

## Pantheon Report

Generated at 2019-01-02 21:59:03 (UTC).

Data path: AWS India 2 on **ens5** (*local*) → Saudi Arabia on **enp2s0** (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

### System info:

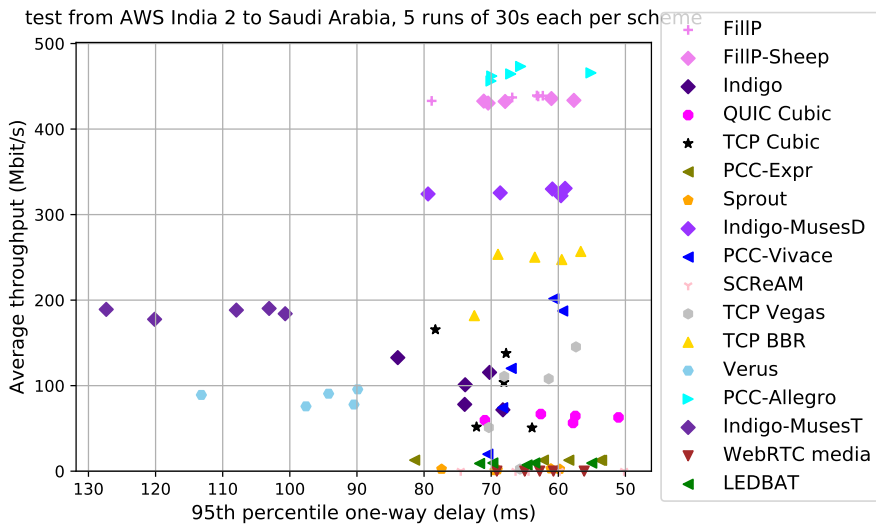
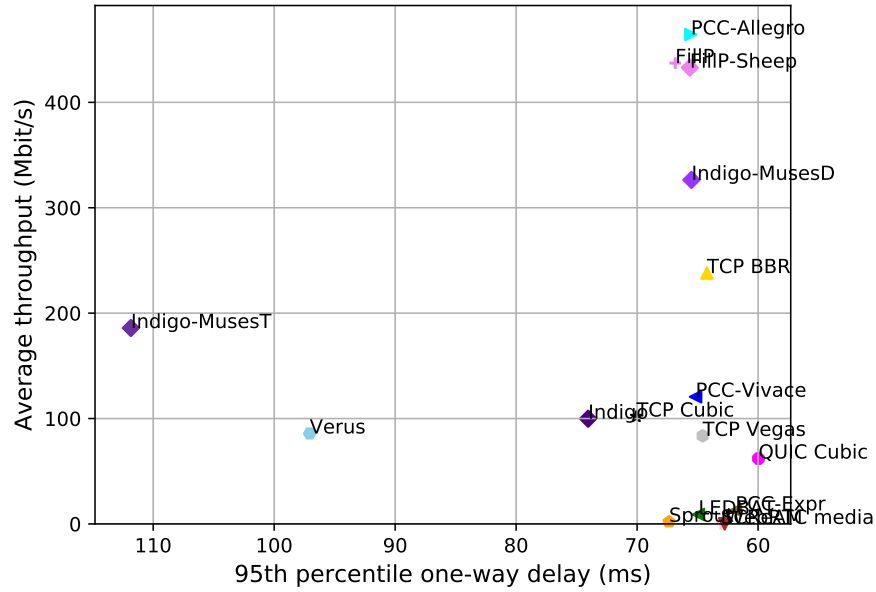
Linux 4.15.0-1029-aws  
net.core.default\_qdisc = fq  
net.core.rmem\_default = 16777216  
net.core.rmem\_max = 536870912  
net.core.wmem\_default = 16777216  
net.core.wmem\_max = 536870912  
net.ipv4.tcp\_rmem = 4096 16777216 536870912  
net.ipv4.tcp\_wmem = 4096 16777216 536870912

### Git summary:

branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68  
third\_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519  
third\_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9  
third\_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4  
third\_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d  
third\_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf  
third\_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a  
third\_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb  
third\_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd  
third\_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1  
M receiver/src/buffer.h  
M receiver/src/core.cpp  
M sender/src/buffer.h  
M sender/src/core.cpp  
third\_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab  
third\_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42  
third\_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2  
M src/ScreamClient  
M src/ScreamServer  
third\_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26  
M src/examples/cellsim.cc  
M src/examples/sproutbt2.cc  
M src/network/sproutconn.cc  
third\_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494  
M src/verus.hpp  
M tools/plot.py

third\_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4  
third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS India 2 to Saudi Arabia, 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	238.02	64.23	6.03
Copa	0	N/A	N/A	N/A
TCP Cubic	5	101.88	70.06	0.83
FillP	5	437.27	66.85	5.39
FillP-Sheep	5	432.91	65.64	4.84
Indigo	5	99.82	74.05	0.31
Indigo-MusesD	5	326.45	65.51	27.88
Indigo-MusesT	5	185.88	111.85	27.97
LEDBAT	5	8.96	64.93	0.04
PCC-Allegro	5	464.32	65.56	3.79
PCC-Expr	5	12.81	61.88	31.28
QUIC Cubic	5	62.03	59.97	0.01
SCReAM	5	0.22	63.07	0.00
Sprout	5	2.02	67.36	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	83.53	64.58	0.38
Verus	5	85.82	97.06	65.66
PCC-Vivace	5	120.63	65.17	0.41
WebRTC media	5	0.05	62.76	0.00

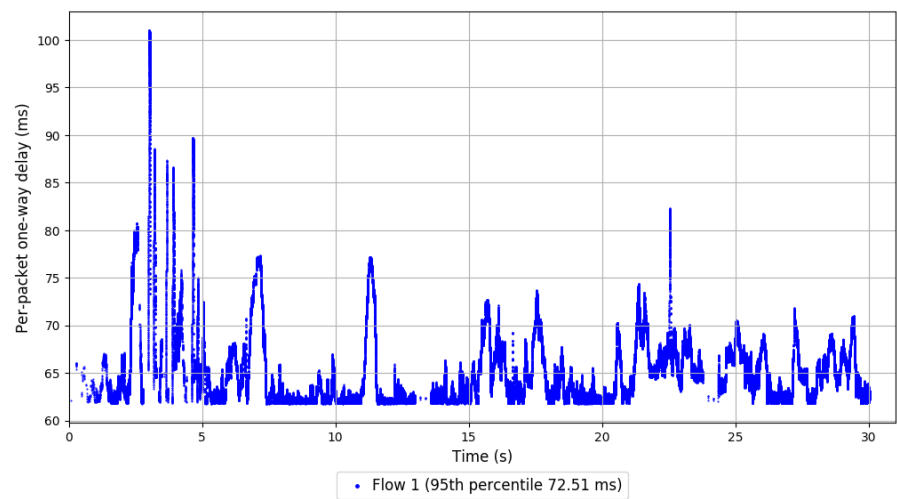
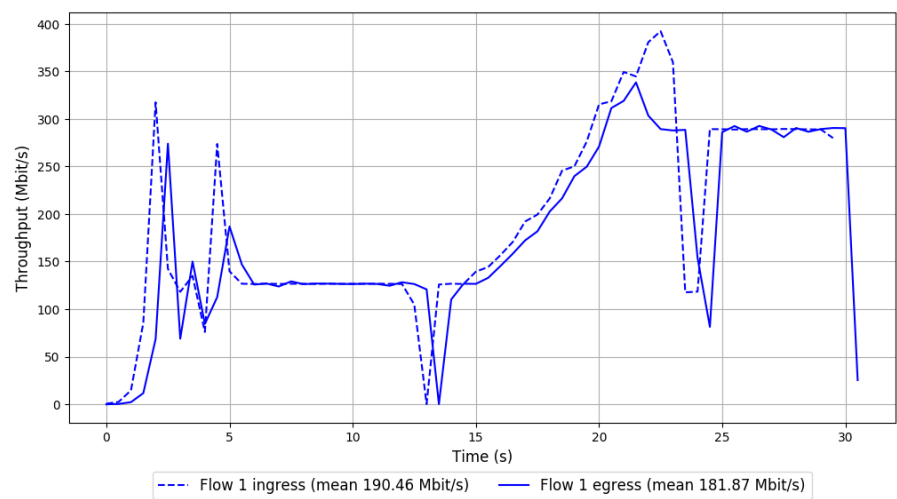


Run 1: Statistics of TCP BBR

Start at: 2019-01-02 19:37:26  
End at: 2019-01-02 19:37:56  
Local clock offset: 0.12 ms  
Remote clock offset: -36.533 ms

# Below is generated by plot.py at 2019-01-02 21:40:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 181.87 Mbit/s  
95th percentile per-packet one-way delay: 72.508 ms  
Loss rate: 4.52%  
-- Flow 1:  
Average throughput: 181.87 Mbit/s  
95th percentile per-packet one-way delay: 72.508 ms  
Loss rate: 4.52%

Run 1: Report of TCP BBR — Data Link

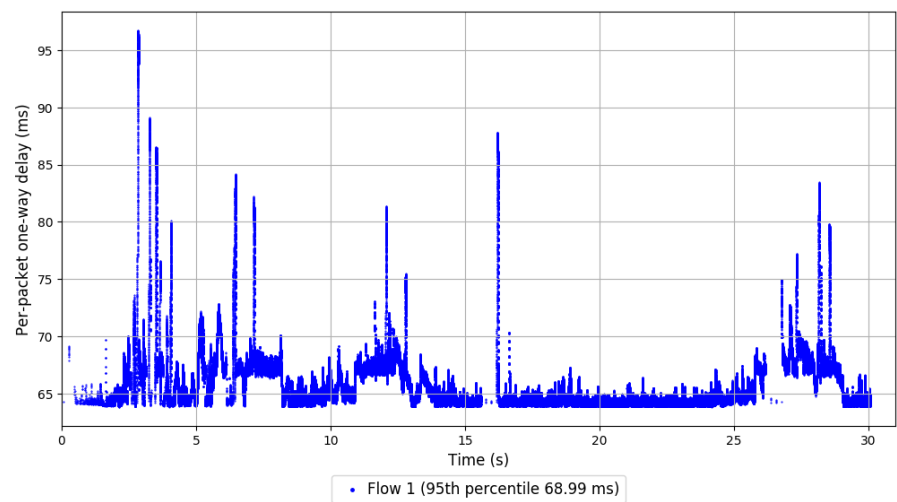
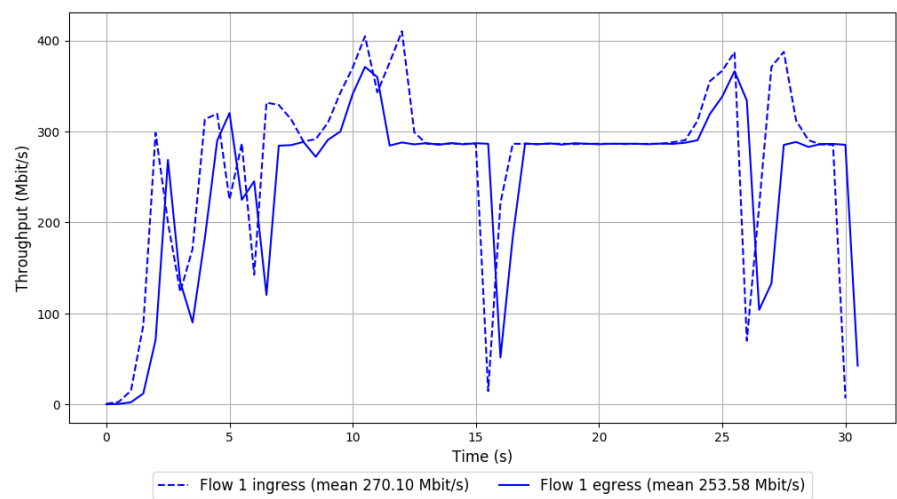


Run 2: Statistics of TCP BBR

Start at: 2019-01-02 20:07:28  
End at: 2019-01-02 20:07:58  
Local clock offset: 2.596 ms  
Remote clock offset: -34.199 ms

# Below is generated by plot.py at 2019-01-02 21:41:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 253.58 Mbit/s  
95th percentile per-packet one-way delay: 68.987 ms  
Loss rate: 6.12%  
-- Flow 1:  
Average throughput: 253.58 Mbit/s  
95th percentile per-packet one-way delay: 68.987 ms  
Loss rate: 6.12%

Run 2: Report of TCP BBR — Data Link

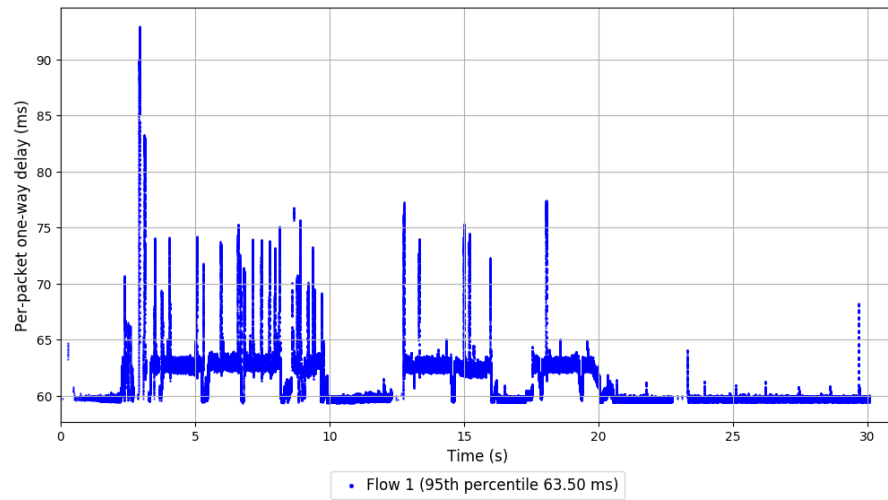
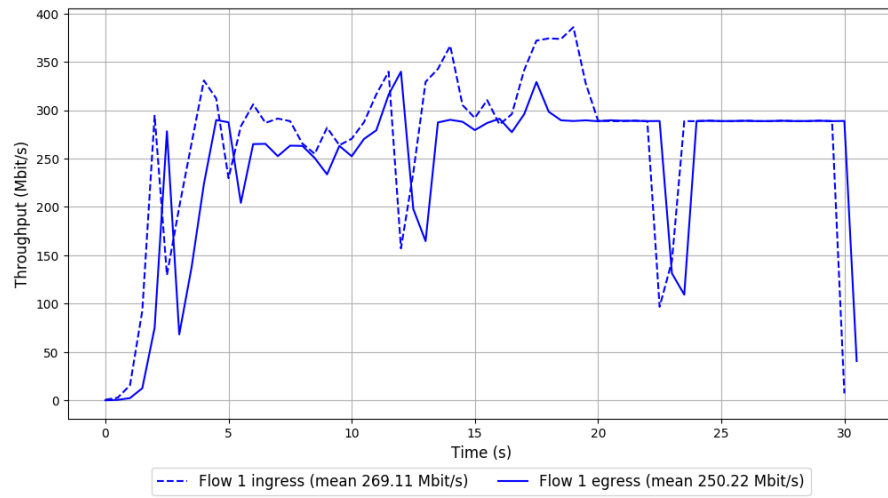


Run 3: Statistics of TCP BBR

Start at: 2019-01-02 20:37:51  
End at: 2019-01-02 20:38:21  
Local clock offset: 2.208 ms  
Remote clock offset: -39.64 ms

# Below is generated by plot.py at 2019-01-02 21:41:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 250.22 Mbit/s  
95th percentile per-packet one-way delay: 63.503 ms  
Loss rate: 7.03%  
-- Flow 1:  
Average throughput: 250.22 Mbit/s  
95th percentile per-packet one-way delay: 63.503 ms  
Loss rate: 7.03%

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

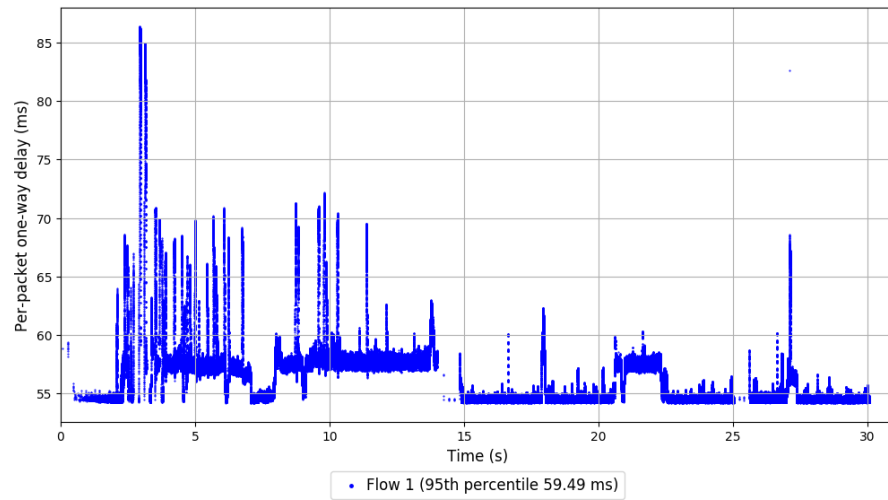
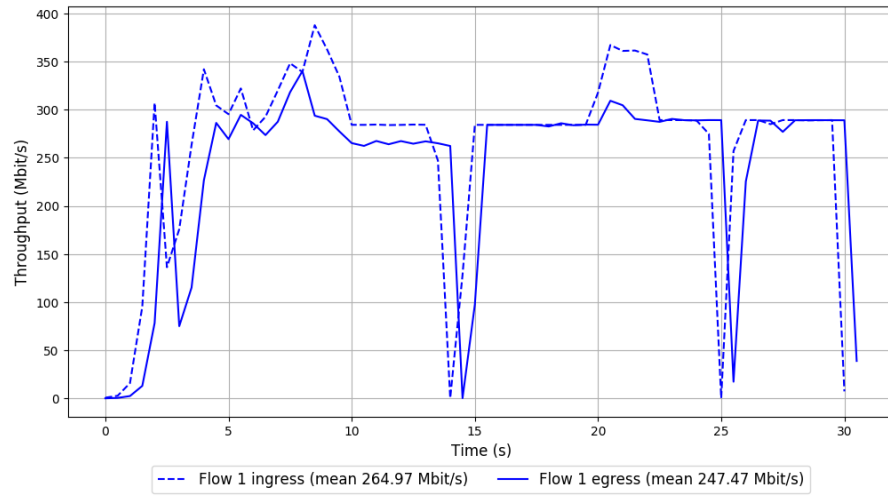


Run 4: Statistics of TCP BBR

Start at: 2019-01-02 21:02:12  
End at: 2019-01-02 21:02:42  
Local clock offset: -0.12 ms  
Remote clock offset: -44.594 ms

# Below is generated by plot.py at 2019-01-02 21:41:36  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 247.47 Mbit/s  
95th percentile per-packet one-way delay: 59.488 ms  
Loss rate: 6.62%  
-- Flow 1:  
Average throughput: 247.47 Mbit/s  
95th percentile per-packet one-way delay: 59.488 ms  
Loss rate: 6.62%

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



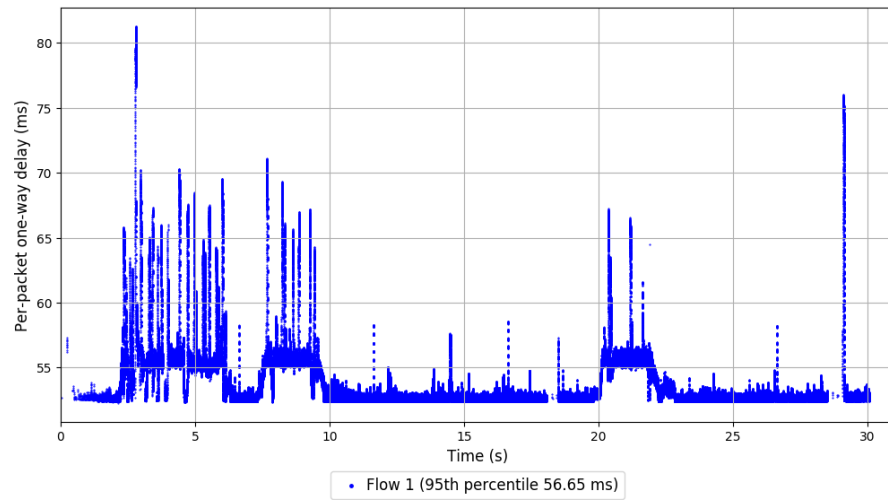
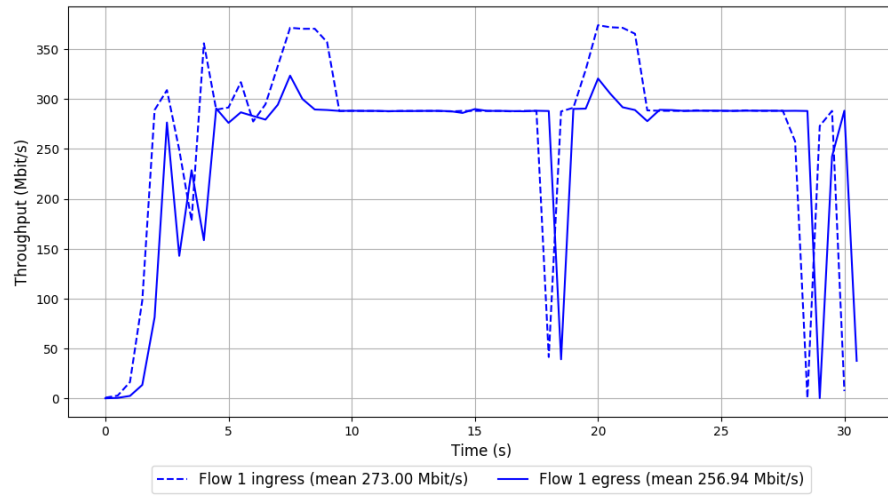


Run 5: Statistics of TCP BBR

Start at: 2019-01-02 21:26:35  
End at: 2019-01-02 21:27:05  
Local clock offset: 2.151 ms  
Remote clock offset: -44.49 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 256.94 Mbit/s  
95th percentile per-packet one-way delay: 56.653 ms  
Loss rate: 5.88%  
-- Flow 1:  
Average throughput: 256.94 Mbit/s  
95th percentile per-packet one-way delay: 56.653 ms  
Loss rate: 5.88%

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



Run 1: Statistics of Copa

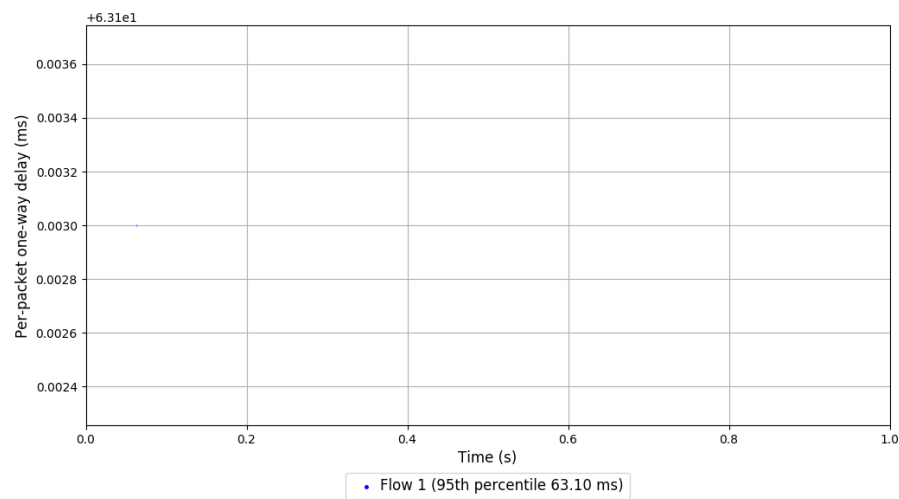
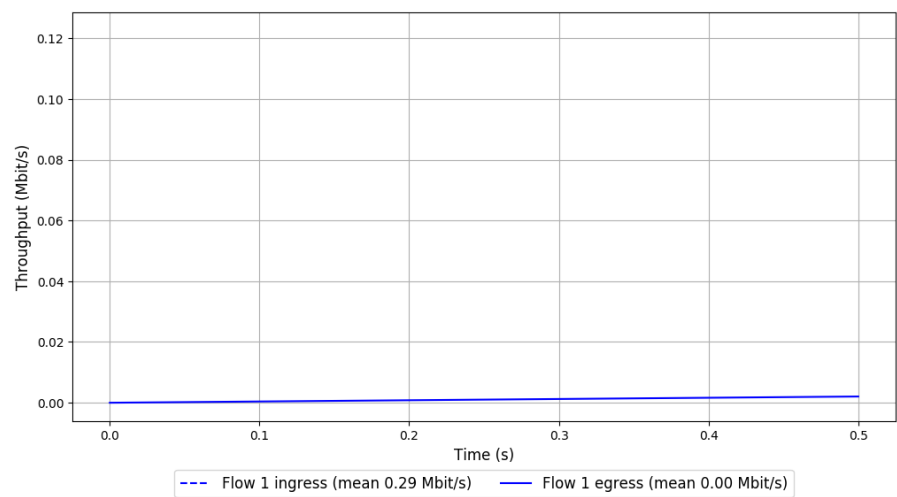
Start at: 2019-01-02 19:47:05

End at: 2019-01-02 19:47:35

Local clock offset: -0.422 ms

Remote clock offset: -35.702 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

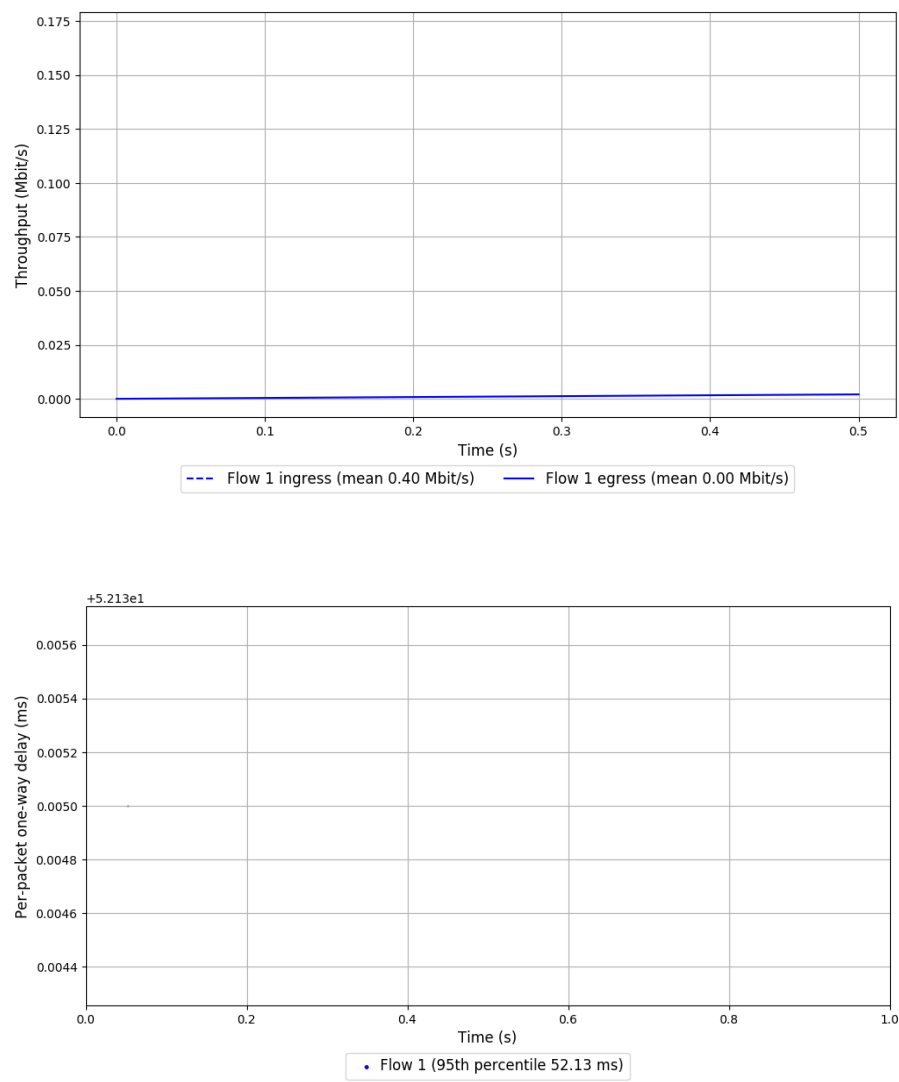
Start at: 2019-01-02 20:17:31

End at: 2019-01-02 20:18:01

Local clock offset: 1.739 ms

Remote clock offset: -45.509 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

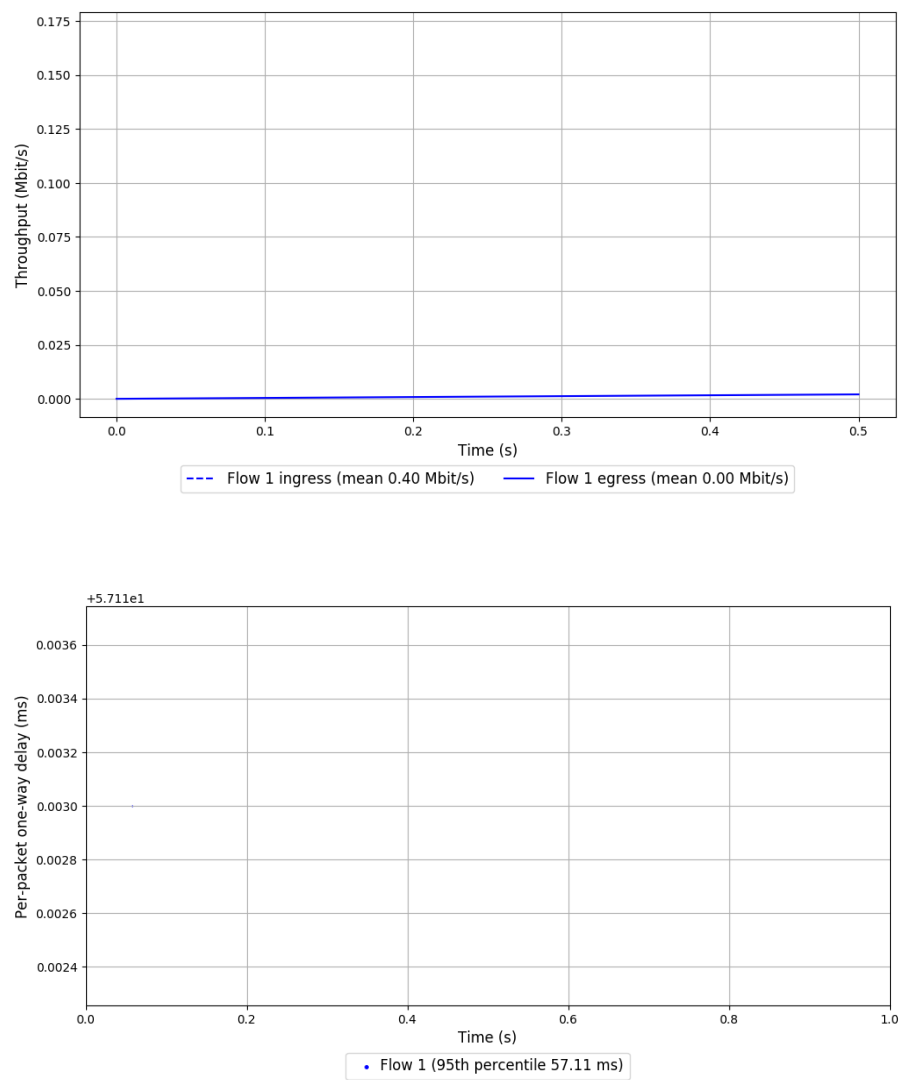
Start at: 2019-01-02 20:41:53

End at: 2019-01-02 20:42:23

Local clock offset: 3.418 ms

Remote clock offset: -38.768 ms

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

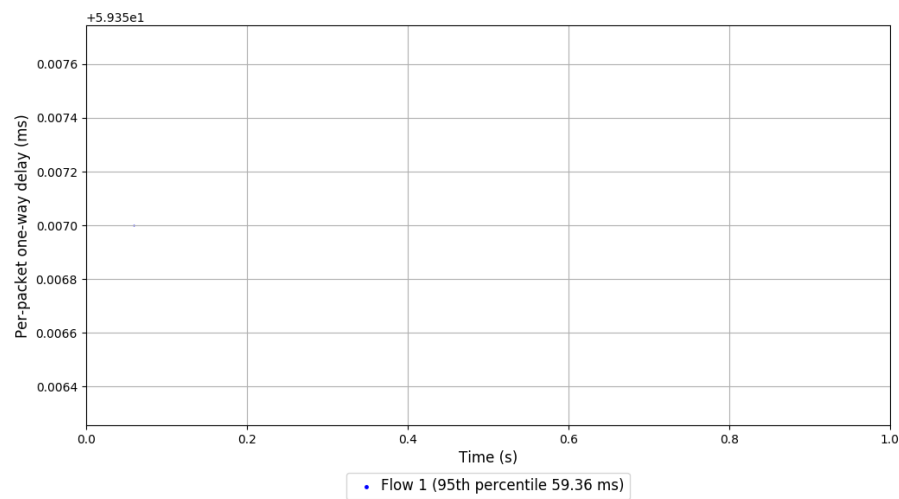
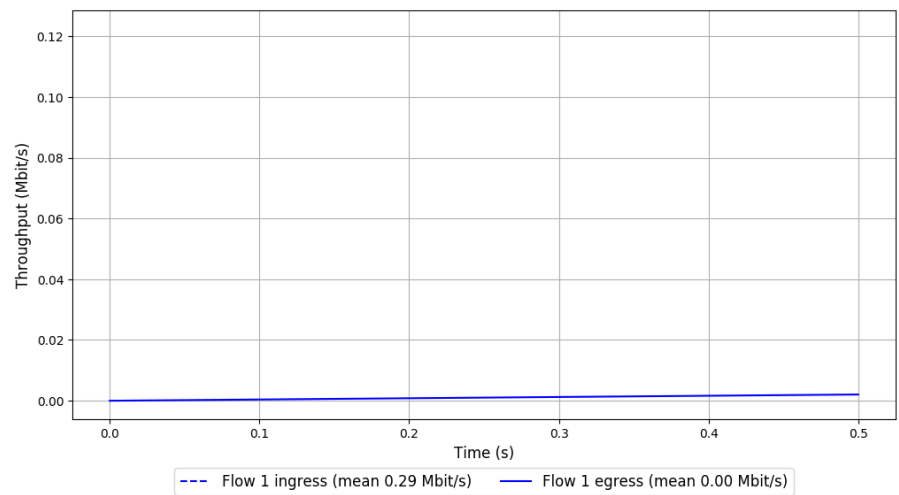
Start at: 2019-01-02 21:06:09

End at: 2019-01-02 21:06:39

Local clock offset: 2.165 ms

Remote clock offset: -37.526 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

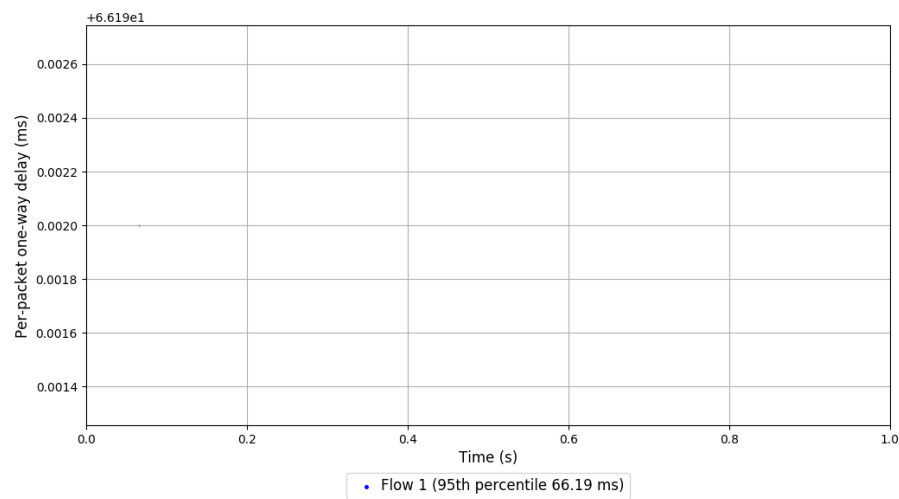
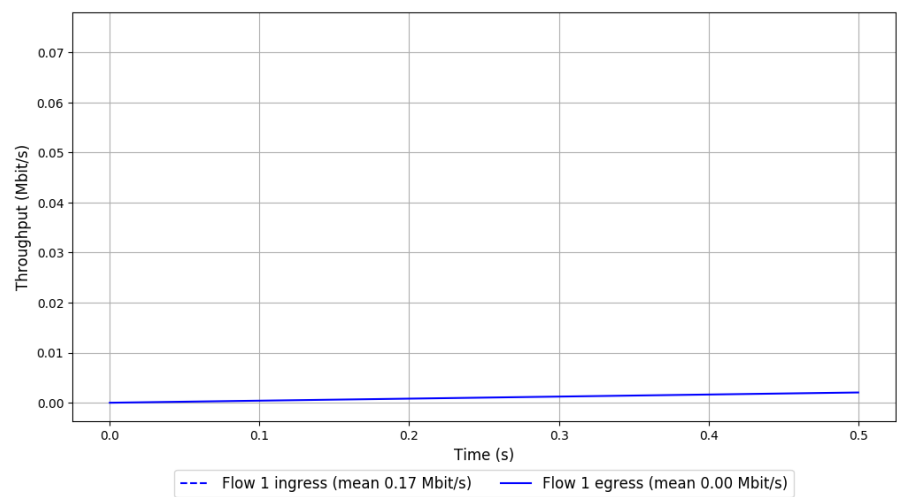
Start at: 2019-01-02 21:30:35

End at: 2019-01-02 21:31:05

Local clock offset: 2.332 ms

Remote clock offset: -31.543 ms

Run 5: Report of Copa — Data Link

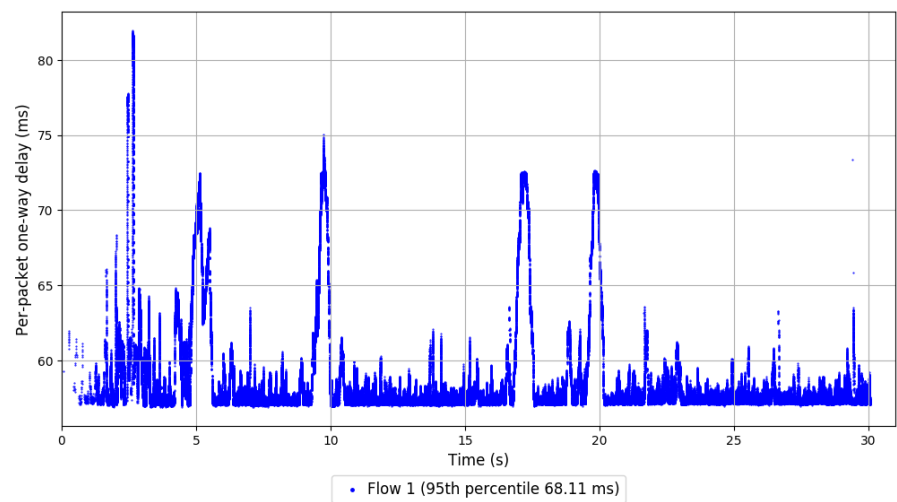
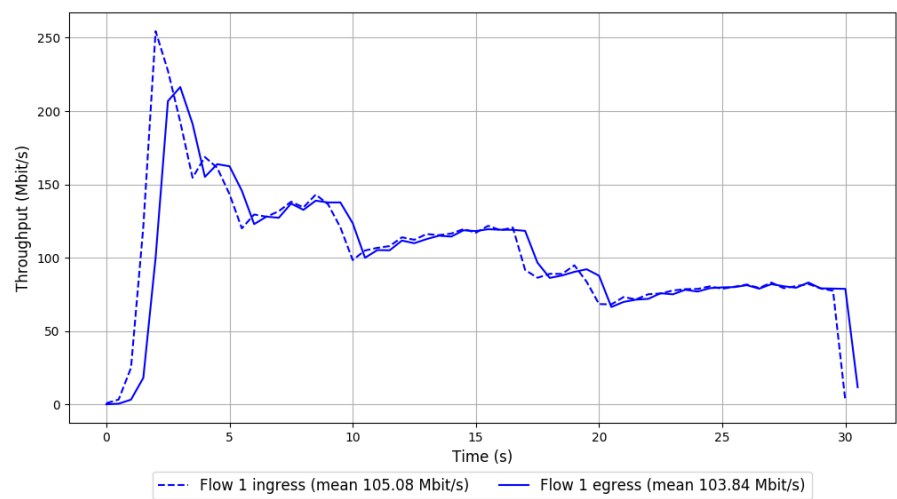


