

## Pantheon Report

Generated at 2018-11-02 20:12:51 (UTC).

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

Repeated the test of 18 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:

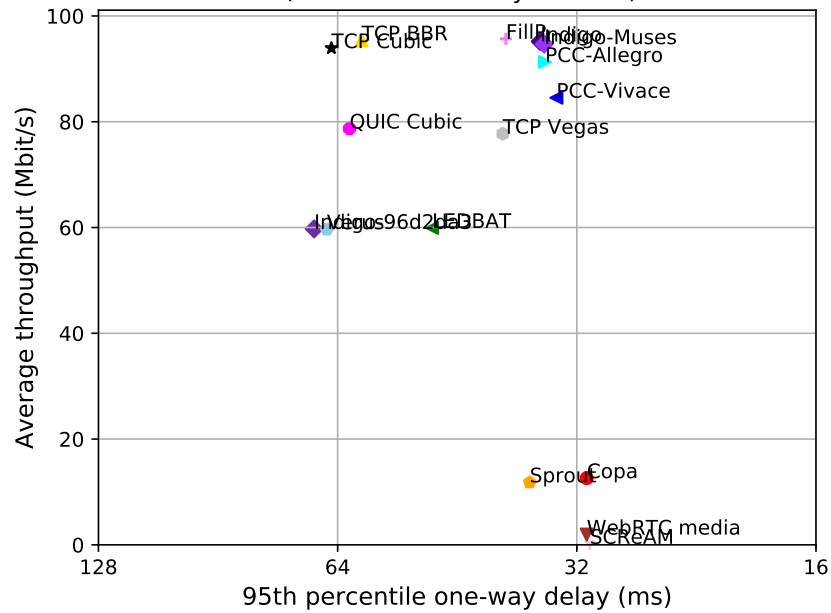
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

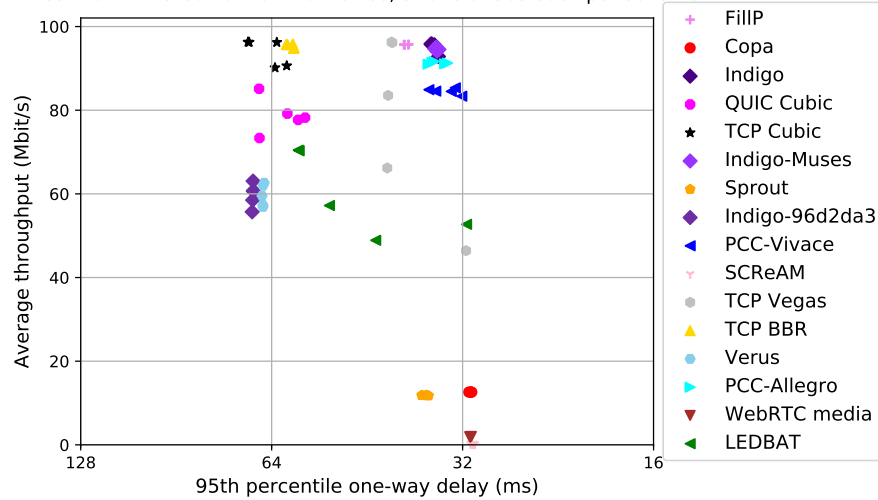
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 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)



test from AWS California 2 to Mexico, 5 runs of 30s each per 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	95.39	59.70	1.01
Copa	5	12.61	31.09	70.84
TCP Cubic	5	93.92	65.17	0.42
FillP	5	95.67	39.31	0.67
Indigo	5	95.18	35.58	0.02
Indigo-96d2da3	5	59.74	68.51	58.97
LEDBAT	5	59.92	48.68	0.01
Indigo-Muses	5	94.67	35.17	0.27
PCC-Allegro	5	91.29	35.08	0.71
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	78.71	61.83	1.55
SCReAM	5	0.19	30.82	0.05
Sprout	5	11.82	36.68	0.04
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	77.72	39.66	0.38
Verus	5	59.67	66.03	22.09
PCC-Vivace	5	84.54	33.95	0.01
WebRTC media	5	1.94	31.10	0.00



Run 1: Statistics of TCP BBR

Start at: 2018-11-02 18:17:29

End at: 2018-11-02 18:17:59

Local clock offset: 2.507 ms

Remote clock offset: -2.854 ms

# Below is generated by plot.py at 2018-11-02 20:05:18

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.76 Mbit/s

95th percentile per-packet one-way delay: 60.666 ms

Loss rate: 0.97%

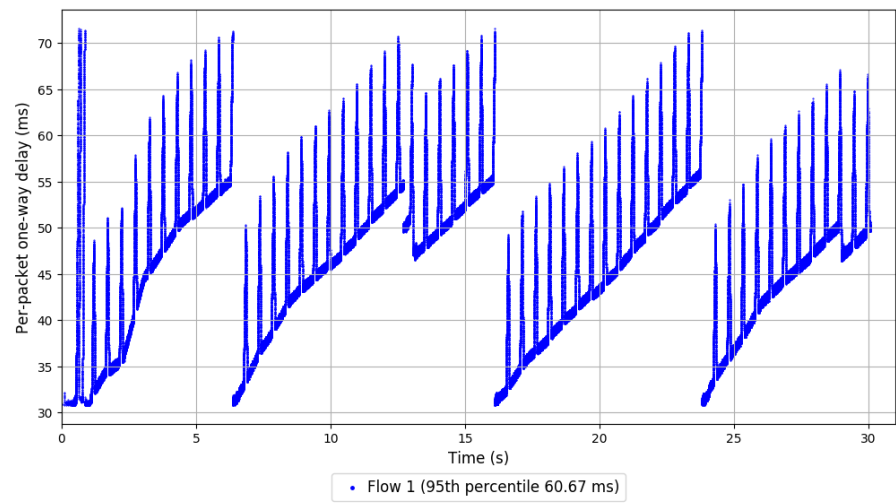
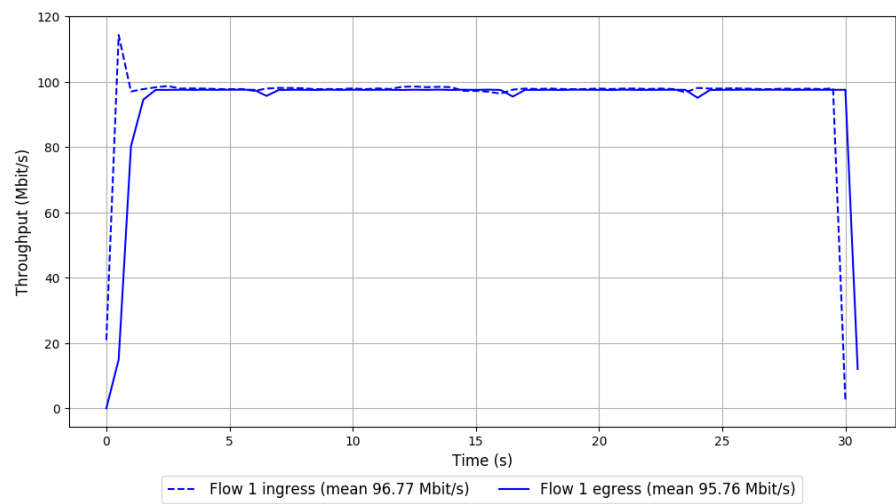
-- Flow 1:

Average throughput: 95.76 Mbit/s

95th percentile per-packet one-way delay: 60.666 ms

Loss rate: 0.97%

Run 1: Report of TCP BBR — Data Link

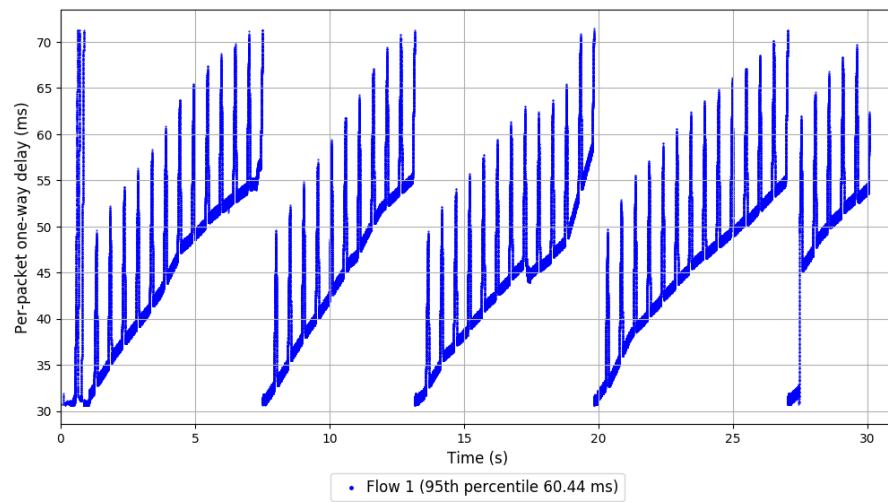
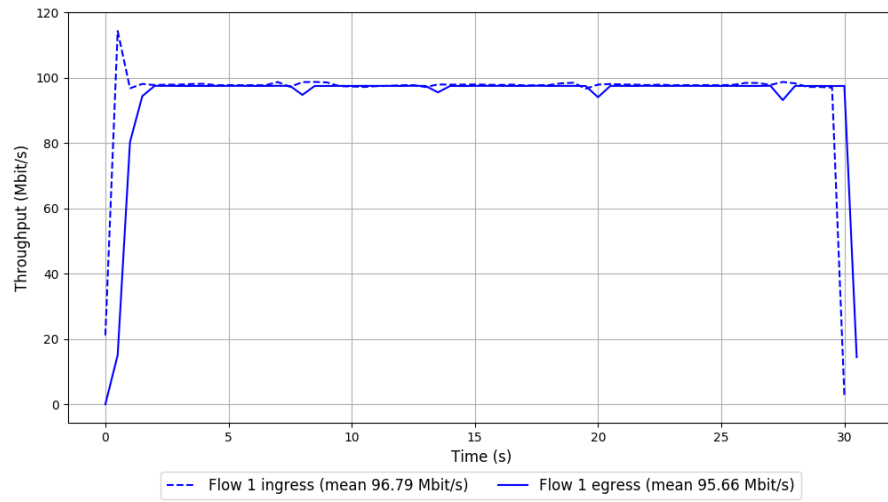


Run 2: Statistics of TCP BBR

Start at: 2018-11-02 18:41:07  
End at: 2018-11-02 18:41:37  
Local clock offset: 3.912 ms  
Remote clock offset: -2.895 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.66 Mbit/s  
95th percentile per-packet one-way delay: 60.438 ms  
Loss rate: 1.07%  
-- Flow 1:  
Average throughput: 95.66 Mbit/s  
95th percentile per-packet one-way delay: 60.438 ms  
Loss rate: 1.07%

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



Run 3: Statistics of TCP BBR

Start at: 2018-11-02 19:04:50

End at: 2018-11-02 19:05:20

Local clock offset: 5.545 ms

Remote clock offset: -2.39 ms

# Below is generated by plot.py at 2018-11-02 20:05:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.93 Mbit/s

95th percentile per-packet one-way delay: 58.997 ms

Loss rate: 1.21%

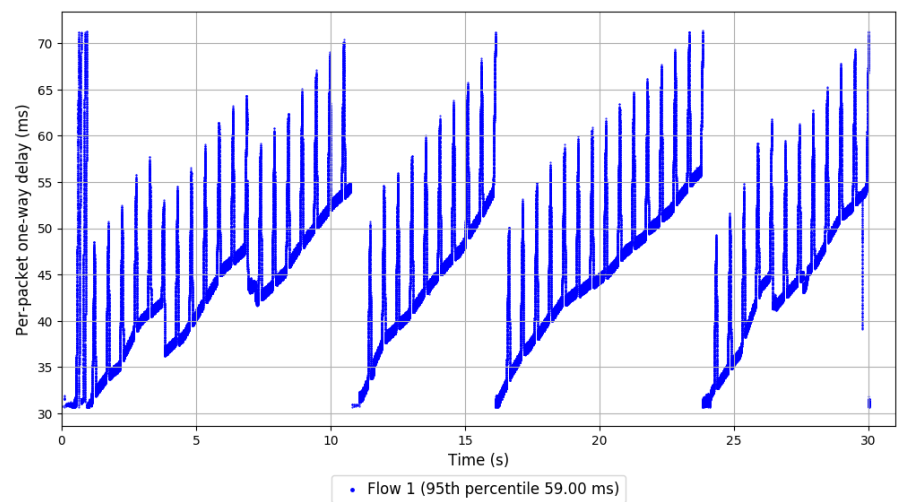
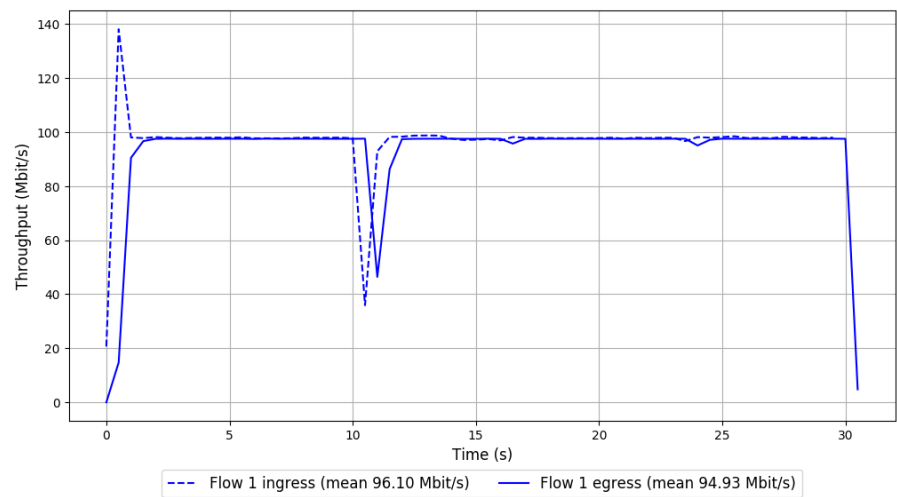
-- Flow 1:

Average throughput: 94.93 Mbit/s

95th percentile per-packet one-way delay: 58.997 ms

Loss rate: 1.21%

Run 3: Report of TCP BBR — Data Link

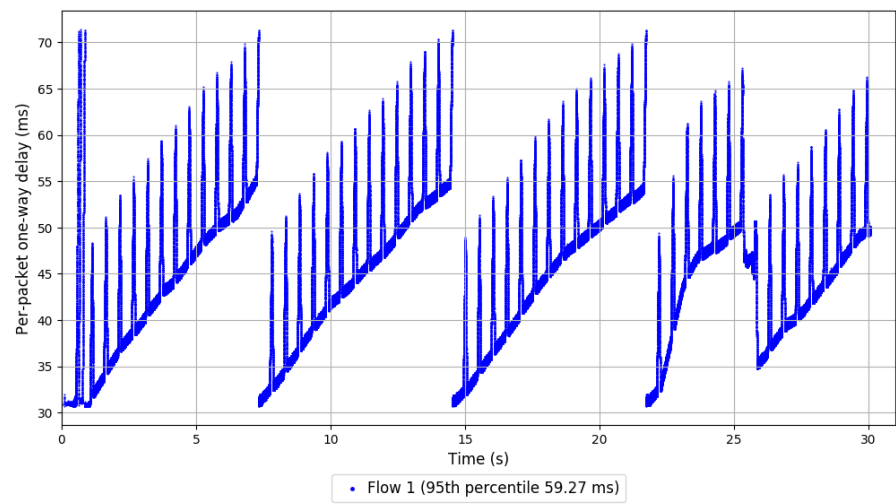
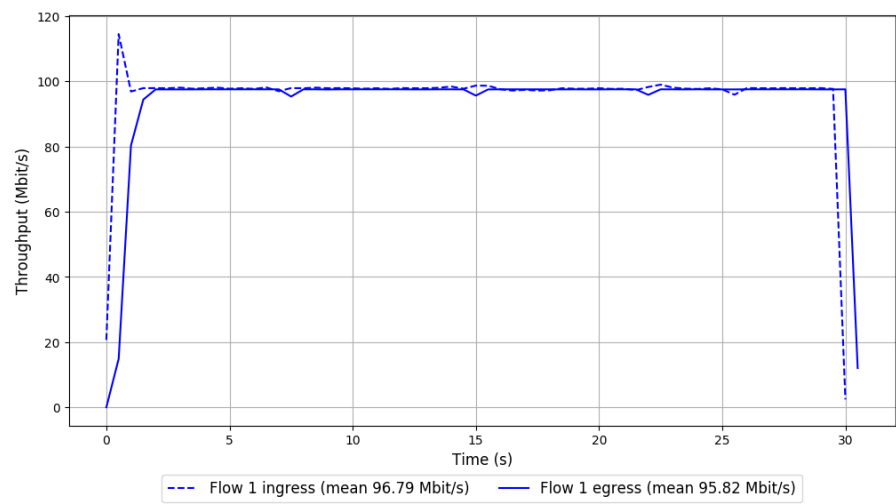


Run 4: Statistics of TCP BBR

Start at: 2018-11-02 19:28:27  
End at: 2018-11-02 19:28:57  
Local clock offset: 6.02 ms  
Remote clock offset: -2.048 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.82 Mbit/s  
95th percentile per-packet one-way delay: 59.271 ms  
Loss rate: 0.94%  
-- Flow 1:  
Average throughput: 95.82 Mbit/s  
95th percentile per-packet one-way delay: 59.271 ms  
Loss rate: 0.94%

Run 4: Report of TCP BBR — Data Link



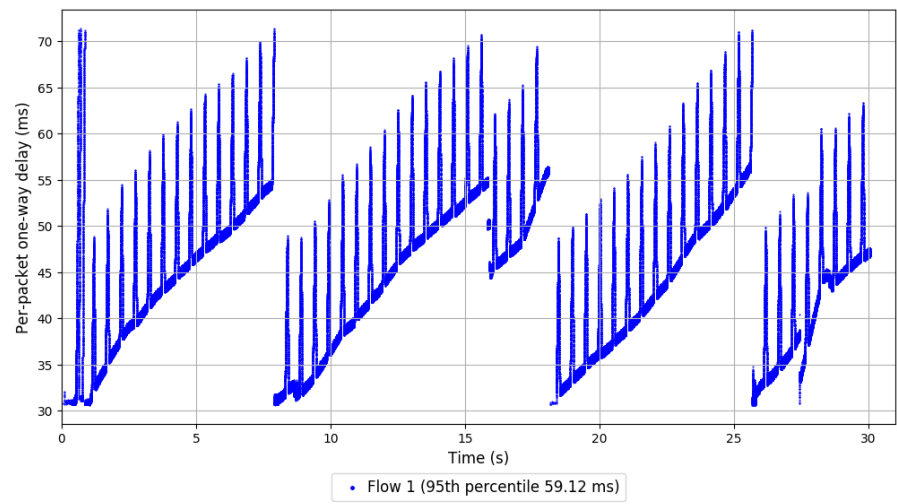
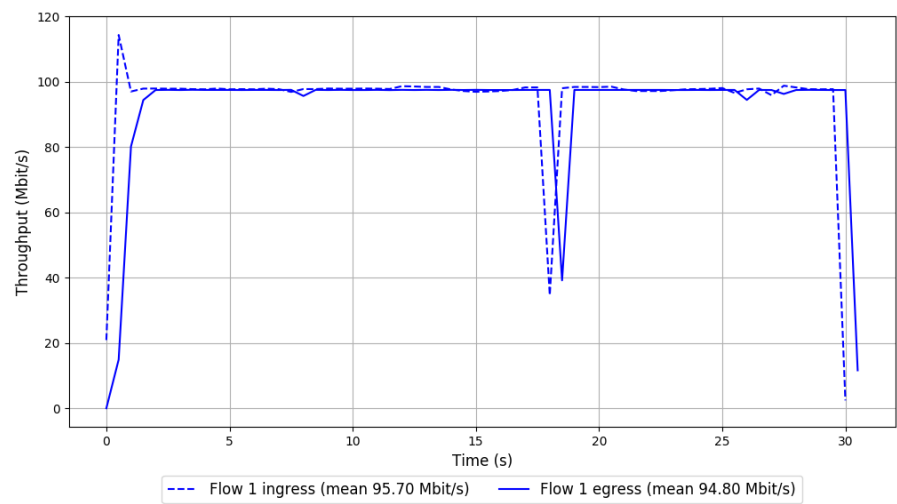


Run 5: Statistics of TCP BBR

Start at: 2018-11-02 19:51:59  
End at: 2018-11-02 19:52:29  
Local clock offset: 1.913 ms  
Remote clock offset: -1.756 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.80 Mbit/s  
95th percentile per-packet one-way delay: 59.117 ms  
Loss rate: 0.88%  
-- Flow 1:  
Average throughput: 94.80 Mbit/s  
95th percentile per-packet one-way delay: 59.117 ms  
Loss rate: 0.88%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-11-02 18:22:48

End at: 2018-11-02 18:23:18

Local clock offset: 2.372 ms

Remote clock offset: -2.99 ms

# Below is generated by plot.py at 2018-11-02 20:05:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.61 Mbit/s

95th percentile per-packet one-way delay: 31.297 ms

Loss rate: 72.97%

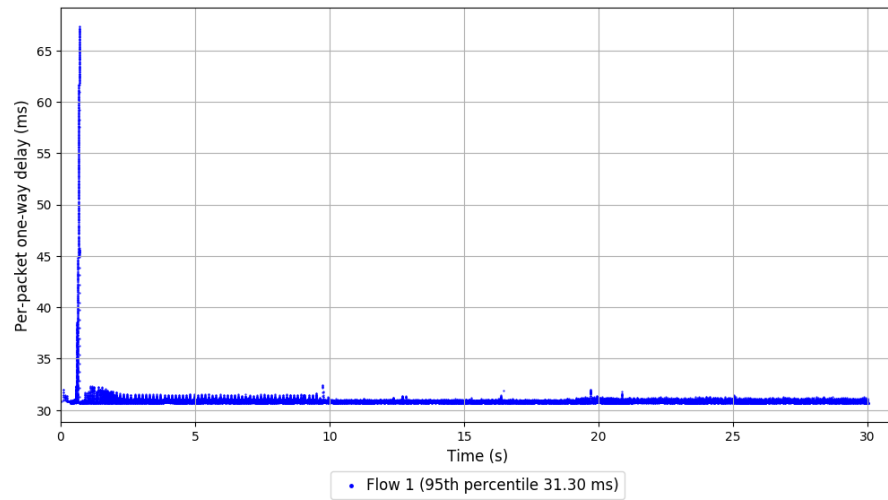
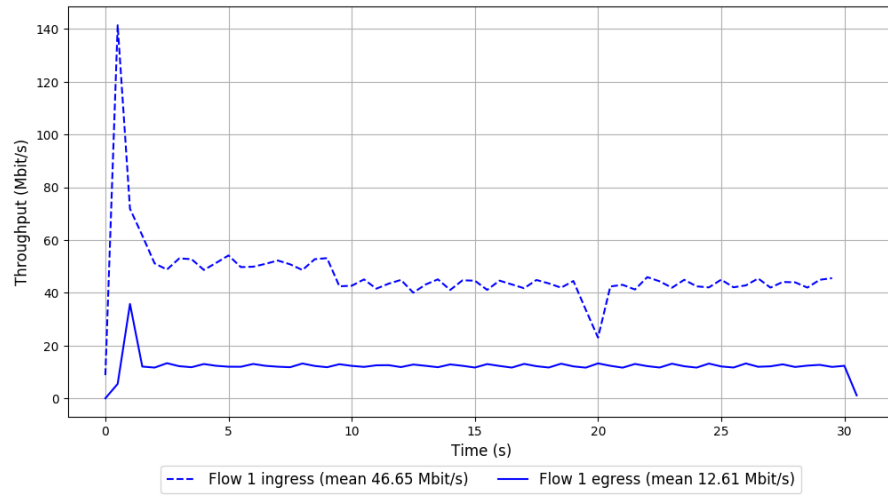
-- Flow 1:

Average throughput: 12.61 Mbit/s

95th percentile per-packet one-way delay: 31.297 ms

Loss rate: 72.97%

## Run 1: Report of Copa — Data Link

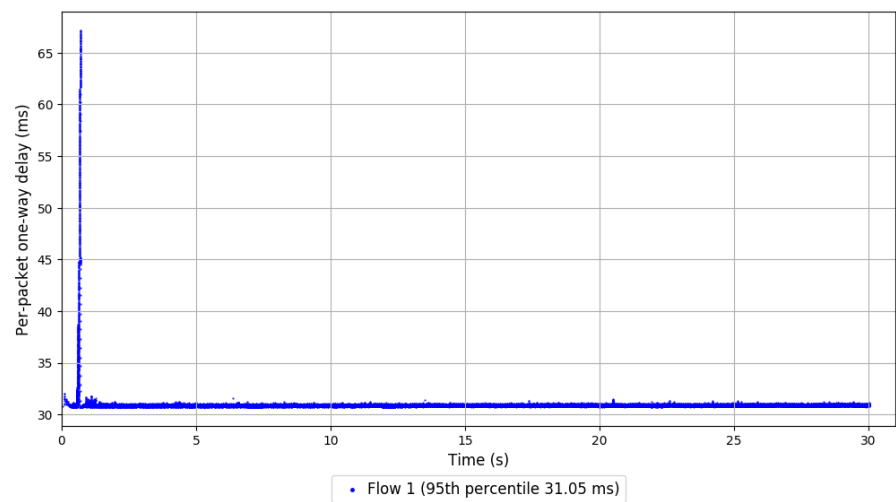
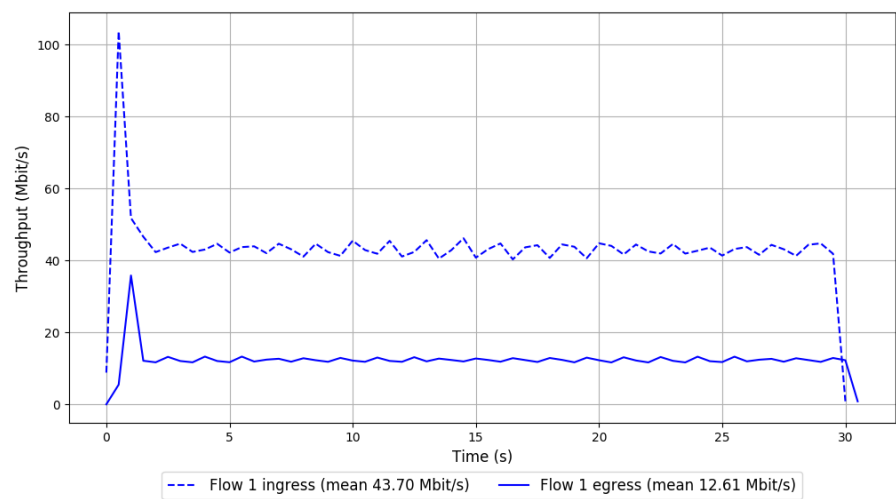


Run 2: Statistics of Copa

Start at: 2018-11-02 18:46:23  
End at: 2018-11-02 18:46:53  
Local clock offset: 4.628 ms  
Remote clock offset: -2.698 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.053 ms  
Loss rate: 71.15%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.053 ms  
Loss rate: 71.15%

Run 2: Report of Copa — Data Link

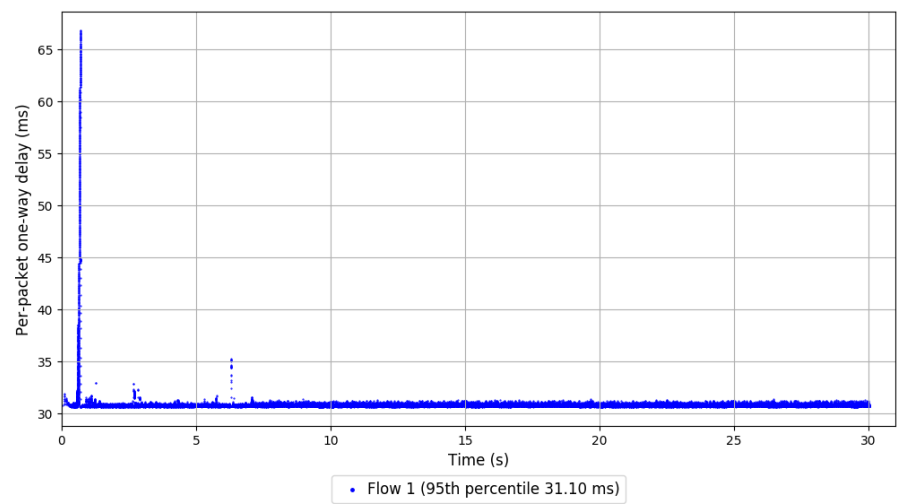
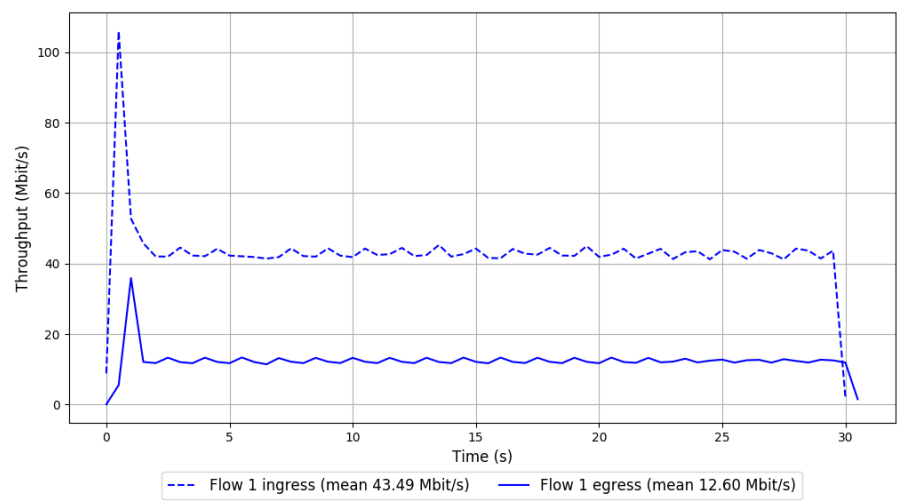


Run 3: Statistics of Copa

Start at: 2018-11-02 19:10:04  
End at: 2018-11-02 19:10:34  
Local clock offset: 5.695 ms  
Remote clock offset: -2.388 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 31.102 ms  
Loss rate: 71.02%  
-- Flow 1:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 31.102 ms  
Loss rate: 71.02%

Run 3: Report of Copa — Data Link



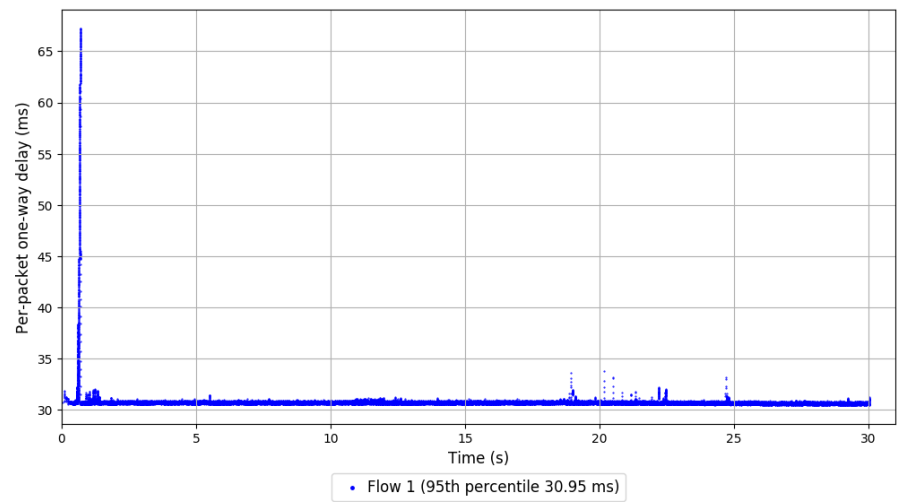
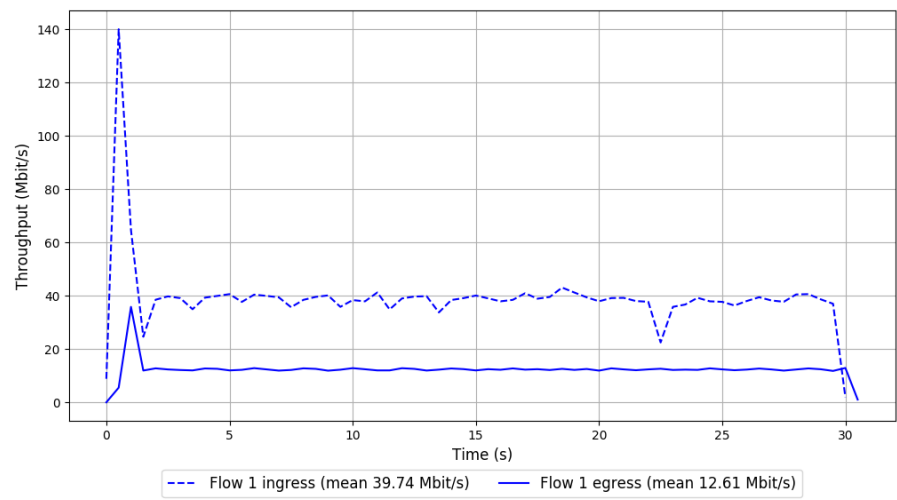


Run 4: Statistics of Copa

Start at: 2018-11-02 19:33:42  
End at: 2018-11-02 19:34:12  
Local clock offset: 6.04 ms  
Remote clock offset: -2.129 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 30.950 ms  
Loss rate: 68.26%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 30.950 ms  
Loss rate: 68.26%

Run 4: Report of Copa — Data Link

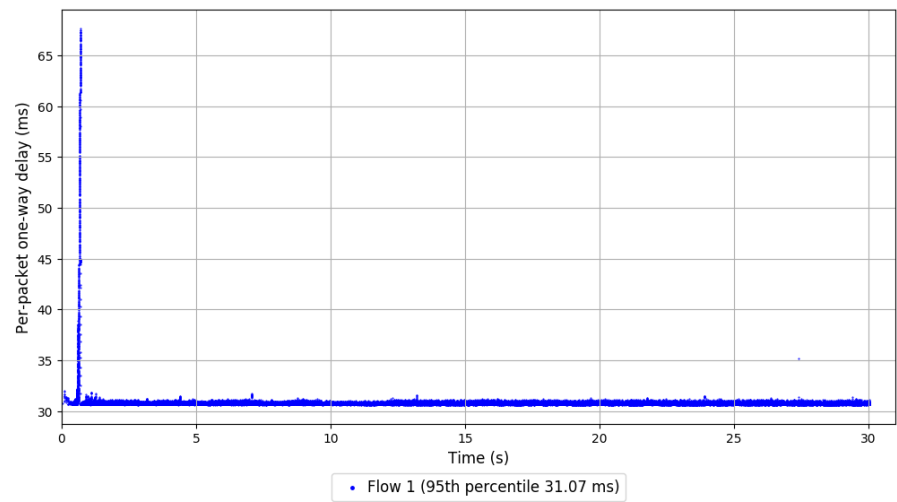
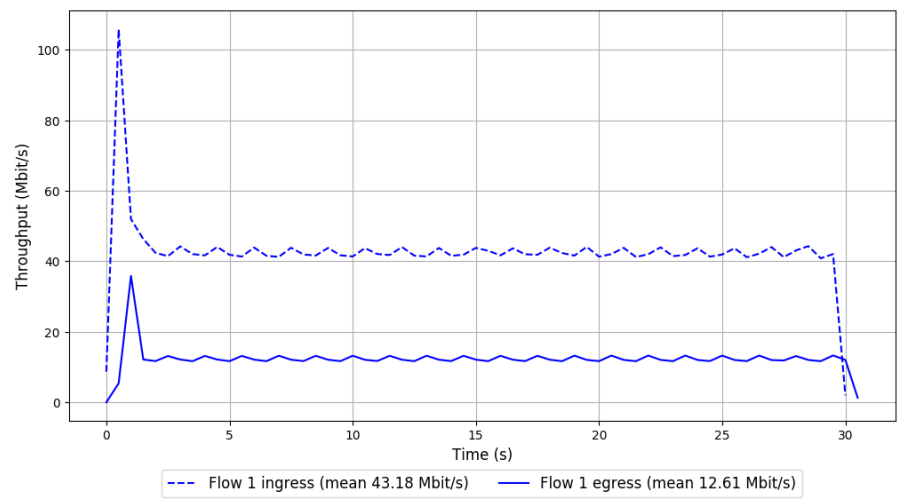


Run 5: Statistics of Copa

Start at: 2018-11-02 19:57:12  
End at: 2018-11-02 19:57:42  
Local clock offset: 1.266 ms  
Remote clock offset: -1.765 ms

# Below is generated by plot.py at 2018-11-02 20:05:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.067 ms  
Loss rate: 70.79%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.067 ms  
Loss rate: 70.79%

