

## Pantheon Report

Generated at 2018-10-02 09:04:56 (UTC).

Data path: AWS Brazil 2 on **ens5** (*local*) → Colombia on **p4p1** (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **gps.ntp.br** and have been applied to correct the timestamps in logs.

### System info:

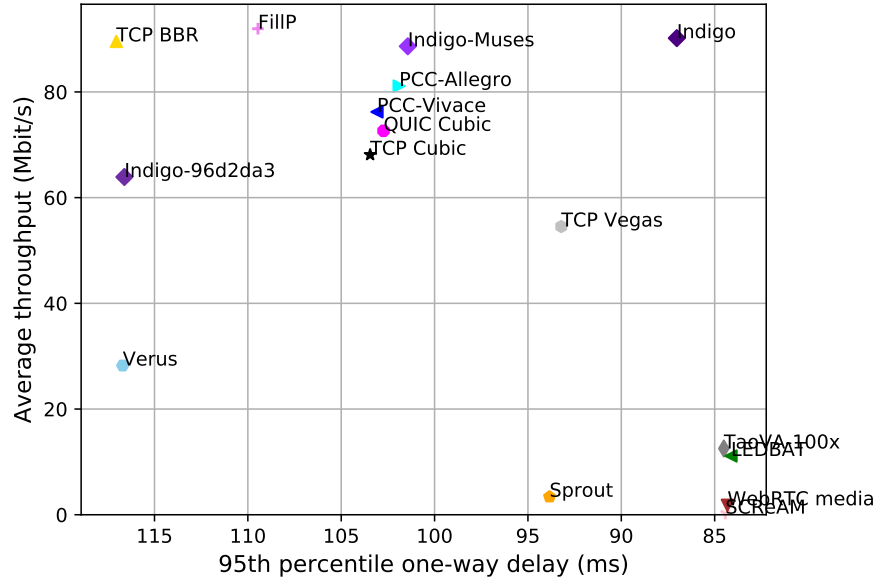
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

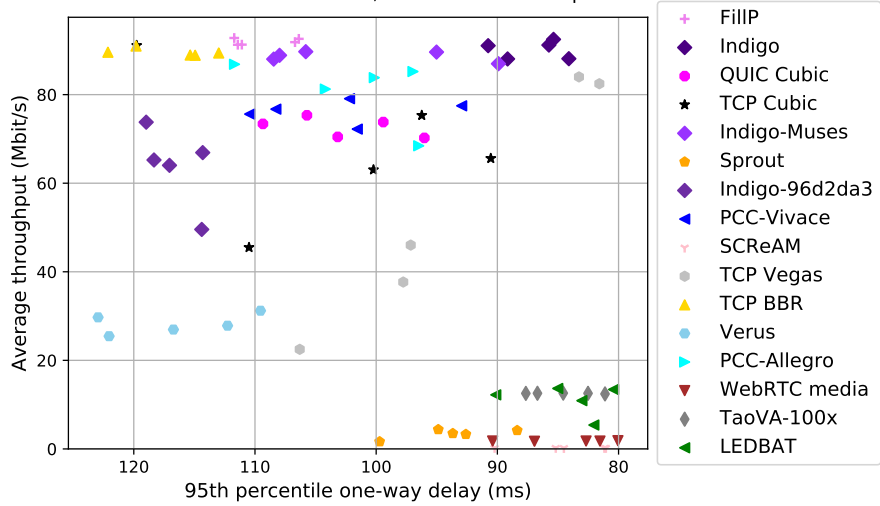
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



test from AWS Brazil 2 to Colombia, 5 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	89.56	117.04	3.43
Copa	0	N/A	N/A	N/A
TCP Cubic	5	68.11	103.45	0.83
FillP	5	91.96	109.46	2.61
Indigo	5	90.18	87.03	1.22
Indigo-96d2da3	5	63.90	116.61	49.73
LEDBAT	5	11.12	84.13	0.06
Indigo-Muses	5	88.64	101.43	2.01
PCC-Allegro	5	81.12	101.90	1.71
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	72.64	102.73	0.37
SCReAM	5	0.21	84.43	0.15
Sprout	5	3.40	93.85	0.10
TaoVA-100x	5	12.53	84.51	22.56
TCP Vegas	5	54.53	93.22	1.25
Verus	5	28.23	116.70	20.40
PCC-Vivace	5	76.22	103.09	0.42
WebRTC media	5	1.79	84.32	0.12



Run 1: Statistics of TCP BBR

Start at: 2018-10-02 07:23:42

End at: 2018-10-02 07:24:12

Local clock offset: 0.266 ms

Remote clock offset: -1.813 ms

# Below is generated by plot.py at 2018-10-02 08:59:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.40 Mbit/s

95th percentile per-packet one-way delay: 112.992 ms

Loss rate: 4.60%

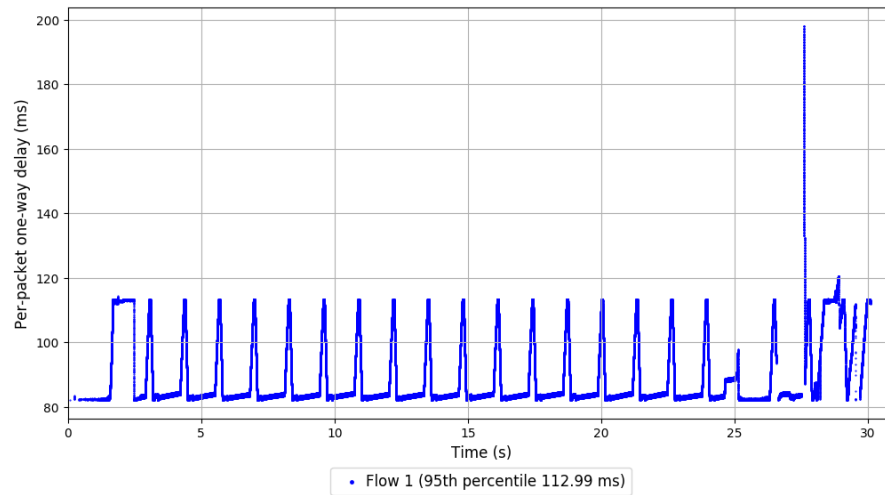
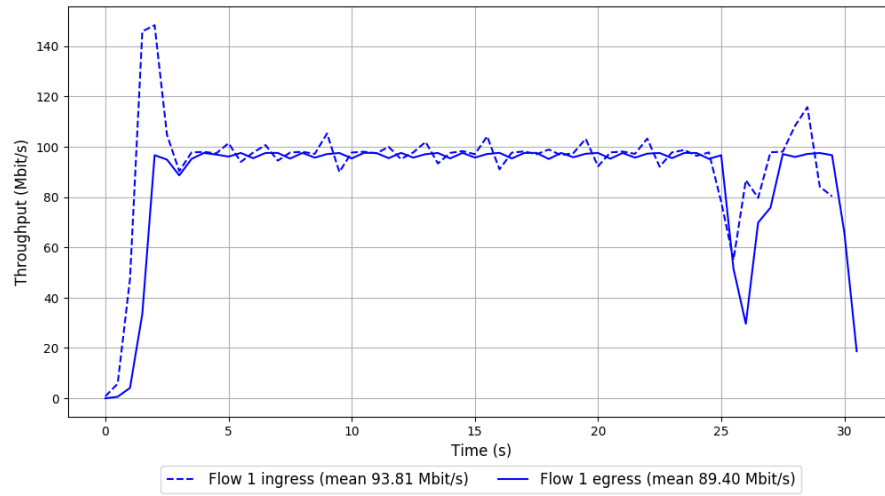
-- Flow 1:

Average throughput: 89.40 Mbit/s

95th percentile per-packet one-way delay: 112.992 ms

Loss rate: 4.60%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-02 07:44:52

End at: 2018-10-02 07:45:22

Local clock offset: 1.596 ms

Remote clock offset: 1.736 ms

# Below is generated by plot.py at 2018-10-02 08:59:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.89 Mbit/s

95th percentile per-packet one-way delay: 114.934 ms

Loss rate: 2.83%

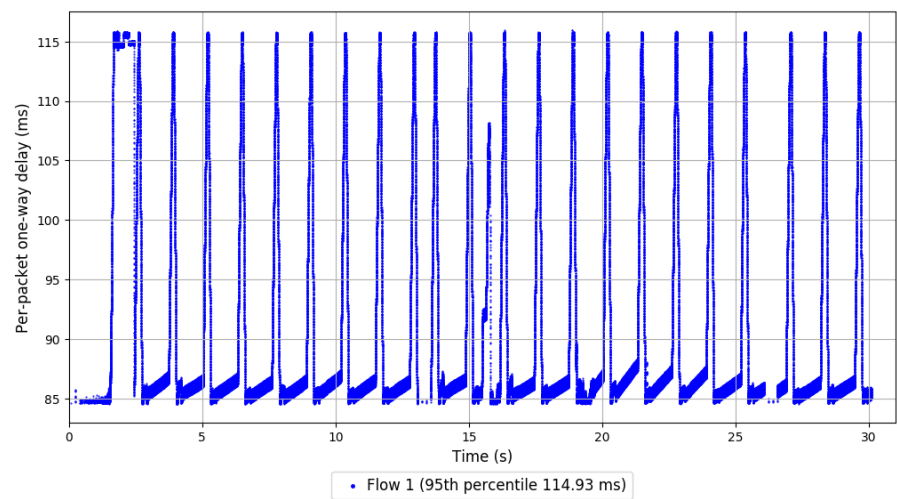
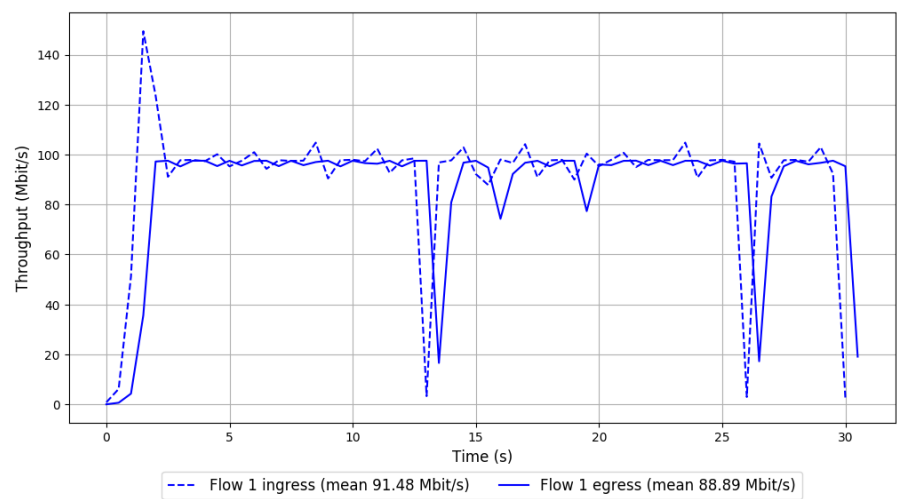
-- Flow 1:

Average throughput: 88.89 Mbit/s

95th percentile per-packet one-way delay: 114.934 ms

Loss rate: 2.83%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-02 08:05:51

End at: 2018-10-02 08:06:21

Local clock offset: -2.069 ms

Remote clock offset: 2.788 ms

# Below is generated by plot.py at 2018-10-02 08:59:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.58 Mbit/s

95th percentile per-packet one-way delay: 122.135 ms

Loss rate: 3.90%

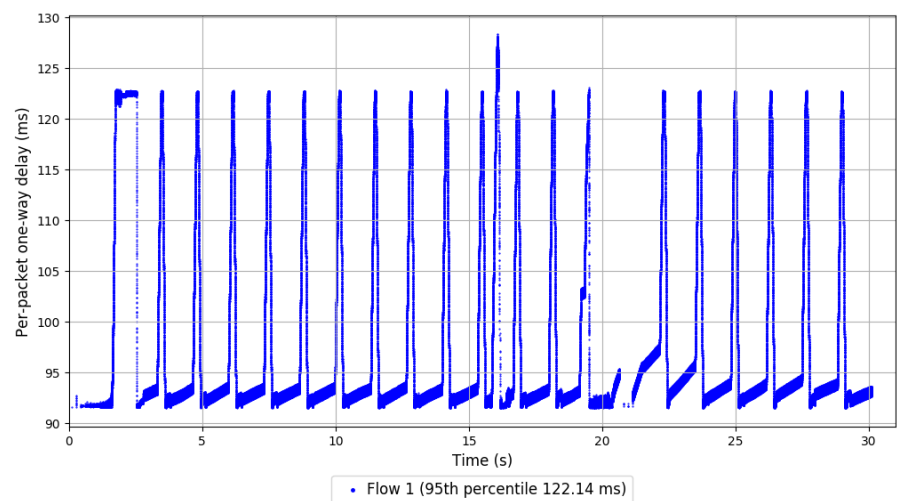
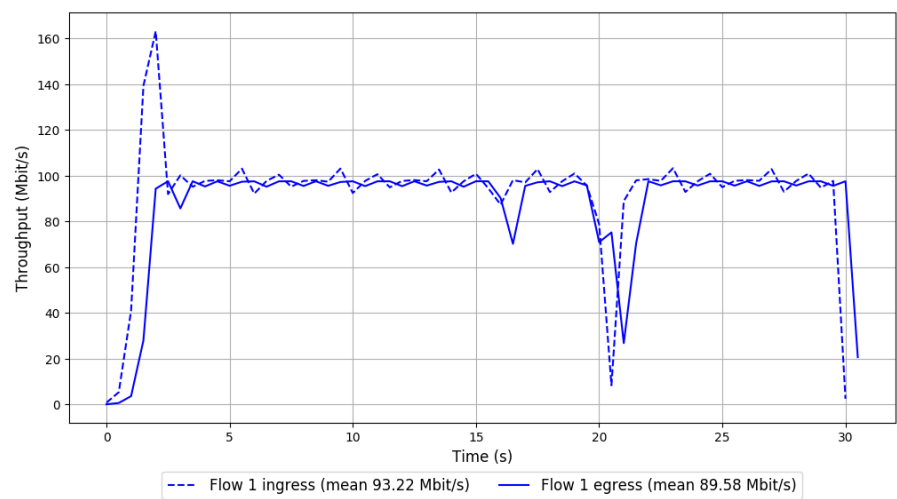
-- Flow 1:

Average throughput: 89.58 Mbit/s

95th percentile per-packet one-way delay: 122.135 ms

Loss rate: 3.90%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-02 08:27:01

End at: 2018-10-02 08:27:31

Local clock offset: -5.156 ms

Remote clock offset: 1.339 ms

# Below is generated by plot.py at 2018-10-02 08:59:02

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.94 Mbit/s

95th percentile per-packet one-way delay: 115.346 ms

Loss rate: 3.52%

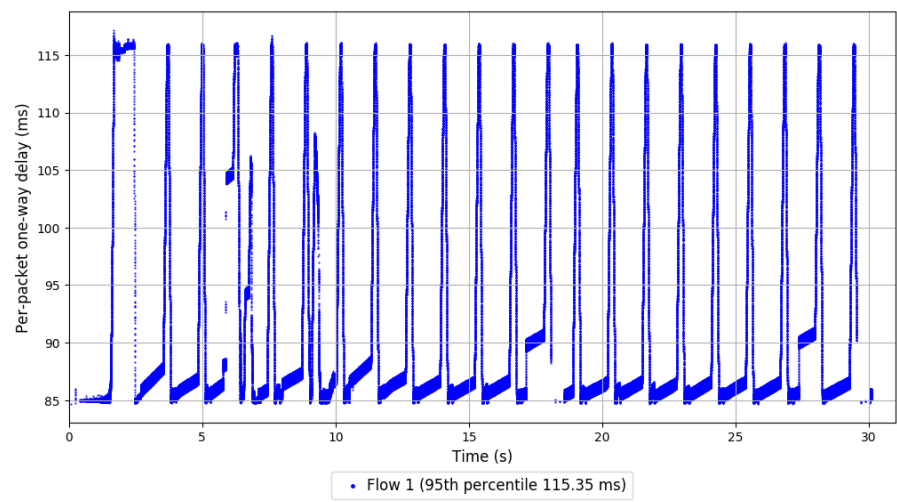
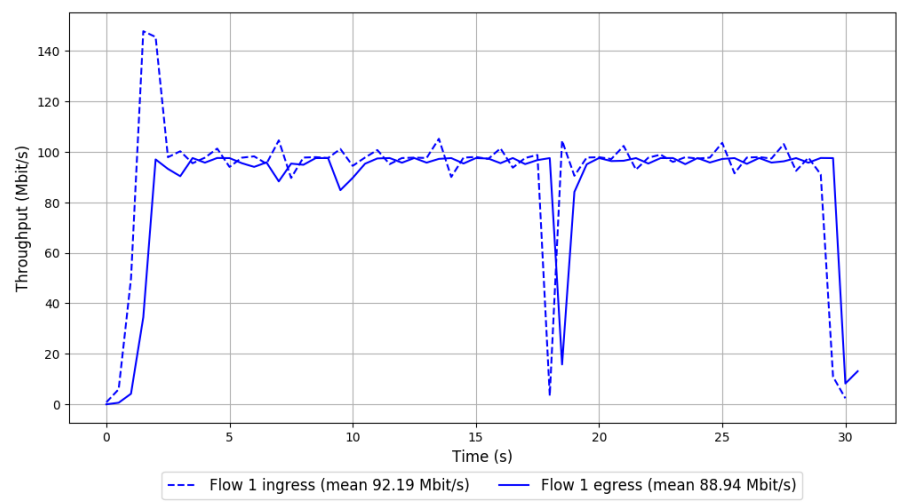
-- Flow 1:

Average throughput: 88.94 Mbit/s

95th percentile per-packet one-way delay: 115.346 ms

Loss rate: 3.52%

Run 4: Report of TCP BBR — Data Link



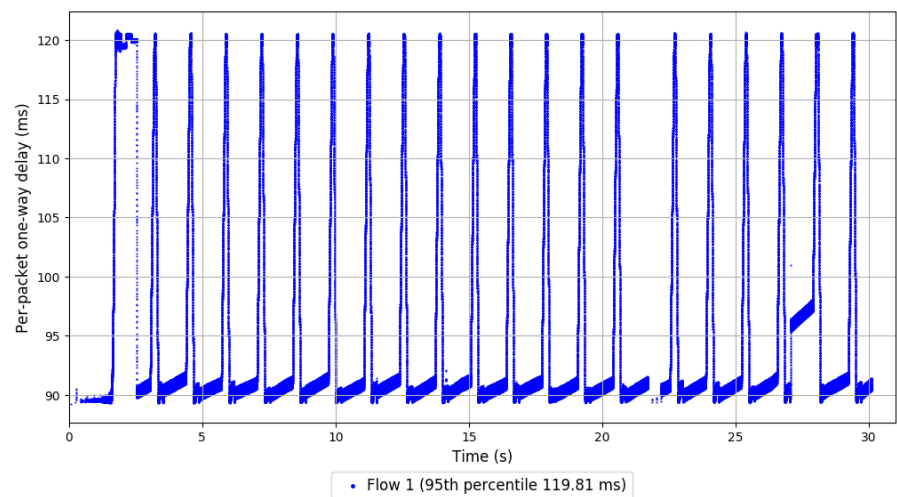
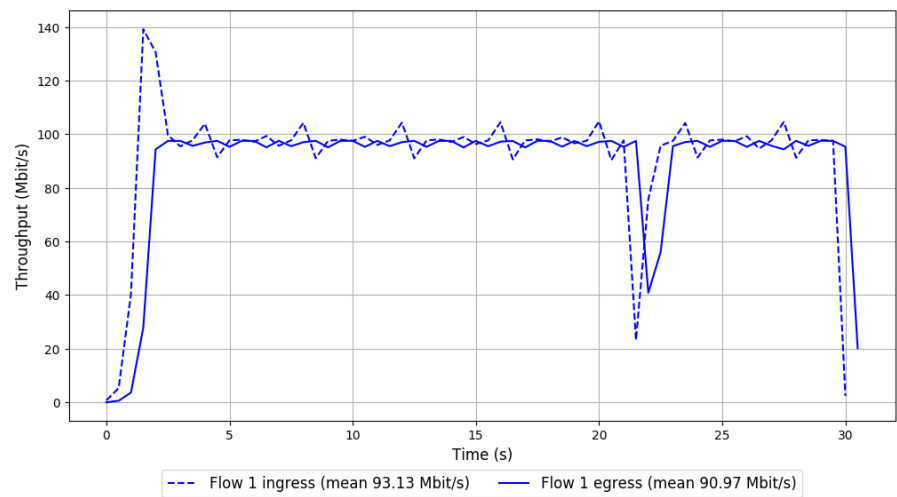


Run 5: Statistics of TCP BBR

Start at: 2018-10-02 08:48:12  
End at: 2018-10-02 08:48:42  
Local clock offset: -6.734 ms  
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-10-02 08:59:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.97 Mbit/s  
95th percentile per-packet one-way delay: 119.814 ms  
Loss rate: 2.31%  
-- Flow 1:  
Average throughput: 90.97 Mbit/s  
95th percentile per-packet one-way delay: 119.814 ms  
Loss rate: 2.31%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

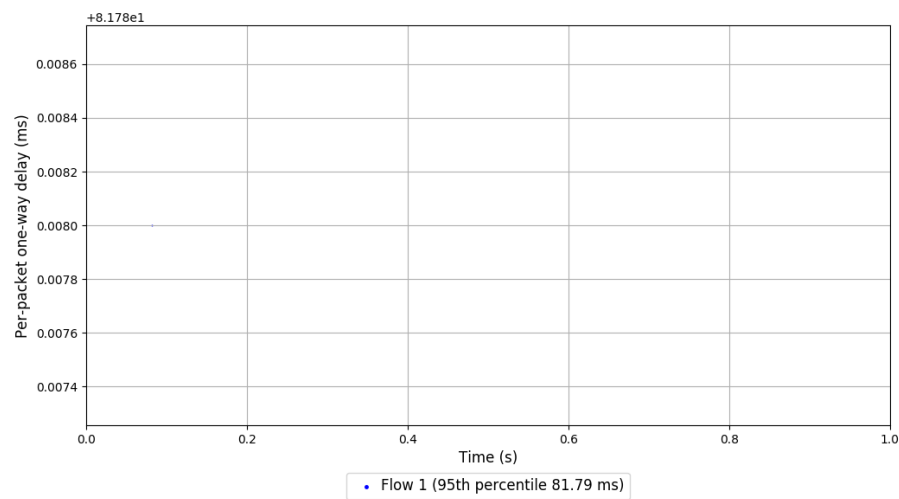
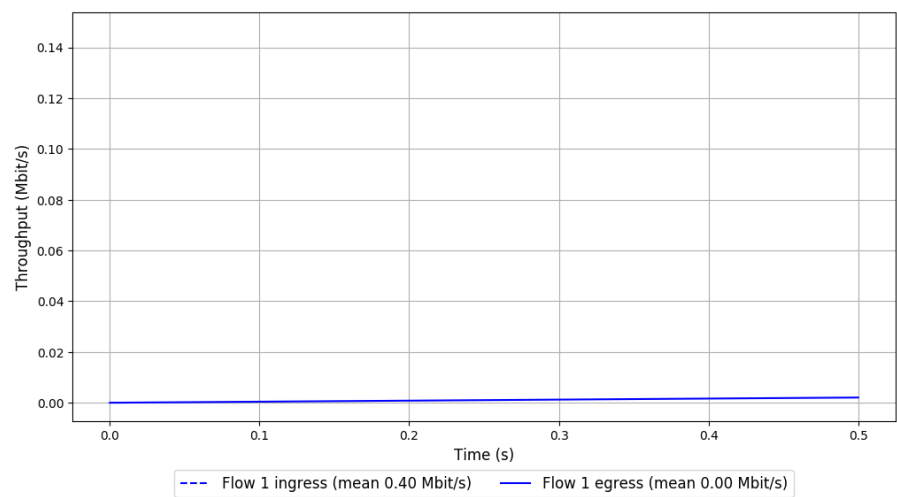
Start at: 2018-10-02 07:29:32

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

Local clock offset: 0.636 ms

Remote clock offset: -2.897 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

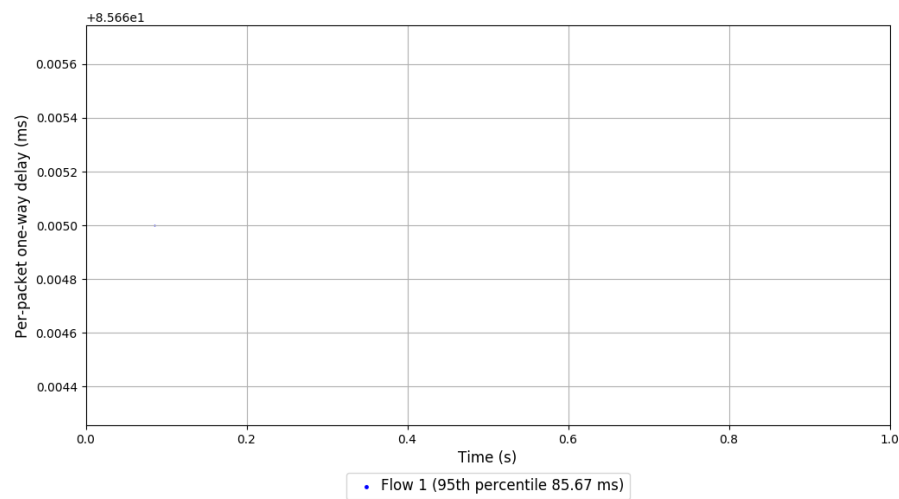
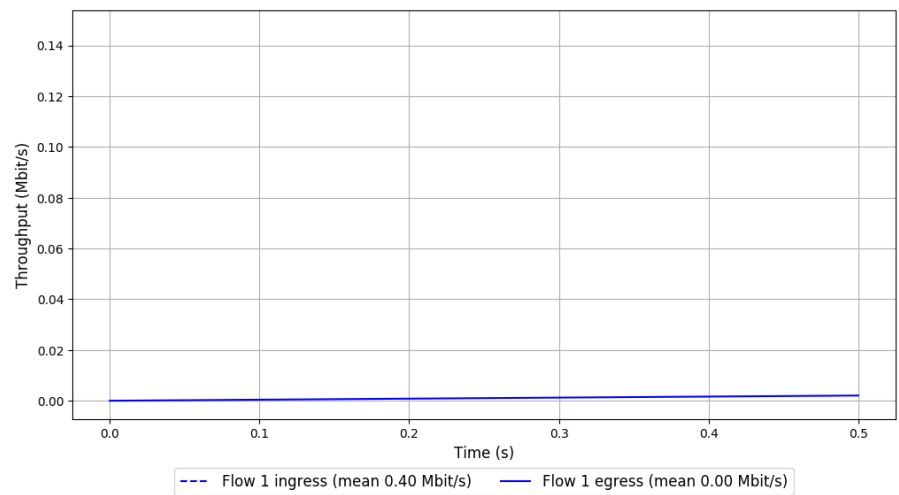
Start at: 2018-10-02 07:50:42

End at: 2018-10-02 07:51:12

Local clock offset: -0.145 ms

Remote clock offset: 1.768 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

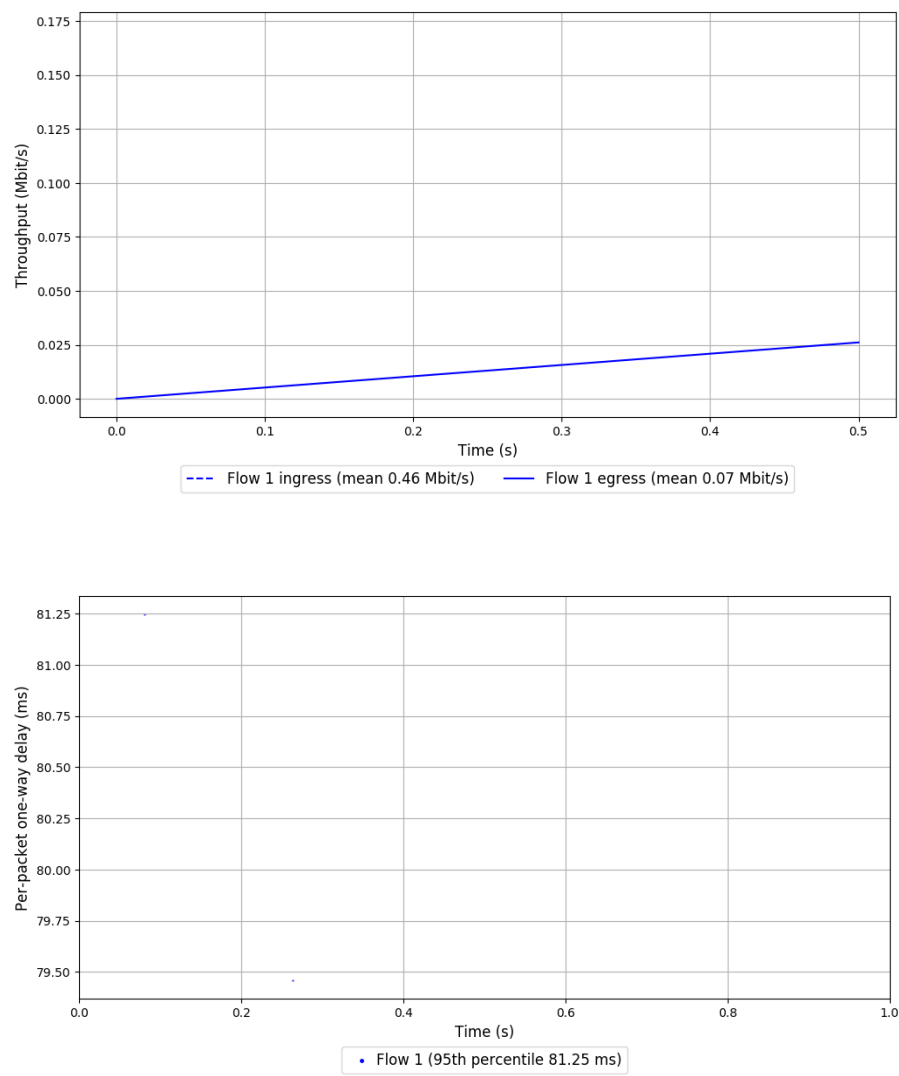
Start at: 2018-10-02 08:11:41

End at: 2018-10-02 08:12:11

Local clock offset: -2.379 ms

Remote clock offset: -3.263 ms

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

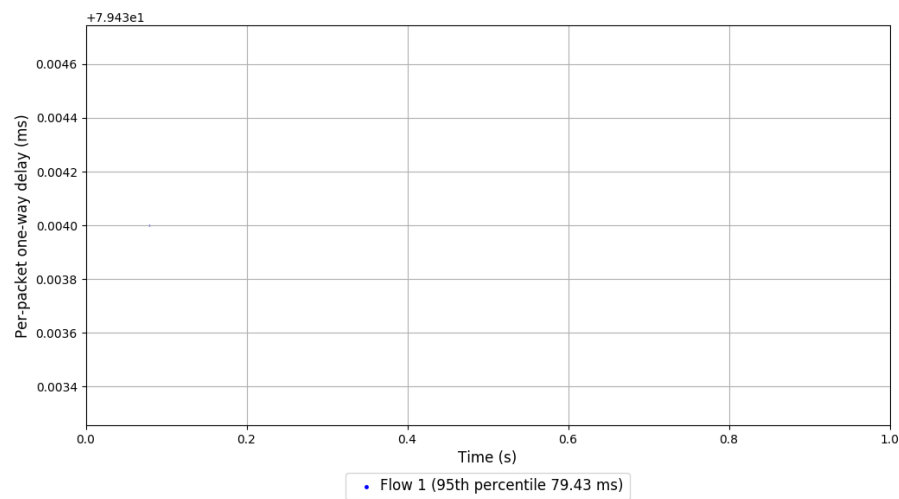
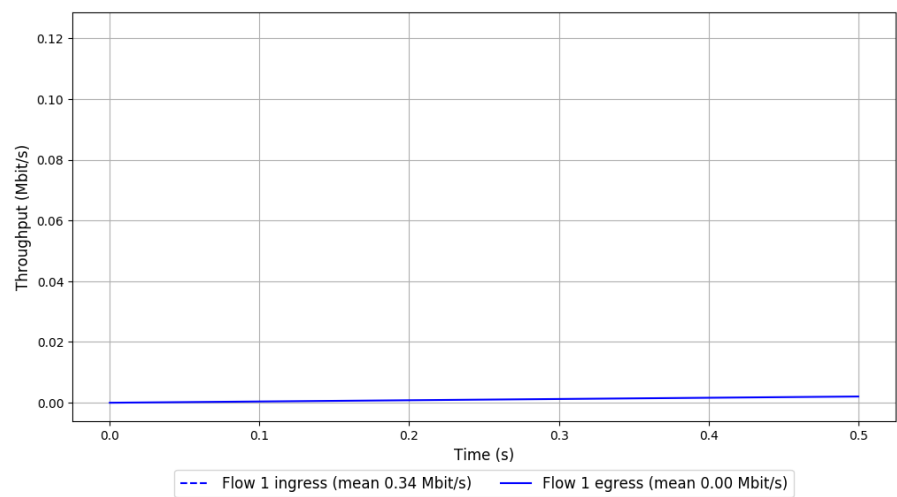
Start at: 2018-10-02 08:32:57

End at: 2018-10-02 08:33:27

Local clock offset: -5.916 ms

Remote clock offset: -3.876 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

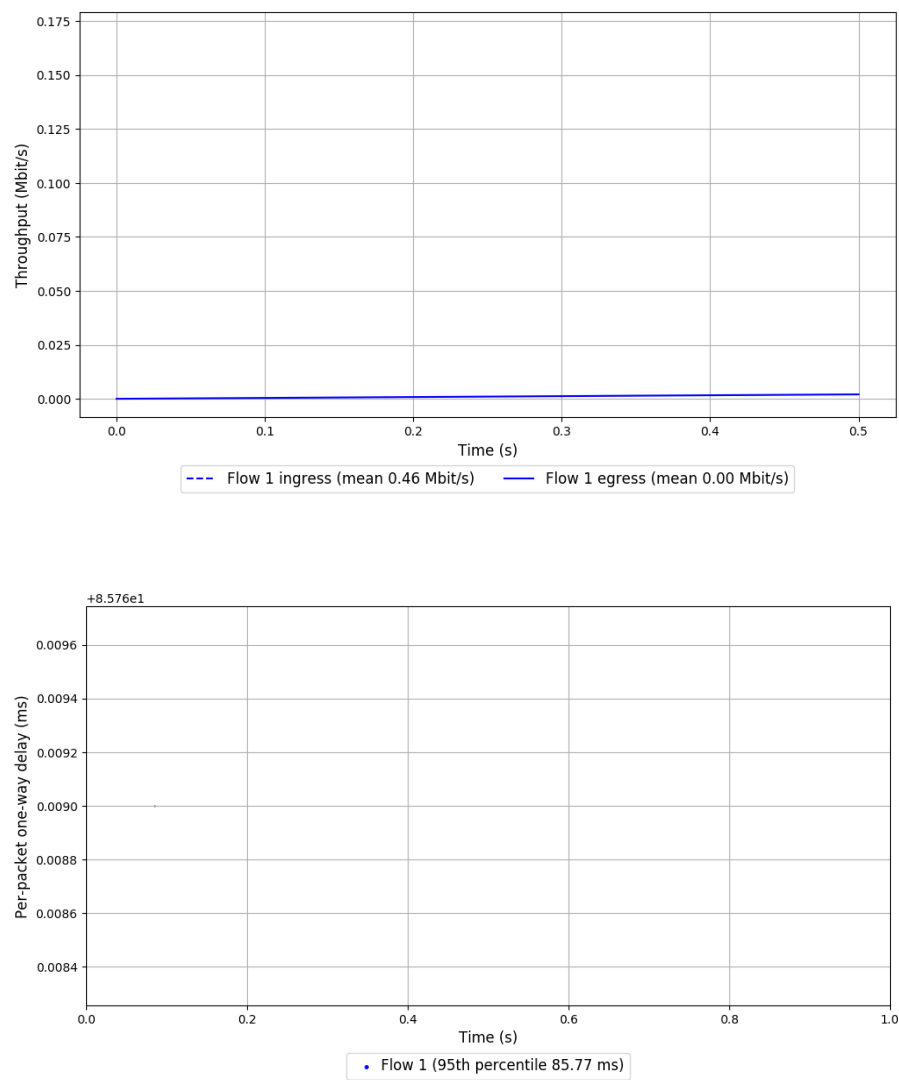
Start at: 2018-10-02 08:54:05

End at: 2018-10-02 08:54:35

Local clock offset: -6.626 ms

Remote clock offset: -0.276 ms

Run 5: Report of Copa — Data Link

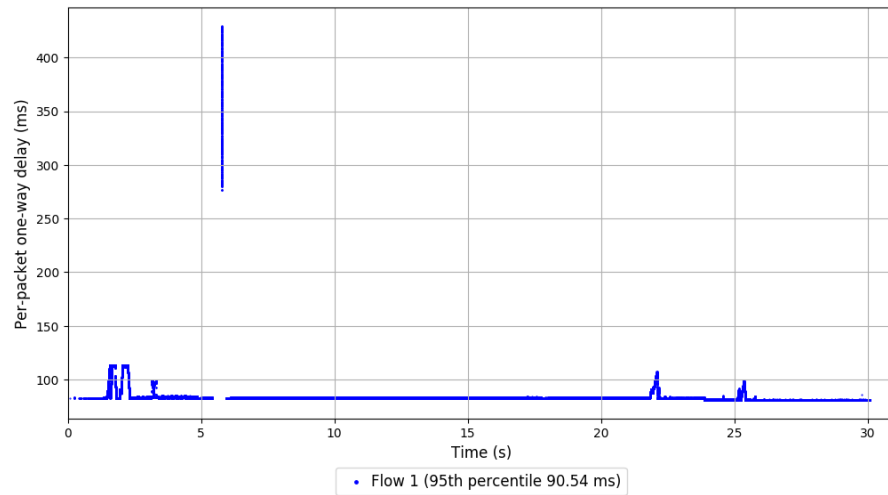
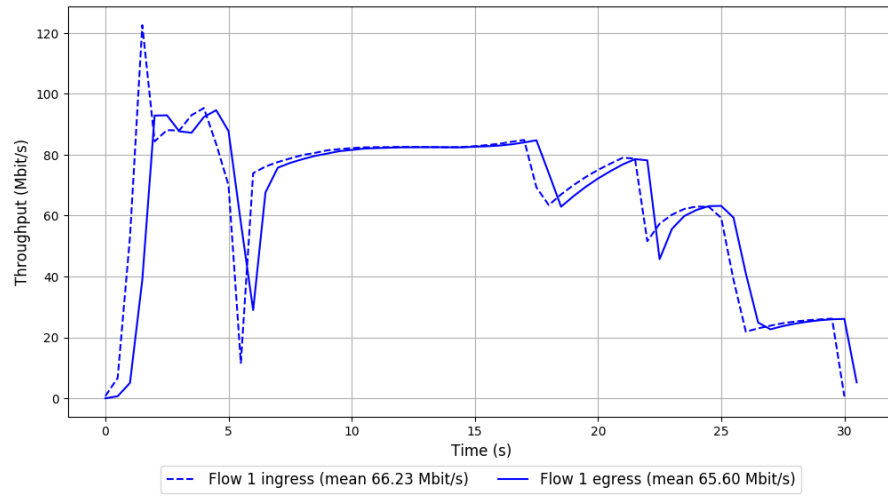


Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 07:16:45  
End at: 2018-10-02 07:17:15  
Local clock offset: -0.239 ms  
Remote clock offset: -1.666 ms

# Below is generated by plot.py at 2018-10-02 08:59:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 65.60 Mbit/s  
95th percentile per-packet one-way delay: 90.544 ms  
Loss rate: 0.96%  
-- Flow 1:  
Average throughput: 65.60 Mbit/s  
95th percentile per-packet one-way delay: 90.544 ms  
Loss rate: 0.96%

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

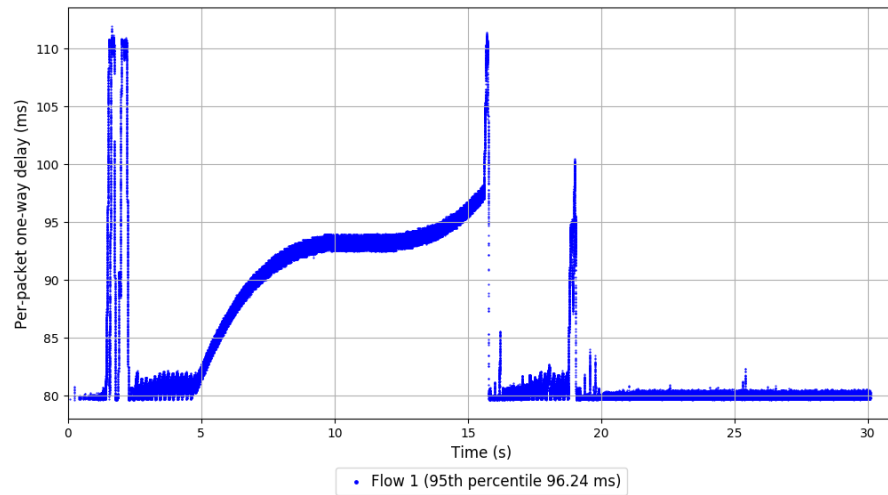
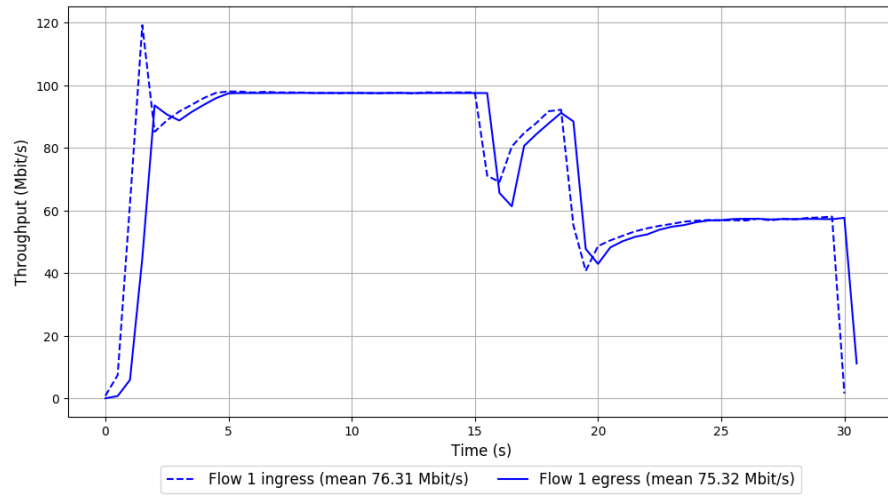


Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 07:37:52  
End at: 2018-10-02 07:38:22  
Local clock offset: 1.103 ms  
Remote clock offset: -2.984 ms

# Below is generated by plot.py at 2018-10-02 08:59:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 75.32 Mbit/s  
95th percentile per-packet one-way delay: 96.240 ms  
Loss rate: 1.29%  
-- Flow 1:  
Average throughput: 75.32 Mbit/s  
95th percentile per-packet one-way delay: 96.240 ms  
Loss rate: 1.29%

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





Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 07:58:53

End at: 2018-10-02 07:59:23

Local clock offset: -1.496 ms

Remote clock offset: 1.757 ms

# Below is generated by plot.py at 2018-10-02 08:59:04

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.11 Mbit/s

95th percentile per-packet one-way delay: 119.761 ms

Loss rate: 0.44%

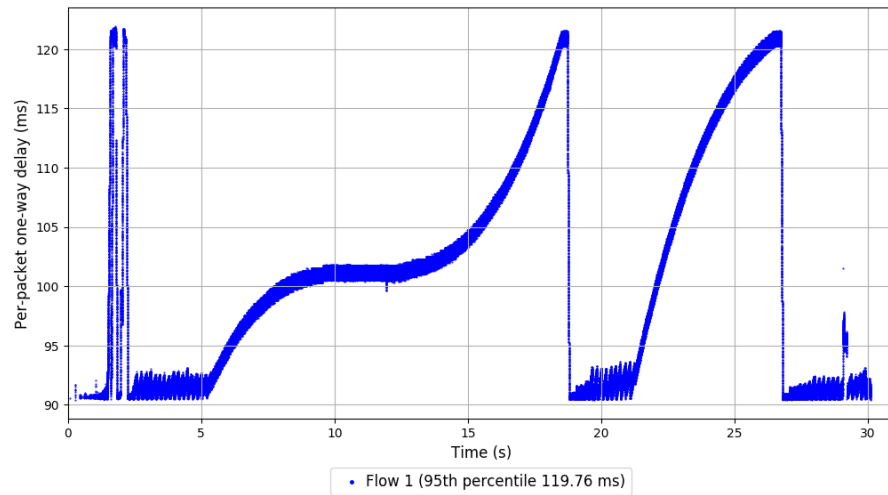
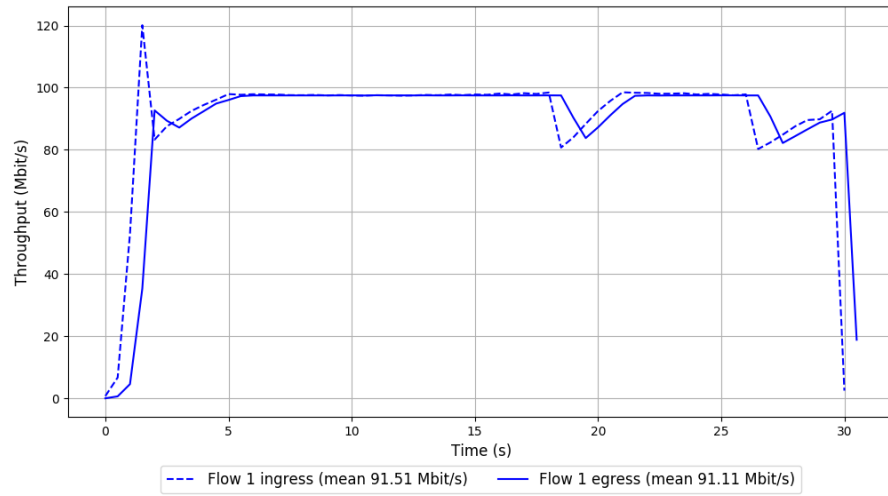
-- Flow 1:

Average throughput: 91.11 Mbit/s

95th percentile per-packet one-way delay: 119.761 ms

Loss rate: 0.44%

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

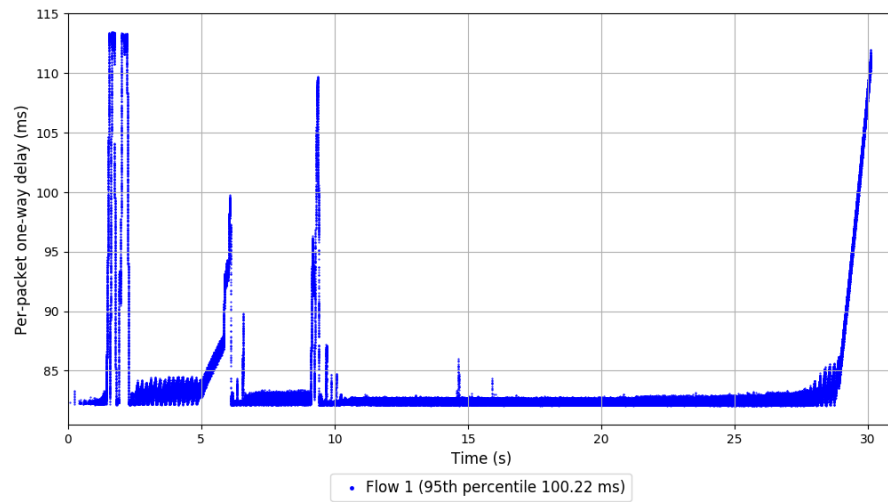
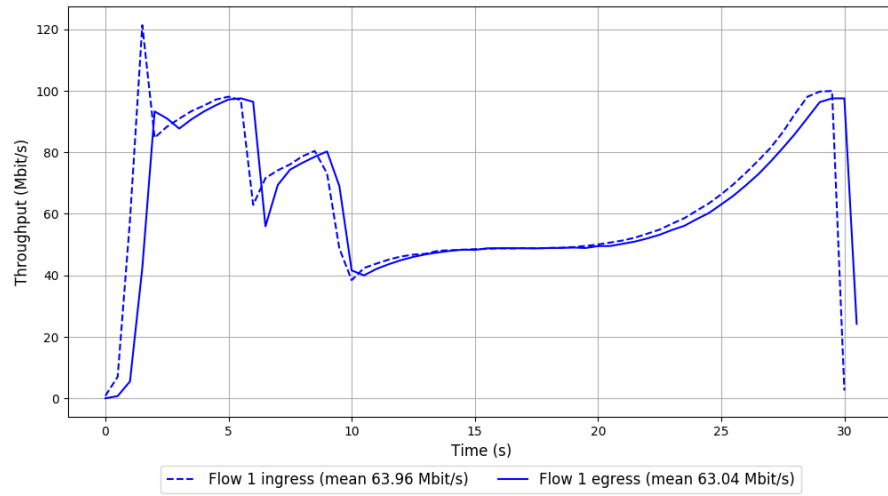


Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 08:20:01  
End at: 2018-10-02 08:20:31  
Local clock offset: -3.813 ms  
Remote clock offset: -2.446 ms

# Below is generated by plot.py at 2018-10-02 08:59:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.04 Mbit/s  
95th percentile per-packet one-way delay: 100.222 ms  
Loss rate: 1.34%  
-- Flow 1:  
Average throughput: 63.04 Mbit/s  
95th percentile per-packet one-way delay: 100.222 ms  
Loss rate: 1.34%

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

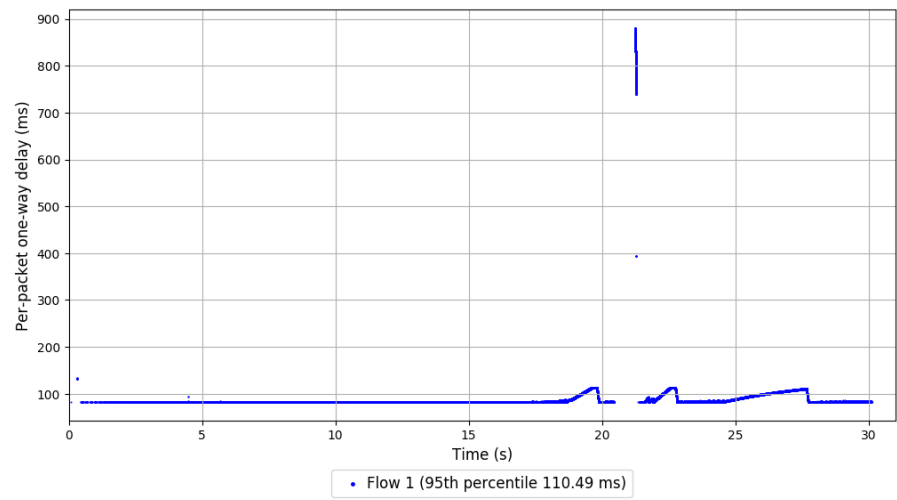
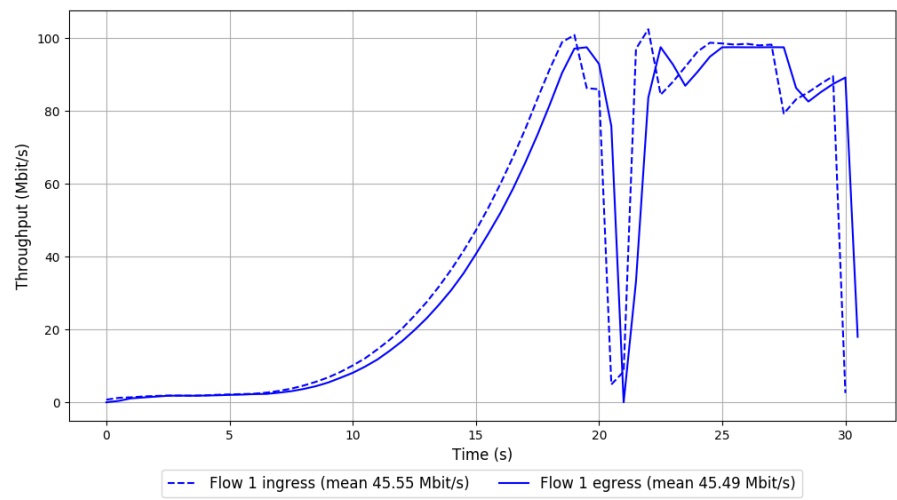


Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 08:41:16  
End at: 2018-10-02 08:41:46  
Local clock offset: -6.622 ms  
Remote clock offset: -2.838 ms

# Below is generated by plot.py at 2018-10-02 08:59:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 45.49 Mbit/s  
95th percentile per-packet one-way delay: 110.491 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 45.49 Mbit/s  
95th percentile per-packet one-way delay: 110.491 ms  
Loss rate: 0.13%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-02 07:31:49

End at: 2018-10-02 07:32:19

Local clock offset: 0.785 ms

Remote clock offset: 2.167 ms

# Below is generated by plot.py at 2018-10-02 09:00:20

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.29 Mbit/s

95th percentile per-packet one-way delay: 111.083 ms

Loss rate: 2.76%

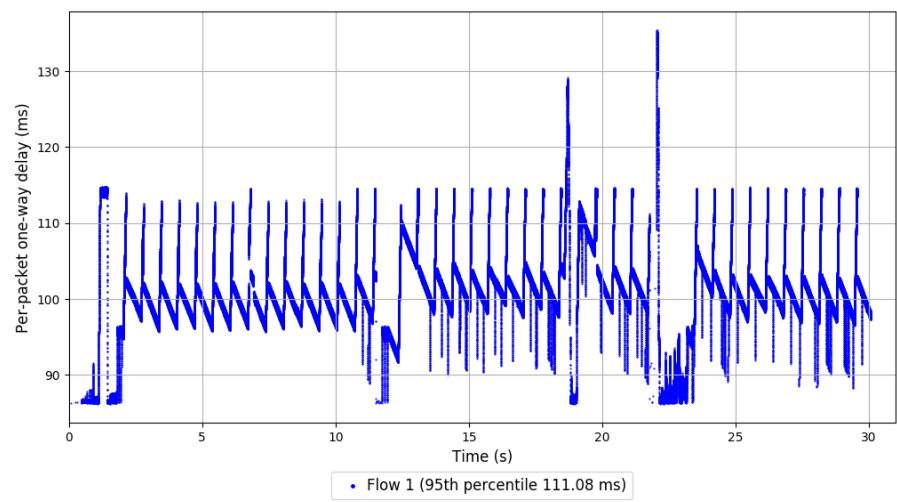
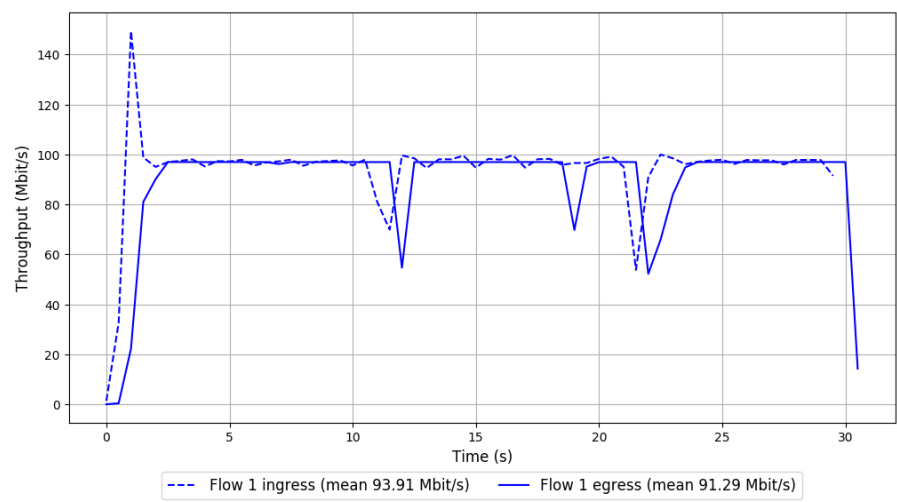
-- Flow 1:

Average throughput: 91.29 Mbit/s

95th percentile per-packet one-way delay: 111.083 ms

Loss rate: 2.76%

Run 1: Report of FillP — Data Link



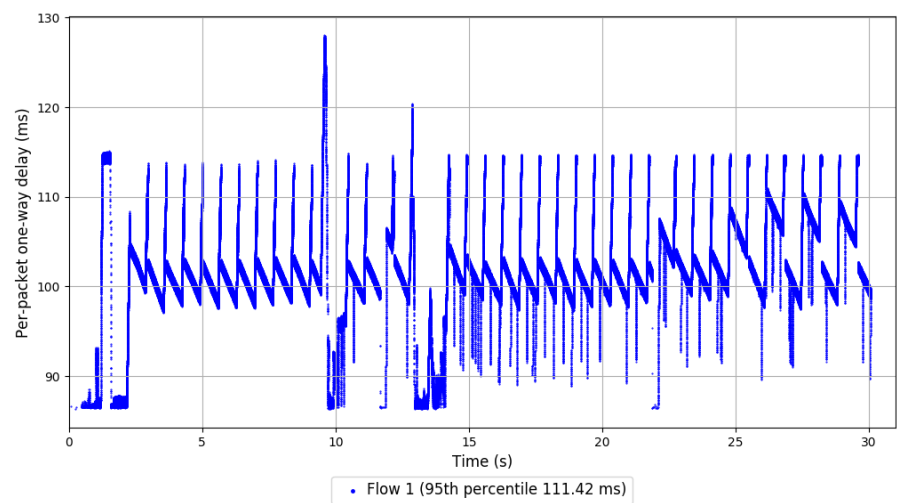
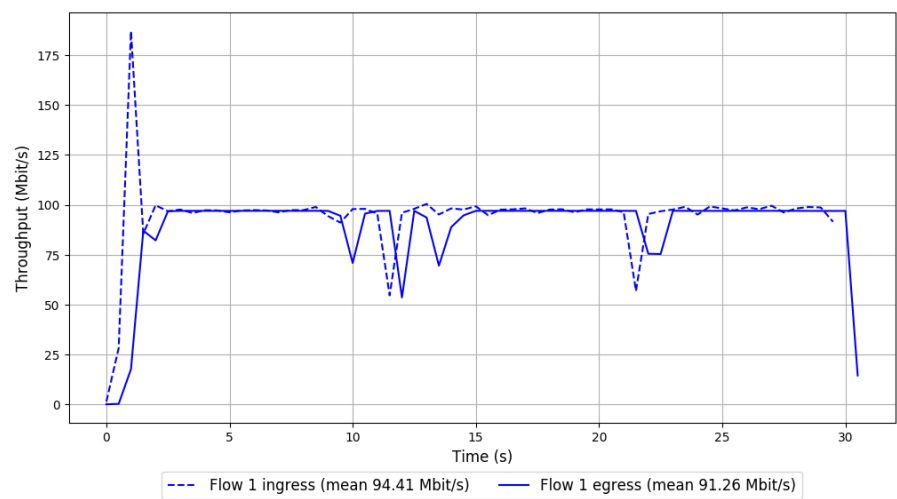


Run 2: Statistics of FillP

Start at: 2018-10-02 07:52:58  
End at: 2018-10-02 07:53:28  
Local clock offset: -0.564 ms  
Remote clock offset: -3.377 ms

# Below is generated by plot.py at 2018-10-02 09:00:22  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.26 Mbit/s  
95th percentile per-packet one-way delay: 111.417 ms  
Loss rate: 3.29%  
-- Flow 1:  
Average throughput: 91.26 Mbit/s  
95th percentile per-packet one-way delay: 111.417 ms  
Loss rate: 3.29%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-02 08:13:57

End at: 2018-10-02 08:14:27

Local clock offset: -2.399 ms

Remote clock offset: -2.36 ms

# Below is generated by plot.py at 2018-10-02 09:00:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.85 Mbit/s

95th percentile per-packet one-way delay: 106.697 ms

Loss rate: 2.20%

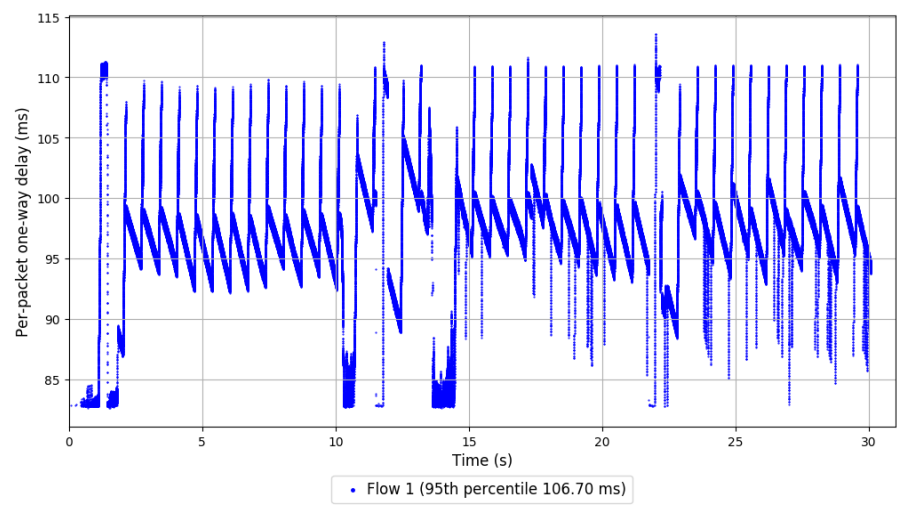
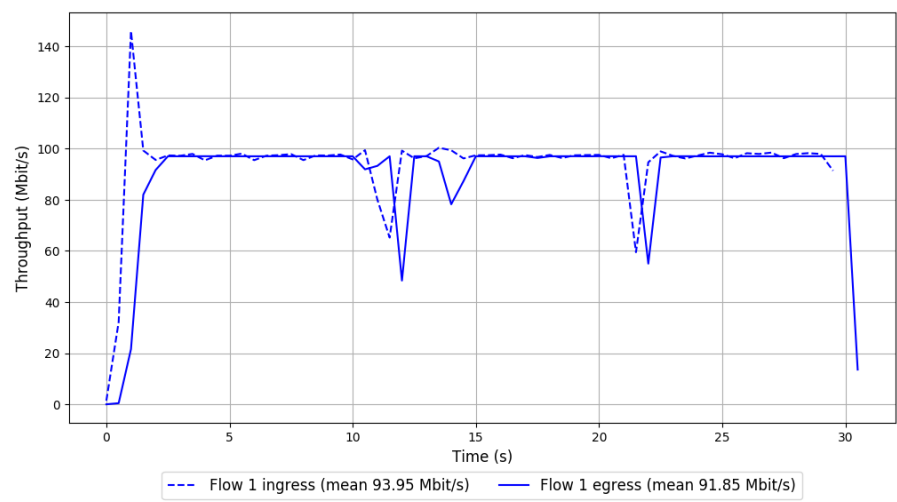
-- Flow 1:

Average throughput: 91.85 Mbit/s

95th percentile per-packet one-way delay: 106.697 ms

Loss rate: 2.20%

Run 3: Report of FillP — Data Link

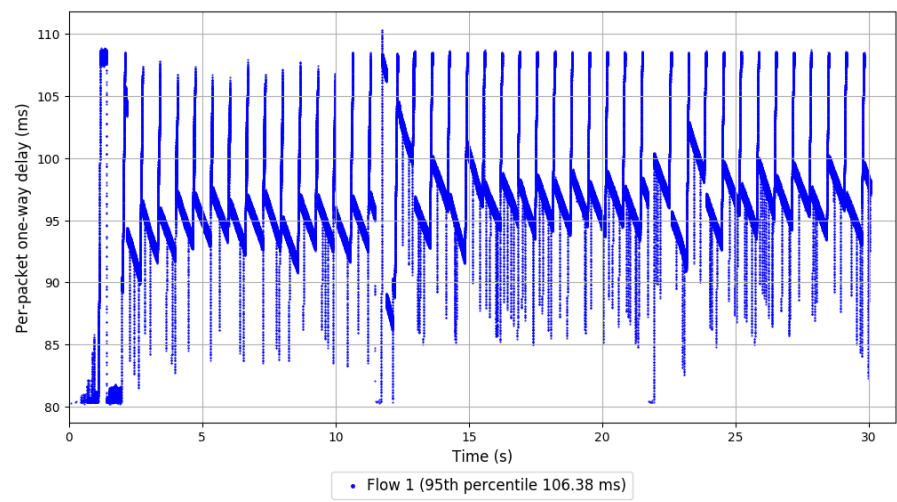
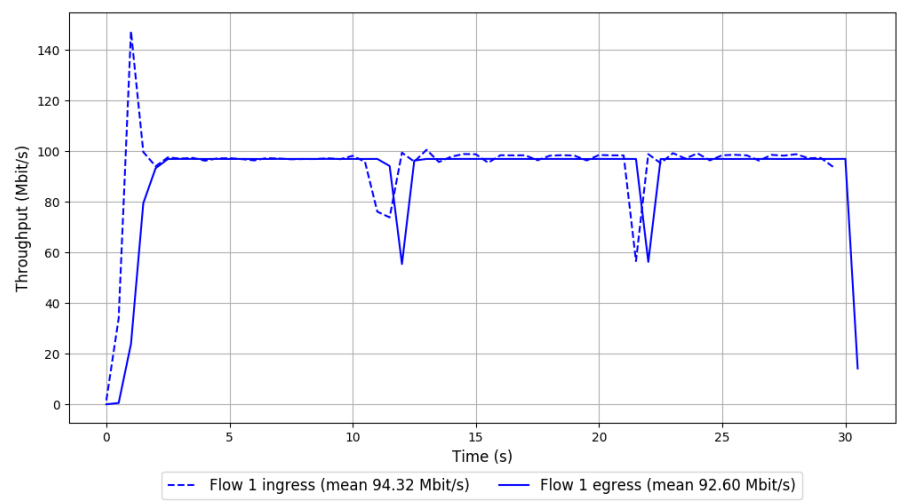


Run 4: Statistics of FillP

Start at: 2018-10-02 08:35:15  
End at: 2018-10-02 08:35:45  
Local clock offset: -6.072 ms  
Remote clock offset: -2.782 ms

# Below is generated by plot.py at 2018-10-02 09:00:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 92.60 Mbit/s  
95th percentile per-packet one-way delay: 106.382 ms  
Loss rate: 1.77%  
-- Flow 1:  
Average throughput: 92.60 Mbit/s  
95th percentile per-packet one-way delay: 106.382 ms  
Loss rate: 1.77%

Run 4: Report of FillP — Data Link

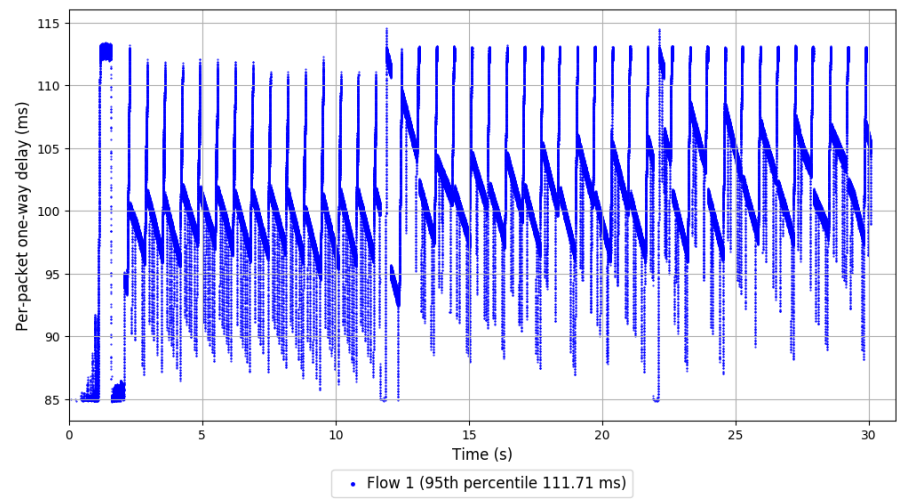
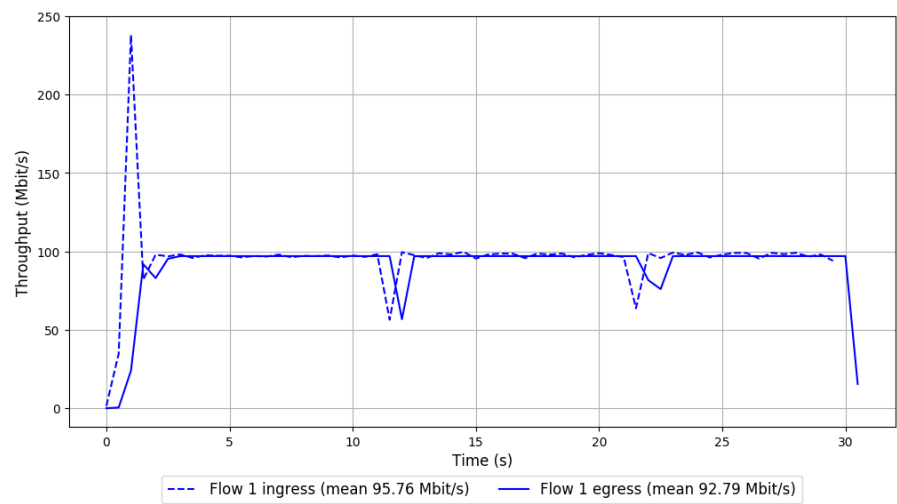


Run 5: Statistics of FillP

Start at: 2018-10-02 08:56:21  
End at: 2018-10-02 08:56:51  
Local clock offset: -6.627 ms  
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2018-10-02 09:00:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 92.79 Mbit/s  
95th percentile per-packet one-way delay: 111.712 ms  
Loss rate: 3.03%  
-- Flow 1:  
Average throughput: 92.79 Mbit/s  
95th percentile per-packet one-way delay: 111.712 ms  
Loss rate: 3.03%

Run 5: Report of FillP — Data Link



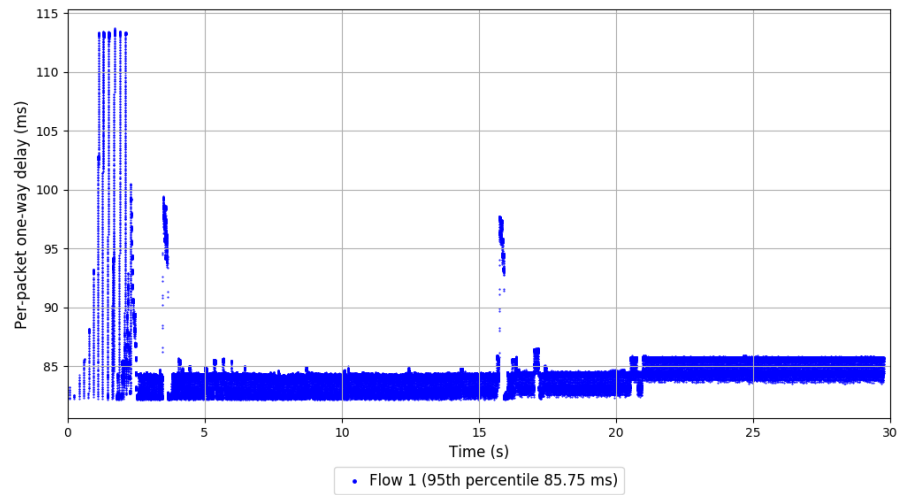
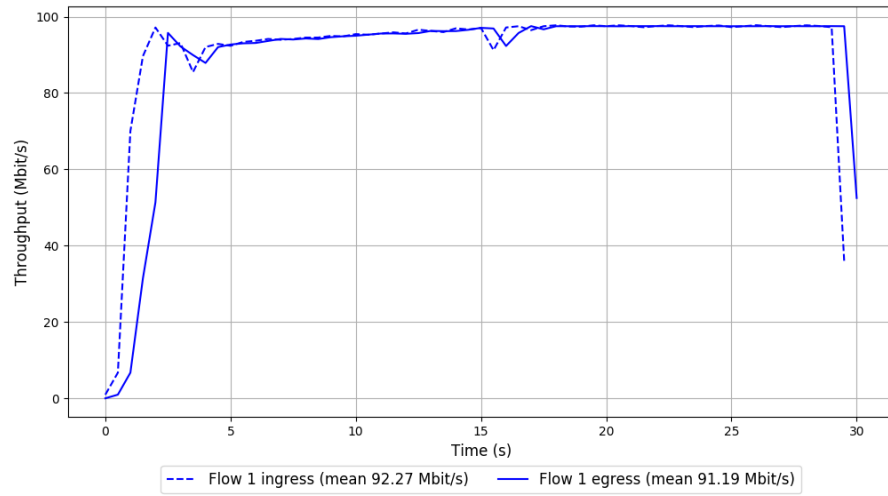


```
Run 1: Statistics of Indigo

Start at: 2018-10-02 07:15:32
End at: 2018-10-02 07:16:02
Local clock offset: -0.318 ms
Remote clock offset: -1.704 ms

# Below is generated by plot.py at 2018-10-02 09:00:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.19 Mbit/s
95th percentile per-packet one-way delay: 85.750 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 91.19 Mbit/s
95th percentile per-packet one-way delay: 85.750 ms
Loss rate: 1.16%
```

## Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-10-02 07:36:37

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

Local clock offset: 1.091 ms

Remote clock offset: 2.172 ms

# Below is generated by plot.py at 2018-10-02 09:00:28

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.06 Mbit/s

95th percentile per-packet one-way delay: 89.157 ms

Loss rate: 0.97%

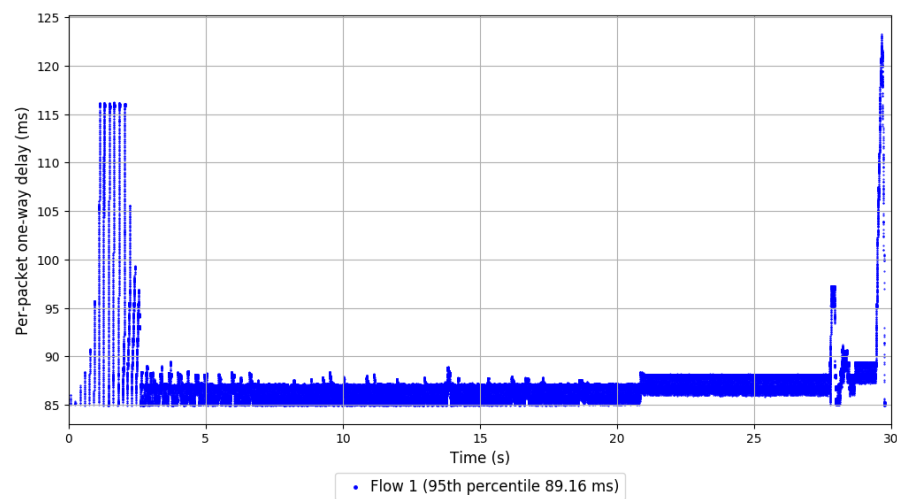
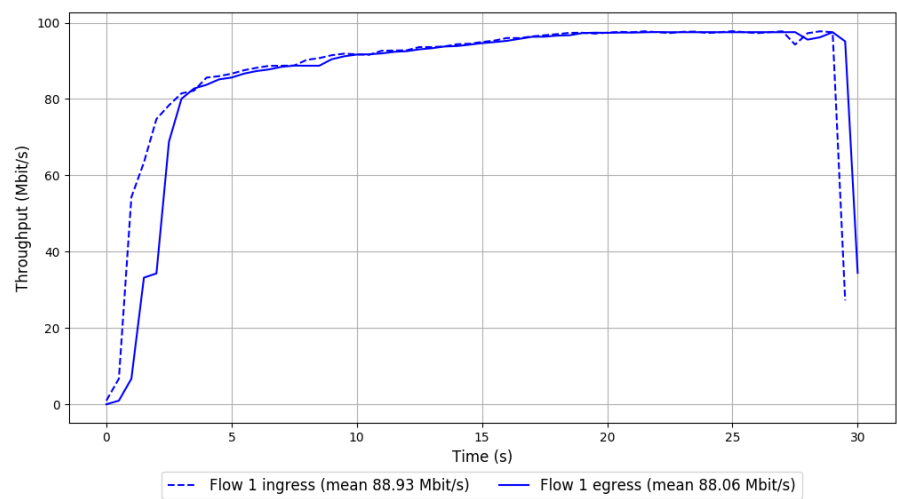
-- Flow 1:

Average throughput: 88.06 Mbit/s

95th percentile per-packet one-way delay: 89.157 ms

Loss rate: 0.97%

Run 2: Report of Indigo — Data Link

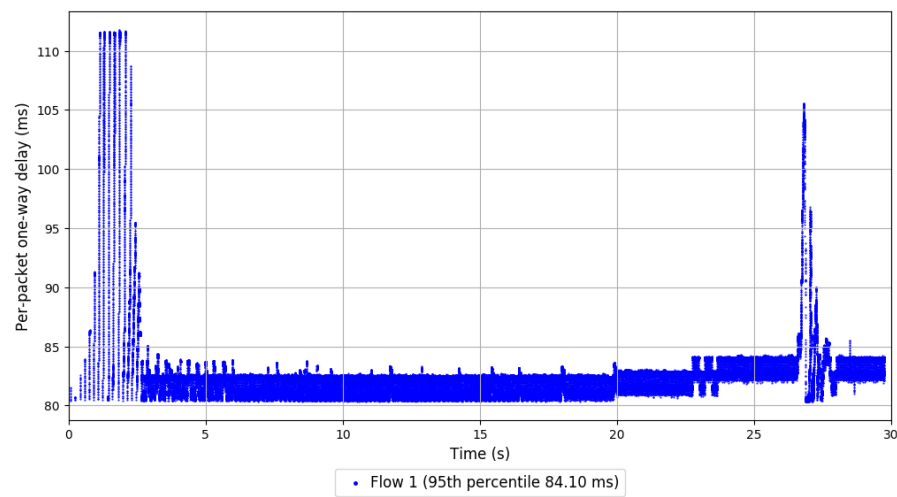
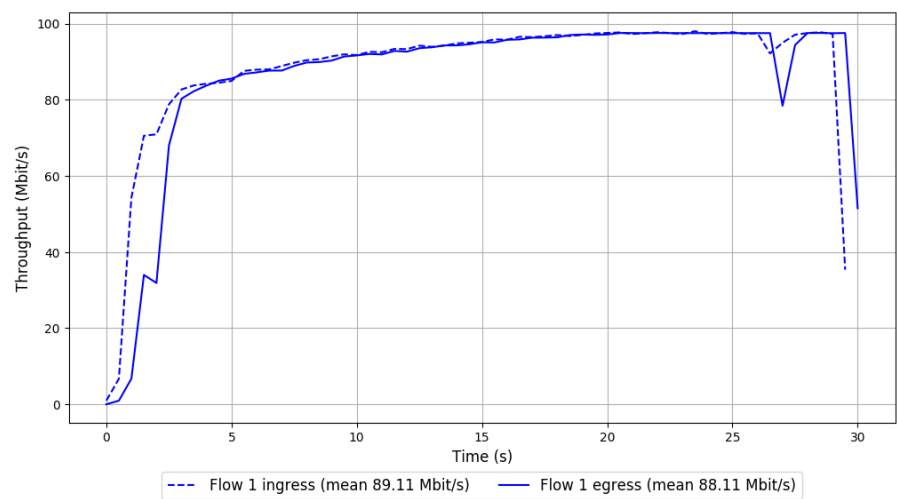


Run 3: Statistics of Indigo

Start at: 2018-10-02 07:57:40  
End at: 2018-10-02 07:58:10  
Local clock offset: -1.362 ms  
Remote clock offset: -2.231 ms

# Below is generated by plot.py at 2018-10-02 09:00:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 88.11 Mbit/s  
95th percentile per-packet one-way delay: 84.102 ms  
Loss rate: 1.11%  
-- Flow 1:  
Average throughput: 88.11 Mbit/s  
95th percentile per-packet one-way delay: 84.102 ms  
Loss rate: 1.11%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-02 08:18:39

End at: 2018-10-02 08:19:10

Local clock offset: -3.501 ms

Remote clock offset: -3.52 ms

# Below is generated by plot.py at 2018-10-02 09:01:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 92.48 Mbit/s

95th percentile per-packet one-way delay: 85.367 ms

Loss rate: 1.06%

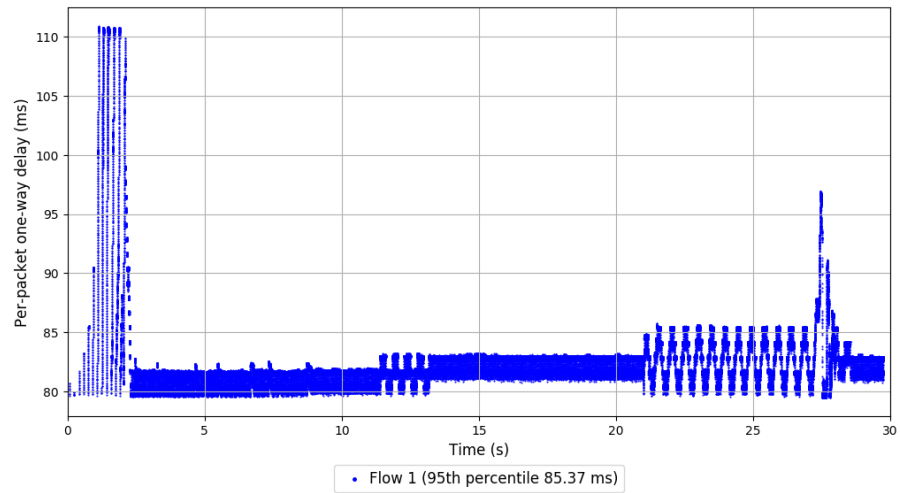
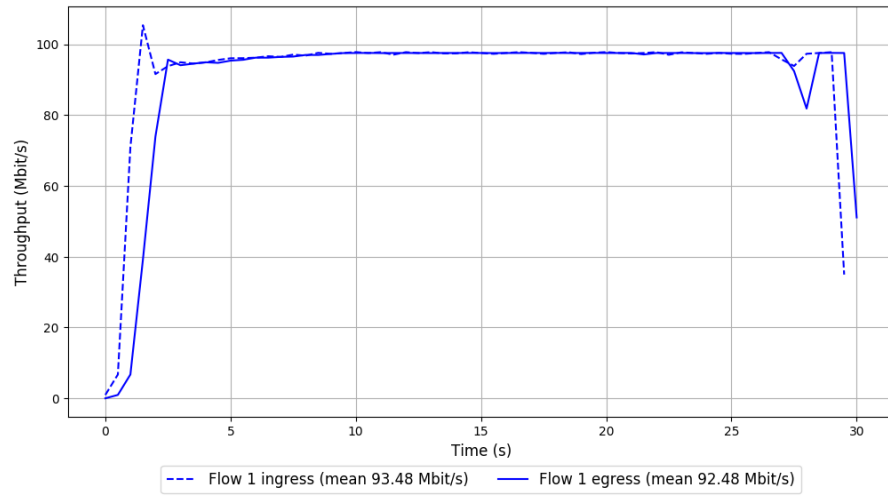
-- Flow 1:

Average throughput: 92.48 Mbit/s

95th percentile per-packet one-way delay: 85.367 ms

Loss rate: 1.06%

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



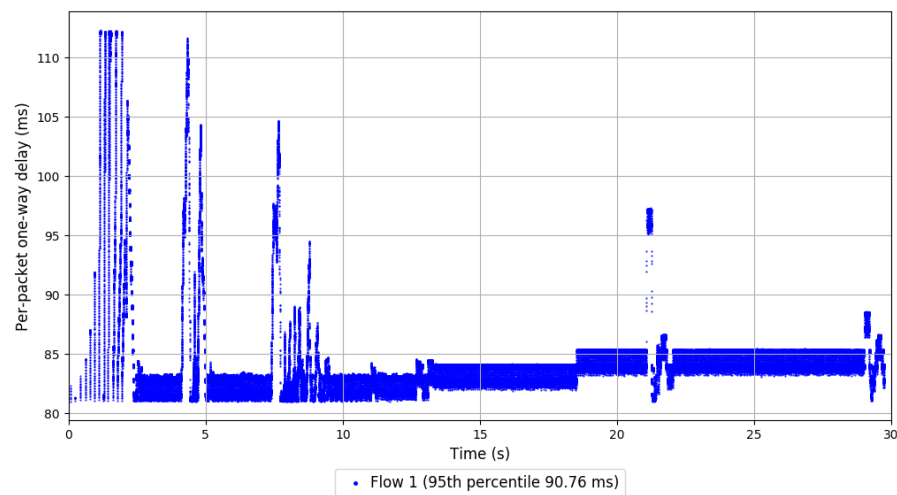
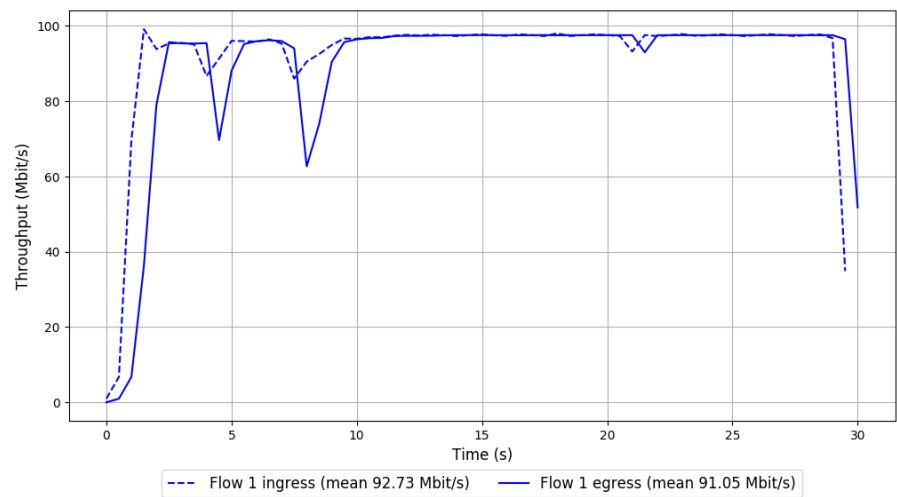


Run 5: Statistics of Indigo

Start at: 2018-10-02 08:40:03  
End at: 2018-10-02 08:40:33  
Local clock offset: -6.517 ms  
Remote clock offset: -3.898 ms

# Below is generated by plot.py at 2018-10-02 09:01:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.05 Mbit/s  
95th percentile per-packet one-way delay: 90.760 ms  
Loss rate: 1.80%  
-- Flow 1:  
Average throughput: 91.05 Mbit/s  
95th percentile per-packet one-way delay: 90.760 ms  
Loss rate: 1.80%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-02 07:17:56

End at: 2018-10-02 07:18:26

Local clock offset: -0.148 ms

Remote clock offset: -2.8 ms

# Below is generated by plot.py at 2018-10-02 09:01:24

# Datalink statistics

-- Total of 1 flow:

Average throughput: 49.56 Mbit/s

95th percentile per-packet one-way delay: 114.392 ms

Loss rate: 47.35%

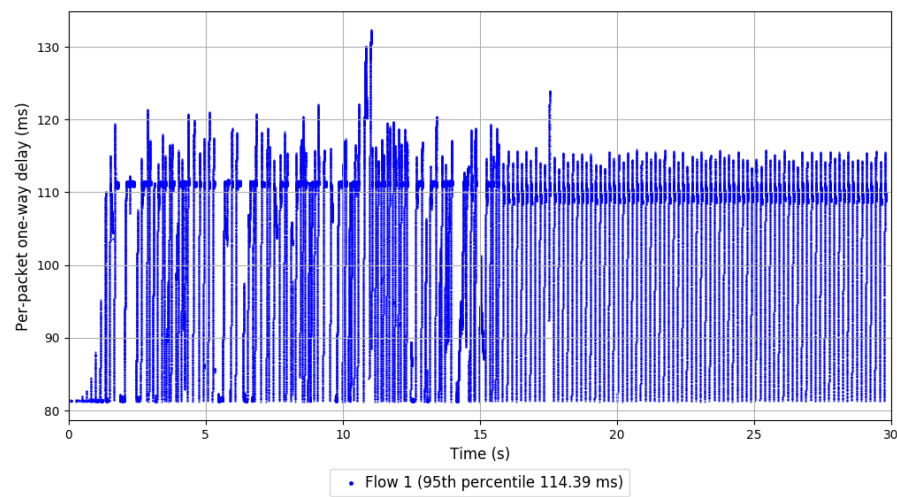
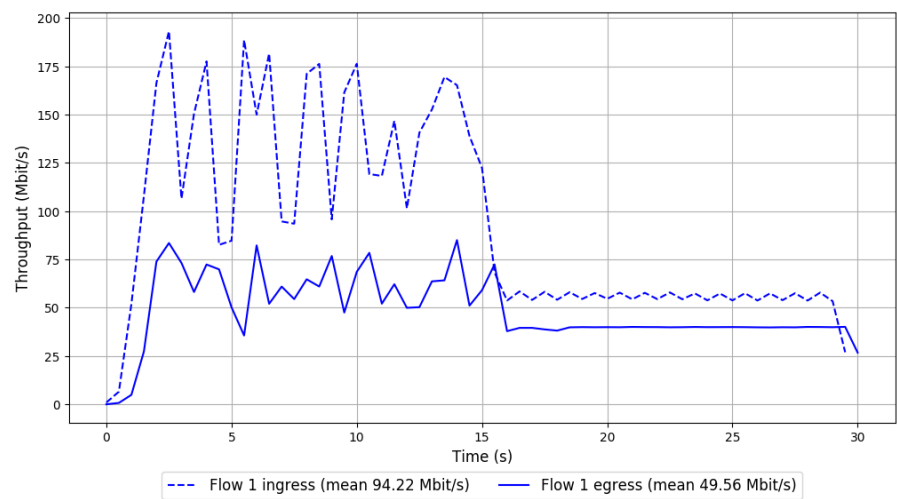
-- Flow 1:

Average throughput: 49.56 Mbit/s

95th percentile per-packet one-way delay: 114.392 ms

Loss rate: 47.35%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-02 07:39:03

End at: 2018-10-02 07:39:33

Local clock offset: 1.242 ms

Remote clock offset: 3.016 ms

# Below is generated by plot.py at 2018-10-02 09:01:27

# Datalink statistics

-- Total of 1 flow:

Average throughput: 73.78 Mbit/s

95th percentile per-packet one-way delay: 118.976 ms

Loss rate: 43.65%

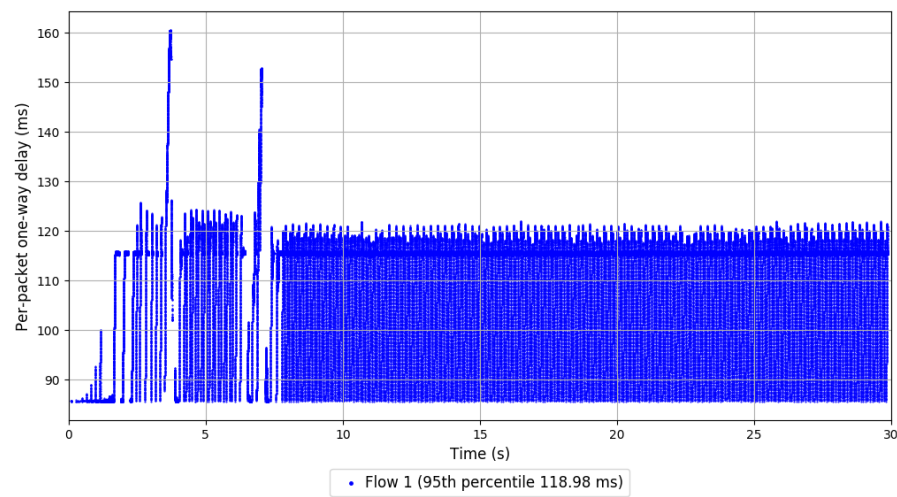
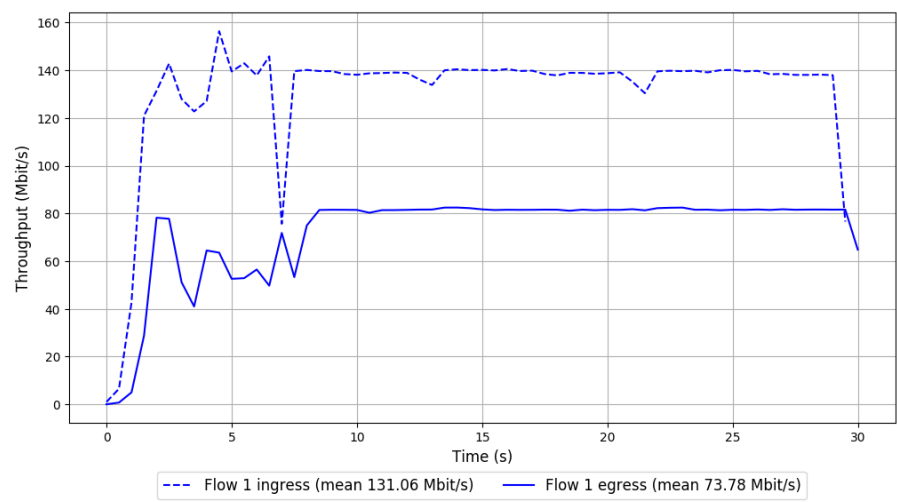
-- Flow 1:

Average throughput: 73.78 Mbit/s

95th percentile per-packet one-way delay: 118.976 ms

Loss rate: 43.65%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:00:05

End at: 2018-10-02 08:00:35

Local clock offset: -1.642 ms

Remote clock offset: 1.629 ms

# Below is generated by plot.py at 2018-10-02 09:01:27

# Datalink statistics

-- Total of 1 flow:

Average throughput: 65.24 Mbit/s

95th percentile per-packet one-way delay: 118.333 ms

Loss rate: 51.48%

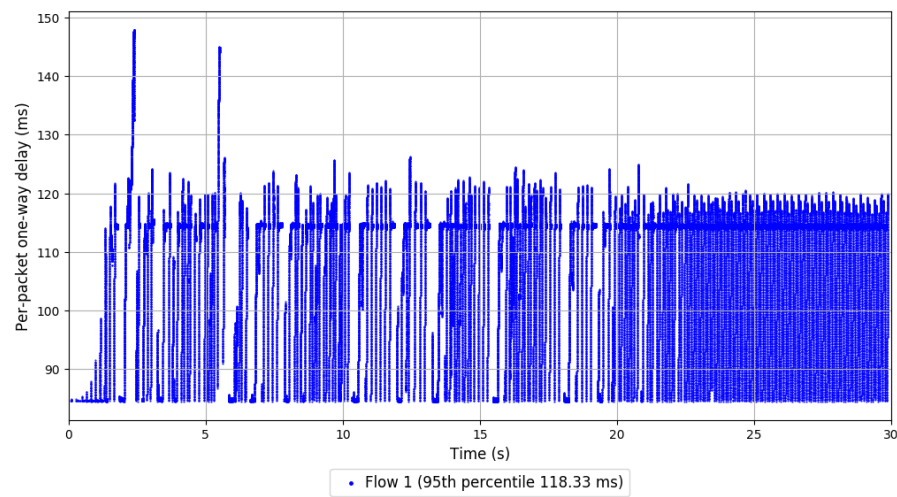
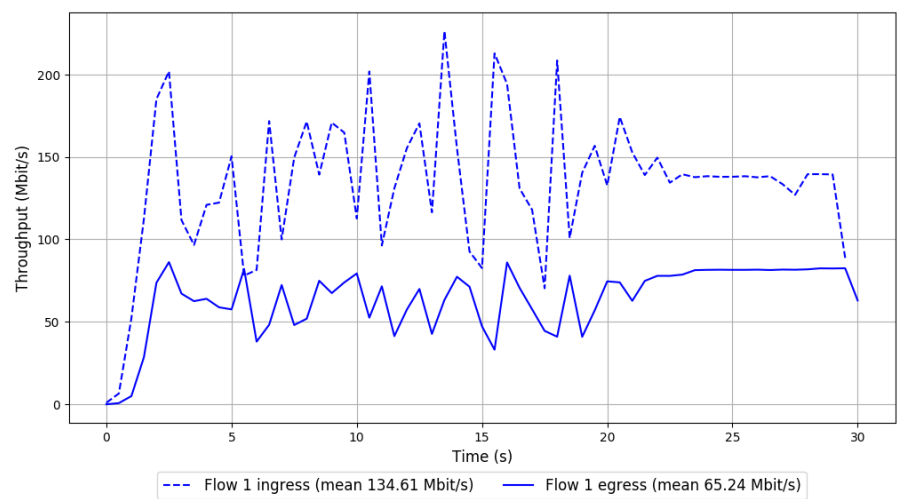
-- Flow 1:

Average throughput: 65.24 Mbit/s

95th percentile per-packet one-way delay: 118.333 ms

Loss rate: 51.48%

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



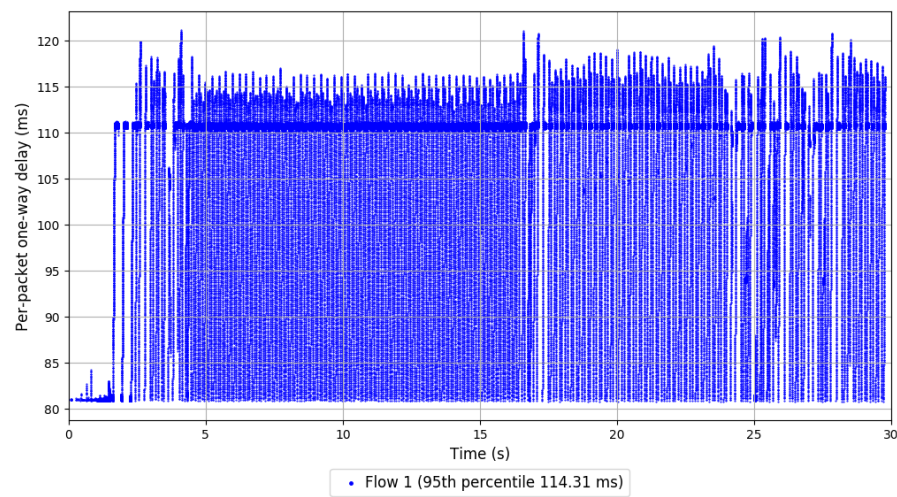
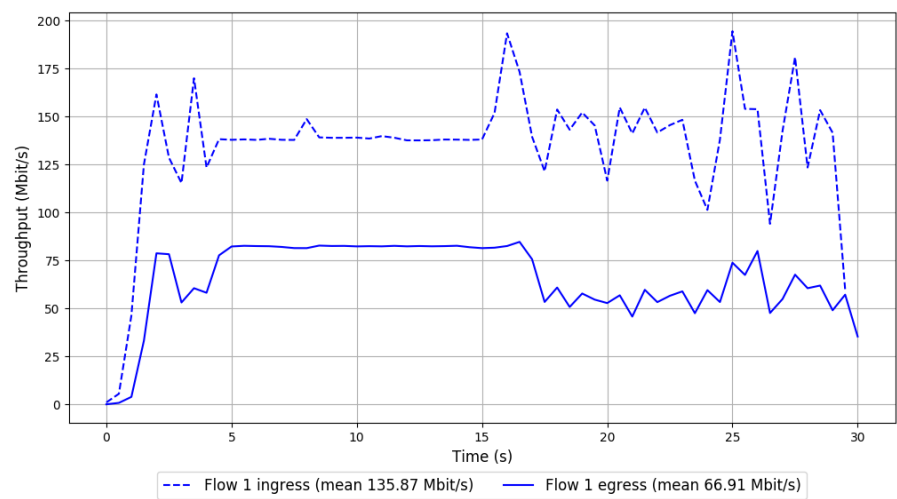


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:21:13  
End at: 2018-10-02 08:21:43  
Local clock offset: -4.139 ms  
Remote clock offset: -2.507 ms

# Below is generated by plot.py at 2018-10-02 09:01:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.91 Mbit/s  
95th percentile per-packet one-way delay: 114.313 ms  
Loss rate: 50.71%  
-- Flow 1:  
Average throughput: 66.91 Mbit/s  
95th percentile per-packet one-way delay: 114.313 ms  
Loss rate: 50.71%

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

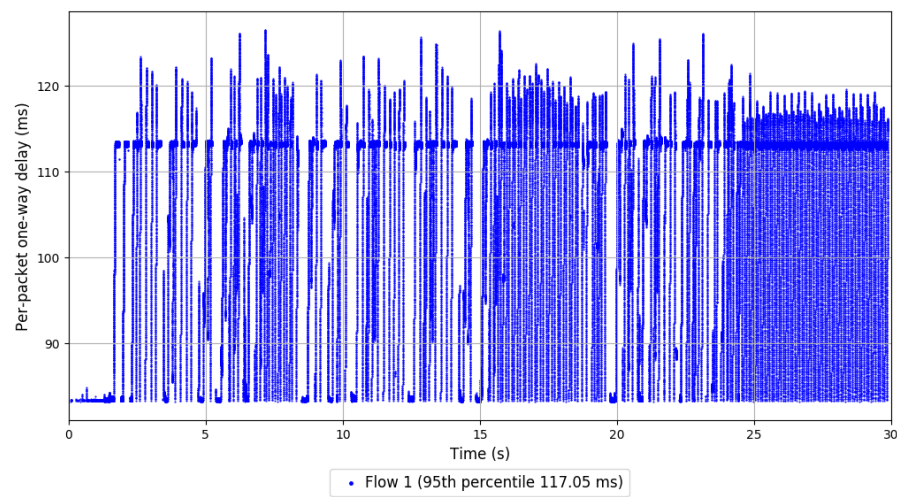
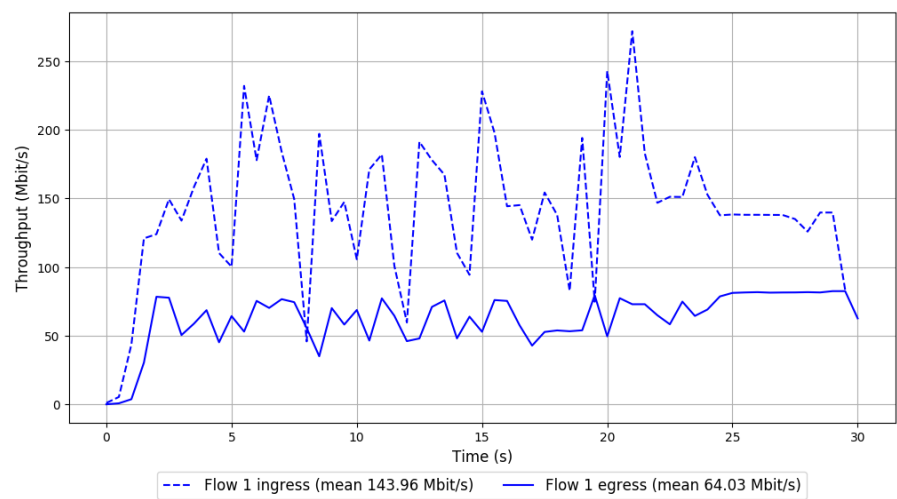


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-02 08:42:26  
End at: 2018-10-02 08:42:56  
Local clock offset: -6.651 ms  
Remote clock offset: -0.069 ms

# Below is generated by plot.py at 2018-10-02 09:01:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.03 Mbit/s  
95th percentile per-packet one-way delay: 117.054 ms  
Loss rate: 55.47%  
-- Flow 1:  
Average throughput: 64.03 Mbit/s  
95th percentile per-packet one-way delay: 117.054 ms  
Loss rate: 55.47%

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

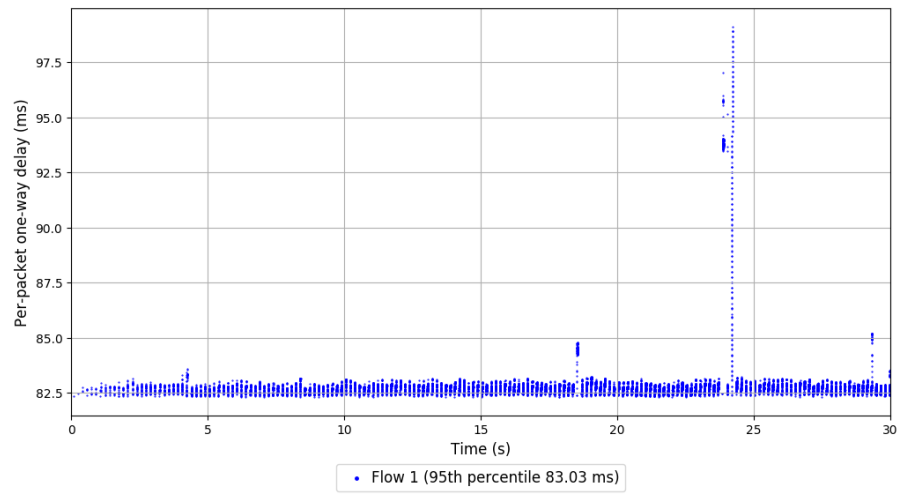
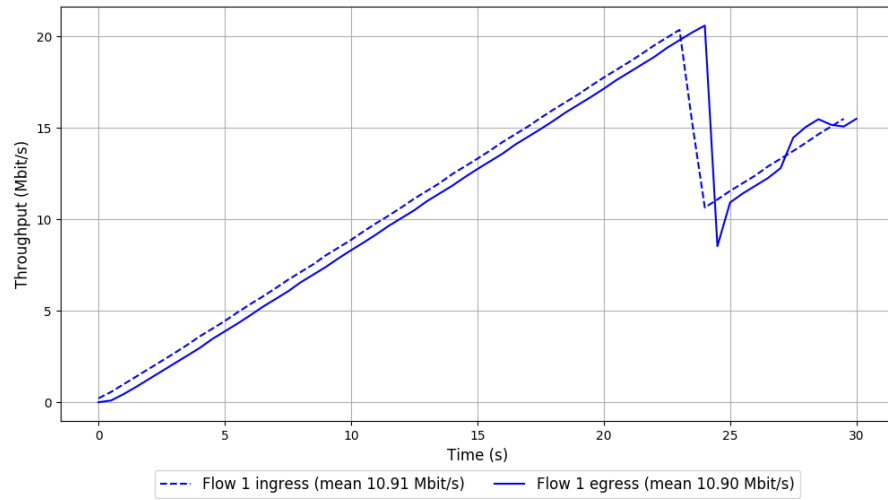


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 07:14:23
End at: 2018-10-02 07:14:53
Local clock offset: -0.463 ms
Remote clock offset: -1.83 ms

