

## Pantheon Report

Generated at 2017-09-18 13:30:36 (UTC).

Data path: AWS India 1 Ethernet (*local*) → India Ethernet (*remote*).

Repeated the test of 10 congestion control schemes 10 times.

Each test lasted for 30 seconds running 1 flow.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

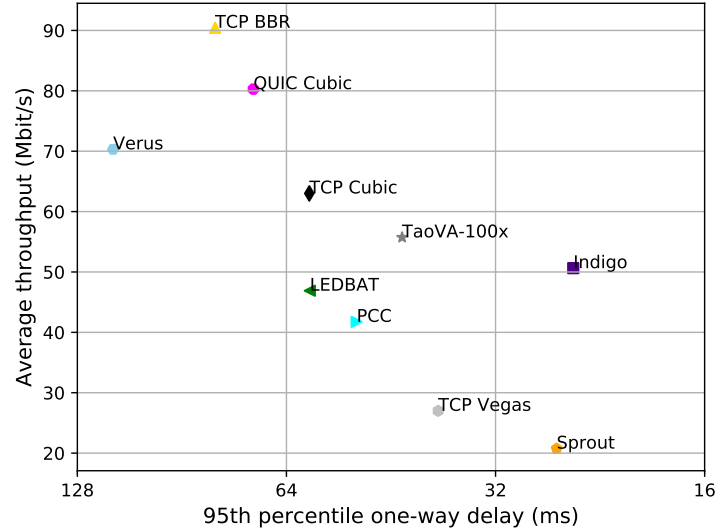
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo\_fast**).

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

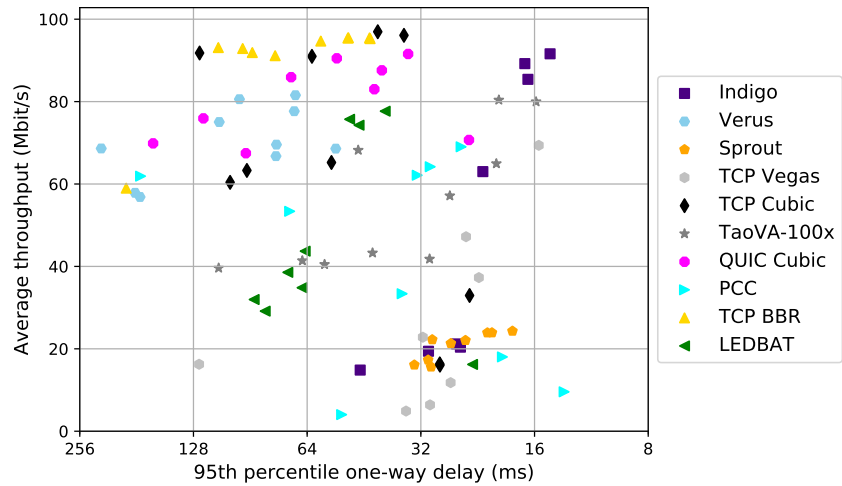
Git summary:

```
branch: master @ 57453dc11f8da93a2e03eea75289fea01b816298
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaaeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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/webRTC @ a488197ddd041ace68a42849b2540ad834825f42
```

test from AWS India 1 Ethernet to India Ethernet, 10 runs of 30s each per scheme  
(mean of all runs by scheme)



test from AWS India 1 Ethernet to India Ethernet, 10 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	10	90.44	81.08	4.66
TCP Cubic	10	63.01	59.33	0.32
Indigo	8	50.63	24.73	0.25
LEDBAT	9	46.89	59.24	0.18
PCC	9	41.74	50.71	0.55
QUIC Cubic	9	80.28	71.41	0.48
Sprout	9	20.75	26.14	0.58
TaoVA-100x	10	55.73	43.62	0.19
TCP Vegas	8	27.00	38.70	0.13
Verus	10	70.31	113.71	26.00

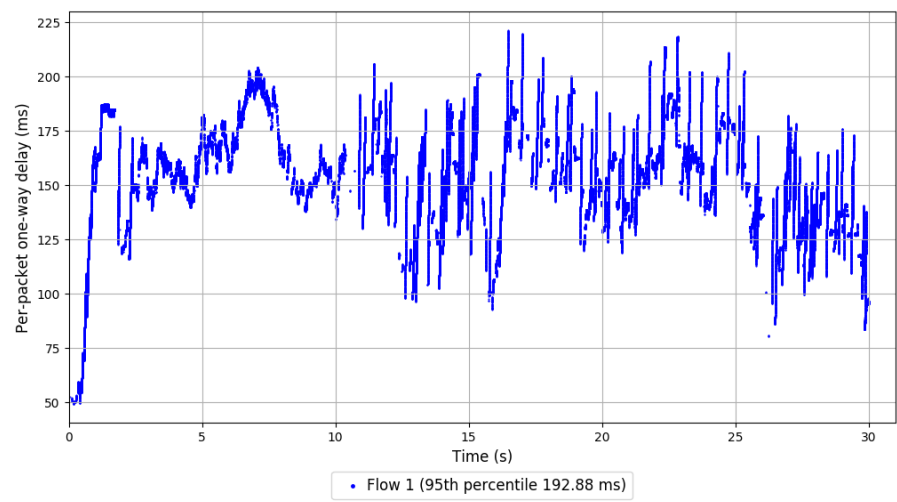
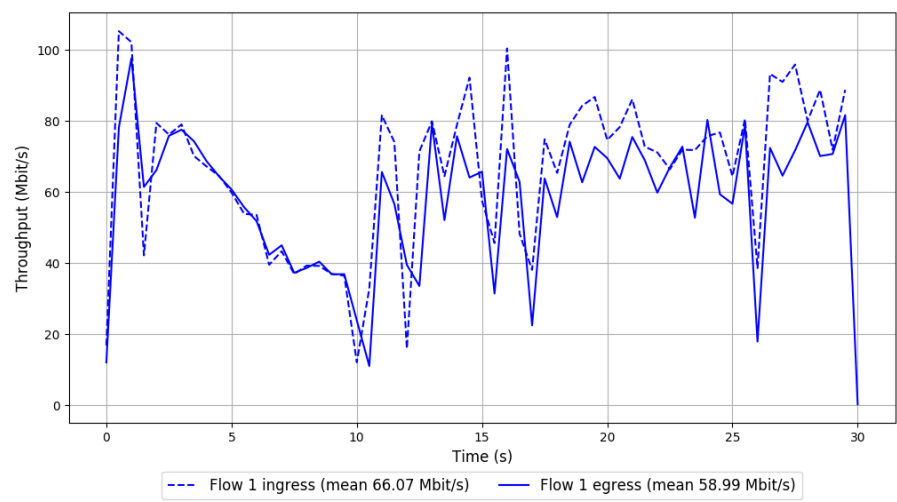
Run 1: Statistics of TCP BBR

Start at: 2017-09-18 10:44:35  
End at: 2017-09-18 10:45:05  
Local clock offset: 1.284 ms  
Remote clock offset: -4.411 ms

# Below is generated by plot.py at 2017-09-18 13:20:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 58.99 Mbit/s  
95th percentile per-packet one-way delay: 192.879 ms  
Loss rate: 10.76%  
-- Flow 1:  
Average throughput: 58.99 Mbit/s  
95th percentile per-packet one-way delay: 192.879 ms  
Loss rate: 10.76%



Run 1: Report of TCP BBR — Data Link

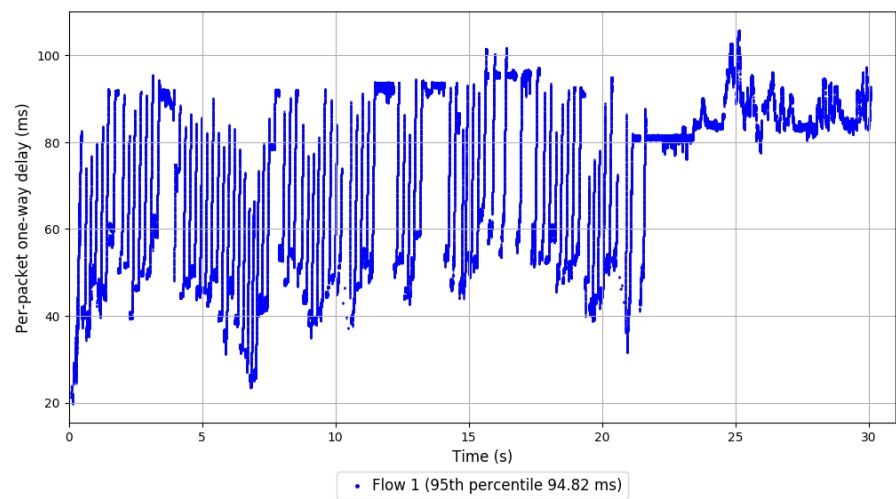
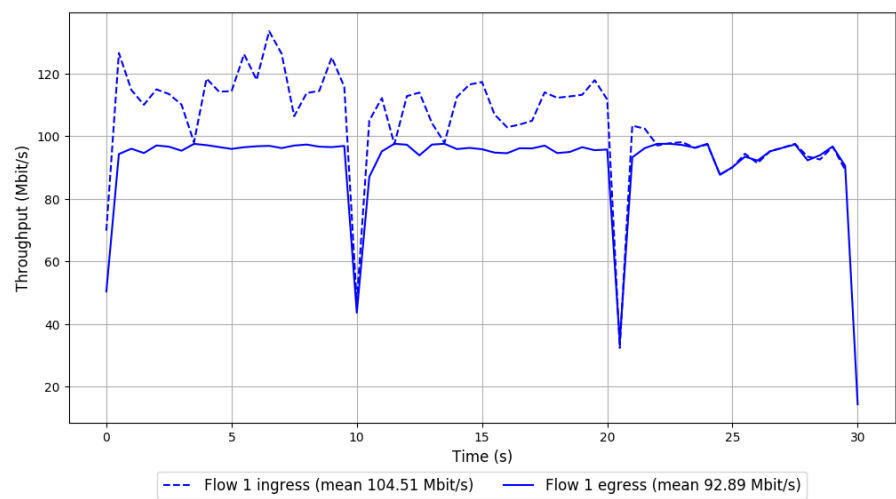


Run 2: Statistics of TCP BBR

Start at: 2017-09-18 10:59:07  
End at: 2017-09-18 10:59:37  
Local clock offset: 0.039 ms  
Remote clock offset: -4.356 ms

# Below is generated by plot.py at 2017-09-18 13:21:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 92.89 Mbit/s  
95th percentile per-packet one-way delay: 94.822 ms  
Loss rate: 10.91%  
-- Flow 1:  
Average throughput: 92.89 Mbit/s  
95th percentile per-packet one-way delay: 94.822 ms  
Loss rate: 10.91%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2017-09-18 11:13:38

End at: 2017-09-18 11:14:08

Local clock offset: 3.302 ms

Remote clock offset: -3.823 ms

# Below is generated by plot.py at 2017-09-18 13:21:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 94.69 Mbit/s

95th percentile per-packet one-way delay: 58.899 ms

Loss rate: 4.67%

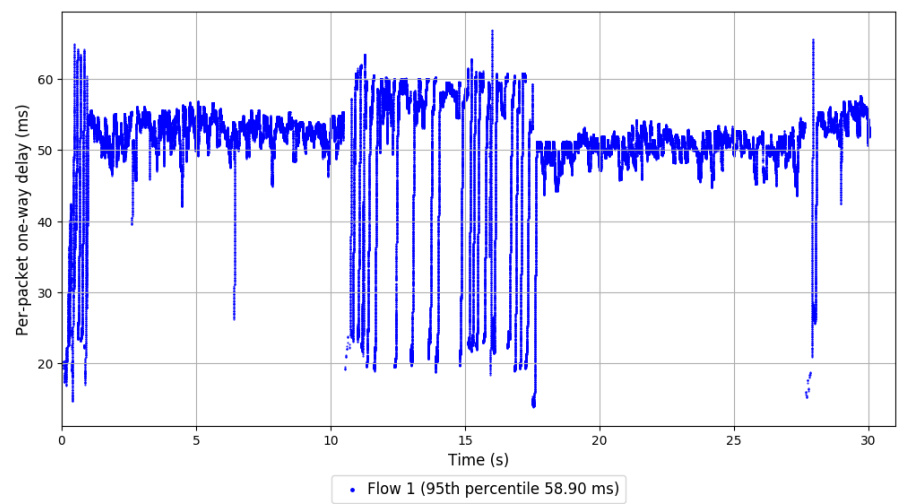
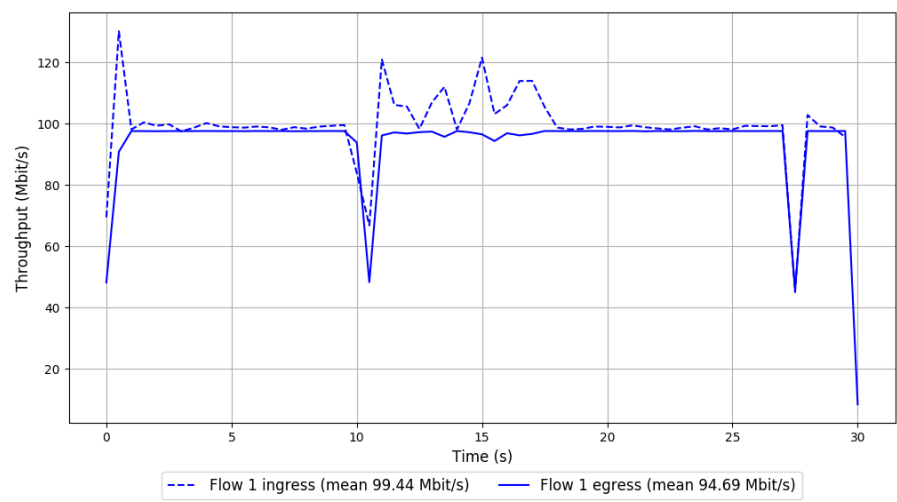
-- Flow 1:

Average throughput: 94.69 Mbit/s

95th percentile per-packet one-way delay: 58.899 ms

Loss rate: 4.67%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2017-09-18 11:27:51

End at: 2017-09-18 11:28:21

Local clock offset: 1.938 ms

Remote clock offset: -3.347 ms

# Below is generated by plot.py at 2017-09-18 13:21:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 93.11 Mbit/s

95th percentile per-packet one-way delay: 109.991 ms

Loss rate: 6.34%

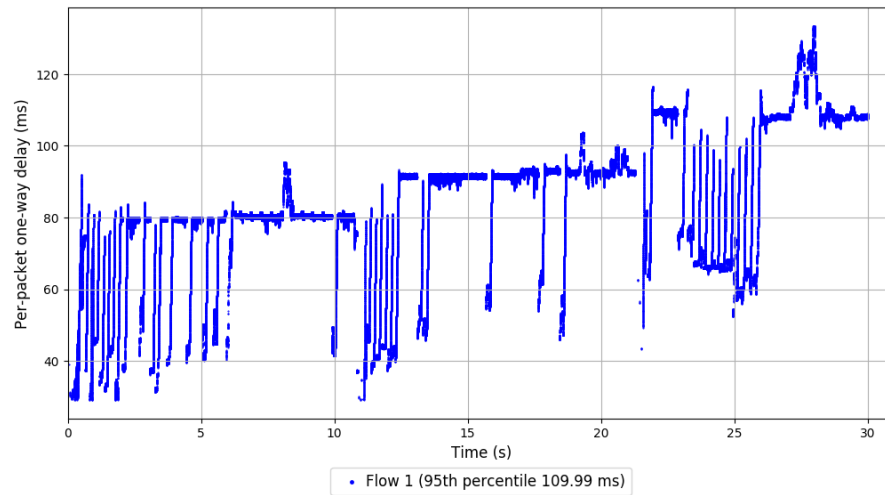
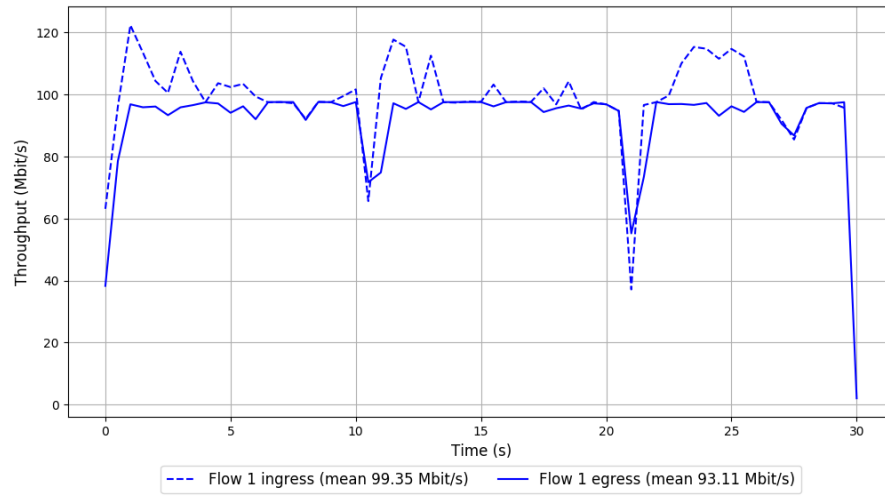
-- Flow 1:

Average throughput: 93.11 Mbit/s

95th percentile per-packet one-way delay: 109.991 ms

Loss rate: 6.34%

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



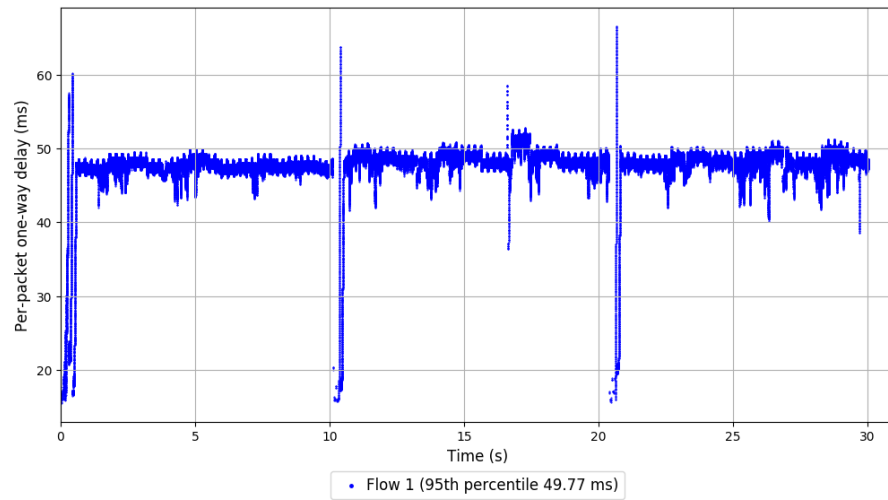
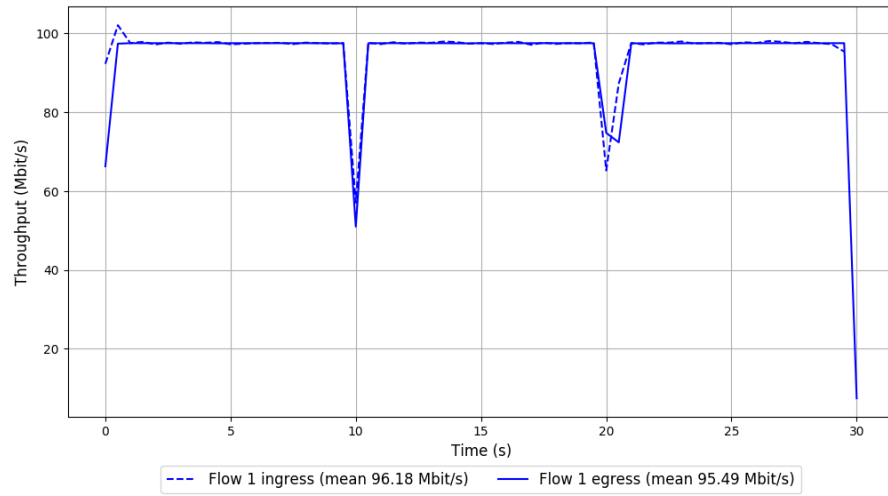
Run 5: Statistics of TCP BBR

Start at: 2017-09-18 11:42:03  
End at: 2017-09-18 11:42:33  
Local clock offset: -3.284 ms  
Remote clock offset: -2.655 ms

# Below is generated by plot.py at 2017-09-18 13:21:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.49 Mbit/s  
95th percentile per-packet one-way delay: 49.771 ms  
Loss rate: 0.61%  
-- Flow 1:  
Average throughput: 95.49 Mbit/s  
95th percentile per-packet one-way delay: 49.771 ms  
Loss rate: 0.61%



