

## Pantheon Report

Generated at 2018-09-11 01:29:10 (UTC).

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

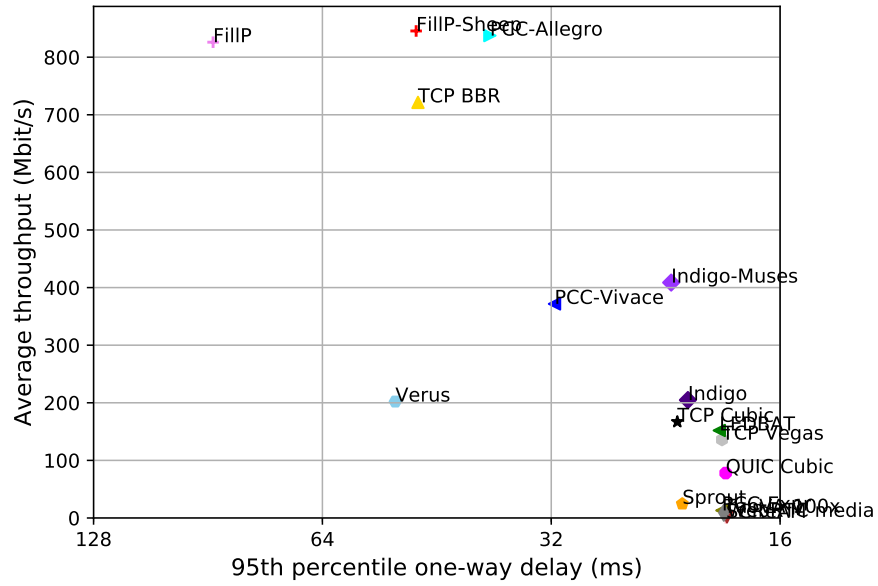
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202
```

### Git summary:

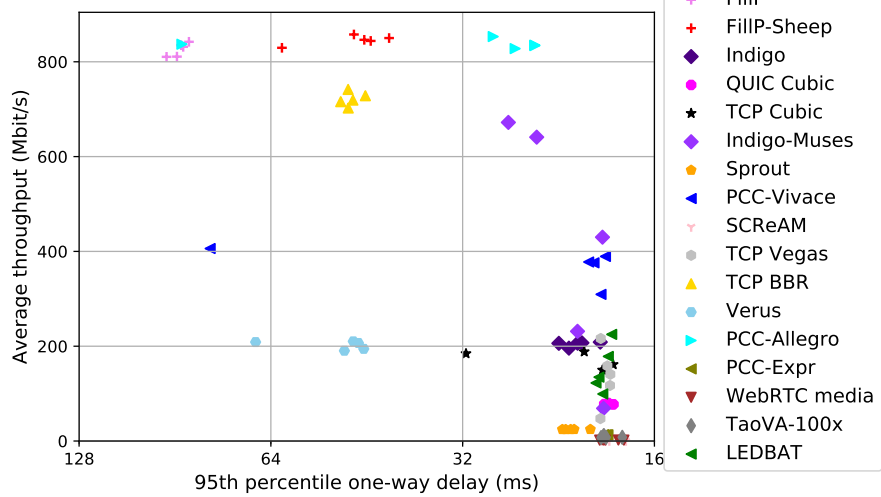
```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
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



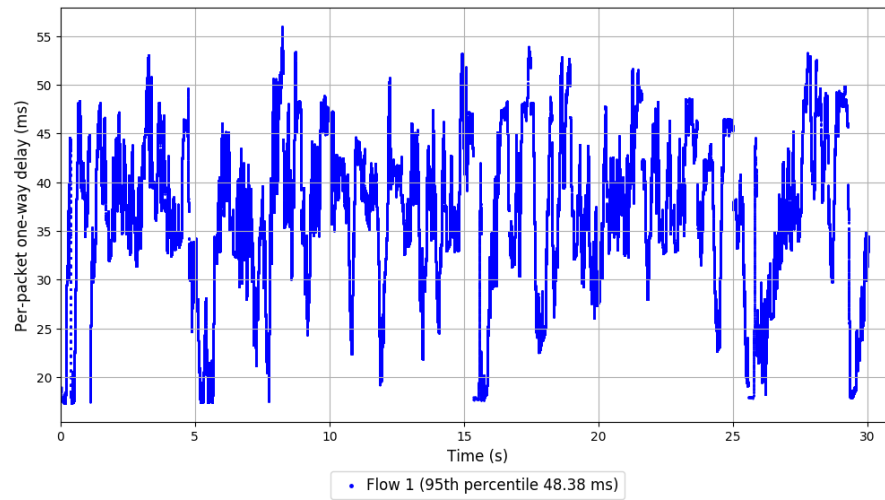
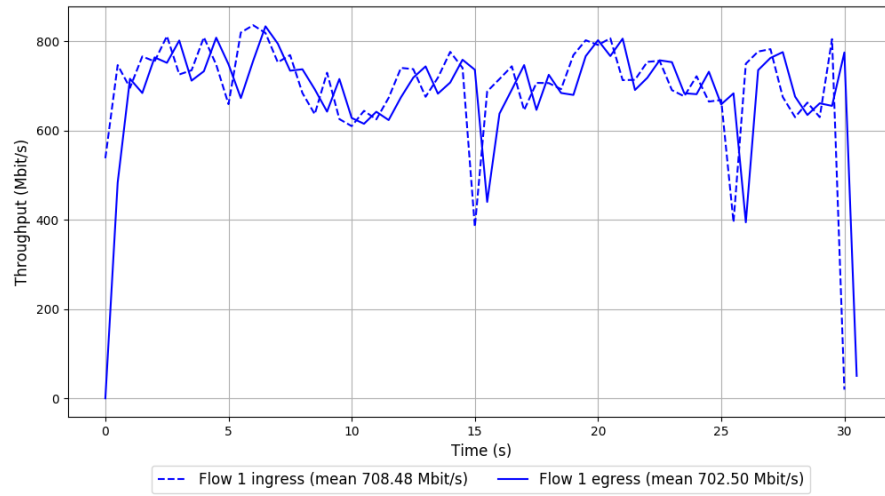
| scheme       | # runs | mean avg tput (Mbit/s)<br>flow 1 | mean 95th-%ile delay (ms)<br>flow 1 | mean loss rate (%)<br>flow 1 |
|--------------|--------|----------------------------------|-------------------------------------|------------------------------|
| TCP BBR      | 5      | 721.53                           | 47.91                               | 0.73                         |
| Copa         | 0      | N/A                              | N/A                                 | N/A                          |
| TCP Cubic    | 5      | 166.92                           | 21.84                               | 0.03                         |
| FillP        | 5      | 826.00                           | 89.12                               | 4.50                         |
| FillP-Sheep  | 5      | 845.49                           | 48.18                               | 7.06                         |
| Indigo       | 5      | 204.80                           | 21.15                               | 0.04                         |
| LEDBAT       | 5      | 151.97                           | 19.24                               | 0.03                         |
| Indigo-Muses | 5      | 408.68                           | 22.25                               | 0.19                         |
| PCC-Allegro  | 5      | 837.46                           | 38.54                               | 0.92                         |
| PCC-Expr     | 5      | 13.10                            | 19.08                               | 53.26                        |
| QUIC Cubic   | 5      | 77.99                            | 18.87                               | 0.01                         |
| SCReAM       | 5      | 0.22                             | 18.85                               | 0.00                         |
| Sprout       | 5      | 24.54                            | 21.52                               | 0.13                         |
| TaoVA-100x   | 5      | 9.03                             | 18.97                               | 65.00                        |
| TCP Vegas    | 5      | 135.99                           | 19.08                               | 0.16                         |
| Verus        | 5      | 202.13                           | 51.32                               | 18.59                        |
| PCC-Vivace   | 5      | 371.67                           | 31.69                               | 0.03                         |
| WebRTC media | 5      | 1.97                             | 18.79                               | 0.00                         |

Run 1: Statistics of TCP BBR

Start at: 2018-09-10 22:58:11  
End at: 2018-09-10 22:58:41  
Local clock offset: -10.143 ms  
Remote clock offset: 4.002 ms

# Below is generated by plot.py at 2018-09-11 00:56:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 702.50 Mbit/s  
95th percentile per-packet one-way delay: 48.385 ms  
Loss rate: 0.84%  
-- Flow 1:  
Average throughput: 702.50 Mbit/s  
95th percentile per-packet one-way delay: 48.385 ms  
Loss rate: 0.84%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-10 23:24:23

End at: 2018-09-10 23:24:53

Local clock offset: -1.059 ms

Remote clock offset: 4.853 ms

# Below is generated by plot.py at 2018-09-11 00:56:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 728.40 Mbit/s

95th percentile per-packet one-way delay: 45.479 ms

Loss rate: 0.76%

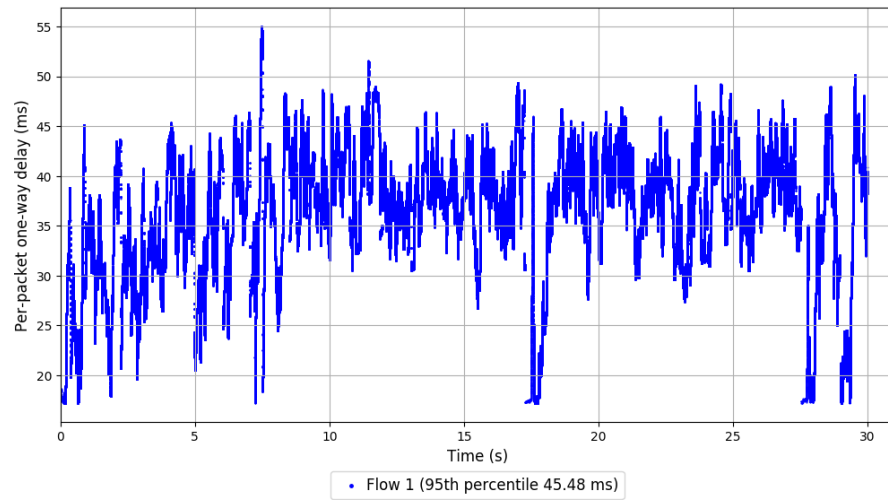
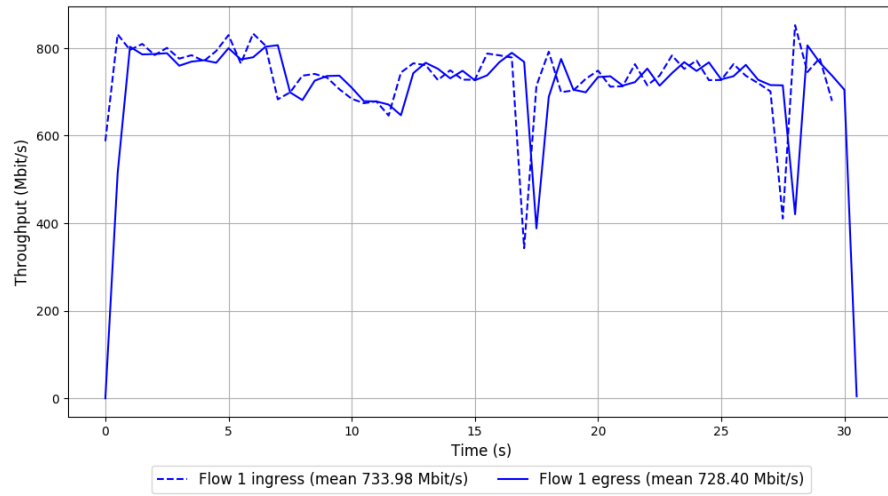
-- Flow 1:

Average throughput: 728.40 Mbit/s

95th percentile per-packet one-way delay: 45.479 ms

Loss rate: 0.76%

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



Run 3: Statistics of TCP BBR

Start at: 2018-09-10 23:50:40

End at: 2018-09-10 23:51:10

Local clock offset: -2.555 ms

Remote clock offset: 4.568 ms

# Below is generated by plot.py at 2018-09-11 00:56:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 719.20 Mbit/s

95th percentile per-packet one-way delay: 47.577 ms

Loss rate: 1.27%

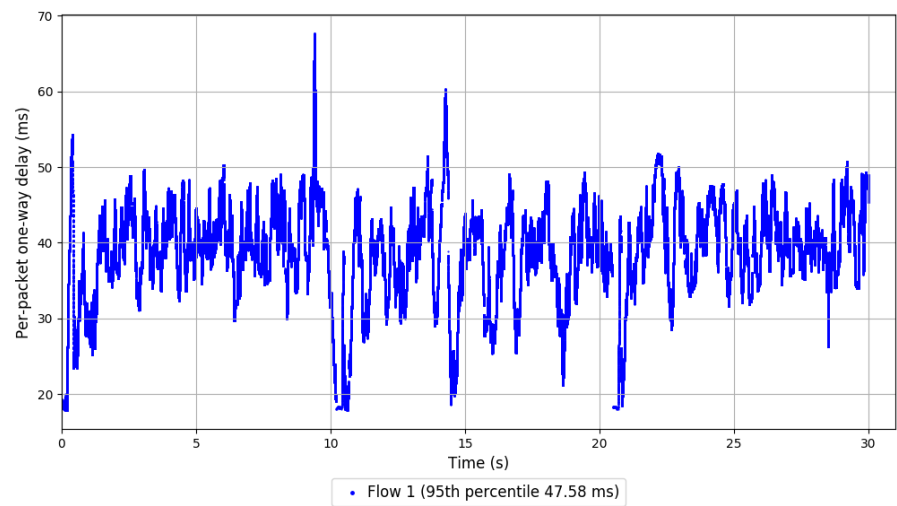
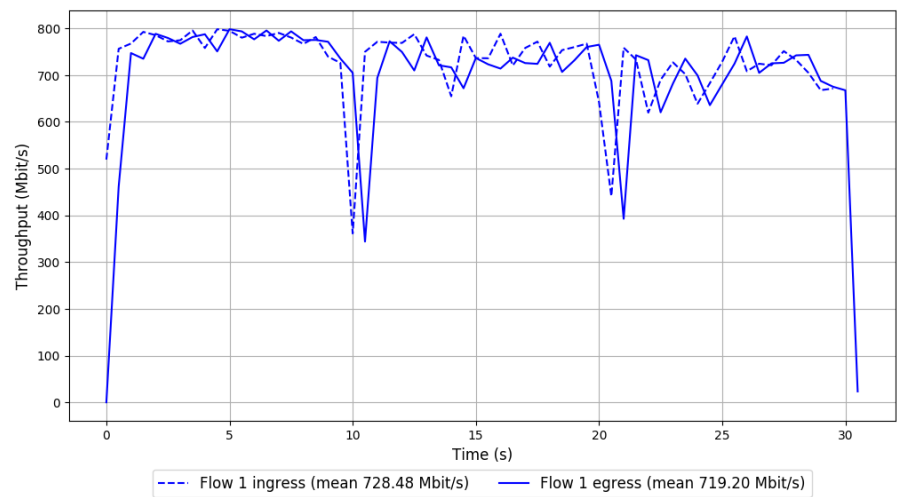
-- Flow 1:

Average throughput: 719.20 Mbit/s

95th percentile per-packet one-way delay: 47.577 ms

Loss rate: 1.27%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-11 00:16:48

End at: 2018-09-11 00:17:18

Local clock offset: -1.259 ms

Remote clock offset: 3.21 ms

# Below is generated by plot.py at 2018-09-11 00:56:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 715.86 Mbit/s

95th percentile per-packet one-way delay: 49.721 ms

Loss rate: 0.39%

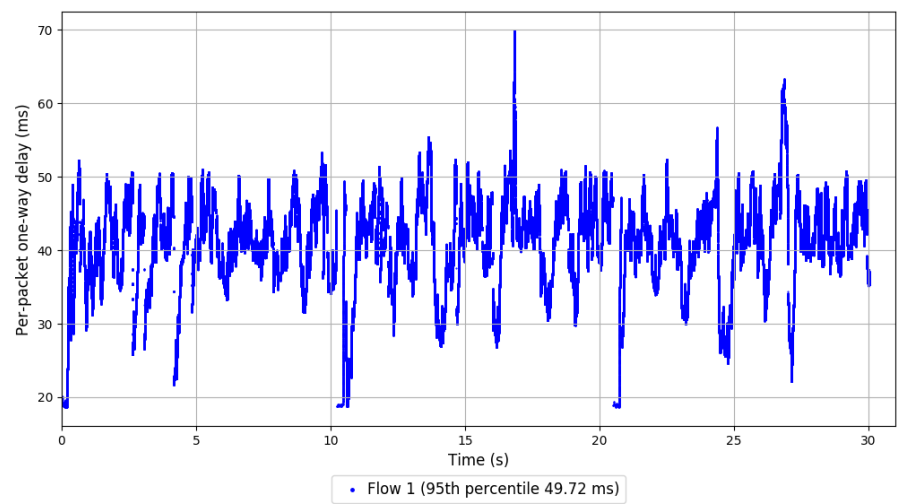
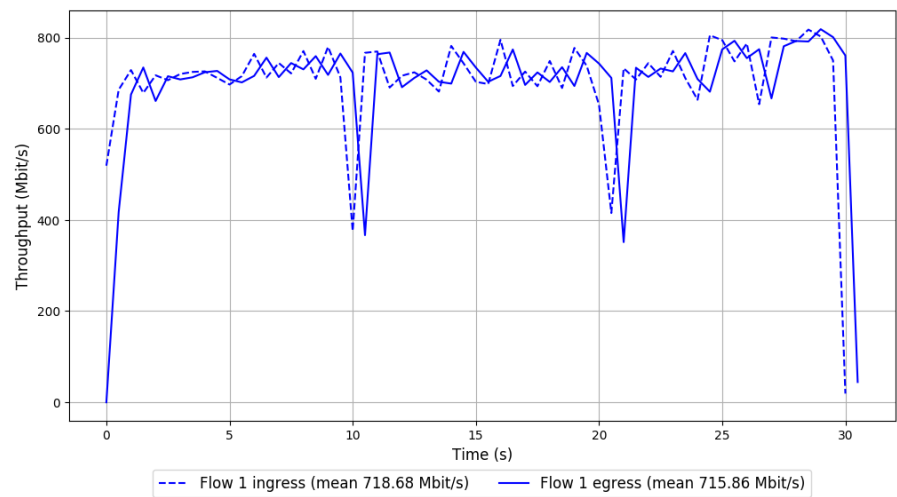
-- Flow 1:

Average throughput: 715.86 Mbit/s

95th percentile per-packet one-way delay: 49.721 ms

Loss rate: 0.39%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-11 00:42:51

End at: 2018-09-11 00:43:21

Local clock offset: -0.581 ms

Remote clock offset: 2.409 ms

# Below is generated by plot.py at 2018-09-11 00:56:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 741.69 Mbit/s

95th percentile per-packet one-way delay: 48.408 ms

Loss rate: 0.37%

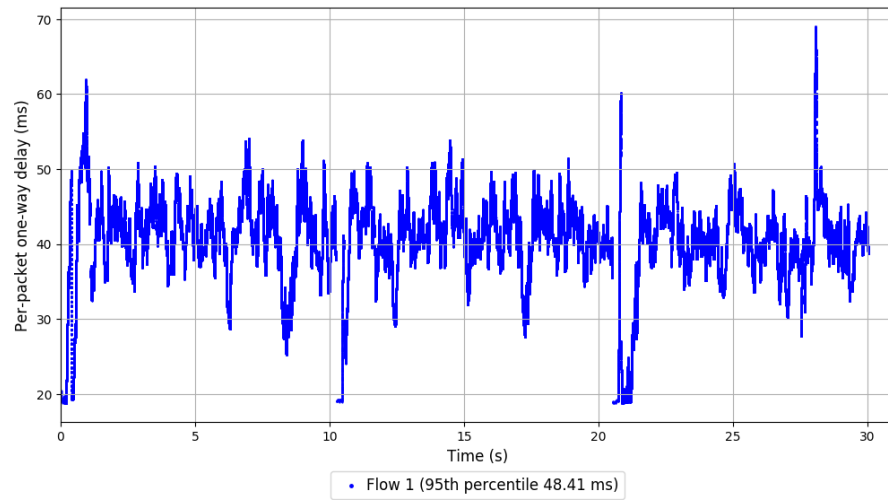
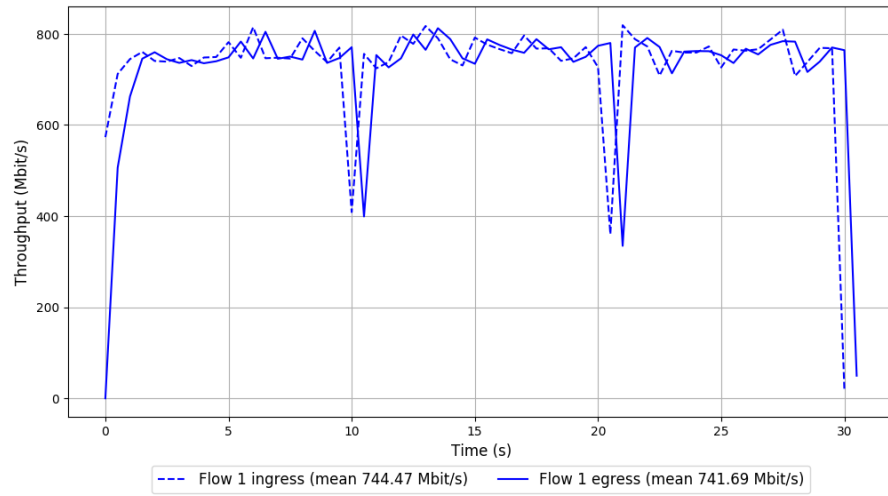
-- Flow 1:

Average throughput: 741.69 Mbit/s

95th percentile per-packet one-way delay: 48.408 ms

Loss rate: 0.37%

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



Run 1: Statistics of Copa

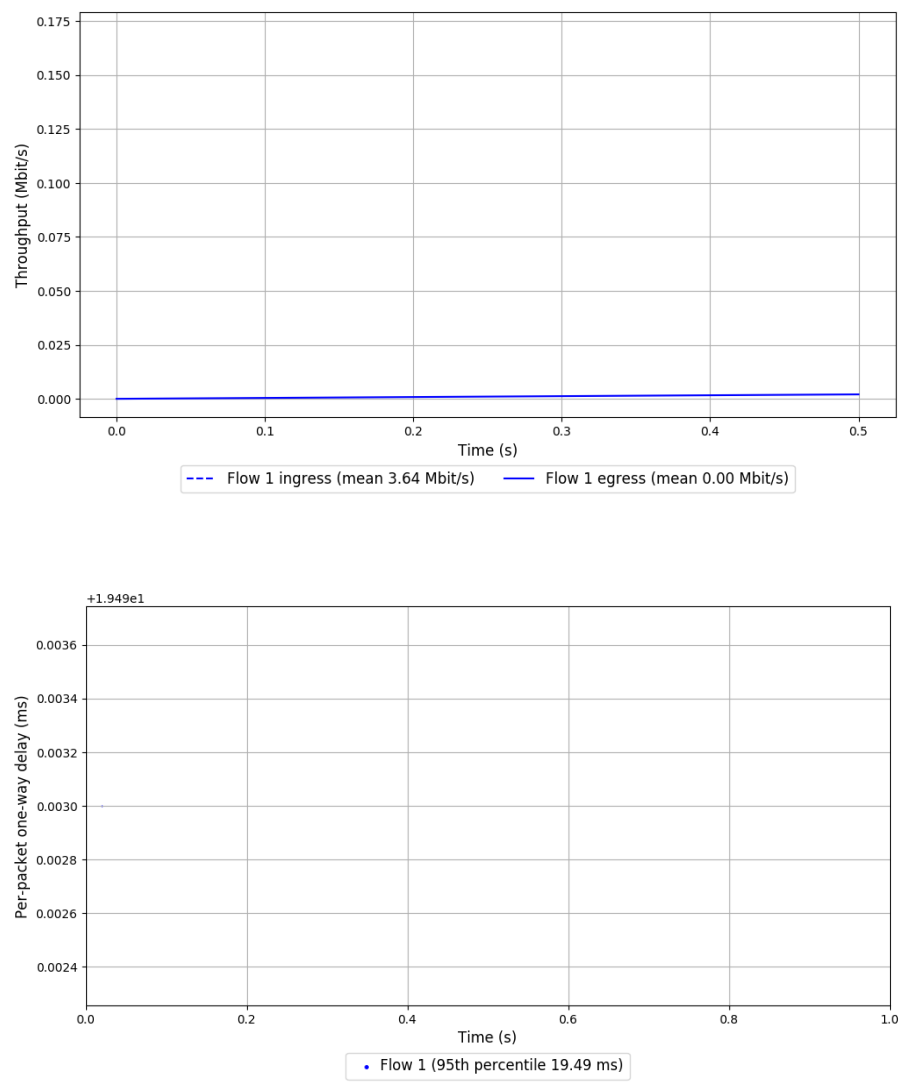
Start at: 2018-09-10 22:39:41

End at: 2018-09-10 22:40:11

Local clock offset: -8.56 ms

Remote clock offset: -7.311 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

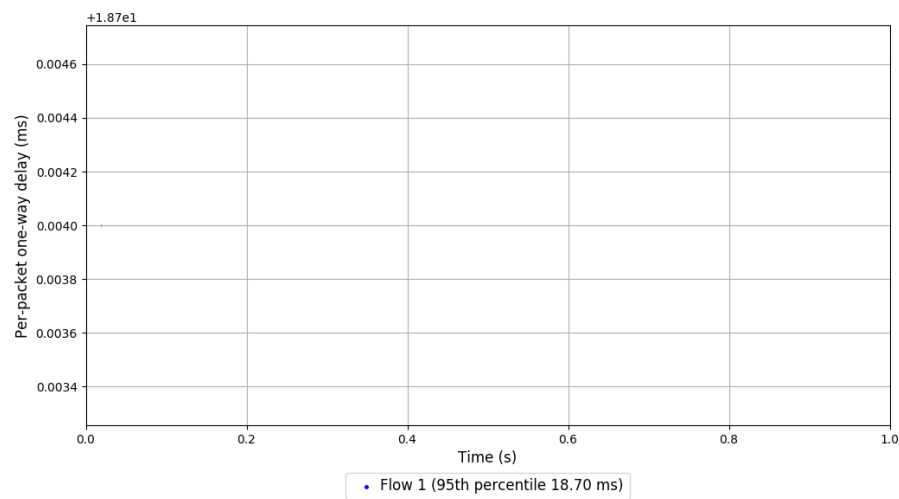
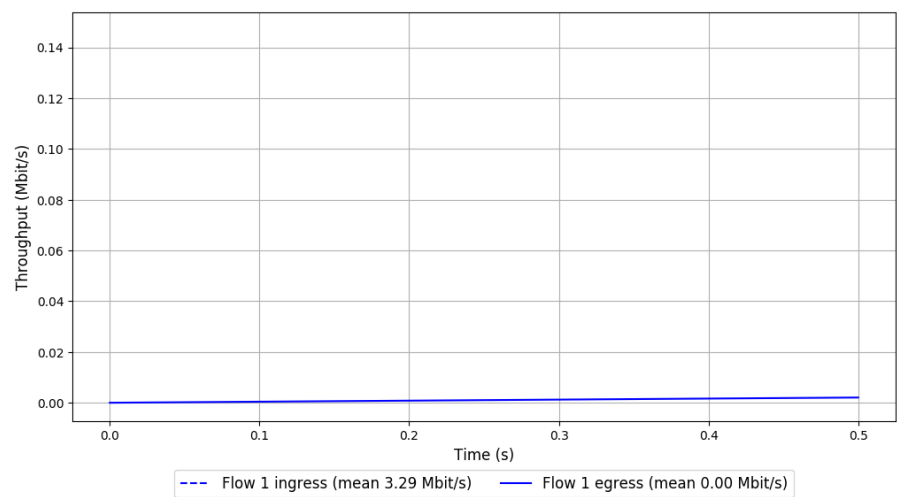
Start at: 2018-09-10 23:06:05

End at: 2018-09-10 23:06:35

Local clock offset: -3.544 ms

Remote clock offset: 5.83 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

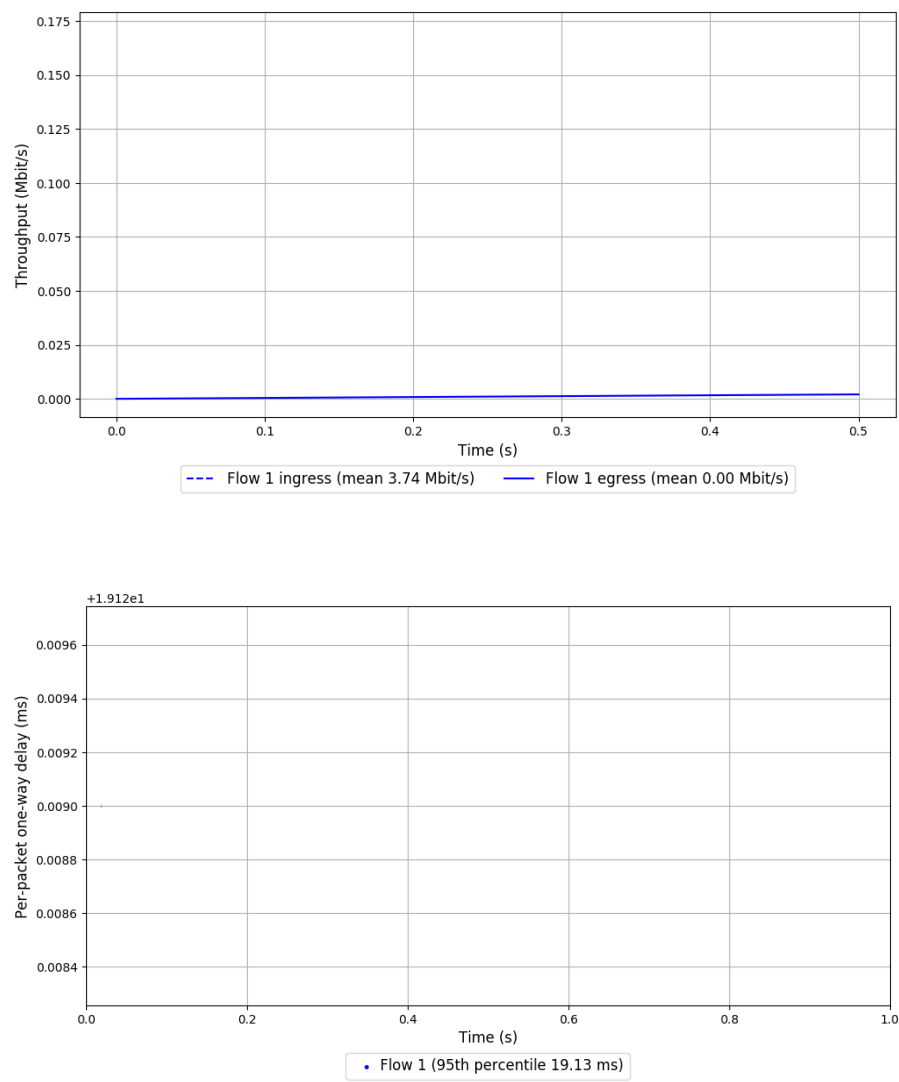
Start at: 2018-09-10 23:32:13

End at: 2018-09-10 23:32:43

Local clock offset: -1.38 ms

Remote clock offset: 4.664 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

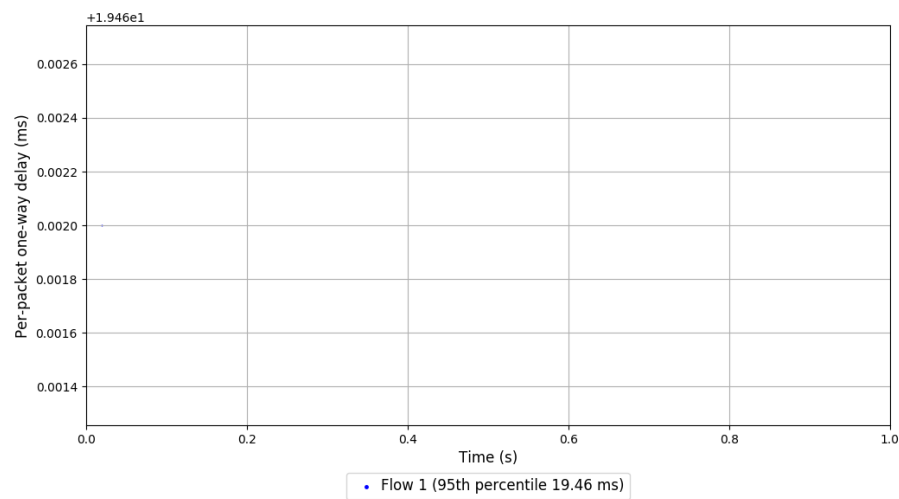
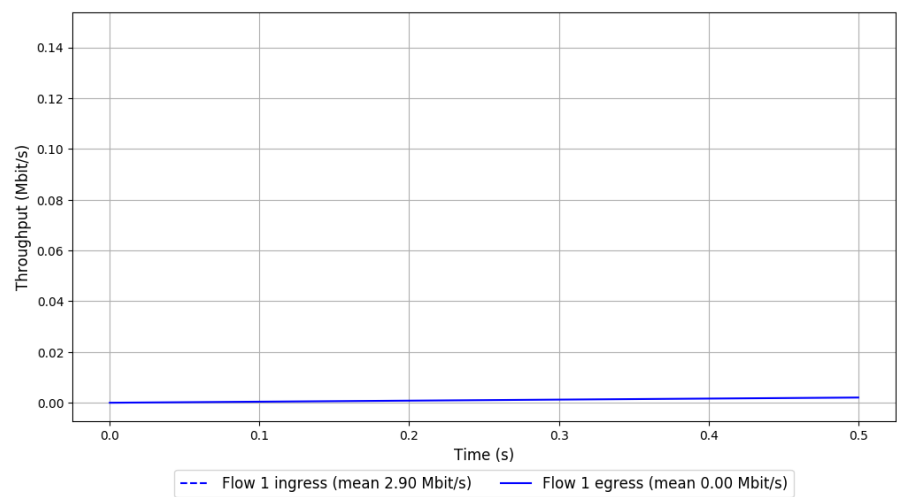
Start at: 2018-09-10 23:58:30

End at: 2018-09-10 23:59:00

Local clock offset: -3.44 ms

Remote clock offset: 3.754 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

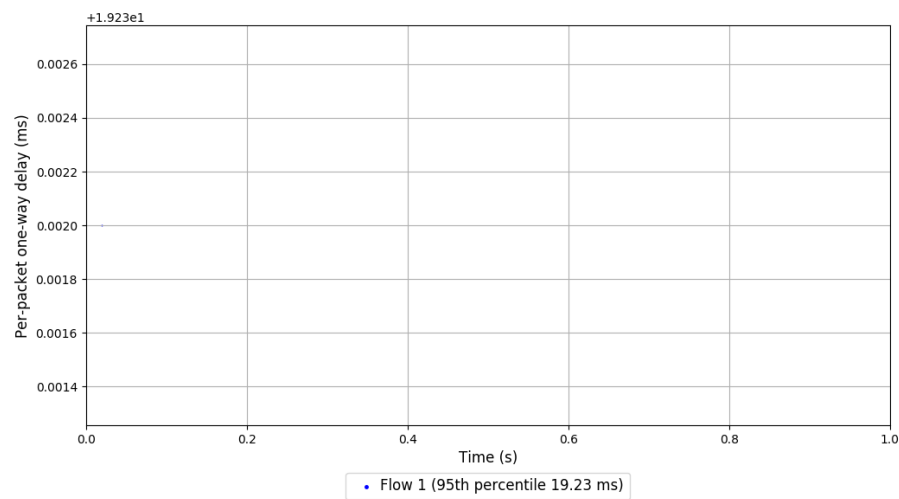
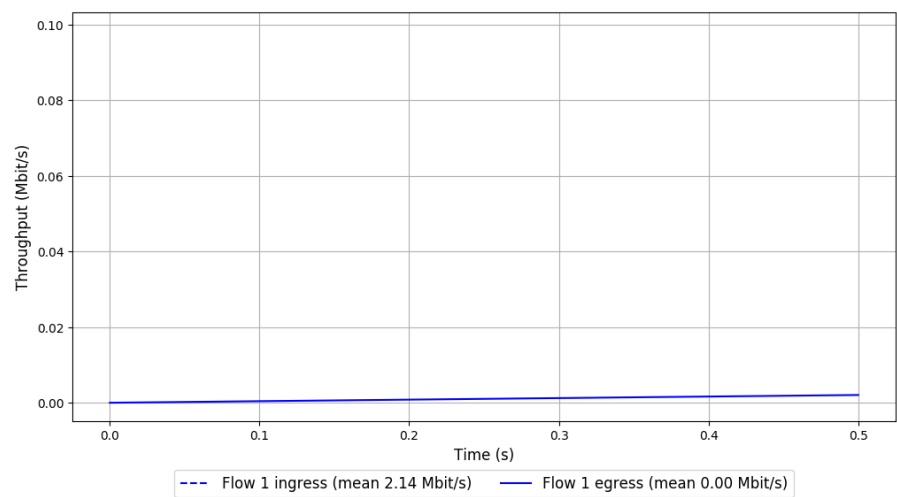
Start at: 2018-09-11 00:24:36

