

## Pantheon Report

Generated at 2018-12-11 17:44:27 (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.

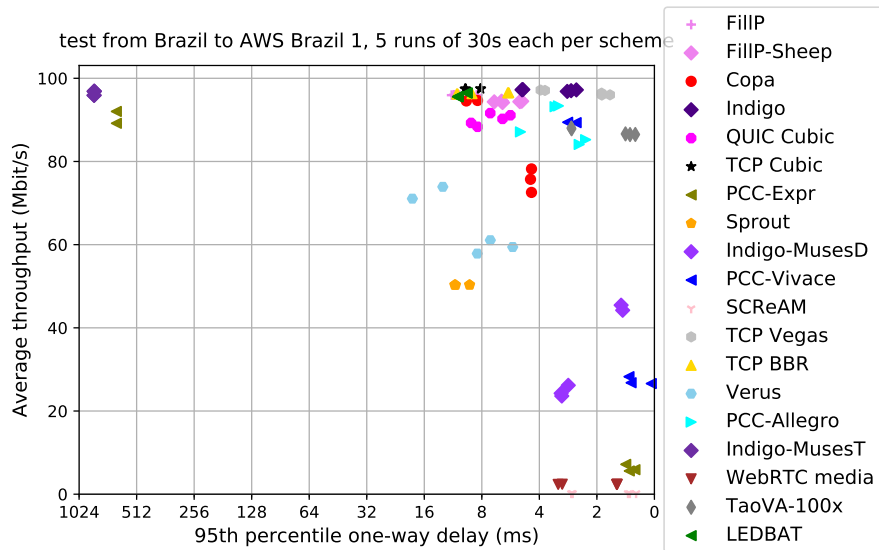
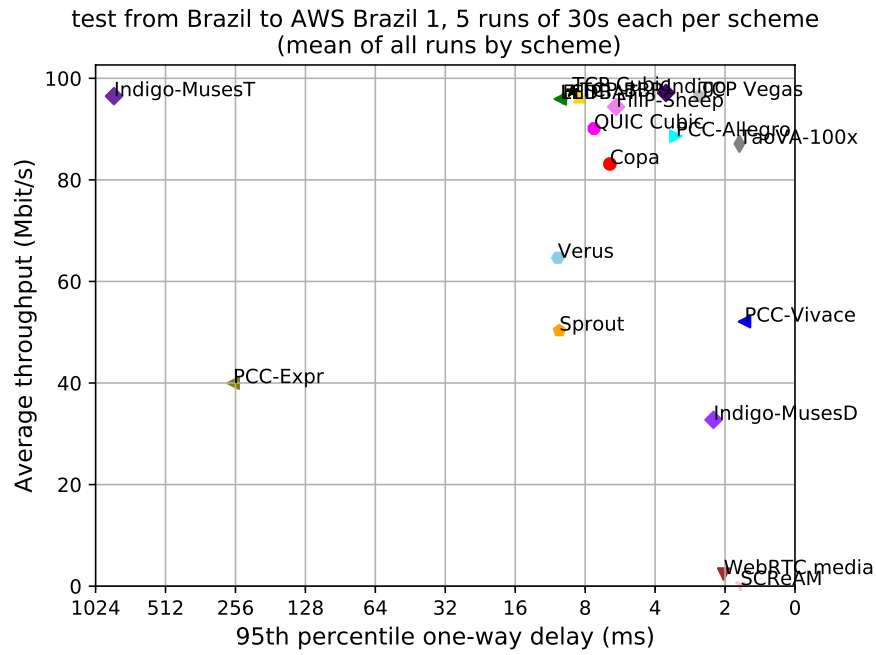
### System info:

```
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	96.37	8.43	0.17
Copa	5	83.14	6.26	0.03
TCP Cubic	5	97.45	9.10	0.05
FillP	5	95.97	10.02	0.04
FillP-Sheep	5	94.37	5.89	0.02
Indigo	5	97.12	3.59	0.02
Indigo-MusesD	5	32.74	2.24	0.01
Indigo-MusesT	5	96.49	853.78	2.71
LEDBAT	5	95.93	10.24	0.08
PCC-Allegro	5	88.59	3.26	0.01
PCC-Expr	5	39.97	262.01	3.01
QUIC Cubic	5	90.12	7.33	0.02
SCReAM	5	0.22	1.56	0.00
Sprout	5	50.33	10.33	0.04
TaoVA-100x	5	87.10	1.59	0.01
TCP Vegas	5	96.53	2.58	0.01
Verus	5	64.66	10.49	10.01
PCC-Vivace	5	52.09	1.44	0.01
WebRTC media	5	2.37	2.03	0.02



Run 1: Statistics of TCP BBR

Start at: 2018-12-11 15:51:12

End at: 2018-12-11 15:51:42

Local clock offset: -5.866 ms

Remote clock offset: 1.12 ms

# Below is generated by plot.py at 2018-12-11 17:33:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 10.709 ms

Loss rate: 0.37%

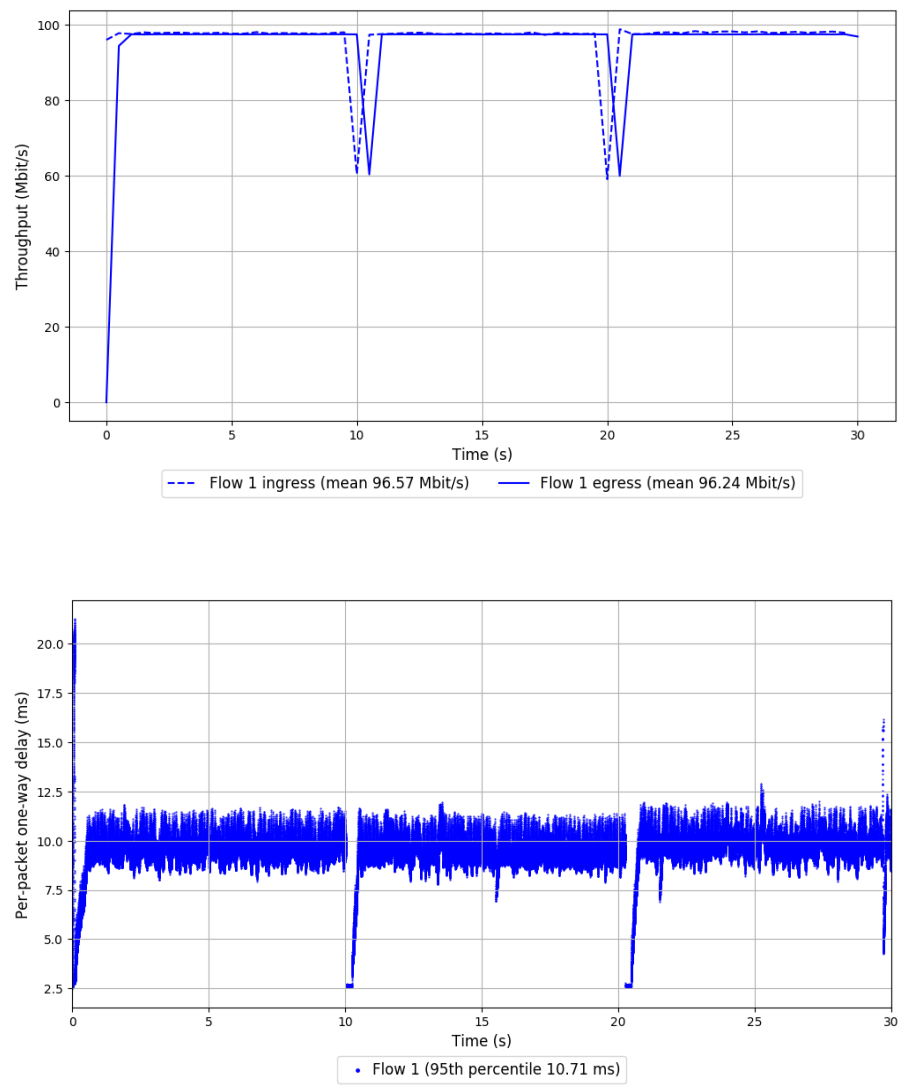
-- Flow 1:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 10.709 ms

Loss rate: 0.37%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-11 16:12:43

End at: 2018-12-11 16:13:13

Local clock offset: -5.675 ms

Remote clock offset: 1.18 ms

# Below is generated by plot.py at 2018-12-11 17:33:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 10.815 ms

Loss rate: 0.39%

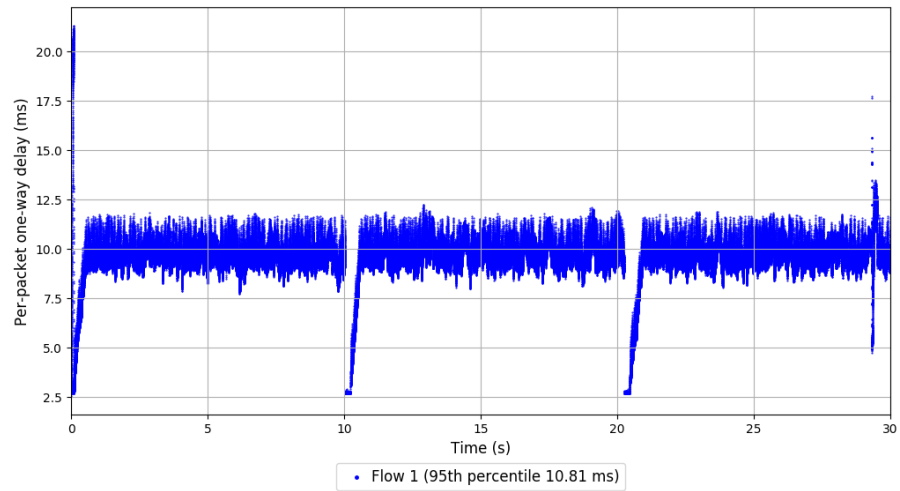
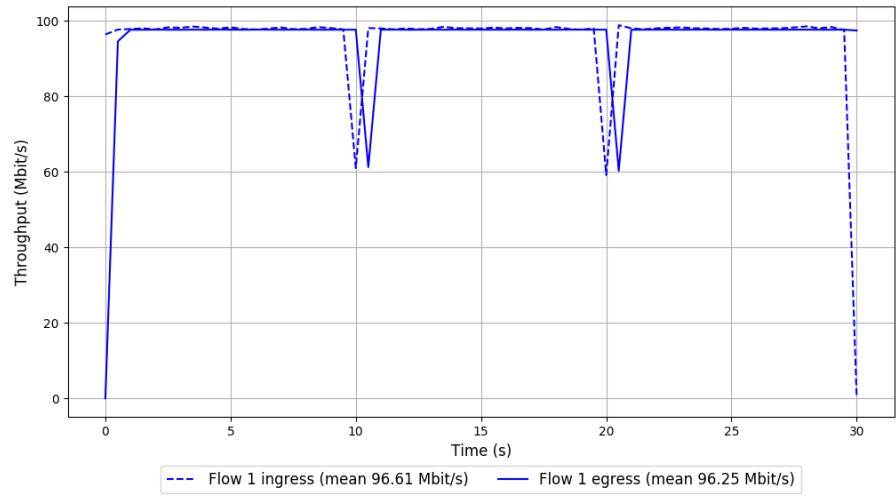
-- Flow 1:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 10.815 ms

Loss rate: 0.39%

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



Run 3: Statistics of TCP BBR

Start at: 2018-12-11 16:34:42

End at: 2018-12-11 16:35:12

Local clock offset: -6.595 ms

Remote clock offset: 1.013 ms

# Below is generated by plot.py at 2018-12-11 17:33:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 9.004 ms

Loss rate: 0.03%

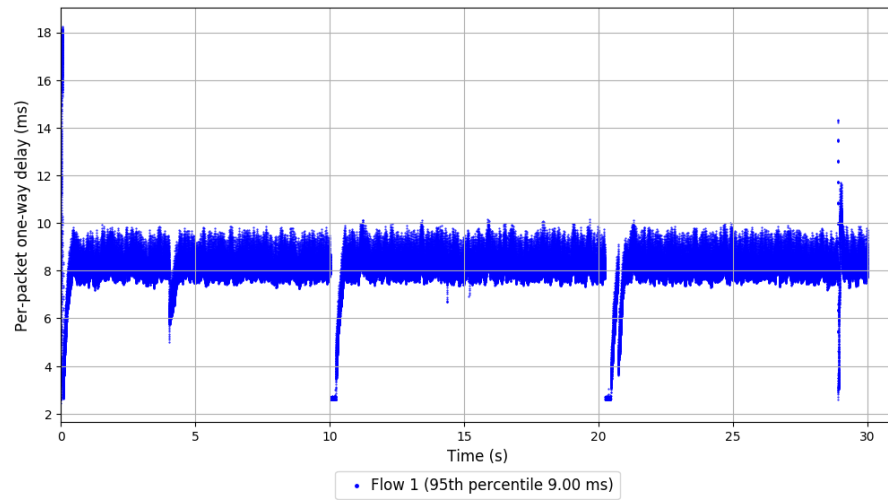
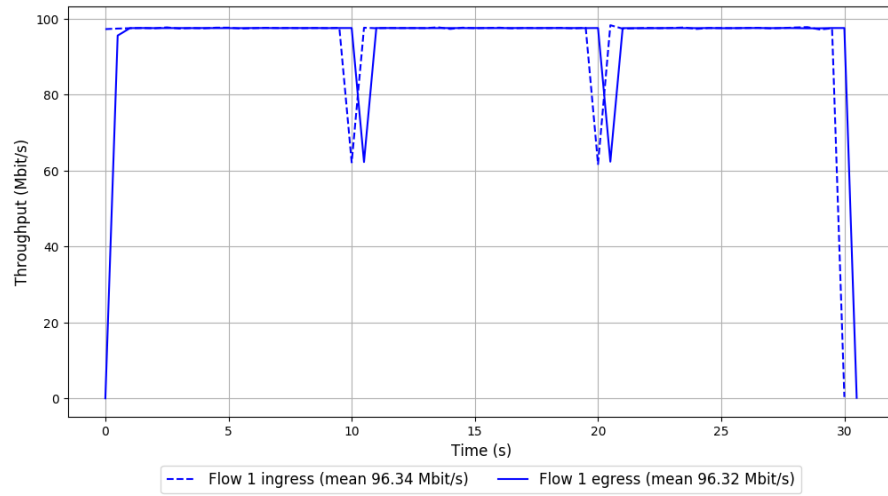
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 9.004 ms

Loss rate: 0.03%

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



Run 4: Statistics of TCP BBR

Start at: 2018-12-11 16:56:02

End at: 2018-12-11 16:56:32

Local clock offset: -1.358 ms

Remote clock offset: 0.804 ms

# Below is generated by plot.py at 2018-12-11 17:33:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.52 Mbit/s

95th percentile per-packet one-way delay: 5.850 ms

Loss rate: 0.02%

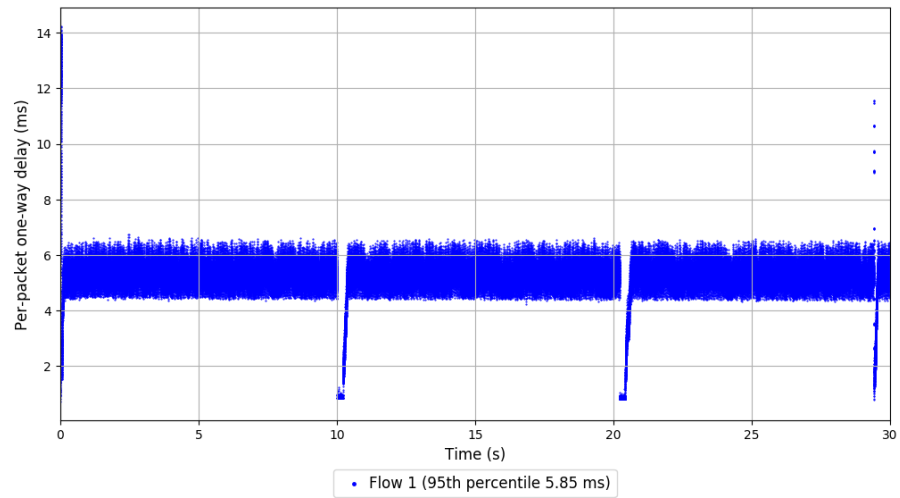
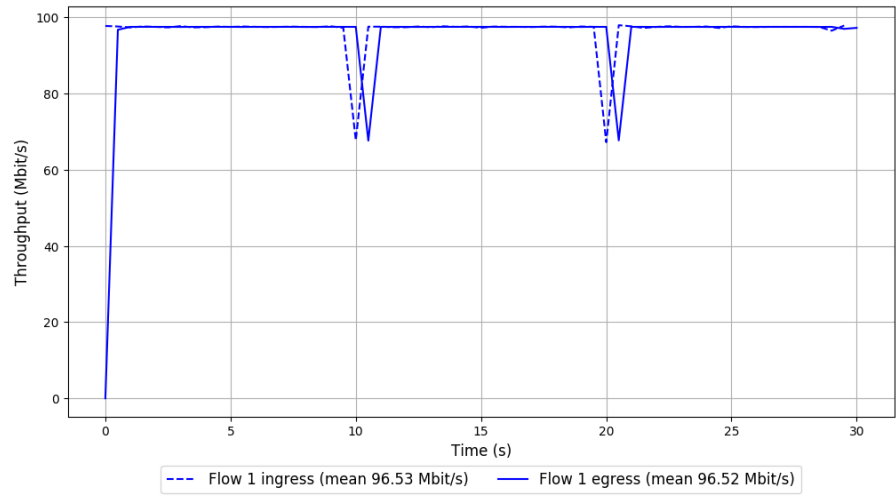
-- Flow 1:

Average throughput: 96.52 Mbit/s

95th percentile per-packet one-way delay: 5.850 ms

Loss rate: 0.02%

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





Run 5: Statistics of TCP BBR

Start at: 2018-12-11 17:17:22

End at: 2018-12-11 17:17:52

Local clock offset: 0.535 ms

Remote clock offset: 0.688 ms

# Below is generated by plot.py at 2018-12-11 17:33:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.786 ms

Loss rate: 0.02%

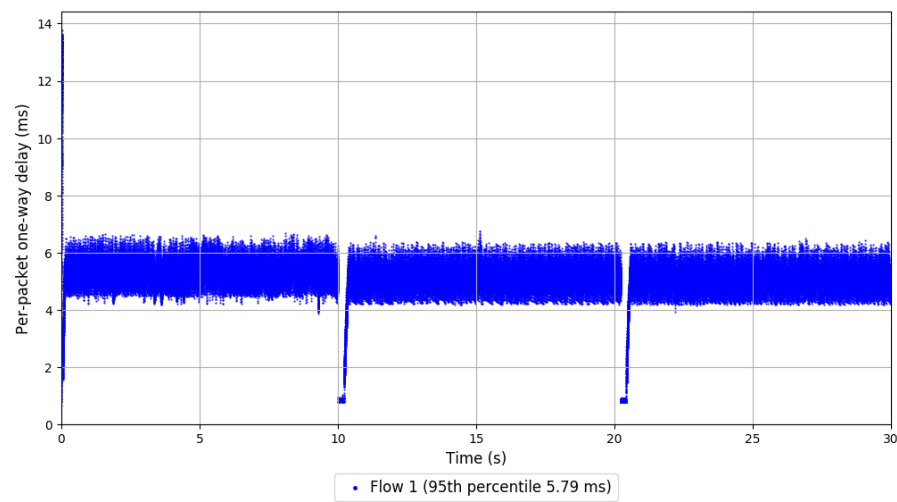
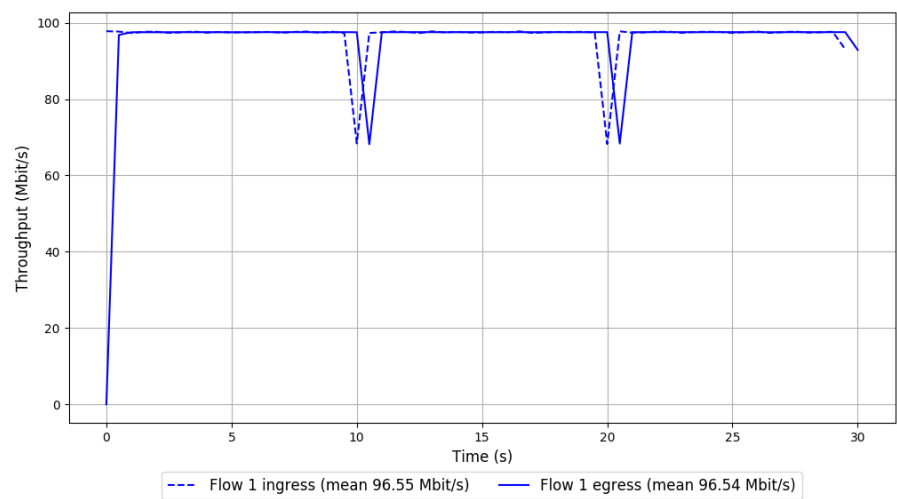
-- Flow 1:

Average throughput: 96.54 Mbit/s

95th percentile per-packet one-way delay: 5.786 ms

Loss rate: 0.02%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-12-11 15:47:49

End at: 2018-12-11 15:48:19

Local clock offset: -6.096 ms

Remote clock offset: 1.185 ms

# Below is generated by plot.py at 2018-12-11 17:34:30

# Datalink statistics

-- Total of 1 flow:

Average throughput: 72.56 Mbit/s

95th percentile per-packet one-way delay: 4.398 ms

Loss rate: 0.02%

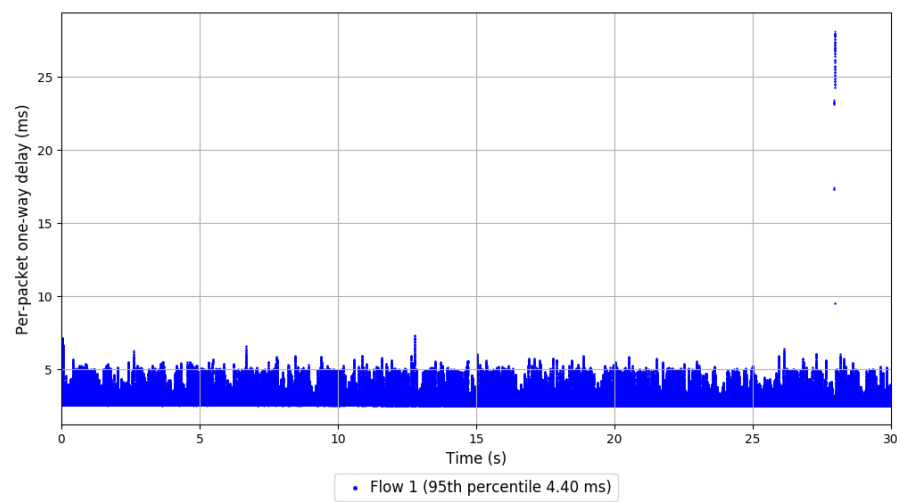
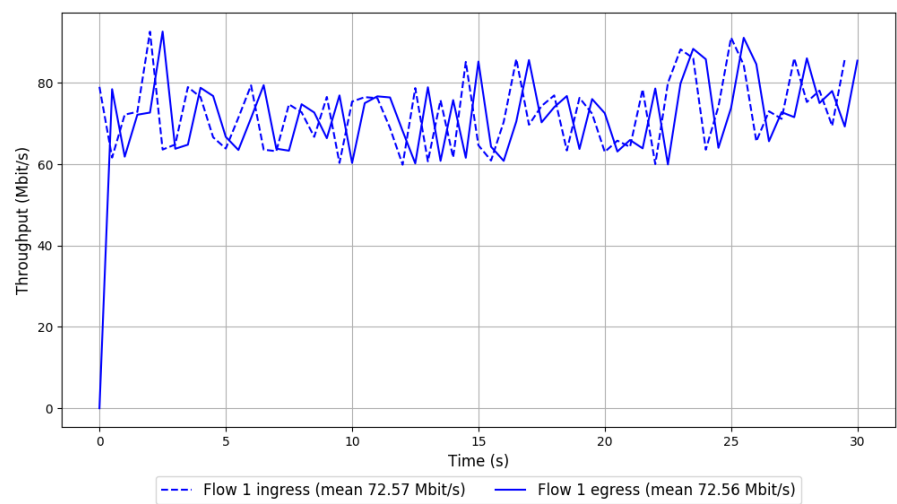
-- Flow 1:

Average throughput: 72.56 Mbit/s

95th percentile per-packet one-way delay: 4.398 ms

Loss rate: 0.02%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-12-11 16:09:19

End at: 2018-12-11 16:09:49

Local clock offset: -5.452 ms

Remote clock offset: 1.171 ms

# Below is generated by plot.py at 2018-12-11 17:34:36

# Datalink statistics

-- Total of 1 flow:

Average throughput: 78.21 Mbit/s

95th percentile per-packet one-way delay: 4.397 ms

Loss rate: 0.03%

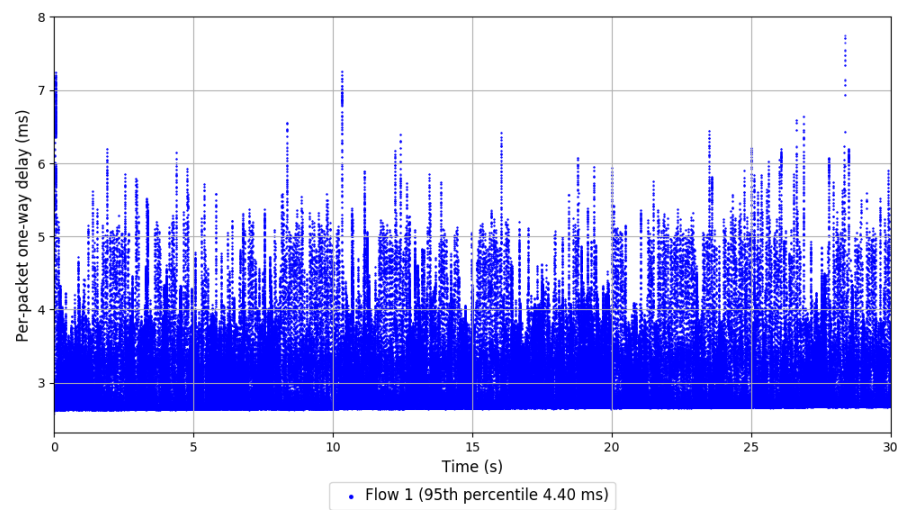
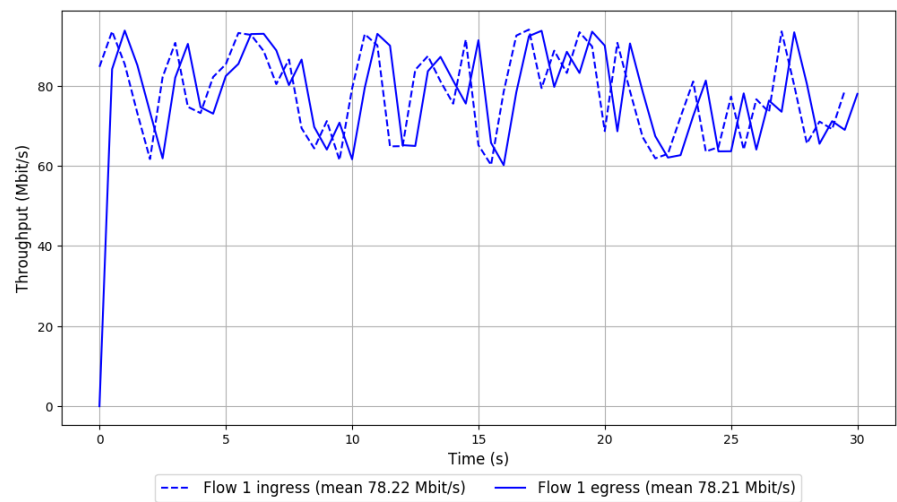
-- Flow 1:

Average throughput: 78.21 Mbit/s

95th percentile per-packet one-way delay: 4.397 ms

Loss rate: 0.03%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-12-11 16:31:18

End at: 2018-12-11 16:31:48

Local clock offset: -6.546 ms

Remote clock offset: 0.989 ms

# Below is generated by plot.py at 2018-12-11 17:34:36

# Datalink statistics

-- Total of 1 flow:

Average throughput: 75.71 Mbit/s

95th percentile per-packet one-way delay: 4.450 ms

Loss rate: 0.01%

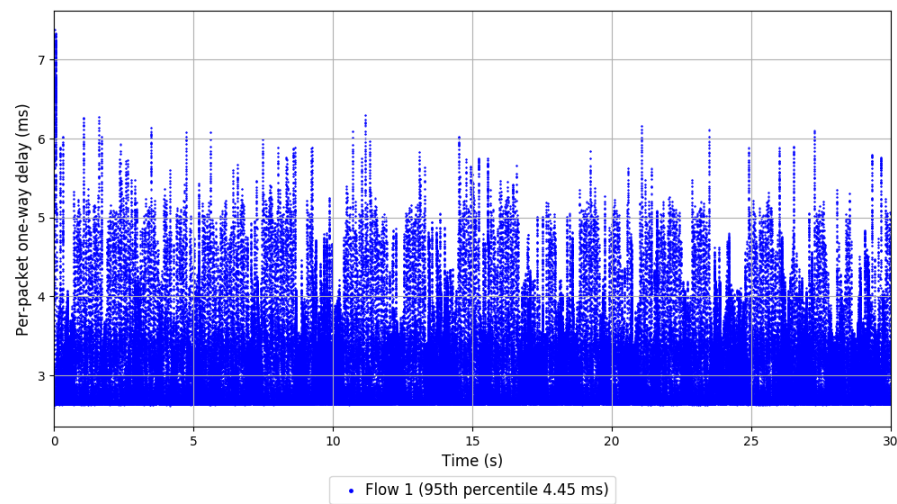
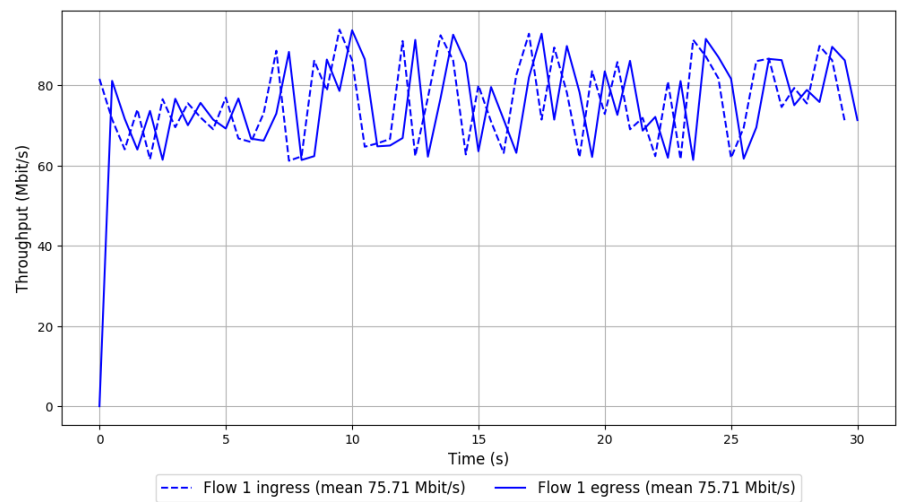
-- Flow 1:

Average throughput: 75.71 Mbit/s

95th percentile per-packet one-way delay: 4.450 ms

Loss rate: 0.01%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2018-12-11 16:52:37

End at: 2018-12-11 16:53:07

Local clock offset: -1.847 ms

Remote clock offset: 0.805 ms

# Below is generated by plot.py at 2018-12-11 17:35:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.55 Mbit/s

95th percentile per-packet one-way delay: 9.642 ms

Loss rate: 0.05%

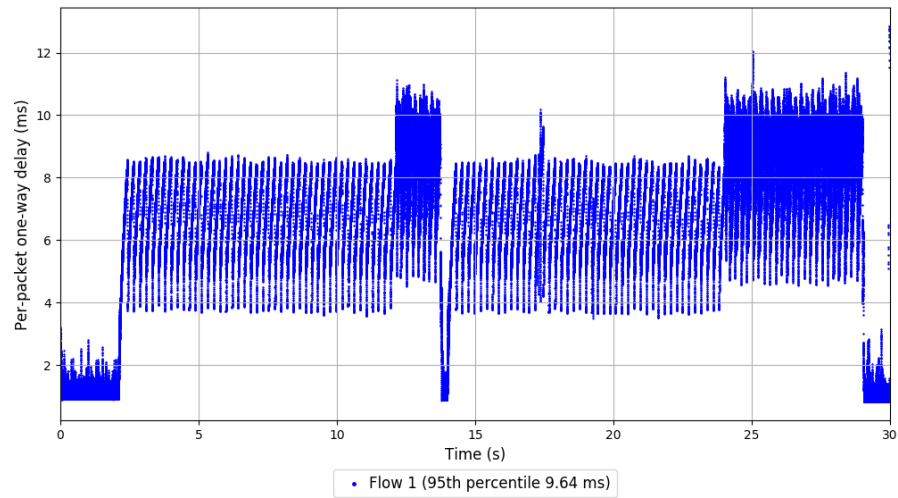
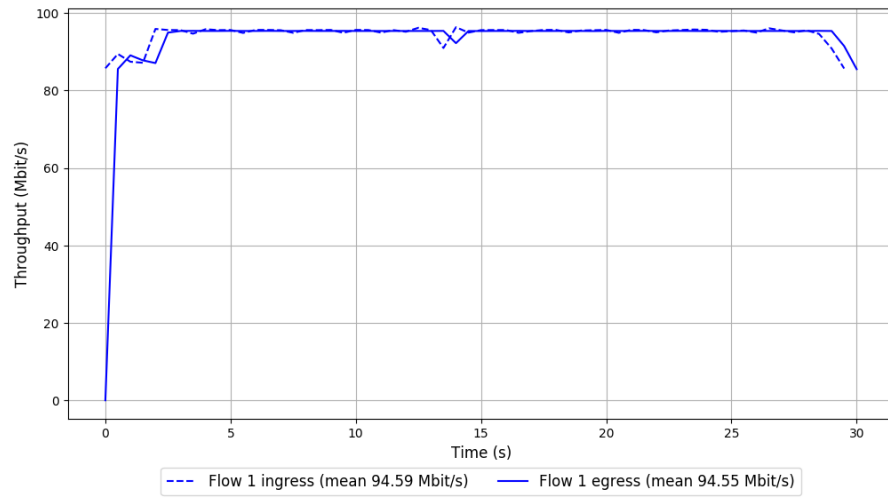
-- Flow 1:

Average throughput: 94.55 Mbit/s

95th percentile per-packet one-way delay: 9.642 ms

Loss rate: 0.05%

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



Run 5: Statistics of Copa

Start at: 2018-12-11 17:13:56

End at: 2018-12-11 17:14:26

Local clock offset: 0.291 ms

Remote clock offset: 0.751 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.67 Mbit/s

95th percentile per-packet one-way delay: 8.424 ms

Loss rate: 0.06%

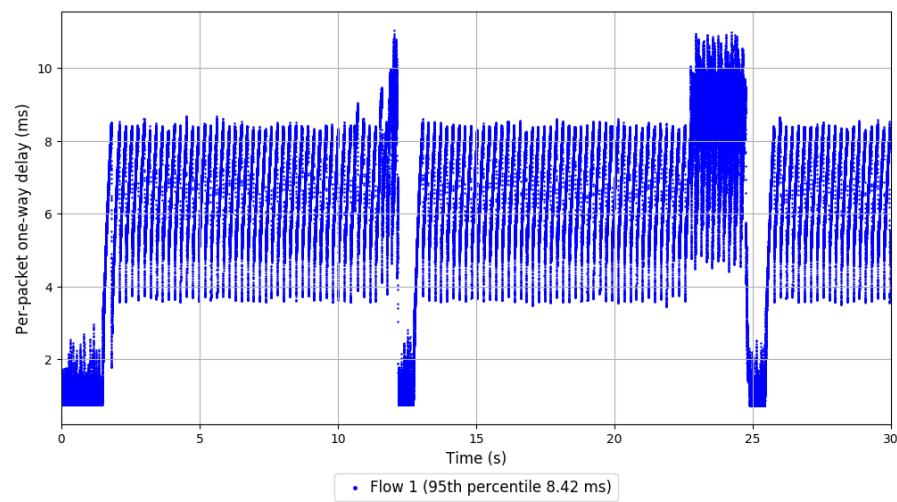
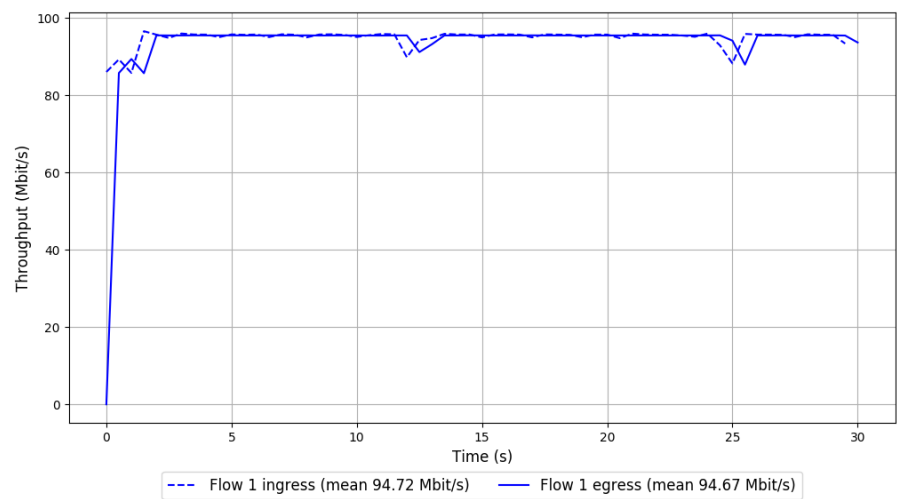
-- Flow 1:

Average throughput: 94.67 Mbit/s

95th percentile per-packet one-way delay: 8.424 ms

Loss rate: 0.06%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 15:48:59

End at: 2018-12-11 15:49:29

Local clock offset: -5.967 ms

Remote clock offset: 1.115 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.700 ms

Loss rate: 0.05%

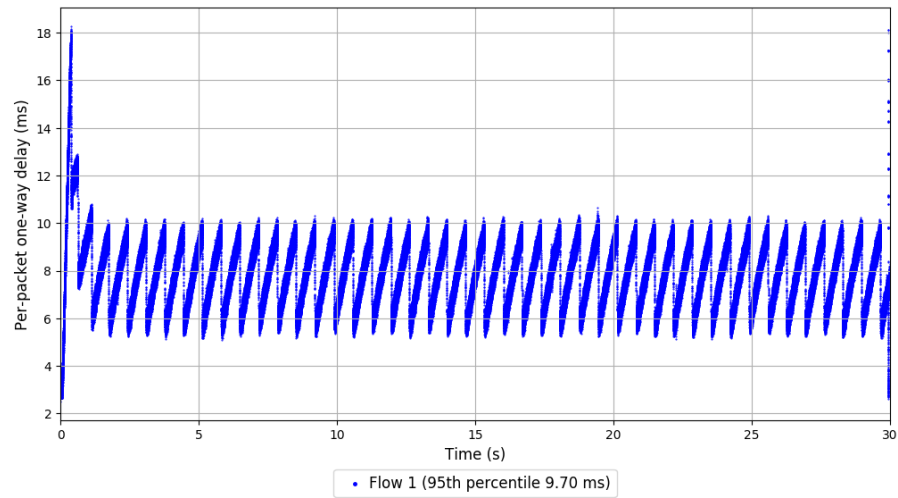
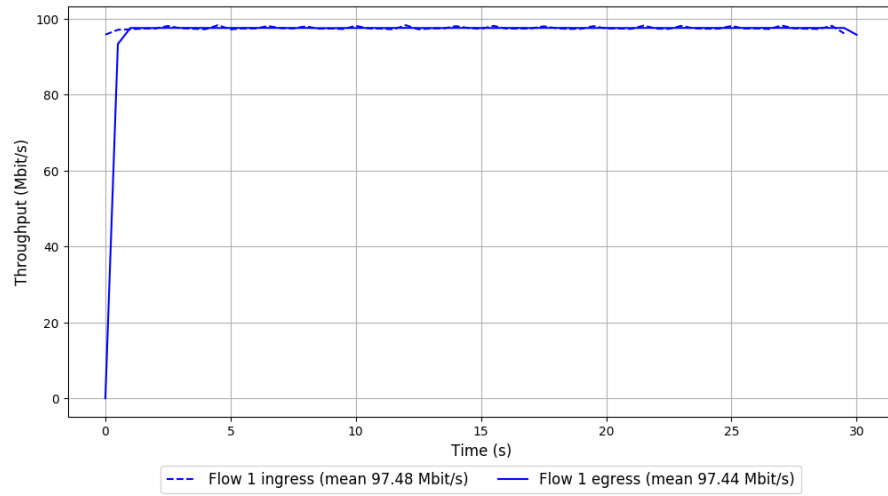
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.700 ms

Loss rate: 0.05%

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



Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 16:10:29

End at: 2018-12-11 16:10:59

Local clock offset: -5.498 ms

Remote clock offset: 1.182 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.800 ms

Loss rate: 0.05%

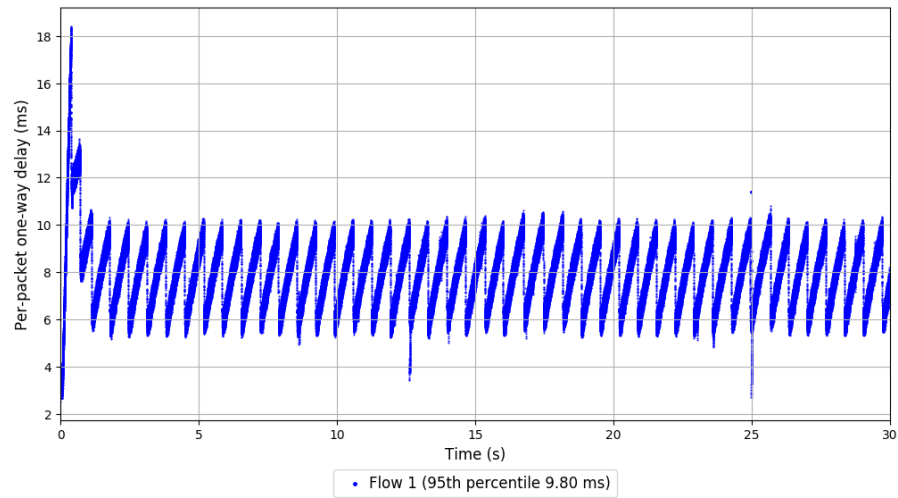
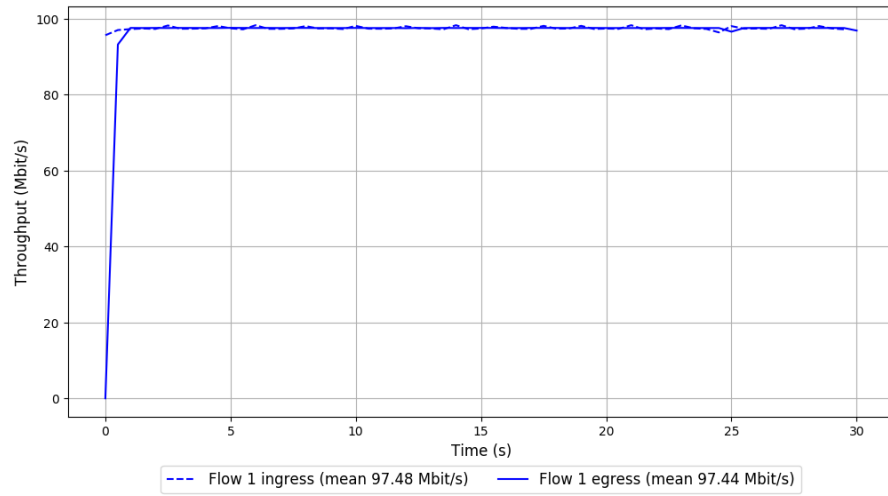
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 9.800 ms

Loss rate: 0.05%

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





Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 16:32:28

End at: 2018-12-11 16:32:58

Local clock offset: -6.552 ms

Remote clock offset: 1.042 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.42 Mbit/s

95th percentile per-packet one-way delay: 9.742 ms

Loss rate: 0.05%

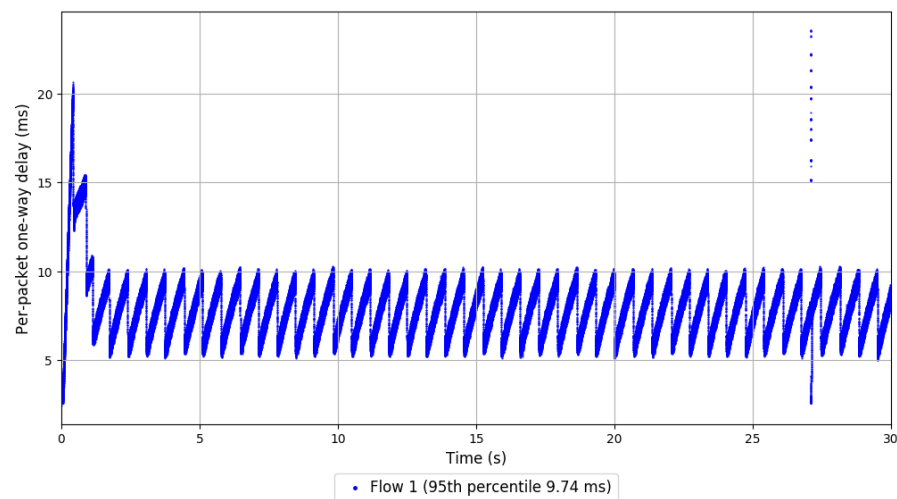
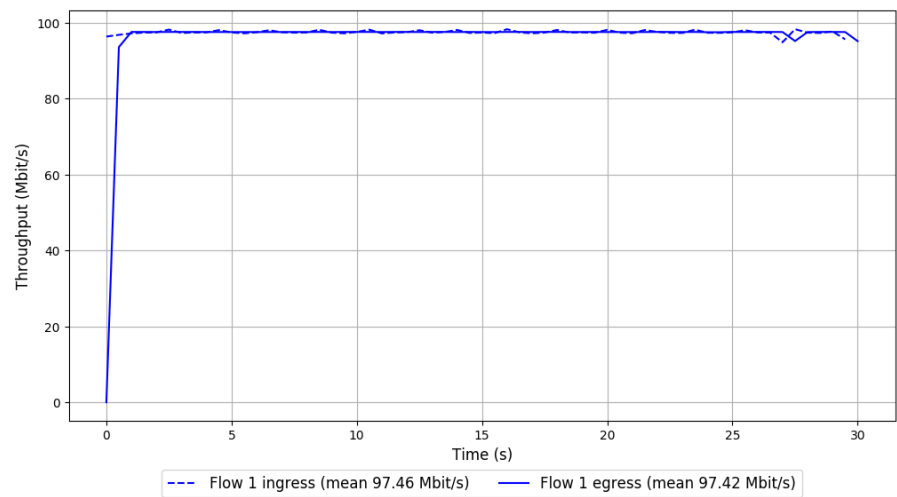
-- Flow 1:

Average throughput: 97.42 Mbit/s

95th percentile per-packet one-way delay: 9.742 ms

Loss rate: 0.05%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 16:53:48

End at: 2018-12-11 16:54:18

Local clock offset: -1.759 ms

Remote clock offset: 0.898 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 8.096 ms

Loss rate: 0.06%

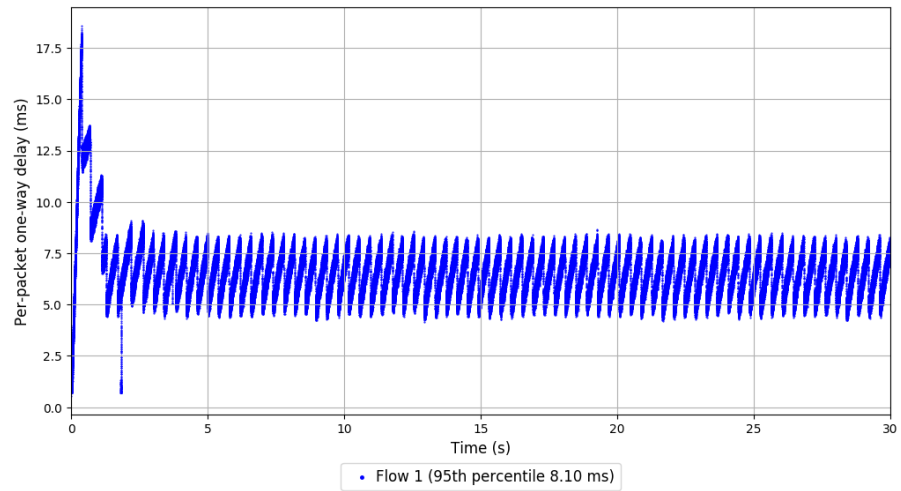
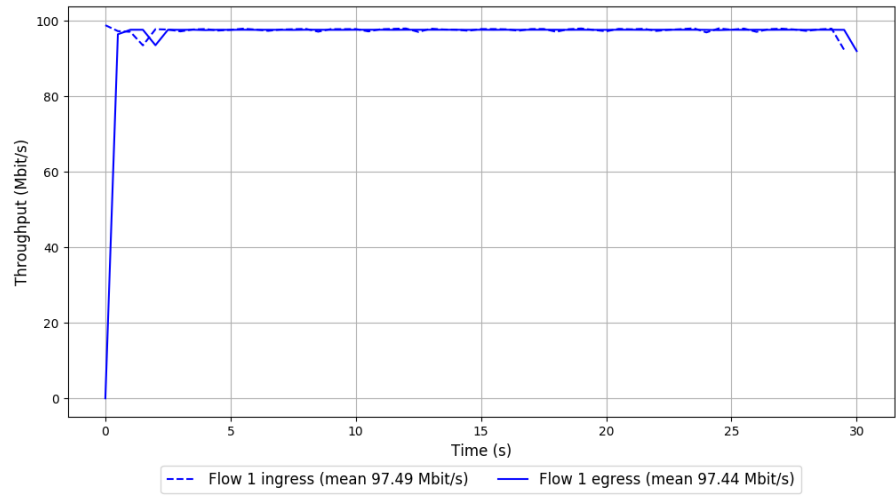
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 8.096 ms

Loss rate: 0.06%

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



Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 17:15:08

End at: 2018-12-11 17:15:38

Local clock offset: 0.375 ms

