

## Pantheon Report

Generated at 2018-11-02 19:52:11 (UTC).

Data path: AWS India 1 on `ens5` (*local*) → India on `em1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

### System info:

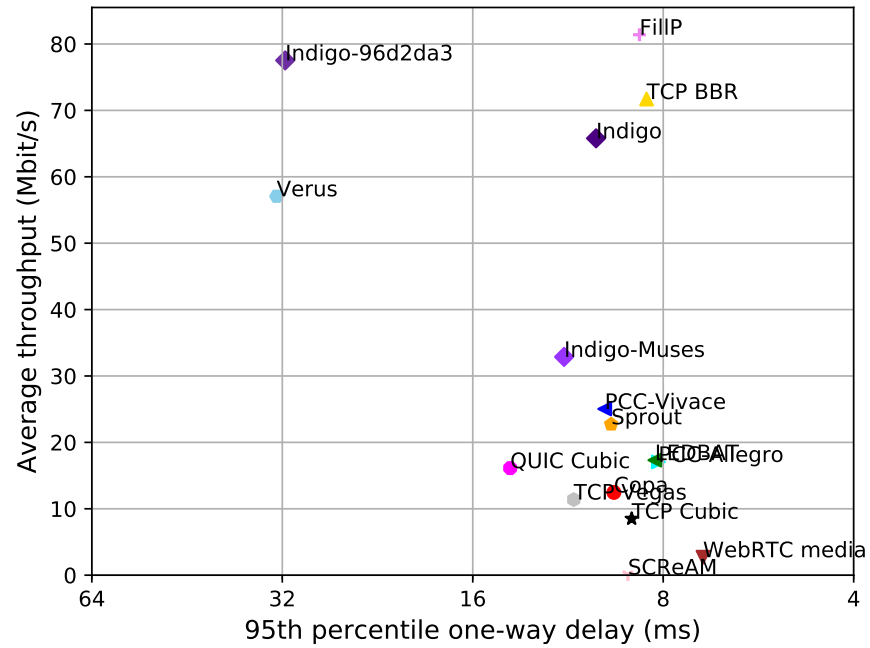
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

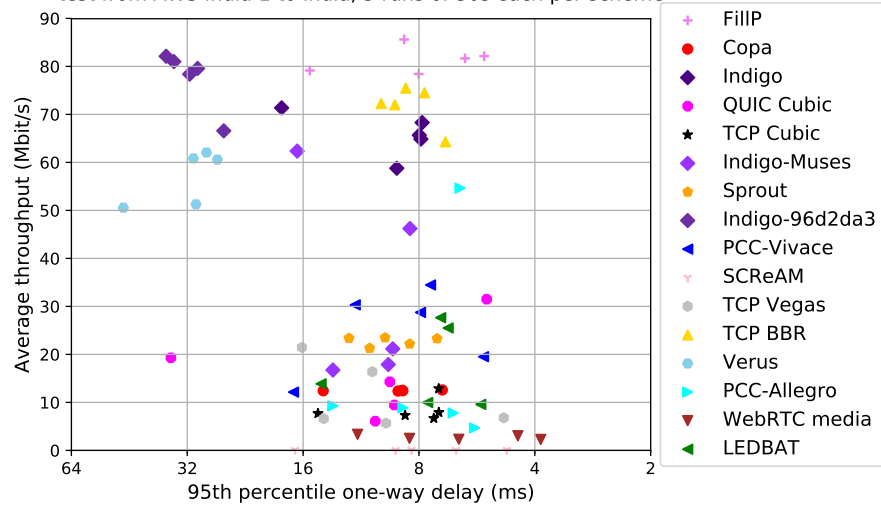
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-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 India 1 to India, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



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



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	71.71	8.50	11.21
Copa	5	12.46	9.57	44.78
TCP Cubic	5	8.50	8.97	1.20
FillP	5	81.39	8.72	13.23
Indigo	5	65.79	10.21	10.15
Indigo-96d2da3	5	77.53	31.67	42.59
LEDBAT	5	17.32	8.25	0.72
Indigo-Muses	5	32.87	11.48	8.65
PCC-Allegro	5	17.05	8.14	4.03
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	16.12	13.96	3.30
SCReAM	5	0.10	9.10	3.28
Sprout	5	22.73	9.67	3.01
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	11.39	11.08	1.37
Verus	5	57.06	32.67	22.78
PCC-Vivace	5	25.04	9.90	5.26
WebRTC media	5	2.70	6.92	1.91



Run 1: Statistics of TCP BBR

Start at: 2018-11-02 18:05:35

End at: 2018-11-02 18:06:05

Local clock offset: 3.551 ms

Remote clock offset: -1.14 ms

# Below is generated by plot.py at 2018-11-02 19:48:06

# Datalink statistics

-- Total of 1 flow:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 9.243 ms

Loss rate: 9.57%

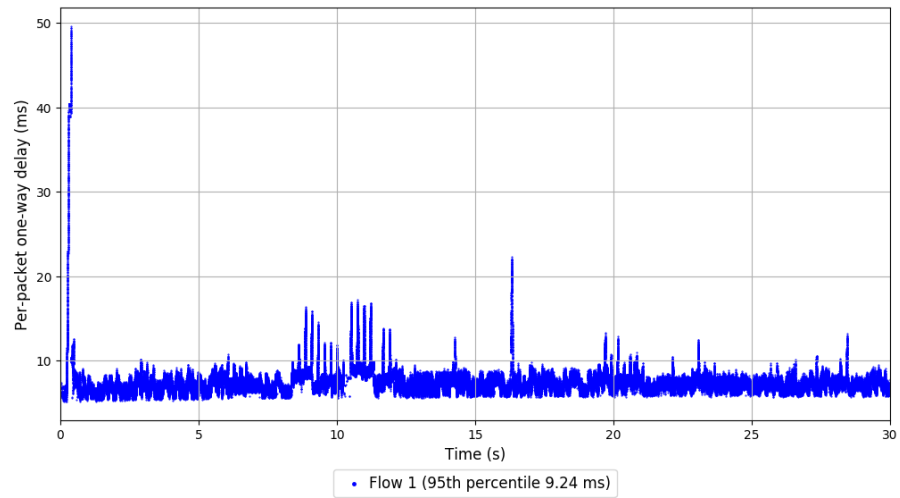
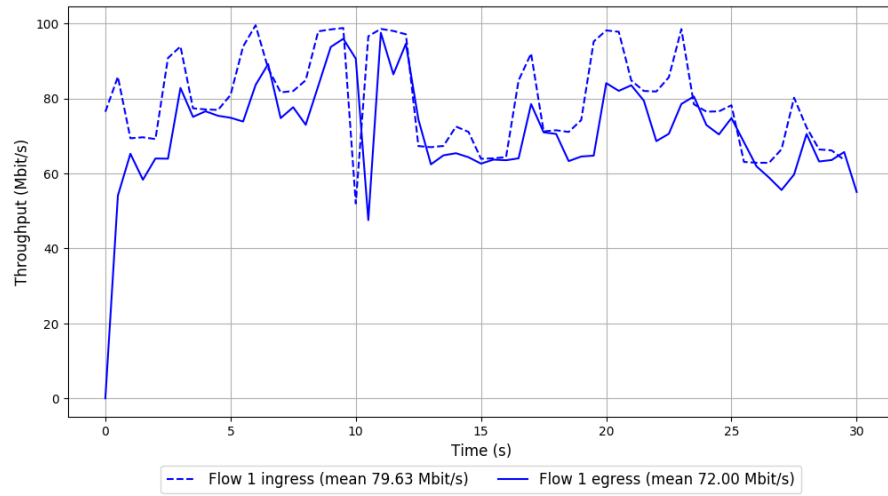
-- Flow 1:

Average throughput: 72.00 Mbit/s

95th percentile per-packet one-way delay: 9.243 ms

Loss rate: 9.57%

# Run 1: Report of TCP BBR — Data Link

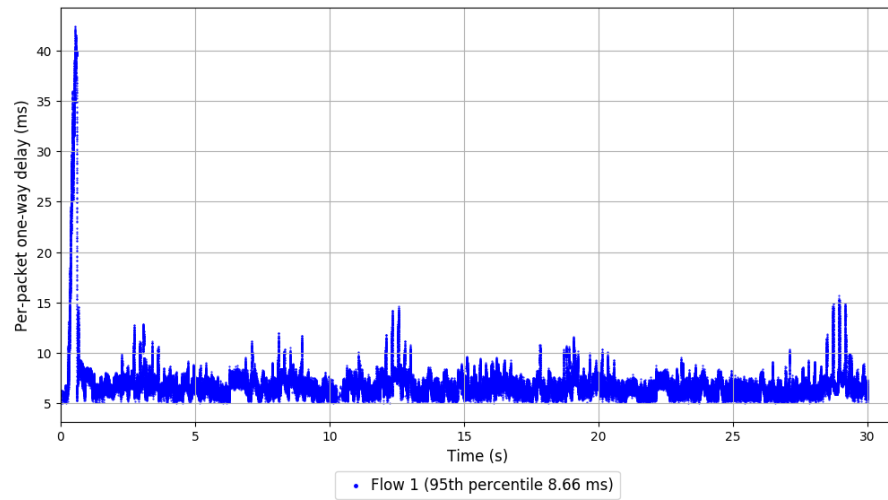
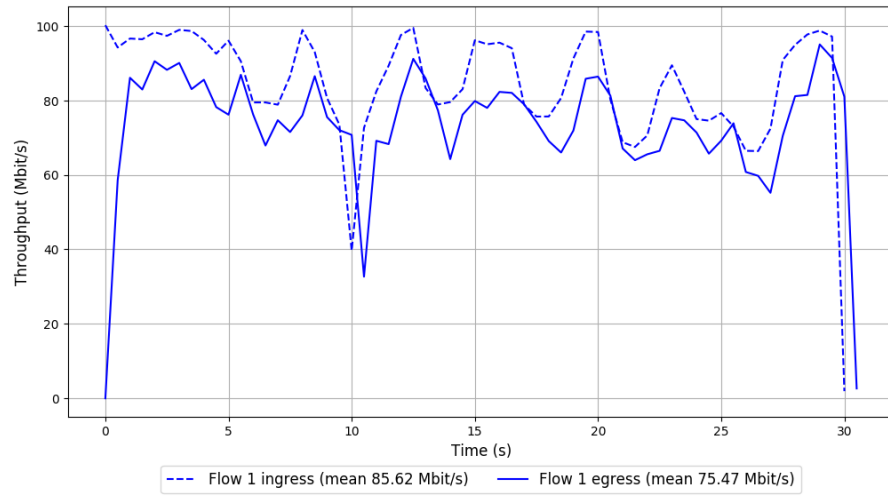


Run 2: Statistics of TCP BBR

Start at: 2018-11-02 18:25:57  
End at: 2018-11-02 18:26:27  
Local clock offset: -4.221 ms  
Remote clock offset: -2.606 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 75.47 Mbit/s  
95th percentile per-packet one-way delay: 8.657 ms  
Loss rate: 11.85%  
-- Flow 1:  
Average throughput: 75.47 Mbit/s  
95th percentile per-packet one-way delay: 8.657 ms  
Loss rate: 11.85%

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

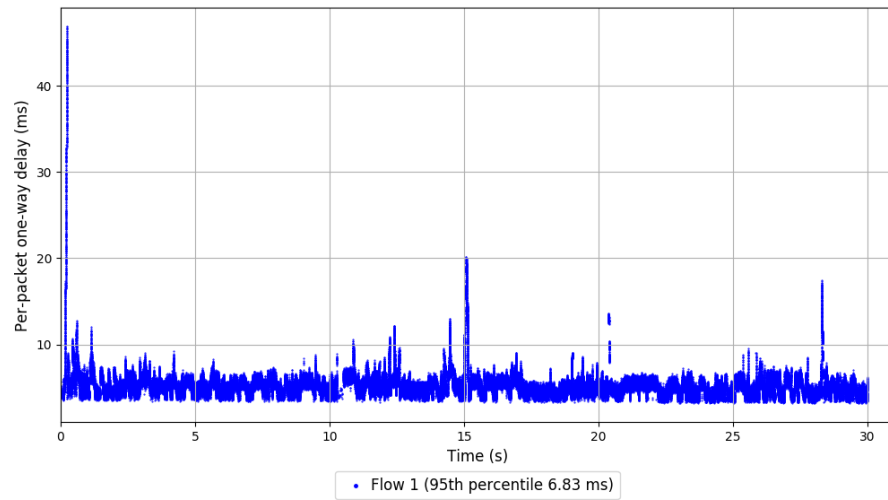
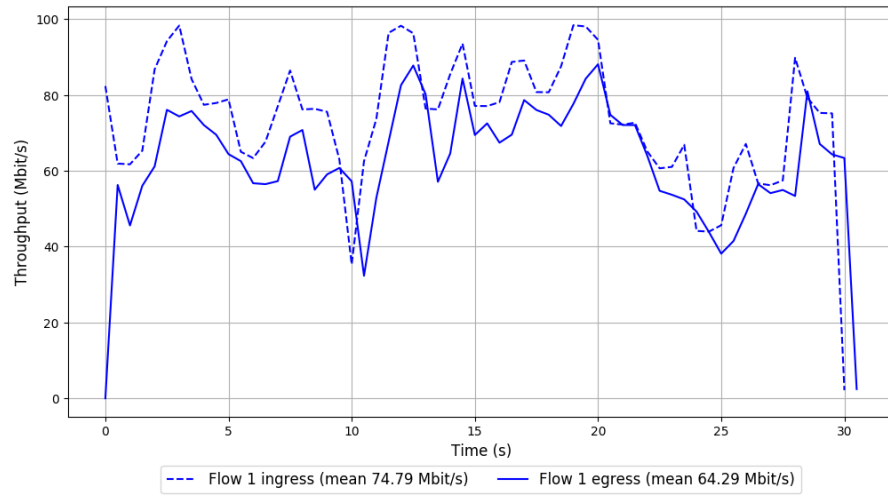


Run 3: Statistics of TCP BBR

Start at: 2018-11-02 18:46:10  
End at: 2018-11-02 18:46:40  
Local clock offset: -13.103 ms  
Remote clock offset: -3.427 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.29 Mbit/s  
95th percentile per-packet one-way delay: 6.827 ms  
Loss rate: 14.04%  
-- Flow 1:  
Average throughput: 64.29 Mbit/s  
95th percentile per-packet one-way delay: 6.827 ms  
Loss rate: 14.04%

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

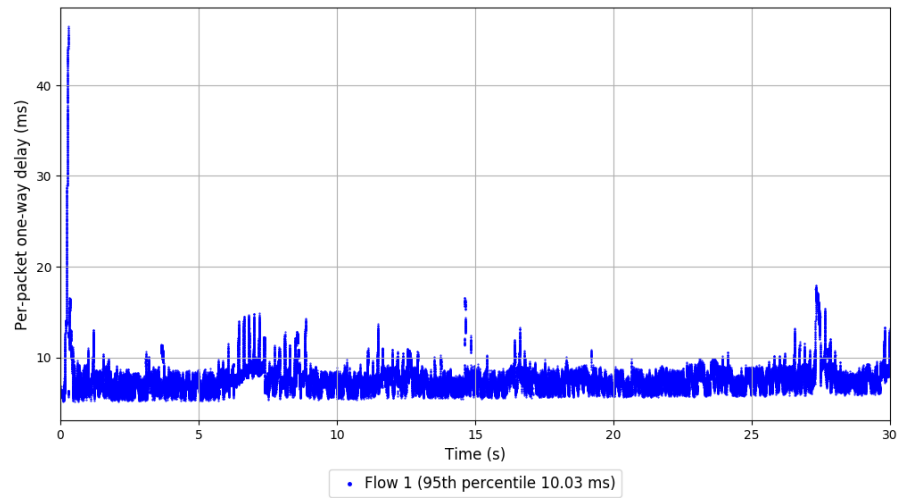
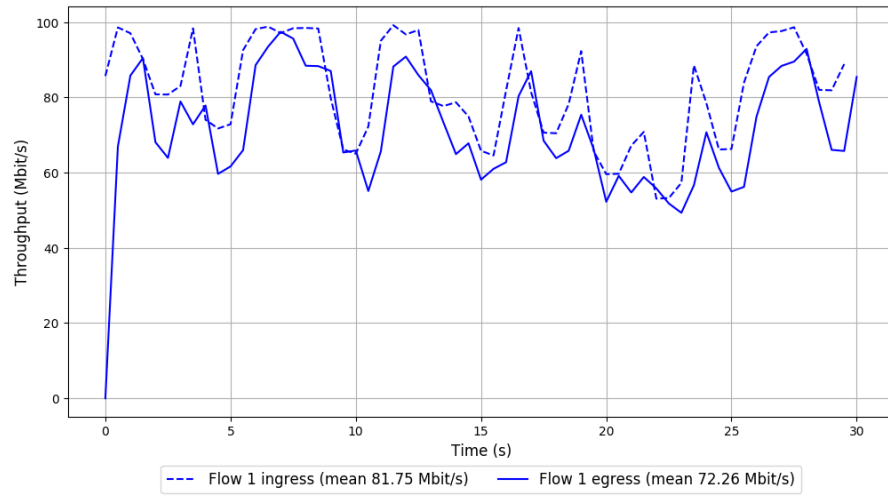


Run 4: Statistics of TCP BBR

Start at: 2018-11-02 19:06:20  
End at: 2018-11-02 19:06:50  
Local clock offset: -19.732 ms  
Remote clock offset: -3.48 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 72.26 Mbit/s  
95th percentile per-packet one-way delay: 10.027 ms  
Loss rate: 11.60%  
-- Flow 1:  
Average throughput: 72.26 Mbit/s  
95th percentile per-packet one-way delay: 10.027 ms  
Loss rate: 11.60%

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



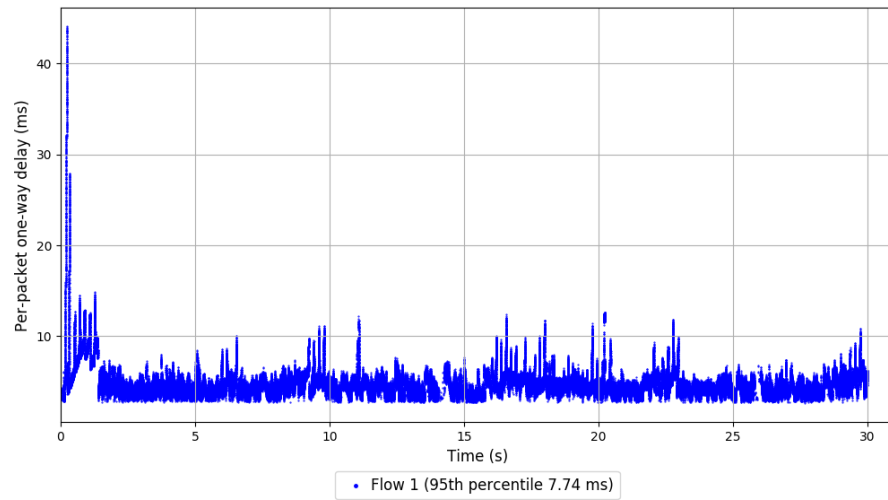
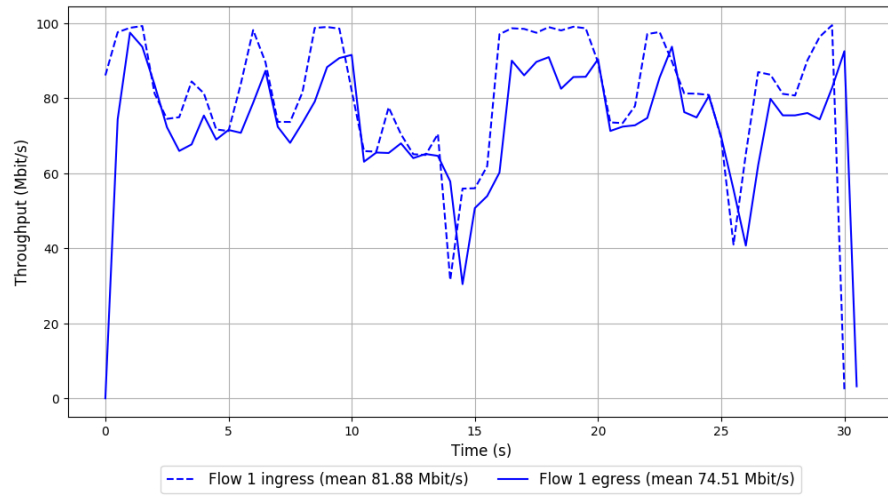


Run 5: Statistics of TCP BBR

Start at: 2018-11-02 19:26:29  
End at: 2018-11-02 19:26:59  
Local clock offset: -8.125 ms  
Remote clock offset: -3.508 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 74.51 Mbit/s  
95th percentile per-packet one-way delay: 7.740 ms  
Loss rate: 8.99%  
-- Flow 1:  
Average throughput: 74.51 Mbit/s  
95th percentile per-packet one-way delay: 7.740 ms  
Loss rate: 8.99%

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

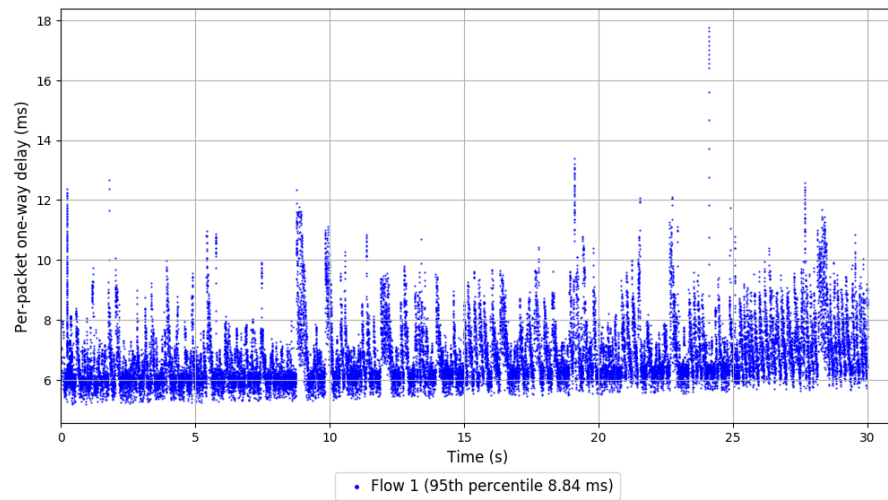
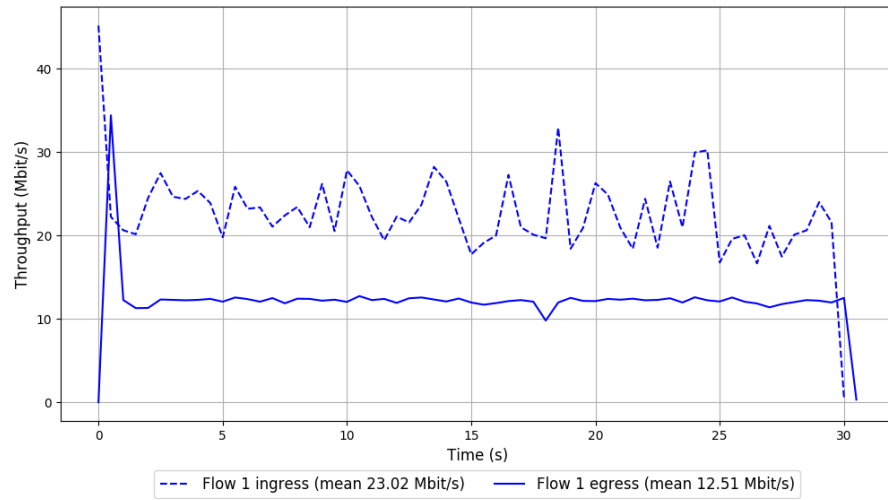


Run 1: Statistics of Copa

Start at: 2018-11-02 18:22:34  
End at: 2018-11-02 18:23:04  
Local clock offset: -6.025 ms  
Remote clock offset: -2.292 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.51 Mbit/s  
95th percentile per-packet one-way delay: 8.844 ms  
Loss rate: 45.65%  
-- Flow 1:  
Average throughput: 12.51 Mbit/s  
95th percentile per-packet one-way delay: 8.844 ms  
Loss rate: 45.65%

### Run 1: Report of Copa — Data Link

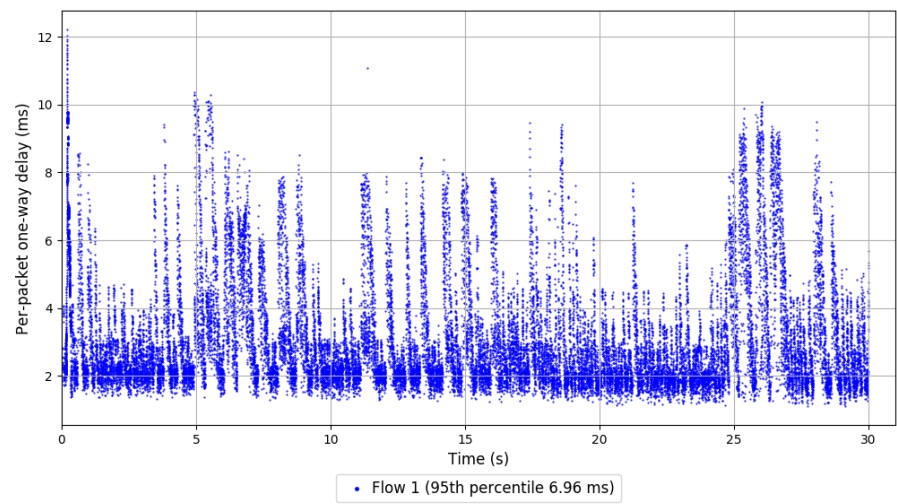
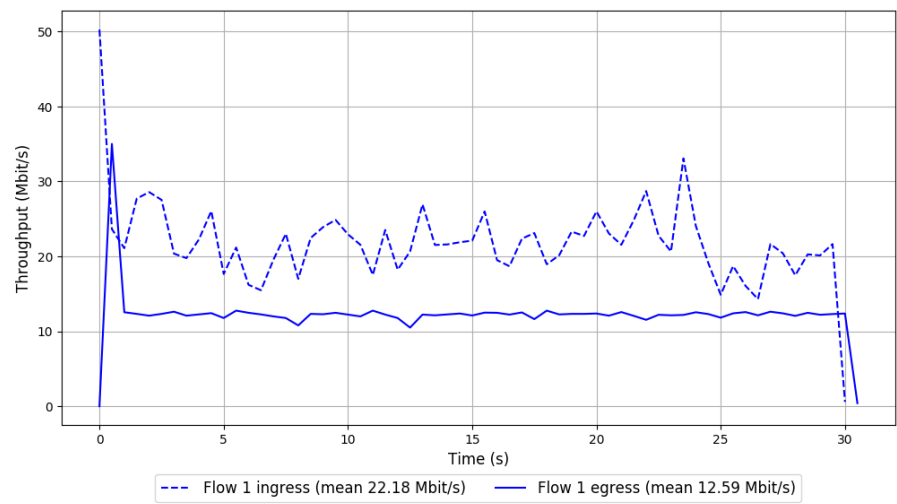


Run 2: Statistics of Copa

Start at: 2018-11-02 18:42:49  
End at: 2018-11-02 18:43:19  
Local clock offset: -7.758 ms  
Remote clock offset: -2.775 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.59 Mbit/s  
95th percentile per-packet one-way delay: 6.958 ms  
Loss rate: 43.24%  
-- Flow 1:  
Average throughput: 12.59 Mbit/s  
95th percentile per-packet one-way delay: 6.958 ms  
Loss rate: 43.24%

Run 2: Report of Copa — Data Link

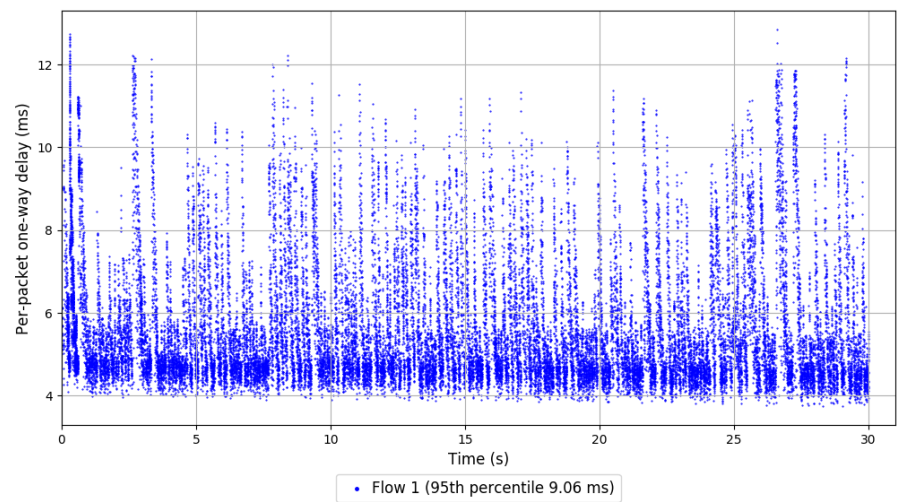
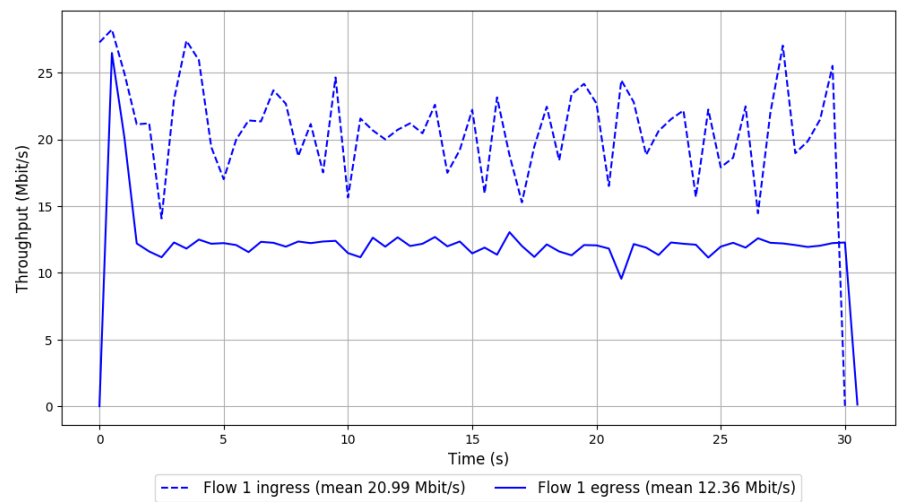


Run 3: Statistics of Copa

Start at: 2018-11-02 19:03:00  
End at: 2018-11-02 19:03:30  
Local clock offset: -22.044 ms  
Remote clock offset: -2.872 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.36 Mbit/s  
95th percentile per-packet one-way delay: 9.065 ms  
Loss rate: 41.12%  
-- Flow 1:  
Average throughput: 12.36 Mbit/s  
95th percentile per-packet one-way delay: 9.065 ms  
Loss rate: 41.12%

Run 3: Report of Copa — Data Link



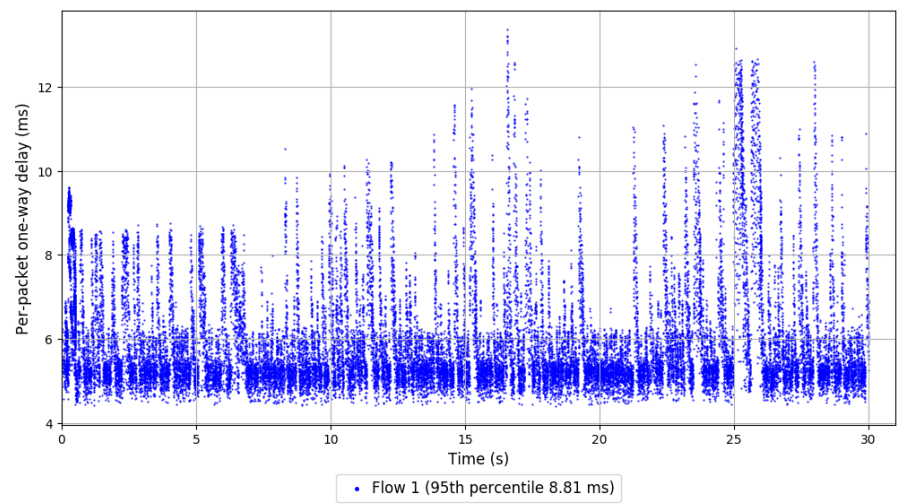
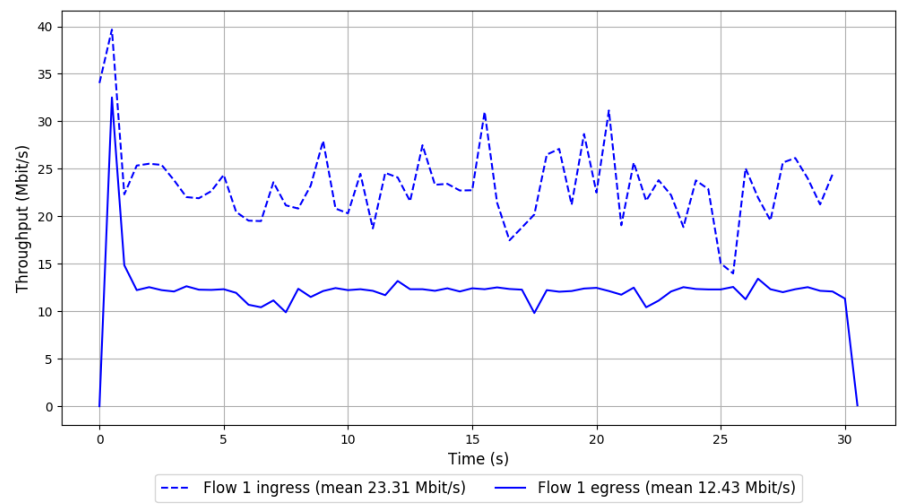


Run 4: Statistics of Copa

Start at: 2018-11-02 19:23:08  
End at: 2018-11-02 19:23:38  
Local clock offset: -8.619 ms  
Remote clock offset: -2.963 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 8.813 ms  
Loss rate: 46.67%  
-- Flow 1:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 8.813 ms  
Loss rate: 46.67%

Run 4: Report of Copa — Data Link

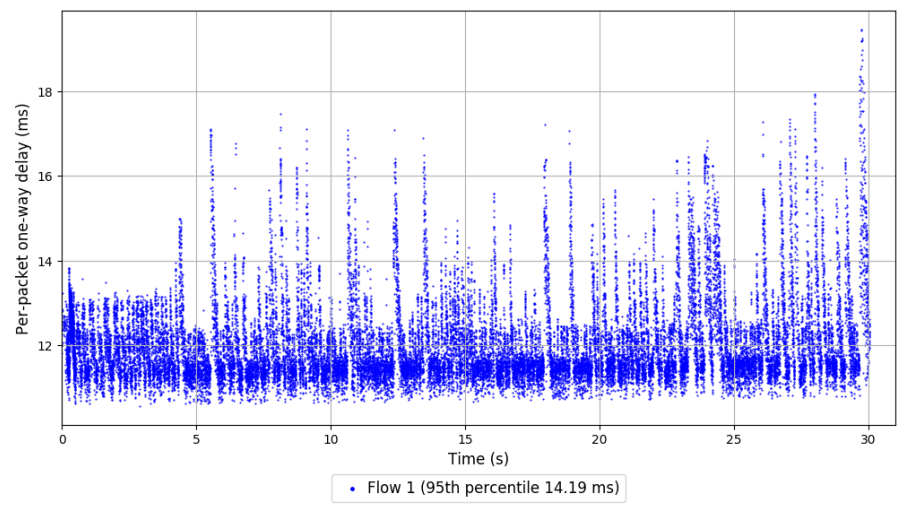
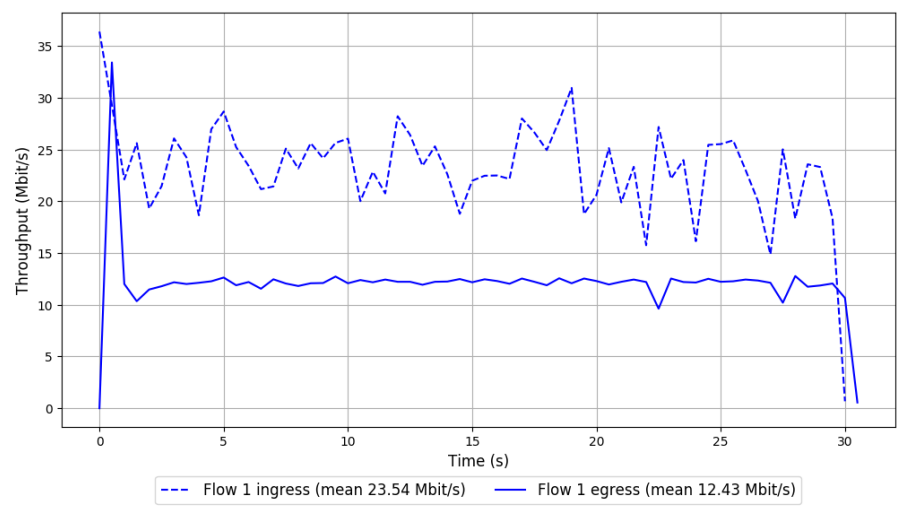


Run 5: Statistics of Copa

Start at: 2018-11-02 19:43:31  
End at: 2018-11-02 19:44:01  
Local clock offset: -1.321 ms  
Remote clock offset: -3.165 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 14.187 ms  
Loss rate: 47.22%  
-- Flow 1:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 14.187 ms  
Loss rate: 47.22%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-11-02 18:09:59