End at: 2018-09-11 00:25:06

Local clock offset: -1.532 ms

Remote clock offset: 3.084 ms

Run 5: Report of Copa — Data Link

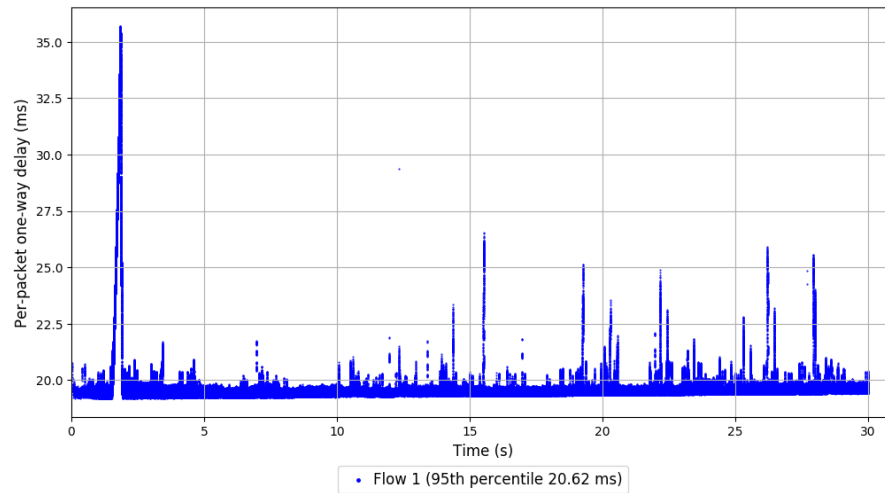
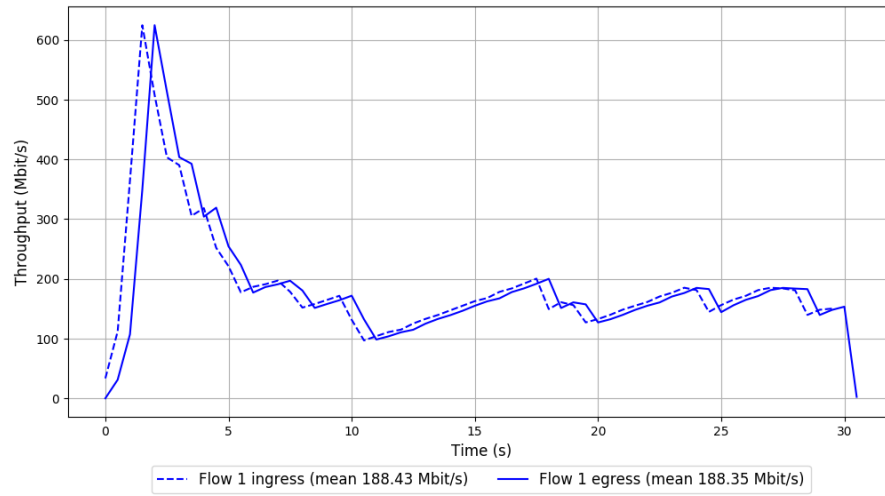


Run 1: Statistics of TCP Cubic

Start at: 2018-09-10 22:36:56  
End at: 2018-09-10 22:37:26  
Local clock offset: -9.515 ms  
Remote clock offset: -7.226 ms

# Below is generated by plot.py at 2018-09-11 00:56:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 188.35 Mbit/s  
95th percentile per-packet one-way delay: 20.622 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 188.35 Mbit/s  
95th percentile per-packet one-way delay: 20.622 ms  
Loss rate: 0.05%

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



Run 2: Statistics of TCP Cubic

Start at: 2018-09-10 23:03:15

End at: 2018-09-10 23:03:45

Local clock offset: -5.259 ms

Remote clock offset: 5.373 ms

# Below is generated by plot.py at 2018-09-11 00:56:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 184.38 Mbit/s

95th percentile per-packet one-way delay: 31.615 ms

Loss rate: 0.02%

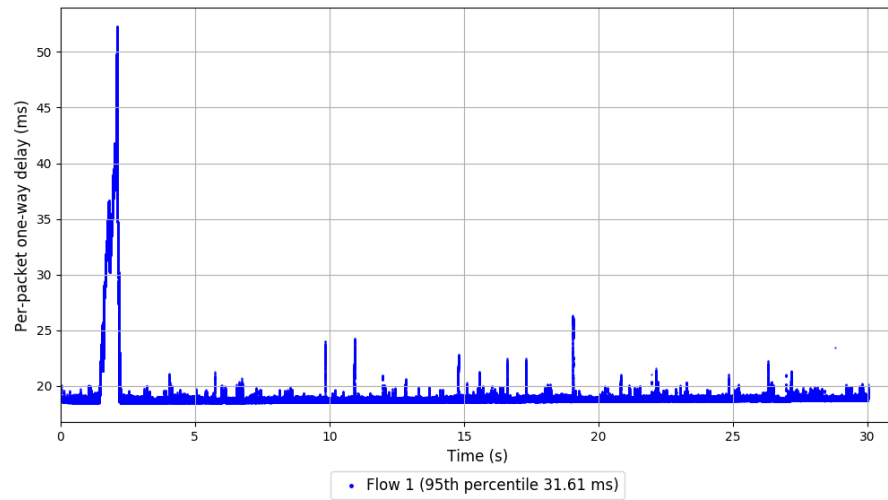
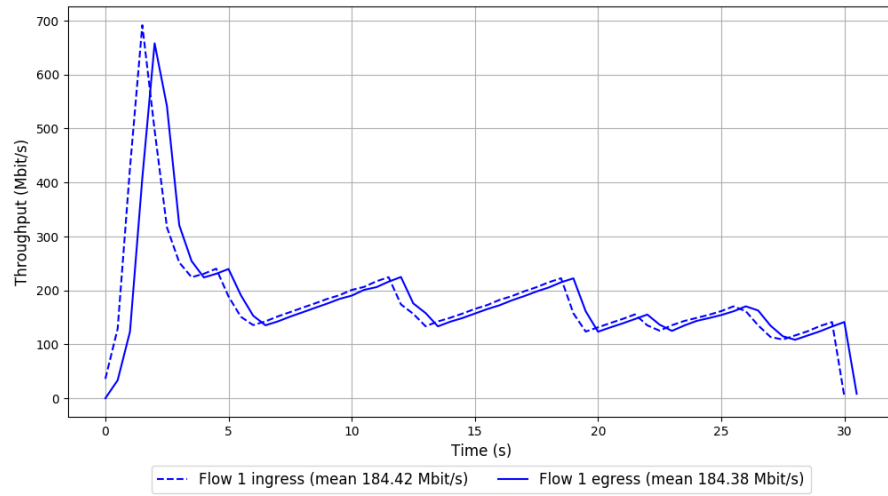
-- Flow 1:

Average throughput: 184.38 Mbit/s

95th percentile per-packet one-way delay: 31.615 ms

Loss rate: 0.02%

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



Run 3: Statistics of TCP Cubic

Start at: 2018-09-10 23:29:28

End at: 2018-09-10 23:29:58

Local clock offset: -1.342 ms

Remote clock offset: 4.647 ms

# Below is generated by plot.py at 2018-09-11 00:56:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 150.79 Mbit/s

95th percentile per-packet one-way delay: 19.099 ms

Loss rate: 0.02%

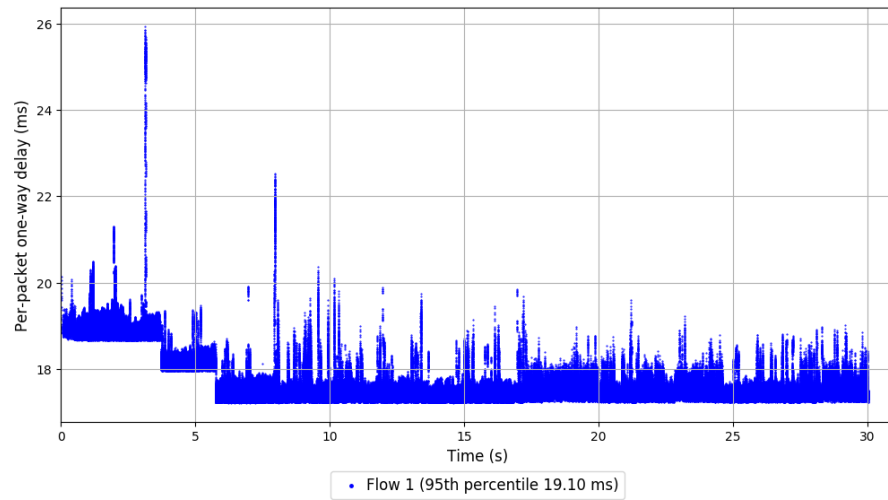
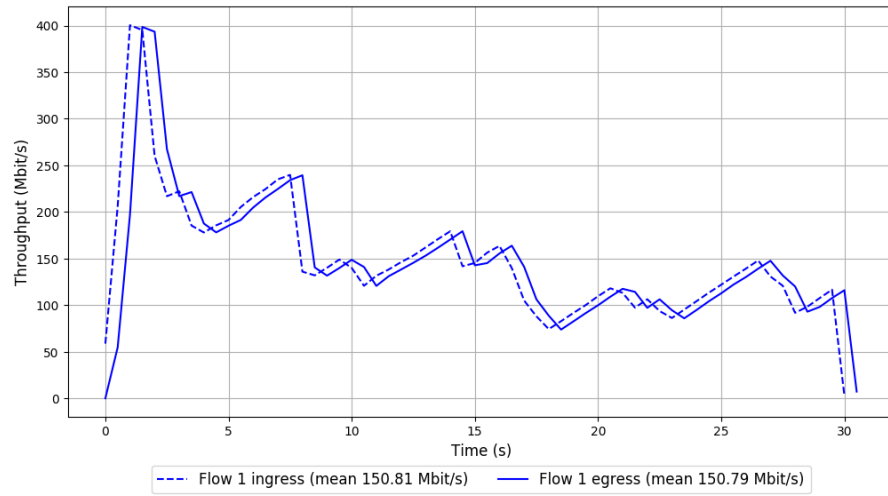
-- Flow 1:

Average throughput: 150.79 Mbit/s

95th percentile per-packet one-way delay: 19.099 ms

Loss rate: 0.02%

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



Run 4: Statistics of TCP Cubic

Start at: 2018-09-10 23:55:45

End at: 2018-09-10 23:56:15

Local clock offset: -3.088 ms

Remote clock offset: 3.98 ms

# Below is generated by plot.py at 2018-09-11 00:56:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 161.32 Mbit/s

95th percentile per-packet one-way delay: 18.572 ms

Loss rate: 0.06%

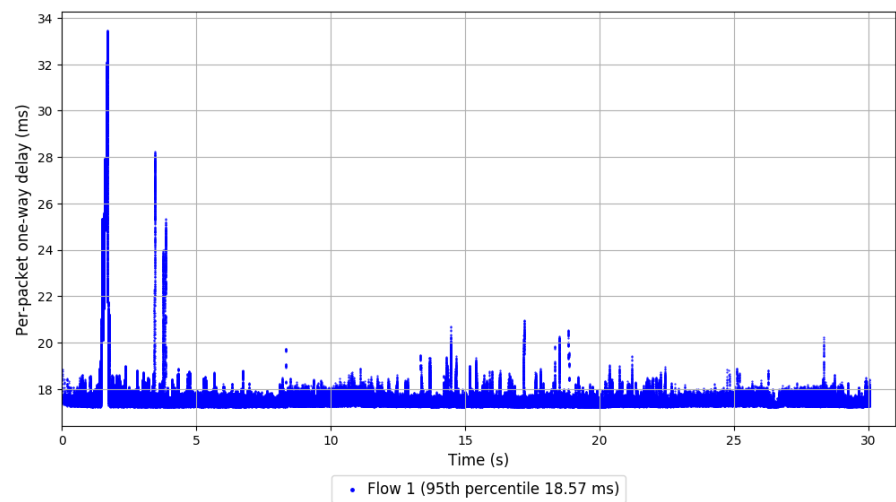
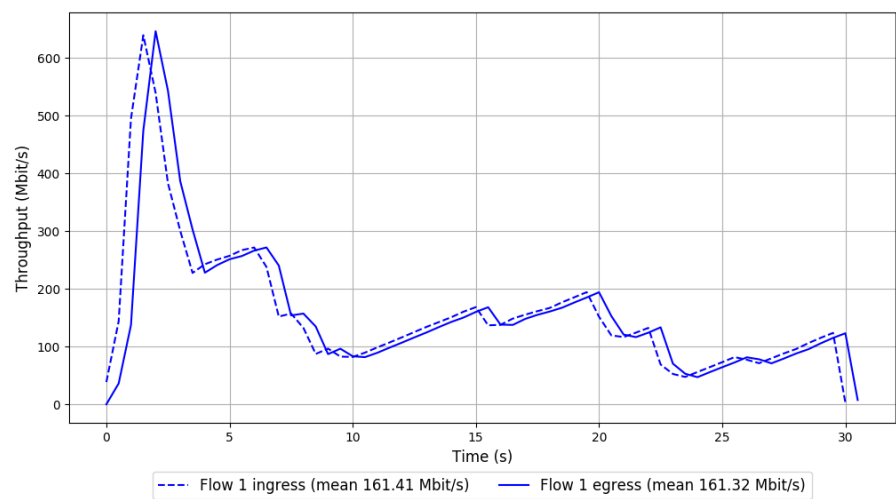
-- Flow 1:

Average throughput: 161.32 Mbit/s

95th percentile per-packet one-way delay: 18.572 ms

Loss rate: 0.06%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 00:21:52

End at: 2018-09-11 00:22:22

Local clock offset: -1.354 ms

Remote clock offset: 3.332 ms

# Below is generated by plot.py at 2018-09-11 00:56:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 149.78 Mbit/s

95th percentile per-packet one-way delay: 19.302 ms

Loss rate: 0.01%

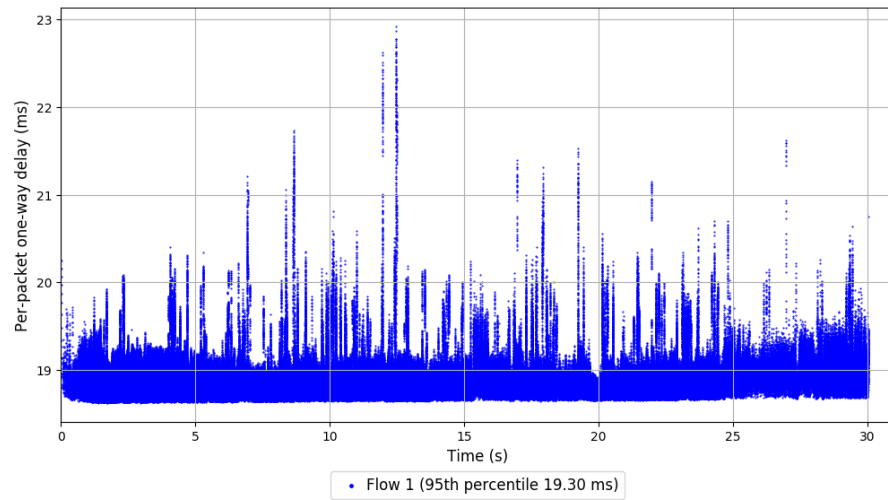
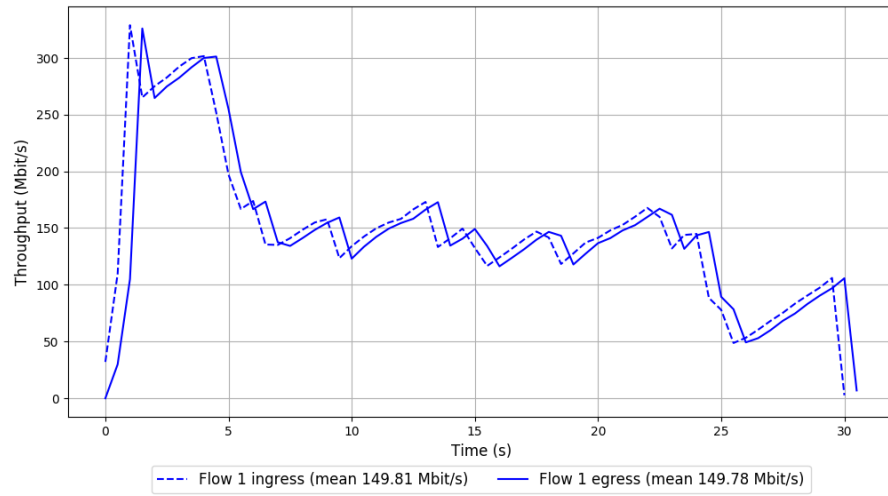
-- Flow 1:

Average throughput: 149.78 Mbit/s

95th percentile per-packet one-way delay: 19.302 ms

Loss rate: 0.01%

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

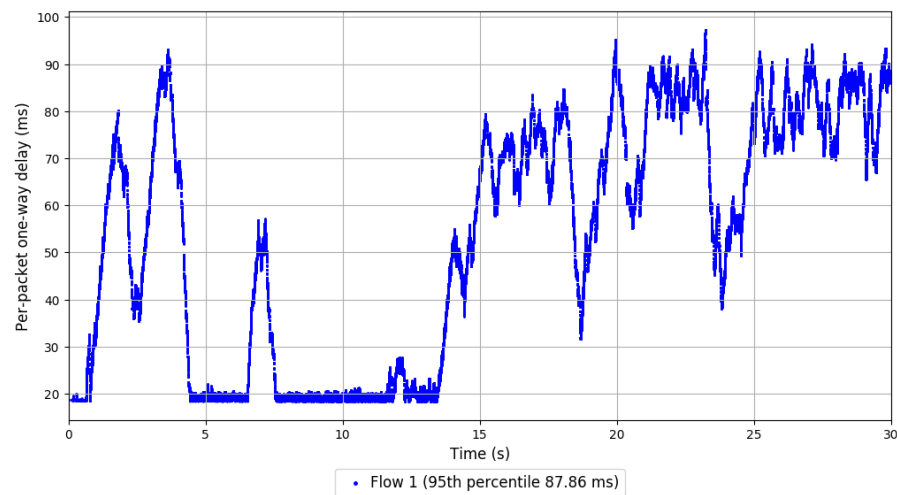
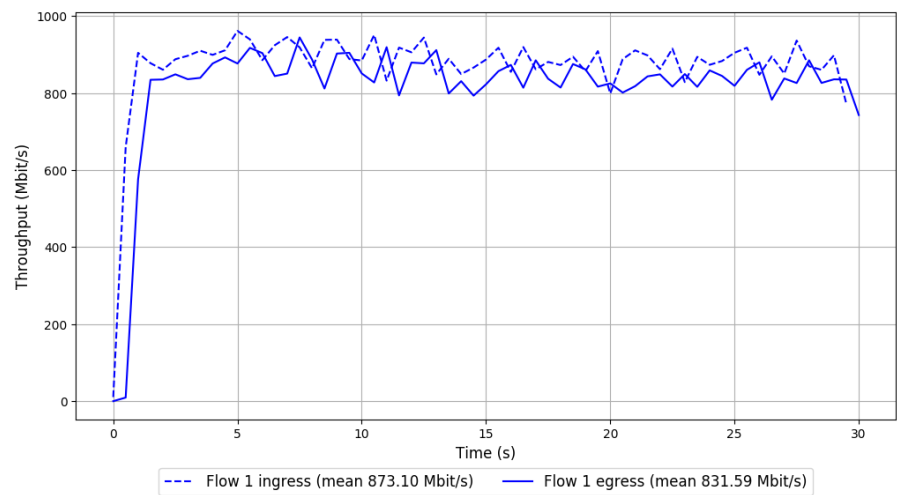


```
Run 1: Statistics of FillP

Start at: 2018-09-10 22:56:30
End at: 2018-09-10 22:57:00
Local clock offset: -9.815 ms
Remote clock offset: 3.573 ms

# Below is generated by plot.py at 2018-09-11 01:02:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 831.59 Mbit/s
95th percentile per-packet one-way delay: 87.864 ms
Loss rate: 4.76%
-- Flow 1:
Average throughput: 831.59 Mbit/s
95th percentile per-packet one-way delay: 87.864 ms
Loss rate: 4.76%
```

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-10 23:22:41

End at: 2018-09-10 23:23:11

Local clock offset: -0.974 ms

Remote clock offset: 4.962 ms

# Below is generated by plot.py at 2018-09-11 01:03:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 842.15 Mbit/s

95th percentile per-packet one-way delay: 86.052 ms

Loss rate: 5.12%

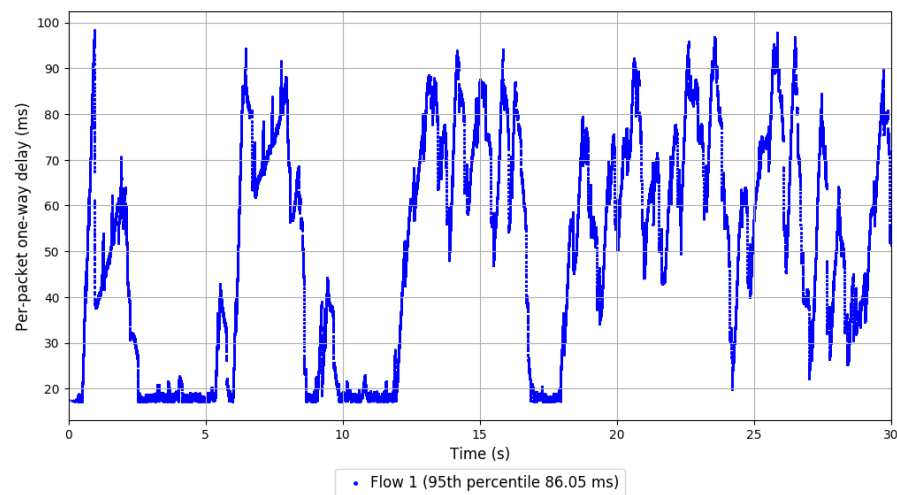
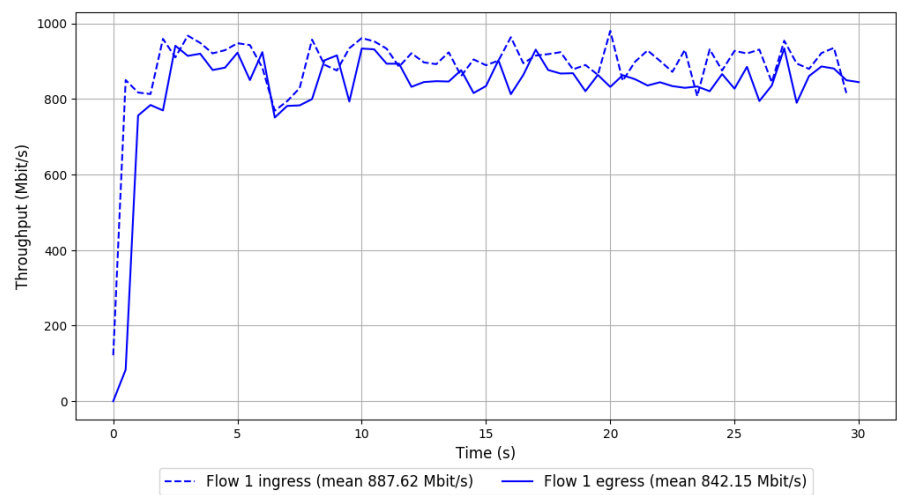
-- Flow 1:

Average throughput: 842.15 Mbit/s

95th percentile per-packet one-way delay: 86.052 ms

Loss rate: 5.12%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-10 23:48:59

End at: 2018-09-10 23:49:29

Local clock offset: -2.378 ms

Remote clock offset: 4.96 ms

# Below is generated by plot.py at 2018-09-11 01:03:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 810.88 Mbit/s

95th percentile per-packet one-way delay: 89.871 ms

Loss rate: 3.76%

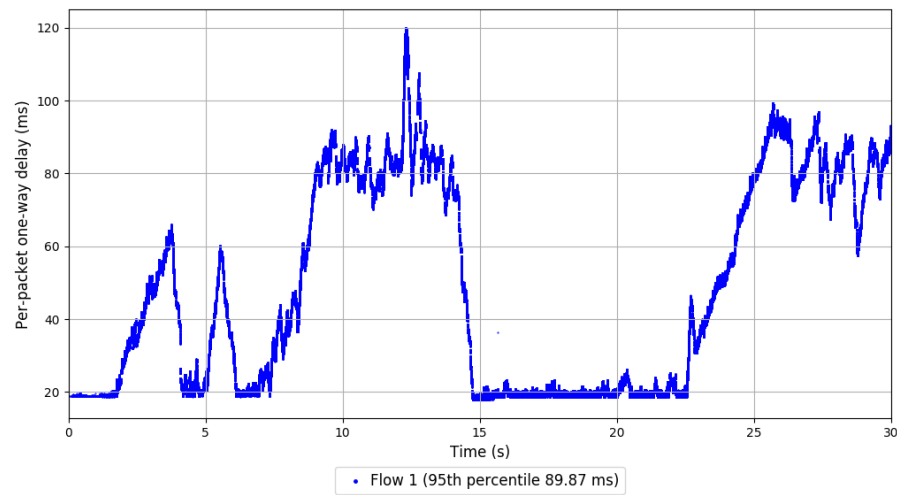
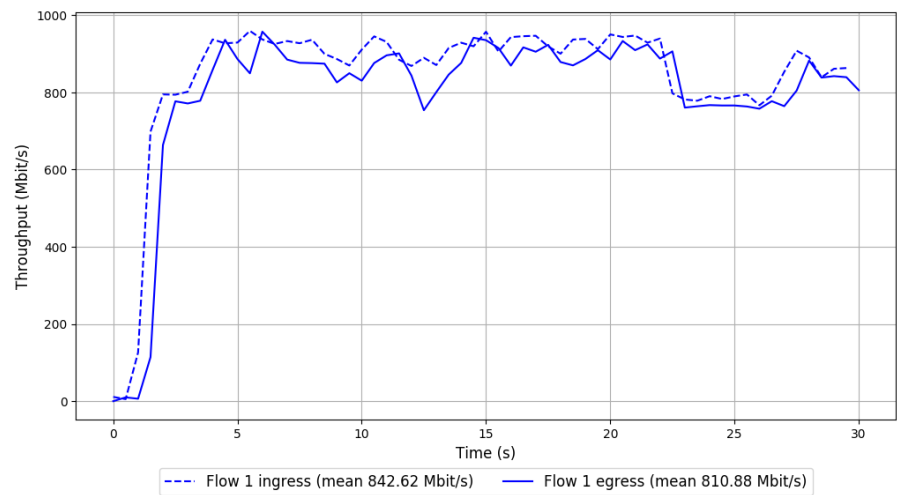
-- Flow 1:

Average throughput: 810.88 Mbit/s

95th percentile per-packet one-way delay: 89.871 ms

Loss rate: 3.76%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-11 00:15:07

End at: 2018-09-11 00:15:37

Local clock offset: -1.251 ms

Remote clock offset: 3.254 ms

# Below is generated by plot.py at 2018-09-11 01:08:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 810.40 Mbit/s

95th percentile per-packet one-way delay: 93.309 ms

Loss rate: 3.81%

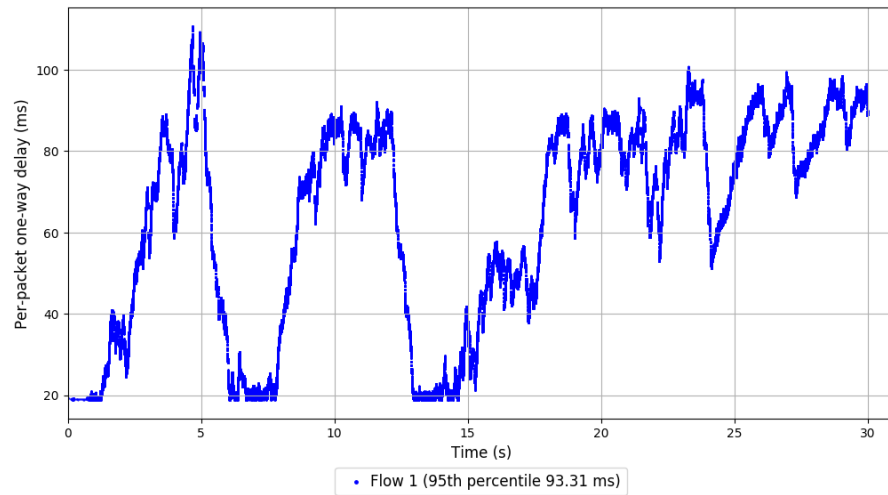
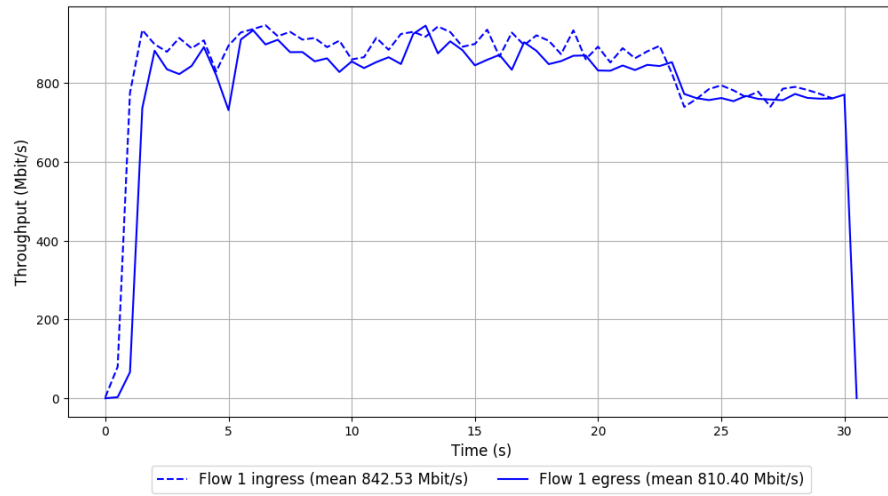
-- Flow 1:

Average throughput: 810.40 Mbit/s

95th percentile per-packet one-way delay: 93.309 ms

Loss rate: 3.81%

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



Run 5: Statistics of FillP

Start at: 2018-09-11 00:41:10

End at: 2018-09-11 00:41:40

Local clock offset: -0.528 ms

Remote clock offset: 2.439 ms

# Below is generated by plot.py at 2018-09-11 01:08:35

# Datalink statistics

-- Total of 1 flow:

Average throughput: 834.98 Mbit/s

95th percentile per-packet one-way delay: 88.516 ms

Loss rate: 5.05%

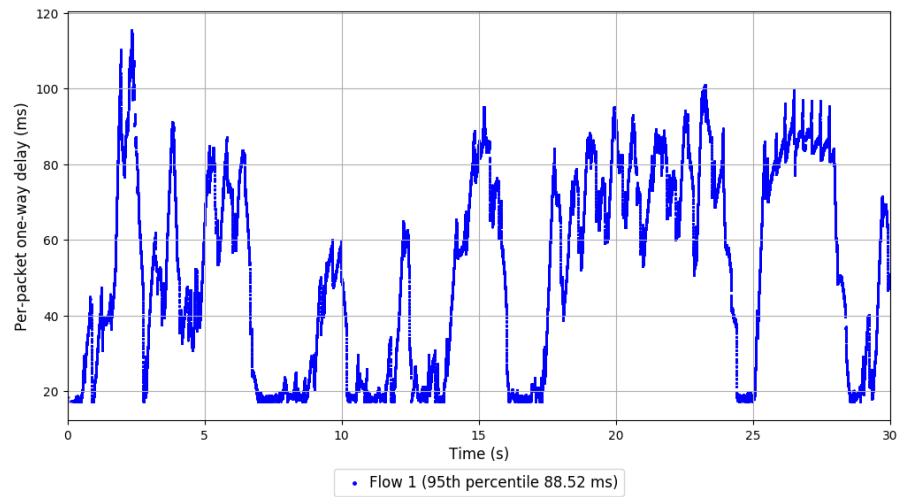
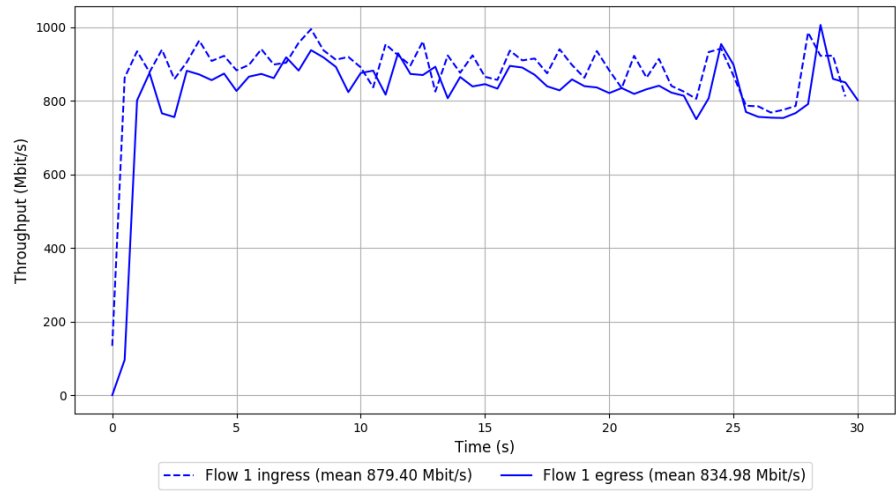
-- Flow 1:

Average throughput: 834.98 Mbit/s

95th percentile per-packet one-way delay: 88.516 ms

Loss rate: 5.05%

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

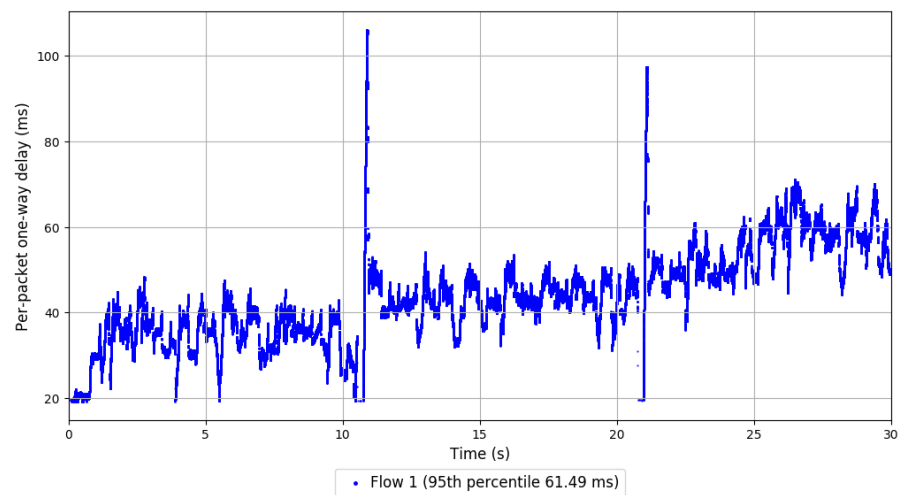
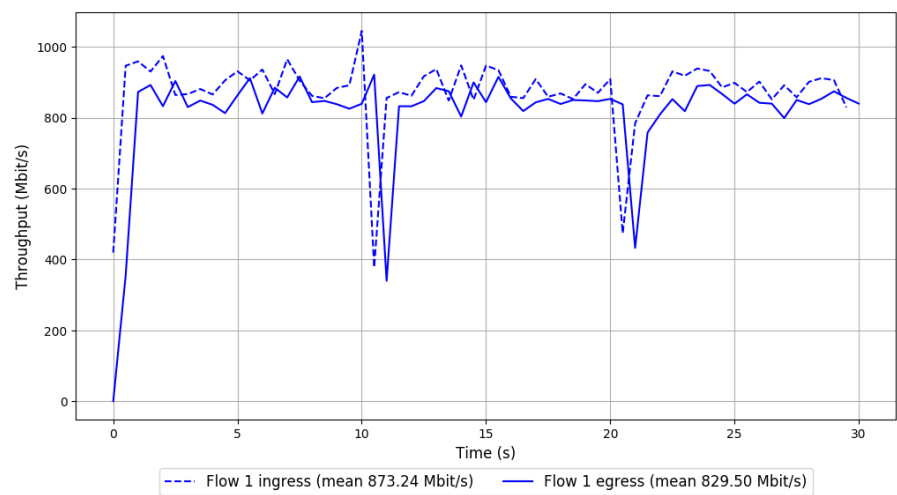


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-10 22:33:37  
End at: 2018-09-10 22:34:07  
Local clock offset: -11.677 ms  
Remote clock offset: -7.026 ms

# Below is generated by plot.py at 2018-09-11 01:08:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 829.50 Mbit/s  
95th percentile per-packet one-way delay: 61.488 ms  
Loss rate: 5.01%  
-- Flow 1:  
Average throughput: 829.50 Mbit/s  
95th percentile per-packet one-way delay: 61.488 ms  
Loss rate: 5.01%

