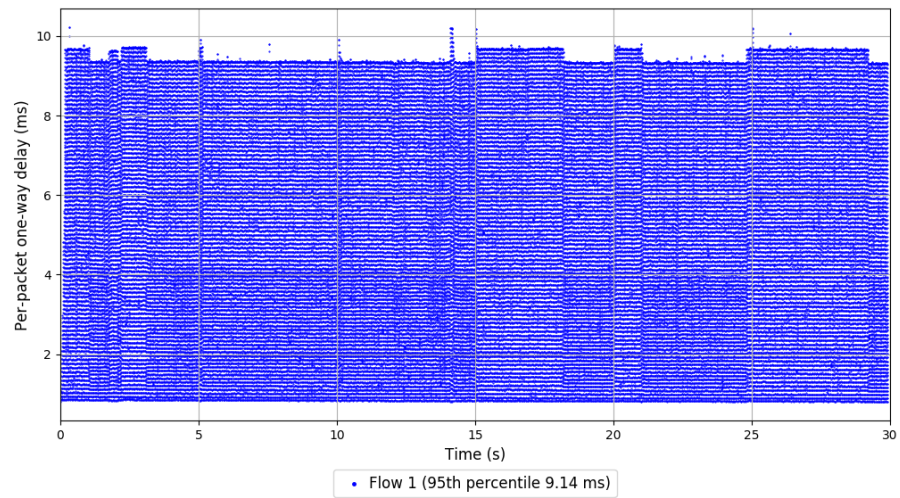
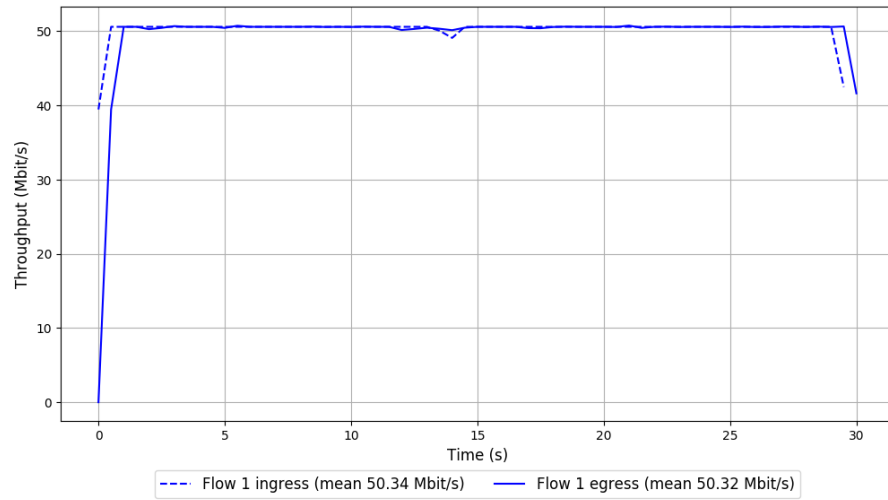
-- Flow 1:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.142 ms

Loss rate: 0.04%

#### Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-12-20 06:13:48

End at: 2018-12-20 06:14:18

Local clock offset: -4.851 ms

Remote clock offset: 0.688 ms

# Below is generated by plot.py at 2018-12-20 06:33:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.490 ms

Loss rate: 0.01%

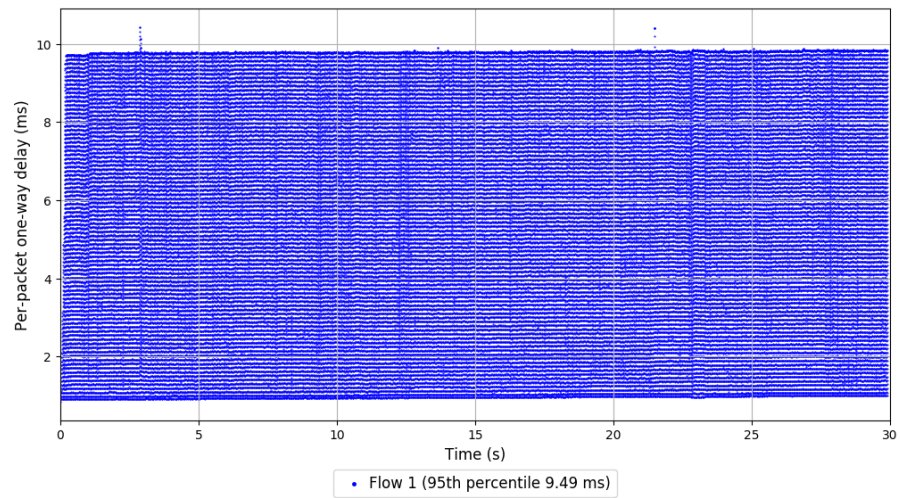
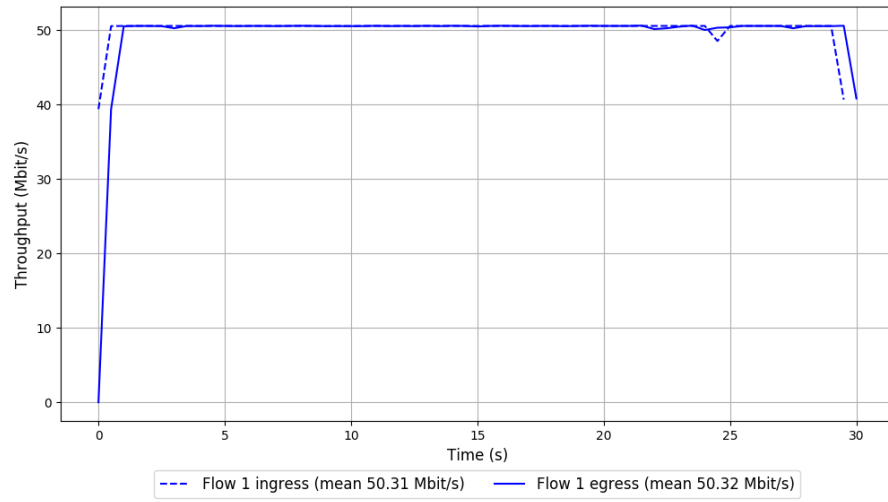
-- Flow 1:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 9.490 ms

Loss rate: 0.01%

### Run 5: Report of Sprout — Data Link

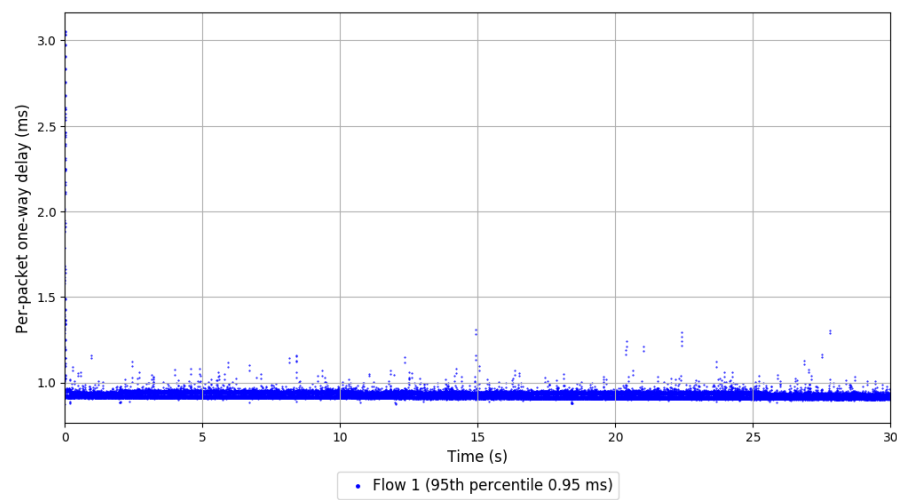
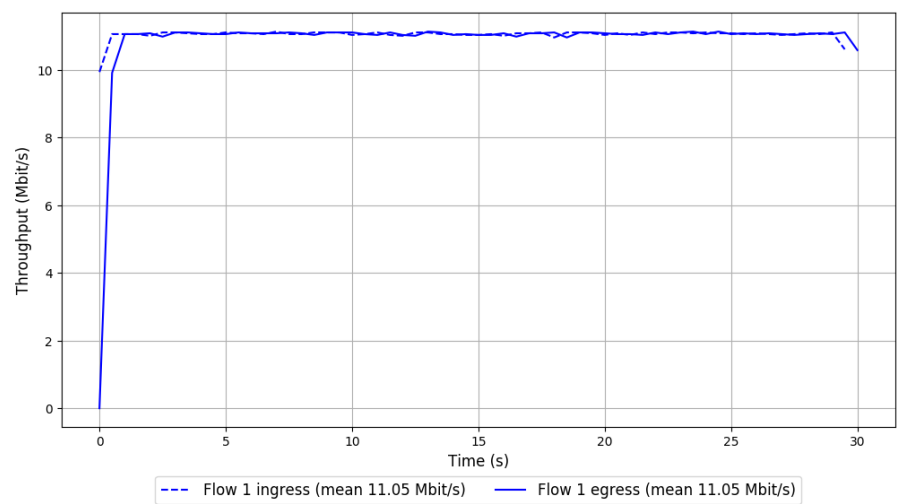


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-12-20 04:45:01
End at: 2018-12-20 04:45:31
Local clock offset: -1.278 ms
Remote clock offset: 0.179 ms

# Below is generated by plot.py at 2018-12-20 06:33:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.01%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-20 05:06:20