End at: 2018-11-02 18:10:29

Local clock offset: 0.313 ms

Remote clock offset: -1.86 ms

# Below is generated by plot.py at 2018-11-02 19:48:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 6.68 Mbit/s

95th percentile per-packet one-way delay: 7.322 ms

Loss rate: 1.19%

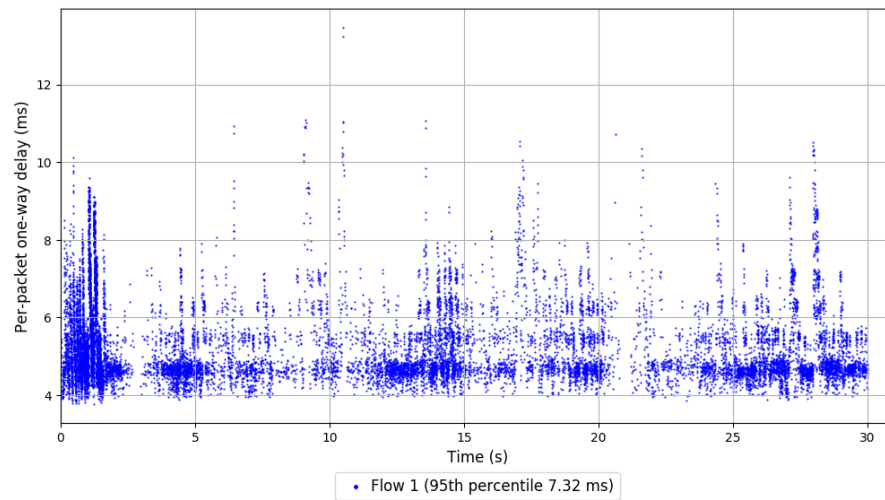
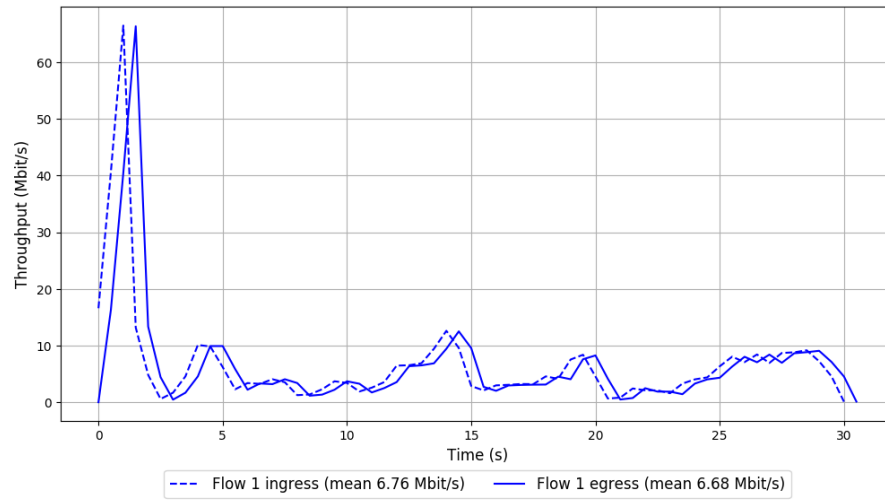
-- Flow 1:

Average throughput: 6.68 Mbit/s

95th percentile per-packet one-way delay: 7.322 ms

Loss rate: 1.19%

# Run 1: Report of TCP Cubic — Data Link

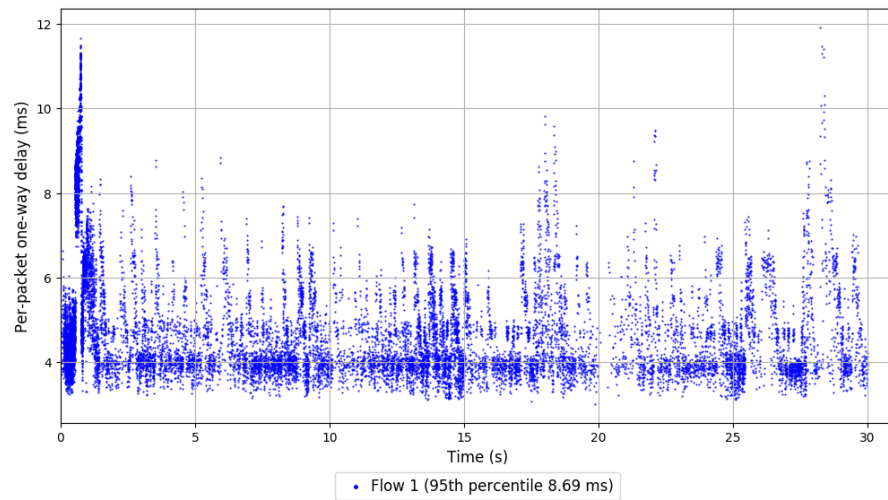
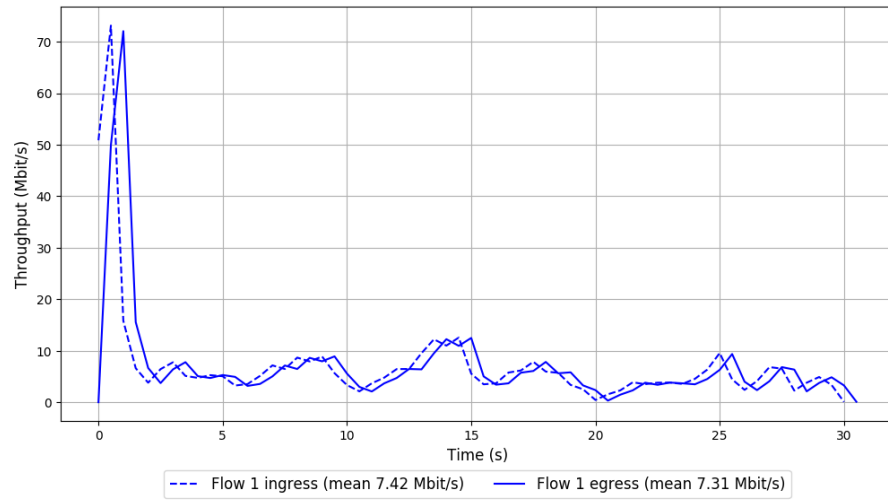


Run 2: Statistics of TCP Cubic

Start at: 2018-11-02 18:30:24  
End at: 2018-11-02 18:30:54  
Local clock offset: -3.343 ms  
Remote clock offset: -3.142 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.31 Mbit/s  
95th percentile per-packet one-way delay: 8.691 ms  
Loss rate: 1.46%  
-- Flow 1:  
Average throughput: 7.31 Mbit/s  
95th percentile per-packet one-way delay: 8.691 ms  
Loss rate: 1.46%

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



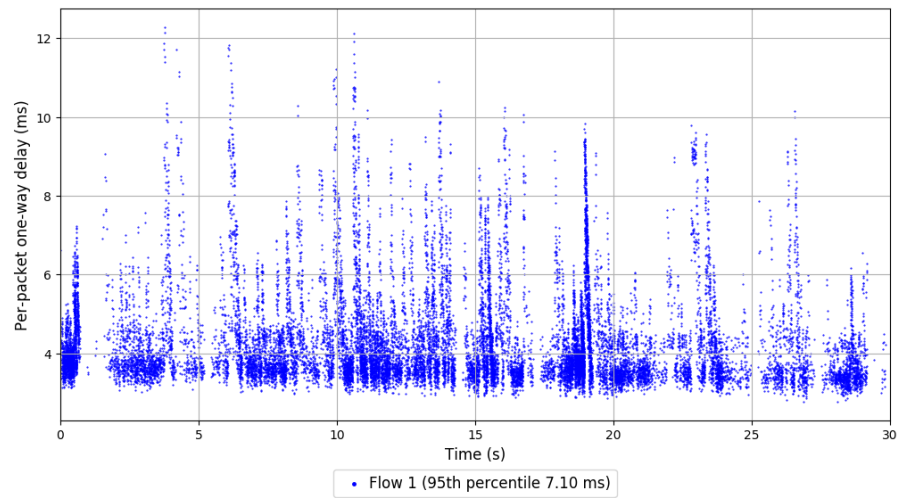
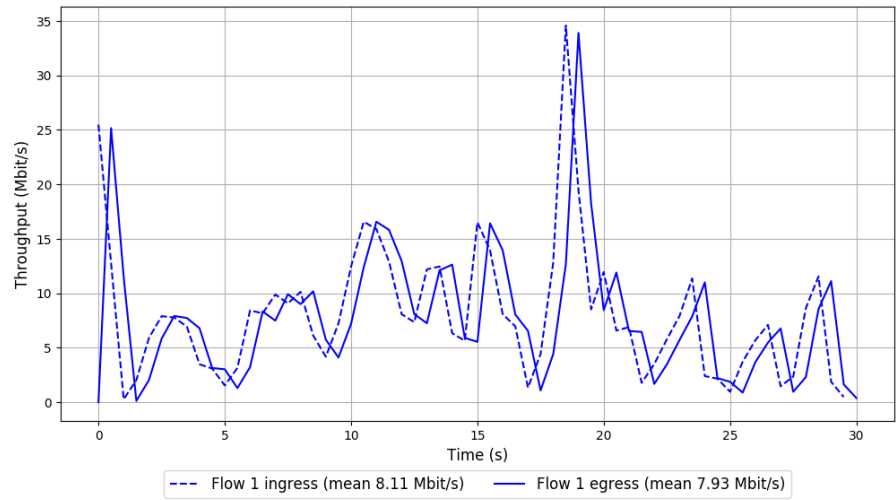


Run 3: Statistics of TCP Cubic

Start at: 2018-11-02 18:50:45  
End at: 2018-11-02 18:51:15  
Local clock offset: -14.302 ms  
Remote clock offset: -2.468 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.93 Mbit/s  
95th percentile per-packet one-way delay: 7.104 ms  
Loss rate: 2.28%  
-- Flow 1:  
Average throughput: 7.93 Mbit/s  
95th percentile per-packet one-way delay: 7.104 ms  
Loss rate: 2.28%

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

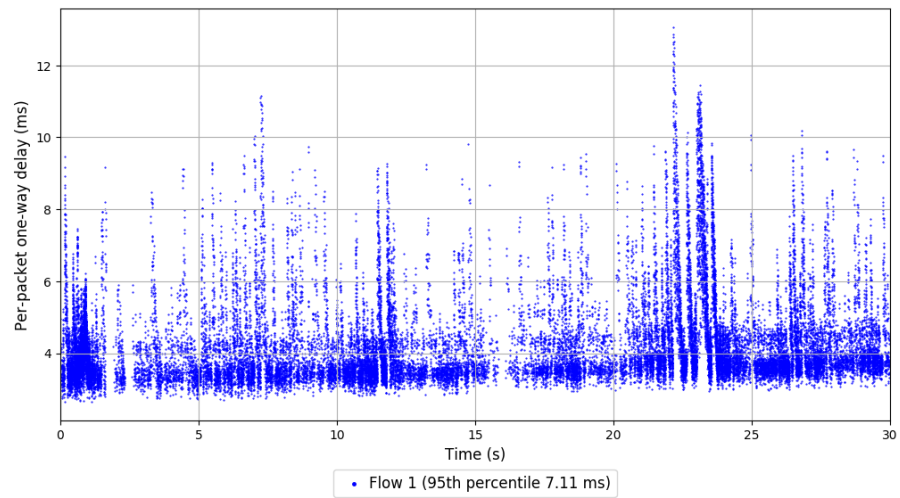
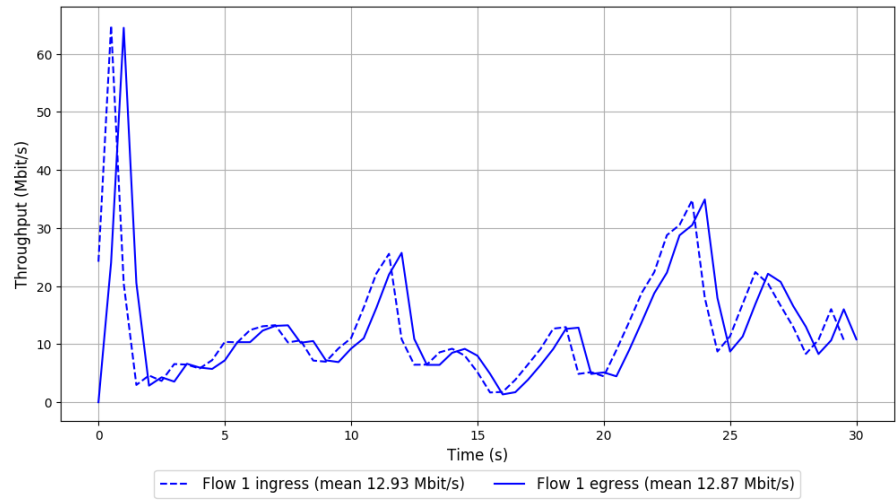


Run 4: Statistics of TCP Cubic

Start at: 2018-11-02 19:10:46  
End at: 2018-11-02 19:11:16  
Local clock offset: -11.929 ms  
Remote clock offset: -3.07 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.87 Mbit/s  
95th percentile per-packet one-way delay: 7.109 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 12.87 Mbit/s  
95th percentile per-packet one-way delay: 7.109 ms  
Loss rate: 0.43%

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

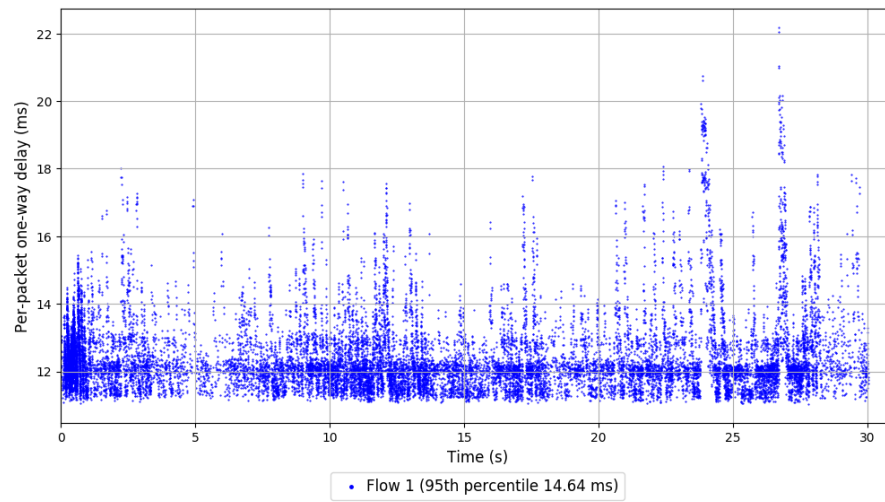
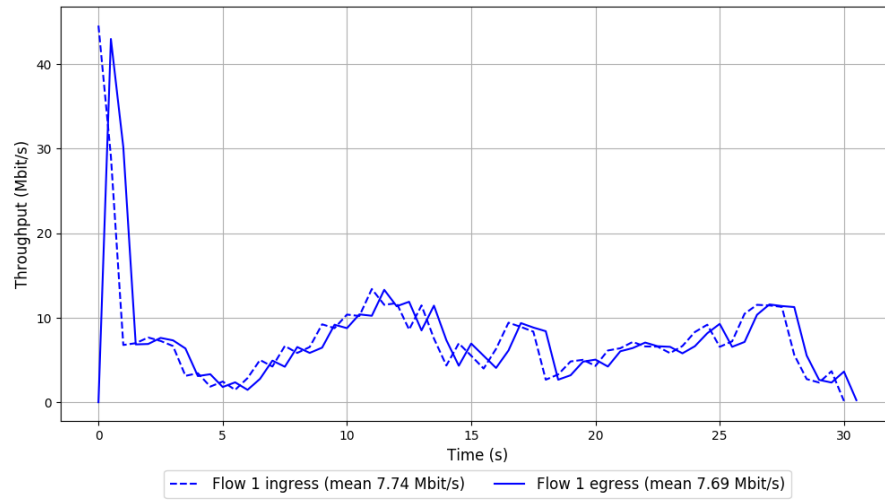


Run 5: Statistics of TCP Cubic

Start at: 2018-11-02 19:30:55  
End at: 2018-11-02 19:31:25  
Local clock offset: -8.639 ms  
Remote clock offset: -2.732 ms

# Below is generated by plot.py at 2018-11-02 19:48:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.69 Mbit/s  
95th percentile per-packet one-way delay: 14.641 ms  
Loss rate: 0.62%  
-- Flow 1:  
Average throughput: 7.69 Mbit/s  
95th percentile per-packet one-way delay: 14.641 ms  
Loss rate: 0.62%

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

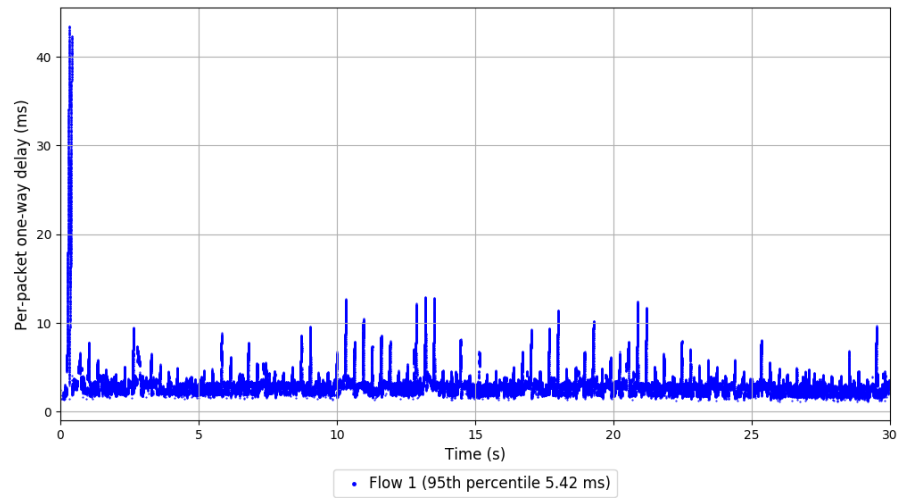
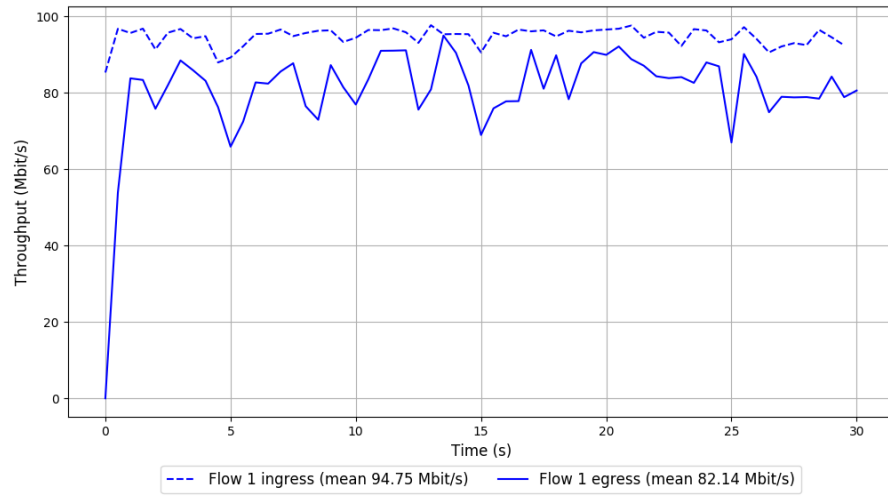


Run 1: Statistics of FillP

Start at: 2018-11-02 18:20:09  
End at: 2018-11-02 18:20:39  
Local clock offset: -3.462 ms  
Remote clock offset: -2.157 ms

# Below is generated by plot.py at 2018-11-02 19:48:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.14 Mbit/s  
95th percentile per-packet one-way delay: 5.416 ms  
Loss rate: 13.31%  
-- Flow 1:  
Average throughput: 82.14 Mbit/s  
95th percentile per-packet one-way delay: 5.416 ms  
Loss rate: 13.31%

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



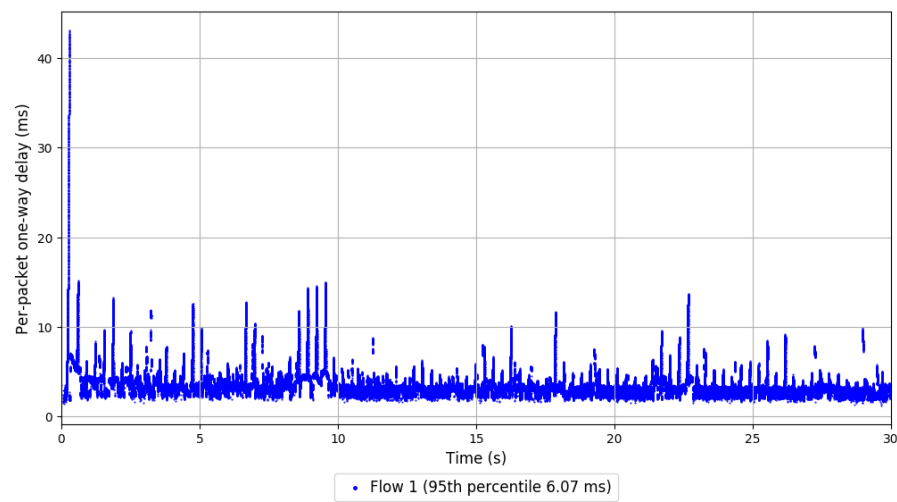
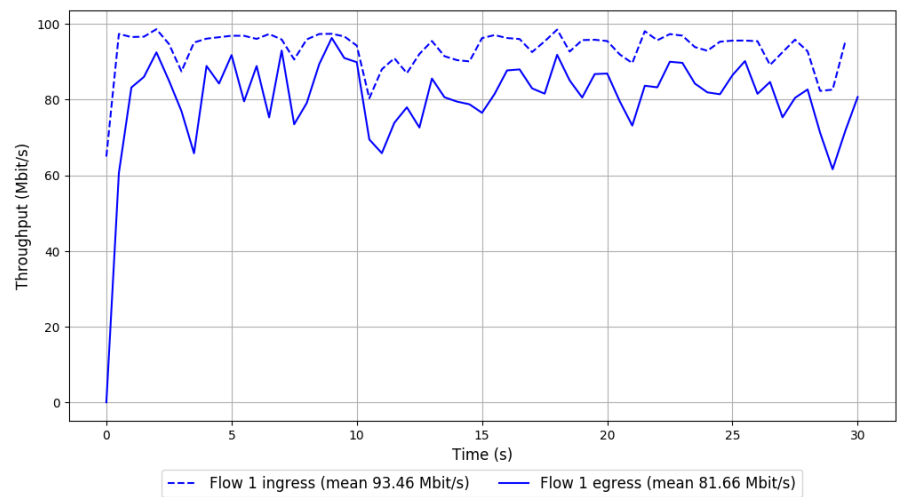


Run 2: Statistics of FillP

Start at: 2018-11-02 18:40:34  
End at: 2018-11-02 18:41:04  
Local clock offset: -6.821 ms  
Remote clock offset: -2.443 ms

# Below is generated by plot.py at 2018-11-02 19:48:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 81.66 Mbit/s  
95th percentile per-packet one-way delay: 6.074 ms  
Loss rate: 12.63%  
-- Flow 1:  
Average throughput: 81.66 Mbit/s  
95th percentile per-packet one-way delay: 6.074 ms  
Loss rate: 12.63%

Run 2: Report of FillP — Data Link

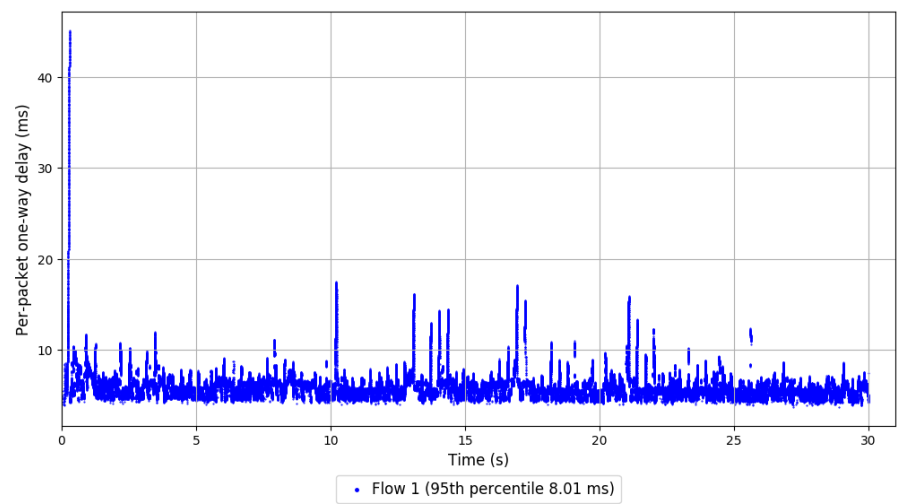
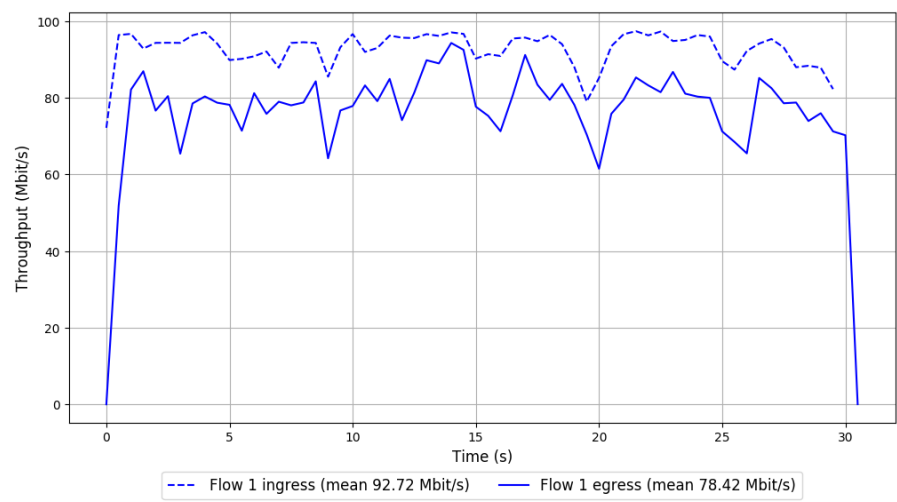


Run 3: Statistics of FillP

Start at: 2018-11-02 19:00:43  
End at: 2018-11-02 19:01:14  
Local clock offset: -21.2 ms  
Remote clock offset: -3.327 ms

# Below is generated by plot.py at 2018-11-02 19:48:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 78.42 Mbit/s  
95th percentile per-packet one-way delay: 8.012 ms  
Loss rate: 15.41%  
-- Flow 1:  
Average throughput: 78.42 Mbit/s  
95th percentile per-packet one-way delay: 8.012 ms  
Loss rate: 15.41%

Run 3: Report of FillP — Data Link

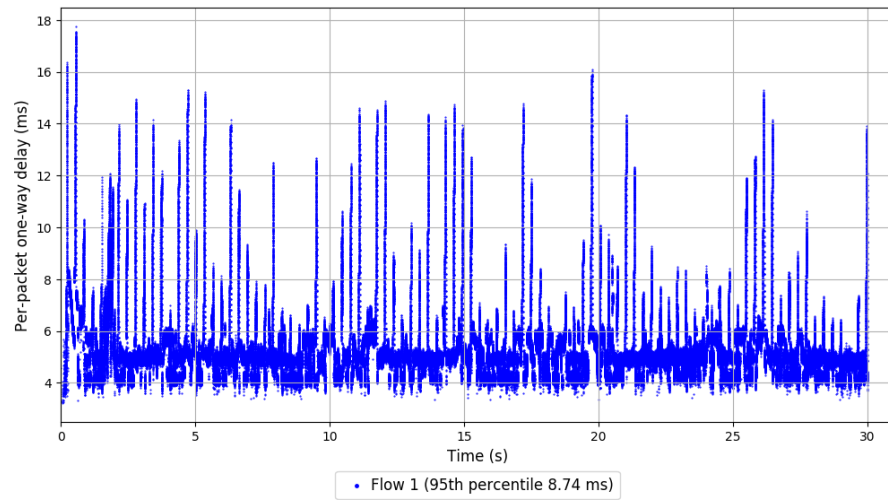
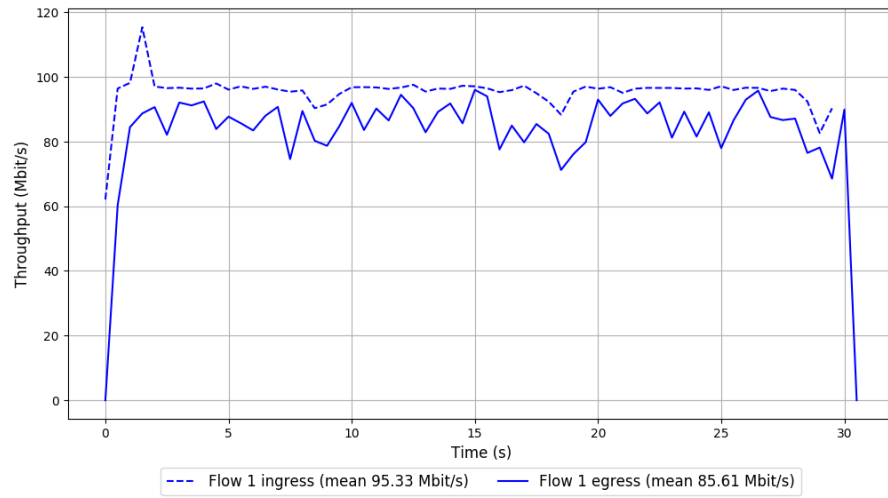


Run 4: Statistics of FillP

Start at: 2018-11-02 19:20:52  
End at: 2018-11-02 19:21:22  
Local clock offset: -7.244 ms  
Remote clock offset: -2.554 ms

# Below is generated by plot.py at 2018-11-02 19:49:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.61 Mbit/s  
95th percentile per-packet one-way delay: 8.742 ms  
Loss rate: 10.20%  
-- Flow 1:  
Average throughput: 85.61 Mbit/s  
95th percentile per-packet one-way delay: 8.742 ms  
Loss rate: 10.20%

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

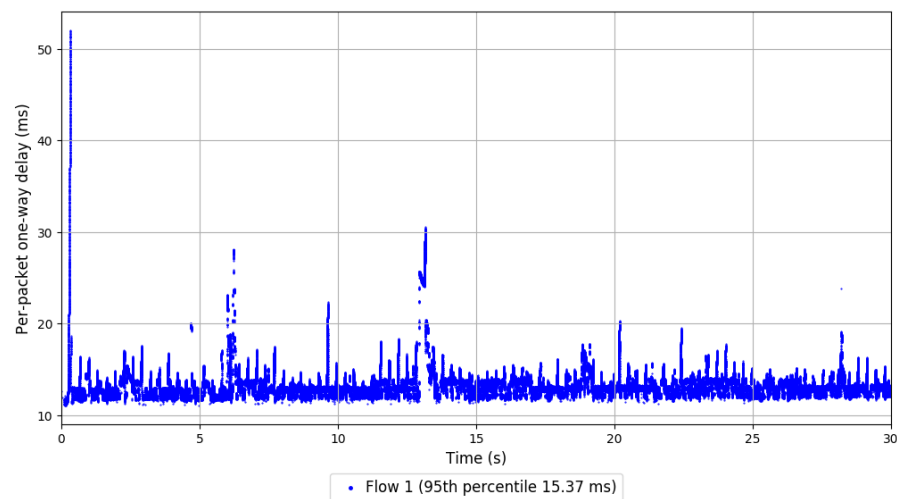
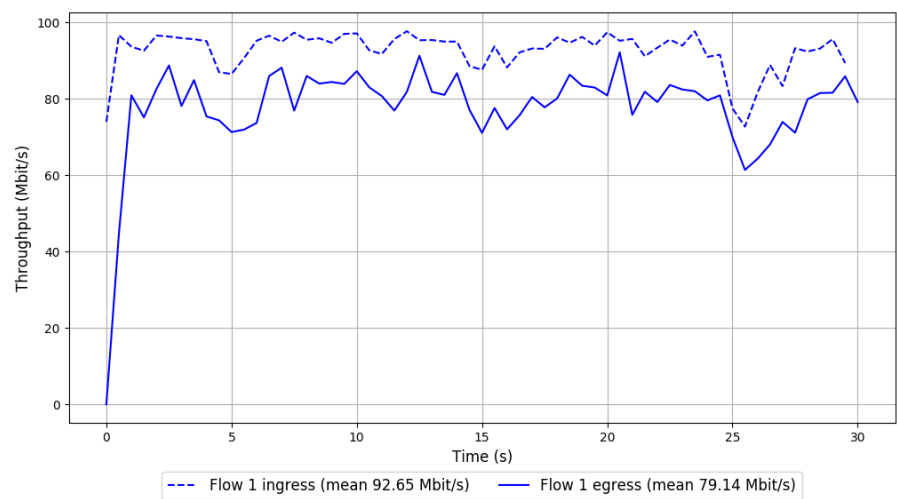


Run 5: Statistics of FillP

Start at: 2018-11-02 19:41:03  
End at: 2018-11-02 19:41:33  
Local clock offset: -3.226 ms  
Remote clock offset: -3.294 ms

# Below is generated by plot.py at 2018-11-02 19:49:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.14 Mbit/s  
95th percentile per-packet one-way delay: 15.374 ms  
Loss rate: 14.59%  
-- Flow 1:  
Average throughput: 79.14 Mbit/s  
95th percentile per-packet one-way delay: 15.374 ms  
Loss rate: 14.59%

Run 5: Report of FillP — Data Link



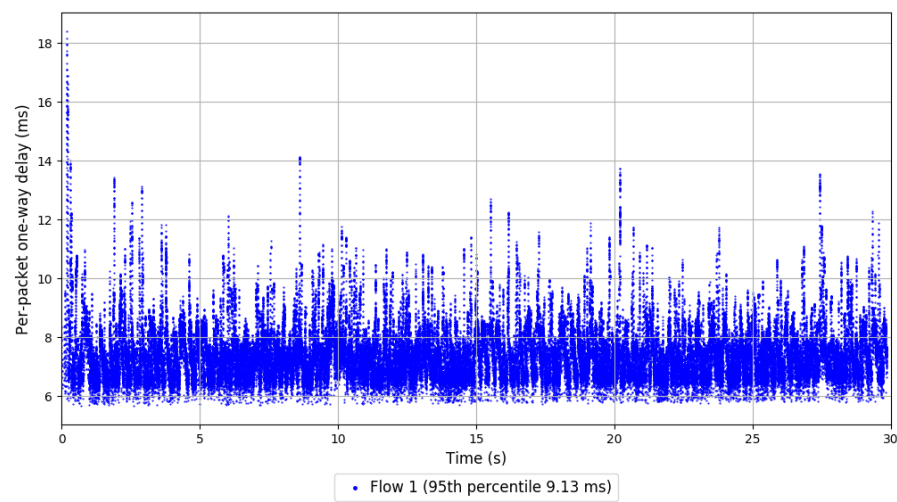
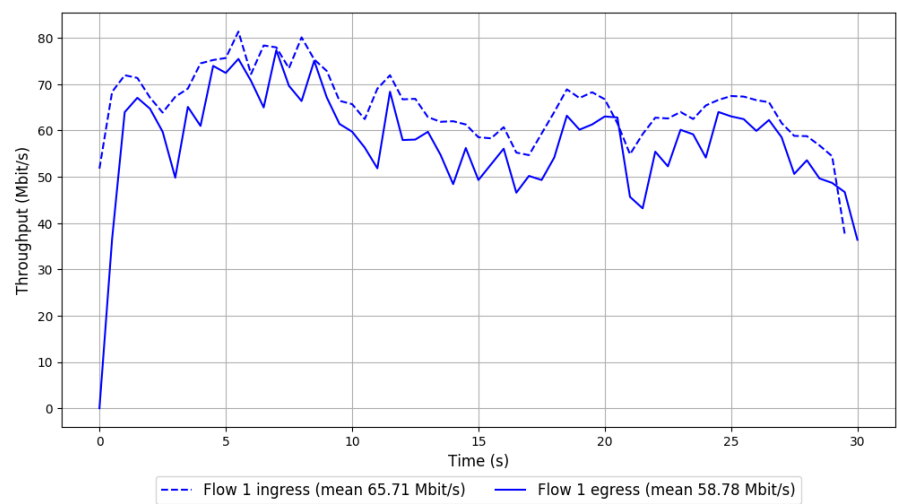


Run 1: Statistics of Indigo

Start at: 2018-11-02 18:24:47  
End at: 2018-11-02 18:25:17  
Local clock offset: -4.554 ms  
Remote clock offset: -1.823 ms

# Below is generated by plot.py at 2018-11-02 19:49:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.78 Mbit/s  
95th percentile per-packet one-way delay: 9.135 ms  
Loss rate: 10.54%  
-- Flow 1:  
Average throughput: 58.78 Mbit/s  
95th percentile per-packet one-way delay: 9.135 ms  
Loss rate: 10.54%

