

## Pantheon Report

Generated at 2018-10-02 15:35:27 (UTC).

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

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:

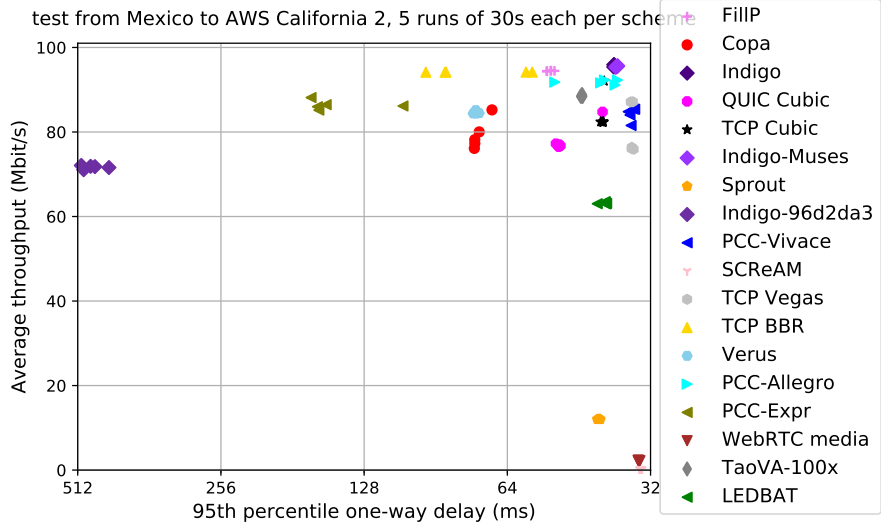
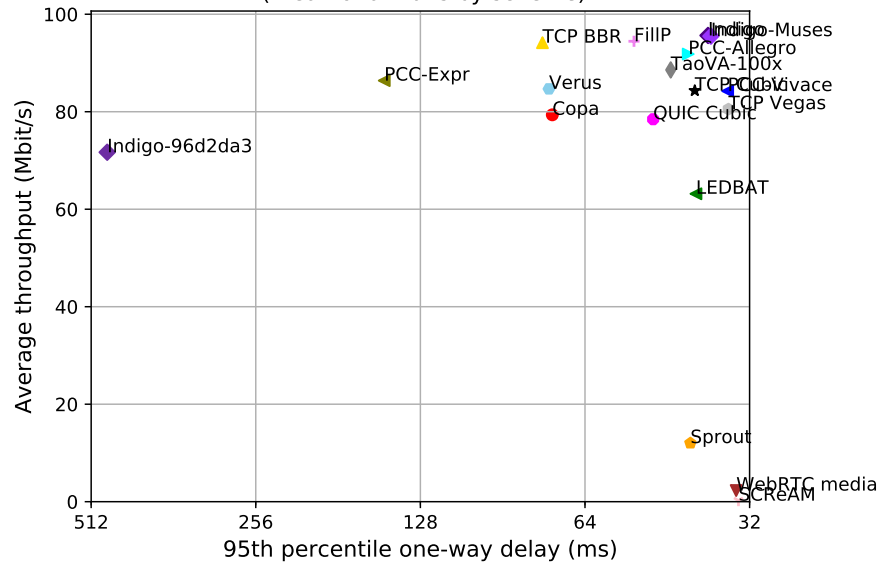
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 Mexico to AWS California 2, 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	94.17	76.55	0.99
Copa	5	79.37	73.44	0.26
TCP Cubic	5	84.32	40.31	0.25
FillP	5	94.45	52.07	0.86
Indigo	5	95.64	38.13	0.23
Indigo-96d2da3	5	71.69	478.56	1.20
LEDBAT	5	63.17	40.12	0.20
Indigo-Muses	5	95.51	37.66	0.23
PCC-Allegro	5	91.83	41.44	0.24
PCC-Expr	5	86.38	149.06	0.40
QUIC Cubic	5	78.46	48.04	0.28
SCReAM	5	0.21	33.54	0.23
Sprout	5	12.02	41.06	0.22
TaoVA-100x	5	88.57	44.61	0.24
TCP Vegas	5	80.53	34.98	0.27
Verus	5	84.69	74.49	0.44
PCC-Vivace	5	84.24	35.11	0.25
WebRTC media	5	2.28	33.86	0.24

Run 1: Statistics of TCP BBR

Start at: 2018-10-02 13:24:34

End at: 2018-10-02 13:25:04

Local clock offset: -2.284 ms

Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2018-10-02 15:24:53

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 56.723 ms

Loss rate: 0.56%

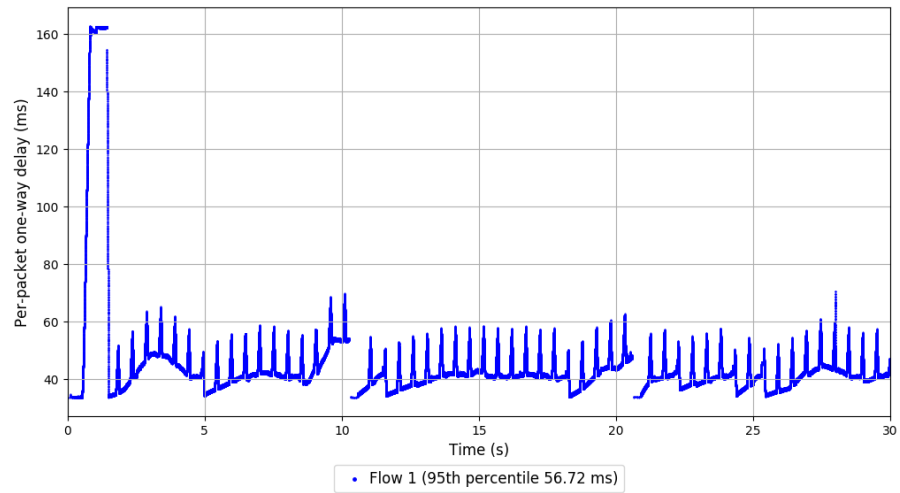
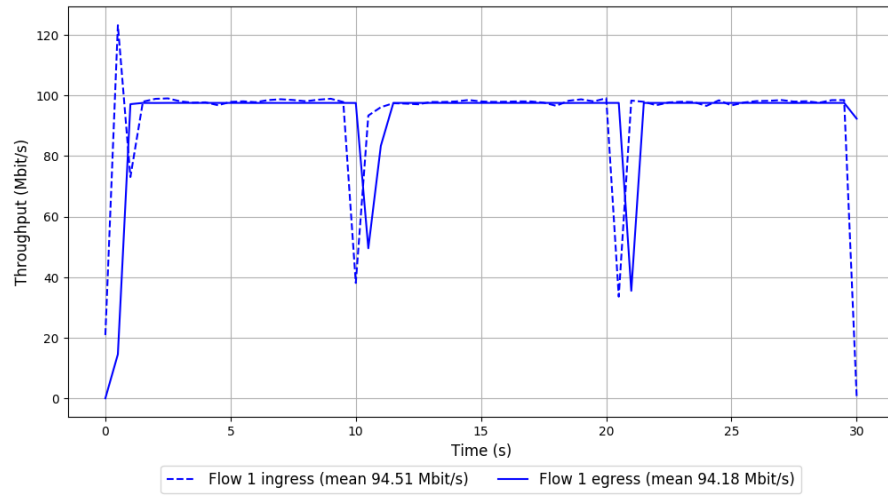
-- Flow 1:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 56.723 ms

Loss rate: 0.56%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-02 13:48:26

End at: 2018-10-02 13:48:56

Local clock offset: -3.024 ms

Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2018-10-02 15:24:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 86.490 ms

Loss rate: 0.83%

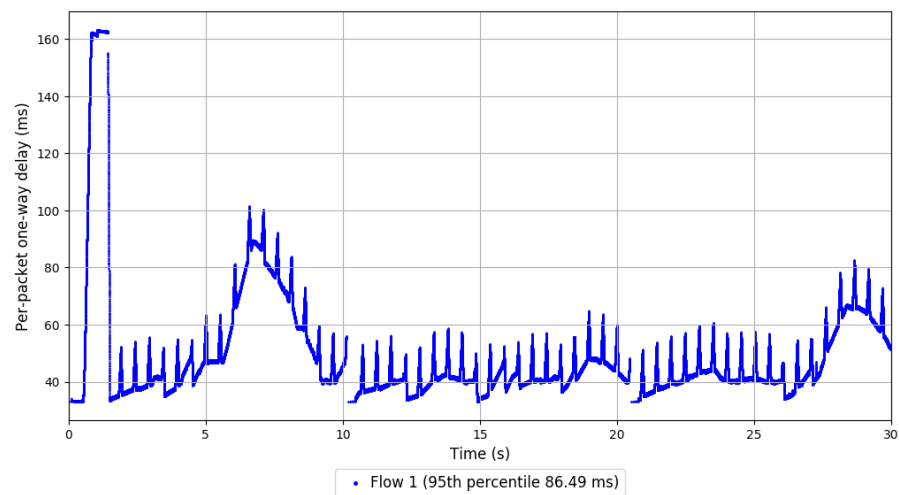
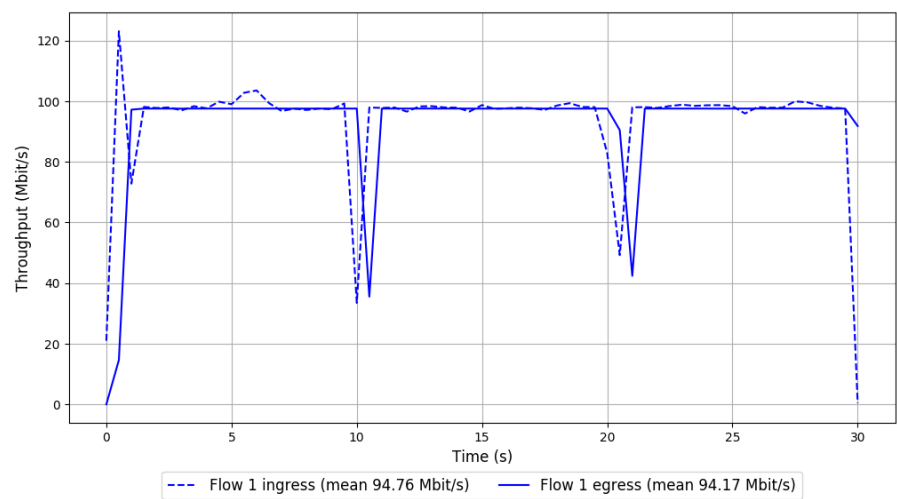
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 86.490 ms

Loss rate: 0.83%

Run 2: Report of TCP BBR — Data Link





Run 3: Statistics of TCP BBR

Start at: 2018-10-02 14:12:18

End at: 2018-10-02 14:12:48

Local clock offset: 0.181 ms

Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-10-02 15:24:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 58.453 ms

Loss rate: 0.88%

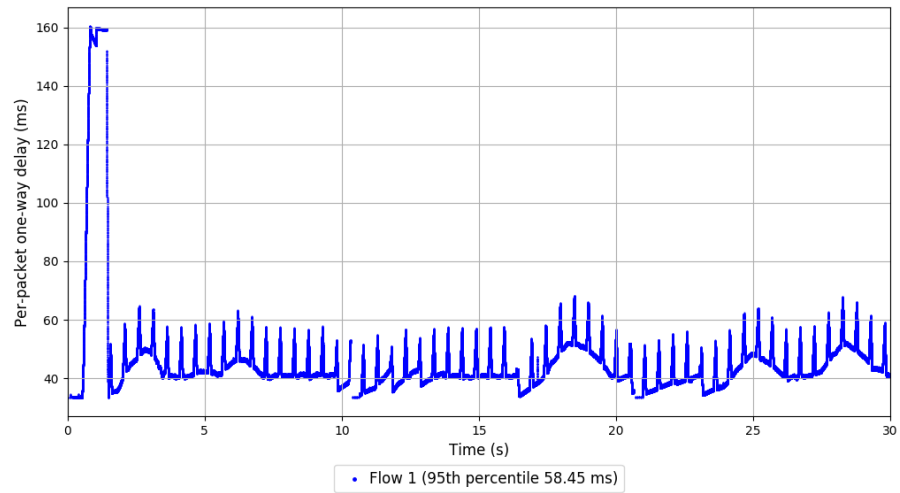
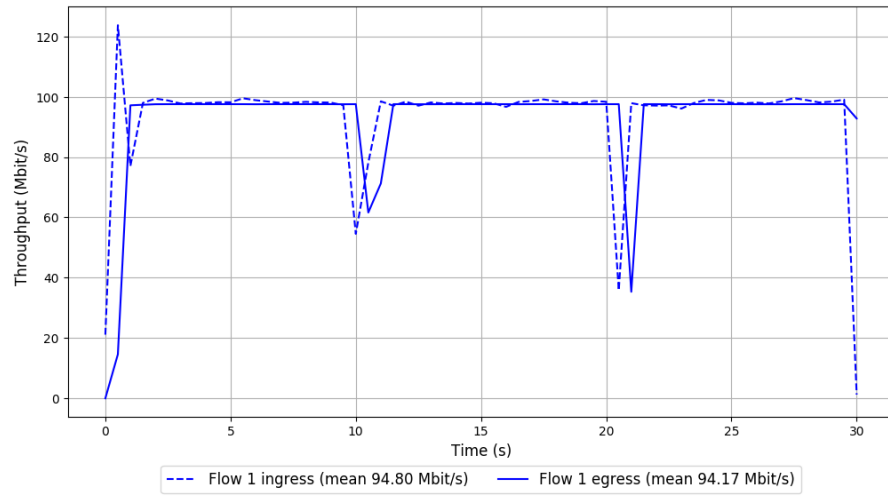
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 58.453 ms

Loss rate: 0.88%

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

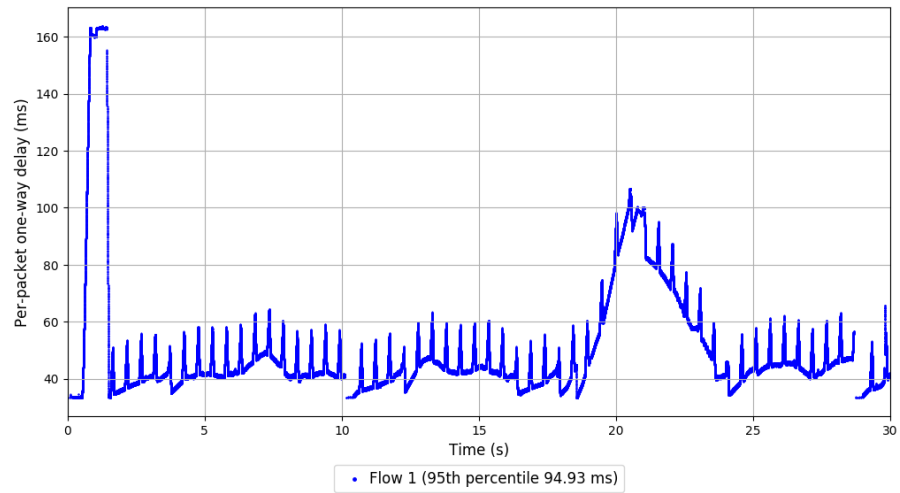
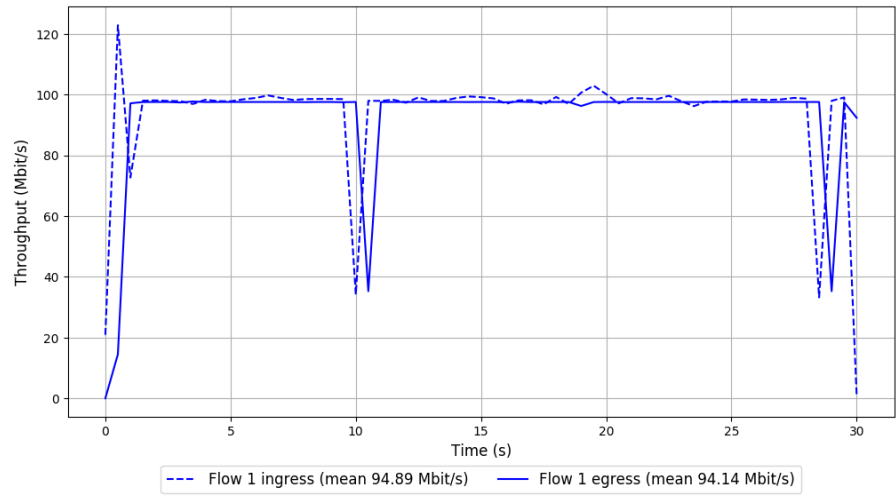


Run 4: Statistics of TCP BBR

Start at: 2018-10-02 14:36:21  
End at: 2018-10-02 14:36:51  
Local clock offset: 3.771 ms  
Remote clock offset: -0.511 ms

# Below is generated by plot.py at 2018-10-02 15:24:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.14 Mbit/s  
95th percentile per-packet one-way delay: 94.933 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 94.14 Mbit/s  
95th percentile per-packet one-way delay: 94.933 ms  
Loss rate: 1.00%

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



Run 5: Statistics of TCP BBR

Start at: 2018-10-02 15:00:10

End at: 2018-10-02 15:00:40

Local clock offset: 0.579 ms

Remote clock offset: -0.57 ms

# Below is generated by plot.py at 2018-10-02 15:24:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 86.155 ms

Loss rate: 1.70%

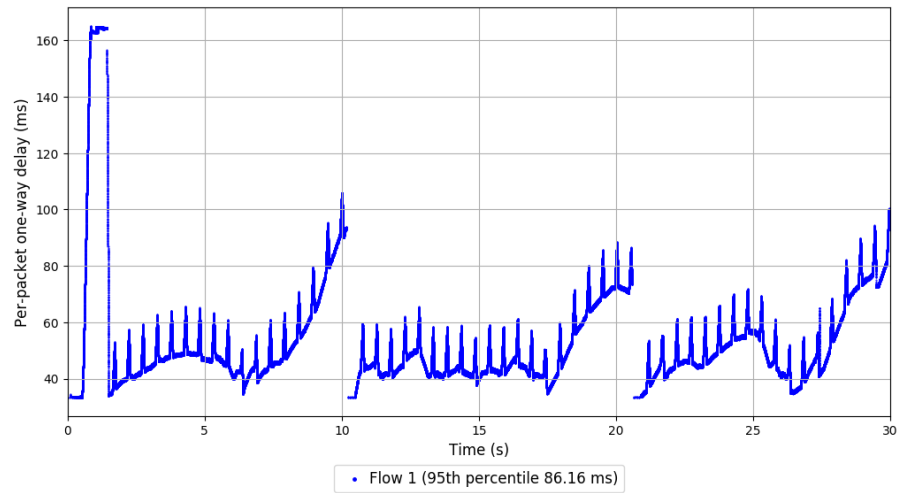
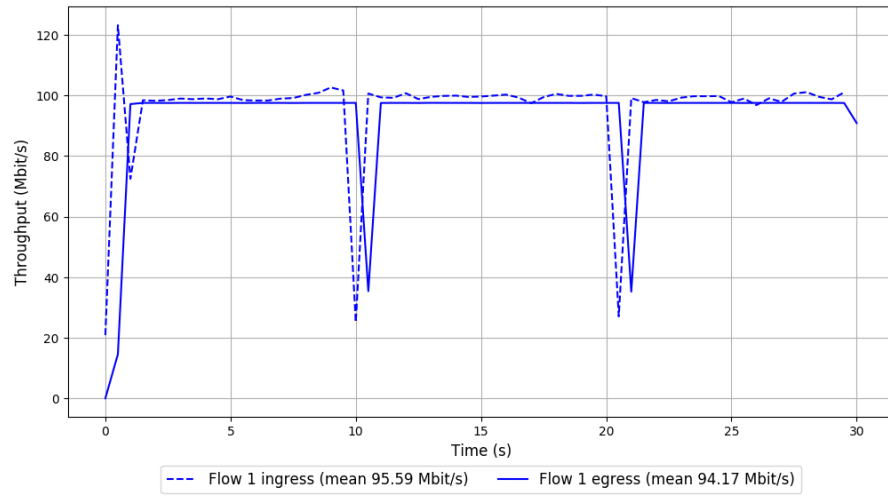
-- Flow 1:

Average throughput: 94.17 Mbit/s

95th percentile per-packet one-way delay: 86.155 ms

Loss rate: 1.70%

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

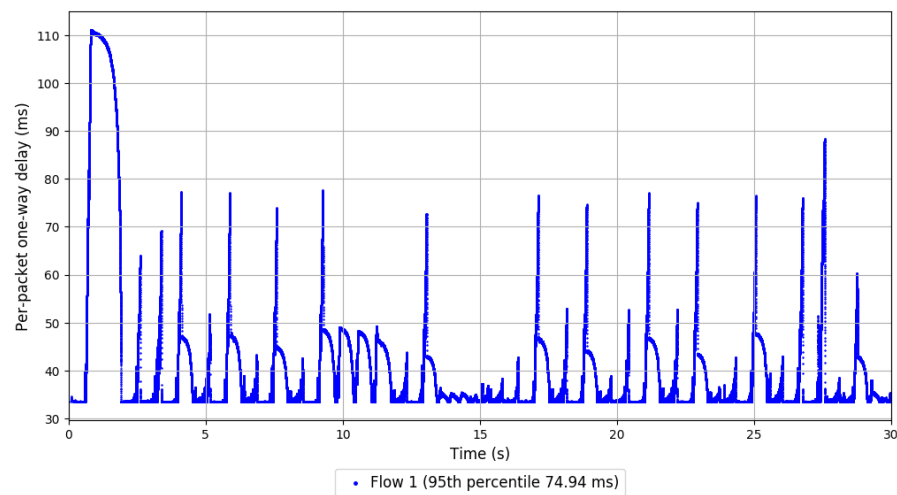
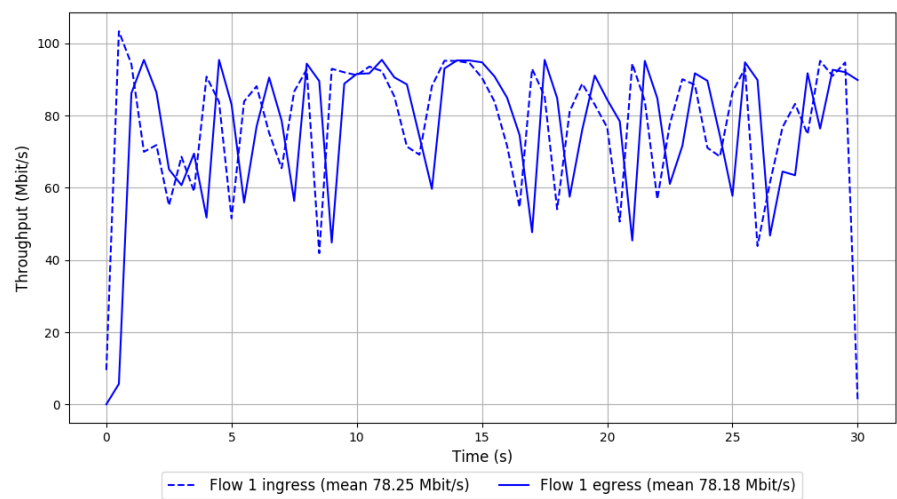


Run 1: Statistics of Copa

Start at: 2018-10-02 13:37:47  
End at: 2018-10-02 13:38:17  
Local clock offset: -3.577 ms  
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2018-10-02 15:25:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 78.18 Mbit/s  
95th percentile per-packet one-way delay: 74.936 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 78.18 Mbit/s  
95th percentile per-packet one-way delay: 74.936 ms  
Loss rate: 0.30%

Run 1: Report of Copa — Data Link



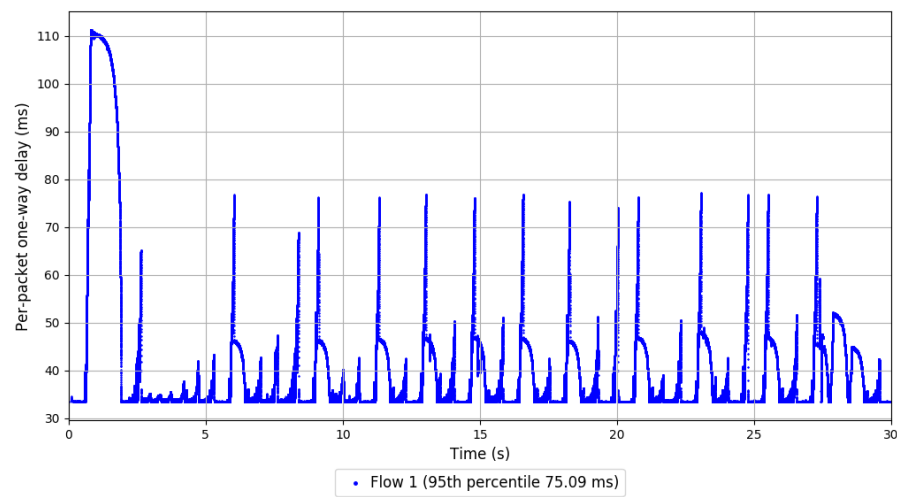
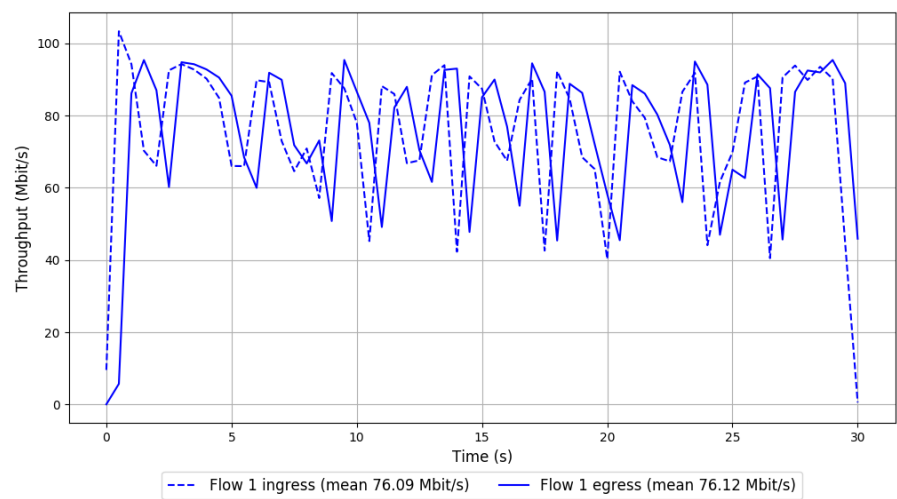


Run 2: Statistics of Copa

Start at: 2018-10-02 14:01:38  
End at: 2018-10-02 14:02:08  
Local clock offset: -0.412 ms  
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-10-02 15:25:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 76.12 Mbit/s  
95th percentile per-packet one-way delay: 75.088 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 76.12 Mbit/s  
95th percentile per-packet one-way delay: 75.088 ms  
Loss rate: 0.17%

Run 2: Report of Copa — Data Link

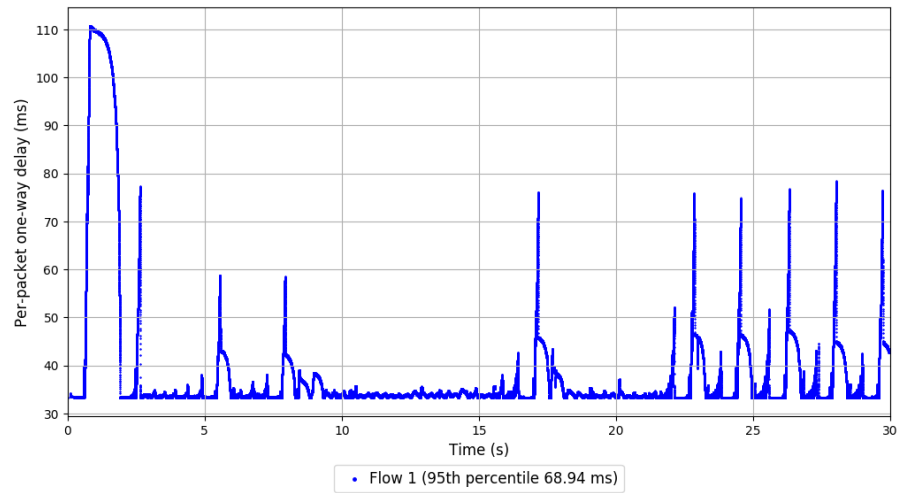
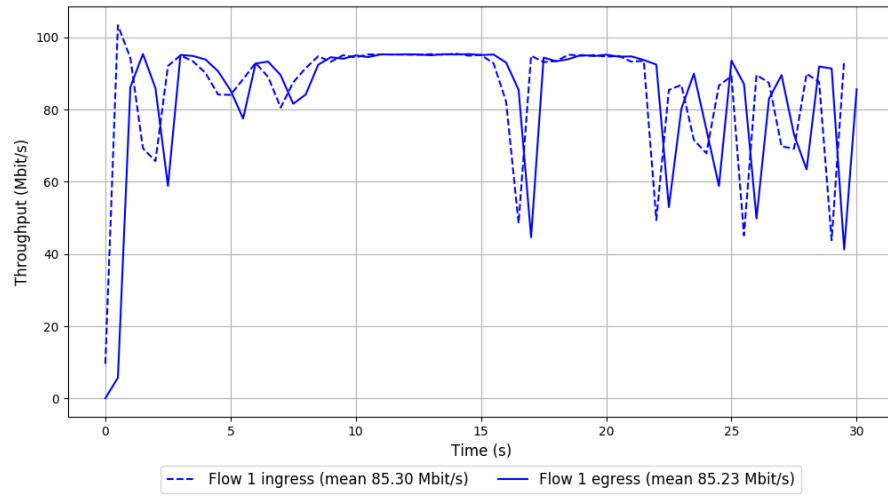


Run 3: Statistics of Copa

Start at: 2018-10-02 14:25:34  
End at: 2018-10-02 14:26:04  
Local clock offset: 2.574 ms  
Remote clock offset: -0.393 ms

# Below is generated by plot.py at 2018-10-02 15:25:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.23 Mbit/s  
95th percentile per-packet one-way delay: 68.938 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 85.23 Mbit/s  
95th percentile per-packet one-way delay: 68.938 ms  
Loss rate: 0.29%

### Run 3: Report of Copa — Data Link

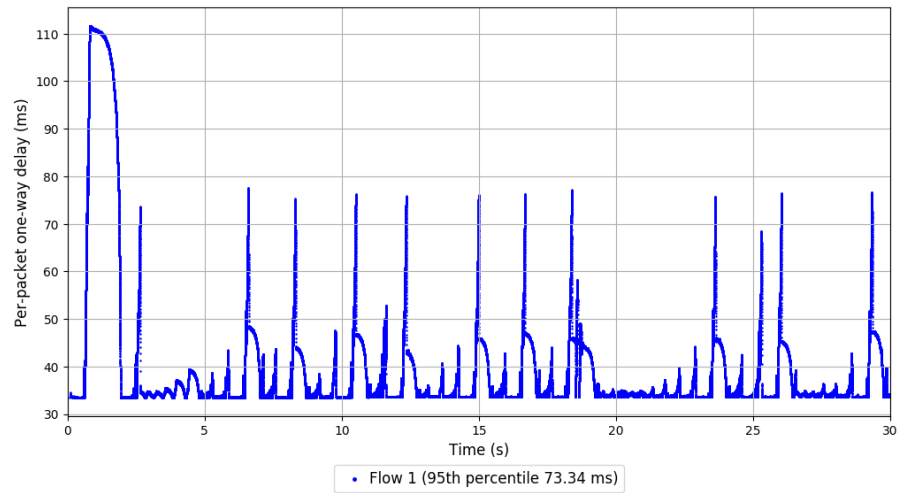
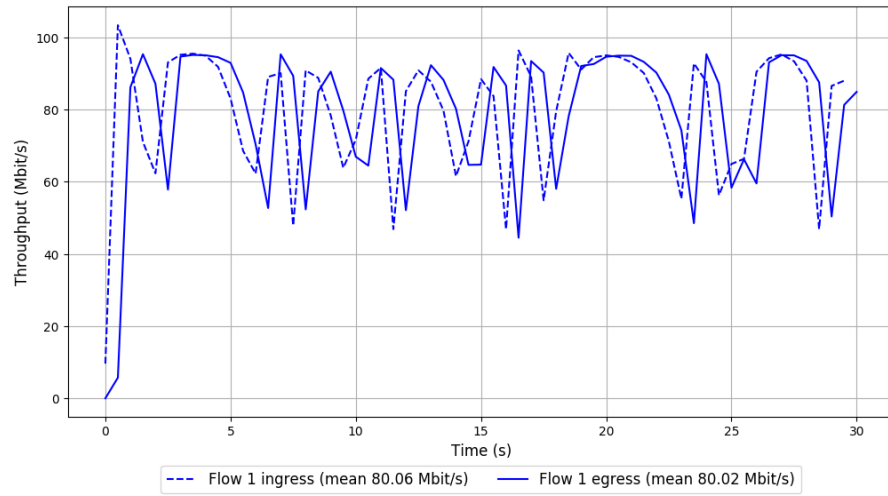


Run 4: Statistics of Copa

Start at: 2018-10-02 14:49:33  
End at: 2018-10-02 14:50:03  
Local clock offset: 2.828 ms  
Remote clock offset: -0.406 ms

# Below is generated by plot.py at 2018-10-02 15:26:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 80.02 Mbit/s  
95th percentile per-packet one-way delay: 73.339 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 80.02 Mbit/s  
95th percentile per-packet one-way delay: 73.339 ms  
Loss rate: 0.27%

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

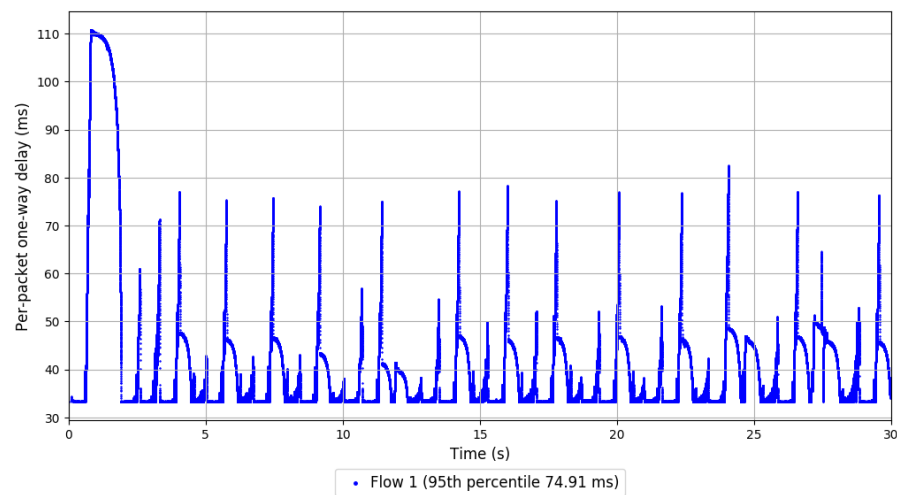
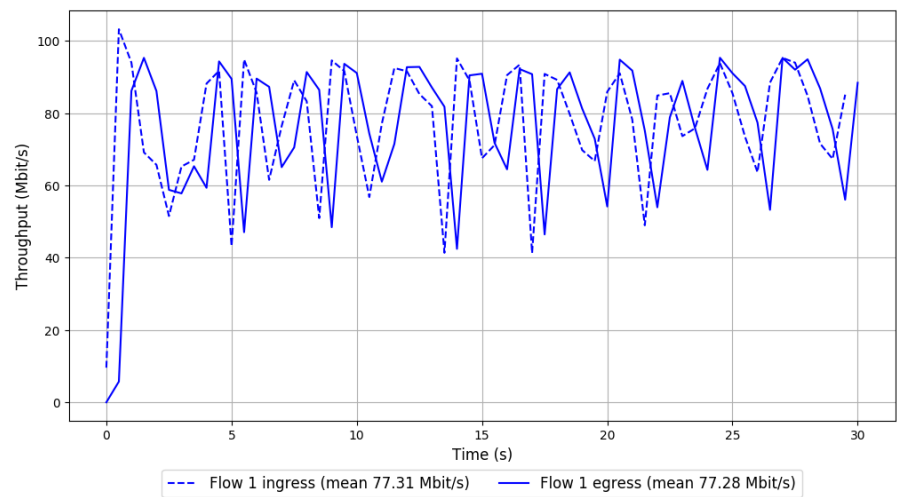


Run 5: Statistics of Copa

Start at: 2018-10-02 15:13:24  
End at: 2018-10-02 15:13:54  
Local clock offset: -0.221 ms  
Remote clock offset: -0.429 ms

# Below is generated by plot.py at 2018-10-02 15:26:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.28 Mbit/s  
95th percentile per-packet one-way delay: 74.907 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 77.28 Mbit/s  
95th percentile per-packet one-way delay: 74.907 ms  
Loss rate: 0.26%