Run 1: Report of FillP-Sheep — Data Link

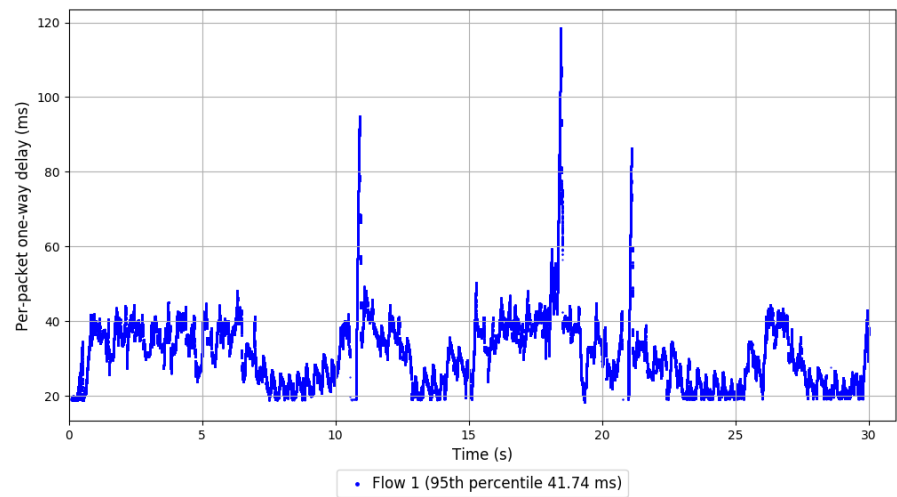
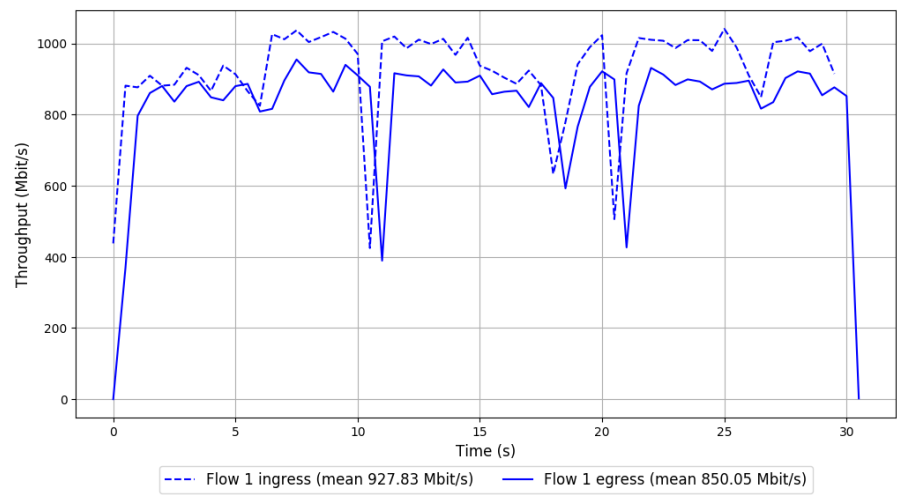


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-10 22:59:54  
End at: 2018-09-10 23:00:24  
Local clock offset: -8.686 ms  
Remote clock offset: 4.462 ms

# Below is generated by plot.py at 2018-09-11 01:09:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 850.05 Mbit/s  
95th percentile per-packet one-way delay: 41.743 ms  
Loss rate: 8.38%  
-- Flow 1:  
Average throughput: 850.05 Mbit/s  
95th percentile per-packet one-way delay: 41.743 ms  
Loss rate: 8.38%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-10 23:26:06

End at: 2018-09-10 23:26:36

Local clock offset: -1.271 ms

Remote clock offset: 4.714 ms

# Below is generated by plot.py at 2018-09-11 01:09:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 843.98 Mbit/s

95th percentile per-packet one-way delay: 44.611 ms

Loss rate: 6.95%

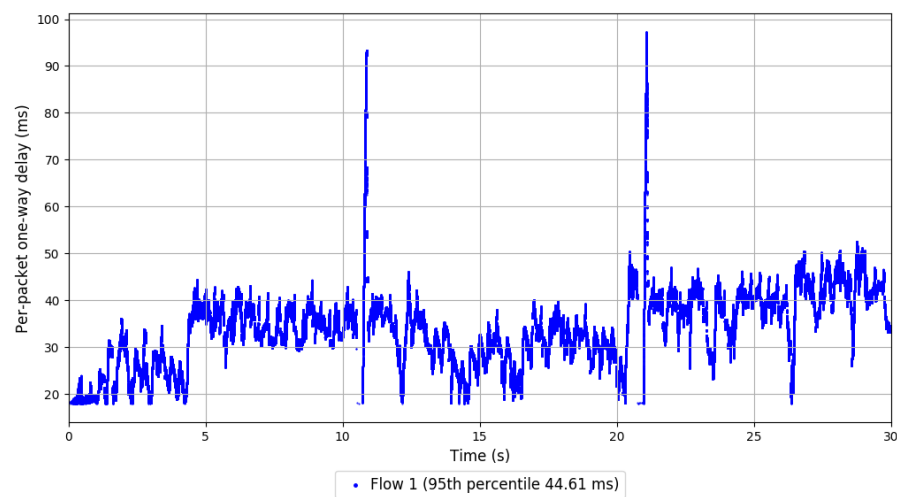
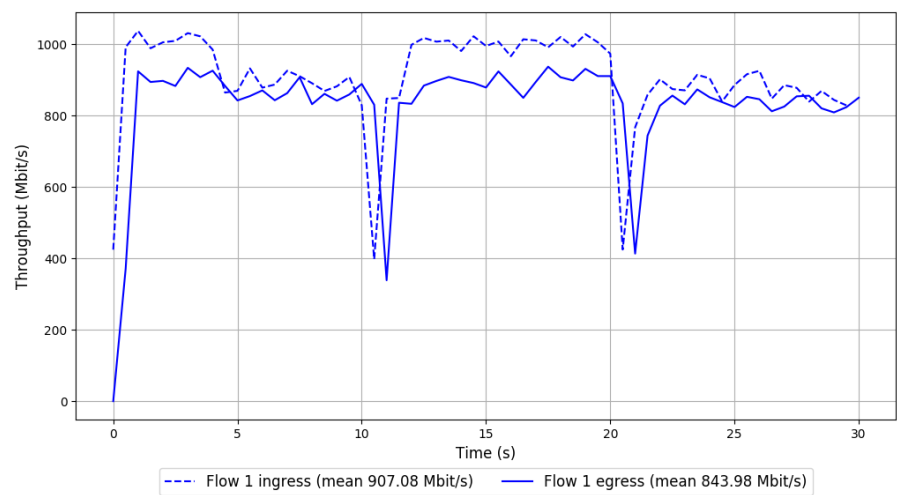
-- Flow 1:

Average throughput: 843.98 Mbit/s

95th percentile per-packet one-way delay: 44.611 ms

Loss rate: 6.95%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-10 23:52:24

End at: 2018-09-10 23:52:54

Local clock offset: -2.738 ms

Remote clock offset: 4.34 ms

# Below is generated by plot.py at 2018-09-11 01:15:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 846.34 Mbit/s

95th percentile per-packet one-way delay: 45.660 ms

Loss rate: 6.69%

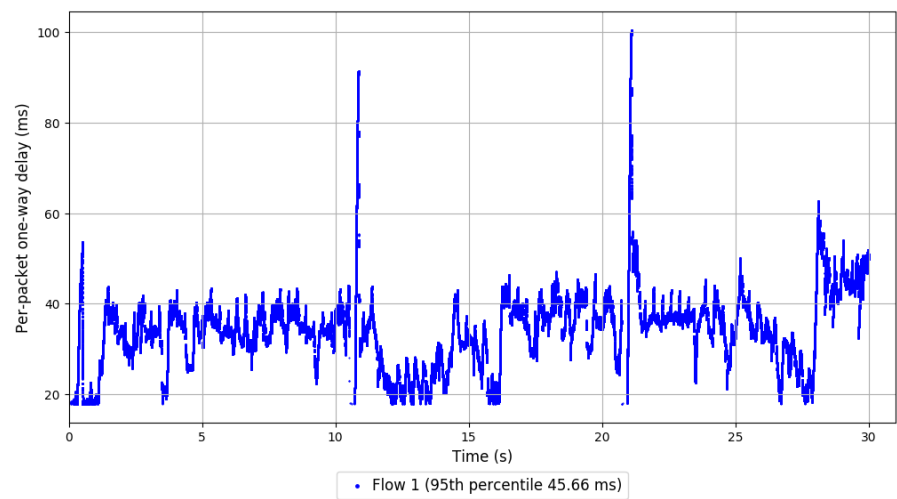
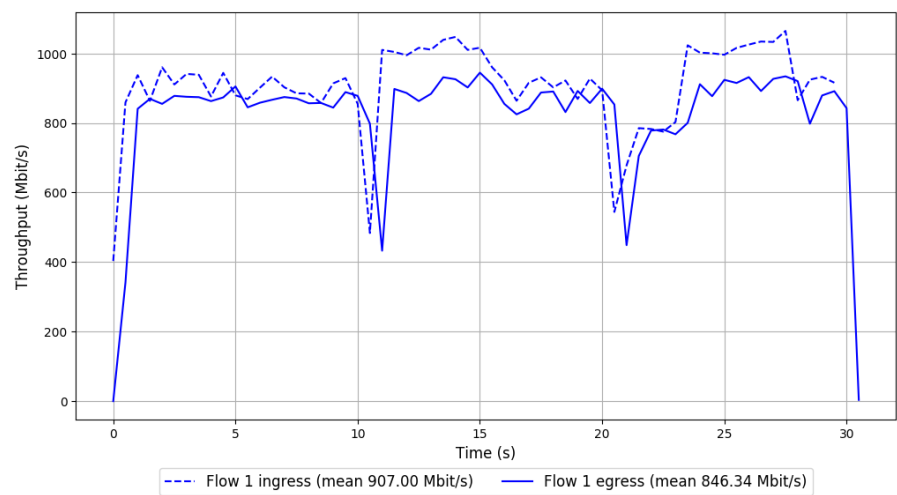
-- Flow 1:

Average throughput: 846.34 Mbit/s

95th percentile per-packet one-way delay: 45.660 ms

Loss rate: 6.69%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 00:18:30

End at: 2018-09-11 00:19:00

Local clock offset: -1.36 ms

Remote clock offset: 3.307 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 857.58 Mbit/s

95th percentile per-packet one-way delay: 47.403 ms

Loss rate: 8.27%

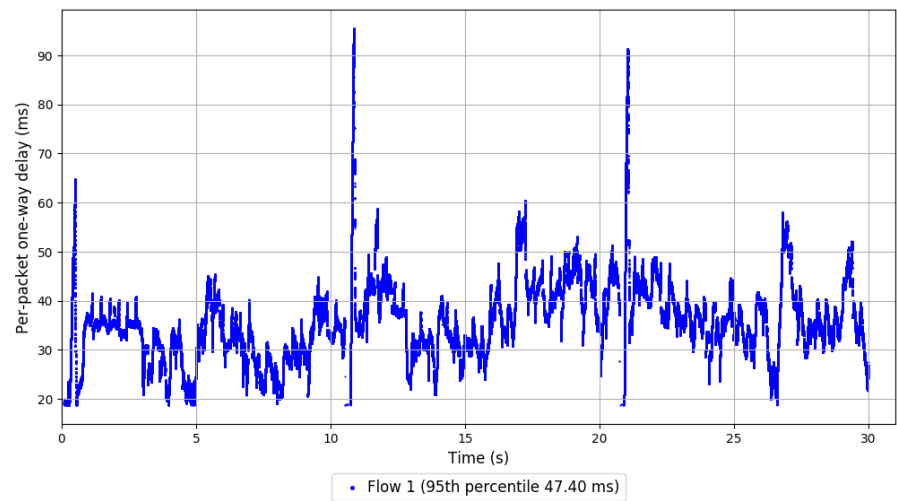
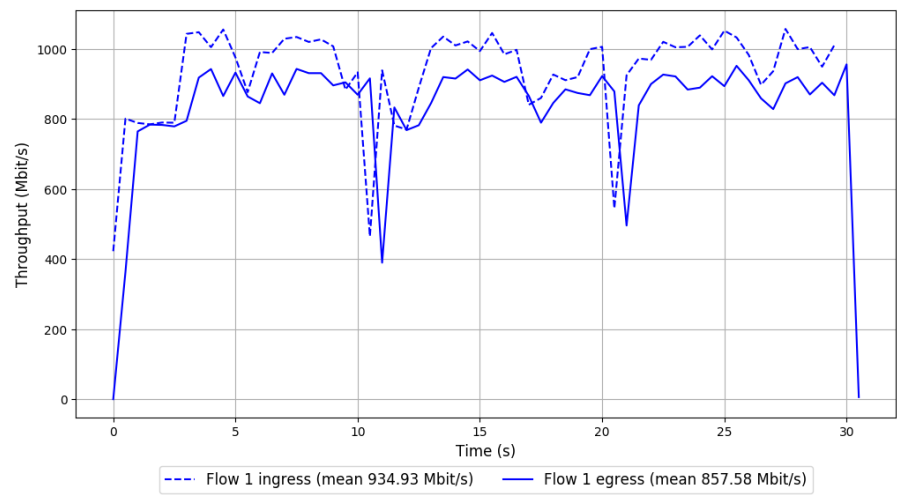
-- Flow 1:

Average throughput: 857.58 Mbit/s

95th percentile per-packet one-way delay: 47.403 ms

Loss rate: 8.27%

Run 5: Report of FillP-Sheep — Data Link

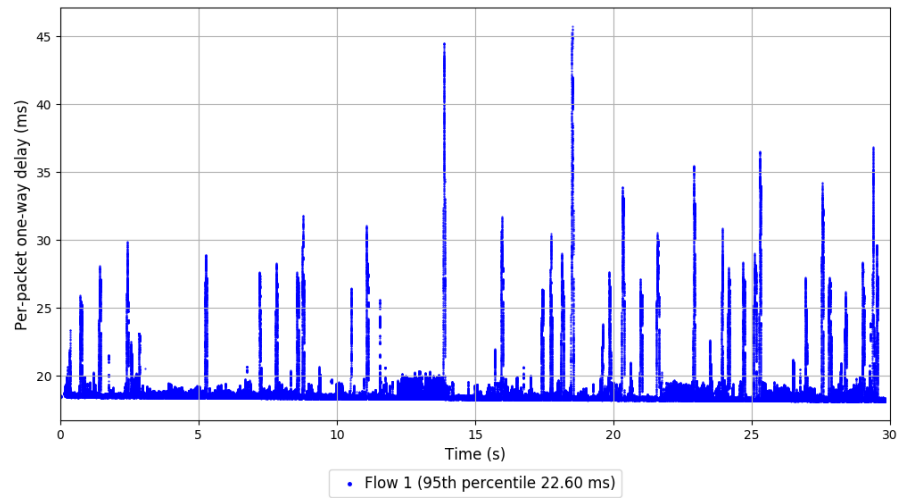
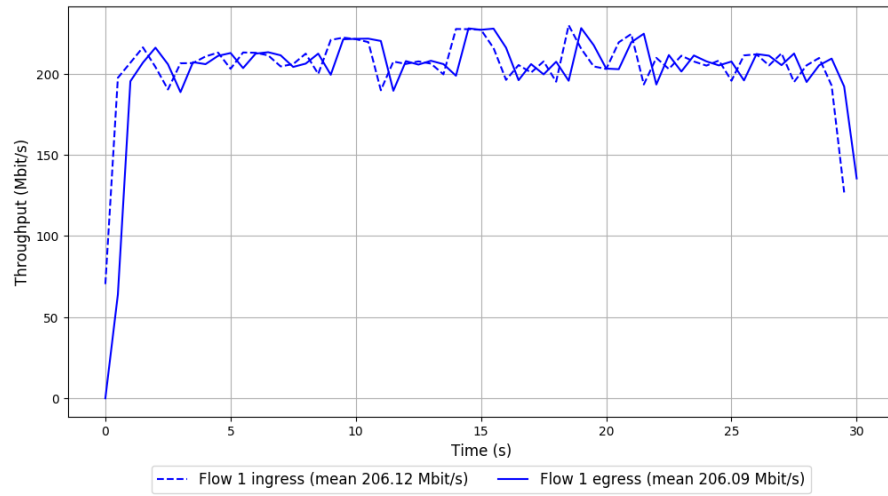


```
Run 1: Statistics of Indigo

Start at: 2018-09-10 22:50:30
End at: 2018-09-10 22:51:00
Local clock offset: -8.442 ms
Remote clock offset: 1.332 ms

# Below is generated by plot.py at 2018-09-11 01:16:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 206.09 Mbit/s
95th percentile per-packet one-way delay: 22.602 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 206.09 Mbit/s
95th percentile per-packet one-way delay: 22.602 ms
Loss rate: 0.02%
```

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



Run 2: Statistics of Indigo

Start at: 2018-09-10 23:16:58

End at: 2018-09-10 23:17:28

Local clock offset: -1.066 ms

Remote clock offset: 5.993 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 195.92 Mbit/s

95th percentile per-packet one-way delay: 21.794 ms

Loss rate: 0.02%

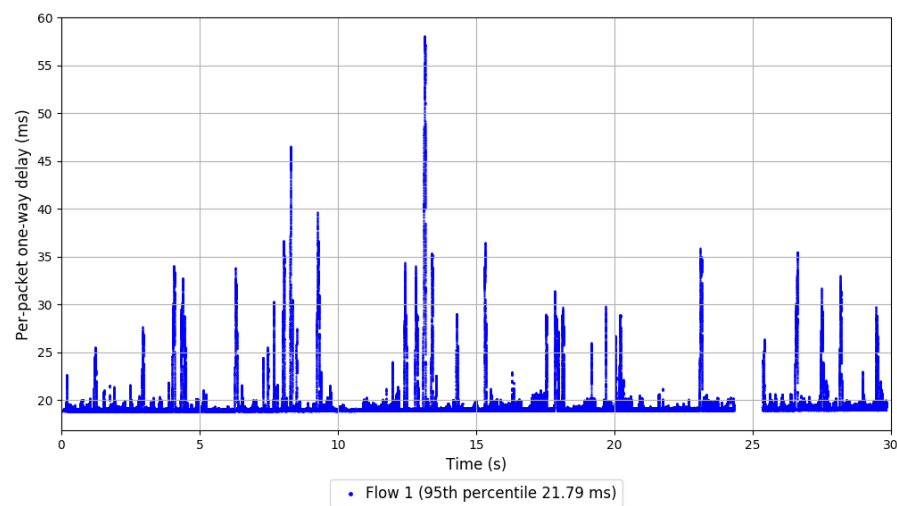
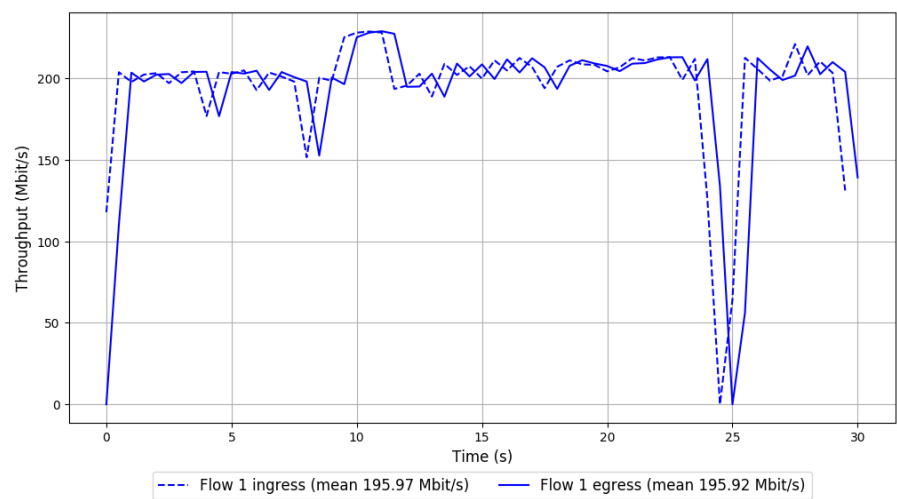
-- Flow 1:

Average throughput: 195.92 Mbit/s

95th percentile per-packet one-way delay: 21.794 ms

Loss rate: 0.02%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-10 23:43:00

End at: 2018-09-10 23:43:31

Local clock offset: -1.817 ms

Remote clock offset: 5.092 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 206.29 Mbit/s

95th percentile per-packet one-way delay: 21.122 ms

Loss rate: 0.03%

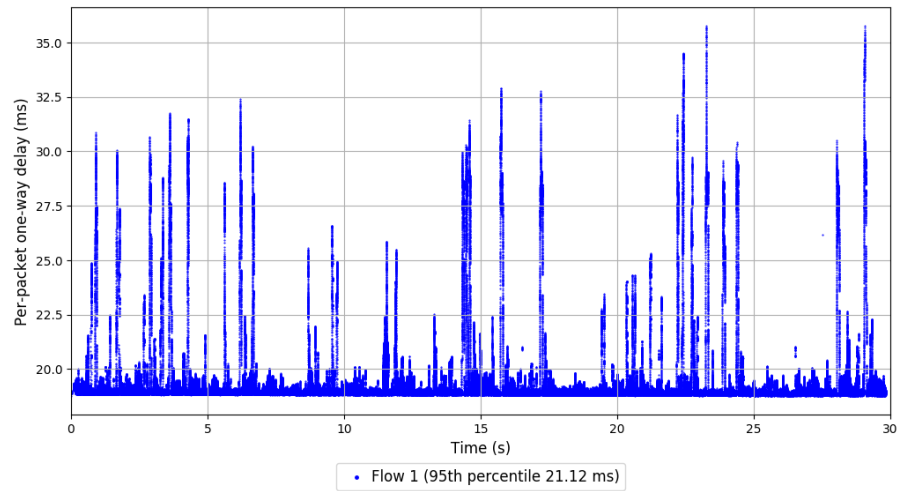
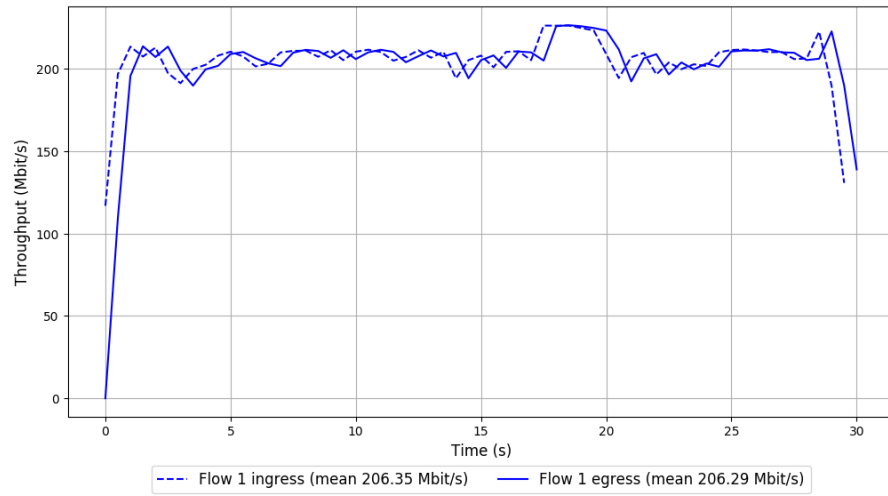
-- Flow 1:

Average throughput: 206.29 Mbit/s

95th percentile per-packet one-way delay: 21.122 ms

Loss rate: 0.03%

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



Run 4: Statistics of Indigo

Start at: 2018-09-11 00:09:17

End at: 2018-09-11 00:09:47

Local clock offset: -1.516 ms

Remote clock offset: 3.265 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 208.63 Mbit/s

95th percentile per-packet one-way delay: 19.458 ms

Loss rate: 0.02%

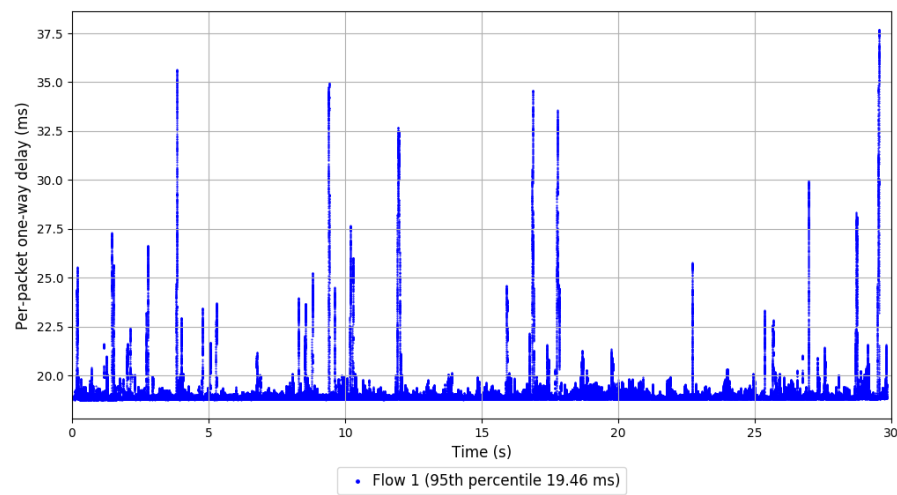
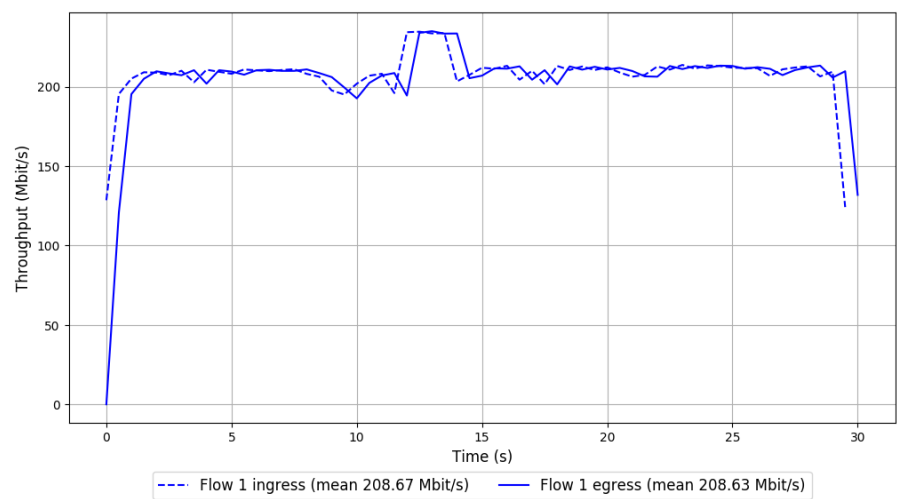
-- Flow 1:

Average throughput: 208.63 Mbit/s

95th percentile per-packet one-way delay: 19.458 ms

Loss rate: 0.02%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-11 00:35:26

End at: 2018-09-11 00:35:56

Local clock offset: -0.77 ms

Remote clock offset: 2.544 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 207.07 Mbit/s

95th percentile per-packet one-way delay: 20.791 ms

Loss rate: 0.09%

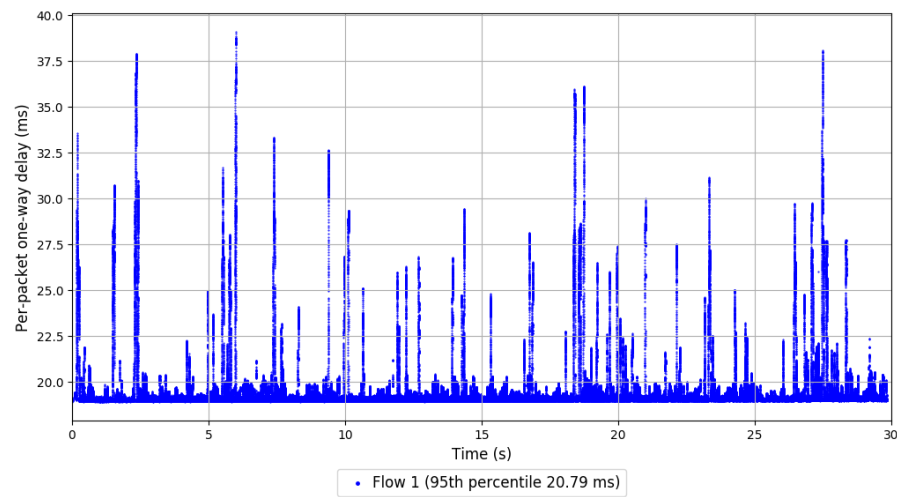
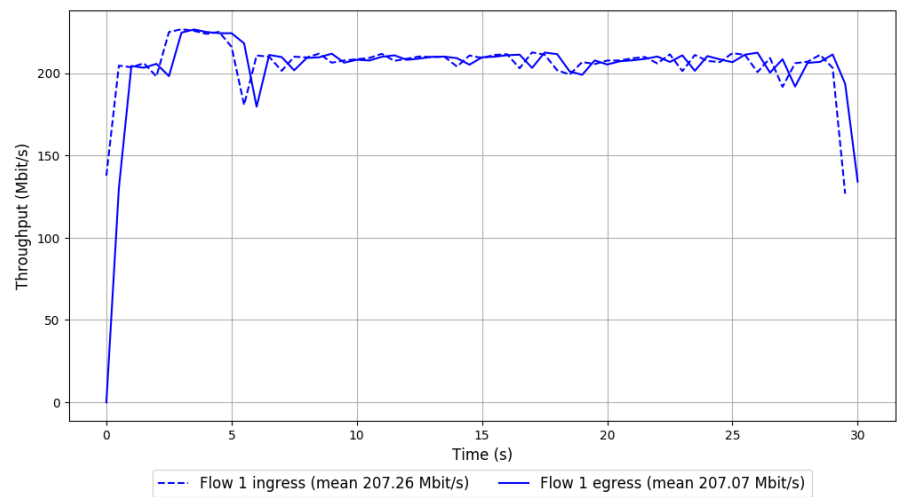
-- Flow 1:

Average throughput: 207.07 Mbit/s

95th percentile per-packet one-way delay: 20.791 ms

Loss rate: 0.09%

Run 5: Report of Indigo — Data Link

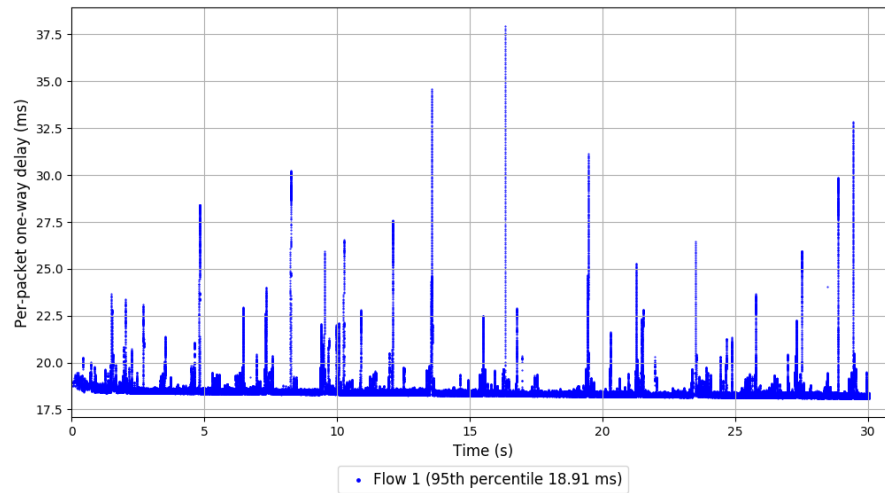
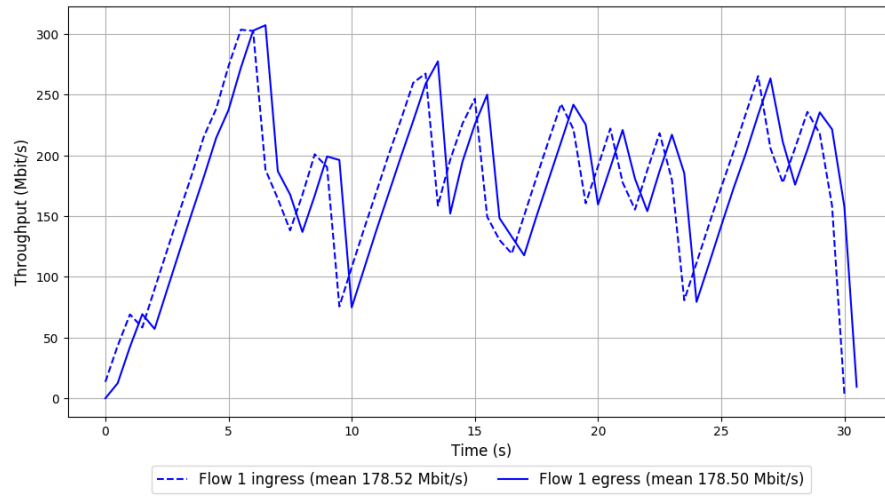


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-10 22:51:57
End at: 2018-09-10 22:52:27
Local clock offset: -8.682 ms
Remote clock offset: 1.959 ms