Run 1: Statistics of TCP Cubic

Start at: 2019-01-02 19:38:45  
End at: 2019-01-02 19:39:16  
Local clock offset: -0.345 ms  
Remote clock offset: -39.205 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 103.84 Mbit/s  
95th percentile per-packet one-way delay: 68.105 ms  
Loss rate: 1.19%  
-- Flow 1:  
Average throughput: 103.84 Mbit/s  
95th percentile per-packet one-way delay: 68.105 ms  
Loss rate: 1.19%

Run 1: Report of TCP Cubic — Data Link

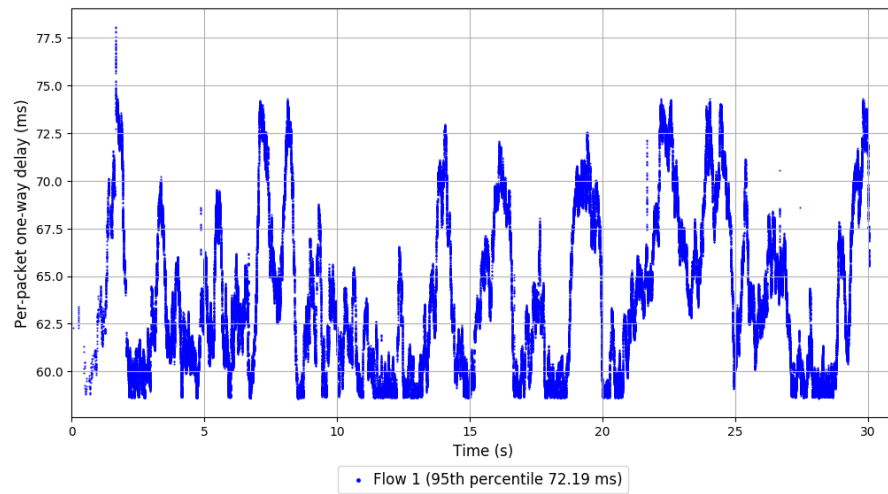
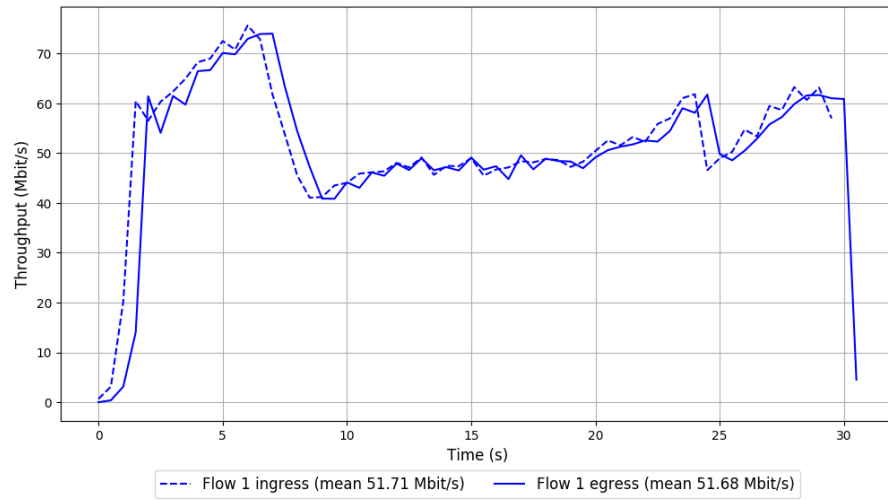


Run 2: Statistics of TCP Cubic

Start at: 2019-01-02 20:08:53  
End at: 2019-01-02 20:09:23  
Local clock offset: -0.278 ms  
Remote clock offset: -42.564 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 51.68 Mbit/s  
95th percentile per-packet one-way delay: 72.185 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 51.68 Mbit/s  
95th percentile per-packet one-way delay: 72.185 ms  
Loss rate: 0.06%

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



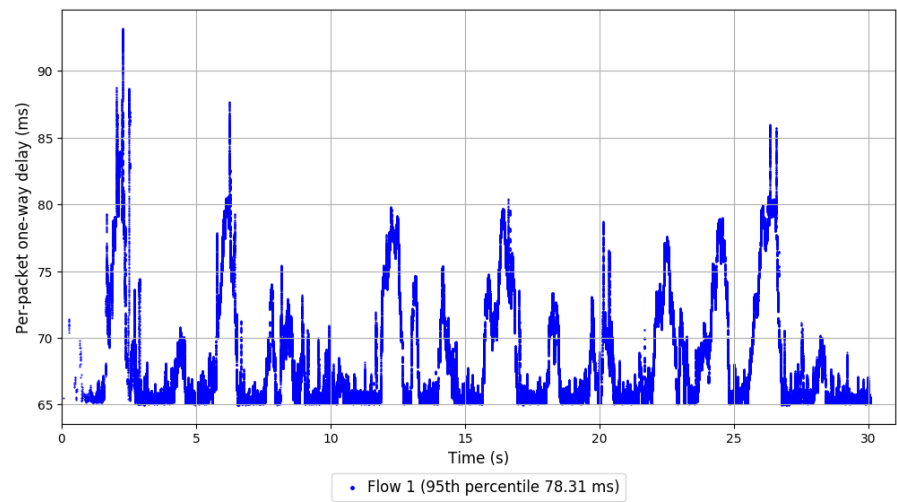
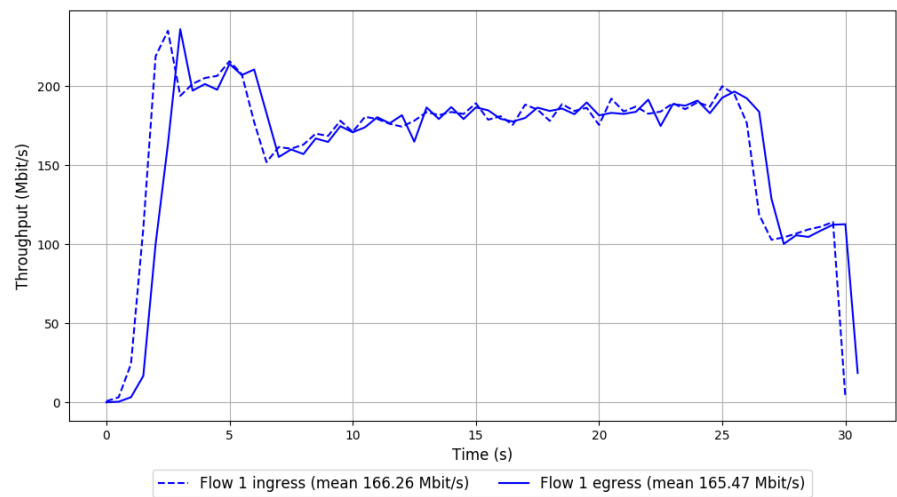


Run 3: Statistics of TCP Cubic

Start at: 2019-01-02 20:39:15  
End at: 2019-01-02 20:39:45  
Local clock offset: 0.852 ms  
Remote clock offset: -33.158 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 165.47 Mbit/s  
95th percentile per-packet one-way delay: 78.313 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 165.47 Mbit/s  
95th percentile per-packet one-way delay: 78.313 ms  
Loss rate: 0.48%

Run 3: Report of TCP Cubic — Data Link

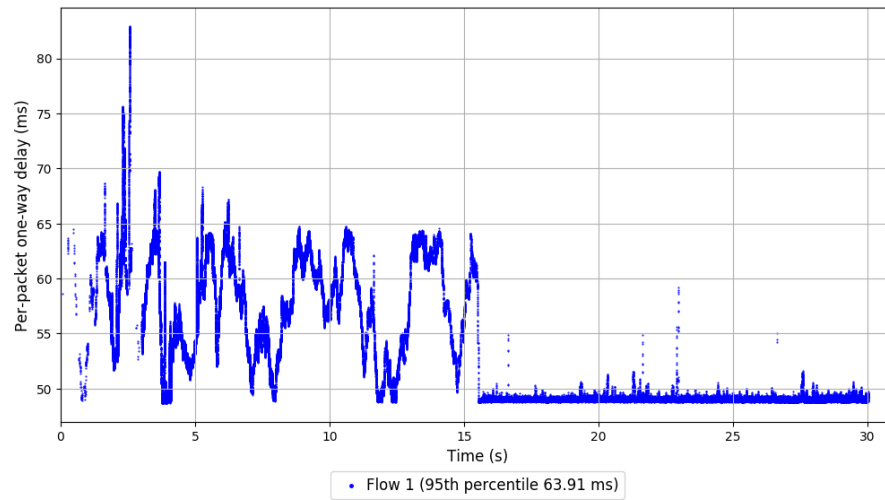
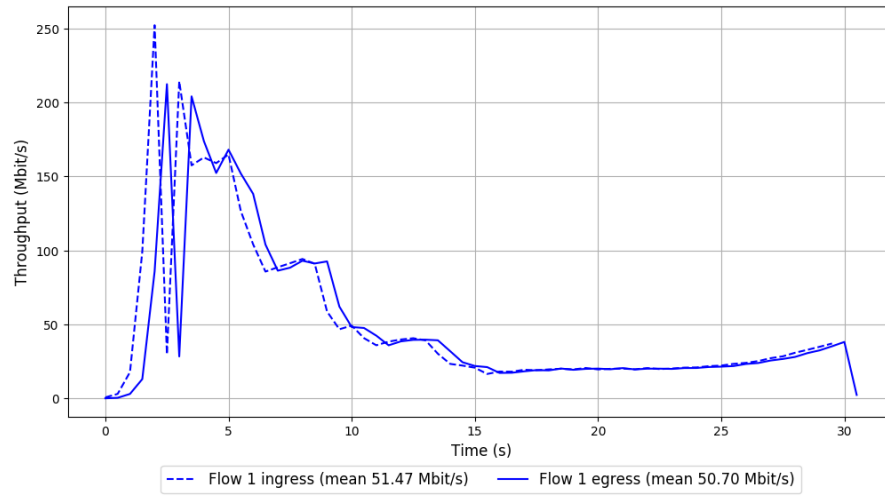


Run 4: Statistics of TCP Cubic

Start at: 2019-01-02 21:03:35  
End at: 2019-01-02 21:04:05  
Local clock offset: 3.81 ms  
Remote clock offset: -46.186 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 50.70 Mbit/s  
95th percentile per-packet one-way delay: 63.913 ms  
Loss rate: 1.53%  
-- Flow 1:  
Average throughput: 50.70 Mbit/s  
95th percentile per-packet one-way delay: 63.913 ms  
Loss rate: 1.53%

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

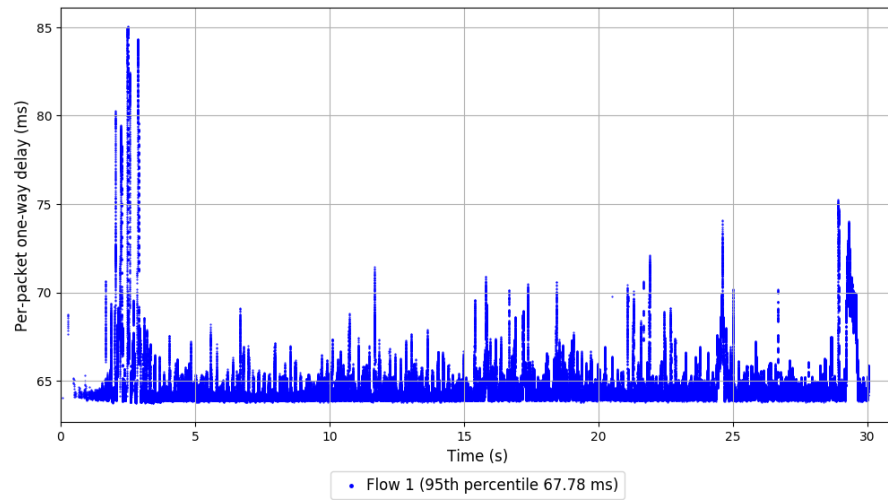
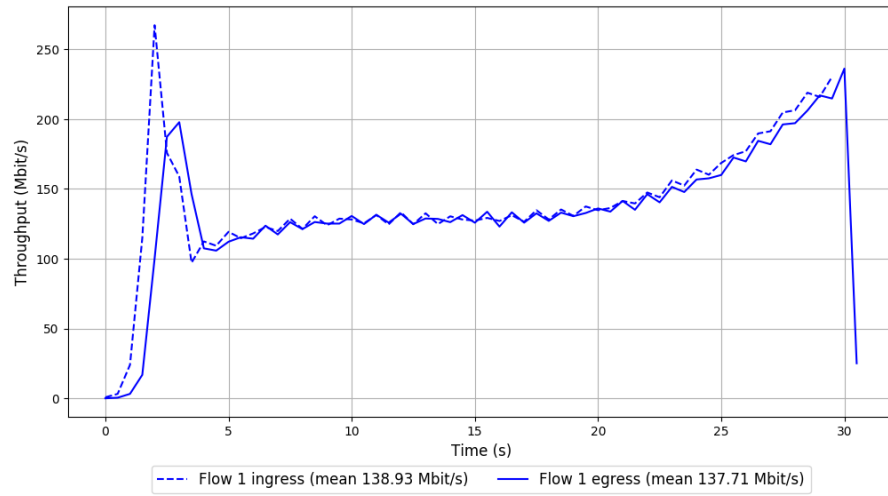


Run 5: Statistics of TCP Cubic

Start at: 2019-01-02 21:27:59  
End at: 2019-01-02 21:28:29  
Local clock offset: 0.217 ms  
Remote clock offset: -35.414 ms

# Below is generated by plot.py at 2019-01-02 21:41:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 137.71 Mbit/s  
95th percentile per-packet one-way delay: 67.776 ms  
Loss rate: 0.88%  
-- Flow 1:  
Average throughput: 137.71 Mbit/s  
95th percentile per-packet one-way delay: 67.776 ms  
Loss rate: 0.88%

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

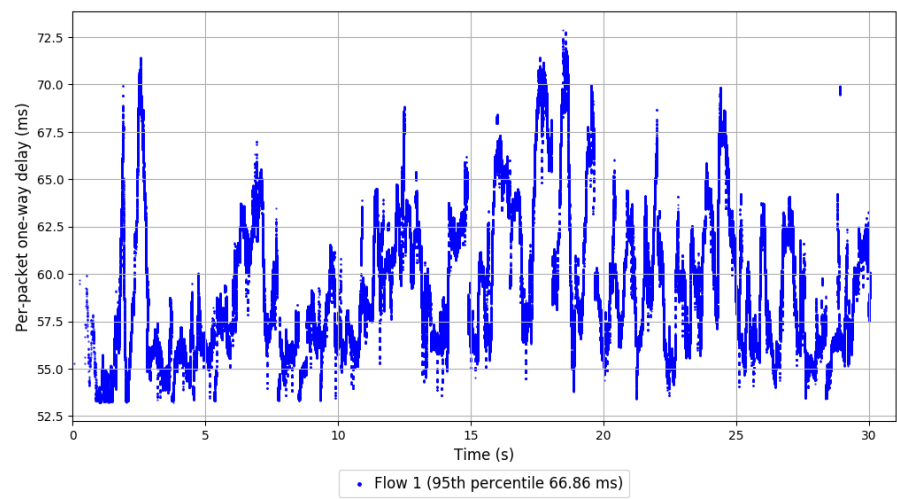
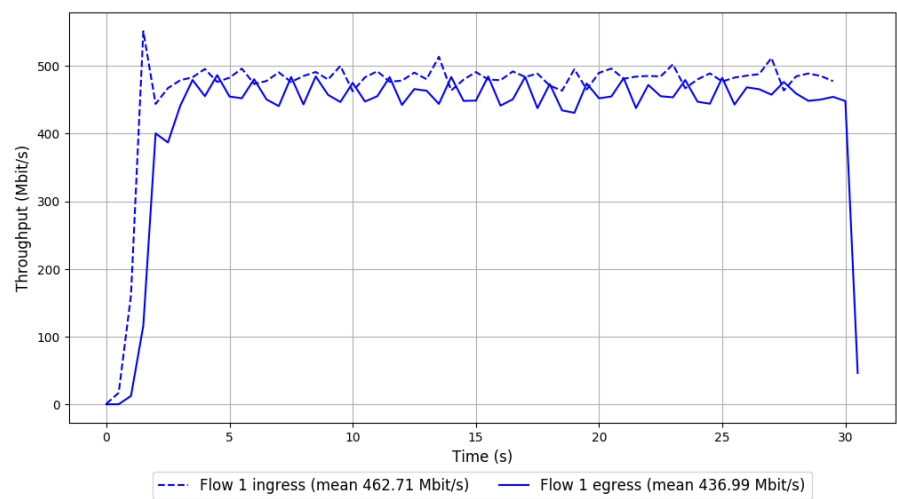


Run 1: Statistics of FillP

Start at: 2019-01-02 19:33:33  
End at: 2019-01-02 19:34:03  
Local clock offset: -2.321 ms  
Remote clock offset: -46.06 ms

# Below is generated by plot.py at 2019-01-02 21:46:14  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 436.99 Mbit/s  
95th percentile per-packet one-way delay: 66.865 ms  
Loss rate: 5.56%  
-- Flow 1:  
Average throughput: 436.99 Mbit/s  
95th percentile per-packet one-way delay: 66.865 ms  
Loss rate: 5.56%

Run 1: Report of FillP — Data Link



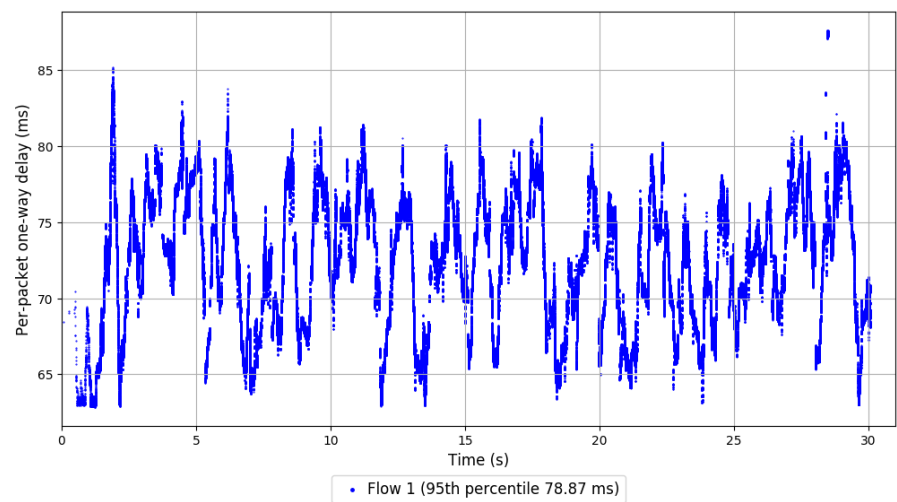
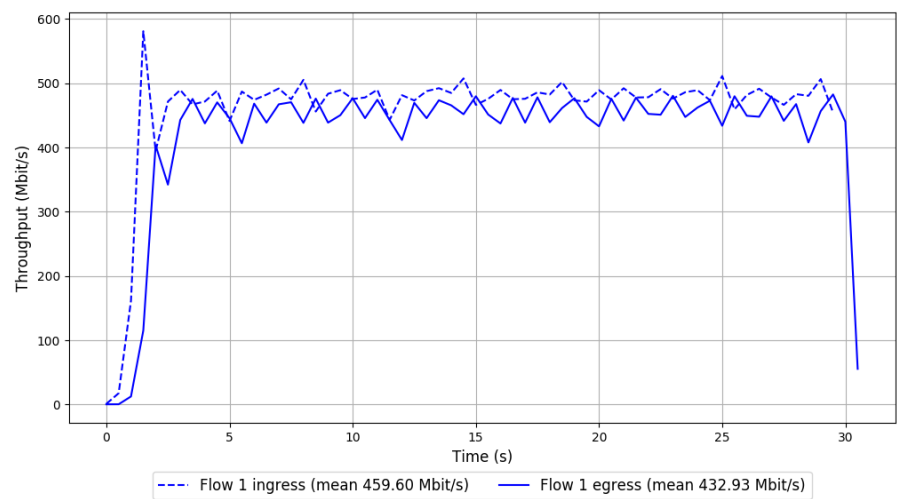


Run 2: Statistics of FillP

Start at: 2019-01-02 20:03:32  
End at: 2019-01-02 20:04:02  
Local clock offset: -0.136 ms  
Remote clock offset: -37.536 ms

# Below is generated by plot.py at 2019-01-02 21:46:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 432.93 Mbit/s  
95th percentile per-packet one-way delay: 78.866 ms  
Loss rate: 5.80%  
-- Flow 1:  
Average throughput: 432.93 Mbit/s  
95th percentile per-packet one-way delay: 78.866 ms  
Loss rate: 5.80%

Run 2: Report of FillP — Data Link

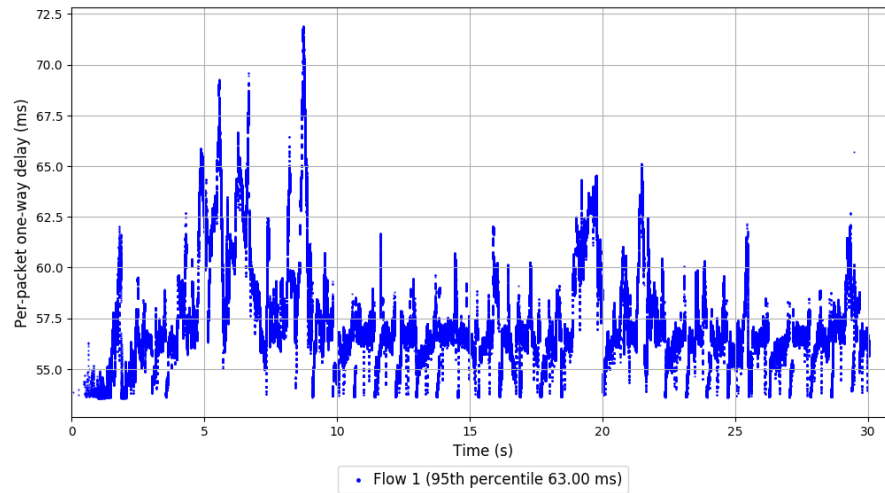
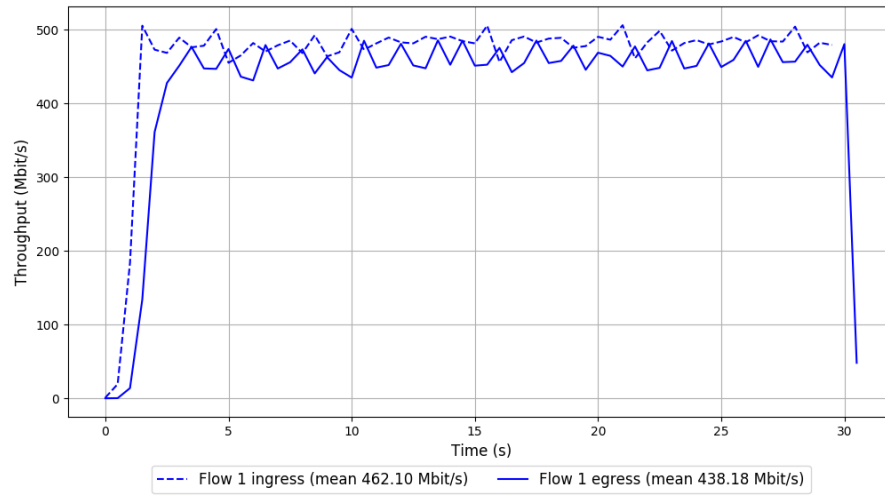


Run 3: Statistics of FillP

Start at: 2019-01-02 20:34:02  
End at: 2019-01-02 20:34:32  
Local clock offset: 1.466 ms  
Remote clock offset: -46.085 ms

# Below is generated by plot.py at 2019-01-02 21:46:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 438.18 Mbit/s  
95th percentile per-packet one-way delay: 62.997 ms  
Loss rate: 5.18%  
-- Flow 1:  
Average throughput: 438.18 Mbit/s  
95th percentile per-packet one-way delay: 62.997 ms  
Loss rate: 5.18%

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

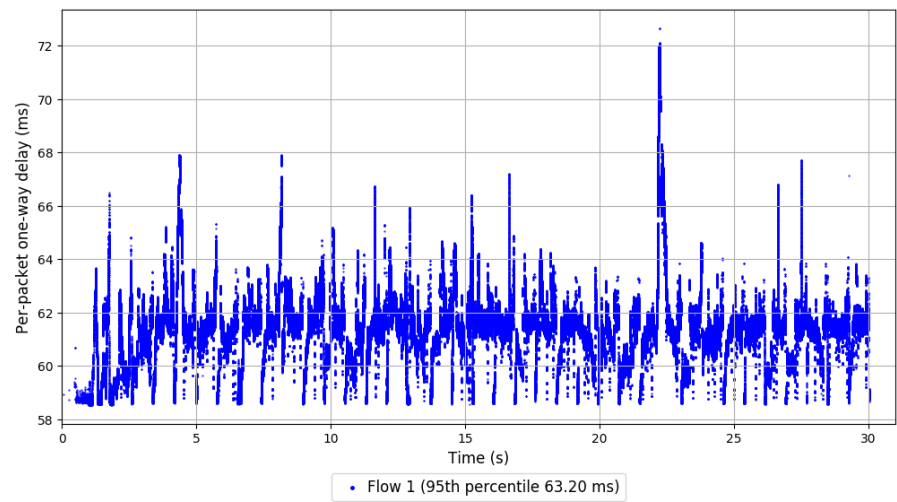
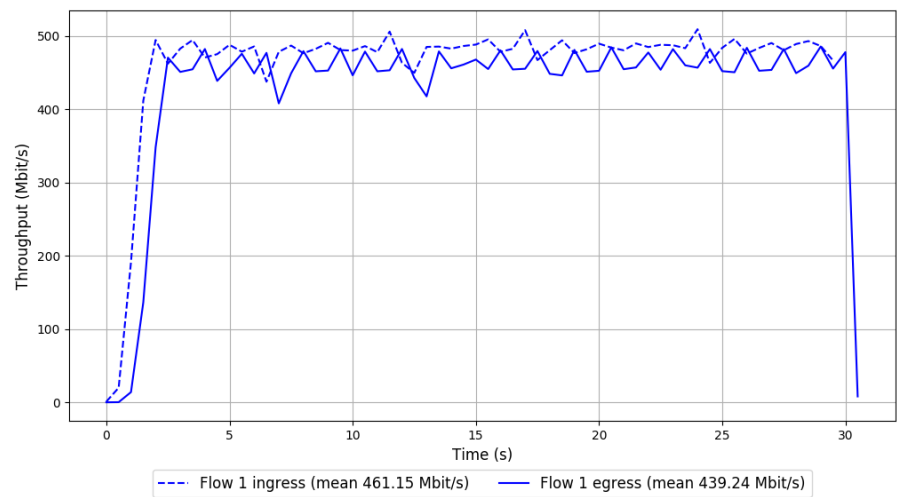


Run 4: Statistics of FillP

Start at: 2019-01-02 20:58:18  
End at: 2019-01-02 20:58:48  
Local clock offset: 0.395 ms  
Remote clock offset: -39.748 ms

# Below is generated by plot.py at 2019-01-02 21:47:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 439.24 Mbit/s  
95th percentile per-packet one-way delay: 63.197 ms  
Loss rate: 4.75%  
-- Flow 1:  
Average throughput: 439.24 Mbit/s  
95th percentile per-packet one-way delay: 63.197 ms  
Loss rate: 4.75%

Run 4: Report of FillP — Data Link

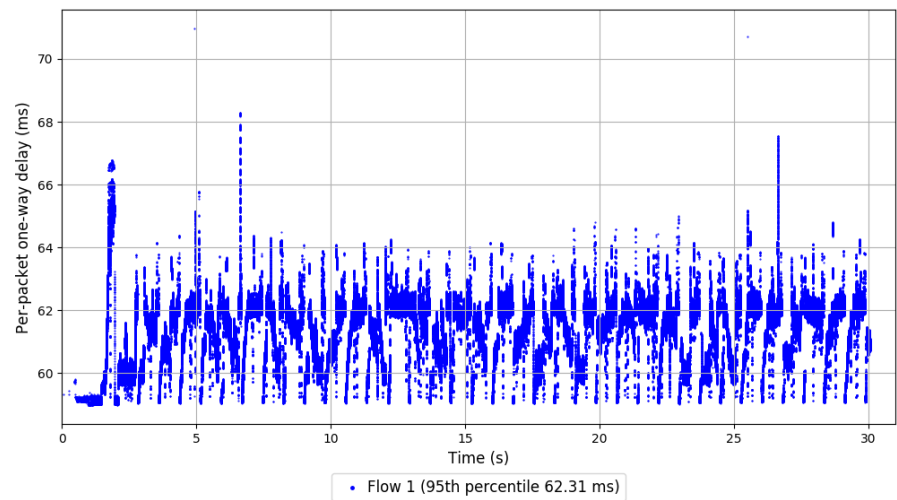
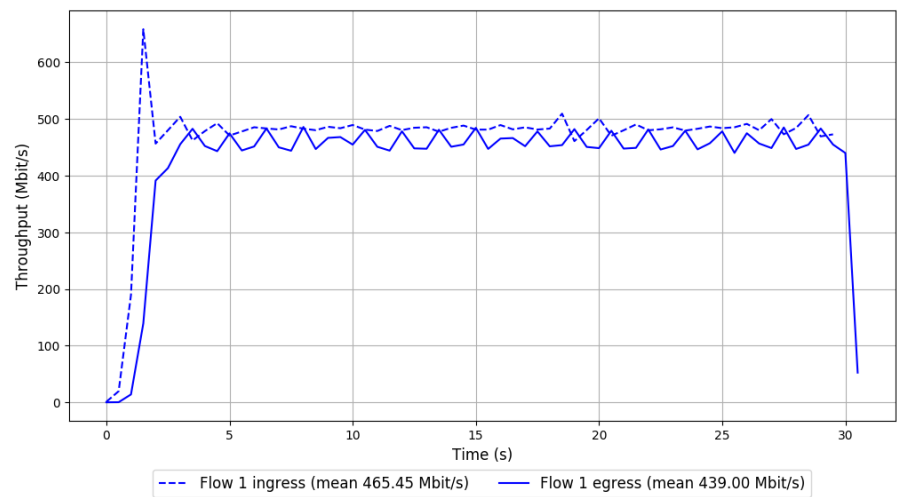


Run 5: Statistics of FillP

Start at: 2019-01-02 21:22:40  
End at: 2019-01-02 21:23:10  
Local clock offset: 2.513 ms  
Remote clock offset: -36.886 ms

# Below is generated by plot.py at 2019-01-02 21:47:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 439.00 Mbit/s  
95th percentile per-packet one-way delay: 62.308 ms  
Loss rate: 5.68%  
-- Flow 1:  
Average throughput: 439.00 Mbit/s  
95th percentile per-packet one-way delay: 62.308 ms  
Loss rate: 5.68%

Run 5: Report of FillP — Data Link



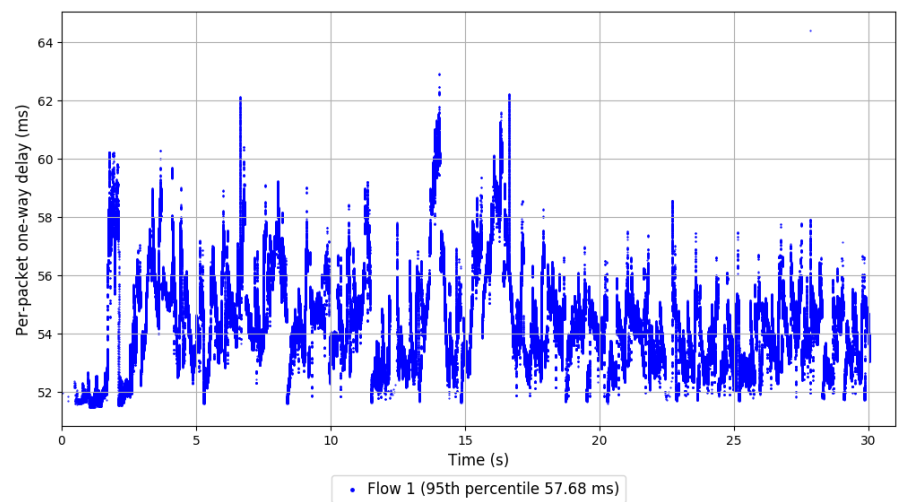
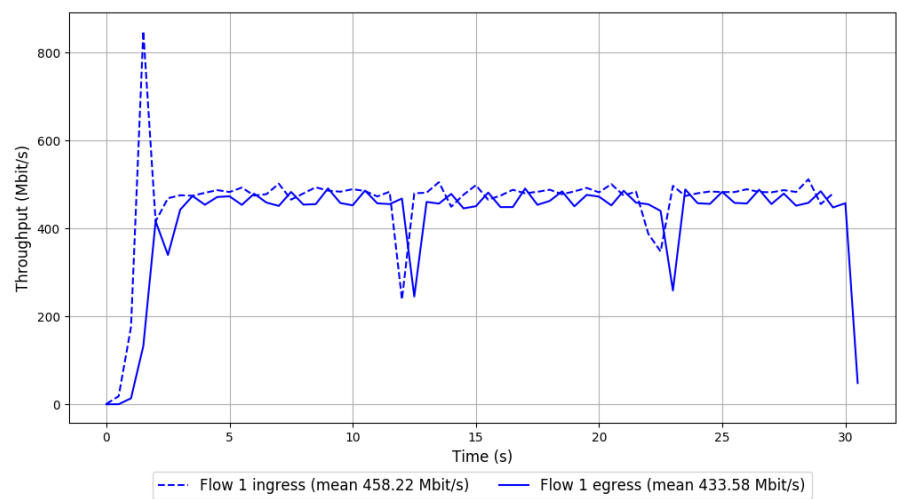


```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-02 19:32:06
End at: 2019-01-02 19:32:37
Local clock offset: -3.562 ms
Remote clock offset: -46.131 ms

# Below is generated by plot.py at 2019-01-02 21:47:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 433.58 Mbit/s
95th percentile per-packet one-way delay: 57.678 ms
Loss rate: 5.37%
-- Flow 1:
Average throughput: 433.58 Mbit/s
95th percentile per-packet one-way delay: 57.678 ms
Loss rate: 5.37%
```

Run 1: Report of FillP-Sheep — Data Link

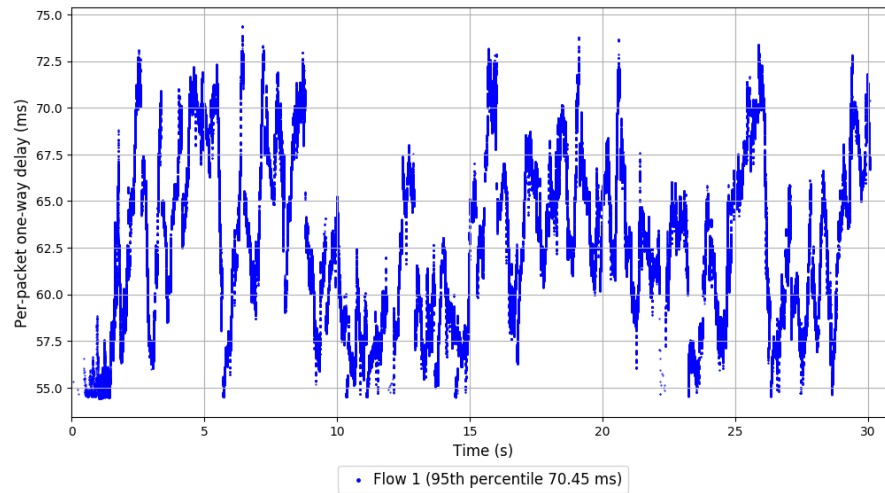
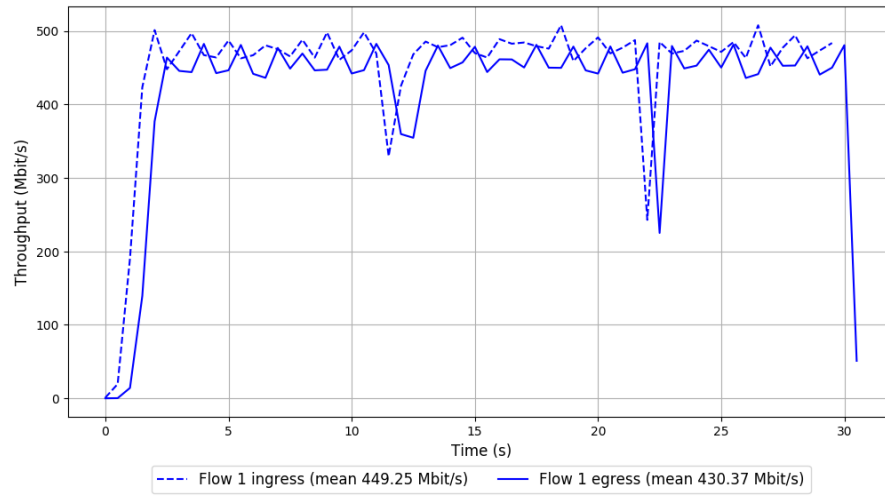


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-02 20:02:04  
End at: 2019-01-02 20:02:34  
Local clock offset: 0.732 ms  
Remote clock offset: -42.787 ms

# Below is generated by plot.py at 2019-01-02 21:47:16  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 430.37 Mbit/s  
95th percentile per-packet one-way delay: 70.454 ms  
Loss rate: 4.18%  
-- Flow 1:  
Average throughput: 430.37 Mbit/s  
95th percentile per-packet one-way delay: 70.454 ms  
Loss rate: 4.18%

## Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-01-02 20:32:34

End at: 2019-01-02 20:33:05

Local clock offset: 0.033 ms

Remote clock offset: -38.094 ms

# Below is generated by plot.py at 2019-01-02 21:47:16

# Datalink statistics

-- Total of 1 flow:

Average throughput: 432.66 Mbit/s

95th percentile per-packet one-way delay: 71.108 ms

Loss rate: 5.23%

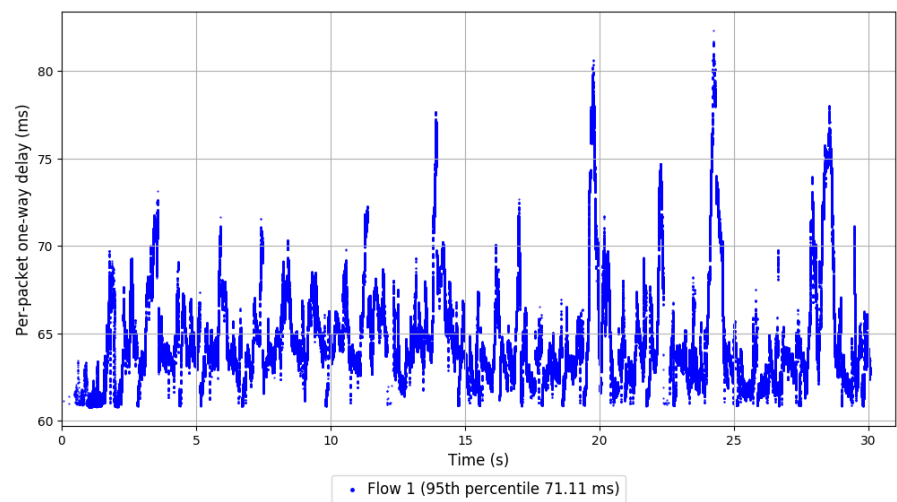
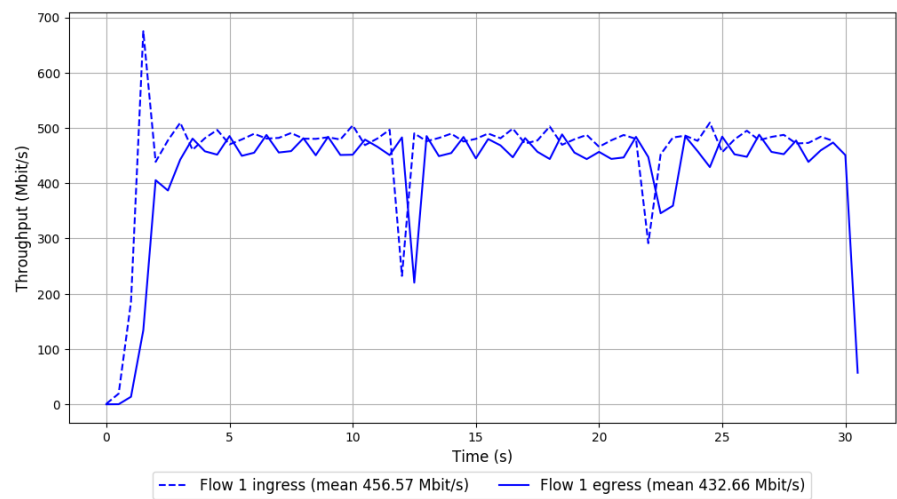
-- Flow 1:

Average throughput: 432.66 Mbit/s

95th percentile per-packet one-way delay: 71.108 ms

Loss rate: 5.23%

Run 3: Report of FillP-Sheep — Data Link

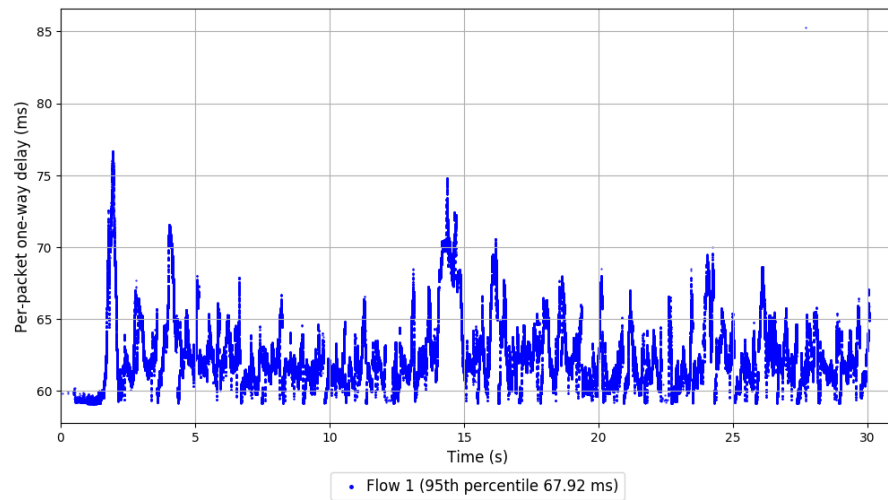
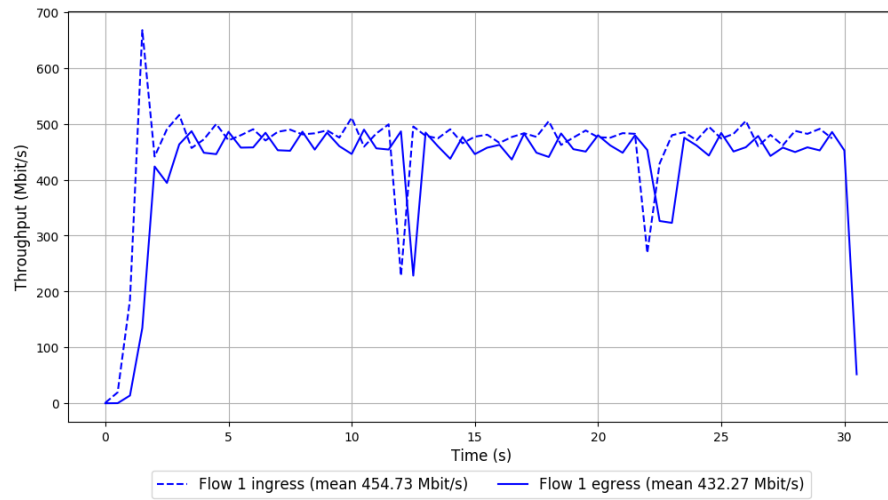


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-02 20:56:51  
End at: 2019-01-02 20:57:21  
Local clock offset: 0.134 ms  
Remote clock offset: -39.134 ms

# Below is generated by plot.py at 2019-01-02 21:51:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 432.27 Mbit/s  
95th percentile per-packet one-way delay: 67.922 ms  
Loss rate: 4.93%  
-- Flow 1:  
Average throughput: 432.27 Mbit/s  
95th percentile per-packet one-way delay: 67.922 ms  
Loss rate: 4.93%

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



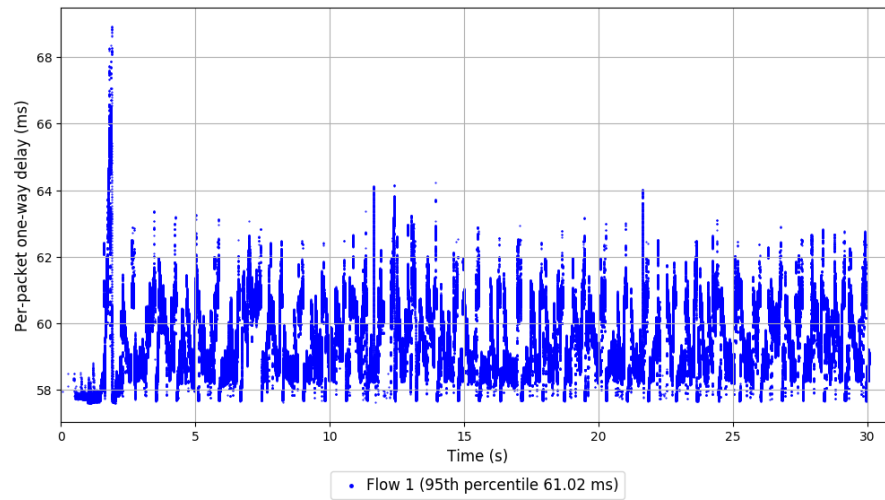
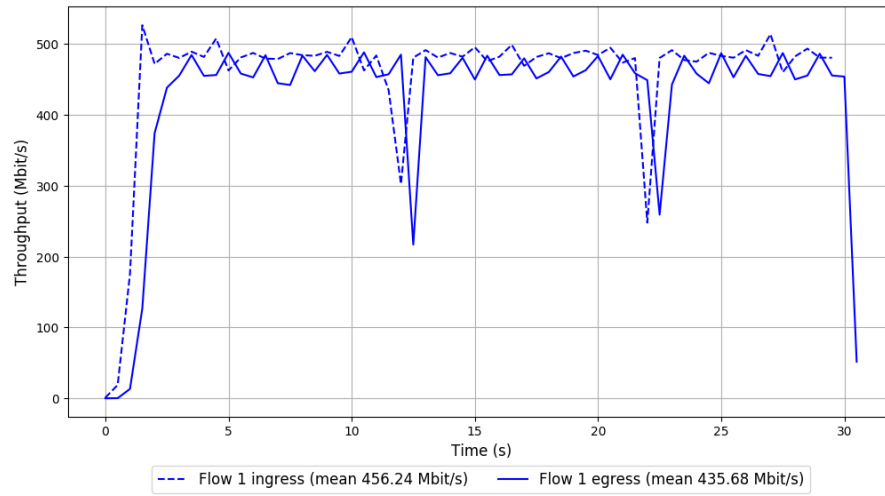


Run 5: Statistics of FillP-Sheep

Start at: 2019-01-02 21:21:13  
End at: 2019-01-02 21:21:43  
Local clock offset: 1.071 ms  
Remote clock offset: -42.212 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 435.68 Mbit/s  
95th percentile per-packet one-way delay: 61.025 ms  
Loss rate: 4.51%  
-- Flow 1:  
Average throughput: 435.68 Mbit/s  
95th percentile per-packet one-way delay: 61.025 ms  
Loss rate: 4.51%

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

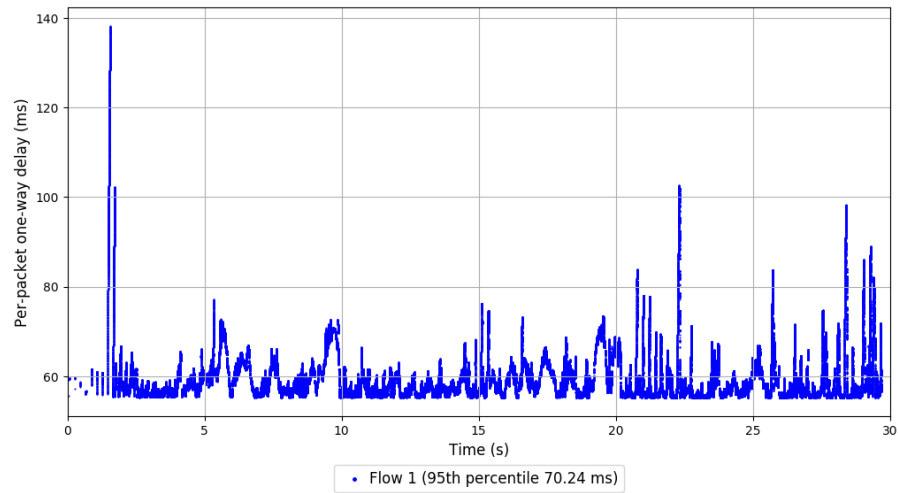
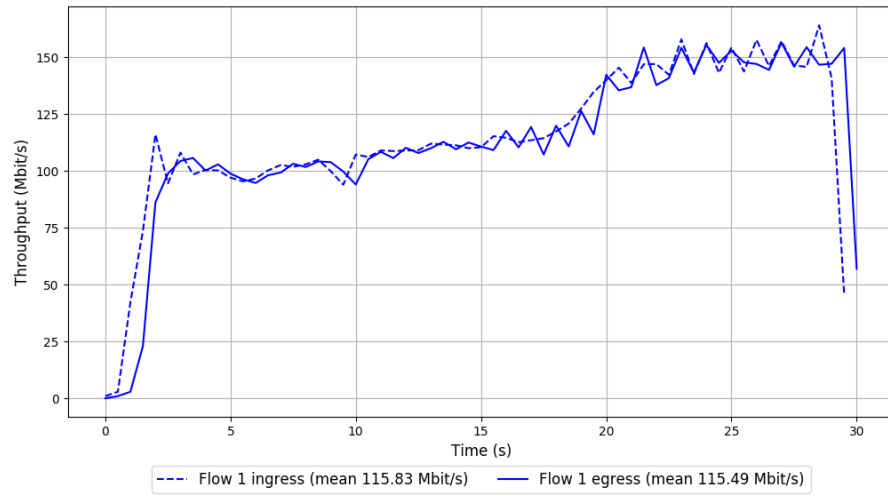


Run 1: Statistics of Indigo

Start at: 2019-01-02 19:23:25  
End at: 2019-01-02 19:23:55  
Local clock offset: -8.187 ms  
Remote clock offset: -41.703 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 115.49 Mbit/s  
95th percentile per-packet one-way delay: 70.243 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 115.49 Mbit/s  
95th percentile per-packet one-way delay: 70.243 ms  
Loss rate: 0.29%

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

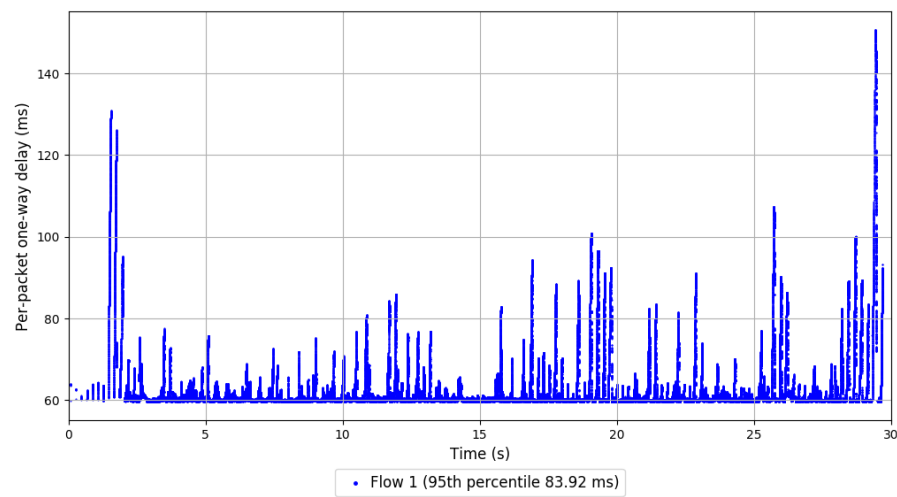
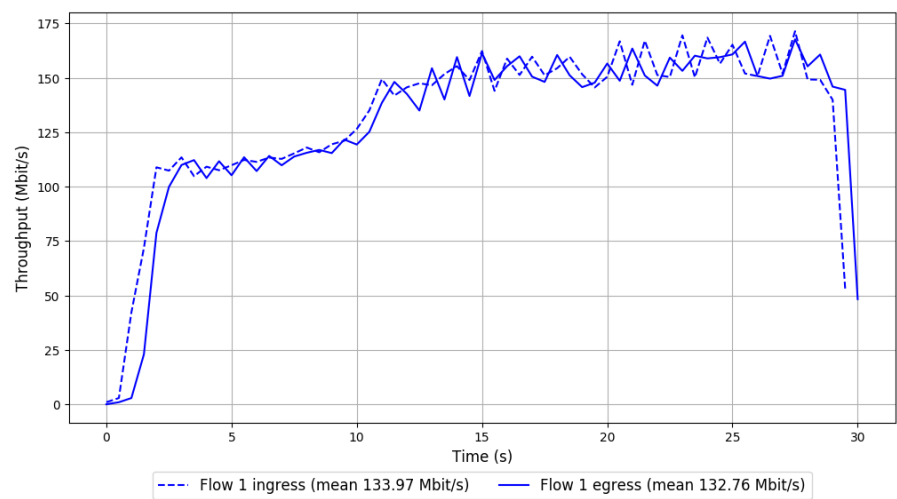


Run 2: Statistics of Indigo

Start at: 2019-01-02 19:53:20  
End at: 2019-01-02 19:53:50  
Local clock offset: -2.342 ms  
Remote clock offset: -39.186 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 132.76 Mbit/s  
95th percentile per-packet one-way delay: 83.916 ms  
Loss rate: 0.84%  
-- Flow 1:  
Average throughput: 132.76 Mbit/s  
95th percentile per-packet one-way delay: 83.916 ms  
Loss rate: 0.84%

Run 2: Report of Indigo — Data Link

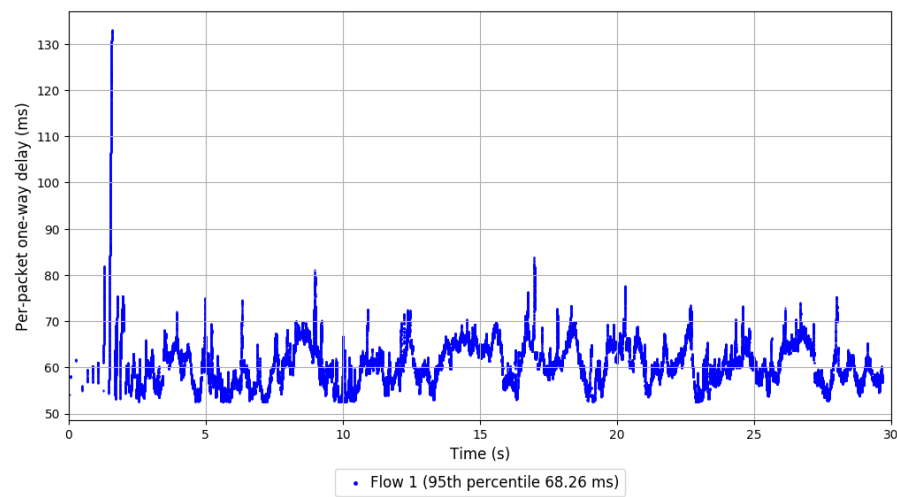
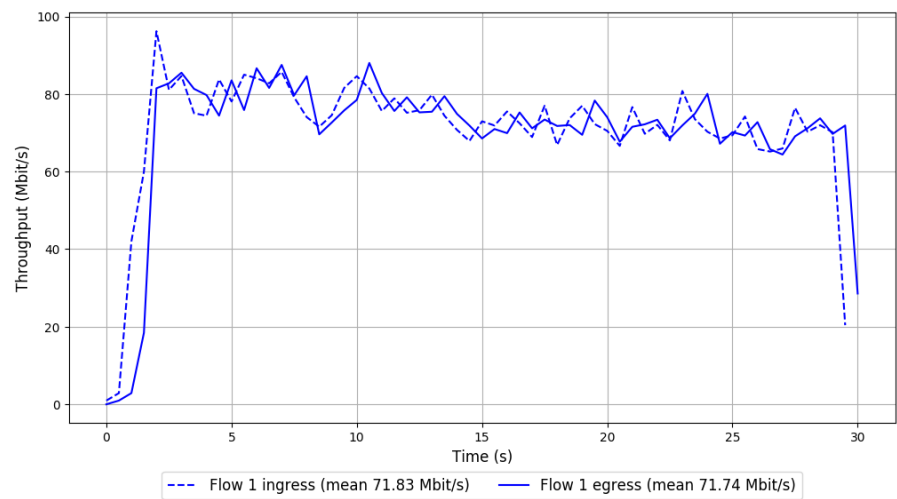


Run 3: Statistics of Indigo

Start at: 2019-01-02 20:23:47  
End at: 2019-01-02 20:24:17  
Local clock offset: -0.995 ms  
Remote clock offset: -46.926 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 71.74 Mbit/s  
95th percentile per-packet one-way delay: 68.256 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 71.74 Mbit/s  
95th percentile per-packet one-way delay: 68.256 ms  
Loss rate: 0.11%

Run 3: Report of Indigo — Data Link



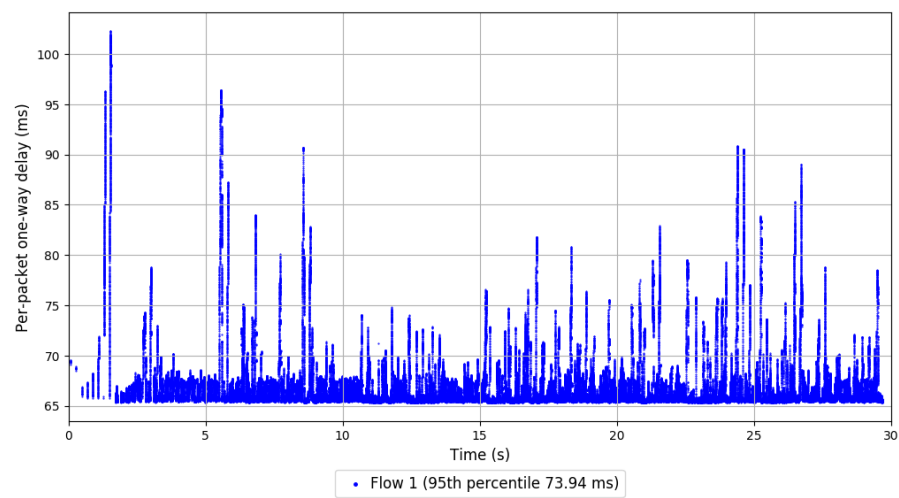
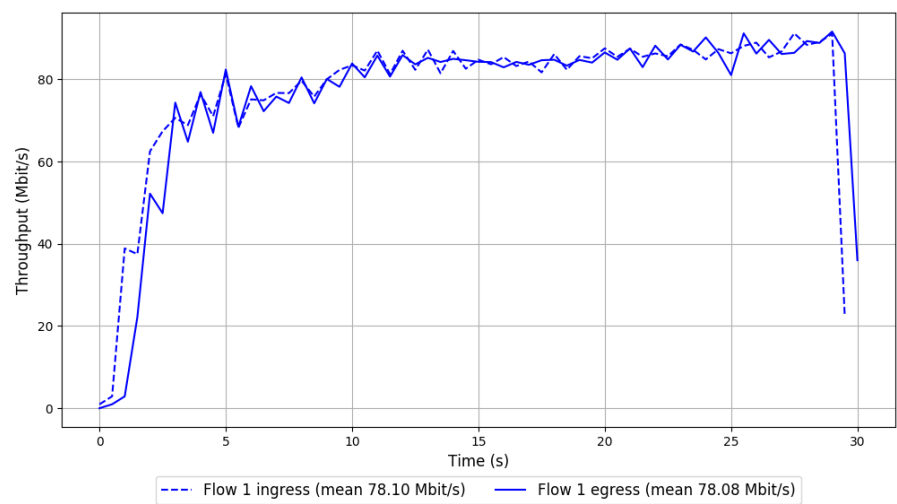


Run 4: Statistics of Indigo

Start at: 2019-01-02 20:48:08  
End at: 2019-01-02 20:48:38  
Local clock offset: 0.337 ms  
Remote clock offset: -35.576 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 78.08 Mbit/s  
95th percentile per-packet one-way delay: 73.945 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 78.08 Mbit/s  
95th percentile per-packet one-way delay: 73.945 ms  
Loss rate: 0.04%

Run 4: Report of Indigo — Data Link

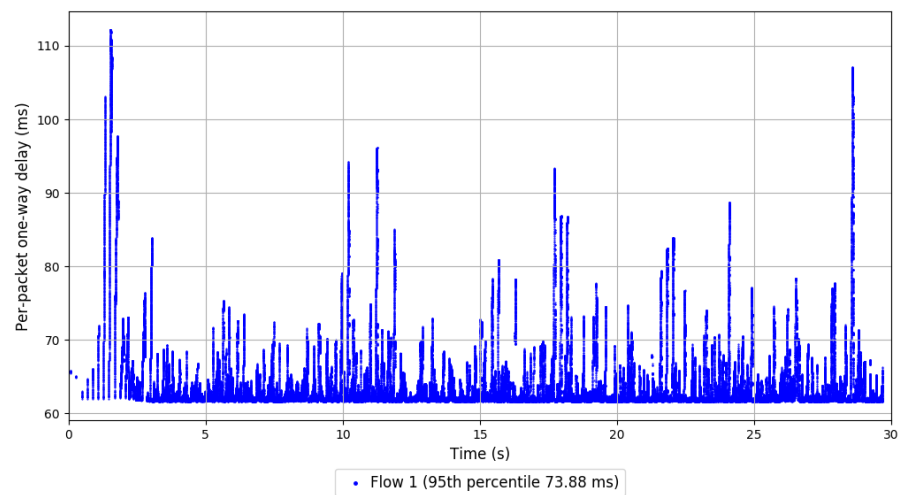
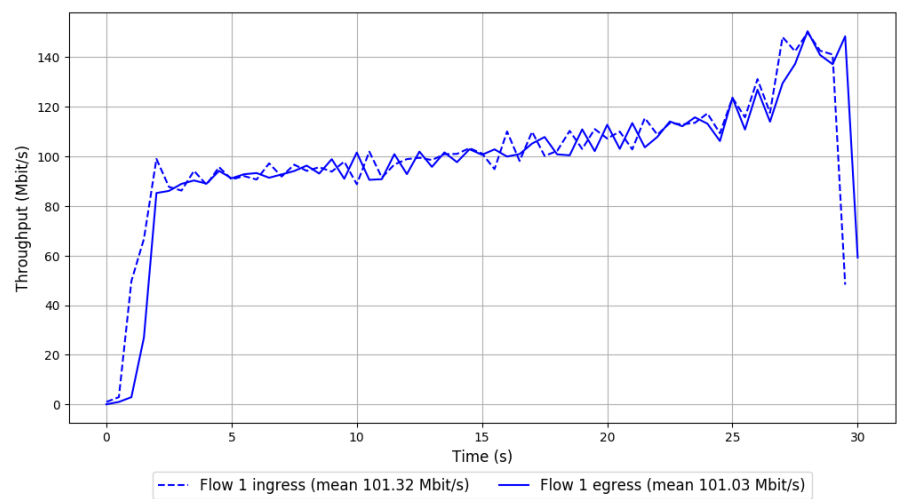


Run 5: Statistics of Indigo

Start at: 2019-01-02 21:12:24  
End at: 2019-01-02 21:12:54  
Local clock offset: 0.067 ms  
Remote clock offset: -39.413 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 101.03 Mbit/s  
95th percentile per-packet one-way delay: 73.875 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 101.03 Mbit/s  
95th percentile per-packet one-way delay: 73.875 ms  
Loss rate: 0.29%

Run 5: Report of Indigo — Data Link

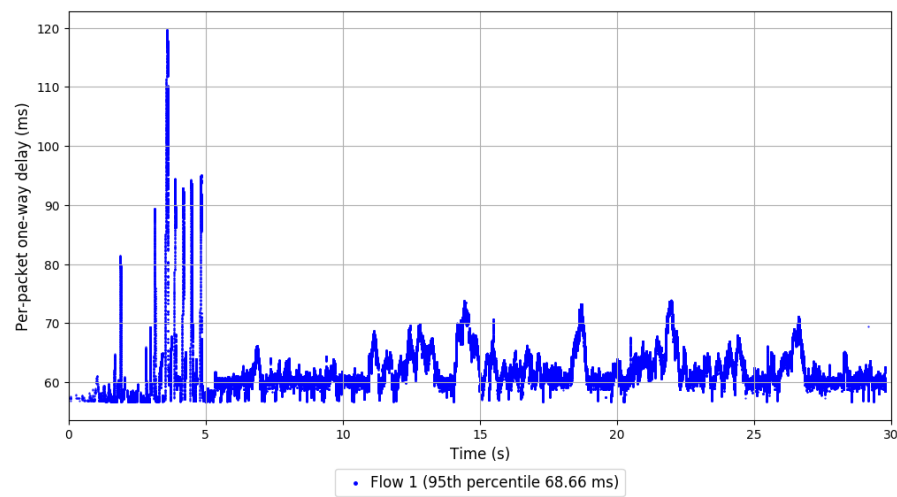
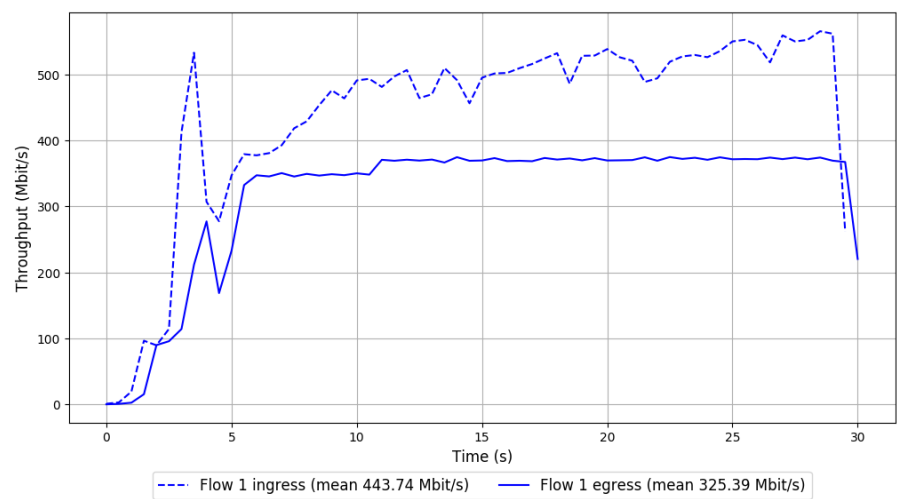


Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-02 19:50:41  
End at: 2019-01-02 19:51:11  
Local clock offset: -2.755 ms  
Remote clock offset: -42.744 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 325.39 Mbit/s  
95th percentile per-packet one-way delay: 68.656 ms  
Loss rate: 26.66%  
-- Flow 1:  
Average throughput: 325.39 Mbit/s  
95th percentile per-packet one-way delay: 68.656 ms  
Loss rate: 26.66%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-02 20:21:09

End at: 2019-01-02 20:21:39

Local clock offset: 2.055 ms

Remote clock offset: -34.896 ms

# Below is generated by plot.py at 2019-01-02 21:52:03

# Datalink statistics

-- Total of 1 flow:

Average throughput: 324.12 Mbit/s

95th percentile per-packet one-way delay: 79.405 ms

Loss rate: 21.82%

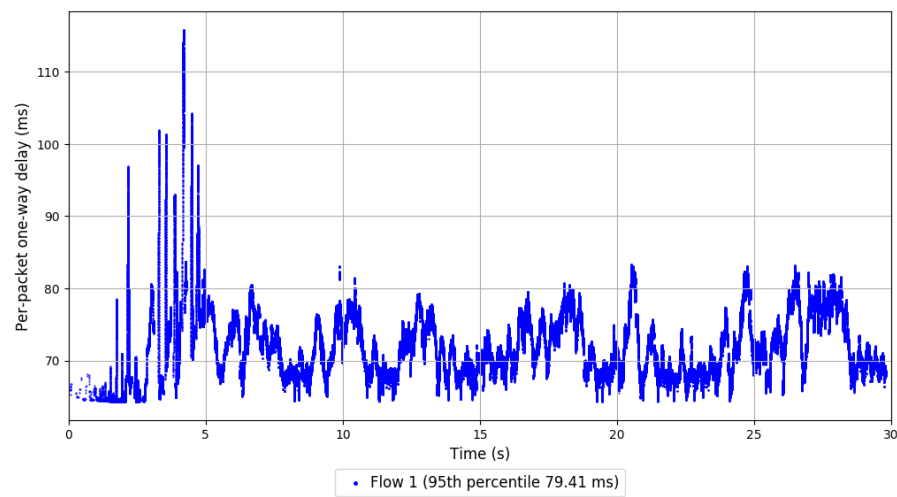
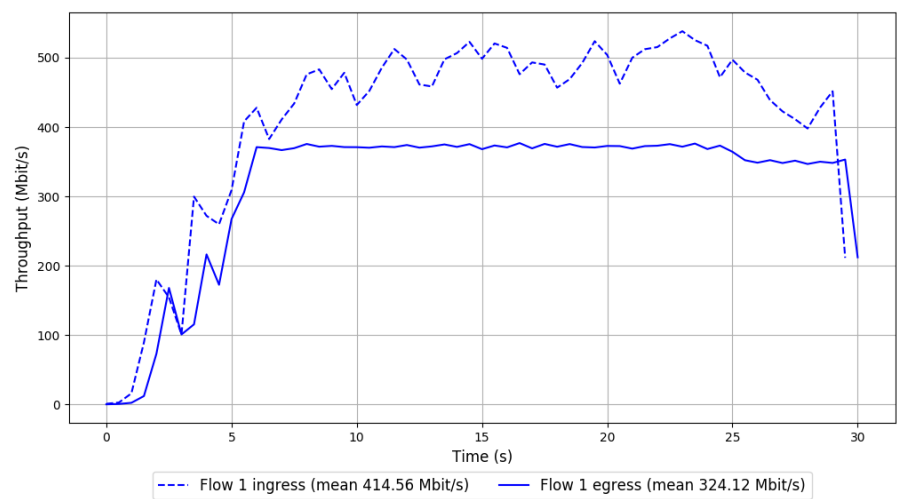
-- Flow 1:

Average throughput: 324.12 Mbit/s

95th percentile per-packet one-way delay: 79.405 ms

Loss rate: 21.82%

Run 2: Report of Indigo-MusesD — Data Link



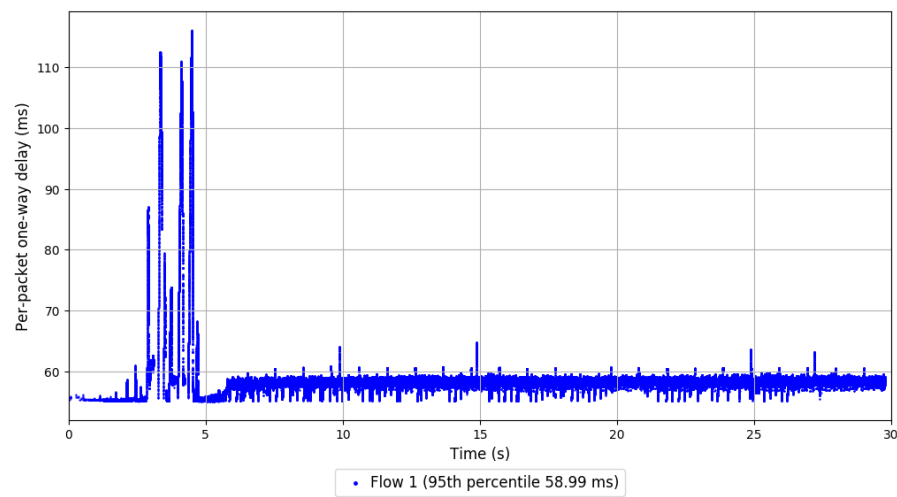
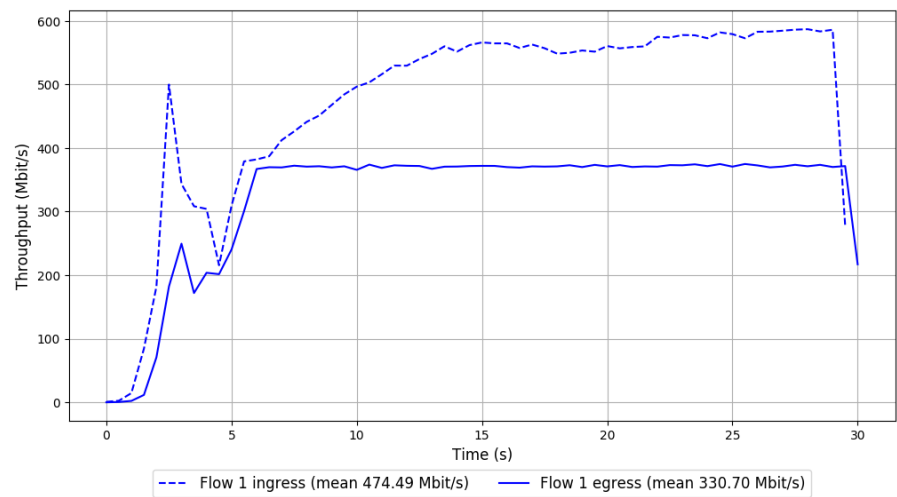


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-02 20:45:29  
End at: 2019-01-02 20:45:59  
Local clock offset: 0.32 ms  
Remote clock offset: -45.972 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 330.70 Mbit/s  
95th percentile per-packet one-way delay: 58.987 ms  
Loss rate: 30.30%  
-- Flow 1:  
Average throughput: 330.70 Mbit/s  
95th percentile per-packet one-way delay: 58.987 ms  
Loss rate: 30.30%

Run 3: Report of Indigo-MusesD — Data Link

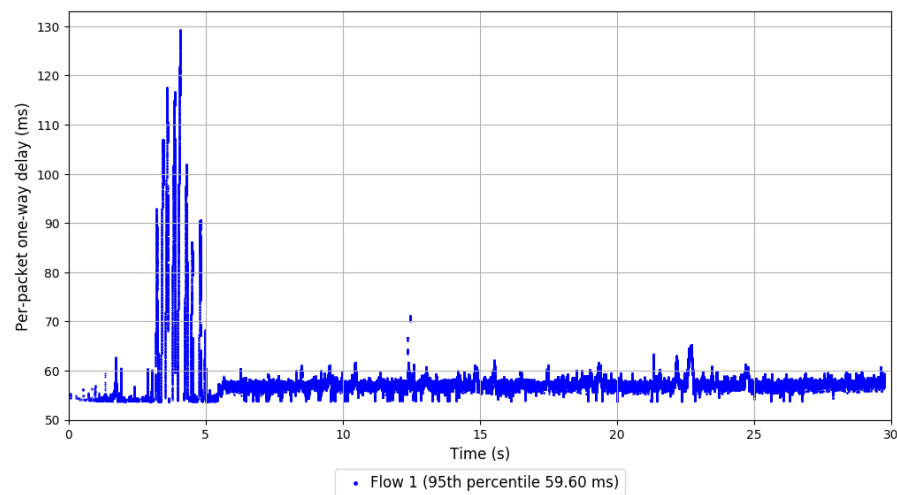
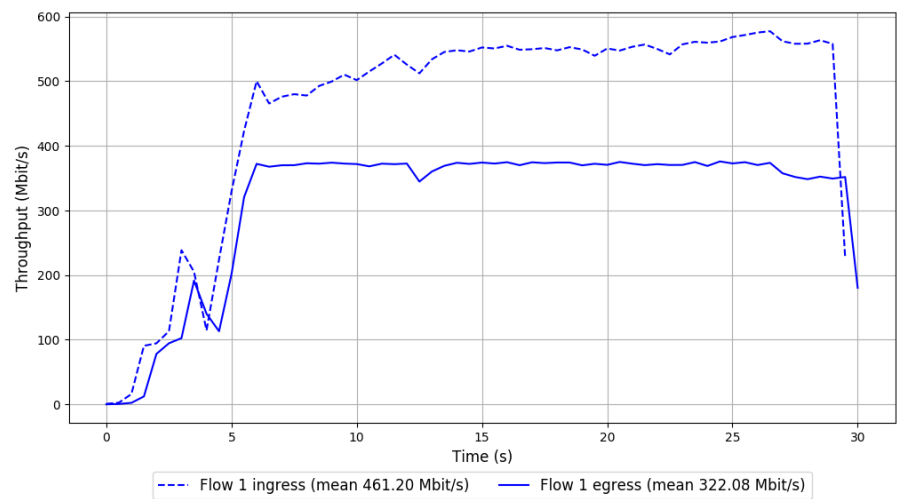


Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-02 21:09:45  
End at: 2019-01-02 21:10:15  
Local clock offset: 2.175 ms  
Remote clock offset: -42.982 ms

