

## Pantheon Report

Generated at 2018-09-25 07:48:40 (UTC).

Data path: AWS California 1 on `ens5` (*local*) → Stanford on `eno1` (*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:

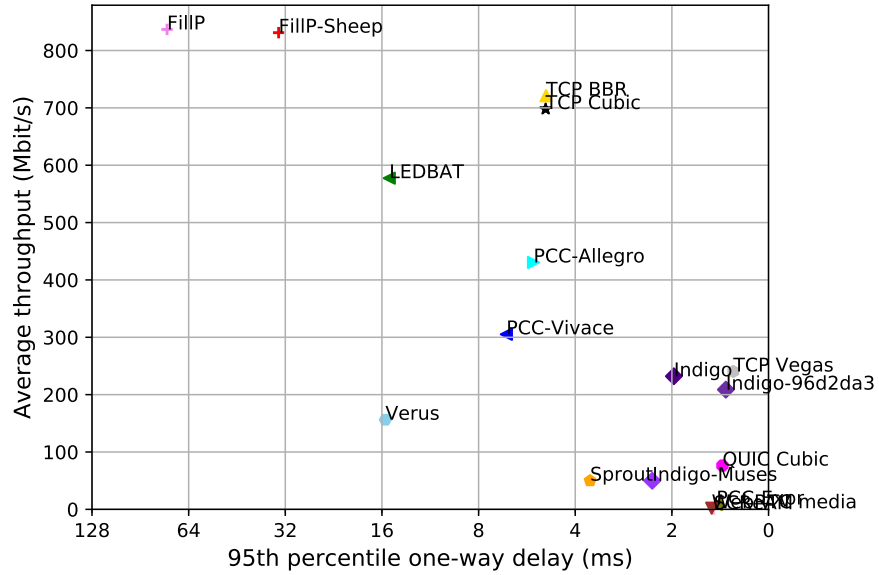
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202
```

### Git summary:

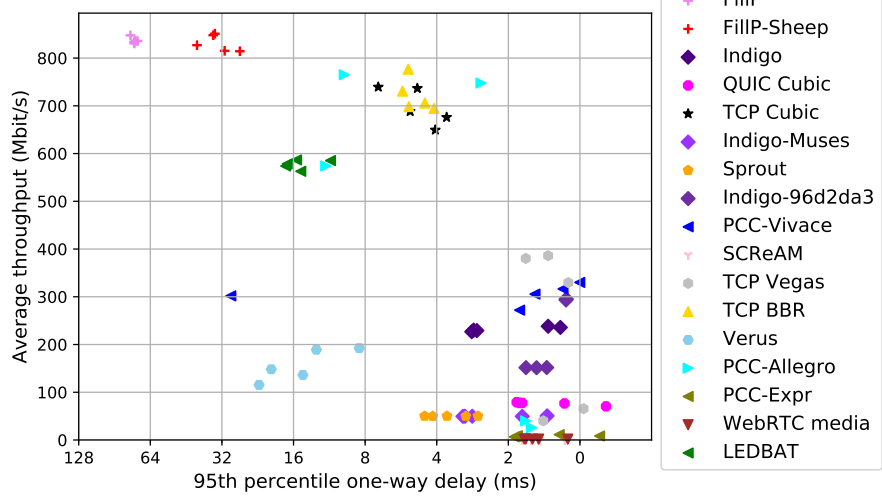
```
branch: muses @ 90192f6b64ce1a1191dcca0e9ff9ee24950674d7
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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 1 to Stanford, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



test from AWS California 1 to Stanford, 5 runs of 30s each per scheme



| scheme         | # runs | mean avg tput (Mbit/s)<br>flow 1 | mean 95th-%ile delay (ms)<br>flow 1 | mean loss rate (%)<br>flow 1 |
|----------------|--------|----------------------------------|-------------------------------------|------------------------------|
| TCP BBR        | 5      | 721.22                           | 4.93                                | 0.07                         |
| Copa           | 0      | N/A                              | N/A                                 | N/A                          |
| TCP Cubic      | 5      | 697.97                           | 4.95                                | 0.04                         |
| FillP          | 5      | 836.77                           | 74.71                               | 5.44                         |
| FillP-Sheep    | 5      | 831.10                           | 33.57                               | 3.57                         |
| Indigo         | 5      | 232.05                           | 1.96                                | 0.00                         |
| Indigo-96d2da3 | 5      | 208.74                           | 0.88                                | 0.00                         |
| LEDBAT         | 5      | 577.42                           | 15.19                               | 0.05                         |
| Indigo-Muses   | 5      | 49.84                            | 2.30                                | 0.03                         |
| PCC-Allegro    | 5      | 430.49                           | 5.40                                | 0.07                         |
| PCC-Expr       | 5      | 8.50                             | 1.08                                | 30.62                        |
| QUIC Cubic     | 5      | 76.31                            | 0.95                                | 0.00                         |
| SCReAM         | 5      | 0.22                             | 1.13                                | 0.00                         |
| Sprout         | 5      | 50.00                            | 3.60                                | 0.08                         |
| TaoVA-100x     | 0      | N/A                              | N/A                                 | N/A                          |
| TCP Vegas      | 5      | 240.34                           | 0.73                                | 0.11                         |
| Verus          | 5      | 156.26                           | 15.62                               | 1.12                         |
| PCC-Vivace     | 5      | 305.22                           | 6.56                                | 0.00                         |
| WebRTC media   | 5      | 2.00                             | 1.18                                | 0.01                         |



Run 1: Statistics of TCP BBR

Start at: 2018-09-25 05:06:13  
End at: 2018-09-25 05:06:43  
Local clock offset: -22.731 ms  
Remote clock offset: 3.953 ms

# Below is generated by plot.py at 2018-09-25 07:12:39

# Datalink statistics

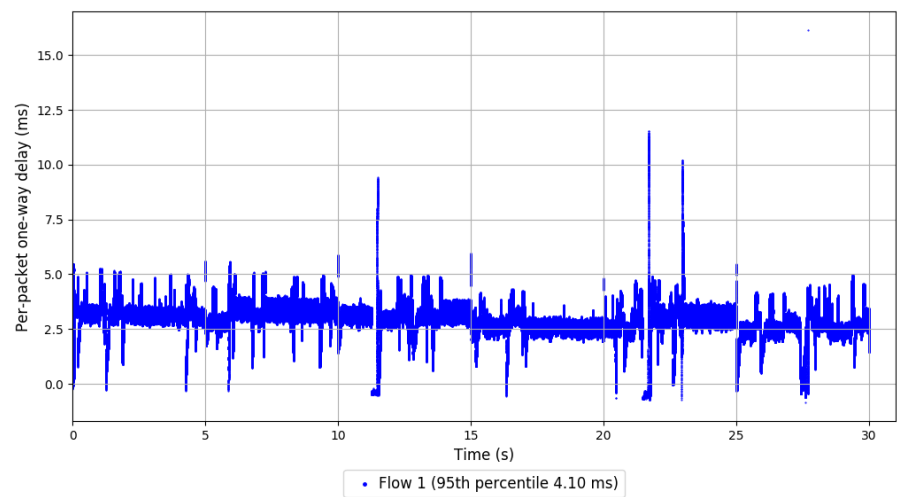
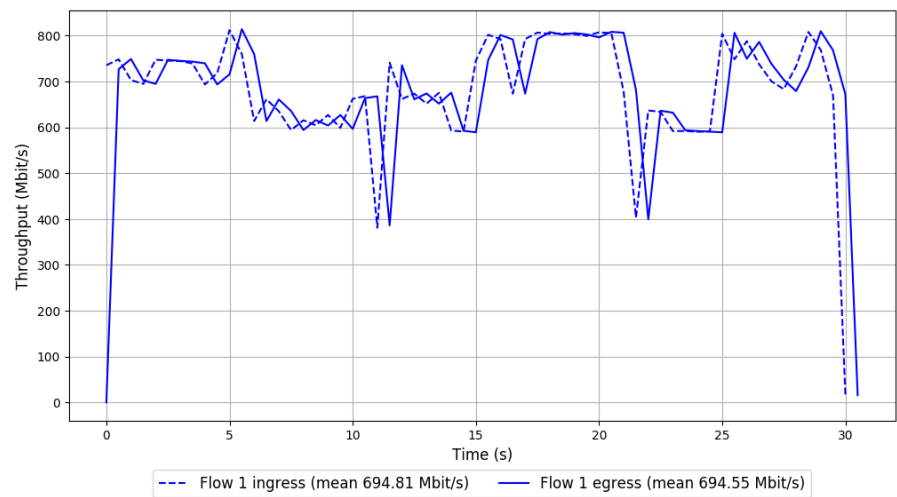
-- Total of 1 flow:

Average throughput: 694.55 Mbit/s  
95th percentile per-packet one-way delay: 4.104 ms  
Loss rate: 0.04%

-- Flow 1:

Average throughput: 694.55 Mbit/s  
95th percentile per-packet one-way delay: 4.104 ms  
Loss rate: 0.04%

Run 1: Report of TCP BBR — Data Link

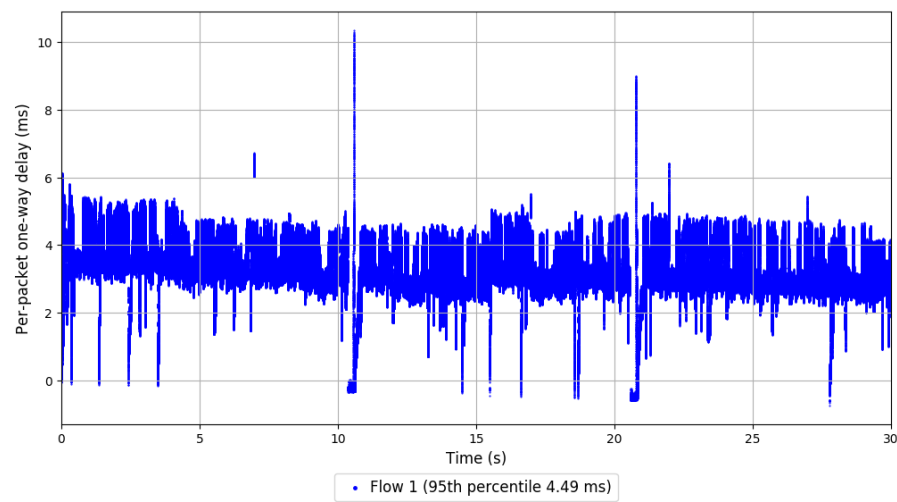
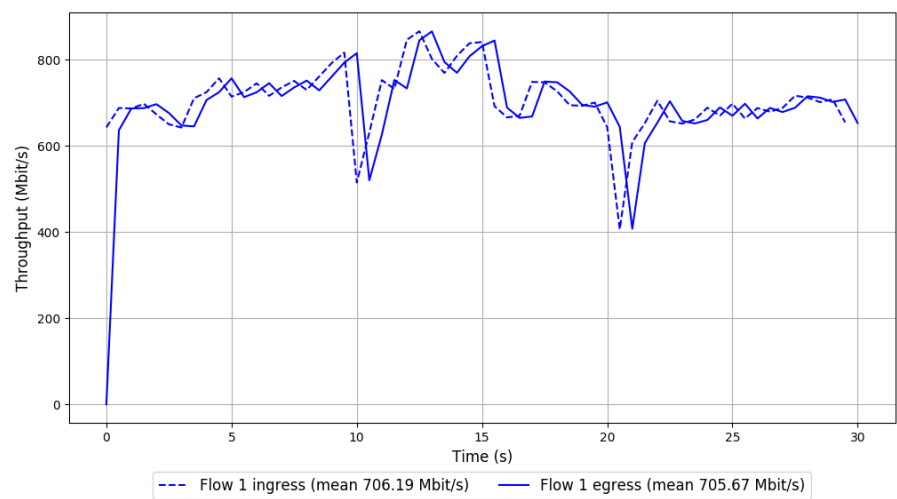


Run 2: Statistics of TCP BBR

Start at: 2018-09-25 05:34:07  
End at: 2018-09-25 05:34:37  
Local clock offset: -39.841 ms  
Remote clock offset: 4.075 ms

# Below is generated by plot.py at 2018-09-25 07:12:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 705.67 Mbit/s  
95th percentile per-packet one-way delay: 4.487 ms  
Loss rate: 0.08%  
-- Flow 1:  
Average throughput: 705.67 Mbit/s  
95th percentile per-packet one-way delay: 4.487 ms  
Loss rate: 0.08%

Run 2: Report of TCP BBR — Data Link

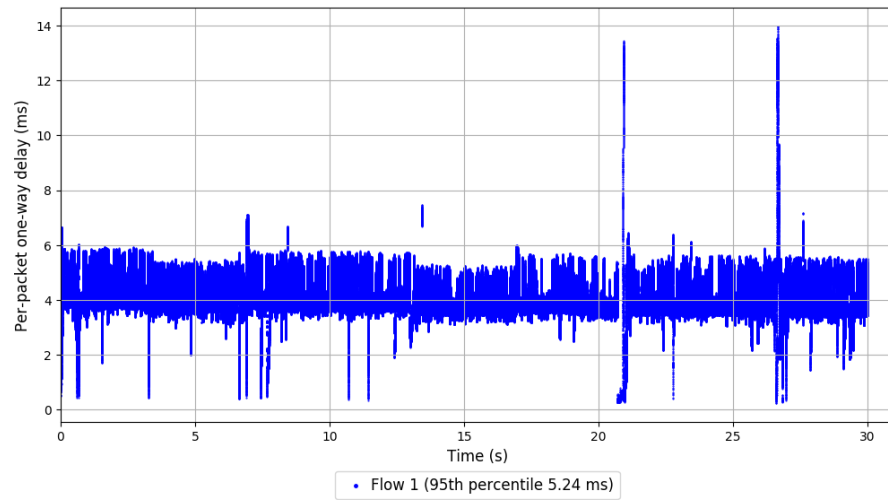
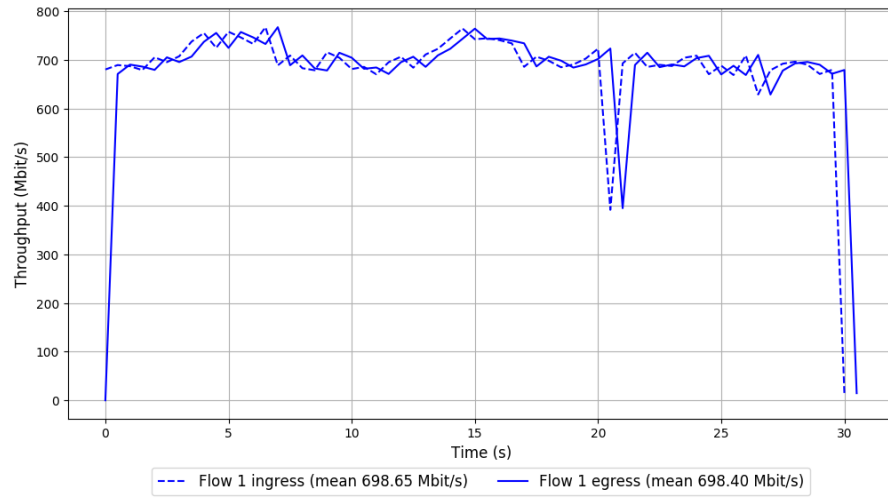


Run 3: Statistics of TCP BBR

Start at: 2018-09-25 06:01:48  
End at: 2018-09-25 06:02:18  
Local clock offset: -26.337 ms  
Remote clock offset: -0.631 ms

# Below is generated by plot.py at 2018-09-25 07:12:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 698.40 Mbit/s  
95th percentile per-packet one-way delay: 5.236 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 698.40 Mbit/s  
95th percentile per-packet one-way delay: 5.236 ms  
Loss rate: 0.04%

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

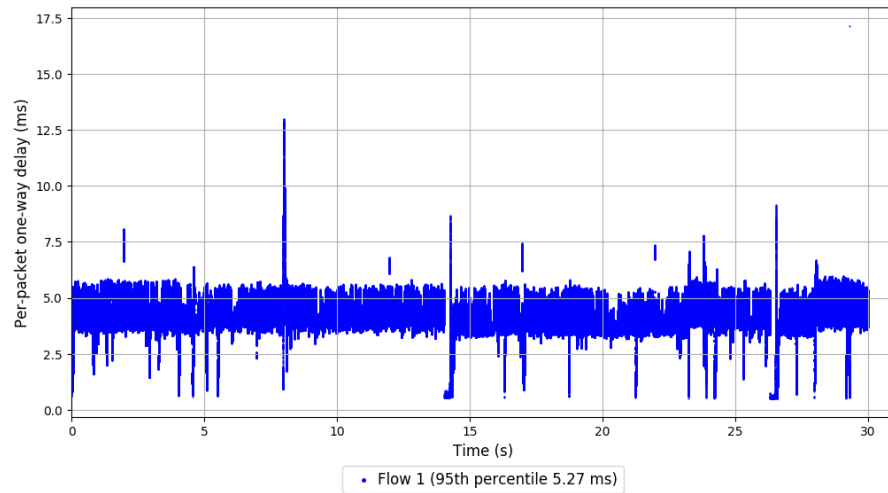
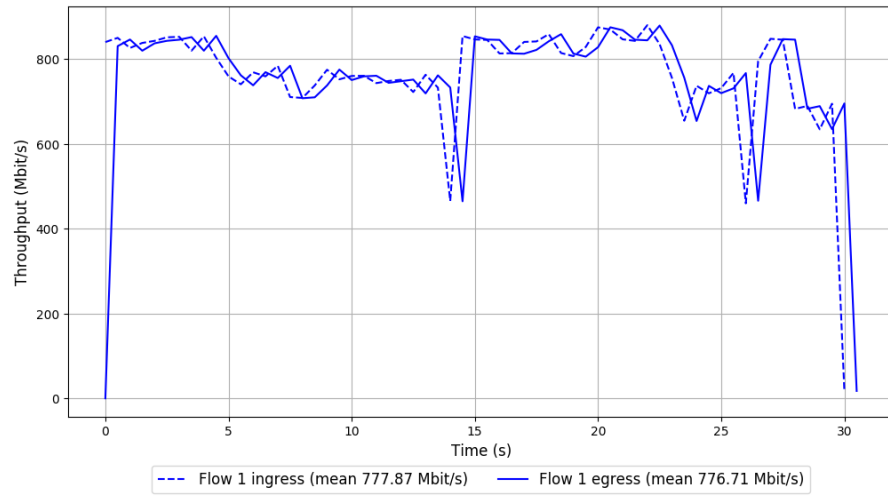


Run 4: Statistics of TCP BBR

Start at: 2018-09-25 06:29:25  
End at: 2018-09-25 06:29:55  
Local clock offset: -14.988 ms  
Remote clock offset: -0.696 ms

# Below is generated by plot.py at 2018-09-25 07:13:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 776.71 Mbit/s  
95th percentile per-packet one-way delay: 5.272 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 776.71 Mbit/s  
95th percentile per-packet one-way delay: 5.272 ms  
Loss rate: 0.15%

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



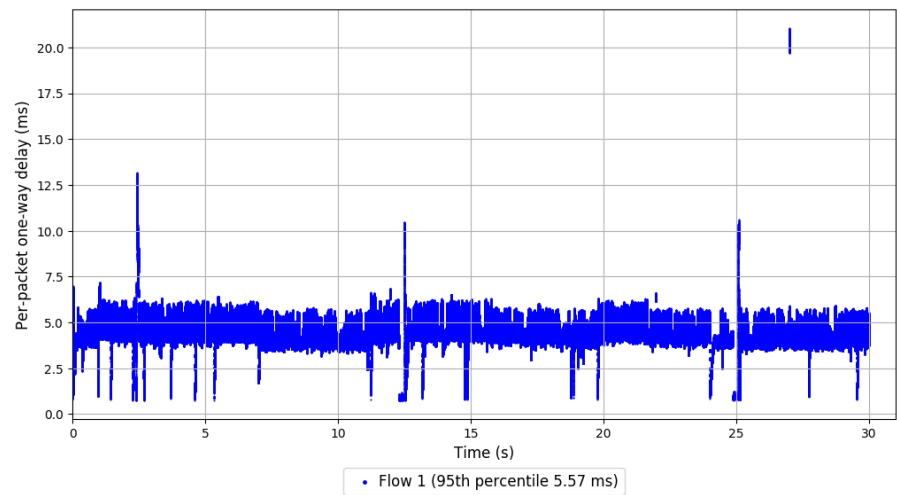
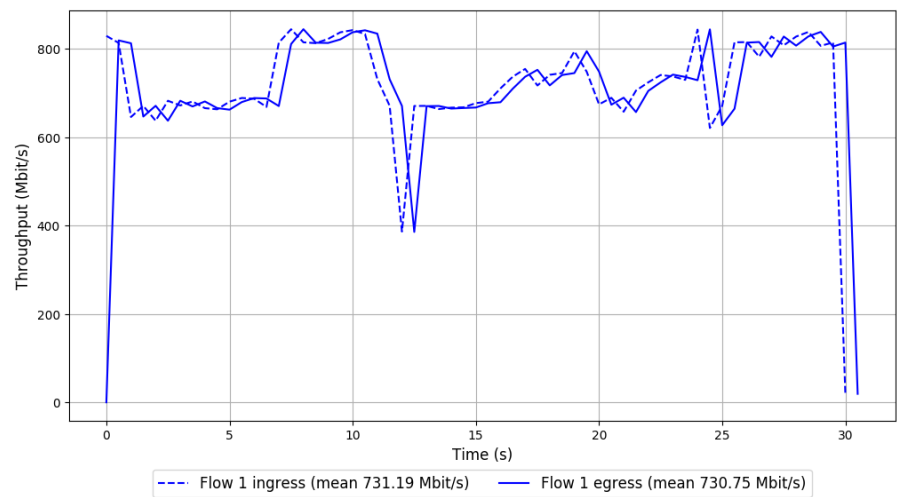


Run 5: Statistics of TCP BBR

Start at: 2018-09-25 06:56:48  
End at: 2018-09-25 06:57:18  
Local clock offset: -5.184 ms  
Remote clock offset: -0.477 ms

# Below is generated by plot.py at 2018-09-25 07:13:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 730.75 Mbit/s  
95th percentile per-packet one-way delay: 5.568 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 730.75 Mbit/s  
95th percentile per-packet one-way delay: 5.568 ms  
Loss rate: 0.06%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

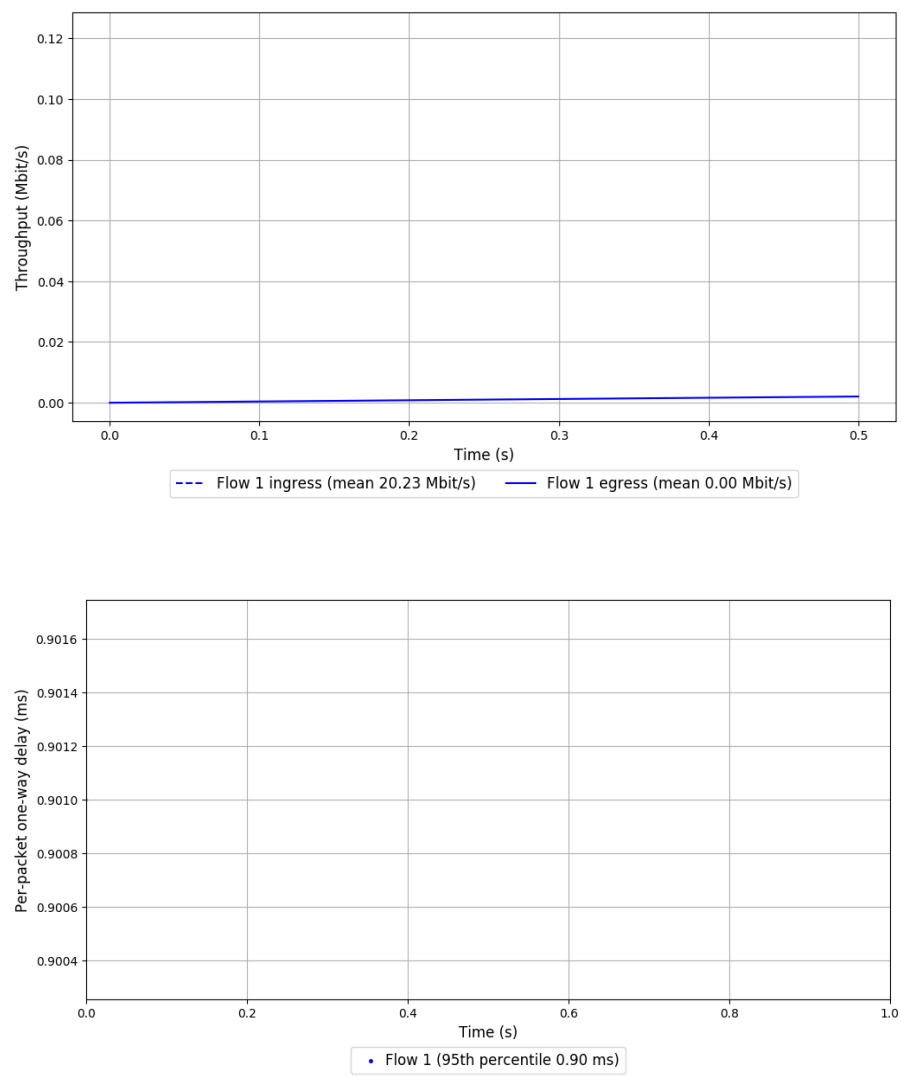
Start at: 2018-09-25 05:01:56

End at: 2018-09-25 05:02:26

Local clock offset: -18.93 ms

Remote clock offset: 4.407 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

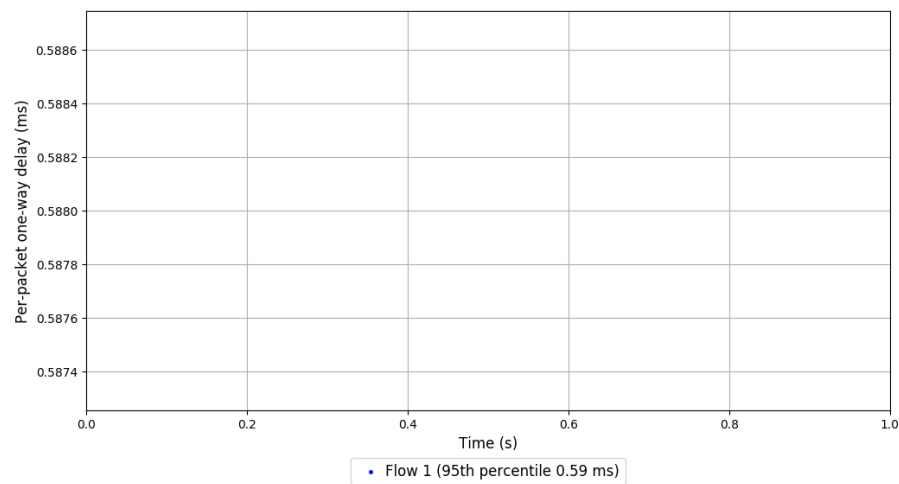
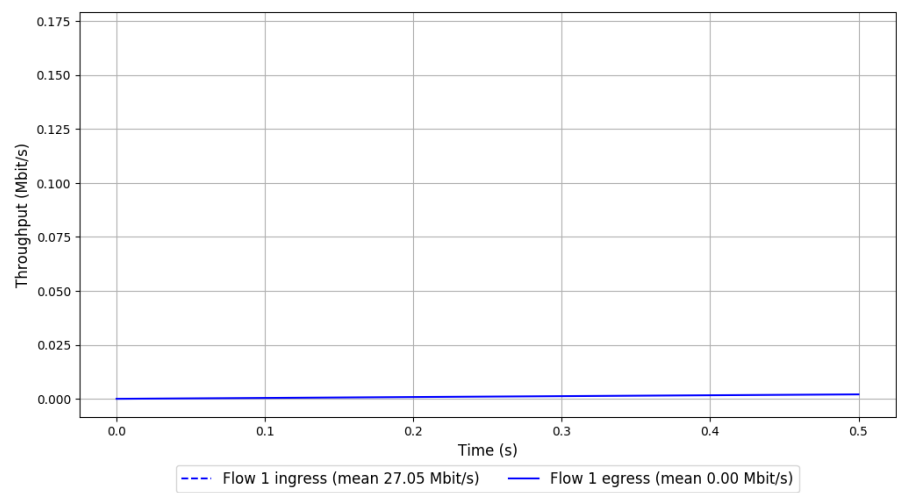
Start at: 2018-09-25 05:29:50

End at: 2018-09-25 05:30:20

Local clock offset: -34.259 ms

Remote clock offset: 3.929 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

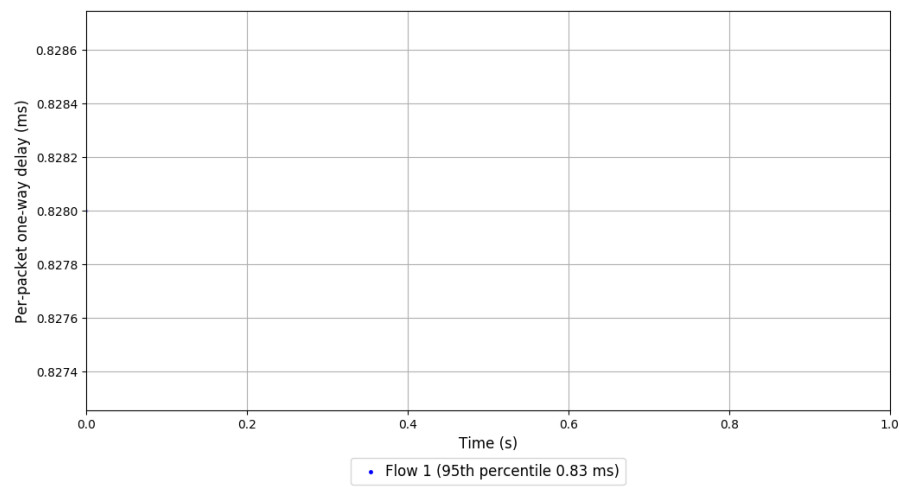
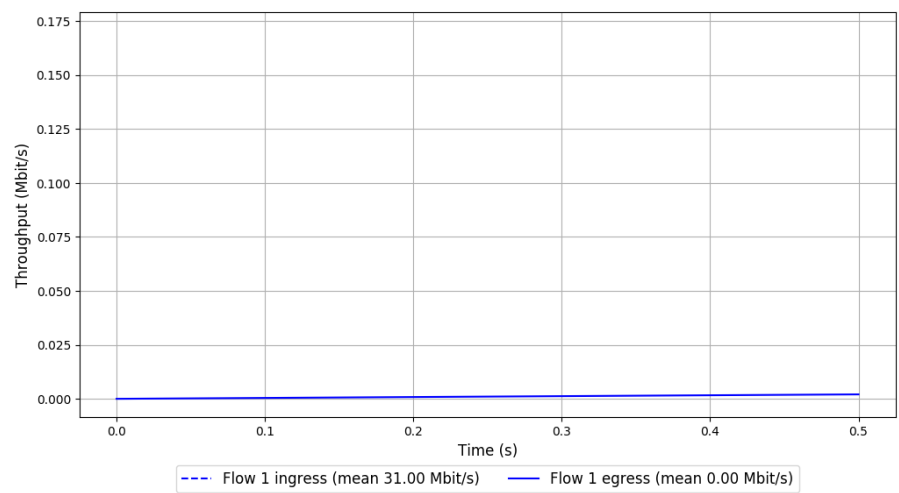
Start at: 2018-09-25 05:57:37

End at: 2018-09-25 05:58:07

Local clock offset: -24.546 ms

Remote clock offset: -0.331 ms

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

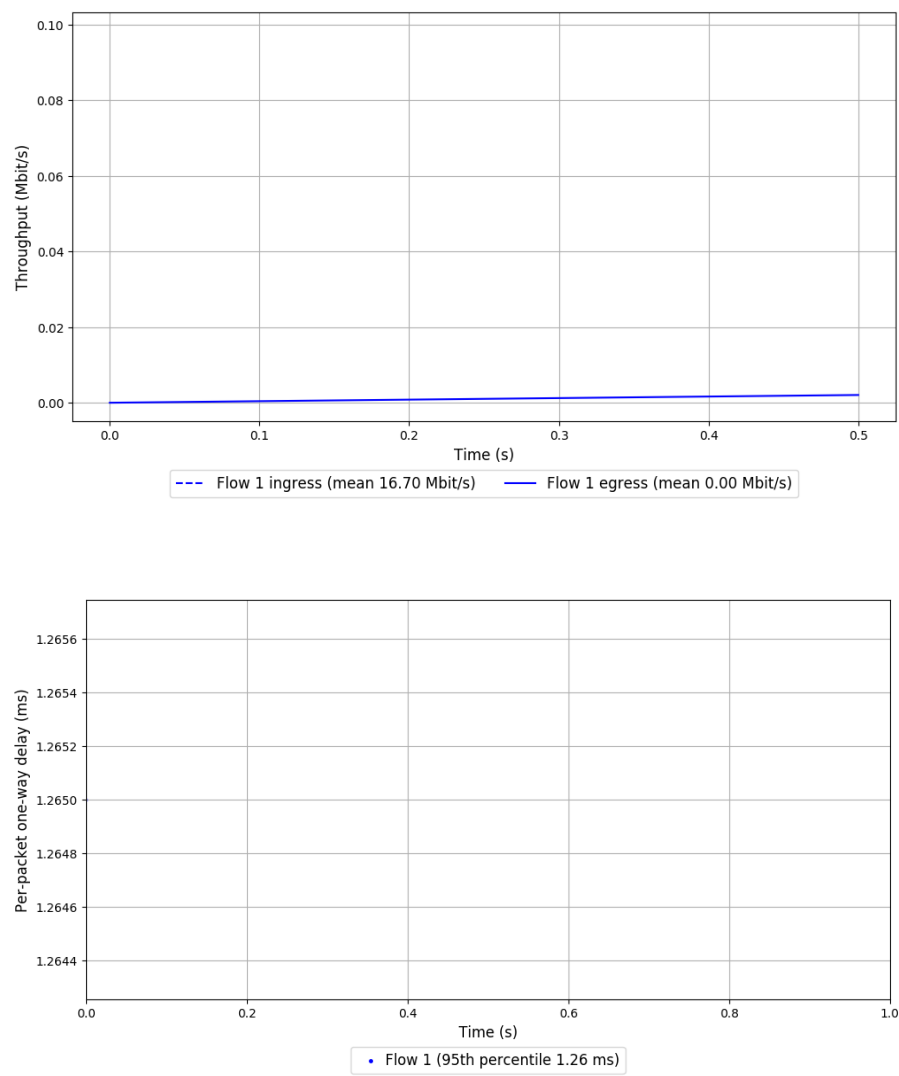
Start at: 2018-09-25 06:25:12

End at: 2018-09-25 06:25:42

Local clock offset: -14.782 ms

Remote clock offset: -0.562 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

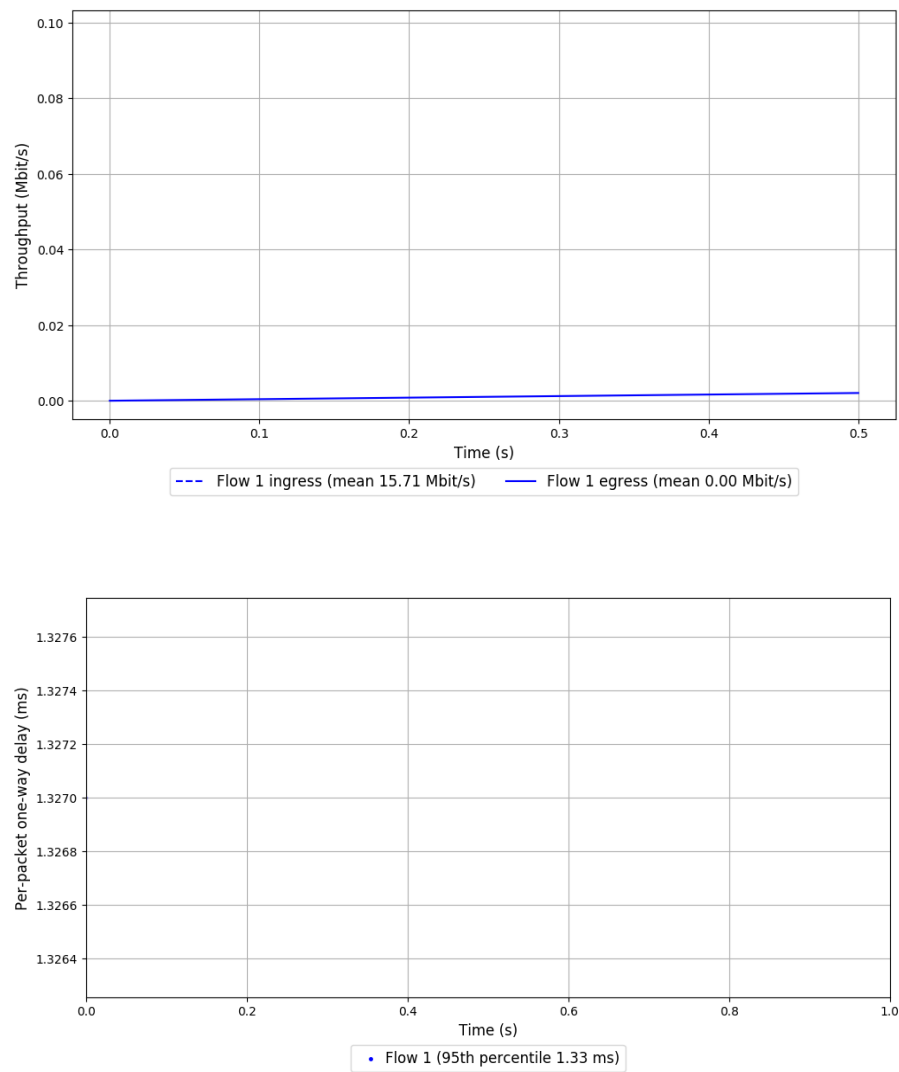
Start at: 2018-09-25 06:52:36

End at: 2018-09-25 06:53:06

Local clock offset: -5.899 ms

Remote clock offset: -0.502 ms

Run 5: Report of Copa — Data Link

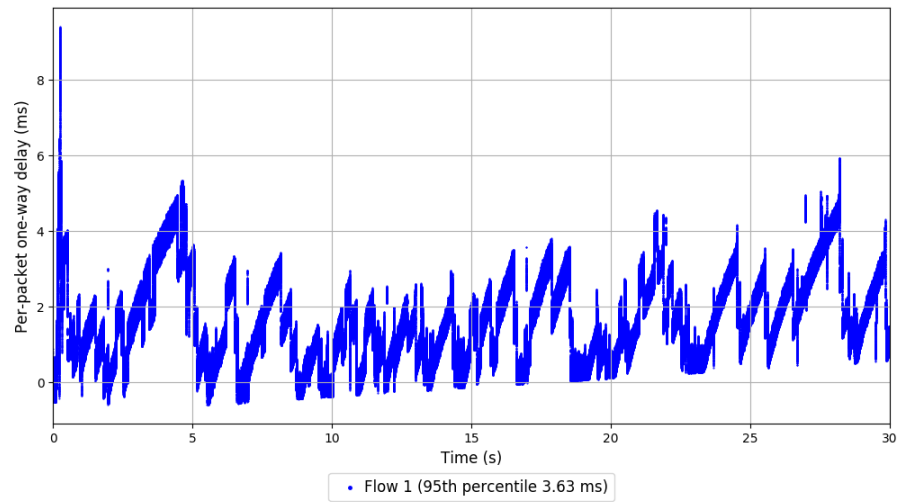
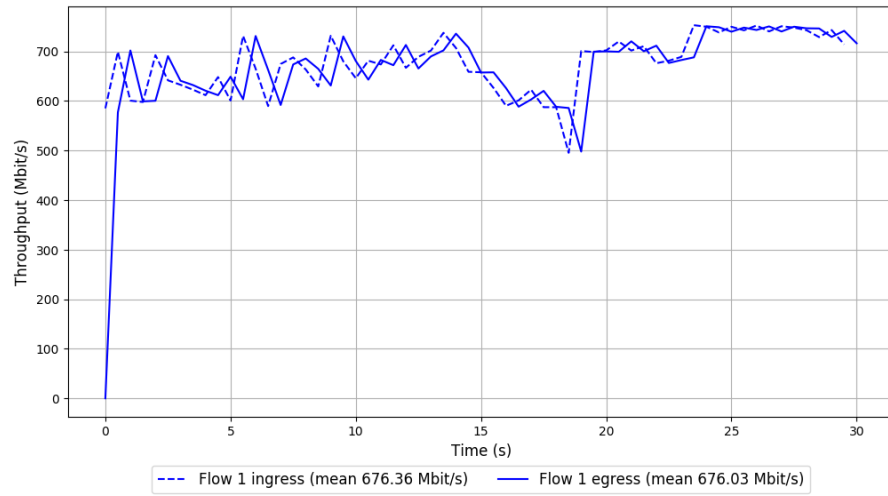


