

## Pantheon Report

Generated at 2018-12-20 00:36:52 (UTC).

Data path: AWS California 2 on **ens5** (*local*) → Mexico on **em1** (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

### System info:

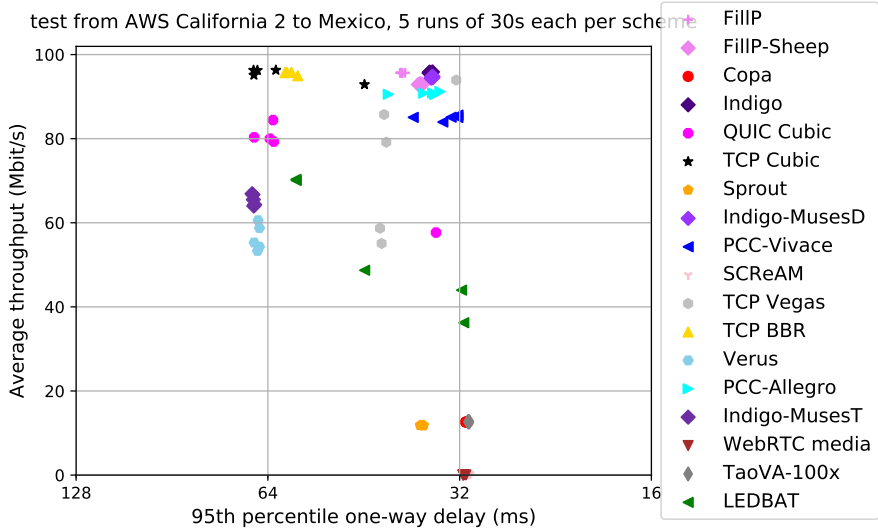
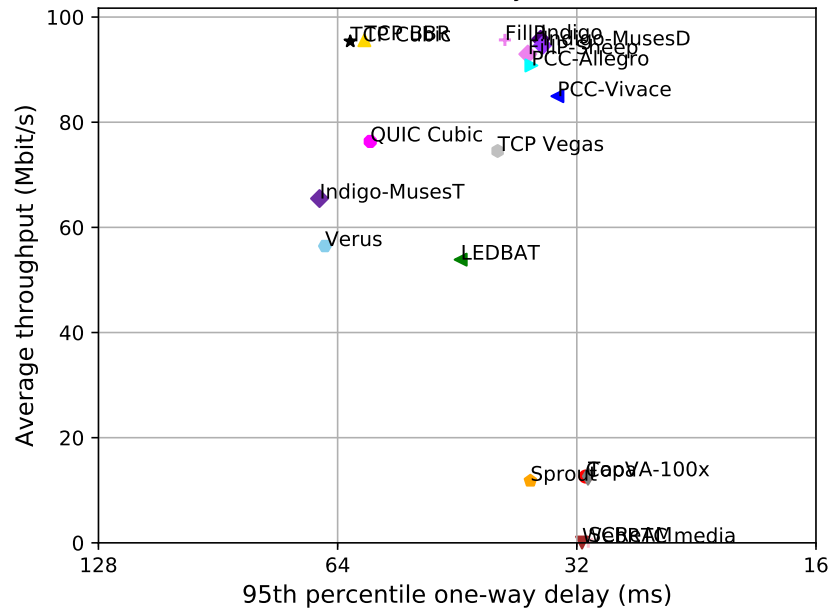
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

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

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

test from AWS California 2 to Mexico, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.60	59.22	1.04
Copa	5	12.61	31.20	70.92
TCP Cubic	5	95.37	61.70	0.46
FillP	5	95.65	39.41	0.68
FillP-Sheep	5	92.95	36.88	0.60
Indigo	5	95.76	35.54	0.04
Indigo-MusesD	5	94.62	35.34	0.42
Indigo-MusesT	5	65.48	67.45	37.78
LEDBAT	5	53.86	44.81	0.02
PCC-Allegro	5	90.79	36.50	0.73
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	76.34	58.23	1.41
SCReAM	5	0.21	30.95	0.00
Sprout	5	11.82	36.61	0.02
TaoVA-100x	4	12.67	30.98	77.45
TCP Vegas	5	74.52	40.25	0.45
Verus	5	56.45	66.39	28.06
PCC-Vivace	5	84.95	33.85	0.00
WebRTC media	5	0.05	31.52	0.00



Run 1: Statistics of TCP BBR

Start at: 2018-12-19 22:38:22

End at: 2018-12-19 22:38:52

Local clock offset: 0.648 ms

Remote clock offset: -4.108 ms

# Below is generated by plot.py at 2018-12-20 00:29:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.77 Mbit/s

95th percentile per-packet one-way delay: 59.996 ms

Loss rate: 1.03%

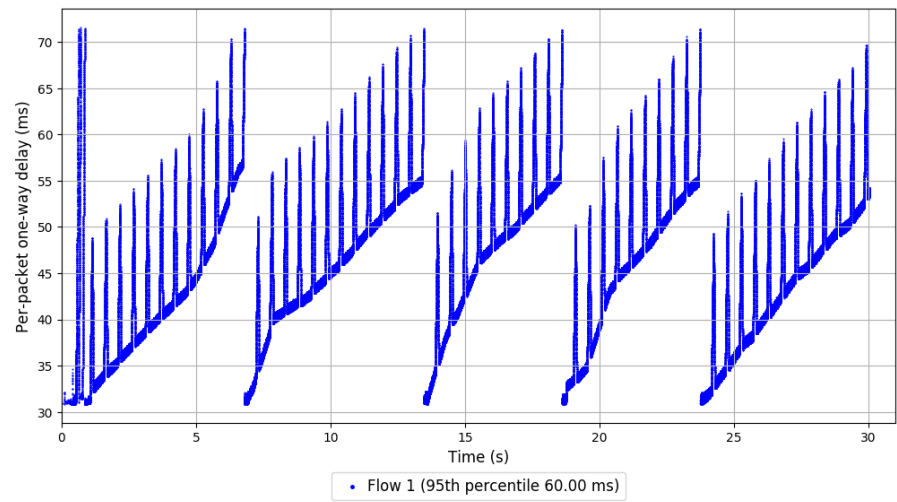
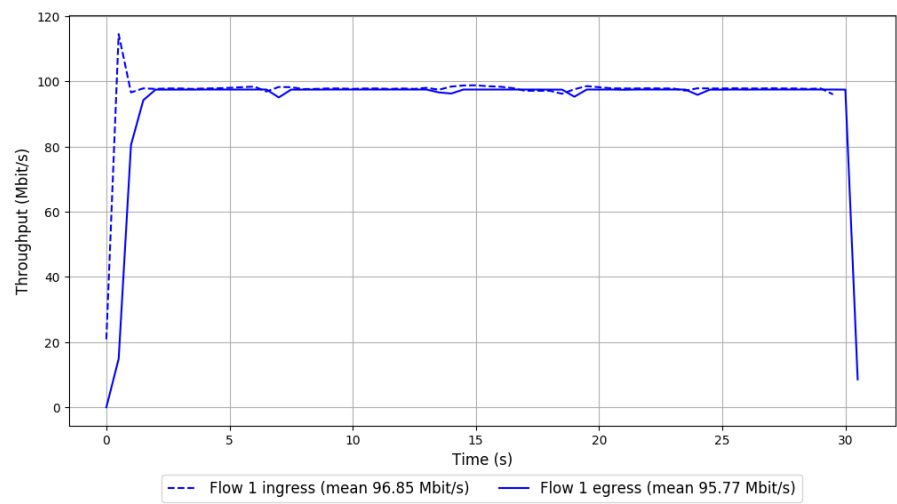
-- Flow 1:

Average throughput: 95.77 Mbit/s

95th percentile per-packet one-way delay: 59.996 ms

Loss rate: 1.03%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-19 23:00:13

End at: 2018-12-19 23:00:43

Local clock offset: 0.539 ms

Remote clock offset: -3.881 ms

# Below is generated by plot.py at 2018-12-20 00:29:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 59.740 ms

Loss rate: 1.10%

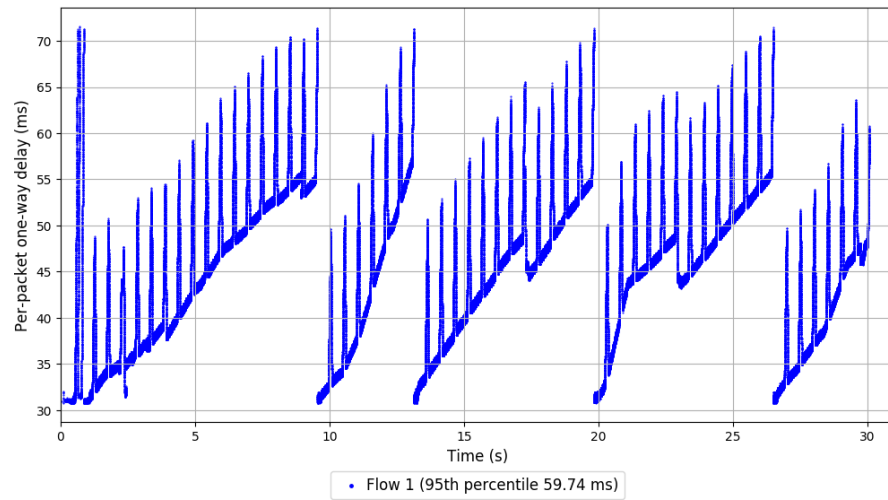
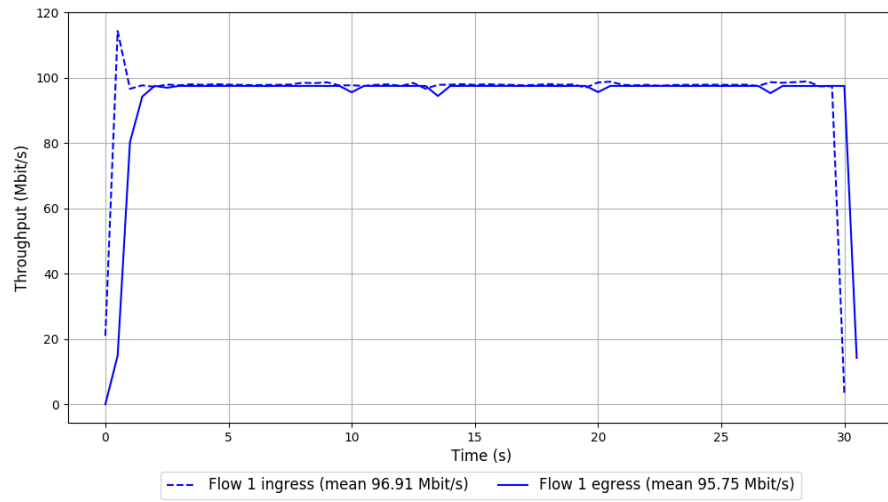
-- Flow 1:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 59.740 ms

Loss rate: 1.10%

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



Run 3: Statistics of TCP BBR

Start at: 2018-12-19 23:22:20

End at: 2018-12-19 23:22:50

Local clock offset: 0.436 ms

Remote clock offset: -3.162 ms

# Below is generated by plot.py at 2018-12-20 00:29:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 60.148 ms

Loss rate: 1.18%

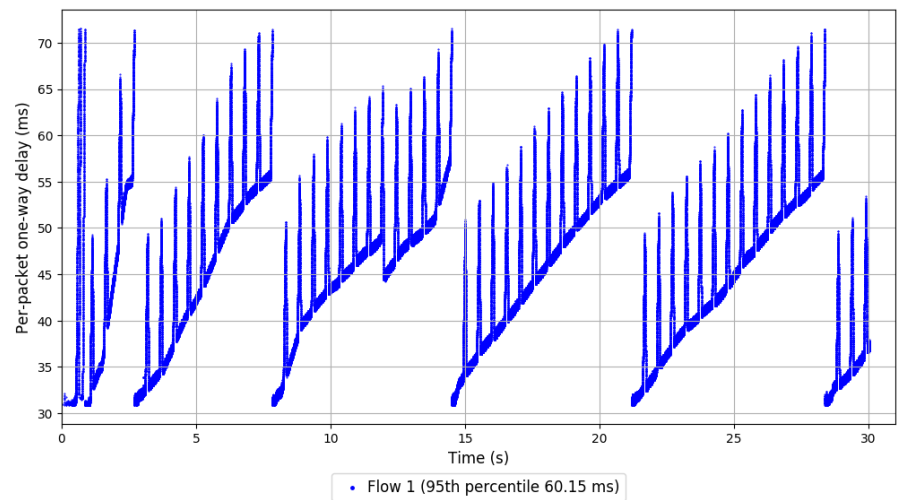
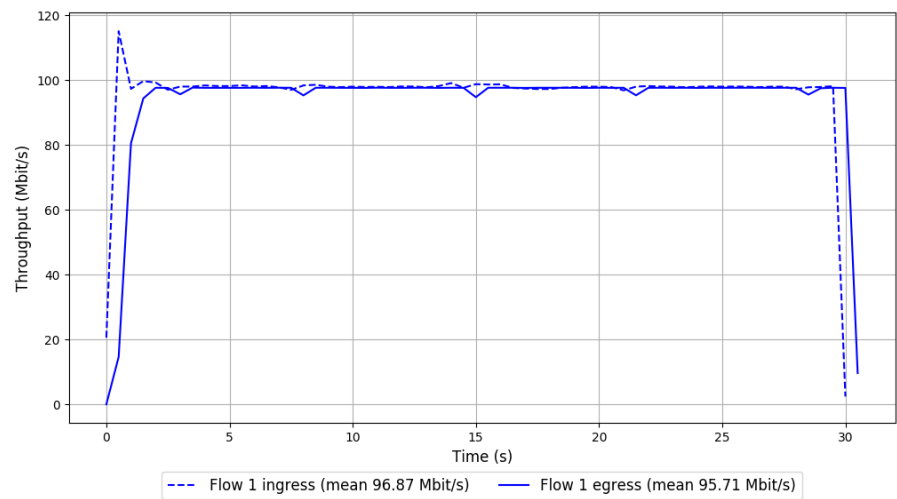
-- Flow 1:

Average throughput: 95.71 Mbit/s

95th percentile per-packet one-way delay: 60.148 ms

Loss rate: 1.18%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-12-19 23:44:22

End at: 2018-12-19 23:44:52

Local clock offset: -1.604 ms

Remote clock offset: -2.91 ms

# Below is generated by plot.py at 2018-12-20 00:29:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.97 Mbit/s

95th percentile per-packet one-way delay: 57.447 ms

Loss rate: 0.83%

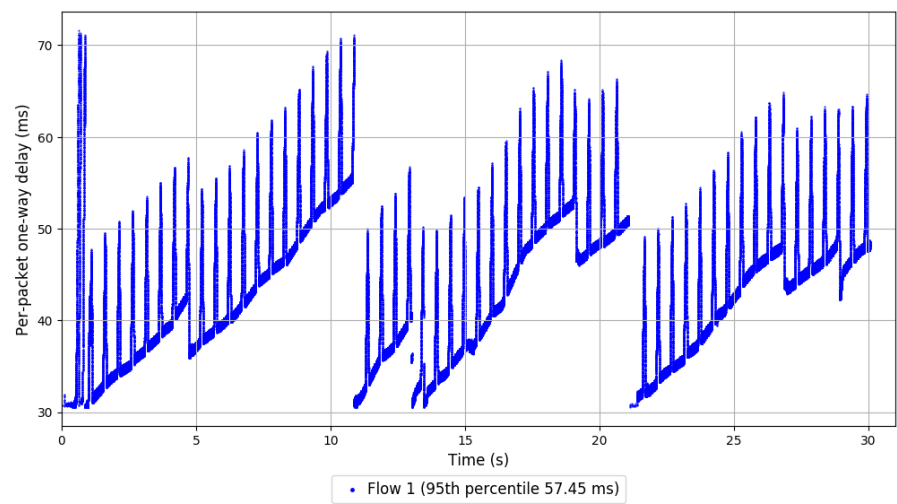
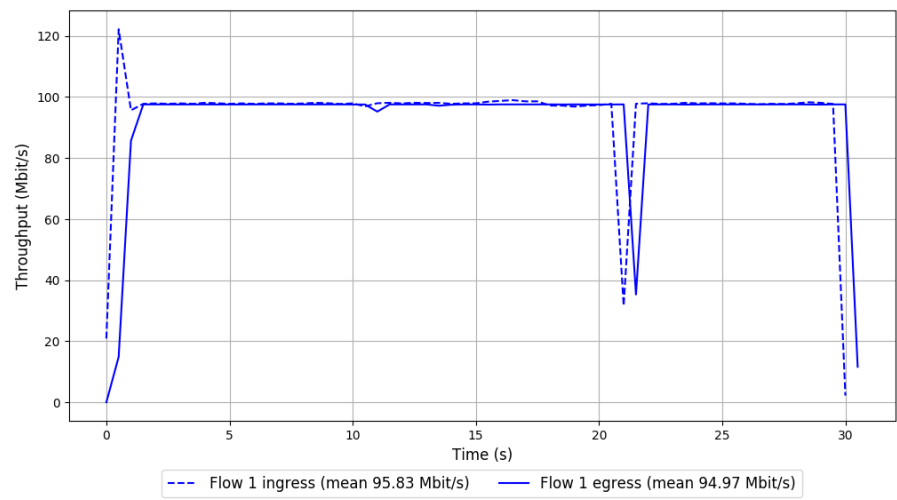
-- Flow 1:

Average throughput: 94.97 Mbit/s

95th percentile per-packet one-way delay: 57.447 ms

Loss rate: 0.83%

Run 4: Report of TCP BBR — Data Link



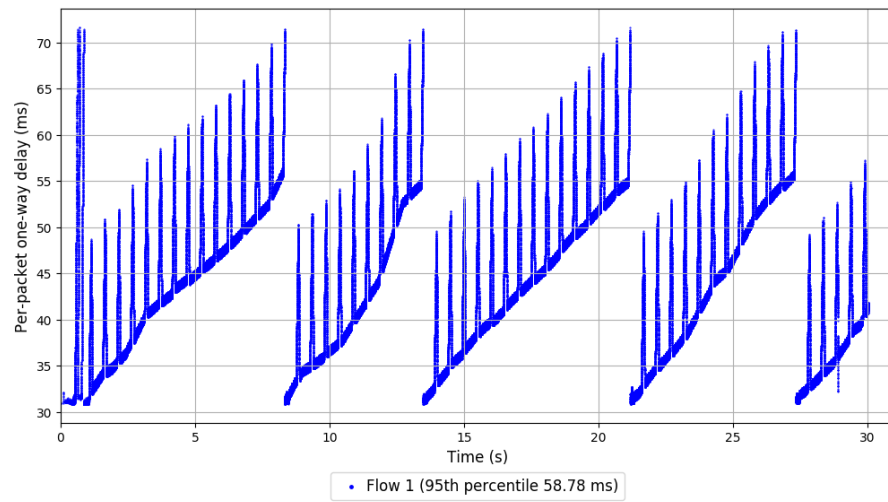
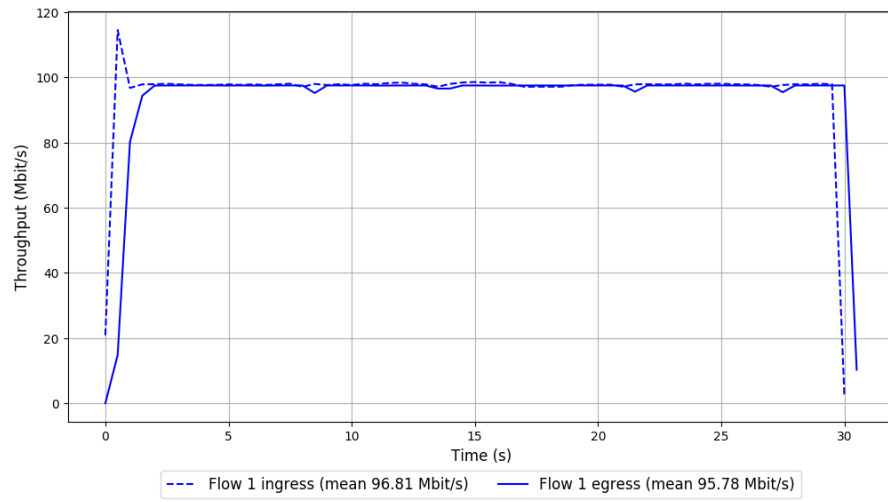


Run 5: Statistics of TCP BBR

Start at: 2018-12-20 00:06:20  
End at: 2018-12-20 00:06:50  
Local clock offset: -3.253 ms  
Remote clock offset: -2.512 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.78 Mbit/s  
95th percentile per-packet one-way delay: 58.778 ms  
Loss rate: 1.04%  
-- Flow 1:  
Average throughput: 95.78 Mbit/s  
95th percentile per-packet one-way delay: 58.778 ms  
Loss rate: 1.04%

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

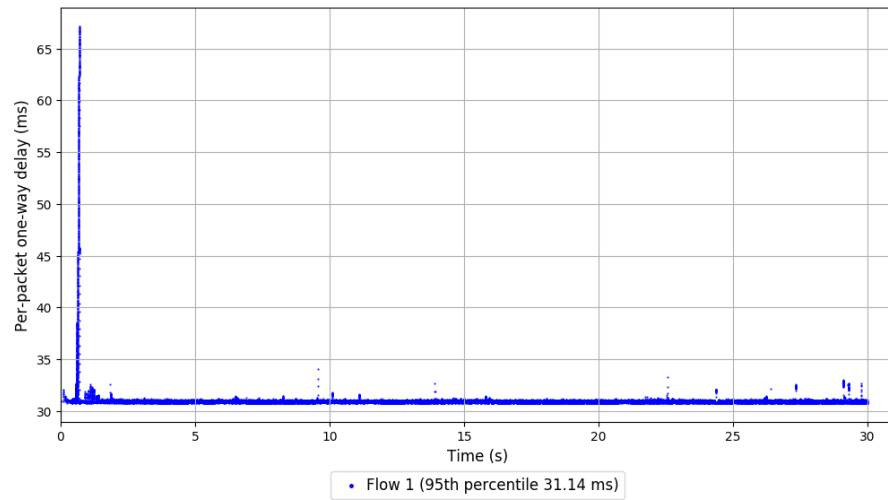
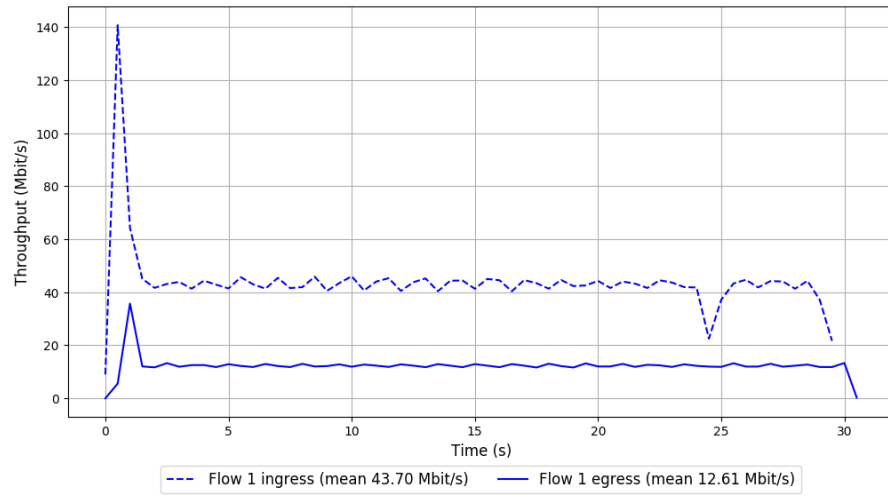


Run 1: Statistics of Copa

Start at: 2018-12-19 22:39:39  
End at: 2018-12-19 22:40:09  
Local clock offset: 0.604 ms  
Remote clock offset: -4.123 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.136 ms  
Loss rate: 71.14%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.136 ms  
Loss rate: 71.14%

## Run 1: Report of Copa — Data Link

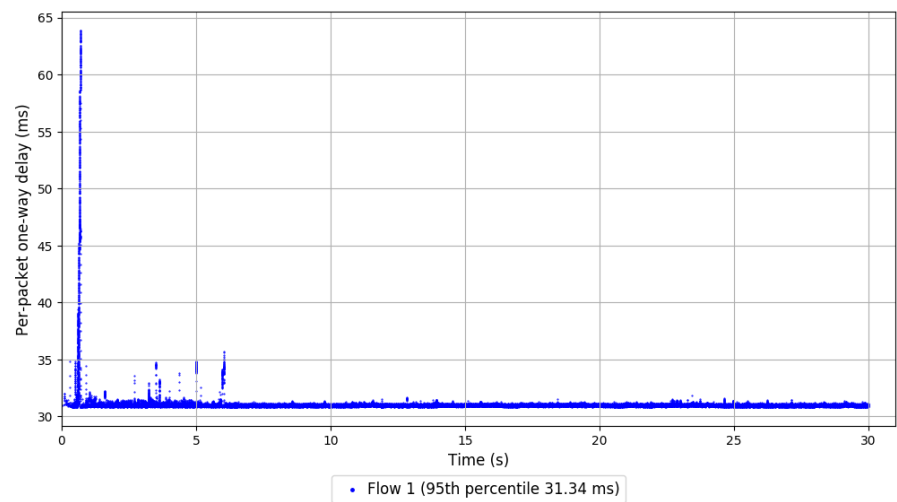
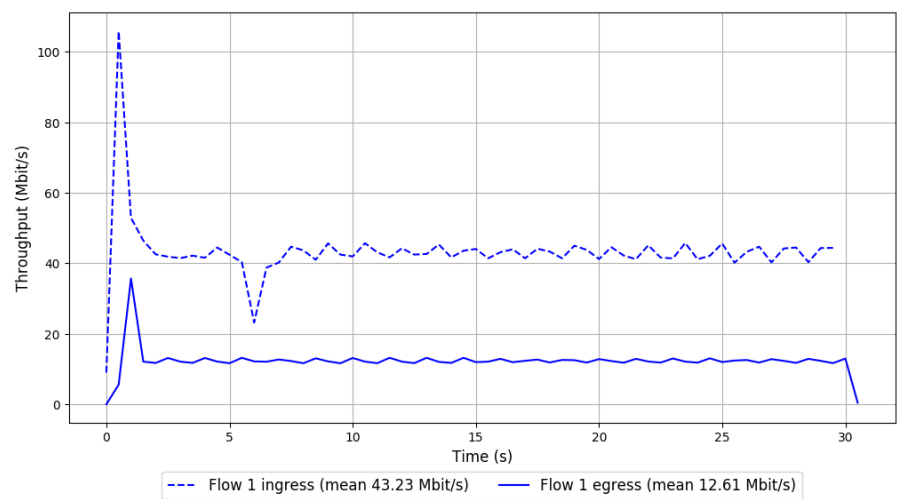


Run 2: Statistics of Copa

Start at: 2018-12-19 23:01:23  
End at: 2018-12-19 23:01:53  
Local clock offset: 0.561 ms  
Remote clock offset: -3.737 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.335 ms  
Loss rate: 70.83%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.335 ms  
Loss rate: 70.83%

Run 2: Report of Copa — Data Link

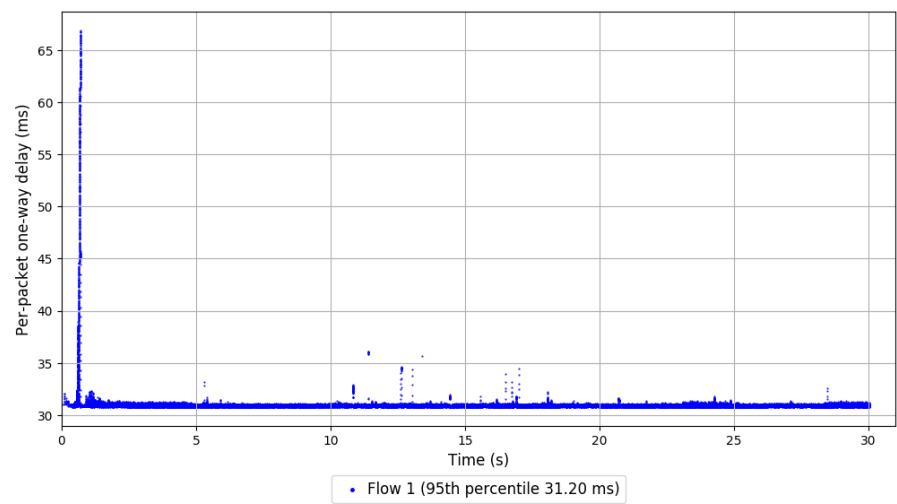
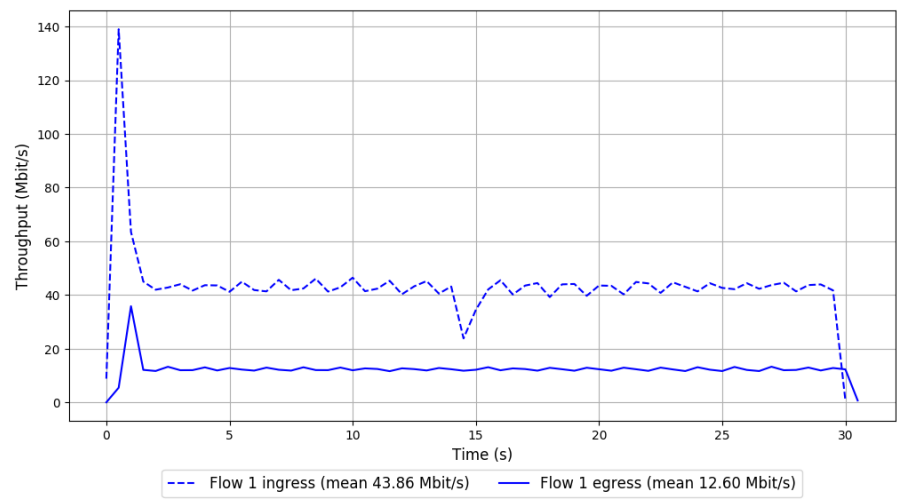


Run 3: Statistics of Copa

Start at: 2018-12-19 23:23:31  
End at: 2018-12-19 23:24:01  
Local clock offset: 0.439 ms  
Remote clock offset: -3.161 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 31.200 ms  
Loss rate: 71.28%  
-- Flow 1:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 31.200 ms  
Loss rate: 71.28%

Run 3: Report of Copa — Data Link



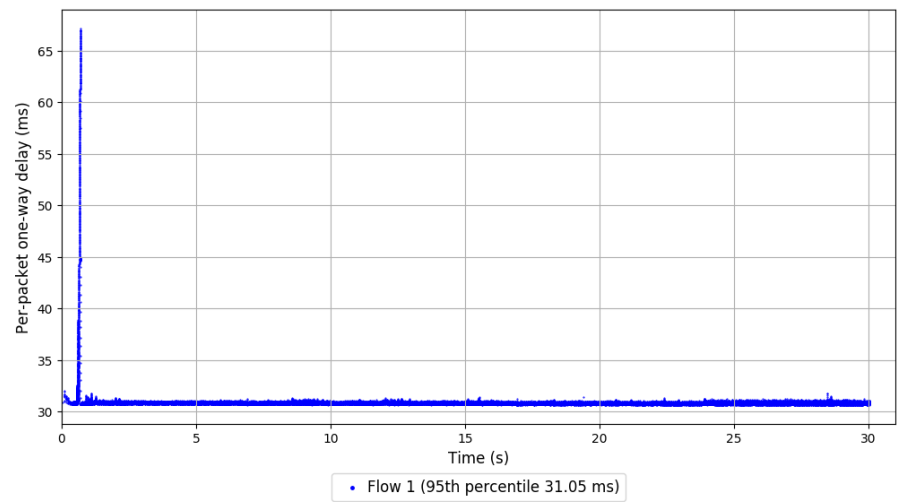
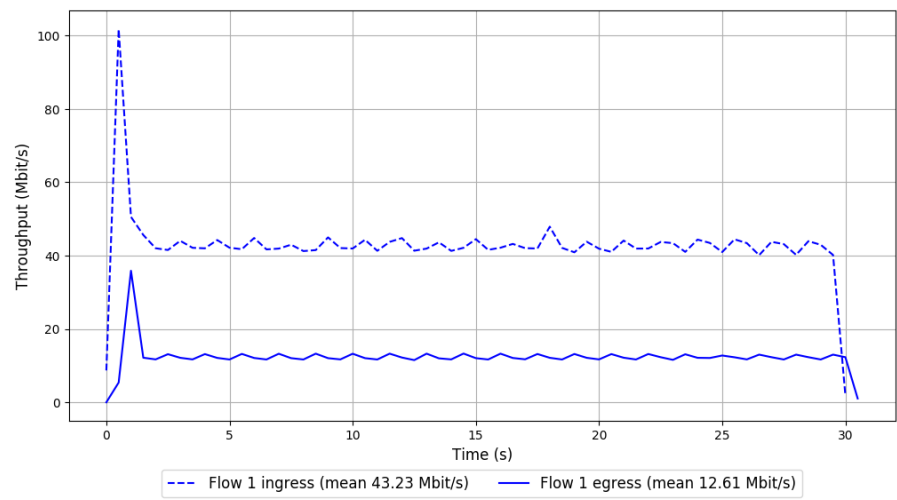


Run 4: Statistics of Copa

Start at: 2018-12-19 23:45:34  
End at: 2018-12-19 23:46:04  
Local clock offset: -1.771 ms  
Remote clock offset: -2.735 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.053 ms  
Loss rate: 70.83%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.053 ms  
Loss rate: 70.83%

Run 4: Report of Copa — Data Link

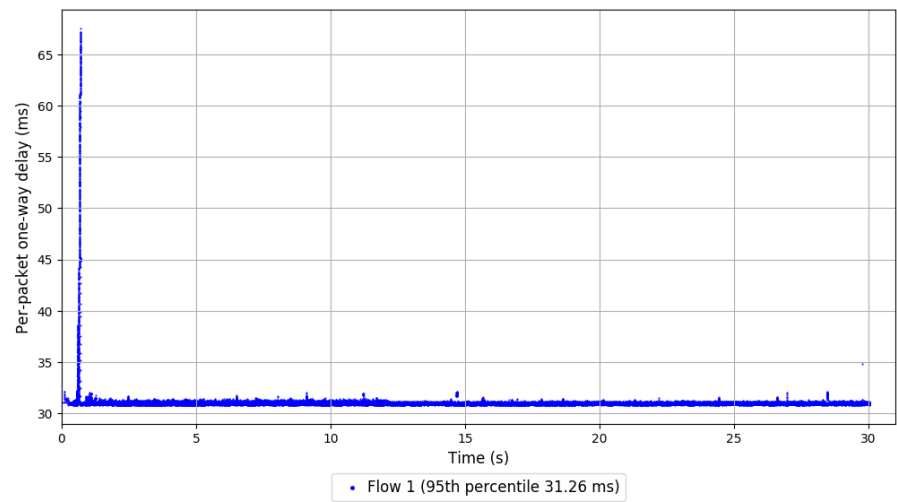
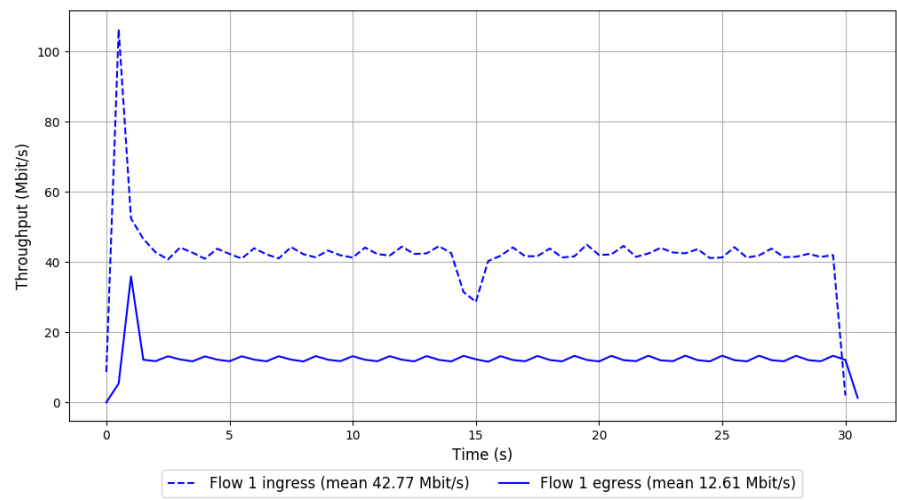


Run 5: Statistics of Copa

Start at: 2018-12-20 00:07:31  
End at: 2018-12-20 00:08:01  
Local clock offset: -3.152 ms  
Remote clock offset: -2.554 ms

# Below is generated by plot.py at 2018-12-20 00:29:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.259 ms  
Loss rate: 70.52%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.259 ms  
Loss rate: 70.52%

Run 5: Report of Copa — Data Link

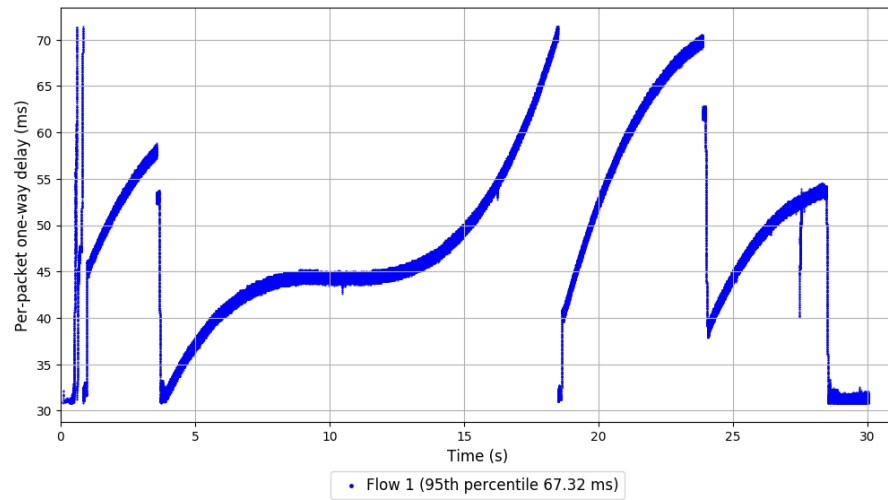
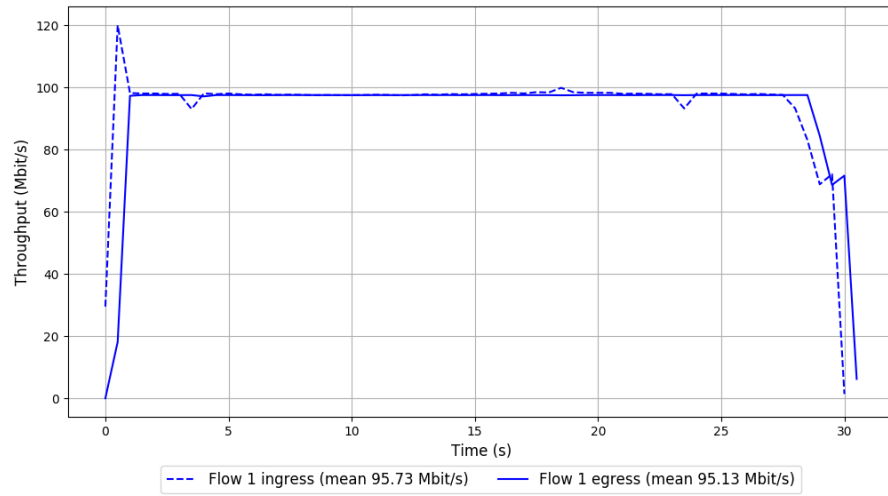


