

## Pantheon Report

Generated at 2018-10-02 09:18:56 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

### System info:

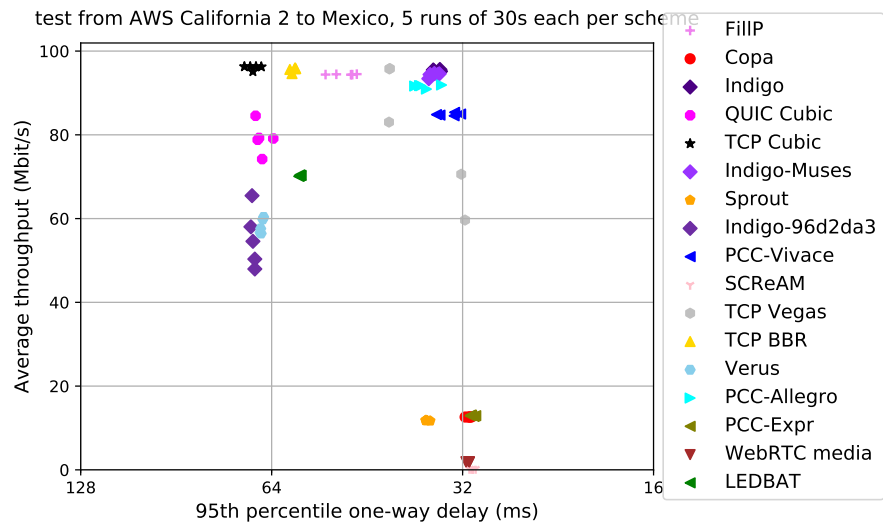
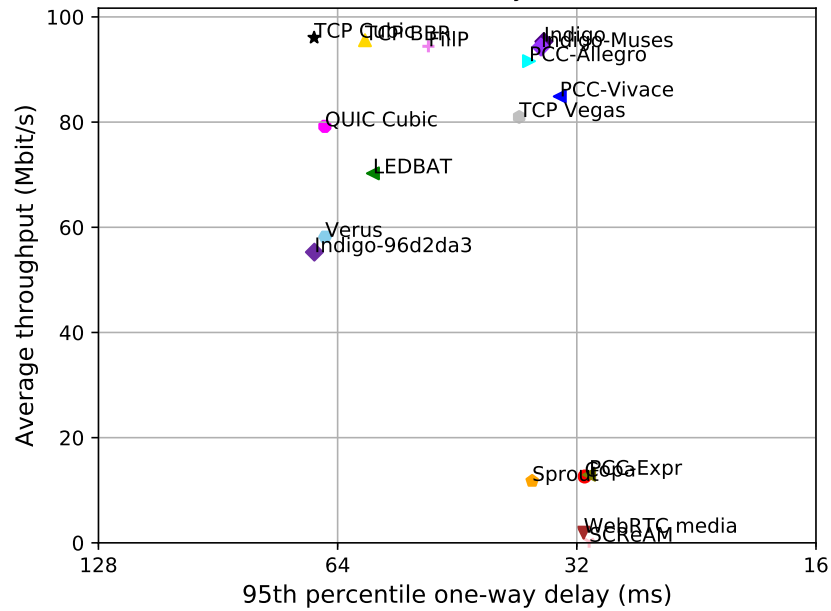
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



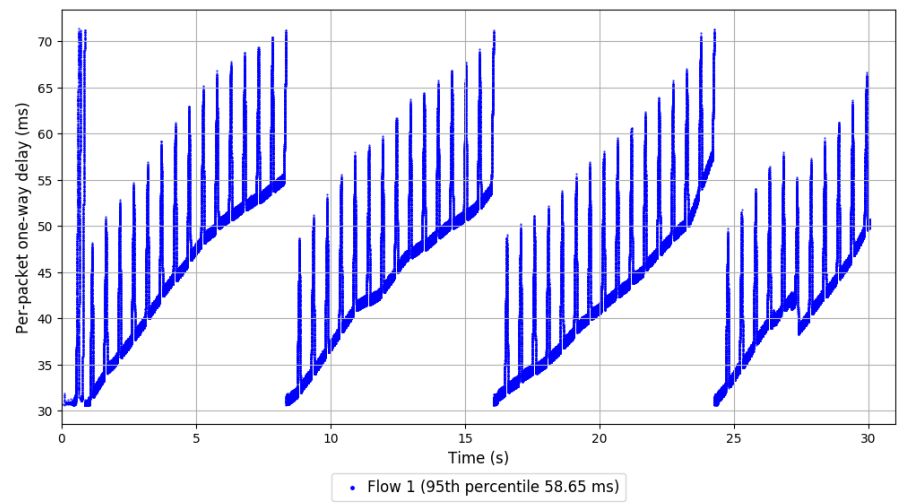
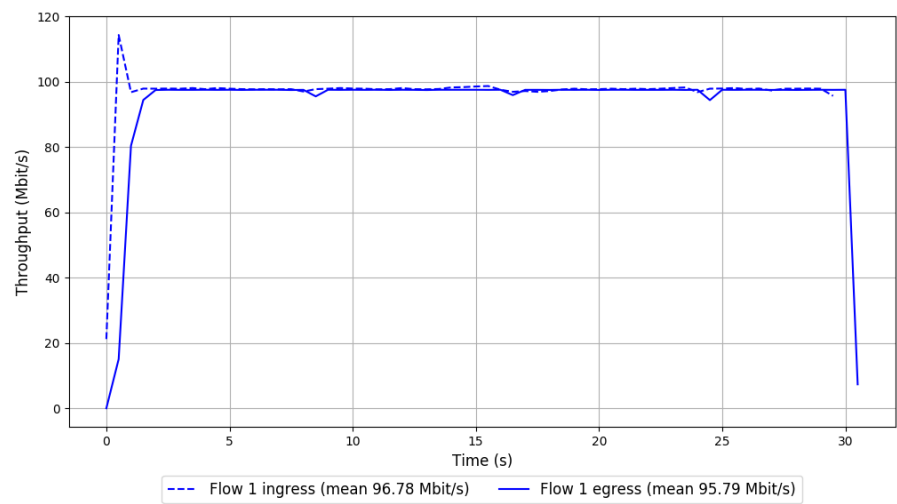
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.57	59.12	1.04
Copa	5	12.61	31.29	70.90
TCP Cubic	5	96.05	68.51	0.57
FillP	5	94.41	49.19	1.10
Indigo	5	95.32	35.21	0.00
Indigo-96d2da3	5	55.28	68.46	58.09
LEDBAT	5	70.25	57.78	0.00
Indigo-Muses	5	94.28	35.50	0.34
PCC-Allegro	5	91.59	36.75	0.70
PCC-Expr	5	12.94	30.88	42.93
QUIC Cubic	5	79.19	66.41	1.91
SCReAM	5	0.21	30.88	0.00
Sprout	5	11.78	36.42	0.05
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	80.97	37.82	0.50
Verus	5	58.19	66.36	23.47
PCC-Vivace	5	84.89	33.62	0.01
WebRTC media	5	1.93	31.38	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-02 07:31:41  
End at: 2018-10-02 07:32:11  
Local clock offset: -1.803 ms  
Remote clock offset: -4.195 ms

# Below is generated by plot.py at 2018-10-02 09:11:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.79 Mbit/s  
95th percentile per-packet one-way delay: 58.649 ms  
Loss rate: 0.95%  
-- Flow 1:  
Average throughput: 95.79 Mbit/s  
95th percentile per-packet one-way delay: 58.649 ms  
Loss rate: 0.95%

Run 1: Report of TCP BBR — Data Link

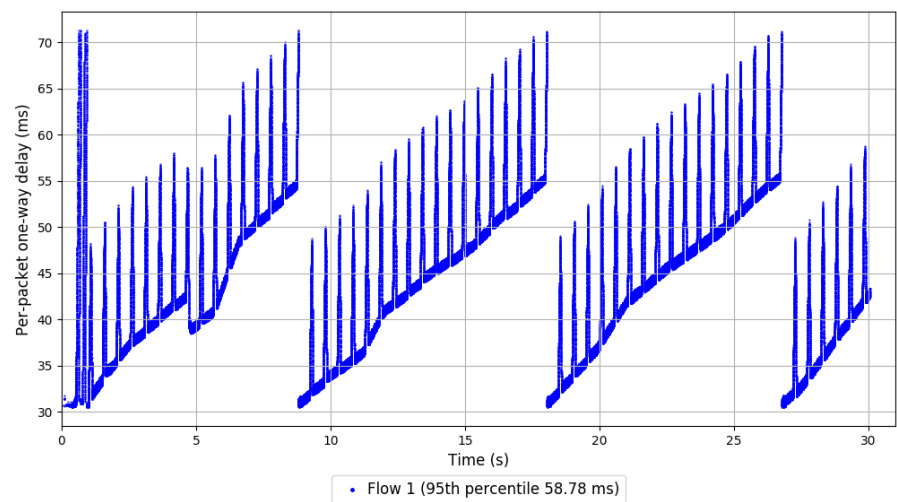
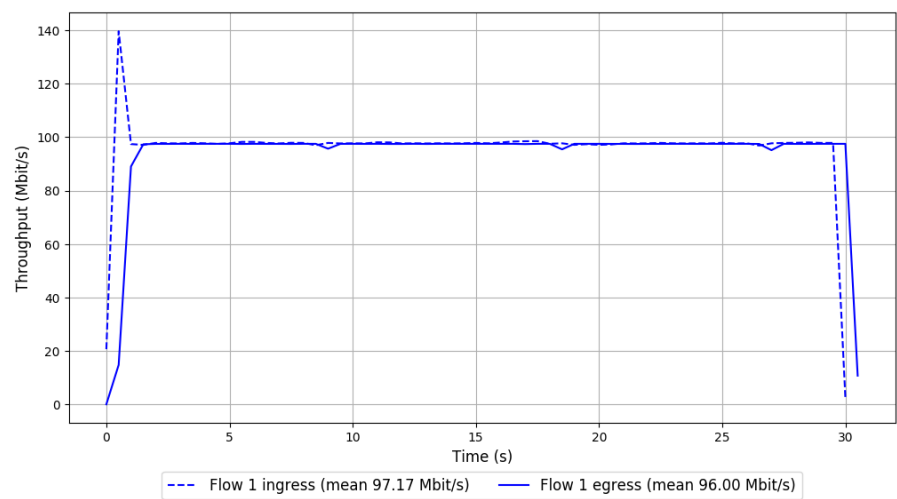


Run 2: Statistics of TCP BBR

Start at: 2018-10-02 07:55:14  
End at: 2018-10-02 07:55:44  
Local clock offset: -4.189 ms  
Remote clock offset: -4.507 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.00 Mbit/s  
95th percentile per-packet one-way delay: 58.781 ms  
Loss rate: 1.16%  
-- Flow 1:  
Average throughput: 96.00 Mbit/s  
95th percentile per-packet one-way delay: 58.781 ms  
Loss rate: 1.16%

Run 2: Report of TCP BBR — Data Link

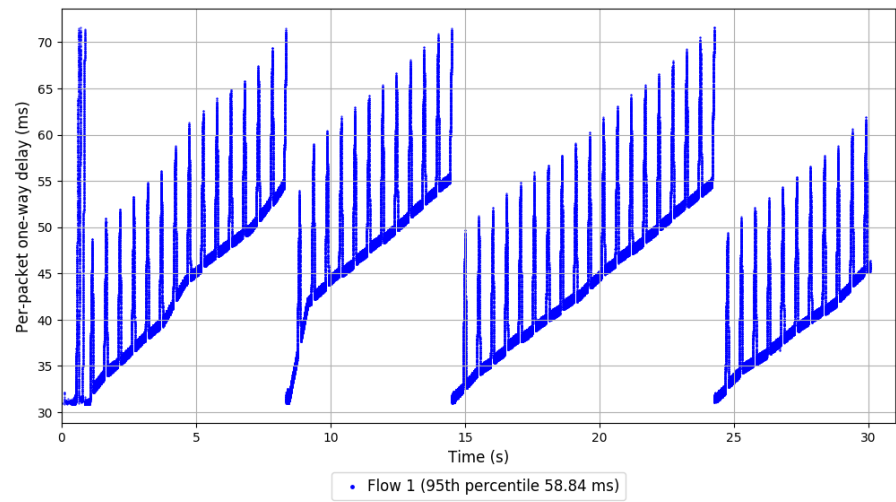
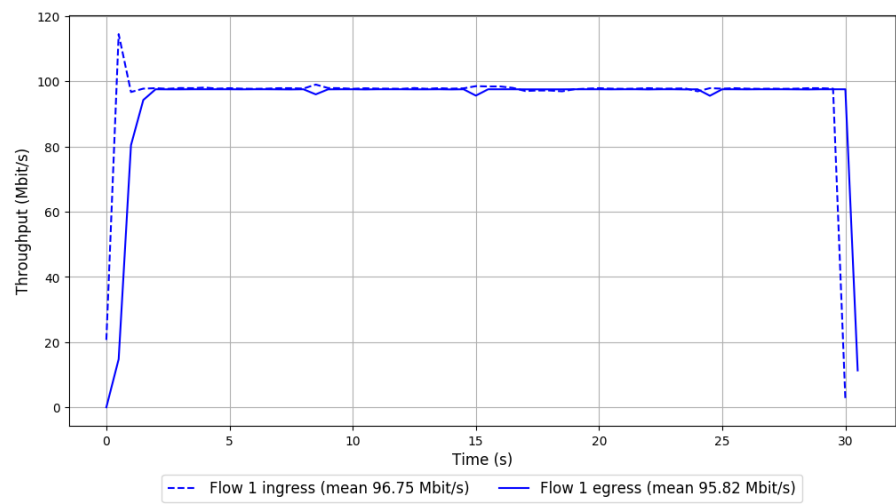


Run 3: Statistics of TCP BBR

Start at: 2018-10-02 08:18:44  
End at: 2018-10-02 08:19:14  
Local clock offset: -3.934 ms  
Remote clock offset: -3.905 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.82 Mbit/s  
95th percentile per-packet one-way delay: 58.835 ms  
Loss rate: 0.92%  
-- Flow 1:  
Average throughput: 95.82 Mbit/s  
95th percentile per-packet one-way delay: 58.835 ms  
Loss rate: 0.92%

Run 3: Report of TCP BBR — Data Link

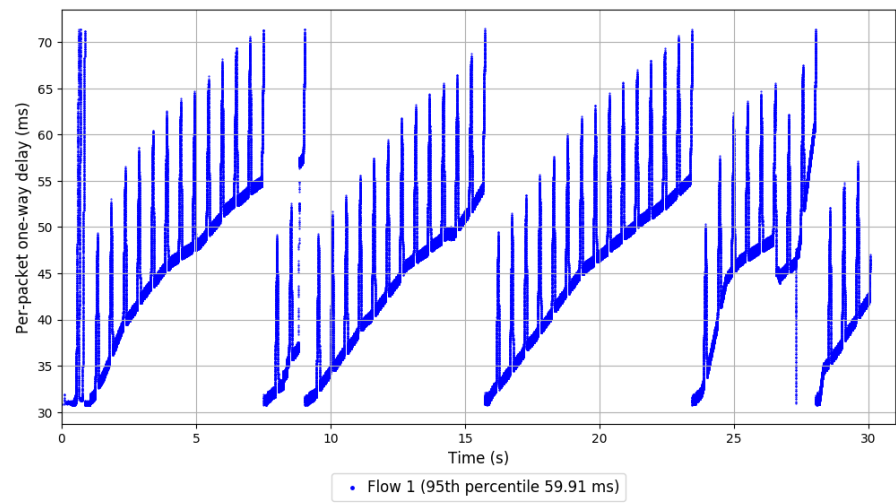
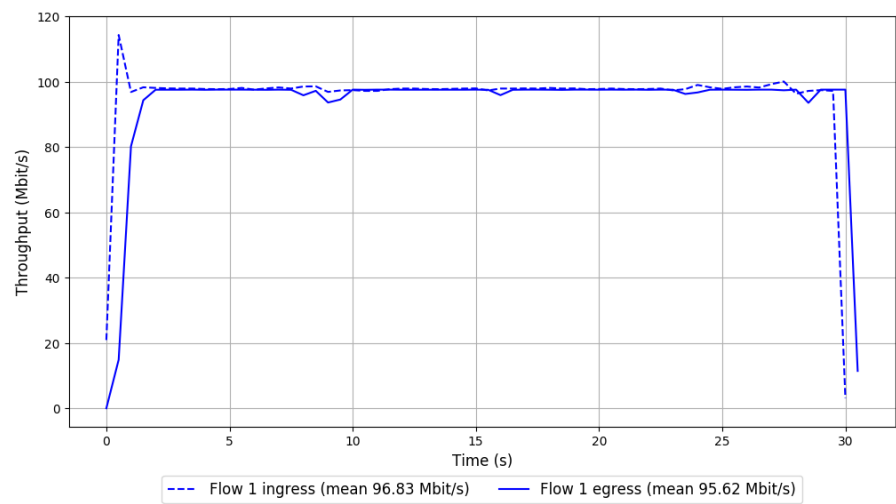


Run 4: Statistics of TCP BBR

Start at: 2018-10-02 08:42:17  
End at: 2018-10-02 08:42:47  
Local clock offset: 0.869 ms  
Remote clock offset: -3.892 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.62 Mbit/s  
95th percentile per-packet one-way delay: 59.907 ms  
Loss rate: 1.20%  
-- Flow 1:  
Average throughput: 95.62 Mbit/s  
95th percentile per-packet one-way delay: 59.907 ms  
Loss rate: 1.20%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-02 09:05:51

End at: 2018-10-02 09:06:21

Local clock offset: 4.174 ms

Remote clock offset: -4.32 ms

# Below is generated by plot.py at 2018-10-02 09:11:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.62 Mbit/s

95th percentile per-packet one-way delay: 59.437 ms

Loss rate: 0.96%

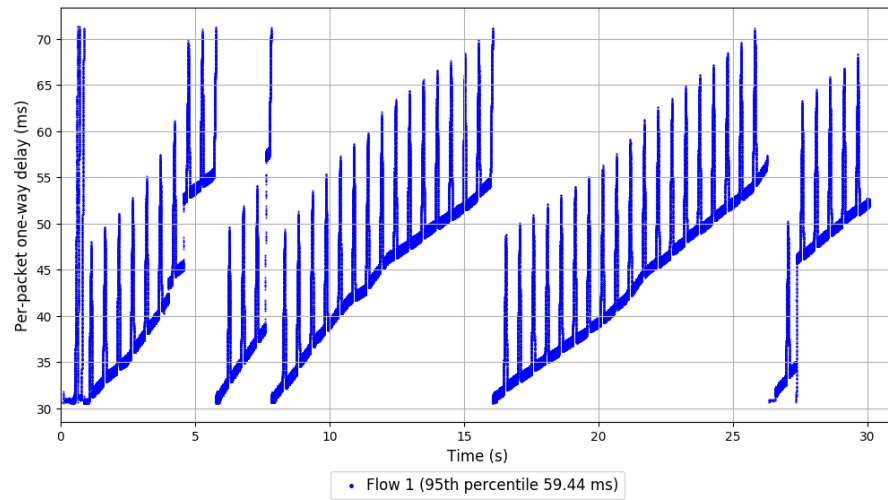
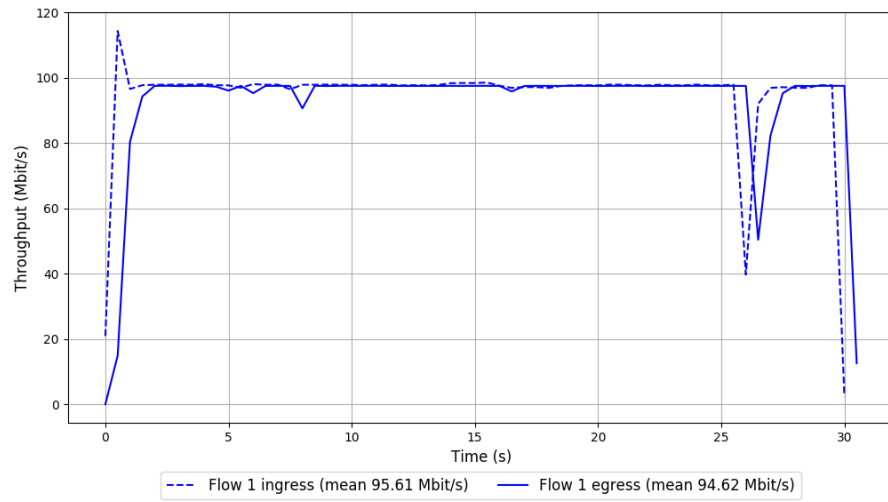
-- Flow 1:

Average throughput: 94.62 Mbit/s

95th percentile per-packet one-way delay: 59.437 ms

Loss rate: 0.96%

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

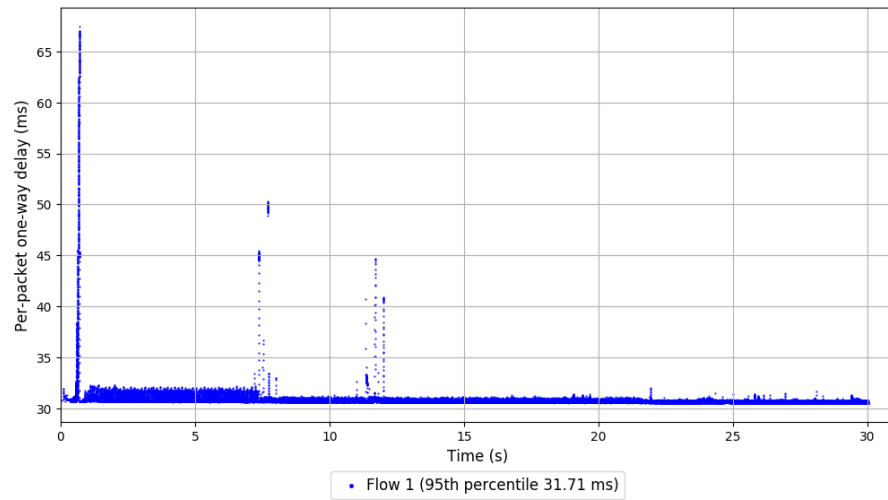
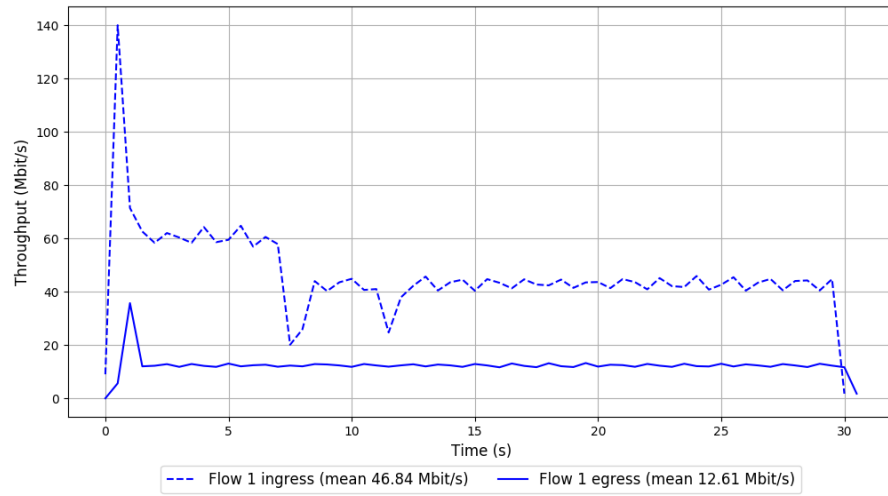


Run 1: Statistics of Copa

Start at: 2018-10-02 07:22:30  
End at: 2018-10-02 07:23:00  
Local clock offset: 0.524 ms  
Remote clock offset: -4.011 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.711 ms  
Loss rate: 73.07%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.711 ms  
Loss rate: 73.07%

## Run 1: Report of Copa — Data Link

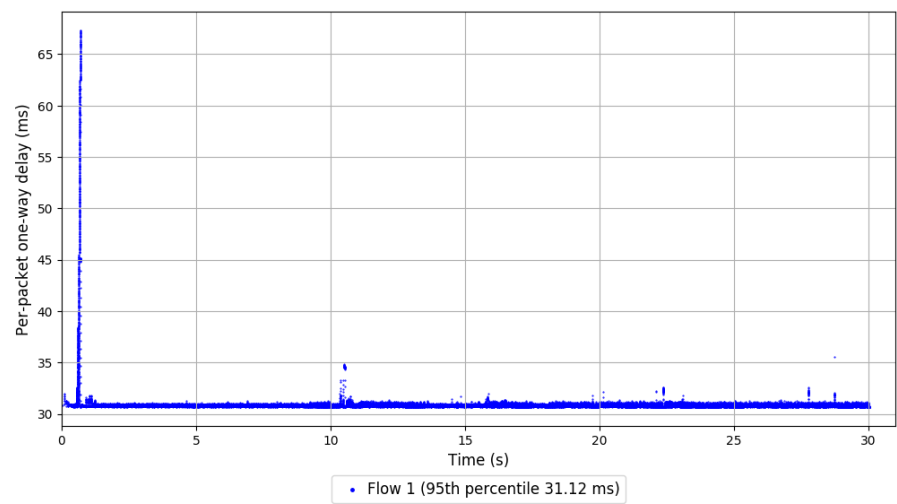
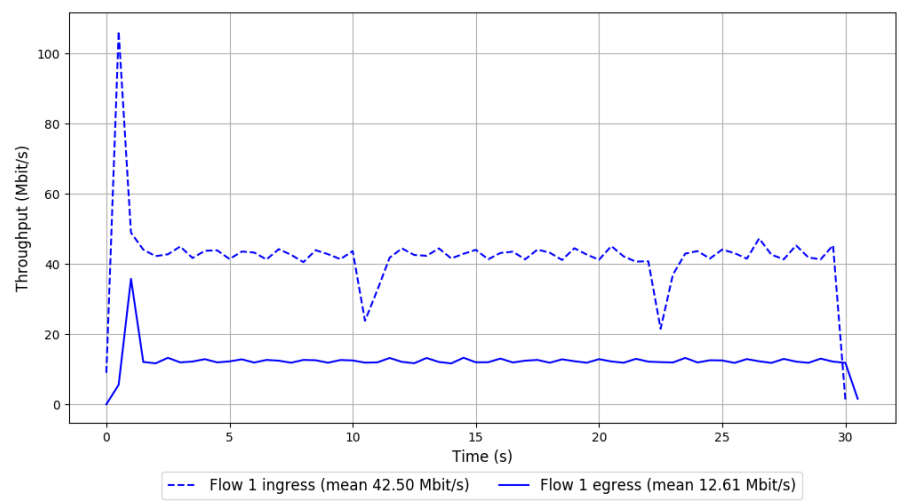


Run 2: Statistics of Copa

Start at: 2018-10-02 07:46:02  
End at: 2018-10-02 07:46:32  
Local clock offset: -3.448 ms  
Remote clock offset: -4.275 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.124 ms  
Loss rate: 70.33%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.124 ms  
Loss rate: 70.33%

Run 2: Report of Copa — Data Link

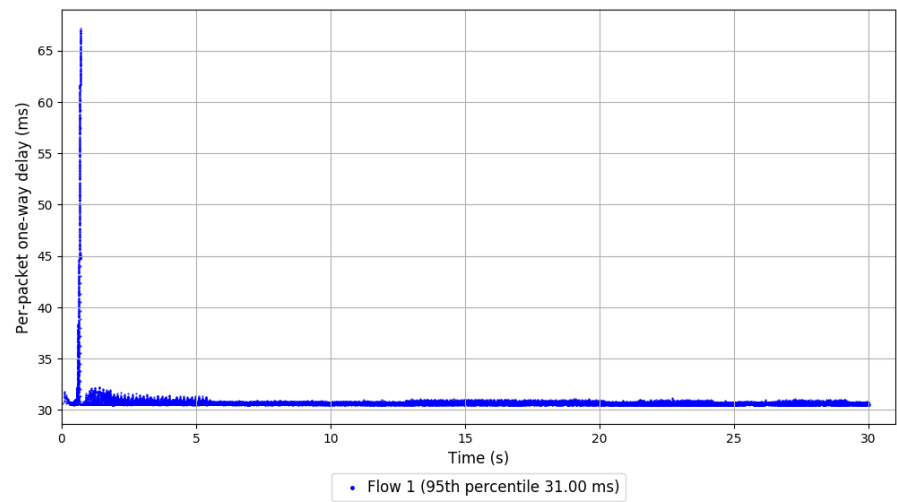
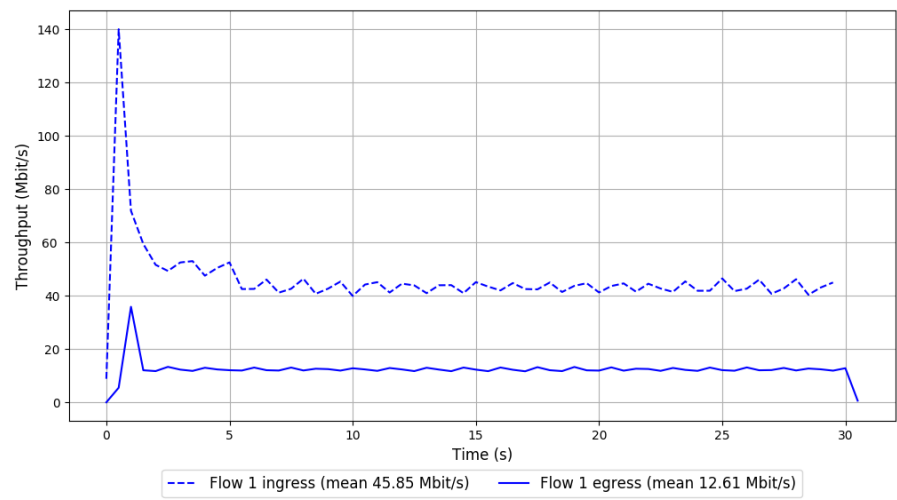


Run 3: Statistics of Copa

Start at: 2018-10-02 08:09:34  
End at: 2018-10-02 08:10:04  
Local clock offset: -5.19 ms  
Remote clock offset: -4.136 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.003 ms  
Loss rate: 72.49%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.003 ms  
Loss rate: 72.49%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-10-02 08:33:06

End at: 2018-10-02 08:33:36

Local clock offset: 0.004 ms

Remote clock offset: -3.6 ms

# Below is generated by plot.py at 2018-10-02 09:11:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.61 Mbit/s

95th percentile per-packet one-way delay: 31.232 ms

Loss rate: 70.54%

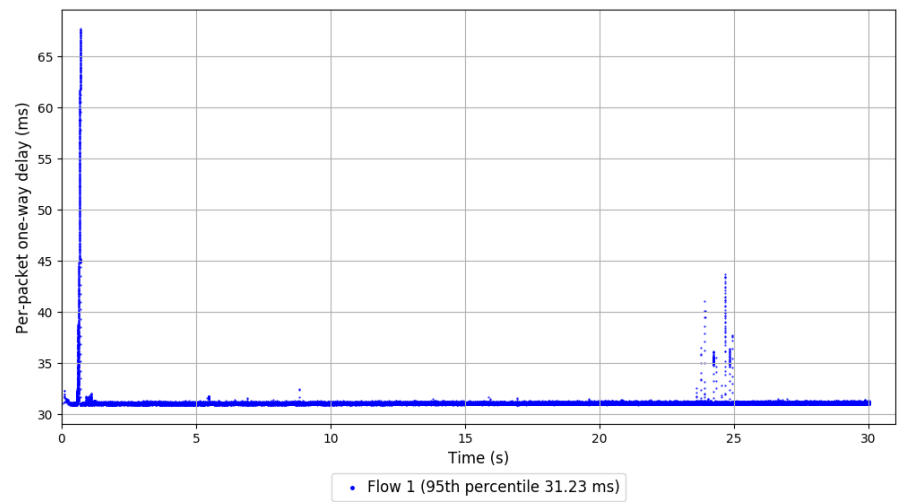
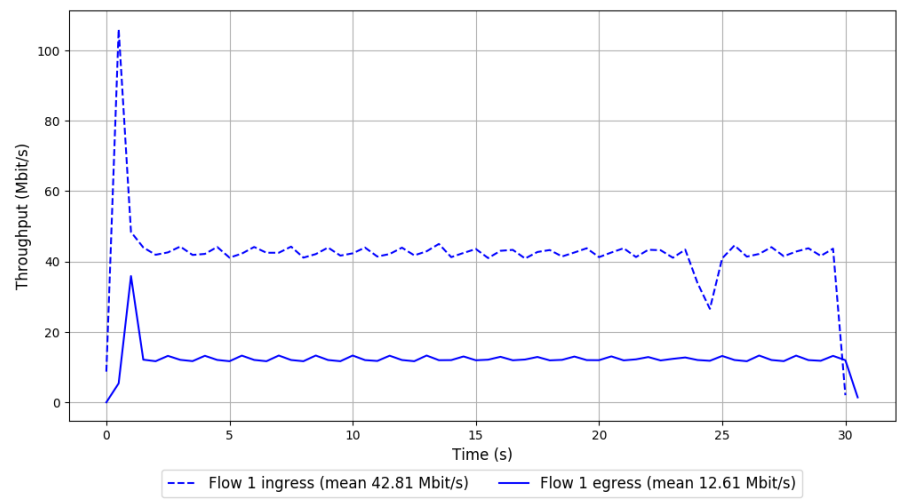
-- Flow 1:

Average throughput: 12.61 Mbit/s

95th percentile per-packet one-way delay: 31.232 ms

Loss rate: 70.54%

Run 4: Report of Copa — Data Link

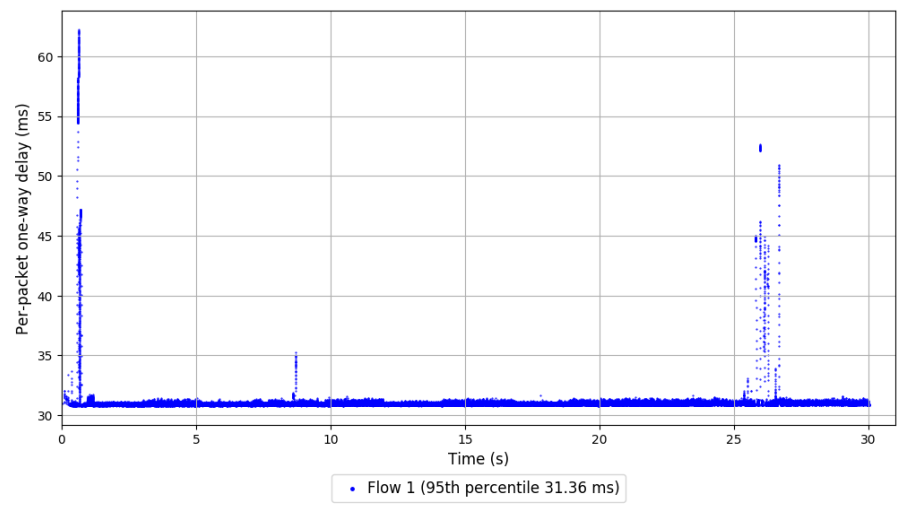
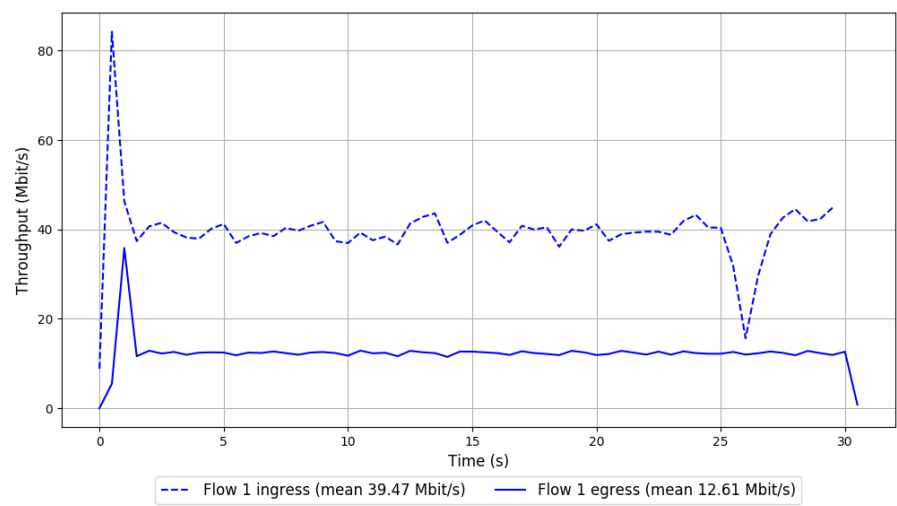


Run 5: Statistics of Copa

Start at: 2018-10-02 08:56:39  
End at: 2018-10-02 08:57:09  
Local clock offset: 3.215 ms  
Remote clock offset: -4.035 ms

# Below is generated by plot.py at 2018-10-02 09:11:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.360 ms  
Loss rate: 68.05%  
-- Flow 1:  
Average throughput: 12.61 Mbit/s  
95th percentile per-packet one-way delay: 31.360 ms  
Loss rate: 68.05%