# Below is generated by plot.py at 2018-10-02 09:01:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 83.029 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 83.029 ms
Loss rate: 0.01%
```

# Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-02 07:35:29

End at: 2018-10-02 07:35:59

Local clock offset: 1.026 ms

Remote clock offset: 2.094 ms

# Below is generated by plot.py at 2018-10-02 09:01:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 13.65 Mbit/s

95th percentile per-packet one-way delay: 85.019 ms

Loss rate: 0.00%

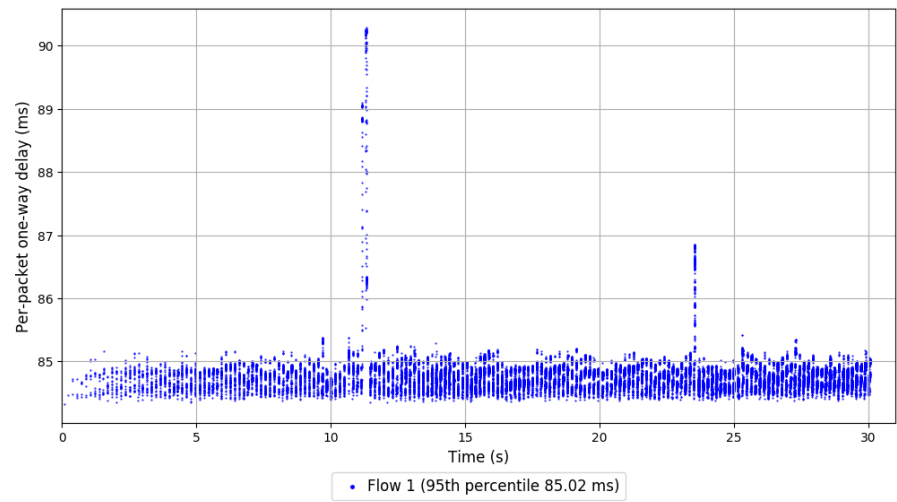
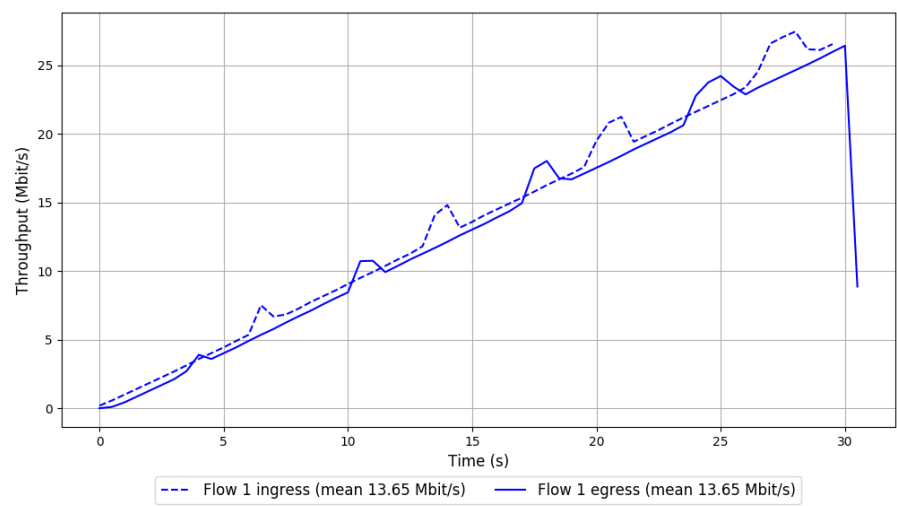
-- Flow 1:

Average throughput: 13.65 Mbit/s

95th percentile per-packet one-way delay: 85.019 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



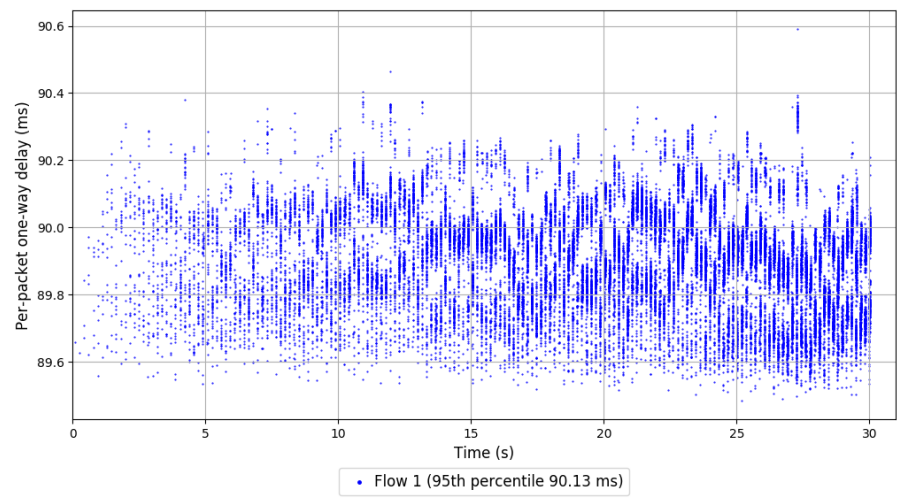
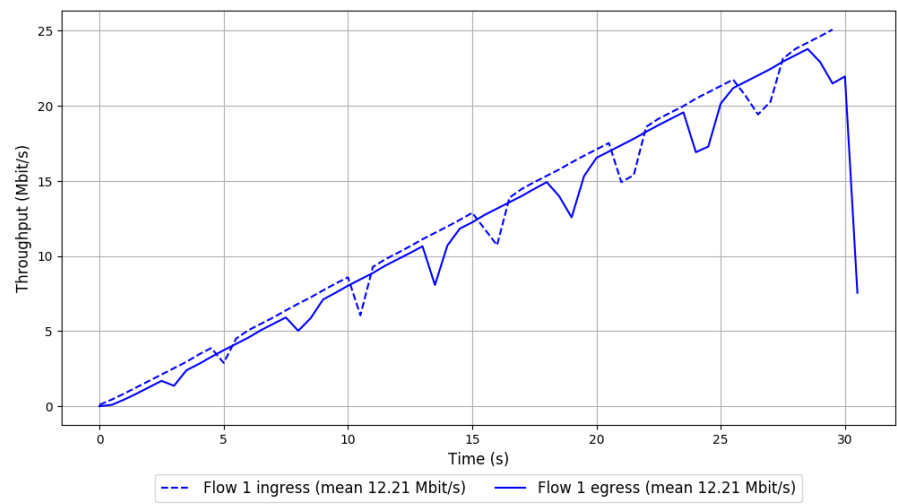


Run 3: Statistics of LEDBAT

Start at: 2018-10-02 07:56:32  
End at: 2018-10-02 07:57:02  
Local clock offset: -1.202 ms  
Remote clock offset: -3.343 ms

# Below is generated by plot.py at 2018-10-02 09:01:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.21 Mbit/s  
95th percentile per-packet one-way delay: 90.133 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 12.21 Mbit/s  
95th percentile per-packet one-way delay: 90.133 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

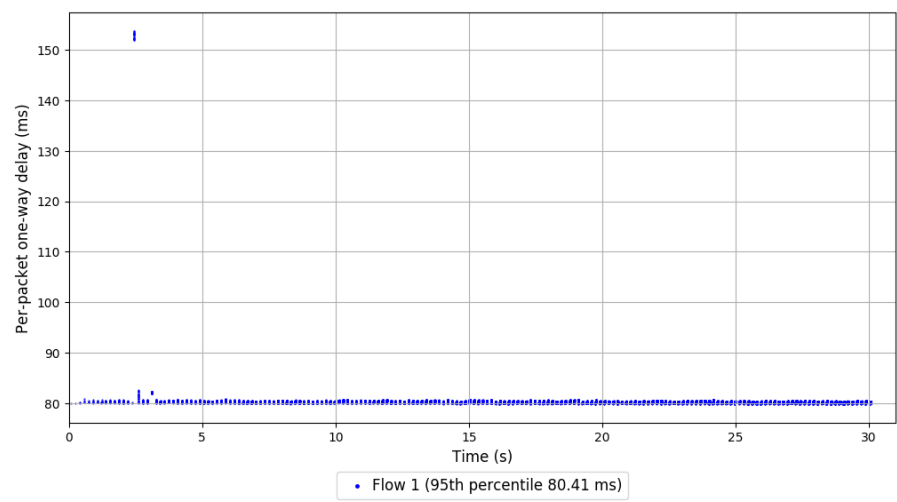
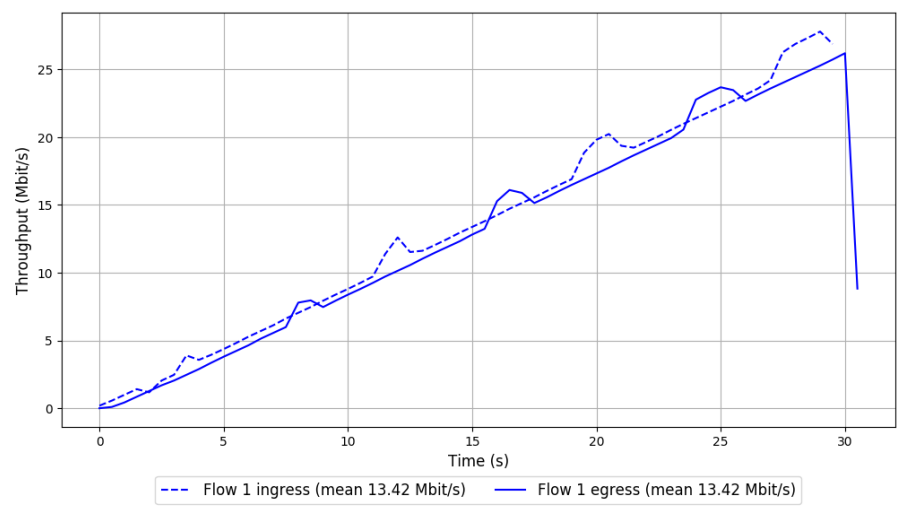


Run 4: Statistics of LEDBAT

Start at: 2018-10-02 08:17:31  
End at: 2018-10-02 08:18:01  
Local clock offset: -3.066 ms  
Remote clock offset: -3.399 ms

# Below is generated by plot.py at 2018-10-02 09:01:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 13.42 Mbit/s  
95th percentile per-packet one-way delay: 80.411 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 13.42 Mbit/s  
95th percentile per-packet one-way delay: 80.411 ms  
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

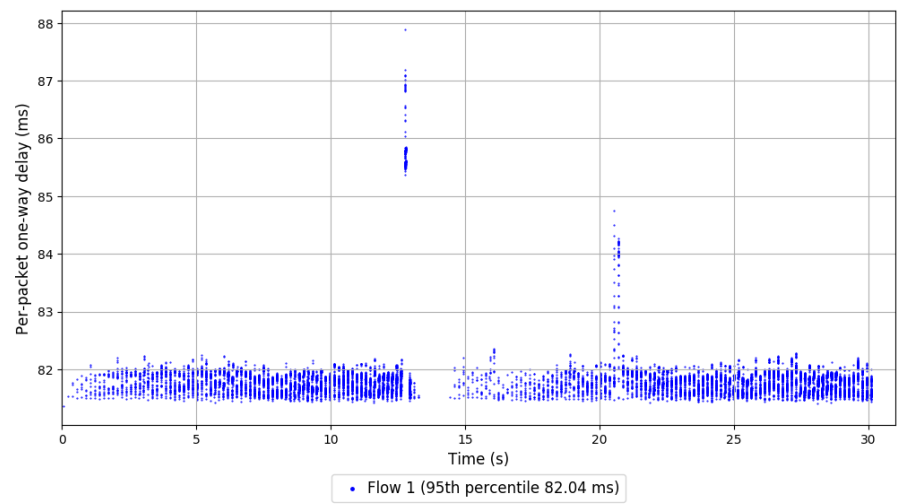
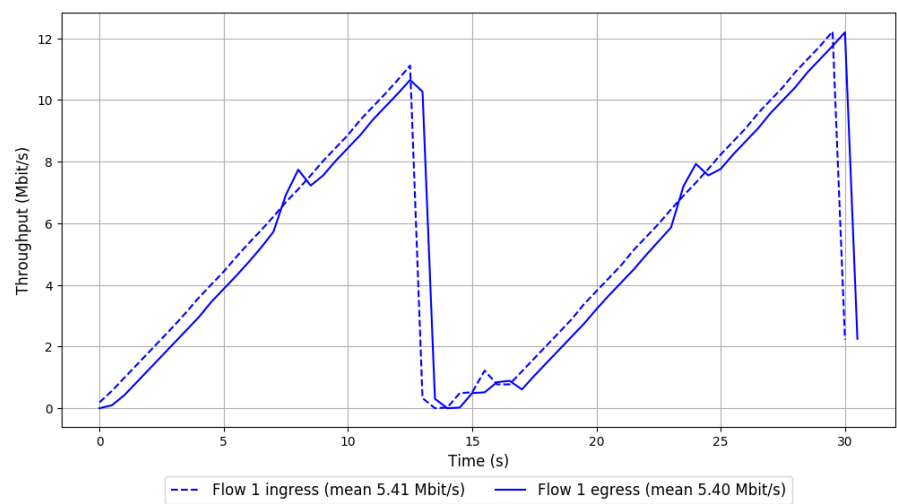


Run 5: Statistics of LEDBAT

Start at: 2018-10-02 08:38:54  
End at: 2018-10-02 08:39:24  
Local clock offset: -6.367 ms  
Remote clock offset: -4.015 ms

# Below is generated by plot.py at 2018-10-02 09:01:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 5.40 Mbit/s  
95th percentile per-packet one-way delay: 82.041 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 5.40 Mbit/s  
95th percentile per-packet one-way delay: 82.041 ms  
Loss rate: 0.30%

Run 5: Report of LEDBAT — Data Link

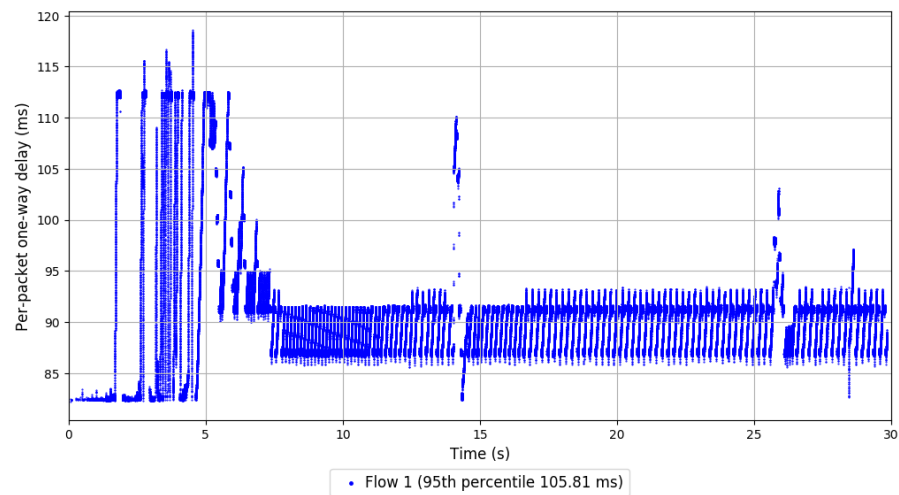
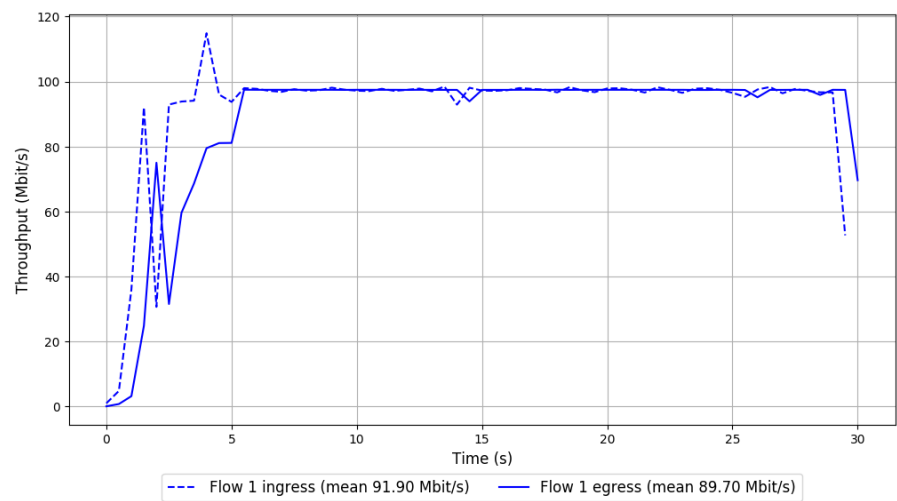


Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 07:13:11  
End at: 2018-10-02 07:13:41  
Local clock offset: -0.493 ms  
Remote clock offset: -1.788 ms

# Below is generated by plot.py at 2018-10-02 09:02:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 89.70 Mbit/s  
95th percentile per-packet one-way delay: 105.810 ms  
Loss rate: 2.38%  
-- Flow 1:  
Average throughput: 89.70 Mbit/s  
95th percentile per-packet one-way delay: 105.810 ms  
Loss rate: 2.38%

Run 1: Report of Indigo-Muses — Data Link



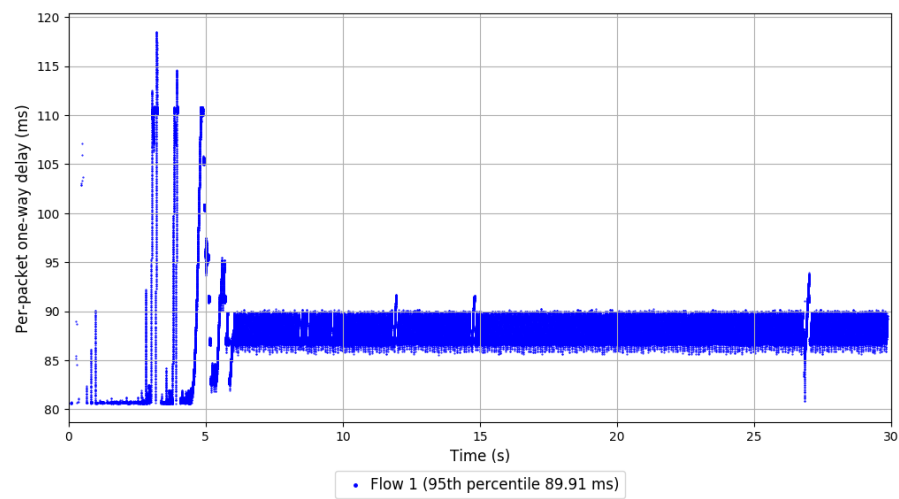
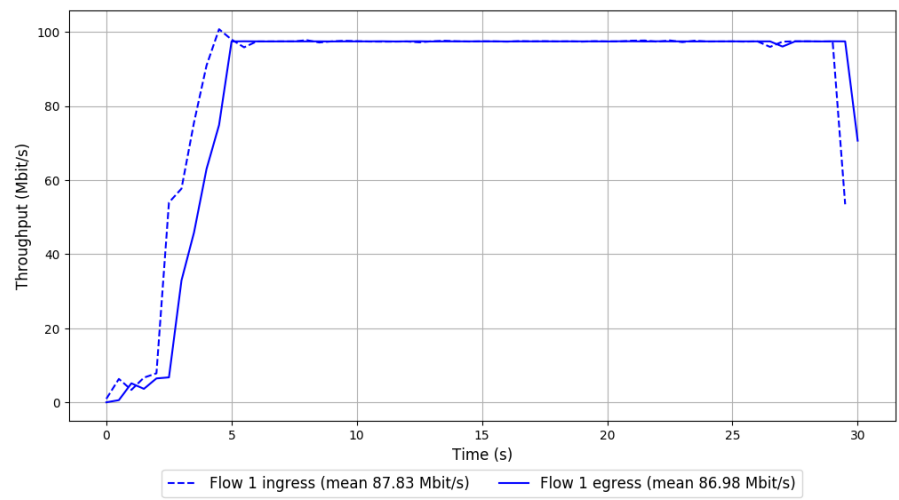


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 07:34:15  
End at: 2018-10-02 07:34:45  
Local clock offset: 0.884 ms  
Remote clock offset: -1.857 ms

# Below is generated by plot.py at 2018-10-02 09:02:20  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 86.98 Mbit/s  
95th percentile per-packet one-way delay: 89.912 ms  
Loss rate: 0.94%  
-- Flow 1:  
Average throughput: 86.98 Mbit/s  
95th percentile per-packet one-way delay: 89.912 ms  
Loss rate: 0.94%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 07:55:20

End at: 2018-10-02 07:55:50

Local clock offset: -1.023 ms

Remote clock offset: 2.819 ms

# Below is generated by plot.py at 2018-10-02 09:02:21

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.02 Mbit/s

95th percentile per-packet one-way delay: 108.456 ms

Loss rate: 1.34%

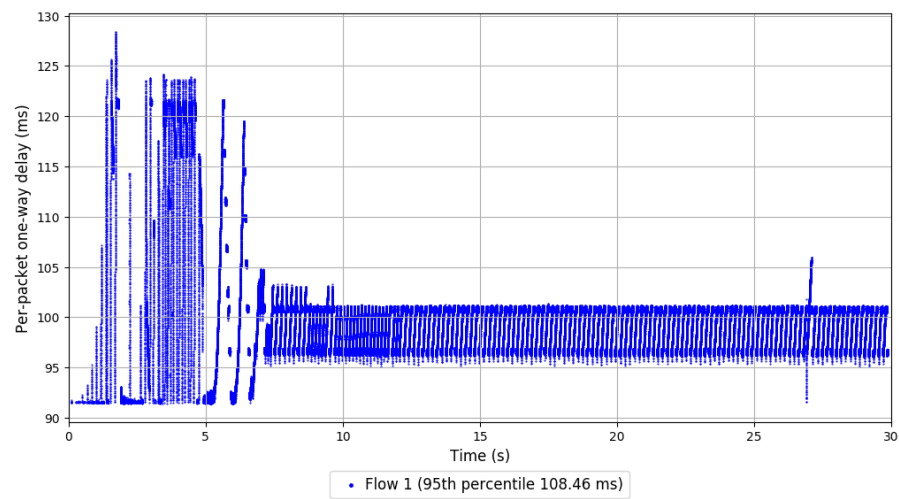
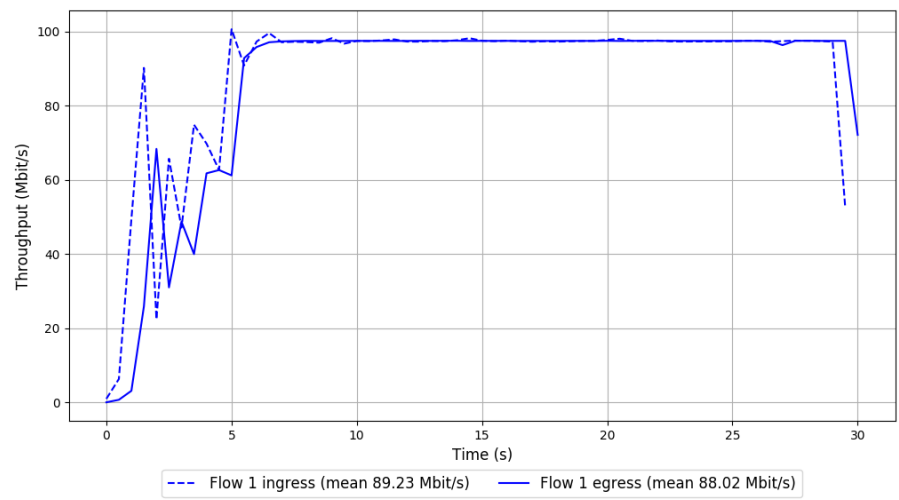
-- Flow 1:

Average throughput: 88.02 Mbit/s

95th percentile per-packet one-way delay: 108.456 ms

Loss rate: 1.34%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 08:16:19

End at: 2018-10-02 08:16:49

Local clock offset: -2.593 ms

Remote clock offset: 2.676 ms

# Below is generated by plot.py at 2018-10-02 09:02:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 89.61 Mbit/s

95th percentile per-packet one-way delay: 95.020 ms

Loss rate: 1.97%

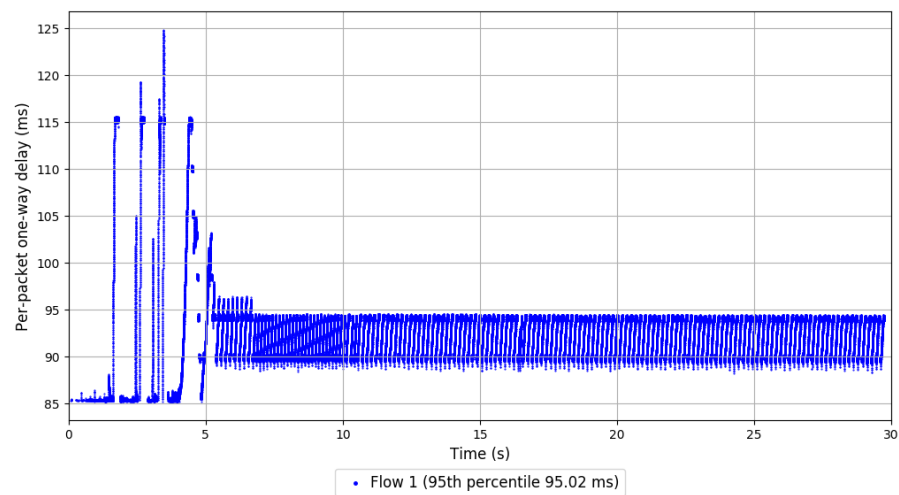
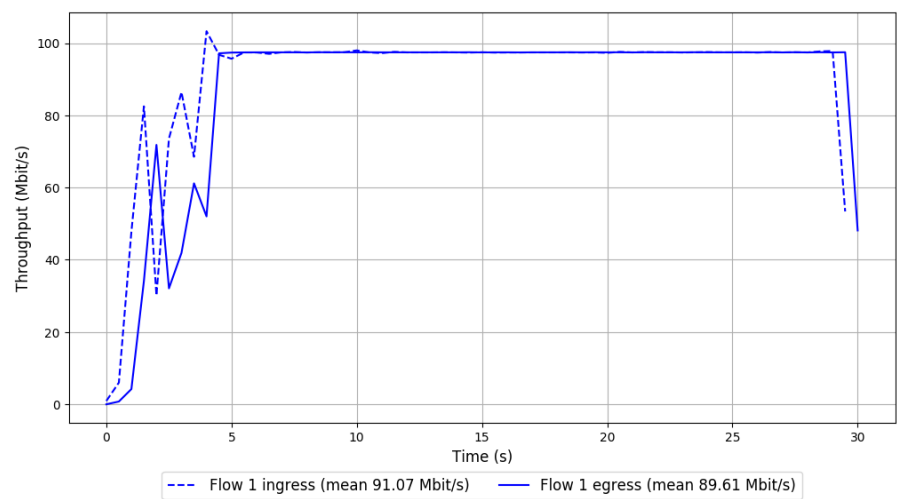
-- Flow 1:

Average throughput: 89.61 Mbit/s

95th percentile per-packet one-way delay: 95.020 ms

Loss rate: 1.97%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 08:37:42

End at: 2018-10-02 08:38:12

Local clock offset: -6.263 ms

Remote clock offset: 1.151 ms

# Below is generated by plot.py at 2018-10-02 09:02:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 88.88 Mbit/s

95th percentile per-packet one-way delay: 107.972 ms

Loss rate: 3.40%

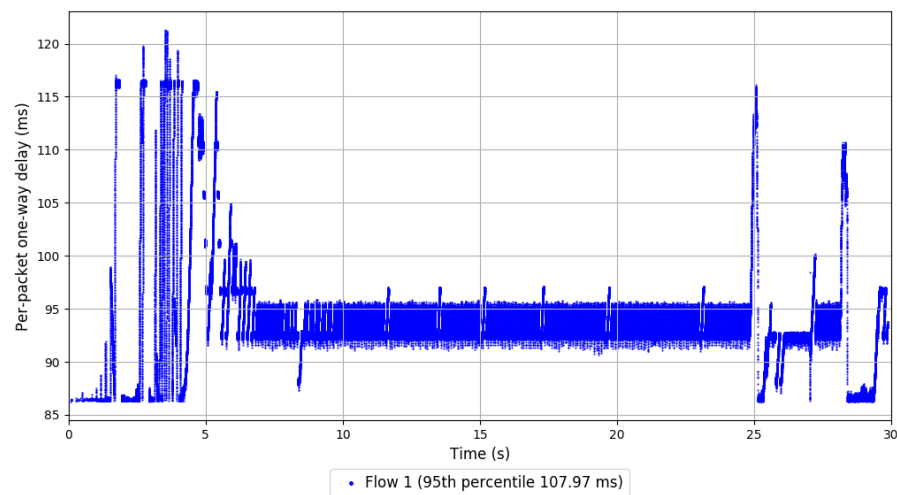
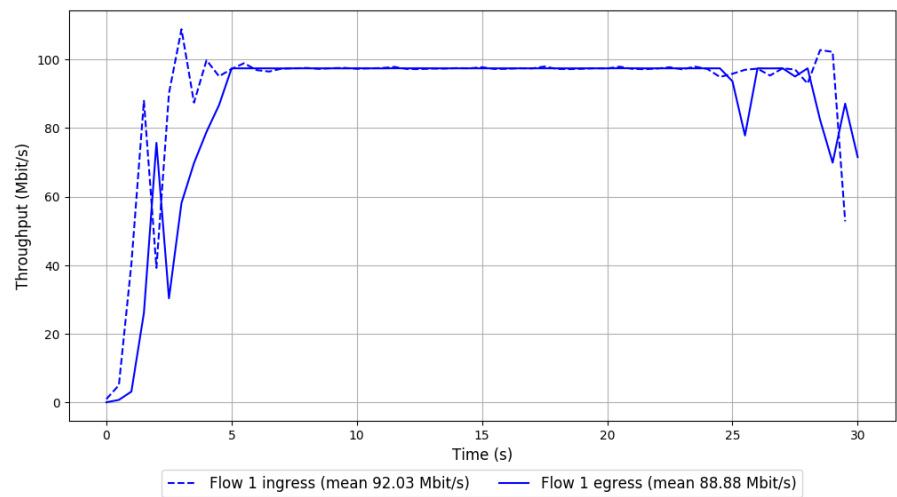
-- Flow 1:

Average throughput: 88.88 Mbit/s

95th percentile per-packet one-way delay: 107.972 ms

Loss rate: 3.40%

Run 5: Report of Indigo-Muses — Data Link



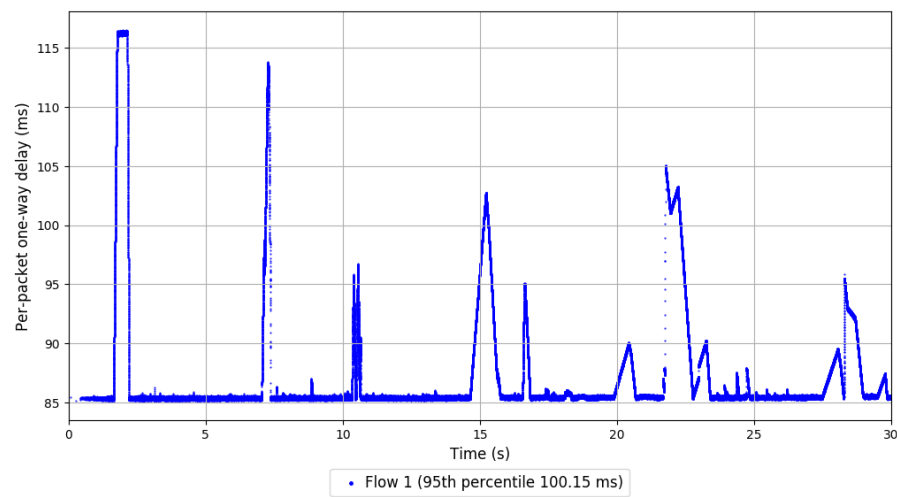
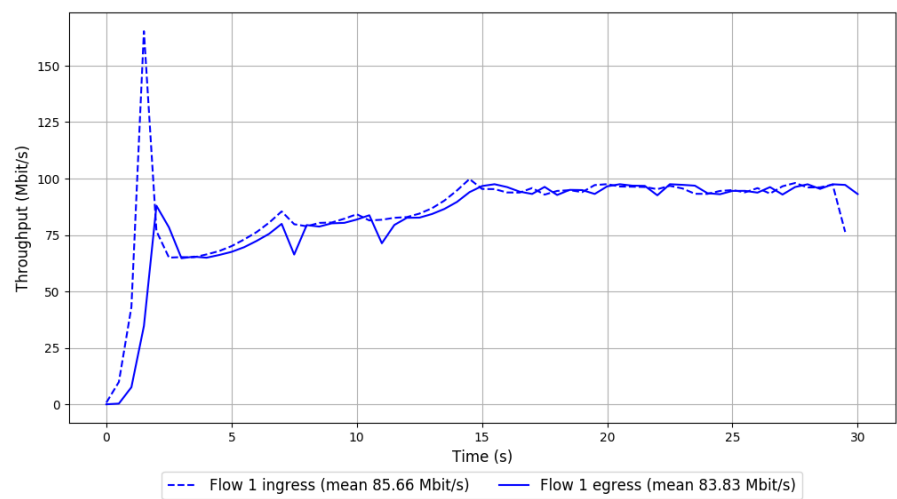


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 07:12:00
End at: 2018-10-02 07:12:30
Local clock offset: -0.578 ms
Remote clock offset: 1.132 ms

# Below is generated by plot.py at 2018-10-02 09:02:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.83 Mbit/s
95th percentile per-packet one-way delay: 100.153 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 83.83 Mbit/s
95th percentile per-packet one-way delay: 100.153 ms
Loss rate: 2.13%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 07:33:02

End at: 2018-10-02 07:33:32

Local clock offset: 0.852 ms

Remote clock offset: 2.102 ms