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



Run 6: Statistics of TCP BBR

Start at: 2017-09-18 11:58:14

End at: 2017-09-18 11:58:44

Local clock offset: 2.294 ms

Remote clock offset: -3.257 ms

# Below is generated by plot.py at 2017-09-18 13:21:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.47 Mbit/s

95th percentile per-packet one-way delay: 43.749 ms

Loss rate: 1.01%

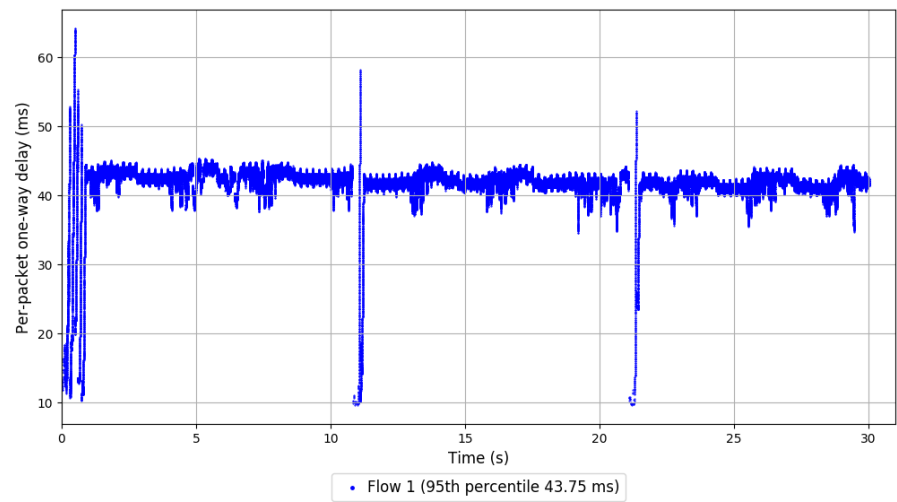
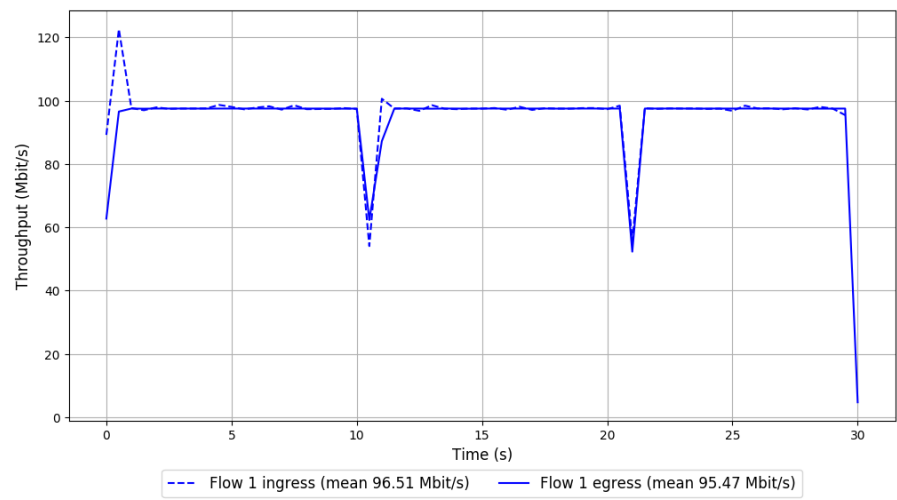
-- Flow 1:

Average throughput: 95.47 Mbit/s

95th percentile per-packet one-way delay: 43.749 ms

Loss rate: 1.01%

Run 6: Report of TCP BBR — Data Link



Run 7: Statistics of TCP BBR

Start at: 2017-09-18 12:11:52

End at: 2017-09-18 12:12:22

Local clock offset: 2.904 ms

Remote clock offset: -3.619 ms

# Below is generated by plot.py at 2017-09-18 13:21:11

# Datalink statistics

-- Total of 1 flow:

Average throughput: 95.28 Mbit/s

95th percentile per-packet one-way delay: 43.598 ms

Loss rate: 2.70%

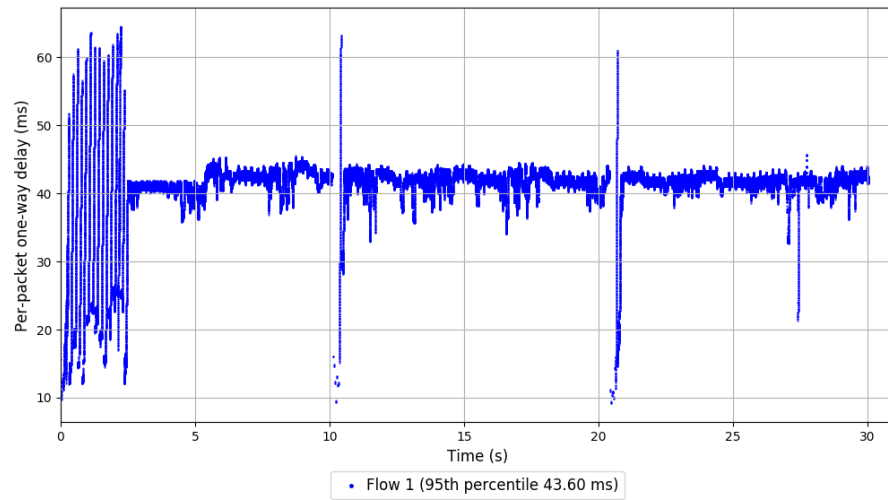
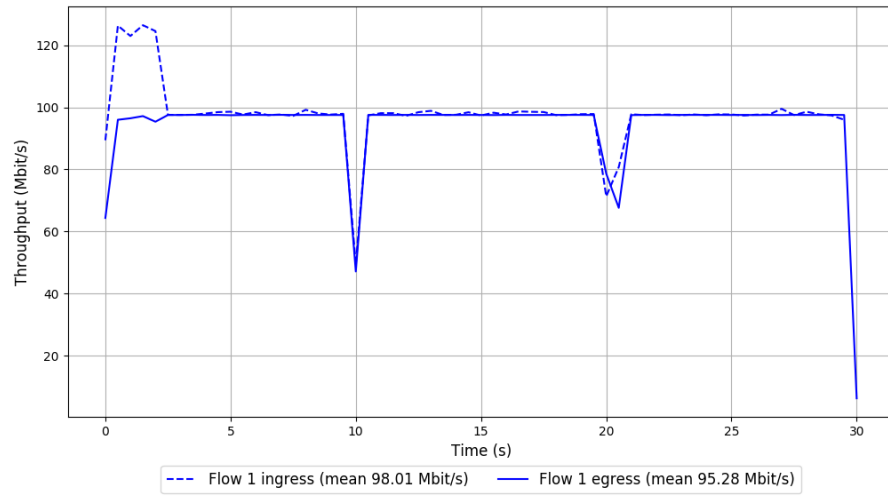
-- Flow 1:

Average throughput: 95.28 Mbit/s

95th percentile per-packet one-way delay: 43.598 ms

Loss rate: 2.70%

## Run 7: Report of TCP BBR — Data Link

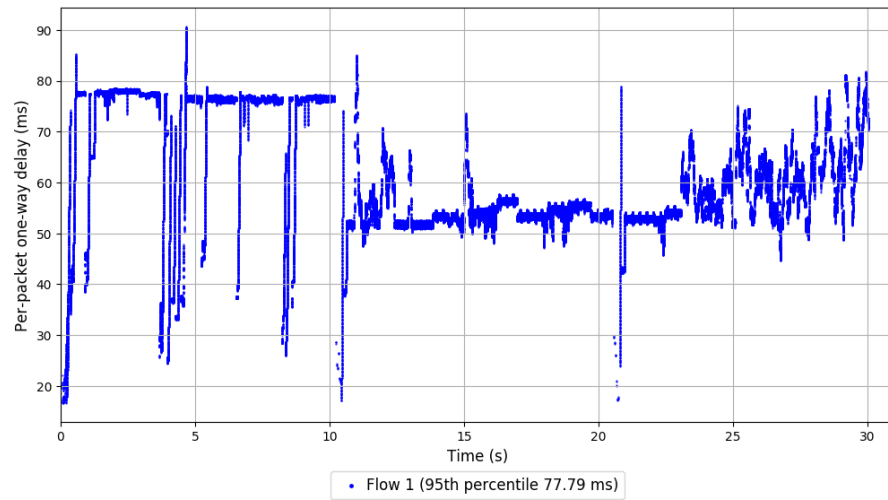
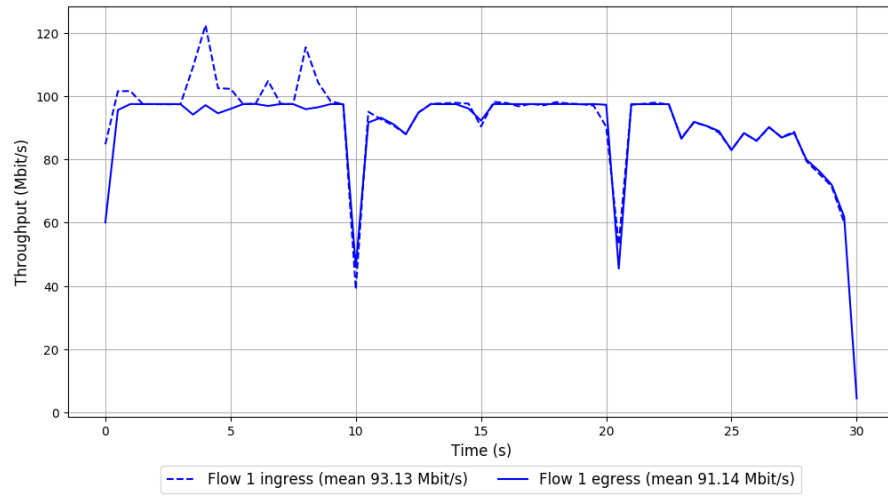


Run 8: Statistics of TCP BBR

Start at: 2017-09-18 12:34:09  
End at: 2017-09-18 12:34:39  
Local clock offset: -0.609 ms  
Remote clock offset: -2.953 ms

# Below is generated by plot.py at 2017-09-18 13:21:11  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.14 Mbit/s  
95th percentile per-packet one-way delay: 77.790 ms  
Loss rate: 2.05%  
-- Flow 1:  
Average throughput: 91.14 Mbit/s  
95th percentile per-packet one-way delay: 77.790 ms  
Loss rate: 2.05%

## Run 8: Report of TCP BBR — Data Link



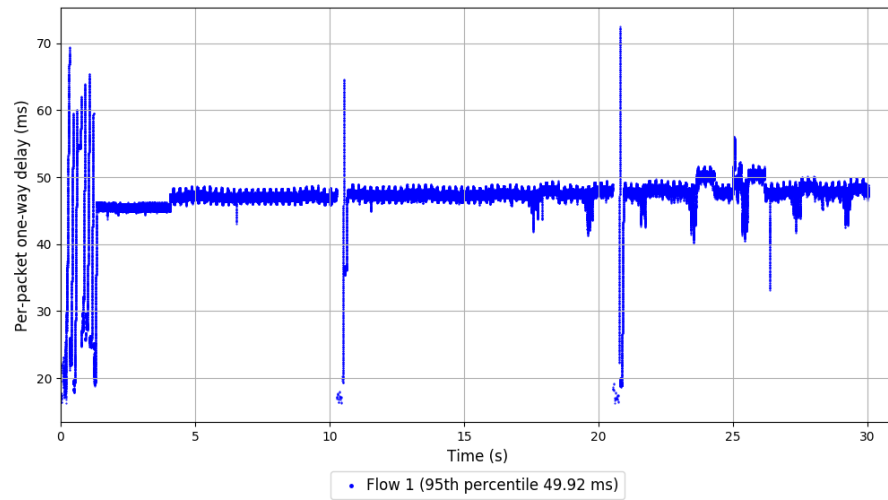
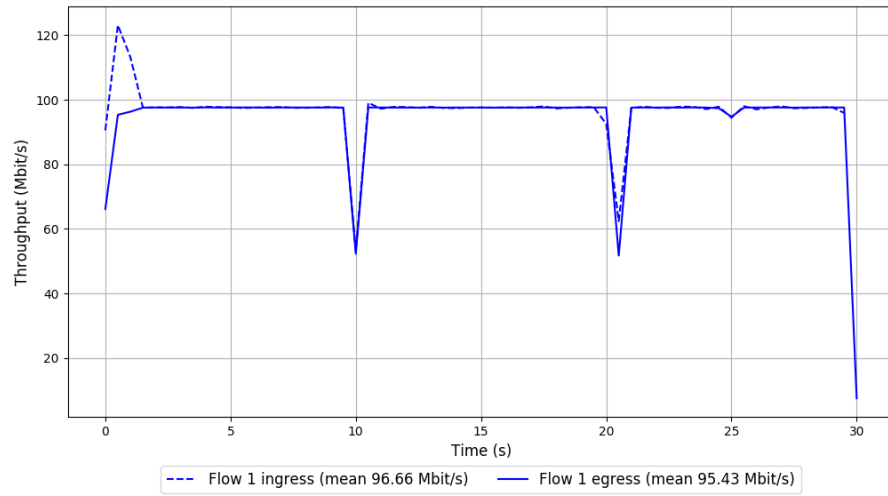
Run 9: Statistics of TCP BBR

Start at: 2017-09-18 12:46:33  
End at: 2017-09-18 12:47:03  
Local clock offset: -4.633 ms  
Remote clock offset: -3.894 ms

# Below is generated by plot.py at 2017-09-18 13:21:57  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 95.43 Mbit/s  
95th percentile per-packet one-way delay: 49.923 ms  
Loss rate: 1.18%  
-- Flow 1:  
Average throughput: 95.43 Mbit/s  
95th percentile per-packet one-way delay: 49.923 ms  
Loss rate: 1.18%



### Run 9: Report of TCP BBR — Data Link

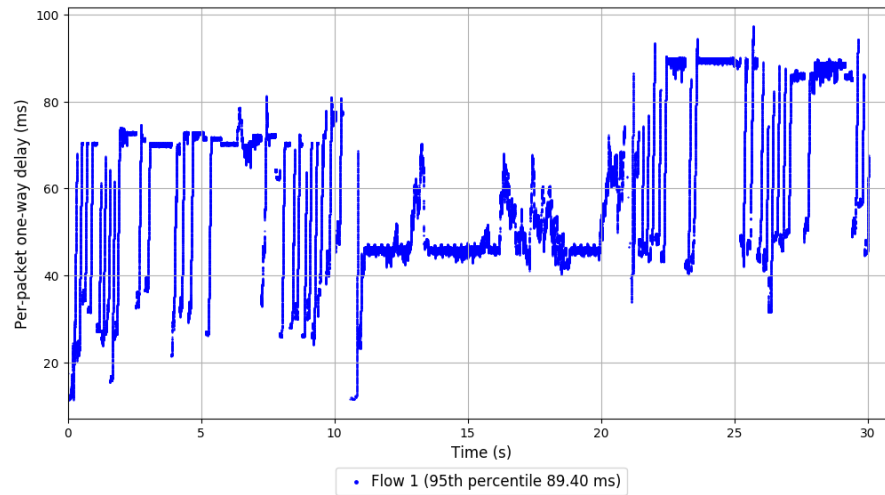
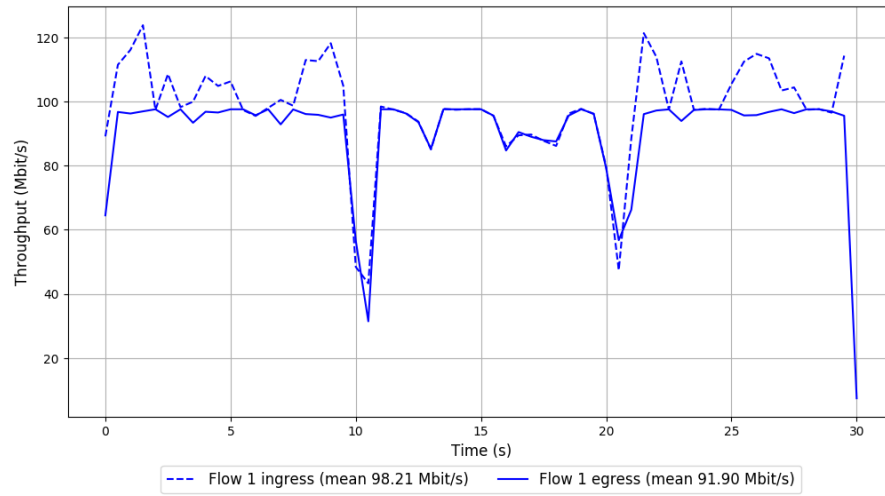


Run 10: Statistics of TCP BBR

Start at: 2017-09-18 12:59:28  
End at: 2017-09-18 12:59:58  
Local clock offset: 2.564 ms  
Remote clock offset: -4.179 ms

# Below is generated by plot.py at 2017-09-18 13:22:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.90 Mbit/s  
95th percentile per-packet one-way delay: 89.404 ms  
Loss rate: 6.33%  
-- Flow 1:  
Average throughput: 91.90 Mbit/s  
95th percentile per-packet one-way delay: 89.404 ms  
Loss rate: 6.33%

### Run 10: Report of TCP BBR — Data Link

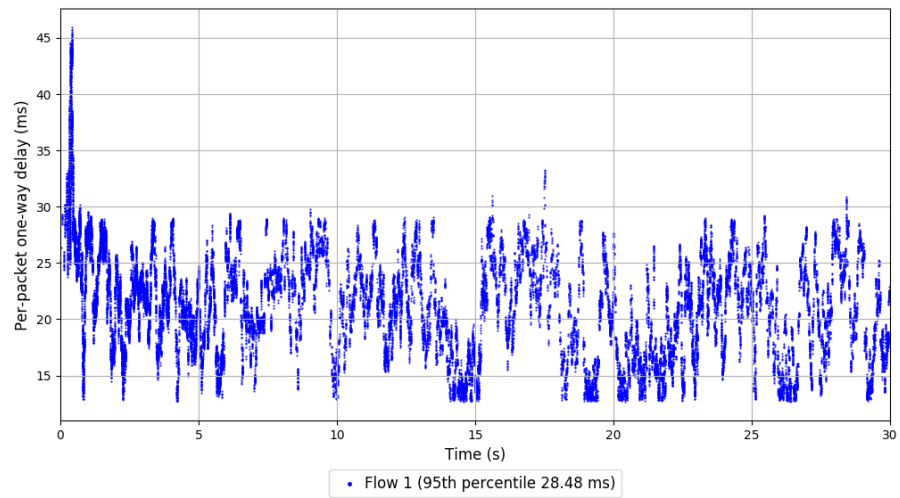
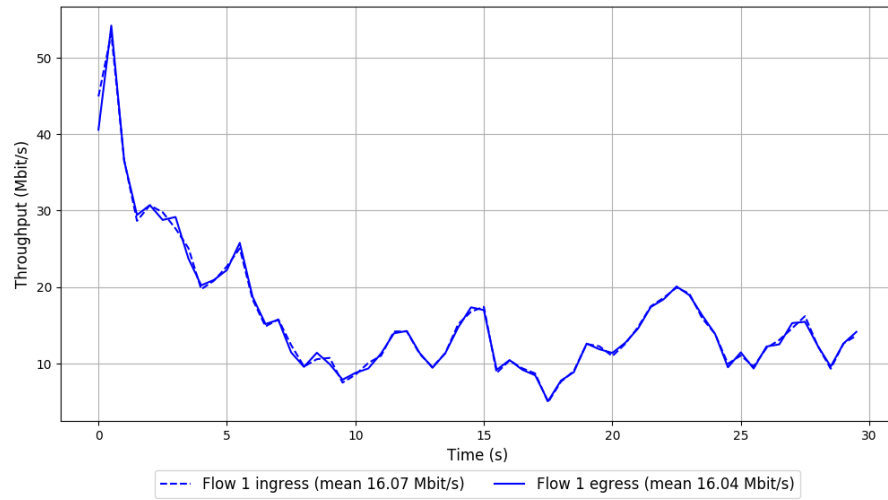


Run 1: Statistics of TCP Cubic

Start at: 2017-09-18 10:38:03  
End at: 2017-09-18 10:38:33  
Local clock offset: 1.594 ms  
Remote clock offset: -6.312 ms

# Below is generated by plot.py at 2017-09-18 13:22:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.04 Mbit/s  
95th percentile per-packet one-way delay: 28.483 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 16.04 Mbit/s  
95th percentile per-packet one-way delay: 28.483 ms  
Loss rate: 0.31%

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

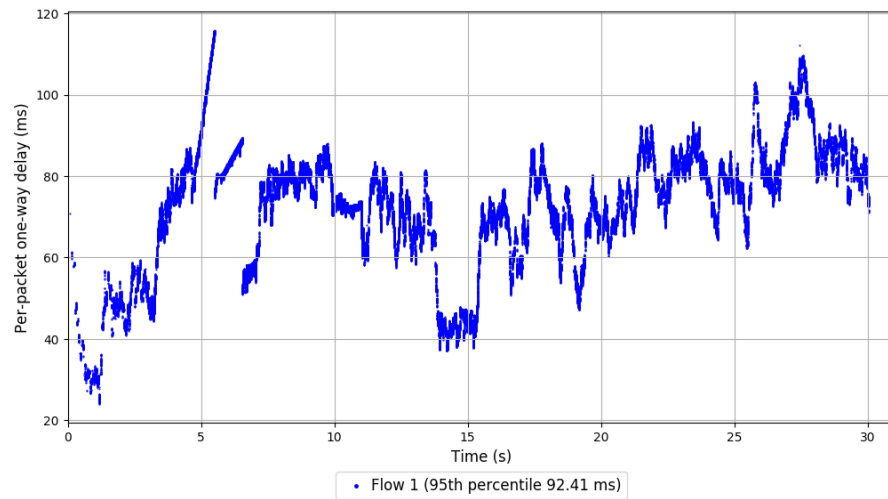
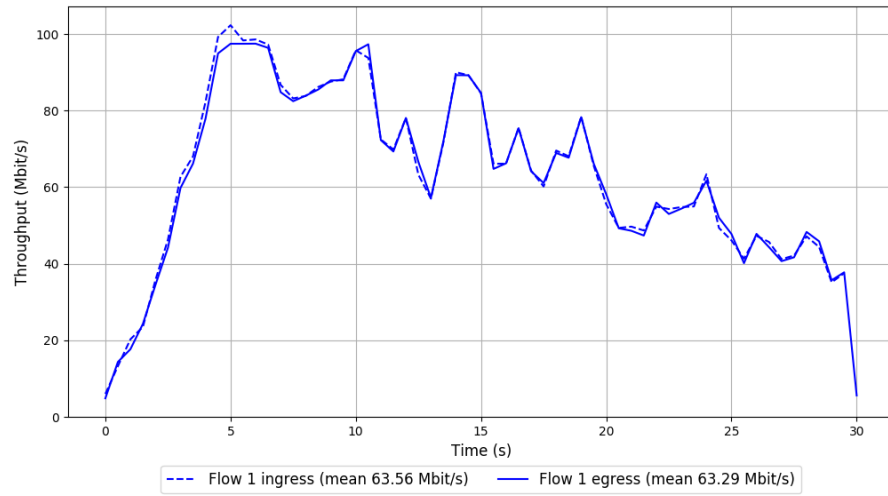