Run 5: Report of Copa — Data Link

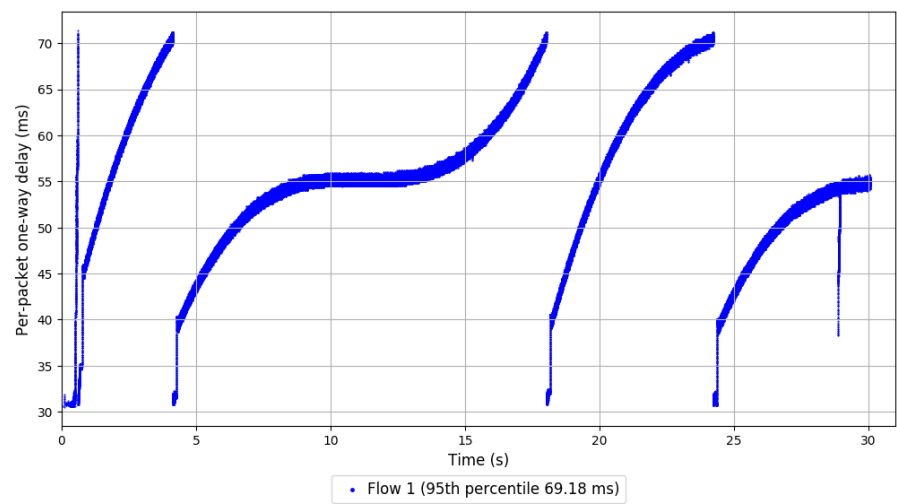
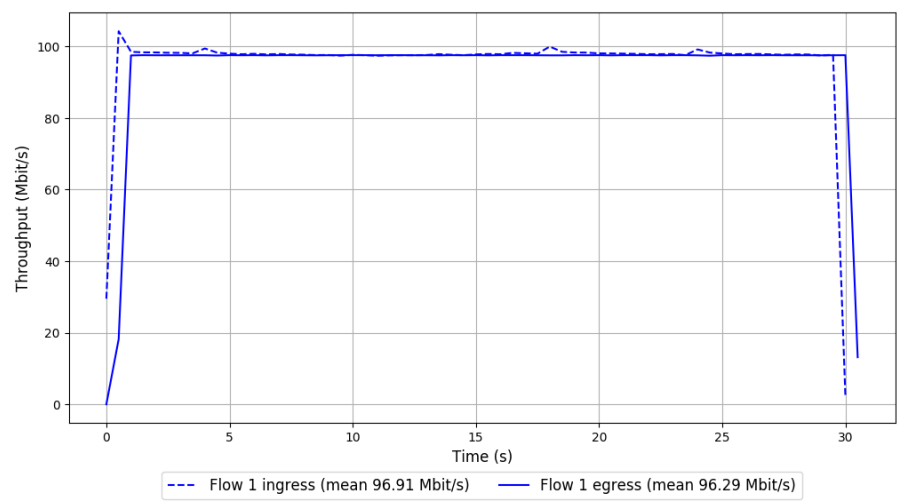


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 07:34:22  
End at: 2018-10-02 07:34:52  
Local clock offset: -2.215 ms  
Remote clock offset: -4.201 ms

# Below is generated by plot.py at 2018-10-02 09:11:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 69.182 ms  
Loss rate: 0.55%  
-- Flow 1:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 69.182 ms  
Loss rate: 0.55%

Run 1: Report of TCP Cubic — Data Link

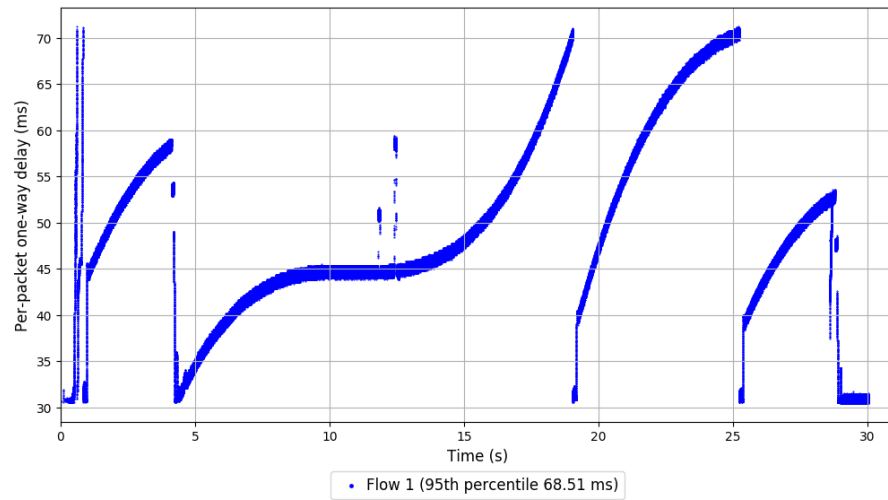
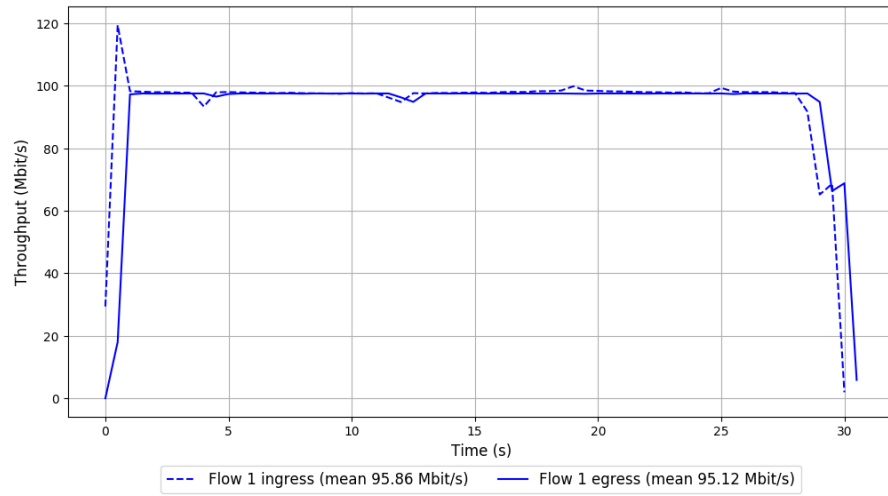


Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 07:57:54  
End at: 2018-10-02 07:58:24  
Local clock offset: -4.385 ms  
Remote clock offset: -4.488 ms

# Below is generated by plot.py at 2018-10-02 09:11:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.12 Mbit/s  
95th percentile per-packet one-way delay: 68.513 ms  
Loss rate: 0.77%  
-- Flow 1:  
Average throughput: 95.12 Mbit/s  
95th percentile per-packet one-way delay: 68.513 ms  
Loss rate: 0.77%

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

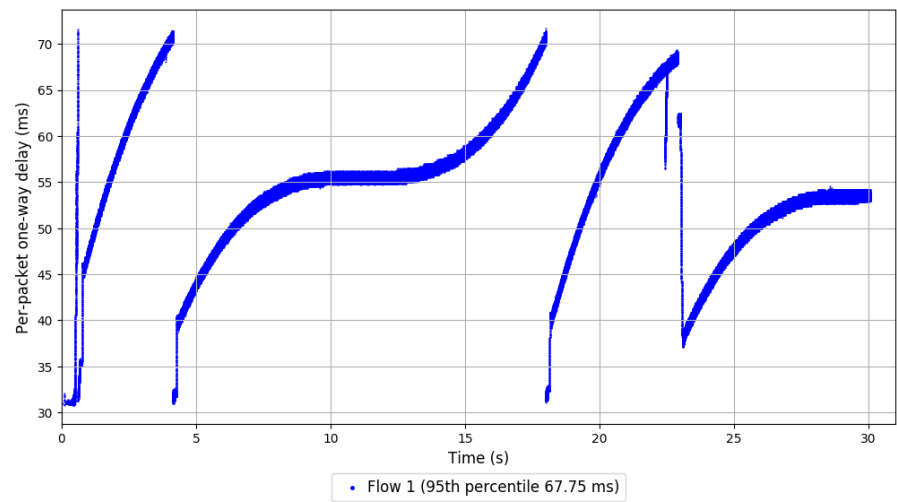
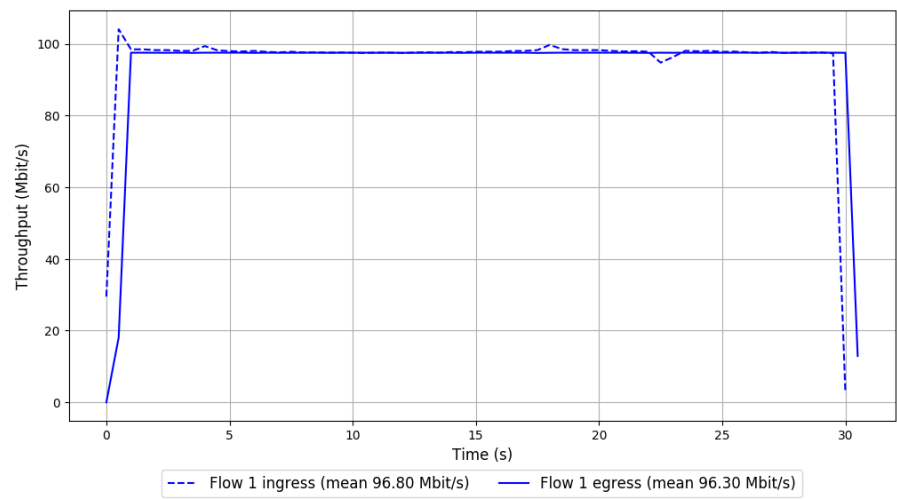


Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 08:21:25  
End at: 2018-10-02 08:21:55  
Local clock offset: -2.685 ms  
Remote clock offset: -3.742 ms

# Below is generated by plot.py at 2018-10-02 09:11:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 67.748 ms  
Loss rate: 0.44%  
-- Flow 1:  
Average throughput: 96.30 Mbit/s  
95th percentile per-packet one-way delay: 67.748 ms  
Loss rate: 0.44%

Run 3: Report of TCP Cubic — Data Link

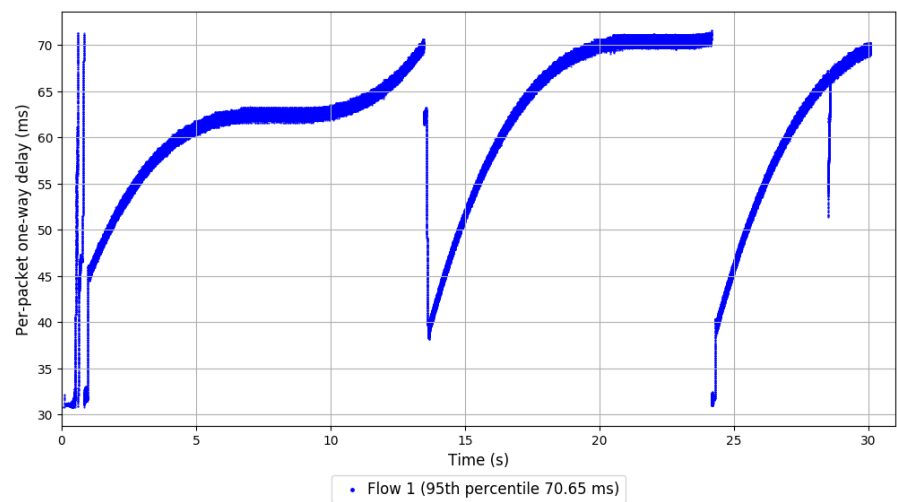
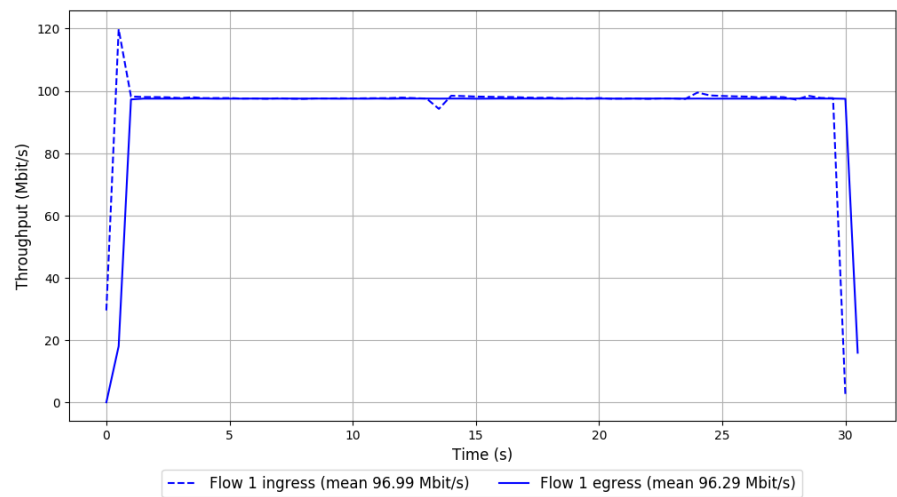


Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 08:44:58  
End at: 2018-10-02 08:45:28  
Local clock offset: 1.059 ms  
Remote clock offset: -3.786 ms

# Below is generated by plot.py at 2018-10-02 09:12:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 70.654 ms  
Loss rate: 0.59%  
-- Flow 1:  
Average throughput: 96.29 Mbit/s  
95th percentile per-packet one-way delay: 70.654 ms  
Loss rate: 0.59%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 09:08:32

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

Local clock offset: 4.4 ms

Remote clock offset: -4.167 ms

# Below is generated by plot.py at 2018-10-02 09:12:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 66.448 ms

Loss rate: 0.48%

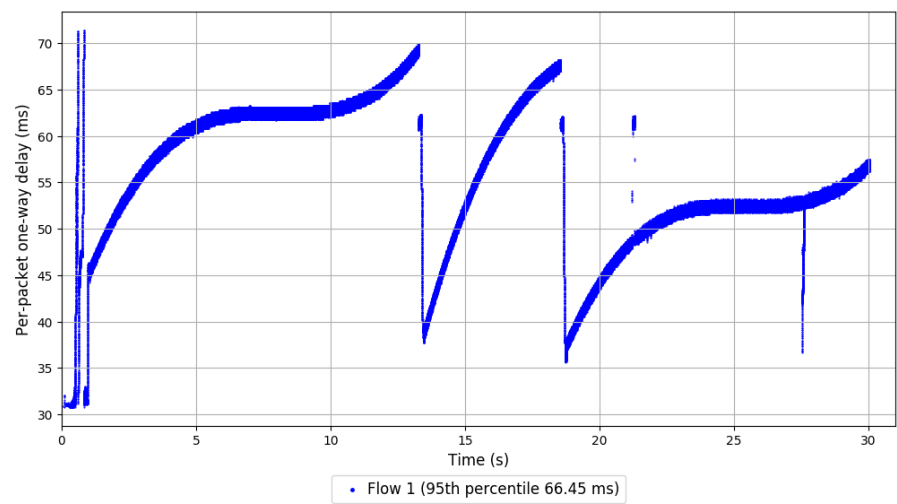
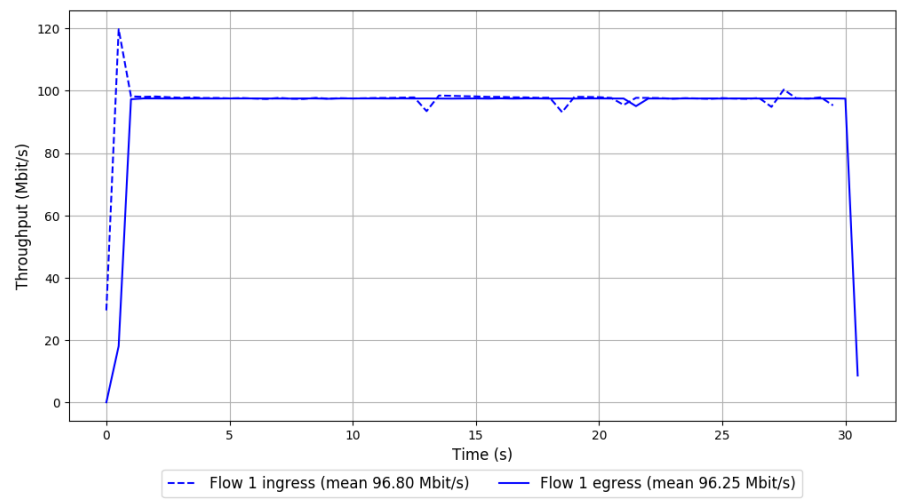
-- Flow 1:

Average throughput: 96.25 Mbit/s

95th percentile per-packet one-way delay: 66.448 ms

Loss rate: 0.48%

Run 5: Report of TCP Cubic — Data Link

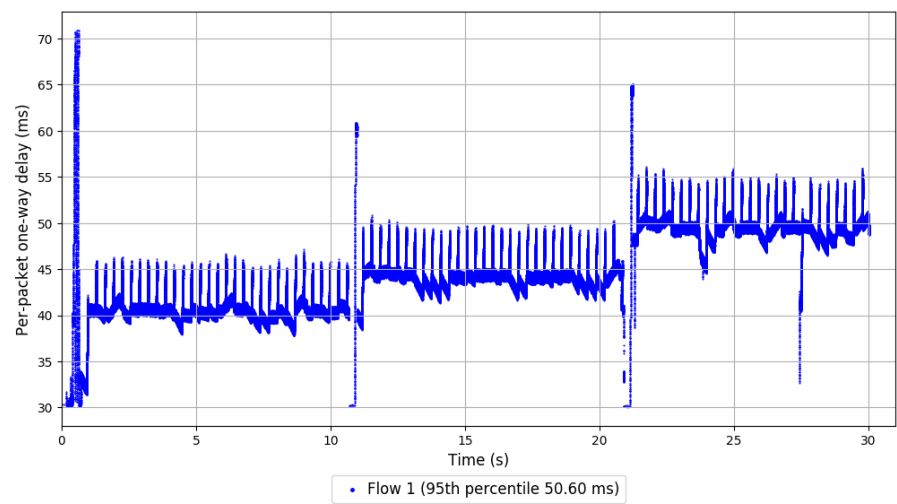
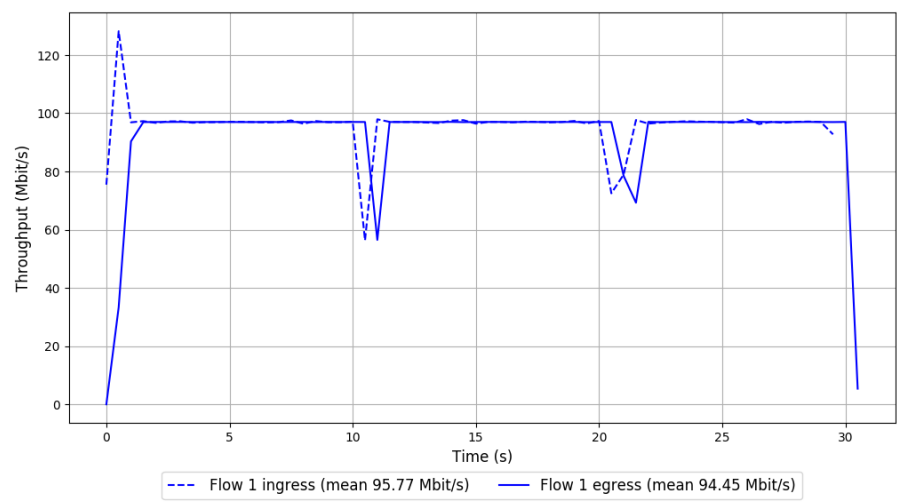


Run 1: Statistics of FillP

Start at: 2018-10-02 07:19:55  
End at: 2018-10-02 07:20:25  
Local clock offset: 1.665 ms  
Remote clock offset: -4.282 ms

# Below is generated by plot.py at 2018-10-02 09:12:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.45 Mbit/s  
95th percentile per-packet one-way delay: 50.605 ms  
Loss rate: 1.31%  
-- Flow 1:  
Average throughput: 94.45 Mbit/s  
95th percentile per-packet one-way delay: 50.605 ms  
Loss rate: 1.31%

Run 1: Report of FillP — Data Link

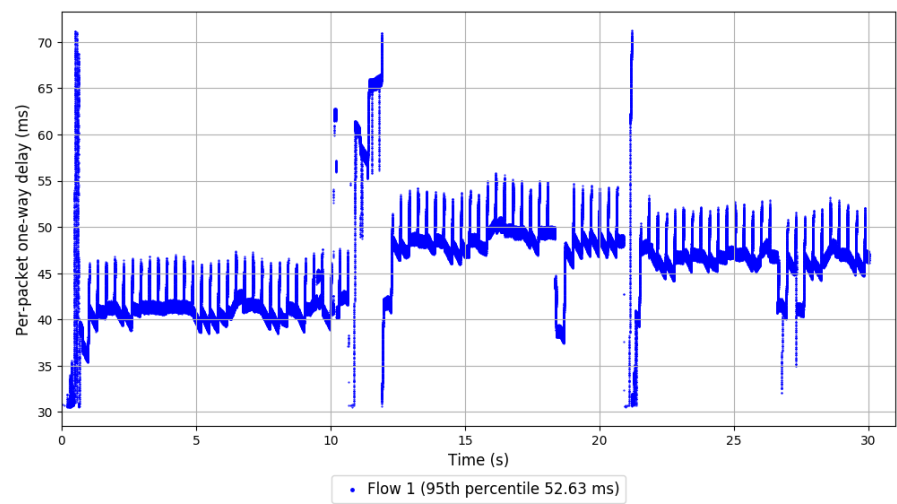
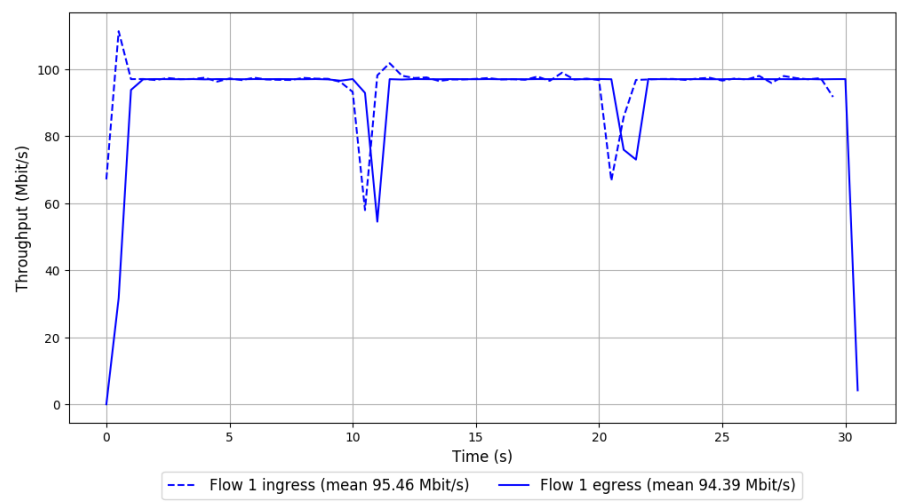


Run 2: Statistics of FillP

Start at: 2018-10-02 07:43:27  
End at: 2018-10-02 07:43:57  
Local clock offset: -3.213 ms  
Remote clock offset: -4.257 ms

# Below is generated by plot.py at 2018-10-02 09:12:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.39 Mbit/s  
95th percentile per-packet one-way delay: 52.627 ms  
Loss rate: 1.07%  
-- Flow 1:  
Average throughput: 94.39 Mbit/s  
95th percentile per-packet one-way delay: 52.627 ms  
Loss rate: 1.07%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-02 08:07:00

End at: 2018-10-02 08:07:30

Local clock offset: -5.017 ms

Remote clock offset: -4.06 ms

# Below is generated by plot.py at 2018-10-02 09:12:50

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 46.983 ms

Loss rate: 1.23%

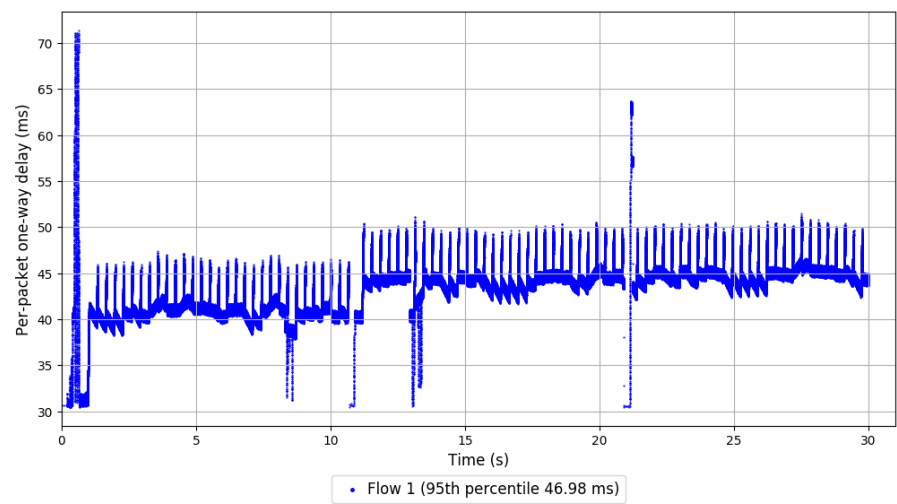
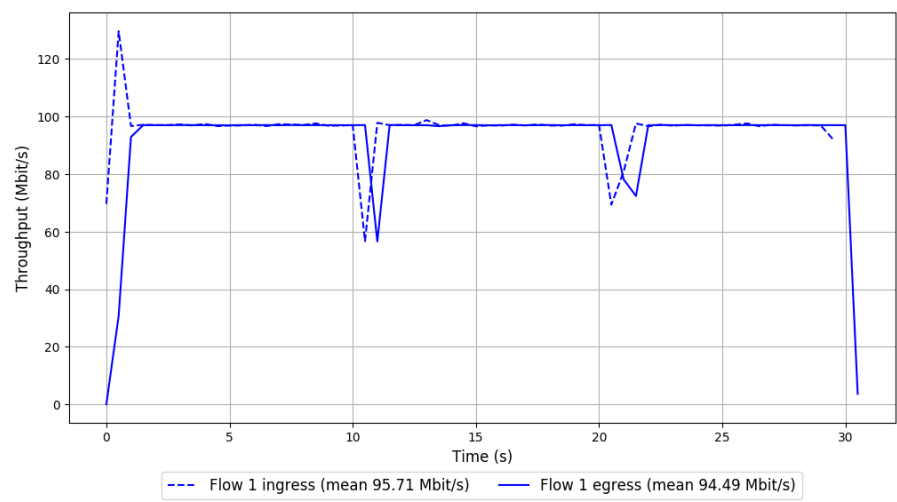
-- Flow 1:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 46.983 ms

Loss rate: 1.23%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-10-02 08:30:31

End at: 2018-10-02 08:31:01

Local clock offset: -0.376 ms

Remote clock offset: -3.72 ms

# Below is generated by plot.py at 2018-10-02 09:13:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.37 Mbit/s

95th percentile per-packet one-way delay: 47.759 ms

Loss rate: 0.86%

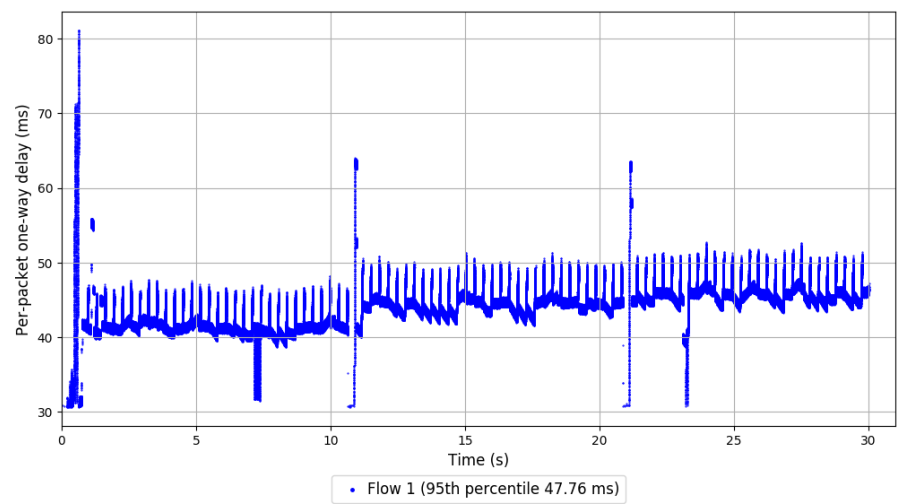
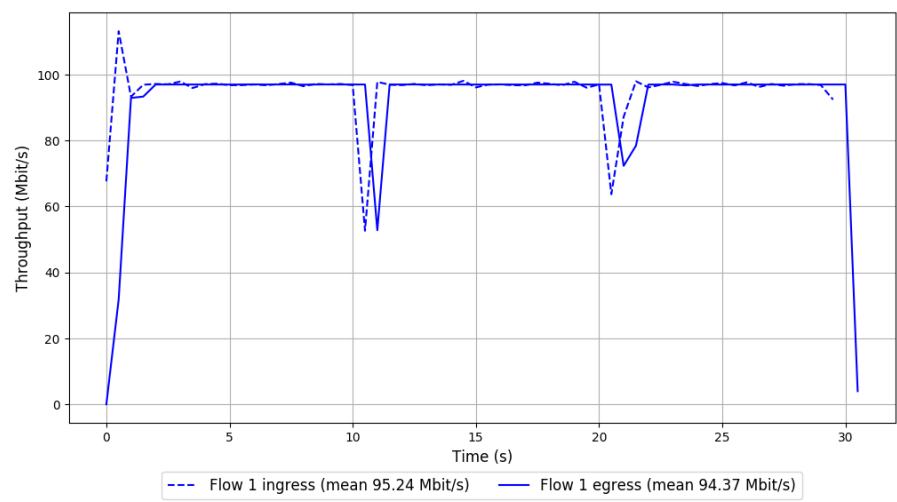
-- Flow 1:

Average throughput: 94.37 Mbit/s

95th percentile per-packet one-way delay: 47.759 ms

Loss rate: 0.86%

Run 4: Report of FillP — Data Link

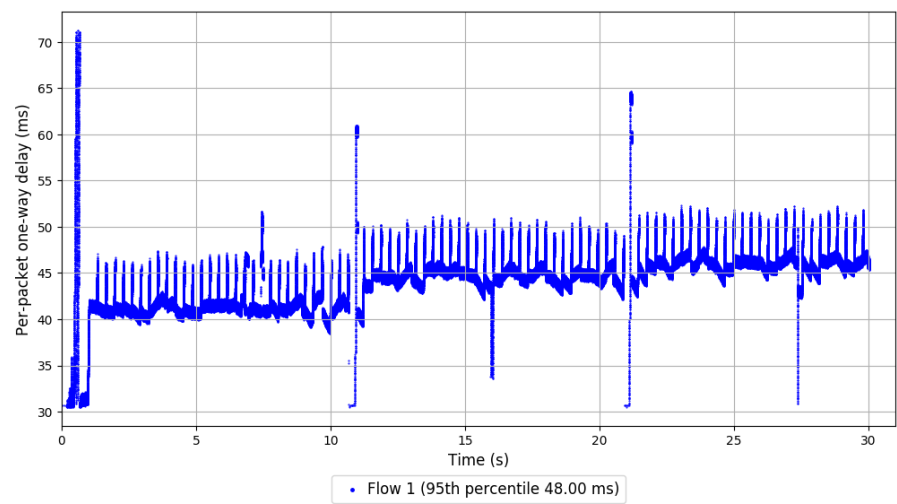
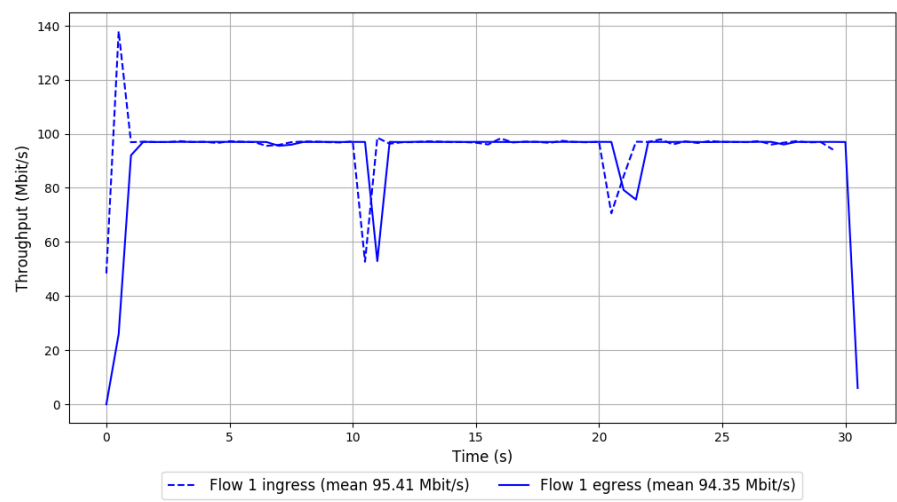


Run 5: Statistics of FillP

Start at: 2018-10-02 08:54:04  
End at: 2018-10-02 08:54:34  
Local clock offset: 2.808 ms  
Remote clock offset: -4.212 ms

# Below is generated by plot.py at 2018-10-02 09:13:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.35 Mbit/s  
95th percentile per-packet one-way delay: 47.996 ms  
Loss rate: 1.05%  
-- Flow 1:  
Average throughput: 94.35 Mbit/s  
95th percentile per-packet one-way delay: 47.996 ms  
Loss rate: 1.05%

Run 5: Report of FillP — Data Link

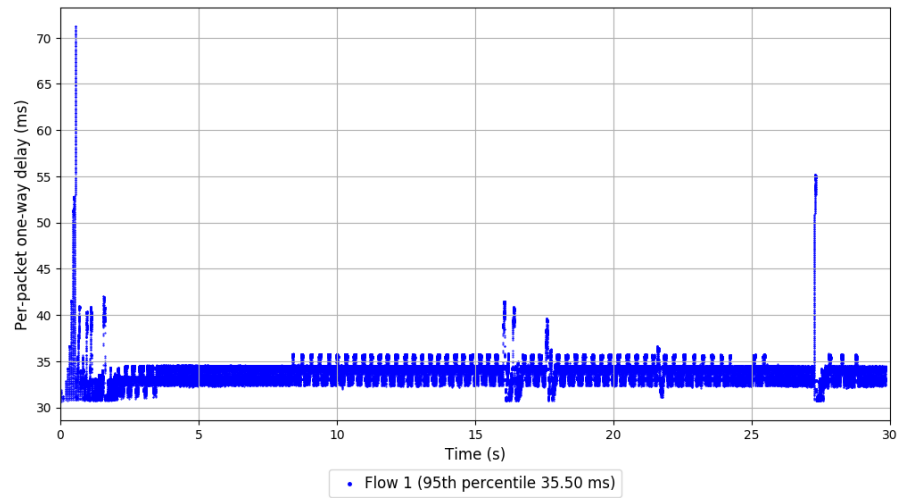
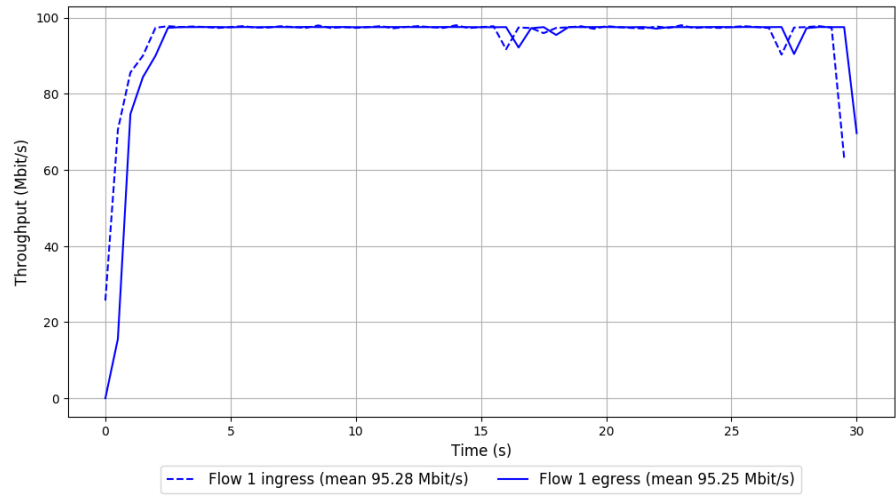


```
Run 1: Statistics of Indigo

Start at: 2018-10-02 07:29:01
End at: 2018-10-02 07:29:31
Local clock offset: -1.286 ms
Remote clock offset: -4.026 ms

# Below is generated by plot.py at 2018-10-02 09:13:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 35.500 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 35.500 ms
Loss rate: 0.02%
```

