

## Pantheon Report

Generated at 2019-01-02 22:29:33 (UTC).

Data path: GCE Sydney on `ens4` (*local*) → GCE Iowa on `ens4` (*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 `time.google.com` and have been applied to correct the timestamps in logs.

### System info:

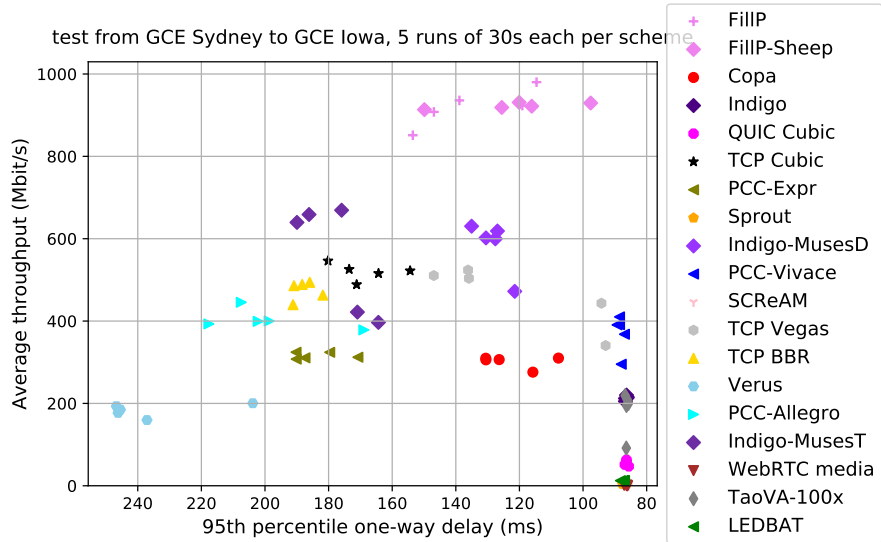
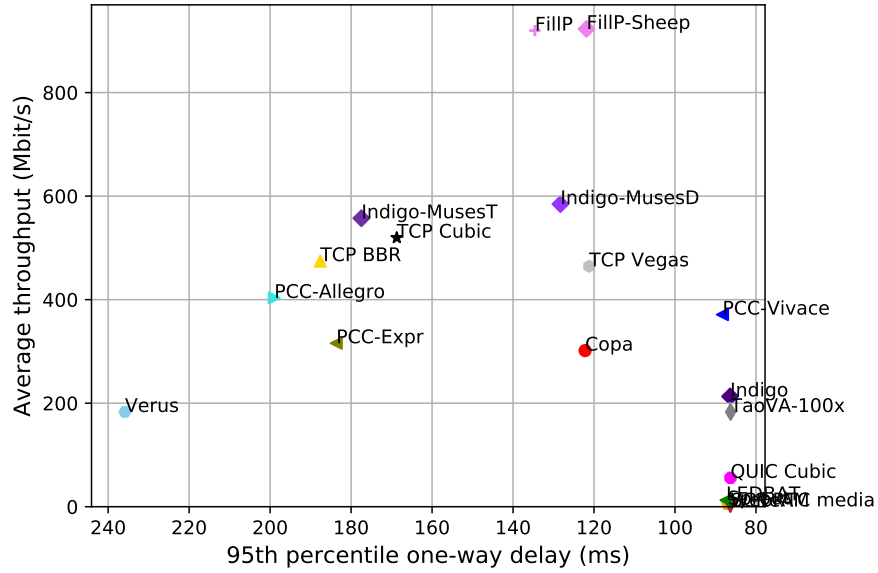
```
Linux 4.15.0-1025-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from GCE Sydney to GCE Iowa, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



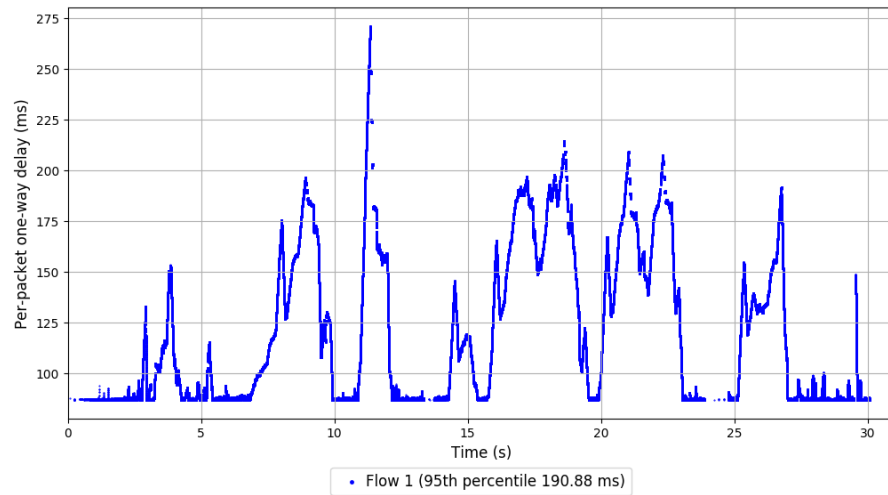
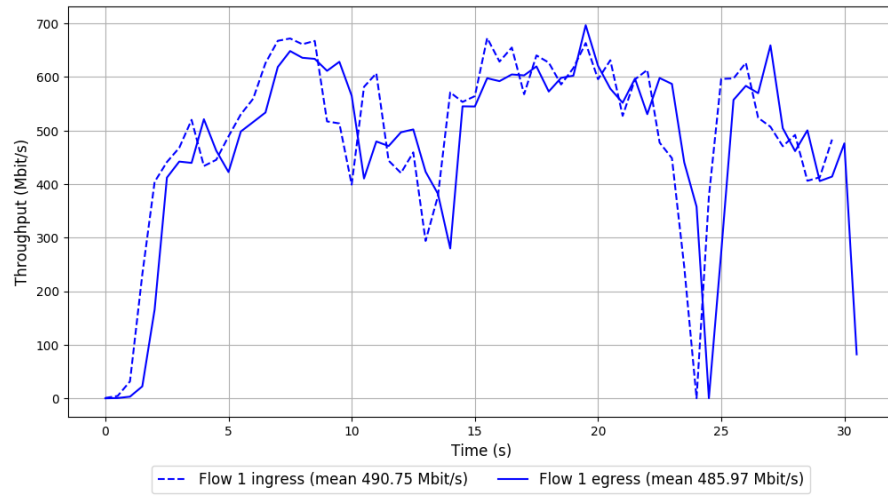
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	474.38	187.61	1.18
Copa	5	301.60	122.20	0.07
TCP Cubic	5	519.66	168.72	0.15
FillP	5	919.74	134.60	1.06
FillP-Sheep	5	922.92	121.84	0.66
Indigo	5	213.10	86.39	0.03
Indigo-MusesD	5	584.58	128.30	0.15
Indigo-MusesT	5	557.23	177.46	1.93
LEDBAT	5	12.57	87.40	0.00
PCC-Allegro	5	403.29	198.96	5.11
PCC-Expr	5	315.76	183.66	2.25
QUIC Cubic	5	55.75	86.31	0.00
SCReAM	5	0.22	86.28	0.00
Sprout	5	4.41	87.01	0.00
TaoVA-100x	5	182.93	86.27	3.12
TCP Vegas	5	464.40	121.21	0.17
Verus	5	183.05	235.86	7.25
PCC-Vivace	5	371.13	88.28	0.00
WebRTC media	5	0.67	86.33	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-01-02 18:22:03  
End at: 2019-01-02 18:22:33  
Local clock offset: 19.005 ms  
Remote clock offset: 20.966 ms

# Below is generated by plot.py at 2019-01-02 20:42:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 485.97 Mbit/s  
95th percentile per-packet one-way delay: 190.878 ms  
Loss rate: 0.98%  
-- Flow 1:  
Average throughput: 485.97 Mbit/s  
95th percentile per-packet one-way delay: 190.878 ms  
Loss rate: 0.98%

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

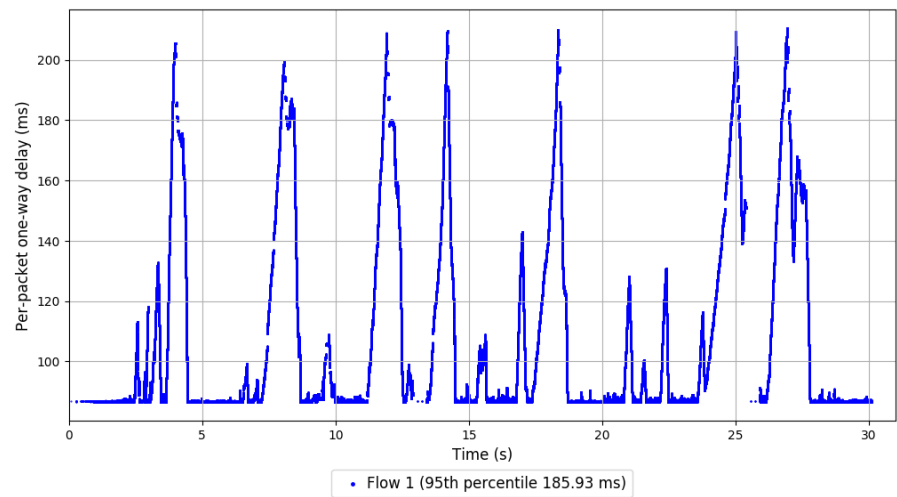
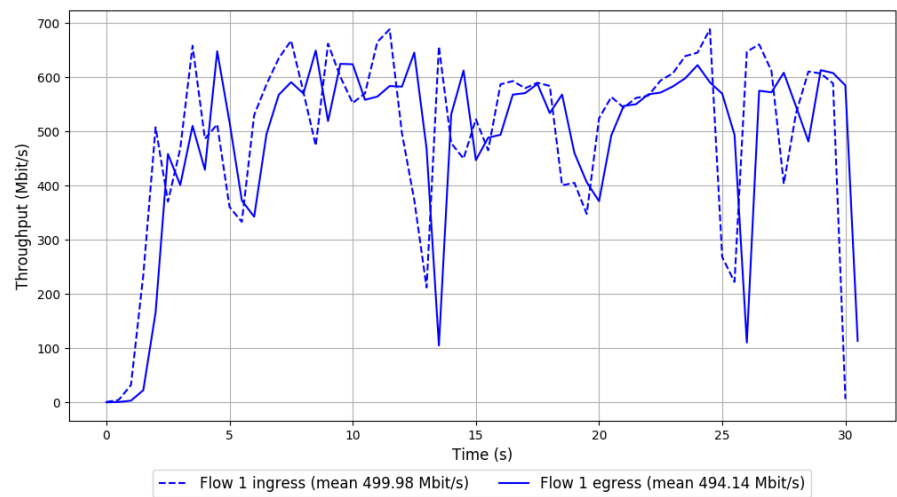


Run 2: Statistics of TCP BBR

Start at: 2019-01-02 18:50:38  
End at: 2019-01-02 18:51:08  
Local clock offset: 29.136 ms  
Remote clock offset: 31.544 ms

# Below is generated by plot.py at 2019-01-02 20:43:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 494.14 Mbit/s  
95th percentile per-packet one-way delay: 185.932 ms  
Loss rate: 1.17%  
-- Flow 1:  
Average throughput: 494.14 Mbit/s  
95th percentile per-packet one-way delay: 185.932 ms  
Loss rate: 1.17%

Run 2: Report of TCP BBR — Data Link



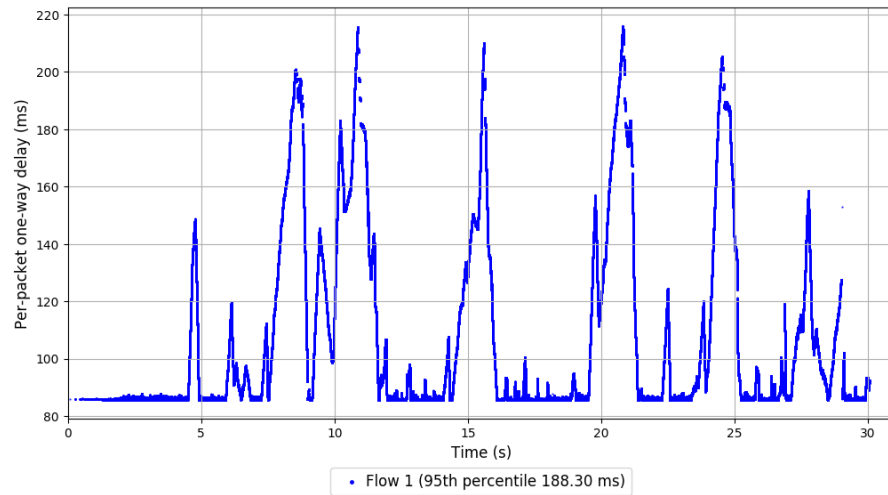
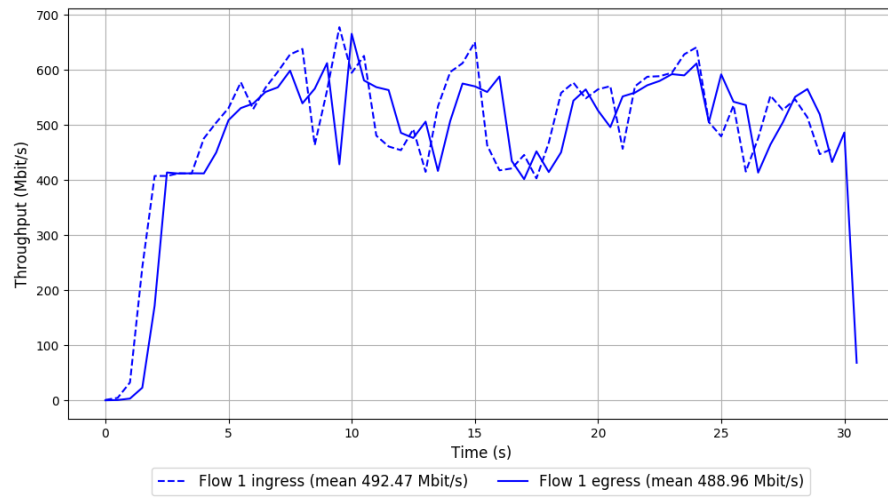


Run 3: Statistics of TCP BBR

Start at: 2019-01-02 19:18:41  
End at: 2019-01-02 19:19:11  
Local clock offset: 10.795 ms  
Remote clock offset: 17.001 ms

# Below is generated by plot.py at 2019-01-02 20:43:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 488.96 Mbit/s  
95th percentile per-packet one-way delay: 188.300 ms  
Loss rate: 0.71%  
-- Flow 1:  
Average throughput: 488.96 Mbit/s  
95th percentile per-packet one-way delay: 188.300 ms  
Loss rate: 0.71%

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



Run 4: Statistics of TCP BBR

Start at: 2019-01-02 19:46:49

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

Local clock offset: 4.127 ms

Remote clock offset: 8.051 ms

# Below is generated by plot.py at 2019-01-02 20:43:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 463.02 Mbit/s

95th percentile per-packet one-way delay: 181.785 ms

Loss rate: 1.05%

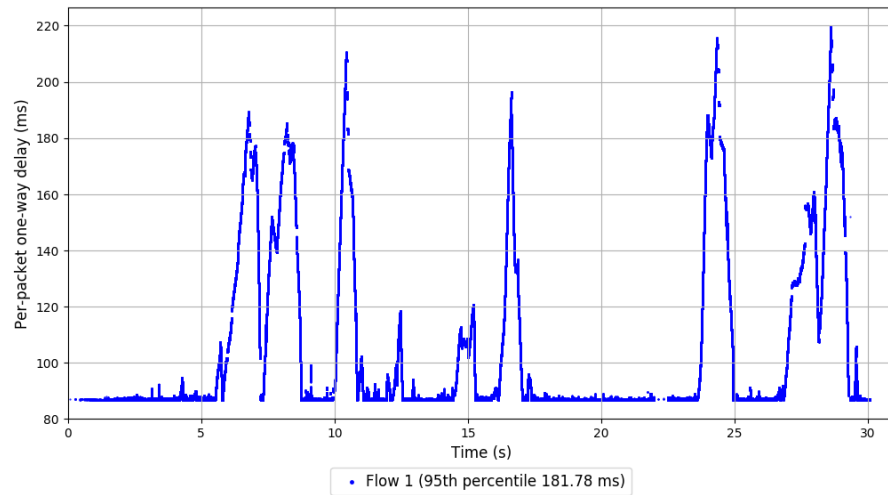
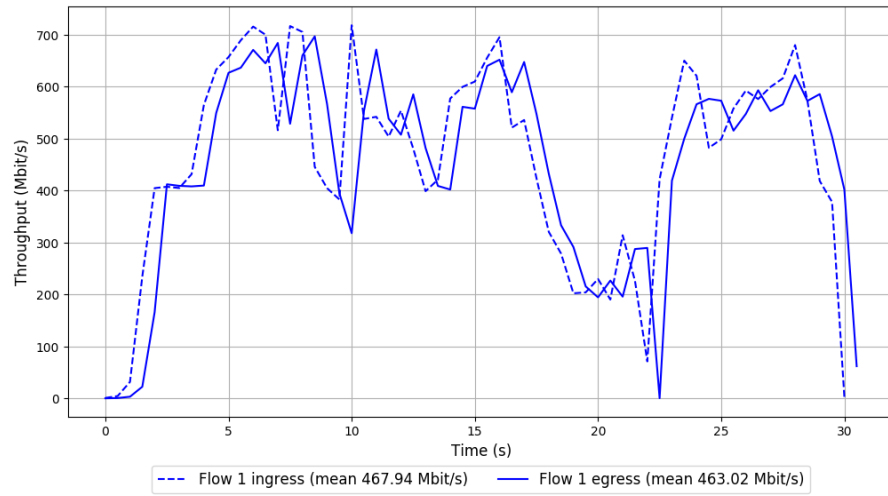
-- Flow 1:

Average throughput: 463.02 Mbit/s

95th percentile per-packet one-way delay: 181.785 ms

Loss rate: 1.05%

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



Run 5: Statistics of TCP BBR

Start at: 2019-01-02 20:15:30

End at: 2019-01-02 20:16:00

Local clock offset: 2.832 ms

Remote clock offset: 3.194 ms

# Below is generated by plot.py at 2019-01-02 20:43:05

# Datalink statistics

-- Total of 1 flow:

Average throughput: 439.79 Mbit/s

95th percentile per-packet one-way delay: 191.170 ms

Loss rate: 2.01%

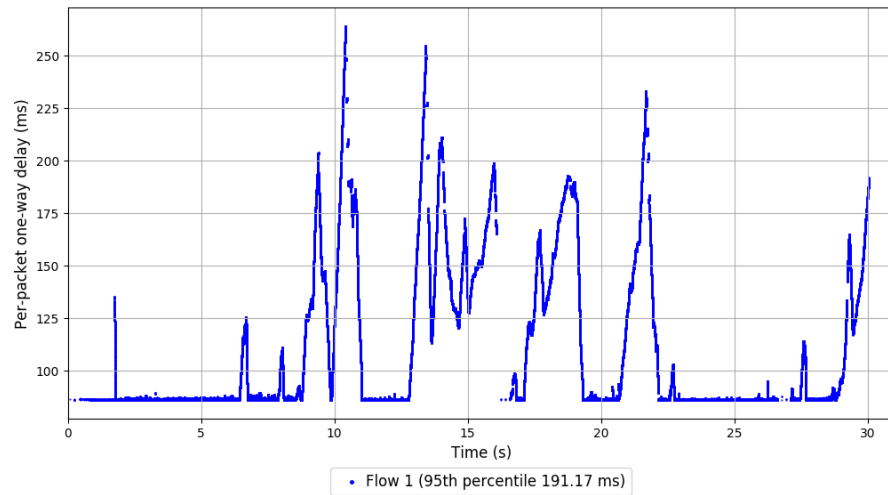
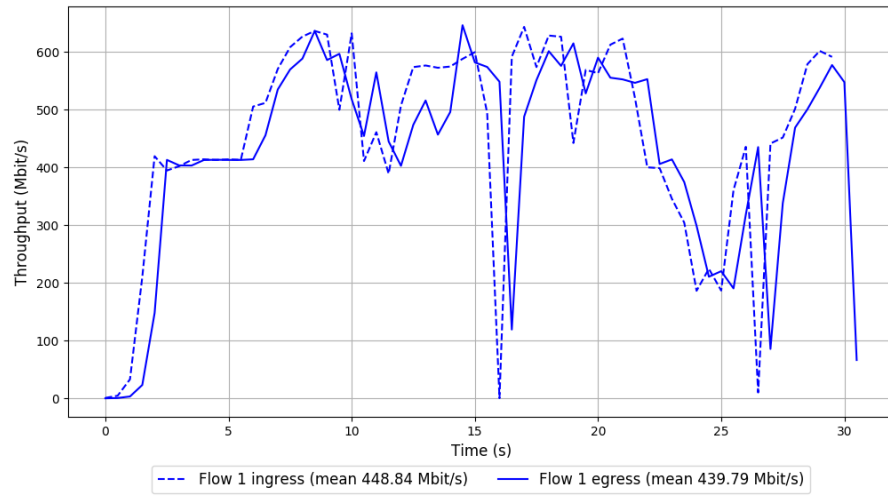
-- Flow 1:

Average throughput: 439.79 Mbit/s

95th percentile per-packet one-way delay: 191.170 ms

Loss rate: 2.01%

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

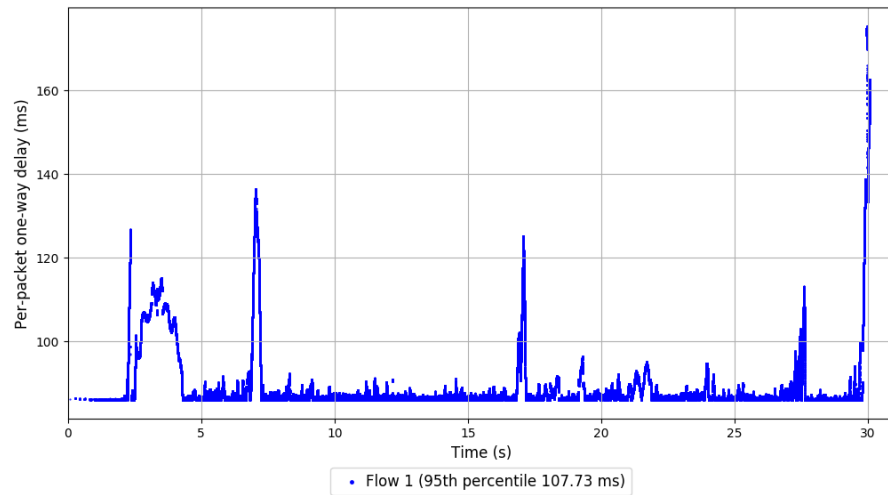
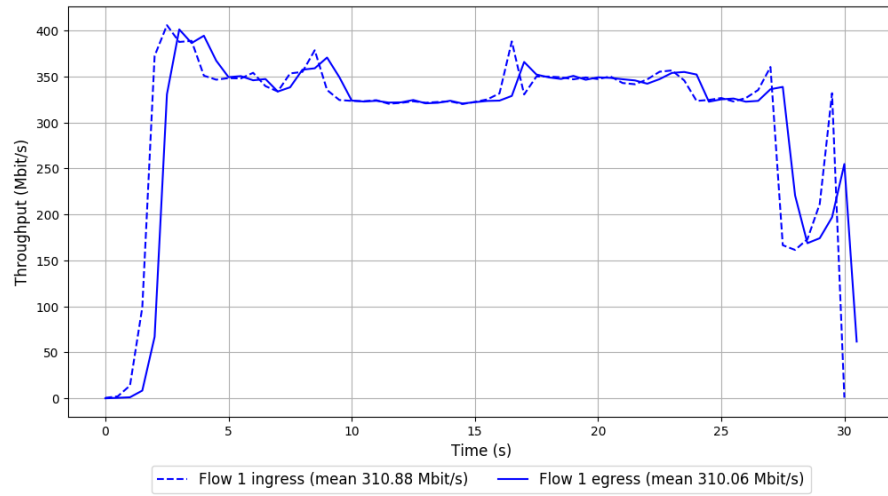


Run 1: Statistics of Copa

Start at: 2019-01-02 18:15:26  
End at: 2019-01-02 18:15:56  
Local clock offset: 14.009 ms  
Remote clock offset: 14.791 ms

# Below is generated by plot.py at 2019-01-02 20:44:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 310.06 Mbit/s  
95th percentile per-packet one-way delay: 107.733 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 310.06 Mbit/s  
95th percentile per-packet one-way delay: 107.733 ms  
Loss rate: 0.26%

## Run 1: Report of Copa — Data Link



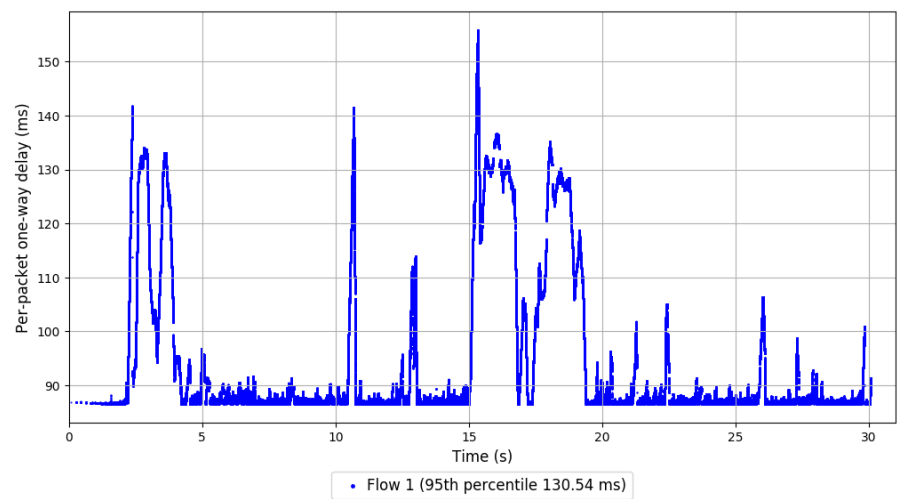
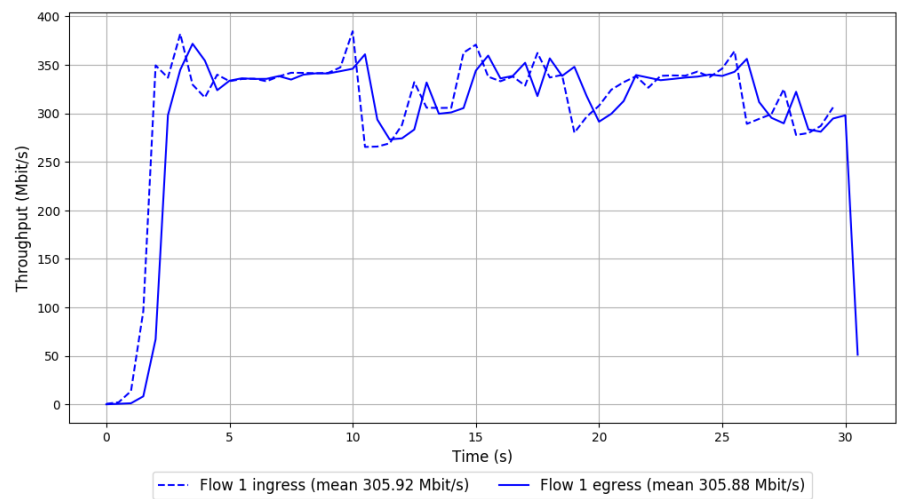


Run 2: Statistics of Copa

Start at: 2019-01-02 18:43:59  
End at: 2019-01-02 18:44:29  
Local clock offset: 23.382 ms  
Remote clock offset: 25.366 ms

# Below is generated by plot.py at 2019-01-02 20:44:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 305.88 Mbit/s  
95th percentile per-packet one-way delay: 130.539 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 305.88 Mbit/s  
95th percentile per-packet one-way delay: 130.539 ms  
Loss rate: 0.01%

Run 2: Report of Copa — Data Link

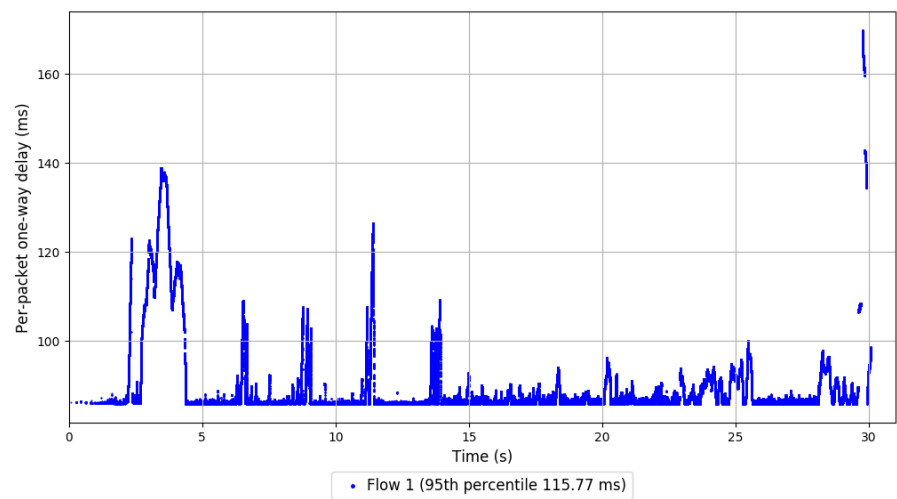
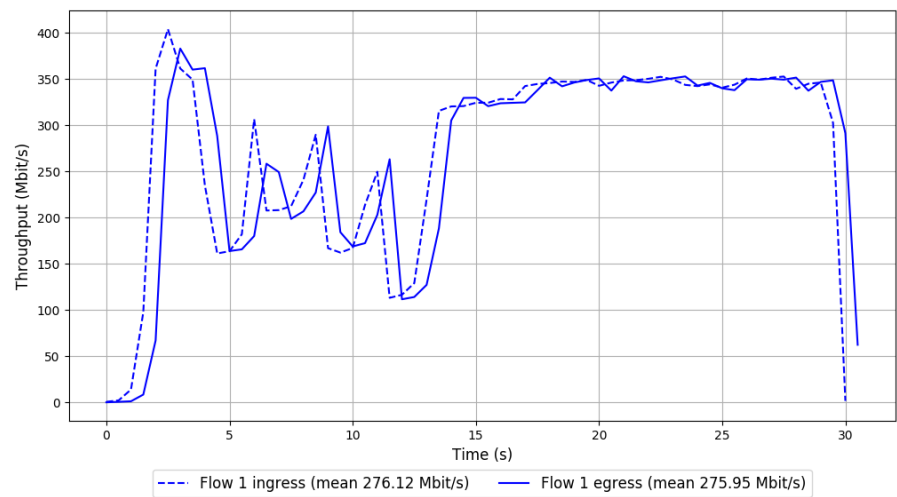


Run 3: Statistics of Copa

Start at: 2019-01-02 19:12:07  
End at: 2019-01-02 19:12:37  
Local clock offset: 15.954 ms  
Remote clock offset: 20.302 ms

# Below is generated by plot.py at 2019-01-02 20:44:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 275.95 Mbit/s  
95th percentile per-packet one-way delay: 115.772 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 275.95 Mbit/s  
95th percentile per-packet one-way delay: 115.772 ms  
Loss rate: 0.06%

Run 3: Report of Copa — Data Link

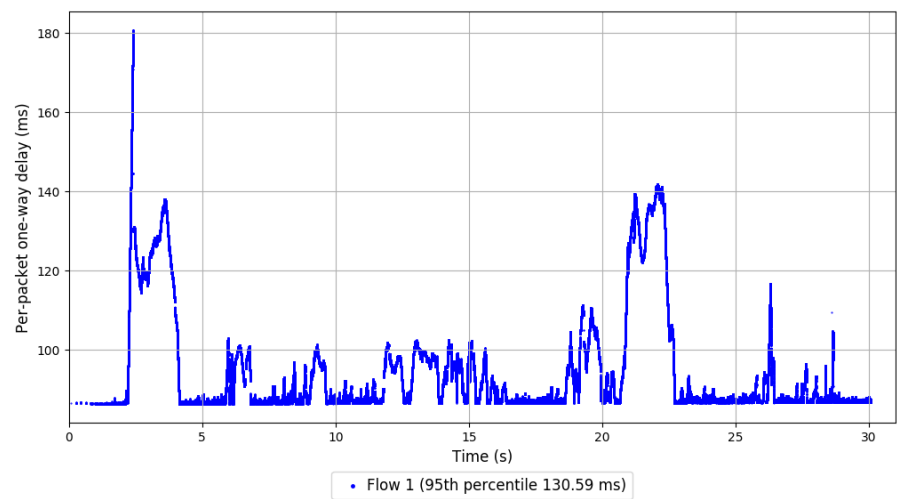
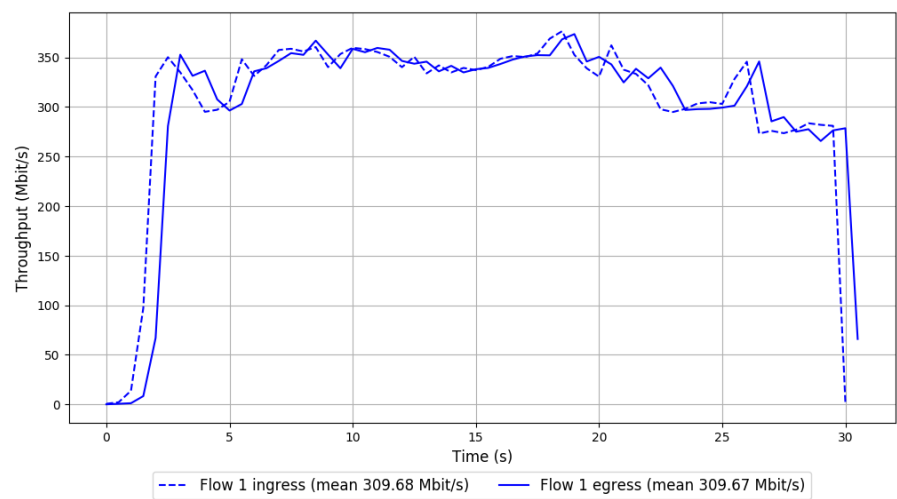


Run 4: Statistics of Copa

Start at: 2019-01-02 19:40:09  
End at: 2019-01-02 19:40:39  
Local clock offset: 7.461 ms  
Remote clock offset: 14.822 ms

# Below is generated by plot.py at 2019-01-02 20:54:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 309.67 Mbit/s  
95th percentile per-packet one-way delay: 130.589 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 309.67 Mbit/s  
95th percentile per-packet one-way delay: 130.589 ms  
Loss rate: 0.00%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-01-02 20:08:52

End at: 2019-01-02 20:09:22

Local clock offset: 4.313 ms

Remote clock offset: 5.021 ms

# Below is generated by plot.py at 2019-01-02 20:55:01

# Datalink statistics

-- Total of 1 flow:

Average throughput: 306.43 Mbit/s

95th percentile per-packet one-way delay: 126.371 ms

Loss rate: 0.00%

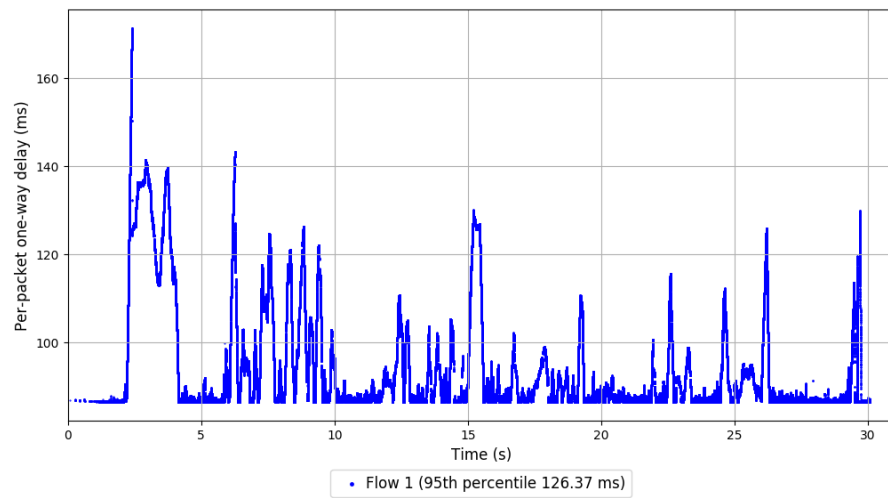
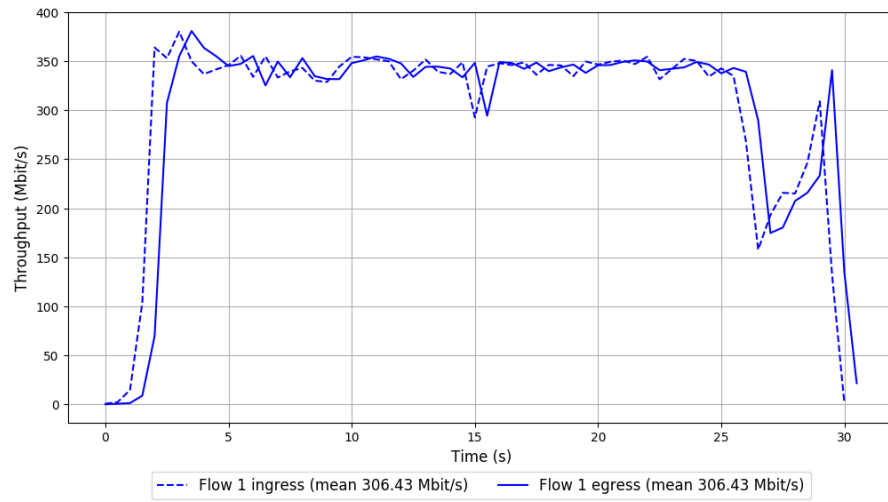
-- Flow 1:

Average throughput: 306.43 Mbit/s

95th percentile per-packet one-way delay: 126.371 ms

Loss rate: 0.00%

## Run 5: Report of Copa — Data Link



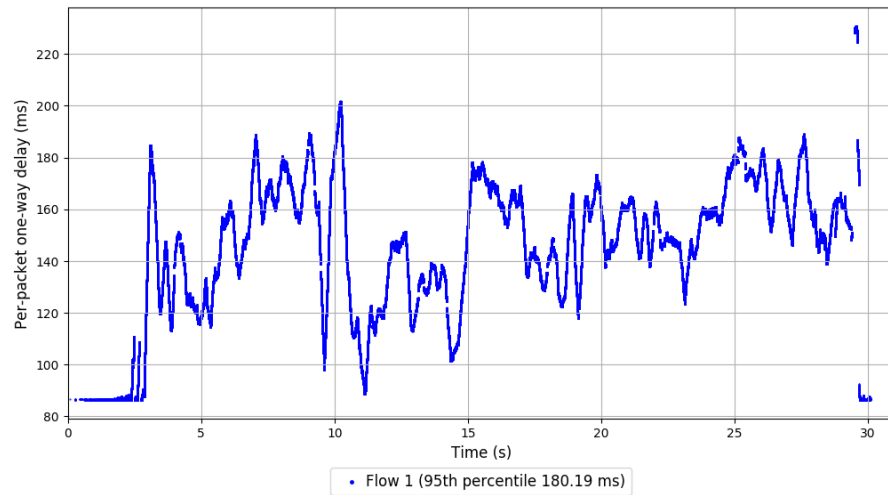
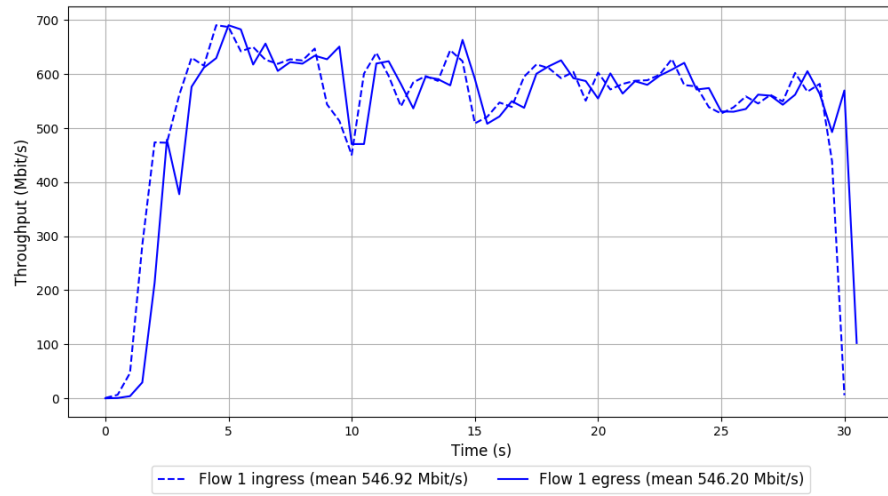


Run 1: Statistics of TCP Cubic

Start at: 2019-01-02 18:25:17  
End at: 2019-01-02 18:25:47  
Local clock offset: 23.686 ms  
Remote clock offset: 25.688 ms

# Below is generated by plot.py at 2019-01-02 20:55:01  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 546.20 Mbit/s  
95th percentile per-packet one-way delay: 180.190 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 546.20 Mbit/s  
95th percentile per-packet one-way delay: 180.190 ms  
Loss rate: 0.13%

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

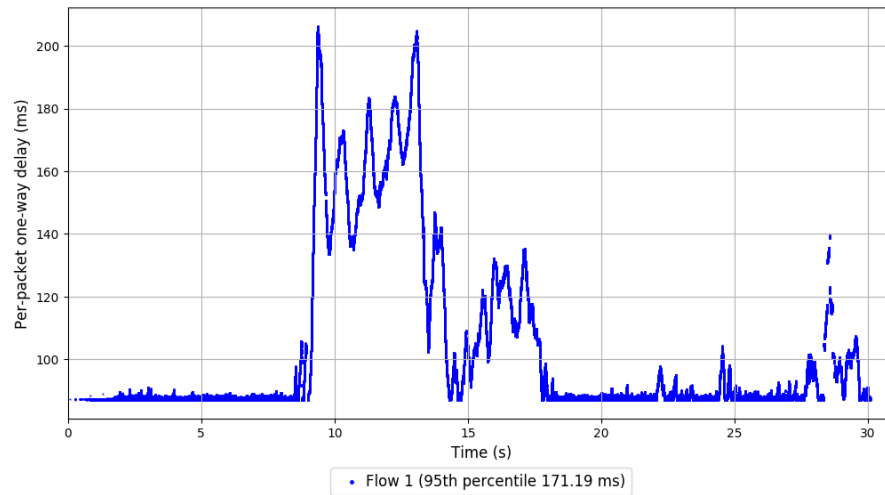
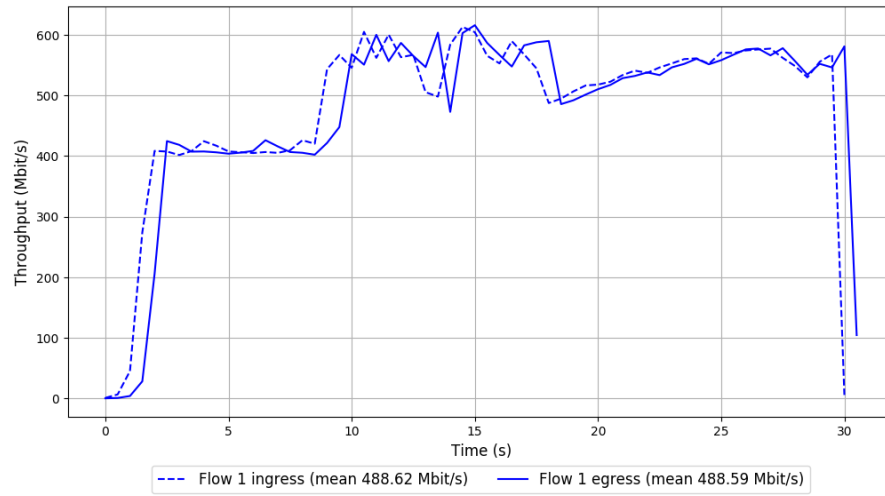


Run 2: Statistics of TCP Cubic

Start at: 2019-01-02 18:53:54  
End at: 2019-01-02 18:54:24  
Local clock offset: 32.079 ms  
Remote clock offset: 35.014 ms

# Below is generated by plot.py at 2019-01-02 20:55:01  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 488.59 Mbit/s  
95th percentile per-packet one-way delay: 171.189 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 488.59 Mbit/s  
95th percentile per-packet one-way delay: 171.189 ms  
Loss rate: 0.01%

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

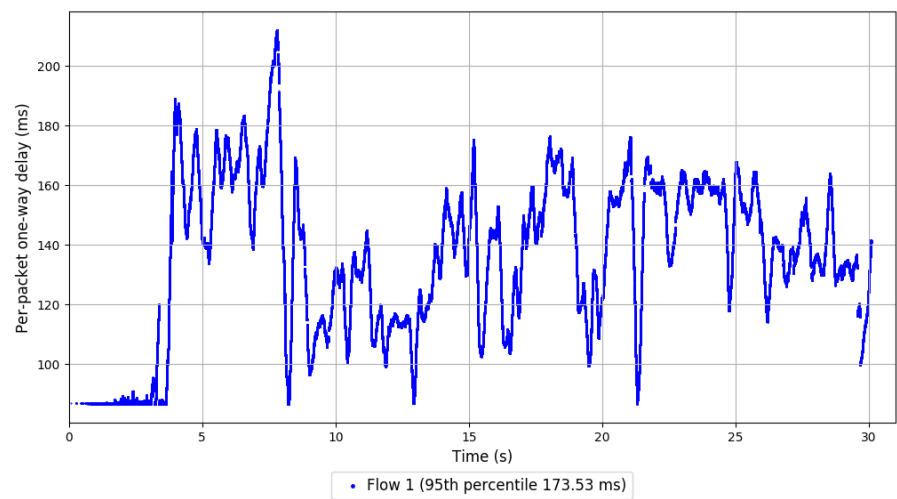
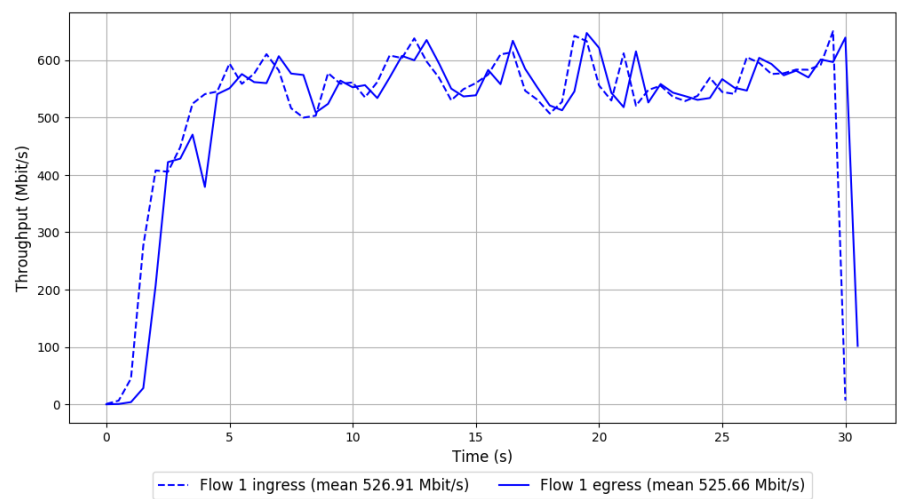