Run 2: Statistics of TCP Cubic

Start at: 2017-09-18 10:51:48  
End at: 2017-09-18 10:52:18  
Local clock offset: 2.012 ms  
Remote clock offset: -4.222 ms

# Below is generated by plot.py at 2017-09-18 13:22:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.29 Mbit/s  
95th percentile per-packet one-way delay: 92.412 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 63.29 Mbit/s  
95th percentile per-packet one-way delay: 92.412 ms  
Loss rate: 0.42%

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



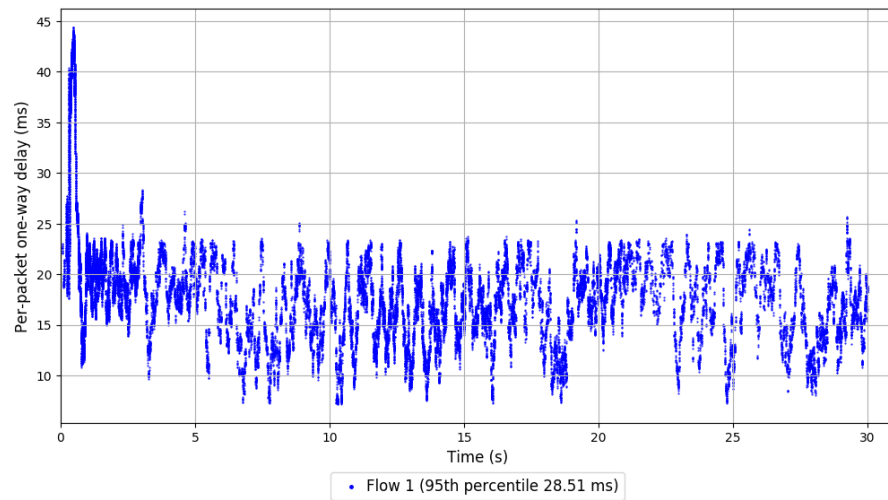
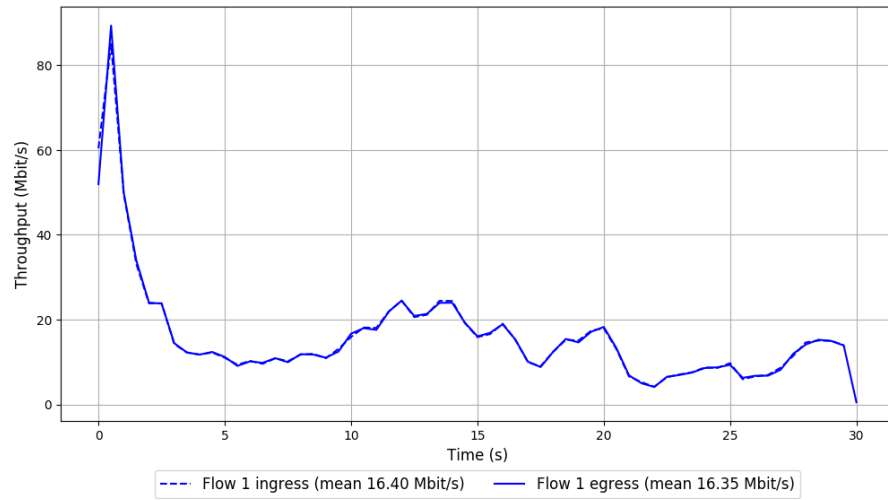
Run 3: Statistics of TCP Cubic

Start at: 2017-09-18 11:06:14  
End at: 2017-09-18 11:06:44  
Local clock offset: 3.904 ms  
Remote clock offset: -4.055 ms

# Below is generated by plot.py at 2017-09-18 13:22:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.35 Mbit/s  
95th percentile per-packet one-way delay: 28.514 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 16.35 Mbit/s  
95th percentile per-packet one-way delay: 28.514 ms  
Loss rate: 0.34%



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

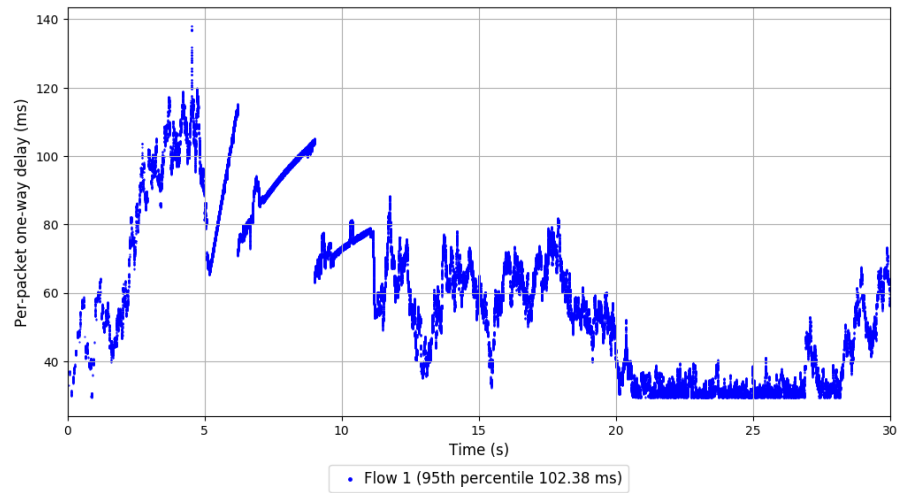
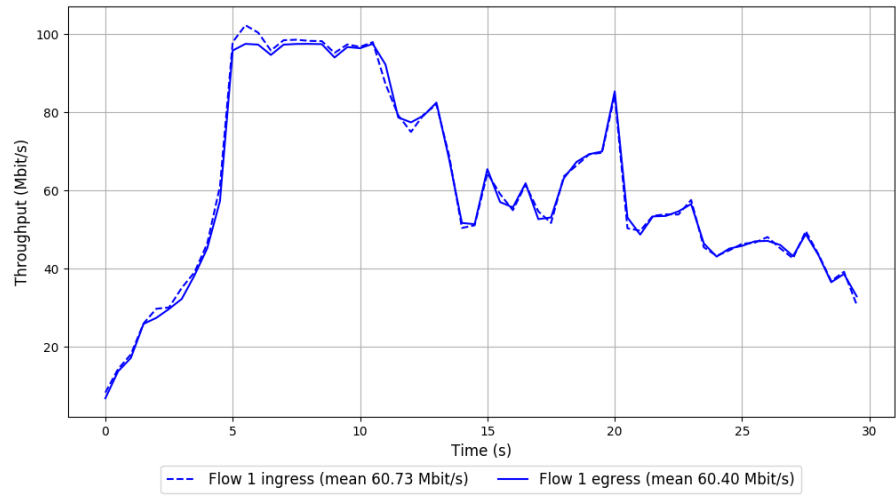


Run 4: Statistics of TCP Cubic

Start at: 2017-09-18 11:21:05  
End at: 2017-09-18 11:21:35  
Local clock offset: 0.694 ms  
Remote clock offset: -4.352 ms

# Below is generated by plot.py at 2017-09-18 13:22:30  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 60.40 Mbit/s  
95th percentile per-packet one-way delay: 102.377 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 60.40 Mbit/s  
95th percentile per-packet one-way delay: 102.377 ms  
Loss rate: 0.56%

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

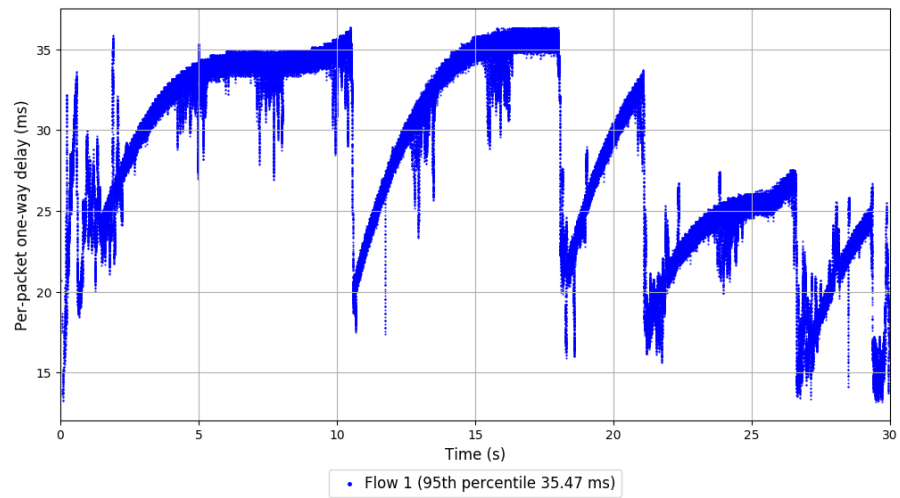
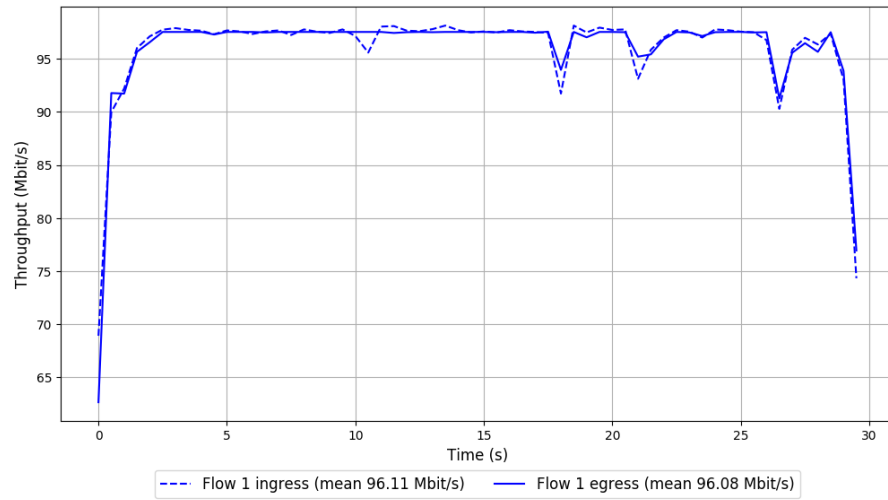


Run 5: Statistics of TCP Cubic

Start at: 2017-09-18 11:35:09  
End at: 2017-09-18 11:35:39  
Local clock offset: -0.294 ms  
Remote clock offset: -1.971 ms

# Below is generated by plot.py at 2017-09-18 13:22:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 96.08 Mbit/s  
95th percentile per-packet one-way delay: 35.469 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 96.08 Mbit/s  
95th percentile per-packet one-way delay: 35.469 ms  
Loss rate: 0.04%

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

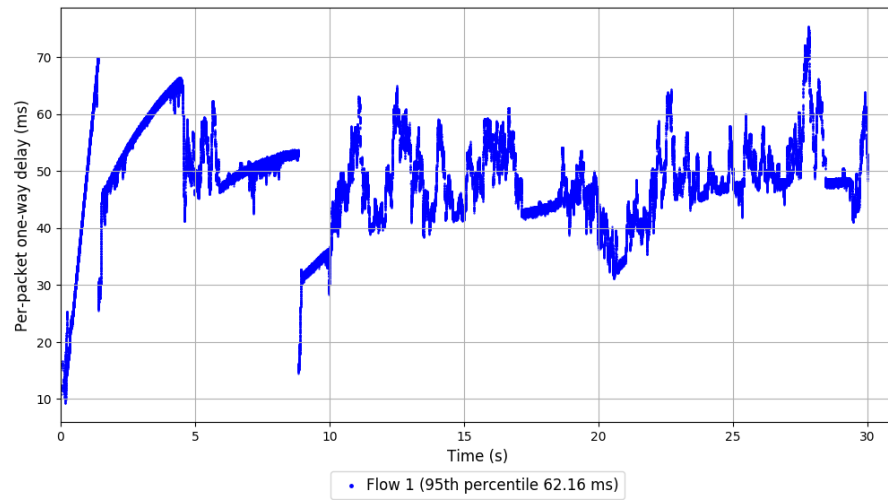
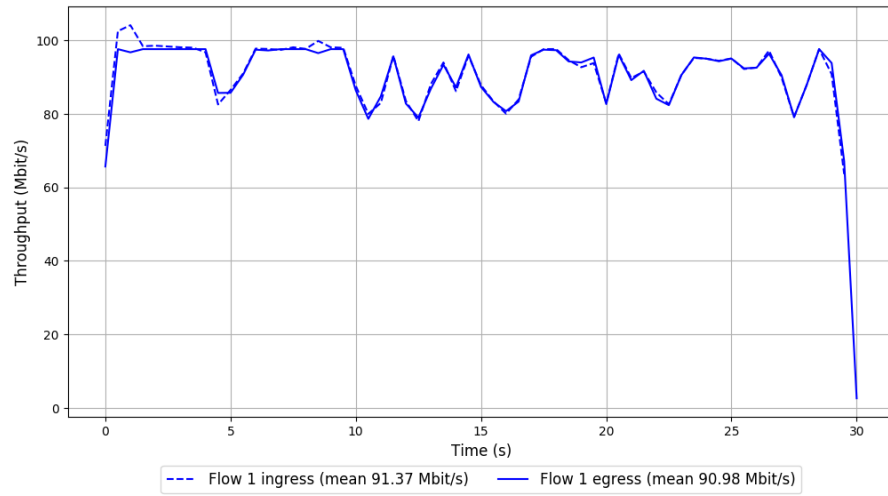


Run 6: Statistics of TCP Cubic

Start at: 2017-09-18 11:50:37  
End at: 2017-09-18 11:51:07  
Local clock offset: 2.147 ms  
Remote clock offset: -3.245 ms

# Below is generated by plot.py at 2017-09-18 13:22:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 90.98 Mbit/s  
95th percentile per-packet one-way delay: 62.160 ms  
Loss rate: 0.31%  
-- Flow 1:  
Average throughput: 90.98 Mbit/s  
95th percentile per-packet one-way delay: 62.160 ms  
Loss rate: 0.31%

### Run 6: Report of TCP Cubic — Data Link



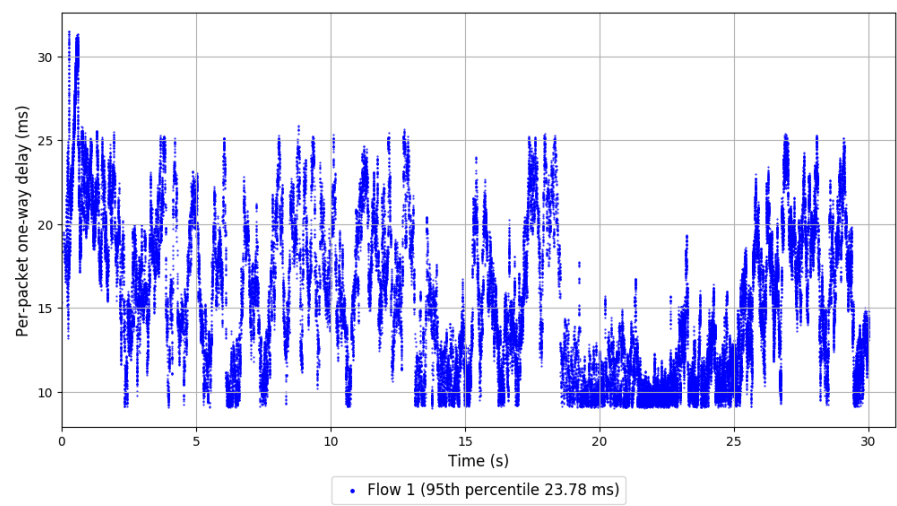
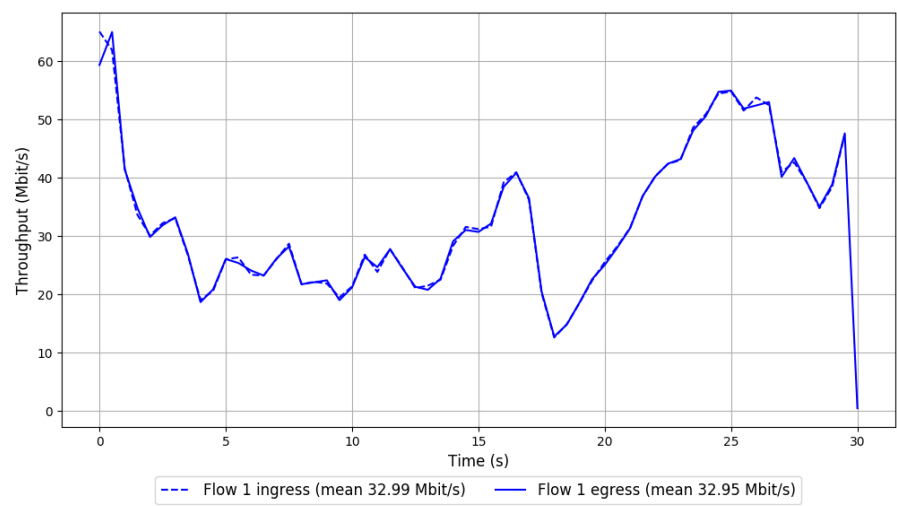
Run 7: Statistics of TCP Cubic

Start at: 2017-09-18 12:05:11  
End at: 2017-09-18 12:05:41  
Local clock offset: 2.667 ms  
Remote clock offset: -3.589 ms

# Below is generated by plot.py at 2017-09-18 13:22:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 32.95 Mbit/s  
95th percentile per-packet one-way delay: 23.776 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 32.95 Mbit/s  
95th percentile per-packet one-way delay: 23.776 ms  
Loss rate: 0.13%



Run 7: Report of TCP Cubic — Data Link

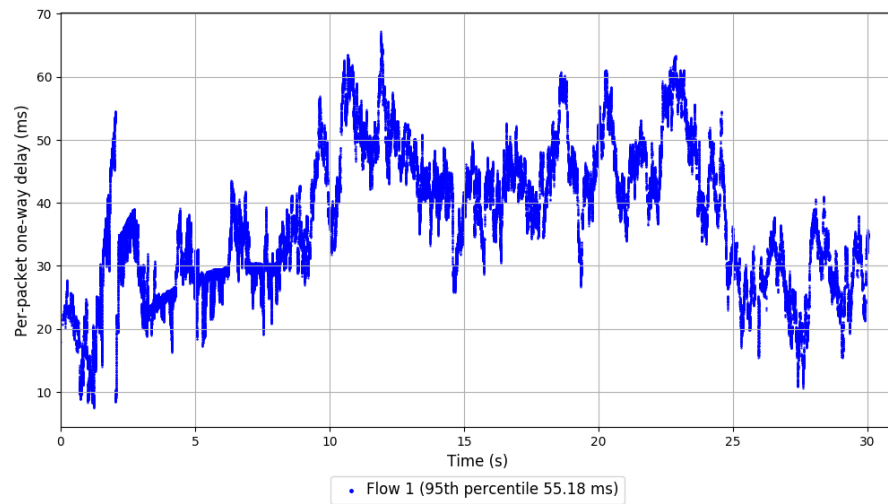
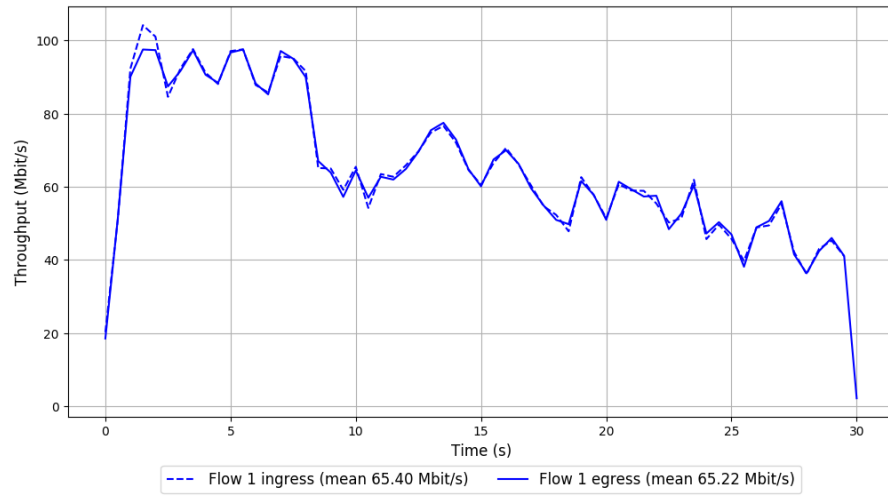


Run 8: Statistics of TCP Cubic

Start at: 2017-09-18 12:19:59  
End at: 2017-09-18 12:20:29  
Local clock offset: 3.257 ms  
Remote clock offset: -4.171 ms