Run 5: Report of Copa — Data Link



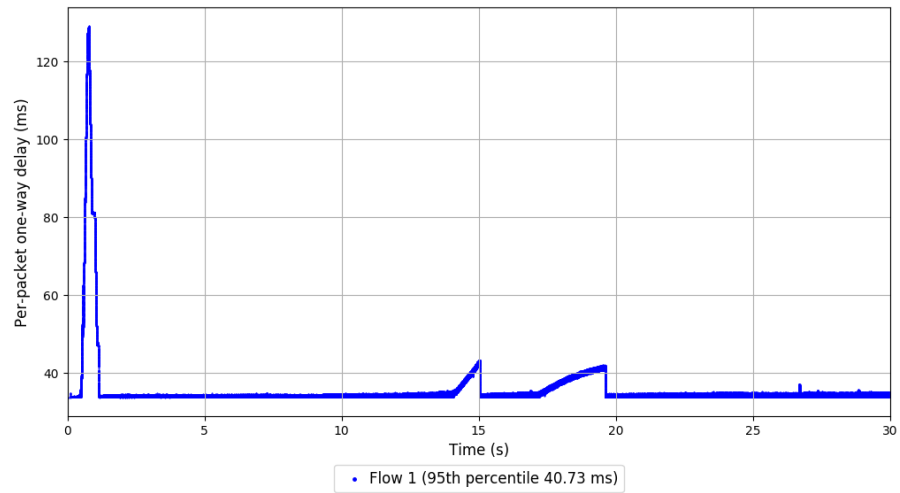
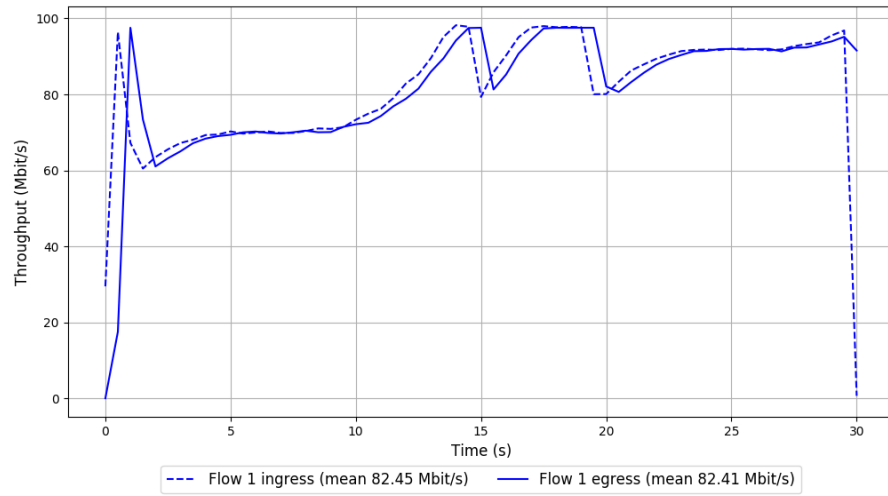


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 13:23:14  
End at: 2018-10-02 13:23:44  
Local clock offset: -2.074 ms  
Remote clock offset: -0.303 ms

# Below is generated by plot.py at 2018-10-02 15:26:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.41 Mbit/s  
95th percentile per-packet one-way delay: 40.733 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 82.41 Mbit/s  
95th percentile per-packet one-way delay: 40.733 ms  
Loss rate: 0.26%

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



Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 13:47:06

End at: 2018-10-02 13:47:36

Local clock offset: -3.572 ms

Remote clock offset: 0.008 ms

# Below is generated by plot.py at 2018-10-02 15:26:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.06 Mbit/s

95th percentile per-packet one-way delay: 40.047 ms

Loss rate: 0.21%

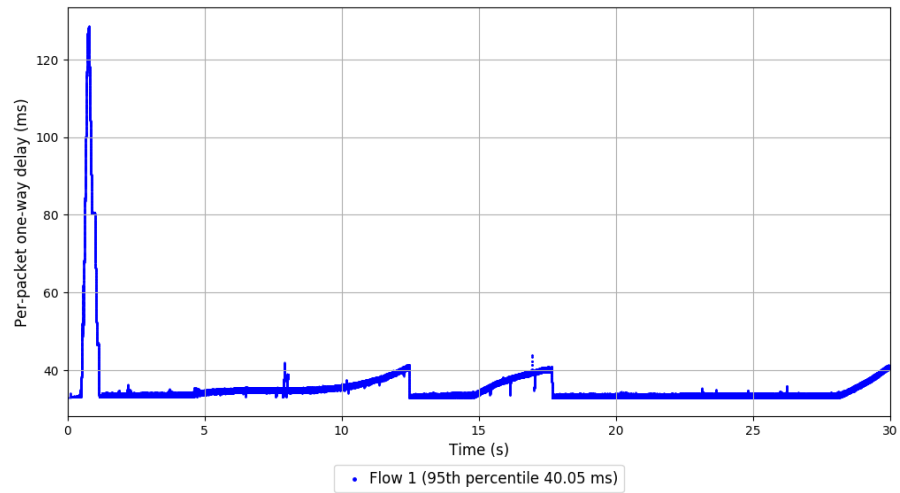
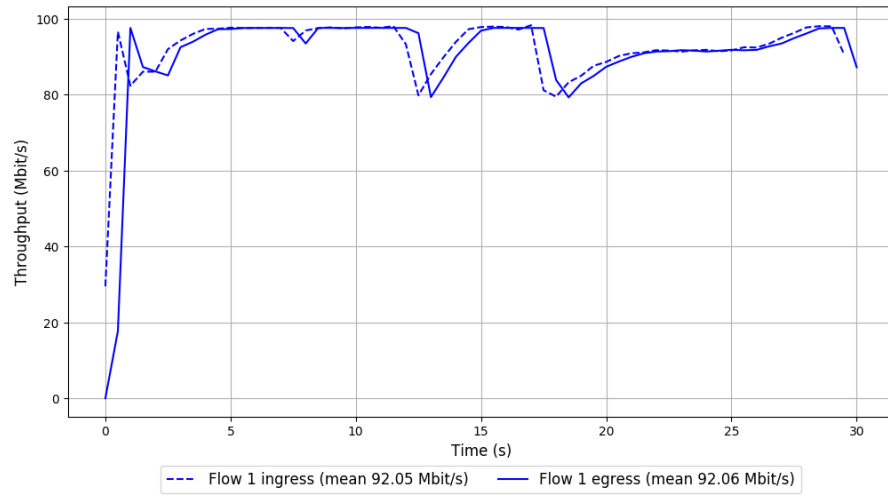
-- Flow 1:

Average throughput: 92.06 Mbit/s

95th percentile per-packet one-way delay: 40.047 ms

Loss rate: 0.21%

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



Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 14:10:58

End at: 2018-10-02 14:11:28

Local clock offset: 0.138 ms

Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2018-10-02 15:26:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 82.47 Mbit/s

95th percentile per-packet one-way delay: 40.241 ms

Loss rate: 0.26%

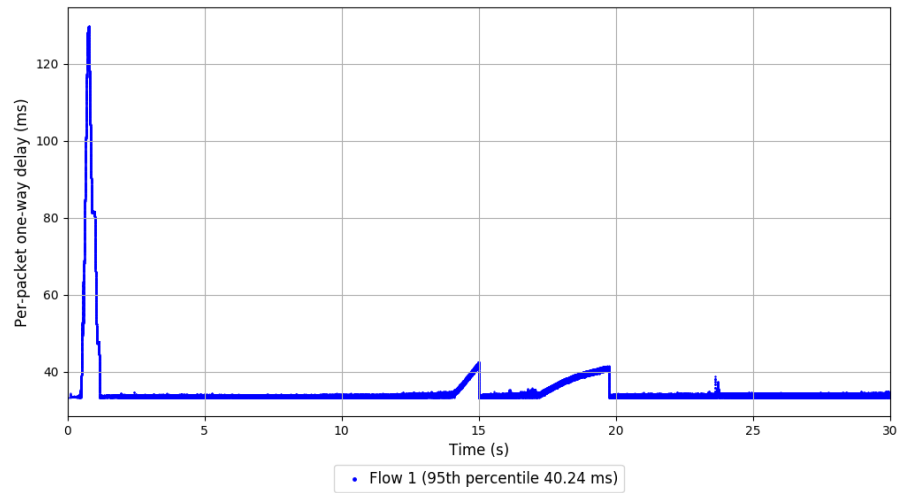
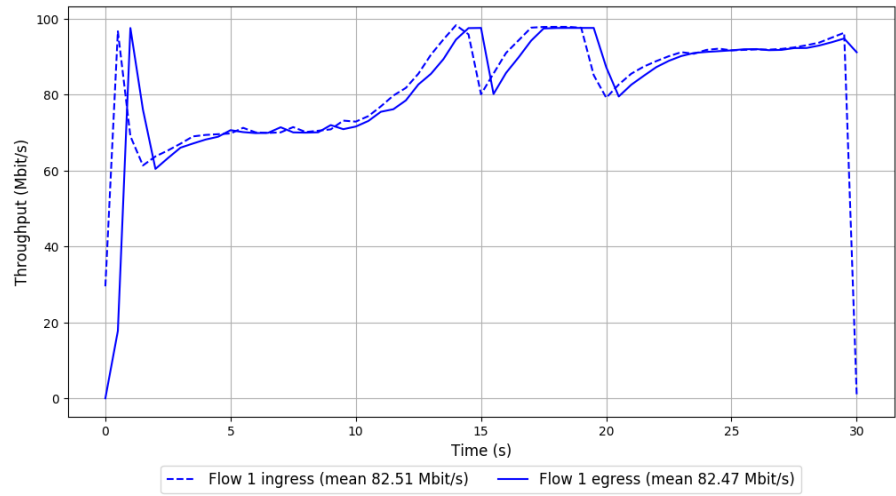
-- Flow 1:

Average throughput: 82.47 Mbit/s

95th percentile per-packet one-way delay: 40.241 ms

Loss rate: 0.26%

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

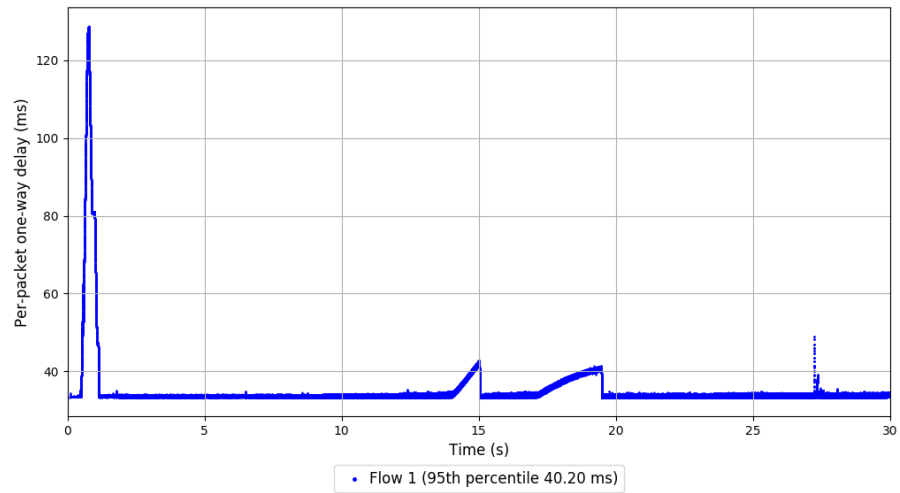
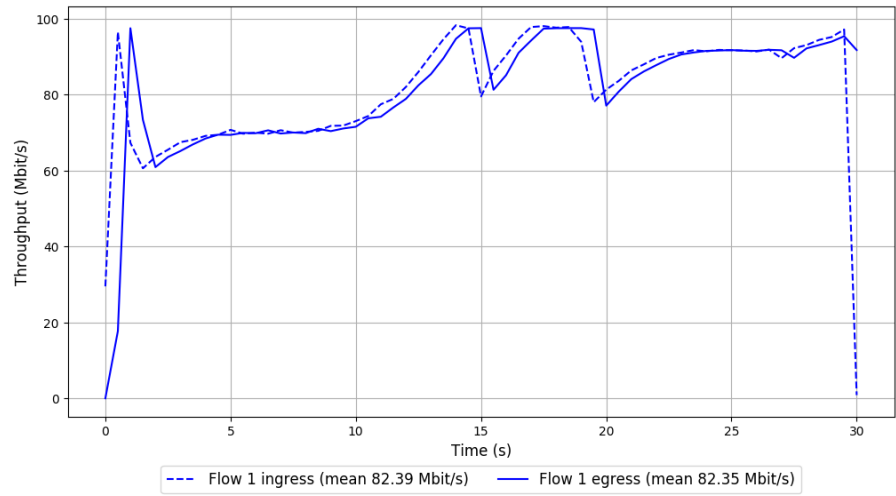


Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 14:35:02  
End at: 2018-10-02 14:35:32  
Local clock offset: 3.647 ms  
Remote clock offset: -0.541 ms

# Below is generated by plot.py at 2018-10-02 15:26:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.35 Mbit/s  
95th percentile per-packet one-way delay: 40.199 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 82.35 Mbit/s  
95th percentile per-packet one-way delay: 40.199 ms  
Loss rate: 0.26%

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



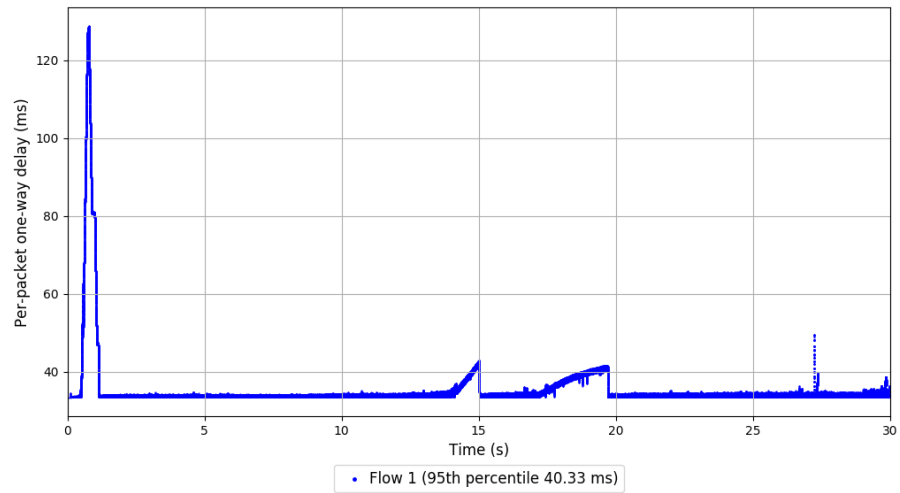
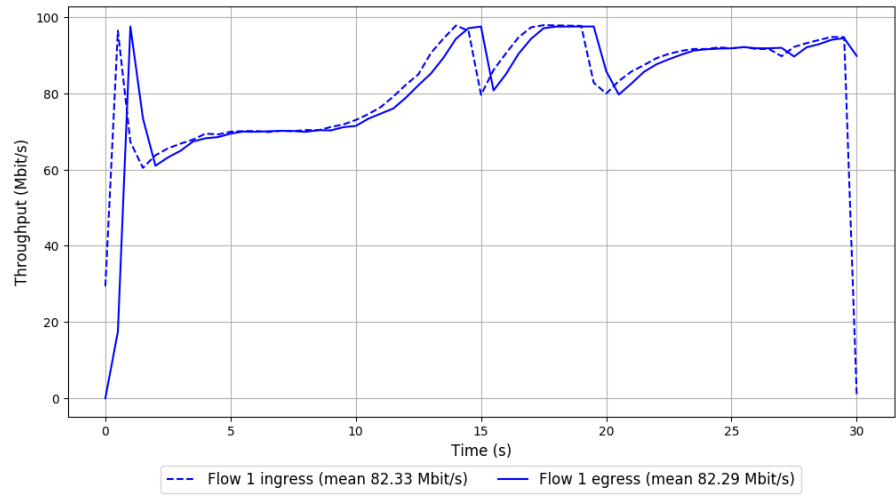


Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 14:58:51  
End at: 2018-10-02 14:59:21  
Local clock offset: 0.737 ms  
Remote clock offset: -0.514 ms

# Below is generated by plot.py at 2018-10-02 15:26:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.29 Mbit/s  
95th percentile per-packet one-way delay: 40.331 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 82.29 Mbit/s  
95th percentile per-packet one-way delay: 40.331 ms  
Loss rate: 0.26%

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

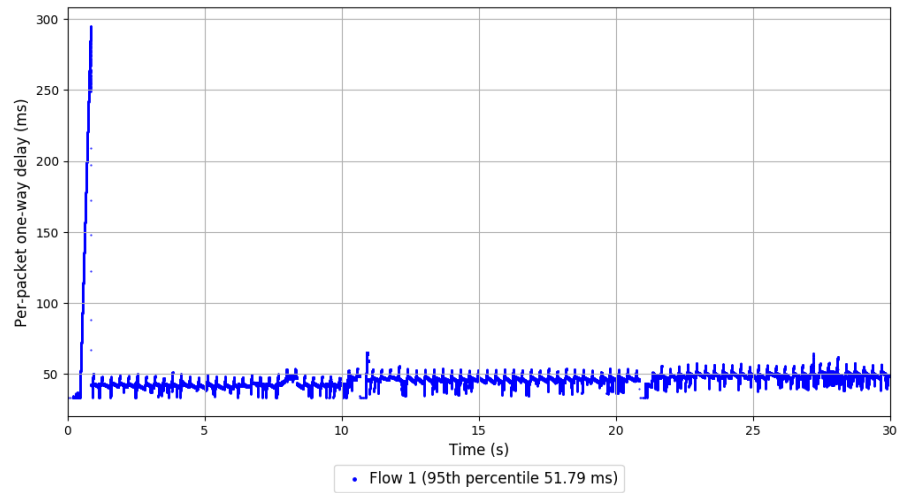
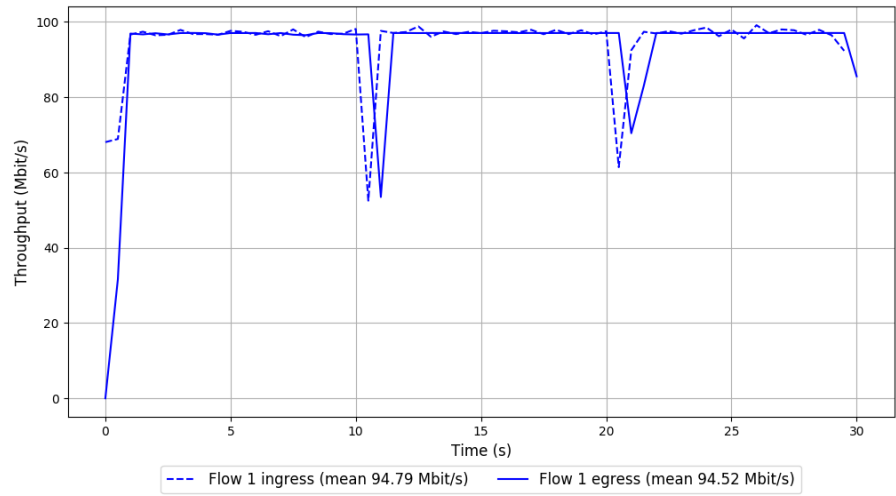


Run 1: Statistics of FillP

Start at: 2018-10-02 13:31:14  
End at: 2018-10-02 13:31:44  
Local clock offset: -3.045 ms  
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2018-10-02 15:27:08  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.52 Mbit/s  
95th percentile per-packet one-way delay: 51.792 ms  
Loss rate: 0.49%  
-- Flow 1:  
Average throughput: 94.52 Mbit/s  
95th percentile per-packet one-way delay: 51.792 ms  
Loss rate: 0.49%

## Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-02 13:55:06

End at: 2018-10-02 13:55:36

Local clock offset: -1.248 ms

Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-10-02 15:27:14

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 51.898 ms

Loss rate: 1.15%

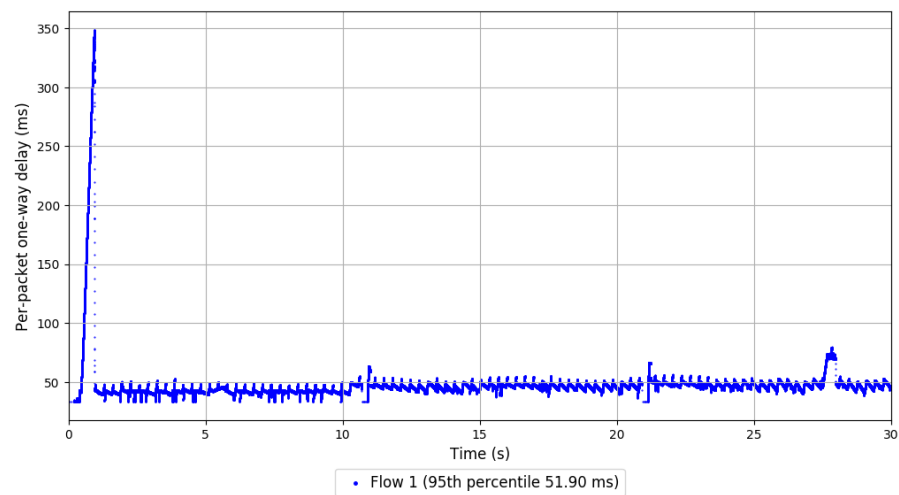
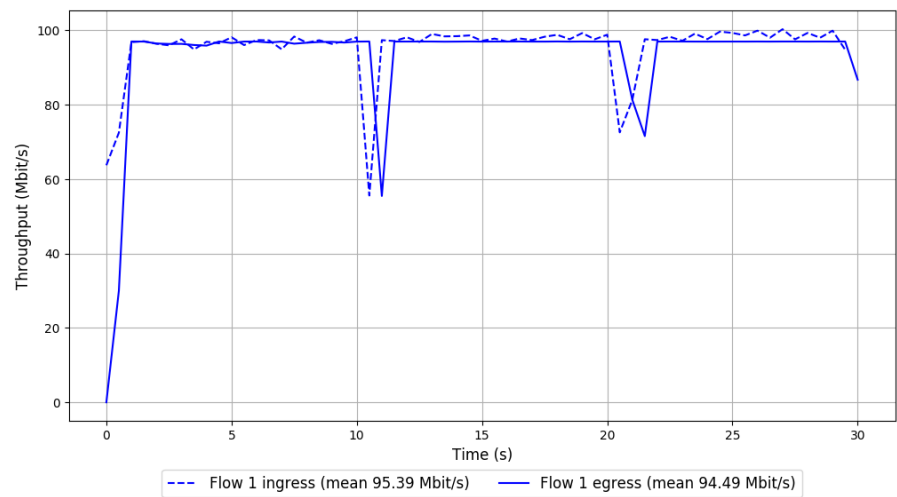
-- Flow 1:

Average throughput: 94.49 Mbit/s

95th percentile per-packet one-way delay: 51.898 ms

Loss rate: 1.15%

Run 2: Report of FillP — Data Link

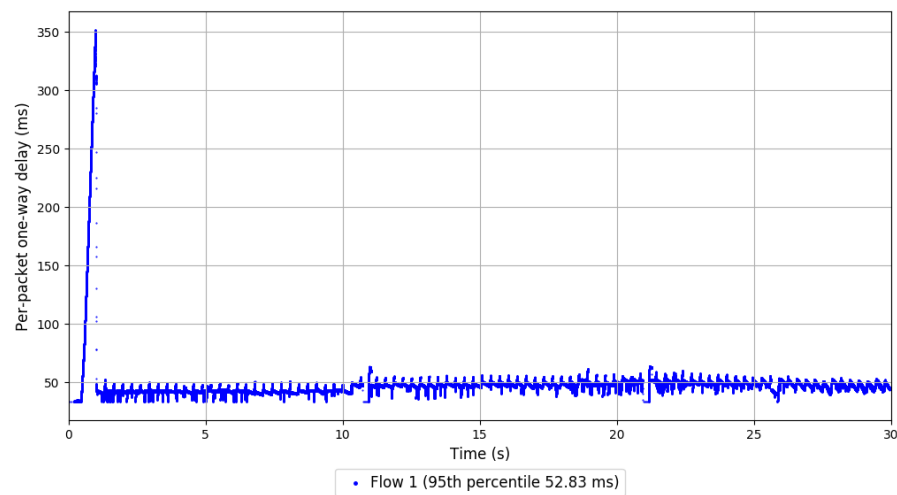
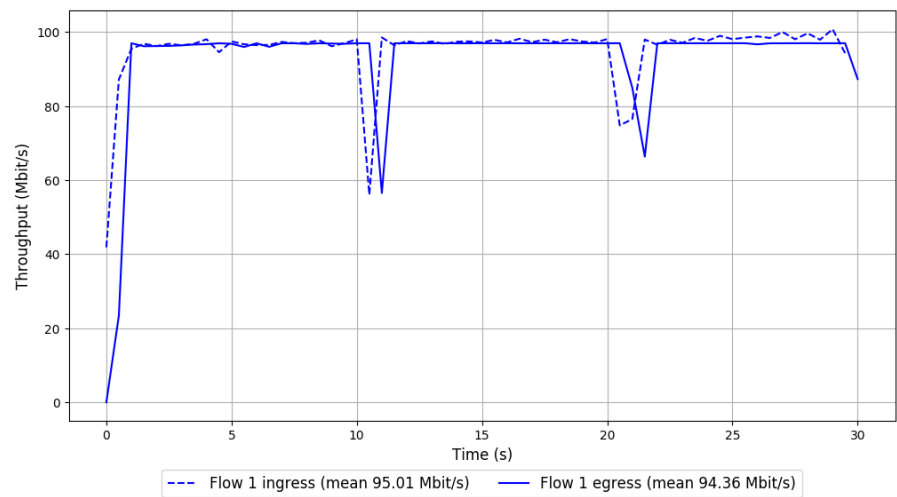


Run 3: Statistics of FillP

Start at: 2018-10-02 14:18:57  
End at: 2018-10-02 14:19:27  
Local clock offset: 1.217 ms  
Remote clock offset: -0.393 ms

# Below is generated by plot.py at 2018-10-02 15:27:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.36 Mbit/s  
95th percentile per-packet one-way delay: 52.834 ms  
Loss rate: 0.89%  
-- Flow 1:  
Average throughput: 94.36 Mbit/s  
95th percentile per-packet one-way delay: 52.834 ms  
Loss rate: 0.89%

Run 3: Report of FillP — Data Link



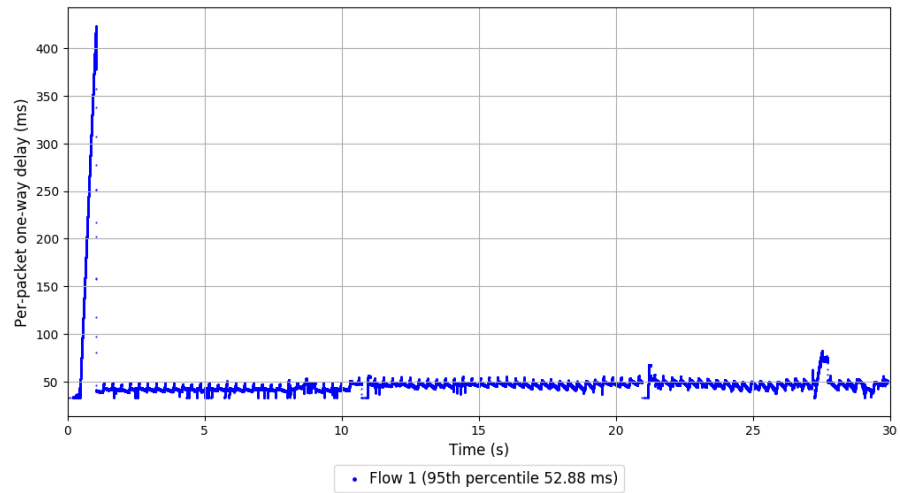
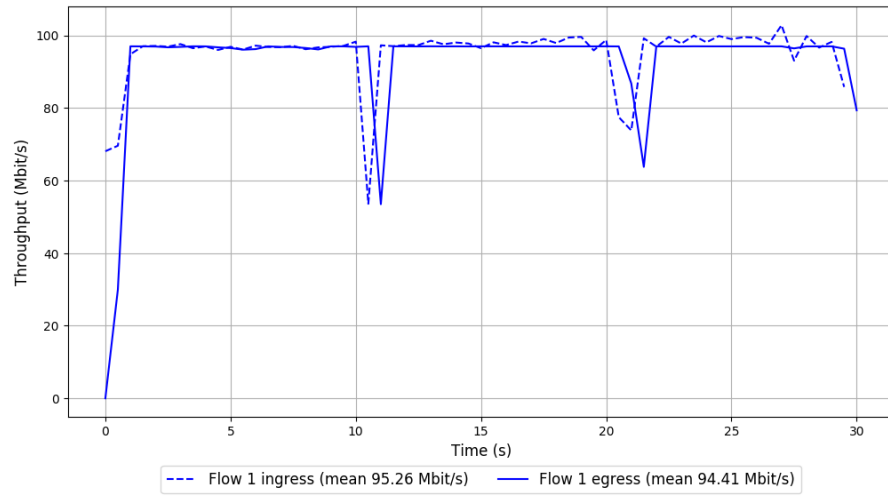


Run 4: Statistics of FillP

Start at: 2018-10-02 14:43:02  
End at: 2018-10-02 14:43:32  
Local clock offset: 4.237 ms  
Remote clock offset: -0.438 ms

# Below is generated by plot.py at 2018-10-02 15:27:22  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.41 Mbit/s  
95th percentile per-packet one-way delay: 52.883 ms  
Loss rate: 1.10%  
-- Flow 1:  
Average throughput: 94.41 Mbit/s  
95th percentile per-packet one-way delay: 52.883 ms  
Loss rate: 1.10%

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

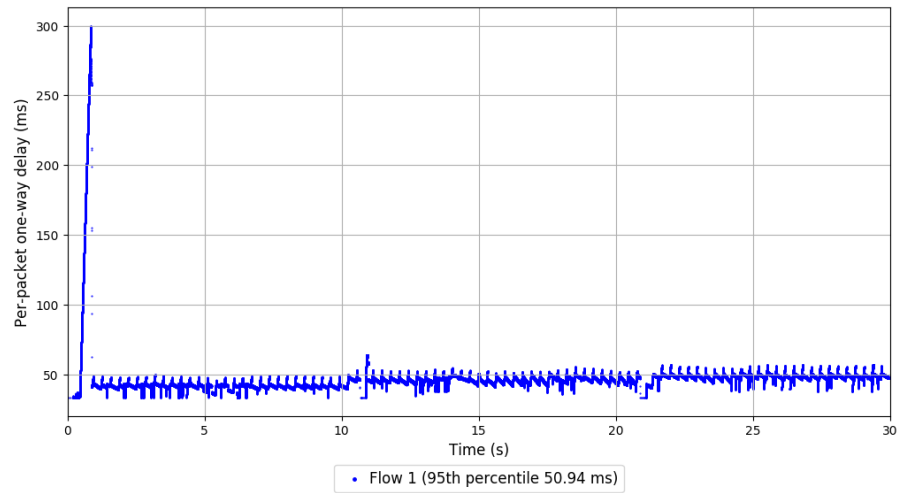
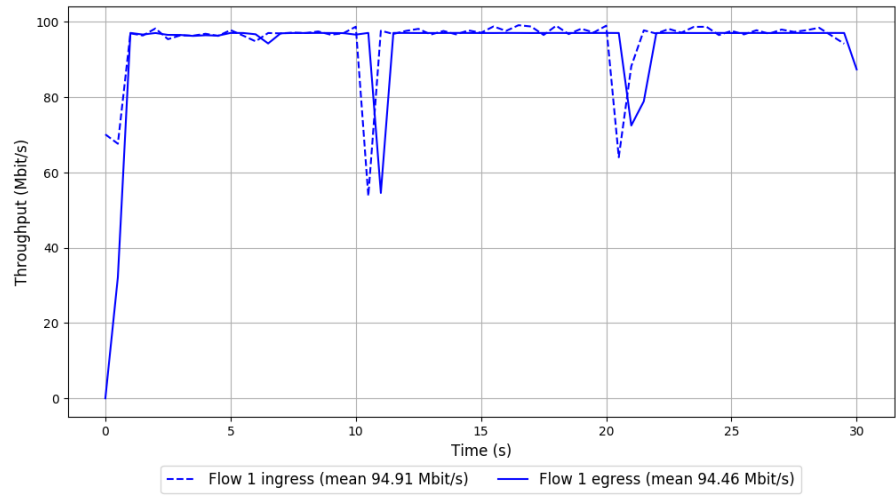


Run 5: Statistics of FillP

Start at: 2018-10-02 15:06:51  
End at: 2018-10-02 15:07:21  
Local clock offset: 0.055 ms  
Remote clock offset: -0.546 ms

# Below is generated by plot.py at 2018-10-02 15:27:52  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 94.46 Mbit/s  
95th percentile per-packet one-way delay: 50.938 ms  
Loss rate: 0.68%  
-- Flow 1:  
Average throughput: 94.46 Mbit/s  
95th percentile per-packet one-way delay: 50.938 ms  
Loss rate: 0.68%