Run 3: Statistics of TCP Cubic

Start at: 2019-01-02 19:21:48  
End at: 2019-01-02 19:22:18  
Local clock offset: 9.611 ms  
Remote clock offset: 17.009 ms

# Below is generated by plot.py at 2019-01-02 20:55:01  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 525.66 Mbit/s  
95th percentile per-packet one-way delay: 173.529 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 525.66 Mbit/s  
95th percentile per-packet one-way delay: 173.529 ms  
Loss rate: 0.24%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2019-01-02 19:50:04

End at: 2019-01-02 19:50:34

Local clock offset: 4.374 ms

Remote clock offset: 6.418 ms

# Below is generated by plot.py at 2019-01-02 20:55:01

# Datalink statistics

-- Total of 1 flow:

Average throughput: 515.67 Mbit/s

95th percentile per-packet one-way delay: 164.309 ms

Loss rate: 0.26%

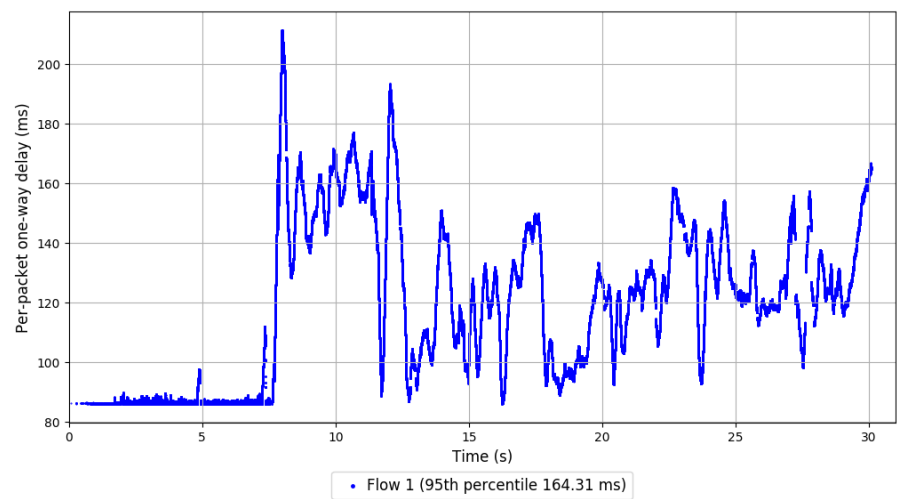
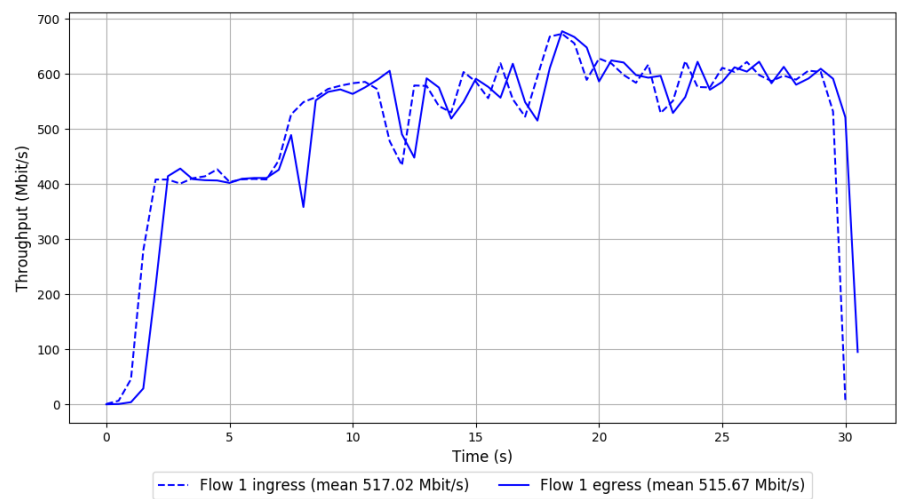
-- Flow 1:

Average throughput: 515.67 Mbit/s

95th percentile per-packet one-way delay: 164.309 ms

Loss rate: 0.26%

Run 4: Report of TCP Cubic — Data Link





Run 5: Statistics of TCP Cubic

Start at: 2019-01-02 20:18:40

End at: 2019-01-02 20:19:10

Local clock offset: 2.251 ms

Remote clock offset: 2.49 ms

# Below is generated by plot.py at 2019-01-02 20:55:57

# Datalink statistics

-- Total of 1 flow:

Average throughput: 522.16 Mbit/s

95th percentile per-packet one-way delay: 154.367 ms

Loss rate: 0.09%

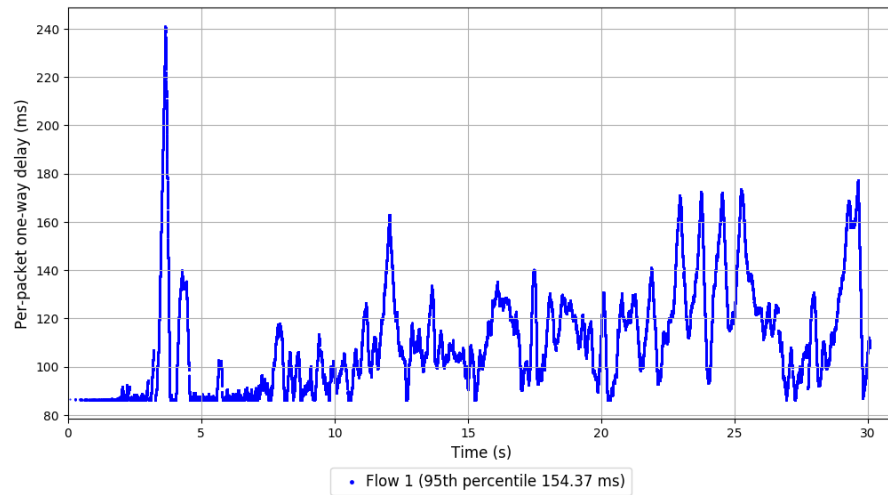
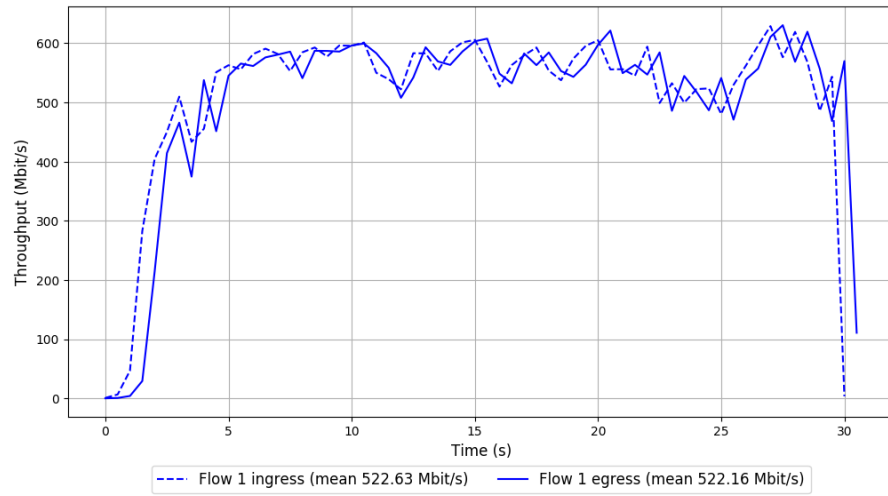
-- Flow 1:

Average throughput: 522.16 Mbit/s

95th percentile per-packet one-way delay: 154.367 ms

Loss rate: 0.09%

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

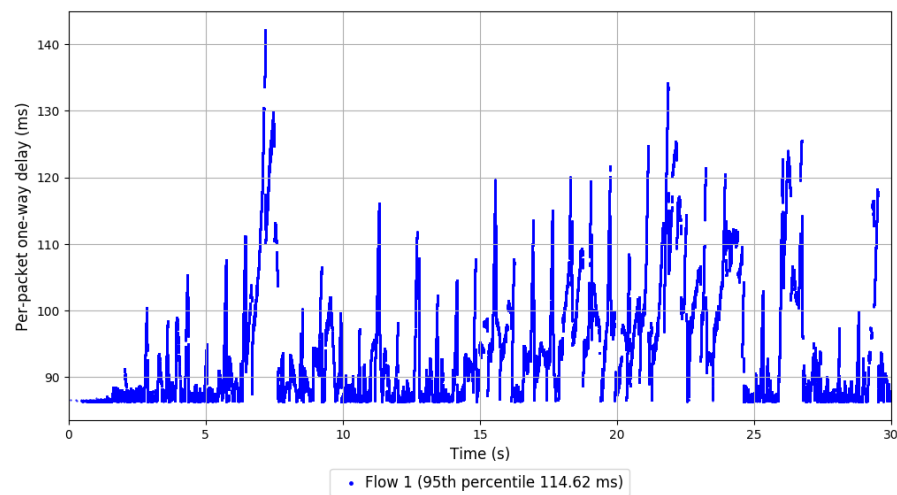
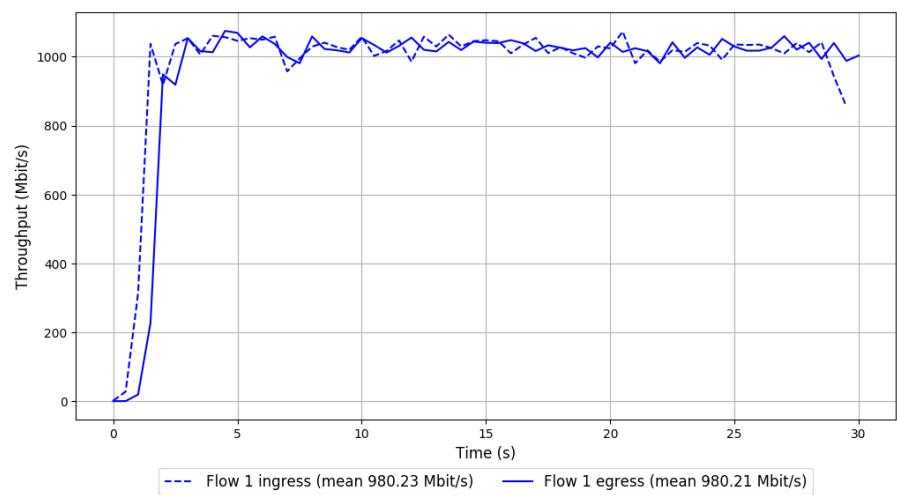


Run 1: Statistics of FillP

Start at: 2019-01-02 18:06:16  
End at: 2019-01-02 18:06:46  
Local clock offset: 10.69 ms  
Remote clock offset: 10.921 ms

# Below is generated by plot.py at 2019-01-02 21:07:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 980.21 Mbit/s  
95th percentile per-packet one-way delay: 114.623 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 980.21 Mbit/s  
95th percentile per-packet one-way delay: 114.623 ms  
Loss rate: 0.00%

Run 1: Report of FillP — Data Link

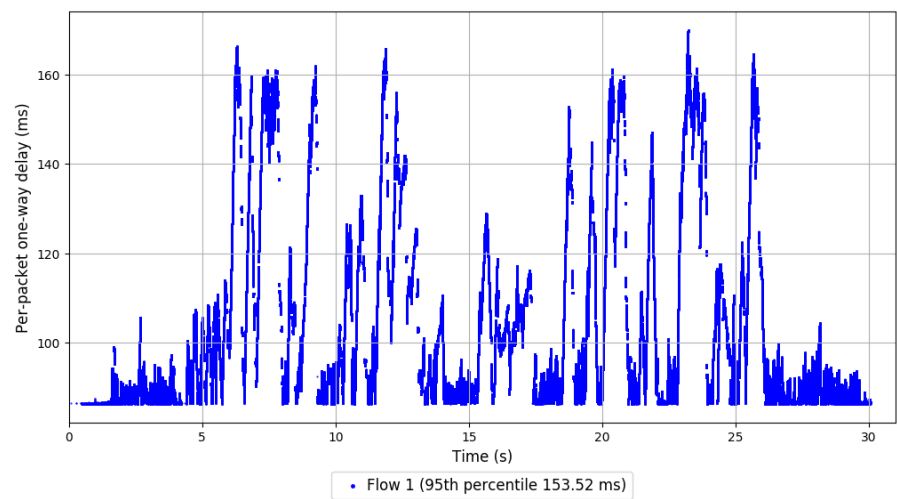
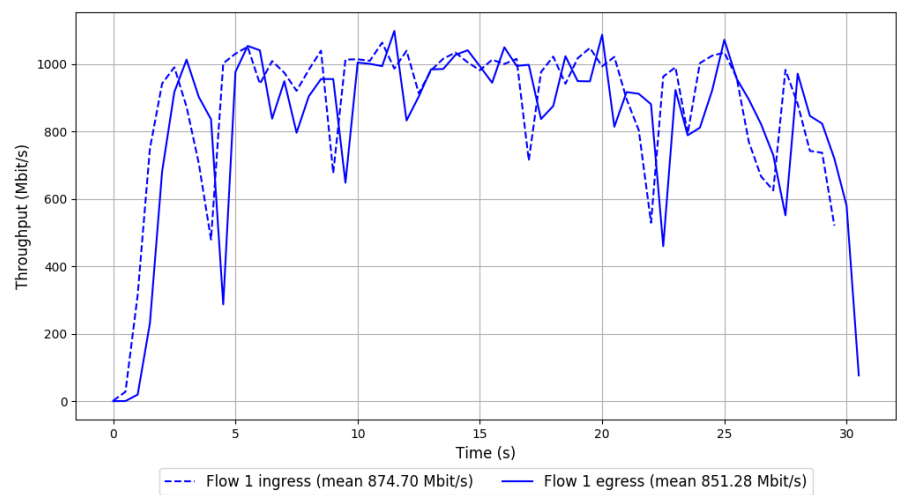


Run 2: Statistics of FillP

Start at: 2019-01-02 18:34:51  
End at: 2019-01-02 18:35:21  
Local clock offset: 20.638 ms  
Remote clock offset: 22.388 ms

# Below is generated by plot.py at 2019-01-02 21:17:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 851.28 Mbit/s  
95th percentile per-packet one-way delay: 153.520 ms  
Loss rate: 2.68%  
-- Flow 1:  
Average throughput: 851.28 Mbit/s  
95th percentile per-packet one-way delay: 153.520 ms  
Loss rate: 2.68%

Run 2: Report of FillP — Data Link

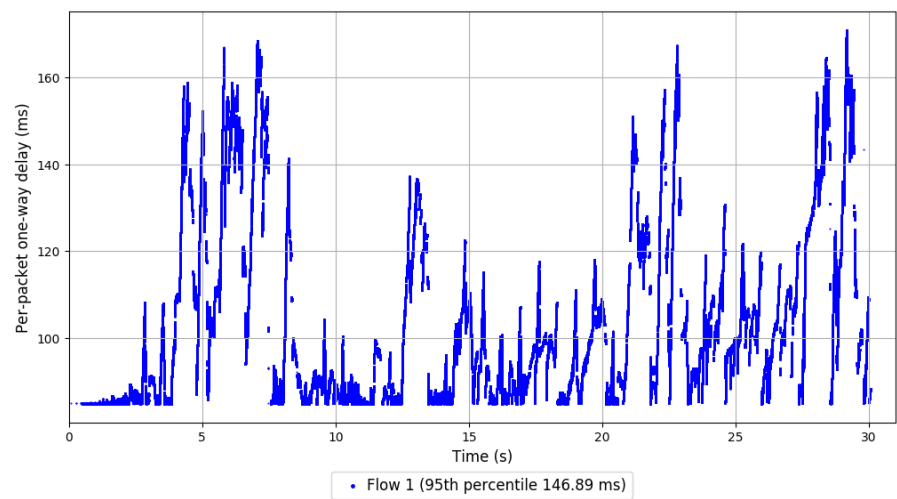
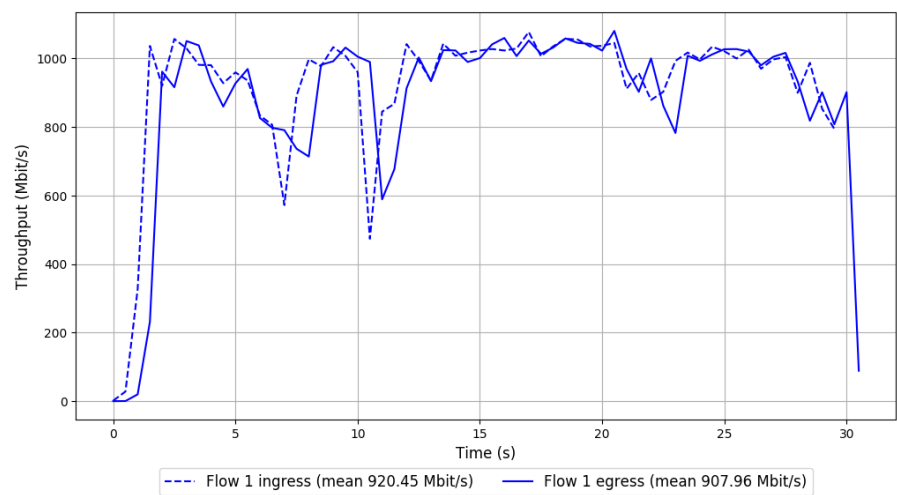


Run 3: Statistics of FillP

Start at: 2019-01-02 19:03:11  
End at: 2019-01-02 19:03:41  
Local clock offset: 37.996 ms  
Remote clock offset: 40.379 ms

# Below is generated by plot.py at 2019-01-02 21:19:13  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 907.96 Mbit/s  
95th percentile per-packet one-way delay: 146.888 ms  
Loss rate: 1.35%  
-- Flow 1:  
Average throughput: 907.96 Mbit/s  
95th percentile per-packet one-way delay: 146.888 ms  
Loss rate: 1.35%

Run 3: Report of FillP — Data Link



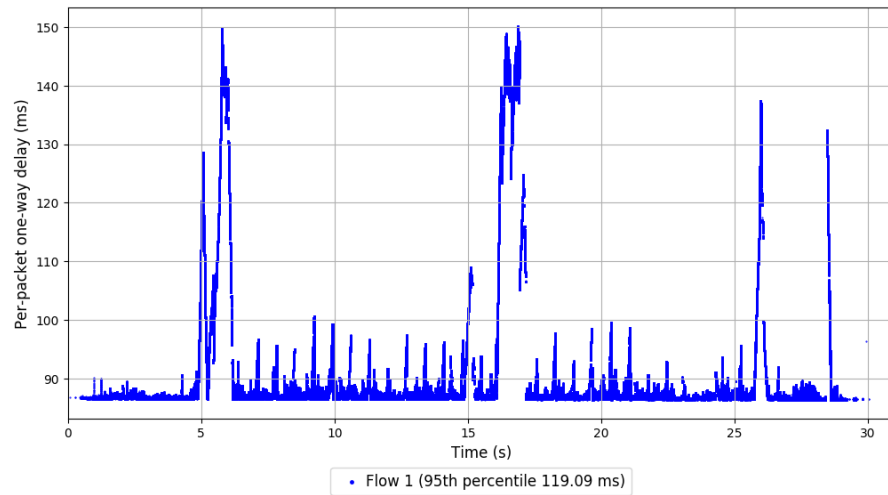
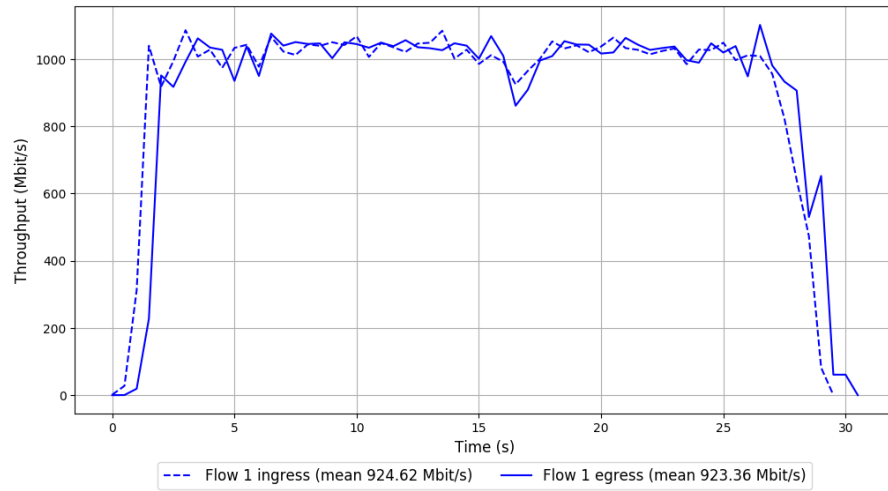


Run 4: Statistics of FillP

Start at: 2019-01-02 19:31:14  
End at: 2019-01-02 19:31:44  
Local clock offset: 9.48 ms  
Remote clock offset: 20.136 ms

# Below is generated by plot.py at 2019-01-02 21:19:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 923.36 Mbit/s  
95th percentile per-packet one-way delay: 119.088 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 923.36 Mbit/s  
95th percentile per-packet one-way delay: 119.088 ms  
Loss rate: 0.14%

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



Run 5: Statistics of FillP

Start at: 2019-01-02 19:59:40

End at: 2019-01-02 20:00:10

Local clock offset: 3.392 ms

Remote clock offset: 4.712 ms

# Below is generated by plot.py at 2019-01-02 21:19:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 935.90 Mbit/s

95th percentile per-packet one-way delay: 138.878 ms

Loss rate: 1.12%

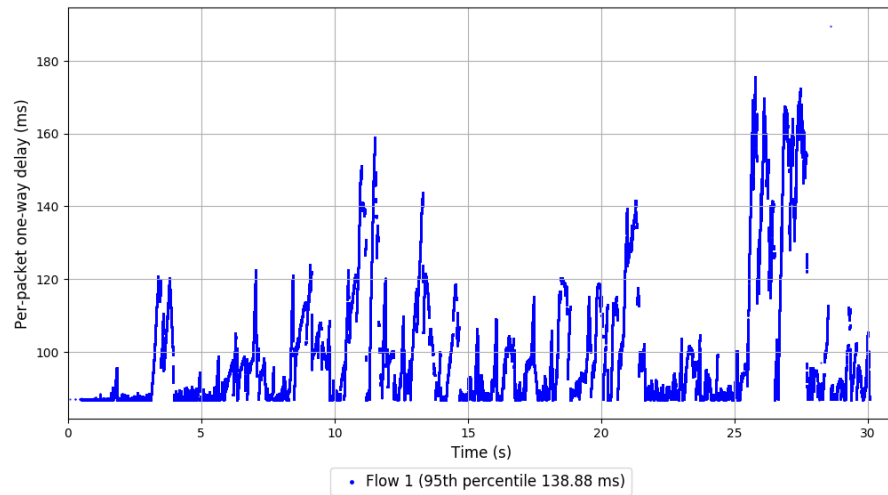
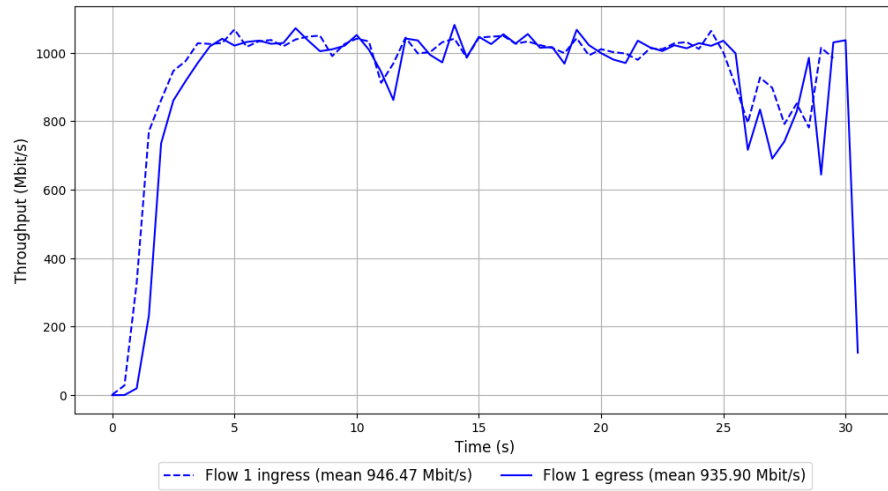
-- Flow 1:

Average throughput: 935.90 Mbit/s

95th percentile per-packet one-way delay: 138.878 ms

Loss rate: 1.12%

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



Run 1: Statistics of FillP-Sheep

Start at: 2019-01-02 18:00:03

End at: 2019-01-02 18:00:33

Local clock offset: 6.463 ms

Remote clock offset: 7.331 ms

# Below is generated by plot.py at 2019-01-02 21:19:59

# Datalink statistics

-- Total of 1 flow:

Average throughput: 913.48 Mbit/s

95th percentile per-packet one-way delay: 149.865 ms

Loss rate: 1.98%

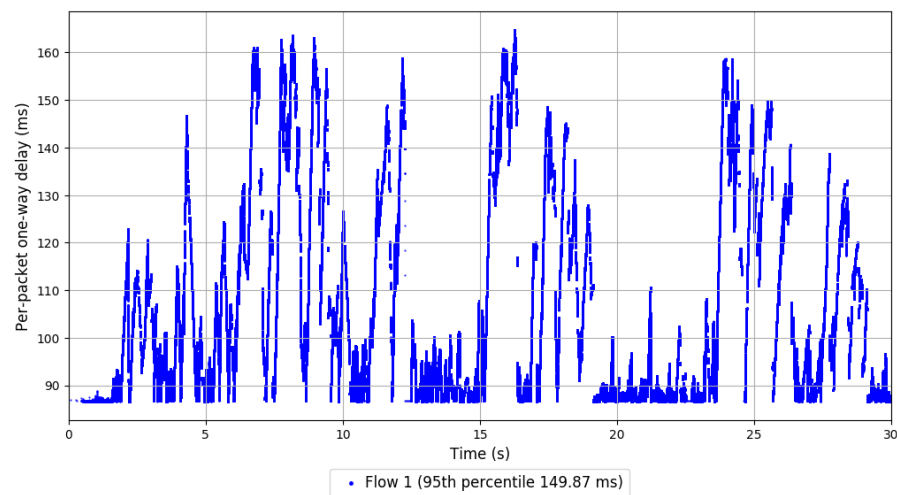
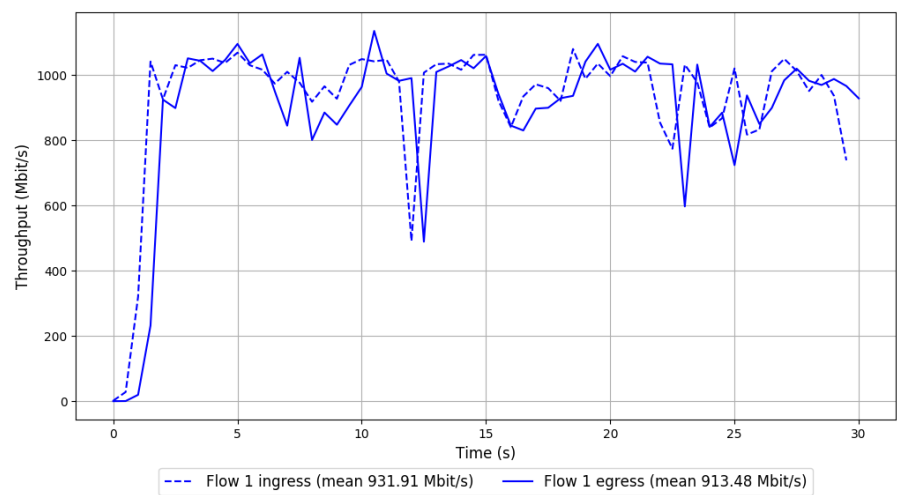
-- Flow 1:

Average throughput: 913.48 Mbit/s

95th percentile per-packet one-way delay: 149.865 ms

Loss rate: 1.98%

Run 1: Report of FillP-Sheep — Data Link

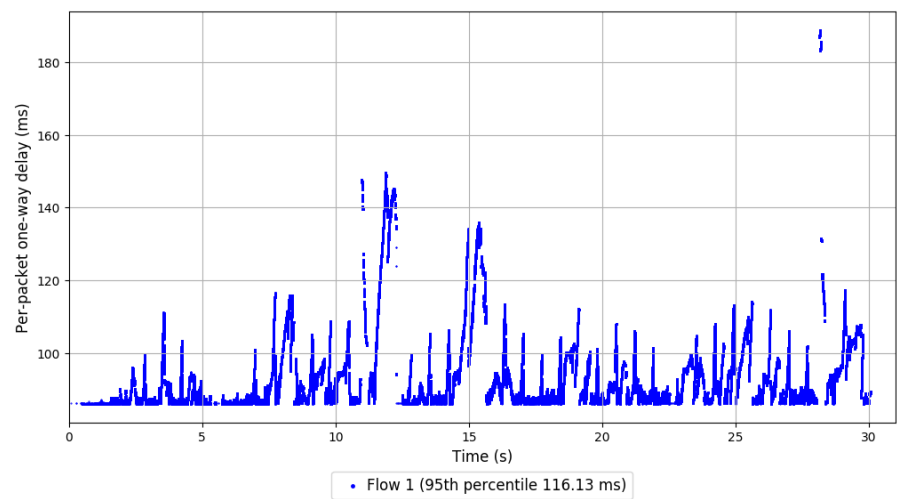
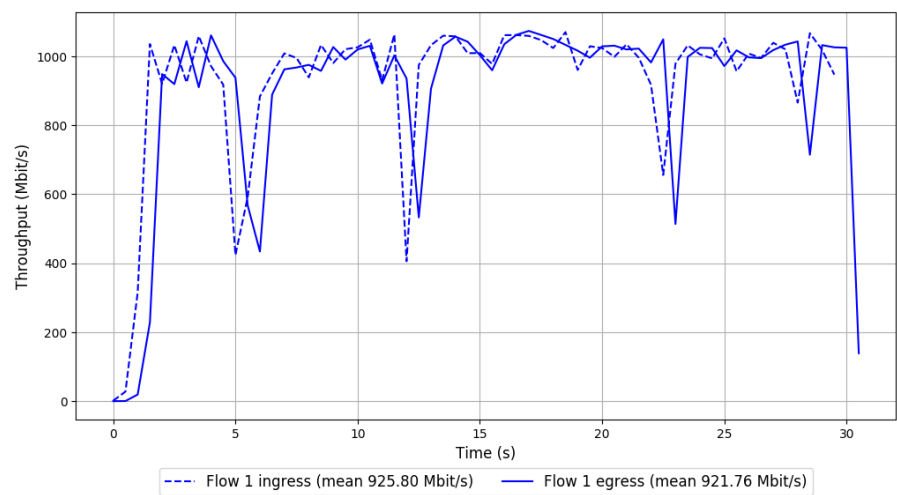


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-02 18:28:32  
End at: 2019-01-02 18:29:02  
Local clock offset: 27.208 ms  
Remote clock offset: 29.207 ms

# Below is generated by plot.py at 2019-01-02 21:19:59  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 921.76 Mbit/s  
95th percentile per-packet one-way delay: 116.130 ms  
Loss rate: 0.43%  
-- Flow 1:  
Average throughput: 921.76 Mbit/s  
95th percentile per-packet one-way delay: 116.130 ms  
Loss rate: 0.43%

Run 2: Report of FillP-Sheep — Data Link



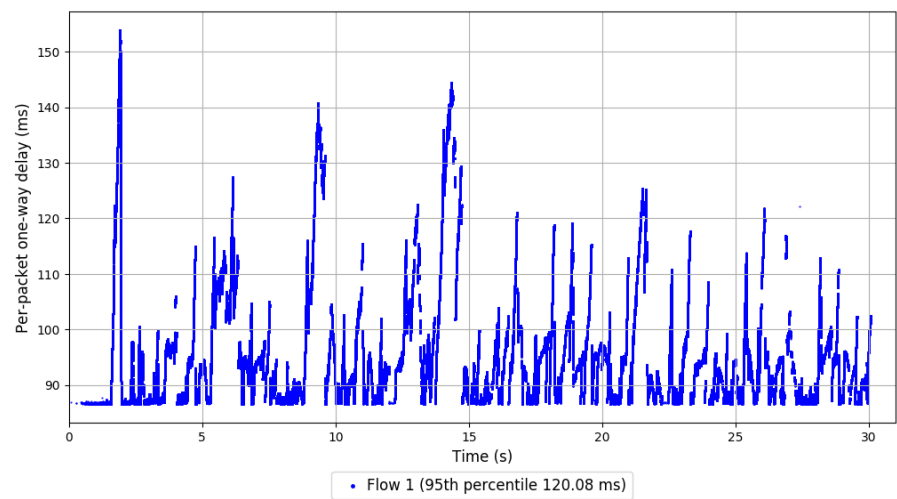
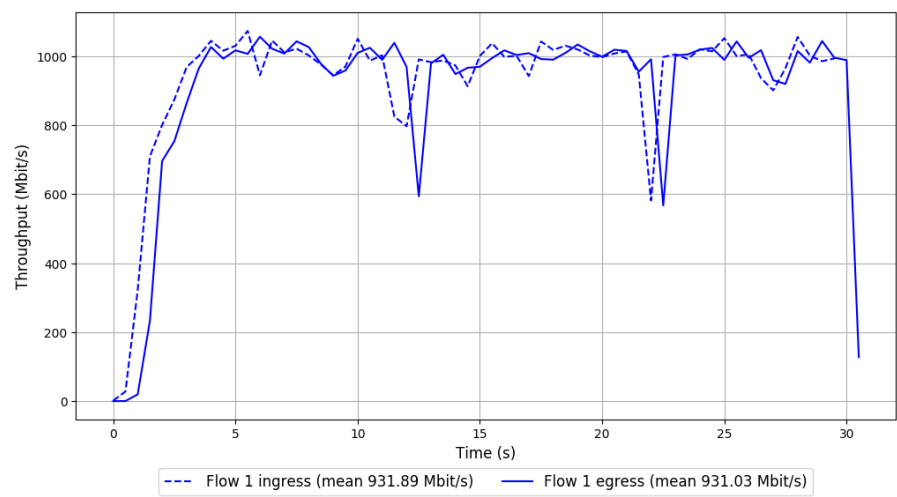


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-02 18:57:05  
End at: 2019-01-02 18:57:35  
Local clock offset: 35.841 ms  
Remote clock offset: 38.747 ms

# Below is generated by plot.py at 2019-01-02 21:21:00  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 931.03 Mbit/s  
95th percentile per-packet one-way delay: 120.077 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 931.03 Mbit/s  
95th percentile per-packet one-way delay: 120.077 ms  
Loss rate: 0.09%

Run 3: Report of FillP-Sheep — Data Link

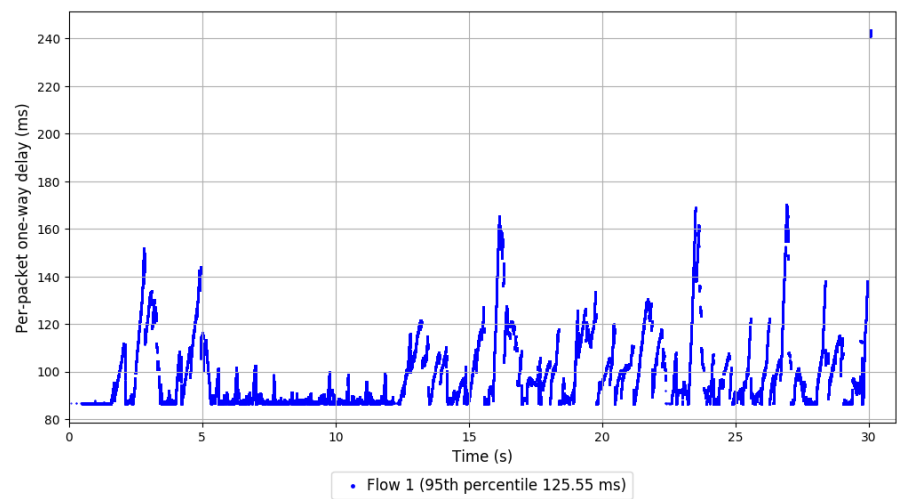
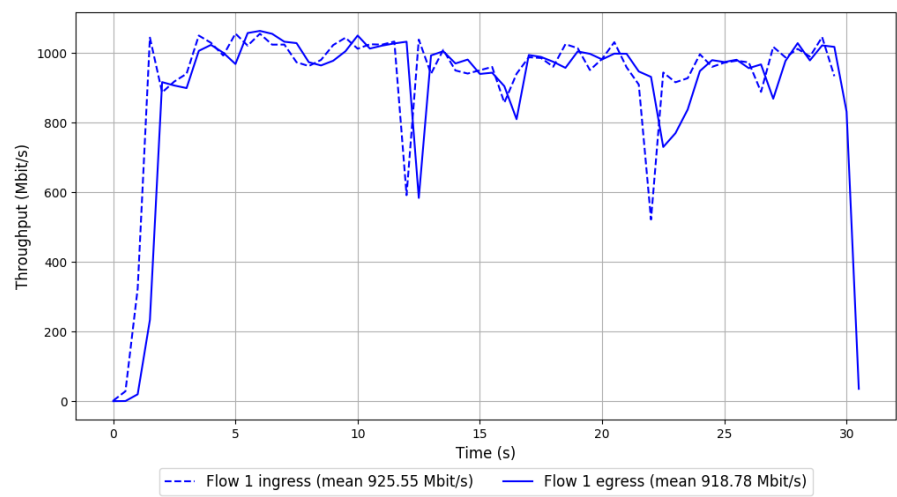


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-02 19:25:05  
End at: 2019-01-02 19:25:35  
Local clock offset: 9.196 ms  
Remote clock offset: 17.679 ms

# Below is generated by plot.py at 2019-01-02 21:35:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 918.78 Mbit/s  
95th percentile per-packet one-way delay: 125.549 ms  
Loss rate: 0.79%  
-- Flow 1:  
Average throughput: 918.78 Mbit/s  
95th percentile per-packet one-way delay: 125.549 ms  
Loss rate: 0.79%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-02 19:53:16

End at: 2019-01-02 19:53:46

Local clock offset: 3.802 ms

Remote clock offset: 5.39 ms

# Below is generated by plot.py at 2019-01-02 21:42:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 929.57 Mbit/s

95th percentile per-packet one-way delay: 97.599 ms

Loss rate: 0.02%

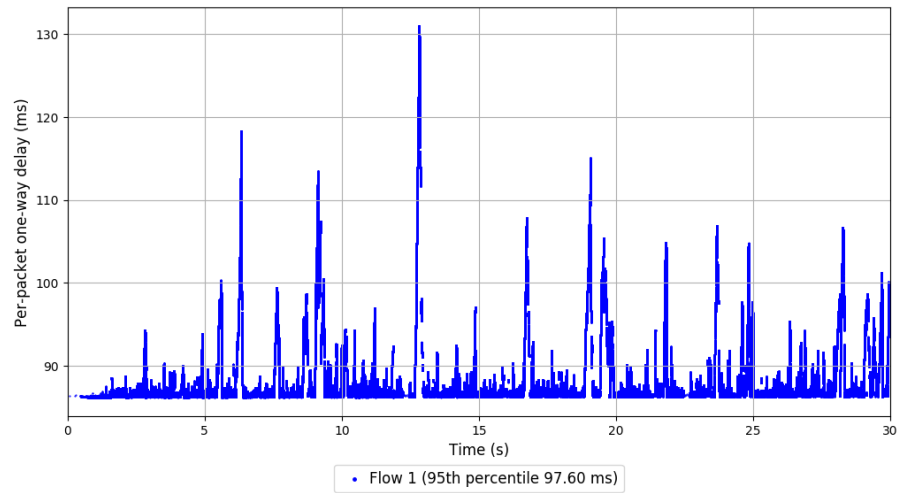
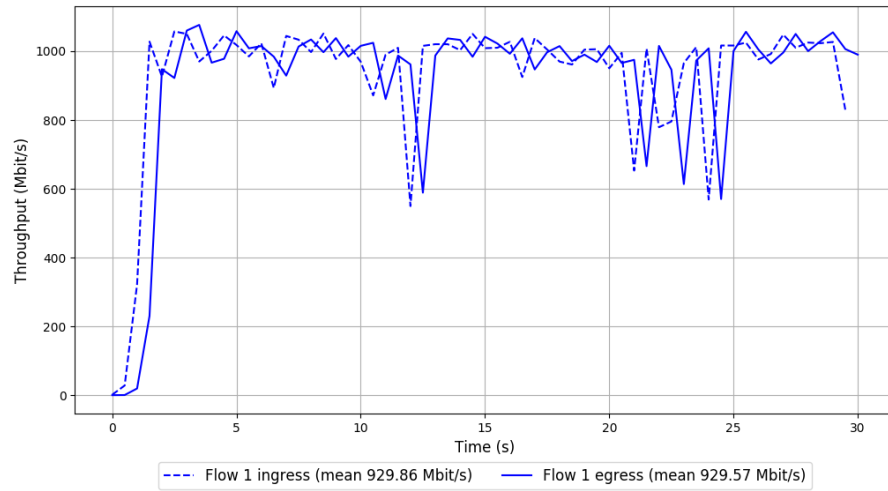
-- Flow 1:

Average throughput: 929.57 Mbit/s

95th percentile per-packet one-way delay: 97.599 ms

Loss rate: 0.02%

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

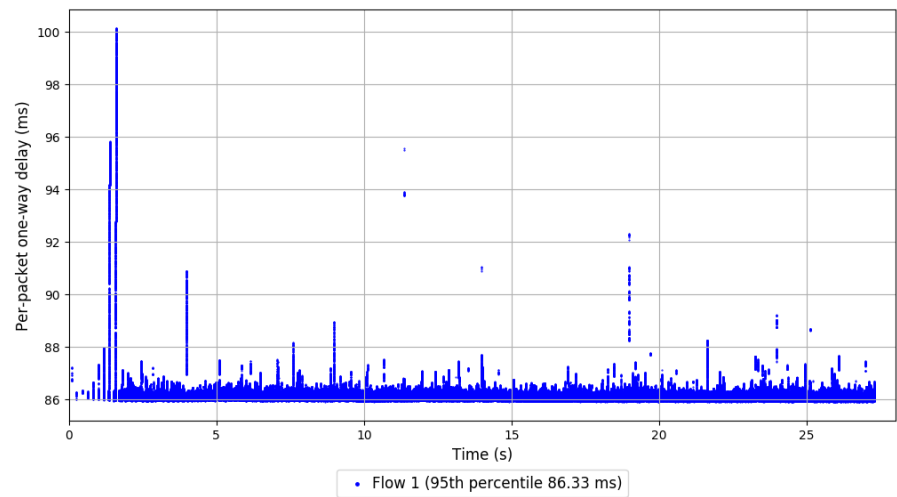
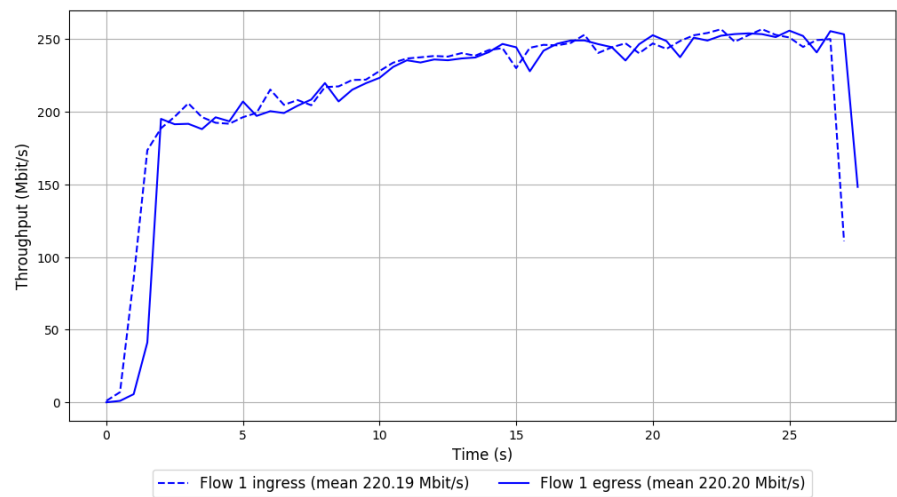


Run 1: Statistics of Indigo

Start at: 2019-01-02 18:20:35  
End at: 2019-01-02 18:21:05  
Local clock offset: 17.655 ms  
Remote clock offset: 19.007 ms

# Below is generated by plot.py at 2019-01-02 21:42:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 220.20 Mbit/s  
95th percentile per-packet one-way delay: 86.335 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 220.20 Mbit/s  
95th percentile per-packet one-way delay: 86.335 ms  
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



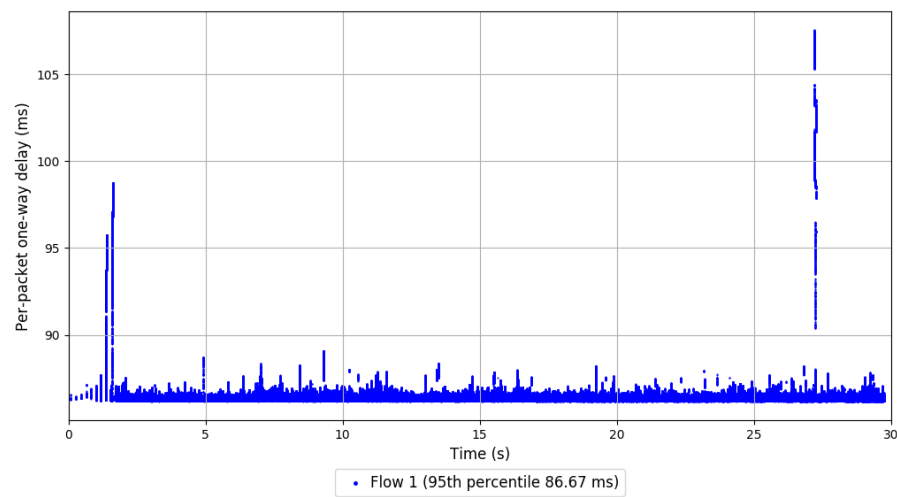
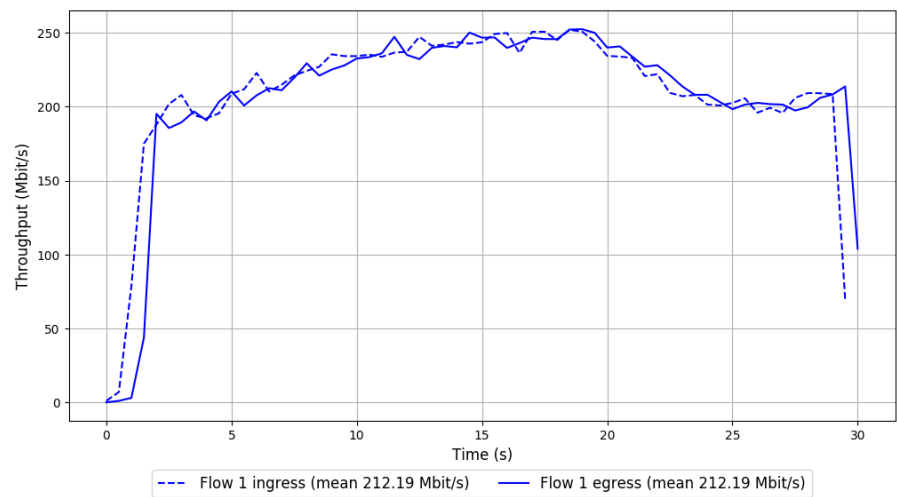


Run 2: Statistics of Indigo

Start at: 2019-01-02 18:49:08  
End at: 2019-01-02 18:49:38  