Remote clock offset: 0.748 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.140 ms

Loss rate: 0.05%

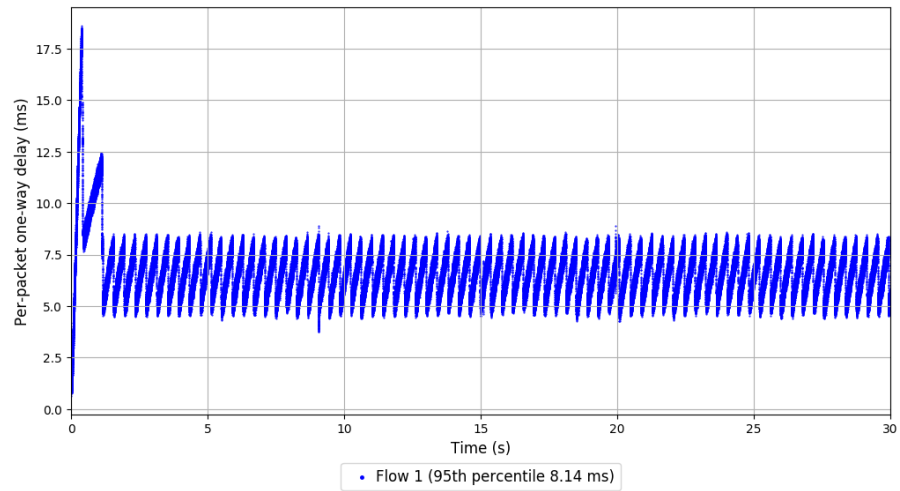
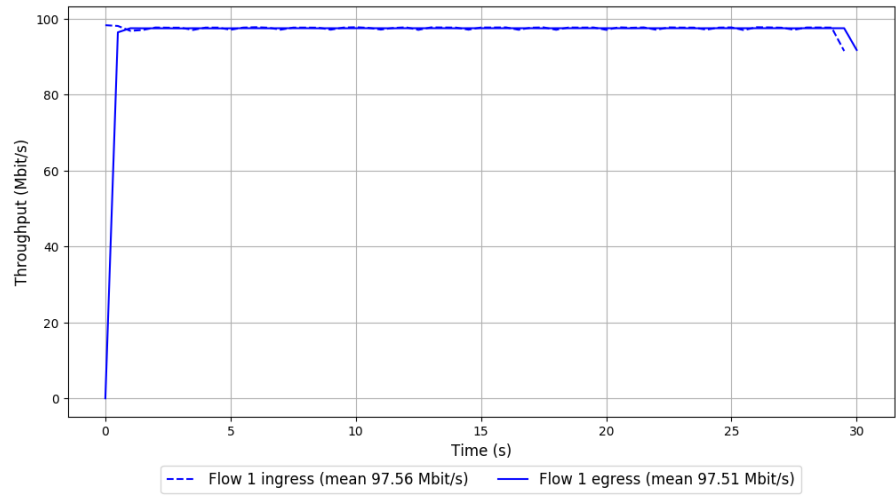
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 8.140 ms

Loss rate: 0.05%

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



Run 1: Statistics of FillP

Start at: 2018-12-11 15:52:21

End at: 2018-12-11 15:52:51

Local clock offset: -5.733 ms

Remote clock offset: 1.205 ms

# Below is generated by plot.py at 2018-12-11 17:35:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 11.505 ms

Loss rate: 0.05%

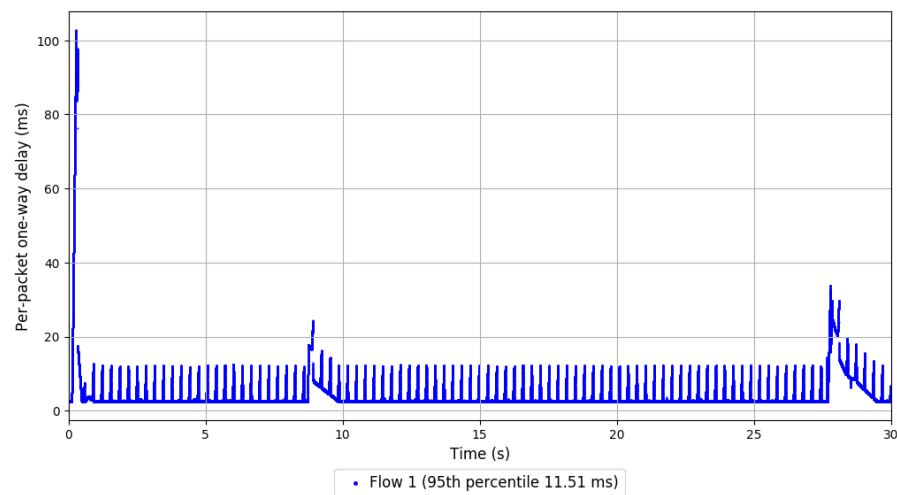
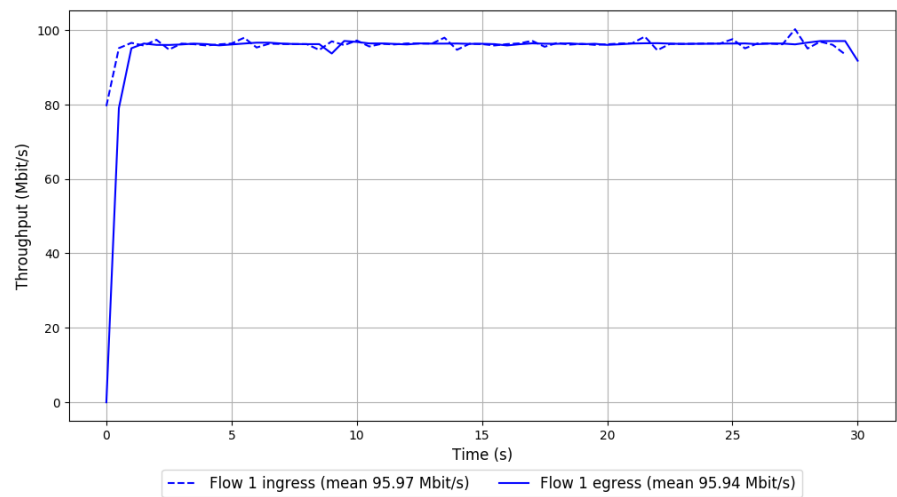
-- Flow 1:

Average throughput: 95.94 Mbit/s

95th percentile per-packet one-way delay: 11.505 ms

Loss rate: 0.05%

Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2018-12-11 16:13:51

End at: 2018-12-11 16:14:21

Local clock offset: -5.829 ms

Remote clock offset: 1.082 ms

# Below is generated by plot.py at 2018-12-11 17:36:21

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 11.188 ms

Loss rate: 0.05%

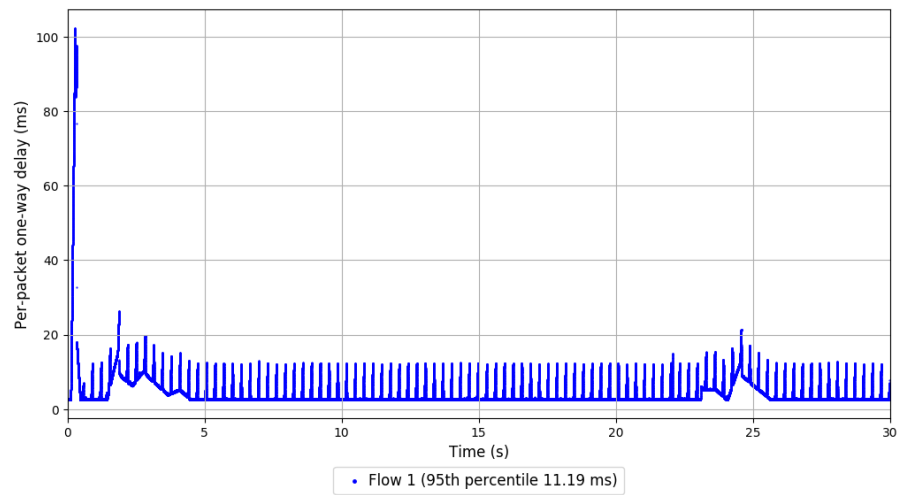
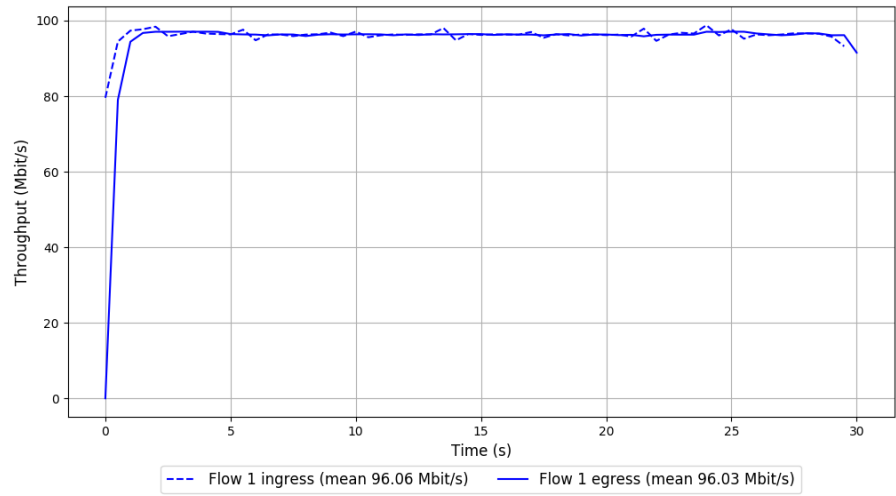
-- Flow 1:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 11.188 ms

Loss rate: 0.05%

## Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-12-11 16:35:50

End at: 2018-12-11 16:36:20

Local clock offset: -7.489 ms

Remote clock offset: 0.933 ms

# Below is generated by plot.py at 2018-12-11 17:36:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 10.484 ms

Loss rate: 0.07%

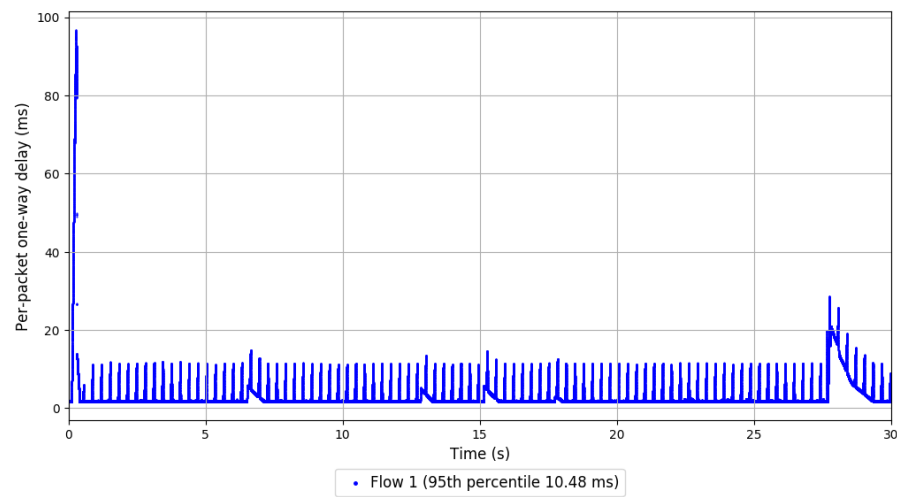
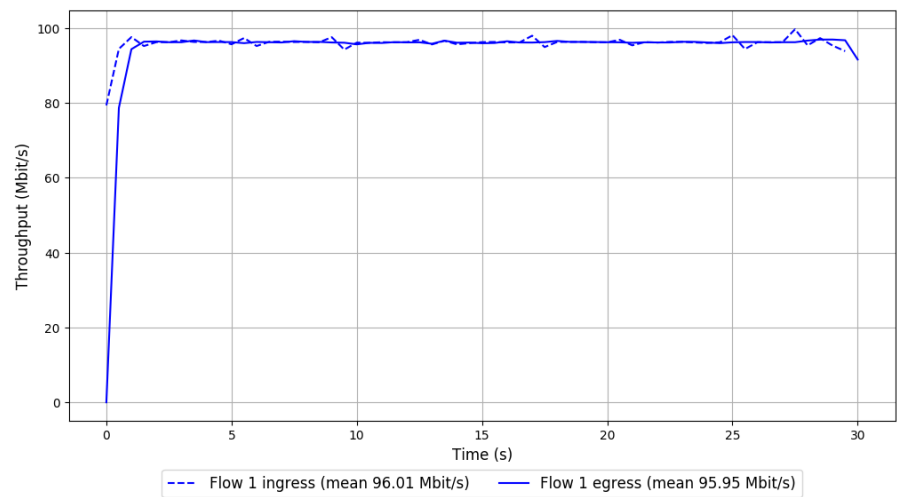
-- Flow 1:

Average throughput: 95.95 Mbit/s

95th percentile per-packet one-way delay: 10.484 ms

Loss rate: 0.07%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-12-11 16:57:10

End at: 2018-12-11 16:57:40

Local clock offset: -1.167 ms

Remote clock offset: 0.795 ms

# Below is generated by plot.py at 2018-12-11 17:36:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 8.417 ms

Loss rate: 0.01%

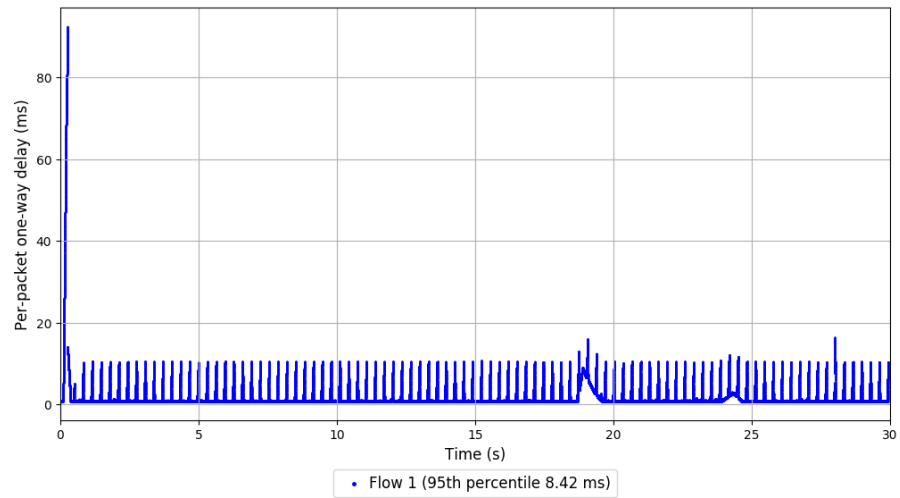
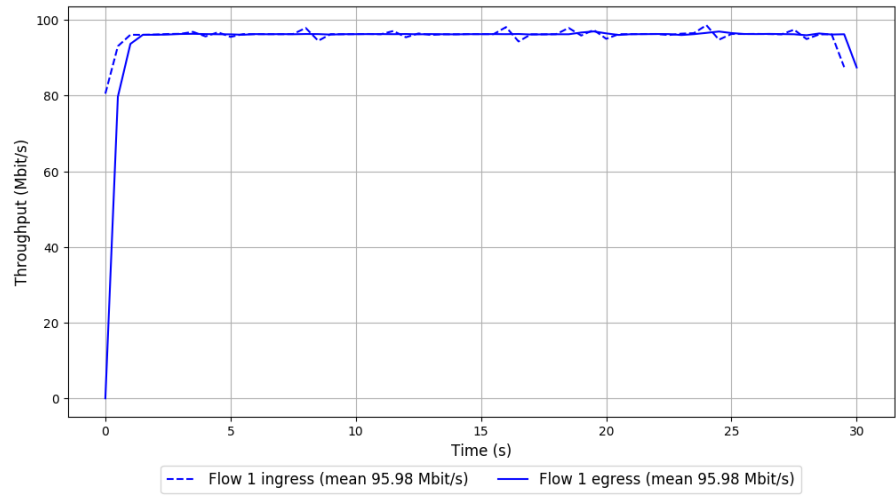
-- Flow 1:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 8.417 ms

Loss rate: 0.01%

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



Run 5: Statistics of FillP

Start at: 2018-12-11 17:18:30

End at: 2018-12-11 17:19:00

Local clock offset: 0.61 ms

Remote clock offset: 0.703 ms

# Below is generated by plot.py at 2018-12-11 17:36:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.513 ms

Loss rate: 0.02%

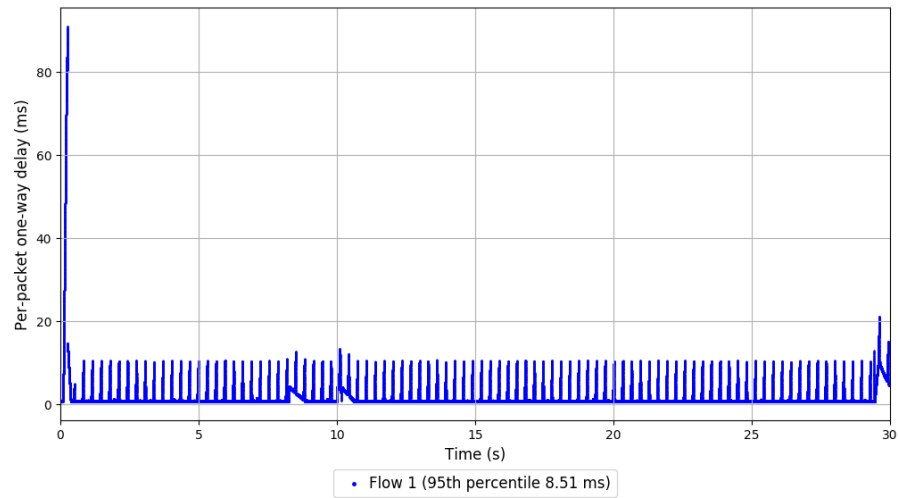
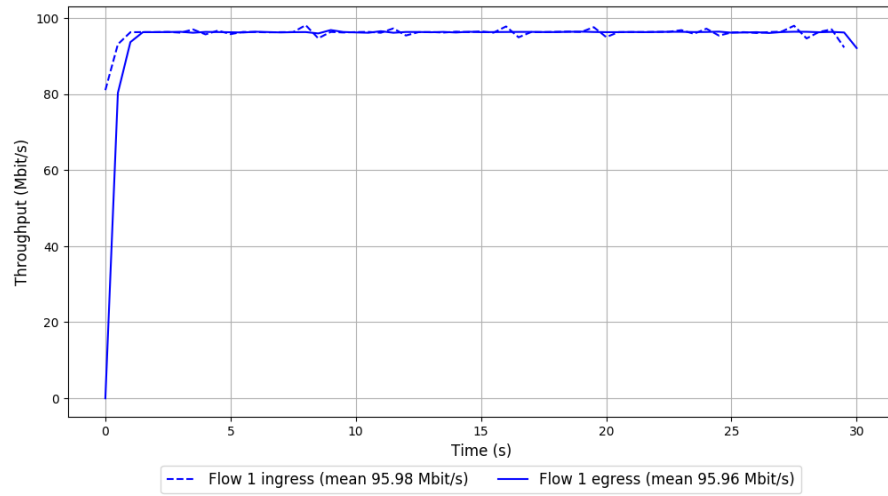
-- Flow 1:

Average throughput: 95.96 Mbit/s

95th percentile per-packet one-way delay: 8.513 ms

Loss rate: 0.02%

## Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 15:45:32

End at: 2018-12-11 15:46:02

Local clock offset: -6.427 ms

Remote clock offset: 1.169 ms

# Below is generated by plot.py at 2018-12-11 17:36:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 6.233 ms

Loss rate: 0.02%

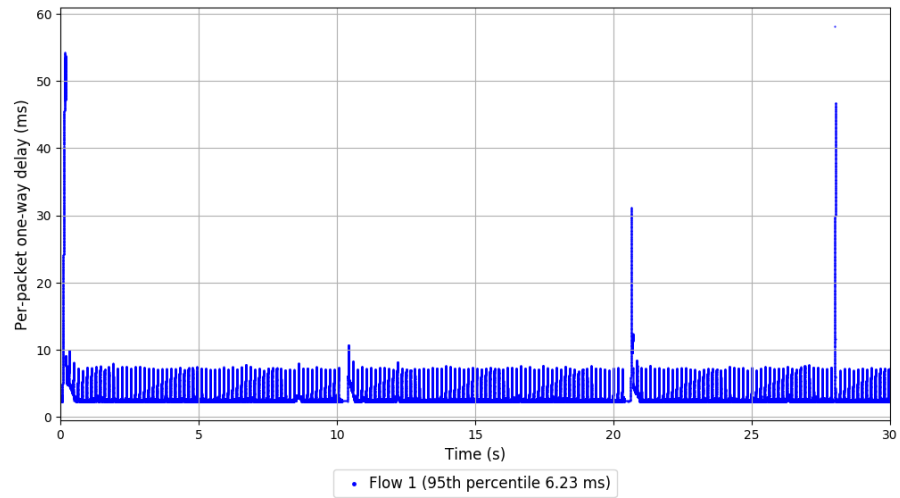
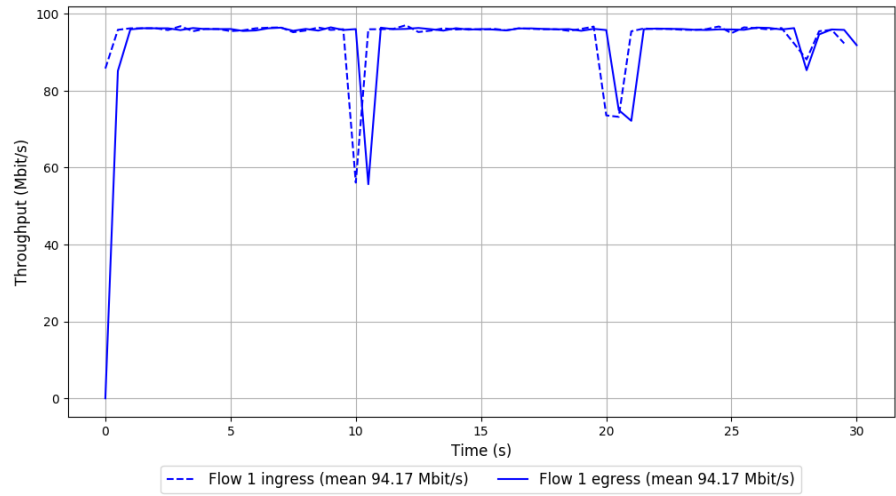
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 6.233 ms

Loss rate: 0.02%

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



Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 16:07:02

End at: 2018-12-11 16:07:32

Local clock offset: -5.386 ms

Remote clock offset: 1.208 ms

# Below is generated by plot.py at 2018-12-11 17:37:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 6.308 ms

Loss rate: 0.02%

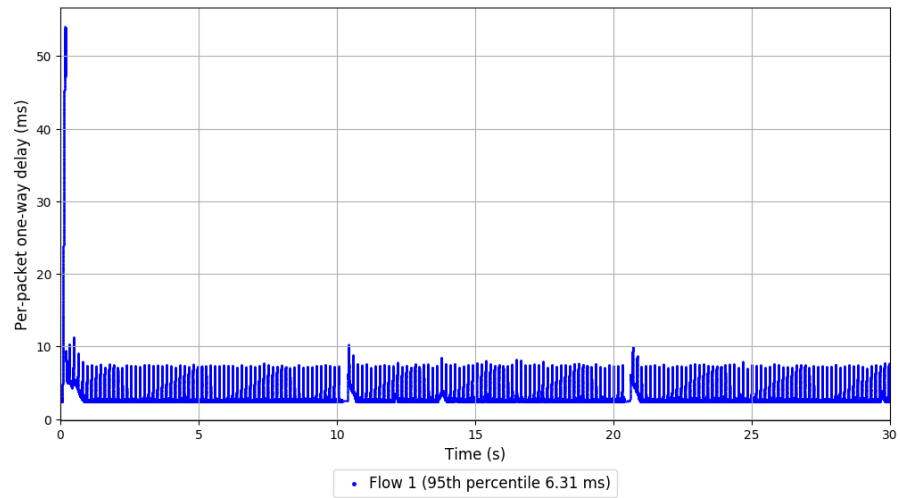
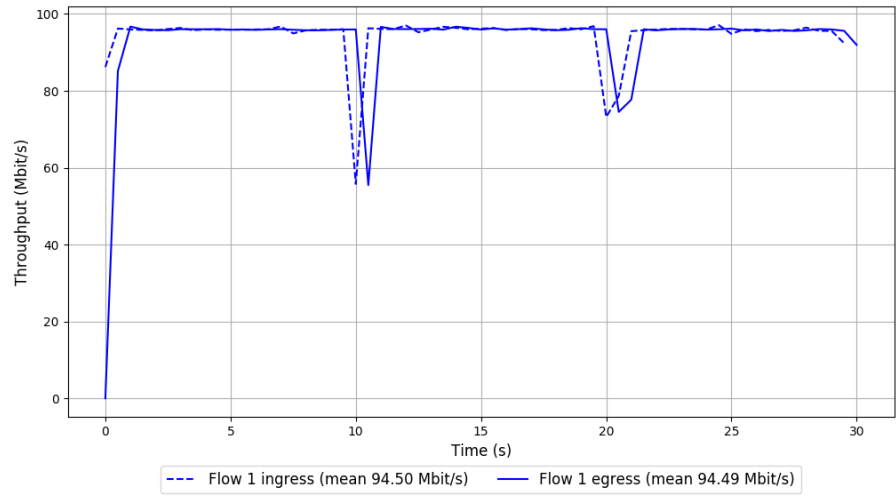
-- Flow 1:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 6.308 ms

Loss rate: 0.02%

## Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 16:29:02

End at: 2018-12-11 16:29:32

Local clock offset: -6.491 ms

Remote clock offset: 0.974 ms

# Below is generated by plot.py at 2018-12-11 17:37:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.34 Mbit/s

95th percentile per-packet one-way delay: 6.888 ms

Loss rate: 0.02%

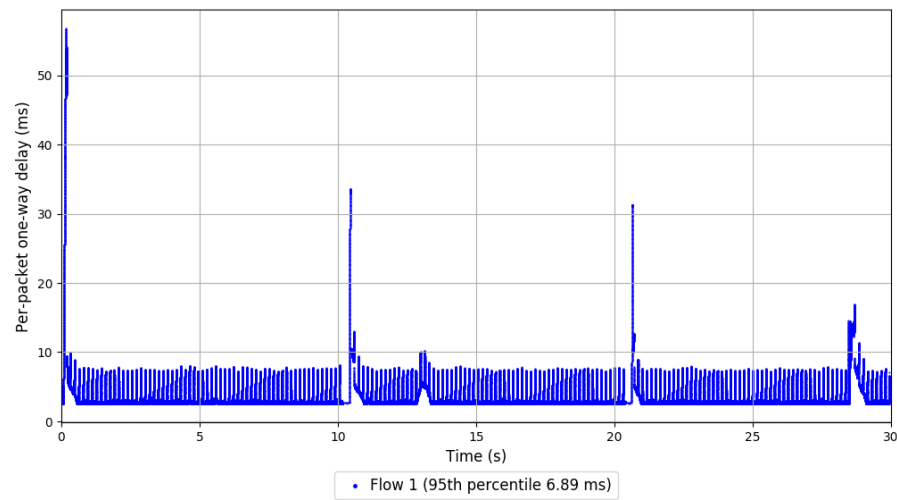
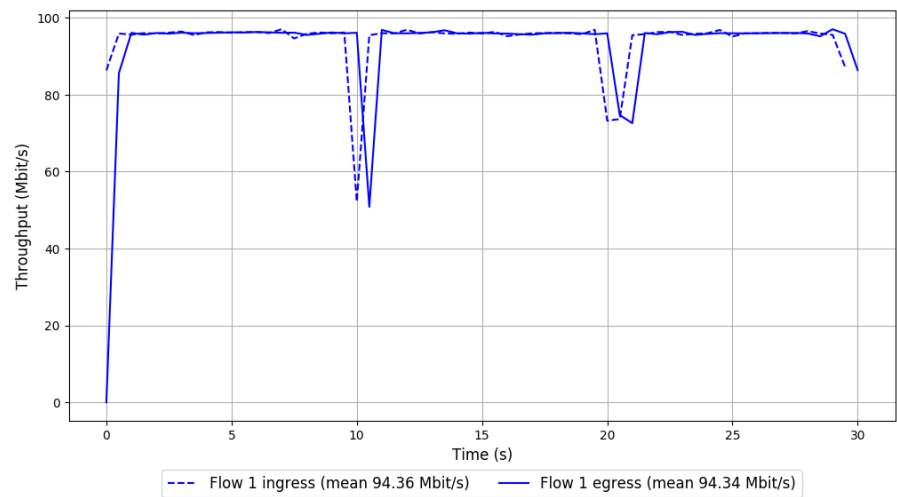
-- Flow 1:

Average throughput: 94.34 Mbit/s

95th percentile per-packet one-way delay: 6.888 ms

Loss rate: 0.02%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 16:50:20

End at: 2018-12-11 16:50:50

Local clock offset: -2.298 ms

Remote clock offset: 0.778 ms

# Below is generated by plot.py at 2018-12-11 17:37:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 4.947 ms

Loss rate: 0.01%

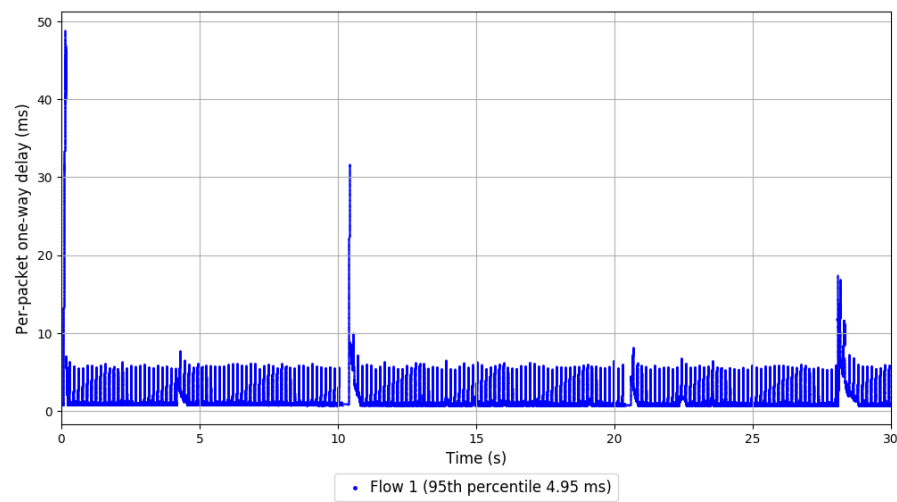
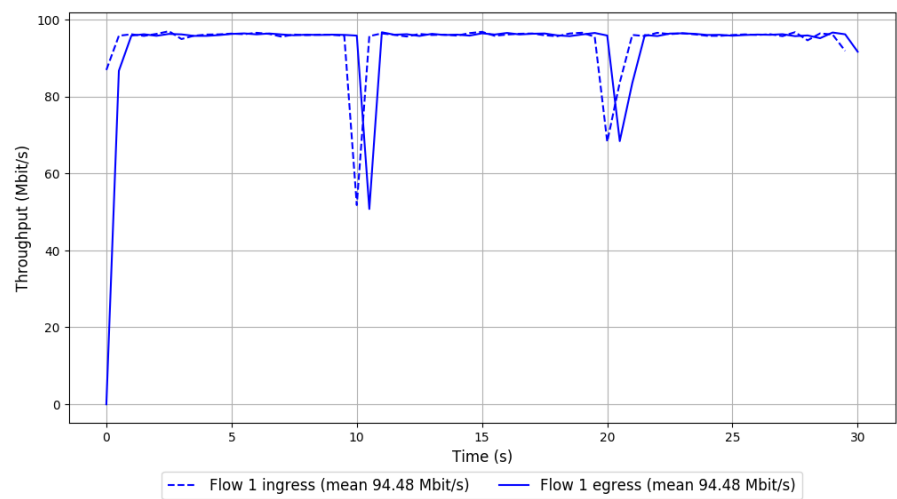
-- Flow 1:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 4.947 ms

Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link





Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 17:11:40

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

Local clock offset: 0.192 ms

Remote clock offset: 0.661 ms

# Below is generated by plot.py at 2018-12-11 17:37:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 5.061 ms

Loss rate: 0.01%

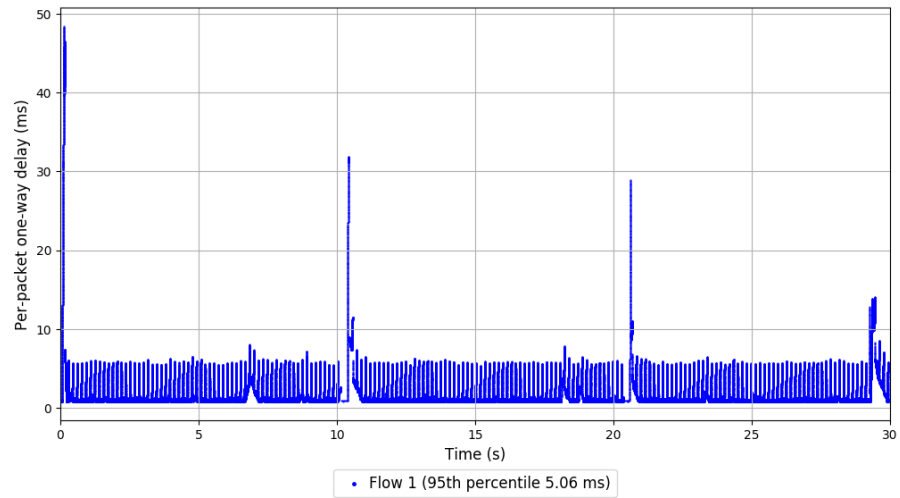
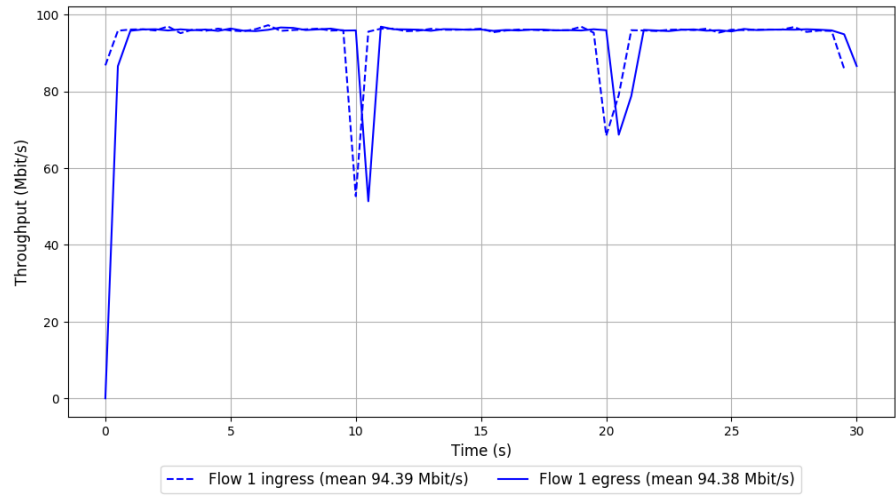
-- Flow 1:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 5.061 ms

Loss rate: 0.01%

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



Run 1: Statistics of Indigo

Start at: 2018-12-11 16:00:18

End at: 2018-12-11 16:00:49

Local clock offset: -5.408 ms

Remote clock offset: 1.227 ms

# Below is generated by plot.py at 2018-12-11 17:37:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 4.881 ms

Loss rate: 0.02%

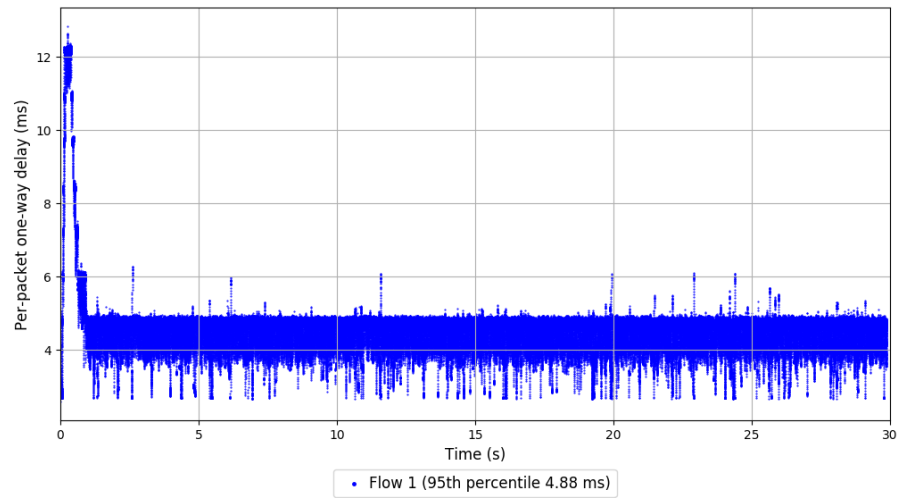
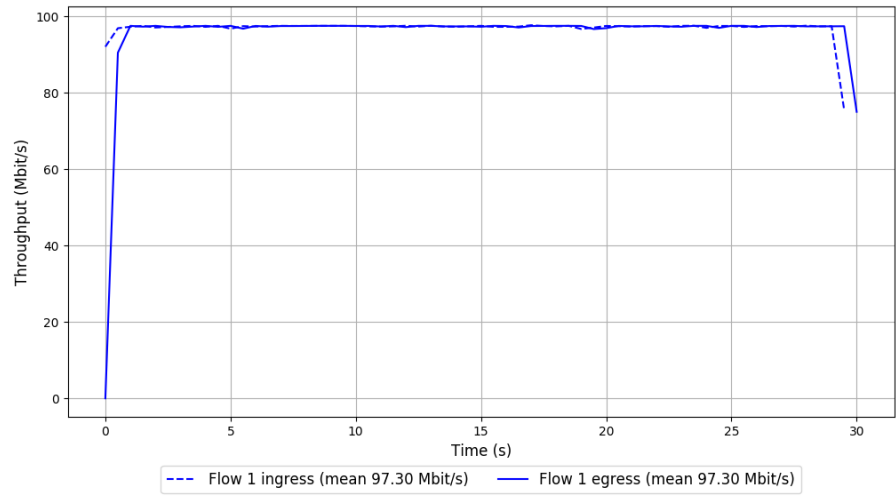
-- Flow 1:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 4.881 ms

Loss rate: 0.02%

### Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-11 16:21:50

End at: 2018-12-11 16:22:20

Local clock offset: -6.251 ms

Remote clock offset: 1.045 ms

# Below is generated by plot.py at 2018-12-11 17:37:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 4.930 ms

Loss rate: 0.03%

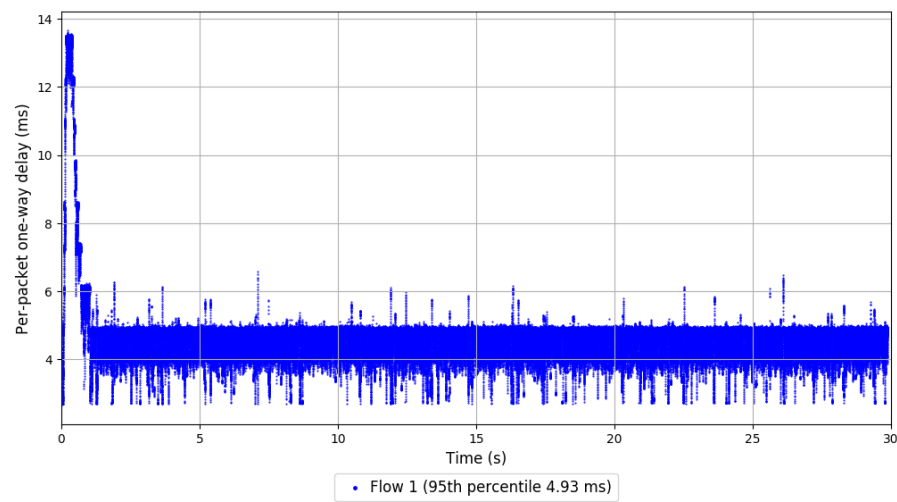
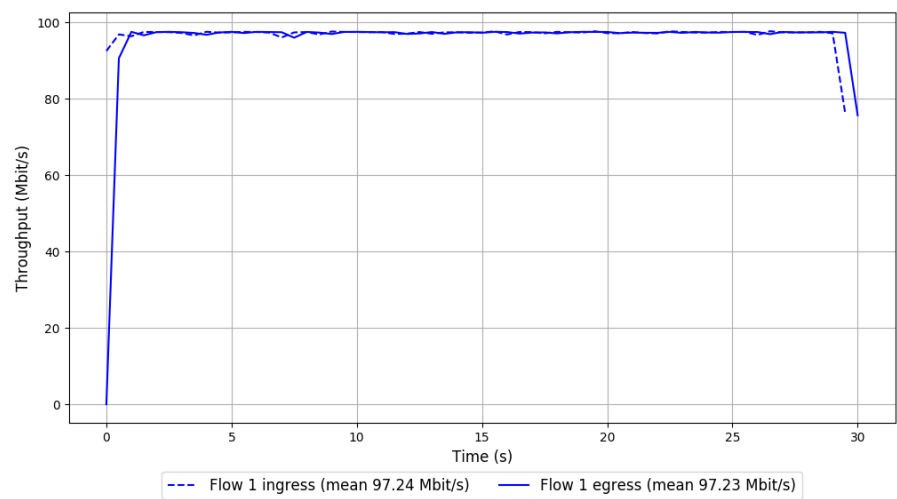
-- Flow 1:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 4.930 ms

Loss rate: 0.03%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-12-11 16:43:37

End at: 2018-12-11 16:44:07

Local clock offset: -4.179 ms

Remote clock offset: 0.876 ms

# Below is generated by plot.py at 2018-12-11 17:38:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.21 Mbit/s

95th percentile per-packet one-way delay: 2.561 ms

Loss rate: 0.01%

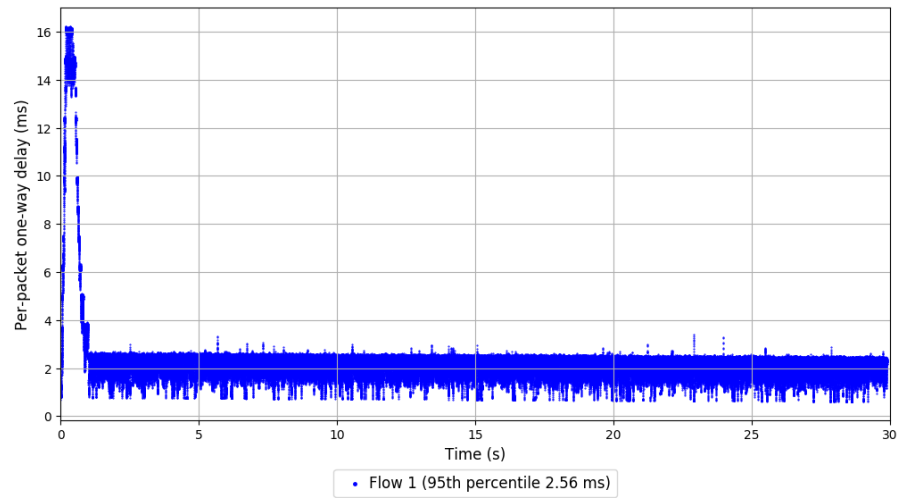
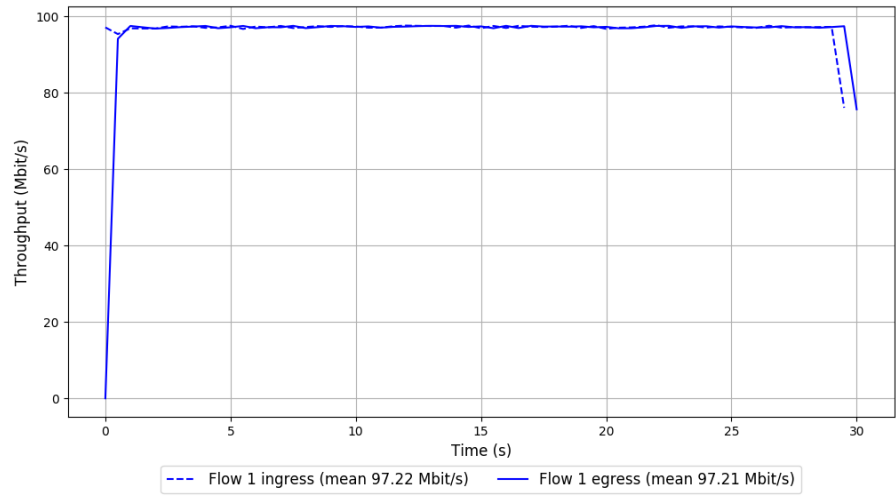
-- Flow 1:

Average throughput: 97.21 Mbit/s

95th percentile per-packet one-way delay: 2.561 ms

Loss rate: 0.01%

### Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2018-12-11 17:04:57

End at: 2018-12-11 17:05:27

Local clock offset: -0.366 ms

Remote clock offset: 0.648 ms

# Below is generated by plot.py at 2018-12-11 17:38:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 2.859 ms

Loss rate: 0.01%

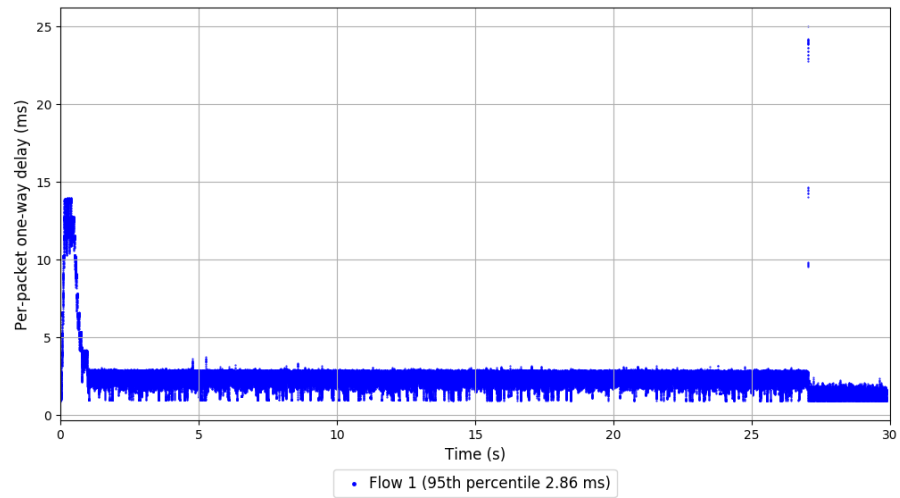
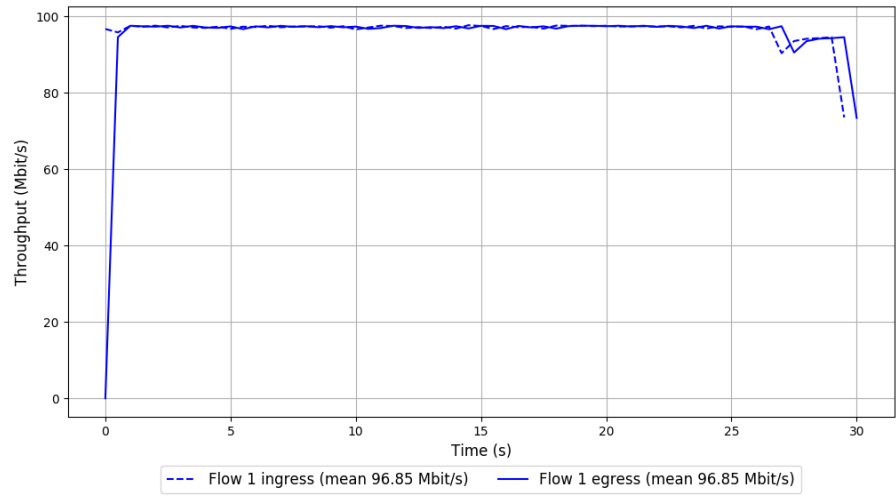
-- Flow 1:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 2.859 ms

Loss rate: 0.01%

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



Run 5: Statistics of Indigo

Start at: 2018-12-11 17:26:17

End at: 2018-12-11 17:26:47

Local clock offset: 1.17 ms

Remote clock offset: 0.668 ms

# Below is generated by plot.py at 2018-12-11 17:38:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.02 Mbit/s

95th percentile per-packet one-way delay: 2.728 ms

Loss rate: 0.01%

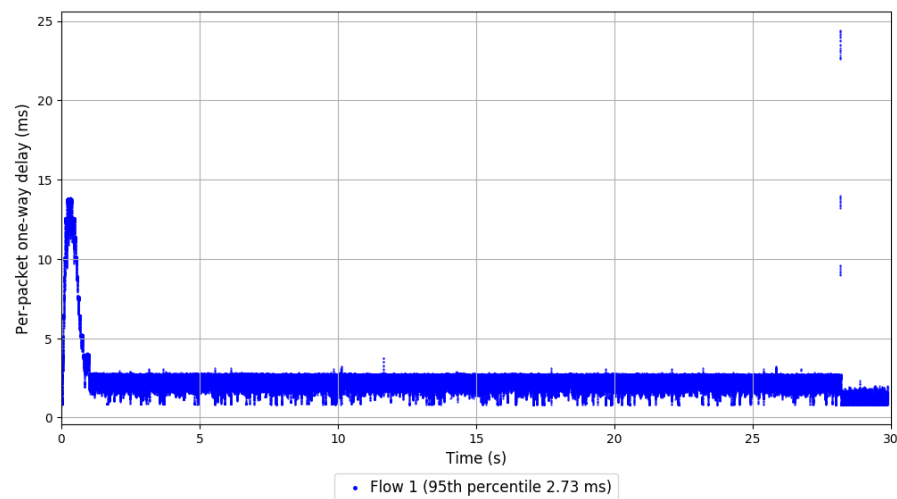
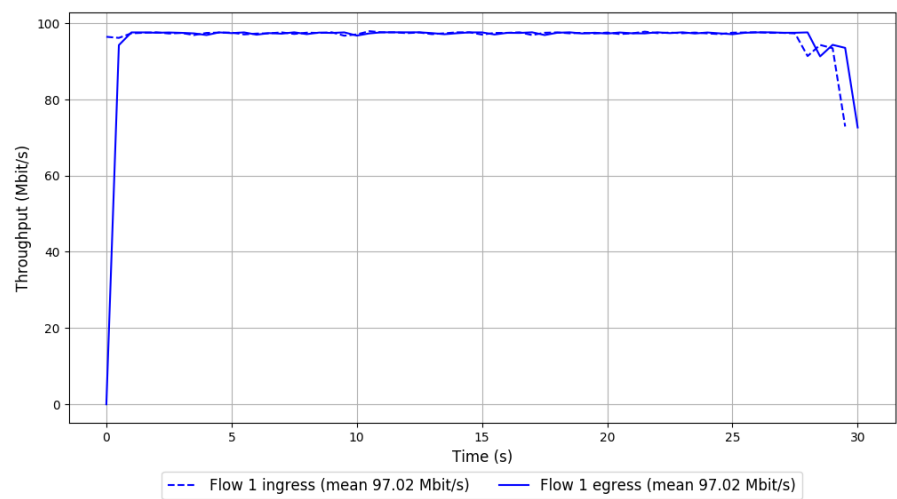
-- Flow 1:

Average throughput: 97.02 Mbit/s

95th percentile per-packet one-way delay: 2.728 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link

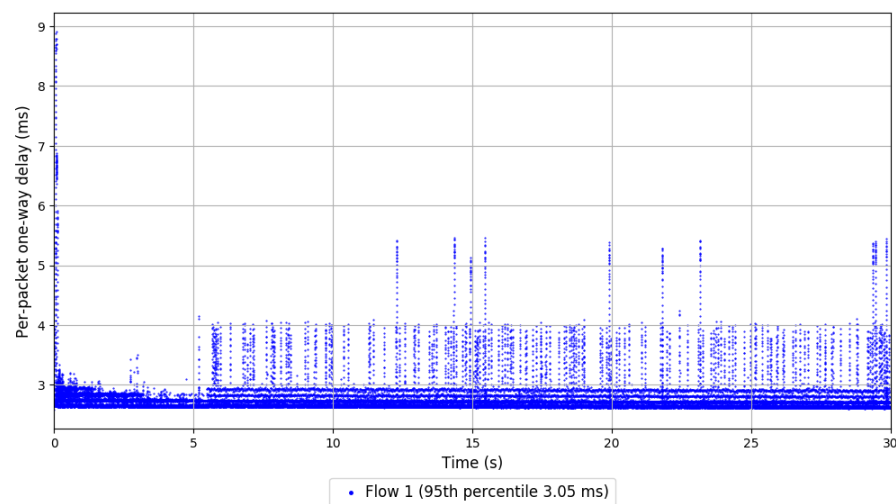
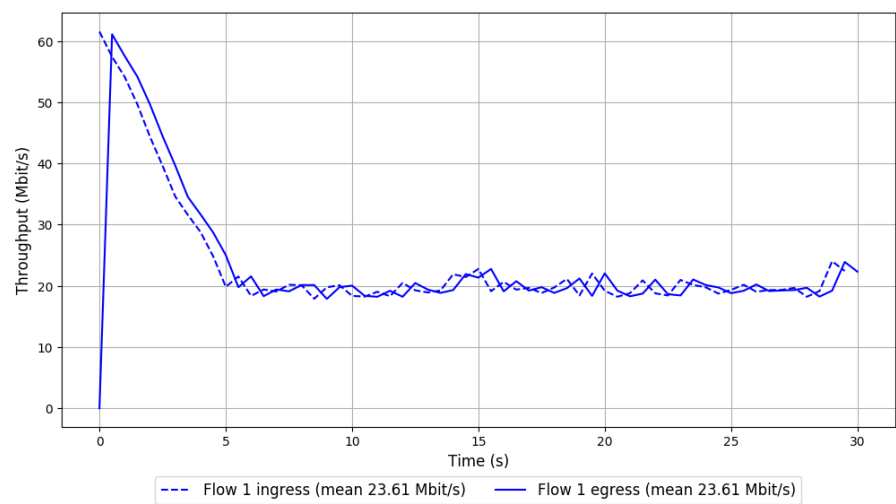