Run 1: Statistics of TCP Cubic

Start at: 2018-09-25 04:56:06  
End at: 2018-09-25 04:56:36  
Local clock offset: -22.943 ms  
Remote clock offset: 4.11 ms

# Below is generated by plot.py at 2018-09-25 07:13:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 676.03 Mbit/s  
95th percentile per-packet one-way delay: 3.635 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 676.03 Mbit/s  
95th percentile per-packet one-way delay: 3.635 ms  
Loss rate: 0.04%

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

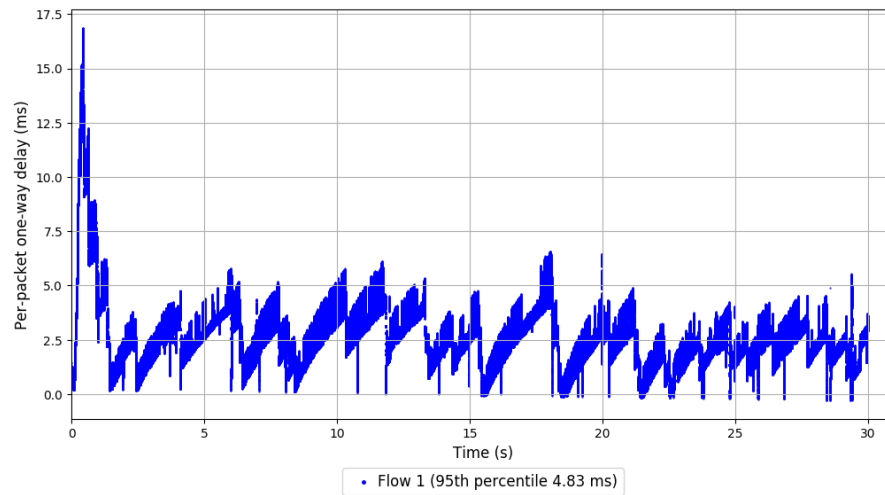
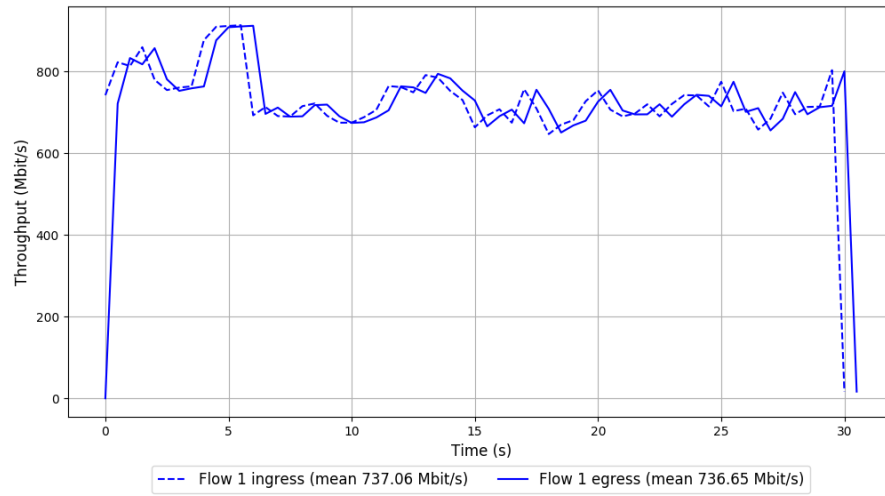


Run 2: Statistics of TCP Cubic

Start at: 2018-09-25 05:23:59  
End at: 2018-09-25 05:24:29  
Local clock offset: -27.662 ms  
Remote clock offset: 3.772 ms

# Below is generated by plot.py at 2018-09-25 07:13:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 736.65 Mbit/s  
95th percentile per-packet one-way delay: 4.825 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 736.65 Mbit/s  
95th percentile per-packet one-way delay: 4.825 ms  
Loss rate: 0.06%

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



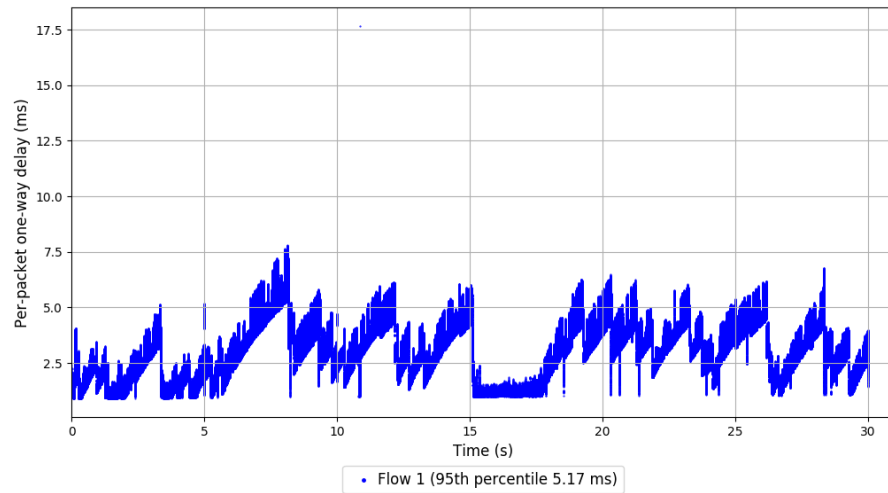
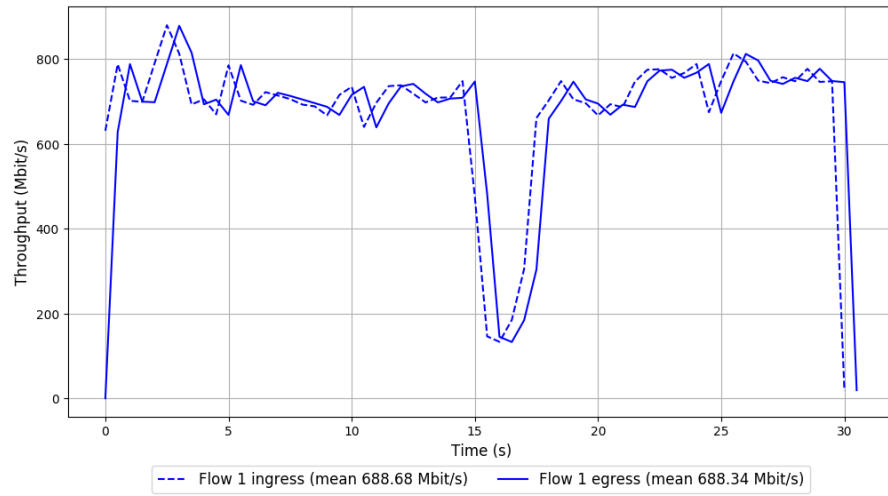


Run 3: Statistics of TCP Cubic

Start at: 2018-09-25 05:51:50  
End at: 2018-09-25 05:52:20  
Local clock offset: -24.566 ms  
Remote clock offset: 0.095 ms

# Below is generated by plot.py at 2018-09-25 07:13:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 688.34 Mbit/s  
95th percentile per-packet one-way delay: 5.174 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 688.34 Mbit/s  
95th percentile per-packet one-way delay: 5.174 ms  
Loss rate: 0.05%

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

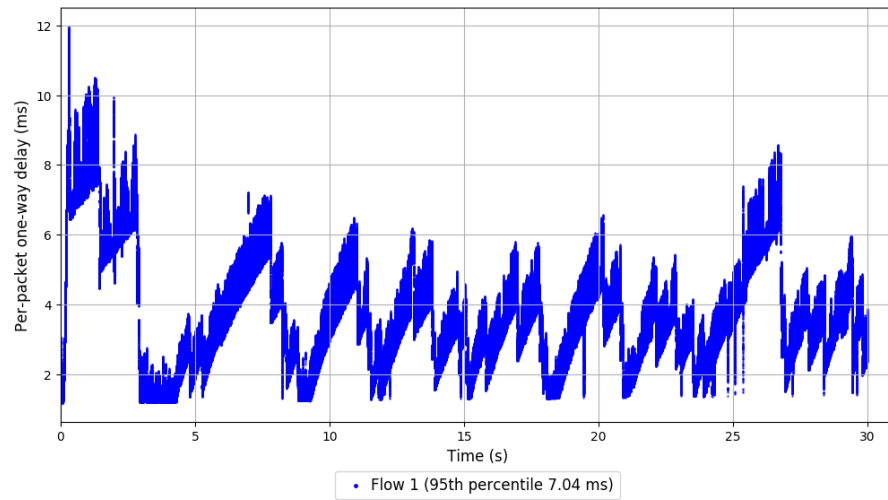
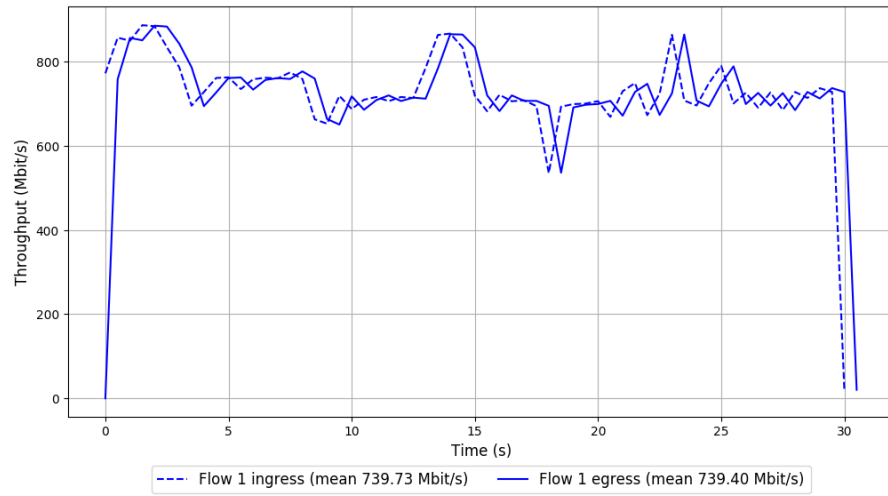


Run 4: Statistics of TCP Cubic

Start at: 2018-09-25 06:19:36  
End at: 2018-09-25 06:20:06  
Local clock offset: -16.394 ms  
Remote clock offset: -0.537 ms

# Below is generated by plot.py at 2018-09-25 07:19:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 739.40 Mbit/s  
95th percentile per-packet one-way delay: 7.044 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 739.40 Mbit/s  
95th percentile per-packet one-way delay: 7.044 ms  
Loss rate: 0.04%

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

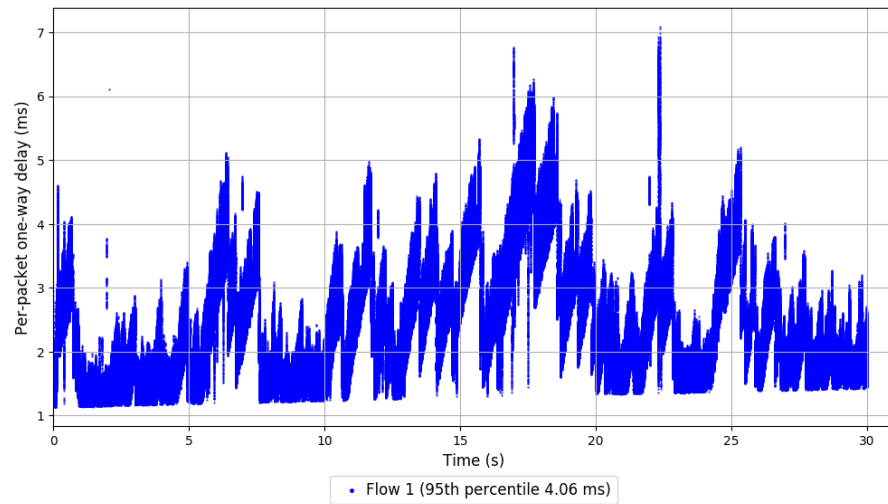
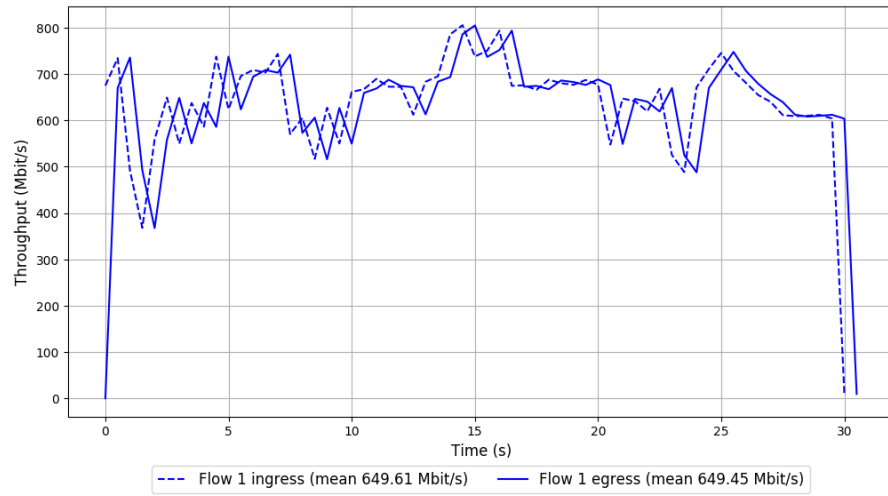


Run 5: Statistics of TCP Cubic

Start at: 2018-09-25 06:47:02  
End at: 2018-09-25 06:47:32  
Local clock offset: -8.505 ms  
Remote clock offset: -0.614 ms

# Below is generated by plot.py at 2018-09-25 07:19:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 649.45 Mbit/s  
95th percentile per-packet one-way delay: 4.056 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 649.45 Mbit/s  
95th percentile per-packet one-way delay: 4.056 ms  
Loss rate: 0.02%

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

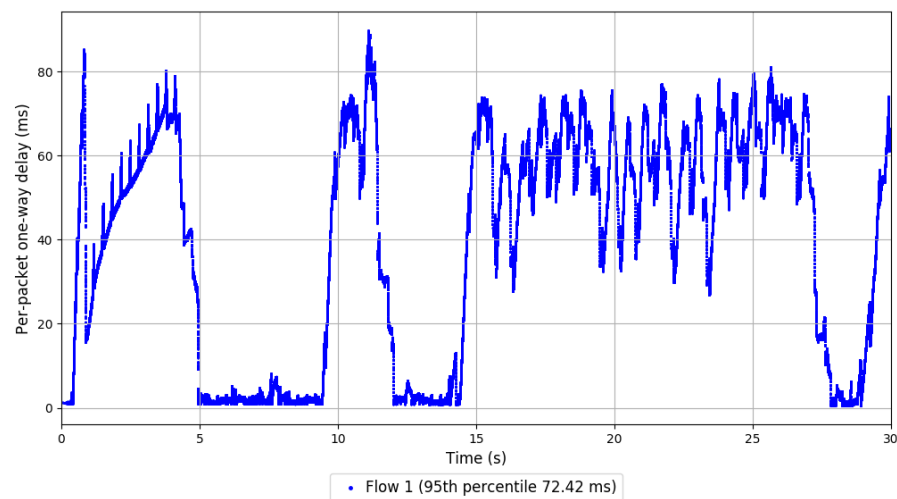
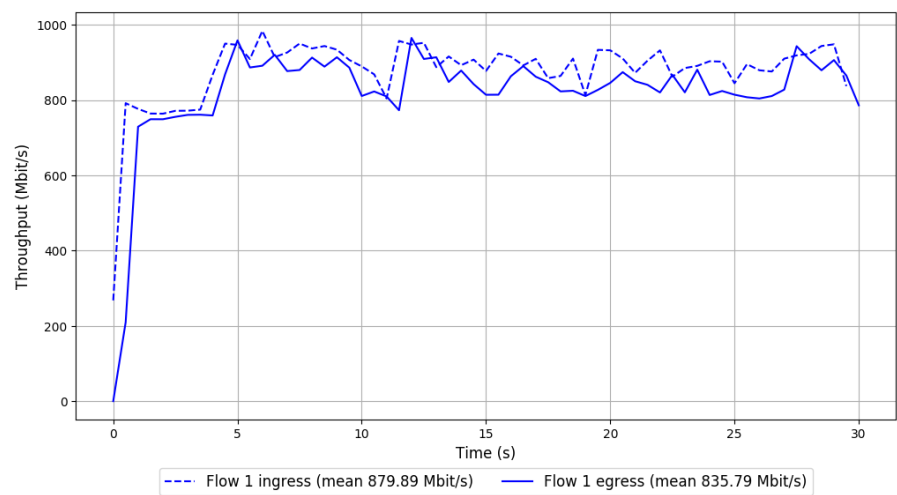


```
Run 1: Statistics of FillP

Start at: 2018-09-25 04:44:35
End at: 2018-09-25 04:45:05
Local clock offset: -6.8 ms
Remote clock offset: 3.79 ms

# Below is generated by plot.py at 2018-09-25 07:24:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 835.79 Mbit/s
95th percentile per-packet one-way delay: 72.415 ms
Loss rate: 5.01%
-- Flow 1:
Average throughput: 835.79 Mbit/s
95th percentile per-packet one-way delay: 72.415 ms
Loss rate: 5.01%
```

Run 1: Report of FillP — Data Link



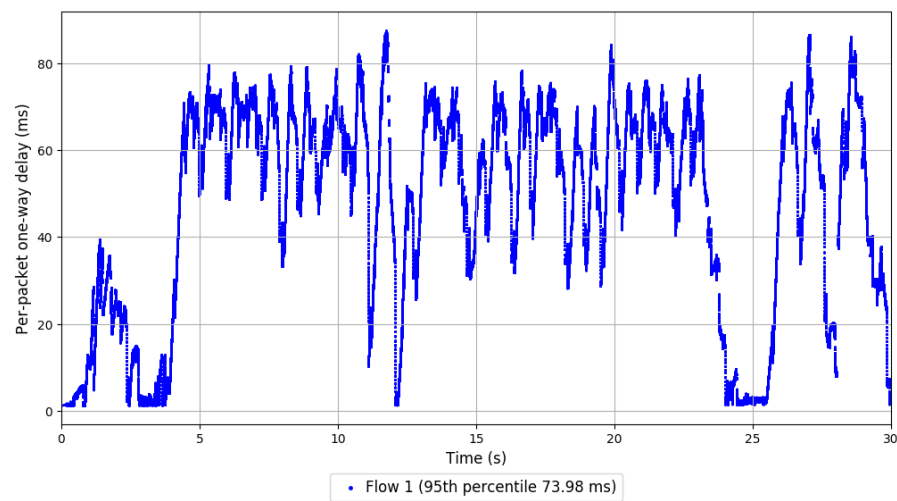
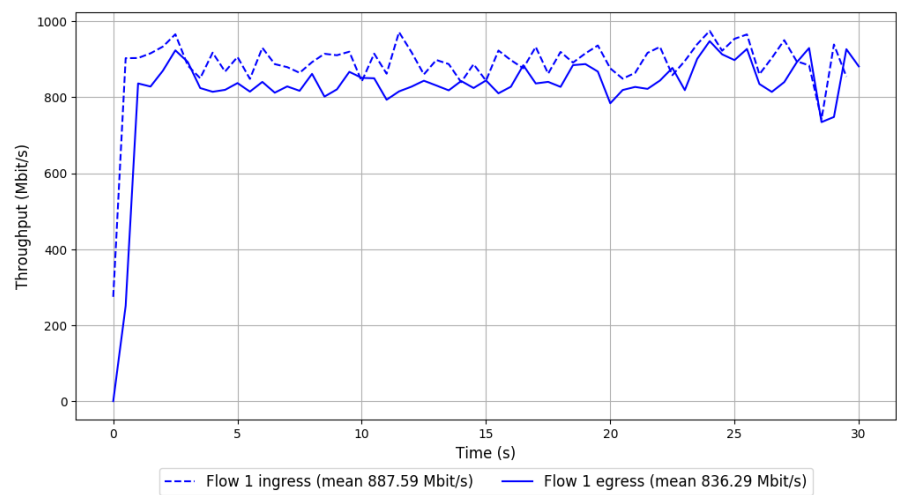


Run 2: Statistics of FillP

Start at: 2018-09-25 05:12:26  
End at: 2018-09-25 05:12:56  
Local clock offset: -24.743 ms  
Remote clock offset: 3.689 ms

# Below is generated by plot.py at 2018-09-25 07:24:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 836.29 Mbit/s  
95th percentile per-packet one-way delay: 73.982 ms  
Loss rate: 5.78%  
-- Flow 1:  
Average throughput: 836.29 Mbit/s  
95th percentile per-packet one-way delay: 73.982 ms  
Loss rate: 5.78%

Run 2: Report of FillP — Data Link

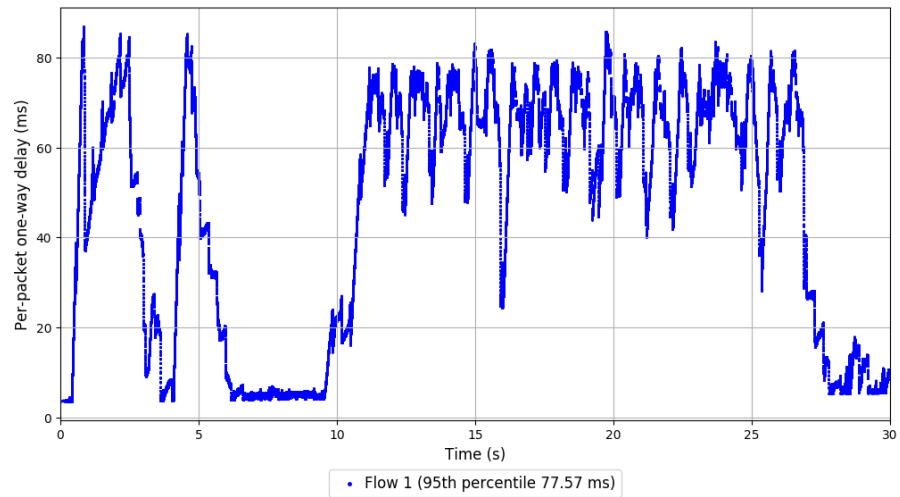
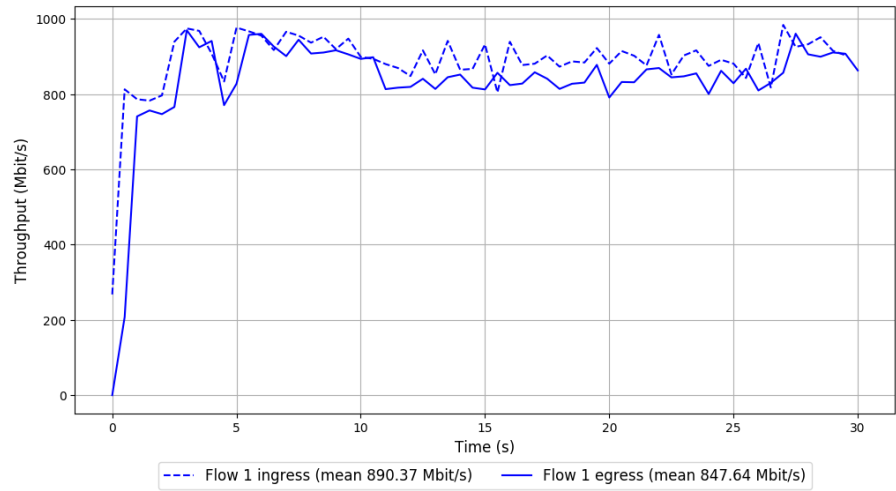


Run 3: Statistics of FillP

Start at: 2018-09-25 05:40:15  
End at: 2018-09-25 05:40:46  
Local clock offset: -45.735 ms  
Remote clock offset: 2.258 ms

# Below is generated by plot.py at 2018-09-25 07:24:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 847.64 Mbit/s  
95th percentile per-packet one-way delay: 77.569 ms  
Loss rate: 4.79%  
-- Flow 1:  
Average throughput: 847.64 Mbit/s  
95th percentile per-packet one-way delay: 77.569 ms  
Loss rate: 4.79%

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

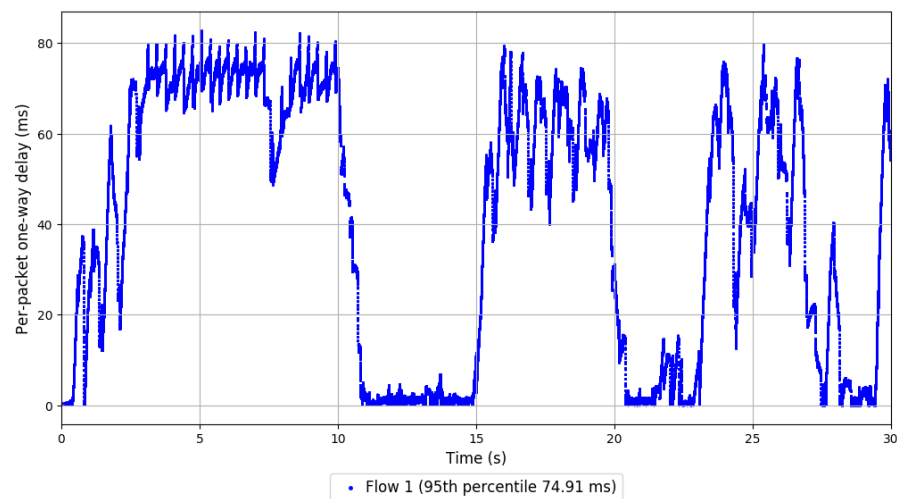
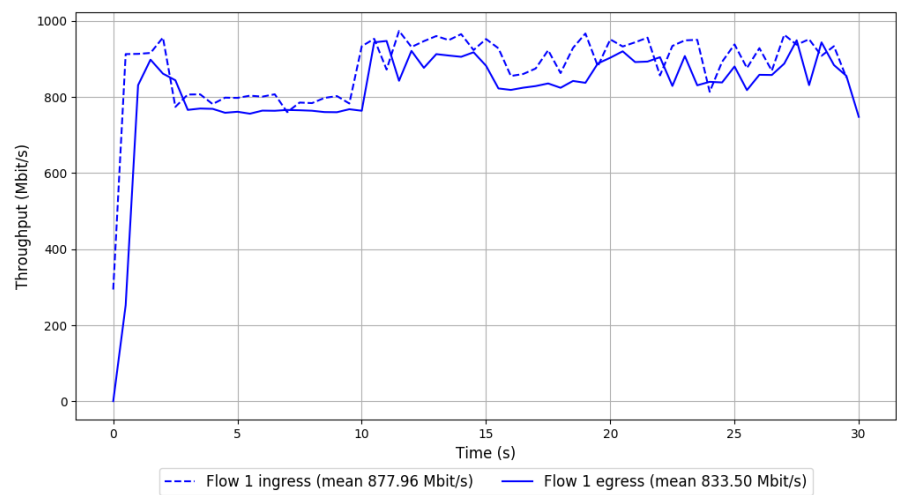


Run 4: Statistics of FillP

Start at: 2018-09-25 06:08:03  
End at: 2018-09-25 06:08:33  
Local clock offset: -30.289 ms  
Remote clock offset: -0.848 ms

# Below is generated by plot.py at 2018-09-25 07:24:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 833.50 Mbit/s  
95th percentile per-packet one-way delay: 74.914 ms  
Loss rate: 5.07%  
-- Flow 1:  
Average throughput: 833.50 Mbit/s  
95th percentile per-packet one-way delay: 74.914 ms  
Loss rate: 5.07%

Run 4: Report of FillP — Data Link

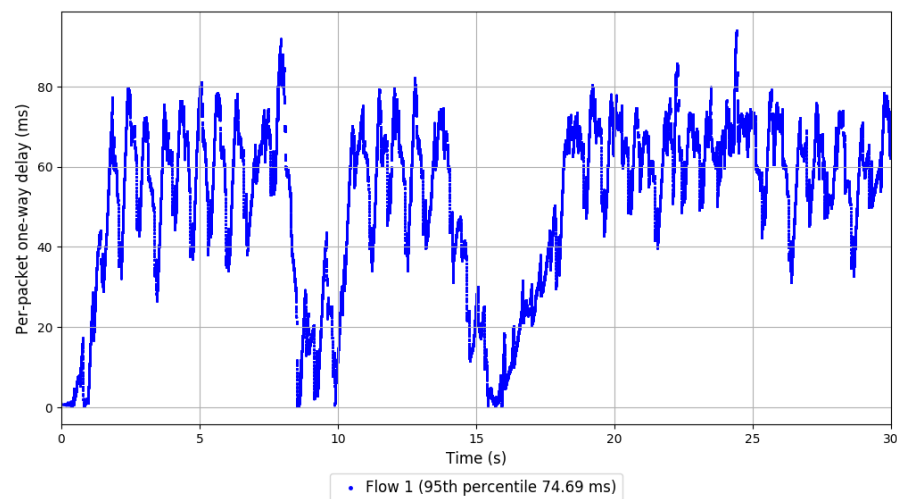
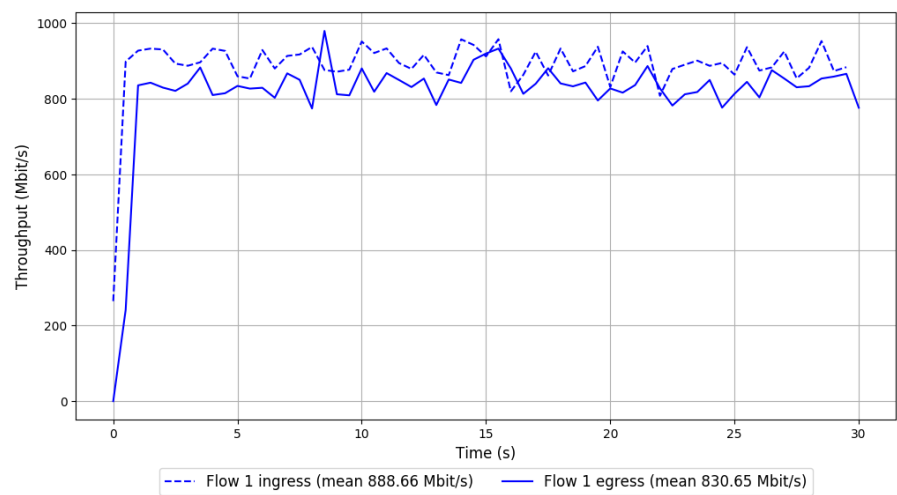


Run 5: Statistics of FillP

Start at: 2018-09-25 06:35:26  
End at: 2018-09-25 06:35:56  
Local clock offset: -16.466 ms  
Remote clock offset: -0.766 ms

# Below is generated by plot.py at 2018-09-25 07:25:06  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 830.65 Mbit/s  
95th percentile per-packet one-way delay: 74.687 ms  
Loss rate: 6.53%  
-- Flow 1:  
Average throughput: 830.65 Mbit/s  
95th percentile per-packet one-way delay: 74.687 ms  
Loss rate: 6.53%

Run 5: Report of FillP — Data Link





Run 1: Statistics of FillP-Sheep

Start at: 2018-09-25 04:42:53

End at: 2018-09-25 04:43:23

Local clock offset: -4.728 ms

Remote clock offset: 3.778 ms

# Below is generated by plot.py at 2018-09-25 07:25:47

# Datalink statistics

-- Total of 1 flow:

Average throughput: 851.09 Mbit/s

95th percentile per-packet one-way delay: 34.247 ms

Loss rate: 4.11%

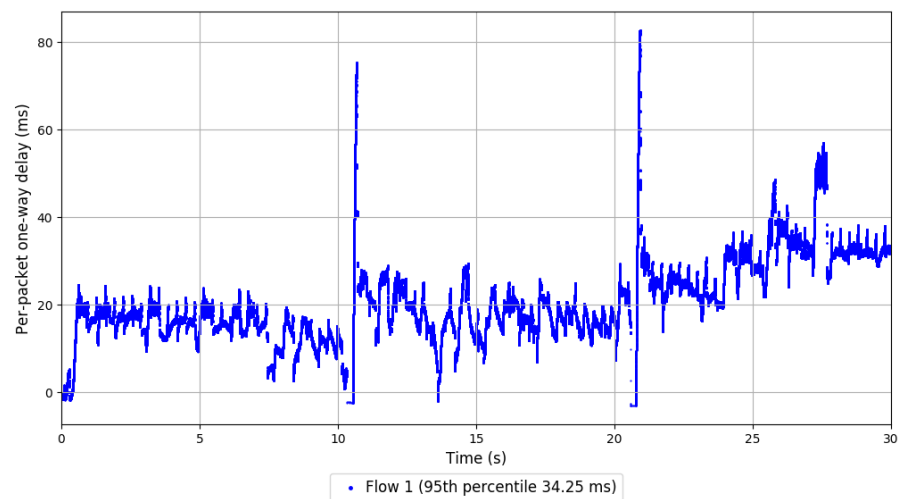
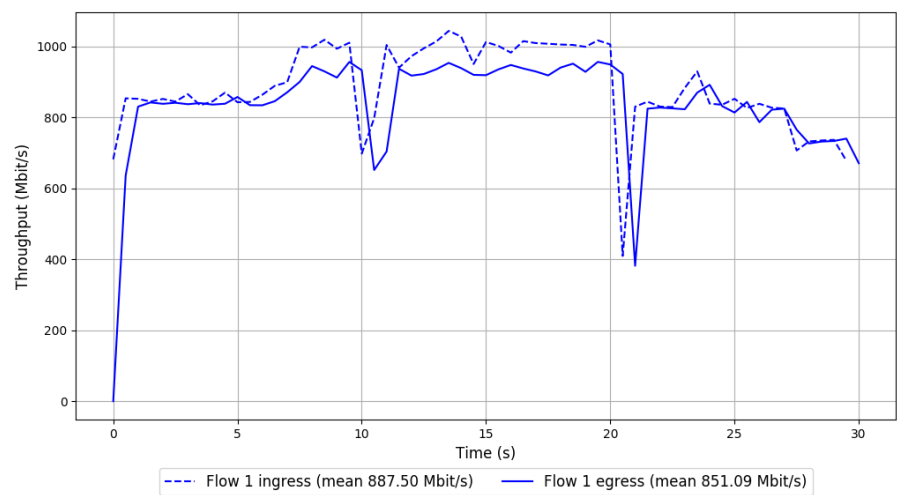
-- Flow 1:

Average throughput: 851.09 Mbit/s

95th percentile per-packet one-way delay: 34.247 ms

Loss rate: 4.11%

Run 1: Report of FillP-Sheep — Data Link

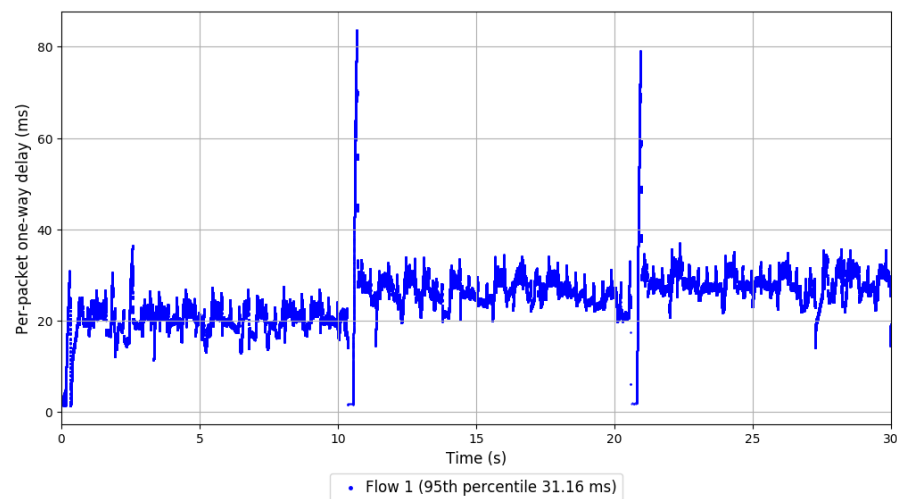
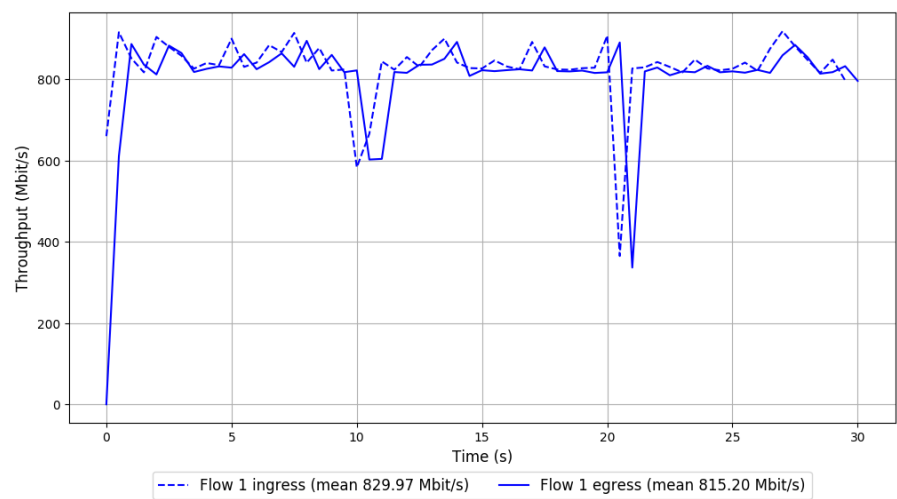


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-25 05:10:46  
End at: 2018-09-25 05:11:16  
Local clock offset: -26.353 ms  
Remote clock offset: 3.763 ms

# Below is generated by plot.py at 2018-09-25 07:32:00  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 815.20 Mbit/s  
95th percentile per-packet one-way delay: 31.159 ms  
Loss rate: 1.77%  
-- Flow 1:  
Average throughput: 815.20 Mbit/s  
95th percentile per-packet one-way delay: 31.159 ms  
Loss rate: 1.77%