Local clock offset: 27.839 ms  
Remote clock offset: 29.838 ms

# Below is generated by plot.py at 2019-01-02 21:42:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 212.19 Mbit/s  
95th percentile per-packet one-way delay: 86.667 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 212.19 Mbit/s  
95th percentile per-packet one-way delay: 86.667 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

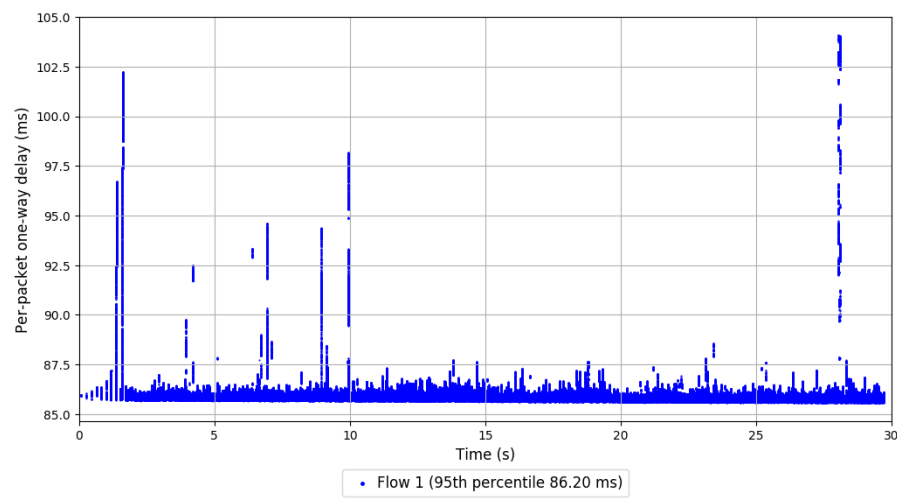
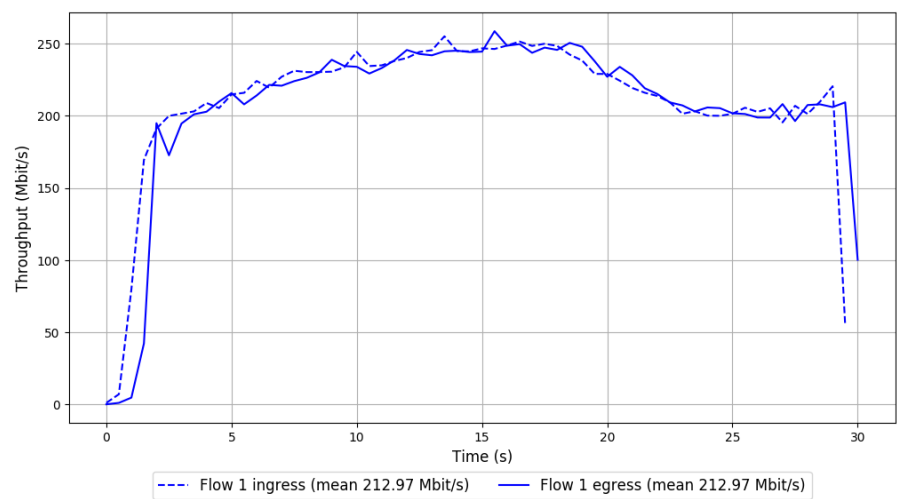


Run 3: Statistics of Indigo

Start at: 2019-01-02 19:17:12  
End at: 2019-01-02 19:17:42  
Local clock offset: 12.01 ms  
Remote clock offset: 17.347 ms

# Below is generated by plot.py at 2019-01-02 21:42:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 212.97 Mbit/s  
95th percentile per-packet one-way delay: 86.200 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 212.97 Mbit/s  
95th percentile per-packet one-way delay: 86.200 ms  
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2019-01-02 19:45:20

End at: 2019-01-02 19:45:50

Local clock offset: 4.857 ms

Remote clock offset: 9.097 ms

# Below is generated by plot.py at 2019-01-02 21:42:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 205.05 Mbit/s

95th percentile per-packet one-way delay: 86.689 ms

Loss rate: 0.16%

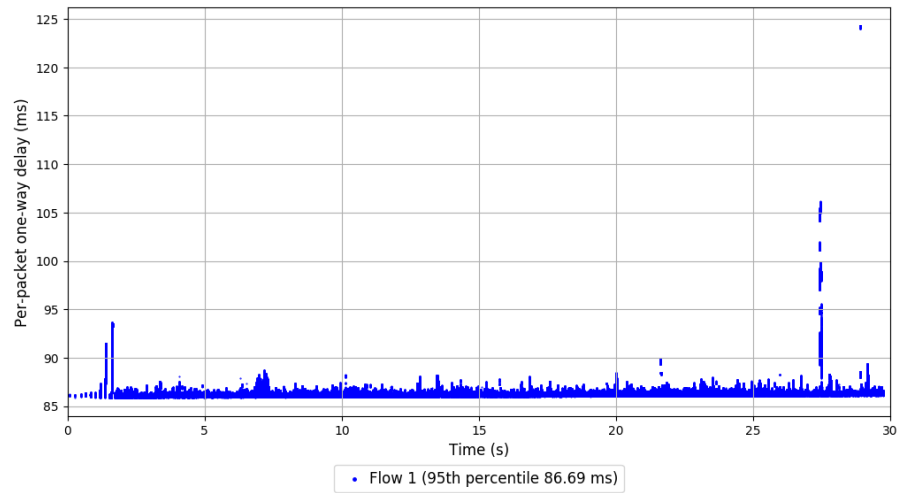
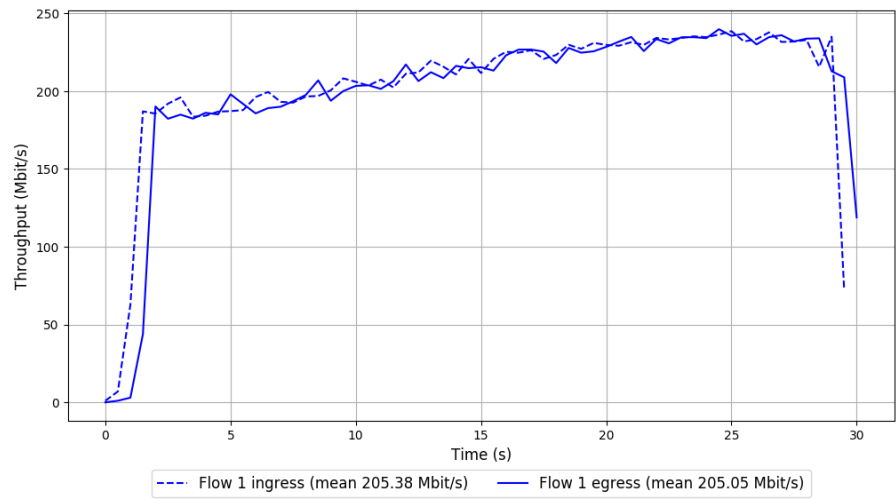
-- Flow 1:

Average throughput: 205.05 Mbit/s

95th percentile per-packet one-way delay: 86.689 ms

Loss rate: 0.16%

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



Run 5: Statistics of Indigo

Start at: 2019-01-02 20:14:01

End at: 2019-01-02 20:14:31

Local clock offset: 3.777 ms

Remote clock offset: 3.633 ms

# Below is generated by plot.py at 2019-01-02 21:42:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 215.07 Mbit/s

95th percentile per-packet one-way delay: 86.076 ms

Loss rate: 0.00%

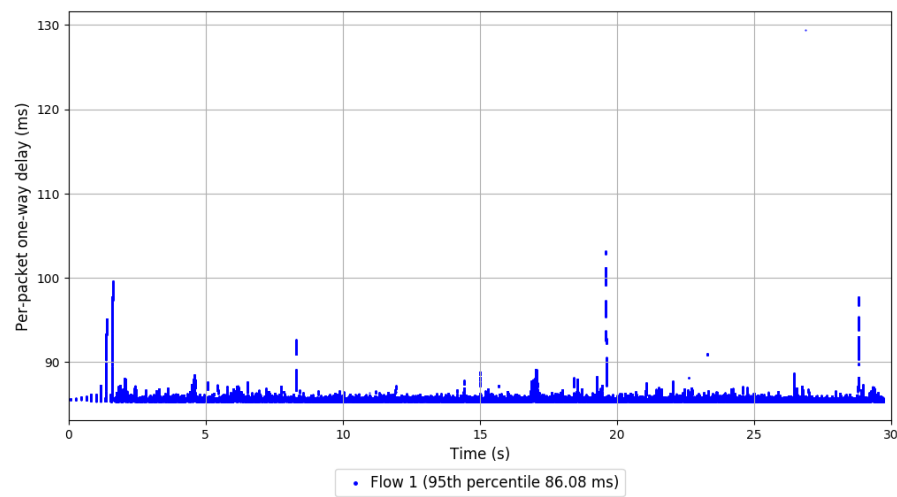
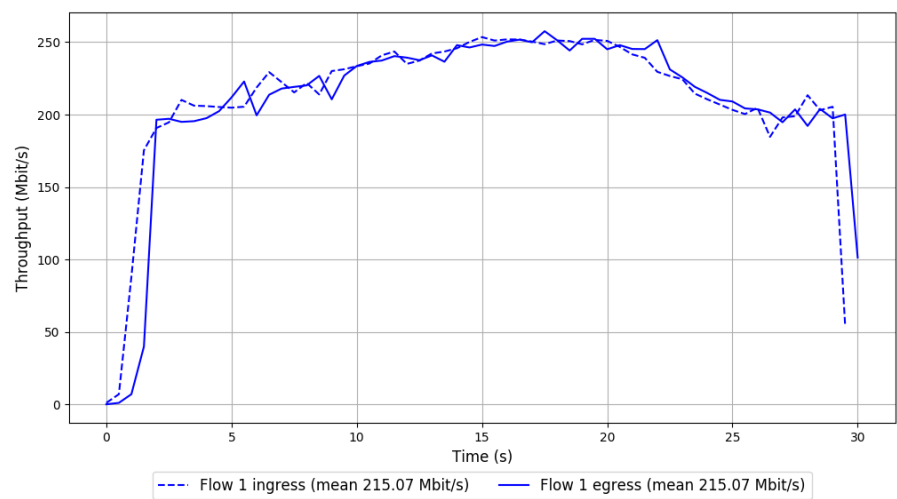
-- Flow 1:

Average throughput: 215.07 Mbit/s

95th percentile per-packet one-way delay: 86.076 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link





Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-02 18:03:02

End at: 2019-01-02 18:03:32

Local clock offset: 10.463 ms

Remote clock offset: 11.392 ms

# Below is generated by plot.py at 2019-01-02 21:42:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 472.16 Mbit/s

95th percentile per-packet one-way delay: 121.474 ms

Loss rate: 0.07%

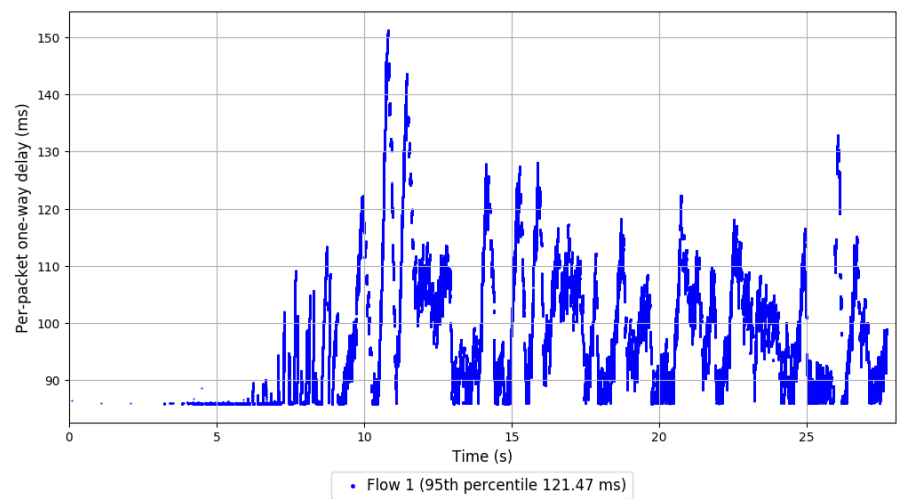
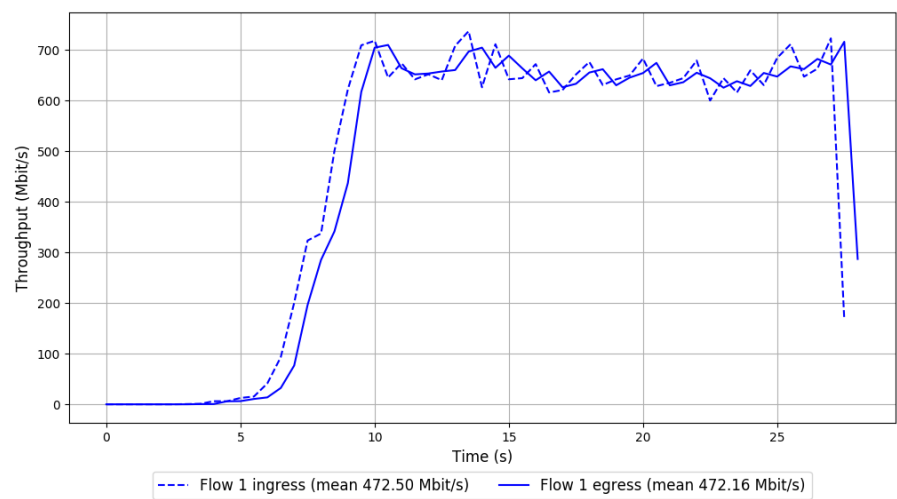
-- Flow 1:

Average throughput: 472.16 Mbit/s

95th percentile per-packet one-way delay: 121.474 ms

Loss rate: 0.07%

Run 1: Report of Indigo-MusesD — Data Link

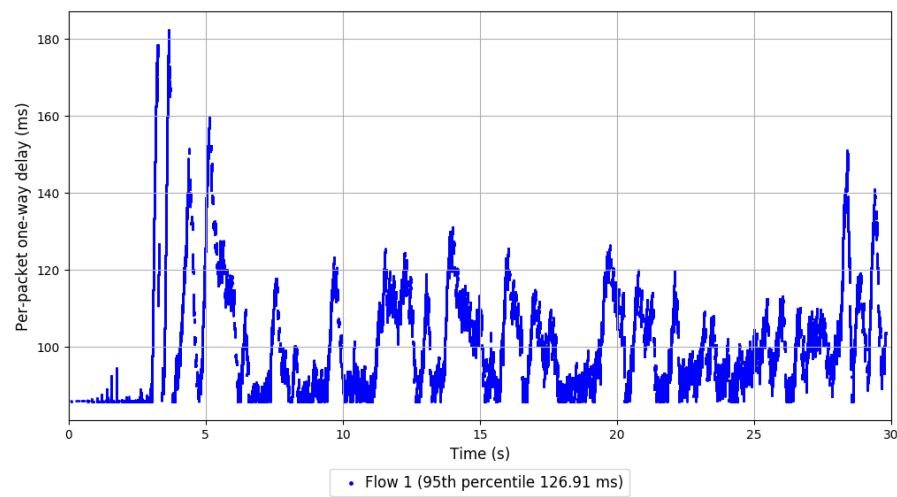
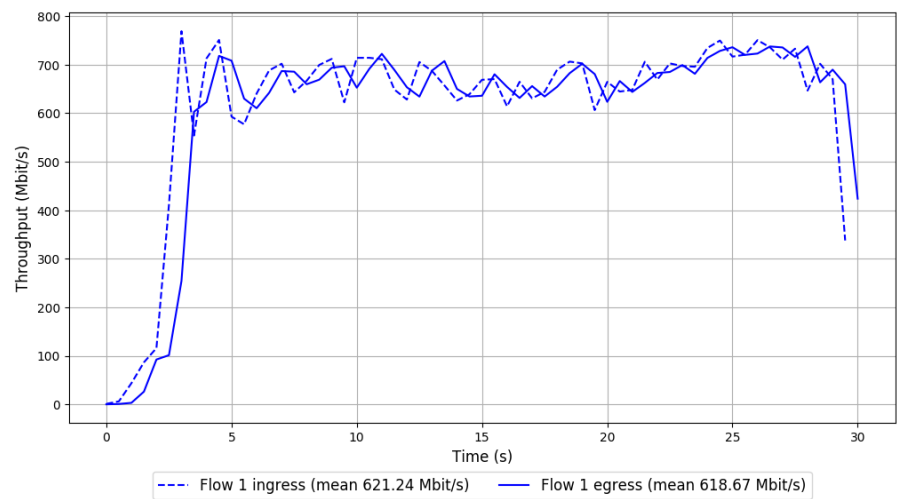


Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-02 18:31:30  
End at: 2019-01-02 18:32:00  
Local clock offset: 23.443 ms  
Remote clock offset: 24.661 ms

# Below is generated by plot.py at 2019-01-02 21:42:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 618.67 Mbit/s  
95th percentile per-packet one-way delay: 126.911 ms  
Loss rate: 0.52%  
-- Flow 1:  
Average throughput: 618.67 Mbit/s  
95th percentile per-packet one-way delay: 126.911 ms  
Loss rate: 0.52%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-02 19:00:03

End at: 2019-01-02 19:00:33

Local clock offset: 39.271 ms

Remote clock offset: 42.374 ms

# Below is generated by plot.py at 2019-01-02 21:42:37

# Datalink statistics

-- Total of 1 flow:

Average throughput: 599.71 Mbit/s

95th percentile per-packet one-way delay: 127.573 ms

Loss rate: 0.00%

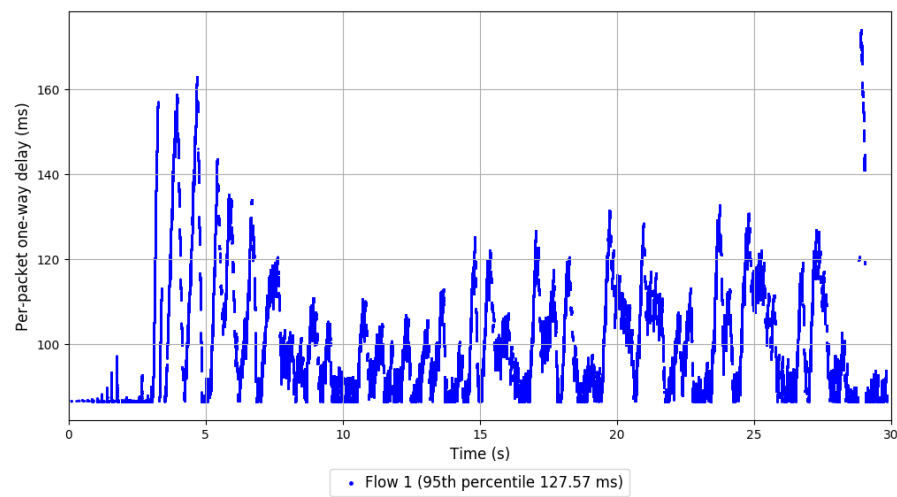
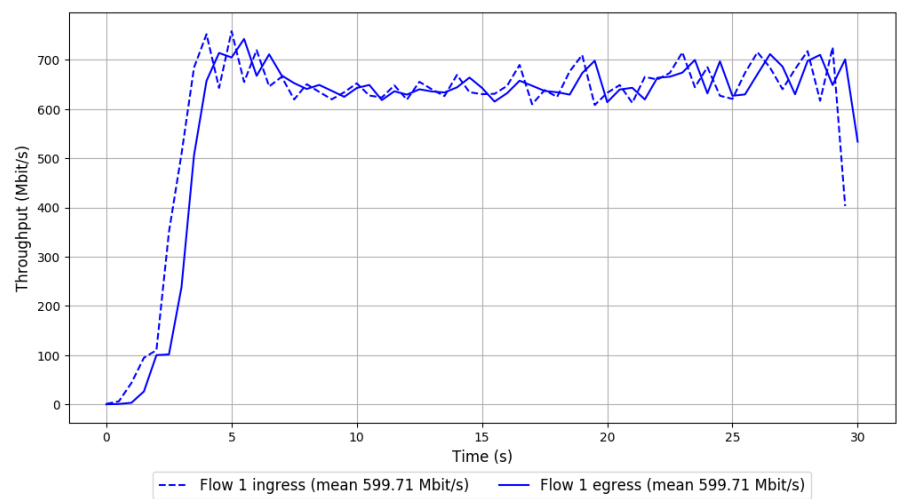
-- Flow 1:

Average throughput: 599.71 Mbit/s

95th percentile per-packet one-way delay: 127.573 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

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

End at: 2019-01-02 19:28:33

Local clock offset: 9.227 ms

Remote clock offset: 18.688 ms

# Below is generated by plot.py at 2019-01-02 21:43:36

# Datalink statistics

-- Total of 1 flow:

Average throughput: 630.38 Mbit/s

95th percentile per-packet one-way delay: 135.042 ms

Loss rate: 0.13%

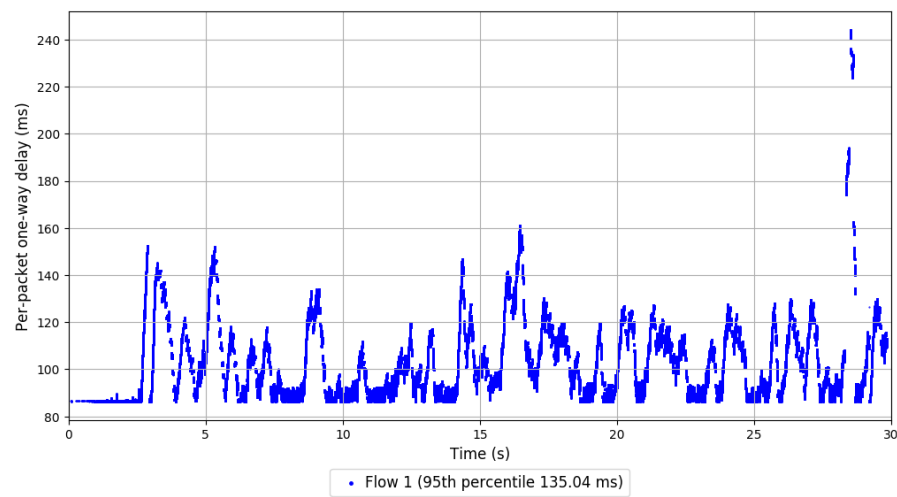
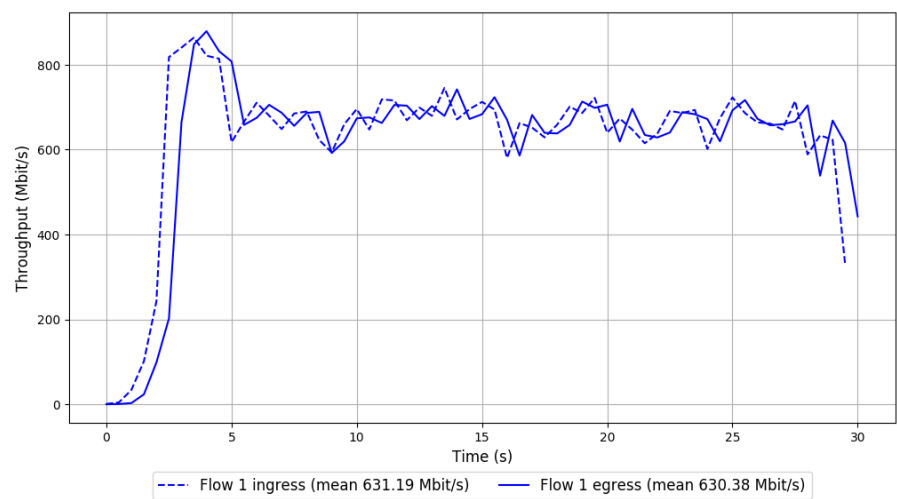
-- Flow 1:

Average throughput: 630.38 Mbit/s

95th percentile per-packet one-way delay: 135.042 ms

Loss rate: 0.13%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-02 19:56:17

End at: 2019-01-02 19:56:47

Local clock offset: 3.493 ms

Remote clock offset: 4.937 ms

# Below is generated by plot.py at 2019-01-02 21:43:36

# Datalink statistics

-- Total of 1 flow:

Average throughput: 601.97 Mbit/s

95th percentile per-packet one-way delay: 130.523 ms

Loss rate: 0.02%

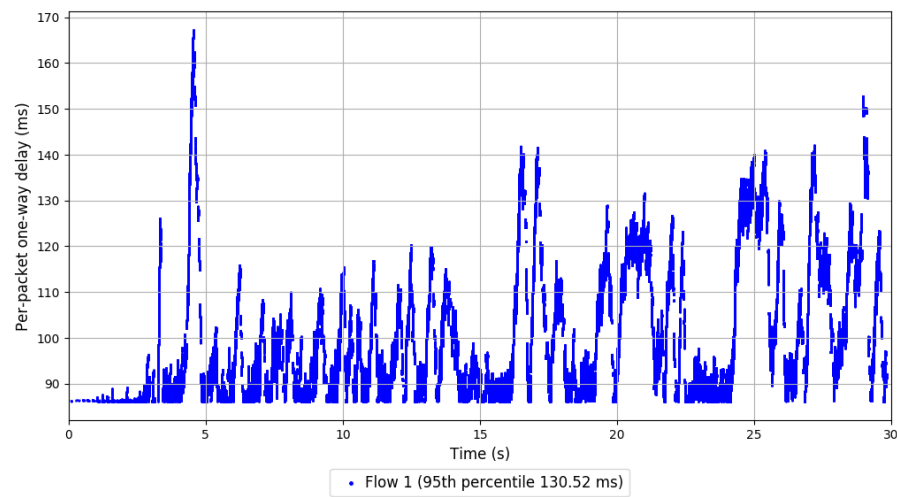
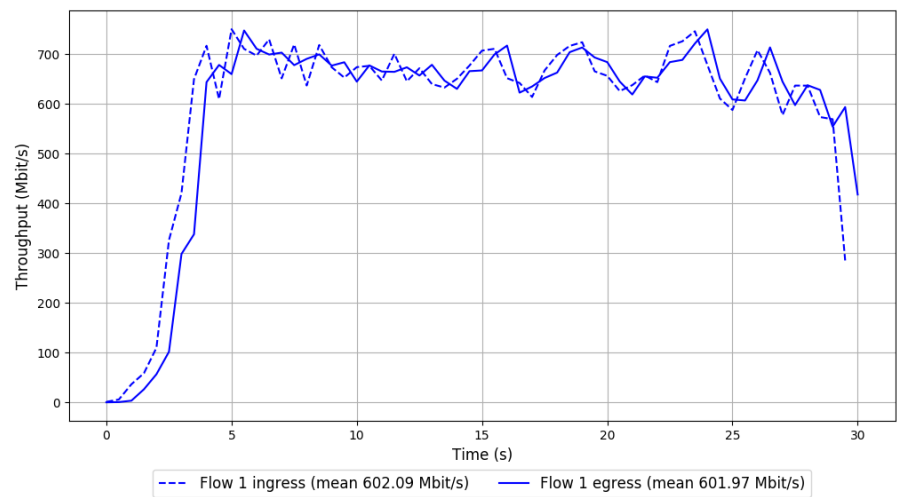
-- Flow 1:

Average throughput: 601.97 Mbit/s

95th percentile per-packet one-way delay: 130.523 ms

Loss rate: 0.02%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-02 18:04:34

End at: 2019-01-02 18:05:04

Local clock offset: 9.215 ms

Remote clock offset: 9.82 ms

# Below is generated by plot.py at 2019-01-02 21:44:22

# Datalink statistics

-- Total of 1 flow:

Average throughput: 669.22 Mbit/s

95th percentile per-packet one-way delay: 175.907 ms

Loss rate: 1.62%

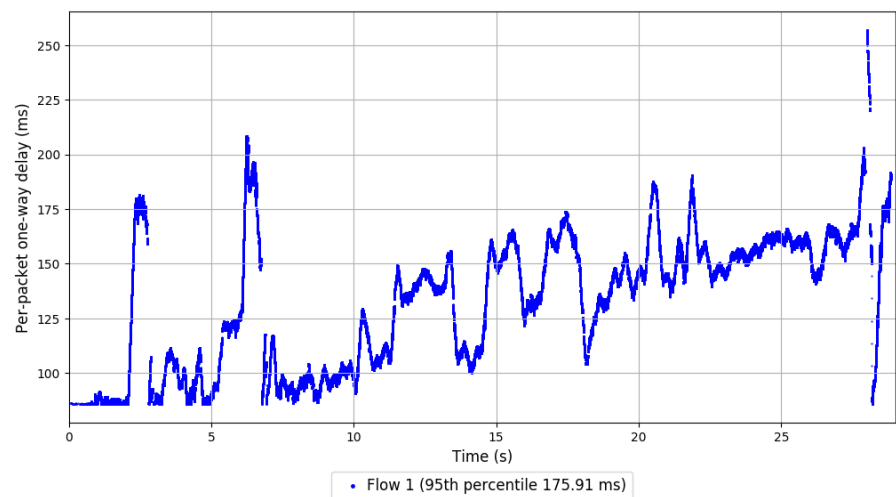
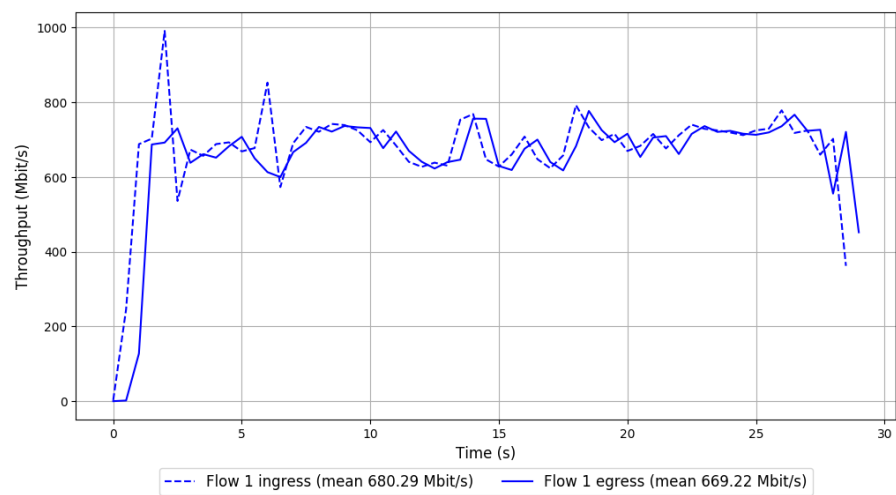
-- Flow 1:

Average throughput: 669.22 Mbit/s

95th percentile per-packet one-way delay: 175.907 ms

Loss rate: 1.62%

Run 1: Report of Indigo-MusesT — Data Link

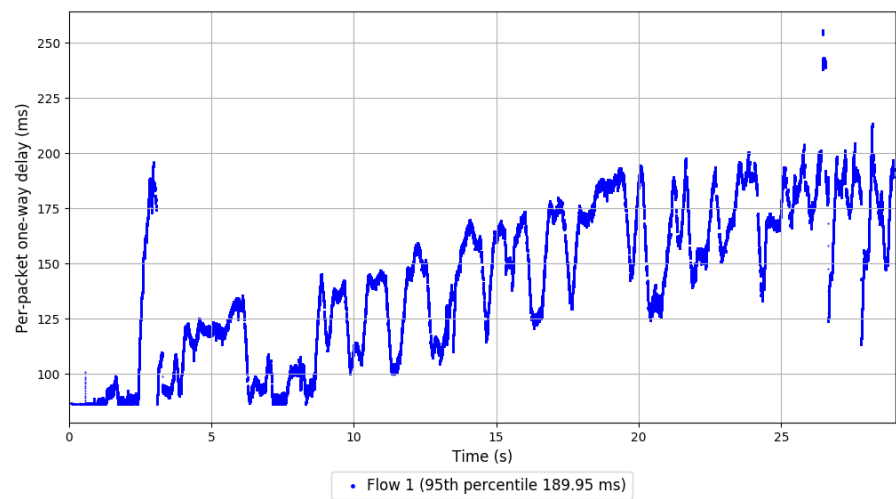
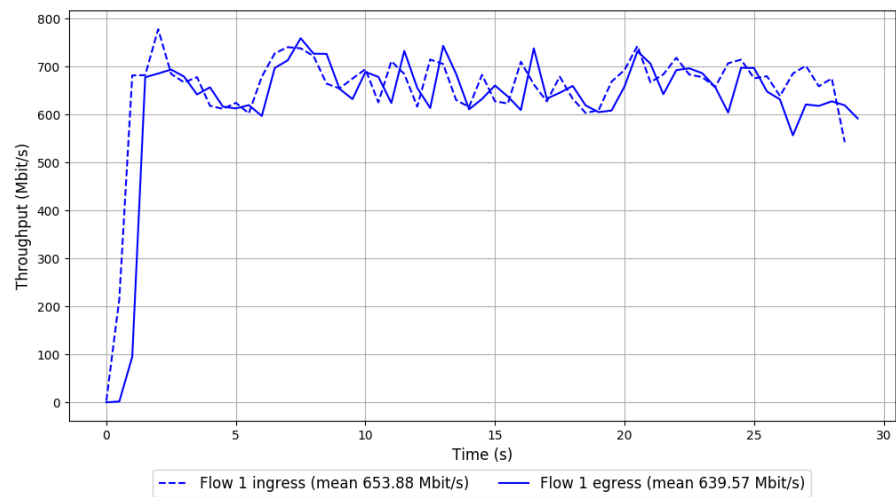


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-02 18:33:10  
End at: 2019-01-02 18:33:40  
Local clock offset: 21.225 ms  
Remote clock offset: 23.202 ms

# Below is generated by plot.py at 2019-01-02 21:45:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 639.57 Mbit/s  
95th percentile per-packet one-way delay: 189.948 ms  
Loss rate: 2.19%  
-- Flow 1:  
Average throughput: 639.57 Mbit/s  
95th percentile per-packet one-way delay: 189.948 ms  
Loss rate: 2.19%

Run 2: Report of Indigo-MusesT — Data Link

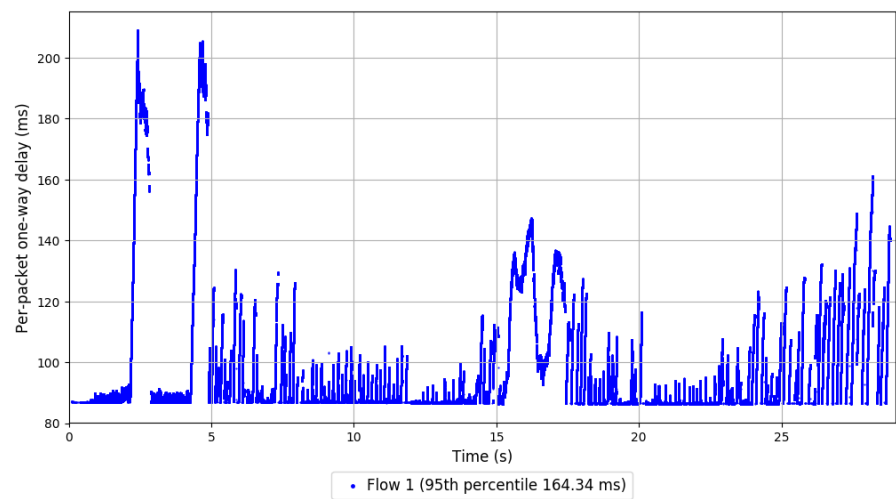
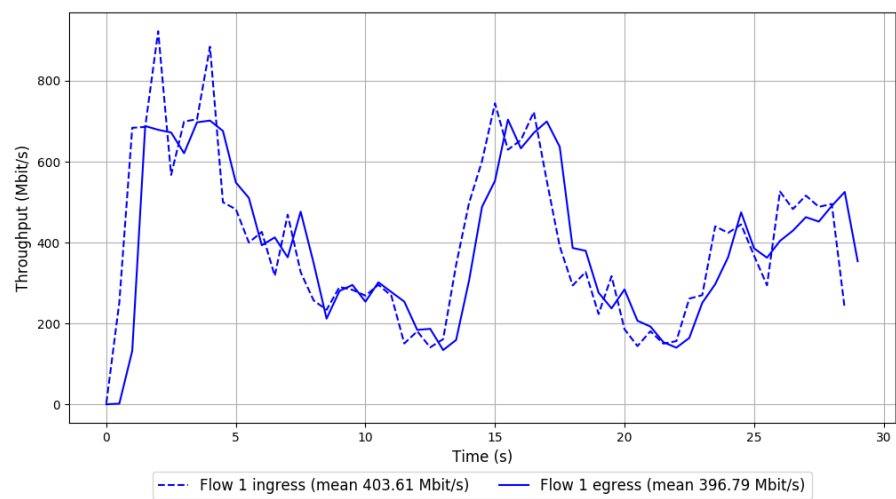


Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-02 19:01:43  
End at: 2019-01-02 19:02:13  
Local clock offset: 40.713 ms  
Remote clock offset: 44.161 ms

# Below is generated by plot.py at 2019-01-02 21:45:39  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 396.79 Mbit/s  
95th percentile per-packet one-way delay: 164.341 ms  
Loss rate: 1.69%  
-- Flow 1:  
Average throughput: 396.79 Mbit/s  
95th percentile per-packet one-way delay: 164.341 ms  
Loss rate: 1.69%

Run 3: Report of Indigo-MusesT — Data Link





Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-02 19:29:43

End at: 2019-01-02 19:30:13

Local clock offset: 9.977 ms

Remote clock offset: 19.424 ms

# Below is generated by plot.py at 2019-01-02 21:49:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 421.77 Mbit/s

95th percentile per-packet one-way delay: 170.943 ms

Loss rate: 2.41%

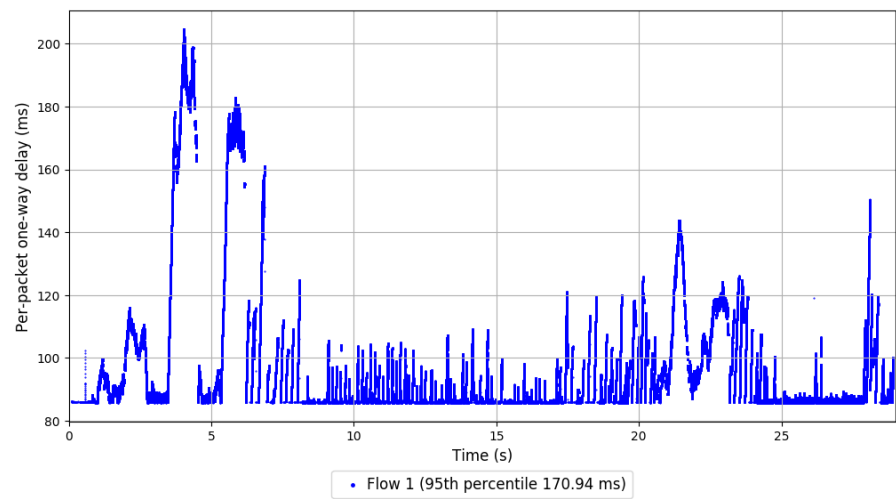
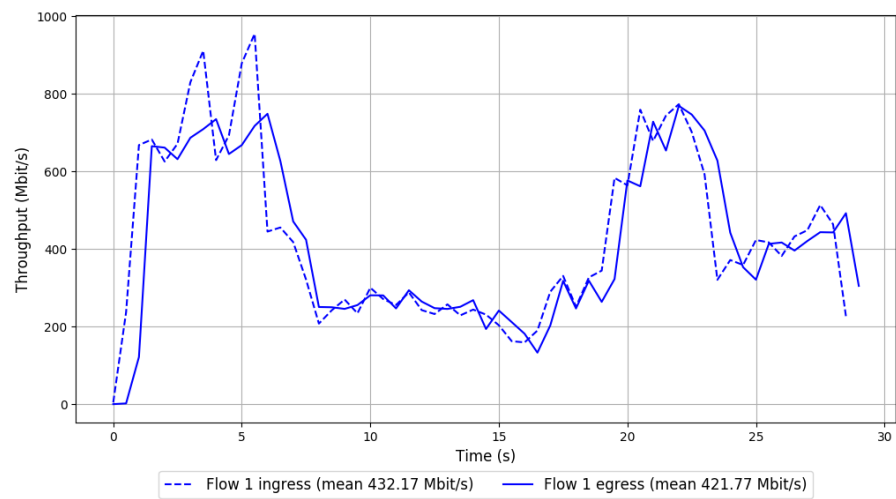
-- Flow 1:

Average throughput: 421.77 Mbit/s

95th percentile per-packet one-way delay: 170.943 ms

Loss rate: 2.41%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-02 19:57:57

End at: 2019-01-02 19:58:27

Local clock offset: 3.766 ms

Remote clock offset: 4.788 ms

# Below is generated by plot.py at 2019-01-02 21:56:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 658.79 Mbit/s

95th percentile per-packet one-way delay: 186.145 ms

Loss rate: 1.76%

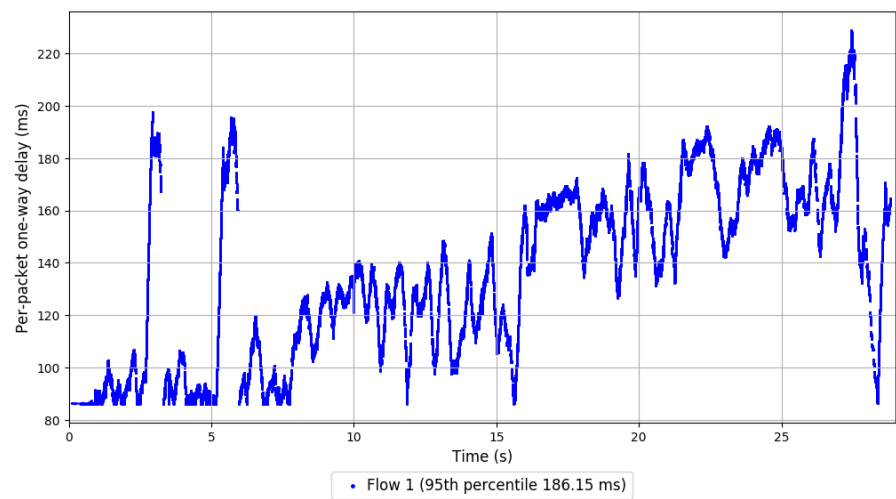
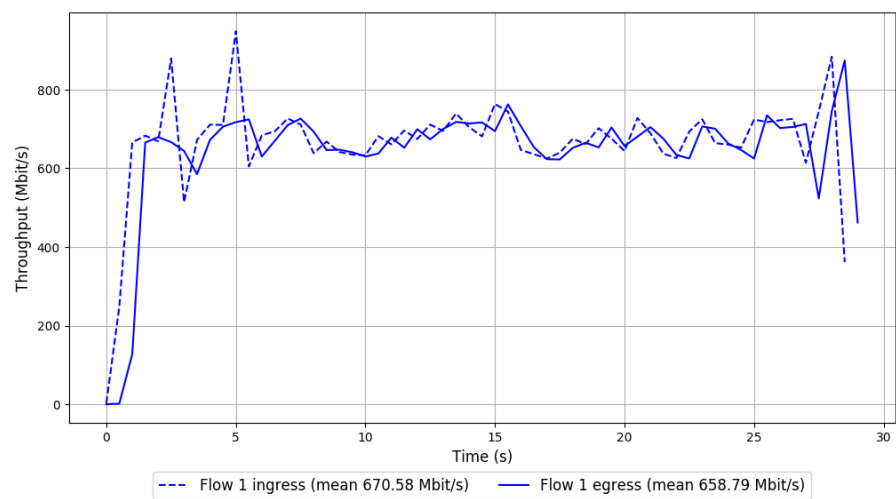
-- Flow 1:

Average throughput: 658.79 Mbit/s

95th percentile per-packet one-way delay: 186.145 ms

Loss rate: 1.76%

Run 5: Report of Indigo-MusesT — Data Link

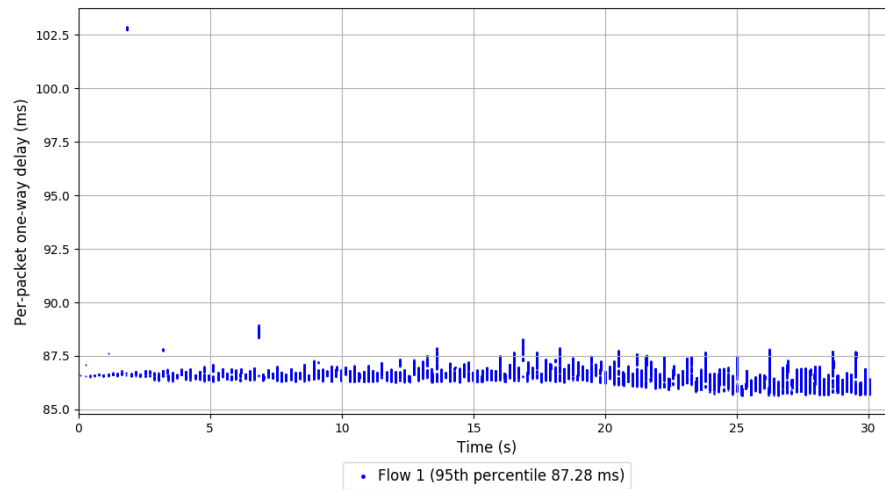
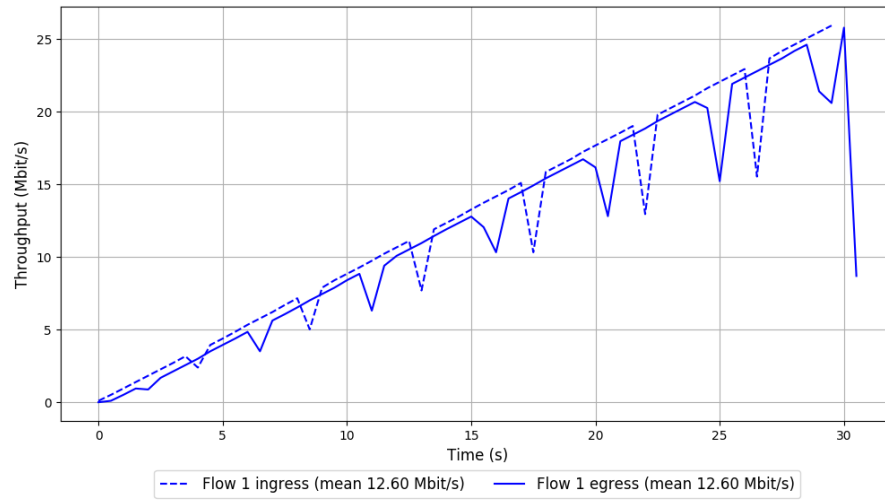


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-02 18:01:51
End at: 2019-01-02 18:02:21
Local clock offset: 10.852 ms
Remote clock offset: 12.065 ms

# Below is generated by plot.py at 2019-01-02 21:56:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 87.280 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 87.280 ms
Loss rate: 0.00%
```