```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 15:50:07
End at: 2018-12-11 15:50:37
Local clock offset: -5.881 ms
Remote clock offset: 1.124 ms

# Below is generated by plot.py at 2018-12-11 17:38:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.61 Mbit/s
95th percentile per-packet one-way delay: 3.053 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 23.61 Mbit/s
95th percentile per-packet one-way delay: 3.053 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 16:11:38

End at: 2018-12-11 16:12:08

Local clock offset: -5.664 ms

Remote clock offset: 1.172 ms

# Below is generated by plot.py at 2018-12-11 17:38:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 24.25 Mbit/s

95th percentile per-packet one-way delay: 3.077 ms

Loss rate: 0.01%

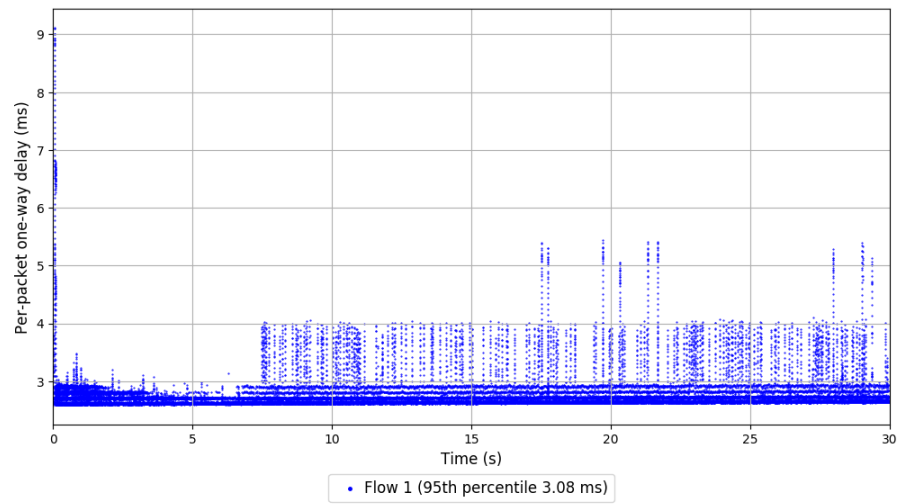
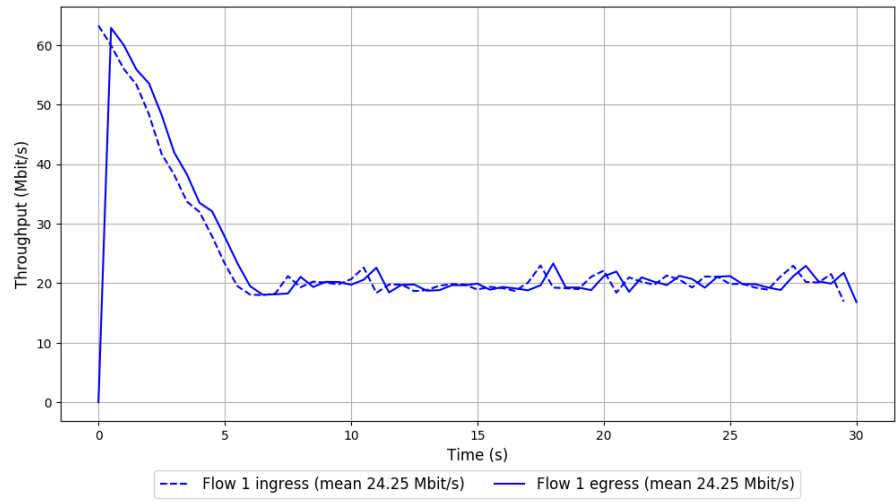
-- Flow 1:

Average throughput: 24.25 Mbit/s

95th percentile per-packet one-way delay: 3.077 ms

Loss rate: 0.01%

## Run 2: Report of Indigo-MusesD — Data Link





Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 16:33:36

End at: 2018-12-11 16:34:06

Local clock offset: -6.577 ms

Remote clock offset: 0.999 ms

# Below is generated by plot.py at 2018-12-11 17:38:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 26.18 Mbit/s

95th percentile per-packet one-way delay: 2.823 ms

Loss rate: 0.01%

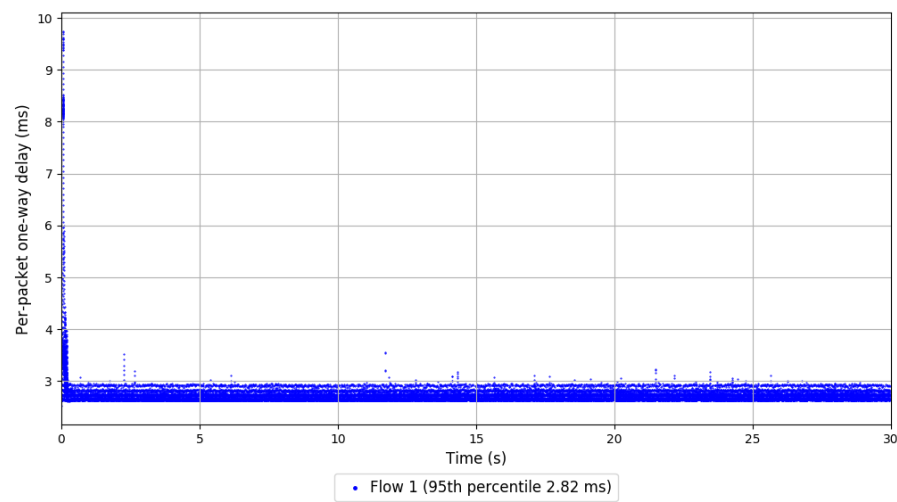
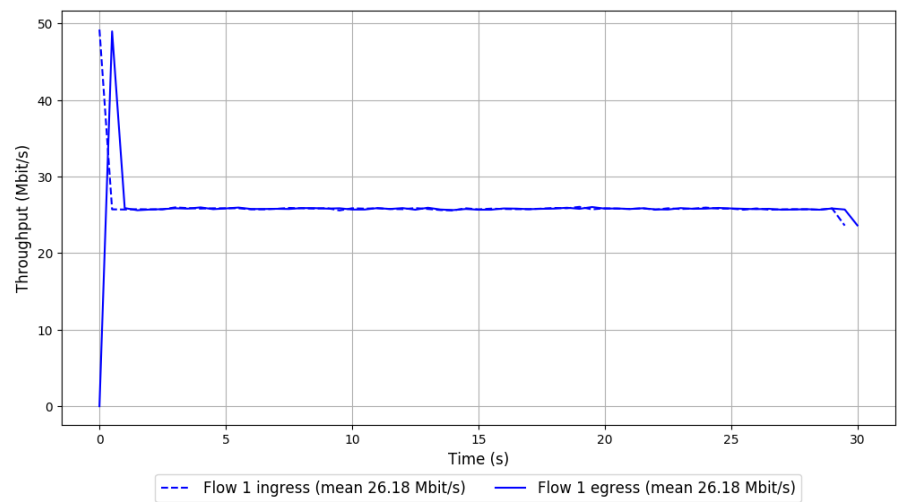
-- Flow 1:

Average throughput: 26.18 Mbit/s

95th percentile per-packet one-way delay: 2.823 ms

Loss rate: 0.01%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 16:54:56

End at: 2018-12-11 16:55:26

Local clock offset: -1.55 ms

Remote clock offset: 0.815 ms

# Below is generated by plot.py at 2018-12-11 17:38:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 44.22 Mbit/s

95th percentile per-packet one-way delay: 1.104 ms

Loss rate: 0.01%

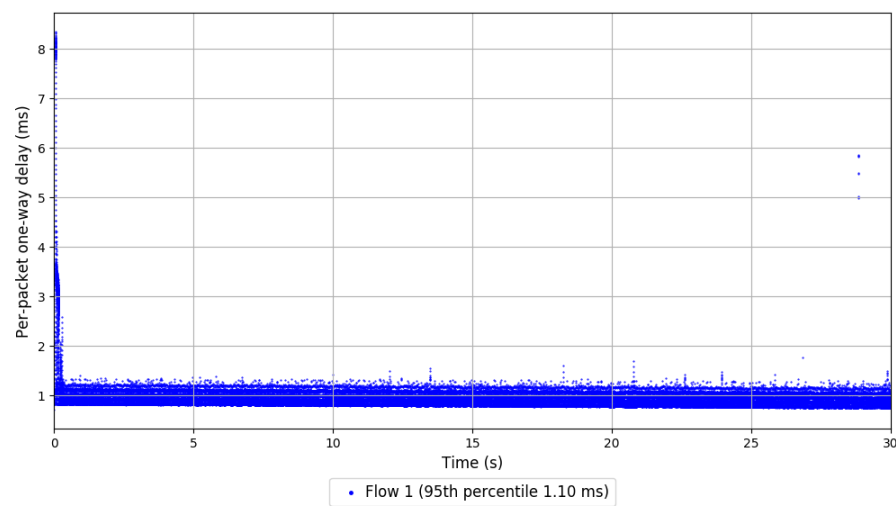
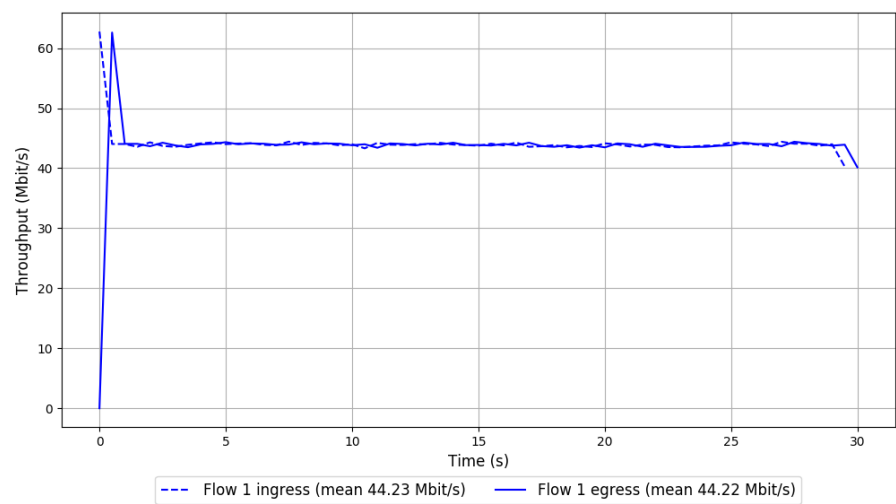
-- Flow 1:

Average throughput: 44.22 Mbit/s

95th percentile per-packet one-way delay: 1.104 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 17:16:16

End at: 2018-12-11 17:16:46

Local clock offset: 0.529 ms

Remote clock offset: 0.731 ms

# Below is generated by plot.py at 2018-12-11 17:38:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 45.45 Mbit/s

95th percentile per-packet one-way delay: 1.157 ms

Loss rate: 0.01%

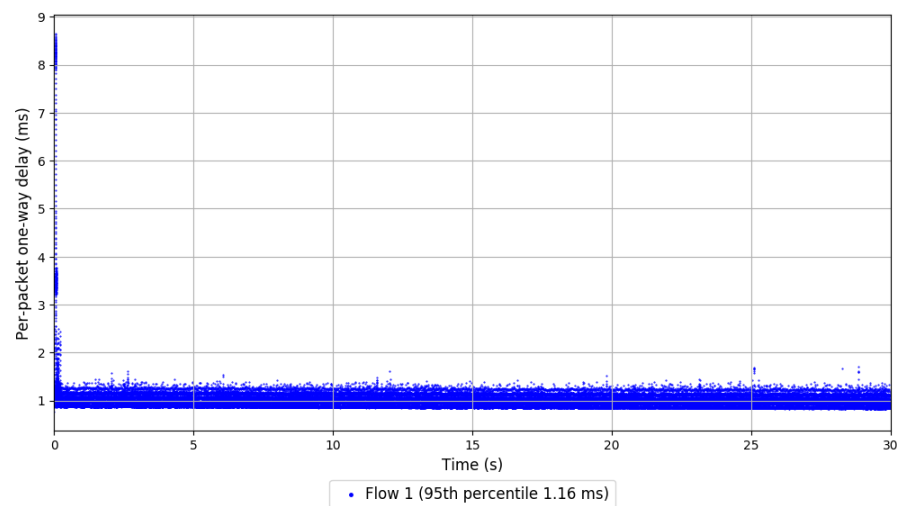
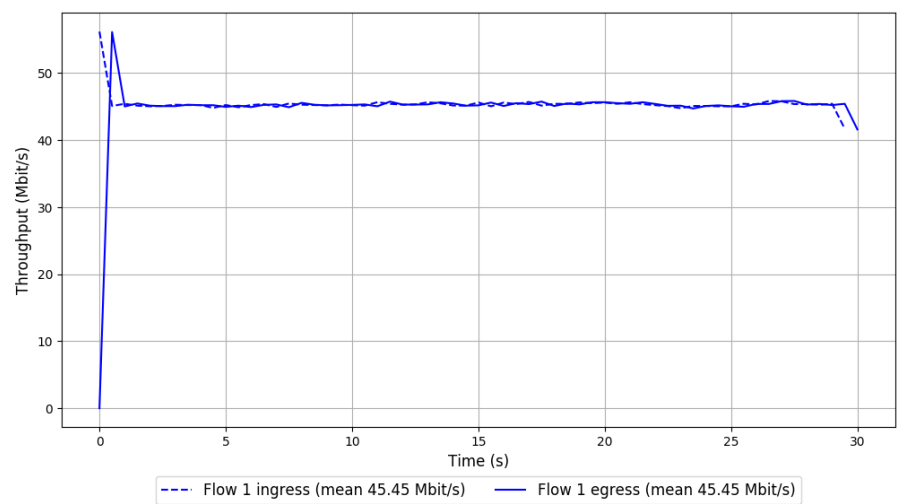
-- Flow 1:

Average throughput: 45.45 Mbit/s

95th percentile per-packet one-way delay: 1.157 ms

Loss rate: 0.01%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:01:28

End at: 2018-12-11 16:01:58

Local clock offset: -5.452 ms

Remote clock offset: 1.287 ms

# Below is generated by plot.py at 2018-12-11 17:38:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.90 Mbit/s

95th percentile per-packet one-way delay: 854.624 ms

Loss rate: 3.43%

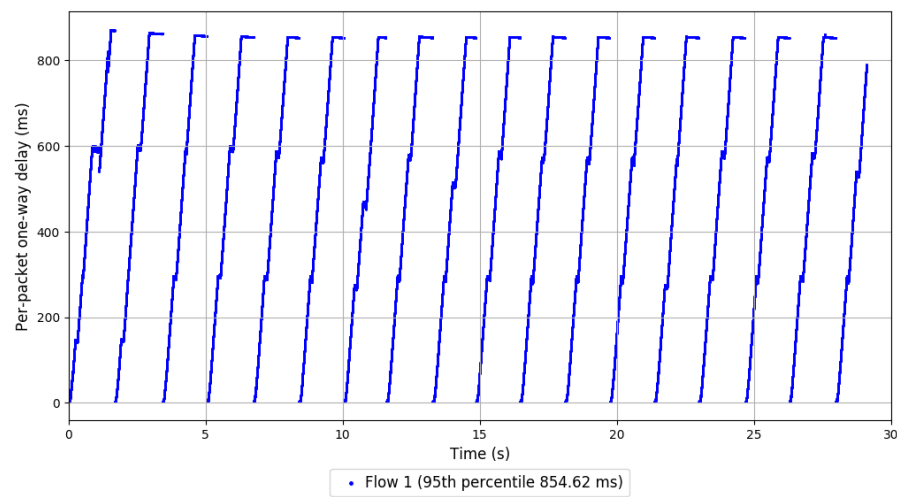
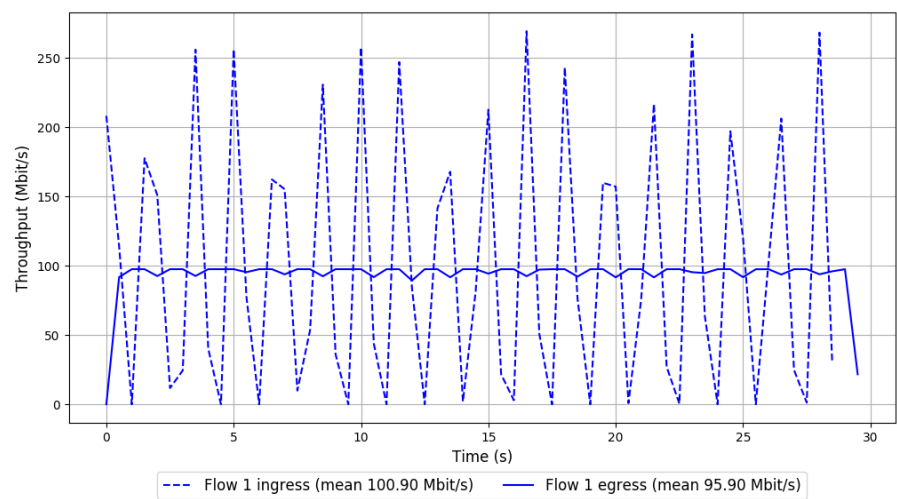
-- Flow 1:

Average throughput: 95.90 Mbit/s

95th percentile per-packet one-way delay: 854.624 ms

Loss rate: 3.43%

Run 1: Report of Indigo-MusesT — Data Link





Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:22:59

End at: 2018-12-11 16:23:29

Local clock offset: -6.301 ms

Remote clock offset: 1.108 ms

# Below is generated by plot.py at 2018-12-11 17:38:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 854.868 ms

Loss rate: 2.31%

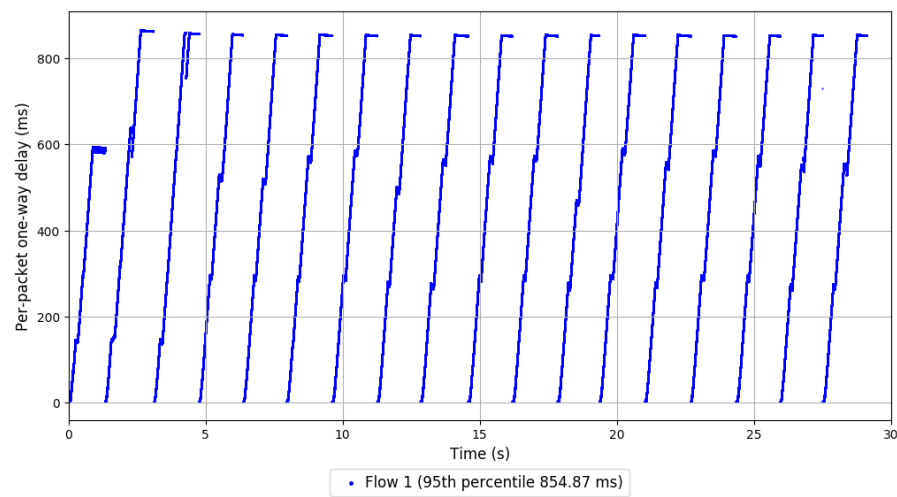
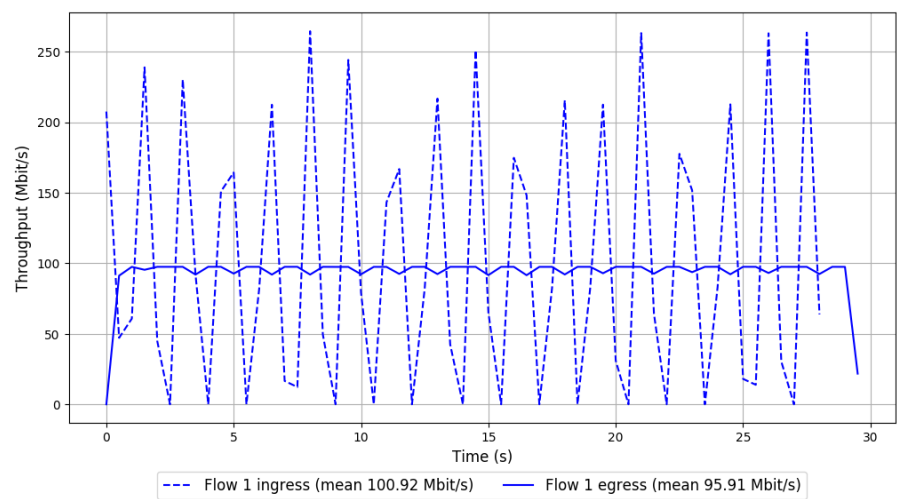
-- Flow 1:

Average throughput: 95.91 Mbit/s

95th percentile per-packet one-way delay: 854.868 ms

Loss rate: 2.31%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-11 16:44:46

End at: 2018-12-11 16:45:16

Local clock offset: -3.753 ms

Remote clock offset: 0.866 ms

# Below is generated by plot.py at 2018-12-11 17:38:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.90 Mbit/s

95th percentile per-packet one-way delay: 852.959 ms

Loss rate: 2.94%

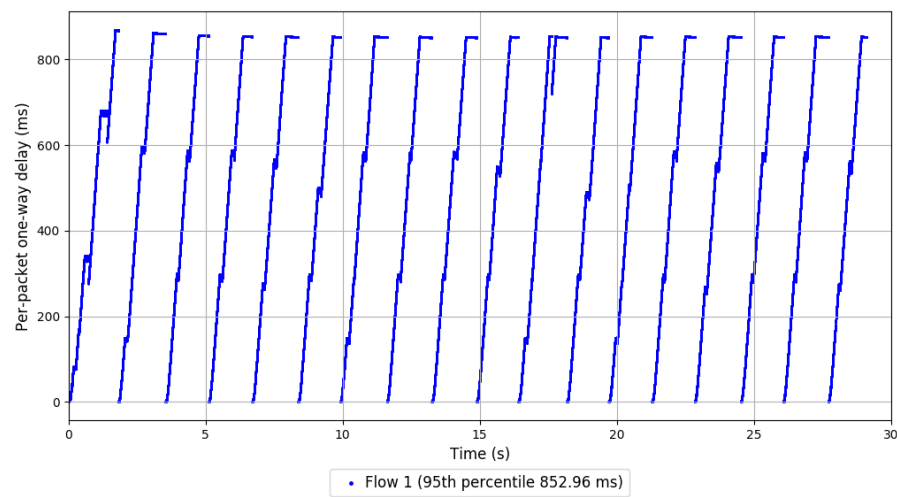
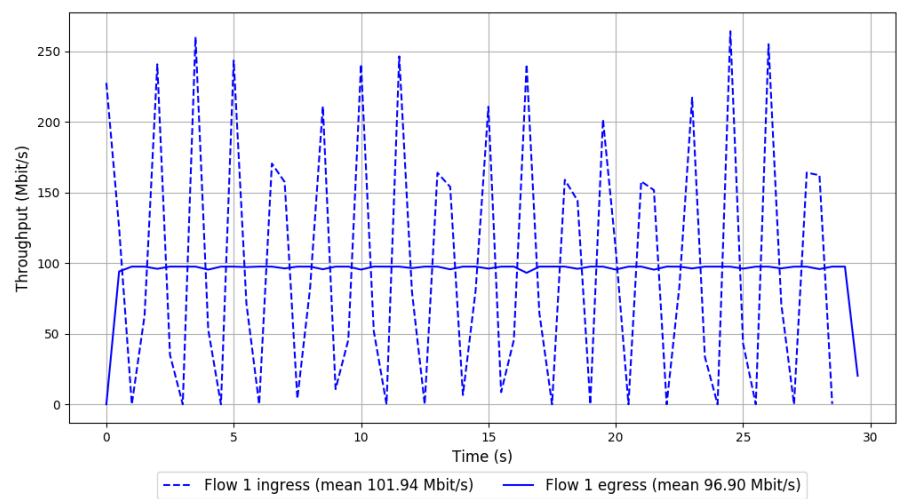
-- Flow 1:

Average throughput: 96.90 Mbit/s

95th percentile per-packet one-way delay: 852.959 ms

Loss rate: 2.94%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 17:06:07

End at: 2018-12-11 17:06:37

Local clock offset: -0.324 ms

Remote clock offset: 0.713 ms

# Below is generated by plot.py at 2018-12-11 17:39:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.88 Mbit/s

95th percentile per-packet one-way delay: 853.223 ms

Loss rate: 2.21%

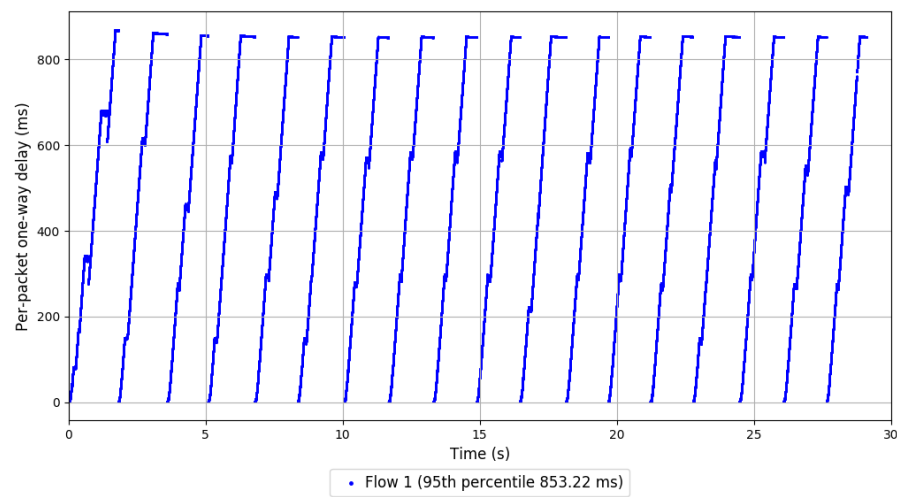
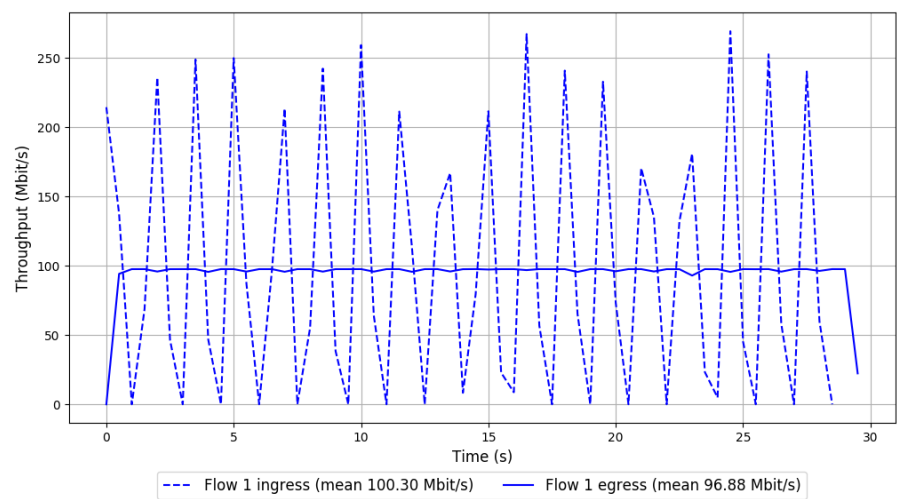
-- Flow 1:

Average throughput: 96.88 Mbit/s

95th percentile per-packet one-way delay: 853.223 ms

Loss rate: 2.21%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 17:27:26

End at: 2018-12-11 17:27:56

Local clock offset: 1.318 ms

Remote clock offset: 0.659 ms

# Below is generated by plot.py at 2018-12-11 17:39:06

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 853.203 ms

Loss rate: 2.64%

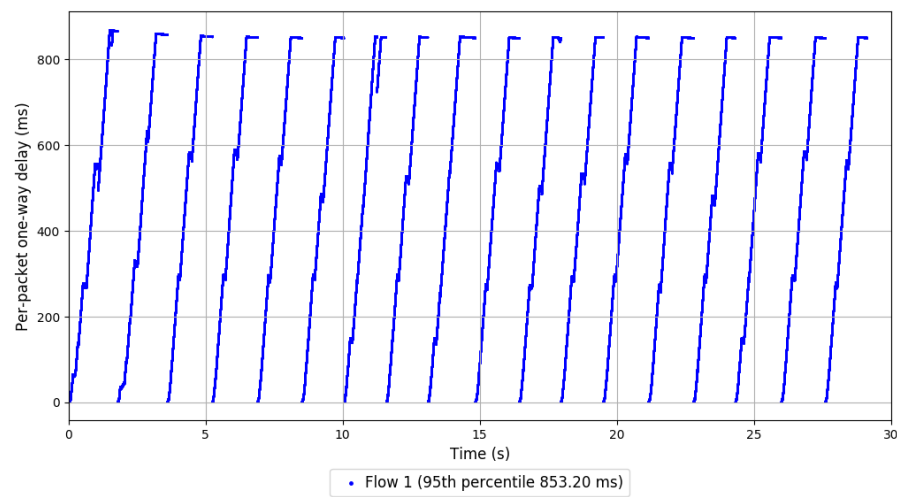
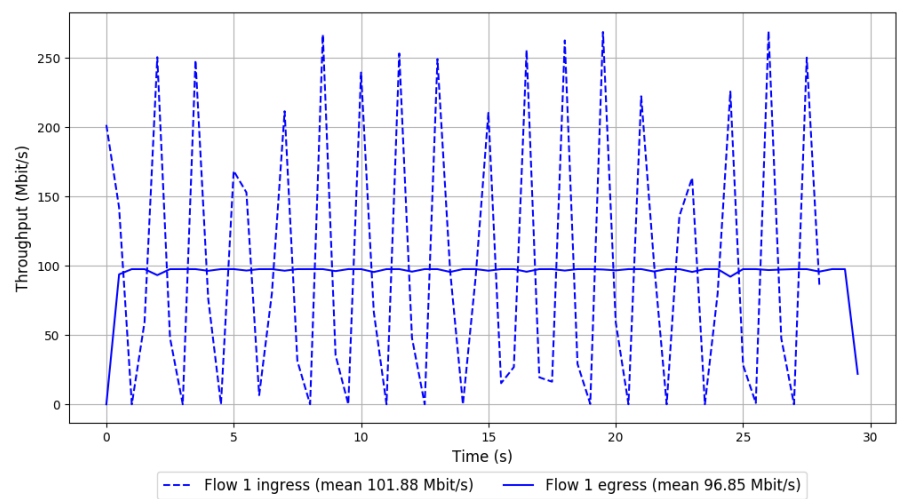
-- Flow 1:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 853.203 ms

Loss rate: 2.64%

Run 5: Report of Indigo-MusesT — Data Link



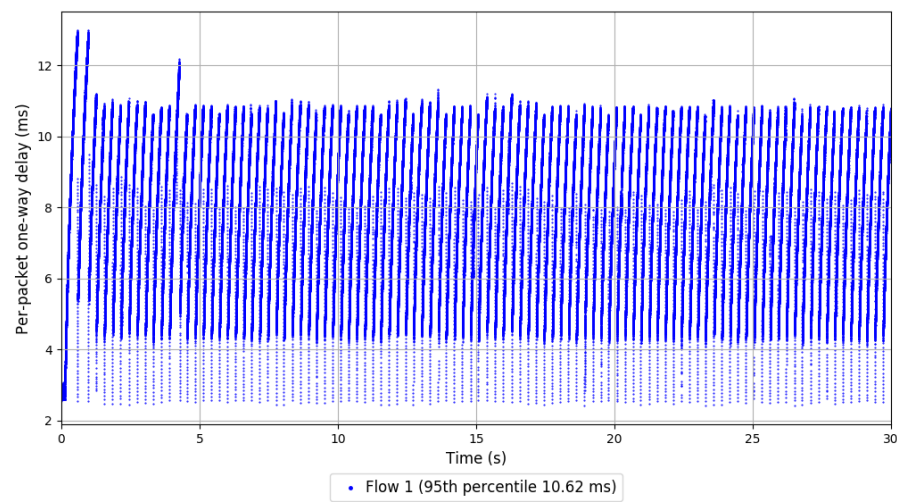
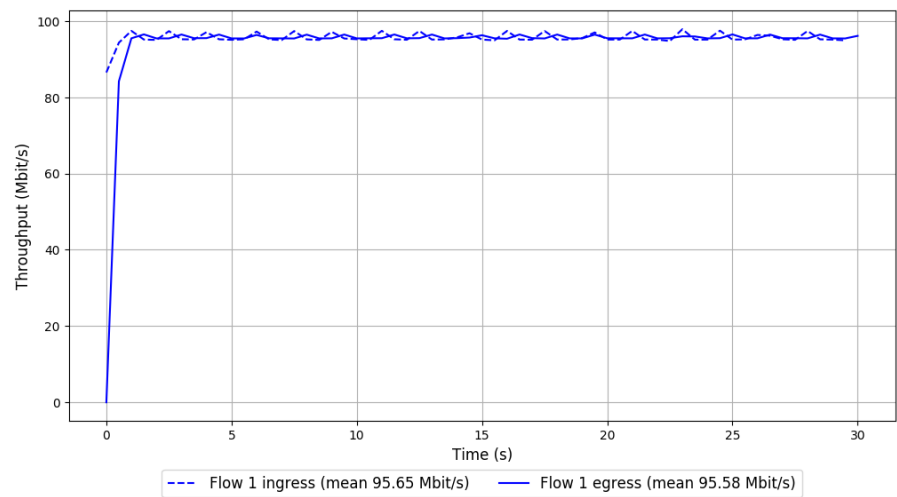


```
Run 1: Statistics of LEDBAT

Start at: 2018-12-11 15:46:40
End at: 2018-12-11 15:47:10
Local clock offset: -6.21 ms
Remote clock offset: 1.129 ms

# Below is generated by plot.py at 2018-12-11 17:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.58 Mbit/s
95th percentile per-packet one-way delay: 10.619 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 95.58 Mbit/s
95th percentile per-packet one-way delay: 10.619 ms
Loss rate: 0.04%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-12-11 16:08:10

End at: 2018-12-11 16:08:40

Local clock offset: -5.302 ms

Remote clock offset: 1.202 ms

# Below is generated by plot.py at 2018-12-11 17:39:14

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.58 Mbit/s

95th percentile per-packet one-way delay: 10.735 ms

Loss rate: 0.08%

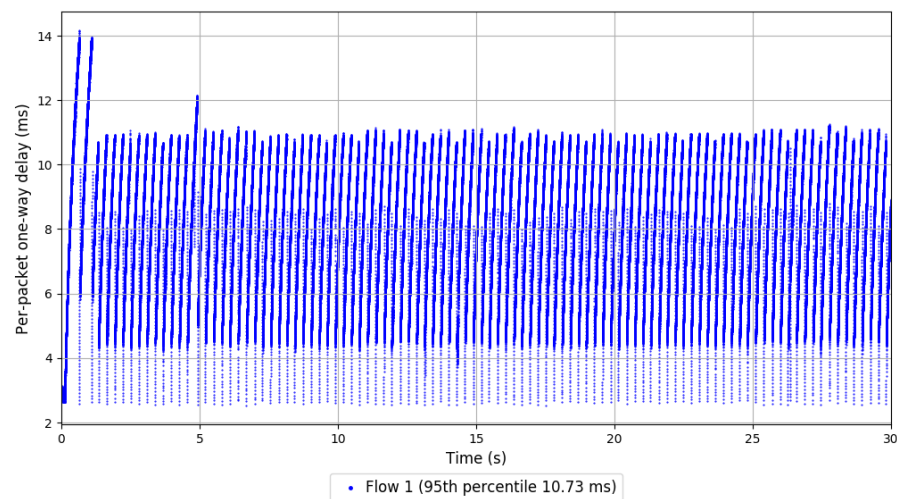
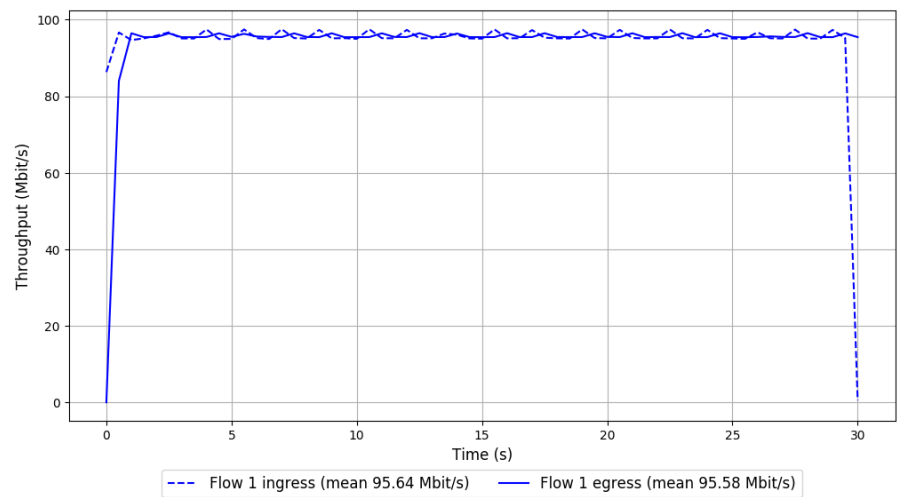
-- Flow 1:

Average throughput: 95.58 Mbit/s

95th percentile per-packet one-way delay: 10.735 ms

Loss rate: 0.08%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-12-11 16:30:09

End at: 2018-12-11 16:30:39

Local clock offset: -6.591 ms

Remote clock offset: 0.942 ms

# Below is generated by plot.py at 2018-12-11 17:39:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.55 Mbit/s

95th percentile per-packet one-way delay: 10.715 ms

Loss rate: 0.07%

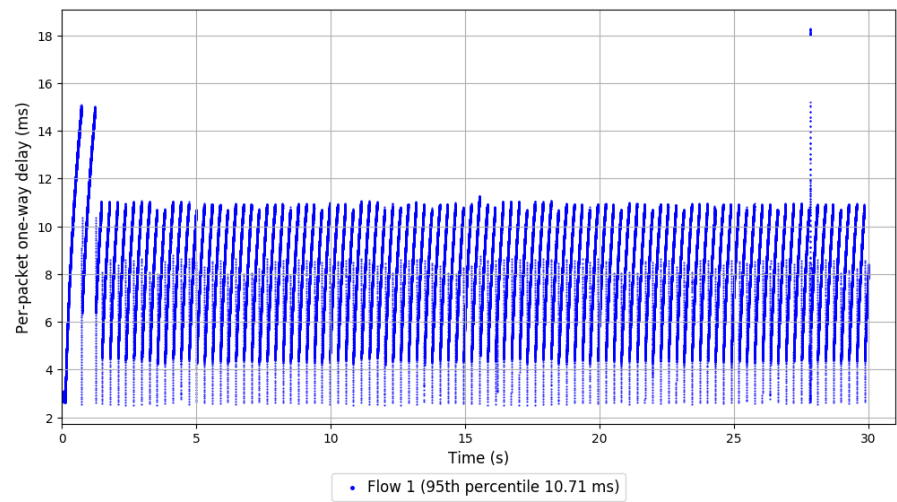
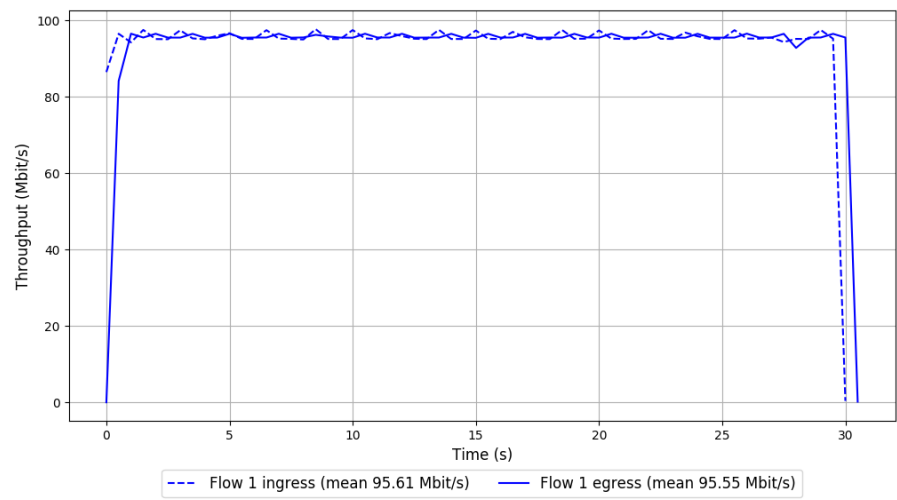
-- Flow 1:

Average throughput: 95.55 Mbit/s

95th percentile per-packet one-way delay: 10.715 ms

Loss rate: 0.07%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-12-11 16:51:27

End at: 2018-12-11 16:51:57

Local clock offset: -2.129 ms

Remote clock offset: 0.82 ms

# Below is generated by plot.py at 2018-12-11 17:39:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.47 Mbit/s

95th percentile per-packet one-way delay: 9.531 ms

Loss rate: 0.10%

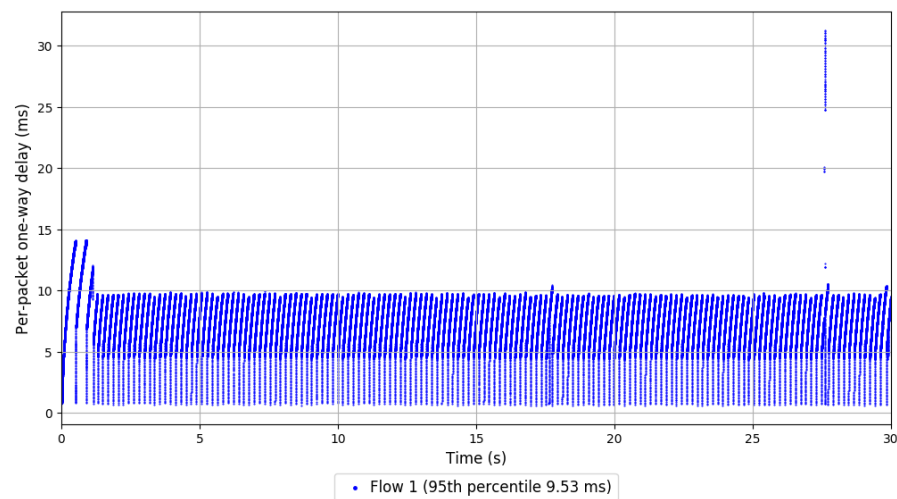
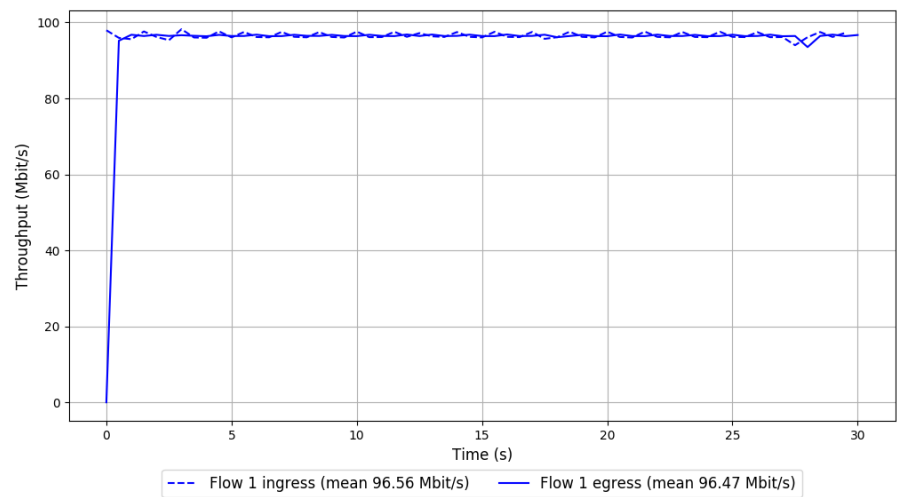
-- Flow 1:

Average throughput: 96.47 Mbit/s

95th percentile per-packet one-way delay: 9.531 ms

Loss rate: 0.10%

Run 4: Report of LEDBAT — Data Link





Run 5: Statistics of LEDBAT

Start at: 2018-12-11 17:12:47

End at: 2018-12-11 17:13:17

Local clock offset: 0.216 ms

Remote clock offset: 0.708 ms

# Below is generated by plot.py at 2018-12-11 17:39:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.48 Mbit/s

95th percentile per-packet one-way delay: 9.596 ms

Loss rate: 0.09%

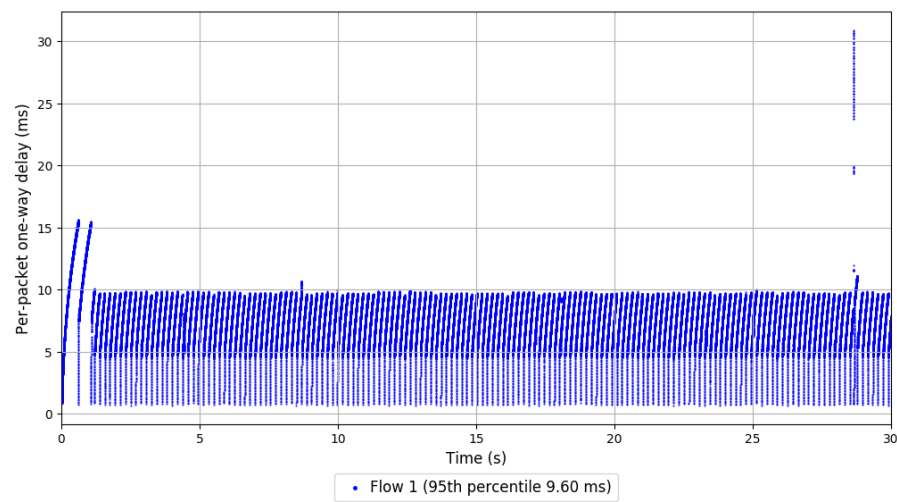
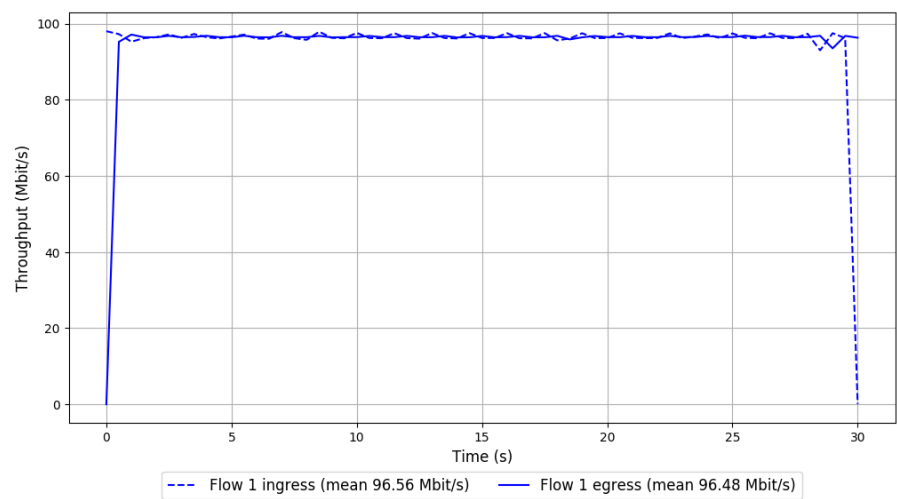
-- Flow 1:

Average throughput: 96.48 Mbit/s

95th percentile per-packet one-way delay: 9.596 ms

Loss rate: 0.09%

Run 5: Report of LEDBAT — Data Link

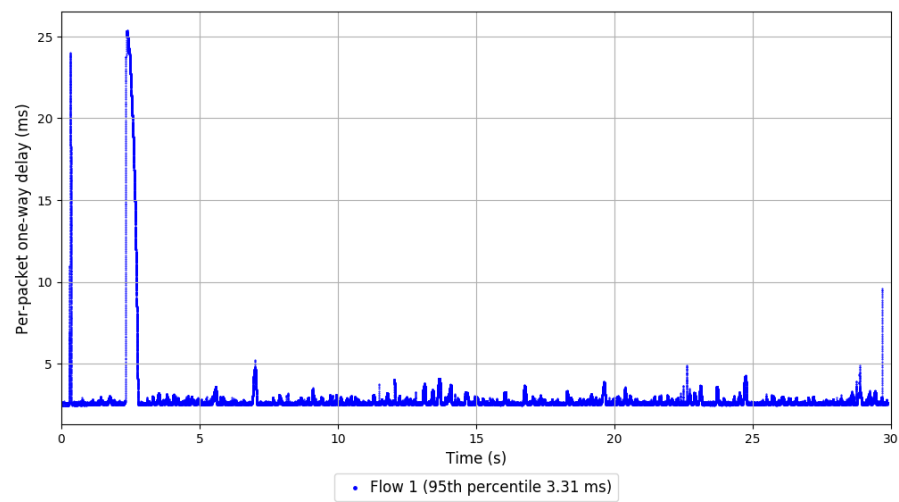
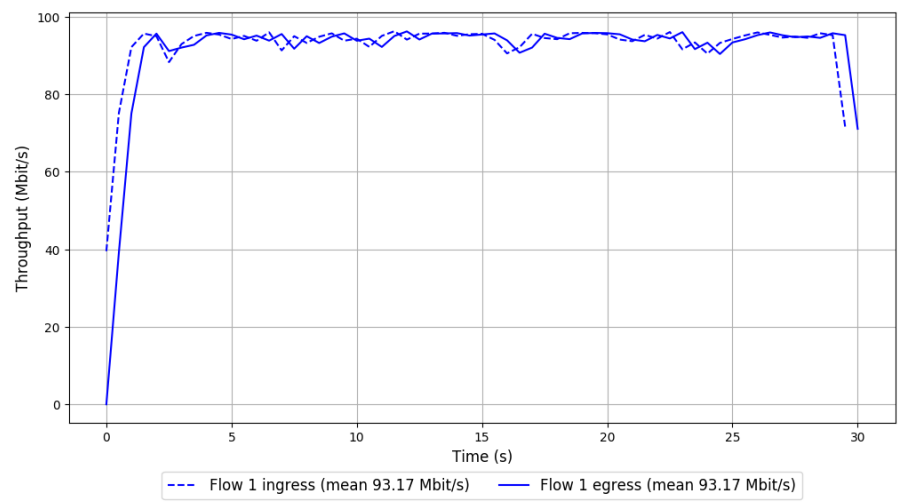


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 15:56:50
End at: 2018-12-11 15:57:20
Local clock offset: -5.499 ms
Remote clock offset: 1.265 ms

# Below is generated by plot.py at 2018-12-11 17:40:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.17 Mbit/s
95th percentile per-packet one-way delay: 3.310 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 93.17 Mbit/s
95th percentile per-packet one-way delay: 3.310 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 16:18:20

End at: 2018-12-11 16:18:51

Local clock offset: -6.141 ms

Remote clock offset: 1.169 ms

# Below is generated by plot.py at 2018-12-11 17:40:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 93.36 Mbit/s

95th percentile per-packet one-way delay: 3.179 ms

Loss rate: 0.02%

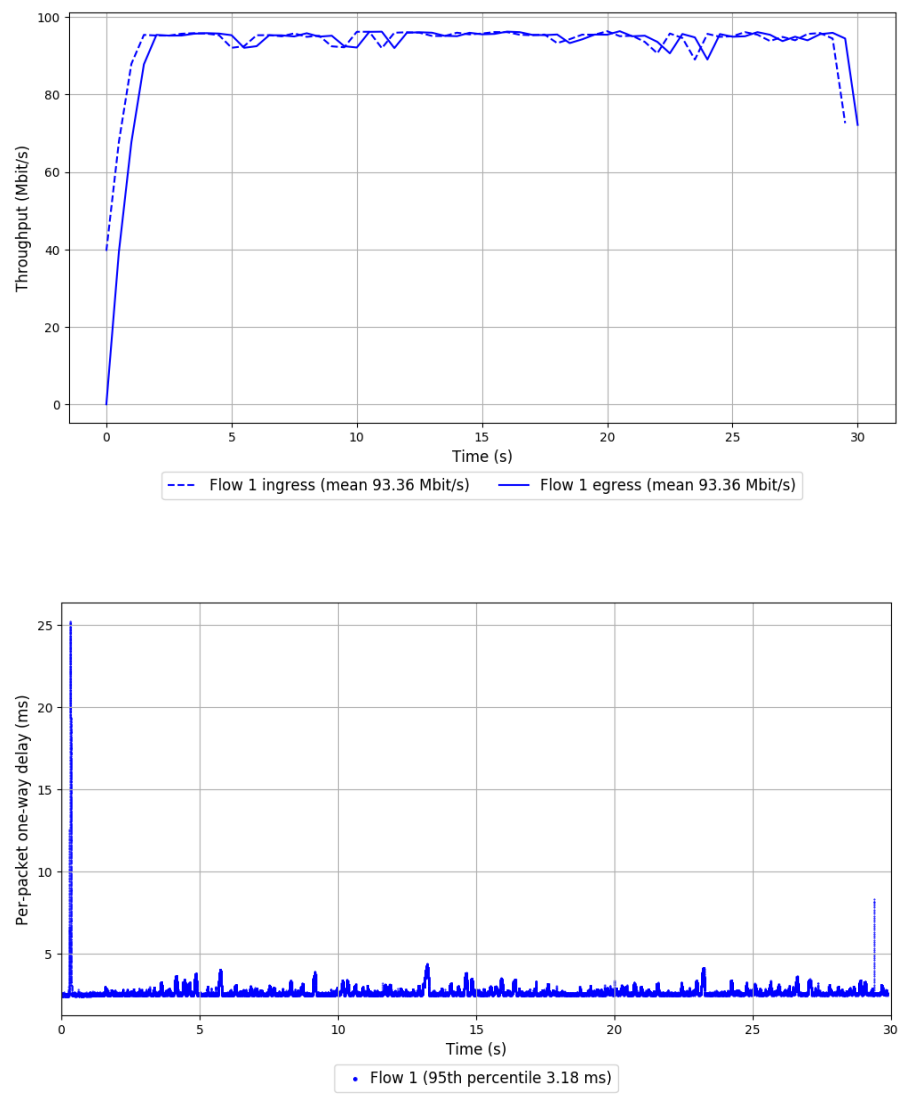
-- Flow 1:

Average throughput: 93.36 Mbit/s

95th percentile per-packet one-way delay: 3.179 ms

Loss rate: 0.02%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 16:40:15

End at: 2018-12-11 16:40:45

Local clock offset: -5.736 ms

Remote clock offset: 0.904 ms

# Below is generated by plot.py at 2018-12-11 17:40:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 87.11 Mbit/s

95th percentile per-packet one-way delay: 5.023 ms

Loss rate: 0.01%

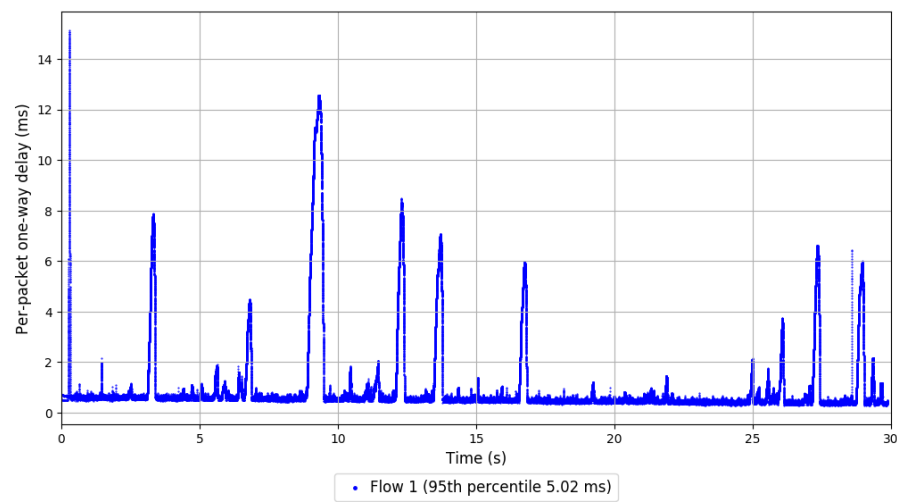
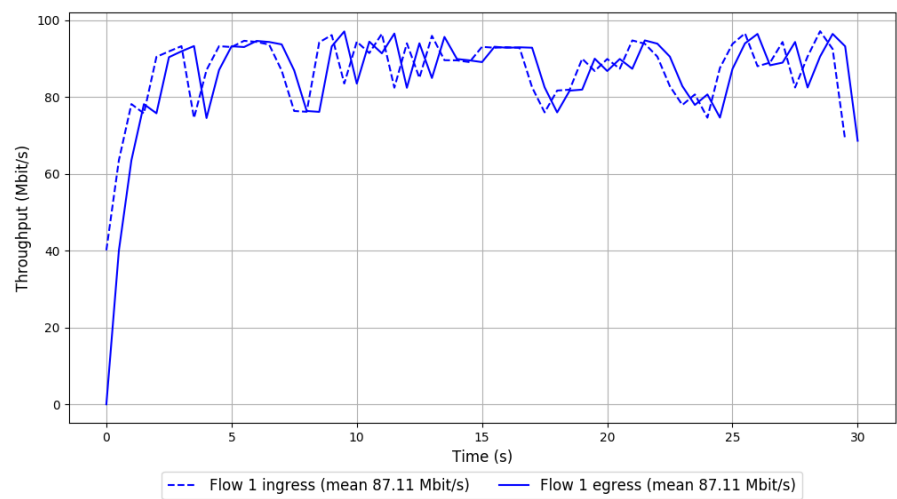
-- Flow 1:

Average throughput: 87.11 Mbit/s

95th percentile per-packet one-way delay: 5.023 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link





Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 17:01:35

End at: 2018-12-11 17:02:05

Local clock offset: -0.666 ms

Remote clock offset: 0.782 ms

# Below is generated by plot.py at 2018-12-11 17:40:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.09 Mbit/s

95th percentile per-packet one-way delay: 2.475 ms

Loss rate: 0.01%

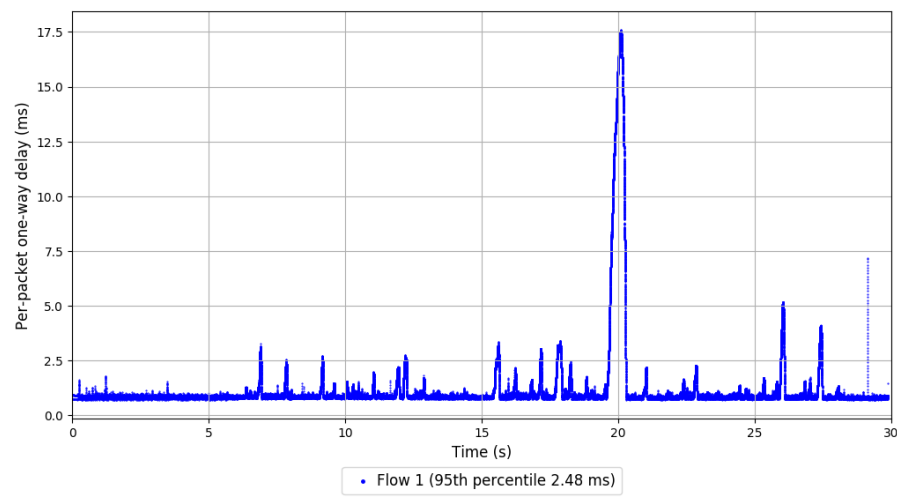
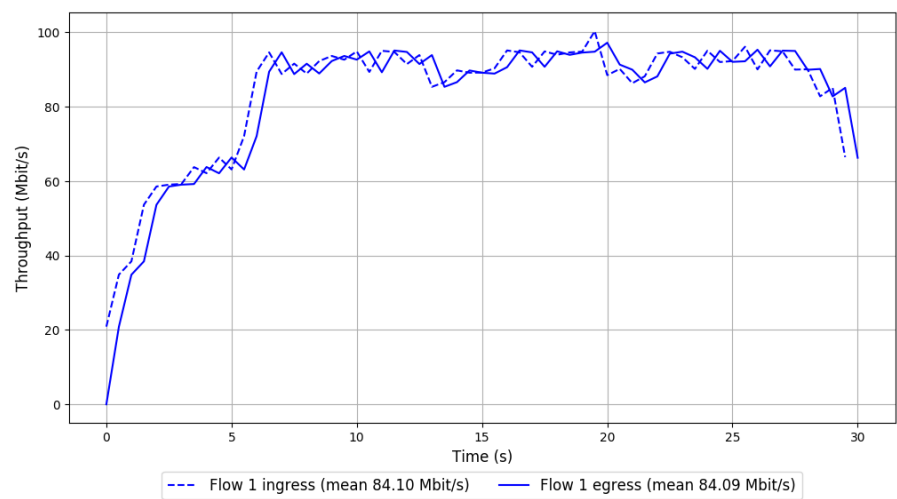
-- Flow 1:

Average throughput: 84.09 Mbit/s

95th percentile per-packet one-way delay: 2.475 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 17:22:55

End at: 2018-12-11 17:23:25

Local clock offset: 0.998 ms

Remote clock offset: 0.684 ms

# Below is generated by plot.py at 2018-12-11 17:40:13

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.24 Mbit/s

95th percentile per-packet one-way delay: 2.290 ms

Loss rate: 0.01%

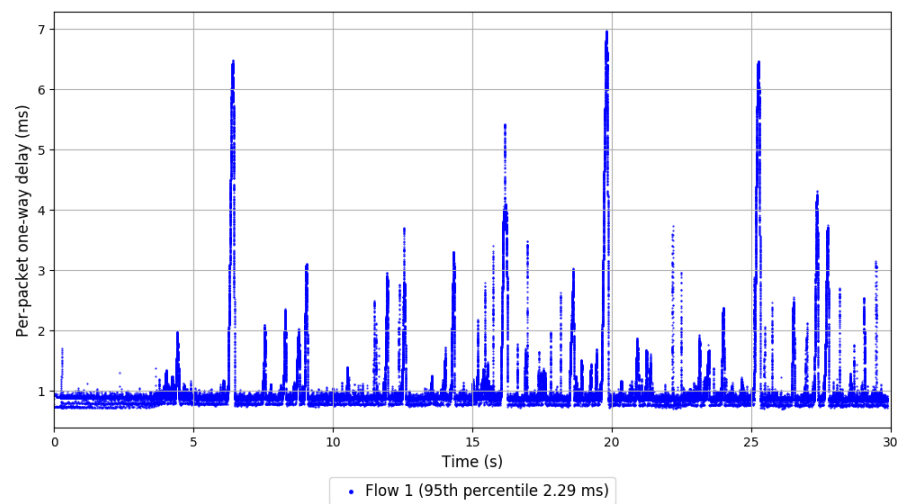
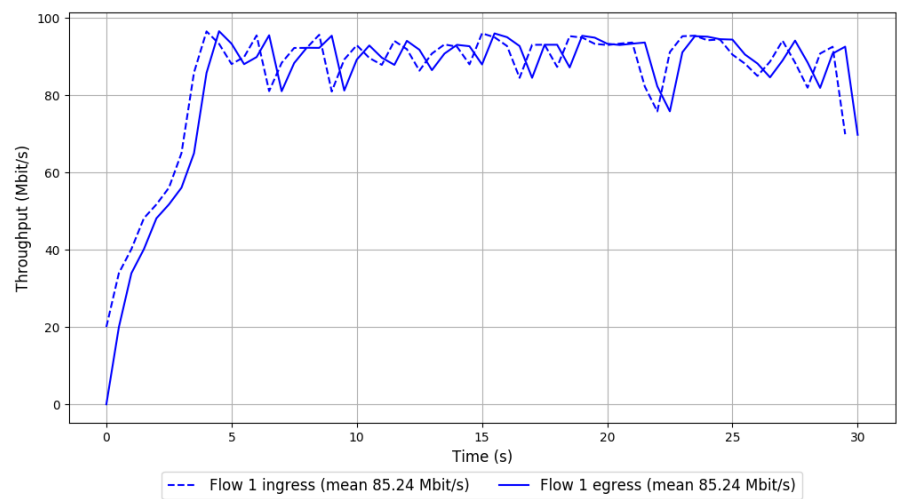
-- Flow 1:

Average throughput: 85.24 Mbit/s

95th percentile per-packet one-way delay: 2.290 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link

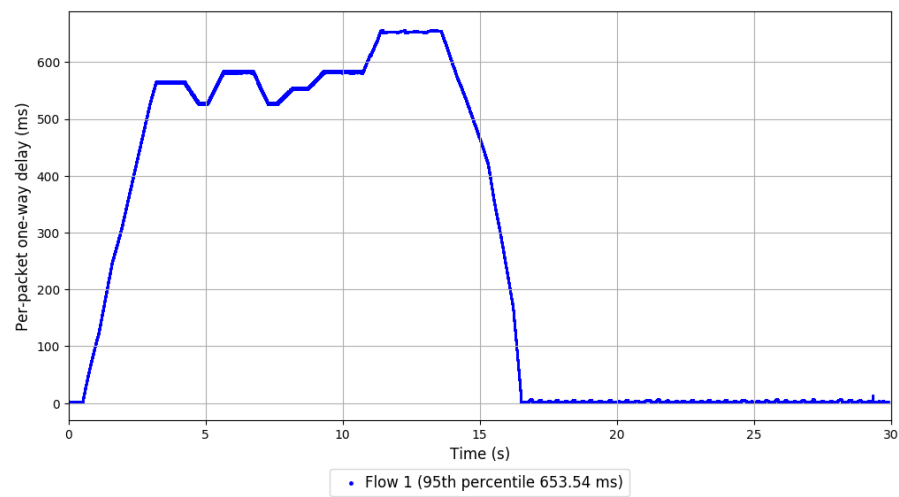
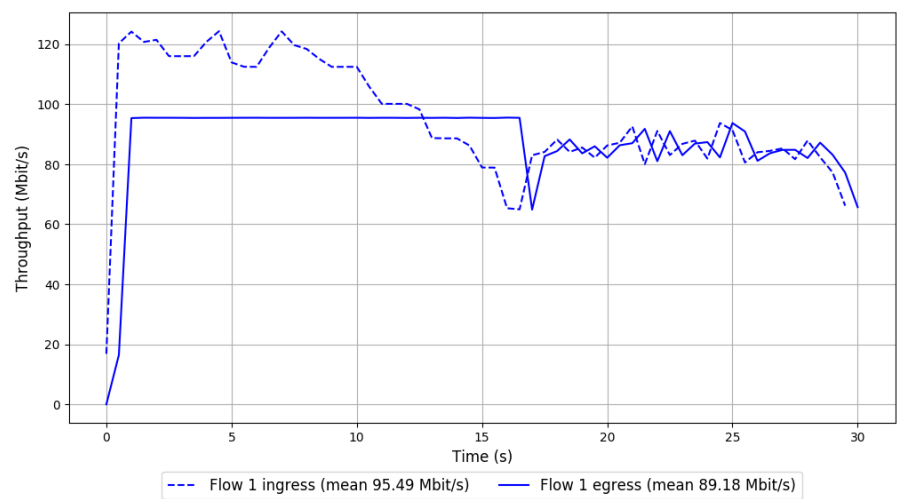