Run 1: Report of Indigo — Data Link

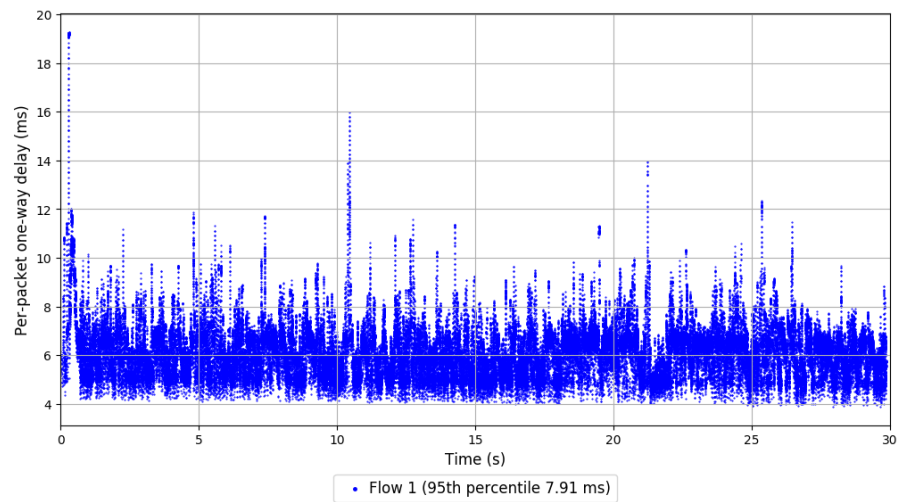
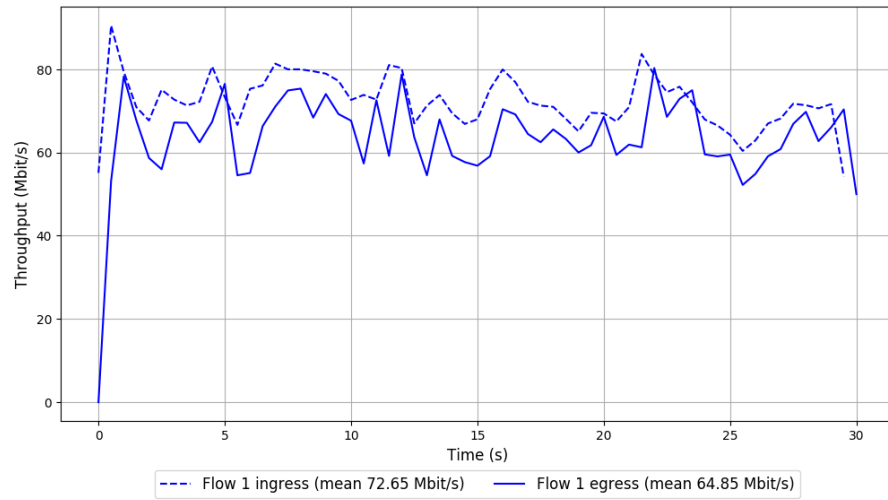


Run 2: Statistics of Indigo

Start at: 2018-11-02 18:45:01  
End at: 2018-11-02 18:45:31  
Local clock offset: -11.512 ms  
Remote clock offset: -2.317 ms

# Below is generated by plot.py at 2018-11-02 19:49:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.85 Mbit/s  
95th percentile per-packet one-way delay: 7.909 ms  
Loss rate: 10.73%  
-- Flow 1:  
Average throughput: 64.85 Mbit/s  
95th percentile per-packet one-way delay: 7.909 ms  
Loss rate: 10.73%

## Run 2: Report of Indigo — Data Link

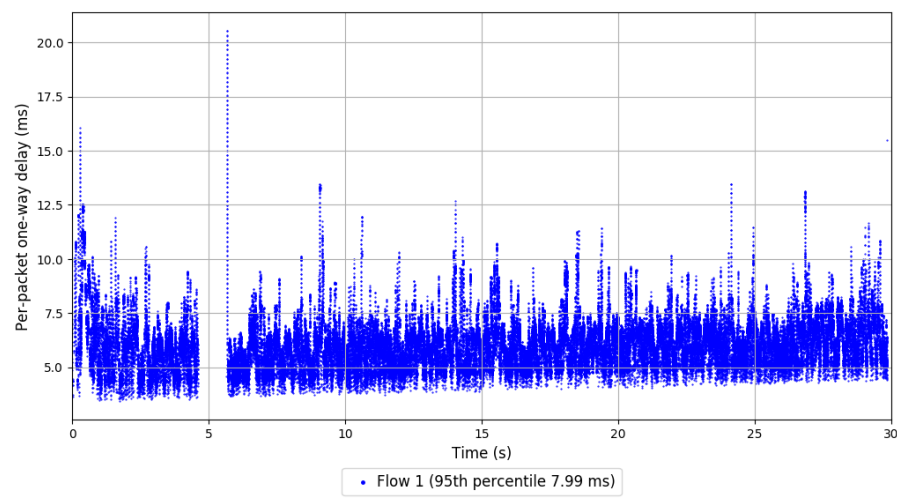
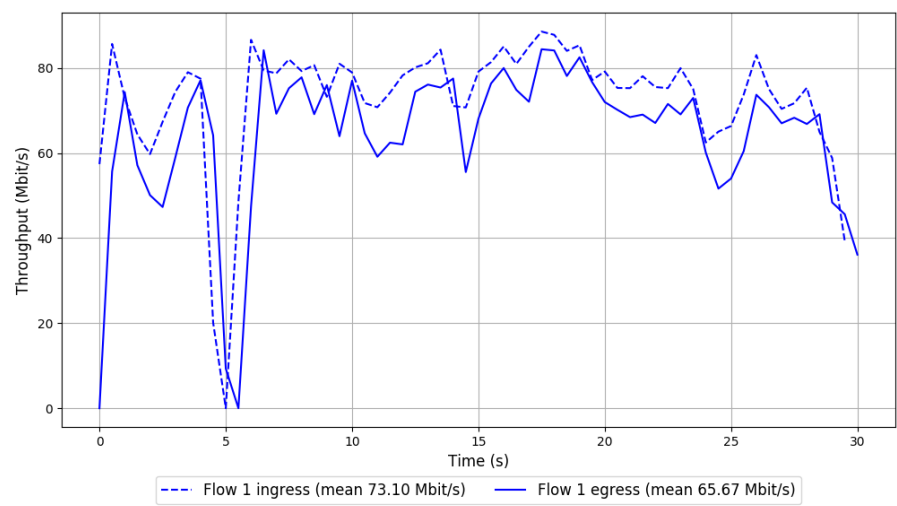


Run 3: Statistics of Indigo

Start at: 2018-11-02 19:05:11  
End at: 2018-11-02 19:05:41  
Local clock offset: -19.714 ms  
Remote clock offset: -2.984 ms

# Below is generated by plot.py at 2018-11-02 19:49:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 65.67 Mbit/s  
95th percentile per-packet one-way delay: 7.985 ms  
Loss rate: 10.13%  
-- Flow 1:  
Average throughput: 65.67 Mbit/s  
95th percentile per-packet one-way delay: 7.985 ms  
Loss rate: 10.13%

Run 3: Report of Indigo — Data Link

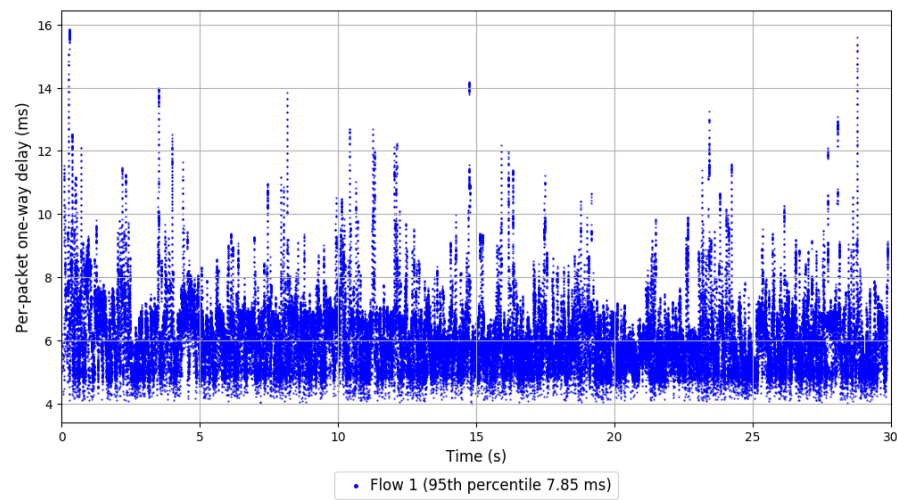
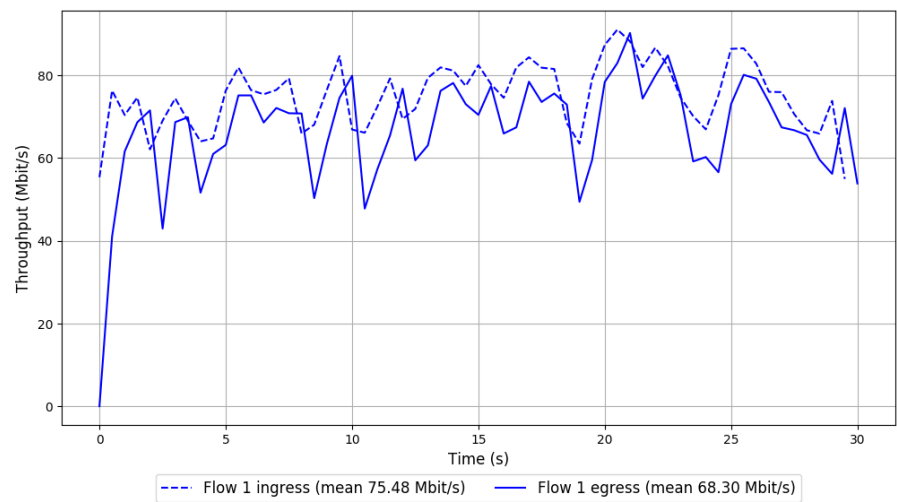


Run 4: Statistics of Indigo

Start at: 2018-11-02 19:25:20  
End at: 2018-11-02 19:25:50  
Local clock offset: -8.403 ms  
Remote clock offset: -3.039 ms

# Below is generated by plot.py at 2018-11-02 19:49:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 68.30 Mbit/s  
95th percentile per-packet one-way delay: 7.849 ms  
Loss rate: 9.51%  
-- Flow 1:  
Average throughput: 68.30 Mbit/s  
95th percentile per-packet one-way delay: 7.849 ms  
Loss rate: 9.51%

Run 4: Report of Indigo — Data Link



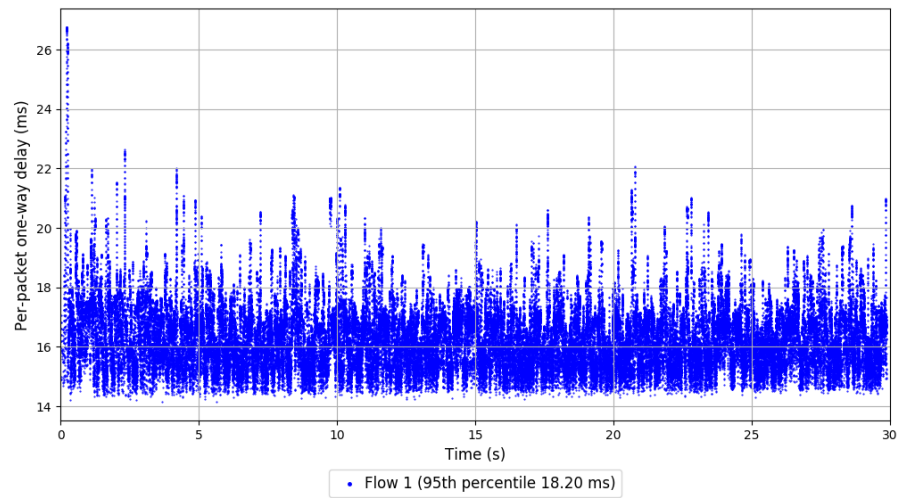
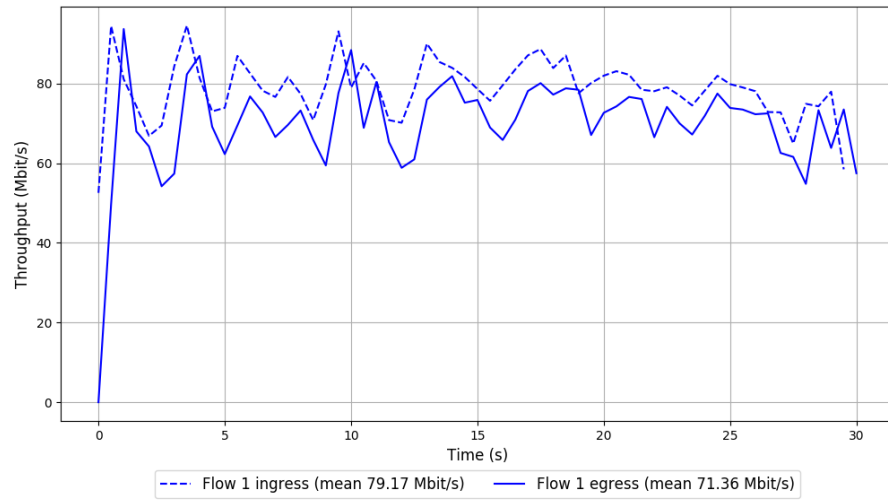


Run 5: Statistics of Indigo

Start at: 2018-11-02 19:45:48  
End at: 2018-11-02 19:46:18  
Local clock offset: -3.581 ms  
Remote clock offset: -3.375 ms

# Below is generated by plot.py at 2018-11-02 19:49:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 71.36 Mbit/s  
95th percentile per-packet one-way delay: 18.195 ms  
Loss rate: 9.86%  
-- Flow 1:  
Average throughput: 71.36 Mbit/s  
95th percentile per-packet one-way delay: 18.195 ms  
Loss rate: 9.86%

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

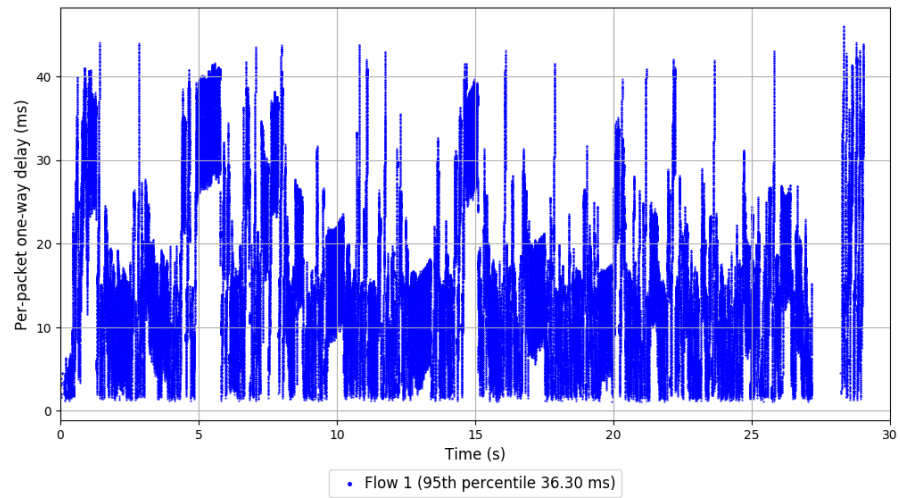
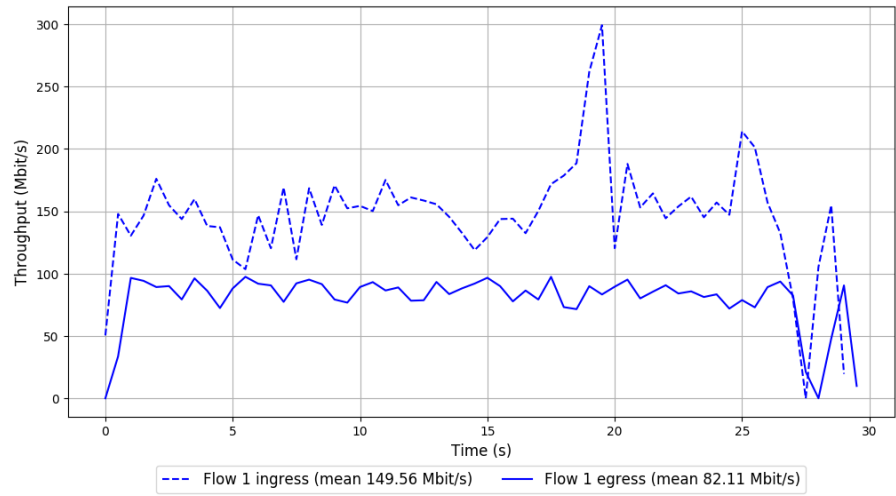


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:13:20  
End at: 2018-11-02 18:13:50  
Local clock offset: 1.42 ms  
Remote clock offset: -2.043 ms

# Below is generated by plot.py at 2018-11-02 19:50:13  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.11 Mbit/s  
95th percentile per-packet one-way delay: 36.302 ms  
Loss rate: 45.09%  
-- Flow 1:  
Average throughput: 82.11 Mbit/s  
95th percentile per-packet one-way delay: 36.302 ms  
Loss rate: 45.09%

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

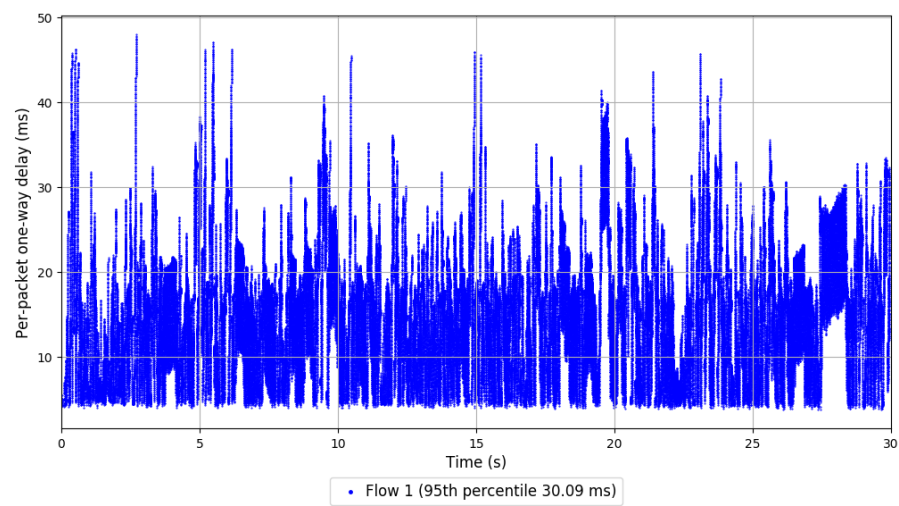
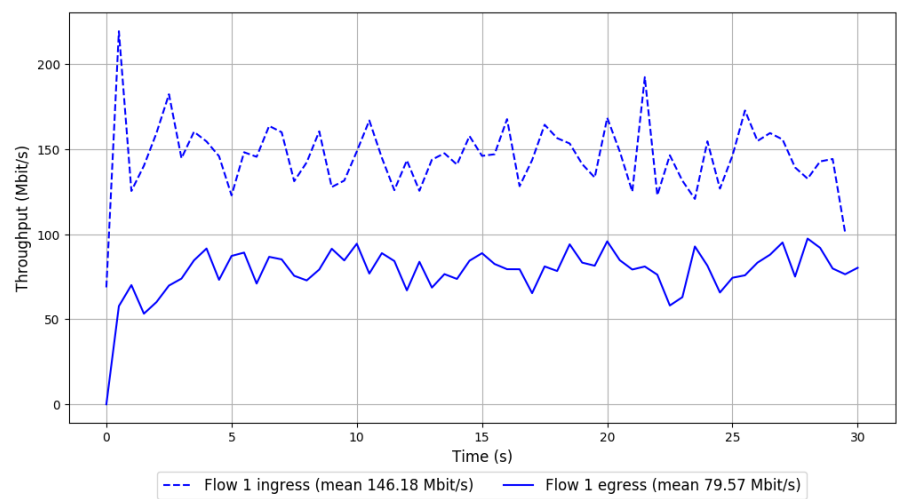


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:33:43  
End at: 2018-11-02 18:34:13  
Local clock offset: -5.205 ms  
Remote clock offset: -3.016 ms

# Below is generated by plot.py at 2018-11-02 19:50:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.57 Mbit/s  
95th percentile per-packet one-way delay: 30.085 ms  
Loss rate: 45.52%  
-- Flow 1:  
Average throughput: 79.57 Mbit/s  
95th percentile per-packet one-way delay: 30.085 ms  
Loss rate: 45.52%

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

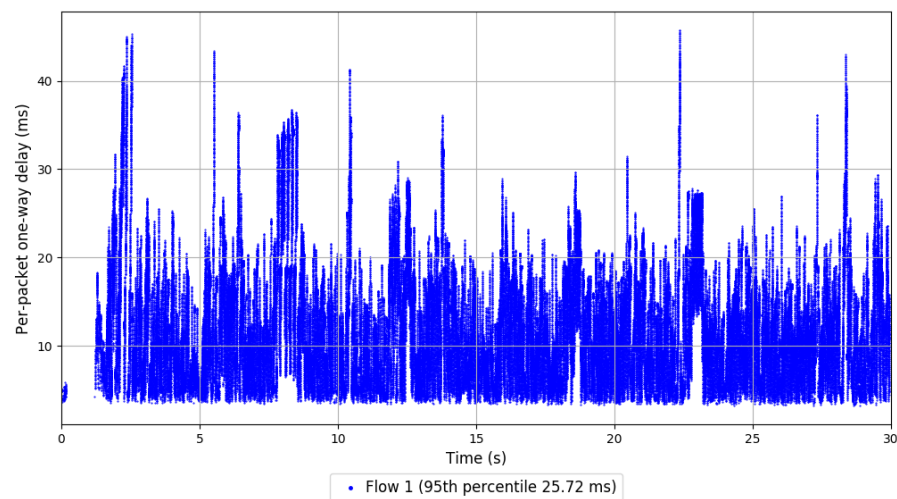
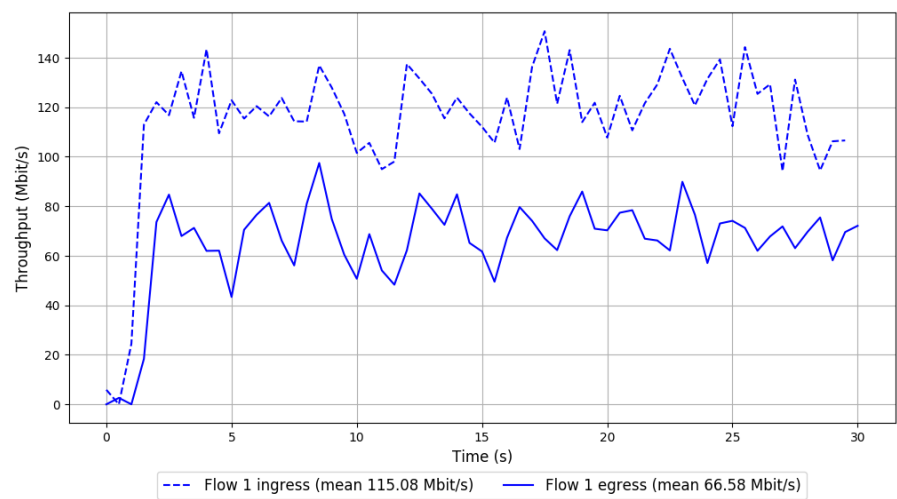


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-02 18:54:02  
End at: 2018-11-02 18:54:32  
Local clock offset: -17.572 ms  
Remote clock offset: -3.405 ms

# Below is generated by plot.py at 2018-11-02 19:50:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.58 Mbit/s  
95th percentile per-packet one-way delay: 25.723 ms  
Loss rate: 42.13%  
-- Flow 1:  
Average throughput: 66.58 Mbit/s  
95th percentile per-packet one-way delay: 25.723 ms  
Loss rate: 42.13%

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



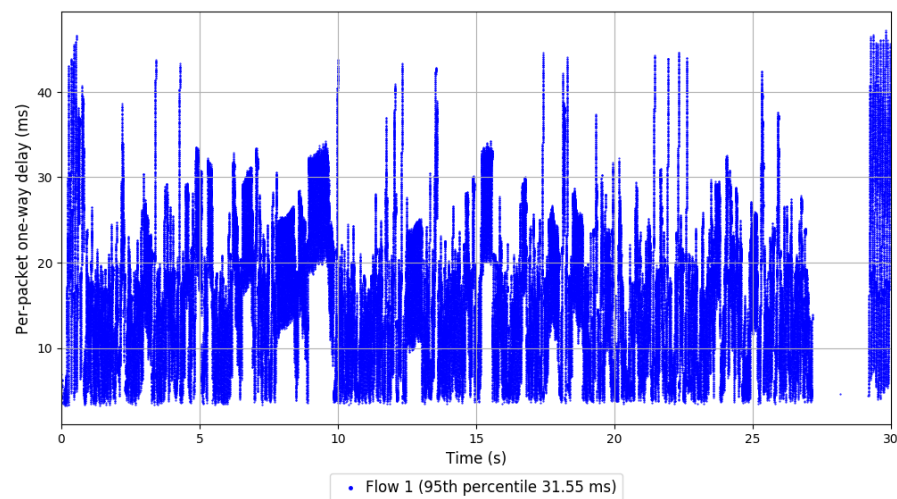
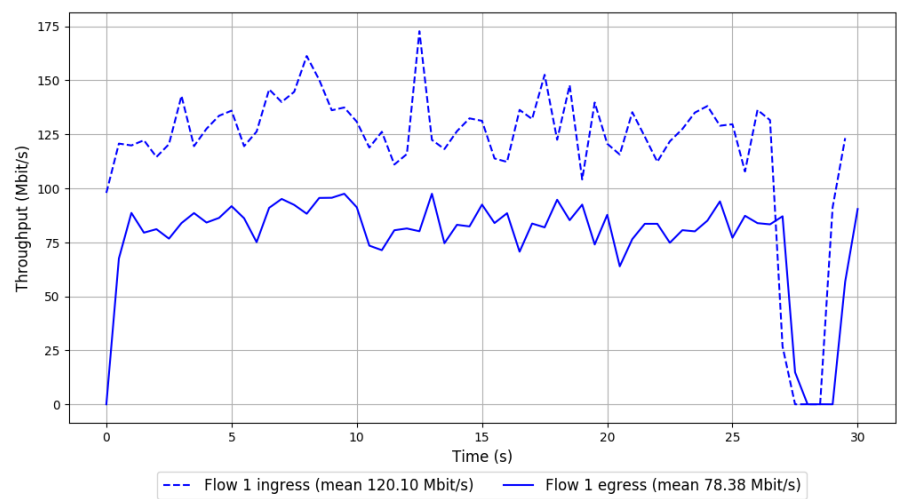


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:14:10  
End at: 2018-11-02 19:14:40  
Local clock offset: -10.576 ms  
Remote clock offset: -3.553 ms

# Below is generated by plot.py at 2018-11-02 19:50:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 78.38 Mbit/s  
95th percentile per-packet one-way delay: 31.545 ms  
Loss rate: 34.65%  
-- Flow 1:  
Average throughput: 78.38 Mbit/s  
95th percentile per-packet one-way delay: 31.545 ms  
Loss rate: 34.65%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-02 19:34:13

End at: 2018-11-02 19:34:43

Local clock offset: -7.483 ms

Remote clock offset: -2.99 ms

# Below is generated by plot.py at 2018-11-02 19:50:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 81.00 Mbit/s

95th percentile per-packet one-way delay: 34.672 ms

Loss rate: 45.58%

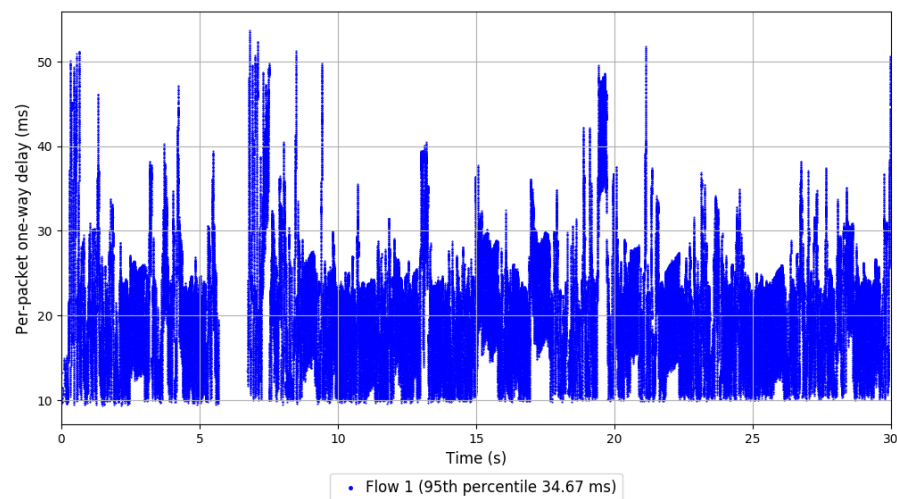
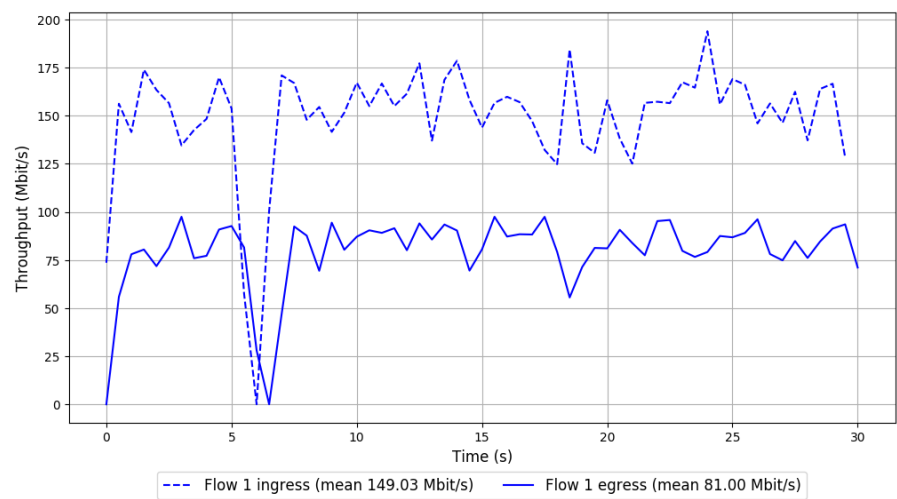
-- Flow 1:

Average throughput: 81.00 Mbit/s

95th percentile per-packet one-way delay: 34.672 ms

Loss rate: 45.58%

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

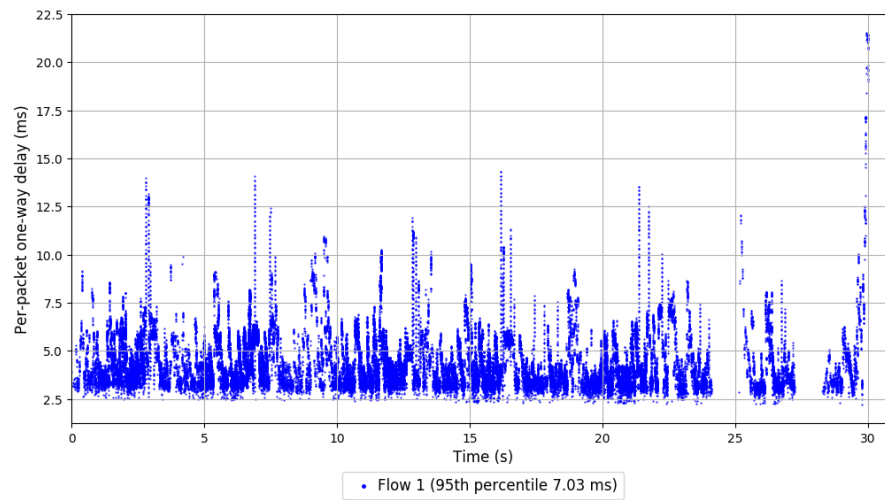
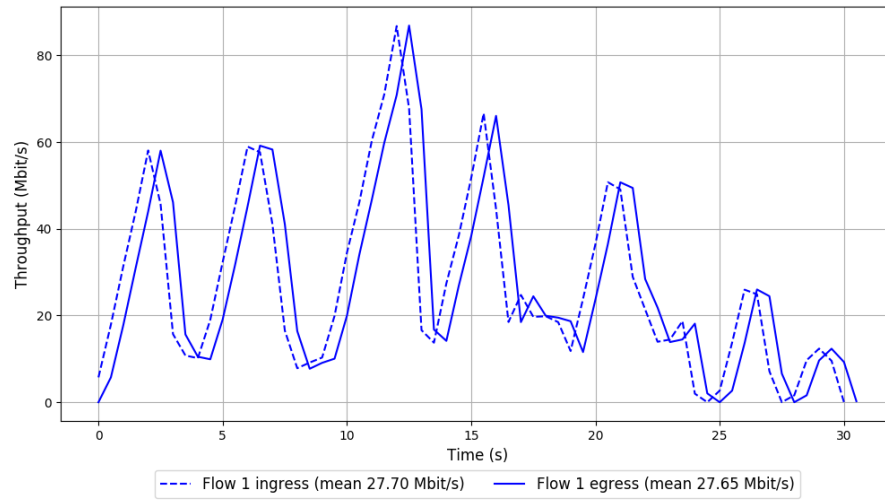


Run 1: Statistics of LEDBAT

Start at: 2018-11-02 18:12:12  
End at: 2018-11-02 18:12:42  
Local clock offset: 0.886 ms  
Remote clock offset: -1.748 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 27.65 Mbit/s  
95th percentile per-packet one-way delay: 7.027 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 27.65 Mbit/s  
95th percentile per-packet one-way delay: 7.027 ms  
Loss rate: 0.20%

# Run 1: Report of LEDBAT — Data Link

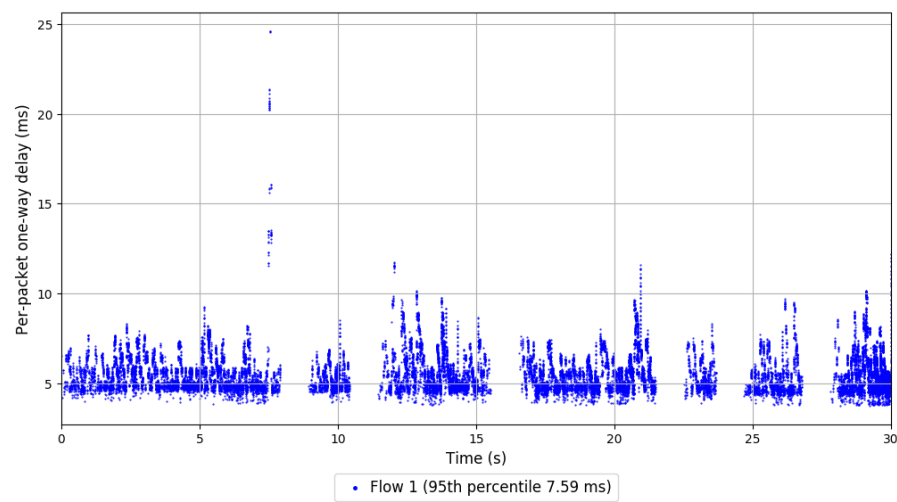
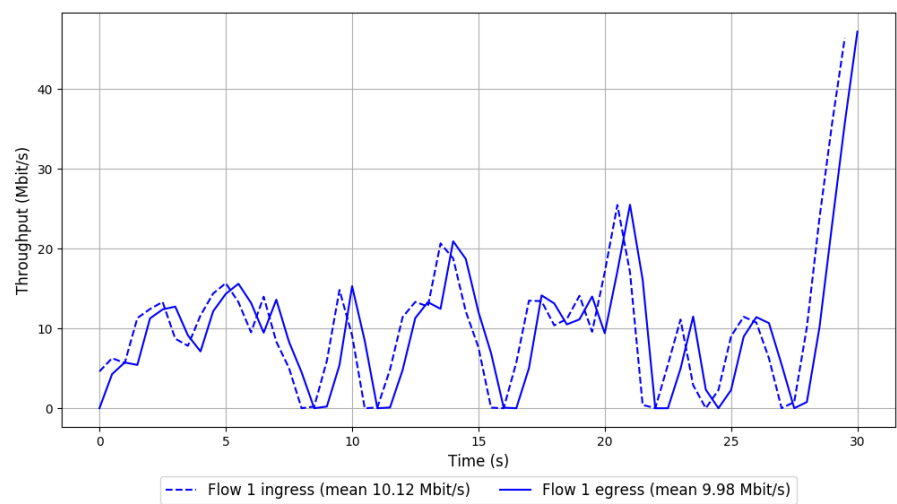


Run 2: Statistics of LEDBAT

Start at: 2018-11-02 18:32:37  
End at: 2018-11-02 18:33:07  
Local clock offset: -4.476 ms  
Remote clock offset: -2.764 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.98 Mbit/s  
95th percentile per-packet one-way delay: 7.594 ms  
Loss rate: 1.30%  
-- Flow 1:  
Average throughput: 9.98 Mbit/s  
95th percentile per-packet one-way delay: 7.594 ms  
Loss rate: 1.30%