Run 5: Report of Copa — Data Link

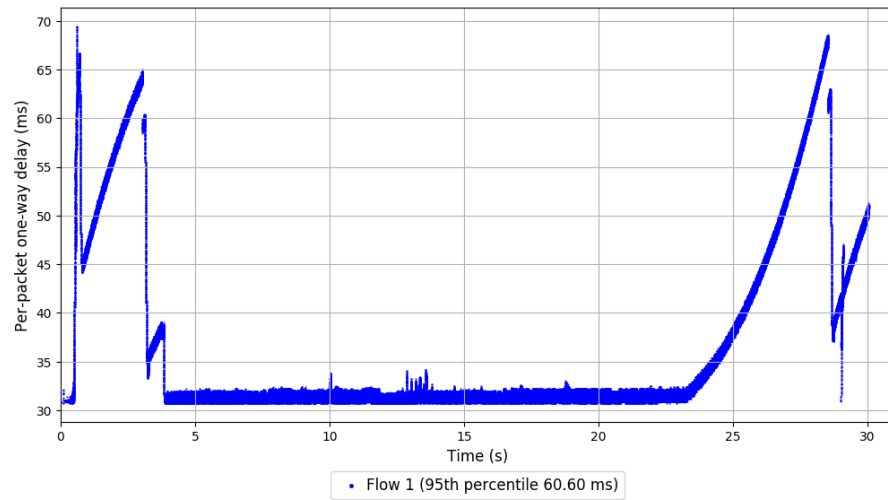
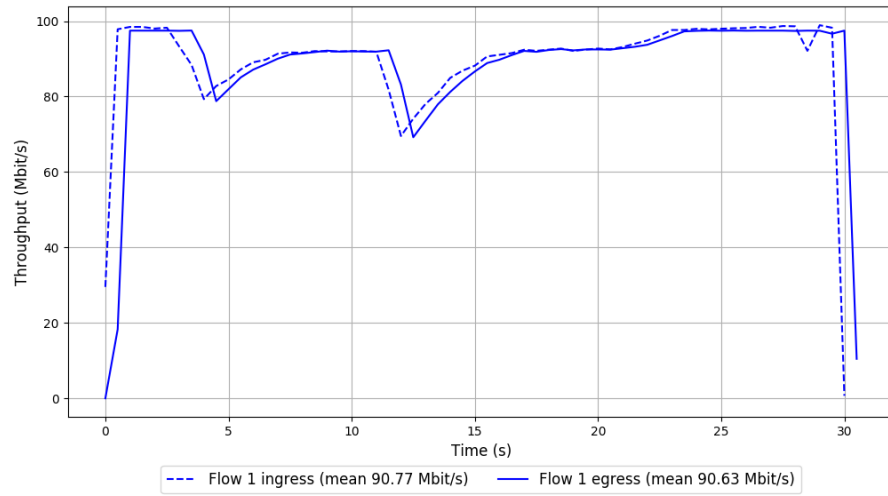


Run 1: Statistics of TCP Cubic

Start at: 2018-11-02 18:14:50  
End at: 2018-11-02 18:15:20  
Local clock offset: 2.582 ms  
Remote clock offset: -2.913 ms

# Below is generated by plot.py at 2018-11-02 20:05:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.63 Mbit/s  
95th percentile per-packet one-way delay: 60.600 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 90.63 Mbit/s  
95th percentile per-packet one-way delay: 60.600 ms  
Loss rate: 0.09%

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

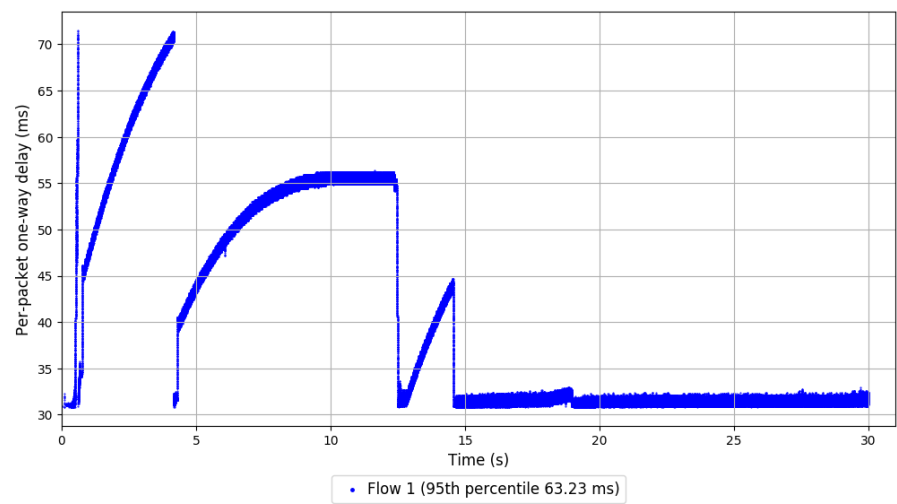
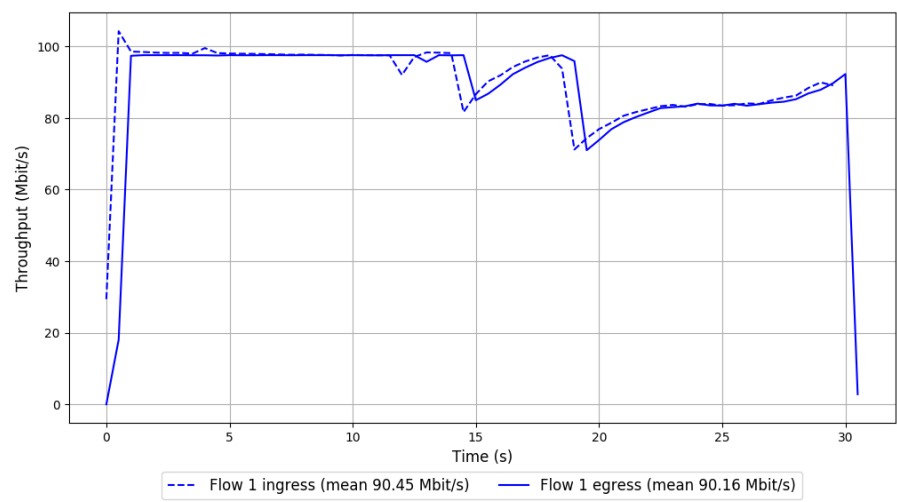


Run 2: Statistics of TCP Cubic

Start at: 2018-11-02 18:38:28  
End at: 2018-11-02 18:38:58  
Local clock offset: 3.427 ms  
Remote clock offset: -2.797 ms

# Below is generated by plot.py at 2018-11-02 20:05:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.16 Mbit/s  
95th percentile per-packet one-way delay: 63.233 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 90.16 Mbit/s  
95th percentile per-packet one-way delay: 63.233 ms  
Loss rate: 0.31%

Run 2: Report of TCP Cubic — Data Link



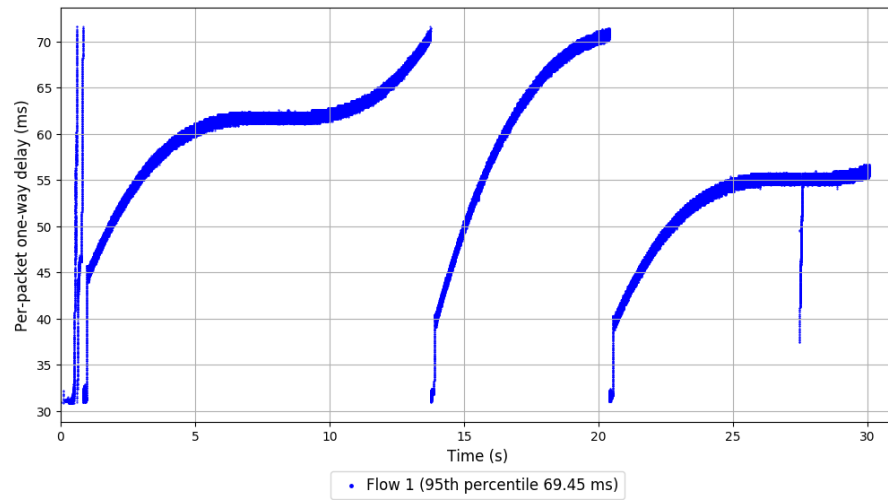
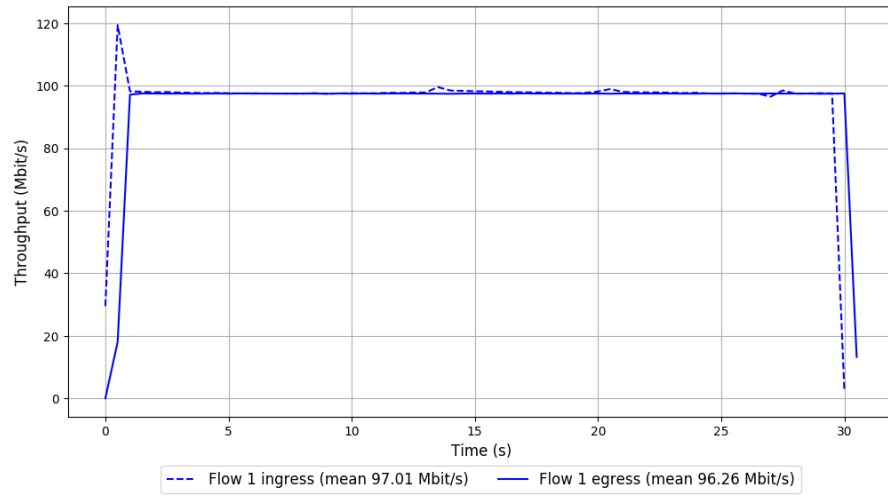


Run 3: Statistics of TCP Cubic

Start at: 2018-11-02 19:02:11  
End at: 2018-11-02 19:02:41  
Local clock offset: 5.472 ms  
Remote clock offset: -2.261 ms

# Below is generated by plot.py at 2018-11-02 20:05:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.26 Mbit/s  
95th percentile per-packet one-way delay: 69.450 ms  
Loss rate: 0.69%  
-- Flow 1:  
Average throughput: 96.26 Mbit/s  
95th percentile per-packet one-way delay: 69.450 ms  
Loss rate: 0.69%

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

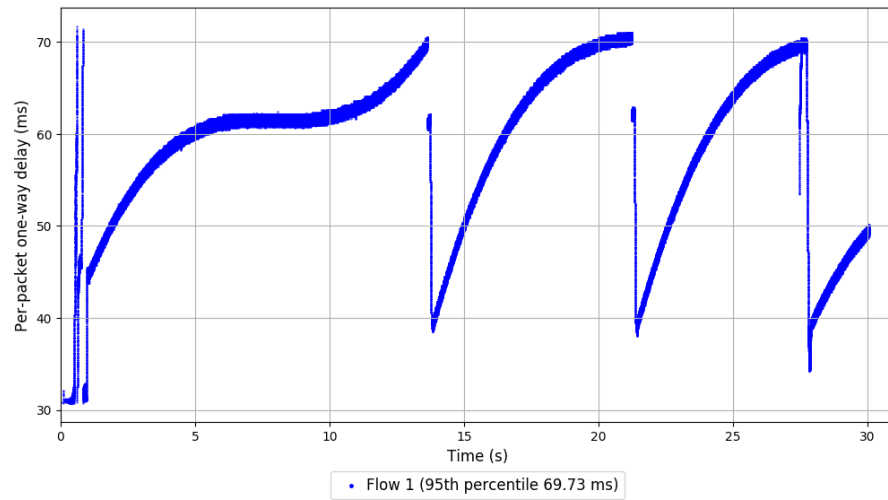
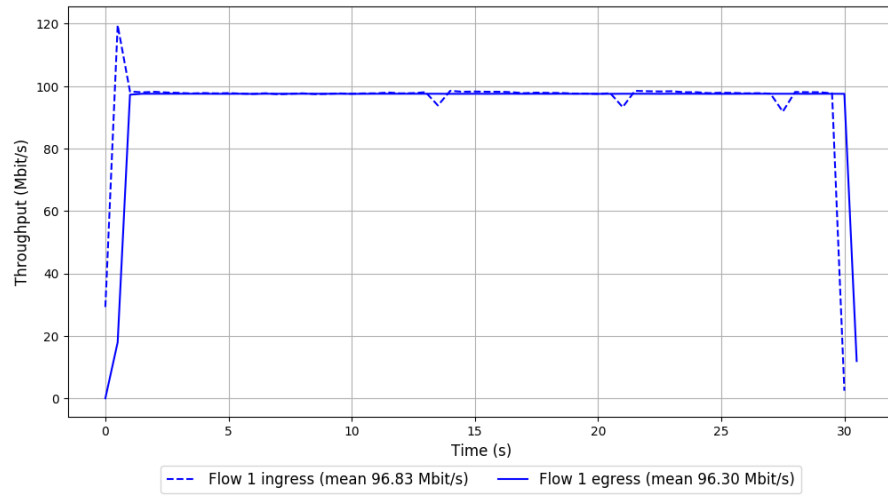


Run 4: Statistics of TCP Cubic

Start at: 2018-11-02 19:25:48  
End at: 2018-11-02 19:26:18  
Local clock offset: 5.989 ms  
Remote clock offset: -2.049 ms

# Below is generated by plot.py at 2018-11-02 20:06:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 69.730 ms  
Loss rate: 0.49%  
-- Flow 1:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 69.730 ms  
Loss rate: 0.49%

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

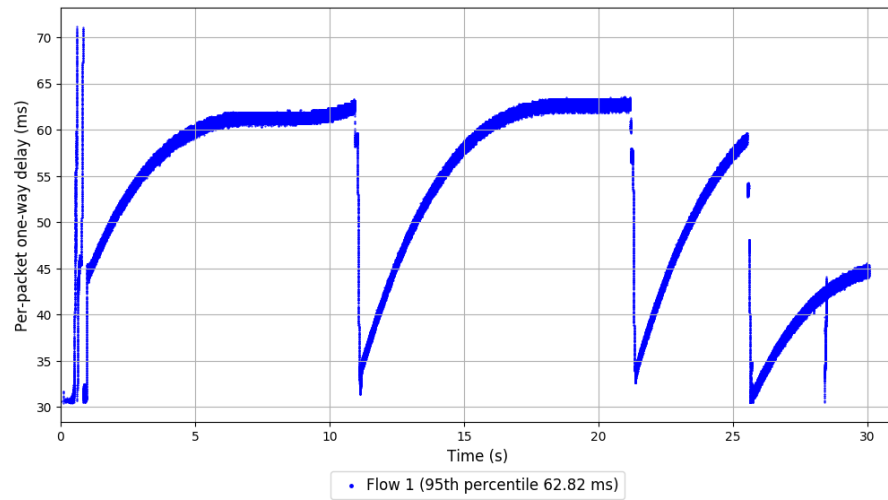
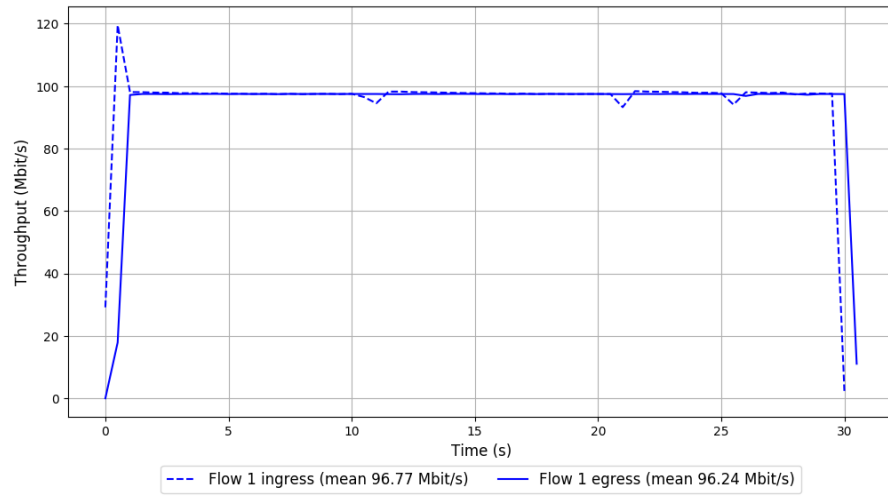


Run 5: Statistics of TCP Cubic

Start at: 2018-11-02 19:49:20  
End at: 2018-11-02 19:49:50  
Local clock offset: 2.216 ms  
Remote clock offset: -2.007 ms

# Below is generated by plot.py at 2018-11-02 20:06:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.24 Mbit/s  
95th percentile per-packet one-way delay: 62.820 ms  
Loss rate: 0.50%  
-- Flow 1:  
Average throughput: 96.24 Mbit/s  
95th percentile per-packet one-way delay: 62.820 ms  
Loss rate: 0.50%

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

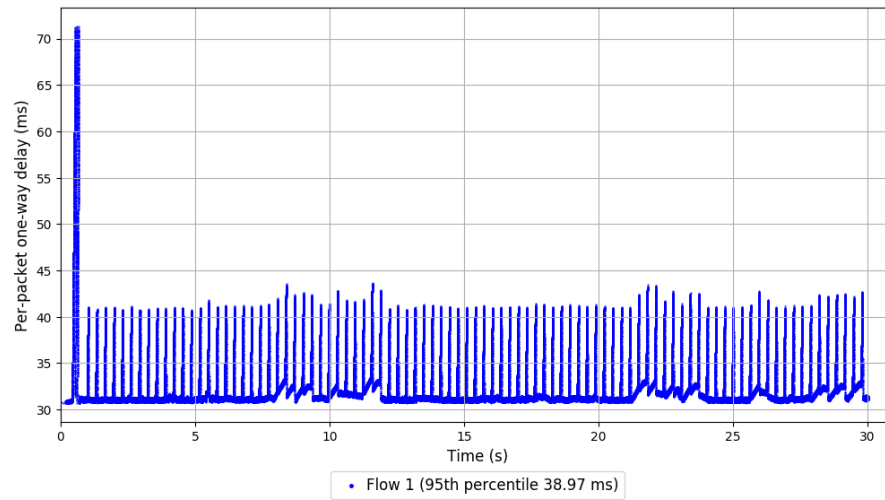
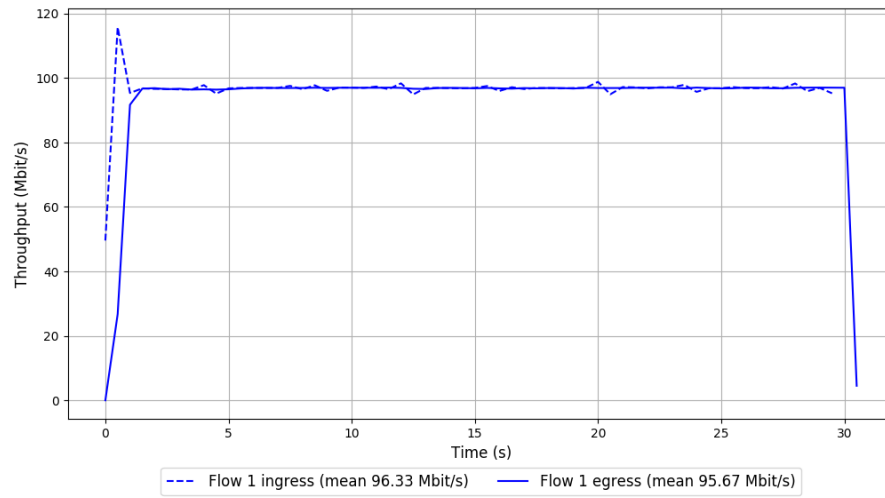


Run 1: Statistics of FillP

Start at: 2018-11-02 18:21:24  
End at: 2018-11-02 18:21:54  
Local clock offset: 2.37 ms  
Remote clock offset: -2.845 ms

# Below is generated by plot.py at 2018-11-02 20:06:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 38.970 ms  
Loss rate: 0.69%  
-- Flow 1:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 38.970 ms  
Loss rate: 0.69%

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



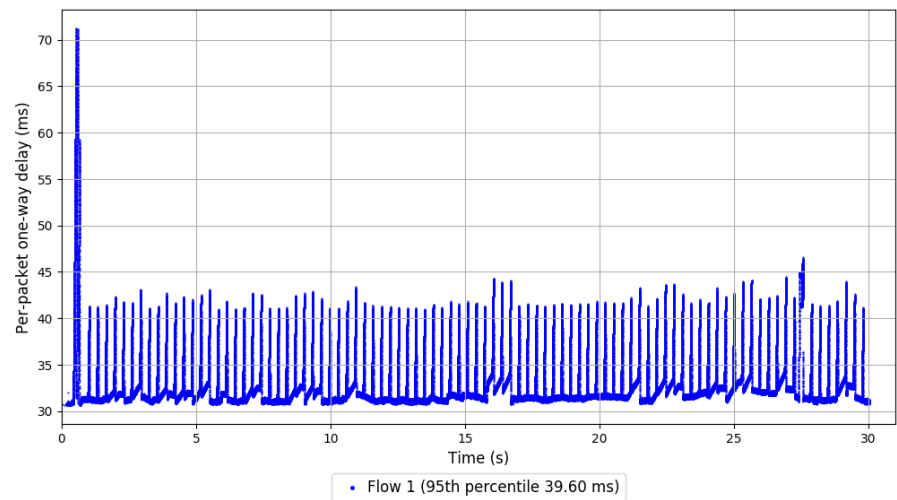
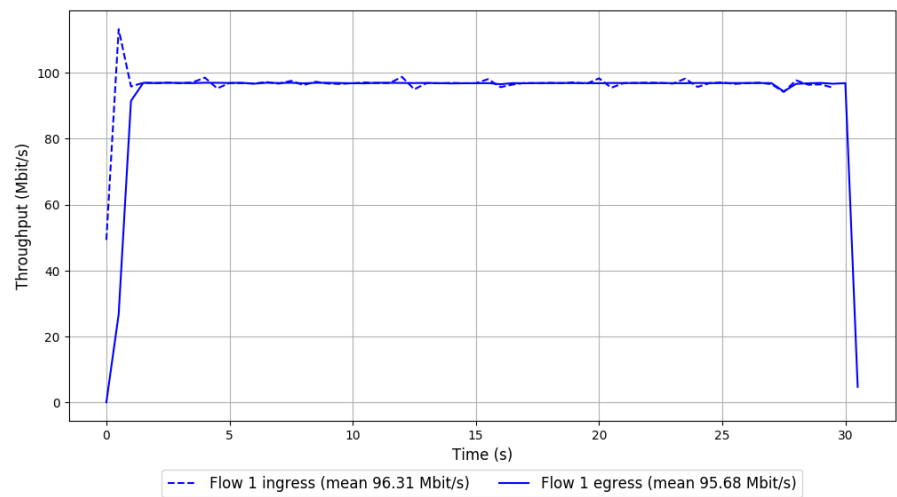


Run 2: Statistics of FillP

Start at: 2018-11-02 18:45:03  
End at: 2018-11-02 18:45:33  
Local clock offset: 4.495 ms  
Remote clock offset: -2.688 ms

# Below is generated by plot.py at 2018-11-02 20:06:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.68 Mbit/s  
95th percentile per-packet one-way delay: 39.599 ms  
Loss rate: 0.65%  
-- Flow 1:  
Average throughput: 95.68 Mbit/s  
95th percentile per-packet one-way delay: 39.599 ms  
Loss rate: 0.65%

Run 2: Report of FillP — Data Link

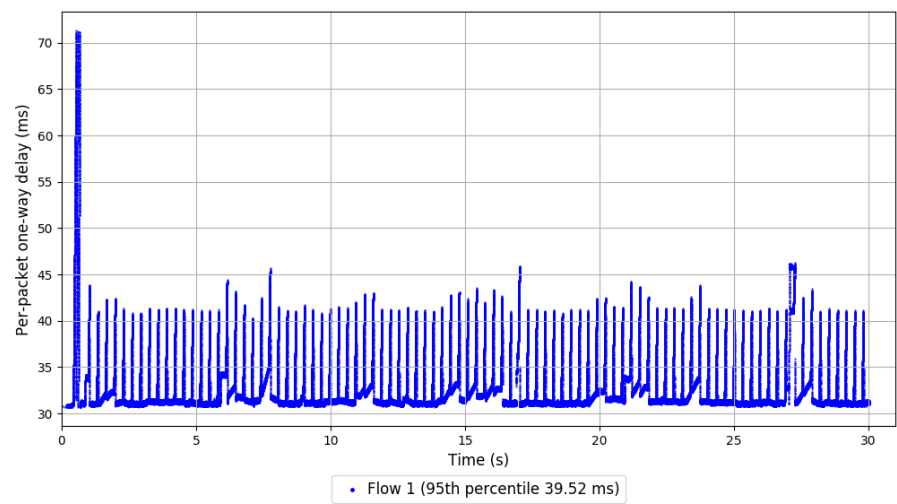
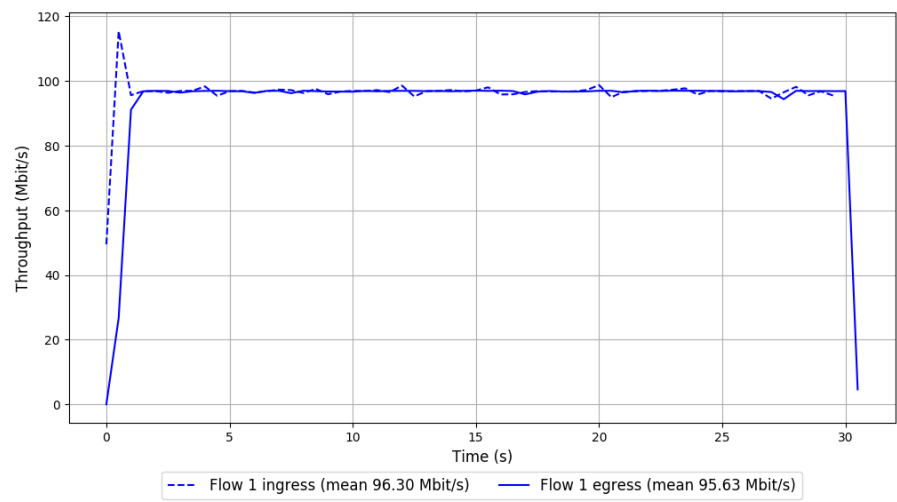


Run 3: Statistics of FillP

Start at: 2018-11-02 19:08:45  
End at: 2018-11-02 19:09:15  
Local clock offset: 5.657 ms  
Remote clock offset: -2.238 ms

# Below is generated by plot.py at 2018-11-02 20:06:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.63 Mbit/s  
95th percentile per-packet one-way delay: 39.522 ms  
Loss rate: 0.70%  
-- Flow 1:  
Average throughput: 95.63 Mbit/s  
95th percentile per-packet one-way delay: 39.522 ms  
Loss rate: 0.70%

Run 3: Report of FillP — Data Link

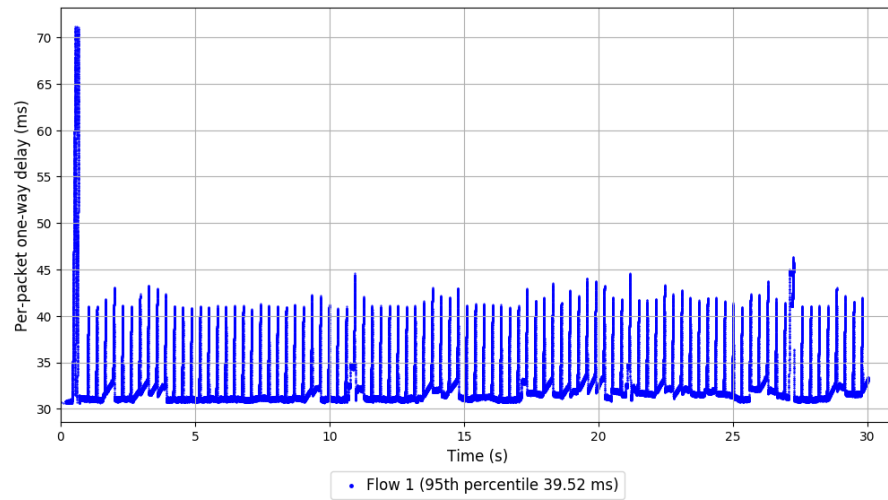
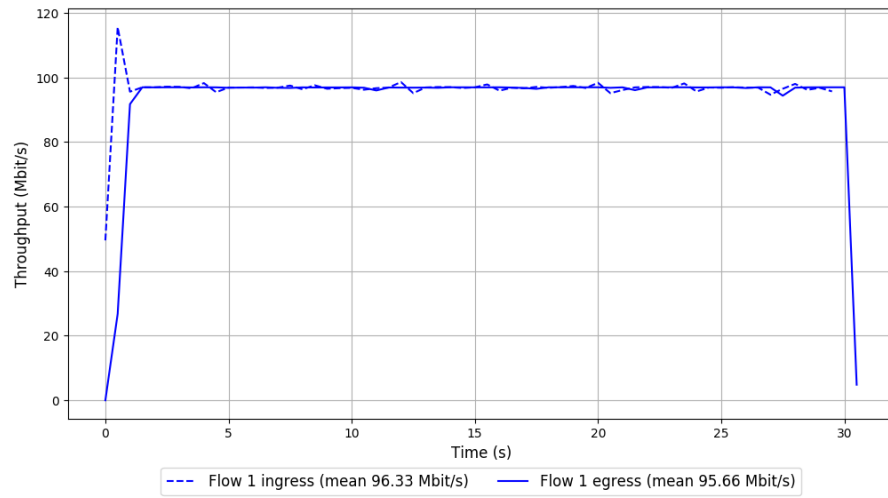


Run 4: Statistics of FillP

Start at: 2018-11-02 19:32:22  
End at: 2018-11-02 19:32:52  
Local clock offset: 6.06 ms  
Remote clock offset: -1.939 ms

# Below is generated by plot.py at 2018-11-02 20:06:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.66 Mbit/s  
95th percentile per-packet one-way delay: 39.515 ms  
Loss rate: 0.68%  
-- Flow 1:  
Average throughput: 95.66 Mbit/s  
95th percentile per-packet one-way delay: 39.515 ms  
Loss rate: 0.68%

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

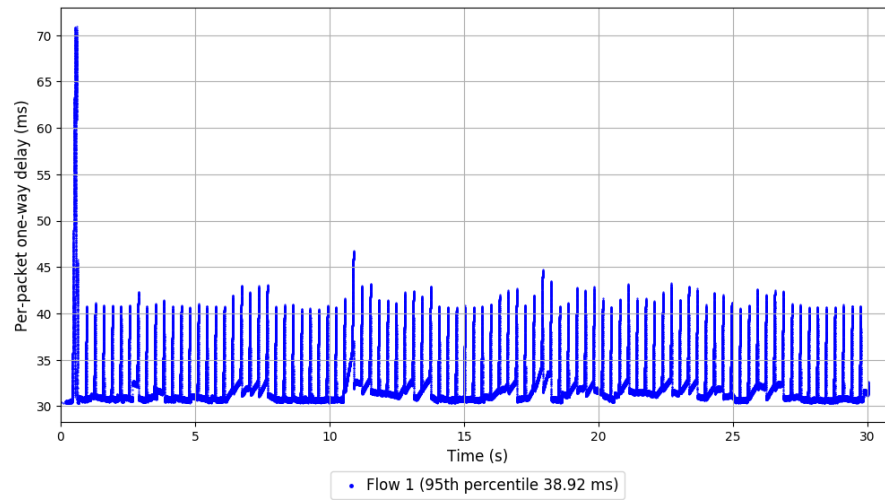
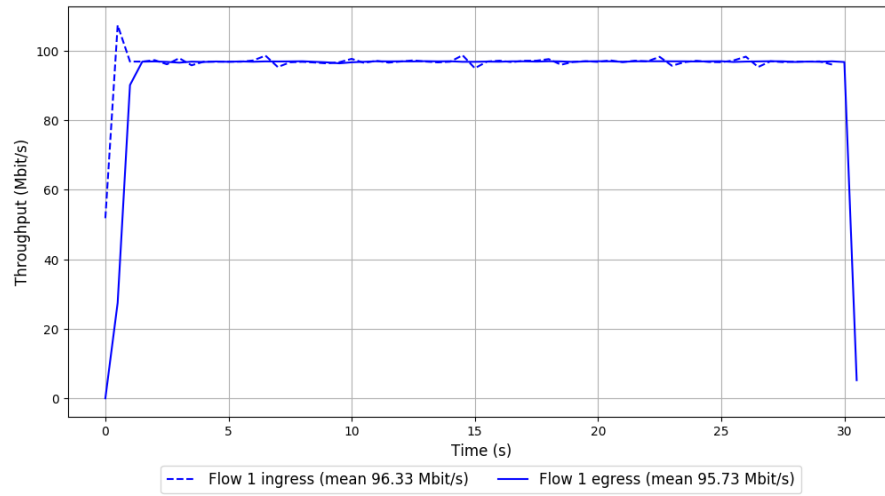


Run 5: Statistics of FillP

Start at: 2018-11-02 19:55:53  
End at: 2018-11-02 19:56:23  
Local clock offset: 1.423 ms  
Remote clock offset: -1.917 ms

# Below is generated by plot.py at 2018-11-02 20:07:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.73 Mbit/s  
95th percentile per-packet one-way delay: 38.920 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 95.73 Mbit/s  
95th percentile per-packet one-way delay: 38.920 ms  
Loss rate: 0.62%

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



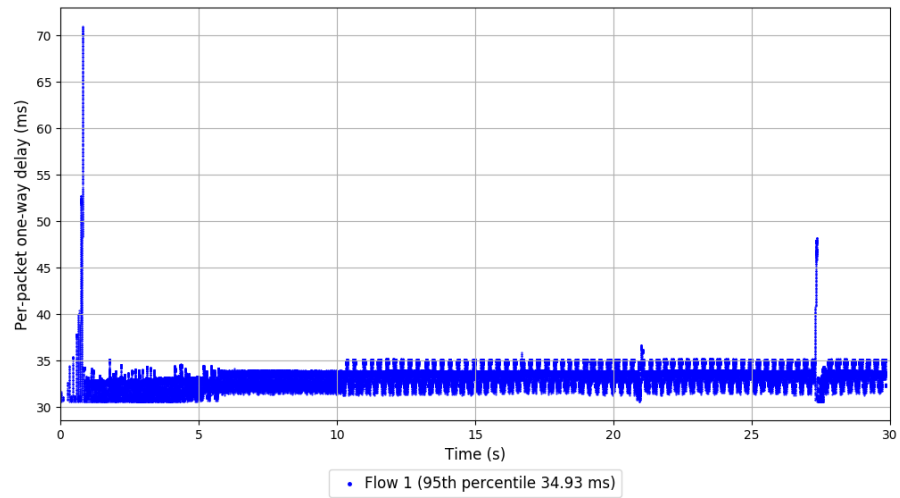
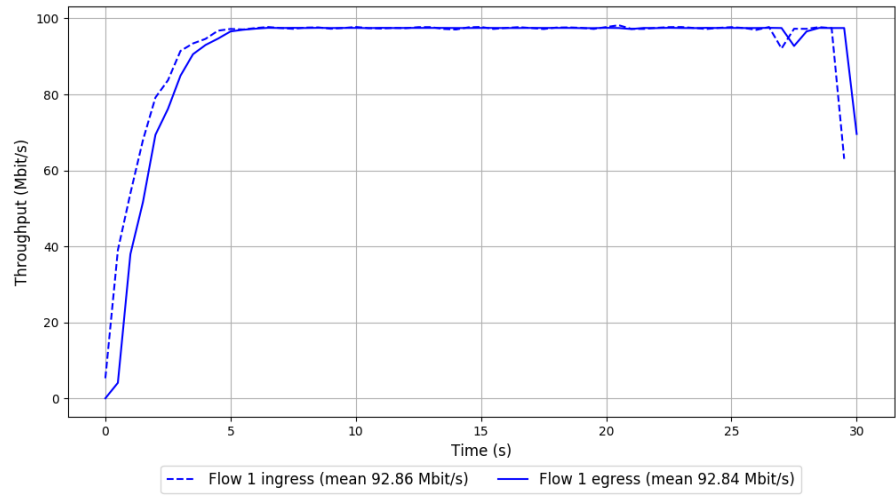


```
Run 1: Statistics of Indigo

Start at: 2018-11-02 18:13:30
End at: 2018-11-02 18:14:00
Local clock offset: 2.602 ms
Remote clock offset: -3.084 ms

# Below is generated by plot.py at 2018-11-02 20:07:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.84 Mbit/s
95th percentile per-packet one-way delay: 34.930 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 92.84 Mbit/s
95th percentile per-packet one-way delay: 34.930 ms
Loss rate: 0.02%
```