## Run 1: Report of Indigo — Data Link

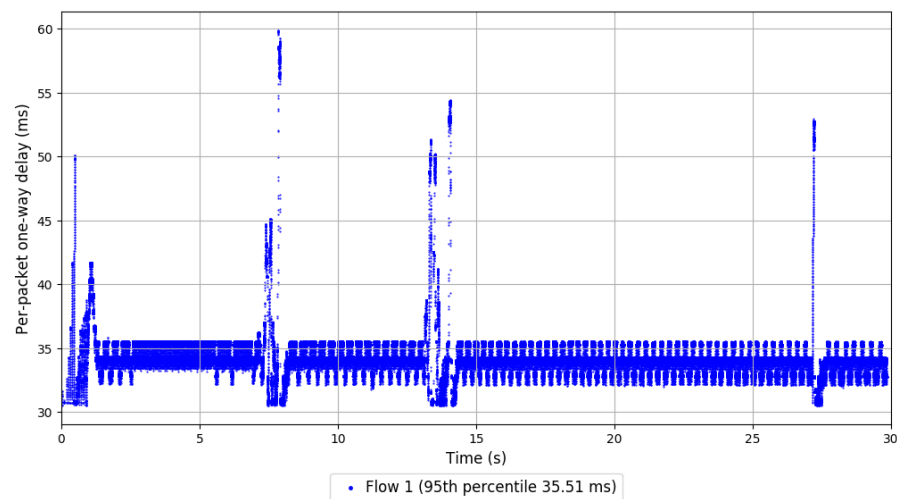
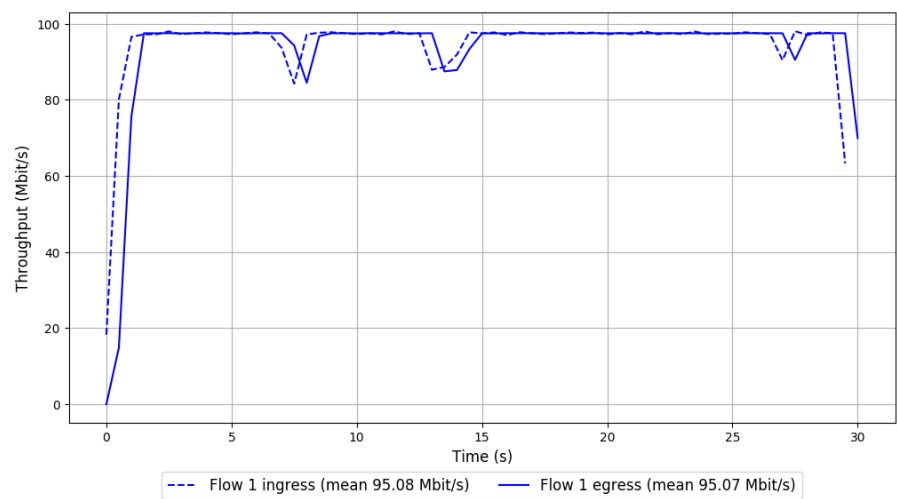


Run 2: Statistics of Indigo

Start at: 2018-10-02 07:52:34  
End at: 2018-10-02 07:53:04  
Local clock offset: -3.969 ms  
Remote clock offset: -4.501 ms

# Below is generated by plot.py at 2018-10-02 09:13:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.07 Mbit/s  
95th percentile per-packet one-way delay: 35.509 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 95.07 Mbit/s  
95th percentile per-packet one-way delay: 35.509 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

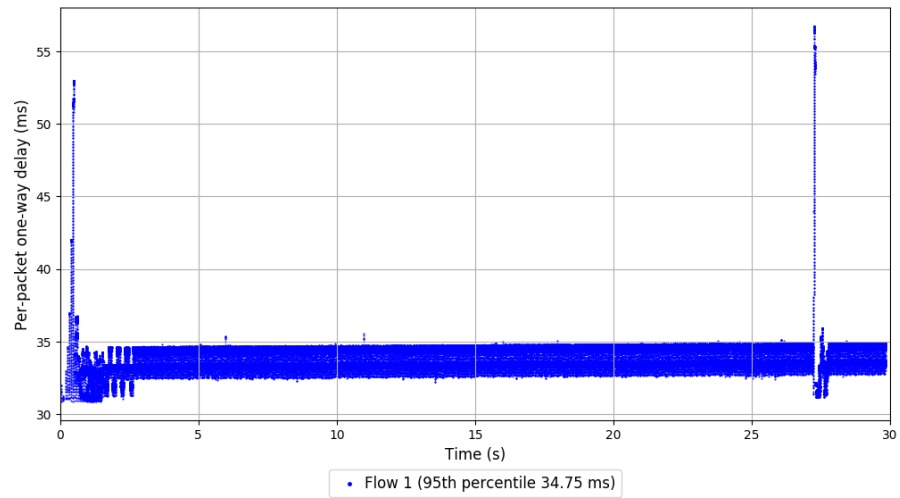
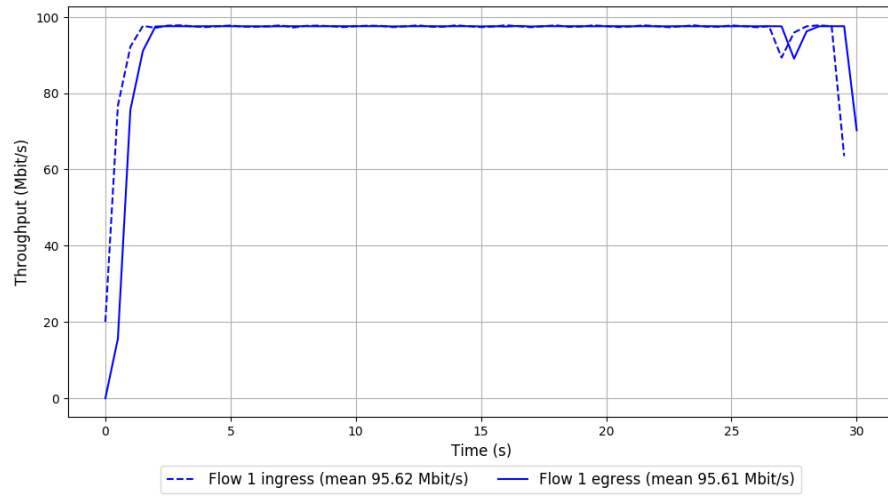


Run 3: Statistics of Indigo

Start at: 2018-10-02 08:16:04  
End at: 2018-10-02 08:16:34  
Local clock offset: -5.507 ms  
Remote clock offset: -3.955 ms

# Below is generated by plot.py at 2018-10-02 09:13:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.61 Mbit/s  
95th percentile per-packet one-way delay: 34.752 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 95.61 Mbit/s  
95th percentile per-packet one-way delay: 34.752 ms  
Loss rate: 0.00%

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

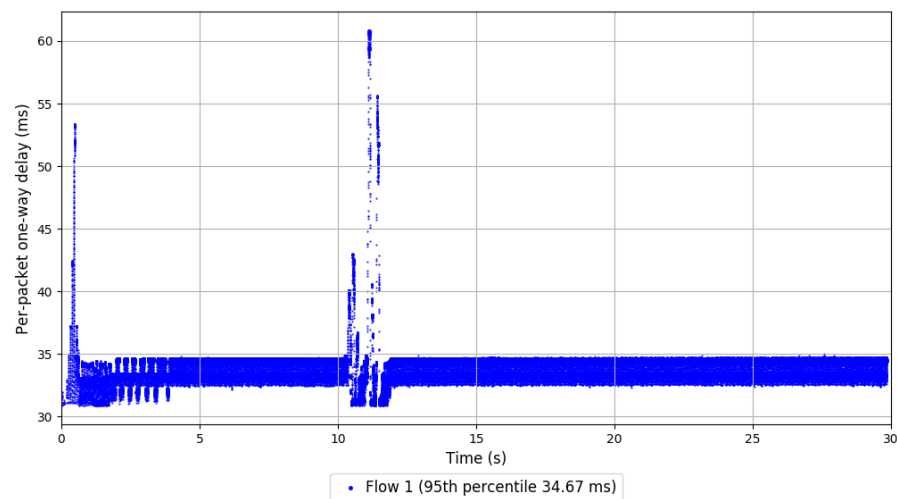
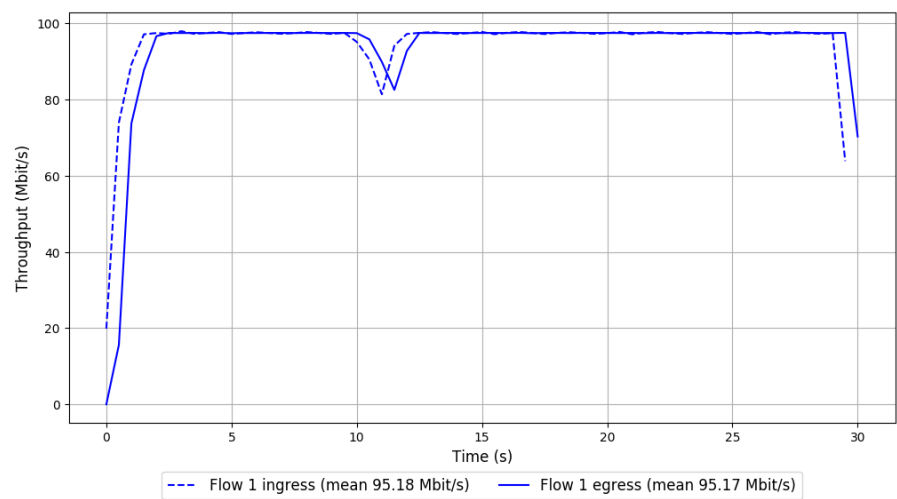


Run 4: Statistics of Indigo

Start at: 2018-10-02 08:39:37  
End at: 2018-10-02 08:40:07  
Local clock offset: 0.677 ms  
Remote clock offset: -3.685 ms

# Below is generated by plot.py at 2018-10-02 09:13:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.17 Mbit/s  
95th percentile per-packet one-way delay: 34.671 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 95.17 Mbit/s  
95th percentile per-packet one-way delay: 34.671 ms  
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

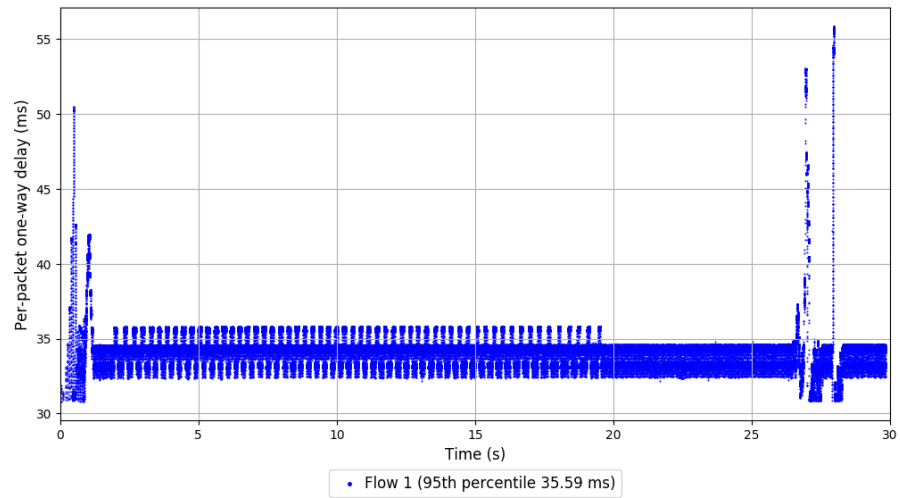
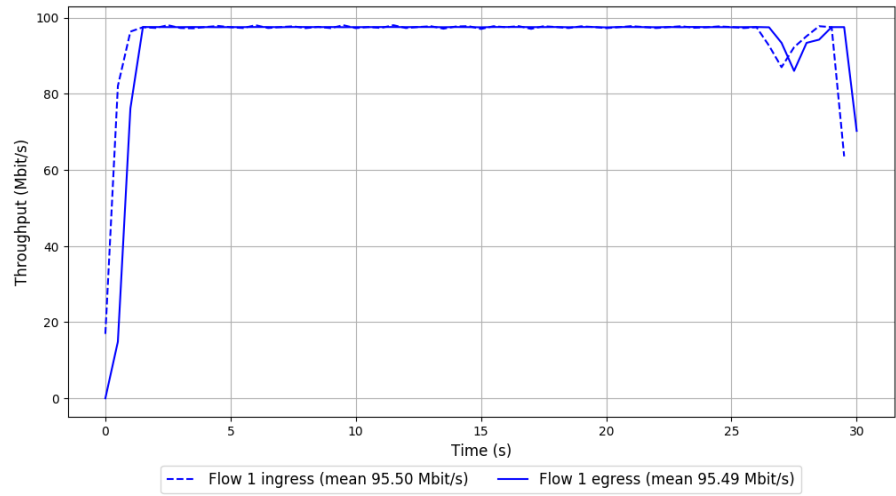


Run 5: Statistics of Indigo

Start at: 2018-10-02 09:03:11  
End at: 2018-10-02 09:03:41  
Local clock offset: 3.922 ms  
Remote clock offset: -4.139 ms

# Below is generated by plot.py at 2018-10-02 09:13:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.49 Mbit/s  
95th percentile per-packet one-way delay: 35.594 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 95.49 Mbit/s  
95th percentile per-packet one-way delay: 35.594 ms  
Loss rate: 0.00%

## Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 07:18:36

End at: 2018-10-02 07:19:06

Local clock offset: 2.341 ms

Remote clock offset: -4.323 ms

# Below is generated by plot.py at 2018-10-02 09:13:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 50.33 Mbit/s

95th percentile per-packet one-way delay: 68.038 ms

Loss rate: 57.68%

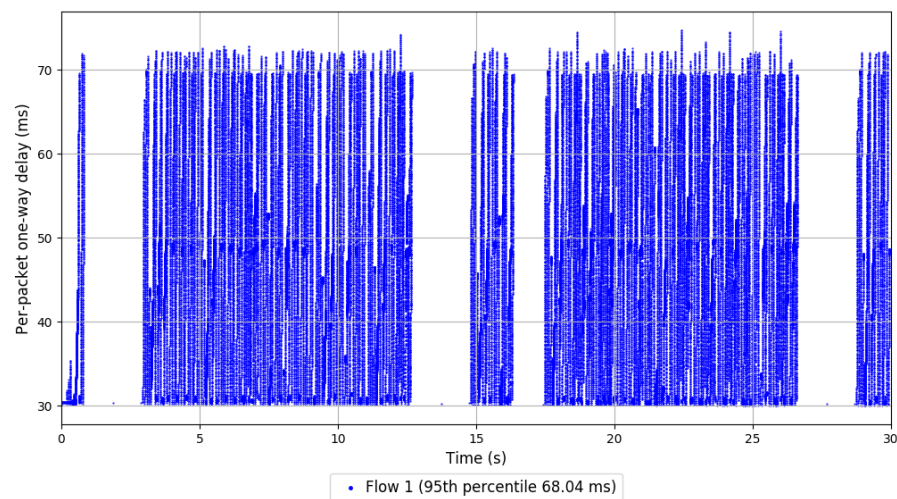
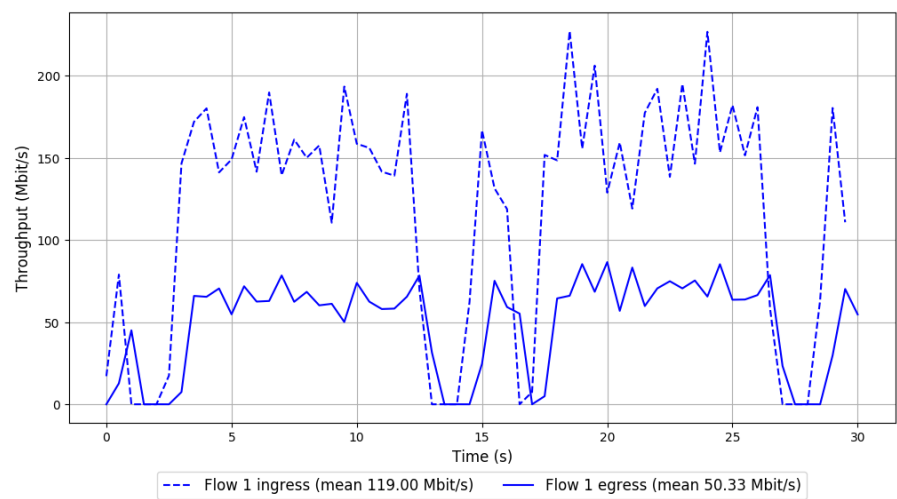
-- Flow 1:

Average throughput: 50.33 Mbit/s

95th percentile per-packet one-way delay: 68.038 ms

Loss rate: 57.68%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 07:42:08

End at: 2018-10-02 07:42:38

Local clock offset: -3.097 ms

Remote clock offset: -4.28 ms

# Below is generated by plot.py at 2018-10-02 09:14:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 54.57 Mbit/s

95th percentile per-packet one-way delay: 68.502 ms

Loss rate: 58.30%

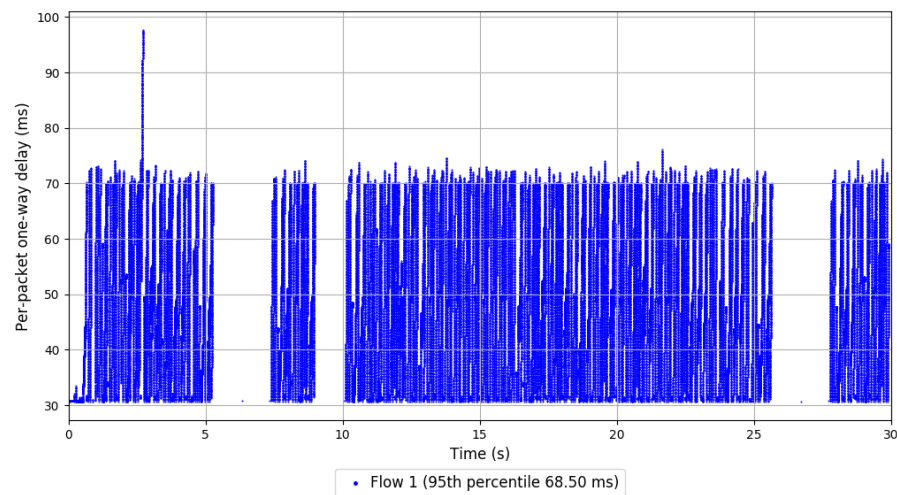
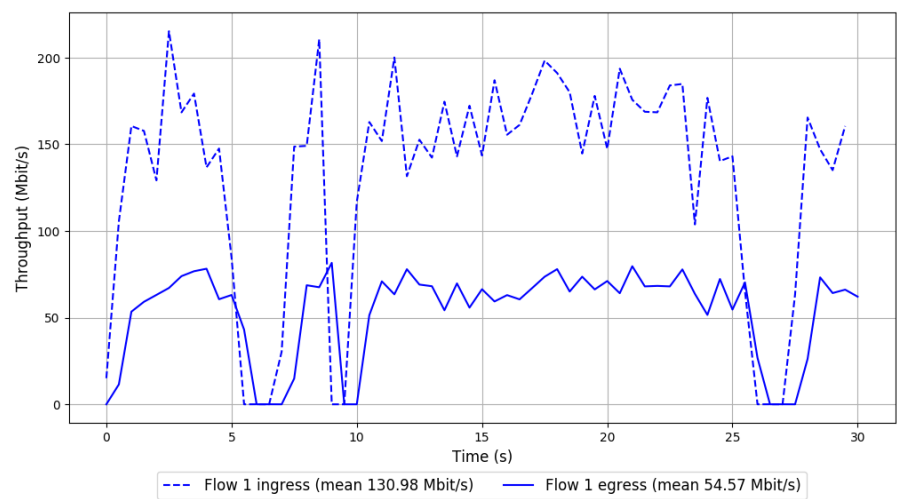
-- Flow 1:

Average throughput: 54.57 Mbit/s

95th percentile per-packet one-way delay: 68.502 ms

Loss rate: 58.30%

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

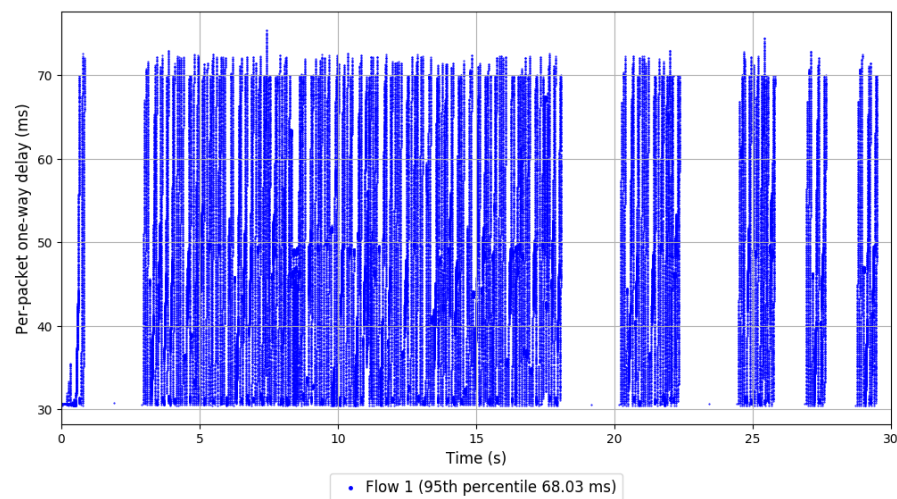
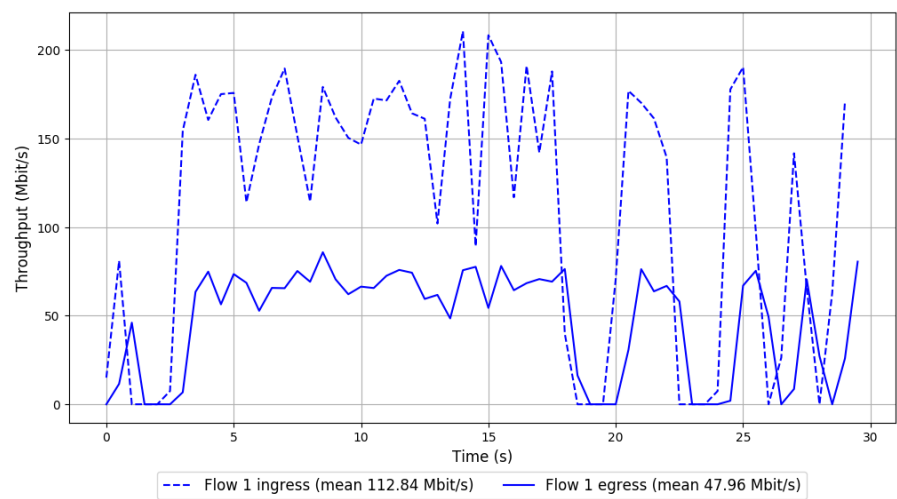


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:05:41  
End at: 2018-10-02 08:06:11  
Local clock offset: -4.932 ms  
Remote clock offset: -4.315 ms

# Below is generated by plot.py at 2018-10-02 09:14:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 47.96 Mbit/s  
95th percentile per-packet one-way delay: 68.035 ms  
Loss rate: 57.49%  
-- Flow 1:  
Average throughput: 47.96 Mbit/s  
95th percentile per-packet one-way delay: 68.035 ms  
Loss rate: 57.49%

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

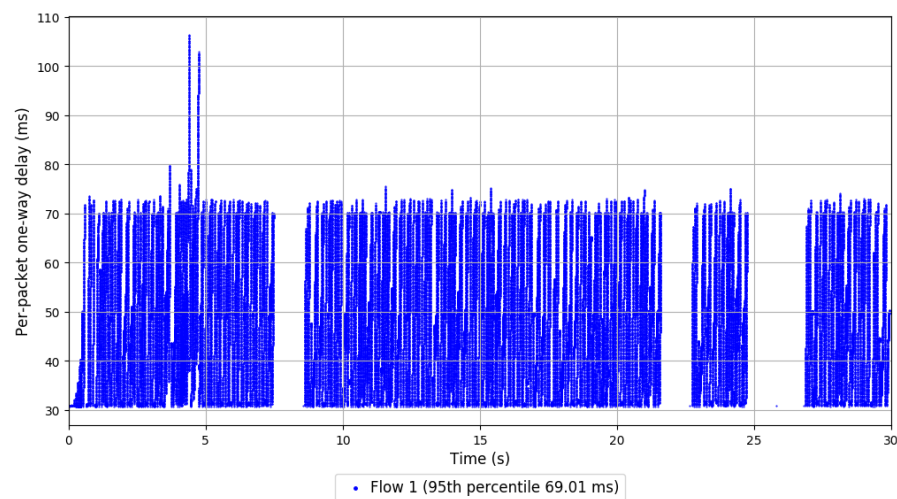
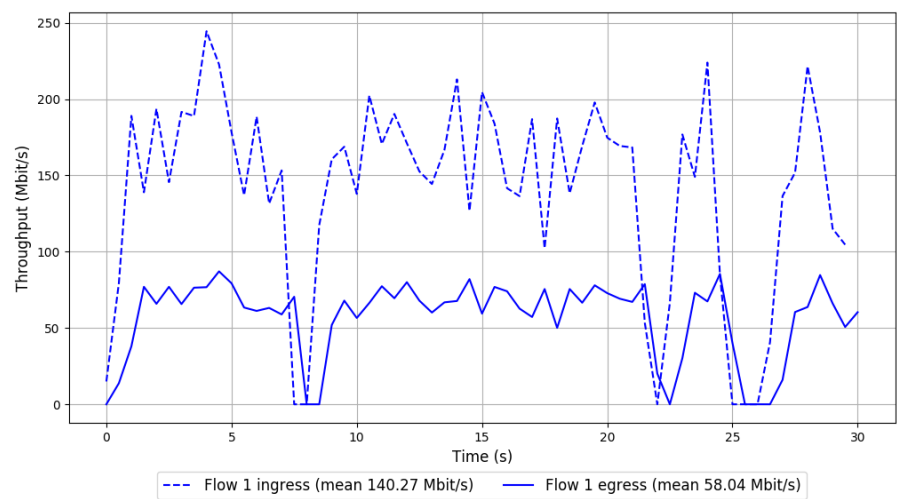


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:29:12  
End at: 2018-10-02 08:29:42  
Local clock offset: -0.579 ms  
Remote clock offset: -3.753 ms

# Below is generated by plot.py at 2018-10-02 09:14:20  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.04 Mbit/s  
95th percentile per-packet one-way delay: 69.008 ms  
Loss rate: 58.60%  
-- Flow 1:  
Average throughput: 58.04 Mbit/s  
95th percentile per-packet one-way delay: 69.008 ms  
Loss rate: 58.60%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:52:45

End at: 2018-10-02 08:53:15

Local clock offset: 2.6 ms

Remote clock offset: -4.005 ms

# Below is generated by plot.py at 2018-10-02 09:14:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 65.48 Mbit/s

95th percentile per-packet one-way delay: 68.722 ms

Loss rate: 58.39%

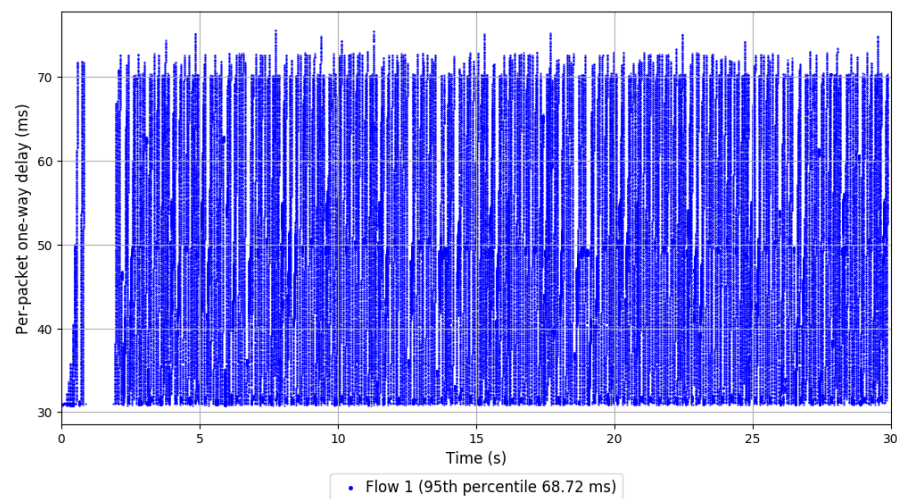
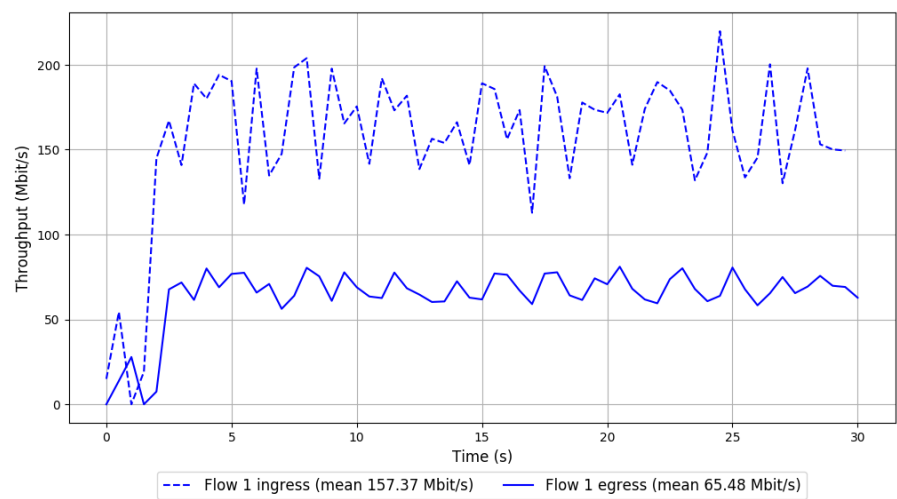
-- Flow 1:

Average throughput: 65.48 Mbit/s

95th percentile per-packet one-way delay: 68.722 ms

Loss rate: 58.39%

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

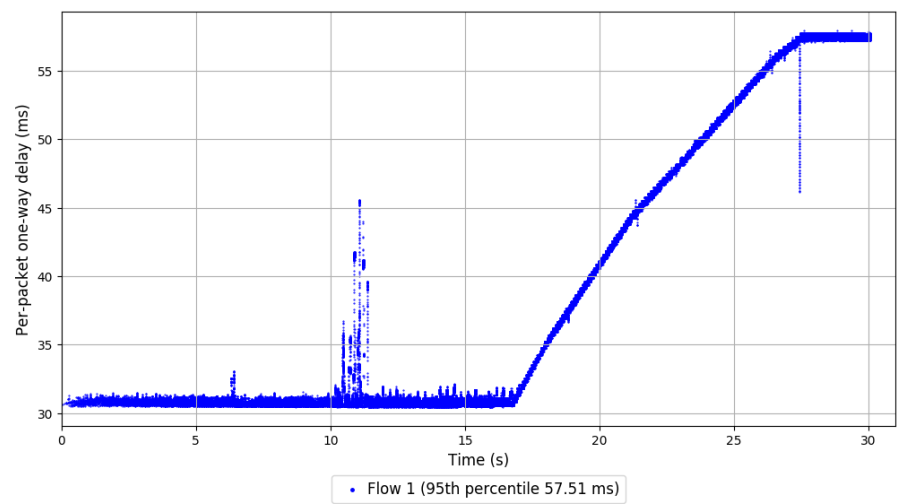
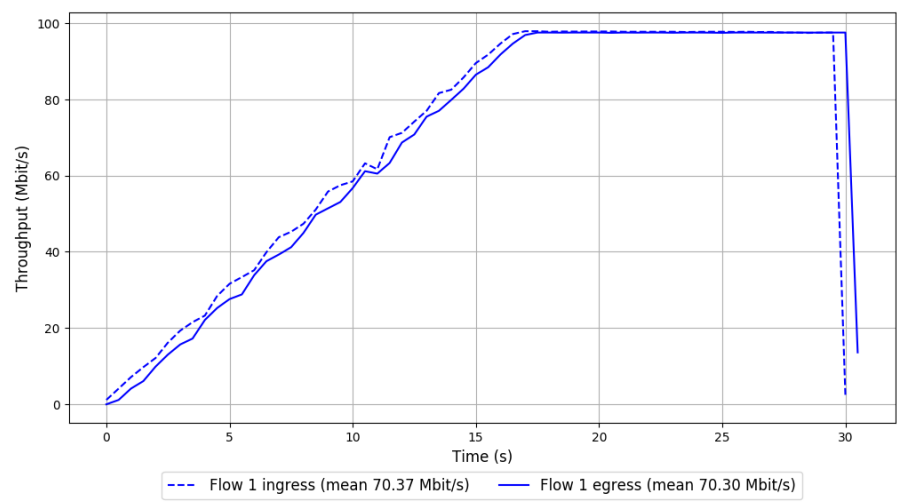


Run 1: Statistics of LEDBAT

Start at: 2018-10-02 07:25:06  
End at: 2018-10-02 07:25:36  
Local clock offset: -0.33 ms  
Remote clock offset: -4.176 ms

# Below is generated by plot.py at 2018-10-02 09:14:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.30 Mbit/s  
95th percentile per-packet one-way delay: 57.505 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.30 Mbit/s  
95th percentile per-packet one-way delay: 57.505 ms  
Loss rate: 0.00%

Run 1: Report of LEDBAT — Data Link

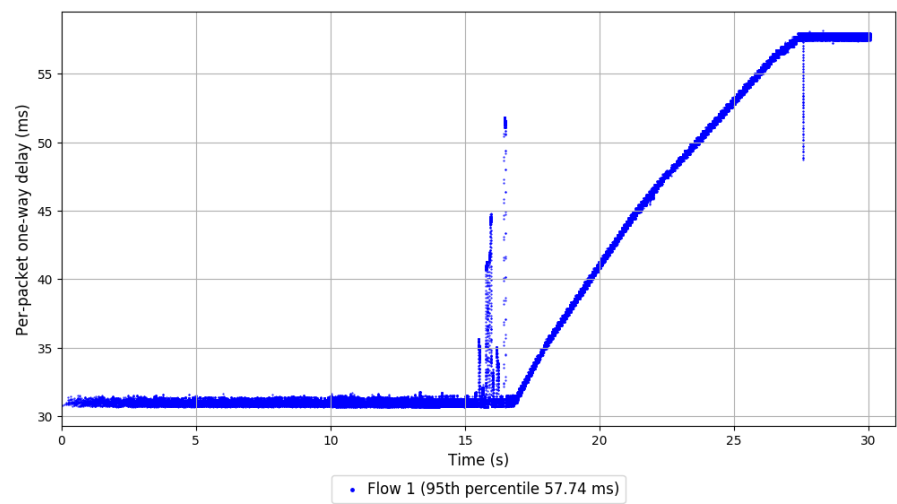
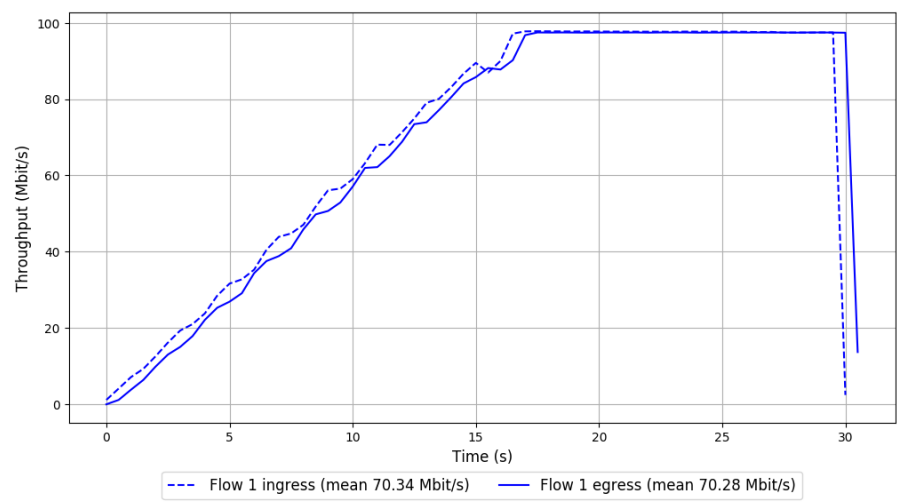


Run 2: Statistics of LEDBAT

Start at: 2018-10-02 07:48:39  
End at: 2018-10-02 07:49:09  
Local clock offset: -3.682 ms  
Remote clock offset: -4.347 ms

# Below is generated by plot.py at 2018-10-02 09:14:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.28 Mbit/s  
95th percentile per-packet one-way delay: 57.737 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.28 Mbit/s  
95th percentile per-packet one-way delay: 57.737 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