# Below is generated by plot.py at 2018-09-11 01:16:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 178.50 Mbit/s
95th percentile per-packet one-way delay: 18.905 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 178.50 Mbit/s
95th percentile per-packet one-way delay: 18.905 ms
Loss rate: 0.02%
```

## Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-10 23:18:25

End at: 2018-09-10 23:18:55

Local clock offset: -0.904 ms

Remote clock offset: 5.589 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 99.23 Mbit/s

95th percentile per-packet one-way delay: 19.286 ms

Loss rate: 0.07%

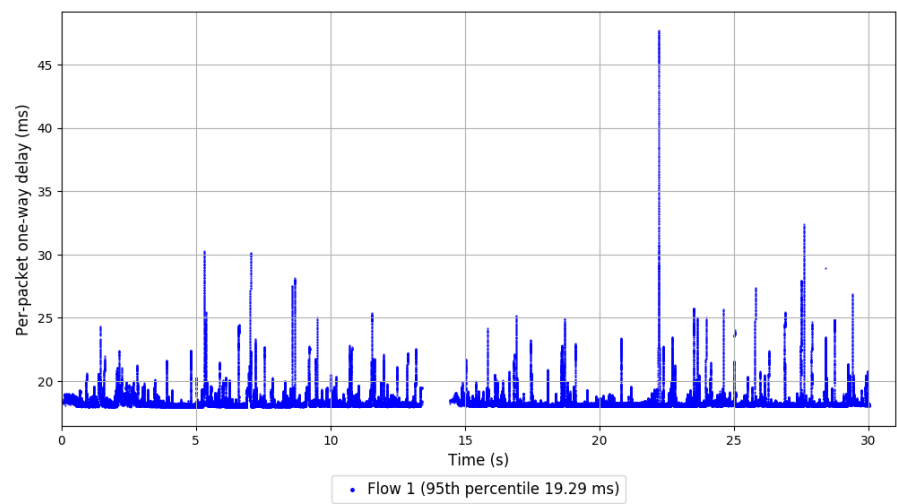
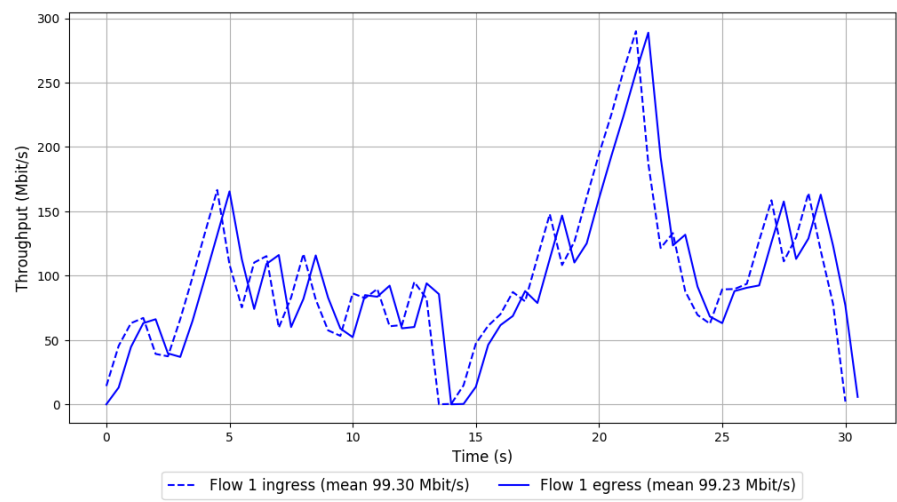
-- Flow 1:

Average throughput: 99.23 Mbit/s

95th percentile per-packet one-way delay: 19.286 ms

Loss rate: 0.07%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-10 23:44:28

End at: 2018-09-10 23:44:58

Local clock offset: -2.038 ms

Remote clock offset: 5.158 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 134.70 Mbit/s

95th percentile per-packet one-way delay: 19.554 ms

Loss rate: 0.01%

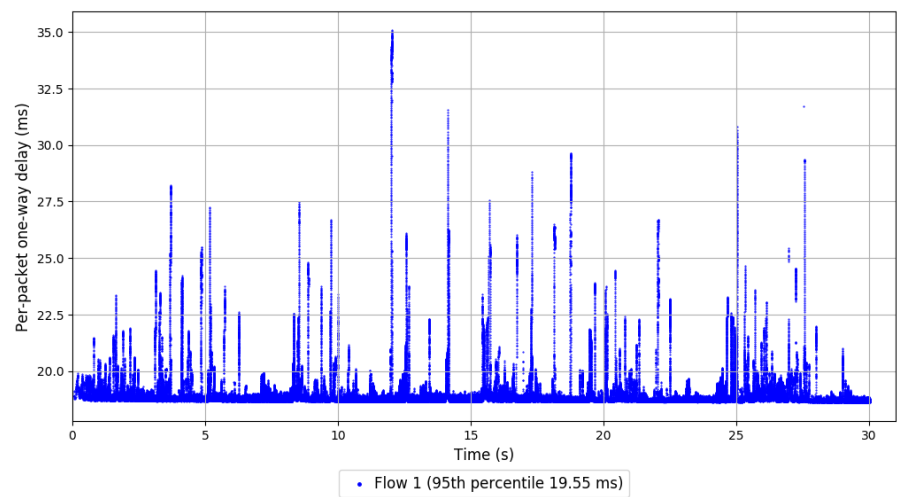
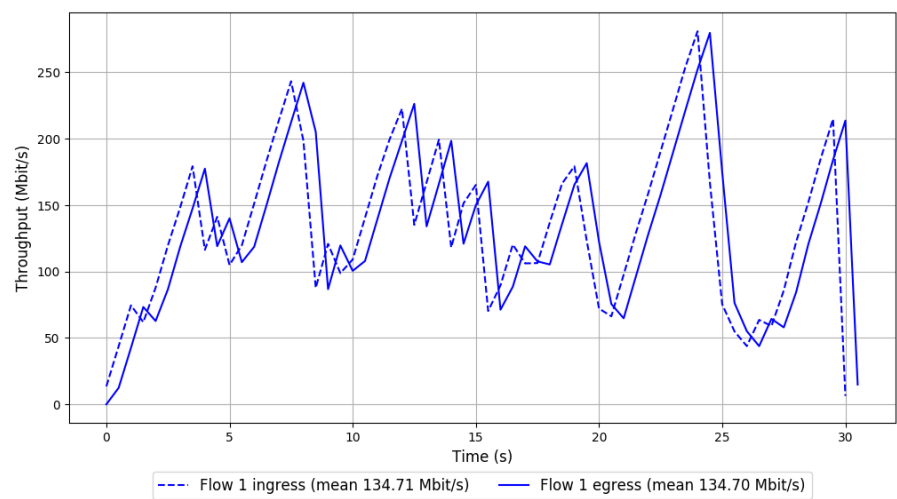
-- Flow 1:

Average throughput: 134.70 Mbit/s

95th percentile per-packet one-way delay: 19.554 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-11 00:10:44

End at: 2018-09-11 00:11:14

Local clock offset: -1.335 ms

Remote clock offset: 3.232 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 122.47 Mbit/s

95th percentile per-packet one-way delay: 19.764 ms

Loss rate: 0.02%

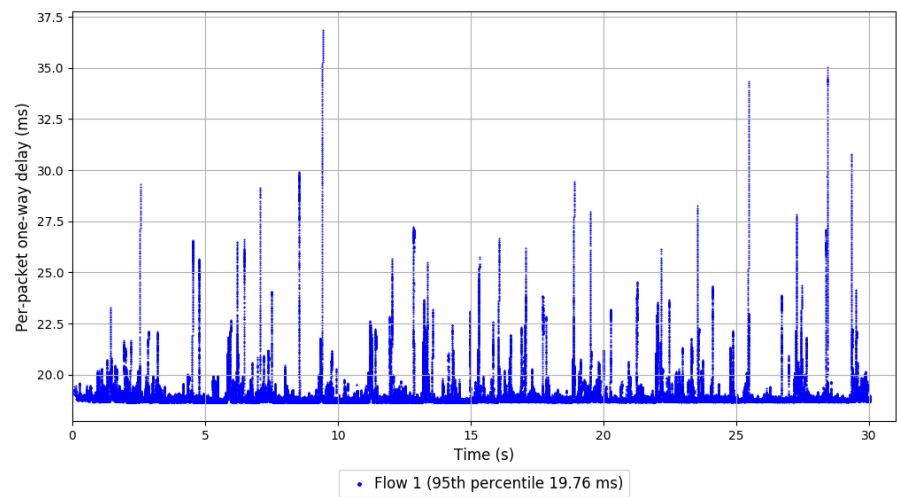
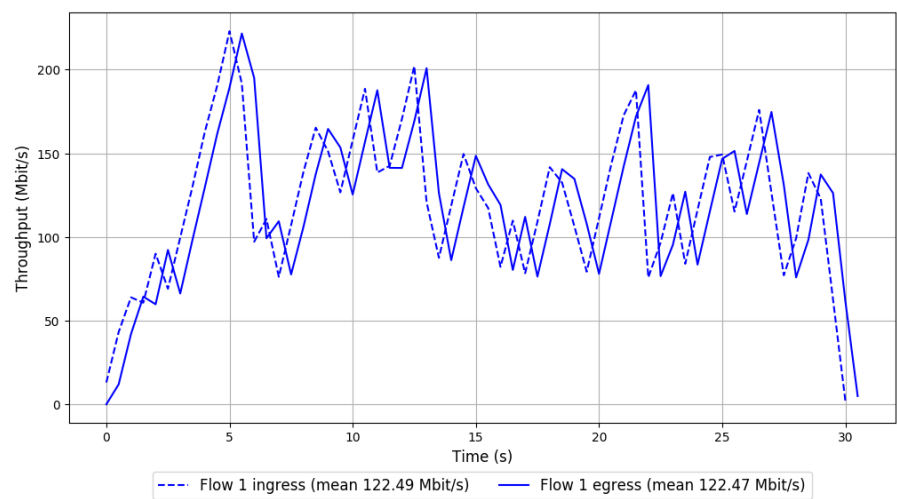
-- Flow 1:

Average throughput: 122.47 Mbit/s

95th percentile per-packet one-way delay: 19.764 ms

Loss rate: 0.02%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-11 00:36:53

End at: 2018-09-11 00:37:23

Local clock offset: -0.743 ms

Remote clock offset: 2.521 ms

# Below is generated by plot.py at 2018-09-11 01:16:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 224.93 Mbit/s

95th percentile per-packet one-way delay: 18.673 ms

Loss rate: 0.01%

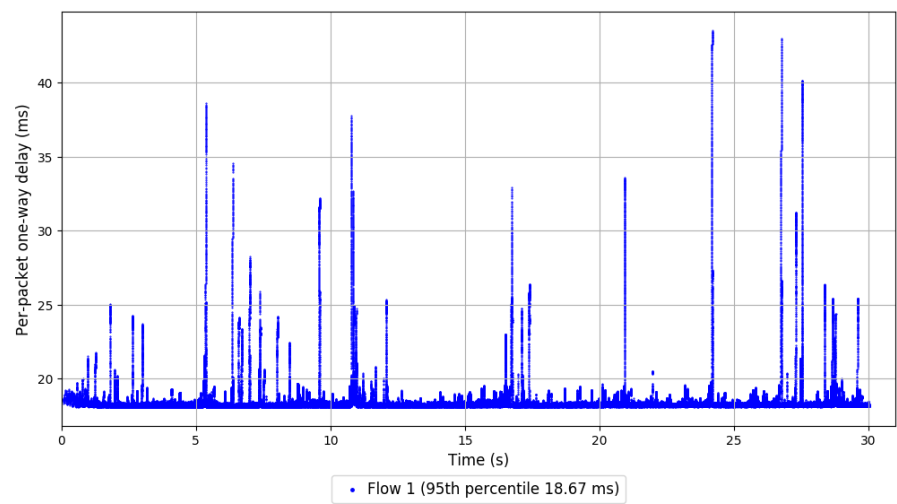
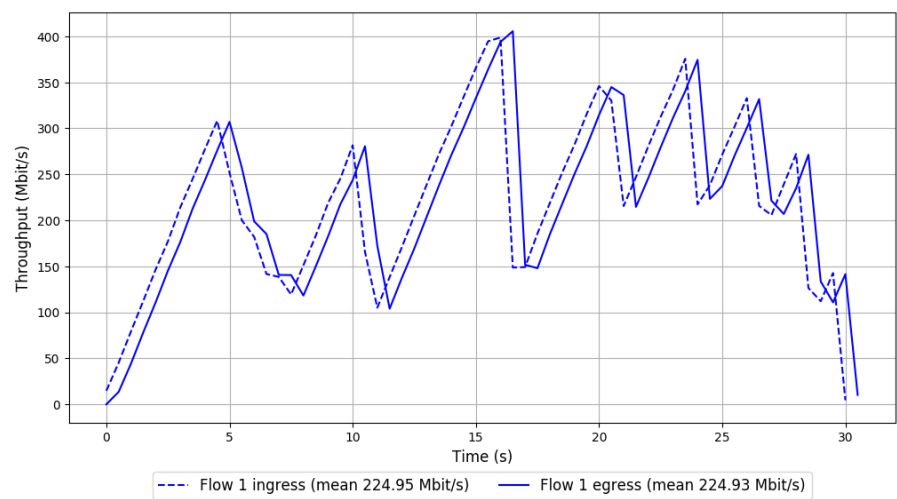
-- Flow 1:

Average throughput: 224.93 Mbit/s

95th percentile per-packet one-way delay: 18.673 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

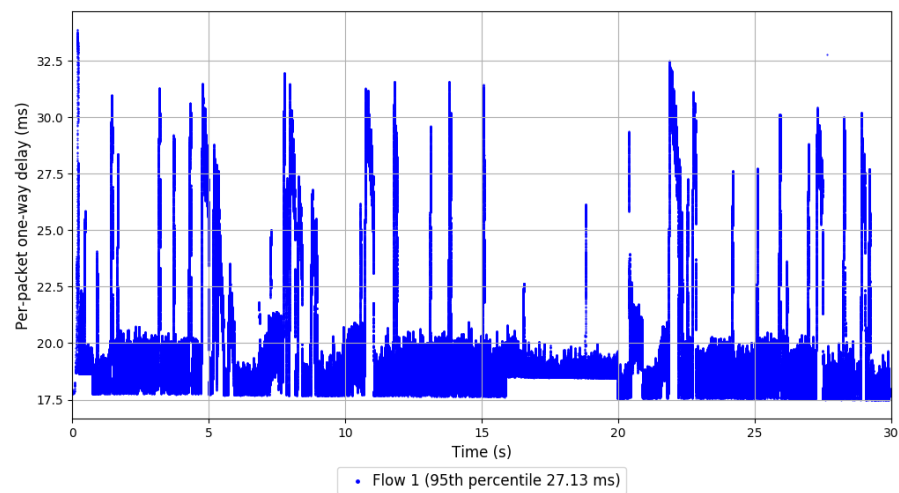
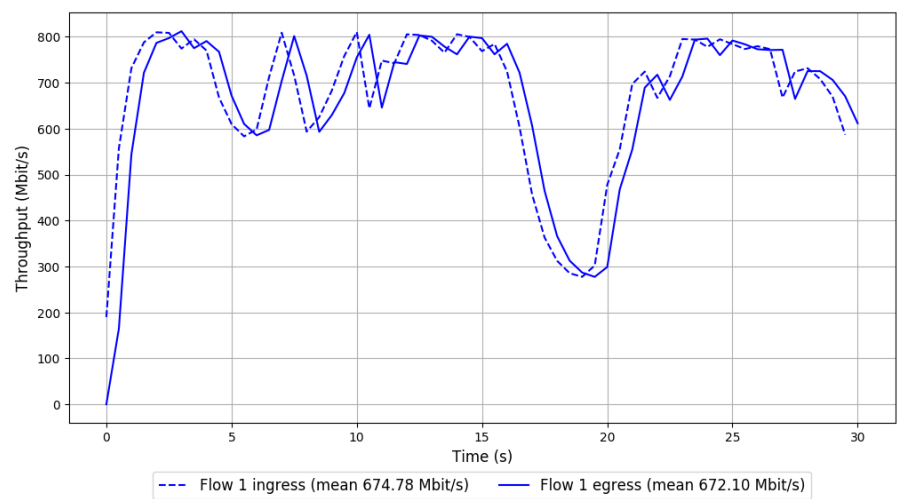


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-10 22:54:50
End at: 2018-09-10 22:55:20
Local clock offset: -9.398 ms
Remote clock offset: 2.982 ms

# Below is generated by plot.py at 2018-09-11 01:18:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 672.10 Mbit/s
95th percentile per-packet one-way delay: 27.126 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 672.10 Mbit/s
95th percentile per-packet one-way delay: 27.126 ms
Loss rate: 0.40%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-10 23:21:15

End at: 2018-09-10 23:21:45

Local clock offset: -1.014 ms

Remote clock offset: 5.153 ms

# Below is generated by plot.py at 2018-09-11 01:18:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 231.45 Mbit/s

95th percentile per-packet one-way delay: 21.127 ms

Loss rate: 0.19%

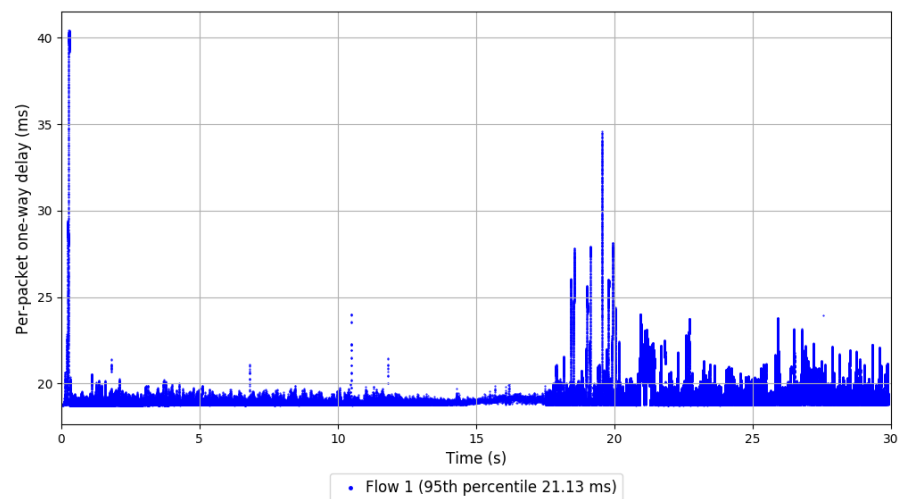
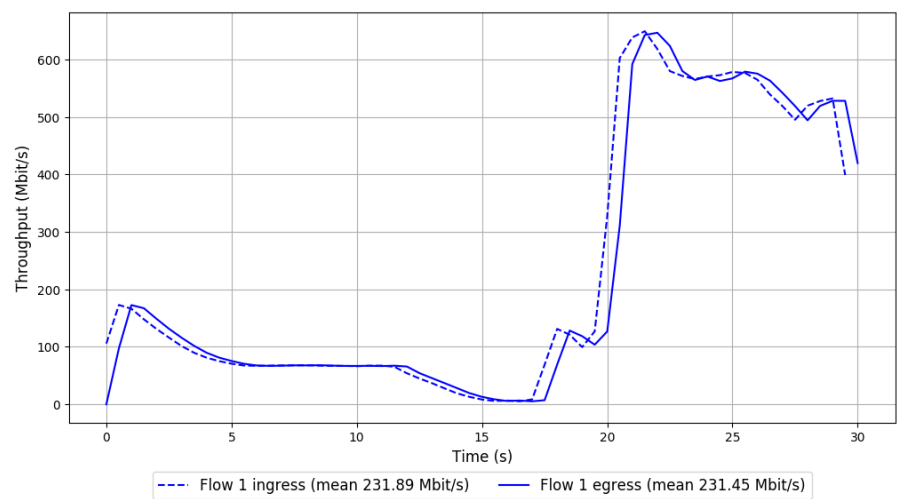
-- Flow 1:

Average throughput: 231.45 Mbit/s

95th percentile per-packet one-way delay: 21.127 ms

Loss rate: 0.19%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-10 23:47:20

End at: 2018-09-10 23:47:50

Local clock offset: -2.22 ms

Remote clock offset: 5.283 ms

# Below is generated by plot.py at 2018-09-11 01:18:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 640.99 Mbit/s

95th percentile per-packet one-way delay: 24.486 ms

Loss rate: 0.28%

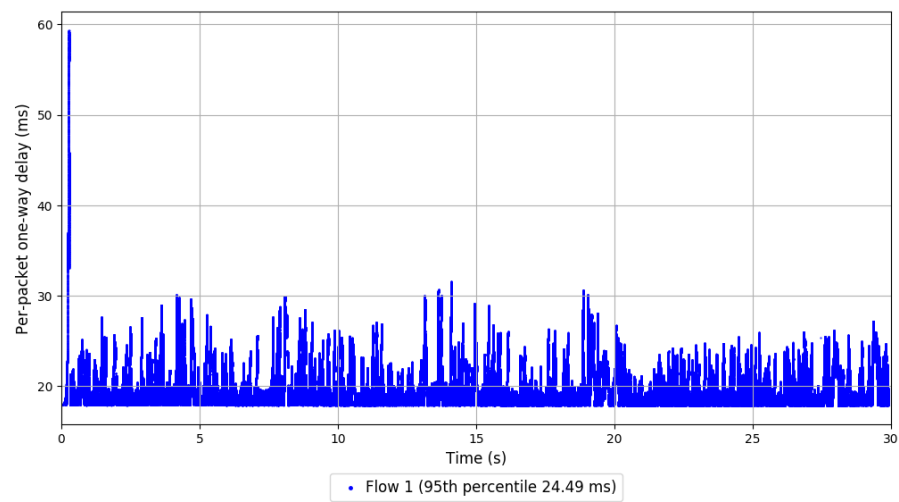
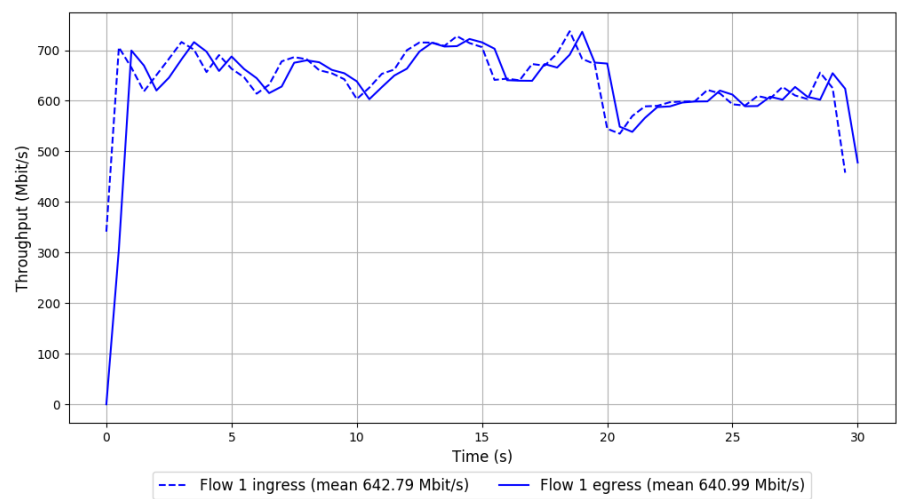
-- Flow 1:

Average throughput: 640.99 Mbit/s

95th percentile per-packet one-way delay: 24.486 ms

Loss rate: 0.28%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 00:13:35

End at: 2018-09-11 00:14:05

Local clock offset: -1.342 ms

Remote clock offset: 3.283 ms

# Below is generated by plot.py at 2018-09-11 01:18:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 429.99 Mbit/s

95th percentile per-packet one-way delay: 19.304 ms

Loss rate: 0.05%

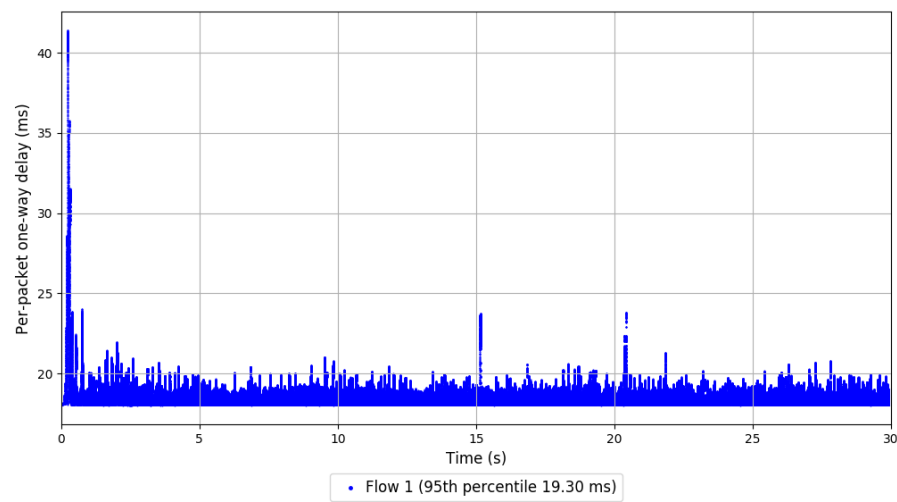
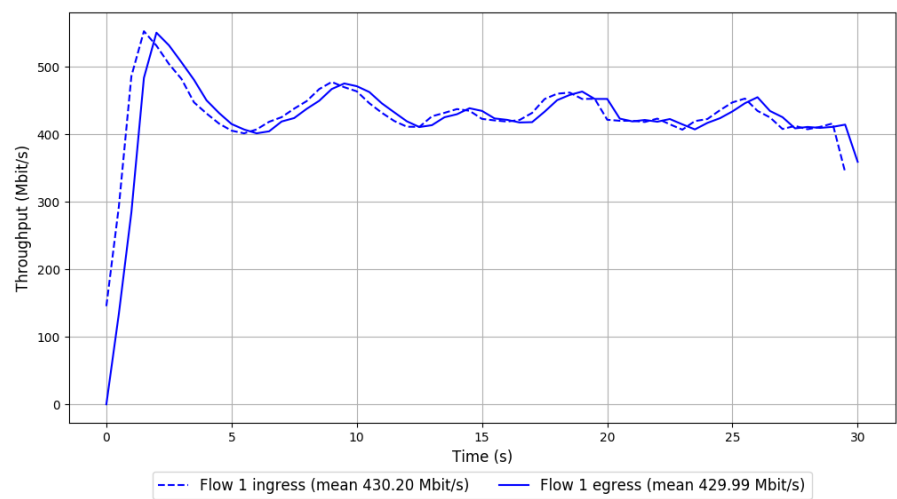
-- Flow 1:

Average throughput: 429.99 Mbit/s

95th percentile per-packet one-way delay: 19.304 ms

Loss rate: 0.05%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 00:39:49

End at: 2018-09-11 00:40:19

Local clock offset: -0.563 ms

Remote clock offset: 2.418 ms

# Below is generated by plot.py at 2018-09-11 01:18:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 68.89 Mbit/s

95th percentile per-packet one-way delay: 19.228 ms

Loss rate: 0.01%

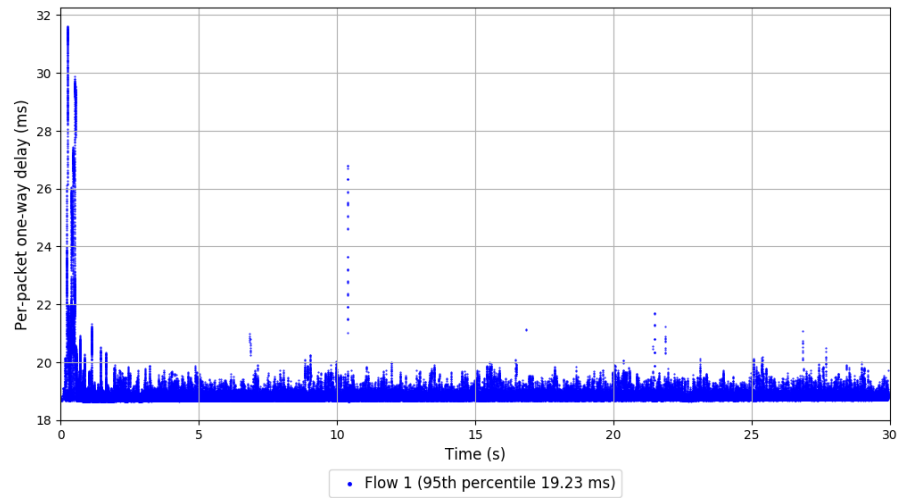
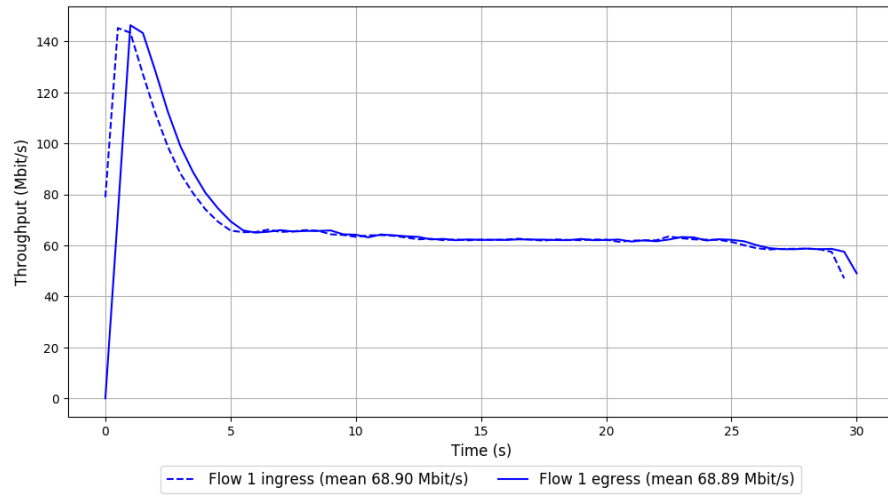
-- Flow 1:

Average throughput: 68.89 Mbit/s

95th percentile per-packet one-way delay: 19.228 ms

Loss rate: 0.01%

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

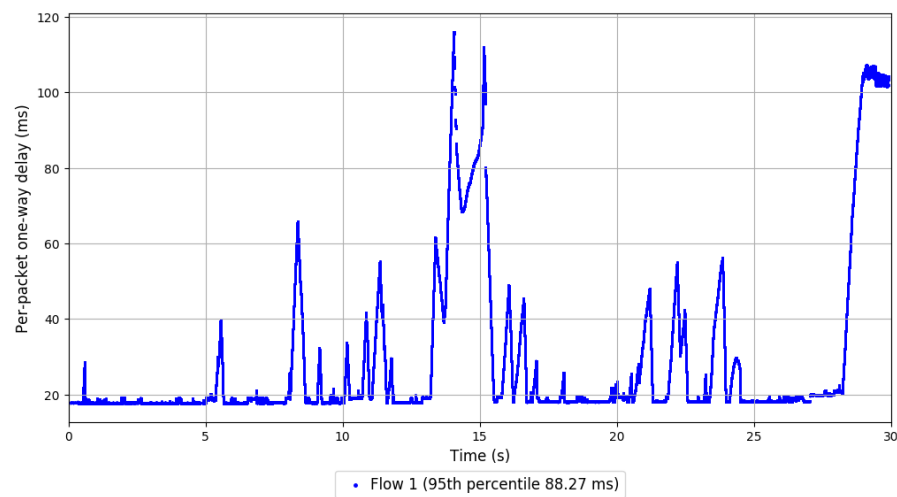
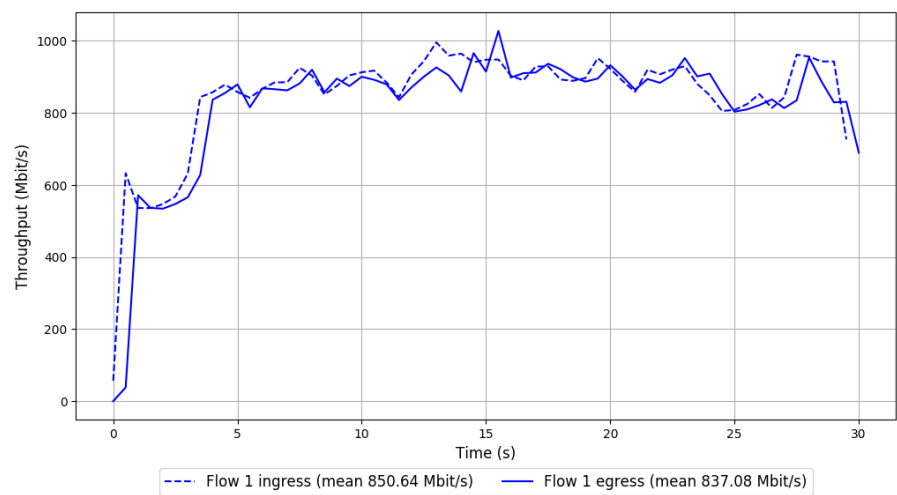


Run 1: Statistics of PCC-Allegro

Start at: 2018-09-10 22:35:18  
End at: 2018-09-10 22:35:48  
Local clock offset: -10.394 ms  
Remote clock offset: -7.145 ms

# Below is generated by plot.py at 2018-09-11 01:23:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 837.08 Mbit/s  
95th percentile per-packet one-way delay: 88.265 ms  
Loss rate: 1.59%  
-- Flow 1:  
Average throughput: 837.08 Mbit/s  
95th percentile per-packet one-way delay: 88.265 ms  
Loss rate: 1.59%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-10 23:01:37

End at: 2018-09-10 23:02:07

Local clock offset: -6.718 ms

Remote clock offset: 4.949 ms

# Below is generated by plot.py at 2018-09-11 01:23:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 834.09 Mbit/s

95th percentile per-packet one-way delay: 24.647 ms

Loss rate: 0.89%

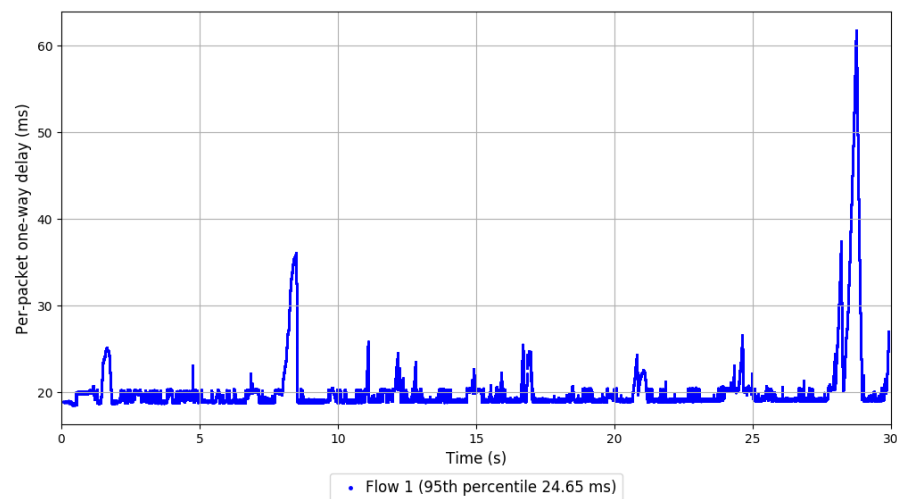
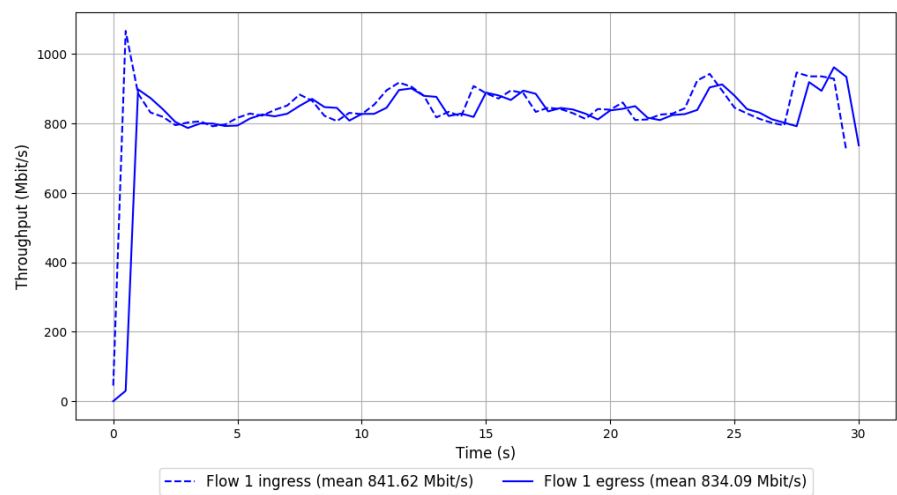
-- Flow 1:

Average throughput: 834.09 Mbit/s

95th percentile per-packet one-way delay: 24.647 ms

Loss rate: 0.89%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-10 23:27:50

End at: 2018-09-10 23:28:20

Local clock offset: -1.319 ms

Remote clock offset: 4.688 ms

# Below is generated by plot.py at 2018-09-11 01:24:24

# Datalink statistics

-- Total of 1 flow:

Average throughput: 853.22 Mbit/s