```
Run 1: Statistics of PCC-Expr

Start at: 2018-12-11 15:57:57
End at: 2018-12-11 15:58:27
Local clock offset: -5.517 ms
Remote clock offset: 1.291 ms

# Below is generated by plot.py at 2018-12-11 17:41:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.18 Mbit/s
95th percentile per-packet one-way delay: 653.544 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 89.18 Mbit/s
95th percentile per-packet one-way delay: 653.544 ms
Loss rate: 6.62%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 16:19:28

End at: 2018-12-11 16:19:58

Local clock offset: -6.129 ms

Remote clock offset: 1.08 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.03 Mbit/s

95th percentile per-packet one-way delay: 653.966 ms

Loss rate: 8.40%

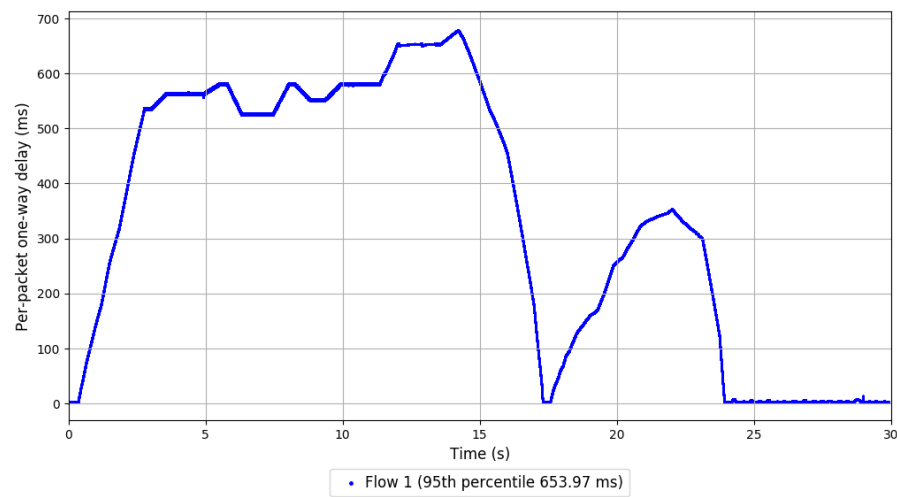
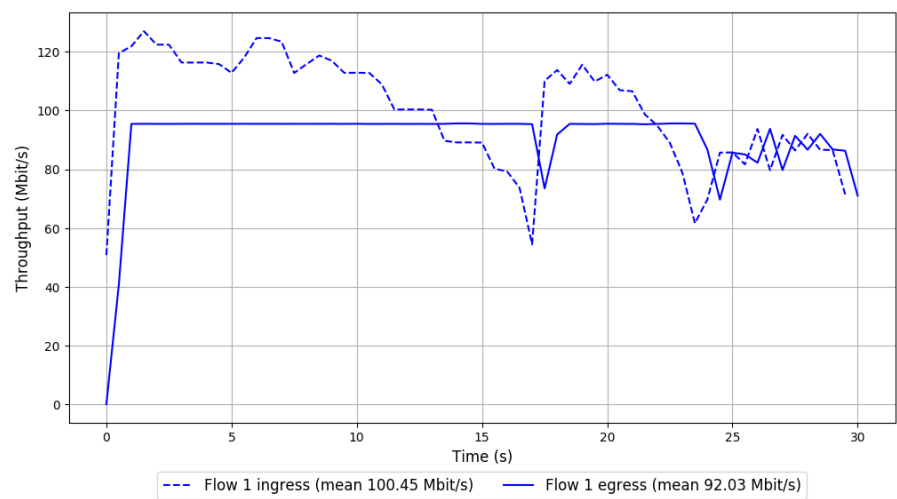
-- Flow 1:

Average throughput: 92.03 Mbit/s

95th percentile per-packet one-way delay: 653.966 ms

Loss rate: 8.40%

Run 2: Report of PCC-Expr — Data Link





Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 16:41:22

End at: 2018-12-11 16:41:52

Local clock offset: -5.109 ms

Remote clock offset: 0.966 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.89 Mbit/s

95th percentile per-packet one-way delay: 0.678 ms

Loss rate: 0.01%

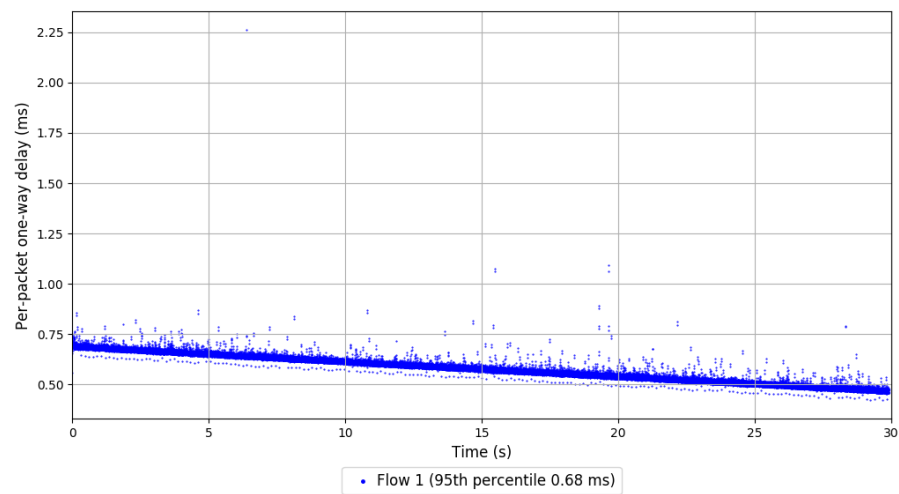
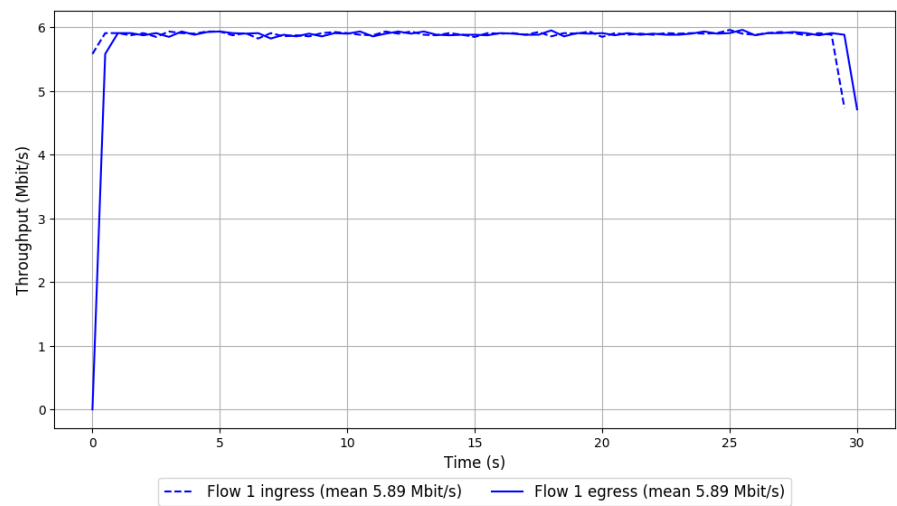
-- Flow 1:

Average throughput: 5.89 Mbit/s

95th percentile per-packet one-way delay: 0.678 ms

Loss rate: 0.01%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 17:02:42

End at: 2018-12-11 17:03:12

Local clock offset: -0.584 ms

Remote clock offset: 0.65 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 7.17 Mbit/s

95th percentile per-packet one-way delay: 0.998 ms

Loss rate: 0.01%

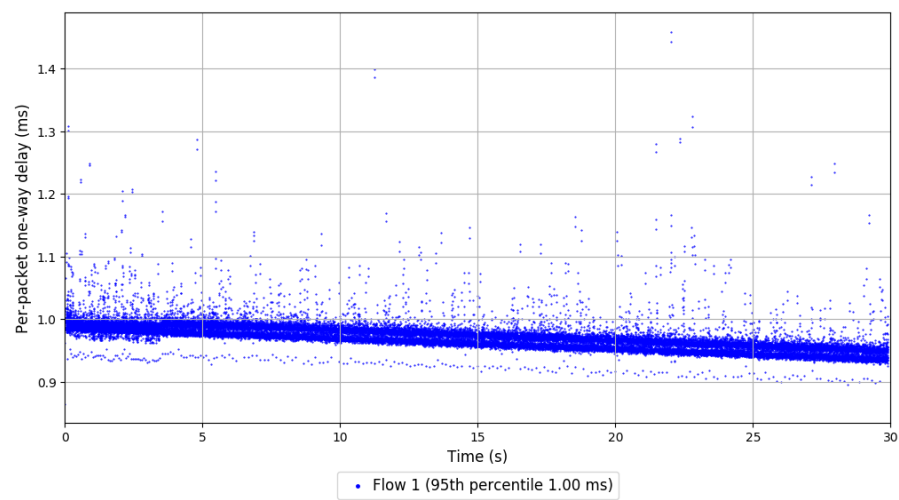
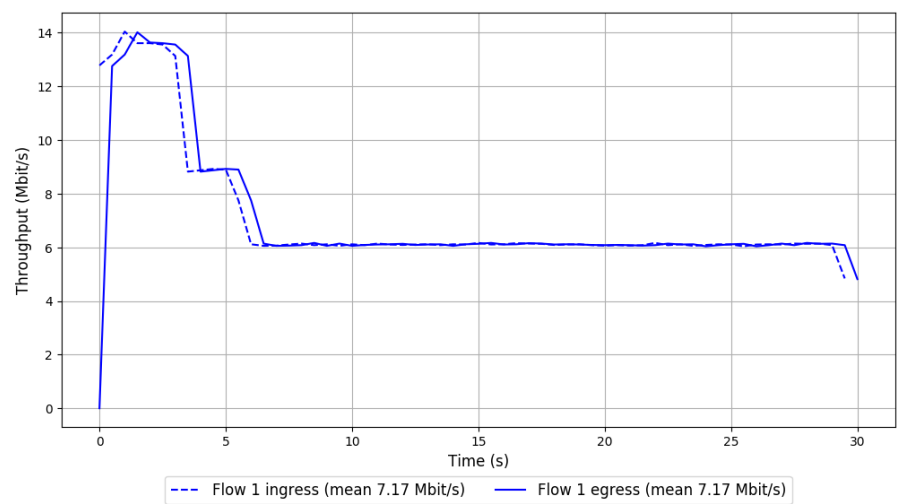
-- Flow 1:

Average throughput: 7.17 Mbit/s

95th percentile per-packet one-way delay: 0.998 ms

Loss rate: 0.01%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-12-11 17:24:02

End at: 2018-12-11 17:24:32

Local clock offset: 1.079 ms

Remote clock offset: 0.711 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.59 Mbit/s

95th percentile per-packet one-way delay: 0.875 ms

Loss rate: 0.00%

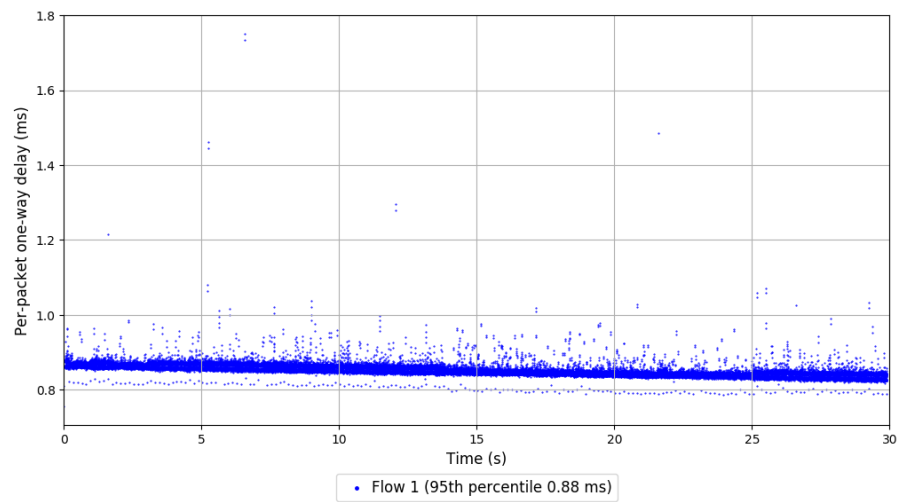
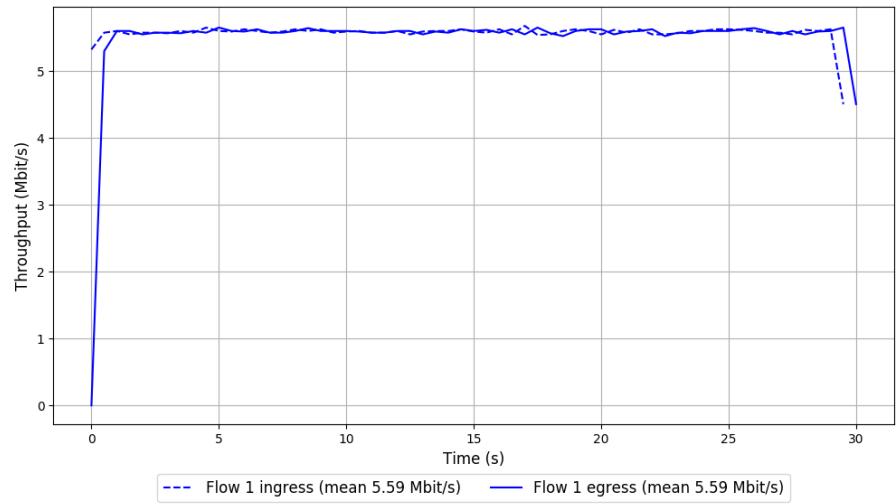
-- Flow 1:

Average throughput: 5.59 Mbit/s

95th percentile per-packet one-way delay: 0.875 ms

Loss rate: 0.00%

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



Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 15:54:37

End at: 2018-12-11 15:55:07

Local clock offset: -5.608 ms

Remote clock offset: 1.179 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.27 Mbit/s

95th percentile per-packet one-way delay: 9.102 ms

Loss rate: 0.02%

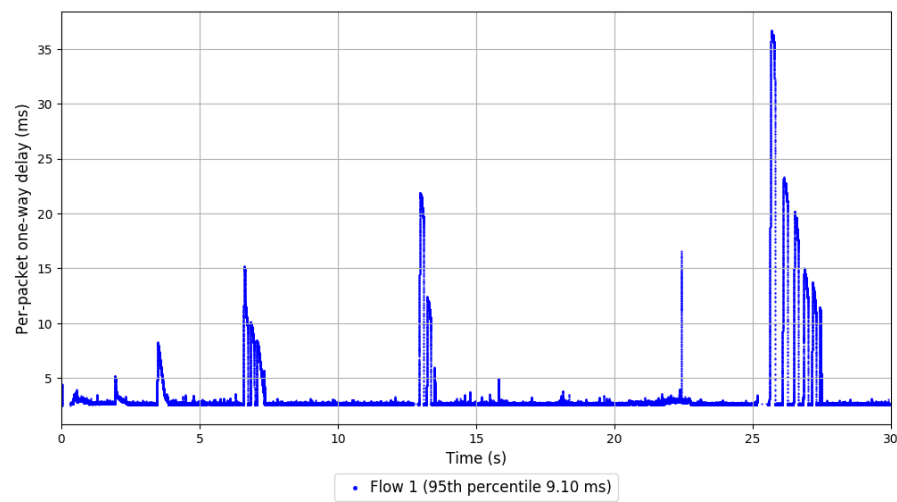
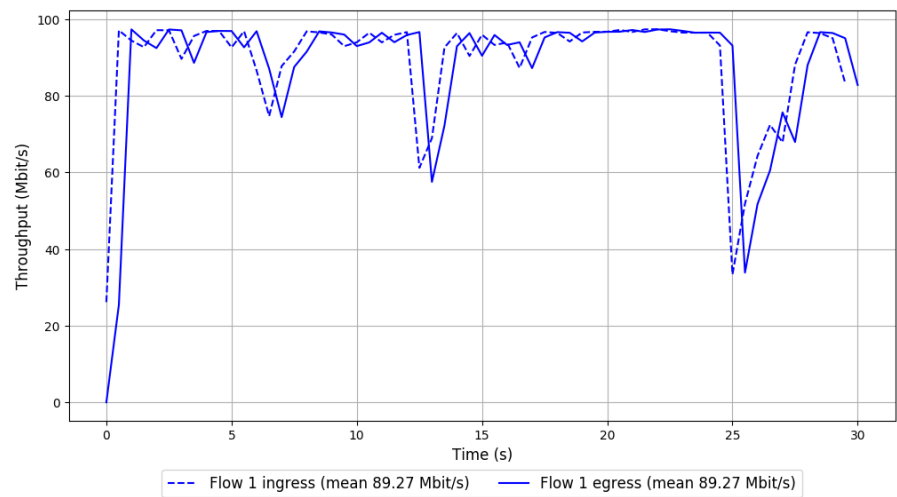
-- Flow 1:

Average throughput: 89.27 Mbit/s

95th percentile per-packet one-way delay: 9.102 ms

Loss rate: 0.02%

Run 1: Report of QUIC Cubic — Data Link





Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 16:16:08

End at: 2018-12-11 16:16:38

Local clock offset: -5.922 ms

Remote clock offset: 1.124 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.63 Mbit/s

95th percentile per-packet one-way delay: 7.228 ms

Loss rate: 0.02%

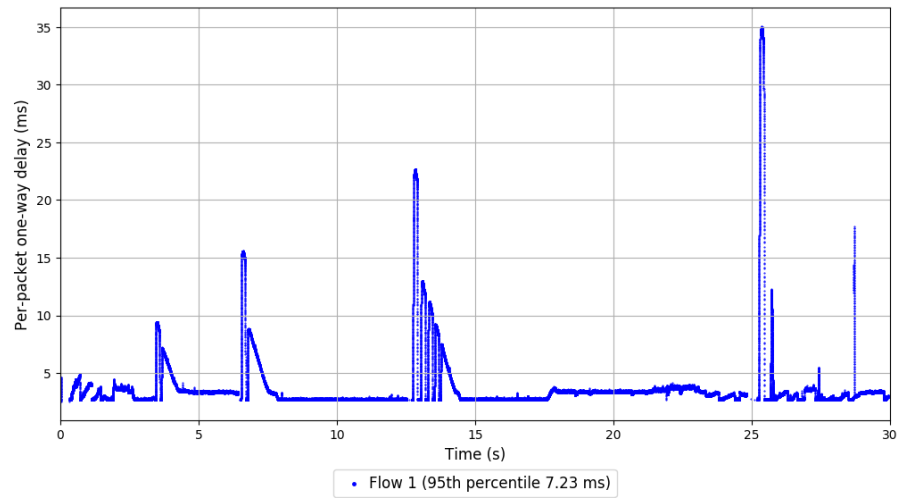
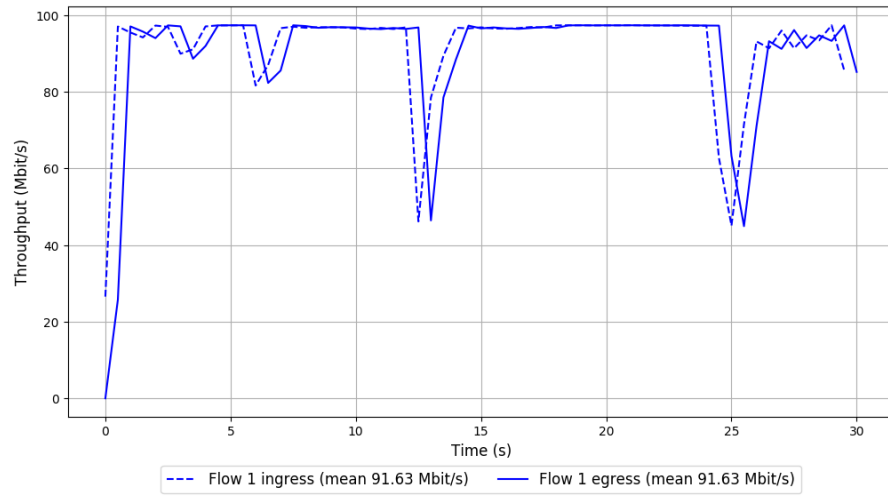
-- Flow 1:

Average throughput: 91.63 Mbit/s

95th percentile per-packet one-way delay: 7.228 ms

Loss rate: 0.02%

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



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 16:38:03

End at: 2018-12-11 16:38:33

Local clock offset: -6.748 ms

Remote clock offset: 0.995 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.11 Mbit/s

95th percentile per-packet one-way delay: 5.670 ms

Loss rate: 0.01%

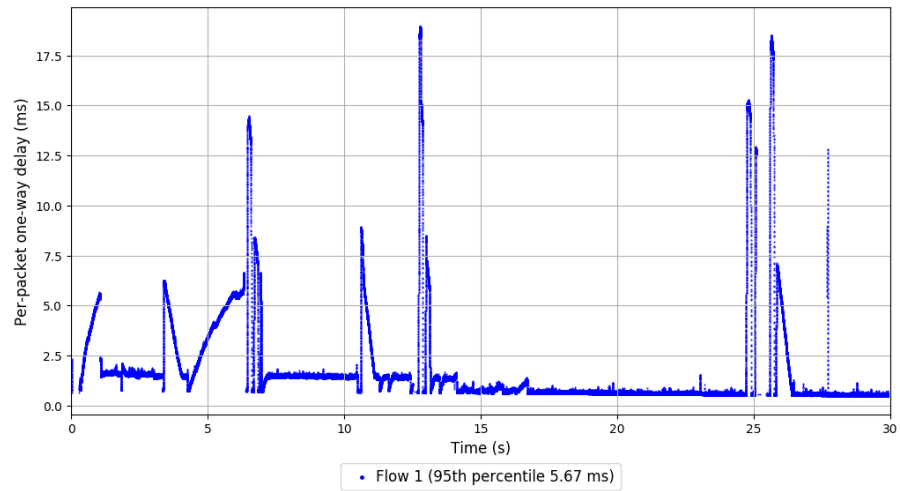
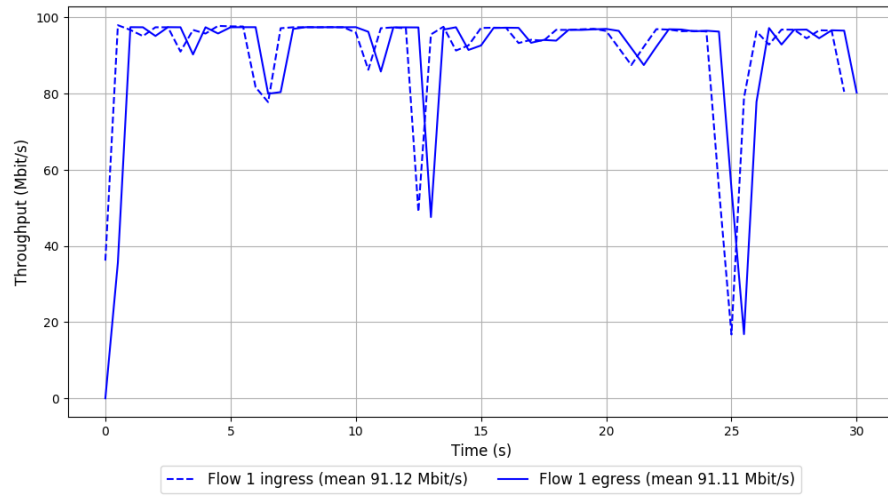
-- Flow 1:

Average throughput: 91.11 Mbit/s

95th percentile per-packet one-way delay: 5.670 ms

Loss rate: 0.01%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 16:59:23

End at: 2018-12-11 16:59:53

Local clock offset: -1.009 ms

Remote clock offset: 0.837 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.24 Mbit/s