# Below is generated by plot.py at 2018-10-02 09:02:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 81.25 Mbit/s

95th percentile per-packet one-way delay: 104.193 ms

Loss rate: 2.29%

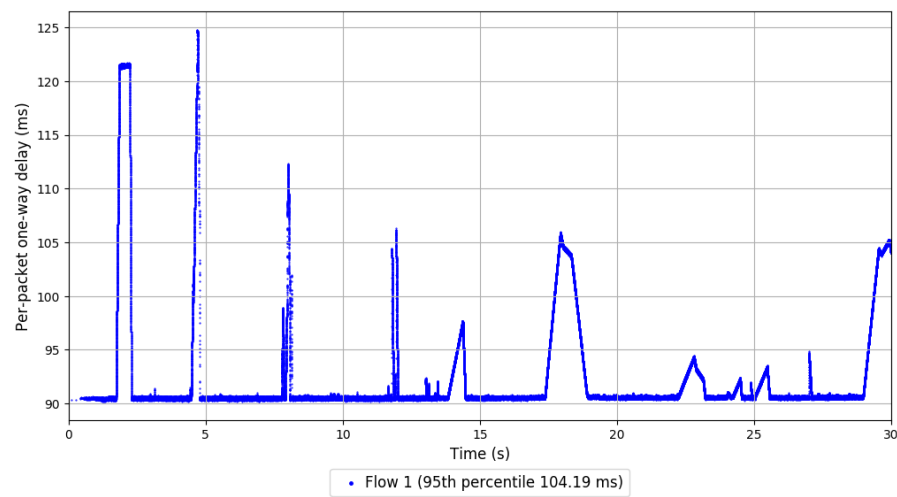
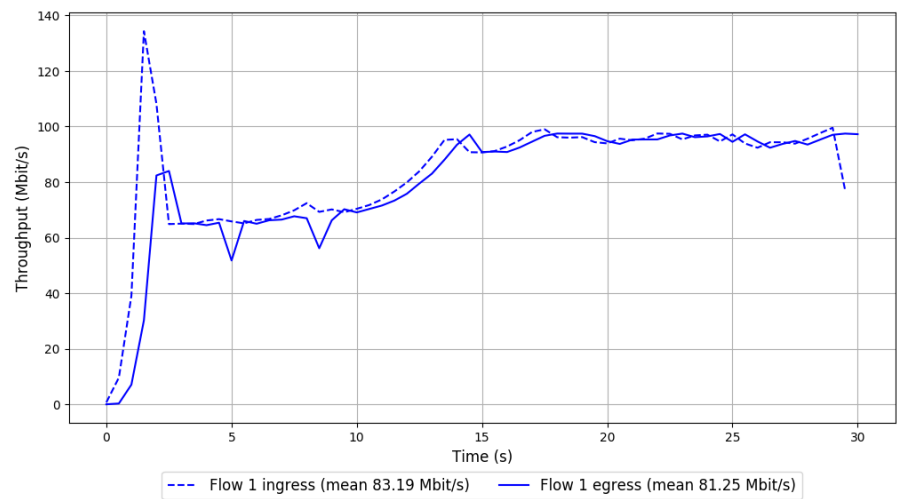
-- Flow 1:

Average throughput: 81.25 Mbit/s

95th percentile per-packet one-way delay: 104.193 ms

Loss rate: 2.29%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 07:54:09

End at: 2018-10-02 07:54:39

Local clock offset: -0.827 ms

Remote clock offset: 0.485 ms

# Below is generated by plot.py at 2018-10-02 09:02:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 68.45 Mbit/s

95th percentile per-packet one-way delay: 96.487 ms

Loss rate: 0.51%

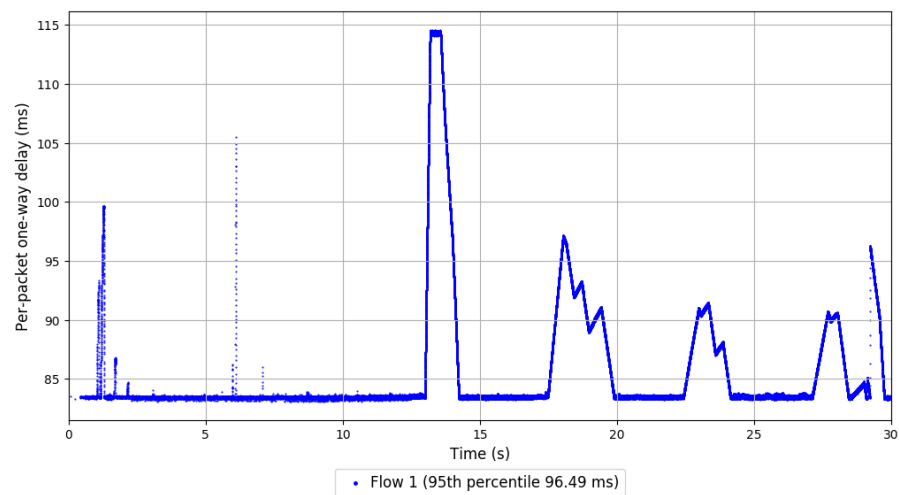
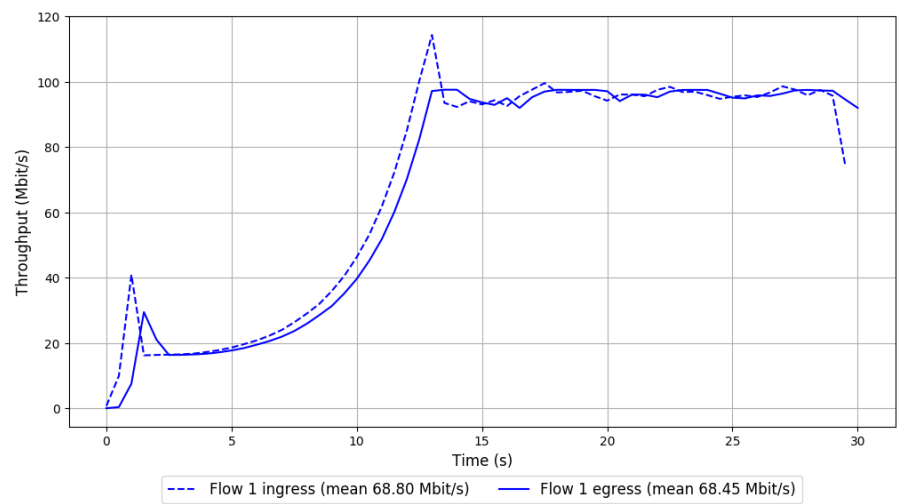
-- Flow 1:

Average throughput: 68.45 Mbit/s

95th percentile per-packet one-way delay: 96.487 ms

Loss rate: 0.51%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 08:15:08

End at: 2018-10-02 08:15:38

Local clock offset: -2.426 ms

Remote clock offset: 1.678 ms

# Below is generated by plot.py at 2018-10-02 09:03:29

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.21 Mbit/s

95th percentile per-packet one-way delay: 96.961 ms

Loss rate: 2.15%

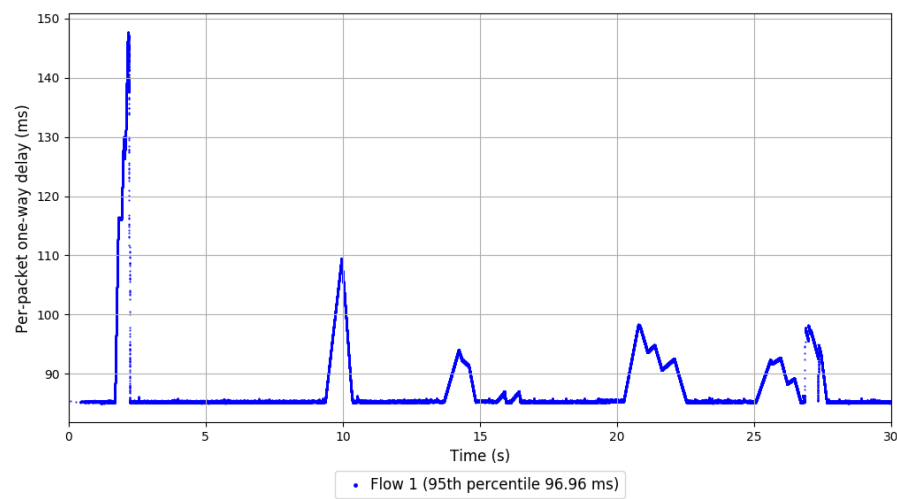
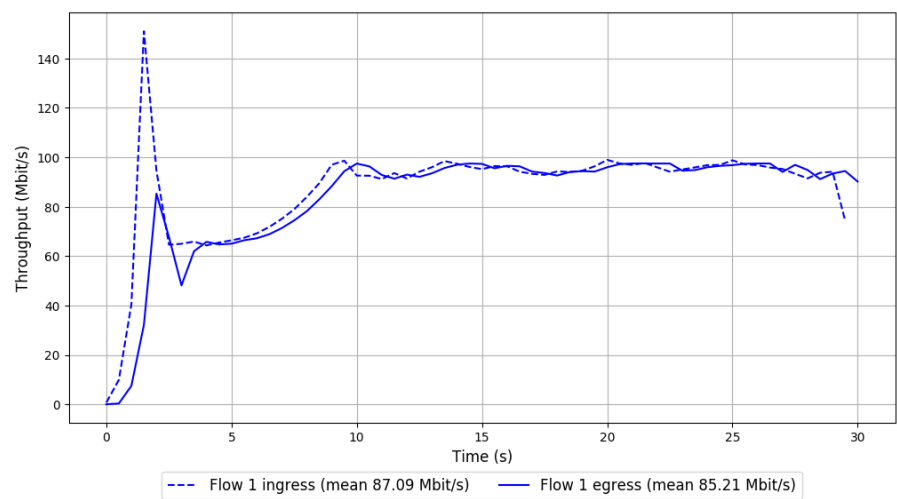
-- Flow 1:

Average throughput: 85.21 Mbit/s

95th percentile per-packet one-way delay: 96.961 ms

Loss rate: 2.15%

Run 4: Report of PCC-Allegro — Data Link





Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 08:36:31

End at: 2018-10-02 08:37:01

Local clock offset: -6.24 ms

Remote clock offset: 1.086 ms

# Below is generated by plot.py at 2018-10-02 09:03:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 86.85 Mbit/s

95th percentile per-packet one-way delay: 111.687 ms

Loss rate: 1.47%

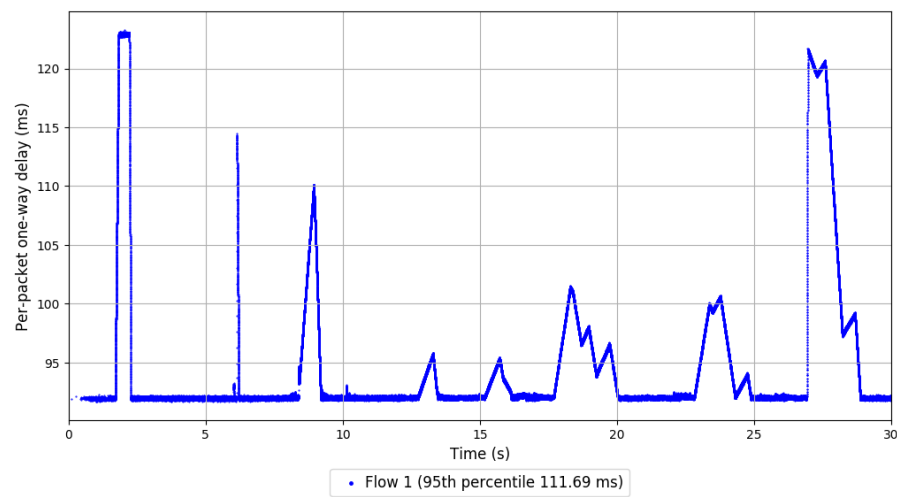
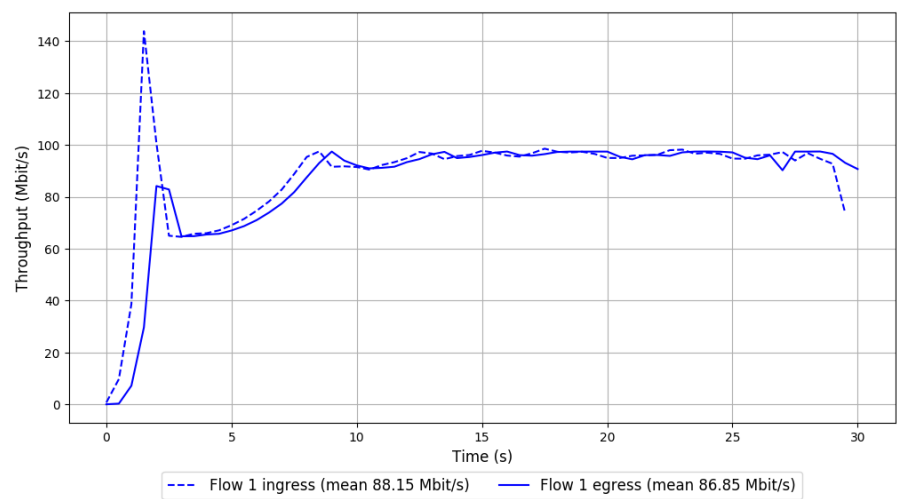
-- Flow 1:

Average throughput: 86.85 Mbit/s

95th percentile per-packet one-way delay: 111.687 ms

Loss rate: 1.47%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

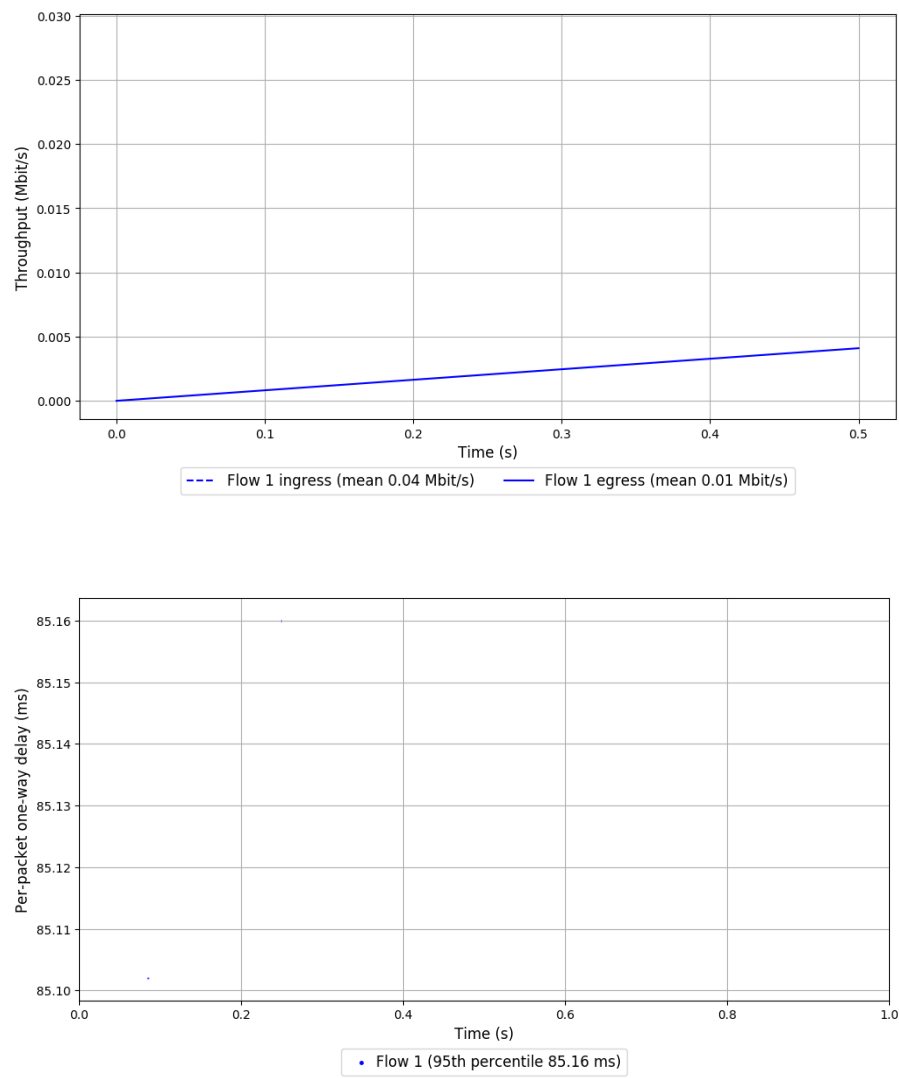
Start at: 2018-10-02 07:19:06

End at: 2018-10-02 07:19:37

Local clock offset: -0.056 ms

Remote clock offset: 1.132 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

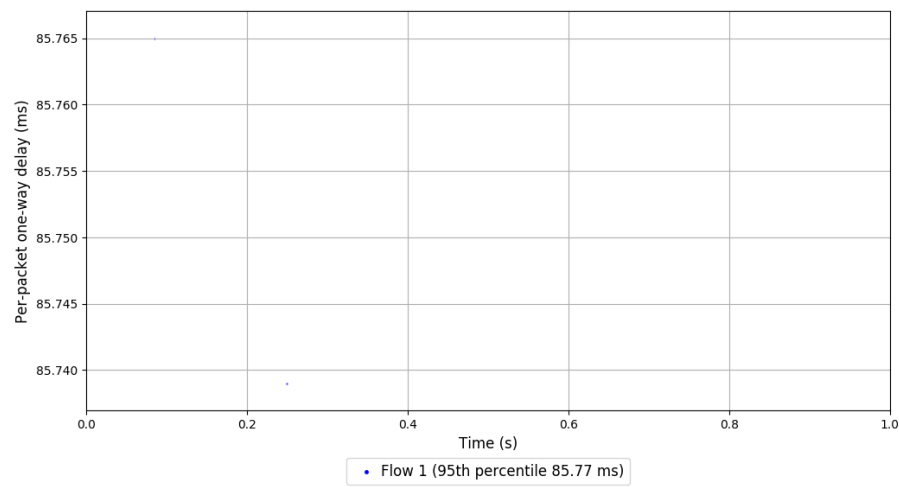
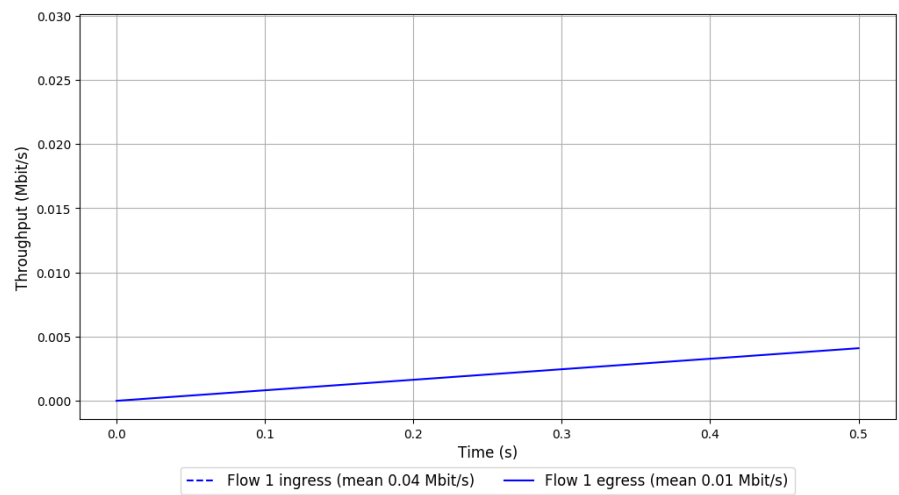
Start at: 2018-10-02 07:40:15

End at: 2018-10-02 07:40:45

Local clock offset: 1.254 ms

Remote clock offset: 0.891 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

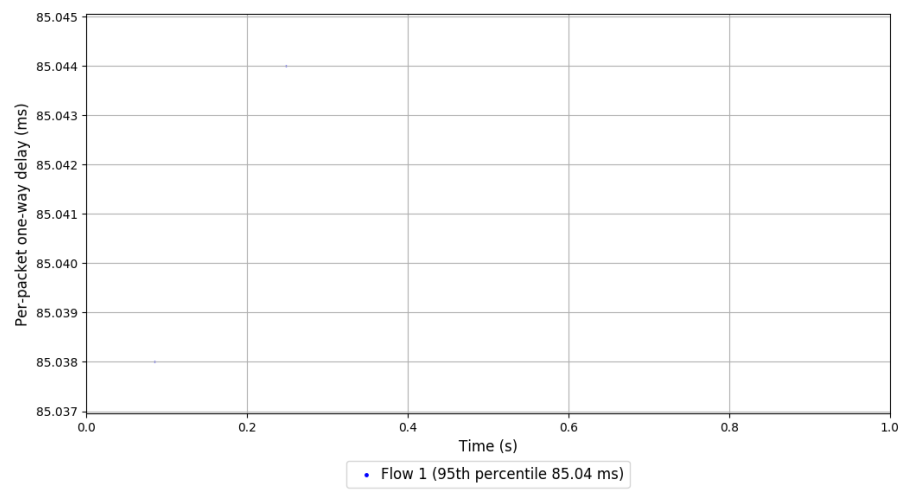
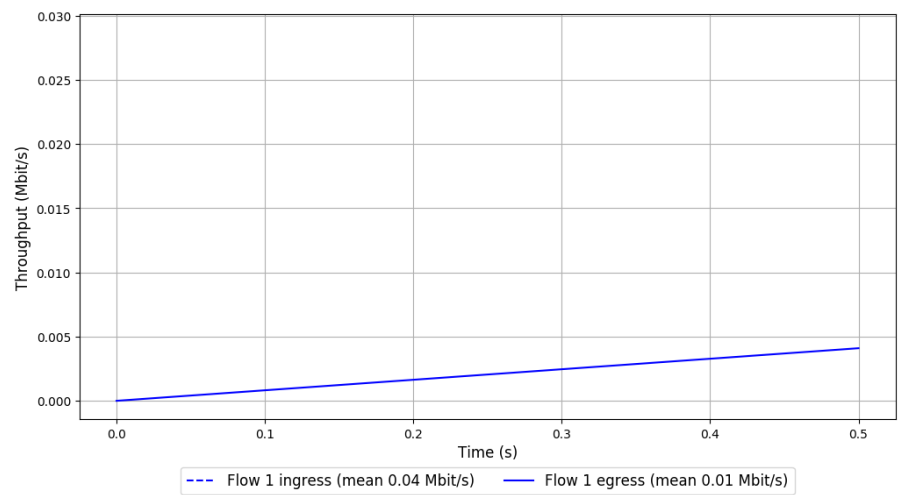
Start at: 2018-10-02 08:01:16

End at: 2018-10-02 08:01:46

Local clock offset: -1.739 ms

Remote clock offset: 0.451 ms

Run 3: Report of PCC-Expr — Data Link





Run 4: Statistics of PCC-Expr

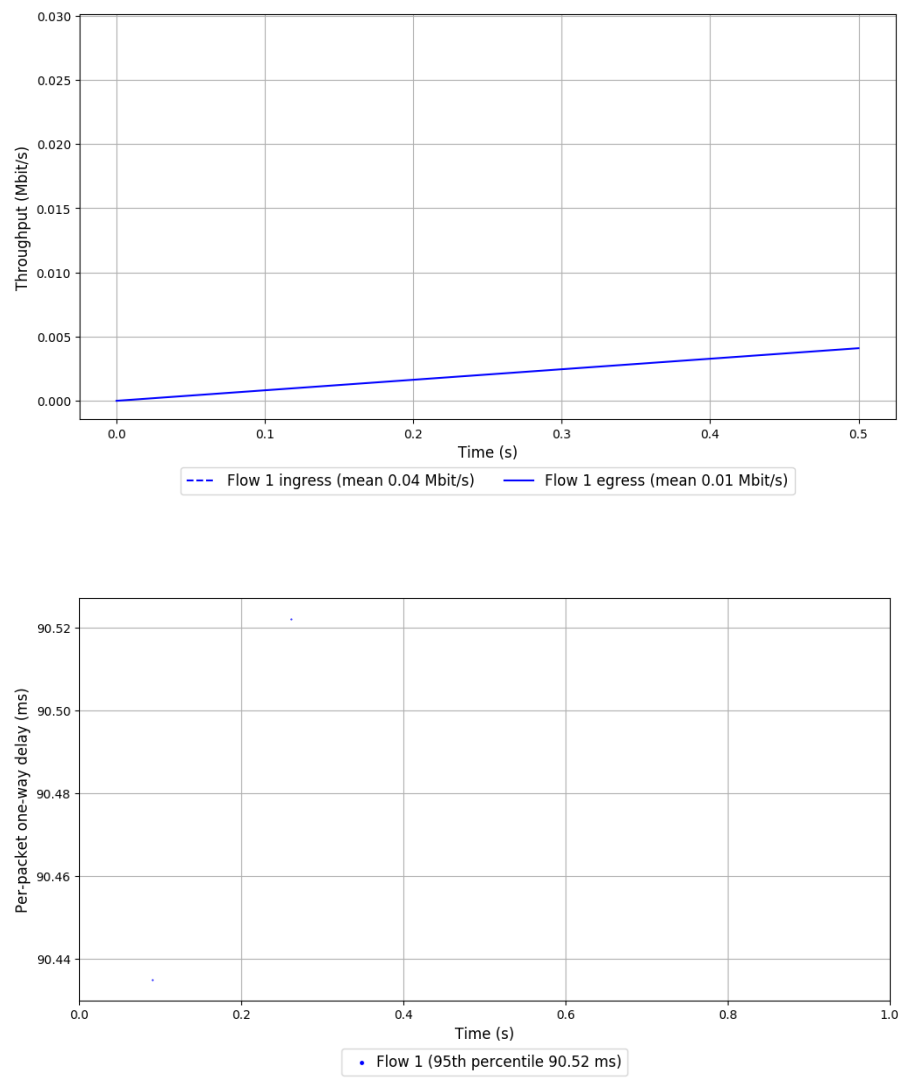
Start at: 2018-10-02 08:22:25

End at: 2018-10-02 08:22:55

Local clock offset: -4.324 ms

Remote clock offset: 1.332 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

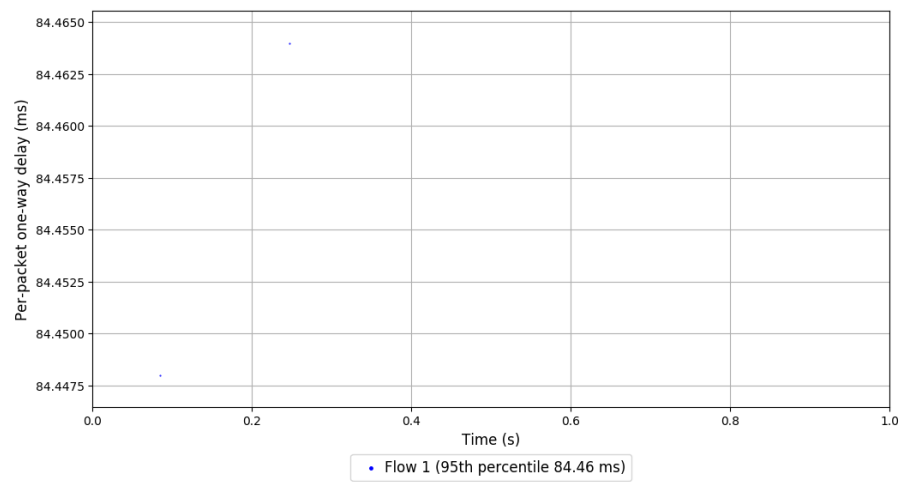
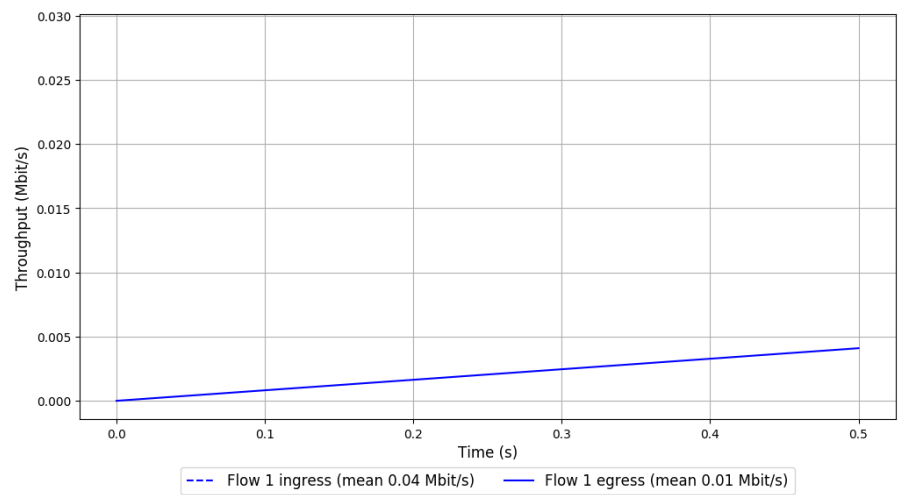
Start at: 2018-10-02 08:43:38

End at: 2018-10-02 08:44:08

Local clock offset: -6.8 ms

Remote clock offset: 1.141 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 07:26:04

End at: 2018-10-02 07:26:34

Local clock offset: 0.342 ms

Remote clock offset: -1.859 ms

# Below is generated by plot.py at 2018-10-02 09:03:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 75.33 Mbit/s

95th percentile per-packet one-way delay: 105.714 ms

Loss rate: 0.34%

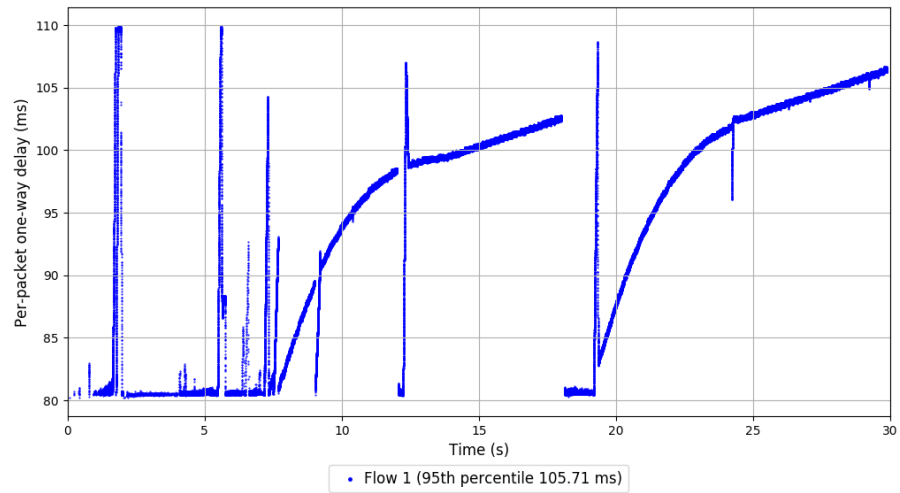
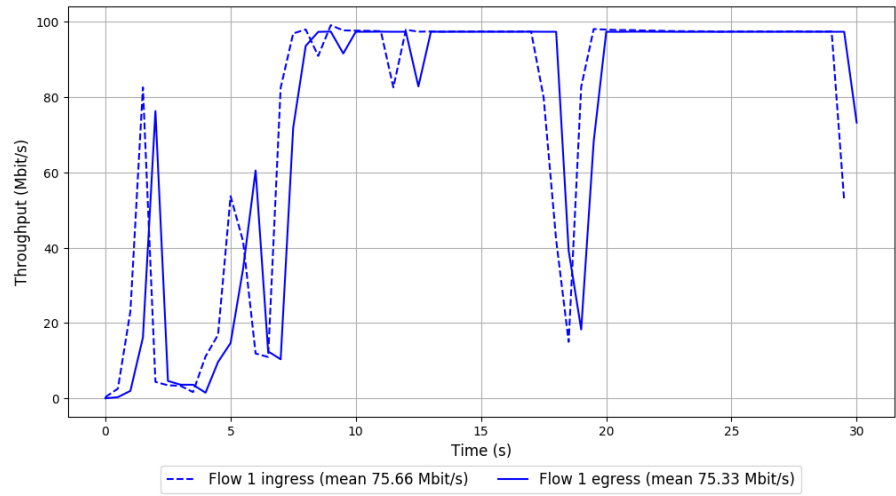
-- Flow 1:

Average throughput: 75.33 Mbit/s

95th percentile per-packet one-way delay: 105.714 ms

Loss rate: 0.34%

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



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 07:47:13

End at: 2018-10-02 07:47:43

Local clock offset: 1.03 ms

Remote clock offset: -3.252 ms

# Below is generated by plot.py at 2018-10-02 09:03:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 70.46 Mbit/s

95th percentile per-packet one-way delay: 103.173 ms

Loss rate: 0.42%

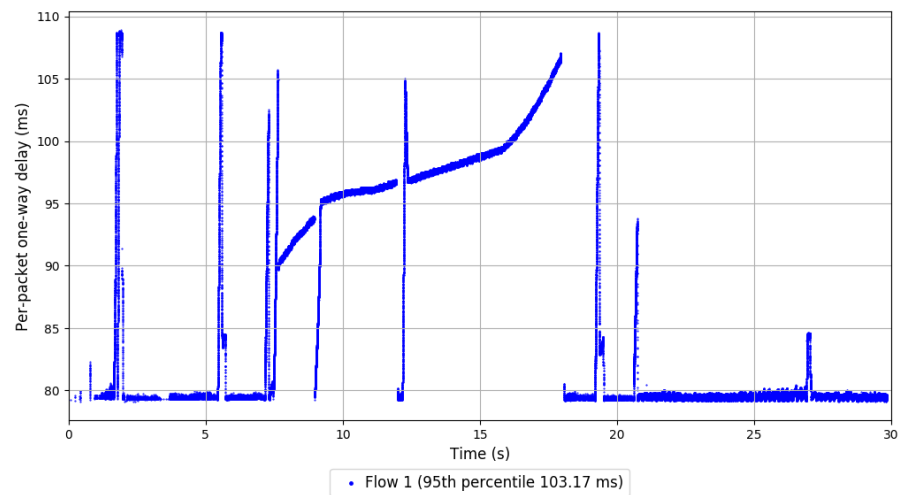
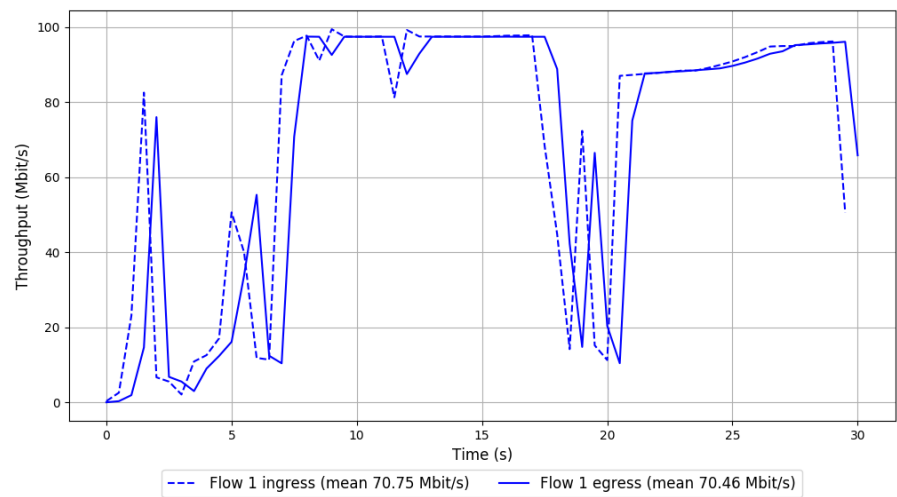
-- Flow 1:

Average throughput: 70.46 Mbit/s

95th percentile per-packet one-way delay: 103.173 ms

Loss rate: 0.42%

Run 2: Report of QUIC Cubic — Data Link





Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 08:08:13

End at: 2018-10-02 08:08:43

Local clock offset: -2.181 ms

Remote clock offset: -3.376 ms

# Below is generated by plot.py at 2018-10-02 09:03:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 73.39 Mbit/s

95th percentile per-packet one-way delay: 109.343 ms

Loss rate: 0.35%

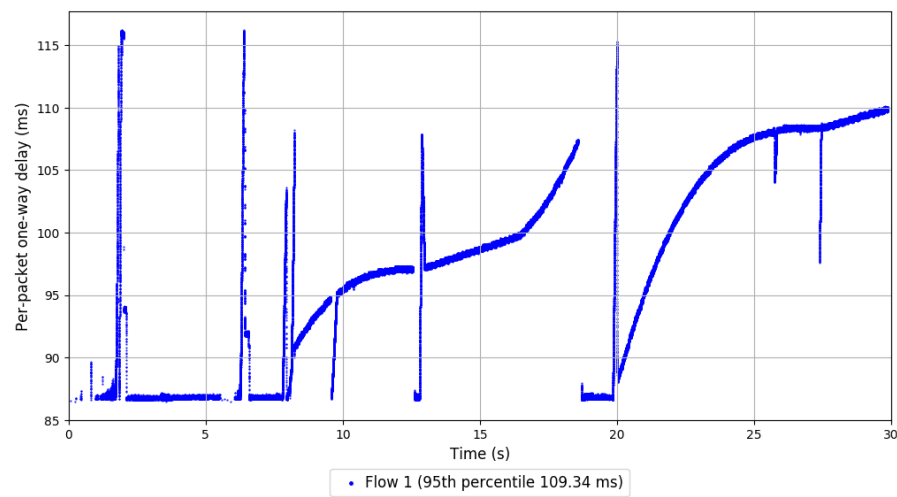
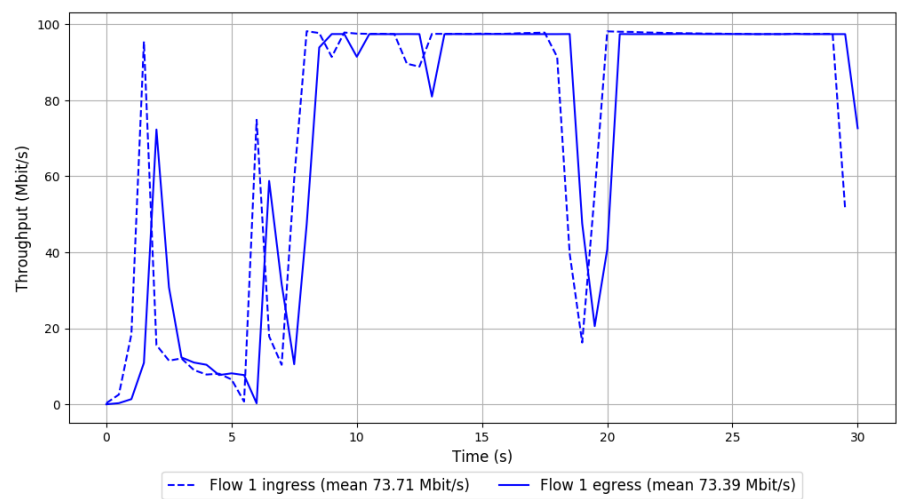
-- Flow 1:

Average throughput: 73.39 Mbit/s

95th percentile per-packet one-way delay: 109.343 ms

Loss rate: 0.35%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 08:29:25

End at: 2018-10-02 08:29:55

Local clock offset: -5.471 ms

Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 73.80 Mbit/s

95th percentile per-packet one-way delay: 99.413 ms

Loss rate: 0.31%

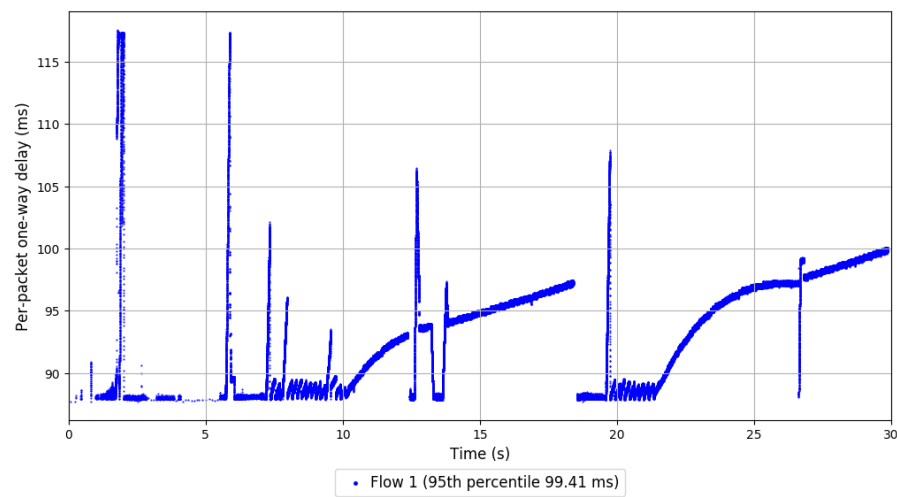
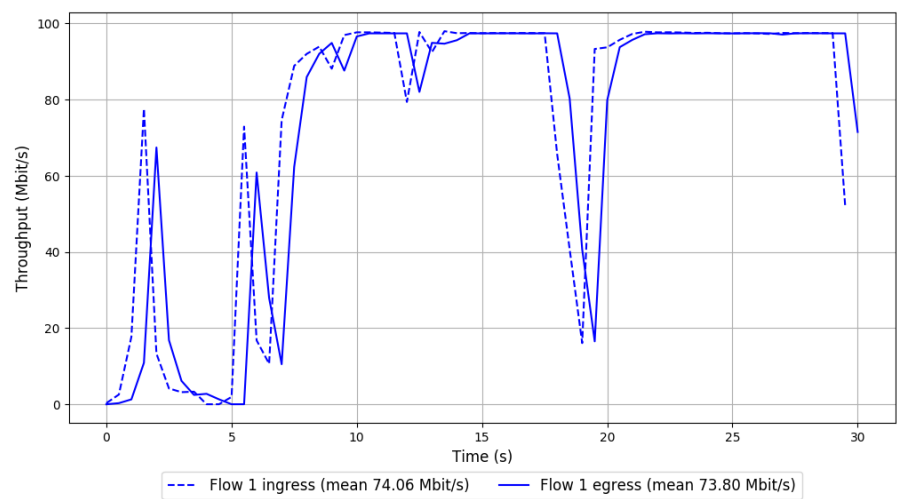
-- Flow 1:

Average throughput: 73.80 Mbit/s

95th percentile per-packet one-way delay: 99.413 ms

Loss rate: 0.31%

Run 4: Report of QUIC Cubic — Data Link

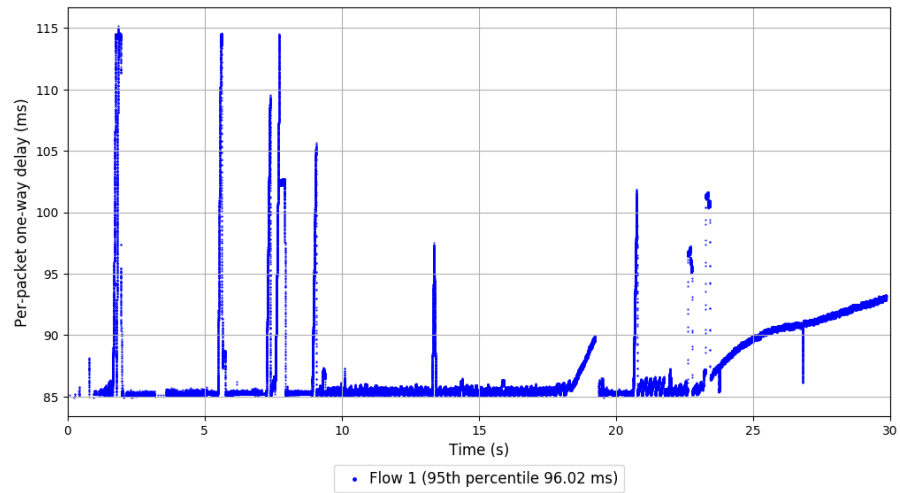
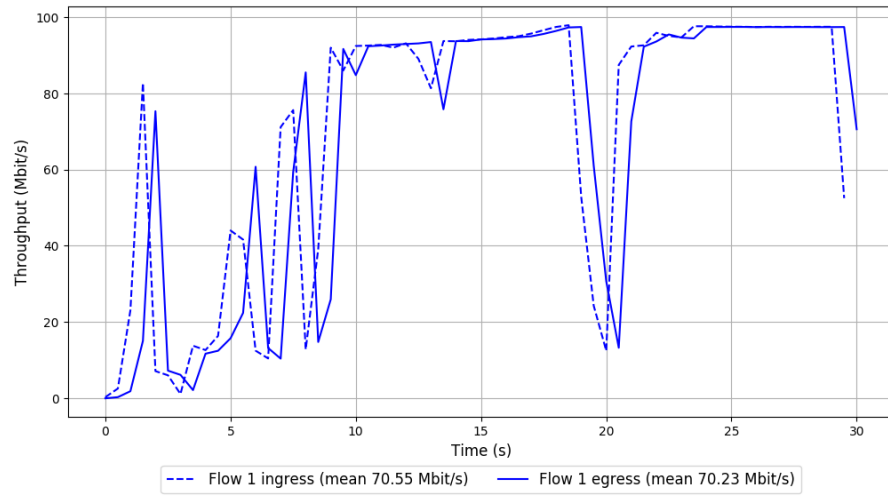


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 08:50:36  
End at: 2018-10-02 08:51:06  
Local clock offset: -6.661 ms  
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-10-02 09:03:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.23 Mbit/s  
95th percentile per-packet one-way delay: 96.024 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 70.23 Mbit/s  
95th percentile per-packet one-way delay: 96.024 ms  
Loss rate: 0.42%

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

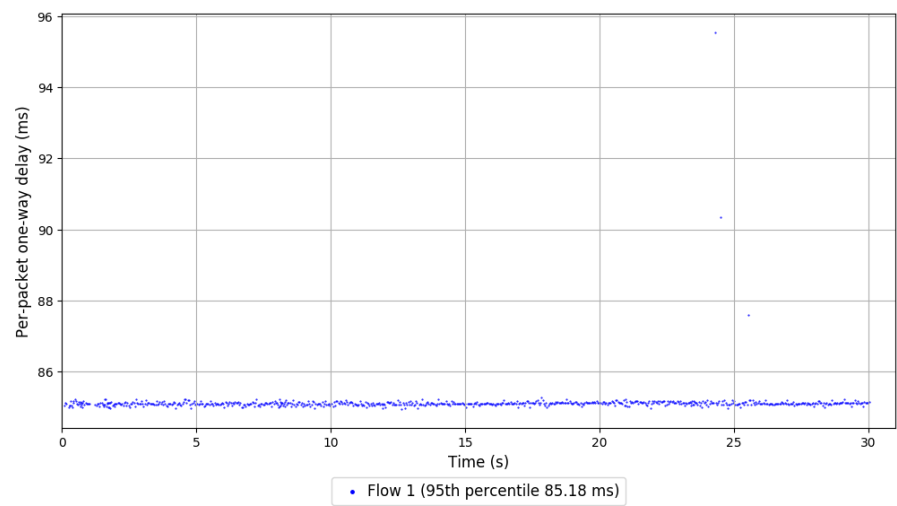
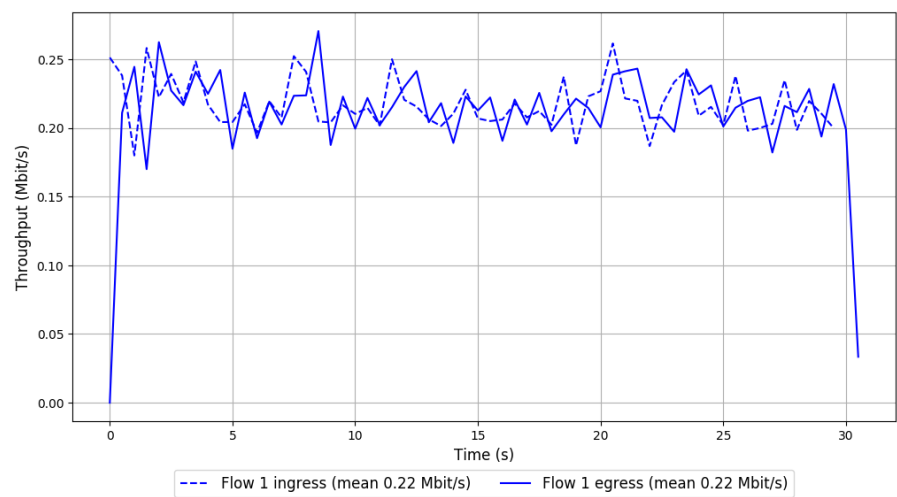