## Run 5: Report of FillP — Data Link

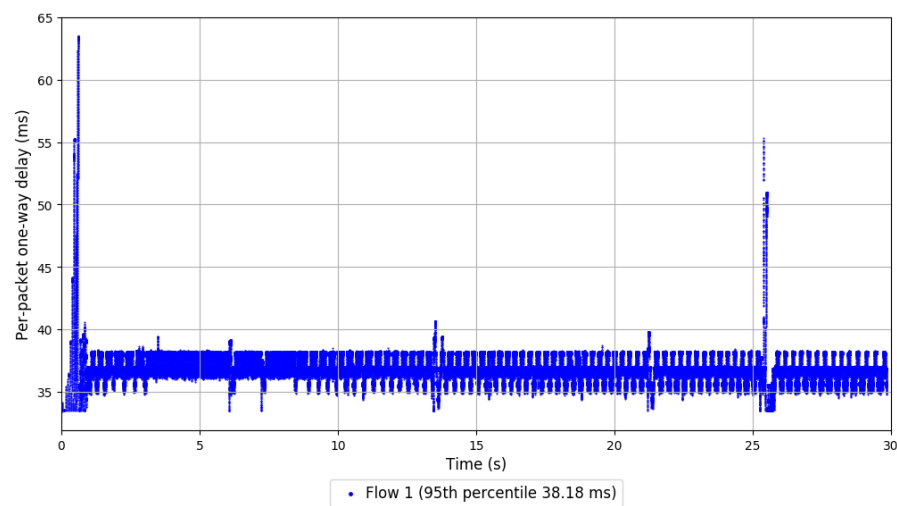
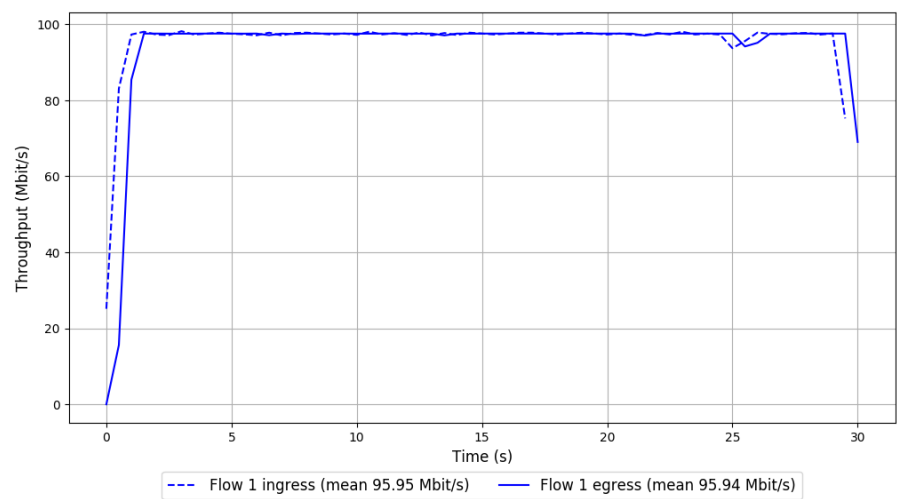


```
Run 1: Statistics of Indigo

Start at: 2018-10-02 13:43:02
End at: 2018-10-02 13:43:32
Local clock offset: -3.921 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2018-10-02 15:27:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.94 Mbit/s
95th percentile per-packet one-way delay: 38.183 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.94 Mbit/s
95th percentile per-packet one-way delay: 38.183 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo — Data Link

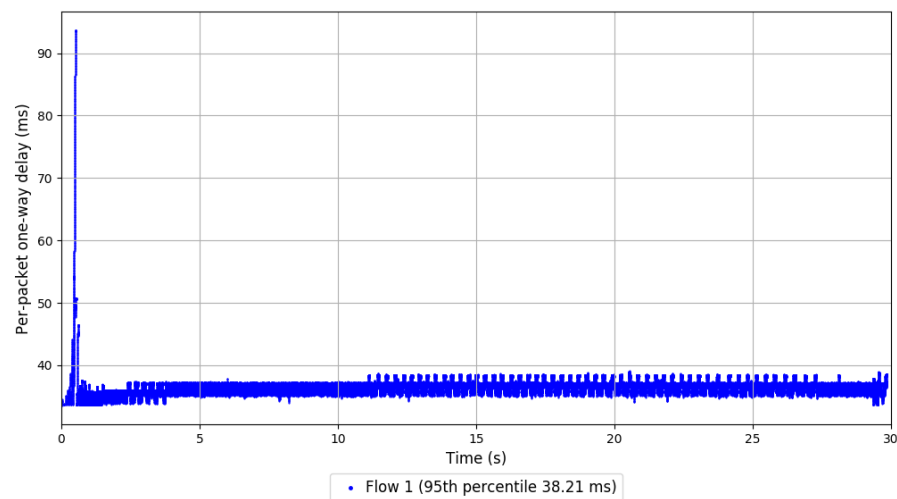
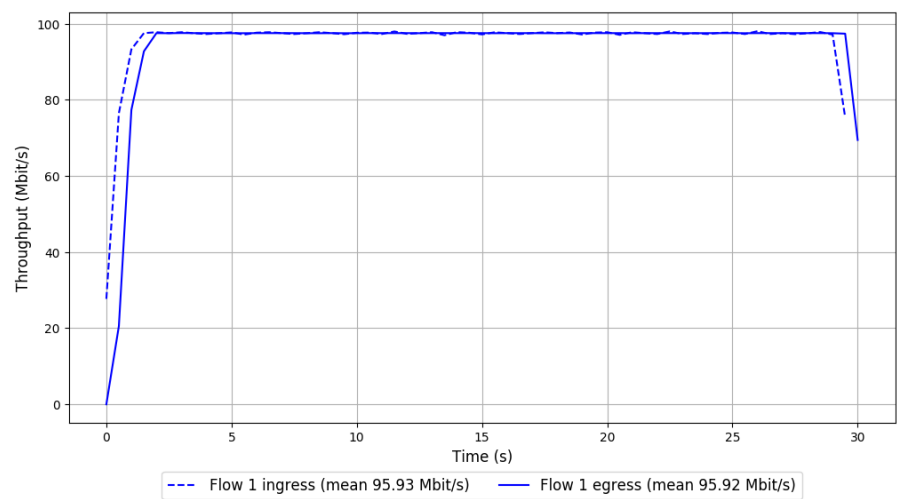


Run 2: Statistics of Indigo

Start at: 2018-10-02 14:06:53  
End at: 2018-10-02 14:07:23  
Local clock offset: -0.055 ms  
Remote clock offset: -0.186 ms

# Below is generated by plot.py at 2018-10-02 15:27:52  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.92 Mbit/s  
95th percentile per-packet one-way delay: 38.211 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.92 Mbit/s  
95th percentile per-packet one-way delay: 38.211 ms  
Loss rate: 0.23%

Run 2: Report of Indigo — Data Link



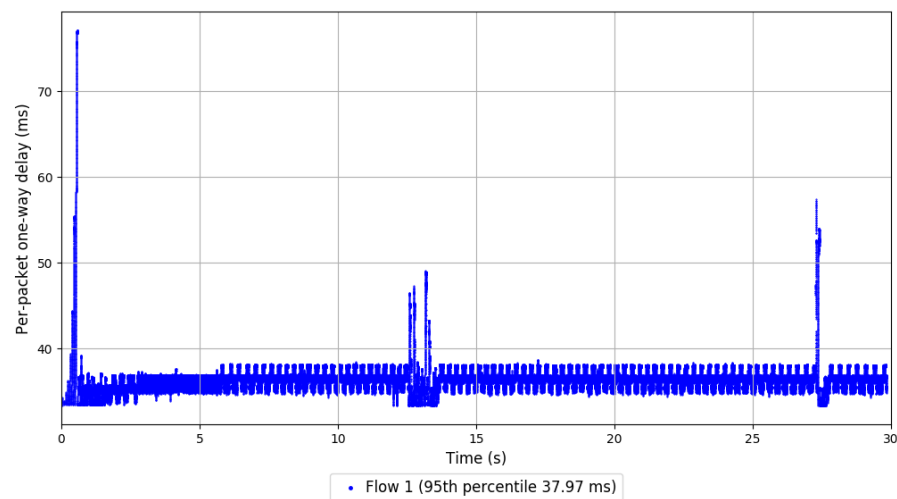
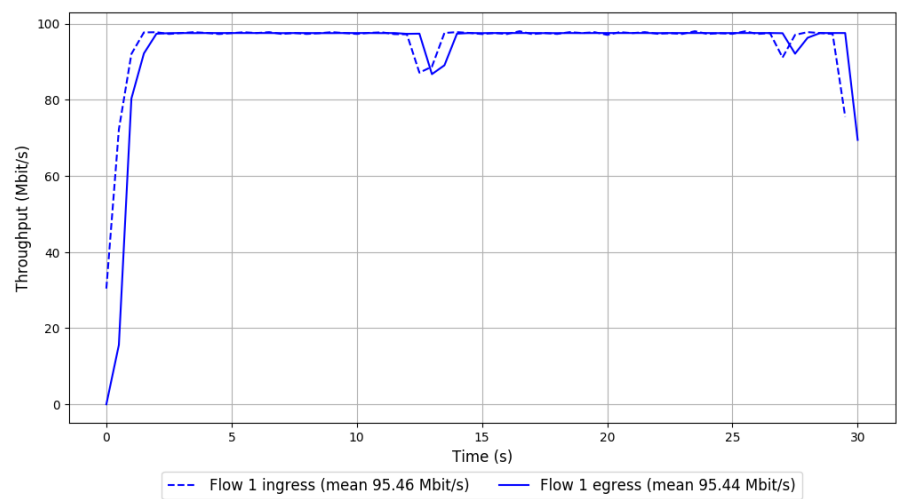


Run 3: Statistics of Indigo

Start at: 2018-10-02 14:30:51  
End at: 2018-10-02 14:31:21  
Local clock offset: 3.256 ms  
Remote clock offset: -0.455 ms

# Below is generated by plot.py at 2018-10-02 15:27:52  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.44 Mbit/s  
95th percentile per-packet one-way delay: 37.966 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.44 Mbit/s  
95th percentile per-packet one-way delay: 37.966 ms  
Loss rate: 0.23%

Run 3: Report of Indigo — Data Link

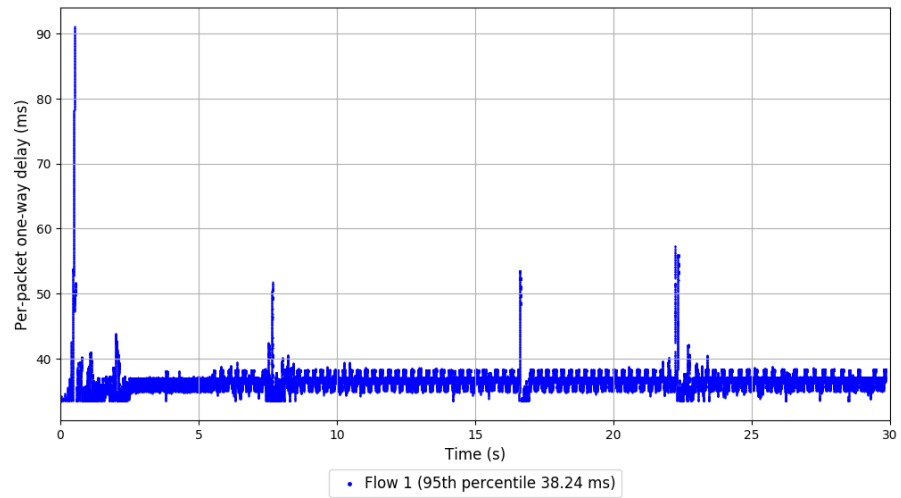
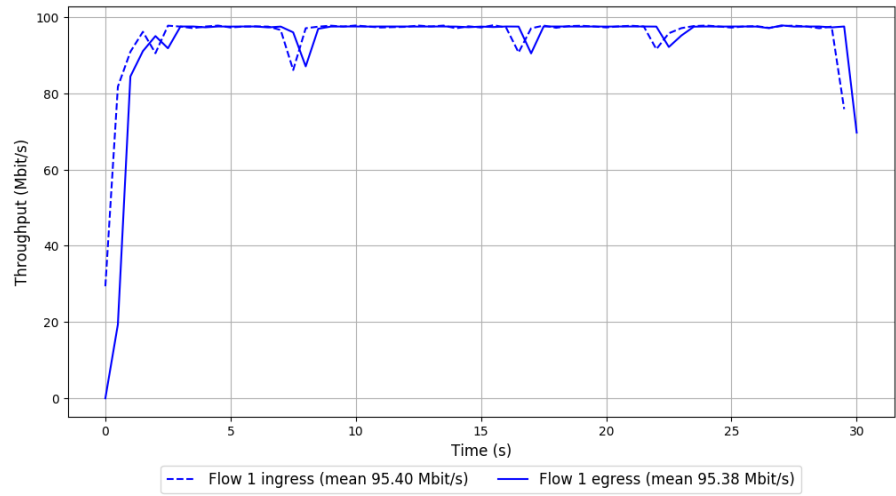


Run 4: Statistics of Indigo

Start at: 2018-10-02 14:54:47  
End at: 2018-10-02 14:55:17  
Local clock offset: 1.395 ms  
Remote clock offset: -0.504 ms

# Below is generated by plot.py at 2018-10-02 15:28:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.38 Mbit/s  
95th percentile per-packet one-way delay: 38.237 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.38 Mbit/s  
95th percentile per-packet one-way delay: 38.237 ms  
Loss rate: 0.23%

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

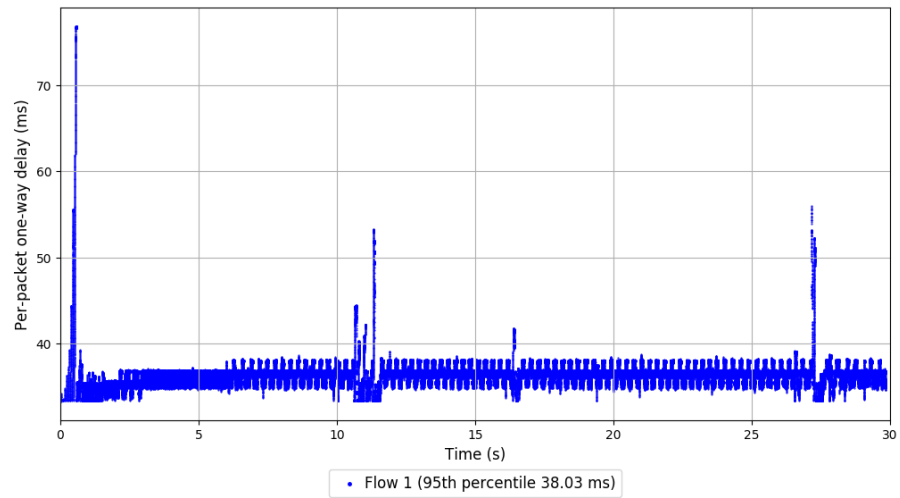
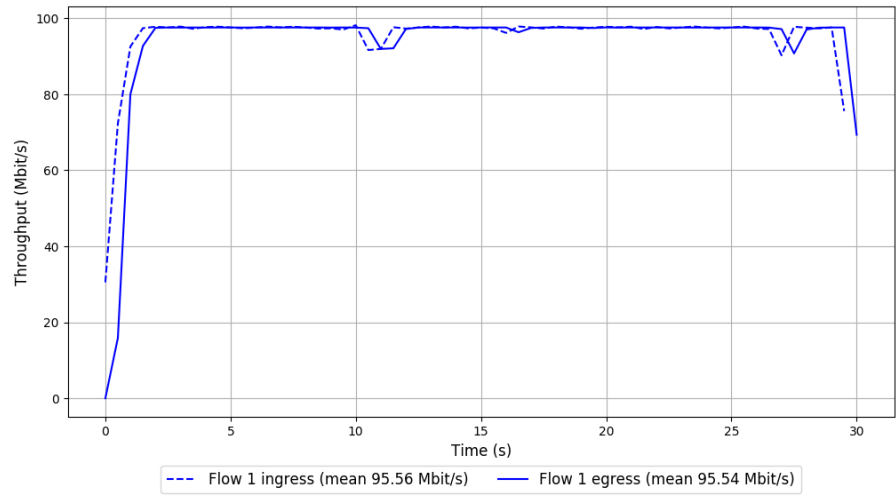


Run 5: Statistics of Indigo

Start at: 2018-10-02 15:18:37  
End at: 2018-10-02 15:19:07  
Local clock offset: -0.128 ms  
Remote clock offset: -0.419 ms

# Below is generated by plot.py at 2018-10-02 15:28:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.54 Mbit/s  
95th percentile per-packet one-way delay: 38.030 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.54 Mbit/s  
95th percentile per-packet one-way delay: 38.030 ms  
Loss rate: 0.23%

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



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 13:25:54

End at: 2018-10-02 13:26:24

Local clock offset: -2.44 ms

Remote clock offset: -0.202 ms

# Below is generated by plot.py at 2018-10-02 15:28:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 71.88 Mbit/s

95th percentile per-packet one-way delay: 481.048 ms

Loss rate: 0.64%

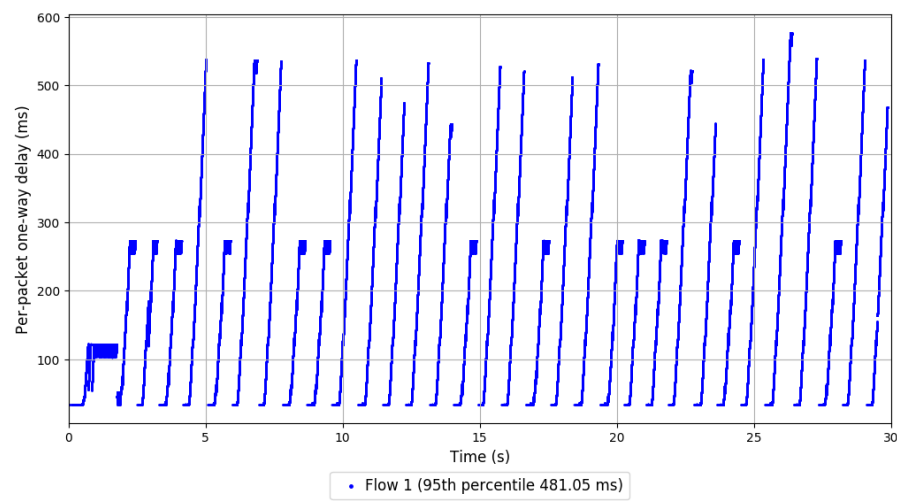
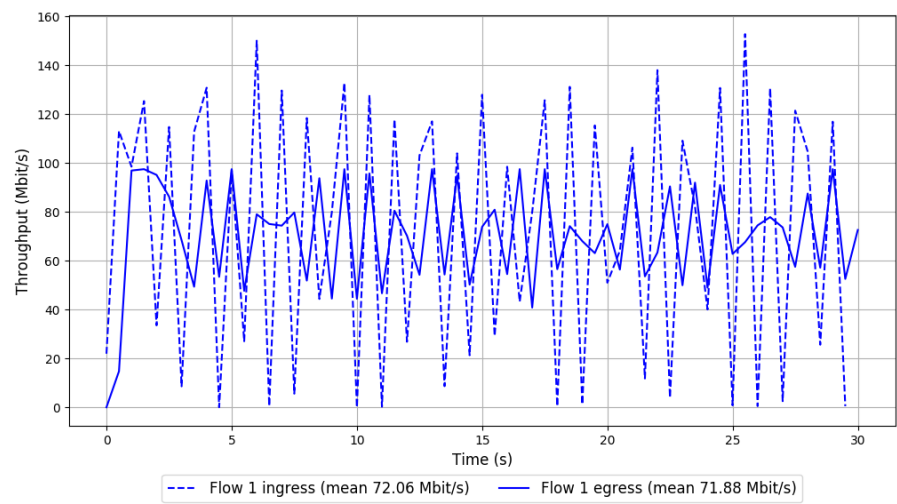
-- Flow 1:

Average throughput: 71.88 Mbit/s

95th percentile per-packet one-way delay: 481.048 ms

Loss rate: 0.64%

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





Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 13:49:46

End at: 2018-10-02 13:50:16

Local clock offset: -2.55 ms

Remote clock offset: -0.184 ms

# Below is generated by plot.py at 2018-10-02 15:28:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 72.09 Mbit/s

95th percentile per-packet one-way delay: 503.095 ms

Loss rate: 0.80%

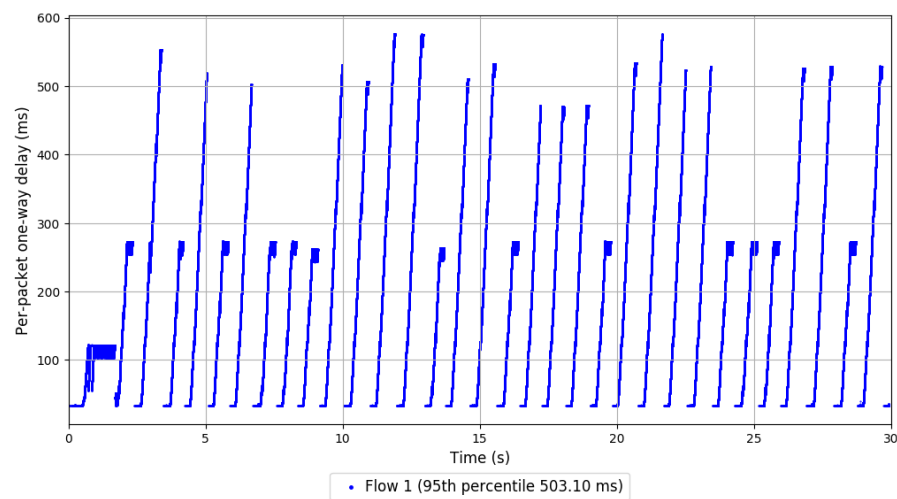
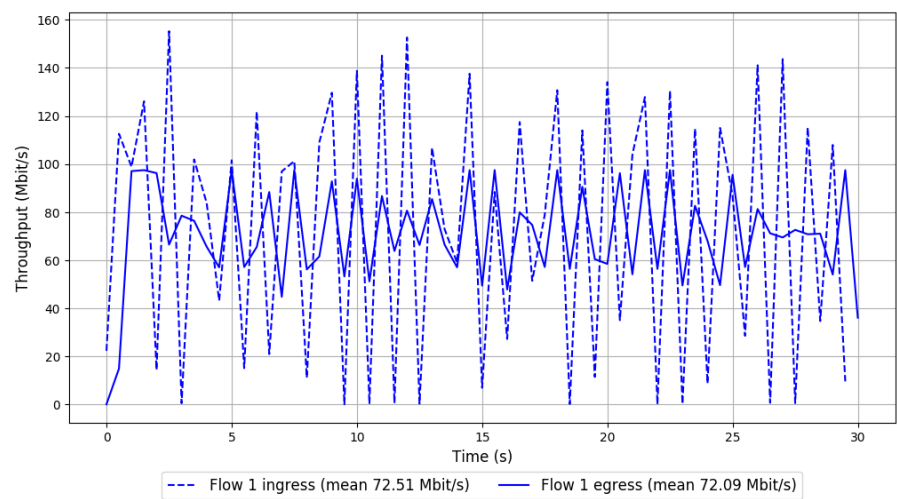
-- Flow 1:

Average throughput: 72.09 Mbit/s

95th percentile per-packet one-way delay: 503.095 ms

Loss rate: 0.80%

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

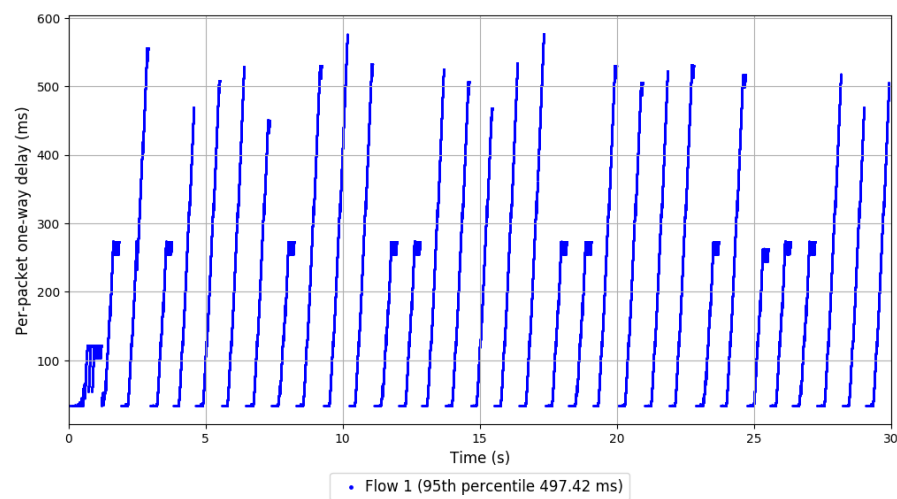
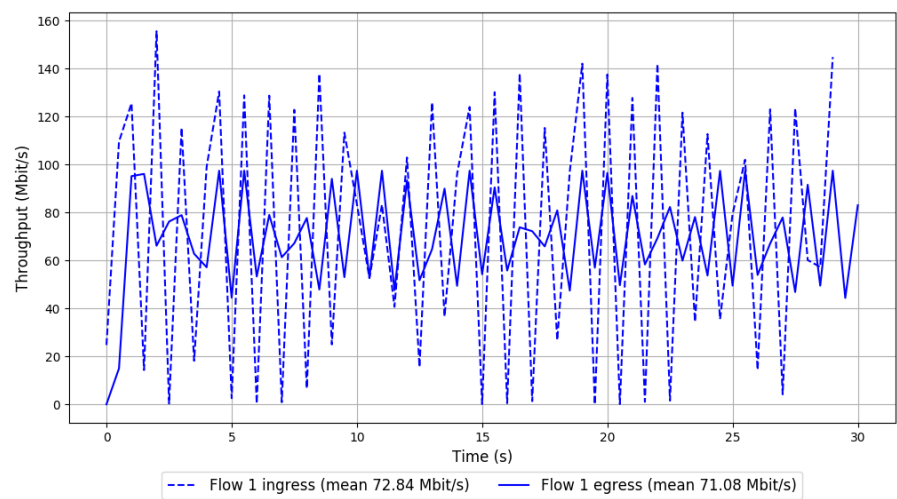


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 14:13:38  
End at: 2018-10-02 14:14:08  
Local clock offset: 0.219 ms  
Remote clock offset: -0.343 ms

# Below is generated by plot.py at 2018-10-02 15:28:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 71.08 Mbit/s  
95th percentile per-packet one-way delay: 497.416 ms  
Loss rate: 1.11%  
-- Flow 1:  
Average throughput: 71.08 Mbit/s  
95th percentile per-packet one-way delay: 497.416 ms  
Loss rate: 1.11%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 14:37:42

End at: 2018-10-02 14:38:12

Local clock offset: 3.847 ms

Remote clock offset: -0.678 ms

# Below is generated by plot.py at 2018-10-02 15:28:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 71.59 Mbit/s

95th percentile per-packet one-way delay: 440.145 ms

Loss rate: 1.82%

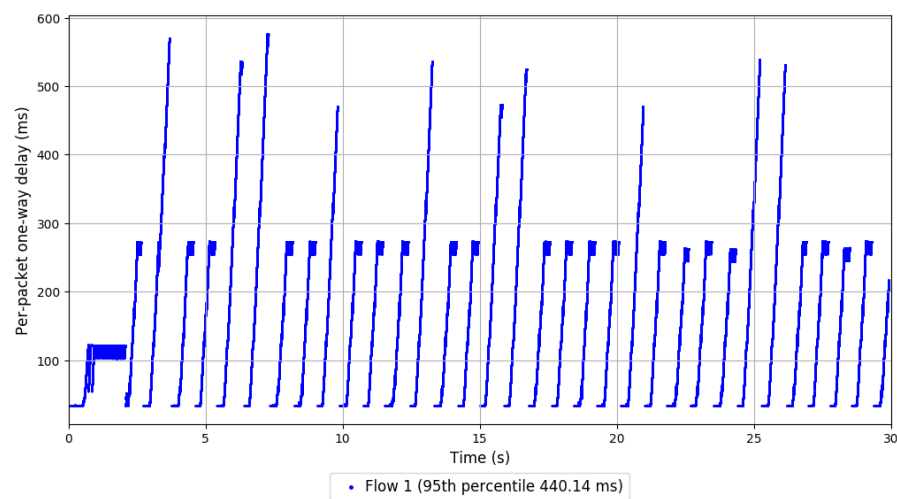
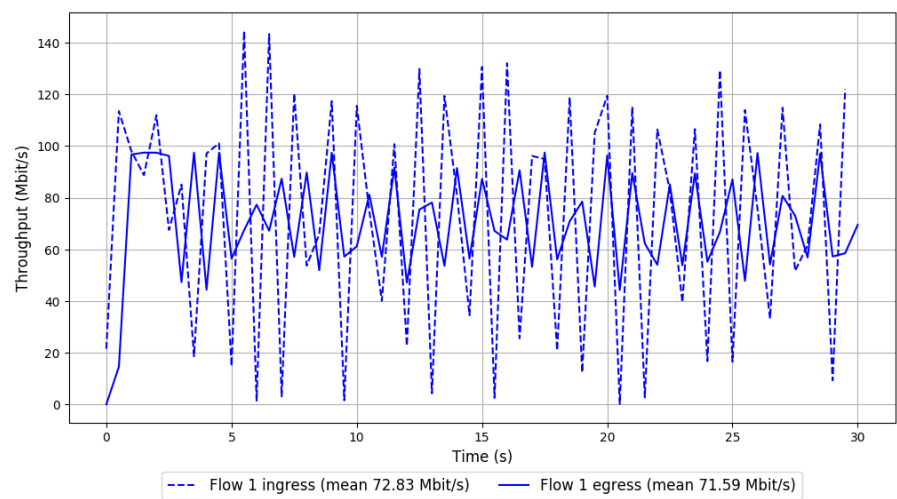
-- Flow 1:

Average throughput: 71.59 Mbit/s

95th percentile per-packet one-way delay: 440.145 ms

Loss rate: 1.82%

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

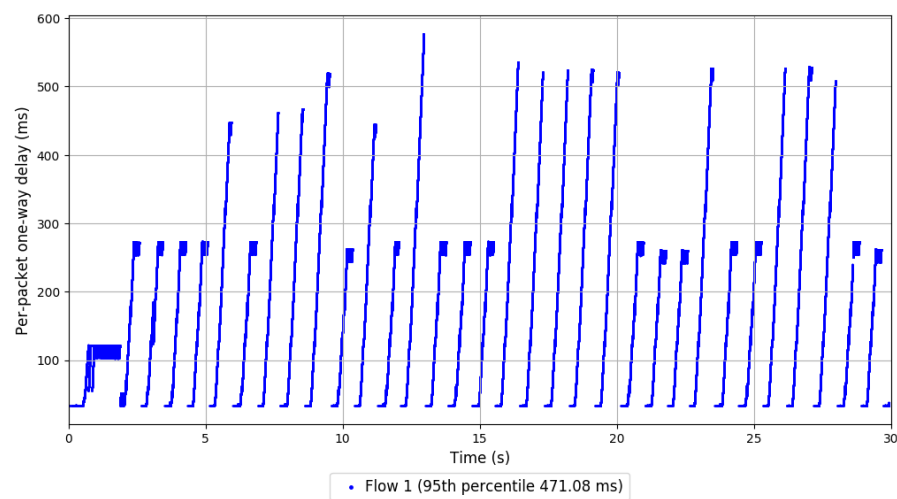
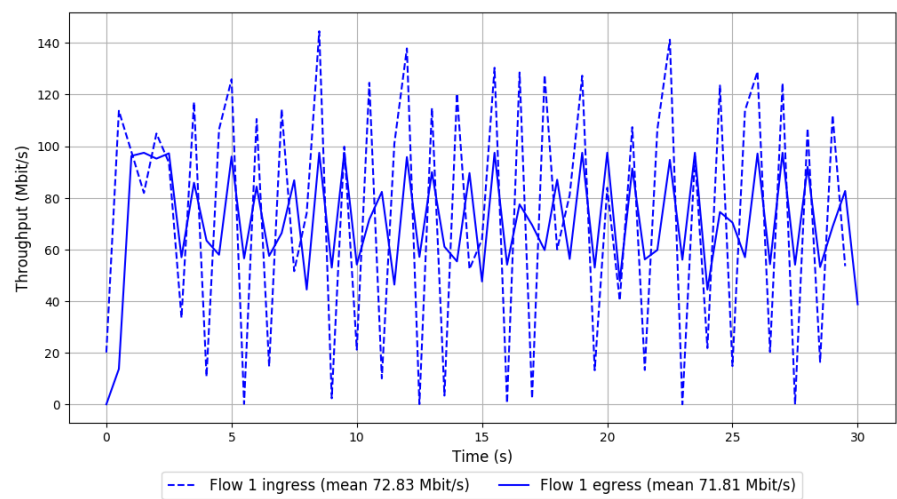


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 15:01:31  
End at: 2018-10-02 15:02:01  
Local clock offset: 0.437 ms  
Remote clock offset: -0.546 ms

# Below is generated by plot.py at 2018-10-02 15:28:45  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 71.81 Mbit/s  
95th percentile per-packet one-way delay: 471.076 ms  
Loss rate: 1.62%  
-- Flow 1:  
Average throughput: 71.81 Mbit/s  
95th percentile per-packet one-way delay: 471.076 ms  
Loss rate: 1.62%

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



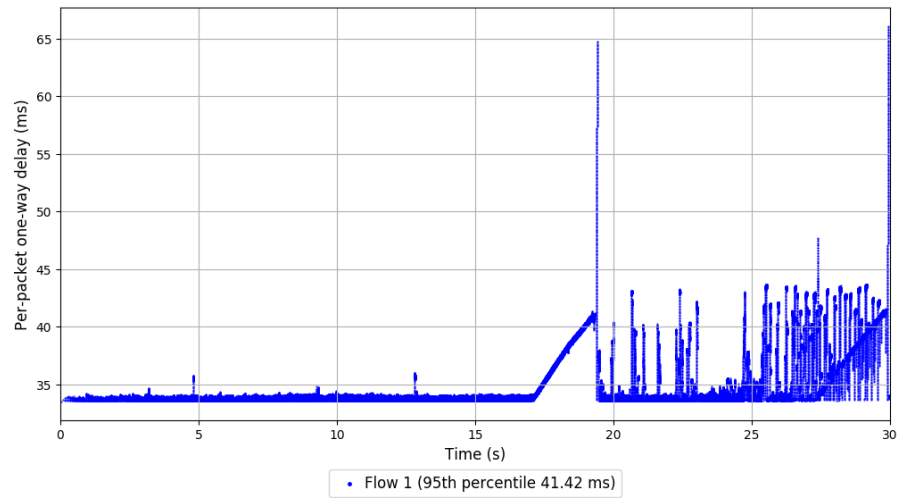
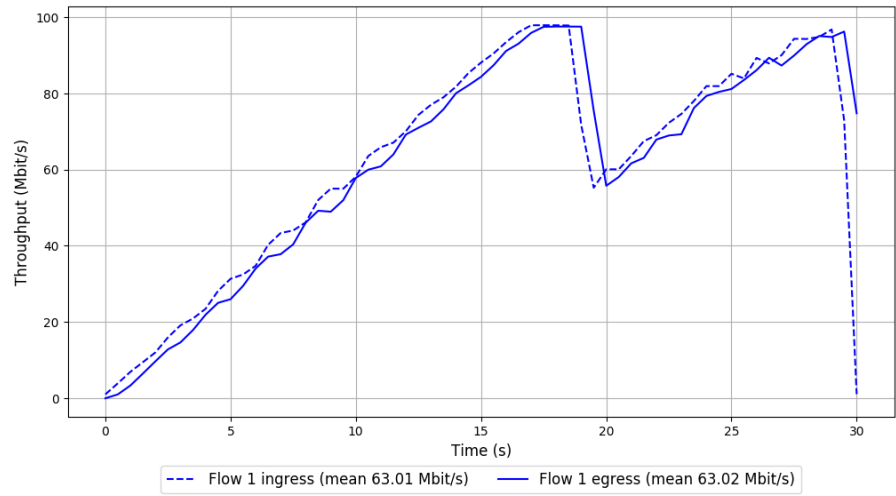


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 13:33:50
End at: 2018-10-02 13:34:20
Local clock offset: -3.294 ms
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2018-10-02 15:28:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.02 Mbit/s
95th percentile per-packet one-way delay: 41.423 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 63.02 Mbit/s
95th percentile per-packet one-way delay: 41.423 ms
Loss rate: 0.19%
```

# Run 1: Report of LEDBAT — Data Link

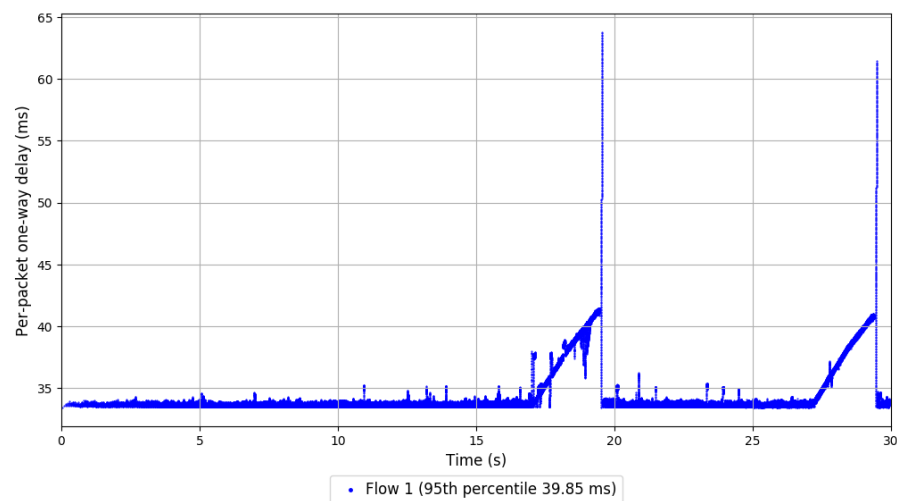
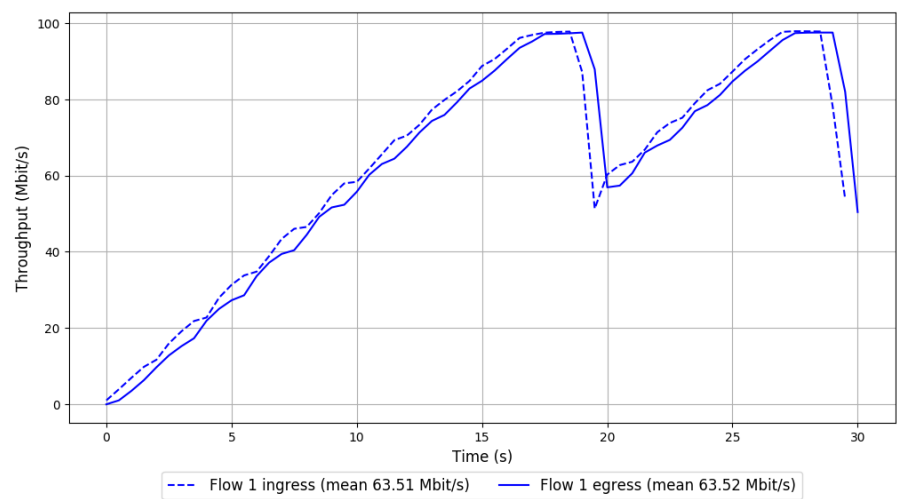


Run 2: Statistics of LEDBAT

Start at: 2018-10-02 13:57:41  
End at: 2018-10-02 13:58:11  
Local clock offset: -0.837 ms  
Remote clock offset: -0.147 ms

# Below is generated by plot.py at 2018-10-02 15:28:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.52 Mbit/s  
95th percentile per-packet one-way delay: 39.850 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 63.52 Mbit/s  
95th percentile per-packet one-way delay: 39.850 ms  
Loss rate: 0.20%

Run 2: Report of LEDBAT — Data Link

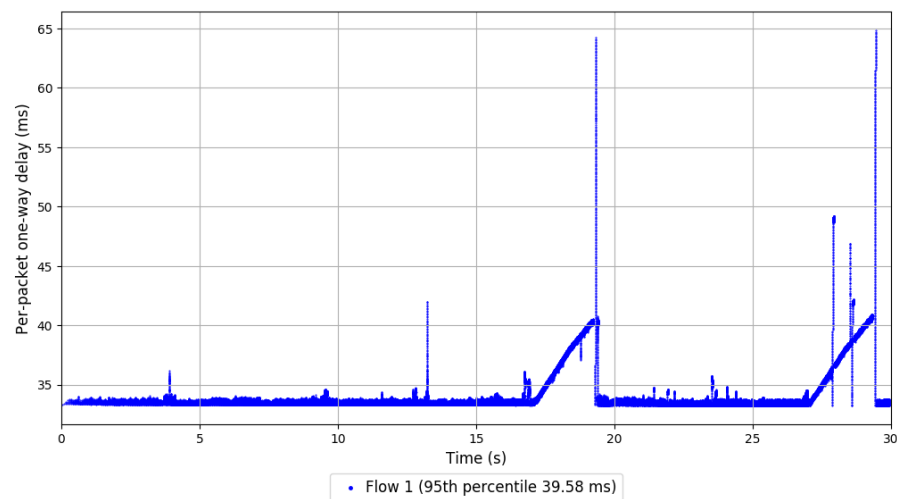
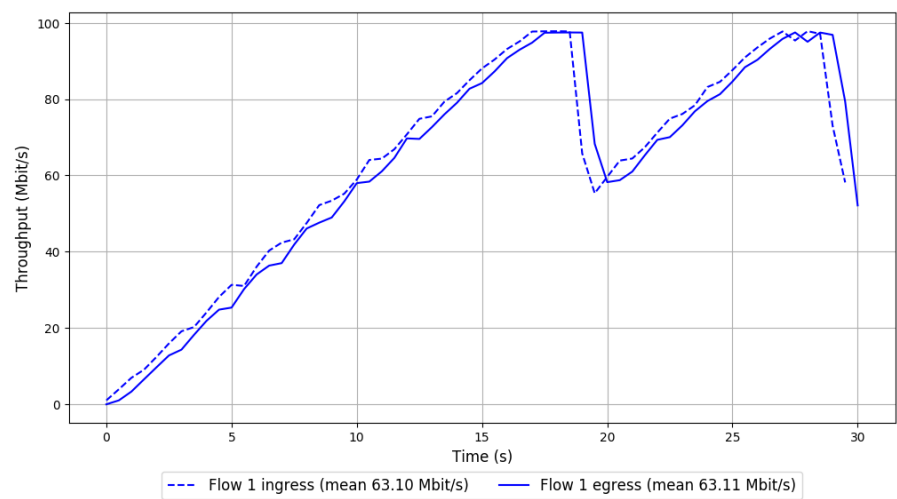