Run 2: Report of FillP-Sheep — Data Link

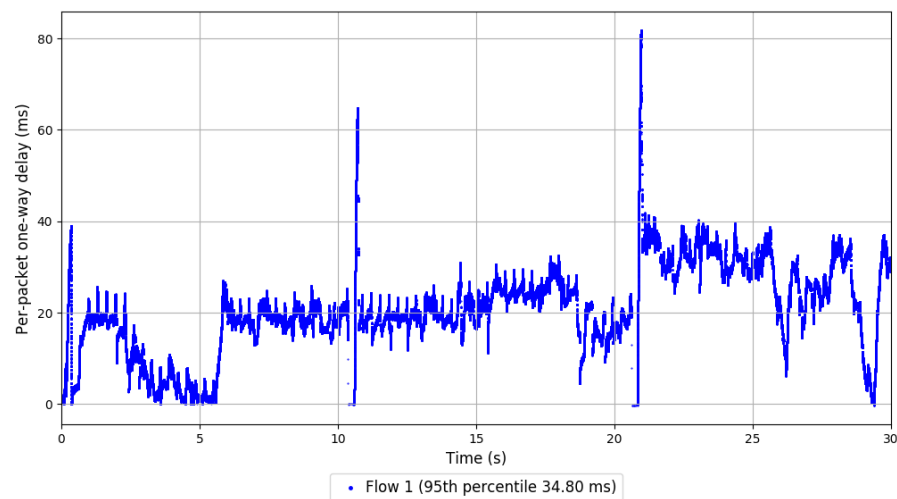
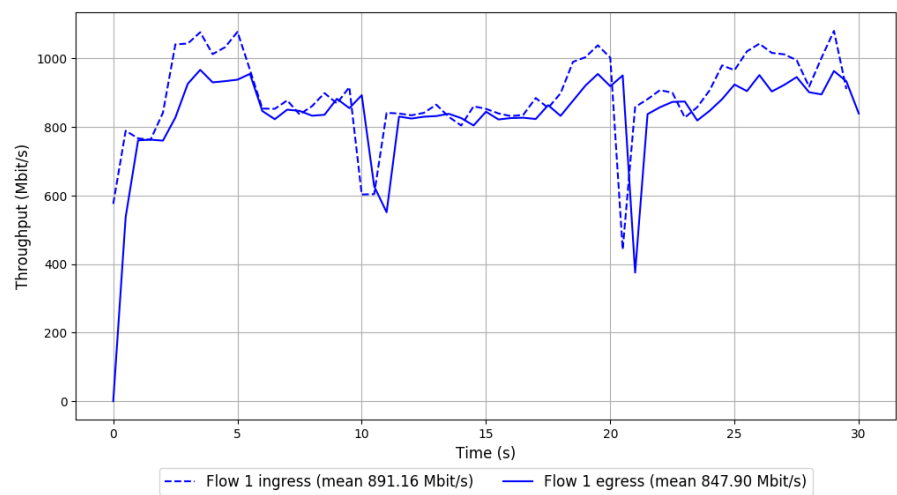


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-25 05:38:34  
End at: 2018-09-25 05:39:04  
Local clock offset: -46.305 ms  
Remote clock offset: 2.897 ms

# Below is generated by plot.py at 2018-09-25 07:34:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 847.90 Mbit/s  
95th percentile per-packet one-way delay: 34.796 ms  
Loss rate: 4.86%  
-- Flow 1:  
Average throughput: 847.90 Mbit/s  
95th percentile per-packet one-way delay: 34.796 ms  
Loss rate: 4.86%

Run 3: Report of FillP-Sheep — Data Link

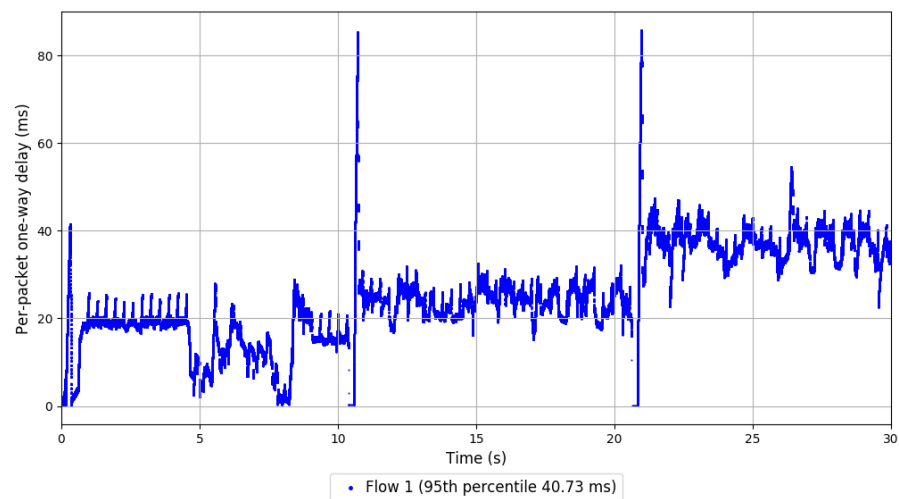
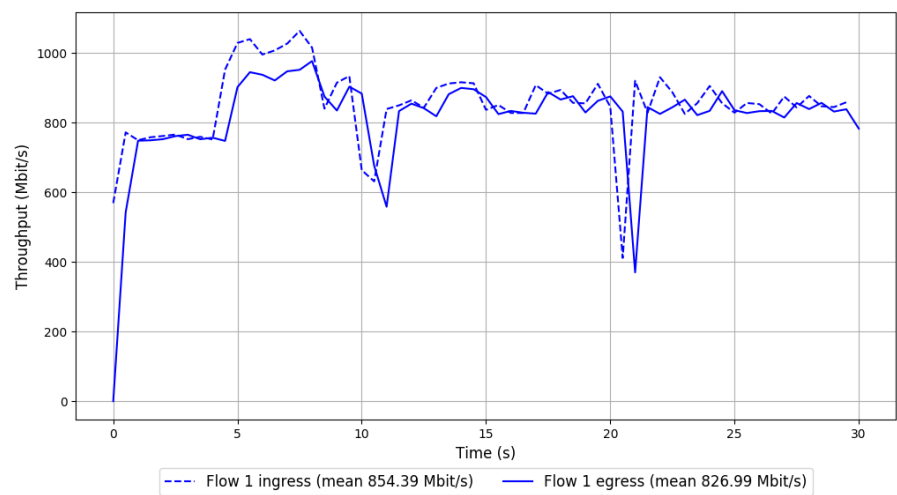


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-25 06:06:22  
End at: 2018-09-25 06:06:52  
Local clock offset: -29.112 ms  
Remote clock offset: -0.852 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 826.99 Mbit/s  
95th percentile per-packet one-way delay: 40.727 ms  
Loss rate: 3.21%  
-- Flow 1:  
Average throughput: 826.99 Mbit/s  
95th percentile per-packet one-way delay: 40.727 ms  
Loss rate: 3.21%

Run 4: Report of FillP-Sheep — Data Link



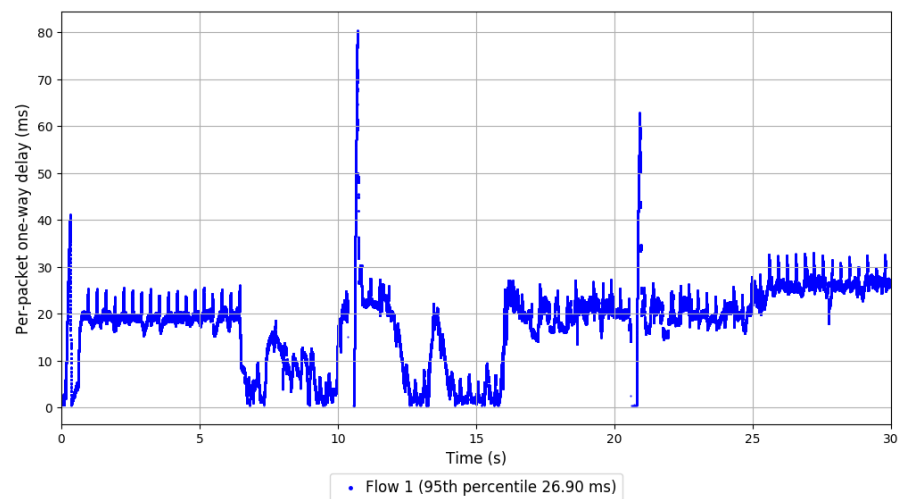
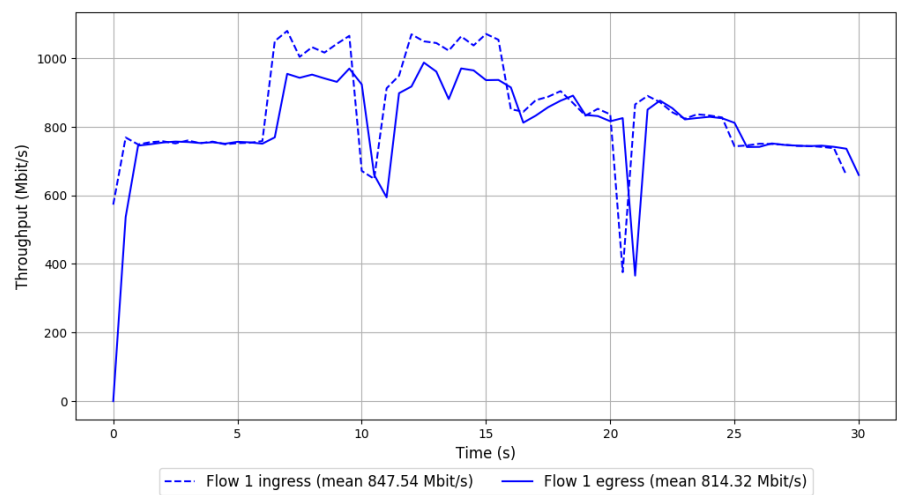


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-25 06:33:46  
End at: 2018-09-25 06:34:16  
Local clock offset: -15.952 ms  
Remote clock offset: -0.648 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 814.32 Mbit/s  
95th percentile per-packet one-way delay: 26.904 ms  
Loss rate: 3.92%  
-- Flow 1:  
Average throughput: 814.32 Mbit/s  
95th percentile per-packet one-way delay: 26.904 ms  
Loss rate: 3.92%