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



Run 2: Statistics of Indigo

Start at: 2018-11-02 18:37:07

End at: 2018-11-02 18:37:37

Local clock offset: 3.055 ms

Remote clock offset: -2.721 ms

# Below is generated by plot.py at 2018-11-02 20:07:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 35.897 ms

Loss rate: 0.03%

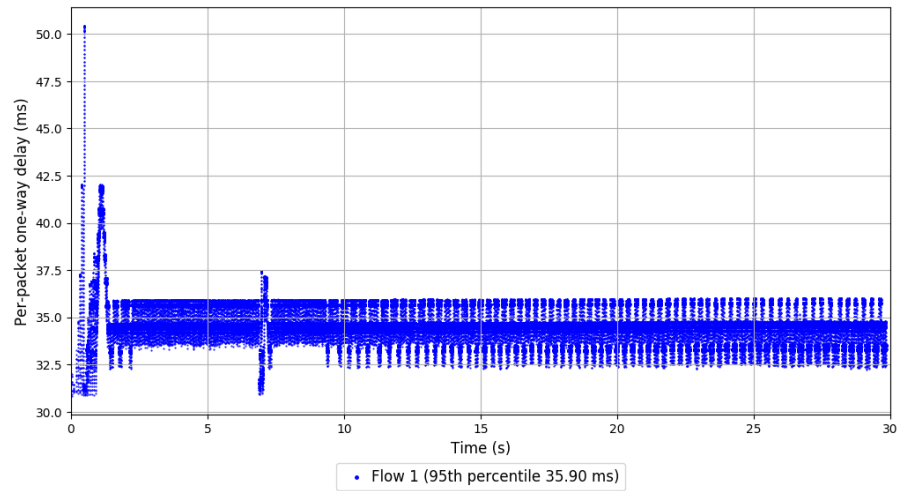
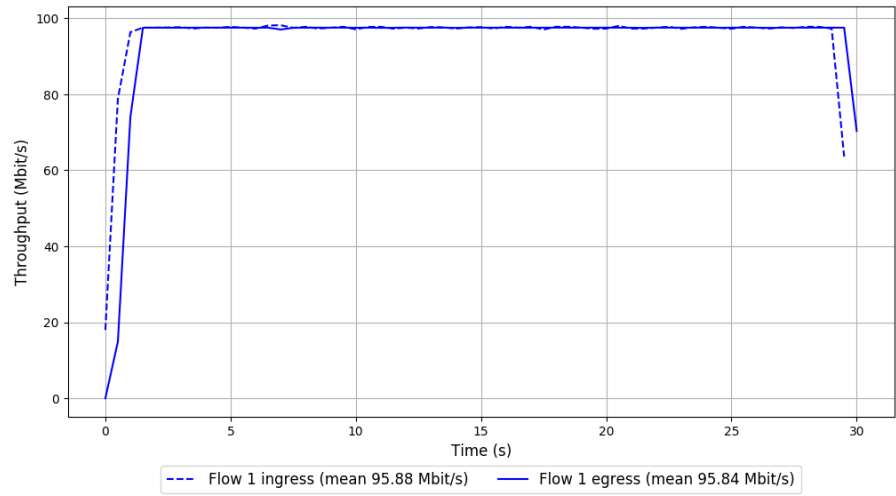
-- Flow 1:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 35.897 ms

Loss rate: 0.03%

## Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-11-02 19:00:49

End at: 2018-11-02 19:01:19

Local clock offset: 5.407 ms

Remote clock offset: -2.317 ms

# Below is generated by plot.py at 2018-11-02 20:07:38

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 35.787 ms

Loss rate: 0.01%

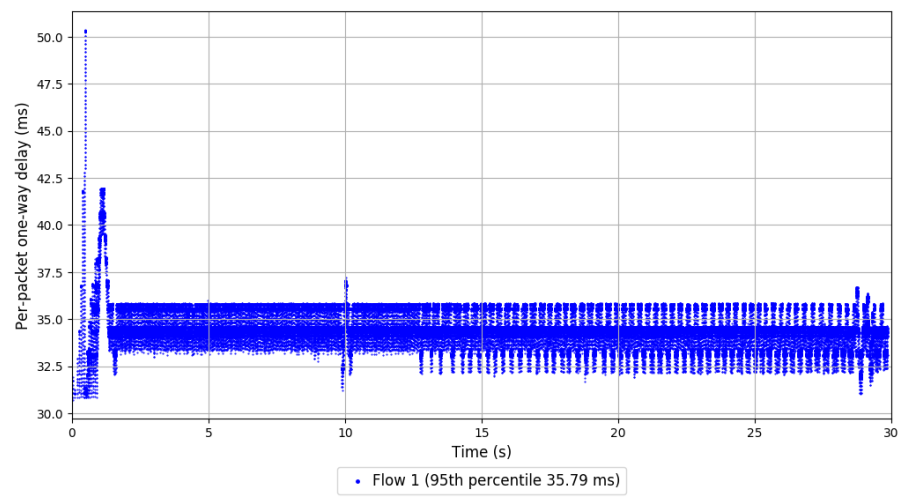
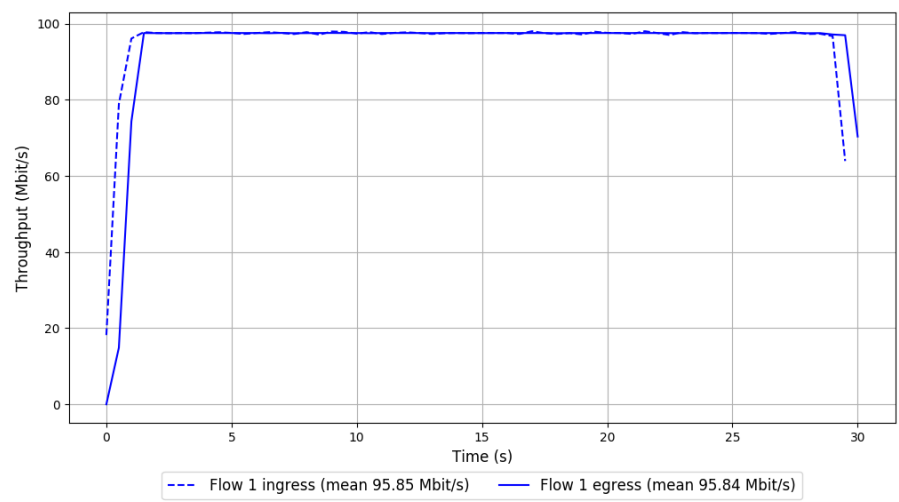
-- Flow 1:

Average throughput: 95.84 Mbit/s

95th percentile per-packet one-way delay: 35.787 ms

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link

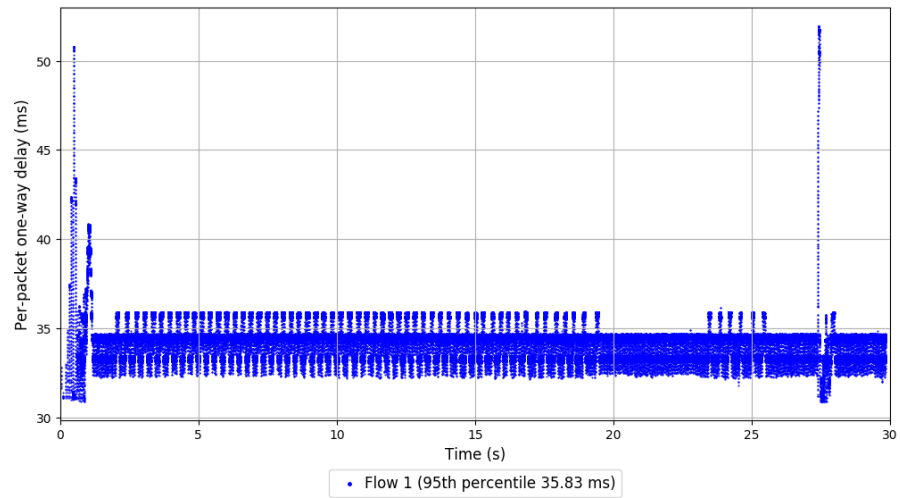
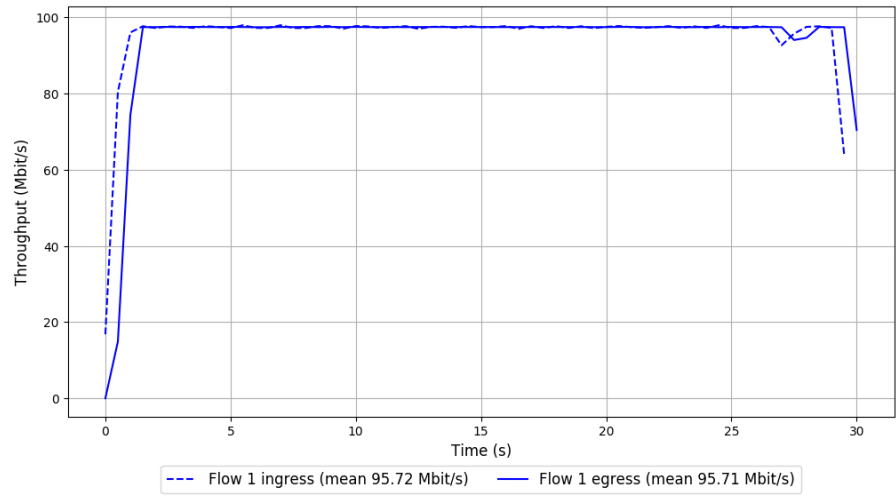


Run 4: Statistics of Indigo

Start at: 2018-11-02 19:24:27  
End at: 2018-11-02 19:24:57  
Local clock offset: 5.976 ms  
Remote clock offset: -1.883 ms

# Below is generated by plot.py at 2018-11-02 20:07:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.71 Mbit/s  
95th percentile per-packet one-way delay: 35.827 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 95.71 Mbit/s  
95th percentile per-packet one-way delay: 35.827 ms  
Loss rate: 0.00%

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



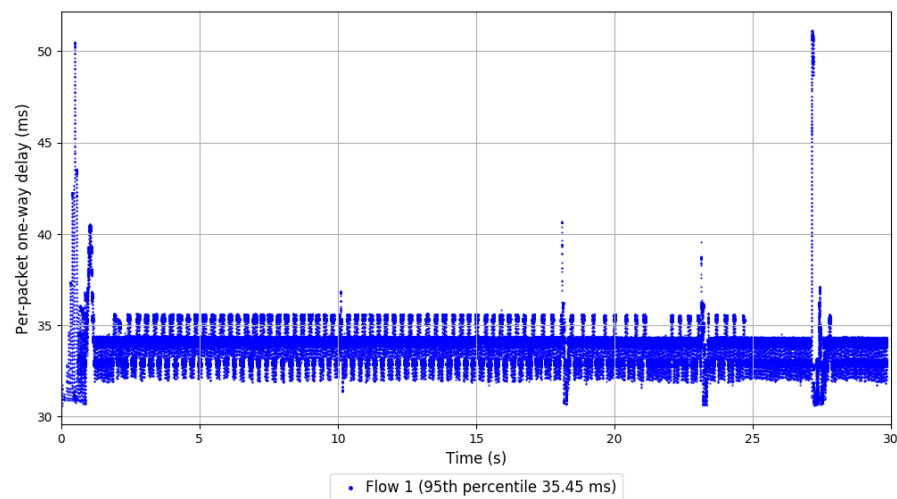
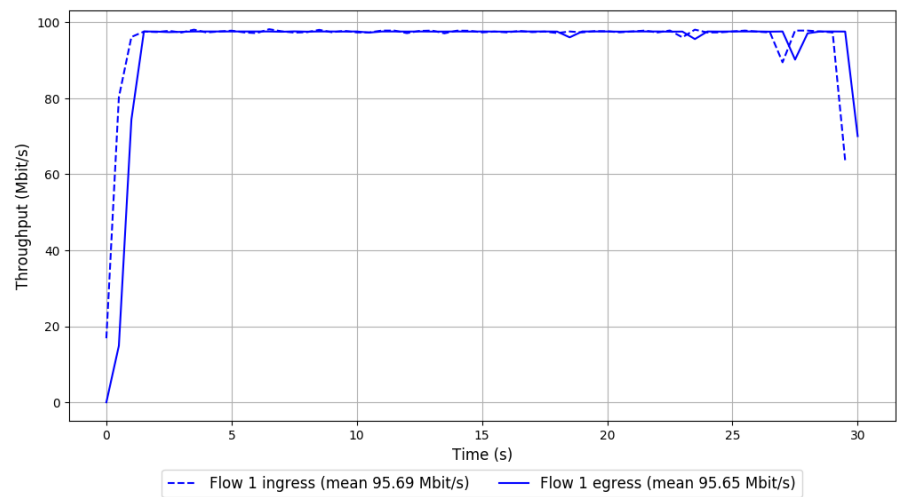


Run 5: Statistics of Indigo

Start at: 2018-11-02 19:47:59  
End at: 2018-11-02 19:48:29  
Local clock offset: 2.396 ms  
Remote clock offset: -1.764 ms

# Below is generated by plot.py at 2018-11-02 20:07:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 35.455 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 35.455 ms  
Loss rate: 0.03%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:24:05

End at: 2018-11-02 18:24:35

Local clock offset: 2.362 ms

Remote clock offset: -2.824 ms

# Below is generated by plot.py at 2018-11-02 20:07:50

# Datalink statistics

-- Total of 1 flow:

Average throughput: 55.71 Mbit/s

95th percentile per-packet one-way delay: 68.690 ms

Loss rate: 58.96%

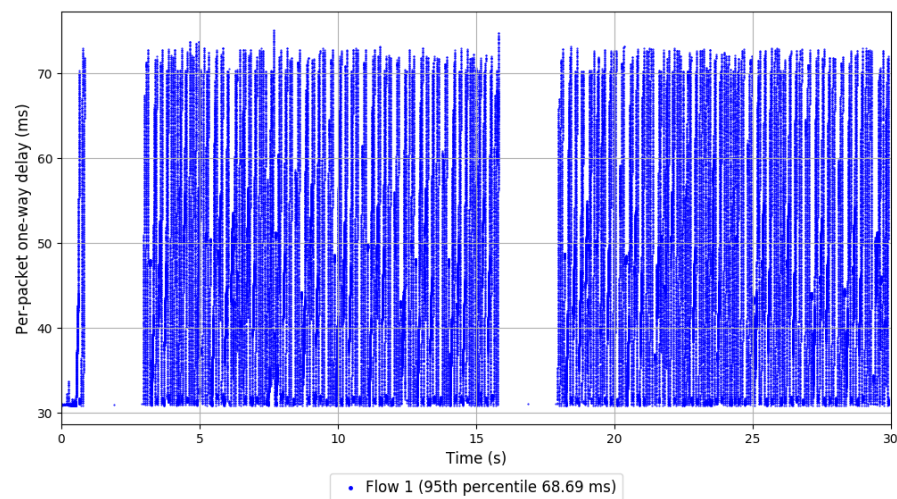
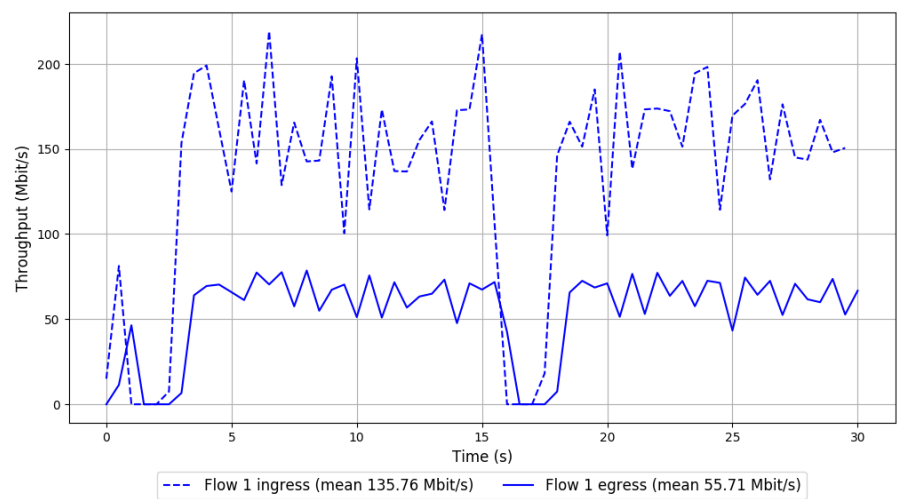
-- Flow 1:

Average throughput: 55.71 Mbit/s

95th percentile per-packet one-way delay: 68.690 ms

Loss rate: 58.96%

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

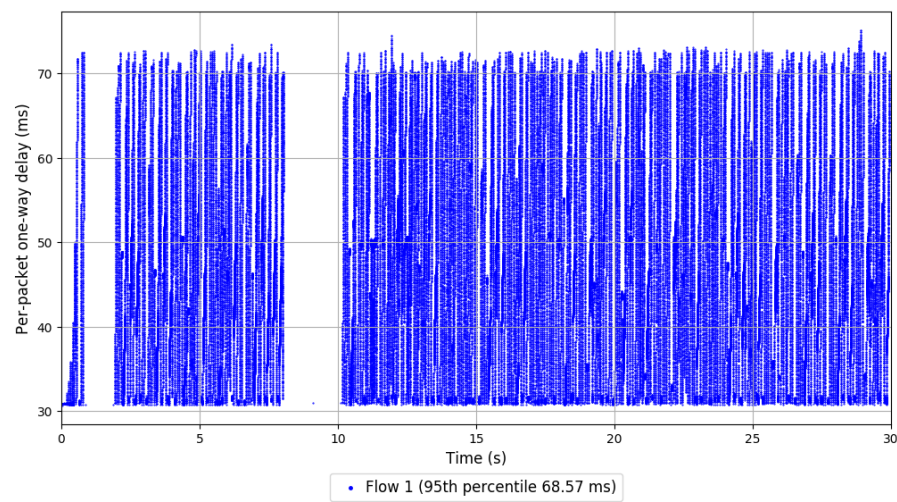
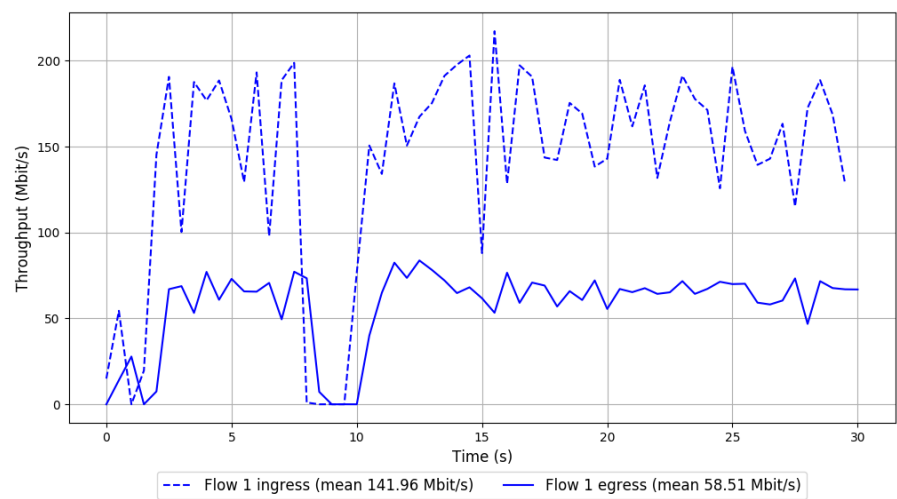


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:47:39  
End at: 2018-11-02 18:48:09  
Local clock offset: 4.749 ms  
Remote clock offset: -2.625 ms

# Below is generated by plot.py at 2018-11-02 20:07:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.51 Mbit/s  
95th percentile per-packet one-way delay: 68.572 ms  
Loss rate: 58.75%  
-- Flow 1:  
Average throughput: 58.51 Mbit/s  
95th percentile per-packet one-way delay: 68.572 ms  
Loss rate: 58.75%

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

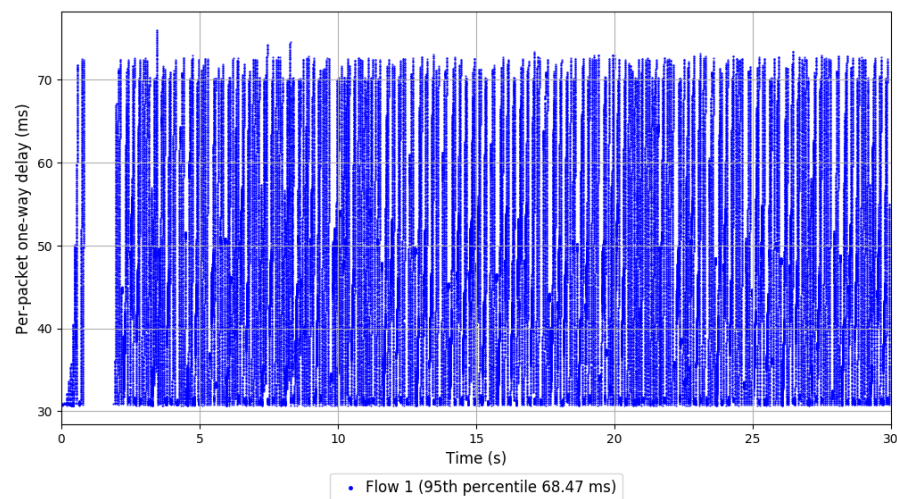
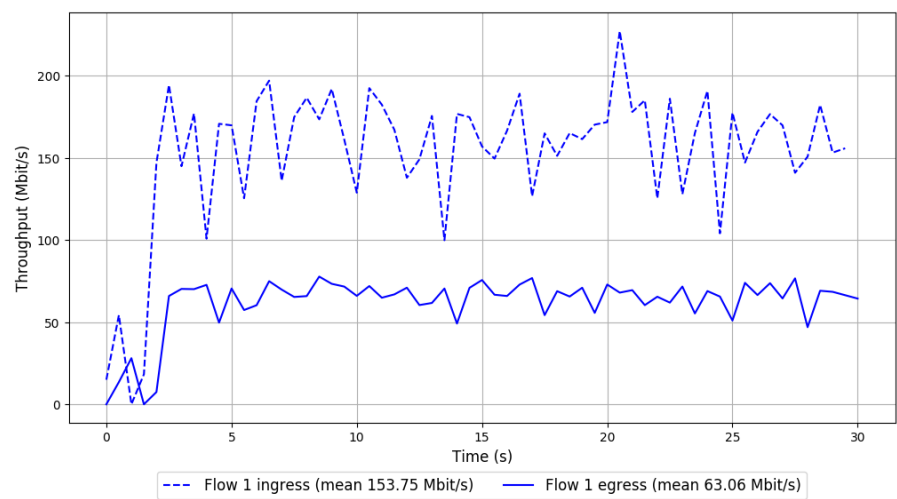


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:11:21  
End at: 2018-11-02 19:11:51  
Local clock offset: 5.721 ms  
Remote clock offset: -2.253 ms

# Below is generated by plot.py at 2018-11-02 20:08:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.06 Mbit/s  
95th percentile per-packet one-way delay: 68.470 ms  
Loss rate: 58.95%  
-- Flow 1:  
Average throughput: 63.06 Mbit/s  
95th percentile per-packet one-way delay: 68.470 ms  
Loss rate: 58.95%

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





Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:34:58

End at: 2018-11-02 19:35:28

Local clock offset: 5.844 ms

Remote clock offset: -1.921 ms

# Below is generated by plot.py at 2018-11-02 20:08:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 60.71 Mbit/s

95th percentile per-packet one-way delay: 68.390 ms

Loss rate: 59.49%

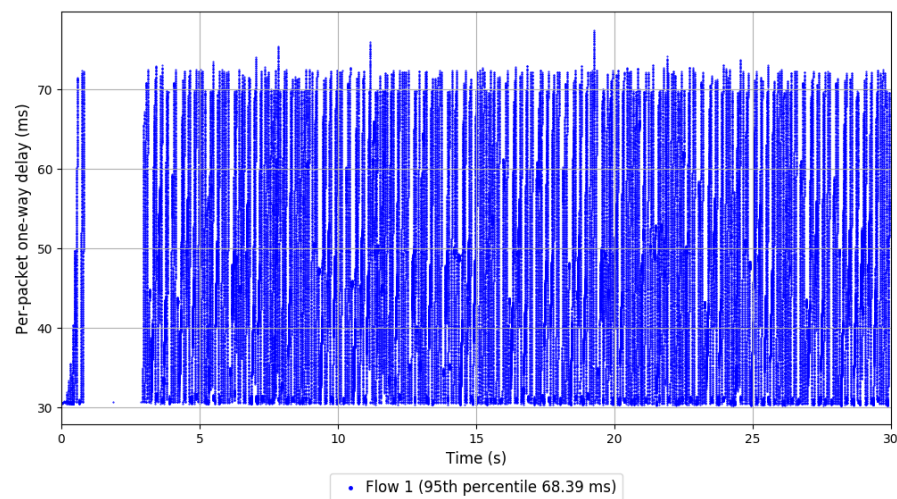
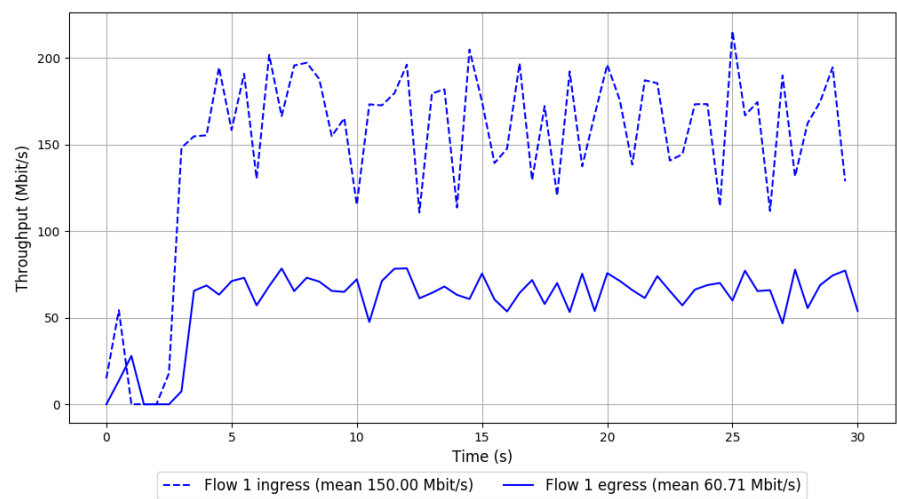
-- Flow 1:

Average throughput: 60.71 Mbit/s

95th percentile per-packet one-way delay: 68.390 ms

Loss rate: 59.49%

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

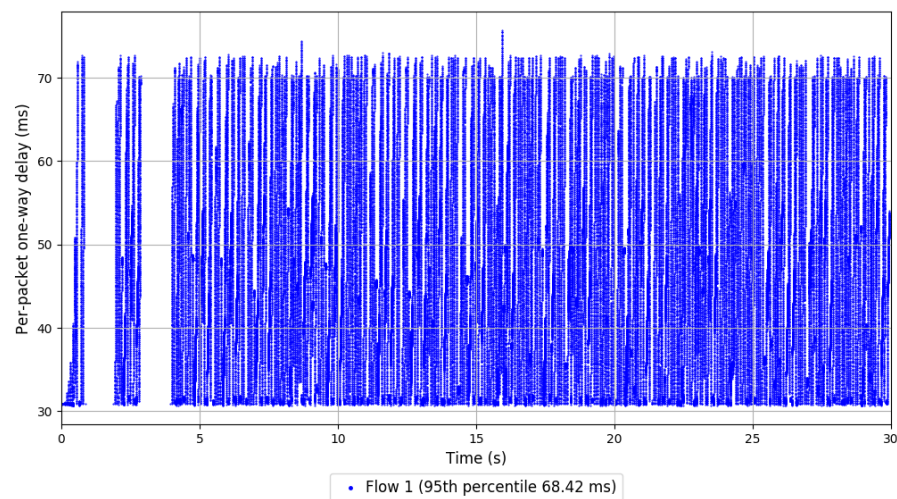
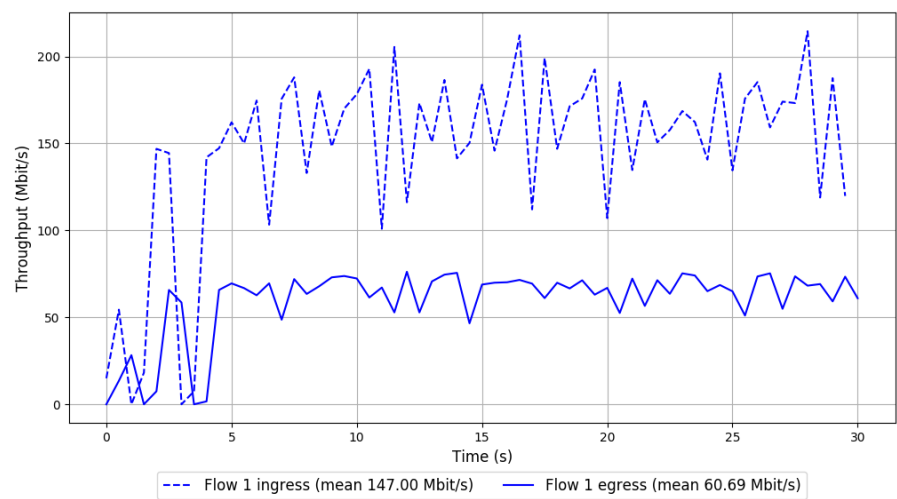


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:58:29  
End at: 2018-11-02 19:58:59  
Local clock offset: 1.224 ms  
Remote clock offset: -1.707 ms

# Below is generated by plot.py at 2018-11-02 20:08:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 60.69 Mbit/s  
95th percentile per-packet one-way delay: 68.420 ms  
Loss rate: 58.68%  
-- Flow 1:  
Average throughput: 60.69 Mbit/s  
95th percentile per-packet one-way delay: 68.420 ms  
Loss rate: 58.68%

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

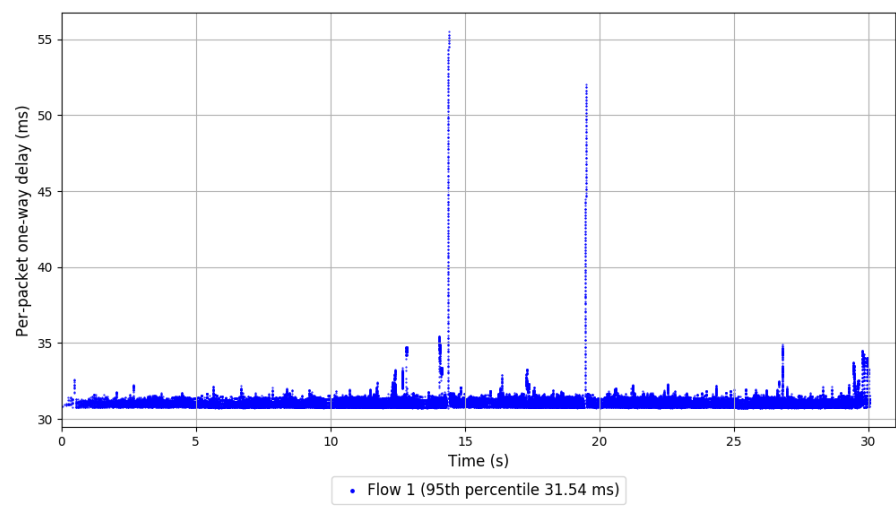
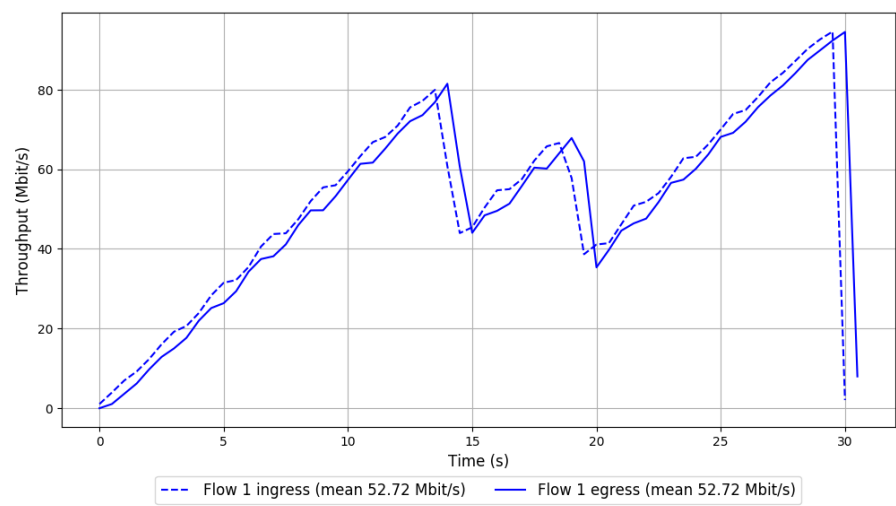


Run 1: Statistics of LEDBAT

Start at: 2018-11-02 18:09:35  
End at: 2018-11-02 18:10:05  
Local clock offset: 2.673 ms  
Remote clock offset: -3.123 ms

# Below is generated by plot.py at 2018-11-02 20:08:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 52.72 Mbit/s  
95th percentile per-packet one-way delay: 31.544 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 52.72 Mbit/s  
95th percentile per-packet one-way delay: 31.544 ms  
Loss rate: 0.00%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-11-02 18:33:10

End at: 2018-11-02 18:33:40

Local clock offset: 2.233 ms

Remote clock offset: -2.82 ms

# Below is generated by plot.py at 2018-11-02 20:08:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 70.31 Mbit/s

95th percentile per-packet one-way delay: 57.921 ms

Loss rate: 0.00%

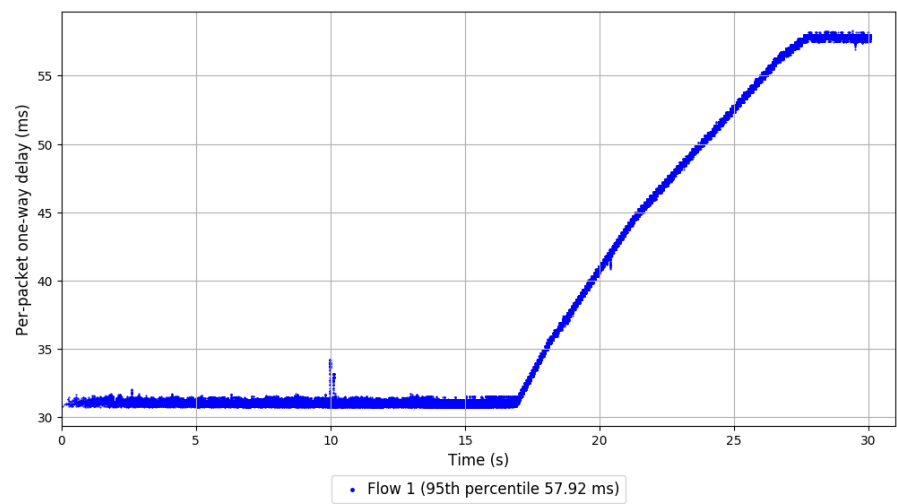
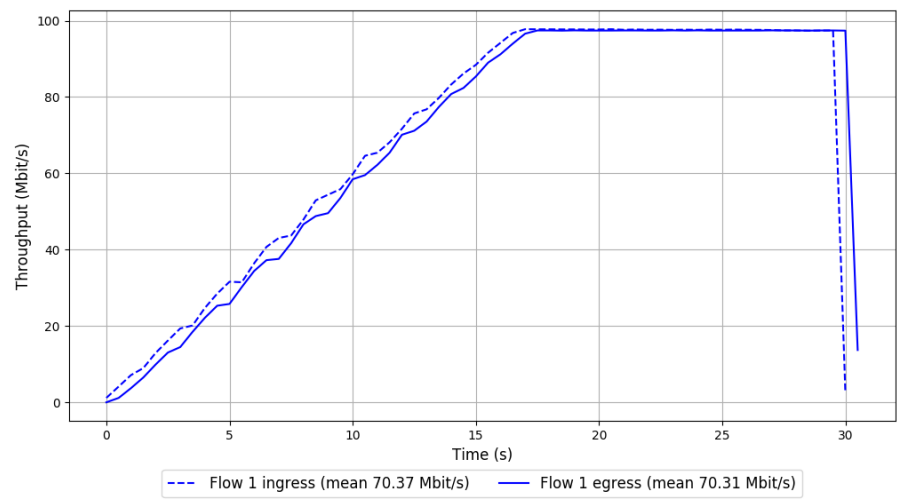
-- Flow 1:

Average throughput: 70.31 Mbit/s

95th percentile per-packet one-way delay: 57.921 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



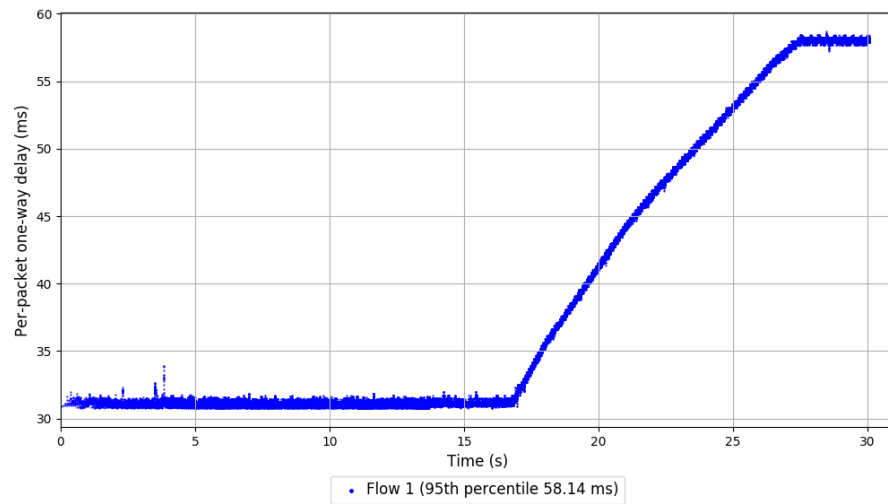
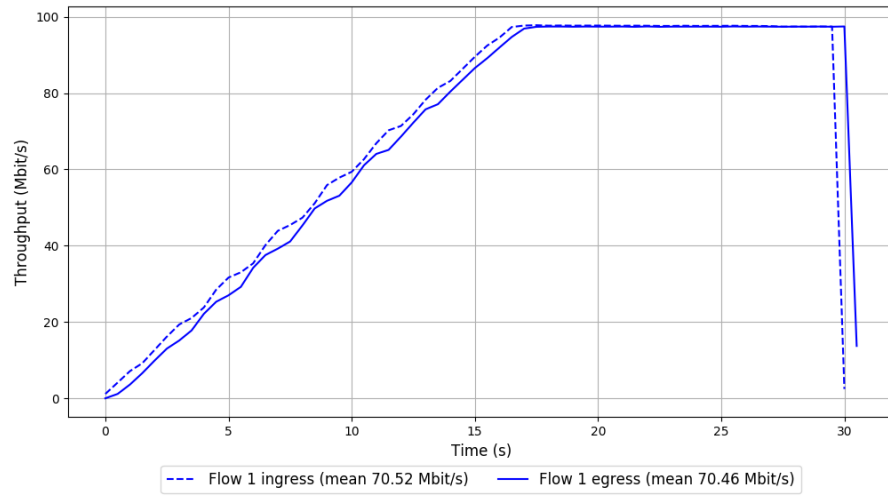