# Below is generated by plot.py at 2019-01-02 21:52:03  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 322.08 Mbit/s  
95th percentile per-packet one-way delay: 59.602 ms  
Loss rate: 30.16%  
-- Flow 1:  
Average throughput: 322.08 Mbit/s  
95th percentile per-packet one-way delay: 59.602 ms  
Loss rate: 30.16%

Run 4: Report of Indigo-MusesD — Data Link

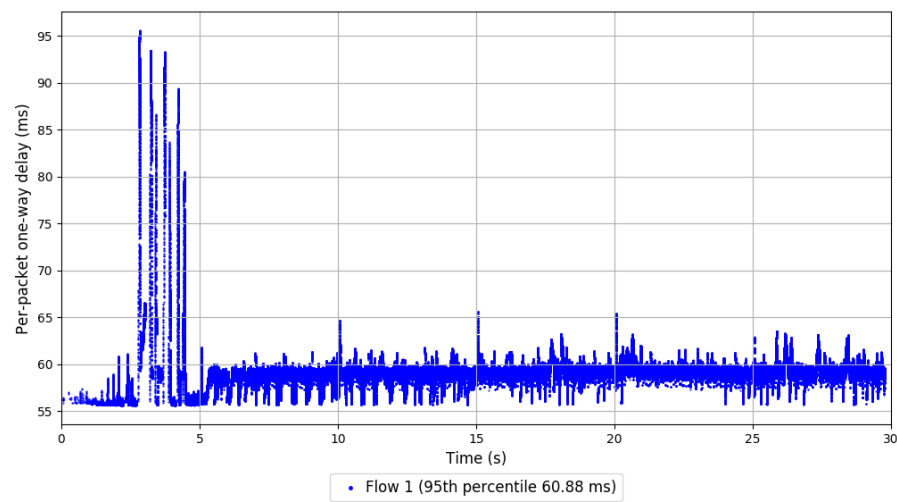
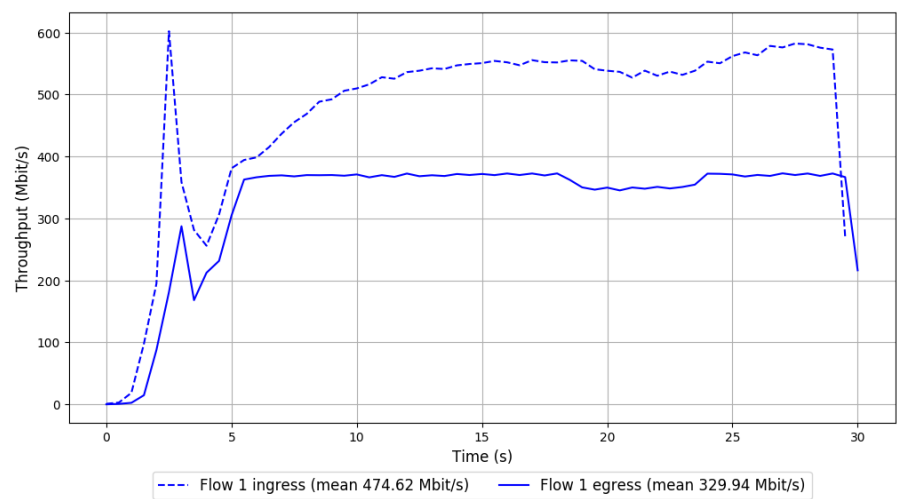


Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-02 21:34:13  
End at: 2019-01-02 21:34:43  
Local clock offset: 0.203 ms  
Remote clock offset: -43.971 ms

# Below is generated by plot.py at 2019-01-02 21:52:20  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 329.94 Mbit/s  
95th percentile per-packet one-way delay: 60.883 ms  
Loss rate: 30.48%  
-- Flow 1:  
Average throughput: 329.94 Mbit/s  
95th percentile per-packet one-way delay: 60.883 ms  
Loss rate: 30.48%

Run 5: Report of Indigo-MusesD — Data Link

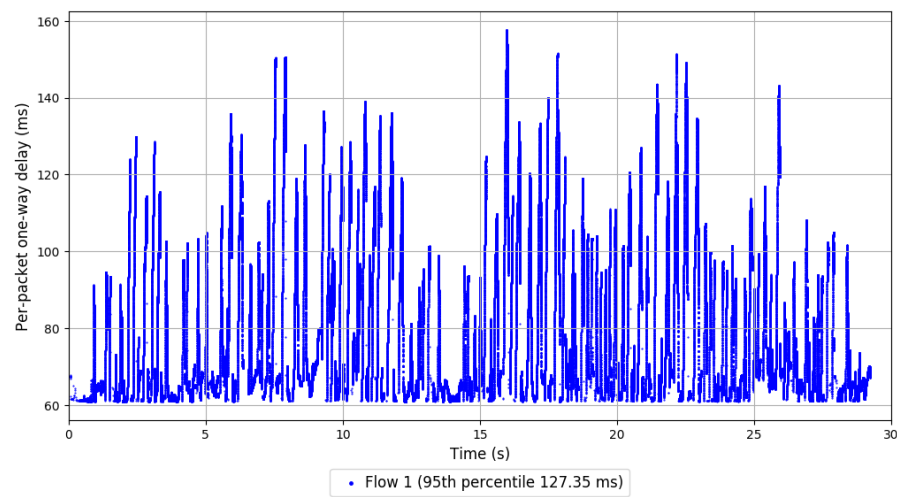
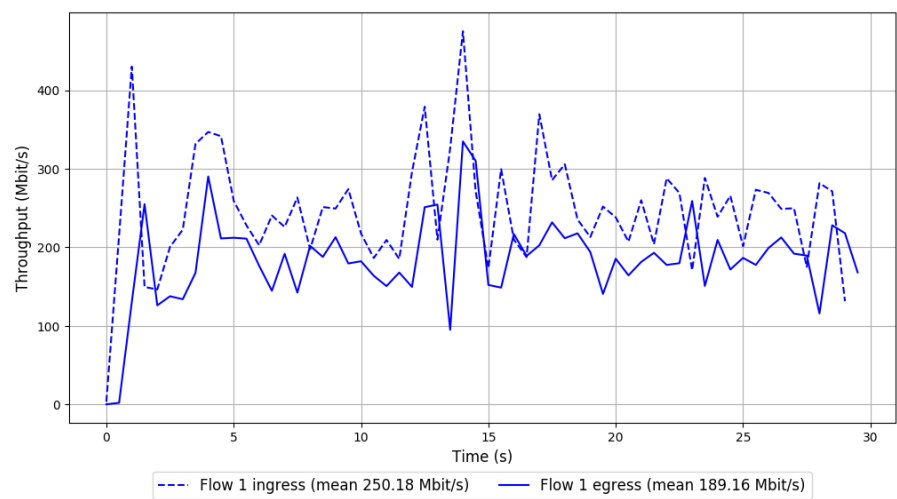


```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-02 19:40:01
End at: 2019-01-02 19:40:31
Local clock offset: -0.738 ms
Remote clock offset: -35.495 ms

# Below is generated by plot.py at 2019-01-02 21:52:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 189.16 Mbit/s
95th percentile per-packet one-way delay: 127.350 ms
Loss rate: 24.39%
-- Flow 1:
Average throughput: 189.16 Mbit/s
95th percentile per-packet one-way delay: 127.350 ms
Loss rate: 24.39%
```

Run 1: Report of Indigo-MusesT — Data Link



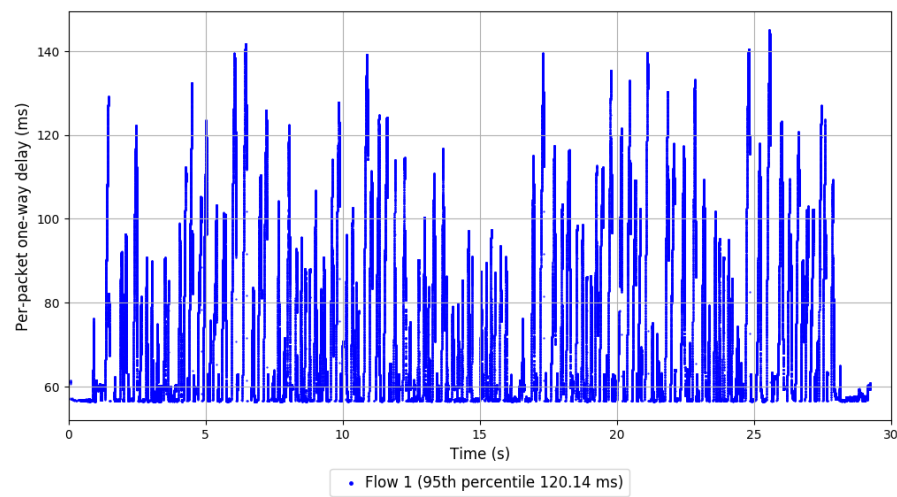
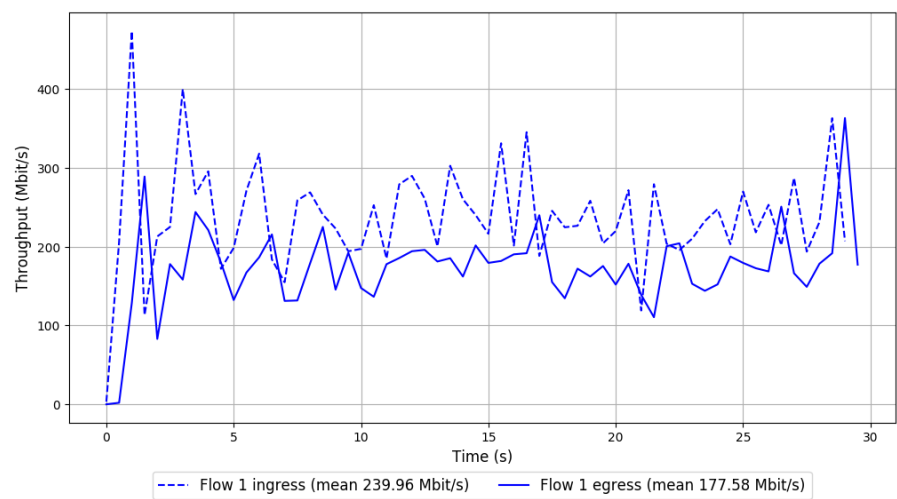


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-02 20:10:06  
End at: 2019-01-02 20:10:36  
Local clock offset: 0.274 ms  
Remote clock offset: -41.623 ms

# Below is generated by plot.py at 2019-01-02 21:52:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 177.58 Mbit/s  
95th percentile per-packet one-way delay: 120.145 ms  
Loss rate: 26.00%  
-- Flow 1:  
Average throughput: 177.58 Mbit/s  
95th percentile per-packet one-way delay: 120.145 ms  
Loss rate: 26.00%

Run 2: Report of Indigo-MusesT — Data Link

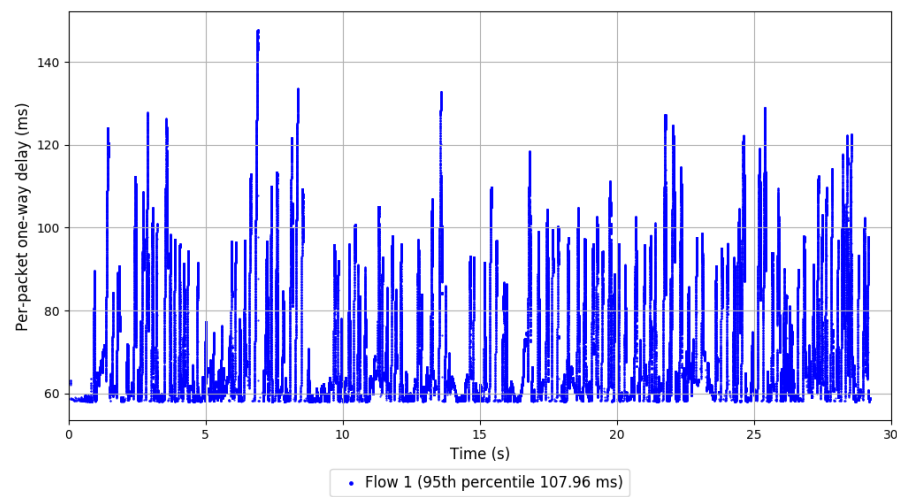
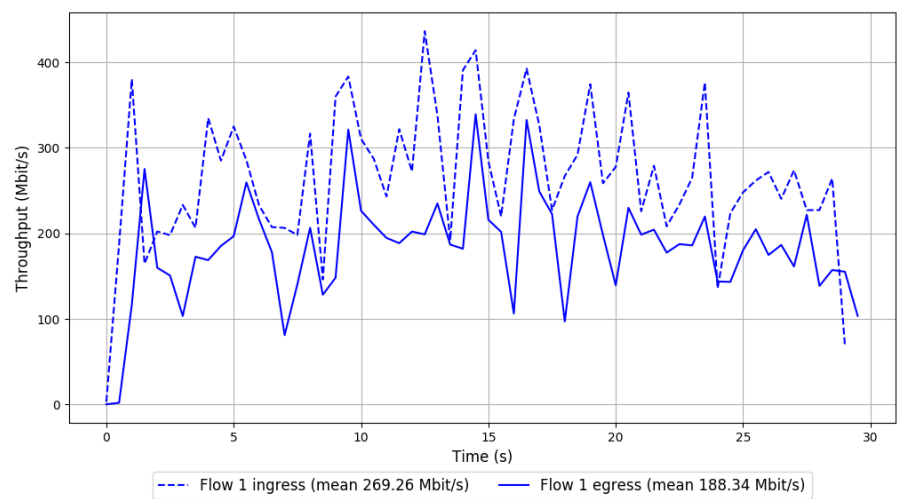


Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-02 20:40:33  
End at: 2019-01-02 20:41:03  
Local clock offset: 2.231 ms  
Remote clock offset: -40.851 ms

# Below is generated by plot.py at 2019-01-02 21:53:20  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 188.34 Mbit/s  
95th percentile per-packet one-way delay: 107.963 ms  
Loss rate: 30.06%  
-- Flow 1:  
Average throughput: 188.34 Mbit/s  
95th percentile per-packet one-way delay: 107.963 ms  
Loss rate: 30.06%

Run 3: Report of Indigo-MusesT — Data Link

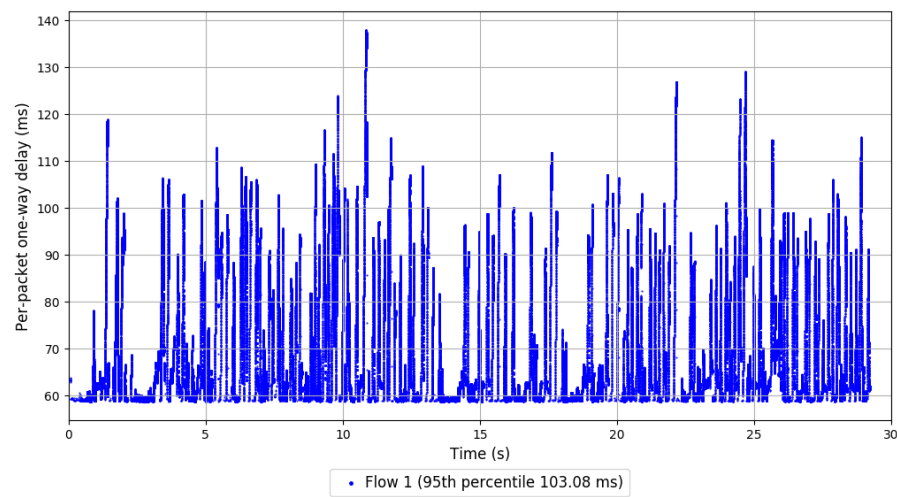
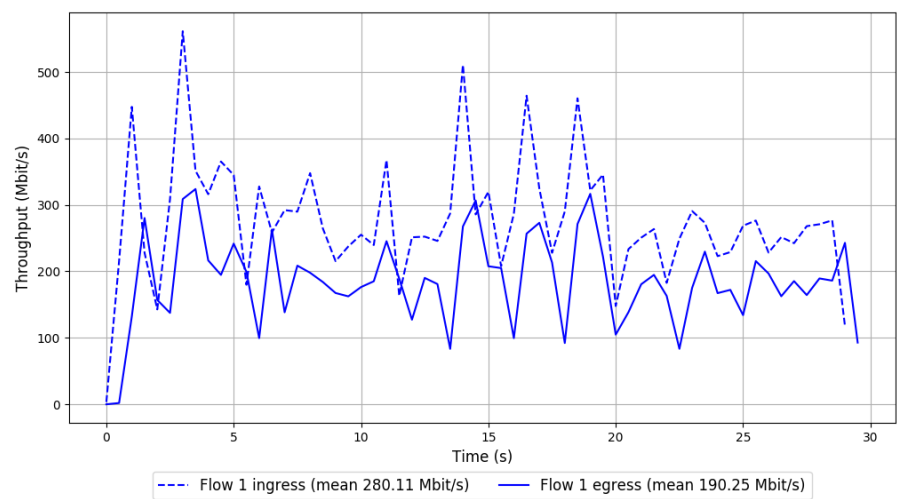


Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-02 21:04:48  
End at: 2019-01-02 21:05:18  
Local clock offset: -5.411 ms  
Remote clock offset: -45.662 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 190.25 Mbit/s  
95th percentile per-packet one-way delay: 103.083 ms  
Loss rate: 32.08%  
-- Flow 1:  
Average throughput: 190.25 Mbit/s  
95th percentile per-packet one-way delay: 103.083 ms  
Loss rate: 32.08%

Run 4: Report of Indigo-MusesT — Data Link

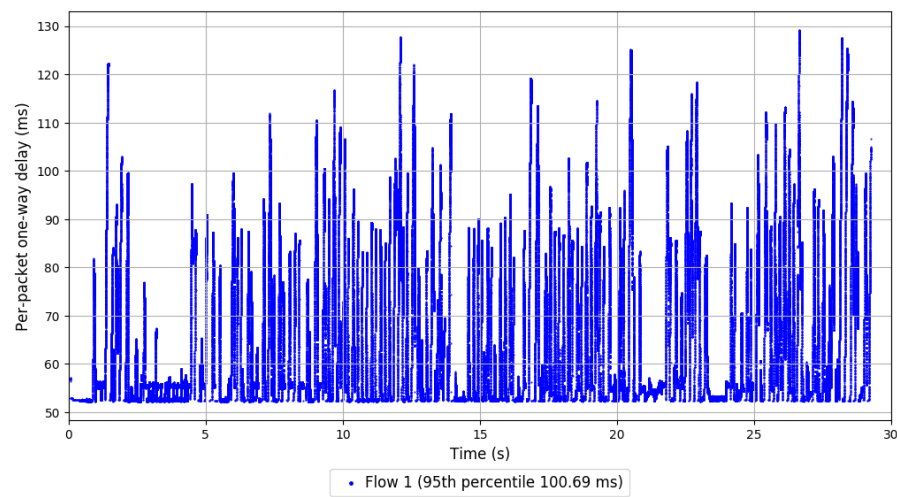
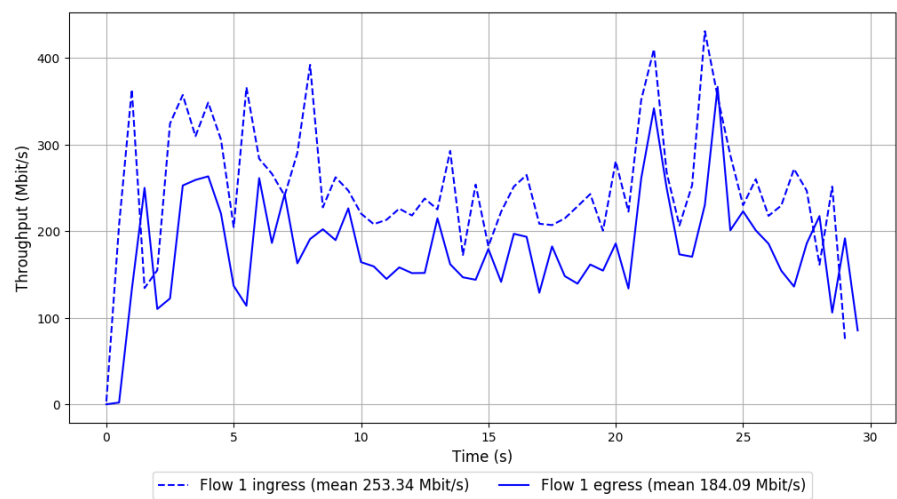


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-02 21:29:16  
End at: 2019-01-02 21:29:46  
Local clock offset: 2.807 ms  
Remote clock offset: -44.226 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 184.09 Mbit/s  
95th percentile per-packet one-way delay: 100.690 ms  
Loss rate: 27.34%  
-- Flow 1:  
Average throughput: 184.09 Mbit/s  
95th percentile per-packet one-way delay: 100.690 ms  
Loss rate: 27.34%

Run 5: Report of Indigo-MusesT — Data Link



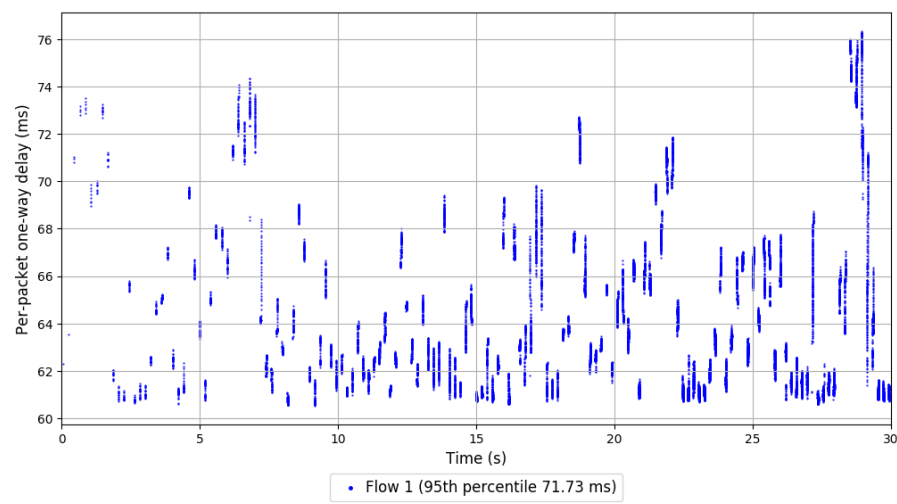
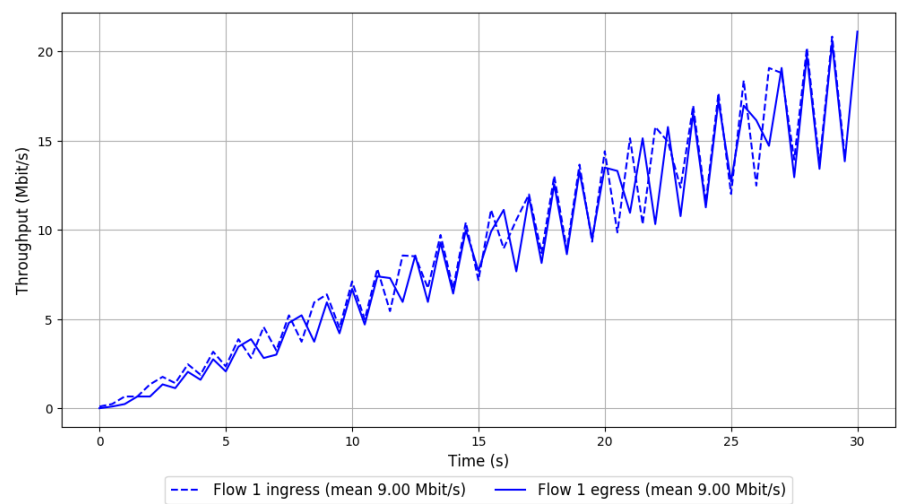


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-02 19:36:14
End at: 2019-01-02 19:36:44
Local clock offset: -2.27 ms
Remote clock offset: -37.238 ms

# Below is generated by plot.py at 2019-01-02 21:53:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 71.728 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 71.728 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

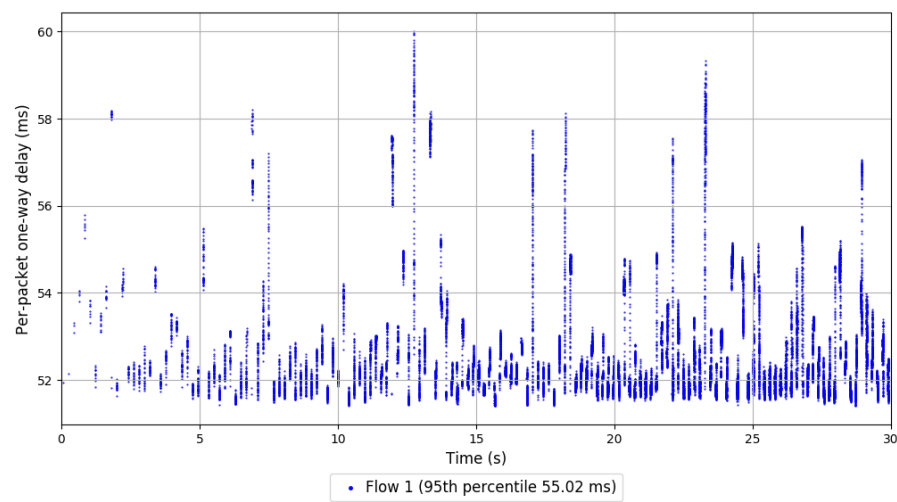
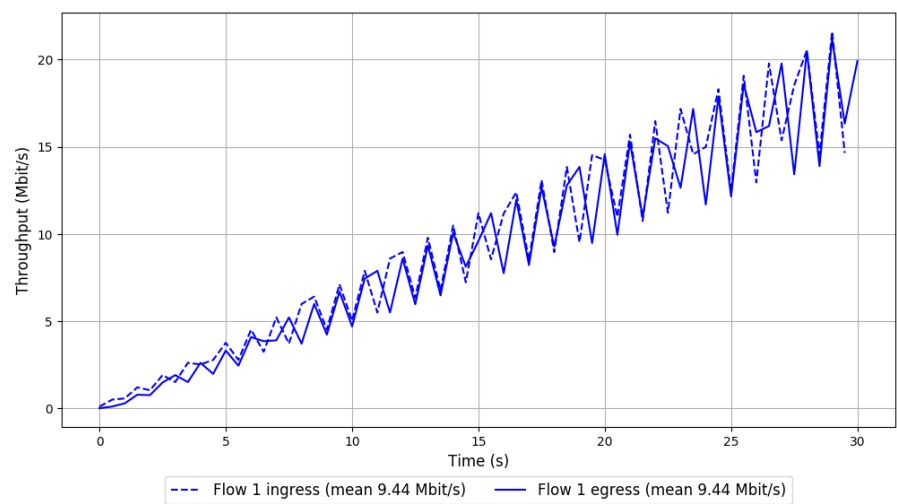


Run 2: Statistics of LEDBAT

Start at: 2019-01-02 20:06:17  
End at: 2019-01-02 20:06:47  
Local clock offset: 1.419 ms  
Remote clock offset: -45.455 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.44 Mbit/s  
95th percentile per-packet one-way delay: 55.019 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.44 Mbit/s  
95th percentile per-packet one-way delay: 55.019 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

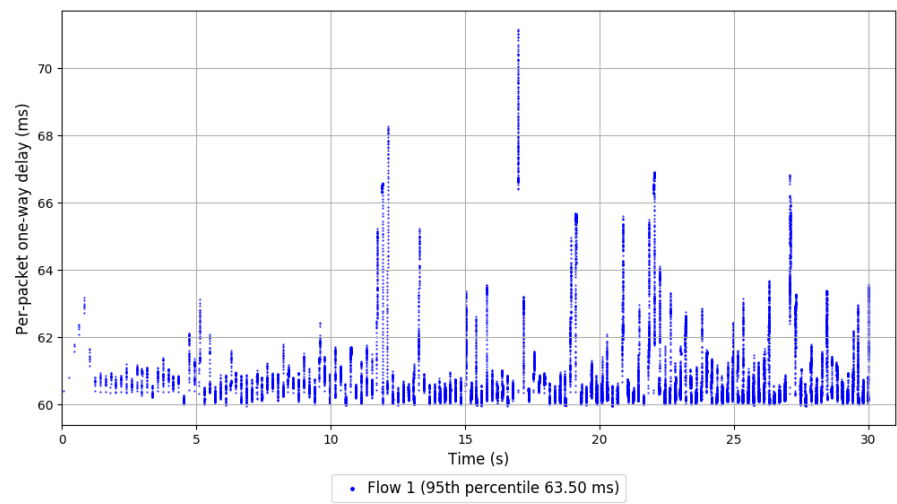
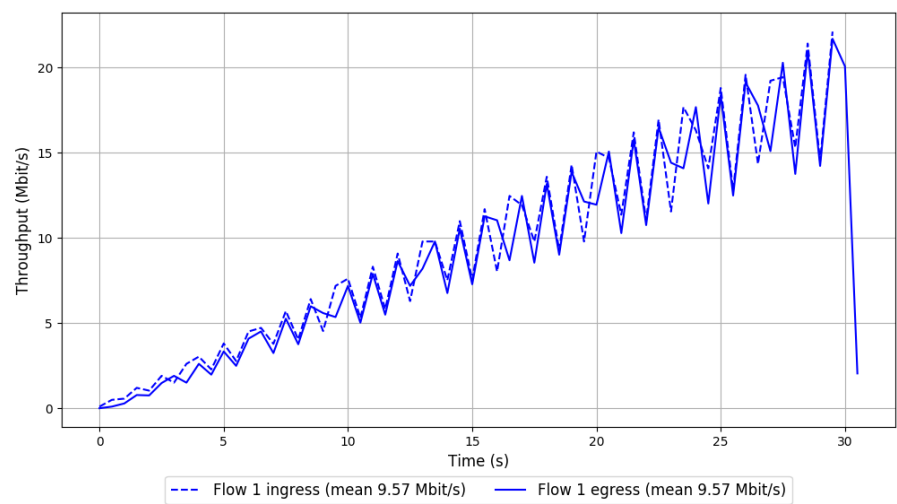


Run 3: Statistics of LEDBAT

Start at: 2019-01-02 20:36:39  
End at: 2019-01-02 20:37:09  
Local clock offset: 1.074 ms  
Remote clock offset: -37.715 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.57 Mbit/s  
95th percentile per-packet one-way delay: 63.501 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.57 Mbit/s  
95th percentile per-packet one-way delay: 63.501 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

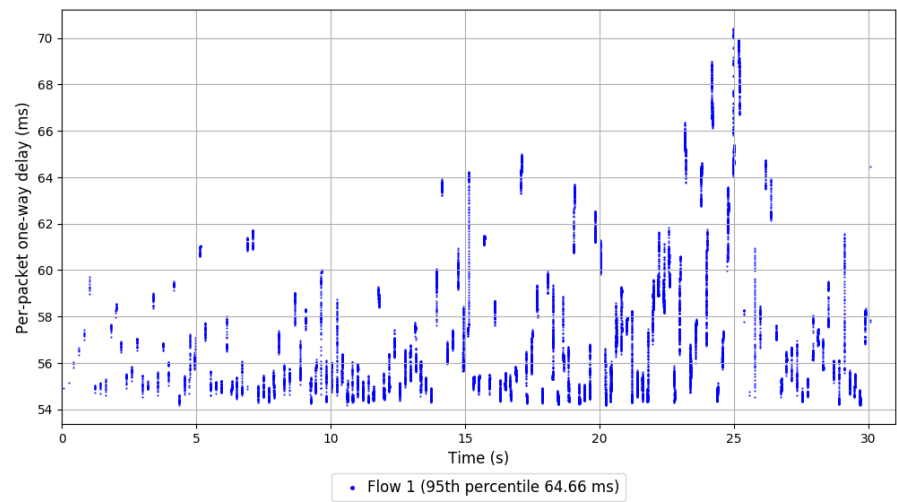
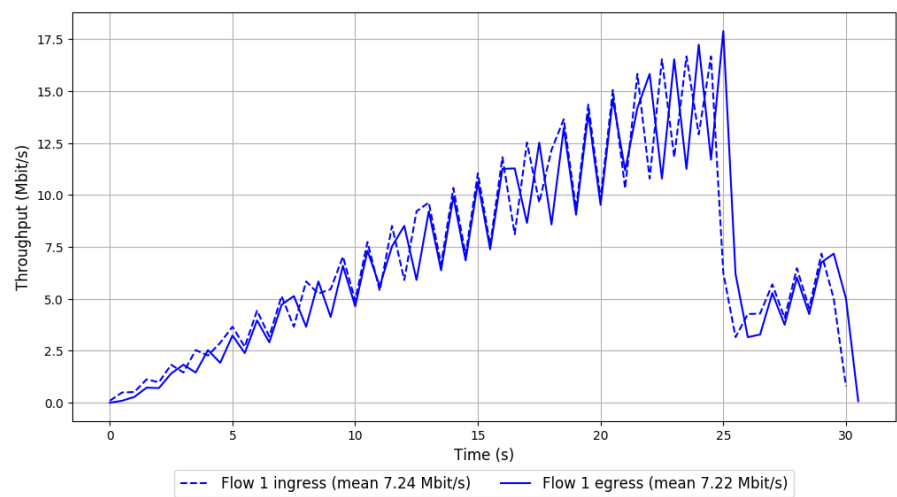


Run 4: Statistics of LEDBAT

Start at: 2019-01-02 21:01:01  
End at: 2019-01-02 21:01:31  
Local clock offset: 1.967 ms  
Remote clock offset: -42.644 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 7.22 Mbit/s  
95th percentile per-packet one-way delay: 64.658 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 7.22 Mbit/s  
95th percentile per-packet one-way delay: 64.658 ms  
Loss rate: 0.18%

Run 4: Report of LEDBAT — Data Link



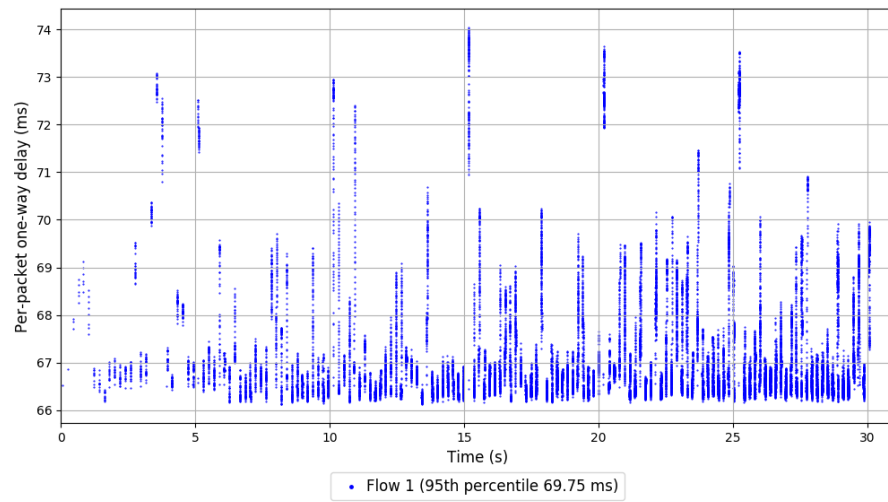
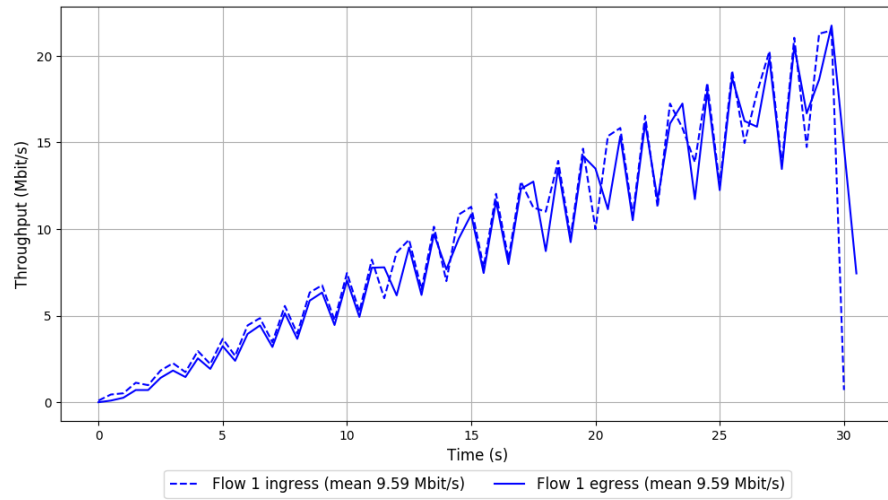


Run 5: Statistics of LEDBAT

Start at: 2019-01-02 21:25:23  
End at: 2019-01-02 21:25:53  
Local clock offset: 1.312 ms  
Remote clock offset: -31.382 ms

# Below is generated by plot.py at 2019-01-02 21:53:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.59 Mbit/s  
95th percentile per-packet one-way delay: 69.755 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 9.59 Mbit/s  
95th percentile per-packet one-way delay: 69.755 ms  
Loss rate: 0.00%

# Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-01-02 19:30:40

End at: 2019-01-02 19:31:10

Local clock offset: -3.965 ms

Remote clock offset: -43.089 ms

# Below is generated by plot.py at 2019-01-02 21:57:20

# Datalink statistics

-- Total of 1 flow:

Average throughput: 461.97 Mbit/s

95th percentile per-packet one-way delay: 69.912 ms

Loss rate: 4.11%

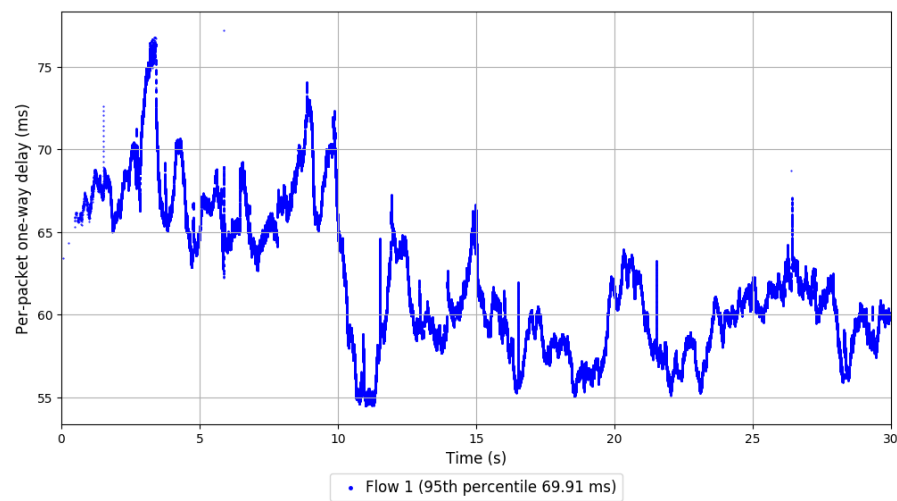
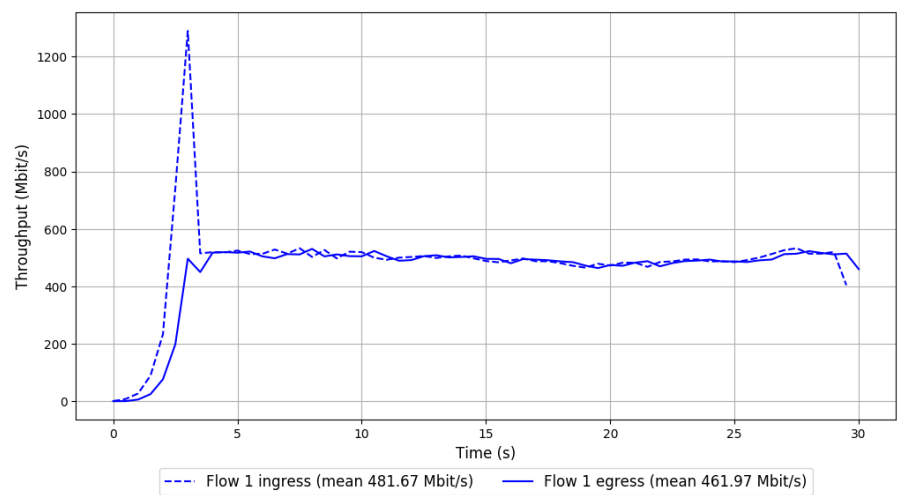
-- Flow 1:

Average throughput: 461.97 Mbit/s

95th percentile per-packet one-way delay: 69.912 ms

Loss rate: 4.11%

Run 1: Report of PCC-Allegro — Data Link

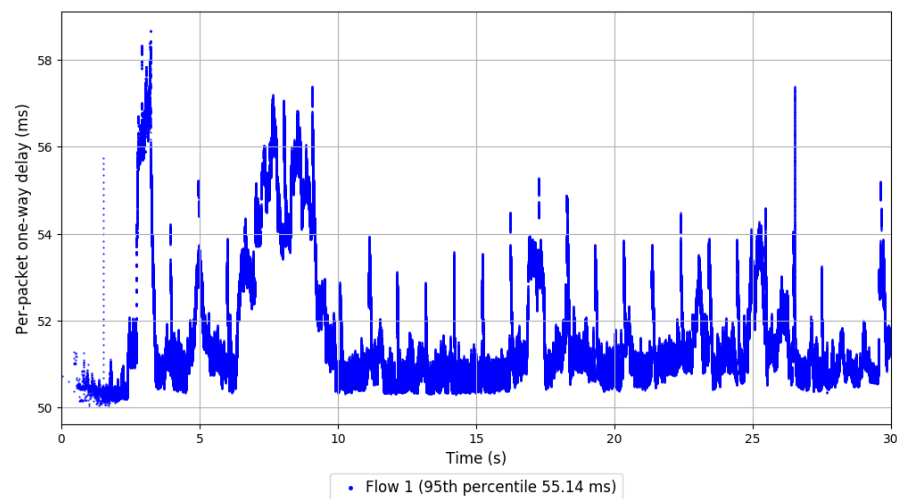
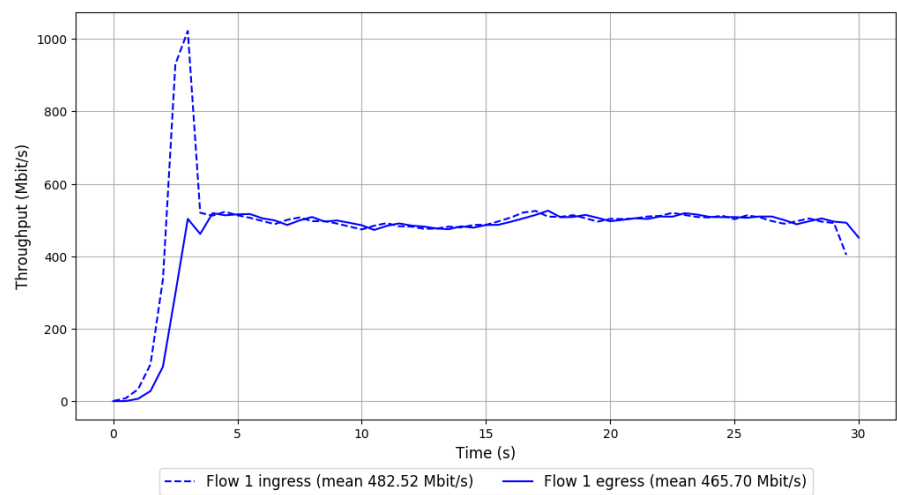


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-02 20:00:38  
End at: 2019-01-02 20:01:08  
Local clock offset: -0.037 ms  
Remote clock offset: -47.547 ms

# Below is generated by plot.py at 2019-01-02 21:57:25  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 465.70 Mbit/s  
95th percentile per-packet one-way delay: 55.136 ms  
Loss rate: 3.48%  
-- Flow 1:  
Average throughput: 465.70 Mbit/s  
95th percentile per-packet one-way delay: 55.136 ms  
Loss rate: 3.48%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-02 20:31:09

End at: 2019-01-02 20:31:39

Local clock offset: 4.059 ms

Remote clock offset: -40.913 ms

# Below is generated by plot.py at 2019-01-02 21:57:25

# Datalink statistics

-- Total of 1 flow:

Average throughput: 456.22 Mbit/s

95th percentile per-packet one-way delay: 70.029 ms

Loss rate: 4.12%

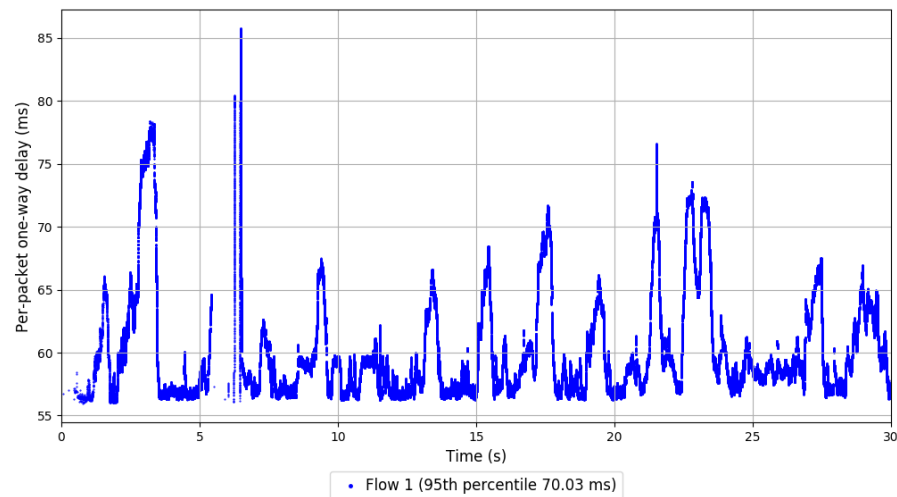
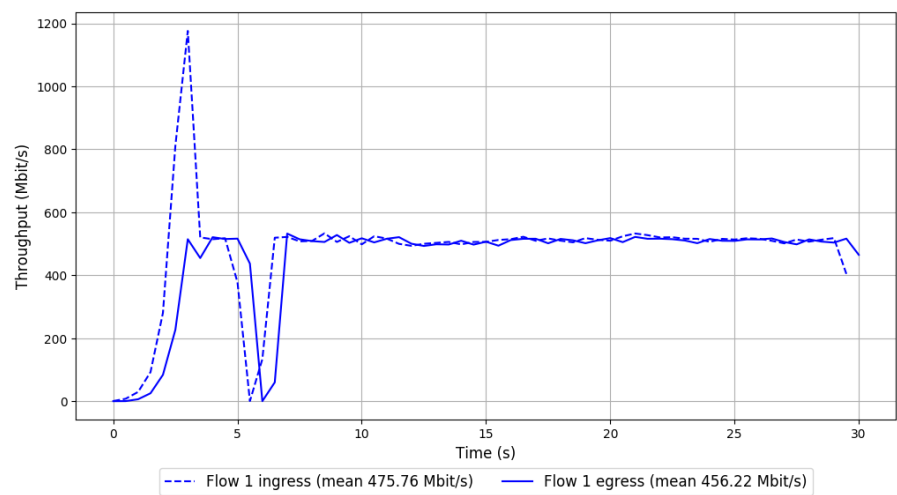
-- Flow 1:

Average throughput: 456.22 Mbit/s

95th percentile per-packet one-way delay: 70.029 ms

Loss rate: 4.12%

Run 3: Report of PCC-Allegro — Data Link





Run 4: Statistics of PCC-Allegro

Start at: 2019-01-02 20:55:24

End at: 2019-01-02 20:55:54

Local clock offset: -0.703 ms

Remote clock offset: -39.544 ms

# Below is generated by plot.py at 2019-01-02 21:57:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 473.23 Mbit/s

95th percentile per-packet one-way delay: 65.616 ms

Loss rate: 3.69%

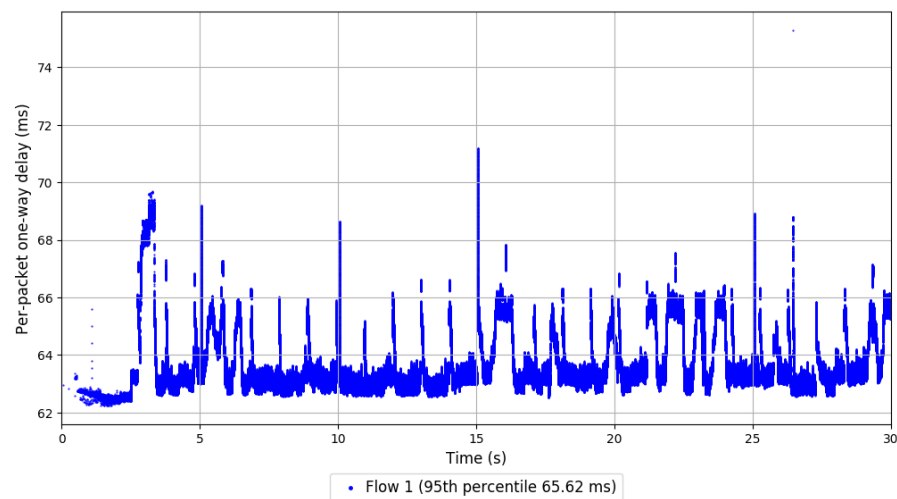
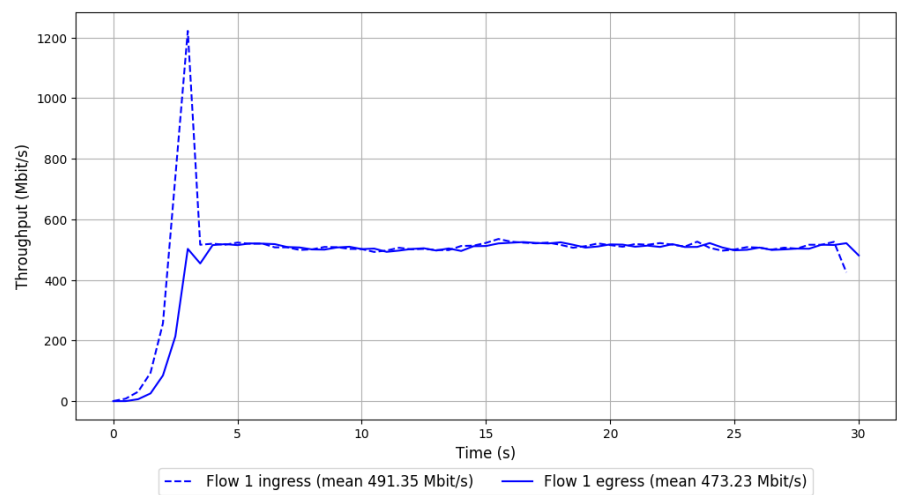
-- Flow 1:

Average throughput: 473.23 Mbit/s

95th percentile per-packet one-way delay: 65.616 ms

Loss rate: 3.69%

Run 4: Report of PCC-Allegro — Data Link

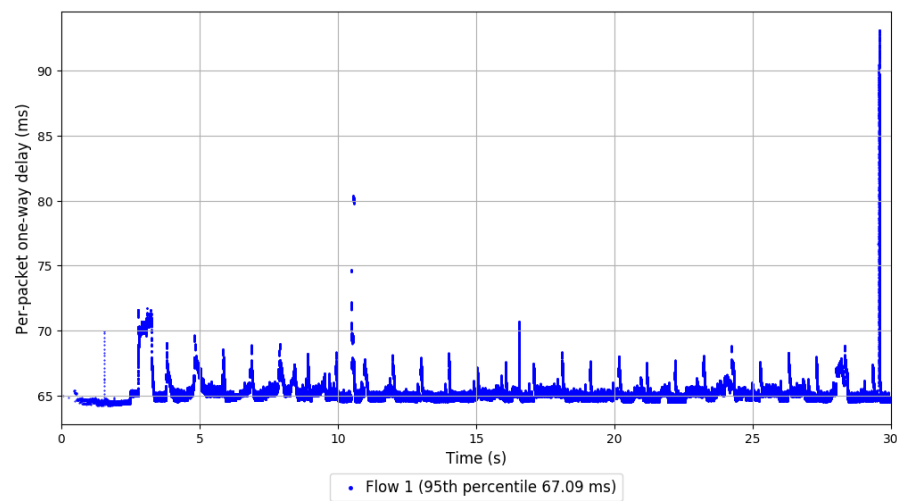
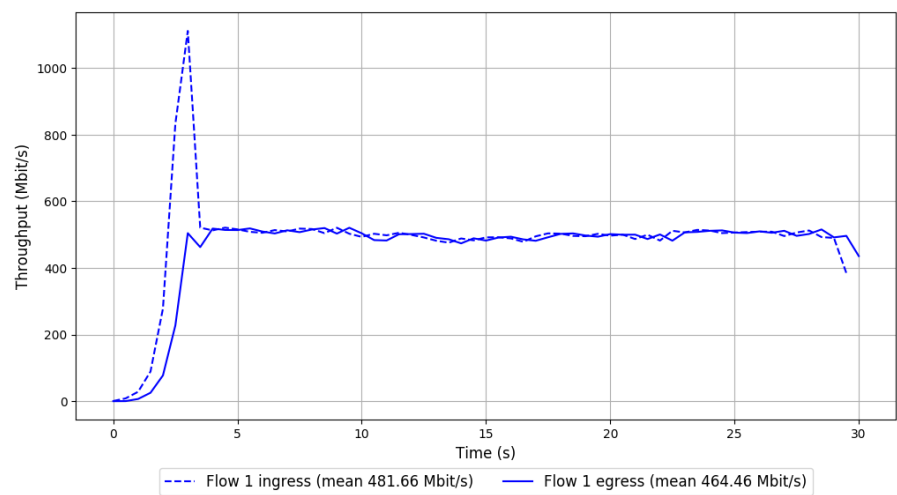


Run 5: Statistics of PCC-Allegro

Start at: 2019-01-02 21:19:47  
End at: 2019-01-02 21:20:17  
Local clock offset: -0.673 ms  
Remote clock offset: -34.87 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 464.46 Mbit/s  
95th percentile per-packet one-way delay: 67.091 ms  
Loss rate: 3.57%  
-- Flow 1:  
Average throughput: 464.46 Mbit/s  
95th percentile per-packet one-way delay: 67.091 ms  
Loss rate: 3.57%

Run 5: Report of PCC-Allegro — Data Link

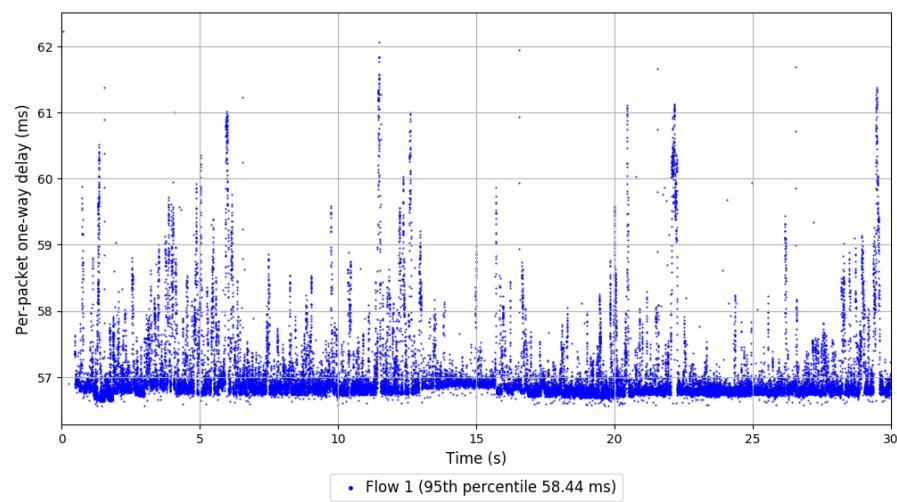
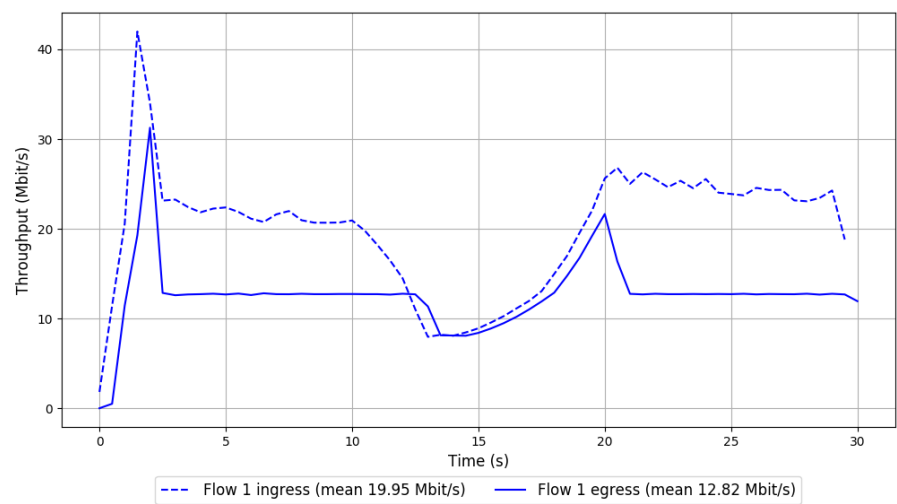


```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-02 19:52:08
End at: 2019-01-02 19:52:38
Local clock offset: -0.104 ms
Remote clock offset: -40.1 ms

# Below is generated by plot.py at 2019-01-02 21:57:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 58.435 ms
Loss rate: 35.73%
-- Flow 1:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 58.435 ms
Loss rate: 35.73%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-02 20:22:36

End at: 2019-01-02 20:23:06

Local clock offset: 0.813 ms

Remote clock offset: -31.1 ms

# Below is generated by plot.py at 2019-01-02 21:57:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.88 Mbit/s

95th percentile per-packet one-way delay: 81.402 ms

Loss rate: 34.23%

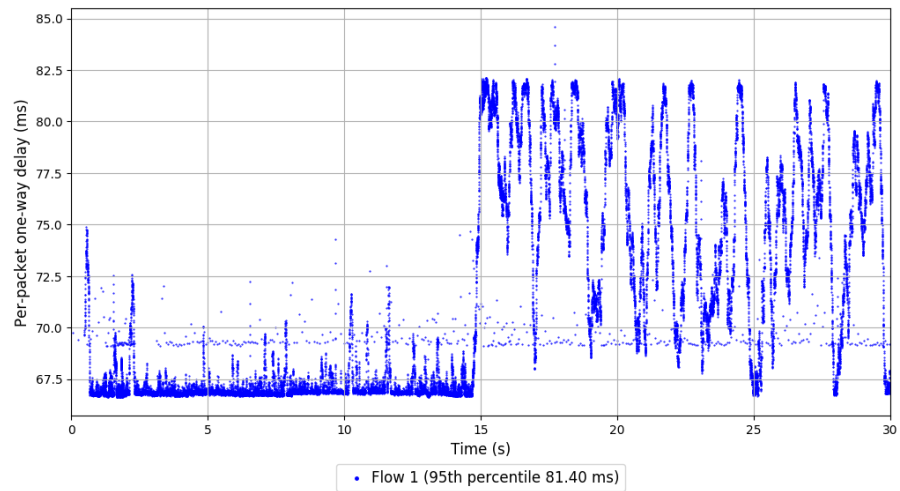
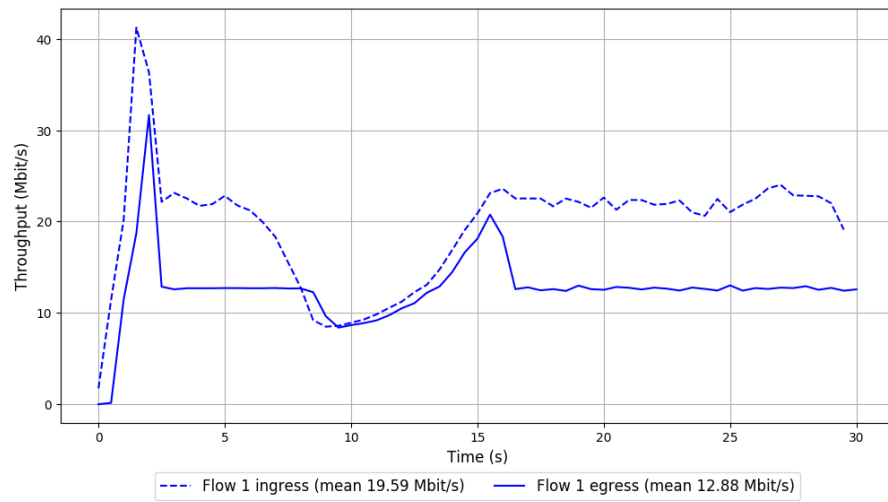
-- Flow 1:

Average throughput: 12.88 Mbit/s

95th percentile per-packet one-way delay: 81.402 ms

Loss rate: 34.23%

## Run 2: Report of PCC-Expr — Data Link



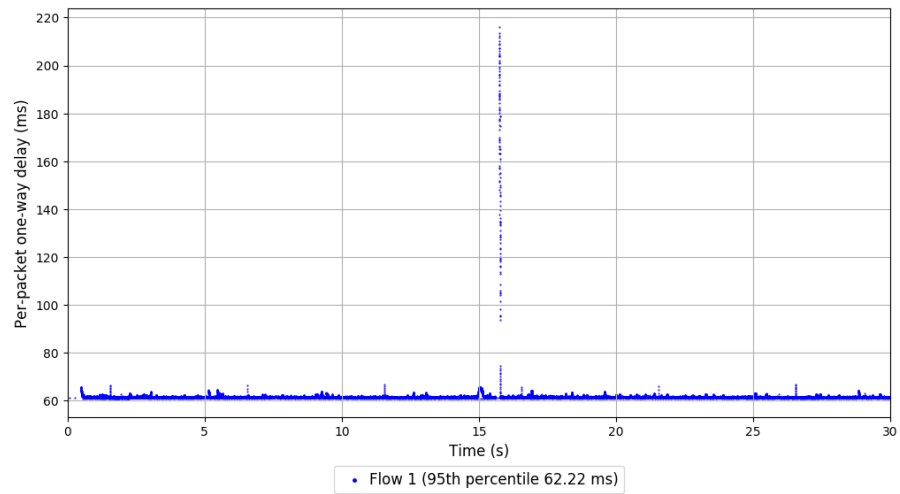
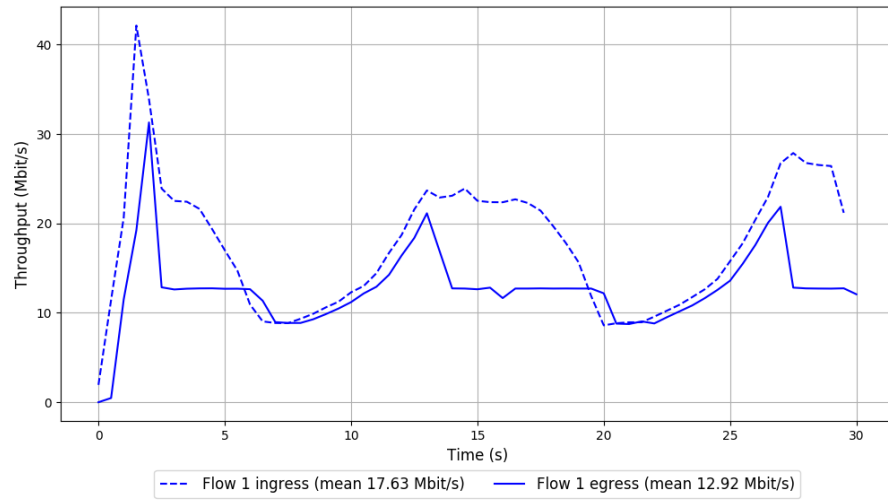


Run 3: Statistics of PCC-Expr

Start at: 2019-01-02 20:46:56  
End at: 2019-01-02 20:47:26  
Local clock offset: 2.884 ms  
Remote clock offset: -34.79 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.92 Mbit/s  
95th percentile per-packet one-way delay: 62.218 ms  
Loss rate: 26.76%  
-- Flow 1:  
Average throughput: 12.92 Mbit/s  
95th percentile per-packet one-way delay: 62.218 ms  
Loss rate: 26.76%

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

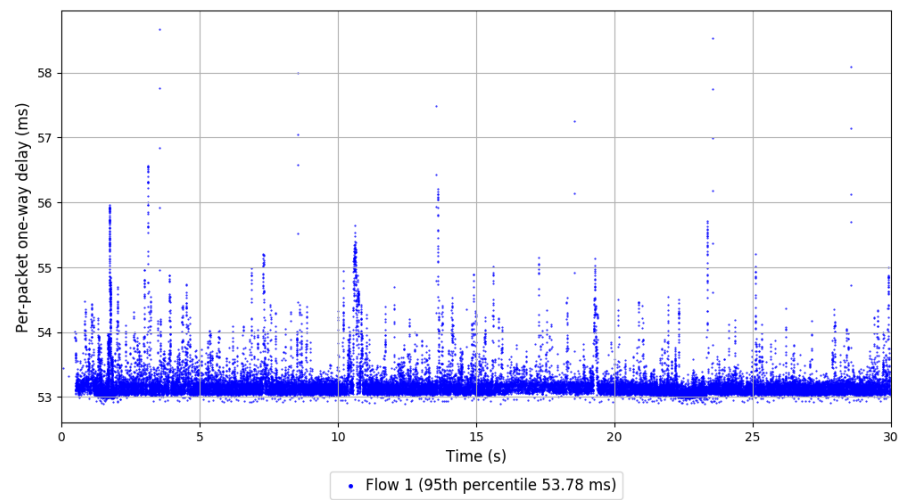
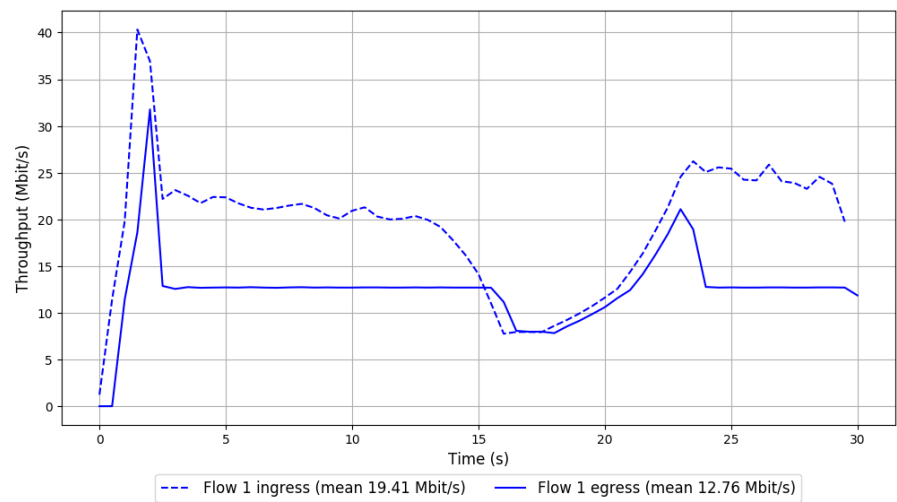


Run 4: Statistics of PCC-Expr

Start at: 2019-01-02 21:11:12  
End at: 2019-01-02 21:11:42  
Local clock offset: 2.207 ms  
Remote clock offset: -43.565 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.76 Mbit/s  
95th percentile per-packet one-way delay: 53.777 ms  
Loss rate: 34.24%  
-- Flow 1:  
Average throughput: 12.76 Mbit/s  
95th percentile per-packet one-way delay: 53.777 ms  
Loss rate: 34.24%

Run 4: Report of PCC-Expr — Data Link

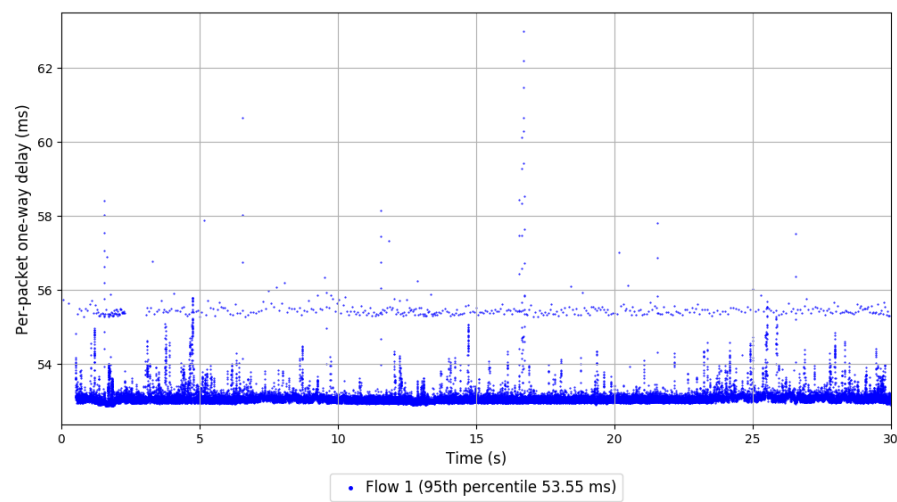
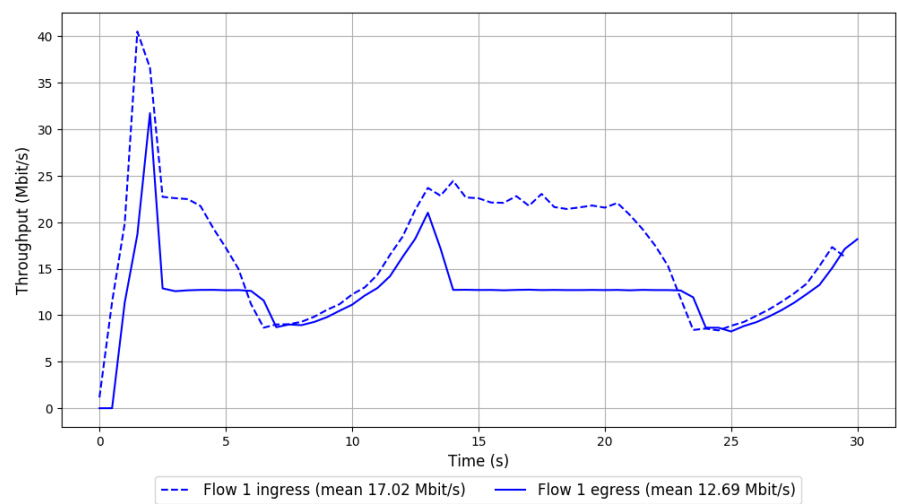


Run 5: Statistics of PCC-Expr

Start at: 2019-01-02 21:35:40  
End at: 2019-01-02 21:36:10  
Local clock offset: 2.707 ms  
Remote clock offset: -44.125 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.69 Mbit/s  
95th percentile per-packet one-way delay: 53.552 ms  
Loss rate: 25.46%  
-- Flow 1:  
Average throughput: 12.69 Mbit/s  
95th percentile per-packet one-way delay: 53.552 ms  
Loss rate: 25.46%

Run 5: Report of PCC-Expr — Data Link

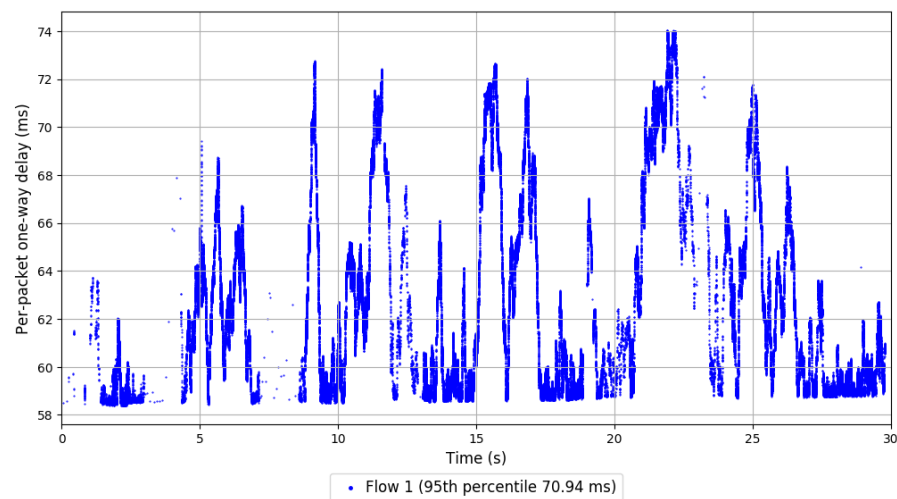
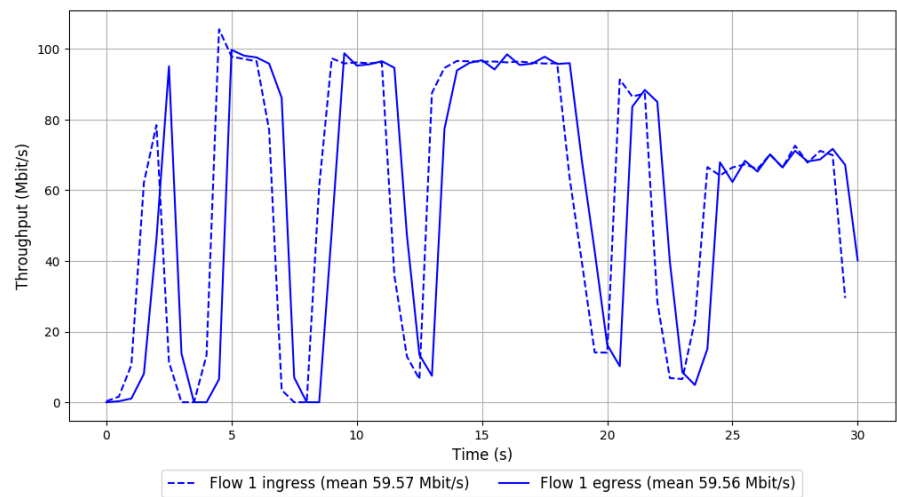


```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-02 19:25:54
End at: 2019-01-02 19:26:24
Local clock offset: -9.234 ms
Remote clock offset: -41.235 ms