Run 2: Report of LEDBAT — Data Link



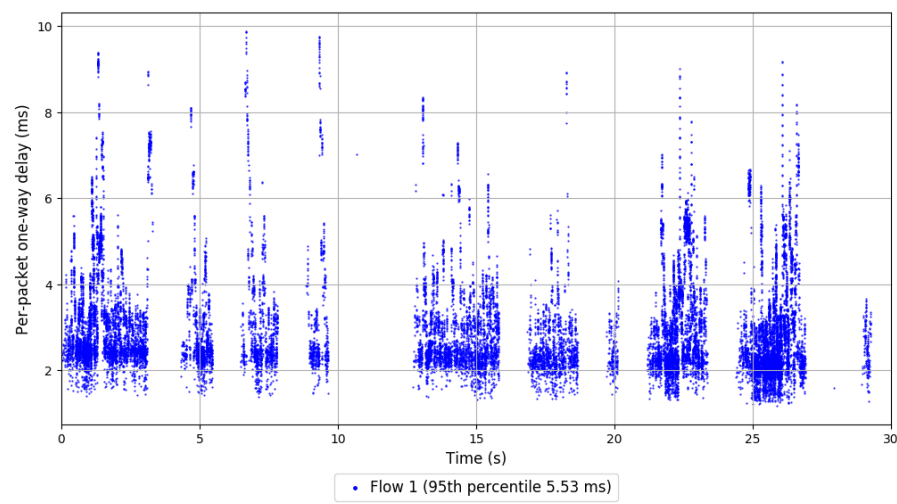
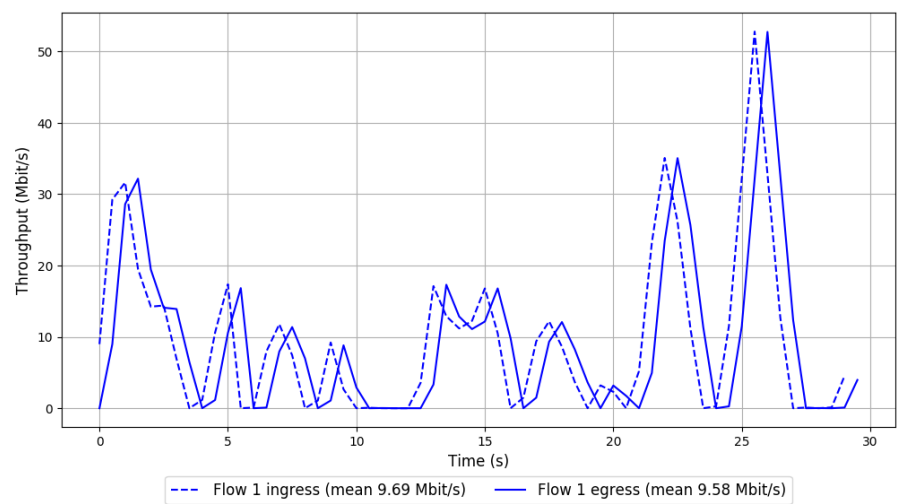


Run 3: Statistics of LEDBAT

Start at: 2018-11-02 18:52:56  
End at: 2018-11-02 18:53:26  
Local clock offset: -14.006 ms  
Remote clock offset: -2.9 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.58 Mbit/s  
95th percentile per-packet one-way delay: 5.528 ms  
Loss rate: 1.21%  
-- Flow 1:  
Average throughput: 9.58 Mbit/s  
95th percentile per-packet one-way delay: 5.528 ms  
Loss rate: 1.21%

Run 3: Report of LEDBAT — Data Link

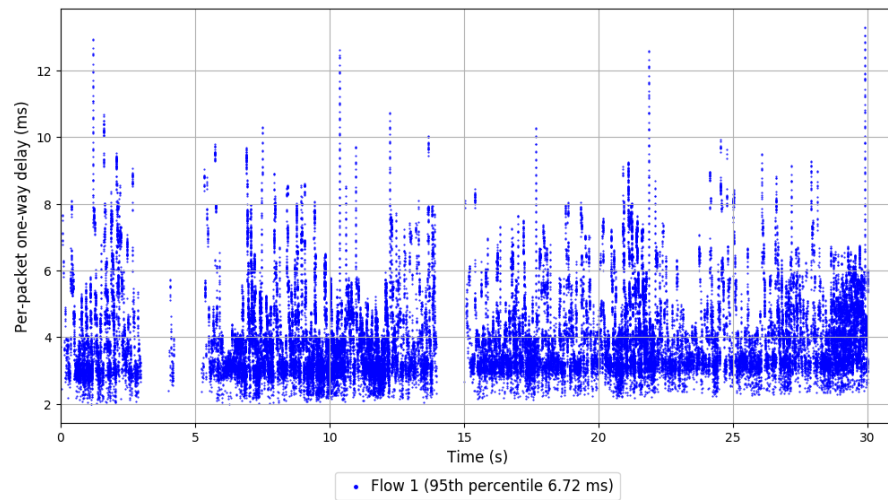
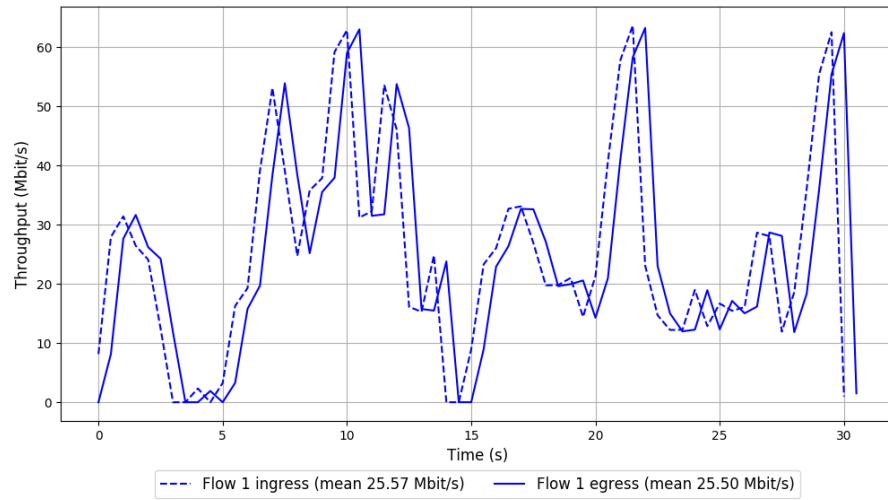


Run 4: Statistics of LEDBAT

Start at: 2018-11-02 19:13:03  
End at: 2018-11-02 19:13:33  
Local clock offset: -9.49 ms  
Remote clock offset: -3.499 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 25.50 Mbit/s  
95th percentile per-packet one-way delay: 6.721 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 25.50 Mbit/s  
95th percentile per-packet one-way delay: 6.721 ms  
Loss rate: 0.27%

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

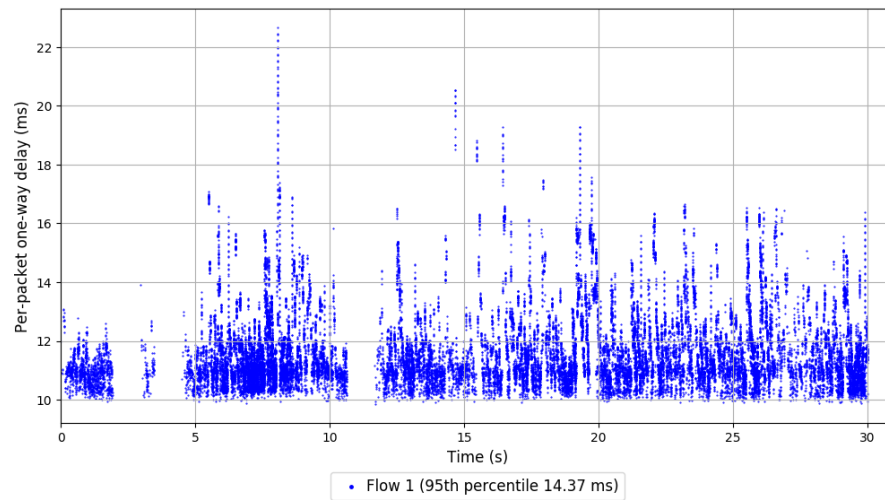
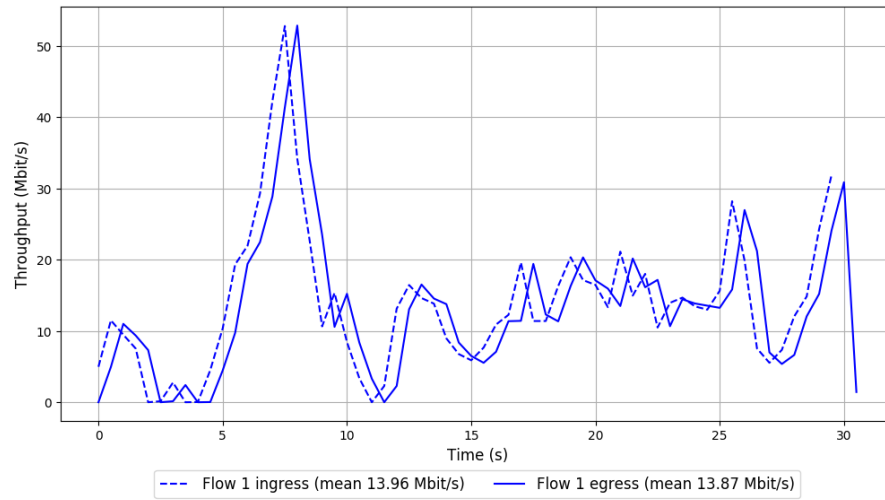


Run 5: Statistics of LEDBAT

Start at: 2018-11-02 19:33:06  
End at: 2018-11-02 19:33:36  
Local clock offset: -8.97 ms  
Remote clock offset: -3.728 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 13.87 Mbit/s  
95th percentile per-packet one-way delay: 14.371 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 13.87 Mbit/s  
95th percentile per-packet one-way delay: 14.371 ms  
Loss rate: 0.61%

## Run 5: Report of LEDBAT — Data Link

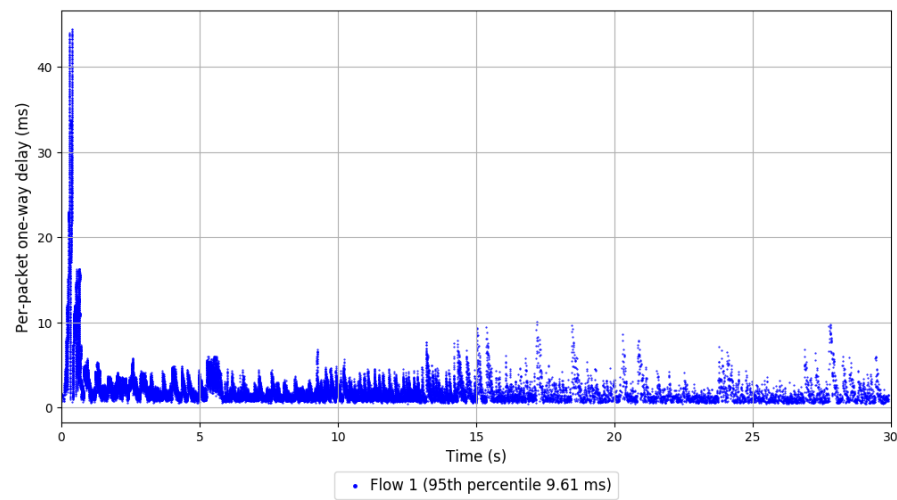
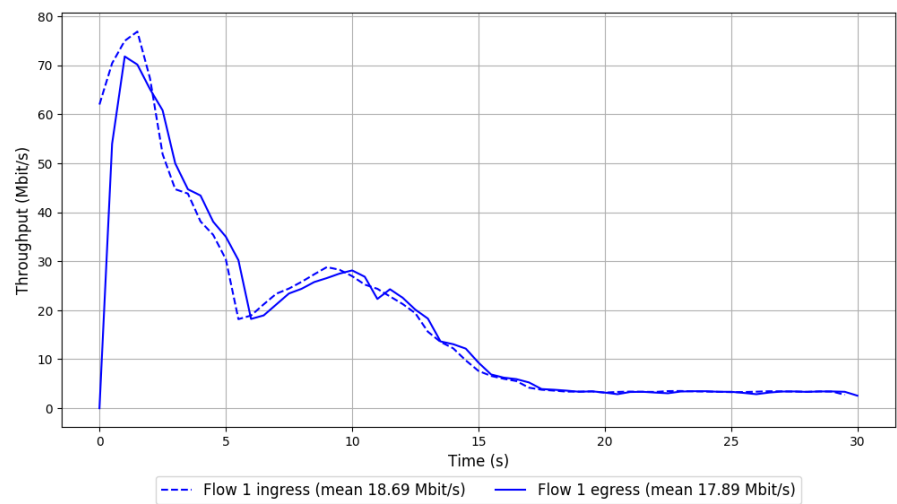


Run 1: Statistics of Indigo-Muses

Start at: 2018-11-02 18:14:31  
End at: 2018-11-02 18:15:01  
Local clock offset: 1.48 ms  
Remote clock offset: -2.258 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 17.89 Mbit/s  
95th percentile per-packet one-way delay: 9.613 ms  
Loss rate: 4.26%  
-- Flow 1:  
Average throughput: 17.89 Mbit/s  
95th percentile per-packet one-way delay: 9.613 ms  
Loss rate: 4.26%

Run 1: Report of Indigo-Muses — Data Link



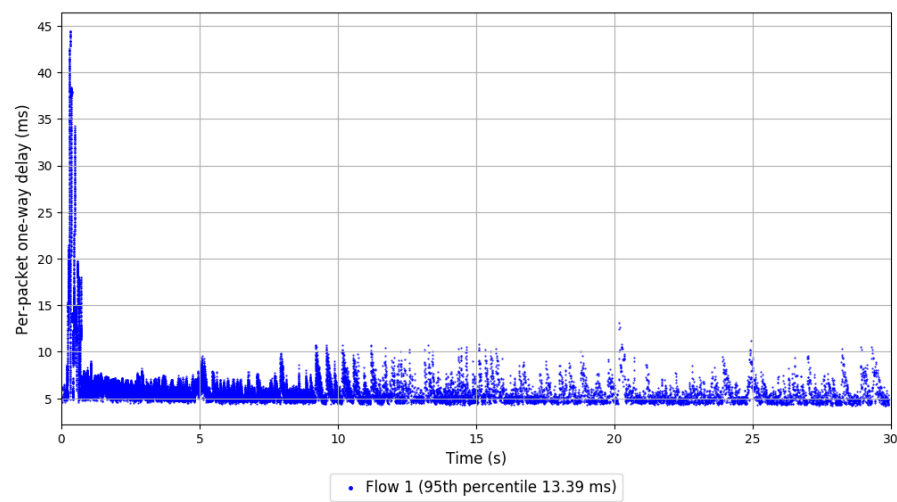
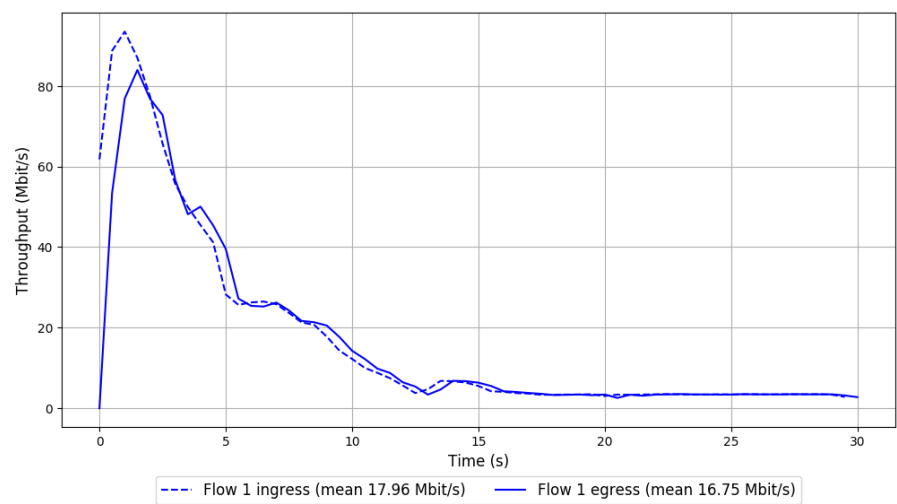


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-02 18:34:56  
End at: 2018-11-02 18:35:26  
Local clock offset: -6.087 ms  
Remote clock offset: -2.701 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.75 Mbit/s  
95th percentile per-packet one-way delay: 13.386 ms  
Loss rate: 6.74%  
-- Flow 1:  
Average throughput: 16.75 Mbit/s  
95th percentile per-packet one-way delay: 13.386 ms  
Loss rate: 6.74%

Run 2: Report of Indigo-Muses — Data Link

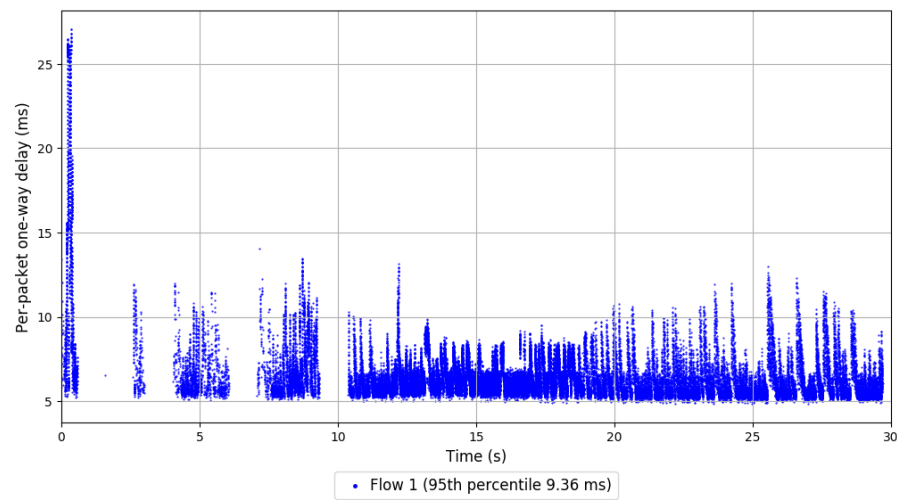
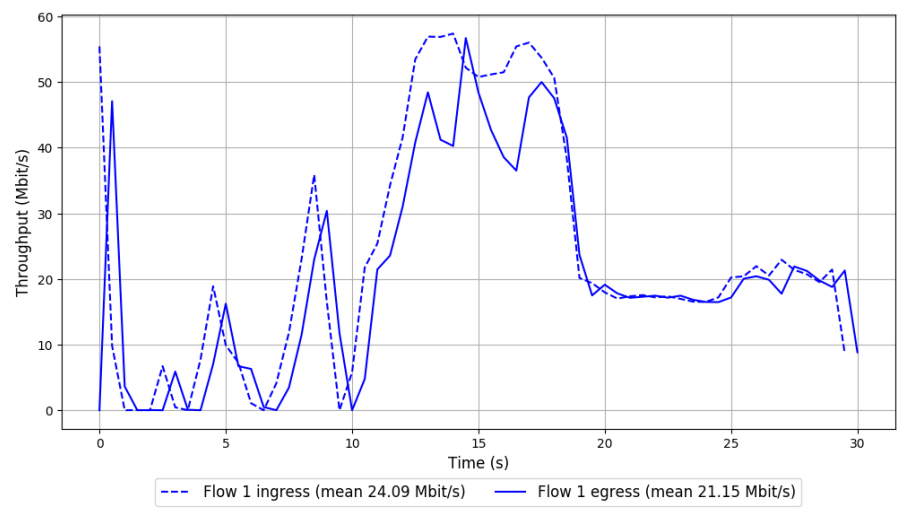


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-02 18:55:12  
End at: 2018-11-02 18:55:42  
Local clock offset: -19.171 ms  
Remote clock offset: -3.151 ms

# Below is generated by plot.py at 2018-11-02 19:50:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 21.15 Mbit/s  
95th percentile per-packet one-way delay: 9.359 ms  
Loss rate: 12.20%  
-- Flow 1:  
Average throughput: 21.15 Mbit/s  
95th percentile per-packet one-way delay: 9.359 ms  
Loss rate: 12.20%

Run 3: Report of Indigo-Muses — Data Link

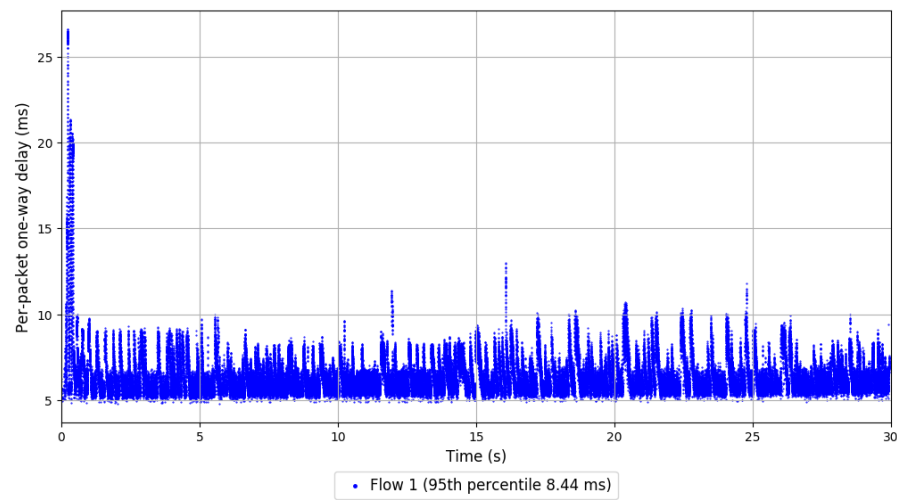
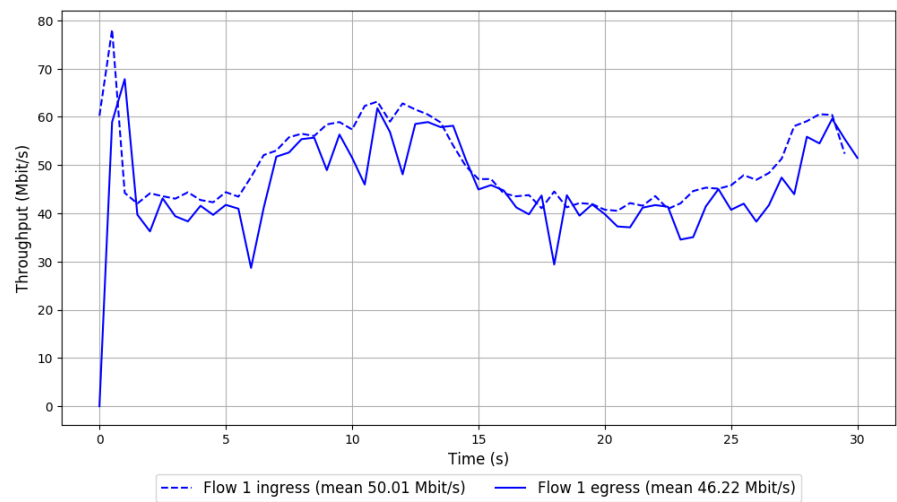


Run 4: Statistics of Indigo-Muses

Start at: 2018-11-02 19:15:20  
End at: 2018-11-02 19:15:50  
Local clock offset: -10.666 ms  
Remote clock offset: -3.082 ms

# Below is generated by plot.py at 2018-11-02 19:50:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 46.22 Mbit/s  
95th percentile per-packet one-way delay: 8.443 ms  
Loss rate: 7.58%  
-- Flow 1:  
Average throughput: 46.22 Mbit/s  
95th percentile per-packet one-way delay: 8.443 ms  
Loss rate: 7.58%

Run 4: Report of Indigo-Muses — Data Link

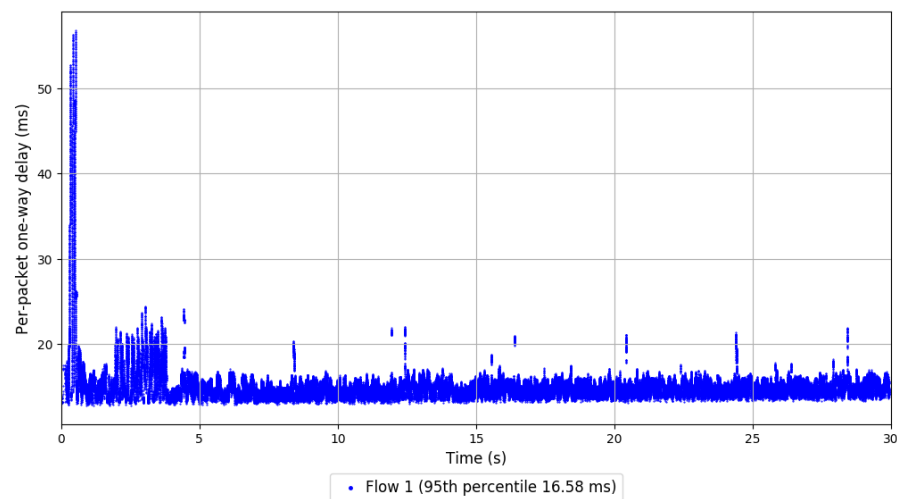
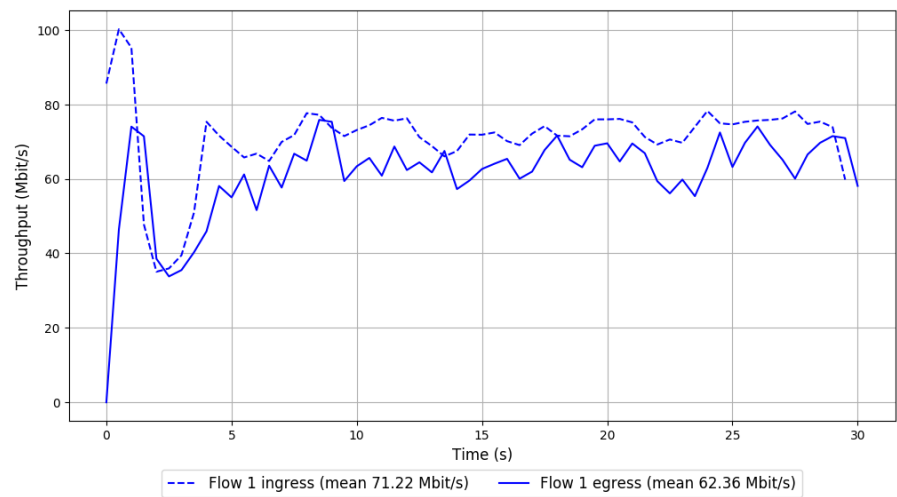


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-02 19:35:28  
End at: 2018-11-02 19:35:58  
Local clock offset: -8.102 ms  
Remote clock offset: -1.894 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 62.36 Mbit/s  
95th percentile per-packet one-way delay: 16.576 ms  
Loss rate: 12.45%  
-- Flow 1:  
Average throughput: 62.36 Mbit/s  
95th percentile per-packet one-way delay: 16.576 ms  
Loss rate: 12.45%

Run 5: Report of Indigo-Muses — Data Link





Run 1: Statistics of PCC-Allegro

Start at: 2018-11-02 18:11:06

End at: 2018-11-02 18:11:36

Local clock offset: -1.298 ms

Remote clock offset: -1.524 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 8.89 Mbit/s

95th percentile per-packet one-way delay: 8.808 ms

Loss rate: 4.10%

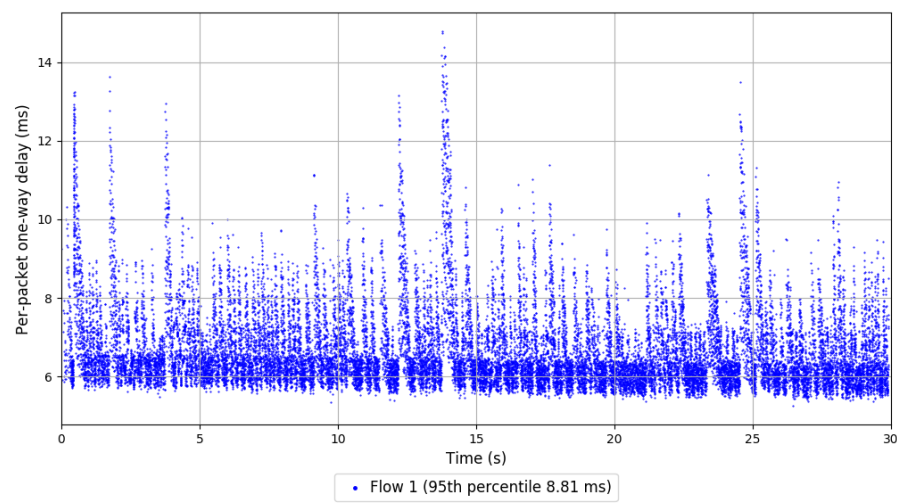
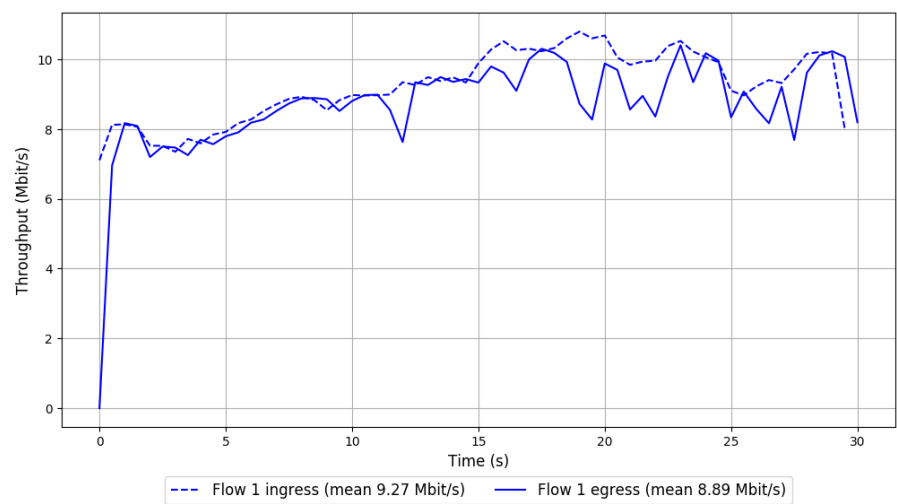
-- Flow 1:

Average throughput: 8.89 Mbit/s

95th percentile per-packet one-way delay: 8.808 ms

Loss rate: 4.10%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-11-02 18:31:30

End at: 2018-11-02 18:32:00

Local clock offset: -3.564 ms

Remote clock offset: -2.75 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 54.64 Mbit/s

95th percentile per-packet one-way delay: 6.257 ms

Loss rate: 9.31%

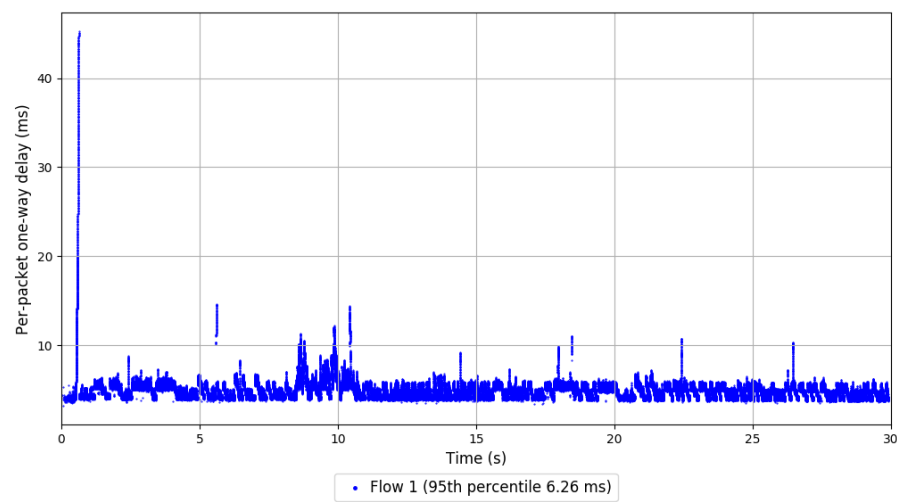
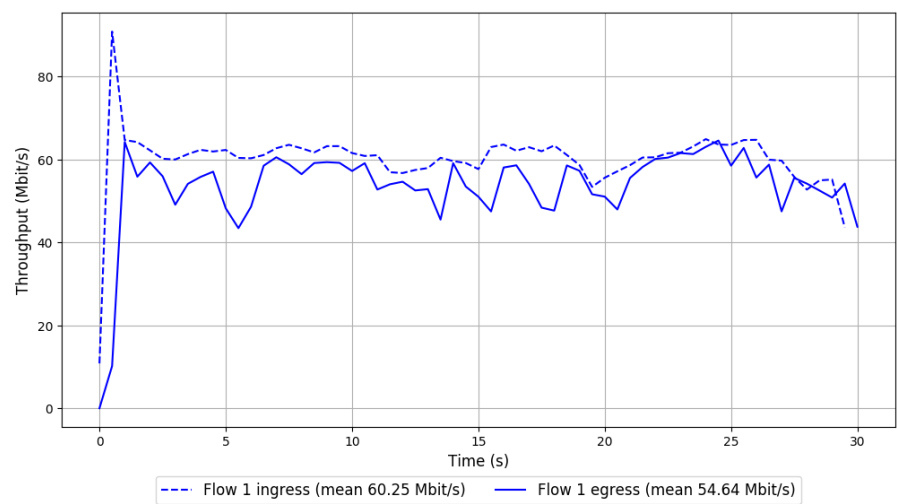
-- Flow 1:

Average throughput: 54.64 Mbit/s

95th percentile per-packet one-way delay: 6.257 ms

Loss rate: 9.31%

Run 2: Report of PCC-Allegro — Data Link

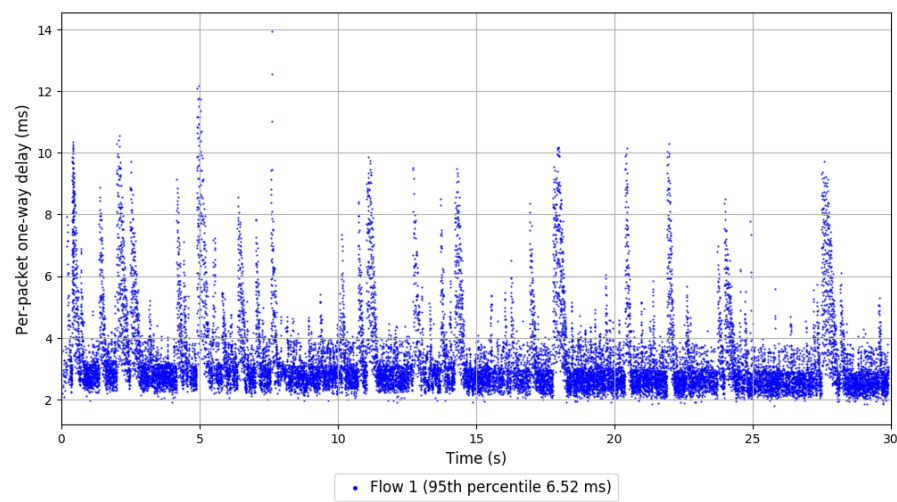
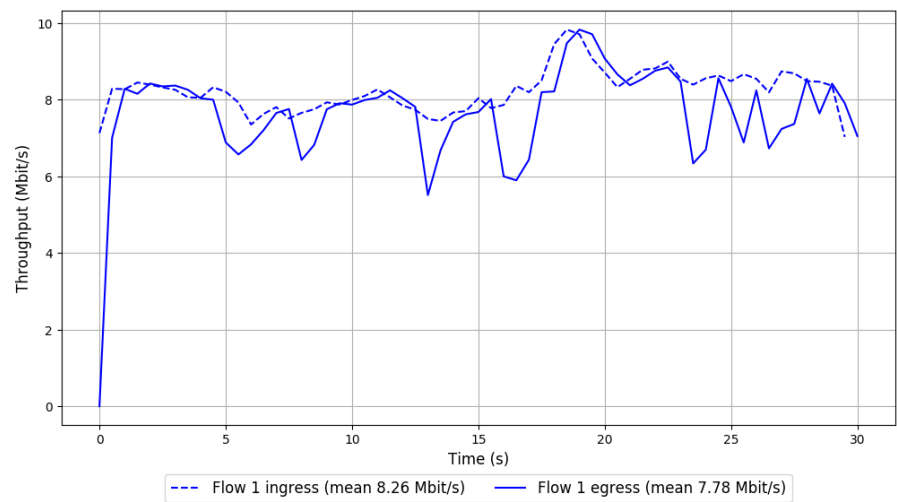


Run 3: Statistics of PCC-Allegro

Start at: 2018-11-02 18:51:51  
End at: 2018-11-02 18:52:21  
Local clock offset: -14.506 ms  
Remote clock offset: -3.307 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.78 Mbit/s  
95th percentile per-packet one-way delay: 6.517 ms  
Loss rate: 5.82%  
-- Flow 1:  
Average throughput: 7.78 Mbit/s  
95th percentile per-packet one-way delay: 6.517 ms  
Loss rate: 5.82%

Run 3: Report of PCC-Allegro — Data Link

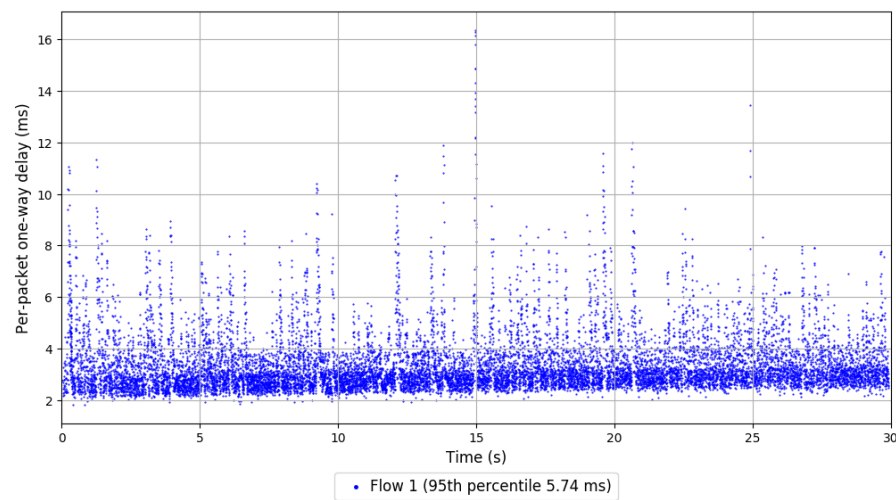
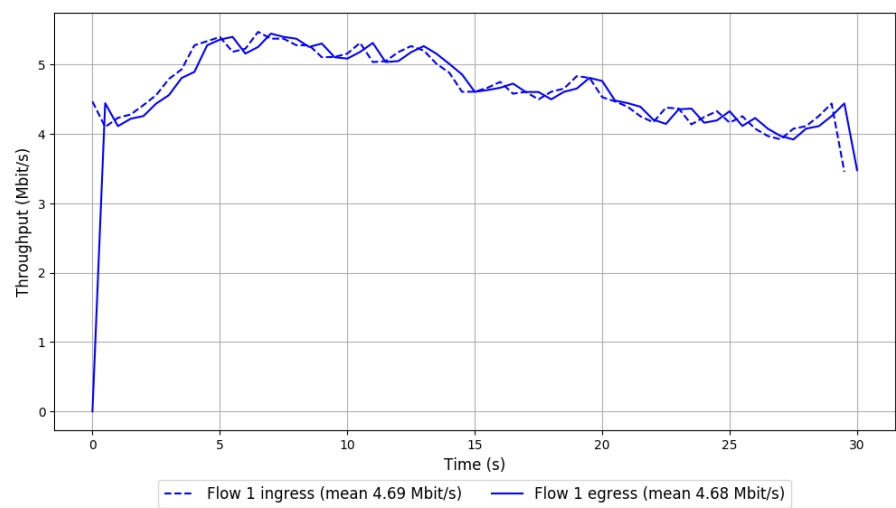