95th percentile per-packet one-way delay: 28.650 ms

Loss rate: 0.92%

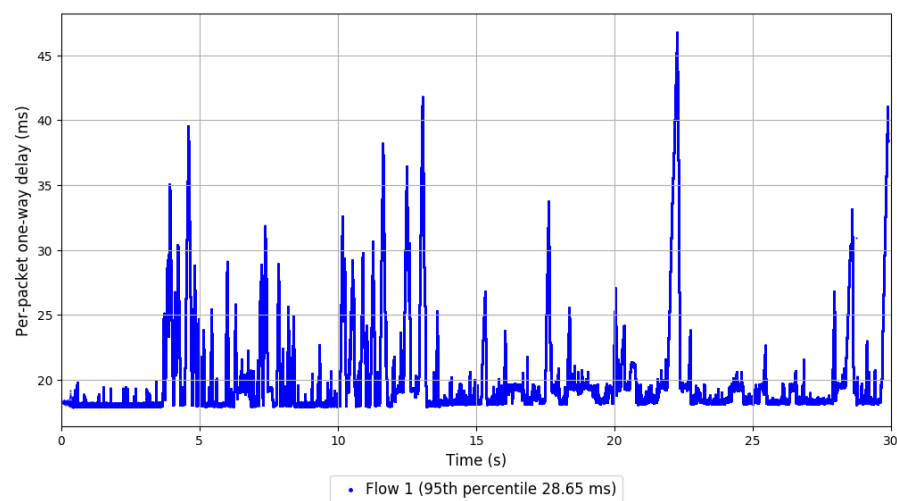
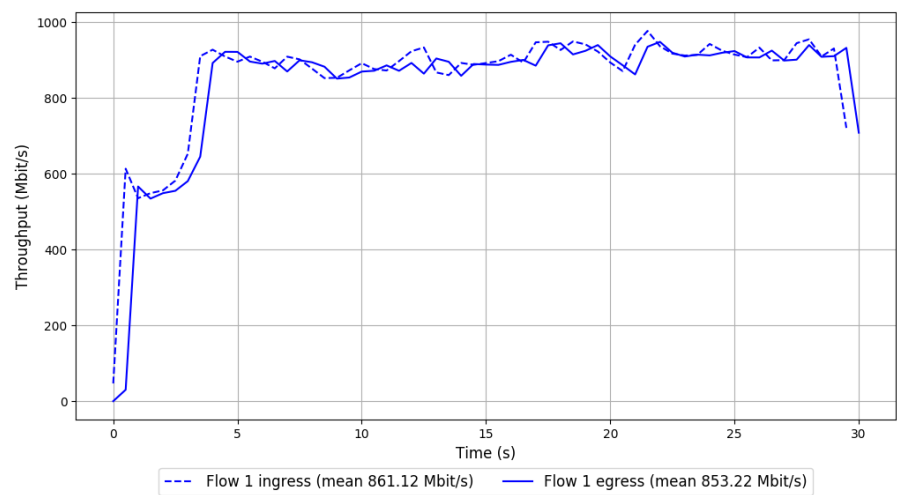
-- Flow 1:

Average throughput: 853.22 Mbit/s

95th percentile per-packet one-way delay: 28.650 ms

Loss rate: 0.92%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-10 23:54:07

End at: 2018-09-10 23:54:37

Local clock offset: -2.9 ms

Remote clock offset: 4.052 ms

# Below is generated by plot.py at 2018-09-11 01:25:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 827.82 Mbit/s

95th percentile per-packet one-way delay: 26.466 ms

Loss rate: 0.50%

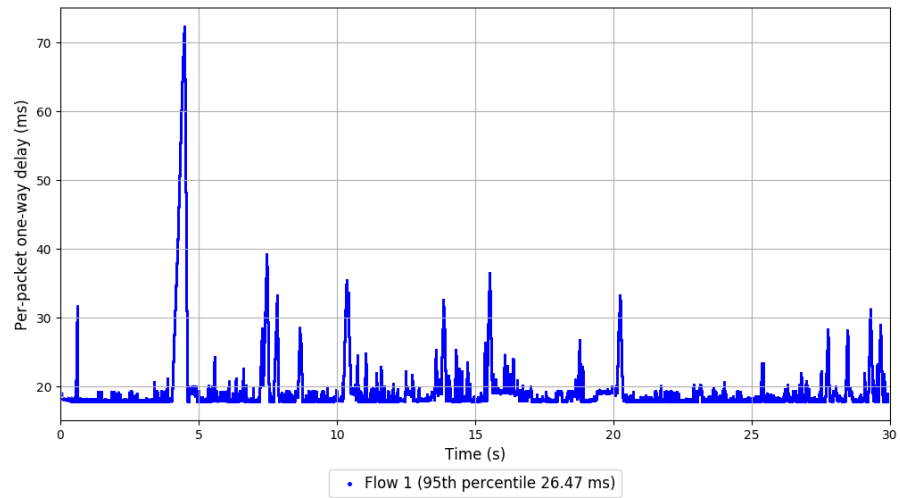
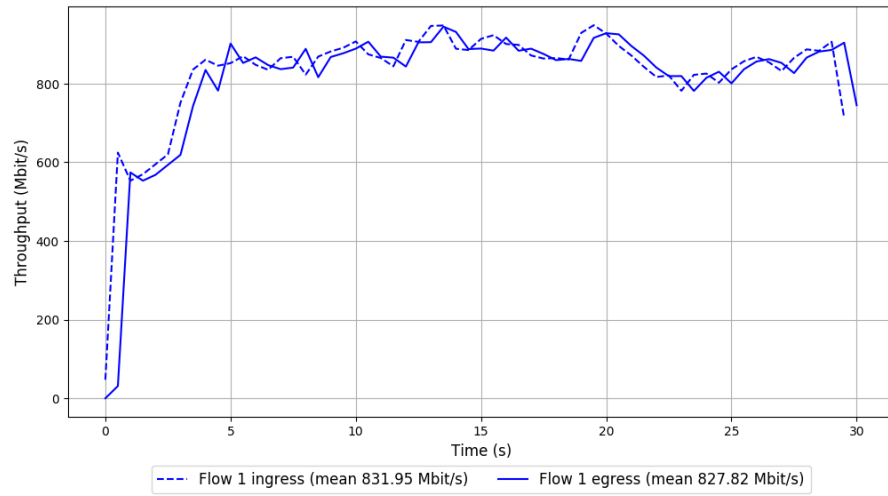
-- Flow 1:

Average throughput: 827.82 Mbit/s

95th percentile per-packet one-way delay: 26.466 ms

Loss rate: 0.50%

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



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 00:20:14

End at: 2018-09-11 00:20:44

Local clock offset: -1.397 ms

Remote clock offset: 3.299 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 835.11 Mbit/s

95th percentile per-packet one-way delay: 24.649 ms

Loss rate: 0.68%

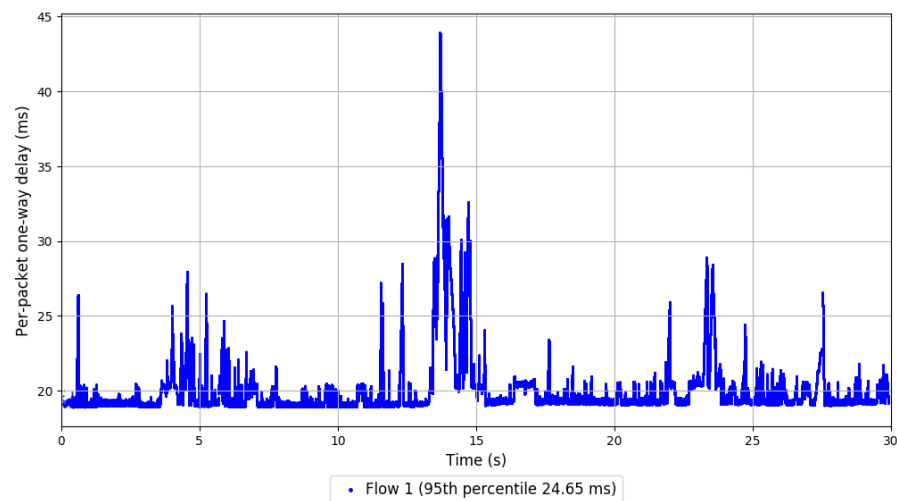
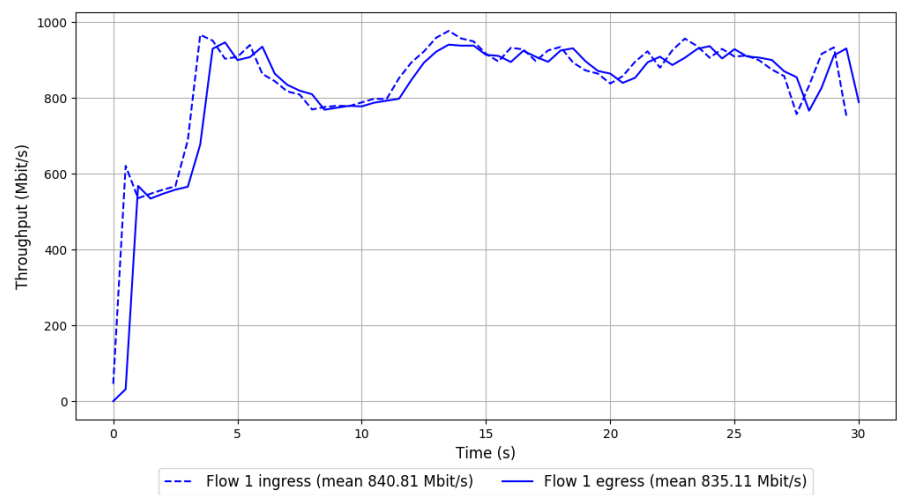
-- Flow 1:

Average throughput: 835.11 Mbit/s

95th percentile per-packet one-way delay: 24.649 ms

Loss rate: 0.68%

Run 5: Report of PCC-Allegro — Data Link

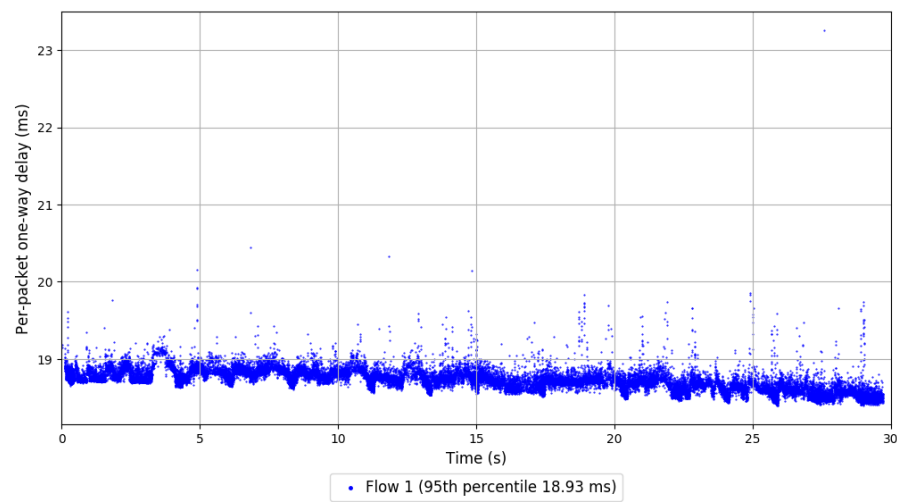
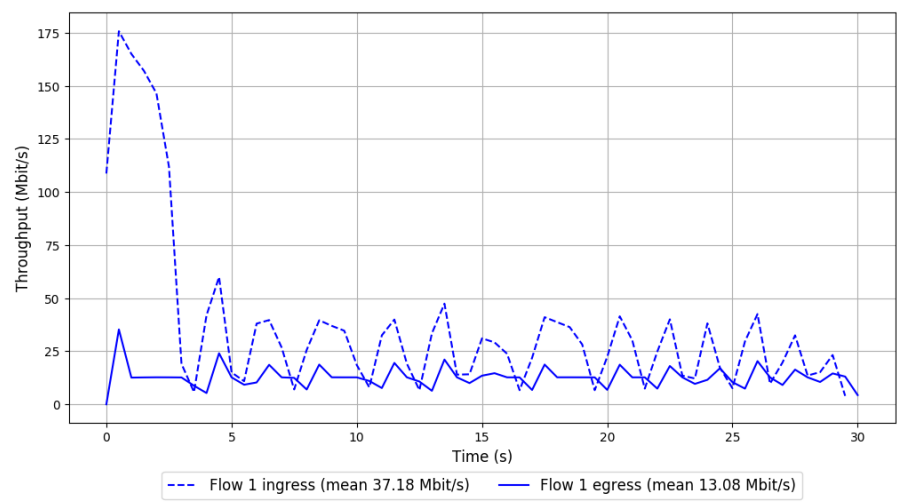


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-10 22:49:11
End at: 2018-09-10 22:49:41
Local clock offset: -8.235 ms
Remote clock offset: 0.743 ms

# Below is generated by plot.py at 2018-09-11 01:26:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.08 Mbit/s
95th percentile per-packet one-way delay: 18.929 ms
Loss rate: 64.83%
-- Flow 1:
Average throughput: 13.08 Mbit/s
95th percentile per-packet one-way delay: 18.929 ms
Loss rate: 64.83%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-10 23:15:39

End at: 2018-09-10 23:16:09

Local clock offset: -1.049 ms

Remote clock offset: 6.394 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 13.16 Mbit/s

95th percentile per-packet one-way delay: 19.200 ms

Loss rate: 52.72%

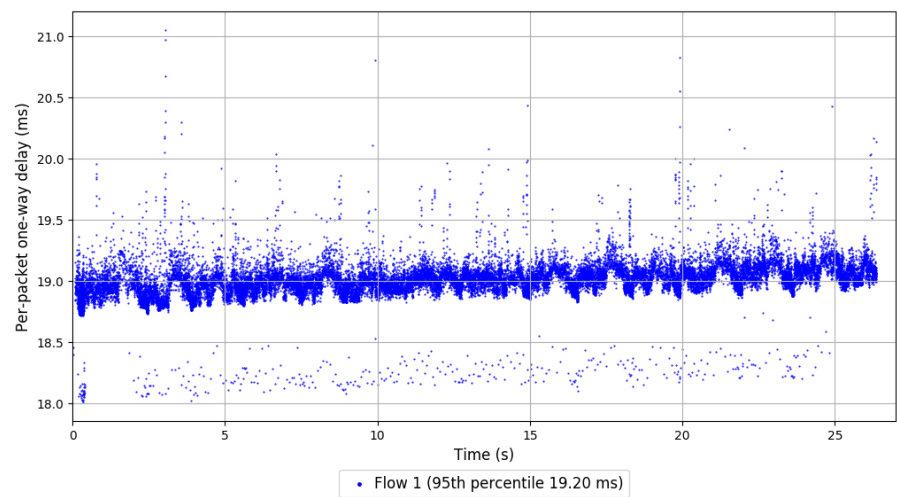
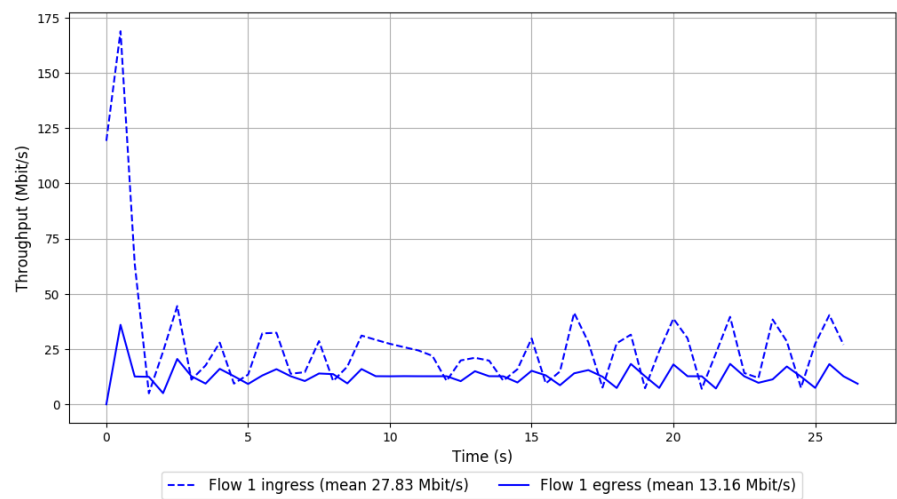
-- Flow 1:

Average throughput: 13.16 Mbit/s

95th percentile per-packet one-way delay: 19.200 ms

Loss rate: 52.72%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-10 23:41:41

End at: 2018-09-10 23:42:11

Local clock offset: -1.709 ms

Remote clock offset: 4.921 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 13.04 Mbit/s

95th percentile per-packet one-way delay: 19.071 ms

Loss rate: 52.07%

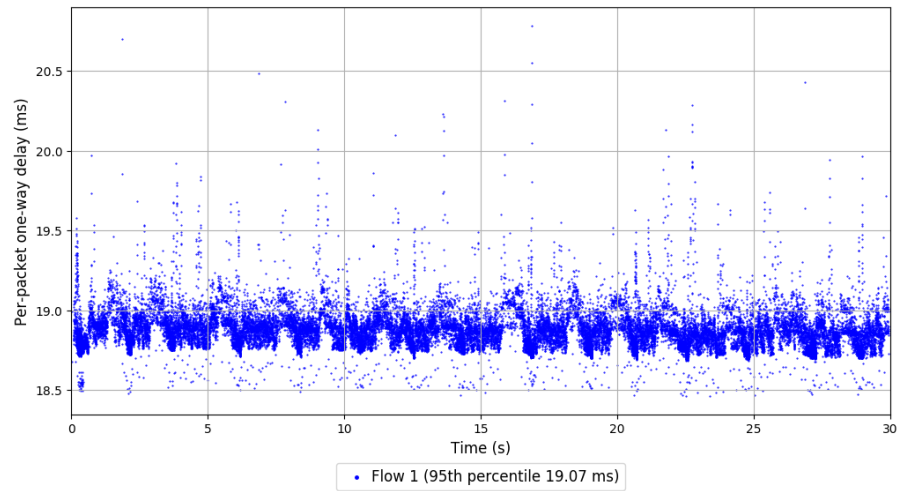
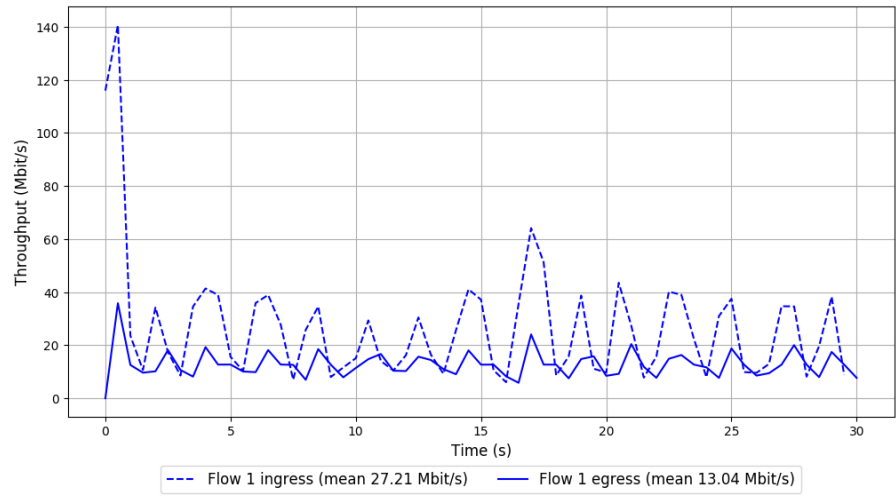
-- Flow 1:

Average throughput: 13.04 Mbit/s

95th percentile per-packet one-way delay: 19.071 ms

Loss rate: 52.07%

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



Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 00:07:58

End at: 2018-09-11 00:08:28

Local clock offset: -1.495 ms

Remote clock offset: 3.264 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 13.10 Mbit/s

95th percentile per-packet one-way delay: 19.234 ms

Loss rate: 52.38%

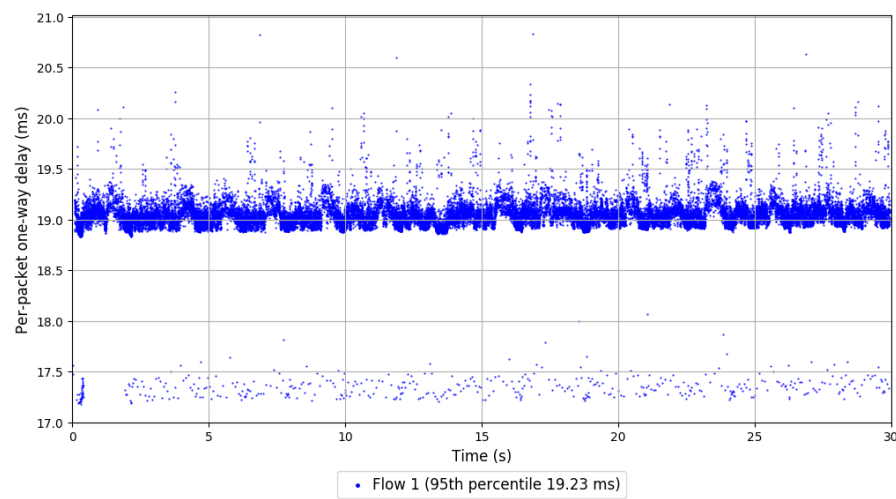
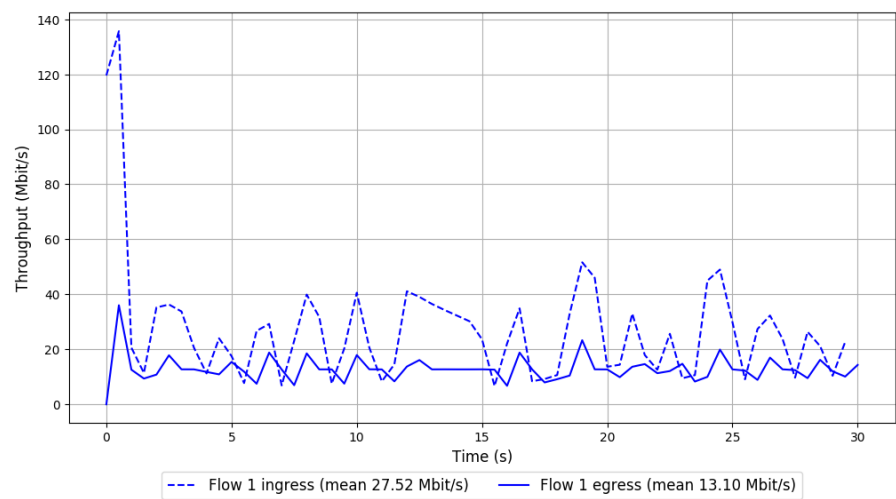
-- Flow 1:

Average throughput: 13.10 Mbit/s

95th percentile per-packet one-way delay: 19.234 ms

Loss rate: 52.38%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 00:34:07

End at: 2018-09-11 00:34:37

Local clock offset: -0.88 ms

Remote clock offset: 2.545 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 13.11 Mbit/s

95th percentile per-packet one-way delay: 18.987 ms

Loss rate: 44.32%

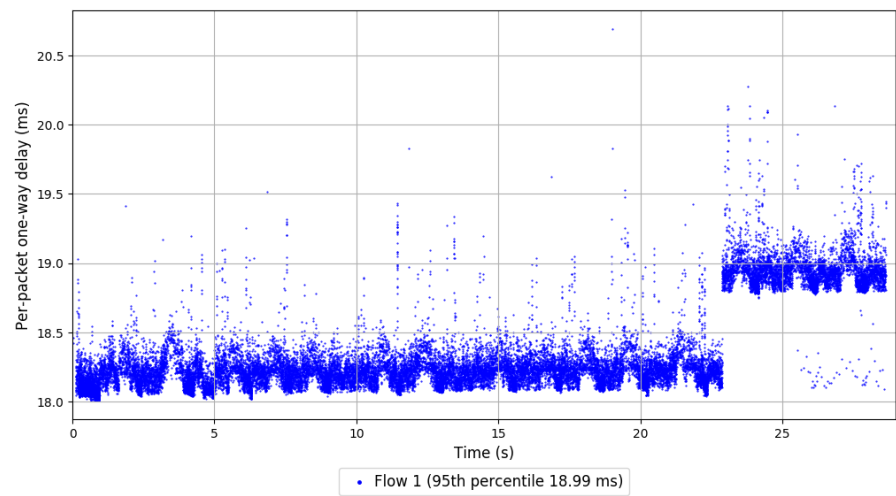
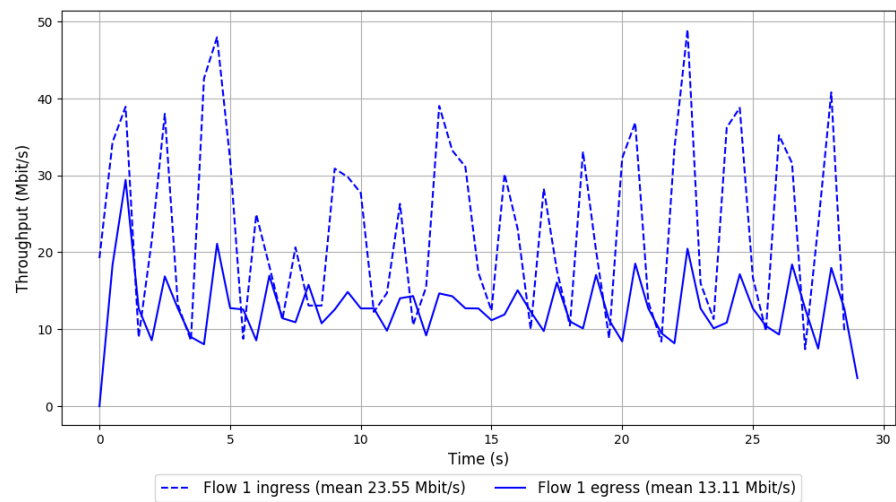
-- Flow 1:

Average throughput: 13.11 Mbit/s

95th percentile per-packet one-way delay: 18.987 ms

Loss rate: 44.32%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-10 22:38:20

End at: 2018-09-10 22:38:50

Local clock offset: -8.93 ms

Remote clock offset: -7.233 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.42 Mbit/s

95th percentile per-packet one-way delay: 18.549 ms

Loss rate: 0.00%

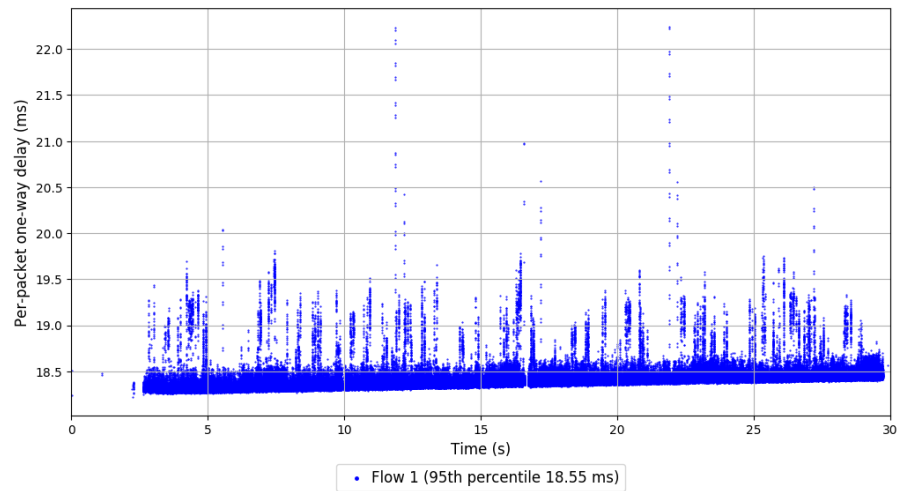
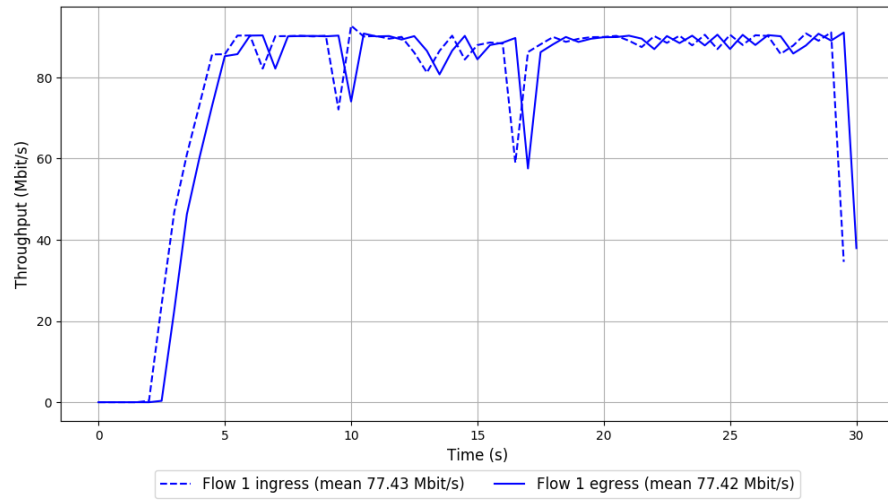
-- Flow 1:

Average throughput: 77.42 Mbit/s

95th percentile per-packet one-way delay: 18.549 ms

Loss rate: 0.00%

# Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-10 23:04:44

End at: 2018-09-10 23:05:14

Local clock offset: -4.283 ms

Remote clock offset: 5.577 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.48 Mbit/s

95th percentile per-packet one-way delay: 18.618 ms

Loss rate: 0.01%

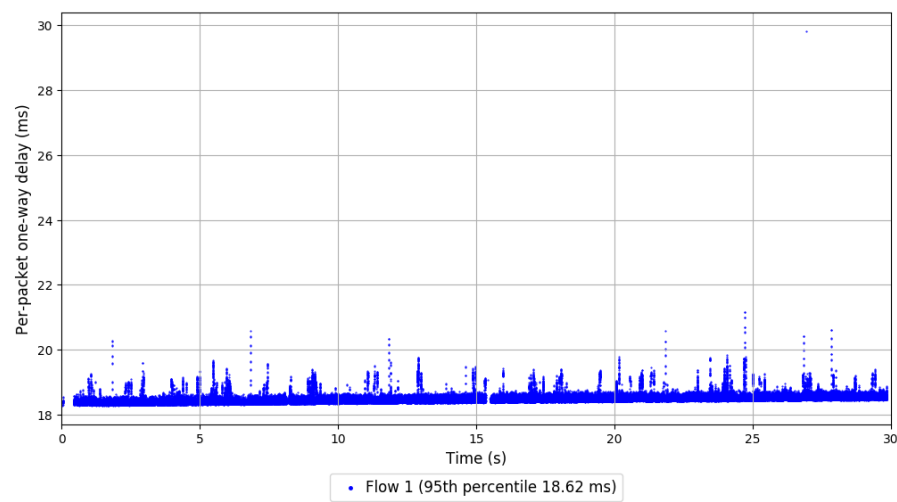
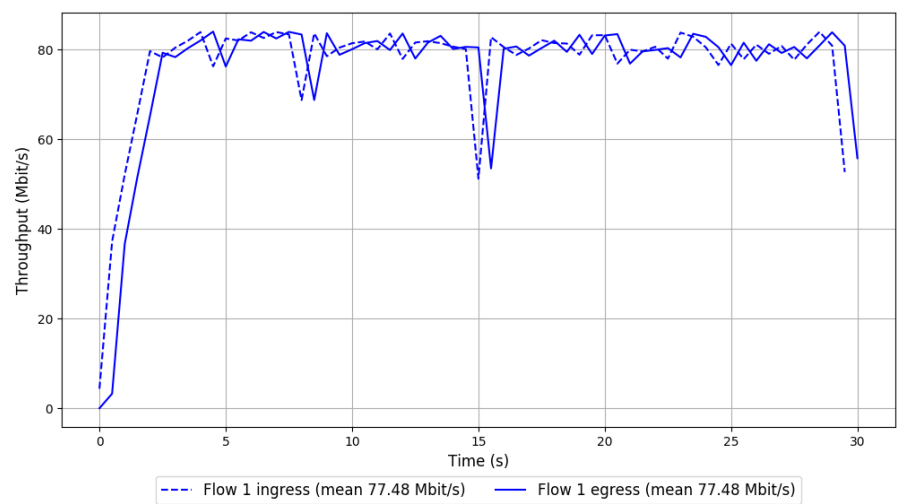
-- Flow 1:

Average throughput: 77.48 Mbit/s

95th percentile per-packet one-way delay: 18.618 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-10 23:30:51

End at: 2018-09-10 23:31:21

Local clock offset: -1.3 ms

Remote clock offset: 4.615 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.89 Mbit/s

95th percentile per-packet one-way delay: 19.185 ms

Loss rate: 0.04%

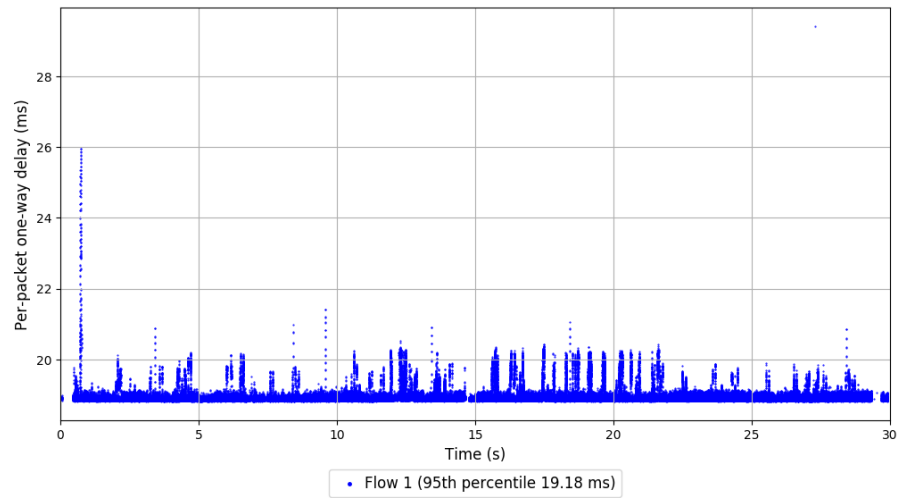
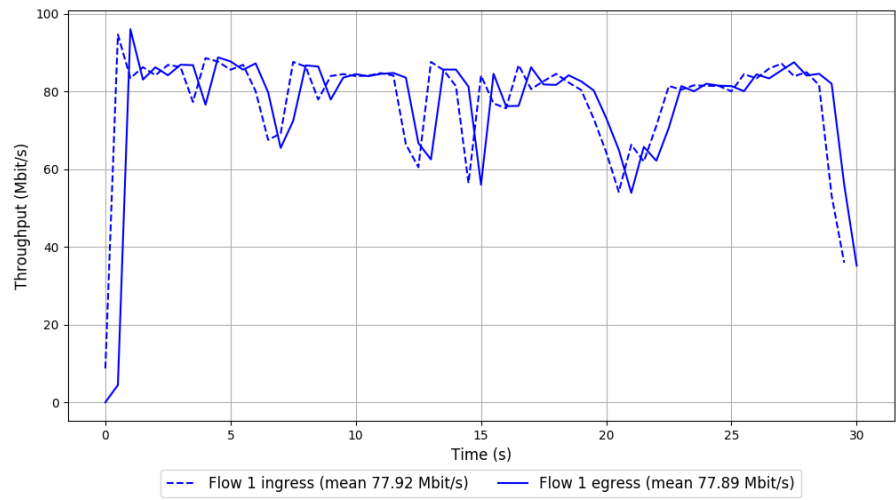
-- Flow 1:

Average throughput: 77.89 Mbit/s

95th percentile per-packet one-way delay: 19.185 ms

Loss rate: 0.04%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-10 23:57:09

End at: 2018-09-10 23:57:39

Local clock offset: -3.226 ms

Remote clock offset: 3.712 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 80.18 Mbit/s

95th percentile per-packet one-way delay: 18.912 ms

Loss rate: 0.01%

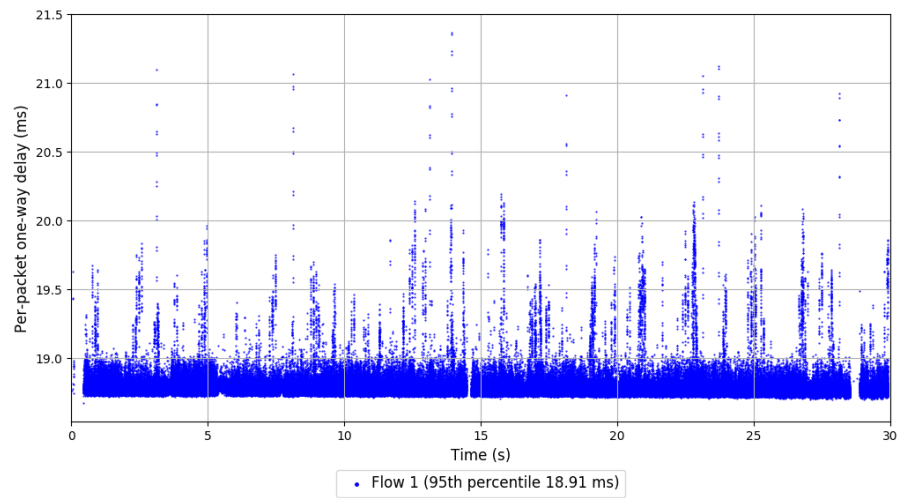
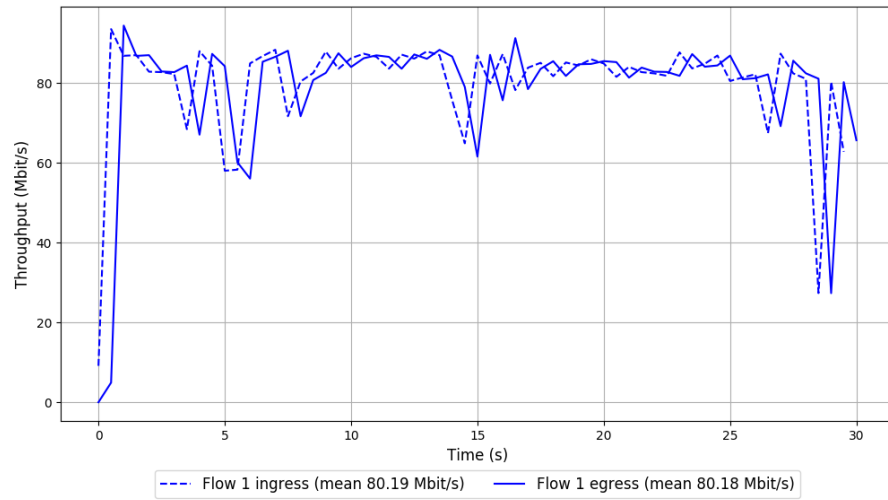
-- Flow 1:

Average throughput: 80.18 Mbit/s

95th percentile per-packet one-way delay: 18.912 ms

Loss rate: 0.01%

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



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 00:23:15

End at: 2018-09-11 00:23:45

Local clock offset: -1.398 ms

Remote clock offset: 3.203 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 76.98 Mbit/s

95th percentile per-packet one-way delay: 19.071 ms

Loss rate: 0.00%

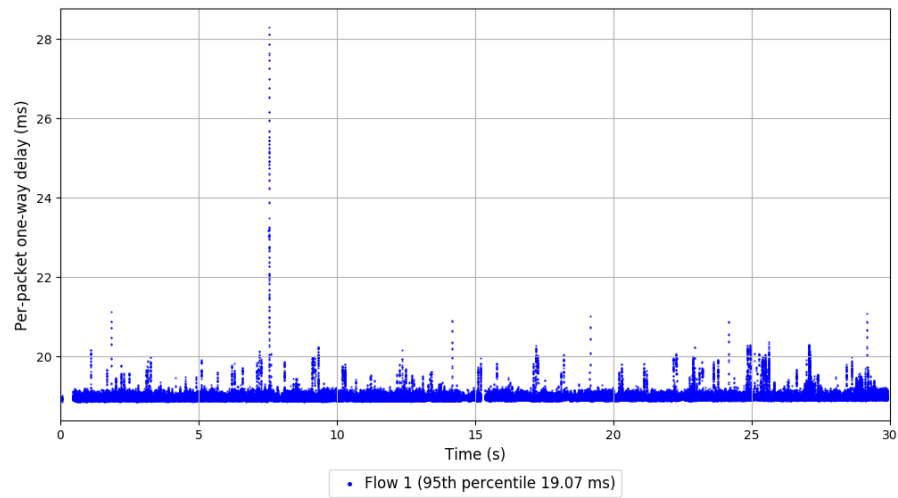
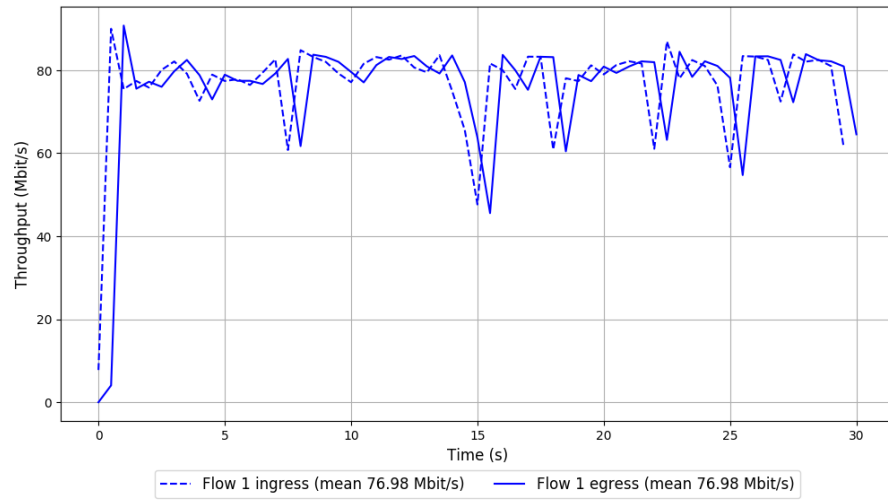
-- Flow 1:

Average throughput: 76.98 Mbit/s

95th percentile per-packet one-way delay: 19.071 ms

Loss rate: 0.00%

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

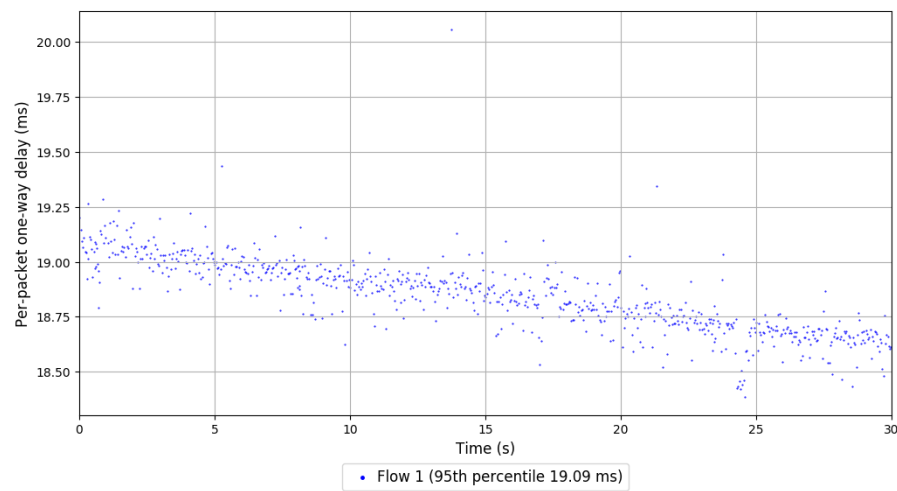
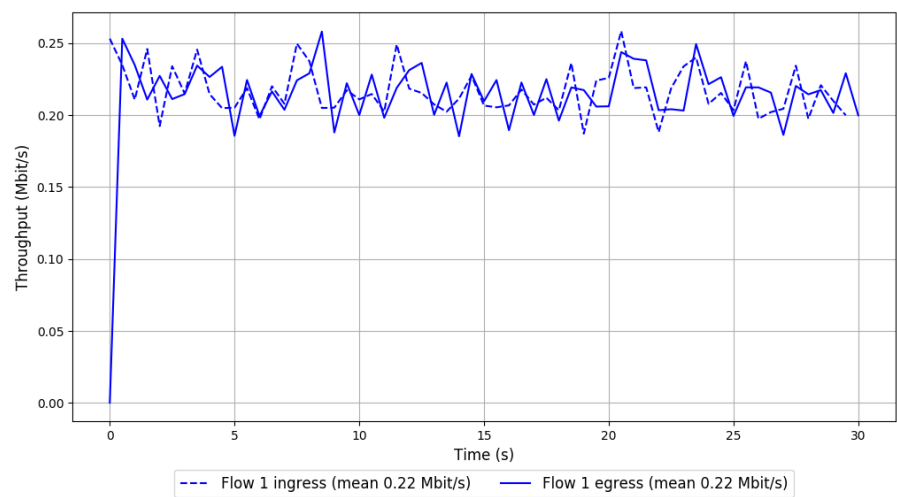