# Run 1: Report of LEDBAT — Data Link

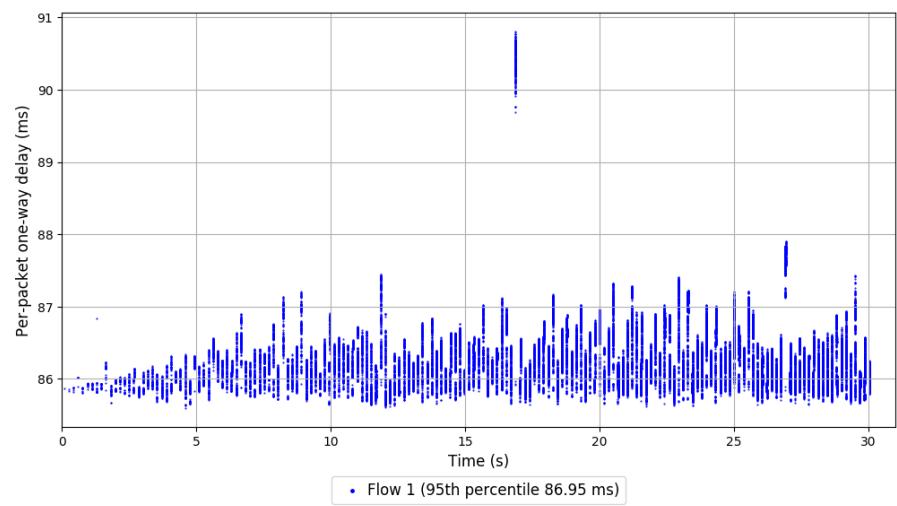
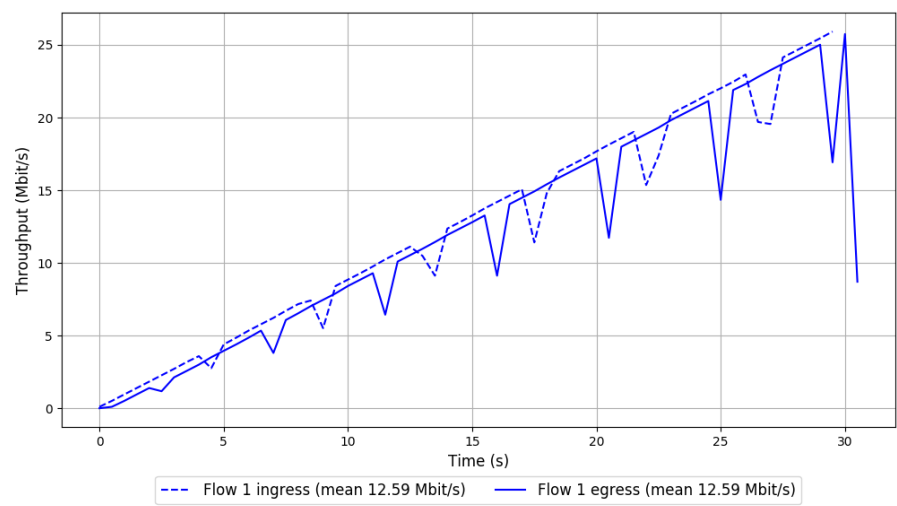


Run 2: Statistics of LEDBAT

Start at: 2019-01-02 18:30:19  
End at: 2019-01-02 18:30:49  
Local clock offset: 24.171 ms  
Remote clock offset: 25.866 ms

# Below is generated by plot.py at 2019-01-02 21:56:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.59 Mbit/s  
95th percentile per-packet one-way delay: 86.954 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 12.59 Mbit/s  
95th percentile per-packet one-way delay: 86.954 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



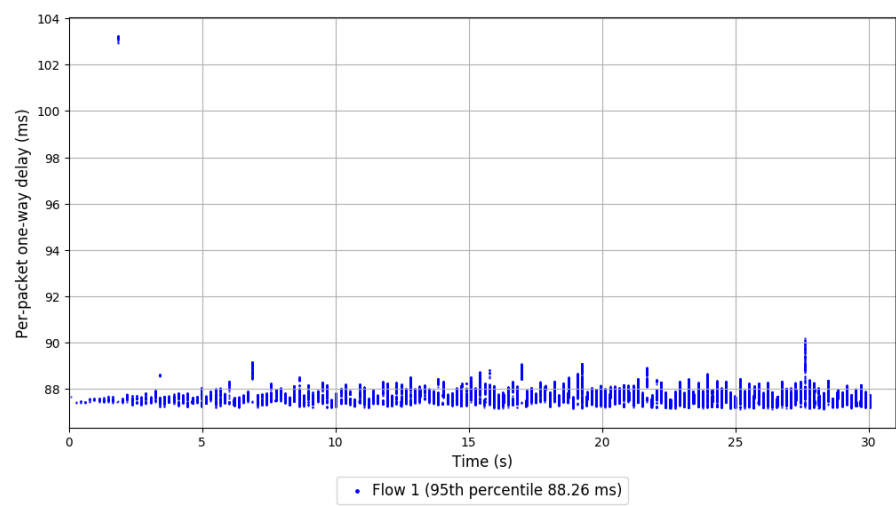
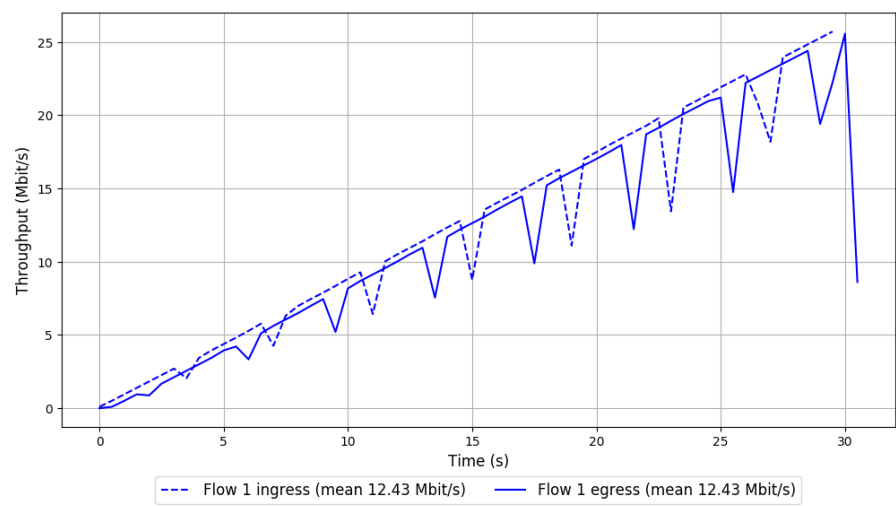


Run 3: Statistics of LEDBAT

Start at: 2019-01-02 18:58:53  
End at: 2019-01-02 18:59:23  
Local clock offset: 37.598 ms  
Remote clock offset: 40.917 ms

# Below is generated by plot.py at 2019-01-02 21:56:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 88.257 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 12.43 Mbit/s  
95th percentile per-packet one-way delay: 88.257 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

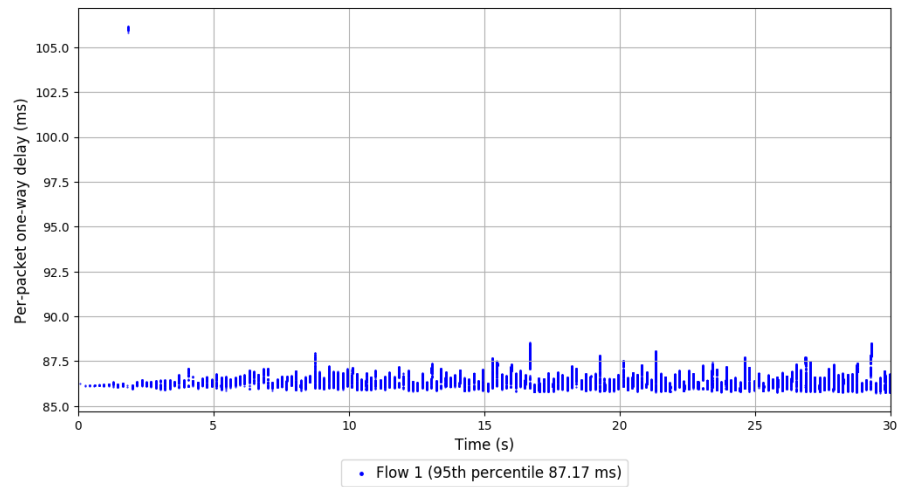
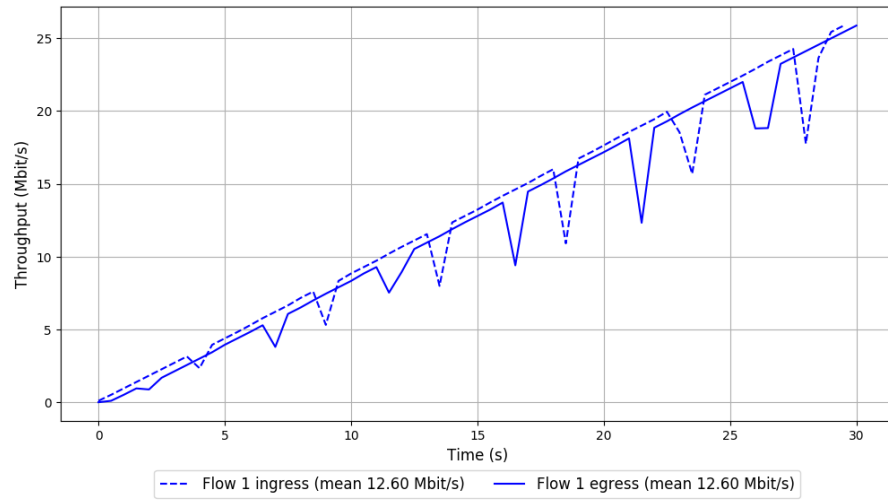


Run 4: Statistics of LEDBAT

Start at: 2019-01-02 19:26:52  
End at: 2019-01-02 19:27:22  
Local clock offset: 9.37 ms  
Remote clock offset: 18.297 ms

# Below is generated by plot.py at 2019-01-02 21:56:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 87.173 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 12.60 Mbit/s  
95th percentile per-packet one-way delay: 87.173 ms  
Loss rate: 0.00%

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



Run 5: Statistics of LEDBAT

Start at: 2019-01-02 19:55:06

End at: 2019-01-02 19:55:36

Local clock offset: 4.017 ms

Remote clock offset: 5.1 ms

# Below is generated by plot.py at 2019-01-02 21:56:40

# Datalink statistics

-- Total of 1 flow:

Average throughput: 12.62 Mbit/s

95th percentile per-packet one-way delay: 87.329 ms

Loss rate: 0.00%

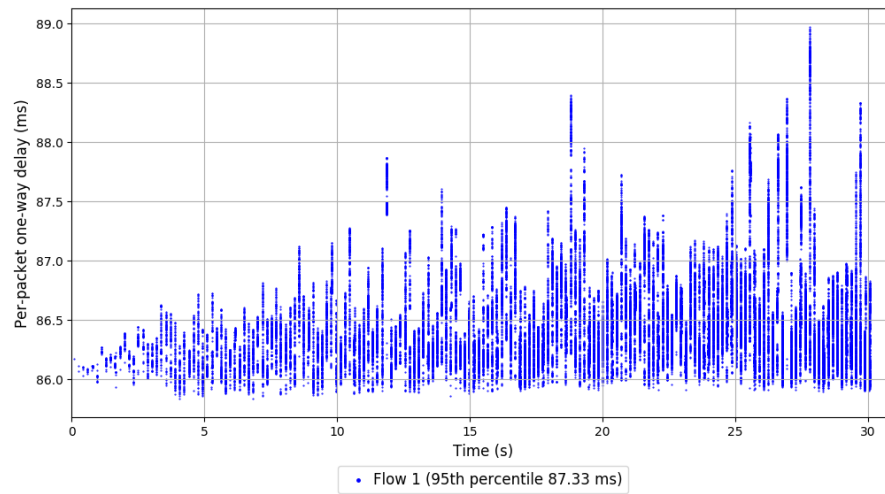
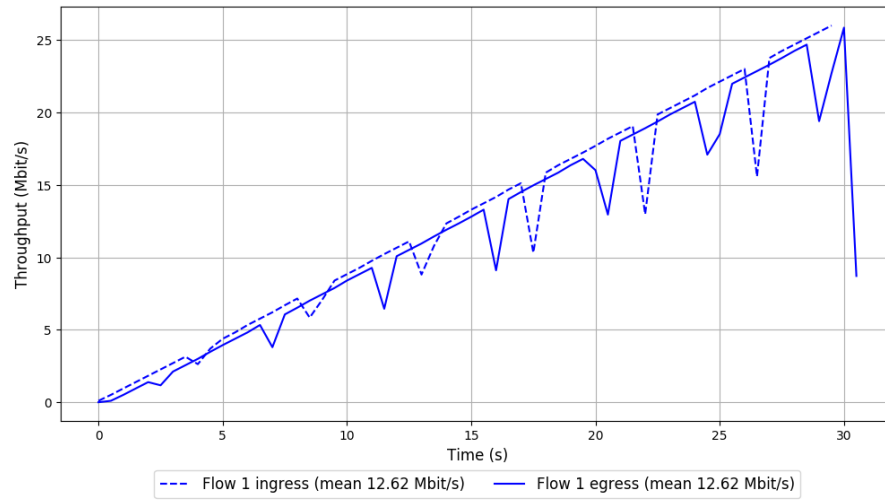
-- Flow 1:

Average throughput: 12.62 Mbit/s

95th percentile per-packet one-way delay: 87.329 ms

Loss rate: 0.00%

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



Run 1: Statistics of PCC-Allegro

Start at: 2019-01-02 18:26:55

End at: 2019-01-02 18:27:25

Local clock offset: 26.309 ms

Remote clock offset: 28.174 ms

# Below is generated by plot.py at 2019-01-02 22:00:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 399.24 Mbit/s

95th percentile per-packet one-way delay: 202.135 ms

Loss rate: 8.18%

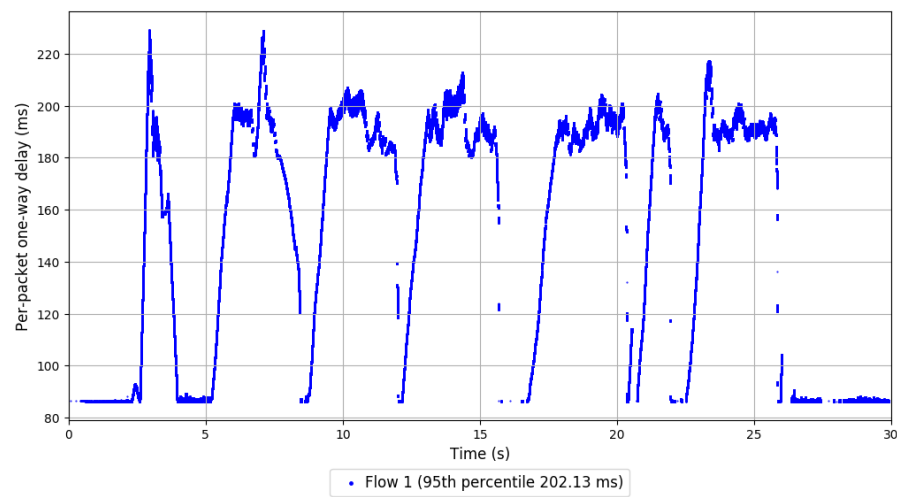
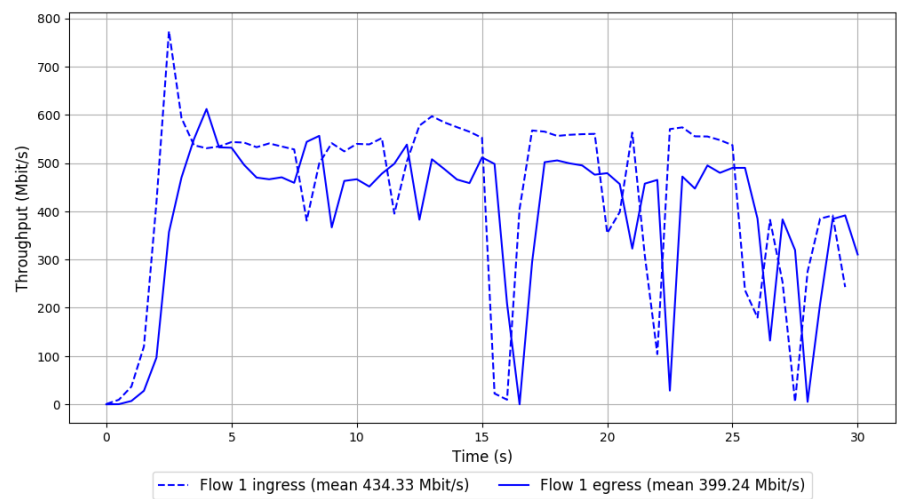
-- Flow 1:

Average throughput: 399.24 Mbit/s

95th percentile per-packet one-way delay: 202.135 ms

Loss rate: 8.18%

Run 1: Report of PCC-Allegro — Data Link



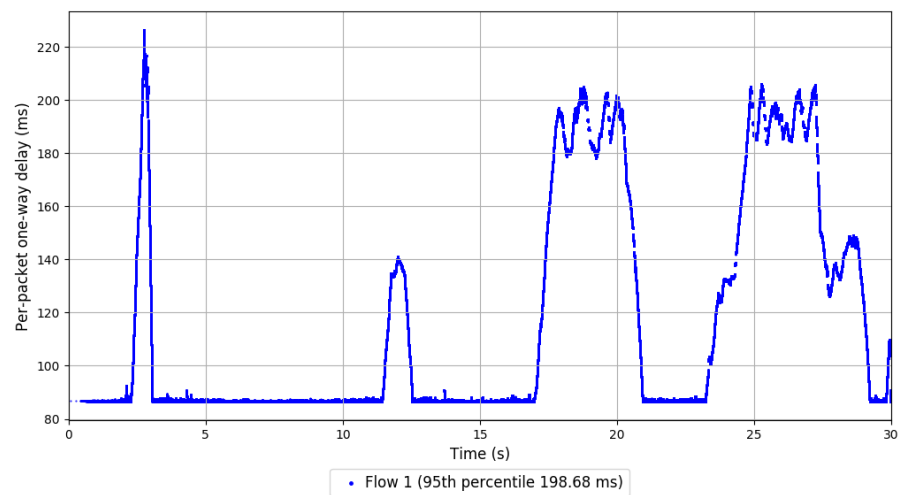
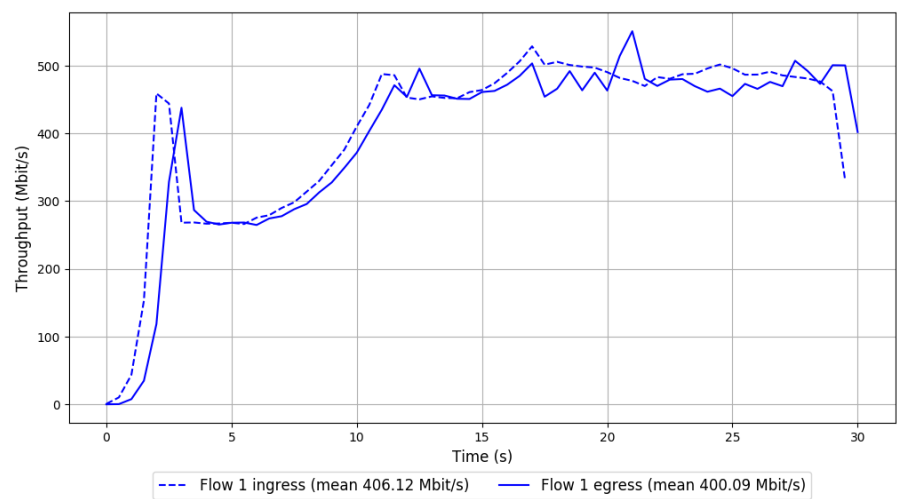


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-02 18:55:29  
End at: 2019-01-02 18:55:59  
Local clock offset: 34.278 ms  
Remote clock offset: 36.914 ms

# Below is generated by plot.py at 2019-01-02 22:00:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 400.09 Mbit/s  
95th percentile per-packet one-way delay: 198.679 ms  
Loss rate: 1.49%  
-- Flow 1:  
Average throughput: 400.09 Mbit/s  
95th percentile per-packet one-way delay: 198.679 ms  
Loss rate: 1.49%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-02 19:23:24

End at: 2019-01-02 19:23:54

Local clock offset: 10.03 ms

Remote clock offset: 17.317 ms

# Below is generated by plot.py at 2019-01-02 22:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 445.56 Mbit/s

95th percentile per-packet one-way delay: 207.454 ms

Loss rate: 10.90%

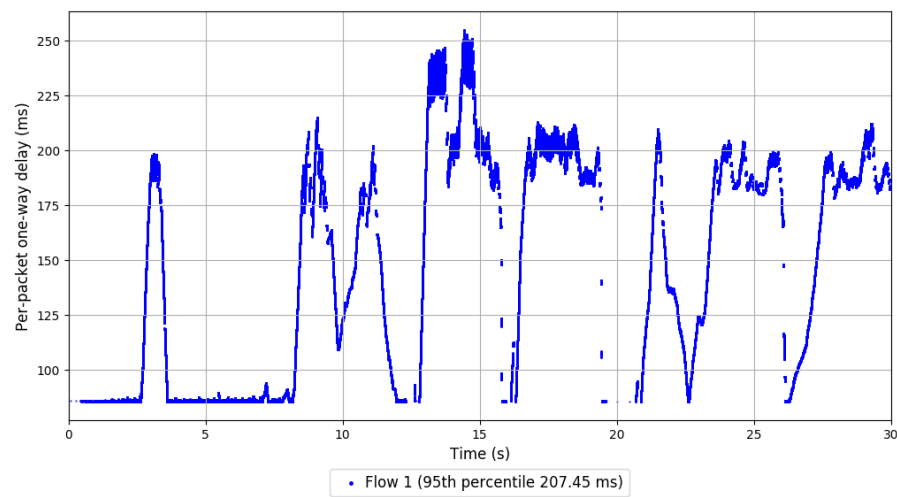
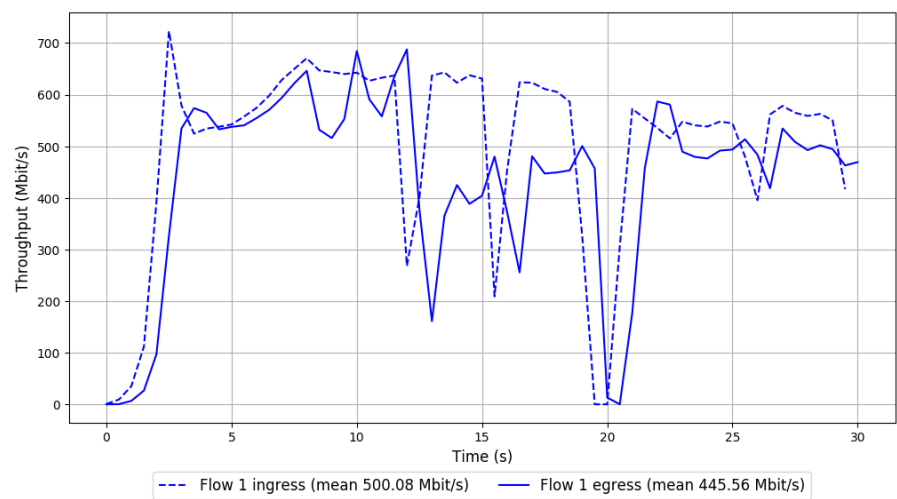
-- Flow 1:

Average throughput: 445.56 Mbit/s

95th percentile per-packet one-way delay: 207.454 ms

Loss rate: 10.90%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-02 19:51:39

End at: 2019-01-02 19:52:09

Local clock offset: 3.741 ms

Remote clock offset: 5.862 ms

# Below is generated by plot.py at 2019-01-02 22:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 393.09 Mbit/s

95th percentile per-packet one-way delay: 217.637 ms

Loss rate: 4.21%

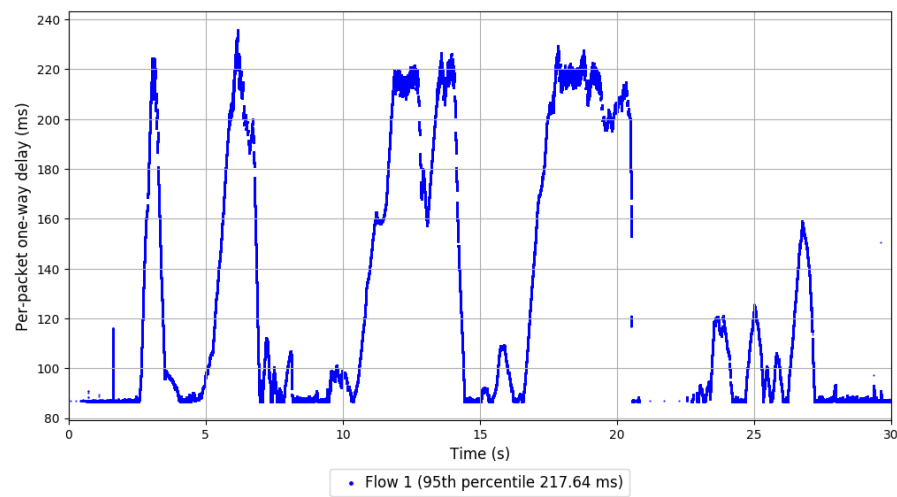
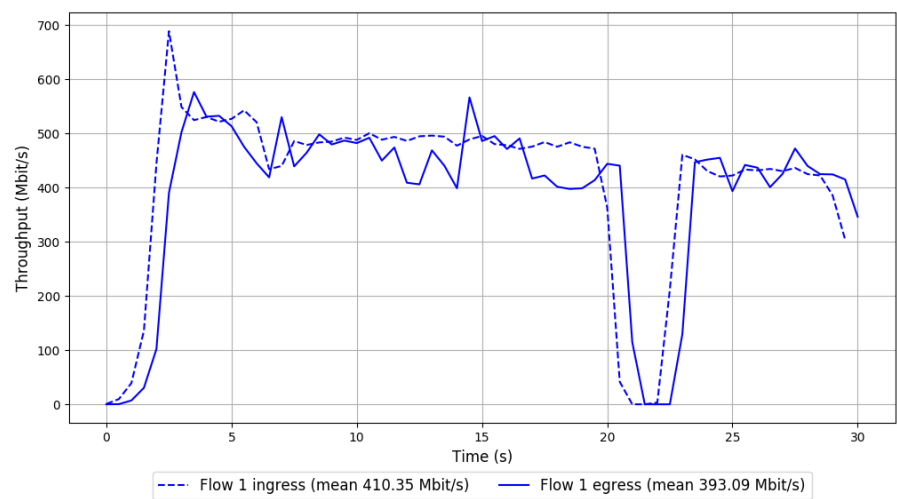
-- Flow 1:

Average throughput: 393.09 Mbit/s

95th percentile per-packet one-way delay: 217.637 ms

Loss rate: 4.21%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-02 20:20:16

End at: 2019-01-02 20:20:46

Local clock offset: 2.074 ms

Remote clock offset: 2.235 ms

# Below is generated by plot.py at 2019-01-02 22:03:33

# Datalink statistics

-- Total of 1 flow:

Average throughput: 378.49 Mbit/s

95th percentile per-packet one-way delay: 168.916 ms

Loss rate: 0.77%

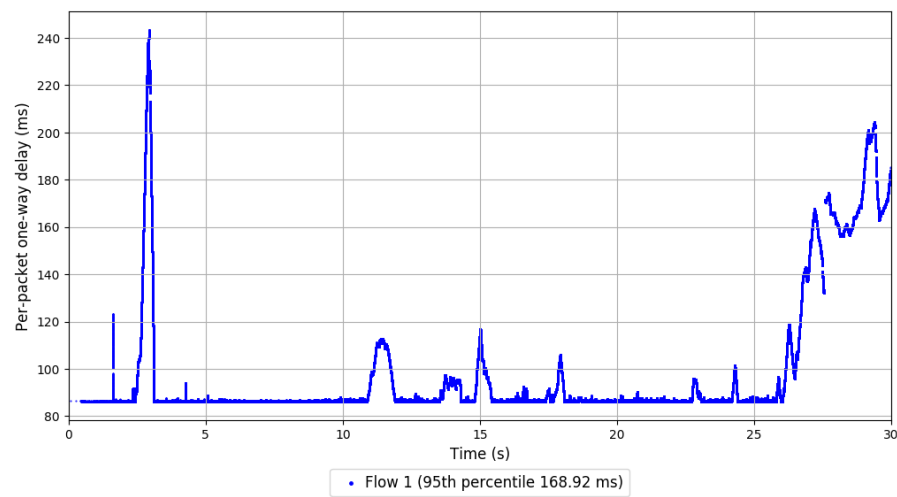
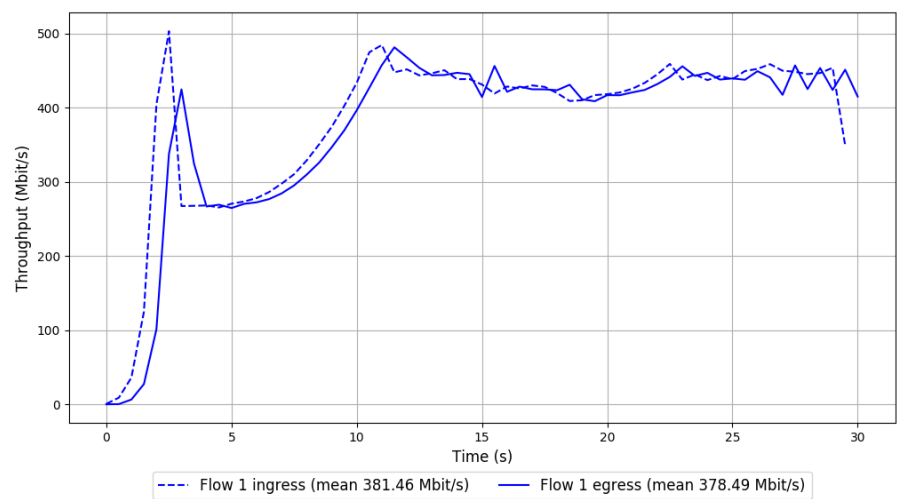
-- Flow 1:

Average throughput: 378.49 Mbit/s

95th percentile per-packet one-way delay: 168.916 ms

Loss rate: 0.77%

Run 5: Report of PCC-Allegro — Data Link



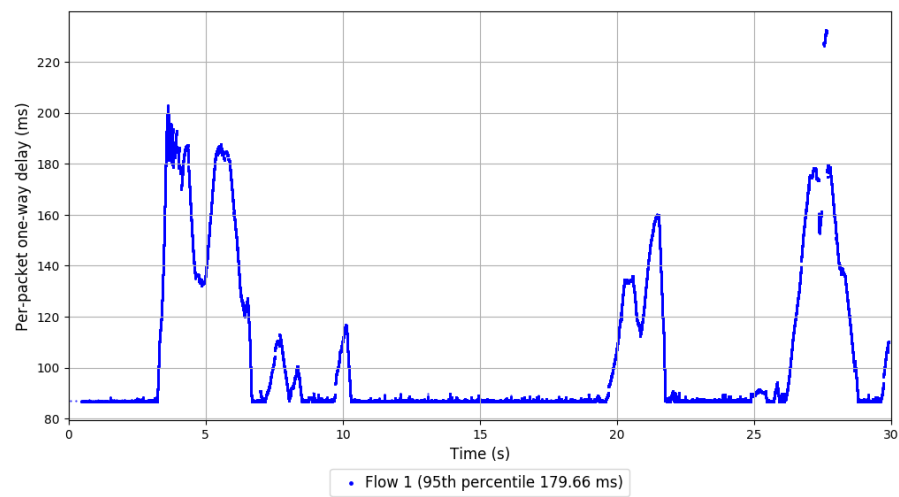
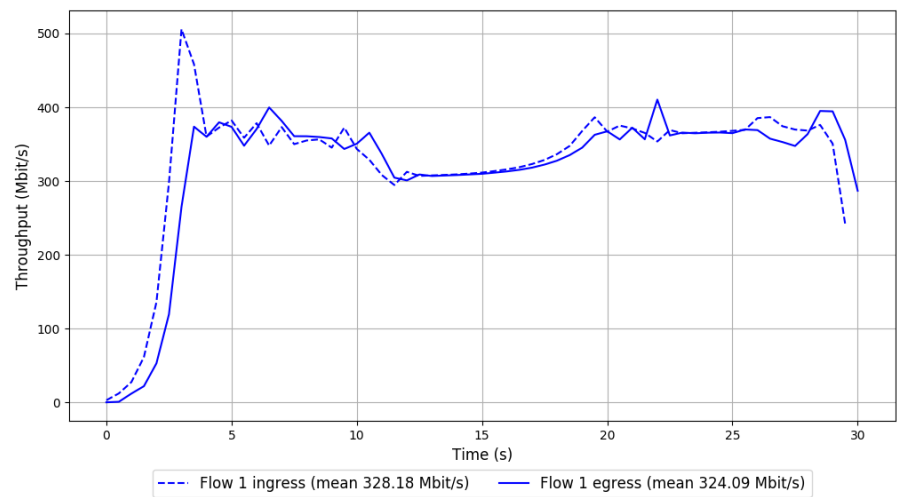


```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-02 18:08:05
End at: 2019-01-02 18:08:35
Local clock offset: 12.436 ms
Remote clock offset: 13.963 ms

# Below is generated by plot.py at 2019-01-02 22:03:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 324.09 Mbit/s
95th percentile per-packet one-way delay: 179.661 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 324.09 Mbit/s
95th percentile per-packet one-way delay: 179.661 ms
Loss rate: 1.25%
```

Run 1: Report of PCC-Expr — Data Link

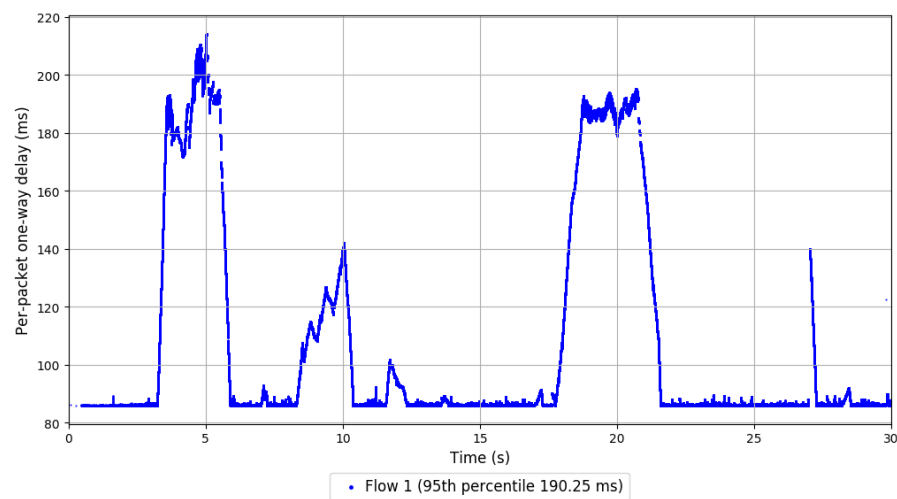
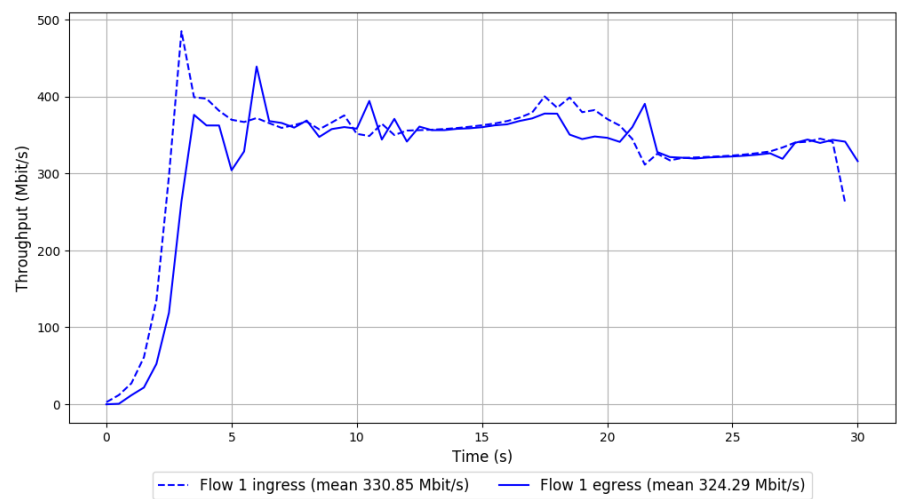


Run 2: Statistics of PCC-Expr

Start at: 2019-01-02 18:36:38  
End at: 2019-01-02 18:37:08  
Local clock offset: 20.514 ms  
Remote clock offset: 22.186 ms

# Below is generated by plot.py at 2019-01-02 22:04:38  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 324.29 Mbit/s  
95th percentile per-packet one-way delay: 190.245 ms  
Loss rate: 2.00%  
-- Flow 1:  
Average throughput: 324.29 Mbit/s  
95th percentile per-packet one-way delay: 190.245 ms  
Loss rate: 2.00%

Run 2: Report of PCC-Expr — Data Link

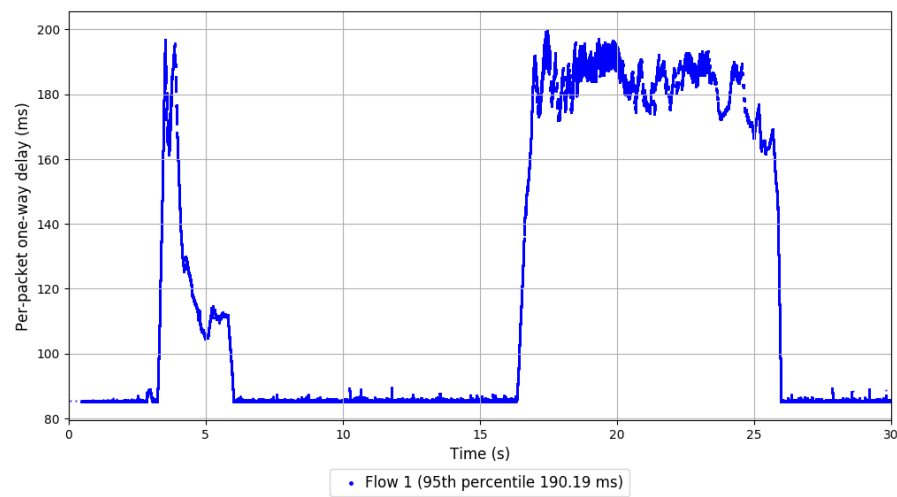
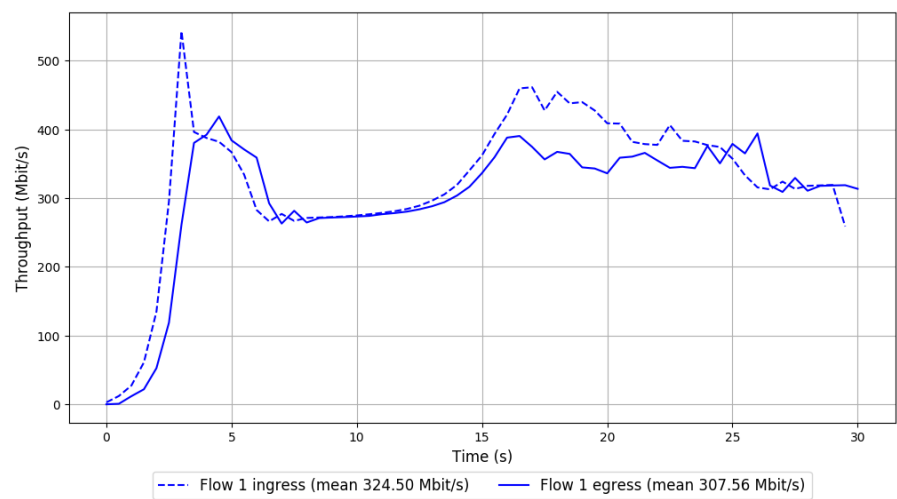


Run 3: Statistics of PCC-Expr

Start at: 2019-01-02 19:04:59  
End at: 2019-01-02 19:05:29  
Local clock offset: 31.37 ms  
Remote clock offset: 33.764 ms

# Below is generated by plot.py at 2019-01-02 22:09:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 307.56 Mbit/s  
95th percentile per-packet one-way delay: 190.189 ms  
Loss rate: 5.22%  
-- Flow 1:  
Average throughput: 307.56 Mbit/s  
95th percentile per-packet one-way delay: 190.189 ms  
Loss rate: 5.22%

Run 3: Report of PCC-Expr — Data Link

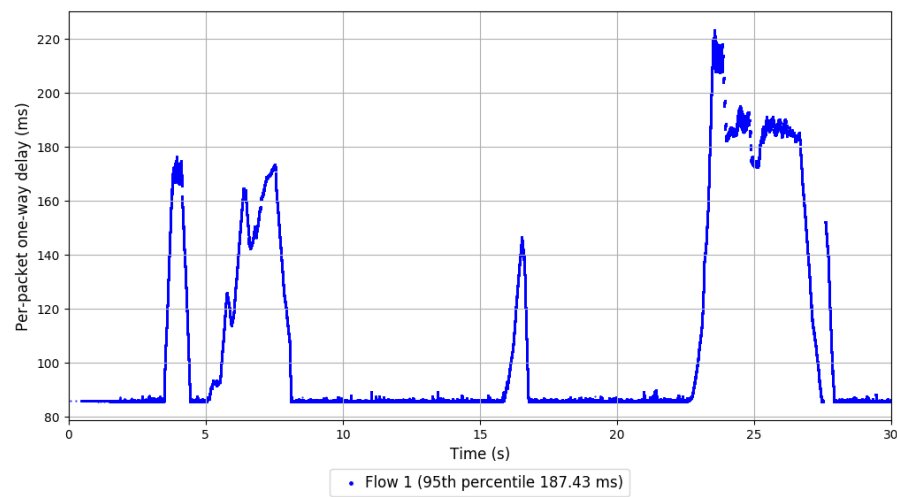
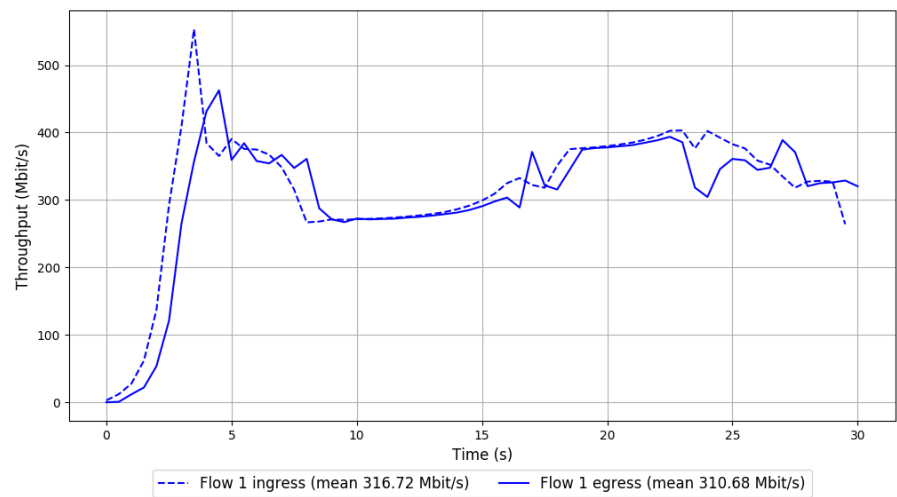


Run 4: Statistics of PCC-Expr

Start at: 2019-01-02 19:33:02  
End at: 2019-01-02 19:33:32  
Local clock offset: 9.98 ms  
Remote clock offset: 20.947 ms

# Below is generated by plot.py at 2019-01-02 22:12:54  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 310.68 Mbit/s  
95th percentile per-packet one-way delay: 187.428 ms  
Loss rate: 1.91%  
-- Flow 1:  
Average throughput: 310.68 Mbit/s  
95th percentile per-packet one-way delay: 187.428 ms  
Loss rate: 1.91%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-01-02 20:01:30

End at: 2019-01-02 20:02:00

Local clock offset: 3.895 ms

Remote clock offset: 4.708 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 312.18 Mbit/s

95th percentile per-packet one-way delay: 170.794 ms

Loss rate: 0.88%

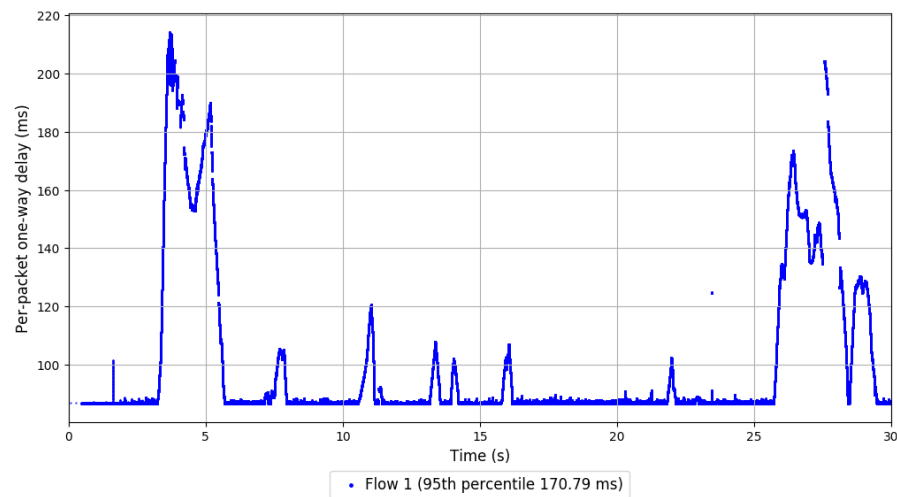
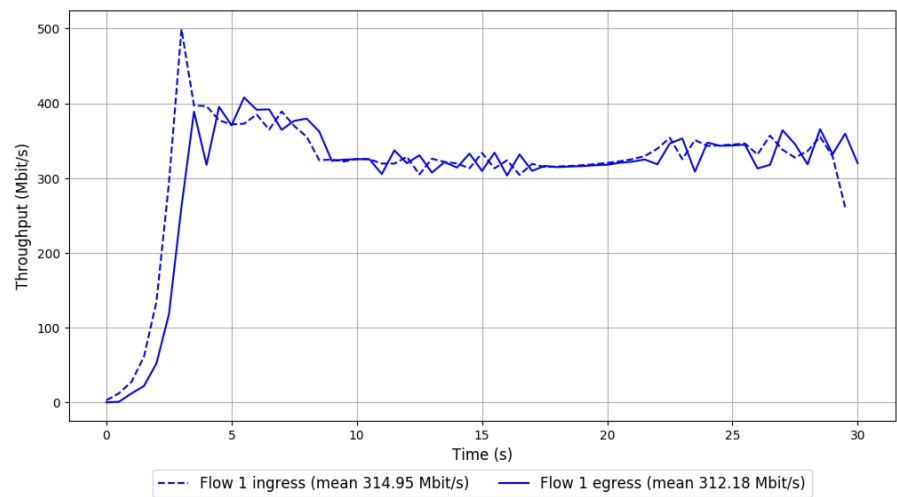
-- Flow 1:

Average throughput: 312.18 Mbit/s

95th percentile per-packet one-way delay: 170.794 ms

Loss rate: 0.88%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-02 18:17:05

End at: 2019-01-02 18:17:35

Local clock offset: 13.81 ms

Remote clock offset: 15.438 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 51.41 Mbit/s

95th percentile per-packet one-way delay: 86.870 ms

Loss rate: 0.00%

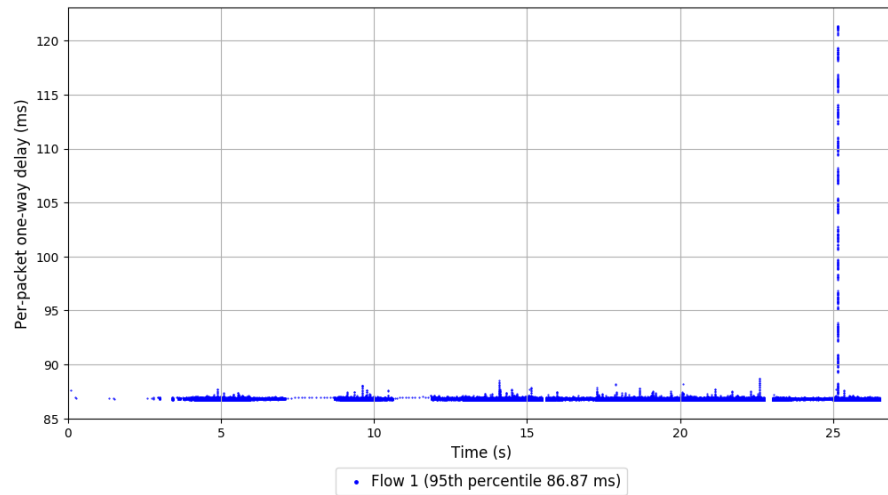
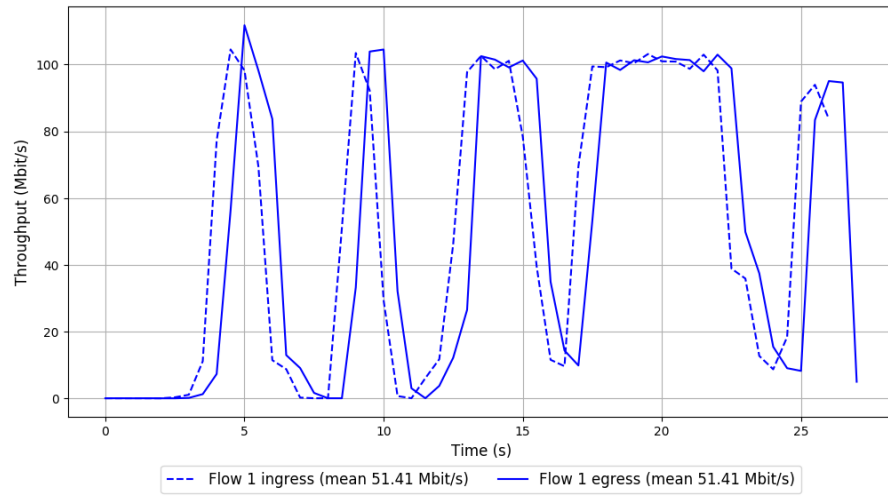
-- Flow 1:

Average throughput: 51.41 Mbit/s

95th percentile per-packet one-way delay: 86.870 ms

Loss rate: 0.00%

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

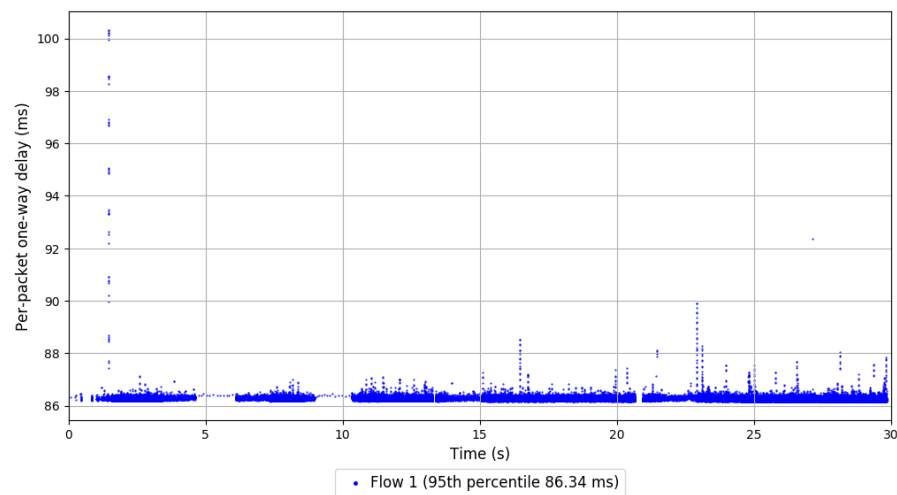
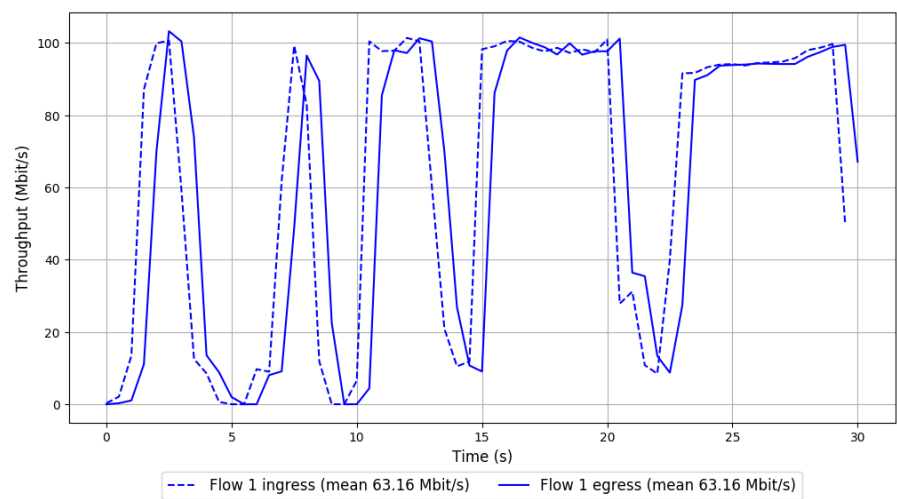


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-02 18:45:38  
End at: 2019-01-02 18:46:08  
Local clock offset: 24.889 ms  
Remote clock offset: 26.584 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.16 Mbit/s  
95th percentile per-packet one-way delay: 86.341 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 63.16 Mbit/s  
95th percentile per-packet one-way delay: 86.341 ms  
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

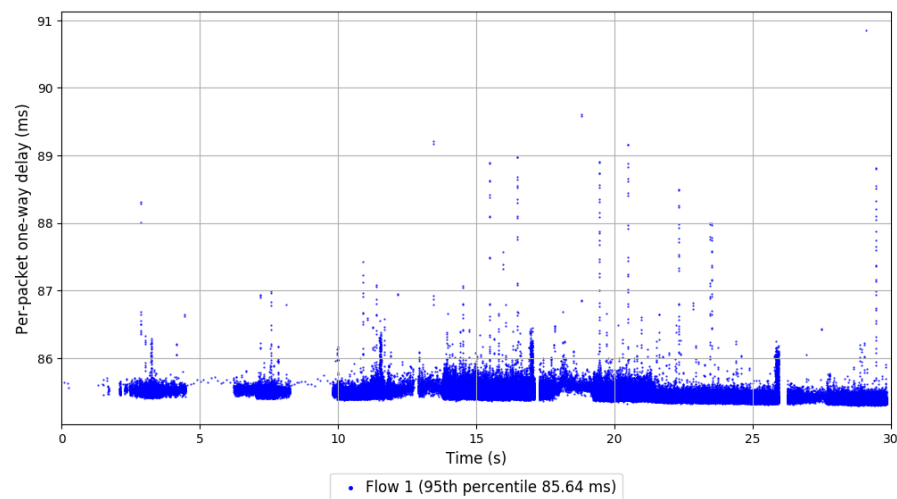
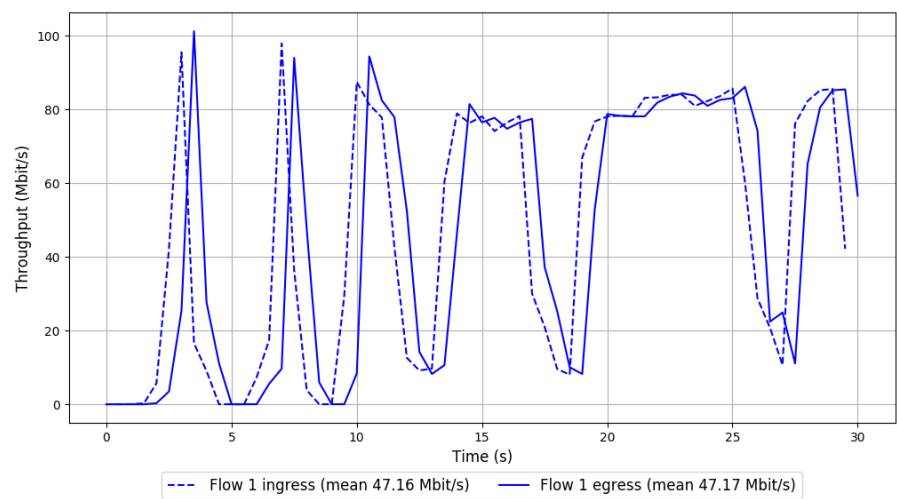