```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 07:28:25
End at: 2018-10-02 07:28:55
Local clock offset: 0.501 ms
Remote clock offset: 2.162 ms

# Below is generated by plot.py at 2018-10-02 09:03:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.182 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.182 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



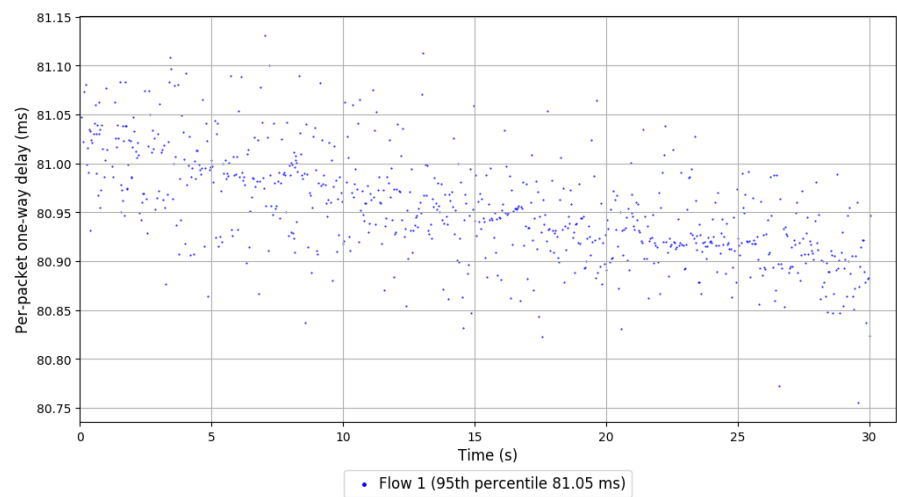
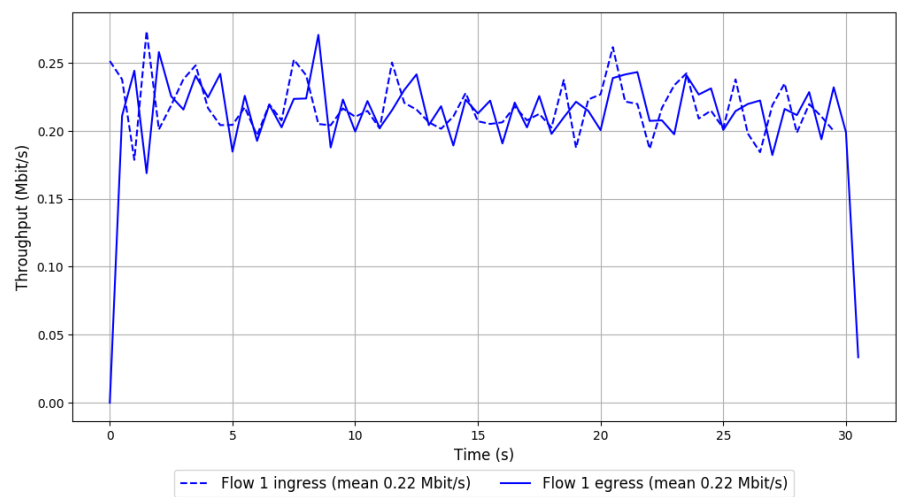


Run 2: Statistics of SCReAM

Start at: 2018-10-02 07:49:34  
End at: 2018-10-02 07:50:04  
Local clock offset: 0.245 ms  
Remote clock offset: -3.304 ms

# Below is generated by plot.py at 2018-10-02 09:03:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 81.047 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 81.047 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

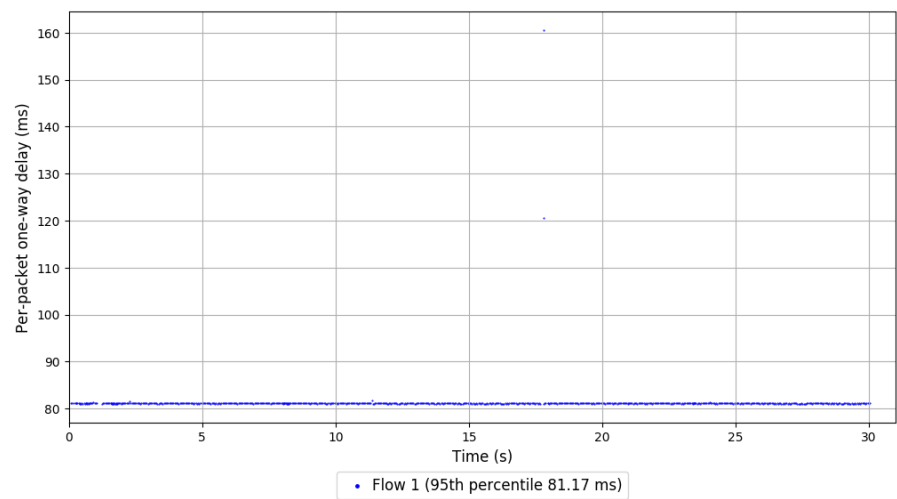
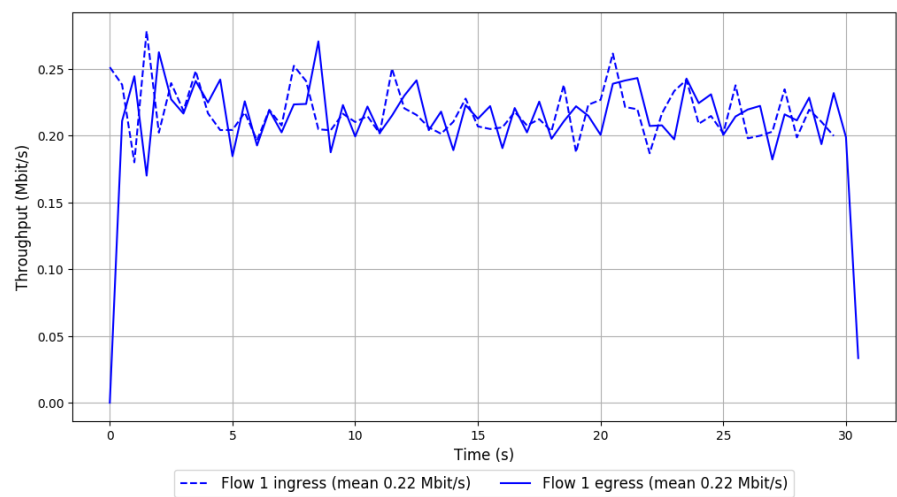


Run 3: Statistics of SCReAM

Start at: 2018-10-02 08:10:34  
End at: 2018-10-02 08:11:04  
Local clock offset: -2.279 ms  
Remote clock offset: -3.433 ms

# Below is generated by plot.py at 2018-10-02 09:03:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 81.171 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 81.171 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-10-02 08:31:50

End at: 2018-10-02 08:32:20

Local clock offset: -5.742 ms

Remote clock offset: 1.316 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 84.510 ms

Loss rate: 0.77%

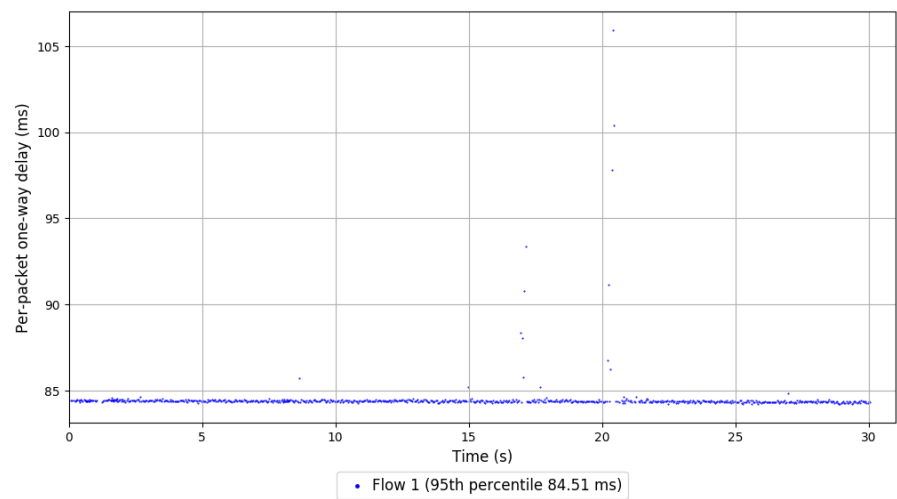
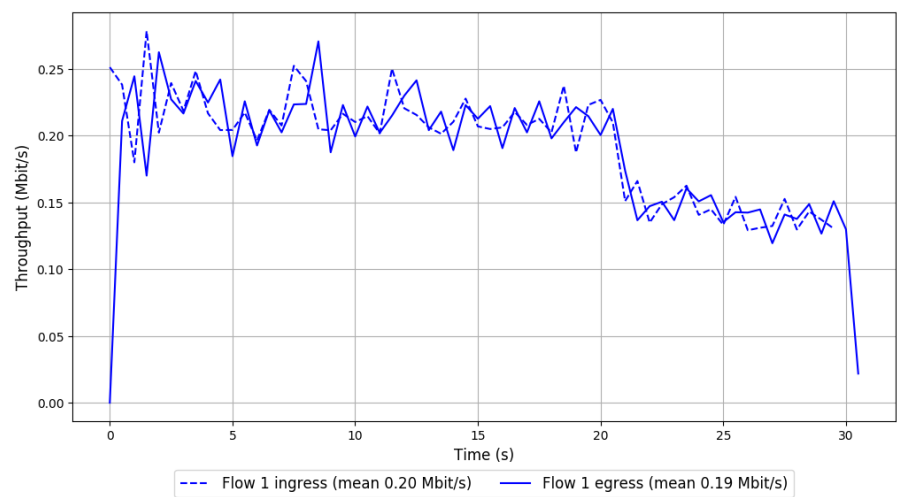
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 84.510 ms

Loss rate: 0.77%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-10-02 08:52:58

End at: 2018-10-02 08:53:28

Local clock offset: -6.675 ms

Remote clock offset: 0.782 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.227 ms

Loss rate: 0.00%

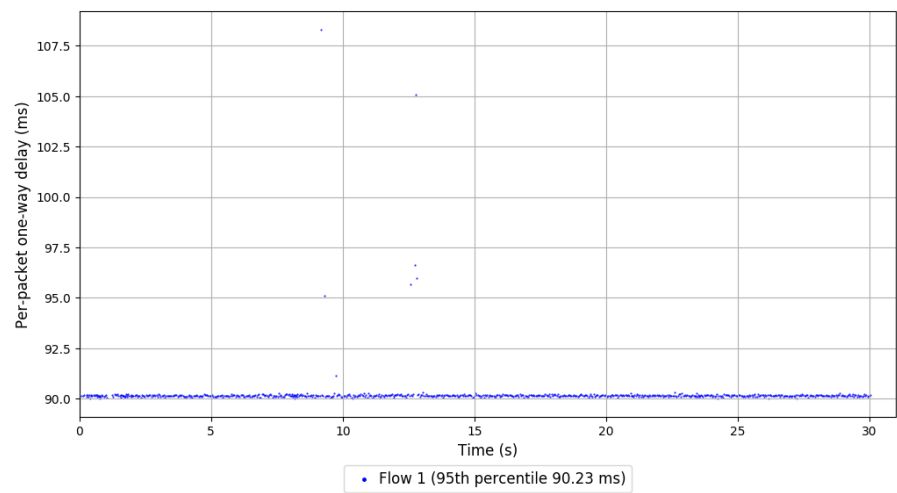
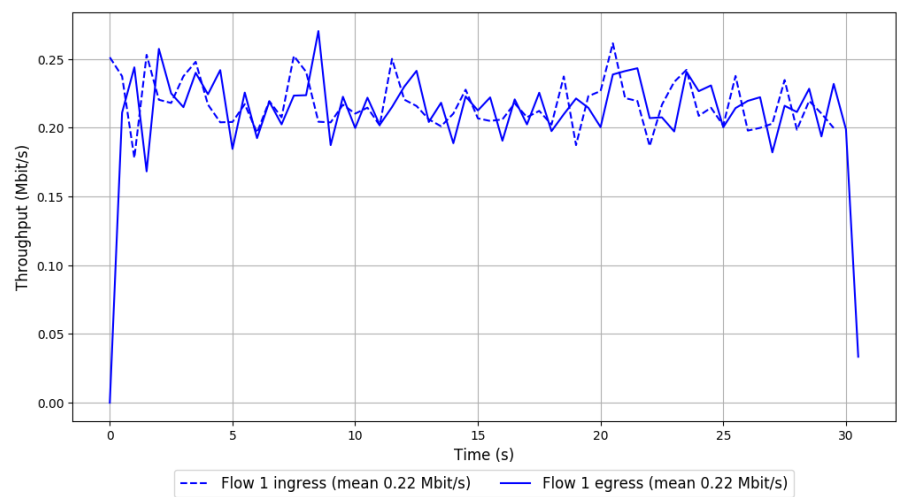
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 90.227 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link





Run 1: Statistics of Sprout

Start at: 2018-10-02 07:22:34

End at: 2018-10-02 07:23:04

Local clock offset: 0.184 ms

Remote clock offset: 3.239 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.50 Mbit/s

95th percentile per-packet one-way delay: 93.677 ms

Loss rate: 0.00%

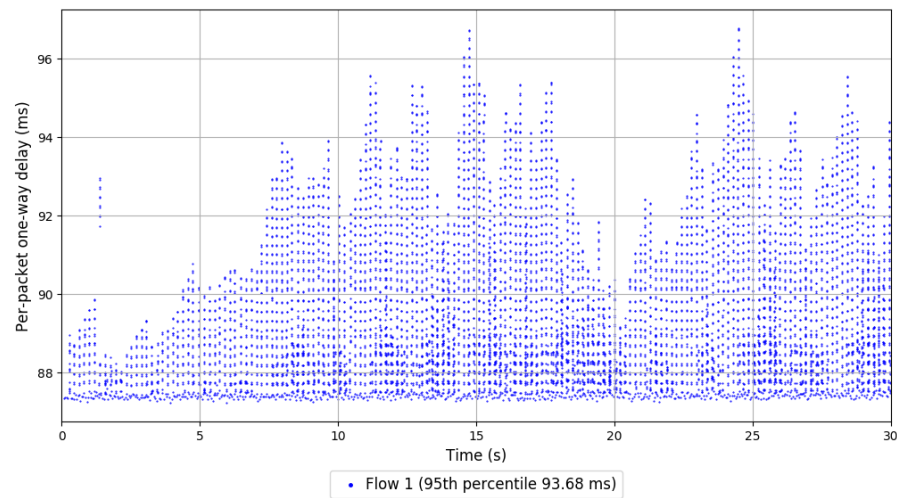
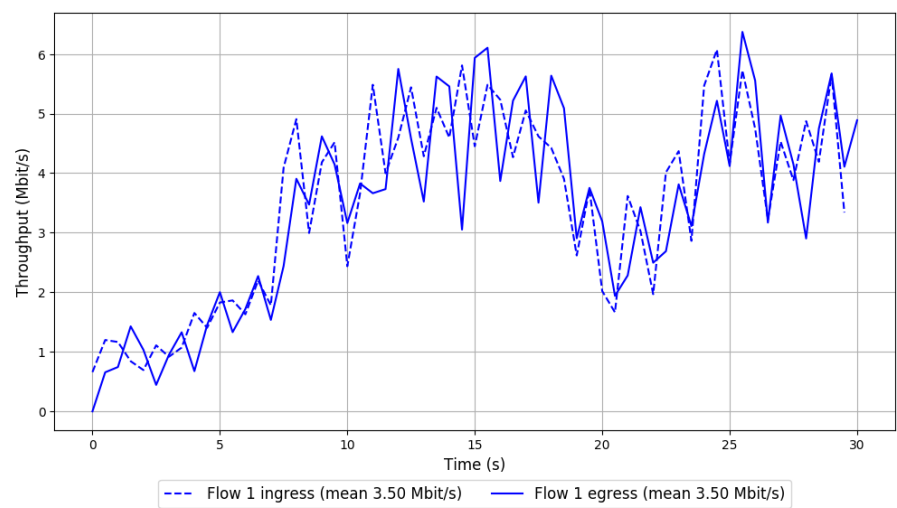
-- Flow 1:

Average throughput: 3.50 Mbit/s

95th percentile per-packet one-way delay: 93.677 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-02 07:43:44

End at: 2018-10-02 07:44:14

Local clock offset: 1.546 ms

Remote clock offset: 2.984 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 94.874 ms

Loss rate: 0.02%

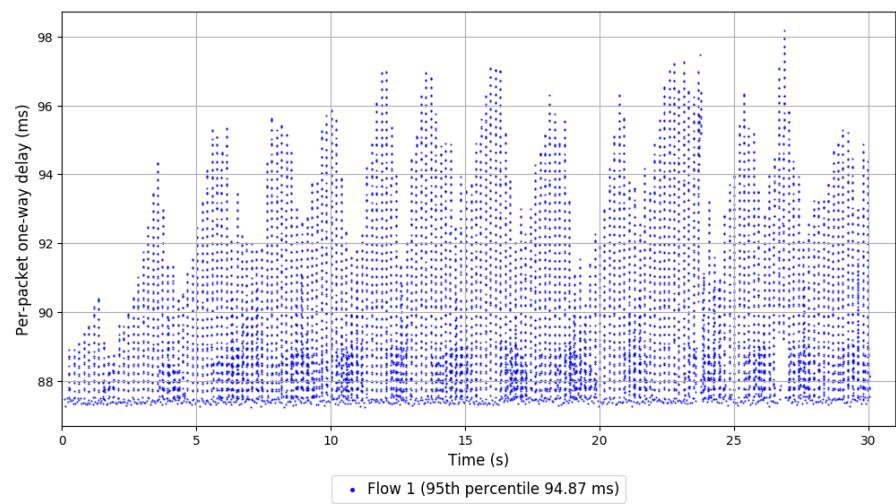
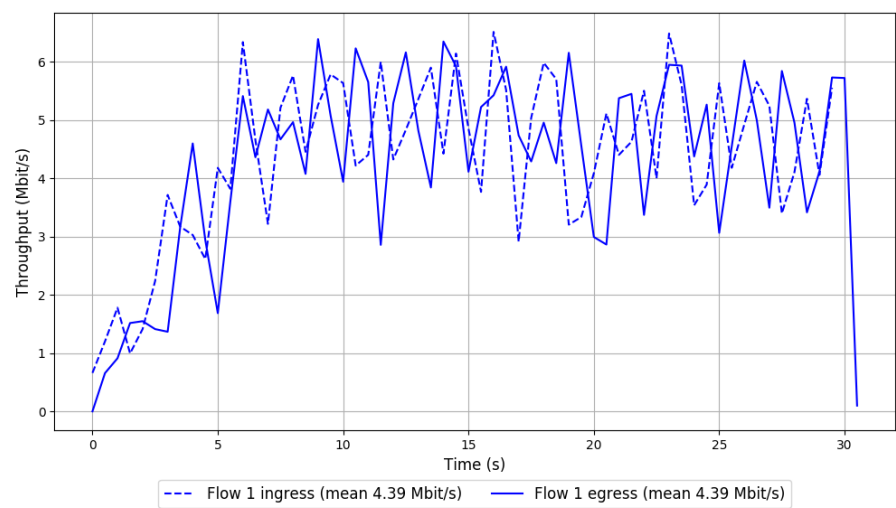
-- Flow 1:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 94.874 ms

Loss rate: 0.02%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-10-02 08:04:43

End at: 2018-10-02 08:05:13

Local clock offset: -1.984 ms

Remote clock offset: 1.696 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.30 Mbit/s

95th percentile per-packet one-way delay: 92.600 ms

Loss rate: 0.11%

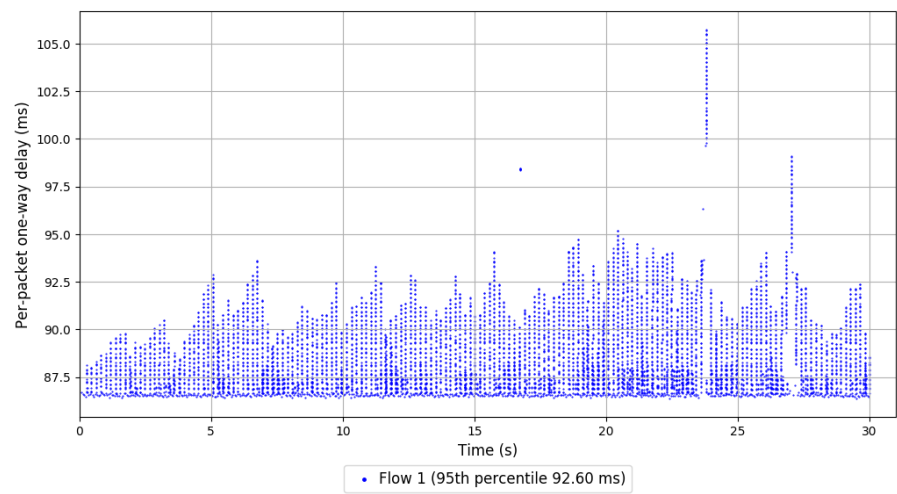
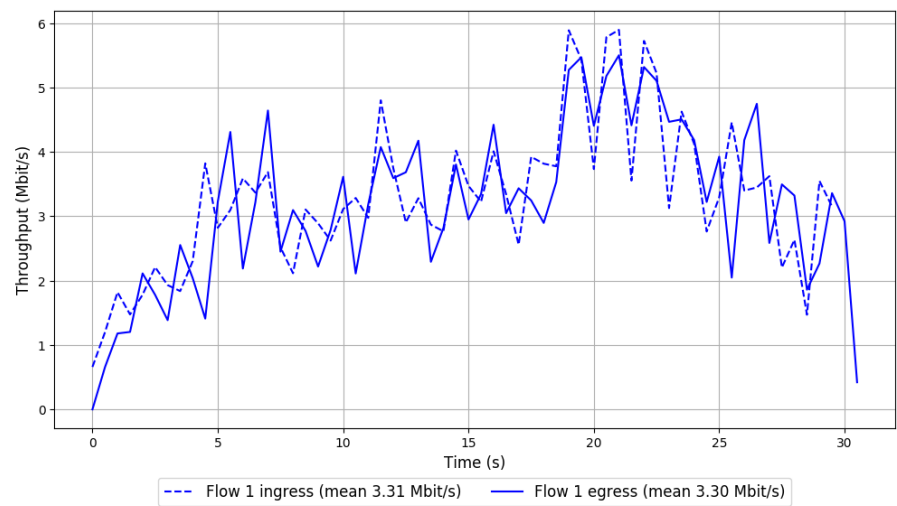
-- Flow 1:

Average throughput: 3.30 Mbit/s

95th percentile per-packet one-way delay: 92.600 ms

Loss rate: 0.11%

Run 3: Report of Sprout — Data Link

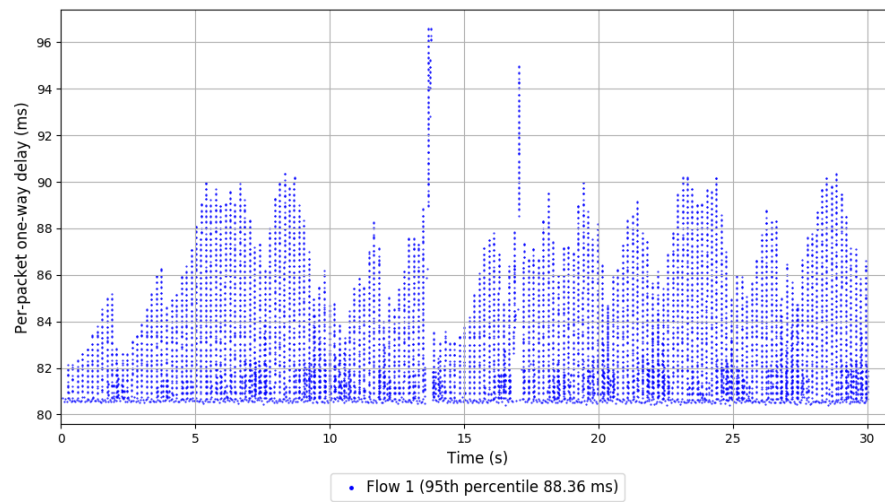
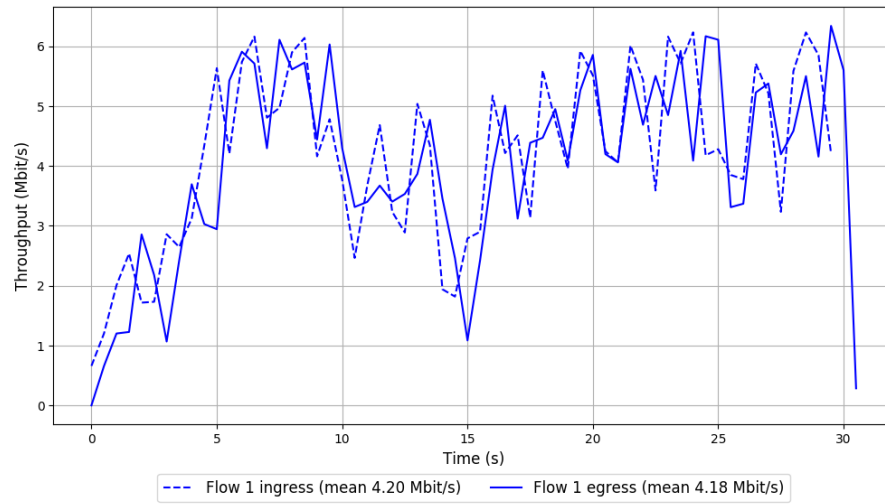


Run 4: Statistics of Sprout

Start at: 2018-10-02 08:25:53  
End at: 2018-10-02 08:26:23  
Local clock offset: -4.995 ms  
Remote clock offset: -2.707 ms

# Below is generated by plot.py at 2018-10-02 09:03:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.18 Mbit/s  
95th percentile per-packet one-way delay: 88.364 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 4.18 Mbit/s  
95th percentile per-packet one-way delay: 88.364 ms  
Loss rate: 0.30%

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





Run 5: Statistics of Sprout

Start at: 2018-10-02 08:47:05

End at: 2018-10-02 08:47:35

Local clock offset: -6.786 ms

Remote clock offset: 0.926 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.65 Mbit/s

95th percentile per-packet one-way delay: 99.715 ms

Loss rate: 0.05%

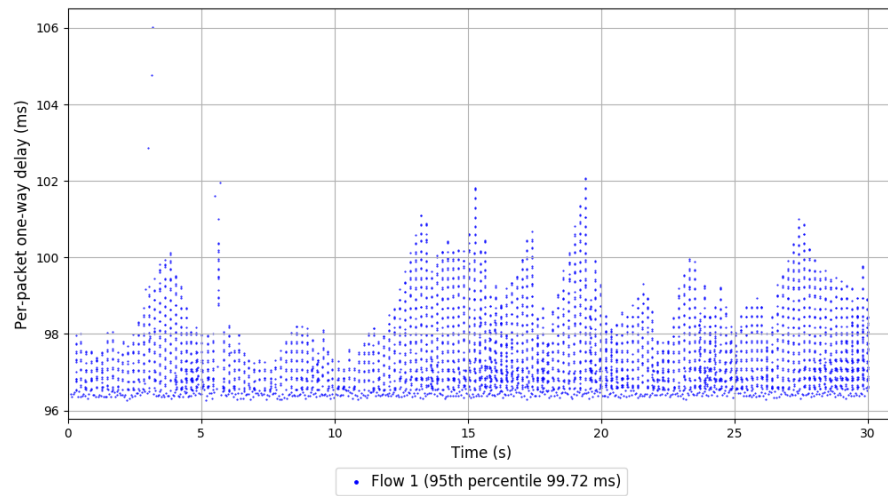
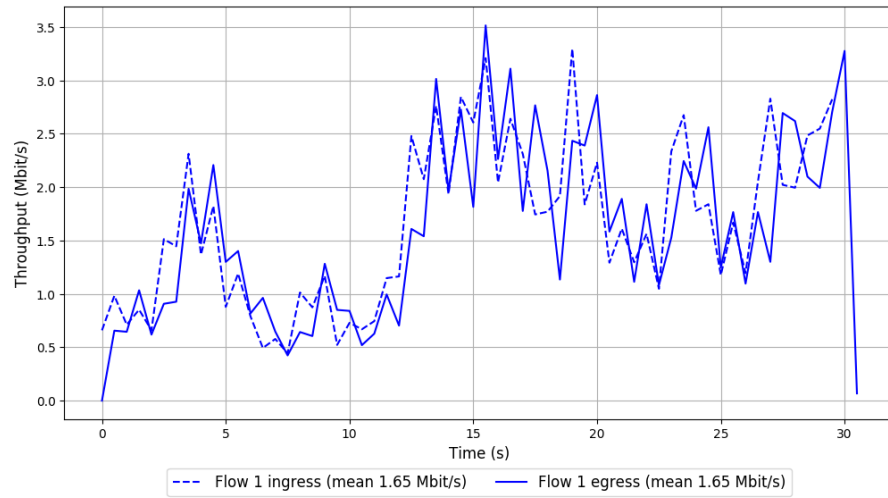
-- Flow 1:

Average throughput: 1.65 Mbit/s

95th percentile per-packet one-way delay: 99.715 ms

Loss rate: 0.05%

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-10-02 07:30:39

End at: 2018-10-02 07:31:09

Local clock offset: 0.707 ms

Remote clock offset: -2.883 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.42 Mbit/s

95th percentile per-packet one-way delay: 81.118 ms

Loss rate: 30.37%

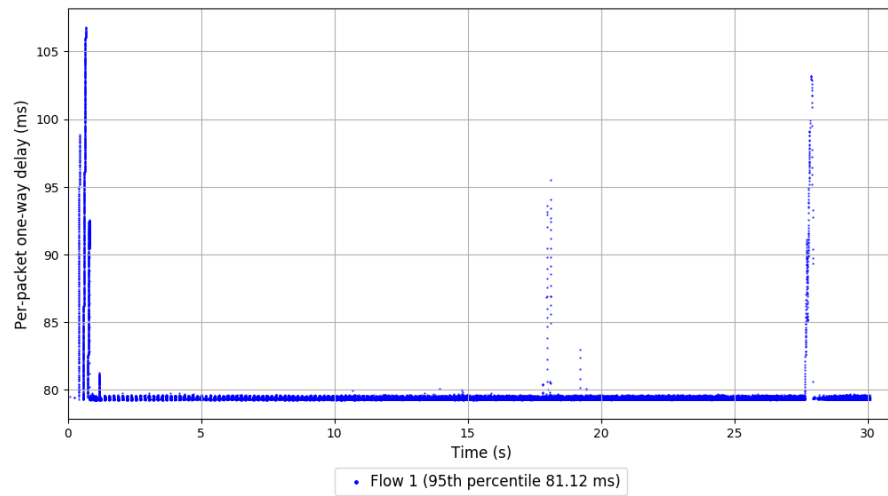
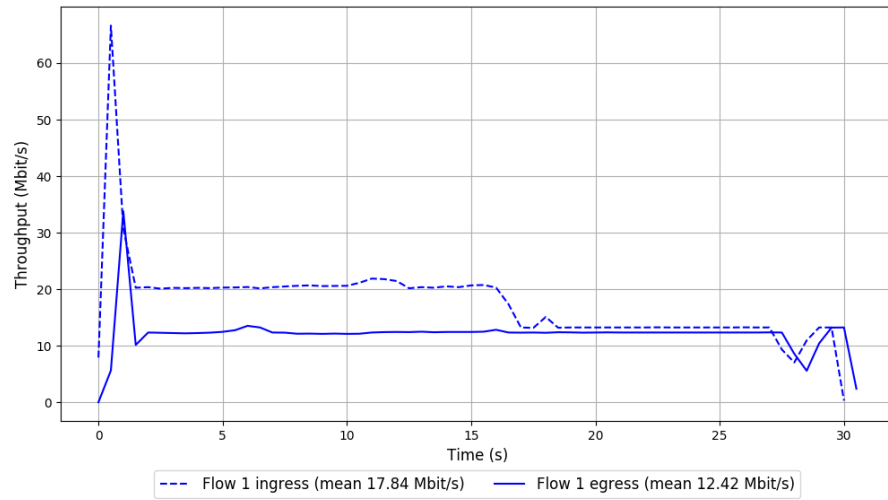
-- Flow 1:

Average throughput: 12.42 Mbit/s

95th percentile per-packet one-way delay: 81.118 ms

Loss rate: 30.37%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 07:51:49

End at: 2018-10-02 07:52:19

Local clock offset: -0.332 ms

Remote clock offset: 2.793 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.651 ms

Loss rate: 29.15%

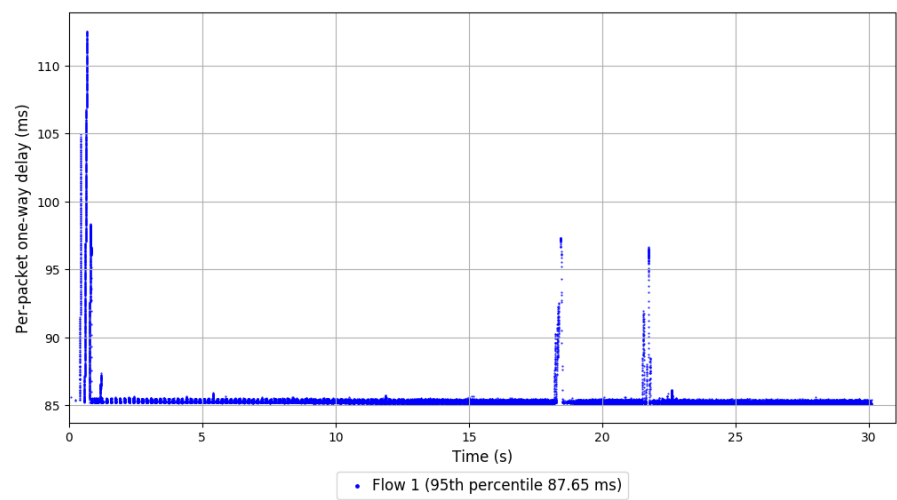
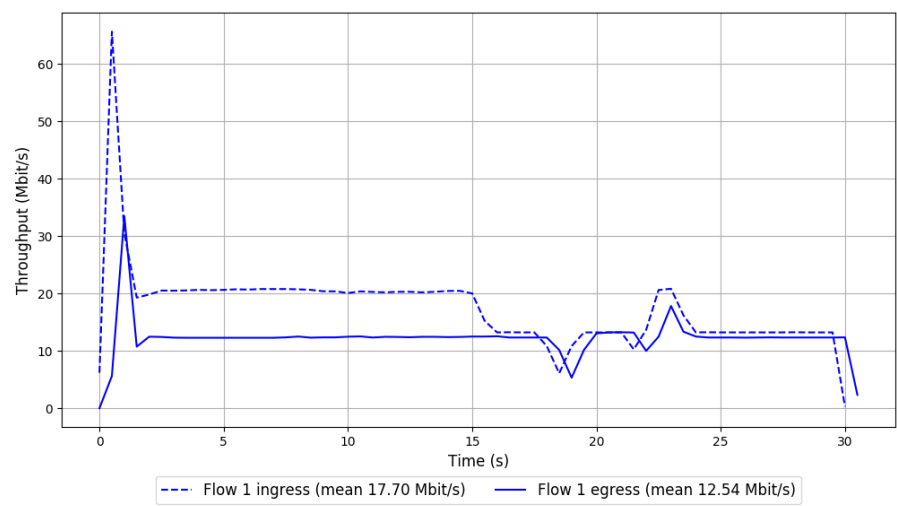
-- Flow 1:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.651 ms