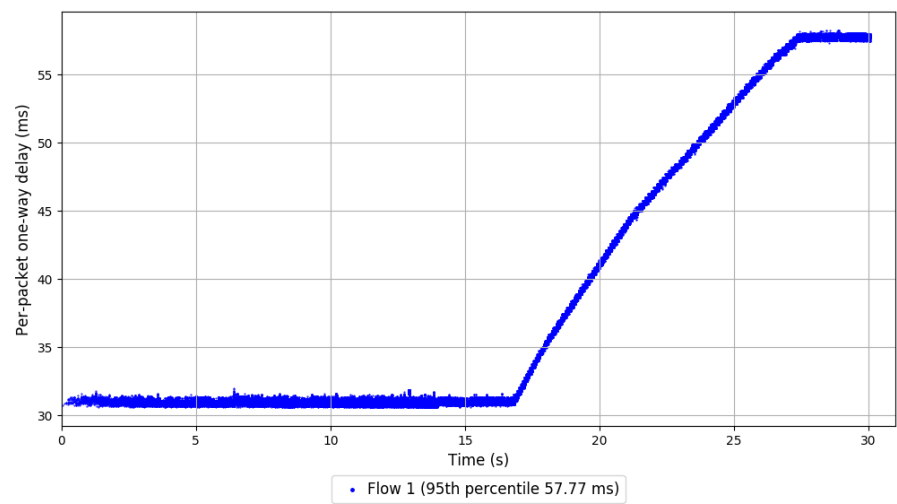
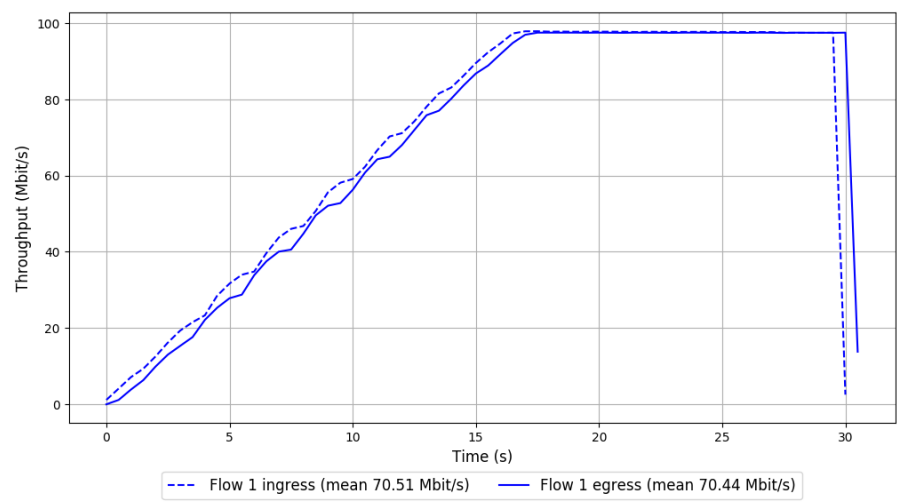


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 08:12:10  
End at: 2018-10-02 08:12:40  
Local clock offset: -5.368 ms  
Remote clock offset: -3.917 ms

# Below is generated by plot.py at 2018-10-02 09:14:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.44 Mbit/s  
95th percentile per-packet one-way delay: 57.766 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.44 Mbit/s  
95th percentile per-packet one-way delay: 57.766 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

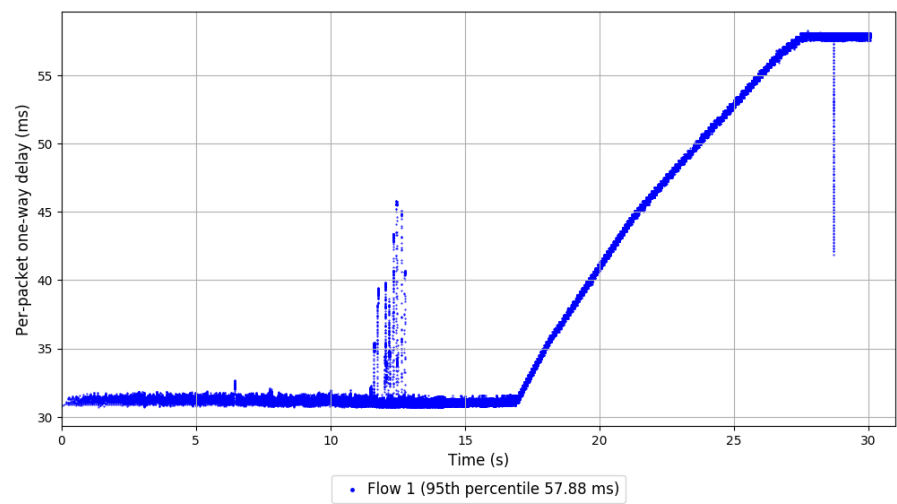
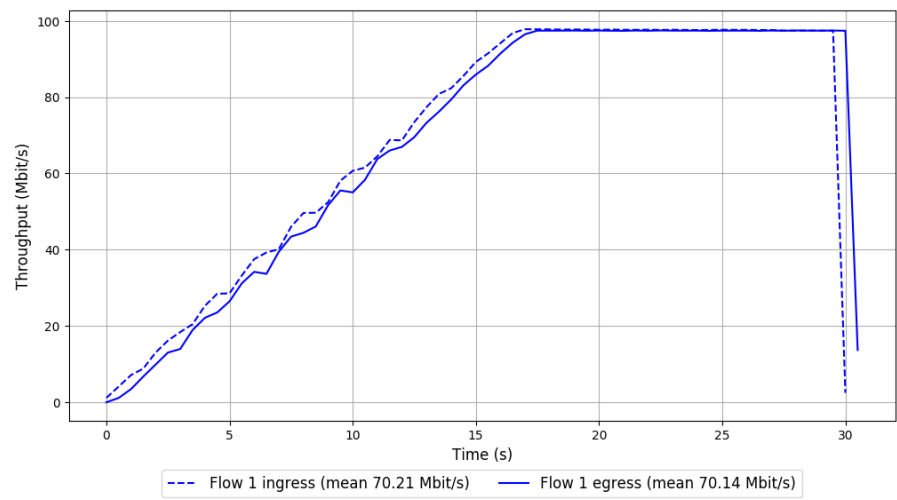


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 08:35:42  
End at: 2018-10-02 08:36:12  
Local clock offset: 0.323 ms  
Remote clock offset: -3.829 ms

# Below is generated by plot.py at 2018-10-02 09:14:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.14 Mbit/s  
95th percentile per-packet one-way delay: 57.875 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 70.14 Mbit/s  
95th percentile per-packet one-way delay: 57.875 ms  
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-10-02 08:59:16

End at: 2018-10-02 08:59:46

Local clock offset: 3.513 ms

Remote clock offset: -4.06 ms

# Below is generated by plot.py at 2018-10-02 09:14:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 70.10 Mbit/s

95th percentile per-packet one-way delay: 58.012 ms

Loss rate: 0.00%

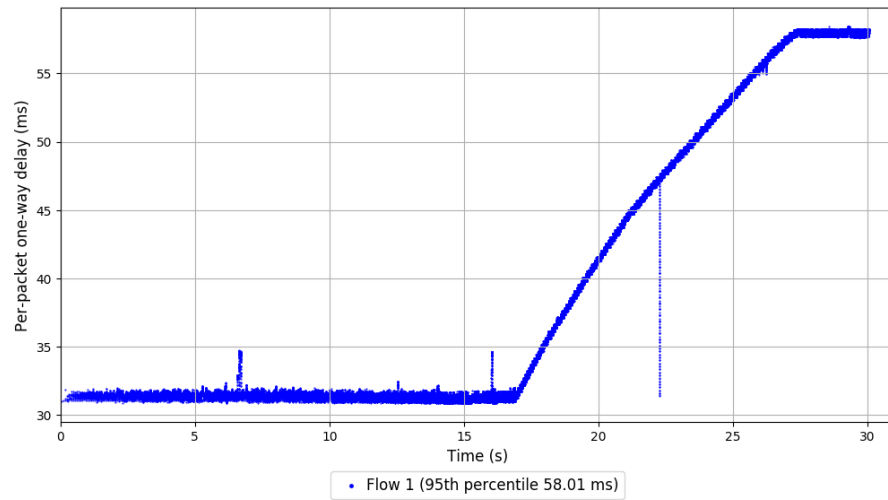
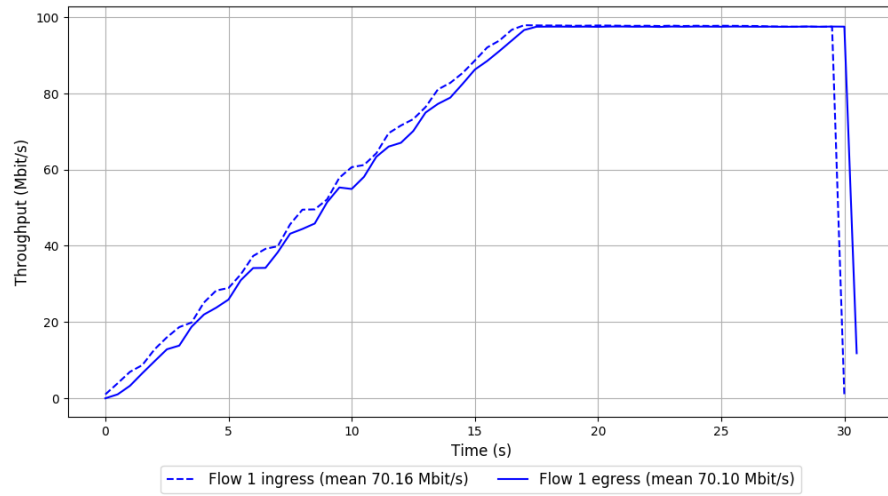
-- Flow 1:

Average throughput: 70.10 Mbit/s

95th percentile per-packet one-way delay: 58.012 ms

Loss rate: 0.00%

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

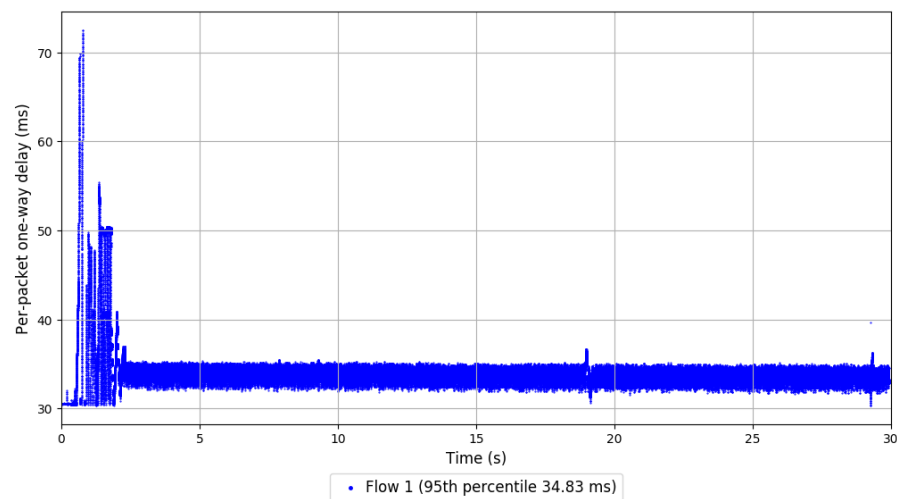
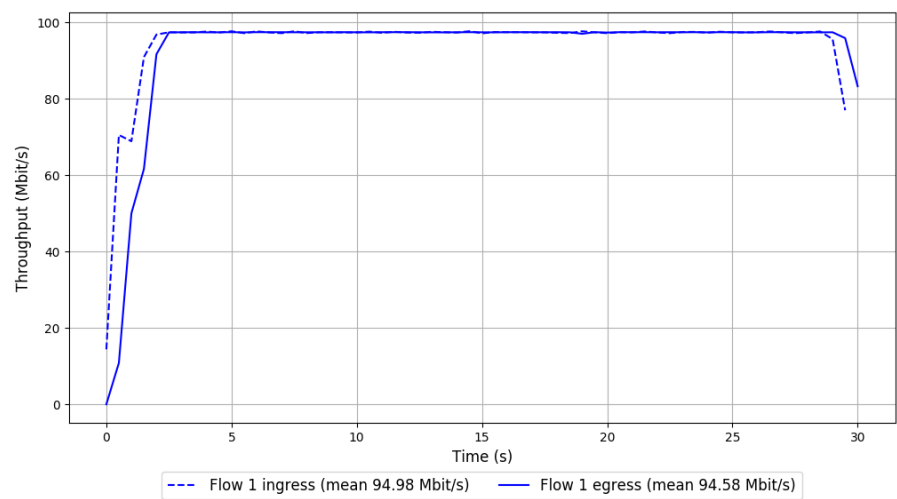


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 07:15:59  
End at: 2018-10-02 07:16:29  
Local clock offset: 3.93 ms  
Remote clock offset: -4.122 ms

# Below is generated by plot.py at 2018-10-02 09:15:10  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.58 Mbit/s  
95th percentile per-packet one-way delay: 34.829 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 94.58 Mbit/s  
95th percentile per-packet one-way delay: 34.829 ms  
Loss rate: 0.42%

Run 1: Report of Indigo-Muses — Data Link

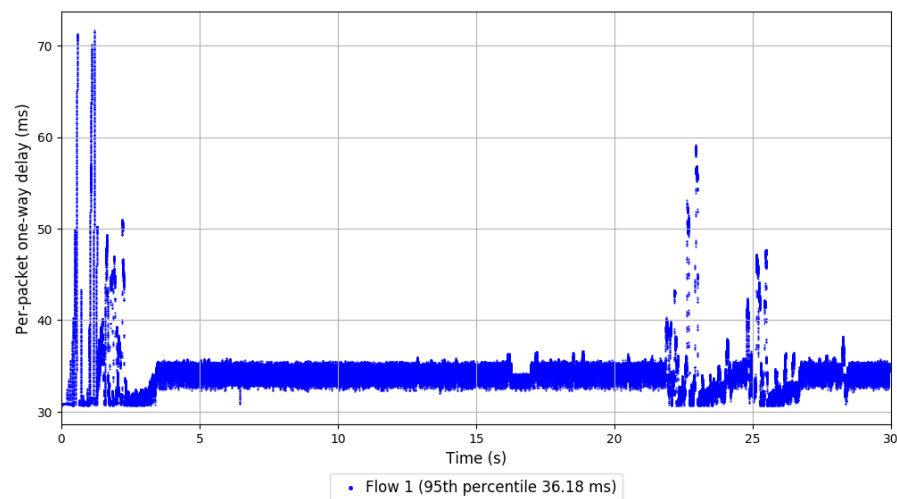
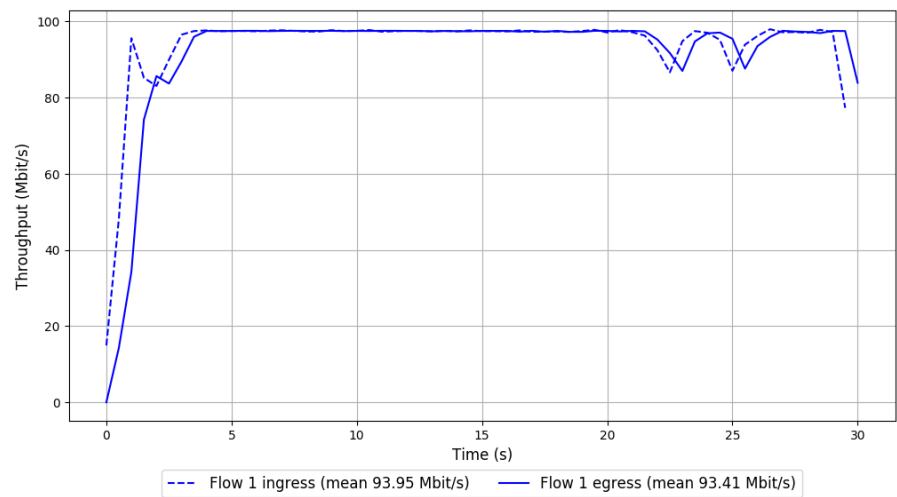


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 07:39:32  
End at: 2018-10-02 07:40:02  
Local clock offset: -2.846 ms  
Remote clock offset: -4.213 ms

# Below is generated by plot.py at 2018-10-02 09:15:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 93.41 Mbit/s  
95th percentile per-packet one-way delay: 36.179 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 93.41 Mbit/s  
95th percentile per-packet one-way delay: 36.179 ms  
Loss rate: 0.56%

Run 2: Report of Indigo-Muses — Data Link

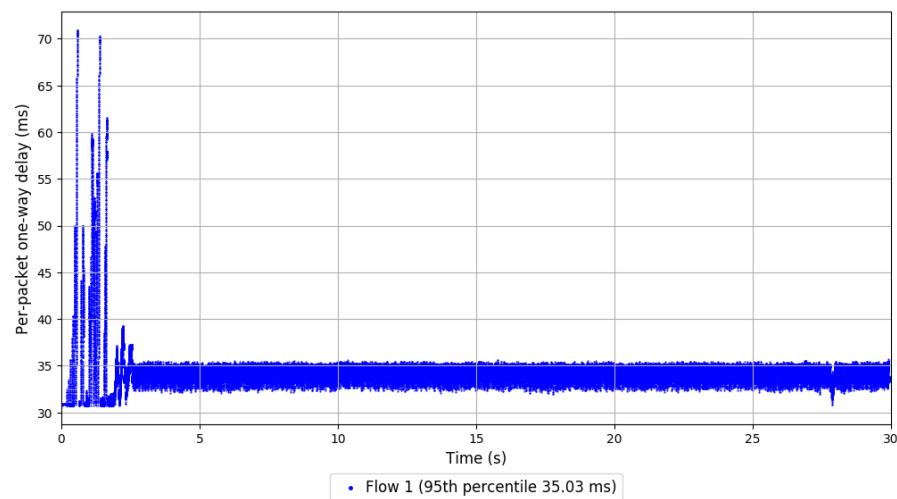
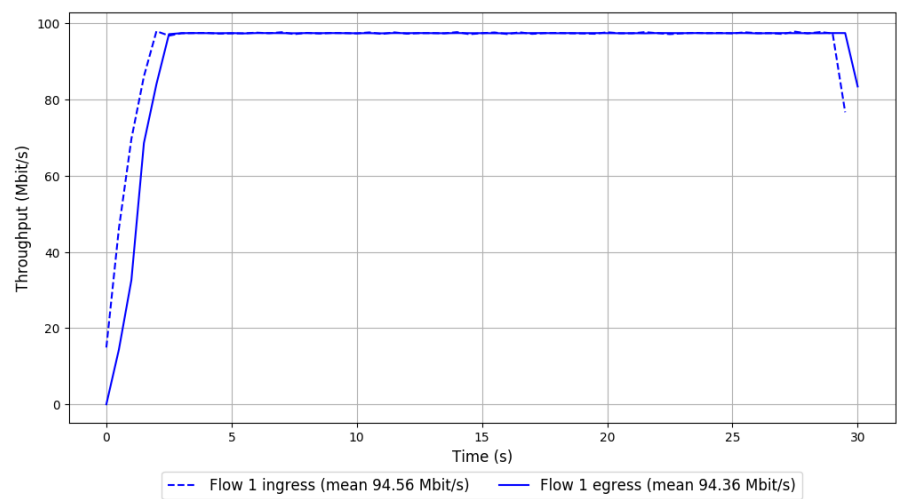


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 08:03:05  
End at: 2018-10-02 08:03:35  
Local clock offset: -4.722 ms  
Remote clock offset: -4.117 ms

# Below is generated by plot.py at 2018-10-02 09:15:45  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.36 Mbit/s  
95th percentile per-packet one-way delay: 35.028 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 94.36 Mbit/s  
95th percentile per-packet one-way delay: 35.028 ms  
Loss rate: 0.20%

Run 3: Report of Indigo-Muses — Data Link

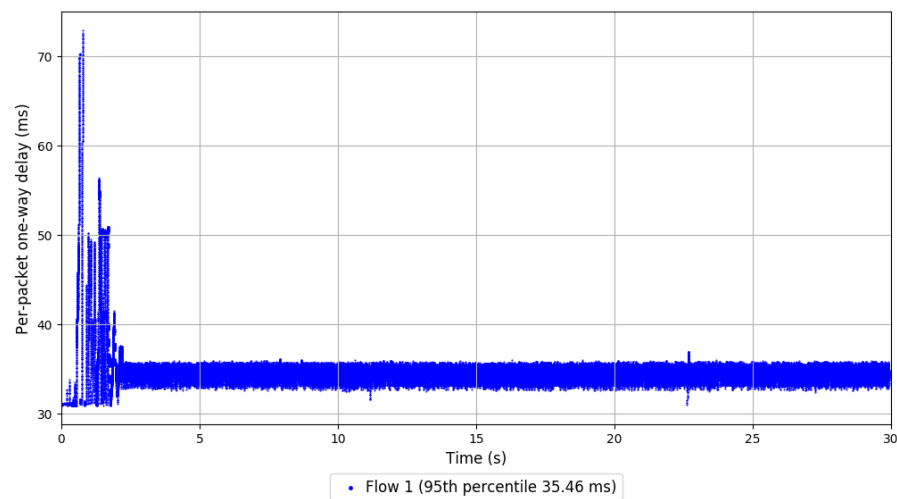
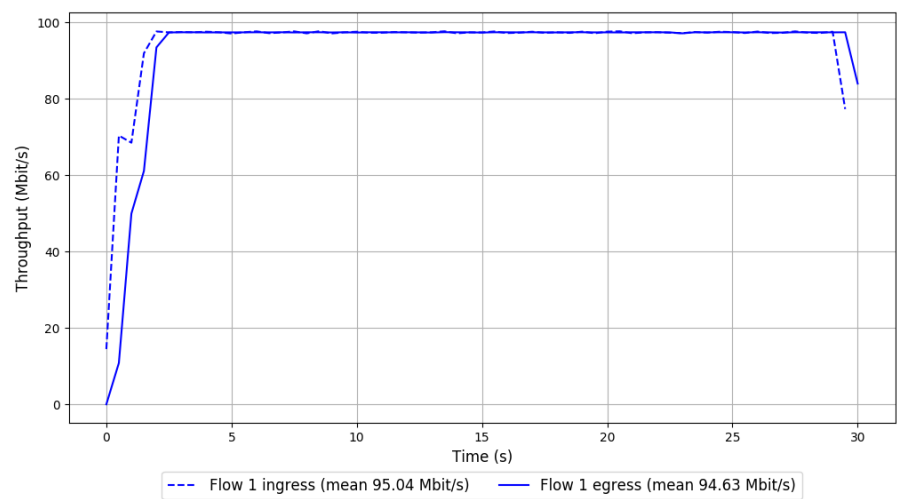


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 08:26:35  
End at: 2018-10-02 08:27:05  
Local clock offset: -1.137 ms  
Remote clock offset: -3.546 ms

# Below is generated by plot.py at 2018-10-02 09:15:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.63 Mbit/s  
95th percentile per-packet one-way delay: 35.459 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 94.63 Mbit/s  
95th percentile per-packet one-way delay: 35.459 ms  
Loss rate: 0.41%

Run 4: Report of Indigo-Muses — Data Link

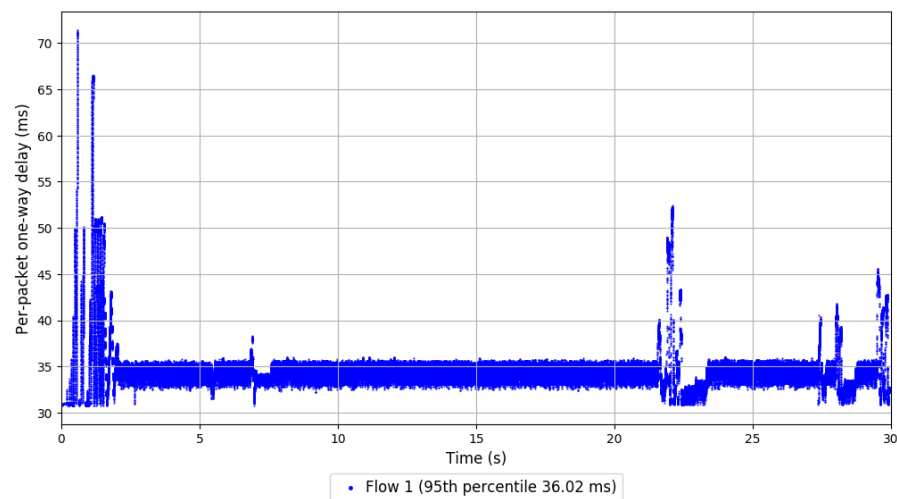
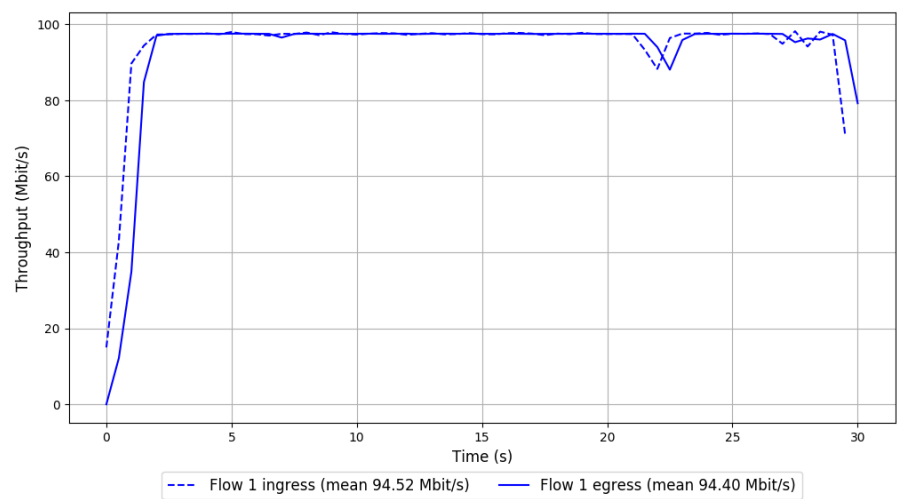


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 08:50:08  
End at: 2018-10-02 08:50:38  
Local clock offset: 2.153 ms  
Remote clock offset: -3.934 ms

# Below is generated by plot.py at 2018-10-02 09:15:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.40 Mbit/s  
95th percentile per-packet one-way delay: 36.017 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 94.40 Mbit/s  
95th percentile per-packet one-way delay: 36.017 ms  
Loss rate: 0.13%

Run 5: Report of Indigo-Muses — Data Link

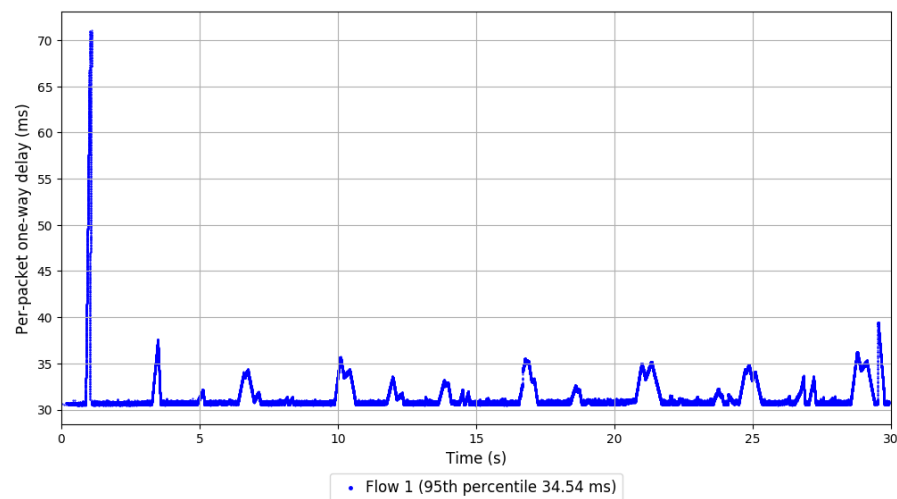
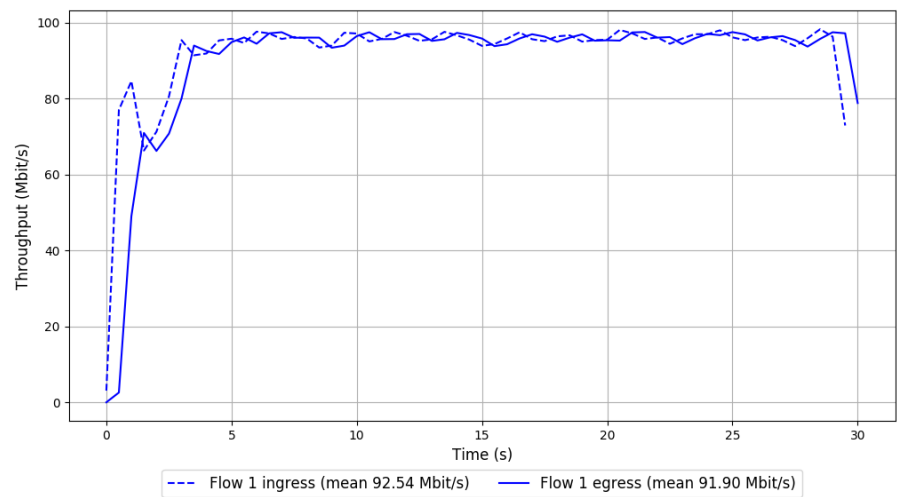


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 07:12:08
End at: 2018-10-02 07:12:38
Local clock offset: 3.955 ms
Remote clock offset: -4.248 ms

# Below is generated by plot.py at 2018-10-02 09:15:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.90 Mbit/s
95th percentile per-packet one-way delay: 34.542 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 91.90 Mbit/s
95th percentile per-packet one-way delay: 34.542 ms
Loss rate: 0.69%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 07:35:42

End at: 2018-10-02 07:36:12

Local clock offset: -2.383 ms

Remote clock offset: -4.363 ms

# Below is generated by plot.py at 2018-10-02 09:15:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.93 Mbit/s

95th percentile per-packet one-way delay: 36.492 ms

Loss rate: 0.71%

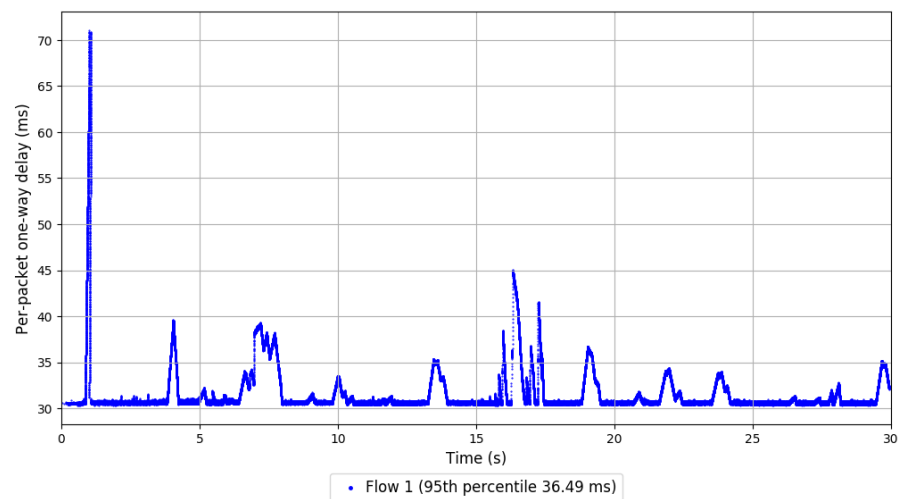
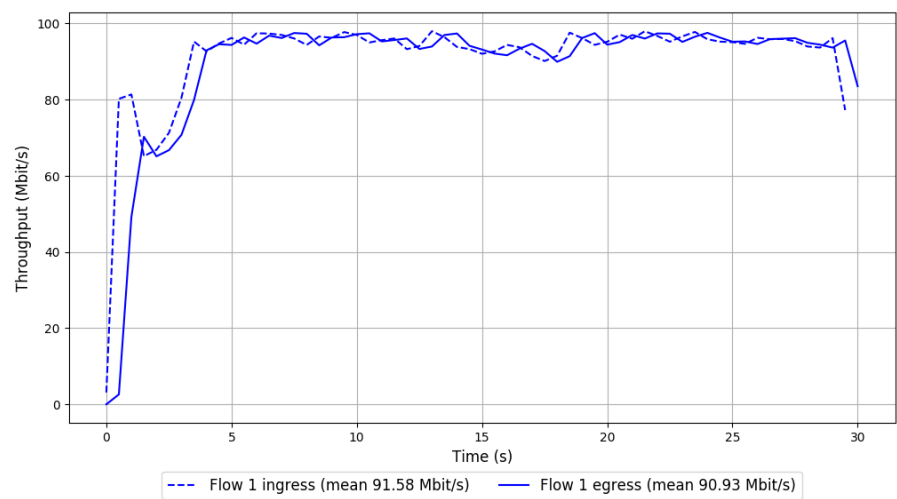
-- Flow 1:

Average throughput: 90.93 Mbit/s

95th percentile per-packet one-way delay: 36.492 ms

Loss rate: 0.71%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 07:59:14

End at: 2018-10-02 07:59:44

Local clock offset: -4.484 ms

Remote clock offset: -4.132 ms

# Below is generated by plot.py at 2018-10-02 09:15:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.72 Mbit/s

95th percentile per-packet one-way delay: 37.241 ms

Loss rate: 0.72%

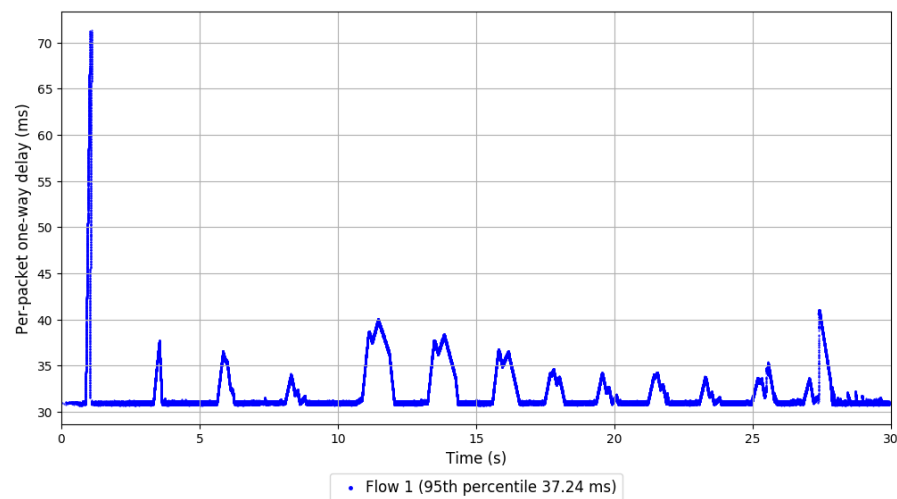
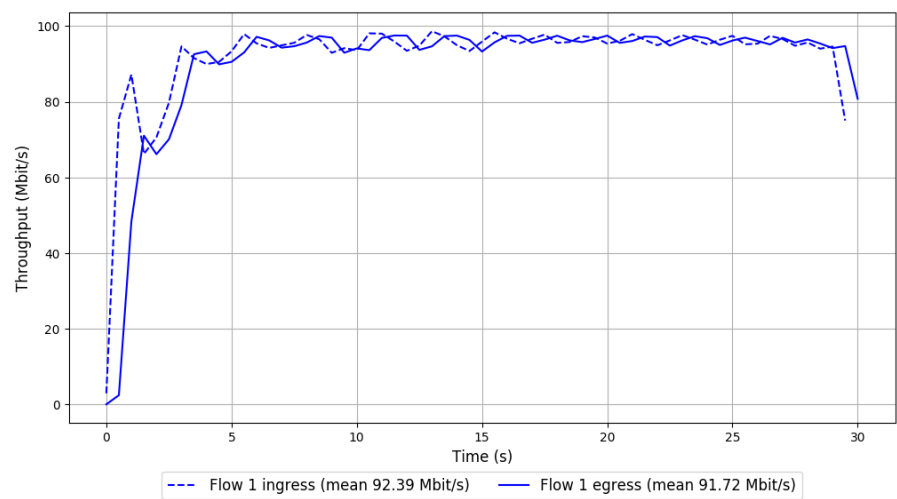
-- Flow 1:

Average throughput: 91.72 Mbit/s

95th percentile per-packet one-way delay: 37.241 ms

Loss rate: 0.72%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 08:22:45

End at: 2018-10-02 08:23:15

Local clock offset: -2.281 ms

Remote clock offset: -3.609 ms

# Below is generated by plot.py at 2018-10-02 09:16:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.65 Mbit/s

95th percentile per-packet one-way delay: 38.076 ms

Loss rate: 0.72%

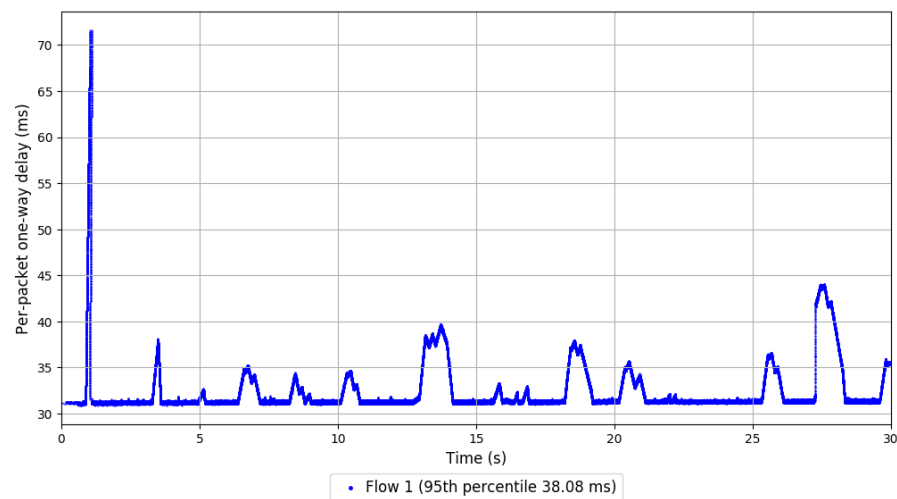
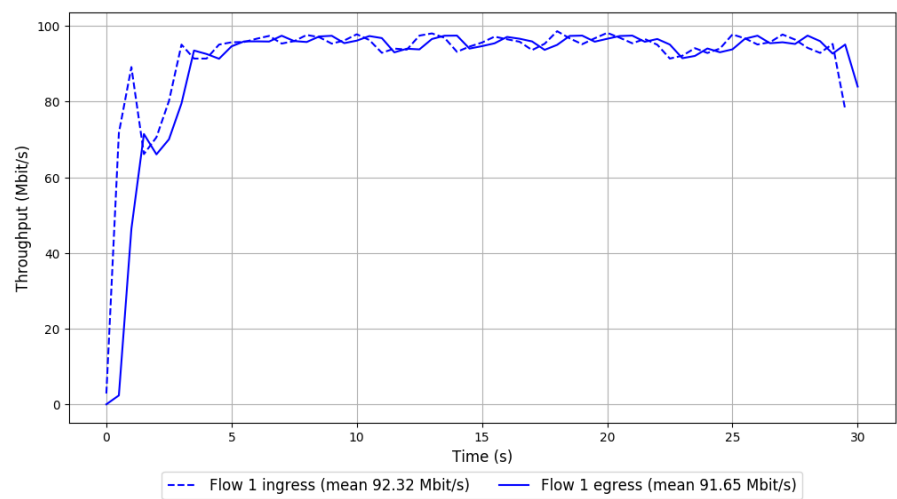
-- Flow 1:

Average throughput: 91.65 Mbit/s

95th percentile per-packet one-way delay: 38.076 ms

Loss rate: 0.72%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 08:46:18

End at: 2018-10-02 08:46:48

Local clock offset: 1.202 ms

Remote clock offset: -3.996 ms

# Below is generated by plot.py at 2018-10-02 09:16:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.75 Mbit/s

95th percentile per-packet one-way delay: 37.421 ms

Loss rate: 0.67%

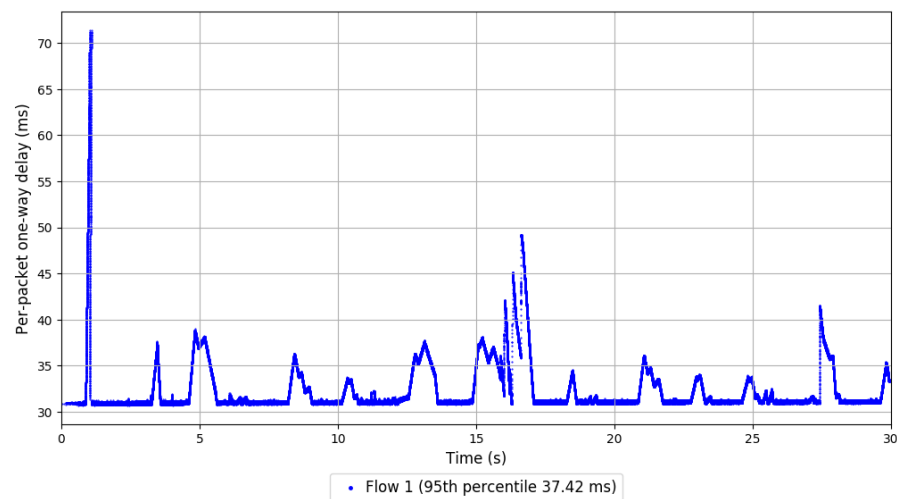
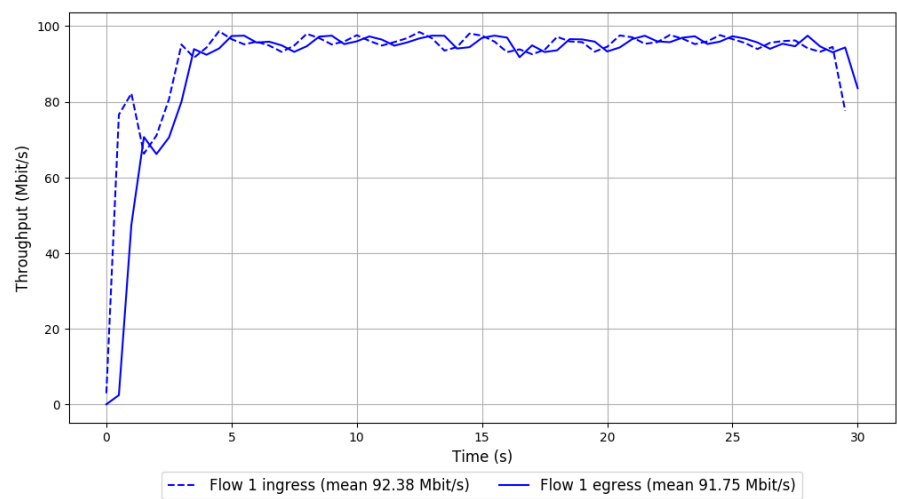
-- Flow 1:

Average throughput: 91.75 Mbit/s

95th percentile per-packet one-way delay: 37.421 ms

Loss rate: 0.67%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 07:17:19

End at: 2018-10-02 07:17:49

Local clock offset: 3.131 ms

Remote clock offset: -4.074 ms

# Below is generated by plot.py at 2018-10-02 09:16:46

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.94 Mbit/s

95th percentile per-packet one-way delay: 30.511 ms

Loss rate: 37.21%

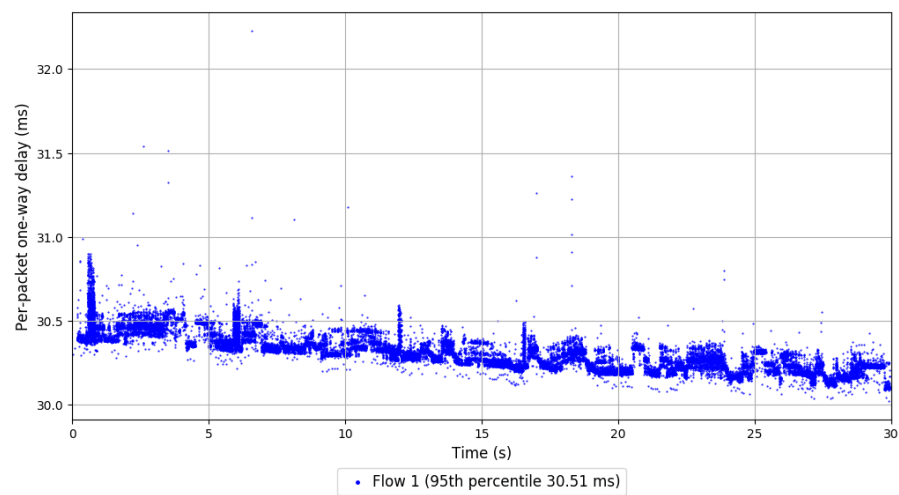
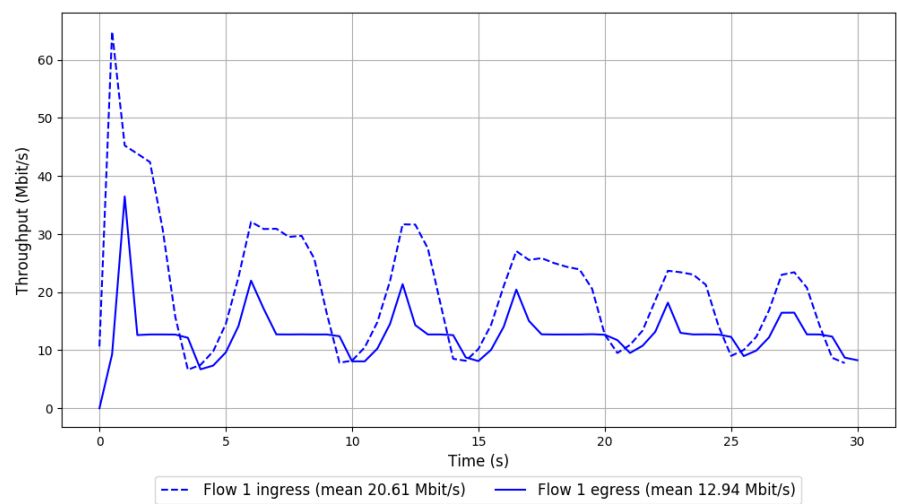
-- Flow 1:

Average throughput: 12.94 Mbit/s

95th percentile per-packet one-way delay: 30.511 ms

Loss rate: 37.21%

Run 1: Report of PCC-Expr — Data Link

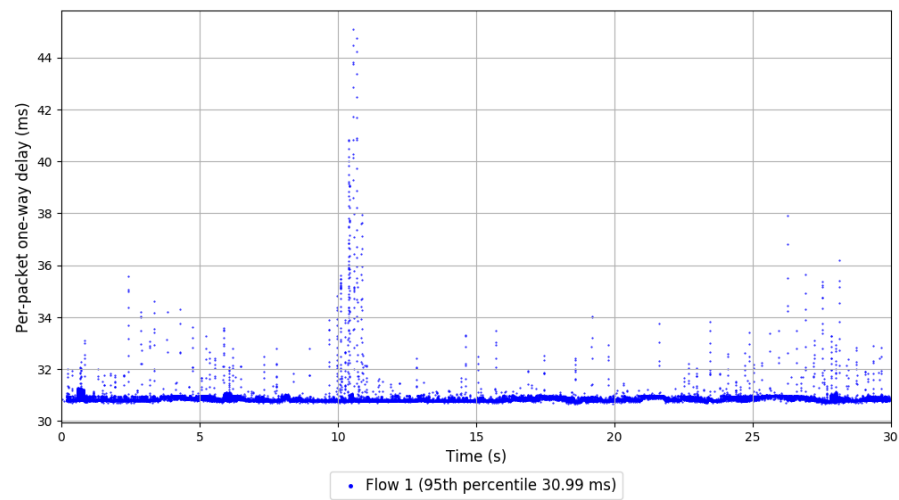
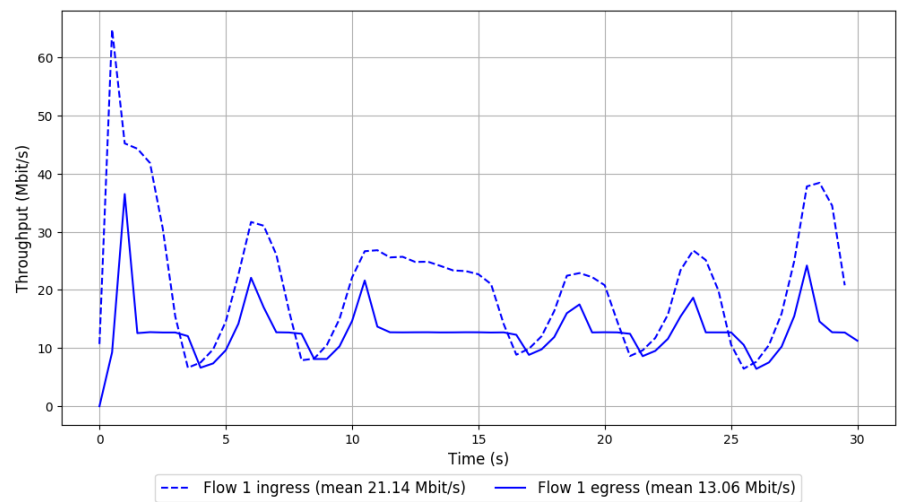


Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 07:40:52  
End at: 2018-10-02 07:41:22  
Local clock offset: -2.97 ms  
Remote clock offset: -4.109 ms

# Below is generated by plot.py at 2018-10-02 09:16:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 13.06 Mbit/s  
95th percentile per-packet one-way delay: 30.988 ms  
Loss rate: 38.22%  
-- Flow 1:  
Average throughput: 13.06 Mbit/s  
95th percentile per-packet one-way delay: 30.988 ms  
Loss rate: 38.22%

Run 2: Report of PCC-Expr — Data Link

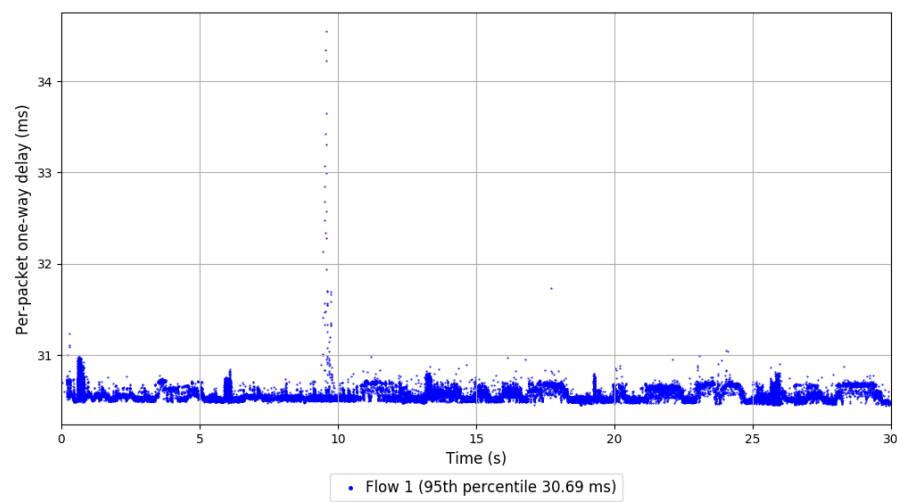
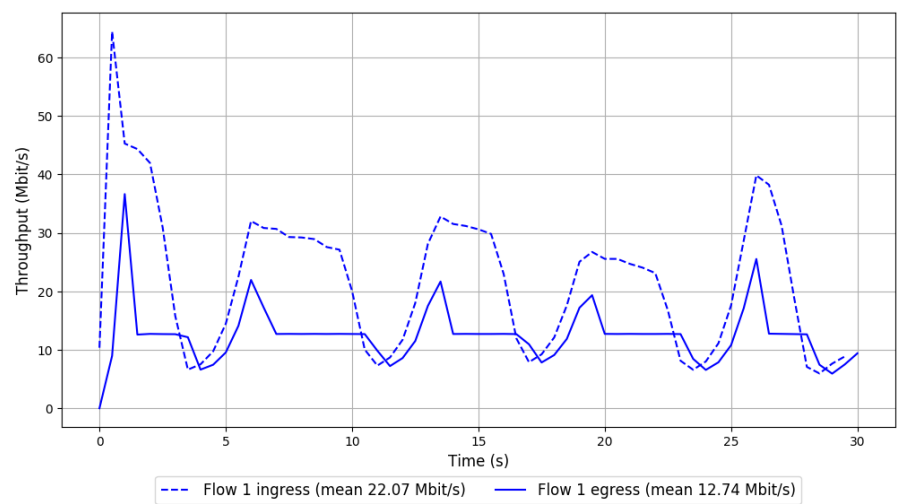


Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 08:04:25  
End at: 2018-10-02 08:04:55  
Local clock offset: -4.818 ms  
Remote clock offset: -4.276 ms

# Below is generated by plot.py at 2018-10-02 09:16:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.74 Mbit/s  
95th percentile per-packet one-way delay: 30.693 ms  
Loss rate: 42.29%  
-- Flow 1:  
Average throughput: 12.74 Mbit/s  
95th percentile per-packet one-way delay: 30.693 ms  
Loss rate: 42.29%

Run 3: Report of PCC-Expr — Data Link

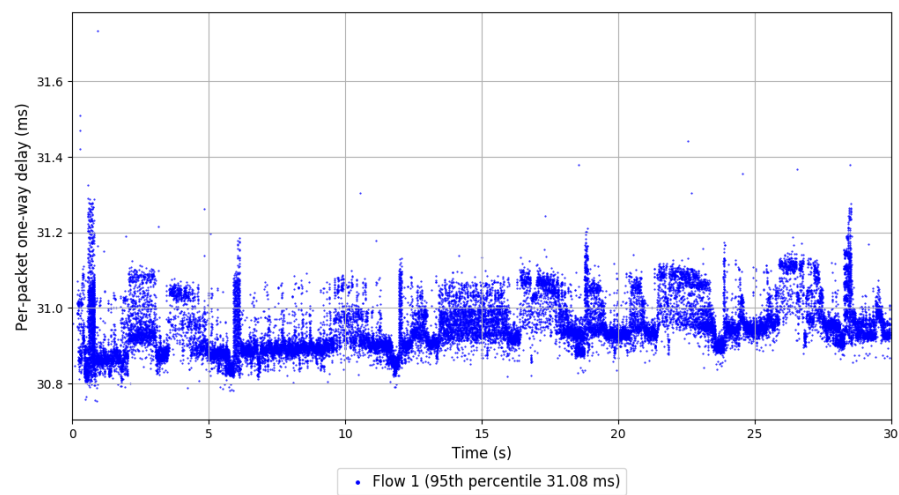
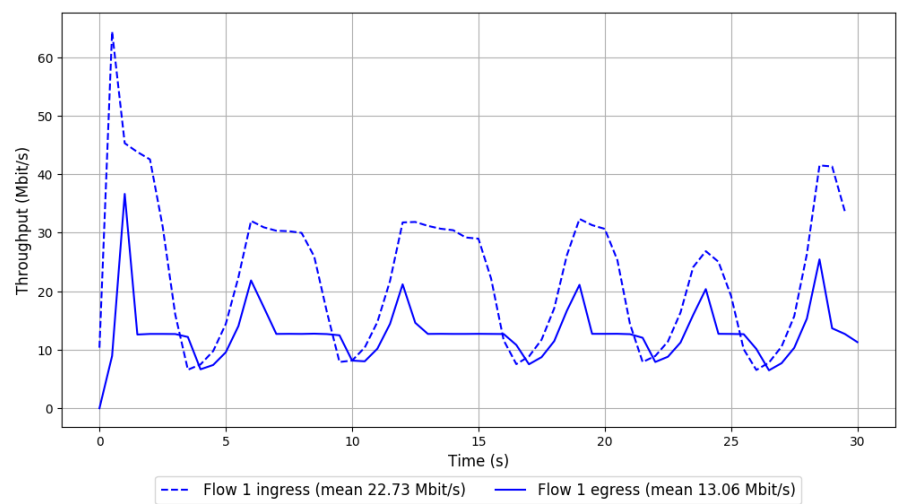


Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 08:27:55  
End at: 2018-10-02 08:28:25  
Local clock offset: -0.87 ms  
Remote clock offset: -3.665 ms

# Below is generated by plot.py at 2018-10-02 09:16:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 13.06 Mbit/s  
95th percentile per-packet one-way delay: 31.080 ms  
Loss rate: 42.54%  
-- Flow 1:  
Average throughput: 13.06 Mbit/s  
95th percentile per-packet one-way delay: 31.080 ms  
Loss rate: 42.54%

Run 4: Report of PCC-Expr — Data Link

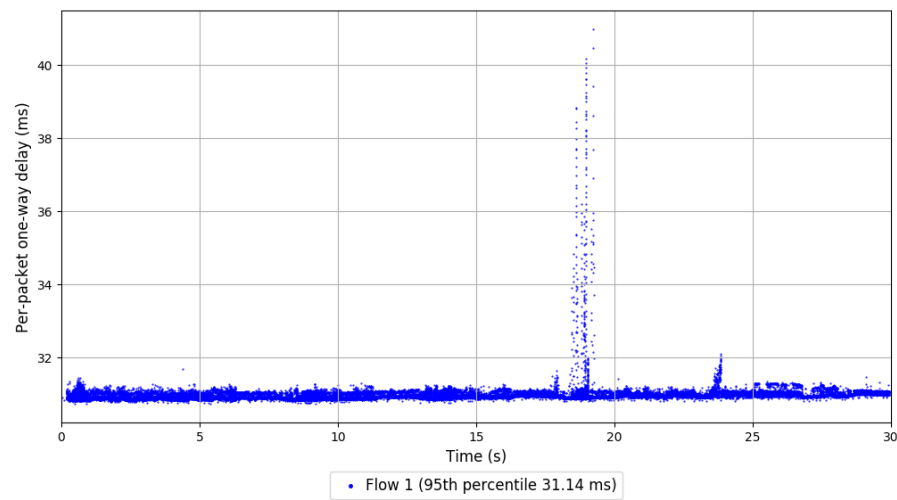
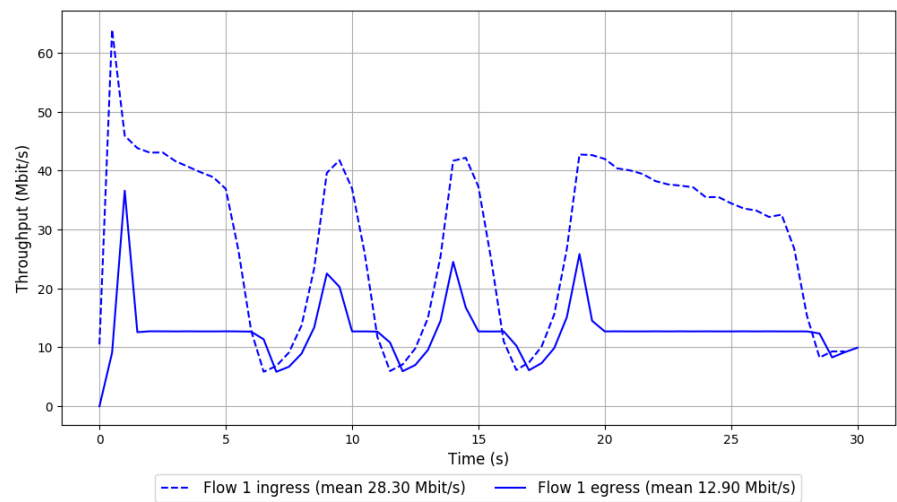


Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 08:51:28  
End at: 2018-10-02 08:51:58  
Local clock offset: 2.367 ms  
Remote clock offset: -3.986 ms

# Below is generated by plot.py at 2018-10-02 09:16:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.90 Mbit/s  
95th percentile per-packet one-way delay: 31.135 ms  
Loss rate: 54.41%  
-- Flow 1:  
Average throughput: 12.90 Mbit/s  
95th percentile per-packet one-way delay: 31.135 ms  
Loss rate: 54.41%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 07:23:46

End at: 2018-10-02 07:24:17

Local clock offset: 0.108 ms

Remote clock offset: -4.082 ms

# Below is generated by plot.py at 2018-10-02 09:17:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 78.82 Mbit/s

95th percentile per-packet one-way delay: 67.326 ms

Loss rate: 1.93%

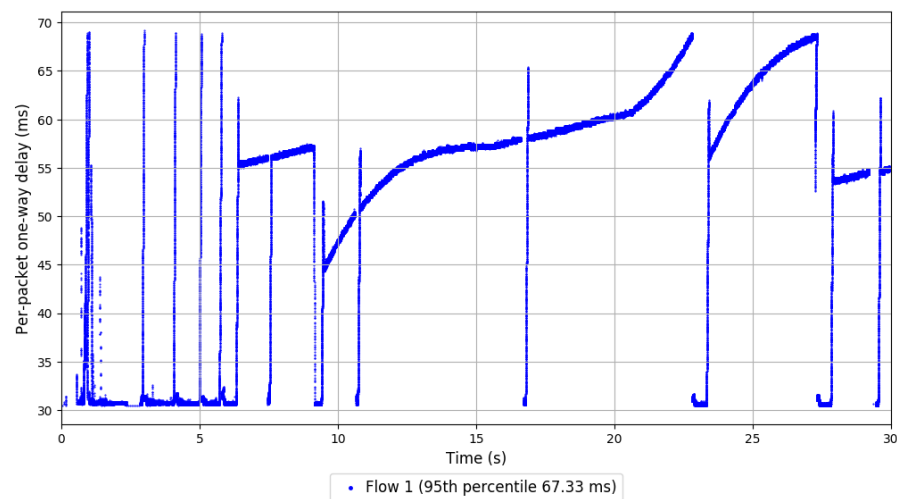
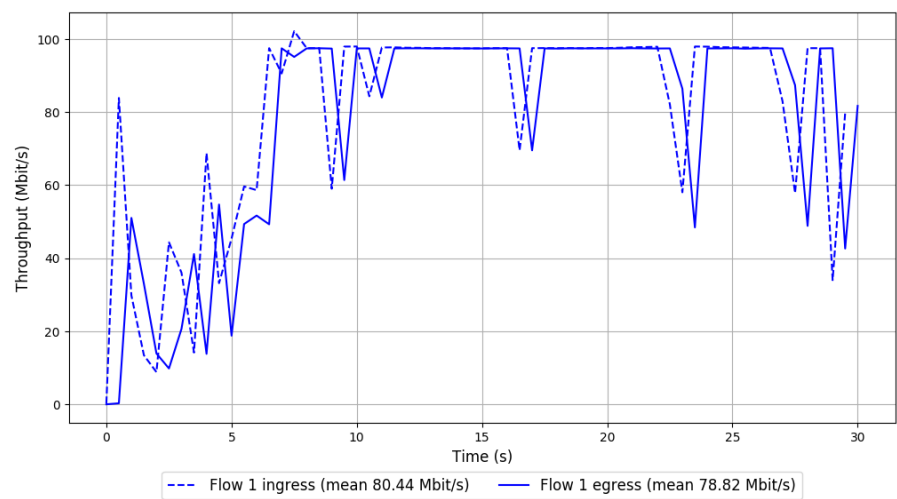
-- Flow 1:

Average throughput: 78.82 Mbit/s

95th percentile per-packet one-way delay: 67.326 ms

Loss rate: 1.93%

Run 1: Report of QUIC Cubic — Data Link

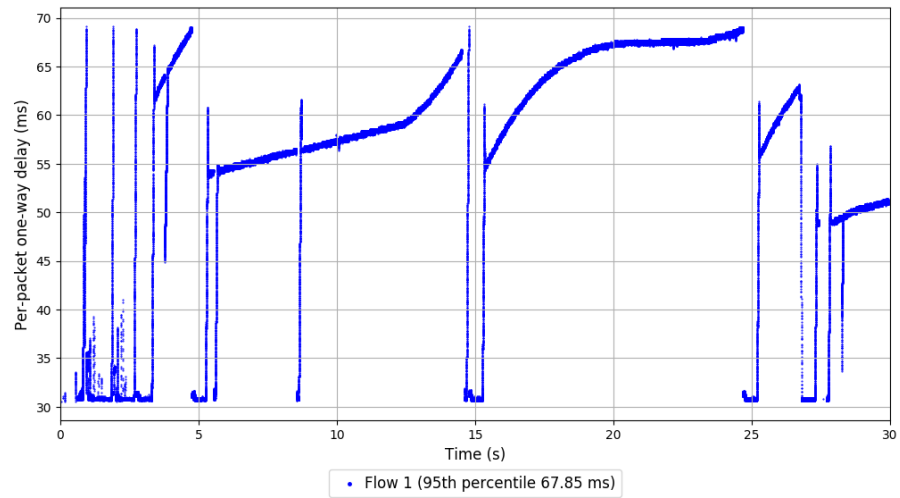
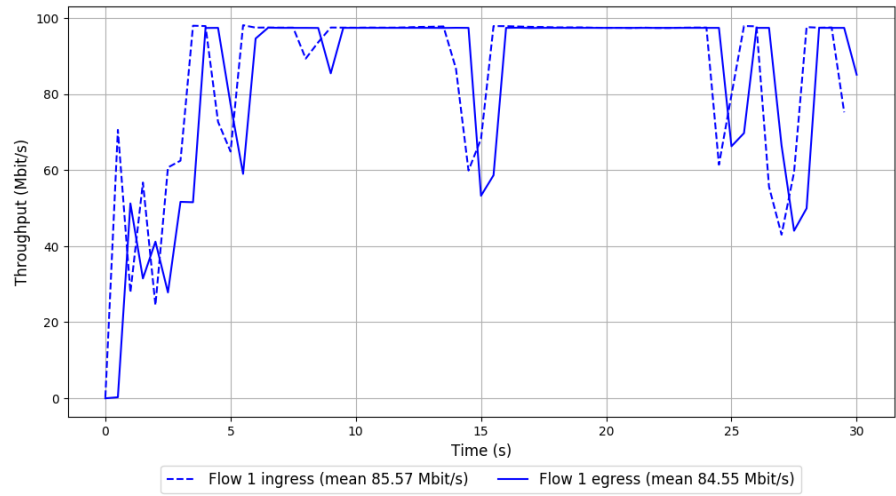


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 07:47:19  
End at: 2018-10-02 07:47:49  
Local clock offset: -3.569 ms  
Remote clock offset: -4.298 ms

# Below is generated by plot.py at 2018-10-02 09:17:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.55 Mbit/s  
95th percentile per-packet one-way delay: 67.846 ms  
Loss rate: 1.13%  
-- Flow 1:  
Average throughput: 84.55 Mbit/s  
95th percentile per-packet one-way delay: 67.846 ms  
Loss rate: 1.13%

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

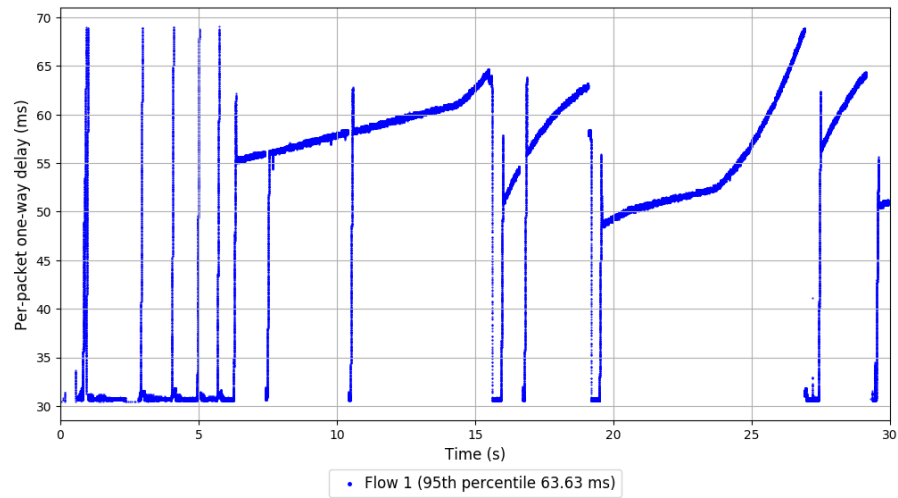
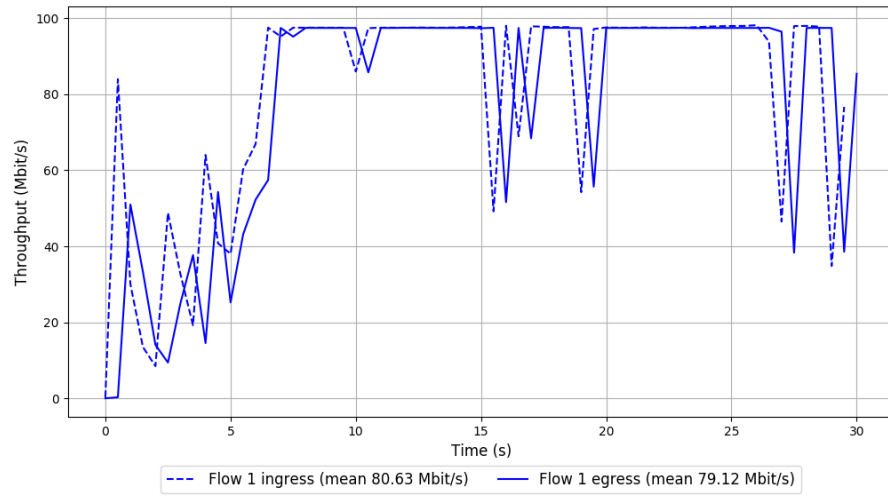


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 08:10:51  
End at: 2018-10-02 08:11:21  
Local clock offset: -5.265 ms  
Remote clock offset: -3.962 ms

# Below is generated by plot.py at 2018-10-02 09:17:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.12 Mbit/s  
95th percentile per-packet one-way delay: 63.631 ms  
Loss rate: 1.80%  
-- Flow 1:  
Average throughput: 79.12 Mbit/s  
95th percentile per-packet one-way delay: 63.631 ms  
Loss rate: 1.80%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 08:34:23

End at: 2018-10-02 08:34:53

Local clock offset: 0.163 ms

Remote clock offset: -3.755 ms

# Below is generated by plot.py at 2018-10-02 09:17:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 74.21 Mbit/s

95th percentile per-packet one-way delay: 66.241 ms

Loss rate: 2.73%

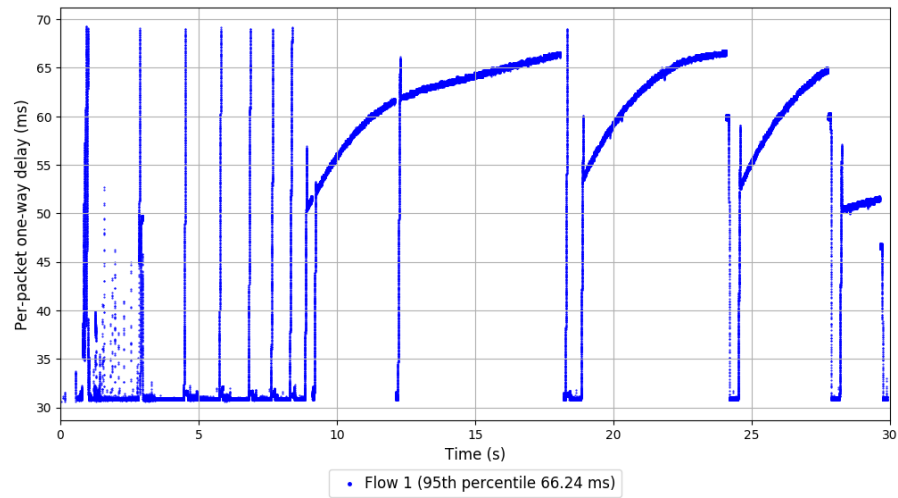
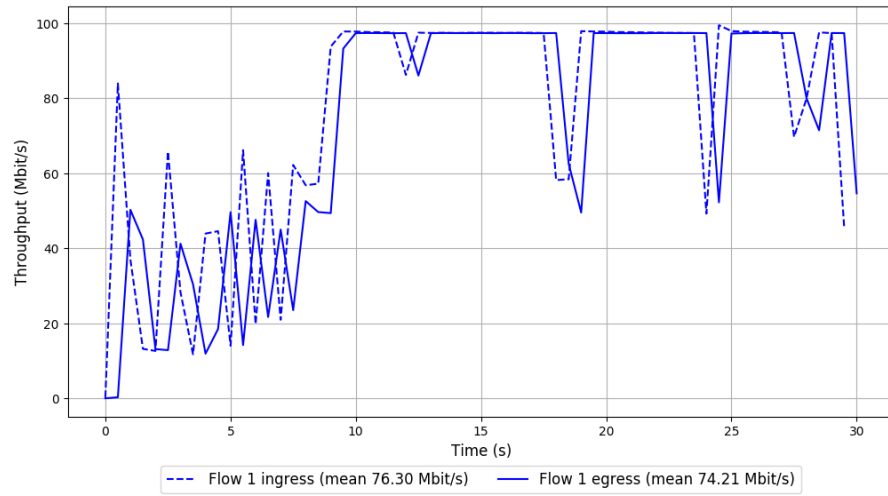
-- Flow 1:

Average throughput: 74.21 Mbit/s

95th percentile per-packet one-way delay: 66.241 ms

Loss rate: 2.73%

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



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 08:57:56

End at: 2018-10-02 08:58:26

Local clock offset: 3.354 ms

Remote clock offset: -4.093 ms

# Below is generated by plot.py at 2018-10-02 09:17:14

# Datalink statistics

-- Total of 1 flow:

Average throughput: 79.27 Mbit/s

95th percentile per-packet one-way delay: 66.996 ms

Loss rate: 1.94%

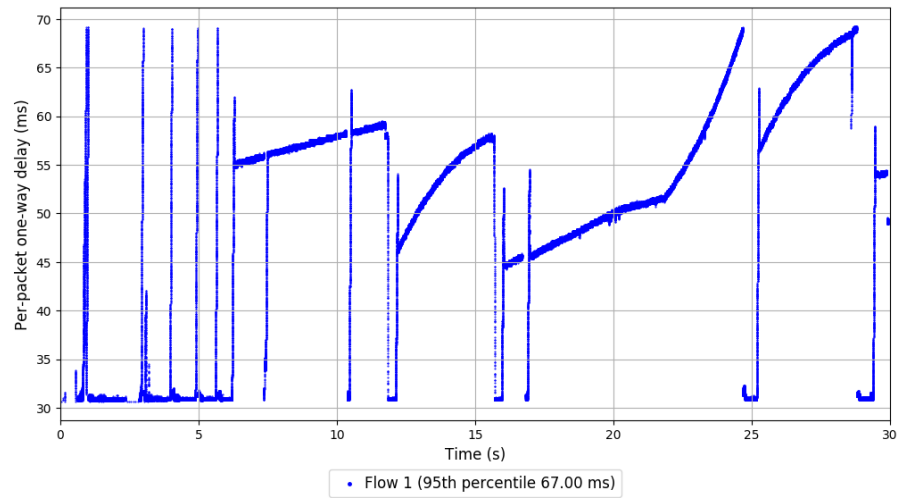
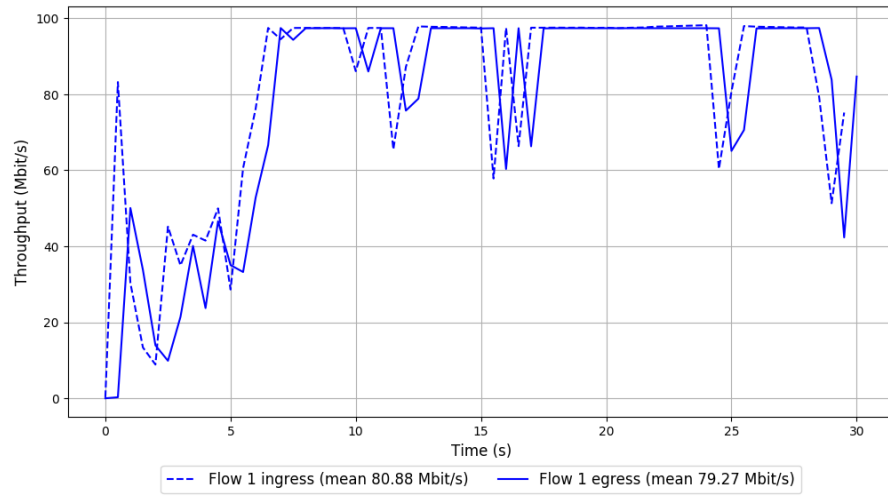
-- Flow 1:

Average throughput: 79.27 Mbit/s

95th percentile per-packet one-way delay: 66.996 ms

Loss rate: 1.94%

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

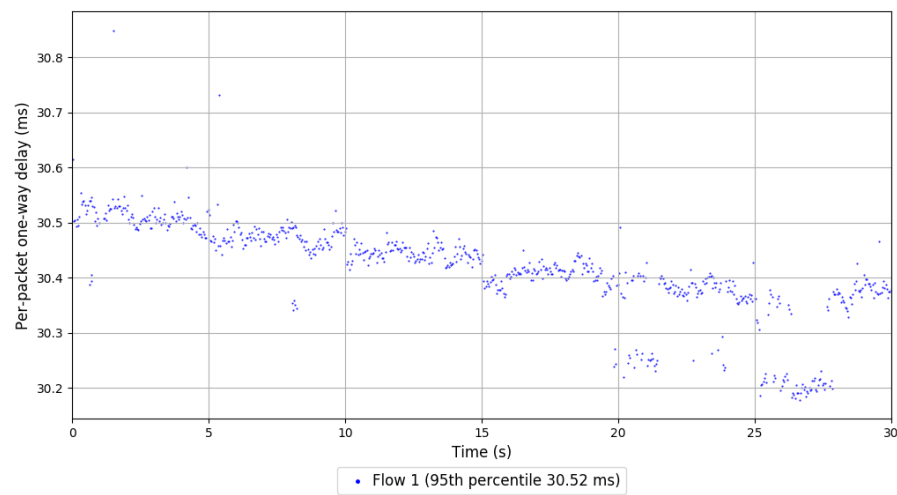
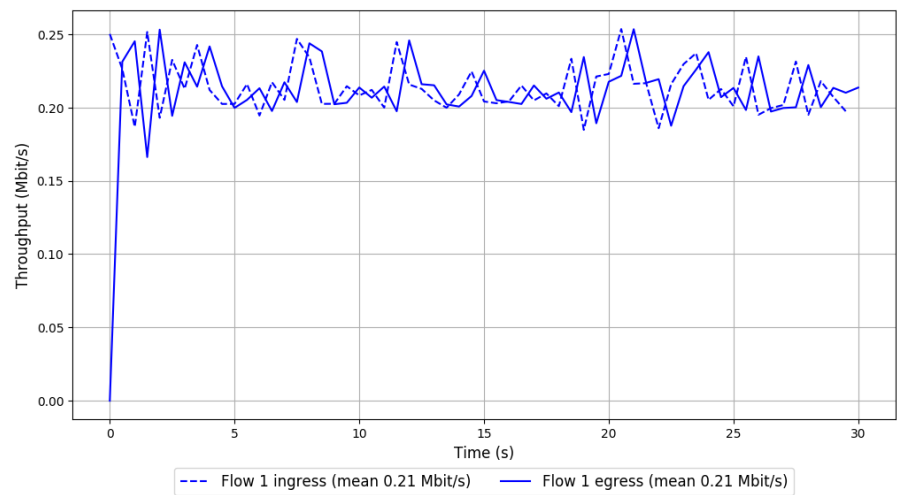


Run 1: Statistics of SCReAM

Start at: 2018-10-02 07:21:14  
End at: 2018-10-02 07:21:44  
Local clock offset: 1.14 ms  
Remote clock offset: -4.107 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.522 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.522 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

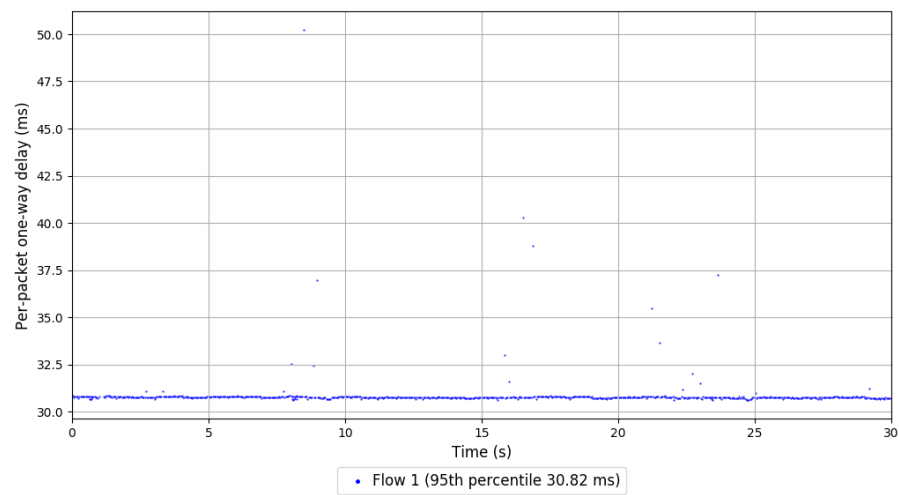
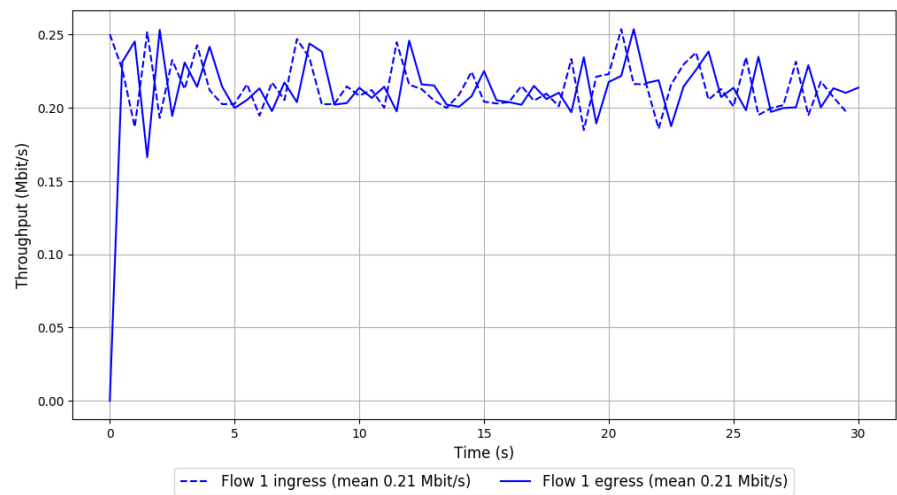


Run 2: Statistics of SCReAM

Start at: 2018-10-02 07:44:47  
End at: 2018-10-02 07:45:17  
Local clock offset: -3.359 ms  
Remote clock offset: -4.287 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.821 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.821 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

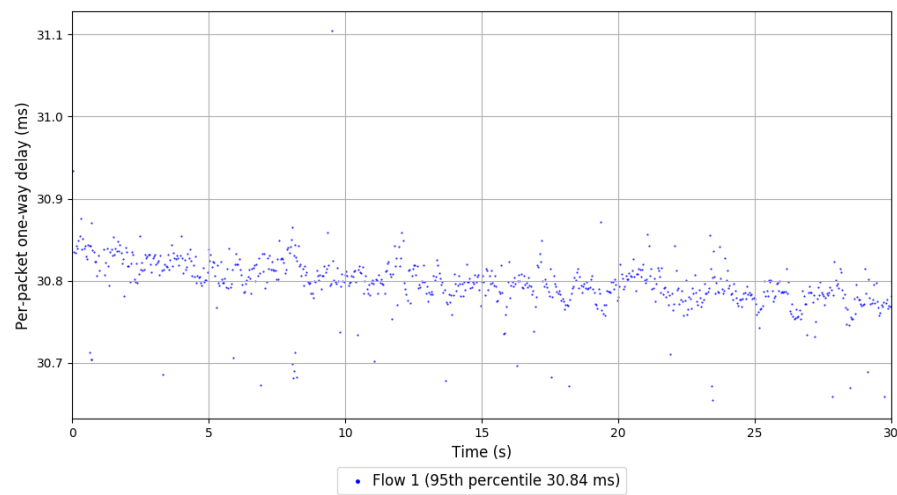
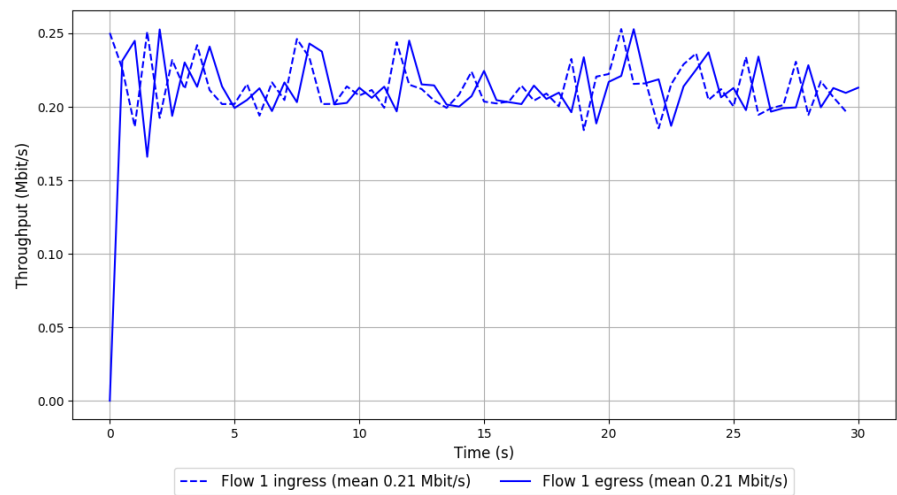


Run 3: Statistics of SCReAM

Start at: 2018-10-02 08:08:19  
End at: 2018-10-02 08:08:49  
Local clock offset: -5.09 ms  
Remote clock offset: -4.029 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.839 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.839 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

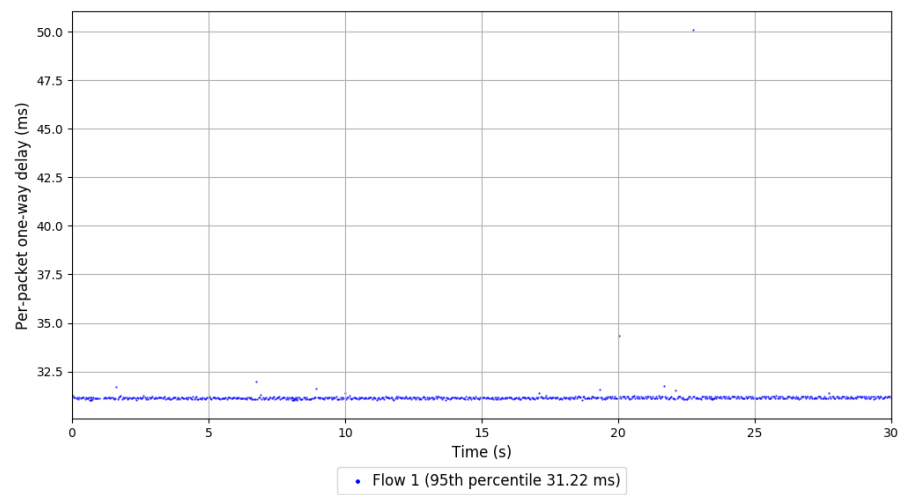
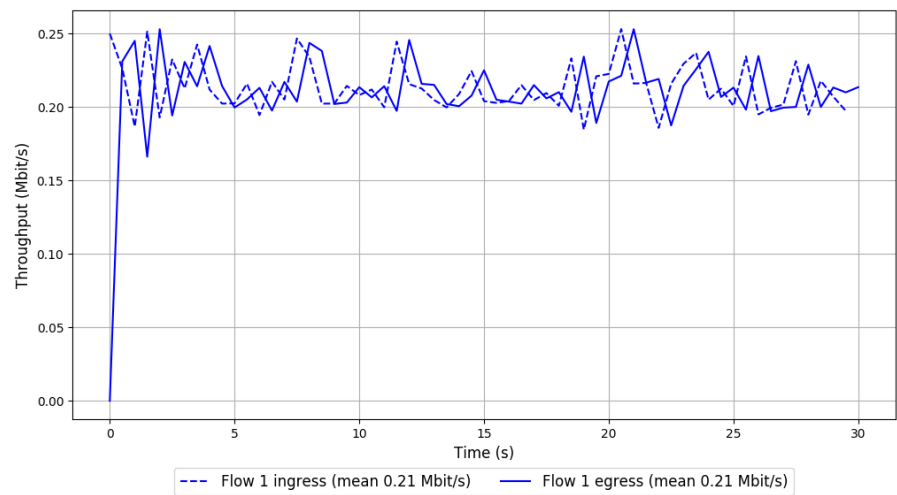


Run 4: Statistics of SCReAM

Start at: 2018-10-02 08:31:50  
End at: 2018-10-02 08:32:20  
Local clock offset: -0.168 ms  
Remote clock offset: -3.449 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.216 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 31.216 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

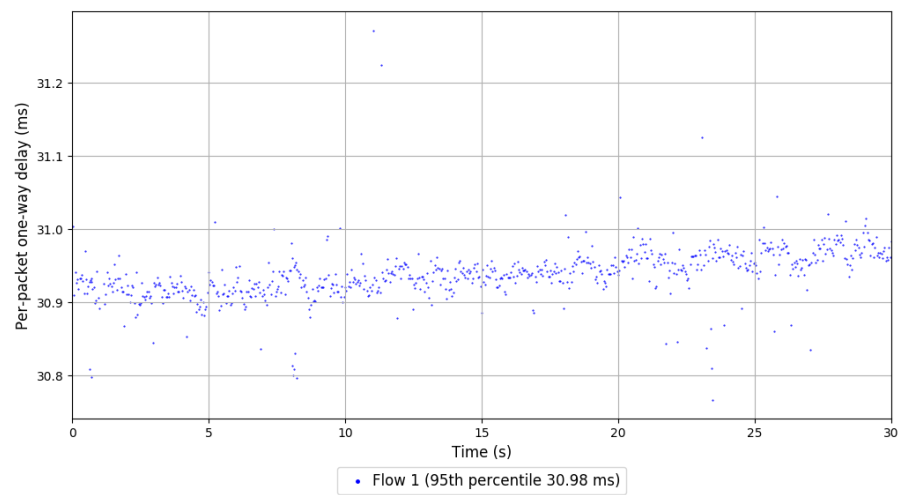
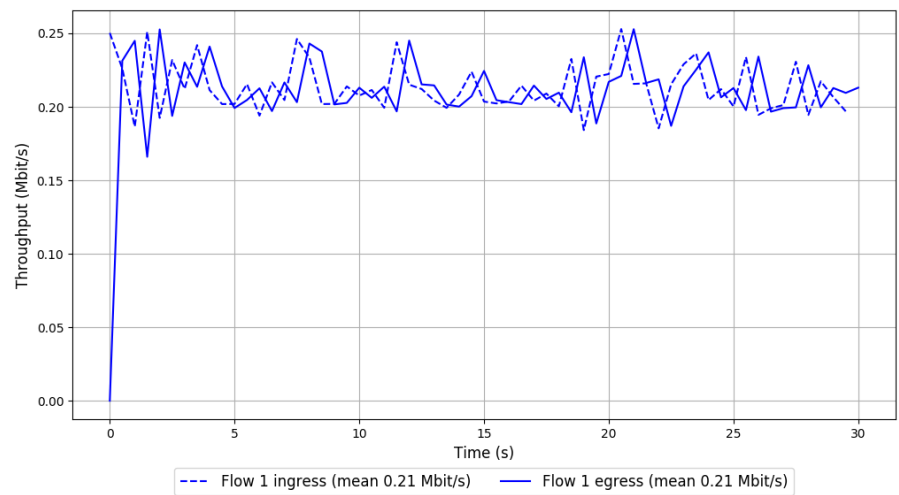


Run 5: Statistics of SCReAM

Start at: 2018-10-02 08:55:23  
End at: 2018-10-02 08:55:53  
Local clock offset: 3.017 ms  
Remote clock offset: -4.028 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.985 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 30.985 ms  
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

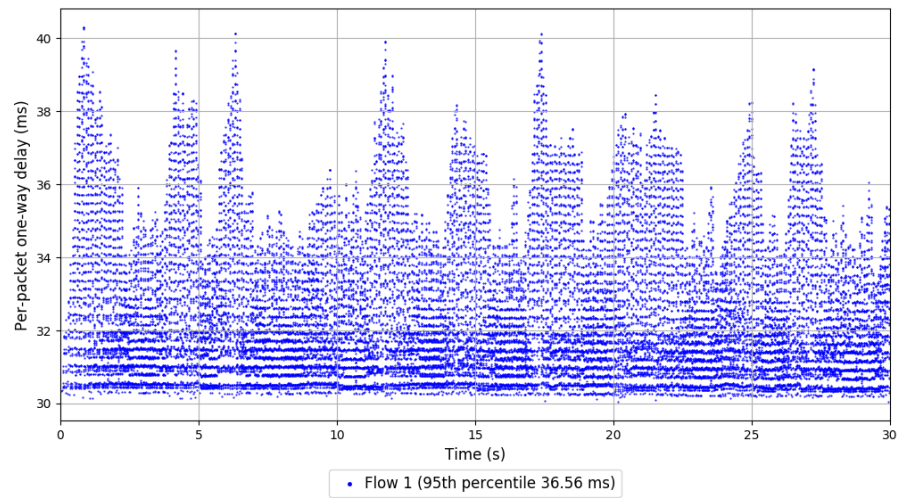
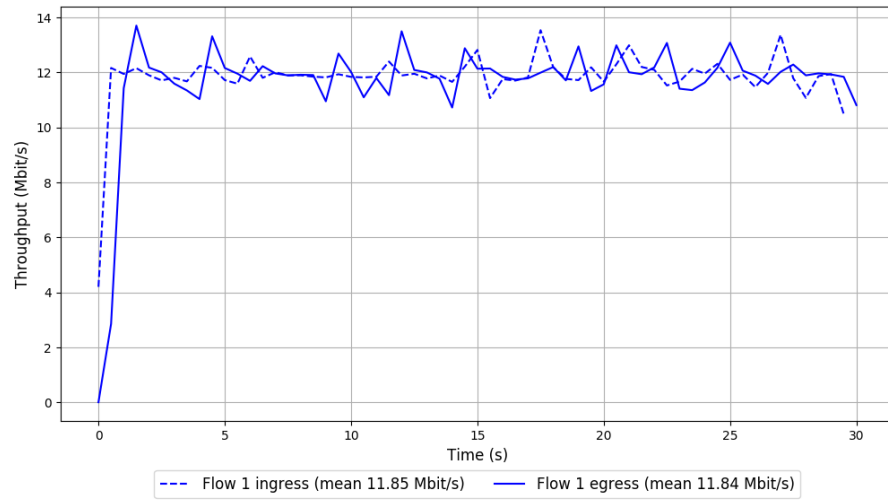


Run 1: Statistics of Sprout

Start at: 2018-10-02 07:26:26  
End at: 2018-10-02 07:26:56  
Local clock offset: -0.626 ms  
Remote clock offset: -4.397 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.565 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.84 Mbit/s  
95th percentile per-packet one-way delay: 36.565 ms  
Loss rate: 0.00%

# Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-02 07:49:58

End at: 2018-10-02 07:50:28

Local clock offset: -3.786 ms

Remote clock offset: -4.51 ms

# Below is generated by plot.py at 2018-10-02 09:17:14

# Datalink statistics

-- Total of 1 flow:

Average throughput: 11.82 Mbit/s

95th percentile per-packet one-way delay: 36.546 ms

Loss rate: 0.03%

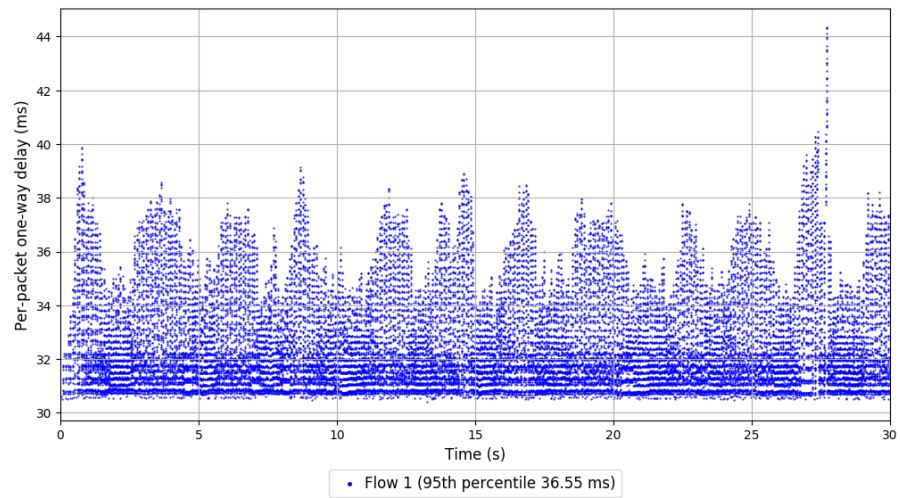
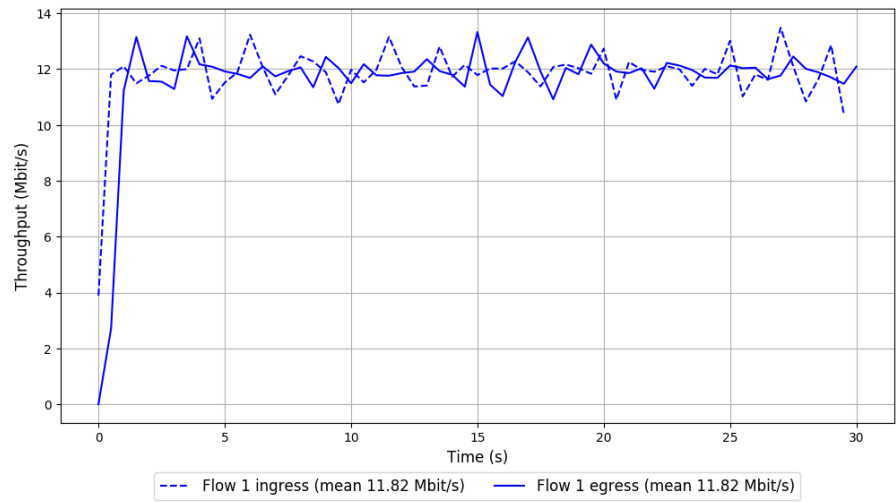
-- Flow 1:

Average throughput: 11.82 Mbit/s

95th percentile per-packet one-way delay: 36.546 ms

Loss rate: 0.03%

## Run 2: Report of Sprout — Data Link

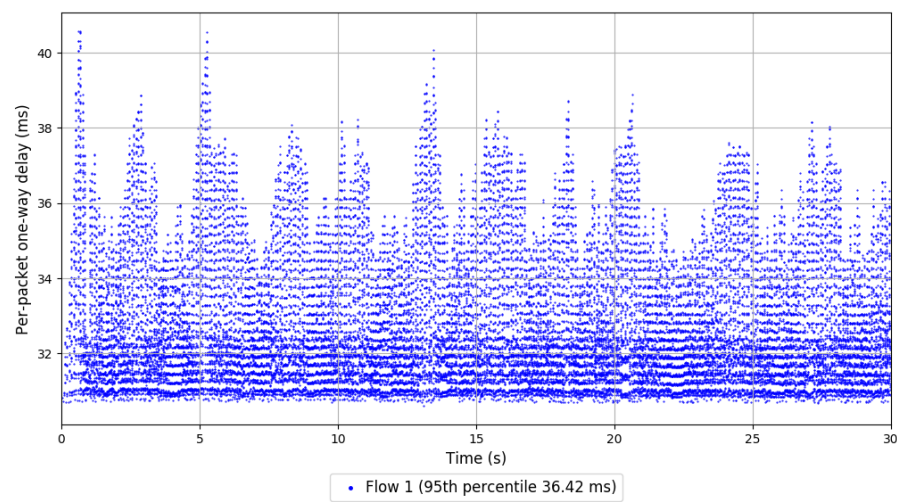
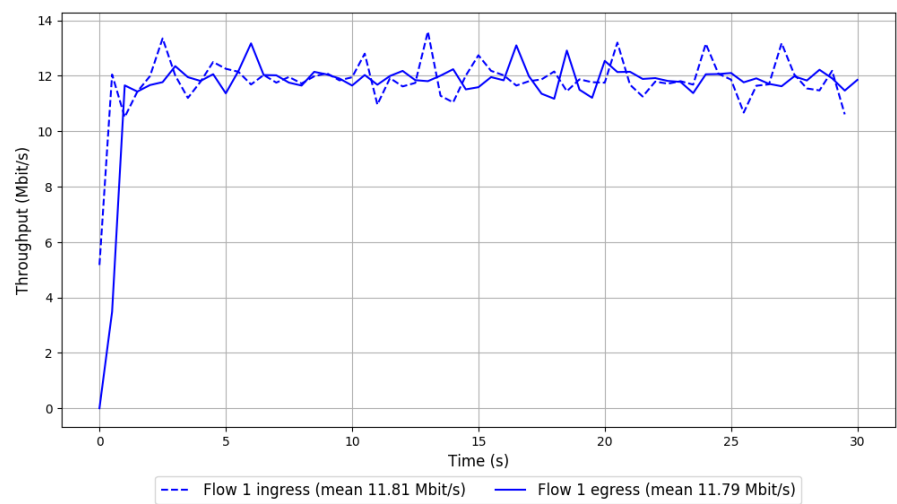


Run 3: Statistics of Sprout

Start at: 2018-10-02 08:13:30  
End at: 2018-10-02 08:14:00  
Local clock offset: -5.466 ms  
Remote clock offset: -3.808 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 36.416 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 36.416 ms  
Loss rate: 0.12%

Run 3: Report of Sprout — Data Link

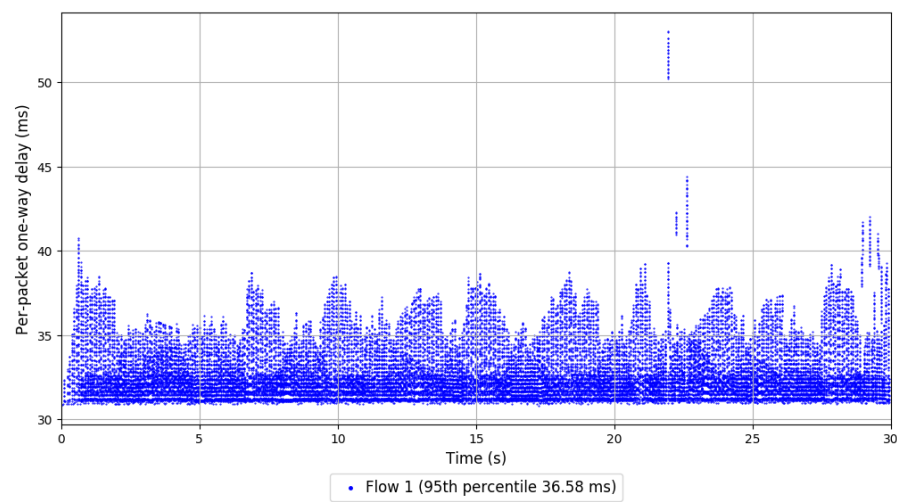
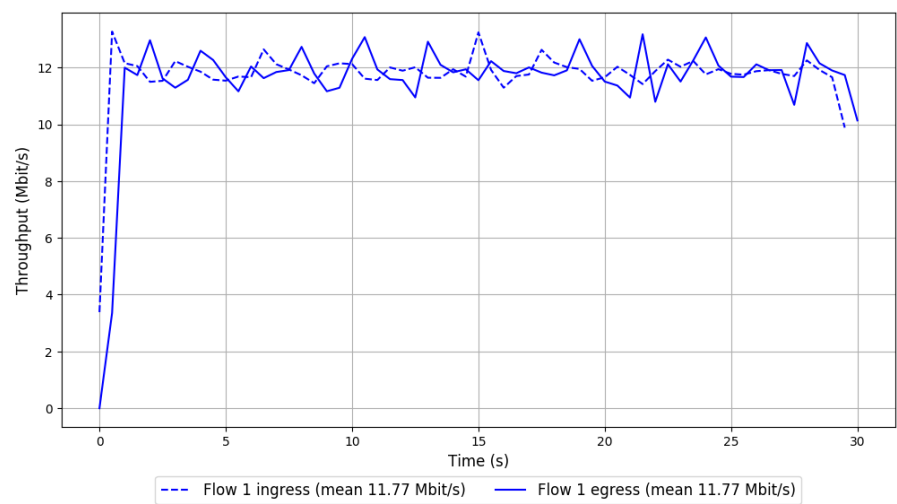


Run 4: Statistics of Sprout

Start at: 2018-10-02 08:37:02  
End at: 2018-10-02 08:37:32  
Local clock offset: 0.439 ms  
Remote clock offset: -3.662 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.77 Mbit/s  
95th percentile per-packet one-way delay: 36.579 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.77 Mbit/s  
95th percentile per-packet one-way delay: 36.579 ms  
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

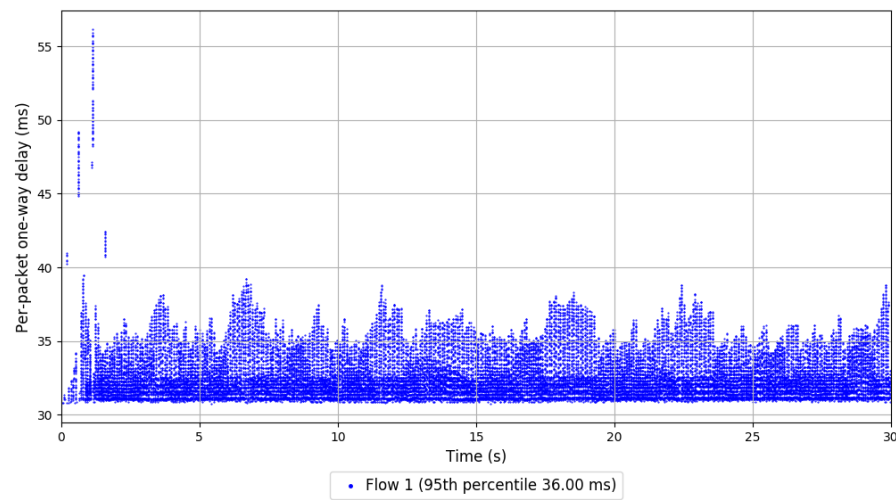
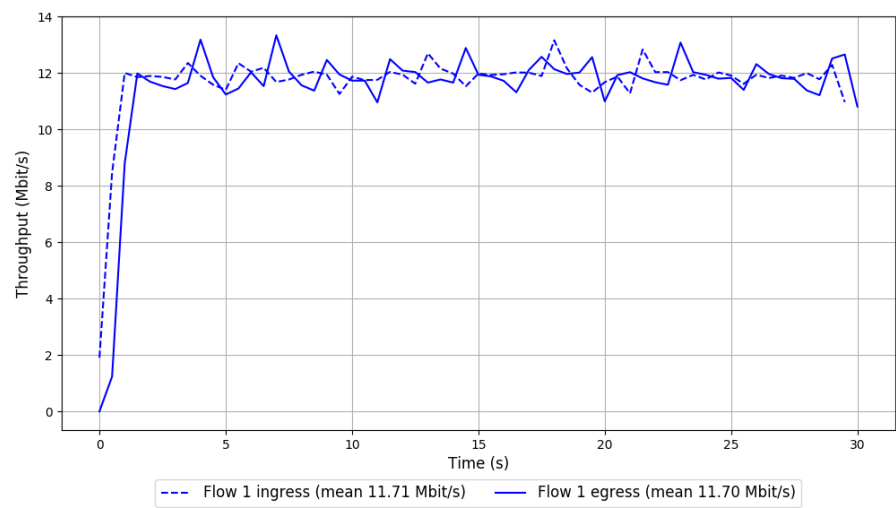


Run 5: Statistics of Sprout

Start at: 2018-10-02 09:00:35  
End at: 2018-10-02 09:01:05  
Local clock offset: 3.645 ms  
Remote clock offset: -4.078 ms

# Below is generated by plot.py at 2018-10-02 09:17:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.70 Mbit/s  
95th percentile per-packet one-way delay: 36.002 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 11.70 Mbit/s  
95th percentile per-packet one-way delay: 36.002 ms  
Loss rate: 0.10%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

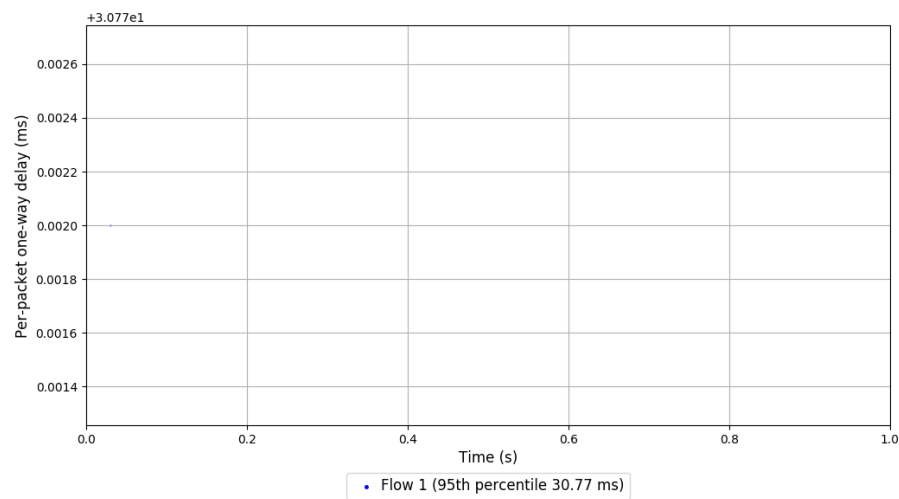
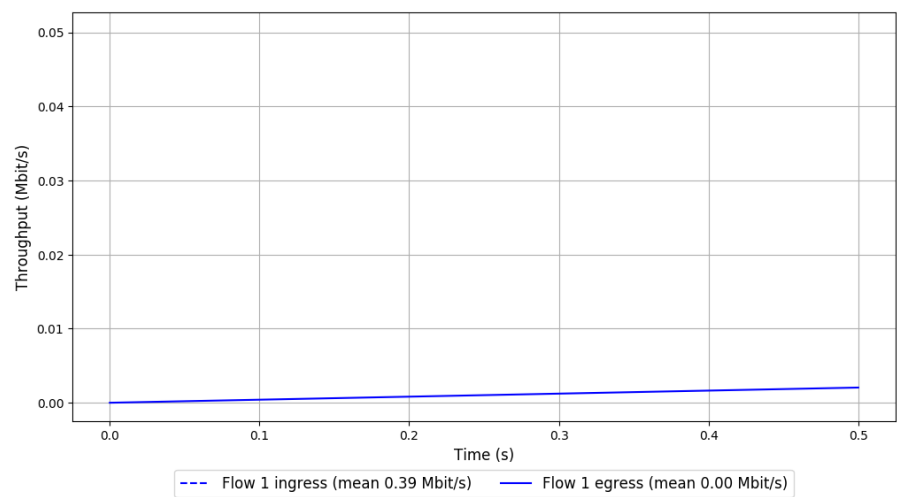
Start at: 2018-10-02 07:13:27