95th percentile per-packet one-way delay: 6.234 ms

Loss rate: 0.02%

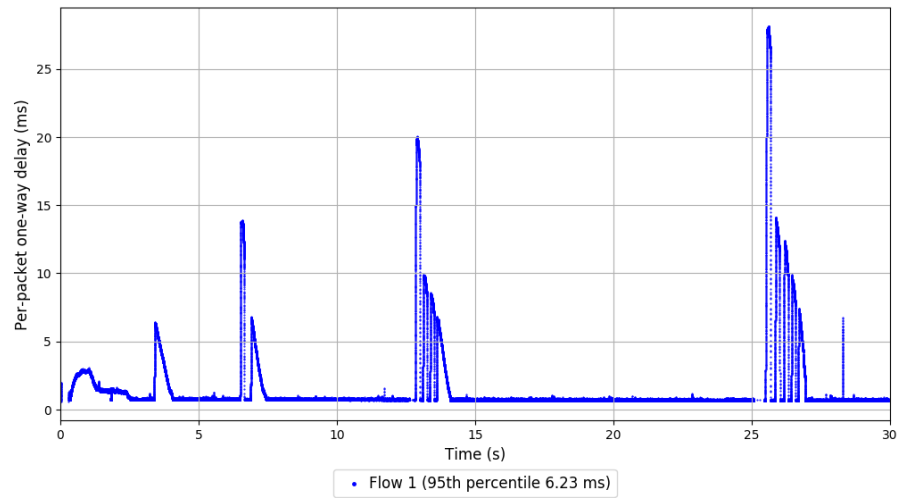
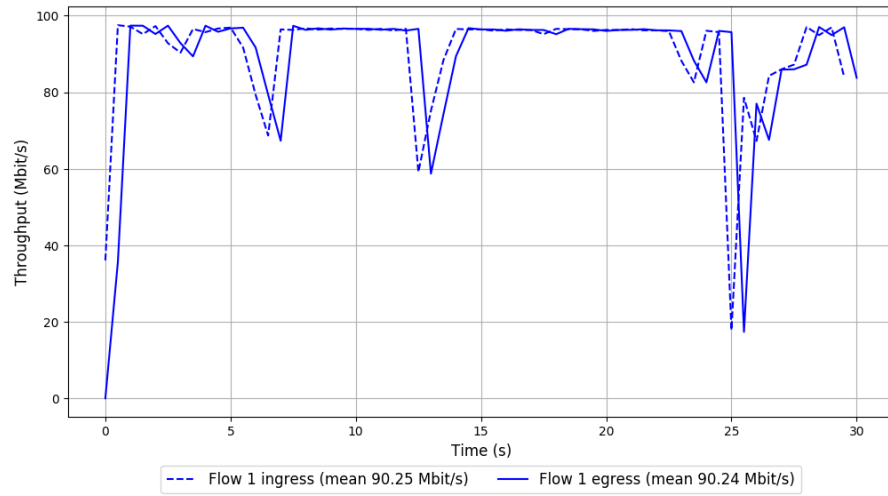
-- Flow 1:

Average throughput: 90.24 Mbit/s

95th percentile per-packet one-way delay: 6.234 ms

Loss rate: 0.02%

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



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 17:20:43

End at: 2018-12-11 17:21:13

Local clock offset: 0.852 ms

Remote clock offset: 0.652 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.34 Mbit/s

95th percentile per-packet one-way delay: 8.418 ms

Loss rate: 0.01%

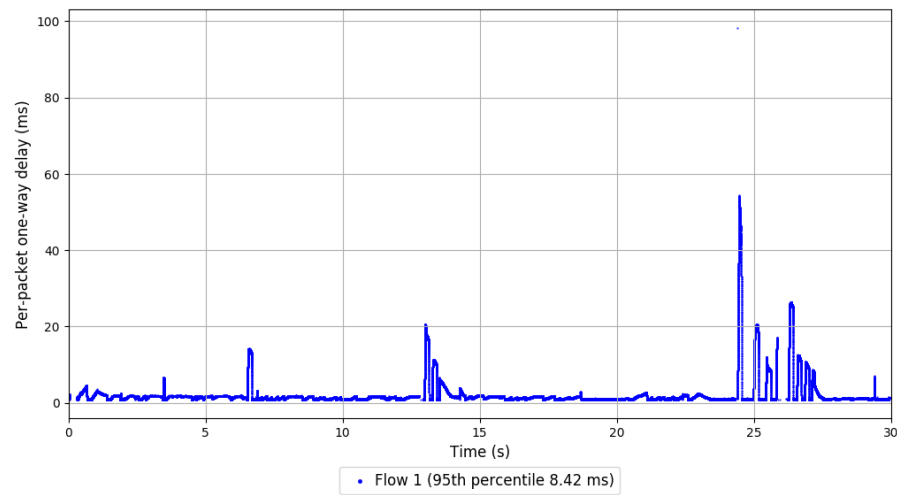
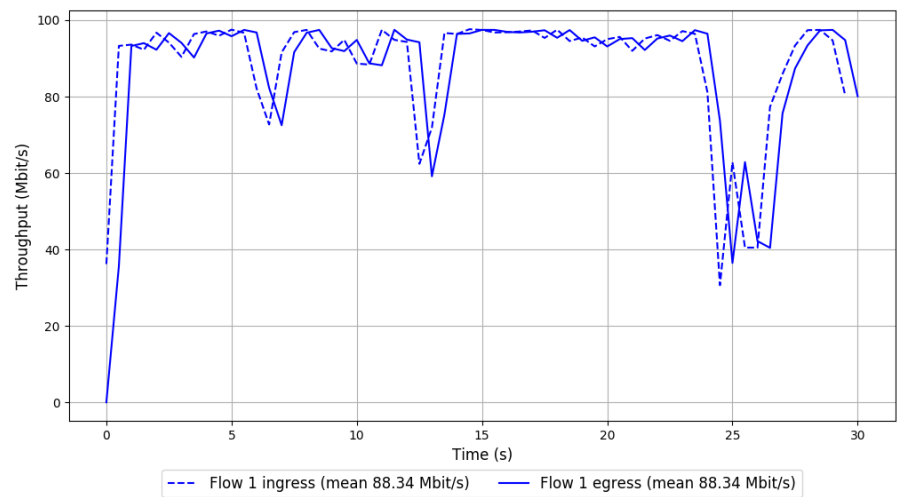
-- Flow 1:

Average throughput: 88.34 Mbit/s

95th percentile per-packet one-way delay: 8.418 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link





Run 1: Statistics of SCReAM

Start at: 2018-12-11 15:55:45

End at: 2018-12-11 15:56:15

Local clock offset: -5.55 ms

Remote clock offset: 1.168 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.677 ms

Loss rate: 0.00%

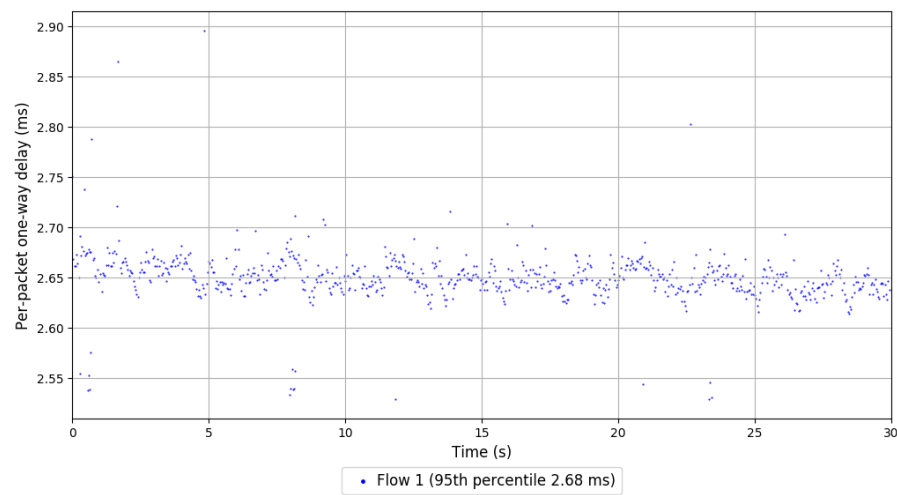
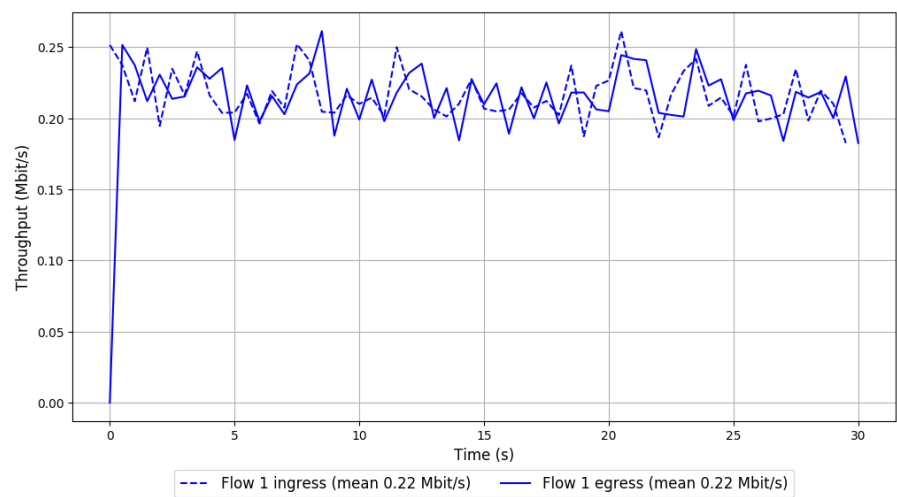
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.677 ms

Loss rate: 0.00%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-12-11 16:17:16

End at: 2018-12-11 16:17:46

Local clock offset: -5.99 ms

Remote clock offset: 1.108 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.724 ms

Loss rate: 0.00%

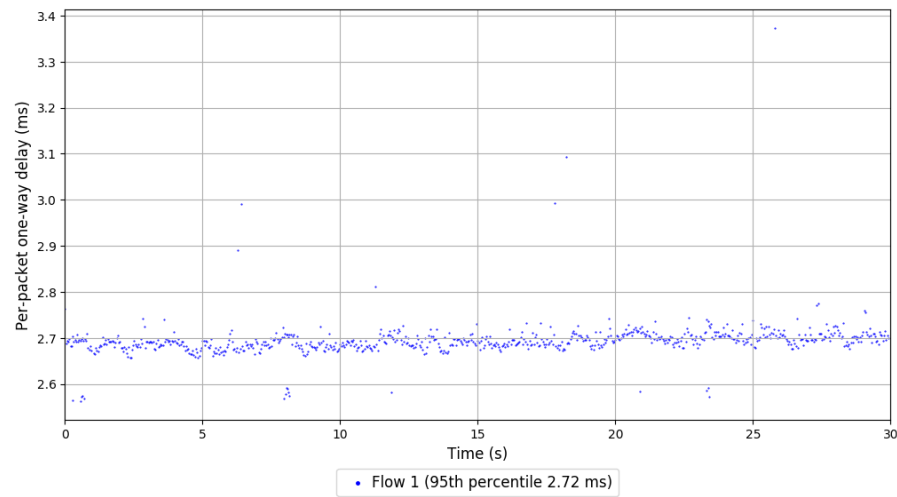
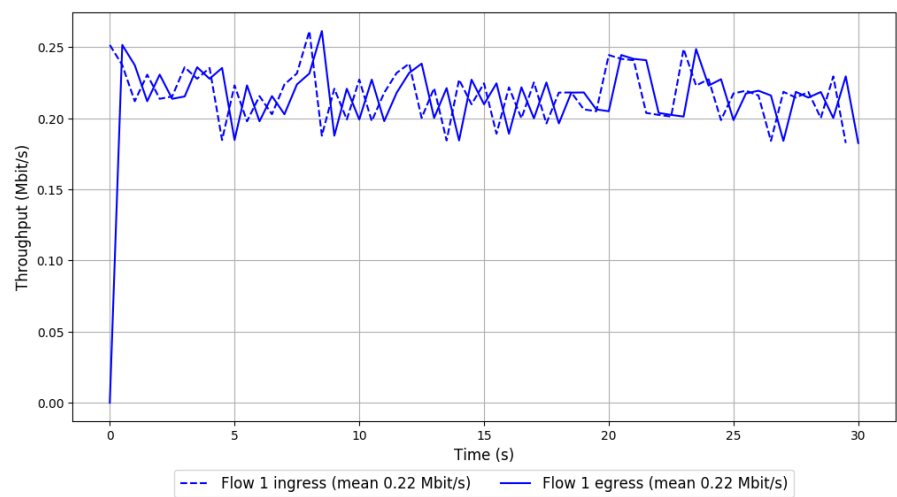
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.724 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-12-11 16:39:11

End at: 2018-12-11 16:39:41

Local clock offset: -6.208 ms

Remote clock offset: 0.986 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.637 ms

Loss rate: 0.00%

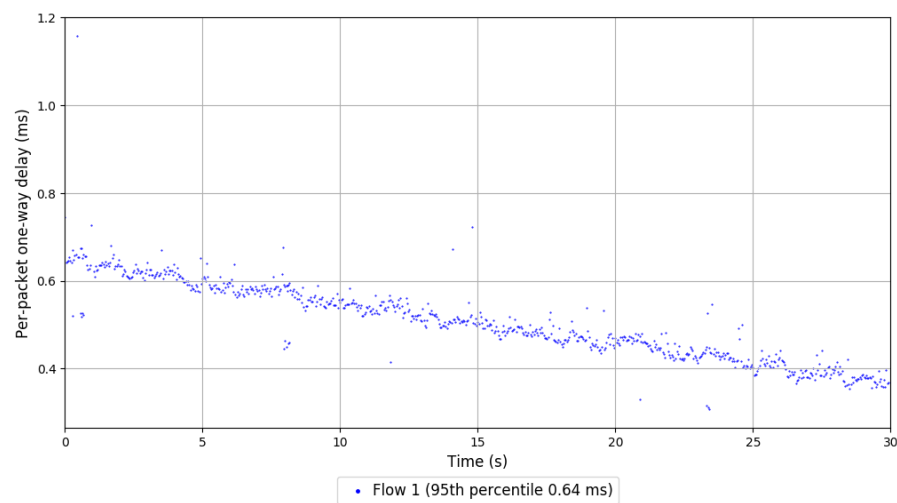
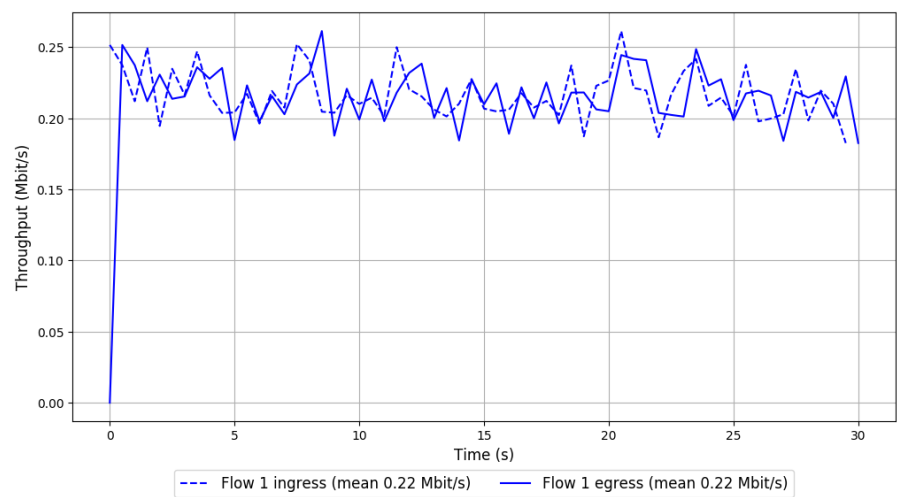
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.637 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-11 17:00:31

End at: 2018-12-11 17:01:01

Local clock offset: -0.773 ms

Remote clock offset: 0.821 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

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

Loss rate: 0.00%

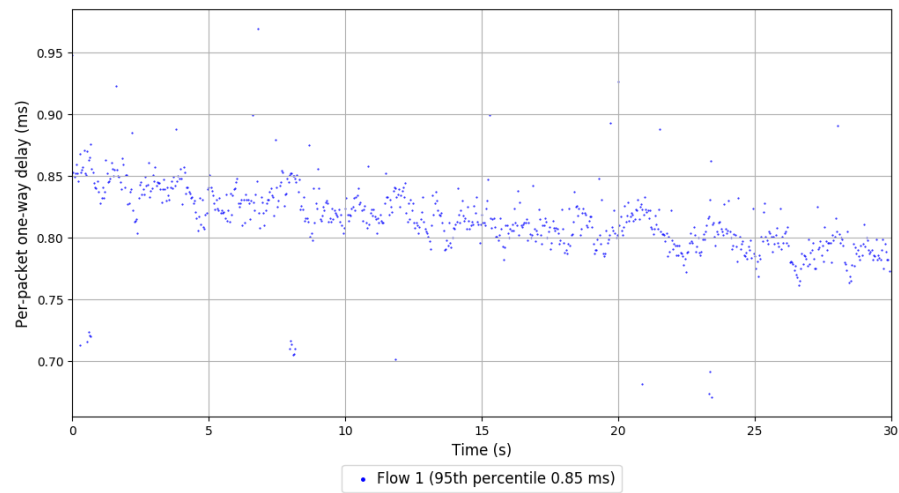
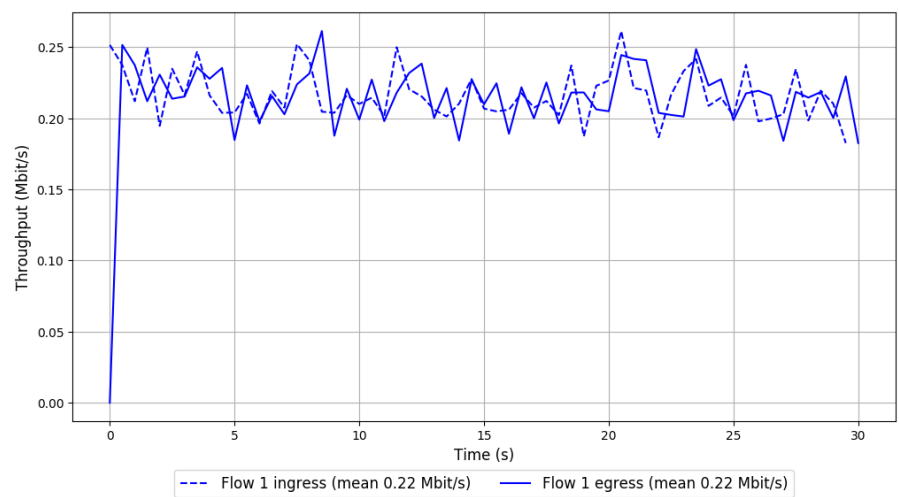
-- Flow 1:

Average throughput: 0.22 Mbit/s

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

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link





Run 5: Statistics of SCReAM

Start at: 2018-12-11 17:21:51

End at: 2018-12-11 17:22:21

Local clock offset: 0.941 ms

Remote clock offset: 0.683 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.918 ms

Loss rate: 0.00%

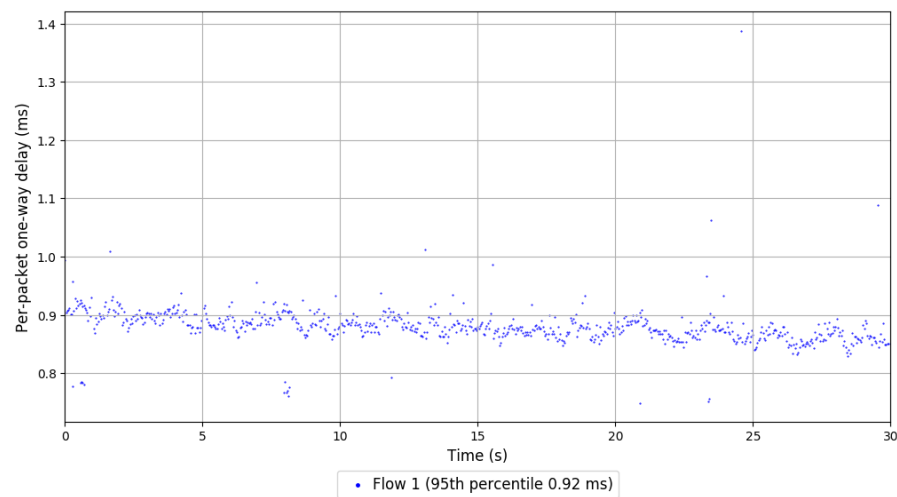
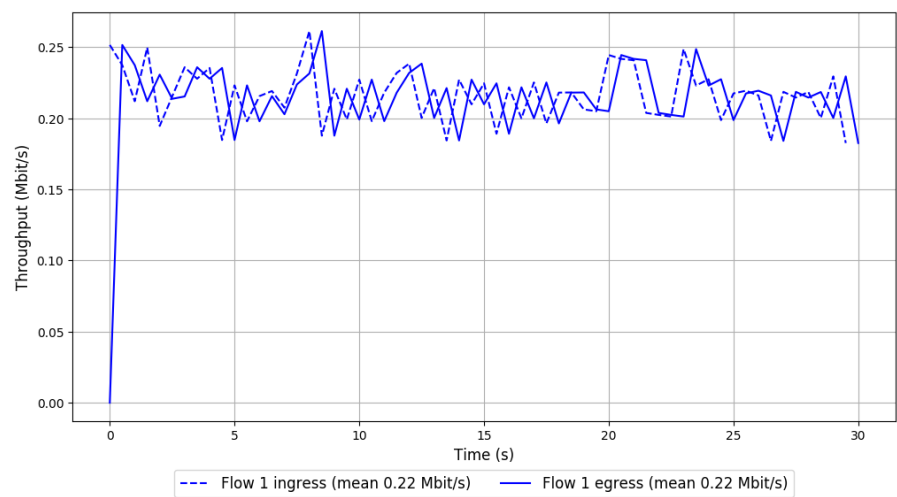
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.918 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-12-11 15:44:27

End at: 2018-12-11 15:44:57

Local clock offset: -6.504 ms

Remote clock offset: 1.168 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.29 Mbit/s

95th percentile per-packet one-way delay: 10.958 ms

Loss rate: 0.05%

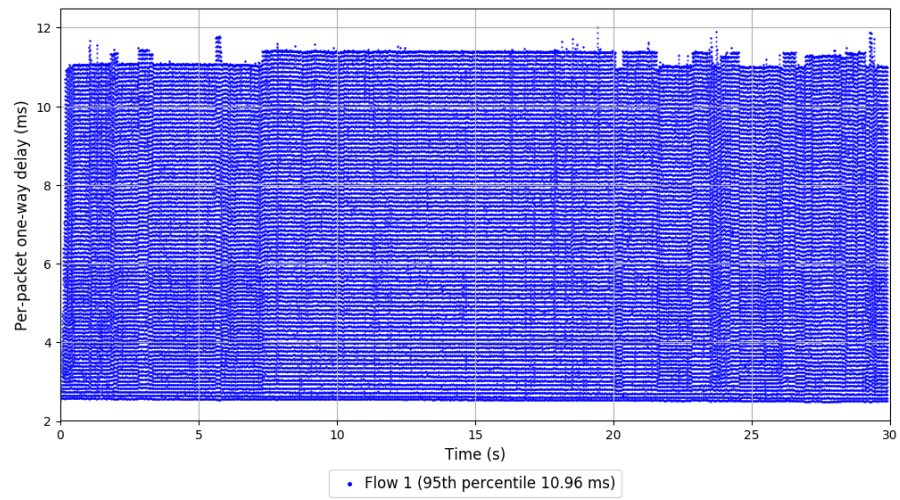
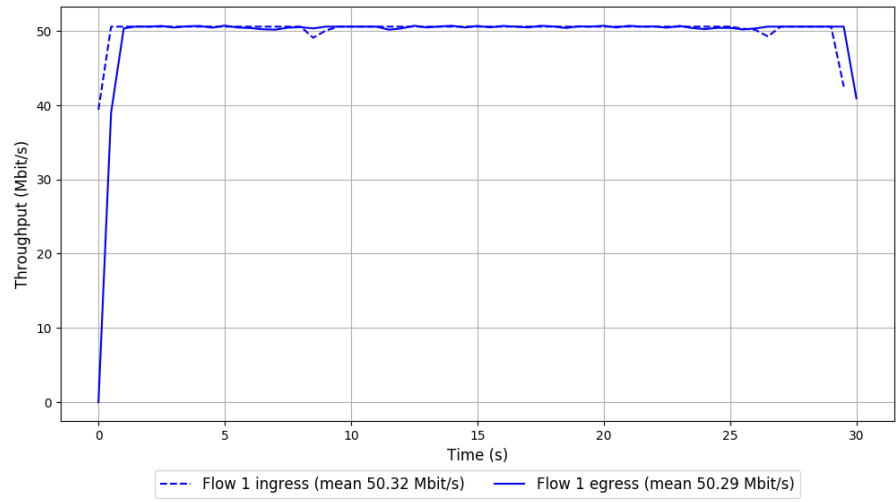
-- Flow 1:

Average throughput: 50.29 Mbit/s

95th percentile per-packet one-way delay: 10.958 ms

Loss rate: 0.05%

### Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-12-11 16:05:57

End at: 2018-12-11 16:06:27

Local clock offset: -5.398 ms

Remote clock offset: 1.105 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.29 Mbit/s

95th percentile per-packet one-way delay: 11.101 ms

Loss rate: 0.07%

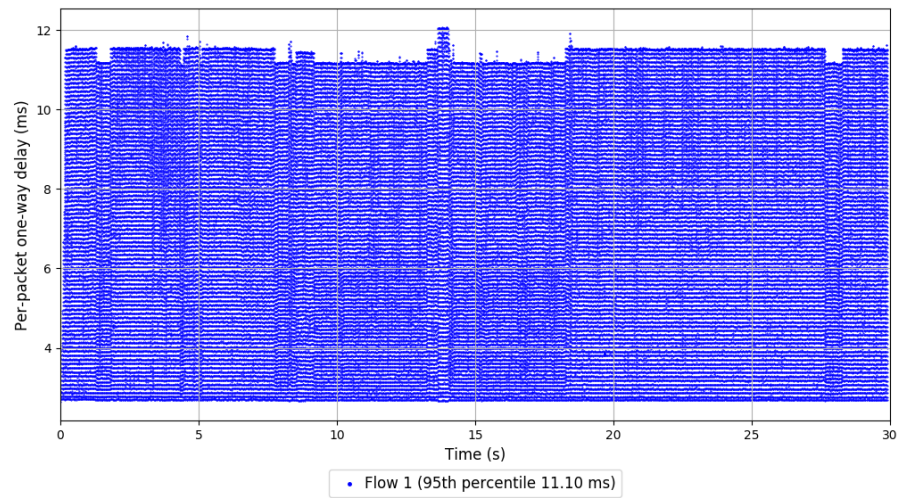
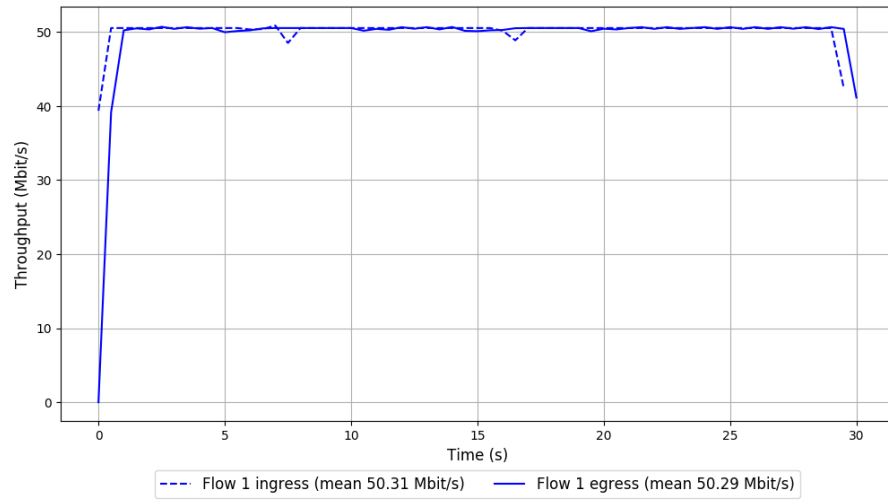
-- Flow 1:

Average throughput: 50.29 Mbit/s

95th percentile per-packet one-way delay: 11.101 ms

Loss rate: 0.07%

## Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-12-11 16:27:56

End at: 2018-12-11 16:28:26

Local clock offset: -6.471 ms

Remote clock offset: 1.037 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.37 Mbit/s

95th percentile per-packet one-way delay: 11.056 ms

Loss rate: 0.07%

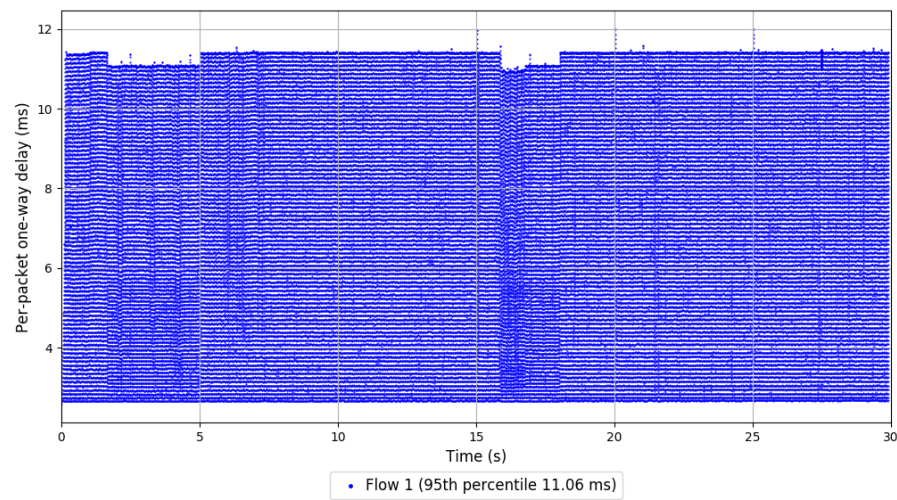
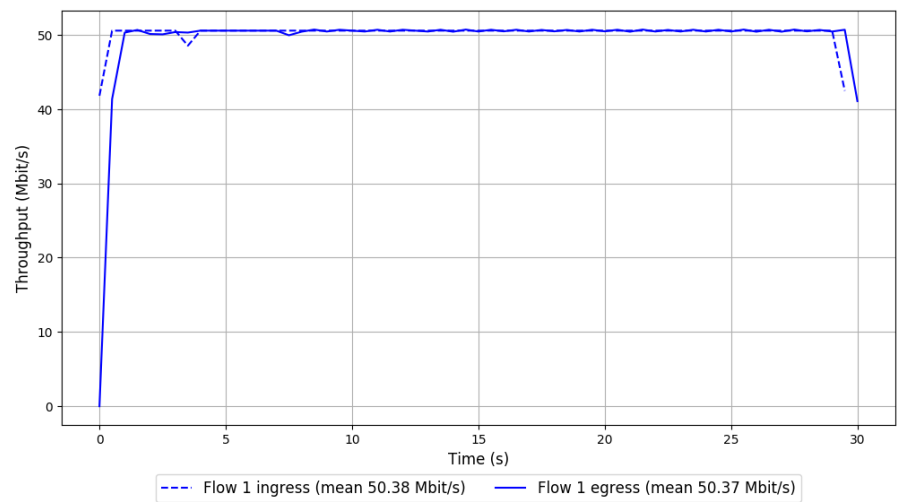
-- Flow 1:

Average throughput: 50.37 Mbit/s

95th percentile per-packet one-way delay: 11.056 ms

Loss rate: 0.07%

Run 3: Report of Sprout — Data Link



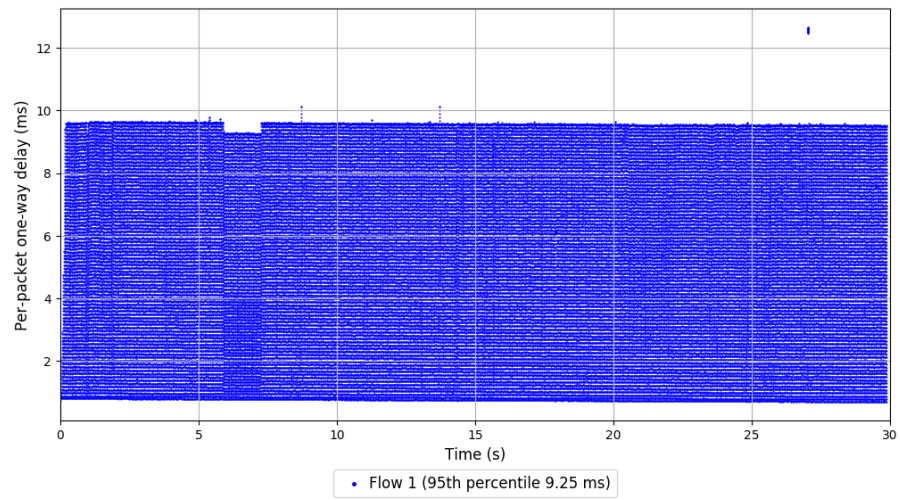
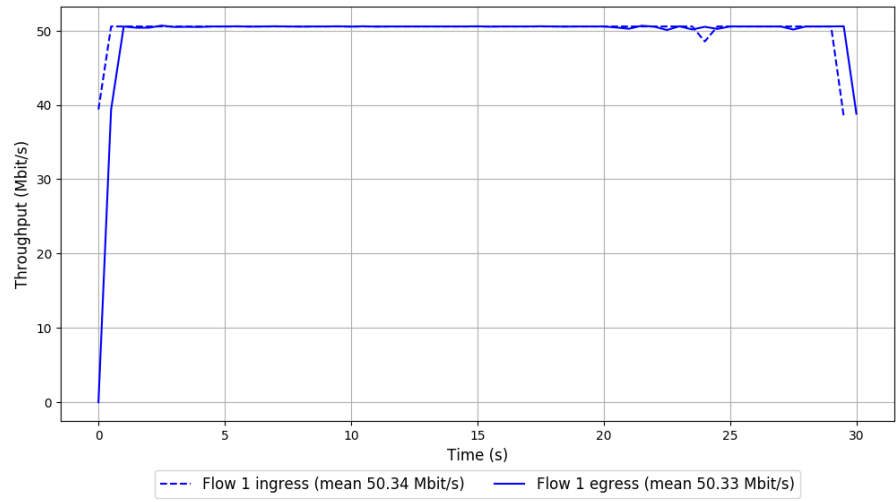


Run 4: Statistics of Sprout

Start at: 2018-12-11 16:49:14  
End at: 2018-12-11 16:49:44  
Local clock offset: -2.526 ms  
Remote clock offset: 0.908 ms

# Below is generated by plot.py at 2018-12-11 17:41:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.33 Mbit/s  
95th percentile per-packet one-way delay: 9.247 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.33 Mbit/s  
95th percentile per-packet one-way delay: 9.247 ms  
Loss rate: 0.00%

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



Run 5: Statistics of Sprout

Start at: 2018-12-11 17:10:34

End at: 2018-12-11 17:11:04

Local clock offset: 0.11 ms

Remote clock offset: 0.756 ms

# Below is generated by plot.py at 2018-12-11 17:41:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.35 Mbit/s

95th percentile per-packet one-way delay: 9.294 ms

Loss rate: 0.00%

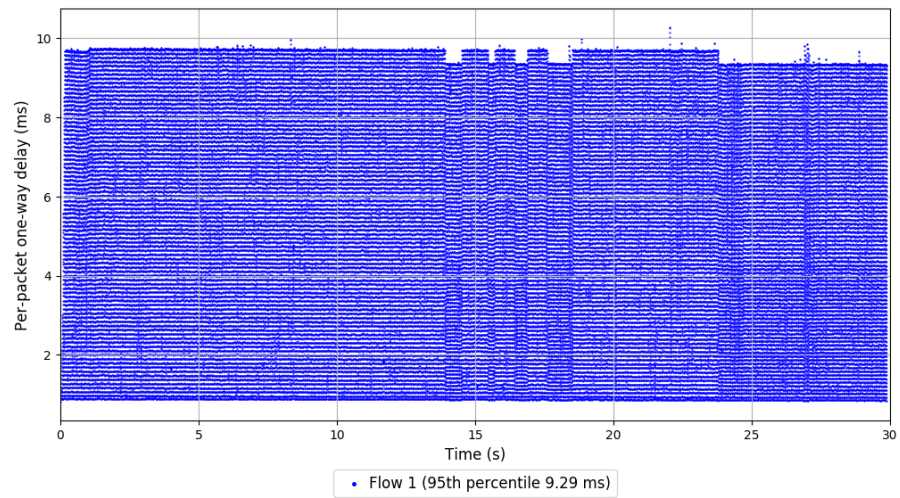
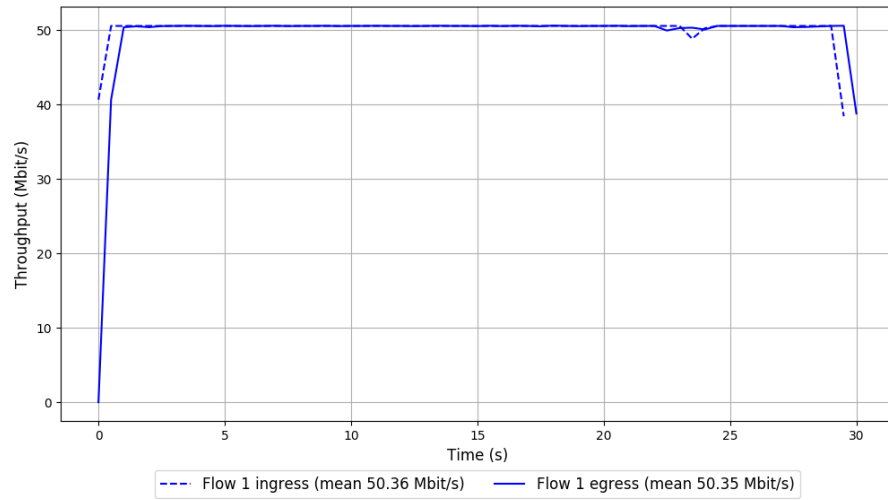
-- Flow 1:

Average throughput: 50.35 Mbit/s

95th percentile per-packet one-way delay: 9.294 ms

Loss rate: 0.00%

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 15:59:08

End at: 2018-12-11 15:59:38

Local clock offset: -5.421 ms

Remote clock offset: 1.238 ms

# Below is generated by plot.py at 2018-12-11 17:43:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 87.86 Mbit/s

95th percentile per-packet one-way delay: 2.712 ms

Loss rate: 0.02%

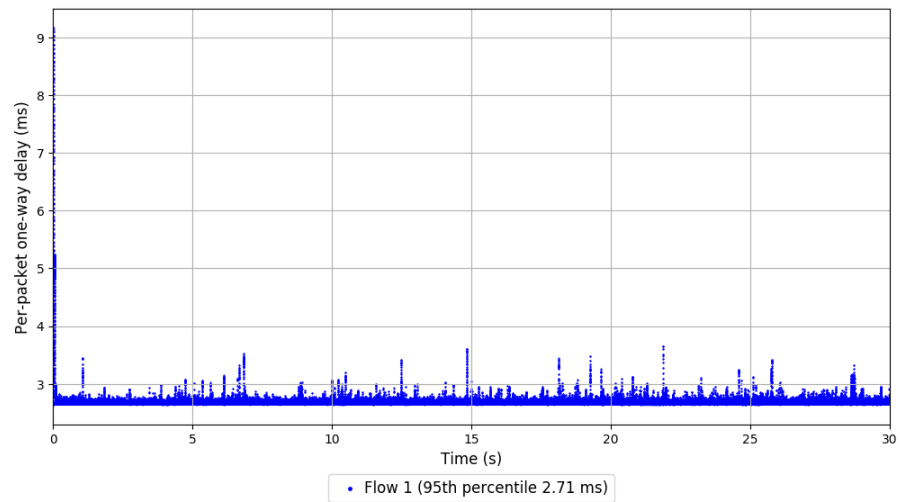
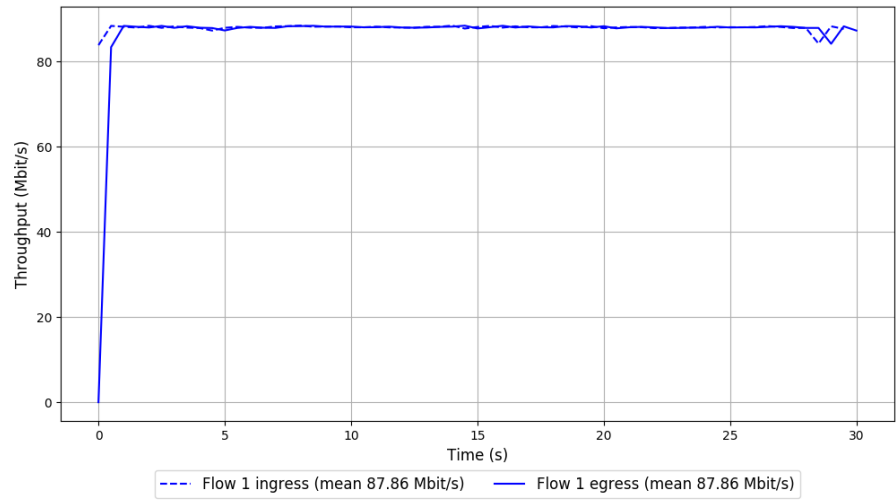
-- Flow 1:

Average throughput: 87.86 Mbit/s

95th percentile per-packet one-way delay: 2.712 ms

Loss rate: 0.02%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 16:20:39

End at: 2018-12-11 16:21:09

Local clock offset: -6.194 ms

Remote clock offset: 1.095 ms

# Below is generated by plot.py at 2018-12-11 17:43:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.05 Mbit/s

95th percentile per-packet one-way delay: 2.722 ms

Loss rate: 0.02%

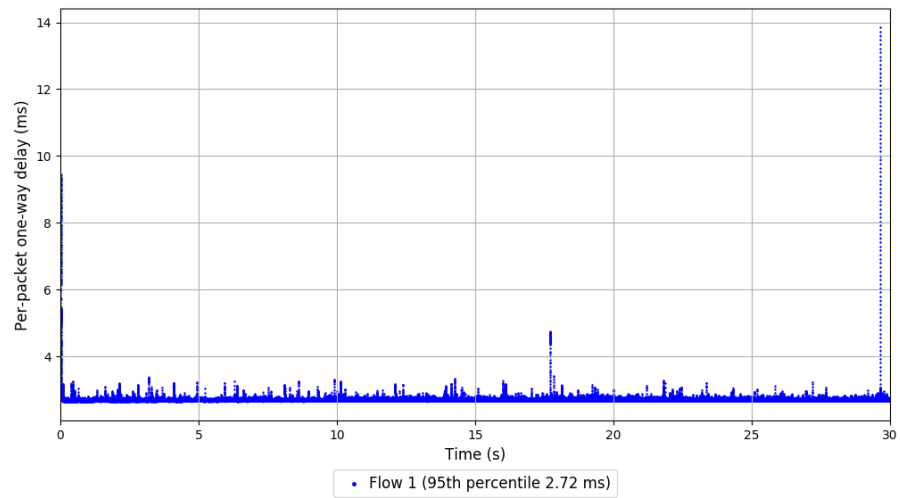
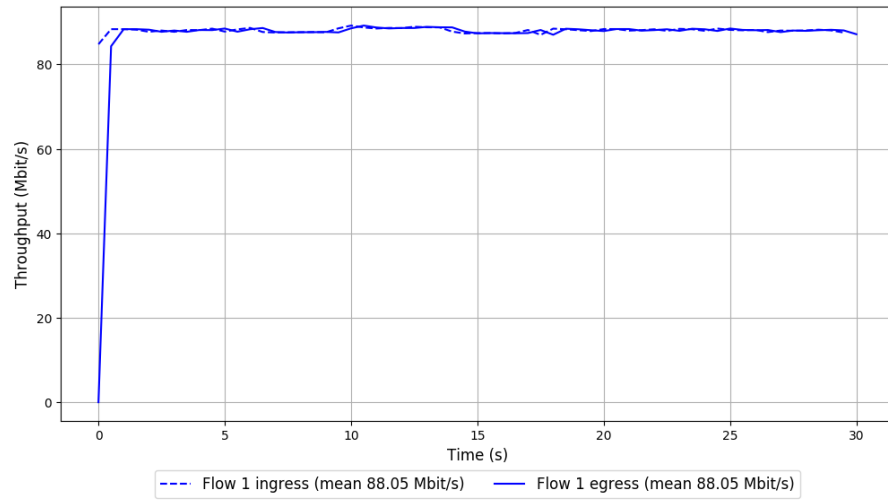
-- Flow 1:

Average throughput: 88.05 Mbit/s

95th percentile per-packet one-way delay: 2.722 ms

Loss rate: 0.02%

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





Run 3: Statistics of TaoVA-100x

Start at: 2018-12-11 16:42:26

End at: 2018-12-11 16:42:56

Local clock offset: -4.658 ms

Remote clock offset: 0.958 ms

# Below is generated by plot.py at 2018-12-11 17:43:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.49 Mbit/s

95th percentile per-packet one-way delay: 0.664 ms

Loss rate: 0.01%

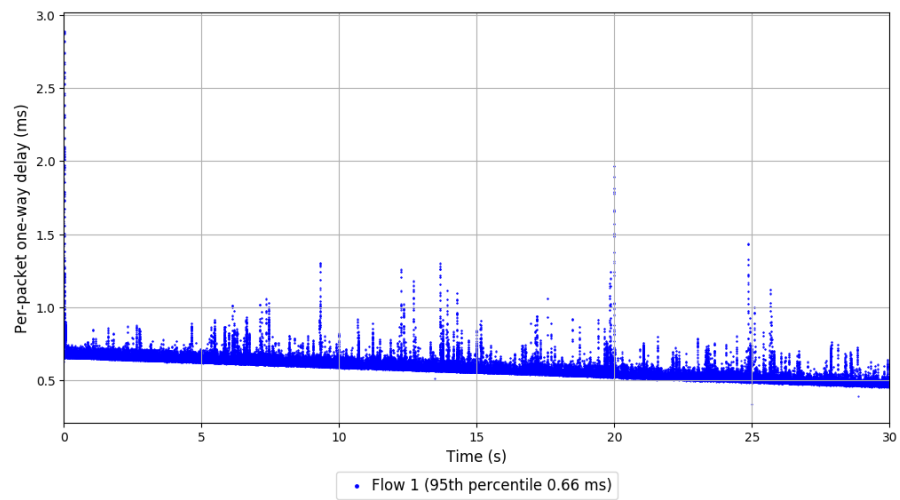
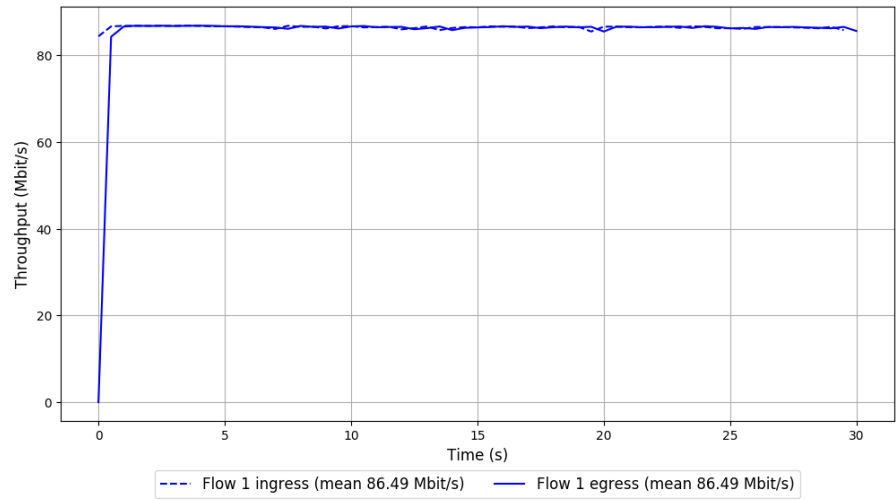
-- Flow 1:

Average throughput: 86.49 Mbit/s

95th percentile per-packet one-way delay: 0.664 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-12-11 17:03:47

End at: 2018-12-11 17:04:17

Local clock offset: -0.487 ms

Remote clock offset: 0.787 ms

# Below is generated by plot.py at 2018-12-11 17:43:21

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.47 Mbit/s

95th percentile per-packet one-way delay: 0.848 ms

Loss rate: 0.01%

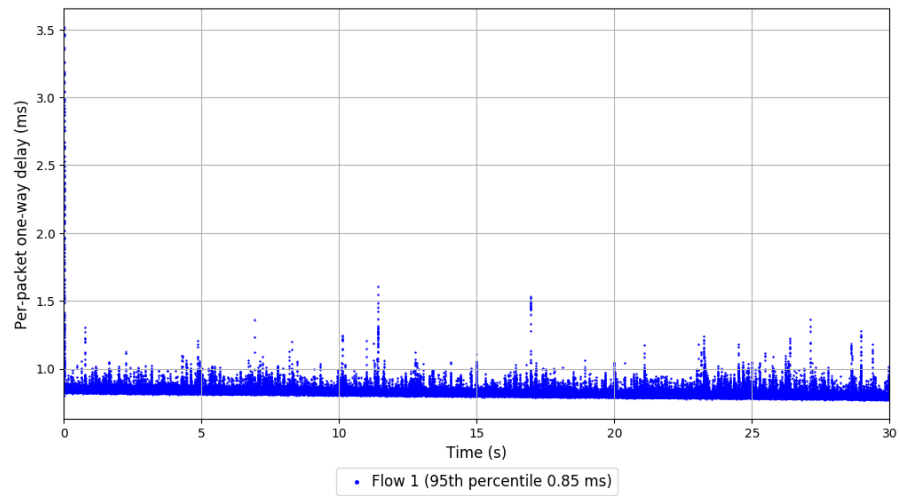
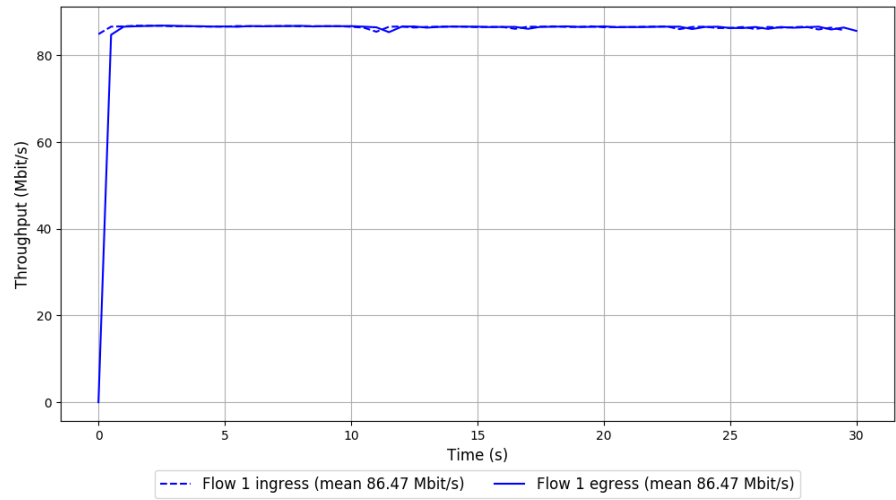
-- Flow 1:

Average throughput: 86.47 Mbit/s

95th percentile per-packet one-way delay: 0.848 ms

Loss rate: 0.01%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-11 17:25:06

End at: 2018-12-11 17:25:36

Local clock offset: 1.141 ms

Remote clock offset: 0.573 ms

# Below is generated by plot.py at 2018-12-11 17:43:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.64 Mbit/s

95th percentile per-packet one-way delay: 1.006 ms

Loss rate: 0.01%

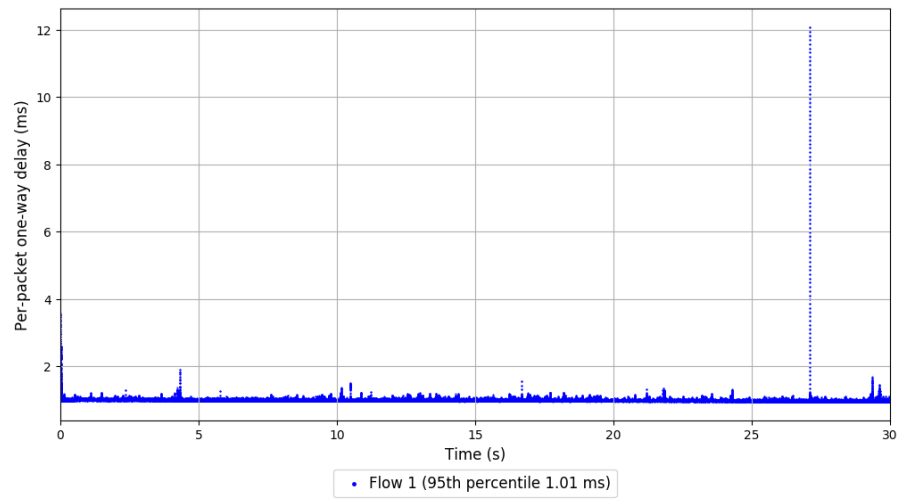
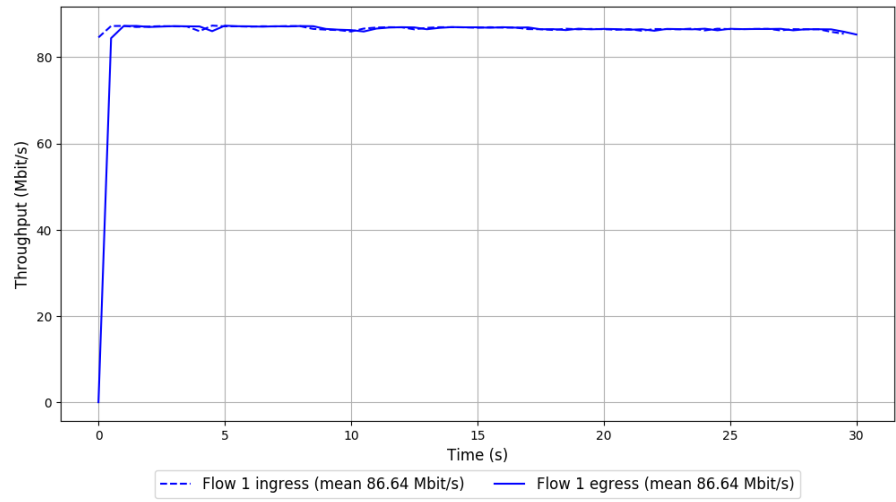
-- Flow 1:

Average throughput: 86.64 Mbit/s

95th percentile per-packet one-way delay: 1.006 ms

Loss rate: 0.01%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 16:03:41

End at: 2018-12-11 16:04:11

Local clock offset: -5.407 ms

Remote clock offset: 1.243 ms

# Below is generated by plot.py at 2018-12-11 17:43:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 3.738 ms

Loss rate: 0.02%

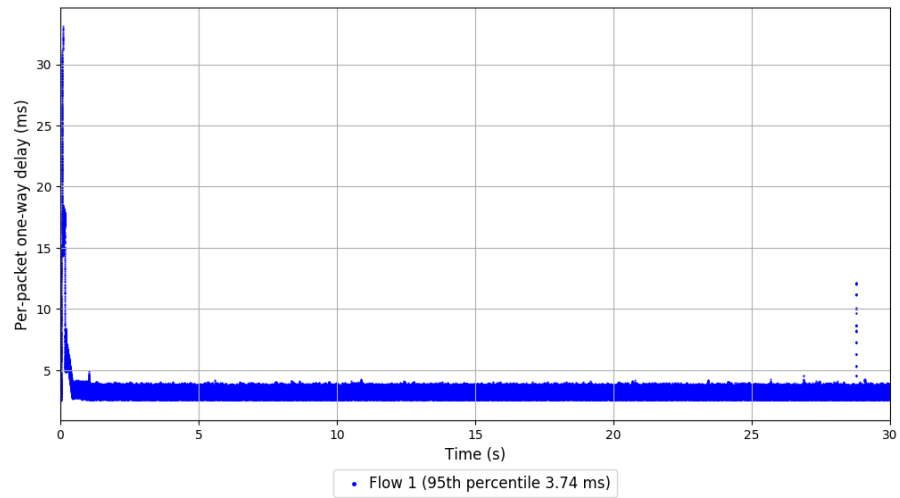
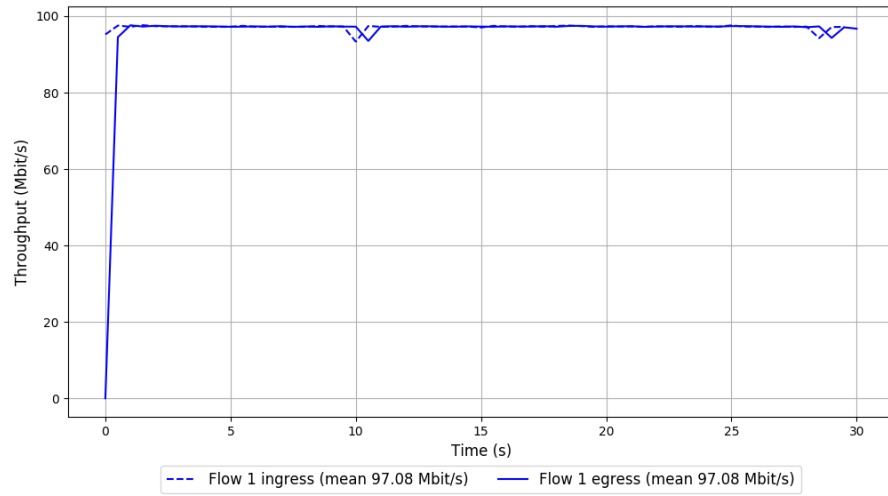
-- Flow 1:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 3.738 ms

Loss rate: 0.02%

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





Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 16:25:11

End at: 2018-12-11 16:25:41

Local clock offset: -6.385 ms

Remote clock offset: 0.944 ms

# Below is generated by plot.py at 2018-12-11 17:43:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 97.17 Mbit/s

95th percentile per-packet one-way delay: 3.941 ms

Loss rate: 0.02%

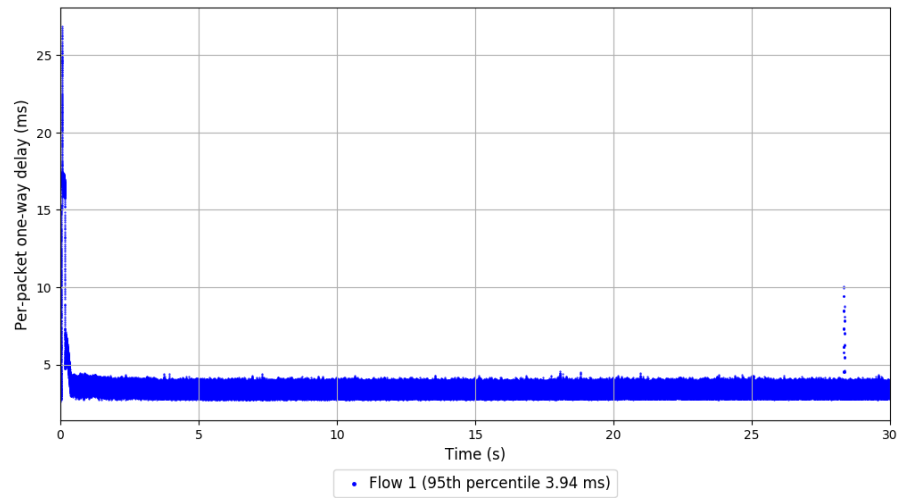
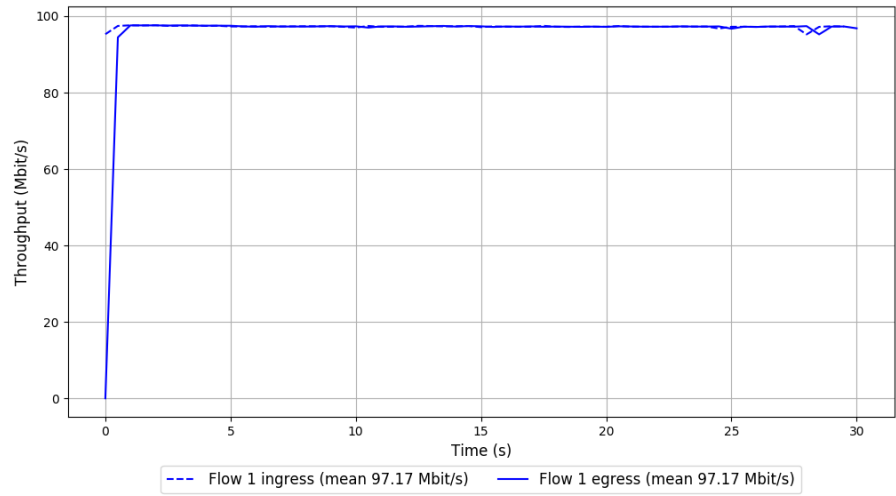
-- Flow 1:

Average throughput: 97.17 Mbit/s

95th percentile per-packet one-way delay: 3.941 ms

Loss rate: 0.02%

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



Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 16:46:59

End at: 2018-12-11 16:47:29

Local clock offset: -3.093 ms

Remote clock offset: 0.875 ms

# Below is generated by plot.py at 2018-12-11 17:43:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.02 Mbit/s

95th percentile per-packet one-way delay: 1.544 ms

Loss rate: 0.01%

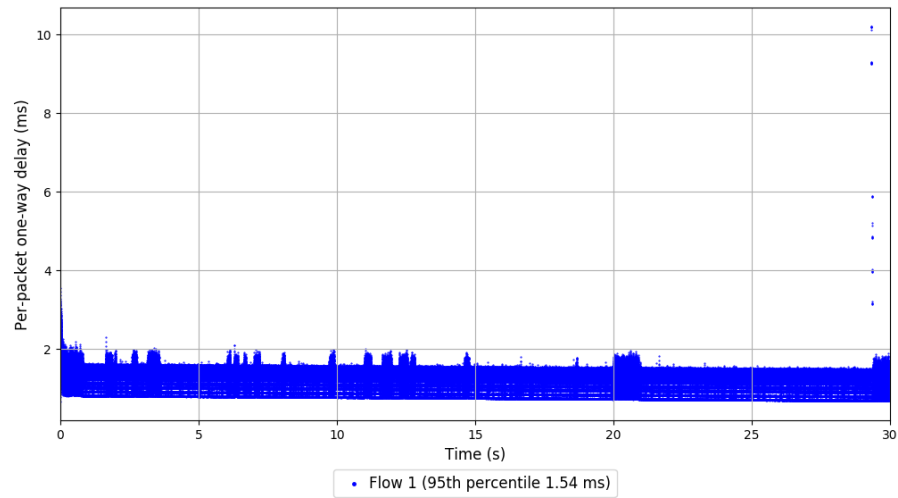
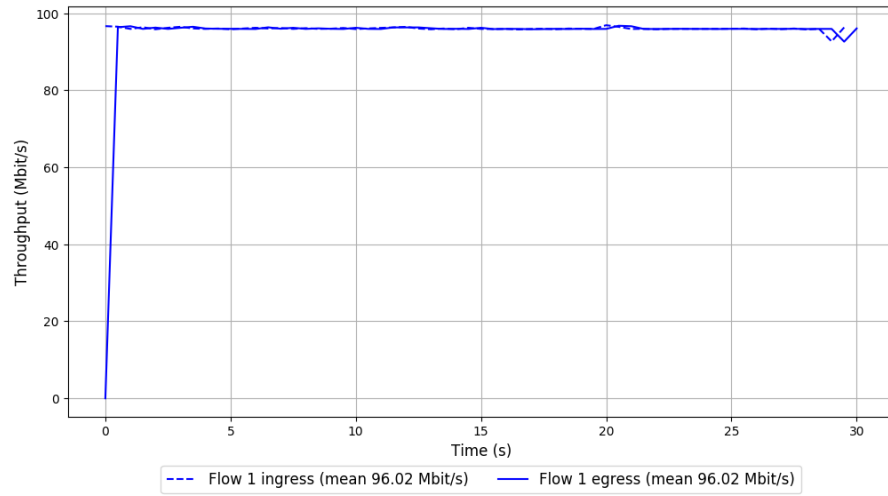
-- Flow 1:

Average throughput: 96.02 Mbit/s

95th percentile per-packet one-way delay: 1.544 ms

Loss rate: 0.01%

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



Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 17:08:19

End at: 2018-12-11 17:08:49

Local clock offset: -0.077 ms

Remote clock offset: 0.713 ms

# Below is generated by plot.py at 2018-12-11 17:43:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 1.829 ms

Loss rate: 0.01%

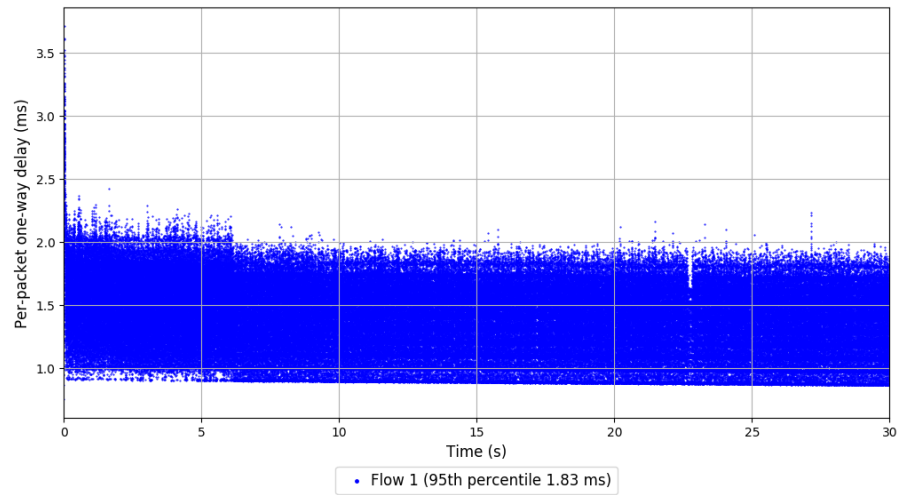
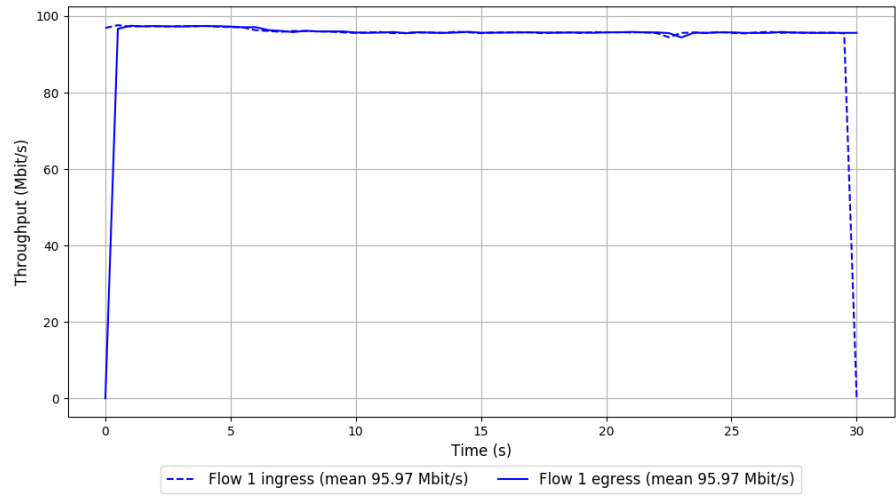
-- Flow 1:

Average throughput: 95.97 Mbit/s

95th percentile per-packet one-way delay: 1.829 ms

Loss rate: 0.01%

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



Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 17:29:39

End at: 2018-12-11 17:30:09

Local clock offset: 1.443 ms

Remote clock offset: 0.641 ms

# Below is generated by plot.py at 2018-12-11 17:43:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.43 Mbit/s

95th percentile per-packet one-way delay: 1.837 ms

Loss rate: 0.01%

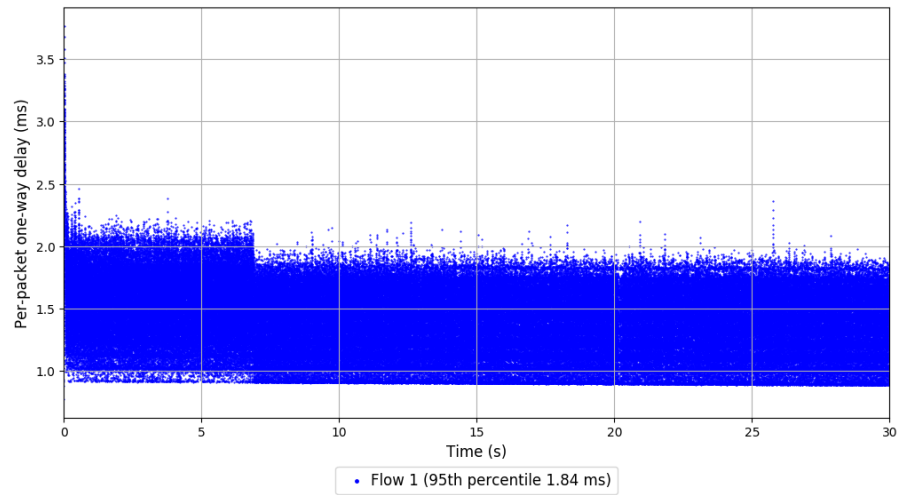
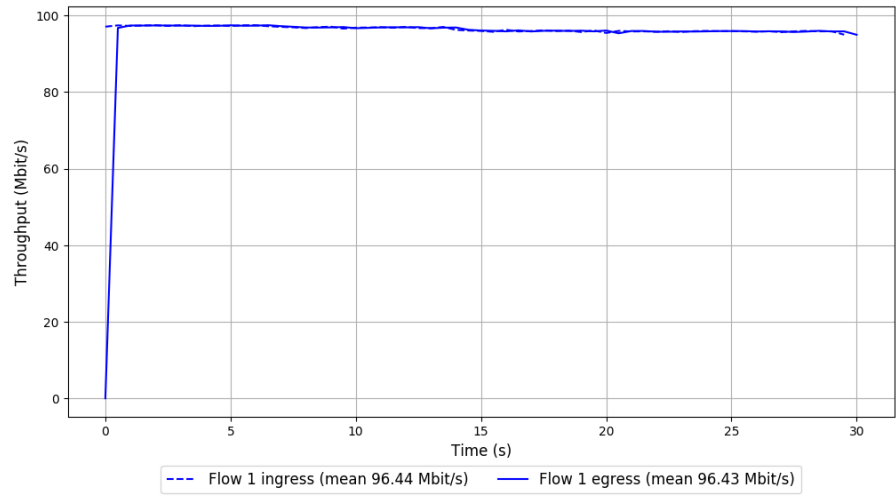
-- Flow 1:

Average throughput: 96.43 Mbit/s

95th percentile per-packet one-way delay: 1.837 ms

Loss rate: 0.01%

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





Run 1: Statistics of Verus

Start at: 2018-12-11 16:04:49

End at: 2018-12-11 16:05:19

Local clock offset: -5.326 ms

Remote clock offset: 1.241 ms

# Below is generated by plot.py at 2018-12-11 17:43:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 73.90 Mbit/s

95th percentile per-packet one-way delay: 12.798 ms

Loss rate: 0.02%

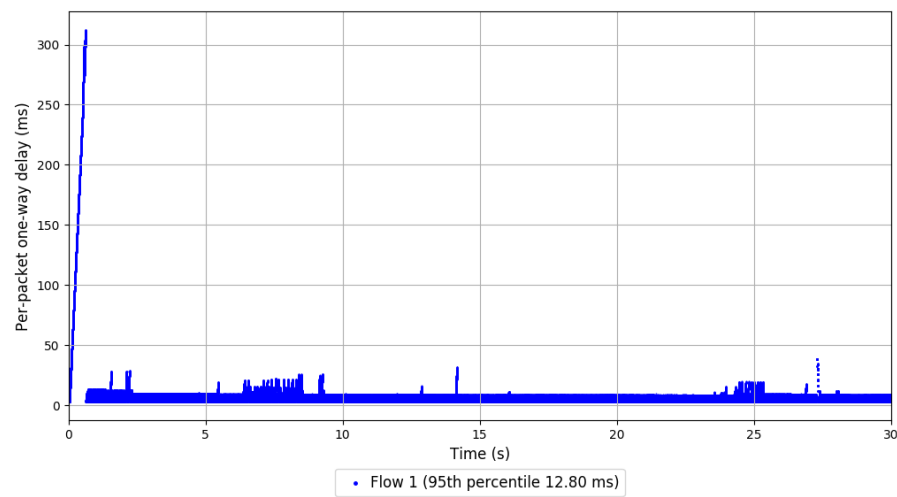
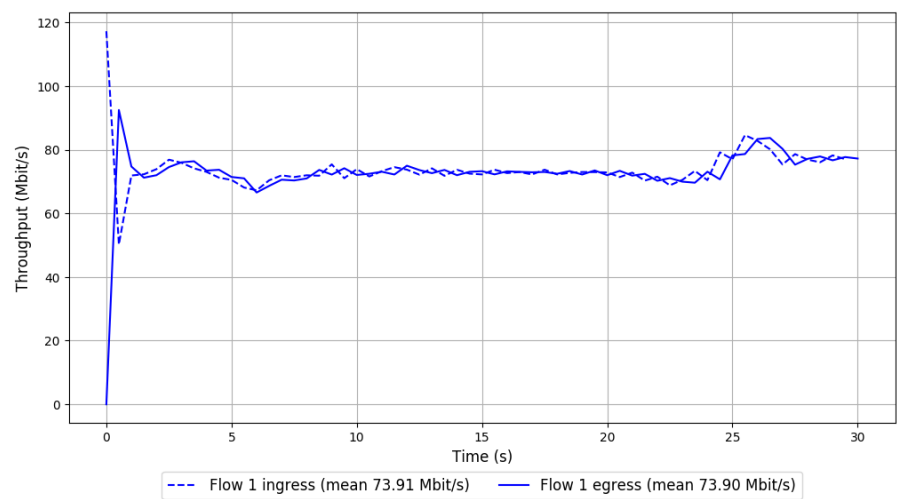
-- Flow 1:

Average throughput: 73.90 Mbit/s

95th percentile per-packet one-way delay: 12.798 ms

Loss rate: 0.02%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-12-11 16:26:19

End at: 2018-12-11 16:26:49

Local clock offset: -6.406 ms

Remote clock offset: 1.008 ms

# Below is generated by plot.py at 2018-12-11 17:44:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 71.06 Mbit/s

95th percentile per-packet one-way delay: 18.469 ms

Loss rate: 49.95%

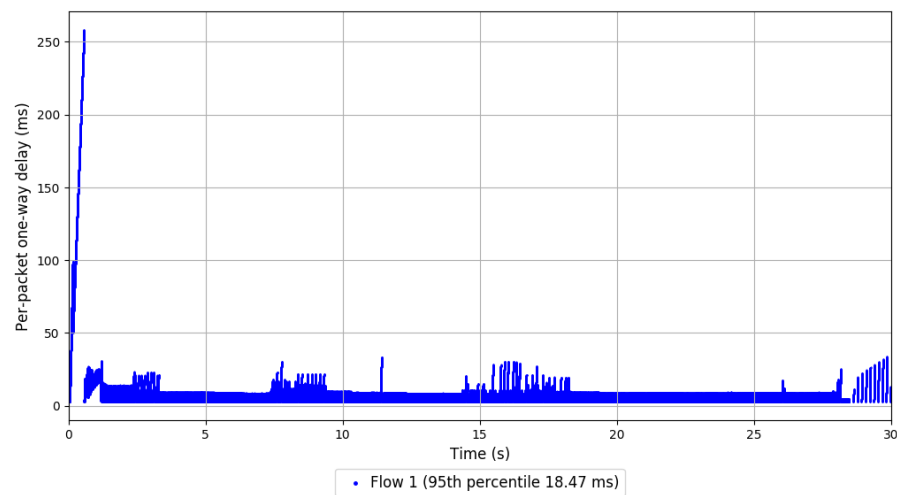
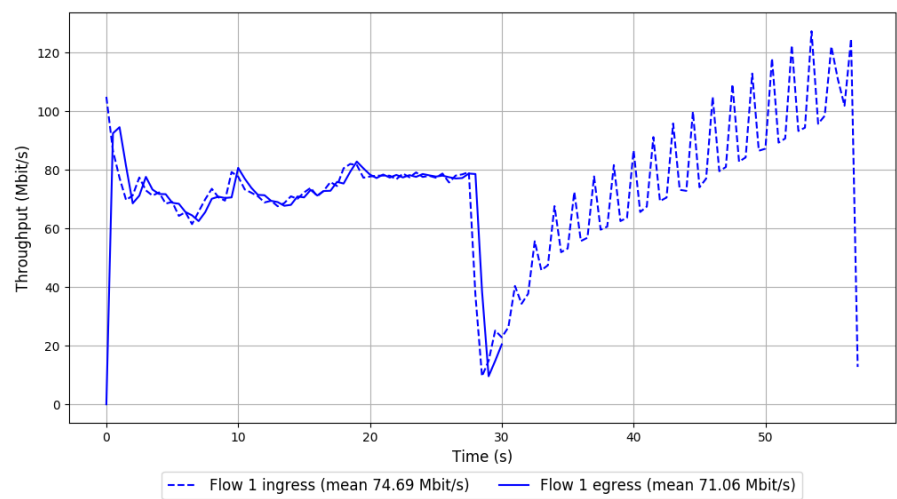
-- Flow 1:

Average throughput: 71.06 Mbit/s

95th percentile per-packet one-way delay: 18.469 ms

Loss rate: 49.95%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-12-11 16:48:07