Loss rate: 29.15%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 08:12:48

End at: 2018-10-02 08:13:18

Local clock offset: -2.416 ms

Remote clock offset: 1.61 ms

# Below is generated by plot.py at 2018-10-02 09:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.56 Mbit/s

95th percentile per-packet one-way delay: 86.693 ms

Loss rate: 13.34%

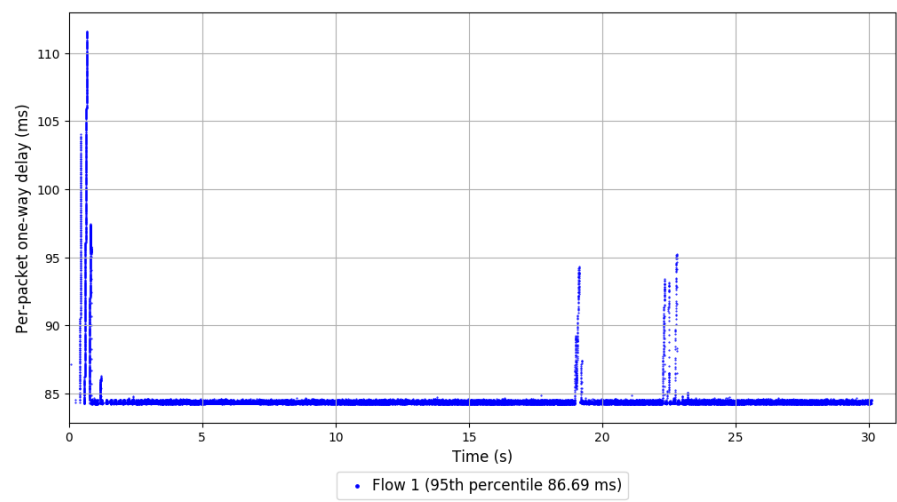
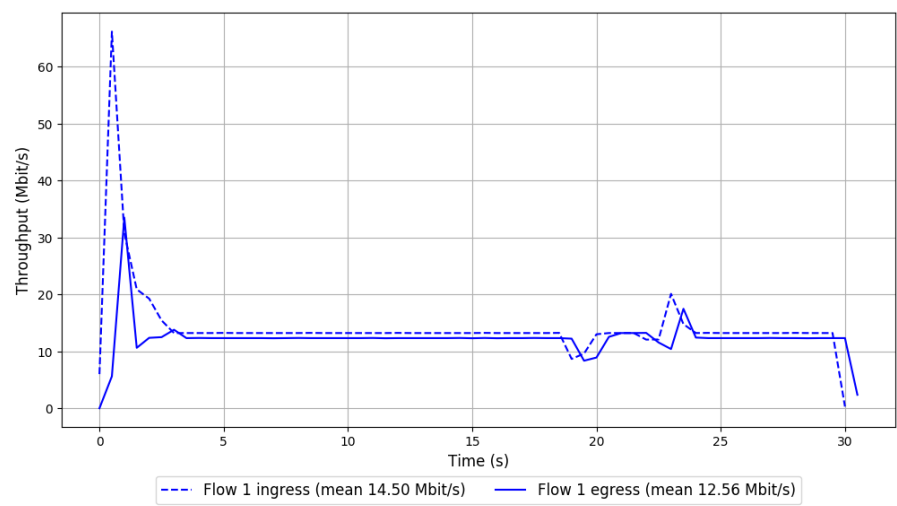
-- Flow 1:

Average throughput: 12.56 Mbit/s

95th percentile per-packet one-way delay: 86.693 ms

Loss rate: 13.34%

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



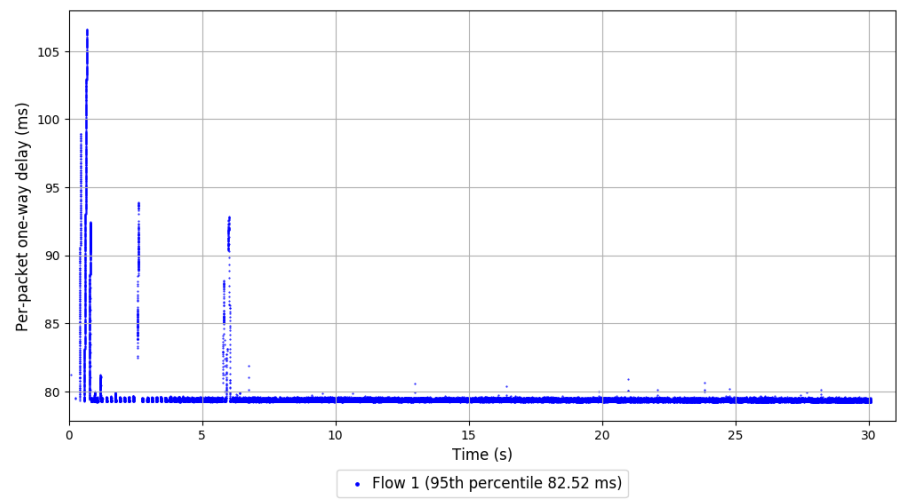
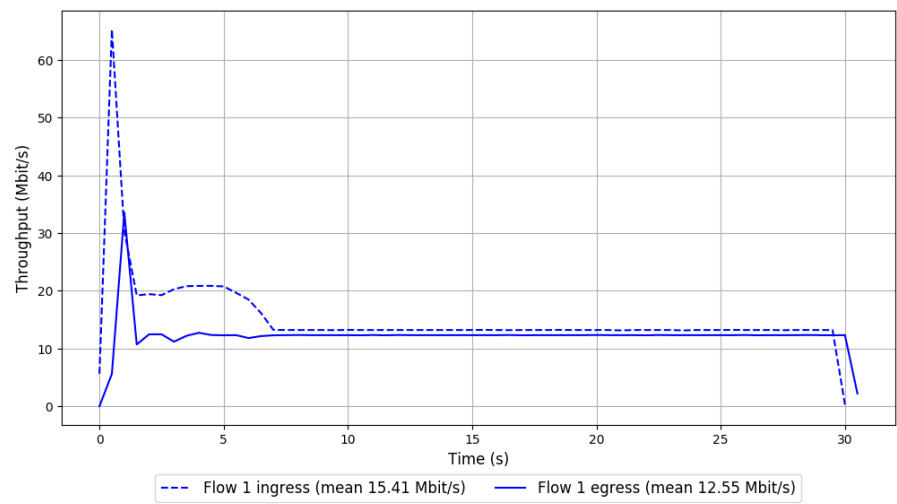


Run 4: Statistics of TaoVA-100x

Start at: 2018-10-02 08:34:05  
End at: 2018-10-02 08:34:35  
Local clock offset: -5.971 ms  
Remote clock offset: -3.767 ms

# Below is generated by plot.py at 2018-10-02 09:03:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.55 Mbit/s  
95th percentile per-packet one-way delay: 82.519 ms  
Loss rate: 18.57%  
-- Flow 1:  
Average throughput: 12.55 Mbit/s  
95th percentile per-packet one-way delay: 82.519 ms  
Loss rate: 18.57%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 08:55:12

End at: 2018-10-02 08:55:42

Local clock offset: -6.61 ms

Remote clock offset: 0.809 ms

# Below is generated by plot.py at 2018-10-02 09:03:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.60 Mbit/s

95th percentile per-packet one-way delay: 84.564 ms

Loss rate: 21.35%

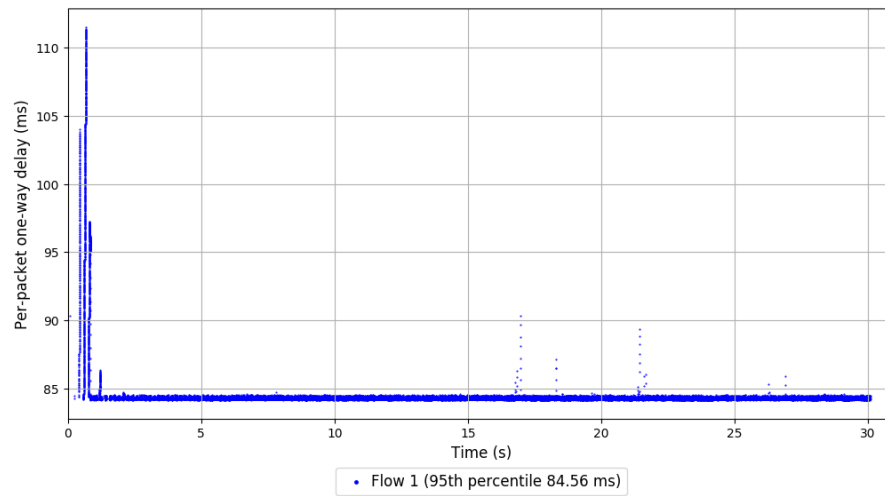
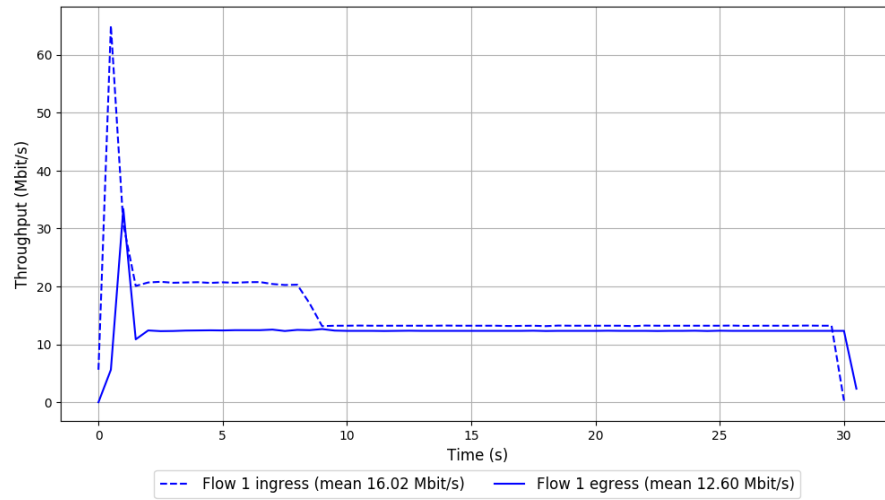
-- Flow 1:

Average throughput: 12.60 Mbit/s

95th percentile per-packet one-way delay: 84.564 ms

Loss rate: 21.35%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 07:24:54

End at: 2018-10-02 07:25:24

Local clock offset: 0.28 ms

Remote clock offset: 2.056 ms

# Below is generated by plot.py at 2018-10-02 09:04:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 46.03 Mbit/s

95th percentile per-packet one-way delay: 97.148 ms

Loss rate: 1.30%

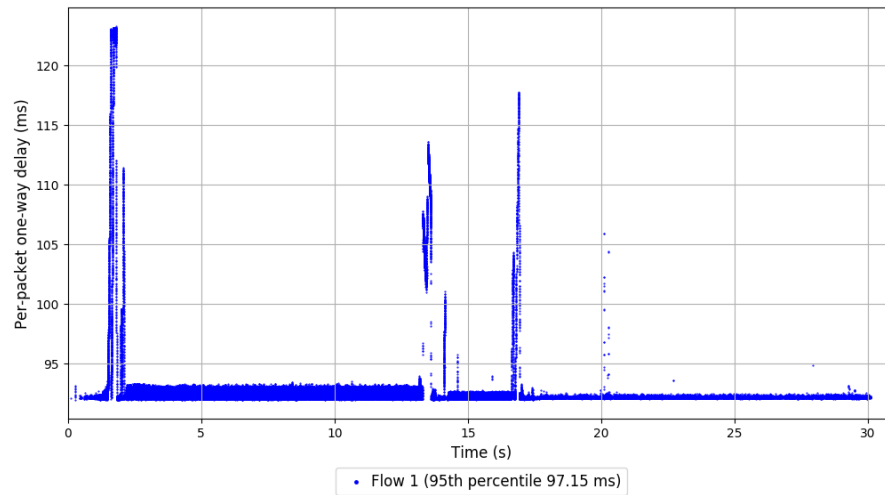
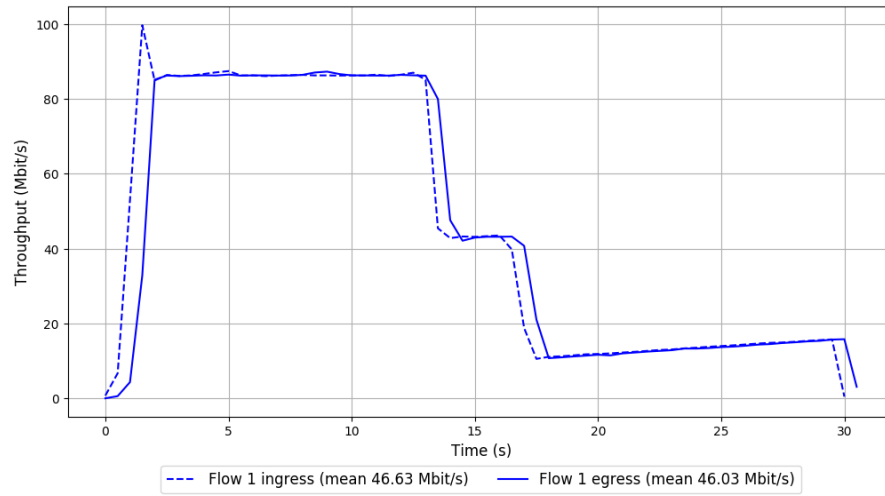
-- Flow 1:

Average throughput: 46.03 Mbit/s

95th percentile per-packet one-way delay: 97.148 ms

Loss rate: 1.30%

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



Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 07:46:04

End at: 2018-10-02 07:46:34

Local clock offset: 1.451 ms

Remote clock offset: 0.624 ms

# Below is generated by plot.py at 2018-10-02 09:04:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 22.49 Mbit/s

95th percentile per-packet one-way delay: 106.308 ms

Loss rate: 3.02%

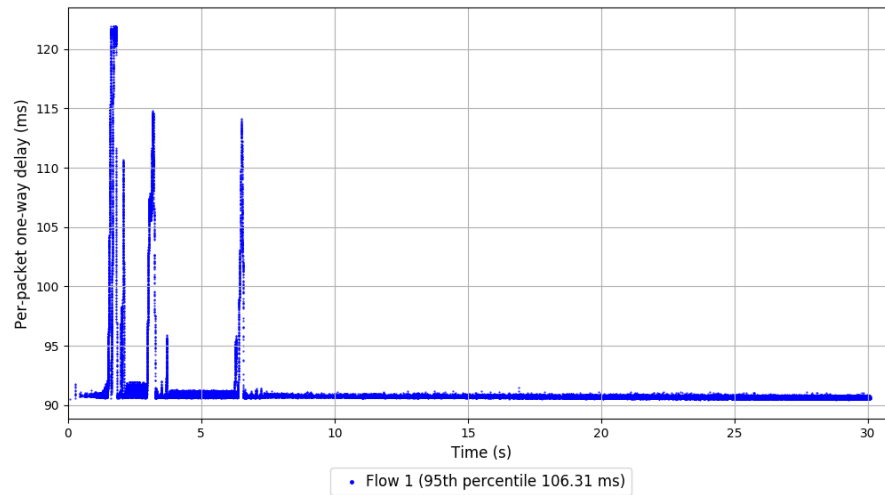
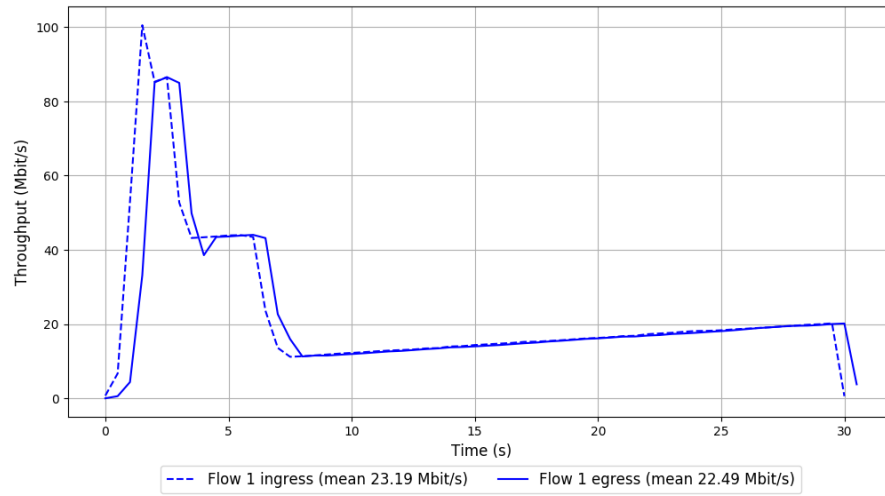
-- Flow 1:

Average throughput: 22.49 Mbit/s

95th percentile per-packet one-way delay: 106.308 ms

Loss rate: 3.02%

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



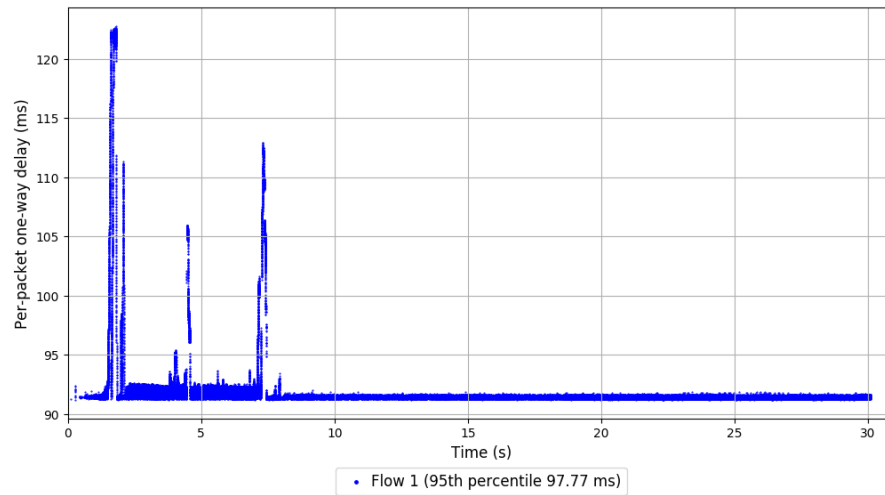
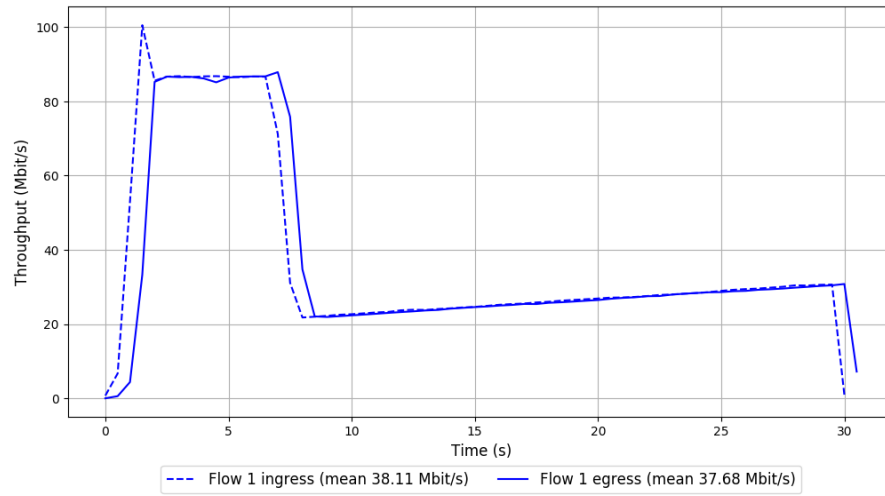


Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 08:07:03  
End at: 2018-10-02 08:07:33  
Local clock offset: -2.203 ms  
Remote clock offset: 2.634 ms

# Below is generated by plot.py at 2018-10-02 09:04:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 37.68 Mbit/s  
95th percentile per-packet one-way delay: 97.766 ms  
Loss rate: 1.11%  
-- Flow 1:  
Average throughput: 37.68 Mbit/s  
95th percentile per-packet one-way delay: 97.766 ms  
Loss rate: 1.11%

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



Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 08:28:14

End at: 2018-10-02 08:28:44

Local clock offset: -5.318 ms

Remote clock offset: -2.64 ms

# Below is generated by plot.py at 2018-10-02 09:04:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 84.00 Mbit/s

95th percentile per-packet one-way delay: 83.267 ms

Loss rate: 0.41%

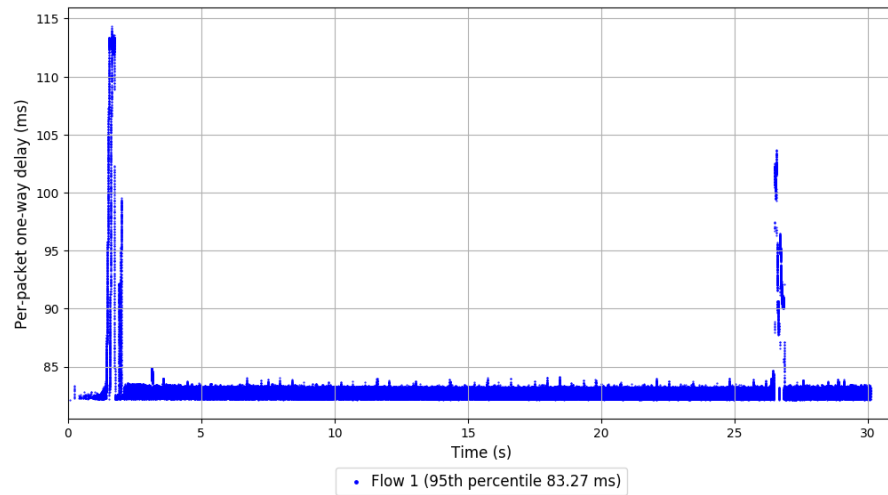
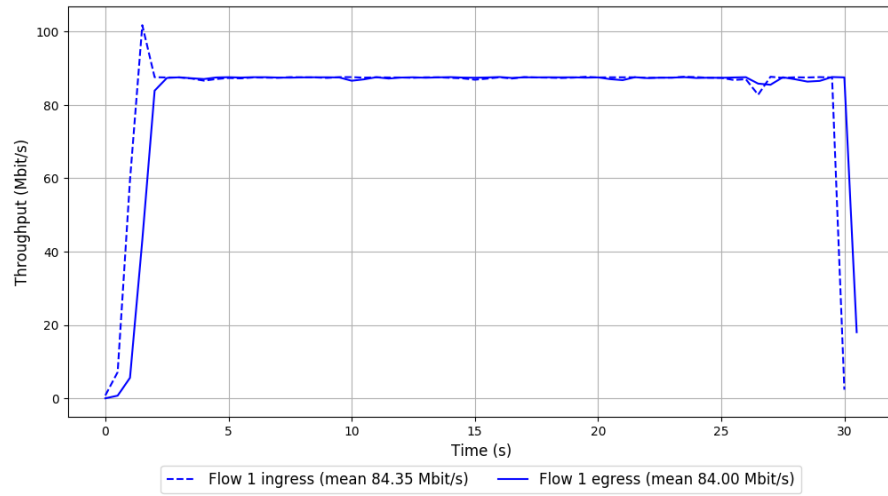
-- Flow 1:

Average throughput: 84.00 Mbit/s

95th percentile per-packet one-way delay: 83.267 ms

Loss rate: 0.41%

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

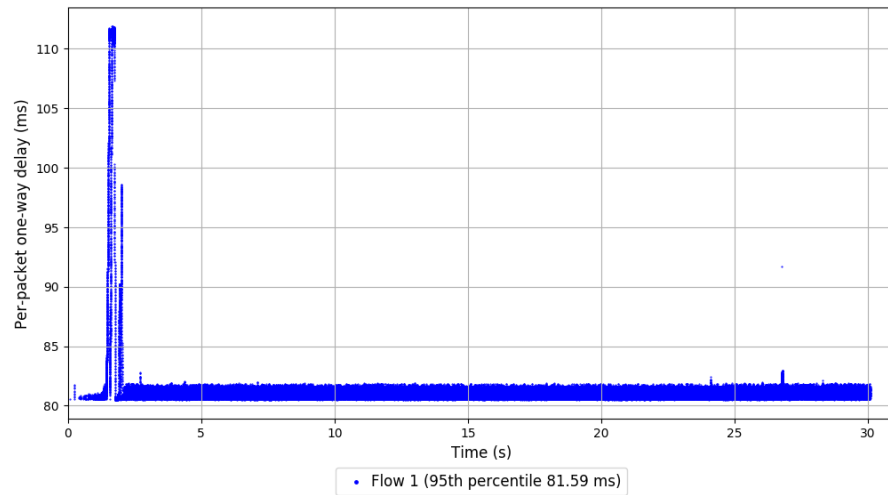
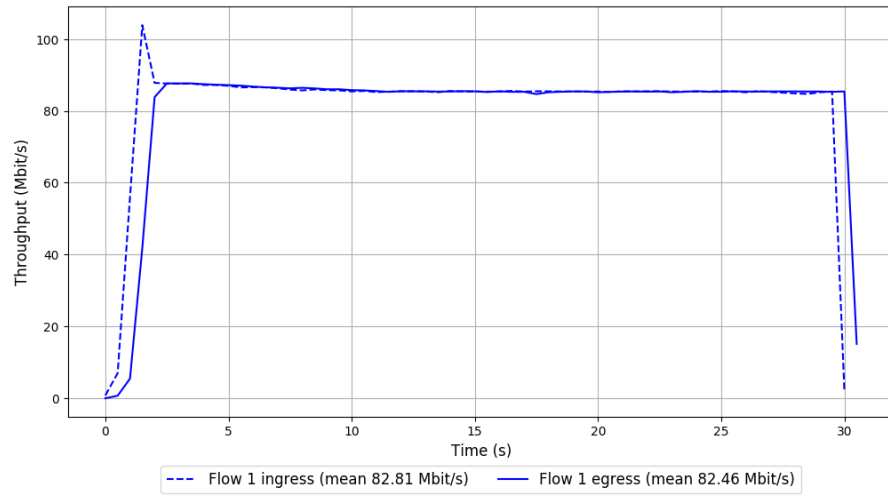


Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 08:49:24  
End at: 2018-10-02 08:49:54  
Local clock offset: -6.695 ms  
Remote clock offset: -3.034 ms

# Below is generated by plot.py at 2018-10-02 09:04:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 82.46 Mbit/s  
95th percentile per-packet one-way delay: 81.586 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 82.46 Mbit/s  
95th percentile per-packet one-way delay: 81.586 ms  
Loss rate: 0.42%

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



Run 1: Statistics of Verus

Start at: 2018-10-02 07:27:15

End at: 2018-10-02 07:27:45

Local clock offset: 0.495 ms

Remote clock offset: 2.048 ms

# Below is generated by plot.py at 2018-10-02 09:04:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 29.71 Mbit/s

95th percentile per-packet one-way delay: 122.946 ms

Loss rate: 42.63%

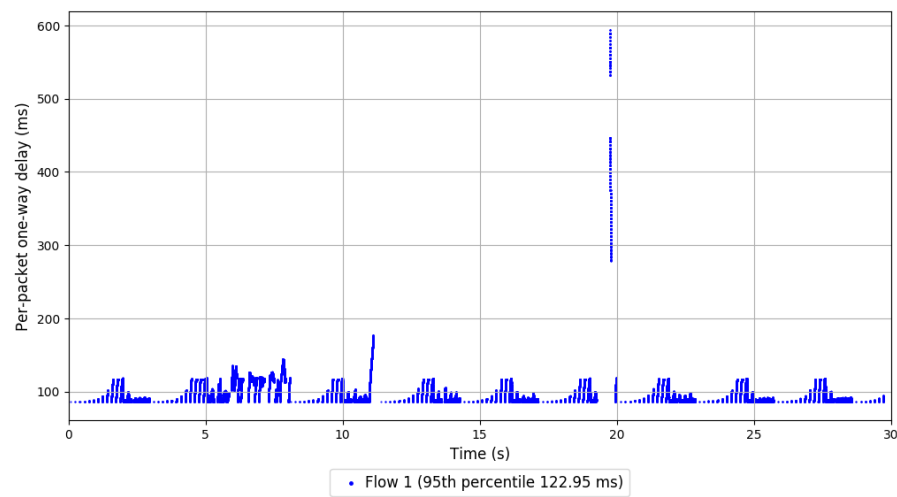
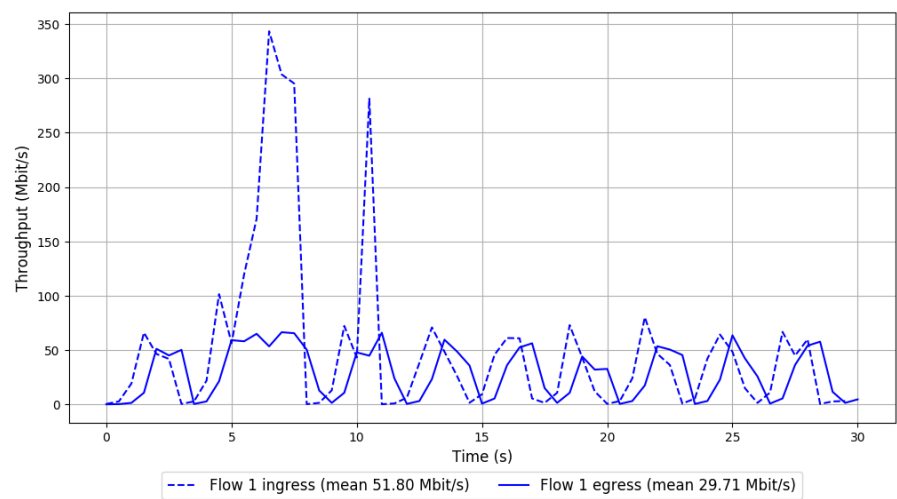
-- Flow 1:

Average throughput: 29.71 Mbit/s

95th percentile per-packet one-way delay: 122.946 ms

Loss rate: 42.63%

Run 1: Report of Verus — Data Link



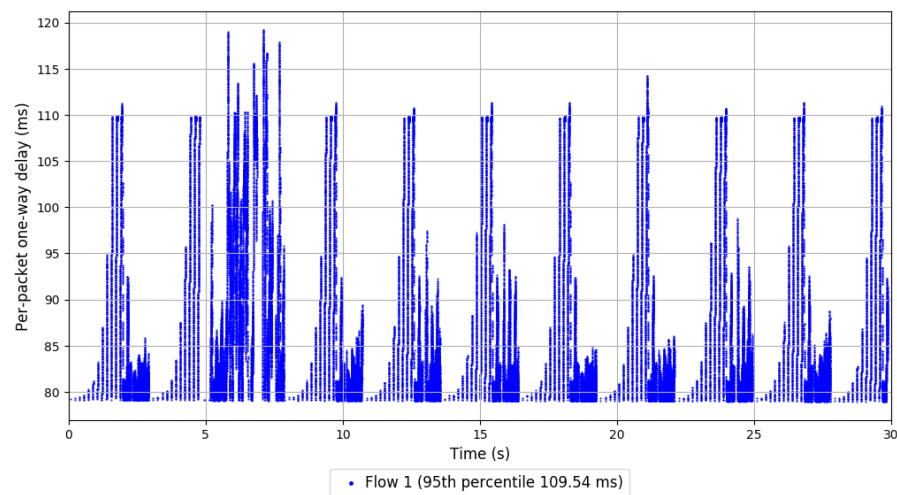
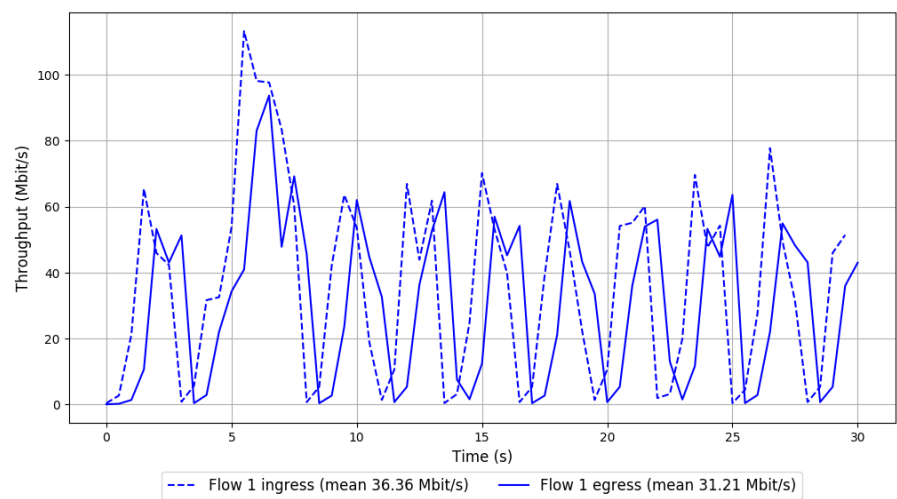


Run 2: Statistics of Verus

Start at: 2018-10-02 07:48:25  
End at: 2018-10-02 07:48:55  
Local clock offset: 0.628 ms  
Remote clock offset: -3.308 ms

# Below is generated by plot.py at 2018-10-02 09:04:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 31.21 Mbit/s  
95th percentile per-packet one-way delay: 109.544 ms  
Loss rate: 14.15%  
-- Flow 1:  
Average throughput: 31.21 Mbit/s  
95th percentile per-packet one-way delay: 109.544 ms  
Loss rate: 14.15%

Run 2: Report of Verus — Data Link

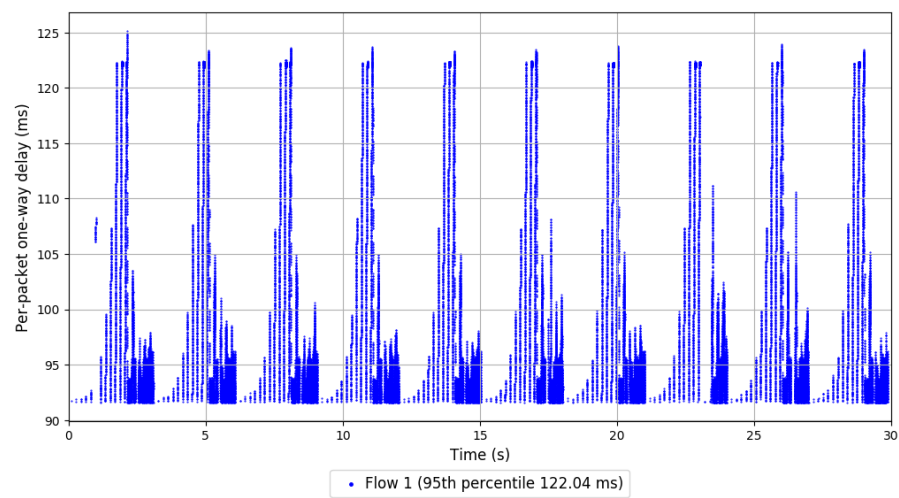
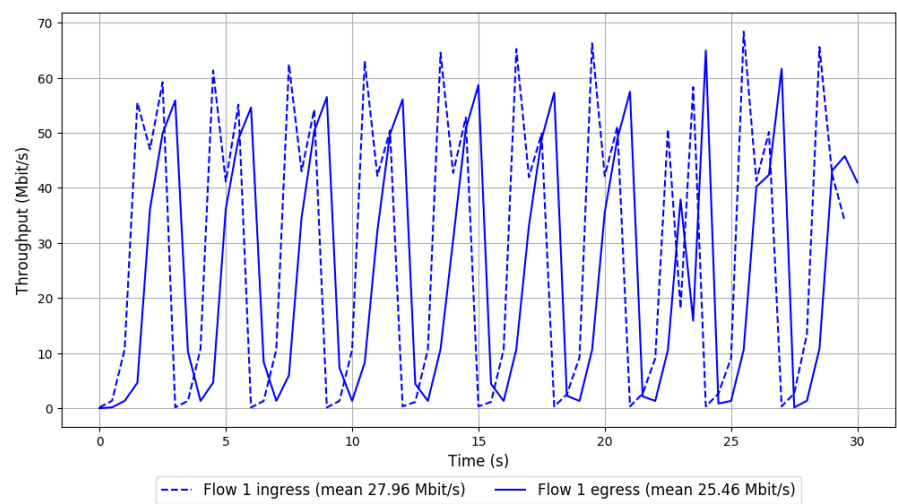


Run 3: Statistics of Verus

Start at: 2018-10-02 08:09:24  
End at: 2018-10-02 08:09:54  
Local clock offset: -2.306 ms  
Remote clock offset: -3.412 ms

# Below is generated by plot.py at 2018-10-02 09:04:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 25.46 Mbit/s  
95th percentile per-packet one-way delay: 122.036 ms  
Loss rate: 8.97%  
-- Flow 1:  
Average throughput: 25.46 Mbit/s  
95th percentile per-packet one-way delay: 122.036 ms  
Loss rate: 8.97%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-02 08:30:37