End at: 2018-12-20 05:06:50

Local clock offset: -1.257 ms

Remote clock offset: 0.415 ms

# Below is generated by plot.py at 2018-12-20 06:35:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.32 Mbit/s

95th percentile per-packet one-way delay: 1.542 ms

Loss rate: 0.01%

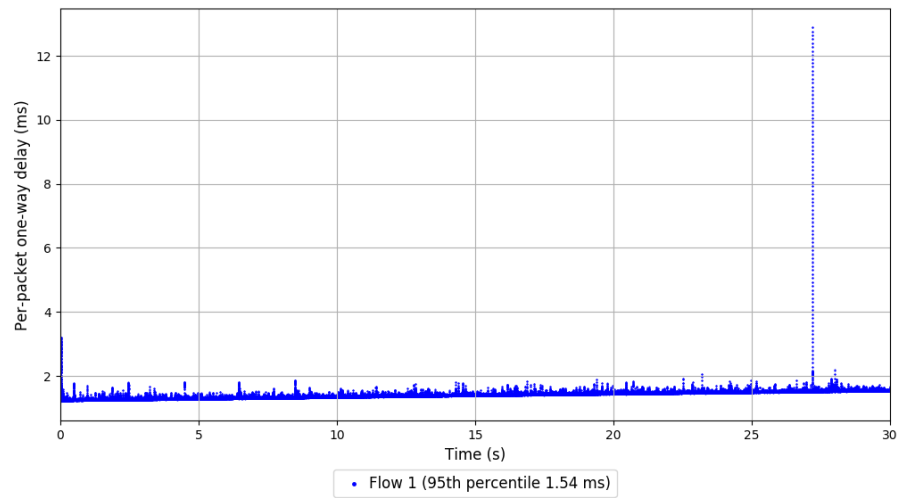
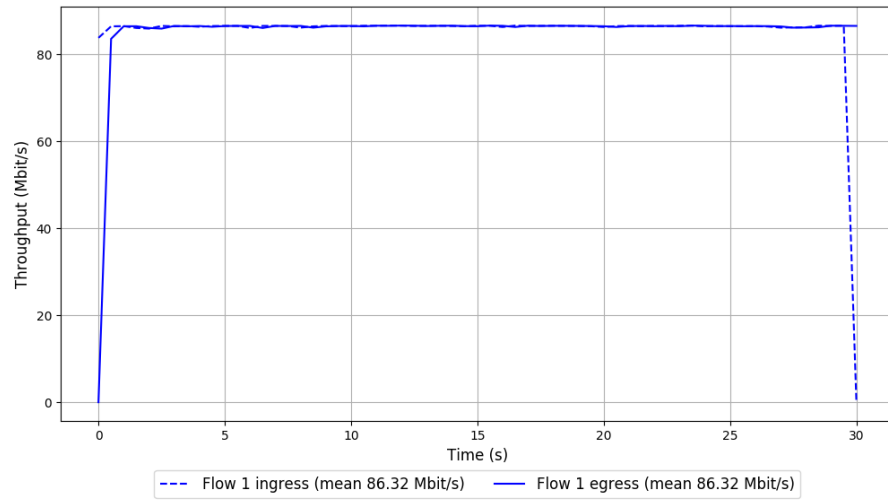
-- Flow 1:

Average throughput: 86.32 Mbit/s

95th percentile per-packet one-way delay: 1.542 ms

Loss rate: 0.01%

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





Run 3: Statistics of TaoVA-100x

Start at: 2018-12-20 05:27:42

End at: 2018-12-20 05:28:12

Local clock offset: -6.951 ms

Remote clock offset: 0.615 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.45 Mbit/s

95th percentile per-packet one-way delay: 0.980 ms

Loss rate: 0.01%

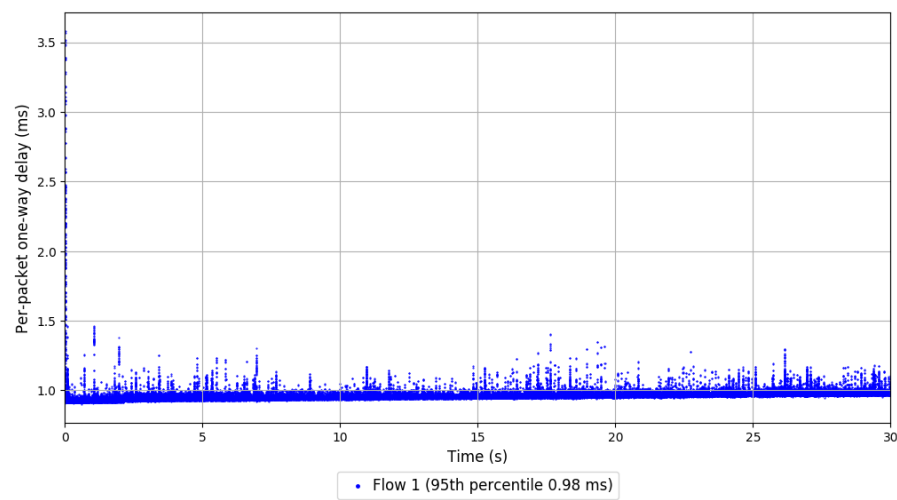
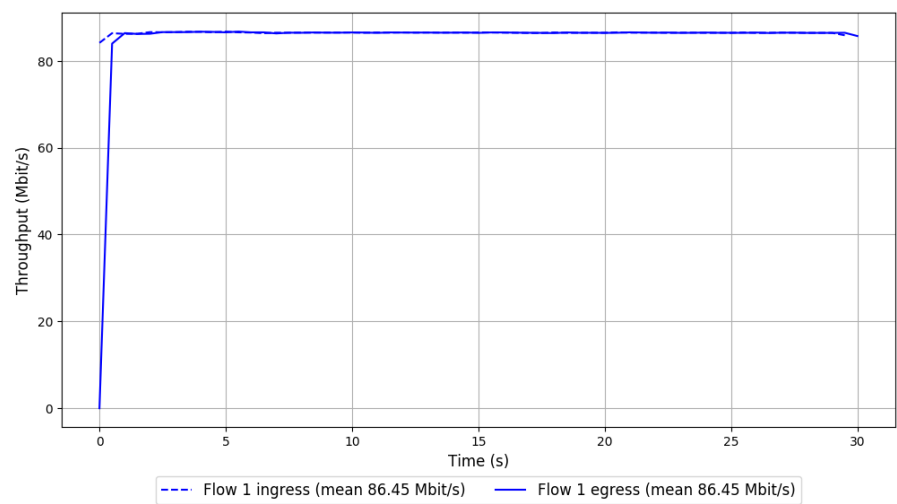
-- Flow 1:

Average throughput: 86.45 Mbit/s

95th percentile per-packet one-way delay: 0.980 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-12-20 05:49:07

End at: 2018-12-20 05:49:37

Local clock offset: -3.022 ms

Remote clock offset: 0.672 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.18 Mbit/s

95th percentile per-packet one-way delay: 0.853 ms

Loss rate: 0.00%

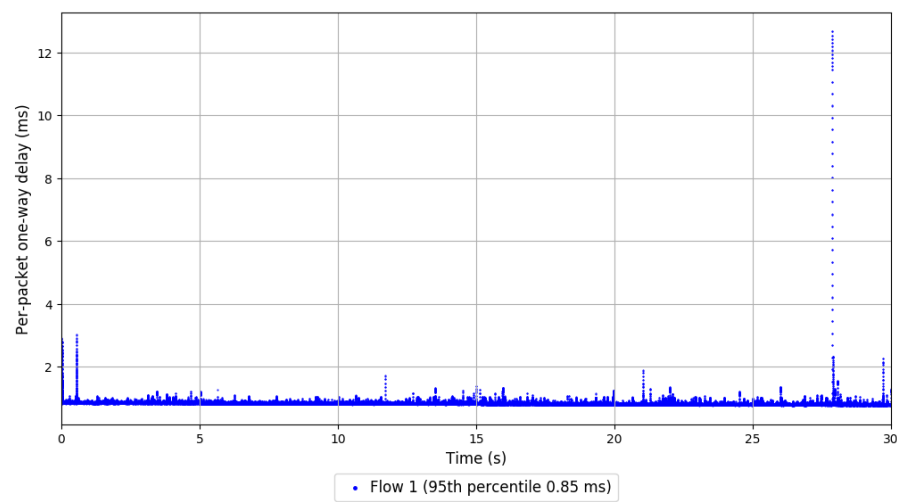
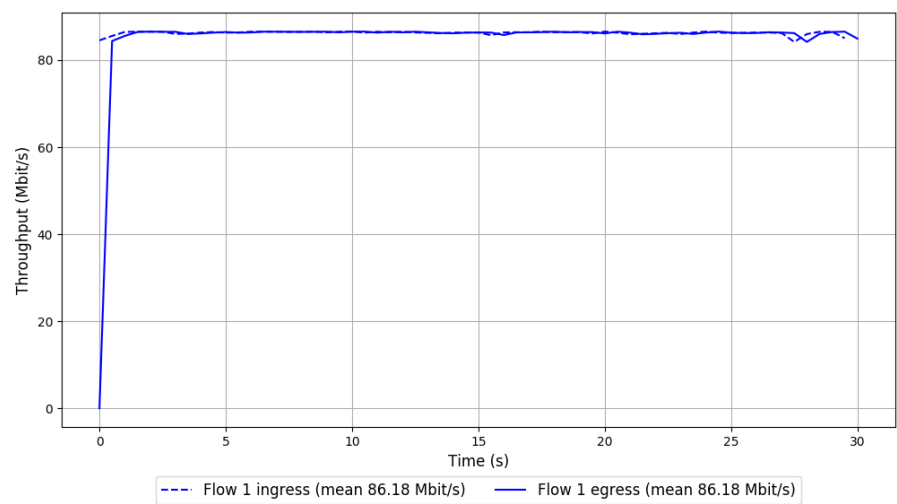
-- Flow 1:

Average throughput: 86.18 Mbit/s

95th percentile per-packet one-way delay: 0.853 ms

Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-20 06:10:28

End at: 2018-12-20 06:10:58

Local clock offset: -3.891 ms

Remote clock offset: 0.635 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 11.07 Mbit/s

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

Loss rate: 0.01%

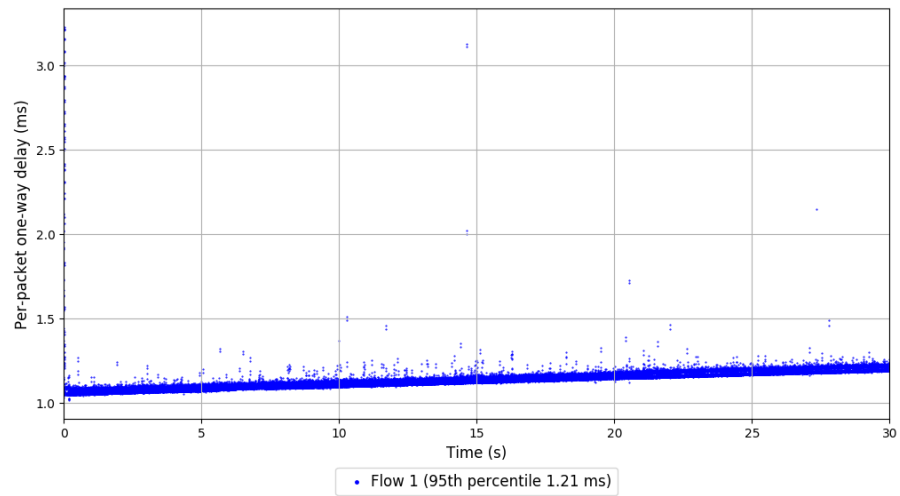
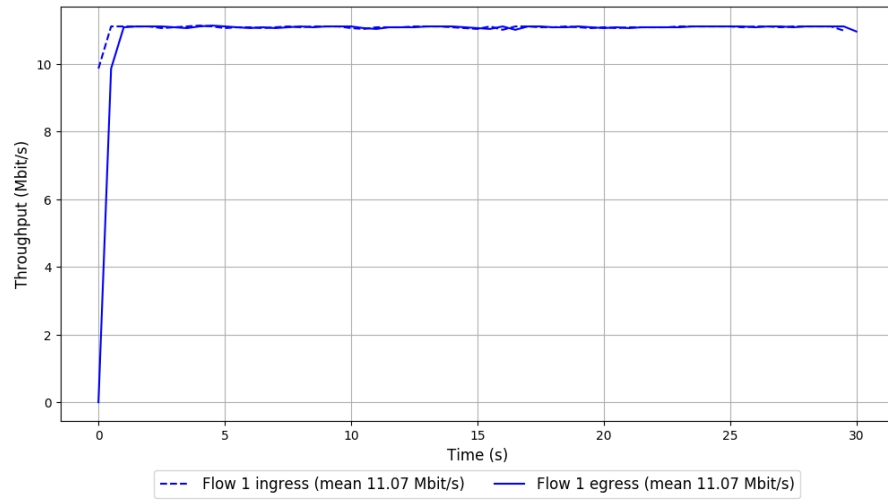
-- Flow 1:

Average throughput: 11.07 Mbit/s

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

Loss rate: 0.01%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-12-20 04:39:15

End at: 2018-12-20 04:39:45

Local clock offset: -1.4 ms

Remote clock offset: 0.266 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.46 Mbit/s

95th percentile per-packet one-way delay: 1.749 ms

Loss rate: 0.01%

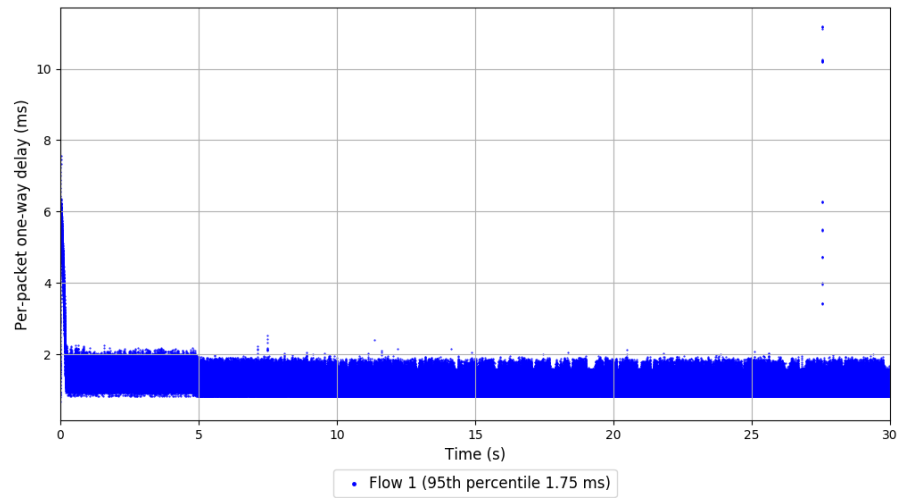
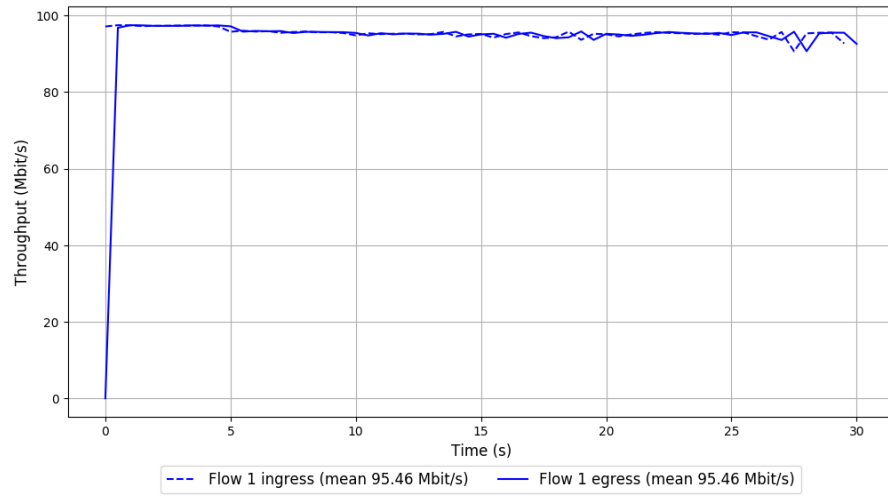
-- Flow 1:

Average throughput: 95.46 Mbit/s

95th percentile per-packet one-way delay: 1.749 ms

Loss rate: 0.01%

### Run 1: Report of TCP Vegas — Data Link





Run 2: Statistics of TCP Vegas

Start at: 2018-12-20 05:00:35

End at: 2018-12-20 05:01:05

Local clock offset: -0.759 ms

Remote clock offset: 0.374 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.79 Mbit/s

95th percentile per-packet one-way delay: 1.842 ms

Loss rate: 0.01%

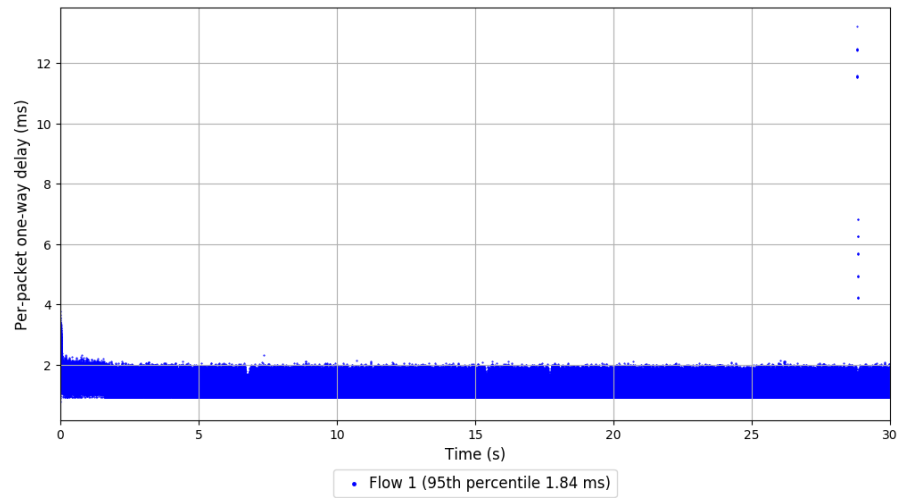
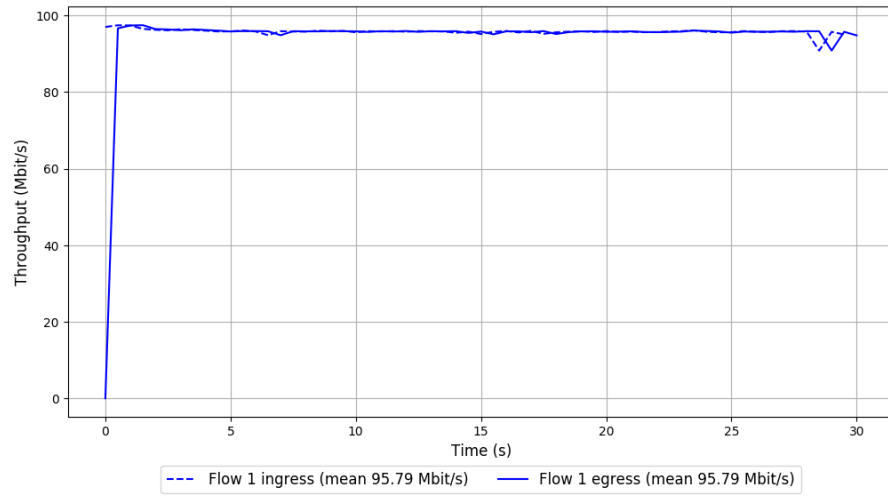
-- Flow 1:

Average throughput: 95.79 Mbit/s

95th percentile per-packet one-way delay: 1.842 ms

Loss rate: 0.01%

## Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-12-20 05:21:57

End at: 2018-12-20 05:22:27

Local clock offset: -6.268 ms

Remote clock offset: 0.589 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.70 Mbit/s

95th percentile per-packet one-way delay: 1.879 ms

Loss rate: 0.01%

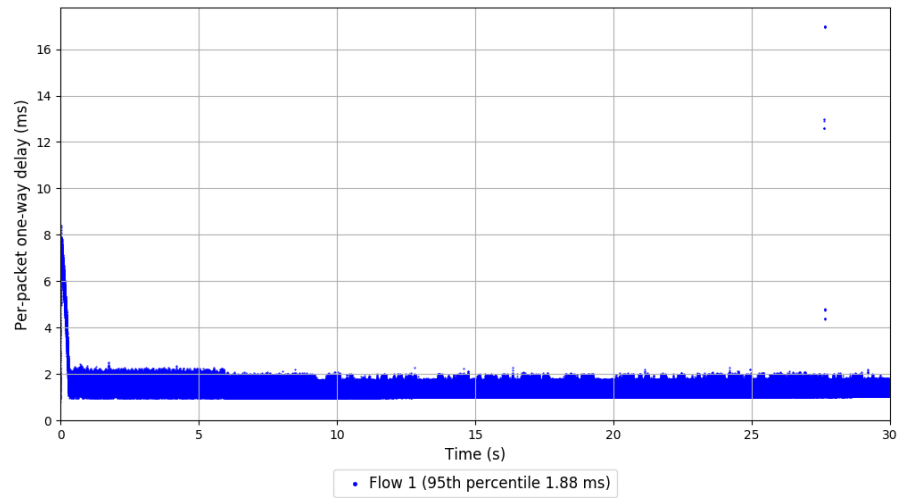
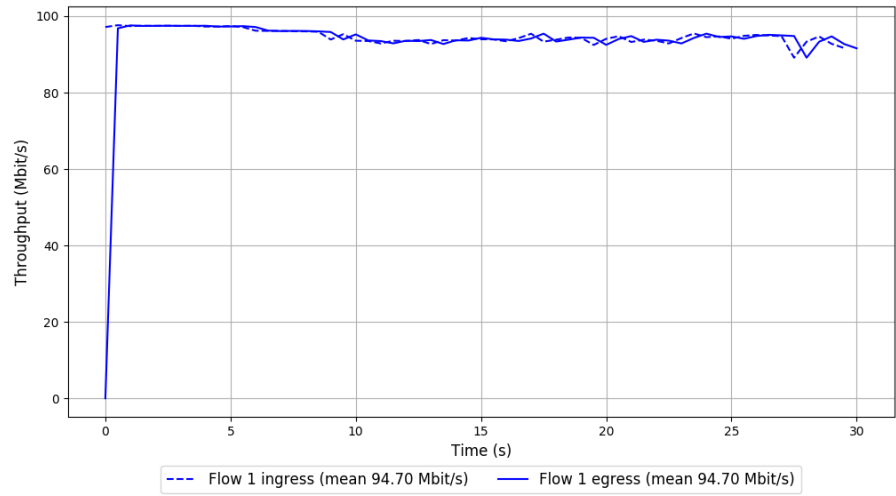
-- Flow 1:

Average throughput: 94.70 Mbit/s

95th percentile per-packet one-way delay: 1.879 ms

Loss rate: 0.01%

### Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-12-20 05:43:22

End at: 2018-12-20 05:43:52

Local clock offset: -4.261 ms

Remote clock offset: 0.594 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.54 Mbit/s

95th percentile per-packet one-way delay: 1.548 ms

Loss rate: 0.01%

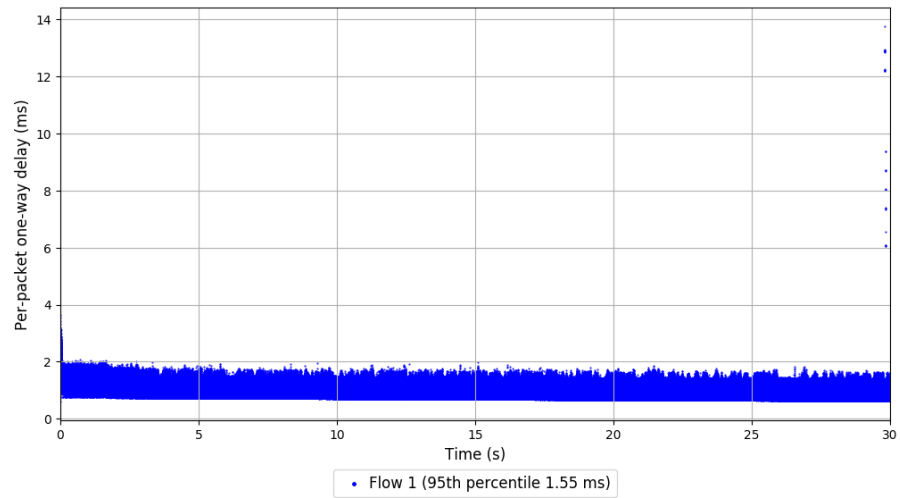
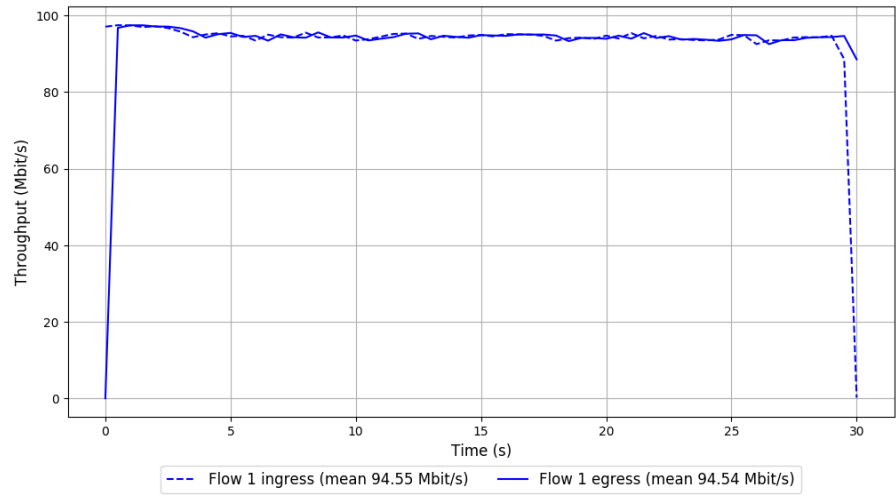
-- Flow 1:

Average throughput: 94.54 Mbit/s

95th percentile per-packet one-way delay: 1.548 ms

Loss rate: 0.01%

#### Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-12-20 06:04:43

End at: 2018-12-20 06:05:13

Local clock offset: -1.78 ms

Remote clock offset: 0.703 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 1.876 ms

Loss rate: 0.01%

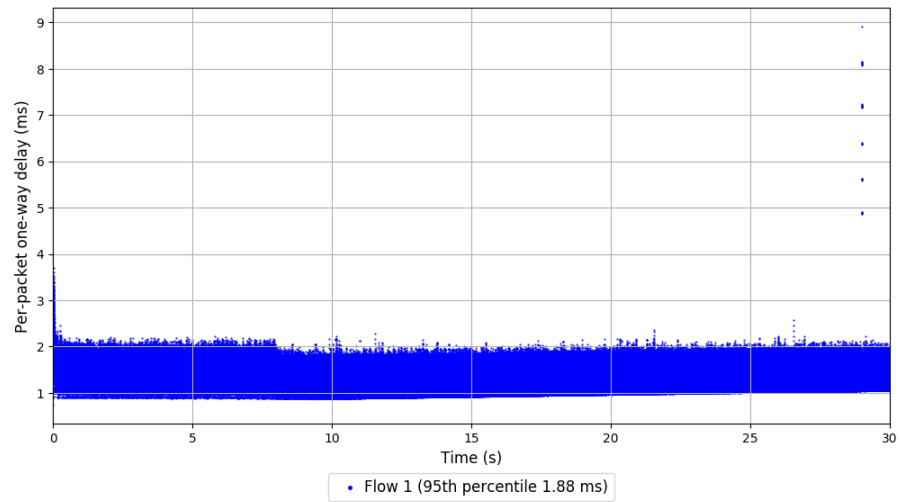
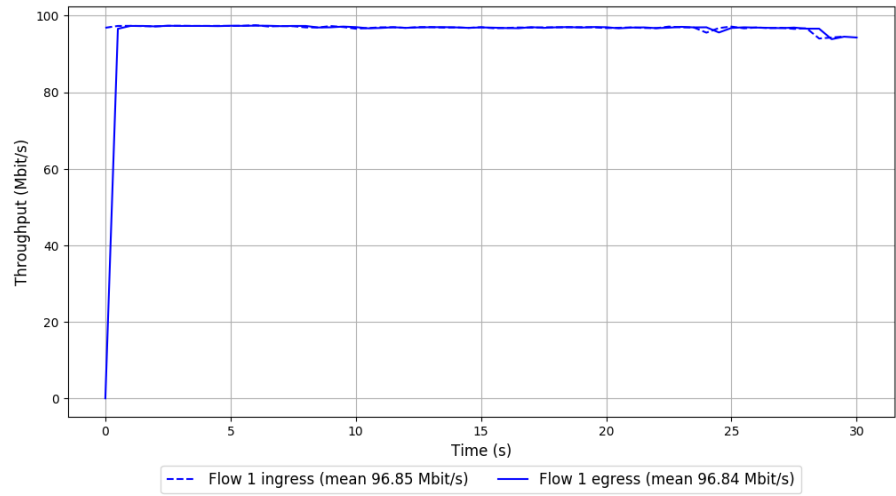
-- Flow 1:

Average throughput: 96.84 Mbit/s

95th percentile per-packet one-way delay: 1.876 ms

Loss rate: 0.01%

### Run 5: Report of TCP Vegas — Data Link





Run 1: Statistics of Verus

Start at: 2018-12-20 04:55:01

End at: 2018-12-20 04:55:31

Local clock offset: -0.941 ms

Remote clock offset: 0.288 ms

# Below is generated by plot.py at 2018-12-20 06:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 58.54 Mbit/s

95th percentile per-packet one-way delay: 6.494 ms

Loss rate: 0.02%

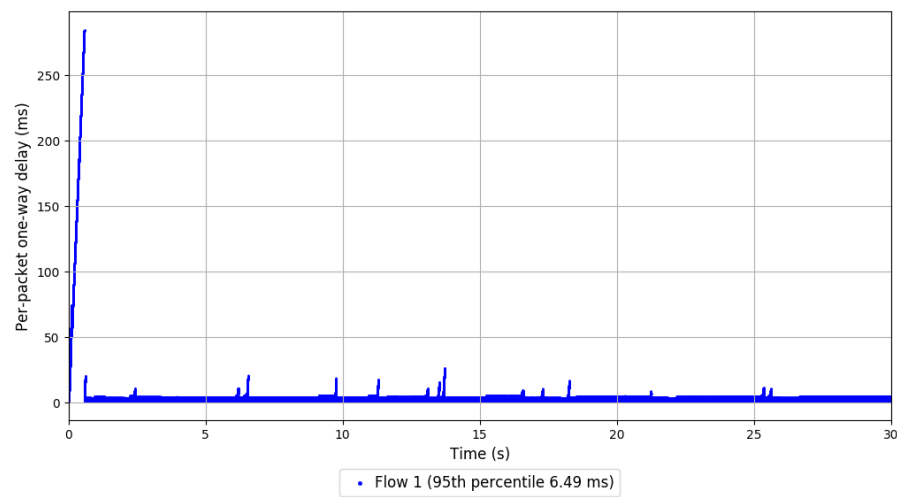
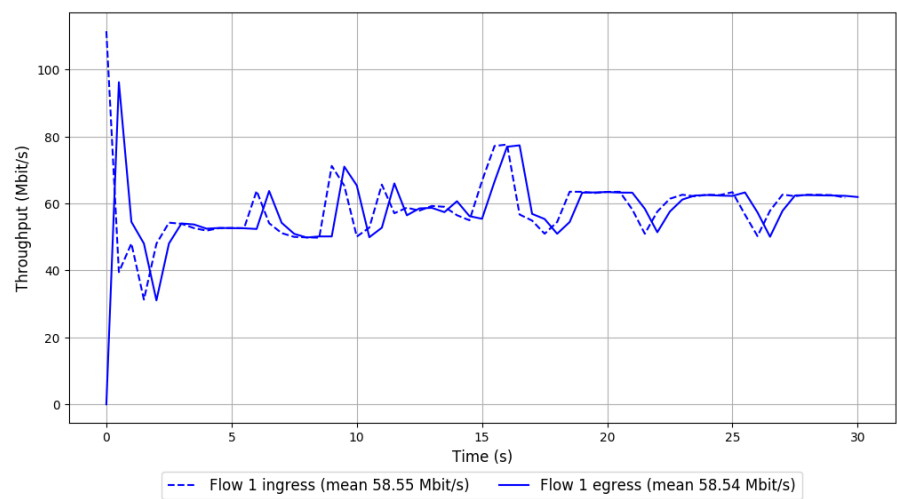
-- Flow 1:

Average throughput: 58.54 Mbit/s

95th percentile per-packet one-way delay: 6.494 ms

Loss rate: 0.02%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-12-20 05:16:23

End at: 2018-12-20 05:16:53

Local clock offset: -5.25 ms

Remote clock offset: 0.478 ms

# Below is generated by plot.py at 2018-12-20 06:35:24

# Datalink statistics

-- Total of 1 flow:

Average throughput: 61.29 Mbit/s

95th percentile per-packet one-way delay: 7.376 ms

Loss rate: 0.01%

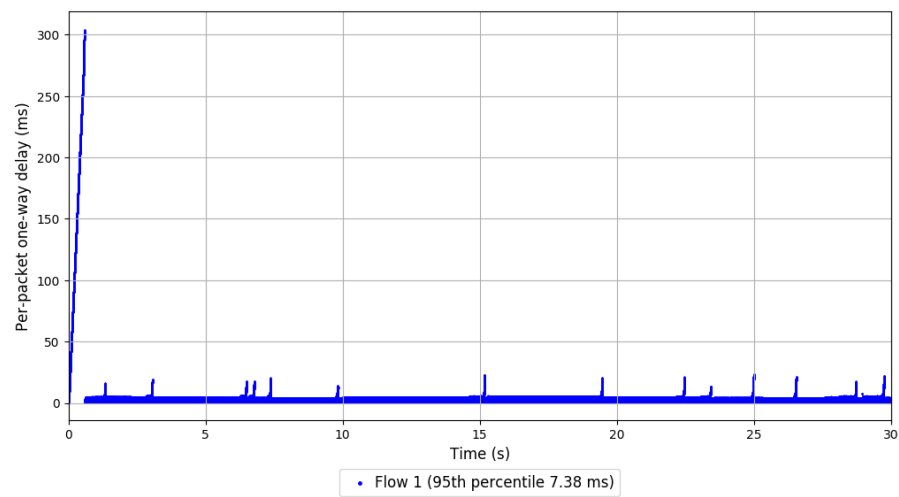
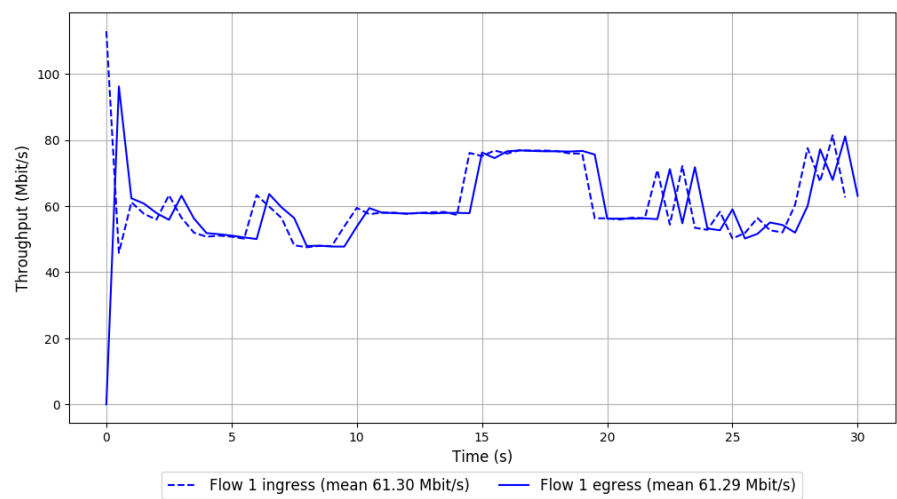
-- Flow 1:

Average throughput: 61.29 Mbit/s

95th percentile per-packet one-way delay: 7.376 ms

Loss rate: 0.01%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-12-20 05:37:48

End at: 2018-12-20 05:38:18

Local clock offset: -6.227 ms

Remote clock offset: 0.627 ms

# Below is generated by plot.py at 2018-12-20 06:35:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 66.58 Mbit/s

95th percentile per-packet one-way delay: 5.295 ms

Loss rate: 0.01%

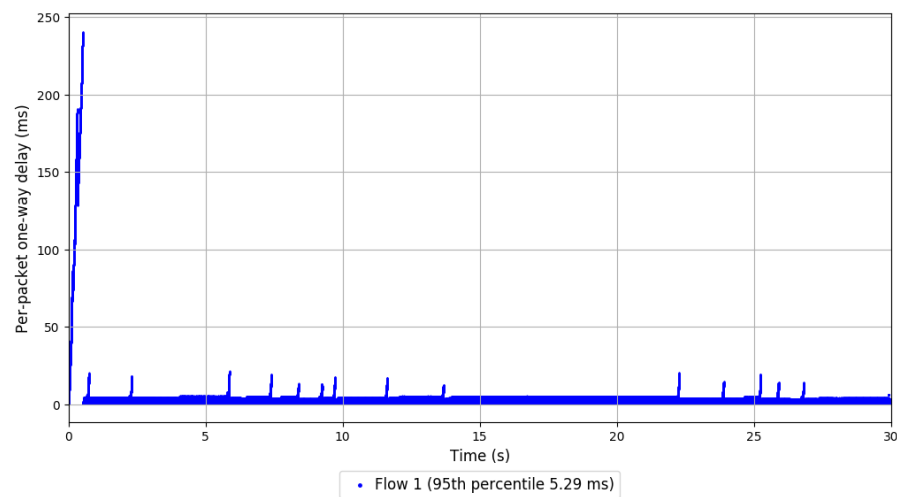
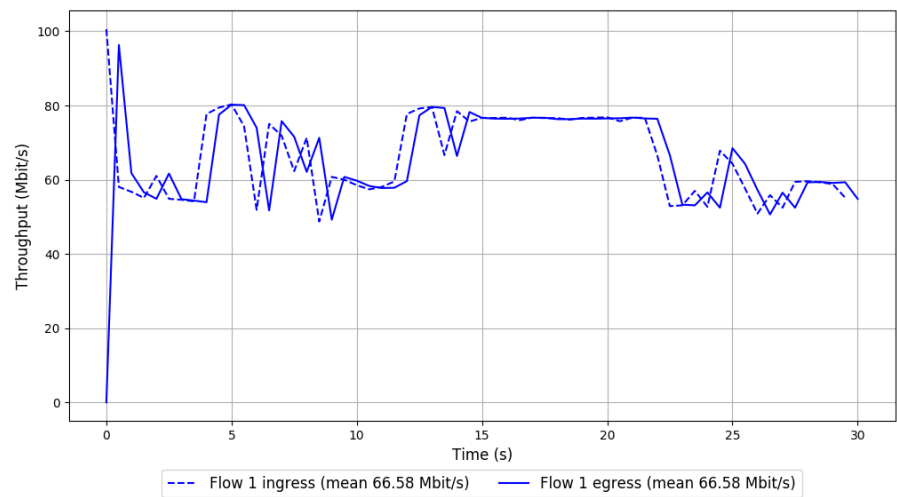
-- Flow 1:

Average throughput: 66.58 Mbit/s

95th percentile per-packet one-way delay: 5.295 ms

Loss rate: 0.01%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-12-20 05:59:09

End at: 2018-12-20 05:59:39

Local clock offset: -2.075 ms

Remote clock offset: 0.631 ms

# Below is generated by plot.py at 2018-12-20 06:35:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 55.90 Mbit/s

95th percentile per-packet one-way delay: 5.637 ms

Loss rate: 0.01%

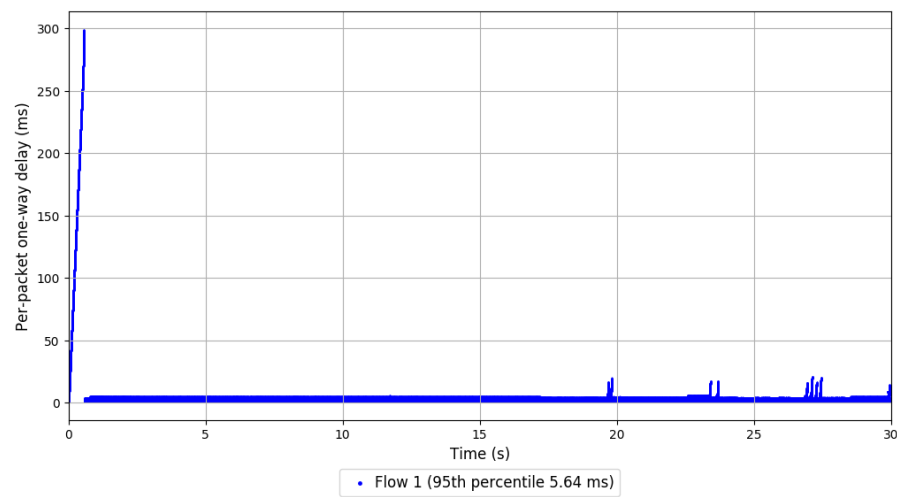
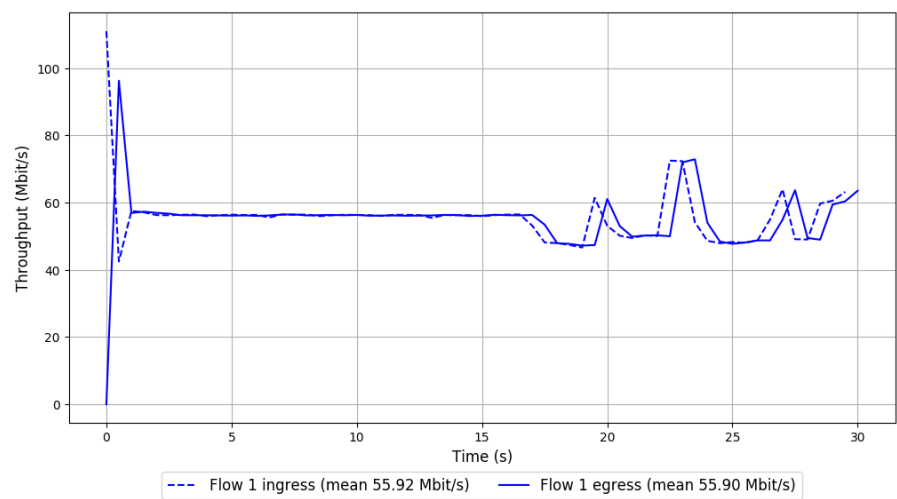
-- Flow 1:

Average throughput: 55.90 Mbit/s

95th percentile per-packet one-way delay: 5.637 ms

Loss rate: 0.01%

Run 4: Report of Verus — Data Link





Run 5: Statistics of Verus

Start at: 2018-12-20 06:20:25

End at: 2018-12-20 06:20:55

Local clock offset: -5.861 ms

Remote clock offset: 0.523 ms

# Below is generated by plot.py at 2018-12-20 06:35:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 58.20 Mbit/s

95th percentile per-packet one-way delay: 5.260 ms

Loss rate: 0.02%

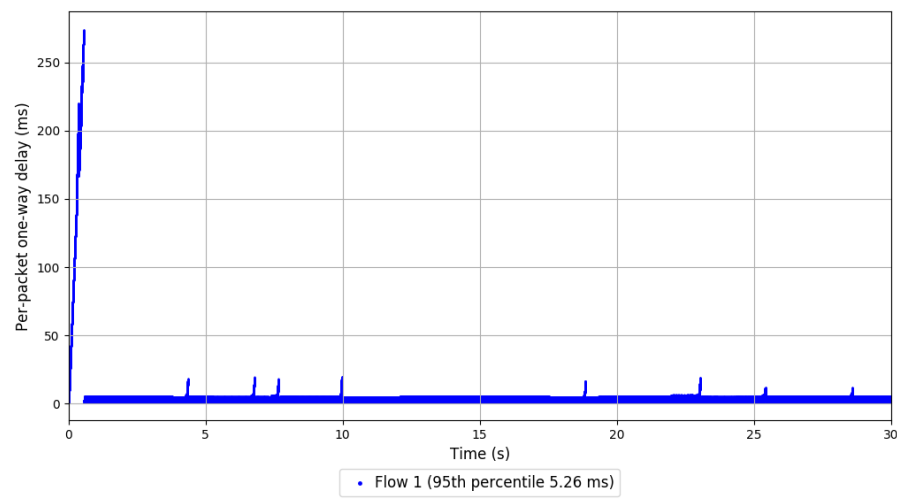
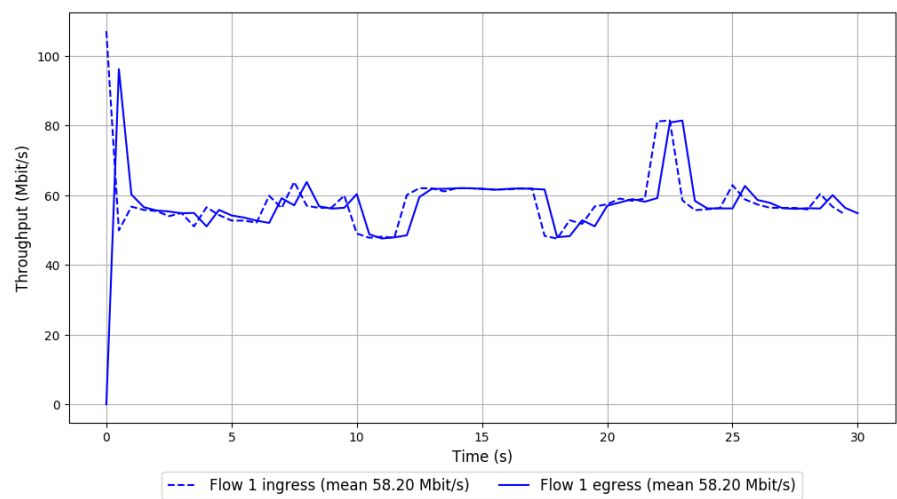
-- Flow 1:

Average throughput: 58.20 Mbit/s

95th percentile per-packet one-way delay: 5.260 ms

Loss rate: 0.02%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-12-20 04:51:43

End at: 2018-12-20 04:52:13

Local clock offset: -1.018 ms

Remote clock offset: 0.282 ms

# Below is generated by plot.py at 2018-12-20 06:35:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 33.09 Mbit/s

95th percentile per-packet one-way delay: 0.936 ms

Loss rate: 0.00%

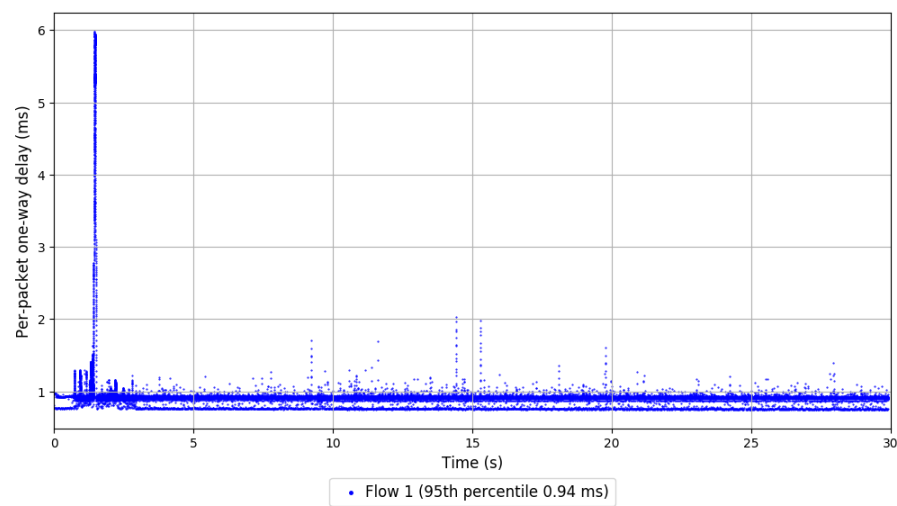
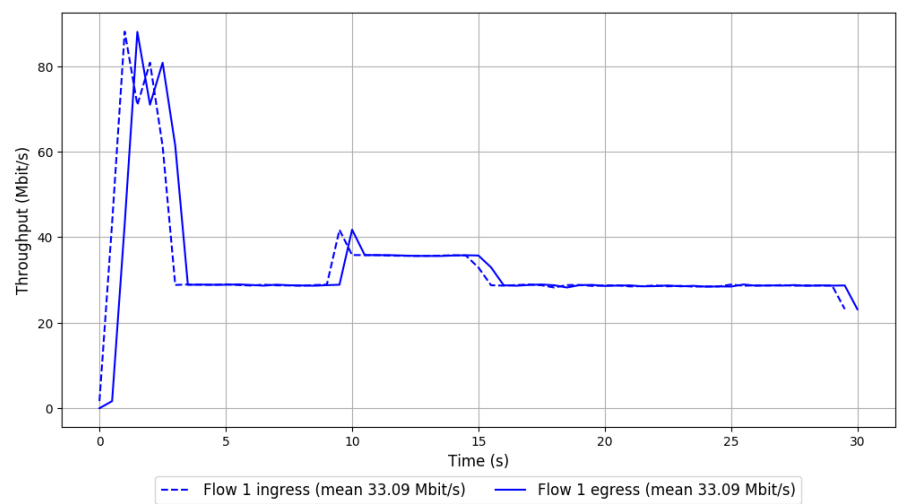
-- Flow 1:

Average throughput: 33.09 Mbit/s

95th percentile per-packet one-way delay: 0.936 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-20 05:13:04

End at: 2018-12-20 05:13:34

Local clock offset: -4.341 ms

Remote clock offset: 0.477 ms

# Below is generated by plot.py at 2018-12-20 06:35:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 29.15 Mbit/s

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

Loss rate: 0.01%

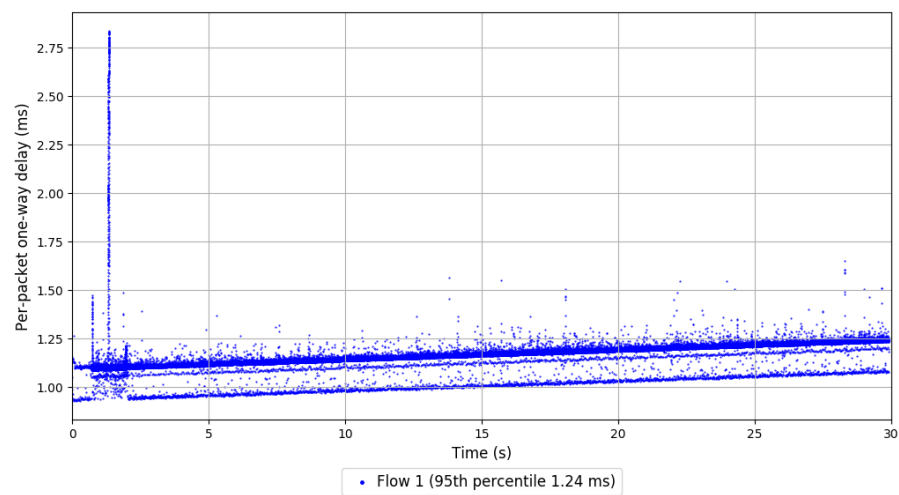
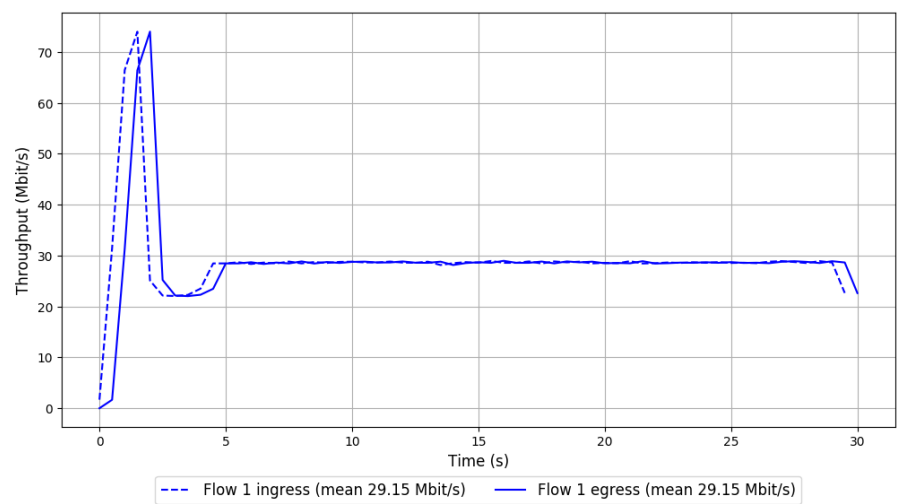
-- Flow 1:

Average throughput: 29.15 Mbit/s

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

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-20 05:34:30

End at: 2018-12-20 05:35:00

Local clock offset: -7.516 ms

Remote clock offset: 0.559 ms

# Below is generated by plot.py at 2018-12-20 06:35:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 26.81 Mbit/s

95th percentile per-packet one-way delay: 1.007 ms

Loss rate: 0.01%

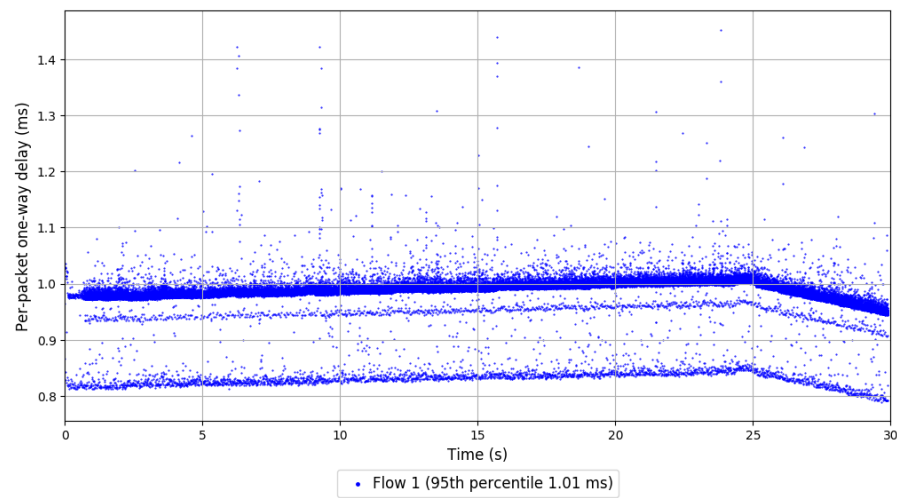
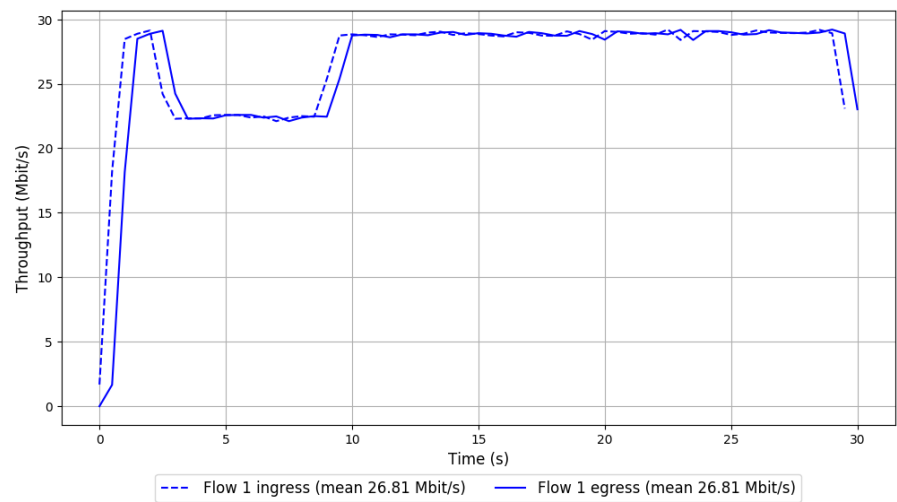
-- Flow 1:

Average throughput: 26.81 Mbit/s

95th percentile per-packet one-way delay: 1.007 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link





Run 4: Statistics of PCC-Vivace

Start at: 2018-12-20 05:55:51

End at: 2018-12-20 05:56:21

Local clock offset: -2.278 ms

Remote clock offset: 0.639 ms

# Below is generated by plot.py at 2018-12-20 06:35:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 28.27 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.00%

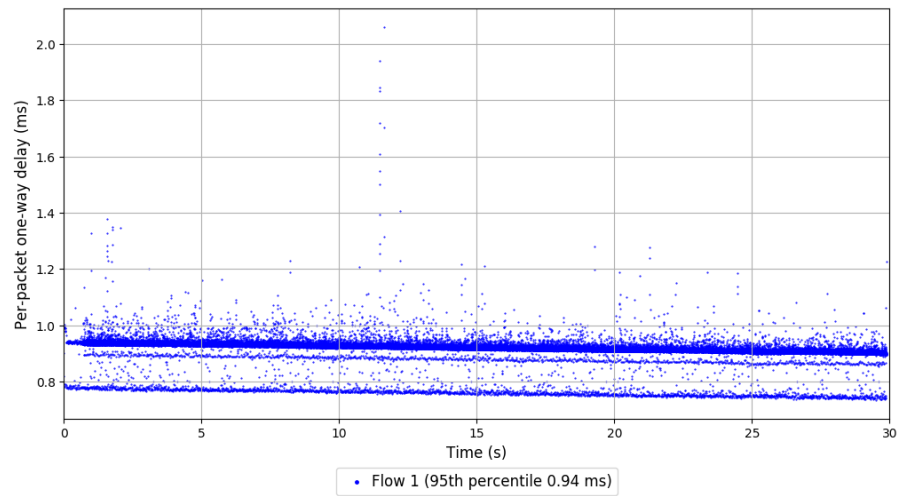
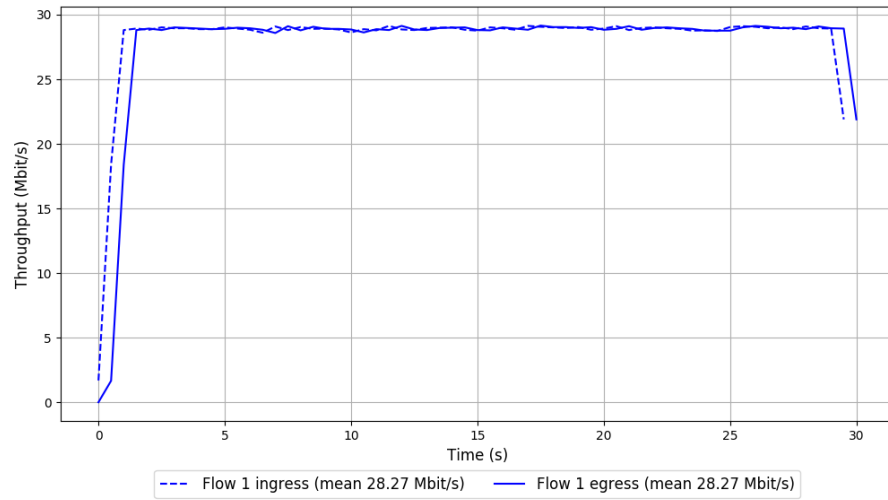
-- Flow 1:

Average throughput: 28.27 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.00%

#### Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-20 06:17:07

End at: 2018-12-20 06:17:37

Local clock offset: -5.399 ms

Remote clock offset: 0.571 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 31.68 Mbit/s

95th percentile per-packet one-way delay: 1.095 ms

Loss rate: 0.00%

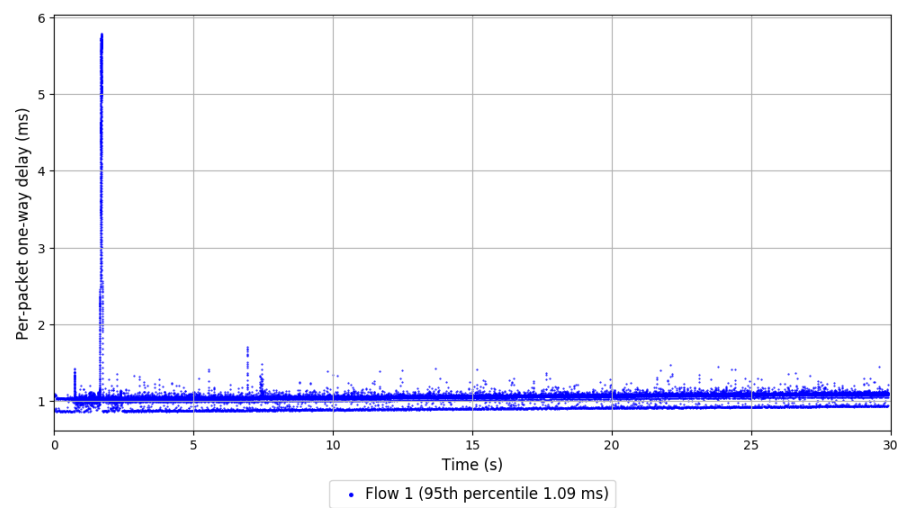
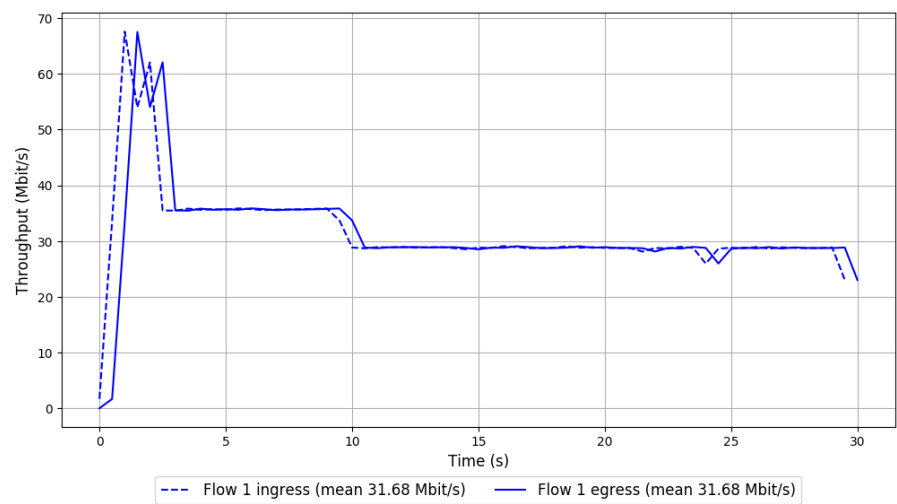
-- Flow 1:

Average throughput: 31.68 Mbit/s

95th percentile per-packet one-way delay: 1.095 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-12-20 04:38:11

End at: 2018-12-20 04:38:41

Local clock offset: -1.417 ms

Remote clock offset: 0.2 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 1.389 ms

Loss rate: 0.00%

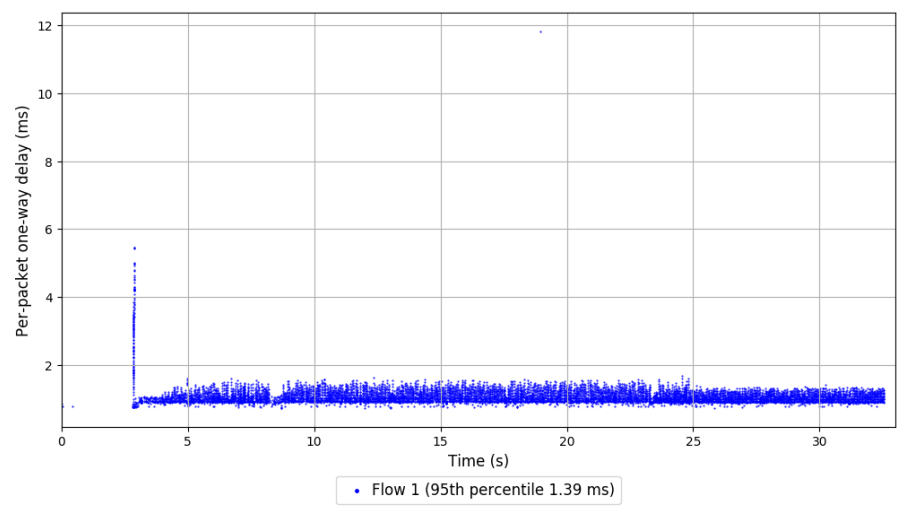
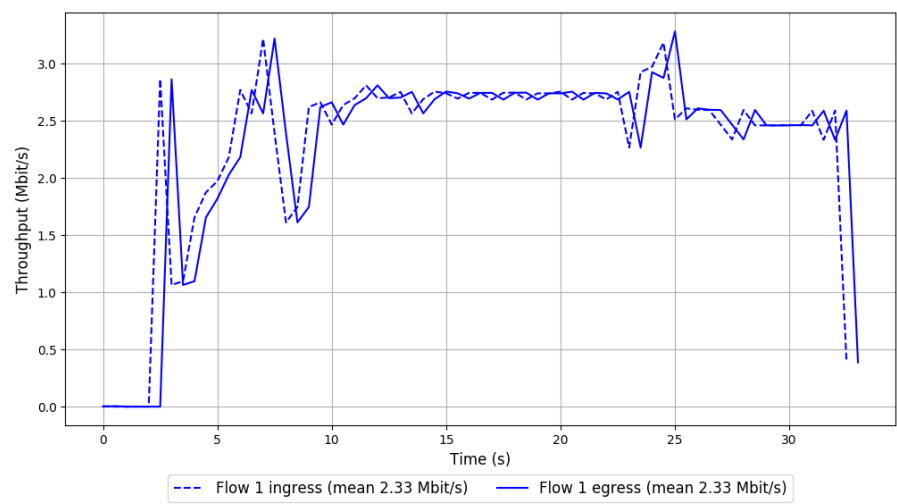
-- Flow 1:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 1.389 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-12-20 04:59:31