```
Run 1: Statistics of SCReAM

Start at: 2018-09-10 22:42:17
End at: 2018-09-10 22:42:47
Local clock offset: -7.981 ms
Remote clock offset: -4.259 ms

# Below is generated by plot.py at 2018-09-11 01:26:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.086 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.086 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-09-10 23:08:43

End at: 2018-09-10 23:09:13

Local clock offset: -2.386 ms

Remote clock offset: 6.364 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 19.439 ms

Loss rate: 0.00%

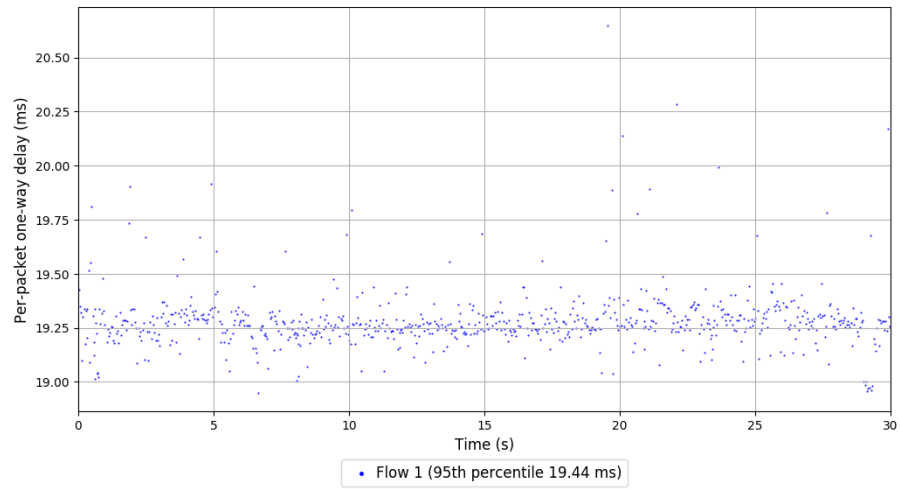
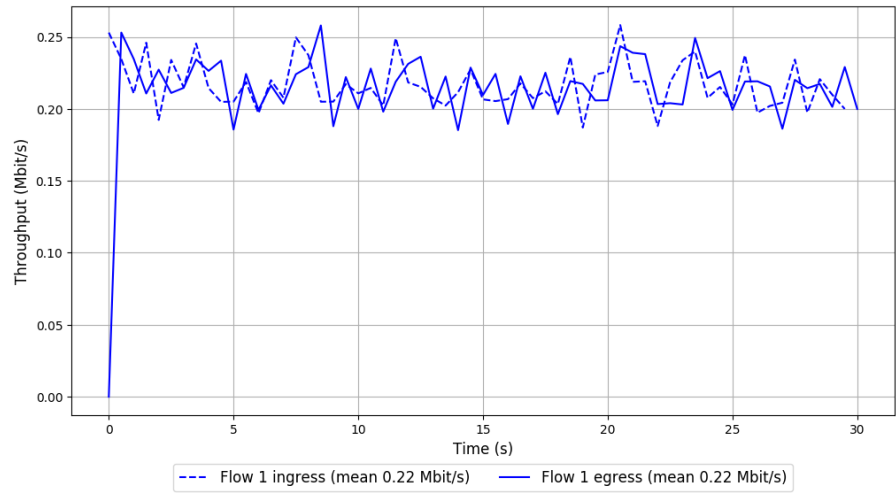
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 19.439 ms

Loss rate: 0.00%

## Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-10 23:34:50

End at: 2018-09-10 23:35:20

Local clock offset: -1.337 ms

Remote clock offset: 4.754 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 17.739 ms

Loss rate: 0.00%

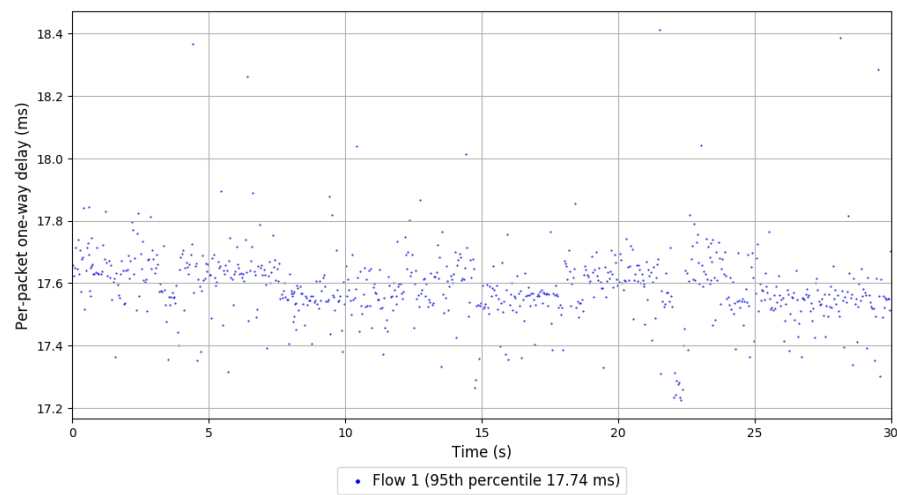
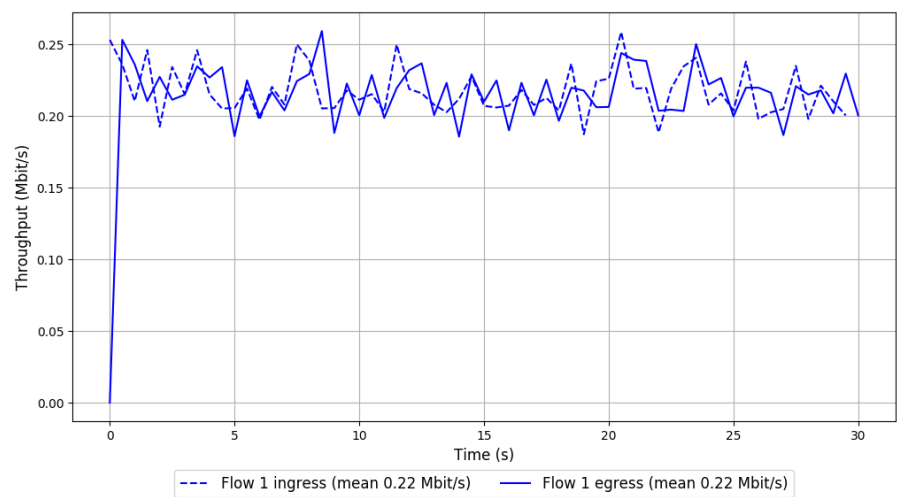
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 17.739 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-11 00:01:08

End at: 2018-09-11 00:01:38

Local clock offset: -2.684 ms

Remote clock offset: 3.549 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 18.833 ms

Loss rate: 0.00%

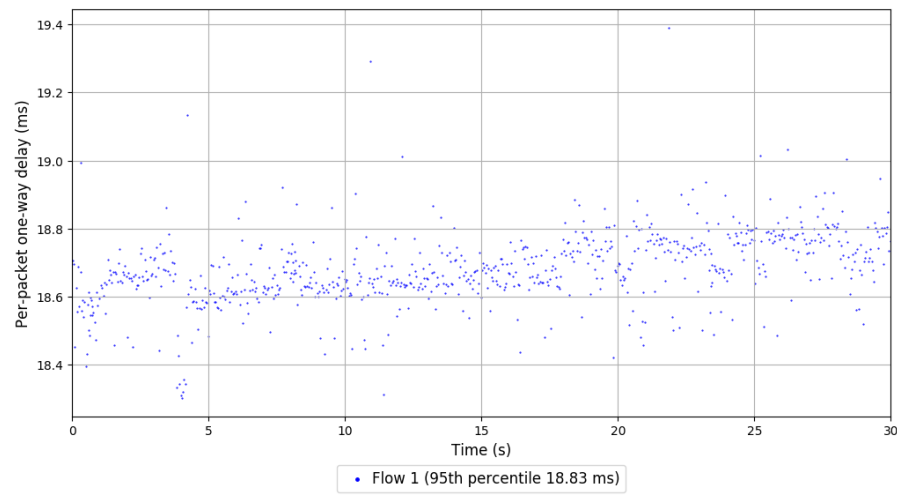
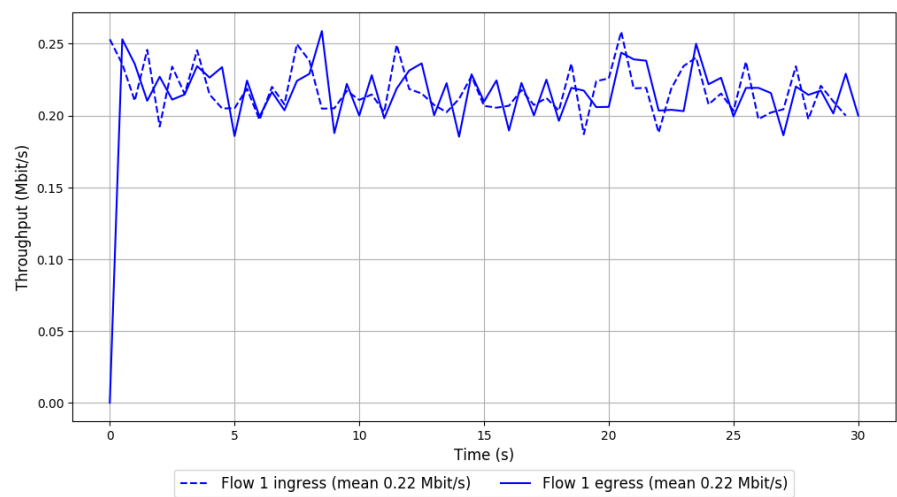
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 18.833 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-11 00:27:12

End at: 2018-09-11 00:27:42

Local clock offset: -1.543 ms

Remote clock offset: 2.841 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 19.132 ms

Loss rate: 0.00%

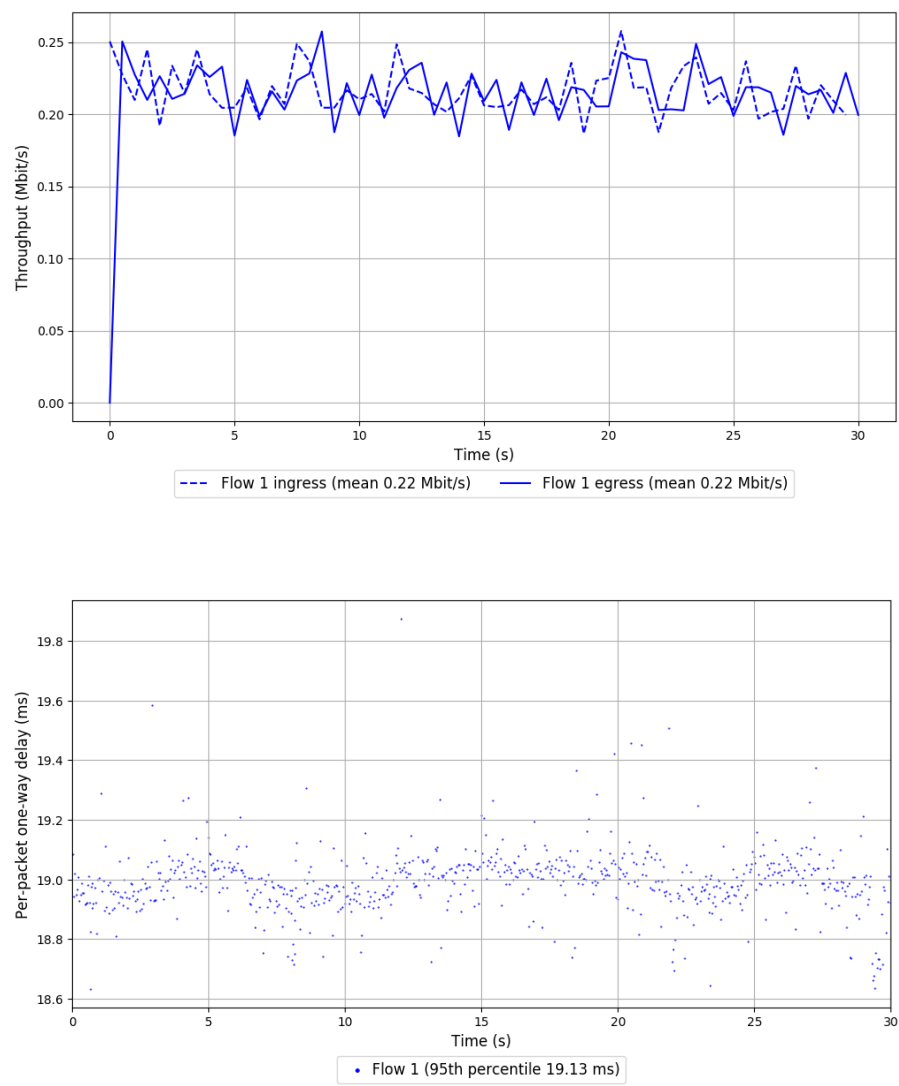
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 19.132 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

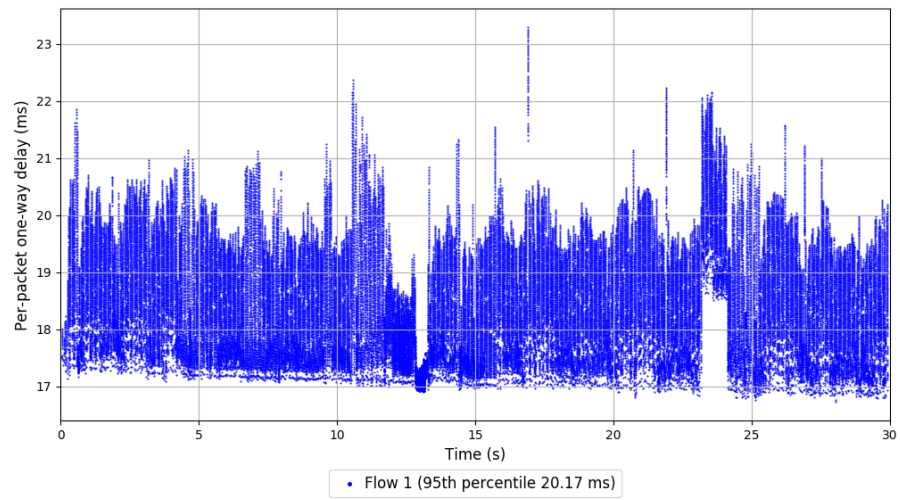
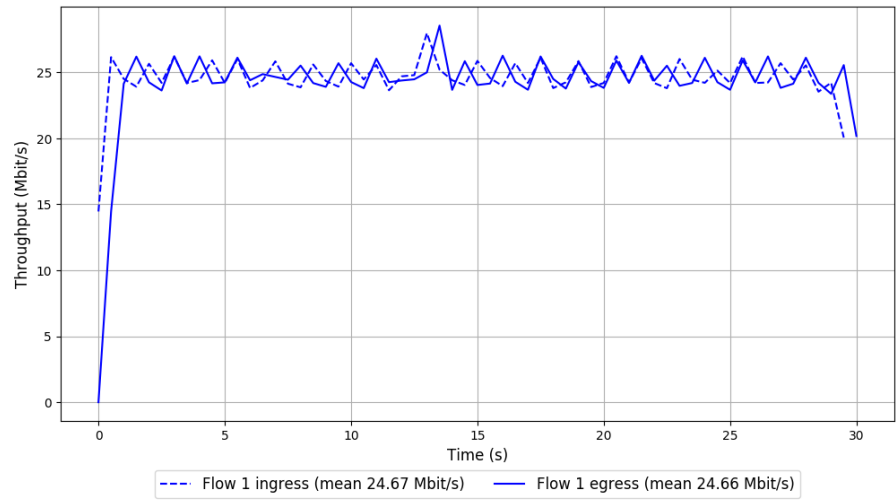


Run 1: Statistics of Sprout

Start at: 2018-09-10 22:40:59  
End at: 2018-09-10 22:41:29  
Local clock offset: -8.174 ms  
Remote clock offset: -5.657 ms

# Below is generated by plot.py at 2018-09-11 01:26:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 24.66 Mbit/s  
95th percentile per-packet one-way delay: 20.166 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 24.66 Mbit/s  
95th percentile per-packet one-way delay: 20.166 ms  
Loss rate: 0.03%

# Run 1: Report of Sprout — Data Link

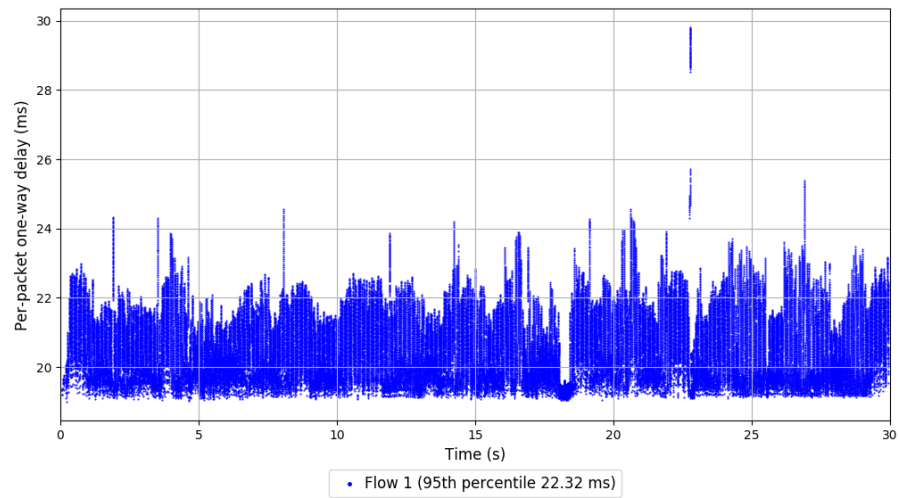
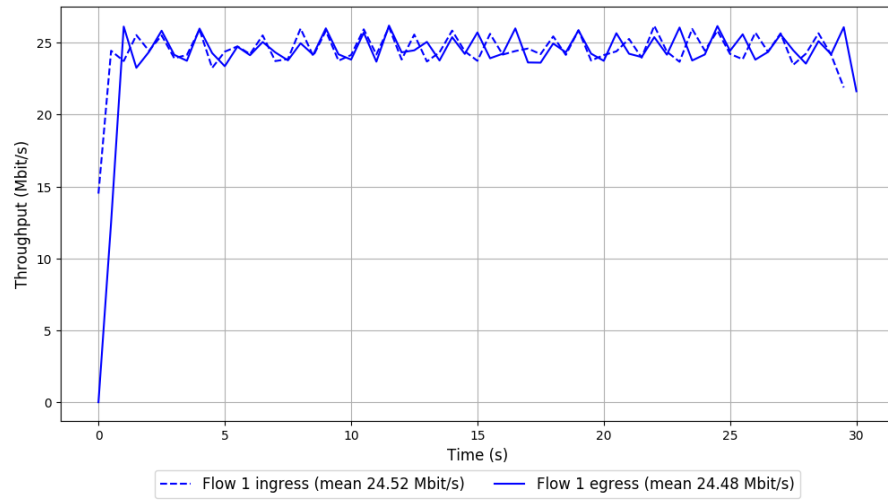


Run 2: Statistics of Sprout

Start at: 2018-09-10 23:07:24  
End at: 2018-09-10 23:07:54  
Local clock offset: -2.824 ms  
Remote clock offset: 6.055 ms

# Below is generated by plot.py at 2018-09-11 01:26:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 24.48 Mbit/s  
95th percentile per-packet one-way delay: 22.316 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 24.48 Mbit/s  
95th percentile per-packet one-way delay: 22.316 ms  
Loss rate: 0.18%

## Run 2: Report of Sprout — Data Link

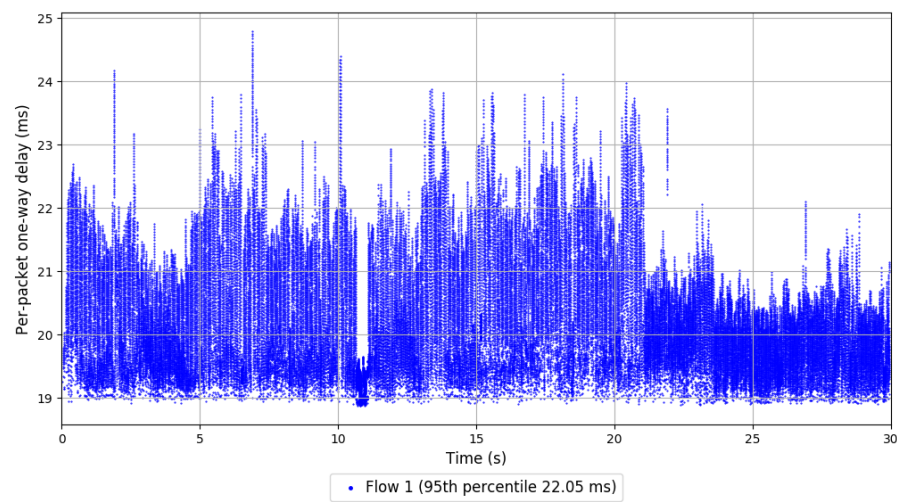
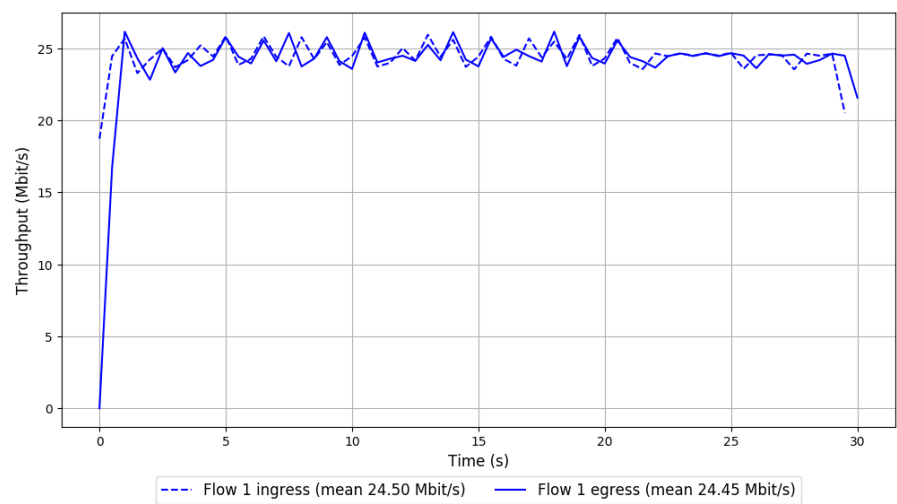


Run 3: Statistics of Sprout

Start at: 2018-09-10 23:33:31  
End at: 2018-09-10 23:34:01  
Local clock offset: -1.306 ms  
Remote clock offset: 4.703 ms

# Below is generated by plot.py at 2018-09-11 01:26:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 24.45 Mbit/s  
95th percentile per-packet one-way delay: 22.051 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 24.45 Mbit/s  
95th percentile per-packet one-way delay: 22.051 ms  
Loss rate: 0.23%

Run 3: Report of Sprout — Data Link

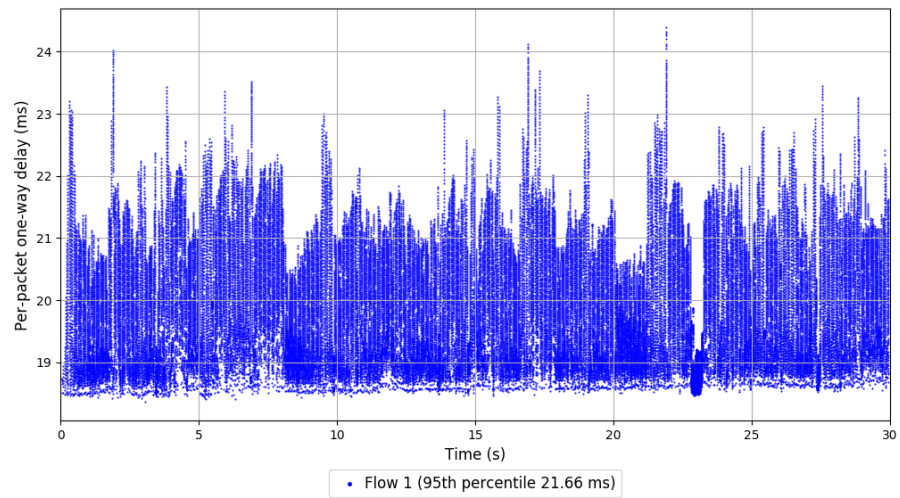
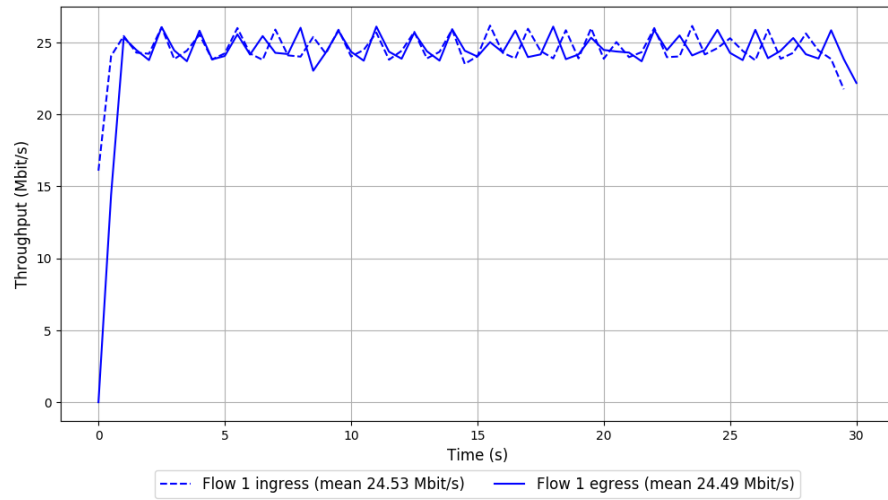


Run 4: Statistics of Sprout

Start at: 2018-09-10 23:59:49  
End at: 2018-09-11 00:00:19  
Local clock offset: -3.006 ms  
Remote clock offset: 3.71 ms

# Below is generated by plot.py at 2018-09-11 01:26:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 24.49 Mbit/s  
95th percentile per-packet one-way delay: 21.657 ms  
Loss rate: 0.16%  
-- Flow 1:  
Average throughput: 24.49 Mbit/s  
95th percentile per-packet one-way delay: 21.657 ms  
Loss rate: 0.16%

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



Run 5: Statistics of Sprout

Start at: 2018-09-11 00:25:54

End at: 2018-09-11 00:26:24

Local clock offset: -1.478 ms

Remote clock offset: 2.987 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 24.61 Mbit/s

95th percentile per-packet one-way delay: 21.386 ms

Loss rate: 0.05%

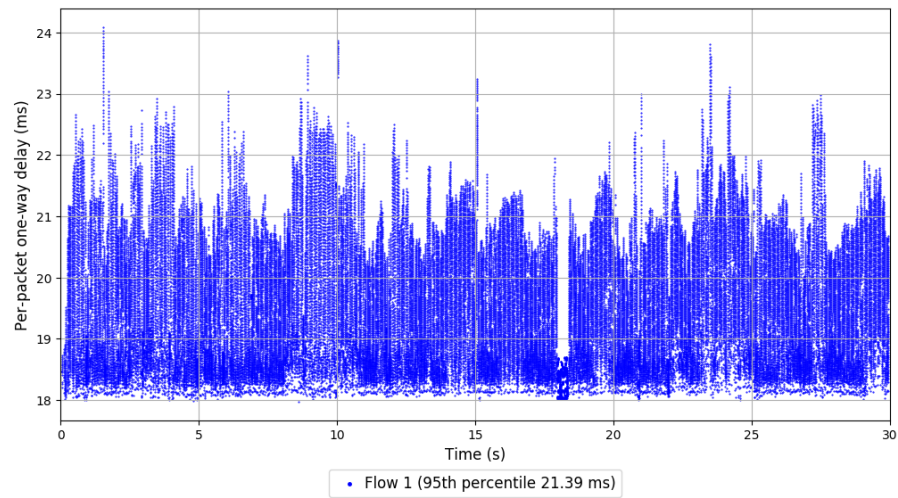
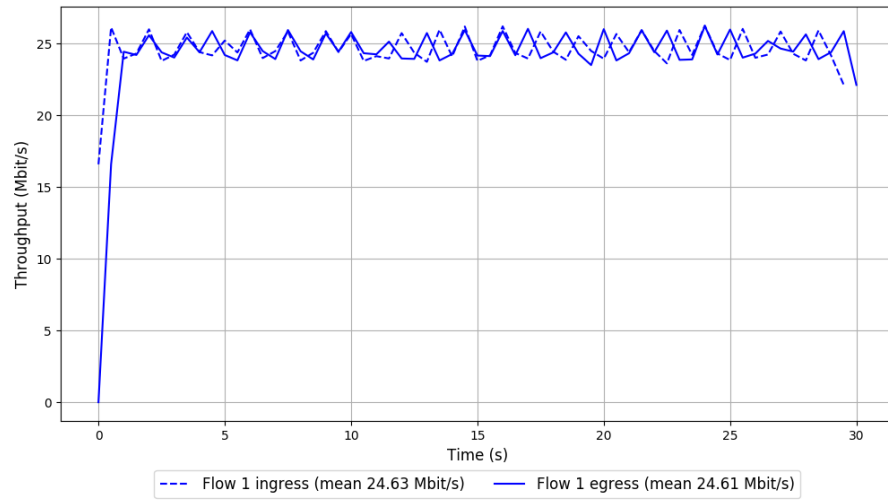
-- Flow 1:

Average throughput: 24.61 Mbit/s

95th percentile per-packet one-way delay: 21.386 ms

Loss rate: 0.05%

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

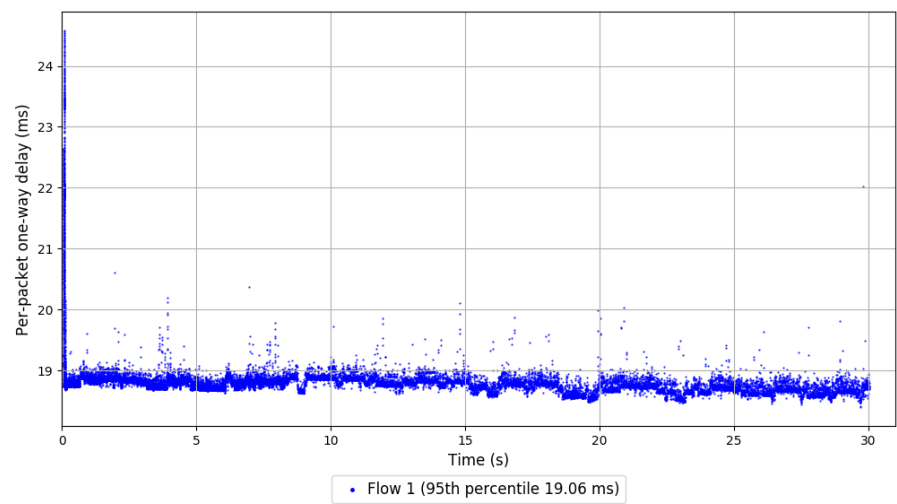
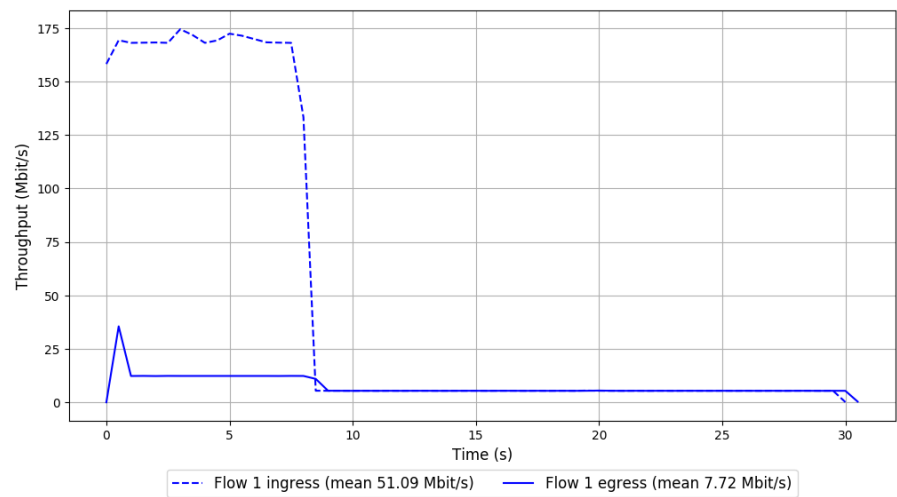


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-10 22:47:52
End at: 2018-09-10 22:48:22
Local clock offset: -8.171 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-09-11 01:26:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 19.058 ms
Loss rate: 84.90%
-- Flow 1:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 19.058 ms
Loss rate: 84.90%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-10 23:14:19

End at: 2018-09-10 23:14:49

Local clock offset: -1.186 ms

Remote clock offset: 6.962 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 11.14 Mbit/s