End at: 2018-10-02 08:31:07

Local clock offset: -5.695 ms

Remote clock offset: 1.223 ms

# Below is generated by plot.py at 2018-10-02 09:04:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 26.95 Mbit/s

95th percentile per-packet one-way delay: 116.728 ms

Loss rate: 9.62%

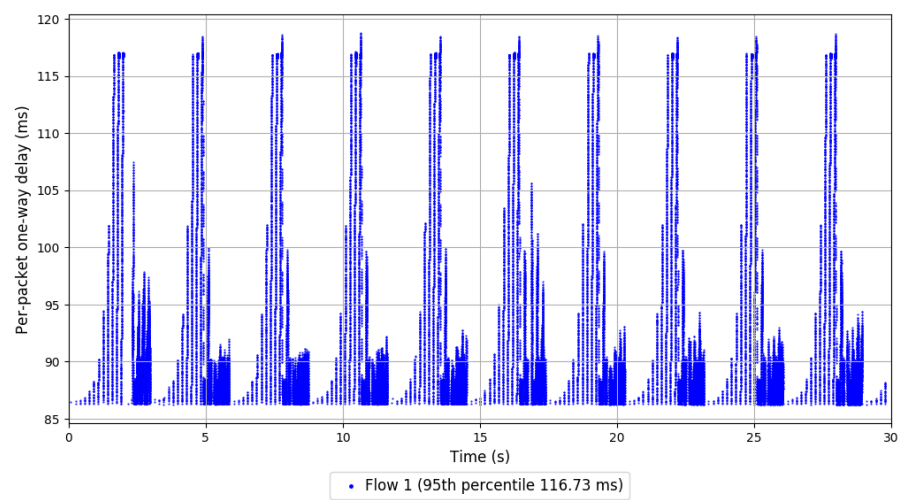
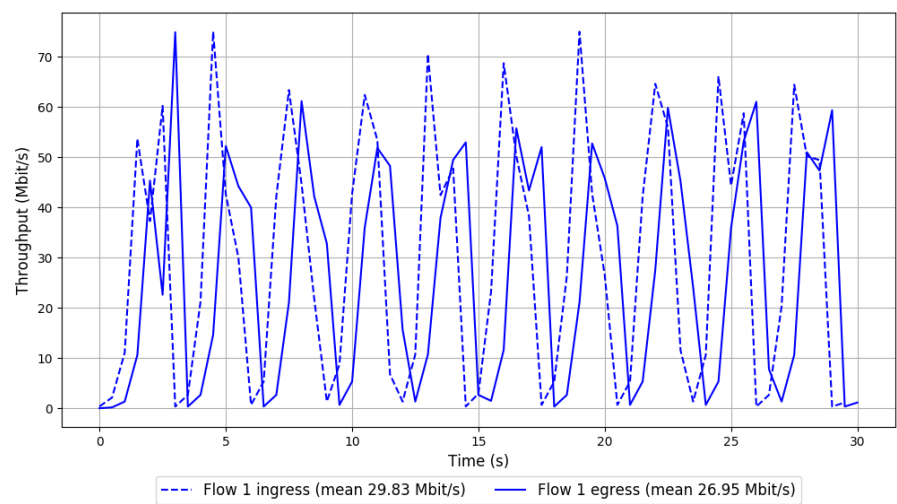
-- Flow 1:

Average throughput: 26.95 Mbit/s

95th percentile per-packet one-way delay: 116.728 ms

Loss rate: 9.62%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-02 08:51:48

End at: 2018-10-02 08:52:18

Local clock offset: -6.7 ms

Remote clock offset: -4.18 ms

# Below is generated by plot.py at 2018-10-02 09:04:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 27.83 Mbit/s

95th percentile per-packet one-way delay: 112.261 ms

Loss rate: 26.62%

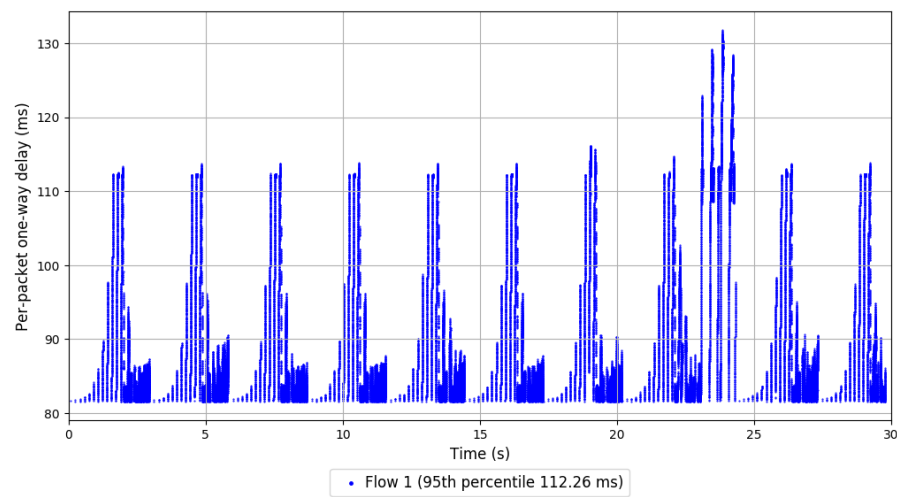
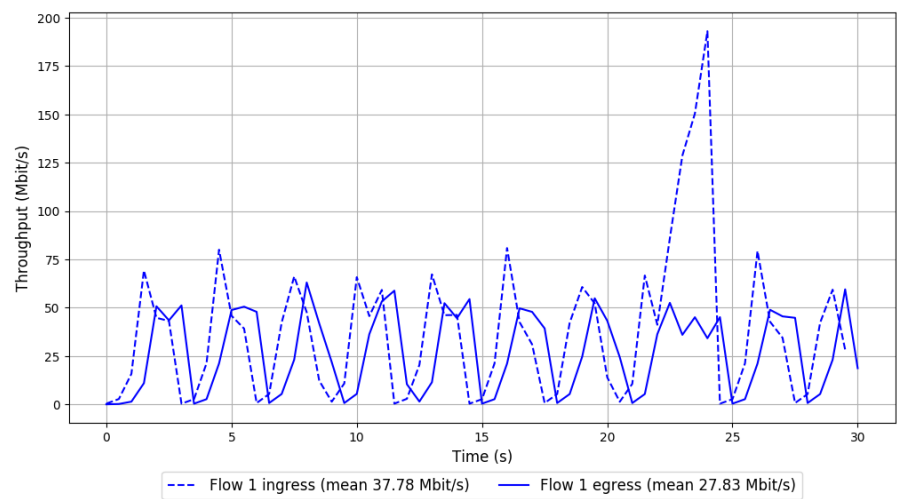
-- Flow 1:

Average throughput: 27.83 Mbit/s

95th percentile per-packet one-way delay: 112.261 ms

Loss rate: 26.62%

Run 5: Report of Verus — Data Link



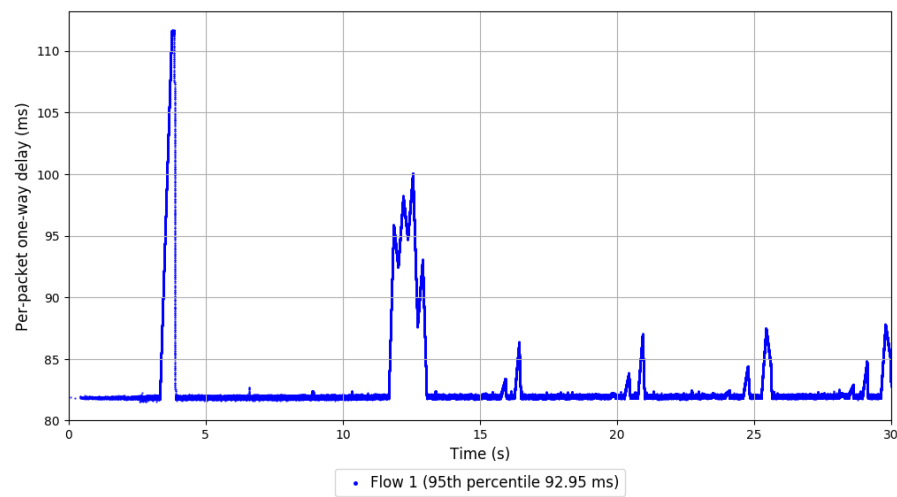
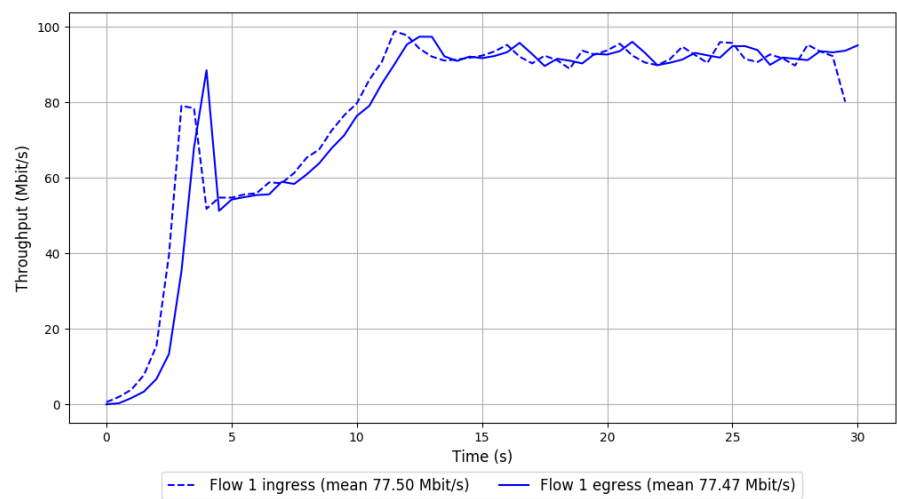


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 07:21:21  
End at: 2018-10-02 07:21:51  
Local clock offset: 0.046 ms  
Remote clock offset: -2.871 ms

# Below is generated by plot.py at 2018-10-02 09:04:52  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.47 Mbit/s  
95th percentile per-packet one-way delay: 92.947 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 77.47 Mbit/s  
95th percentile per-packet one-way delay: 92.947 ms  
Loss rate: 0.03%

Run 1: Report of PCC-Vivace — Data Link

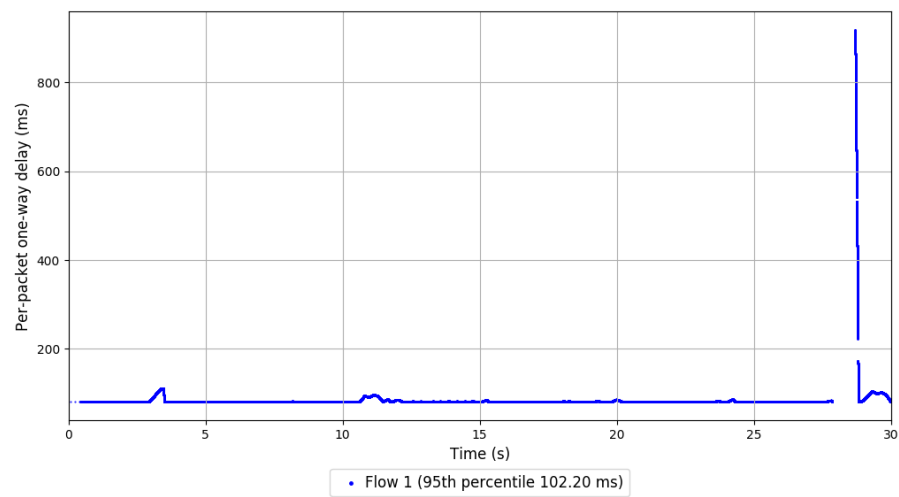
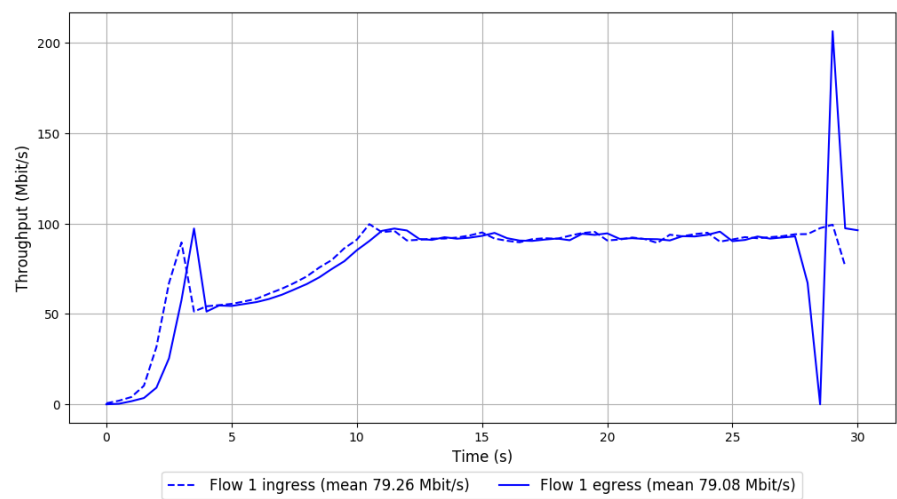


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 07:42:30  
End at: 2018-10-02 07:43:00  
Local clock offset: 1.45 ms  
Remote clock offset: -2.002 ms

# Below is generated by plot.py at 2018-10-02 09:04:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 79.08 Mbit/s  
95th percentile per-packet one-way delay: 102.201 ms  
Loss rate: 0.23%  
-- Flow 1:  
Average throughput: 79.08 Mbit/s  
95th percentile per-packet one-way delay: 102.201 ms  
Loss rate: 0.23%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 08:03:31

End at: 2018-10-02 08:04:01

Local clock offset: -1.968 ms

Remote clock offset: 1.671 ms

# Below is generated by plot.py at 2018-10-02 09:04:54

# Datalink statistics

-- Total of 1 flow:

Average throughput: 76.72 Mbit/s

95th percentile per-packet one-way delay: 108.279 ms

Loss rate: 0.09%

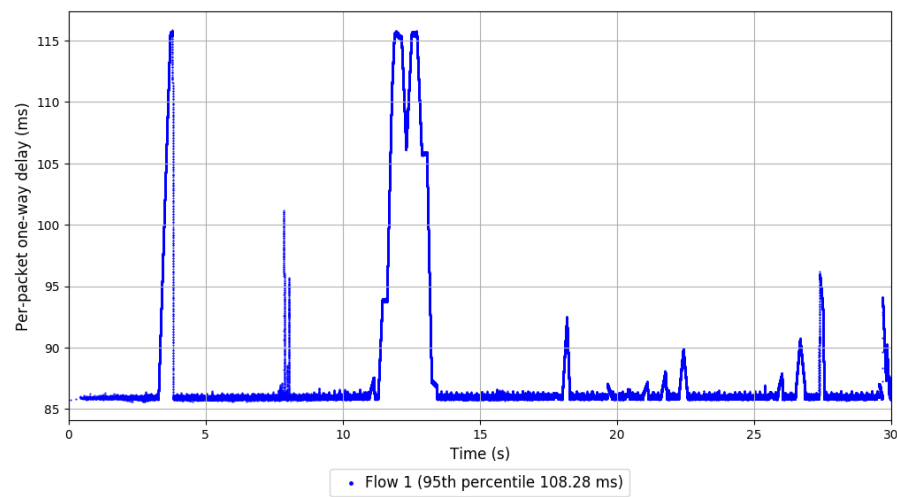
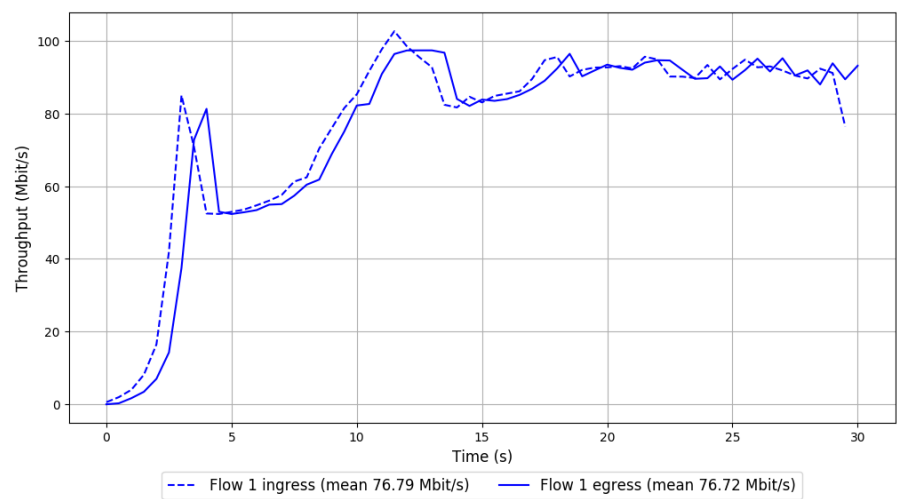
-- Flow 1:

Average throughput: 76.72 Mbit/s

95th percentile per-packet one-way delay: 108.279 ms

Loss rate: 0.09%

Run 3: Report of PCC-Vivace — Data Link

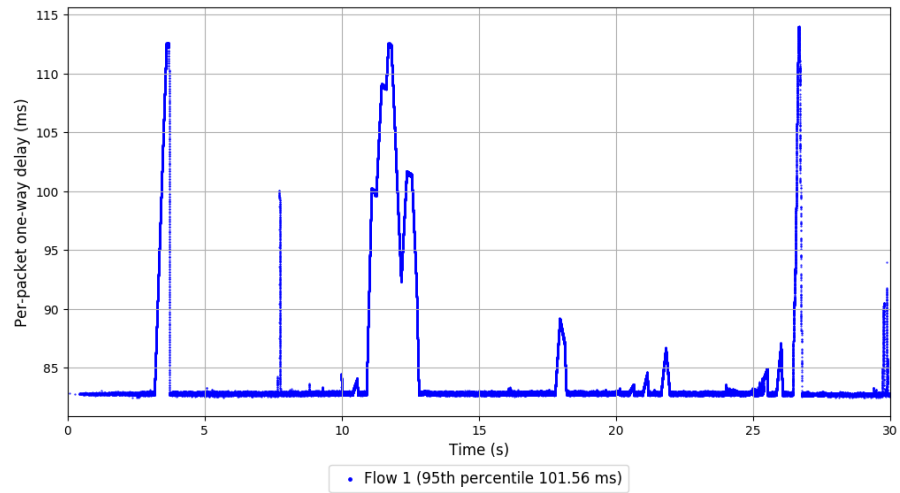
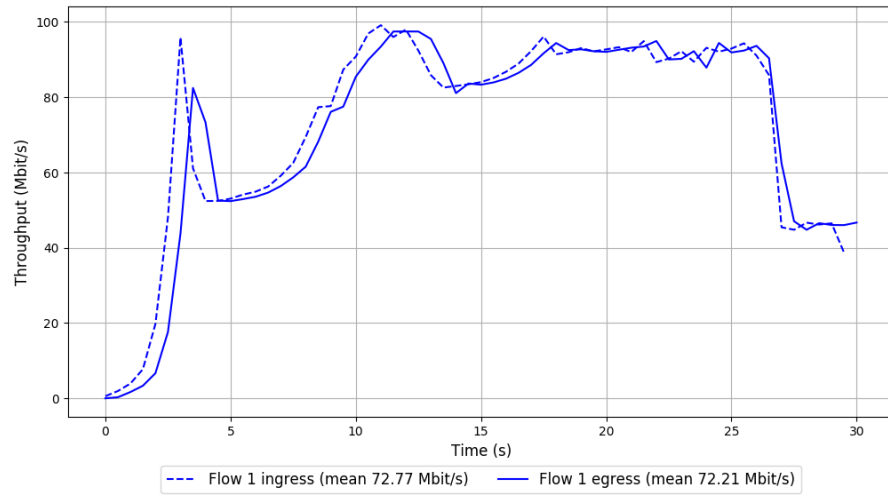


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 08:24:41  
End at: 2018-10-02 08:25:11  
Local clock offset: -4.804 ms  
Remote clock offset: -2.622 ms

# Below is generated by plot.py at 2018-10-02 09:04:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 72.21 Mbit/s  
95th percentile per-packet one-way delay: 101.563 ms  
Loss rate: 0.77%  
-- Flow 1:  
Average throughput: 72.21 Mbit/s  
95th percentile per-packet one-way delay: 101.563 ms  
Loss rate: 0.77%

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





Run 5: Statistics of PCC-Vivace

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

End at: 2018-10-02 08:46:22

Local clock offset: -6.924 ms

Remote clock offset: 1.014 ms

# Below is generated by plot.py at 2018-10-02 09:04:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 75.60 Mbit/s

95th percentile per-packet one-way delay: 110.440 ms

Loss rate: 0.96%

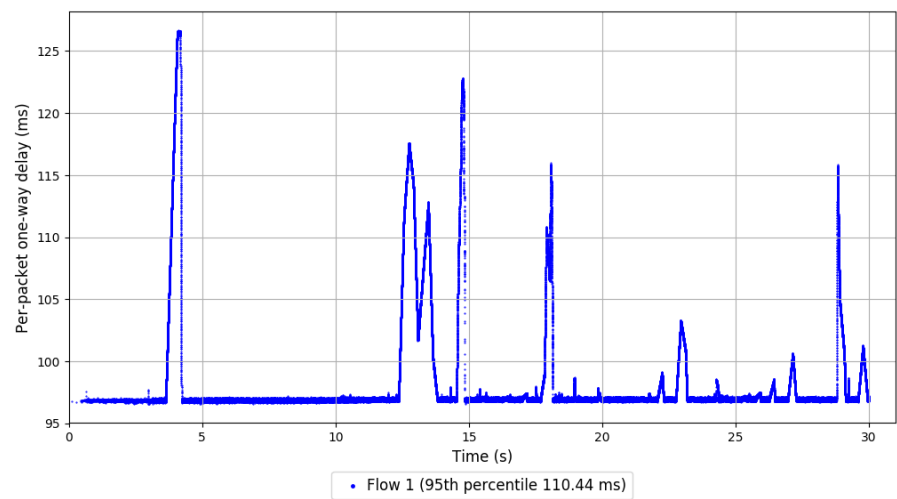
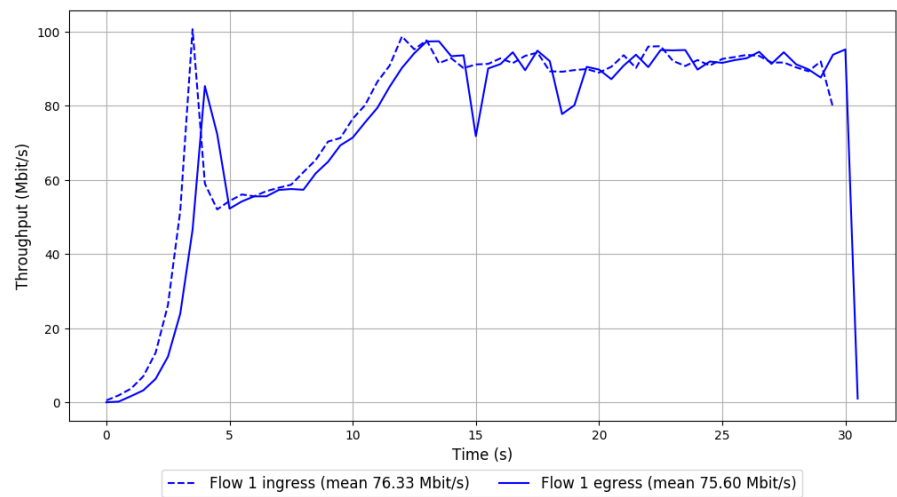
-- Flow 1:

Average throughput: 75.60 Mbit/s

95th percentile per-packet one-way delay: 110.440 ms

Loss rate: 0.96%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-10-02 07:20:14

End at: 2018-10-02 07:20:44

Local clock offset: -0.039 ms

Remote clock offset: 2.234 ms

# Below is generated by plot.py at 2018-10-02 09:04:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 86.938 ms

Loss rate: 0.00%

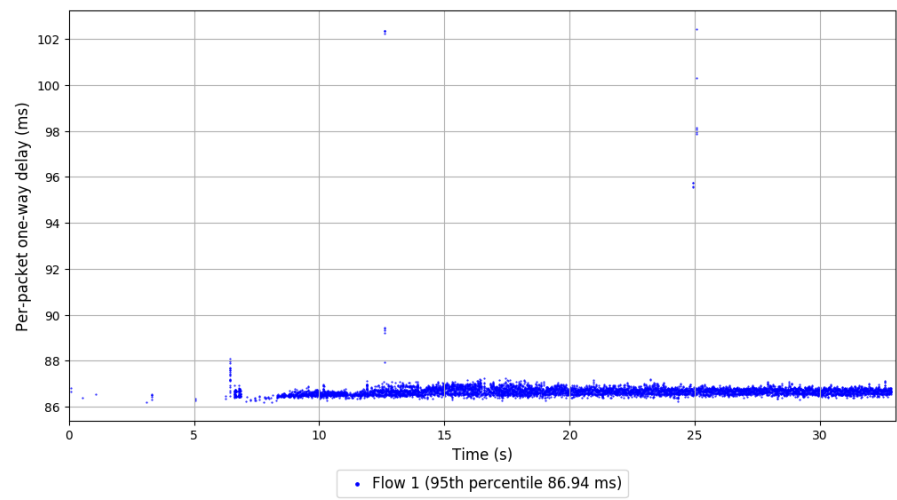
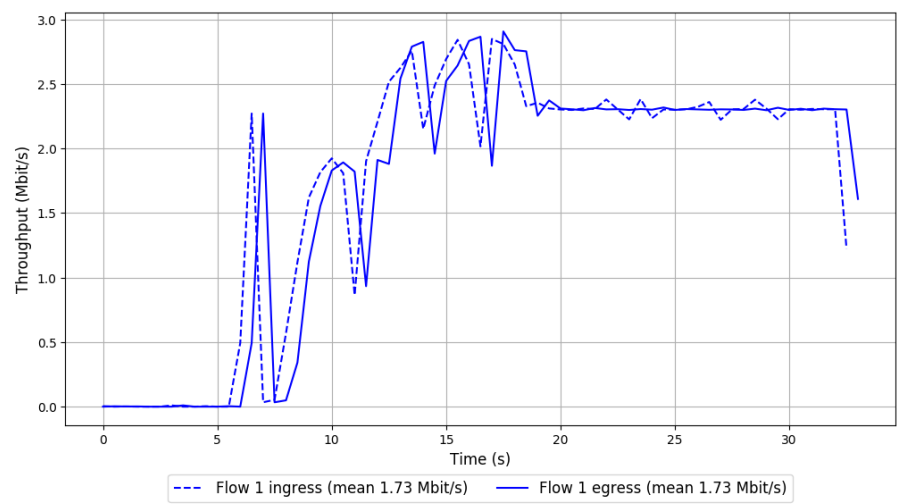
-- Flow 1:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 86.938 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

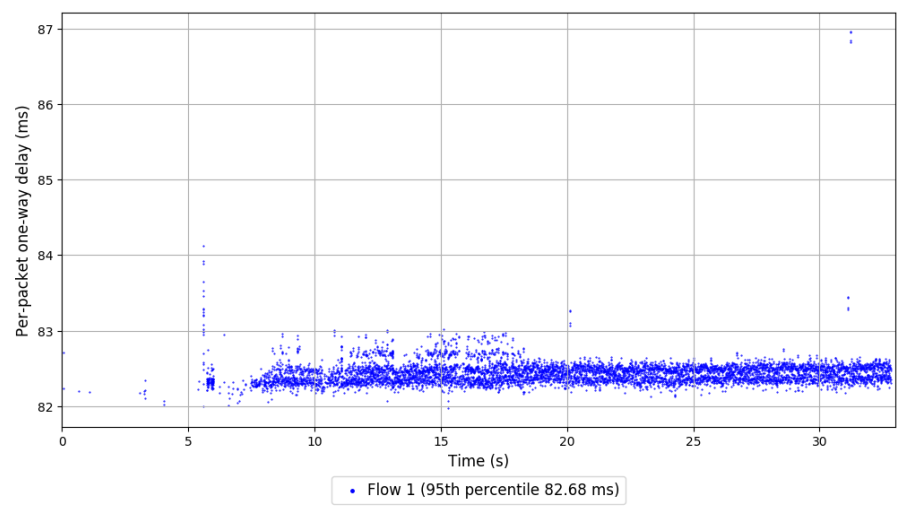
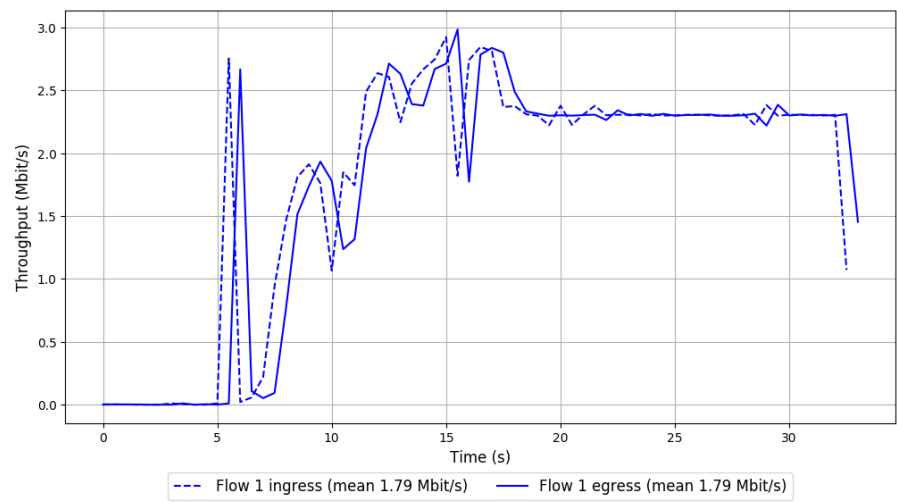


Run 2: Statistics of WebRTC media

Start at: 2018-10-02 07:41:23  
End at: 2018-10-02 07:41:53  
Local clock offset: 1.329 ms  
Remote clock offset: -2.028 ms

# Below is generated by plot.py at 2018-10-02 09:04:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.79 Mbit/s  
95th percentile per-packet one-way delay: 82.680 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.79 Mbit/s  
95th percentile per-packet one-way delay: 82.680 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

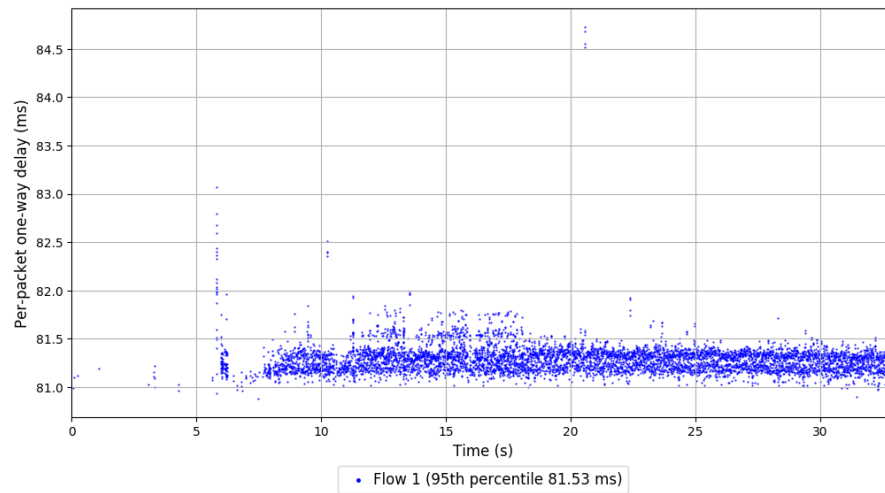
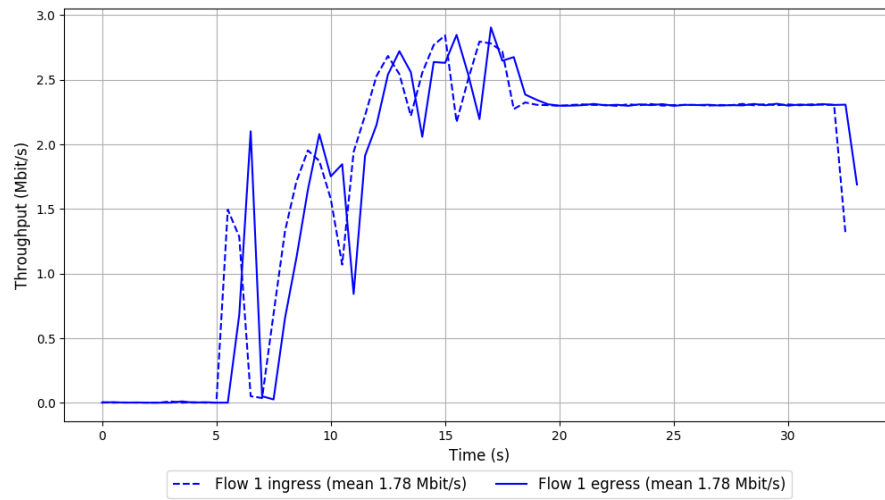


Run 3: Statistics of WebRTC media

Start at: 2018-10-02 08:02:23  
End at: 2018-10-02 08:02:53  
Local clock offset: -1.878 ms  
Remote clock offset: -3.333 ms

# Below is generated by plot.py at 2018-10-02 09:04:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 81.533 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.78 Mbit/s  
95th percentile per-packet one-way delay: 81.533 ms  
Loss rate: 0.00%

### Run 3: Report of WebRTC media — Data Link





Run 4: Statistics of WebRTC media

Start at: 2018-10-02 08:23:33

End at: 2018-10-02 08:24:03

Local clock offset: -4.539 ms

Remote clock offset: 1.347 ms

# Below is generated by plot.py at 2018-10-02 09:04:55

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 90.390 ms

Loss rate: 0.00%

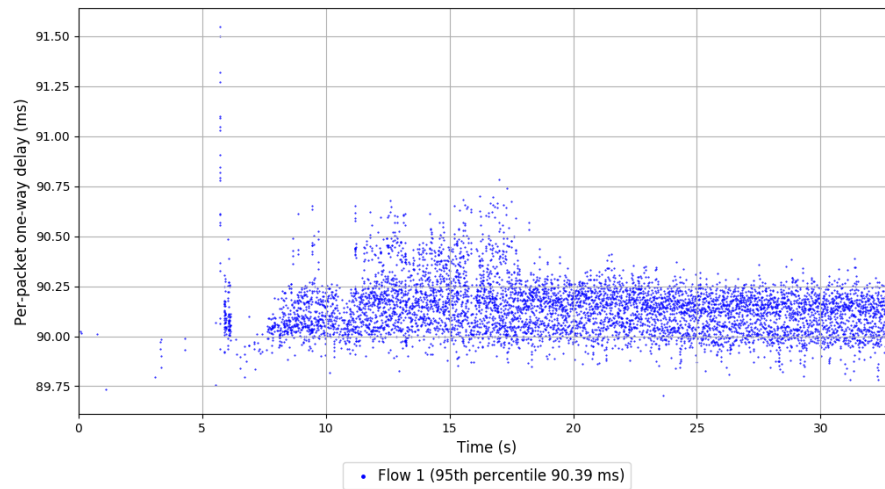
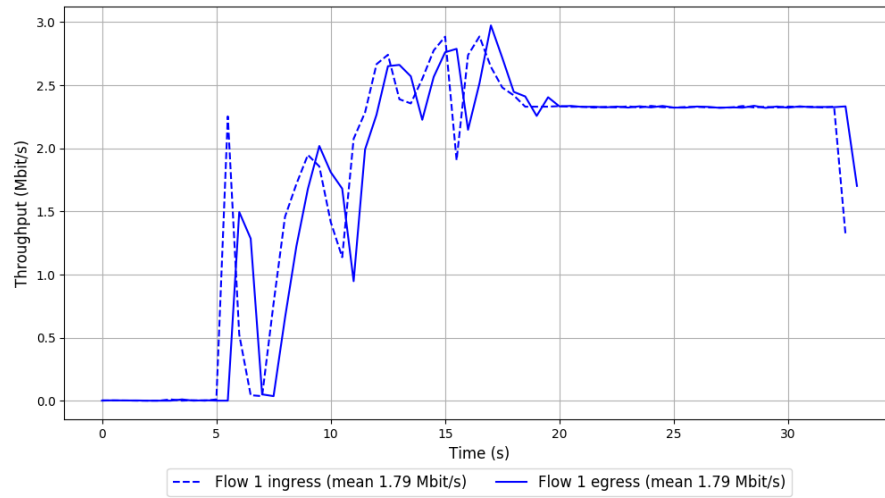
-- Flow 1:

Average throughput: 1.79 Mbit/s

95th percentile per-packet one-way delay: 90.390 ms

Loss rate: 0.00%

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



Run 5: Statistics of WebRTC media

Start at: 2018-10-02 08:44:45  
End at: 2018-10-02 08:45:15  
Local clock offset: -6.866 ms  
Remote clock offset: -4.078 ms

# Below is generated by plot.py at 2018-10-02 09:04:55  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.87 Mbit/s  
95th percentile per-packet one-way delay: 80.051 ms  
Loss rate: 0.60%  
-- Flow 1:  
Average throughput: 1.87 Mbit/s  
95th percentile per-packet one-way delay: 80.051 ms  
Loss rate: 0.60%

# Run 5: Report of WebRTC media — Data Link