Run 1: Statistics of TCP Cubic

Start at: 2018-12-19 22:54:29  
End at: 2018-12-19 22:54:59  
Local clock offset: 0.479 ms  
Remote clock offset: -3.934 ms

# Below is generated by plot.py at 2018-12-20 00:29:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.13 Mbit/s  
95th percentile per-packet one-way delay: 67.316 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 95.13 Mbit/s  
95th percentile per-packet one-way delay: 67.316 ms  
Loss rate: 0.63%

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



Run 2: Statistics of TCP Cubic

Start at: 2018-12-19 23:16:24

End at: 2018-12-19 23:16:54

Local clock offset: 0.418 ms

Remote clock offset: -3.33 ms

# Below is generated by plot.py at 2018-12-20 00:29:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.88 Mbit/s

95th percentile per-packet one-way delay: 45.135 ms

Loss rate: 0.48%

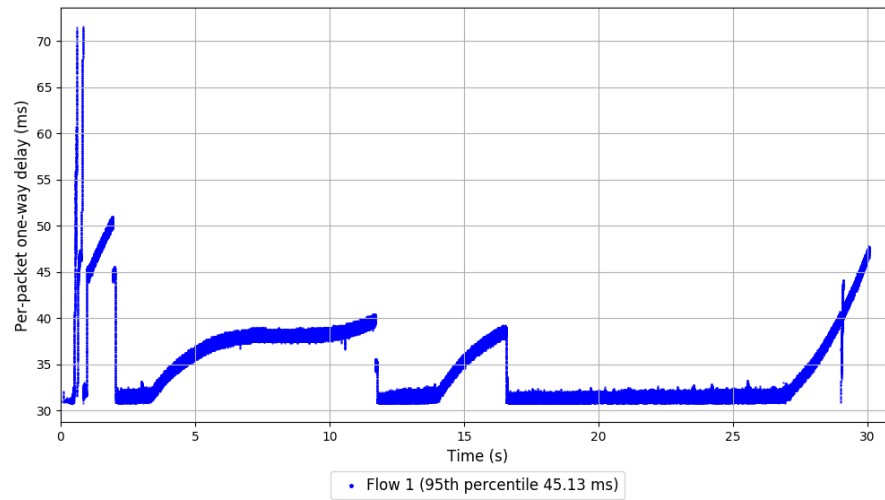
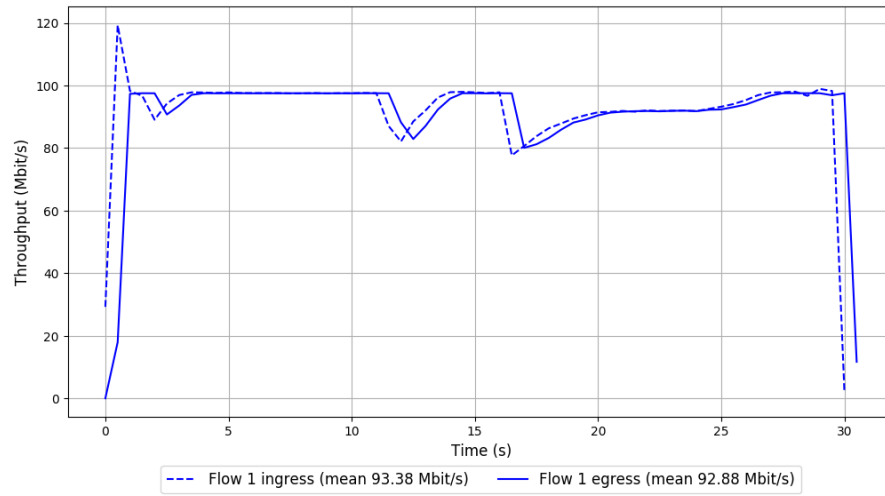
-- Flow 1:

Average throughput: 92.88 Mbit/s

95th percentile per-packet one-way delay: 45.135 ms

Loss rate: 0.48%

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



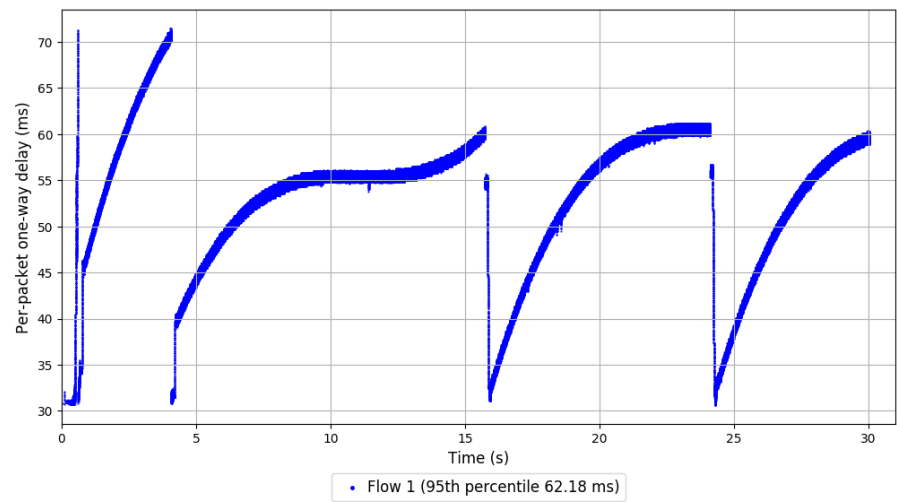
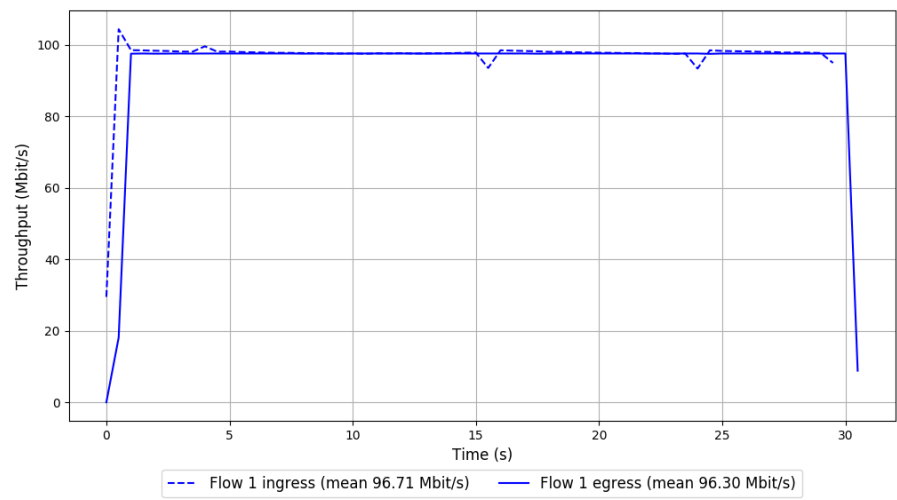


Run 3: Statistics of TCP Cubic

Start at: 2018-12-19 23:38:38  
End at: 2018-12-19 23:39:08  
Local clock offset: -0.377 ms  
Remote clock offset: -2.885 ms

# Below is generated by plot.py at 2018-12-20 00:29:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 62.181 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 62.181 ms  
Loss rate: 0.32%

Run 3: Report of TCP Cubic — Data Link

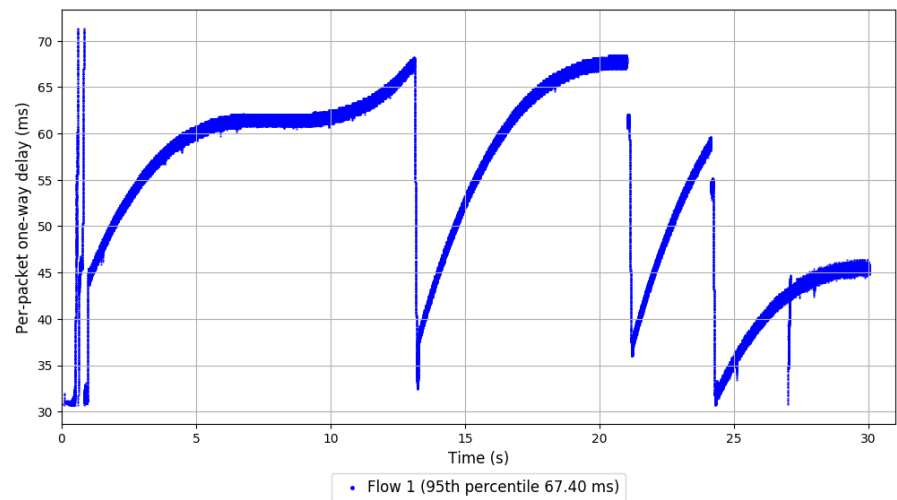
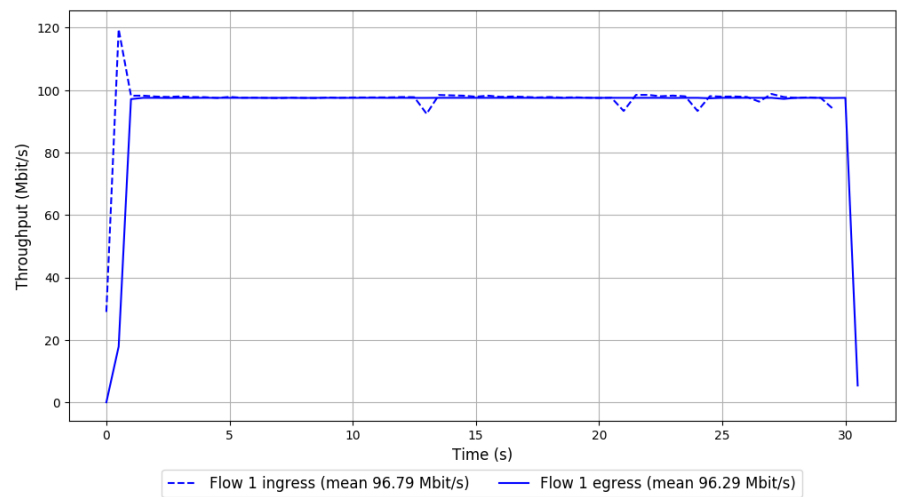


Run 4: Statistics of TCP Cubic

Start at: 2018-12-20 00:00:33  
End at: 2018-12-20 00:01:03  
Local clock offset: -3.046 ms  
Remote clock offset: -2.713 ms

# Below is generated by plot.py at 2018-12-20 00:30:10  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 67.398 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 67.398 ms  
Loss rate: 0.47%

Run 4: Report of TCP Cubic — Data Link

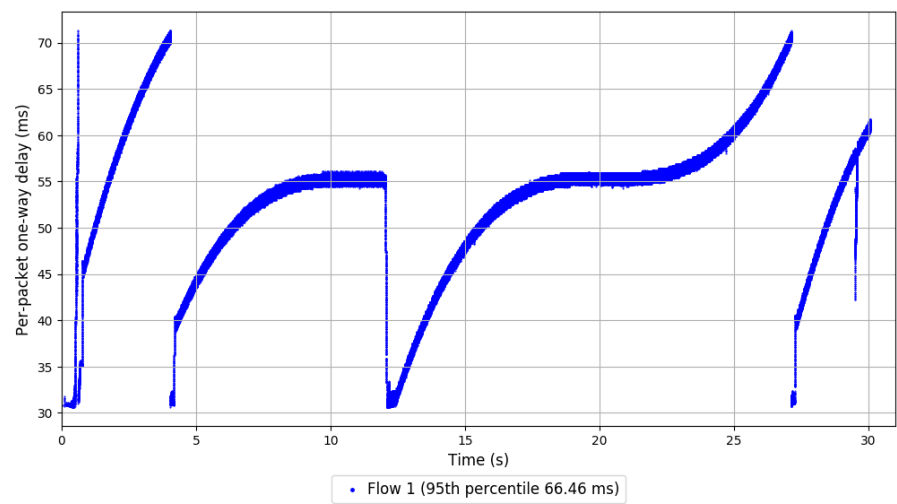
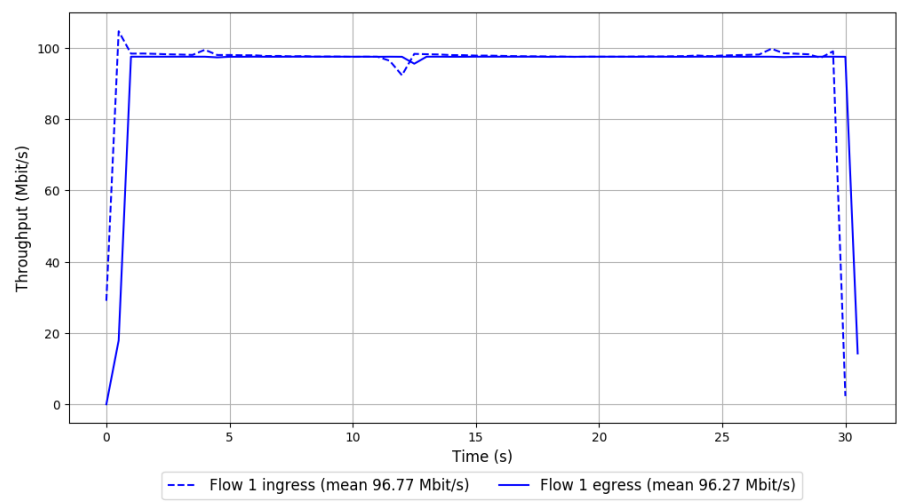


Run 5: Statistics of TCP Cubic

Start at: 2018-12-20 00:22:37  
End at: 2018-12-20 00:23:07  
Local clock offset: -2.864 ms  
Remote clock offset: -2.753 ms

# Below is generated by plot.py at 2018-12-20 00:30:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.27 Mbit/s  
95th percentile per-packet one-way delay: 66.463 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 96.27 Mbit/s  
95th percentile per-packet one-way delay: 66.463 ms  
Loss rate: 0.42%

Run 5: Report of TCP Cubic — Data Link

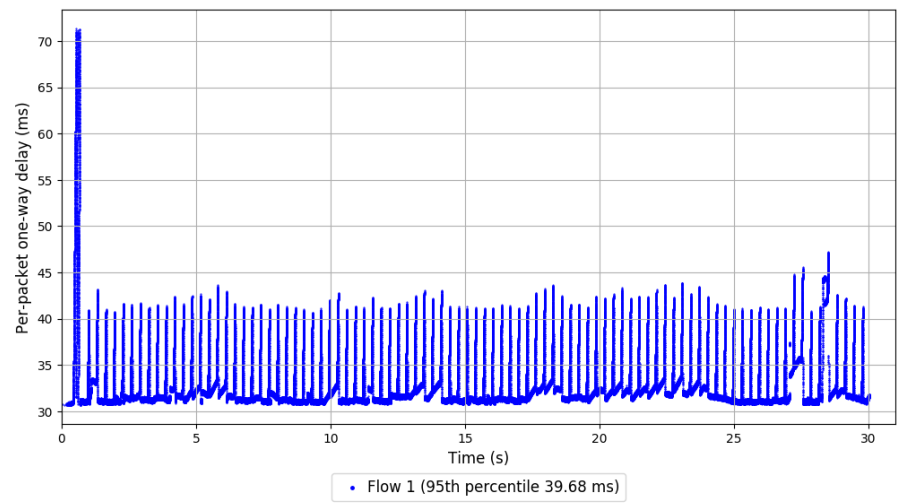
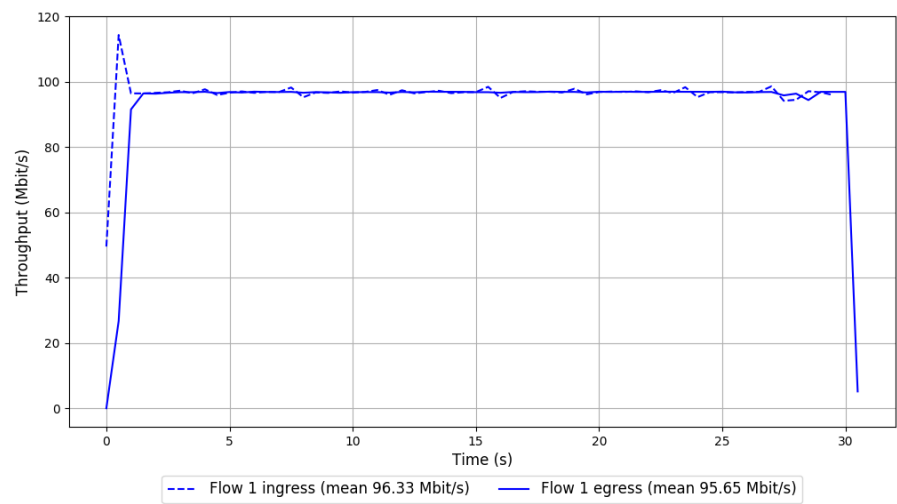


Run 1: Statistics of FillP

Start at: 2018-12-19 22:52:10  
End at: 2018-12-19 22:52:40  
Local clock offset: 0.467 ms  
Remote clock offset: -3.979 ms

# Below is generated by plot.py at 2018-12-20 00:30:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 39.684 ms  
Loss rate: 0.70%  
-- Flow 1:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 39.684 ms  
Loss rate: 0.70%

Run 1: Report of FillP — Data Link



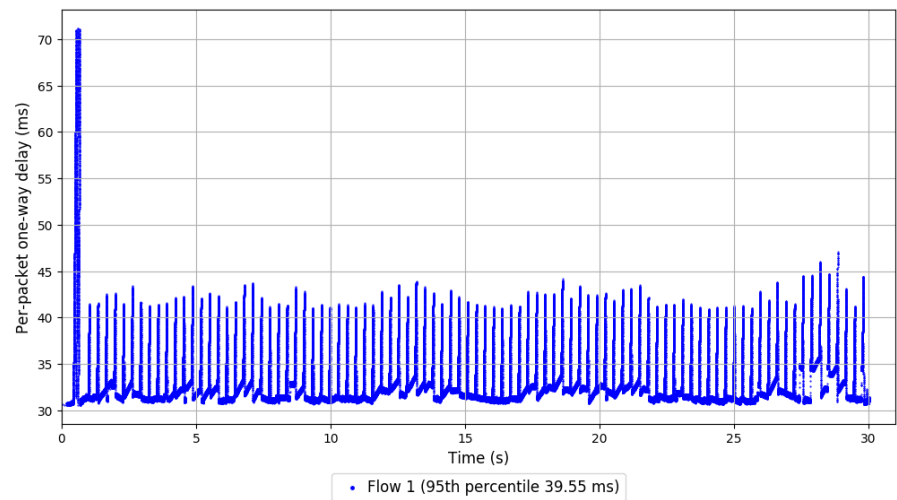
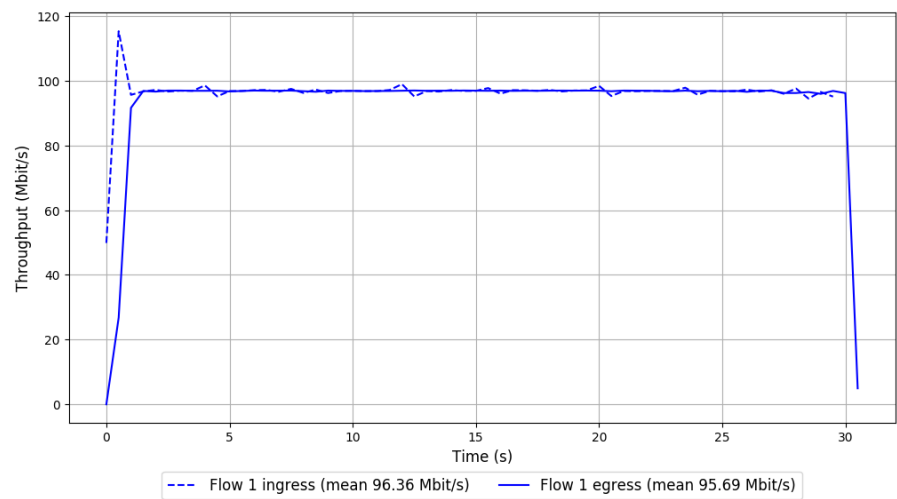


Run 2: Statistics of FillP

Start at: 2018-12-19 23:13:55  
End at: 2018-12-19 23:14:25  
Local clock offset: 0.439 ms  
Remote clock offset: -3.444 ms

# Below is generated by plot.py at 2018-12-20 00:30:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.69 Mbit/s  
95th percentile per-packet one-way delay: 39.545 ms  
Loss rate: 0.68%  
-- Flow 1:  
Average throughput: 95.69 Mbit/s  
95th percentile per-packet one-way delay: 39.545 ms  
Loss rate: 0.68%

Run 2: Report of FillP — Data Link

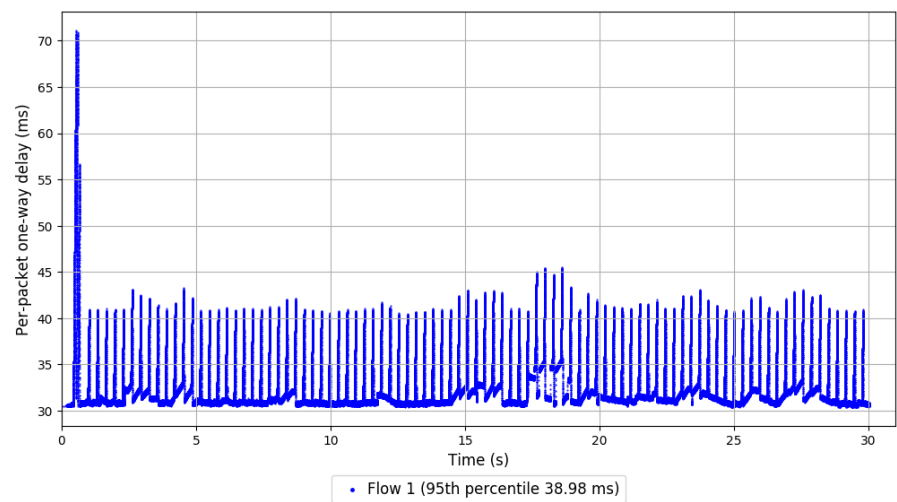
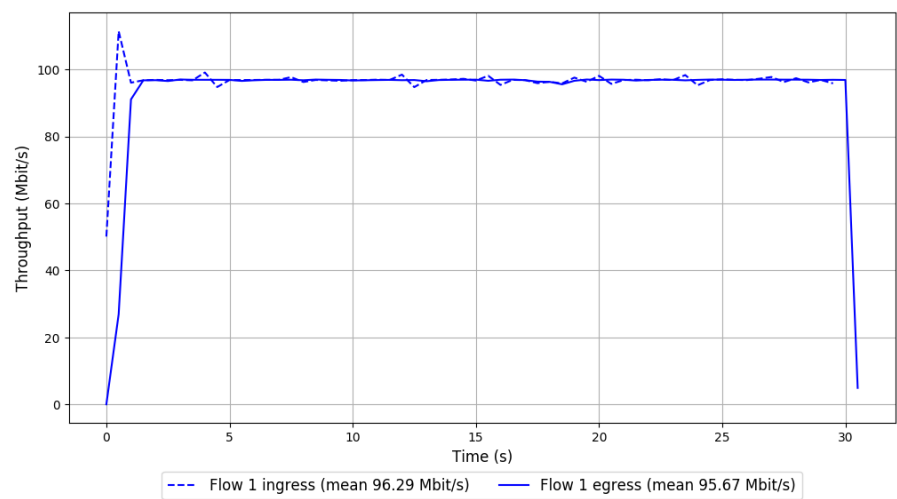


Run 3: Statistics of FillP

Start at: 2018-12-19 23:36:19  
End at: 2018-12-19 23:36:49  
Local clock offset: 0.382 ms  
Remote clock offset: -2.887 ms

# Below is generated by plot.py at 2018-12-20 00:30:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 38.982 ms  
Loss rate: 0.64%  
-- Flow 1:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 38.982 ms  
Loss rate: 0.64%

Run 3: Report of FillP — Data Link

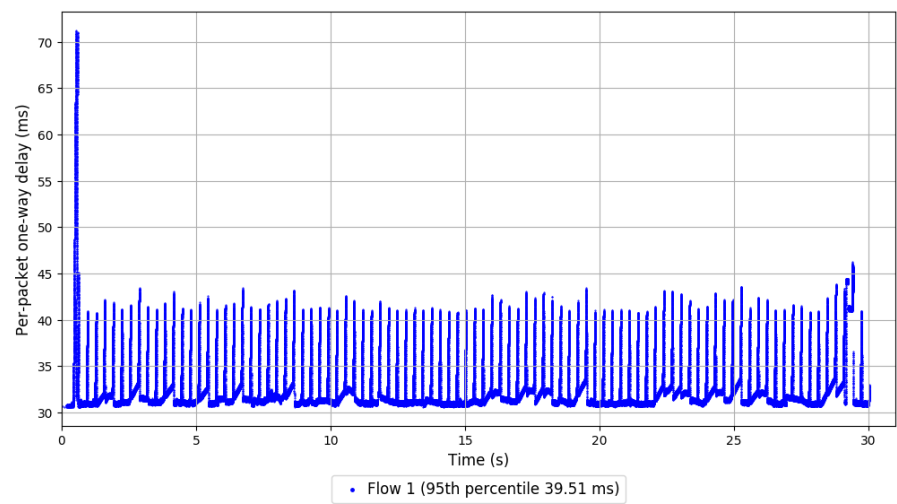
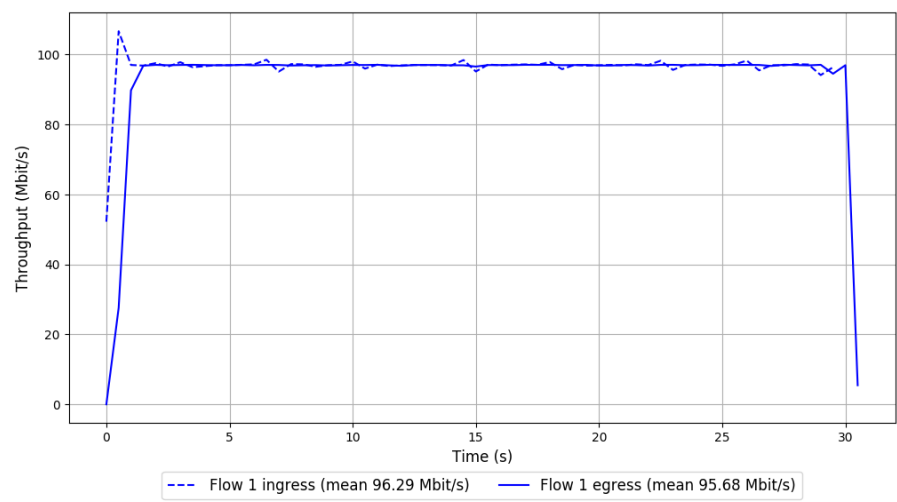


Run 4: Statistics of FillP

Start at: 2018-12-19 23:58:13  
End at: 2018-12-19 23:58:43  
Local clock offset: -2.921 ms  
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:30:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.68 Mbit/s  
95th percentile per-packet one-way delay: 39.509 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 95.68 Mbit/s  
95th percentile per-packet one-way delay: 39.509 ms  
Loss rate: 0.62%

Run 4: Report of FillP — Data Link

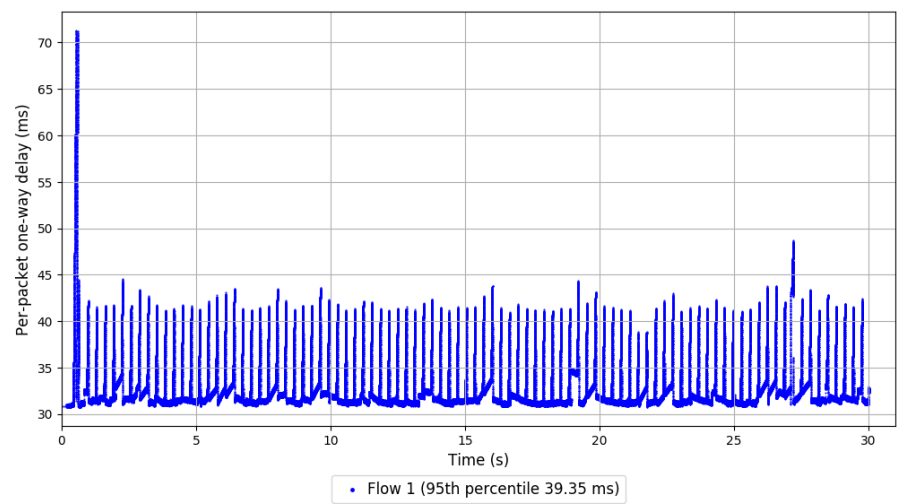
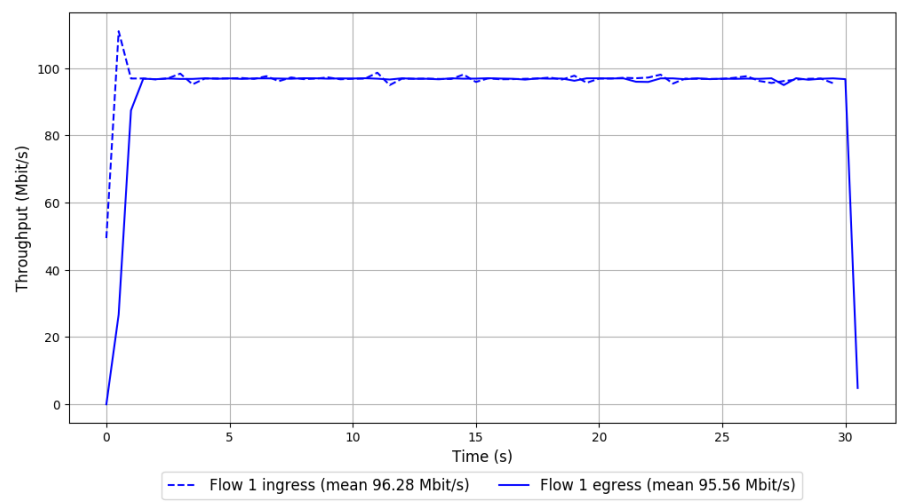


Run 5: Statistics of FillP

Start at: 2018-12-20 00:20:11  
End at: 2018-12-20 00:20:41  
Local clock offset: -2.865 ms  
Remote clock offset: -2.499 ms

# Below is generated by plot.py at 2018-12-20 00:30:52  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.56 Mbit/s  
95th percentile per-packet one-way delay: 39.347 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 95.56 Mbit/s  
95th percentile per-packet one-way delay: 39.347 ms  
Loss rate: 0.74%

Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2018-12-19 22:43:04

End at: 2018-12-19 22:43:34

Local clock offset: 0.516 ms

Remote clock offset: -4.121 ms

# Below is generated by plot.py at 2018-12-20 00:30:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.85 Mbit/s

95th percentile per-packet one-way delay: 36.666 ms

Loss rate: 0.61%

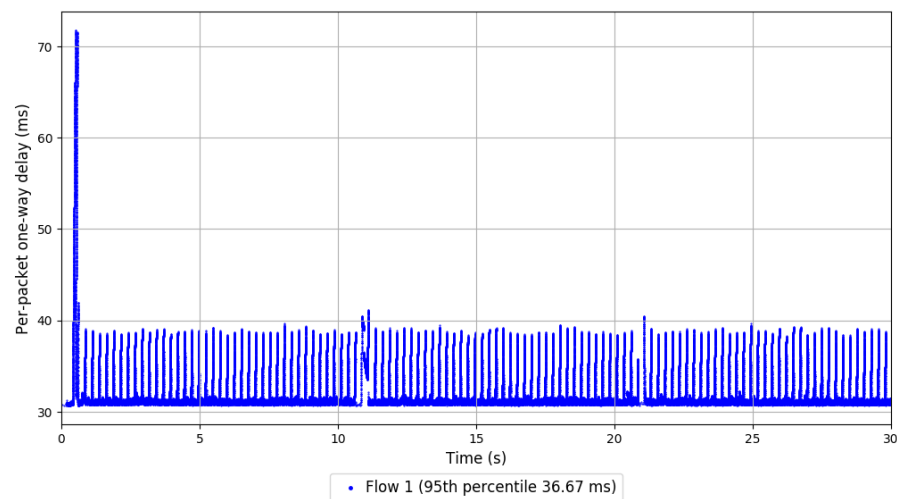
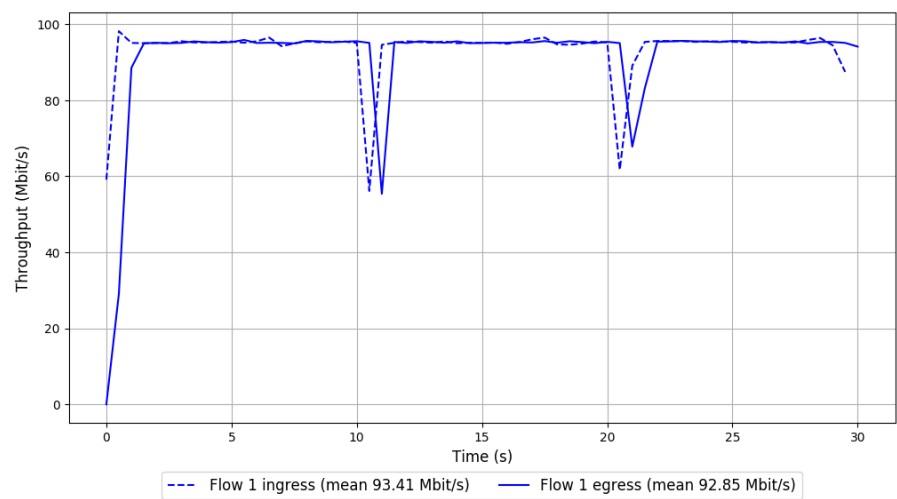
-- Flow 1:

Average throughput: 92.85 Mbit/s

95th percentile per-packet one-way delay: 36.666 ms

Loss rate: 0.61%

Run 1: Report of FillP-Sheep — Data Link

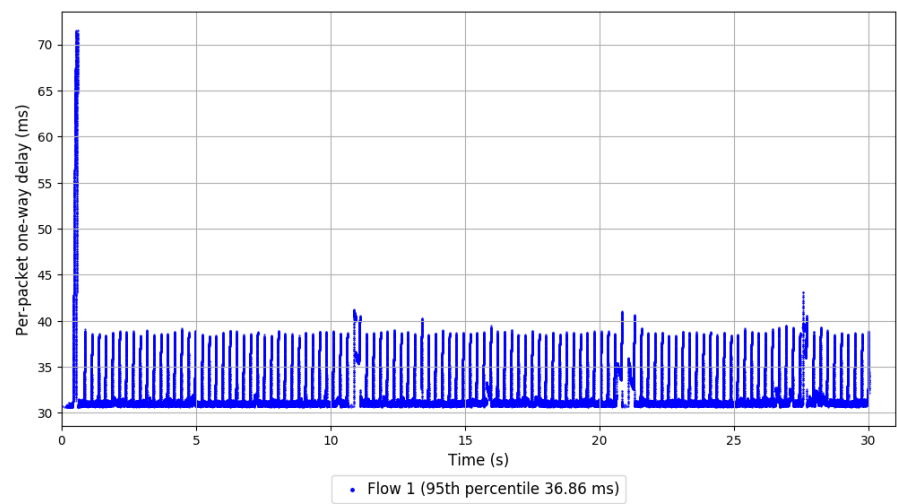
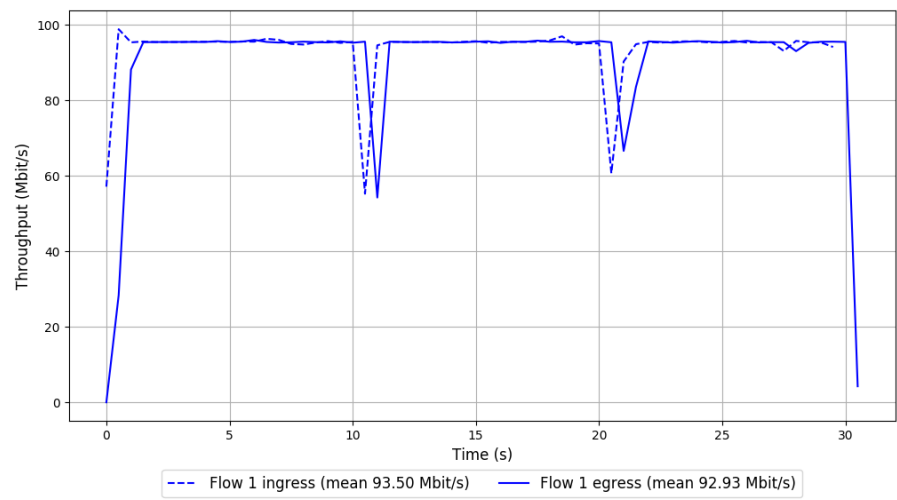


Run 2: Statistics of FillP-Sheep

Start at: 2018-12-19 23:04:49  
End at: 2018-12-19 23:05:19  
Local clock offset: 0.598 ms  
Remote clock offset: -3.713 ms

# Below is generated by plot.py at 2018-12-20 00:31:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 92.93 Mbit/s  
95th percentile per-packet one-way delay: 36.858 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 92.93 Mbit/s  
95th percentile per-packet one-way delay: 36.858 ms  
Loss rate: 0.61%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-12-19 23:26:58