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 14:21:33  
End at: 2018-10-02 14:22:03  
Local clock offset: 1.888 ms  
Remote clock offset: -0.269 ms

# Below is generated by plot.py at 2018-10-02 15:29:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.11 Mbit/s  
95th percentile per-packet one-way delay: 39.581 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 63.11 Mbit/s  
95th percentile per-packet one-way delay: 39.581 ms  
Loss rate: 0.20%

Run 3: Report of LEDBAT — Data Link

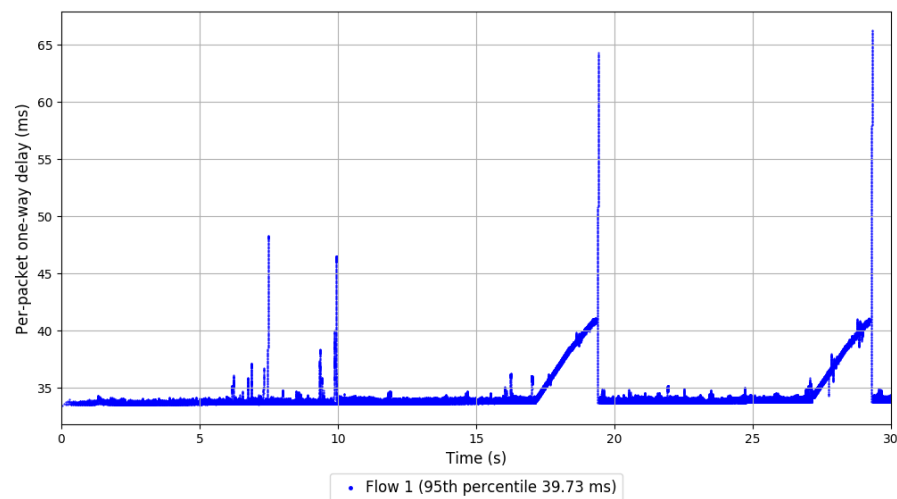
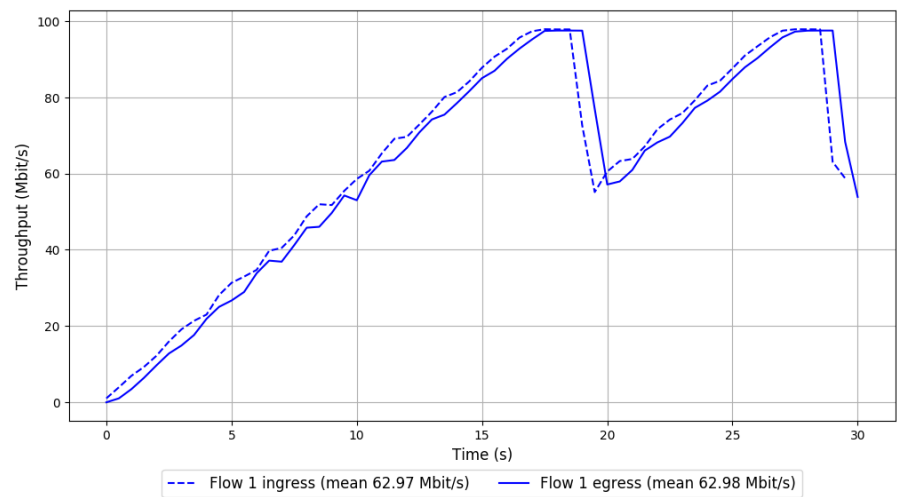


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 14:45:36  
End at: 2018-10-02 14:46:06  
Local clock offset: 4.397 ms  
Remote clock offset: -0.344 ms

# Below is generated by plot.py at 2018-10-02 15:29:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 62.98 Mbit/s  
95th percentile per-packet one-way delay: 39.734 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 62.98 Mbit/s  
95th percentile per-packet one-way delay: 39.734 ms  
Loss rate: 0.20%

Run 4: Report of LEDBAT — Data Link



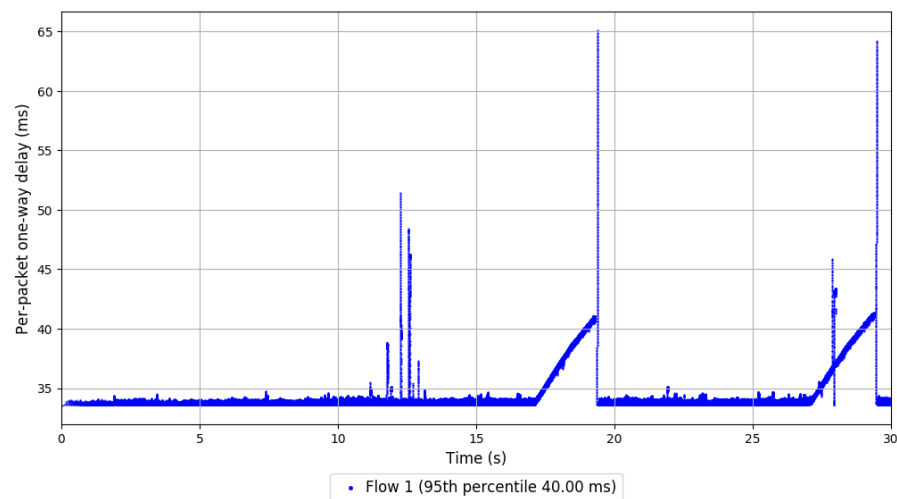
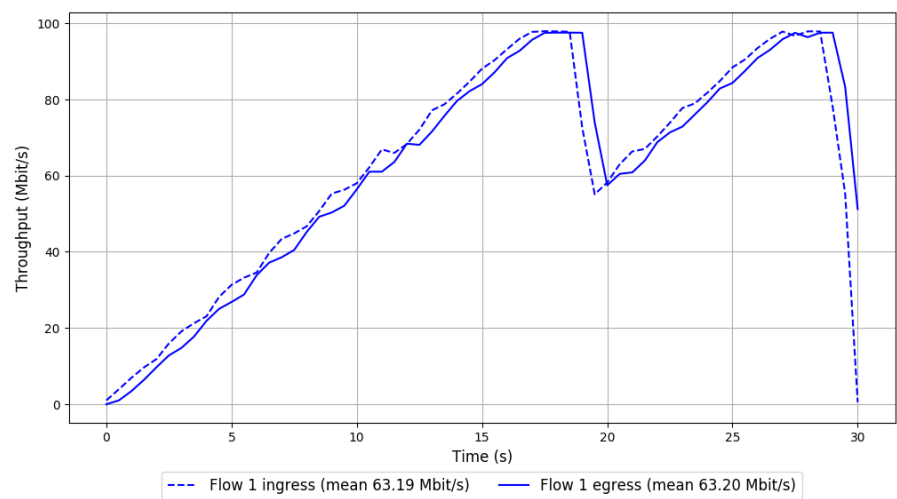


Run 5: Statistics of LEDBAT

Start at: 2018-10-02 15:09:26  
End at: 2018-10-02 15:09:56  
Local clock offset: -0.096 ms  
Remote clock offset: -0.636 ms

# Below is generated by plot.py at 2018-10-02 15:29:10  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.20 Mbit/s  
95th percentile per-packet one-way delay: 39.997 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 63.20 Mbit/s  
95th percentile per-packet one-way delay: 39.997 ms  
Loss rate: 0.20%

Run 5: Report of LEDBAT — Data Link

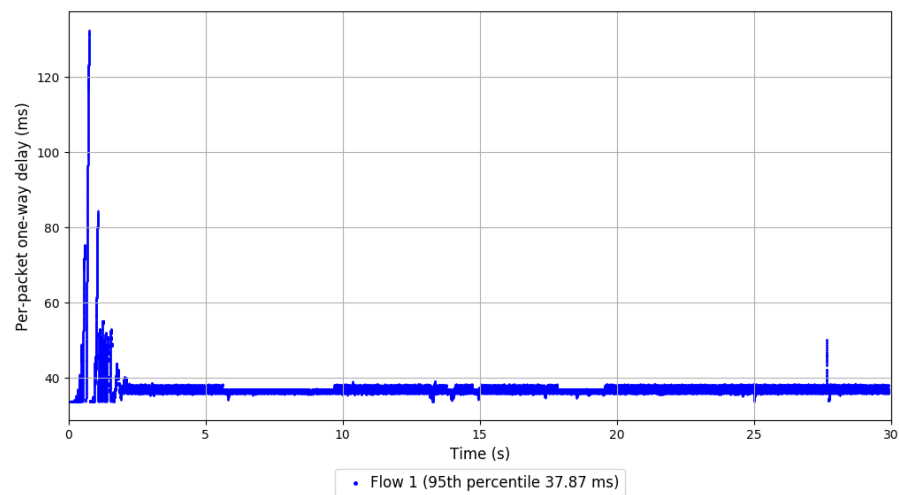
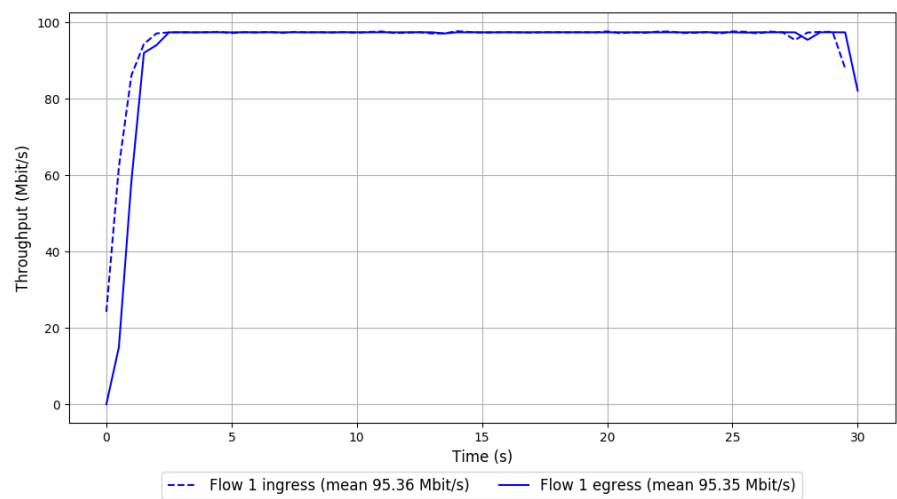


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 13:27:13  
End at: 2018-10-02 13:27:43  
Local clock offset: -2.634 ms  
Remote clock offset: -0.196 ms

# Below is generated by plot.py at 2018-10-02 15:29:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.35 Mbit/s  
95th percentile per-packet one-way delay: 37.866 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.35 Mbit/s  
95th percentile per-packet one-way delay: 37.866 ms  
Loss rate: 0.23%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 13:51:05

End at: 2018-10-02 13:51:35

Local clock offset: -2.116 ms

Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2018-10-02 15:29:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.49 Mbit/s

95th percentile per-packet one-way delay: 37.617 ms

Loss rate: 0.23%

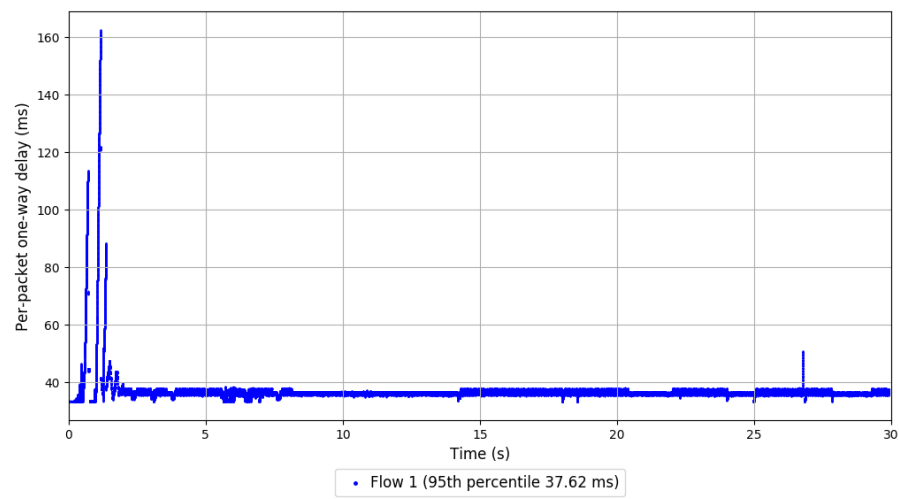
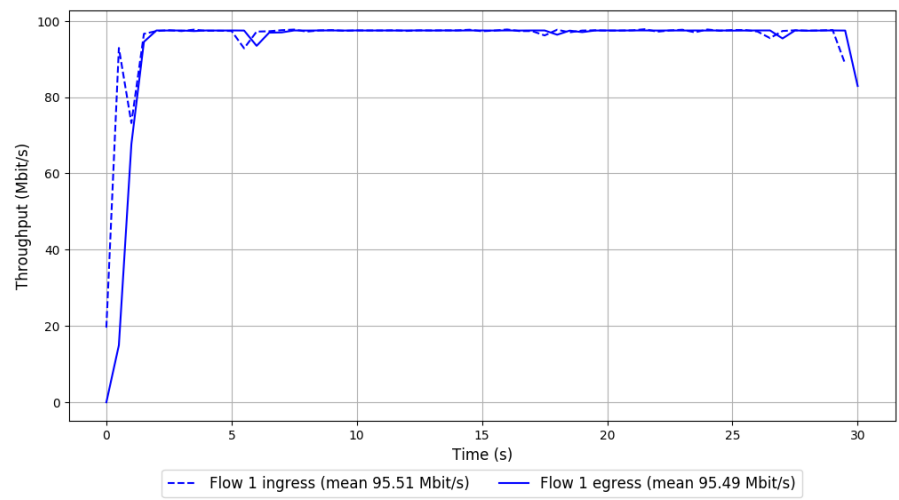
-- Flow 1:

Average throughput: 95.49 Mbit/s

95th percentile per-packet one-way delay: 37.617 ms

Loss rate: 0.23%

Run 2: Report of Indigo-Muses — Data Link

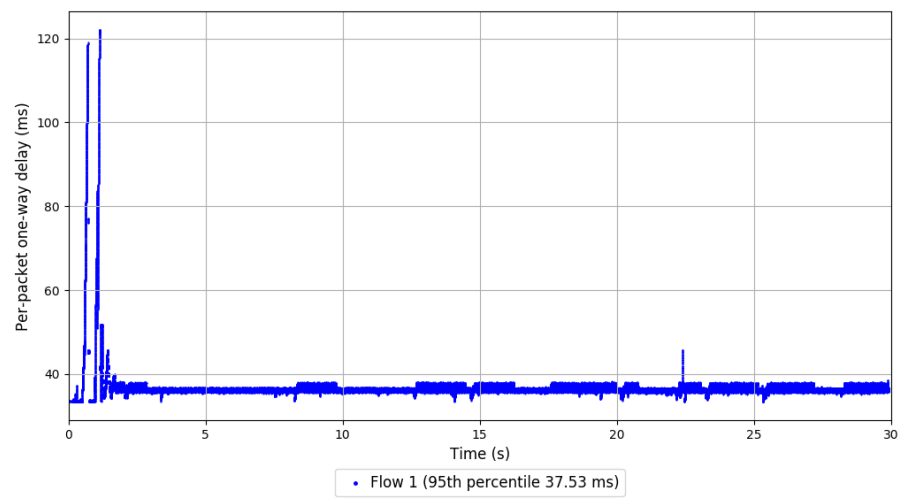
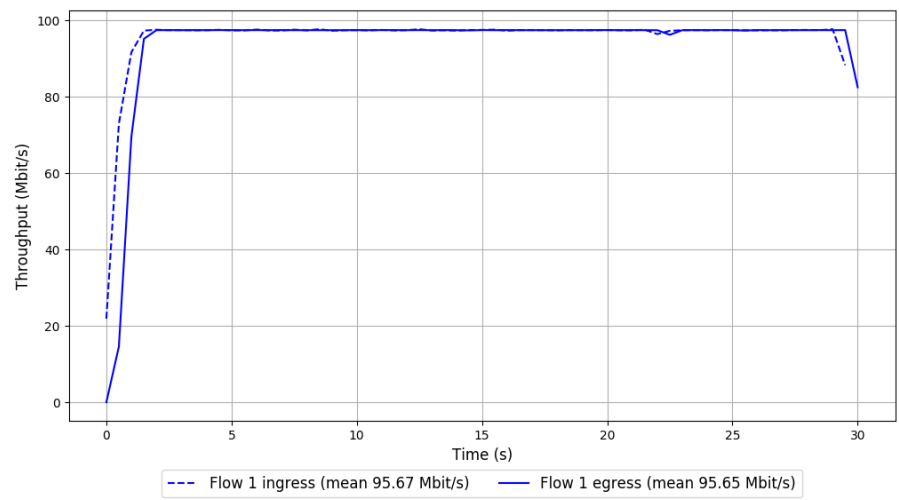


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 14:14:56  
End at: 2018-10-02 14:15:26  
Local clock offset: 0.261 ms  
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2018-10-02 15:29:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 37.526 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.65 Mbit/s  
95th percentile per-packet one-way delay: 37.526 ms  
Loss rate: 0.23%

Run 3: Report of Indigo-Muses — Data Link



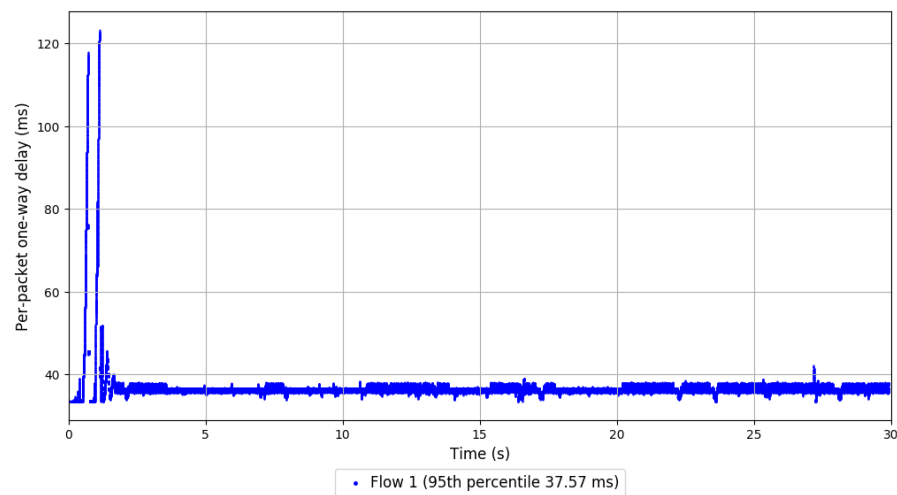
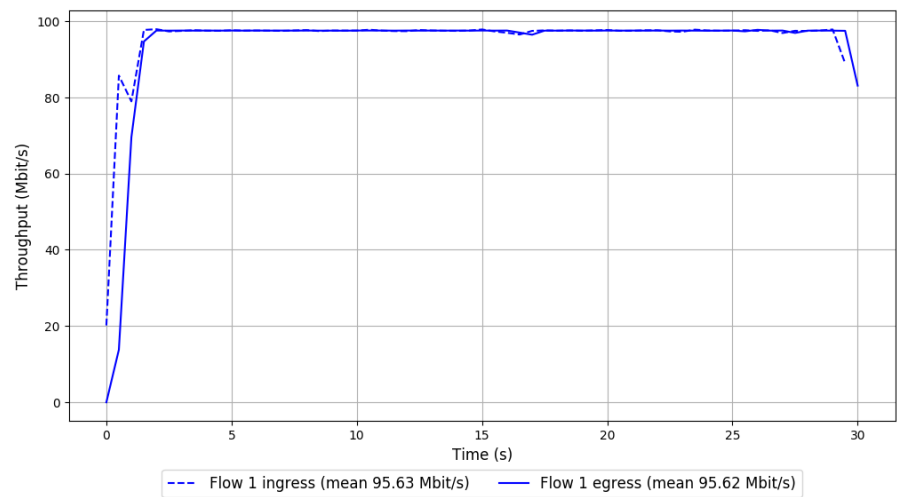


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 14:39:01  
End at: 2018-10-02 14:39:31  
Local clock offset: 3.969 ms  
Remote clock offset: -0.561 ms

# Below is generated by plot.py at 2018-10-02 15:29:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.62 Mbit/s  
95th percentile per-packet one-way delay: 37.573 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.62 Mbit/s  
95th percentile per-packet one-way delay: 37.573 ms  
Loss rate: 0.23%

Run 4: Report of Indigo-Muses — Data Link

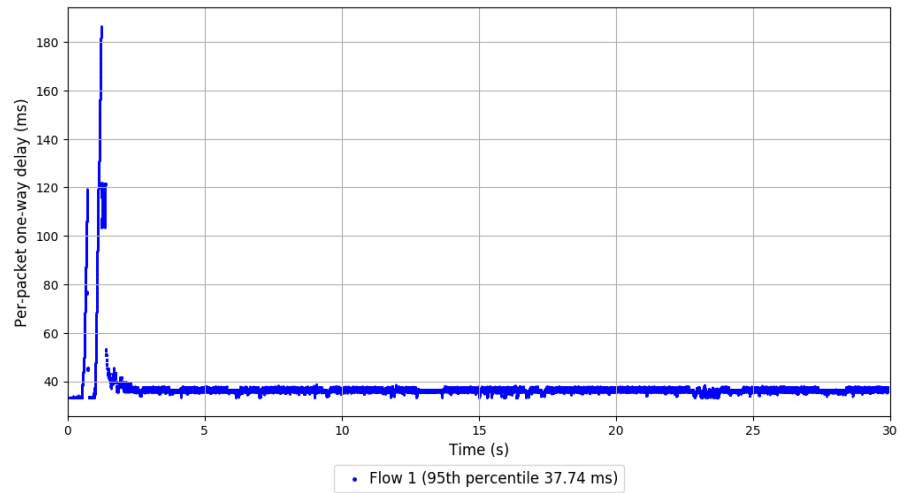
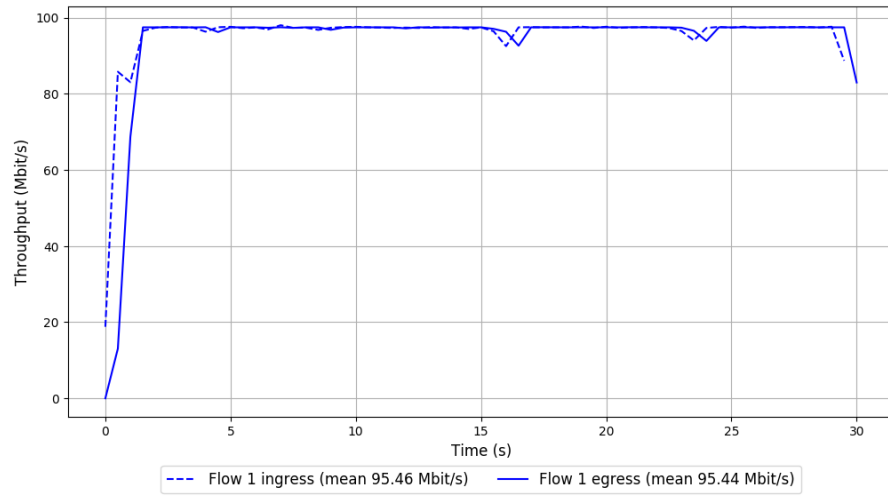


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 15:02:50  
End at: 2018-10-02 15:03:20  
Local clock offset: 0.331 ms  
Remote clock offset: -0.463 ms

# Below is generated by plot.py at 2018-10-02 15:30:07  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.44 Mbit/s  
95th percentile per-packet one-way delay: 37.737 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 95.44 Mbit/s  
95th percentile per-packet one-way delay: 37.737 ms  
Loss rate: 0.23%

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



Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 13:29:55

End at: 2018-10-02 13:30:25

Local clock offset: -2.921 ms

Remote clock offset: -0.106 ms

# Below is generated by plot.py at 2018-10-02 15:30:10

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.61 Mbit/s

95th percentile per-packet one-way delay: 40.740 ms

Loss rate: 0.23%

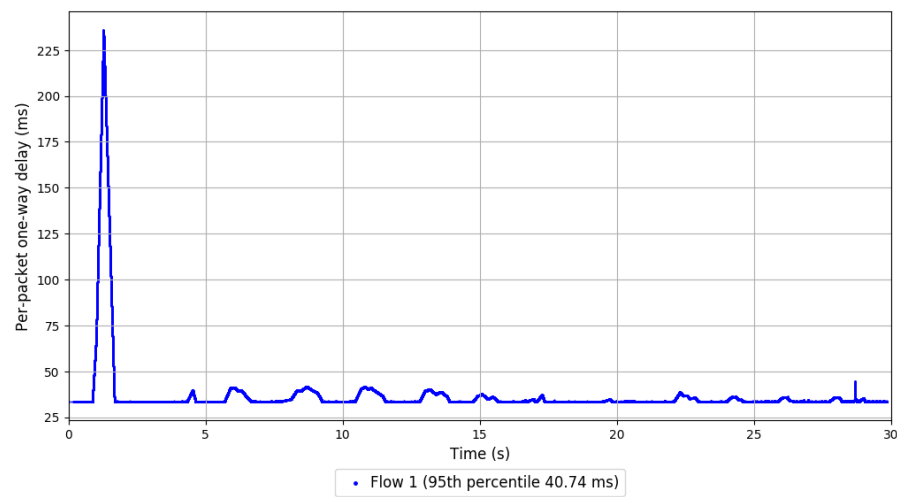
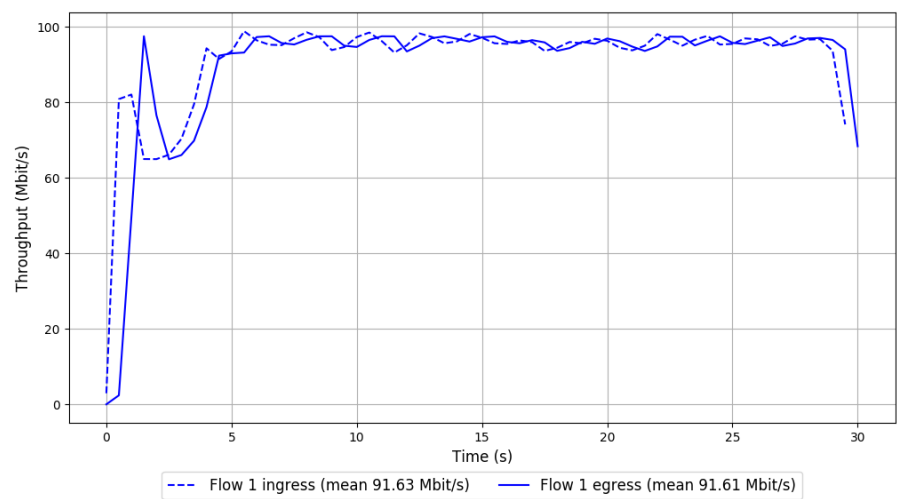
-- Flow 1:

Average throughput: 91.61 Mbit/s

95th percentile per-packet one-way delay: 40.740 ms

Loss rate: 0.23%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 13:53:48

End at: 2018-10-02 13:54:18

Local clock offset: -1.52 ms

Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2018-10-02 15:30:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.29 Mbit/s

95th percentile per-packet one-way delay: 37.569 ms

Loss rate: 0.23%

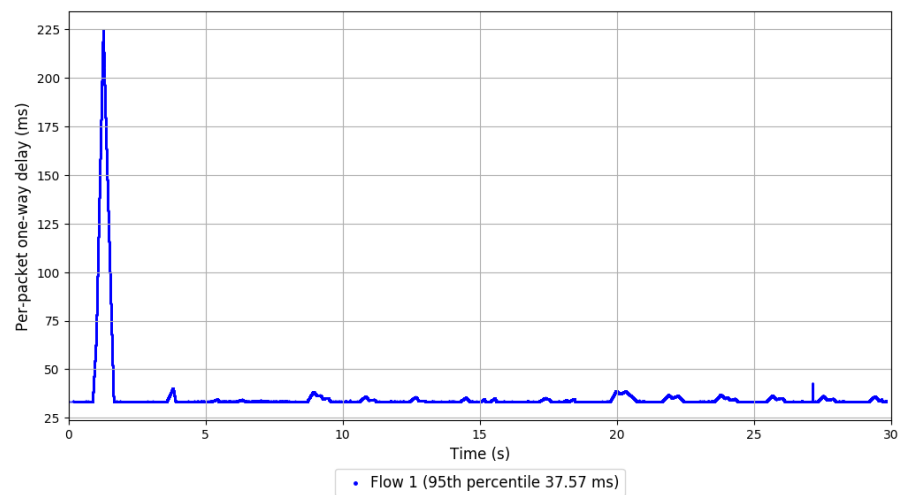
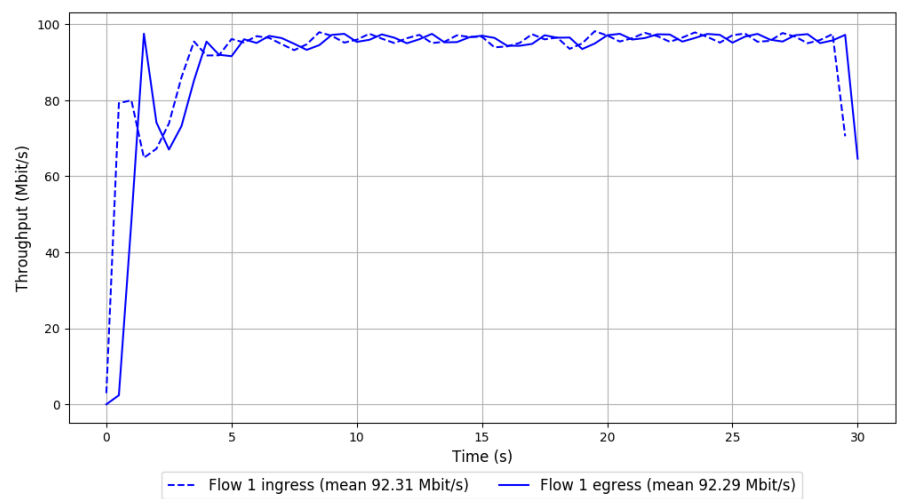
-- Flow 1:

Average throughput: 92.29 Mbit/s

95th percentile per-packet one-way delay: 37.569 ms

Loss rate: 0.23%

Run 2: Report of PCC-Allegro — Data Link





Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 14:17:39

End at: 2018-10-02 14:18:09

Local clock offset: 0.897 ms

Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-10-02 15:30:18

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.80 Mbit/s

95th percentile per-packet one-way delay: 50.868 ms

Loss rate: 0.26%

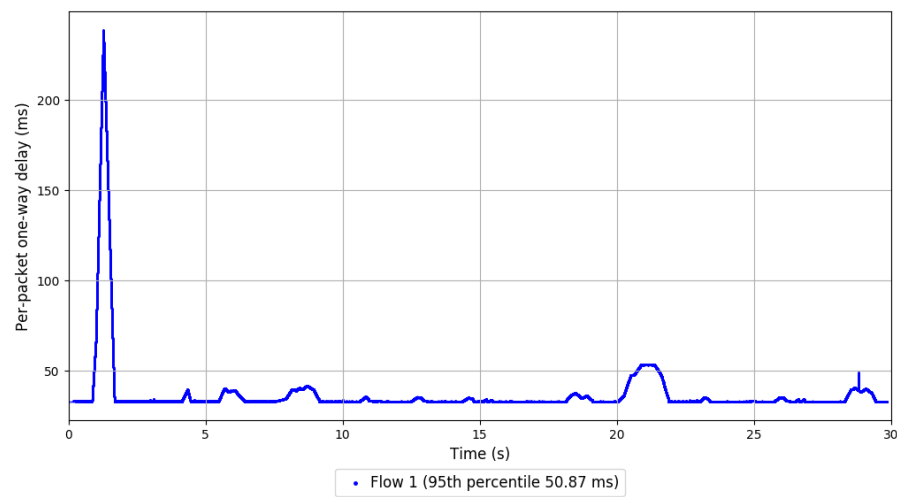
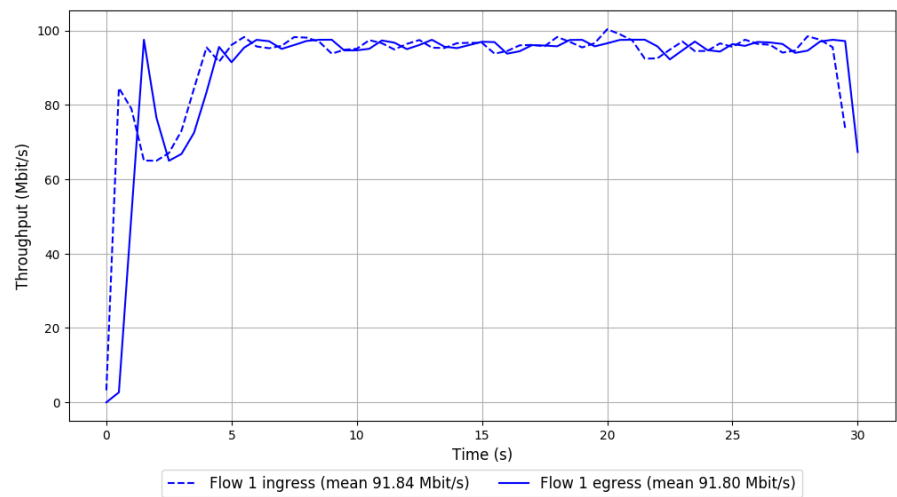
-- Flow 1:

Average throughput: 91.80 Mbit/s

95th percentile per-packet one-way delay: 50.868 ms

Loss rate: 0.26%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 14:41:43

End at: 2018-10-02 14:42:13

Local clock offset: 4.154 ms

Remote clock offset: -0.344 ms

# Below is generated by plot.py at 2018-10-02 15:30:44

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.32 Mbit/s

95th percentile per-packet one-way delay: 40.004 ms

Loss rate: 0.23%

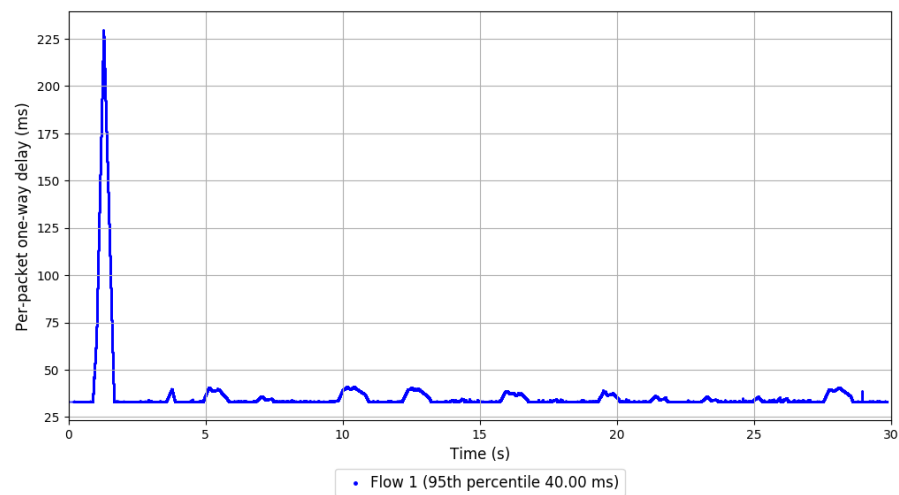
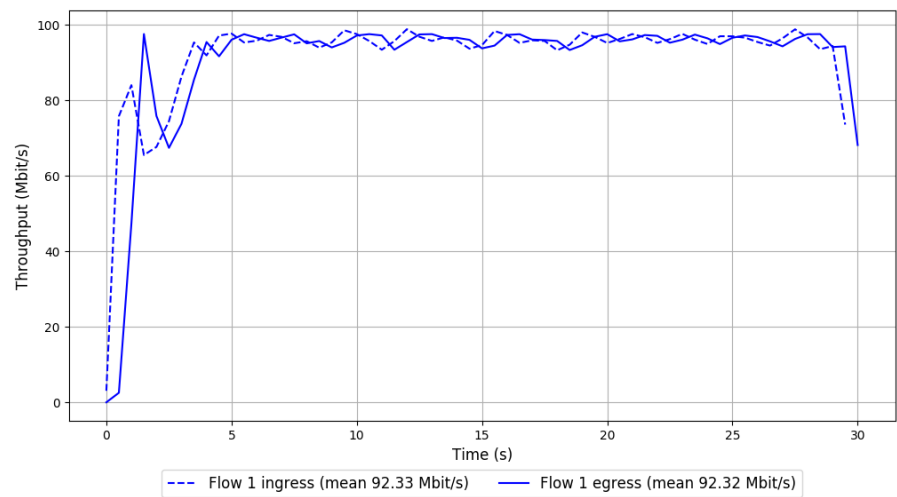
-- Flow 1:

Average throughput: 92.32 Mbit/s

95th percentile per-packet one-way delay: 40.004 ms

Loss rate: 0.23%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 15:05:32

End at: 2018-10-02 15:06:02

Local clock offset: 0.118 ms

Remote clock offset: -0.611 ms

# Below is generated by plot.py at 2018-10-02 15:30:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.12 Mbit/s

95th percentile per-packet one-way delay: 37.996 ms

Loss rate: 0.23%

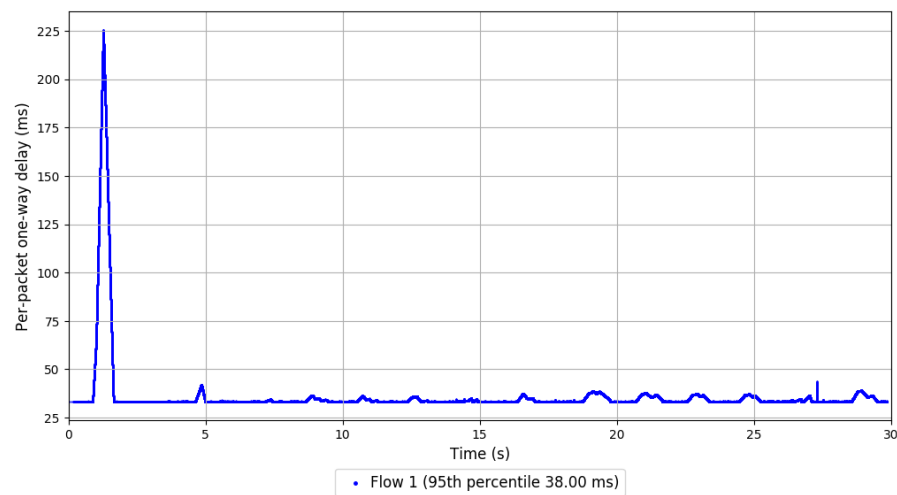
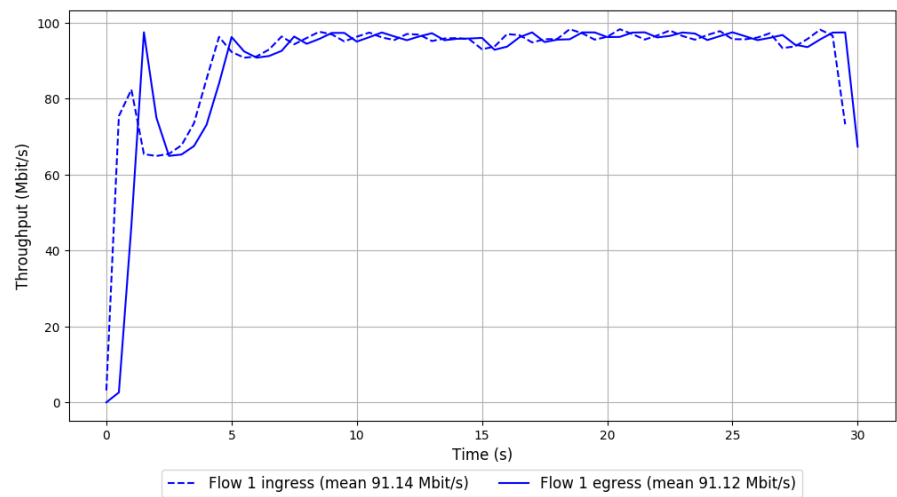
-- Flow 1:

Average throughput: 91.12 Mbit/s

95th percentile per-packet one-way delay: 37.996 ms

Loss rate: 0.23%

Run 5: Report of PCC-Allegro — Data Link

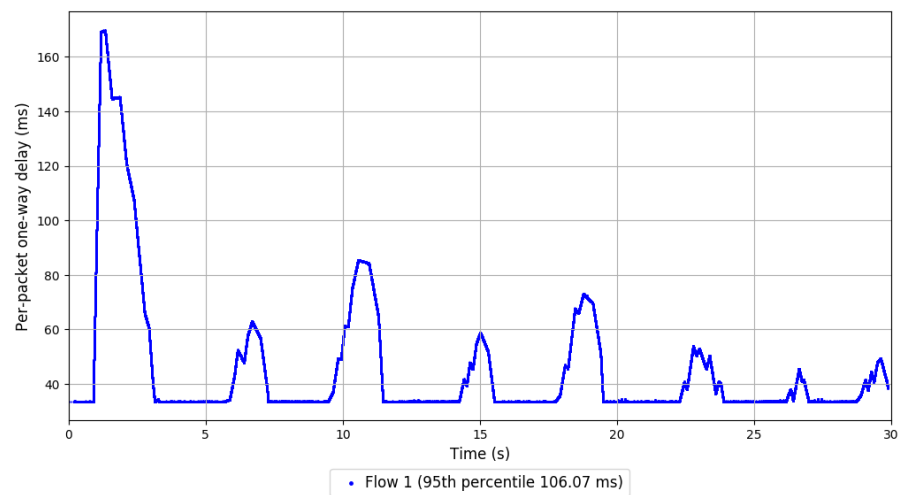
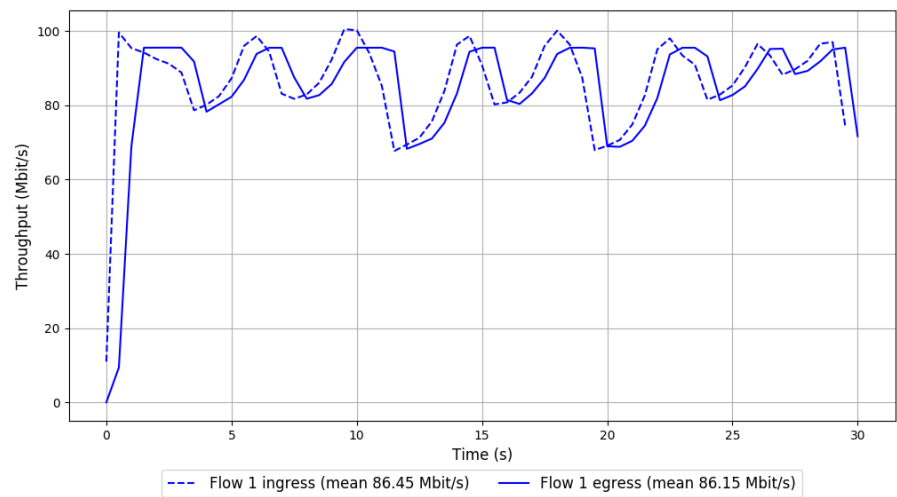


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 13:44:23
End at: 2018-10-02 13:44:53
Local clock offset: -3.996 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-10-02 15:31:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.15 Mbit/s
95th percentile per-packet one-way delay: 106.071 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 86.15 Mbit/s
95th percentile per-packet one-way delay: 106.071 ms
Loss rate: 0.56%
```

Run 1: Report of PCC-Expr — Data Link



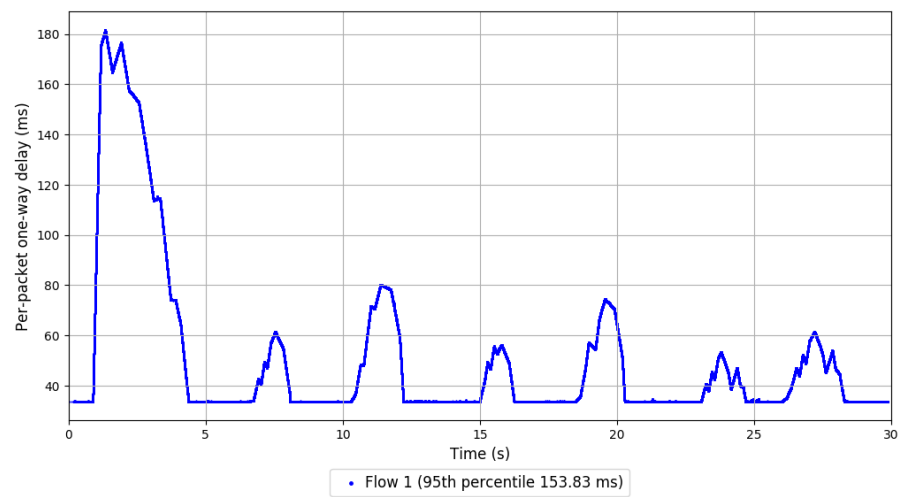
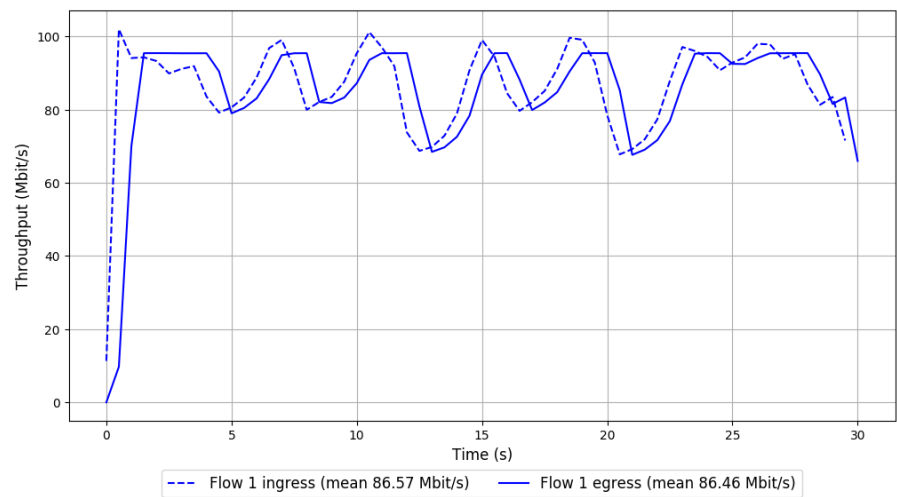


Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 14:08:15  
End at: 2018-10-02 14:08:45  
Local clock offset: 0.029 ms  
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2018-10-02 15:31:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 86.46 Mbit/s  
95th percentile per-packet one-way delay: 153.834 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 86.46 Mbit/s  
95th percentile per-packet one-way delay: 153.834 ms  
Loss rate: 0.33%

Run 2: Report of PCC-Expr — Data Link

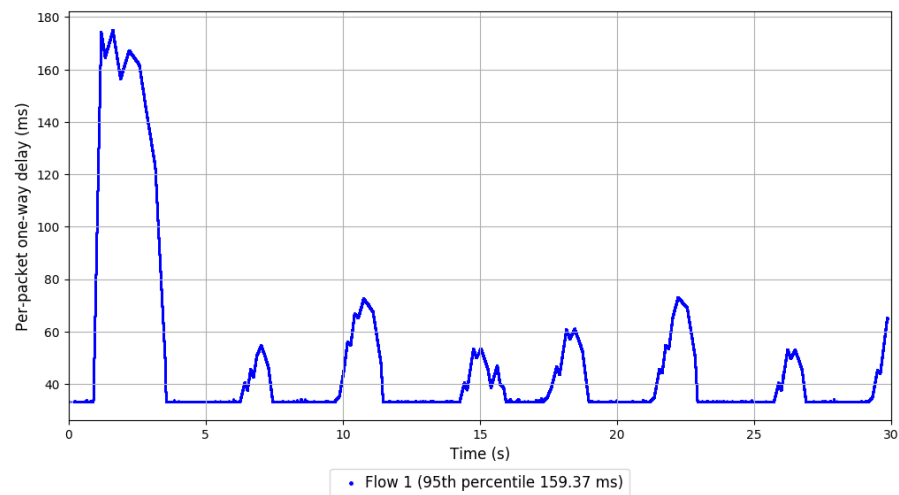
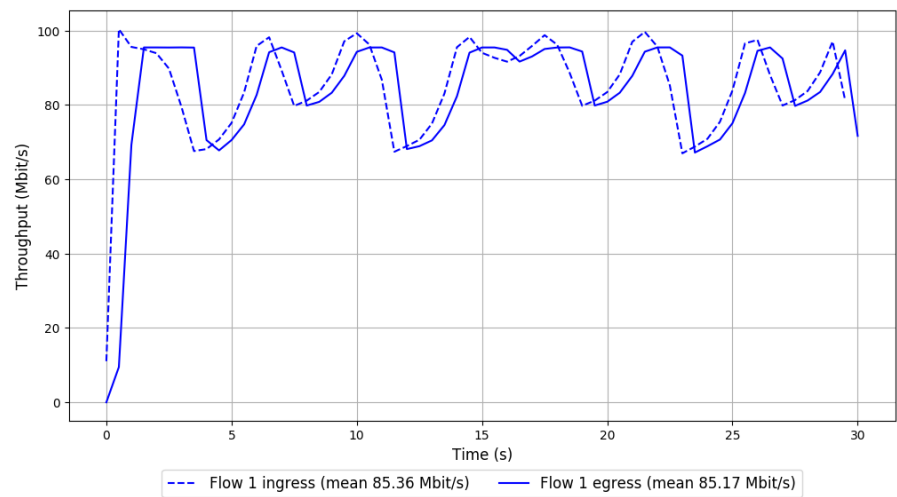


Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 14:32:16  
End at: 2018-10-02 14:32:46  
Local clock offset: 3.382 ms  
Remote clock offset: -0.519 ms

# Below is generated by plot.py at 2018-10-02 15:32:00  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.17 Mbit/s  
95th percentile per-packet one-way delay: 159.374 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 85.17 Mbit/s  
95th percentile per-packet one-way delay: 159.374 ms  
Loss rate: 0.43%

Run 3: Report of PCC-Expr — Data Link

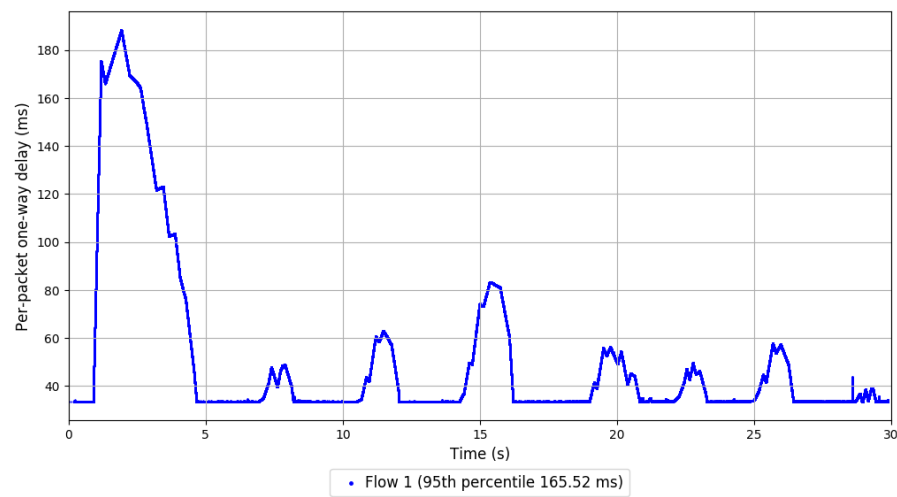
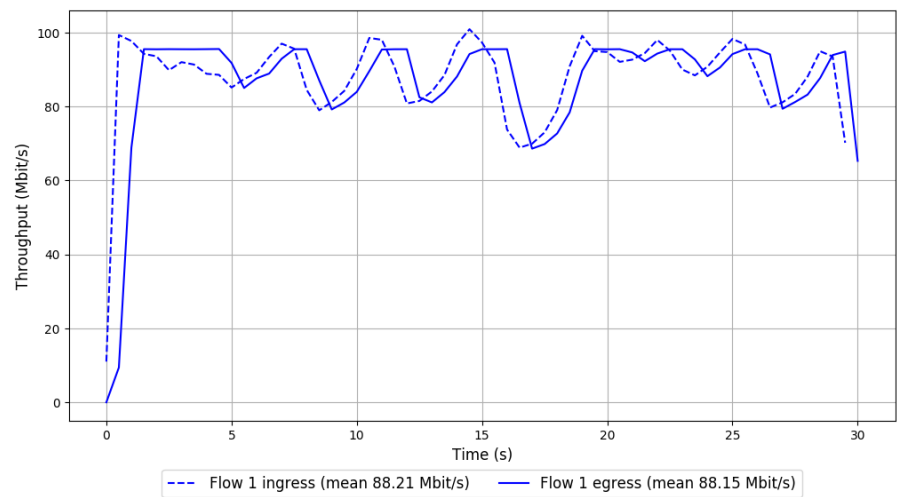


Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 14:56:08  
End at: 2018-10-02 14:56:38  
Local clock offset: 1.138 ms  
Remote clock offset: -0.576 ms

# Below is generated by plot.py at 2018-10-02 15:32:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 88.15 Mbit/s  
95th percentile per-packet one-way delay: 165.523 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 88.15 Mbit/s  
95th percentile per-packet one-way delay: 165.523 ms  
Loss rate: 0.29%

Run 4: Report of PCC-Expr — Data Link

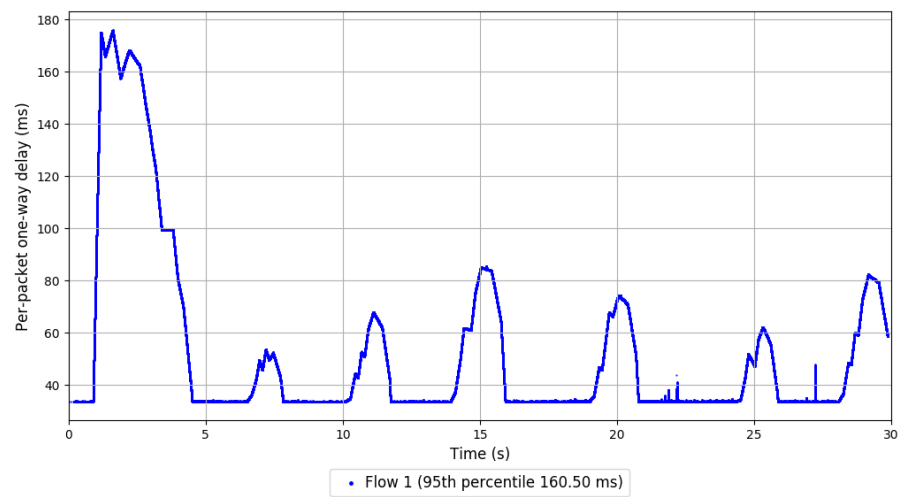
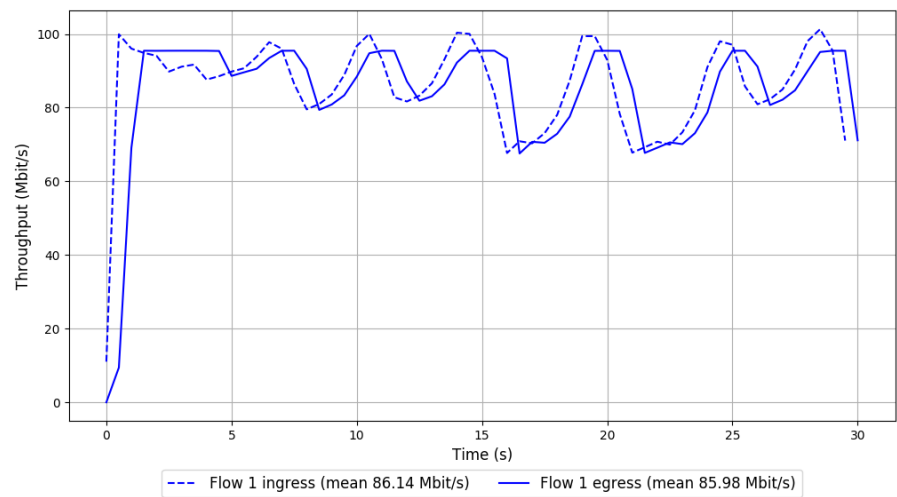


Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 15:19:59  
End at: 2018-10-02 15:20:29  
Local clock offset: -0.076 ms  
Remote clock offset: -0.652 ms

# Below is generated by plot.py at 2018-10-02 15:32:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.98 Mbit/s  
95th percentile per-packet one-way delay: 160.496 ms  
Loss rate: 0.40%  
-- Flow 1:  
Average throughput: 85.98 Mbit/s  
95th percentile per-packet one-way delay: 160.496 ms  
Loss rate: 0.40%

Run 5: Report of PCC-Expr — Data Link





Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 13:36:28

End at: 2018-10-02 13:36:58

Local clock offset: -3.491 ms

Remote clock offset: -0.19 ms

# Below is generated by plot.py at 2018-10-02 15:32:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 76.52 Mbit/s

95th percentile per-packet one-way delay: 49.937 ms

Loss rate: 0.28%

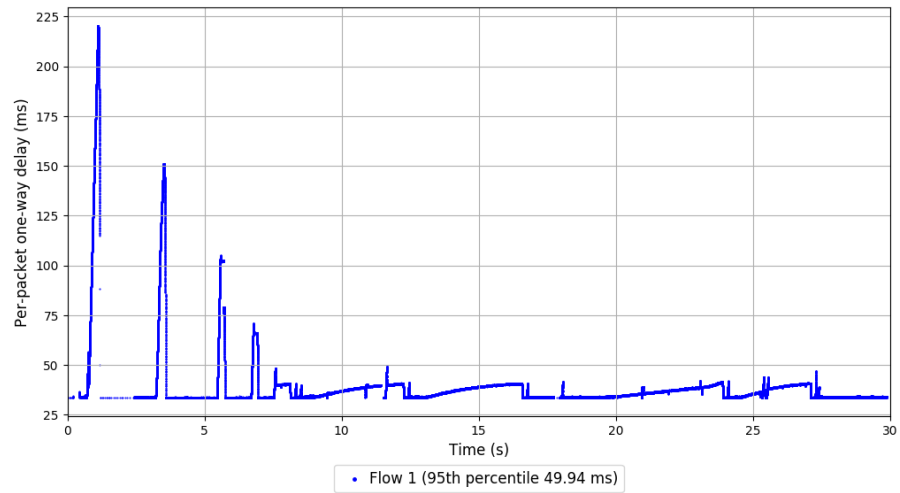
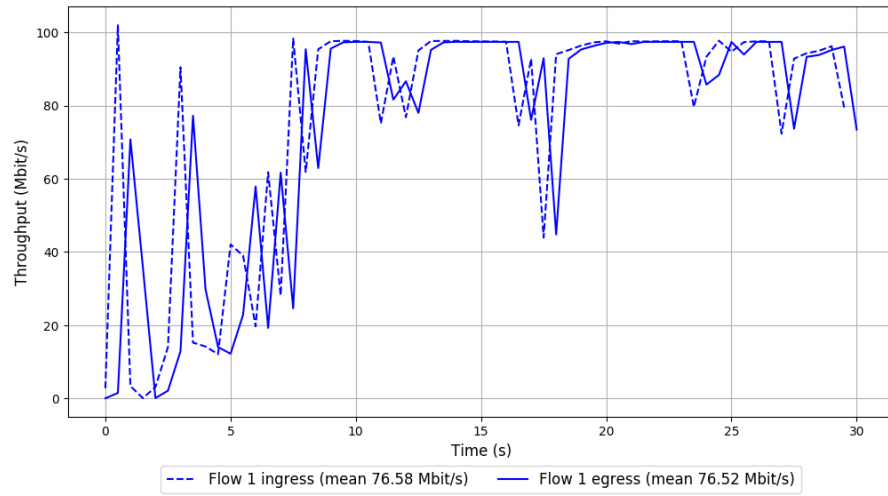
-- Flow 1:

Average throughput: 76.52 Mbit/s

95th percentile per-packet one-way delay: 49.937 ms

Loss rate: 0.28%

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



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 14:00:19

End at: 2018-10-02 14:00:49

Local clock offset: -0.538 ms

Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-10-02 15:32:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.76 Mbit/s

95th percentile per-packet one-way delay: 40.369 ms

Loss rate: 0.27%

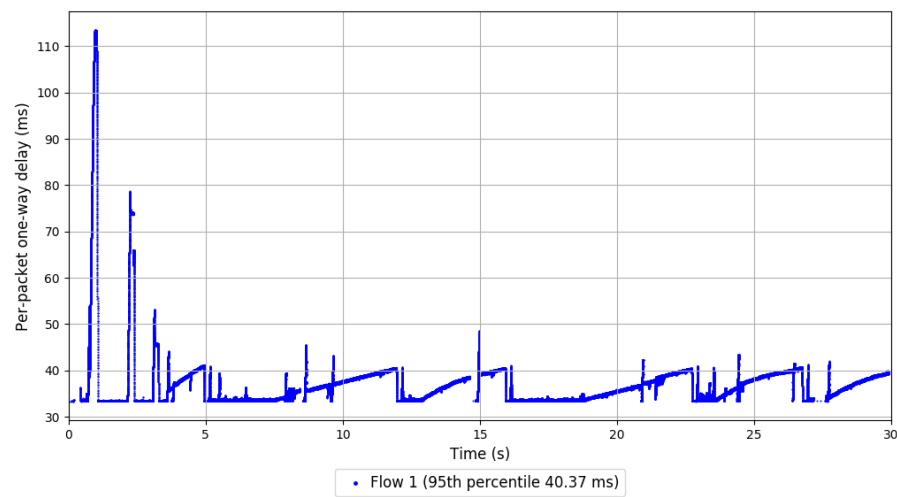
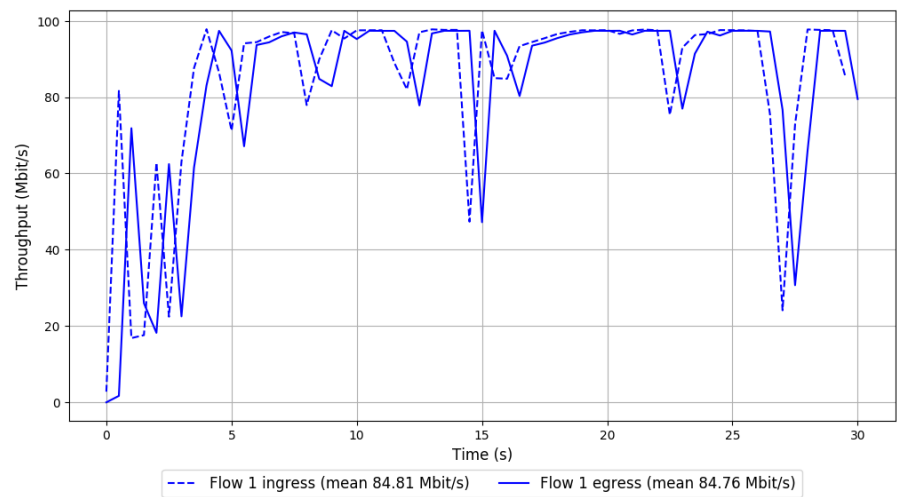
-- Flow 1:

Average throughput: 84.76 Mbit/s

95th percentile per-packet one-way delay: 40.369 ms

Loss rate: 0.27%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 14:24:14

End at: 2018-10-02 14:24:44

Local clock offset: 2.366 ms

Remote clock offset: -0.535 ms

# Below is generated by plot.py at 2018-10-02 15:32:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 76.74 Mbit/s

95th percentile per-packet one-way delay: 49.496 ms

Loss rate: 0.28%

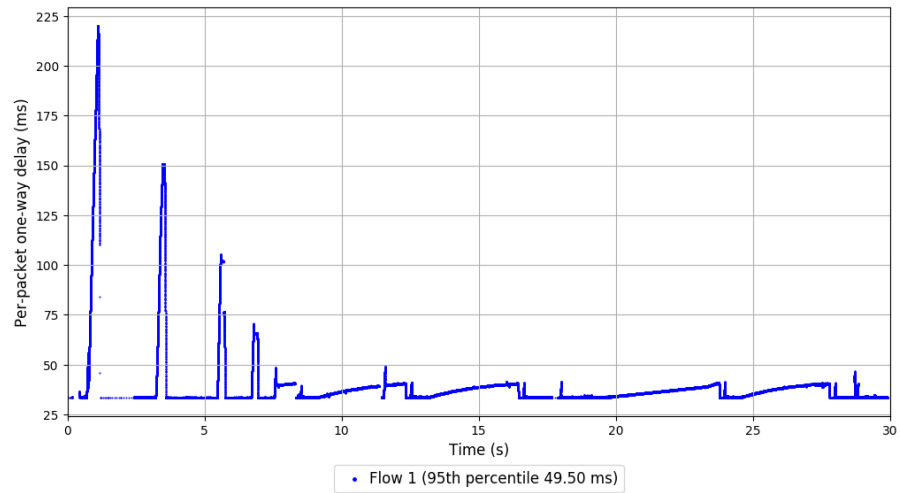
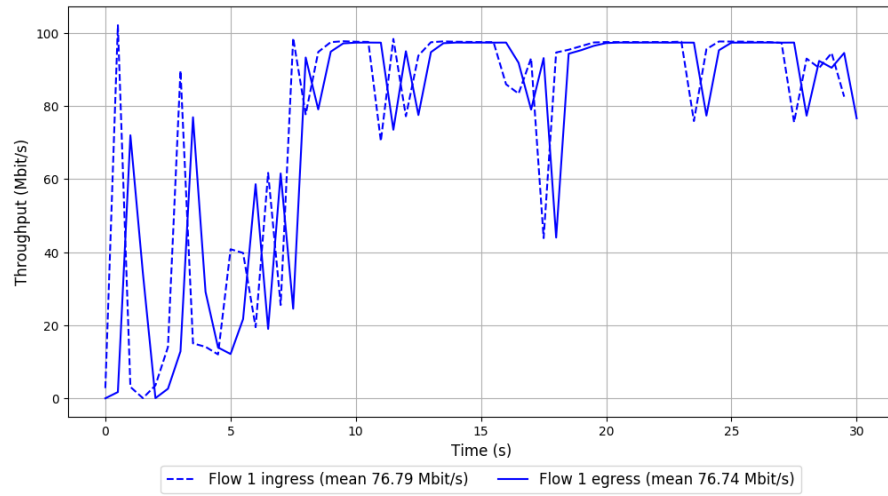
-- Flow 1:

Average throughput: 76.74 Mbit/s

95th percentile per-packet one-way delay: 49.496 ms

Loss rate: 0.28%

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



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 14:48:14

End at: 2018-10-02 14:48:44

Local clock offset: 3.333 ms

Remote clock offset: -0.431 ms

# Below is generated by plot.py at 2018-10-02 15:32:21

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.04 Mbit/s

95th percentile per-packet one-way delay: 49.794 ms

Loss rate: 0.30%

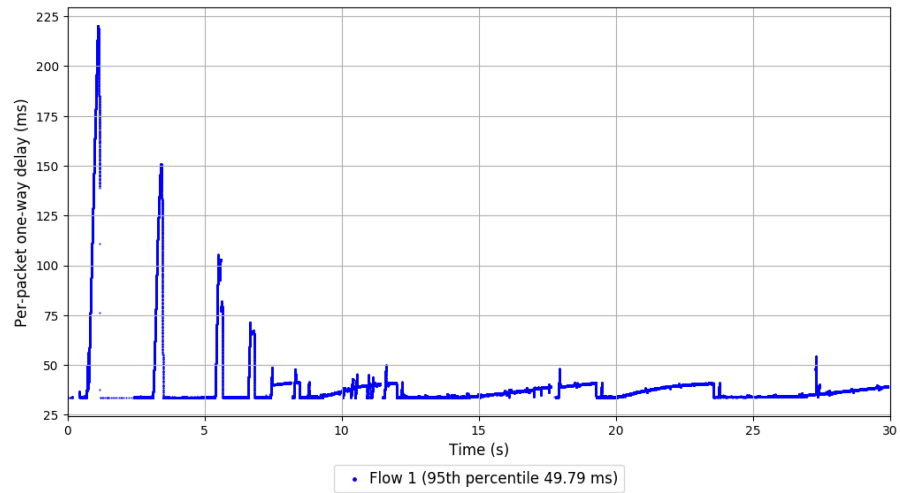
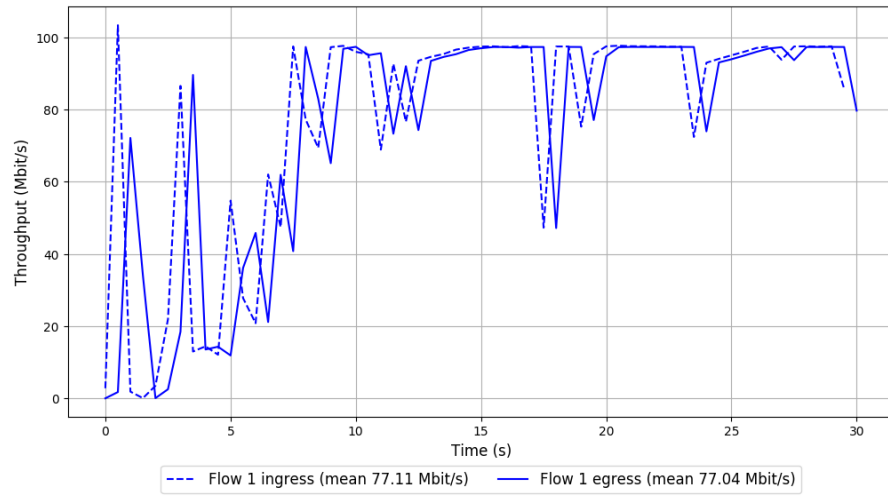
-- Flow 1:

Average throughput: 77.04 Mbit/s

95th percentile per-packet one-way delay: 49.794 ms

Loss rate: 0.30%

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





Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 15:12:05

End at: 2018-10-02 15:12:35

Local clock offset: -0.181 ms

Remote clock offset: -0.47 ms

# Below is generated by plot.py at 2018-10-02 15:32:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 77.24 Mbit/s

95th percentile per-packet one-way delay: 50.587 ms

Loss rate: 0.26%

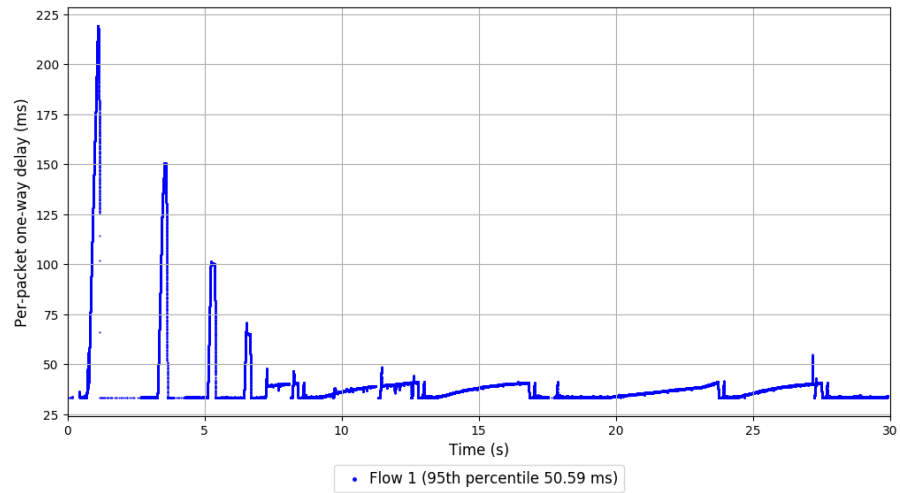
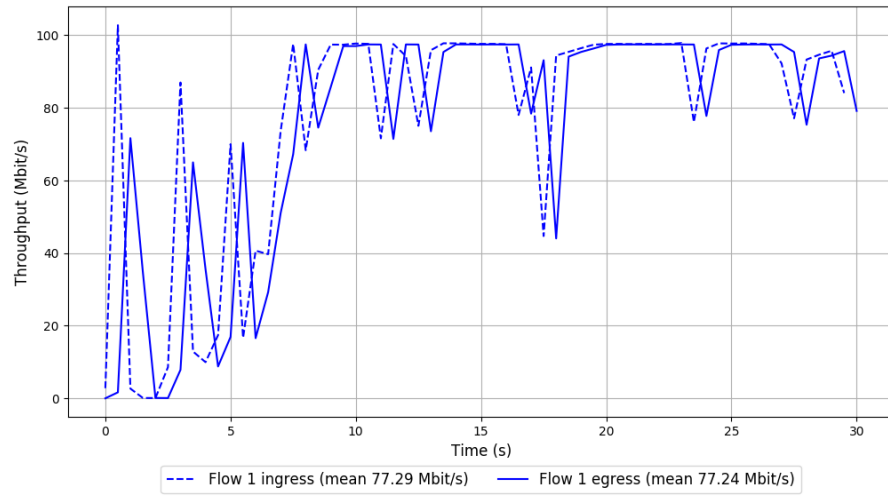
-- Flow 1:

Average throughput: 77.24 Mbit/s

95th percentile per-packet one-way delay: 50.587 ms

Loss rate: 0.26%

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

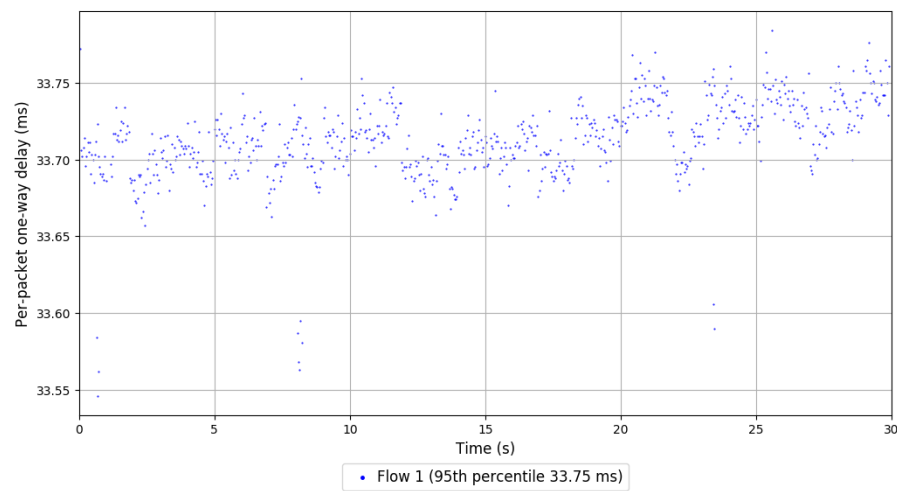
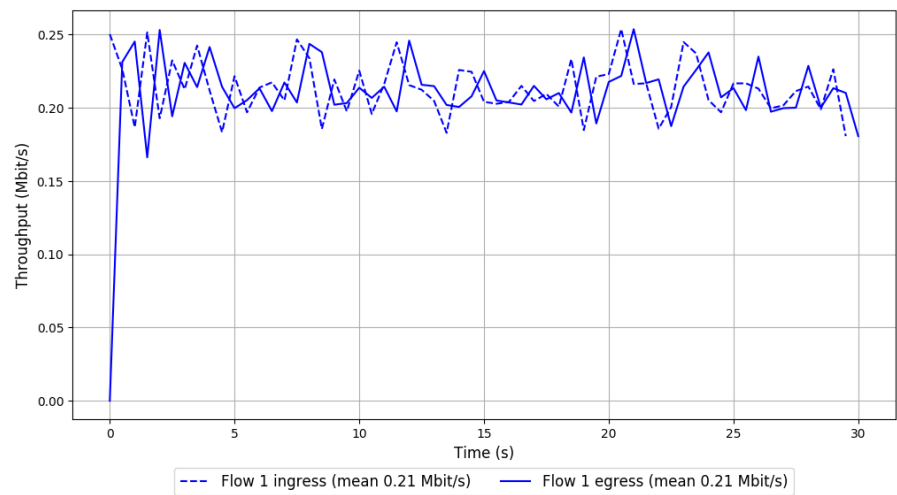