# Below is generated by plot.py at 2017-09-18 13:22:35  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 65.22 Mbit/s  
95th percentile per-packet one-way delay: 55.183 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 65.22 Mbit/s  
95th percentile per-packet one-way delay: 55.183 ms  
Loss rate: 0.22%

### Run 8: Report of TCP Cubic — Data Link

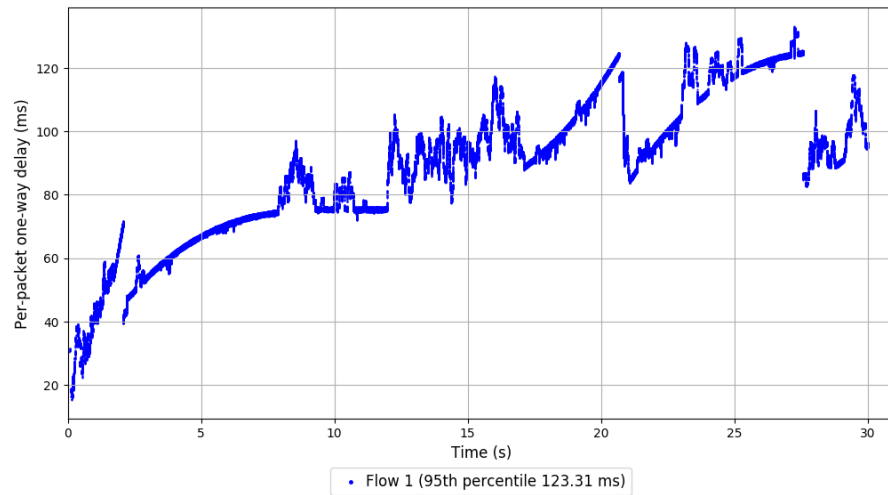
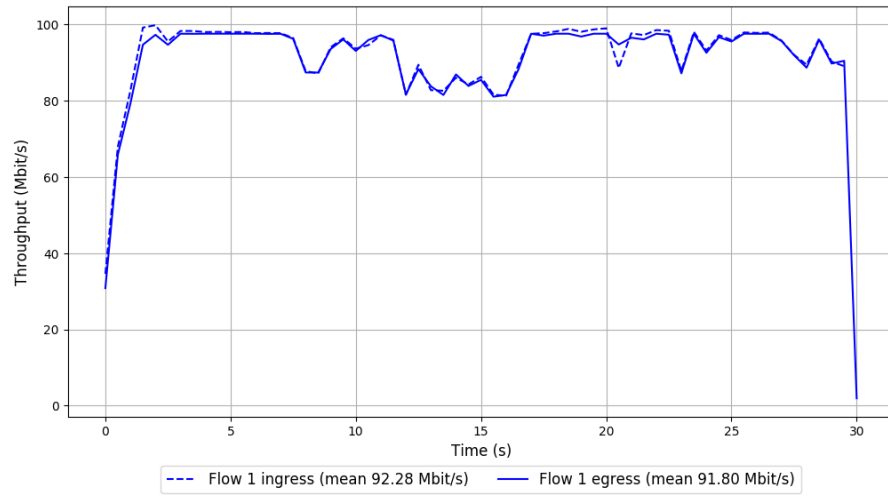


Run 9: Statistics of TCP Cubic

Start at: 2017-09-18 12:40:18  
End at: 2017-09-18 12:40:48  
Local clock offset: 0.306 ms  
Remote clock offset: -4.143 ms

# Below is generated by plot.py at 2017-09-18 13:23:13  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.80 Mbit/s  
95th percentile per-packet one-way delay: 123.311 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 91.80 Mbit/s  
95th percentile per-packet one-way delay: 123.311 ms  
Loss rate: 0.56%

### Run 9: Report of TCP Cubic — Data Link



Run 10: Statistics of TCP Cubic

Start at: 2017-09-18 12:53:01

End at: 2017-09-18 12:53:31

Local clock offset: 4.464 ms

Remote clock offset: -4.302 ms

# Below is generated by plot.py at 2017-09-18 13:23:31

# Datalink statistics

-- Total of 1 flow:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 41.614 ms

Loss rate: 0.28%

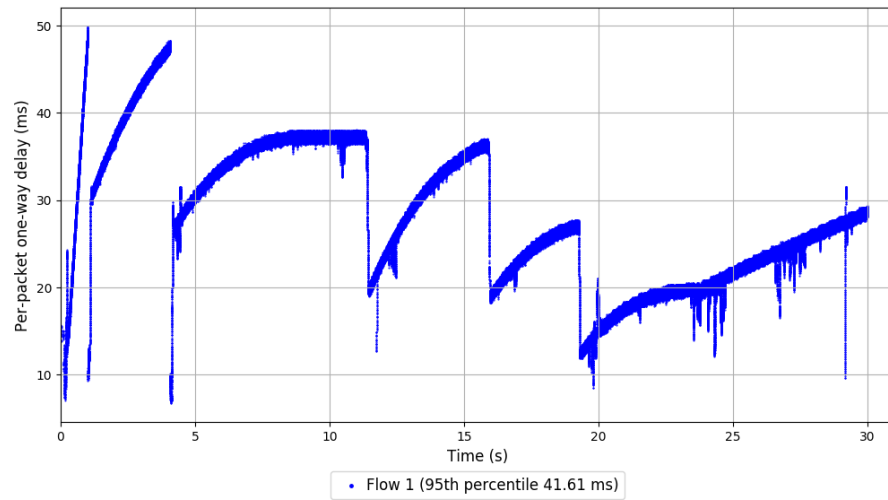
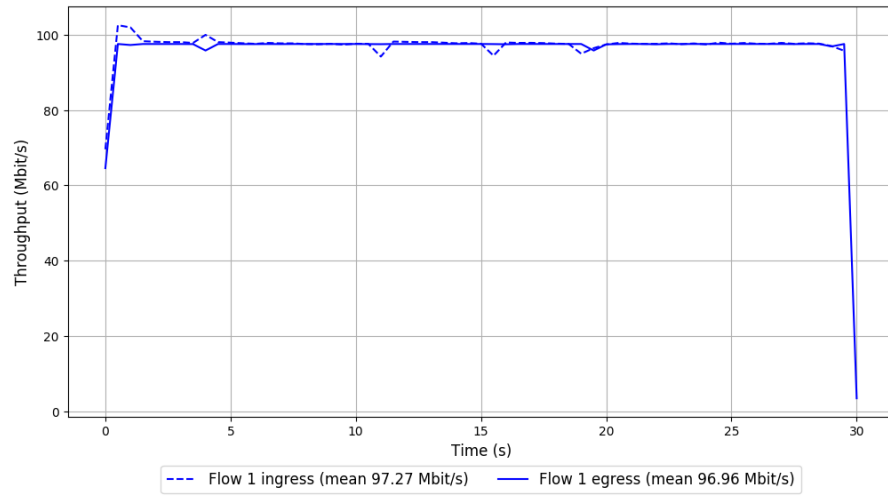
-- Flow 1:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 41.614 ms

Loss rate: 0.28%

### Run 10: Report of TCP Cubic — Data Link



Run 1: Statistics of Indigo

Start at: 2017-09-18 10:35:36

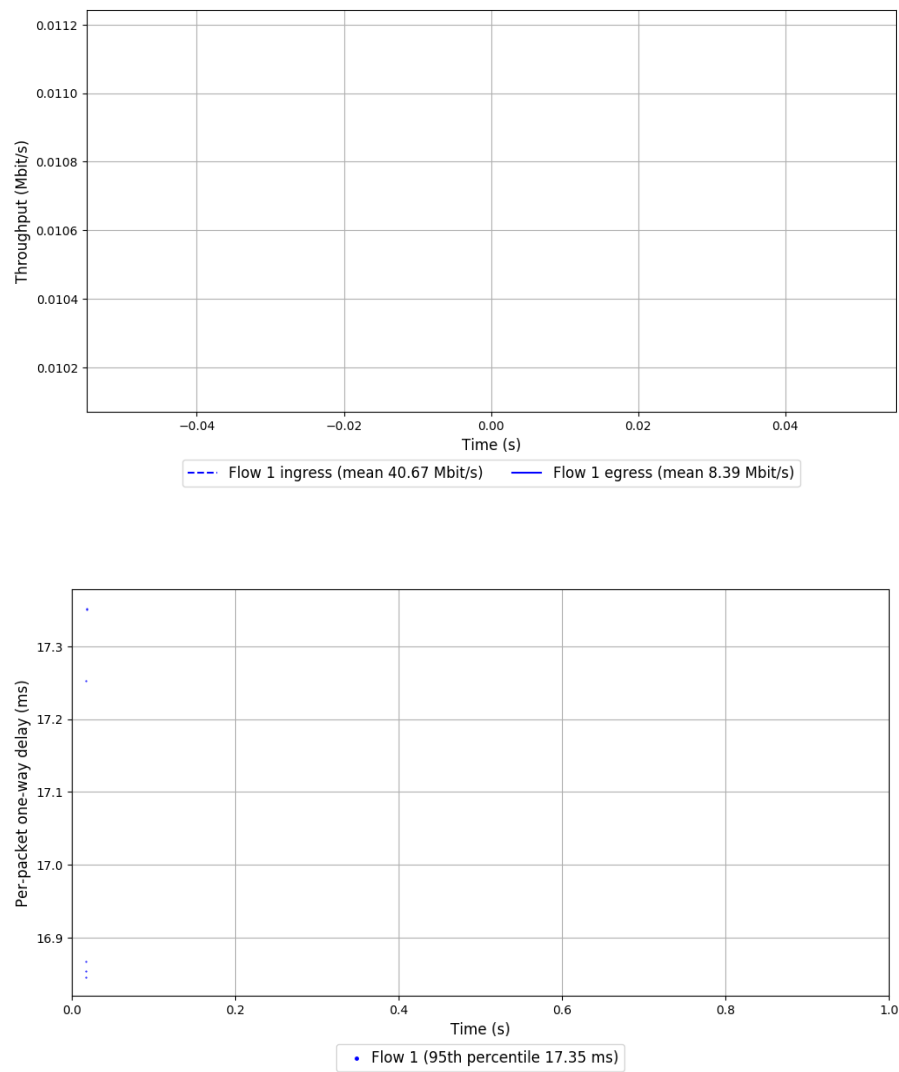
End at: 2017-09-18 10:36:06

Local clock offset: -0.169 ms

Remote clock offset: -4.712 ms



Run 1: Report of Indigo — Data Link

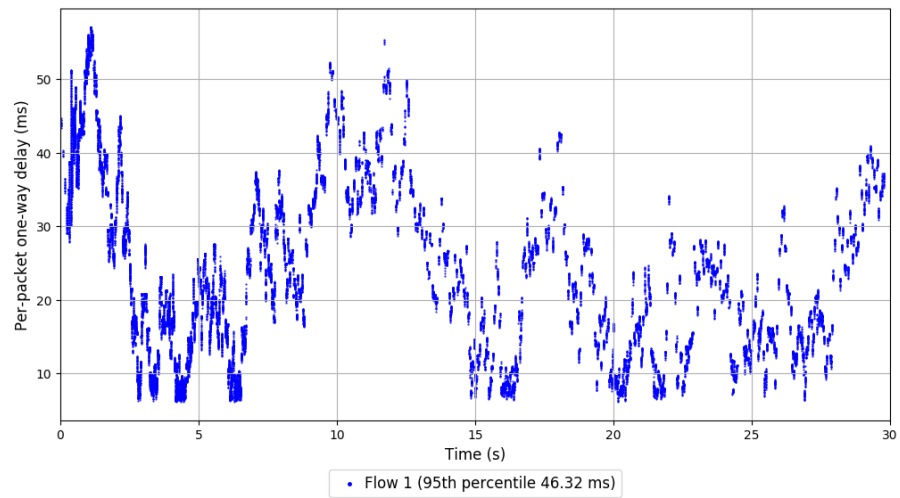
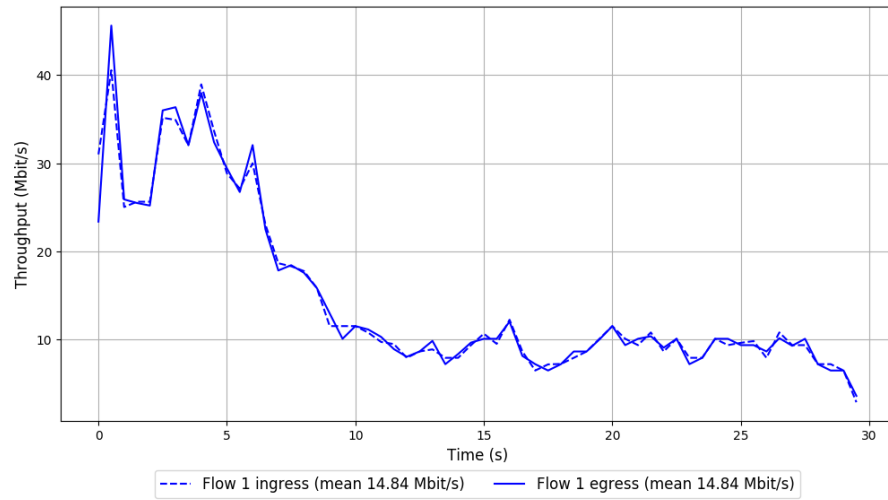


Run 2: Statistics of Indigo

Start at: 2017-09-18 10:49:01  
End at: 2017-09-18 10:49:31  
Local clock offset: 3.808 ms  
Remote clock offset: -4.471 ms

# Below is generated by plot.py at 2017-09-18 13:23:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 14.84 Mbit/s  
95th percentile per-packet one-way delay: 46.316 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 14.84 Mbit/s  
95th percentile per-packet one-way delay: 46.316 ms  
Loss rate: 0.01%

## Run 2: Report of Indigo — Data Link

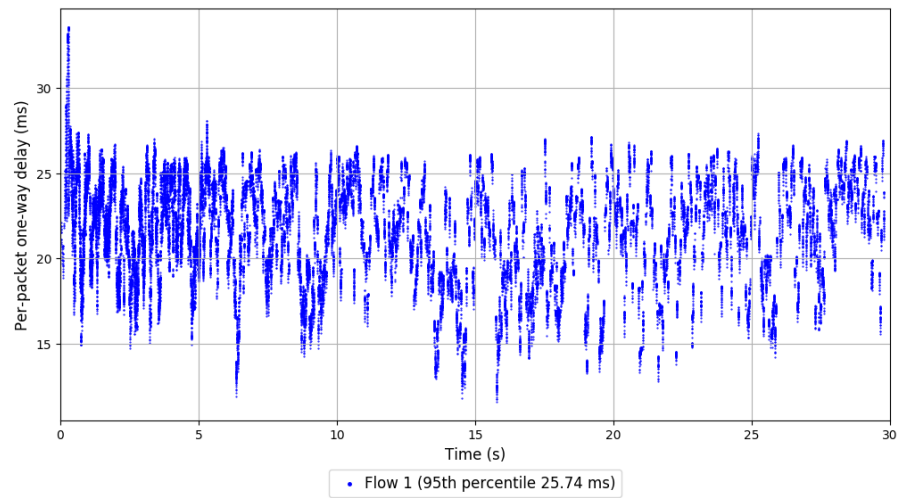
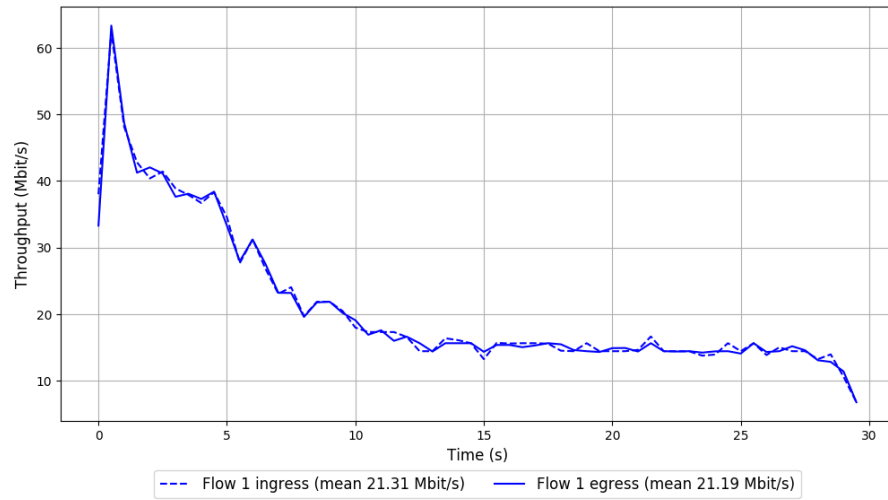


Run 3: Statistics of Indigo

Start at: 2017-09-18 11:03:37  
End at: 2017-09-18 11:04:07  
Local clock offset: 1.925 ms  
Remote clock offset: -3.887 ms

# Below is generated by plot.py at 2017-09-18 13:23:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 21.19 Mbit/s  
95th percentile per-packet one-way delay: 25.741 ms  
Loss rate: 0.54%  
-- Flow 1:  
Average throughput: 21.19 Mbit/s  
95th percentile per-packet one-way delay: 25.741 ms  
Loss rate: 0.54%

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

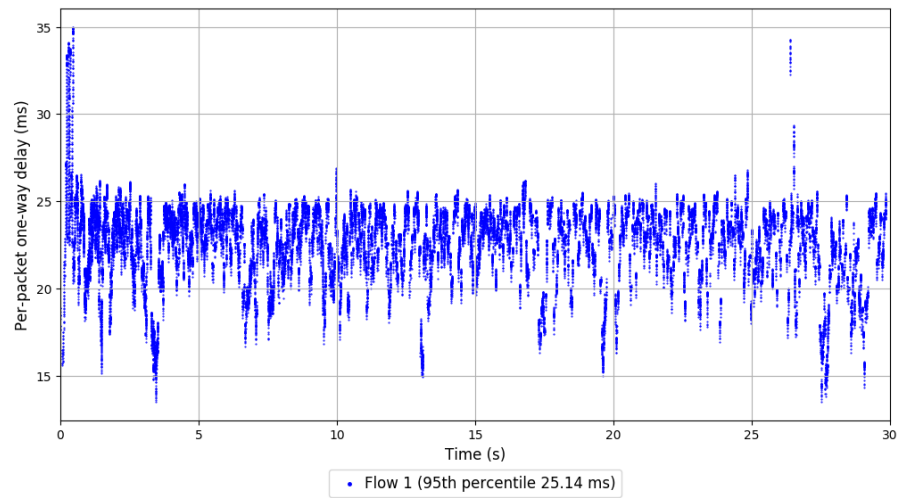
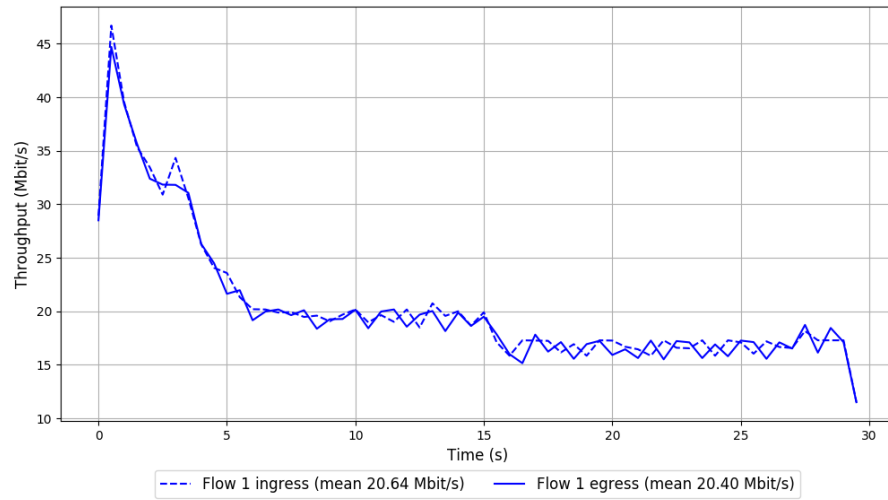


Run 4: Statistics of Indigo

Start at: 2017-09-18 11:18:18  
End at: 2017-09-18 11:18:48  
Local clock offset: 3.225 ms  
Remote clock offset: -3.222 ms

# Below is generated by plot.py at 2017-09-18 13:23:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 20.40 Mbit/s  
95th percentile per-packet one-way delay: 25.139 ms  
Loss rate: 1.13%  
-- Flow 1:  
Average throughput: 20.40 Mbit/s  
95th percentile per-packet one-way delay: 25.139 ms  
Loss rate: 1.13%