Run 3: Statistics of LEDBAT

Start at: 2018-11-02 18:56:52  
End at: 2018-11-02 18:57:22  
Local clock offset: 5.281 ms  
Remote clock offset: -2.388 ms

# Below is generated by plot.py at 2018-11-02 20:08:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.46 Mbit/s  
95th percentile per-packet one-way delay: 58.136 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.46 Mbit/s  
95th percentile per-packet one-way delay: 58.136 ms  
Loss rate: 0.00%

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



Run 4: Statistics of LEDBAT

Start at: 2018-11-02 19:20:32

End at: 2018-11-02 19:21:02

Local clock offset: 5.895 ms

Remote clock offset: -2.31 ms

# Below is generated by plot.py at 2018-11-02 20:08:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 48.90 Mbit/s

95th percentile per-packet one-way delay: 43.875 ms

Loss rate: 0.03%

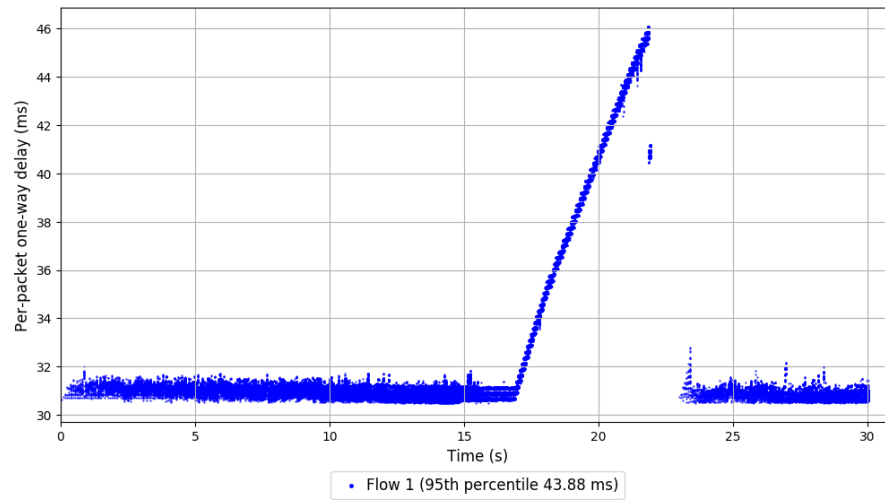
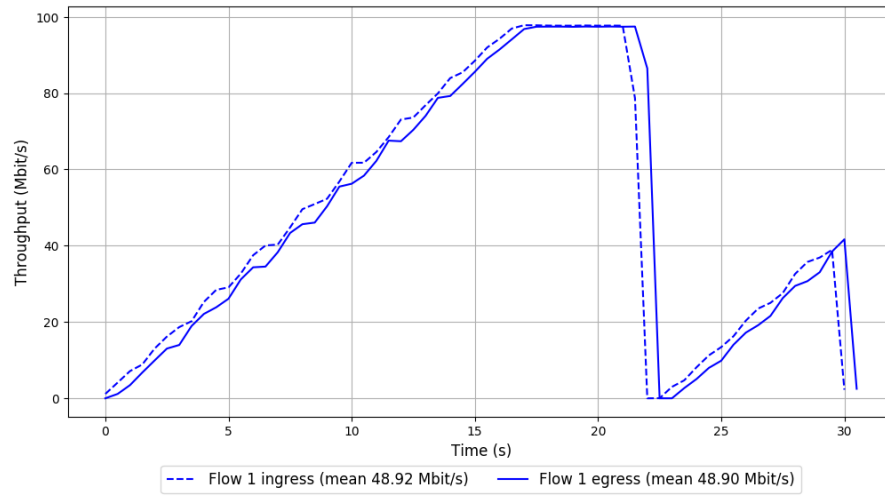
-- Flow 1:

Average throughput: 48.90 Mbit/s

95th percentile per-packet one-way delay: 43.875 ms

Loss rate: 0.03%

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

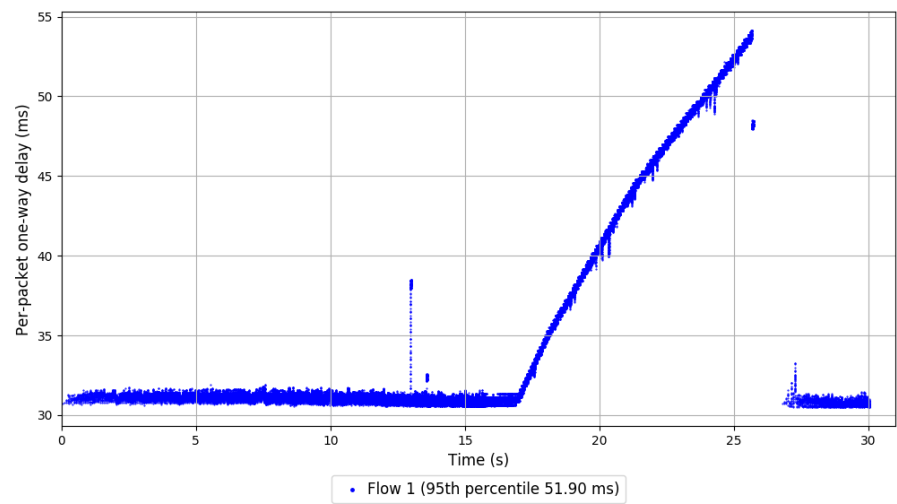
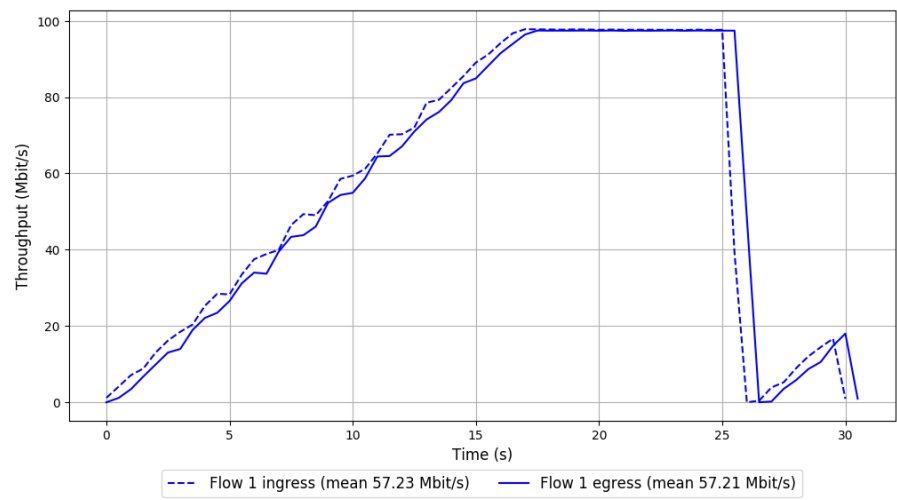


Run 5: Statistics of LEDBAT

Start at: 2018-11-02 19:44:03  
End at: 2018-11-02 19:44:33  
Local clock offset: 3.039 ms  
Remote clock offset: -1.868 ms

# Below is generated by plot.py at 2018-11-02 20:08:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 57.21 Mbit/s  
95th percentile per-packet one-way delay: 51.902 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 57.21 Mbit/s  
95th percentile per-packet one-way delay: 51.902 ms  
Loss rate: 0.03%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-11-02 18:25:24

End at: 2018-11-02 18:25:54

Local clock offset: 2.347 ms

Remote clock offset: -3.083 ms

# Below is generated by plot.py at 2018-11-02 20:09:14

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.03 Mbit/s

95th percentile per-packet one-way delay: 35.218 ms

Loss rate: 0.01%

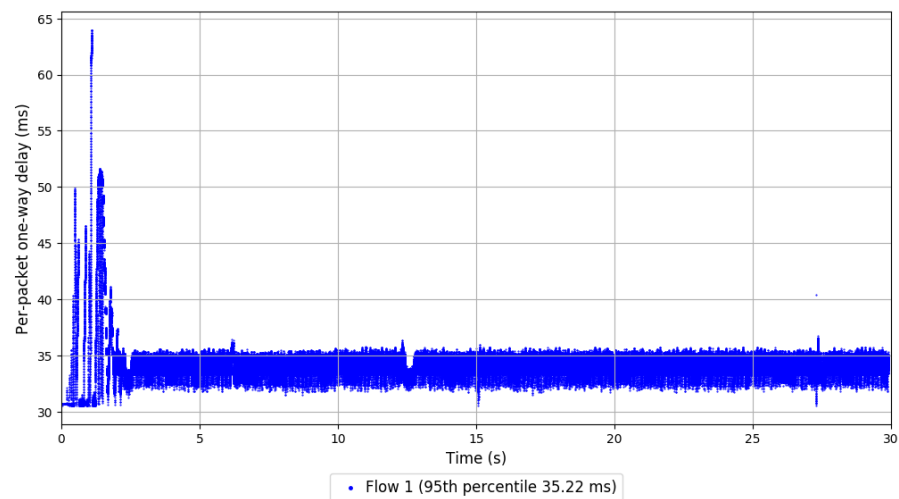
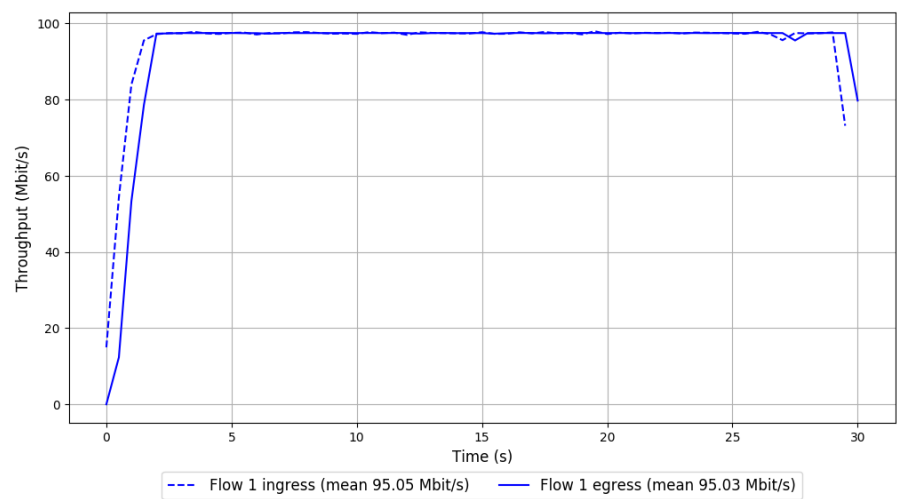
-- Flow 1:

Average throughput: 95.03 Mbit/s

95th percentile per-packet one-way delay: 35.218 ms

Loss rate: 0.01%

Run 1: Report of Indigo-Muses — Data Link



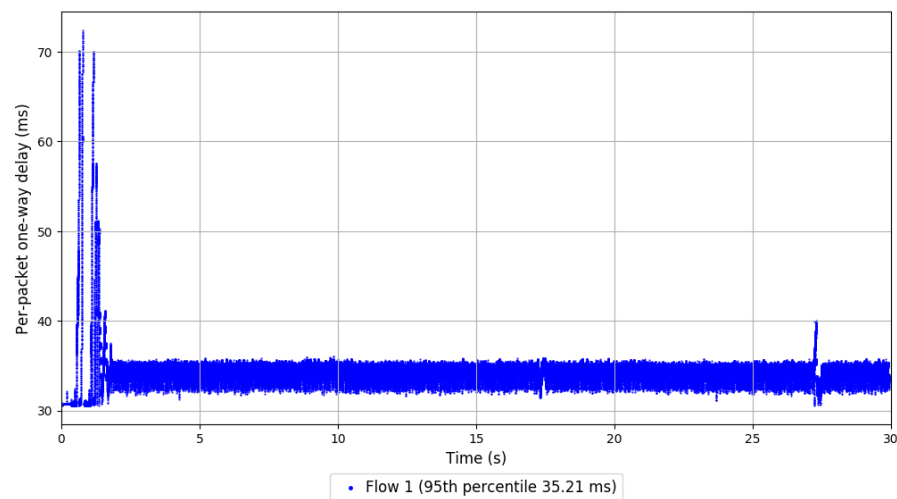
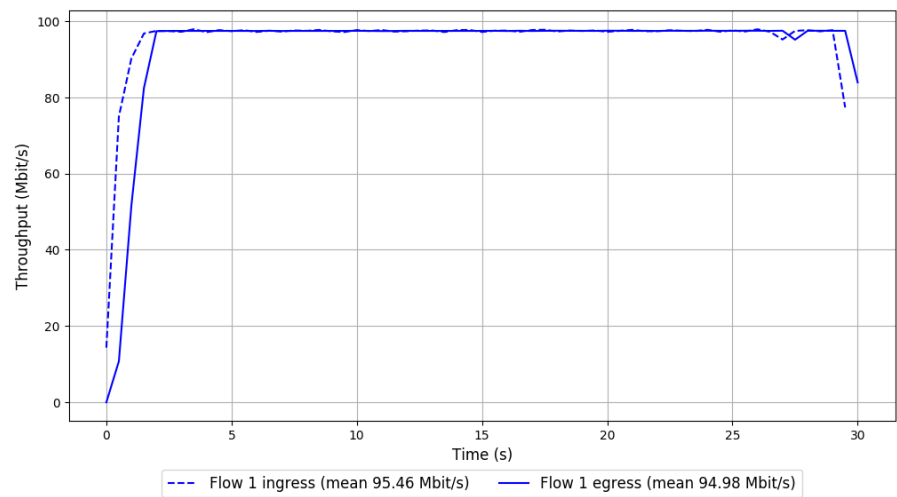


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-02 18:48:59  
End at: 2018-11-02 18:49:30  
Local clock offset: 4.855 ms  
Remote clock offset: -2.798 ms

# Below is generated by plot.py at 2018-11-02 20:09:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.98 Mbit/s  
95th percentile per-packet one-way delay: 35.211 ms  
Loss rate: 0.49%  
-- Flow 1:  
Average throughput: 94.98 Mbit/s  
95th percentile per-packet one-way delay: 35.211 ms  
Loss rate: 0.49%

Run 2: Report of Indigo-Muses — Data Link

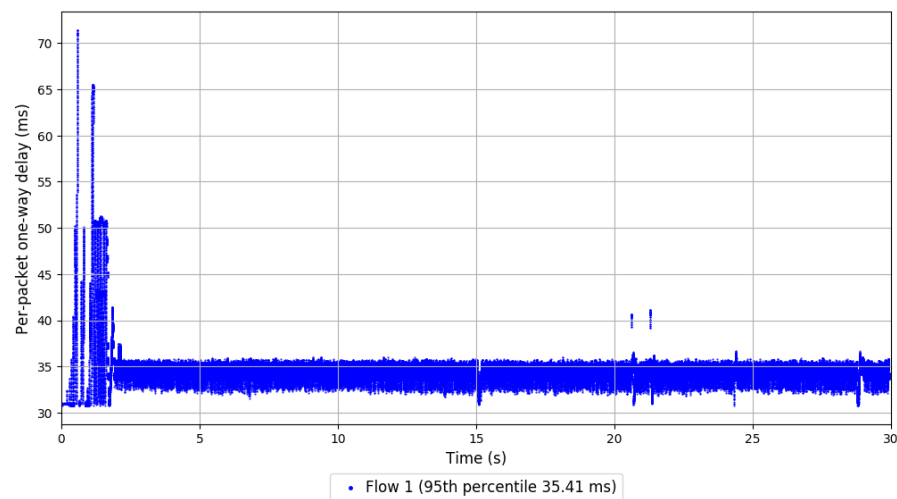
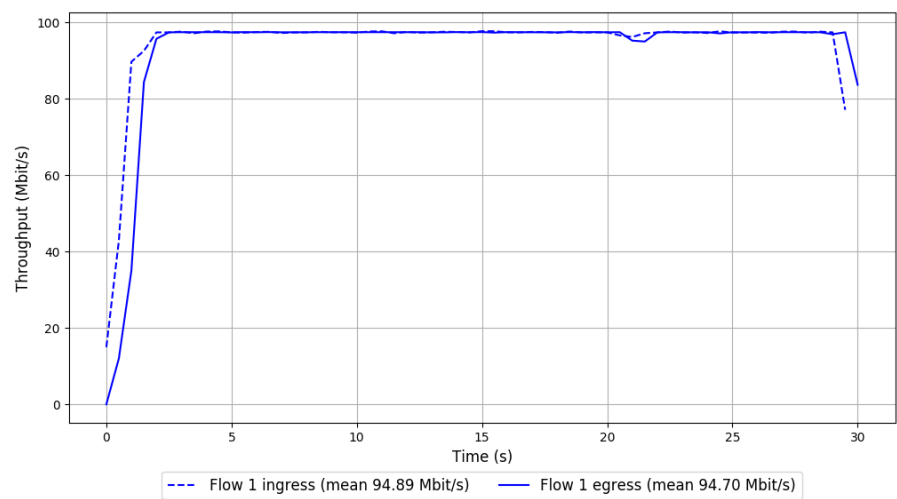


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-02 19:12:41  
End at: 2018-11-02 19:13:11  
Local clock offset: 5.766 ms  
Remote clock offset: -2.162 ms

# Below is generated by plot.py at 2018-11-02 20:09:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.70 Mbit/s  
95th percentile per-packet one-way delay: 35.413 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 94.70 Mbit/s  
95th percentile per-packet one-way delay: 35.413 ms  
Loss rate: 0.18%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-11-02 19:36:18

End at: 2018-11-02 19:36:48

Local clock offset: 5.3 ms

Remote clock offset: -2.059 ms

# Below is generated by plot.py at 2018-11-02 20:09:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.53 Mbit/s

95th percentile per-packet one-way delay: 34.866 ms

Loss rate: 0.51%

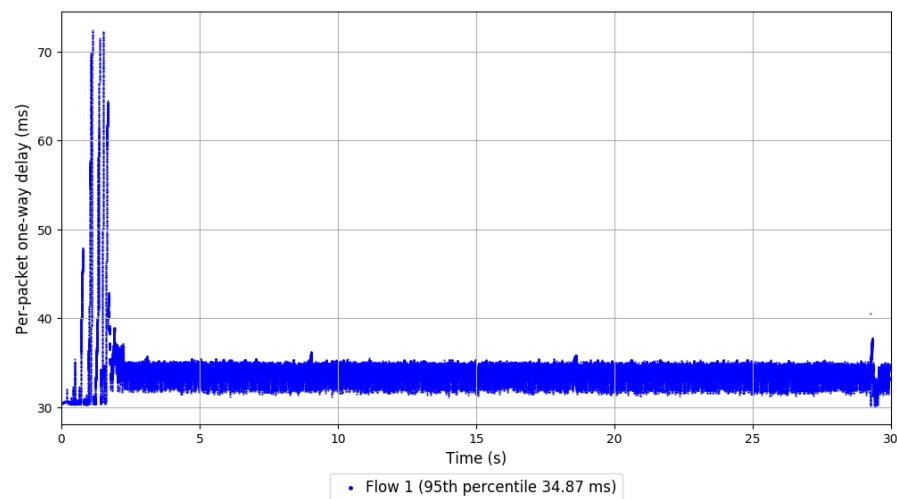
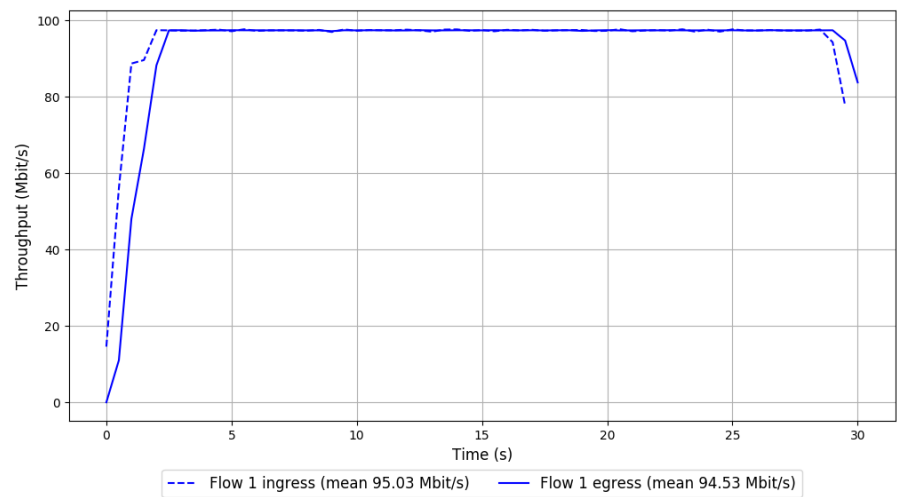
-- Flow 1:

Average throughput: 94.53 Mbit/s

95th percentile per-packet one-way delay: 34.866 ms

Loss rate: 0.51%

Run 4: Report of Indigo-Muses — Data Link

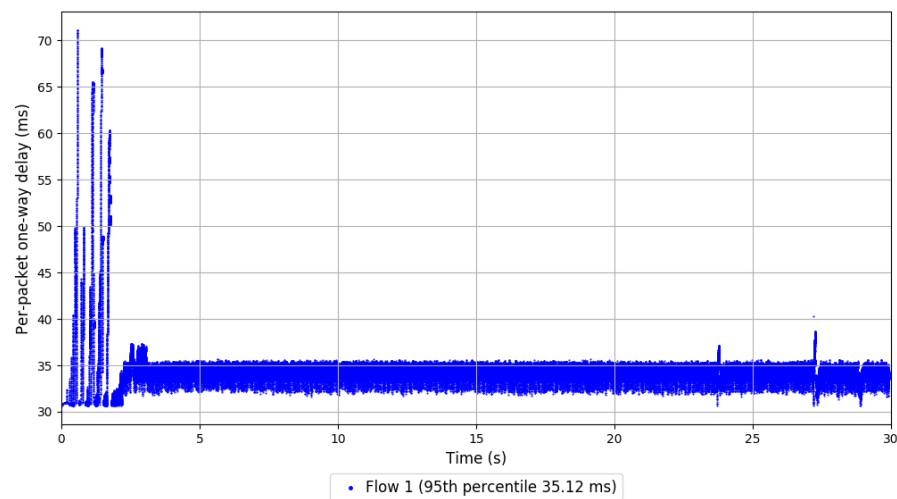
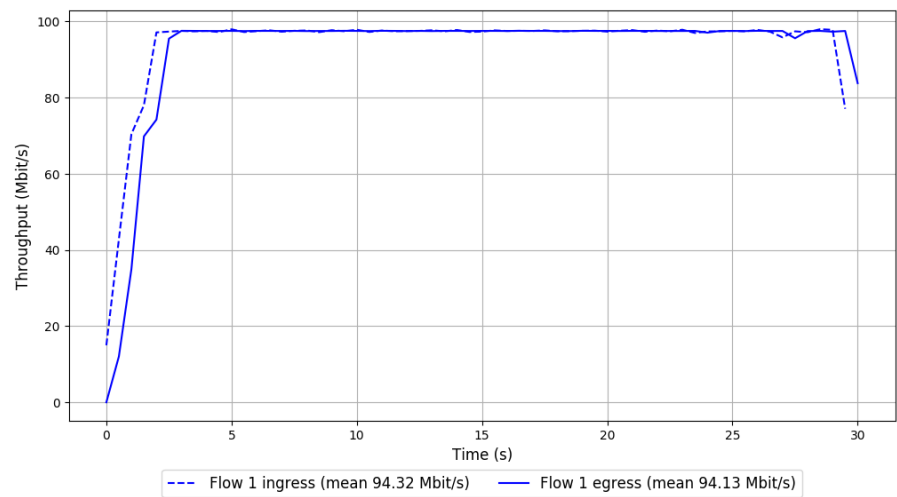


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-02 19:59:49  
End at: 2018-11-02 20:00:19  
Local clock offset: 1.037 ms  
Remote clock offset: -1.688 ms

# Below is generated by plot.py at 2018-11-02 20:09:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.13 Mbit/s  
95th percentile per-packet one-way delay: 35.125 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 94.13 Mbit/s  
95th percentile per-packet one-way delay: 35.125 ms  
Loss rate: 0.18%

Run 5: Report of Indigo-Muses — Data Link





Run 1: Statistics of PCC-Allegro

Start at: 2018-11-02 18:05:45

End at: 2018-11-02 18:06:15

Local clock offset: 6.079 ms

Remote clock offset: -3.133 ms

# Below is generated by plot.py at 2018-11-02 20:09:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.66 Mbit/s

95th percentile per-packet one-way delay: 35.464 ms

Loss rate: 0.70%

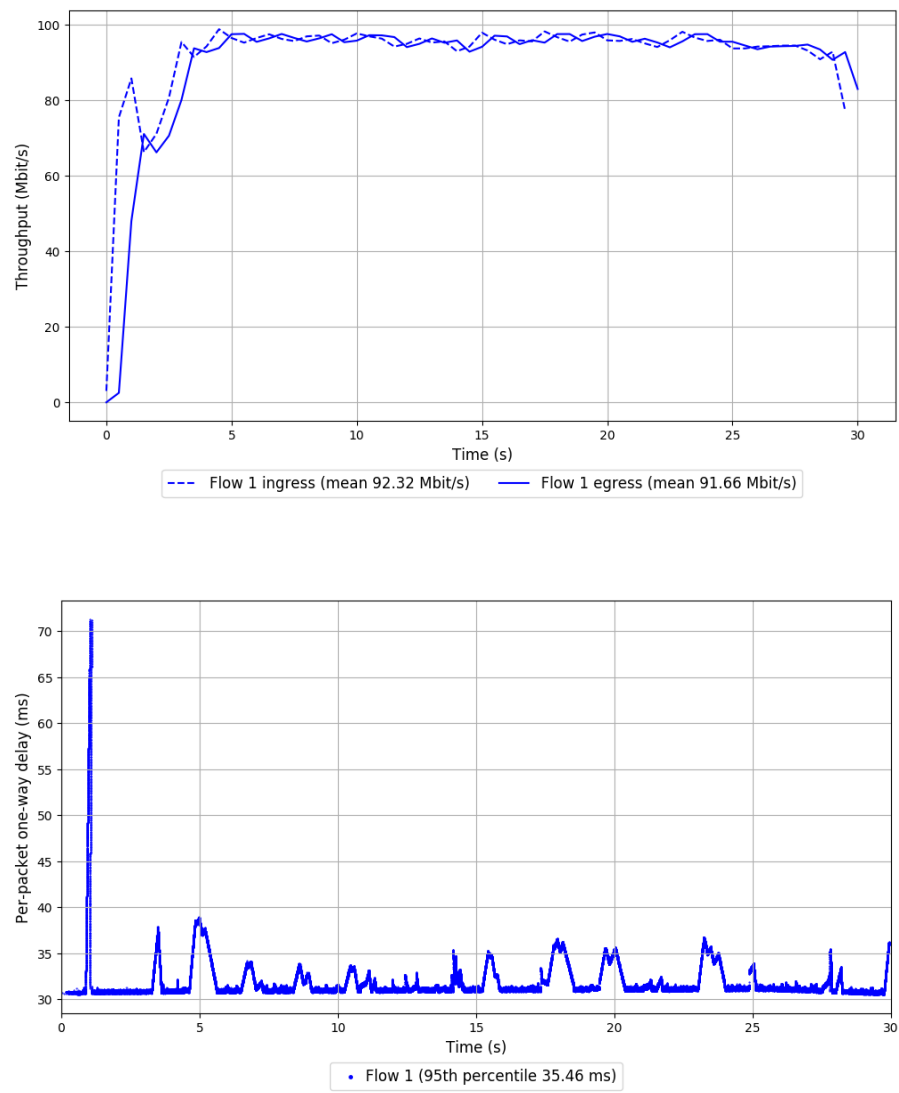
-- Flow 1:

Average throughput: 91.66 Mbit/s

95th percentile per-packet one-way delay: 35.464 ms

Loss rate: 0.70%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-11-02 18:29:19

End at: 2018-11-02 18:29:49

Local clock offset: 2.298 ms

Remote clock offset: -2.879 ms

# Below is generated by plot.py at 2018-11-02 20:09:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.44 Mbit/s

95th percentile per-packet one-way delay: 35.752 ms

Loss rate: 0.73%

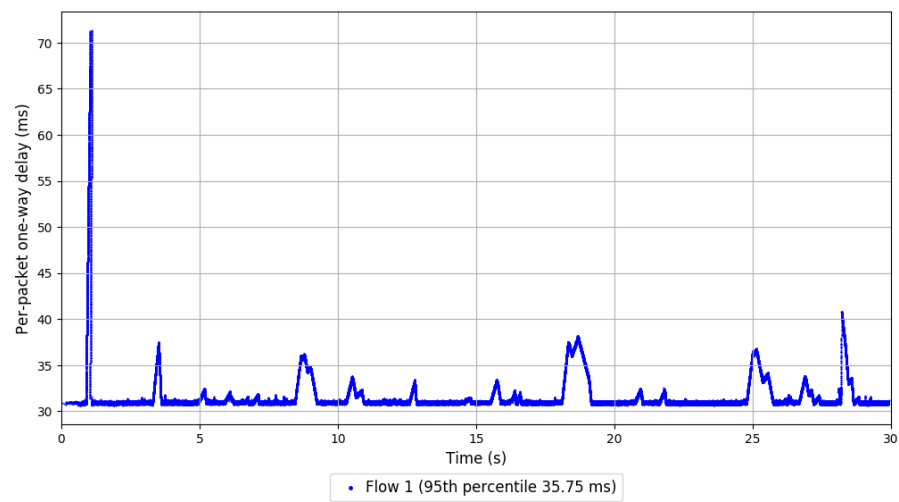
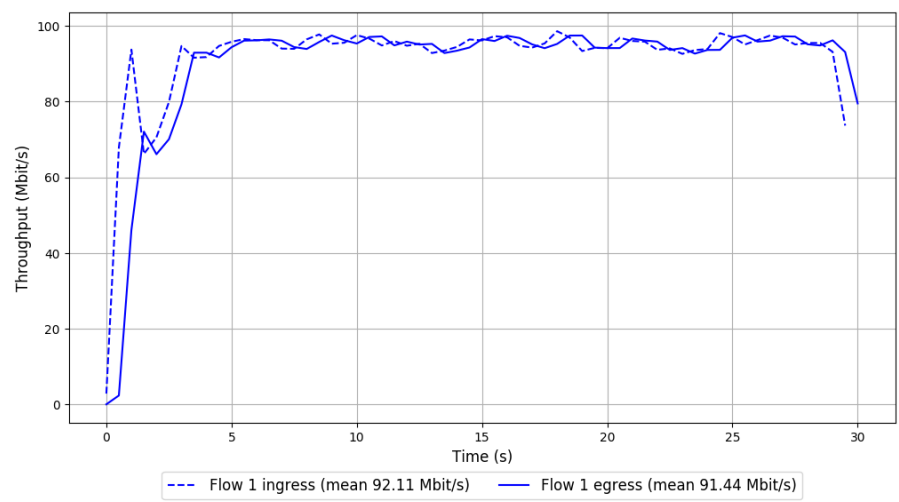
-- Flow 1:

Average throughput: 91.44 Mbit/s

95th percentile per-packet one-way delay: 35.752 ms

Loss rate: 0.73%

Run 2: Report of PCC-Allegro — Data Link

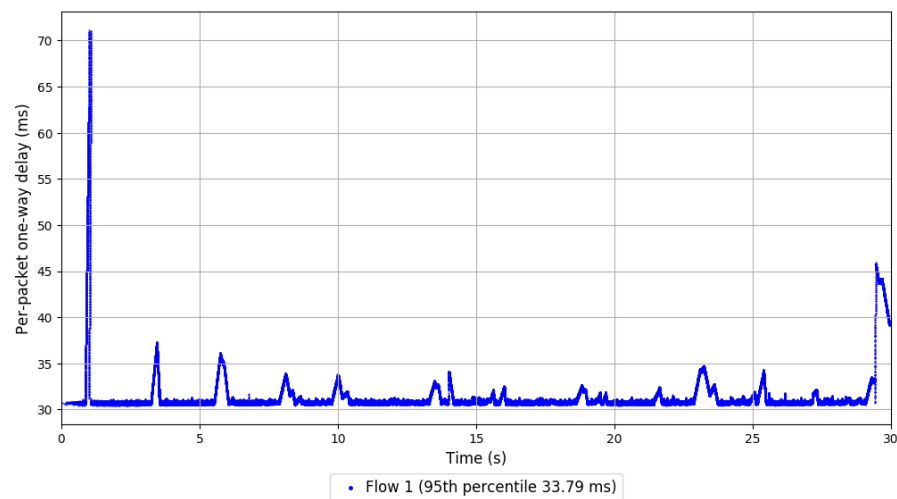
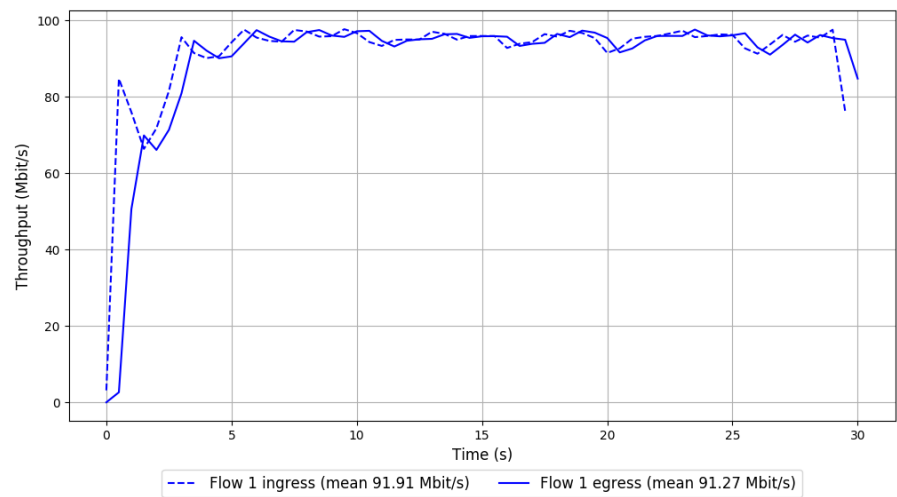


Run 3: Statistics of PCC-Allegro

Start at: 2018-11-02 18:53:01  
End at: 2018-11-02 18:53:31  
Local clock offset: 5.102 ms  
Remote clock offset: -2.781 ms

# Below is generated by plot.py at 2018-11-02 20:09:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.27 Mbit/s  
95th percentile per-packet one-way delay: 33.786 ms  
Loss rate: 0.67%  
-- Flow 1:  
Average throughput: 91.27 Mbit/s  
95th percentile per-packet one-way delay: 33.786 ms  
Loss rate: 0.67%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-11-02 19:16:37

End at: 2018-11-02 19:17:07

Local clock offset: 5.855 ms

Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2018-11-02 20:10:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.99 Mbit/s

95th percentile per-packet one-way delay: 36.263 ms

Loss rate: 0.69%

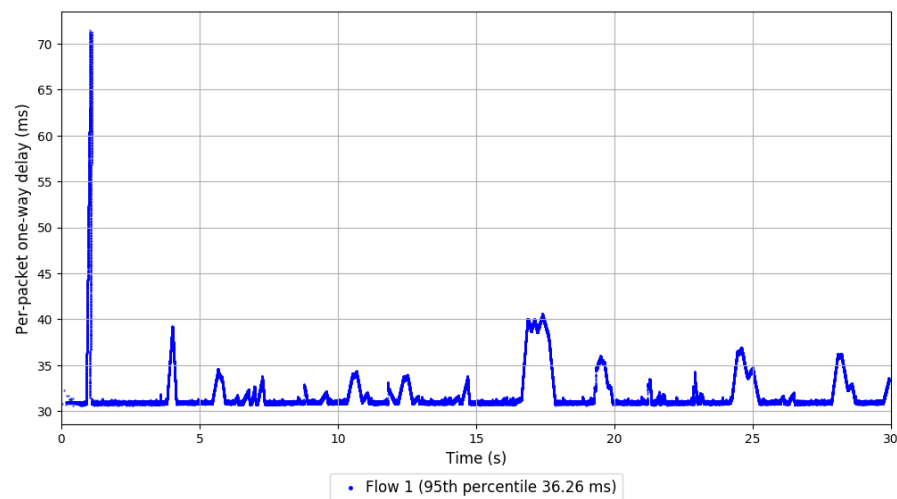
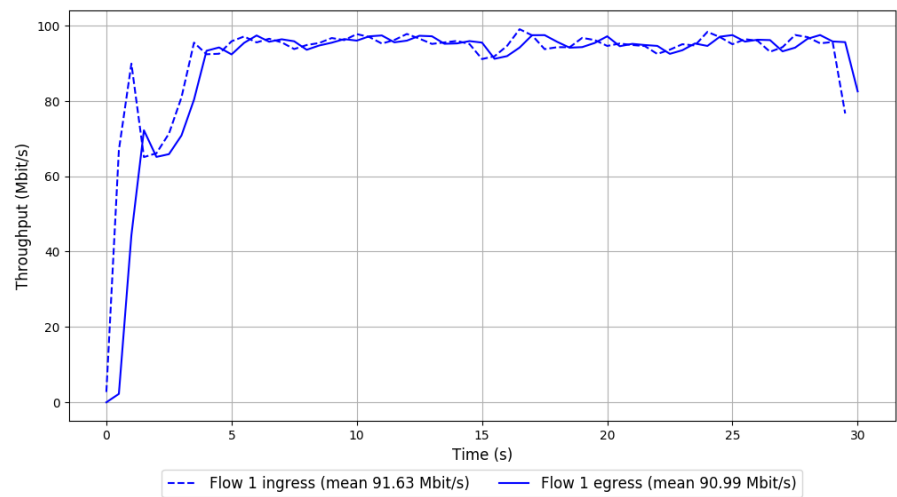
-- Flow 1:

Average throughput: 90.99 Mbit/s

95th percentile per-packet one-way delay: 36.263 ms

Loss rate: 0.69%

Run 4: Report of PCC-Allegro — Data Link





Run 5: Statistics of PCC-Allegro

Start at: 2018-11-02 19:40:13

End at: 2018-11-02 19:40:43

Local clock offset: 3.974 ms

Remote clock offset: -2.073 ms

# Below is generated by plot.py at 2018-11-02 20:10:53

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.09 Mbit/s

95th percentile per-packet one-way delay: 34.146 ms

Loss rate: 0.74%

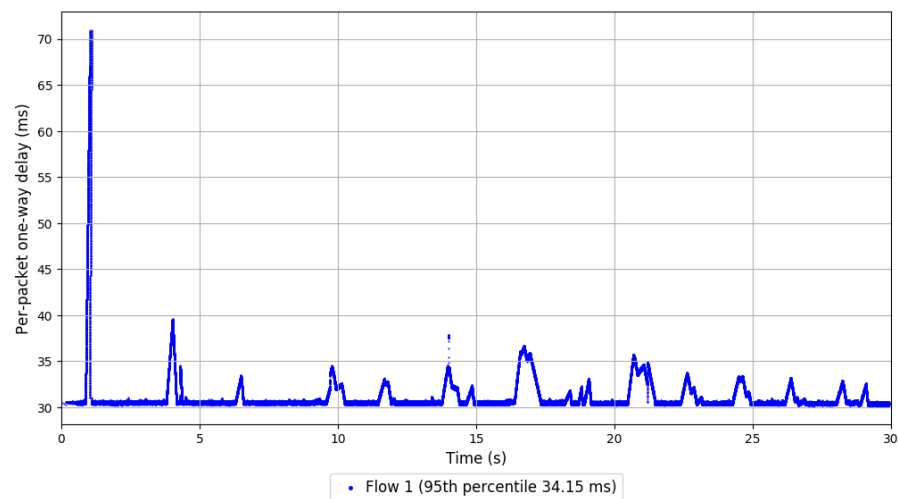
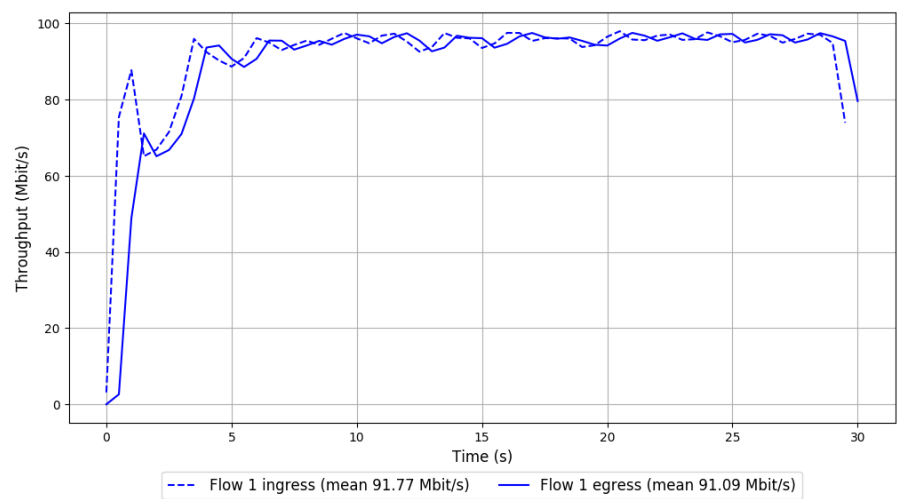
-- Flow 1:

Average throughput: 91.09 Mbit/s

95th percentile per-packet one-way delay: 34.146 ms

Loss rate: 0.74%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

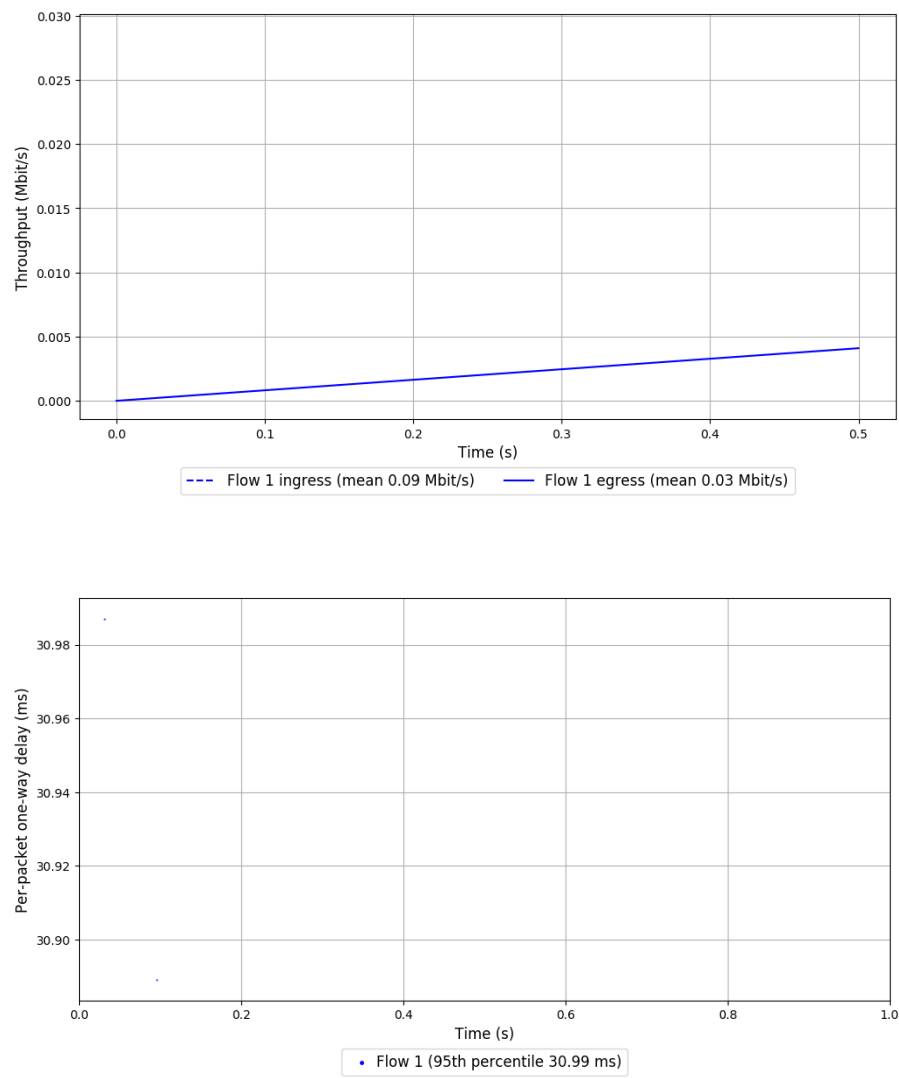
Start at: 2018-11-02 18:18:49

End at: 2018-11-02 18:19:19

Local clock offset: 2.465 ms

Remote clock offset: -2.907 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

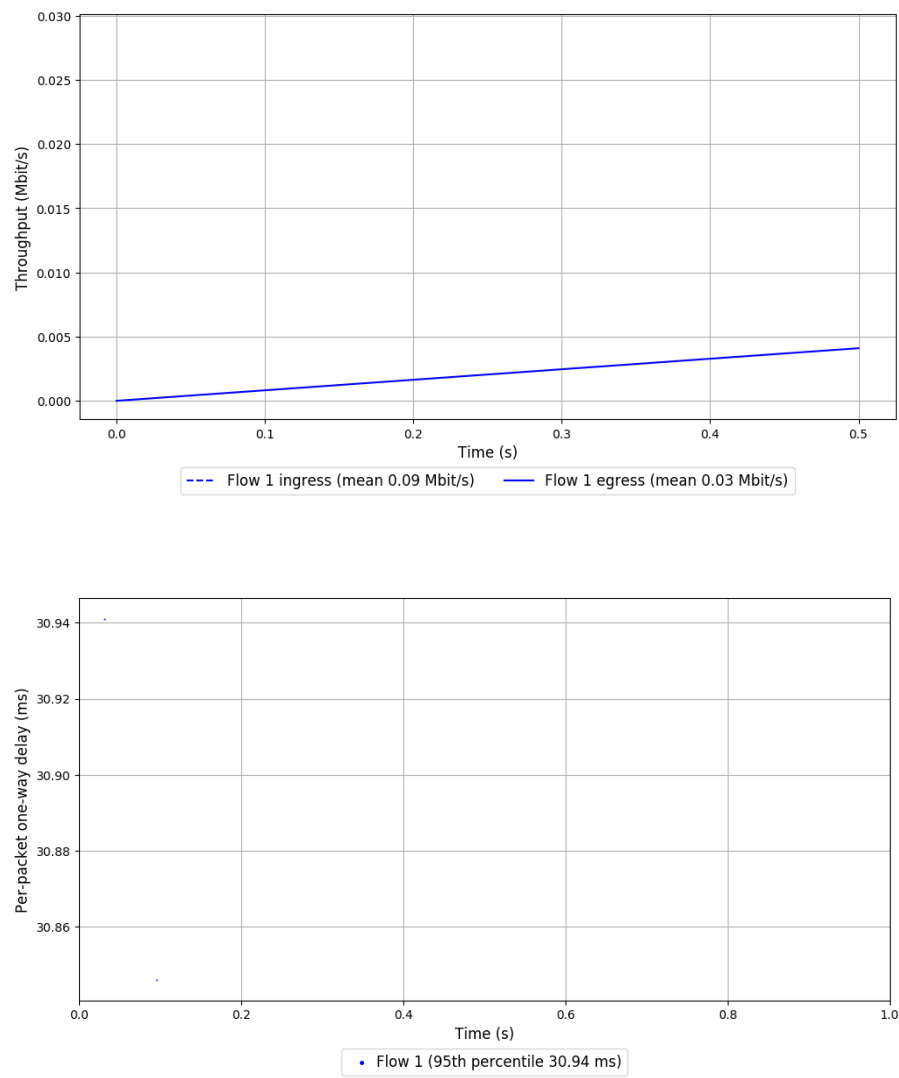
Start at: 2018-11-02 18:42:28

End at: 2018-11-02 18:42:58

Local clock offset: 4.137 ms

Remote clock offset: -2.758 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

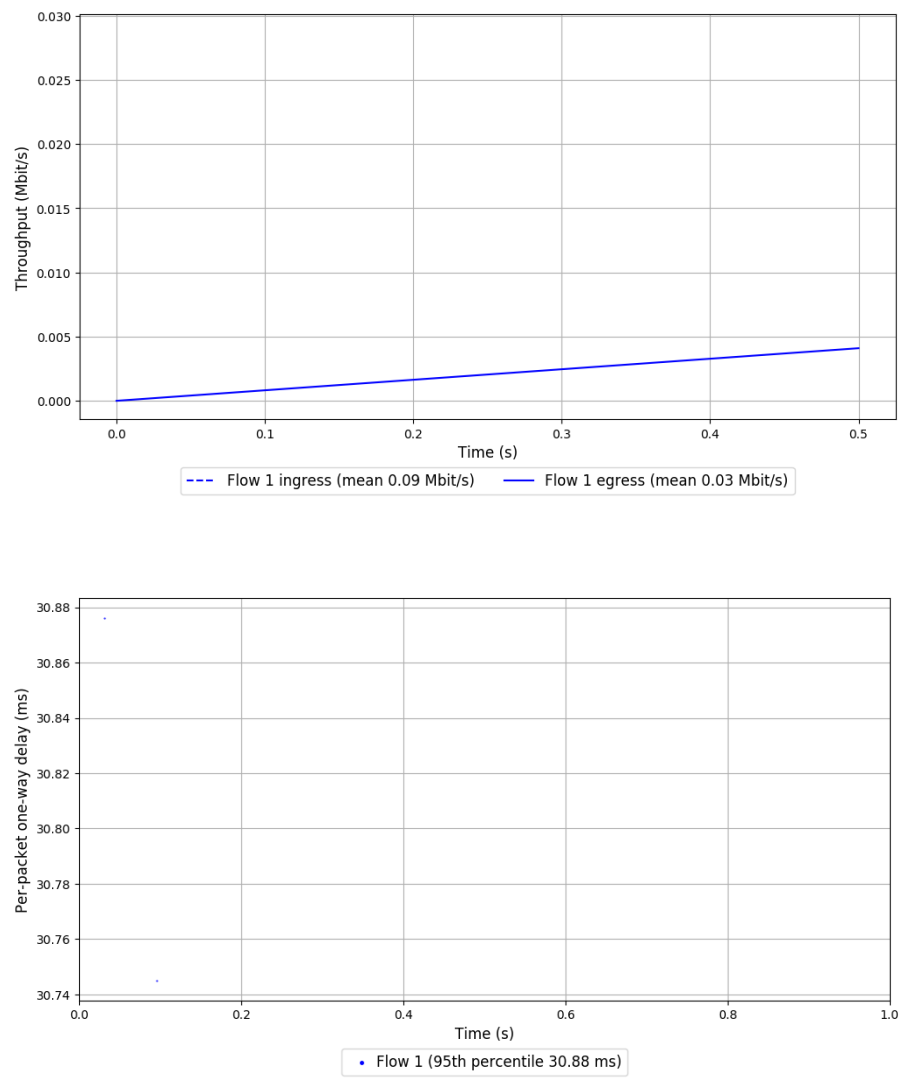
Start at: 2018-11-02 19:06:11

End at: 2018-11-02 19:06:41

Local clock offset: 5.589 ms

Remote clock offset: -2.337 ms

Run 3: Report of PCC-Expr — Data Link





Run 4: Statistics of PCC-Expr

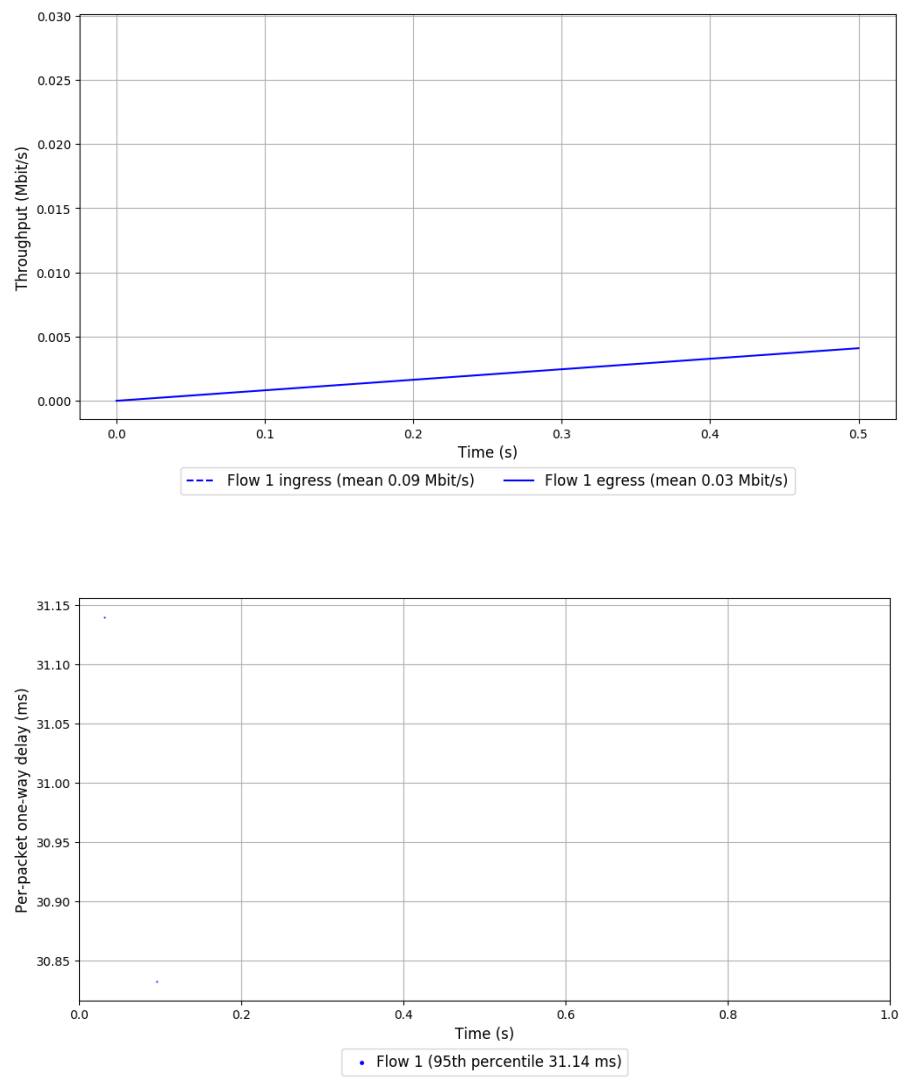
Start at: 2018-11-02 19:29:47

End at: 2018-11-02 19:30:17

Local clock offset: 6.034 ms

Remote clock offset: -1.944 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

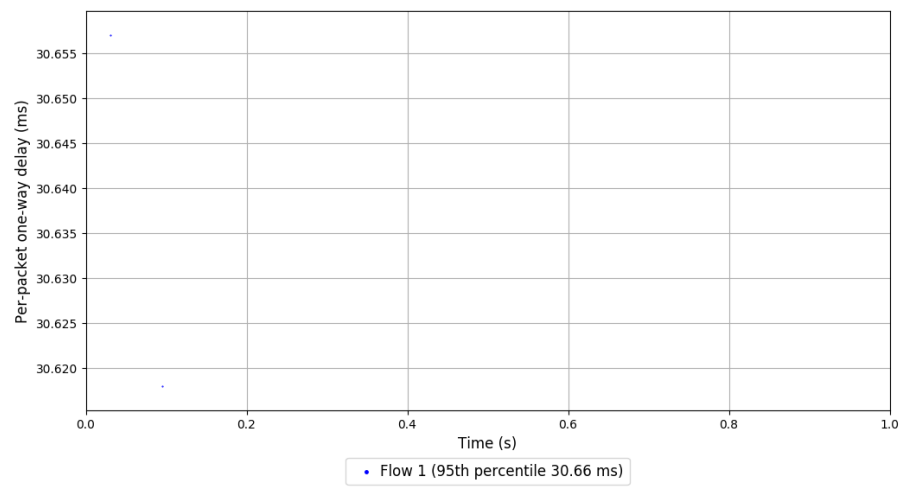
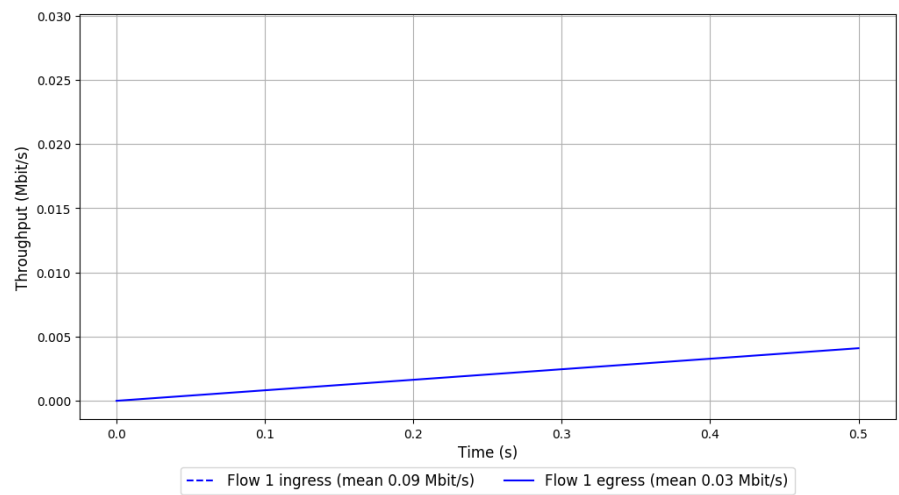
Start at: 2018-11-02 19:53:19

End at: 2018-11-02 19:53:49

Local clock offset: 1.761 ms

Remote clock offset: -1.956 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-02 18:28:00

End at: 2018-11-02 18:28:30

Local clock offset: 2.288 ms

Remote clock offset: -2.86 ms

# Below is generated by plot.py at 2018-11-02 20:10:53

# Datalink statistics

-- Total of 1 flow:

Average throughput: 73.35 Mbit/s

95th percentile per-packet one-way delay: 66.889 ms

Loss rate: 1.78%

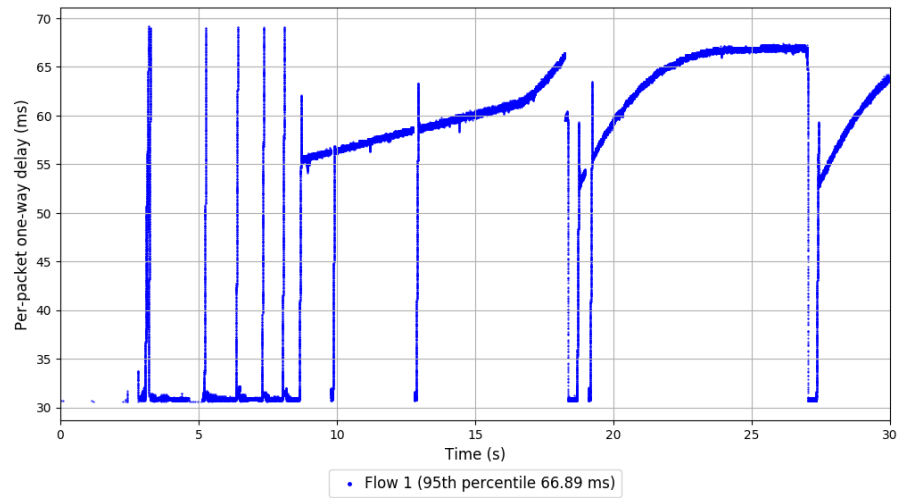
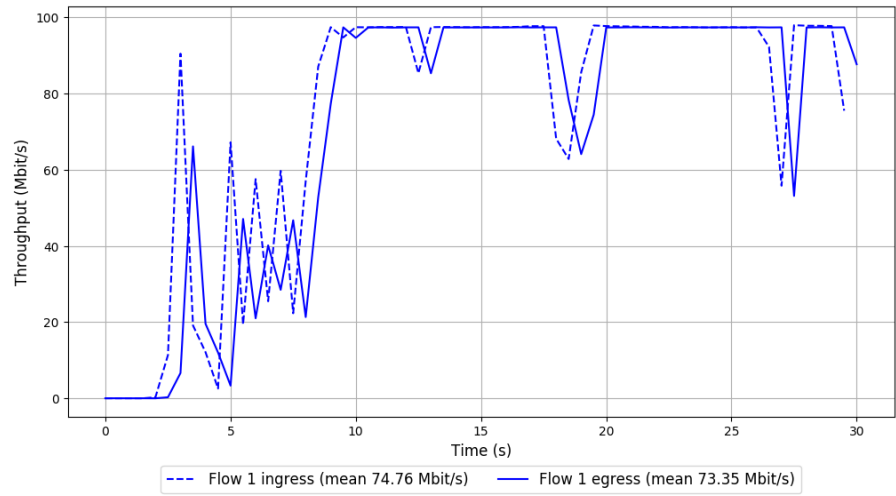
-- Flow 1:

Average throughput: 73.35 Mbit/s

95th percentile per-packet one-way delay: 66.889 ms

Loss rate: 1.78%

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



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-02 18:51:36

End at: 2018-11-02 18:52:06

Local clock offset: 5.027 ms

Remote clock offset: -2.599 ms

# Below is generated by plot.py at 2018-11-02 20:10:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 79.18 Mbit/s

95th percentile per-packet one-way delay: 60.447 ms

Loss rate: 1.70%

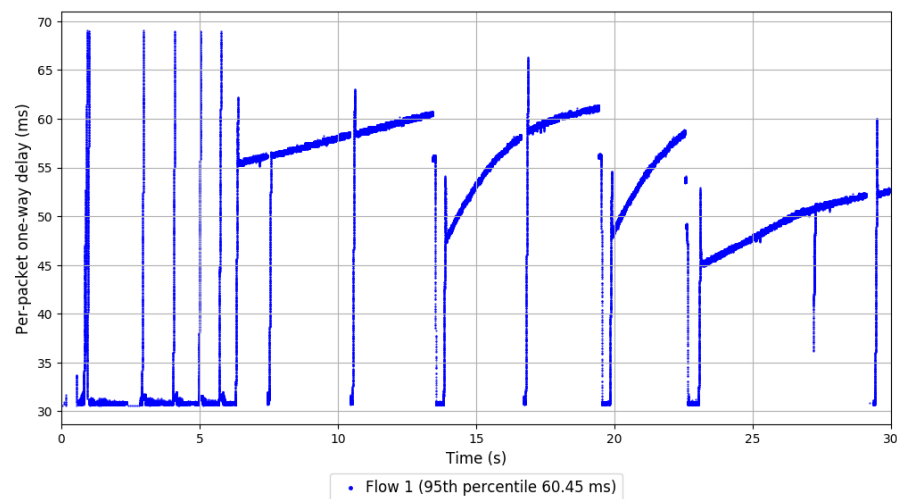
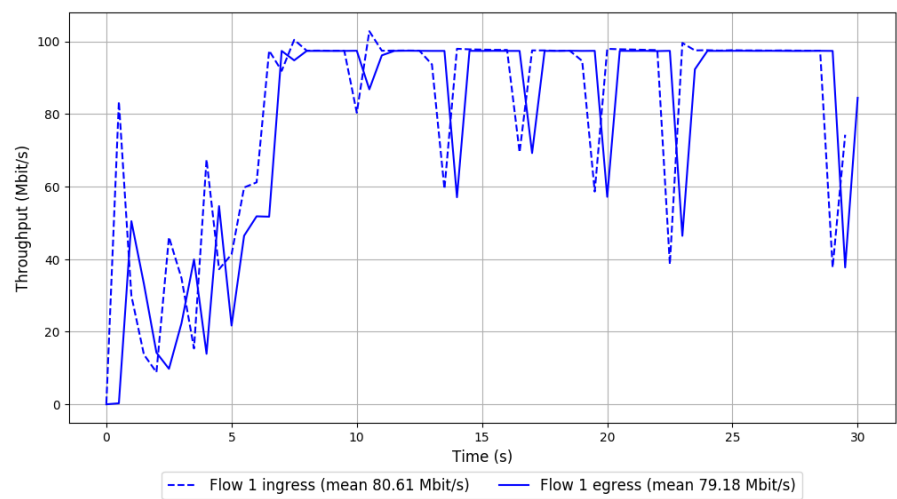
-- Flow 1:

Average throughput: 79.18 Mbit/s

95th percentile per-packet one-way delay: 60.447 ms

Loss rate: 1.70%

Run 2: Report of QUIC Cubic — Data Link



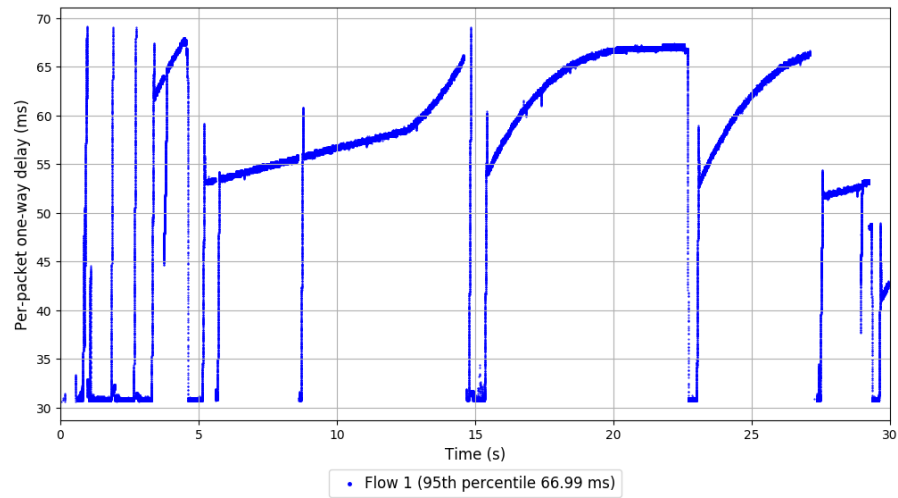
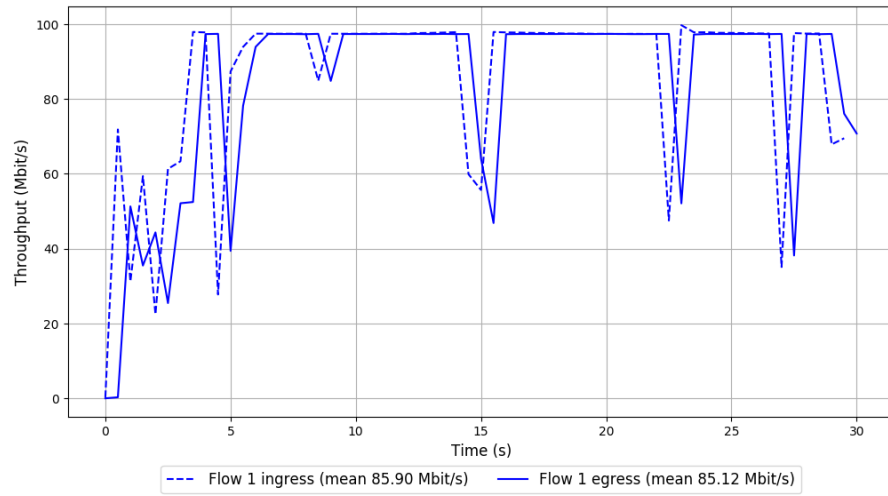


Run 3: Statistics of QUIC Cubic

Start at: 2018-11-02 19:15:17  
End at: 2018-11-02 19:15:47  
Local clock offset: 5.813 ms  
Remote clock offset: -2.168 ms

# Below is generated by plot.py at 2018-11-02 20:11:04  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.12 Mbit/s  
95th percentile per-packet one-way delay: 66.989 ms  
Loss rate: 0.86%  
-- Flow 1:  
Average throughput: 85.12 Mbit/s  
95th percentile per-packet one-way delay: 66.989 ms  
Loss rate: 0.86%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-02 19:38:54

End at: 2018-11-02 19:39:24

Local clock offset: 4.373 ms

Remote clock offset: -1.878 ms

# Below is generated by plot.py at 2018-11-02 20:11:04

# Datalink statistics

-- Total of 1 flow:

Average throughput: 78.23 Mbit/s

95th percentile per-packet one-way delay: 56.686 ms

Loss rate: 1.71%

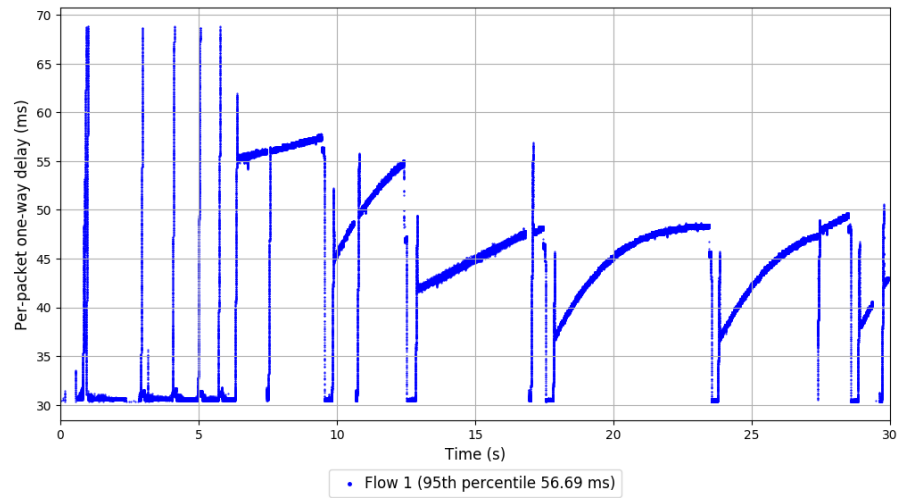
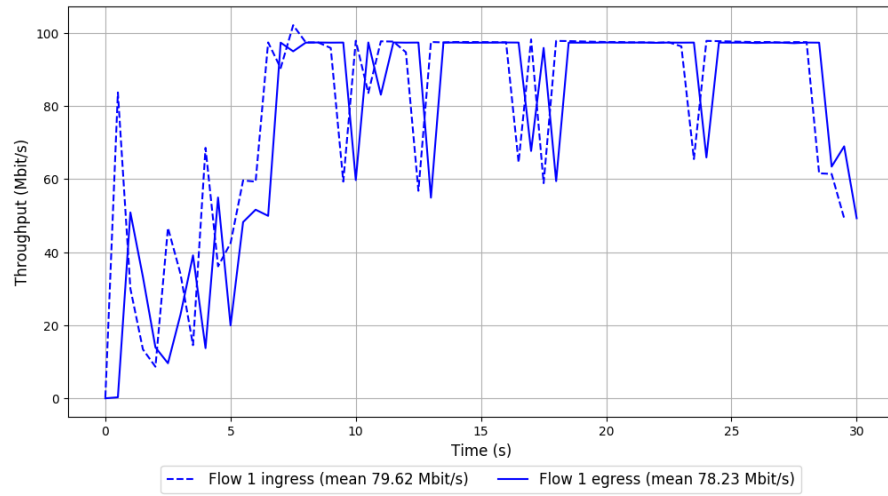
-- Flow 1:

Average throughput: 78.23 Mbit/s

95th percentile per-packet one-way delay: 56.686 ms

Loss rate: 1.71%

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



Run 5: Statistics of QUIC Cubic

Start at: 2018-11-02 20:02:24

End at: 2018-11-02 20:02:54

Local clock offset: 0.797 ms

Remote clock offset: -1.756 ms

# Below is generated by plot.py at 2018-11-02 20:11:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.69 Mbit/s

95th percentile per-packet one-way delay: 58.131 ms

Loss rate: 1.72%

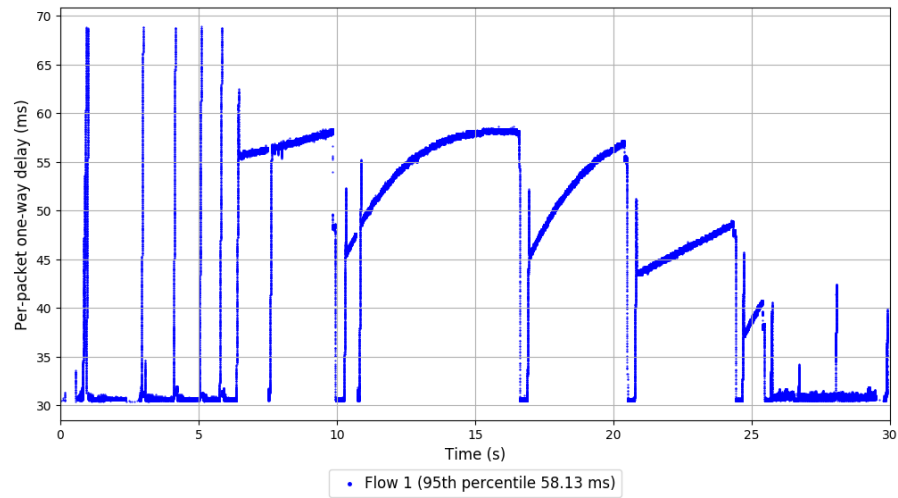
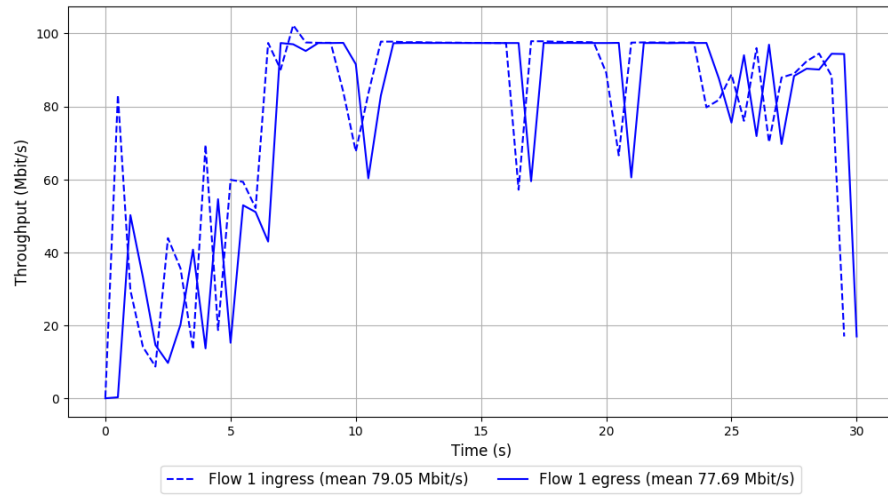
-- Flow 1:

Average throughput: 77.69 Mbit/s

95th percentile per-packet one-way delay: 58.131 ms

Loss rate: 1.72%

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

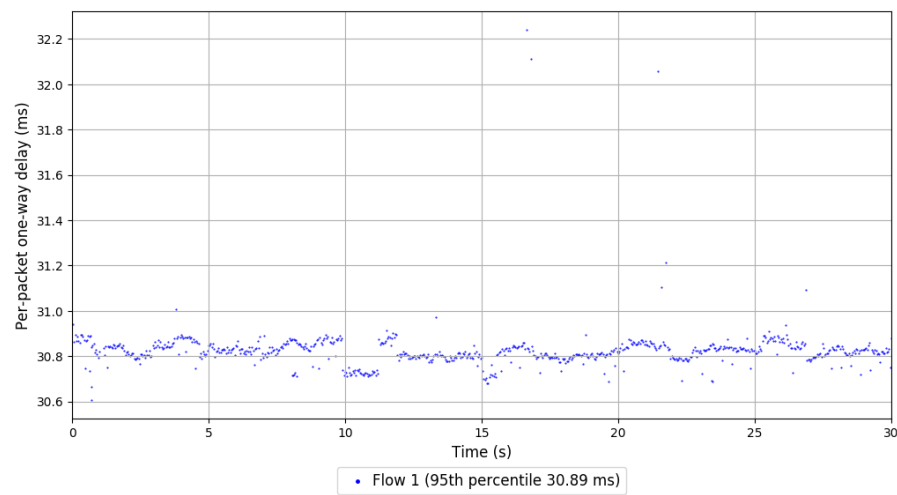
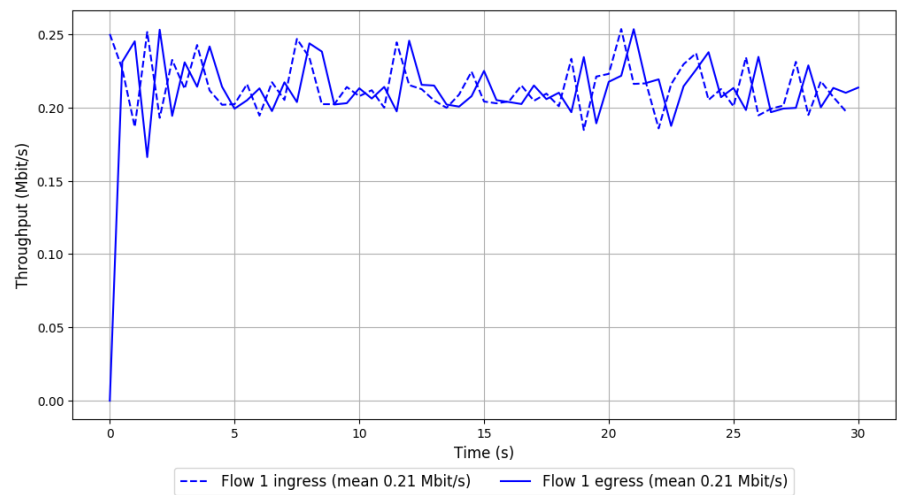


```
Run 1: Statistics of SCReAM

Start at: 2018-11-02 18:26:44
End at: 2018-11-02 18:27:14
Local clock offset: 2.334 ms
Remote clock offset: -2.876 ms

# Below is generated by plot.py at 2018-11-02 20:11:05
# 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 1: Report of SReAM — Data Link



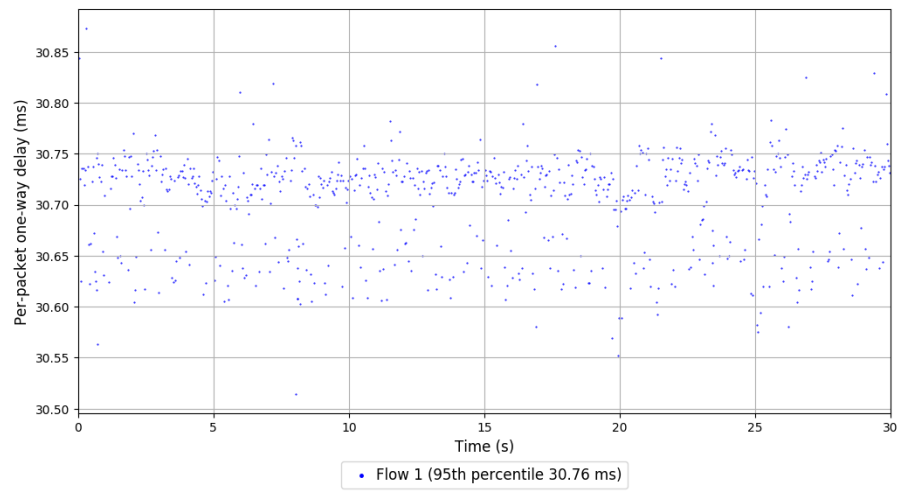
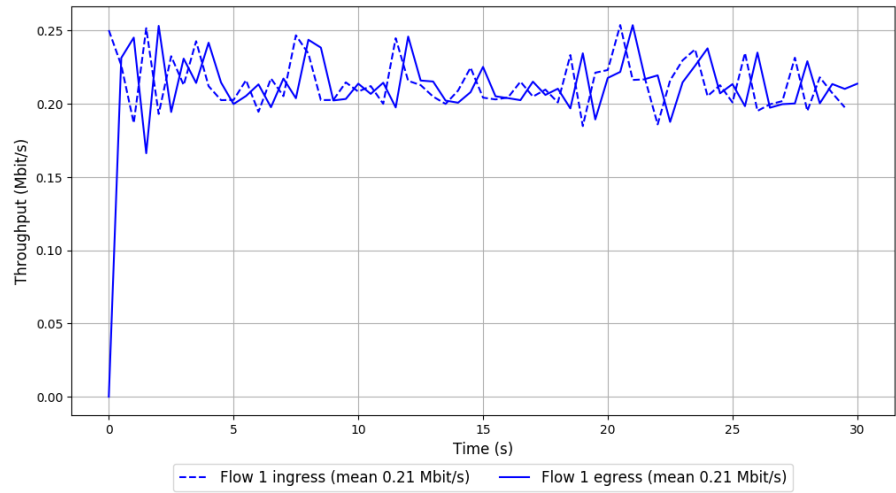


Run 2: Statistics of SCReAM

Start at: 2018-11-02 18:50:20  
End at: 2018-11-02 18:50:50  
Local clock offset: 4.927 ms  
Remote clock offset: -2.796 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.757 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.757 ms  
Loss rate: 0.00%

## Run 2: Report of SReAM — Data Link

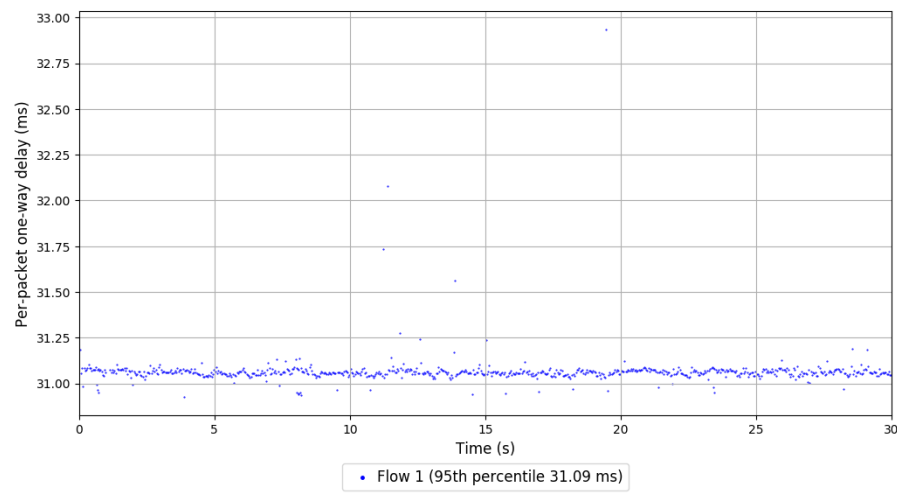
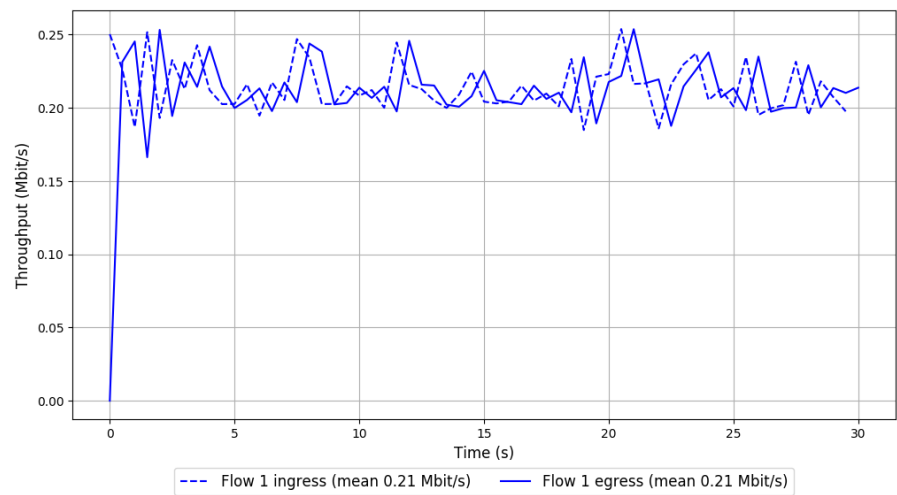


Run 3: Statistics of SCReAM

Start at: 2018-11-02 19:14:01  
End at: 2018-11-02 19:14:31  
Local clock offset: 5.803 ms  
Remote clock offset: -2.074 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.090 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.090 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-11-02 19:37:38

End at: 2018-11-02 19:38:08

Local clock offset: 4.828 ms

Remote clock offset: -1.92 ms

# Below is generated by plot.py at 2018-11-02 20:11:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 30.609 ms

Loss rate: 0.26%

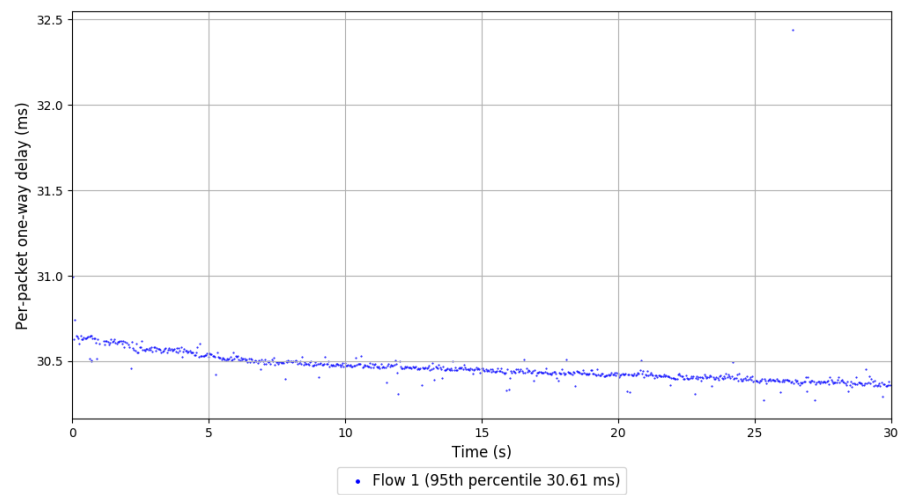
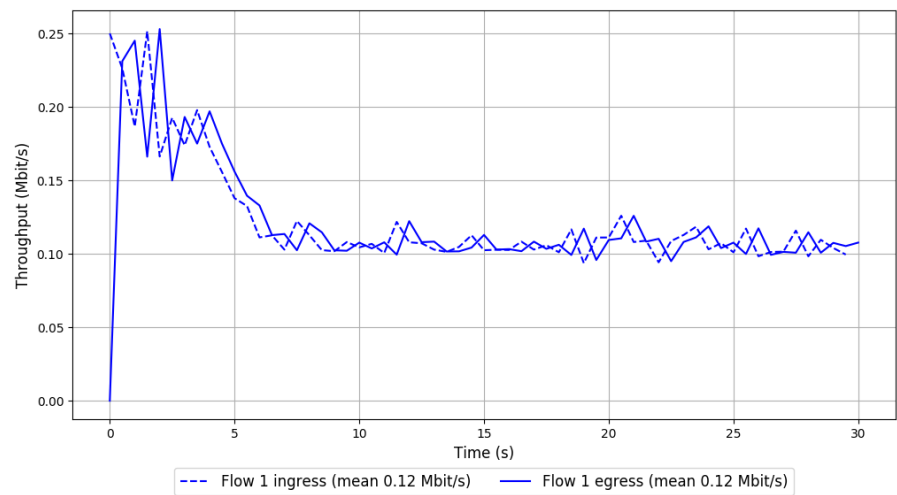
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 30.609 ms

Loss rate: 0.26%

Run 4: Report of SReAM — Data Link

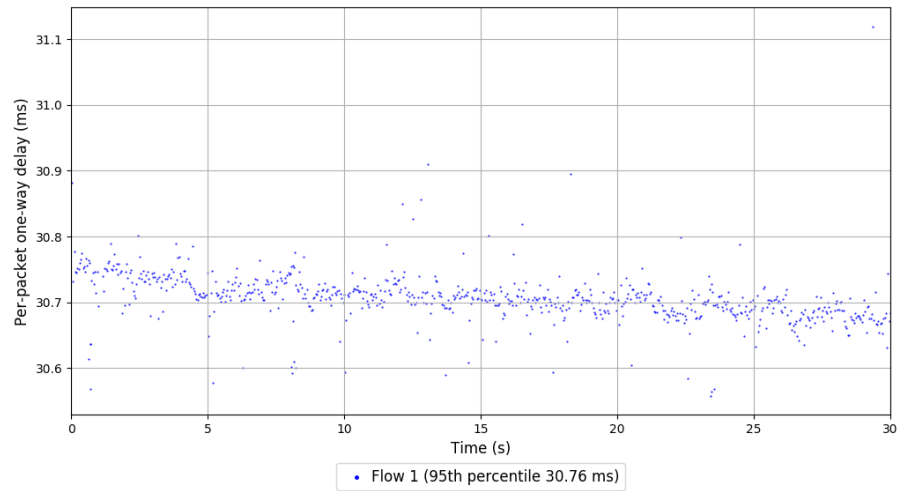
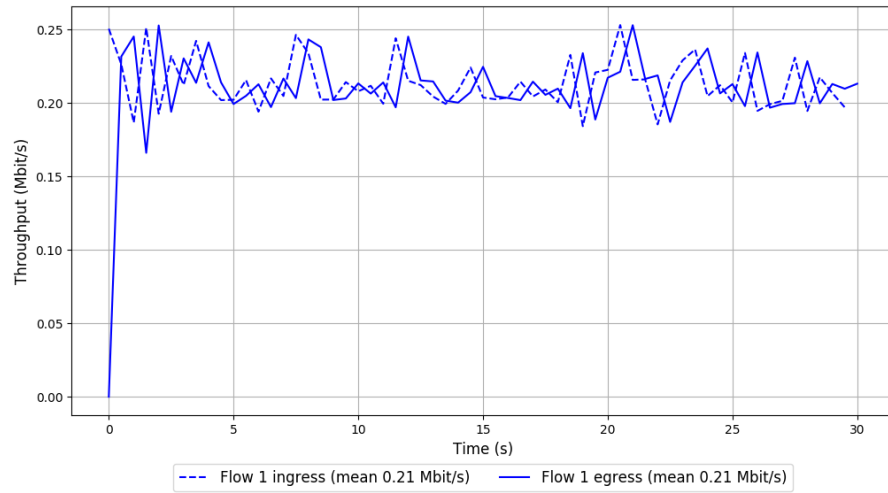


Run 5: Statistics of SCReAM

Start at: 2018-11-02 20:01:08  
End at: 2018-11-02 20:01:38  
Local clock offset: 0.928 ms  
Remote clock offset: -1.765 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.756 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.756 ms  
Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link



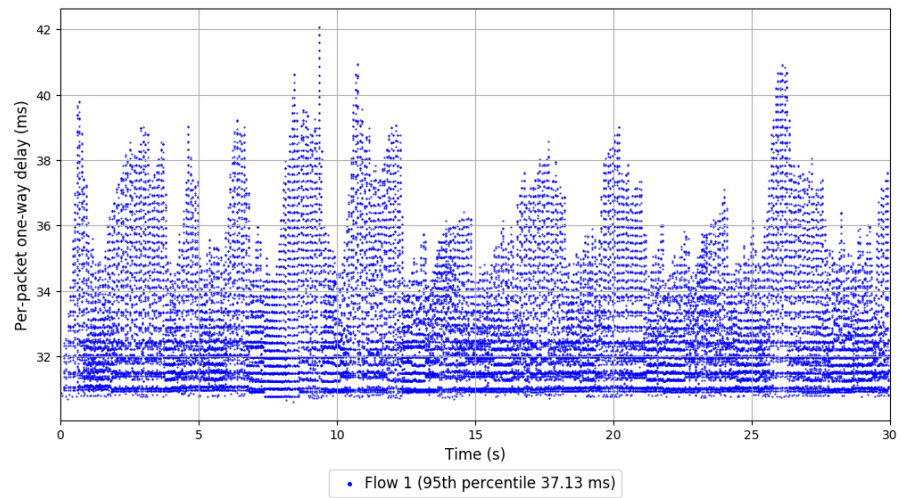
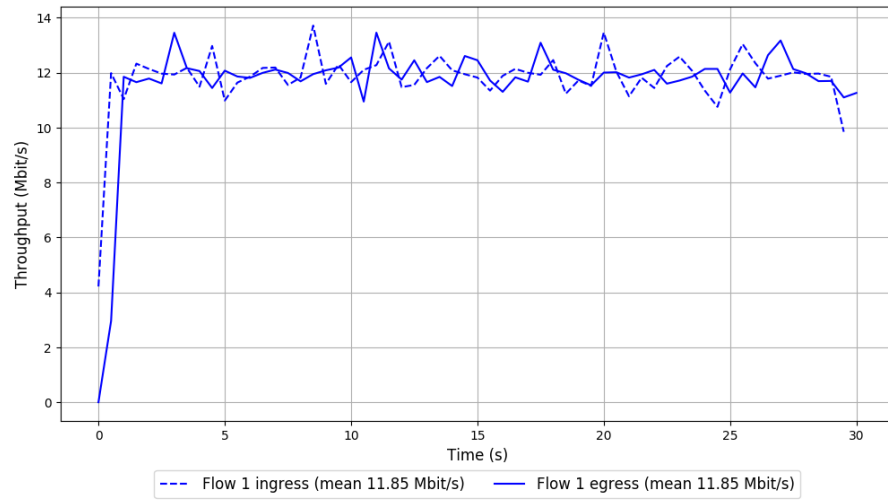


Run 1: Statistics of Sprout

Start at: 2018-11-02 18:12:14  
End at: 2018-11-02 18:12:44  
Local clock offset: 2.634 ms  
Remote clock offset: -3.026 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.85 Mbit/s  
95th percentile per-packet one-way delay: 37.134 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.85 Mbit/s  
95th percentile per-packet one-way delay: 37.134 ms  
Loss rate: 0.00%

# Run 1: Report of Sprout — Data Link

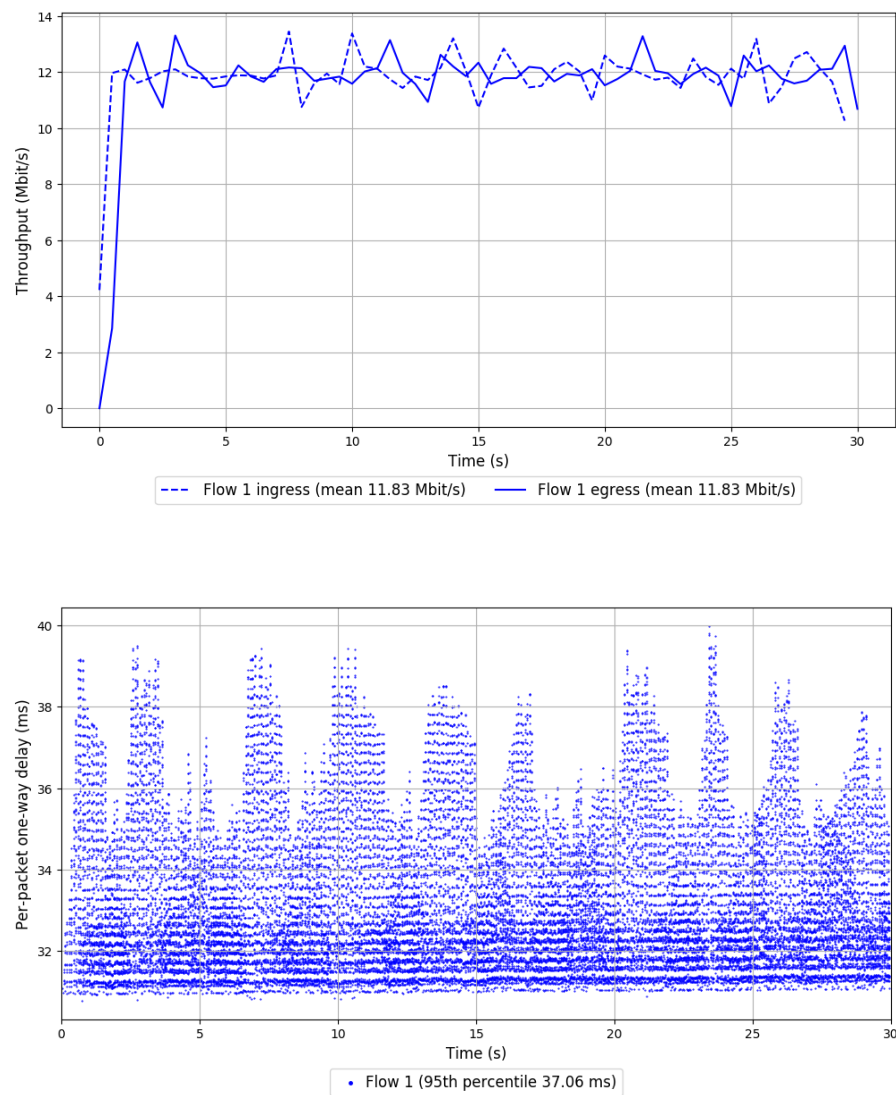


Run 2: Statistics of Sprout

Start at: 2018-11-02 18:35:50  
End at: 2018-11-02 18:36:20  
Local clock offset: 2.608 ms  
Remote clock offset: -2.838 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 37.060 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 37.060 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

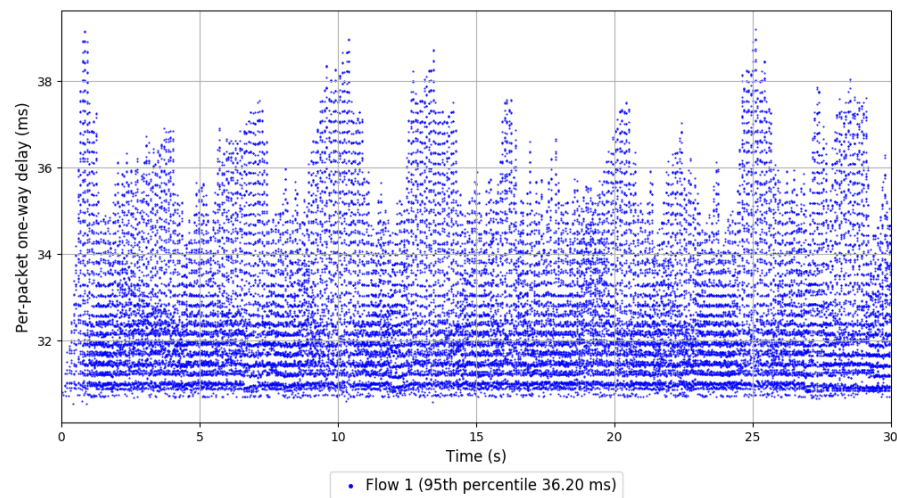
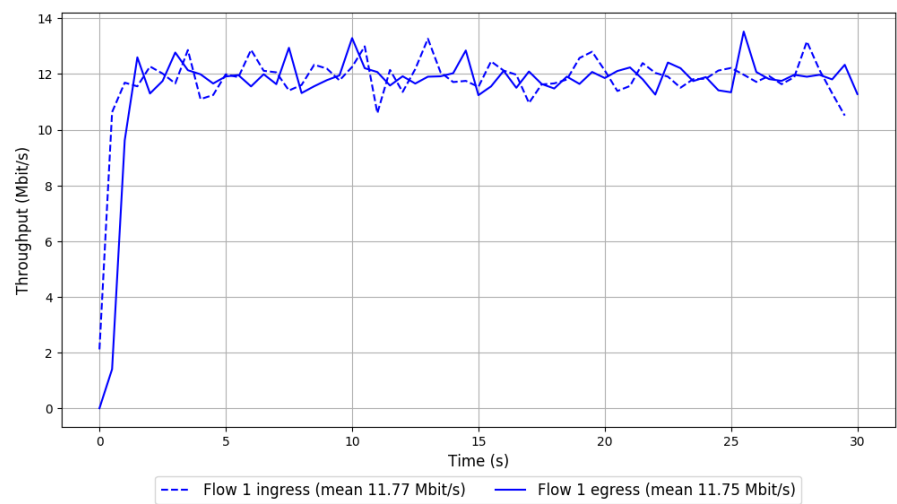


Run 3: Statistics of Sprout

Start at: 2018-11-02 18:59:33  
End at: 2018-11-02 19:00:03  
Local clock offset: 5.376 ms  
Remote clock offset: -2.45 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.75 Mbit/s  
95th percentile per-packet one-way delay: 36.199 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 11.75 Mbit/s  
95th percentile per-packet one-way delay: 36.199 ms  
Loss rate: 0.17%

Run 3: Report of Sprout — Data Link

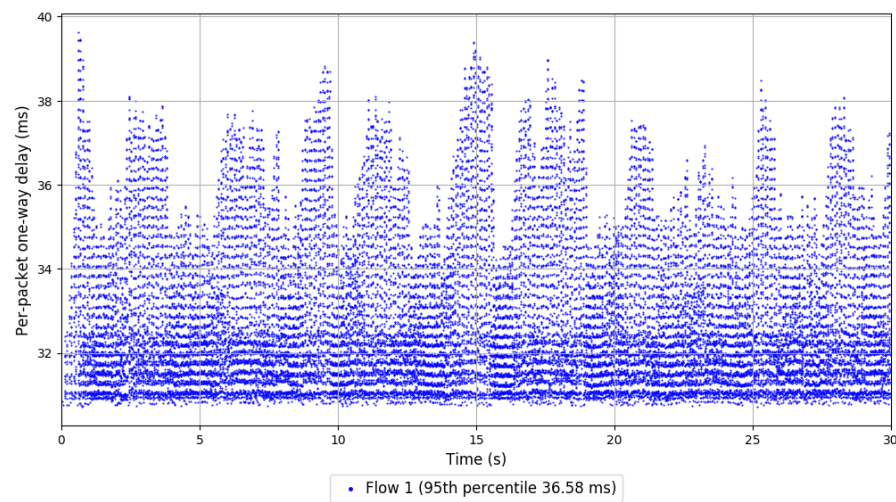
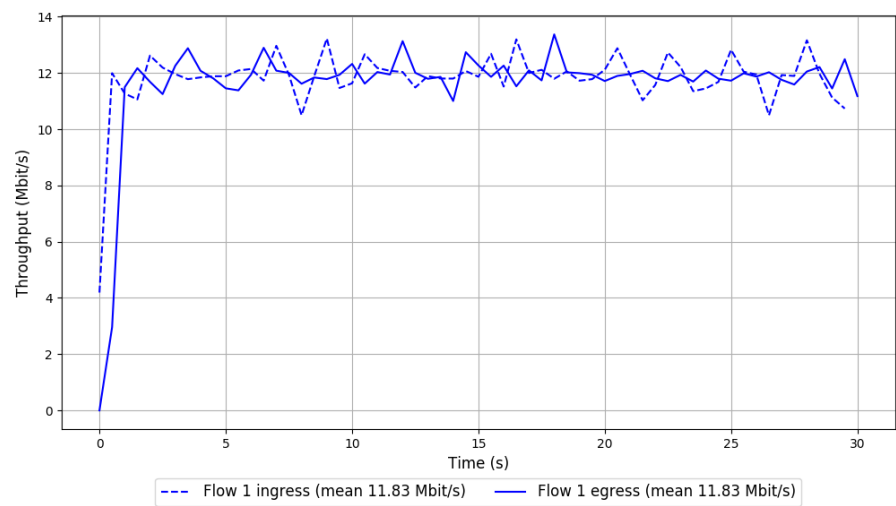


Run 4: Statistics of Sprout

Start at: 2018-11-02 19:23:11  
End at: 2018-11-02 19:23:41  
Local clock offset: 5.94 ms  
Remote clock offset: -2.064 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.580 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.580 ms  
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



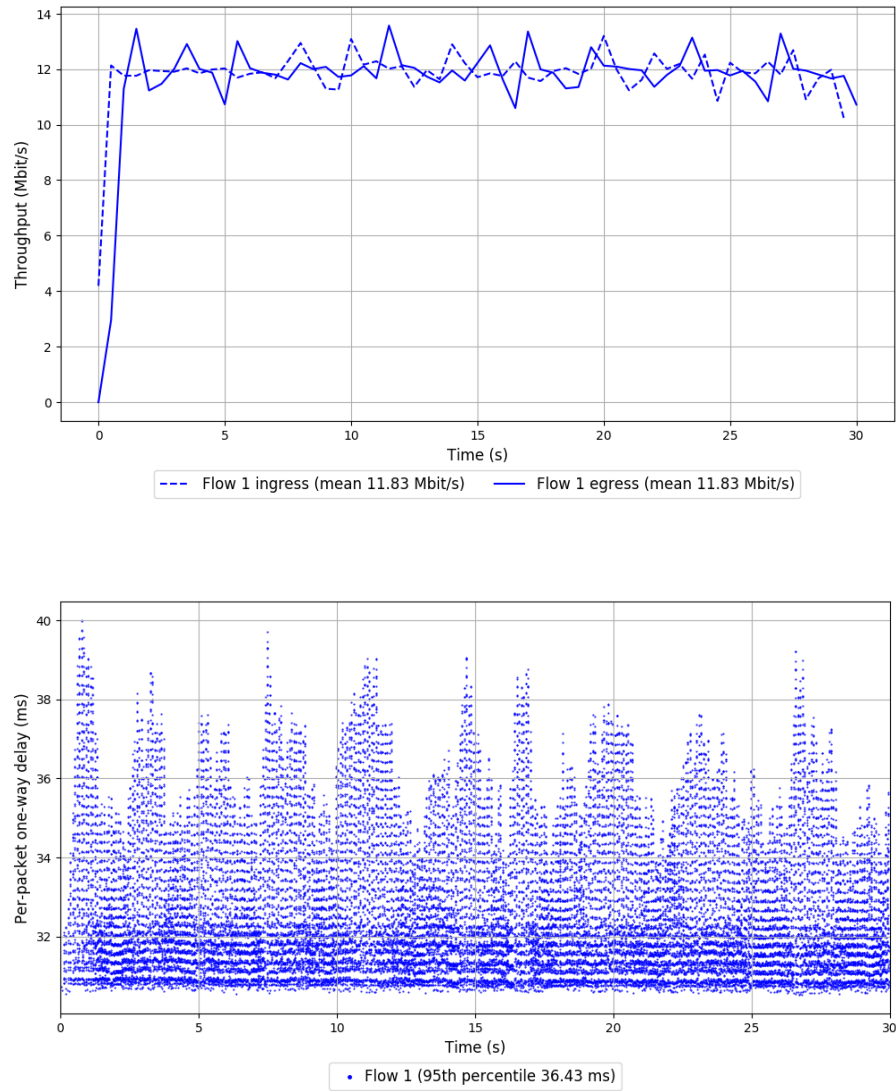


Run 5: Statistics of Sprout

Start at: 2018-11-02 19:46:43  
End at: 2018-11-02 19:47:13  
Local clock offset: 2.588 ms  
Remote clock offset: -1.809 ms

# Below is generated by plot.py at 2018-11-02 20:11:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.433 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 11.83 Mbit/s  
95th percentile per-packet one-way delay: 36.433 ms  
Loss rate: 0.02%

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

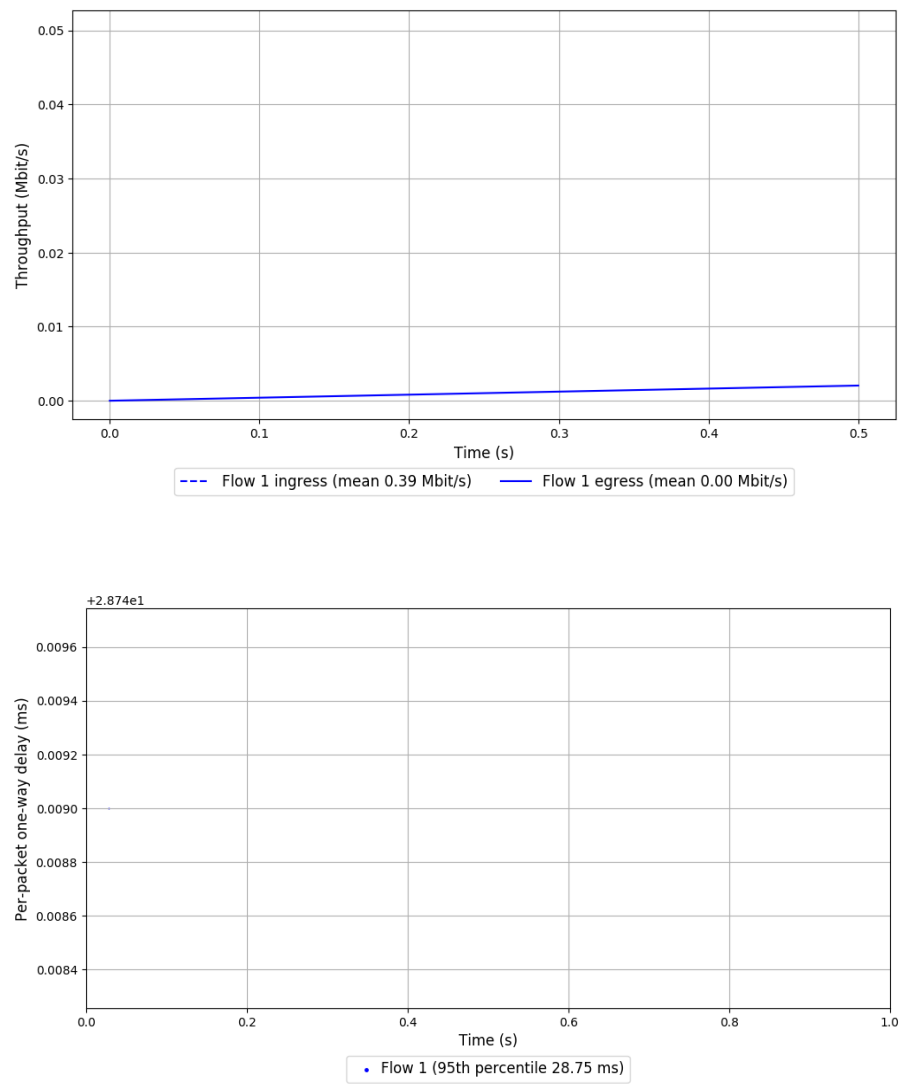
Start at: 2018-11-02 18:07:04

End at: 2018-11-02 18:07:34

Local clock offset: 5.422 ms

Remote clock offset: -3.115 ms

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



Run 2: Statistics of TaoVA-100x

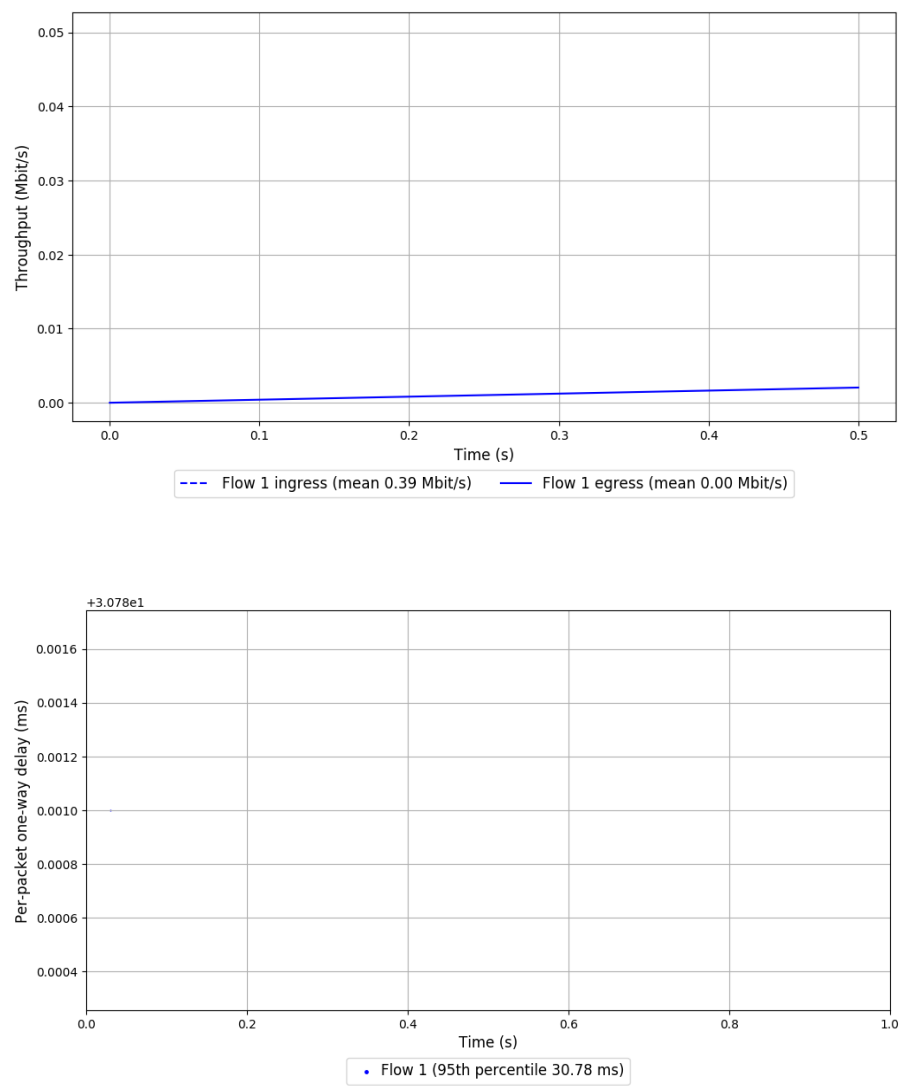
Start at: 2018-11-02 18:30:38

End at: 2018-11-02 18:31:08

Local clock offset: 2.282 ms

Remote clock offset: -2.893 ms

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



Run 3: Statistics of TaoVA-100x

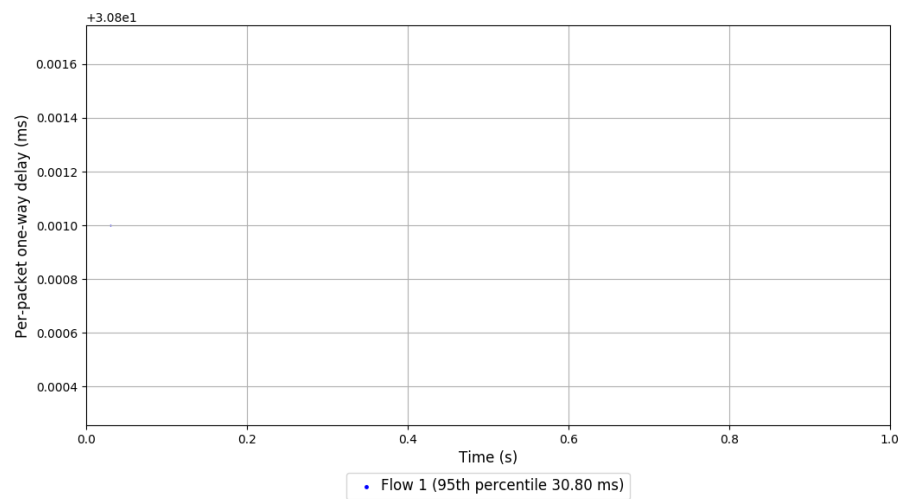
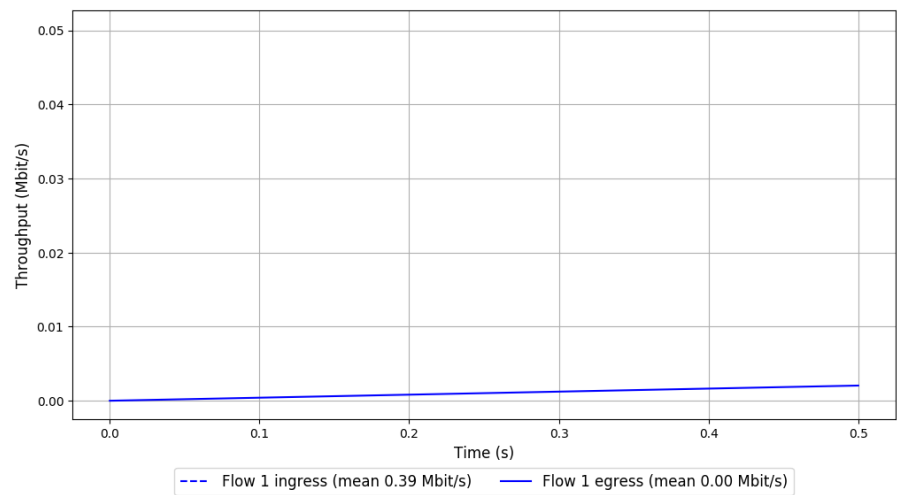
Start at: 2018-11-02 18:54:20

End at: 2018-11-02 18:54:50

Local clock offset: 5.167 ms

Remote clock offset: -2.538 ms

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





Run 4: Statistics of TaoVA-100x

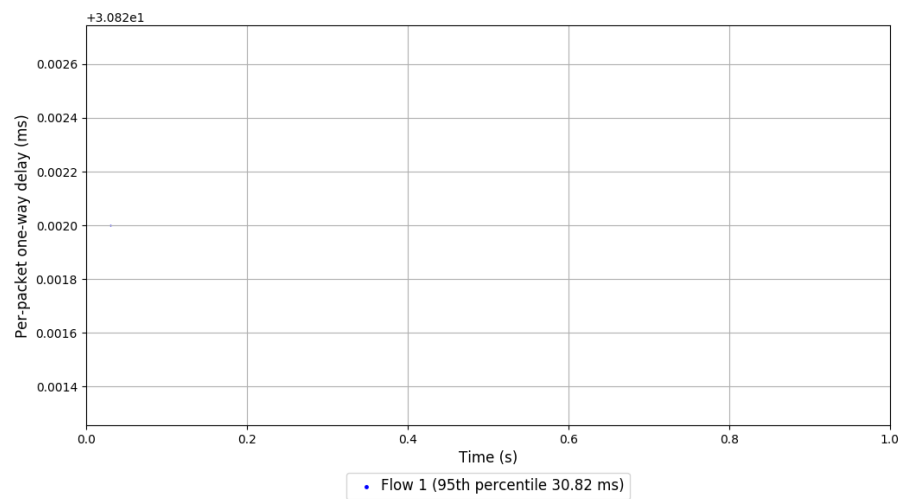
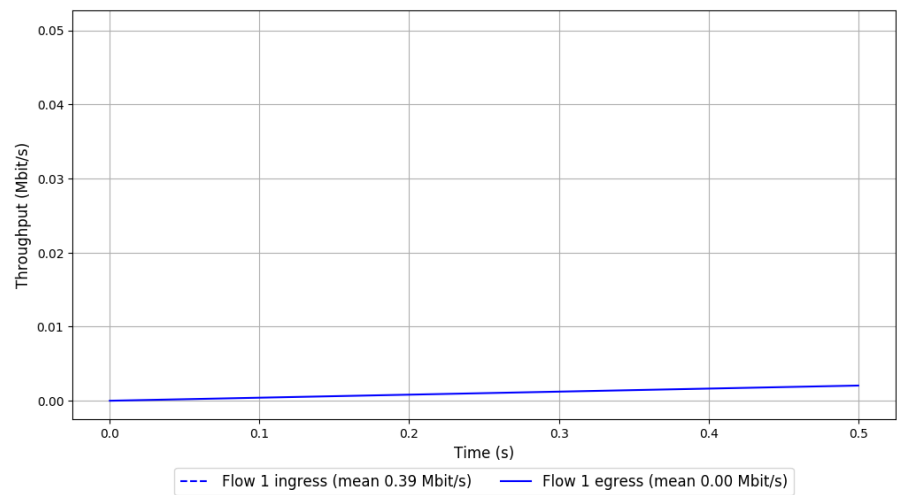
Start at: 2018-11-02 19:17:55

End at: 2018-11-02 19:18:25

Local clock offset: 5.882 ms

Remote clock offset: -2.148 ms

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



Run 5: Statistics of TaoVA-100x