Run 5: Report of FillP-Sheep — Data Link

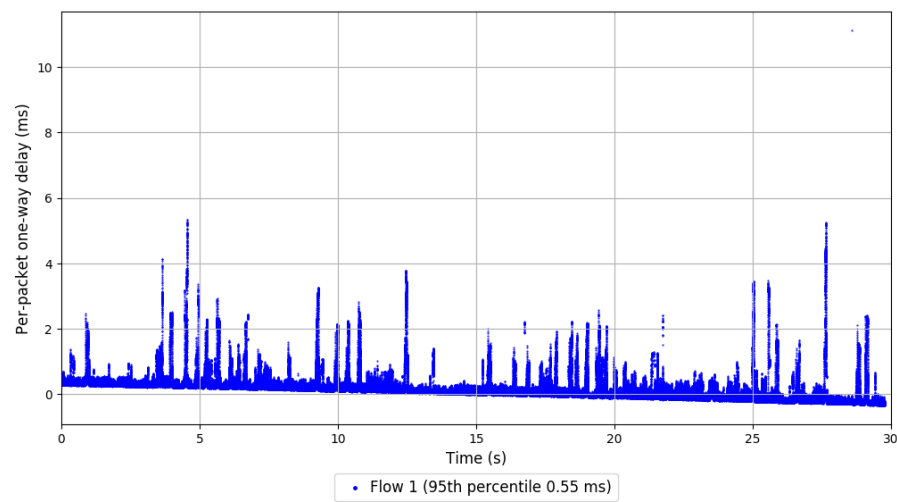
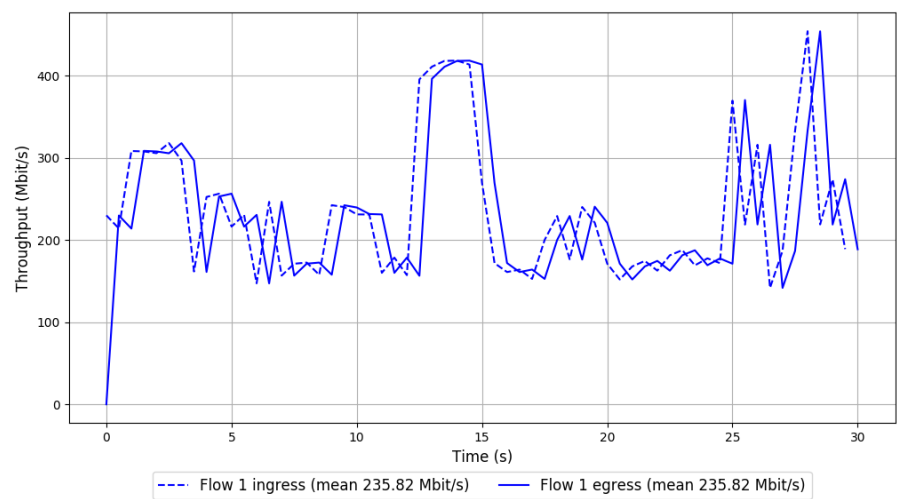


```
Run 1: Statistics of Indigo

Start at: 2018-09-25 04:50:16
End at: 2018-09-25 04:50:46
Local clock offset: -11.989 ms
Remote clock offset: 3.876 ms

# Below is generated by plot.py at 2018-09-25 07:36:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 235.82 Mbit/s
95th percentile per-packet one-way delay: 0.547 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 235.82 Mbit/s
95th percentile per-packet one-way delay: 0.547 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

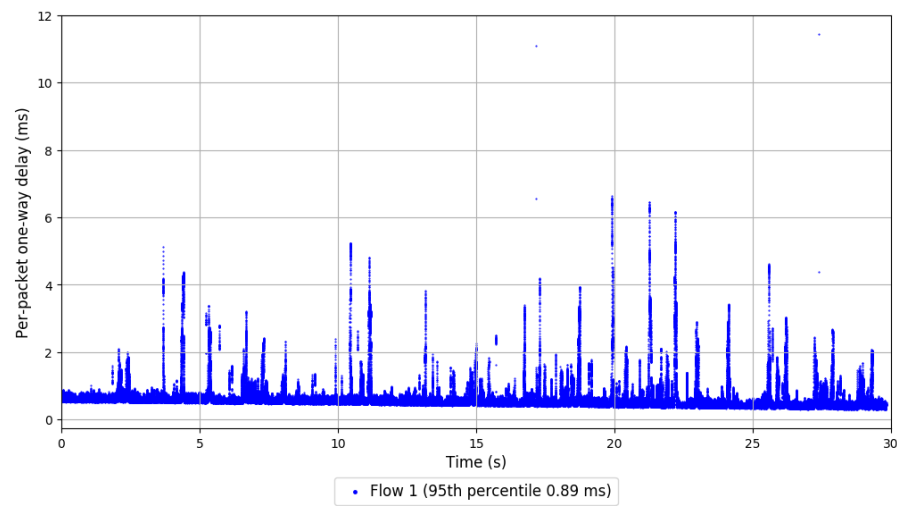
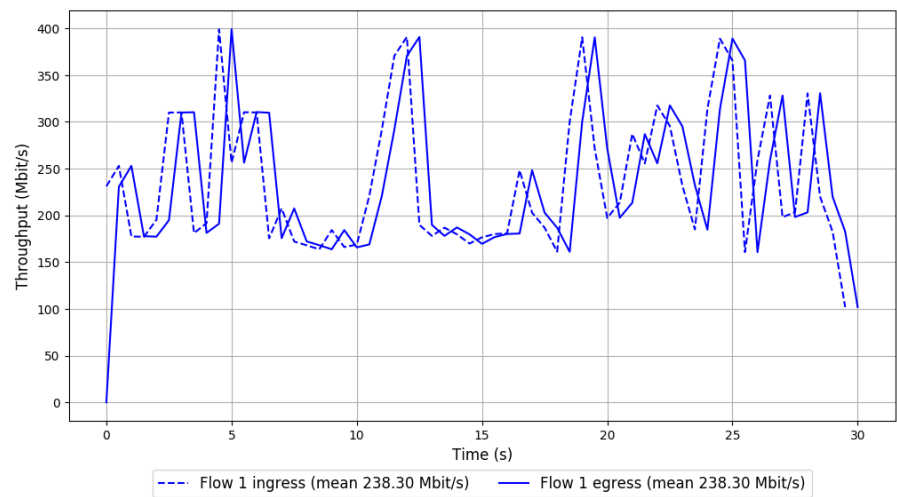


Run 2: Statistics of Indigo

Start at: 2018-09-25 05:18:09  
End at: 2018-09-25 05:18:39  
Local clock offset: -23.647 ms  
Remote clock offset: 3.669 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 238.30 Mbit/s  
95th percentile per-packet one-way delay: 0.888 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 238.30 Mbit/s  
95th percentile per-packet one-way delay: 0.888 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

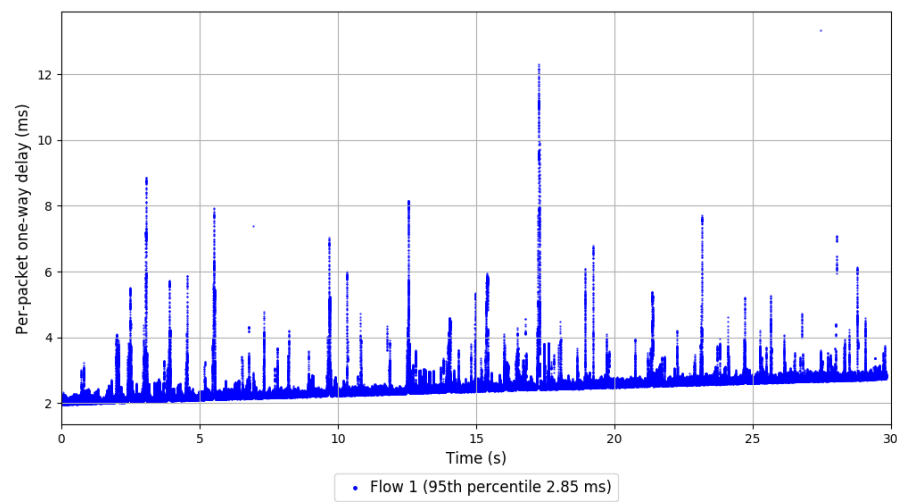
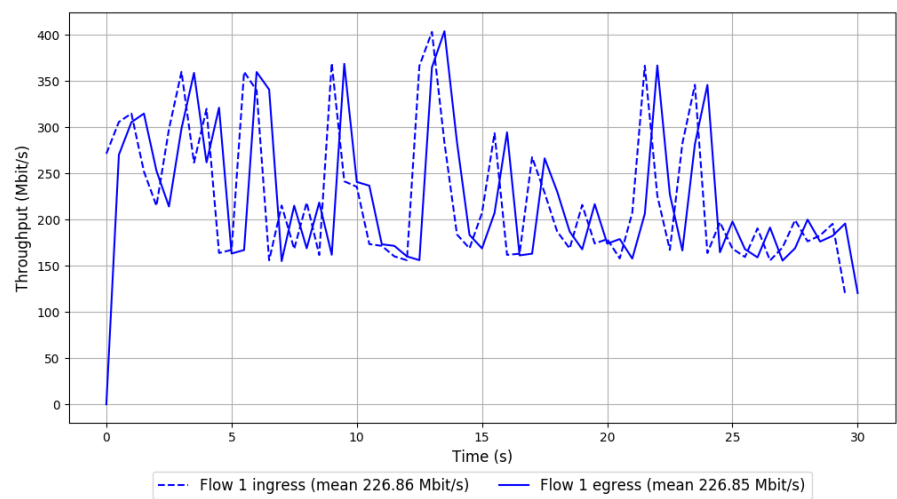


Run 3: Statistics of Indigo

Start at: 2018-09-25 05:46:02  
End at: 2018-09-25 05:46:32  
Local clock offset: -30.042 ms  
Remote clock offset: 0.983 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 226.85 Mbit/s  
95th percentile per-packet one-way delay: 2.850 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 226.85 Mbit/s  
95th percentile per-packet one-way delay: 2.850 ms  
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



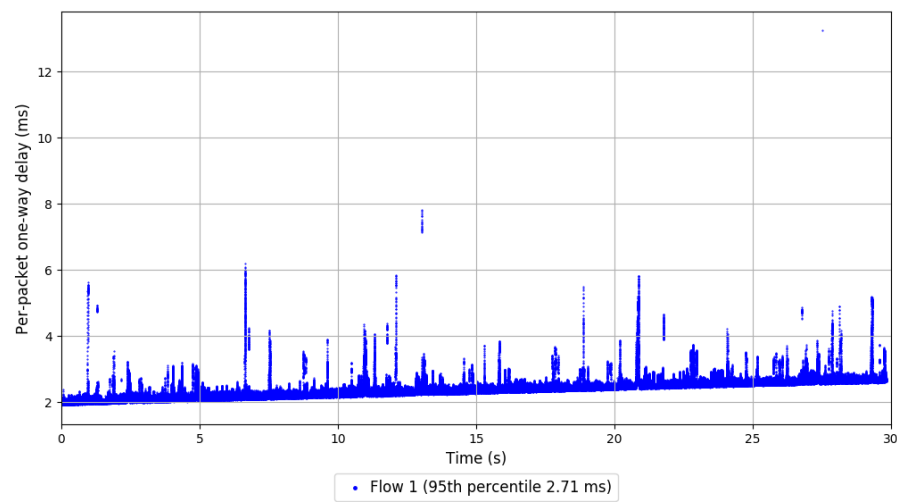
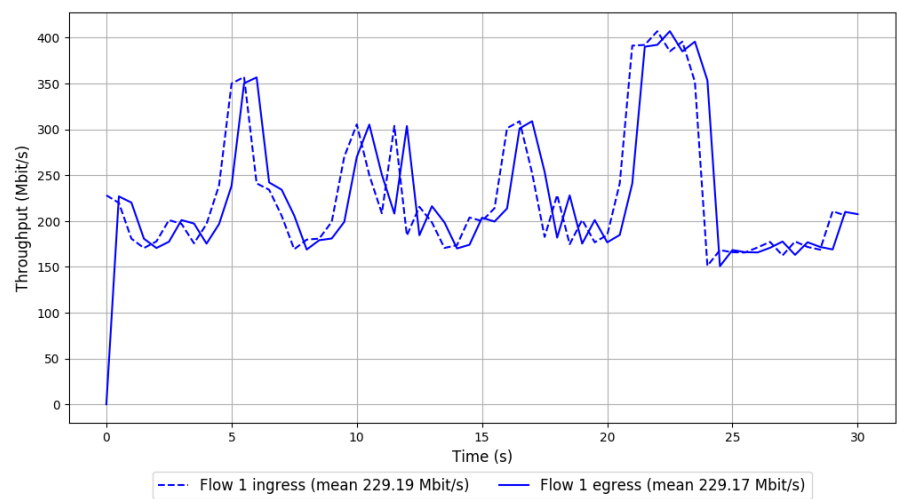


Run 4: Statistics of Indigo

Start at: 2018-09-25 06:13:46  
End at: 2018-09-25 06:14:16  
Local clock offset: -22.533 ms  
Remote clock offset: -0.691 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 229.17 Mbit/s  
95th percentile per-packet one-way delay: 2.712 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 229.17 Mbit/s  
95th percentile per-packet one-way delay: 2.712 ms  
Loss rate: 0.01%

Run 4: Report of Indigo — Data Link

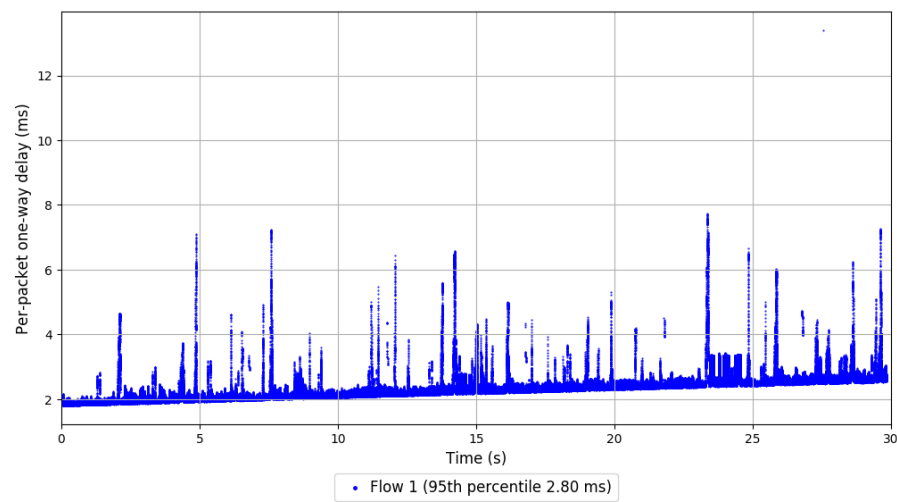
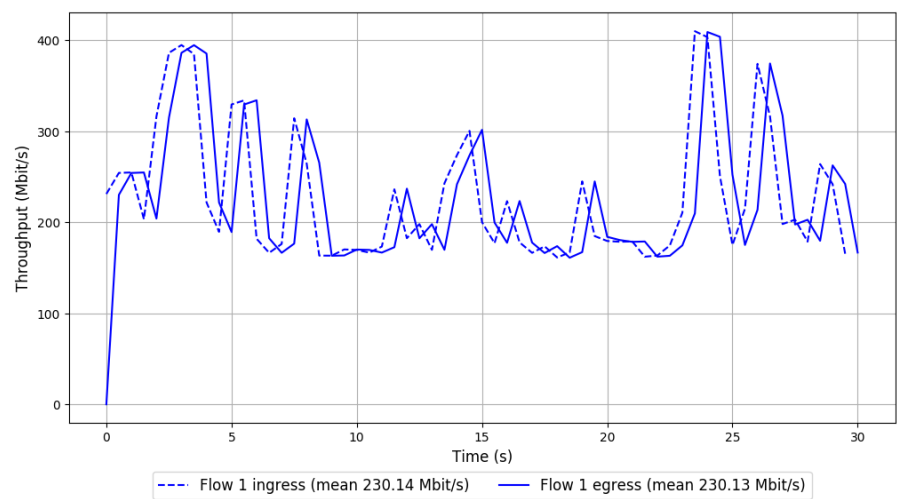


Run 5: Statistics of Indigo

Start at: 2018-09-25 06:41:12  
End at: 2018-09-25 06:41:42  
Local clock offset: -15.174 ms  
Remote clock offset: -0.714 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 230.13 Mbit/s  
95th percentile per-packet one-way delay: 2.798 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 230.13 Mbit/s  
95th percentile per-packet one-way delay: 2.798 ms  
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

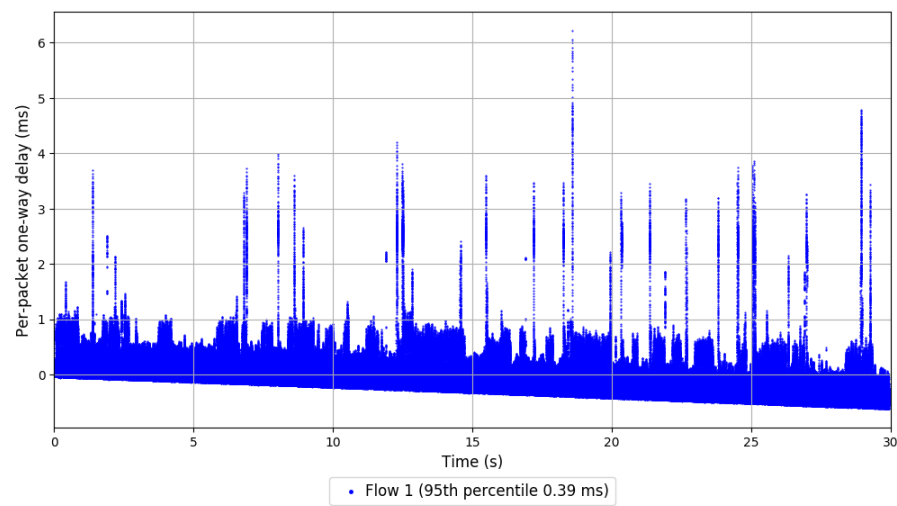
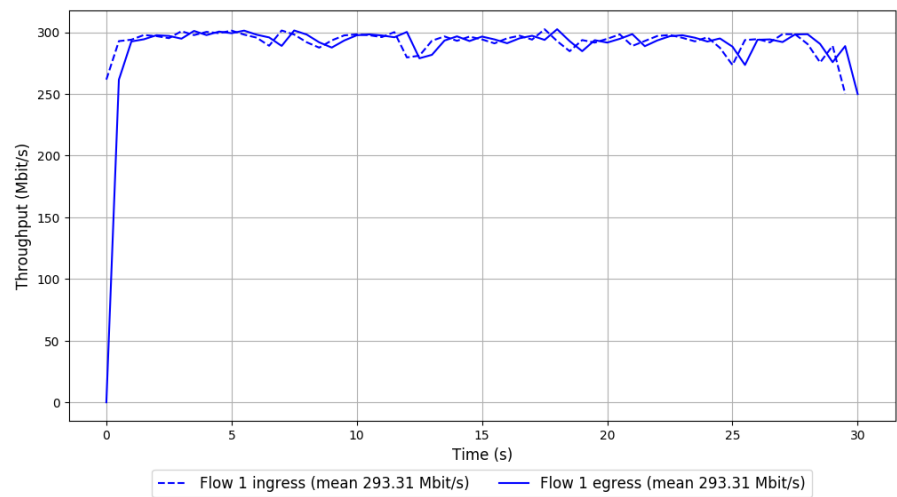


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-09-25 05:04:46  
End at: 2018-09-25 05:05:16  
Local clock offset: -21.076 ms  
Remote clock offset: 4.007 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 293.31 Mbit/s  
95th percentile per-packet one-way delay: 0.389 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 293.31 Mbit/s  
95th percentile per-packet one-way delay: 0.389 ms  
Loss rate: 0.00%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-09-25 05:32:40

End at: 2018-09-25 05:33:10

Local clock offset: -38.08 ms

Remote clock offset: 3.902 ms

# Below is generated by plot.py at 2018-09-25 07:36:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 295.52 Mbit/s

95th percentile per-packet one-way delay: 0.382 ms

Loss rate: 0.01%

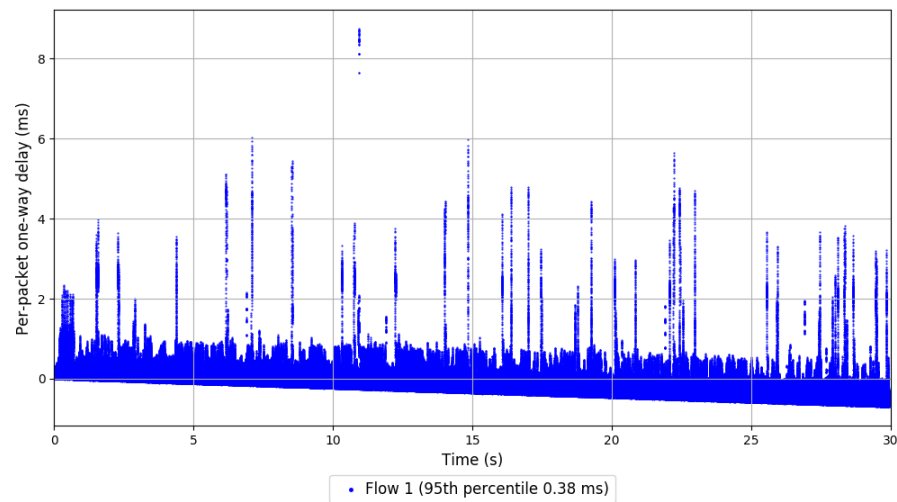
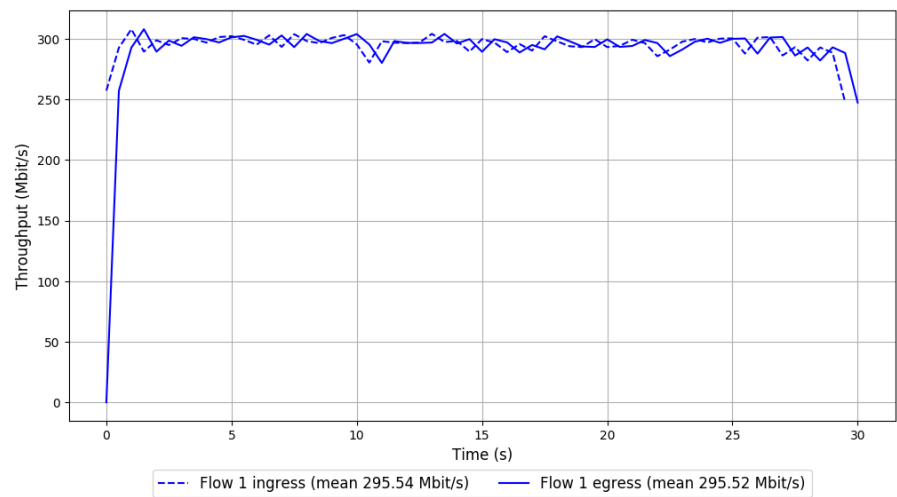
-- Flow 1:

Average throughput: 295.52 Mbit/s

95th percentile per-packet one-way delay: 0.382 ms

Loss rate: 0.01%

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



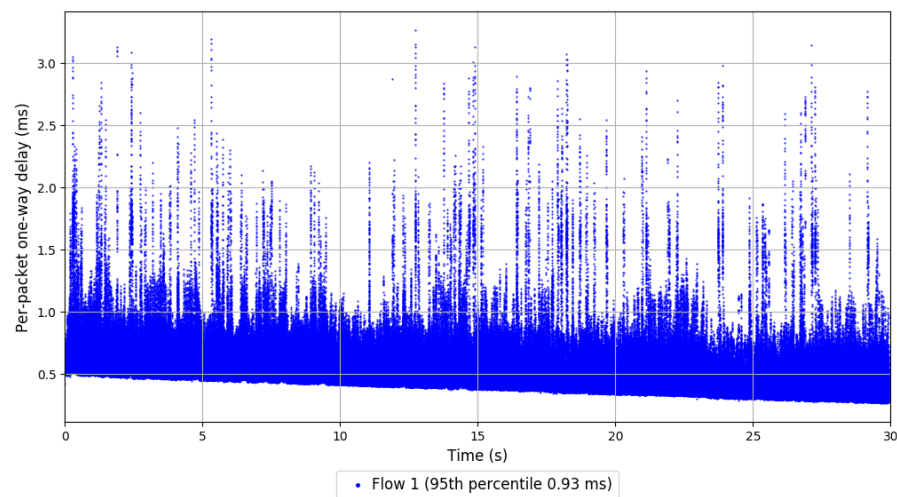
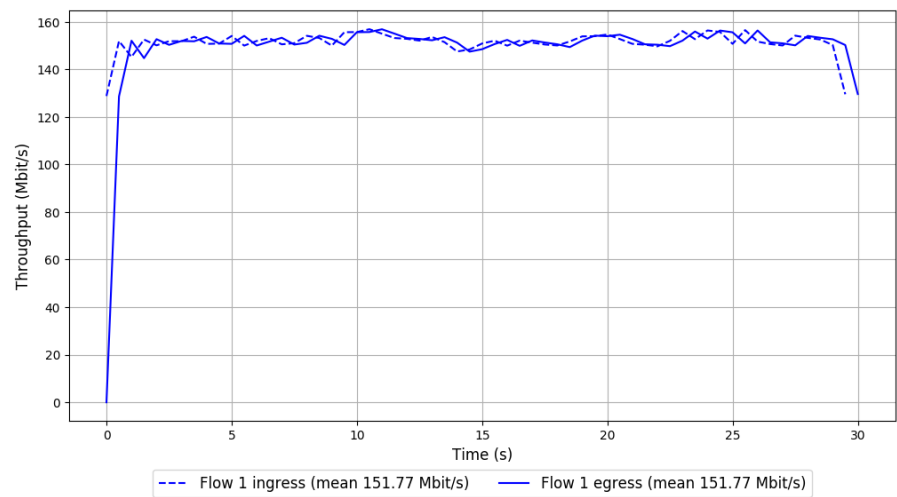


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-09-25 06:00:25  
End at: 2018-09-25 06:00:55  
Local clock offset: -25.582 ms  
Remote clock offset: -0.489 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 151.77 Mbit/s  
95th percentile per-packet one-way delay: 0.928 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 151.77 Mbit/s  
95th percentile per-packet one-way delay: 0.928 ms  
Loss rate: 0.00%

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

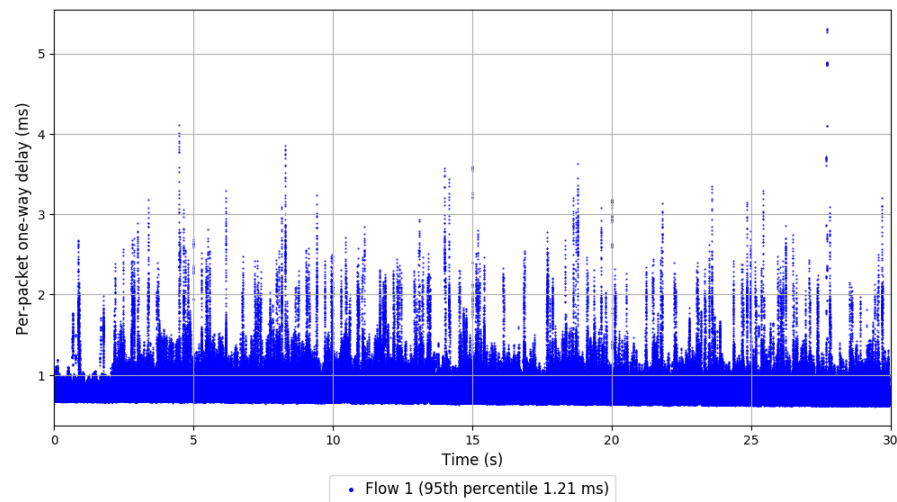
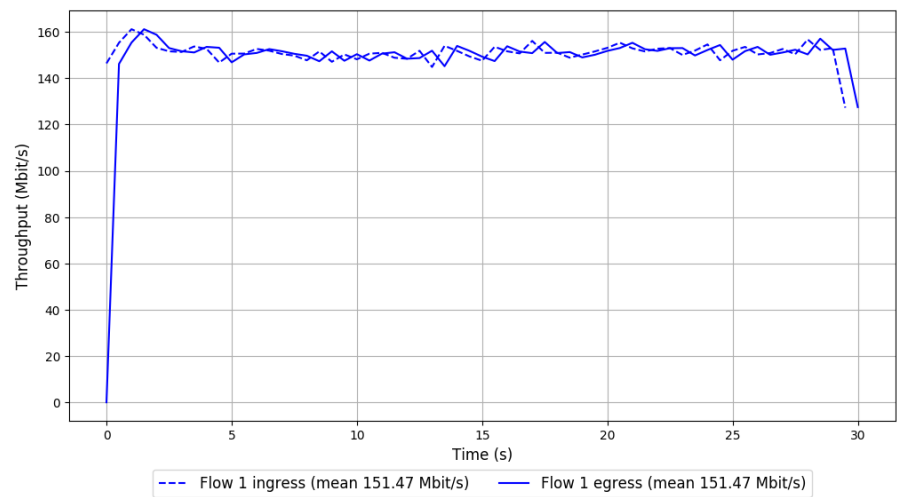


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-09-25 06:28:02  
End at: 2018-09-25 06:28:32  
Local clock offset: -14.824 ms  
Remote clock offset: -0.654 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 151.47 Mbit/s  
95th percentile per-packet one-way delay: 1.212 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 151.47 Mbit/s  
95th percentile per-packet one-way delay: 1.212 ms  
Loss rate: 0.00%

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

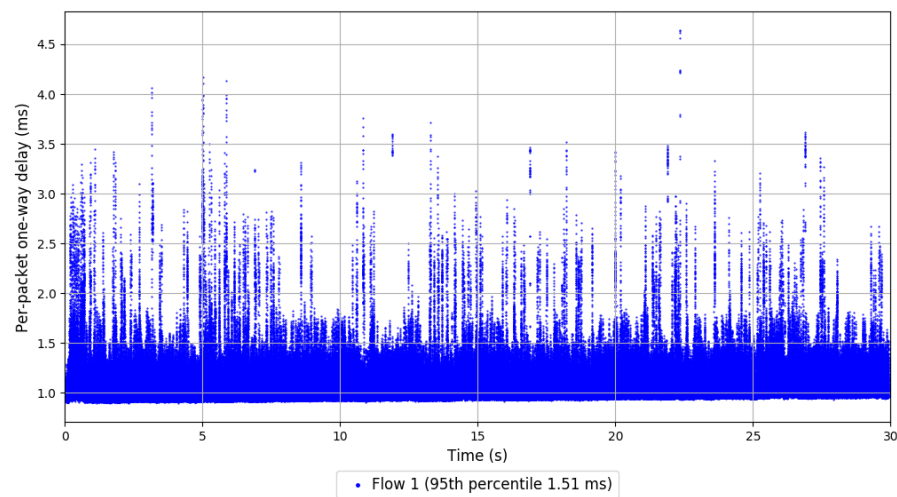
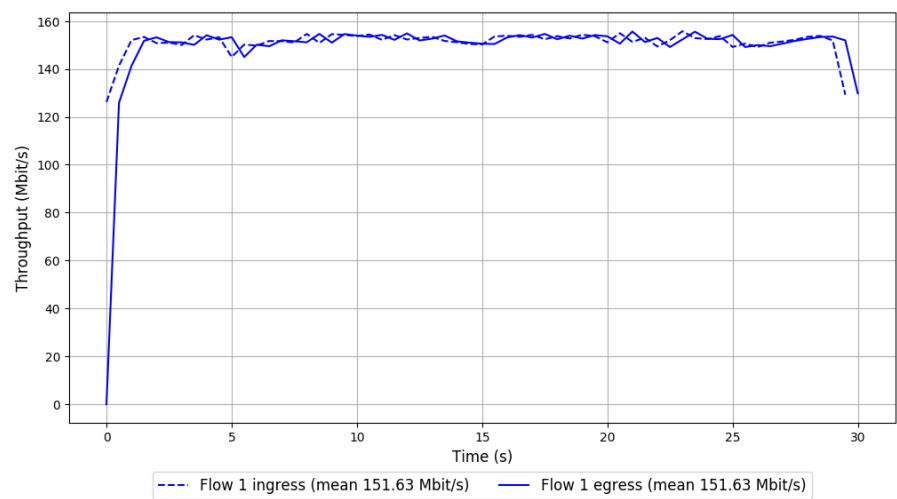


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-09-25 06:55:25  
End at: 2018-09-25 06:55:55  
Local clock offset: -5.366 ms  
Remote clock offset: -0.385 ms

# Below is generated by plot.py at 2018-09-25 07:36:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 151.63 Mbit/s  
95th percentile per-packet one-way delay: 1.508 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 151.63 Mbit/s  
95th percentile per-packet one-way delay: 1.508 ms  
Loss rate: 0.00%

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

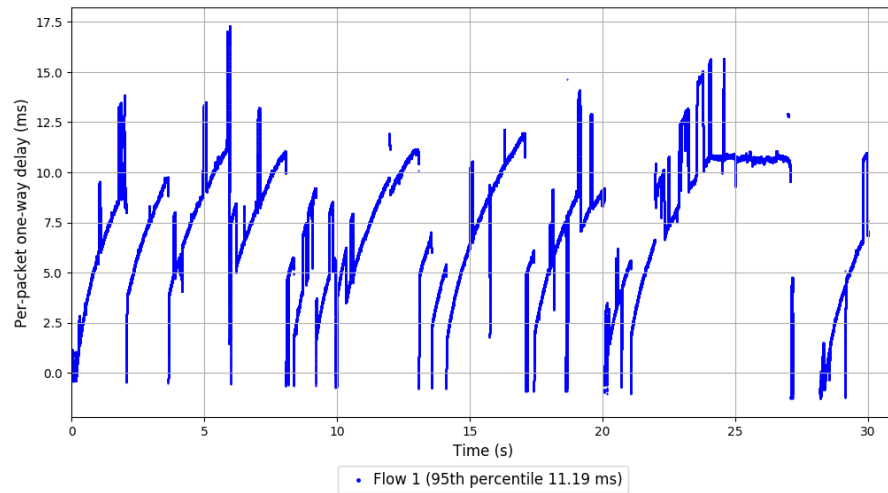
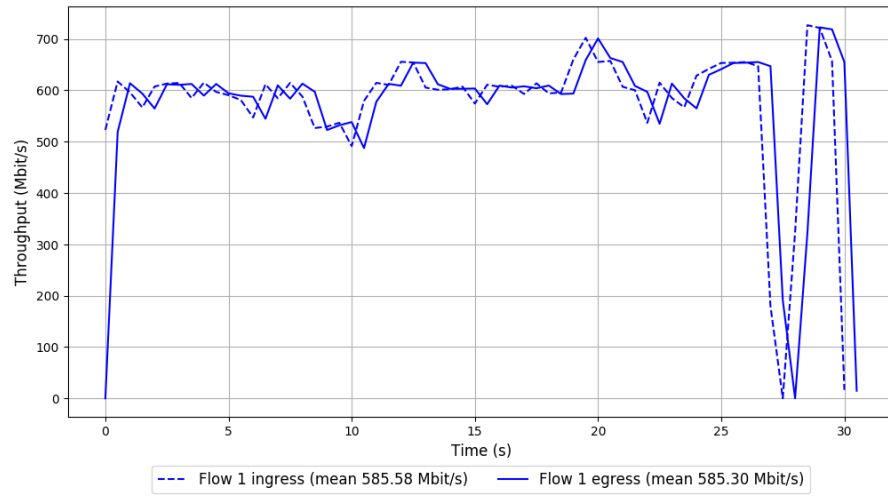


Run 1: Statistics of LEDBAT

Start at: 2018-09-25 04:51:44  
End at: 2018-09-25 04:52:14  
Local clock offset: -13.447 ms  
Remote clock offset: 3.939 ms

# Below is generated by plot.py at 2018-09-25 07:38:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 585.30 Mbit/s  
95th percentile per-packet one-way delay: 11.187 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 585.30 Mbit/s  
95th percentile per-packet one-way delay: 11.187 ms  
Loss rate: 0.05%

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



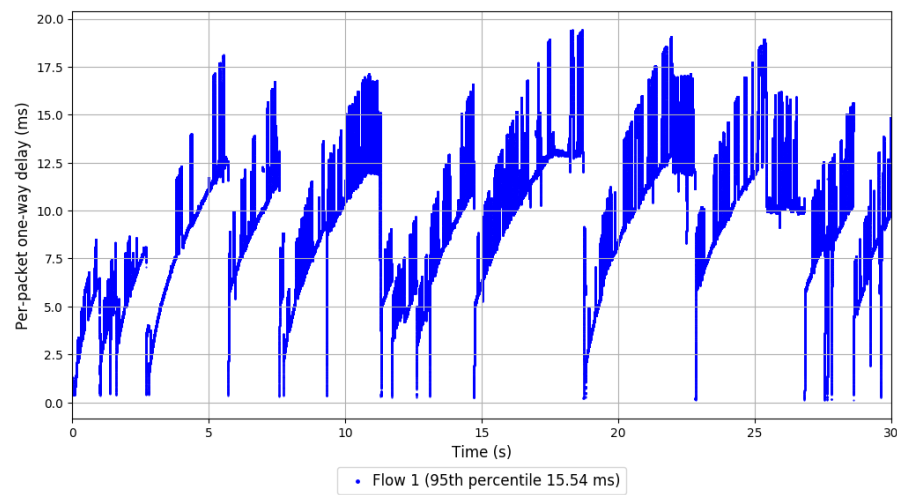
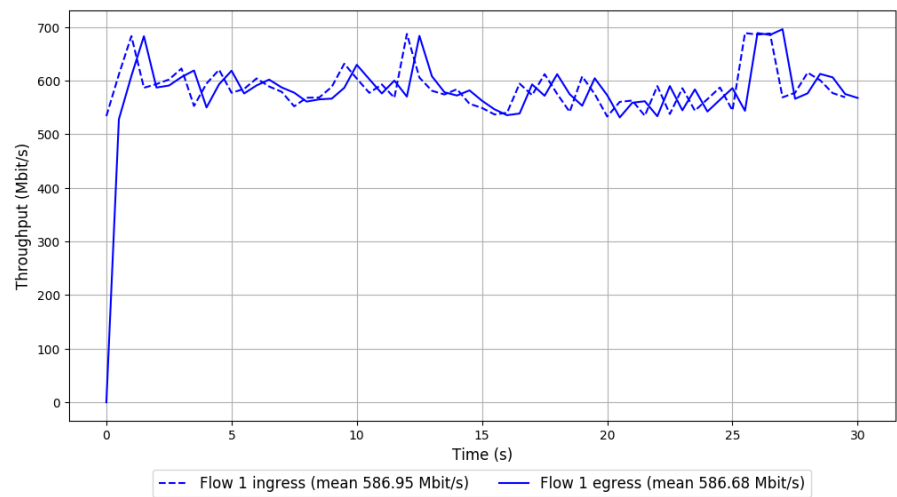


Run 2: Statistics of LEDBAT

Start at: 2018-09-25 05:19:37  
End at: 2018-09-25 05:20:07  
Local clock offset: -24.279 ms  
Remote clock offset: 3.721 ms

# Below is generated by plot.py at 2018-09-25 07:38:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 586.68 Mbit/s  
95th percentile per-packet one-way delay: 15.543 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 586.68 Mbit/s  
95th percentile per-packet one-way delay: 15.543 ms  
Loss rate: 0.05%

Run 2: Report of LEDBAT — Data Link

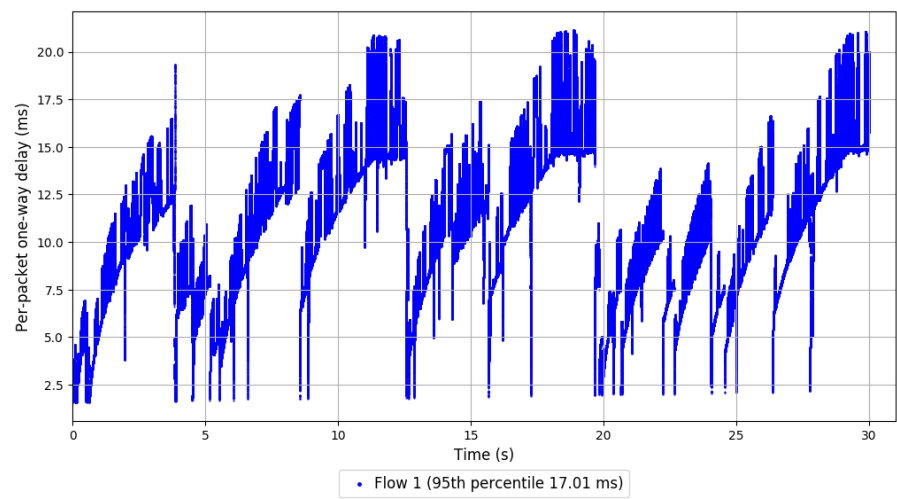
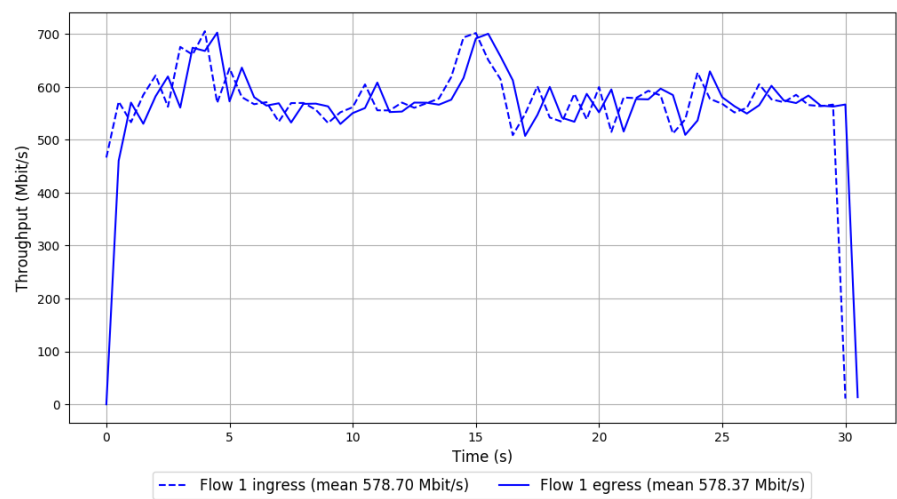


Run 3: Statistics of LEDBAT

Start at: 2018-09-25 05:47:29  
End at: 2018-09-25 05:47:59  
Local clock offset: -27.856 ms  
Remote clock offset: 0.717 ms

# Below is generated by plot.py at 2018-09-25 07:39:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 578.37 Mbit/s  
95th percentile per-packet one-way delay: 17.011 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 578.37 Mbit/s  
95th percentile per-packet one-way delay: 17.011 ms  
Loss rate: 0.06%

Run 3: Report of LEDBAT — Data Link

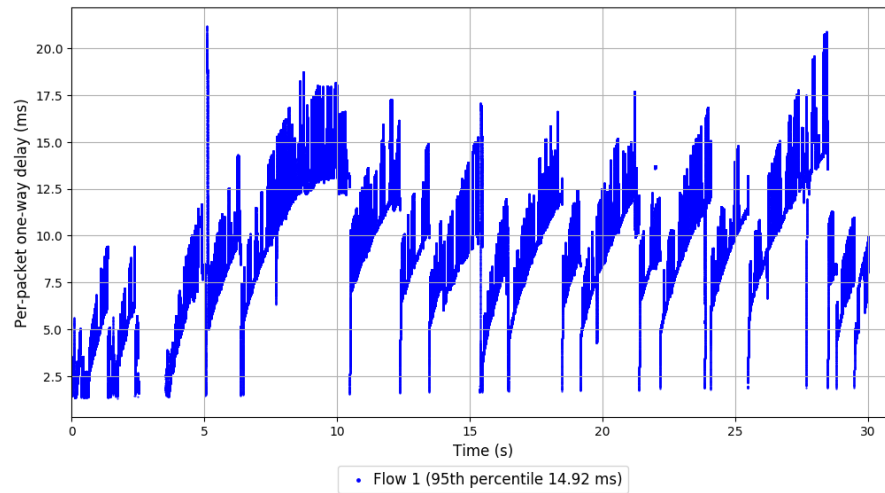
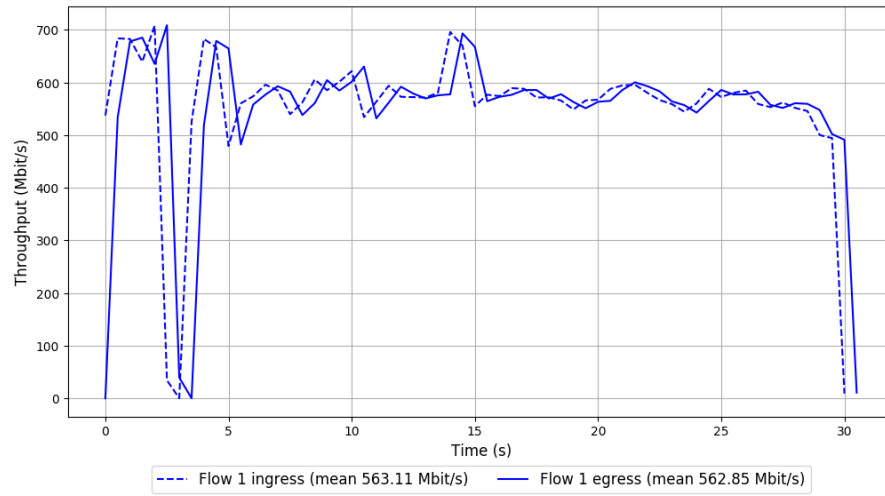


Run 4: Statistics of LEDBAT

Start at: 2018-09-25 06:15:14  
End at: 2018-09-25 06:15:44  
Local clock offset: -20.182 ms  
Remote clock offset: -0.769 ms

# Below is generated by plot.py at 2018-09-25 07:39:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 562.85 Mbit/s  
95th percentile per-packet one-way delay: 14.919 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 562.85 Mbit/s  
95th percentile per-packet one-way delay: 14.919 ms  
Loss rate: 0.04%

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

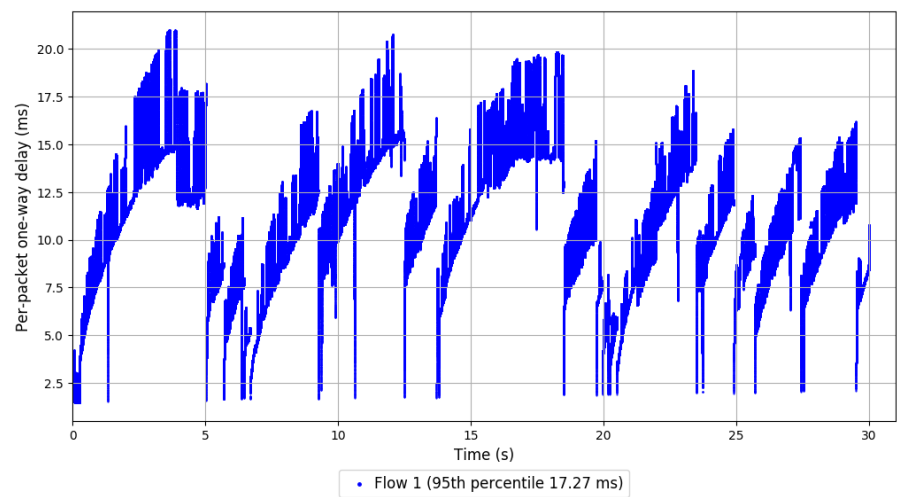
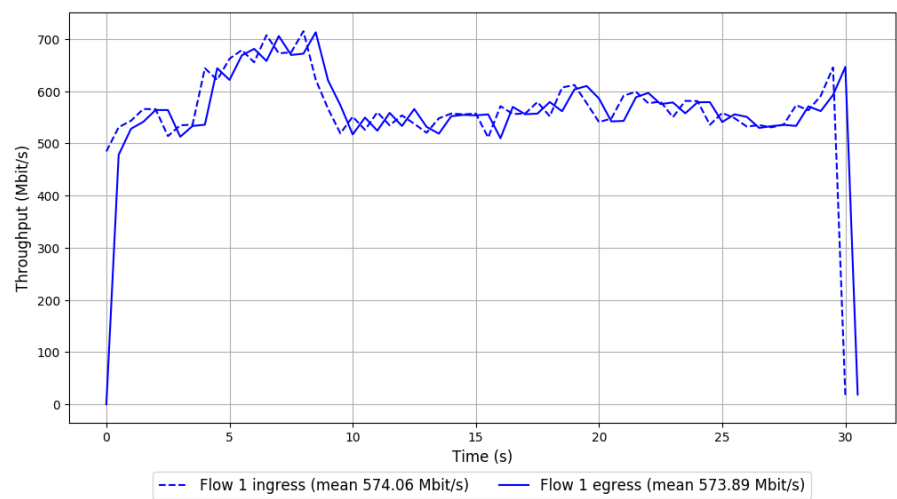


Run 5: Statistics of LEDBAT

Start at: 2018-09-25 06:42:39  
End at: 2018-09-25 06:43:09  
Local clock offset: -12.888 ms  
Remote clock offset: -0.754 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 573.89 Mbit/s  
95th percentile per-packet one-way delay: 17.267 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 573.89 Mbit/s  
95th percentile per-packet one-way delay: 17.267 ms  
Loss rate: 0.03%

Run 5: Report of LEDBAT — Data Link



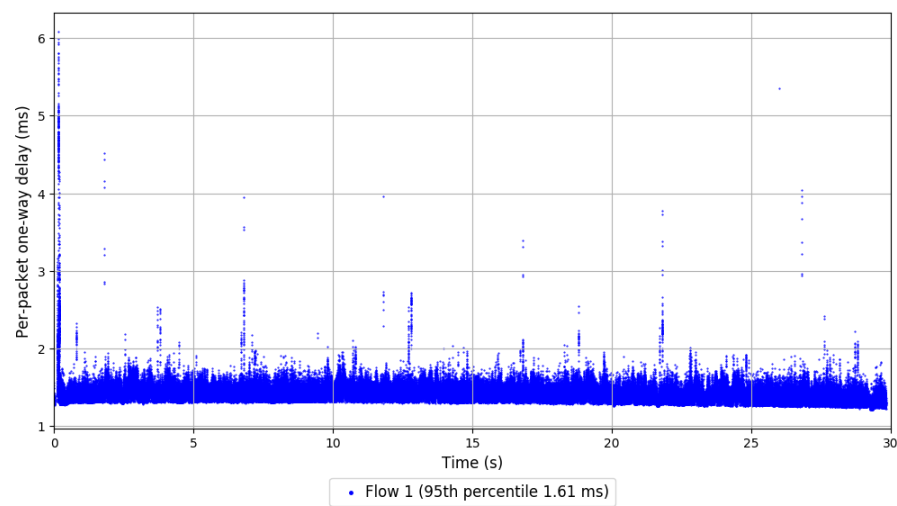
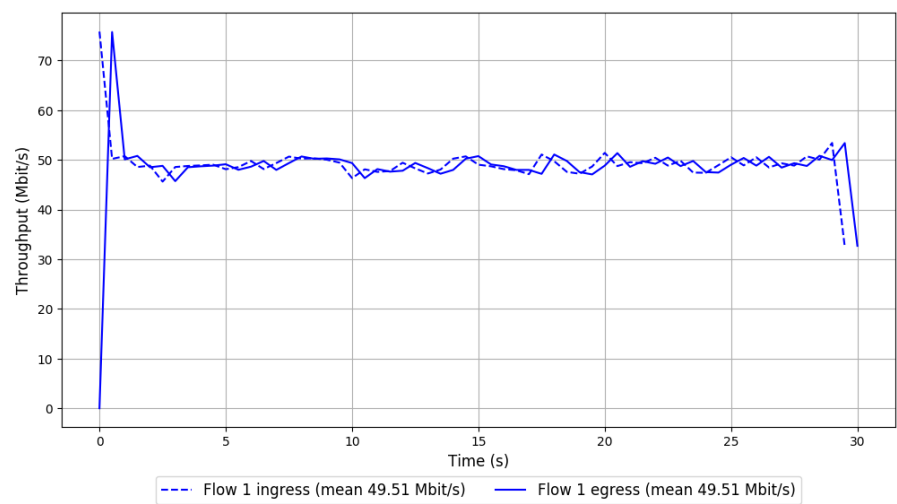


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-25 04:48:57  
End at: 2018-09-25 04:49:27  
Local clock offset: -12.255 ms  
Remote clock offset: 3.904 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.51 Mbit/s  
95th percentile per-packet one-way delay: 1.611 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 49.51 Mbit/s  
95th percentile per-packet one-way delay: 1.611 ms  
Loss rate: 0.01%

Run 1: Report of Indigo-Muses — Data Link

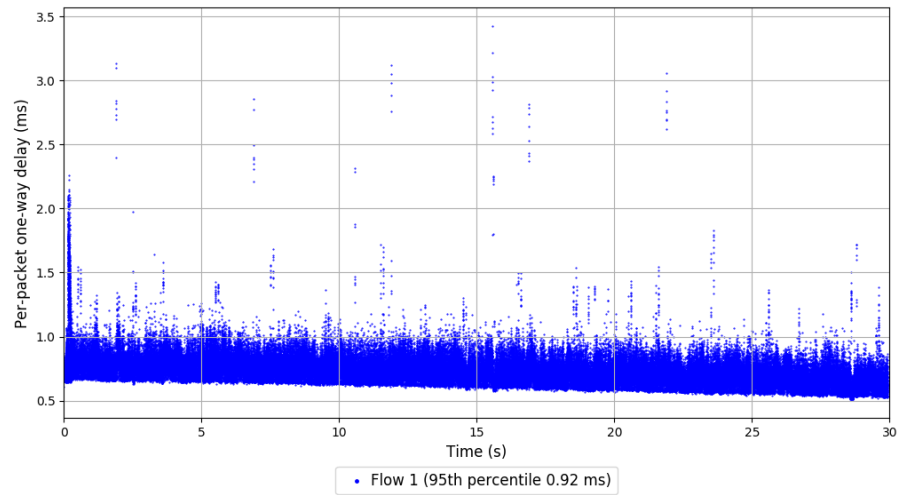
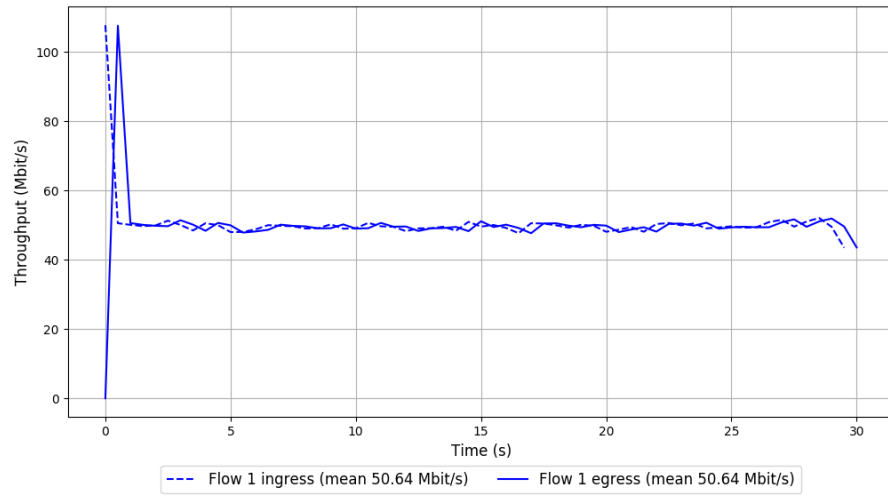


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-25 05:16:50  
End at: 2018-09-25 05:17:20  
Local clock offset: -23.354 ms  
Remote clock offset: 3.655 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.64 Mbit/s  
95th percentile per-packet one-way delay: 0.917 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.64 Mbit/s  
95th percentile per-packet one-way delay: 0.917 ms  
Loss rate: 0.00%

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

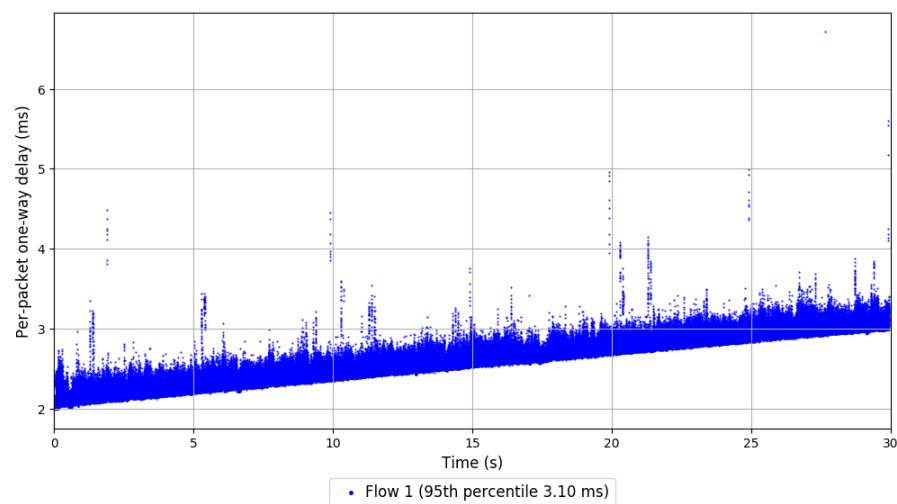
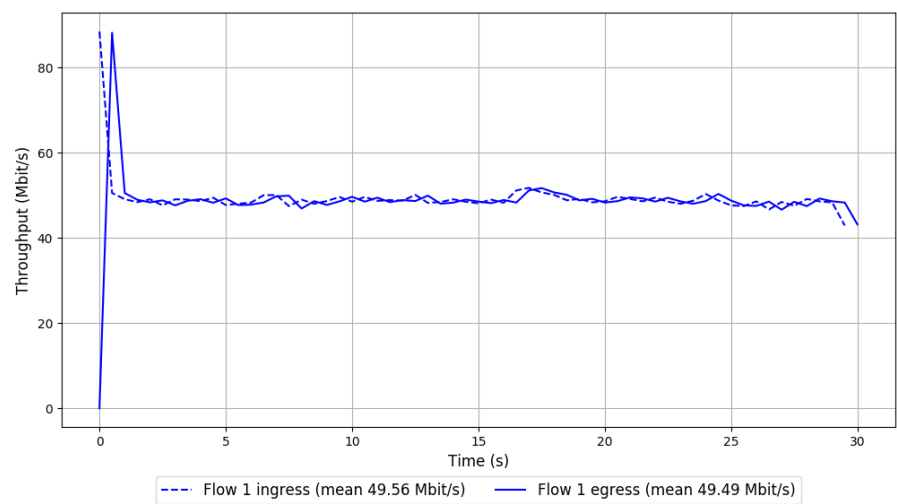


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-25 05:44:42  
End at: 2018-09-25 05:45:12  
Local clock offset: -32.308 ms  
Remote clock offset: 1.17 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.49 Mbit/s  
95th percentile per-packet one-way delay: 3.105 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 49.49 Mbit/s  
95th percentile per-packet one-way delay: 3.105 ms  
Loss rate: 0.14%

Run 3: Report of Indigo-Muses — Data Link

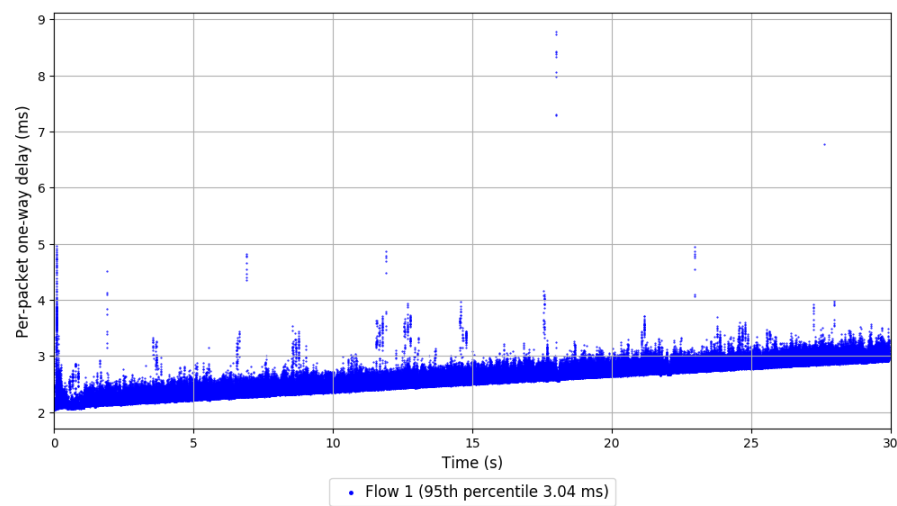
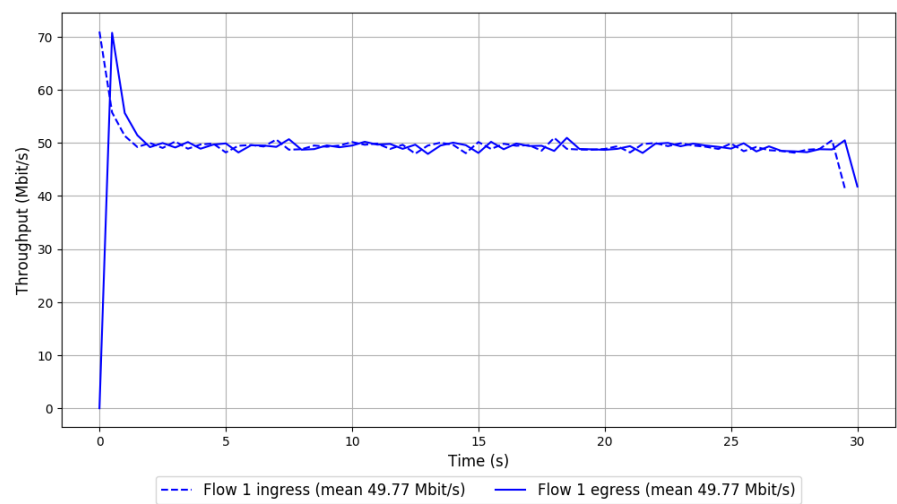


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-25 06:12:27  
End at: 2018-09-25 06:12:57  
Local clock offset: -24.914 ms  
Remote clock offset: -0.813 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.77 Mbit/s  
95th percentile per-packet one-way delay: 3.045 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 49.77 Mbit/s  
95th percentile per-packet one-way delay: 3.045 ms  
Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



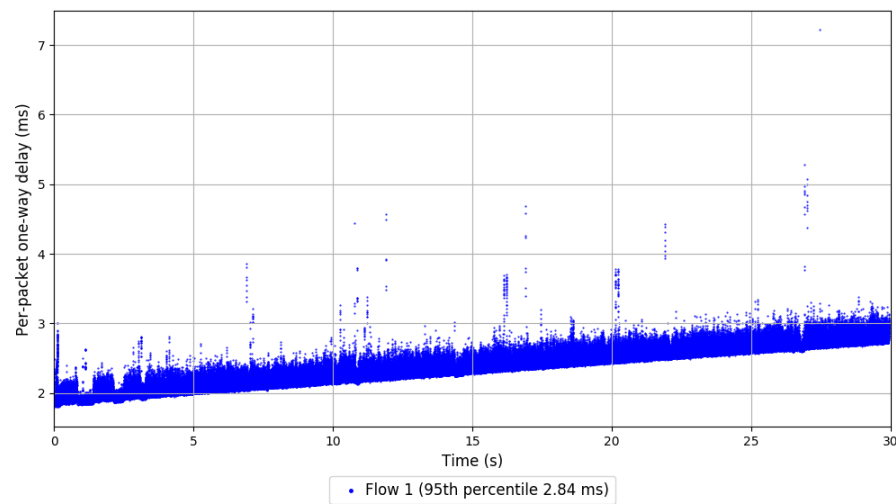
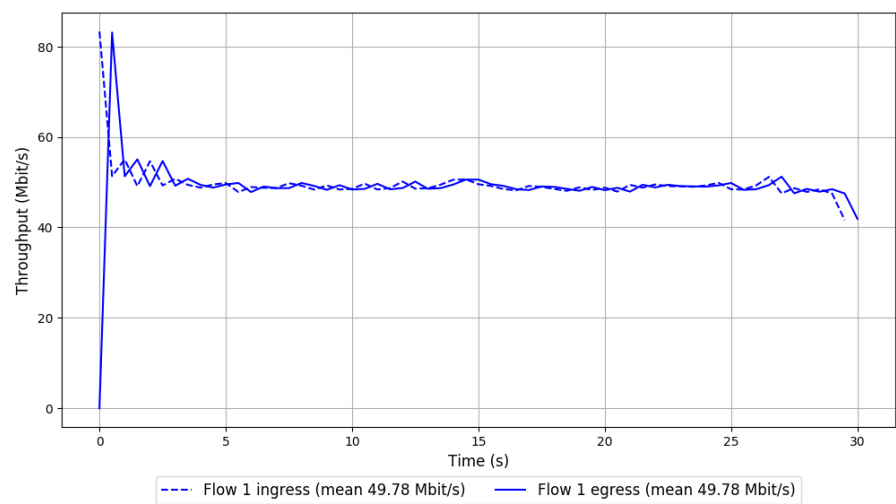


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-25 06:39:52  
End at: 2018-09-25 06:40:22  
Local clock offset: -17.413 ms  
Remote clock offset: -0.731 ms

# Below is generated by plot.py at 2018-09-25 07:39:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.78 Mbit/s  
95th percentile per-packet one-way delay: 2.836 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 49.78 Mbit/s  
95th percentile per-packet one-way delay: 2.836 ms  
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

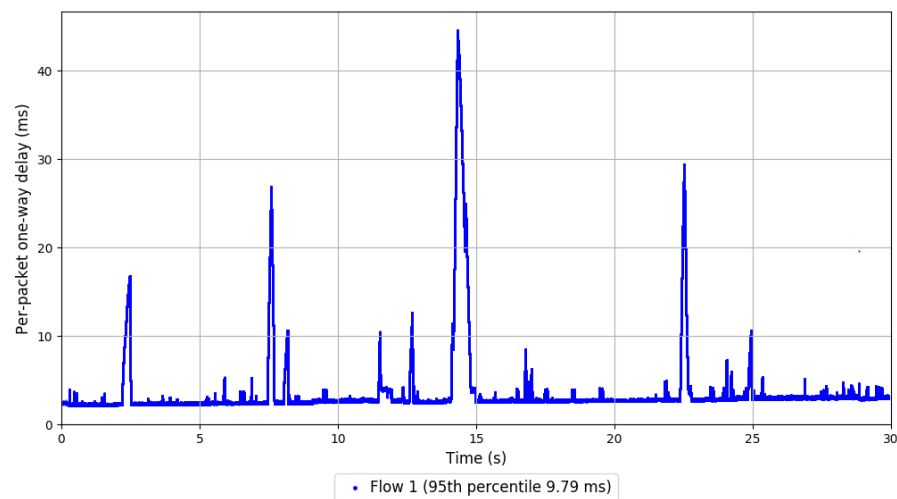
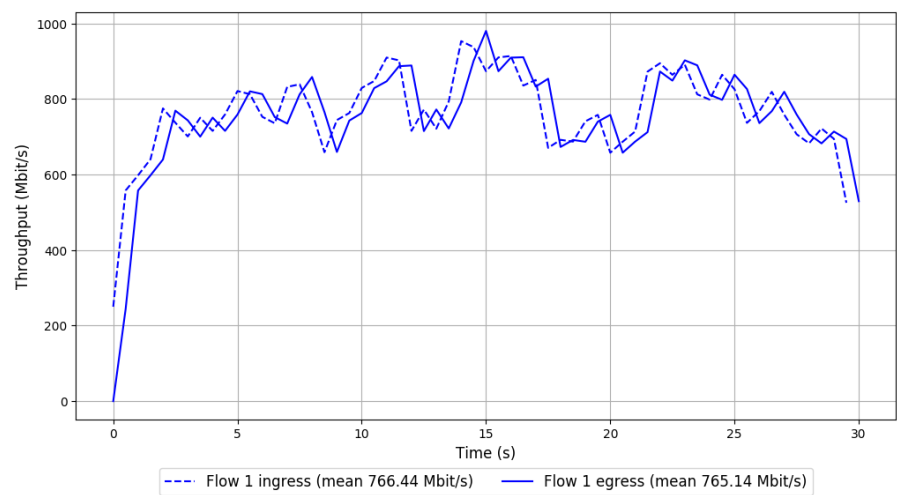


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-25 04:57:44
End at: 2018-09-25 04:58:14
Local clock offset: -21.949 ms
Remote clock offset: 4.244 ms

# Below is generated by plot.py at 2018-09-25 07:46:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 765.14 Mbit/s
95th percentile per-packet one-way delay: 9.791 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 765.14 Mbit/s
95th percentile per-packet one-way delay: 9.791 ms
Loss rate: 0.17%
```