Run 3: Statistics of QUIC Cubic

Start at: 2019-01-02 19:13:43  
End at: 2019-01-02 19:14:13  
Local clock offset: 14.381 ms  
Remote clock offset: 19.016 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 47.17 Mbit/s  
95th percentile per-packet one-way delay: 85.636 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 47.17 Mbit/s  
95th percentile per-packet one-way delay: 85.636 ms  
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link





Run 4: Statistics of QUIC Cubic

Start at: 2019-01-02 19:41:49

End at: 2019-01-02 19:42:19

Local clock offset: 6.398 ms

Remote clock offset: 12.726 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 58.18 Mbit/s

95th percentile per-packet one-way delay: 86.259 ms

Loss rate: 0.00%

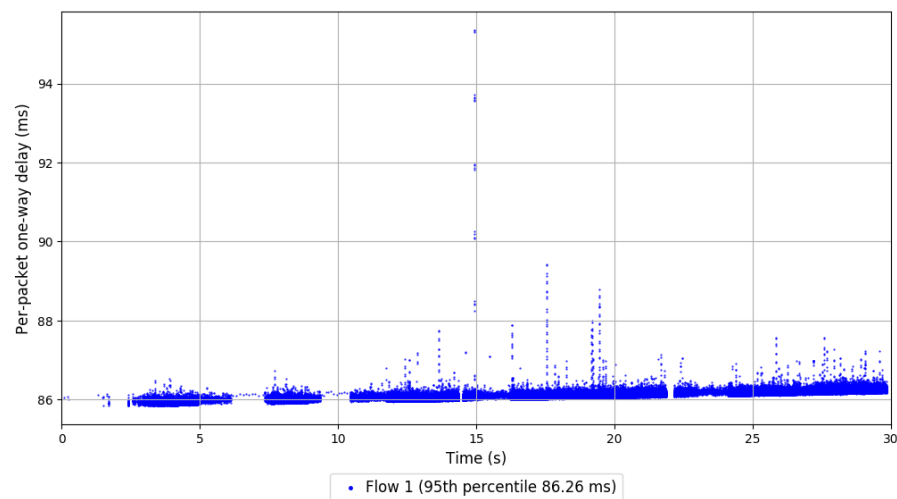
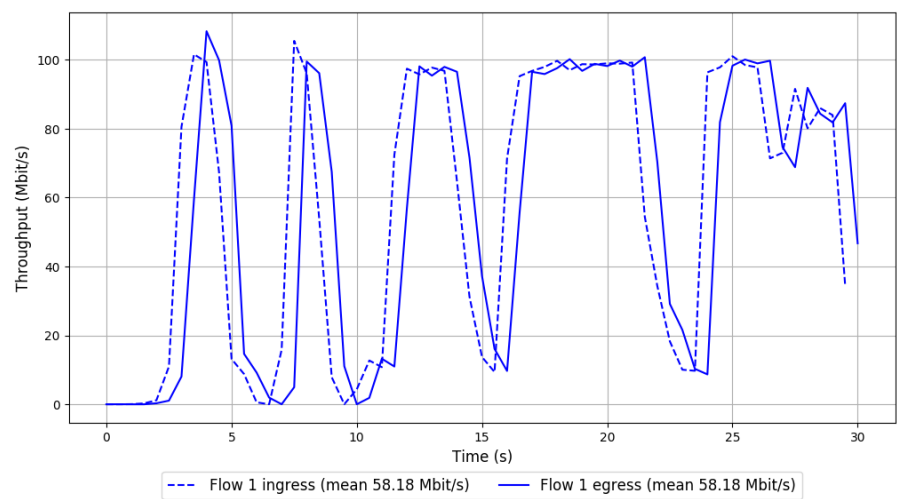
-- Flow 1:

Average throughput: 58.18 Mbit/s

95th percentile per-packet one-way delay: 86.259 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-02 20:10:31

End at: 2019-01-02 20:11:01

Local clock offset: 4.772 ms

Remote clock offset: 5.139 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 58.85 Mbit/s

95th percentile per-packet one-way delay: 86.423 ms

Loss rate: 0.00%

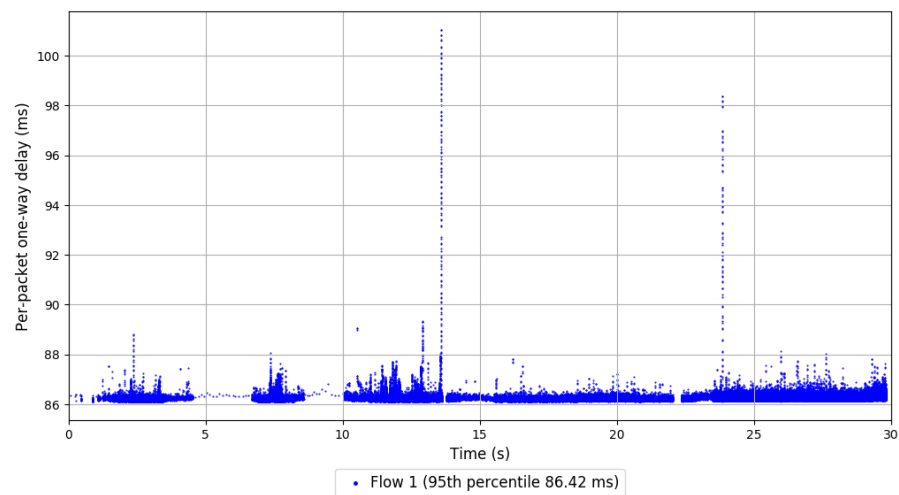
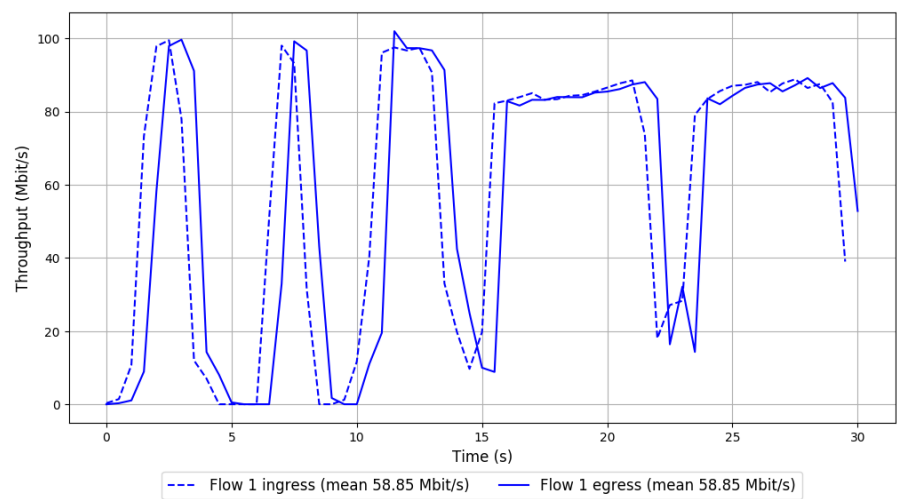
-- Flow 1:

Average throughput: 58.85 Mbit/s

95th percentile per-packet one-way delay: 86.423 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

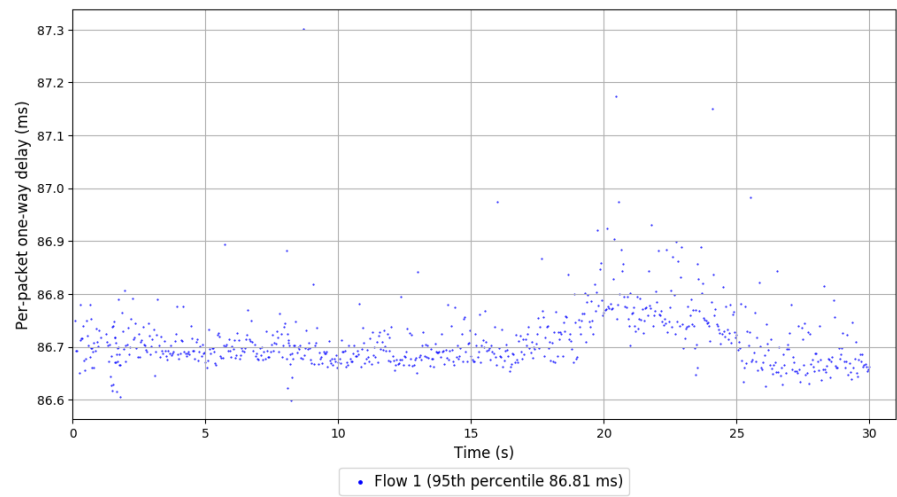
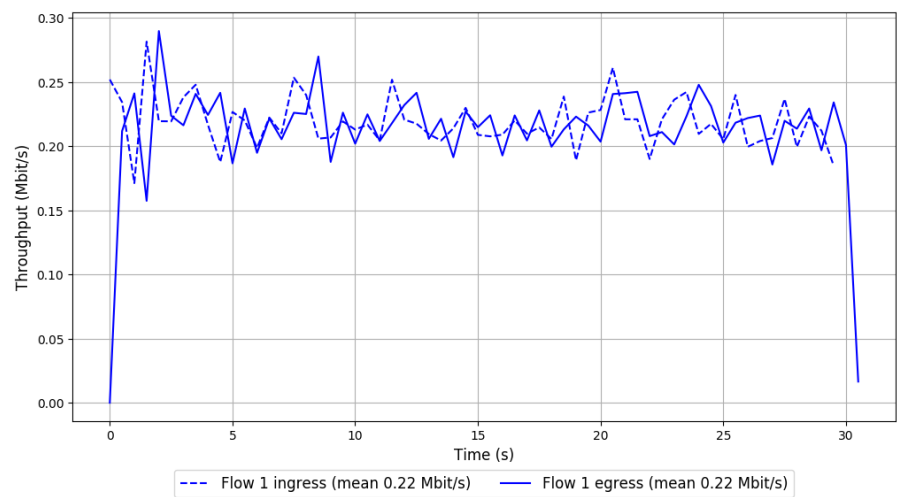


Run 1: Statistics of SCReAM

Start at: 2019-01-02 18:19:26  
End at: 2019-01-02 18:19:56  
Local clock offset: 16.203 ms  
Remote clock offset: 17.531 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.814 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.814 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

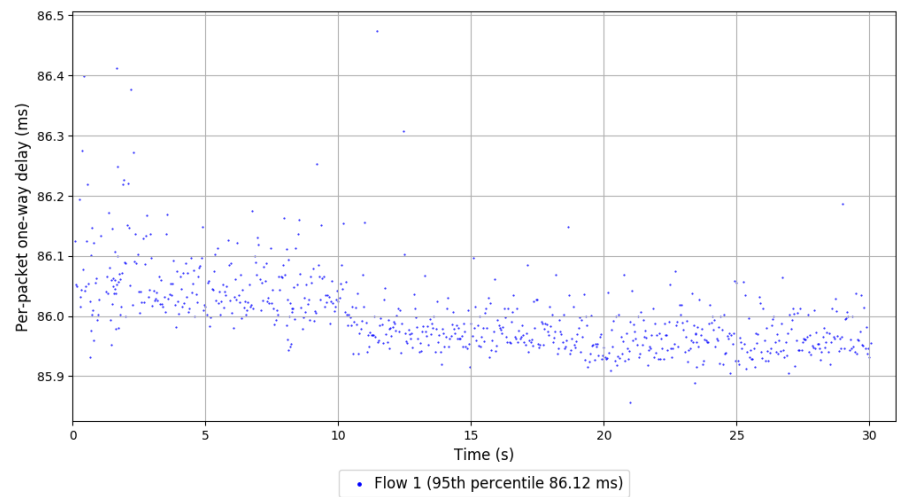
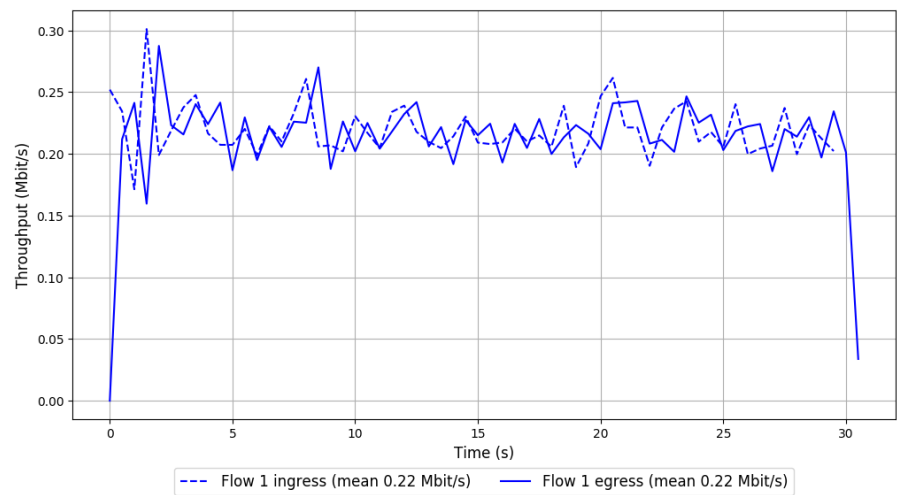


Run 2: Statistics of SCReAM

Start at: 2019-01-02 18:47:59  
End at: 2019-01-02 18:48:29  
Local clock offset: 26.972 ms  
Remote clock offset: 28.833 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.125 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.125 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



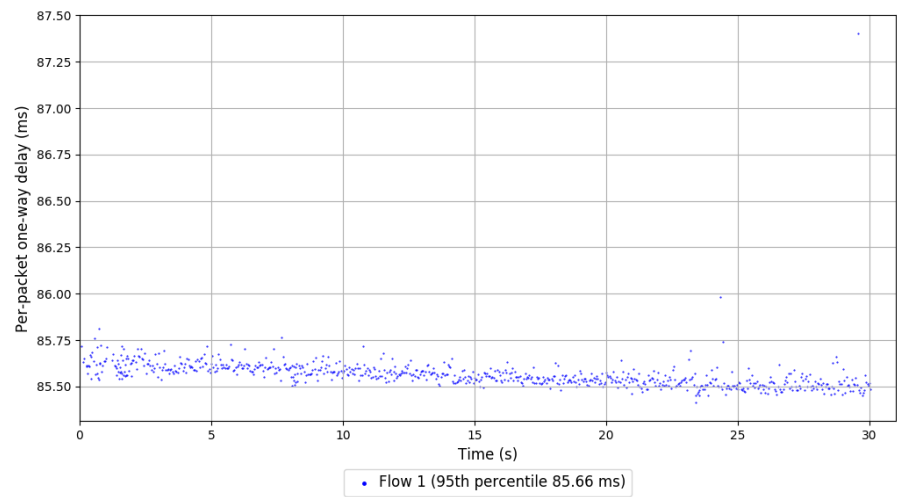
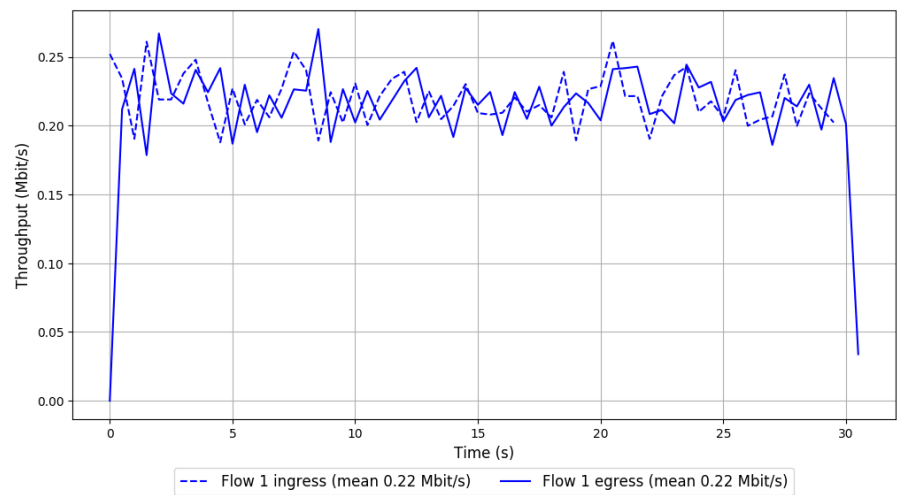


Run 3: Statistics of SCReAM

Start at: 2019-01-02 19:16:03  
End at: 2019-01-02 19:16:33  
Local clock offset: 12.443 ms  
Remote clock offset: 17.679 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 85.659 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 85.659 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

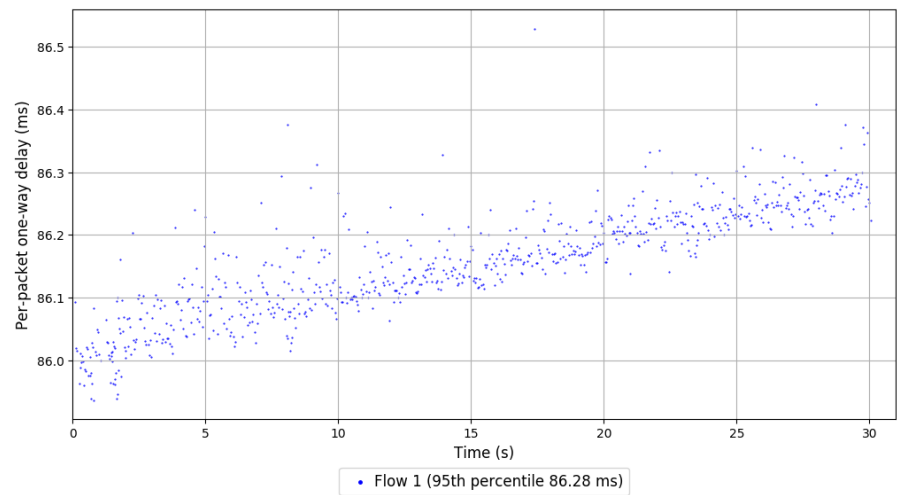
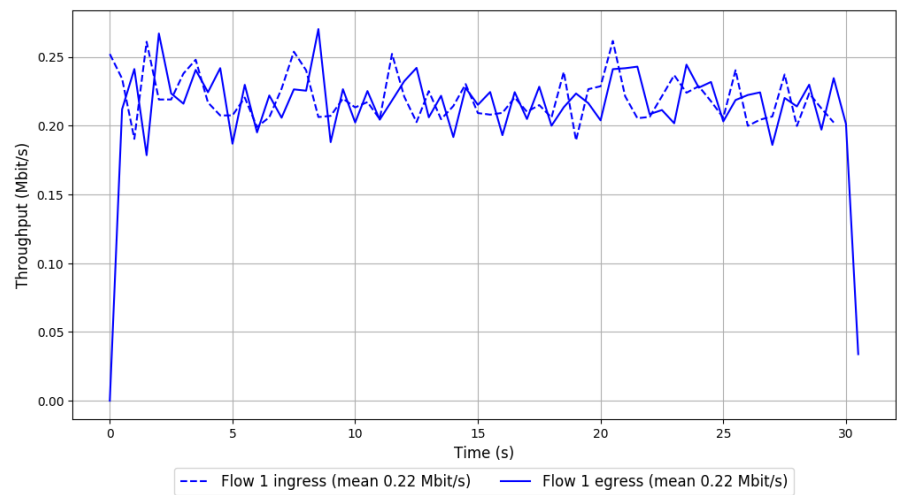


Run 4: Statistics of SCReAM

Start at: 2019-01-02 19:44:11  
End at: 2019-01-02 19:44:41  
Local clock offset: 5.271 ms  
Remote clock offset: 10.083 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.284 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 86.284 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2019-01-02 20:12:52

End at: 2019-01-02 20:13:22

Local clock offset: 3.357 ms

Remote clock offset: 4.065 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 86.493 ms

Loss rate: 0.00%

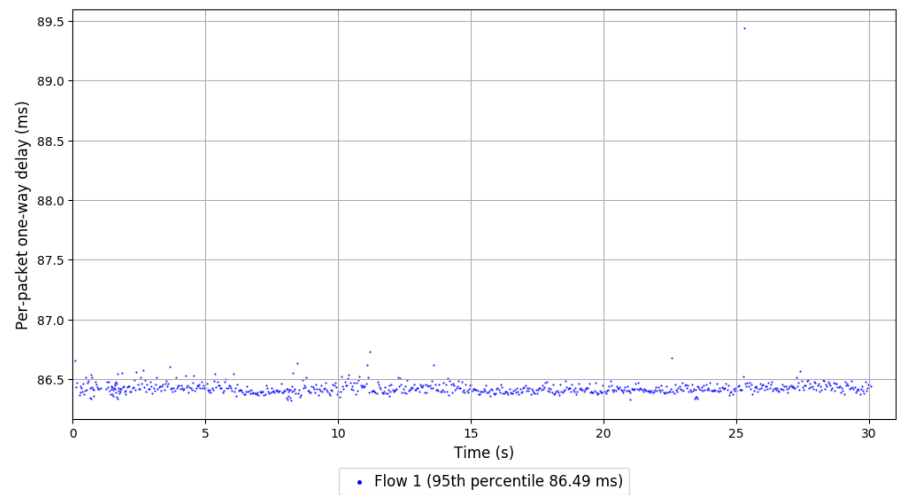
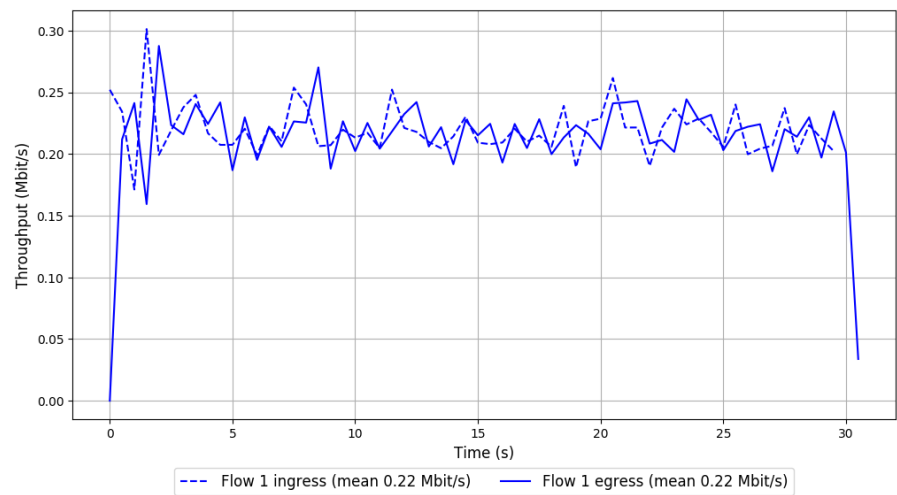
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 86.493 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

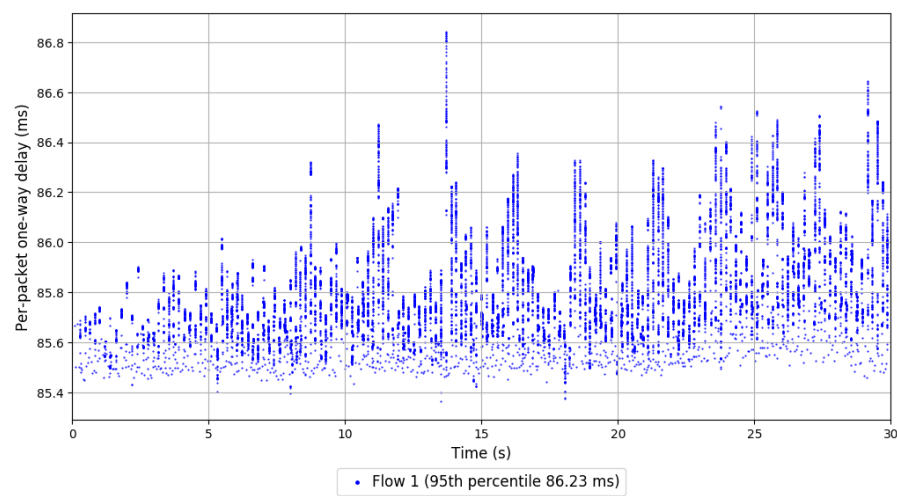
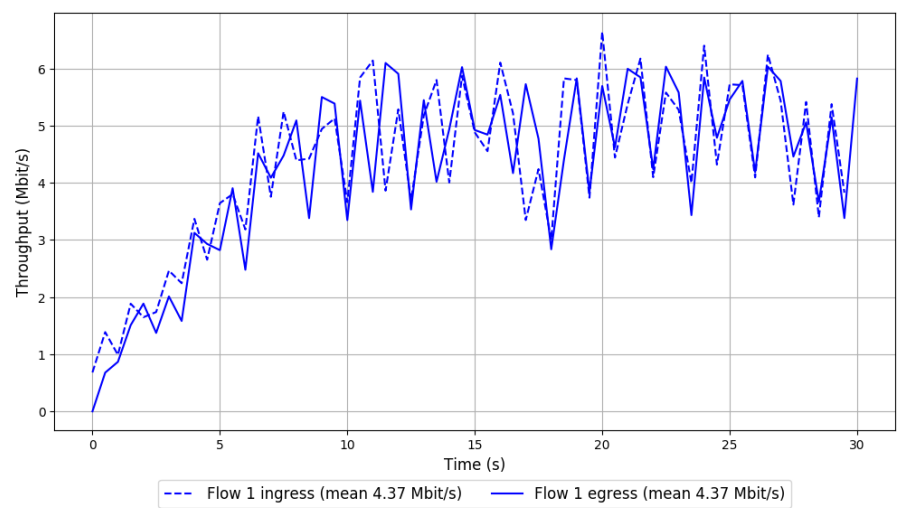


Run 1: Statistics of Sprout

Start at: 2019-01-02 18:14:16  
End at: 2019-01-02 18:14:46  
Local clock offset: 14.521 ms  
Remote clock offset: 15.012 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.37 Mbit/s  
95th percentile per-packet one-way delay: 86.232 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.37 Mbit/s  
95th percentile per-packet one-way delay: 86.232 ms  
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



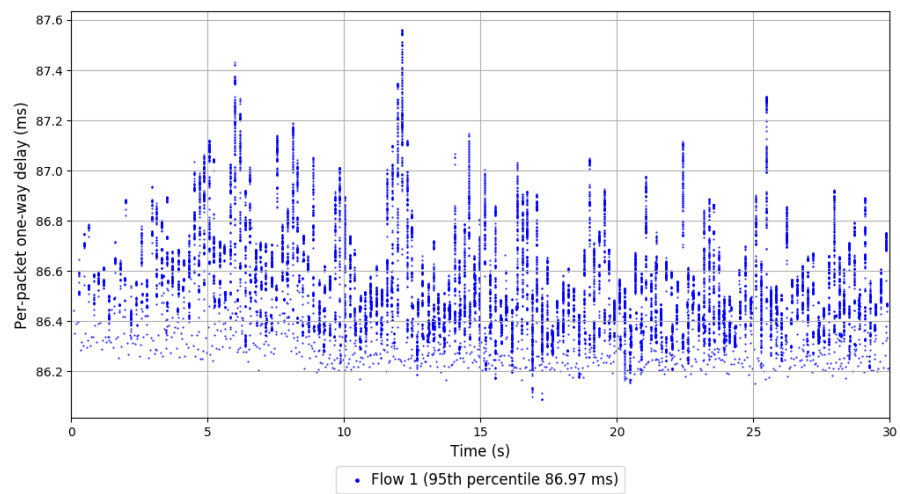
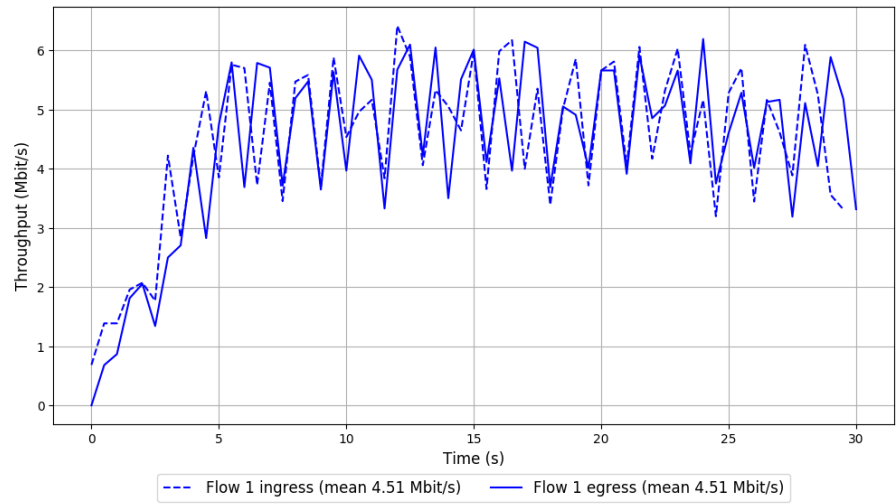


Run 2: Statistics of Sprout

Start at: 2019-01-02 18:42:49  
End at: 2019-01-02 18:43:19  
Local clock offset: 22.613 ms  
Remote clock offset: 24.493 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.51 Mbit/s  
95th percentile per-packet one-way delay: 86.973 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.51 Mbit/s  
95th percentile per-packet one-way delay: 86.973 ms  
Loss rate: 0.00%

## Run 2: Report of Sprout — Data Link

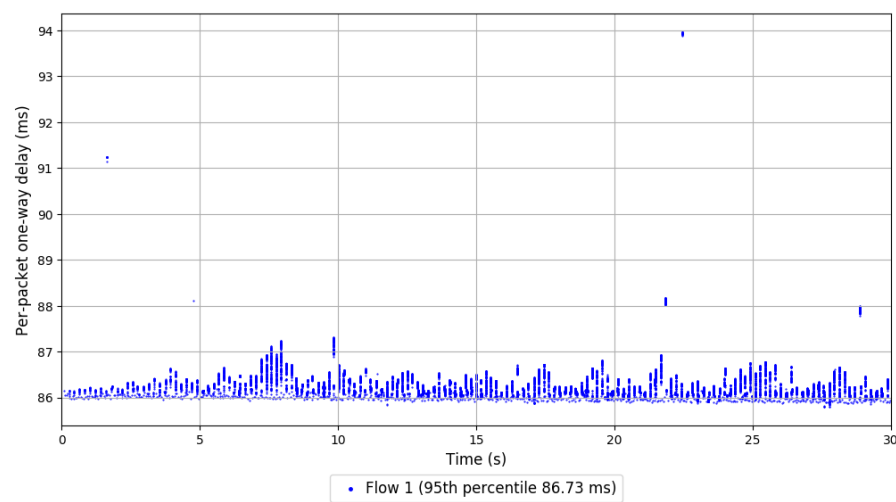
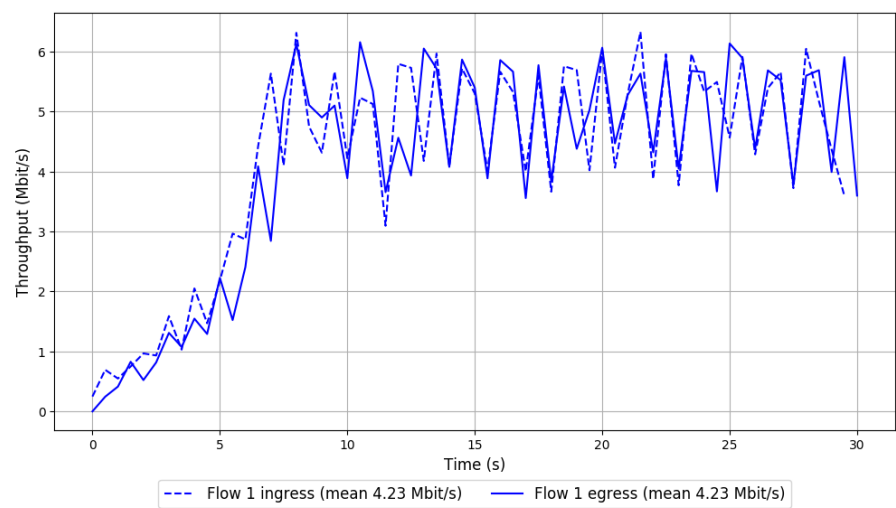


Run 3: Statistics of Sprout

Start at: 2019-01-02 19:10:57  
End at: 2019-01-02 19:11:27  
Local clock offset: 17.098 ms  
Remote clock offset: 21.502 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.23 Mbit/s  
95th percentile per-packet one-way delay: 86.728 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.23 Mbit/s  
95th percentile per-packet one-way delay: 86.728 ms  
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

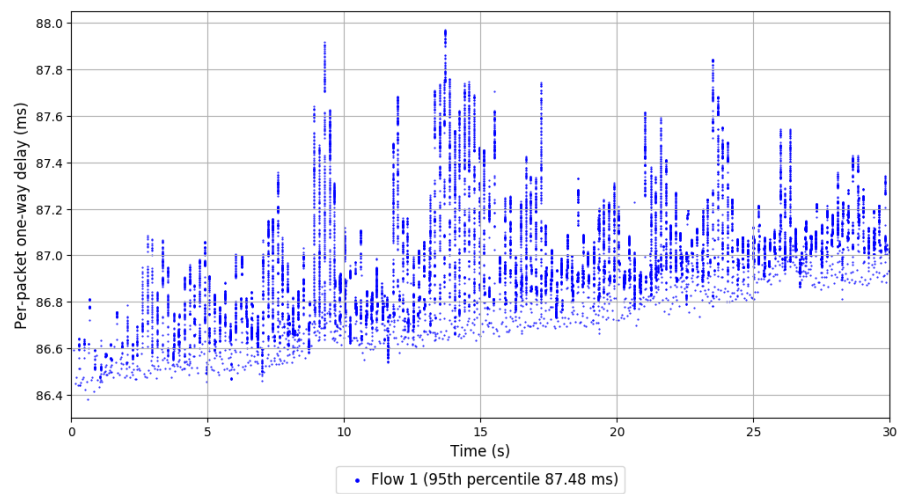
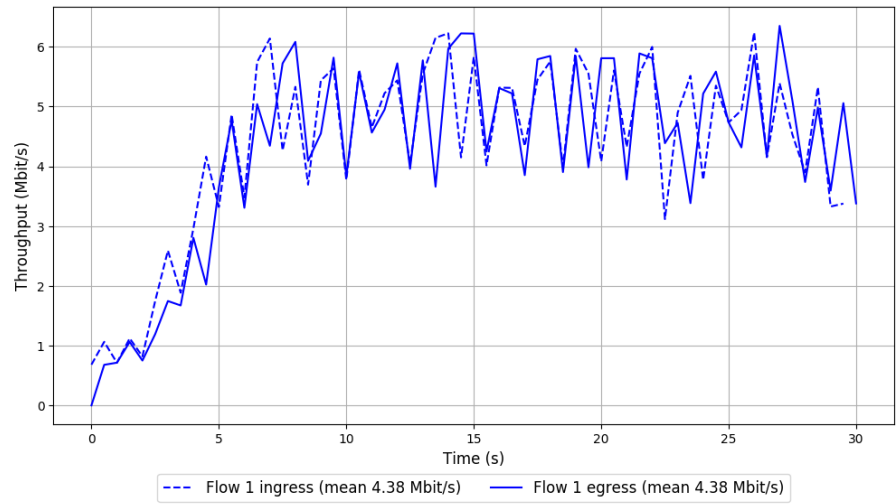


Run 4: Statistics of Sprout

Start at: 2019-01-02 19:38:59  
End at: 2019-01-02 19:39:29  
Local clock offset: 7.815 ms  
Remote clock offset: 16.938 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.38 Mbit/s  
95th percentile per-packet one-way delay: 87.483 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.38 Mbit/s  
95th percentile per-packet one-way delay: 87.483 ms  
Loss rate: 0.00%

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



Run 5: Statistics of Sprout

Start at: 2019-01-02 20:07:43

End at: 2019-01-02 20:08:13

Local clock offset: 4.412 ms

Remote clock offset: 4.959 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.54 Mbit/s

95th percentile per-packet one-way delay: 87.617 ms

Loss rate: 0.00%

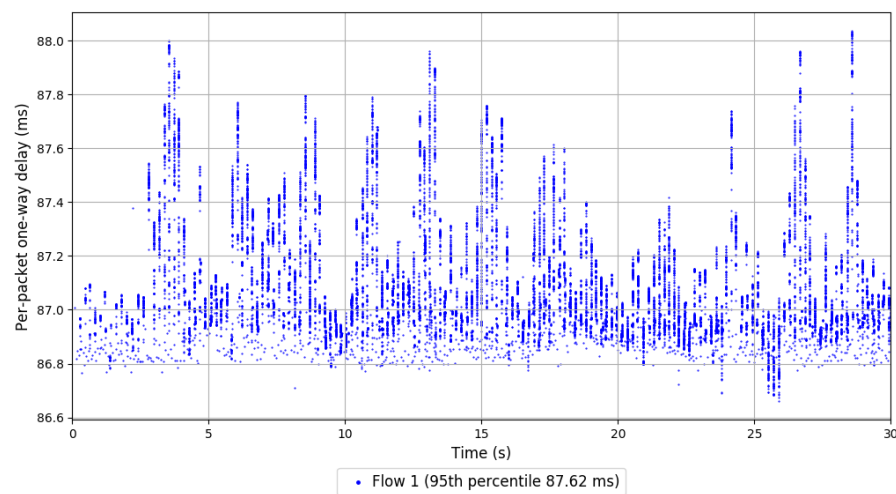
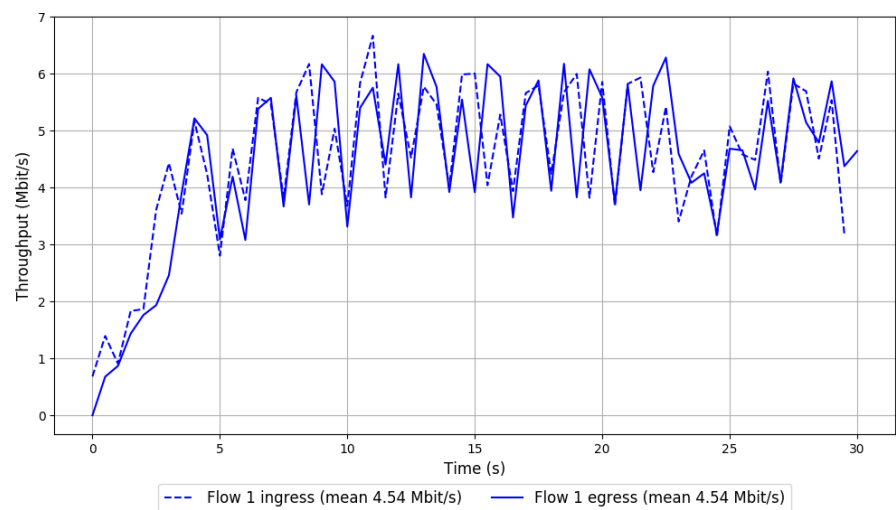
-- Flow 1:

Average throughput: 4.54 Mbit/s

95th percentile per-packet one-way delay: 87.617 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