# Below is generated by plot.py at 2019-01-02 21:57:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 70.937 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 70.937 ms
Loss rate: 0.02%
```

Run 1: Report of QUIC Cubic — Data Link



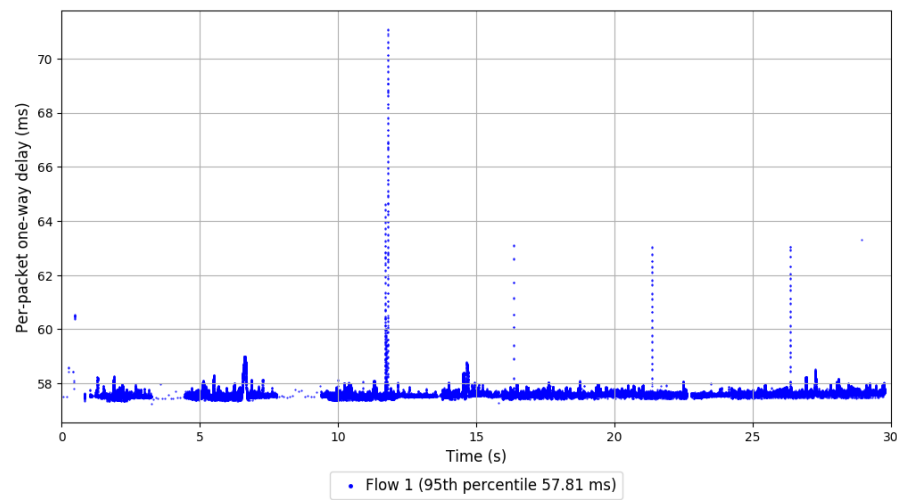
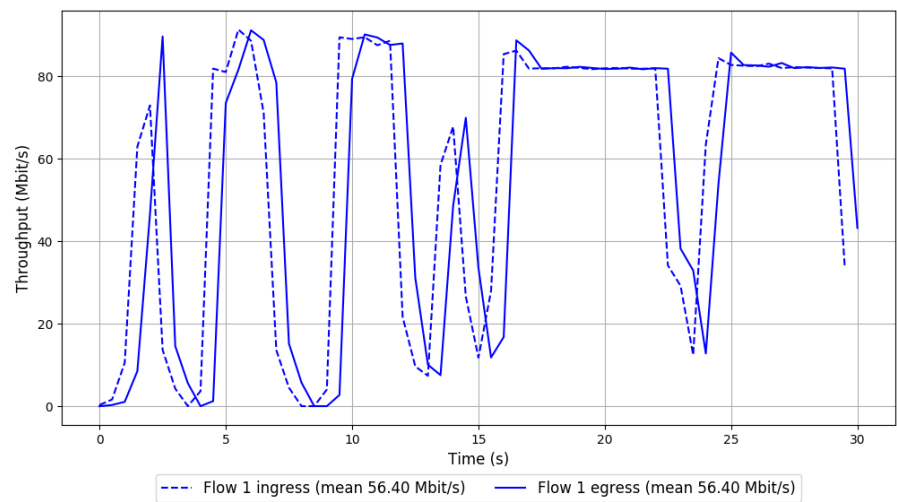


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-02 19:55:49  
End at: 2019-01-02 19:56:19  
Local clock offset: 0.971 ms  
Remote clock offset: -38.487 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 56.40 Mbit/s  
95th percentile per-packet one-way delay: 57.806 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 56.40 Mbit/s  
95th percentile per-packet one-way delay: 57.806 ms  
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

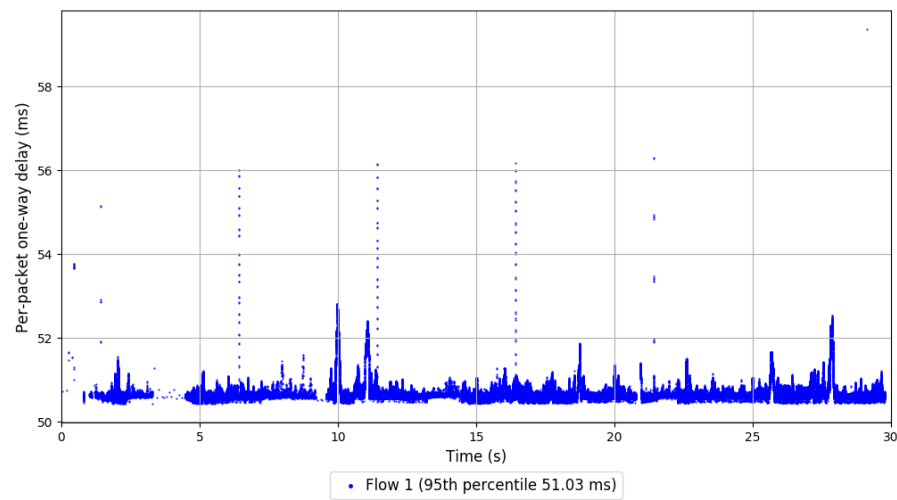
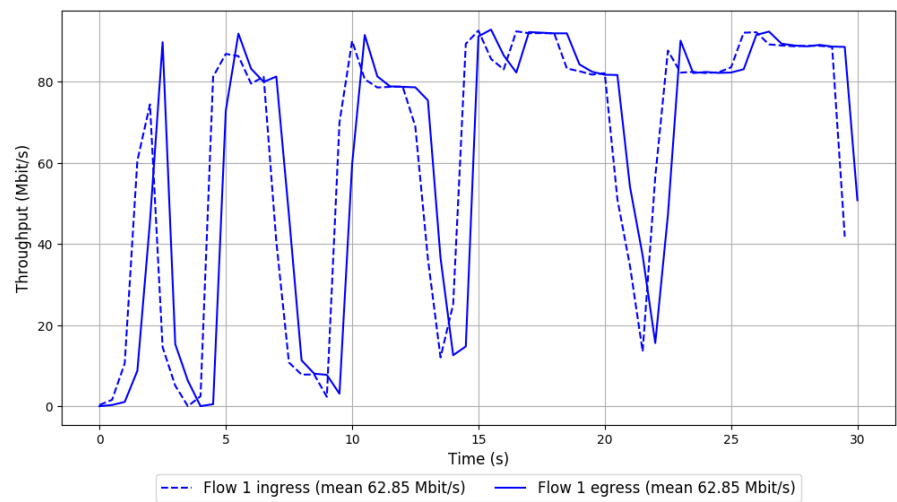


Run 3: Statistics of QUIC Cubic

Start at: 2019-01-02 20:26:13  
End at: 2019-01-02 20:26:43  
Local clock offset: 1.345 ms  
Remote clock offset: -46.706 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 62.85 Mbit/s  
95th percentile per-packet one-way delay: 51.030 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 62.85 Mbit/s  
95th percentile per-packet one-way delay: 51.030 ms  
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

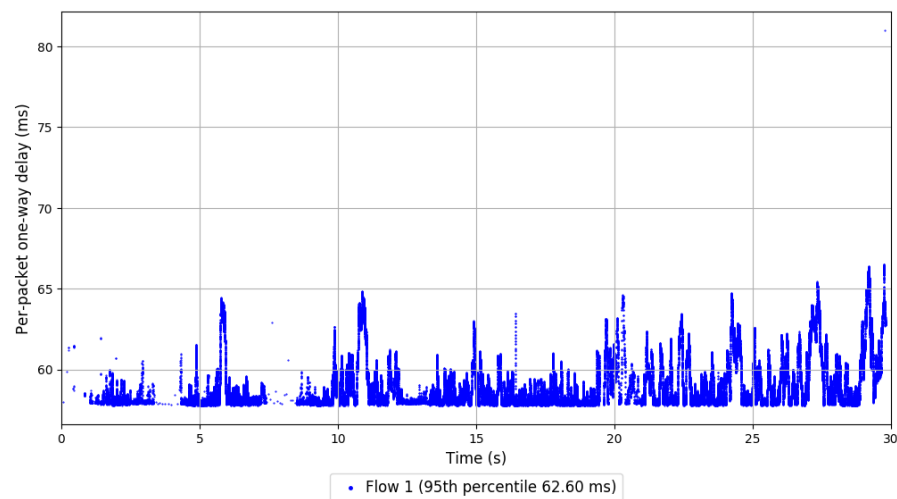
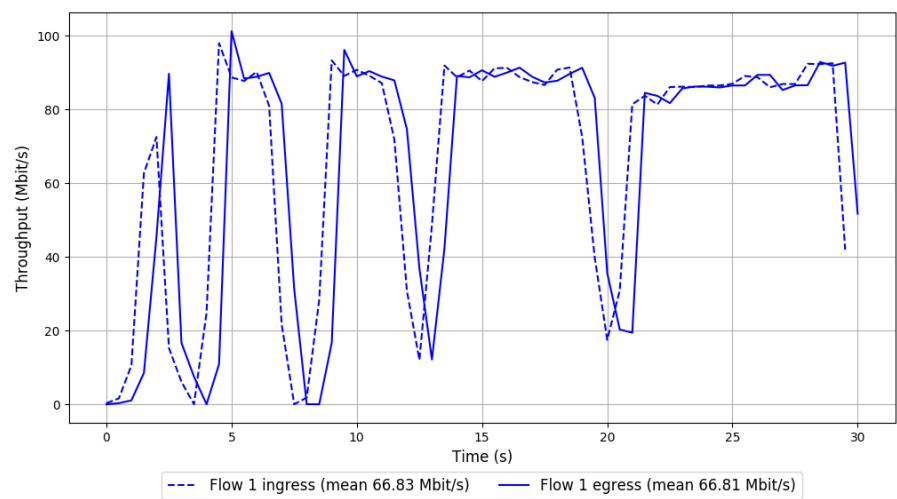


Run 4: Statistics of QUIC Cubic

Start at: 2019-01-02 20:50:34  
End at: 2019-01-02 20:51:04  
Local clock offset: 0.749 ms  
Remote clock offset: -40.379 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.81 Mbit/s  
95th percentile per-packet one-way delay: 62.601 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 66.81 Mbit/s  
95th percentile per-packet one-way delay: 62.601 ms  
Loss rate: 0.03%

Run 4: Report of QUIC Cubic — Data Link

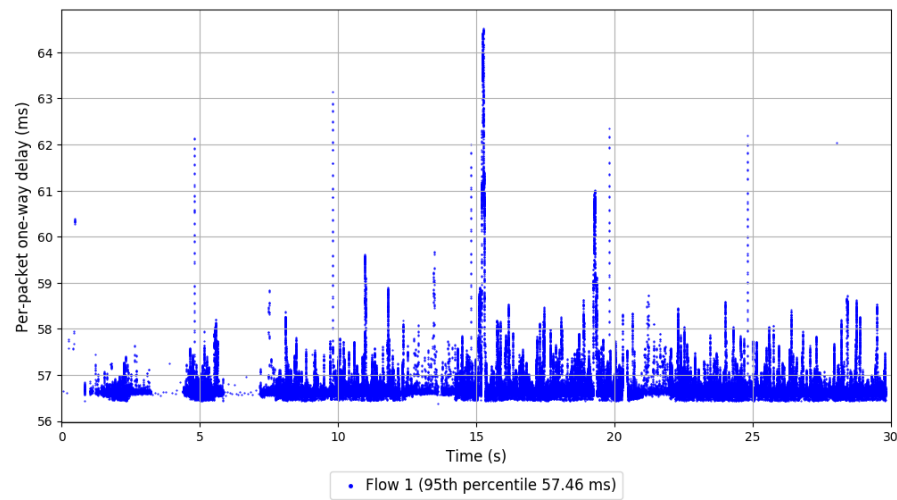
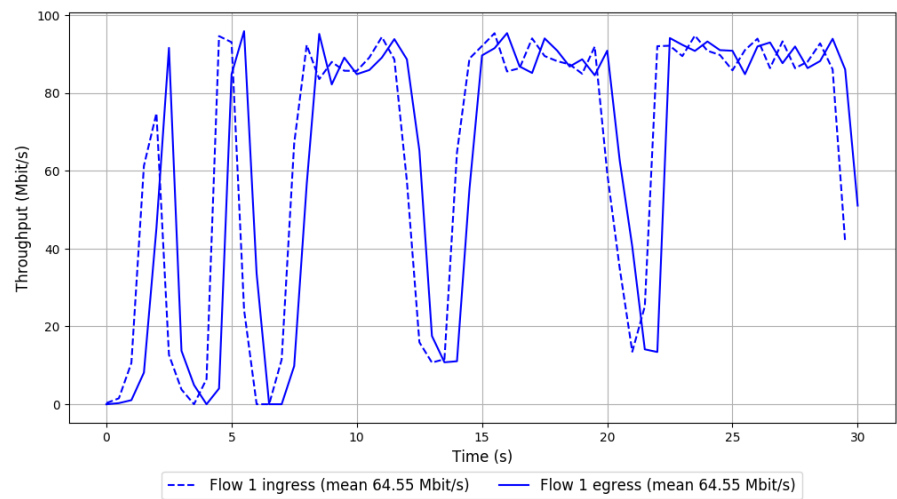


Run 5: Statistics of QUIC Cubic

Start at: 2019-01-02 21:14:51  
End at: 2019-01-02 21:15:21  
Local clock offset: -0.041 ms  
Remote clock offset: -42.412 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.55 Mbit/s  
95th percentile per-packet one-way delay: 57.463 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 64.55 Mbit/s  
95th percentile per-packet one-way delay: 57.463 ms  
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link



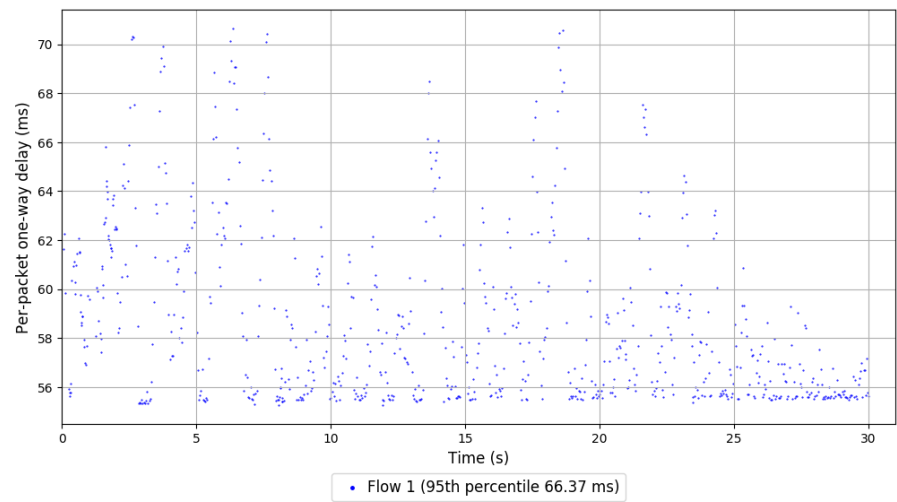
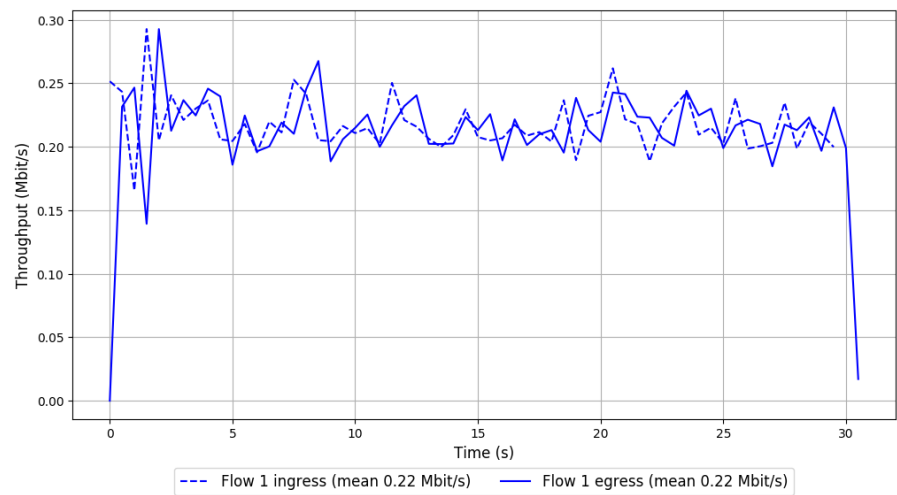


```
Run 1: Statistics of SCReAM

Start at: 2019-01-02 19:29:30
End at: 2019-01-02 19:30:00
Local clock offset: -4.444 ms
Remote clock offset: -42.231 ms

# Below is generated by plot.py at 2019-01-02 21:57:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.372 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.372 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

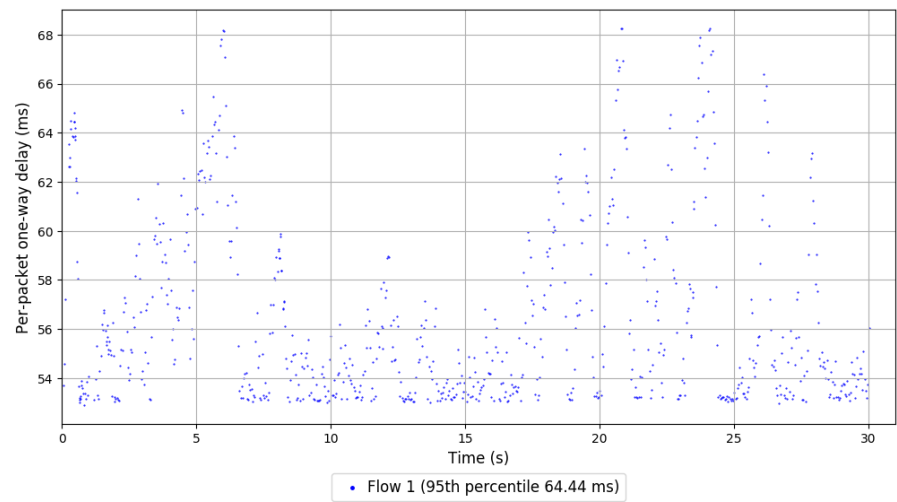
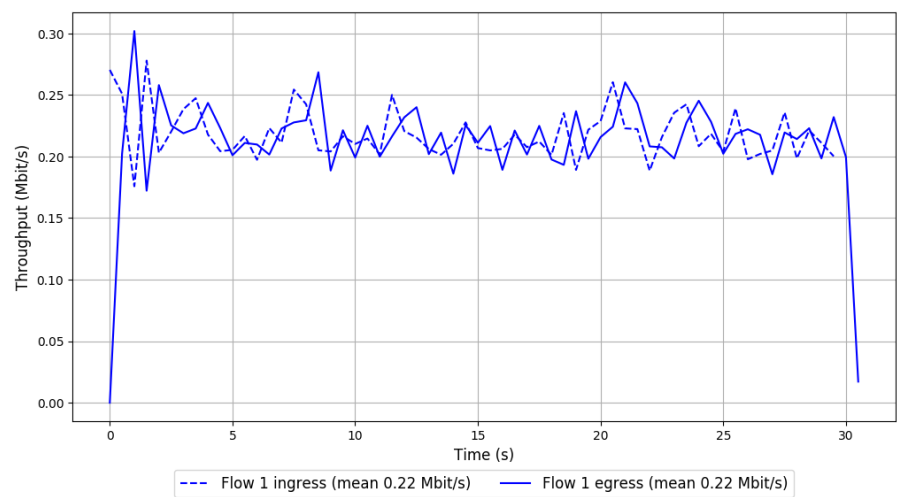


Run 2: Statistics of SCReAM

Start at: 2019-01-02 19:59:27  
End at: 2019-01-02 19:59:57  
Local clock offset: 2.369 ms  
Remote clock offset: -42.554 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 64.438 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 64.438 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

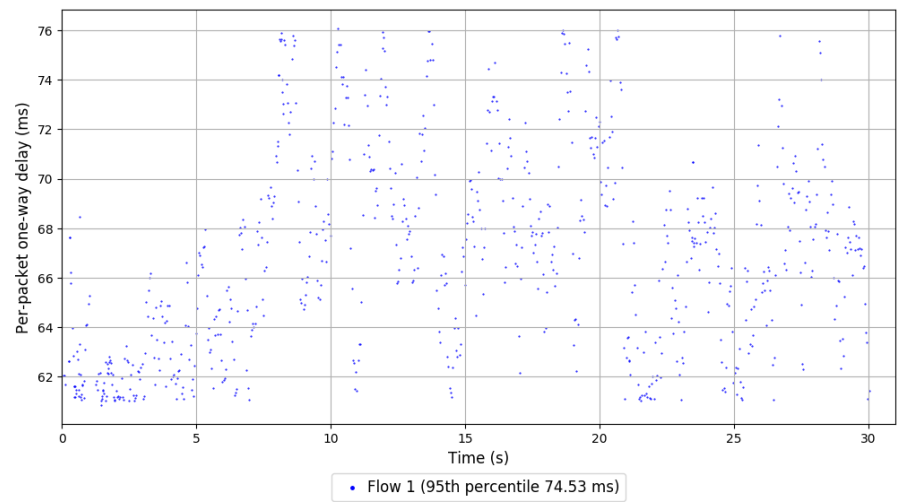
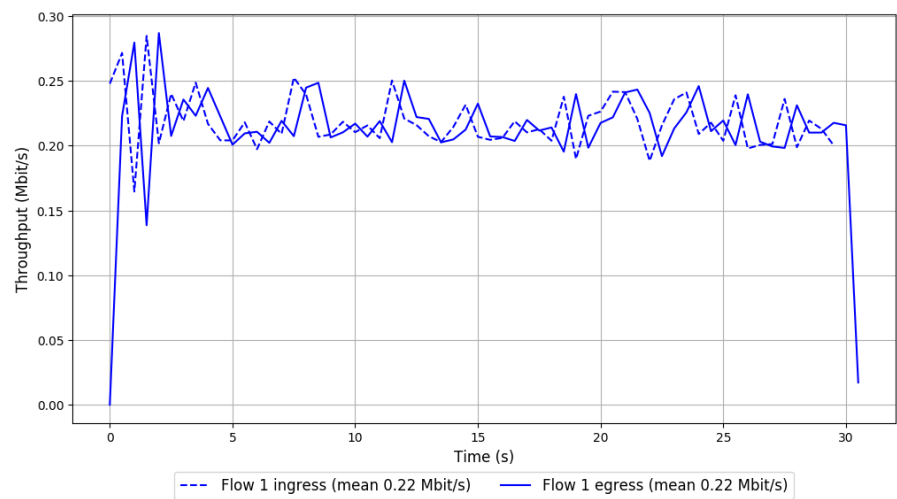


Run 3: Statistics of SCReAM

Start at: 2019-01-02 20:29:59  
End at: 2019-01-02 20:30:29  
Local clock offset: 0.986 ms  
Remote clock offset: -37.04 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 74.530 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 74.530 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

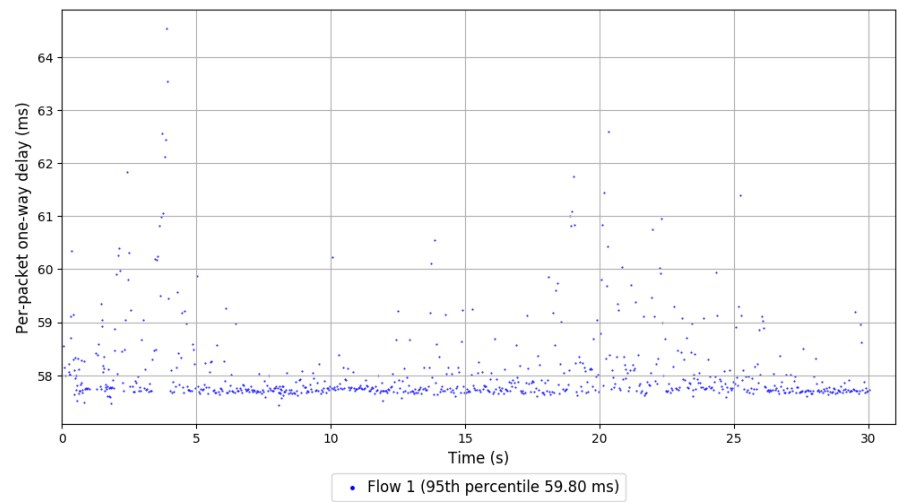
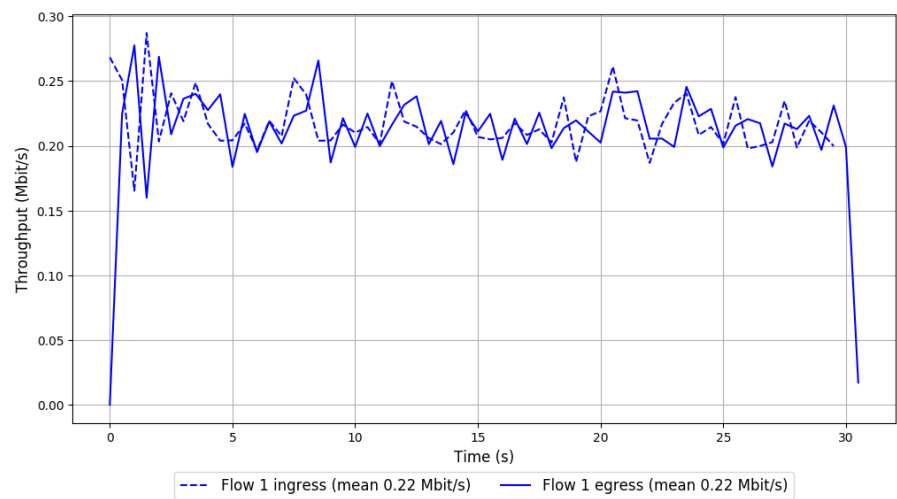


Run 4: Statistics of SCReAM

Start at: 2019-01-02 20:54:15  
End at: 2019-01-02 20:54:45  
Local clock offset: -0.199 ms  
Remote clock offset: -41.508 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 59.799 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 59.799 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



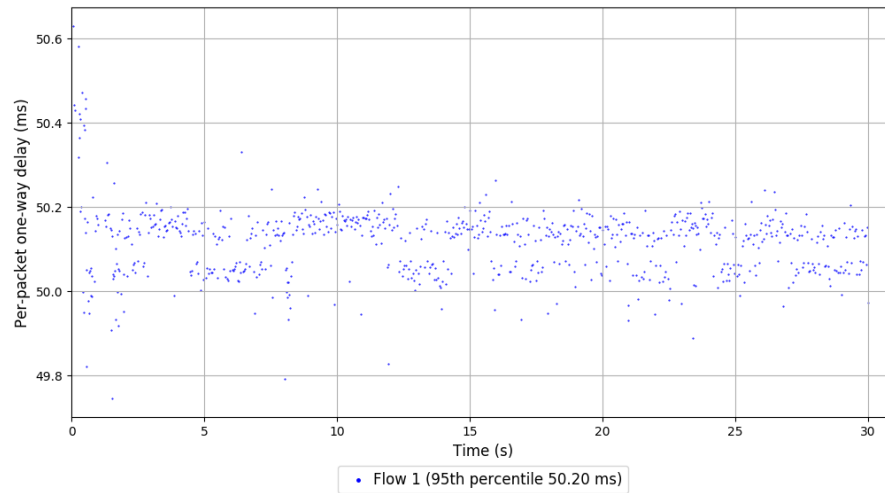
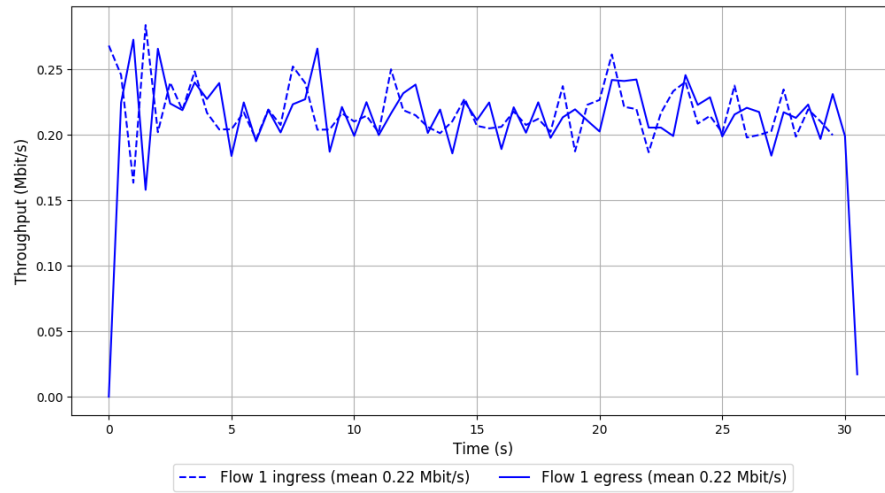


Run 5: Statistics of SCReAM

Start at: 2019-01-02 21:18:37  
End at: 2019-01-02 21:19:07  
Local clock offset: 2.228 ms  
Remote clock offset: -46.541 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 50.201 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 50.201 ms  
Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-01-02 19:24:44

End at: 2019-01-02 19:25:14

Local clock offset: -7.384 ms

Remote clock offset: -44.3 ms

# Below is generated by plot.py at 2019-01-02 21:57:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 69.068 ms

Loss rate: 0.00%

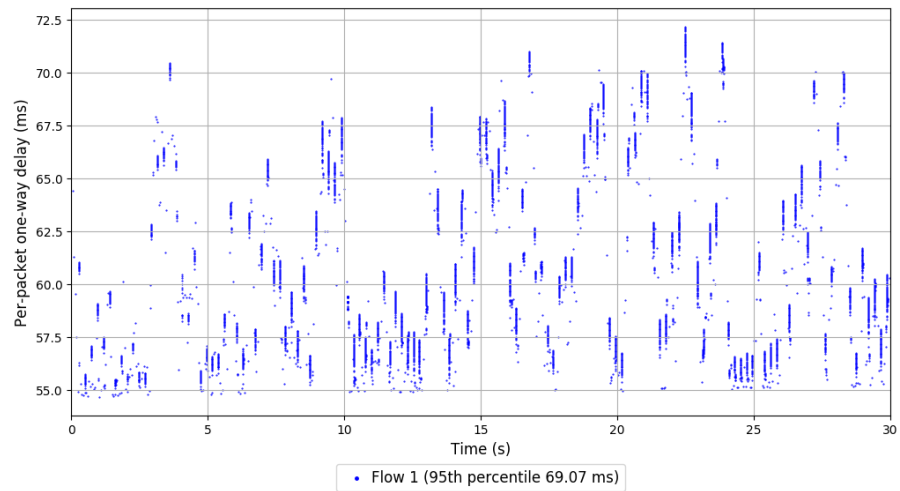
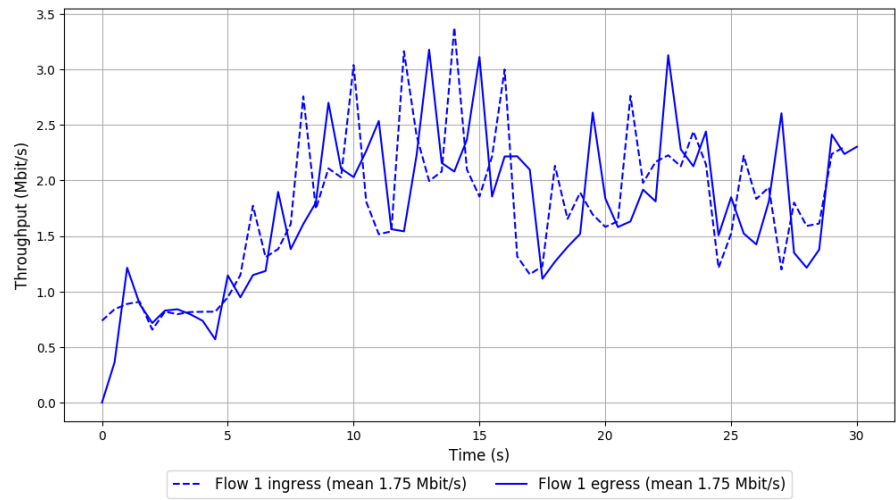
-- Flow 1:

Average throughput: 1.75 Mbit/s

95th percentile per-packet one-way delay: 69.068 ms

Loss rate: 0.00%

## Run 1: Report of Sprout — Data Link

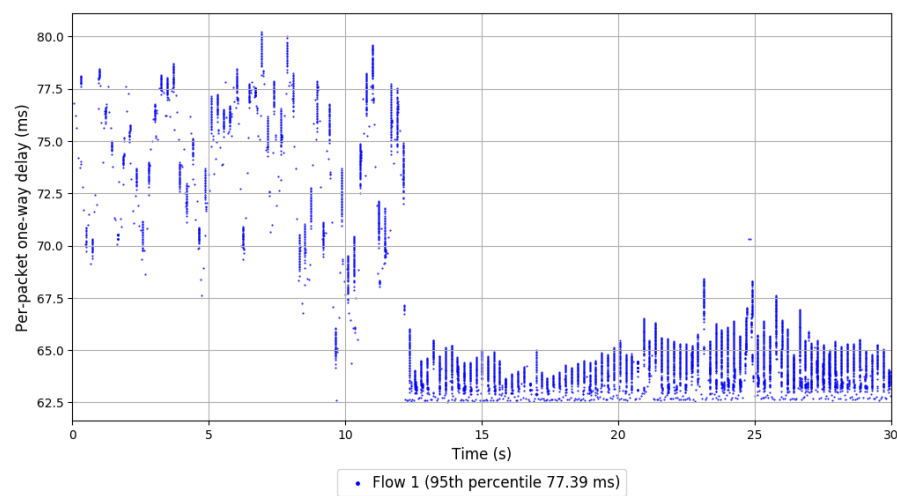
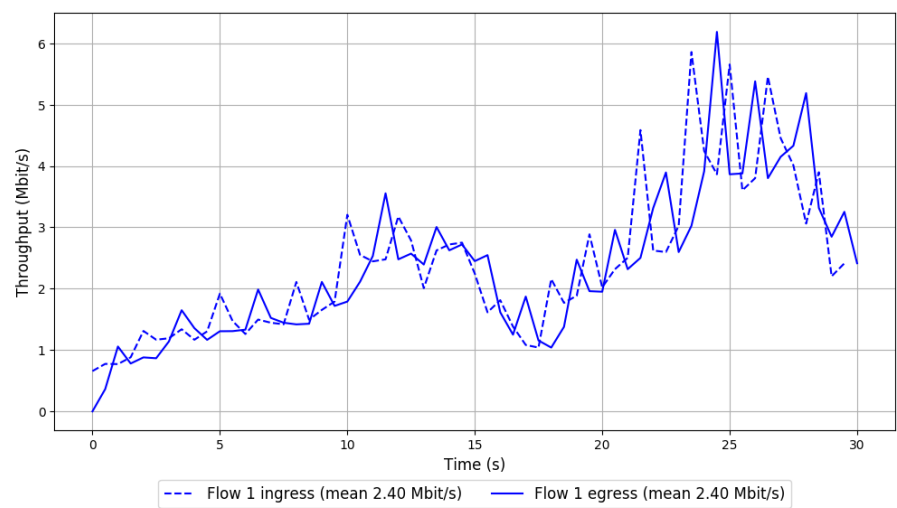


Run 2: Statistics of Sprout

Start at: 2019-01-02 19:54:39  
End at: 2019-01-02 19:55:09  
Local clock offset: -1.661 ms  
Remote clock offset: -35.933 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.40 Mbit/s  
95th percentile per-packet one-way delay: 77.391 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.40 Mbit/s  
95th percentile per-packet one-way delay: 77.391 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

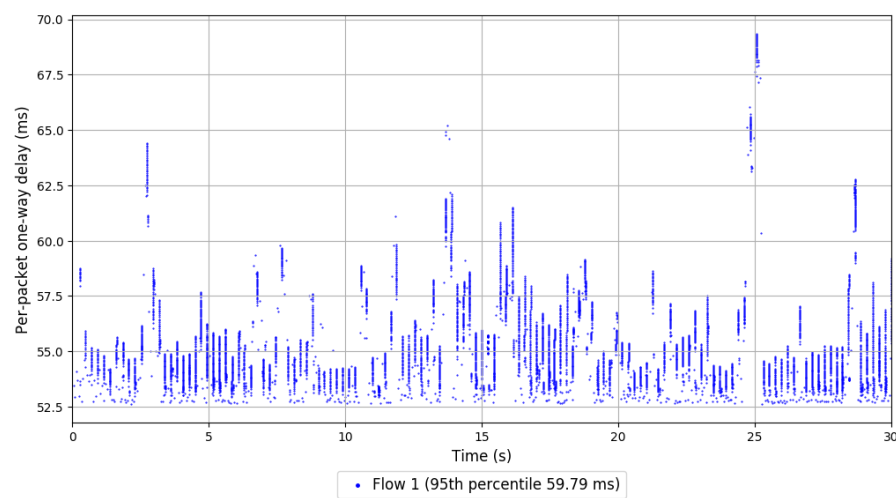
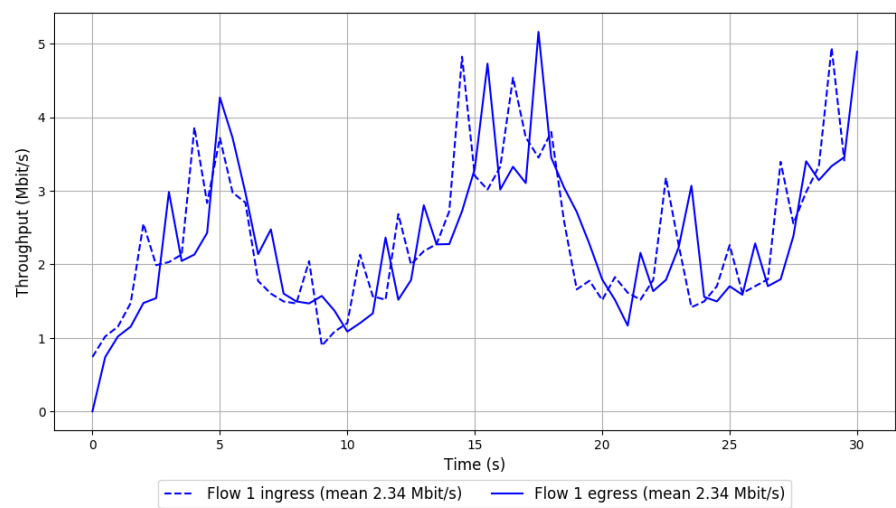


Run 3: Statistics of Sprout

Start at: 2019-01-02 20:25:03  
End at: 2019-01-02 20:25:33  
Local clock offset: 1.738 ms  
Remote clock offset: -46.732 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.34 Mbit/s  
95th percentile per-packet one-way delay: 59.789 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.34 Mbit/s  
95th percentile per-packet one-way delay: 59.789 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



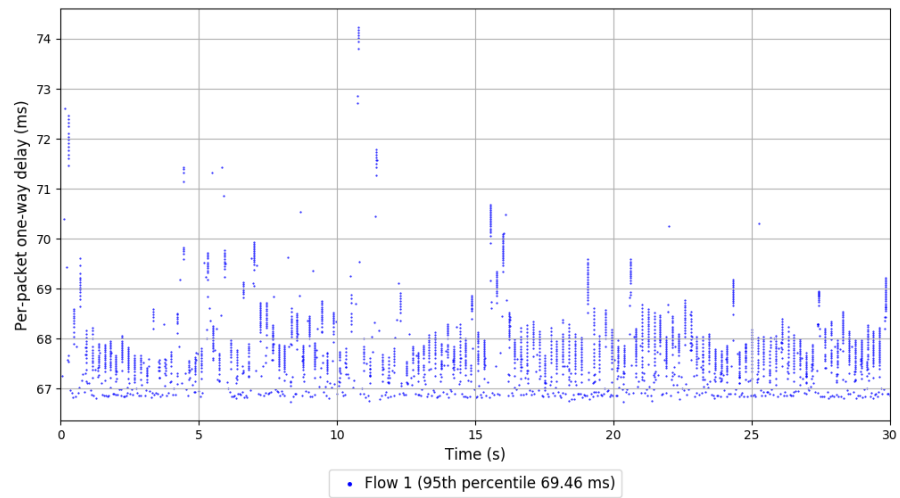
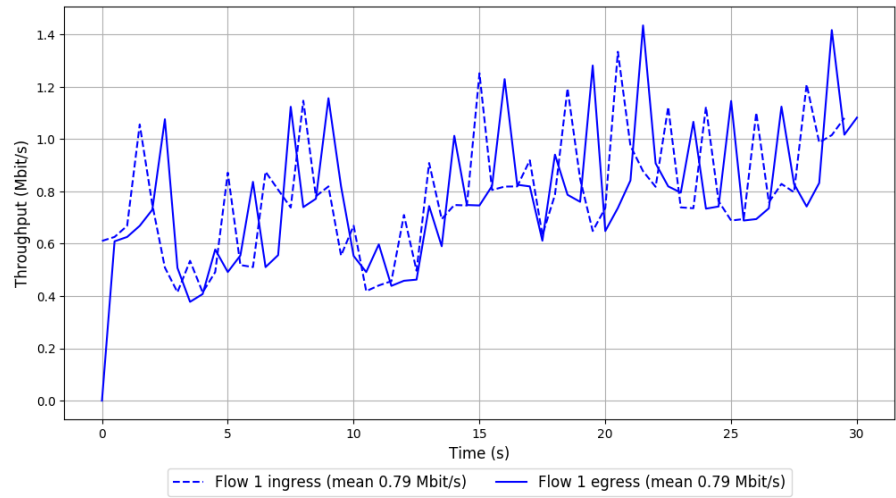


Run 4: Statistics of Sprout

Start at: 2019-01-02 20:49:23  
End at: 2019-01-02 20:49:53  
Local clock offset: 0.814 ms  
Remote clock offset: -31.306 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.79 Mbit/s  
95th percentile per-packet one-way delay: 69.456 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.79 Mbit/s  
95th percentile per-packet one-way delay: 69.456 ms  
Loss rate: 0.00%

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

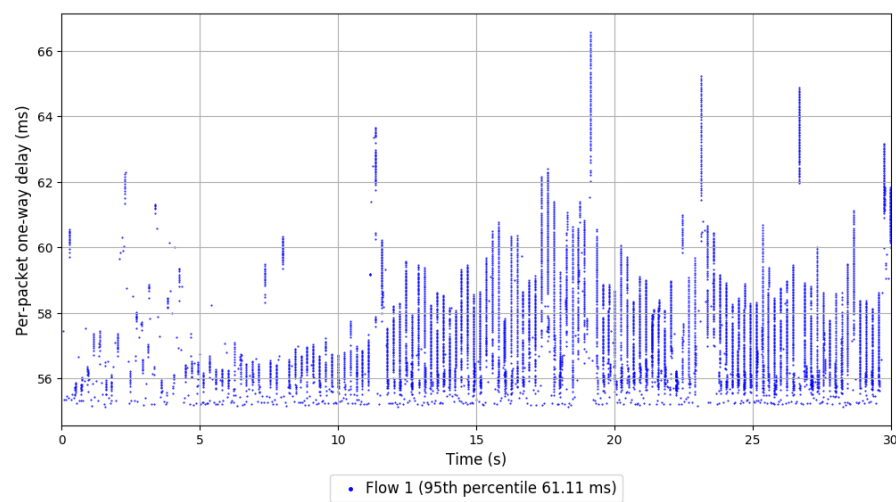
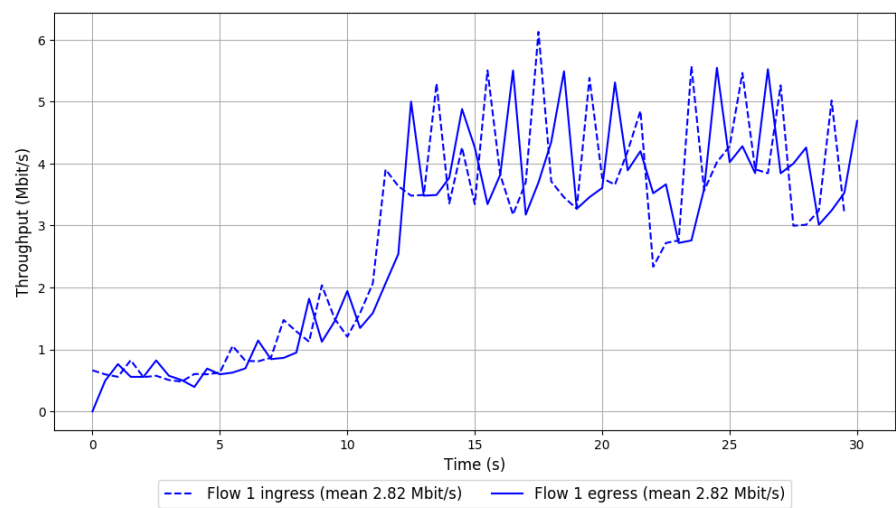