End at: 2018-10-02 07:13:57

Local clock offset: 3.951 ms

Remote clock offset: -4.117 ms

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



Run 2: Statistics of TaoVA-100x

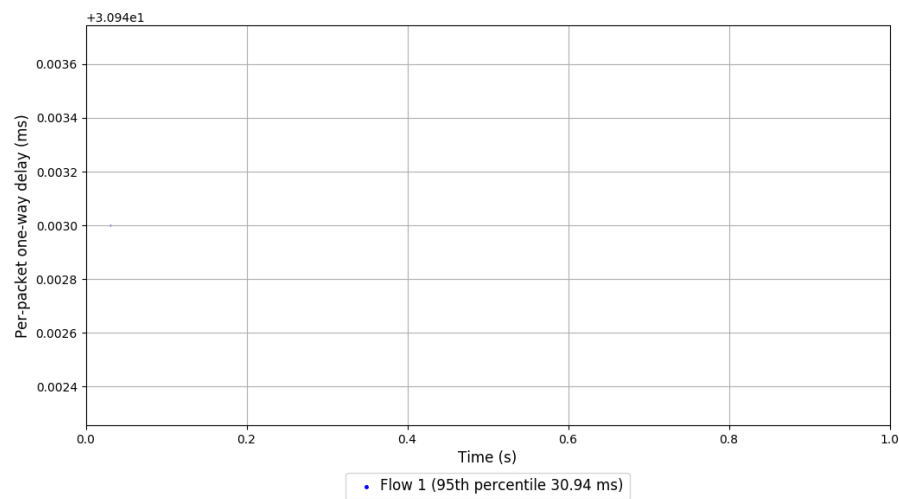
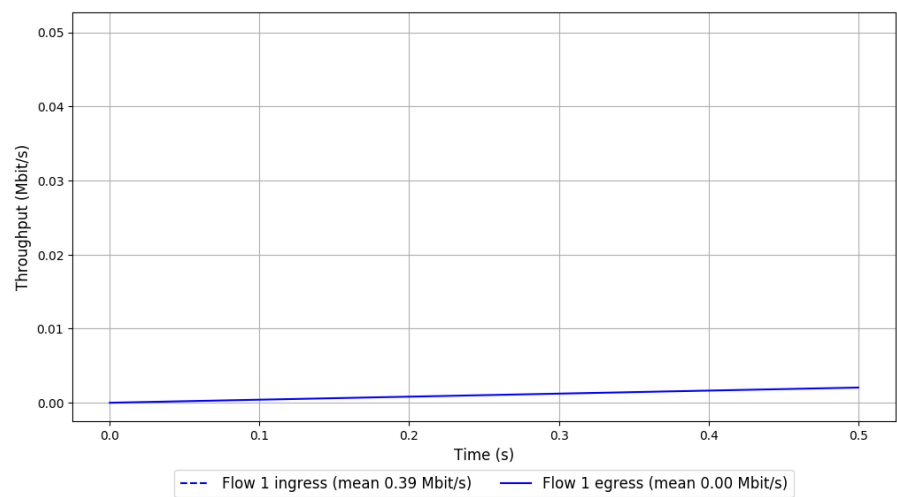
Start at: 2018-10-02 07:37:00

End at: 2018-10-02 07:37:30

Local clock offset: -2.554 ms

Remote clock offset: -4.075 ms

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



Run 3: Statistics of TaoVA-100x

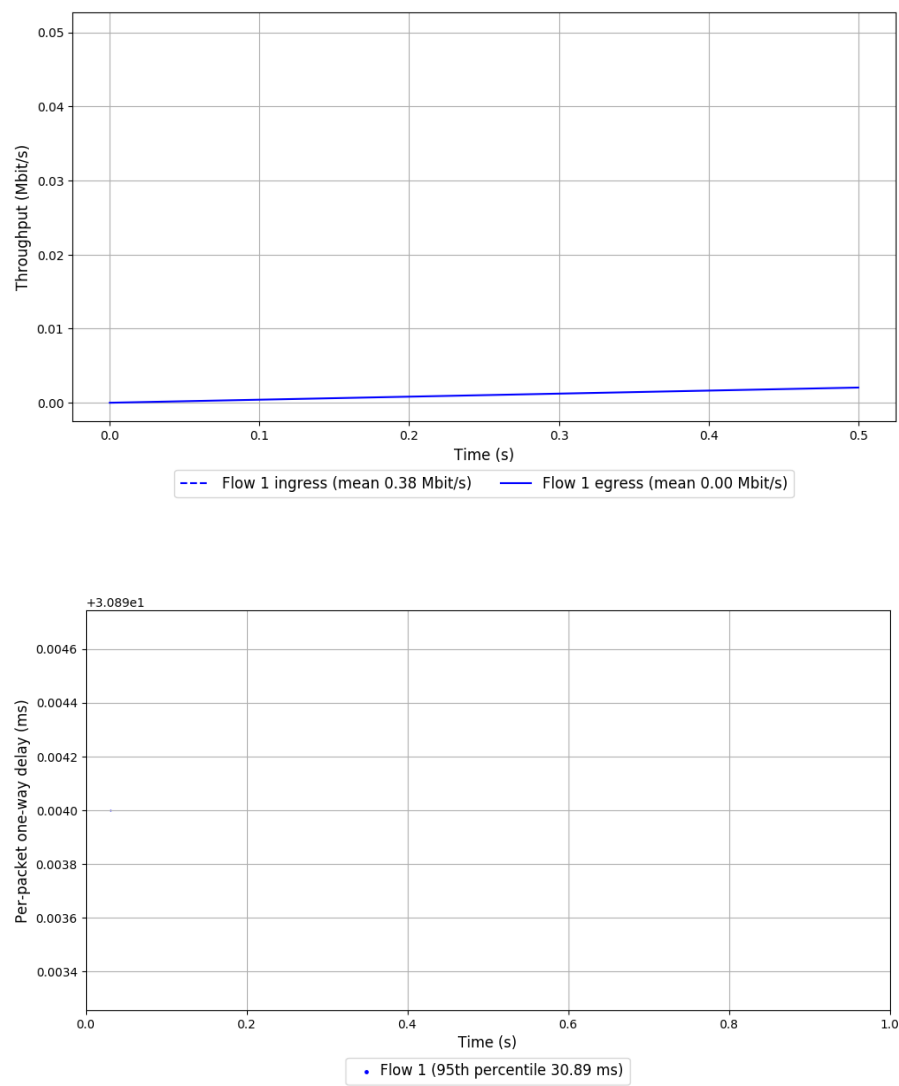
Start at: 2018-10-02 08:00:33

End at: 2018-10-02 08:01:03

Local clock offset: -4.579 ms

Remote clock offset: -4.182 ms

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



Run 4: Statistics of TaoVA-100x

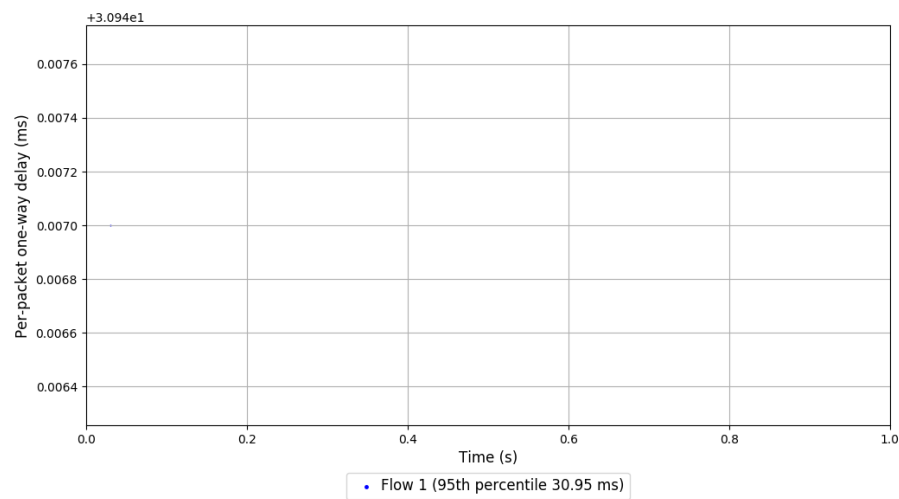
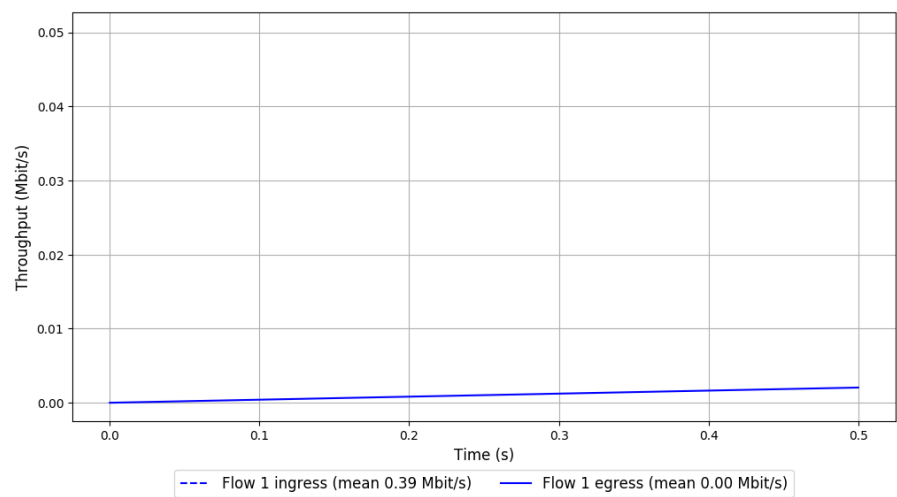
Start at: 2018-10-02 08:24:04

End at: 2018-10-02 08:24:34

Local clock offset: -1.813 ms

Remote clock offset: -3.642 ms

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



Run 5: Statistics of TaoVA-100x

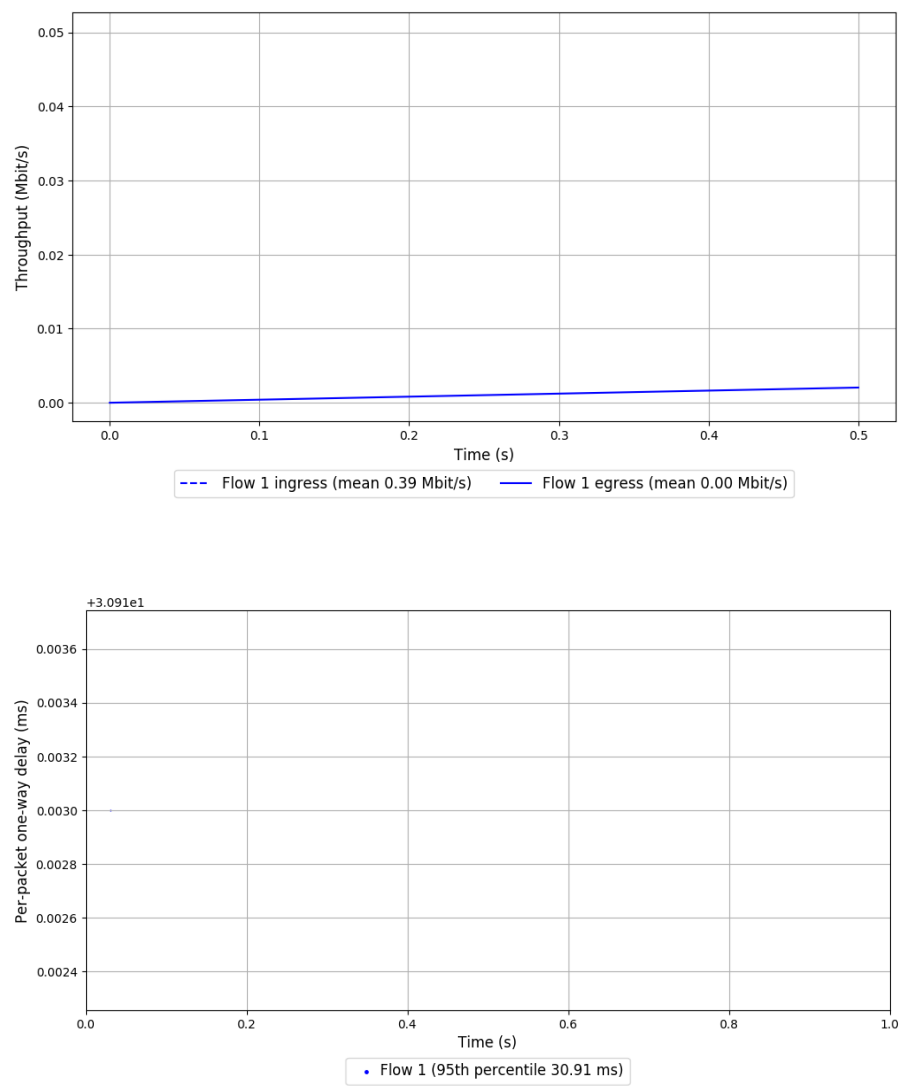
Start at: 2018-10-02 08:47:36

End at: 2018-10-02 08:48:06

Local clock offset: 1.55 ms

Remote clock offset: -3.95 ms

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

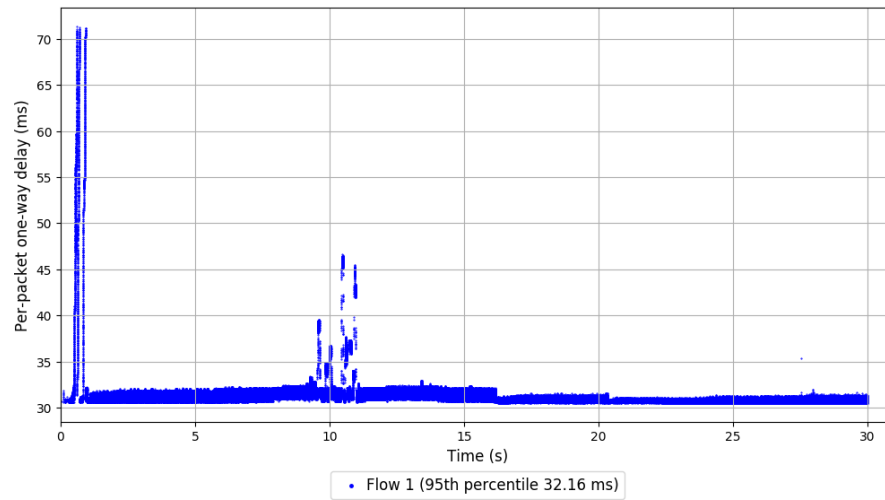
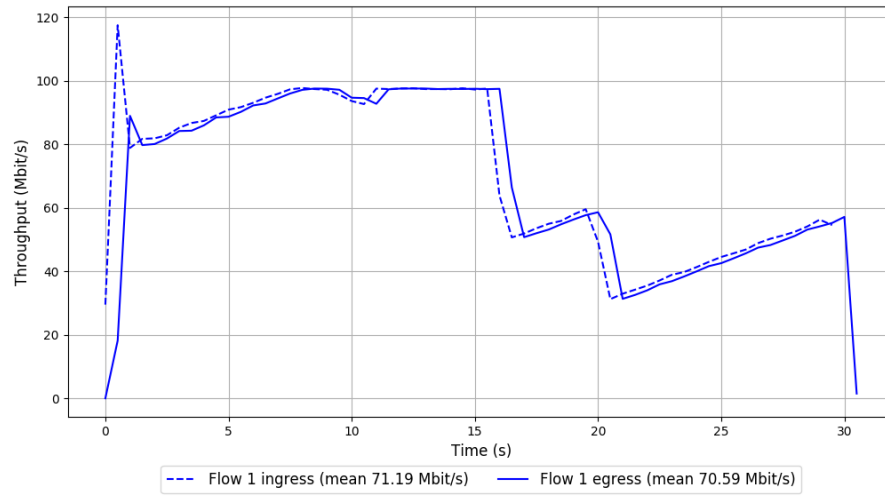


Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 07:27:42  
End at: 2018-10-02 07:28:12  
Local clock offset: -1.001 ms  
Remote clock offset: -4.133 ms

# Below is generated by plot.py at 2018-10-02 09:17:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.59 Mbit/s  
95th percentile per-packet one-way delay: 32.162 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 70.59 Mbit/s  
95th percentile per-packet one-way delay: 32.162 ms  
Loss rate: 0.83%

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

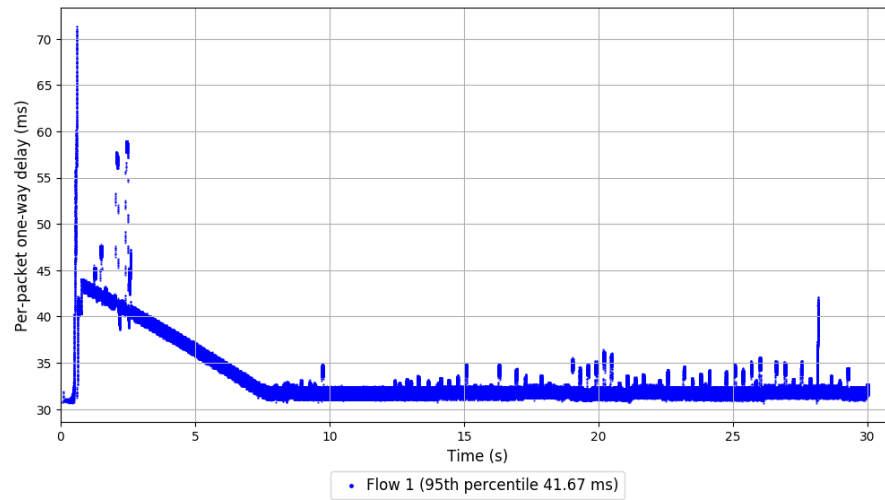
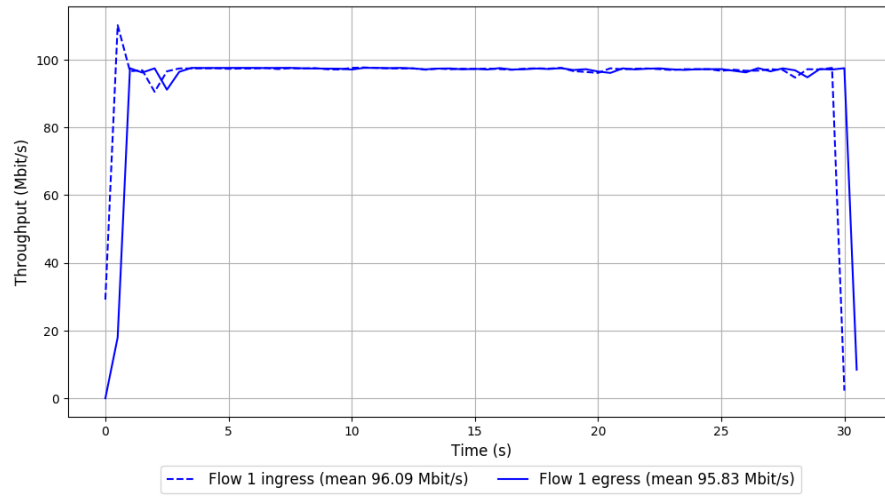


Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 07:51:14  
End at: 2018-10-02 07:51:44  
Local clock offset: -3.897 ms  
Remote clock offset: -4.406 ms

# Below is generated by plot.py at 2018-10-02 09:17:59  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.83 Mbit/s  
95th percentile per-packet one-way delay: 41.669 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 95.83 Mbit/s  
95th percentile per-packet one-way delay: 41.669 ms  
Loss rate: 0.27%

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

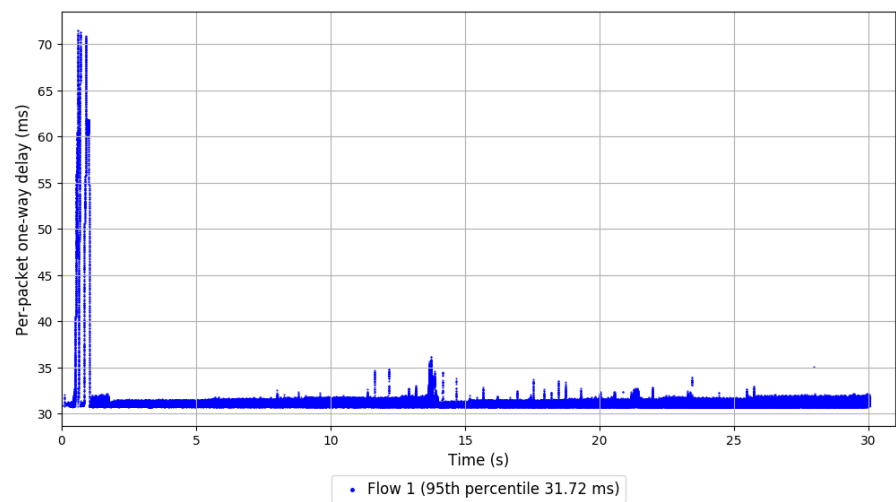
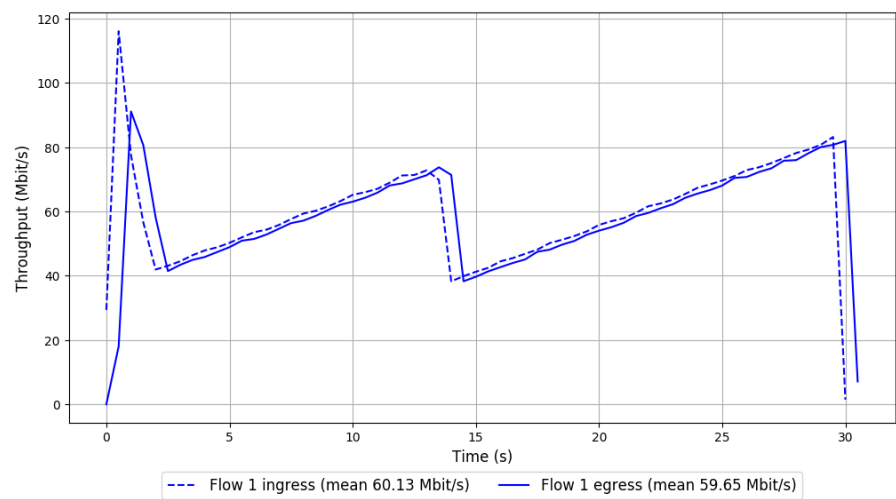


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 08:14:46  
End at: 2018-10-02 08:15:16  
Local clock offset: -5.539 ms  
Remote clock offset: -3.781 ms

# Below is generated by plot.py at 2018-10-02 09:17:59  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 59.65 Mbit/s  
95th percentile per-packet one-way delay: 31.717 ms  
Loss rate: 0.81%  
-- Flow 1:  
Average throughput: 59.65 Mbit/s  
95th percentile per-packet one-way delay: 31.717 ms  
Loss rate: 0.81%

Run 3: Report of TCP Vegas — Data Link

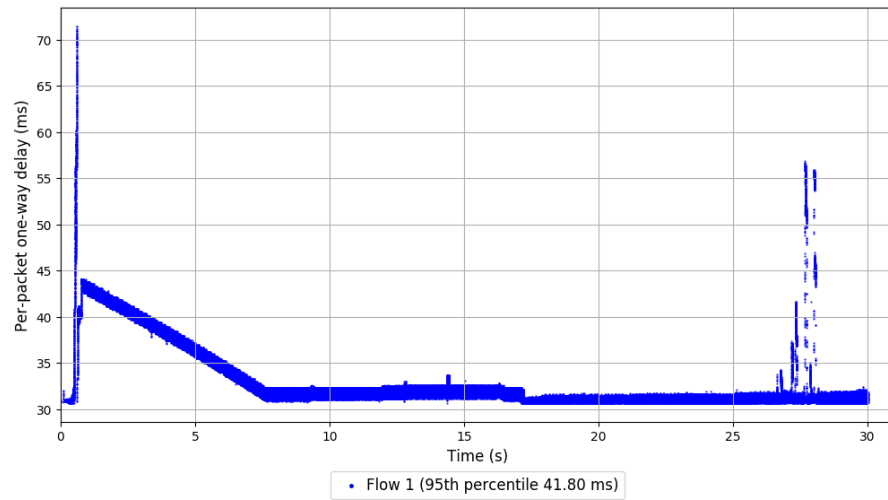
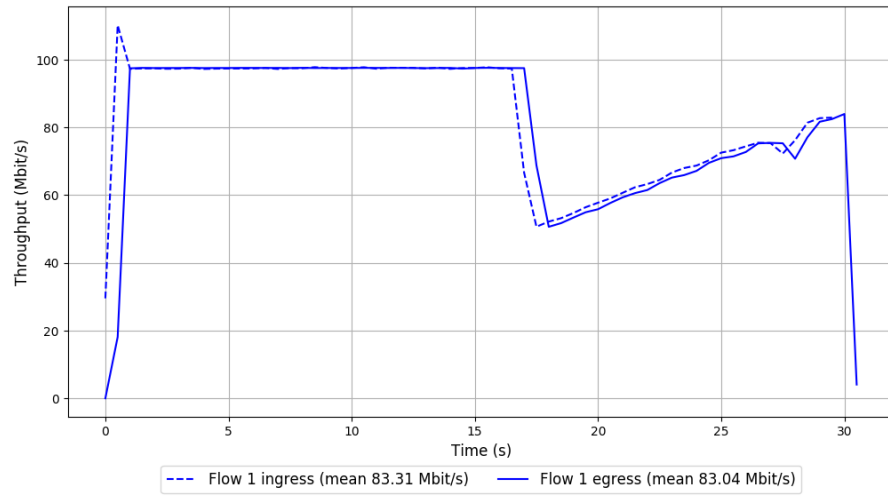


Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 08:38:18  
End at: 2018-10-02 08:38:48  
Local clock offset: 0.546 ms  
Remote clock offset: -3.879 ms

# Below is generated by plot.py at 2018-10-02 09:18:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 83.04 Mbit/s  
95th percentile per-packet one-way delay: 41.802 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 83.04 Mbit/s  
95th percentile per-packet one-way delay: 41.802 ms  
Loss rate: 0.33%

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

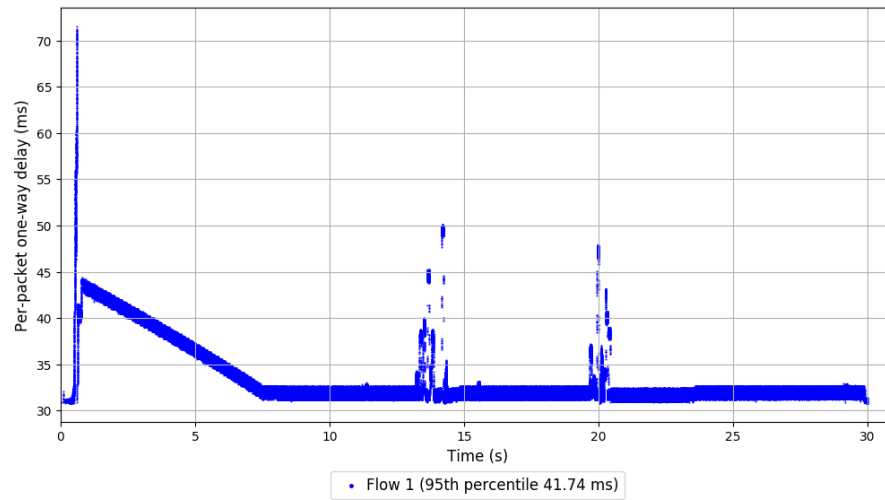
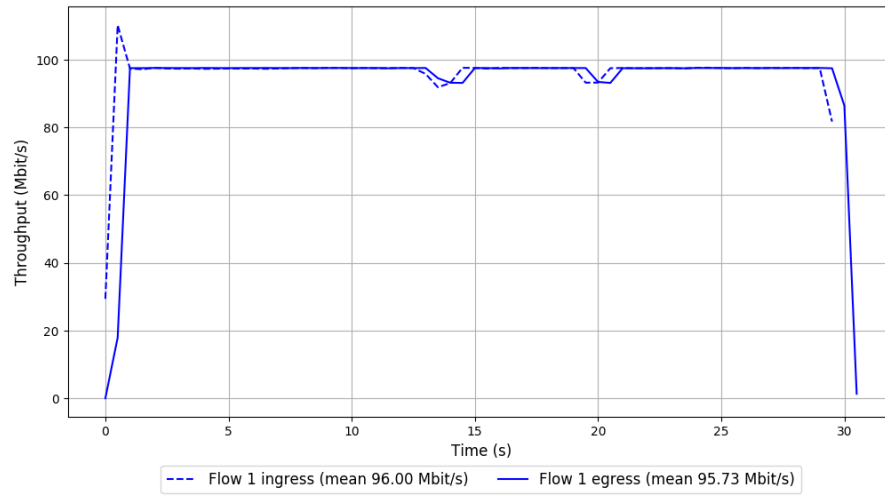


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 09:01:51  
End at: 2018-10-02 09:02:21  
Local clock offset: 3.79 ms  
Remote clock offset: -4.118 ms

# Below is generated by plot.py at 2018-10-02 09:18:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.73 Mbit/s  
95th percentile per-packet one-way delay: 41.745 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 95.73 Mbit/s  
95th percentile per-packet one-way delay: 41.745 ms  
Loss rate: 0.28%

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



Run 1: Statistics of Verus

Start at: 2018-10-02 07:30:22

End at: 2018-10-02 07:30:52

Local clock offset: -1.544 ms

Remote clock offset: -4.38 ms

# Below is generated by plot.py at 2018-10-02 09:18:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 60.39 Mbit/s

95th percentile per-packet one-way delay: 65.893 ms

Loss rate: 22.44%

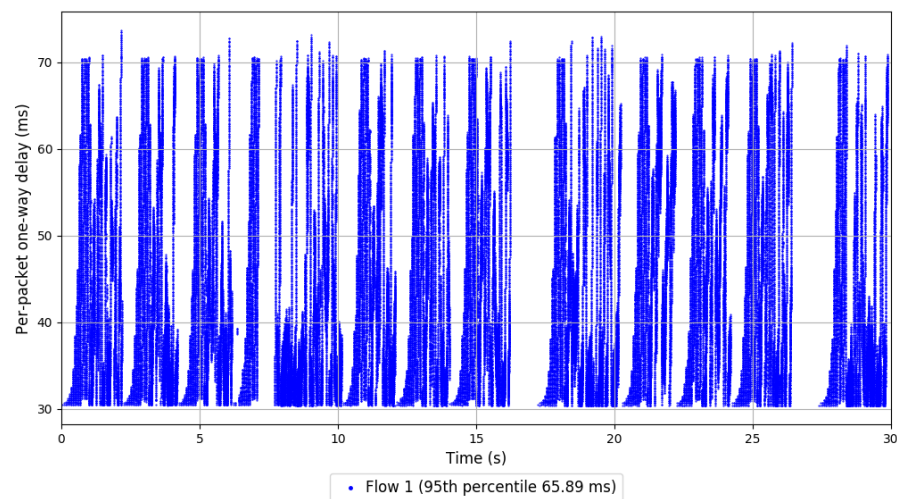
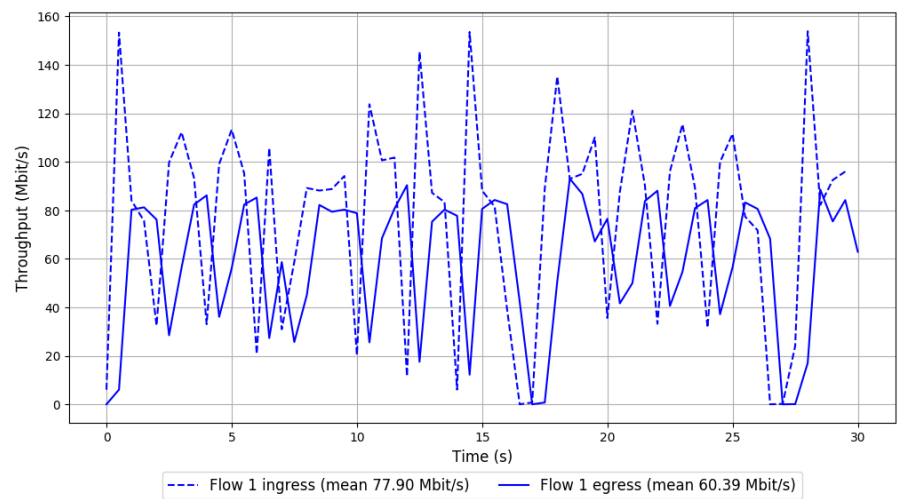
-- Flow 1:

Average throughput: 60.39 Mbit/s

95th percentile per-packet one-way delay: 65.893 ms

Loss rate: 22.44%

Run 1: Report of Verus — Data Link

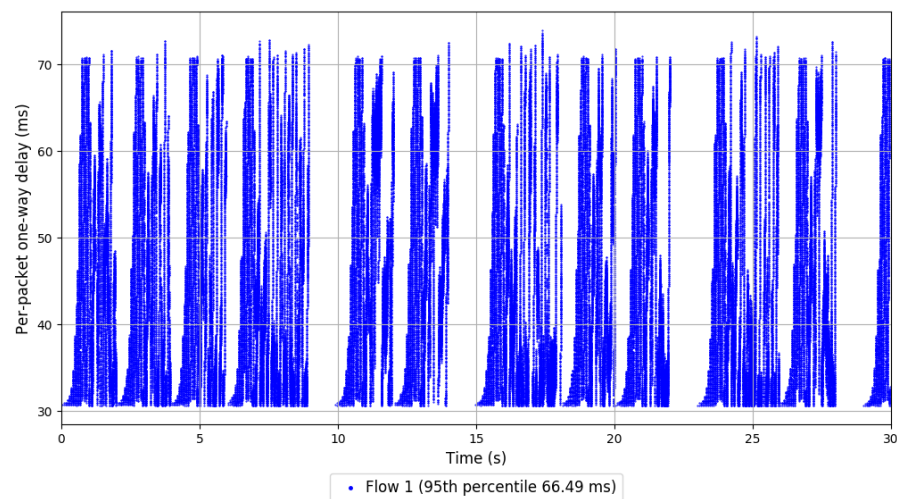
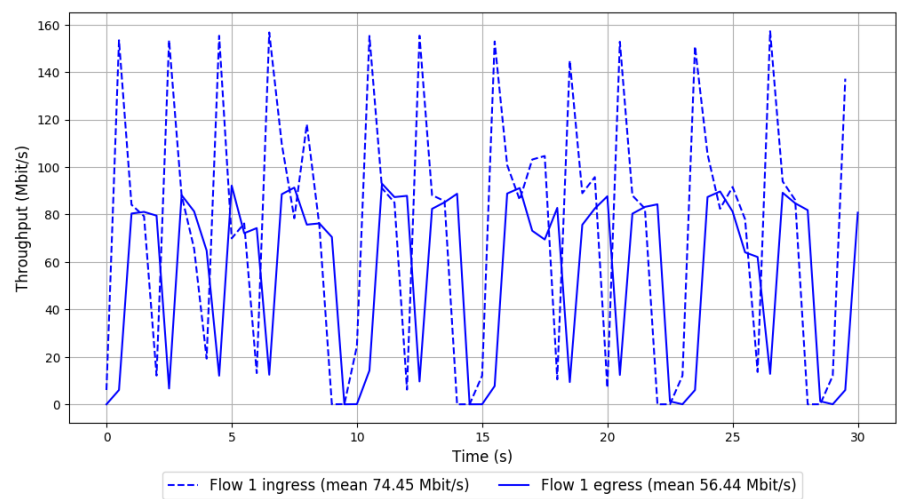


Run 2: Statistics of Verus

Start at: 2018-10-02 07:53:55  
End at: 2018-10-02 07:54:25  
Local clock offset: -4.094 ms  
Remote clock offset: -4.311 ms

# Below is generated by plot.py at 2018-10-02 09:18:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 56.44 Mbit/s  
95th percentile per-packet one-way delay: 66.487 ms  
Loss rate: 24.19%  
-- Flow 1:  
Average throughput: 56.44 Mbit/s  
95th percentile per-packet one-way delay: 66.487 ms  
Loss rate: 24.19%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-02 08:17:25

End at: 2018-10-02 08:17:55

Local clock offset: -4.744 ms

Remote clock offset: -3.8 ms

# Below is generated by plot.py at 2018-10-02 09:18:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 56.67 Mbit/s

95th percentile per-packet one-way delay: 66.744 ms

Loss rate: 23.54%

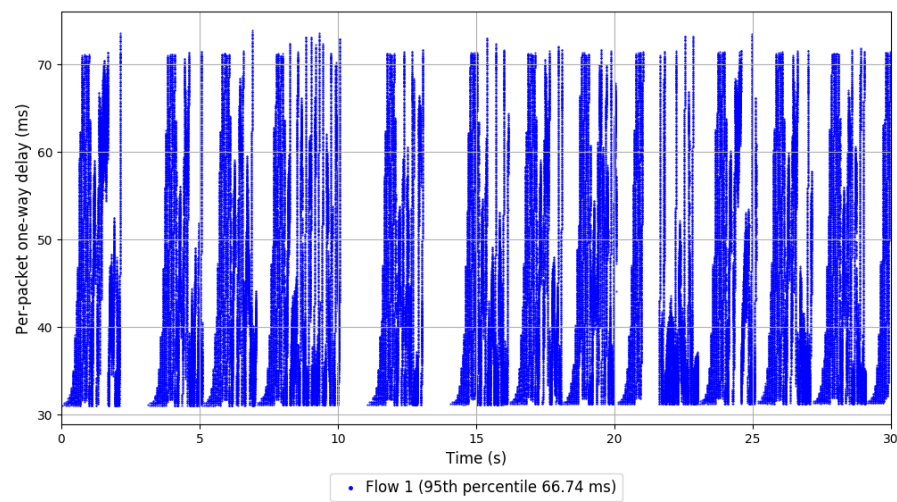
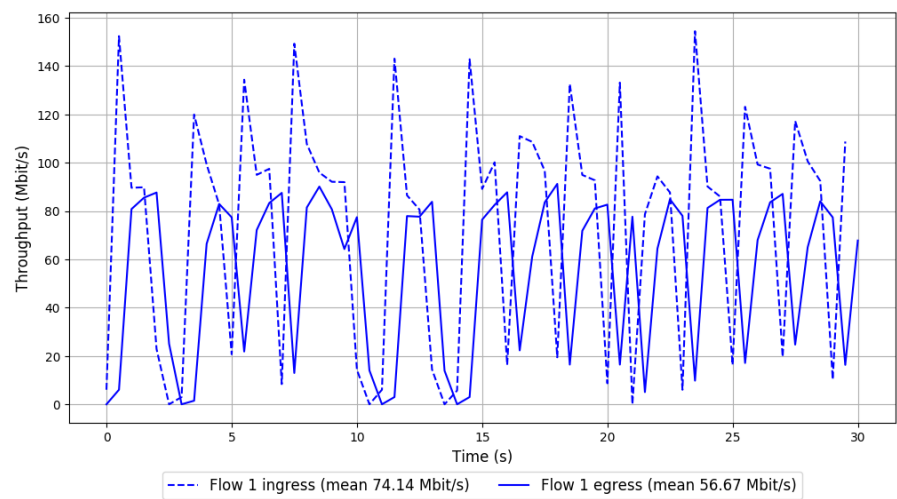
-- Flow 1:

Average throughput: 56.67 Mbit/s

95th percentile per-packet one-way delay: 66.744 ms

Loss rate: 23.54%

Run 3: Report of Verus — Data Link

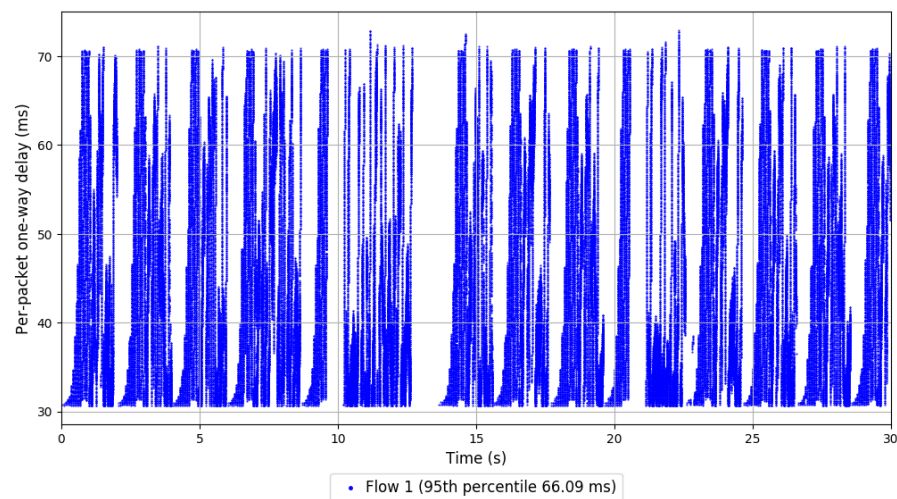
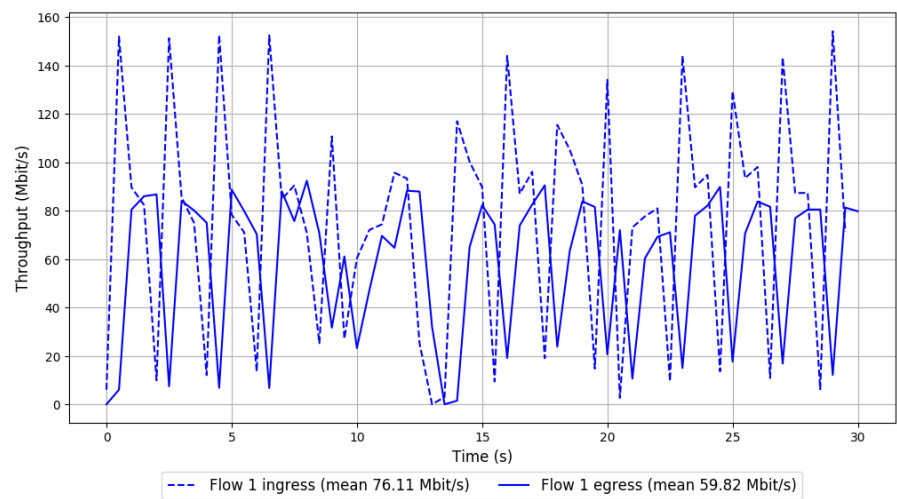


Run 4: Statistics of Verus

Start at: 2018-10-02 08:40:58  
End at: 2018-10-02 08:41:28  
Local clock offset: 0.764 ms  
Remote clock offset: -3.865 ms

# Below is generated by plot.py at 2018-10-02 09:18:21  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 59.82 Mbit/s  
95th percentile per-packet one-way delay: 66.090 ms  
Loss rate: 21.34%  
-- Flow 1:  
Average throughput: 59.82 Mbit/s  
95th percentile per-packet one-way delay: 66.090 ms  
Loss rate: 21.34%

Run 4: Report of Verus — Data Link

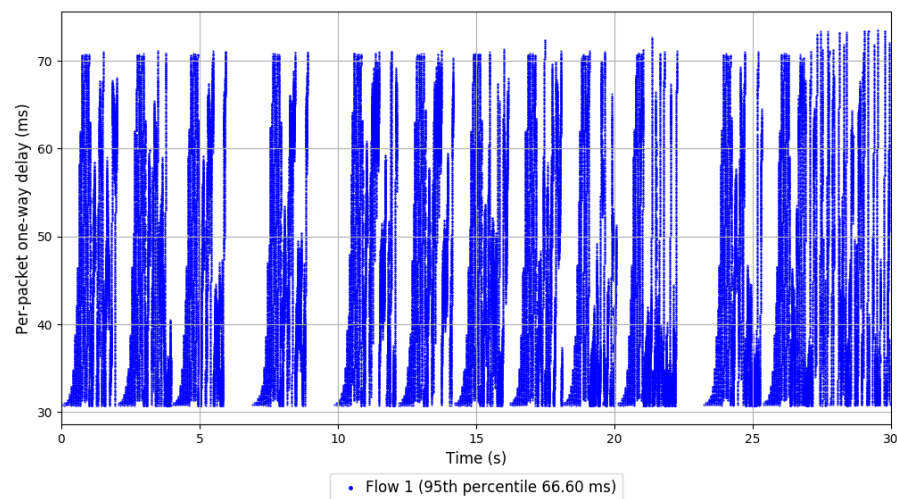
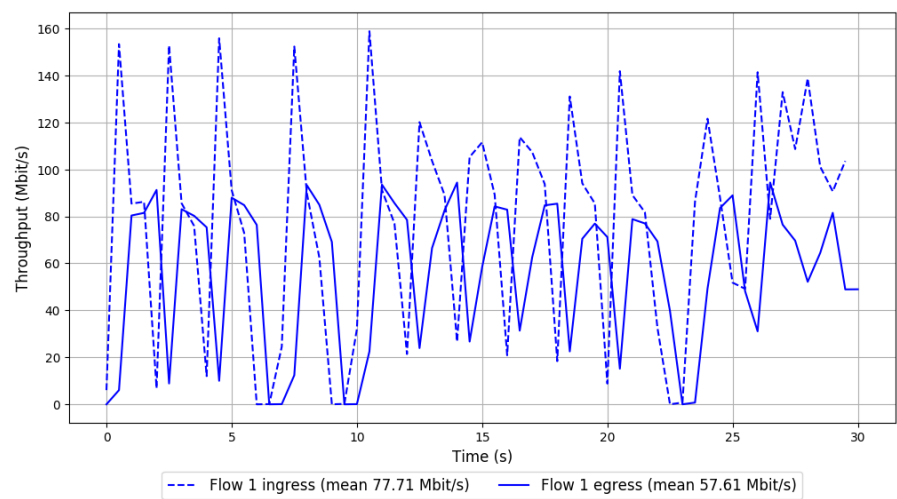


Run 5: Statistics of Verus

Start at: 2018-10-02 09:04:32  
End at: 2018-10-02 09:05:02  
Local clock offset: 4.044 ms  
Remote clock offset: -4.163 ms

# Below is generated by plot.py at 2018-10-02 09:18:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 57.61 Mbit/s  
95th percentile per-packet one-way delay: 66.598 ms  
Loss rate: 25.85%  
-- Flow 1:  
Average throughput: 57.61 Mbit/s  
95th percentile per-packet one-way delay: 66.598 ms  
Loss rate: 25.85%

Run 5: Report of Verus — Data Link

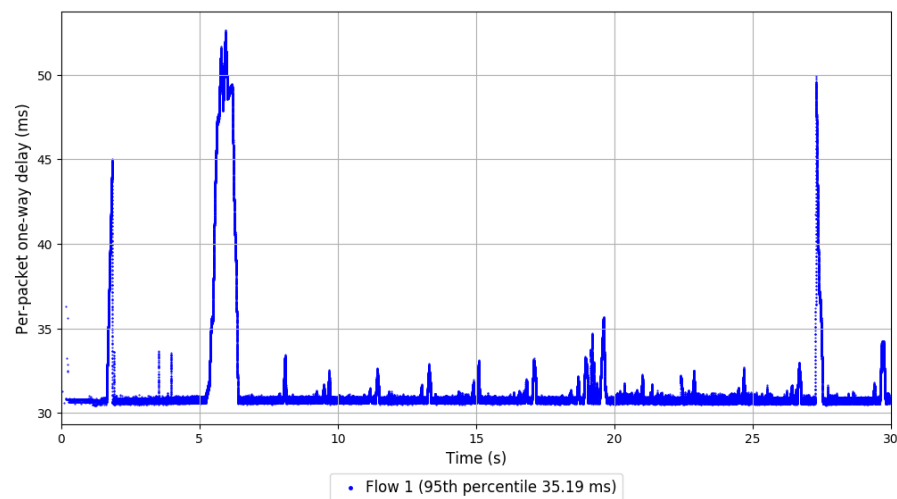
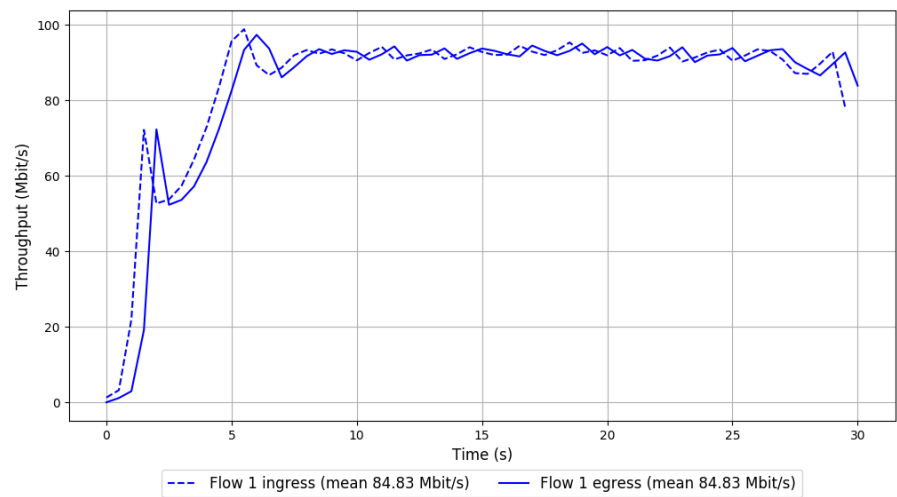


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 07:33:01  
End at: 2018-10-02 07:33:31  
Local clock offset: -1.982 ms  
Remote clock offset: -4.188 ms

# Below is generated by plot.py at 2018-10-02 09:18:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.83 Mbit/s  
95th percentile per-packet one-way delay: 35.186 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 84.83 Mbit/s  
95th percentile per-packet one-way delay: 35.186 ms  
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

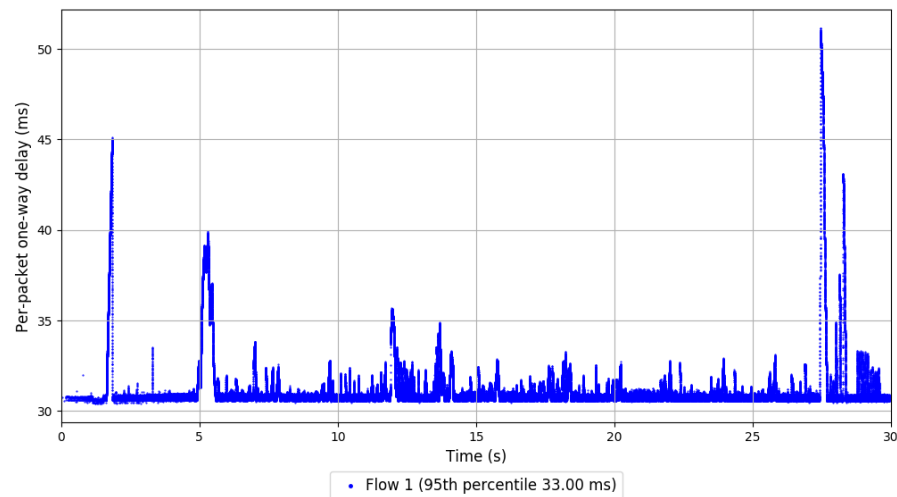
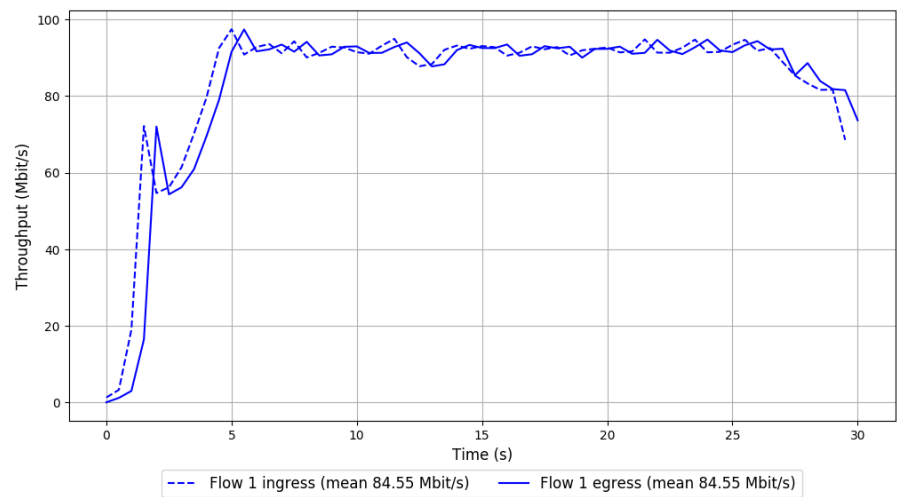


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 07:56:33  
End at: 2018-10-02 07:57:03  
Local clock offset: -4.279 ms  
Remote clock offset: -4.444 ms

# Below is generated by plot.py at 2018-10-02 09:18:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.55 Mbit/s  
95th percentile per-packet one-way delay: 33.003 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 84.55 Mbit/s  
95th percentile per-packet one-way delay: 33.003 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 08:20:04

End at: 2018-10-02 08:20:34

Local clock offset: -3.315 ms

Remote clock offset: -3.699 ms

# Below is generated by plot.py at 2018-10-02 09:18:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.37 Mbit/s

95th percentile per-packet one-way delay: 32.945 ms

Loss rate: 0.02%

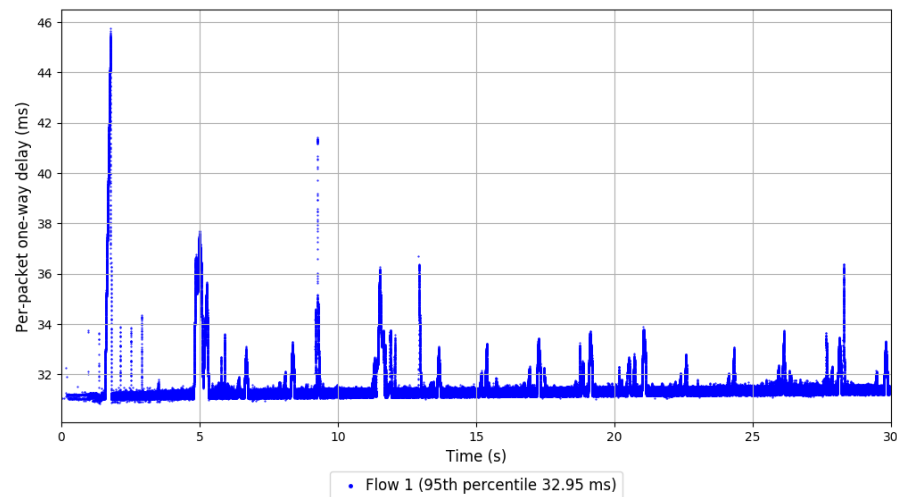
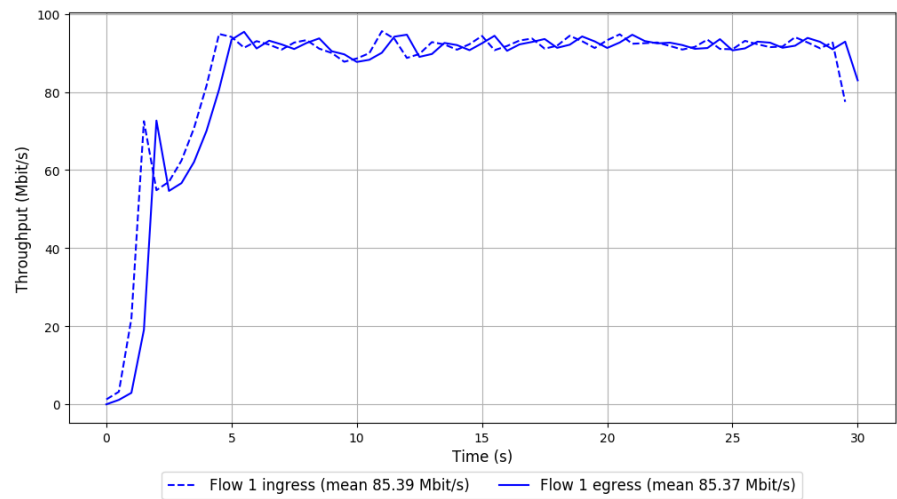
-- Flow 1:

Average throughput: 85.37 Mbit/s

95th percentile per-packet one-way delay: 32.945 ms

Loss rate: 0.02%

Run 3: Report of PCC-Vivace — Data Link

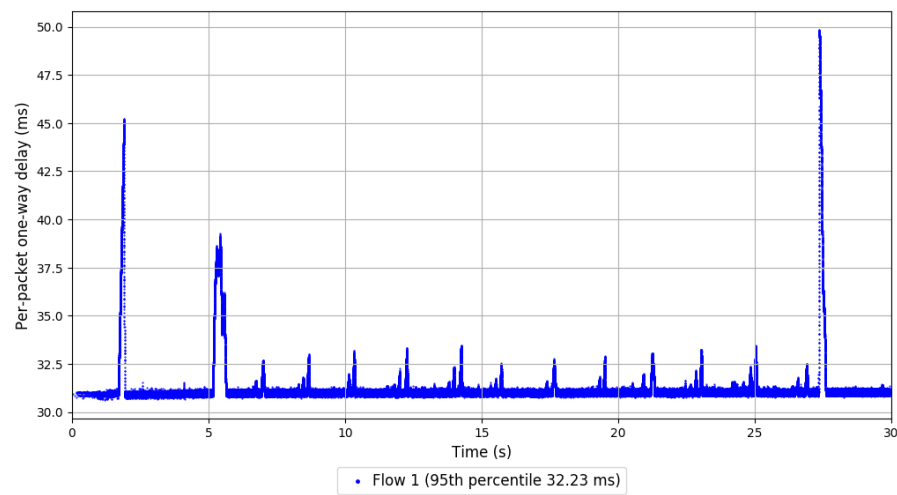
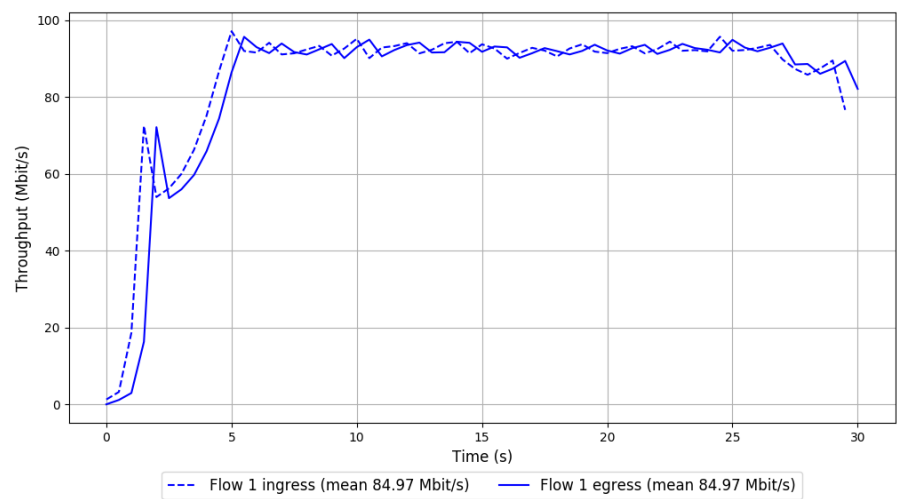


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 08:43:37  
End at: 2018-10-02 08:44:07  
Local clock offset: 0.957 ms  
Remote clock offset: -3.768 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.97 Mbit/s  
95th percentile per-packet one-way delay: 32.233 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 84.97 Mbit/s  
95th percentile per-packet one-way delay: 32.233 ms  
Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link

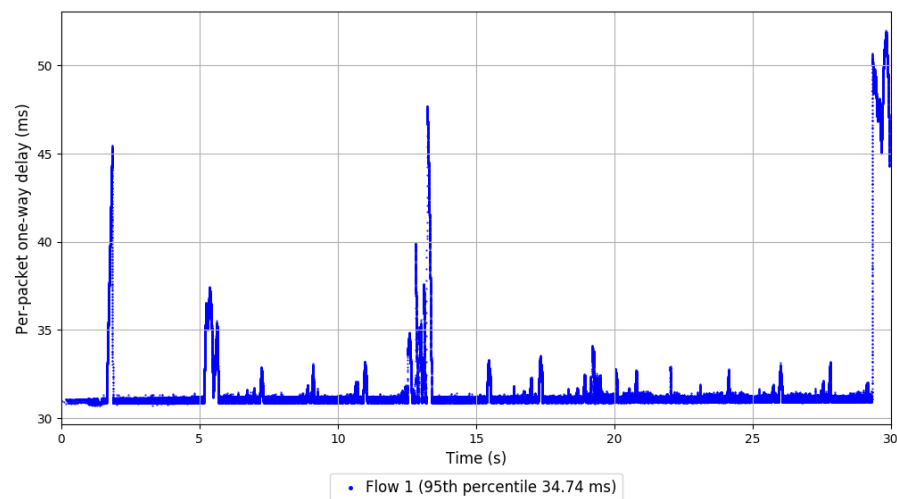
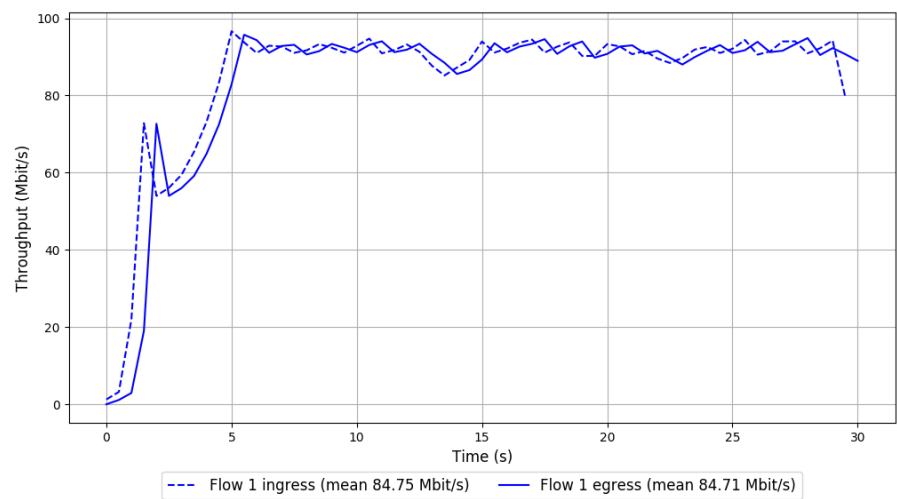


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 09:07:11  
End at: 2018-10-02 09:07:41  
Local clock offset: 4.292 ms  
Remote clock offset: -4.152 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.71 Mbit/s  
95th percentile per-packet one-way delay: 34.741 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 84.71 Mbit/s  
95th percentile per-packet one-way delay: 34.741 ms  
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

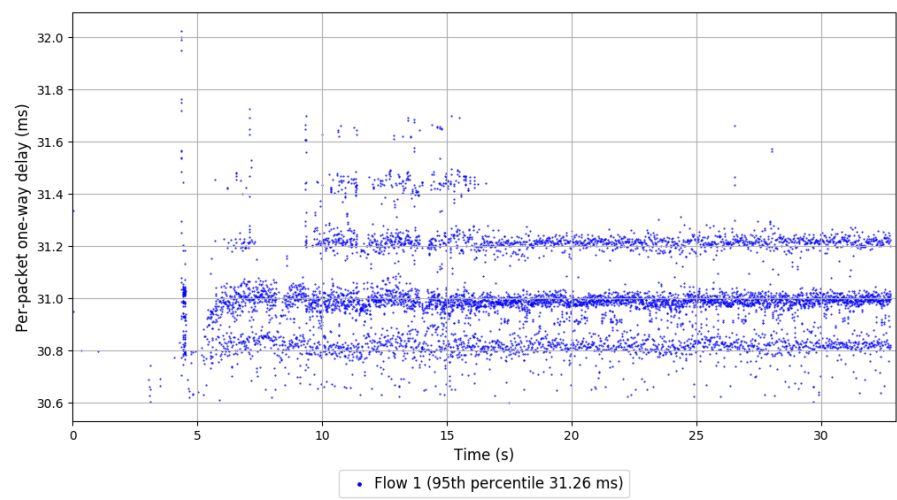
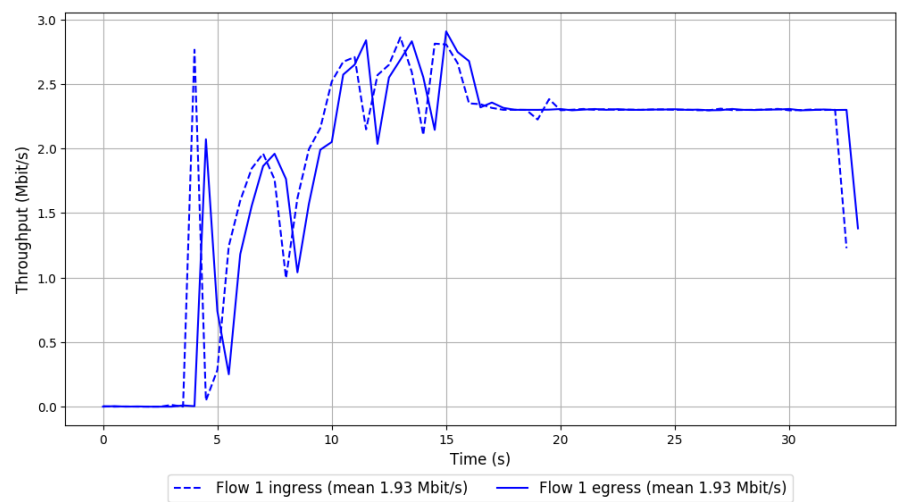


Run 1: Statistics of WebRTC media

Start at: 2018-10-02 07:14:43  
End at: 2018-10-02 07:15:13  
Local clock offset: 3.973 ms  
Remote clock offset: -4.092 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.260 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.260 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

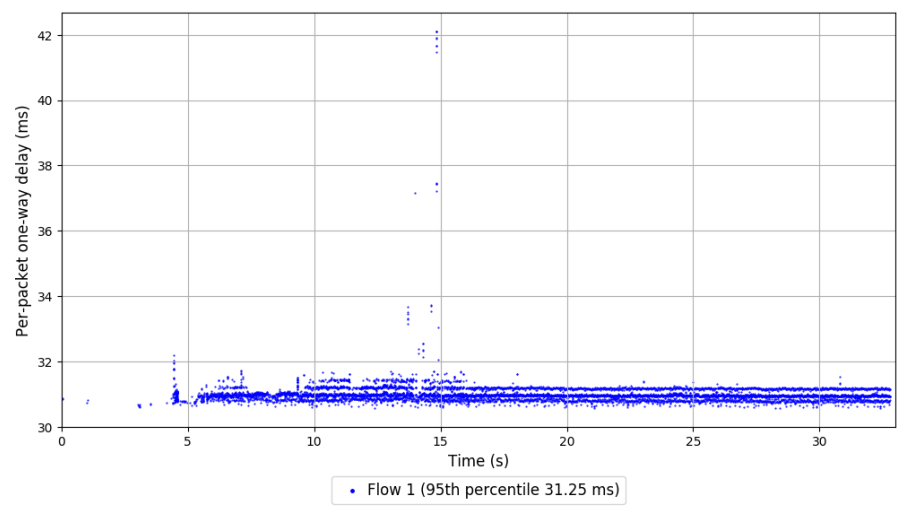
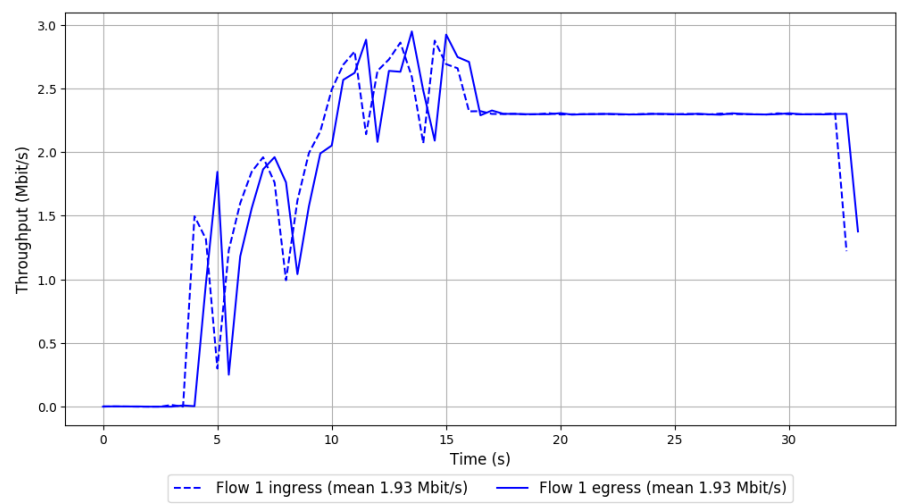


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 07:38:16  
End at: 2018-10-02 07:38:46  
Local clock offset: -2.725 ms  
Remote clock offset: -4.073 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.245 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.245 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

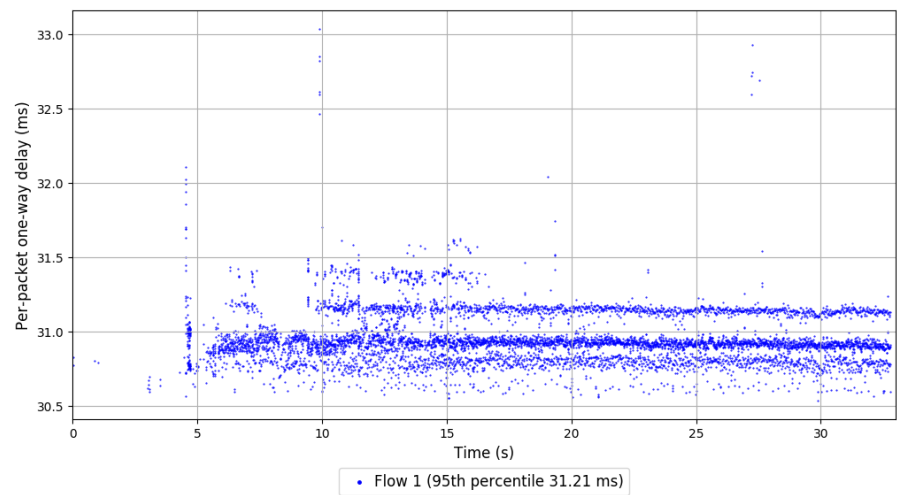
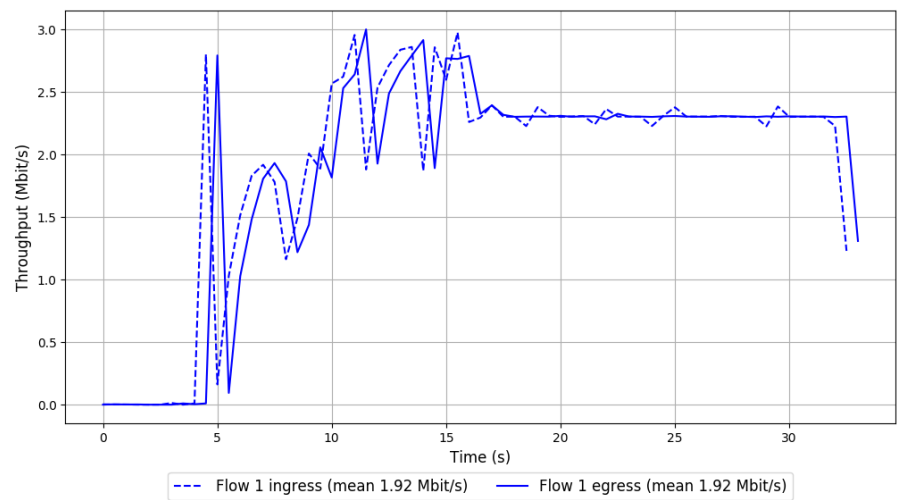


Run 3: Statistics of WebRTC media

Start at: 2018-10-02 08:01:49  
End at: 2018-10-02 08:02:19  
Local clock offset: -4.641 ms  
Remote clock offset: -4.174 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.210 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.92 Mbit/s  
95th percentile per-packet one-way delay: 31.210 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

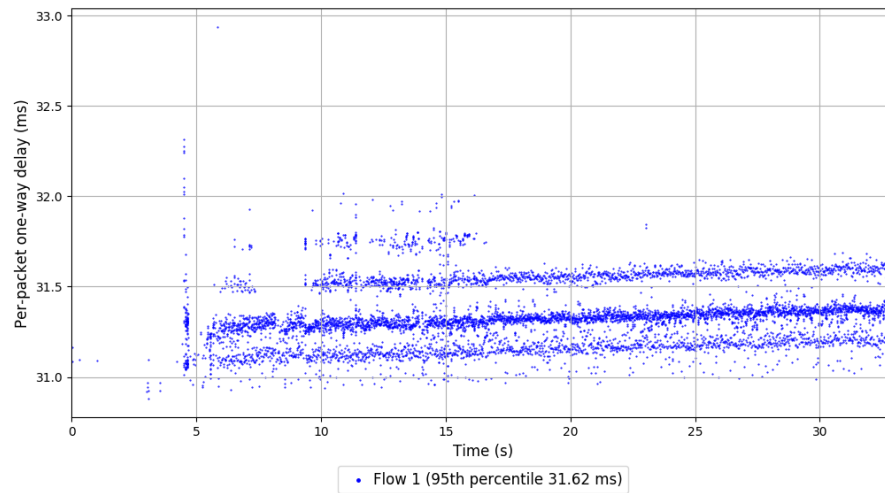
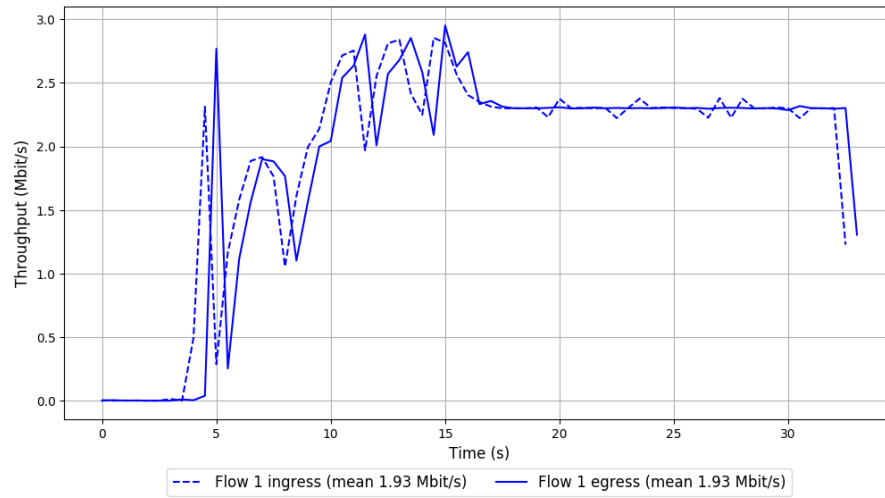


Run 4: Statistics of WebRTC media

Start at: 2018-10-02 08:25:19  
End at: 2018-10-02 08:25:49  
Local clock offset: -1.481 ms  
Remote clock offset: -3.516 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.618 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.618 ms  
Loss rate: 0.00%

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



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 08:48:52  
End at: 2018-10-02 08:49:22  
Local clock offset: 1.903 ms  
Remote clock offset: -3.849 ms

# Below is generated by plot.py at 2018-10-02 09:18:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.555 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.93 Mbit/s  
95th percentile per-packet one-way delay: 31.555 ms  
Loss rate: 0.00%

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