Run 4: Statistics of PCC-Allegro

Start at: 2018-11-02 19:11:58  
End at: 2018-11-02 19:12:28  
Local clock offset: -9.224 ms  
Remote clock offset: -2.518 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.68 Mbit/s  
95th percentile per-packet one-way delay: 5.738 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 4.68 Mbit/s  
95th percentile per-packet one-way delay: 5.738 ms  
Loss rate: 0.14%

Run 4: Report of PCC-Allegro — Data Link



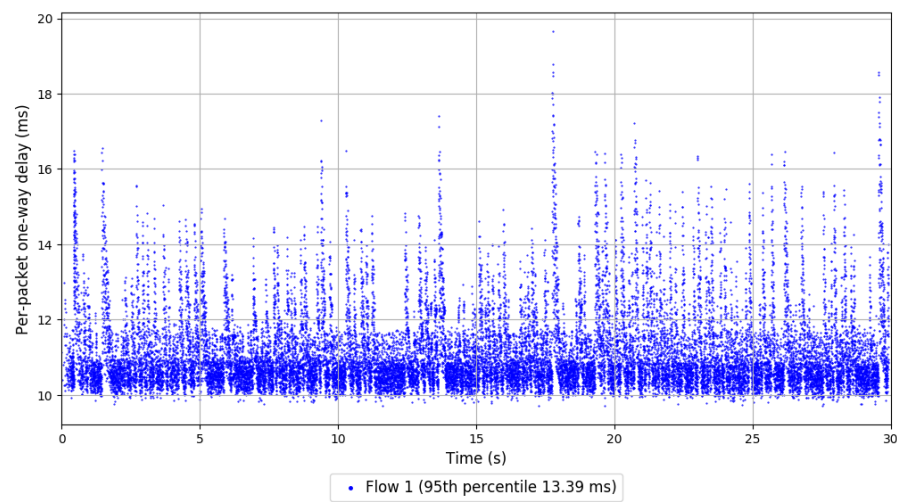
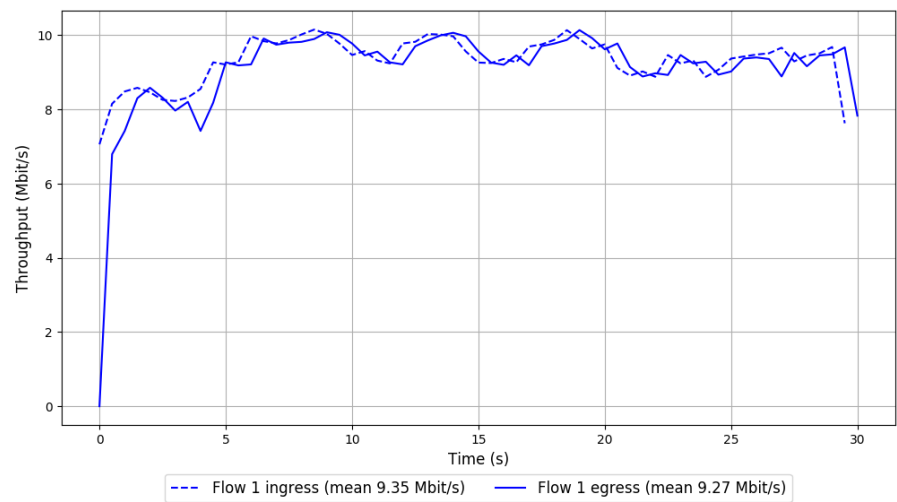


Run 5: Statistics of PCC-Allegro

Start at: 2018-11-02 19:32:00  
End at: 2018-11-02 19:32:30  
Local clock offset: -9.619 ms  
Remote clock offset: -3.983 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.27 Mbit/s  
95th percentile per-packet one-way delay: 13.393 ms  
Loss rate: 0.79%  
-- Flow 1:  
Average throughput: 9.27 Mbit/s  
95th percentile per-packet one-way delay: 13.393 ms  
Loss rate: 0.79%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

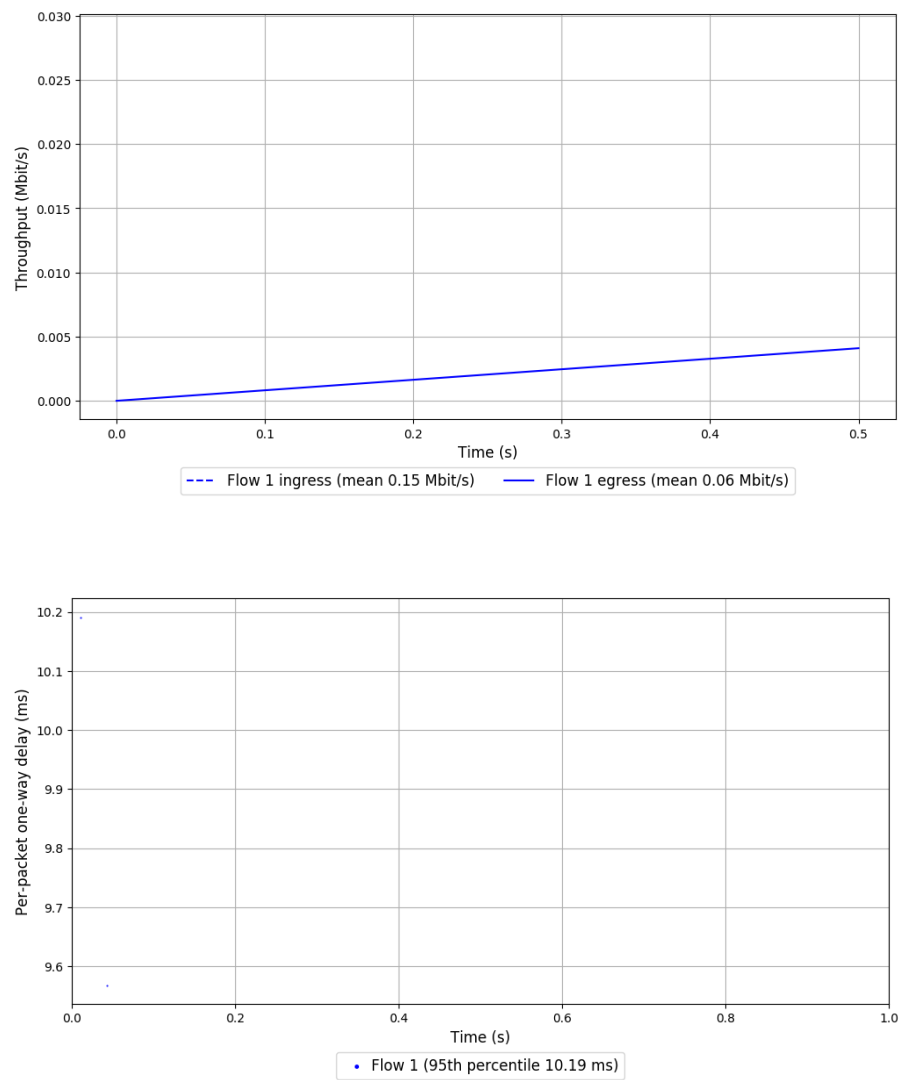
Start at: 2018-11-02 18:08:54

End at: 2018-11-02 18:09:25

Local clock offset: -4.296 ms

Remote clock offset: -2.693 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

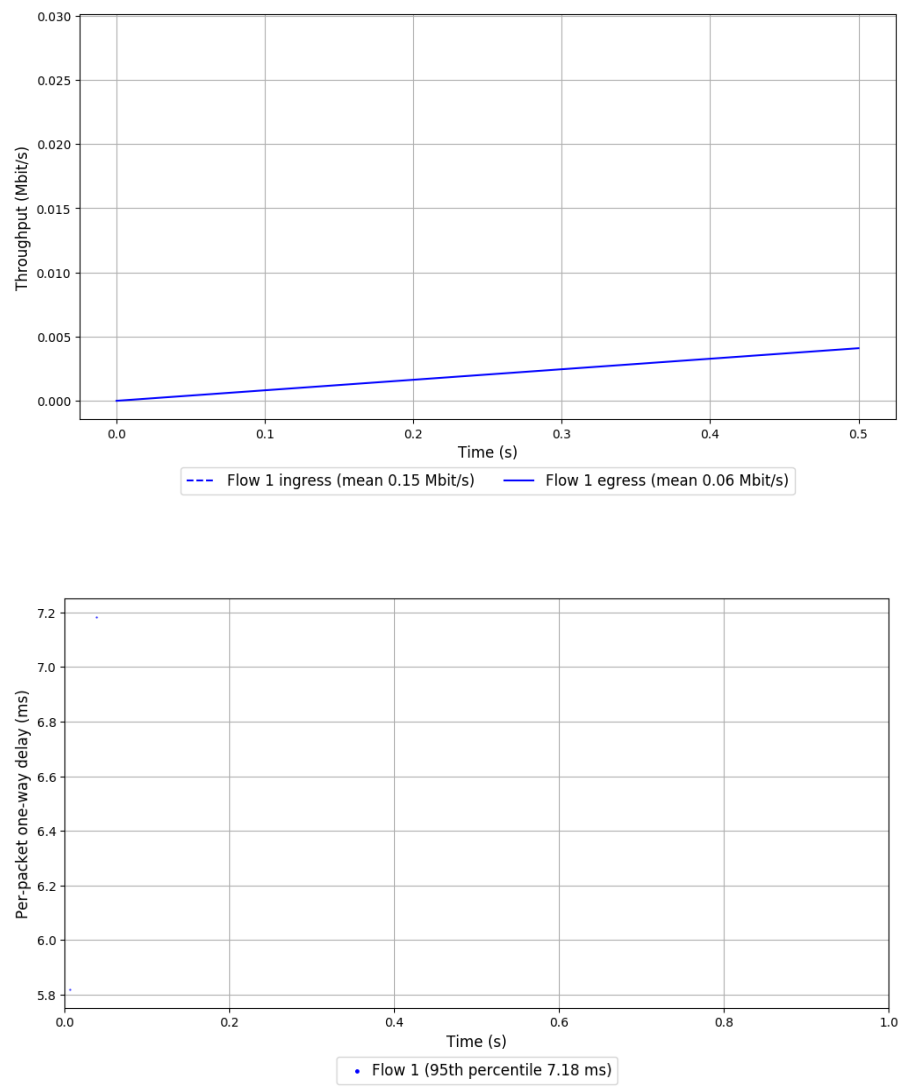
Start at: 2018-11-02 18:29:19

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

Local clock offset: -3.791 ms

Remote clock offset: -2.587 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

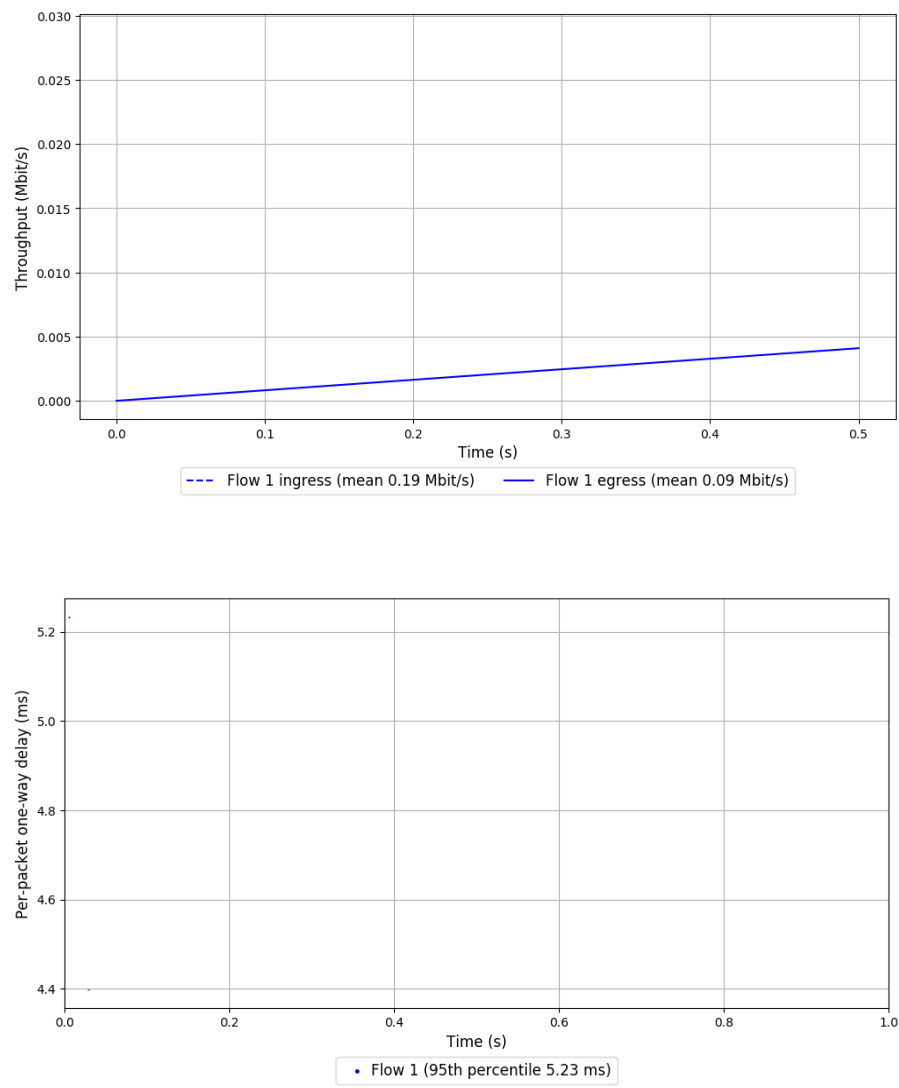
Start at: 2018-11-02 18:49:36

End at: 2018-11-02 18:50:06

Local clock offset: -14.857 ms

Remote clock offset: -2.573 ms

Run 3: Report of PCC-Expr — Data Link





Run 4: Statistics of PCC-Expr

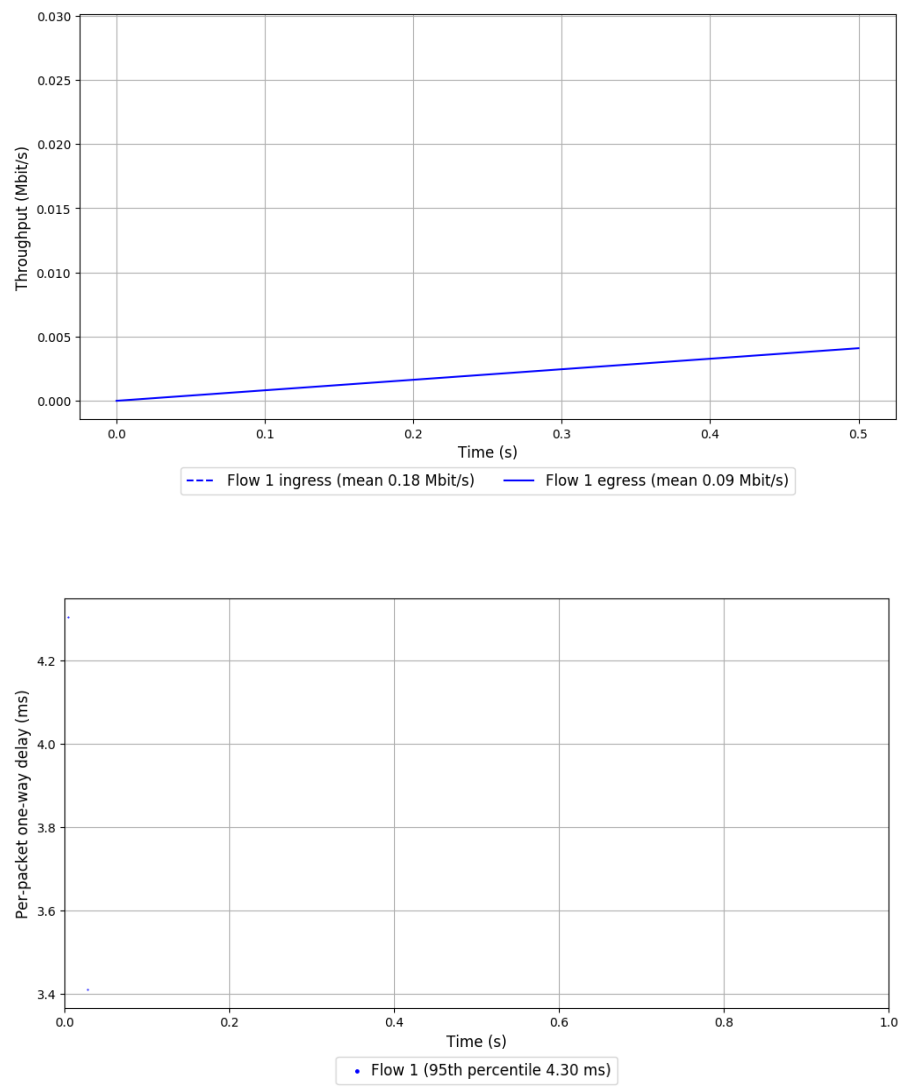
Start at: 2018-11-02 19:09:41

End at: 2018-11-02 19:10:11

Local clock offset: -12.887 ms

Remote clock offset: -2.389 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

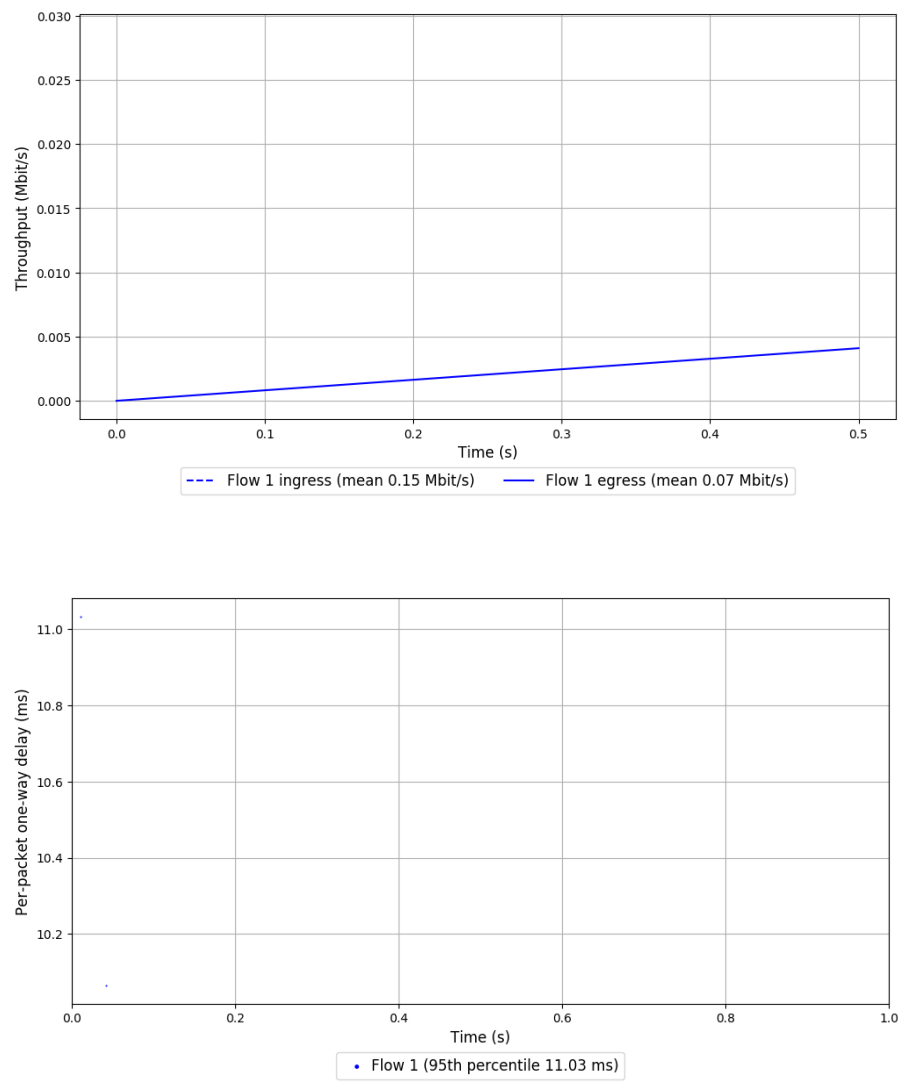
Start at: 2018-11-02 19:29:50

End at: 2018-11-02 19:30:20

Local clock offset: -7.83 ms

Remote clock offset: -2.732 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-02 18:16:44

End at: 2018-11-02 18:17:14

Local clock offset: -4.174 ms

Remote clock offset: -2.172 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 9.46 Mbit/s

95th percentile per-packet one-way delay: 9.271 ms

Loss rate: 2.32%

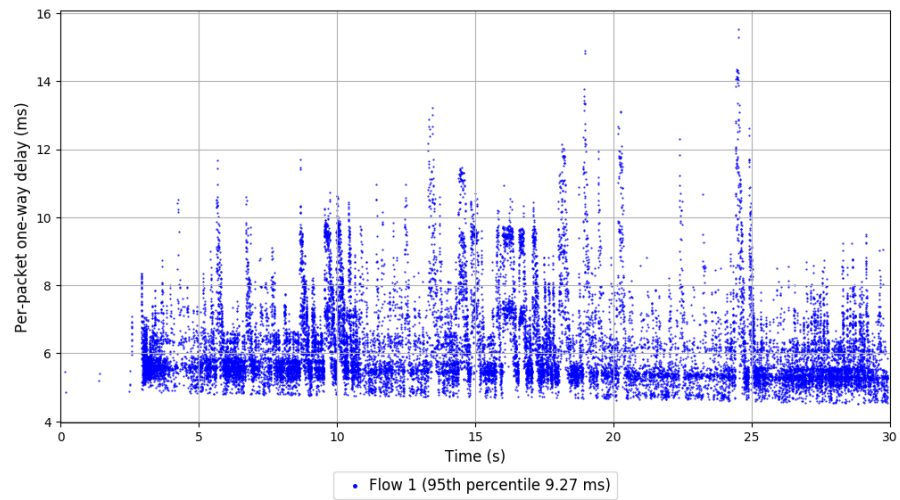
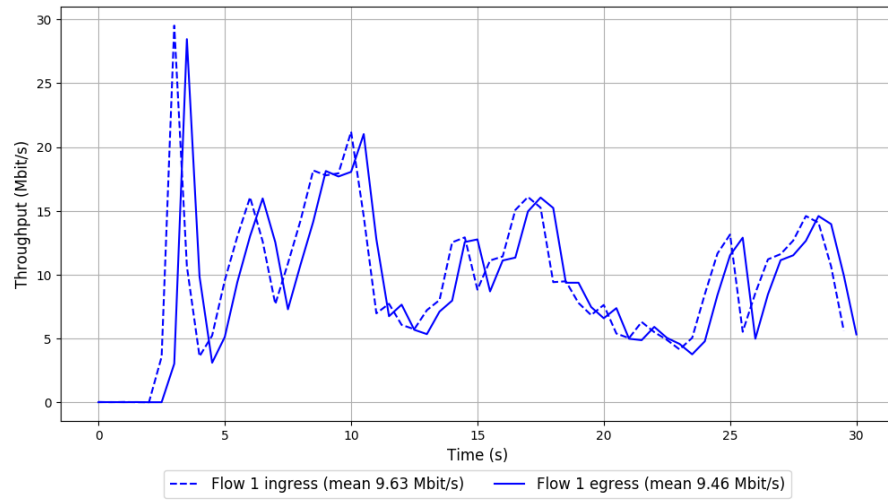
-- Flow 1:

Average throughput: 9.46 Mbit/s

95th percentile per-packet one-way delay: 9.271 ms

Loss rate: 2.32%

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



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-02 18:37:12

End at: 2018-11-02 18:37:42

Local clock offset: -7.529 ms

Remote clock offset: -2.962 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 14.29 Mbit/s

95th percentile per-packet one-way delay: 9.524 ms

Loss rate: 2.77%

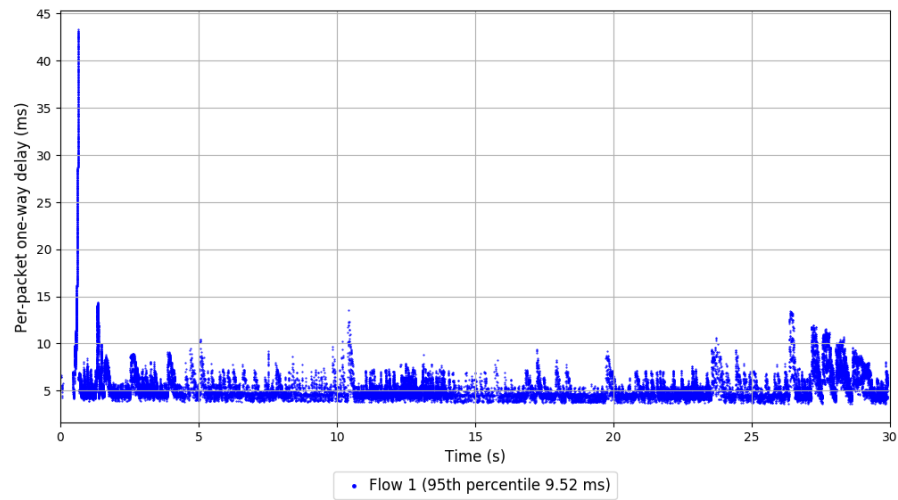
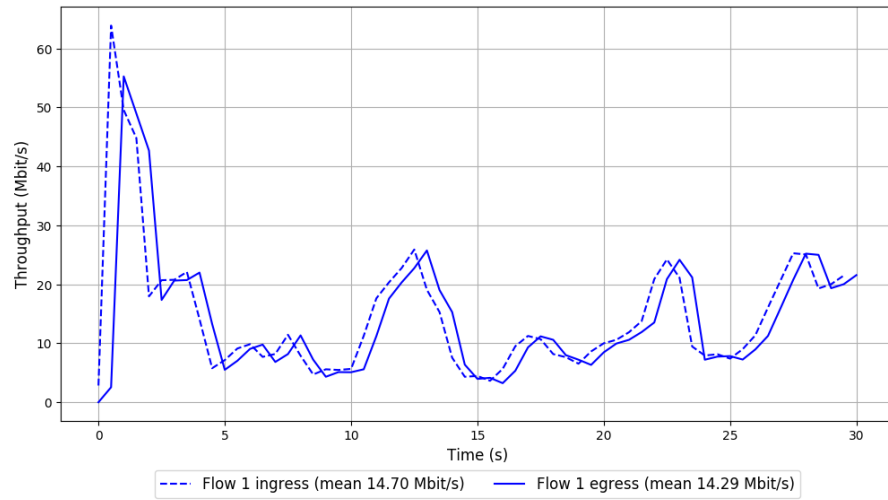
-- Flow 1:

Average throughput: 14.29 Mbit/s

95th percentile per-packet one-way delay: 9.524 ms

Loss rate: 2.77%

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



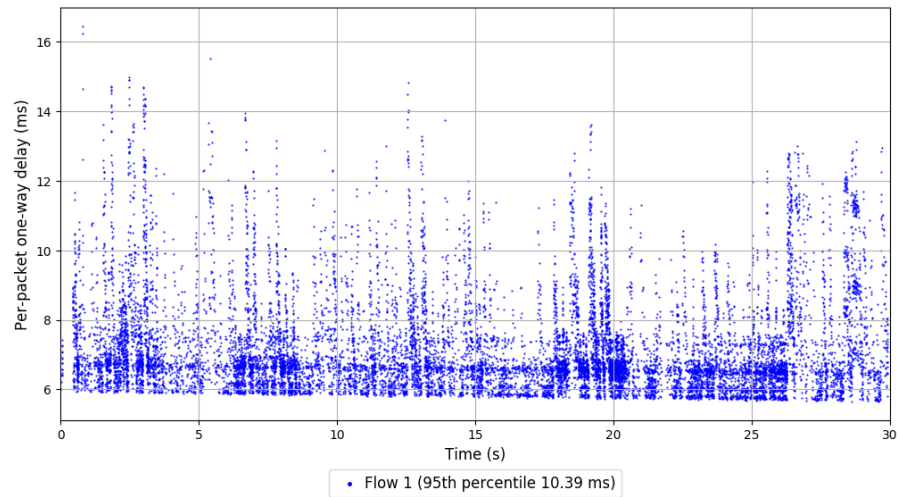
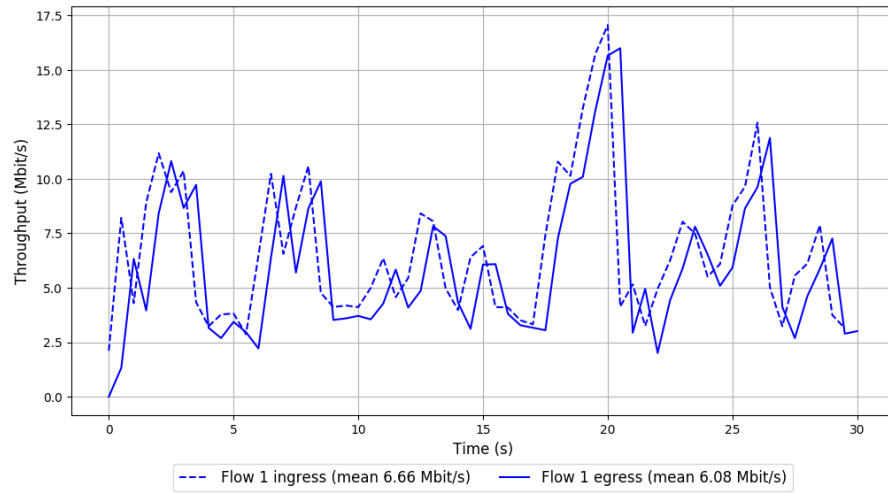


Run 3: Statistics of QUIC Cubic

Start at: 2018-11-02 18:57:23  
End at: 2018-11-02 18:57:53  
Local clock offset: -21.004 ms  
Remote clock offset: -3.005 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 6.08 Mbit/s  
95th percentile per-packet one-way delay: 10.390 ms  
Loss rate: 8.61%  
-- Flow 1:  
Average throughput: 6.08 Mbit/s  
95th percentile per-packet one-way delay: 10.390 ms  
Loss rate: 8.61%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-02 19:17:32

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

Local clock offset: -8.018 ms

Remote clock offset: -3.479 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 5.336 ms

Loss rate: 1.49%

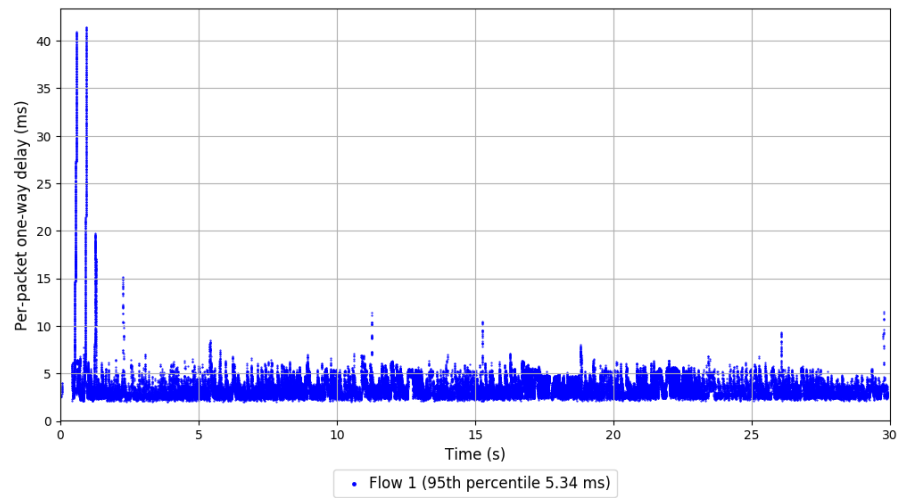
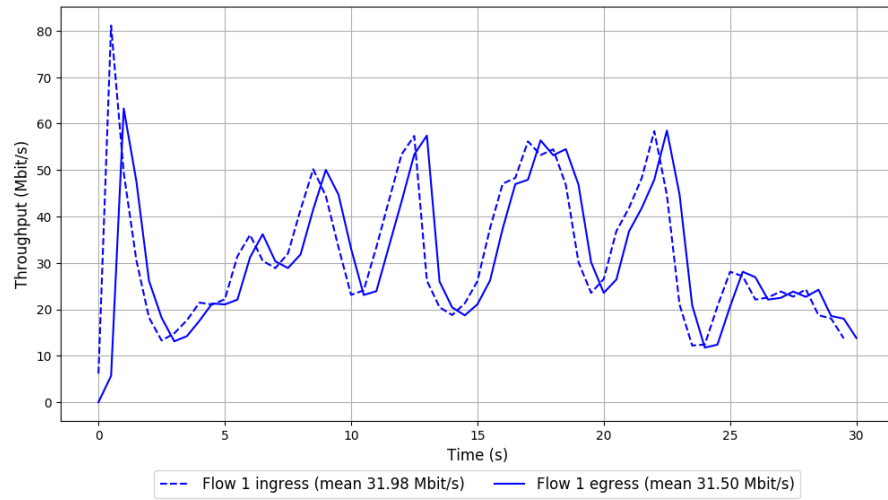
-- Flow 1:

Average throughput: 31.50 Mbit/s

95th percentile per-packet one-way delay: 5.336 ms

Loss rate: 1.49%

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



Run 5: Statistics of QUIC Cubic

Start at: 2018-11-02 19:37:42

End at: 2018-11-02 19:38:12

Local clock offset: -5.671 ms

Remote clock offset: -2.945 ms

# Below is generated by plot.py at 2018-11-02 19:51:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 19.29 Mbit/s

95th percentile per-packet one-way delay: 35.290 ms

Loss rate: 1.33%

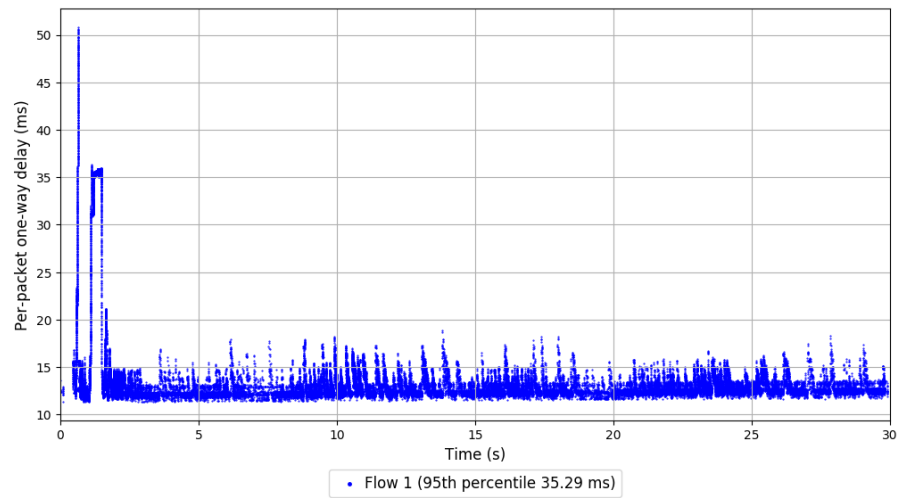
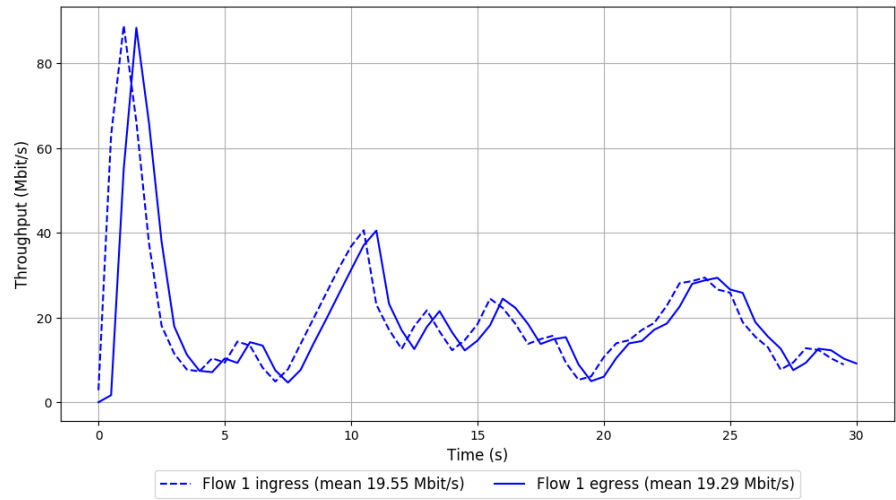
-- Flow 1:

Average throughput: 19.29 Mbit/s

95th percentile per-packet one-way delay: 35.290 ms

Loss rate: 1.33%

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

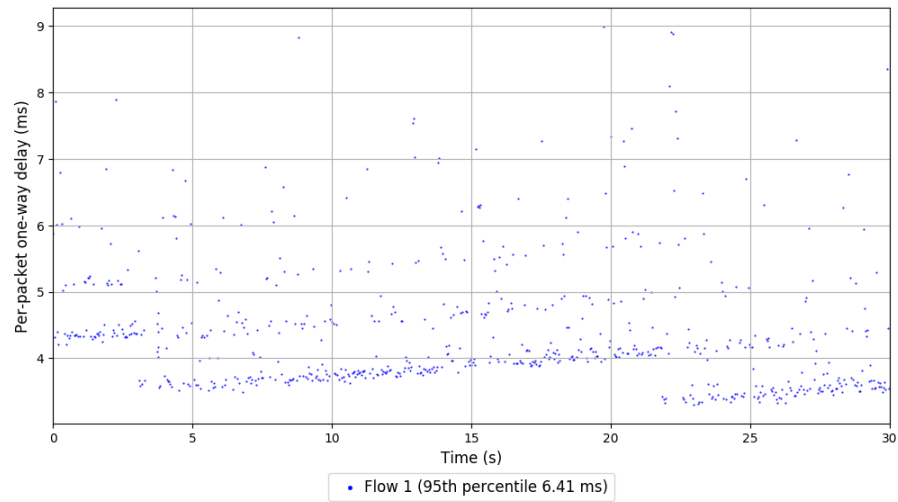
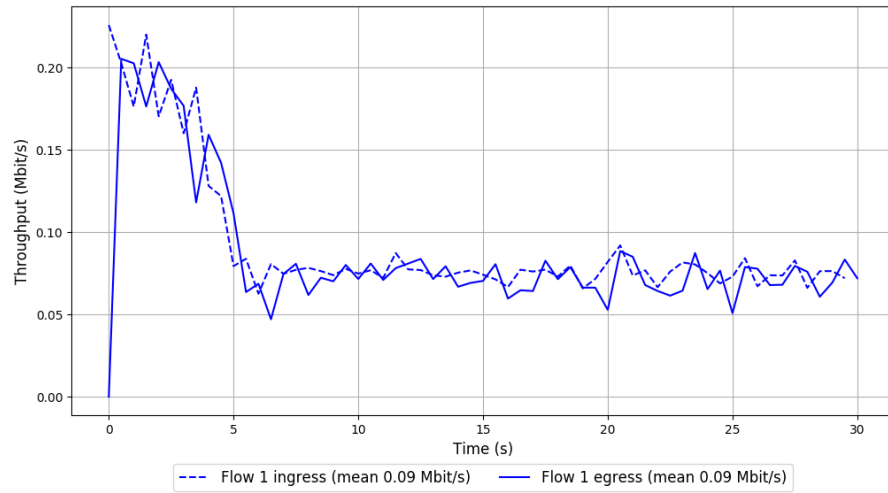


Run 1: Statistics of SCReAM

Start at: 2018-11-02 18:15:39  
End at: 2018-11-02 18:16:09  
Local clock offset: -2.917 ms  
Remote clock offset: -2.989 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 6.406 ms  
Loss rate: 5.55%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 6.406 ms  
Loss rate: 5.55%

## Run 1: Report of SReAM — Data Link



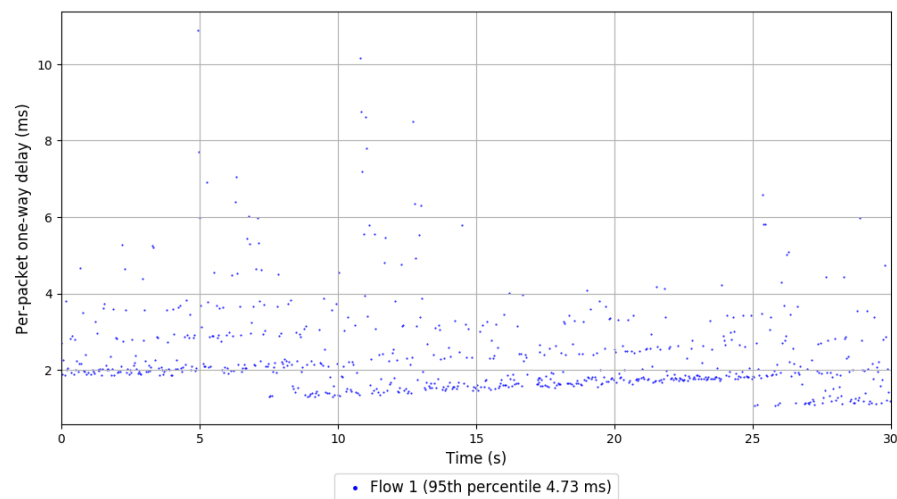
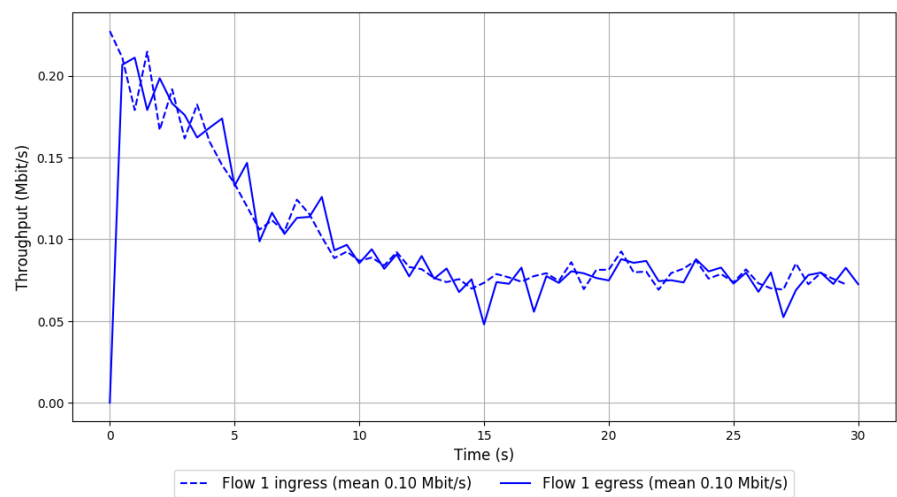


Run 2: Statistics of SCReAM

Start at: 2018-11-02 18:36:02  
End at: 2018-11-02 18:36:32  
Local clock offset: -3.986 ms  
Remote clock offset: -2.838 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 4.729 ms  
Loss rate: 2.07%  
-- Flow 1:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 4.729 ms  
Loss rate: 2.07%

Run 2: Report of SReAM — Data Link

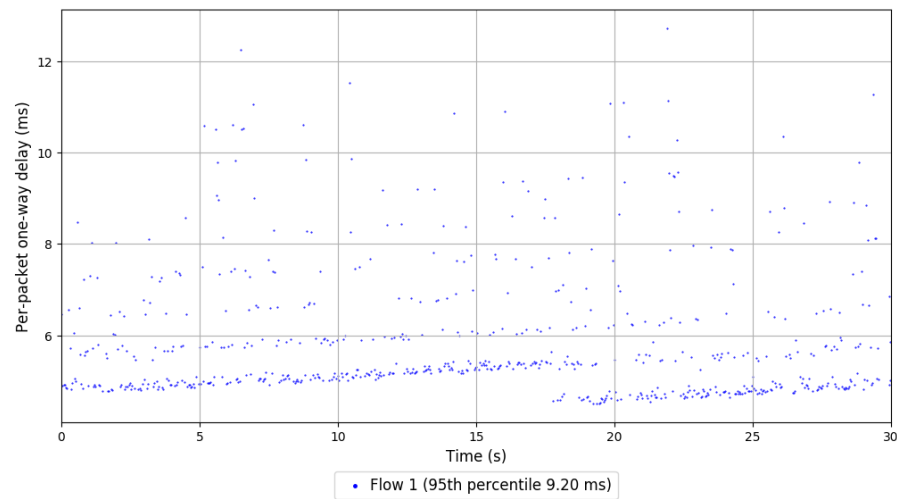
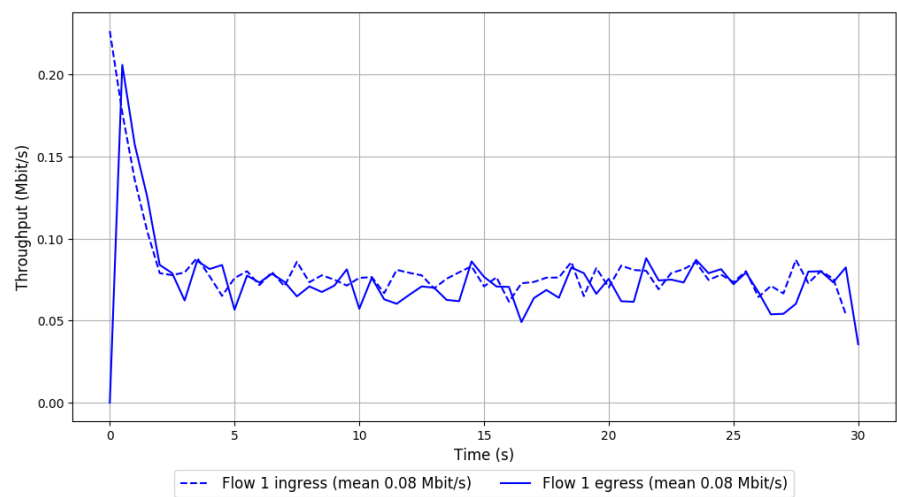


Run 3: Statistics of SCReAM

Start at: 2018-11-02 18:56:18  
End at: 2018-11-02 18:56:48  
Local clock offset: -18.325 ms  
Remote clock offset: -2.081 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 9.197 ms  
Loss rate: 7.04%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 9.197 ms  
Loss rate: 7.04%

Run 3: Report of SReAM — Data Link

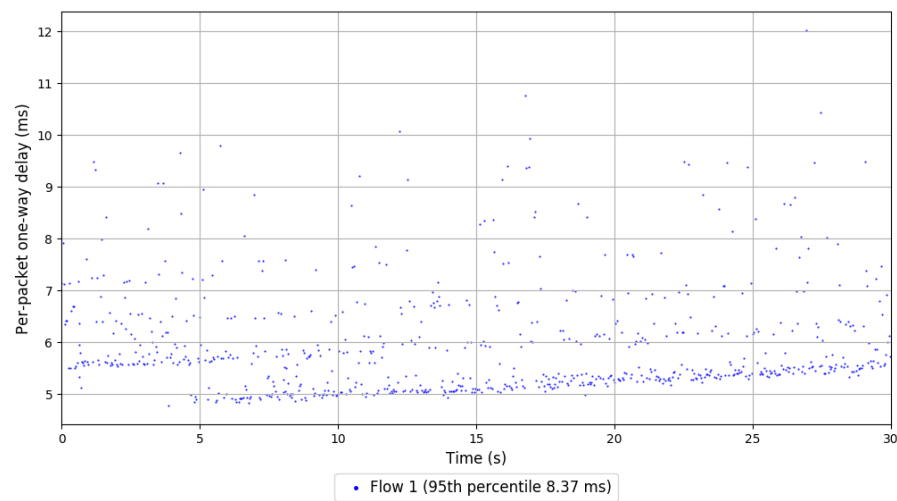
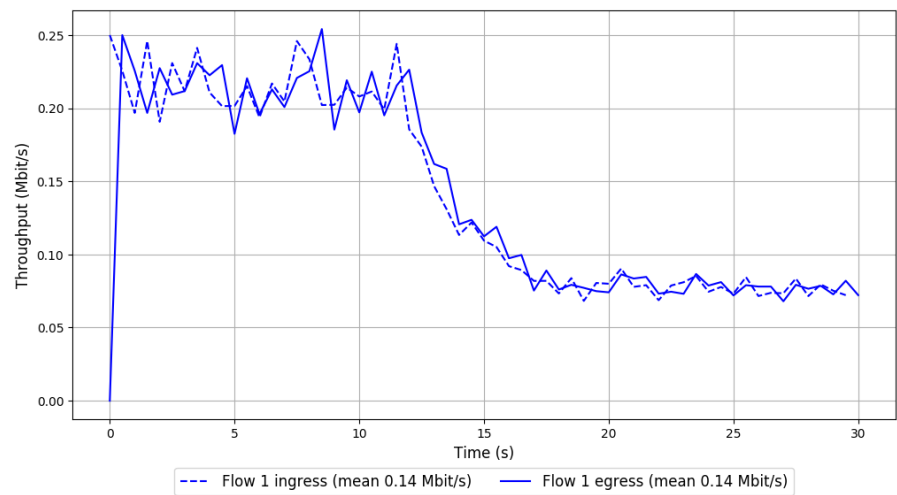


Run 4: Statistics of SCReAM

Start at: 2018-11-02 19:16:27  
End at: 2018-11-02 19:16:57  
Local clock offset: -9.39 ms  
Remote clock offset: -2.397 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 8.365 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 8.365 ms  
Loss rate: 0.32%

Run 4: Report of SReAM — Data Link

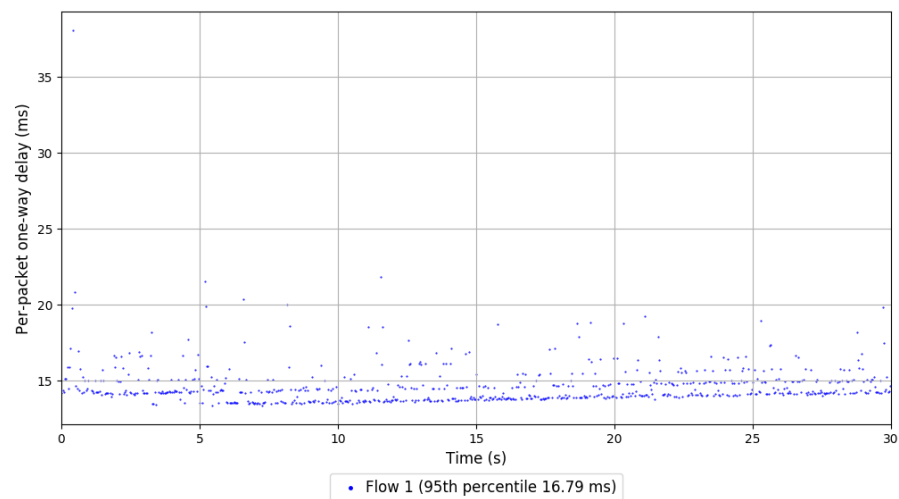
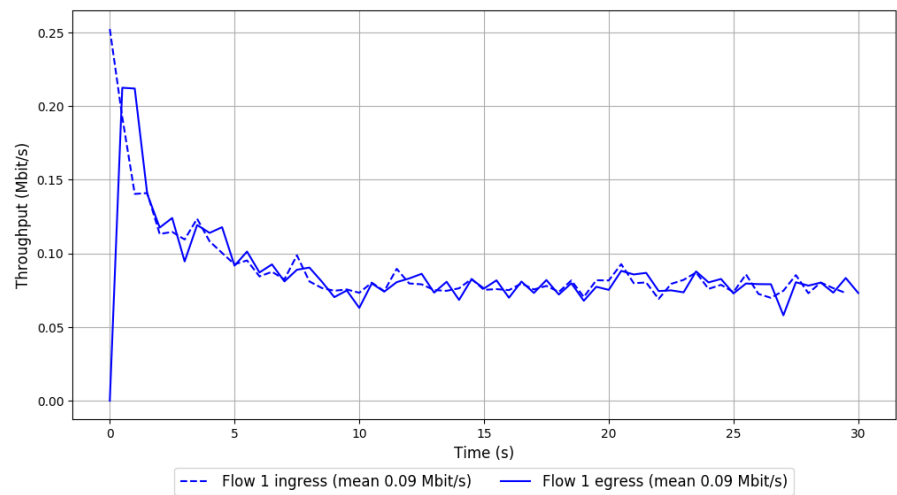


Run 5: Statistics of SCReAM

Start at: 2018-11-02 19:36:37  
End at: 2018-11-02 19:37:07  
Local clock offset: -8.99 ms  
Remote clock offset: -2.898 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 16.786 ms  
Loss rate: 1.43%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 16.786 ms  
Loss rate: 1.43%

Run 5: Report of SReAM — Data Link



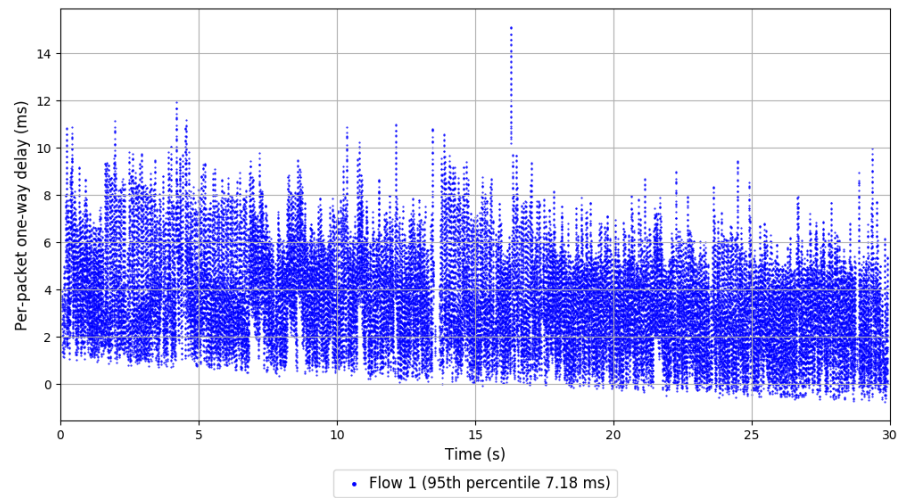
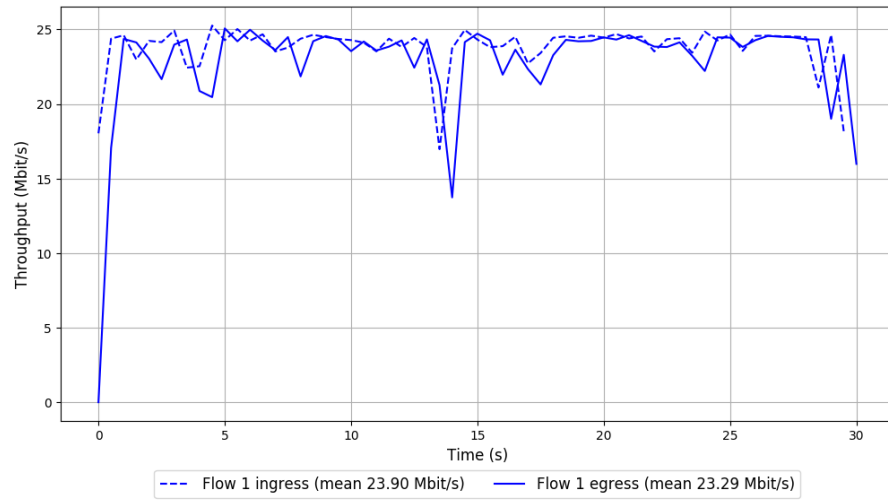


Run 1: Statistics of Sprout

Start at: 2018-11-02 18:06:44  
End at: 2018-11-02 18:07:14  
Local clock offset: 3.498 ms  
Remote clock offset: -1.898 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 23.29 Mbit/s  
95th percentile per-packet one-way delay: 7.179 ms  
Loss rate: 2.51%  
-- Flow 1:  
Average throughput: 23.29 Mbit/s  
95th percentile per-packet one-way delay: 7.179 ms  
Loss rate: 2.51%

# Run 1: Report of Sprout — Data Link

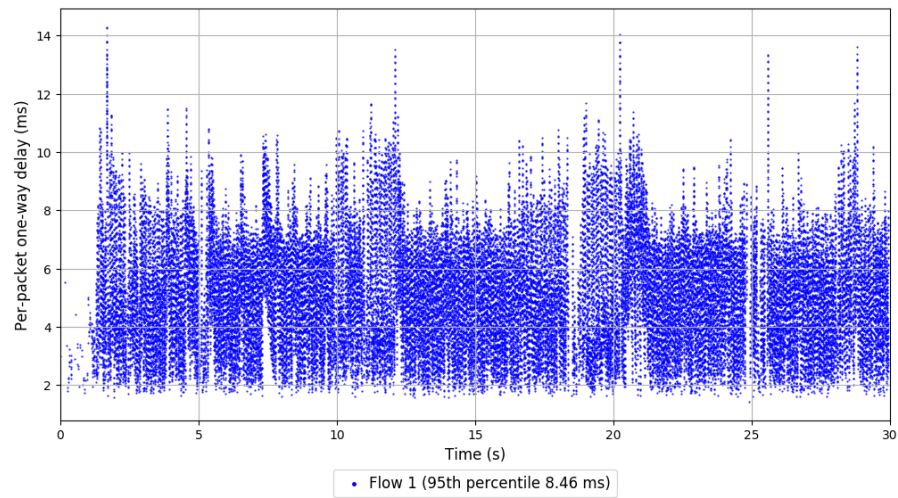
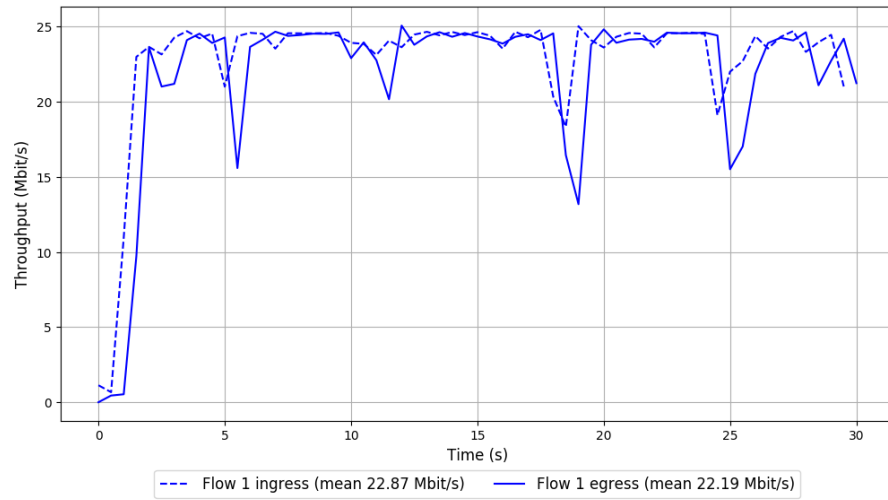


Run 2: Statistics of Sprout

Start at: 2018-11-02 18:27:08  
End at: 2018-11-02 18:27:38  
Local clock offset: 0.039 ms  
Remote clock offset: -1.902 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 22.19 Mbit/s  
95th percentile per-packet one-way delay: 8.458 ms  
Loss rate: 2.97%  
-- Flow 1:  
Average throughput: 22.19 Mbit/s  
95th percentile per-packet one-way delay: 8.458 ms  
Loss rate: 2.97%

## Run 2: Report of Sprout — Data Link

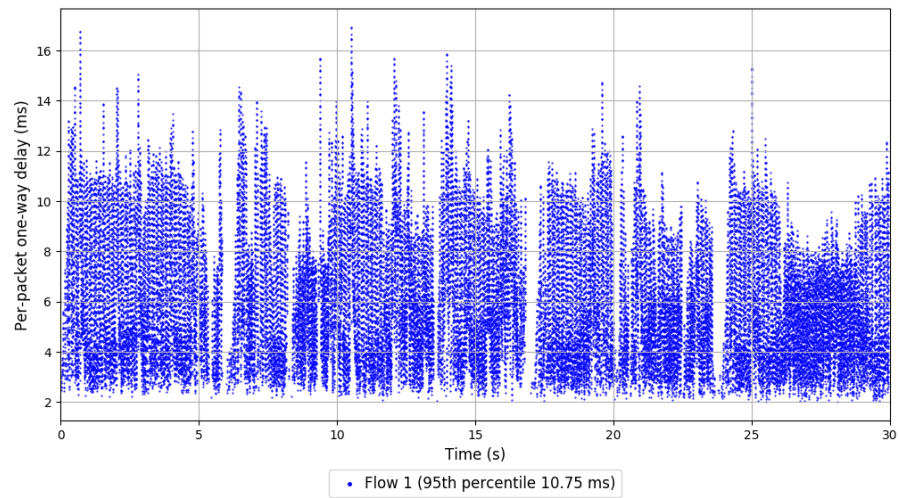
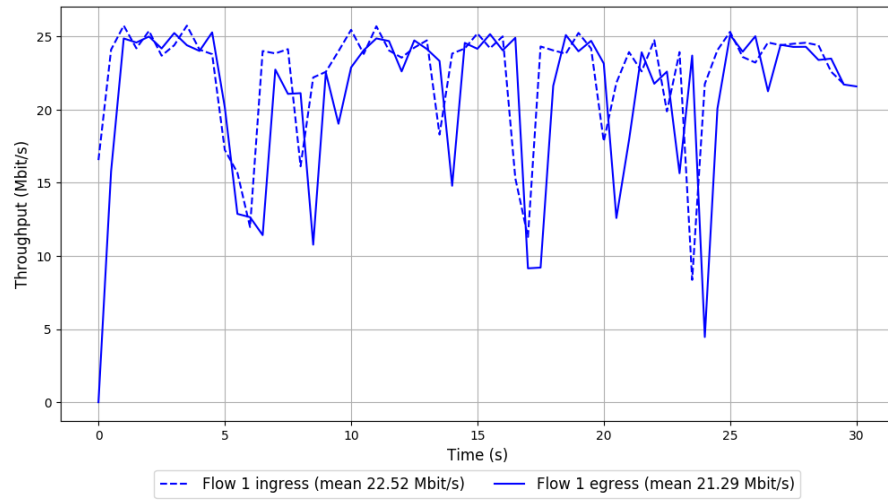


Run 3: Statistics of Sprout

Start at: 2018-11-02 18:47:20  
End at: 2018-11-02 18:47:50  
Local clock offset: -10.885 ms  
Remote clock offset: -2.237 ms

# Below is generated by plot.py at 2018-11-02 19:51:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 21.29 Mbit/s  
95th percentile per-packet one-way delay: 10.747 ms  
Loss rate: 5.42%  
-- Flow 1:  
Average throughput: 21.29 Mbit/s  
95th percentile per-packet one-way delay: 10.747 ms  
Loss rate: 5.42%

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

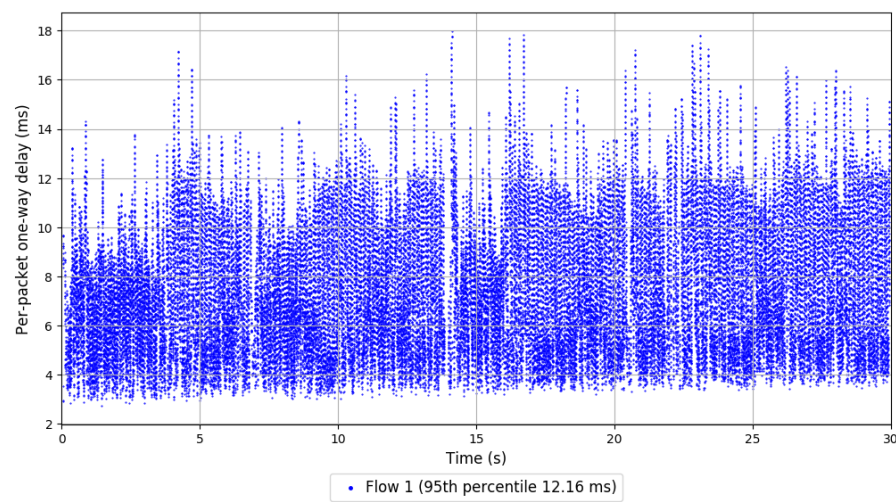
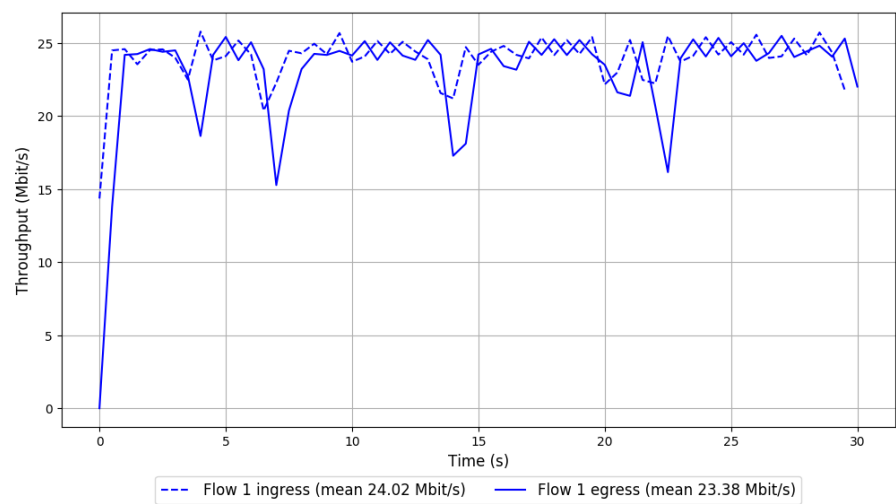


Run 4: Statistics of Sprout

Start at: 2018-11-02 19:07:30  
End at: 2018-11-02 19:08:00  
Local clock offset: -15.518 ms  
Remote clock offset: -3.424 ms

# Below is generated by plot.py at 2018-11-02 19:51:18  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 23.38 Mbit/s  
95th percentile per-packet one-way delay: 12.161 ms  
Loss rate: 2.65%  
-- Flow 1:  
Average throughput: 23.38 Mbit/s  
95th percentile per-packet one-way delay: 12.161 ms  
Loss rate: 2.65%

Run 4: Report of Sprout — Data Link





Run 5: Statistics of Sprout

Start at: 2018-11-02 19:27:39

End at: 2018-11-02 19:28:09

Local clock offset: -6.432 ms

Remote clock offset: -3.23 ms

# Below is generated by plot.py at 2018-11-02 19:51:19

# Datalink statistics

-- Total of 1 flow:

Average throughput: 23.48 Mbit/s

95th percentile per-packet one-way delay: 9.799 ms

Loss rate: 1.50%

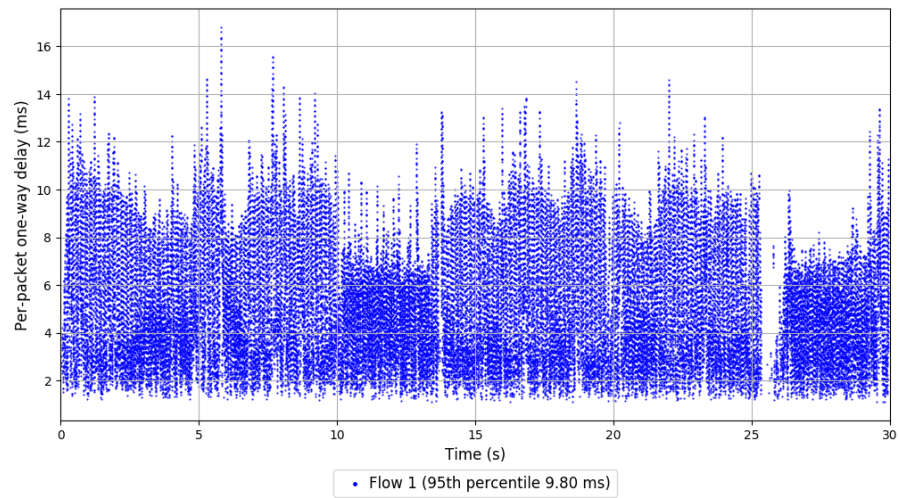
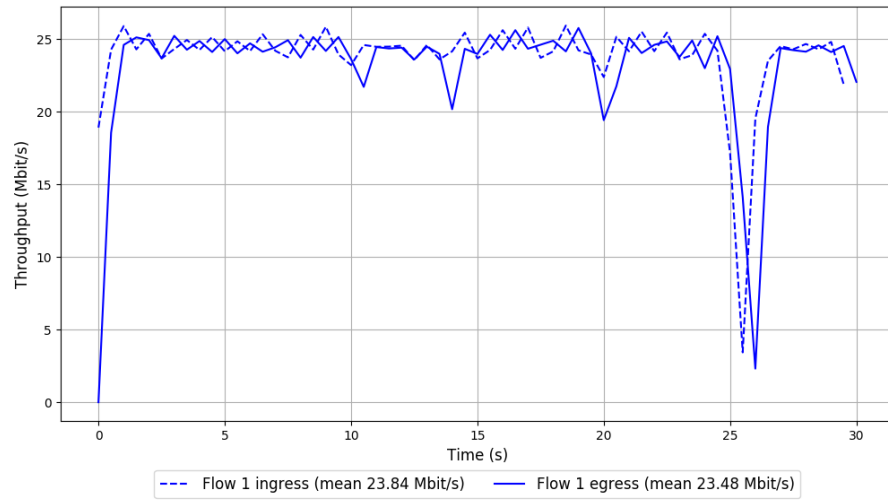
-- Flow 1:

Average throughput: 23.48 Mbit/s

95th percentile per-packet one-way delay: 9.799 ms

Loss rate: 1.50%

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



Run 1: Statistics of TaoVA-100x

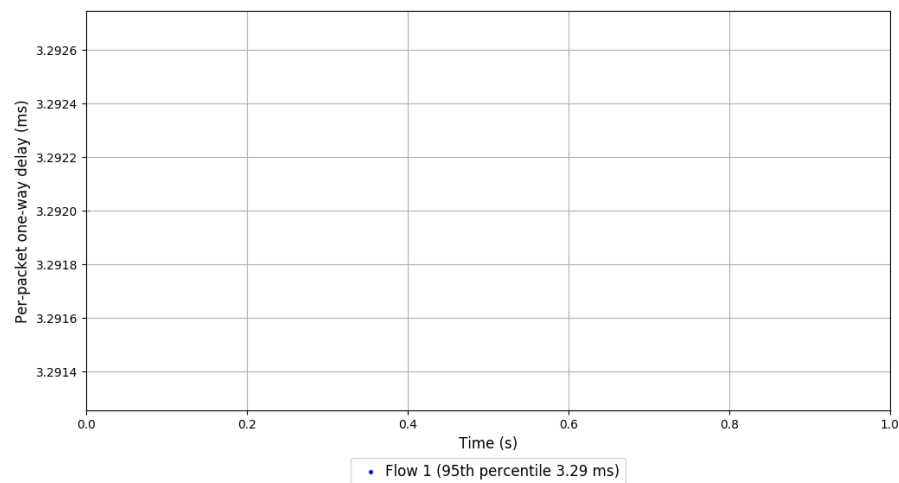
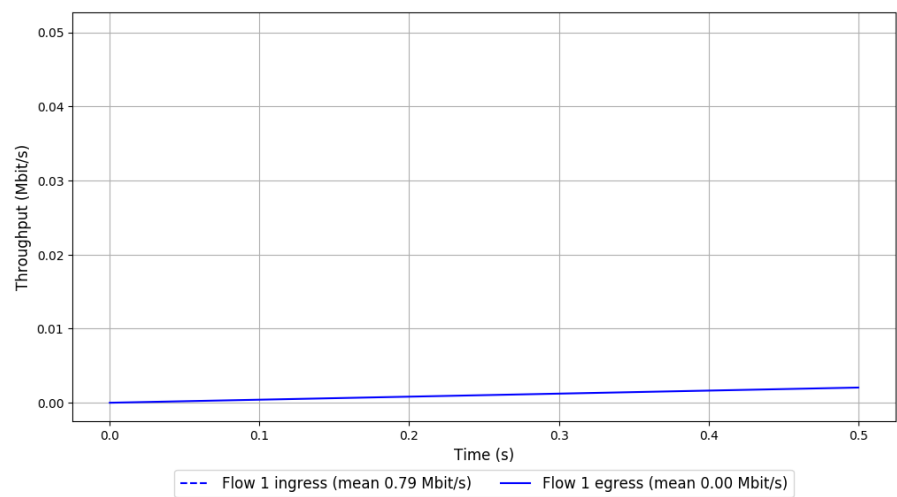
Start at: 2018-11-02 18:19:04

End at: 2018-11-02 18:19:34

Local clock offset: -2.353 ms

Remote clock offset: -2.249 ms

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



Run 2: Statistics of TaoVA-100x

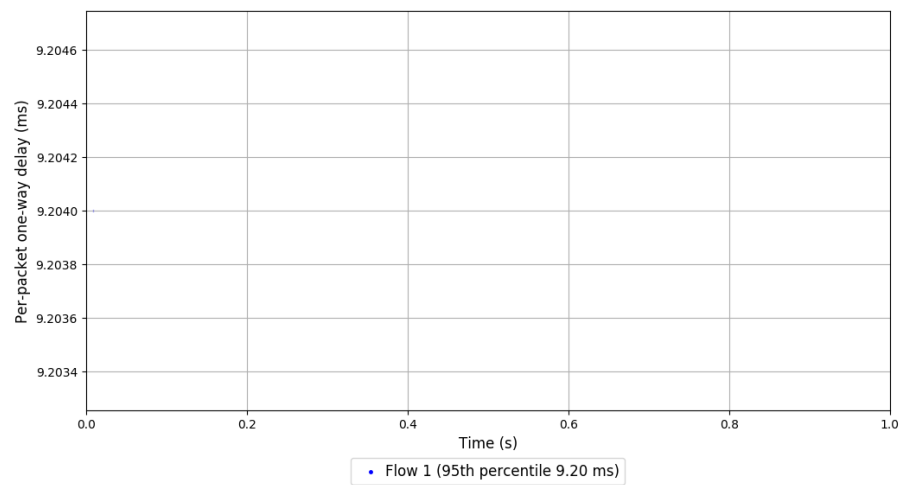
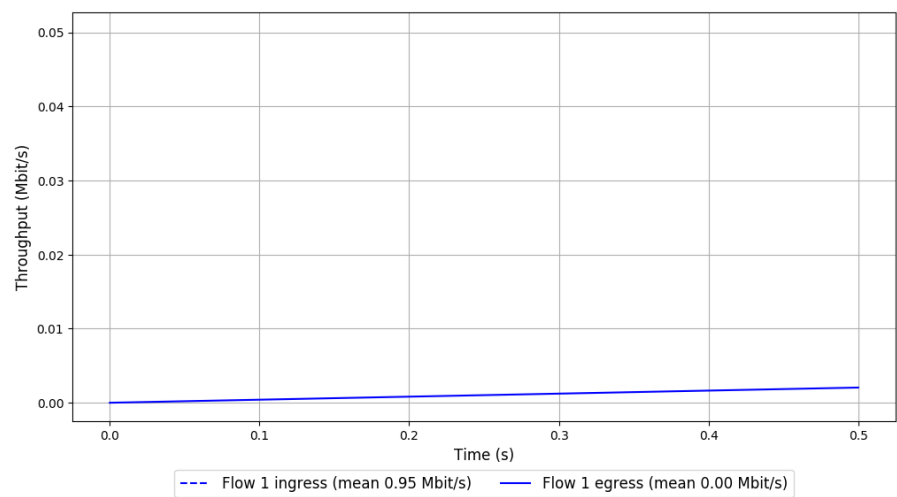
Start at: 2018-11-02 18:39:29