```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 13:40:25
End at: 2018-10-02 13:40:55
Local clock offset: -3.761 ms
Remote clock offset: -0.169 ms

# Below is generated by plot.py at 2018-10-02 15:32:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.750 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.750 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-10-02 14:04:16

End at: 2018-10-02 14:04:46

Local clock offset: -0.211 ms

Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2018-10-02 15:32:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.405 ms

Loss rate: 0.26%

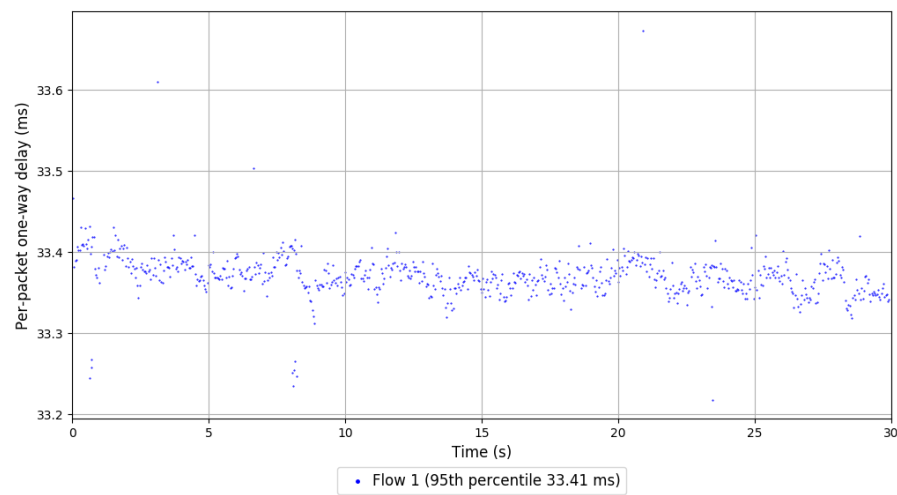
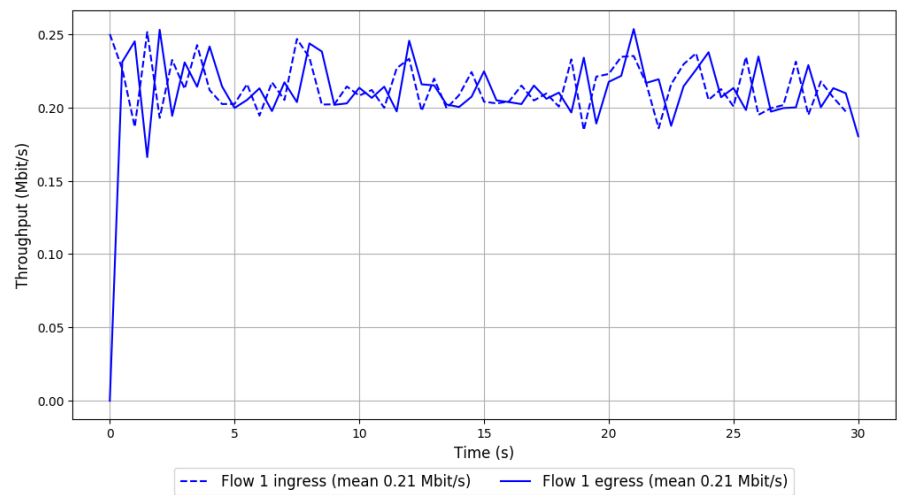
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.405 ms

Loss rate: 0.26%

Run 2: Report of SReAM — Data Link

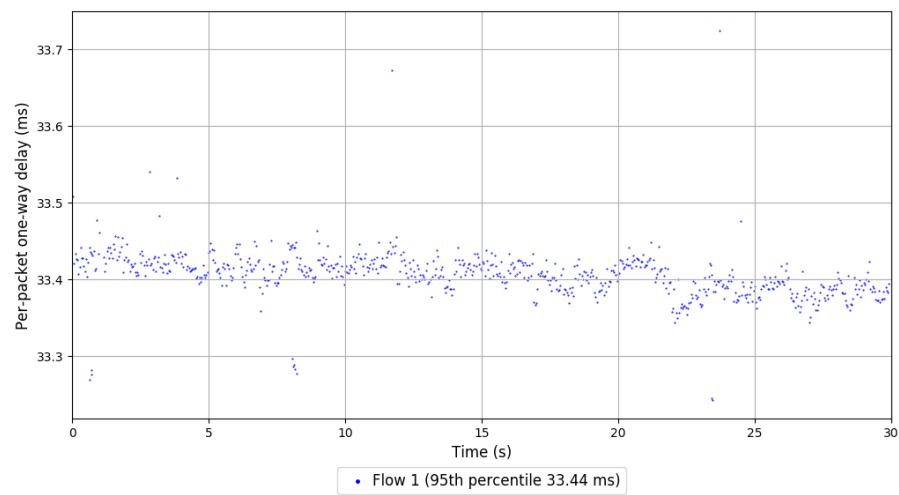
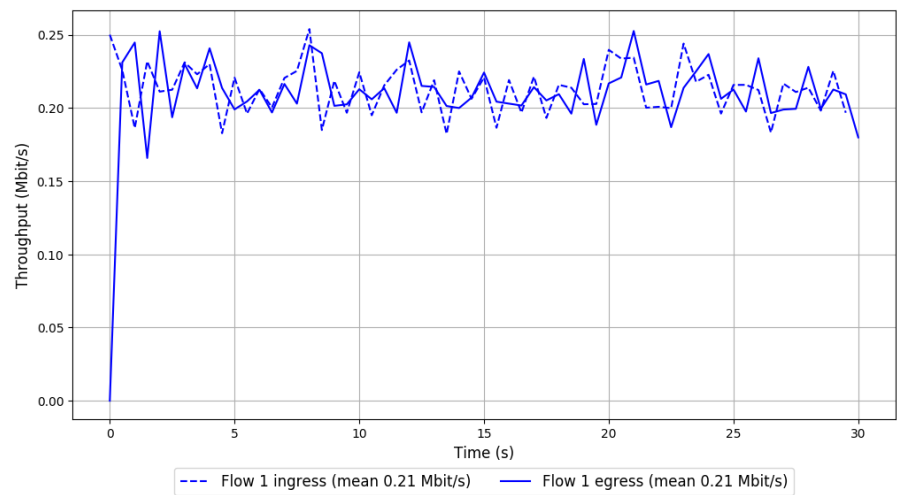


Run 3: Statistics of SCReAM

Start at: 2018-10-02 14:28:14  
End at: 2018-10-02 14:28:44  
Local clock offset: 2.971 ms  
Remote clock offset: -0.501 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 33.441 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 33.441 ms  
Loss rate: 0.26%

Run 3: Report of SReAM — Data Link





Run 4: Statistics of SCReAM

Start at: 2018-10-02 14:52:11

End at: 2018-10-02 14:52:41

Local clock offset: 2.004 ms

Remote clock offset: -0.55 ms

# Below is generated by plot.py at 2018-10-02 15:32:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.743 ms

Loss rate: 0.26%

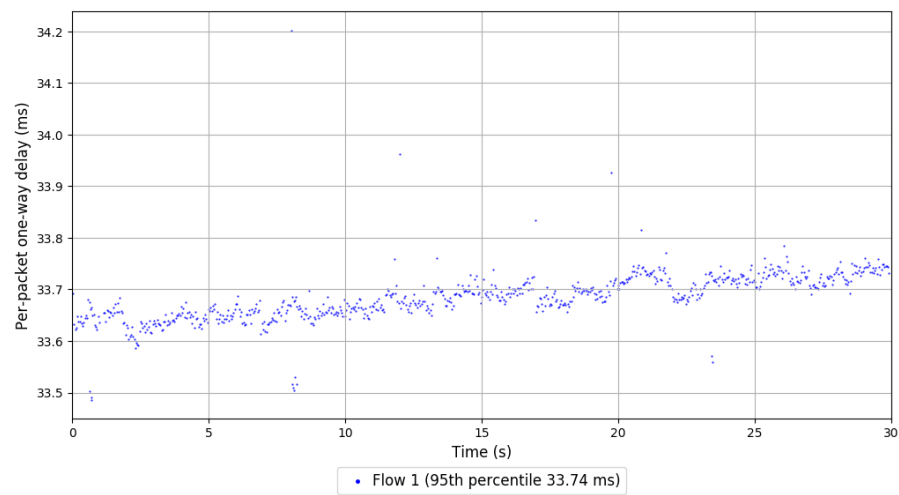
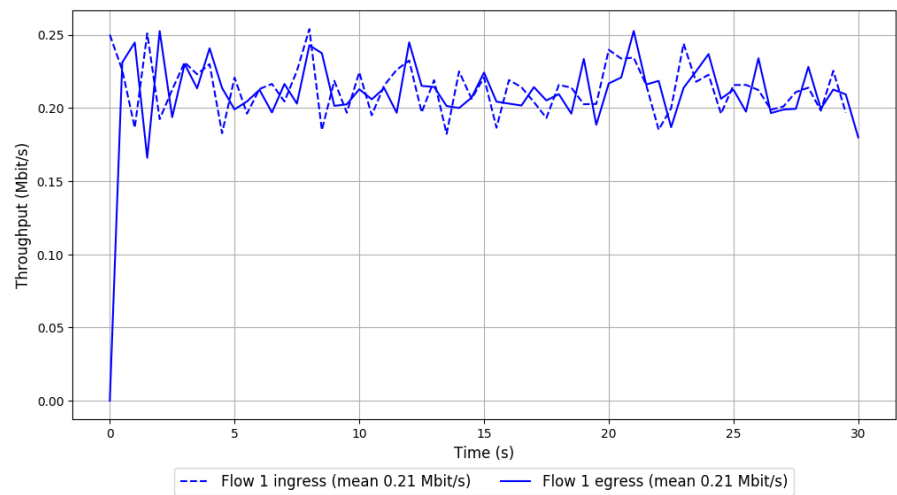
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 33.743 ms

Loss rate: 0.26%

Run 4: Report of SReAM — Data Link

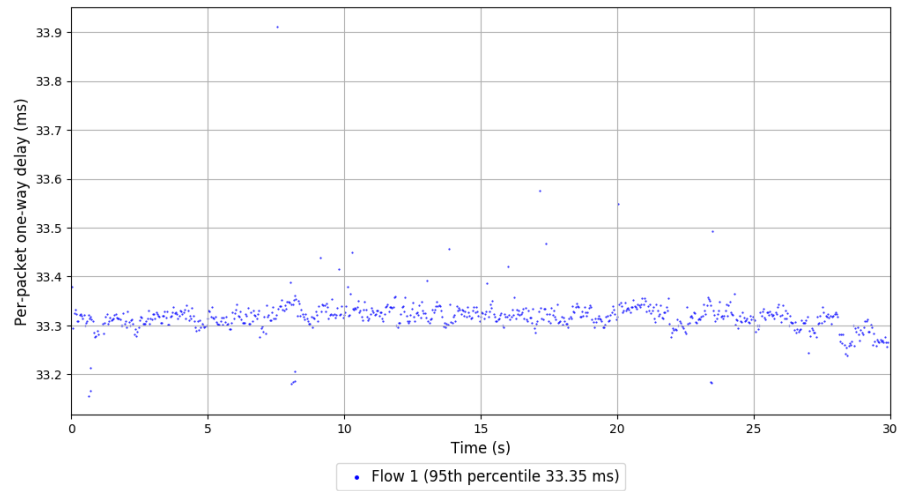
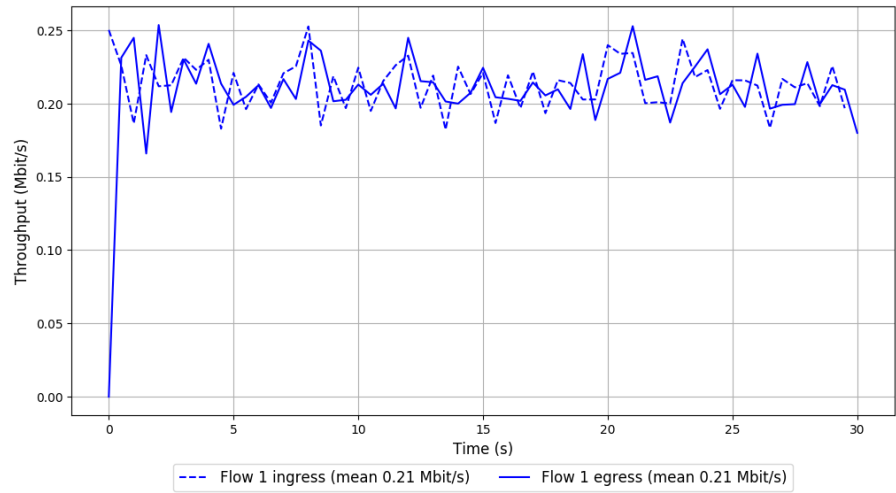


Run 5: Statistics of SCReAM

Start at: 2018-10-02 15:16:01  
End at: 2018-10-02 15:16:31  
Local clock offset: -0.294 ms  
Remote clock offset: -0.483 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 33.349 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 33.349 ms  
Loss rate: 0.26%

## Run 5: Report of SReAM — Data Link

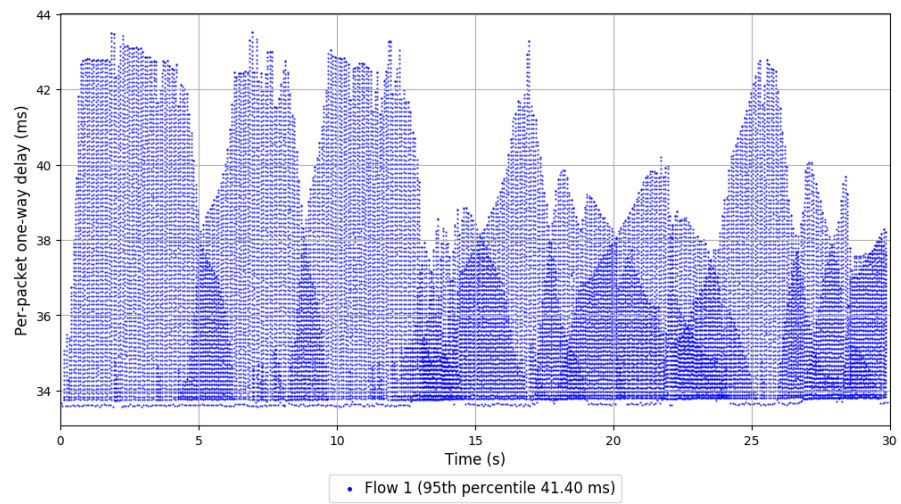
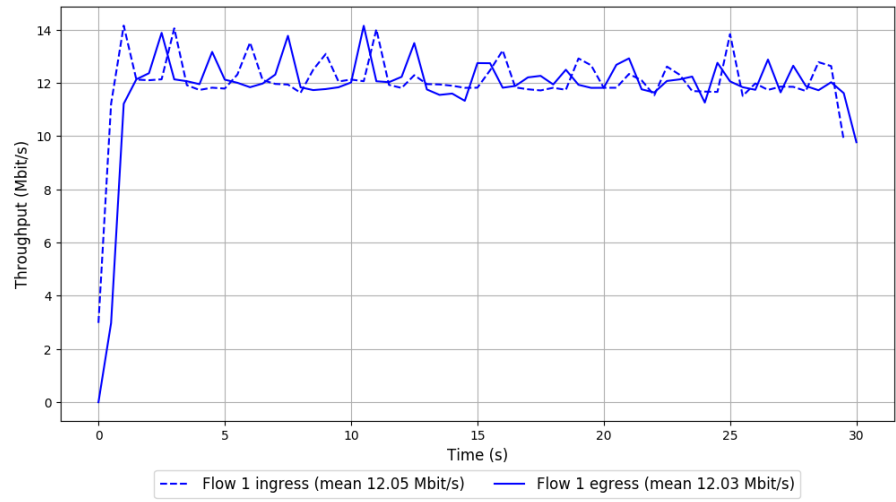


Run 1: Statistics of Sprout

Start at: 2018-10-02 13:32:33  
End at: 2018-10-02 13:33:03  
Local clock offset: -3.174 ms  
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.03 Mbit/s  
95th percentile per-packet one-way delay: 41.404 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 12.03 Mbit/s  
95th percentile per-packet one-way delay: 41.404 ms  
Loss rate: 0.27%

# Run 1: Report of Sprout — Data Link

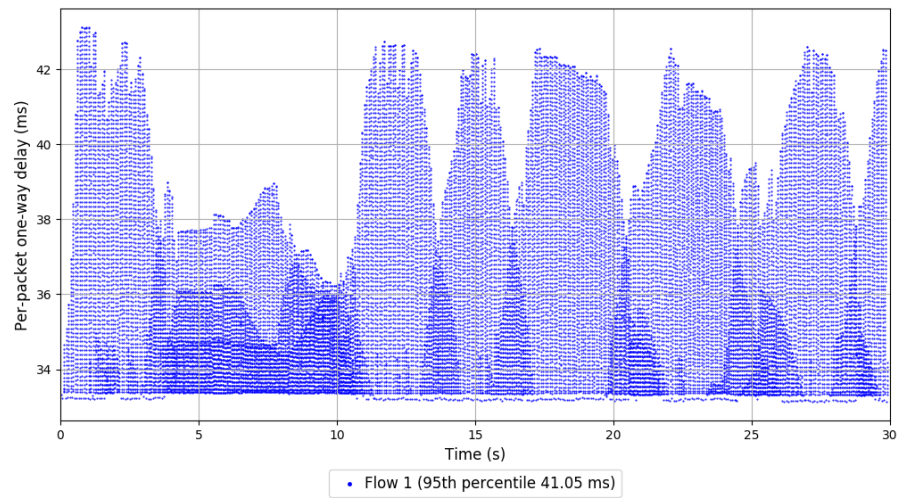
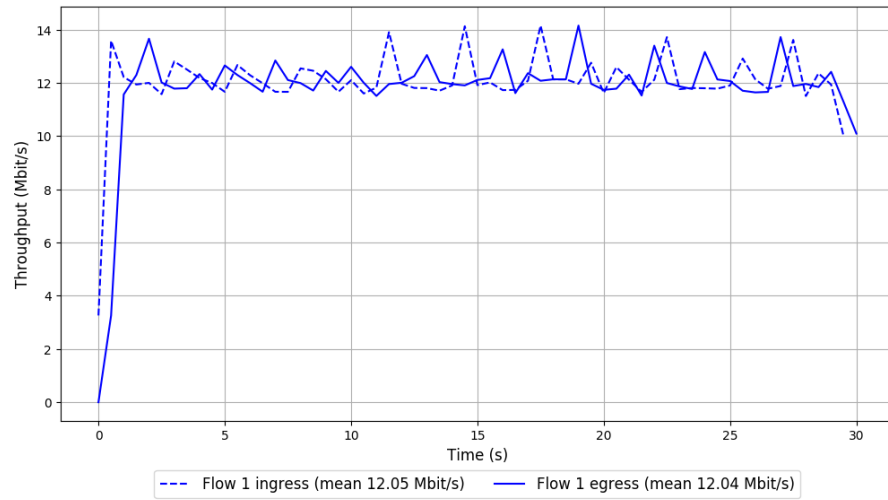


Run 2: Statistics of Sprout

Start at: 2018-10-02 13:56:25  
End at: 2018-10-02 13:56:55  
Local clock offset: -1.043 ms  
Remote clock offset: 0.077 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.04 Mbit/s  
95th percentile per-packet one-way delay: 41.049 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 12.04 Mbit/s  
95th percentile per-packet one-way delay: 41.049 ms  
Loss rate: 0.25%

## Run 2: Report of Sprout — Data Link



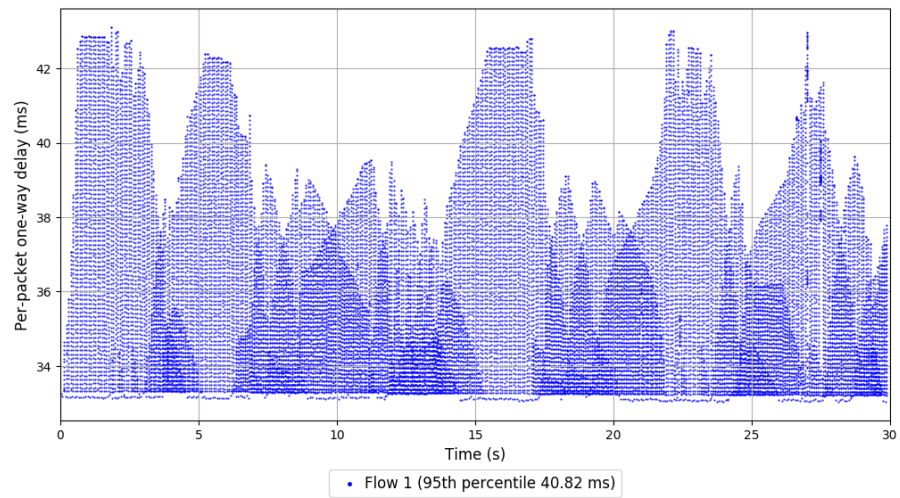
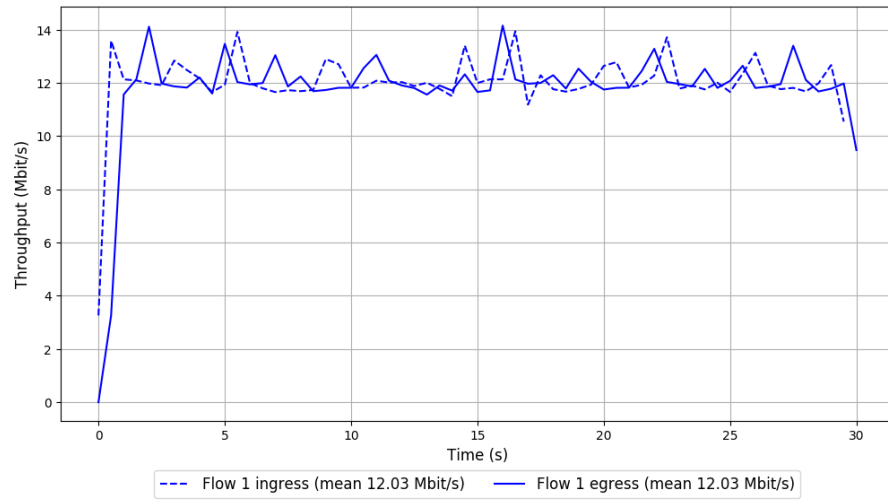


Run 3: Statistics of Sprout

Start at: 2018-10-02 14:20:17  
End at: 2018-10-02 14:20:47  
Local clock offset: 1.558 ms  
Remote clock offset: -0.327 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.03 Mbit/s  
95th percentile per-packet one-way delay: 40.823 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 12.03 Mbit/s  
95th percentile per-packet one-way delay: 40.823 ms  
Loss rate: 0.27%

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

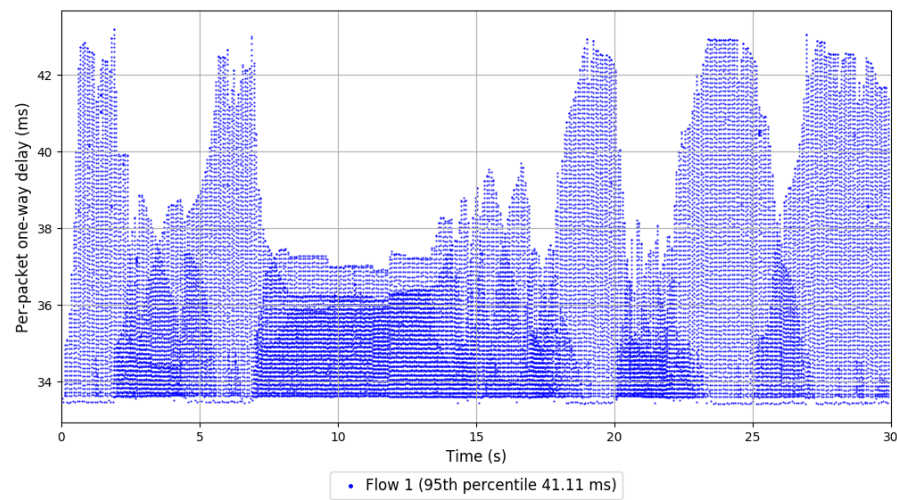
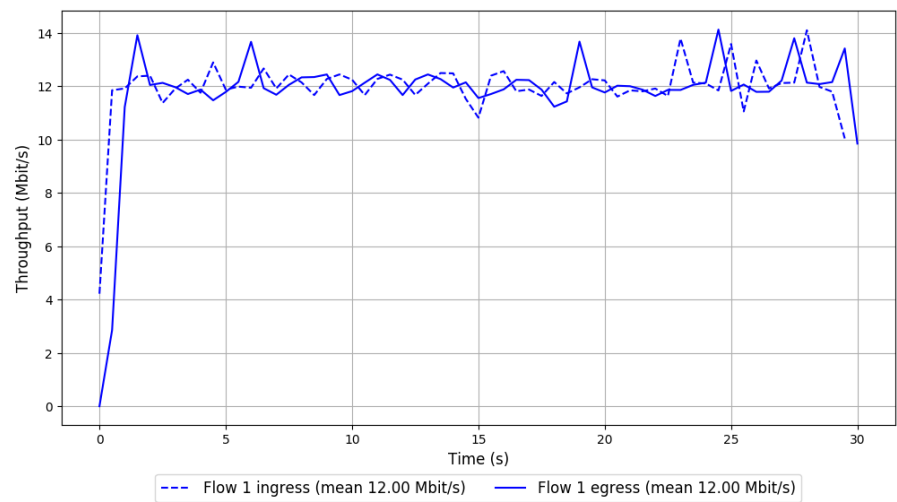


Run 4: Statistics of Sprout

Start at: 2018-10-02 14:44:20  
End at: 2018-10-02 14:44:50  
Local clock offset: 4.323 ms  
Remote clock offset: -0.604 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.00 Mbit/s  
95th percentile per-packet one-way delay: 41.108 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 12.00 Mbit/s  
95th percentile per-packet one-way delay: 41.108 ms  
Loss rate: 0.06%

Run 4: Report of Sprout — Data Link

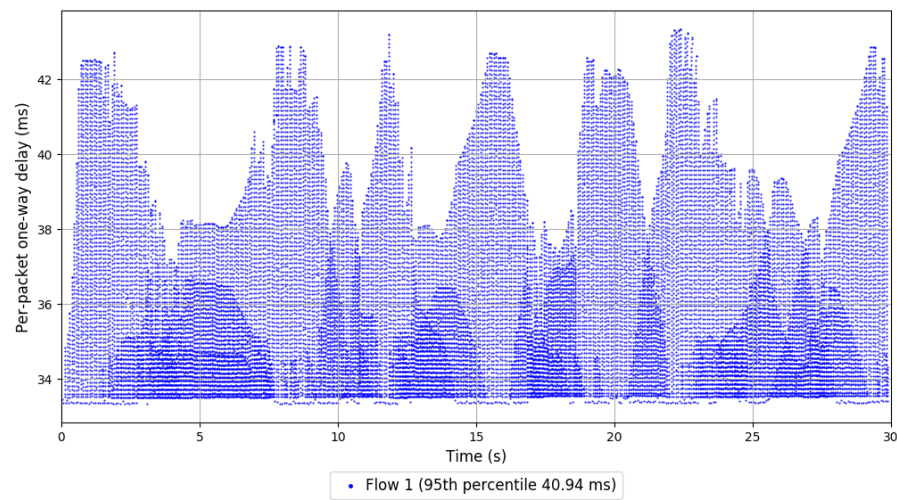
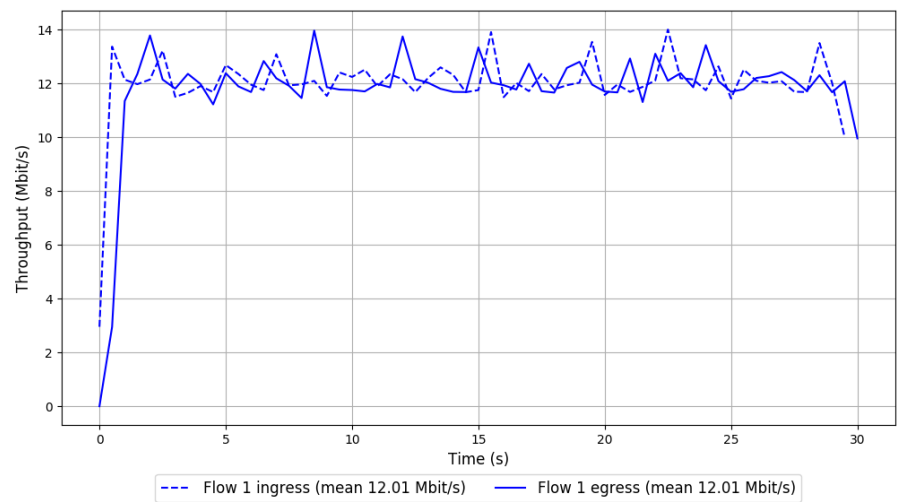


Run 5: Statistics of Sprout

Start at: 2018-10-02 15:08:10  
End at: 2018-10-02 15:08:40  
Local clock offset: -0.013 ms  
Remote clock offset: -0.541 ms

# Below is generated by plot.py at 2018-10-02 15:32:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.01 Mbit/s  
95th percentile per-packet one-way delay: 40.940 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 12.01 Mbit/s  
95th percentile per-packet one-way delay: 40.940 ms  
Loss rate: 0.25%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-10-02 13:28:33

End at: 2018-10-02 13:29:03

Local clock offset: -2.791 ms

Remote clock offset: -0.155 ms

# Below is generated by plot.py at 2018-10-02 15:34:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.45 Mbit/s

95th percentile per-packet one-way delay: 44.876 ms

Loss rate: 0.20%

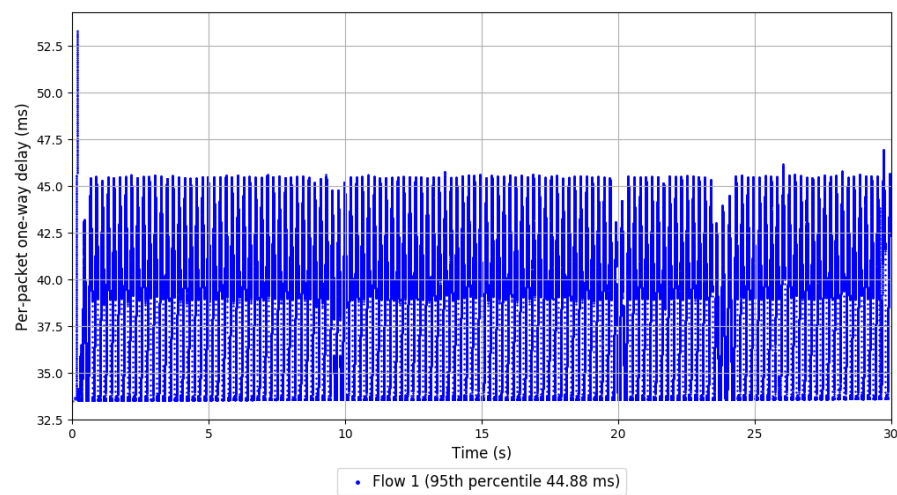
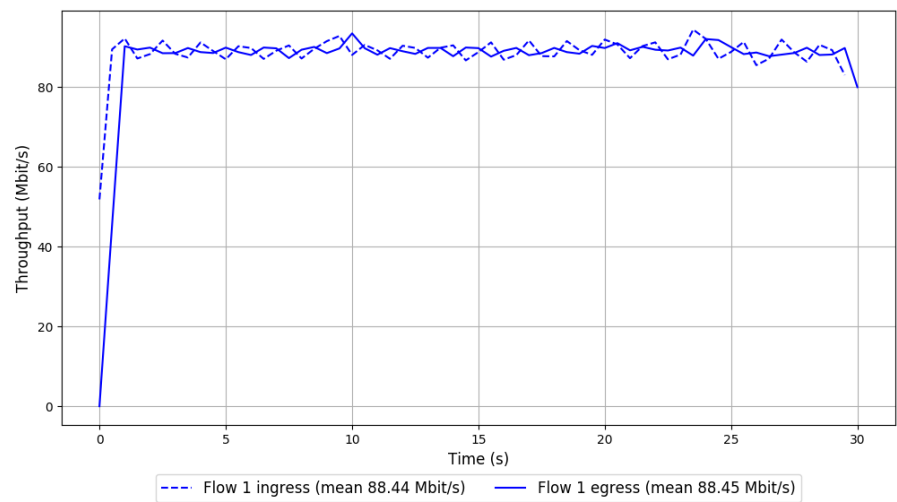
-- Flow 1:

Average throughput: 88.45 Mbit/s

95th percentile per-packet one-way delay: 44.876 ms

Loss rate: 0.20%

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





Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 13:52:25

End at: 2018-10-02 13:52:55

Local clock offset: -1.77 ms

Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-10-02 15:34:06

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.42 Mbit/s

95th percentile per-packet one-way delay: 44.592 ms

Loss rate: 0.26%

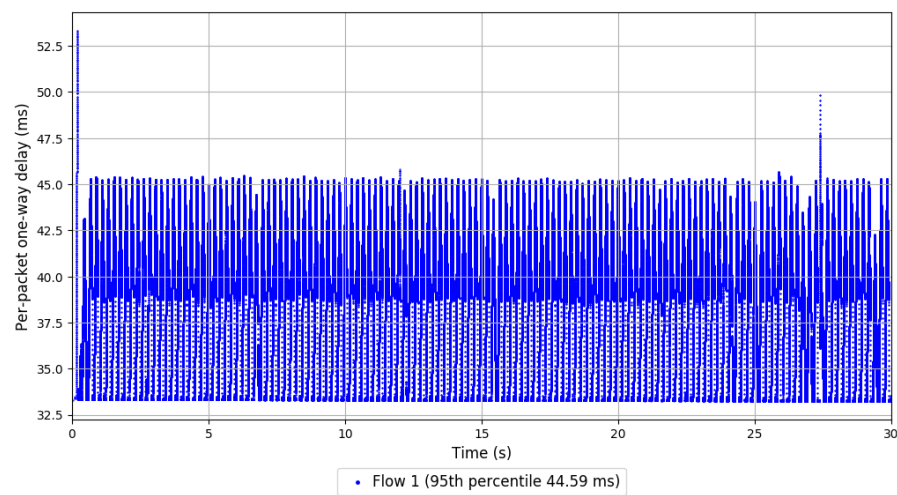
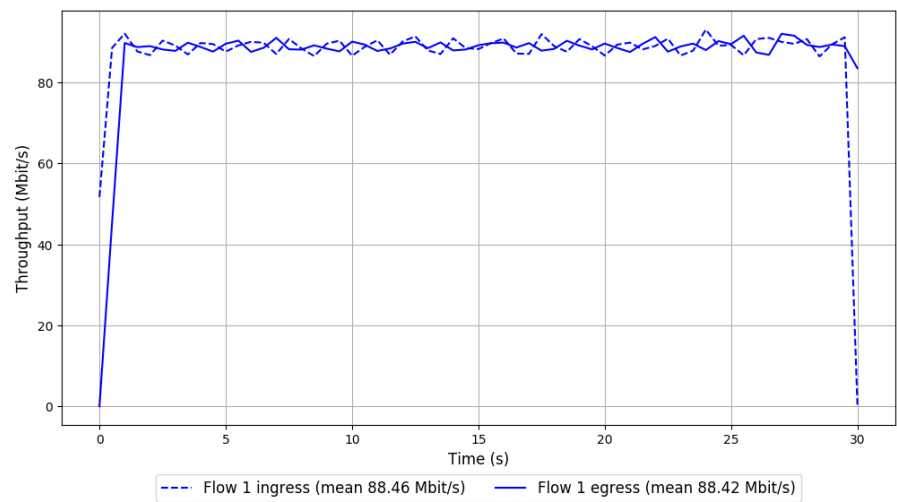
-- Flow 1:

Average throughput: 88.42 Mbit/s

95th percentile per-packet one-way delay: 44.592 ms

Loss rate: 0.26%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 14:16:16

End at: 2018-10-02 14:16:46

Local clock offset: 0.431 ms

Remote clock offset: -0.206 ms

# Below is generated by plot.py at 2018-10-02 15:34:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.41 Mbit/s

95th percentile per-packet one-way delay: 44.465 ms

Loss rate: 0.25%

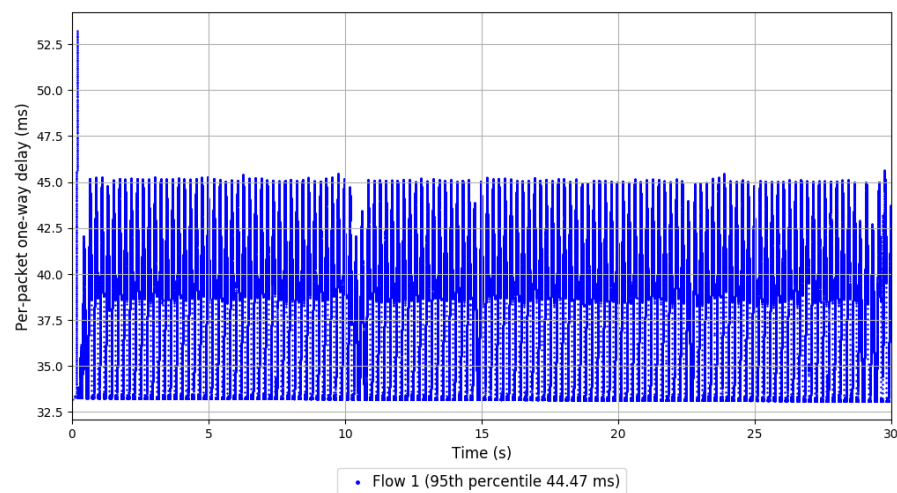
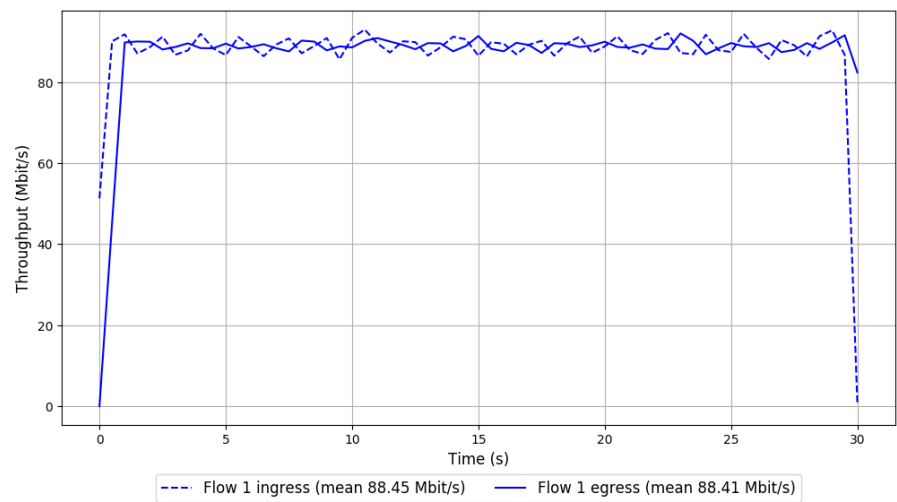
-- Flow 1:

Average throughput: 88.41 Mbit/s

95th percentile per-packet one-way delay: 44.465 ms

Loss rate: 0.25%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-02 14:40:20

End at: 2018-10-02 14:40:50

Local clock offset: 4.065 ms

Remote clock offset: -0.342 ms

# Below is generated by plot.py at 2018-10-02 15:34:08

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.73 Mbit/s

95th percentile per-packet one-way delay: 44.493 ms

Loss rate: 0.22%

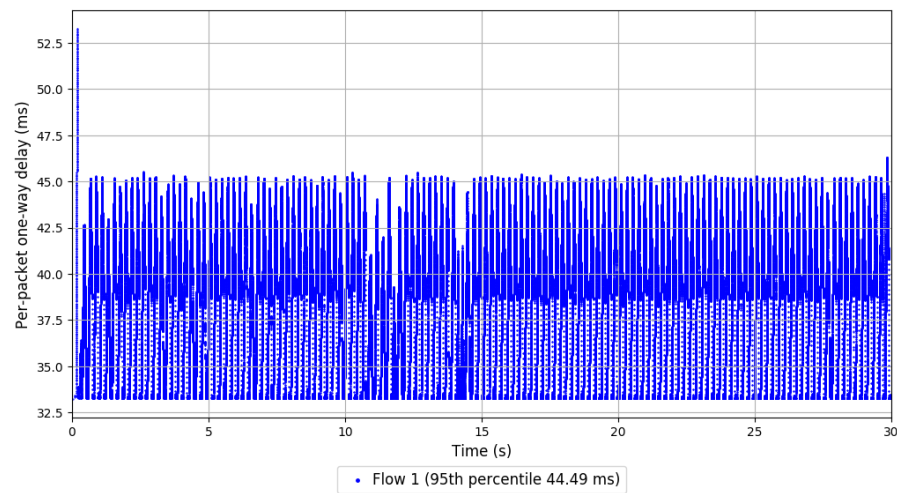
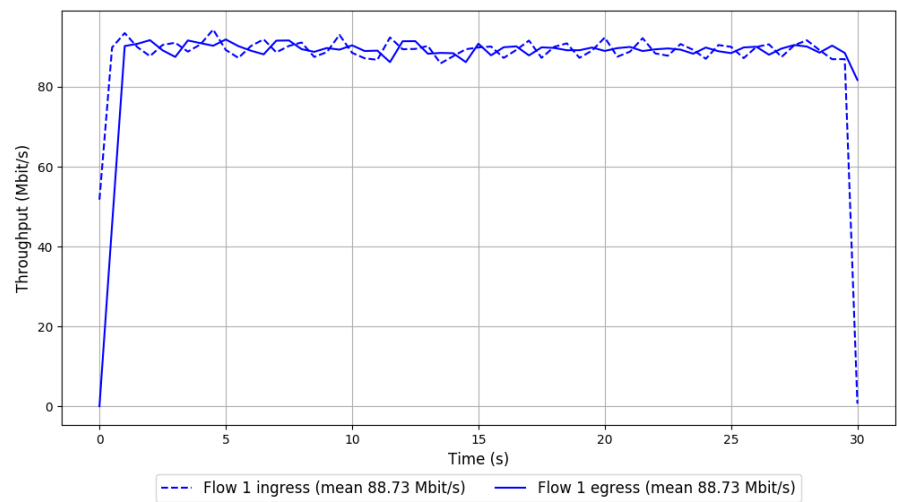
-- Flow 1:

Average throughput: 88.73 Mbit/s

95th percentile per-packet one-way delay: 44.493 ms

Loss rate: 0.22%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 15:04:10

End at: 2018-10-02 15:04:40

Local clock offset: 0.216 ms

Remote clock offset: -0.56 ms

# Below is generated by plot.py at 2018-10-02 15:34:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.86 Mbit/s

95th percentile per-packet one-way delay: 44.623 ms

Loss rate: 0.27%

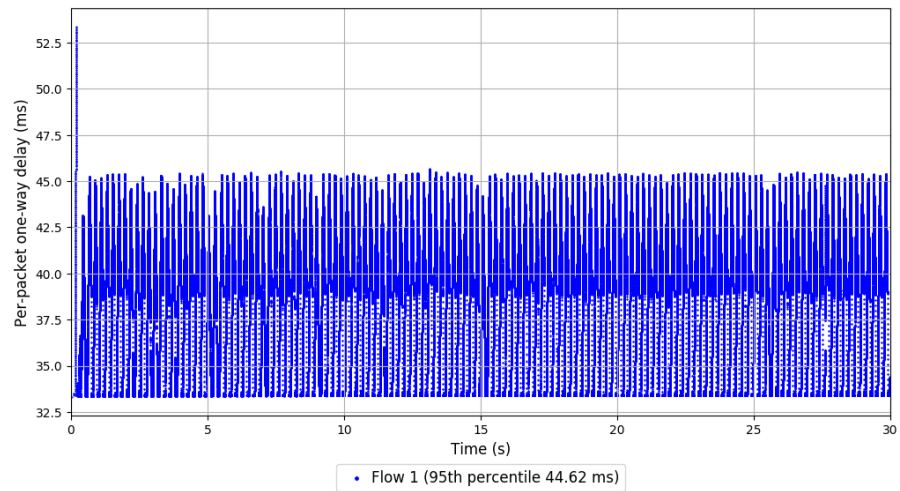
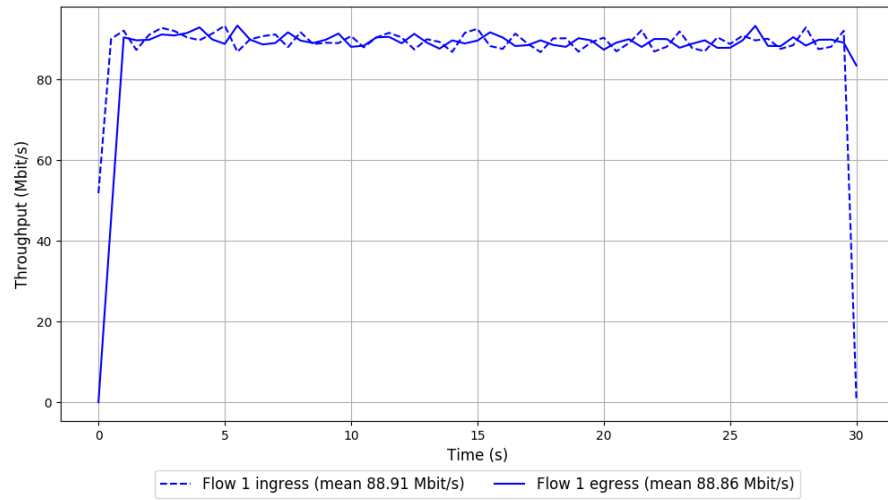
-- Flow 1:

Average throughput: 88.86 Mbit/s

95th percentile per-packet one-way delay: 44.623 ms

Loss rate: 0.27%

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



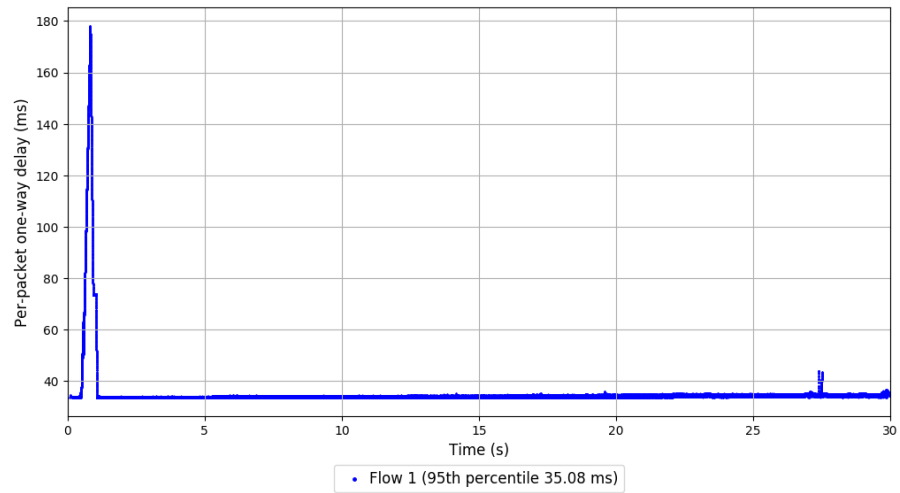
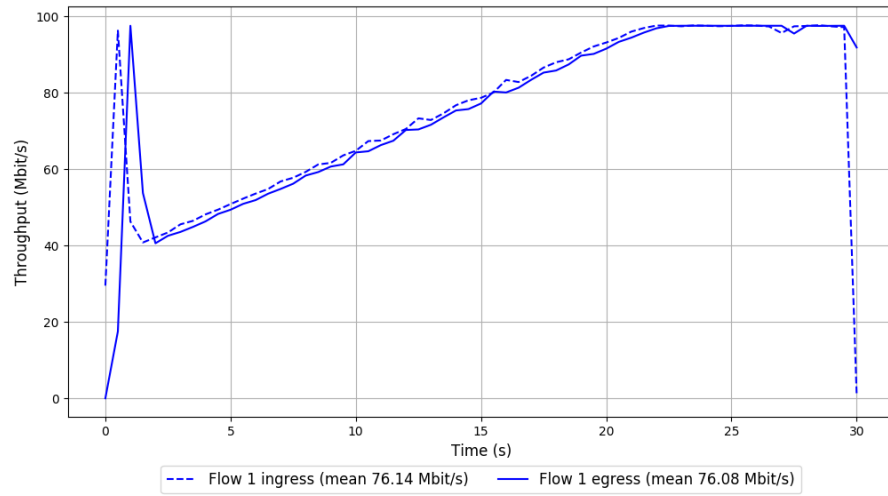


Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 13:35:09  
End at: 2018-10-02 13:35:39  
Local clock offset: -3.4 ms  
Remote clock offset: -0.095 ms

# Below is generated by plot.py at 2018-10-02 15:34:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 76.08 Mbit/s  
95th percentile per-packet one-way delay: 35.076 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 76.08 Mbit/s  
95th percentile per-packet one-way delay: 35.076 ms  
Loss rate: 0.29%

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



Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 13:59:00

End at: 2018-10-02 13:59:30

Local clock offset: -0.685 ms

Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2018-10-02 15:34:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 75.92 Mbit/s

95th percentile per-packet one-way delay: 34.725 ms

Loss rate: 0.28%

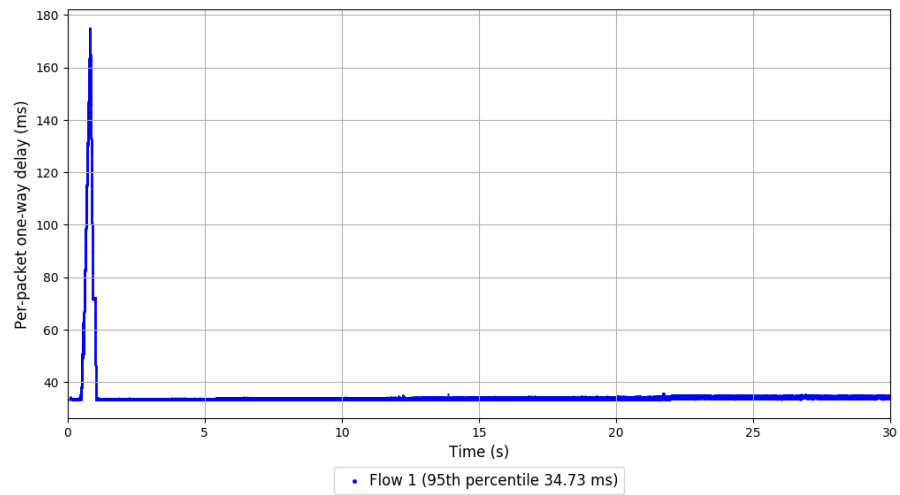
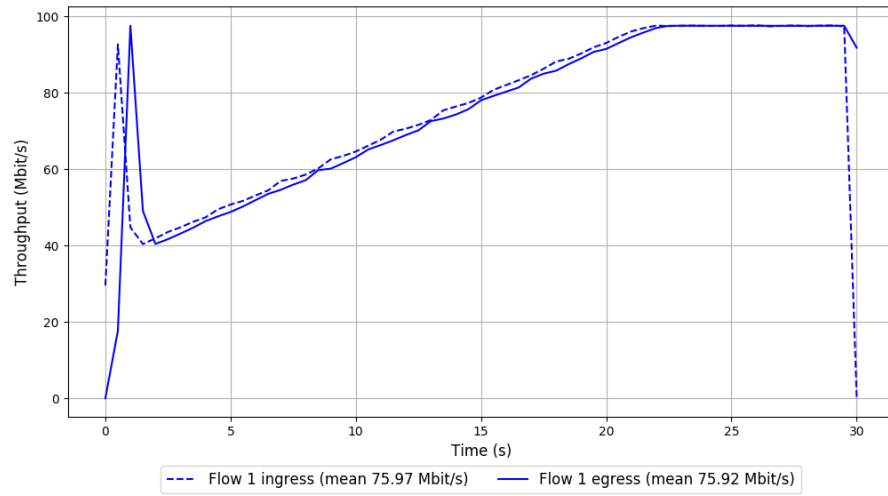
-- Flow 1:

Average throughput: 75.92 Mbit/s

95th percentile per-packet one-way delay: 34.725 ms

Loss rate: 0.28%

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

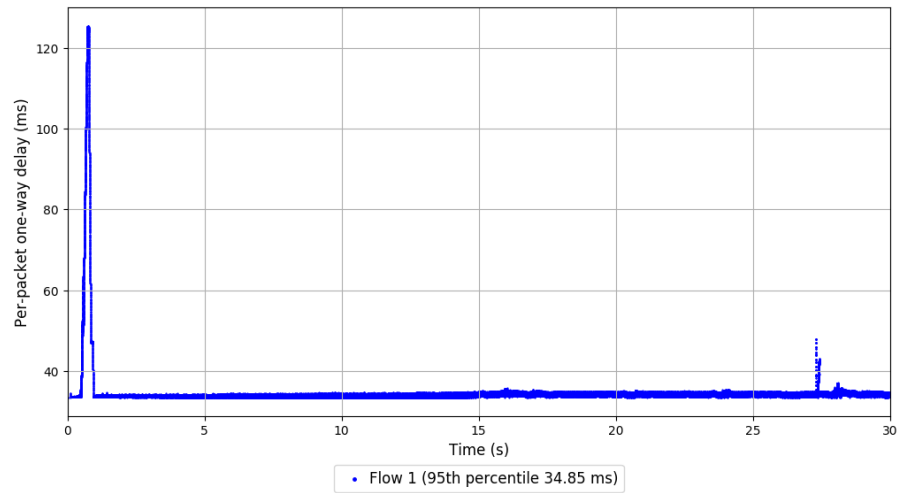
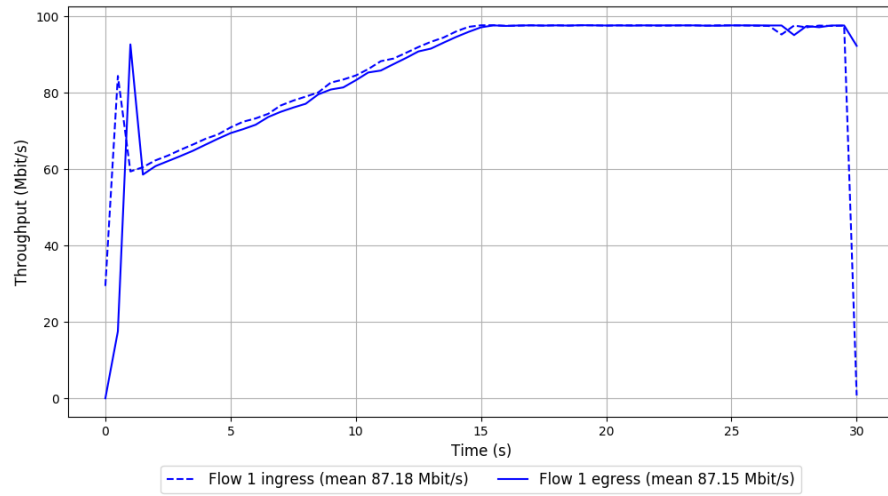


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 14:22:54  
End at: 2018-10-02 14:23:24  
Local clock offset: 2.157 ms  
Remote clock offset: -0.534 ms

# Below is generated by plot.py at 2018-10-02 15:34:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 87.15 Mbit/s  
95th percentile per-packet one-way delay: 34.854 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 87.15 Mbit/s  
95th percentile per-packet one-way delay: 34.854 ms  
Loss rate: 0.25%

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

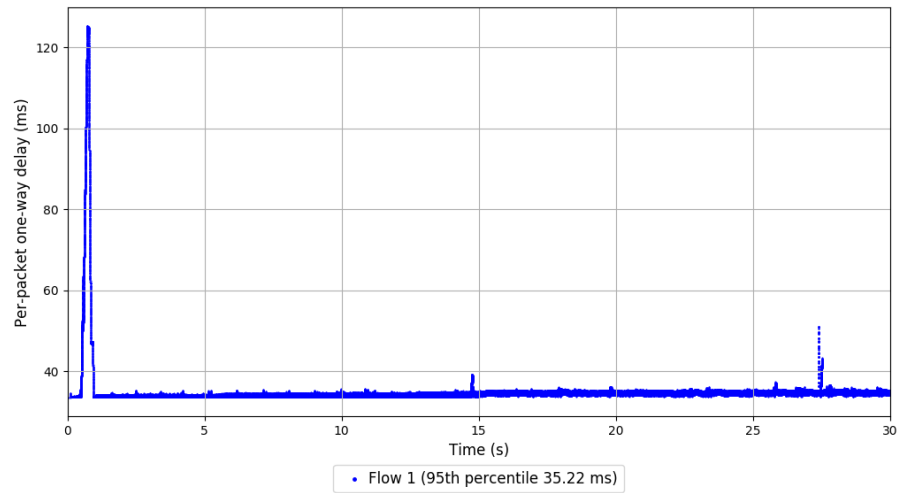
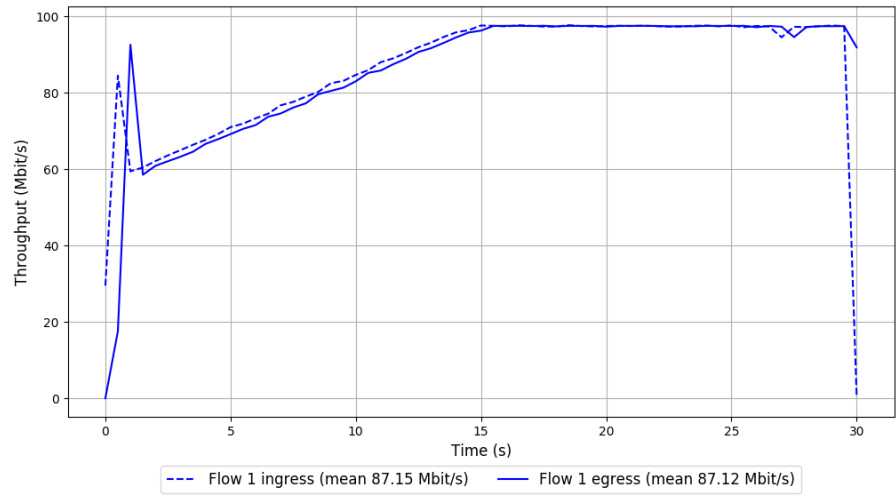


Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 14:46:55  
End at: 2018-10-02 14:47:25  
Local clock offset: 3.98 ms  
Remote clock offset: -0.248 ms

# Below is generated by plot.py at 2018-10-02 15:34:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 87.12 Mbit/s  
95th percentile per-packet one-way delay: 35.223 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 87.12 Mbit/s  
95th percentile per-packet one-way delay: 35.223 ms  
Loss rate: 0.25%

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



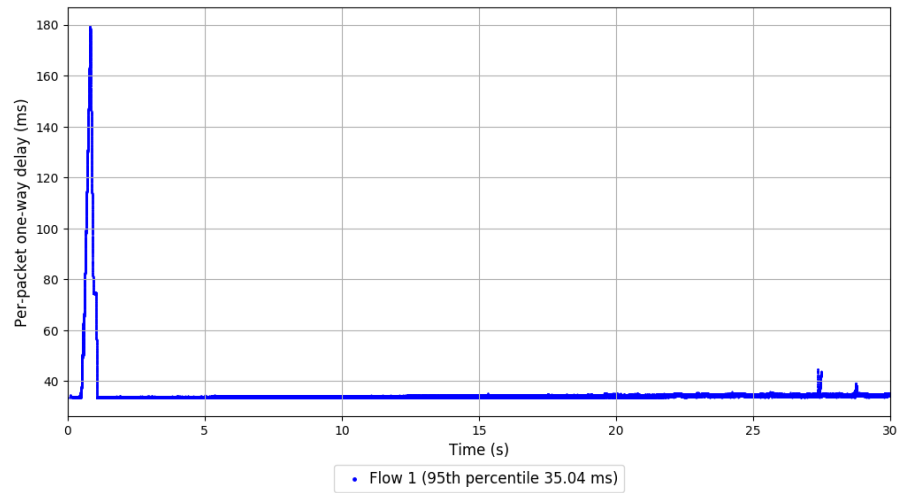
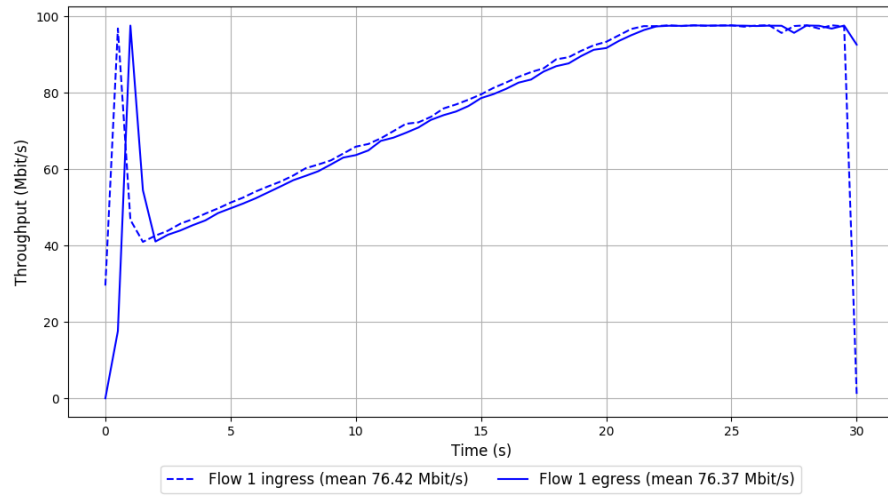


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 15:10:46  
End at: 2018-10-02 15:11:16  
Local clock offset: -0.124 ms  
Remote clock offset: -0.614 ms

# Below is generated by plot.py at 2018-10-02 15:34:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 76.37 Mbit/s  
95th percentile per-packet one-way delay: 35.036 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 76.37 Mbit/s  
95th percentile per-packet one-way delay: 35.036 ms  
Loss rate: 0.28%

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

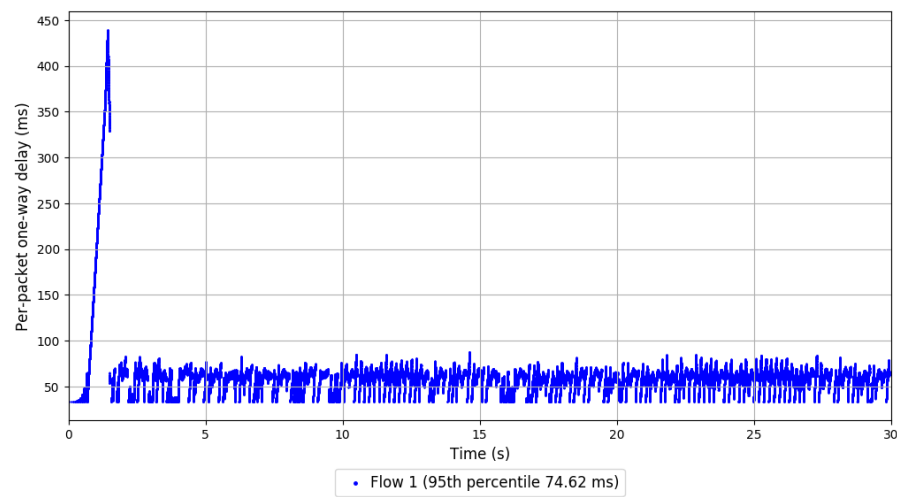
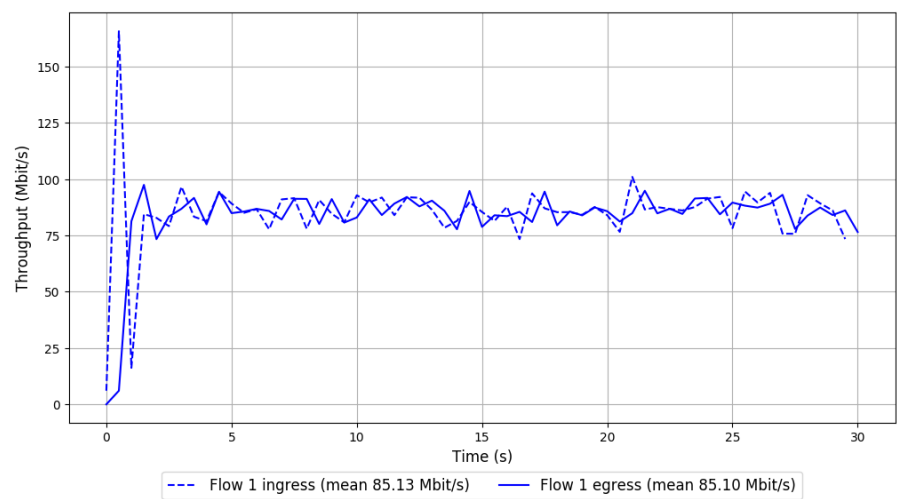


Run 1: Statistics of Verus

Start at: 2018-10-02 13:45:45  
End at: 2018-10-02 13:46:15  
Local clock offset: -4.085 ms  
Remote clock offset: -0.181 ms

# Below is generated by plot.py at 2018-10-02 15:34:51  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.10 Mbit/s  
95th percentile per-packet one-way delay: 74.624 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 85.10 Mbit/s  
95th percentile per-packet one-way delay: 74.624 ms  
Loss rate: 0.32%

Run 1: Report of Verus — Data Link

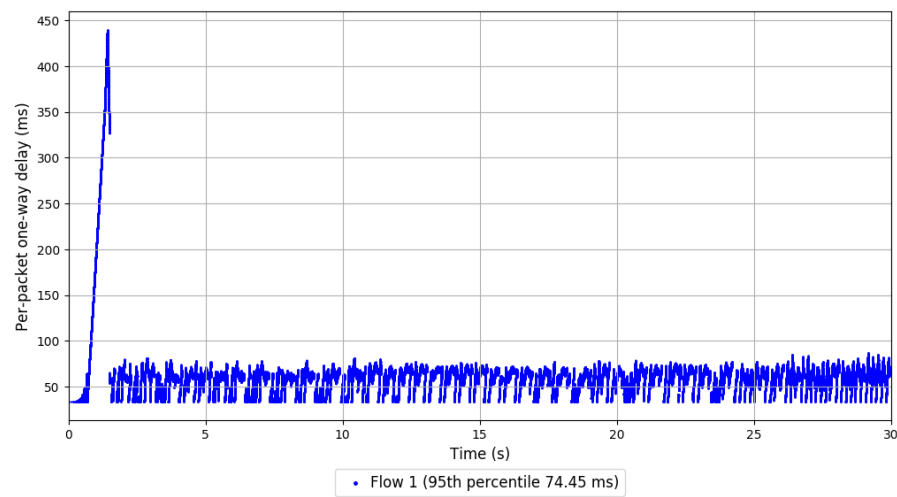
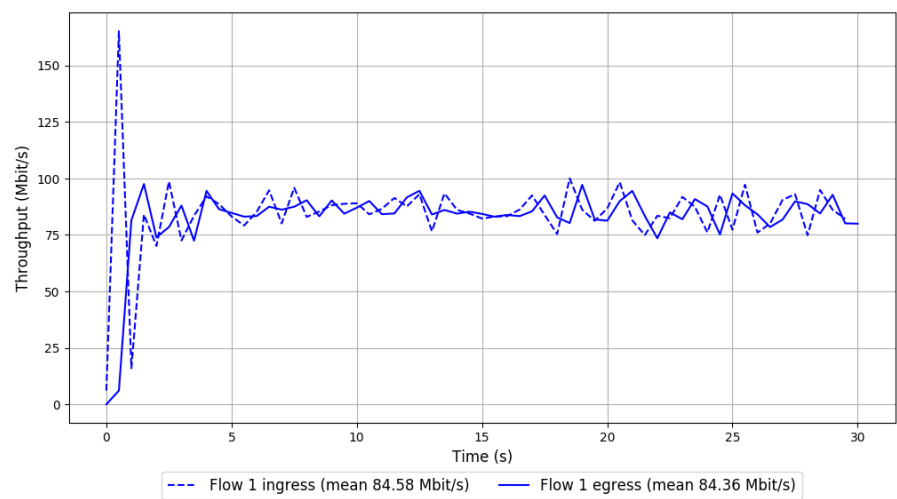


Run 2: Statistics of Verus

Start at: 2018-10-02 14:09:38  
End at: 2018-10-02 14:10:08  
Local clock offset: 0.084 ms  
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2018-10-02 15:35:06  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.36 Mbit/s  
95th percentile per-packet one-way delay: 74.455 ms  
Loss rate: 0.46%  
-- Flow 1:  
Average throughput: 84.36 Mbit/s  
95th percentile per-packet one-way delay: 74.455 ms  
Loss rate: 0.46%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-02 14:33:41

End at: 2018-10-02 14:34:11

Local clock offset: 3.54 ms

Remote clock offset: -0.53 ms

# Below is generated by plot.py at 2018-10-02 15:35:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.46 Mbit/s

95th percentile per-packet one-way delay: 73.341 ms

Loss rate: 0.54%

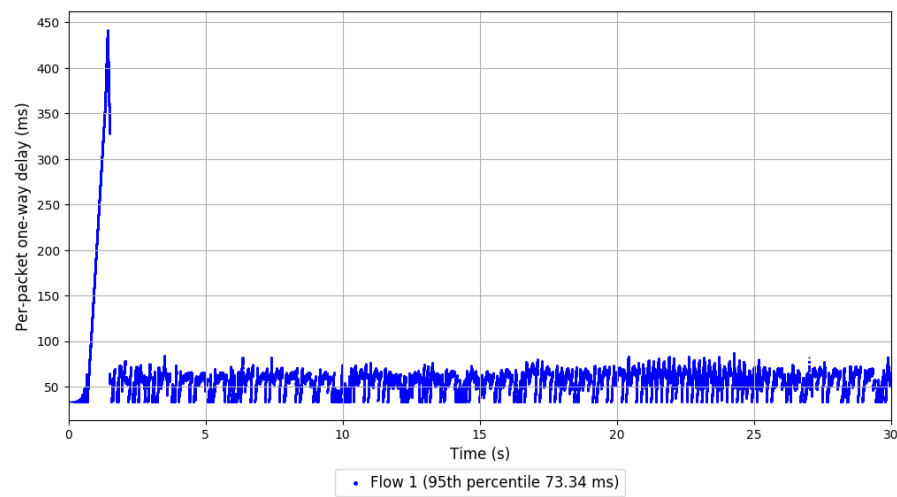
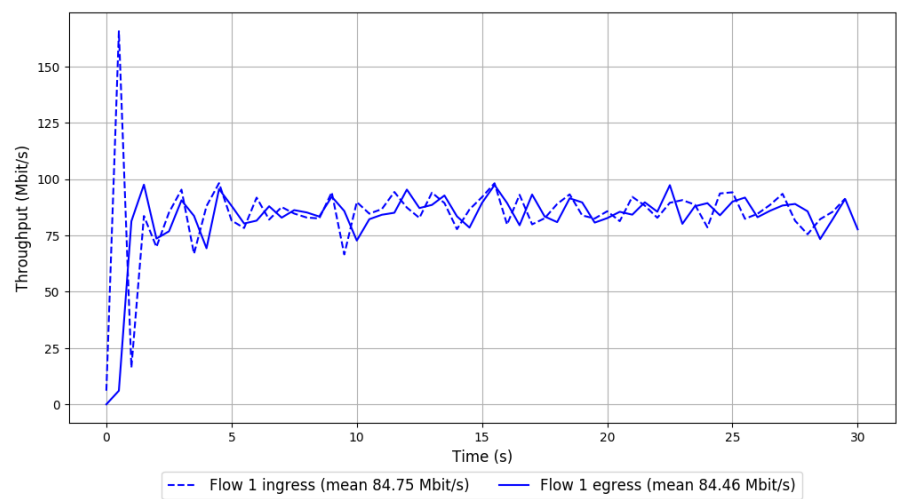
-- Flow 1:

Average throughput: 84.46 Mbit/s

95th percentile per-packet one-way delay: 73.341 ms

Loss rate: 0.54%

Run 3: Report of Verus — Data Link



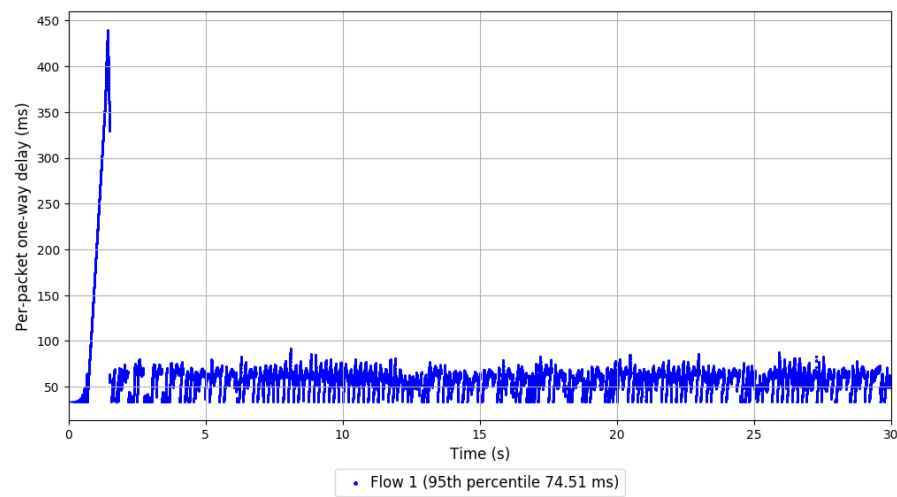
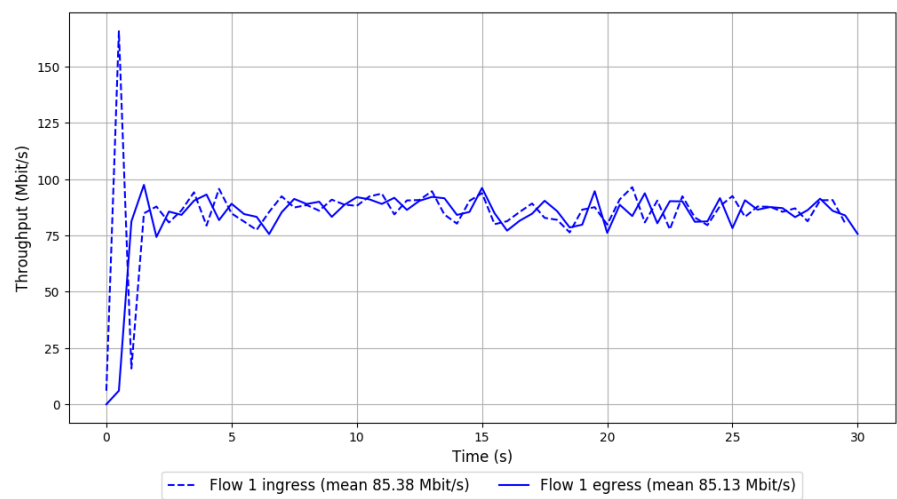


Run 4: Statistics of Verus

Start at: 2018-10-02 14:57:31  
End at: 2018-10-02 14:58:01  
Local clock offset: 0.94 ms  
Remote clock offset: -0.574 ms

# Below is generated by plot.py at 2018-10-02 15:35:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.13 Mbit/s  
95th percentile per-packet one-way delay: 74.513 ms  
Loss rate: 0.49%  
-- Flow 1:  
Average throughput: 85.13 Mbit/s  
95th percentile per-packet one-way delay: 74.513 ms  
Loss rate: 0.49%

Run 4: Report of Verus — Data Link

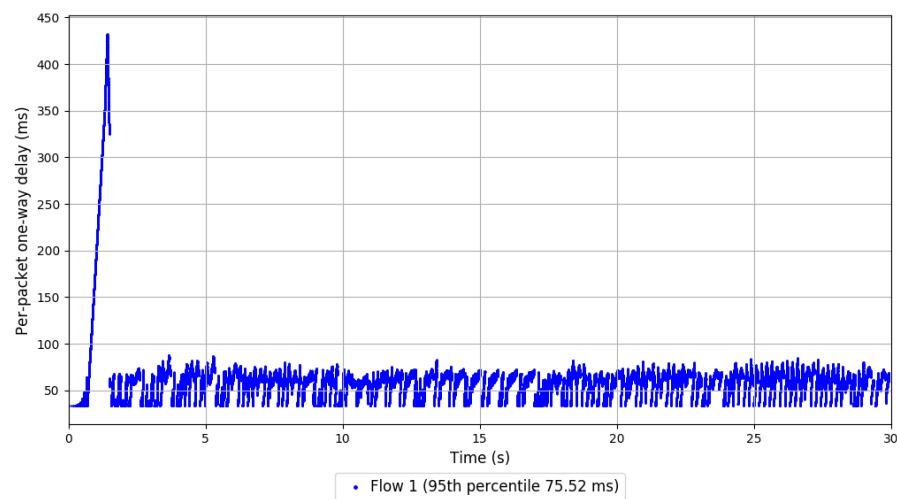
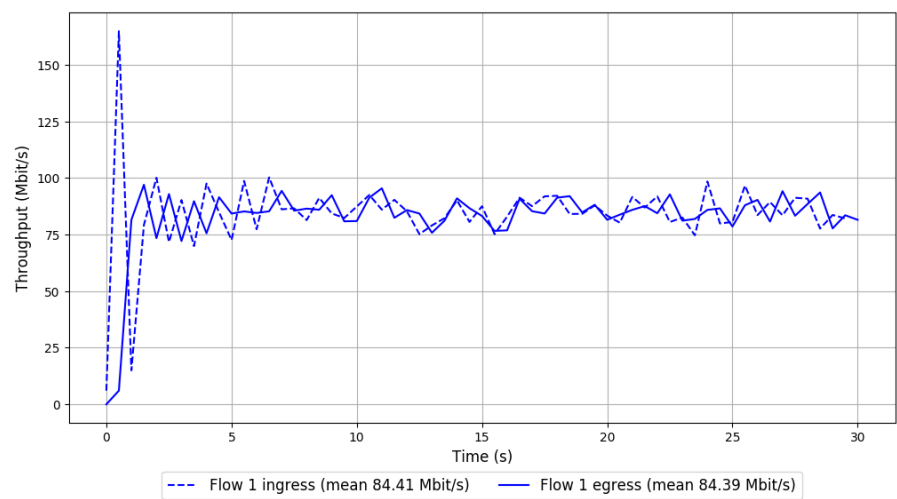


Run 5: Statistics of Verus

Start at: 2018-10-02 15:21:34  
End at: 2018-10-02 15:22:04  
Local clock offset: -0.016 ms  
Remote clock offset: -0.451 ms

# Below is generated by plot.py at 2018-10-02 15:35:09  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.39 Mbit/s  
95th percentile per-packet one-way delay: 75.518 ms  
Loss rate: 0.37%  
-- Flow 1:  
Average throughput: 84.39 Mbit/s  
95th percentile per-packet one-way delay: 75.518 ms  
Loss rate: 0.37%

Run 5: Report of Verus — Data Link

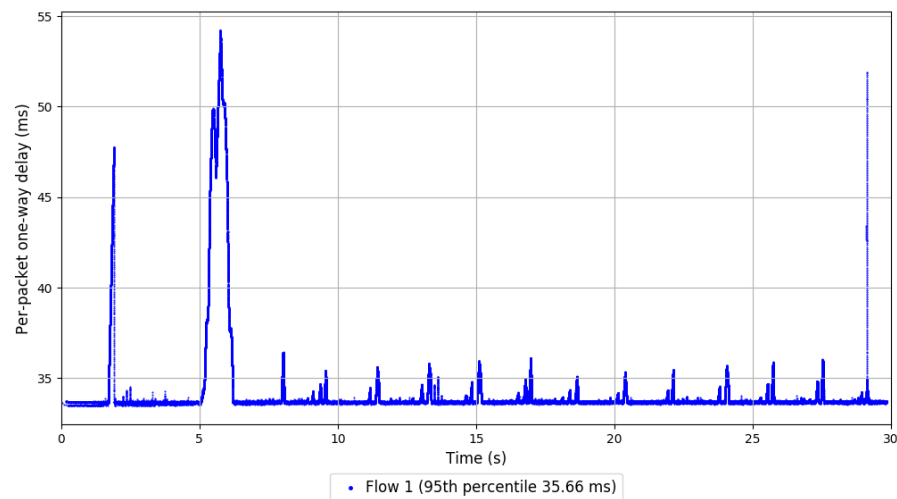
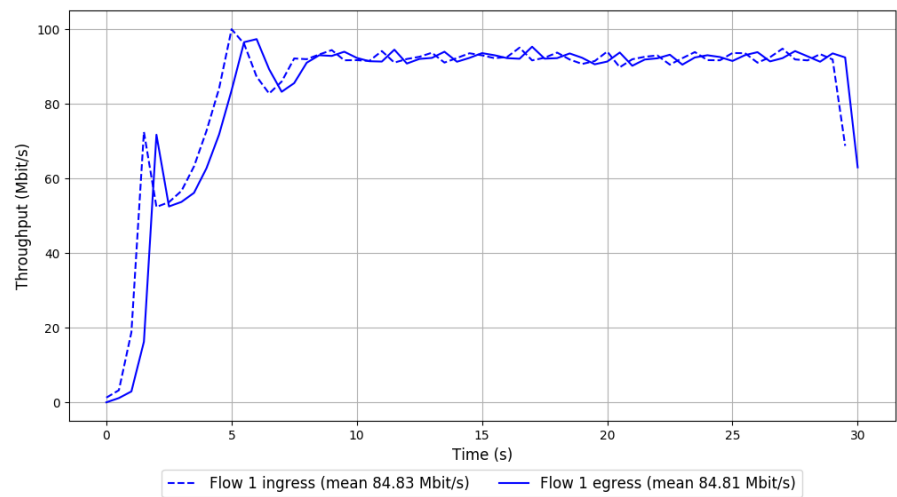


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 13:41:41  
End at: 2018-10-02 13:42:11  
Local clock offset: -3.846 ms  
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2018-10-02 15:35:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 84.81 Mbit/s  
95th percentile per-packet one-way delay: 35.655 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 84.81 Mbit/s  
95th percentile per-packet one-way delay: 35.655 ms  
Loss rate: 0.24%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 14:05:32

End at: 2018-10-02 14:06:02

Local clock offset: -0.134 ms

Remote clock offset: 0.089 ms

# Below is generated by plot.py at 2018-10-02 15:35:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.04 Mbit/s

95th percentile per-packet one-way delay: 35.359 ms

Loss rate: 0.25%

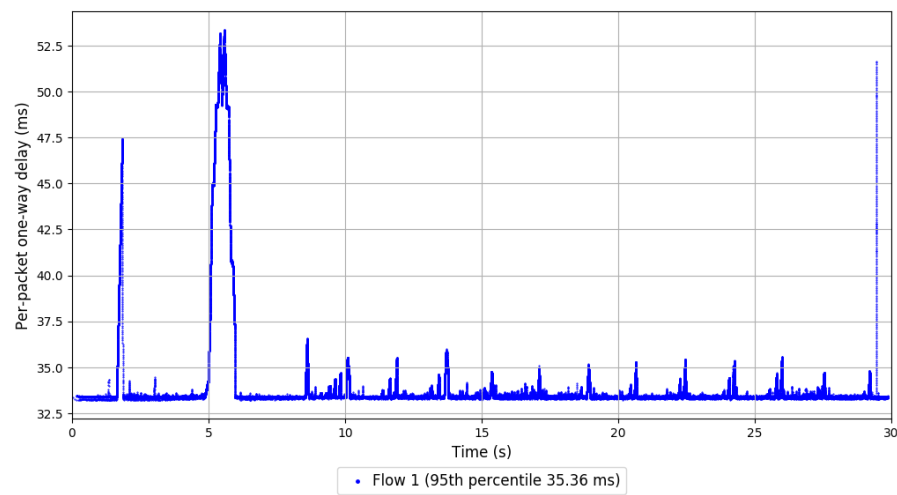
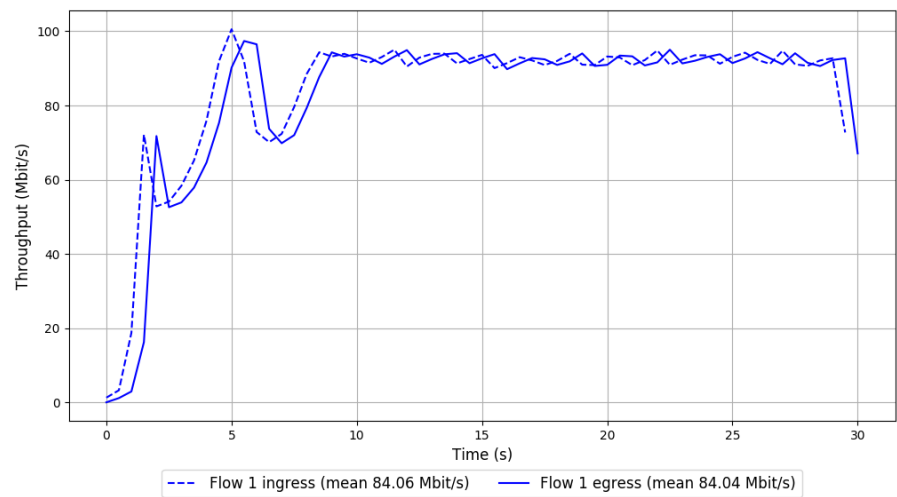
-- Flow 1:

Average throughput: 84.04 Mbit/s

95th percentile per-packet one-way delay: 35.359 ms

Loss rate: 0.25%

Run 2: Report of PCC-Vivace — Data Link





Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 14:29:29

End at: 2018-10-02 14:29:59

Local clock offset: 3.095 ms

Remote clock offset: -0.461 ms

# Below is generated by plot.py at 2018-10-02 15:35:17

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.43 Mbit/s

95th percentile per-packet one-way delay: 34.785 ms

Loss rate: 0.22%

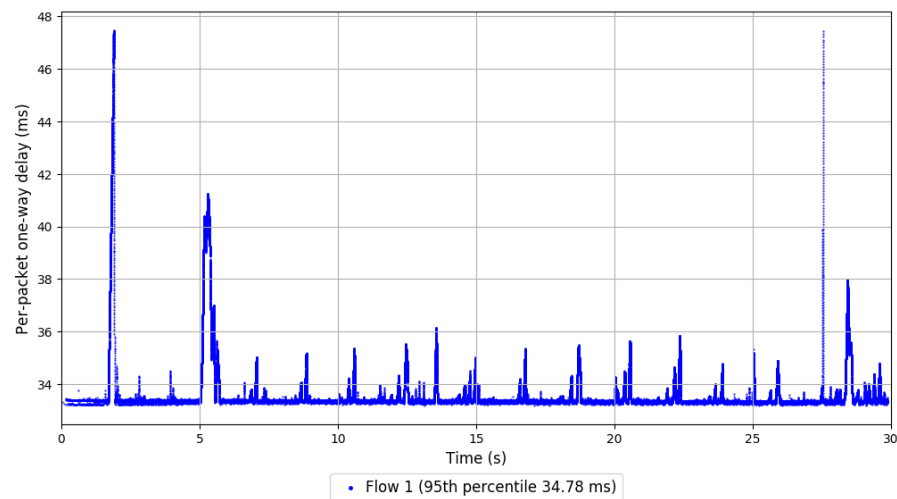
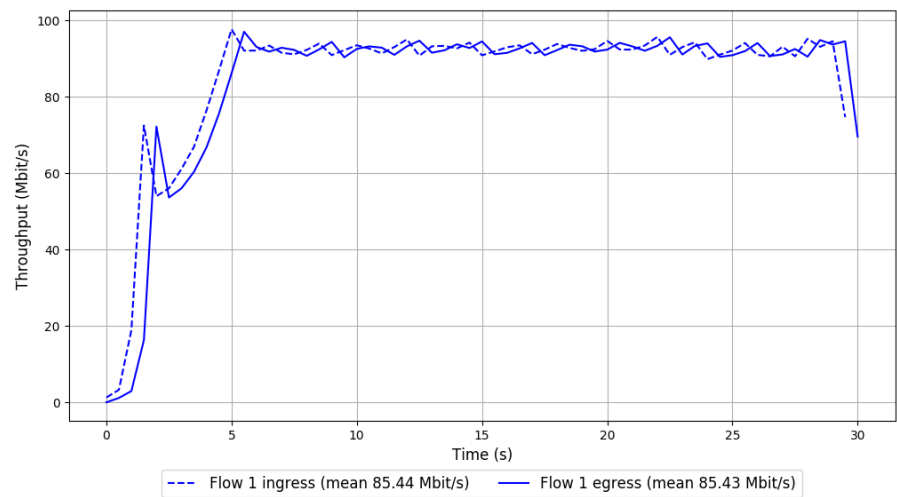
-- Flow 1:

Average throughput: 85.43 Mbit/s

95th percentile per-packet one-way delay: 34.785 ms

Loss rate: 0.22%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 14:53:26

End at: 2018-10-02 14:53:56

Local clock offset: 1.646 ms

Remote clock offset: -0.537 ms

# Below is generated by plot.py at 2018-10-02 15:35:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.38 Mbit/s

95th percentile per-packet one-way delay: 34.557 ms

Loss rate: 0.23%

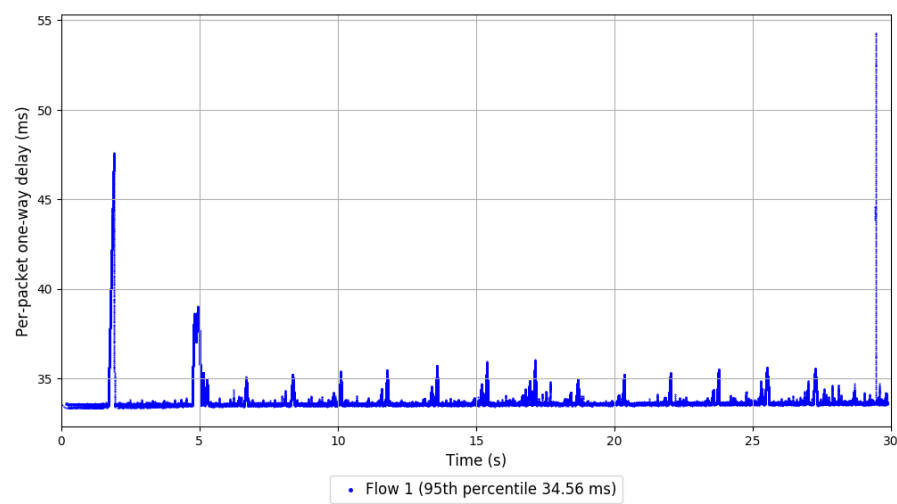
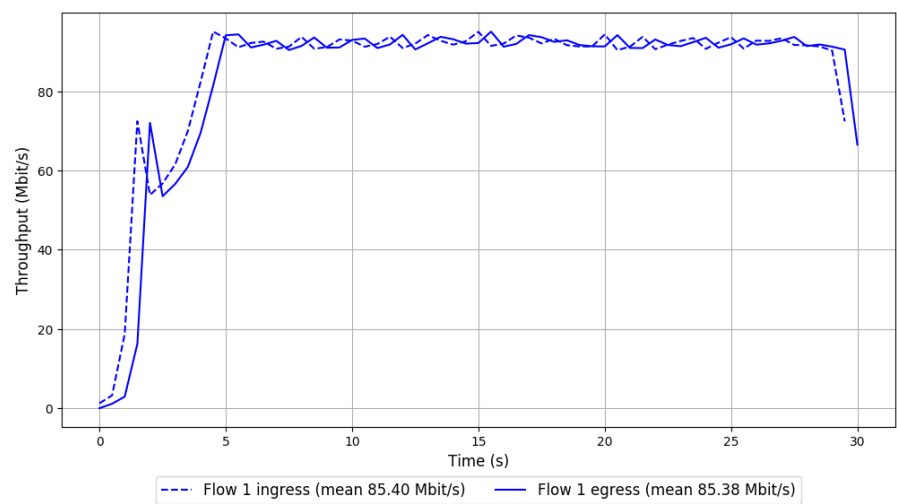
-- Flow 1:

Average throughput: 85.38 Mbit/s

95th percentile per-packet one-way delay: 34.557 ms

Loss rate: 0.23%

Run 4: Report of PCC-Vivace — Data Link

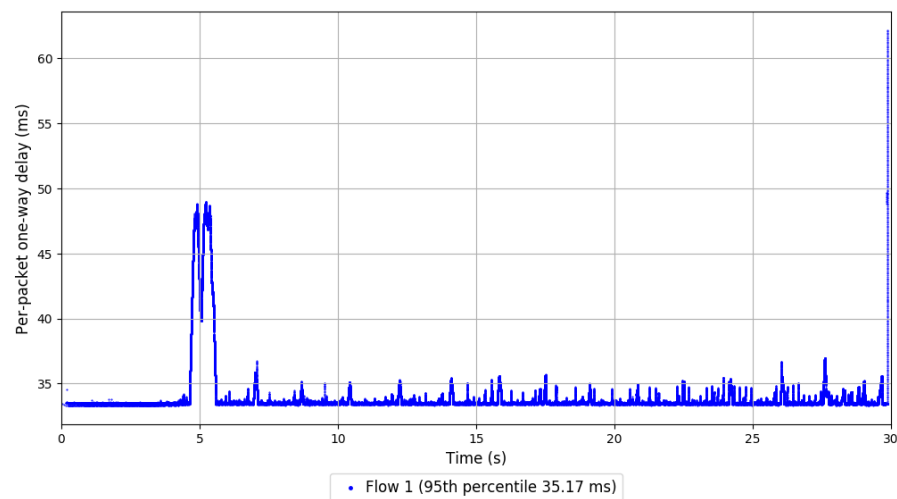
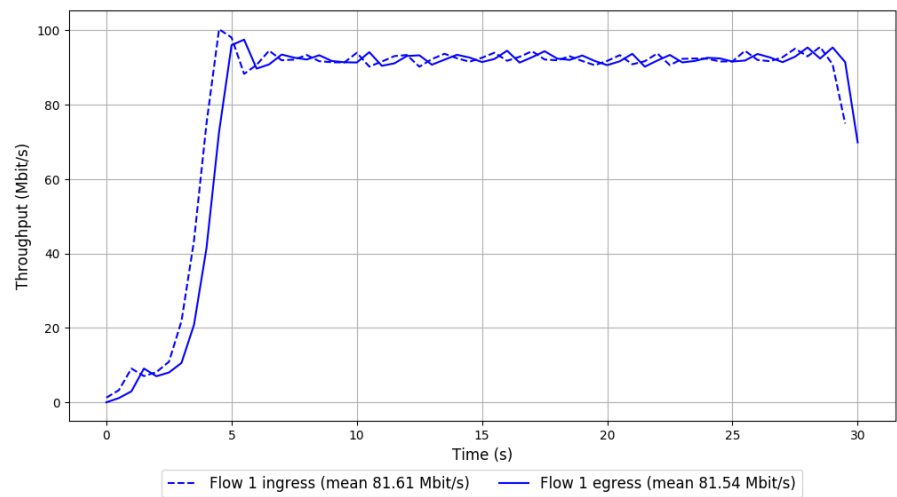


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 15:17:17  
End at: 2018-10-02 15:17:47  
Local clock offset: -0.212 ms  
Remote clock offset: -0.647 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 81.54 Mbit/s  
95th percentile per-packet one-way delay: 35.171 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 81.54 Mbit/s  
95th percentile per-packet one-way delay: 35.171 ms  
Loss rate: 0.30%

Run 5: Report of PCC-Vivace — Data Link

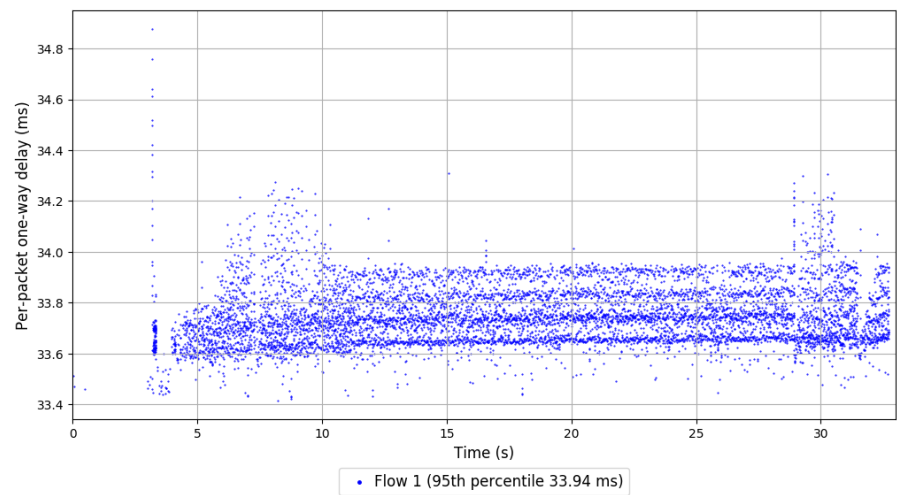
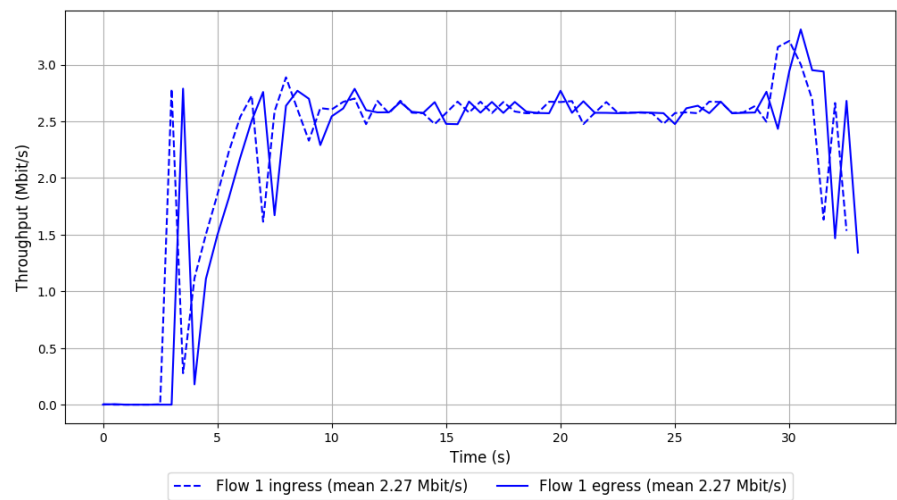


Run 1: Statistics of WebRTC media

Start at: 2018-10-02 13:39:09  
End at: 2018-10-02 13:39:39  
Local clock offset: -3.683 ms  
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.27 Mbit/s  
95th percentile per-packet one-way delay: 33.938 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 2.27 Mbit/s  
95th percentile per-packet one-way delay: 33.938 ms  
Loss rate: 0.26%

Run 1: Report of WebRTC media — Data Link



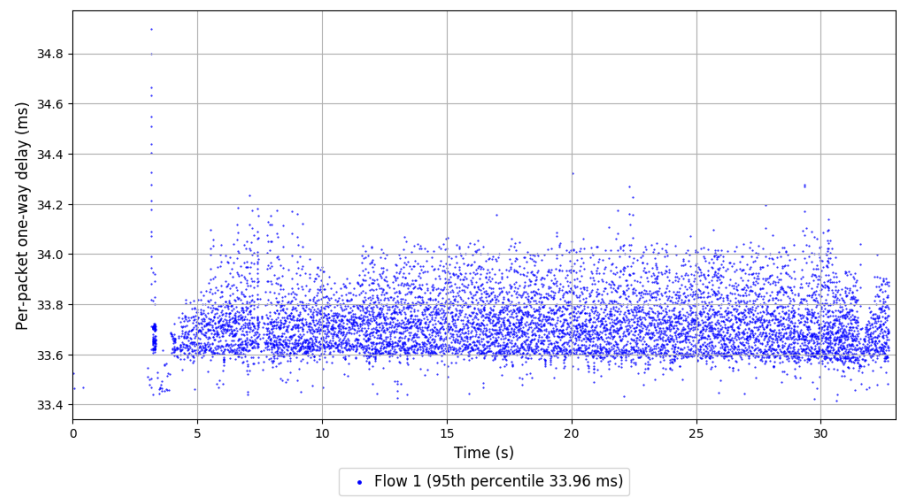
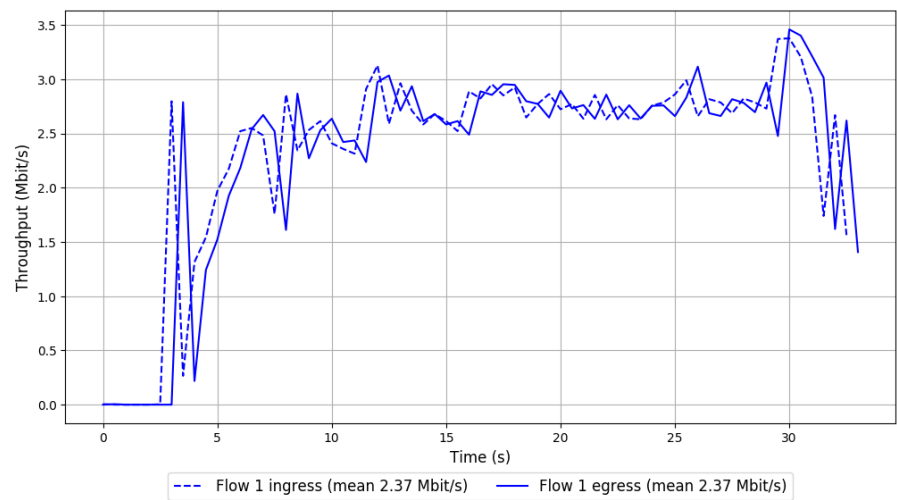


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 14:03:00  
End at: 2018-10-02 14:03:31  
Local clock offset: -0.29 ms  
Remote clock offset: -0.163 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.37 Mbit/s  
95th percentile per-packet one-way delay: 33.956 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 2.37 Mbit/s  
95th percentile per-packet one-way delay: 33.956 ms  
Loss rate: 0.23%

Run 2: Report of WebRTC media — Data Link

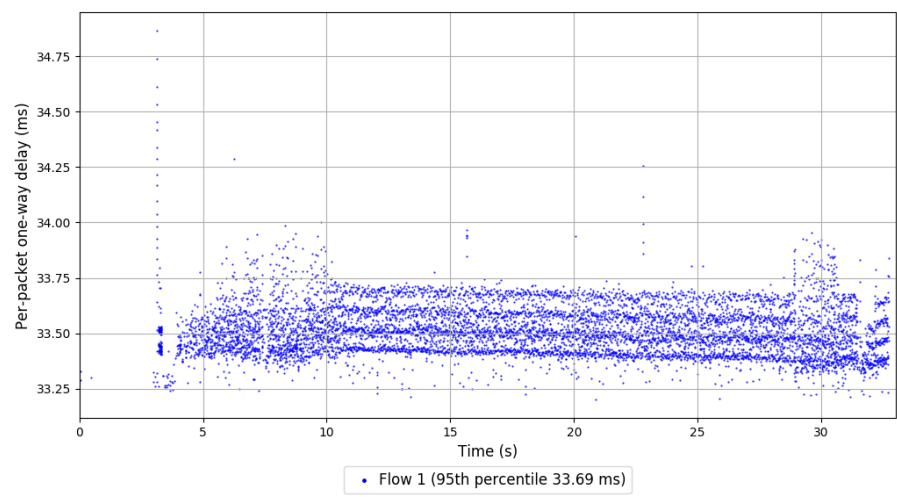
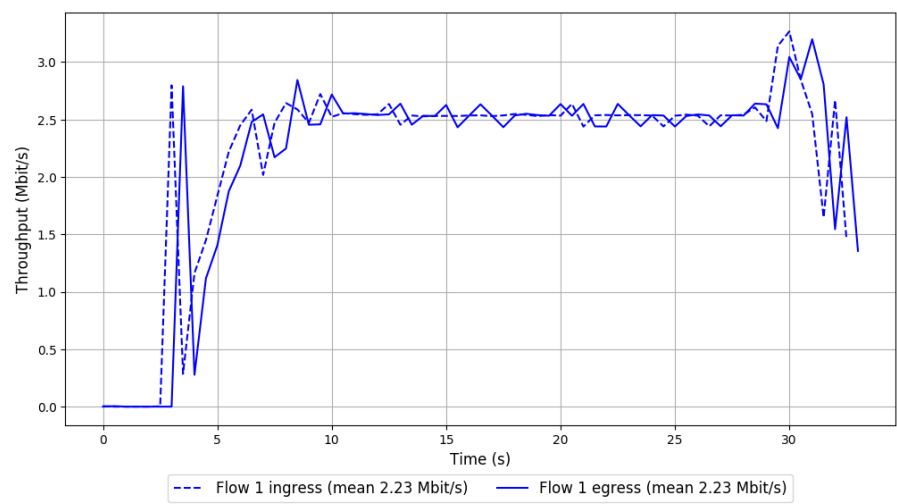


Run 3: Statistics of WebRTC media

Start at: 2018-10-02 14:26:58  
End at: 2018-10-02 14:27:28  
Local clock offset: 2.773 ms  
Remote clock offset: -0.504 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.23 Mbit/s  
95th percentile per-packet one-way delay: 33.692 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 2.23 Mbit/s  
95th percentile per-packet one-way delay: 33.692 ms  
Loss rate: 0.27%

Run 3: Report of WebRTC media — Data Link

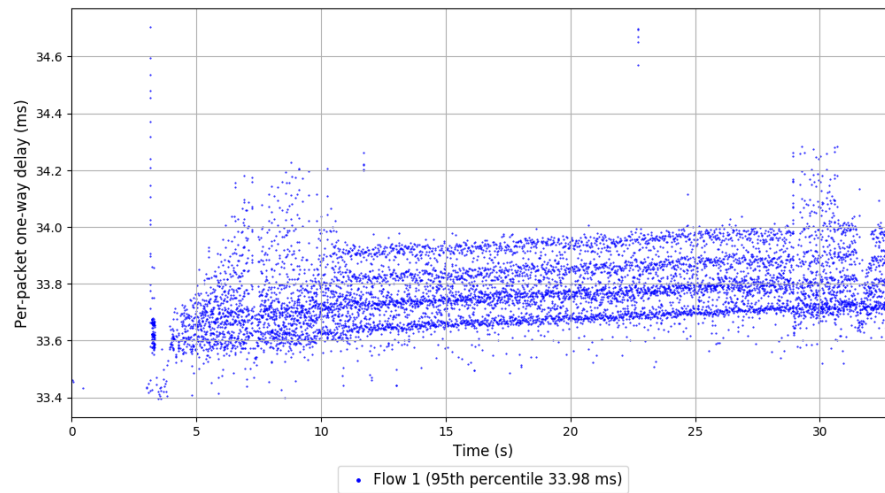
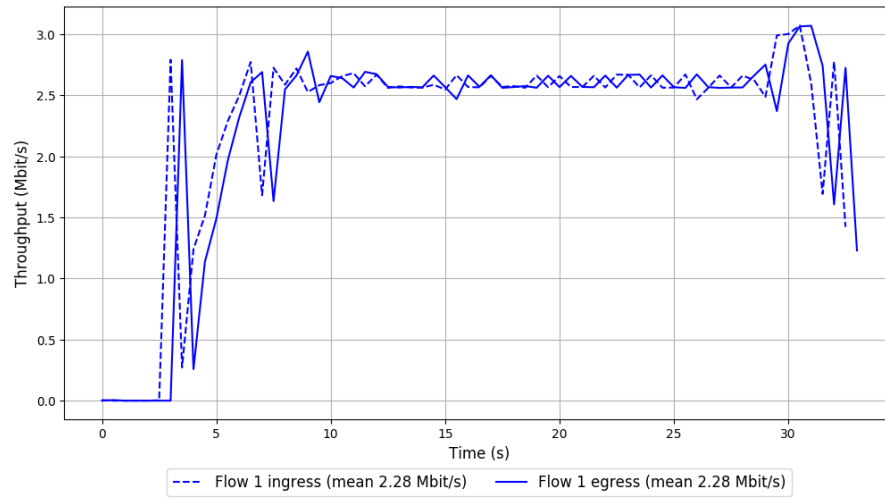


Run 4: Statistics of WebRTC media

Start at: 2018-10-02 14:50:55  
End at: 2018-10-02 14:51:25  
Local clock offset: 2.362 ms  
Remote clock offset: -0.476 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.28 Mbit/s  
95th percentile per-packet one-way delay: 33.976 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 2.28 Mbit/s  
95th percentile per-packet one-way delay: 33.976 ms  
Loss rate: 0.26%

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



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 15:14:46  
End at: 2018-10-02 15:15:16  
Local clock offset: -0.269 ms  
Remote clock offset: -0.471 ms

# Below is generated by plot.py at 2018-10-02 15:35:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.26 Mbit/s  
95th percentile per-packet one-way delay: 33.747 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 2.26 Mbit/s  
95th percentile per-packet one-way delay: 33.747 ms  
Loss rate: 0.18%

Run 5: Report of WebRTC media — Data Link