End at: 2018-12-19 23:27:28

Local clock offset: 0.449 ms

Remote clock offset: -3.102 ms

# Below is generated by plot.py at 2018-12-20 00:31:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.90 Mbit/s

95th percentile per-packet one-way delay: 37.145 ms

Loss rate: 0.59%

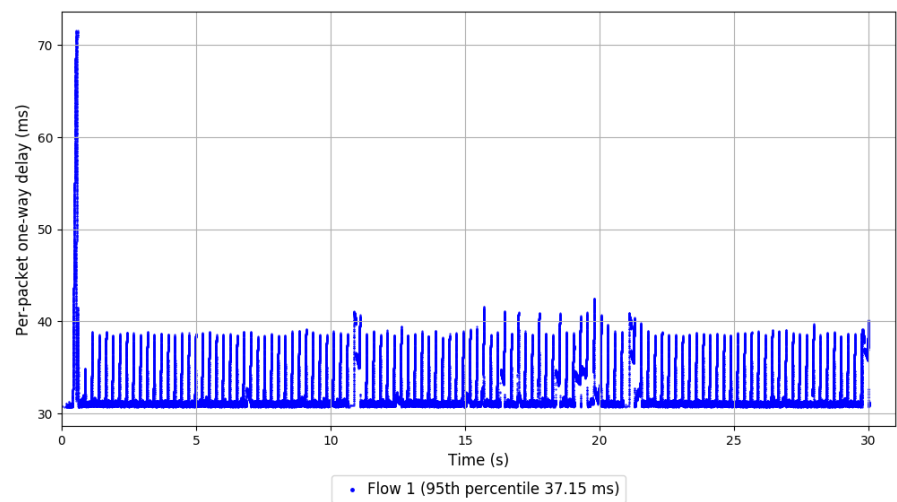
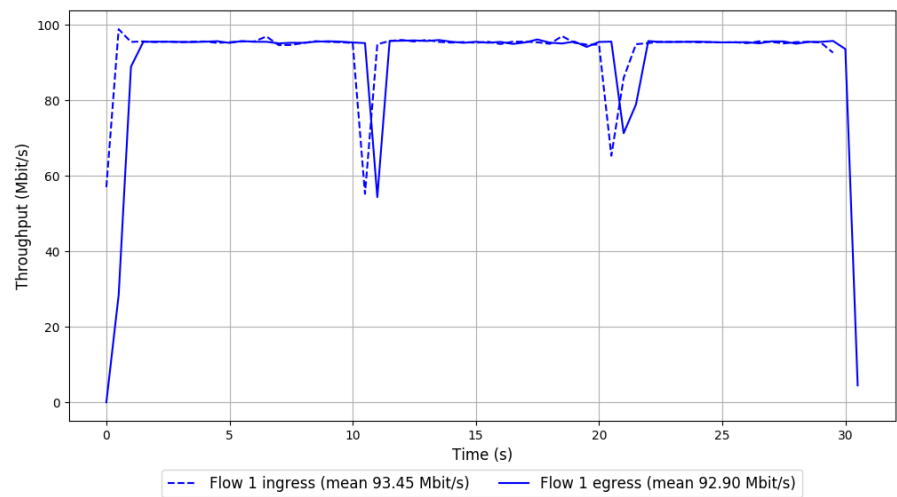
-- Flow 1:

Average throughput: 92.90 Mbit/s

95th percentile per-packet one-way delay: 37.145 ms

Loss rate: 0.59%

Run 3: Report of FillP-Sheep — Data Link

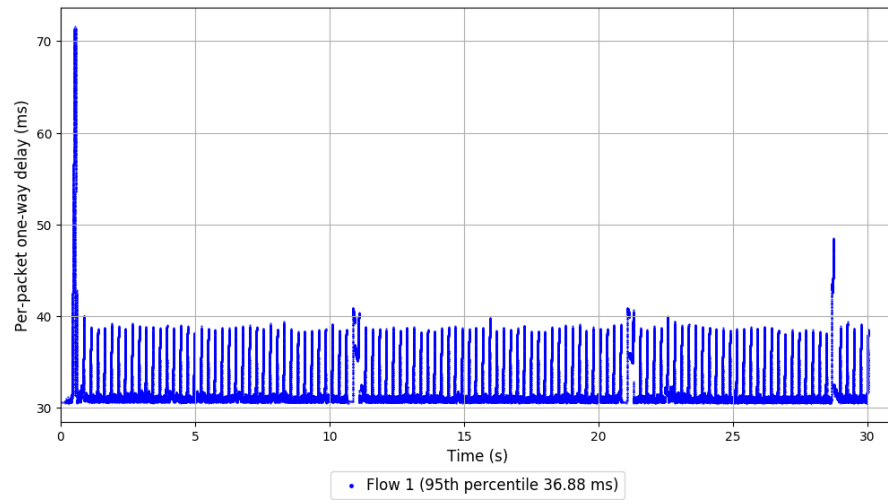
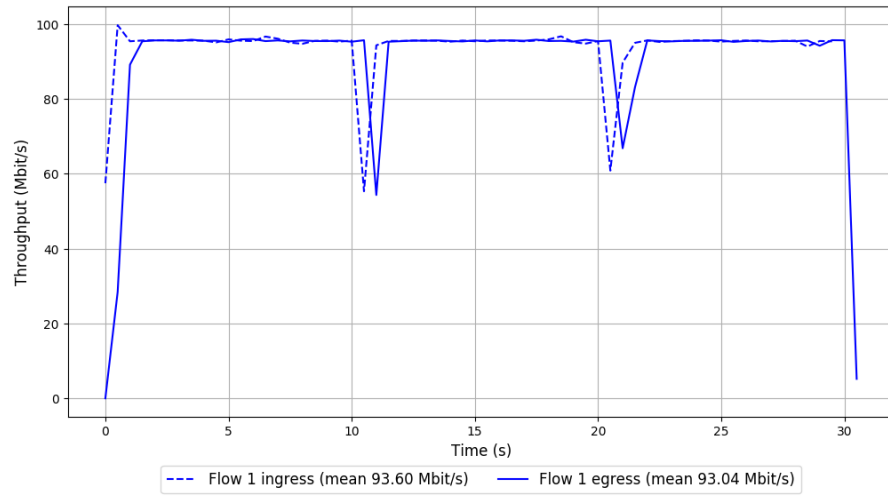


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-19 23:49:05  
End at: 2018-12-19 23:49:35  
Local clock offset: -2.195 ms  
Remote clock offset: -2.729 ms

# Below is generated by plot.py at 2018-12-20 00:31:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 93.04 Mbit/s  
95th percentile per-packet one-way delay: 36.884 ms  
Loss rate: 0.60%  
-- Flow 1:  
Average throughput: 93.04 Mbit/s  
95th percentile per-packet one-way delay: 36.884 ms  
Loss rate: 0.60%

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





Run 5: Statistics of FillP-Sheep

Start at: 2018-12-20 00:10:57

End at: 2018-12-20 00:11:27

Local clock offset: -3.0 ms

Remote clock offset: -2.57 ms

# Below is generated by plot.py at 2018-12-20 00:31:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 93.04 Mbit/s

95th percentile per-packet one-way delay: 36.858 ms

Loss rate: 0.58%

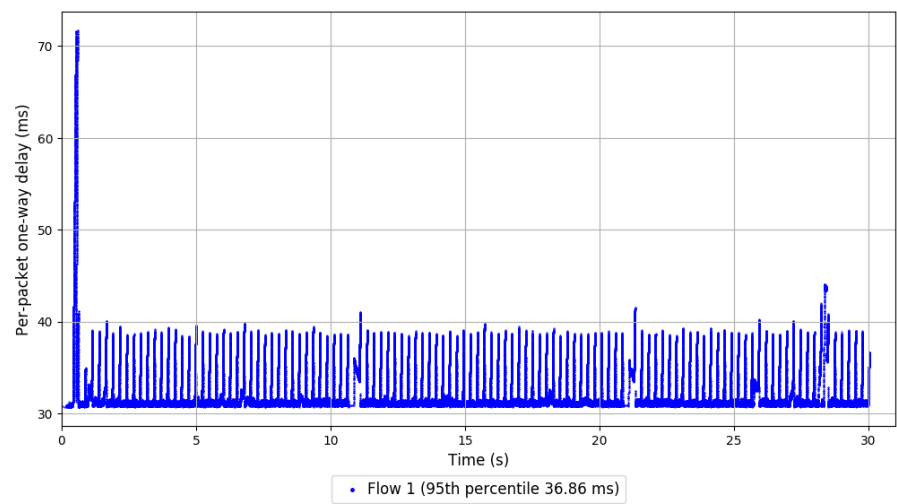
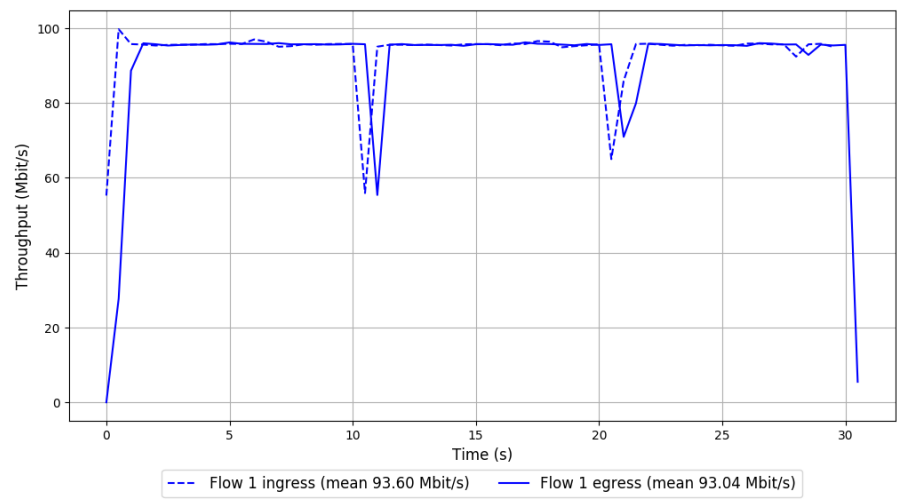
-- Flow 1:

Average throughput: 93.04 Mbit/s

95th percentile per-packet one-way delay: 36.858 ms

Loss rate: 0.58%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-12-19 22:56:49

End at: 2018-12-19 22:57:19

Local clock offset: 0.493 ms

Remote clock offset: -3.942 ms

# Below is generated by plot.py at 2018-12-20 00:31:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 35.743 ms

Loss rate: 0.10%

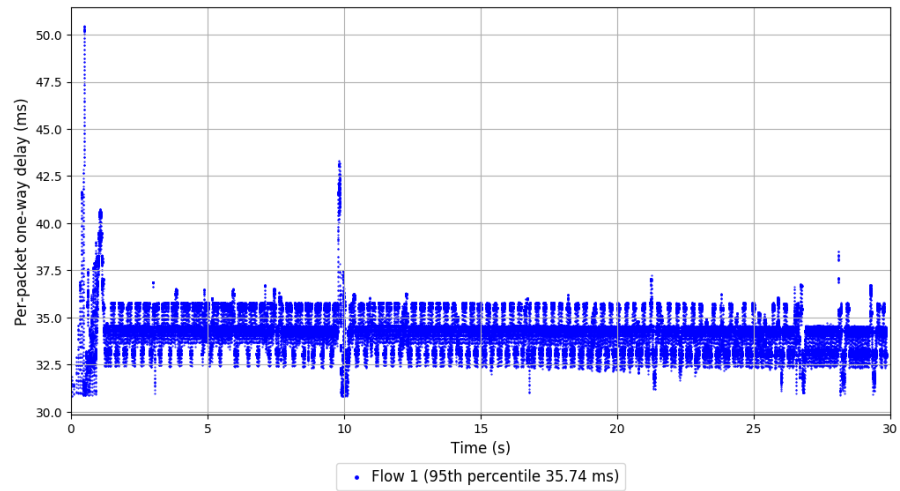
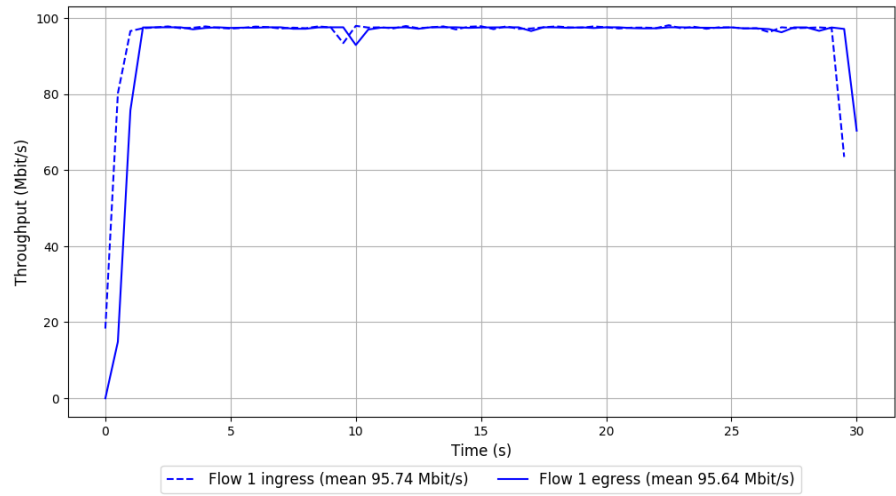
-- Flow 1:

Average throughput: 95.64 Mbit/s

95th percentile per-packet one-way delay: 35.743 ms

Loss rate: 0.10%

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

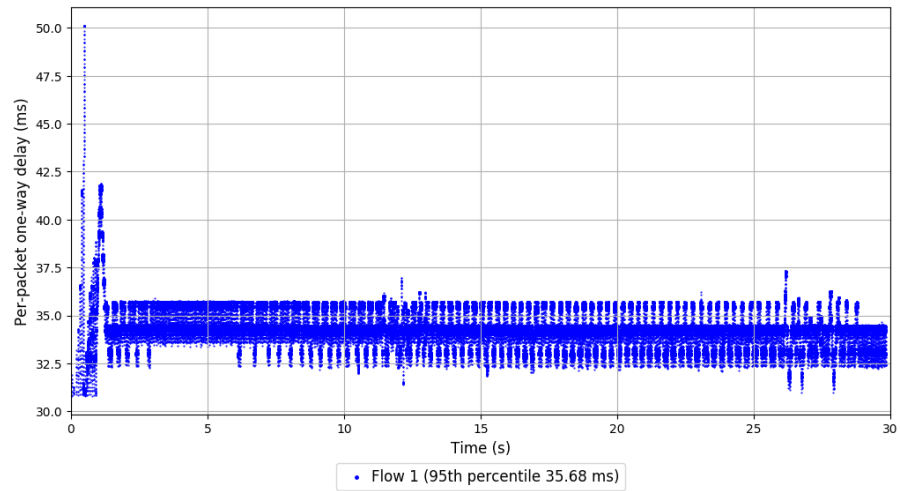
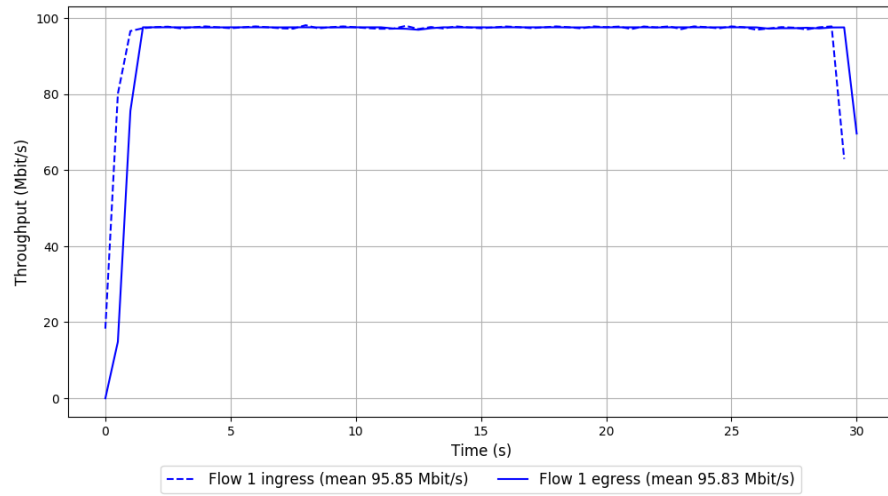


Run 2: Statistics of Indigo

Start at: 2018-12-19 23:18:51  
End at: 2018-12-19 23:19:21  
Local clock offset: 0.445 ms  
Remote clock offset: -3.264 ms

# Below is generated by plot.py at 2018-12-20 00:31:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.83 Mbit/s  
95th percentile per-packet one-way delay: 35.676 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 95.83 Mbit/s  
95th percentile per-packet one-way delay: 35.676 ms  
Loss rate: 0.02%

## Run 2: Report of Indigo — Data Link

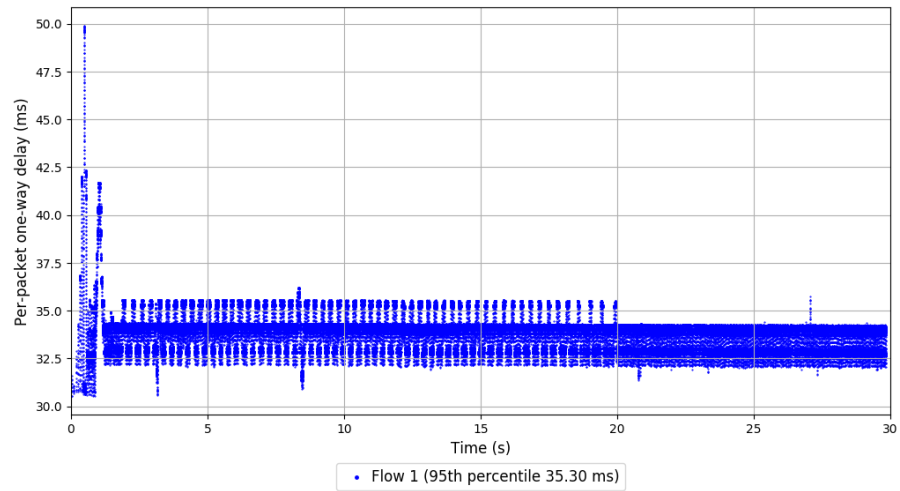
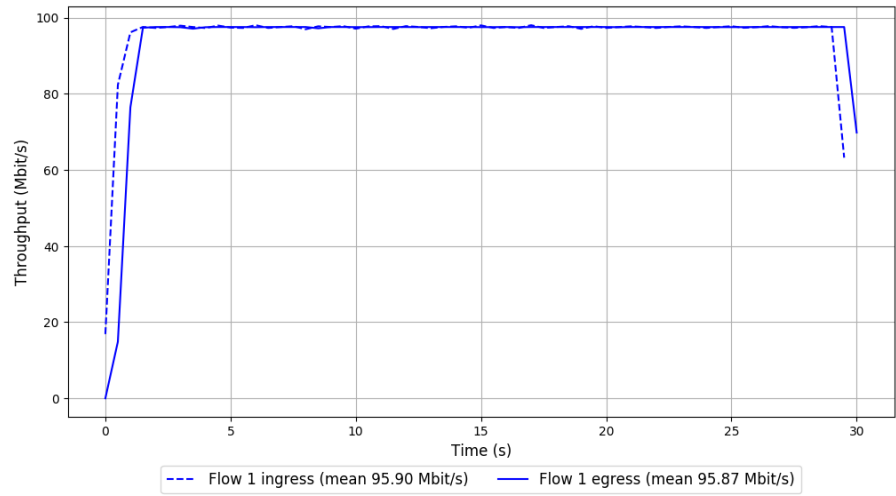


Run 3: Statistics of Indigo

Start at: 2018-12-19 23:40:57  
End at: 2018-12-19 23:41:27  
Local clock offset: -0.979 ms  
Remote clock offset: -2.989 ms

# Below is generated by plot.py at 2018-12-20 00:32:00  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.87 Mbit/s  
95th percentile per-packet one-way delay: 35.303 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 95.87 Mbit/s  
95th percentile per-packet one-way delay: 35.303 ms  
Loss rate: 0.02%

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



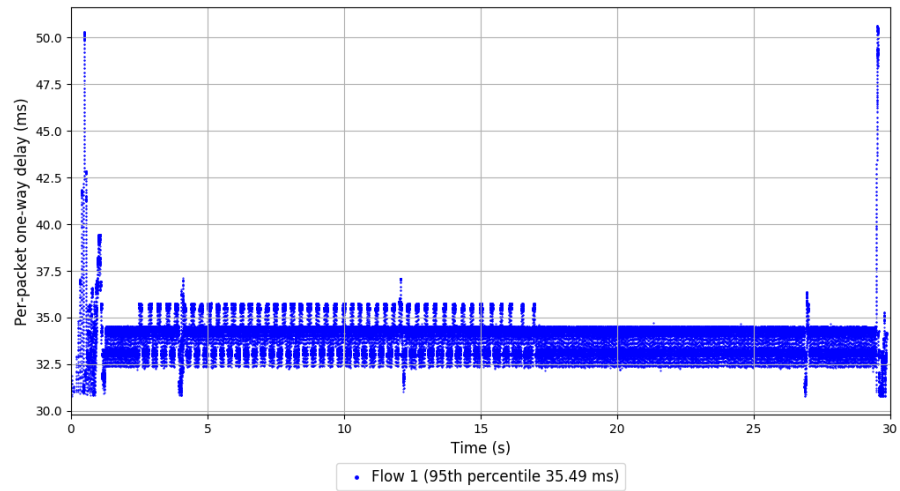
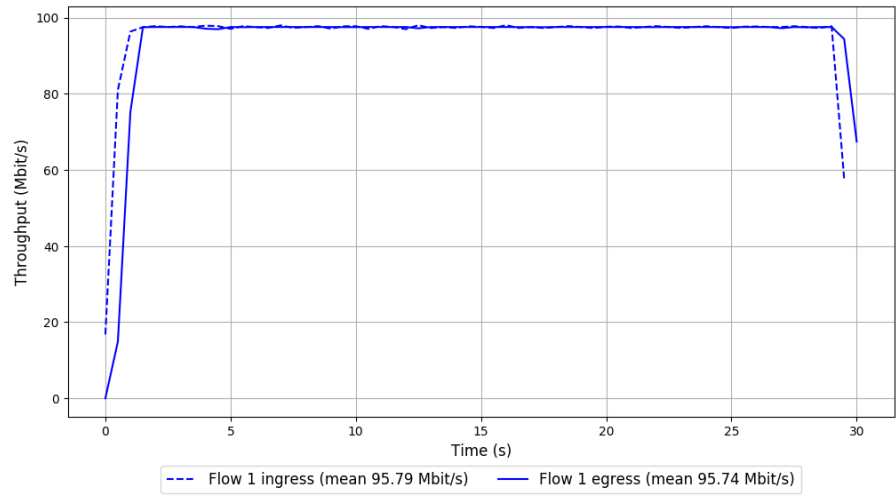


Run 4: Statistics of Indigo

Start at: 2018-12-20 00:02:54  
End at: 2018-12-20 00:03:24  
Local clock offset: -3.159 ms  
Remote clock offset: -2.556 ms

# Below is generated by plot.py at 2018-12-20 00:32:00  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.74 Mbit/s  
95th percentile per-packet one-way delay: 35.486 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 95.74 Mbit/s  
95th percentile per-packet one-way delay: 35.486 ms  
Loss rate: 0.04%

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



Run 5: Statistics of Indigo

Start at: 2018-12-20 00:25:06

End at: 2018-12-20 00:25:36

Local clock offset: -2.881 ms

Remote clock offset: -2.57 ms

# Below is generated by plot.py at 2018-12-20 00:32:30

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.73 Mbit/s

95th percentile per-packet one-way delay: 35.500 ms

Loss rate: 0.00%

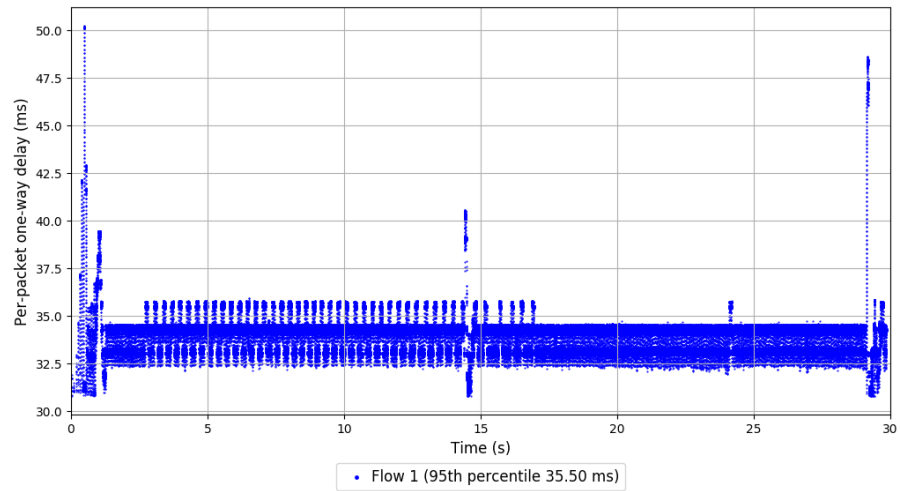
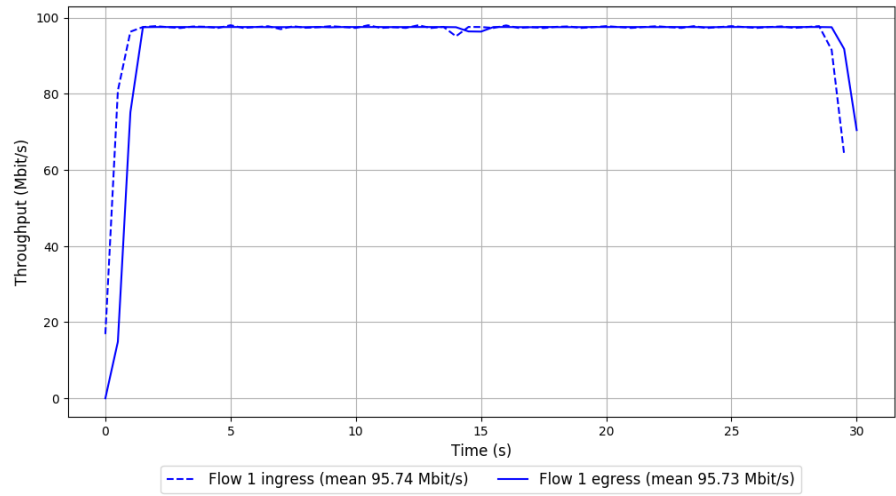
-- Flow 1:

Average throughput: 95.73 Mbit/s

95th percentile per-packet one-way delay: 35.500 ms

Loss rate: 0.00%

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

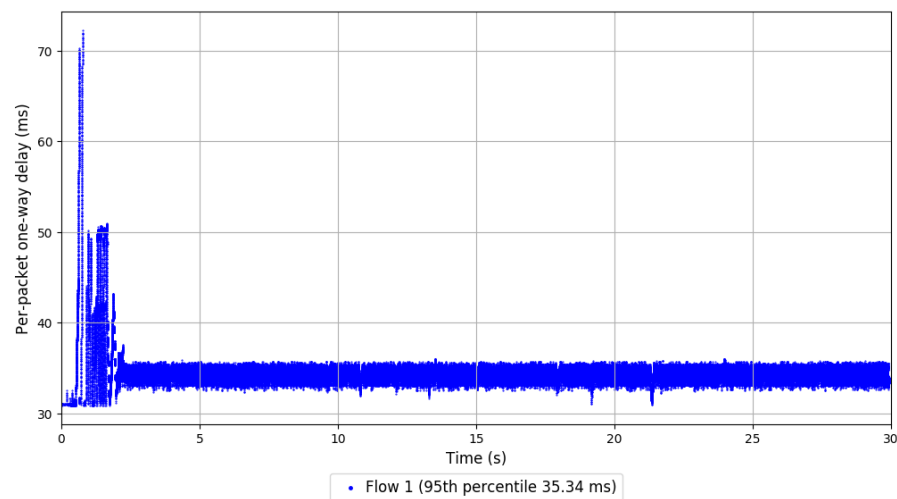
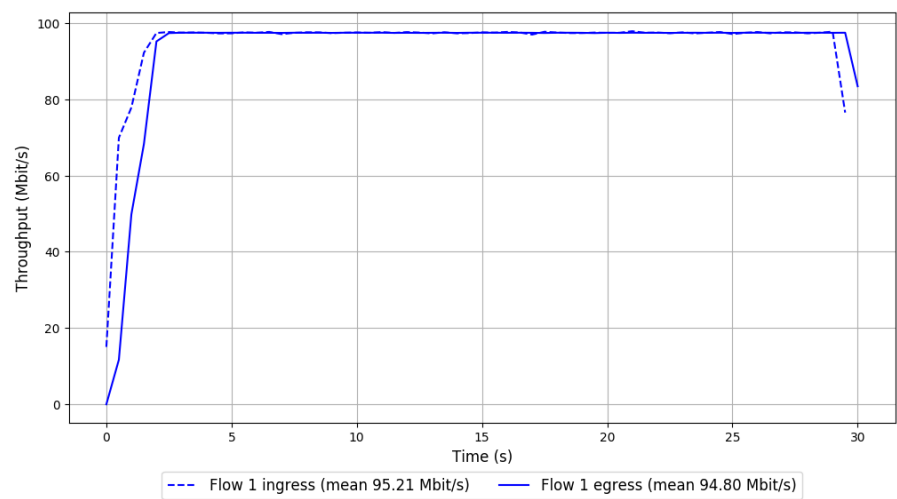


```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-19 22:48:47
End at: 2018-12-19 22:49:17
Local clock offset: 0.469 ms
Remote clock offset: -3.979 ms

# Below is generated by plot.py at 2018-12-20 00:32:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.339 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.339 ms
Loss rate: 0.43%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-19 23:10:31

End at: 2018-12-19 23:11:01

Local clock offset: 0.489 ms

Remote clock offset: -3.49 ms

# Below is generated by plot.py at 2018-12-20 00:32:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 35.470 ms

Loss rate: 0.47%

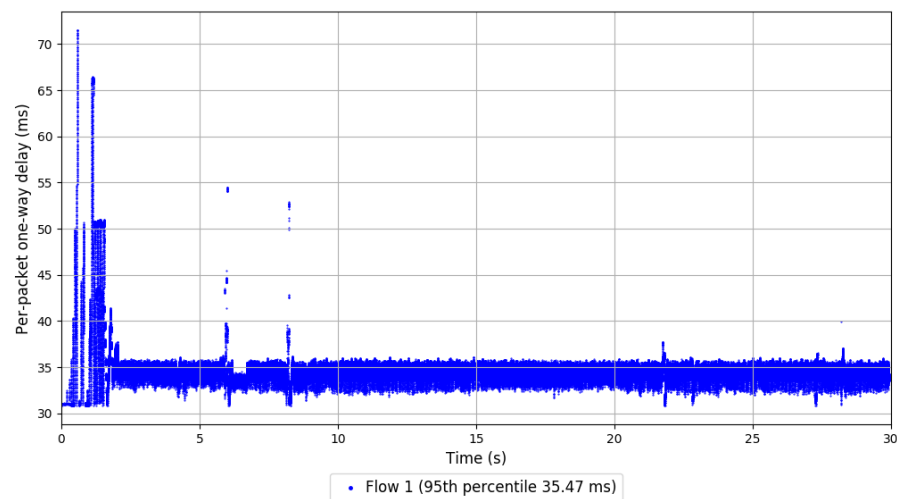
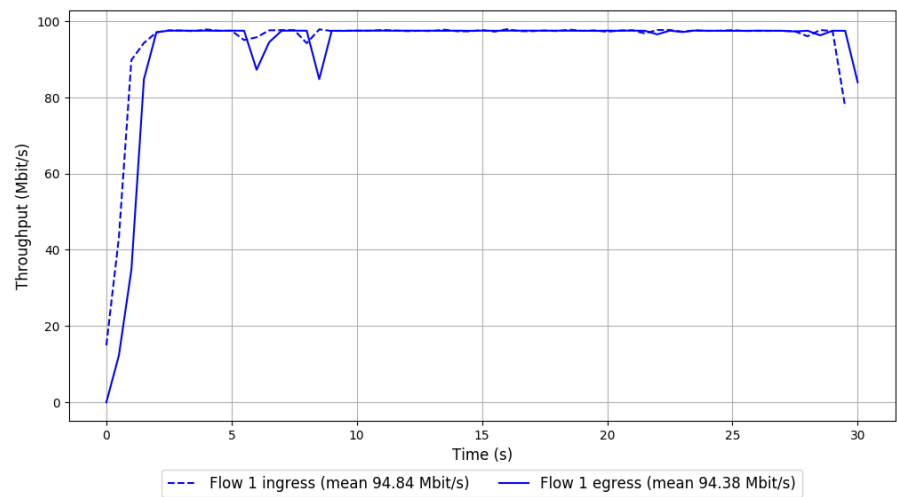
-- Flow 1:

Average throughput: 94.38 Mbit/s

95th percentile per-packet one-way delay: 35.470 ms

Loss rate: 0.47%

Run 2: Report of Indigo-MusesD — Data Link





Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-19 23:32:56

End at: 2018-12-19 23:33:26

Local clock offset: 0.51 ms

Remote clock offset: -2.934 ms

# Below is generated by plot.py at 2018-12-20 00:32:51

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.68 Mbit/s

95th percentile per-packet one-way delay: 35.391 ms

Loss rate: 0.42%

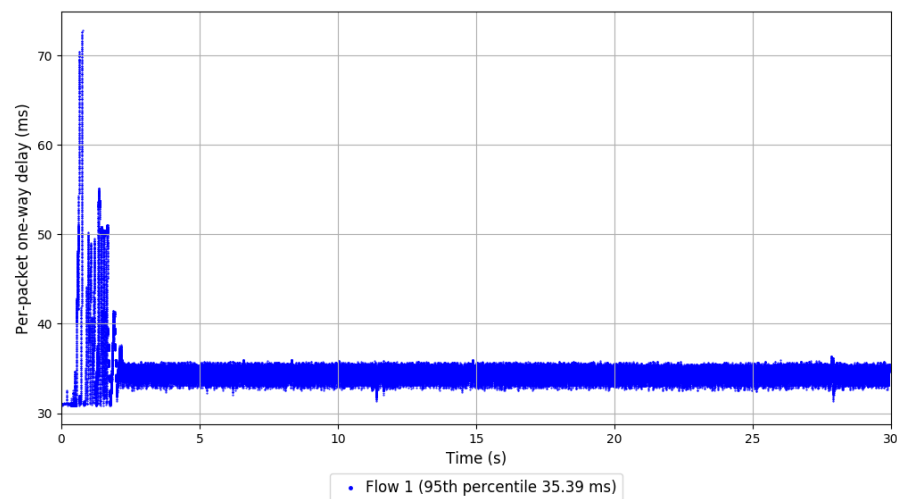
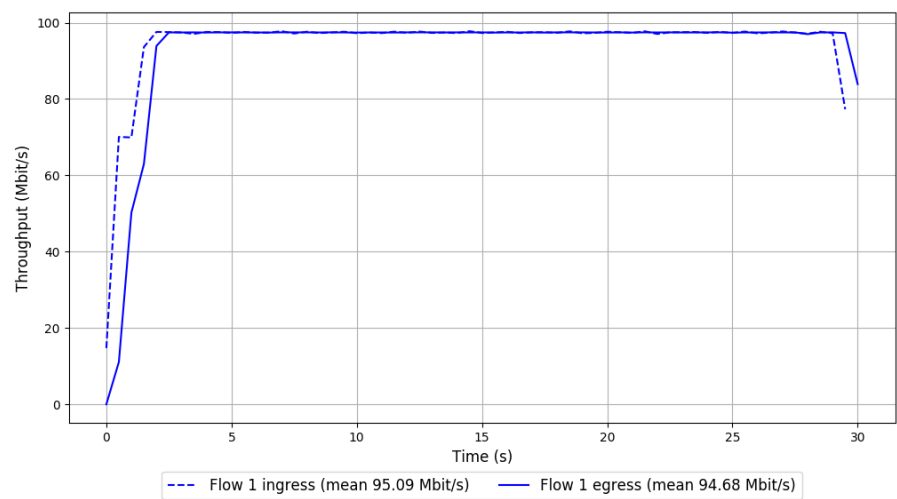
-- Flow 1:

Average throughput: 94.68 Mbit/s

95th percentile per-packet one-way delay: 35.391 ms

Loss rate: 0.42%

Run 3: Report of Indigo-MusesD — Data Link

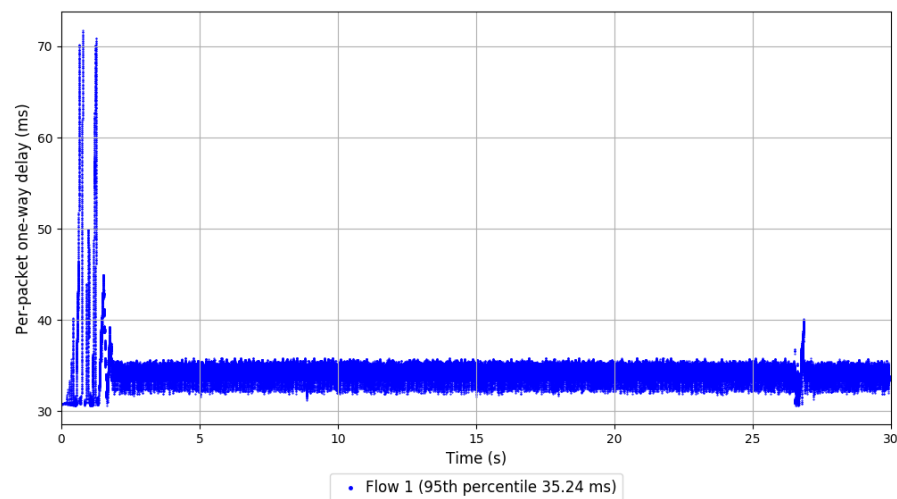
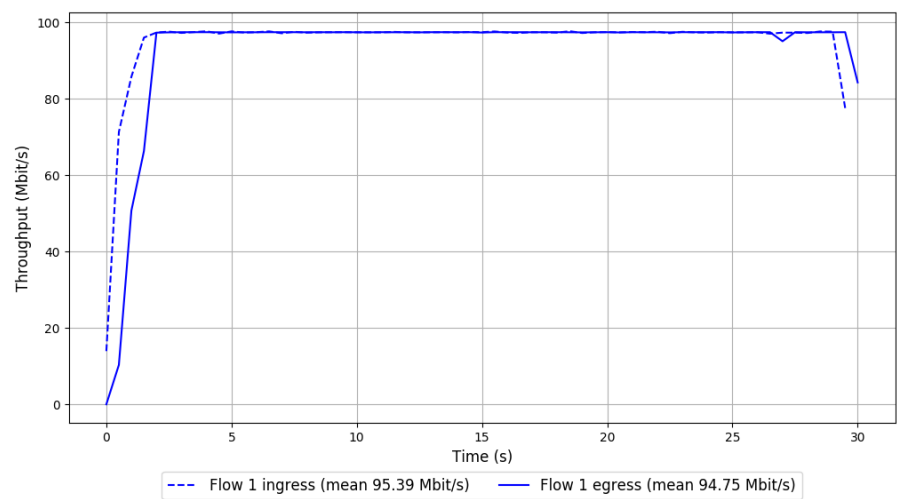


Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-19 23:54:51  
End at: 2018-12-19 23:55:21  
Local clock offset: -2.681 ms  
Remote clock offset: -2.696 ms

# Below is generated by plot.py at 2018-12-20 00:32:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.75 Mbit/s  
95th percentile per-packet one-way delay: 35.236 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 94.75 Mbit/s  
95th percentile per-packet one-way delay: 35.236 ms  
Loss rate: 0.66%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-20 00:16:44

End at: 2018-12-20 00:17:14

Local clock offset: -2.871 ms

Remote clock offset: -2.588 ms

# Below is generated by plot.py at 2018-12-20 00:32:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 35.259 ms

Loss rate: 0.11%

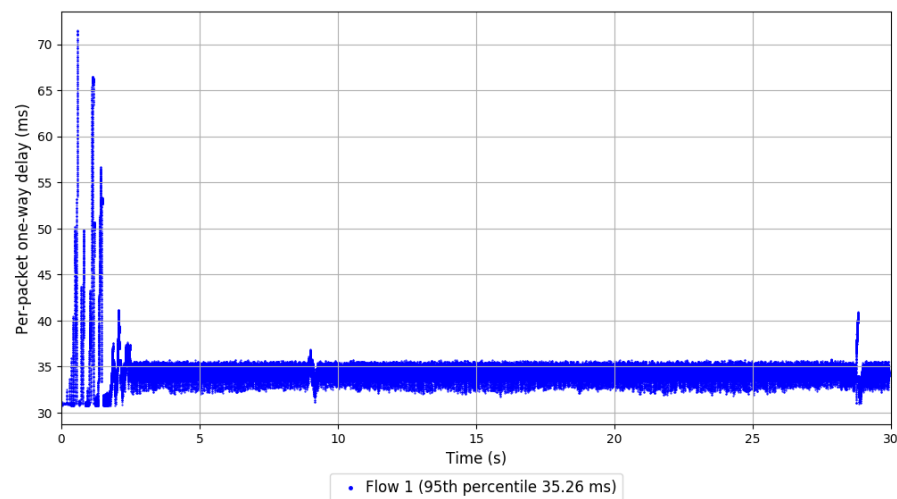
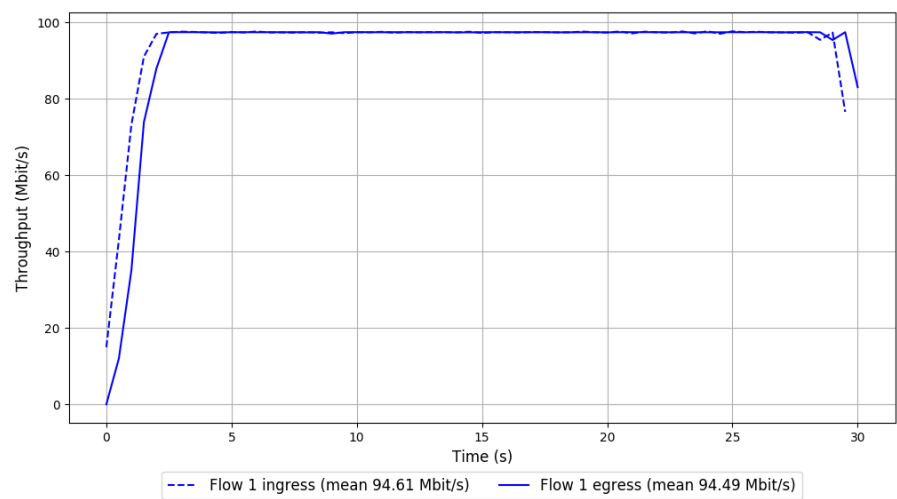
-- Flow 1:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 35.259 ms

Loss rate: 0.11%

Run 5: Report of Indigo-MusesD — Data Link

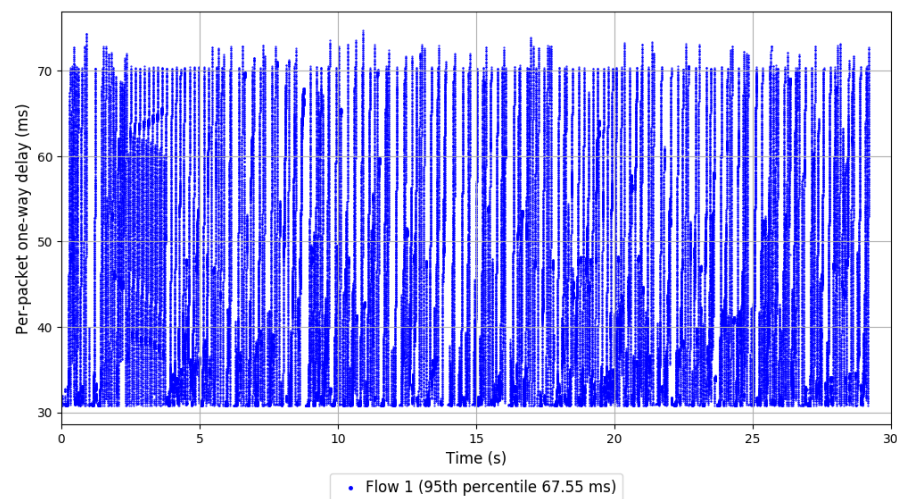
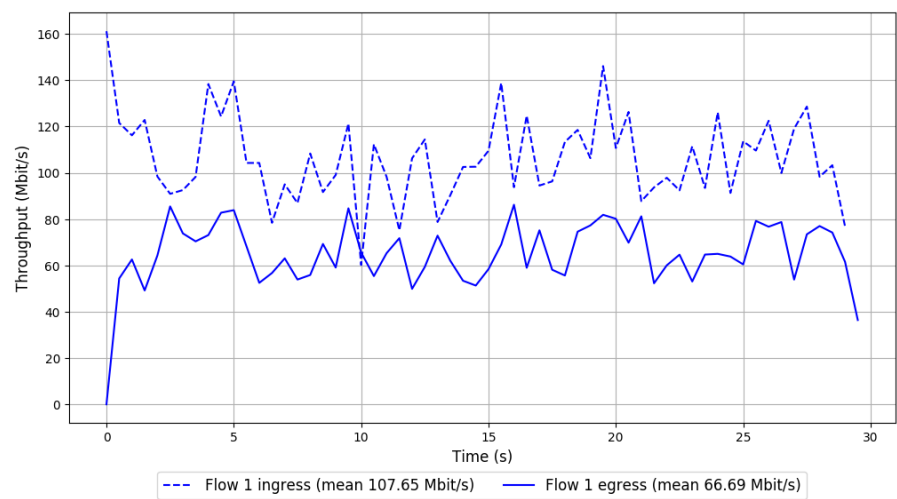


Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-19 22:55:39  
End at: 2018-12-19 22:56:09  
Local clock offset: 0.492 ms  
Remote clock offset: -3.912 ms

# Below is generated by plot.py at 2018-12-20 00:32:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.69 Mbit/s  
95th percentile per-packet one-way delay: 67.547 ms  
Loss rate: 38.02%  
-- Flow 1:  
Average throughput: 66.69 Mbit/s  
95th percentile per-packet one-way delay: 67.547 ms  
Loss rate: 38.02%

Run 1: Report of Indigo-MusesT — Data Link



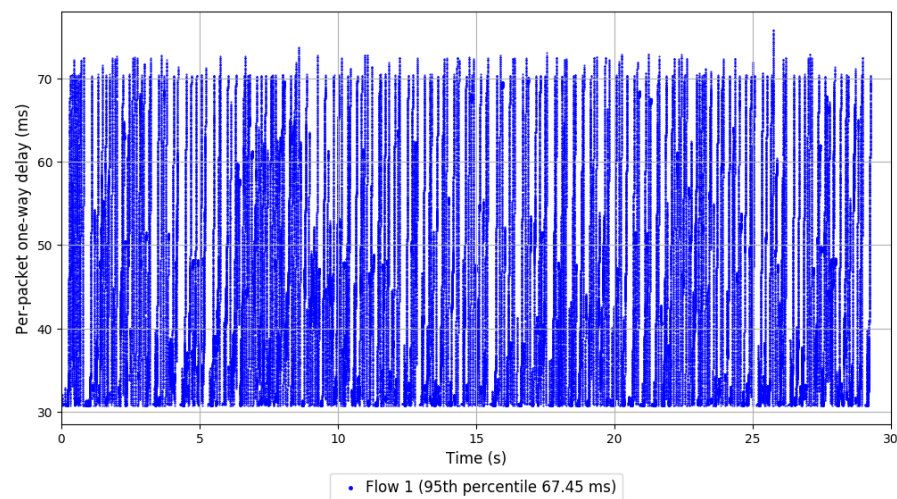
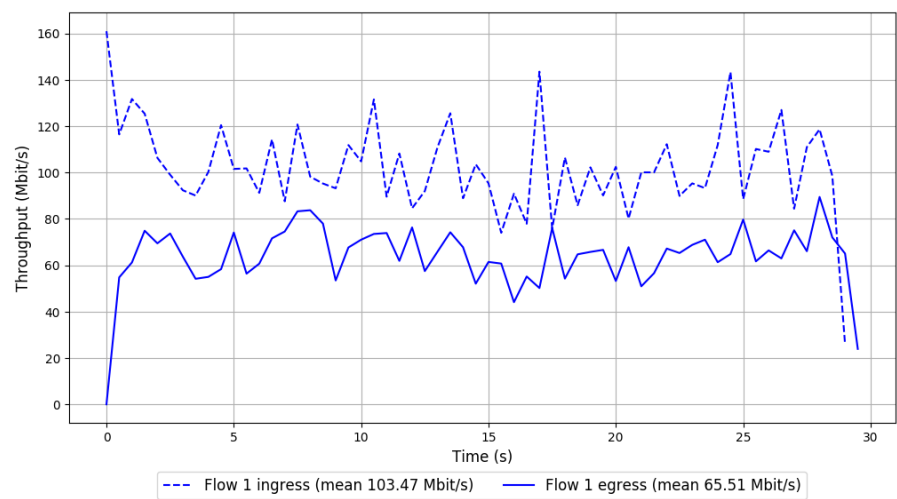


Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-19 23:17:37  
End at: 2018-12-19 23:18:07  
Local clock offset: 0.427 ms  
Remote clock offset: -3.298 ms

# Below is generated by plot.py at 2018-12-20 00:32:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 65.51 Mbit/s  
95th percentile per-packet one-way delay: 67.453 ms  
Loss rate: 36.60%  
-- Flow 1:  
Average throughput: 65.51 Mbit/s  
95th percentile per-packet one-way delay: 67.453 ms  
Loss rate: 36.60%

Run 2: Report of Indigo-MusesT — Data Link

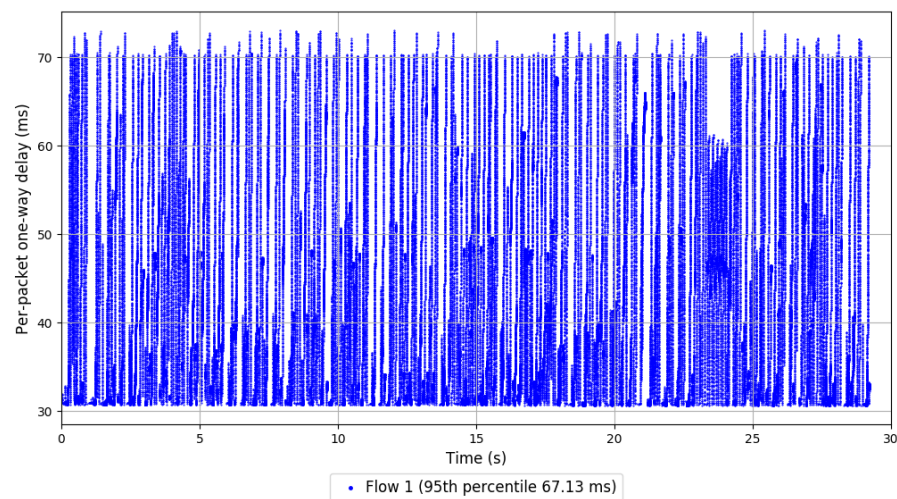
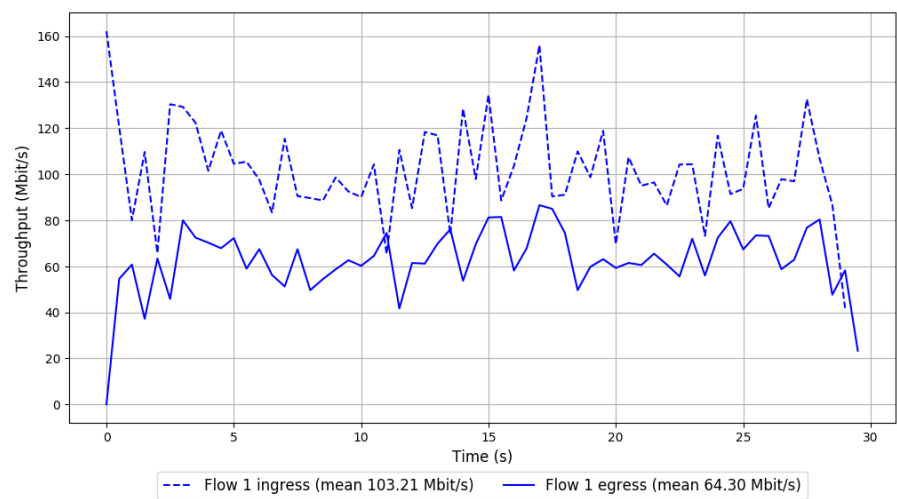


Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-19 23:39:48  
End at: 2018-12-19 23:40:18  
Local clock offset: -0.692 ms  
Remote clock offset: -2.823 ms

# Below is generated by plot.py at 2018-12-20 00:33:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.30 Mbit/s  
95th percentile per-packet one-way delay: 67.132 ms  
Loss rate: 37.69%  
-- Flow 1:  
Average throughput: 64.30 Mbit/s  
95th percentile per-packet one-way delay: 67.132 ms  
Loss rate: 37.69%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-20 00:01:44

End at: 2018-12-20 00:02:14

Local clock offset: -3.099 ms

Remote clock offset: -2.545 ms

# Below is generated by plot.py at 2018-12-20 00:33:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 63.99 Mbit/s

95th percentile per-packet one-way delay: 67.339 ms

Loss rate: 38.79%

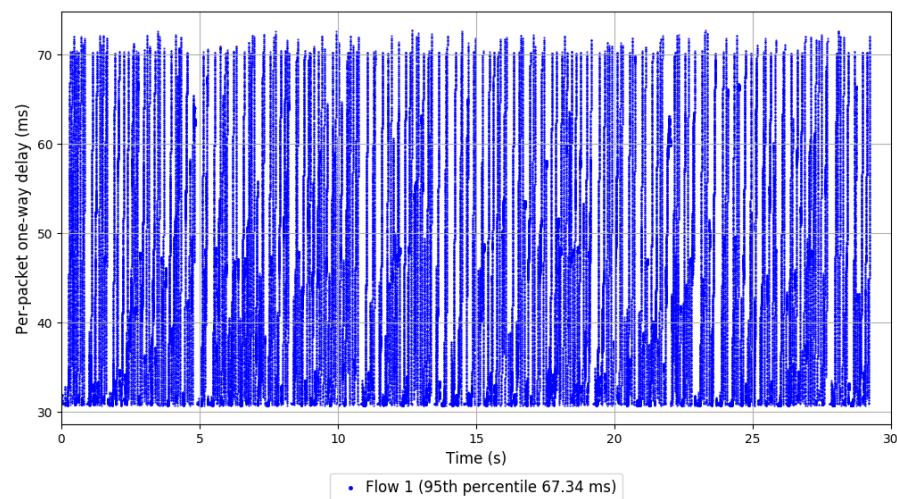
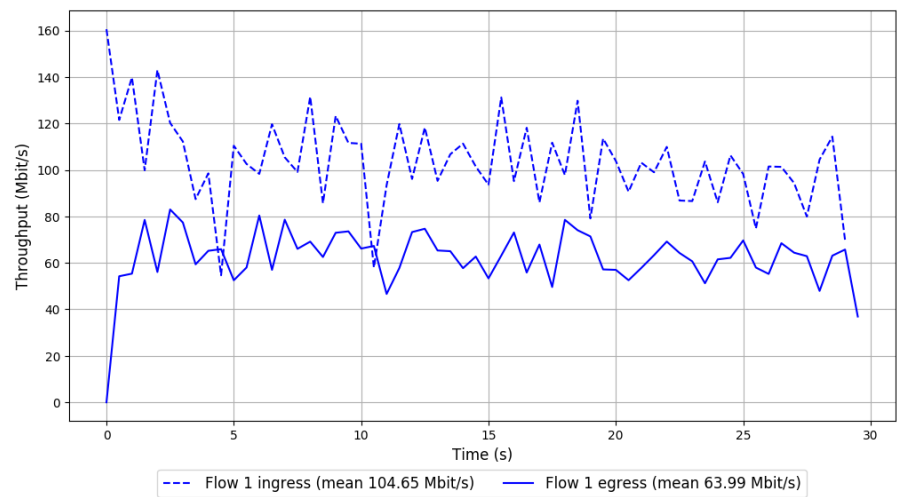
-- Flow 1:

Average throughput: 63.99 Mbit/s

95th percentile per-packet one-way delay: 67.339 ms

Loss rate: 38.79%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-20 00:23:54

End at: 2018-12-20 00:24:24

Local clock offset: -2.866 ms

Remote clock offset: -2.555 ms

# Below is generated by plot.py at 2018-12-20 00:33:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 66.90 Mbit/s

95th percentile per-packet one-way delay: 67.764 ms

Loss rate: 37.79%

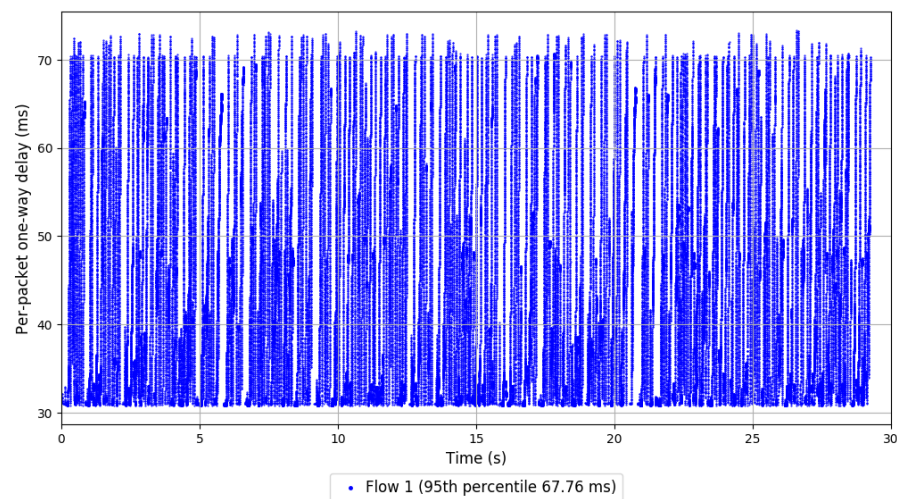
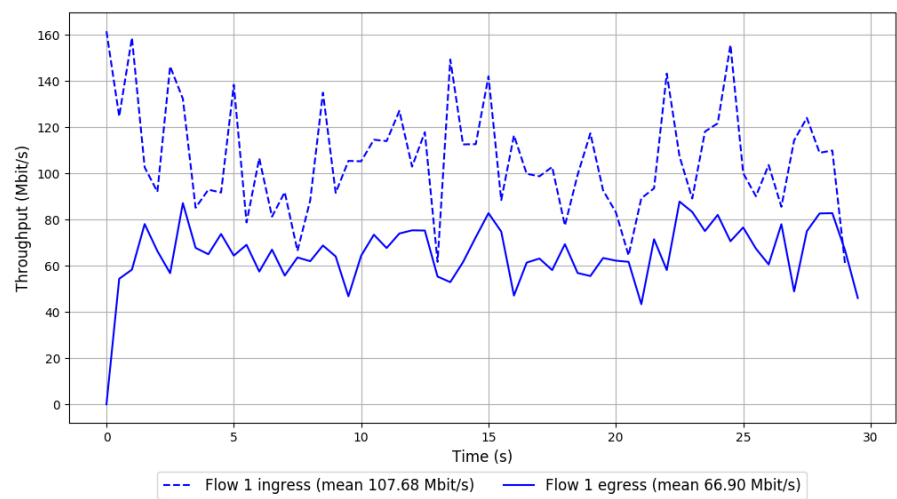
-- Flow 1:

Average throughput: 66.90 Mbit/s

95th percentile per-packet one-way delay: 67.764 ms

Loss rate: 37.79%

Run 5: Report of Indigo-MusesT — Data Link



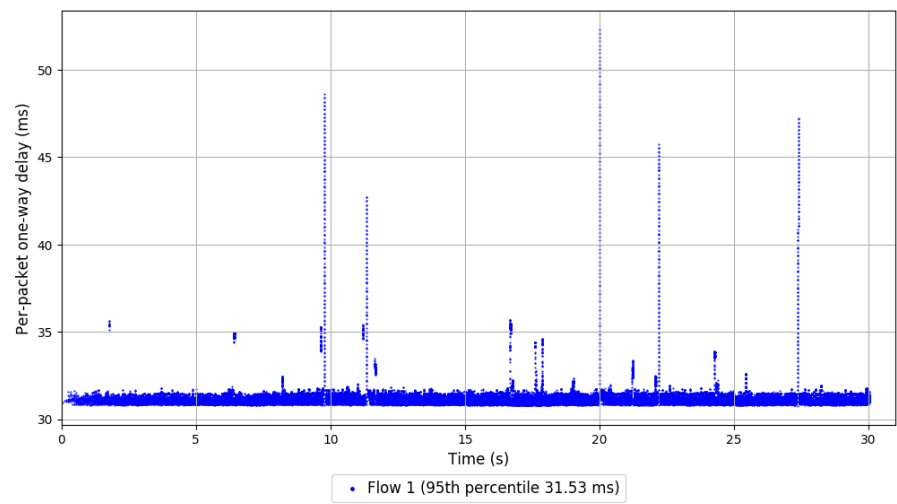
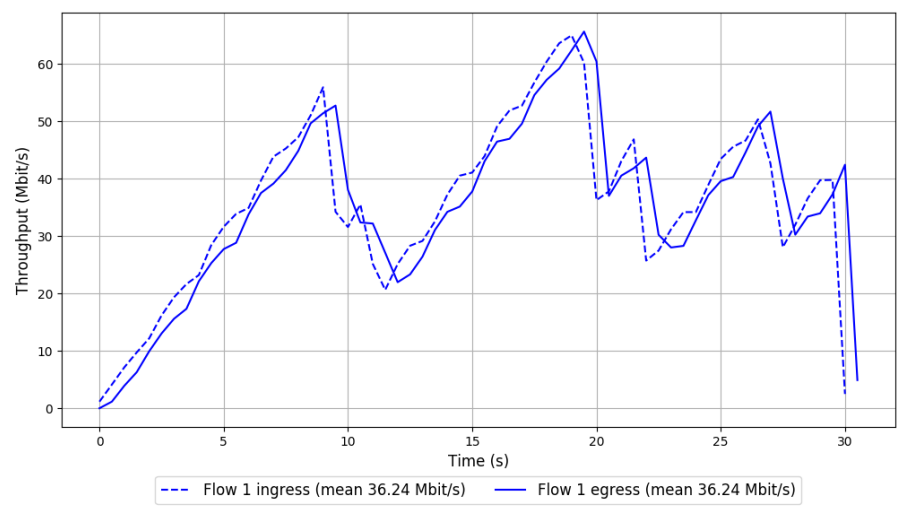


```
Run 1: Statistics of LEDBAT

Start at: 2018-12-19 22:46:30
End at: 2018-12-19 22:47:00
Local clock offset: 0.468 ms
Remote clock offset: -4.076 ms

# Below is generated by plot.py at 2018-12-20 00:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 31.529 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 31.529 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link

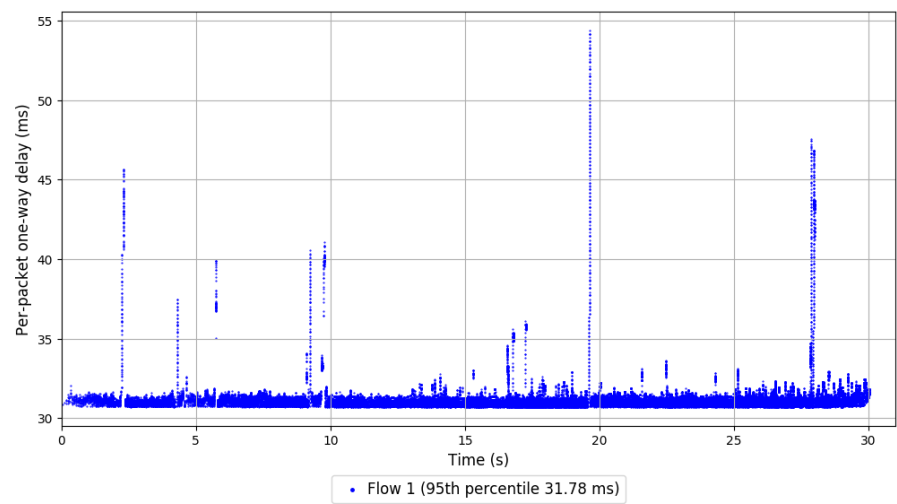
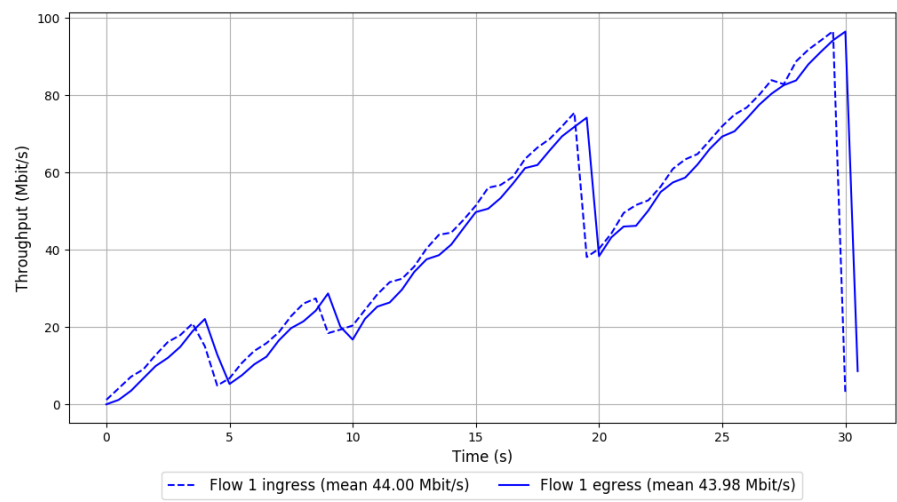


Run 2: Statistics of LEDBAT

Start at: 2018-12-19 23:08:14  
End at: 2018-12-19 23:08:44  
Local clock offset: 0.546 ms  
Remote clock offset: -3.609 ms

# Below is generated by plot.py at 2018-12-20 00:33:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 43.98 Mbit/s  
95th percentile per-packet one-way delay: 31.782 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 43.98 Mbit/s  
95th percentile per-packet one-way delay: 31.782 ms  
Loss rate: 0.05%

Run 2: Report of LEDBAT — Data Link

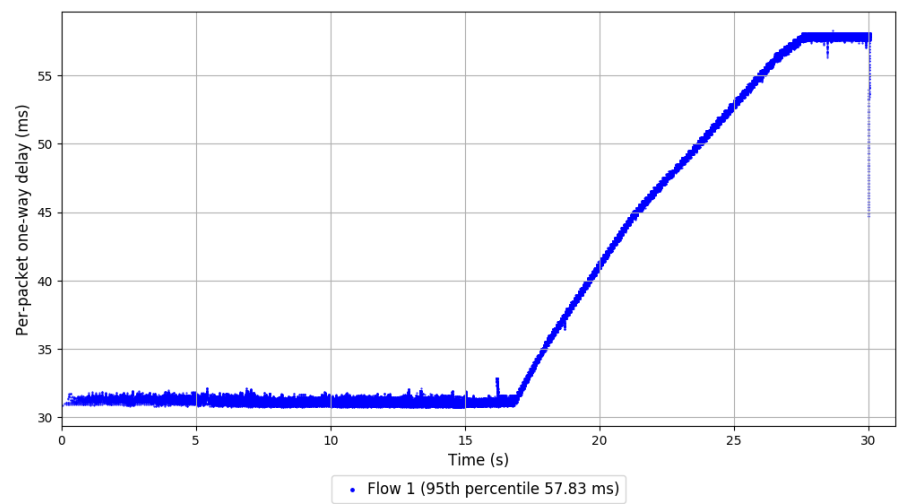
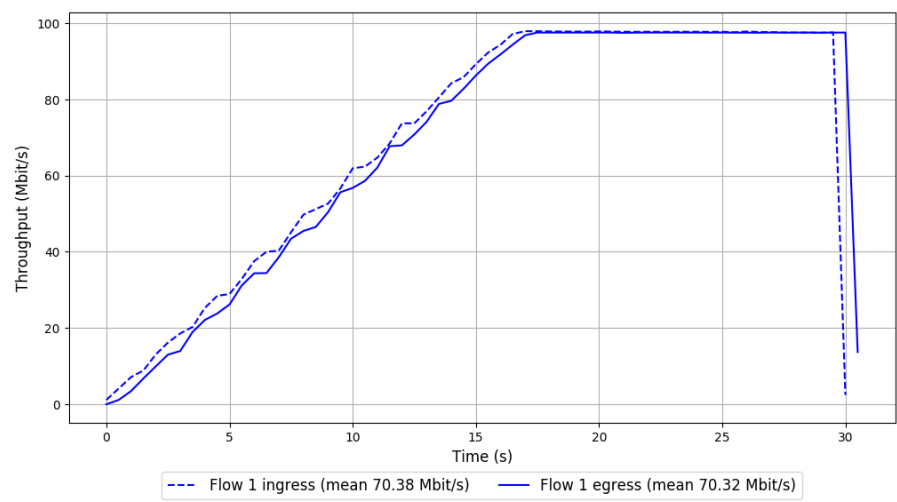


Run 3: Statistics of LEDBAT

Start at: 2018-12-19 23:30:27  
End at: 2018-12-19 23:30:58  
Local clock offset: 0.488 ms  
Remote clock offset: -3.018 ms

# Below is generated by plot.py at 2018-12-20 00:33:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.32 Mbit/s  
95th percentile per-packet one-way delay: 57.833 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.32 Mbit/s  
95th percentile per-packet one-way delay: 57.833 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

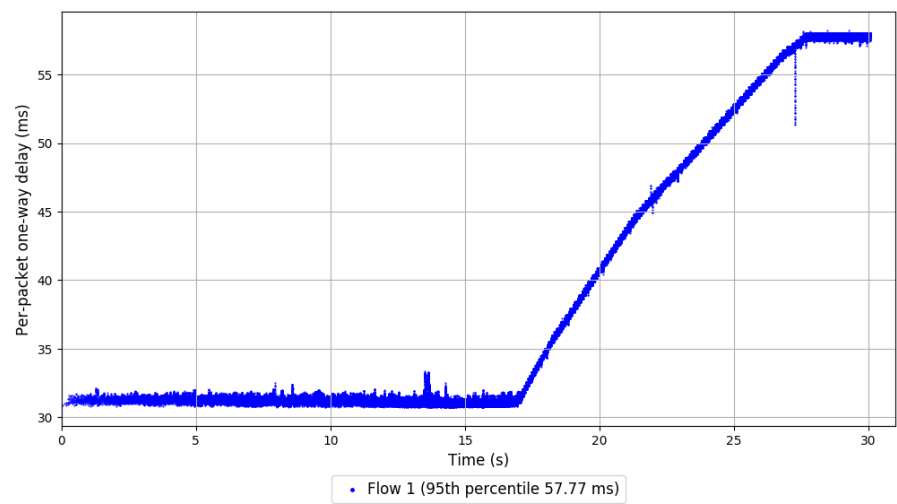
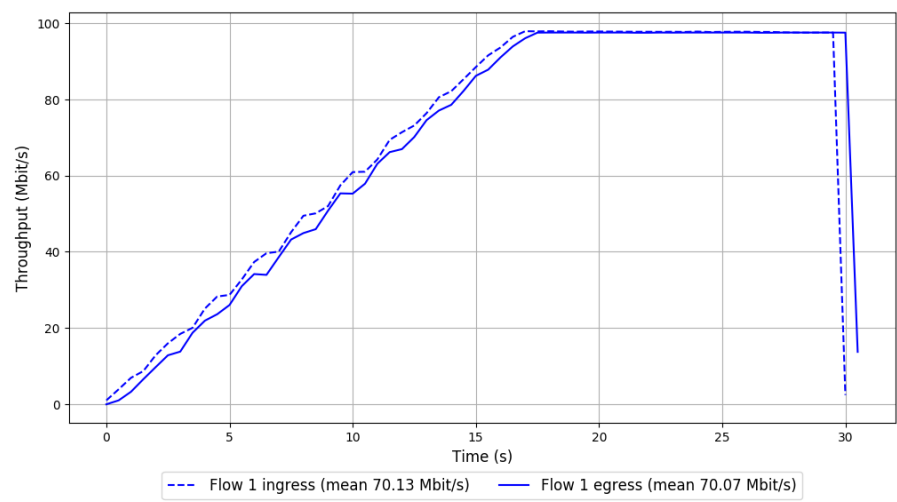


Run 4: Statistics of LEDBAT

Start at: 2018-12-19 23:52:32  
End at: 2018-12-19 23:53:02  
Local clock offset: -2.537 ms  
Remote clock offset: -2.644 ms

# Below is generated by plot.py at 2018-12-20 00:33:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.07 Mbit/s  
95th percentile per-packet one-way delay: 57.774 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.07 Mbit/s  
95th percentile per-packet one-way delay: 57.774 ms  
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



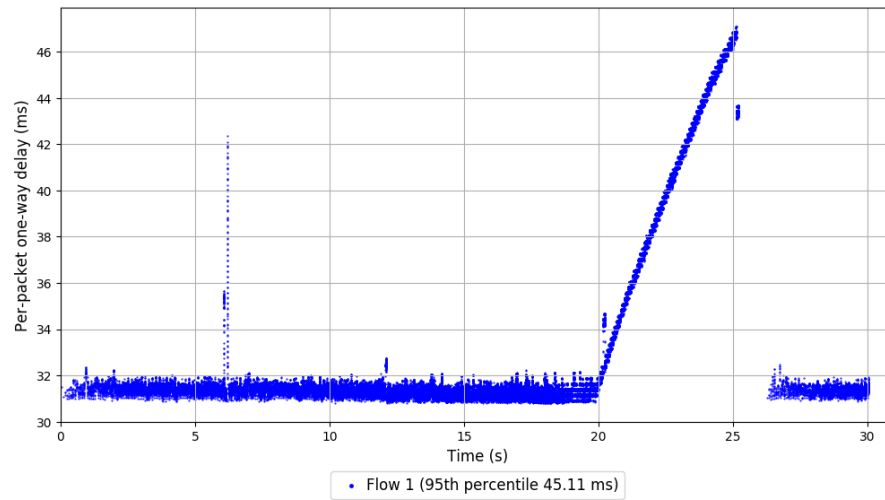
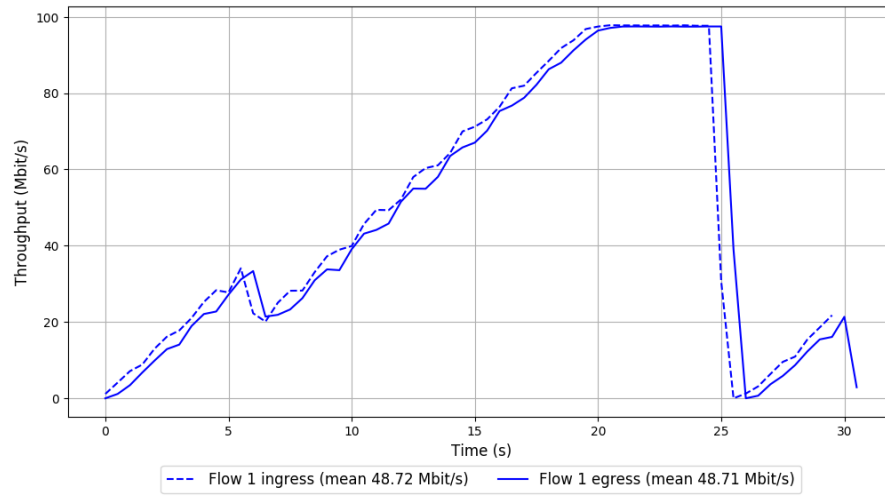


Run 5: Statistics of LEDBAT

Start at: 2018-12-20 00:14:25  
End at: 2018-12-20 00:14:55  
Local clock offset: -2.896 ms  
Remote clock offset: -2.566 ms

# Below is generated by plot.py at 2018-12-20 00:33:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 48.71 Mbit/s  
95th percentile per-packet one-way delay: 45.114 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 48.71 Mbit/s  
95th percentile per-packet one-way delay: 45.114 ms  
Loss rate: 0.03%

## Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-12-19 22:47:38

End at: 2018-12-19 22:48:08

Local clock offset: 0.456 ms

Remote clock offset: -4.256 ms

# Below is generated by plot.py at 2018-12-20 00:34:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 36.431 ms

Loss rate: 0.75%

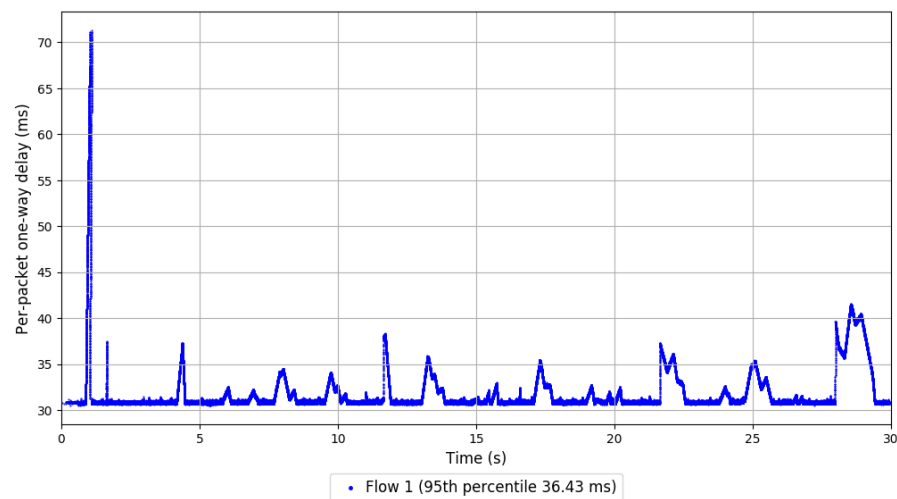
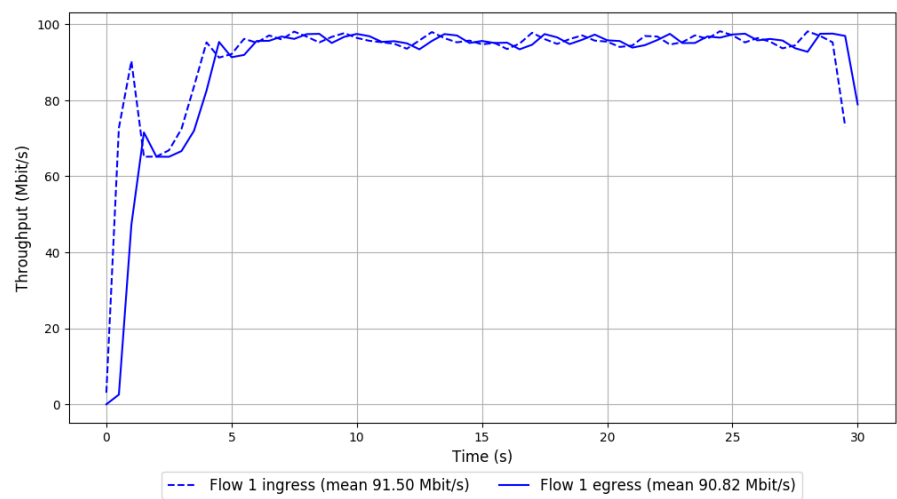
-- Flow 1:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 36.431 ms

Loss rate: 0.75%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-19 23:09:22