Run 5: Statistics of Sprout

Start at: 2019-01-02 21:13:41  
End at: 2019-01-02 21:14:11  
Local clock offset: 2.947 ms  
Remote clock offset: -42.845 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.82 Mbit/s  
95th percentile per-packet one-way delay: 61.110 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.82 Mbit/s  
95th percentile per-packet one-way delay: 61.110 ms  
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

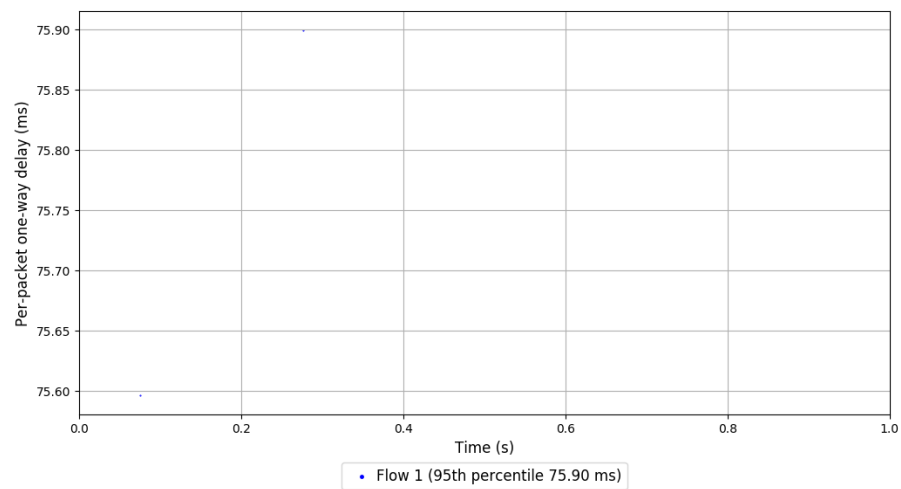
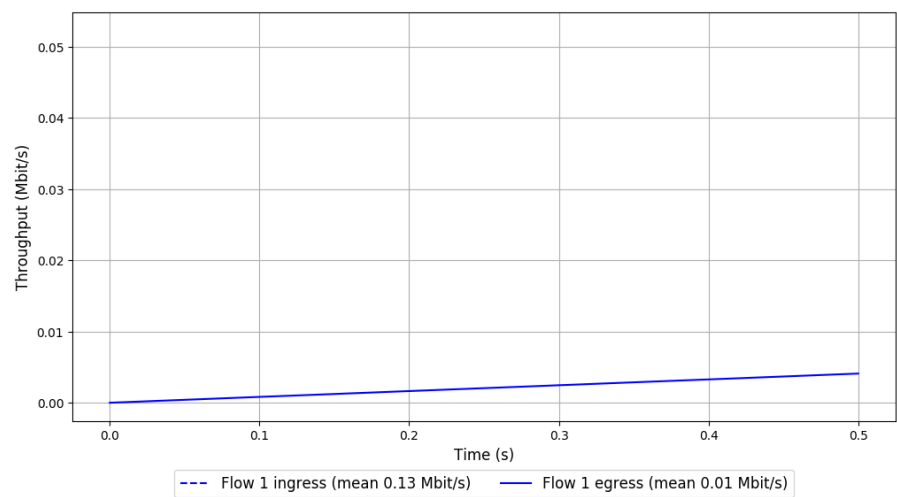
Start at: 2019-01-02 19:28:21

End at: 2019-01-02 19:28:51

Local clock offset: -6.301 ms

Remote clock offset: -30.89 ms

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



Run 2: Statistics of TaoVA-100x

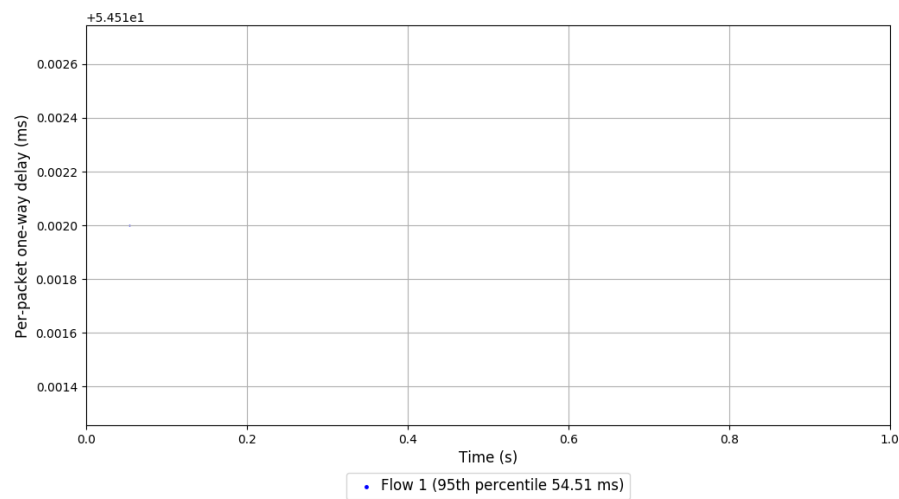
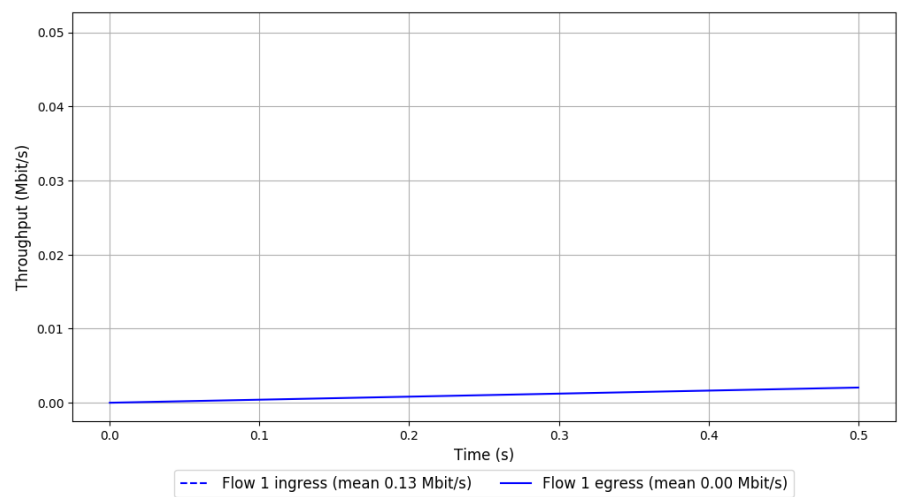
Start at: 2019-01-02 19:58:18

End at: 2019-01-02 19:58:48

Local clock offset: 0.535 ms

Remote clock offset: -43.573 ms

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





Run 3: Statistics of TaoVA-100x

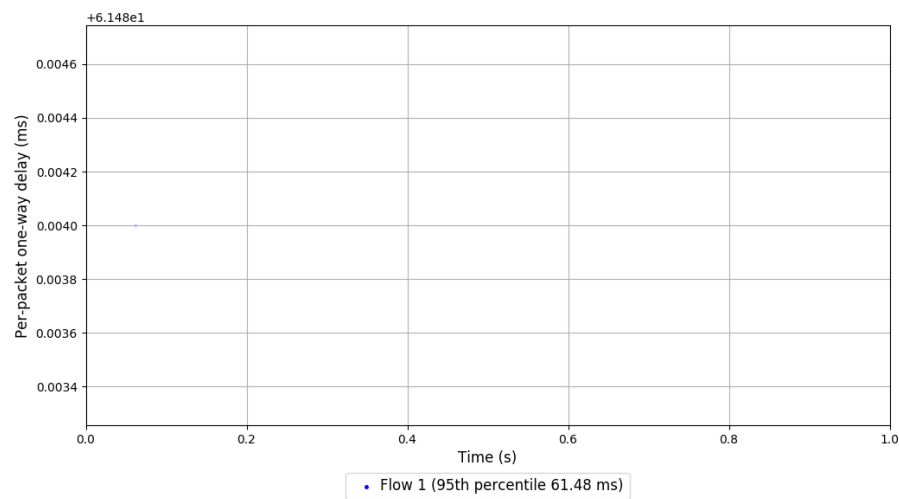
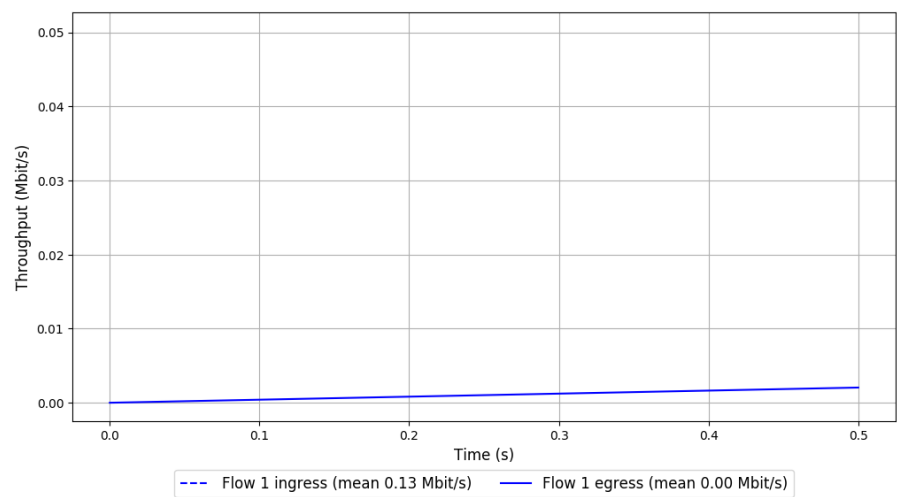
Start at: 2019-01-02 20:28:50

End at: 2019-01-02 20:29:20

Local clock offset: 1.078 ms

Remote clock offset: -41.089 ms

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



Run 4: Statistics of TaoVA-100x

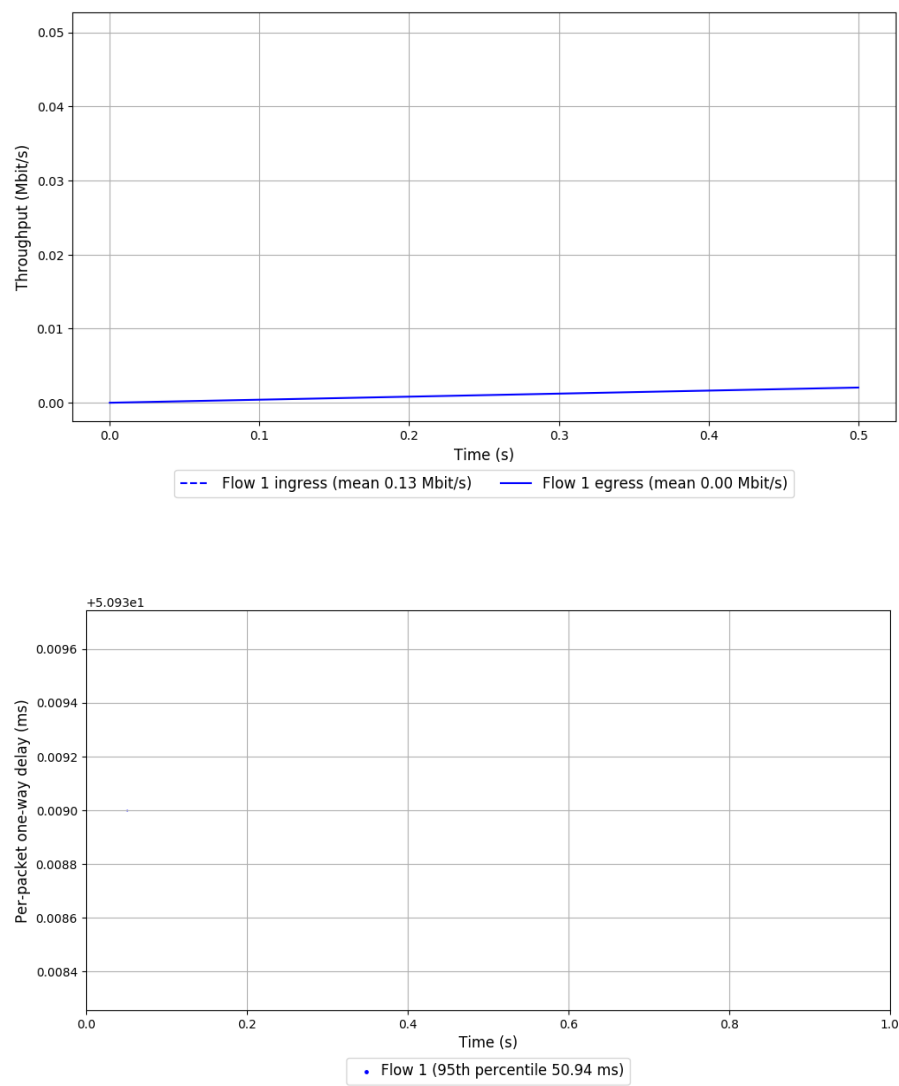
Start at: 2019-01-02 20:53:05

End at: 2019-01-02 20:53:35

Local clock offset: 2.609 ms

Remote clock offset: -45.839 ms

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



Run 5: Statistics of TaoVA-100x

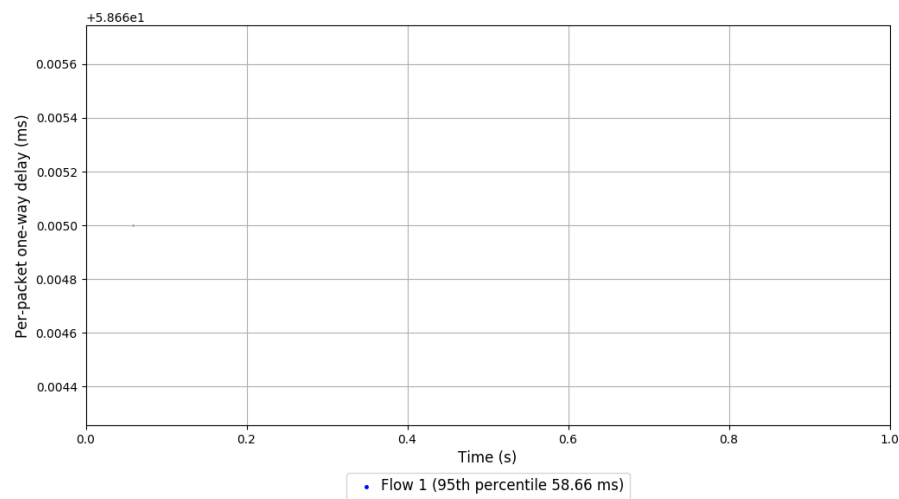
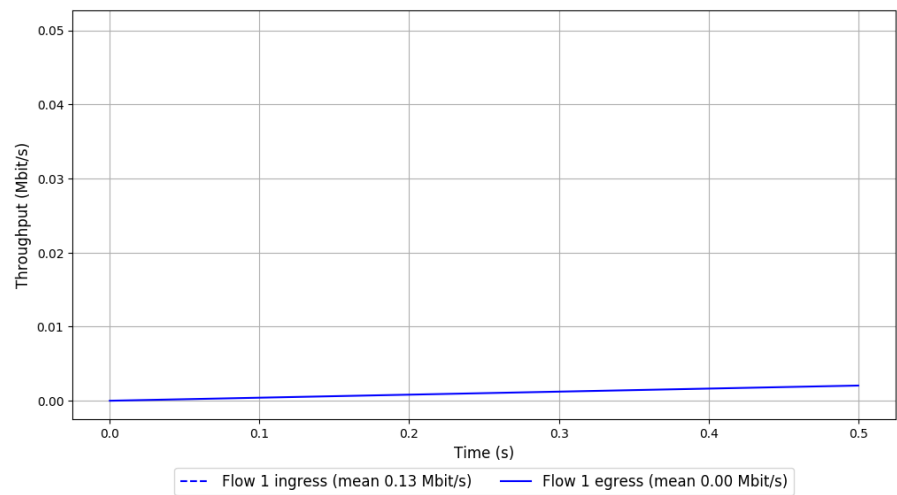
Start at: 2019-01-02 21:17:28

End at: 2019-01-02 21:17:58

Local clock offset: 0.614 ms

Remote clock offset: -39.944 ms

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

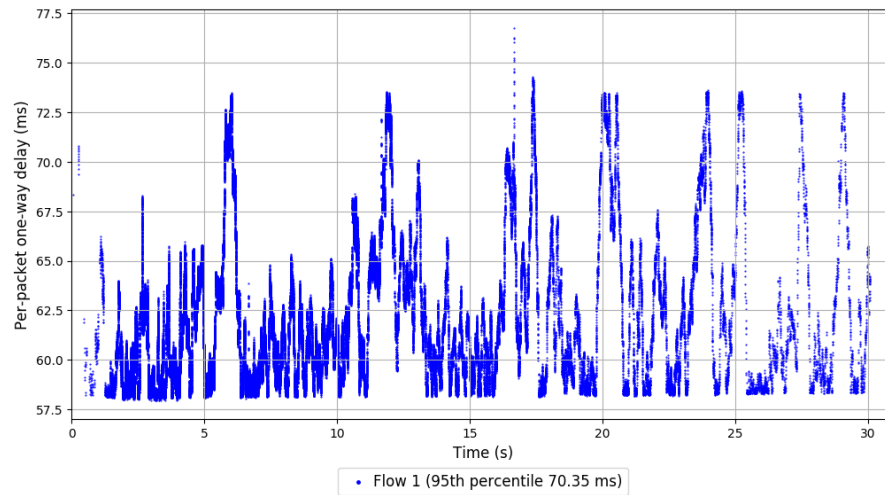
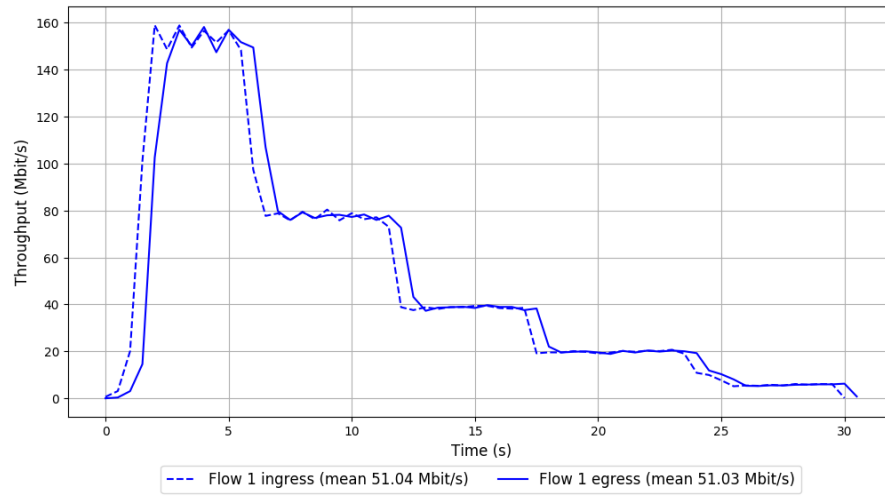


Run 1: Statistics of TCP Vegas

Start at: 2019-01-02 19:35:01  
End at: 2019-01-02 19:35:31  
Local clock offset: -4.371 ms  
Remote clock offset: -41.637 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 51.03 Mbit/s  
95th percentile per-packet one-way delay: 70.350 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 51.03 Mbit/s  
95th percentile per-packet one-way delay: 70.350 ms  
Loss rate: 0.03%

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



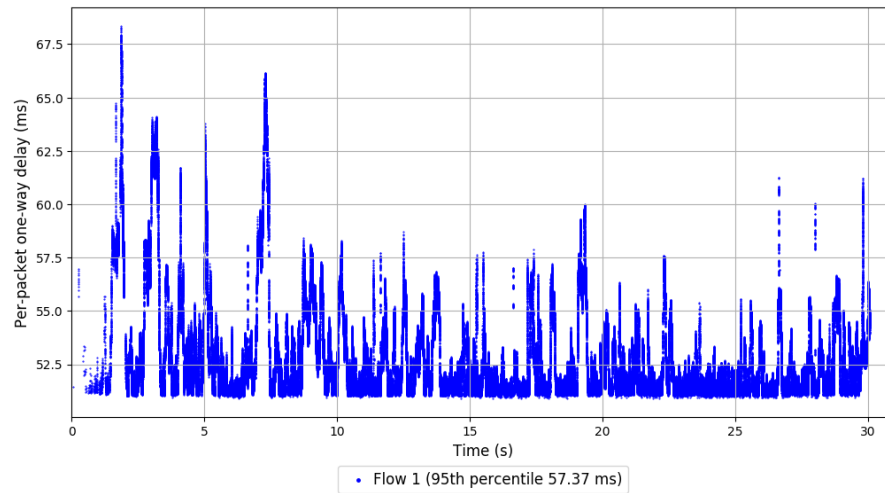
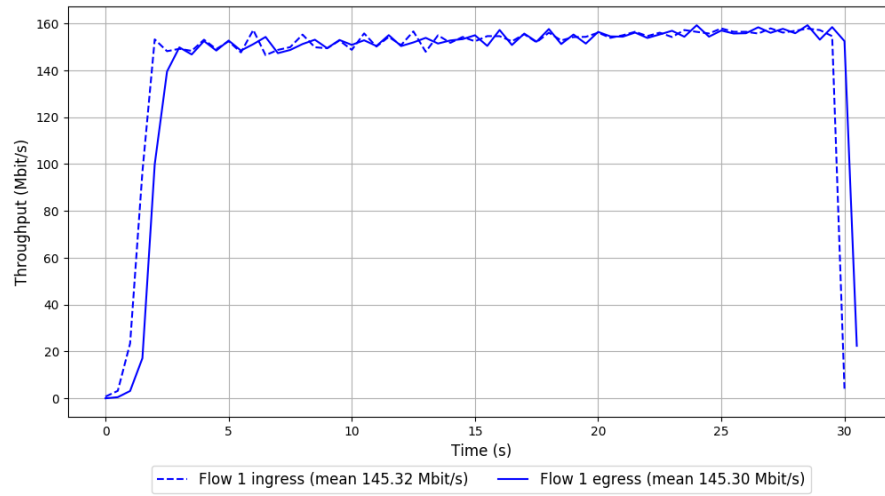


Run 2: Statistics of TCP Vegas

Start at: 2019-01-02 20:04:59  
End at: 2019-01-02 20:05:29  
Local clock offset: 3.271 ms  
Remote clock offset: -43.947 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 145.30 Mbit/s  
95th percentile per-packet one-way delay: 57.371 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 145.30 Mbit/s  
95th percentile per-packet one-way delay: 57.371 ms  
Loss rate: 0.01%

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

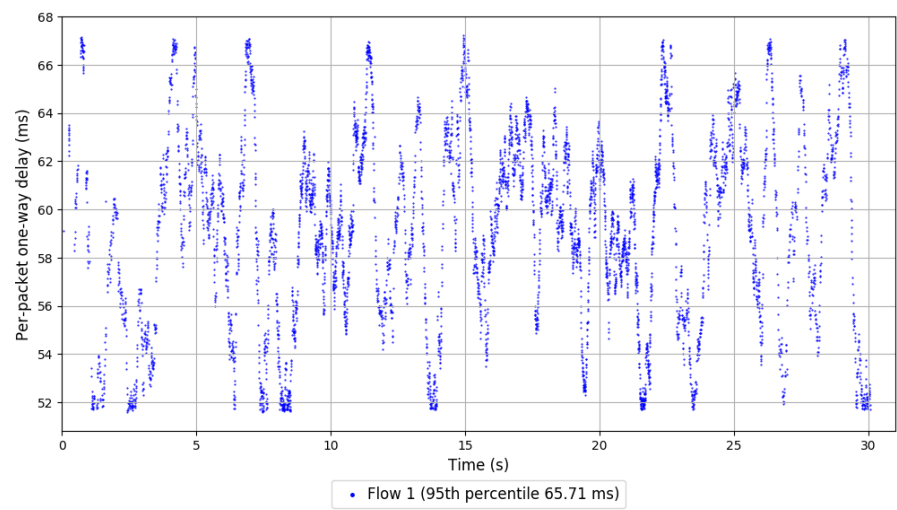
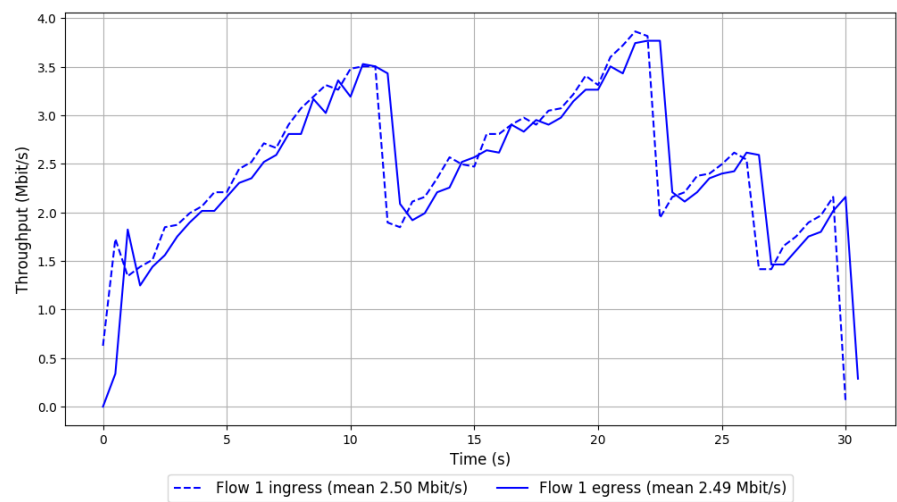


Run 3: Statistics of TCP Vegas

Start at: 2019-01-02 20:35:29  
End at: 2019-01-02 20:35:59  
Local clock offset: 2.325 ms  
Remote clock offset: -47.485 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 2.49 Mbit/s  
95th percentile per-packet one-way delay: 65.712 ms  
Loss rate: 0.18%  
-- Flow 1:  
Average throughput: 2.49 Mbit/s  
95th percentile per-packet one-way delay: 65.712 ms  
Loss rate: 0.18%

Run 3: Report of TCP Vegas — Data Link

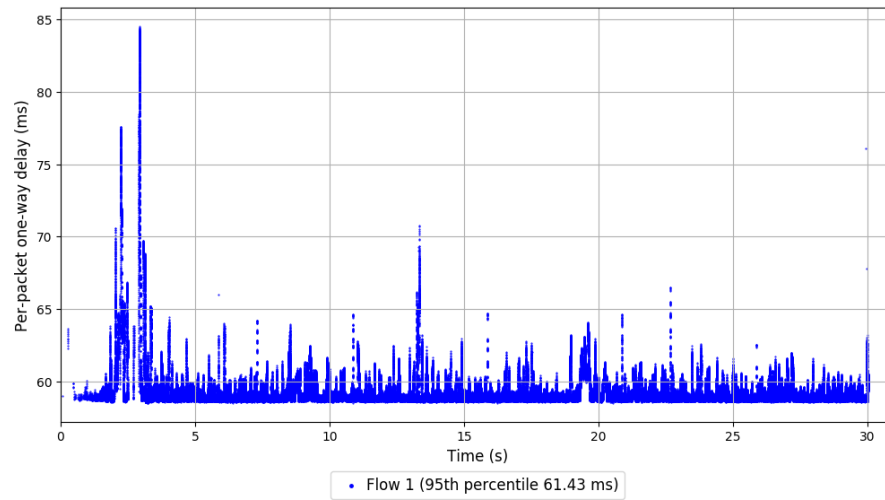
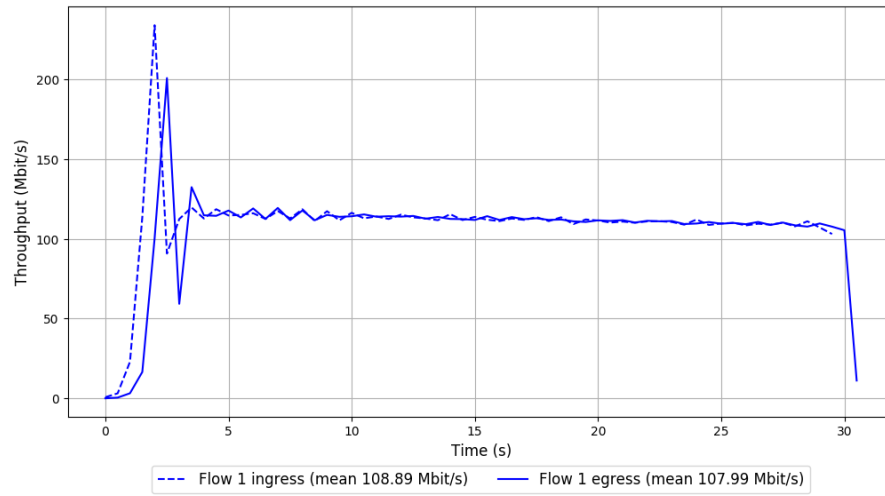


Run 4: Statistics of TCP Vegas

Start at: 2019-01-02 20:59:45  
End at: 2019-01-02 21:00:15  
Local clock offset: 1.199 ms  
Remote clock offset: -41.41 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 107.99 Mbit/s  
95th percentile per-packet one-way delay: 61.428 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 107.99 Mbit/s  
95th percentile per-packet one-way delay: 61.428 ms  
Loss rate: 0.83%

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

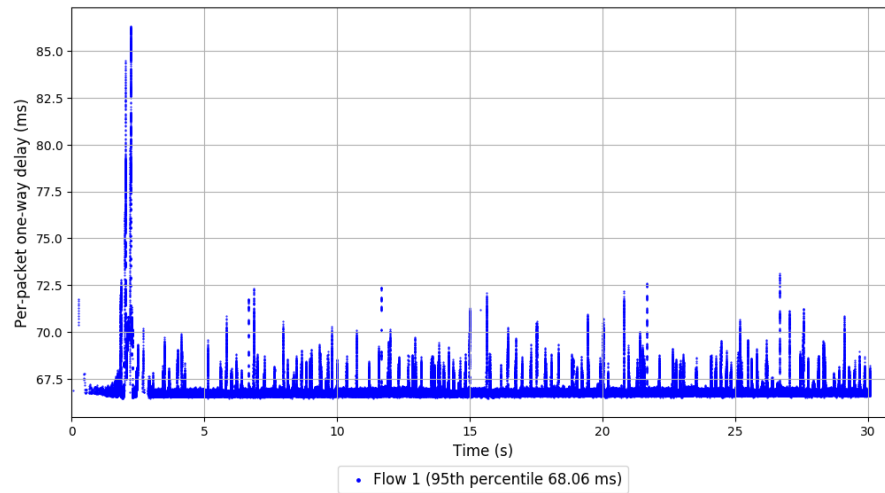
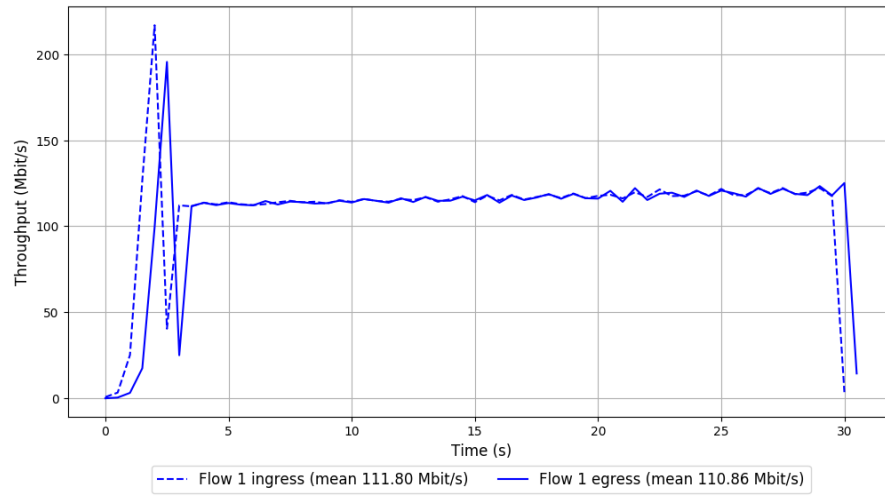


Run 5: Statistics of TCP Vegas

Start at: 2019-01-02 21:24:08  
End at: 2019-01-02 21:24:38  
Local clock offset: 1.458 ms  
Remote clock offset: -30.799 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 110.86 Mbit/s  
95th percentile per-packet one-way delay: 68.057 ms  
Loss rate: 0.84%  
-- Flow 1:  
Average throughput: 110.86 Mbit/s  
95th percentile per-packet one-way delay: 68.057 ms  
Loss rate: 0.84%

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



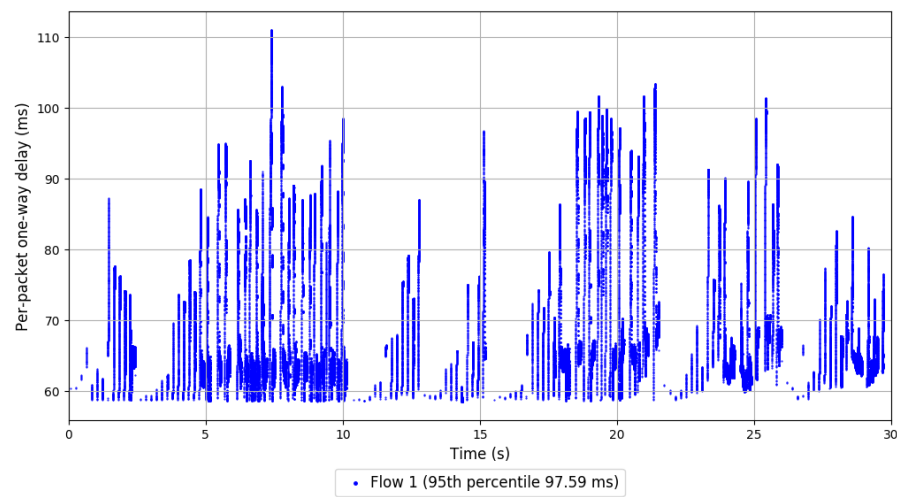
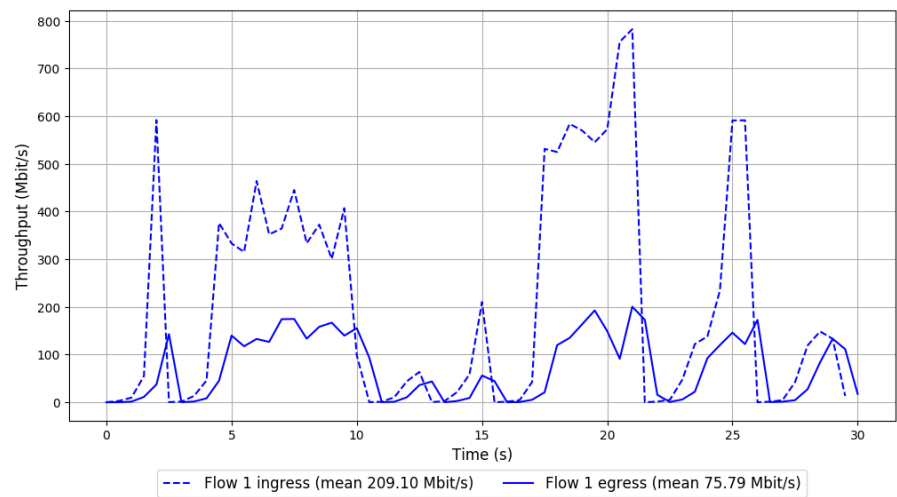


Run 1: Statistics of Verus

Start at: 2019-01-02 19:48:14  
End at: 2019-01-02 19:48:44  
Local clock offset: 0.081 ms  
Remote clock offset: -37.805 ms

# Below is generated by plot.py at 2019-01-02 21:57:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 75.79 Mbit/s  
95th percentile per-packet one-way delay: 97.590 ms  
Loss rate: 63.75%  
-- Flow 1:  
Average throughput: 75.79 Mbit/s  
95th percentile per-packet one-way delay: 97.590 ms  
Loss rate: 63.75%

Run 1: Report of Verus — Data Link

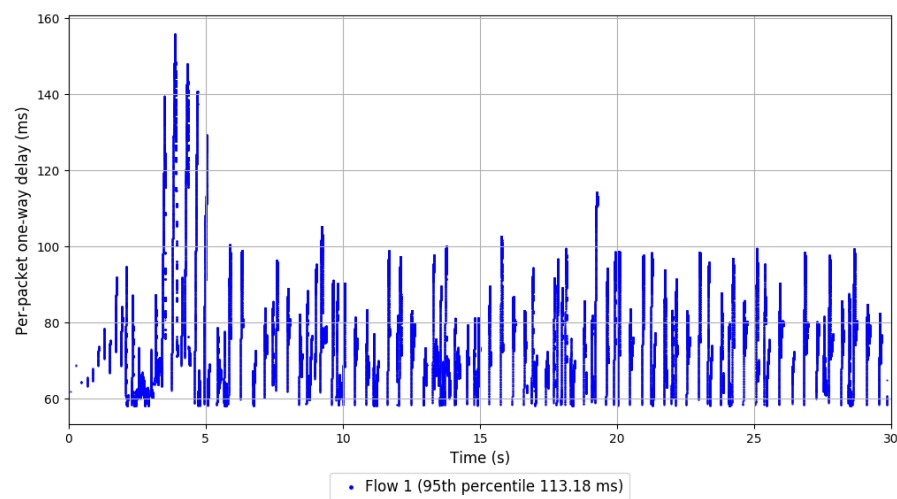
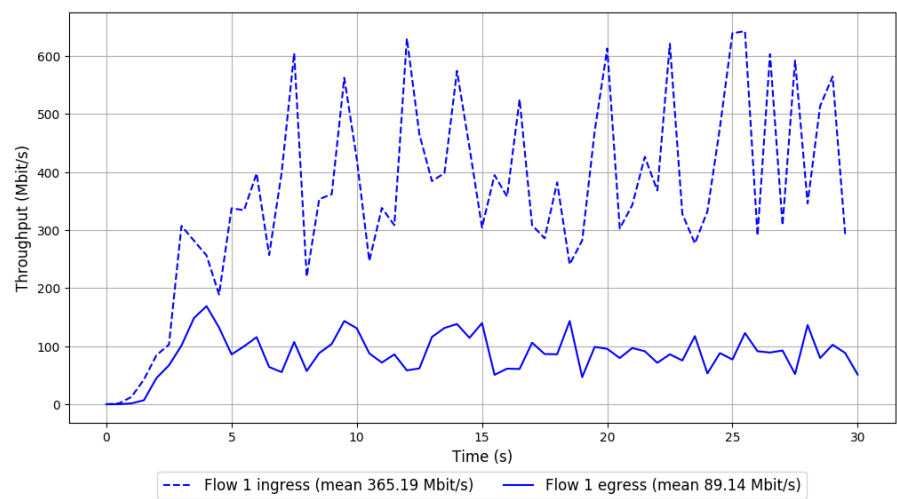


Run 2: Statistics of Verus

Start at: 2019-01-02 20:18:40  
End at: 2019-01-02 20:19:10  
Local clock offset: 1.848 ms  
Remote clock offset: -41.093 ms

# Below is generated by plot.py at 2019-01-02 21:58:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 89.14 Mbit/s  
95th percentile per-packet one-way delay: 113.178 ms  
Loss rate: 75.59%  
-- Flow 1:  
Average throughput: 89.14 Mbit/s  
95th percentile per-packet one-way delay: 113.178 ms  
Loss rate: 75.59%