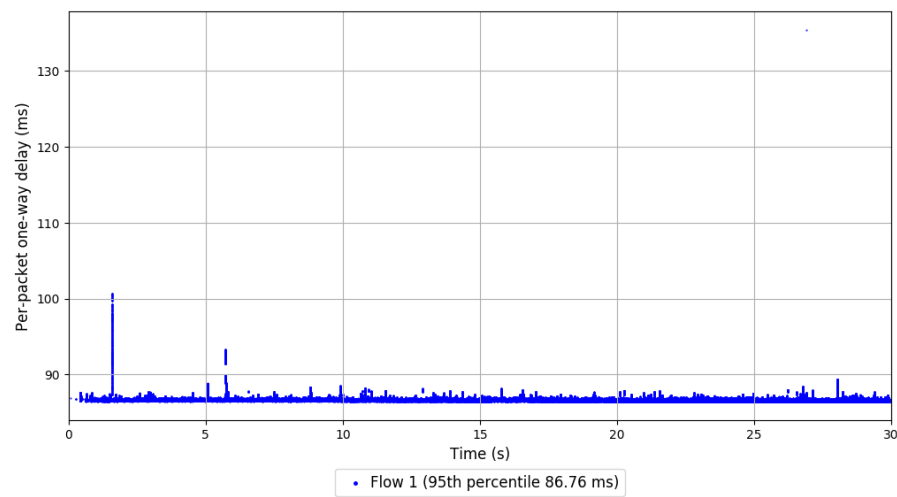
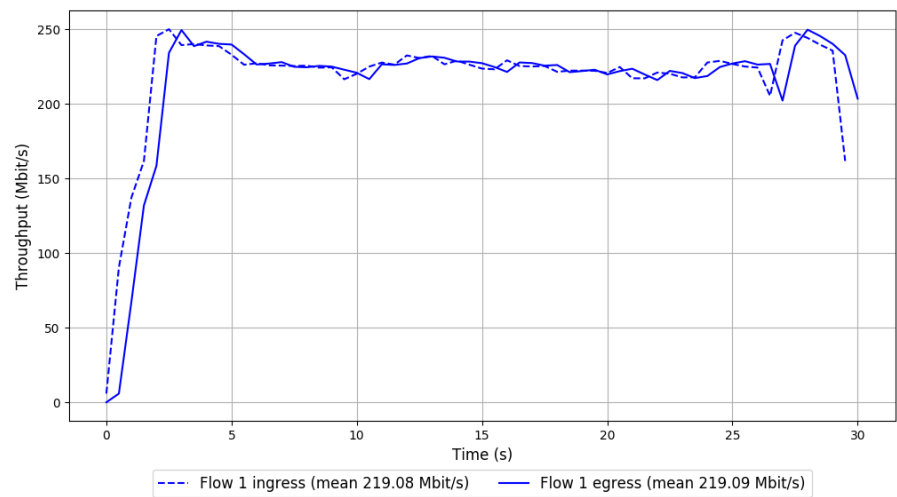


Run 1: Statistics of TaoVA-100x

Start at: 2019-01-02 18:09:45  
End at: 2019-01-02 18:10:15  
Local clock offset: 15.965 ms  
Remote clock offset: 17.095 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 219.09 Mbit/s  
95th percentile per-packet one-way delay: 86.762 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 219.09 Mbit/s  
95th percentile per-packet one-way delay: 86.762 ms  
Loss rate: 0.00%

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

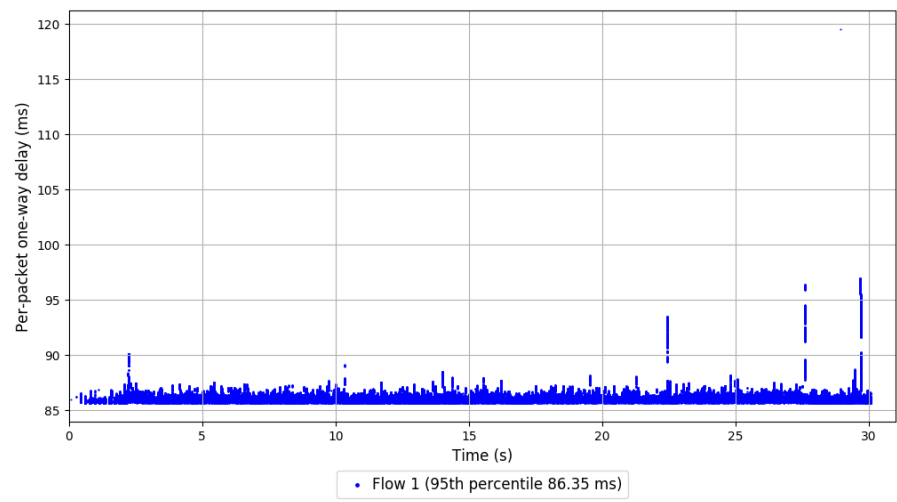
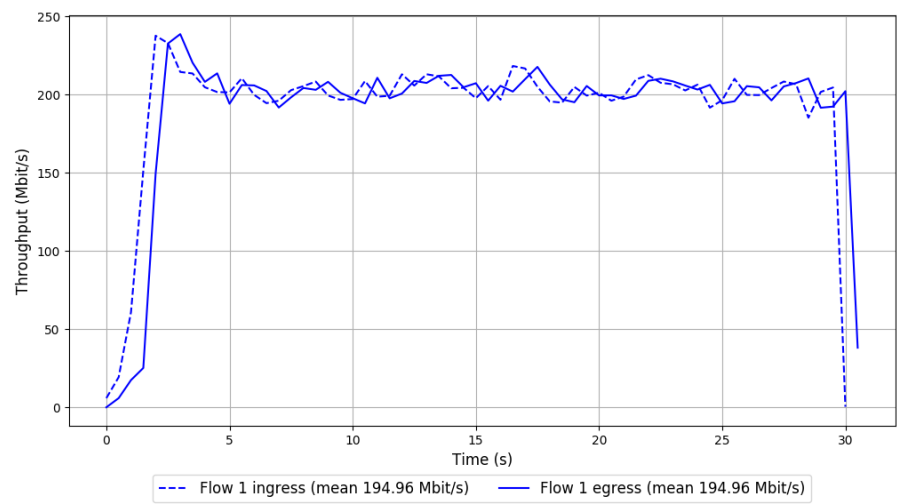


Run 2: Statistics of TaoVA-100x

Start at: 2019-01-02 18:38:17  
End at: 2019-01-02 18:38:47  
Local clock offset: 21.148 ms  
Remote clock offset: 22.372 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 194.96 Mbit/s  
95th percentile per-packet one-way delay: 86.348 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 194.96 Mbit/s  
95th percentile per-packet one-way delay: 86.348 ms  
Loss rate: 0.00%

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

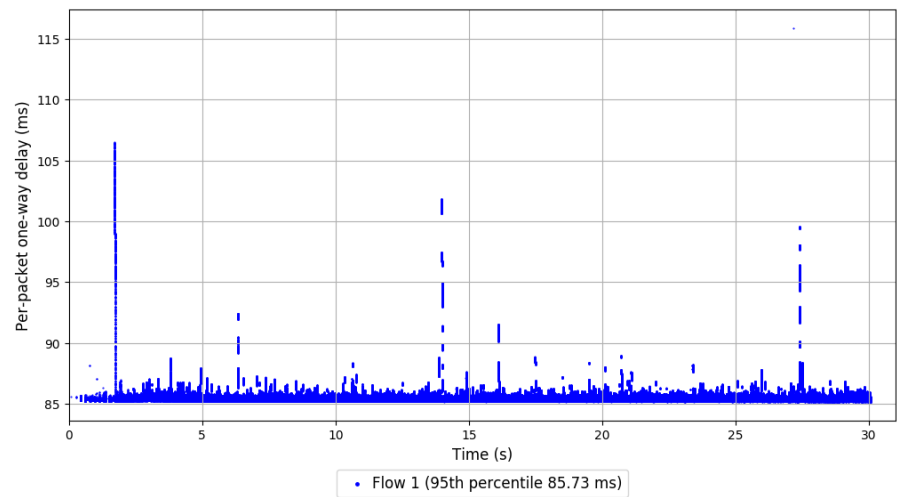
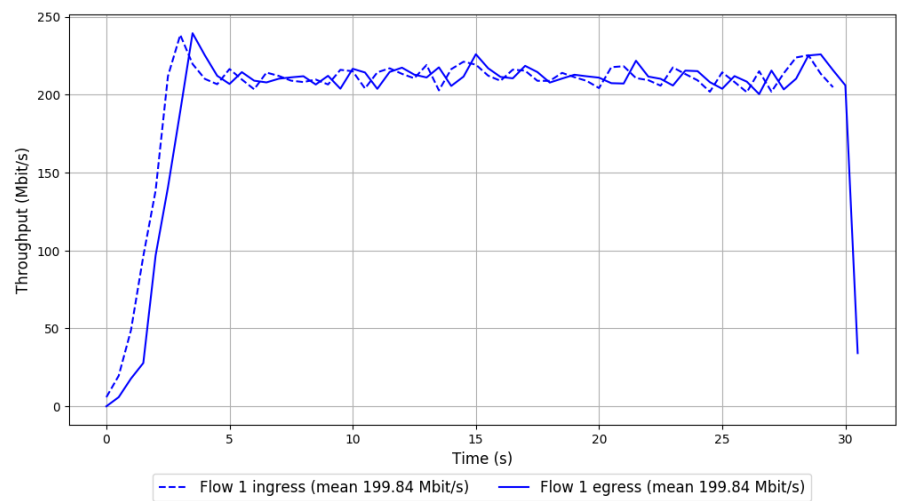


Run 3: Statistics of TaoVA-100x

Start at: 2019-01-02 19:06:37  
End at: 2019-01-02 19:07:07  
Local clock offset: 26.721 ms  
Remote clock offset: 29.473 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 199.84 Mbit/s  
95th percentile per-packet one-way delay: 85.733 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 199.84 Mbit/s  
95th percentile per-packet one-way delay: 85.733 ms  
Loss rate: 0.00%

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

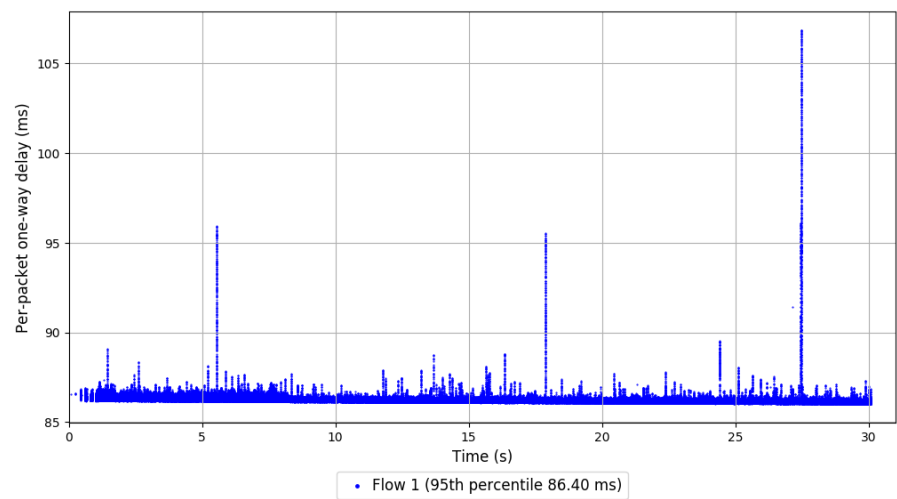
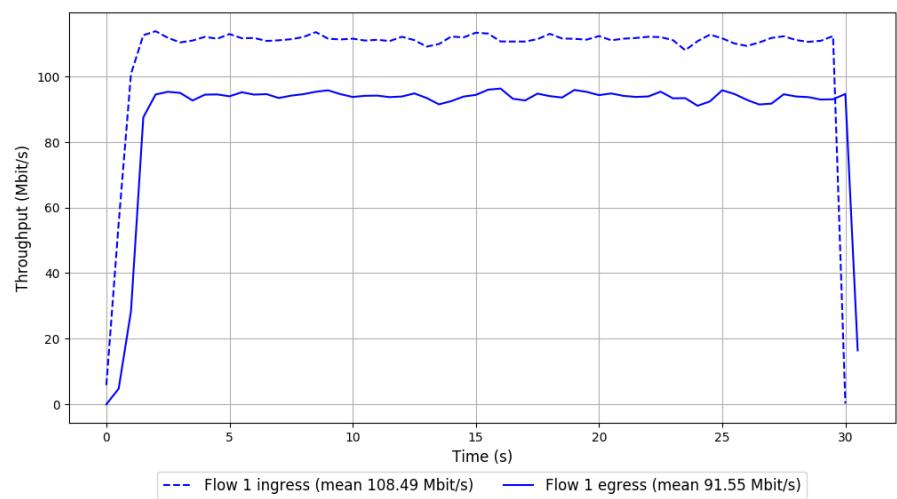


Run 4: Statistics of TaoVA-100x

Start at: 2019-01-02 19:34:40  
End at: 2019-01-02 19:35:10  
Local clock offset: 10.443 ms  
Remote clock offset: 21.849 ms

# Below is generated by plot.py at 2019-01-02 22:13:58  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.55 Mbit/s  
95th percentile per-packet one-way delay: 86.399 ms  
Loss rate: 15.62%  
-- Flow 1:  
Average throughput: 91.55 Mbit/s  
95th percentile per-packet one-way delay: 86.399 ms  
Loss rate: 15.62%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-01-02 20:03:09

End at: 2019-01-02 20:03:39

Local clock offset: 4.171 ms

Remote clock offset: 4.719 ms

# Below is generated by plot.py at 2019-01-02 22:13:58

# Datalink statistics

-- Total of 1 flow:

Average throughput: 209.20 Mbit/s

95th percentile per-packet one-way delay: 86.108 ms

Loss rate: 0.00%

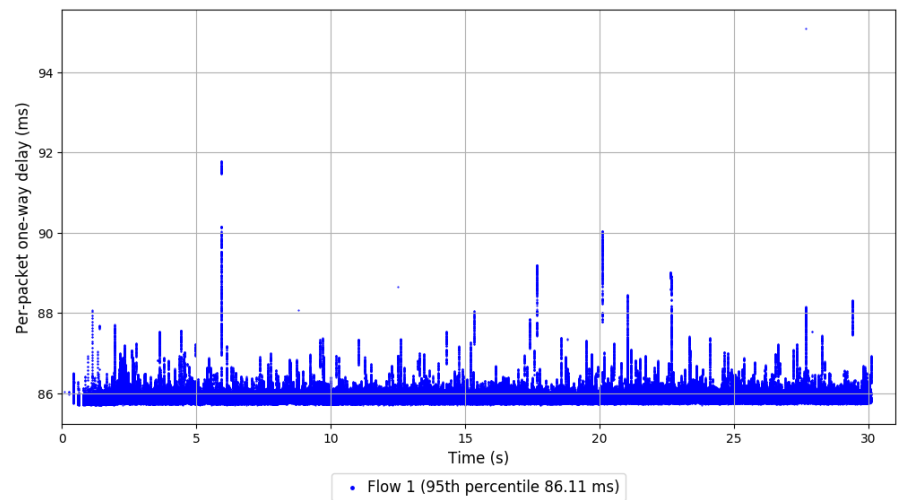
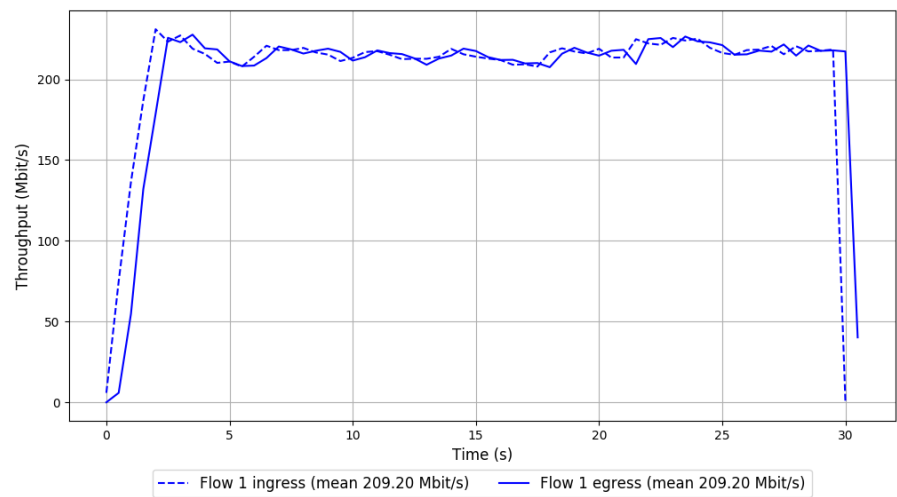
-- Flow 1:

Average throughput: 209.20 Mbit/s

95th percentile per-packet one-way delay: 86.108 ms

Loss rate: 0.00%

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

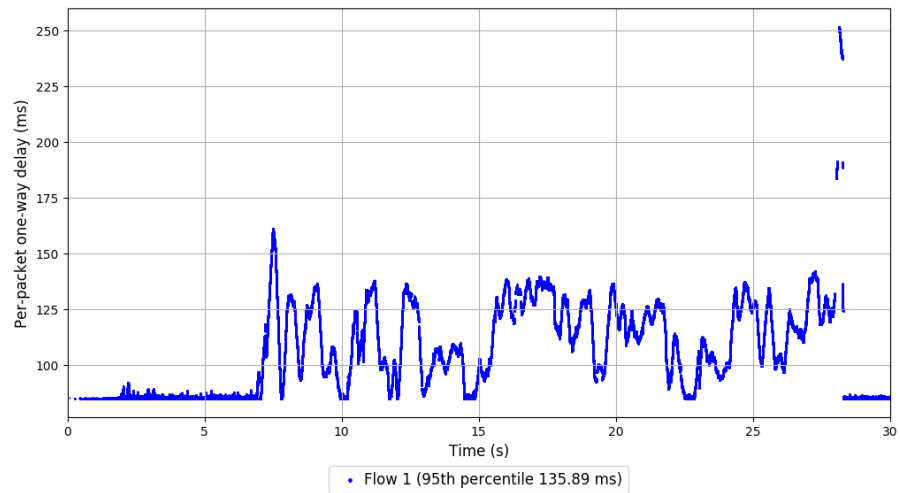
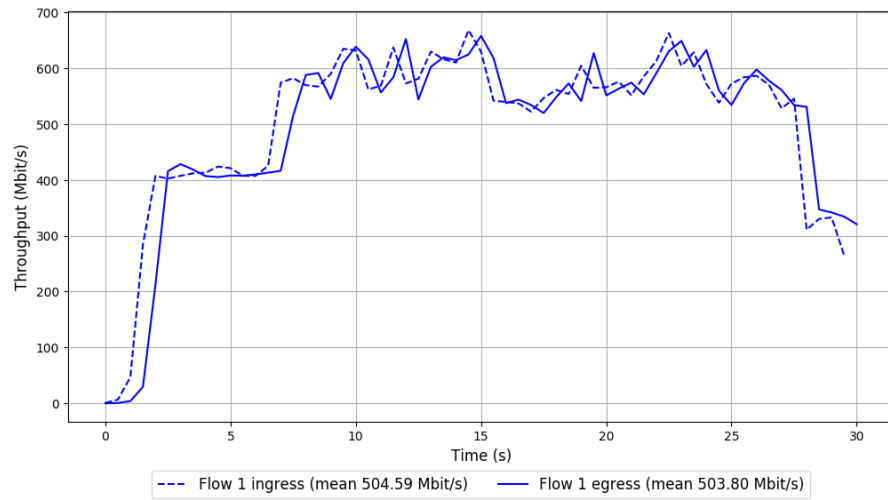


Run 1: Statistics of TCP Vegas

Start at: 2019-01-02 18:11:15  
End at: 2019-01-02 18:11:45  
Local clock offset: 18.814 ms  
Remote clock offset: 19.124 ms

# Below is generated by plot.py at 2019-01-02 22:20:13  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 503.80 Mbit/s  
95th percentile per-packet one-way delay: 135.887 ms  
Loss rate: 0.16%  
-- Flow 1:  
Average throughput: 503.80 Mbit/s  
95th percentile per-packet one-way delay: 135.887 ms  
Loss rate: 0.16%

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

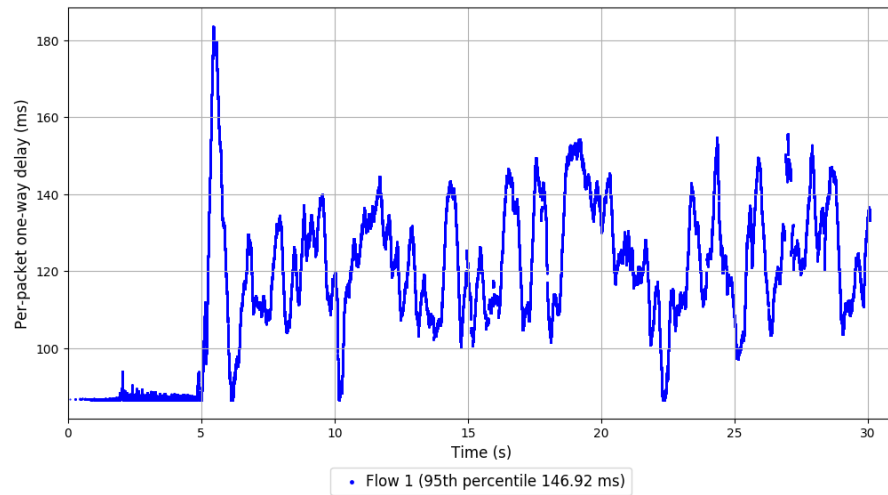
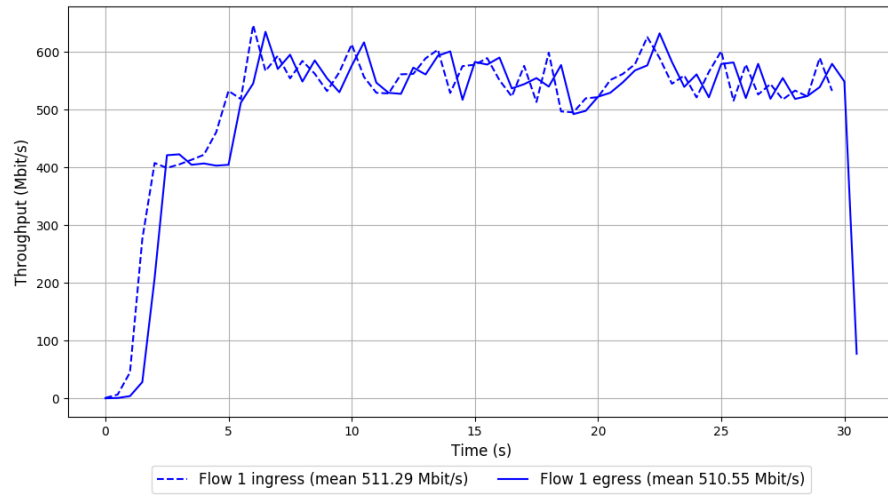


Run 2: Statistics of TCP Vegas

Start at: 2019-01-02 18:39:45  
End at: 2019-01-02 18:40:15  
Local clock offset: 21.299 ms  
Remote clock offset: 22.872 ms

# Below is generated by plot.py at 2019-01-02 22:22:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 510.55 Mbit/s  
95th percentile per-packet one-way delay: 146.924 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 510.55 Mbit/s  
95th percentile per-packet one-way delay: 146.924 ms  
Loss rate: 0.14%

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

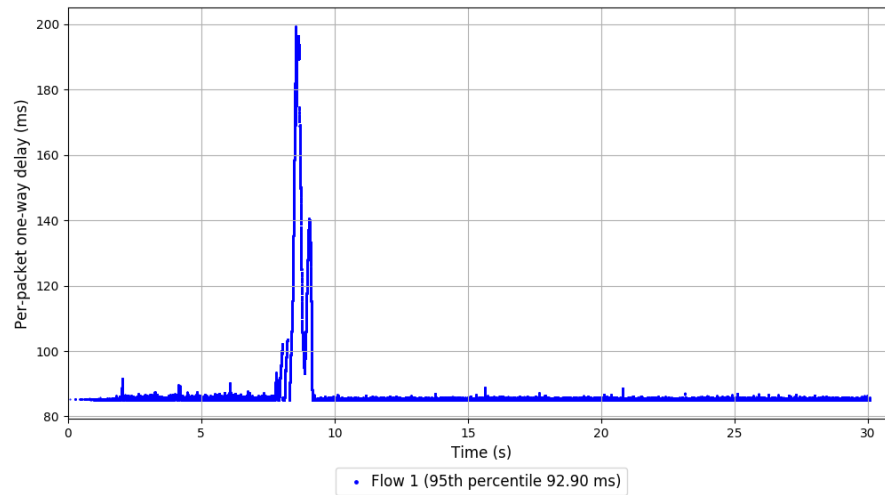
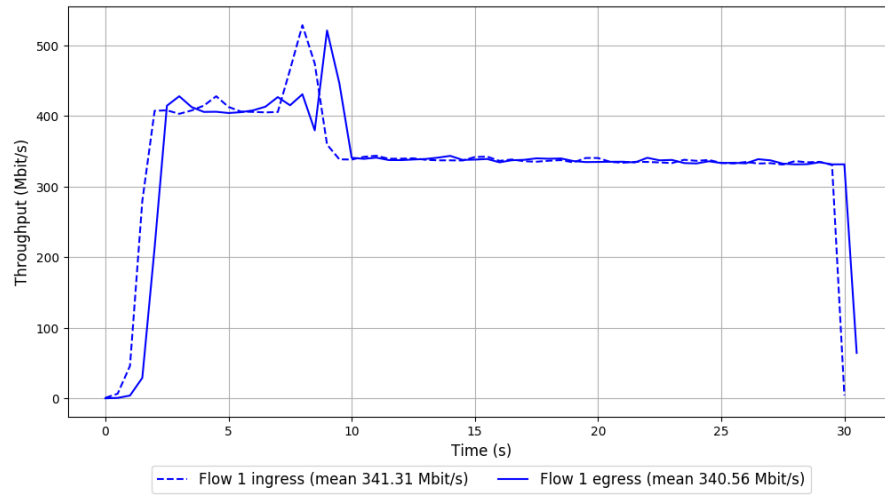


Run 3: Statistics of TCP Vegas

Start at: 2019-01-02 19:08:05  
End at: 2019-01-02 19:08:35  
Local clock offset: 23.514 ms  
Remote clock offset: 26.201 ms

# Below is generated by plot.py at 2019-01-02 22:22:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 340.56 Mbit/s  
95th percentile per-packet one-way delay: 92.904 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 340.56 Mbit/s  
95th percentile per-packet one-way delay: 92.904 ms  
Loss rate: 0.22%

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



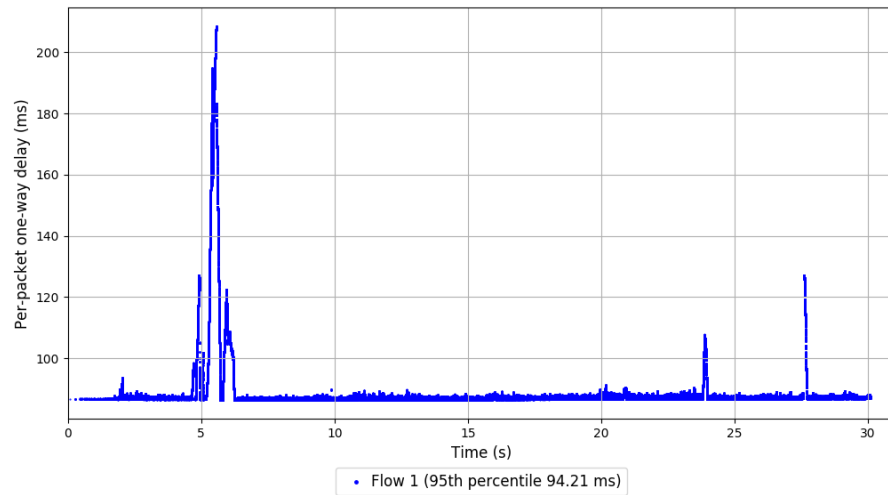
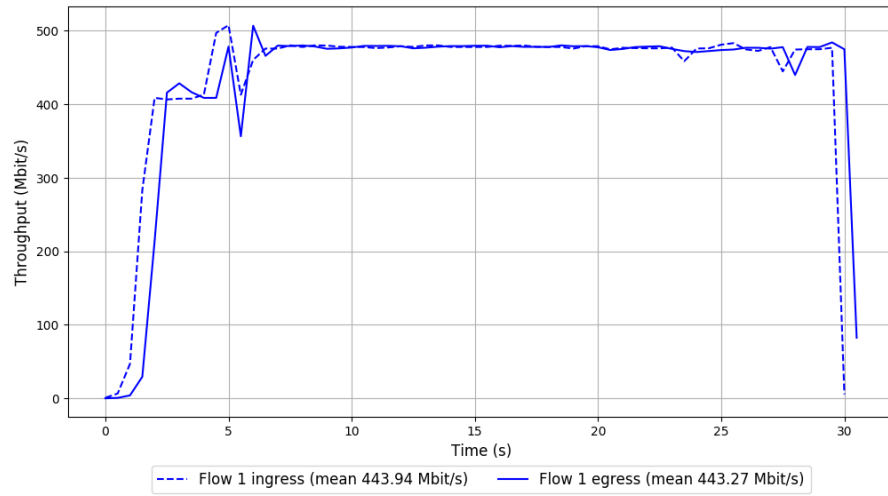


Run 4: Statistics of TCP Vegas

Start at: 2019-01-02 19:35:59  
End at: 2019-01-02 19:36:29  
Local clock offset: 10.221 ms  
Remote clock offset: 22.486 ms

# Below is generated by plot.py at 2019-01-02 22:22:47  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 443.27 Mbit/s  
95th percentile per-packet one-way delay: 94.212 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 443.27 Mbit/s  
95th percentile per-packet one-way delay: 94.212 ms  
Loss rate: 0.15%

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



Run 5: Statistics of TCP Vegas

Start at: 2019-01-02 20:04:39

End at: 2019-01-02 20:05:09

Local clock offset: 4.516 ms

Remote clock offset: 4.768 ms

# Below is generated by plot.py at 2019-01-02 22:24:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 523.80 Mbit/s

95th percentile per-packet one-way delay: 136.146 ms

Loss rate: 0.16%

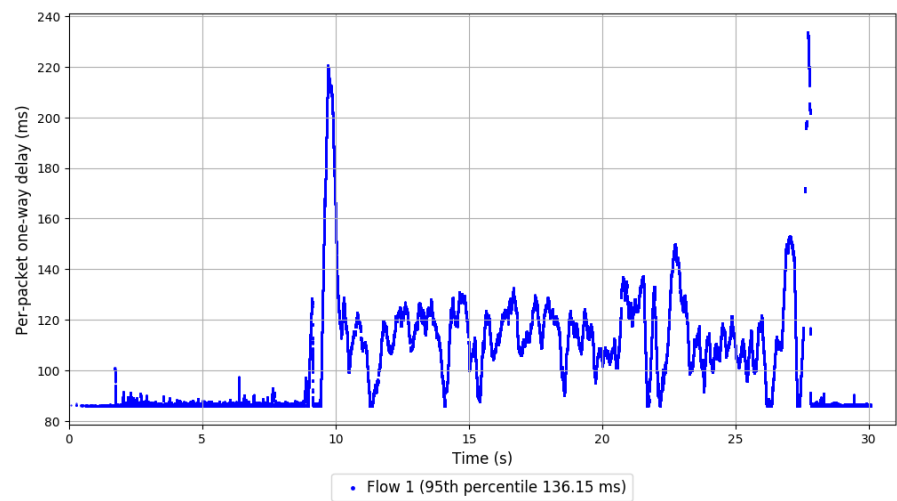
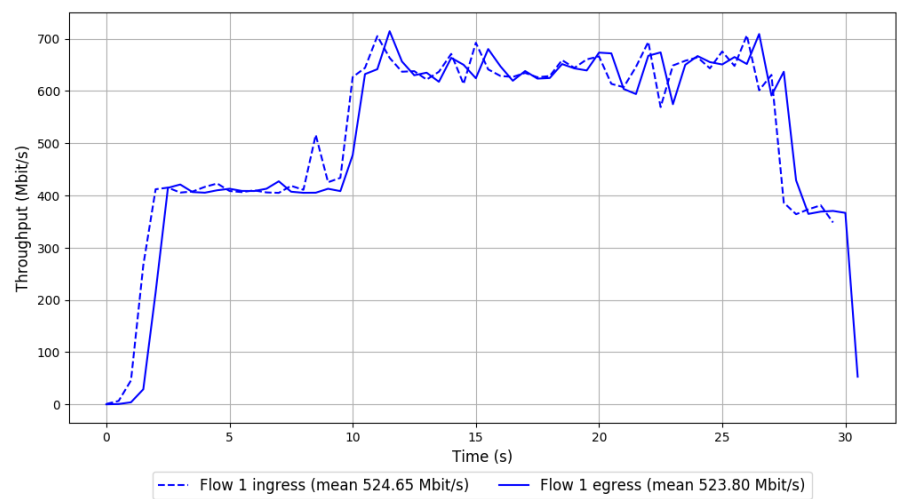
-- Flow 1:

Average throughput: 523.80 Mbit/s

95th percentile per-packet one-way delay: 136.146 ms

Loss rate: 0.16%

Run 5: Report of TCP Vegas — Data Link

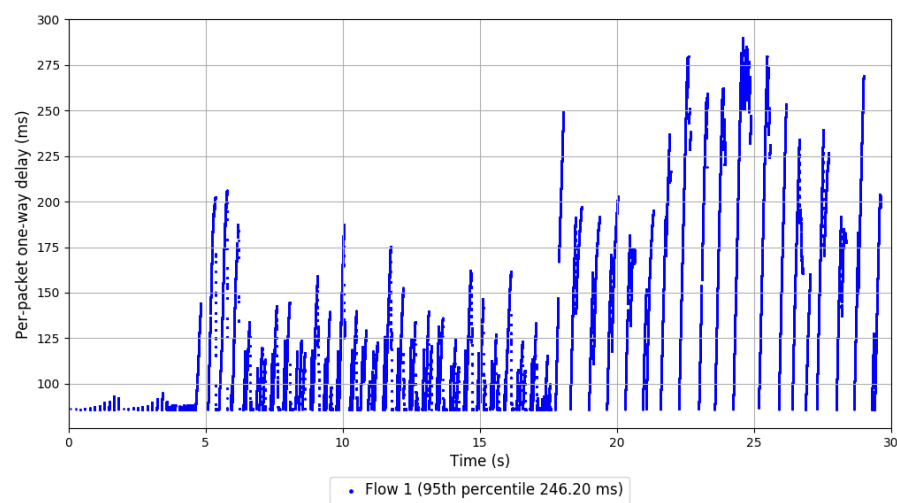
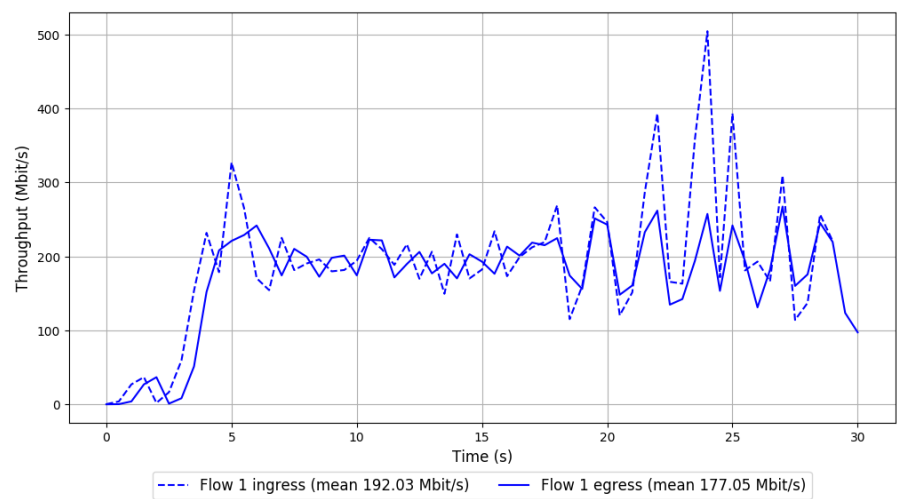


Run 1: Statistics of Verus

Start at: 2019-01-02 18:12:50  
End at: 2019-01-02 18:13:20  
Local clock offset: 15.259 ms  
Remote clock offset: 16.222 ms

# Below is generated by plot.py at 2019-01-02 22:24:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 177.05 Mbit/s  
95th percentile per-packet one-way delay: 246.197 ms  
Loss rate: 7.45%  
-- Flow 1:  
Average throughput: 177.05 Mbit/s  
95th percentile per-packet one-way delay: 246.197 ms  
Loss rate: 7.45%

Run 1: Report of Verus — Data Link

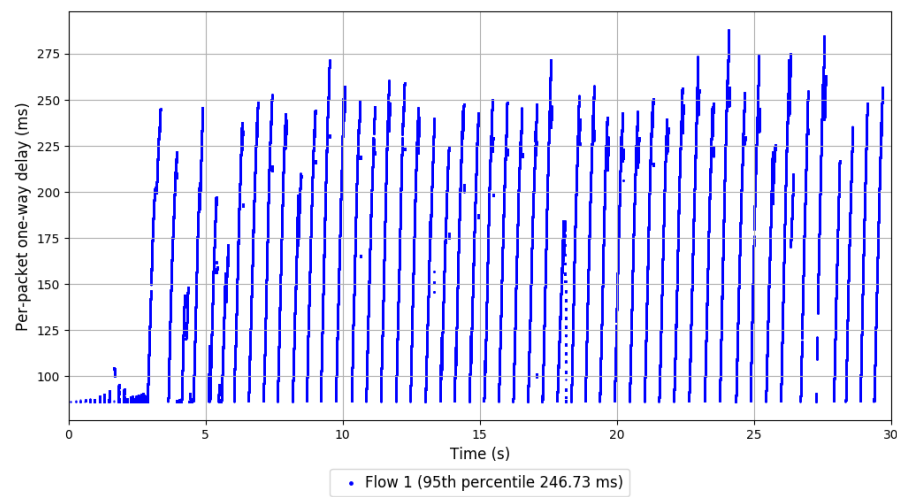
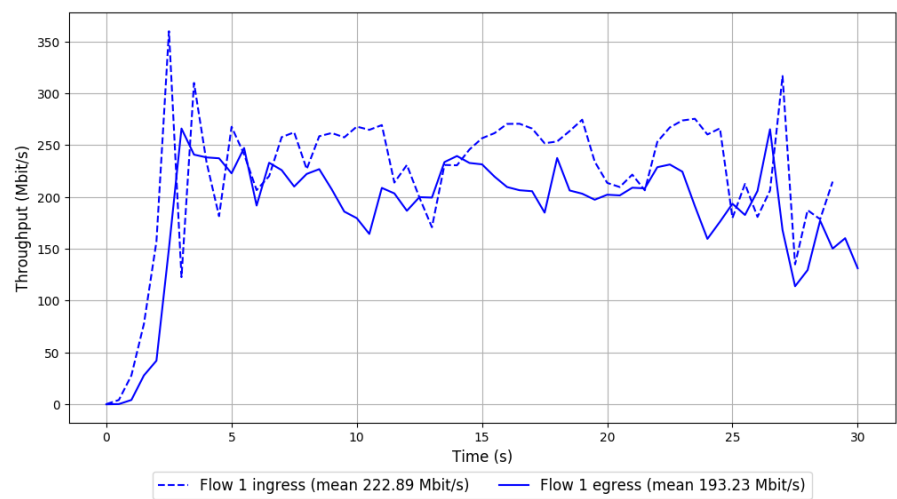


Run 2: Statistics of Verus

Start at: 2019-01-02 18:41:21  
End at: 2019-01-02 18:41:51  
Local clock offset: 21.849 ms  
Remote clock offset: 23.613 ms

# Below is generated by plot.py at 2019-01-02 22:24:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 193.23 Mbit/s  
95th percentile per-packet one-way delay: 246.732 ms  
Loss rate: 12.81%  
-- Flow 1:  
Average throughput: 193.23 Mbit/s  
95th percentile per-packet one-way delay: 246.732 ms  
Loss rate: 12.81%