End at: 2018-12-19 23:09:52

Local clock offset: 0.523 ms

Remote clock offset: -3.592 ms

# Below is generated by plot.py at 2018-12-20 00:34:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 35.006 ms

Loss rate: 0.75%

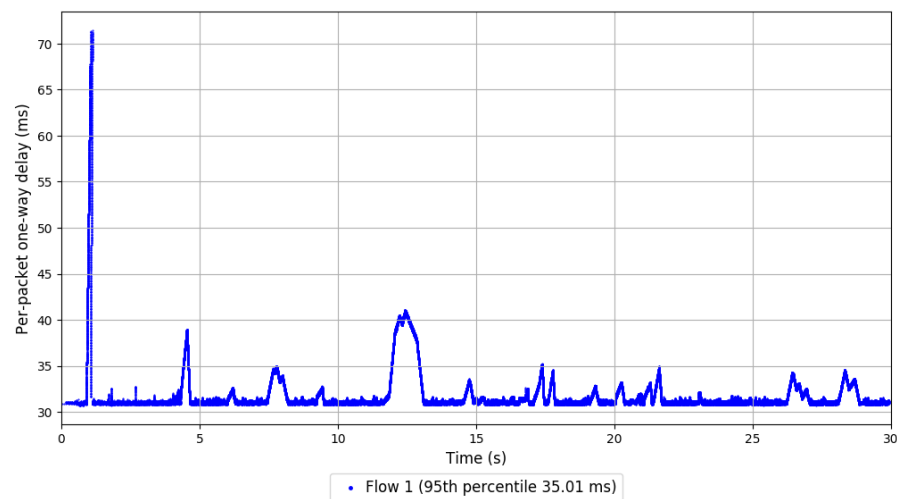
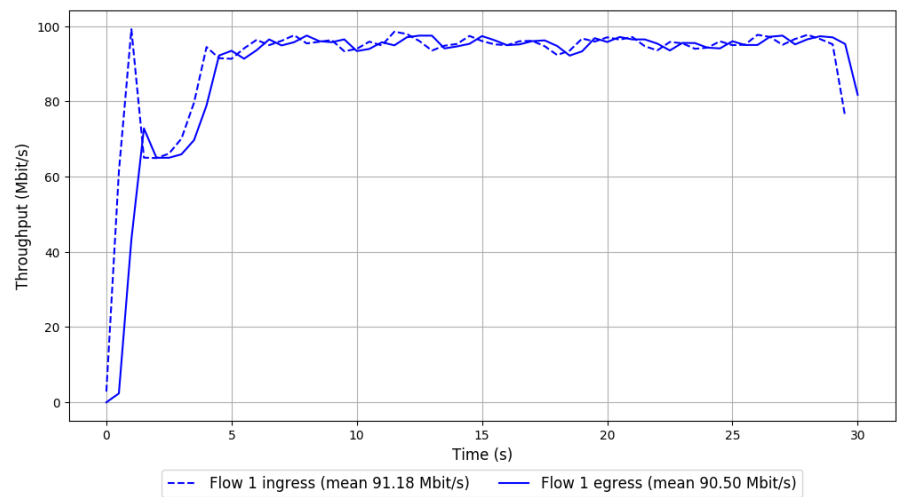
-- Flow 1:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 35.006 ms

Loss rate: 0.75%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-19 23:31:40

End at: 2018-12-19 23:32:10

Local clock offset: 0.493 ms

Remote clock offset: -2.962 ms

# Below is generated by plot.py at 2018-12-20 00:34:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 34.365 ms

Loss rate: 0.73%

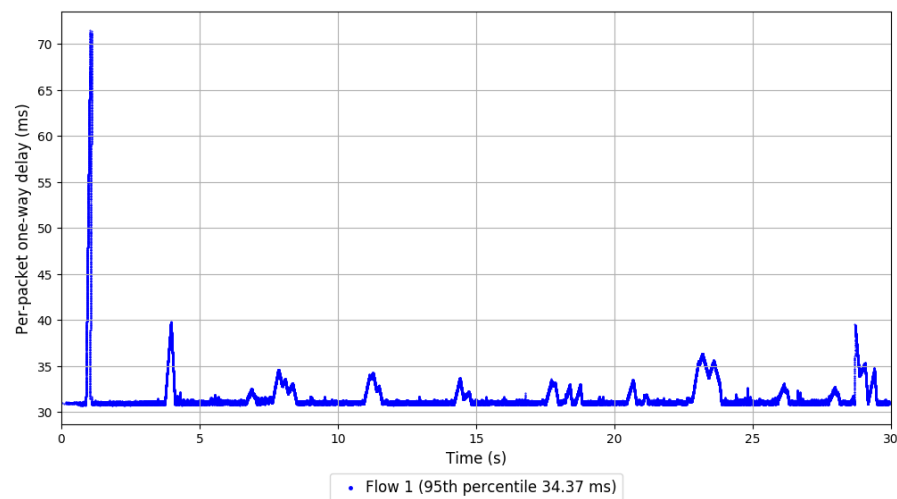
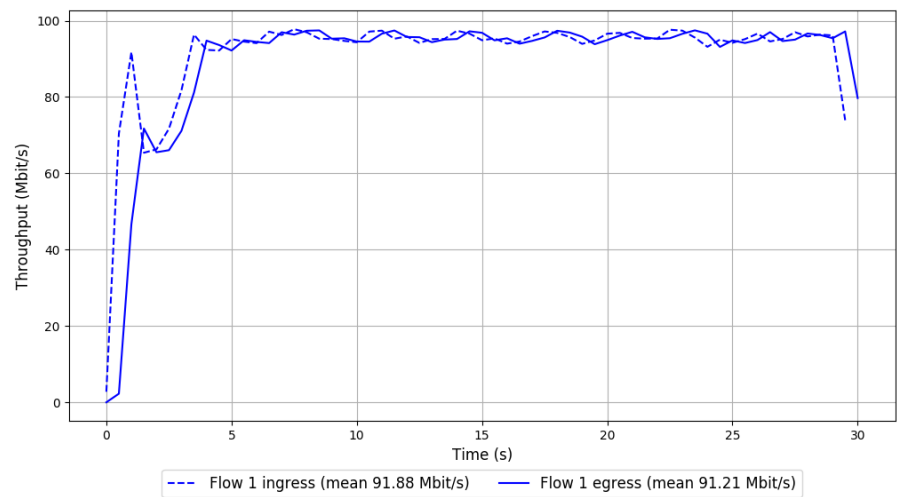
-- Flow 1:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 34.365 ms

Loss rate: 0.73%

Run 3: Report of PCC-Allegro — Data Link





Run 4: Statistics of PCC-Allegro

Start at: 2018-12-19 23:53:42

End at: 2018-12-19 23:54:12

Local clock offset: -2.632 ms

Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2018-12-20 00:34:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.55 Mbit/s

95th percentile per-packet one-way delay: 41.413 ms

Loss rate: 0.69%

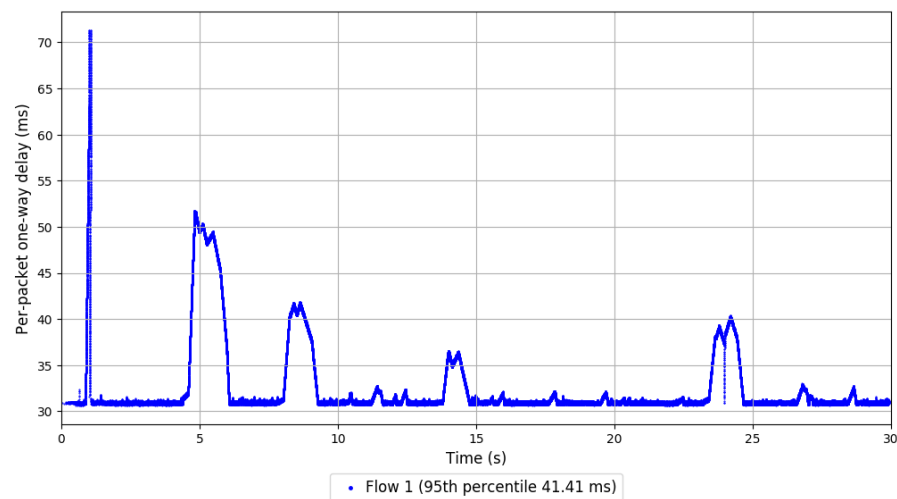
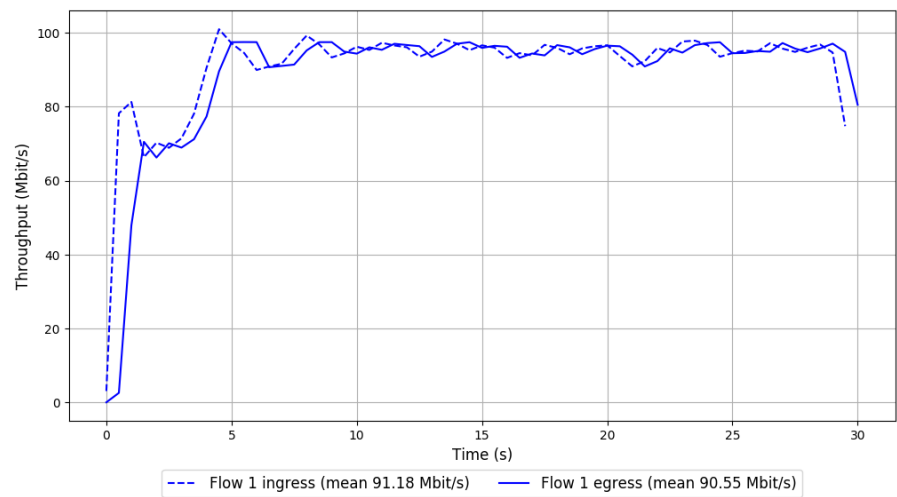
-- Flow 1:

Average throughput: 90.55 Mbit/s

95th percentile per-packet one-way delay: 41.413 ms

Loss rate: 0.69%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-20 00:15:34

End at: 2018-12-20 00:16:04

Local clock offset: -2.884 ms

Remote clock offset: -2.541 ms

# Below is generated by plot.py at 2018-12-20 00:34:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.88 Mbit/s

95th percentile per-packet one-way delay: 35.280 ms

Loss rate: 0.74%

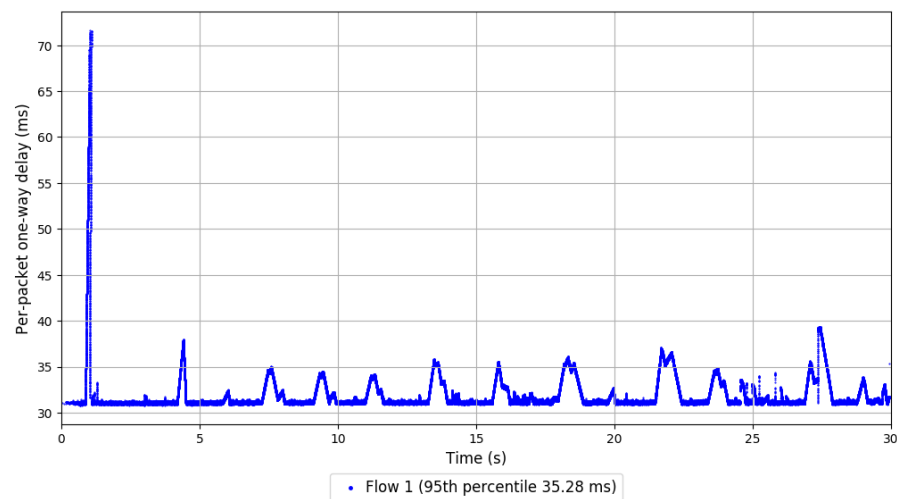
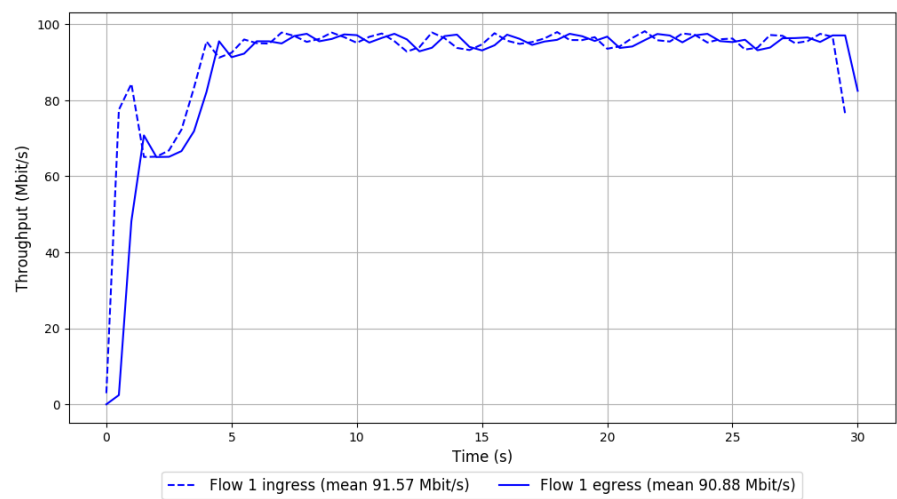
-- Flow 1:

Average throughput: 90.88 Mbit/s

95th percentile per-packet one-way delay: 35.280 ms

Loss rate: 0.74%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

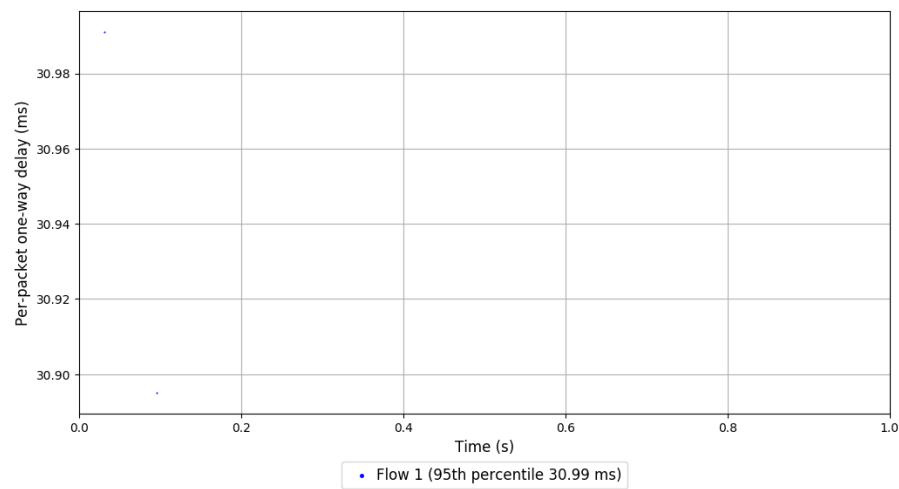
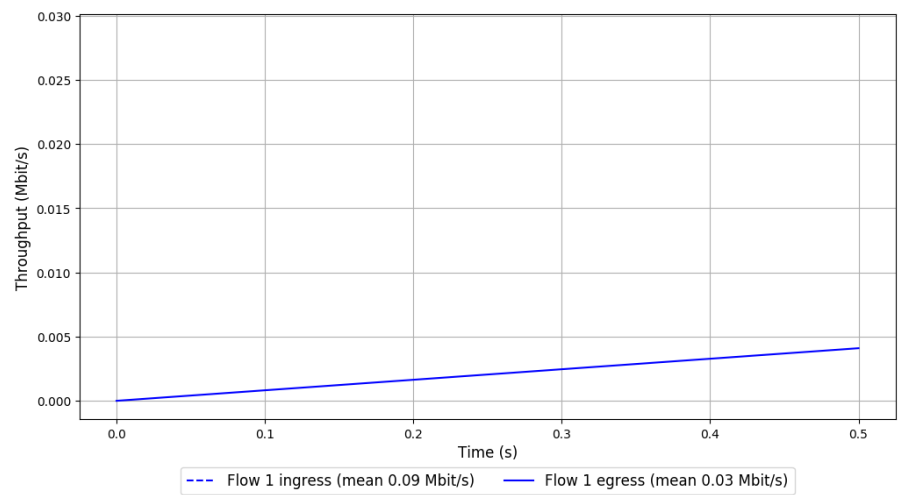
Start at: 2018-12-19 22:58:00

End at: 2018-12-19 22:58:30

Local clock offset: 0.519 ms

Remote clock offset: -3.865 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

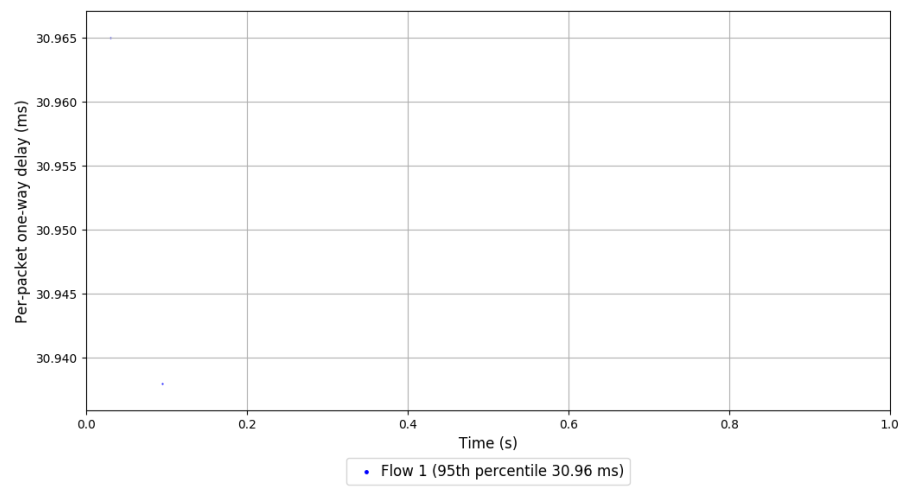
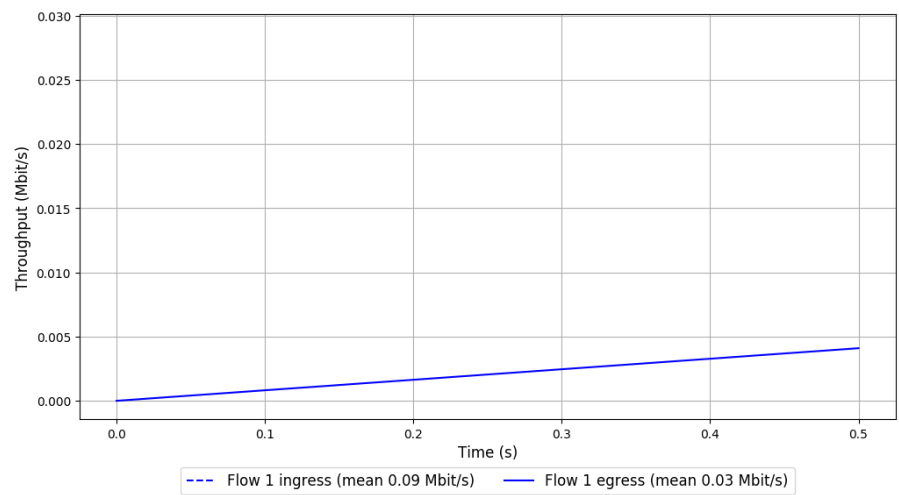
Start at: 2018-12-19 23:20:07

End at: 2018-12-19 23:20:37

Local clock offset: 0.422 ms

Remote clock offset: -3.15 ms

Run 2: Report of PCC-Expr — Data Link





Run 3: Statistics of PCC-Expr

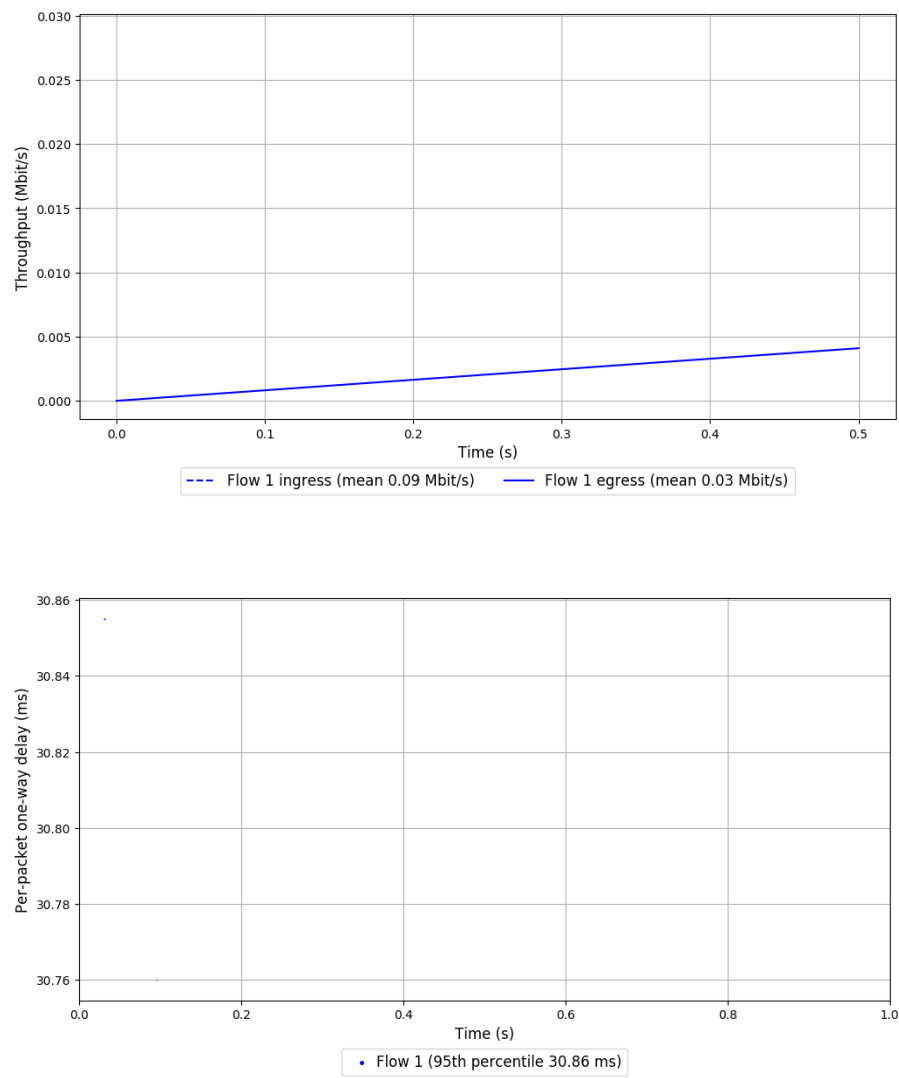
Start at: 2018-12-19 23:42:09

End at: 2018-12-19 23:42:39

Local clock offset: -1.226 ms

Remote clock offset: -2.826 ms

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

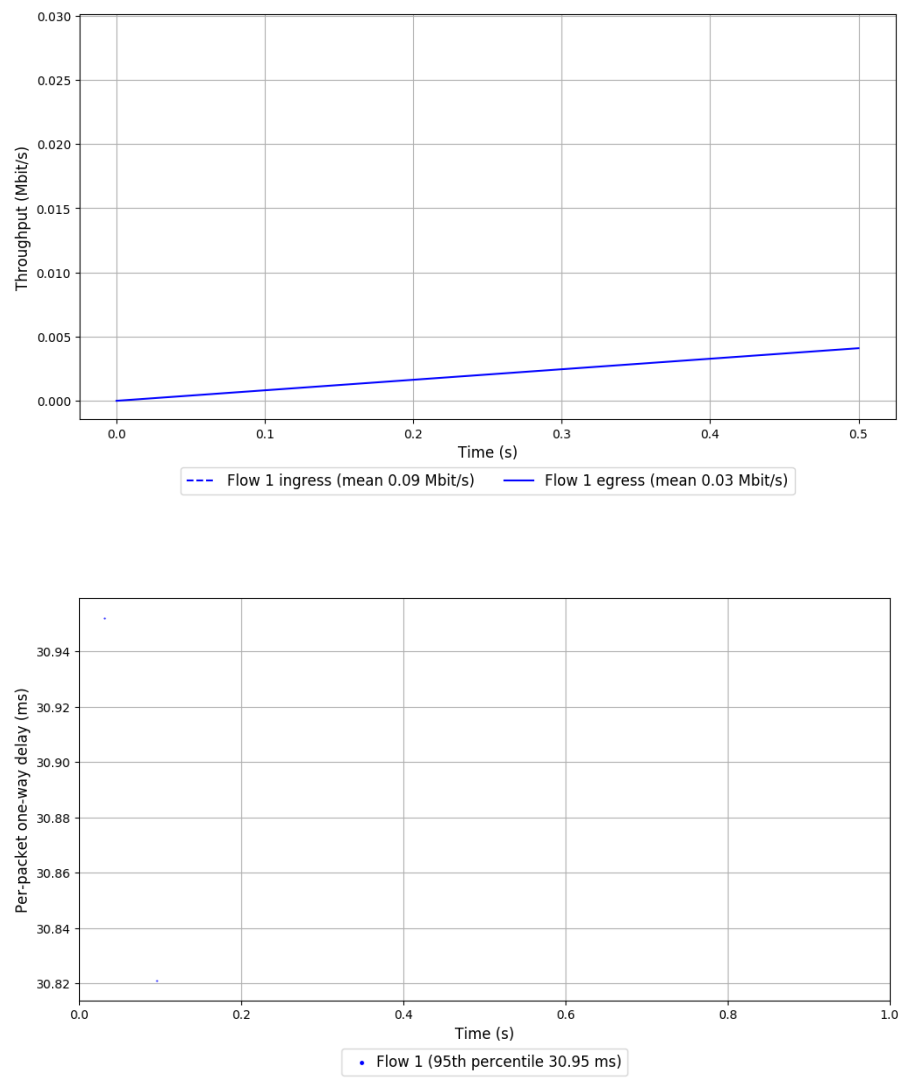
Start at: 2018-12-20 00:04:07

End at: 2018-12-20 00:04:37

Local clock offset: -3.228 ms

Remote clock offset: -2.572 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

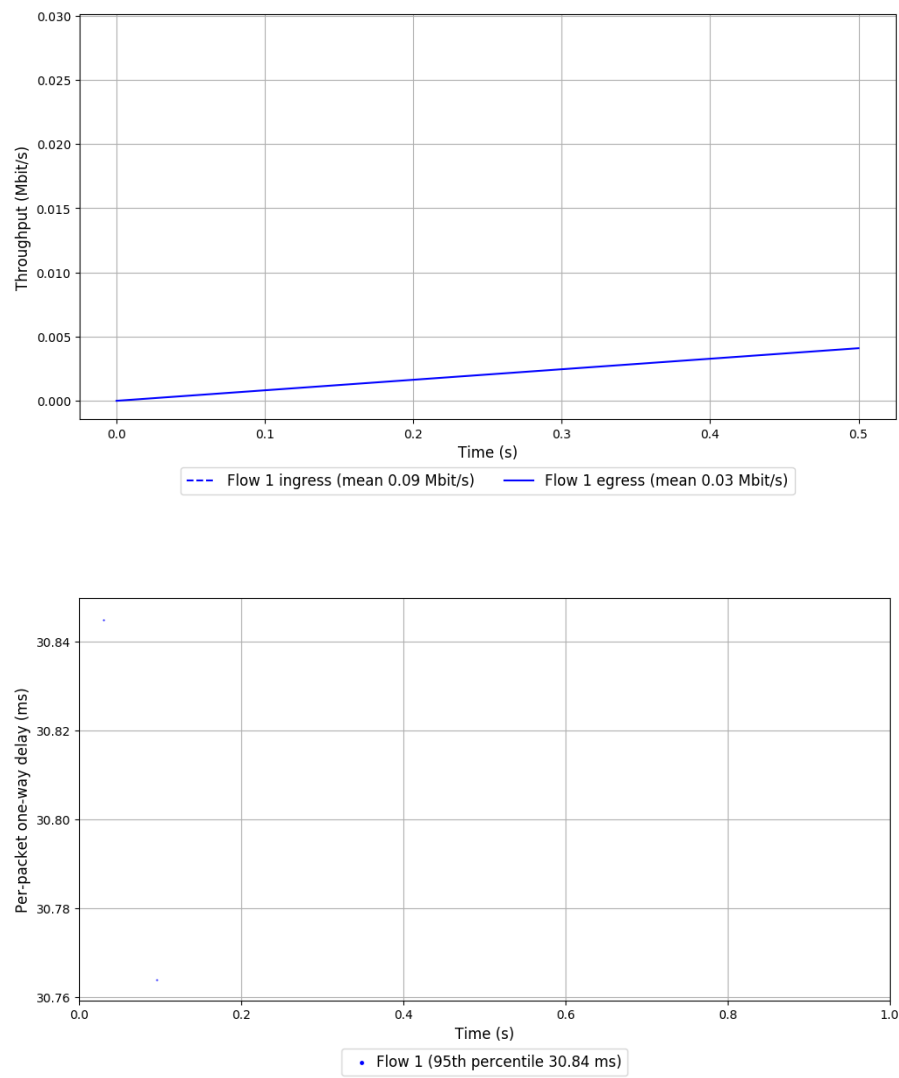
Start at: 2018-12-20 00:26:18

End at: 2018-12-20 00:26:48

Local clock offset: -2.884 ms

Remote clock offset: -2.679 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-12-19 22:40:46

End at: 2018-12-19 22:41:16

Local clock offset: 0.562 ms

Remote clock offset: -4.13 ms

# Below is generated by plot.py at 2018-12-20 00:34:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 57.67 Mbit/s

95th percentile per-packet one-way delay: 34.855 ms

Loss rate: 1.08%

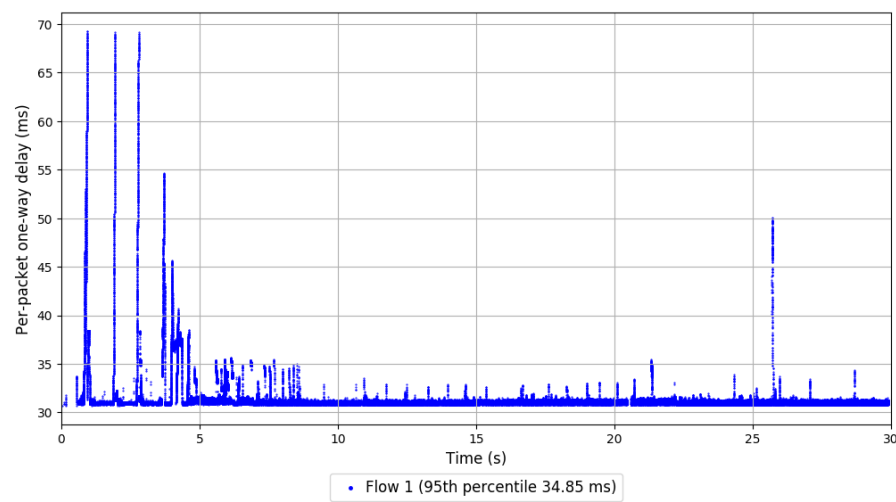
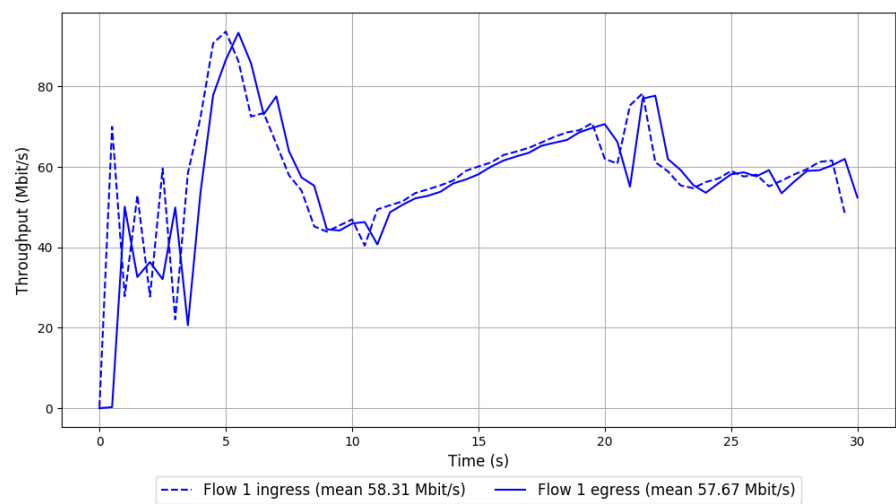
-- Flow 1:

Average throughput: 57.67 Mbit/s

95th percentile per-packet one-way delay: 34.855 ms

Loss rate: 1.08%

Run 1: Report of QUIC Cubic — Data Link





Run 2: Statistics of QUIC Cubic

Start at: 2018-12-19 23:02:30

End at: 2018-12-19 23:03:00

Local clock offset: 0.568 ms

Remote clock offset: -3.749 ms

# Below is generated by plot.py at 2018-12-20 00:34:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 80.00 Mbit/s

95th percentile per-packet one-way delay: 63.534 ms

Loss rate: 1.63%

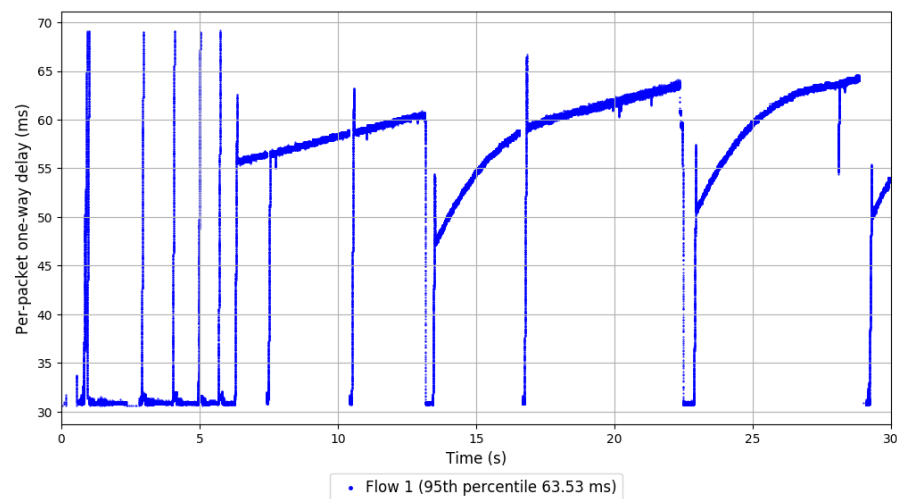
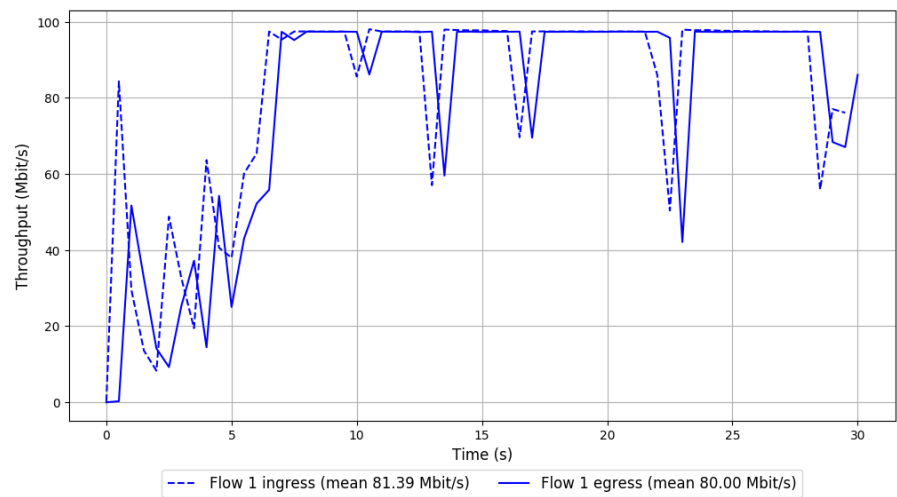
-- Flow 1:

Average throughput: 80.00 Mbit/s

95th percentile per-packet one-way delay: 63.534 ms

Loss rate: 1.63%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-12-19 23:24:38

End at: 2018-12-19 23:25:08

Local clock offset: 0.448 ms

Remote clock offset: -3.148 ms

# Below is generated by plot.py at 2018-12-20 00:34:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.42 Mbit/s

95th percentile per-packet one-way delay: 62.833 ms

Loss rate: 0.97%

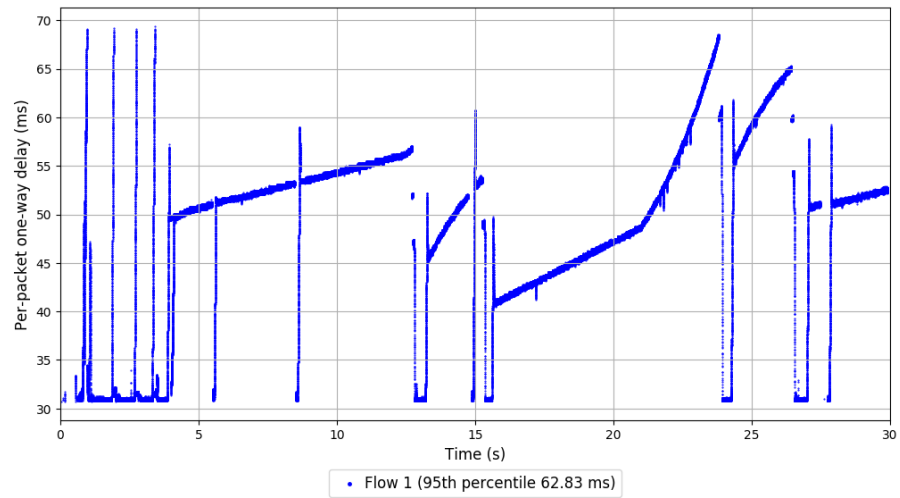
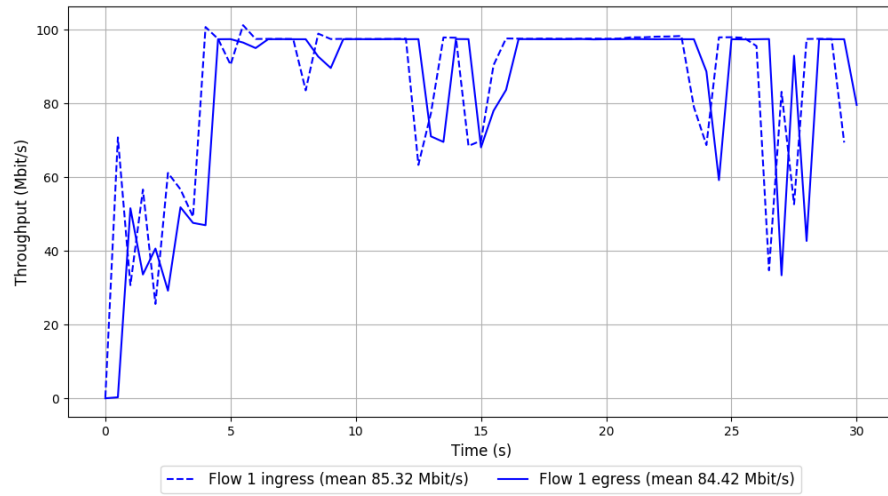
-- Flow 1:

Average throughput: 84.42 Mbit/s

95th percentile per-packet one-way delay: 62.833 ms

Loss rate: 0.97%

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

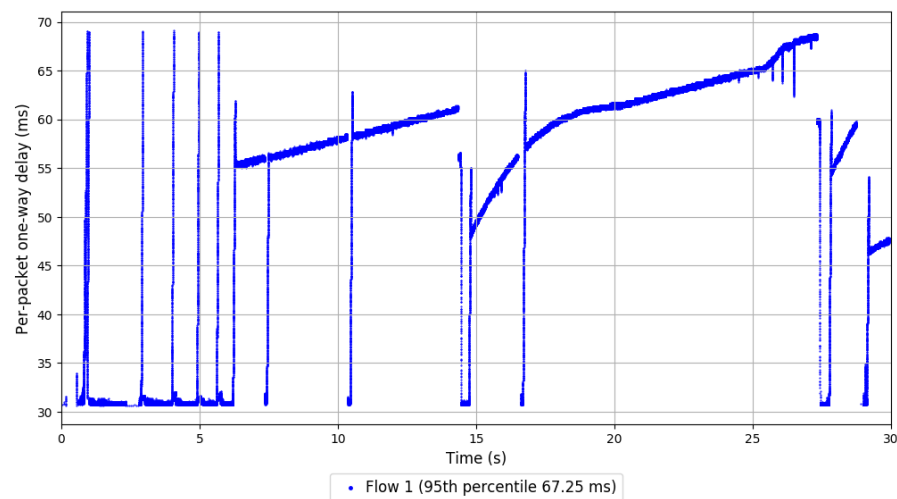
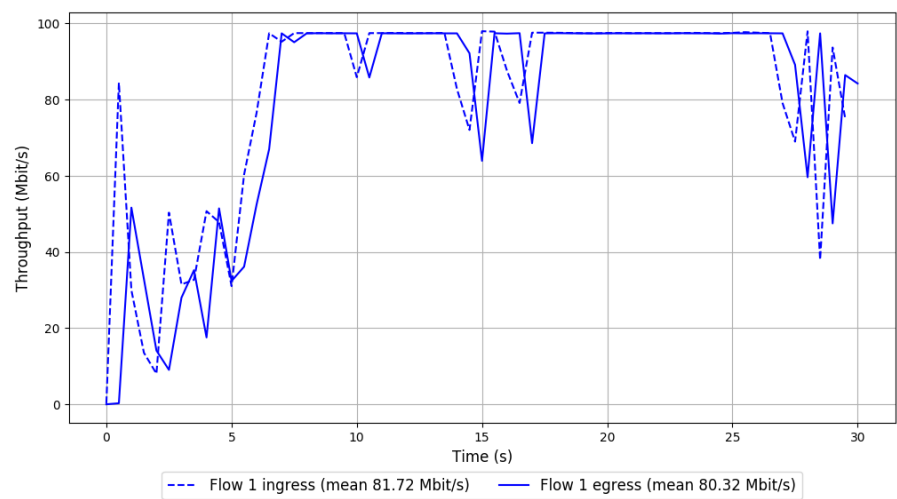


Run 4: Statistics of QUIC Cubic

Start at: 2018-12-19 23:46:41  
End at: 2018-12-19 23:47:11  
Local clock offset: -1.943 ms  
Remote clock offset: -2.687 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 80.32 Mbit/s  
95th percentile per-packet one-way delay: 67.250 ms  
Loss rate: 1.66%  
-- Flow 1:  
Average throughput: 80.32 Mbit/s  
95th percentile per-packet one-way delay: 67.250 ms  
Loss rate: 1.66%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-20 00:08:38

End at: 2018-12-20 00:09:08

Local clock offset: -3.111 ms

Remote clock offset: -2.537 ms

# Below is generated by plot.py at 2018-12-20 00:35:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 79.30 Mbit/s

95th percentile per-packet one-way delay: 62.665 ms

Loss rate: 1.70%

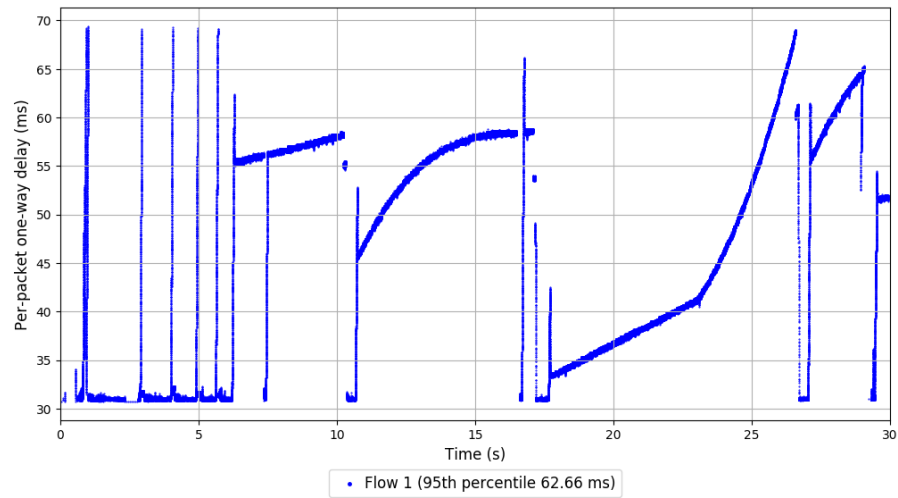
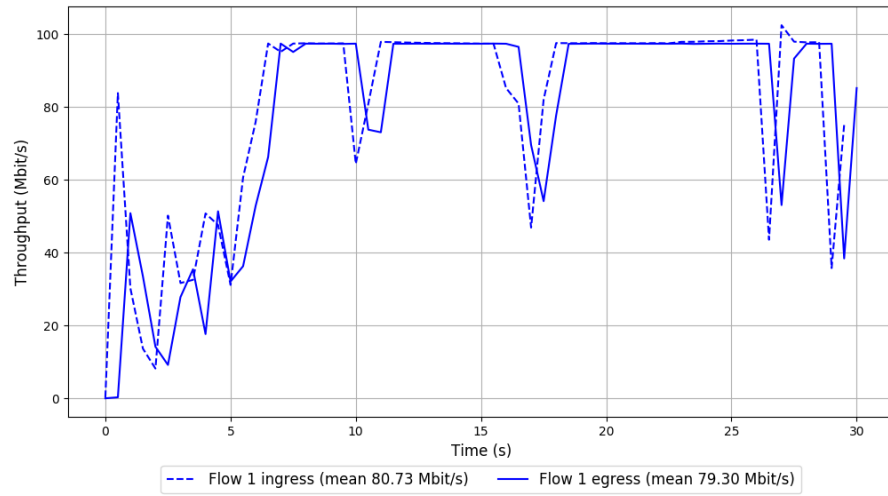
-- Flow 1:

Average throughput: 79.30 Mbit/s

95th percentile per-packet one-way delay: 62.665 ms

Loss rate: 1.70%

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





Run 1: Statistics of SCReAM

Start at: 2018-12-19 22:49:58

End at: 2018-12-19 22:50:28

Local clock offset: 0.466 ms

Remote clock offset: -4.03 ms

# Below is generated by plot.py at 2018-12-20 00:35:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 30.976 ms

Loss rate: 0.00%

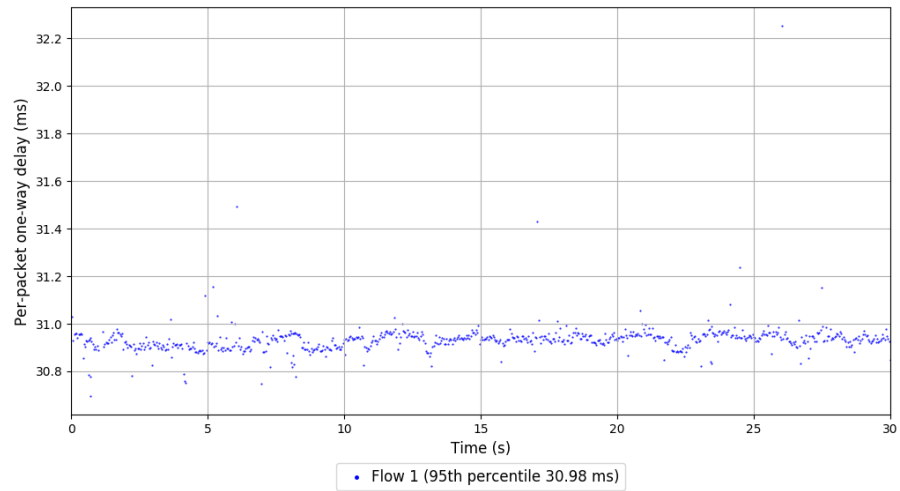
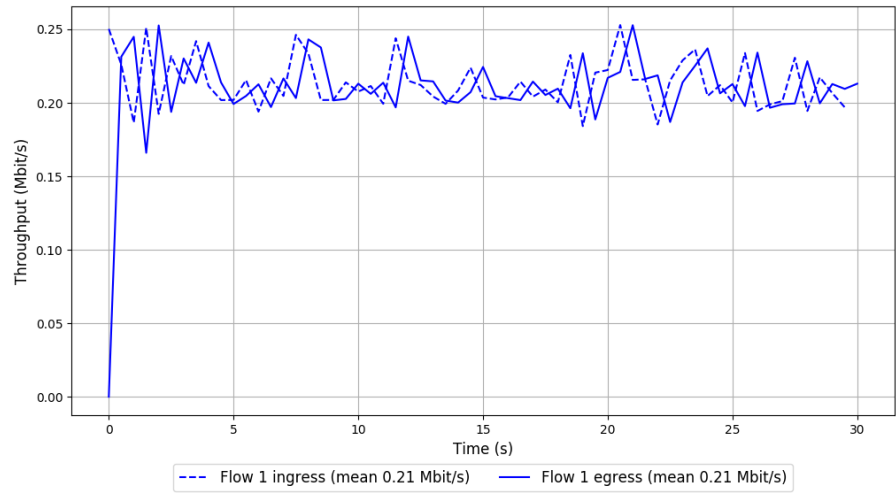
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 30.976 ms

Loss rate: 0.00%

## Run 1: Report of SReAM — Data Link

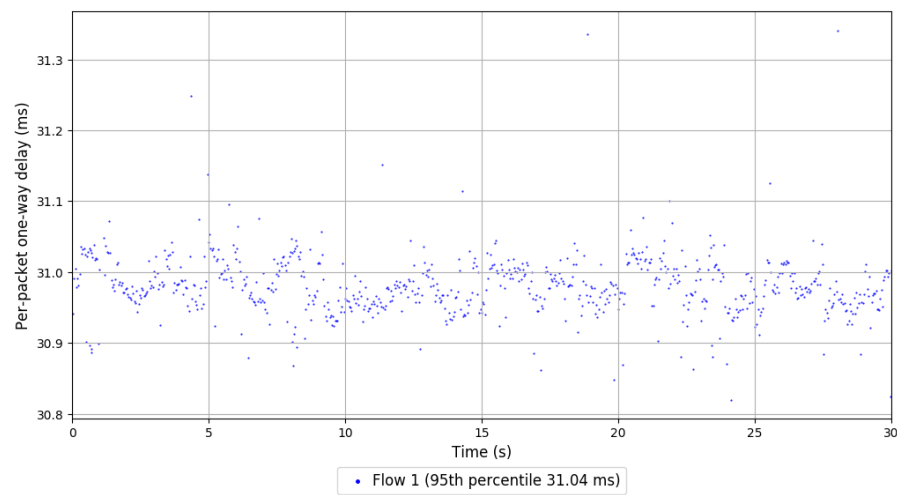
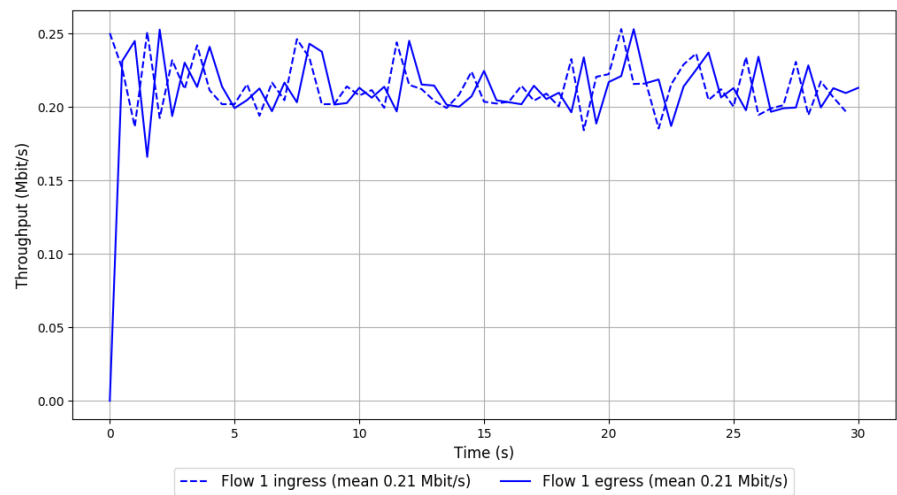


Run 2: Statistics of SCReAM

Start at: 2018-12-19 23:11:43  
End at: 2018-12-19 23:12:13  
Local clock offset: 0.475 ms  
Remote clock offset: -3.441 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.036 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.036 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

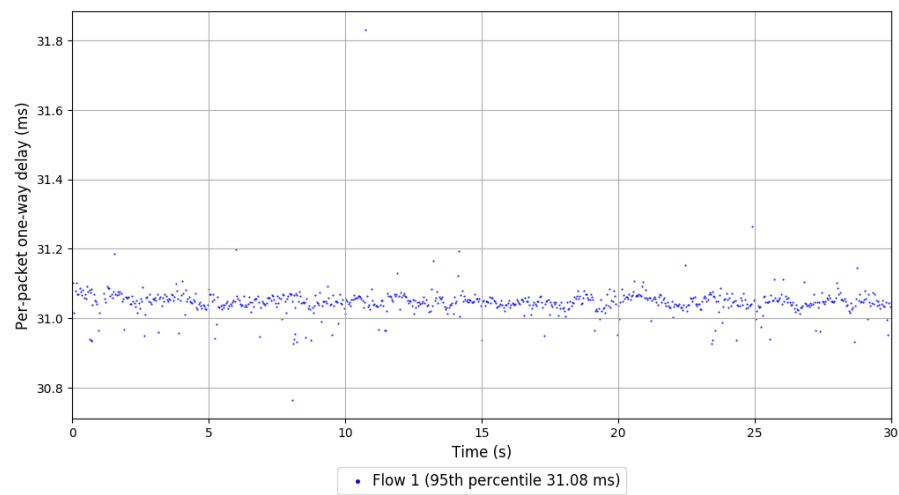
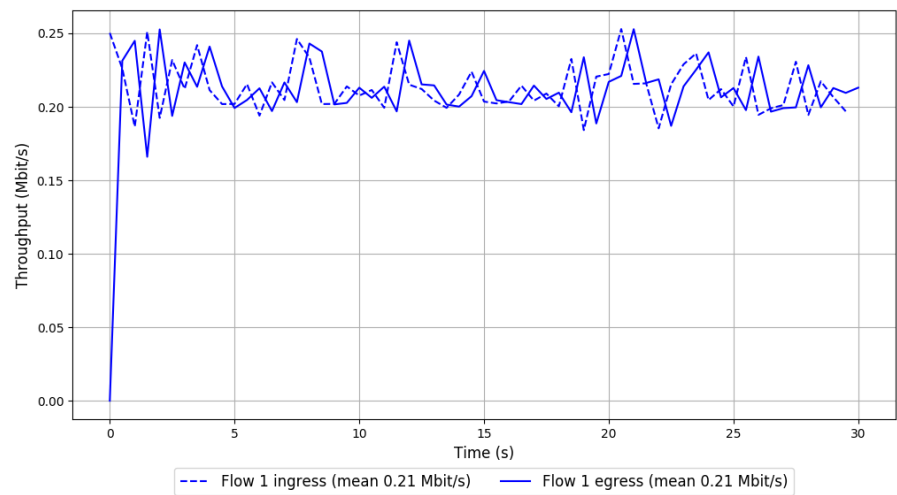


Run 3: Statistics of SCReAM

Start at: 2018-12-19 23:34:07  
End at: 2018-12-19 23:34:37  
Local clock offset: 0.511 ms  
Remote clock offset: -2.887 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.082 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.082 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

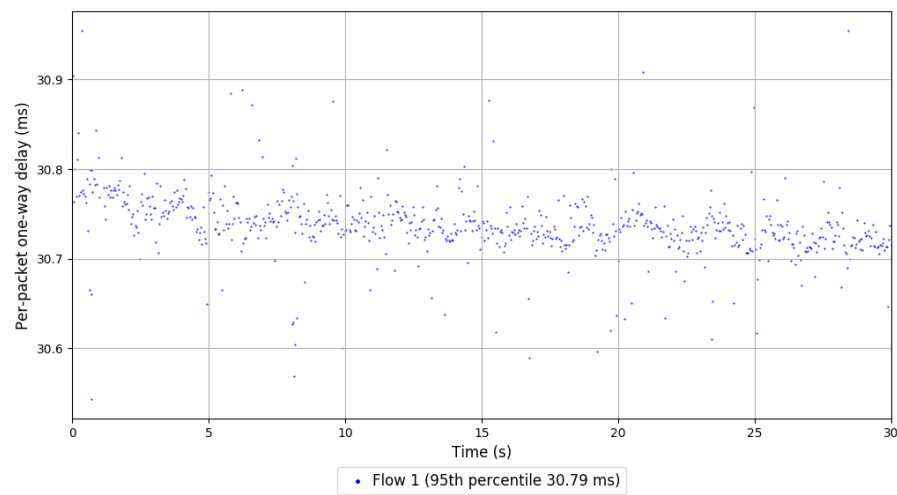
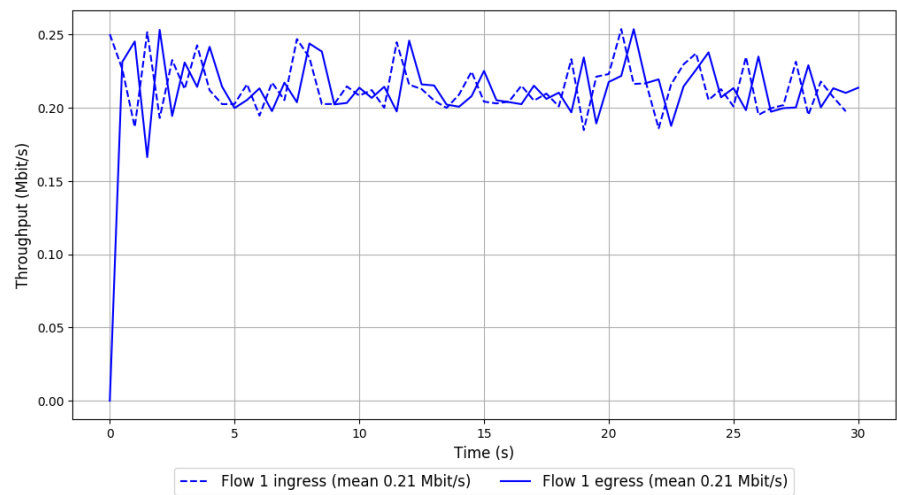


Run 4: Statistics of SCReAM

Start at: 2018-12-19 23:56:01  
End at: 2018-12-19 23:56:31  
Local clock offset: -2.789 ms  
Remote clock offset: -2.708 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.786 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.786 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



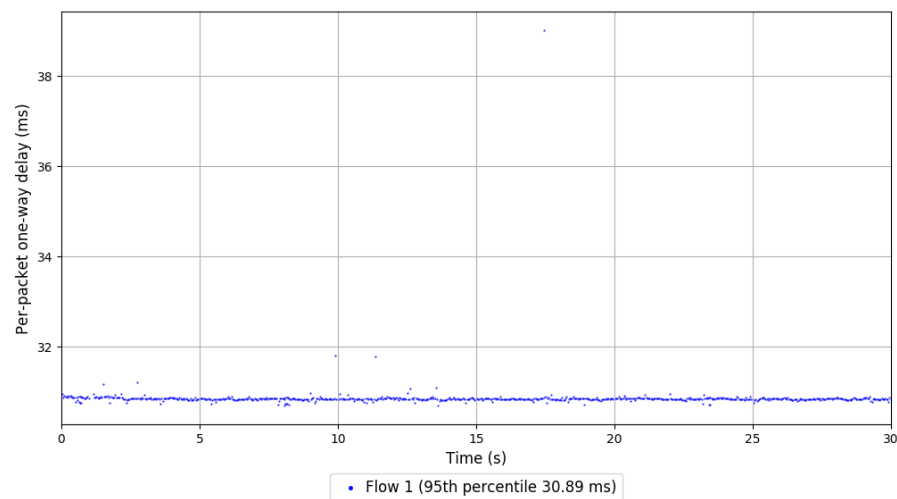
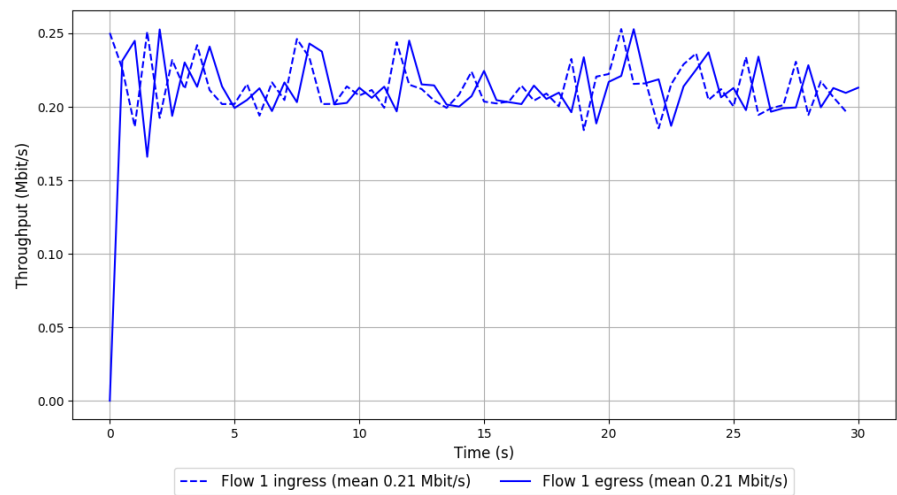


Run 5: Statistics of SCReAM

Start at: 2018-12-20 00:17:59  
End at: 2018-12-20 00:18:29  
Local clock offset: -2.859 ms  
Remote clock offset: -2.735 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.885 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.885 ms  
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

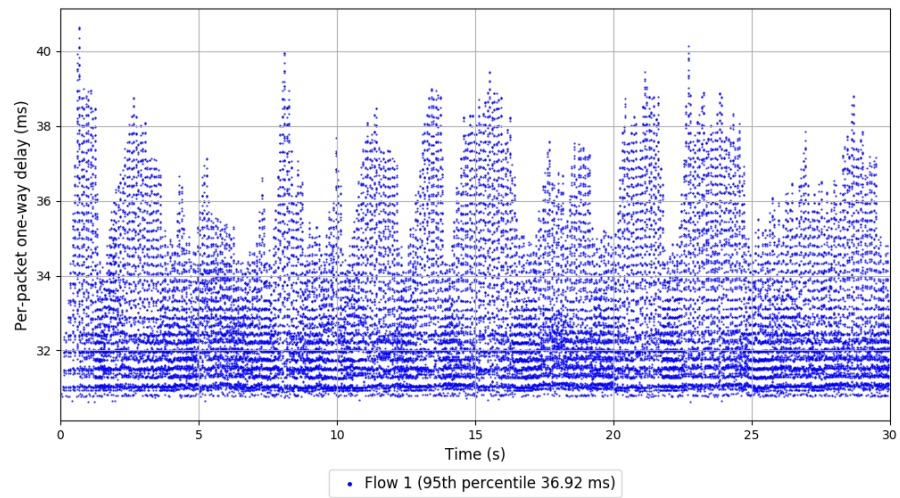
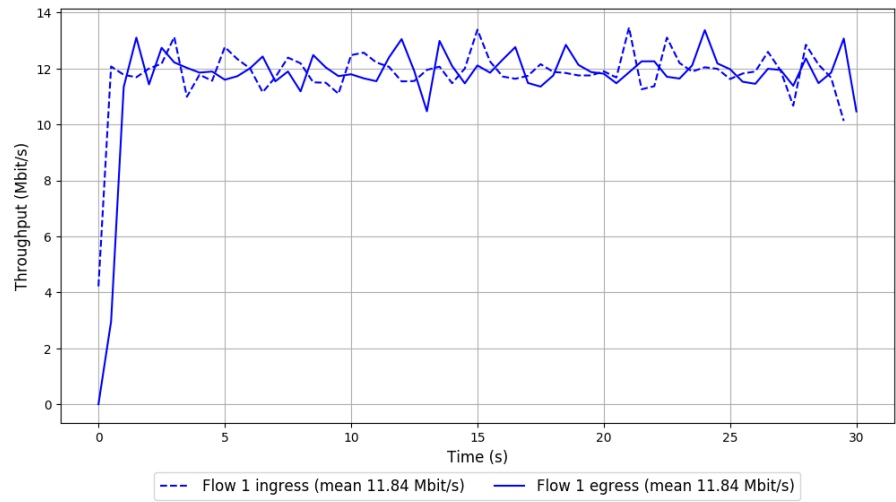


Run 1: Statistics of Sprout

Start at: 2018-12-19 22:51:03  
End at: 2018-12-19 22:51:33  
Local clock offset: 0.468 ms  
Remote clock offset: -4.012 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.917 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.917 ms  
Loss rate: 0.00%

# Run 1: Report of Sprout — Data Link

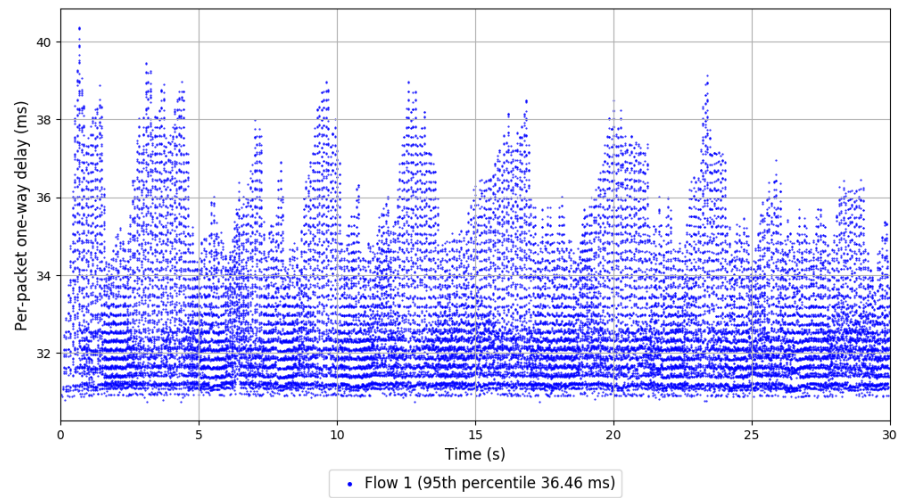
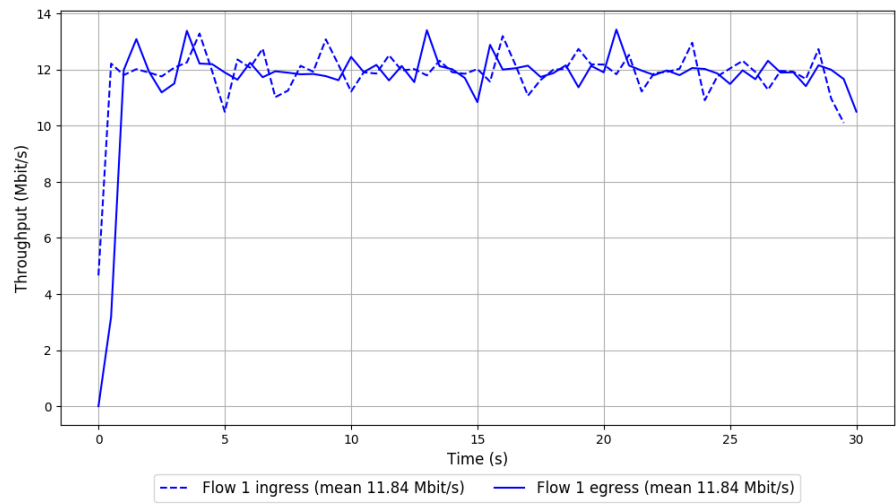


Run 2: Statistics of Sprout

Start at: 2018-12-19 23:12:49  
End at: 2018-12-19 23:13:19  
Local clock offset: 0.459 ms  
Remote clock offset: -3.372 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.460 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.460 ms  
Loss rate: 0.00%

## Run 2: Report of Sprout — Data Link

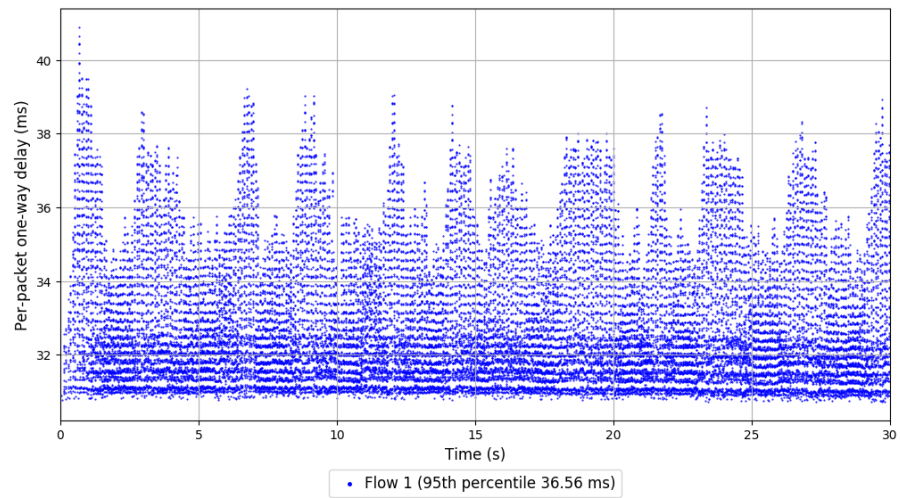
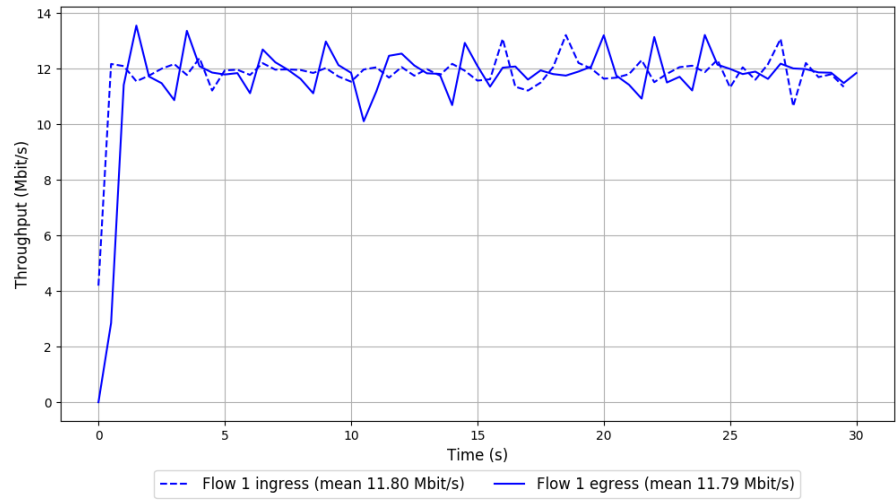


Run 3: Statistics of Sprout

Start at: 2018-12-19 23:35:13  
End at: 2018-12-19 23:35:43  
Local clock offset: 0.551 ms  
Remote clock offset: -2.944 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 36.559 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 36.559 ms  
Loss rate: 0.10%

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



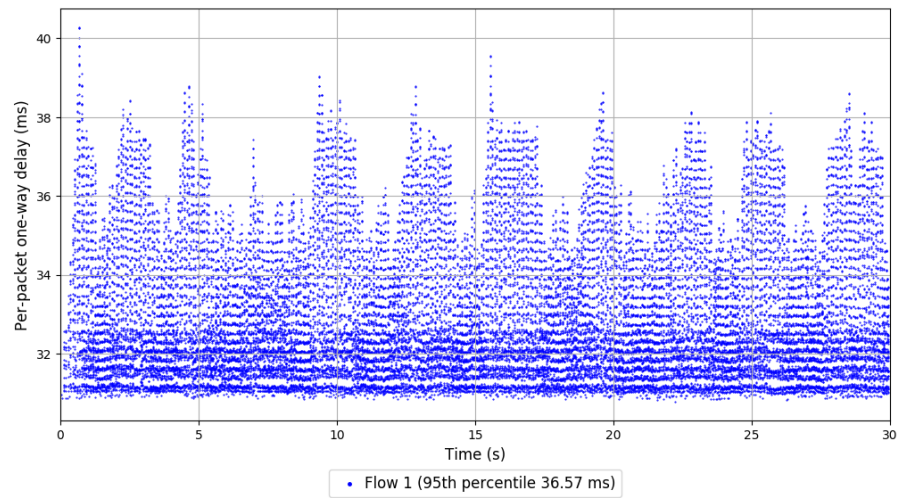
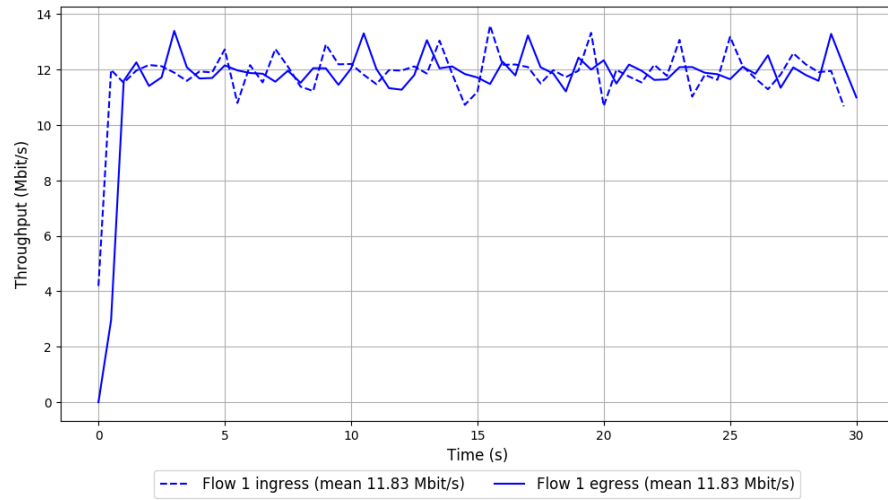


Run 4: Statistics of Sprout

Start at: 2018-12-19 23:57:07  
End at: 2018-12-19 23:57:37  
Local clock offset: -2.843 ms  
Remote clock offset: -2.537 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.567 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.567 ms  
Loss rate: 0.00%

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

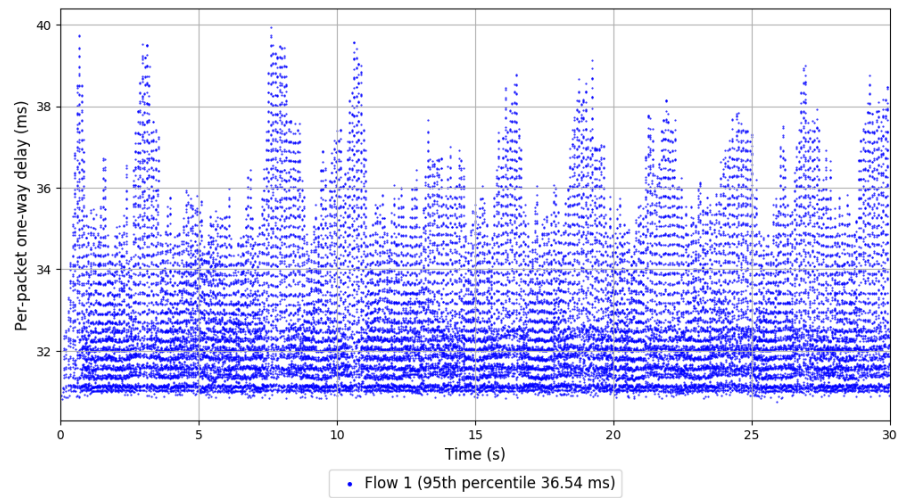
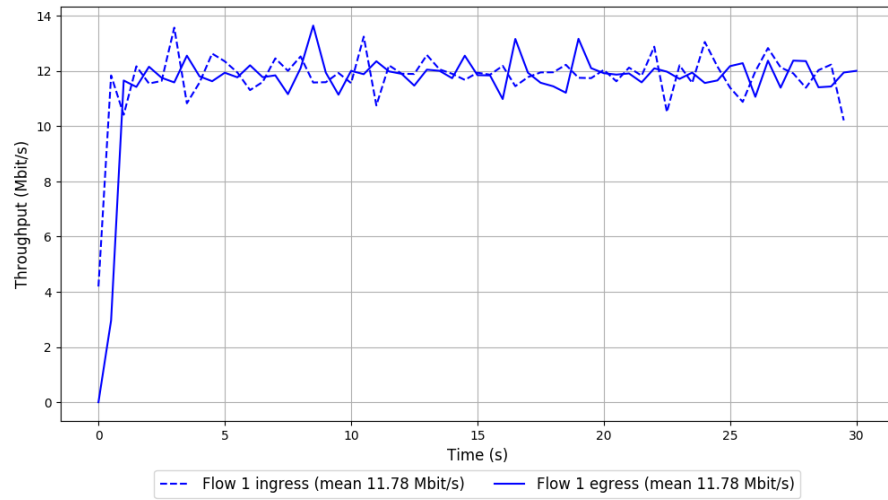


Run 5: Statistics of Sprout

Start at: 2018-12-20 00:19:04  
End at: 2018-12-20 00:19:34  
Local clock offset: -2.851 ms  
Remote clock offset: -2.542 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.78 Mbit/s  
95th percentile per-packet one-way delay: 36.537 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.78 Mbit/s  
95th percentile per-packet one-way delay: 36.537 ms  
Loss rate: 0.00%