Run 2: Report of Verus — Data Link

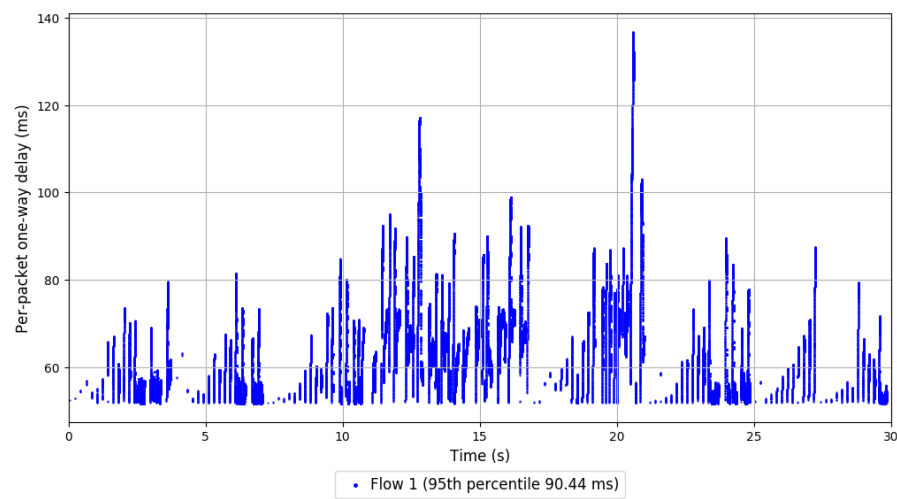
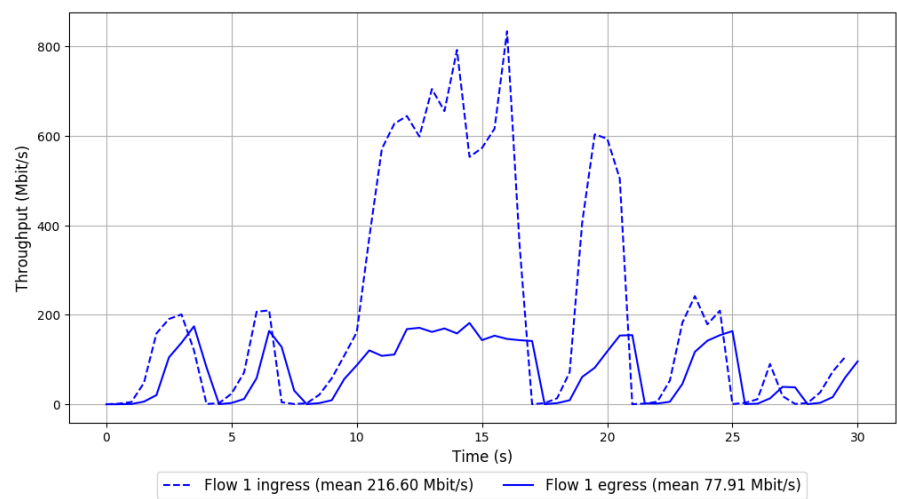


Run 3: Statistics of Verus

Start at: 2019-01-02 20:43:03  
End at: 2019-01-02 20:43:33  
Local clock offset: 3.375 ms  
Remote clock offset: -43.85 ms

# Below is generated by plot.py at 2019-01-02 21:58:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.91 Mbit/s  
95th percentile per-packet one-way delay: 90.439 ms  
Loss rate: 64.03%  
-- Flow 1:  
Average throughput: 77.91 Mbit/s  
95th percentile per-packet one-way delay: 90.439 ms  
Loss rate: 64.03%

Run 3: Report of Verus — Data Link

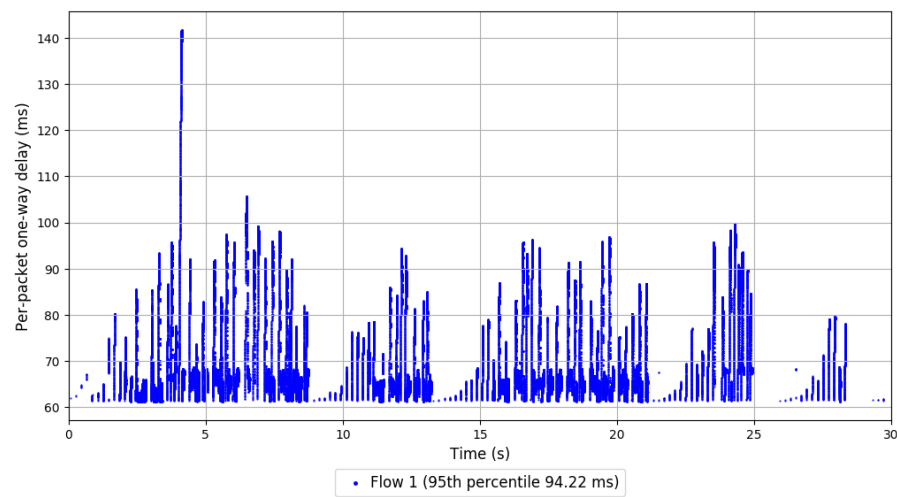
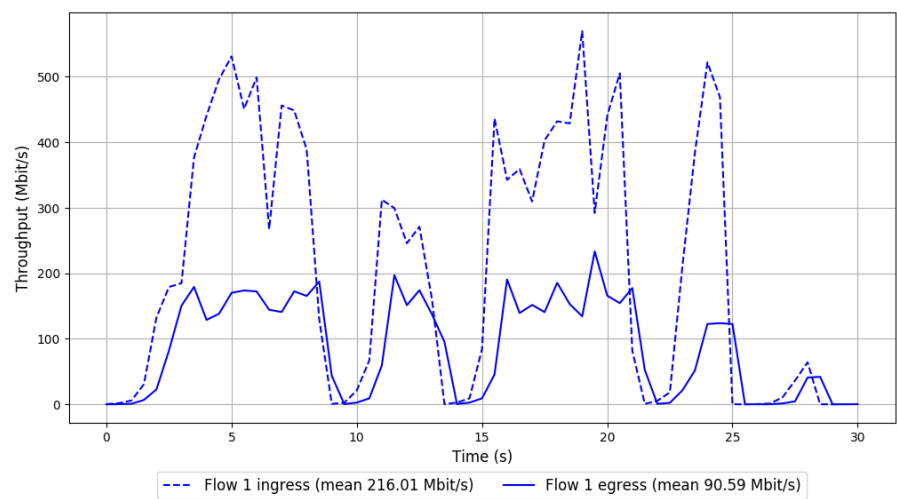


Run 4: Statistics of Verus

Start at: 2019-01-02 21:07:18  
End at: 2019-01-02 21:07:48  
Local clock offset: 2.565 ms  
Remote clock offset: -37.414 ms

# Below is generated by plot.py at 2019-01-02 21:58:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.59 Mbit/s  
95th percentile per-packet one-way delay: 94.222 ms  
Loss rate: 58.06%  
-- Flow 1:  
Average throughput: 90.59 Mbit/s  
95th percentile per-packet one-way delay: 94.222 ms  
Loss rate: 58.06%

Run 4: Report of Verus — Data Link



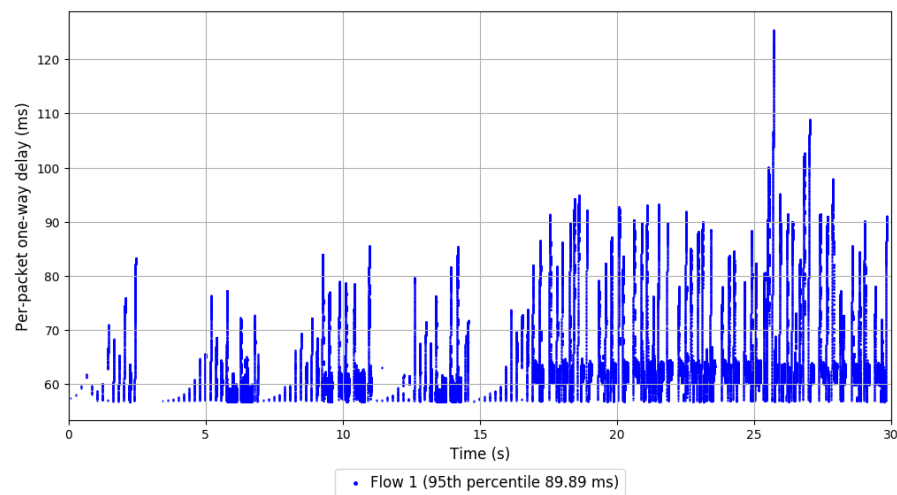
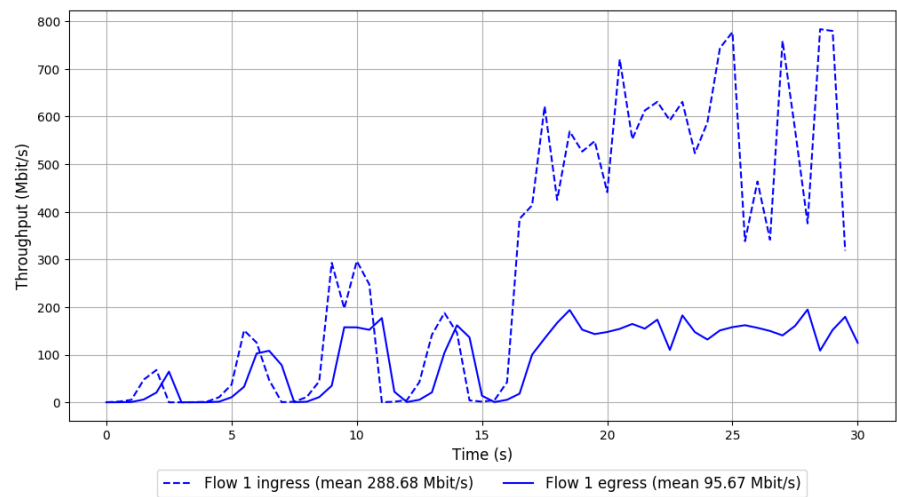


Run 5: Statistics of Verus

Start at: 2019-01-02 21:31:45  
End at: 2019-01-02 21:32:15  
Local clock offset: 1.565 ms  
Remote clock offset: -40.882 ms

# Below is generated by plot.py at 2019-01-02 21:58:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 89.890 ms  
Loss rate: 66.85%  
-- Flow 1:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 89.890 ms  
Loss rate: 66.85%

Run 5: Report of Verus — Data Link

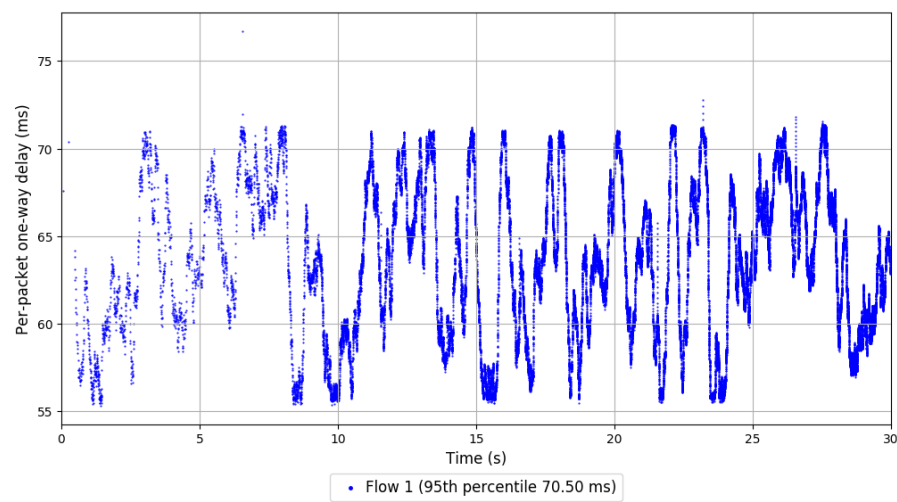
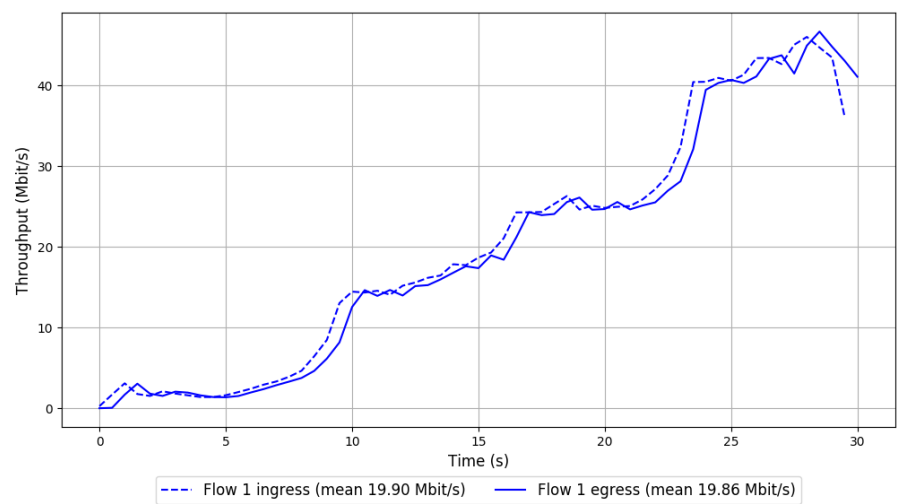


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-02 19:27:08  
End at: 2019-01-02 19:27:38  
Local clock offset: -5.751 ms  
Remote clock offset: -41.861 ms

# Below is generated by plot.py at 2019-01-02 21:58:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 19.86 Mbit/s  
95th percentile per-packet one-way delay: 70.499 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 19.86 Mbit/s  
95th percentile per-packet one-way delay: 70.499 ms  
Loss rate: 0.24%

Run 1: Report of PCC-Vivace — Data Link

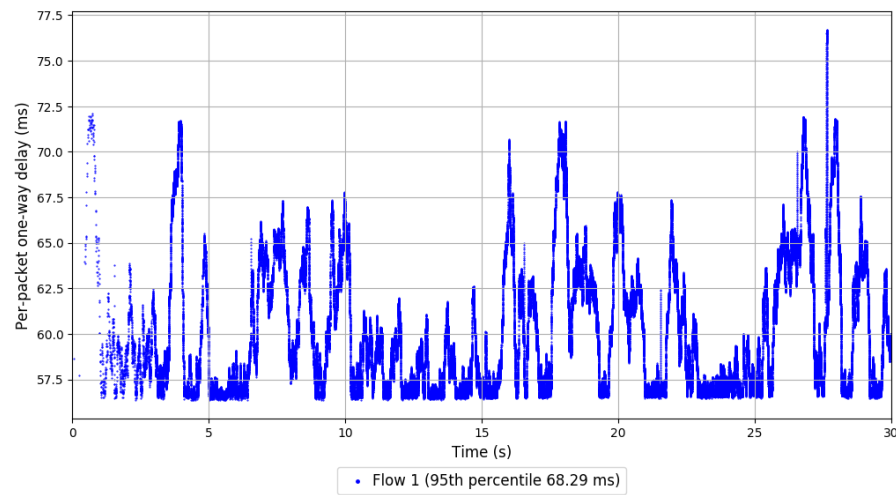
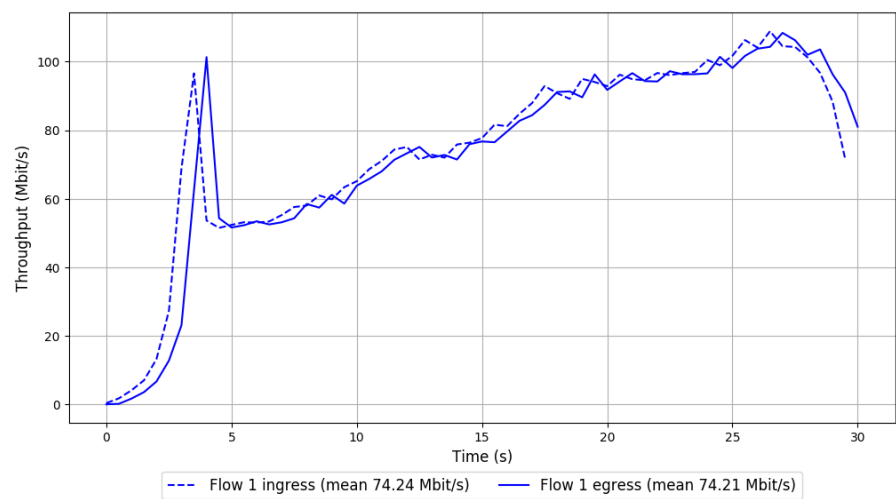


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-02 19:57:02  
End at: 2019-01-02 19:57:32  
Local clock offset: -1.618 ms  
Remote clock offset: -42.46 ms

# Below is generated by plot.py at 2019-01-02 21:58:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 74.21 Mbit/s  
95th percentile per-packet one-way delay: 68.291 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 74.21 Mbit/s  
95th percentile per-packet one-way delay: 68.291 ms  
Loss rate: 0.03%

Run 2: Report of PCC-Vivace — Data Link

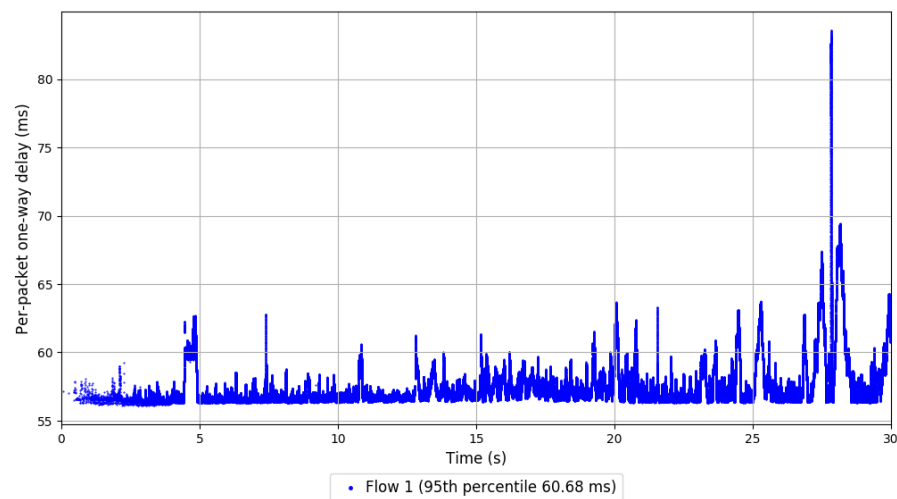
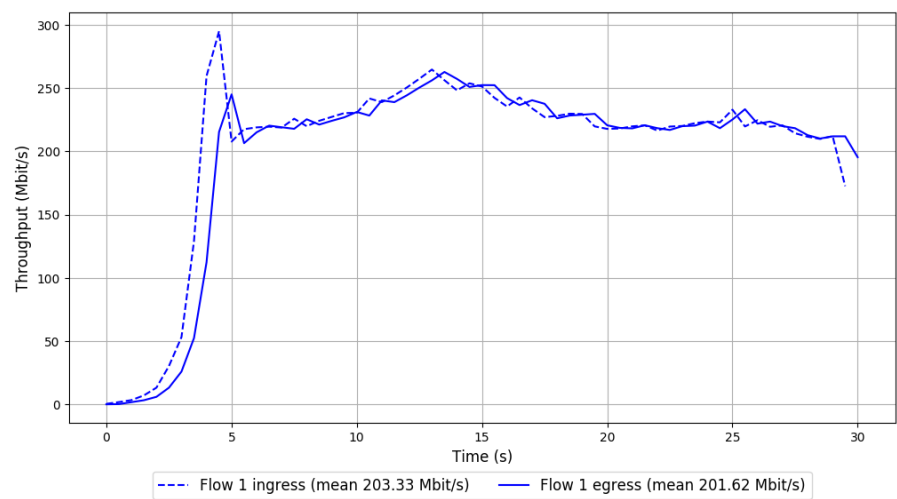


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-02 20:27:27  
End at: 2019-01-02 20:27:57  
Local clock offset: -0.215 ms  
Remote clock offset: -42.546 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 201.62 Mbit/s  
95th percentile per-packet one-way delay: 60.677 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 201.62 Mbit/s  
95th percentile per-packet one-way delay: 60.677 ms  
Loss rate: 0.83%

Run 3: Report of PCC-Vivace — Data Link



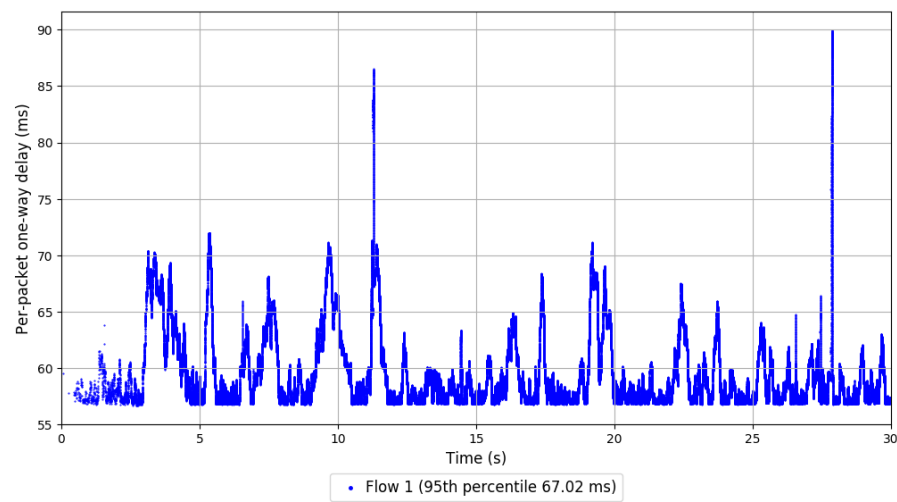
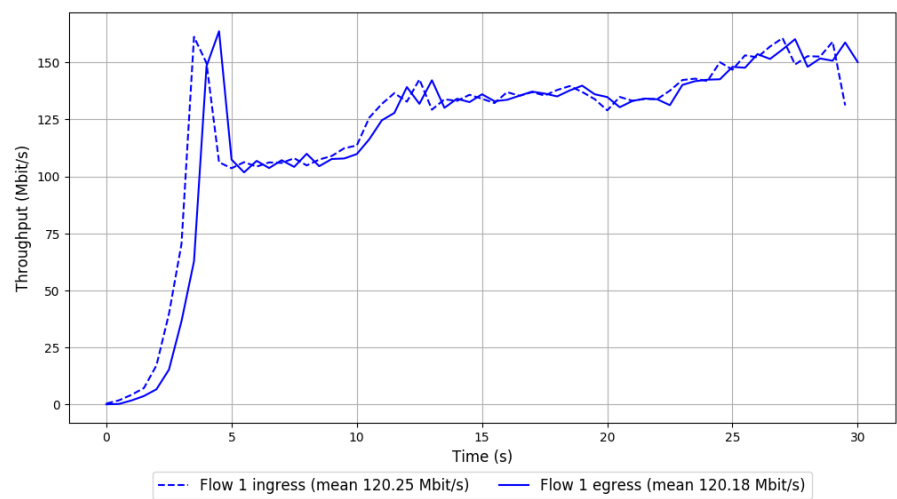


Run 4: Statistics of PCC-Vivace

Start at: 2019-01-02 20:51:47  
End at: 2019-01-02 20:52:17  
Local clock offset: 0.203 ms  
Remote clock offset: -44.192 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 120.18 Mbit/s  
95th percentile per-packet one-way delay: 67.022 ms  
Loss rate: 0.07%  
-- Flow 1:  
Average throughput: 120.18 Mbit/s  
95th percentile per-packet one-way delay: 67.022 ms  
Loss rate: 0.07%

Run 4: Report of PCC-Vivace — Data Link

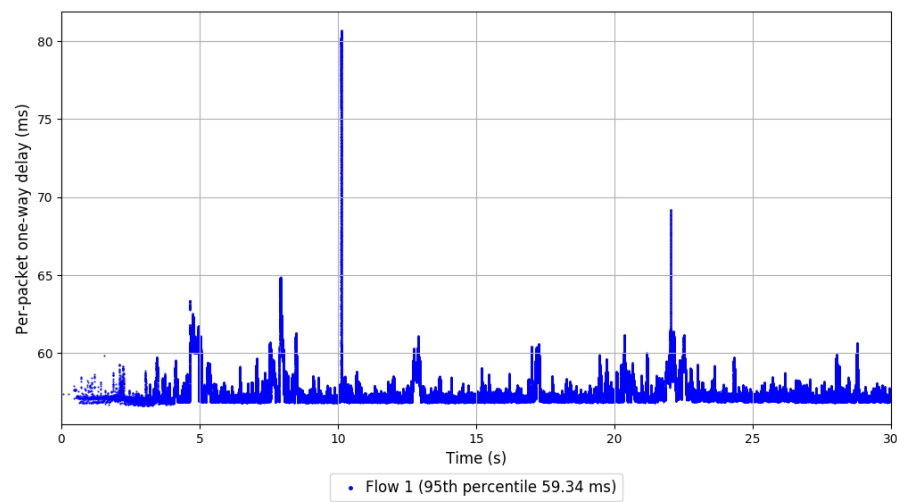
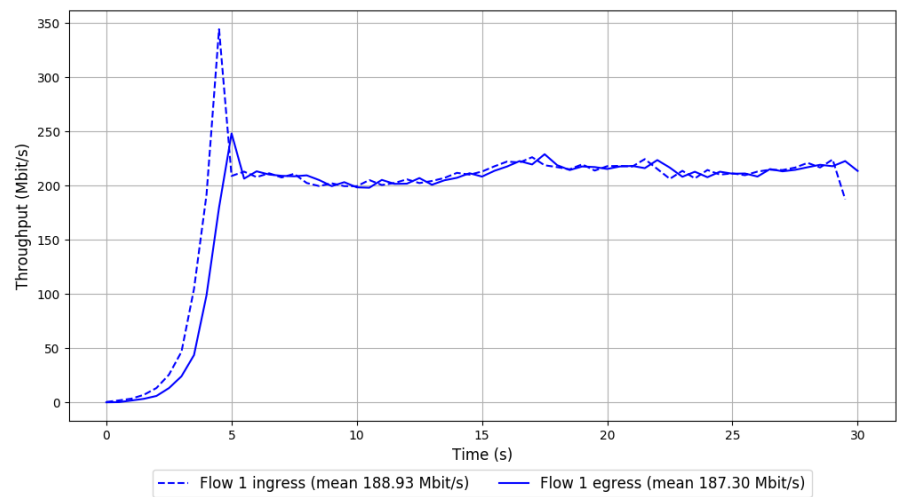


Run 5: Statistics of PCC-Vivace

Start at: 2019-01-02 21:16:05  
End at: 2019-01-02 21:16:35  
Local clock offset: 1.712 ms  
Remote clock offset: -40.319 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 187.30 Mbit/s  
95th percentile per-packet one-way delay: 59.344 ms  
Loss rate: 0.86%  
-- Flow 1:  
Average throughput: 187.30 Mbit/s  
95th percentile per-packet one-way delay: 59.344 ms  
Loss rate: 0.86%

Run 5: Report of PCC-Vivace — Data Link

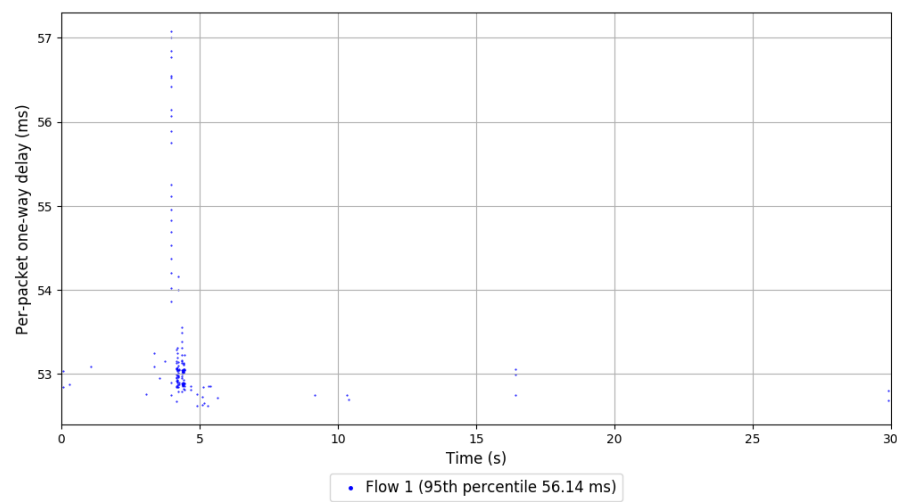
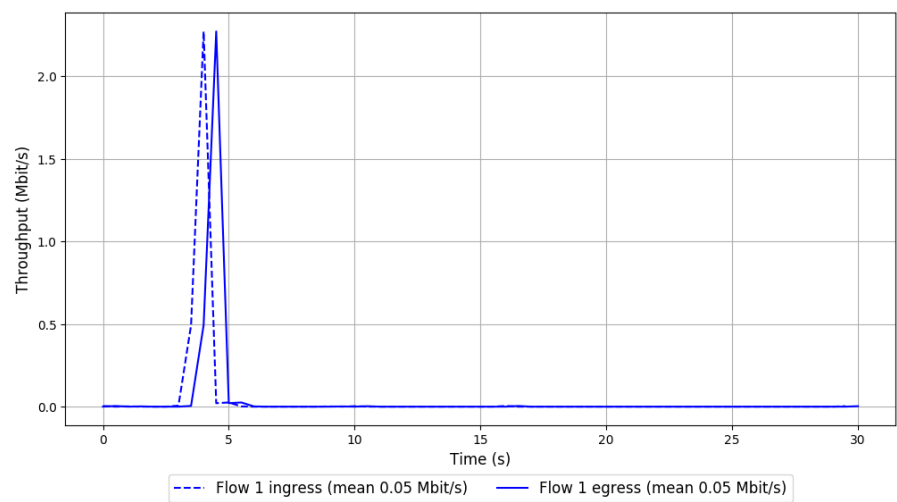


Run 1: Statistics of WebRTC media

Start at: 2019-01-02 19:49:31  
End at: 2019-01-02 19:50:02  
Local clock offset: -2.182 ms  
Remote clock offset: -46.26 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 56.143 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 56.143 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

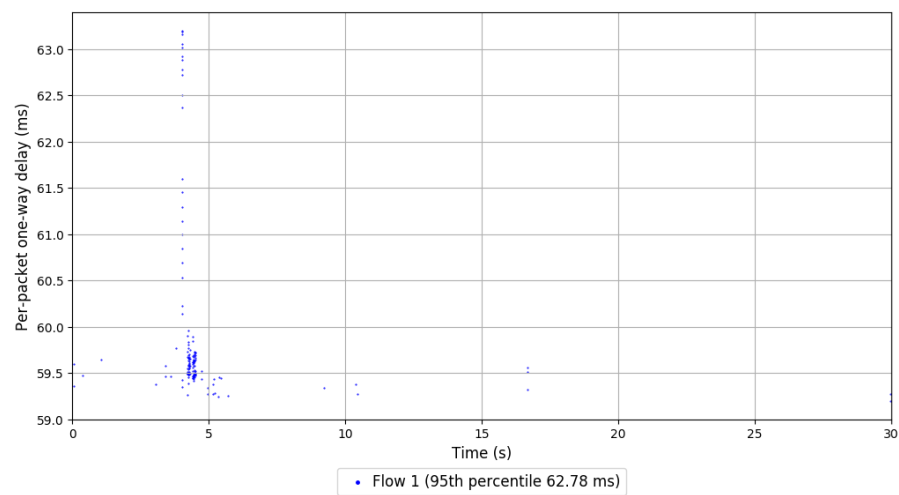
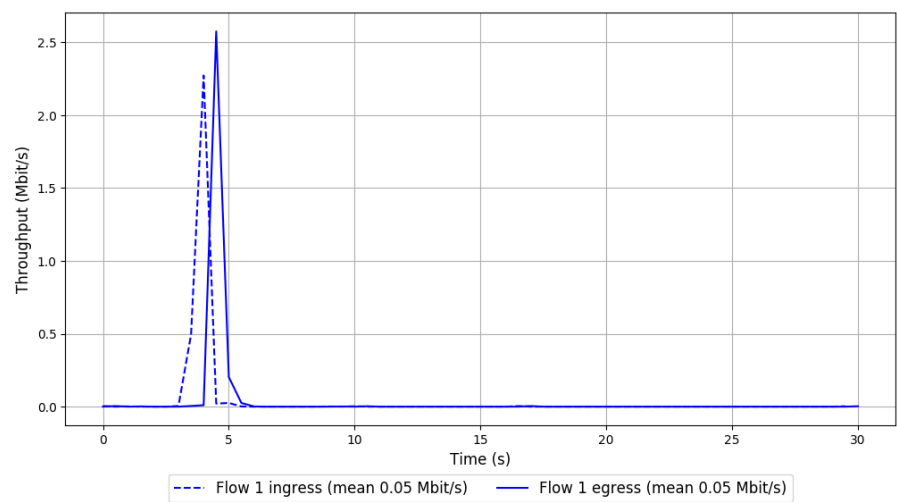


Run 2: Statistics of WebRTC media

Start at: 2019-01-02 20:20:00  
End at: 2019-01-02 20:20:30  
Local clock offset: -0.718 ms  
Remote clock offset: -39.663 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.777 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.777 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



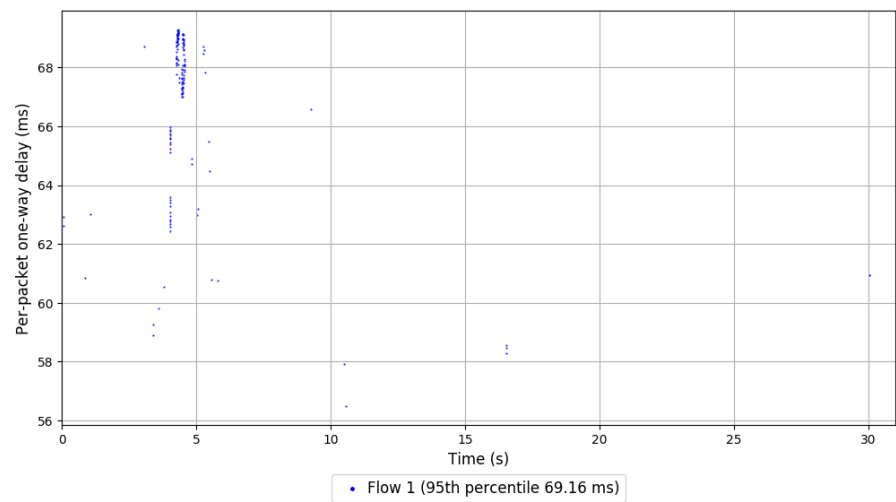
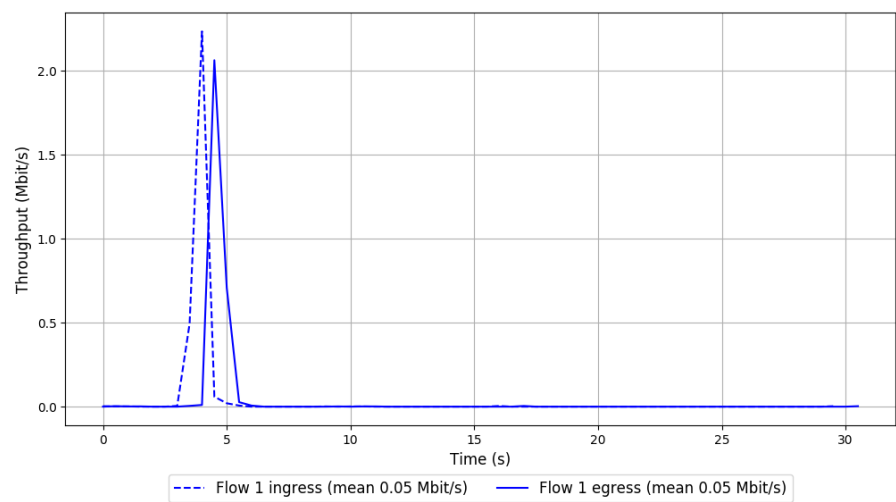


Run 3: Statistics of WebRTC media

Start at: 2019-01-02 20:44:20  
End at: 2019-01-02 20:44:50  
Local clock offset: 2.184 ms  
Remote clock offset: -43.019 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 69.156 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 69.156 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

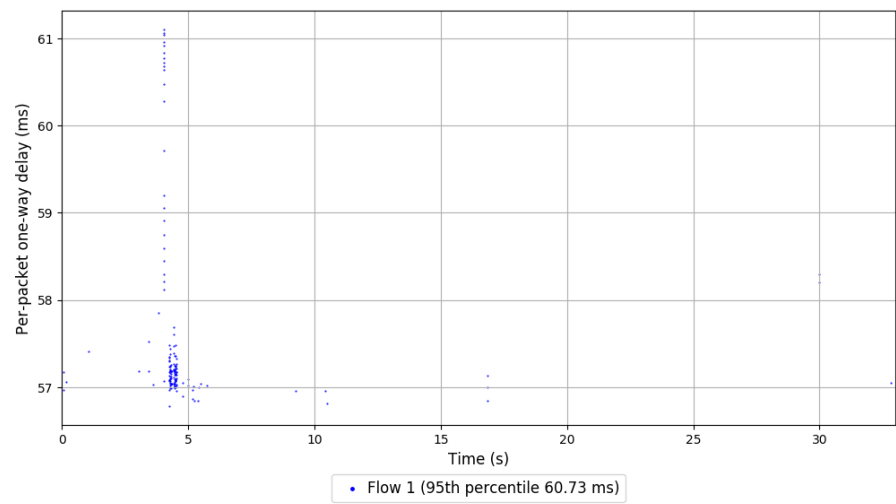
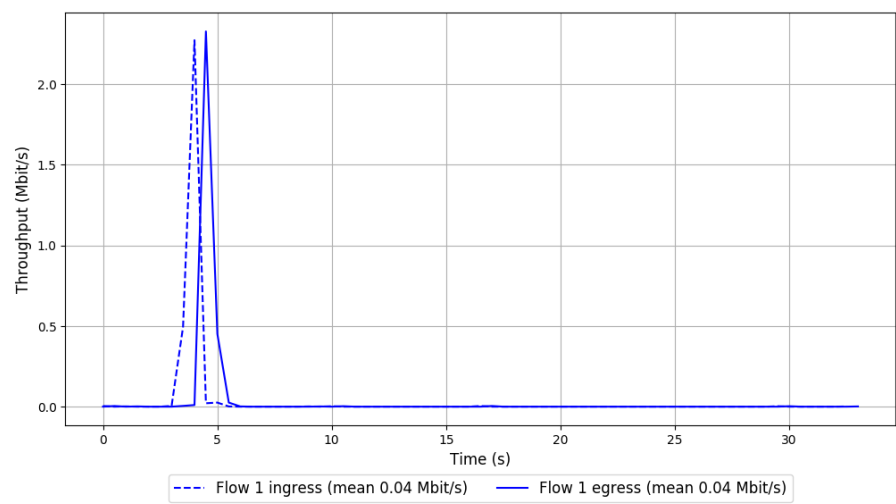


Run 4: Statistics of WebRTC media

Start at: 2019-01-02 21:08:36  
End at: 2019-01-02 21:09:06  
Local clock offset: 2.366 ms  
Remote clock offset: -39.724 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 60.726 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.04 Mbit/s  
95th percentile per-packet one-way delay: 60.726 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-02 21:33:03  
End at: 2019-01-02 21:33:33  
Local clock offset: -0.438 ms  
Remote clock offset: -38.212 ms

# Below is generated by plot.py at 2019-01-02 21:59:02  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 65.001 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 65.001 ms  
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