Run 1: Report of PCC-Allegro — Data Link

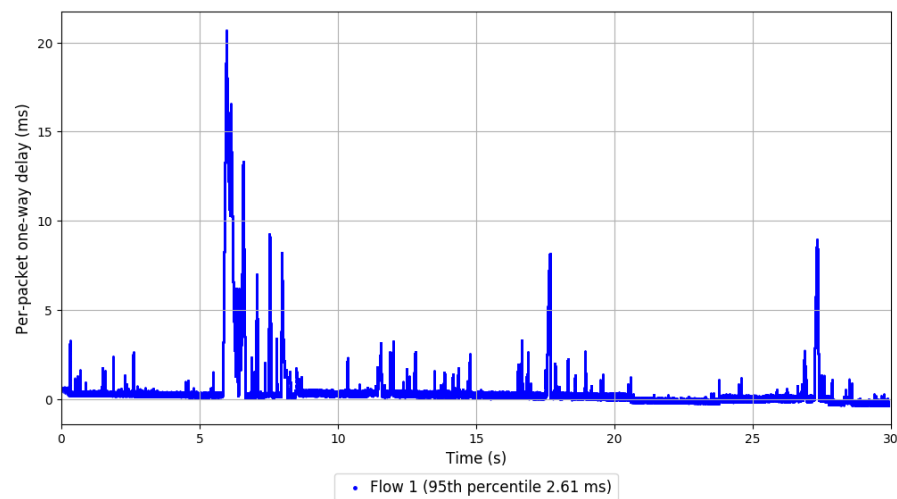
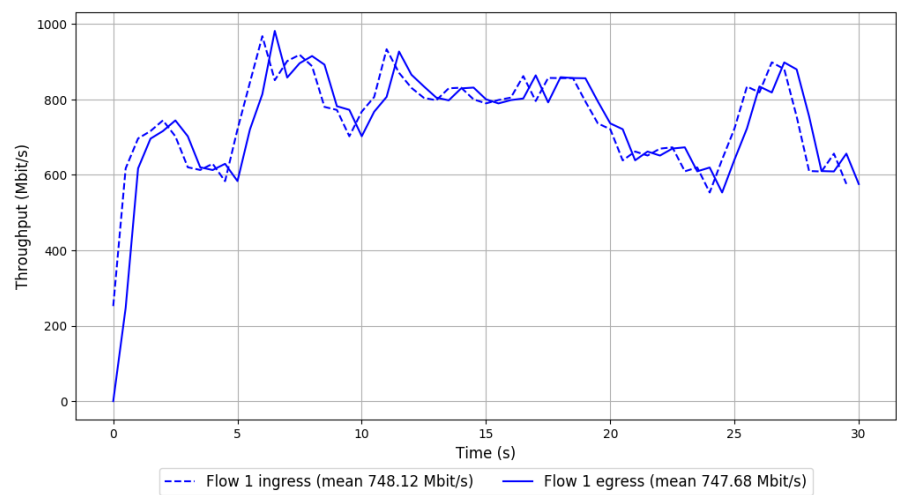


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-25 05:25:39  
End at: 2018-09-25 05:26:09  
Local clock offset: -29.464 ms  
Remote clock offset: 3.777 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 747.68 Mbit/s  
95th percentile per-packet one-way delay: 2.606 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 747.68 Mbit/s  
95th percentile per-packet one-way delay: 2.606 ms  
Loss rate: 0.06%

Run 2: Report of PCC-Allegro — Data Link

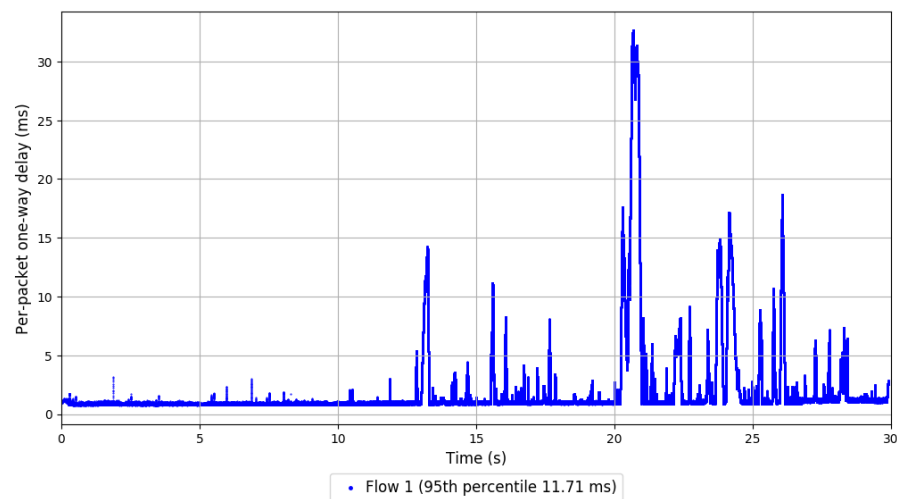
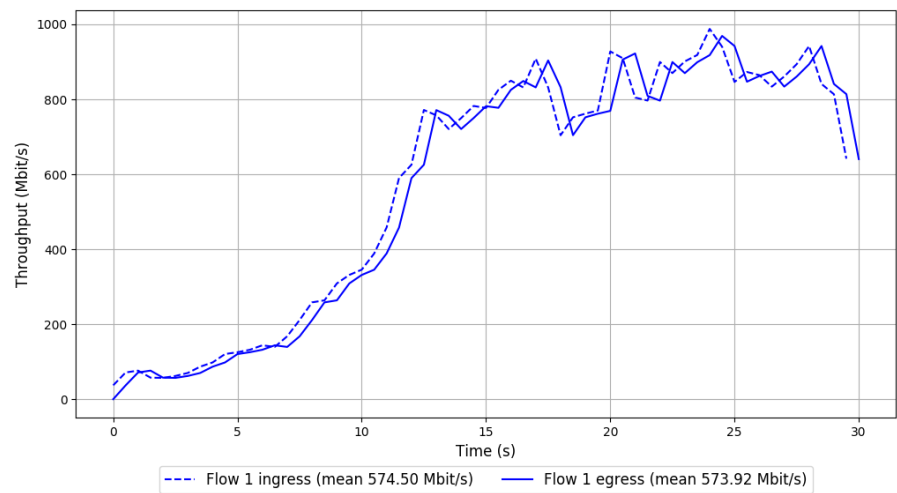


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-25 05:53:30  
End at: 2018-09-25 05:54:00  
Local clock offset: -24.22 ms  
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 573.92 Mbit/s  
95th percentile per-packet one-way delay: 11.715 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 573.92 Mbit/s  
95th percentile per-packet one-way delay: 11.715 ms  
Loss rate: 0.10%

Run 3: Report of PCC-Allegro — Data Link



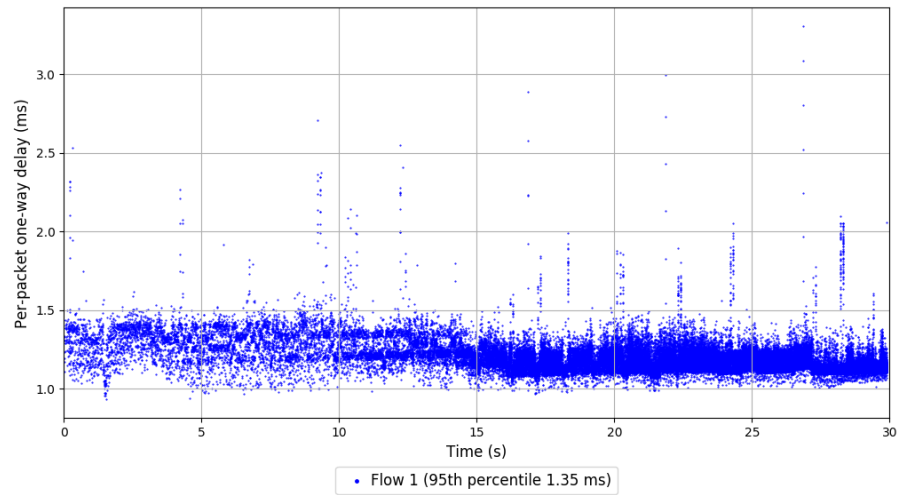
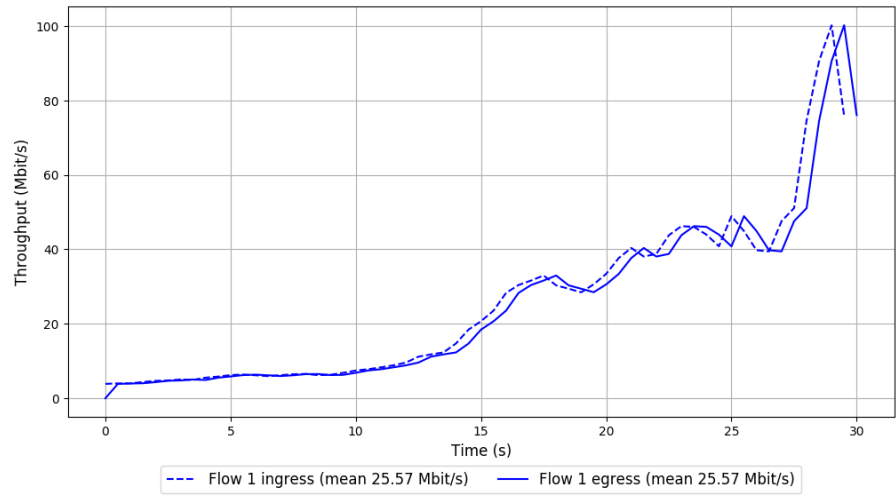


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-25 06:21:17  
End at: 2018-09-25 06:21:47  
Local clock offset: -15.565 ms  
Remote clock offset: -0.594 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 25.57 Mbit/s  
95th percentile per-packet one-way delay: 1.350 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 25.57 Mbit/s  
95th percentile per-packet one-way delay: 1.350 ms  
Loss rate: 0.00%

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

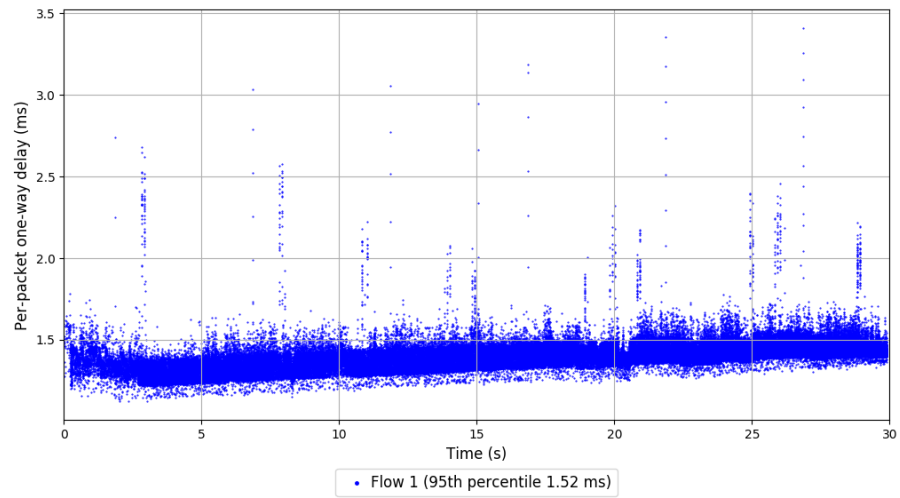
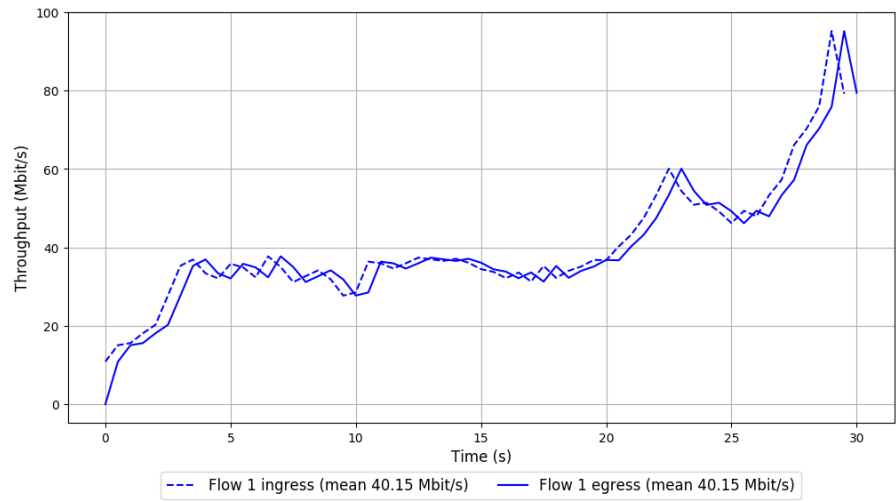


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-25 06:48:40  
End at: 2018-09-25 06:49:10  
Local clock offset: -7.603 ms  
Remote clock offset: -0.559 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 40.15 Mbit/s  
95th percentile per-packet one-way delay: 1.516 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 40.15 Mbit/s  
95th percentile per-packet one-way delay: 1.516 ms  
Loss rate: 0.00%

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



Run 1: Statistics of PCC-Expr

Start at: 2018-09-25 04:54:47  
End at: 2018-09-25 04:55:17  
Local clock offset: -19.692 ms  
Remote clock offset: 4.055 ms

# Below is generated by plot.py at 2018-09-25 07:46:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 8.40 Mbit/s

95th percentile per-packet one-way delay: -0.548 ms

Loss rate: 38.11%

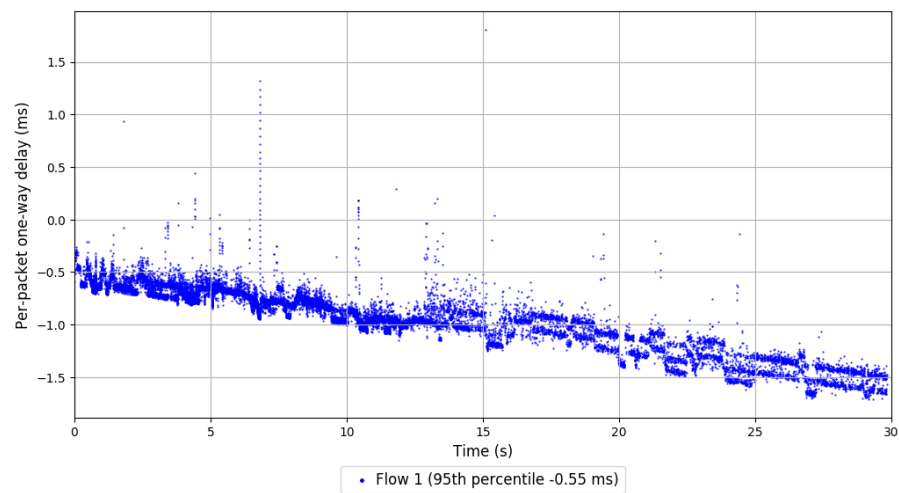
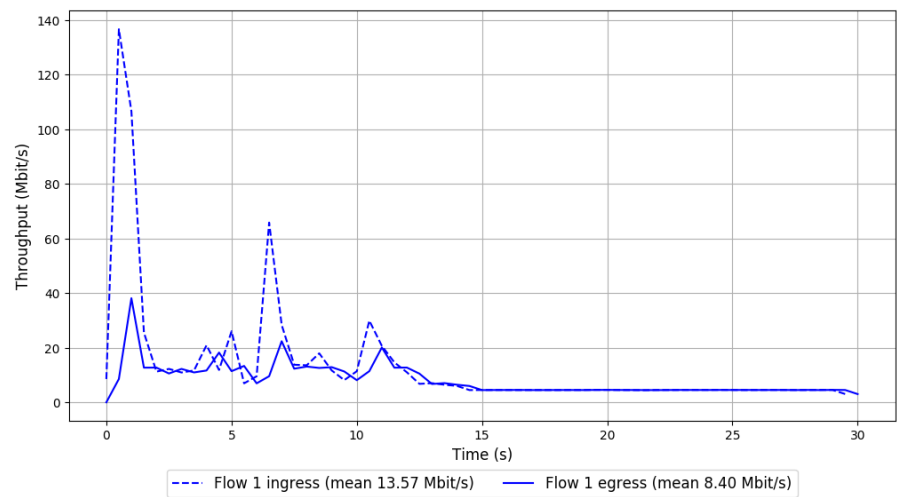
-- Flow 1:

Average throughput: 8.40 Mbit/s

95th percentile per-packet one-way delay: -0.548 ms

Loss rate: 38.11%

Run 1: Report of PCC-Expr — Data Link

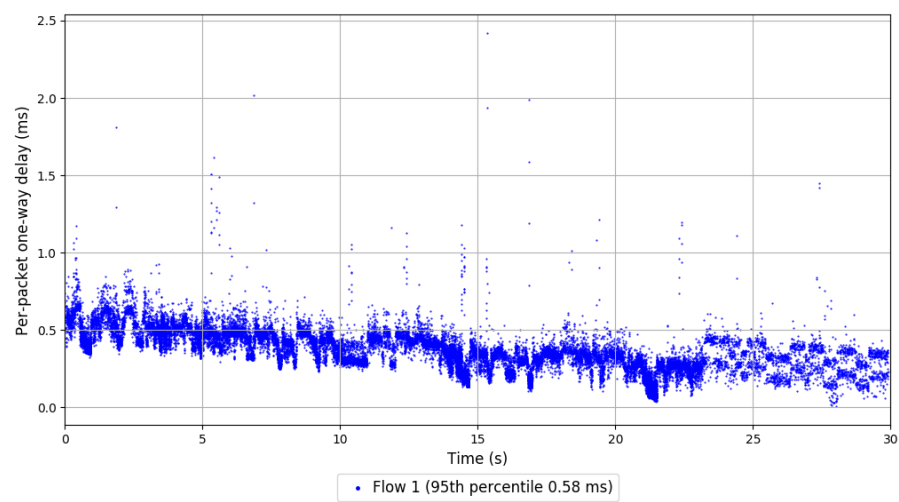
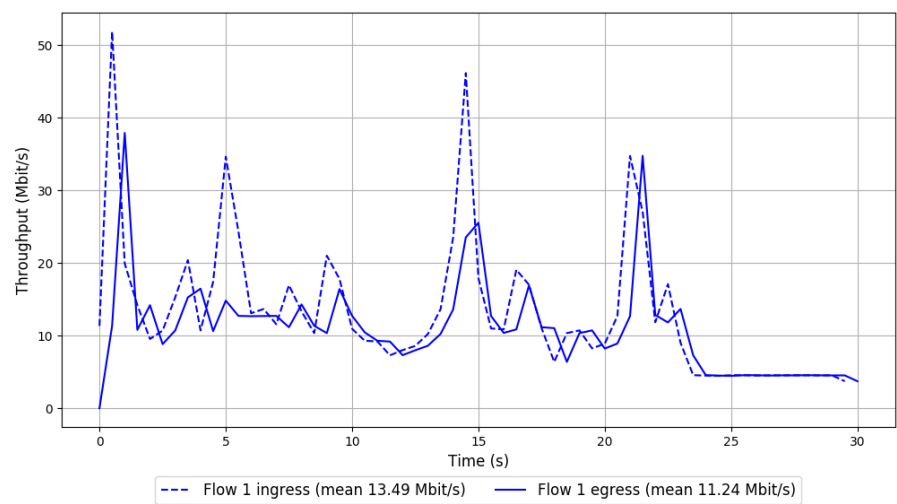


Run 2: Statistics of PCC-Expr

Start at: 2018-09-25 05:22:40  
End at: 2018-09-25 05:23:10  
Local clock offset: -26.552 ms  
Remote clock offset: 3.776 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.24 Mbit/s  
95th percentile per-packet one-way delay: 0.580 ms  
Loss rate: 16.66%  
-- Flow 1:  
Average throughput: 11.24 Mbit/s  
95th percentile per-packet one-way delay: 0.580 ms  
Loss rate: 16.66%

Run 2: Report of PCC-Expr — Data Link



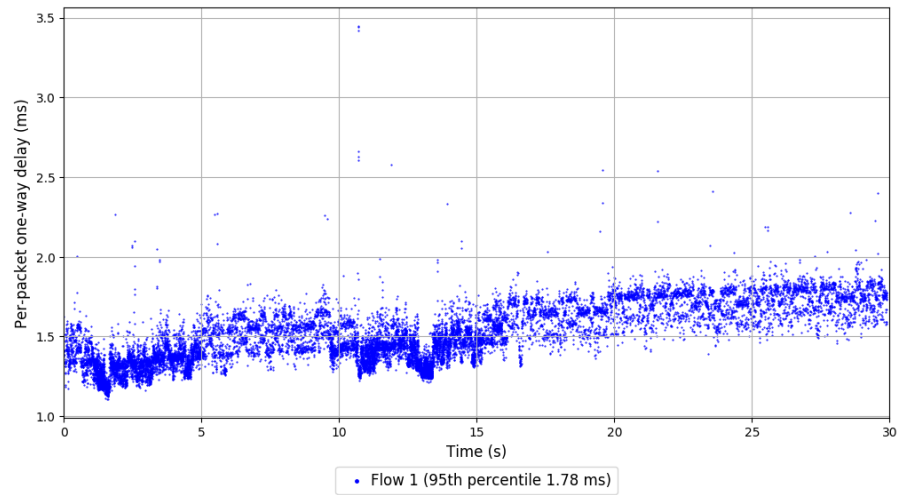
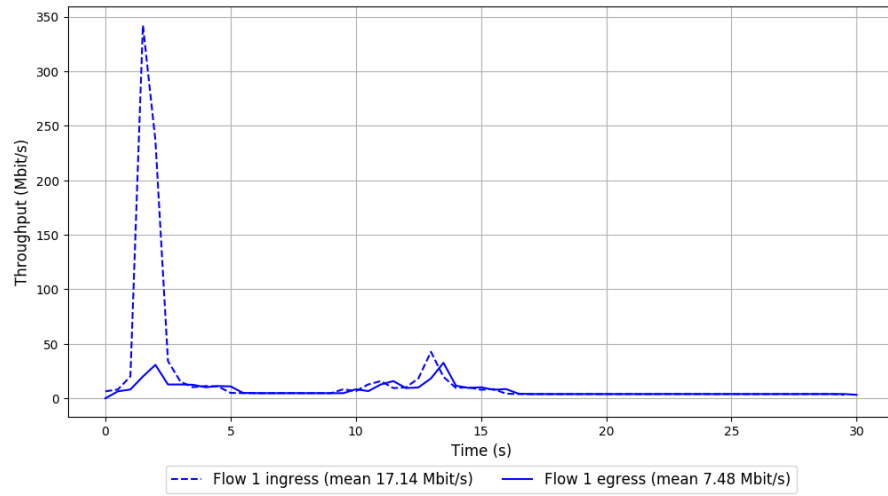


Run 3: Statistics of PCC-Expr

Start at: 2018-09-25 05:50:32  
End at: 2018-09-25 05:51:02  
Local clock offset: -25.246 ms  
Remote clock offset: 0.236 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.48 Mbit/s  
95th percentile per-packet one-way delay: 1.785 ms  
Loss rate: 56.35%  
-- Flow 1:  
Average throughput: 7.48 Mbit/s  
95th percentile per-packet one-way delay: 1.785 ms  
Loss rate: 56.35%

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

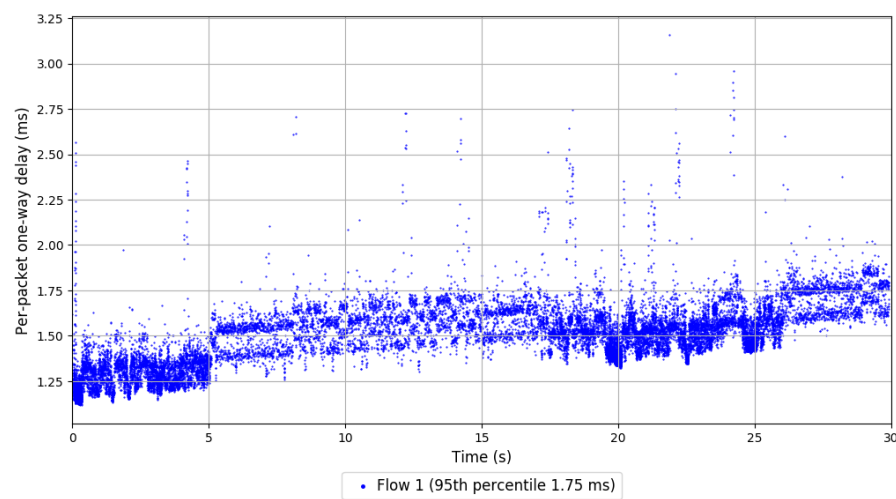
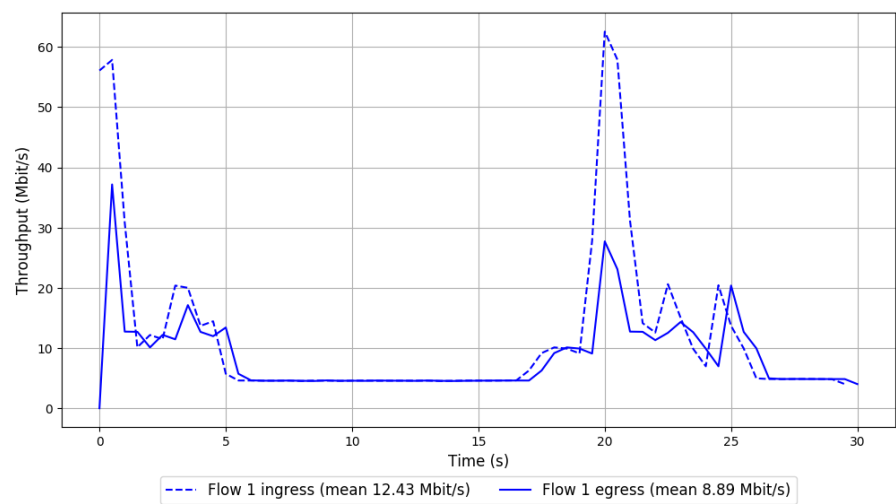


Run 4: Statistics of PCC-Expr

Start at: 2018-09-25 06:18:17  
End at: 2018-09-25 06:18:47  
Local clock offset: -17.178 ms  
Remote clock offset: -0.647 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 8.89 Mbit/s  
95th percentile per-packet one-way delay: 1.749 ms  
Loss rate: 28.43%  
-- Flow 1:  
Average throughput: 8.89 Mbit/s  
95th percentile per-packet one-way delay: 1.749 ms  
Loss rate: 28.43%

Run 4: Report of PCC-Expr — Data Link

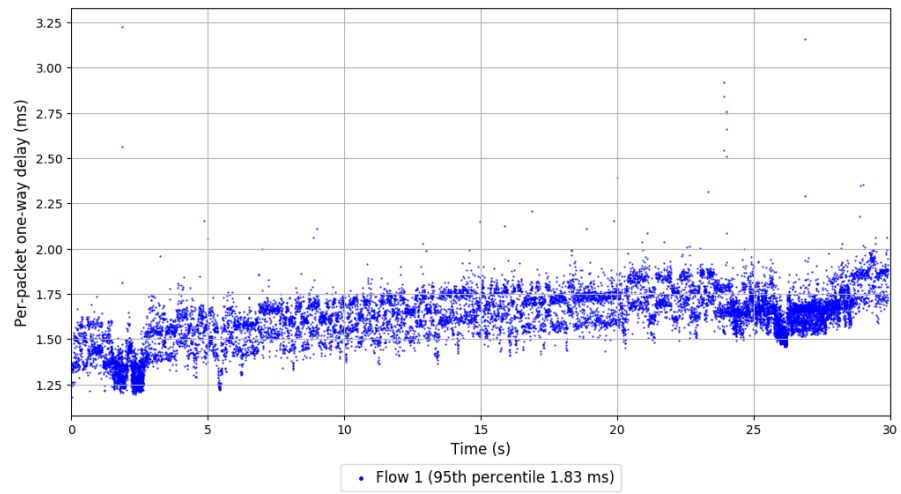
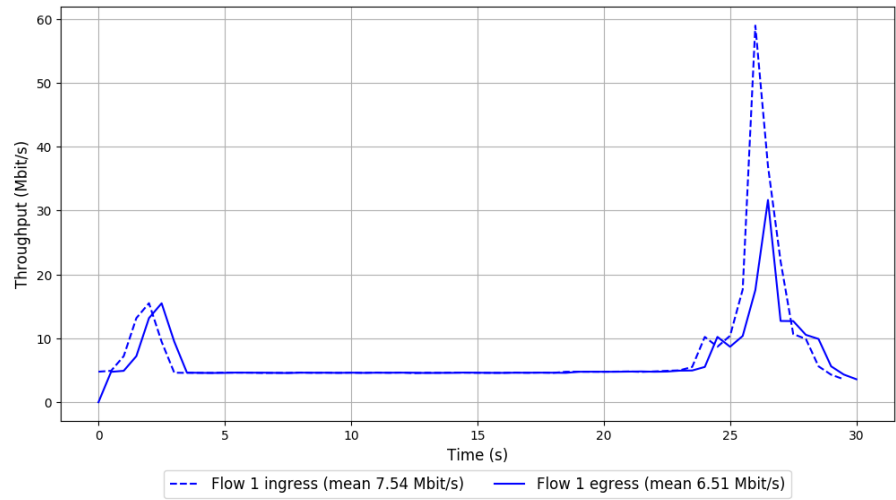


Run 5: Statistics of PCC-Expr

Start at: 2018-09-25 06:45:43  
End at: 2018-09-25 06:46:13  
Local clock offset: -9.543 ms  
Remote clock offset: -0.772 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 6.51 Mbit/s  
95th percentile per-packet one-way delay: 1.834 ms  
Loss rate: 13.57%  
-- Flow 1:  
Average throughput: 6.51 Mbit/s  
95th percentile per-packet one-way delay: 1.834 ms  
Loss rate: 13.57%

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

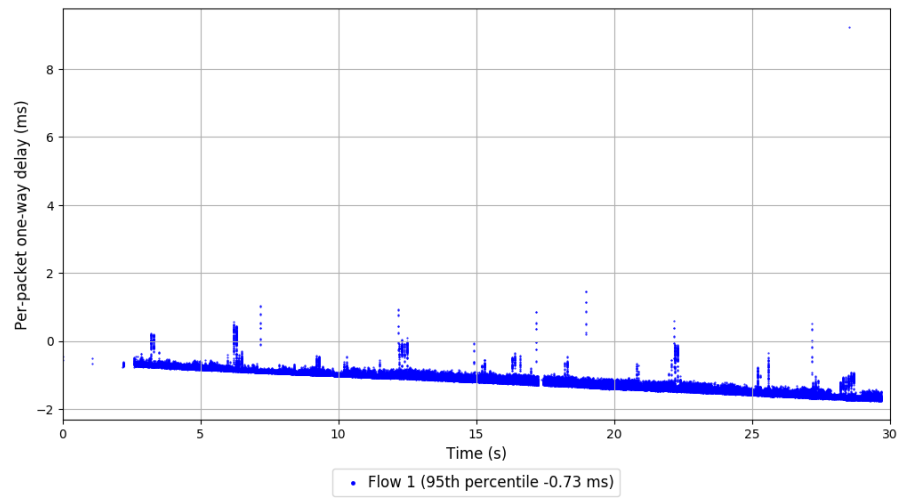
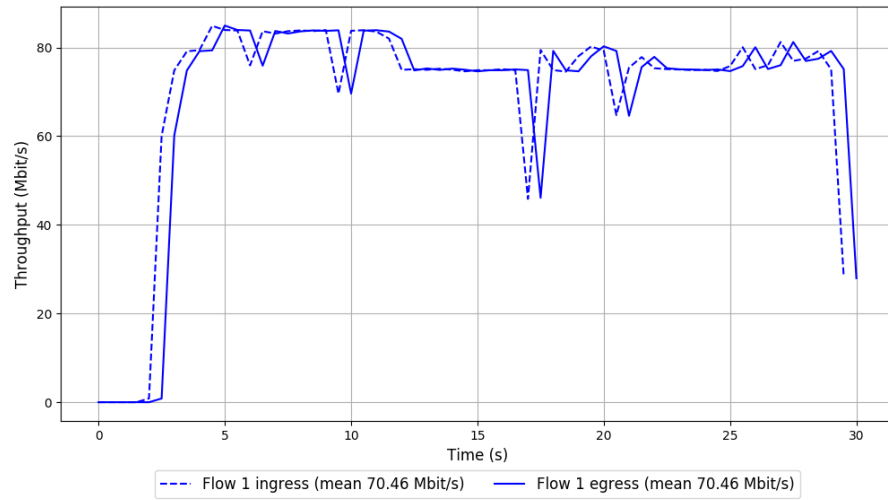


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-25 04:53:27  
End at: 2018-09-25 04:53:57  
Local clock offset: -16.584 ms  
Remote clock offset: 4.107 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.46 Mbit/s  
95th percentile per-packet one-way delay: -0.729 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.46 Mbit/s  
95th percentile per-packet one-way delay: -0.729 ms  
Loss rate: 0.00%

# Run 1: Report of QUIC Cubic — Data Link



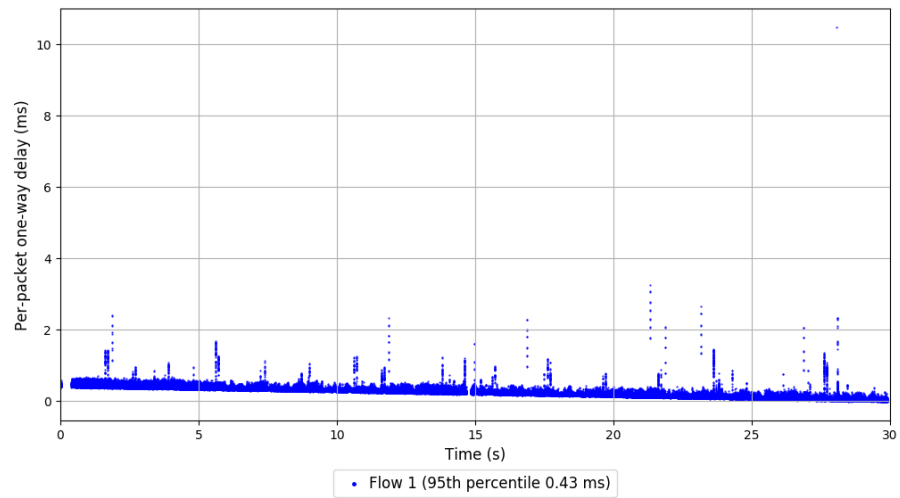
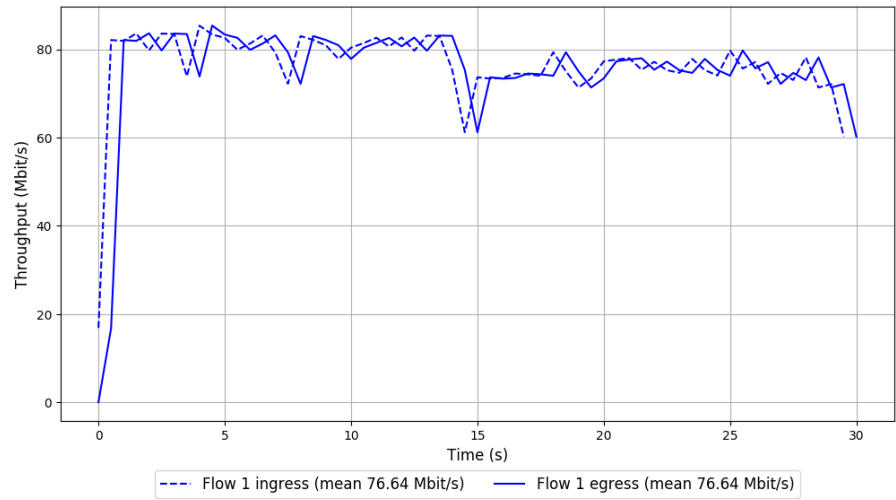


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-25 05:21:20  
End at: 2018-09-25 05:21:50  
Local clock offset: -25.494 ms  
Remote clock offset: 3.73 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 76.64 Mbit/s  
95th percentile per-packet one-way delay: 0.432 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 76.64 Mbit/s  
95th percentile per-packet one-way delay: 0.432 ms  
Loss rate: 0.00%

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

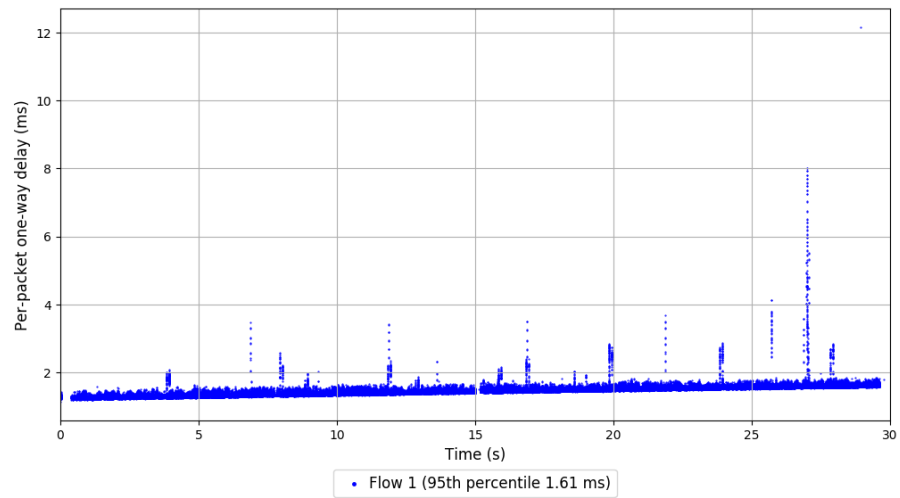
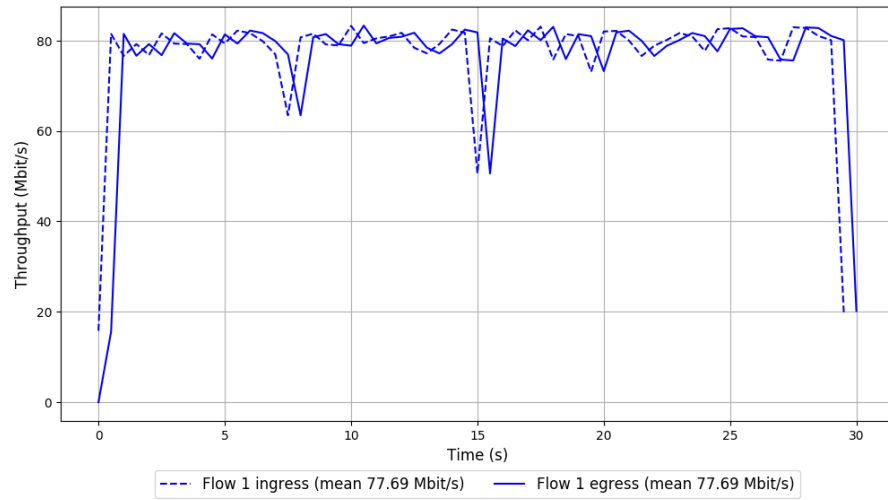