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

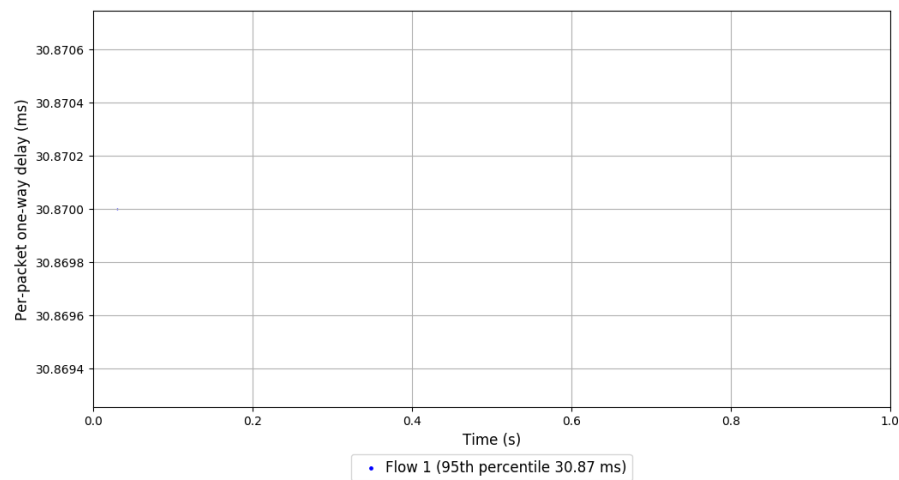
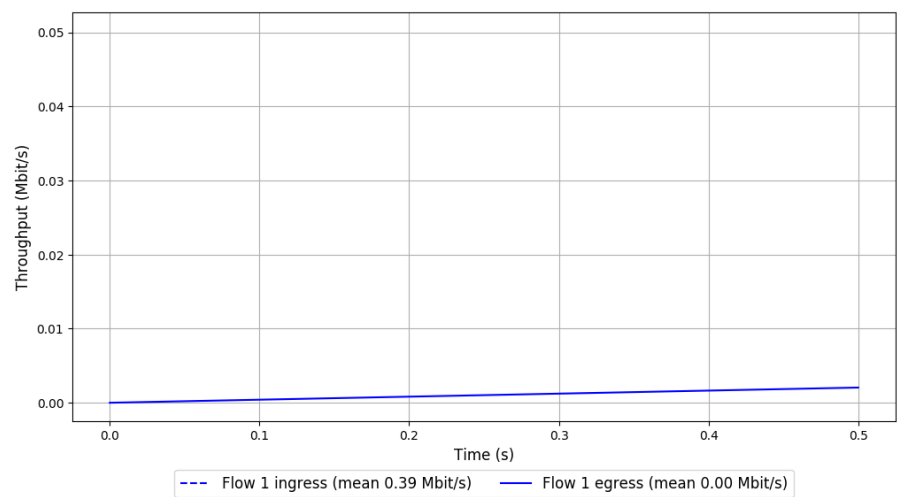
Start at: 2018-12-19 22:37:16

End at: 2018-12-19 22:37:46

Local clock offset: 0.723 ms

Remote clock offset: -4.127 ms

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-19 22:59:06

End at: 2018-12-19 22:59:36

Local clock offset: 0.539 ms

Remote clock offset: -3.903 ms

# Below is generated by plot.py at 2018-12-20 00:35:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.68 Mbit/s

95th percentile per-packet one-way delay: 30.943 ms

Loss rate: 77.47%

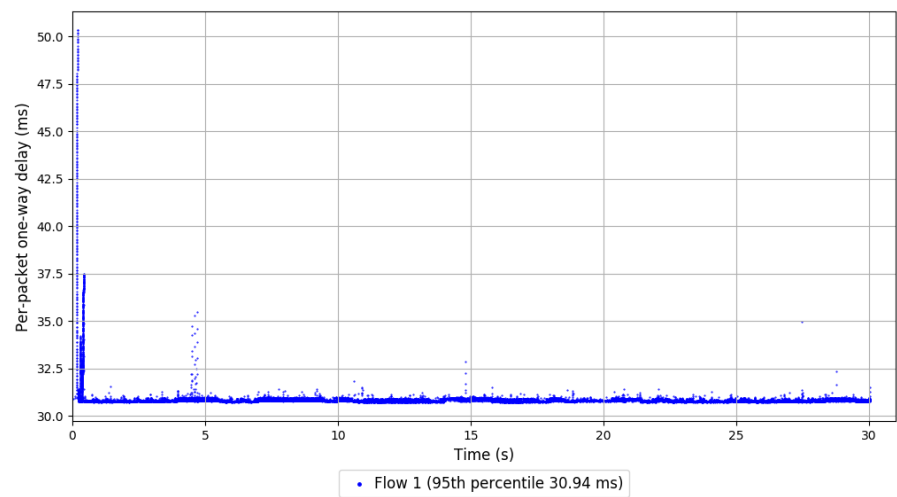
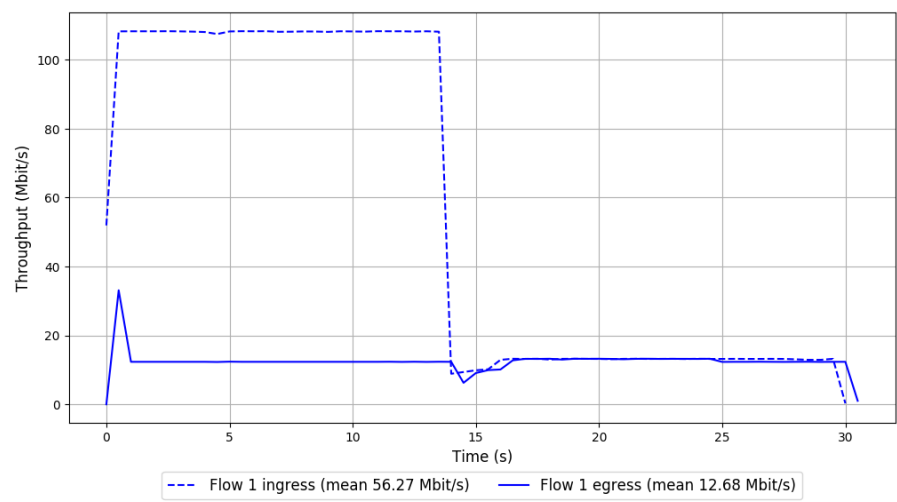
-- Flow 1:

Average throughput: 12.68 Mbit/s

95th percentile per-packet one-way delay: 30.943 ms

Loss rate: 77.47%

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



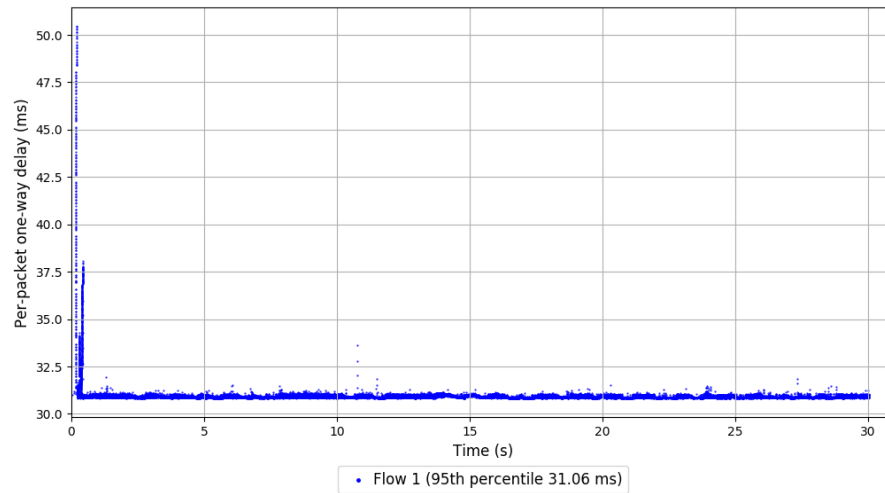
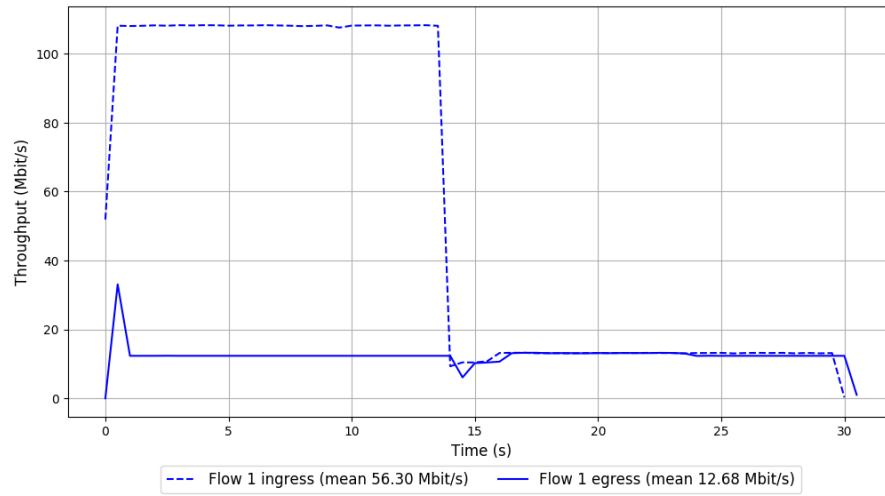


Run 3: Statistics of TaoVA-100x

Start at: 2018-12-19 23:21:13  
End at: 2018-12-19 23:21:43  
Local clock offset: 0.431 ms  
Remote clock offset: -3.134 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.68 Mbit/s  
95th percentile per-packet one-way delay: 31.058 ms  
Loss rate: 77.48%  
-- Flow 1:  
Average throughput: 12.68 Mbit/s  
95th percentile per-packet one-way delay: 31.058 ms  
Loss rate: 77.48%

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

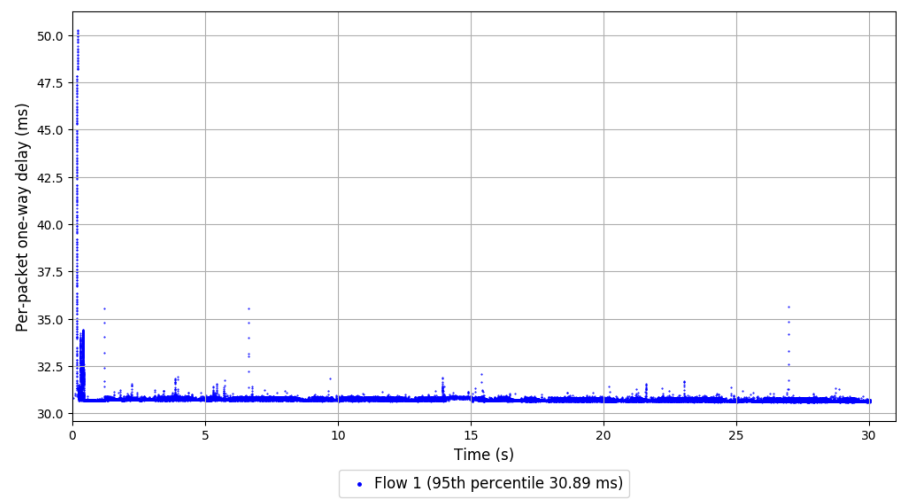
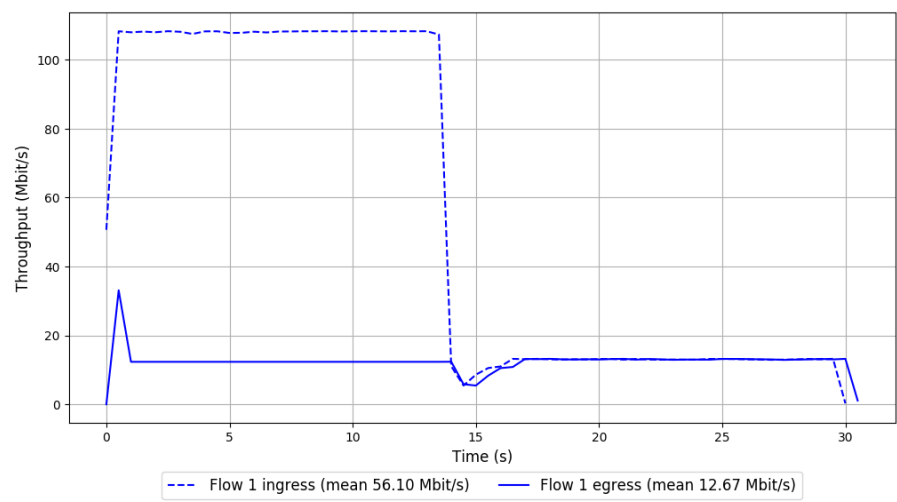


Run 4: Statistics of TaoVA-100x

Start at: 2018-12-19 23:43:15  
End at: 2018-12-19 23:43:45  
Local clock offset: -1.424 ms  
Remote clock offset: -2.807 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.67 Mbit/s  
95th percentile per-packet one-way delay: 30.895 ms  
Loss rate: 77.42%  
-- Flow 1:  
Average throughput: 12.67 Mbit/s  
95th percentile per-packet one-way delay: 30.895 ms  
Loss rate: 77.42%

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

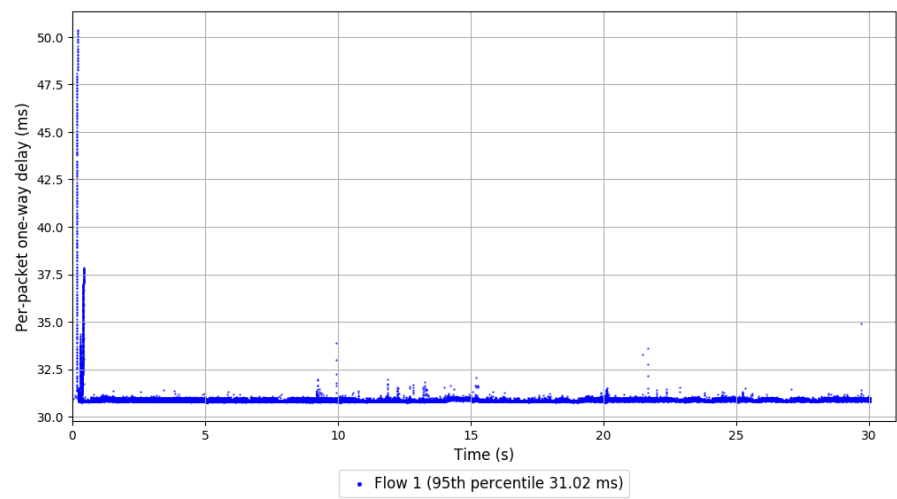
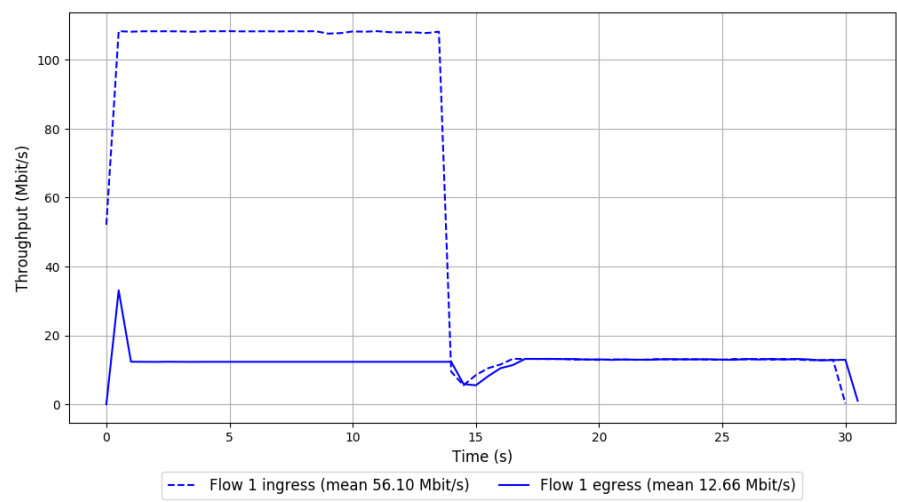


Run 5: Statistics of TaoVA-100x

Start at: 2018-12-20 00:05:12  
End at: 2018-12-20 00:05:42  
Local clock offset: -3.268 ms  
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:35:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.66 Mbit/s  
95th percentile per-packet one-way delay: 31.015 ms  
Loss rate: 77.44%  
-- Flow 1:  
Average throughput: 12.66 Mbit/s  
95th percentile per-packet one-way delay: 31.015 ms  
Loss rate: 77.44%

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

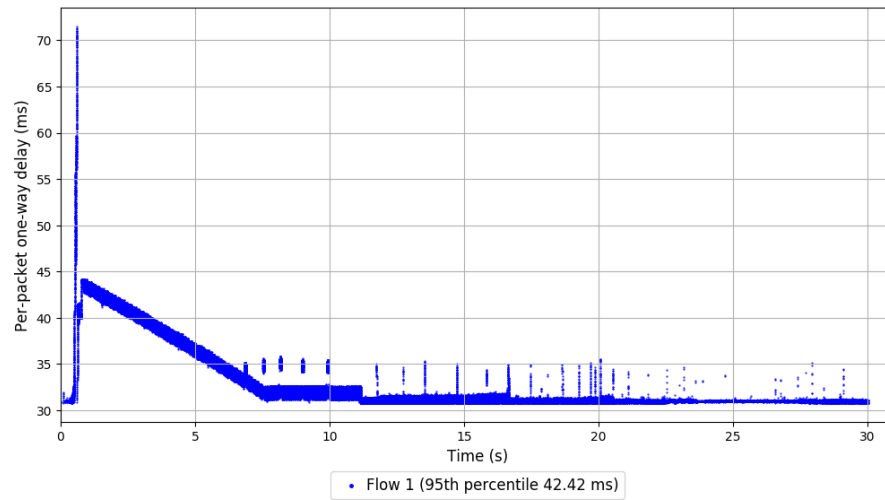
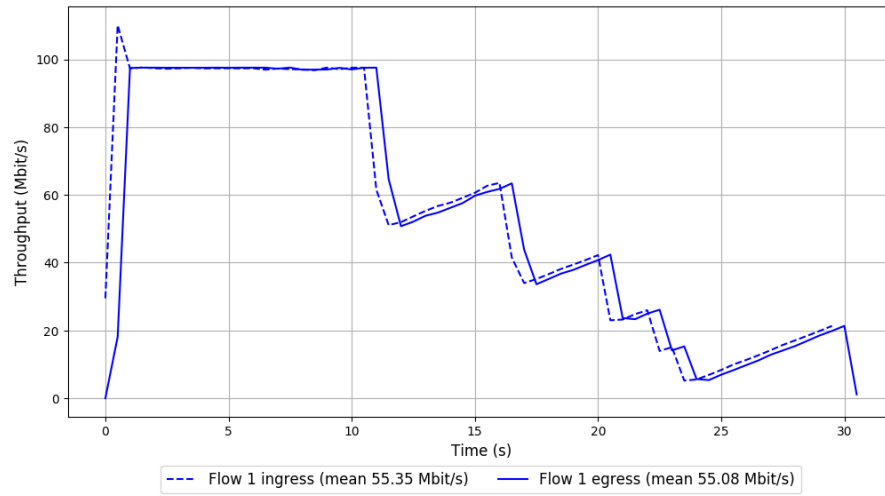


Run 1: Statistics of TCP Vegas

Start at: 2018-12-19 22:41:55  
End at: 2018-12-19 22:42:25  
Local clock offset: 0.534 ms  
Remote clock offset: -4.135 ms

# Below is generated by plot.py at 2018-12-20 00:35:29  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 55.08 Mbit/s  
95th percentile per-packet one-way delay: 42.421 ms  
Loss rate: 0.49%  
-- Flow 1:  
Average throughput: 55.08 Mbit/s  
95th percentile per-packet one-way delay: 42.421 ms  
Loss rate: 0.49%

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



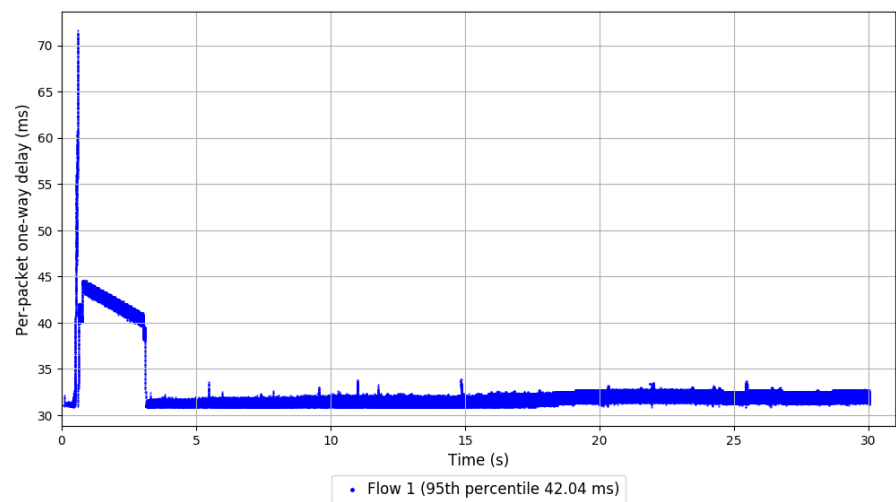
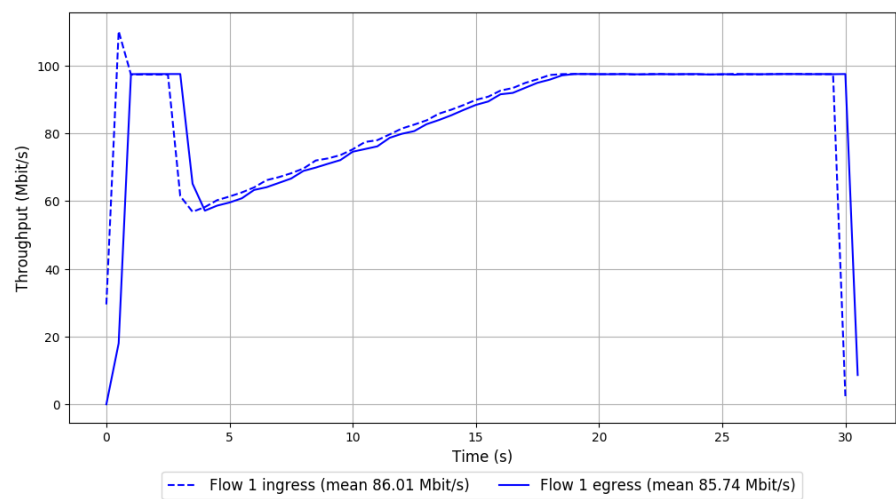


Run 2: Statistics of TCP Vegas

Start at: 2018-12-19 23:03:39  
End at: 2018-12-19 23:04:09  
Local clock offset: 0.594 ms  
Remote clock offset: -3.696 ms

# Below is generated by plot.py at 2018-12-20 00:35:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.74 Mbit/s  
95th percentile per-packet one-way delay: 42.043 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 85.74 Mbit/s  
95th percentile per-packet one-way delay: 42.043 ms  
Loss rate: 0.31%

Run 2: Report of TCP Vegas — Data Link

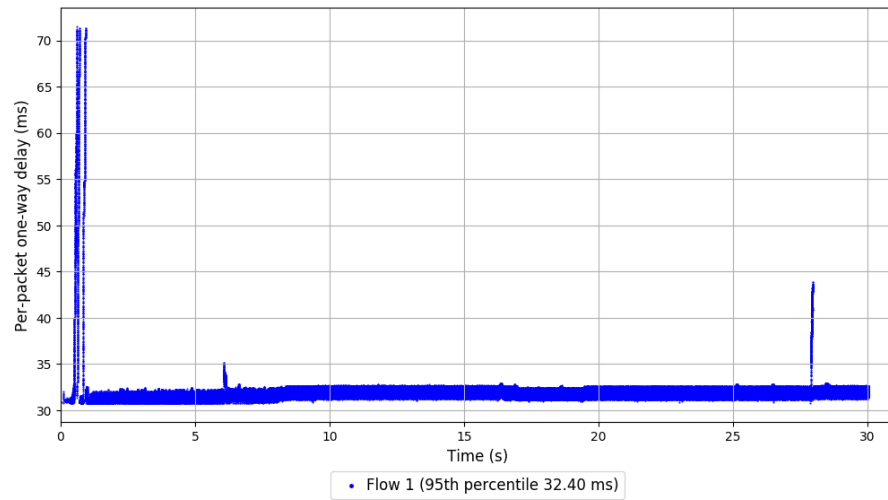
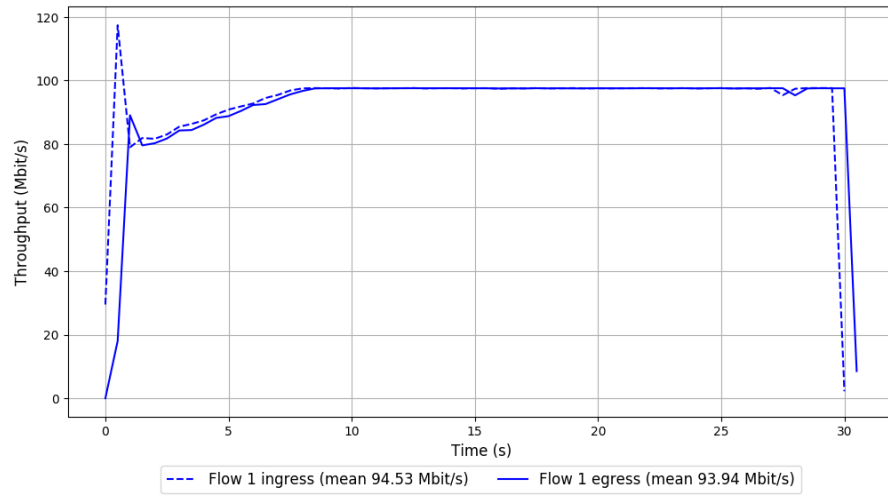


Run 3: Statistics of TCP Vegas

Start at: 2018-12-19 23:25:48  
End at: 2018-12-19 23:26:18  
Local clock offset: 0.442 ms  
Remote clock offset: -3.144 ms

# Below is generated by plot.py at 2018-12-20 00:36:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 93.94 Mbit/s  
95th percentile per-packet one-way delay: 32.403 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 93.94 Mbit/s  
95th percentile per-packet one-way delay: 32.403 ms  
Loss rate: 0.62%

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

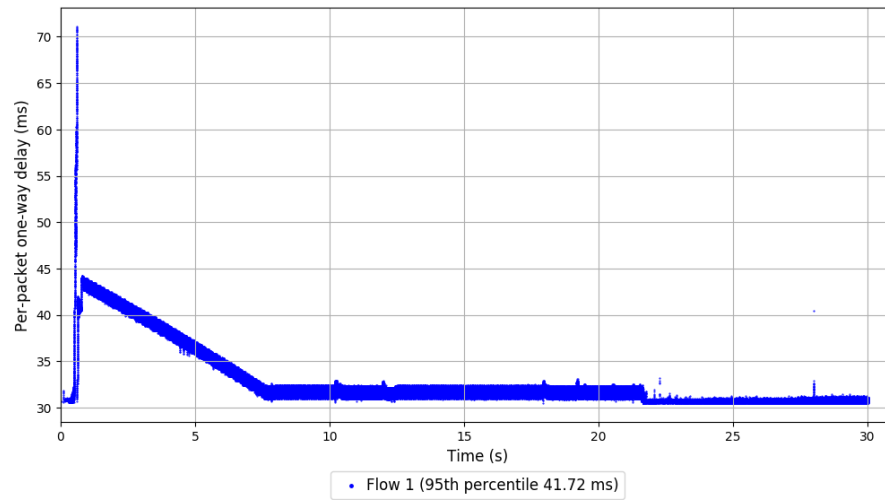
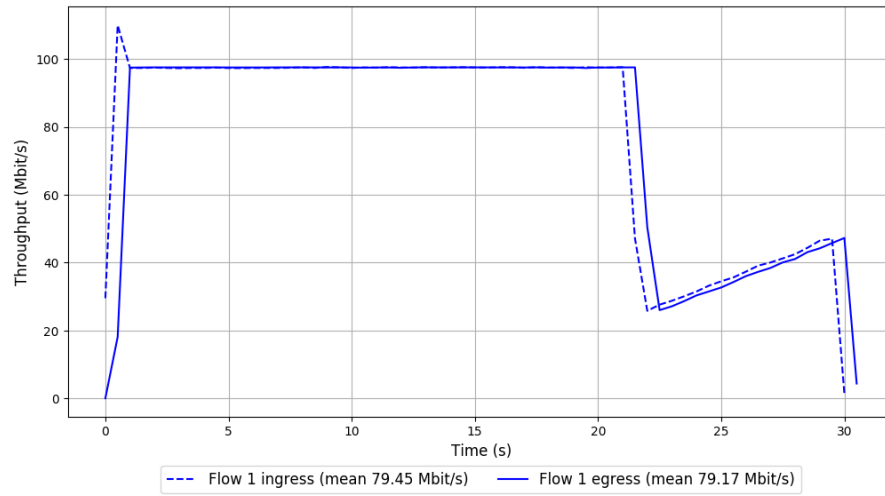


Run 4: Statistics of TCP Vegas

Start at: 2018-12-19 23:47:54  
End at: 2018-12-19 23:48:24  
Local clock offset: -2.076 ms  
Remote clock offset: -2.894 ms

# Below is generated by plot.py at 2018-12-20 00:36:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.17 Mbit/s  
95th percentile per-packet one-way delay: 41.720 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 79.17 Mbit/s  
95th percentile per-packet one-way delay: 41.720 ms  
Loss rate: 0.35%

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

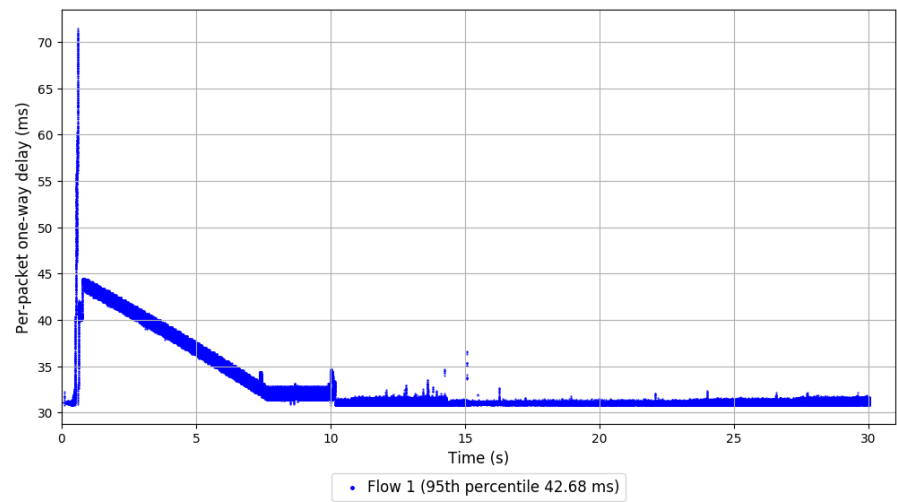
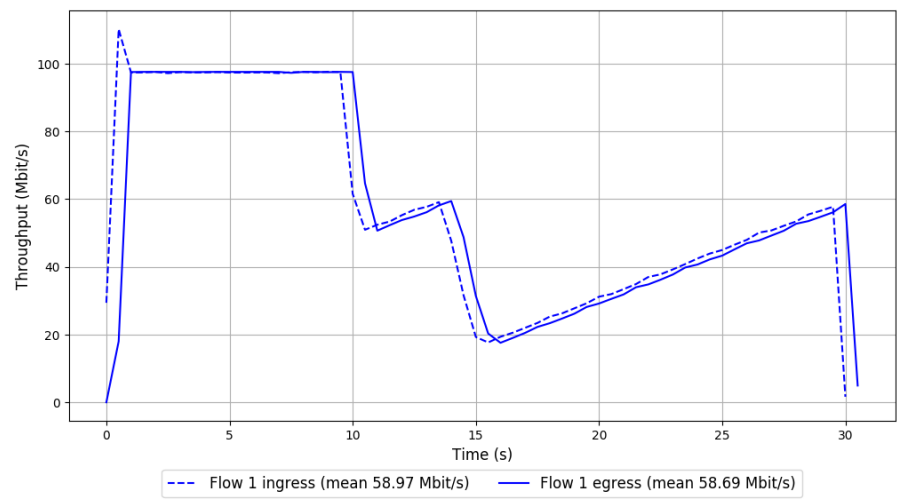


Run 5: Statistics of TCP Vegas

Start at: 2018-12-20 00:09:48  
End at: 2018-12-20 00:10:18  
Local clock offset: -3.03 ms  
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:36:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.69 Mbit/s  
95th percentile per-packet one-way delay: 42.677 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 58.69 Mbit/s  
95th percentile per-packet one-way delay: 42.677 ms  
Loss rate: 0.46%

Run 5: Report of TCP Vegas — Data Link



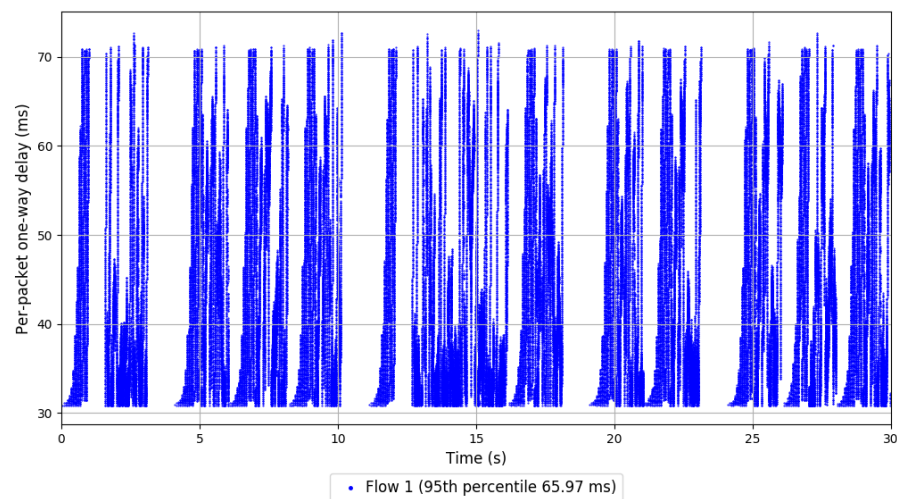
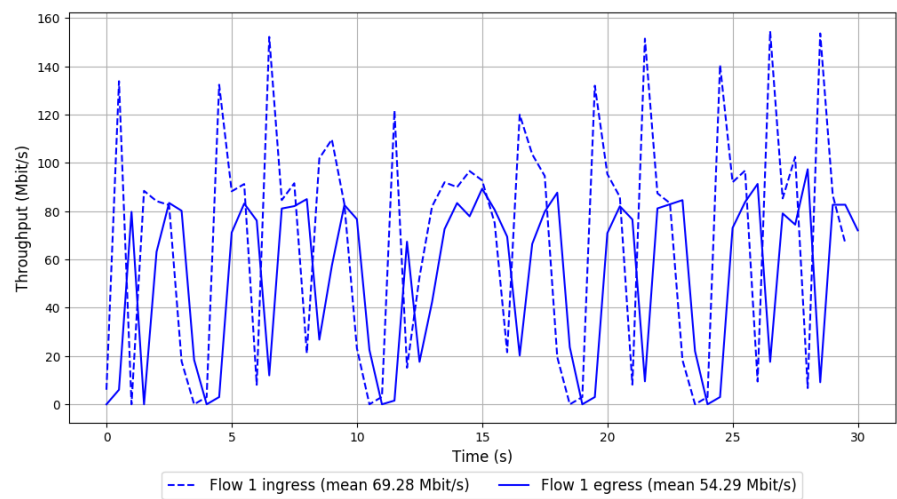


Run 1: Statistics of Verus

Start at: 2018-12-19 22:53:20  
End at: 2018-12-19 22:53:50  
Local clock offset: 0.462 ms  
Remote clock offset: -3.942 ms

# Below is generated by plot.py at 2018-12-20 00:36:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 54.29 Mbit/s  
95th percentile per-packet one-way delay: 65.969 ms  
Loss rate: 21.64%  
-- Flow 1:  
Average throughput: 54.29 Mbit/s  
95th percentile per-packet one-way delay: 65.969 ms  
Loss rate: 21.64%

Run 1: Report of Verus — Data Link

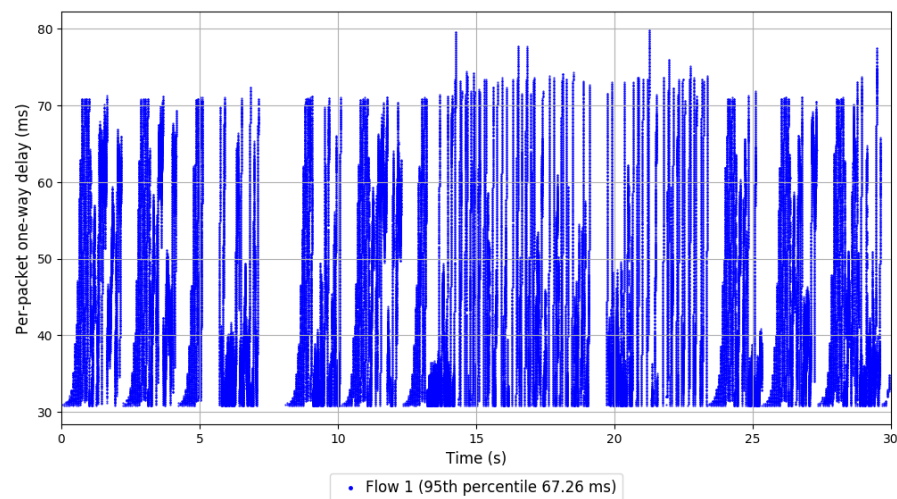
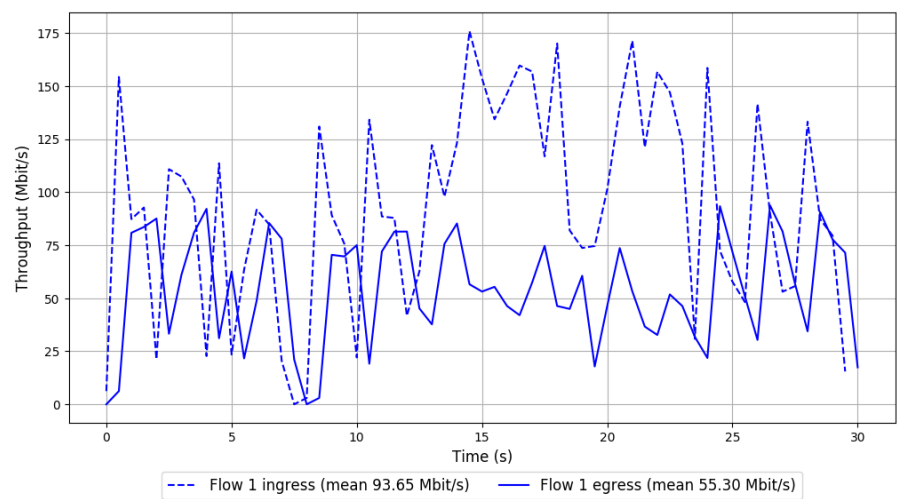


Run 2: Statistics of Verus

Start at: 2018-12-19 23:15:09  
End at: 2018-12-19 23:15:39  
Local clock offset: 0.434 ms  
Remote clock offset: -3.382 ms

# Below is generated by plot.py at 2018-12-20 00:36:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 55.30 Mbit/s  
95th percentile per-packet one-way delay: 67.261 ms  
Loss rate: 40.95%  
-- Flow 1:  
Average throughput: 55.30 Mbit/s  
95th percentile per-packet one-way delay: 67.261 ms  
Loss rate: 40.95%