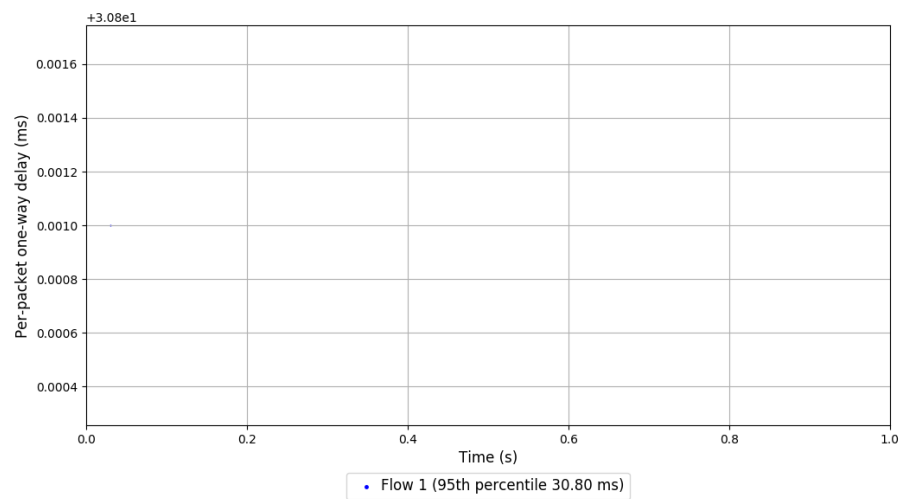
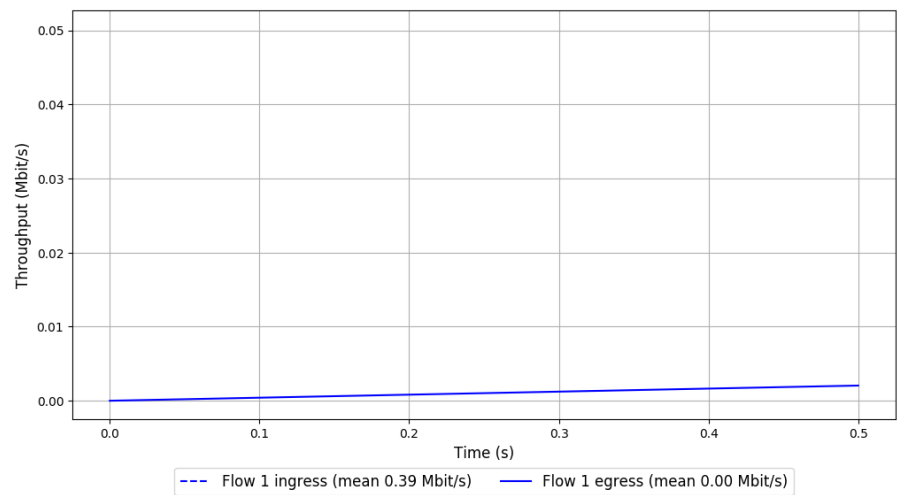
Start at: 2018-11-02 19:41:31

End at: 2018-11-02 19:42:01

Local clock offset: 3.571 ms

Remote clock offset: -1.811 ms

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

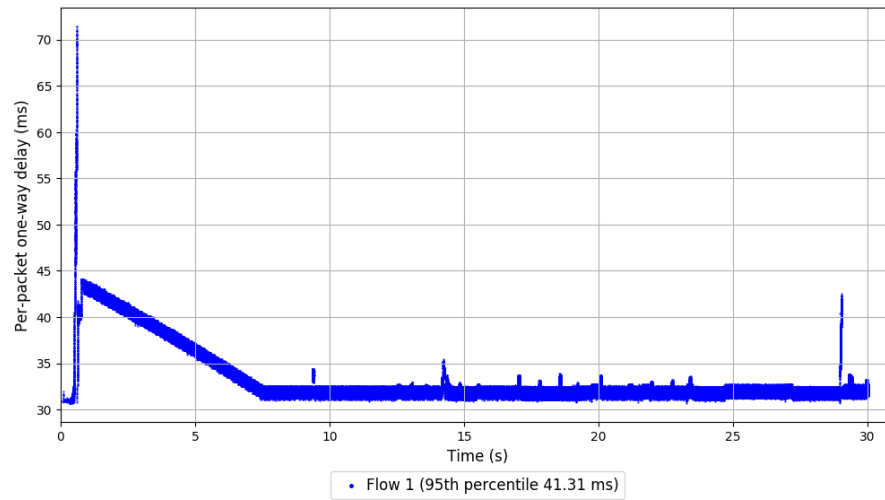
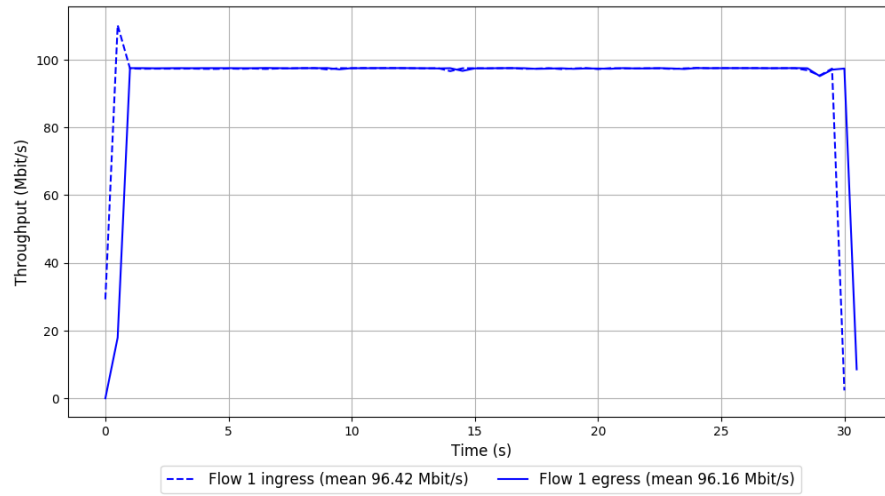


Run 1: Statistics of TCP Vegas

Start at: 2018-11-02 18:20:04  
End at: 2018-11-02 18:20:34  
Local clock offset: 2.42 ms  
Remote clock offset: -2.969 ms

# Below is generated by plot.py at 2018-11-02 20:11:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.16 Mbit/s  
95th percentile per-packet one-way delay: 41.310 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 96.16 Mbit/s  
95th percentile per-packet one-way delay: 41.310 ms  
Loss rate: 0.27%

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

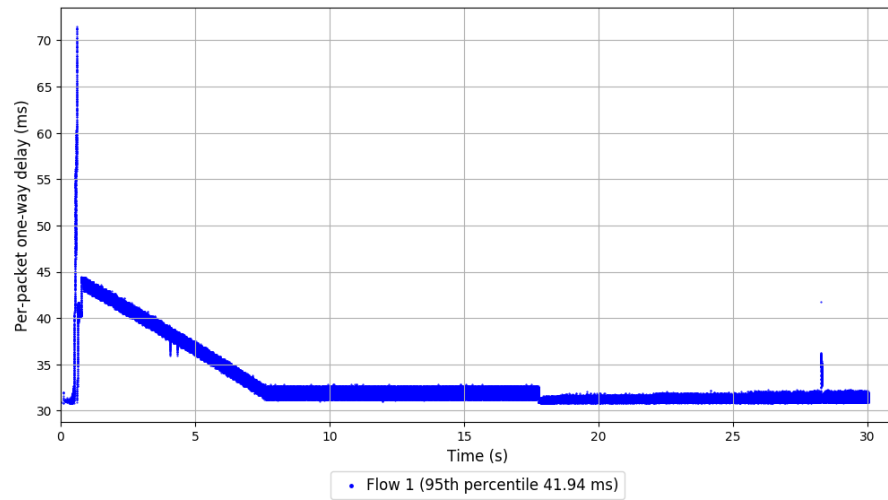
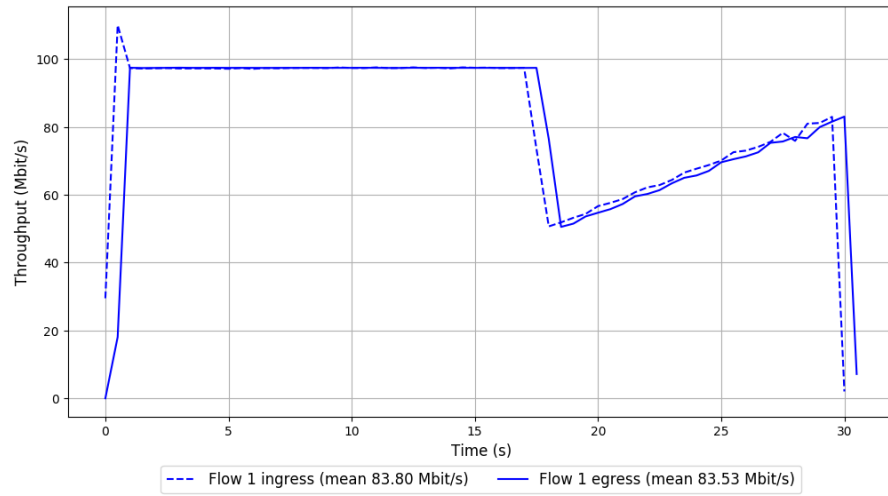


Run 2: Statistics of TCP Vegas

Start at: 2018-11-02 18:43:43  
End at: 2018-11-02 18:44:13  
Local clock offset: 4.316 ms  
Remote clock offset: -2.715 ms

# Below is generated by plot.py at 2018-11-02 20:11:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 83.53 Mbit/s  
95th percentile per-packet one-way delay: 41.938 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 83.53 Mbit/s  
95th percentile per-packet one-way delay: 41.938 ms  
Loss rate: 0.32%

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





Run 3: Statistics of TCP Vegas

Start at: 2018-11-02 19:07:26

End at: 2018-11-02 19:07:56

Local clock offset: 5.621 ms

Remote clock offset: -2.3 ms

# Below is generated by plot.py at 2018-11-02 20:11:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 46.42 Mbit/s

95th percentile per-packet one-way delay: 31.599 ms

Loss rate: 0.65%

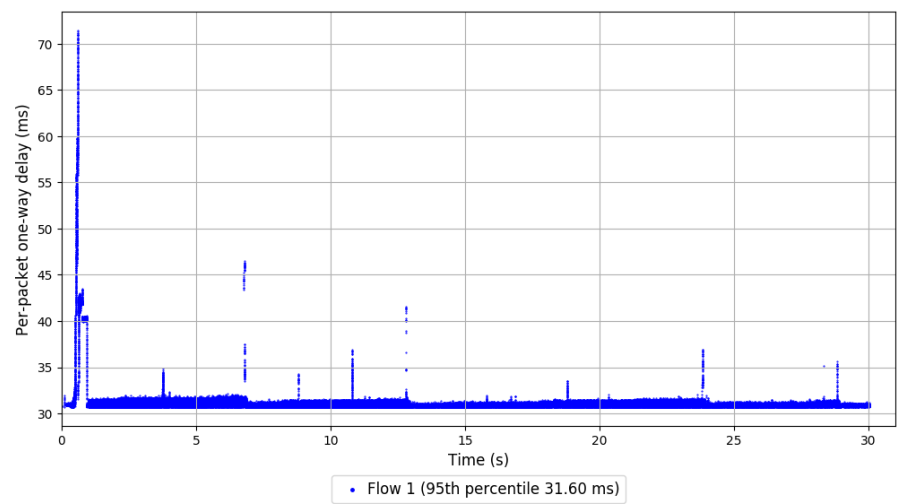
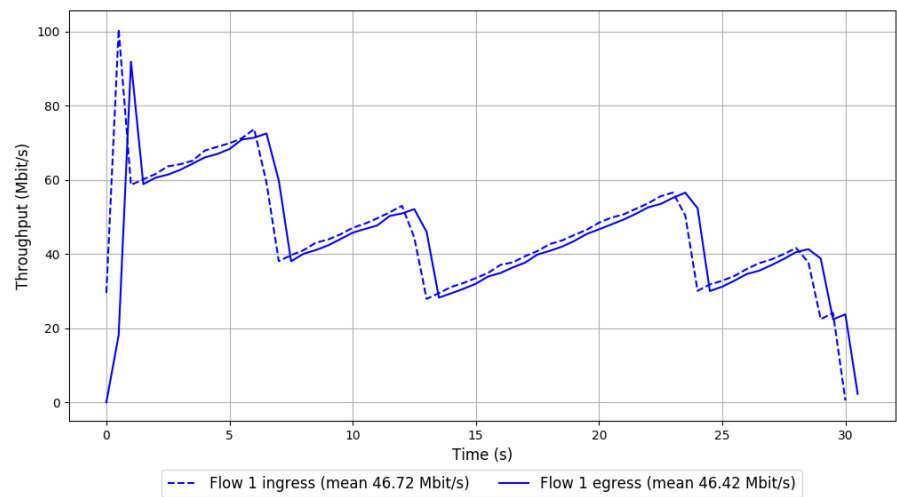
-- Flow 1:

Average throughput: 46.42 Mbit/s

95th percentile per-packet one-way delay: 31.599 ms

Loss rate: 0.65%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-11-02 19:31:02

End at: 2018-11-02 19:31:32

Local clock offset: 6.055 ms

Remote clock offset: -2.16 ms

# Below is generated by plot.py at 2018-11-02 20:12:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.29 Mbit/s

95th percentile per-packet one-way delay: 41.407 ms

Loss rate: 0.26%

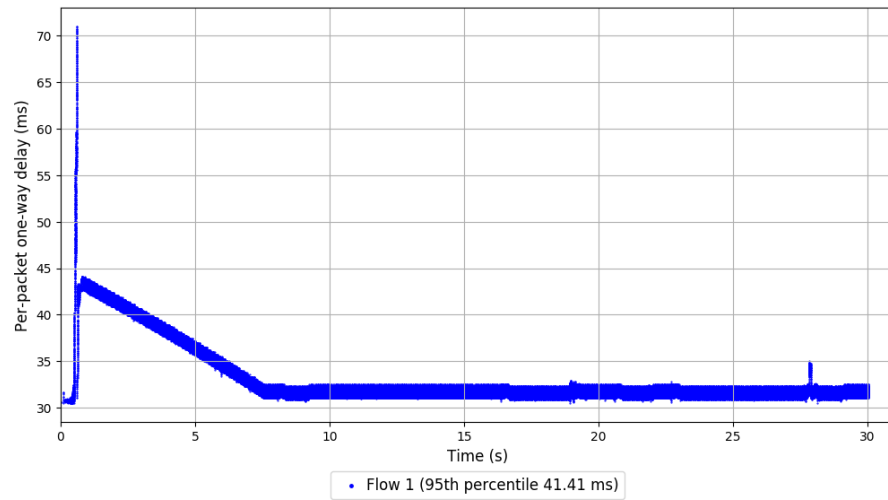
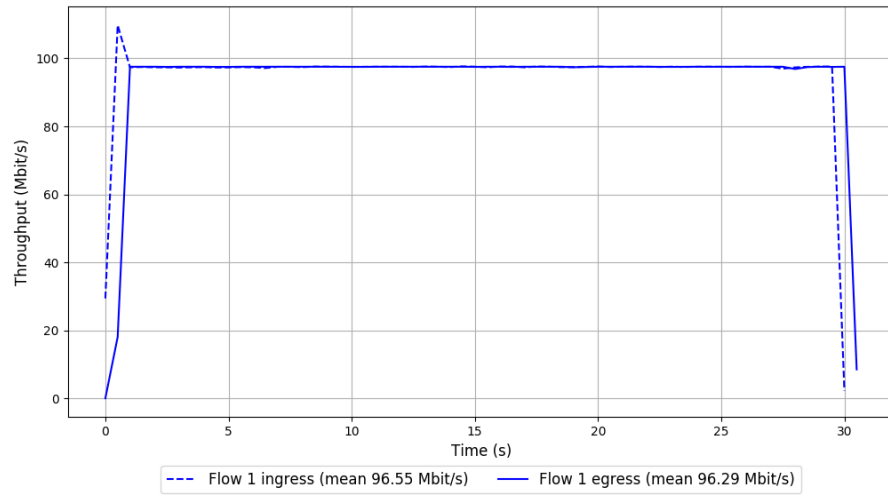
-- Flow 1:

Average throughput: 96.29 Mbit/s

95th percentile per-packet one-way delay: 41.407 ms

Loss rate: 0.26%

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

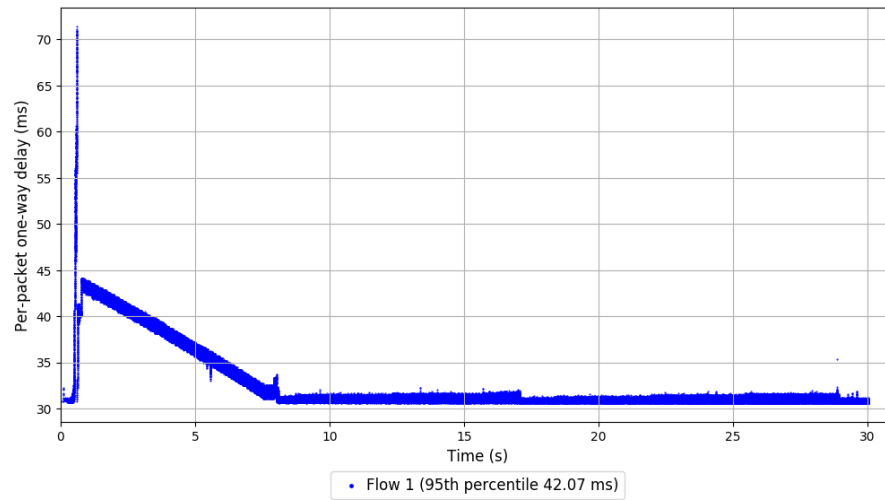
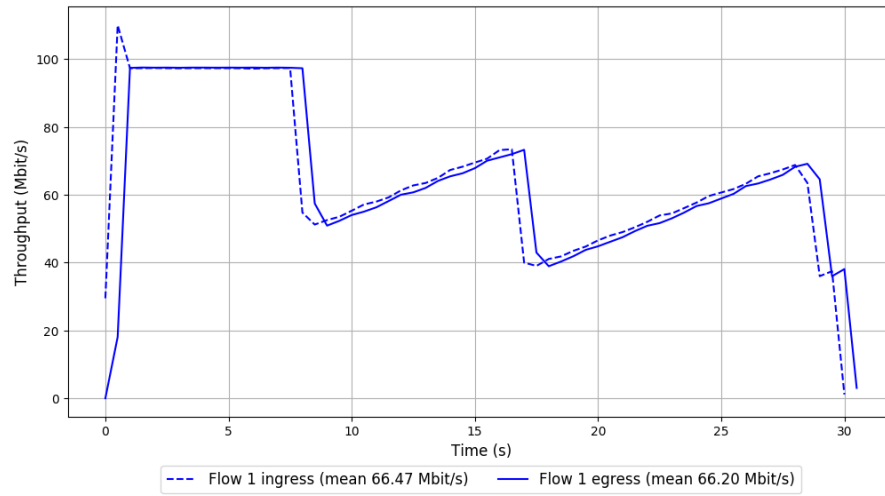


Run 5: Statistics of TCP Vegas

Start at: 2018-11-02 19:54:34  
End at: 2018-11-02 19:55:04  
Local clock offset: 1.586 ms  
Remote clock offset: -1.748 ms

# Below is generated by plot.py at 2018-11-02 20:12:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.20 Mbit/s  
95th percentile per-packet one-way delay: 42.069 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 66.20 Mbit/s  
95th percentile per-packet one-way delay: 42.069 ms  
Loss rate: 0.41%

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

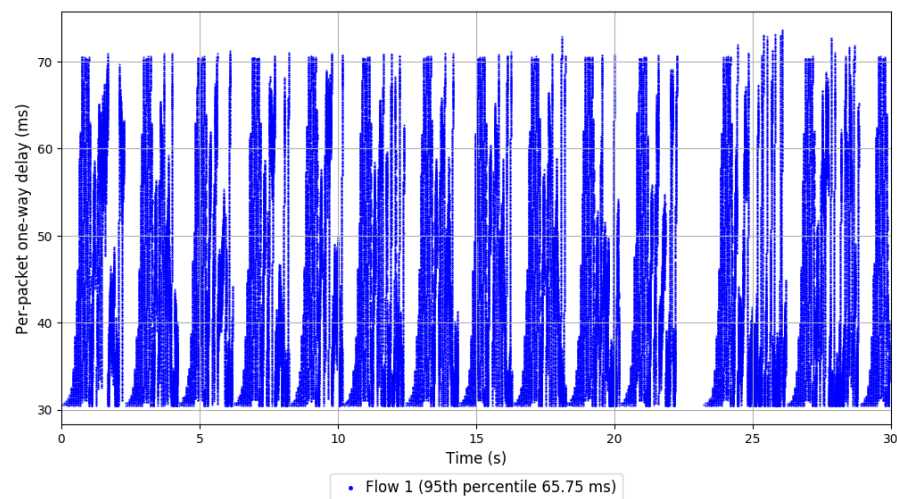
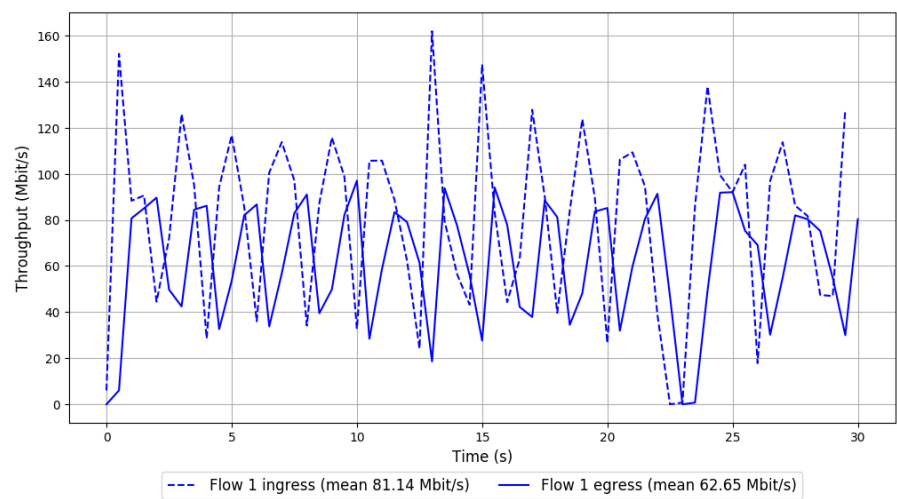


Run 1: Statistics of Verus

Start at: 2018-11-02 18:16:10  
End at: 2018-11-02 18:16:40  
Local clock offset: 2.547 ms  
Remote clock offset: -3.178 ms

# Below is generated by plot.py at 2018-11-02 20:12:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 62.65 Mbit/s  
95th percentile per-packet one-way delay: 65.749 ms  
Loss rate: 22.78%  
-- Flow 1:  
Average throughput: 62.65 Mbit/s  
95th percentile per-packet one-way delay: 65.749 ms  
Loss rate: 22.78%

Run 1: Report of Verus — Data Link



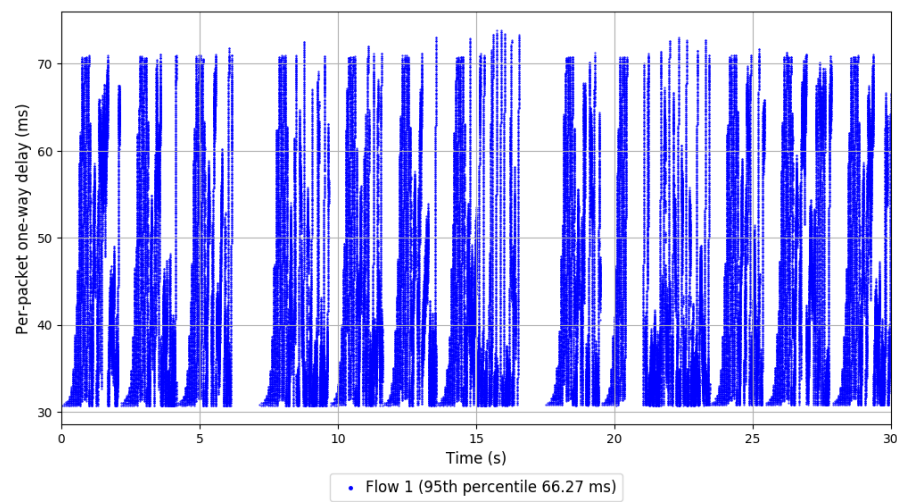
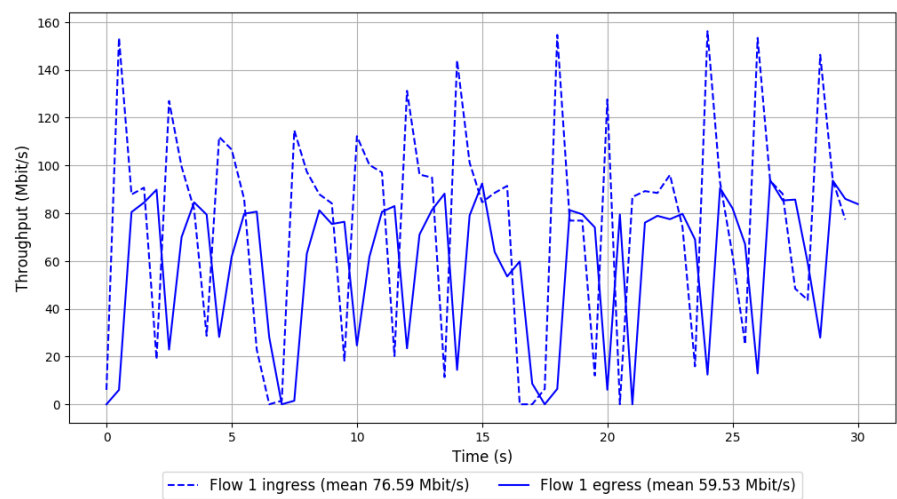


Run 2: Statistics of Verus

Start at: 2018-11-02 18:39:48  
End at: 2018-11-02 18:40:18  
Local clock offset: 3.669 ms  
Remote clock offset: -2.928 ms

# Below is generated by plot.py at 2018-11-02 20:12:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 59.53 Mbit/s  
95th percentile per-packet one-way delay: 66.268 ms  
Loss rate: 22.17%  
-- Flow 1:  
Average throughput: 59.53 Mbit/s  
95th percentile per-packet one-way delay: 66.268 ms  
Loss rate: 22.17%

Run 2: Report of Verus — Data Link

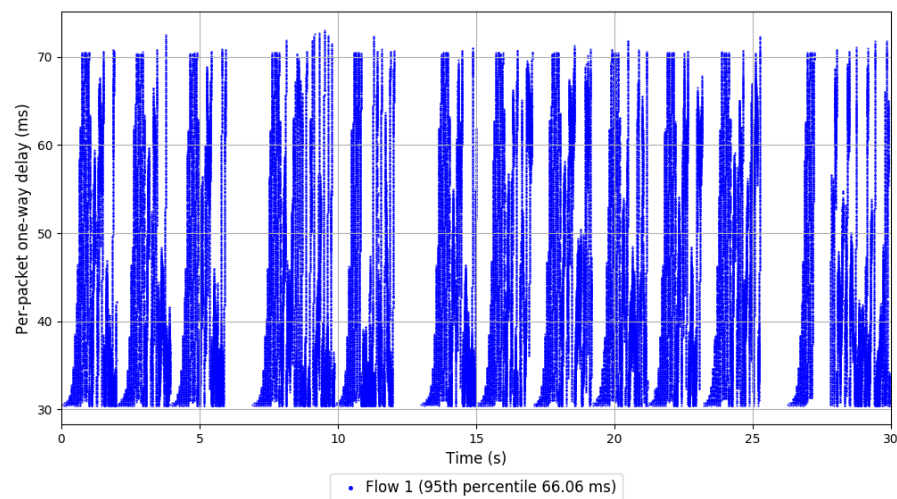
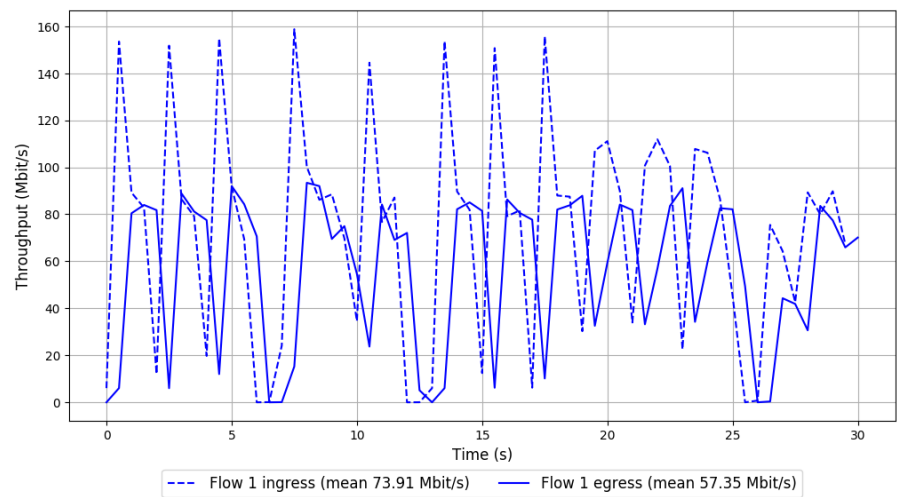


Run 3: Statistics of Verus

Start at: 2018-11-02 19:03:31  
End at: 2018-11-02 19:04:01  
Local clock offset: 5.521 ms  
Remote clock offset: -2.586 ms

# Below is generated by plot.py at 2018-11-02 20:12:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 57.35 Mbit/s  
95th percentile per-packet one-way delay: 66.060 ms  
Loss rate: 22.40%  
-- Flow 1:  
Average throughput: 57.35 Mbit/s  
95th percentile per-packet one-way delay: 66.060 ms  
Loss rate: 22.40%

Run 3: Report of Verus — Data Link

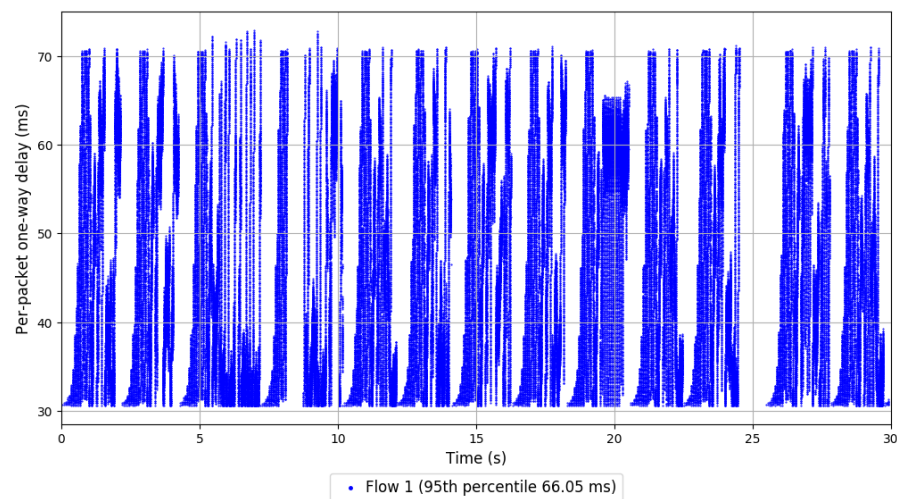
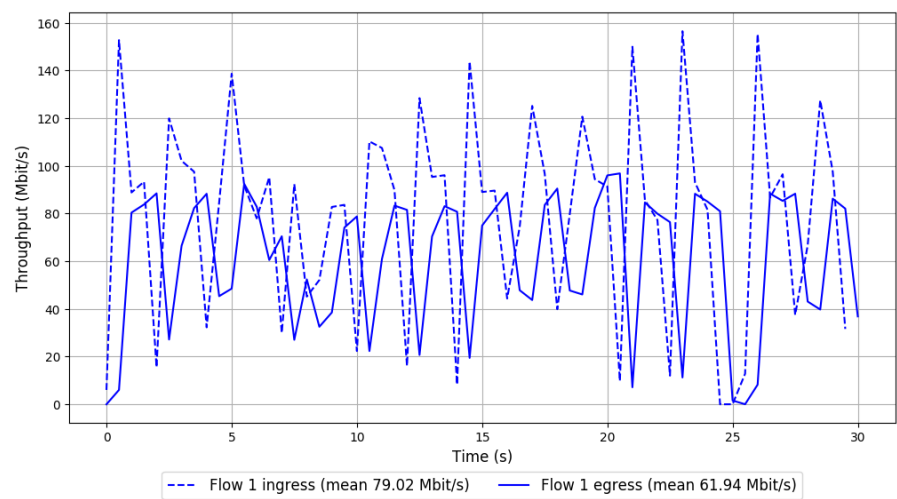


Run 4: Statistics of Verus

Start at: 2018-11-02 19:27:08  
End at: 2018-11-02 19:27:38  
Local clock offset: 6.008 ms  
Remote clock offset: -2.182 ms

# Below is generated by plot.py at 2018-11-02 20:12:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 61.94 Mbit/s  
95th percentile per-packet one-way delay: 66.047 ms  
Loss rate: 21.61%  
-- Flow 1:  
Average throughput: 61.94 Mbit/s  
95th percentile per-packet one-way delay: 66.047 ms  
Loss rate: 21.61%

Run 4: Report of Verus — Data Link

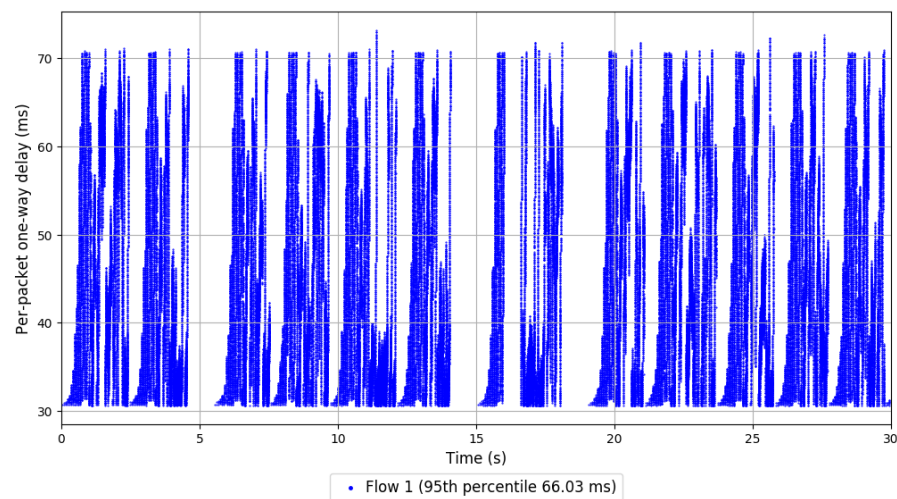