95th percentile per-packet one-way delay: 19.195 ms

Loss rate: 79.58%

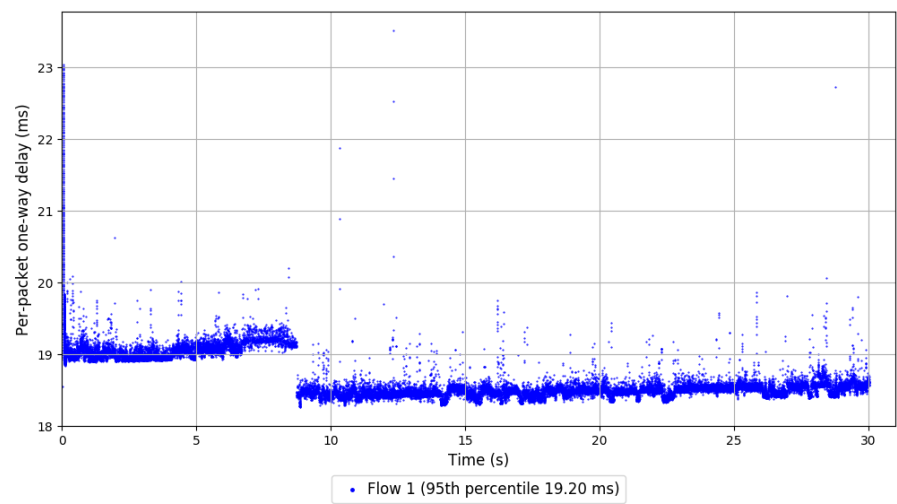
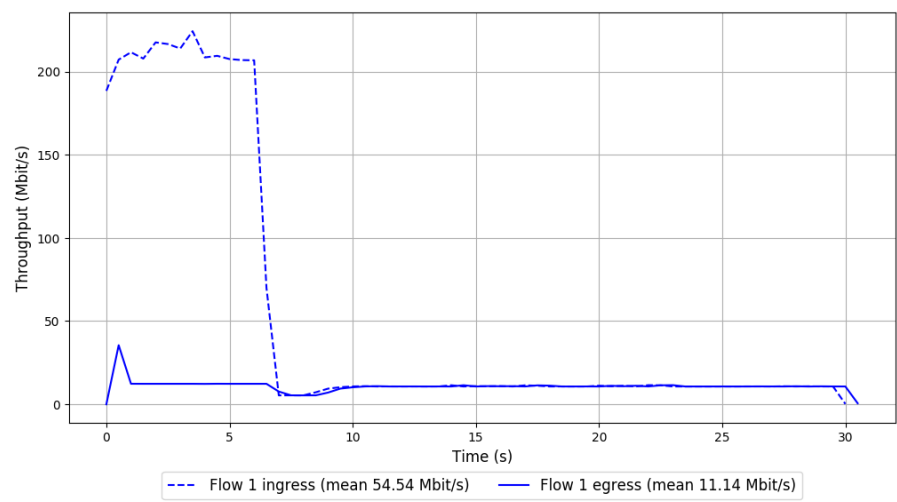
-- Flow 1:

Average throughput: 11.14 Mbit/s

95th percentile per-packet one-way delay: 19.195 ms

Loss rate: 79.58%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-10 23:40:22

End at: 2018-09-10 23:40:52

Local clock offset: -1.703 ms

Remote clock offset: 4.847 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 11.12 Mbit/s

95th percentile per-packet one-way delay: 19.226 ms

Loss rate: 1.82%

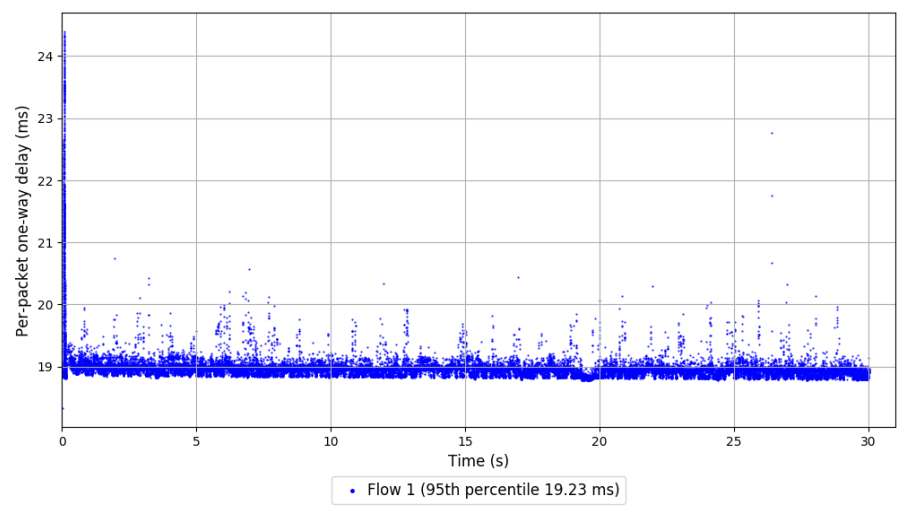
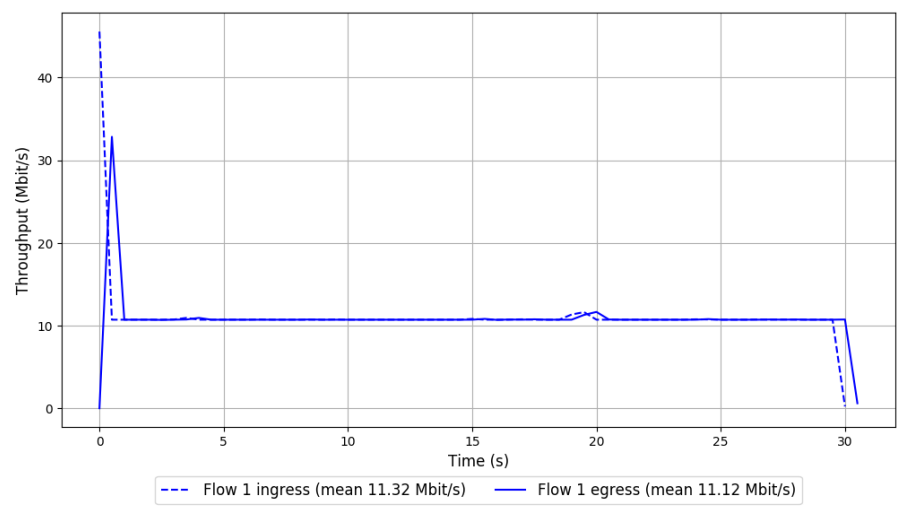
-- Flow 1:

Average throughput: 11.12 Mbit/s

95th percentile per-packet one-way delay: 19.226 ms

Loss rate: 1.82%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 00:06:39

End at: 2018-09-11 00:07:09

Local clock offset: -1.63 ms

Remote clock offset: 3.289 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 7.30 Mbit/s

95th percentile per-packet one-way delay: 19.400 ms

Loss rate: 85.61%

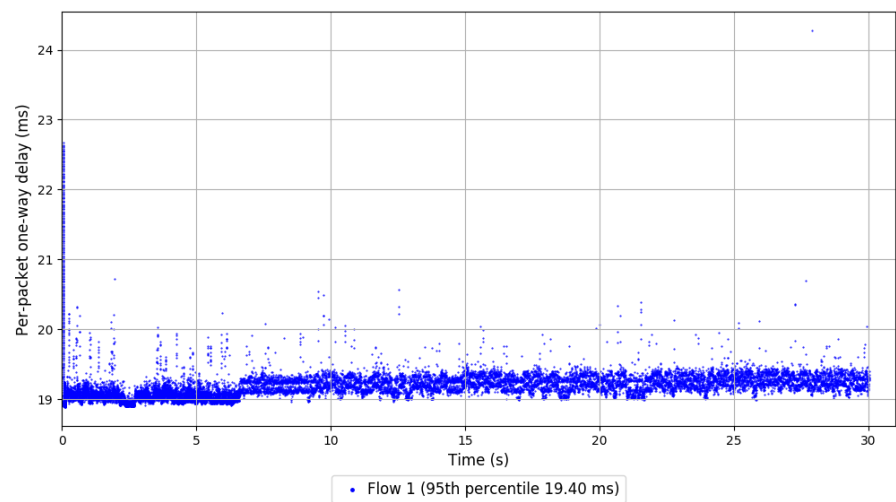
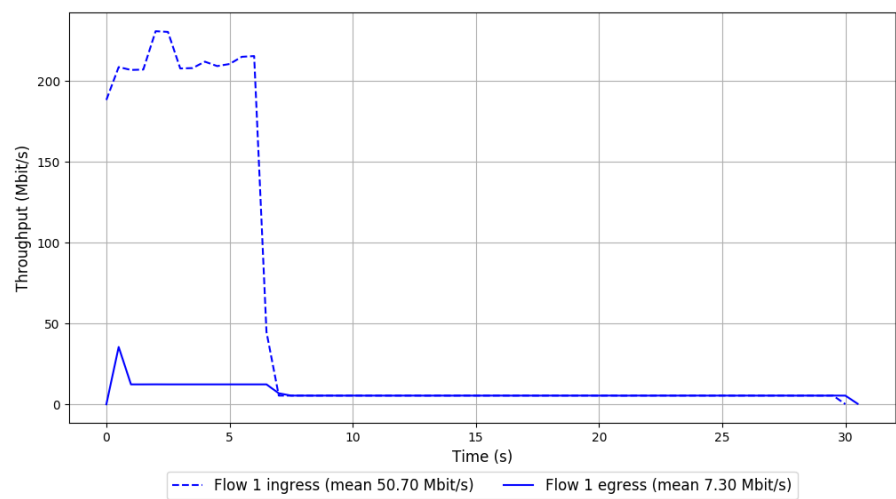
-- Flow 1:

Average throughput: 7.30 Mbit/s

95th percentile per-packet one-way delay: 19.400 ms

Loss rate: 85.61%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 00:32:48

End at: 2018-09-11 00:33:18

Local clock offset: -1.008 ms

Remote clock offset: 2.604 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 17.969 ms

Loss rate: 73.08%

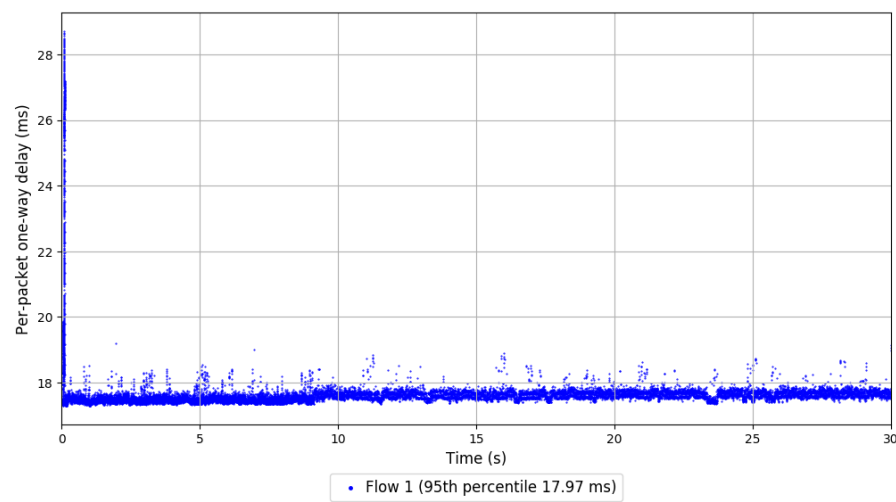
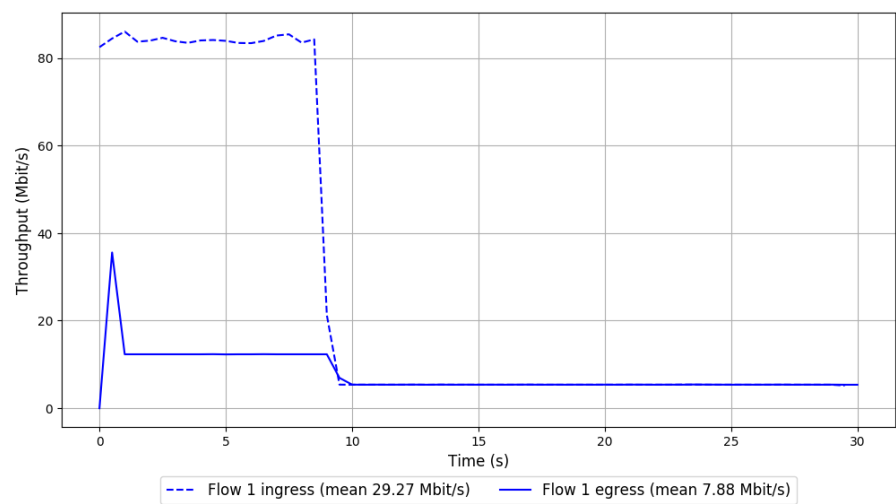
-- Flow 1:

Average throughput: 7.88 Mbit/s

95th percentile per-packet one-way delay: 17.969 ms

Loss rate: 73.08%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-10 22:44:54

End at: 2018-09-10 22:45:24

Local clock offset: -7.892 ms

Remote clock offset: -2.0 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 158.40 Mbit/s

95th percentile per-packet one-way delay: 18.966 ms

Loss rate: 0.01%

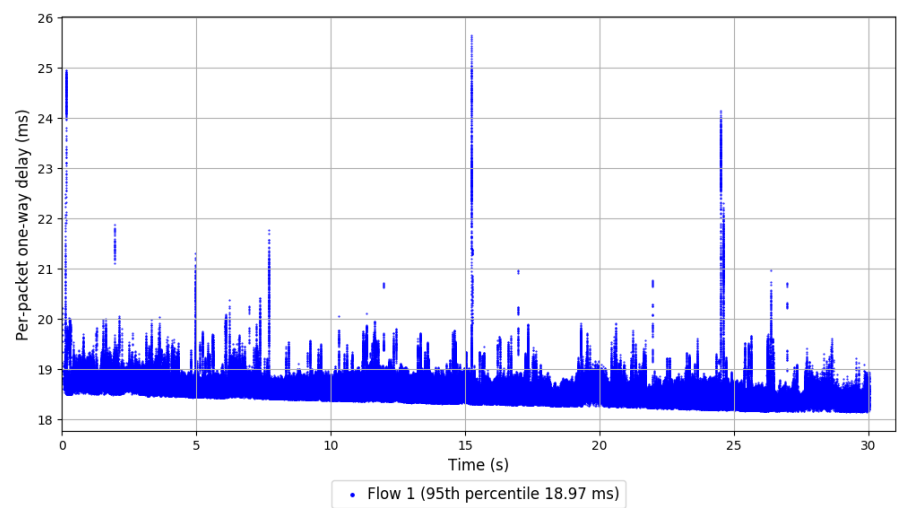
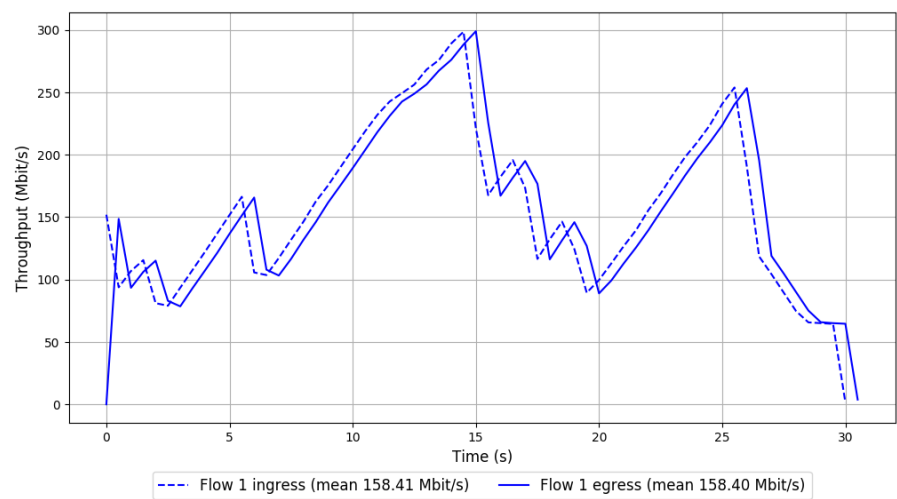
-- Flow 1:

Average throughput: 158.40 Mbit/s

95th percentile per-packet one-way delay: 18.966 ms

Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-10 23:11:20

End at: 2018-09-10 23:11:50

Local clock offset: -1.759 ms

Remote clock offset: 6.735 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 140.79 Mbit/s

95th percentile per-packet one-way delay: 18.765 ms

Loss rate: 0.01%

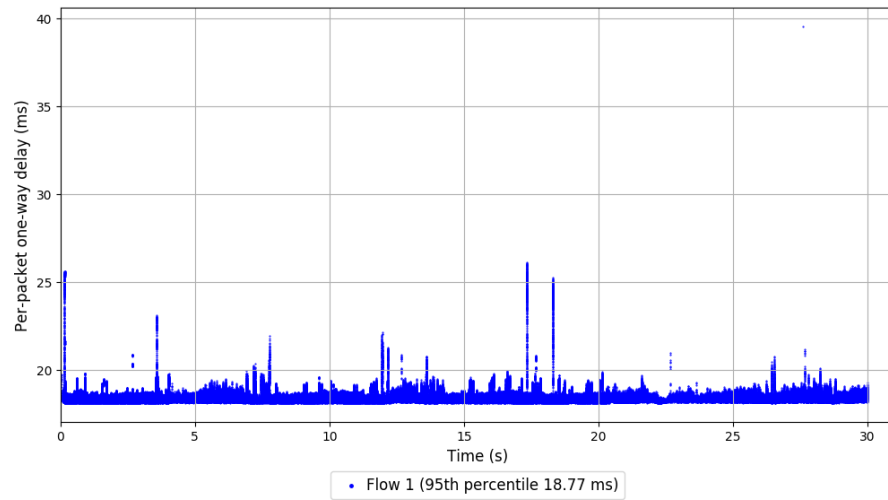
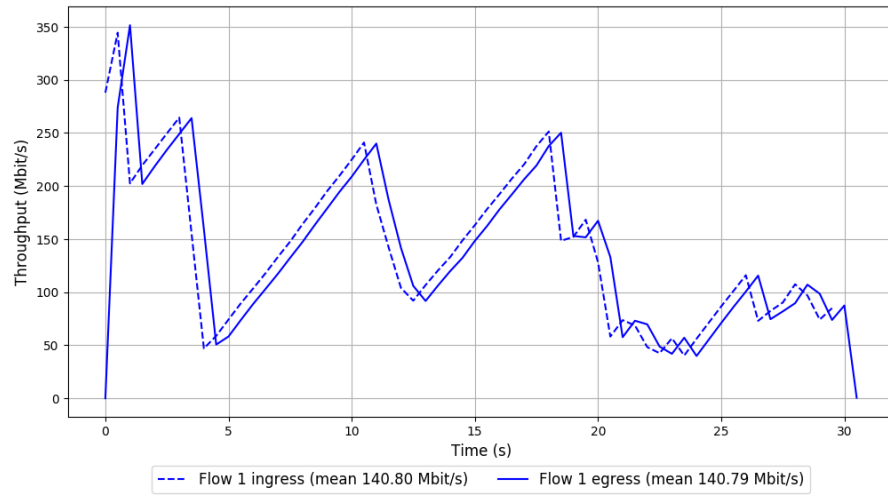
-- Flow 1:

Average throughput: 140.79 Mbit/s

95th percentile per-packet one-way delay: 18.765 ms

Loss rate: 0.01%

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



Run 3: Statistics of TCP Vegas

Start at: 2018-09-10 23:37:27

End at: 2018-09-10 23:37:57

Local clock offset: -1.538 ms

Remote clock offset: 4.795 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 47.31 Mbit/s

95th percentile per-packet one-way delay: 19.449 ms

Loss rate: 0.51%

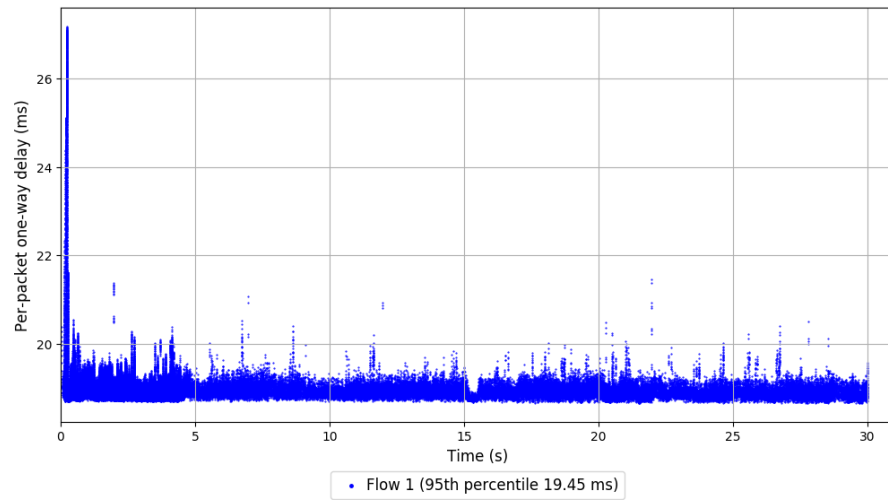
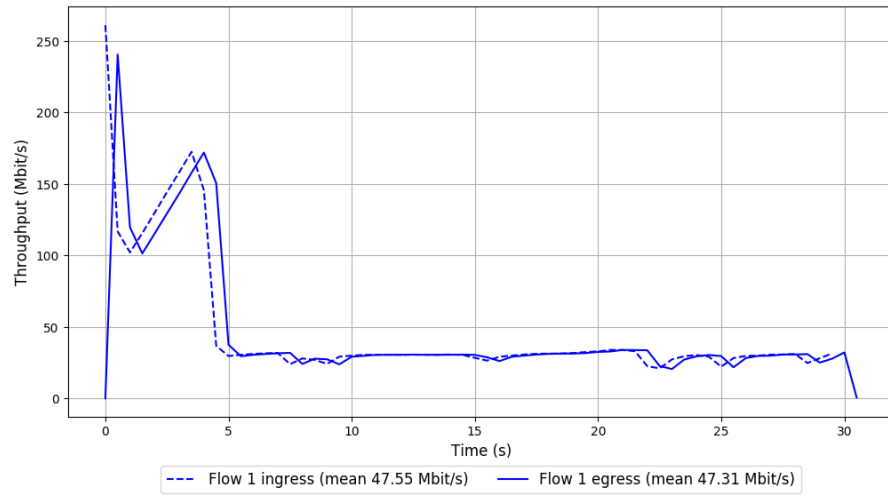
-- Flow 1:

Average throughput: 47.31 Mbit/s

95th percentile per-packet one-way delay: 19.449 ms

Loss rate: 0.51%

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



Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 00:03:45

End at: 2018-09-11 00:04:15

Local clock offset: -2.126 ms

Remote clock offset: 3.369 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 117.14 Mbit/s

95th percentile per-packet one-way delay: 18.787 ms

Loss rate: 0.08%

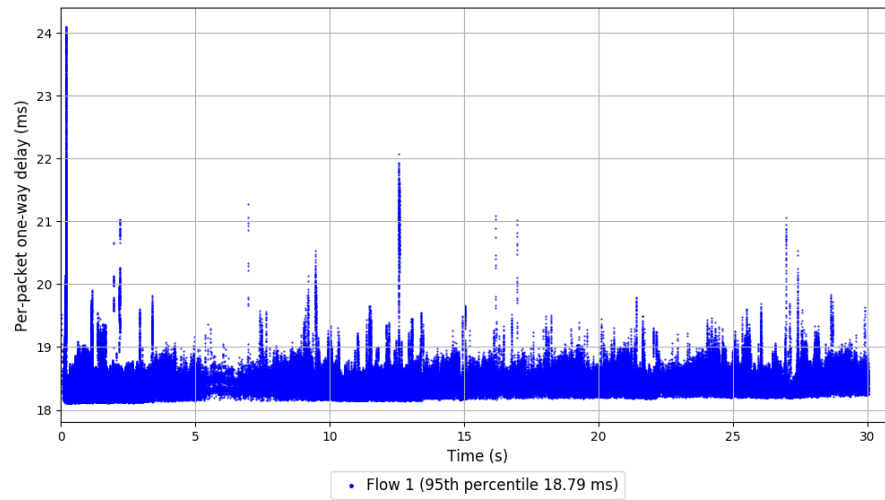
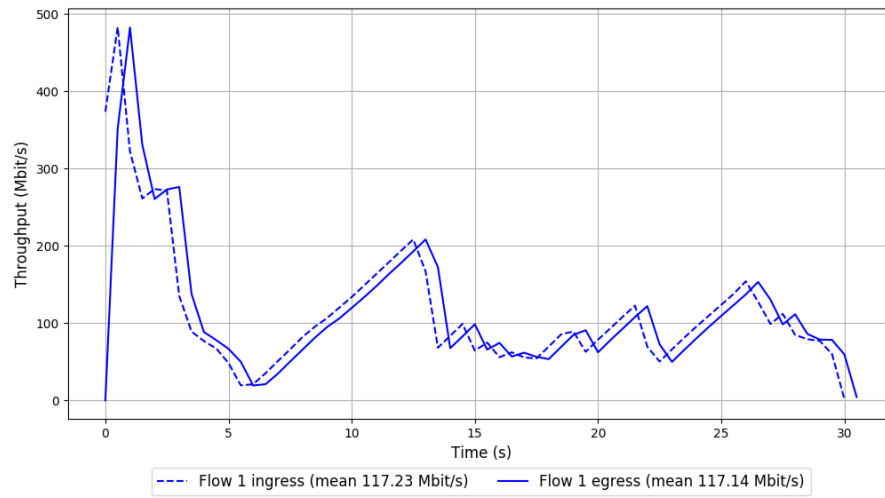
-- Flow 1:

Average throughput: 117.14 Mbit/s

95th percentile per-packet one-way delay: 18.787 ms

Loss rate: 0.08%

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



Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 00:29:48

End at: 2018-09-11 00:30:18

Local clock offset: -1.374 ms

Remote clock offset: 2.728 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 216.29 Mbit/s

95th percentile per-packet one-way delay: 19.424 ms

Loss rate: 0.18%

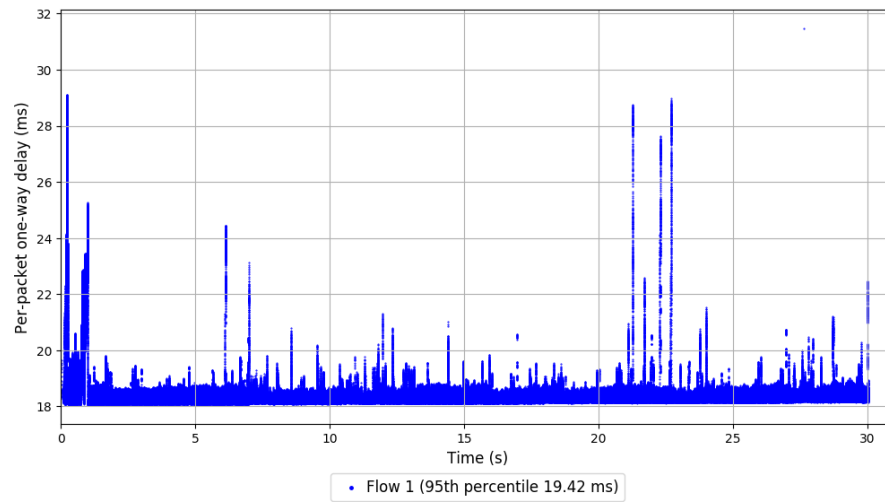
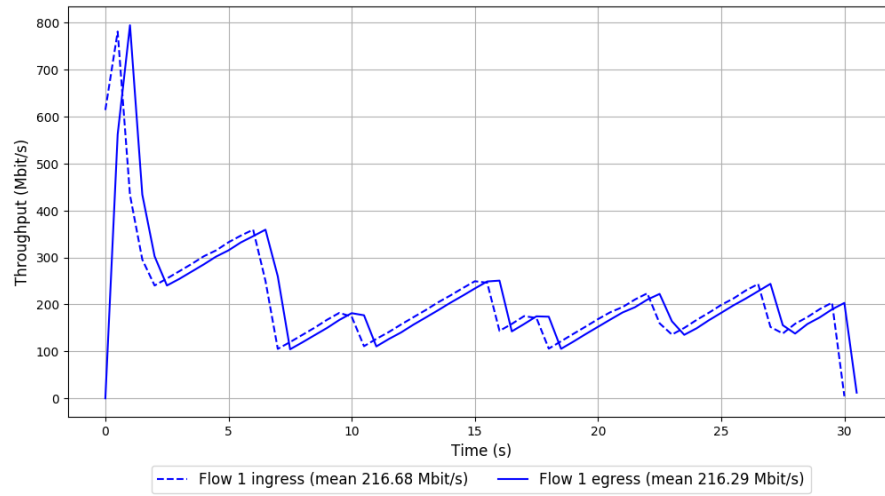
-- Flow 1:

Average throughput: 216.29 Mbit/s

95th percentile per-packet one-way delay: 19.424 ms

Loss rate: 0.18%

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



Run 1: Statistics of Verus

Start at: 2018-09-10 22:53:23

End at: 2018-09-10 22:53:53

Local clock offset: -9.113 ms

Remote clock offset: 2.501 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 206.84 Mbit/s

95th percentile per-packet one-way delay: 46.636 ms

Loss rate: 12.80%

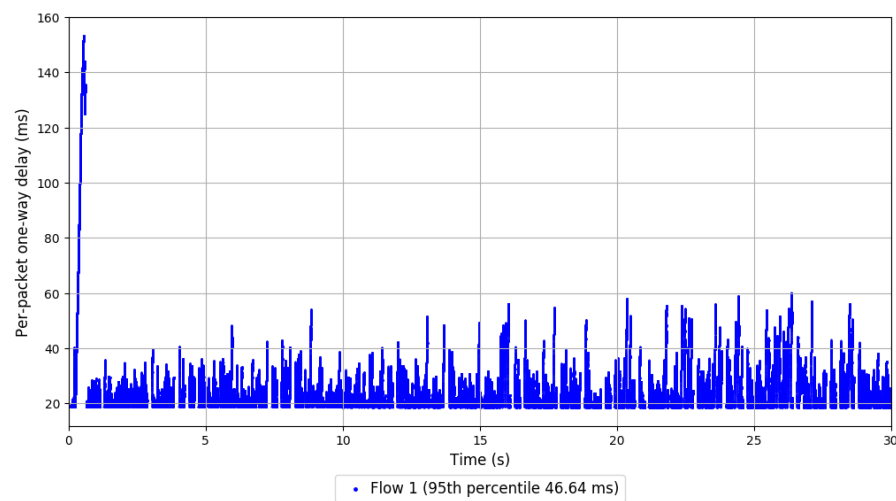
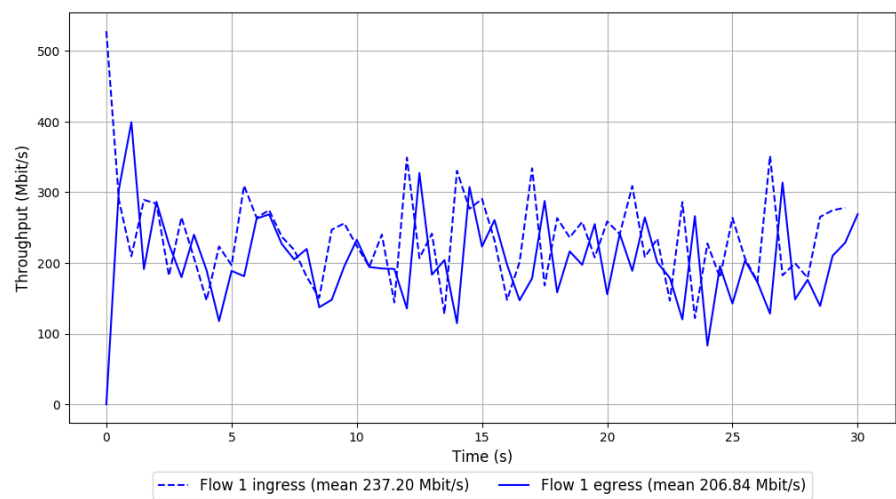
-- Flow 1:

Average throughput: 206.84 Mbit/s

95th percentile per-packet one-way delay: 46.636 ms

Loss rate: 12.80%

Run 1: Report of Verus — Data Link

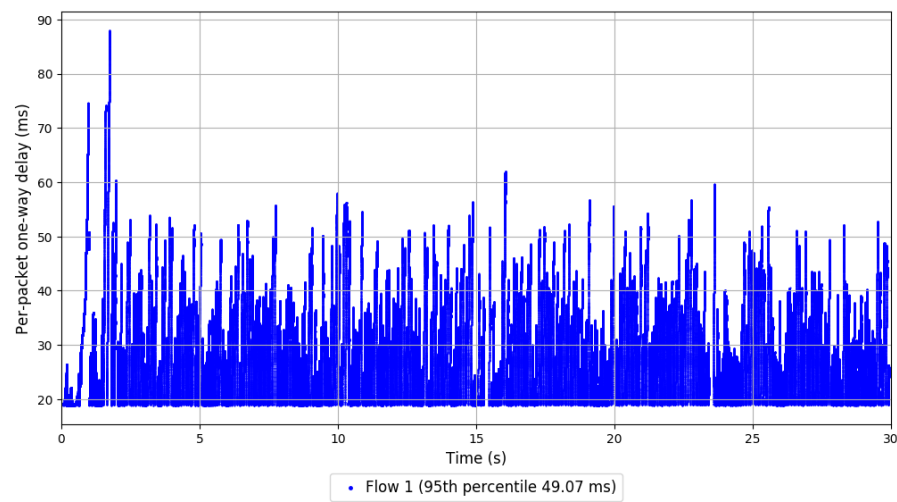
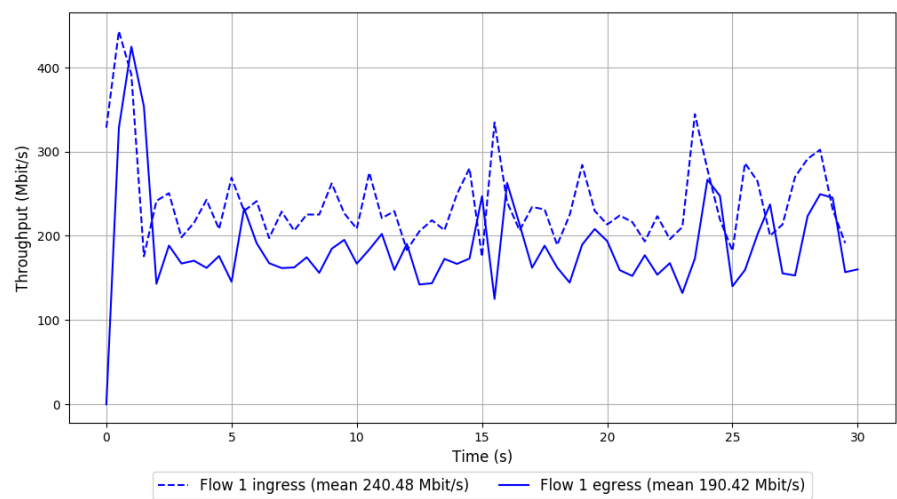


Run 2: Statistics of Verus

Start at: 2018-09-10 23:19:48  
End at: 2018-09-10 23:20:18  
Local clock offset: -0.901 ms  
Remote clock offset: 5.323 ms

# Below is generated by plot.py at 2018-09-11 01:26:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 190.42 Mbit/s  
95th percentile per-packet one-way delay: 49.066 ms  
Loss rate: 20.80%  
-- Flow 1:  
Average throughput: 190.42 Mbit/s  
95th percentile per-packet one-way delay: 49.066 ms  
Loss rate: 20.80%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-10 23:45:52

End at: 2018-09-10 23:46:22

Local clock offset: -2.067 ms

Remote clock offset: 5.176 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 194.40 Mbit/s

95th percentile per-packet one-way delay: 45.747 ms

Loss rate: 18.66%

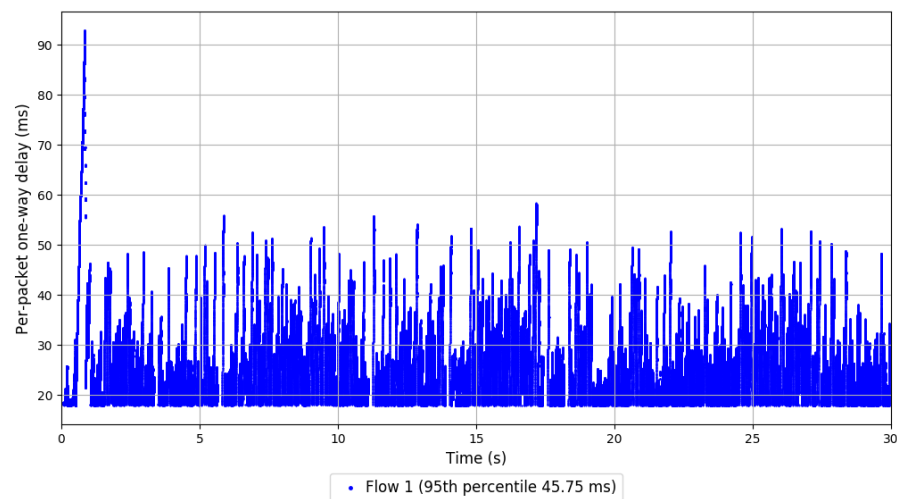
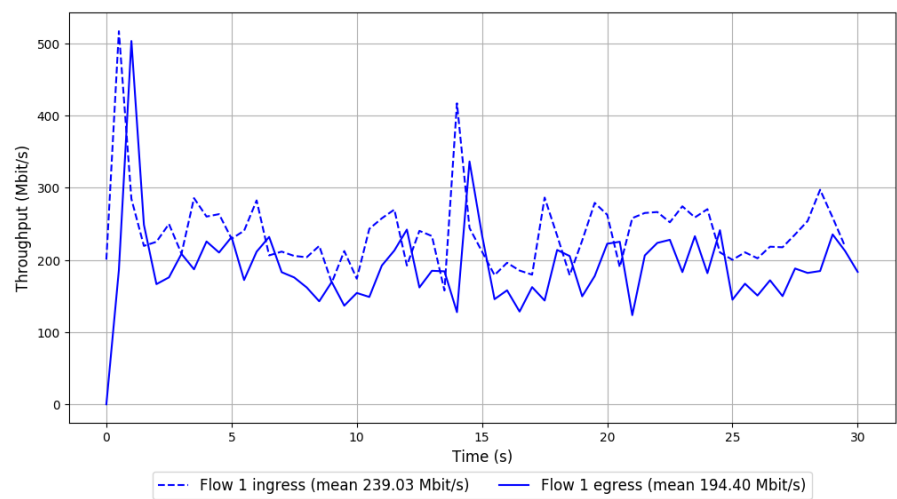
-- Flow 1:

Average throughput: 194.40 Mbit/s

95th percentile per-packet one-way delay: 45.747 ms

Loss rate: 18.66%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-11 00:12:07

End at: 2018-09-11 00:12:37

Local clock offset: -1.379 ms

Remote clock offset: 3.221 ms

# Below is generated by plot.py at 2018-09-11 01:26:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 210.24 Mbit/s

95th percentile per-packet one-way delay: 47.519 ms

Loss rate: 21.13%

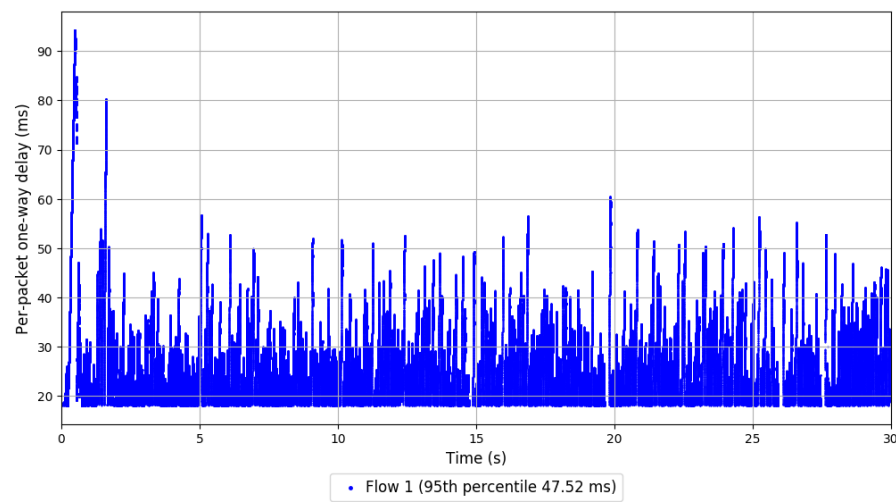
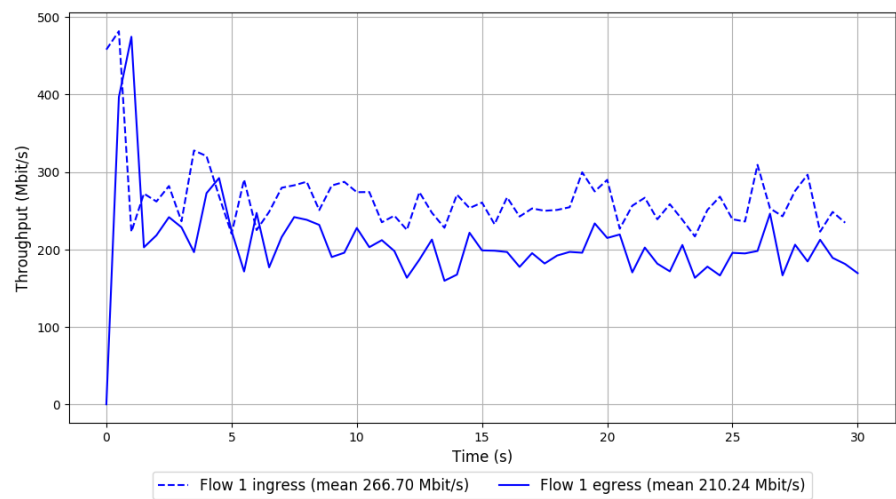
-- Flow 1:

Average throughput: 210.24 Mbit/s

95th percentile per-packet one-way delay: 47.519 ms

Loss rate: 21.13%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-11 00:38:21

End at: 2018-09-11 00:38:51

Local clock offset: -0.618 ms

Remote clock offset: 2.495 ms

# Below is generated by plot.py at 2018-09-11 01:26:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 208.74 Mbit/s

95th percentile per-packet one-way delay: 67.627 ms

Loss rate: 19.58%

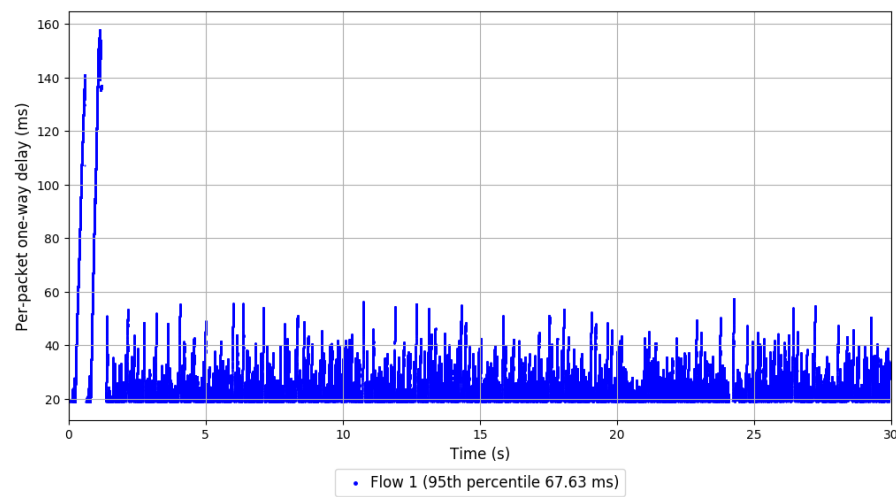
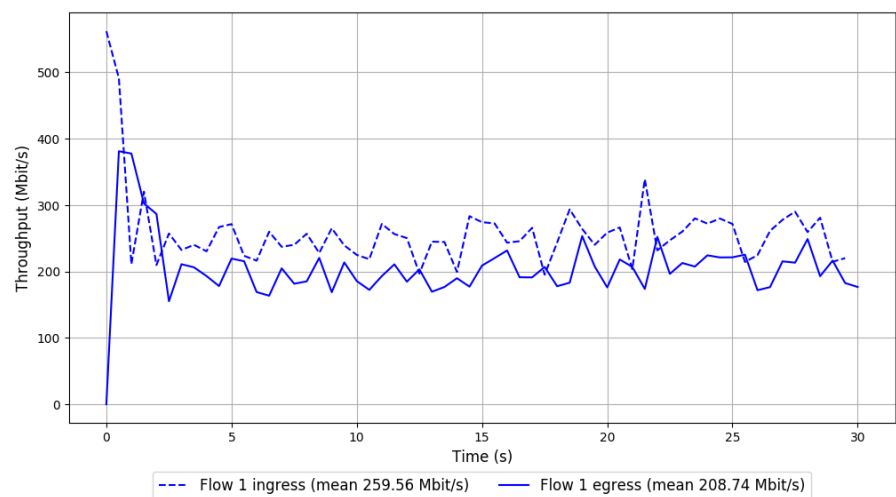
-- Flow 1:

Average throughput: 208.74 Mbit/s

95th percentile per-packet one-way delay: 67.627 ms

Loss rate: 19.58%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-10 22:46:17

End at: 2018-09-10 22:46:47

Local clock offset: -8.023 ms

Remote clock offset: -0.97 ms

# Below is generated by plot.py at 2018-09-11 01:29:00

# Datalink statistics

-- Total of 1 flow:

Average throughput: 389.38 Mbit/s

95th percentile per-packet one-way delay: 19.100 ms

Loss rate: 0.01%

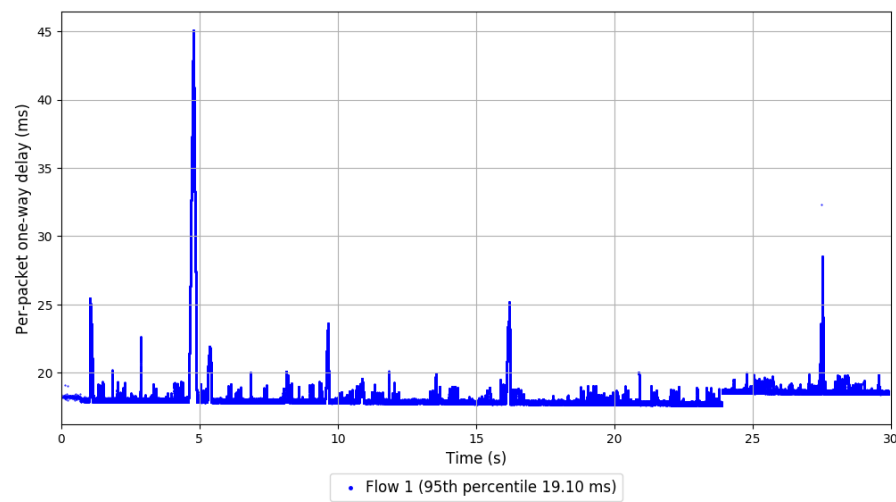
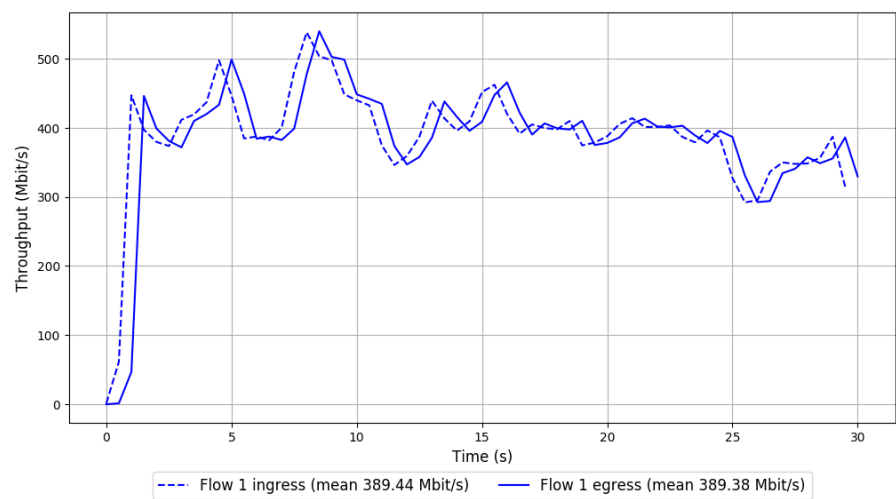
-- Flow 1:

Average throughput: 389.38 Mbit/s

95th percentile per-packet one-way delay: 19.100 ms

Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-10 23:12:42

End at: 2018-09-10 23:13:13

Local clock offset: -1.373 ms

Remote clock offset: 6.92 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 406.07 Mbit/s

95th percentile per-packet one-way delay: 79.719 ms

Loss rate: 0.02%

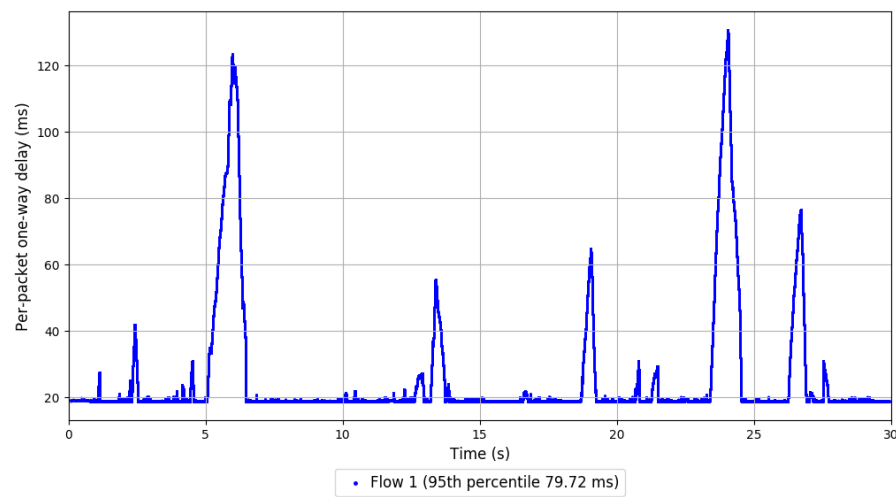
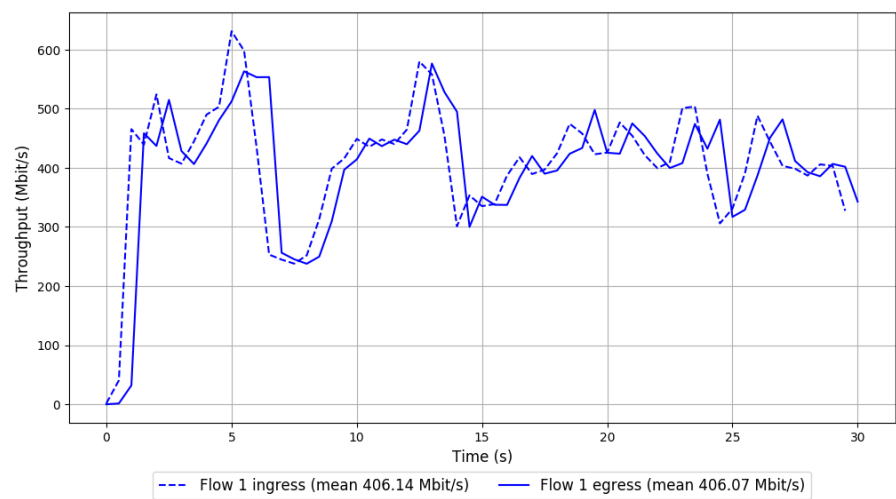
-- Flow 1:

Average throughput: 406.07 Mbit/s

95th percentile per-packet one-way delay: 79.719 ms

Loss rate: 0.02%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-10 23:38:47

End at: 2018-09-10 23:39:17

Local clock offset: -1.514 ms

Remote clock offset: 4.833 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 375.91 Mbit/s

95th percentile per-packet one-way delay: 19.907 ms

Loss rate: 0.10%

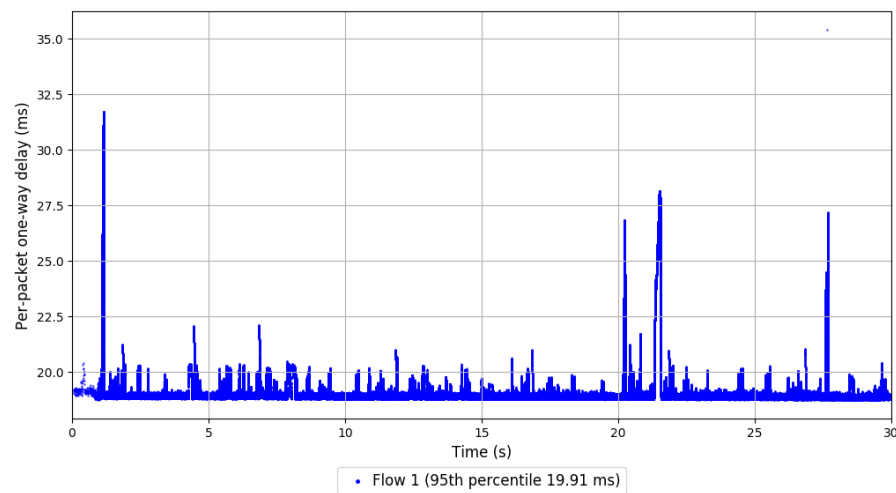
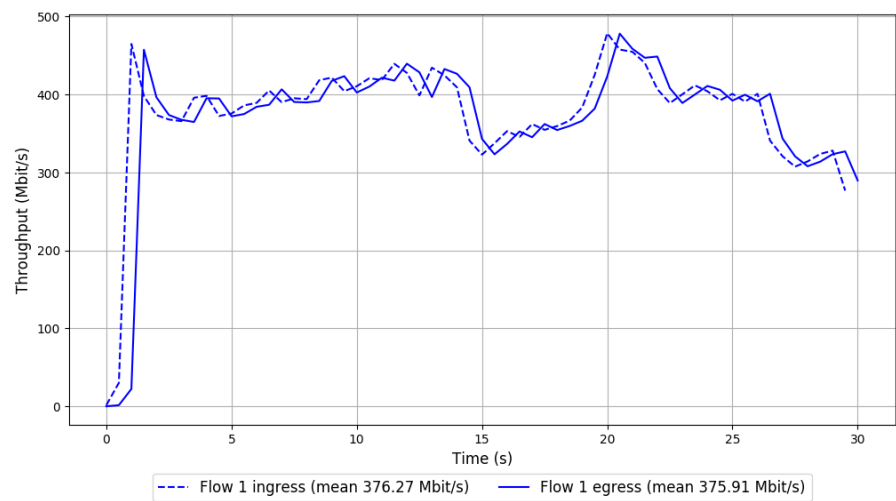
-- Flow 1:

Average throughput: 375.91 Mbit/s

95th percentile per-packet one-way delay: 19.907 ms

Loss rate: 0.10%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 00:05:07

End at: 2018-09-11 00:05:37

Local clock offset: -1.816 ms

Remote clock offset: 3.314 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 309.35 Mbit/s

95th percentile per-packet one-way delay: 19.410 ms

Loss rate: 0.01%

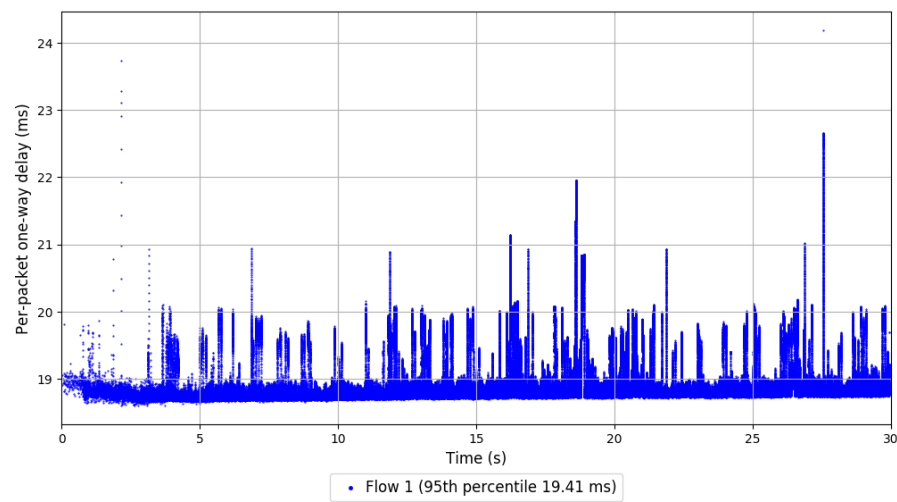
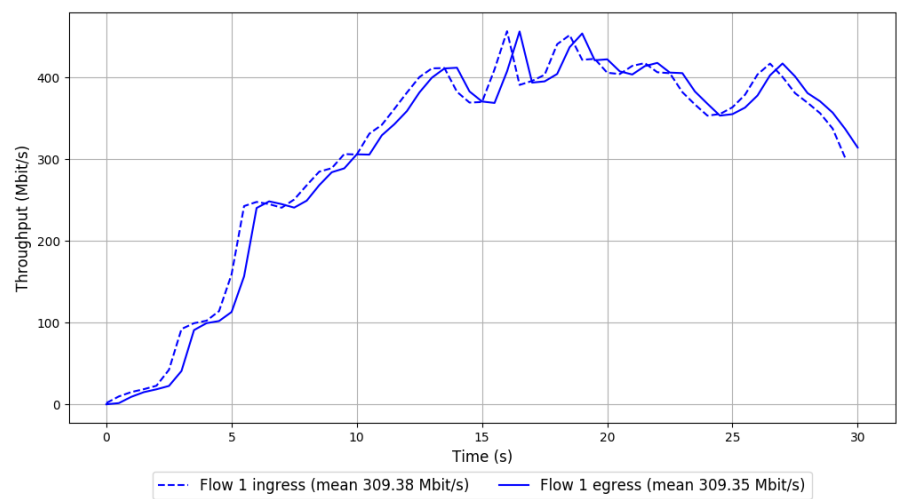
-- Flow 1:

Average throughput: 309.35 Mbit/s

95th percentile per-packet one-way delay: 19.410 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 00:31:13

End at: 2018-09-11 00:31:43

Local clock offset: -1.267 ms

Remote clock offset: 2.666 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 377.65 Mbit/s

95th percentile per-packet one-way delay: 20.295 ms

Loss rate: 0.02%

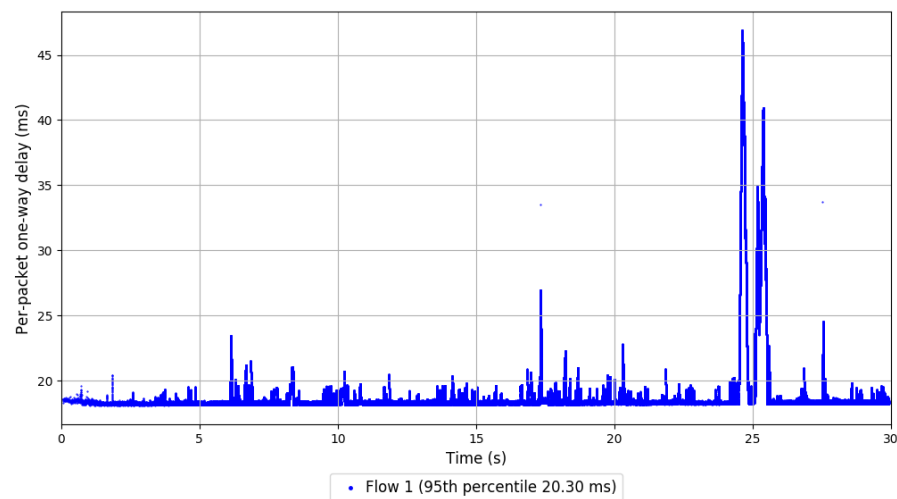
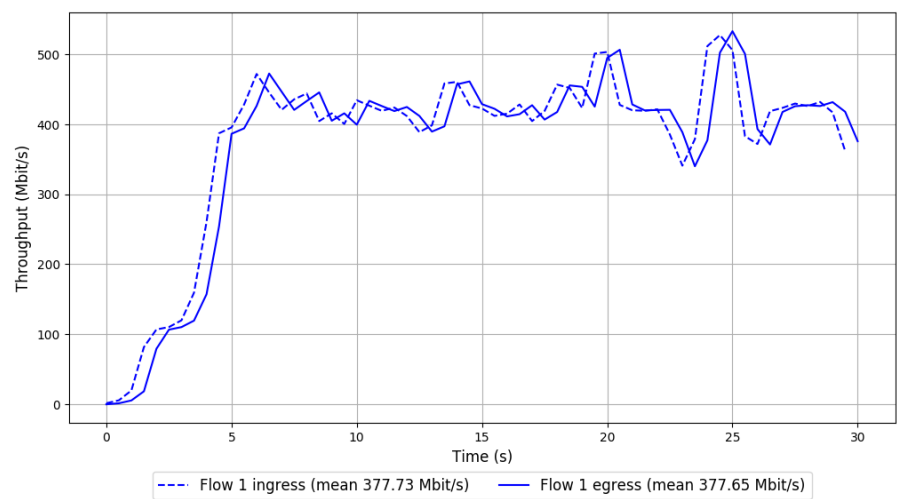
-- Flow 1:

Average throughput: 377.65 Mbit/s

95th percentile per-packet one-way delay: 20.295 ms

Loss rate: 0.02%

Run 5: Report of PCC-Vivace — Data Link

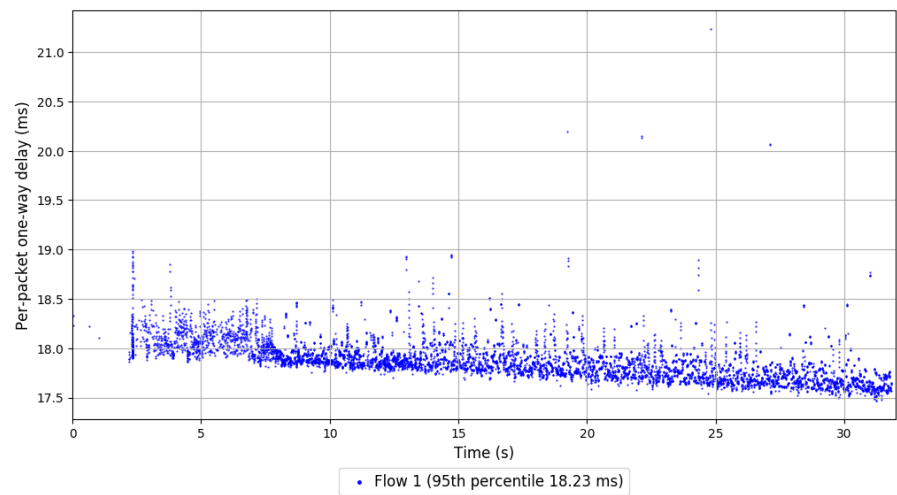
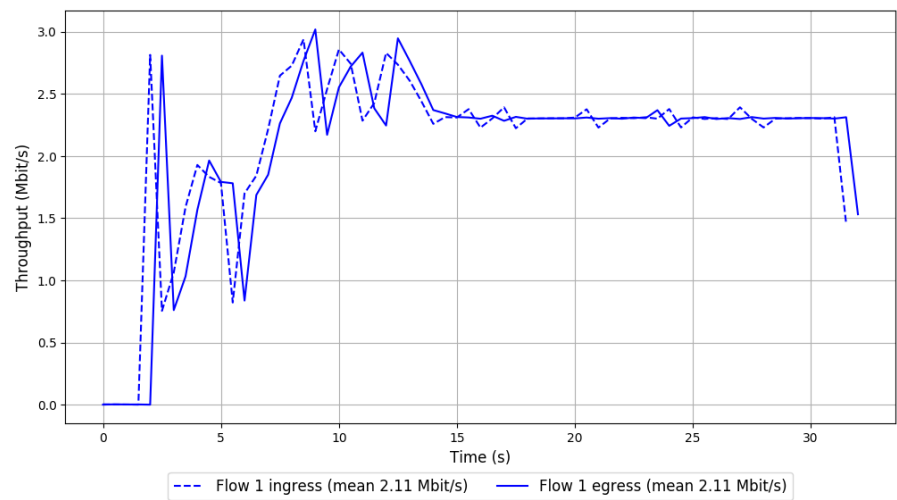


Run 1: Statistics of WebRTC media

Start at: 2018-09-10 22:43:35  
End at: 2018-09-10 22:44:05  
Local clock offset: -7.994 ms  
Remote clock offset: -3.069 ms

# Below is generated by plot.py at 2018-09-11 01:29:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.11 Mbit/s  
95th percentile per-packet one-way delay: 18.225 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.11 Mbit/s  
95th percentile per-packet one-way delay: 18.225 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-10 23:10:01

End at: 2018-09-10 23:10:31

Local clock offset: -1.991 ms

Remote clock offset: 6.542 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.95 Mbit/s

95th percentile per-packet one-way delay: 19.255 ms

Loss rate: 0.00%

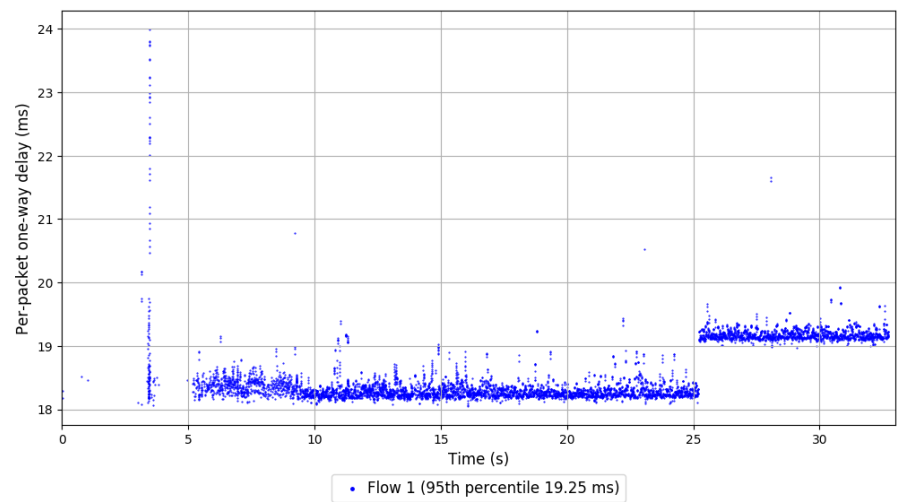
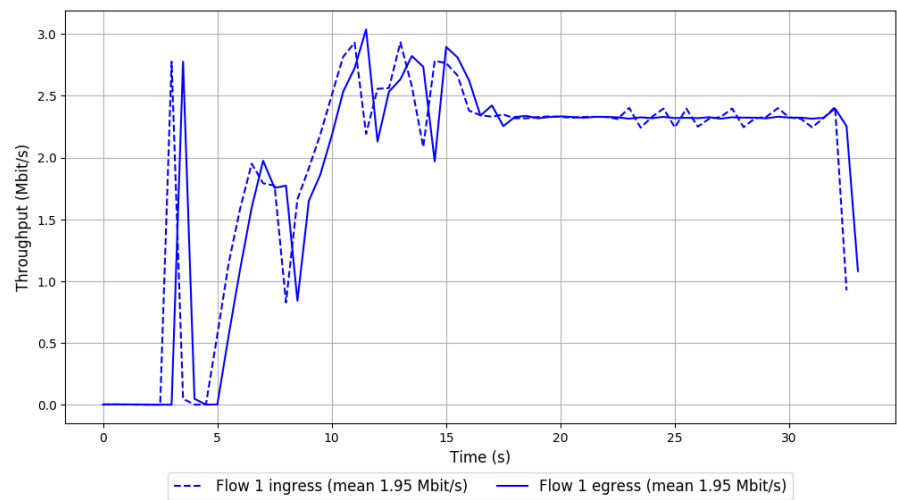
-- Flow 1:

Average throughput: 1.95 Mbit/s

95th percentile per-packet one-way delay: 19.255 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-10 23:36:08

End at: 2018-09-10 23:36:38

Local clock offset: -1.468 ms

Remote clock offset: 4.782 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 19.113 ms

Loss rate: 0.00%

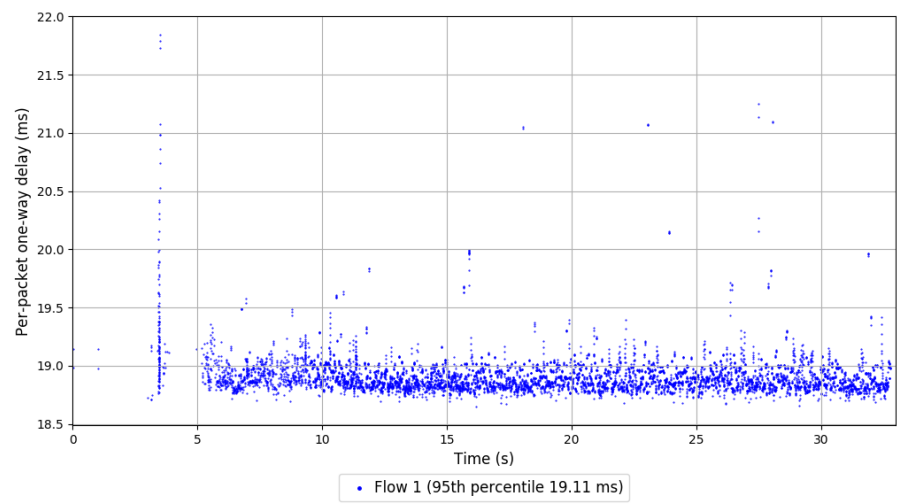
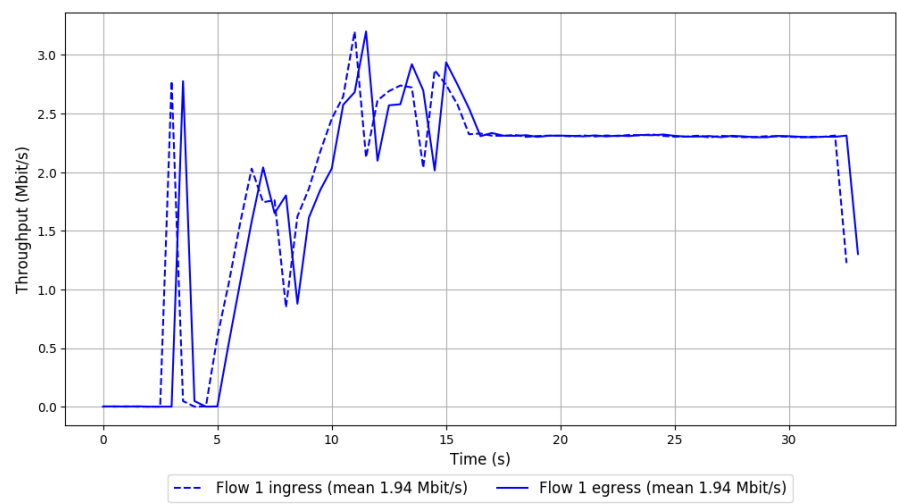
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 19.113 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-11 00:02:26

End at: 2018-09-11 00:02:56

Local clock offset: -2.31 ms

Remote clock offset: 3.493 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 19.501 ms

Loss rate: 0.00%

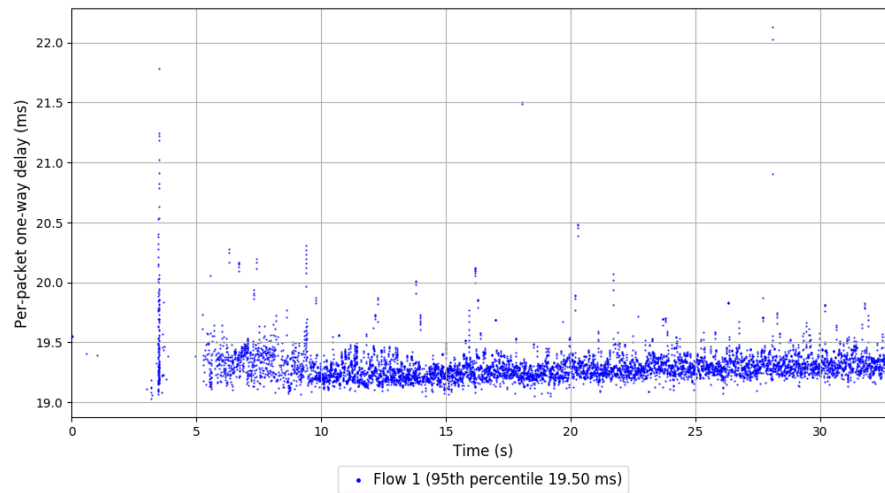
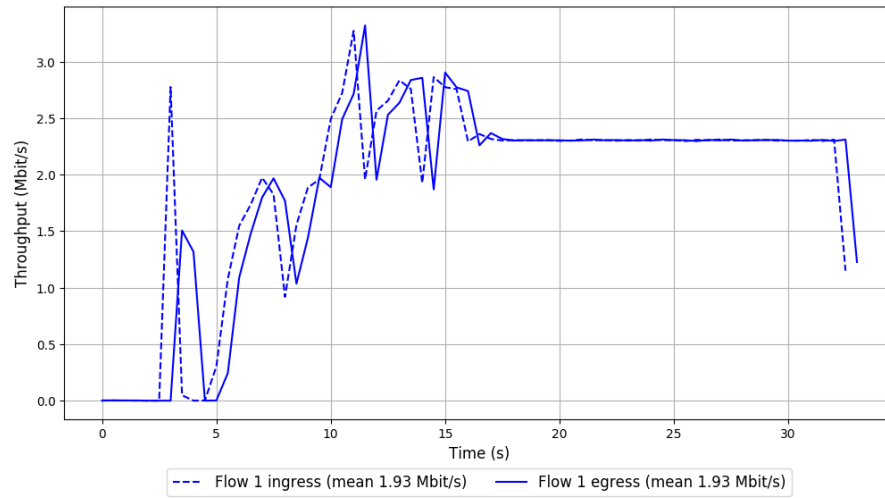
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 19.501 ms

Loss rate: 0.00%

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



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 00:28:30

End at: 2018-09-11 00:29:00

Local clock offset: -1.593 ms

Remote clock offset: 2.85 ms

# Below is generated by plot.py at 2018-09-11 01:29:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 17.865 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 17.865 ms

Loss rate: 0.00%

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