Run 2: Report of Verus — Data Link

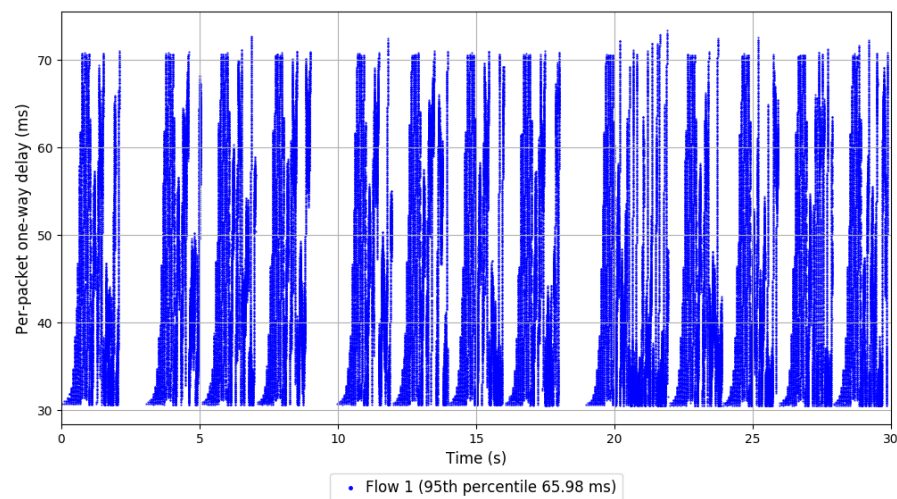
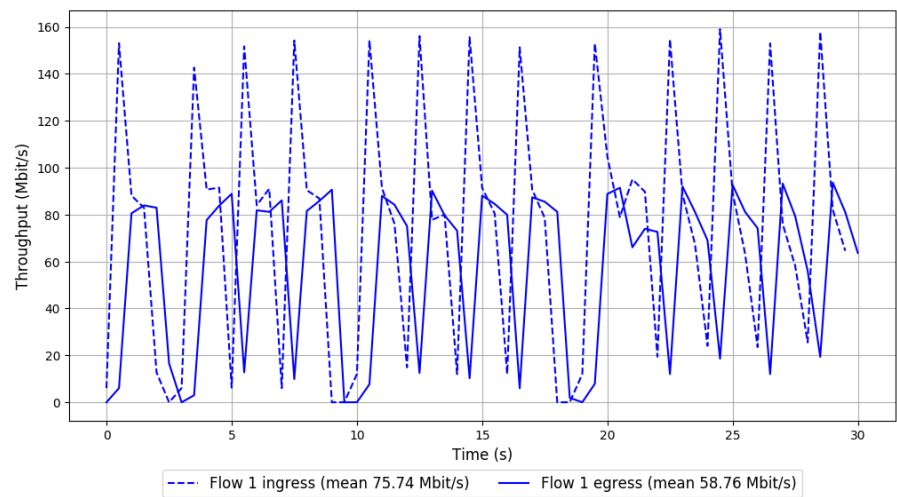


Run 3: Statistics of Verus

Start at: 2018-12-19 23:37:28  
End at: 2018-12-19 23:37:58  
Local clock offset: -0.024 ms  
Remote clock offset: -2.892 ms

# Below is generated by plot.py at 2018-12-20 00:36:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.76 Mbit/s  
95th percentile per-packet one-way delay: 65.976 ms  
Loss rate: 22.37%  
-- Flow 1:  
Average throughput: 58.76 Mbit/s  
95th percentile per-packet one-way delay: 65.976 ms  
Loss rate: 22.37%

Run 3: Report of Verus — Data Link

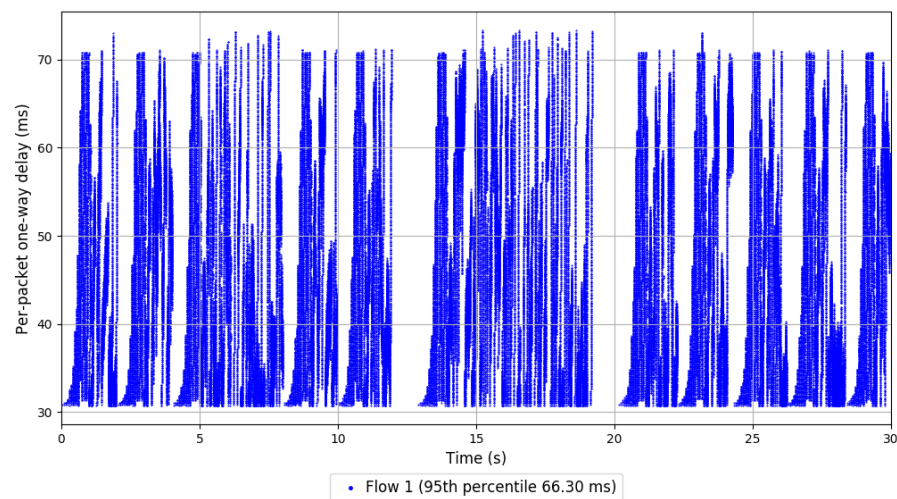
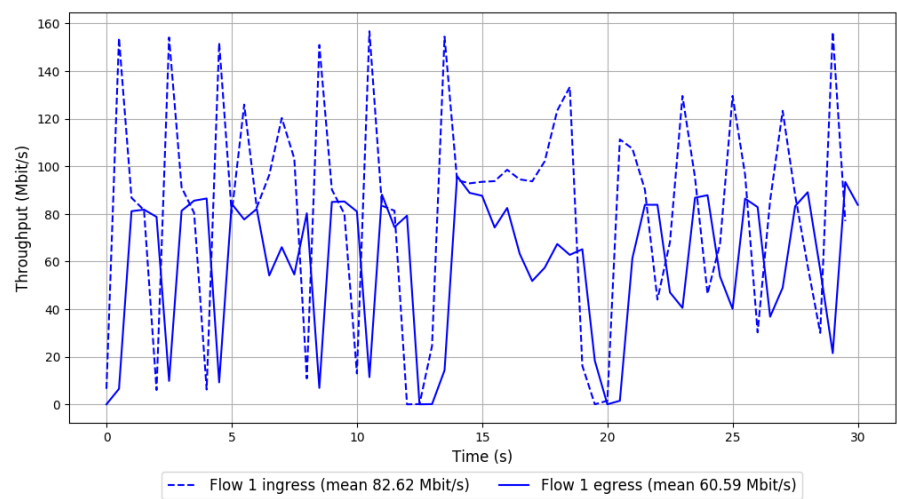


Run 4: Statistics of Verus

Start at: 2018-12-19 23:59:23  
End at: 2018-12-19 23:59:53  
Local clock offset: -2.982 ms  
Remote clock offset: -2.576 ms

# Below is generated by plot.py at 2018-12-20 00:36:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 60.59 Mbit/s  
95th percentile per-packet one-way delay: 66.295 ms  
Loss rate: 26.60%  
-- Flow 1:  
Average throughput: 60.59 Mbit/s  
95th percentile per-packet one-way delay: 66.295 ms  
Loss rate: 26.60%

Run 4: Report of Verus — Data Link



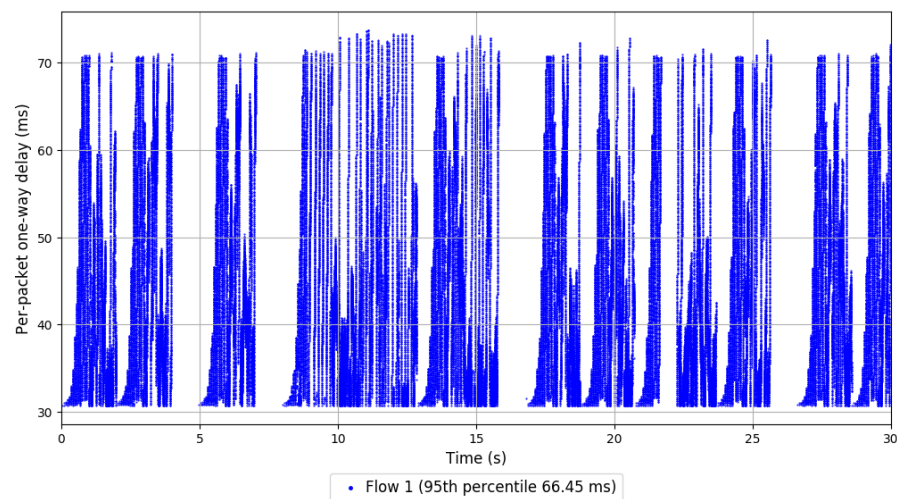
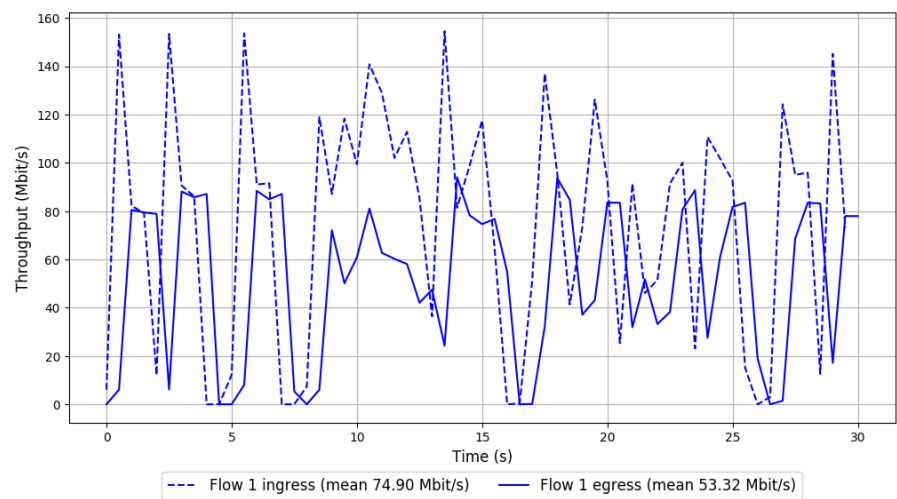


Run 5: Statistics of Verus

Start at: 2018-12-20 00:21:23  
End at: 2018-12-20 00:21:53  
Local clock offset: -2.862 ms  
Remote clock offset: -2.587 ms

# Below is generated by plot.py at 2018-12-20 00:36:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 53.32 Mbit/s  
95th percentile per-packet one-way delay: 66.446 ms  
Loss rate: 28.72%  
-- Flow 1:  
Average throughput: 53.32 Mbit/s  
95th percentile per-packet one-way delay: 66.446 ms  
Loss rate: 28.72%

Run 5: Report of Verus — Data Link

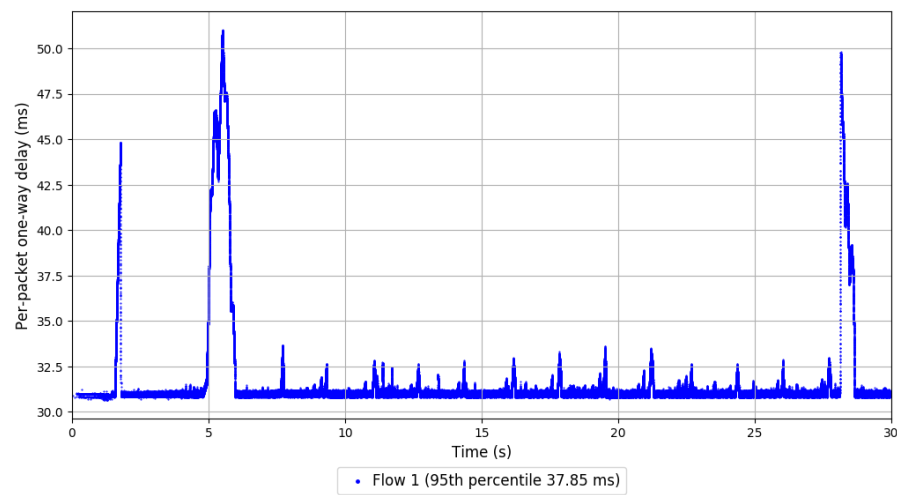
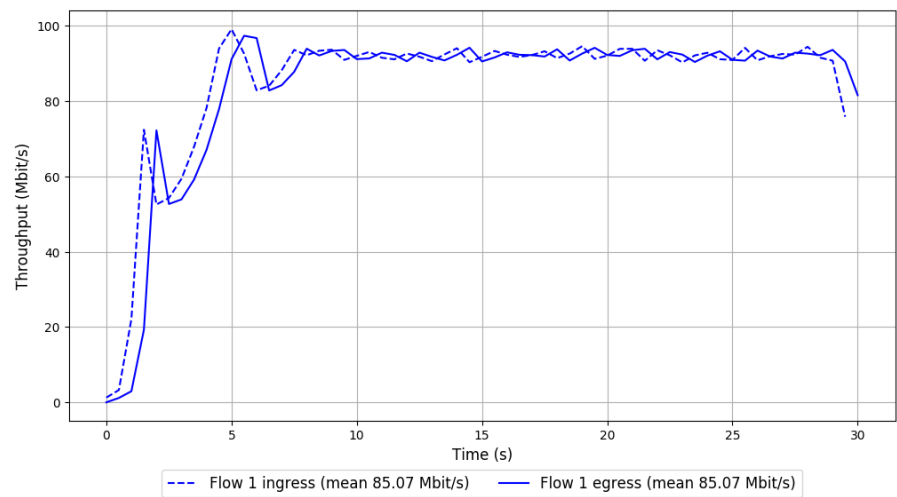


Run 1: Statistics of PCC-Vivace

Start at: 2018-12-19 22:44:13  
End at: 2018-12-19 22:44:43  
Local clock offset: 0.491 ms  
Remote clock offset: -4.127 ms

# Below is generated by plot.py at 2018-12-20 00:36:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.07 Mbit/s  
95th percentile per-packet one-way delay: 37.852 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 85.07 Mbit/s  
95th percentile per-packet one-way delay: 37.852 ms  
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-12-19 23:05:58

End at: 2018-12-19 23:06:28

Local clock offset: 0.627 ms

Remote clock offset: -3.678 ms

# Below is generated by plot.py at 2018-12-20 00:36:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 32.210 ms

Loss rate: 0.00%

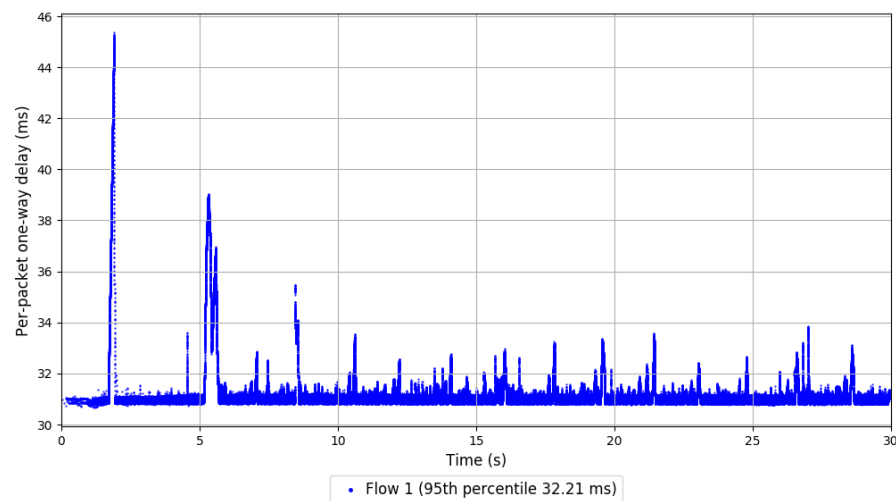
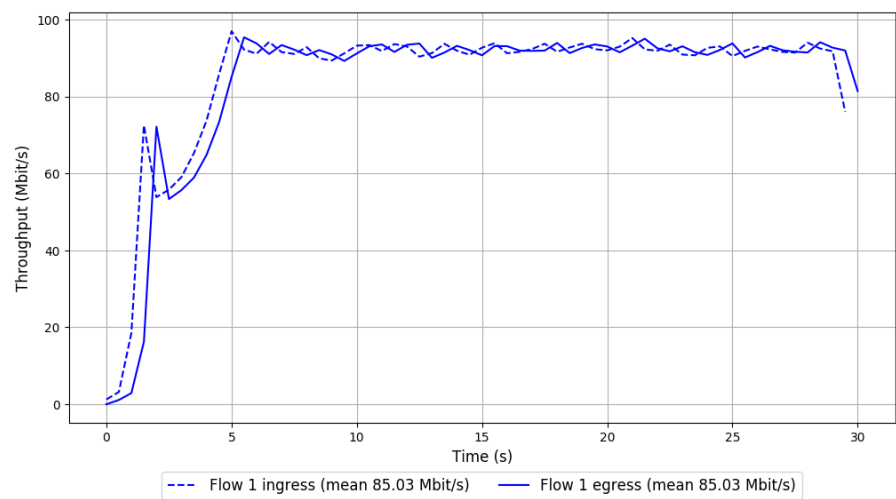
-- Flow 1:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 32.210 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-12-19 23:28:07

End at: 2018-12-19 23:28:37

Local clock offset: 0.474 ms

Remote clock offset: -3.22 ms

# Below is generated by plot.py at 2018-12-20 00:36:50

# Datalink statistics

-- Total of 1 flow:

Average throughput: 83.96 Mbit/s

95th percentile per-packet one-way delay: 34.009 ms

Loss rate: 0.00%

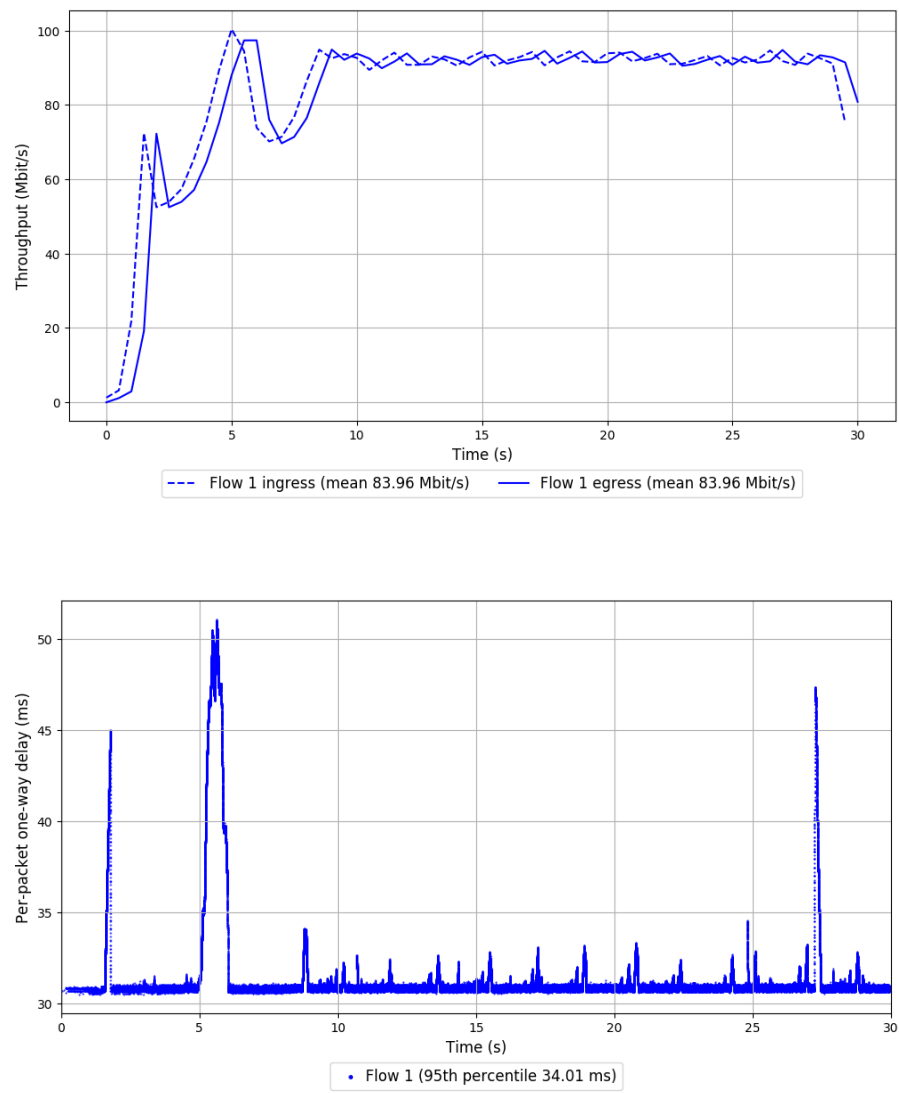
-- Flow 1:

Average throughput: 83.96 Mbit/s

95th percentile per-packet one-way delay: 34.009 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



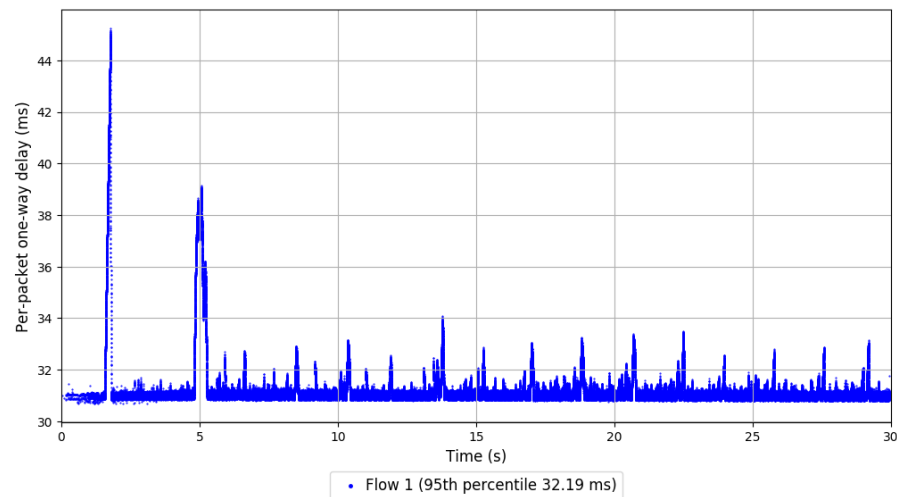
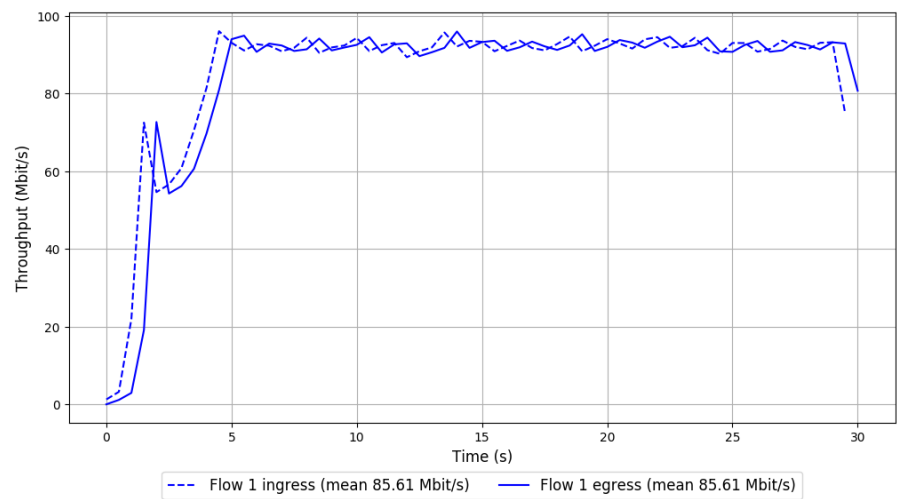


Run 4: Statistics of PCC-Vivace

Start at: 2018-12-19 23:50:15  
End at: 2018-12-19 23:50:45  
Local clock offset: -2.318 ms  
Remote clock offset: -2.652 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.61 Mbit/s  
95th percentile per-packet one-way delay: 32.193 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 85.61 Mbit/s  
95th percentile per-packet one-way delay: 32.193 ms  
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

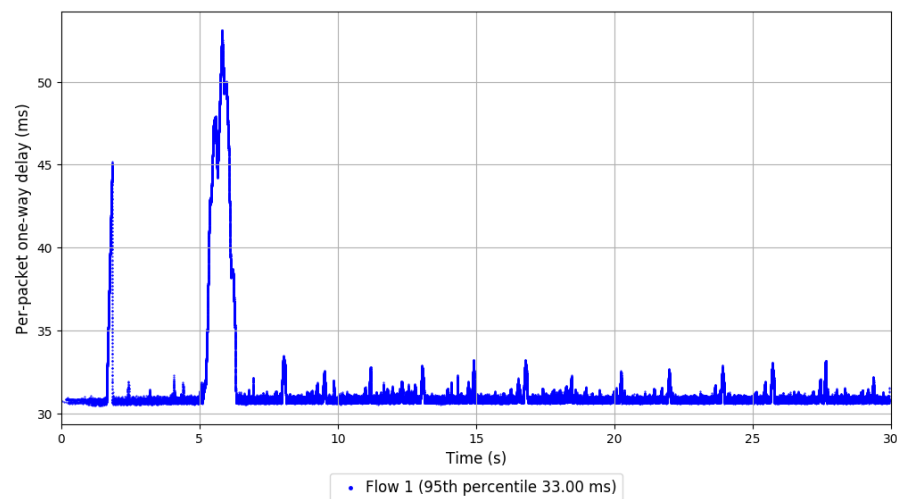
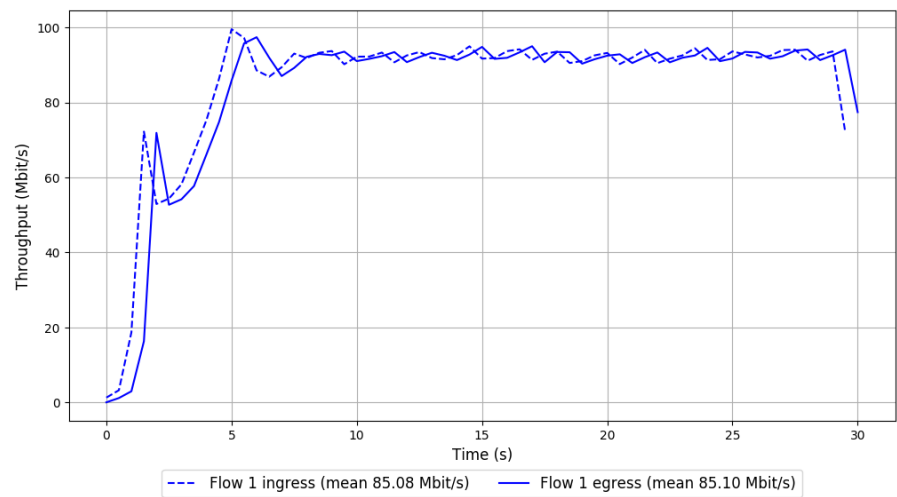


Run 5: Statistics of PCC-Vivace

Start at: 2018-12-20 00:12:07  
End at: 2018-12-20 00:12:37  
Local clock offset: -2.953 ms  
Remote clock offset: -2.749 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.10 Mbit/s  
95th percentile per-packet one-way delay: 33.001 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 85.10 Mbit/s  
95th percentile per-packet one-way delay: 33.001 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

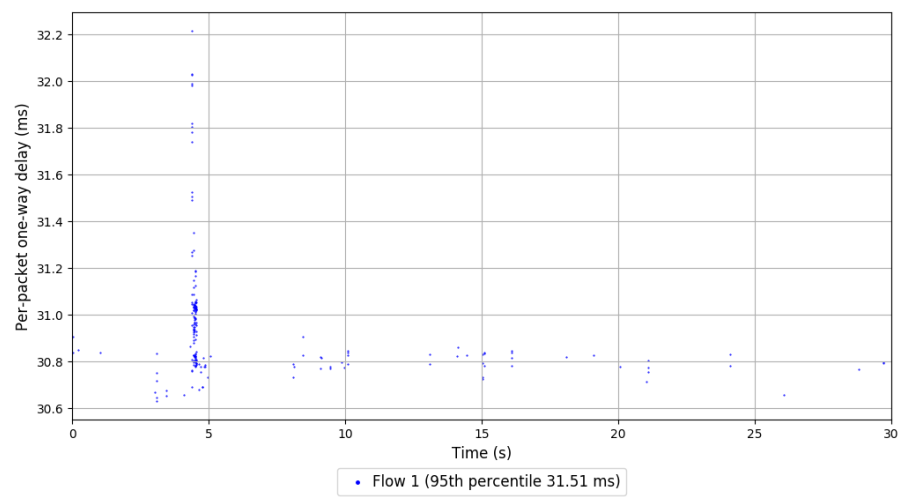
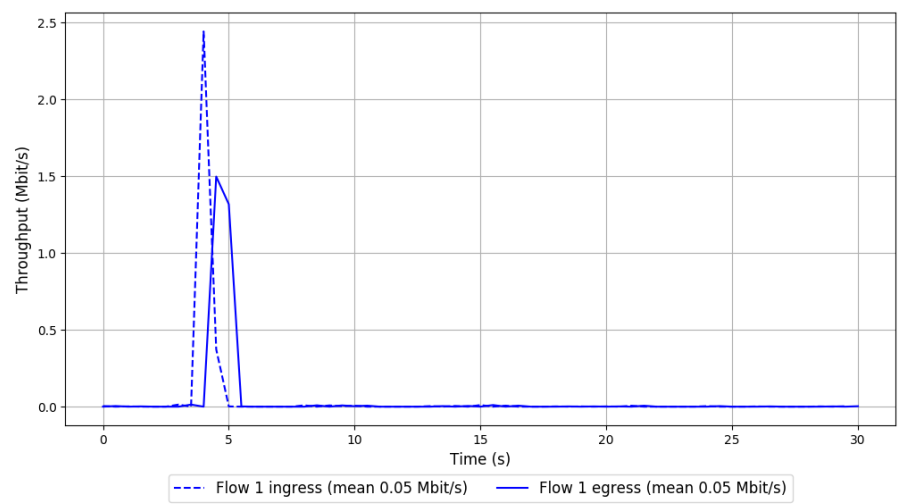


```
Run 1: Statistics of WebRTC media

Start at: 2018-12-19 22:45:24
End at: 2018-12-19 22:45:54
Local clock offset: 0.491 ms
Remote clock offset: -4.072 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.507 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

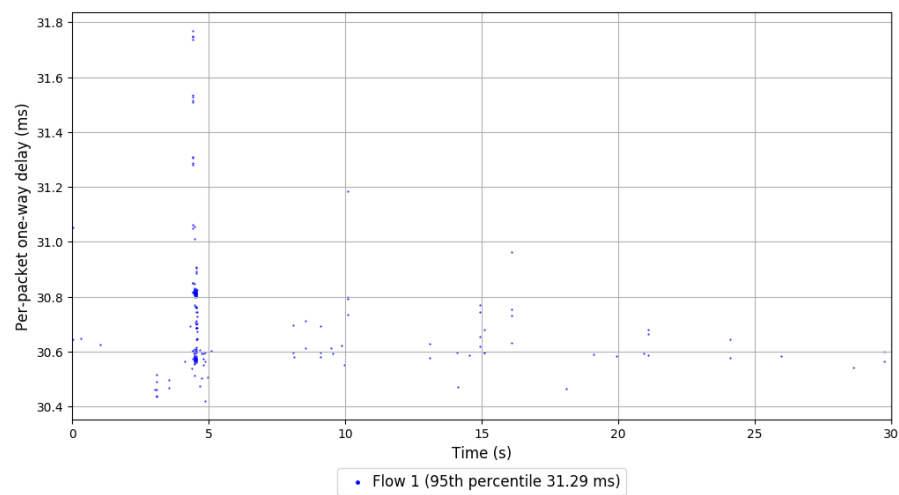
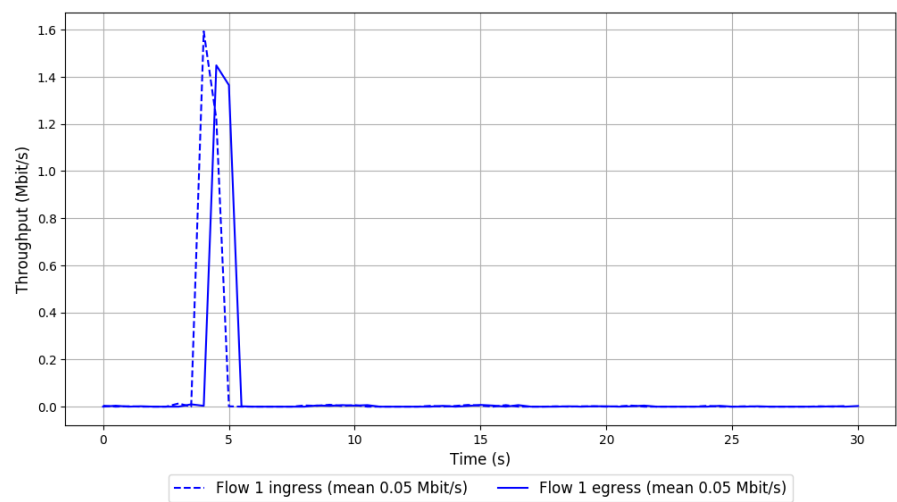


Run 2: Statistics of WebRTC media

Start at: 2018-12-19 23:07:09  
End at: 2018-12-19 23:07:39  
Local clock offset: 0.568 ms  
Remote clock offset: -3.832 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.287 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.287 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



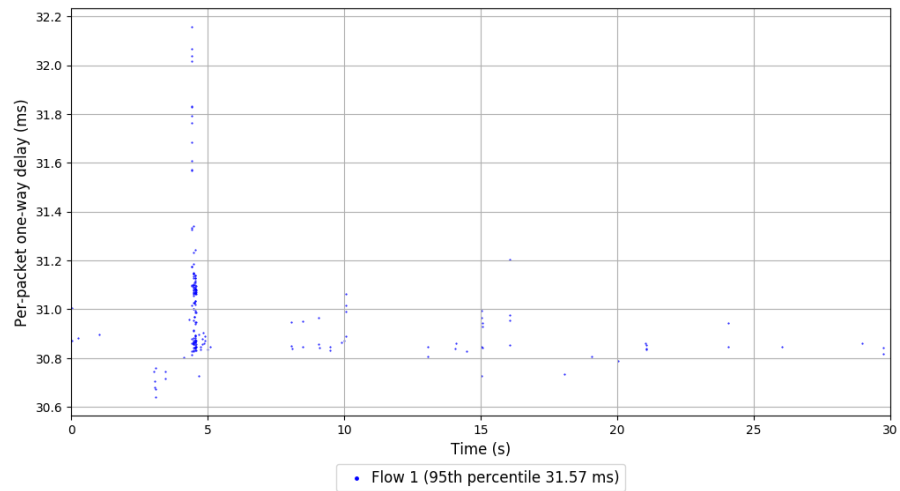
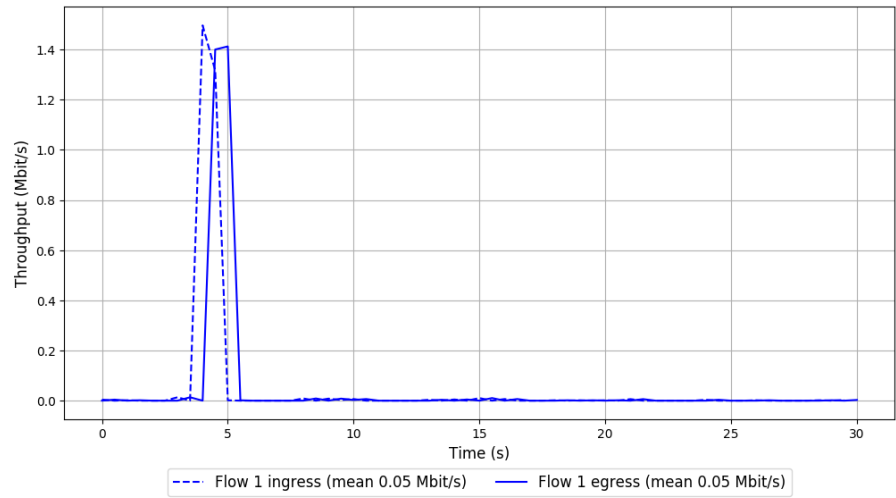


Run 3: Statistics of WebRTC media

Start at: 2018-12-19 23:29:22  
End at: 2018-12-19 23:29:52  
Local clock offset: 0.478 ms  
Remote clock offset: -3.041 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.572 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.572 ms  
Loss rate: 0.00%

### Run 3: Report of WebRTC media — Data Link

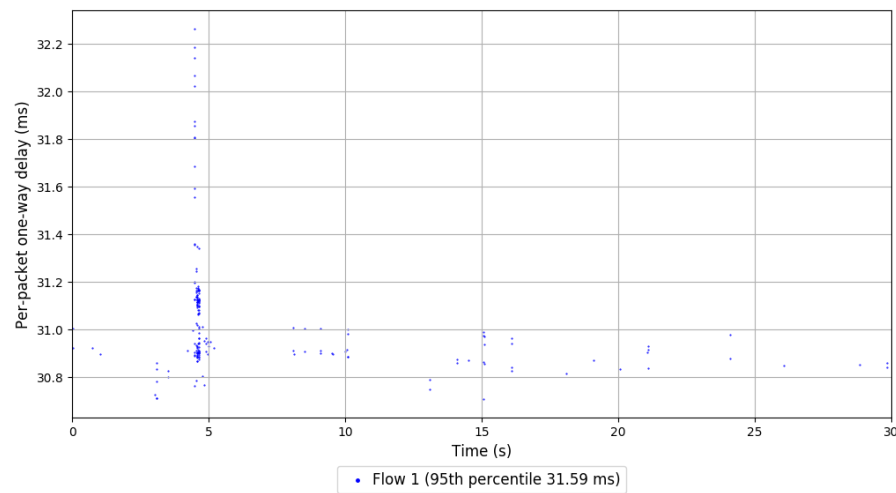
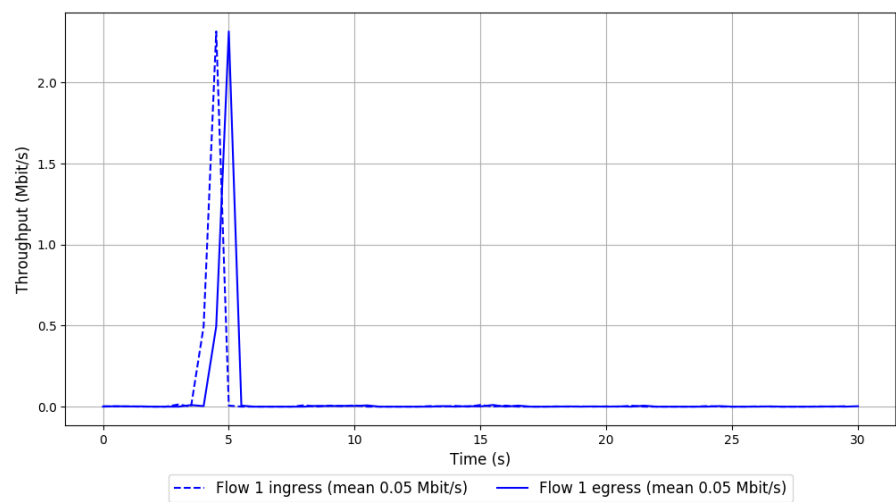


Run 4: Statistics of WebRTC media

Start at: 2018-12-19 23:51:26  
End at: 2018-12-19 23:51:56  
Local clock offset: -2.423 ms  
Remote clock offset: -2.618 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.592 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.592 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-20 00:13:19  
End at: 2018-12-20 00:13:49  
Local clock offset: -2.931 ms  
Remote clock offset: -2.578 ms

# Below is generated by plot.py at 2018-12-20 00:36:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.627 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 31.627 ms  
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