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-25 05:49:12  
End at: 2018-09-25 05:49:42  
Local clock offset: -26.054 ms  
Remote clock offset: 0.456 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.69 Mbit/s  
95th percentile per-packet one-way delay: 1.613 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 77.69 Mbit/s  
95th percentile per-packet one-way delay: 1.613 ms  
Loss rate: 0.00%

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

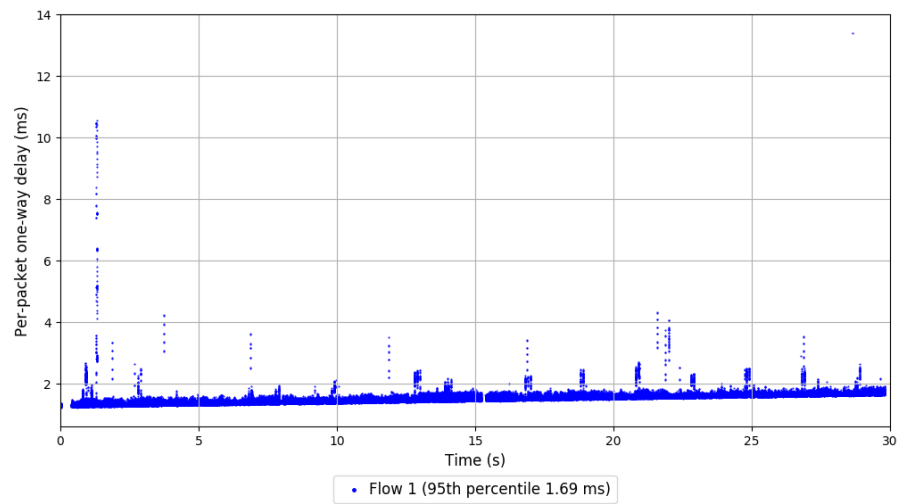
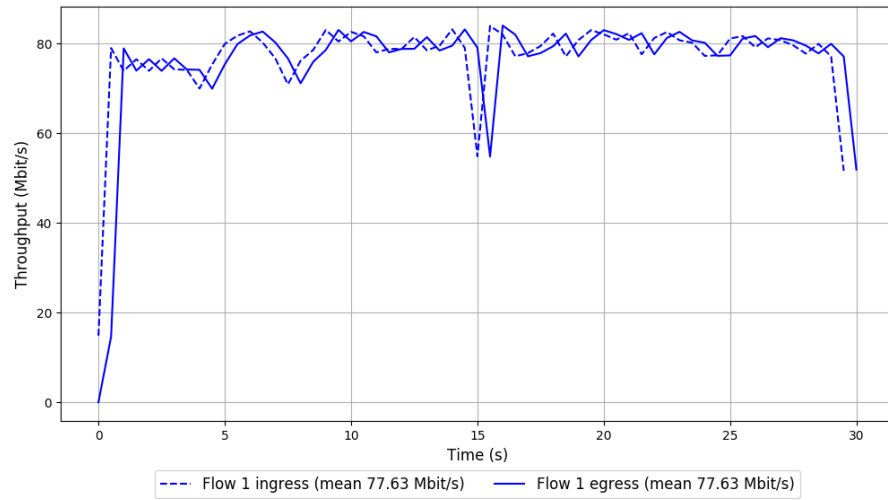


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-25 06:16:56  
End at: 2018-09-25 06:17:26  
Local clock offset: -18.327 ms  
Remote clock offset: -0.697 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.63 Mbit/s  
95th percentile per-packet one-way delay: 1.688 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 77.63 Mbit/s  
95th percentile per-packet one-way delay: 1.688 ms  
Loss rate: 0.00%

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

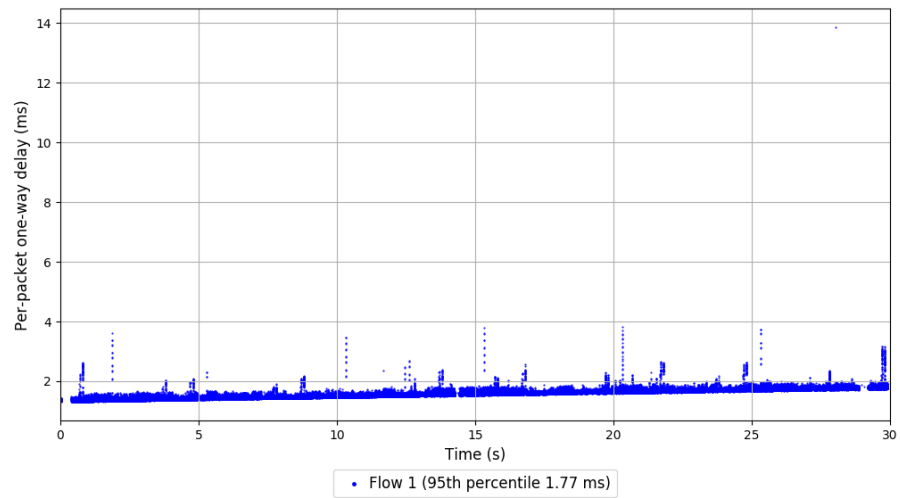
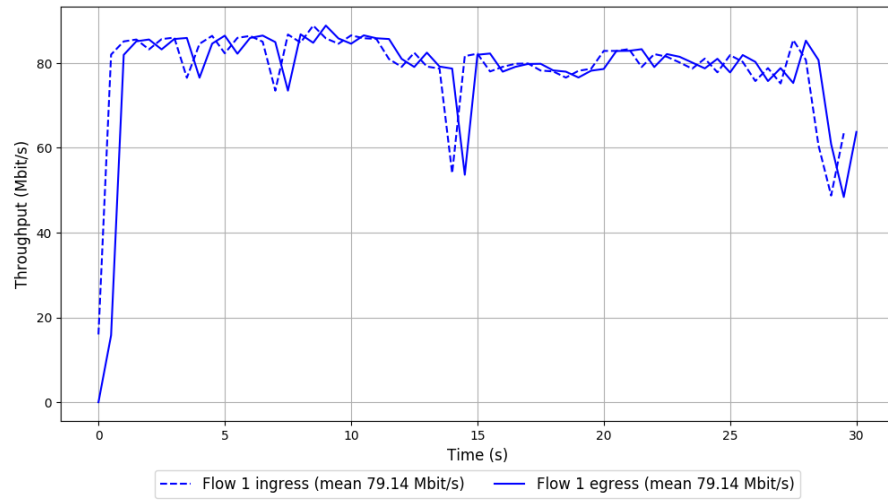


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-25 06:44:22  
End at: 2018-09-25 06:44:52  
Local clock offset: -10.925 ms  
Remote clock offset: -0.859 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.14 Mbit/s  
95th percentile per-packet one-way delay: 1.766 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 79.14 Mbit/s  
95th percentile per-packet one-way delay: 1.766 ms  
Loss rate: 0.01%

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



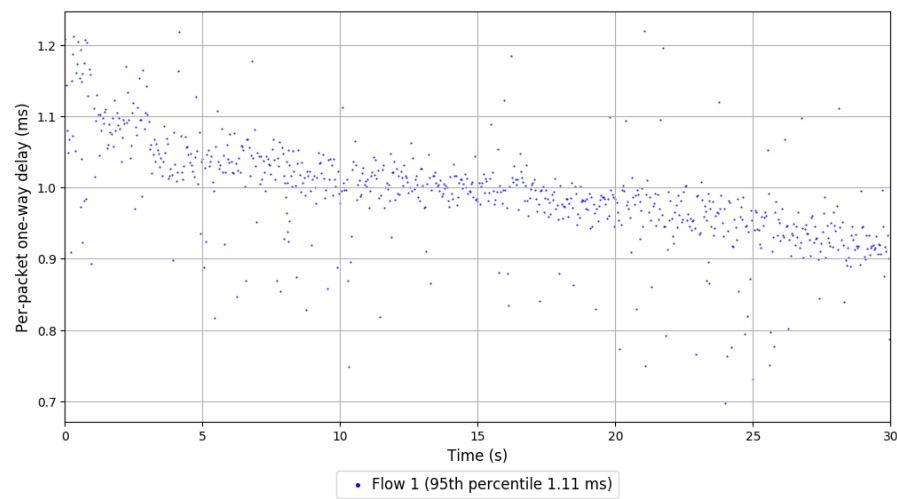
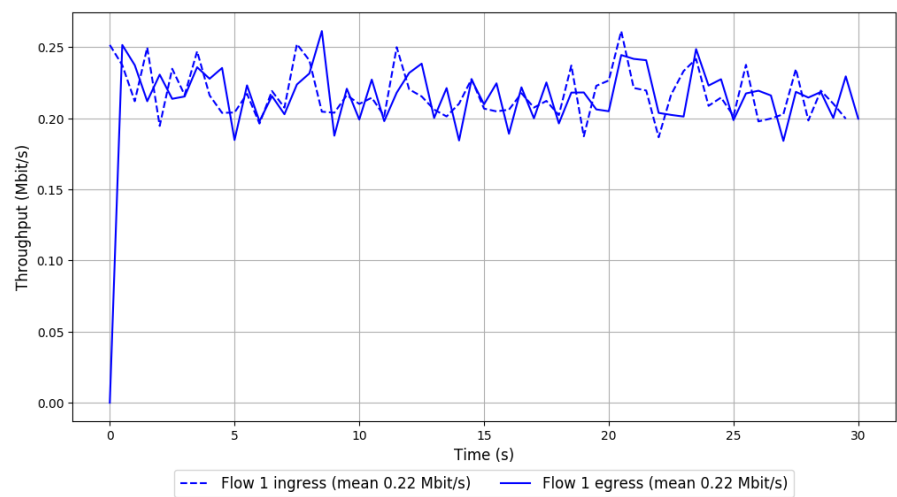


Run 1: Statistics of SCReAM

Start at: 2018-09-25 05:00:38  
End at: 2018-09-25 05:01:08  
Local clock offset: -18.758 ms  
Remote clock offset: 4.334 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

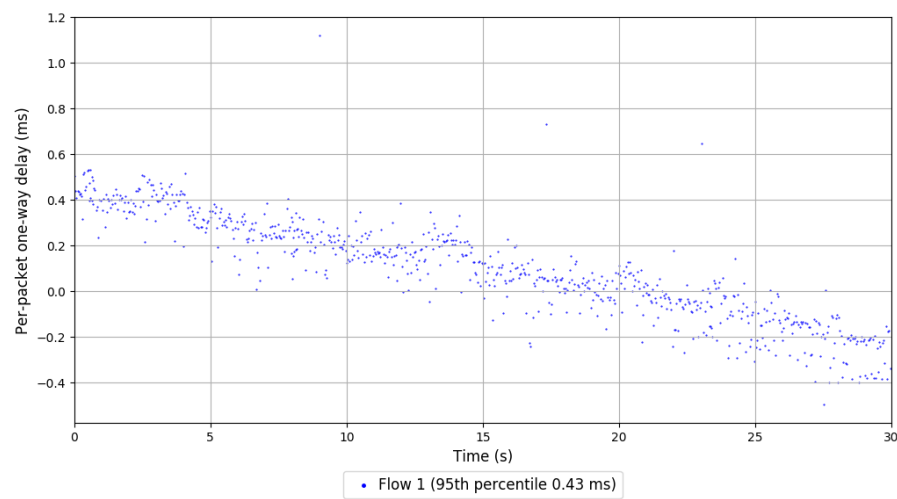
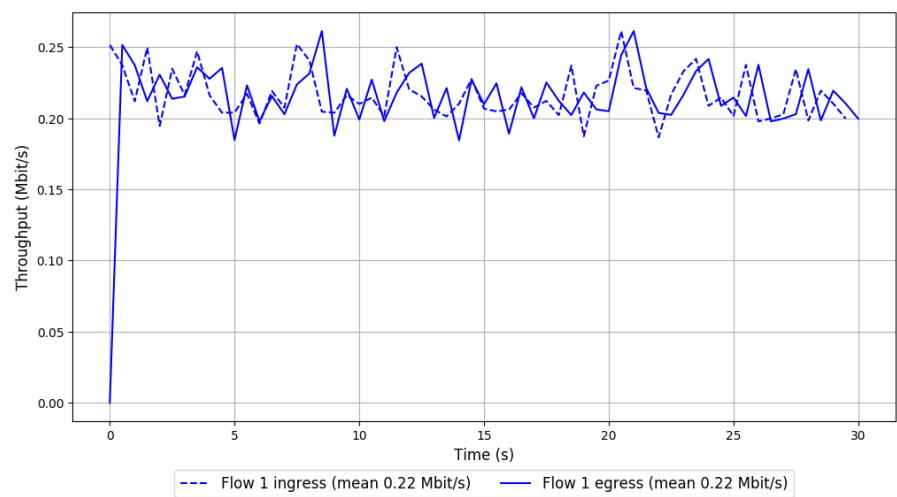


Run 2: Statistics of SCReAM

Start at: 2018-09-25 05:28:32  
End at: 2018-09-25 05:29:02  
Local clock offset: -32.667 ms  
Remote clock offset: 3.873 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 0.428 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 0.428 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

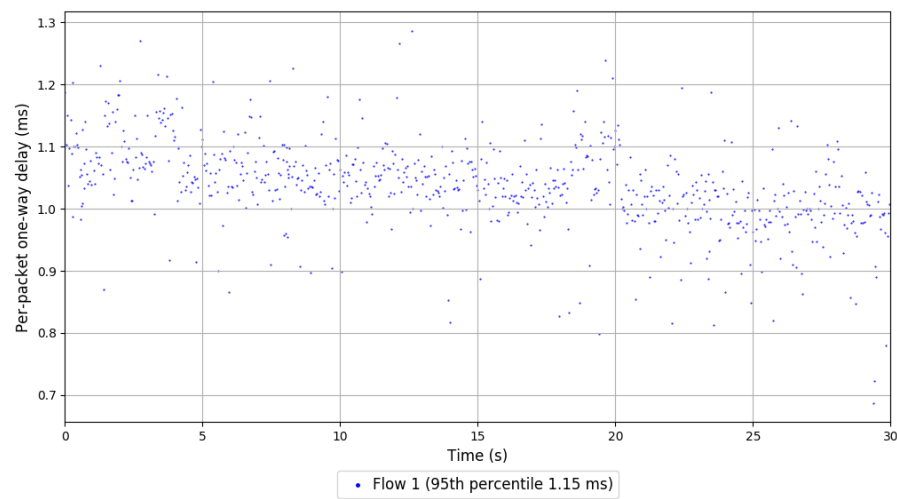
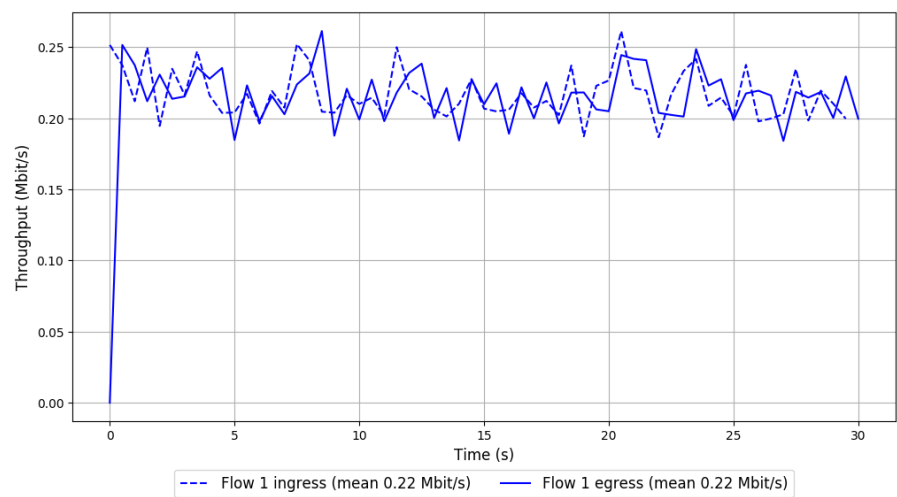


Run 3: Statistics of SCReAM

Start at: 2018-09-25 05:56:19  
End at: 2018-09-25 05:56:49  
Local clock offset: -24.269 ms  
Remote clock offset: -0.18 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.149 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.149 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

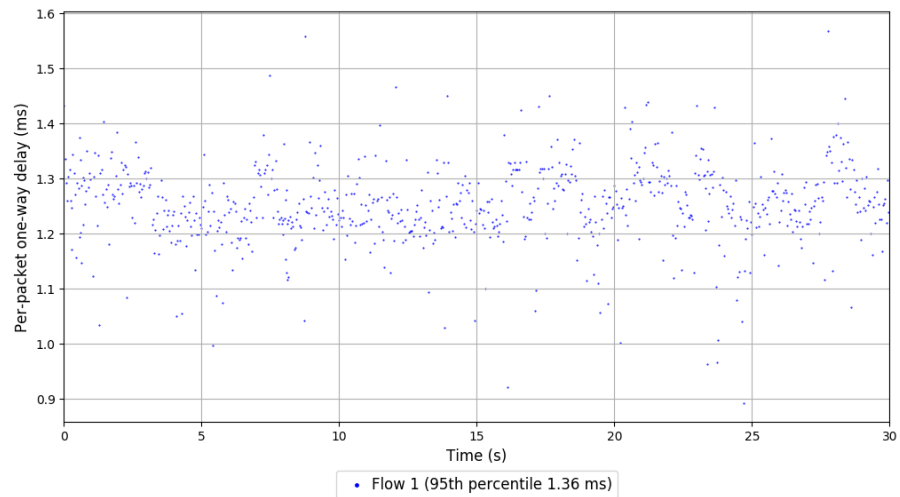
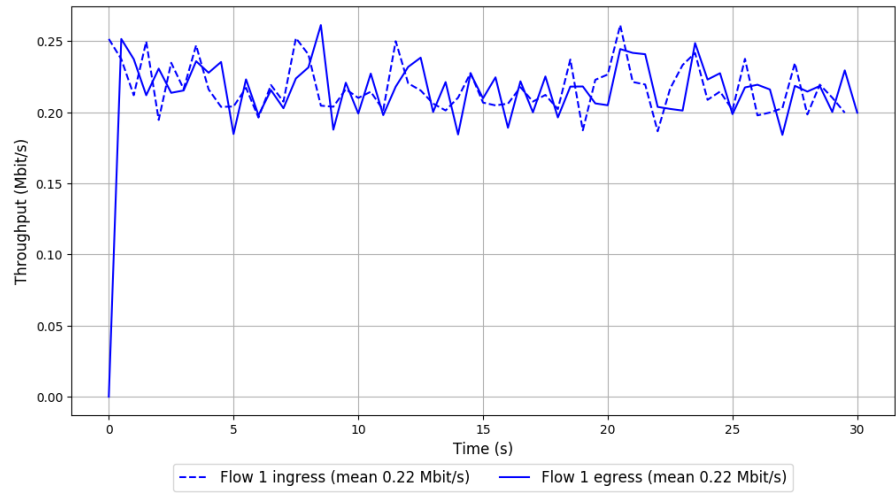


Run 4: Statistics of SCReAM

Start at: 2018-09-25 06:23:54  
End at: 2018-09-25 06:24:24  
Local clock offset: -14.922 ms  
Remote clock offset: -0.592 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.364 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.364 ms  
Loss rate: 0.00%

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



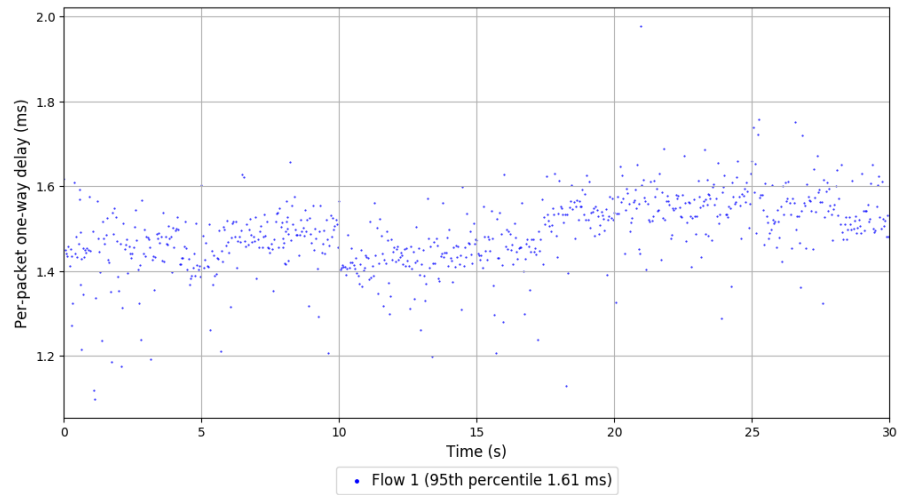
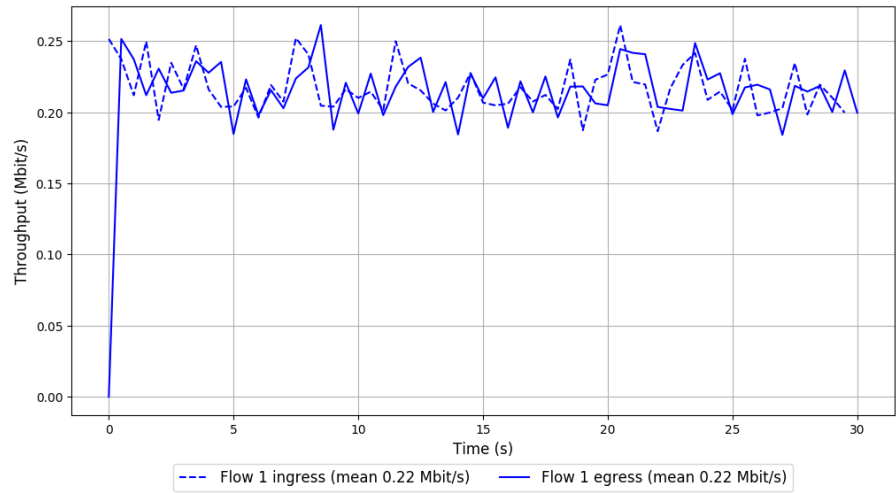


Run 5: Statistics of SCReAM

Start at: 2018-09-25 06:51:18  
End at: 2018-09-25 06:51:48  
Local clock offset: -6.355 ms  
Remote clock offset: -0.444 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.614 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.614 ms  
Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link

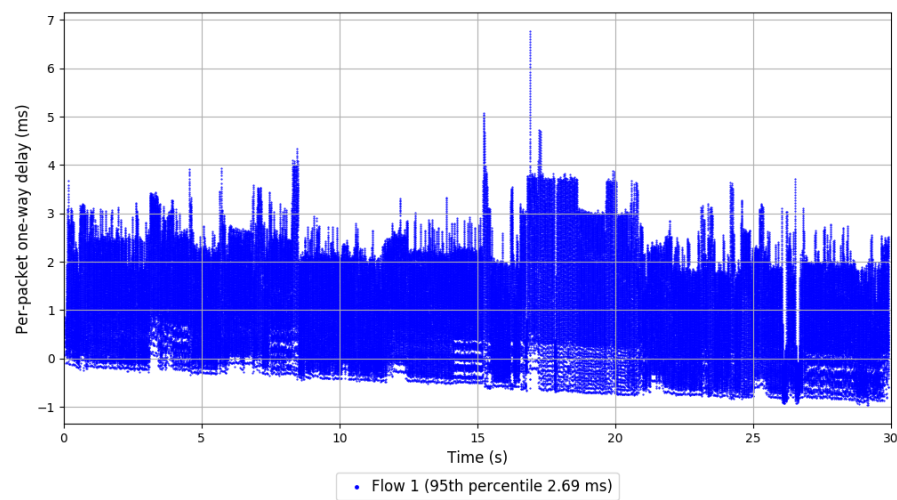
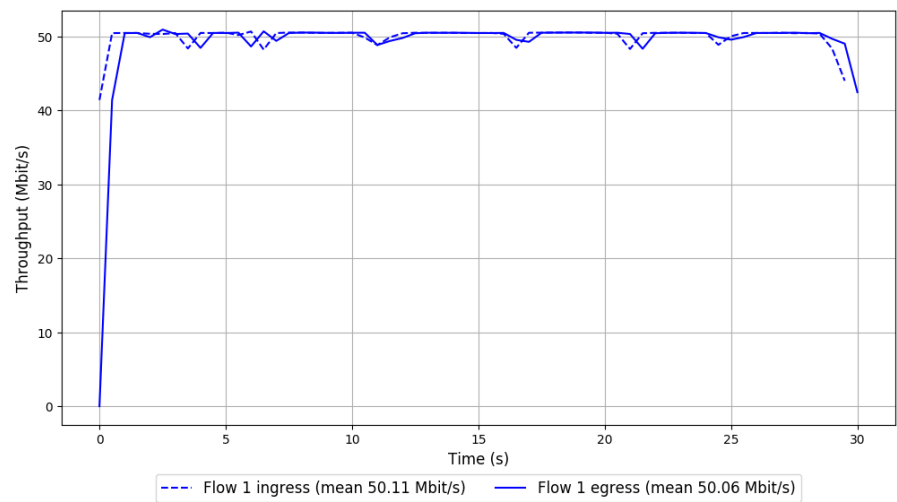


Run 1: Statistics of Sprout

Start at: 2018-09-25 05:07:53  
End at: 2018-09-25 05:08:23  
Local clock offset: -25.203 ms  
Remote clock offset: 3.83 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.06 Mbit/s  
95th percentile per-packet one-way delay: 2.685 ms  
Loss rate: 0.08%  
-- Flow 1:  
Average throughput: 50.06 Mbit/s  
95th percentile per-packet one-way delay: 2.685 ms  
Loss rate: 0.08%

Run 1: Report of Sprout — Data Link

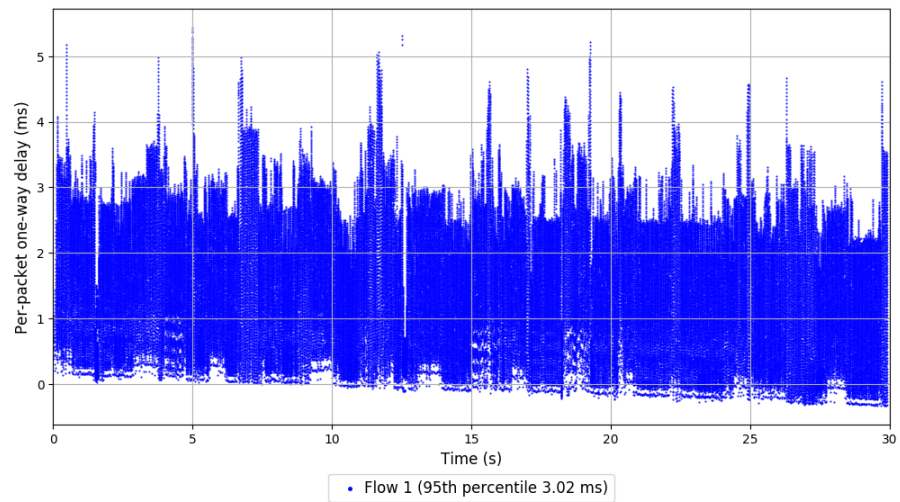
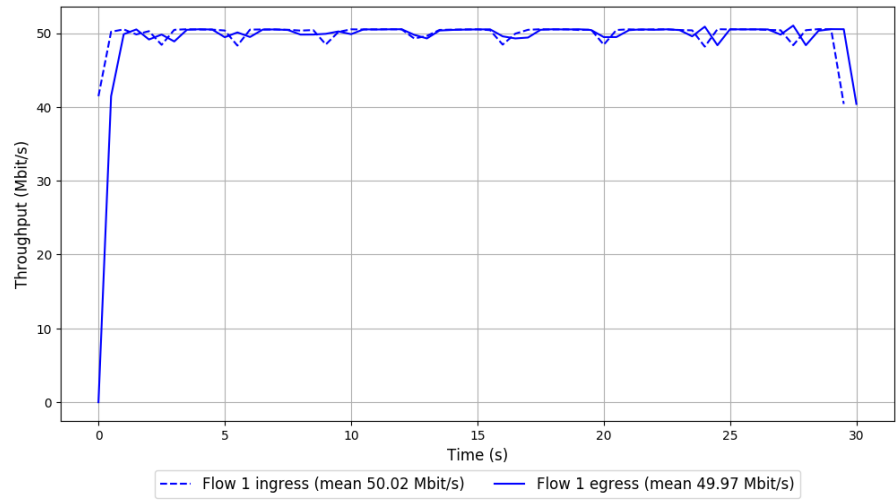


Run 2: Statistics of Sprout

Start at: 2018-09-25 05:35:47  
End at: 2018-09-25 05:36:17  
Local clock offset: -42.416 ms  
Remote clock offset: 4.023 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.97 Mbit/s  
95th percentile per-packet one-way delay: 3.017 ms  
Loss rate: 0.08%  
-- Flow 1:  
Average throughput: 49.97 Mbit/s  
95th percentile per-packet one-way delay: 3.017 ms  
Loss rate: 0.08%

## Run 2: Report of Sprout — Data Link

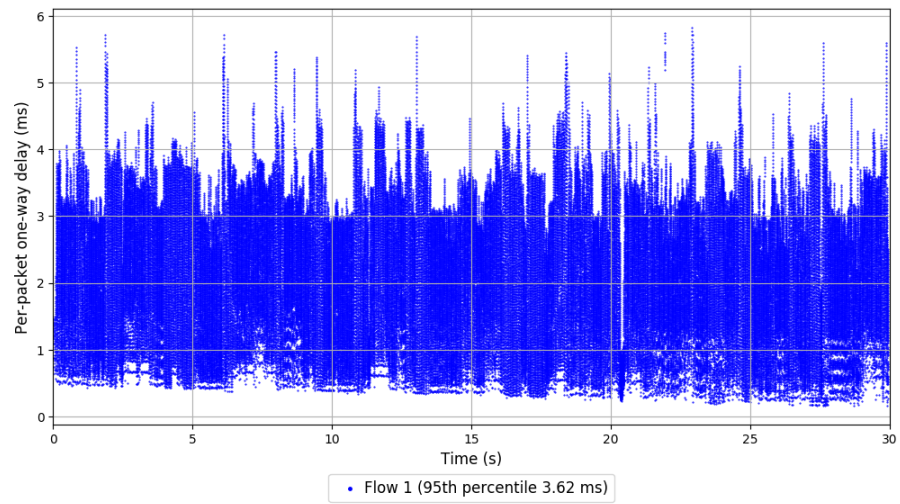
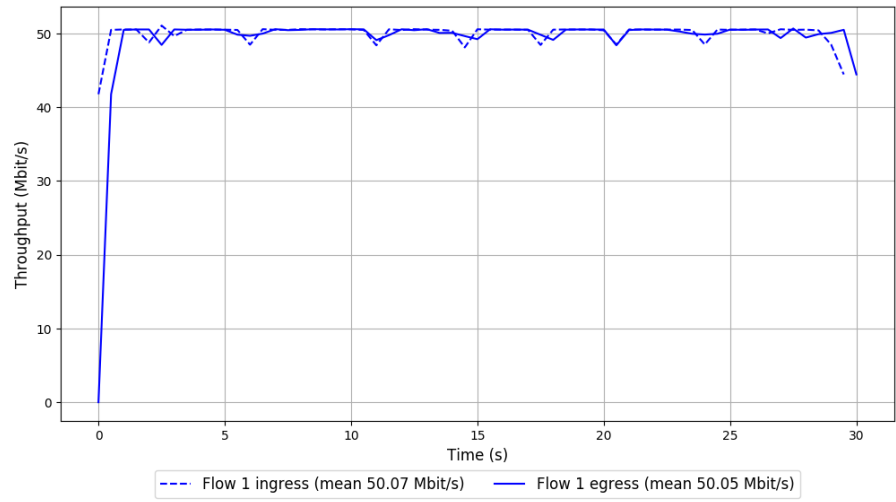


Run 3: Statistics of Sprout

Start at: 2018-09-25 06:03:28  
End at: 2018-09-25 06:03:58  
Local clock offset: -27.131 ms  
Remote clock offset: -0.573 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.05 Mbit/s  
95th percentile per-packet one-way delay: 3.623 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 50.05 Mbit/s  
95th percentile per-packet one-way delay: 3.623 ms  
Loss rate: 0.04%

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



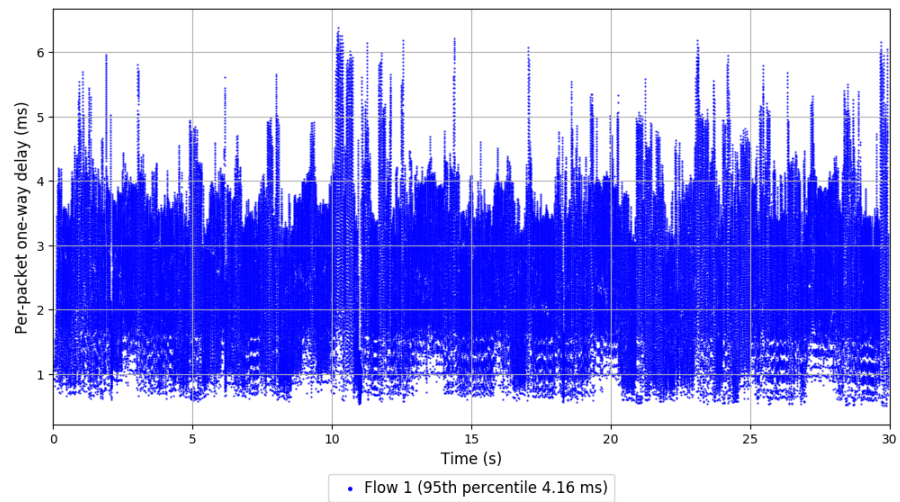
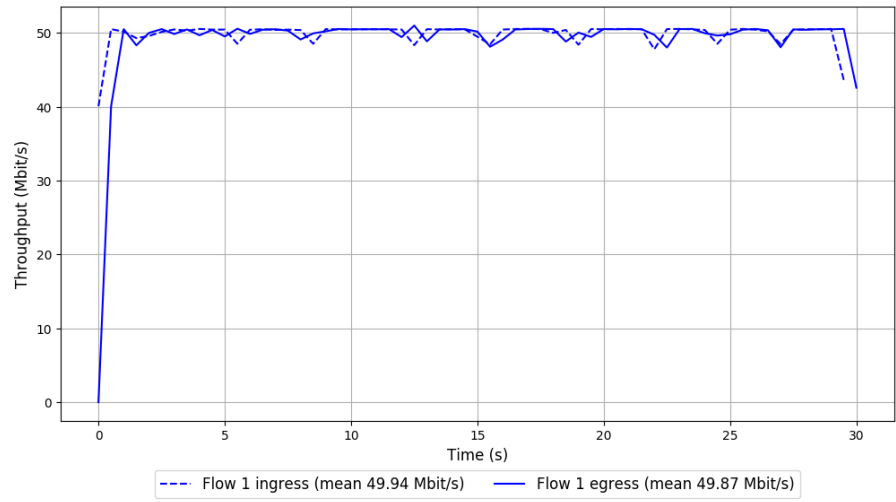


Run 4: Statistics of Sprout

Start at: 2018-09-25 06:31:08  
End at: 2018-09-25 06:31:38  
Local clock offset: -15.301 ms  
Remote clock offset: -0.691 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 49.87 Mbit/s  
95th percentile per-packet one-way delay: 4.158 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 49.87 Mbit/s  
95th percentile per-packet one-way delay: 4.158 ms  
Loss rate: 0.14%

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

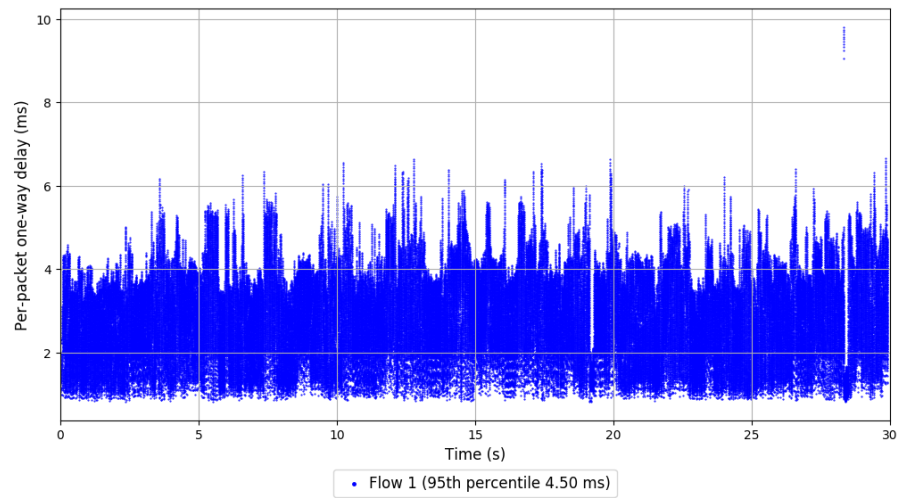
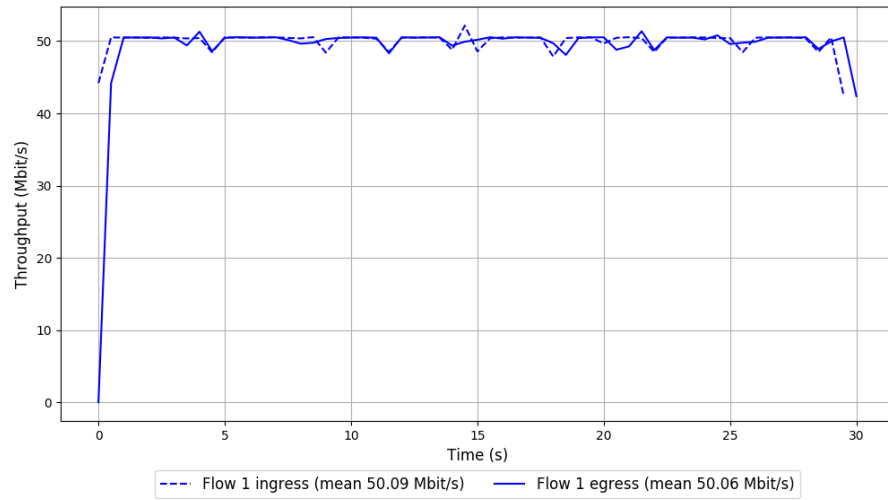


Run 5: Statistics of Sprout

Start at: 2018-09-25 06:58:29  
End at: 2018-09-25 06:58:59  
Local clock offset: -5.058 ms  
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.06 Mbit/s  
95th percentile per-packet one-way delay: 4.499 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 50.06 Mbit/s  
95th percentile per-packet one-way delay: 4.499 ms  
Loss rate: 0.05%