Run 2: Report of Verus — Data Link



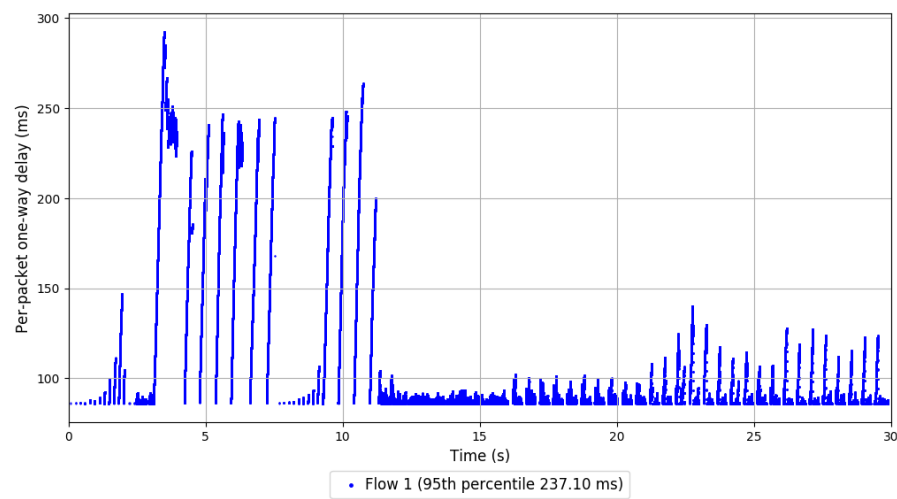
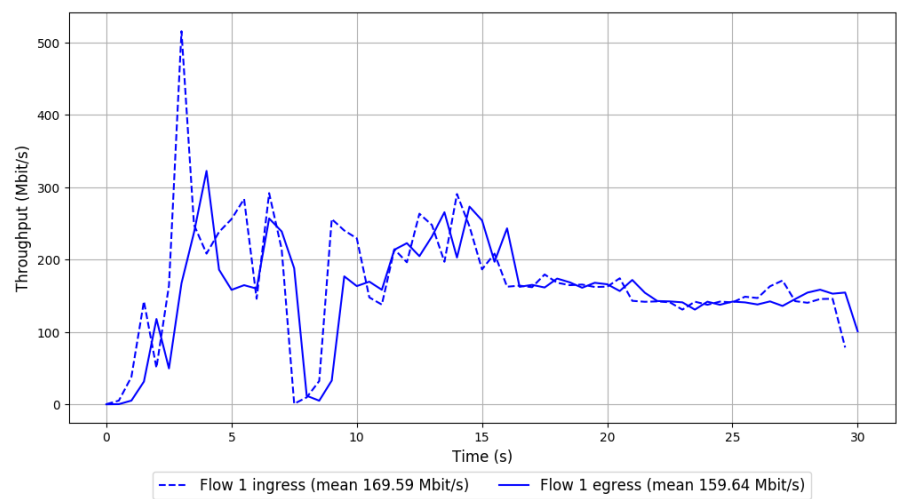


Run 3: Statistics of Verus

Start at: 2019-01-02 19:09:33  
End at: 2019-01-02 19:10:03  
Local clock offset: 19.913 ms  
Remote clock offset: 23.722 ms

# Below is generated by plot.py at 2019-01-02 22:24:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 159.64 Mbit/s  
95th percentile per-packet one-way delay: 237.101 ms  
Loss rate: 5.87%  
-- Flow 1:  
Average throughput: 159.64 Mbit/s  
95th percentile per-packet one-way delay: 237.101 ms  
Loss rate: 5.87%

Run 3: Report of Verus — Data Link

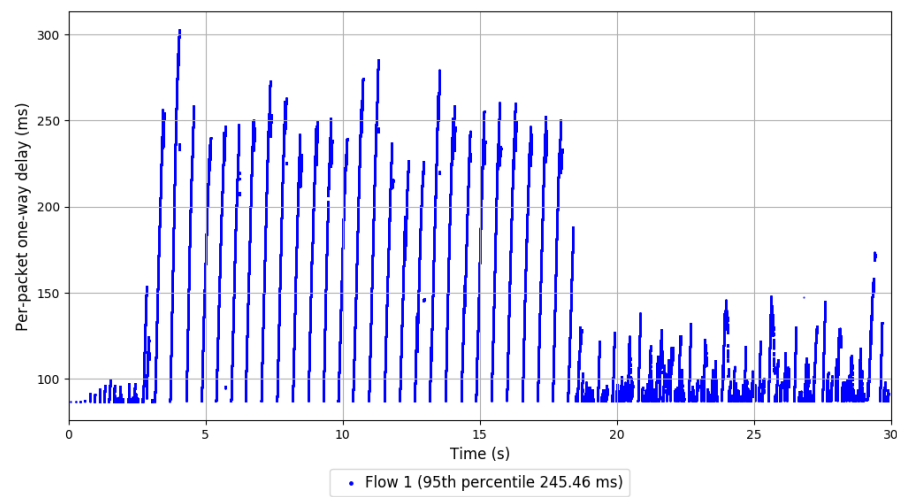
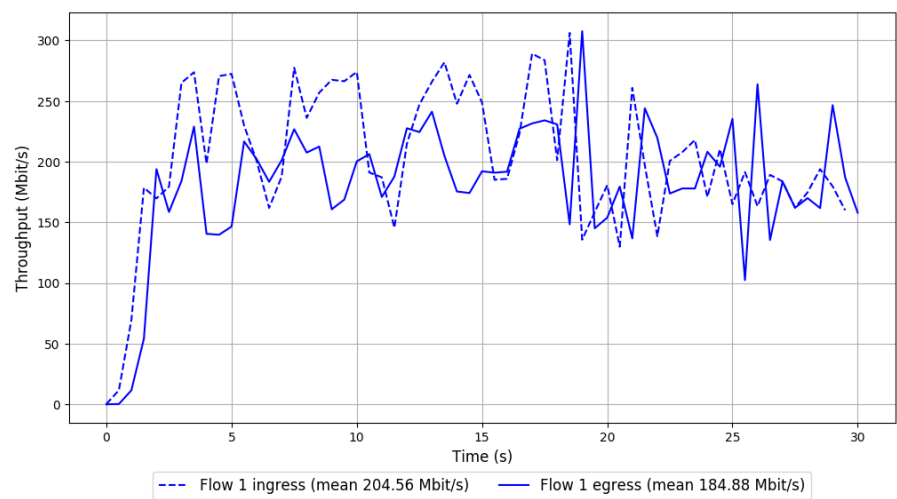


Run 4: Statistics of Verus

Start at: 2019-01-02 19:37:31  
End at: 2019-01-02 19:38:01  
Local clock offset: 9.095 ms  
Remote clock offset: 20.019 ms

# Below is generated by plot.py at 2019-01-02 22:27:59  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 184.88 Mbit/s  
95th percentile per-packet one-way delay: 245.455 ms  
Loss rate: 9.61%  
-- Flow 1:  
Average throughput: 184.88 Mbit/s  
95th percentile per-packet one-way delay: 245.455 ms  
Loss rate: 9.61%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-02 20:06:14

End at: 2019-01-02 20:06:44

Local clock offset: 4.532 ms

Remote clock offset: 4.842 ms

# Below is generated by plot.py at 2019-01-02 22:28:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 200.43 Mbit/s

95th percentile per-packet one-way delay: 203.835 ms

Loss rate: 0.53%

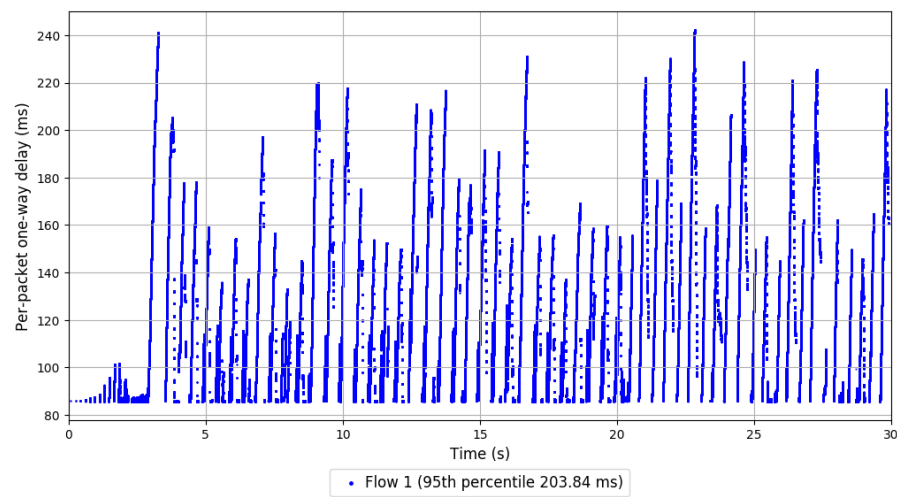
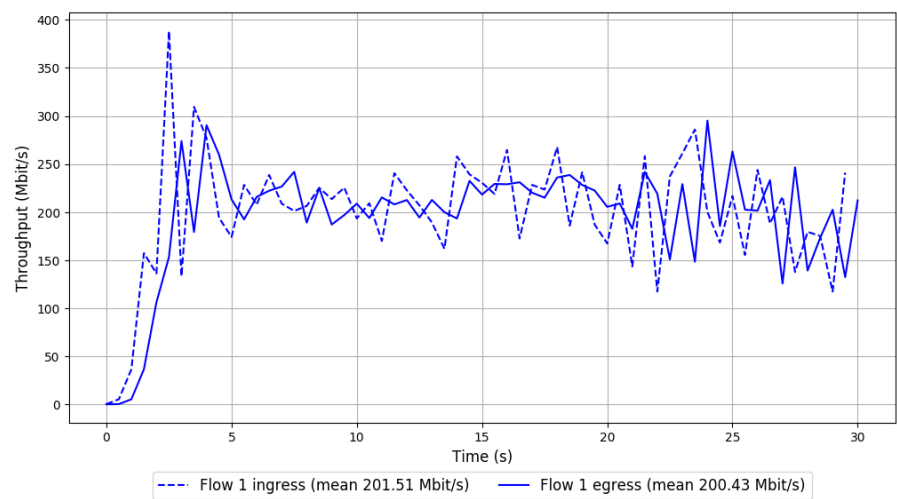
-- Flow 1:

Average throughput: 200.43 Mbit/s

95th percentile per-packet one-way delay: 203.835 ms

Loss rate: 0.53%

Run 5: Report of Verus — Data Link

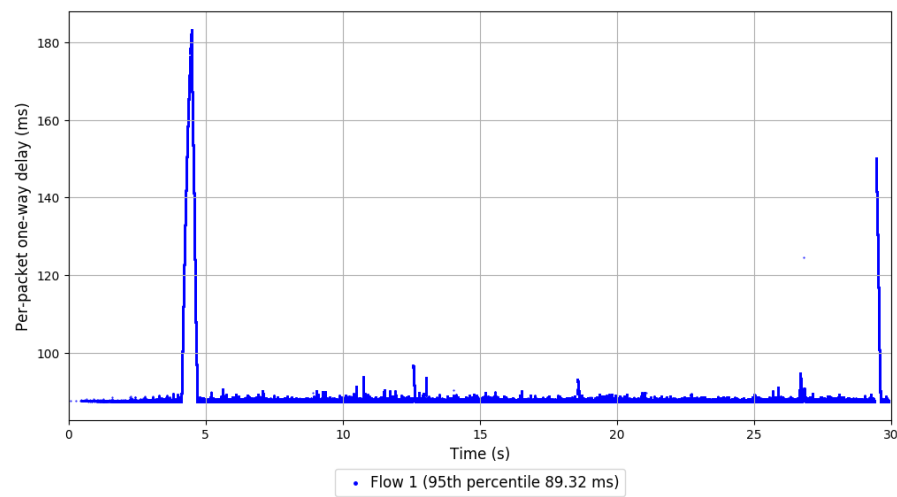
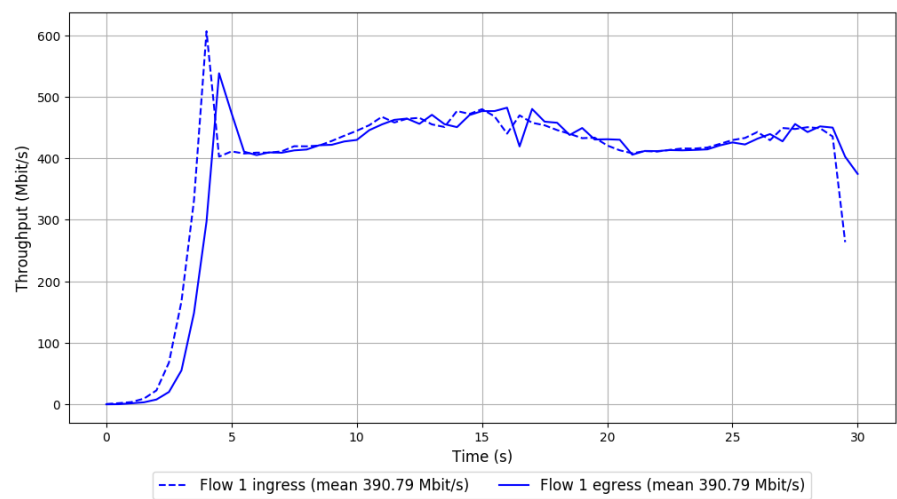


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-02 18:23:41  
End at: 2019-01-02 18:24:11  
Local clock offset: 21.006 ms  
Remote clock offset: 23.358 ms

# Below is generated by plot.py at 2019-01-02 22:29:19  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 390.79 Mbit/s  
95th percentile per-packet one-way delay: 89.322 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 390.79 Mbit/s  
95th percentile per-packet one-way delay: 89.322 ms  
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



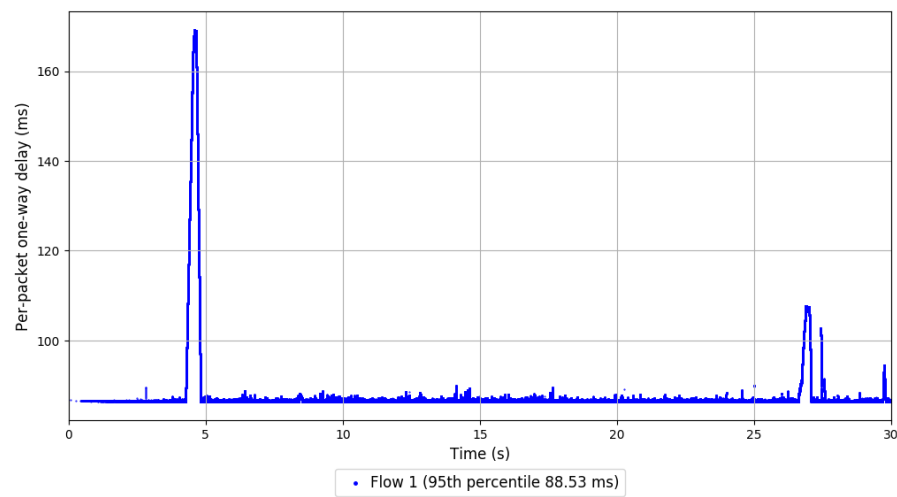
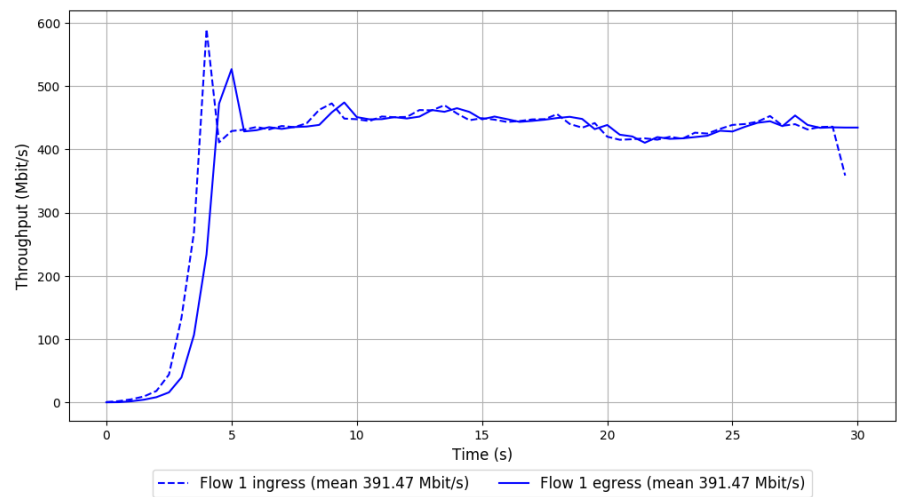


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-02 18:52:17  
End at: 2019-01-02 18:52:47  
Local clock offset: 30.815 ms  
Remote clock offset: 33.193 ms

# Below is generated by plot.py at 2019-01-02 22:29:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 391.47 Mbit/s  
95th percentile per-packet one-way delay: 88.534 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 391.47 Mbit/s  
95th percentile per-packet one-way delay: 88.534 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

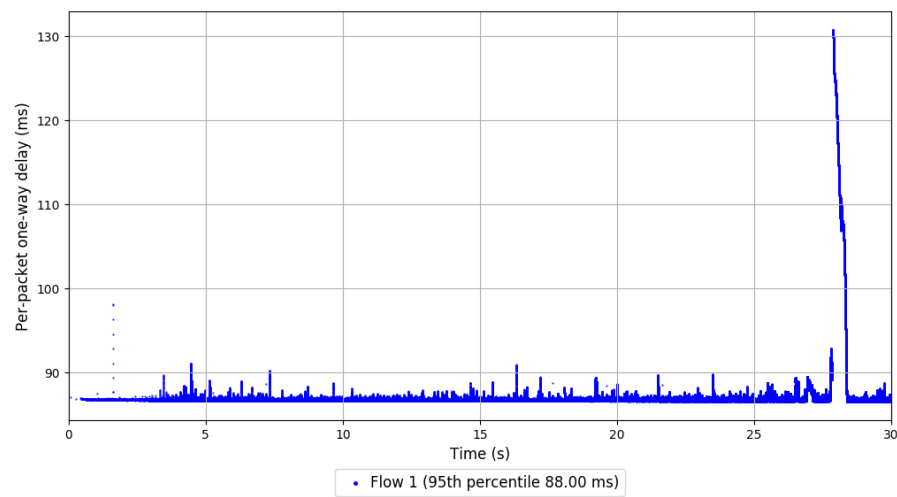
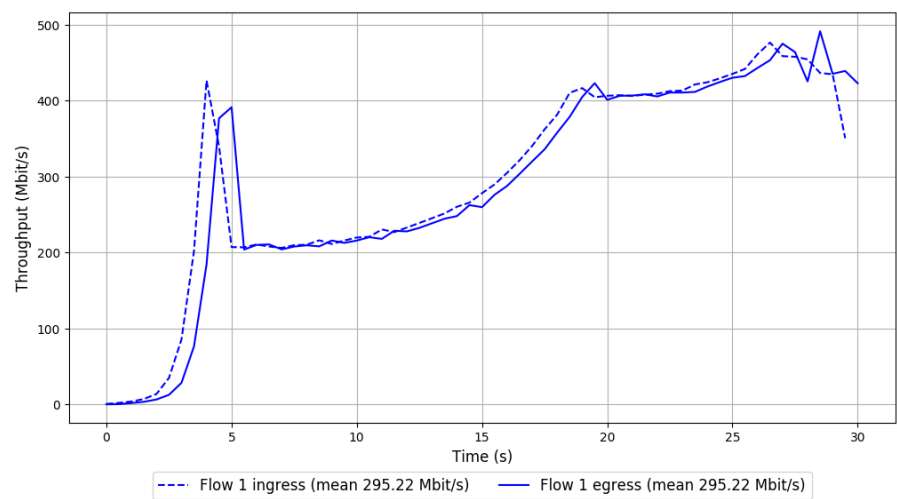


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-02 19:20:18  
End at: 2019-01-02 19:20:48  
Local clock offset: 9.897 ms  
Remote clock offset: 16.916 ms

# Below is generated by plot.py at 2019-01-02 22:29:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 295.22 Mbit/s  
95th percentile per-packet one-way delay: 87.997 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 295.22 Mbit/s  
95th percentile per-packet one-way delay: 87.997 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-02 19:48:26

End at: 2019-01-02 19:48:56

Local clock offset: 4.12 ms

Remote clock offset: 7.16 ms

# Below is generated by plot.py at 2019-01-02 22:29:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 410.12 Mbit/s

95th percentile per-packet one-way delay: 88.541 ms

Loss rate: 0.00%

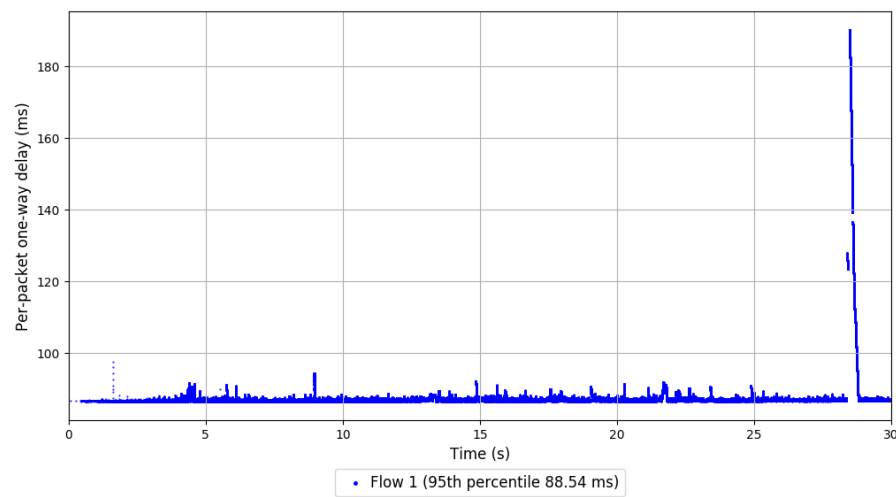
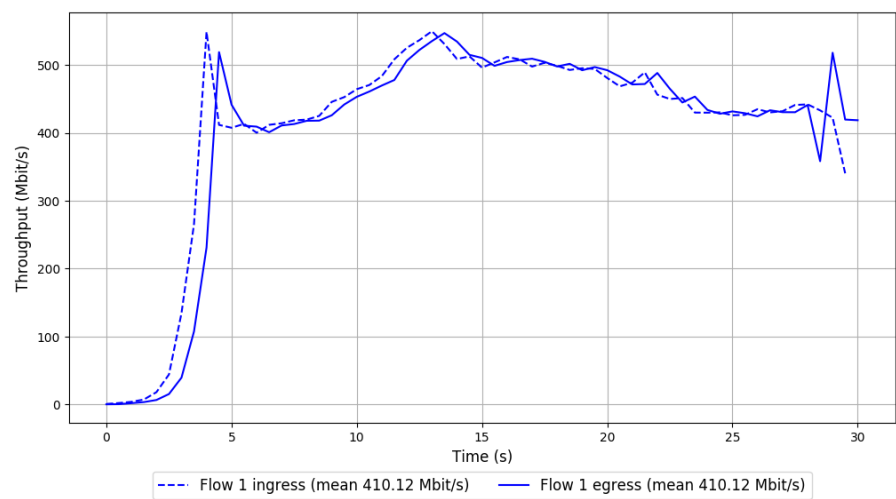
-- Flow 1:

Average throughput: 410.12 Mbit/s

95th percentile per-packet one-way delay: 88.541 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-02 20:17:05

End at: 2019-01-02 20:17:35

Local clock offset: 2.48 ms

Remote clock offset: 2.8 ms

# Below is generated by plot.py at 2019-01-02 22:29:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 368.03 Mbit/s

95th percentile per-packet one-way delay: 86.990 ms

Loss rate: 0.00%

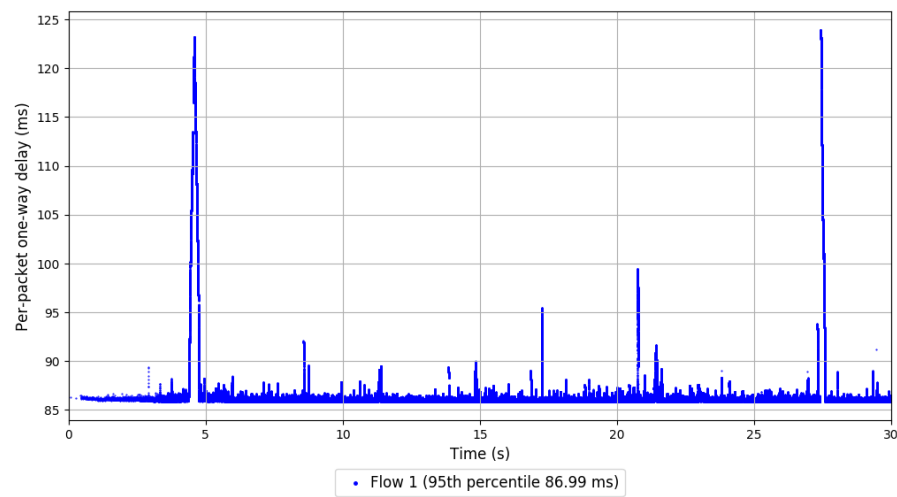
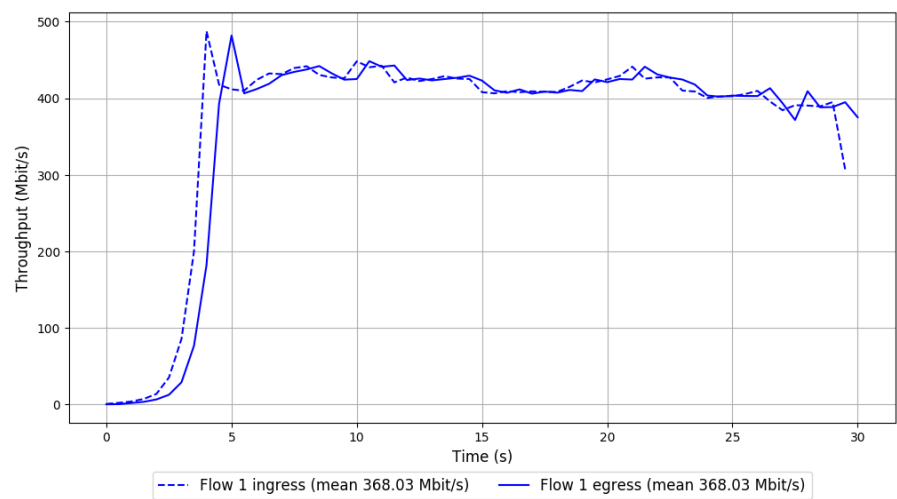
-- Flow 1:

Average throughput: 368.03 Mbit/s

95th percentile per-packet one-way delay: 86.990 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



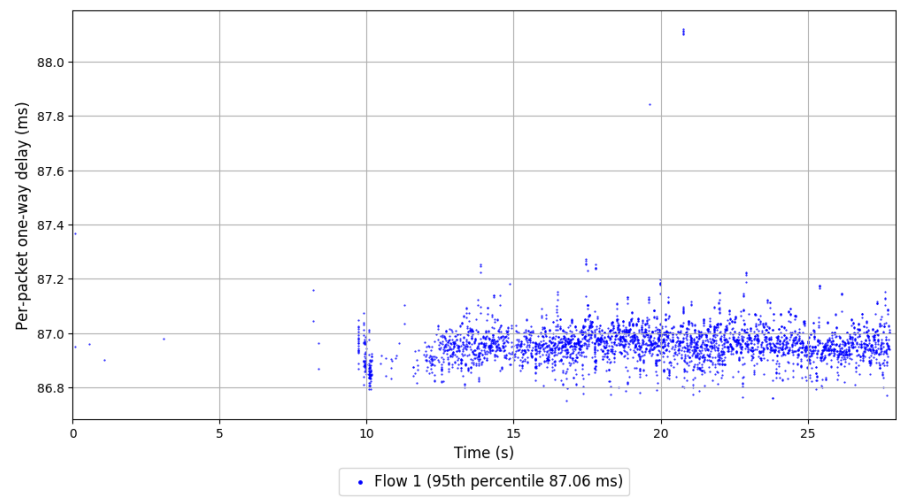
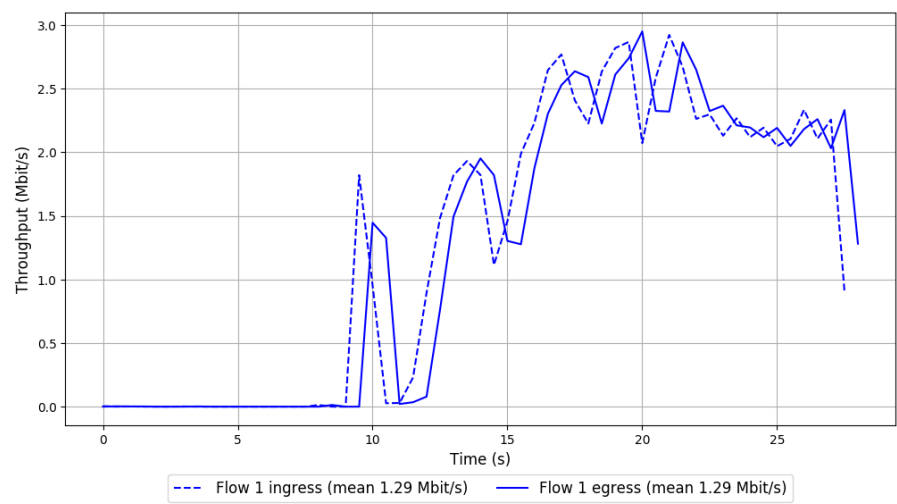


```
Run 1: Statistics of WebRTC media

Start at: 2019-01-02 18:18:17
End at: 2019-01-02 18:18:47
Local clock offset: 14.663 ms
Remote clock offset: 16.335 ms

# Below is generated by plot.py at 2019-01-02 22:29:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 87.060 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 87.060 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

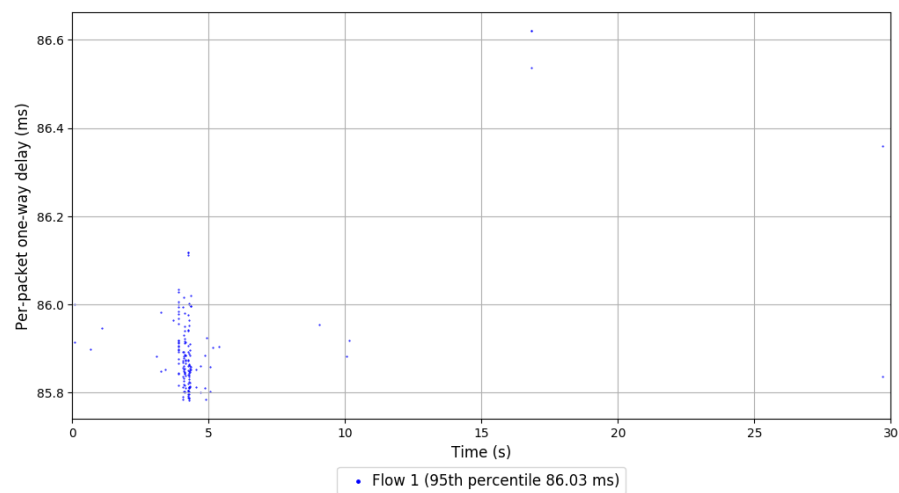
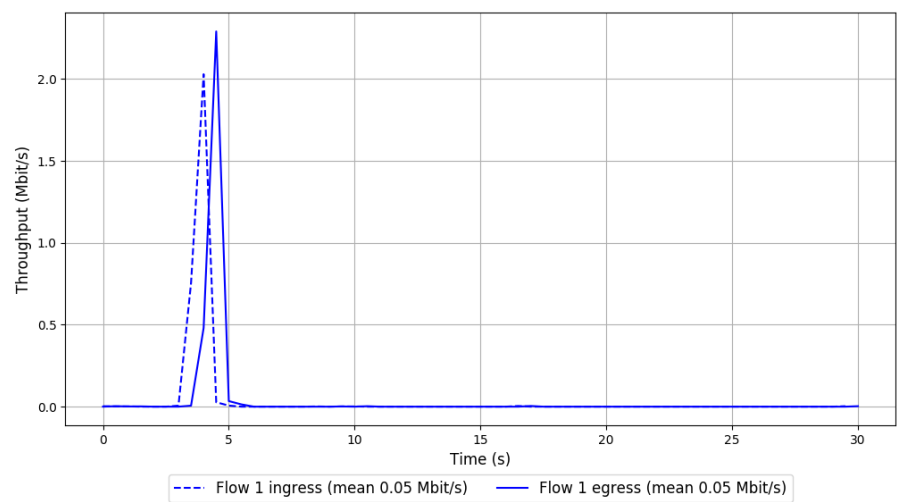


Run 2: Statistics of WebRTC media

Start at: 2019-01-02 18:46:51  
End at: 2019-01-02 18:47:21  
Local clock offset: 26.041 ms  
Remote clock offset: 27.759 ms

# Below is generated by plot.py at 2019-01-02 22:29:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 86.027 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 86.027 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

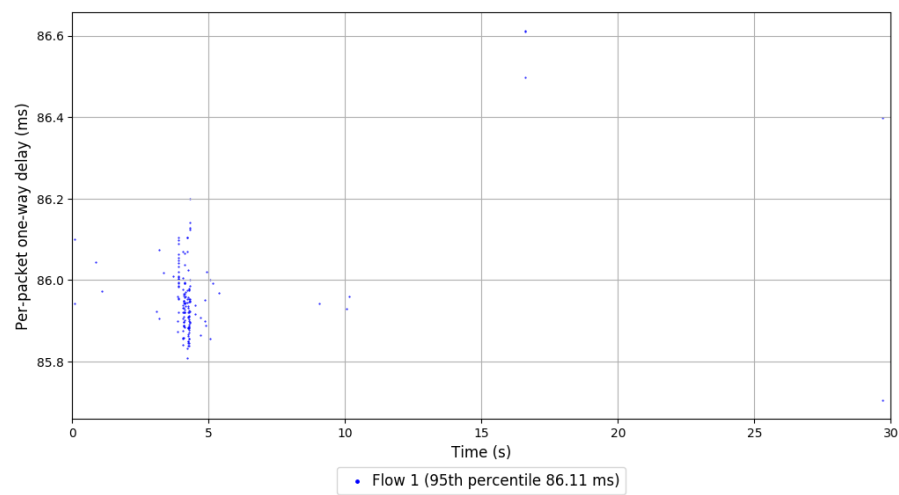
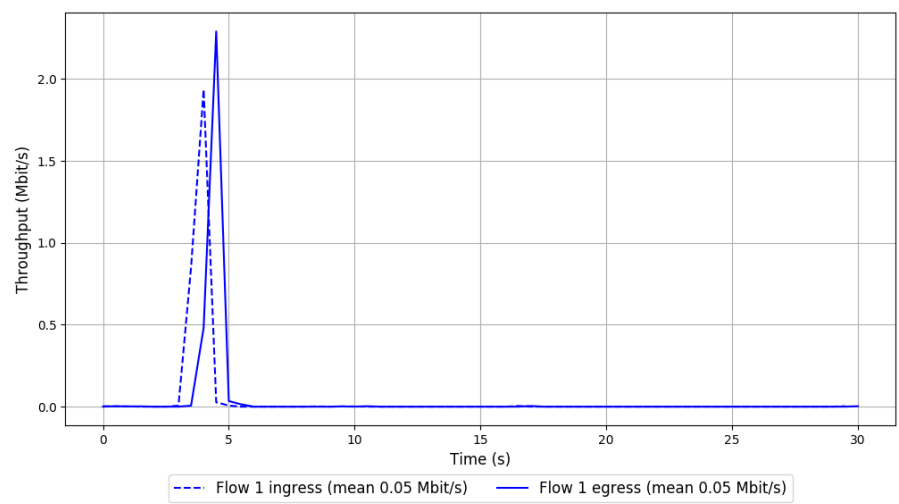


Run 3: Statistics of WebRTC media

Start at: 2019-01-02 19:14:55  
End at: 2019-01-02 19:15:25  
Local clock offset: 13.384 ms  
Remote clock offset: 18.237 ms

# Below is generated by plot.py at 2019-01-02 22:29:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 86.105 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 86.105 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

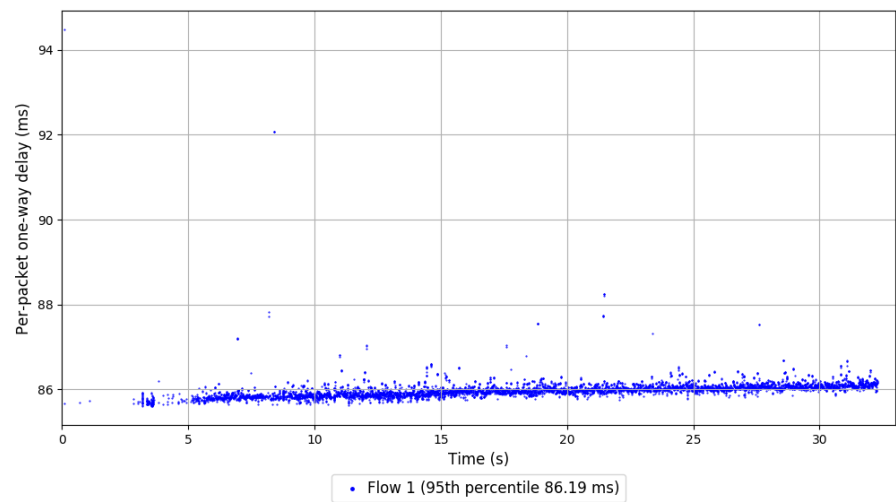
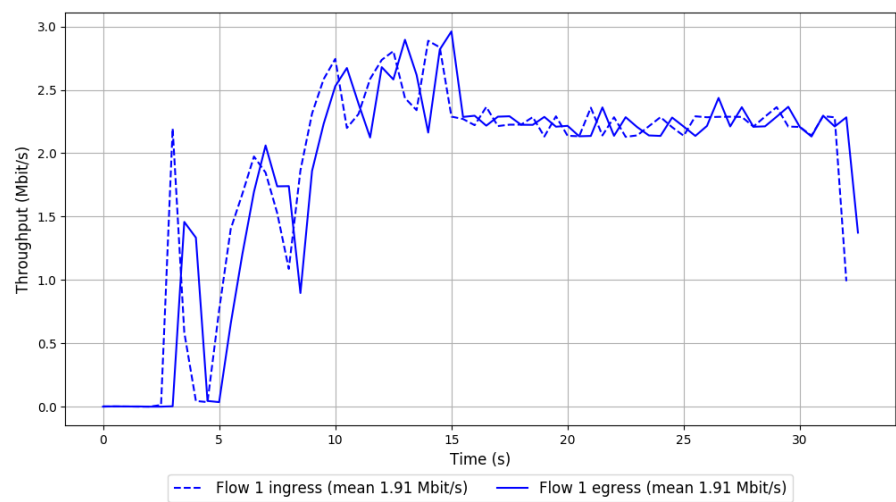


Run 4: Statistics of WebRTC media

Start at: 2019-01-02 19:43:02  
End at: 2019-01-02 19:43:32  
Local clock offset: 6.23 ms  
Remote clock offset: 11.143 ms

# Below is generated by plot.py at 2019-01-02 22:29:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.91 Mbit/s  
95th percentile per-packet one-way delay: 86.189 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.91 Mbit/s  
95th percentile per-packet one-way delay: 86.189 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-01-02 20:11:44

End at: 2019-01-02 20:12:14

Local clock offset: 4.086 ms

Remote clock offset: 4.578 ms

# Below is generated by plot.py at 2019-01-02 22:29:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 86.267 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 86.267 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