End at: 2018-12-11 16:48:37

Local clock offset: -2.804 ms

Remote clock offset: 0.773 ms

# Below is generated by plot.py at 2018-12-11 17:44:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 61.07 Mbit/s

95th percentile per-packet one-way delay: 7.222 ms

Loss rate: 0.04%

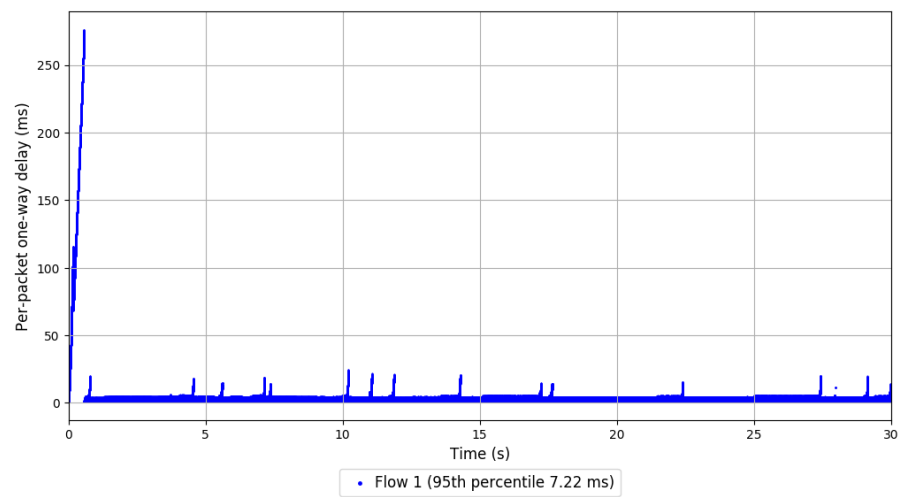
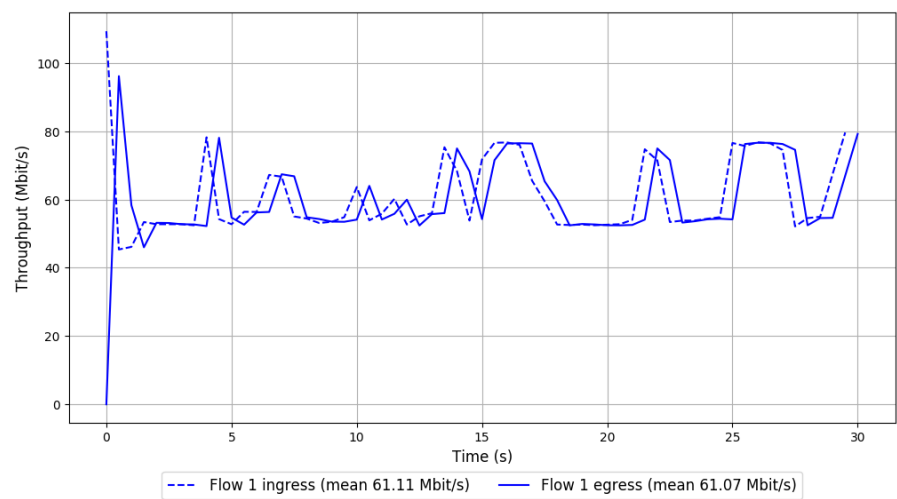
-- Flow 1:

Average throughput: 61.07 Mbit/s

95th percentile per-packet one-way delay: 7.222 ms

Loss rate: 0.04%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-12-11 17:09:27

End at: 2018-12-11 17:09:57

Local clock offset: 0.028 ms

Remote clock offset: 0.699 ms

# Below is generated by plot.py at 2018-12-11 17:44:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 59.43 Mbit/s

95th percentile per-packet one-way delay: 5.514 ms

Loss rate: 0.02%

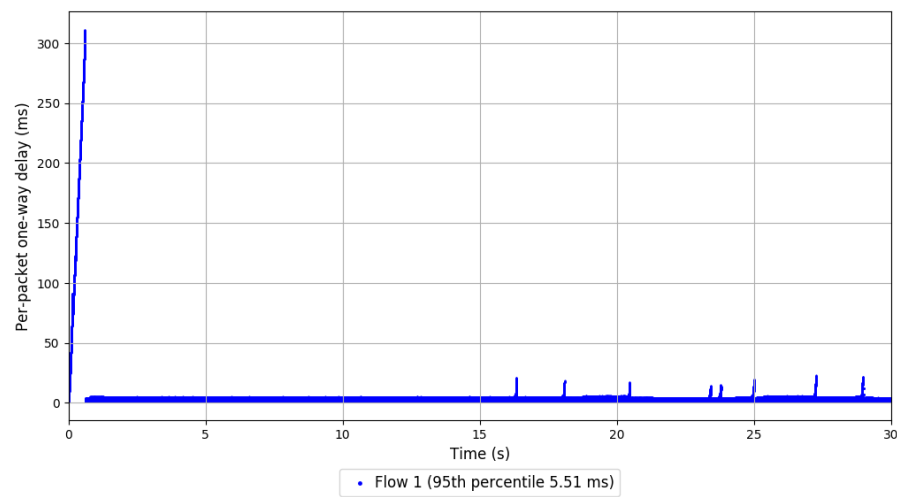
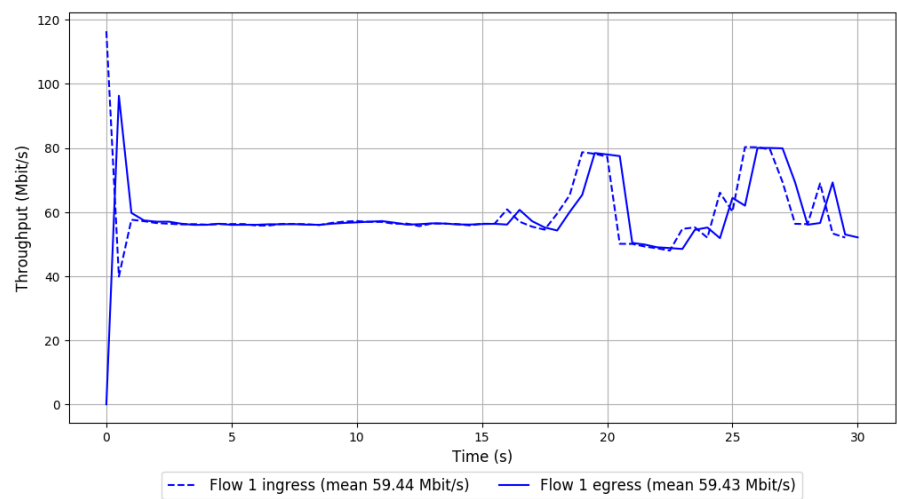
-- Flow 1:

Average throughput: 59.43 Mbit/s

95th percentile per-packet one-way delay: 5.514 ms

Loss rate: 0.02%

Run 4: Report of Verus — Data Link





Run 5: Statistics of Verus

Start at: 2018-12-11 17:30:47

End at: 2018-12-11 17:31:17

Local clock offset: 1.535 ms

Remote clock offset: 0.592 ms

# Below is generated by plot.py at 2018-12-11 17:44:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 57.86 Mbit/s

95th percentile per-packet one-way delay: 8.451 ms

Loss rate: 0.01%

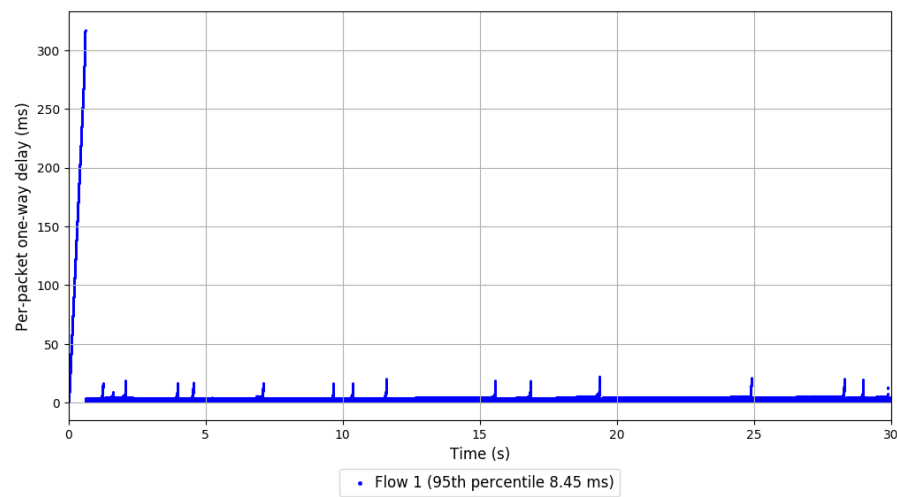
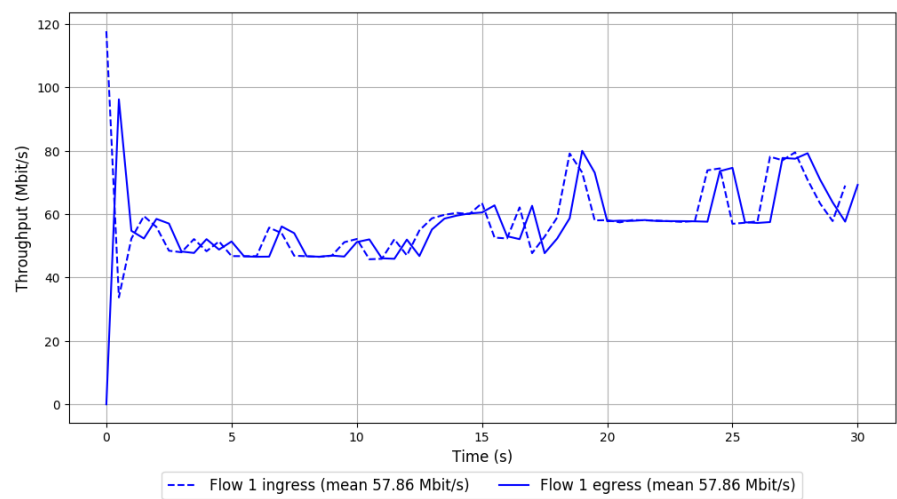
-- Flow 1:

Average throughput: 57.86 Mbit/s

95th percentile per-packet one-way delay: 8.451 ms

Loss rate: 0.01%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 15:53:28

End at: 2018-12-11 15:53:58

Local clock offset: -5.723 ms

Remote clock offset: 1.26 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.34 Mbit/s

95th percentile per-packet one-way delay: 2.569 ms

Loss rate: 0.02%

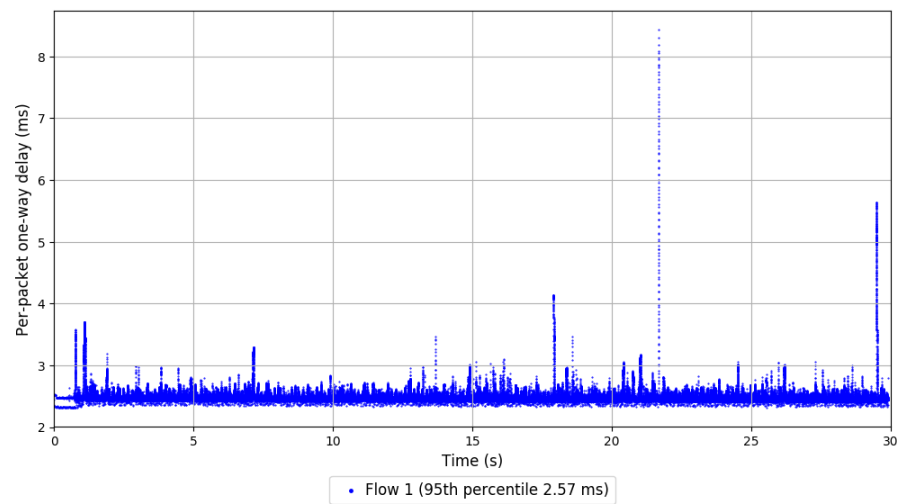
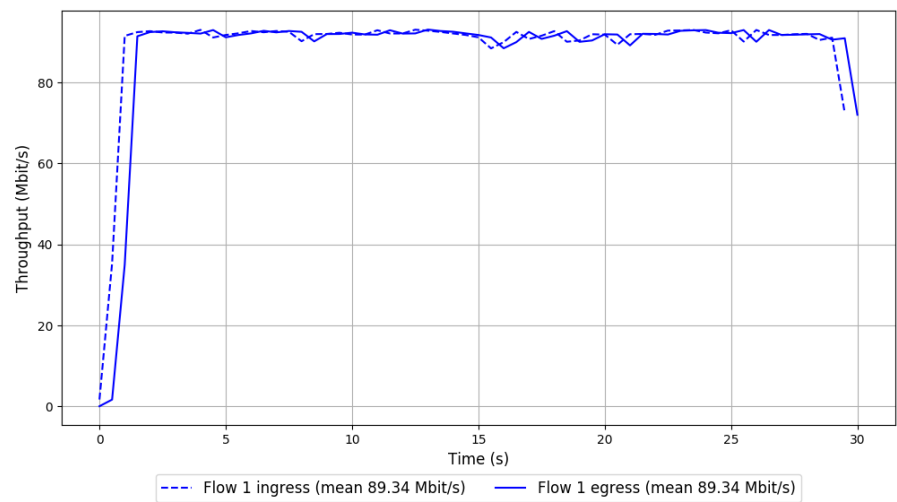
-- Flow 1:

Average throughput: 89.34 Mbit/s

95th percentile per-packet one-way delay: 2.569 ms

Loss rate: 0.02%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 16:14:59

End at: 2018-12-11 16:15:29

Local clock offset: -5.819 ms

Remote clock offset: 1.09 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.43 Mbit/s

95th percentile per-packet one-way delay: 2.845 ms

Loss rate: 0.02%

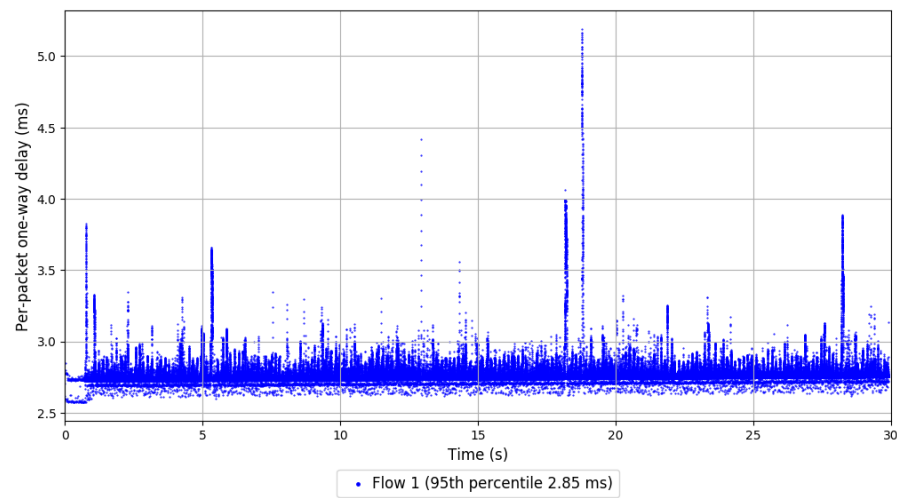
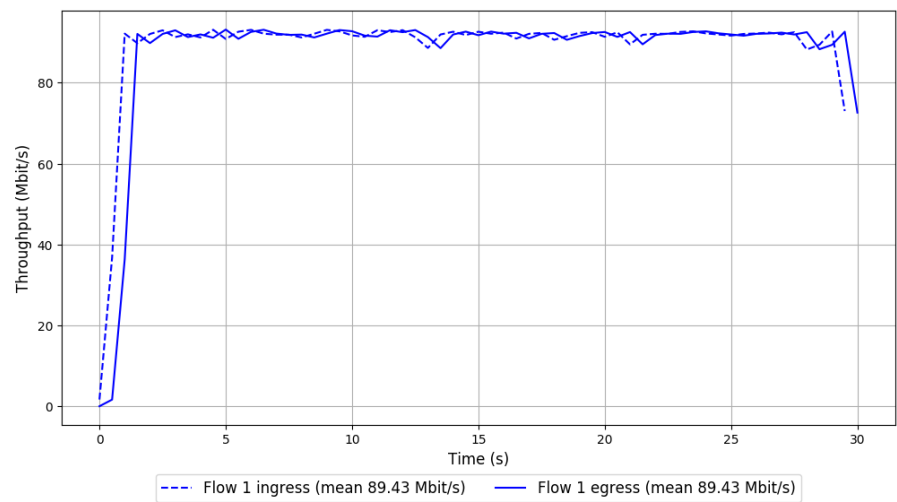
-- Flow 1:

Average throughput: 89.43 Mbit/s

95th percentile per-packet one-way delay: 2.845 ms

Loss rate: 0.02%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 16:36:57

End at: 2018-12-11 16:37:27

Local clock offset: -7.503 ms

Remote clock offset: 0.959 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 26.60 Mbit/s

95th percentile per-packet one-way delay: 0.111 ms

Loss rate: 0.00%

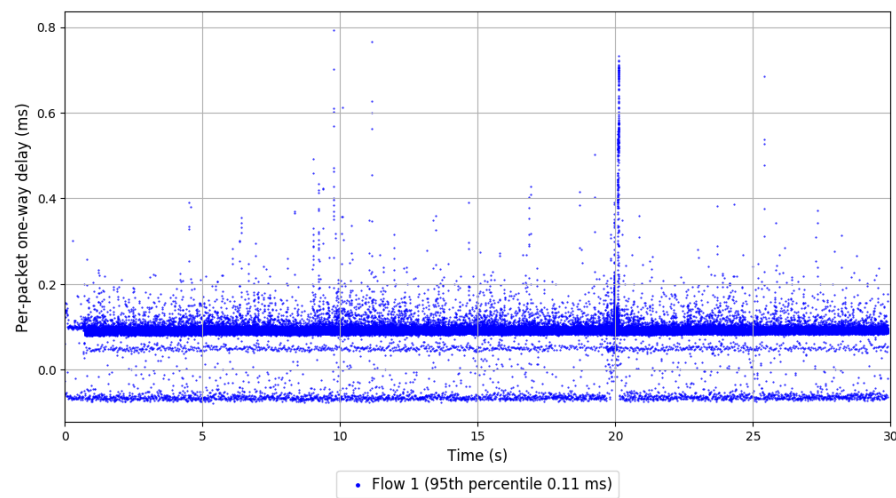
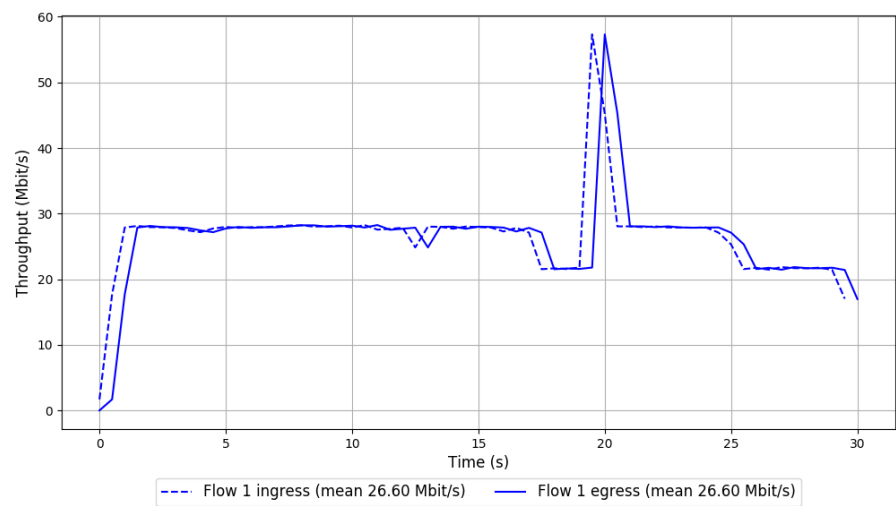
-- Flow 1:

Average throughput: 26.60 Mbit/s

95th percentile per-packet one-way delay: 0.111 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link





Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 16:58:17

End at: 2018-12-11 16:58:47

Local clock offset: -1.056 ms

Remote clock offset: 0.838 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 26.80 Mbit/s

95th percentile per-packet one-way delay: 0.812 ms

Loss rate: 0.01%

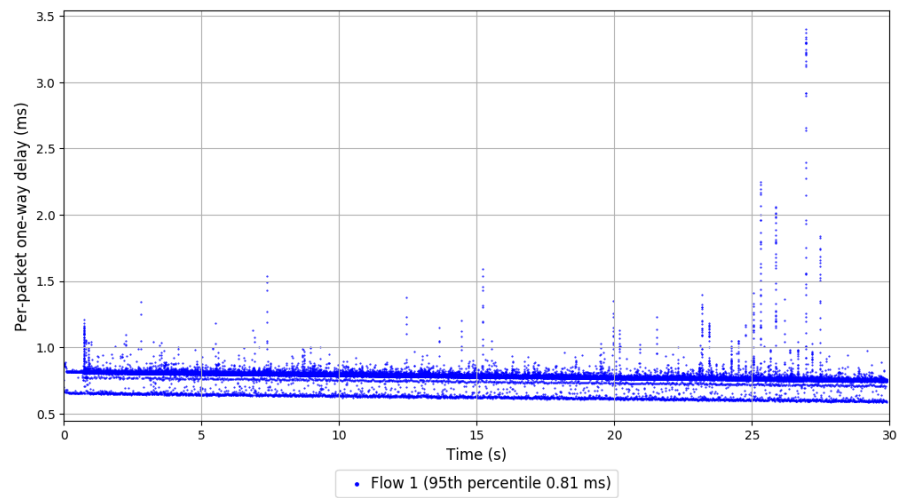
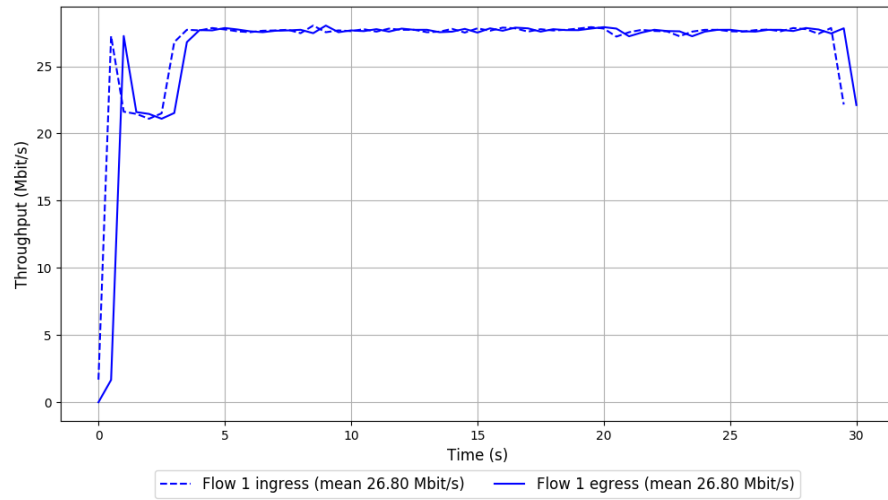
-- Flow 1:

Average throughput: 26.80 Mbit/s

95th percentile per-packet one-way delay: 0.812 ms

Loss rate: 0.01%

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



Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 17:19:37

End at: 2018-12-11 17:20:07

Local clock offset: 0.759 ms

Remote clock offset: 0.693 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 28.26 Mbit/s

95th percentile per-packet one-way delay: 0.886 ms

Loss rate: 0.00%

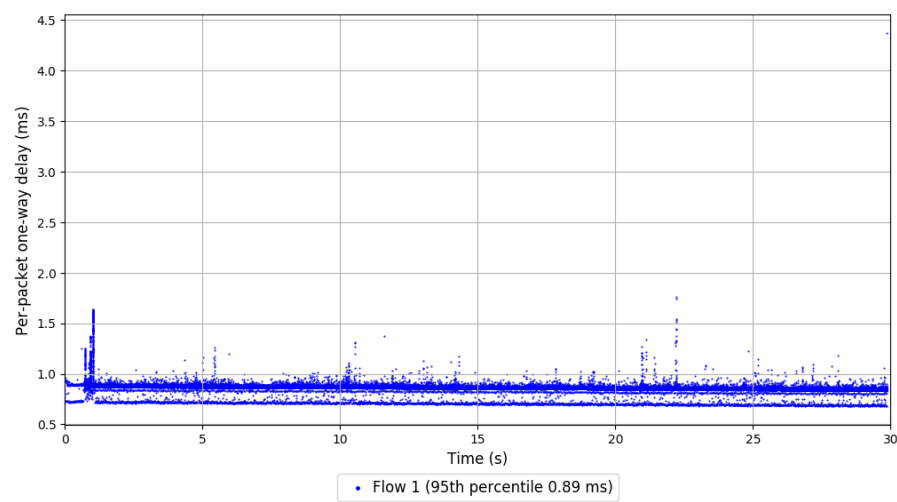
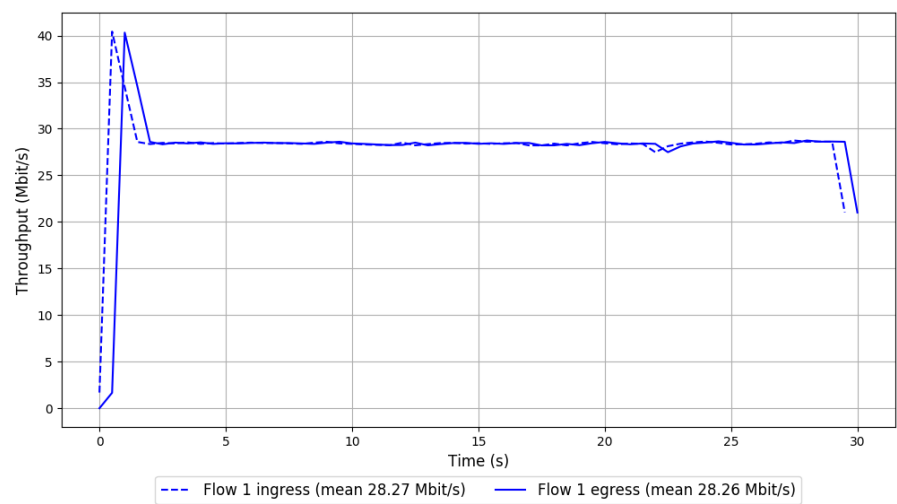
-- Flow 1:

Average throughput: 28.26 Mbit/s

95th percentile per-packet one-way delay: 0.886 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-12-11 16:02:36

End at: 2018-12-11 16:03:06

Local clock offset: -5.431 ms

Remote clock offset: 1.229 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.40 Mbit/s

95th percentile per-packet one-way delay: 3.036 ms

Loss rate: 0.00%

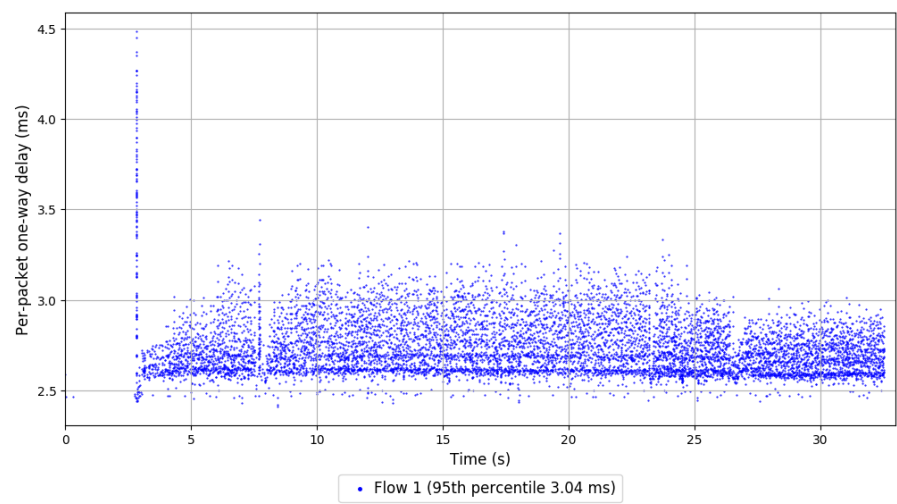
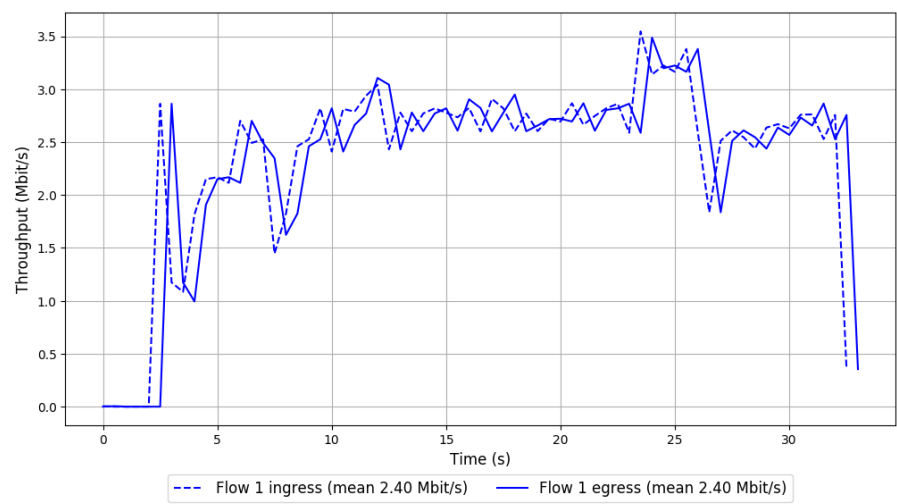
-- Flow 1:

Average throughput: 2.40 Mbit/s

95th percentile per-packet one-way delay: 3.036 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-12-11 16:24:07

End at: 2018-12-11 16:24:37

Local clock offset: -6.33 ms

Remote clock offset: 1.022 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 3.188 ms

Loss rate: 0.08%

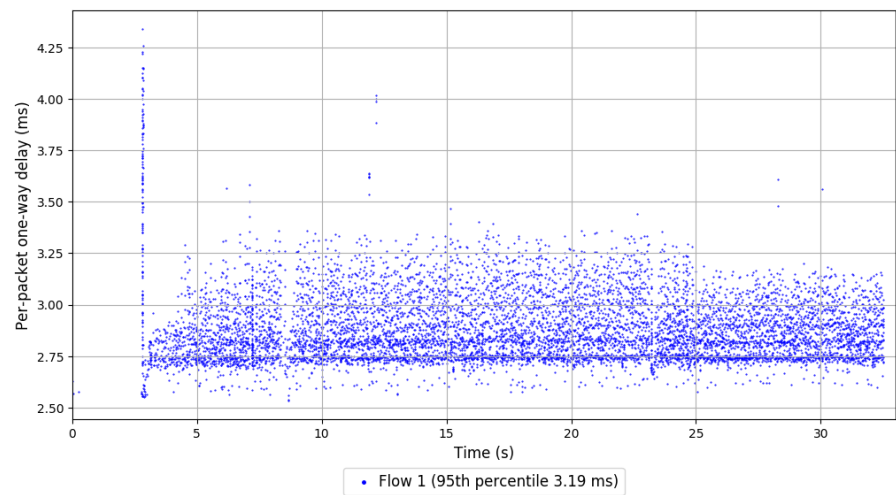
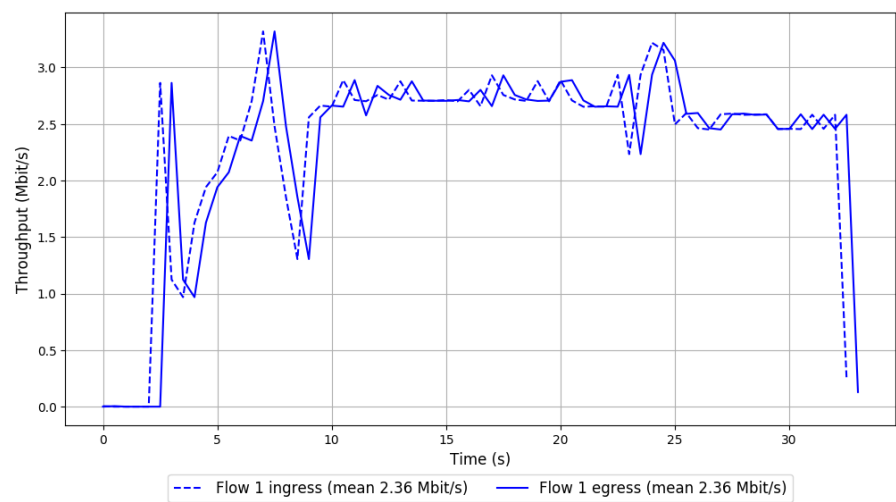
-- Flow 1:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 3.188 ms

Loss rate: 0.08%

Run 2: Report of WebRTC media — Data Link





Run 3: Statistics of WebRTC media

Start at: 2018-12-11 16:45:55

End at: 2018-12-11 16:46:25

Local clock offset: -3.395 ms

Remote clock offset: 0.791 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 1.300 ms

Loss rate: 0.00%

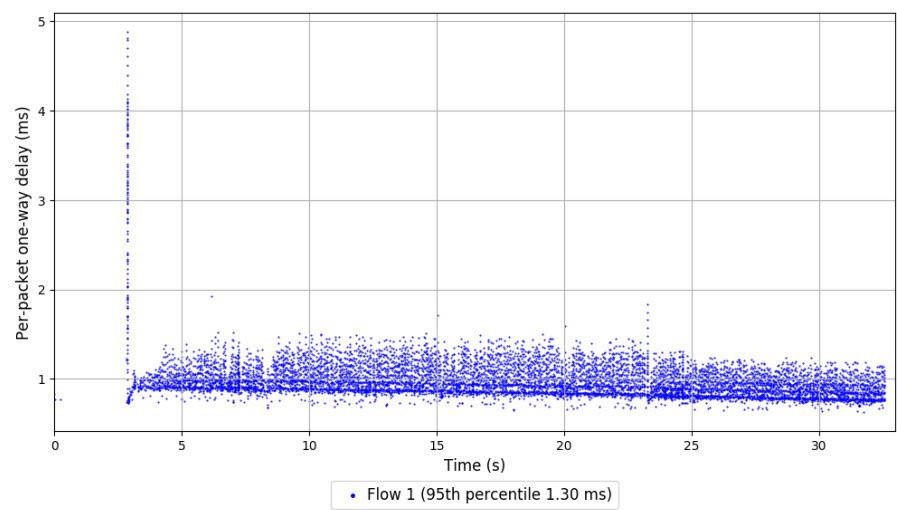
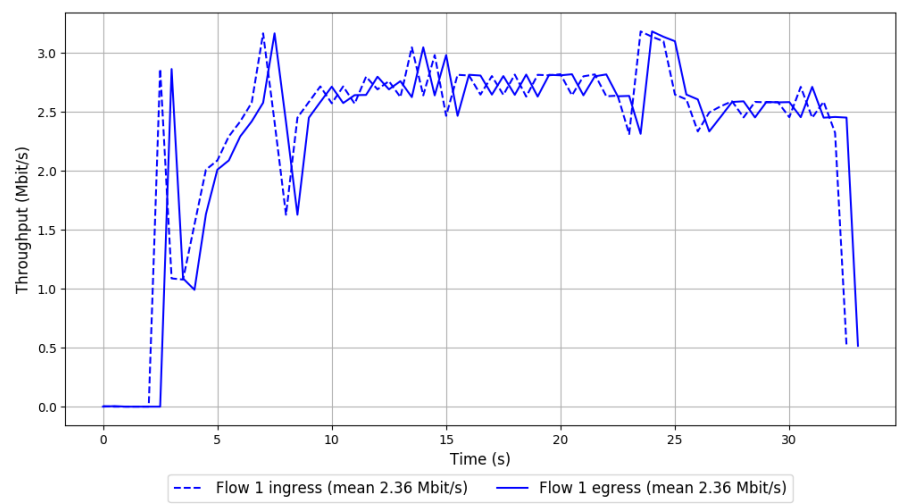
-- Flow 1:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 1.300 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-11 17:07:15

End at: 2018-12-11 17:07:45

Local clock offset: -0.161 ms

Remote clock offset: 0.77 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 1.297 ms

Loss rate: 0.00%

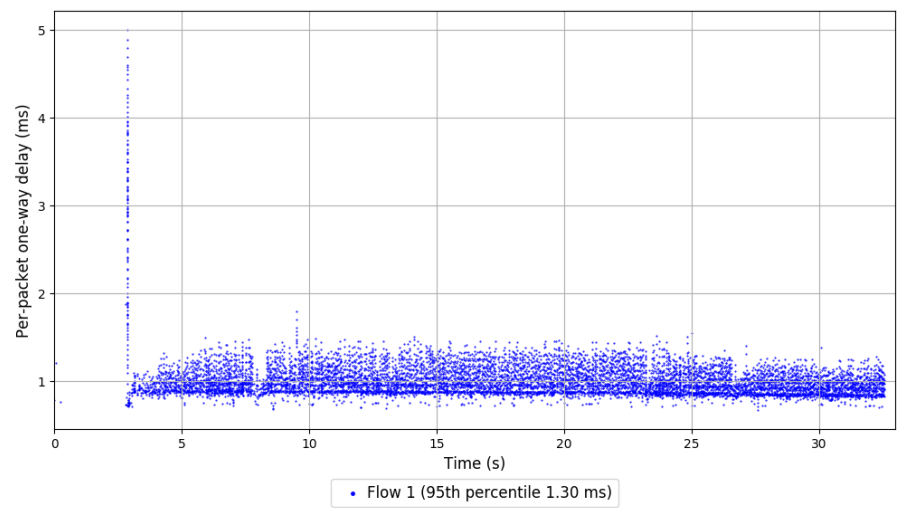
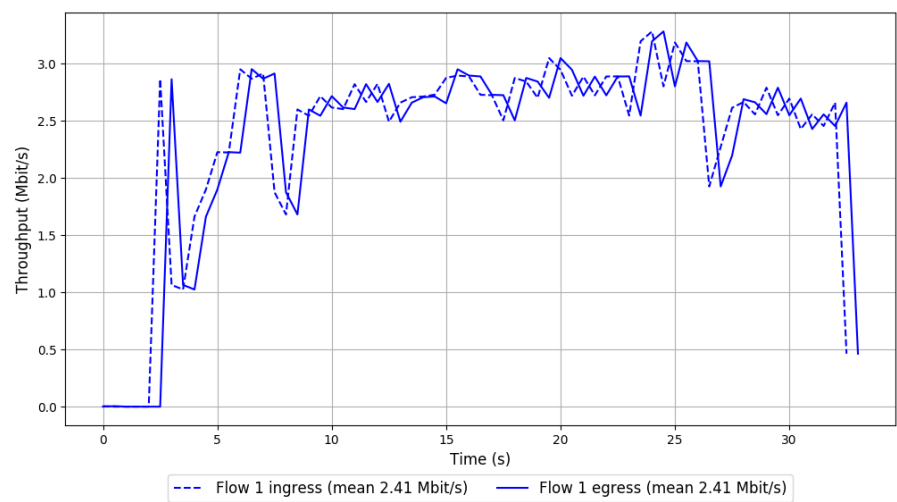
-- Flow 1:

Average throughput: 2.41 Mbit/s

95th percentile per-packet one-way delay: 1.297 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-11 17:28:34

End at: 2018-12-11 17:29:04

Local clock offset: 1.372 ms

Remote clock offset: 0.722 ms

# Below is generated by plot.py at 2018-12-11 17:44:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1.312 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1.312 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