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

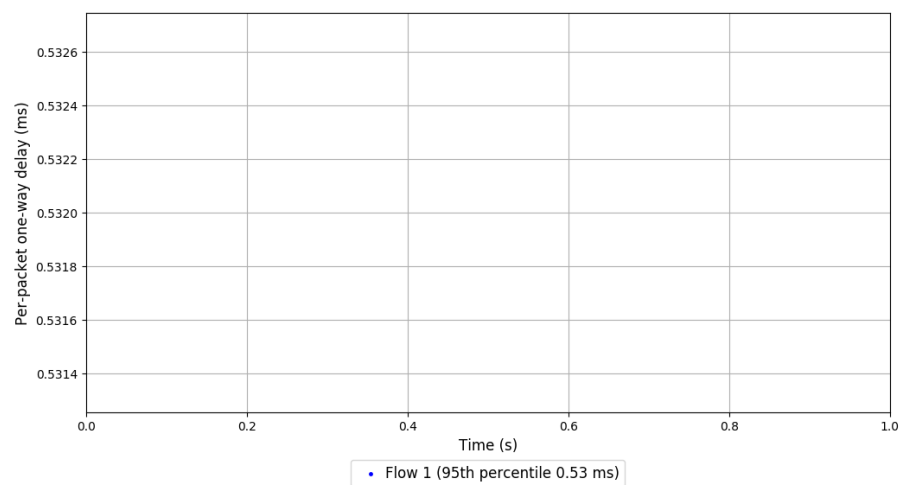
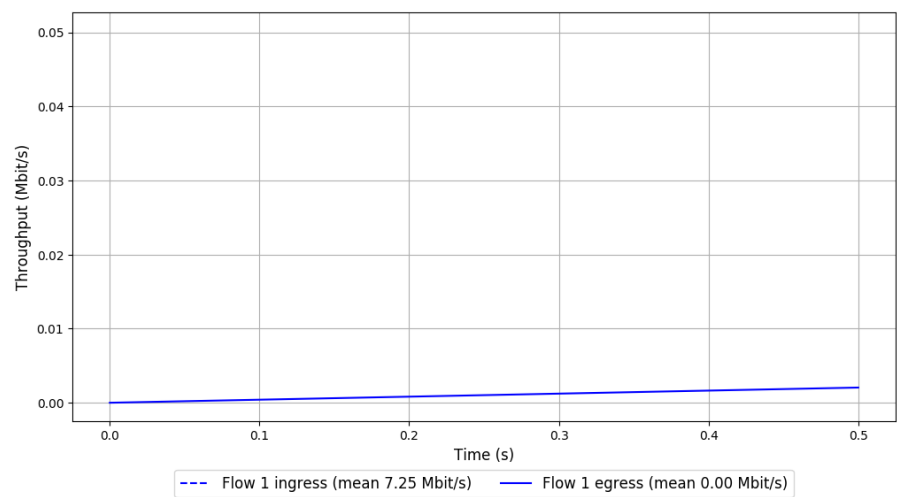
Start at: 2018-09-25 04:46:16

End at: 2018-09-25 04:46:46

Local clock offset: -8.137 ms

Remote clock offset: 3.787 ms

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



Run 2: Statistics of TaoVA-100x

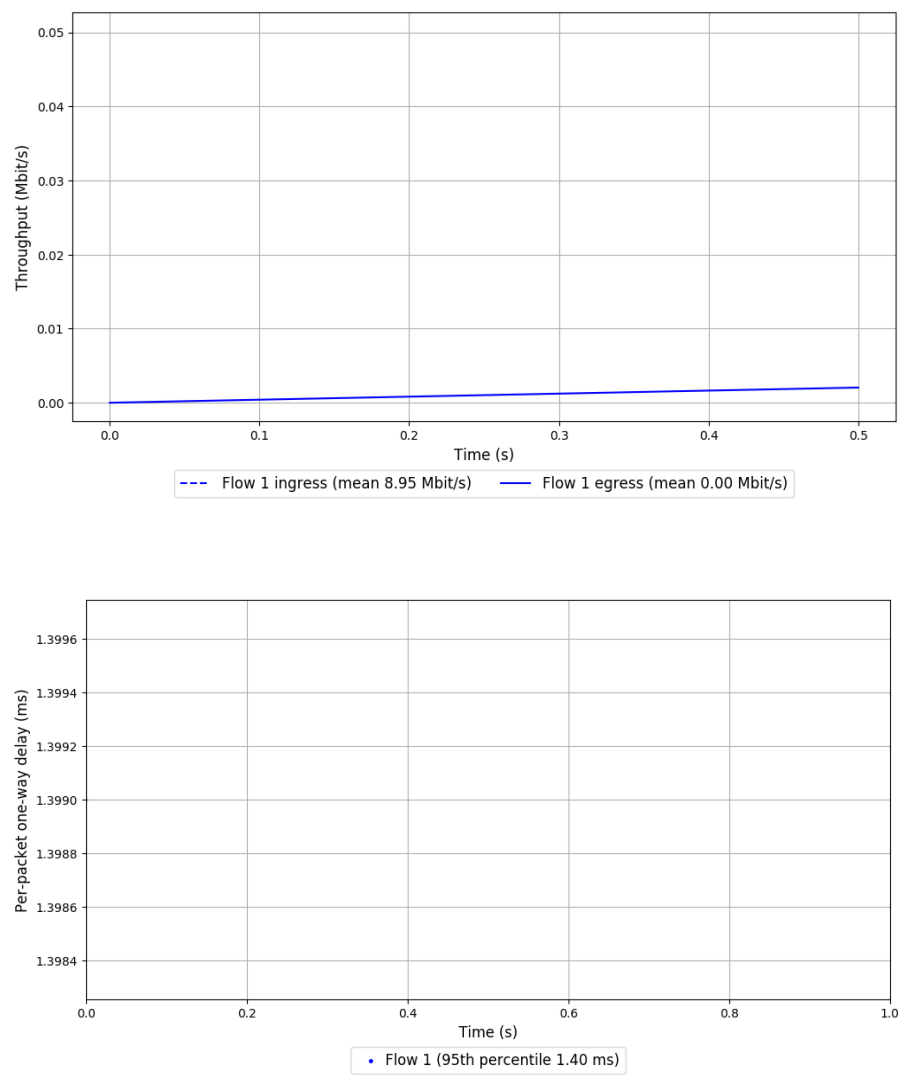
Start at: 2018-09-25 05:14:07

End at: 2018-09-25 05:14:37

Local clock offset: -23.618 ms

Remote clock offset: 3.693 ms

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





Run 3: Statistics of TaoVA-100x

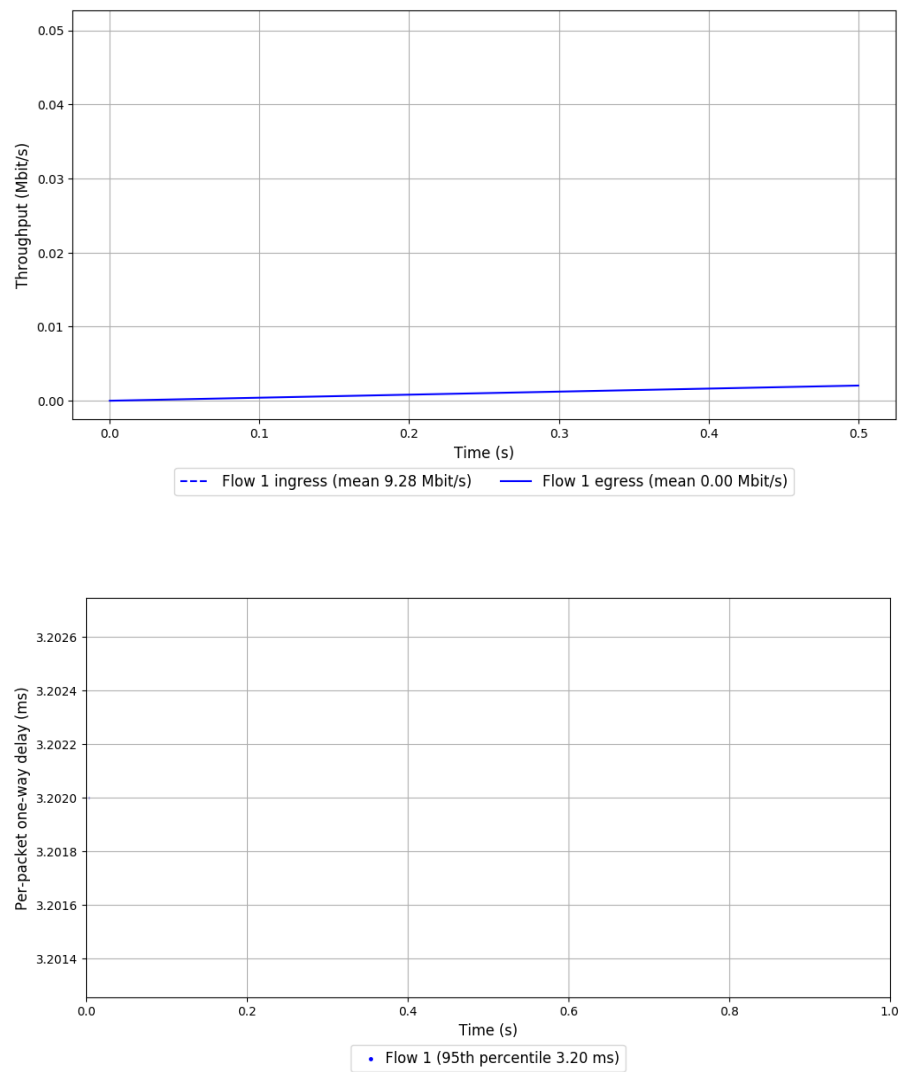
Start at: 2018-09-25 05:42:01

End at: 2018-09-25 05:42:31

Local clock offset: -39.398 ms

Remote clock offset: 1.707 ms

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



Run 4: Statistics of TaoVA-100x

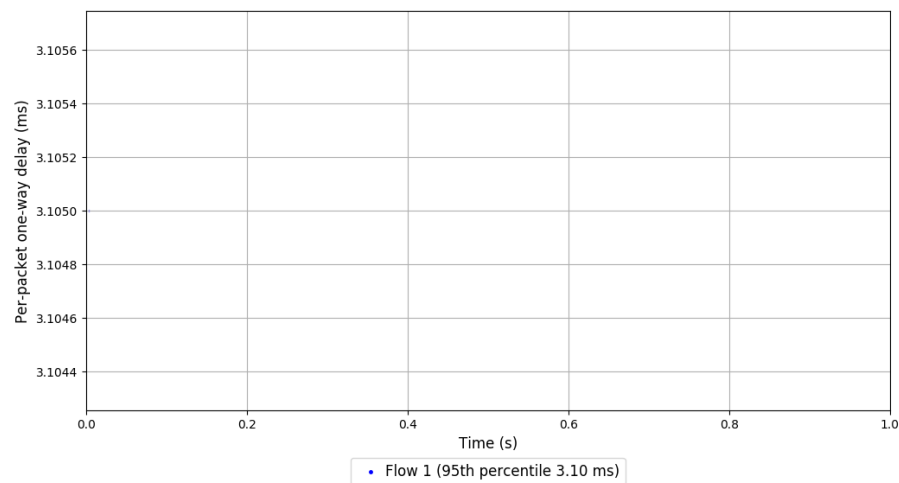
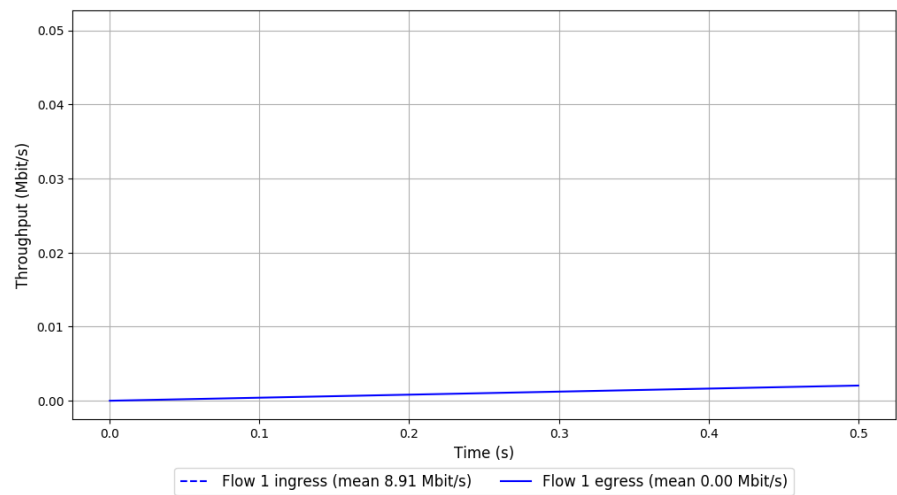
Start at: 2018-09-25 06:09:44

End at: 2018-09-25 06:10:14

Local clock offset: -31.468 ms

Remote clock offset: -0.961 ms

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



Run 5: Statistics of TaoVA-100x

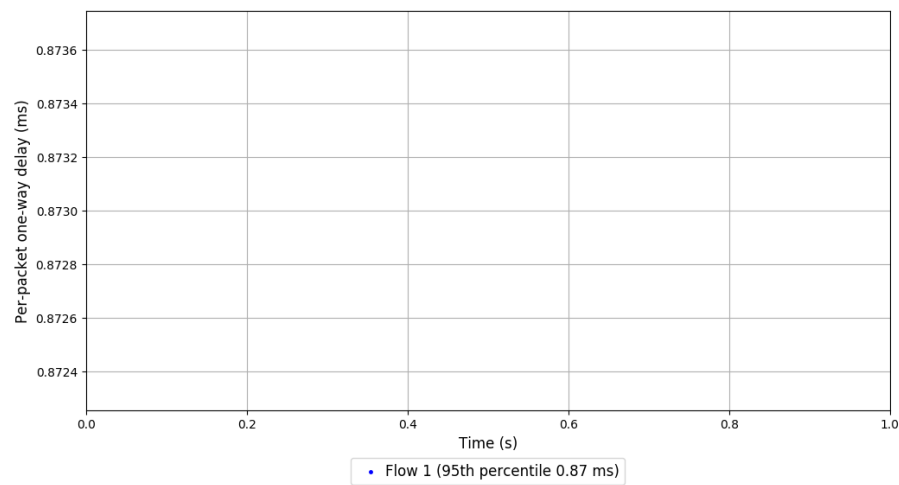
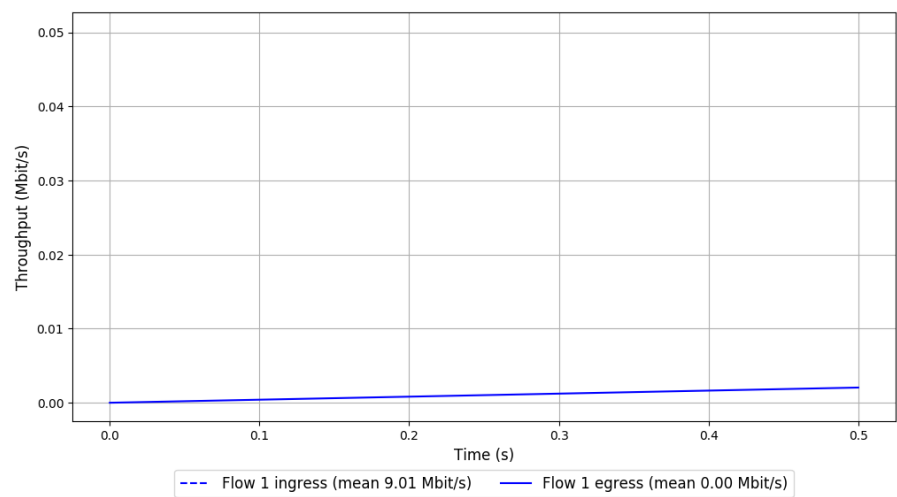
Start at: 2018-09-25 06:37:07

End at: 2018-09-25 06:37:37

Local clock offset: -17.068 ms

Remote clock offset: -0.74 ms

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-25 04:41:33

End at: 2018-09-25 04:42:03

Local clock offset: -2.939 ms

Remote clock offset: 3.729 ms

# Below is generated by plot.py at 2018-09-25 07:46:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 65.61 Mbit/s

95th percentile per-packet one-way delay: -0.101 ms

Loss rate: 0.51%

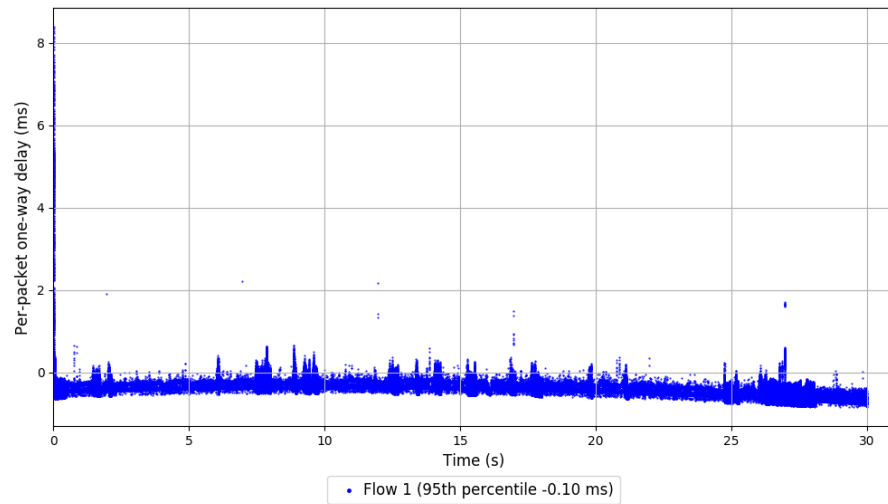
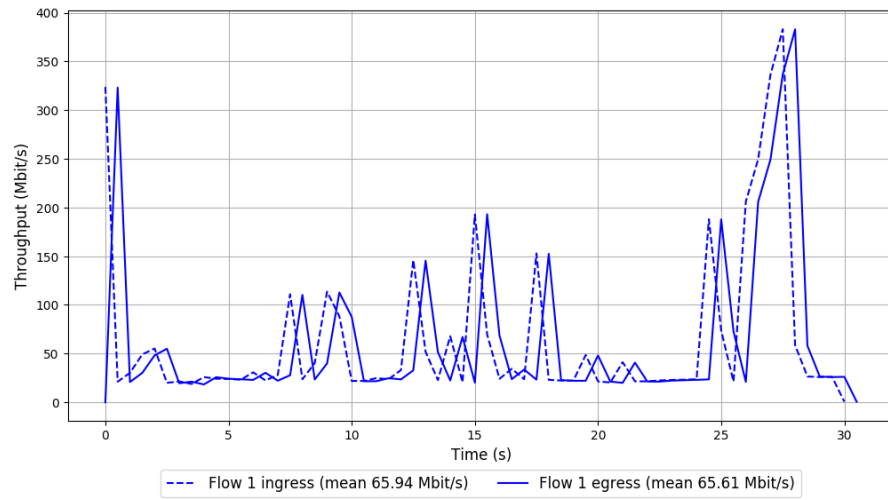
-- Flow 1:

Average throughput: 65.61 Mbit/s

95th percentile per-packet one-way delay: -0.101 ms

Loss rate: 0.51%

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



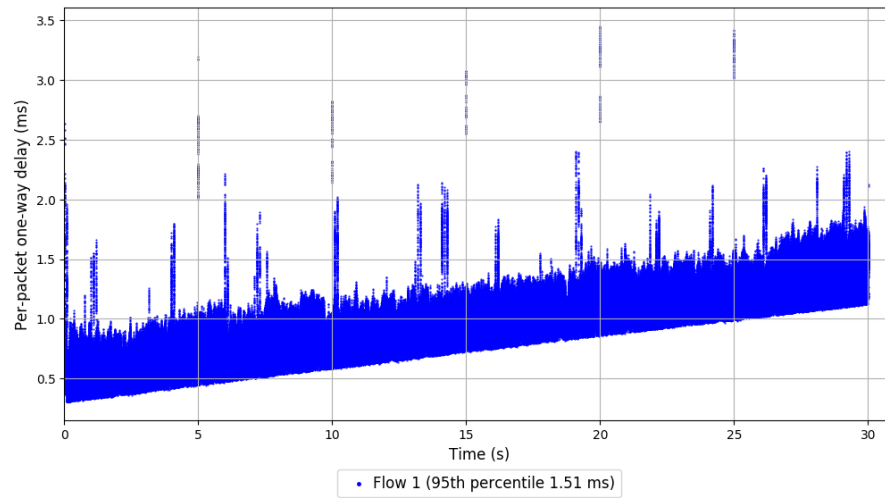
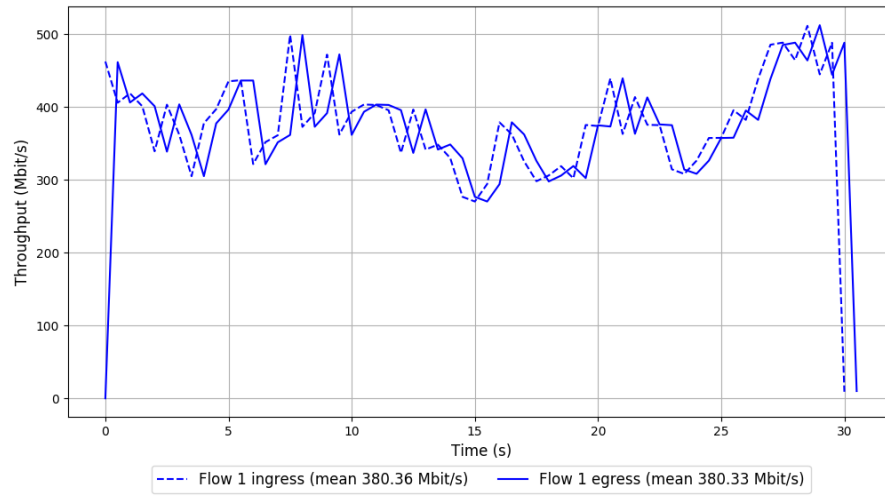


Run 2: Statistics of TCP Vegas

Start at: 2018-09-25 05:09:11  
End at: 2018-09-25 05:09:41  
Local clock offset: -27.385 ms  
Remote clock offset: 3.83 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 380.33 Mbit/s  
95th percentile per-packet one-way delay: 1.513 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 380.33 Mbit/s  
95th percentile per-packet one-way delay: 1.513 ms  
Loss rate: 0.01%

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

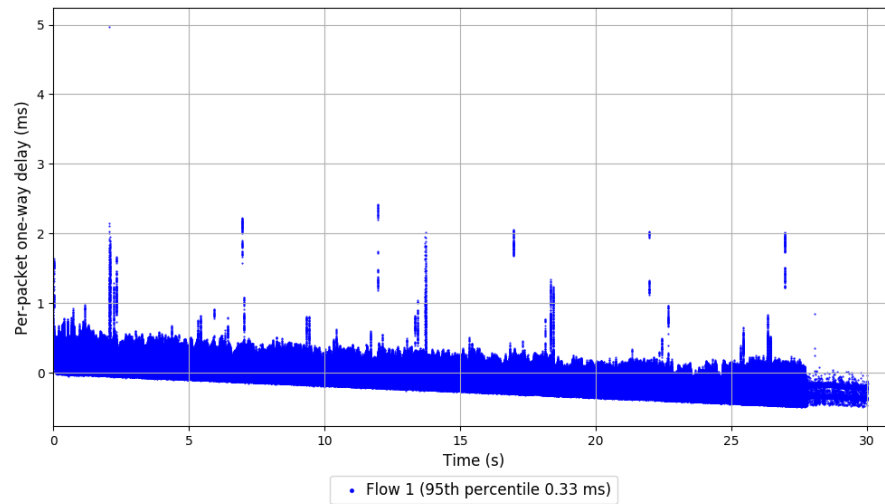
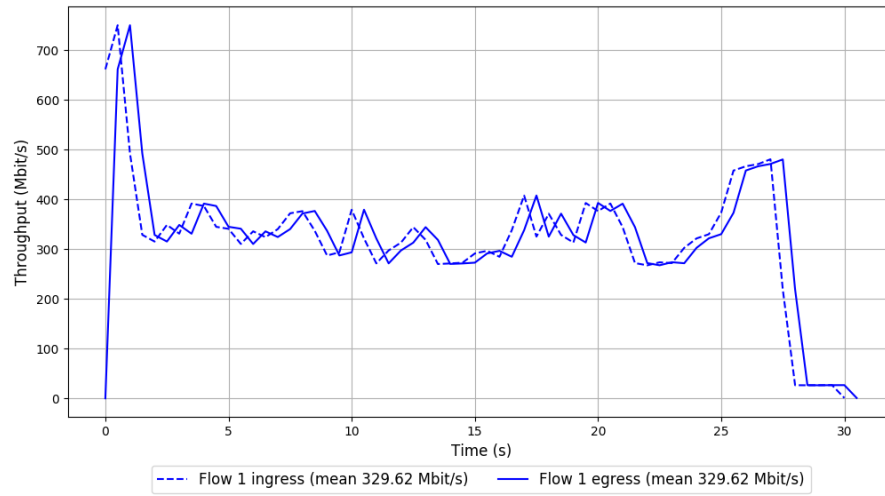


Run 3: Statistics of TCP Vegas

Start at: 2018-09-25 05:37:06  
End at: 2018-09-25 05:37:36  
Local clock offset: -44.185 ms  
Remote clock offset: 3.447 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 329.62 Mbit/s  
95th percentile per-packet one-way delay: 0.325 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 329.62 Mbit/s  
95th percentile per-packet one-way delay: 0.325 ms  
Loss rate: 0.00%

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

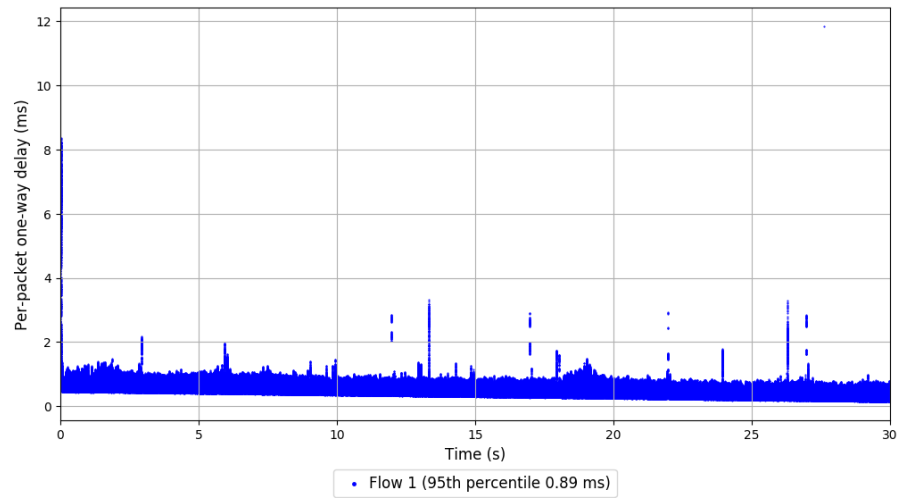
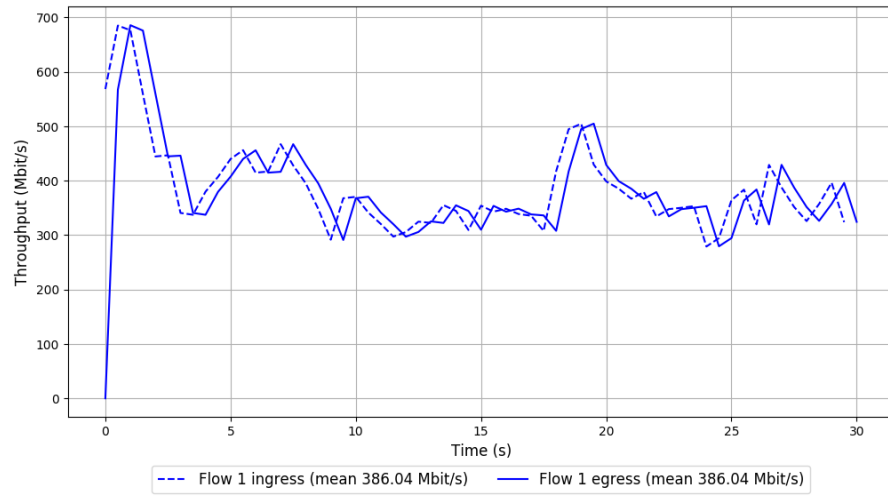


Run 4: Statistics of TCP Vegas

Start at: 2018-09-25 06:04:52  
End at: 2018-09-25 06:05:22  
Local clock offset: -28.122 ms  
Remote clock offset: -0.687 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 386.04 Mbit/s  
95th percentile per-packet one-way delay: 0.888 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 386.04 Mbit/s  
95th percentile per-packet one-way delay: 0.888 ms  
Loss rate: 0.00%

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

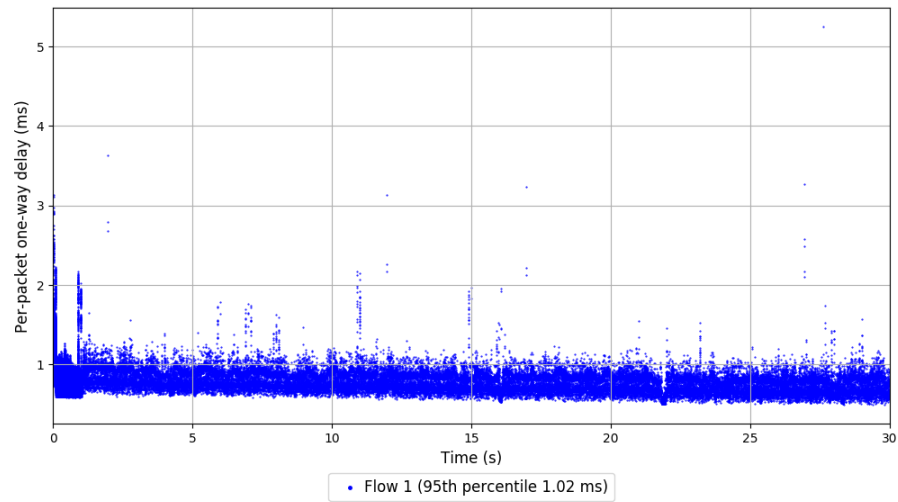
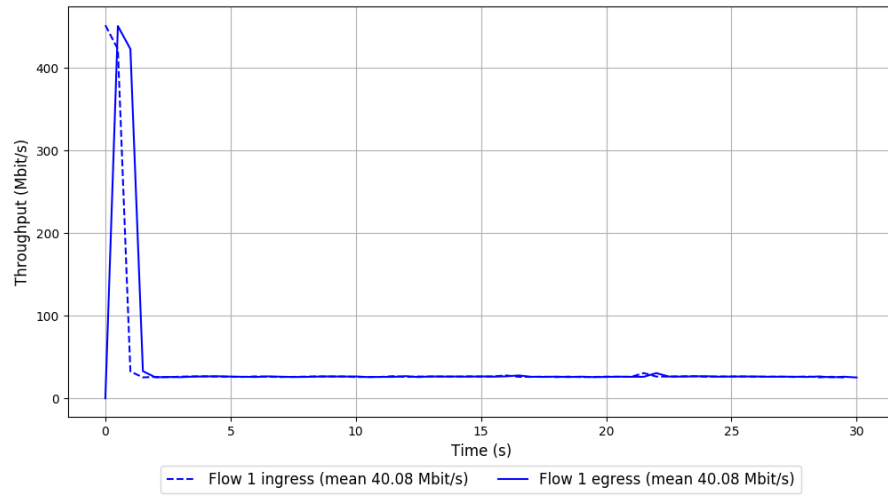


Run 5: Statistics of TCP Vegas

Start at: 2018-09-25 06:32:27  
End at: 2018-09-25 06:32:57  
Local clock offset: -15.659 ms  
Remote clock offset: -0.706 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 40.08 Mbit/s  
95th percentile per-packet one-way delay: 1.023 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 40.08 Mbit/s  
95th percentile per-packet one-way delay: 1.023 ms  
Loss rate: 0.01%

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



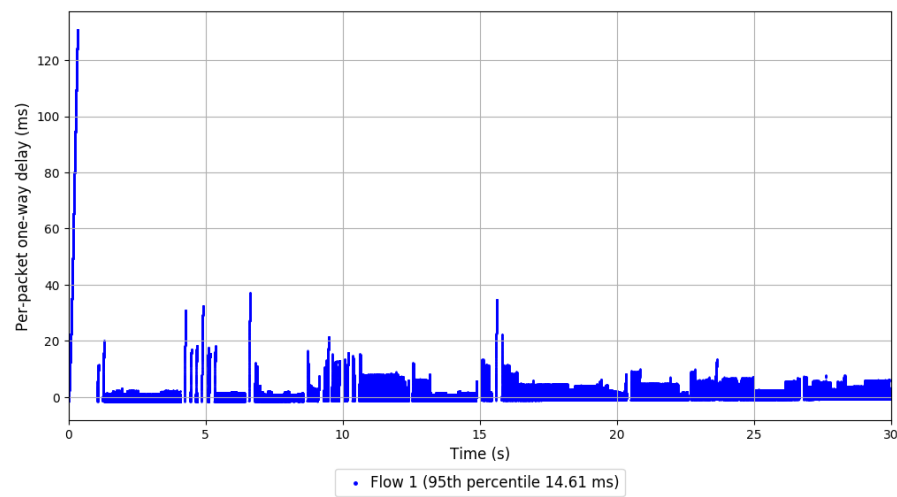
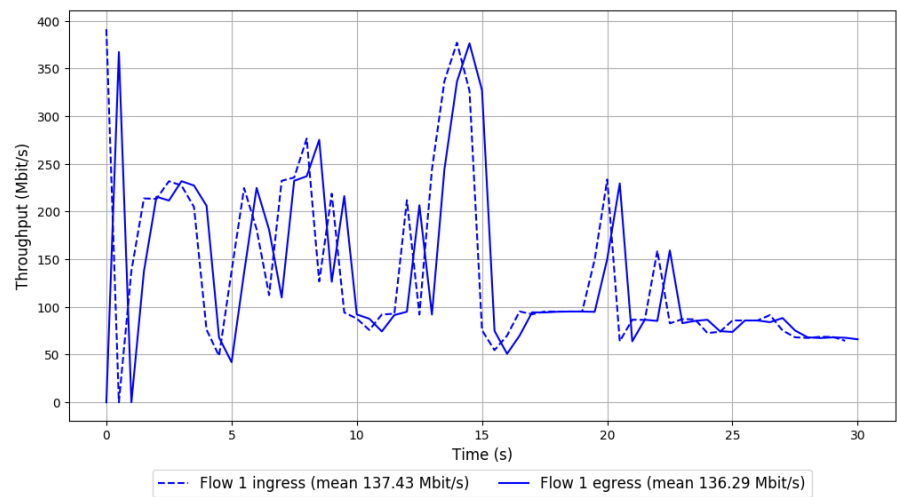


Run 1: Statistics of Verus

Start at: 2018-09-25 04:47:33  
End at: 2018-09-25 04:48:03  
Local clock offset: -10.993 ms  
Remote clock offset: 3.816 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 136.29 Mbit/s  
95th percentile per-packet one-way delay: 14.607 ms  
Loss rate: 0.82%  
-- Flow 1:  
Average throughput: 136.29 Mbit/s  
95th percentile per-packet one-way delay: 14.607 ms  
Loss rate: 0.82%

Run 1: Report of Verus — Data Link

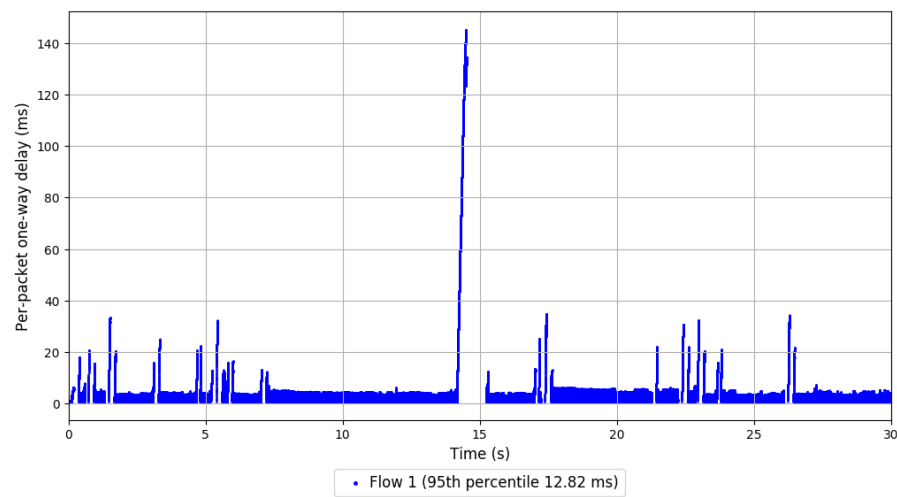
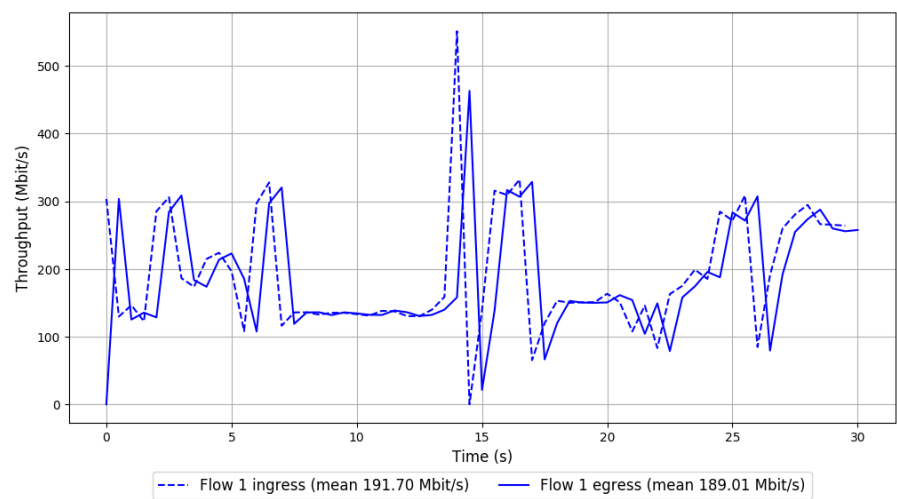


Run 2: Statistics of Verus

Start at: 2018-09-25 05:15:24  
End at: 2018-09-25 05:15:54  
Local clock offset: -23.325 ms  
Remote clock offset: 3.647 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 189.01 Mbit/s  
95th percentile per-packet one-way delay: 12.825 ms  
Loss rate: 1.40%  
-- Flow 1:  
Average throughput: 189.01 Mbit/s  
95th percentile per-packet one-way delay: 12.825 ms  
Loss rate: 1.40%