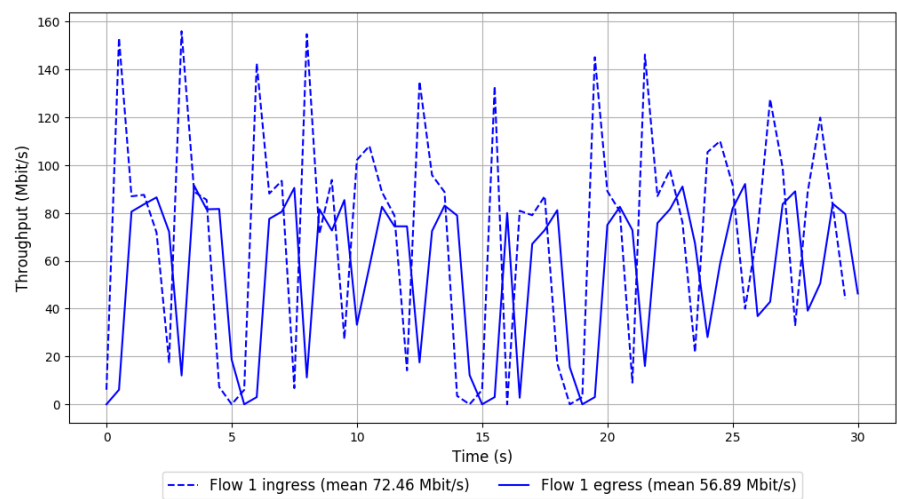


Run 5: Statistics of Verus

Start at: 2018-11-02 19:50:40  
End at: 2018-11-02 19:51:10  
Local clock offset: 2.053 ms  
Remote clock offset: -1.811 ms

# Below is generated by plot.py at 2018-11-02 20:12:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 56.89 Mbit/s  
95th percentile per-packet one-way delay: 66.033 ms  
Loss rate: 21.47%  
-- Flow 1:  
Average throughput: 56.89 Mbit/s  
95th percentile per-packet one-way delay: 66.033 ms  
Loss rate: 21.47%

Run 5: Report of Verus — Data Link





Run 1: Statistics of PCC-Vivace

Start at: 2018-11-02 18:10:53

End at: 2018-11-02 18:11:23

Local clock offset: 2.673 ms

Remote clock offset: -3.044 ms

# Below is generated by plot.py at 2018-11-02 20:12:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.57 Mbit/s

95th percentile per-packet one-way delay: 35.275 ms

Loss rate: 0.00%

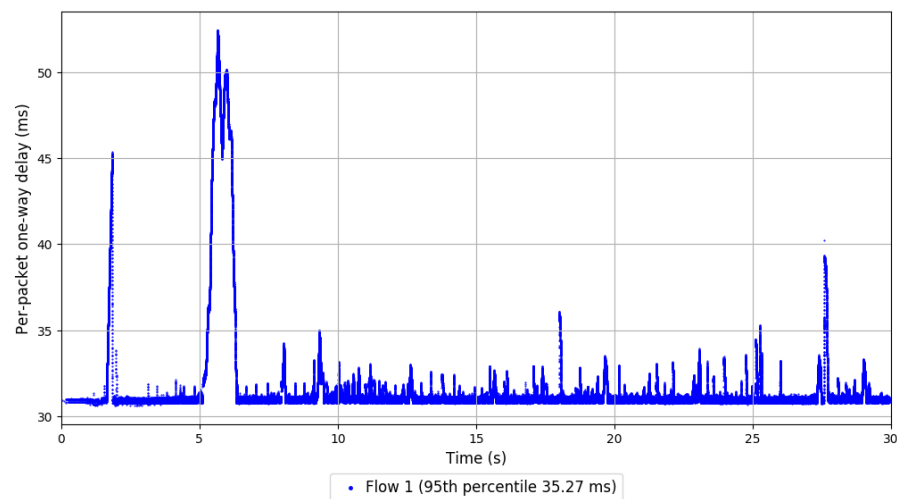
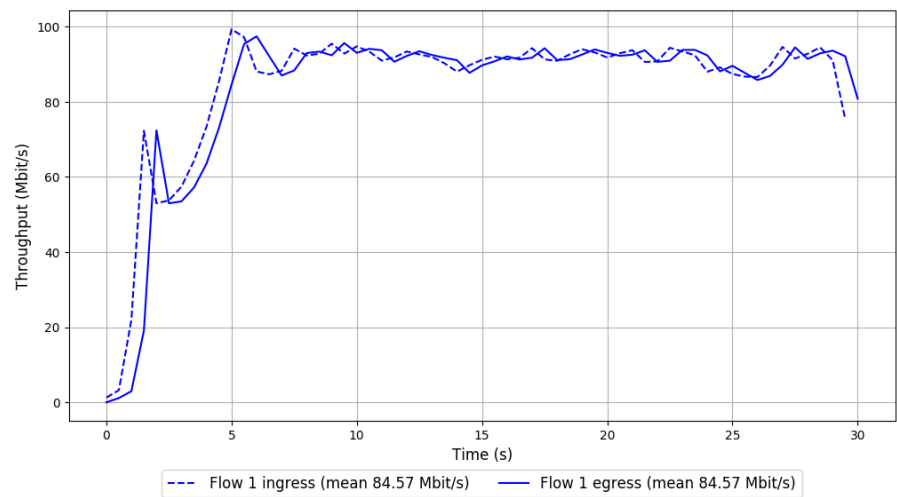
-- Flow 1:

Average throughput: 84.57 Mbit/s

95th percentile per-packet one-way delay: 35.275 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-11-02 18:34:29

End at: 2018-11-02 18:34:59

Local clock offset: 2.234 ms

Remote clock offset: -2.81 ms

# Below is generated by plot.py at 2018-11-02 20:12:47

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.91 Mbit/s

95th percentile per-packet one-way delay: 36.168 ms

Loss rate: 0.00%

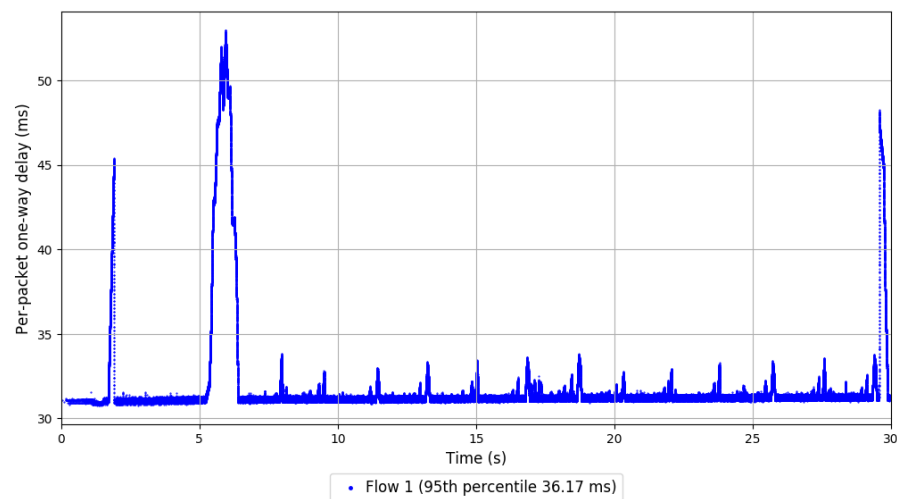
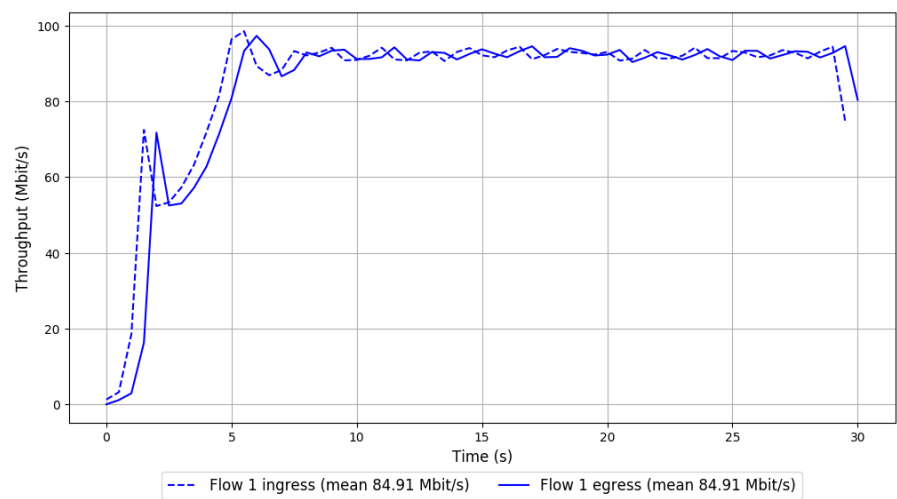
-- Flow 1:

Average throughput: 84.91 Mbit/s

95th percentile per-packet one-way delay: 36.168 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-02 18:58:12

End at: 2018-11-02 18:58:42

Local clock offset: 5.326 ms

Remote clock offset: -2.495 ms

# Below is generated by plot.py at 2018-11-02 20:12:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 83.35 Mbit/s

95th percentile per-packet one-way delay: 32.095 ms

Loss rate: 0.03%

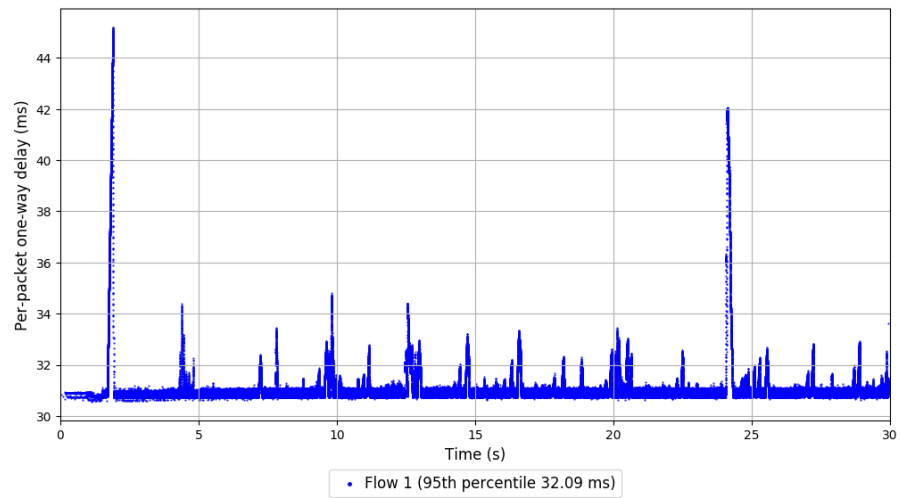
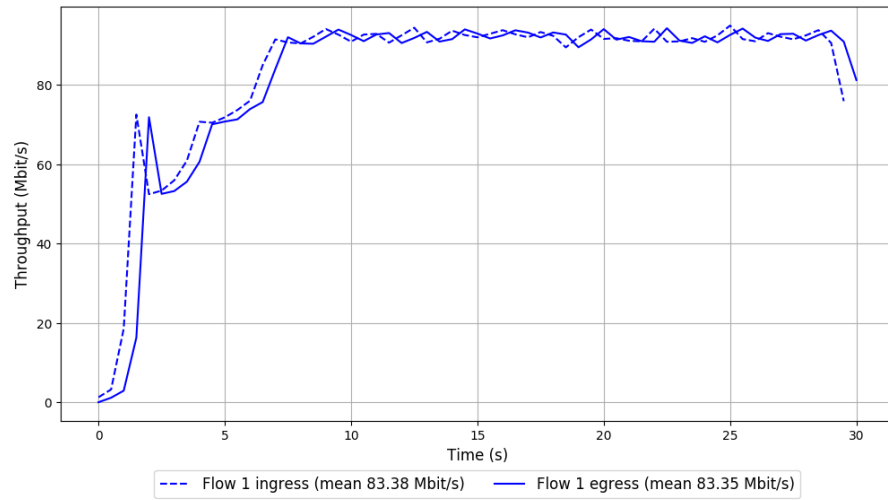
-- Flow 1:

Average throughput: 83.35 Mbit/s

95th percentile per-packet one-way delay: 32.095 ms

Loss rate: 0.03%

### Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-11-02 19:21:50

End at: 2018-11-02 19:22:20

Local clock offset: 5.924 ms

Remote clock offset: -2.036 ms

# Below is generated by plot.py at 2018-11-02 20:12:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.50 Mbit/s

95th percentile per-packet one-way delay: 33.351 ms

Loss rate: 0.01%

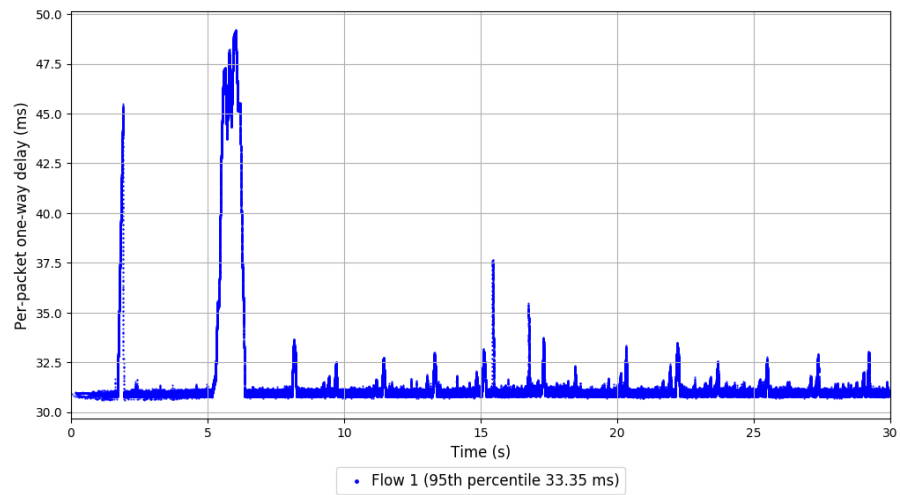
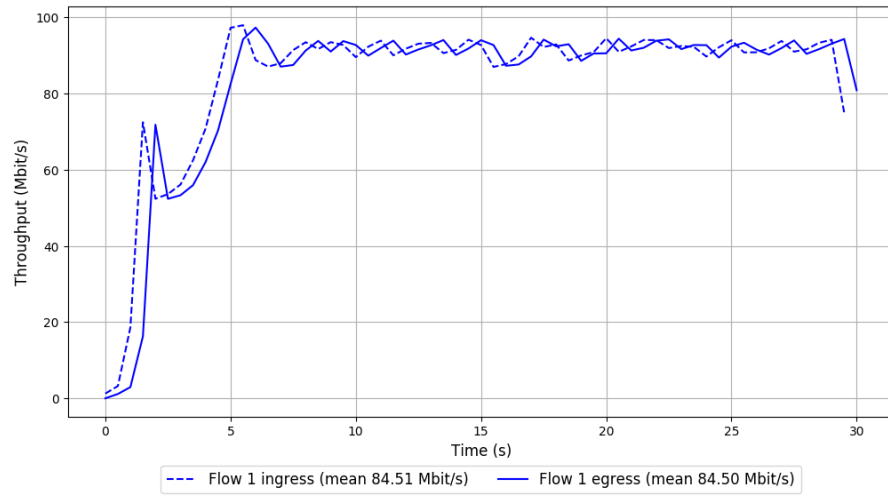
-- Flow 1:

Average throughput: 84.50 Mbit/s

95th percentile per-packet one-way delay: 33.351 ms

Loss rate: 0.01%

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





Run 5: Statistics of PCC-Vivace

Start at: 2018-11-02 19:45:22

End at: 2018-11-02 19:45:52

Local clock offset: 2.785 ms

Remote clock offset: -1.773 ms

# Below is generated by plot.py at 2018-11-02 20:12:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.35 Mbit/s

95th percentile per-packet one-way delay: 32.864 ms

Loss rate: 0.01%

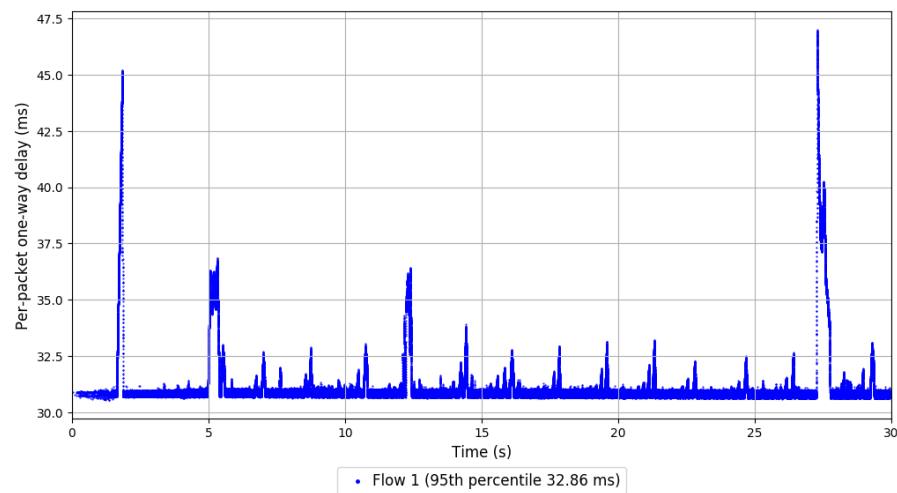
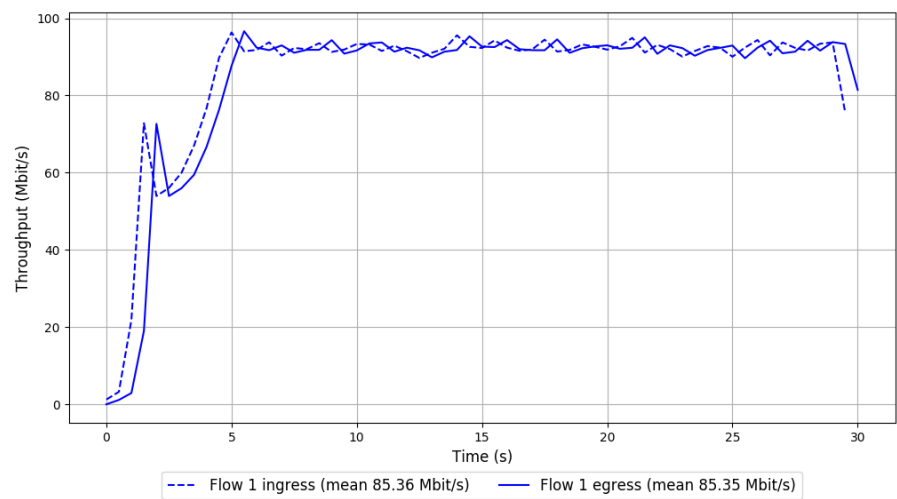
-- Flow 1:

Average throughput: 85.35 Mbit/s

95th percentile per-packet one-way delay: 32.864 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

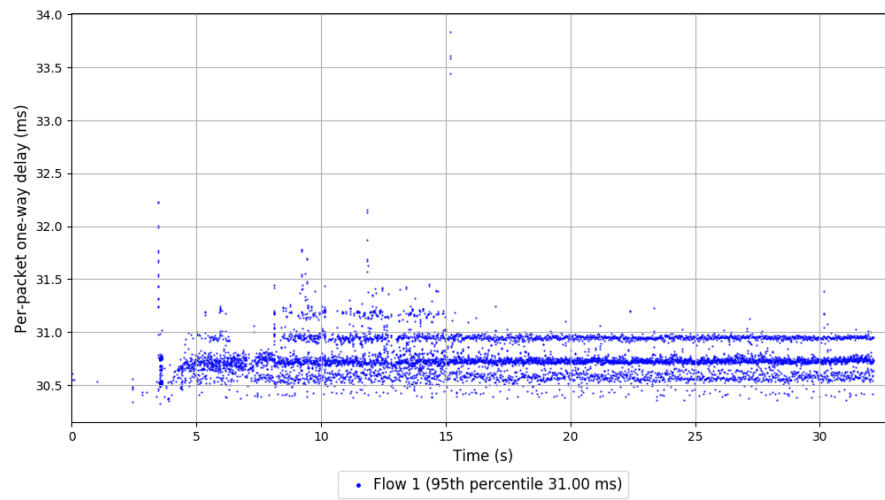
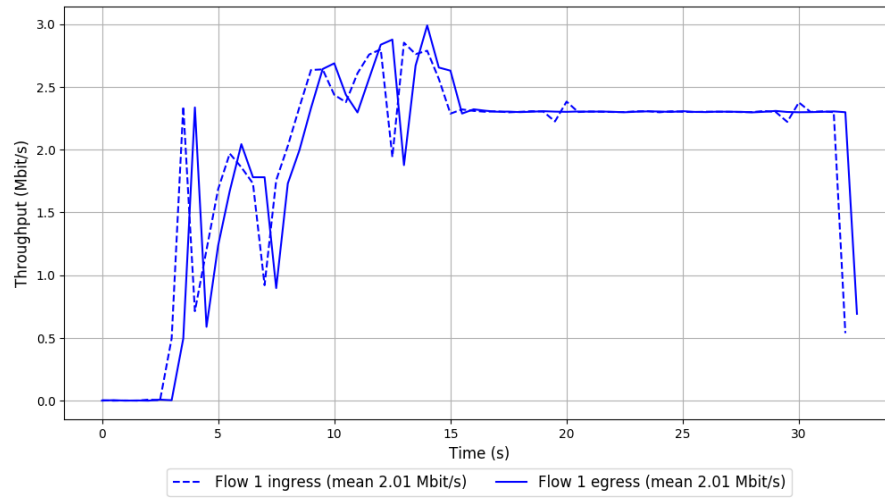


Run 1: Statistics of WebRTC media

Start at: 2018-11-02 18:08:19  
End at: 2018-11-02 18:08:49  
Local clock offset: 2.831 ms  
Remote clock offset: -3.127 ms

# Below is generated by plot.py at 2018-11-02 20:12:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.01 Mbit/s  
95th percentile per-packet one-way delay: 31.002 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.01 Mbit/s  
95th percentile per-packet one-way delay: 31.002 ms  
Loss rate: 0.00%

## Run 1: Report of WebRTC media — Data Link

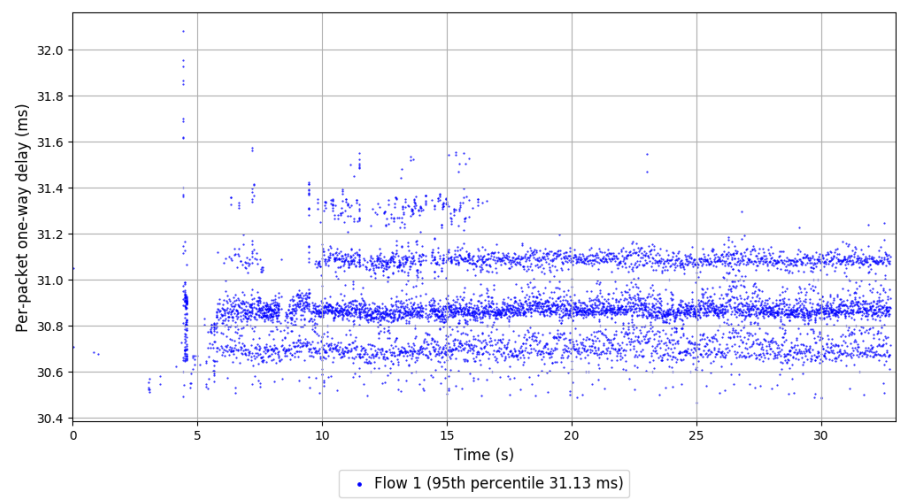
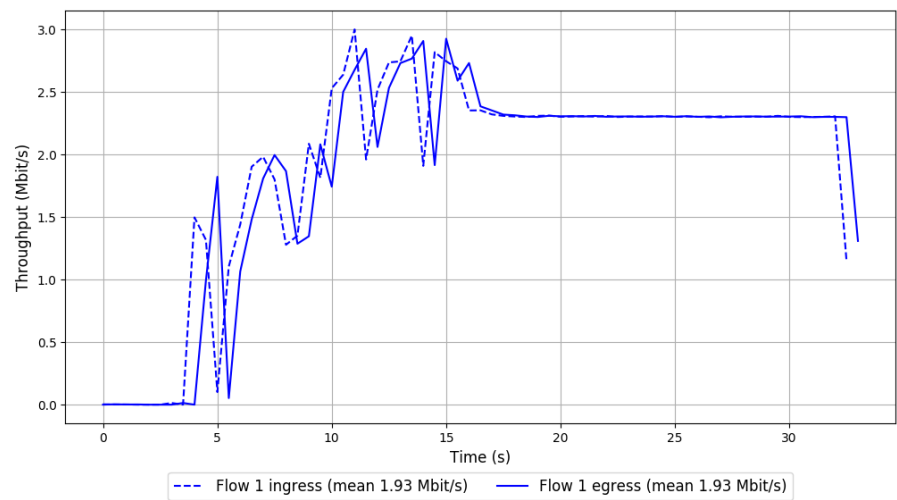


Run 2: Statistics of WebRTC media

Start at: 2018-11-02 18:31:53  
End at: 2018-11-02 18:32:23  
Local clock offset: 2.267 ms  
Remote clock offset: -2.891 ms

# Below is generated by plot.py at 2018-11-02 20:12:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.132 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.132 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-11-02 18:55:36

End at: 2018-11-02 18:56:06

Local clock offset: 5.212 ms

Remote clock offset: -2.66 ms

# Below is generated by plot.py at 2018-11-02 20:12:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 31.070 ms

Loss rate: 0.00%

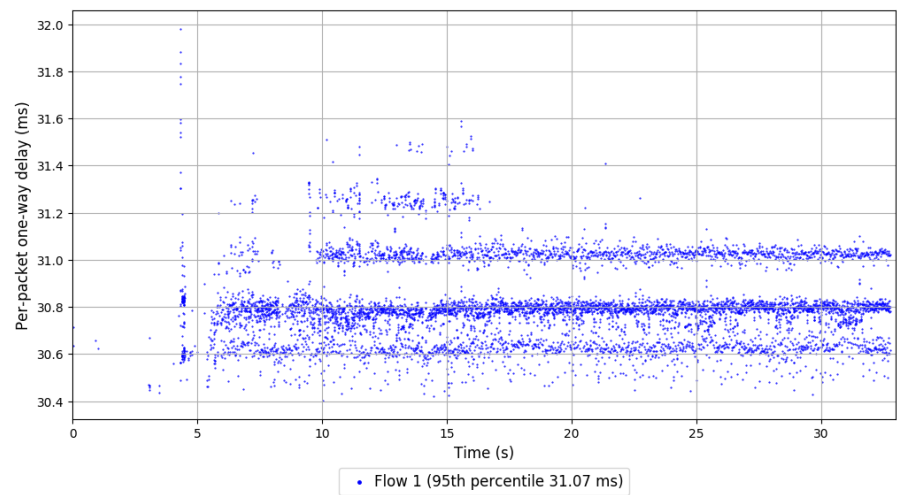
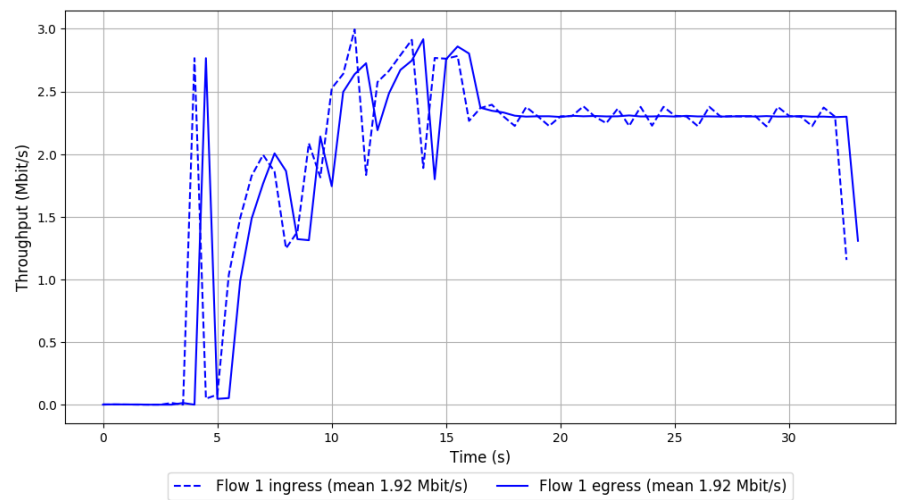
-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 31.070 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



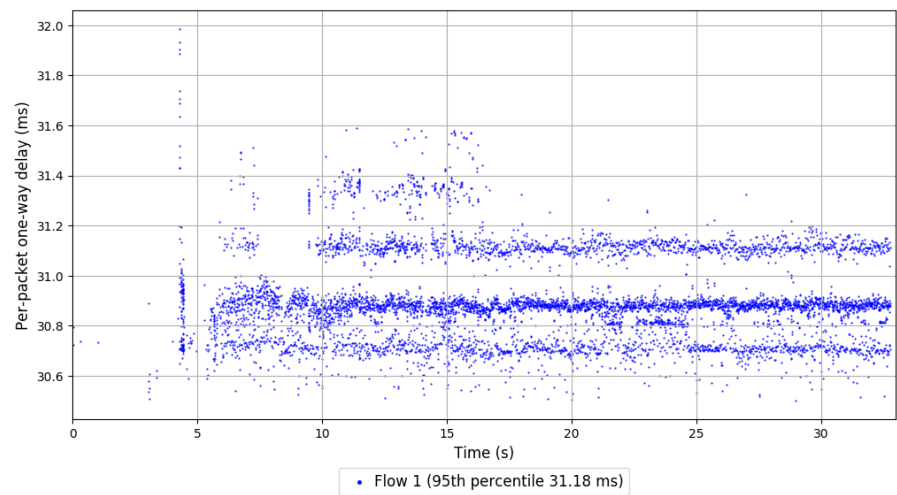
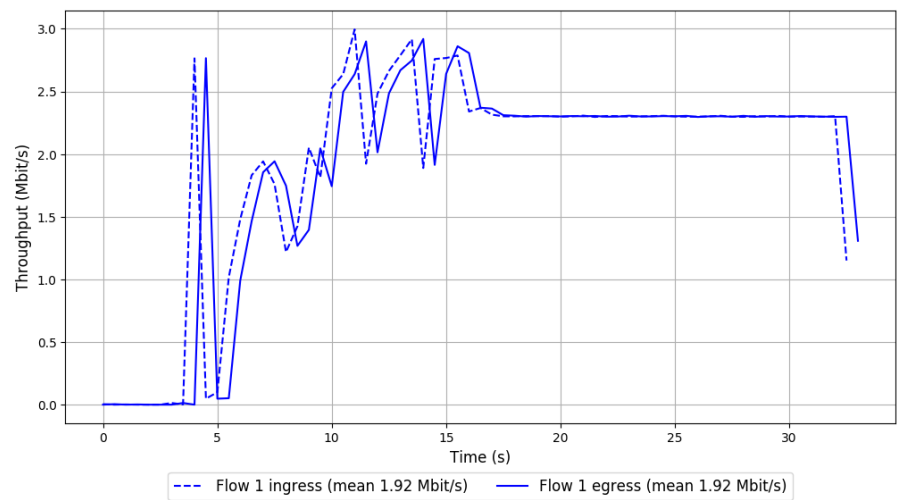


Run 4: Statistics of WebRTC media

Start at: 2018-11-02 19:19:16  
End at: 2018-11-02 19:19:46  
Local clock offset: 5.895 ms  
Remote clock offset: -2.136 ms

# Below is generated by plot.py at 2018-11-02 20:12:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.175 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.175 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-02 19:42:47  
End at: 2018-11-02 19:43:17  
Local clock offset: 3.329 ms  
Remote clock offset: -1.787 ms

# Below is generated by plot.py at 2018-11-02 20:12:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.118 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.118 ms  
Loss rate: 0.00%

## Run 5: Report of WebRTC media — Data Link