End at: 2018-12-20 05:00:01

Local clock offset: -0.853 ms

Remote clock offset: 0.308 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 1.419 ms

Loss rate: 0.01%

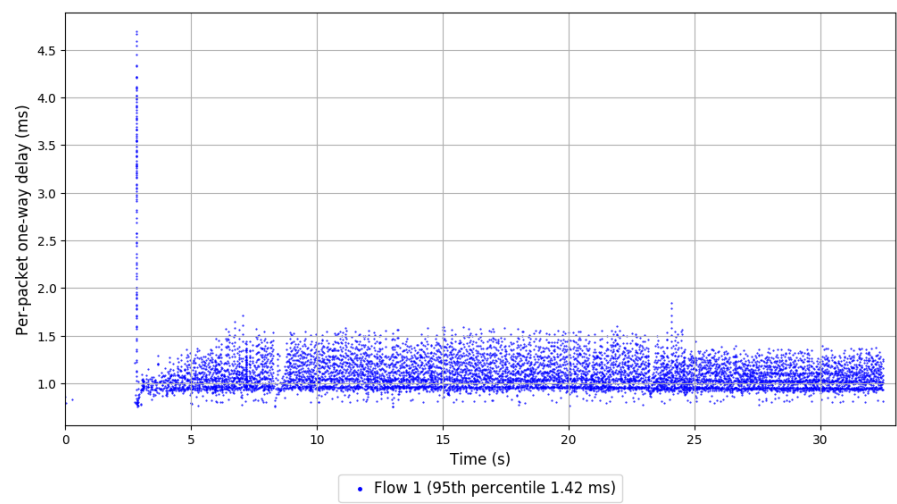
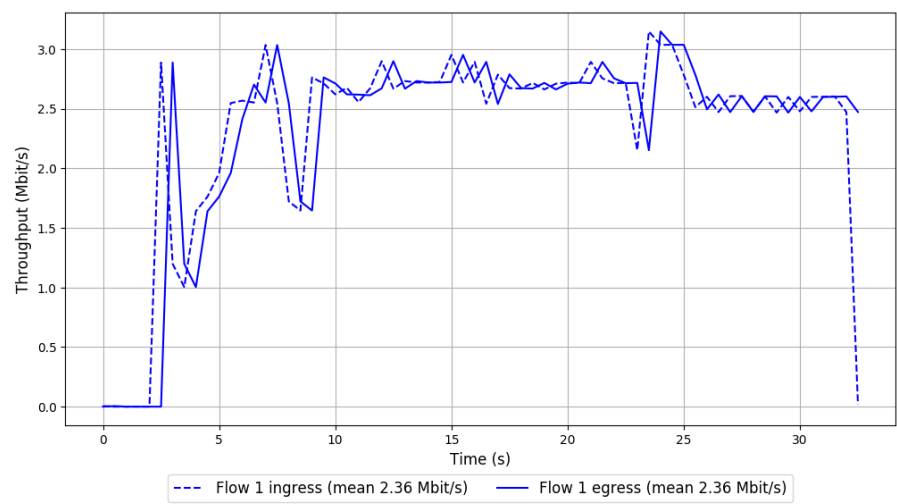
-- Flow 1:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 1.419 ms

Loss rate: 0.01%

Run 2: Report of WebRTC media — Data Link





Run 3: Statistics of WebRTC media

Start at: 2018-12-20 05:20:52

End at: 2018-12-20 05:21:22

Local clock offset: -6.123 ms

Remote clock offset: 0.595 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1.438 ms

Loss rate: 0.08%

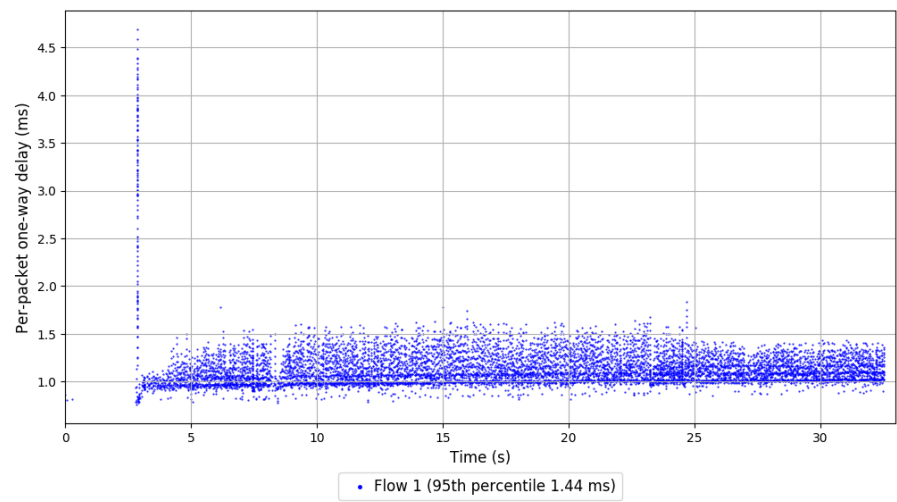
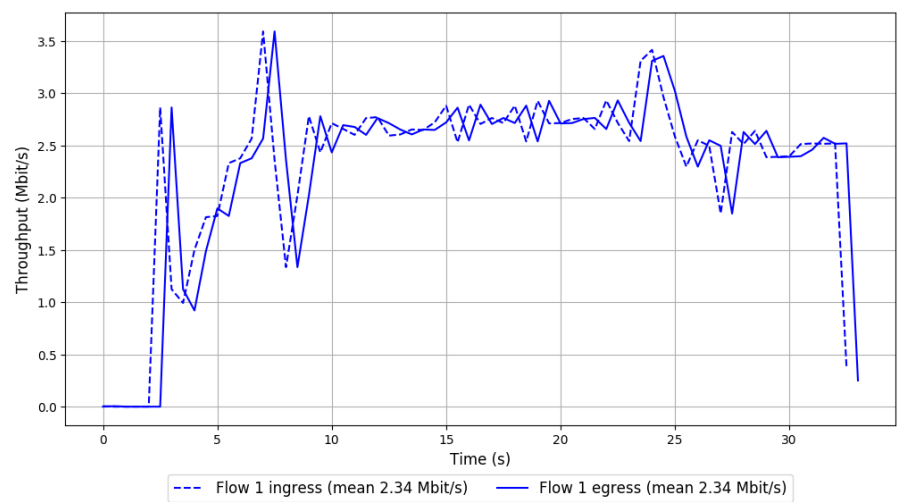
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1.438 ms

Loss rate: 0.08%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-20 05:42:17

End at: 2018-12-20 05:42:47

Local clock offset: -4.452 ms

Remote clock offset: 0.661 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 1.223 ms

Loss rate: 0.00%

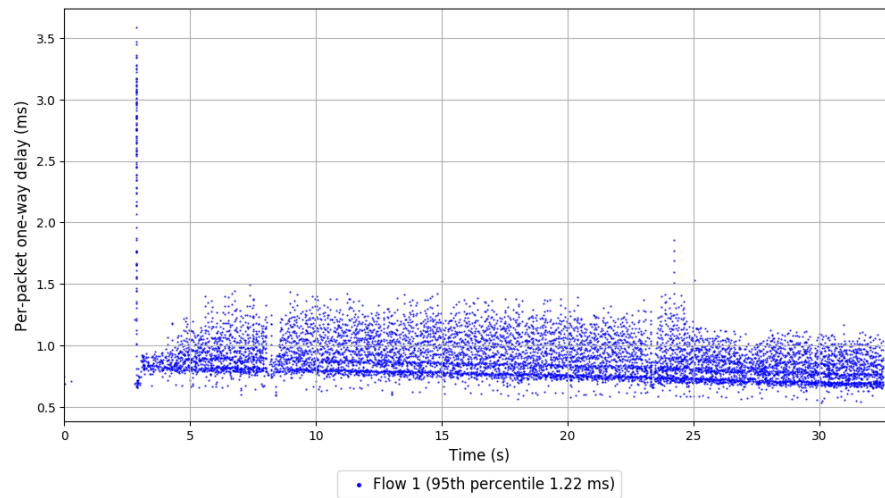
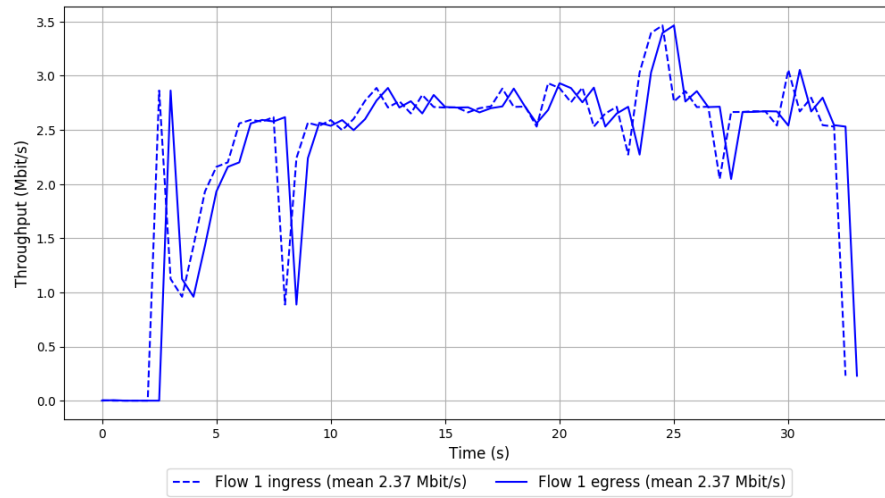
-- Flow 1:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 1.223 ms

Loss rate: 0.00%

#### Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-20 06:03:38

End at: 2018-12-20 06:04:09

Local clock offset: -1.83 ms

Remote clock offset: 0.721 ms

# Below is generated by plot.py at 2018-12-20 06:35:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 1.370 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.33 Mbit/s

95th percentile per-packet one-way delay: 1.370 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