End at: 2018-11-02 18:39:59

Local clock offset: -11.704 ms

Remote clock offset: -2.885 ms

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



Run 3: Statistics of TaoVA-100x

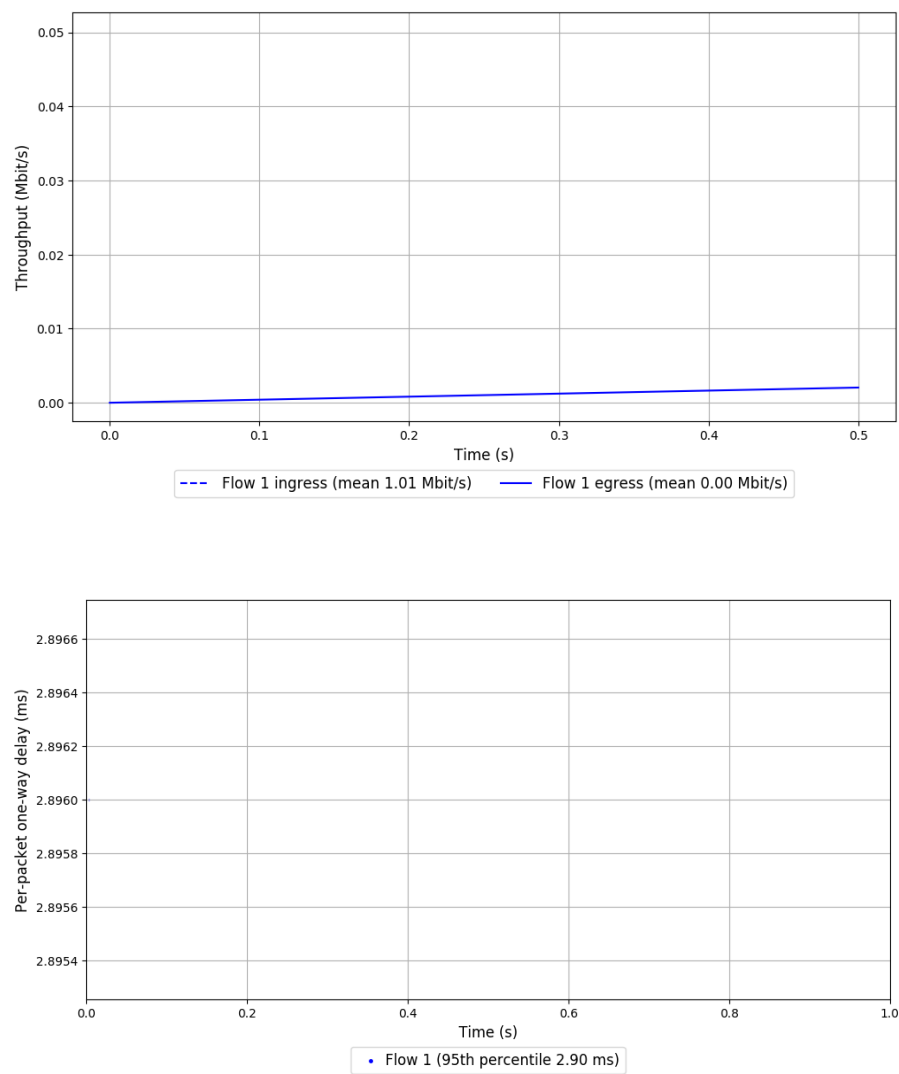
Start at: 2018-11-02 18:59:39

End at: 2018-11-02 19:00:09

Local clock offset: -18.527 ms

Remote clock offset: -3.727 ms

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





Run 4: Statistics of TaoVA-100x

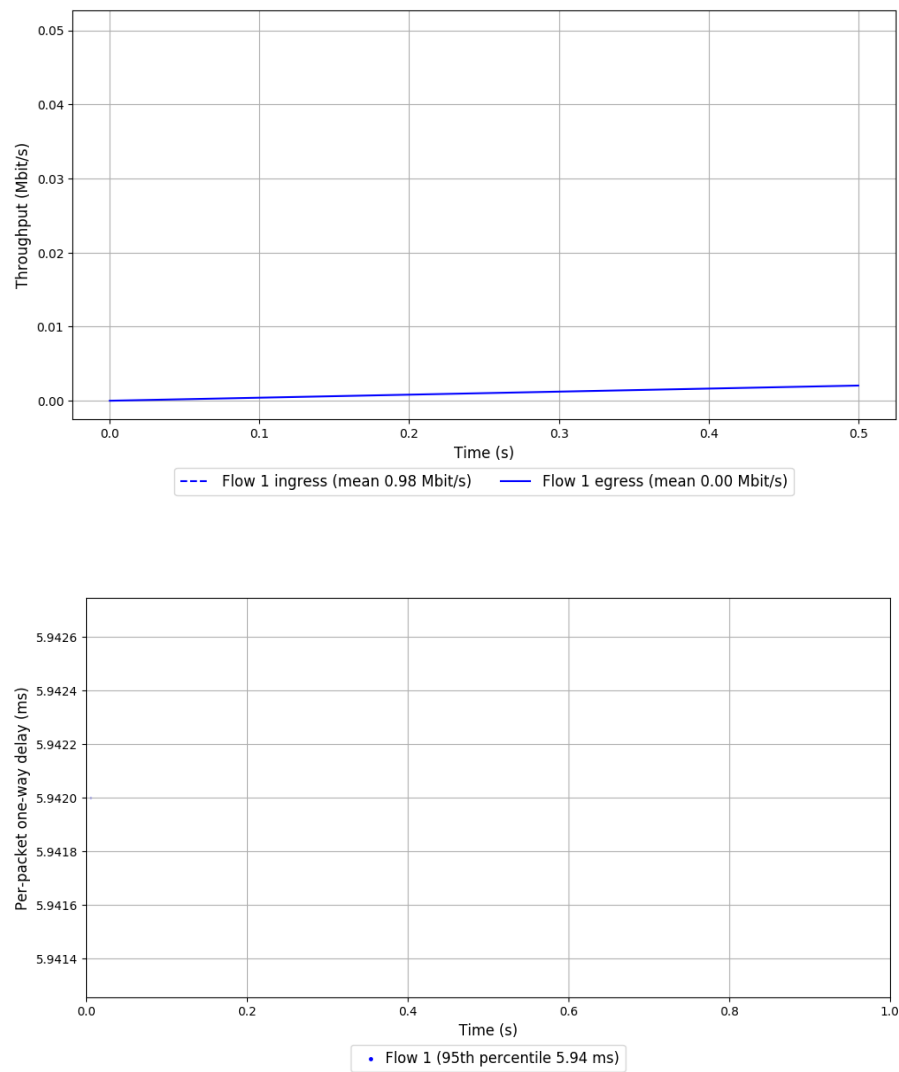
Start at: 2018-11-02 19:19:47

End at: 2018-11-02 19:20:17

Local clock offset: -8.24 ms

Remote clock offset: -2.754 ms

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



Run 5: Statistics of TaoVA-100x

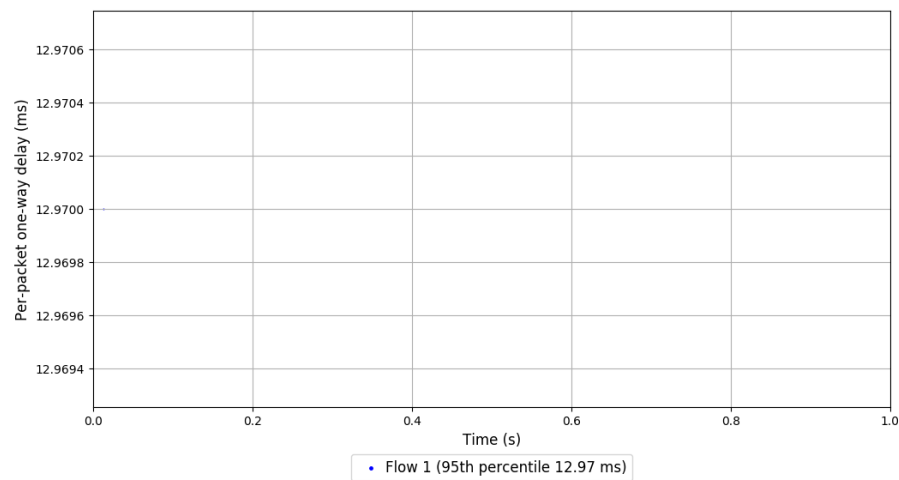
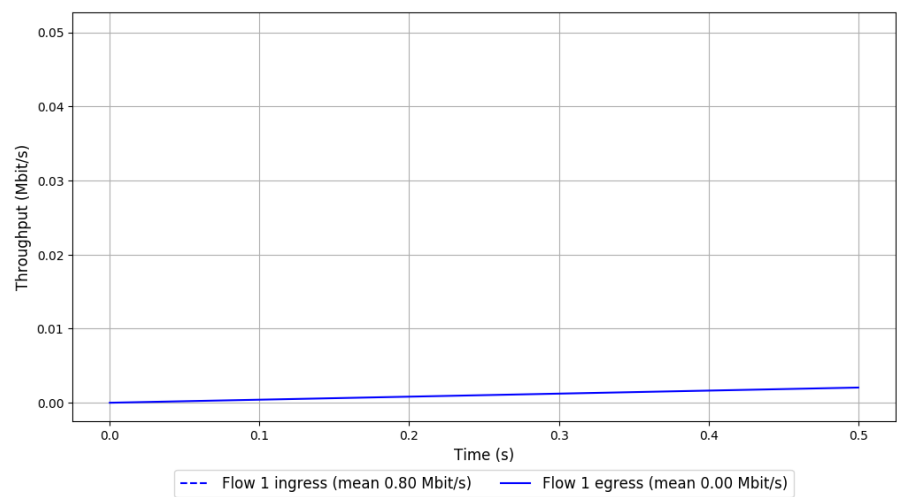
Start at: 2018-11-02 19:39:58

End at: 2018-11-02 19:40:28

Local clock offset: -3.816 ms

Remote clock offset: -2.756 ms

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

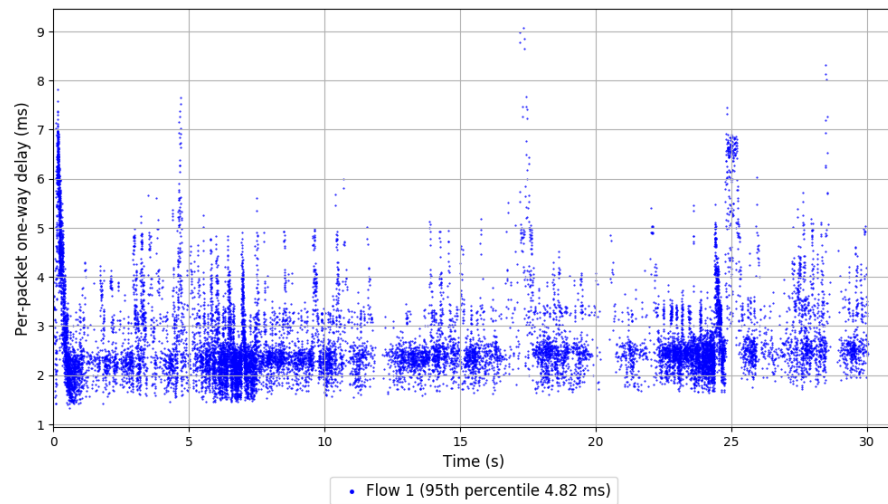
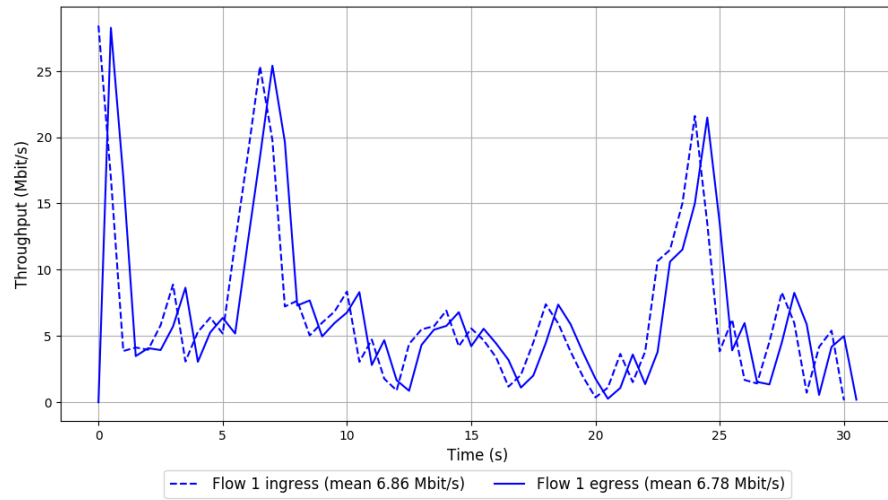


Run 1: Statistics of TCP Vegas

Start at: 2018-11-02 18:23:42  
End at: 2018-11-02 18:24:12  
Local clock offset: -1.778 ms  
Remote clock offset: -2.769 ms

# Below is generated by plot.py at 2018-11-02 19:51:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 6.78 Mbit/s  
95th percentile per-packet one-way delay: 4.817 ms  
Loss rate: 1.09%  
-- Flow 1:  
Average throughput: 6.78 Mbit/s  
95th percentile per-packet one-way delay: 4.817 ms  
Loss rate: 1.09%

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

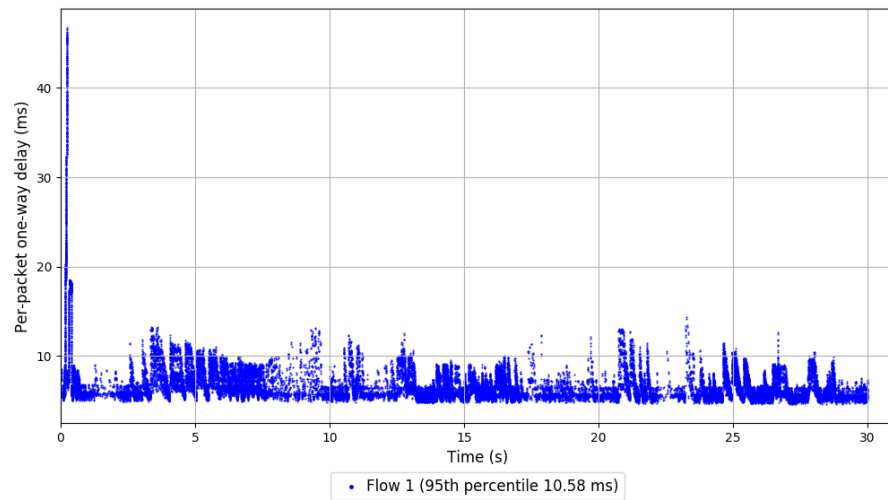
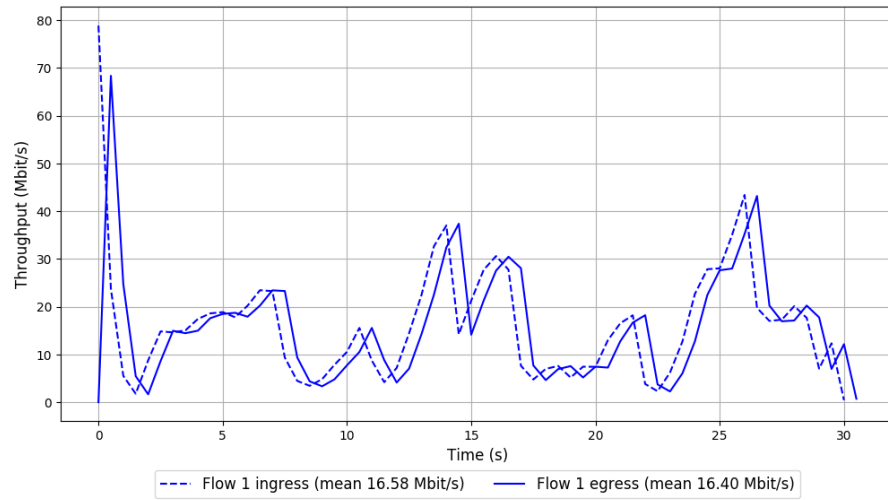


Run 2: Statistics of TCP Vegas

Start at: 2018-11-02 18:43:55  
End at: 2018-11-02 18:44:25  
Local clock offset: -11.653 ms  
Remote clock offset: -2.471 ms

# Below is generated by plot.py at 2018-11-02 19:51:21  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.40 Mbit/s  
95th percentile per-packet one-way delay: 10.577 ms  
Loss rate: 1.13%  
-- Flow 1:  
Average throughput: 16.40 Mbit/s  
95th percentile per-packet one-way delay: 10.577 ms  
Loss rate: 1.13%

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



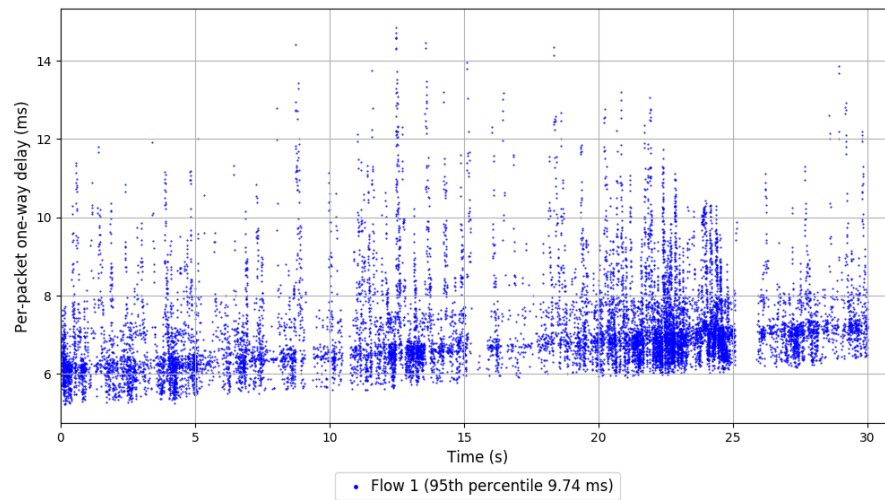
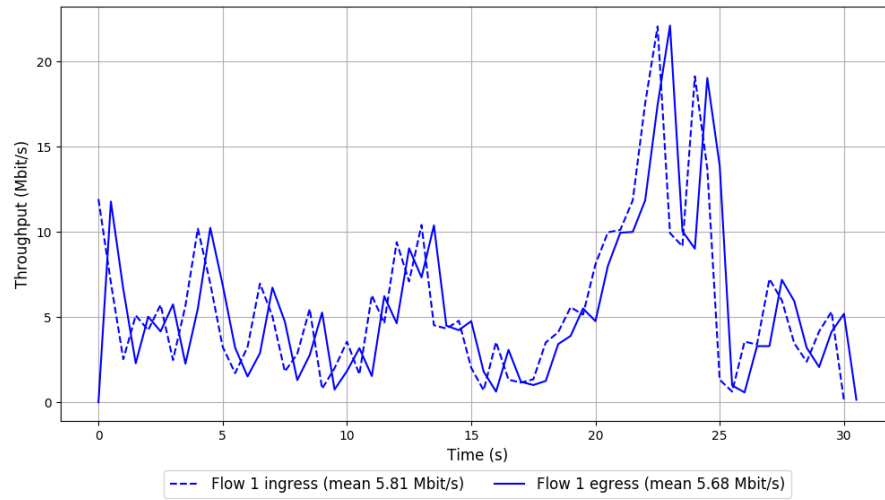


Run 3: Statistics of TCP Vegas

Start at: 2018-11-02 19:04:05  
End at: 2018-11-02 19:04:36  
Local clock offset: -23.699 ms  
Remote clock offset: -2.855 ms

# Below is generated by plot.py at 2018-11-02 19:51:21  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.68 Mbit/s  
95th percentile per-packet one-way delay: 9.737 ms  
Loss rate: 2.28%  
-- Flow 1:  
Average throughput: 5.68 Mbit/s  
95th percentile per-packet one-way delay: 9.737 ms  
Loss rate: 2.28%

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



Run 4: Statistics of TCP Vegas

Start at: 2018-11-02 19:24:14

End at: 2018-11-02 19:24:44

Local clock offset: -8.394 ms

Remote clock offset: -3.33 ms

# Below is generated by plot.py at 2018-11-02 19:51:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 21.46 Mbit/s

95th percentile per-packet one-way delay: 16.119 ms

Loss rate: 1.00%

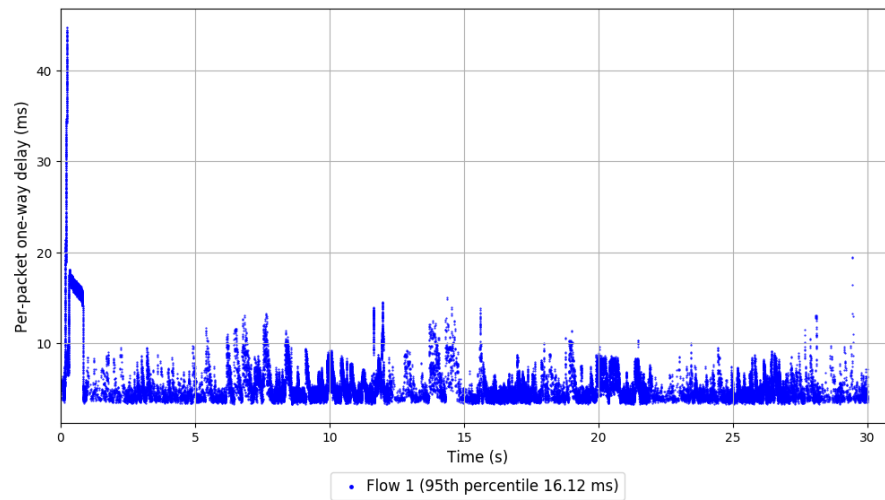
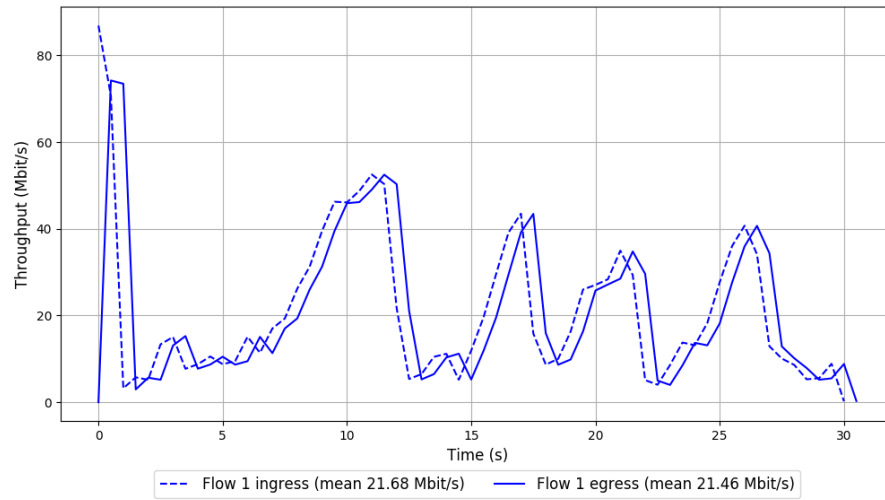
-- Flow 1:

Average throughput: 21.46 Mbit/s

95th percentile per-packet one-way delay: 16.119 ms

Loss rate: 1.00%

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

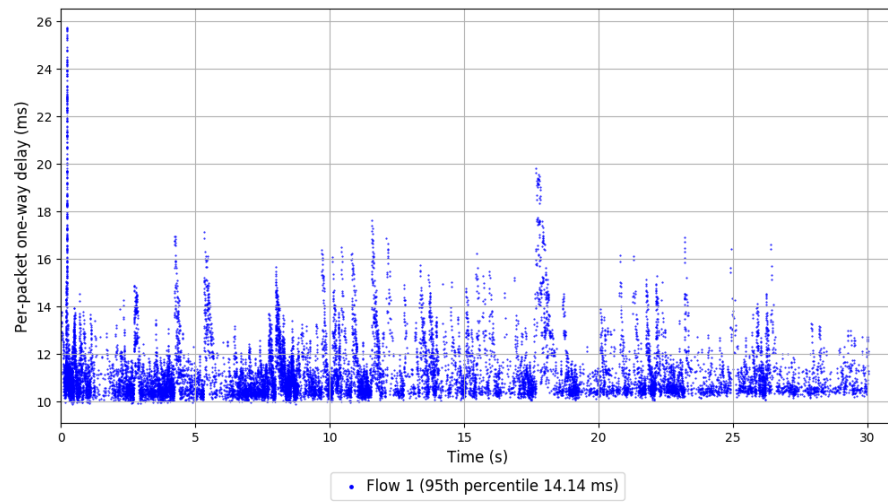
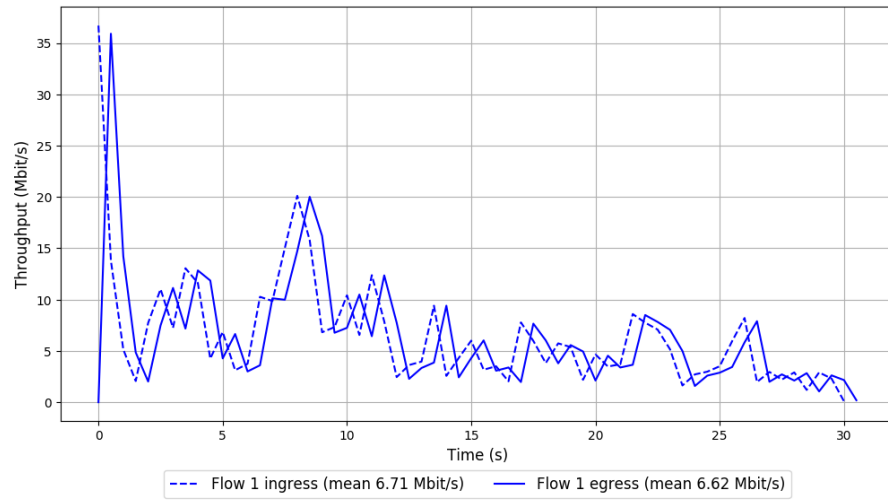


Run 5: Statistics of TCP Vegas

Start at: 2018-11-02 19:44:38  
End at: 2018-11-02 19:45:08  
Local clock offset: -0.973 ms  
Remote clock offset: -3.747 ms

# Below is generated by plot.py at 2018-11-02 19:51:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 6.62 Mbit/s  
95th percentile per-packet one-way delay: 14.144 ms  
Loss rate: 1.37%  
-- Flow 1:  
Average throughput: 6.62 Mbit/s  
95th percentile per-packet one-way delay: 14.144 ms  
Loss rate: 1.37%

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

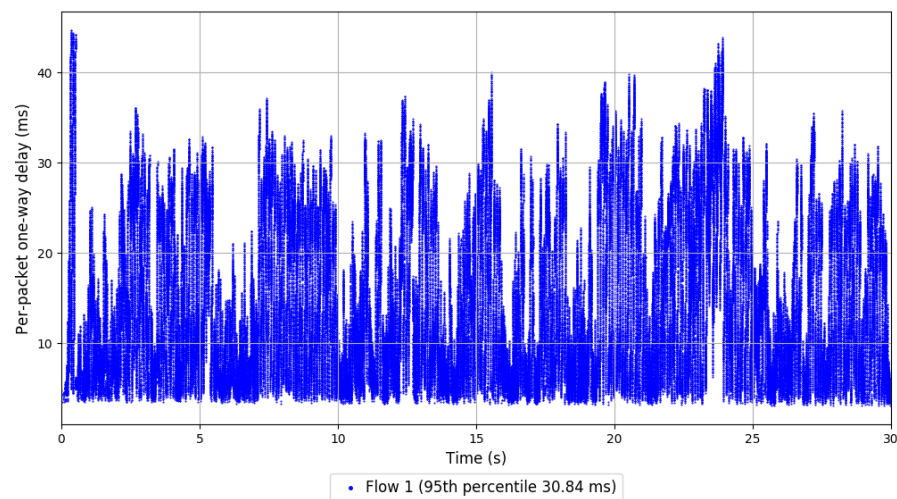
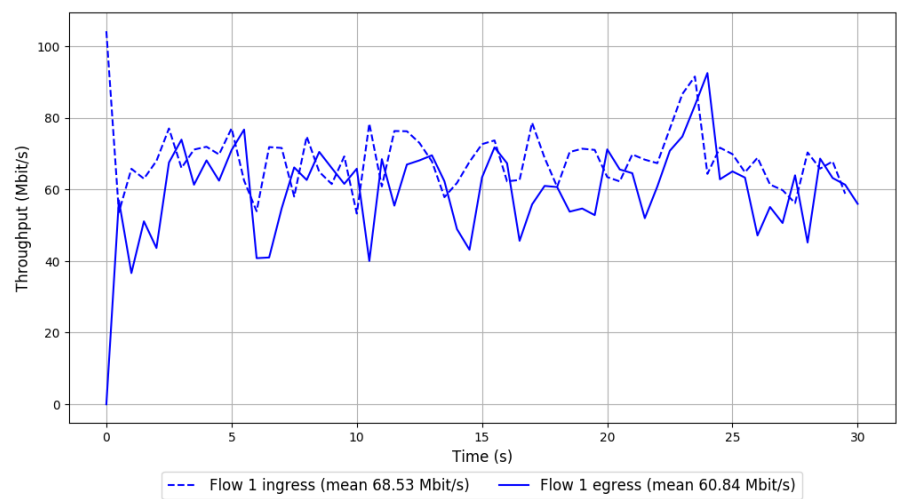


Run 1: Statistics of Verus

Start at: 2018-11-02 18:17:52  
End at: 2018-11-02 18:18:22  
Local clock offset: -2.863 ms  
Remote clock offset: -1.319 ms

# Below is generated by plot.py at 2018-11-02 19:52:06  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 60.84 Mbit/s  
95th percentile per-packet one-way delay: 30.838 ms  
Loss rate: 11.23%  
-- Flow 1:  
Average throughput: 60.84 Mbit/s  
95th percentile per-packet one-way delay: 30.838 ms  
Loss rate: 11.23%

Run 1: Report of Verus — Data Link



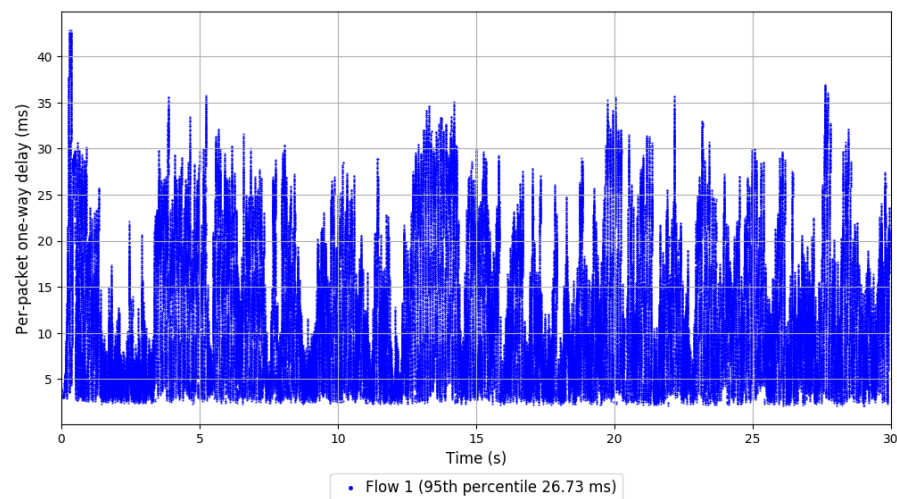
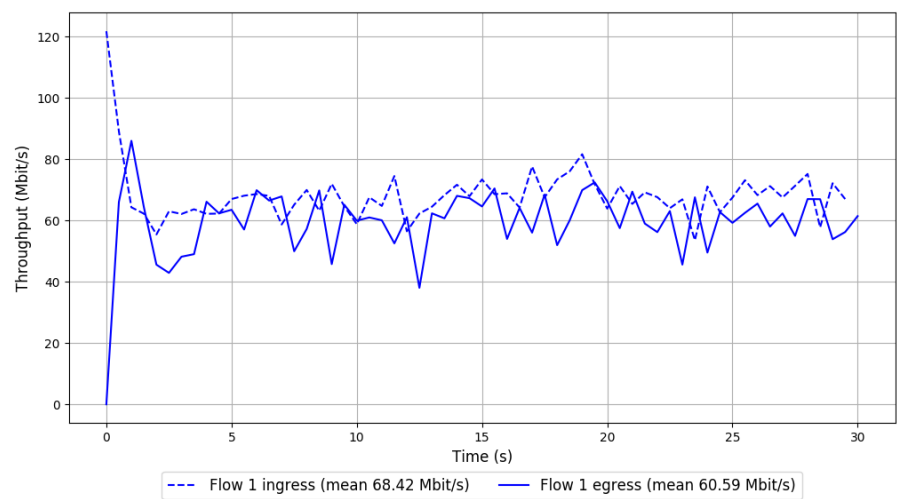


Run 2: Statistics of Verus

Start at: 2018-11-02 18:38:19  
End at: 2018-11-02 18:38:49  
Local clock offset: -8.612 ms  
Remote clock offset: -4.801 ms

# Below is generated by plot.py at 2018-11-02 19:52:06  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 60.59 Mbit/s  
95th percentile per-packet one-way delay: 26.725 ms  
Loss rate: 11.39%  
-- Flow 1:  
Average throughput: 60.59 Mbit/s  
95th percentile per-packet one-way delay: 26.725 ms  
Loss rate: 11.39%

Run 2: Report of Verus — Data Link

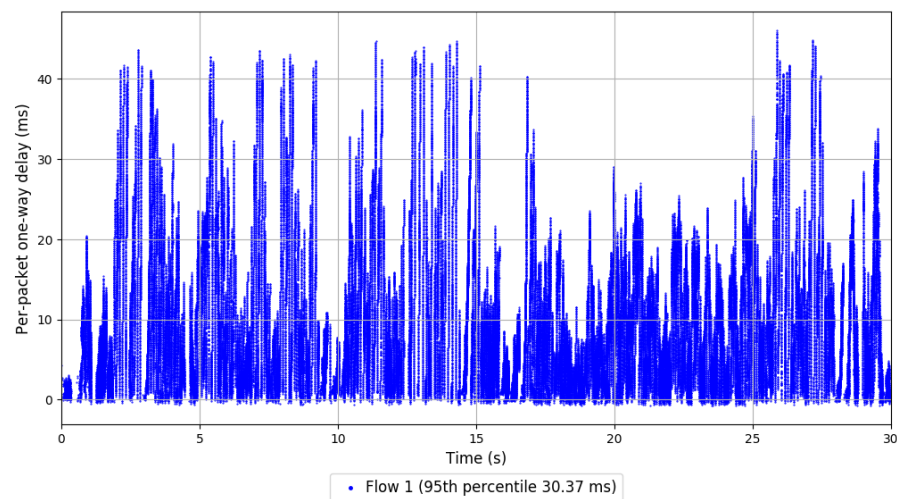
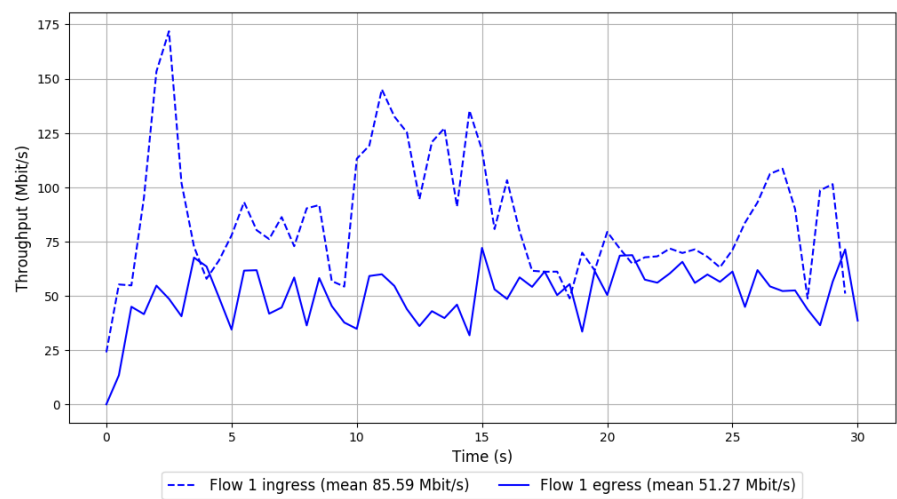


Run 3: Statistics of Verus

Start at: 2018-11-02 18:58:29  
End at: 2018-11-02 18:58:59  
Local clock offset: -16.23 ms  
Remote clock offset: -3.628 ms