Run 2: Report of Verus — Data Link

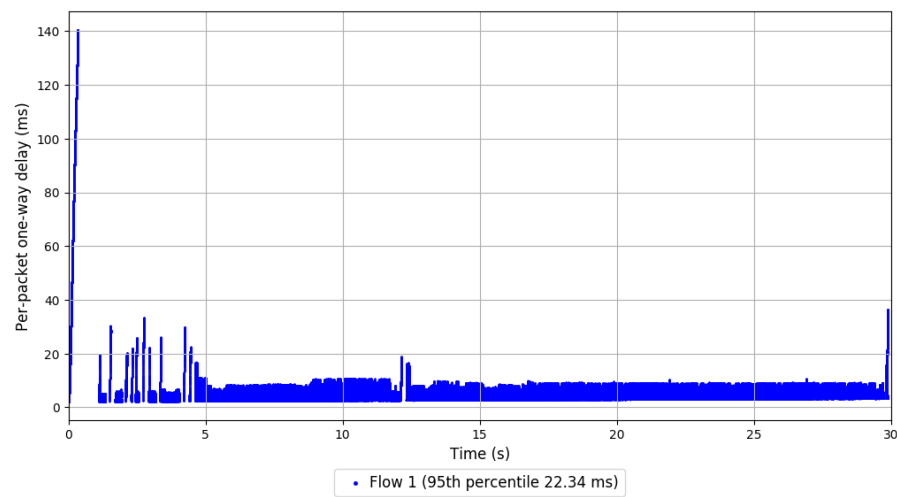
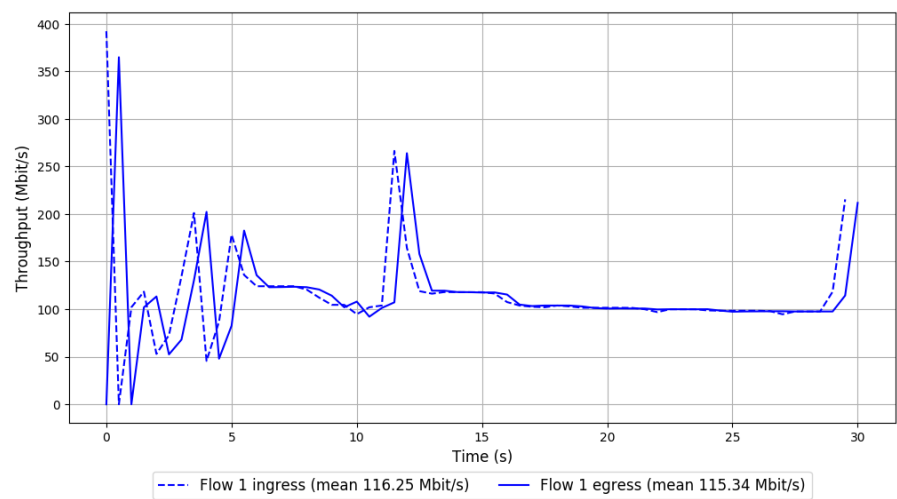


Run 3: Statistics of Verus

Start at: 2018-09-25 05:43:19  
End at: 2018-09-25 05:43:49  
Local clock offset: -35.234 ms  
Remote clock offset: 1.443 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 115.34 Mbit/s  
95th percentile per-packet one-way delay: 22.335 ms  
Loss rate: 0.78%  
-- Flow 1:  
Average throughput: 115.34 Mbit/s  
95th percentile per-packet one-way delay: 22.335 ms  
Loss rate: 0.78%

Run 3: Report of Verus — Data Link

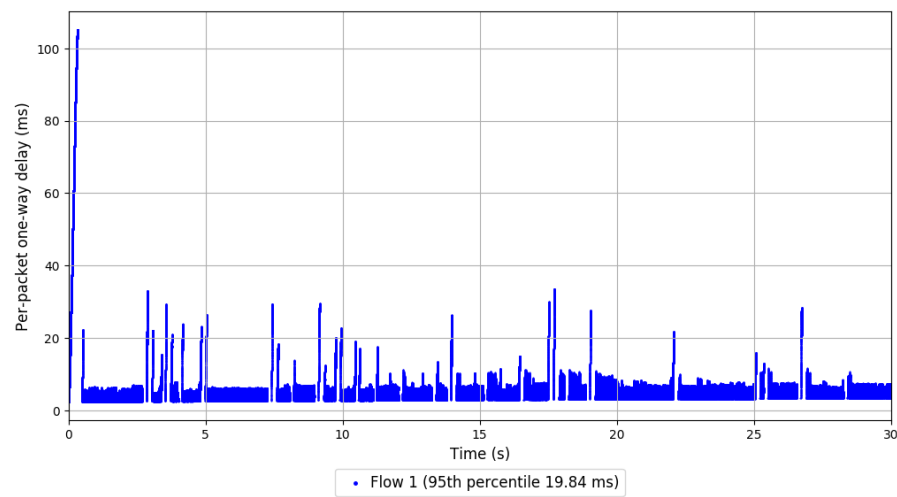
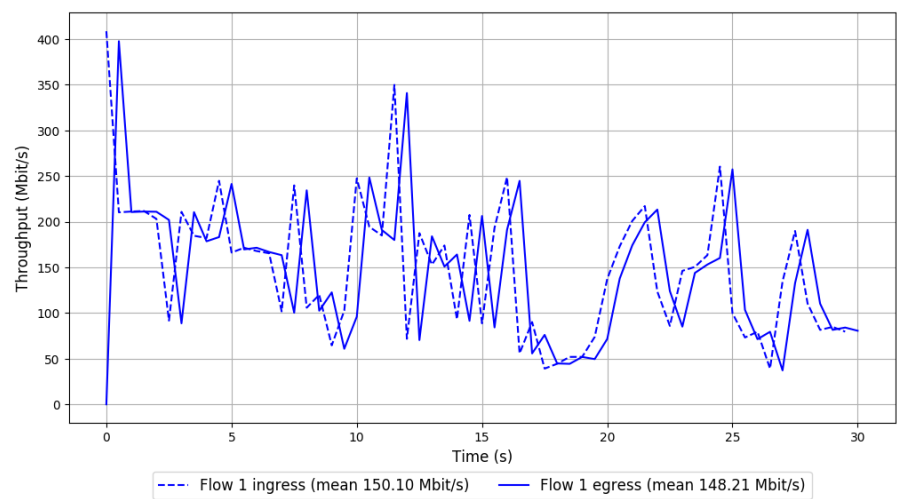


Run 4: Statistics of Verus

Start at: 2018-09-25 06:11:02  
End at: 2018-09-25 06:11:32  
Local clock offset: -28.027 ms  
Remote clock offset: -0.91 ms

# Below is generated by plot.py at 2018-09-25 07:46:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 148.21 Mbit/s  
95th percentile per-packet one-way delay: 19.842 ms  
Loss rate: 1.26%  
-- Flow 1:  
Average throughput: 148.21 Mbit/s  
95th percentile per-packet one-way delay: 19.842 ms  
Loss rate: 1.26%

Run 4: Report of Verus — Data Link



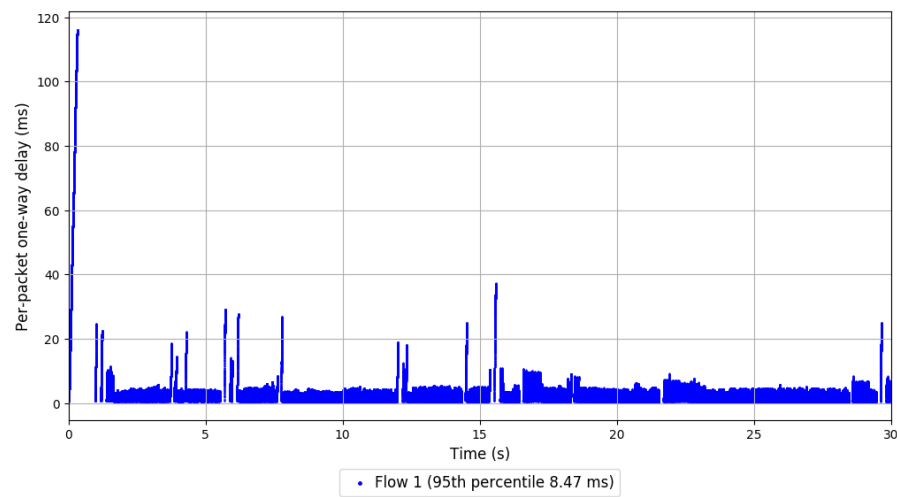
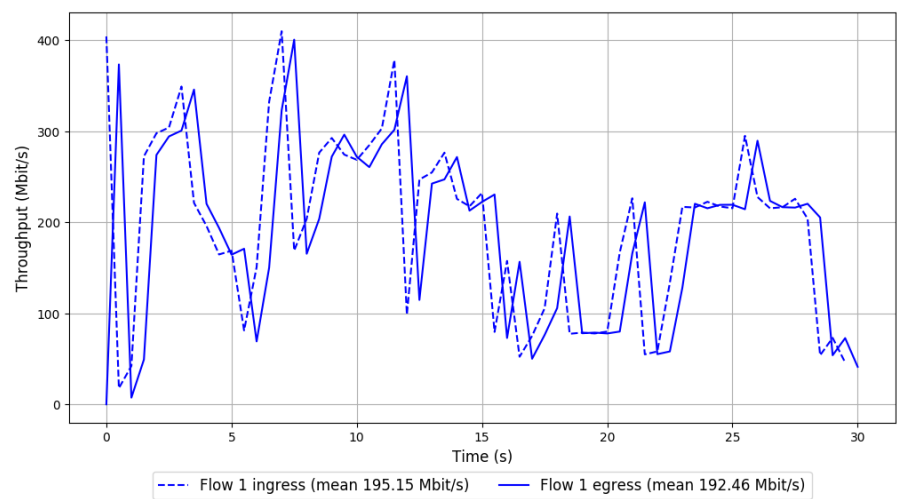


Run 5: Statistics of Verus

Start at: 2018-09-25 06:38:25  
End at: 2018-09-25 06:38:56  
Local clock offset: -17.574 ms  
Remote clock offset: -0.694 ms

# Below is generated by plot.py at 2018-09-25 07:46:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 192.46 Mbit/s  
95th percentile per-packet one-way delay: 8.467 ms  
Loss rate: 1.36%  
-- Flow 1:  
Average throughput: 192.46 Mbit/s  
95th percentile per-packet one-way delay: 8.467 ms  
Loss rate: 1.36%

Run 5: Report of Verus — Data Link

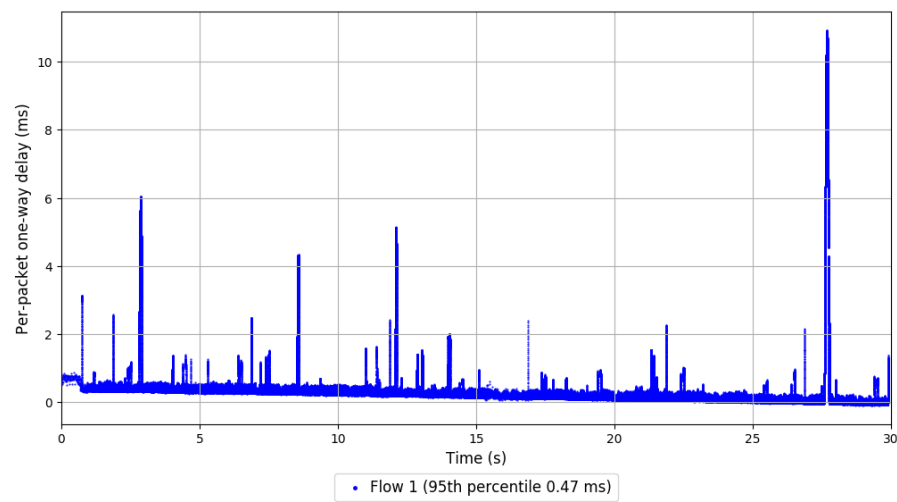
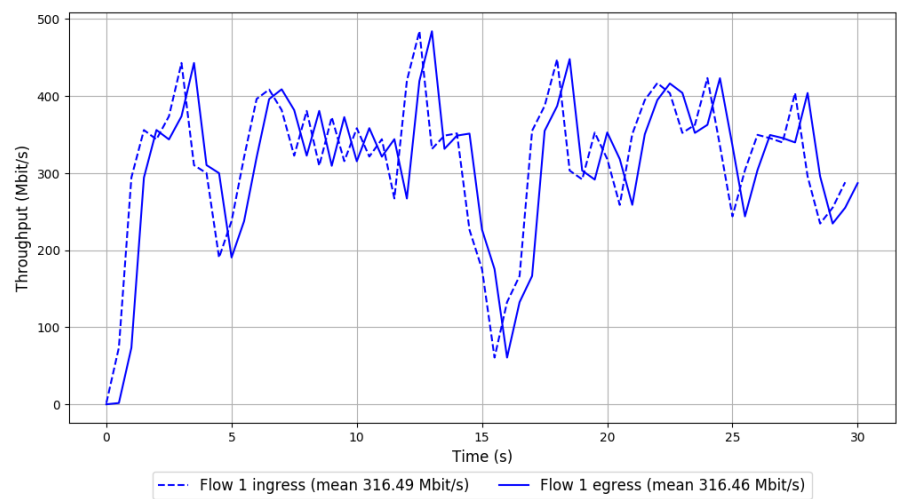


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-25 05:03:14  
End at: 2018-09-25 05:03:44  
Local clock offset: -19.755 ms  
Remote clock offset: 4.243 ms

# Below is generated by plot.py at 2018-09-25 07:48:20  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 316.46 Mbit/s  
95th percentile per-packet one-way delay: 0.474 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 316.46 Mbit/s  
95th percentile per-packet one-way delay: 0.474 ms  
Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link

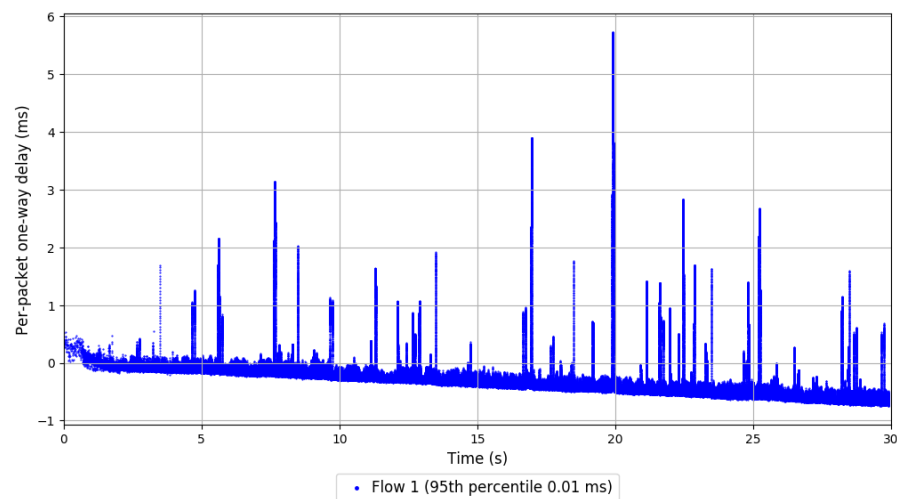
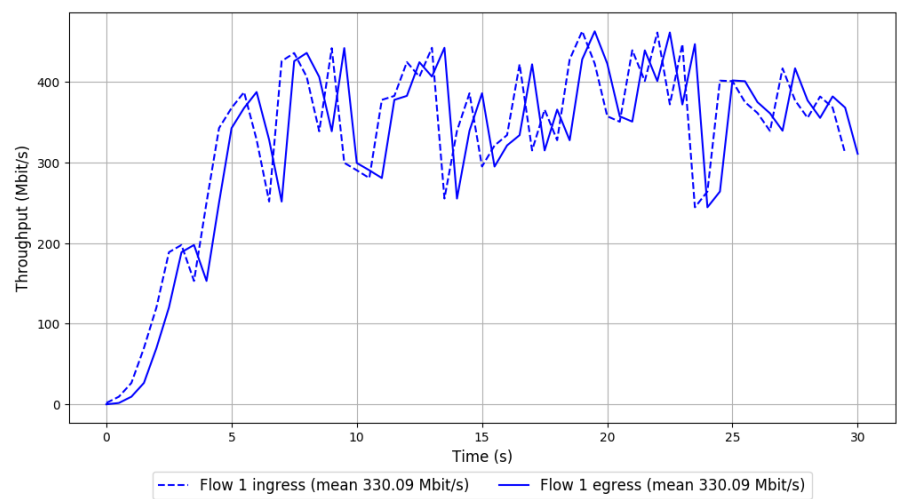


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-25 05:31:07  
End at: 2018-09-25 05:31:37  
Local clock offset: -35.914 ms  
Remote clock offset: 3.889 ms

# Below is generated by plot.py at 2018-09-25 07:48:34  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 330.09 Mbit/s  
95th percentile per-packet one-way delay: 0.006 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 330.09 Mbit/s  
95th percentile per-packet one-way delay: 0.006 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

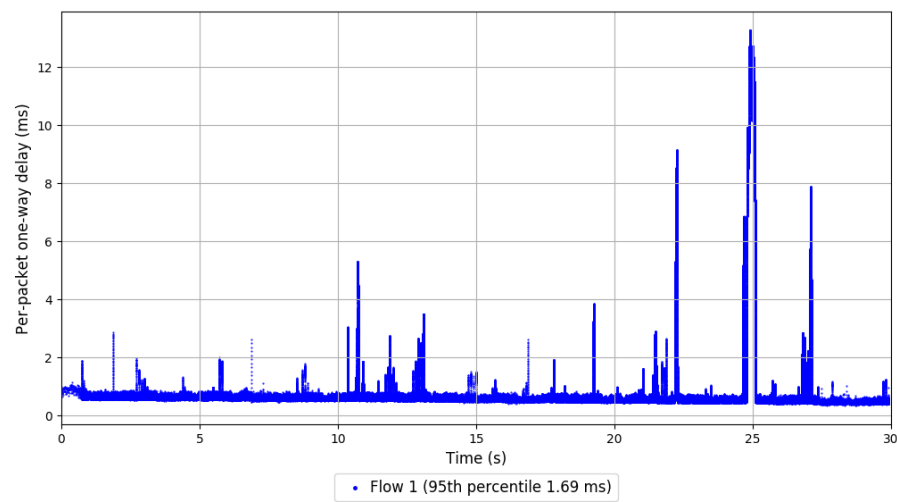
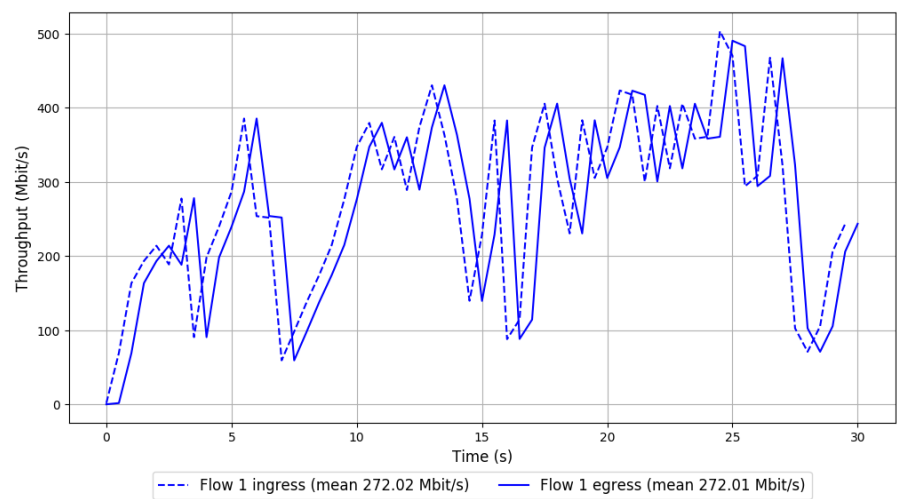


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-25 05:58:55  
End at: 2018-09-25 05:59:25  
Local clock offset: -25.027 ms  
Remote clock offset: -0.413 ms

# Below is generated by plot.py at 2018-09-25 07:48:34  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 272.01 Mbit/s  
95th percentile per-packet one-way delay: 1.686 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 272.01 Mbit/s  
95th percentile per-packet one-way delay: 1.686 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



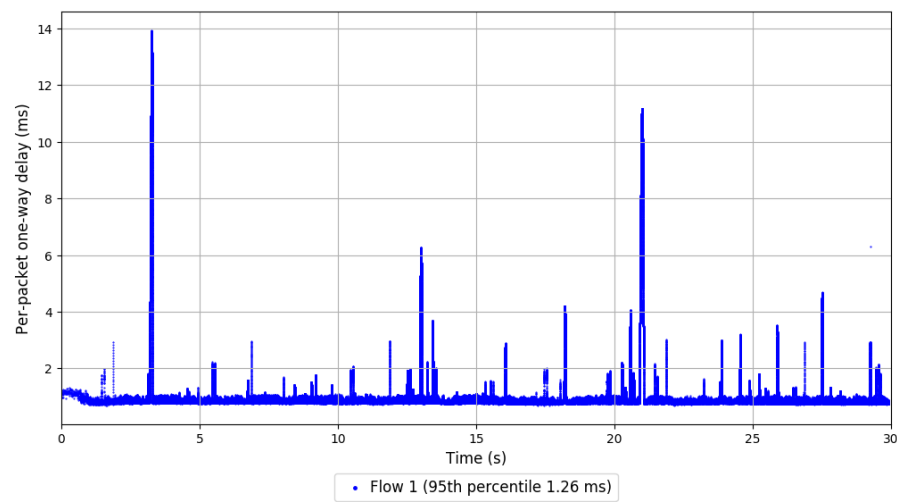
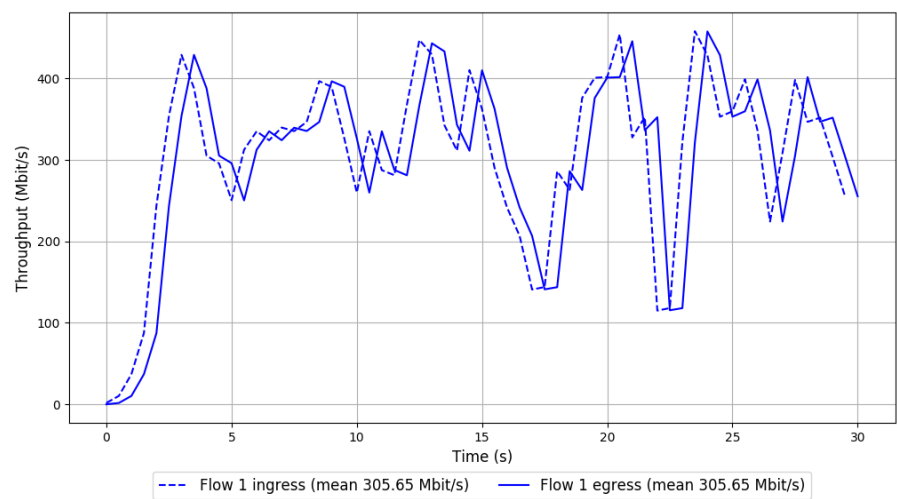


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-25 06:26:30  
End at: 2018-09-25 06:27:00  
Local clock offset: -14.763 ms  
Remote clock offset: -0.598 ms

# Below is generated by plot.py at 2018-09-25 07:48:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 305.65 Mbit/s  
95th percentile per-packet one-way delay: 1.257 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 305.65 Mbit/s  
95th percentile per-packet one-way delay: 1.257 ms  
Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link

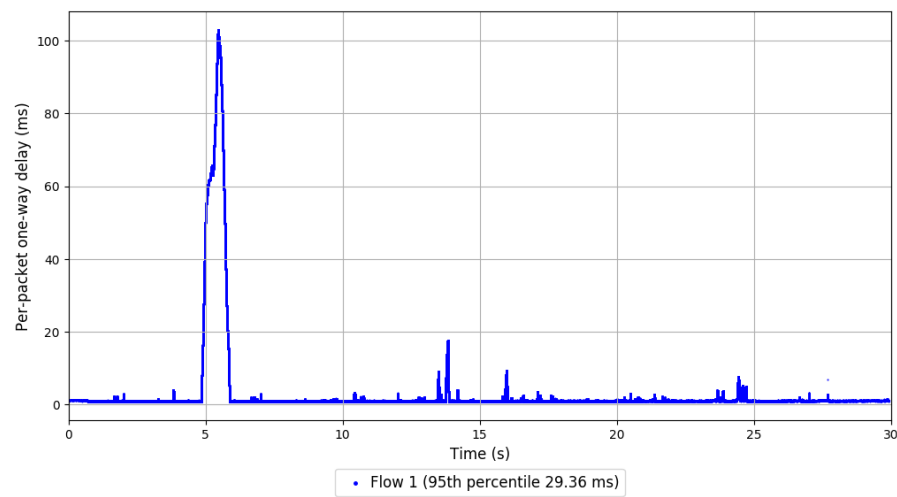
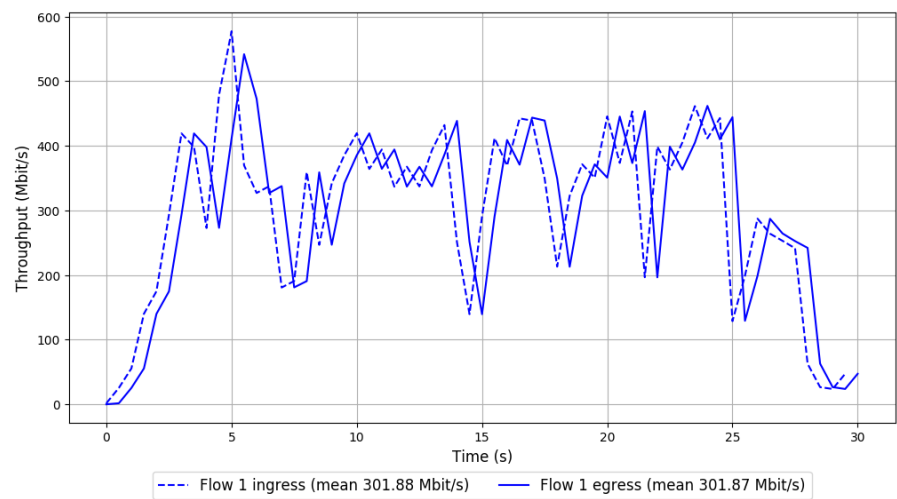


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-25 06:53:54  
End at: 2018-09-25 06:54:24  
Local clock offset: -5.596 ms  
Remote clock offset: -0.484 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 301.87 Mbit/s  
95th percentile per-packet one-way delay: 29.364 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 301.87 Mbit/s  
95th percentile per-packet one-way delay: 29.364 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

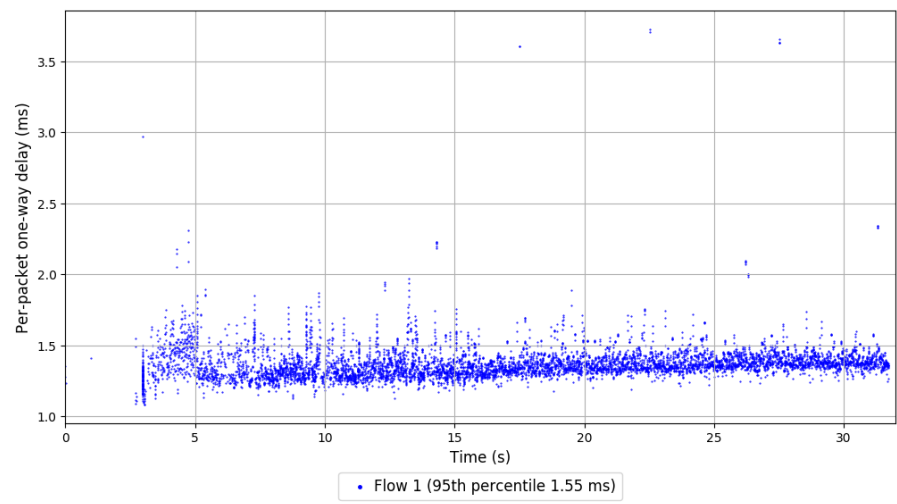
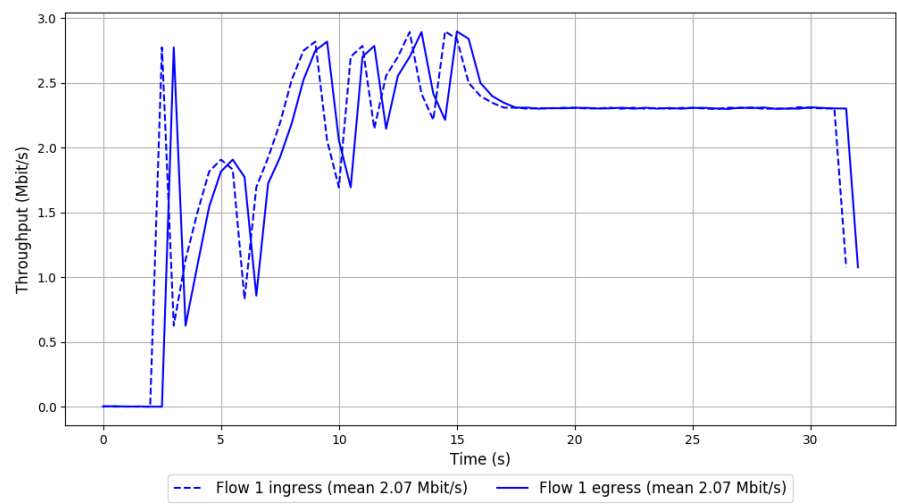


Run 1: Statistics of WebRTC media

Start at: 2018-09-25 04:59:21  
End at: 2018-09-25 04:59:51  
Local clock offset: -19.332 ms  
Remote clock offset: 4.336 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.07 Mbit/s  
95th percentile per-packet one-way delay: 1.552 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.07 Mbit/s  
95th percentile per-packet one-way delay: 1.552 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

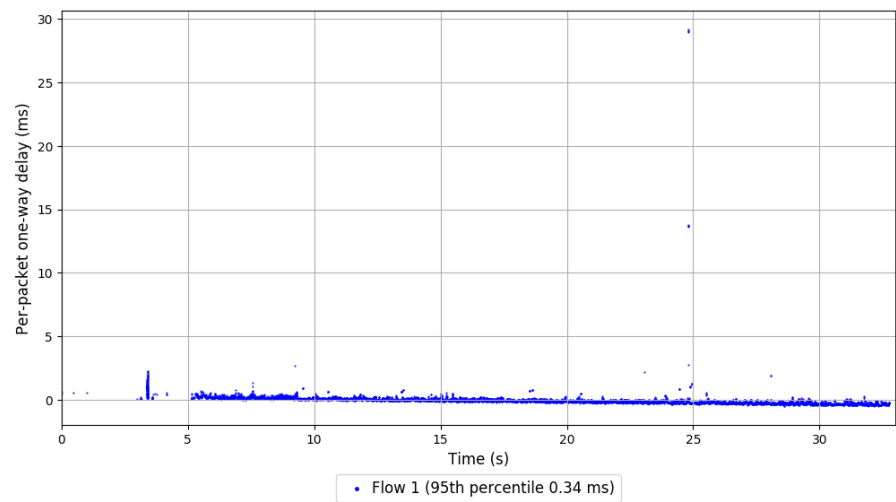
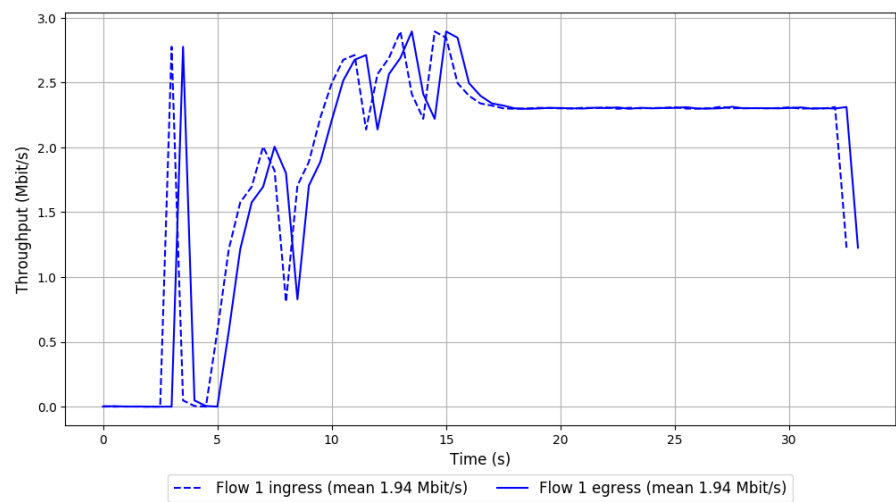


Run 2: Statistics of WebRTC media

Start at: 2018-09-25 05:27:14  
End at: 2018-09-25 05:27:44  
Local clock offset: -31.218 ms  
Remote clock offset: 3.778 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 0.339 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 0.339 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



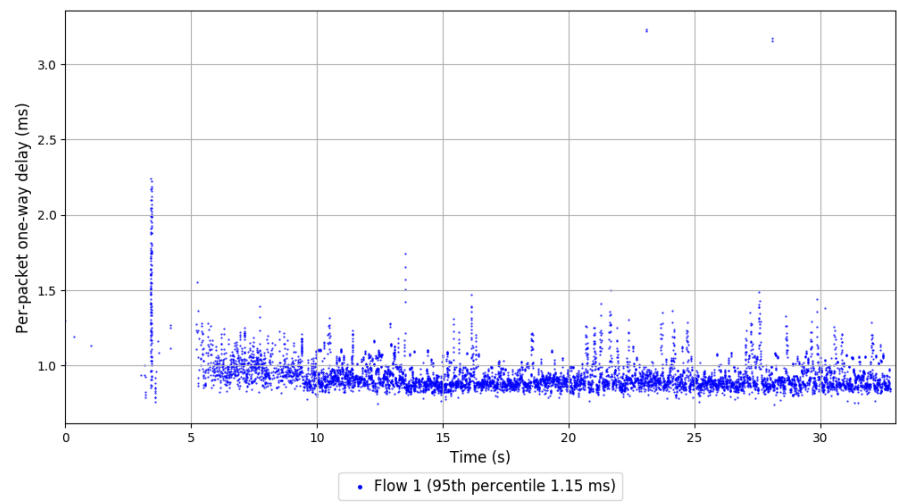
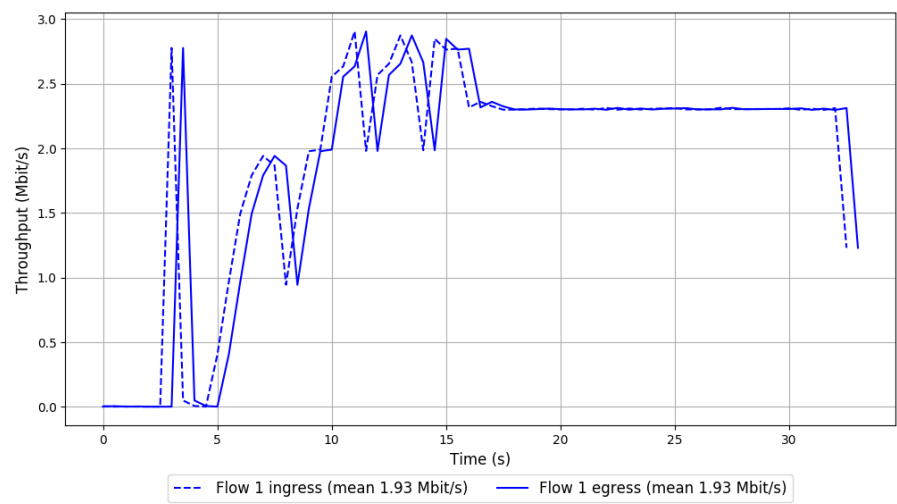


Run 3: Statistics of WebRTC media

Start at: 2018-09-25 05:55:01  
End at: 2018-09-25 05:55:31  
Local clock offset: -24.141 ms  
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 1.153 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 1.153 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

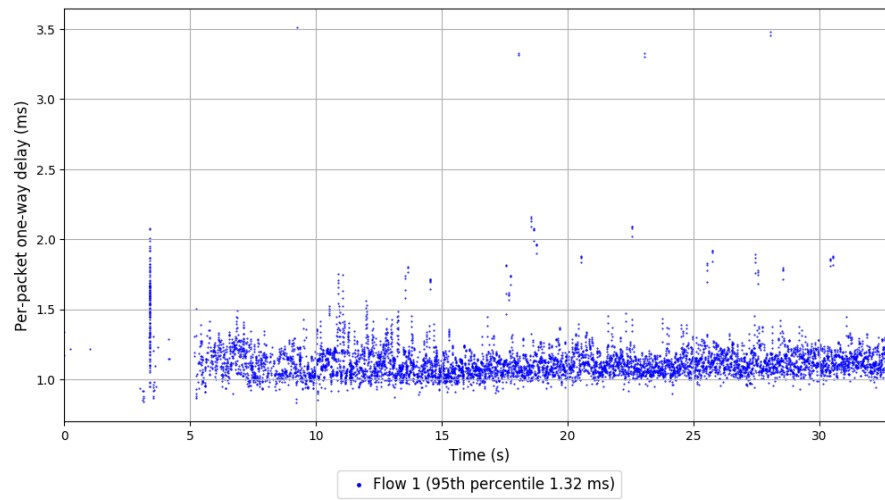
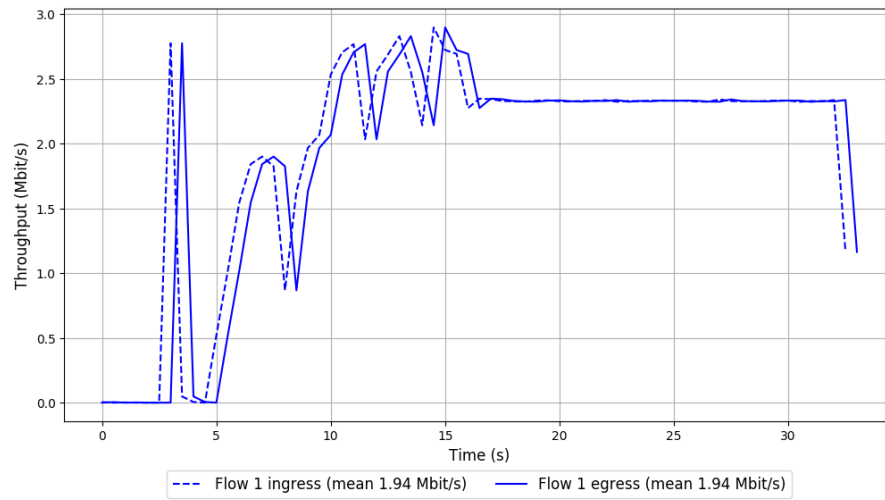


Run 4: Statistics of WebRTC media

Start at: 2018-09-25 06:22:36  
End at: 2018-09-25 06:23:06  
Local clock offset: -15.163 ms  
Remote clock offset: -0.623 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 1.325 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.94 Mbit/s  
95th percentile per-packet one-way delay: 1.325 ms  
Loss rate: 0.00%

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



Run 5: Statistics of WebRTC media

Start at: 2018-09-25 06:49:59  
End at: 2018-09-25 06:50:29  
Local clock offset: -6.872 ms  
Remote clock offset: -0.467 ms

# Below is generated by plot.py at 2018-09-25 07:48:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.10 Mbit/s  
95th percentile per-packet one-way delay: 1.518 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 2.10 Mbit/s  
95th percentile per-packet one-way delay: 1.518 ms  
Loss rate: 0.03%

Run 5: Report of WebRTC media — Data Link