# Below is generated by plot.py at 2018-11-02 19:52:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 51.27 Mbit/s  
95th percentile per-packet one-way delay: 30.374 ms  
Loss rate: 40.10%  
-- Flow 1:  
Average throughput: 51.27 Mbit/s  
95th percentile per-packet one-way delay: 30.374 ms  
Loss rate: 40.10%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-11-02 19:18:38

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

Local clock offset: -9.647 ms

Remote clock offset: -3.42 ms

# Below is generated by plot.py at 2018-11-02 19:52:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 62.05 Mbit/s

95th percentile per-packet one-way delay: 28.522 ms

Loss rate: 6.73%

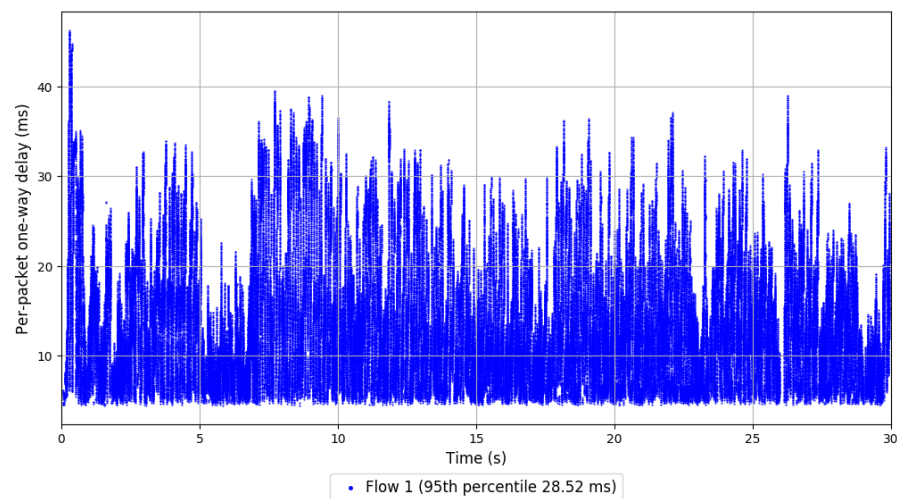
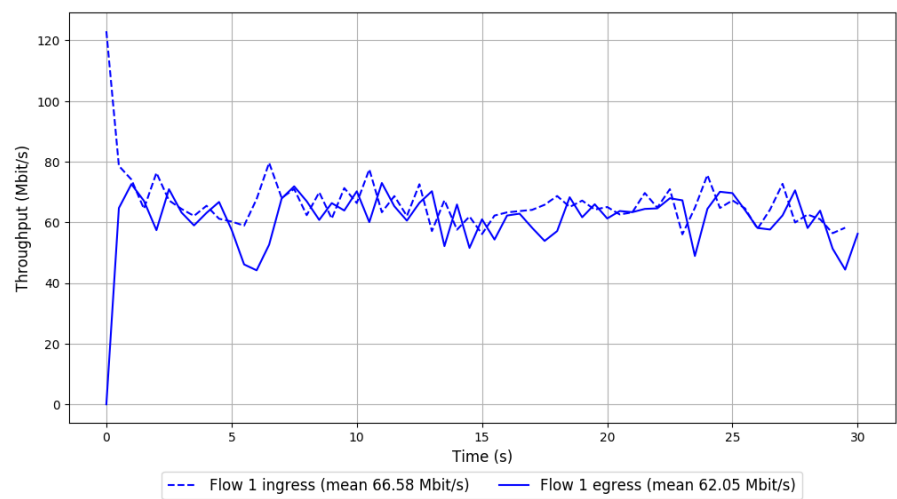
-- Flow 1:

Average throughput: 62.05 Mbit/s

95th percentile per-packet one-way delay: 28.522 ms

Loss rate: 6.73%

Run 4: Report of Verus — Data Link

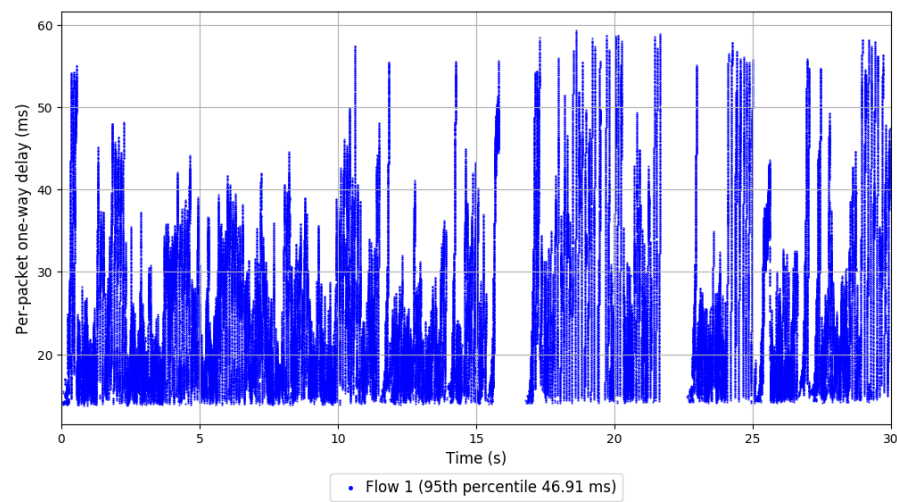
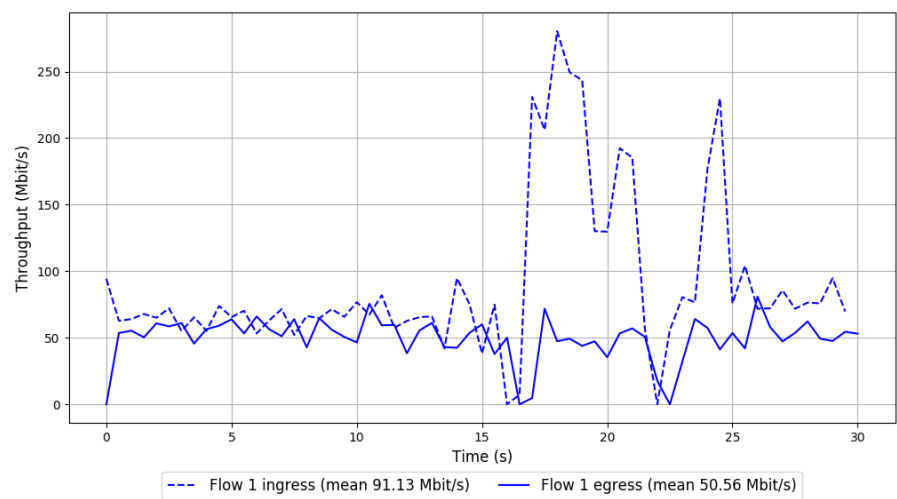


Run 5: Statistics of Verus

Start at: 2018-11-02 19:38:48  
End at: 2018-11-02 19:39:18  
Local clock offset: -6.924 ms  
Remote clock offset: -2.528 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.56 Mbit/s  
95th percentile per-packet one-way delay: 46.907 ms  
Loss rate: 44.46%  
-- Flow 1:  
Average throughput: 50.56 Mbit/s  
95th percentile per-packet one-way delay: 46.907 ms  
Loss rate: 44.46%

Run 5: Report of Verus — Data Link



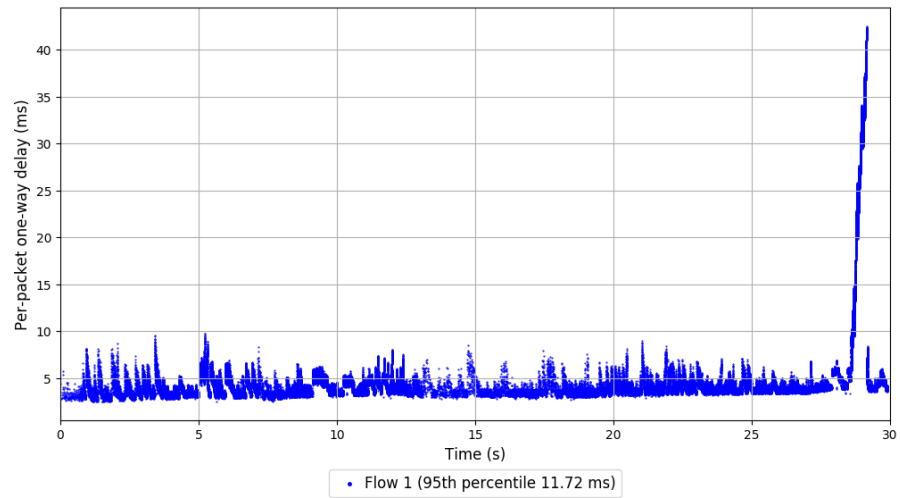
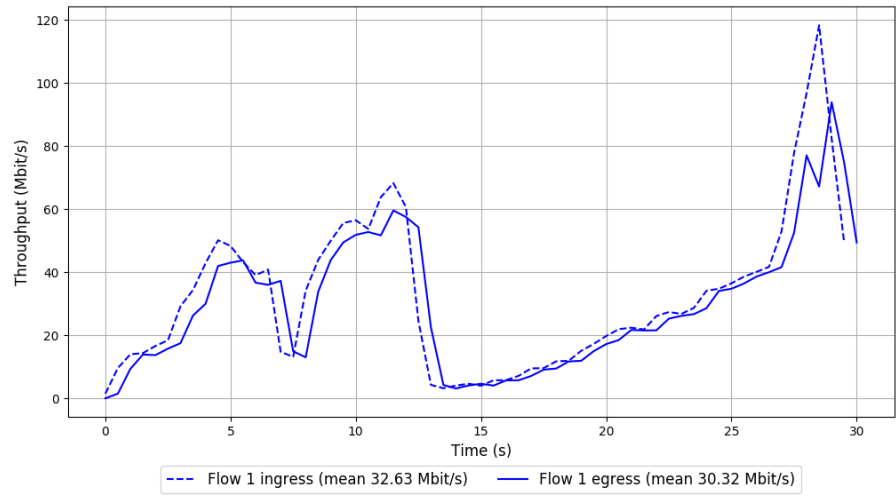


Run 1: Statistics of PCC-Vivace

Start at: 2018-11-02 18:21:27  
End at: 2018-11-02 18:21:57  
Local clock offset: -5.511 ms  
Remote clock offset: -2.888 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 30.32 Mbit/s  
95th percentile per-packet one-way delay: 11.717 ms  
Loss rate: 7.10%  
-- Flow 1:  
Average throughput: 30.32 Mbit/s  
95th percentile per-packet one-way delay: 11.717 ms  
Loss rate: 7.10%

# Run 1: Report of PCC-Vivace — Data Link

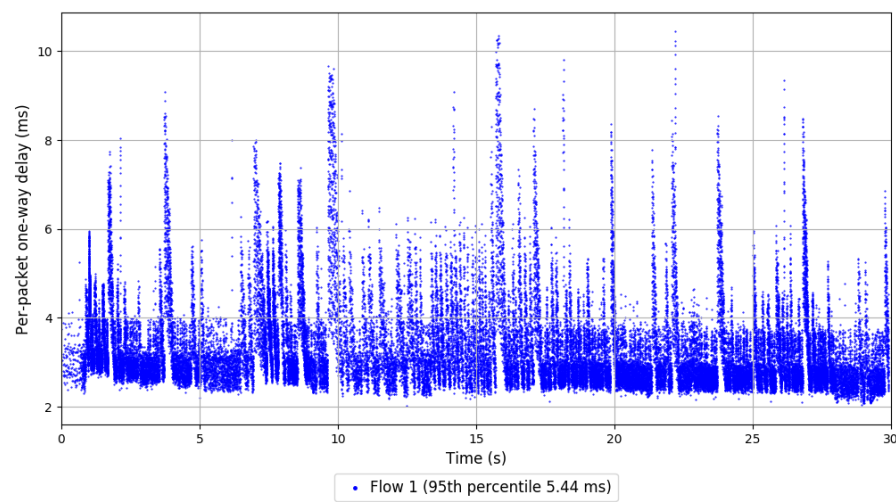
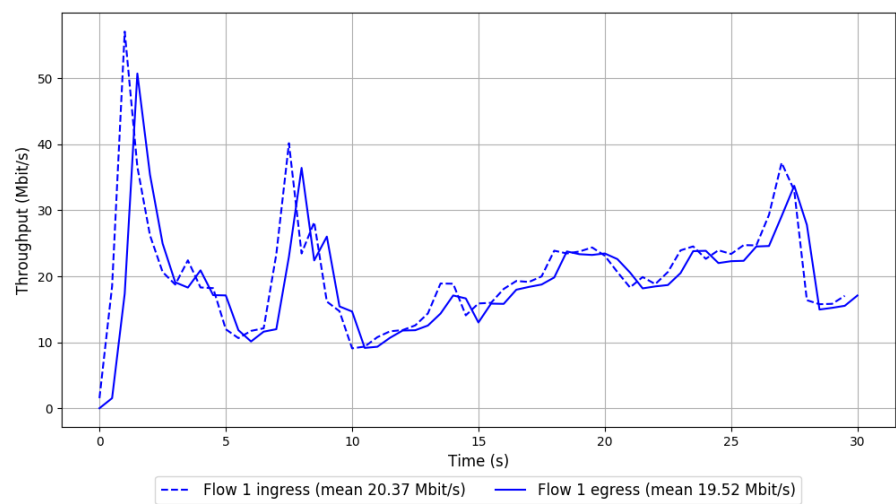


Run 2: Statistics of PCC-Vivace

Start at: 2018-11-02 18:41:43  
End at: 2018-11-02 18:42:13  
Local clock offset: -8.572 ms  
Remote clock offset: -2.802 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 19.52 Mbit/s  
95th percentile per-packet one-way delay: 5.438 ms  
Loss rate: 4.20%  
-- Flow 1:  
Average throughput: 19.52 Mbit/s  
95th percentile per-packet one-way delay: 5.438 ms  
Loss rate: 4.20%

Run 2: Report of PCC-Vivace — Data Link

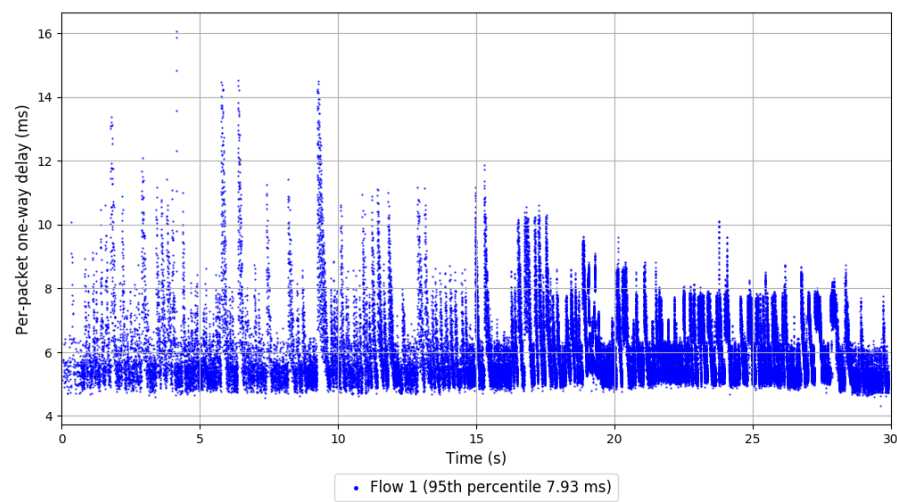
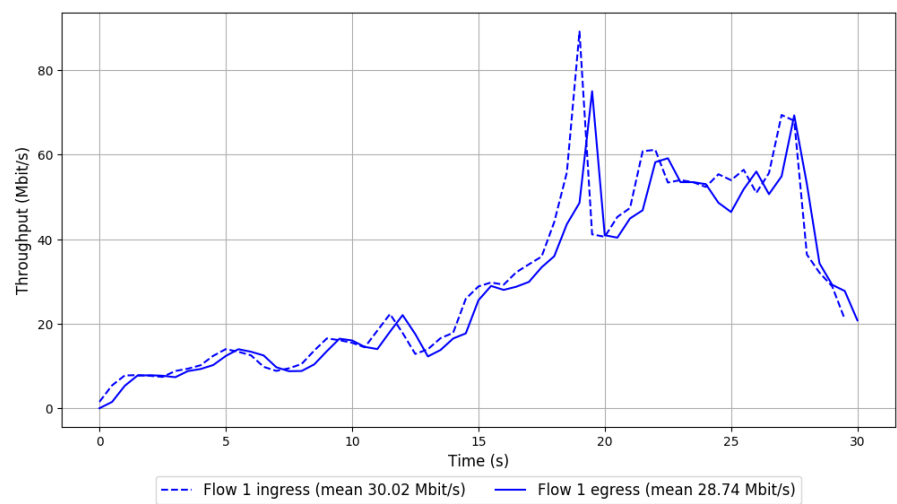


Run 3: Statistics of PCC-Vivace

Start at: 2018-11-02 19:01:53  
End at: 2018-11-02 19:02:23  
Local clock offset: -22.15 ms  
Remote clock offset: -2.723 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 28.74 Mbit/s  
95th percentile per-packet one-way delay: 7.928 ms  
Loss rate: 4.25%  
-- Flow 1:  
Average throughput: 28.74 Mbit/s  
95th percentile per-packet one-way delay: 7.928 ms  
Loss rate: 4.25%

Run 3: Report of PCC-Vivace — Data Link

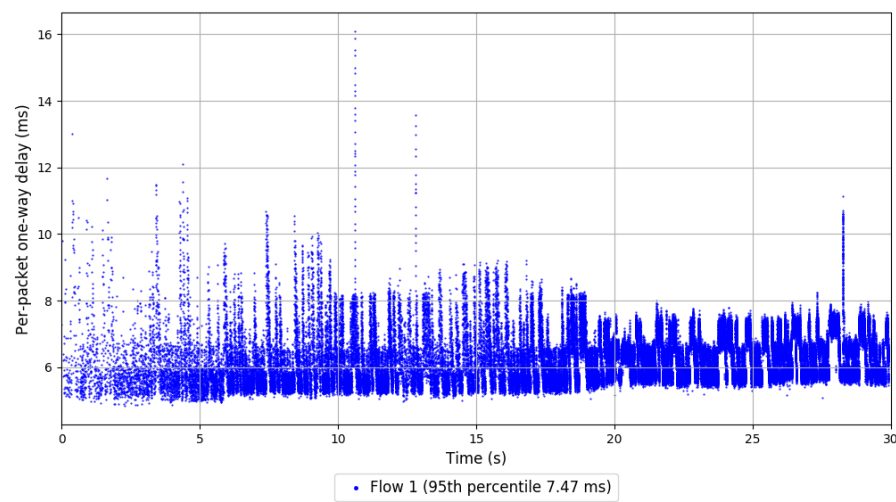
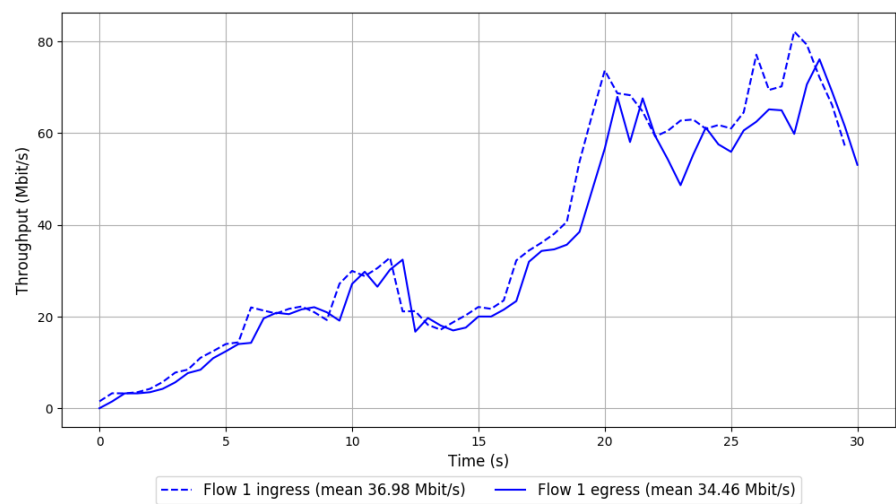


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-02 19:22:01  
End at: 2018-11-02 19:22:31  
Local clock offset: -9.647 ms  
Remote clock offset: -2.924 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 34.46 Mbit/s  
95th percentile per-packet one-way delay: 7.467 ms  
Loss rate: 6.82%  
-- Flow 1:  
Average throughput: 34.46 Mbit/s  
95th percentile per-packet one-way delay: 7.467 ms  
Loss rate: 6.82%

Run 4: Report of PCC-Vivace — Data Link



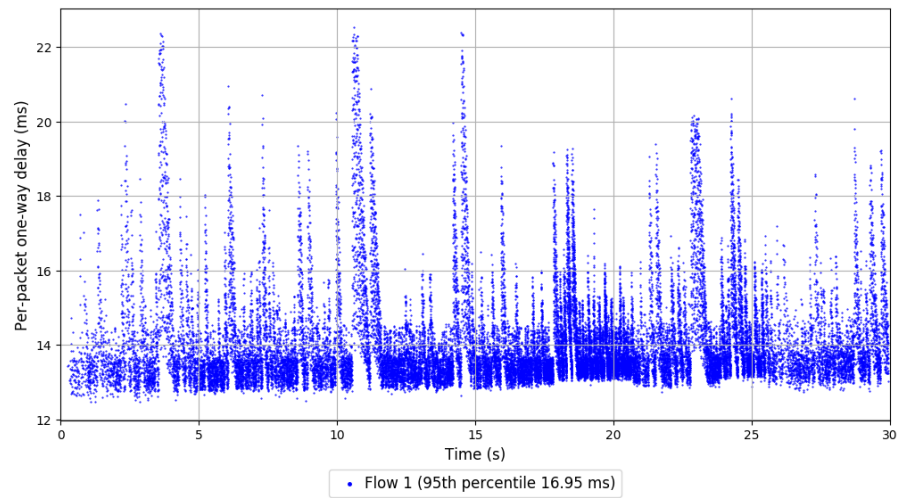
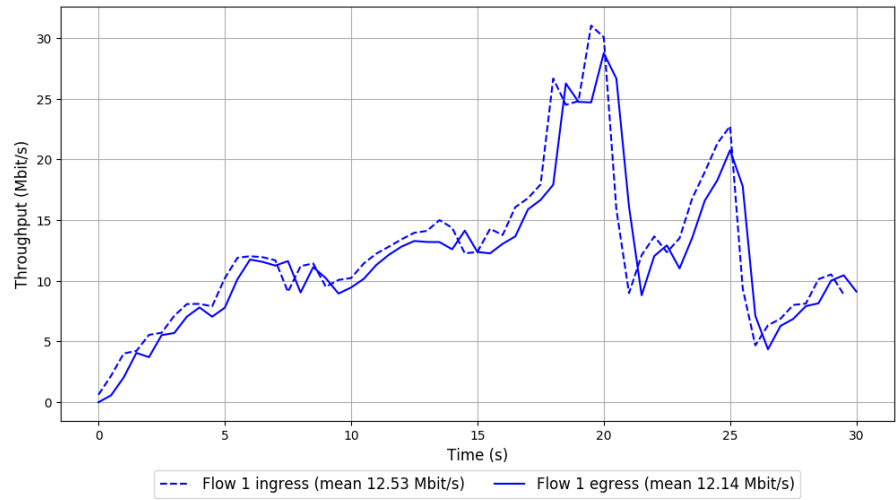


Run 5: Statistics of PCC-Vivace

Start at: 2018-11-02 19:42:26  
End at: 2018-11-02 19:42:56  
Local clock offset: -4.418 ms  
Remote clock offset: -3.425 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.14 Mbit/s  
95th percentile per-packet one-way delay: 16.949 ms  
Loss rate: 3.95%  
-- Flow 1:  
Average throughput: 12.14 Mbit/s  
95th percentile per-packet one-way delay: 16.949 ms  
Loss rate: 3.95%

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

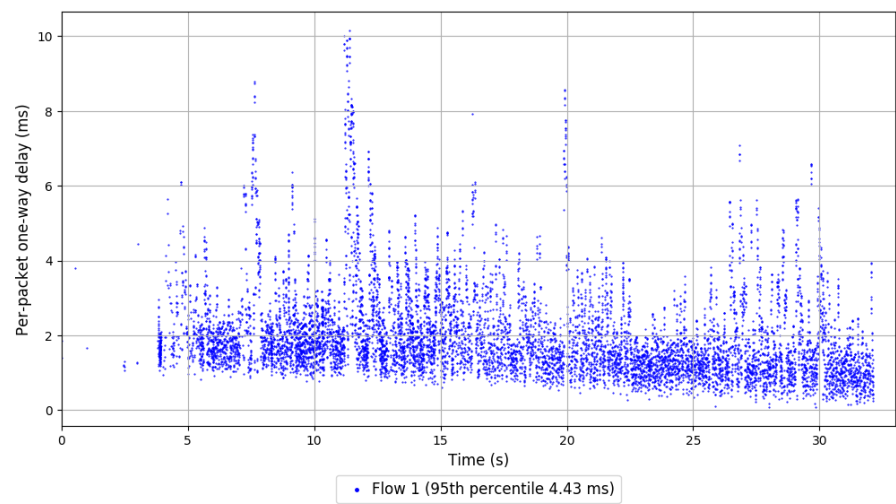
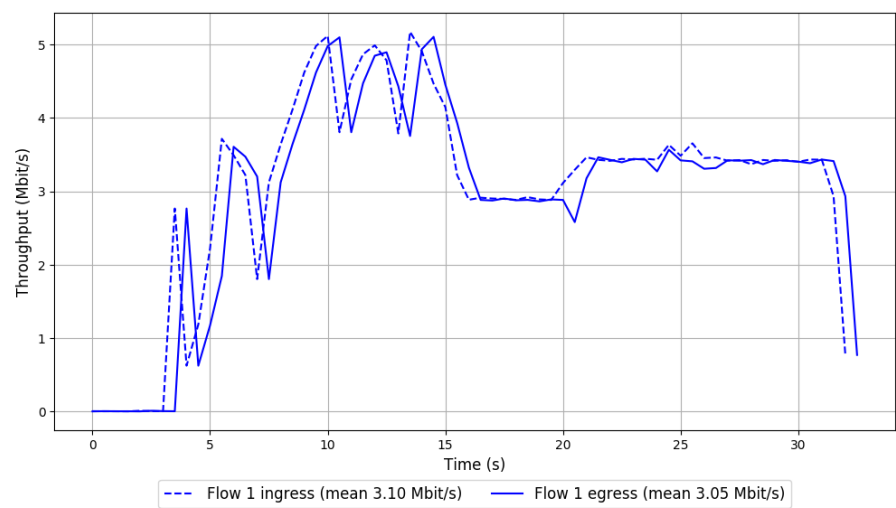


Run 1: Statistics of WebRTC media

Start at: 2018-11-02 18:07:49  
End at: 2018-11-02 18:08:19  
Local clock offset: -0.688 ms  
Remote clock offset: -2.609 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 3.05 Mbit/s  
95th percentile per-packet one-way delay: 4.427 ms  
Loss rate: 1.49%  
-- Flow 1:  
Average throughput: 3.05 Mbit/s  
95th percentile per-packet one-way delay: 4.427 ms  
Loss rate: 1.49%

Run 1: Report of WebRTC media — Data Link

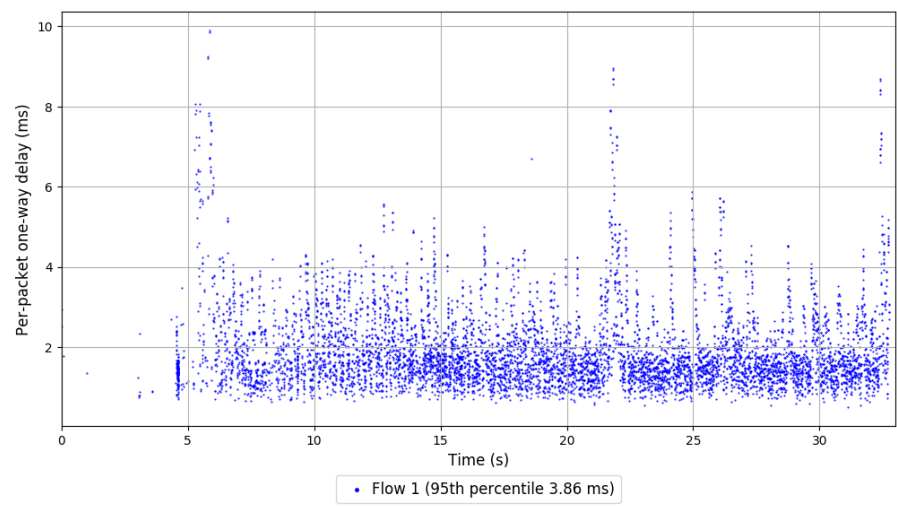
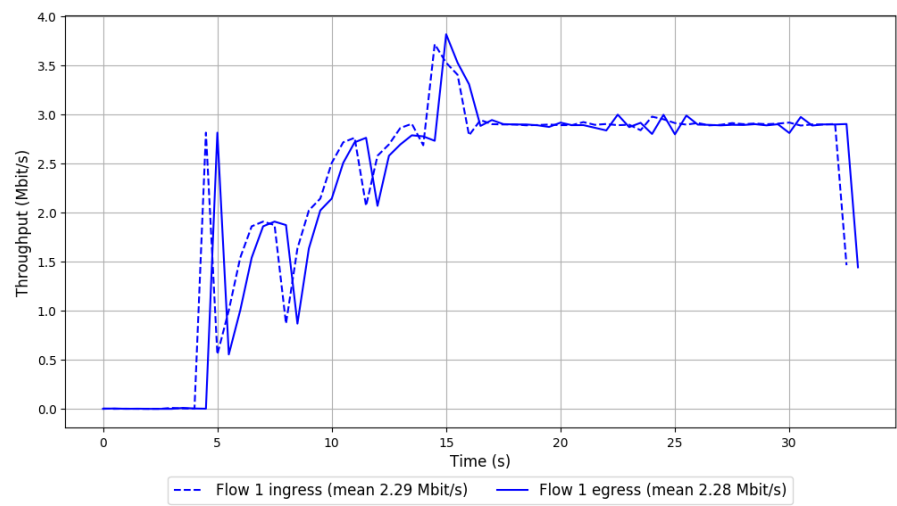


Run 2: Statistics of WebRTC media

Start at: 2018-11-02 18:28:14  
End at: 2018-11-02 18:28:44  
Local clock offset: -0.296 ms  
Remote clock offset: -2.973 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.28 Mbit/s  
95th percentile per-packet one-way delay: 3.862 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 2.28 Mbit/s  
95th percentile per-packet one-way delay: 3.862 ms  
Loss rate: 0.19%

Run 2: Report of WebRTC media — Data Link

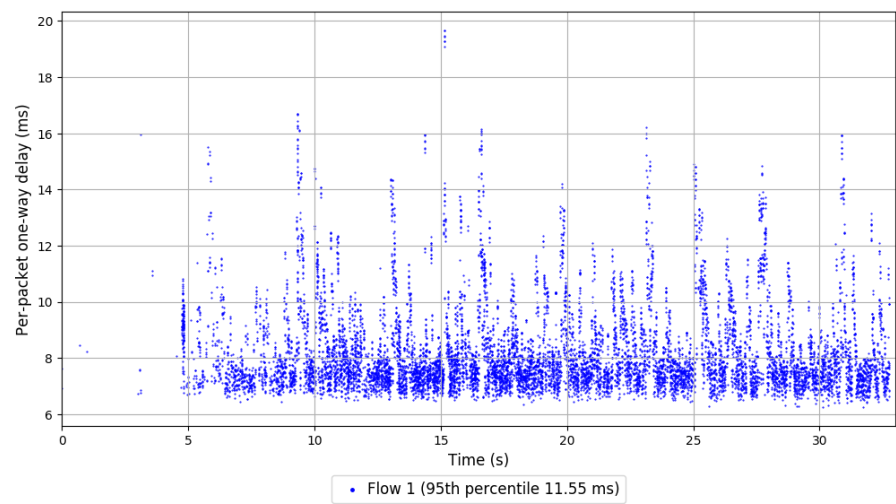
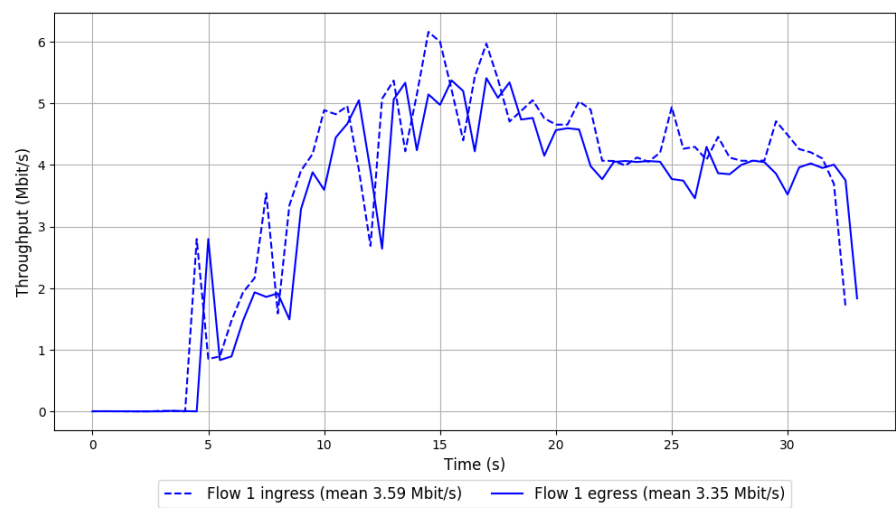


Run 3: Statistics of WebRTC media

Start at: 2018-11-02 18:48:26  
End at: 2018-11-02 18:48:56  
Local clock offset: -15.303 ms  
Remote clock offset: -1.614 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 3.35 Mbit/s  
95th percentile per-packet one-way delay: 11.552 ms  
Loss rate: 6.59%  
-- Flow 1:  
Average throughput: 3.35 Mbit/s  
95th percentile per-packet one-way delay: 11.552 ms  
Loss rate: 6.59%

Run 3: Report of WebRTC media — Data Link



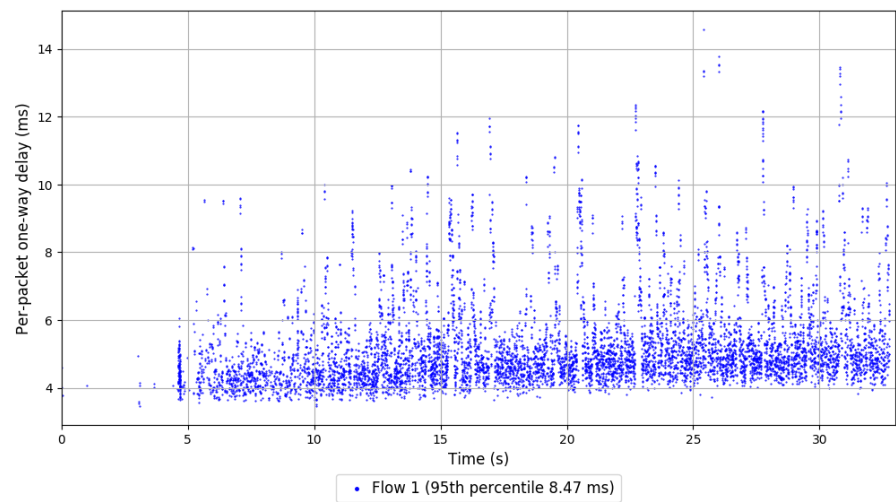
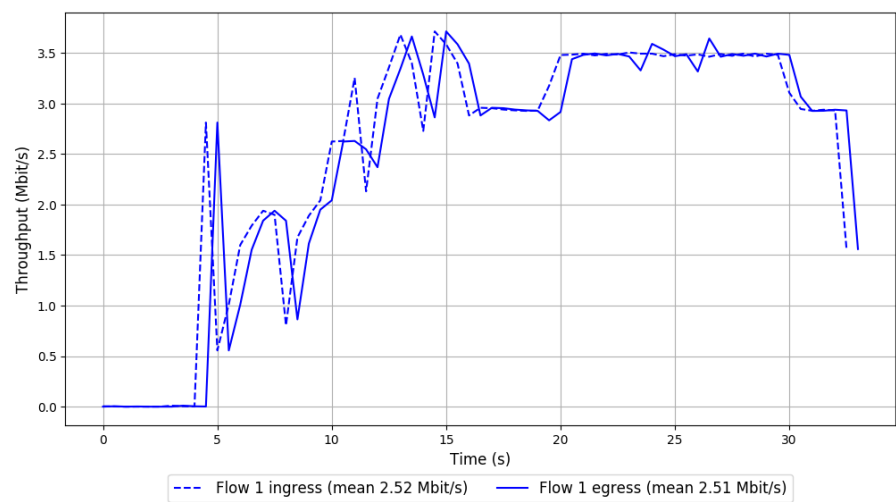


Run 4: Statistics of WebRTC media

Start at: 2018-11-02 19:08:36  
End at: 2018-11-02 19:09:06  
Local clock offset: -14.669 ms  
Remote clock offset: -3.197 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.51 Mbit/s  
95th percentile per-packet one-way delay: 8.466 ms  
Loss rate: 0.60%  
-- Flow 1:  
Average throughput: 2.51 Mbit/s  
95th percentile per-packet one-way delay: 8.466 ms  
Loss rate: 0.60%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-02 19:28:44  
End at: 2018-11-02 19:29:14  
Local clock offset: -8.563 ms  
Remote clock offset: -3.246 ms

# Below is generated by plot.py at 2018-11-02 19:52:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.32 Mbit/s  
95th percentile per-packet one-way delay: 6.304 ms  
Loss rate: 0.68%  
-- Flow 1:  
Average throughput: 2.32 Mbit/s  
95th percentile per-packet one-way delay: 6.304 ms  
Loss rate: 0.68%

Run 5: Report of WebRTC media — Data Link