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



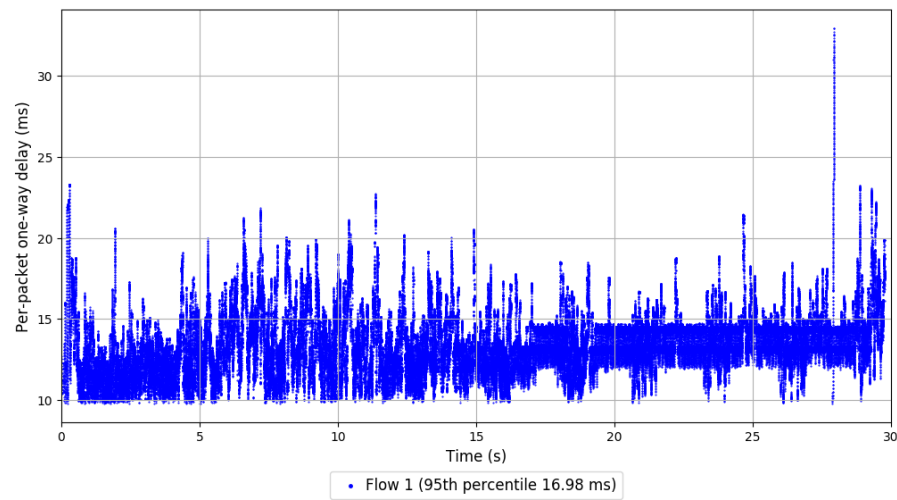
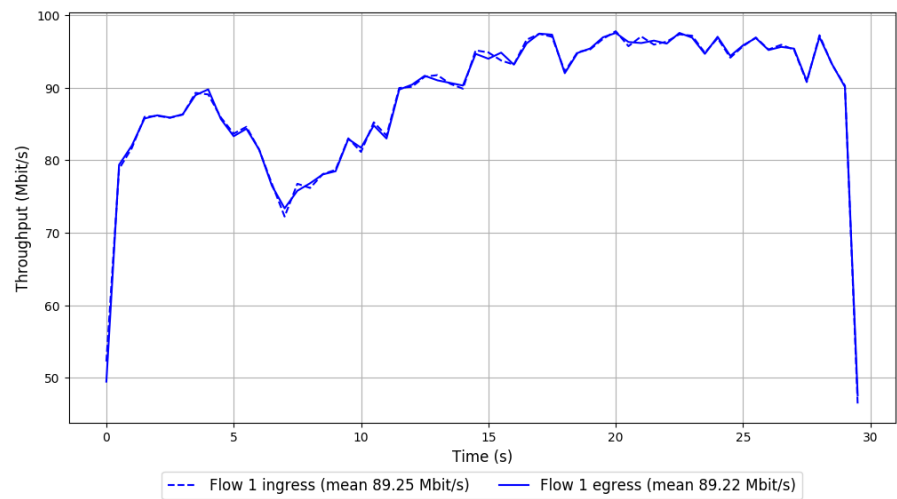
Run 5: Statistics of Indigo

Start at: 2017-09-18 11:32:00  
End at: 2017-09-18 11:32:30  
Local clock offset: 2.375 ms  
Remote clock offset: -2.684 ms

# Below is generated by plot.py at 2017-09-18 13:23:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 89.22 Mbit/s  
95th percentile per-packet one-way delay: 16.976 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 89.22 Mbit/s  
95th percentile per-packet one-way delay: 16.976 ms  
Loss rate: 0.04%



Run 5: Report of Indigo — Data Link

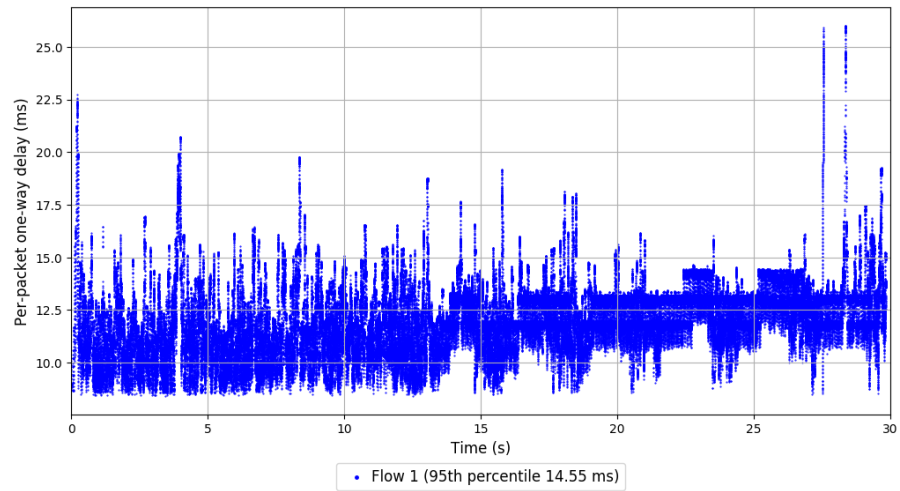
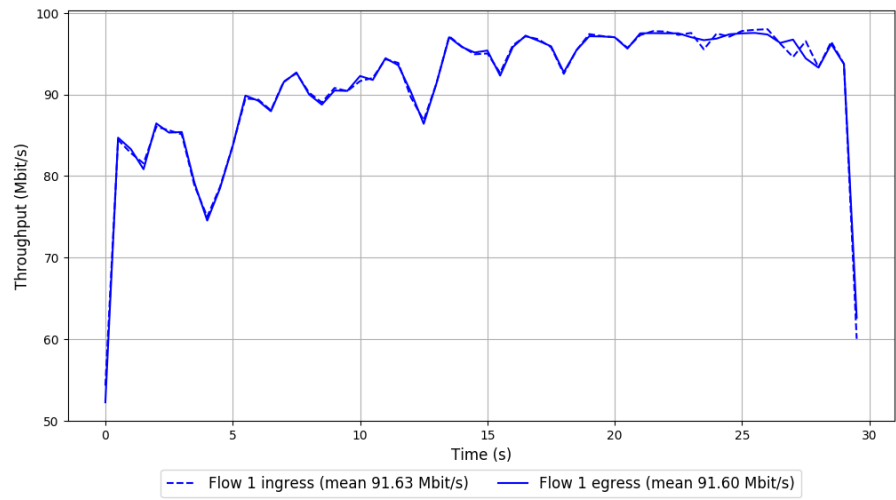


Run 6: Statistics of Indigo

Start at: 2017-09-18 11:46:36  
End at: 2017-09-18 11:47:06  
Local clock offset: 3.785 ms  
Remote clock offset: -2.794 ms

# Below is generated by plot.py at 2017-09-18 13:23:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 91.60 Mbit/s  
95th percentile per-packet one-way delay: 14.553 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 91.60 Mbit/s  
95th percentile per-packet one-way delay: 14.553 ms  
Loss rate: 0.02%

## Run 6: Report of Indigo — Data Link



Run 7: Statistics of Indigo

Start at: 2017-09-18 12:02:51

End at: 2017-09-18 12:03:21

Local clock offset: 2.173 ms

Remote clock offset: -3.442 ms

Run 7: Report of Indigo — Data Link

Figure is missing

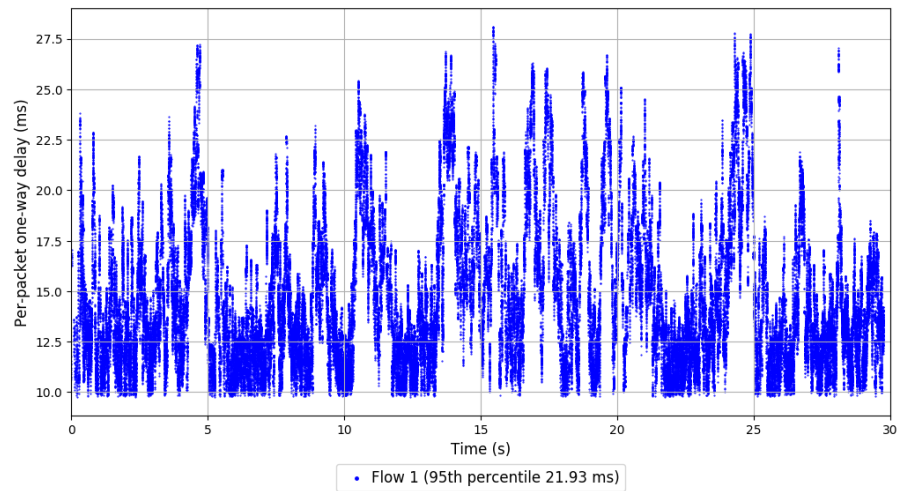
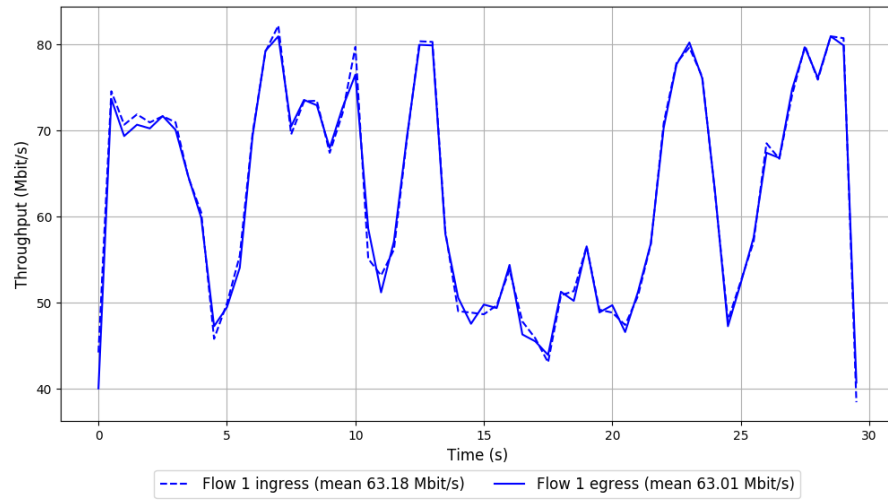
Figure is missing

Run 8: Statistics of Indigo

Start at: 2017-09-18 12:16:45  
End at: 2017-09-18 12:17:15  
Local clock offset: 2.701 ms  
Remote clock offset: -3.218 ms

# Below is generated by plot.py at 2017-09-18 13:23:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 63.01 Mbit/s  
95th percentile per-packet one-way delay: 21.927 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 63.01 Mbit/s  
95th percentile per-packet one-way delay: 21.927 ms  
Loss rate: 0.28%

### Run 8: Report of Indigo — Data Link



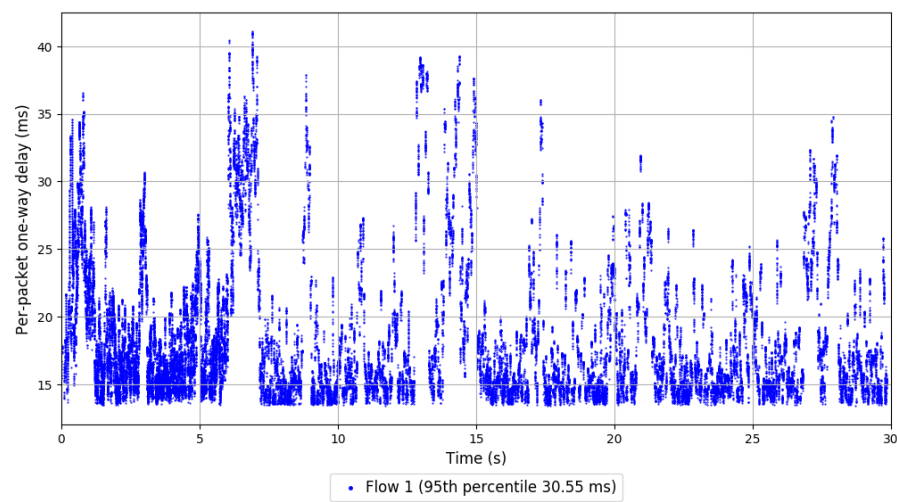
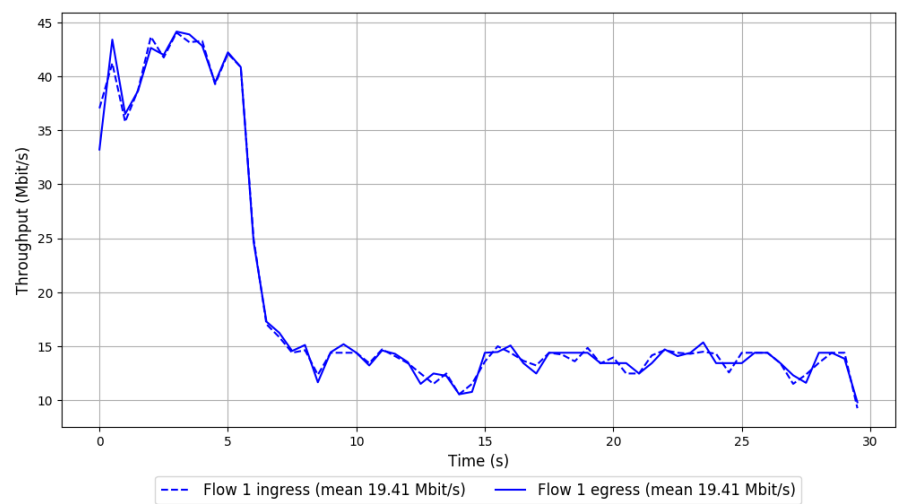
Run 9: Statistics of Indigo

Start at: 2017-09-18 12:37:49  
End at: 2017-09-18 12:38:19  
Local clock offset: 0.533 ms  
Remote clock offset: -3.842 ms

# Below is generated by plot.py at 2017-09-18 13:23:50  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 19.41 Mbit/s  
95th percentile per-packet one-way delay: 30.545 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 19.41 Mbit/s  
95th percentile per-packet one-way delay: 30.545 ms  
Loss rate: 0.00%



Run 9: Report of Indigo — Data Link

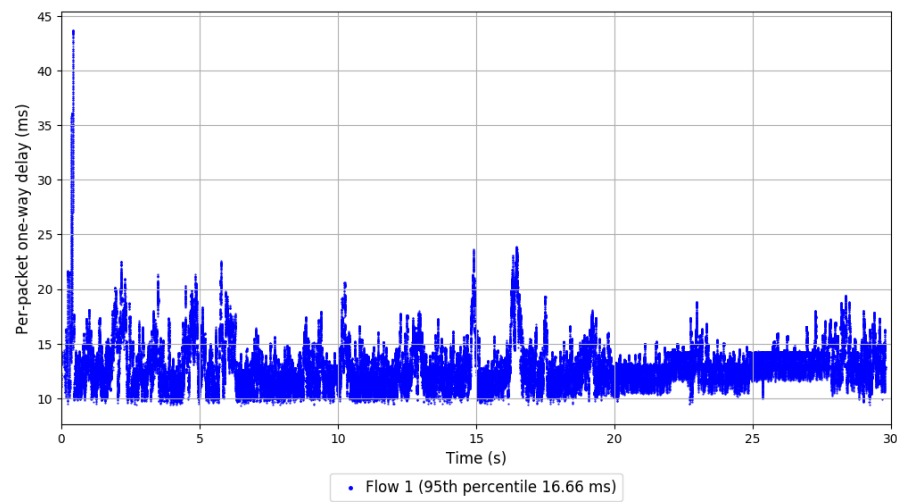
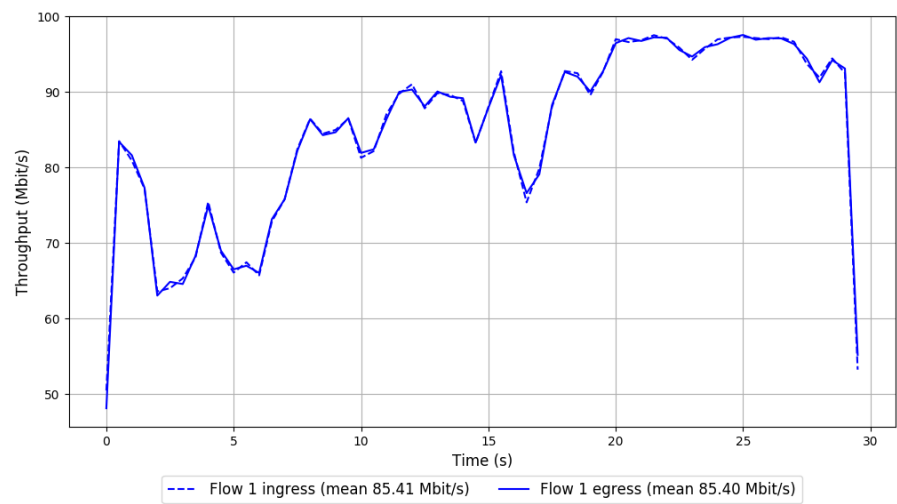


Run 10: Statistics of Indigo

Start at: 2017-09-18 12:50:21  
End at: 2017-09-18 12:50:51  
Local clock offset: 4.445 ms  
Remote clock offset: -3.496 ms

# Below is generated by plot.py at 2017-09-18 13:23:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 85.40 Mbit/s  
95th percentile per-packet one-way delay: 16.657 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 85.40 Mbit/s  
95th percentile per-packet one-way delay: 16.657 ms  
Loss rate: 0.01%

Run 10: Report of Indigo — Data Link

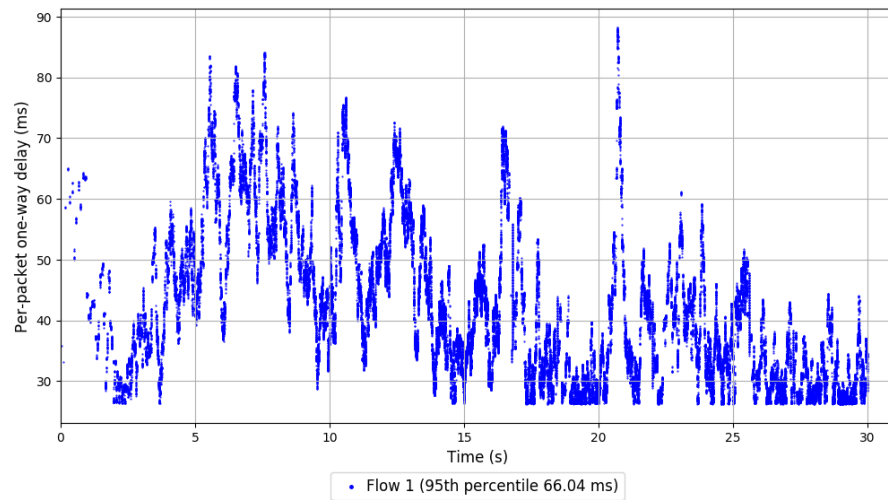
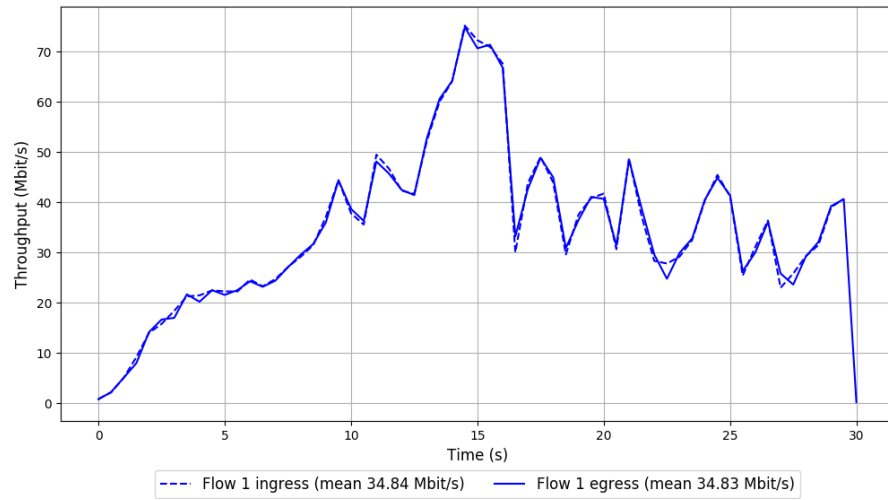


```
Run 1: Statistics of LEDBAT

Start at: 2017-09-18 10:36:42
End at: 2017-09-18 10:37:12
Local clock offset: 3.76 ms
Remote clock offset: -4.84 ms

# Below is generated by plot.py at 2017-09-18 13:23:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 66.039 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 66.039 ms
Loss rate: 0.08%
```

## Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2017-09-18 10:50:14

End at: 2017-09-18 10:50:44

Local clock offset: 3.328 ms

Remote clock offset: -4.32 ms

# Below is generated by plot.py at 2017-09-18 13:23:53

# Datalink statistics

-- Total of 1 flow:

Average throughput: 38.55 Mbit/s

95th percentile per-packet one-way delay: 72.017 ms

Loss rate: 0.01%

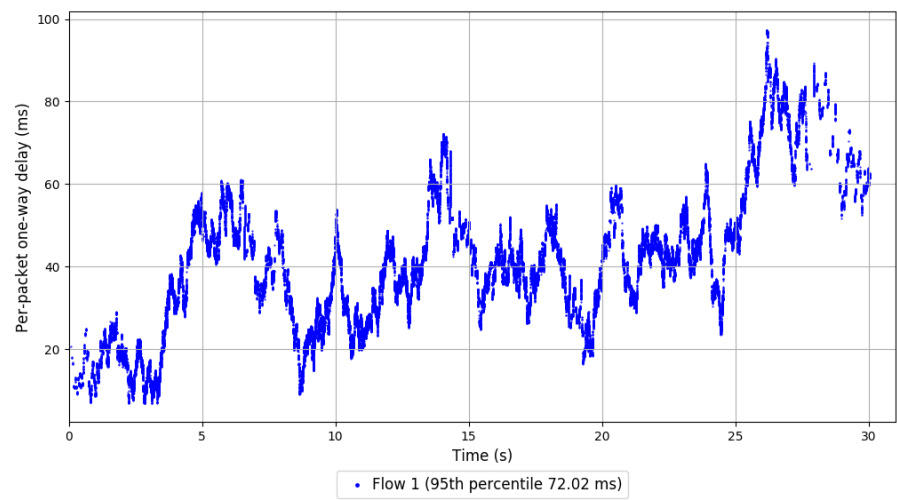
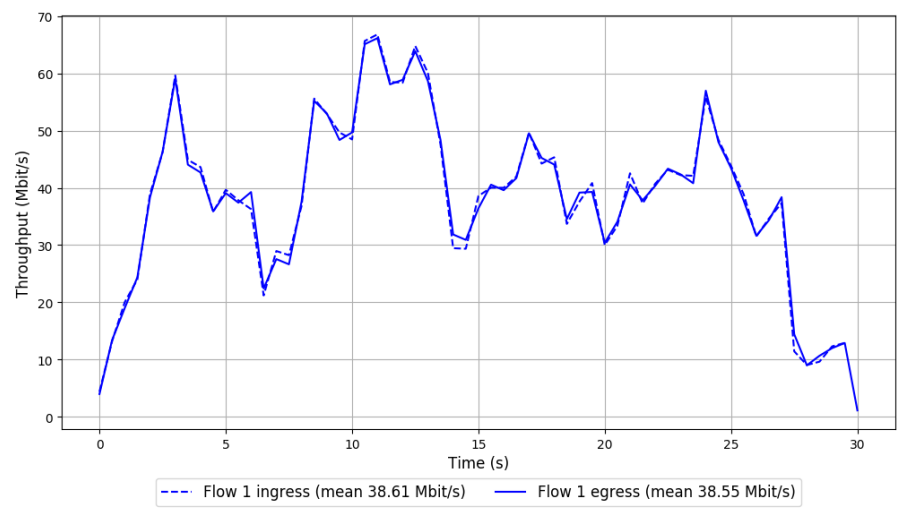
-- Flow 1:

Average throughput: 38.55 Mbit/s

95th percentile per-packet one-way delay: 72.017 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



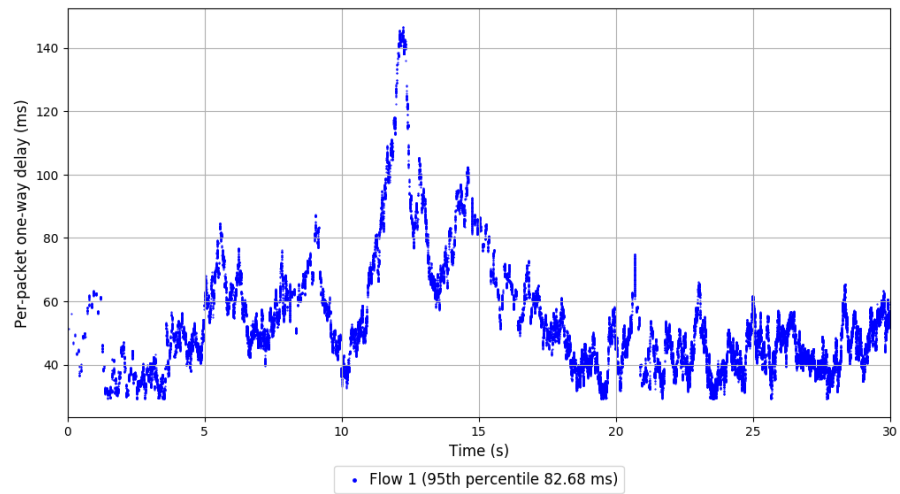
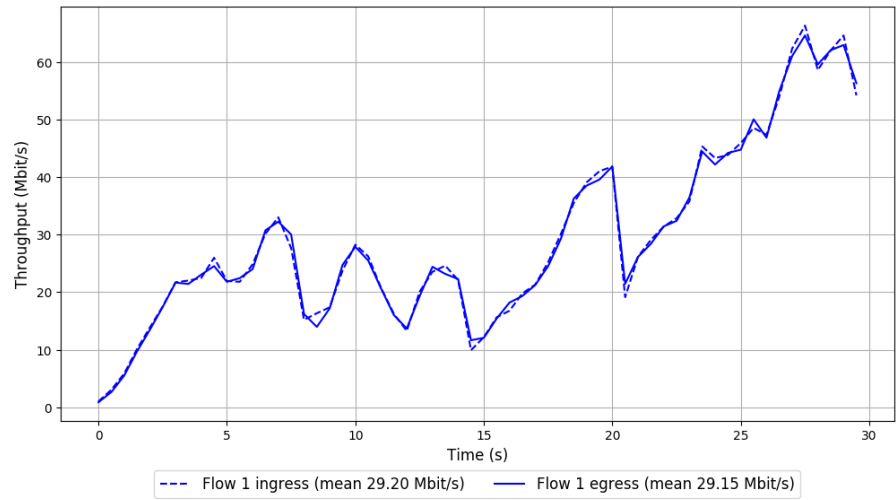
Run 3: Statistics of LEDBAT

Start at: 2017-09-18 11:04:52  
End at: 2017-09-18 11:05:22  
Local clock offset: 1.771 ms  
Remote clock offset: -3.746 ms

# Below is generated by plot.py at 2017-09-18 13:23:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 29.15 Mbit/s  
95th percentile per-packet one-way delay: 82.676 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 29.15 Mbit/s  
95th percentile per-packet one-way delay: 82.676 ms  
Loss rate: 0.29%



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

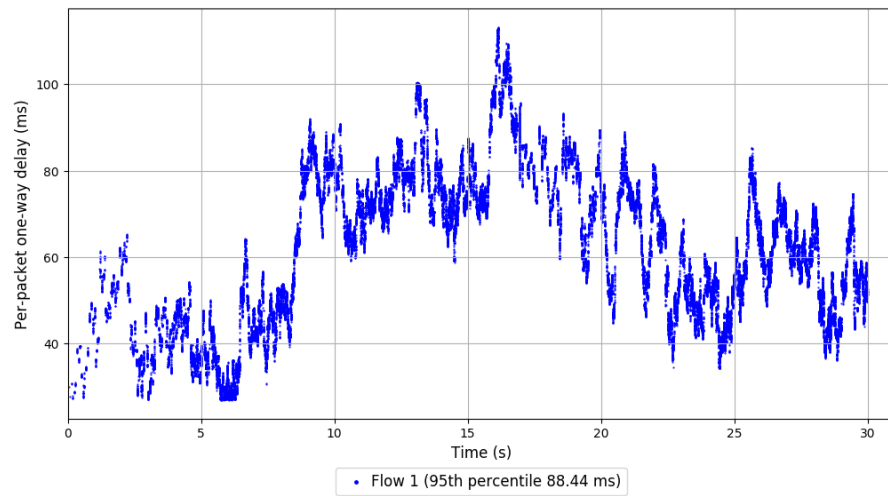
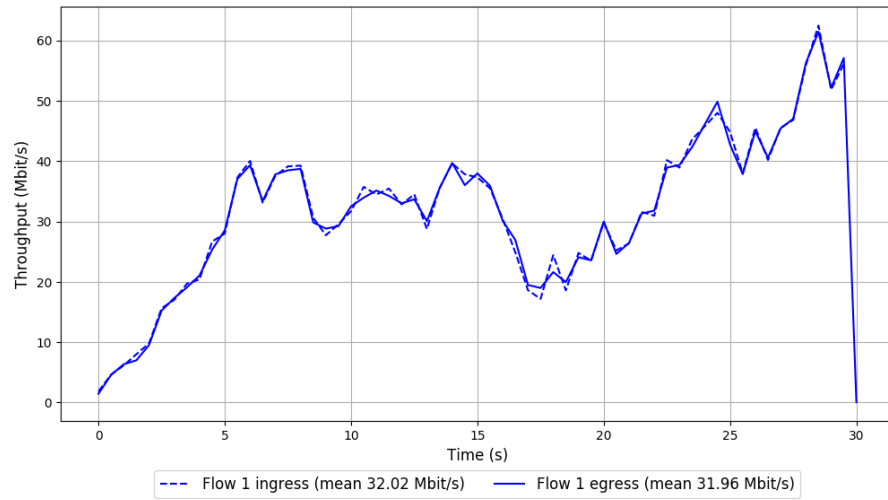


Run 4: Statistics of LEDBAT

Start at: 2017-09-18 11:19:44  
End at: 2017-09-18 11:20:14  
Local clock offset: 3.215 ms  
Remote clock offset: -4.372 ms

# Below is generated by plot.py at 2017-09-18 13:23:53  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 31.96 Mbit/s  
95th percentile per-packet one-way delay: 88.436 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 31.96 Mbit/s  
95th percentile per-packet one-way delay: 88.436 ms  
Loss rate: 0.24%

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

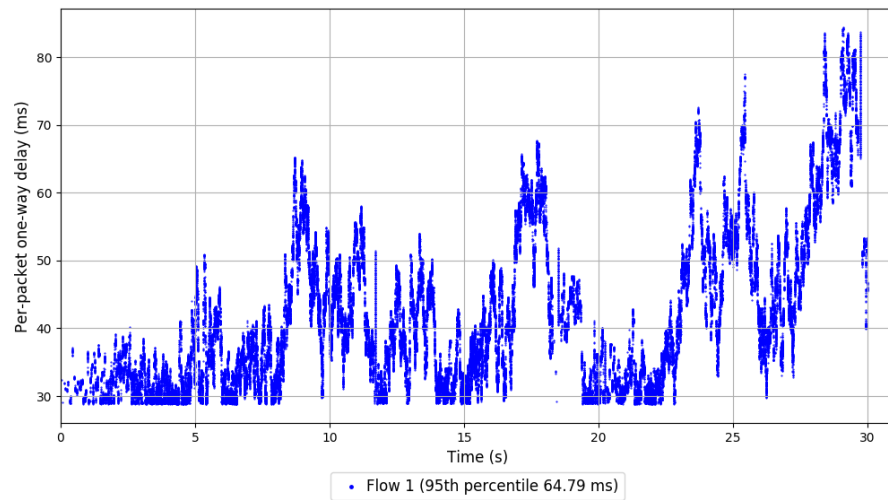
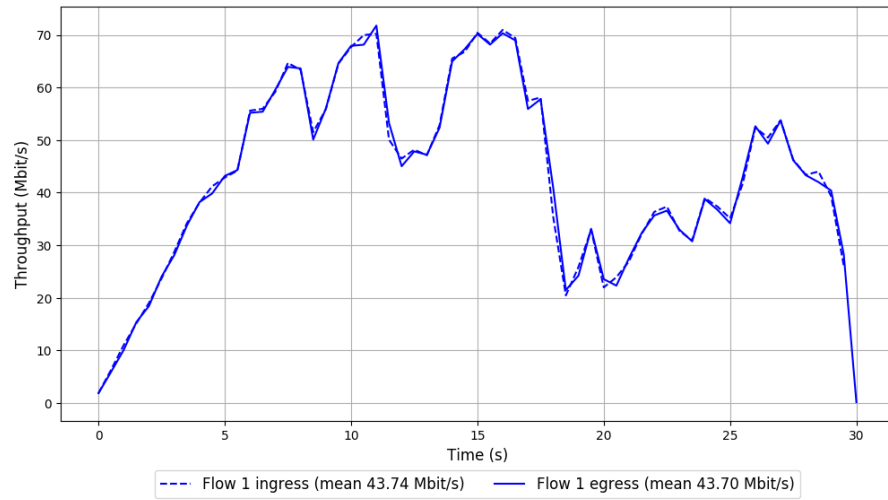


Run 5: Statistics of LEDBAT

Start at: 2017-09-18 11:33:36  
End at: 2017-09-18 11:34:06  
Local clock offset: 2.795 ms  
Remote clock offset: -2.693 ms

# Below is generated by plot.py at 2017-09-18 13:24:05  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 43.70 Mbit/s  
95th percentile per-packet one-way delay: 64.792 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 43.70 Mbit/s  
95th percentile per-packet one-way delay: 64.792 ms  
Loss rate: 0.14%

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

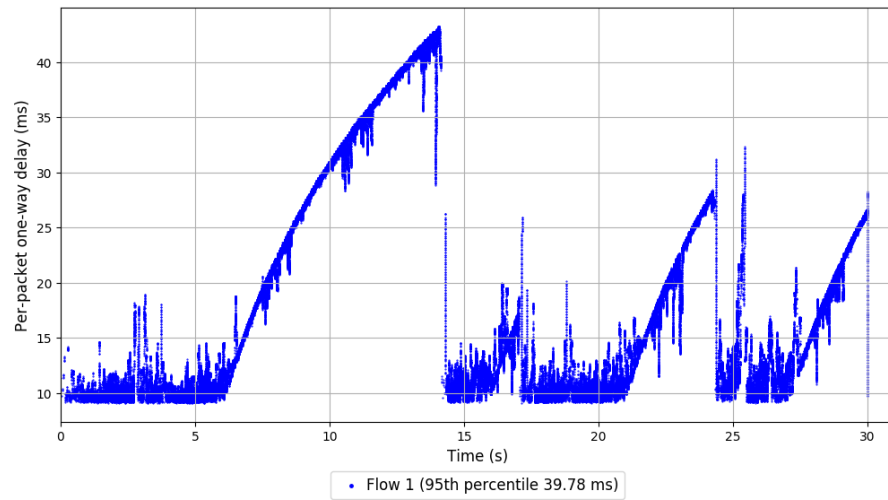
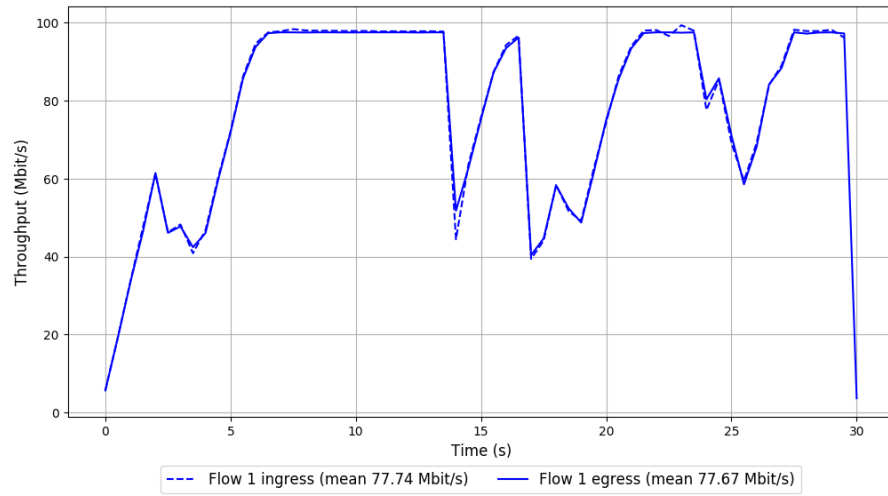


Run 6: Statistics of LEDBAT

Start at: 2017-09-18 11:48:37  
End at: 2017-09-18 11:49:07  
Local clock offset: 2.57 ms  
Remote clock offset: -3.245 ms

# Below is generated by plot.py at 2017-09-18 13:24:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.67 Mbit/s  
95th percentile per-packet one-way delay: 39.777 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 77.67 Mbit/s  
95th percentile per-packet one-way delay: 39.777 ms  
Loss rate: 0.04%

## Run 6: Report of LEDBAT — Data Link



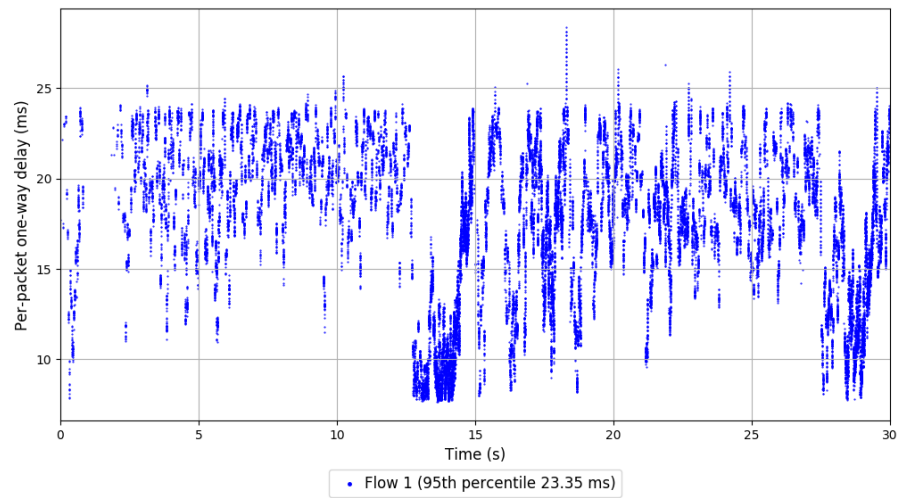
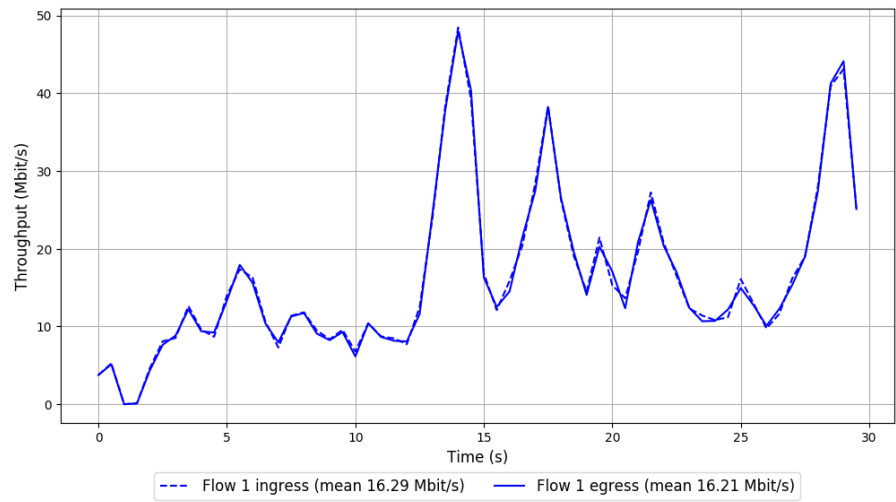
Run 7: Statistics of LEDBAT

Start at: 2017-09-18 12:03:57  
End at: 2017-09-18 12:04:27  
Local clock offset: 3.855 ms  
Remote clock offset: -3.745 ms

# Below is generated by plot.py at 2017-09-18 13:24:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.21 Mbit/s  
95th percentile per-packet one-way delay: 23.349 ms  
Loss rate: 0.47%  
-- Flow 1:  
Average throughput: 16.21 Mbit/s  
95th percentile per-packet one-way delay: 23.349 ms  
Loss rate: 0.47%



### Run 7: Report of LEDBAT — Data Link



Run 8: Statistics of LEDBAT

Start at: 2017-09-18 12:18:14

End at: 2017-09-18 12:18:44

Local clock offset: 2.6 ms

Remote clock offset: -3.35 ms

# Below is generated by plot.py at 2017-09-18 13:24:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 74.27 Mbit/s

95th percentile per-packet one-way delay: 46.648 ms

Loss rate: 0.18%

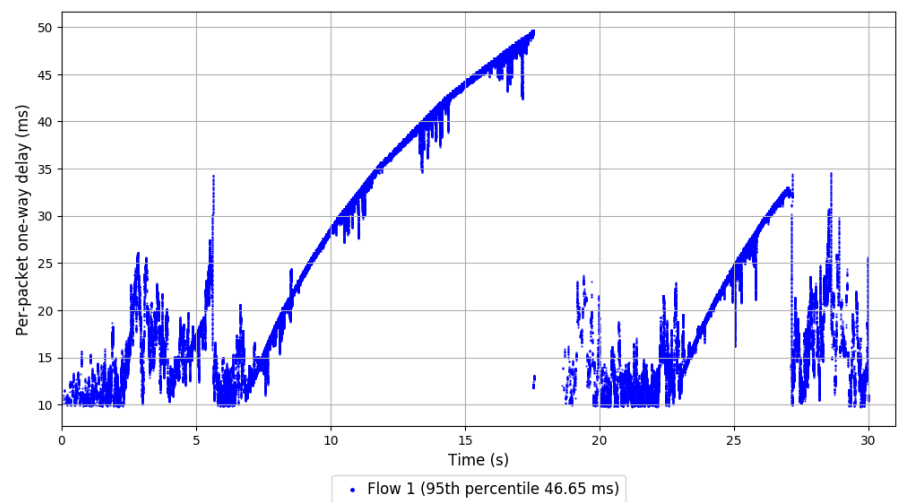
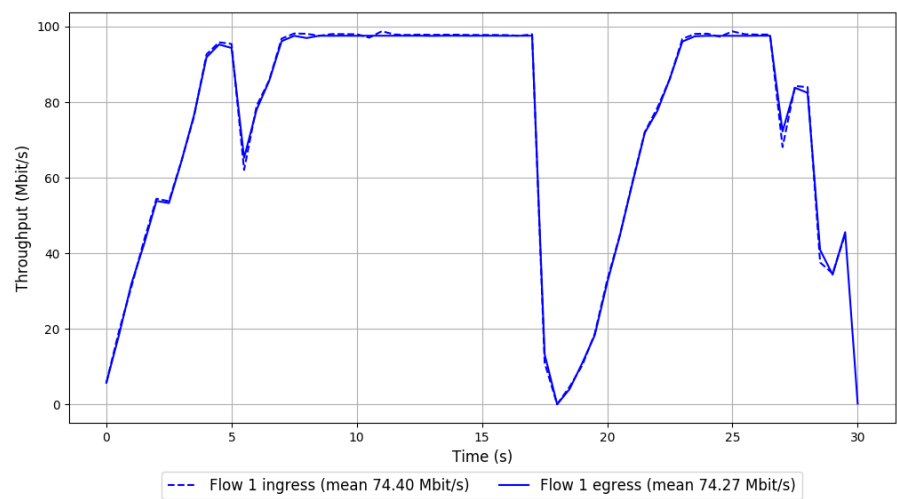
-- Flow 1:

Average throughput: 74.27 Mbit/s

95th percentile per-packet one-way delay: 46.648 ms

Loss rate: 0.18%

Run 8: Report of LEDBAT — Data Link

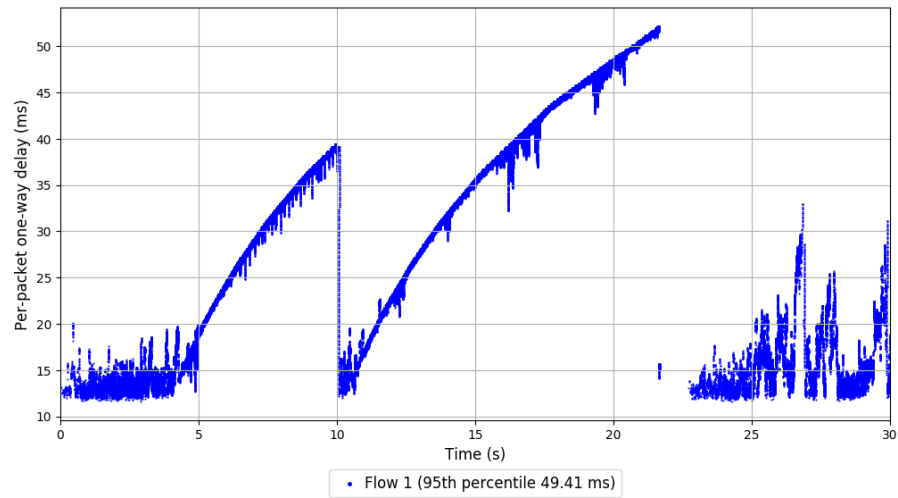
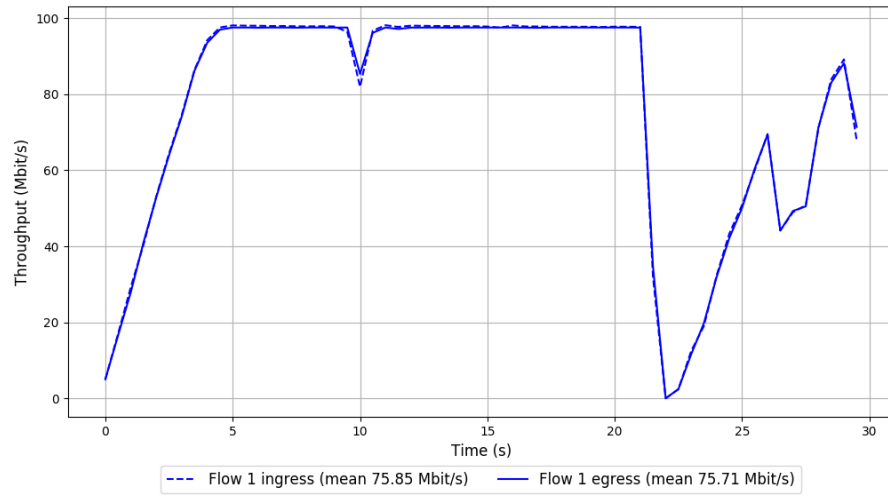


Run 9: Statistics of LEDBAT

Start at: 2017-09-18 12:38:58  
End at: 2017-09-18 12:39:28  
Local clock offset: 2.27 ms  
Remote clock offset: -3.533 ms

# Below is generated by plot.py at 2017-09-18 13:24:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 75.71 Mbit/s  
95th percentile per-packet one-way delay: 49.410 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 75.71 Mbit/s  
95th percentile per-packet one-way delay: 49.410 ms  
Loss rate: 0.17%

### Run 9: Report of LEDBAT — Data Link



Run 10: Statistics of LEDBAT

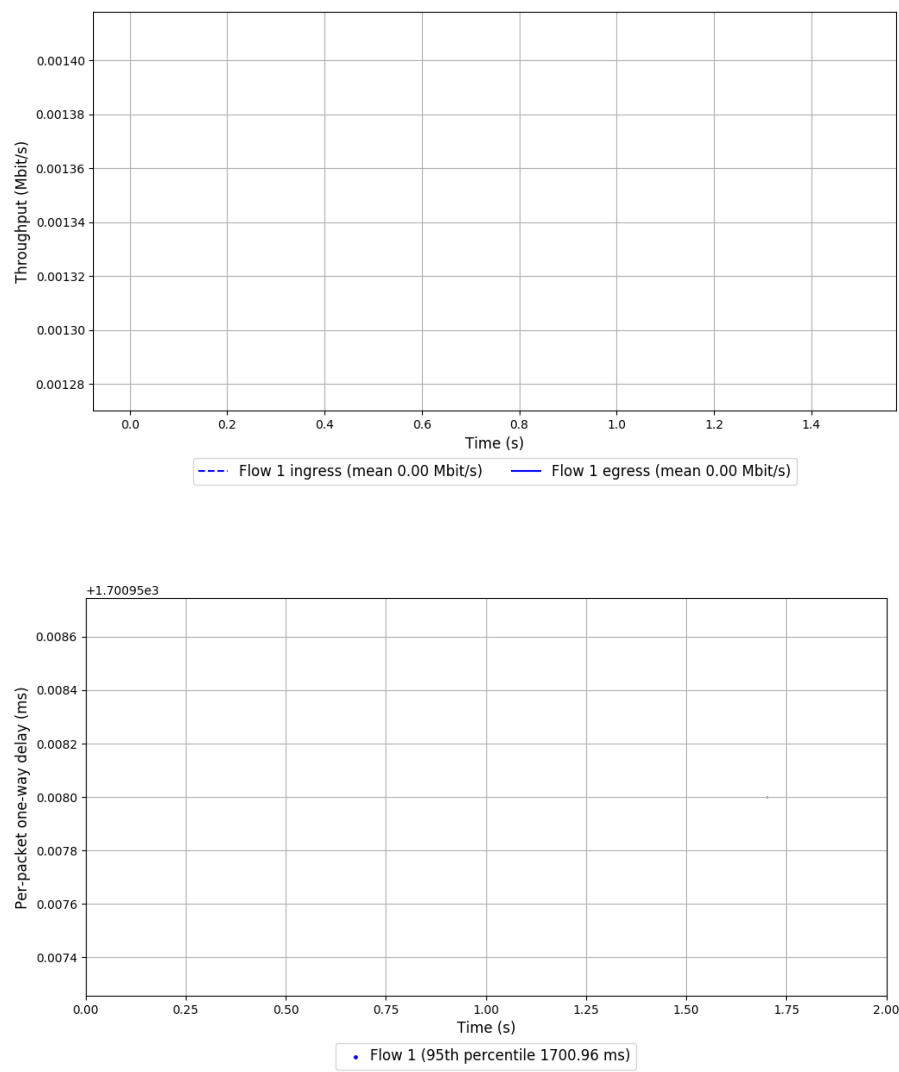
Start at: 2017-09-18 12:51:55

End at: 2017-09-18 12:52:25

Local clock offset: 1.516 ms

Remote clock offset: -4.291 ms

Run 10: Report of LEDBAT — Data Link



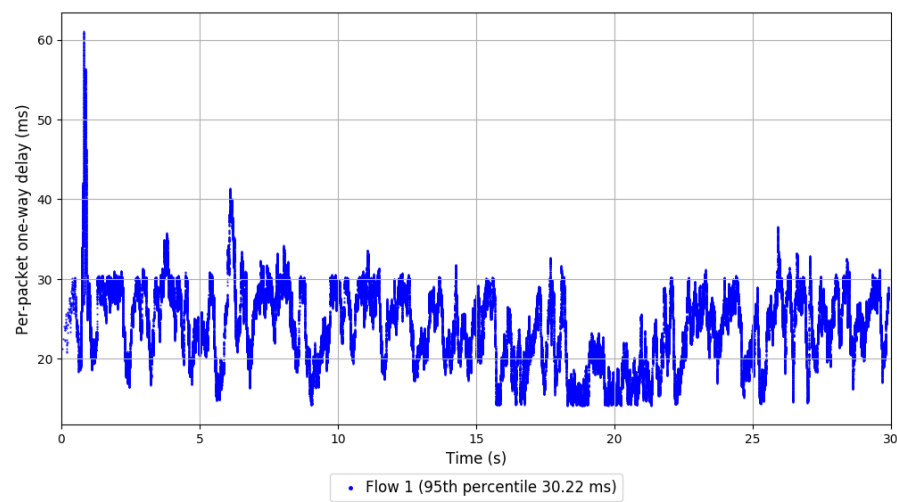
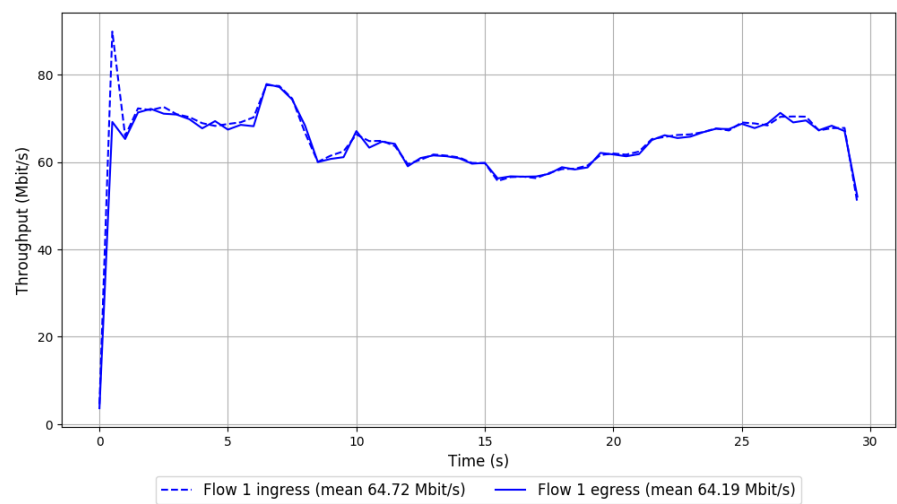
Run 1: Statistics of PCC

Start at: 2017-09-18 10:40:38  
End at: 2017-09-18 10:41:08  
Local clock offset: 1.924 ms  
Remote clock offset: -4.586 ms

# Below is generated by plot.py at 2017-09-18 13:24:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 64.19 Mbit/s  
95th percentile per-packet one-way delay: 30.220 ms  
Loss rate: 0.84%  
-- Flow 1:  
Average throughput: 64.19 Mbit/s  
95th percentile per-packet one-way delay: 30.220 ms  
Loss rate: 0.84%



Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

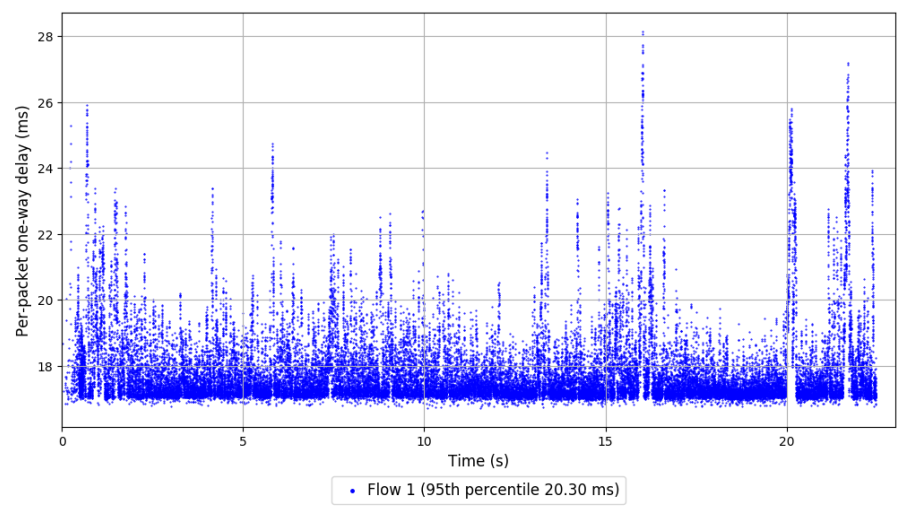
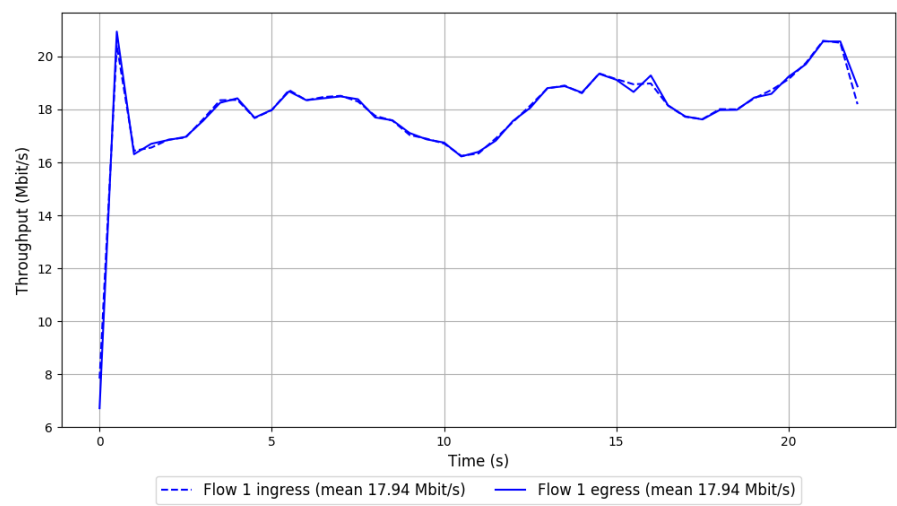
Start at: 2017-09-18 10:55:25

End at: 2017-09-18 10:55:55

Local clock offset: 0.476 ms

Remote clock offset: -3.269 ms

Run 2: Report of PCC — Data Link

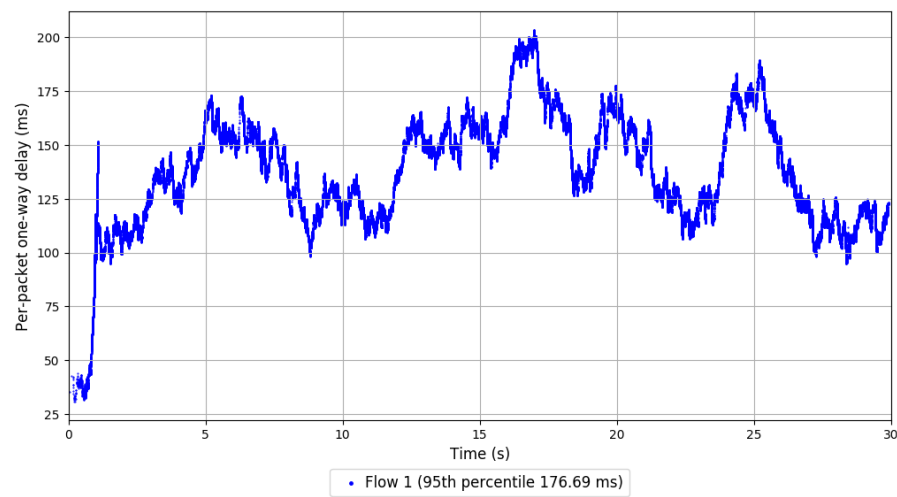
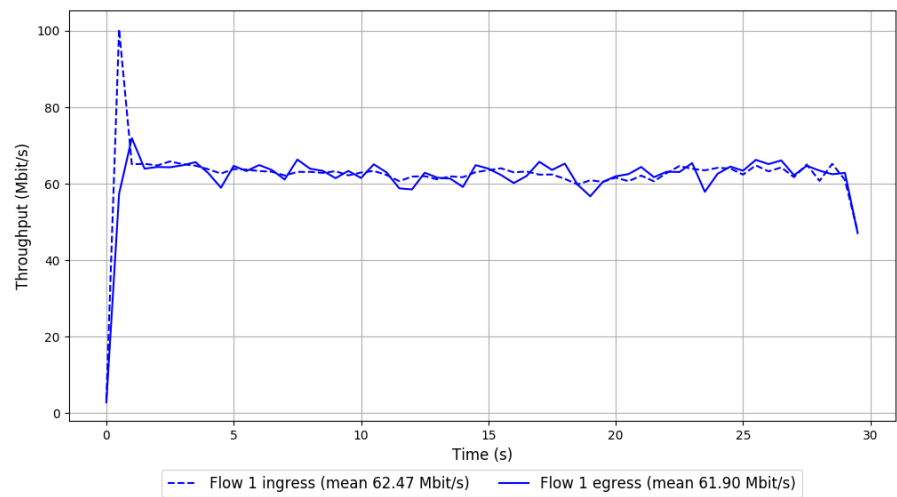


Run 3: Statistics of PCC

Start at: 2017-09-18 11:09:32  
End at: 2017-09-18 11:10:02  
Local clock offset: 0.288 ms  
Remote clock offset: -4.383 ms

# Below is generated by plot.py at 2017-09-18 13:24:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 61.90 Mbit/s  
95th percentile per-packet one-way delay: 176.692 ms  
Loss rate: 0.99%  
-- Flow 1:  
Average throughput: 61.90 Mbit/s  
95th percentile per-packet one-way delay: 176.692 ms  
Loss rate: 0.99%

Run 3: Report of PCC — Data Link

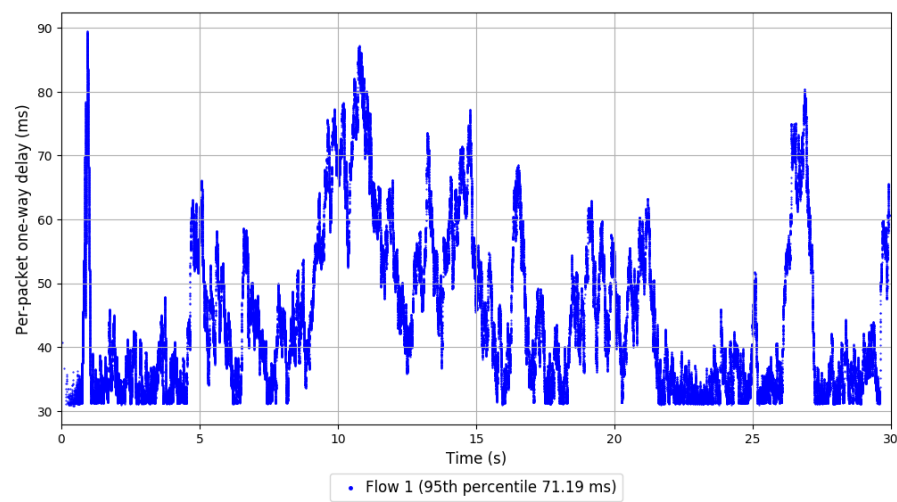
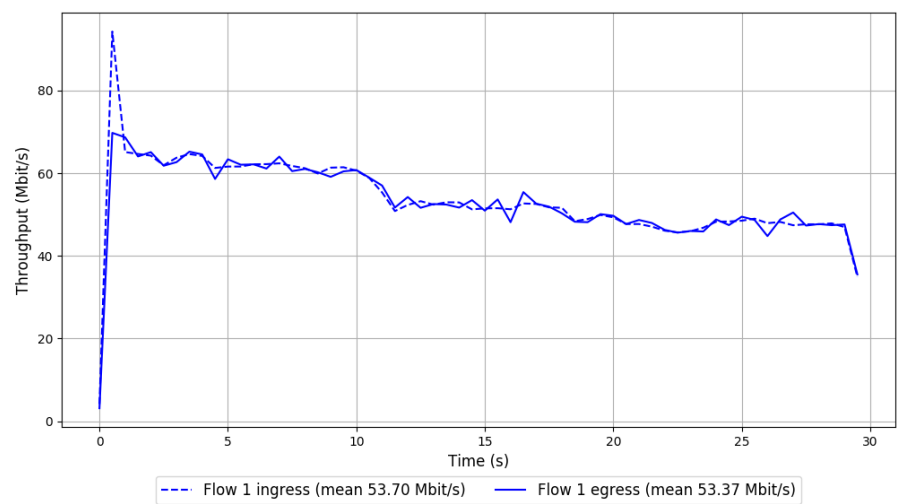


Run 4: Statistics of PCC

Start at: 2017-09-18 11:23:49  
End at: 2017-09-18 11:24:19  
Local clock offset: 0.405 ms  
Remote clock offset: -2.913 ms

# Below is generated by plot.py at 2017-09-18 13:24:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 53.37 Mbit/s  
95th percentile per-packet one-way delay: 71.194 ms  
Loss rate: 0.63%  
-- Flow 1:  
Average throughput: 53.37 Mbit/s  
95th percentile per-packet one-way delay: 71.194 ms  
Loss rate: 0.63%

Run 4: Report of PCC — Data Link



Run 5: Statistics of PCC

Start at: 2017-09-18 11:38:35

End at: 2017-09-18 11:39:05

Local clock offset: -0.236 ms

Remote clock offset: -2.17 ms

# Below is generated by plot.py at 2017-09-18 13:24:56

# Datalink statistics

-- Total of 1 flow:

Average throughput: 33.38 Mbit/s

95th percentile per-packet one-way delay: 35.862 ms

Loss rate: 0.00%

-- Flow 1:

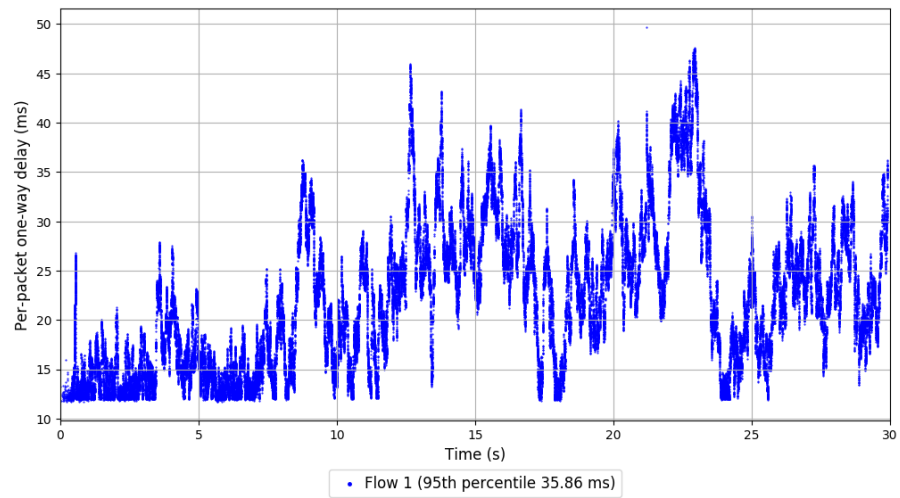
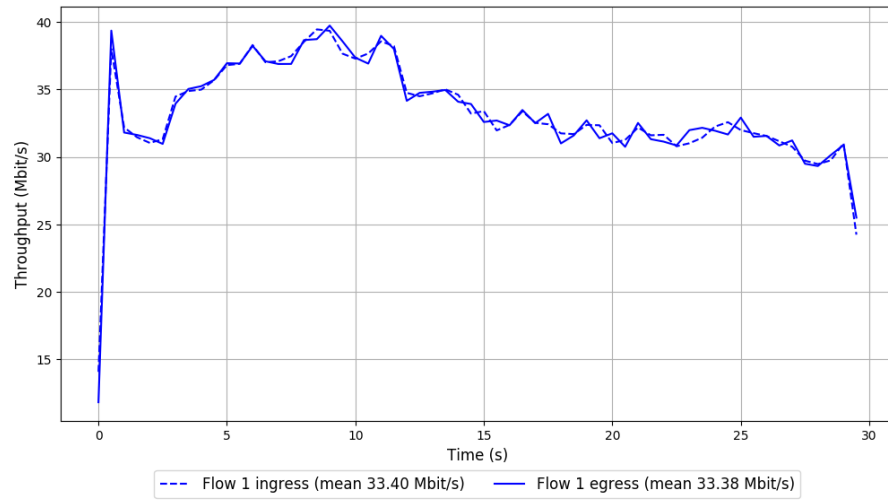
Average throughput: 33.38 Mbit/s

95th percentile per-packet one-way delay: 35.862 ms

Loss rate: 0.00%



### Run 5: Report of PCC — Data Link

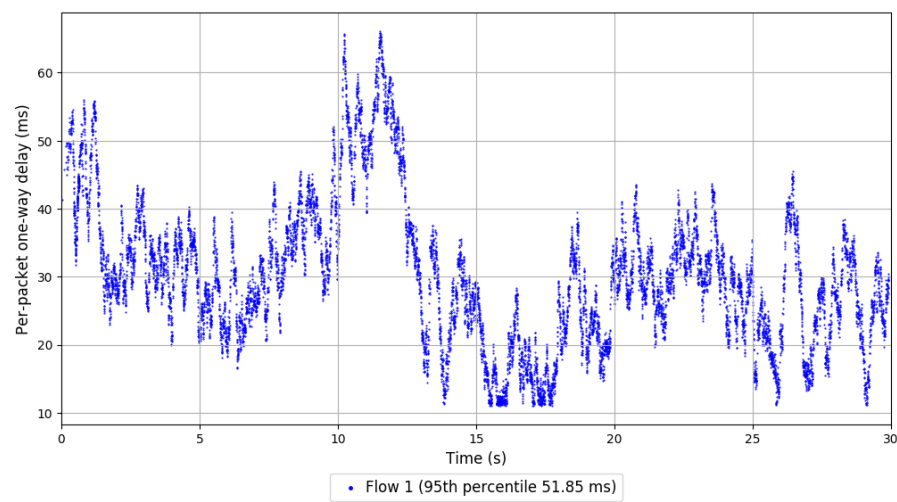
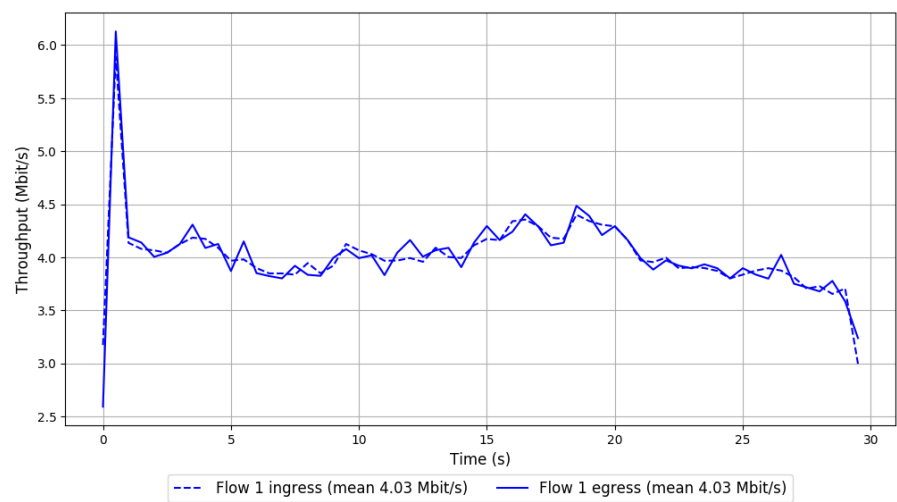


Run 6: Statistics of PCC

Start at: 2017-09-18 11:54:02  
End at: 2017-09-18 11:54:32  
Local clock offset: -0.035 ms  
Remote clock offset: -3.117 ms

# Below is generated by plot.py at 2017-09-18 13:24:56  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.03 Mbit/s  
95th percentile per-packet one-way delay: 51.854 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.03 Mbit/s  
95th percentile per-packet one-way delay: 51.854 ms  
Loss rate: 0.00%

Run 6: Report of PCC — Data Link

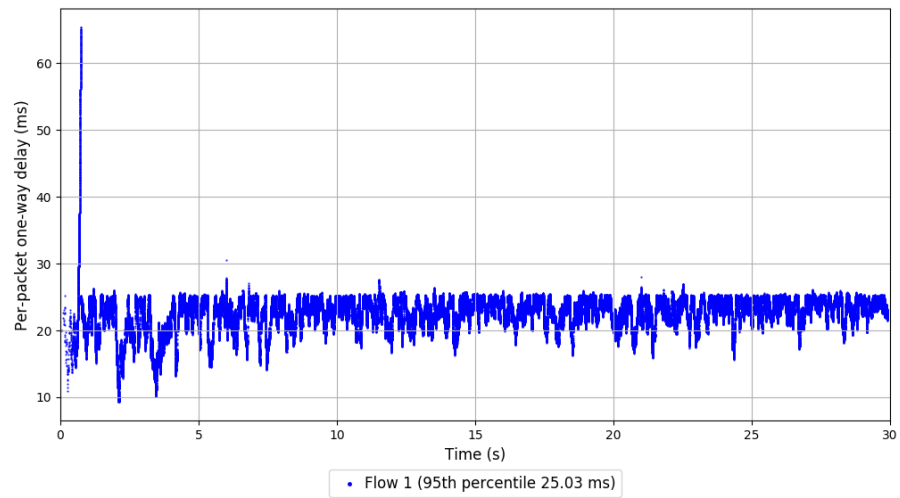
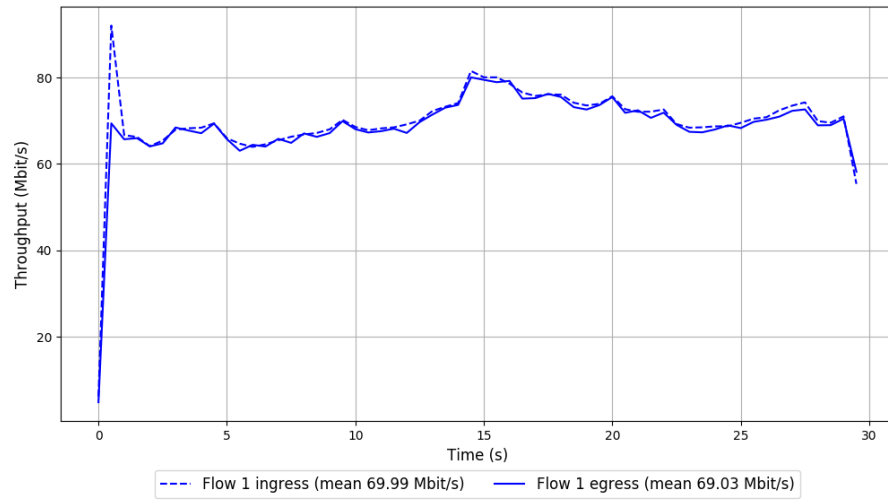


Run 7: Statistics of PCC

Start at: 2017-09-18 12:07:37  
End at: 2017-09-18 12:08:07  
Local clock offset: 3.051 ms  
Remote clock offset: -3.203 ms

# Below is generated by plot.py at 2017-09-18 13:25:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 69.03 Mbit/s  
95th percentile per-packet one-way delay: 25.031 ms  
Loss rate: 1.36%  
-- Flow 1:  
Average throughput: 69.03 Mbit/s  
95th percentile per-packet one-way delay: 25.031 ms  
Loss rate: 1.36%

### Run 7: Report of PCC — Data Link

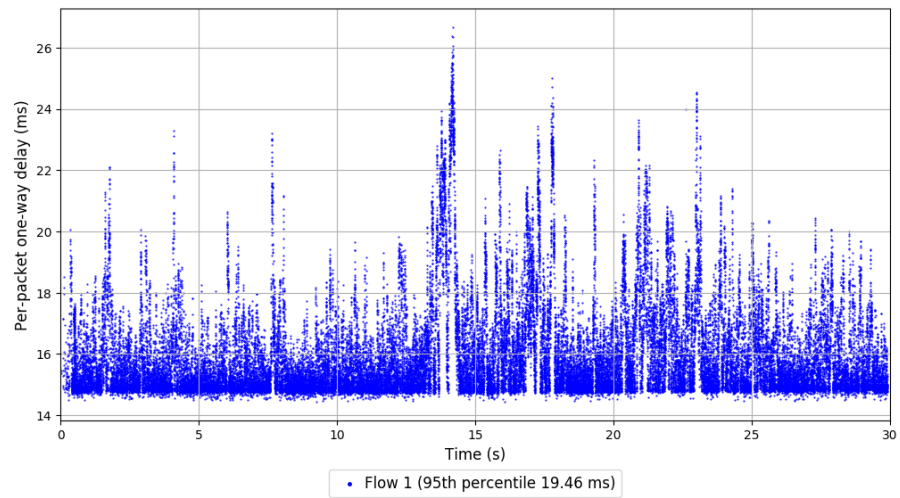
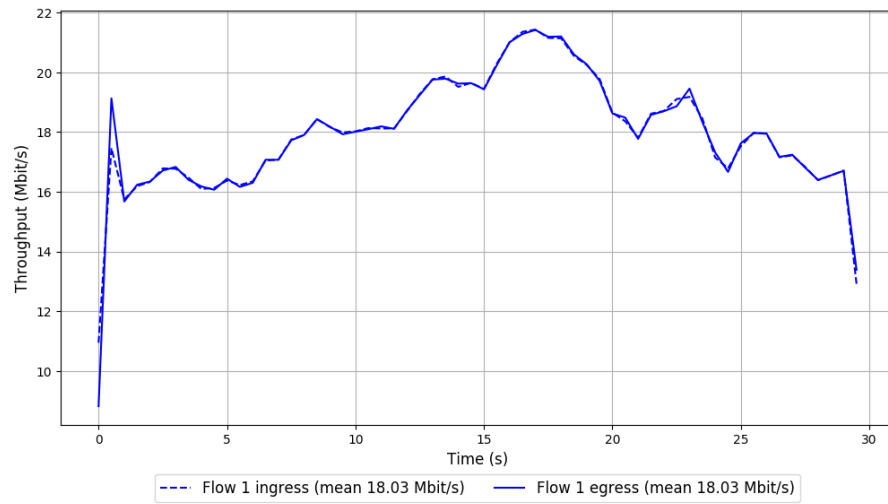


Run 8: Statistics of PCC

Start at: 2017-09-18 12:30:36  
End at: 2017-09-18 12:31:07  
Local clock offset: -0.401 ms  
Remote clock offset: -2.699 ms

# Below is generated by plot.py at 2017-09-18 13:25:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 18.03 Mbit/s  
95th percentile per-packet one-way delay: 19.459 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 18.03 Mbit/s  
95th percentile per-packet one-way delay: 19.459 ms  
Loss rate: 0.01%

### Run 8: Report of PCC — Data Link



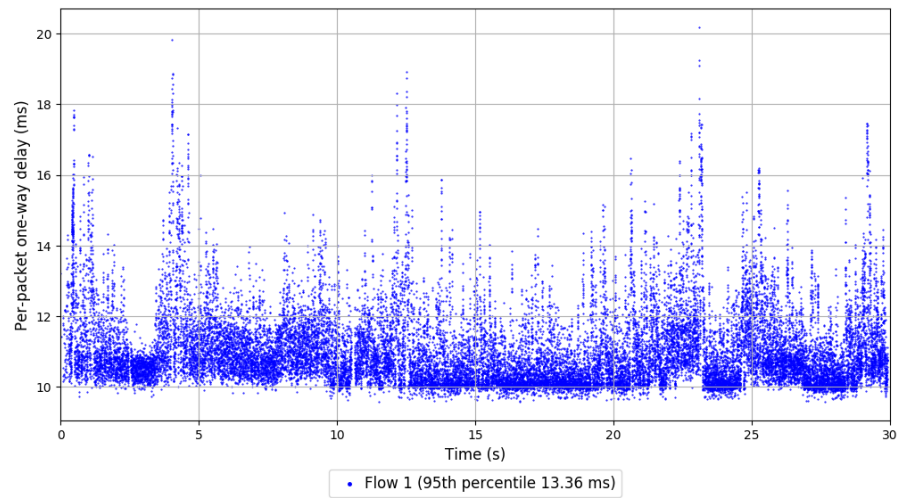
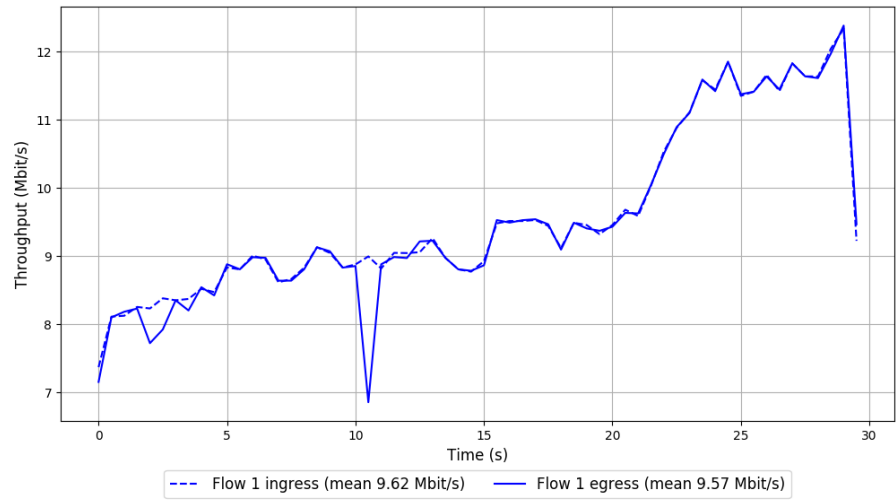
Run 9: Statistics of PCC

Start at: 2017-09-18 12:43:05  
End at: 2017-09-18 12:43:35  
Local clock offset: 3.397 ms  
Remote clock offset: -3.685 ms

# Below is generated by plot.py at 2017-09-18 13:25:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 9.57 Mbit/s  
95th percentile per-packet one-way delay: 13.358 ms  
Loss rate: 0.57%  
-- Flow 1:  
Average throughput: 9.57 Mbit/s  
95th percentile per-packet one-way delay: 13.358 ms  
Loss rate: 0.57%



### Run 9: Report of PCC — Data Link

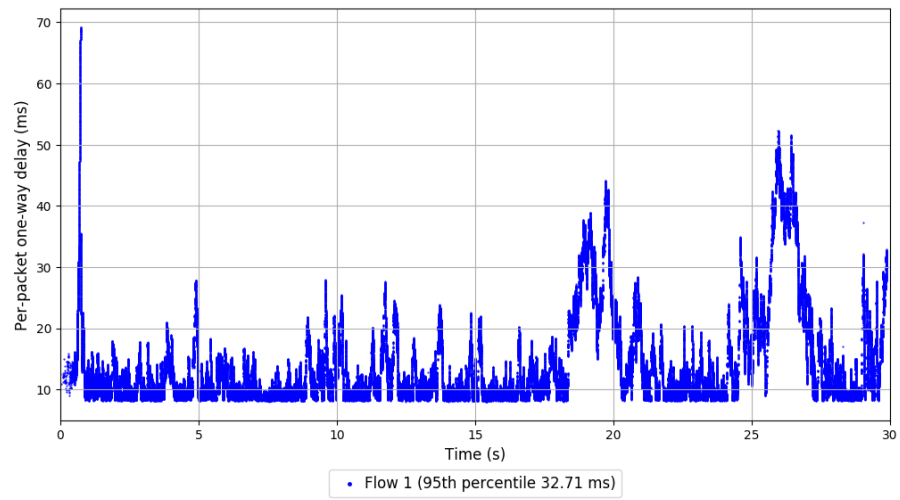
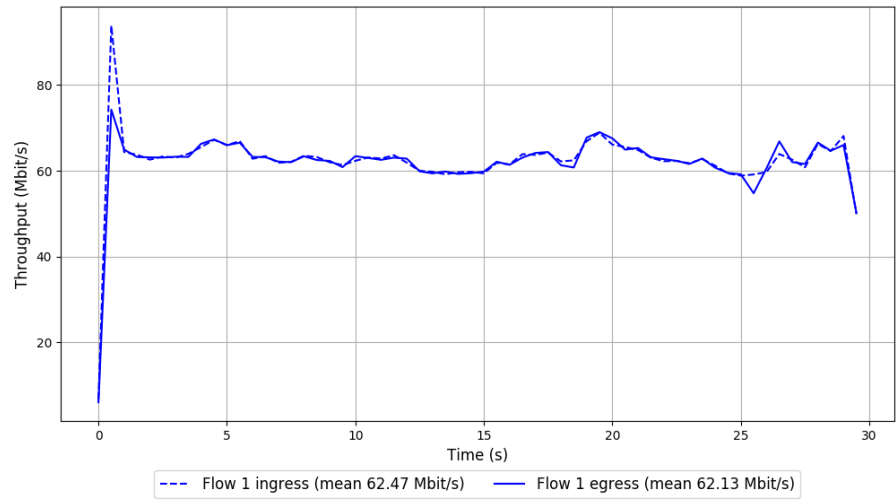


Run 10: Statistics of PCC

Start at: 2017-09-18 12:55:40  
End at: 2017-09-18 12:56:10  
Local clock offset: 0.368 ms  
Remote clock offset: -9.953 ms

# Below is generated by plot.py at 2017-09-18 13:25:37  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 62.13 Mbit/s  
95th percentile per-packet one-way delay: 32.712 ms  
Loss rate: 0.57%  
-- Flow 1:  
Average throughput: 62.13 Mbit/s  
95th percentile per-packet one-way delay: 32.712 ms  
Loss rate: 0.57%

# Run 10: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2017-09-18 10:41:57

End at: 2017-09-18 10:42:27

Local clock offset: 4.02 ms

Remote clock offset: -4.294 ms

# Below is generated by plot.py at 2017-09-18 13:25:52

# Datalink statistics

-- Total of 1 flow:

Average throughput: 69.86 Mbit/s

95th percentile per-packet one-way delay: 163.700 ms

Loss rate: 0.45%

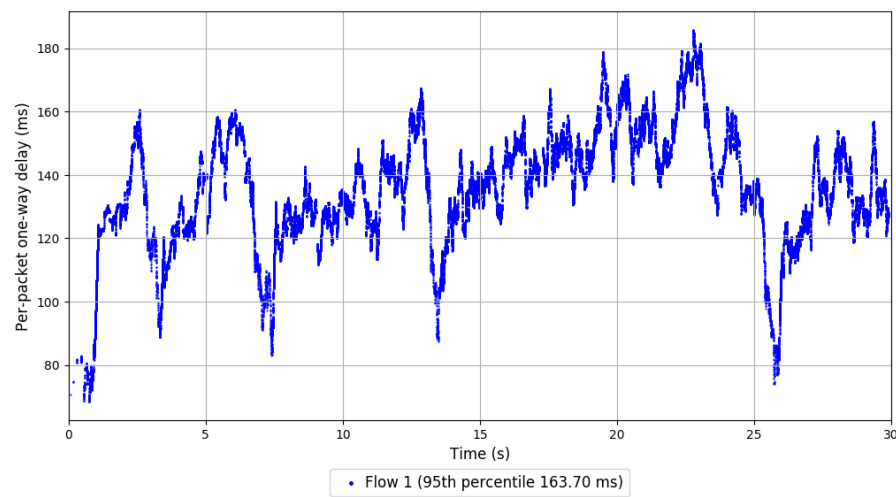
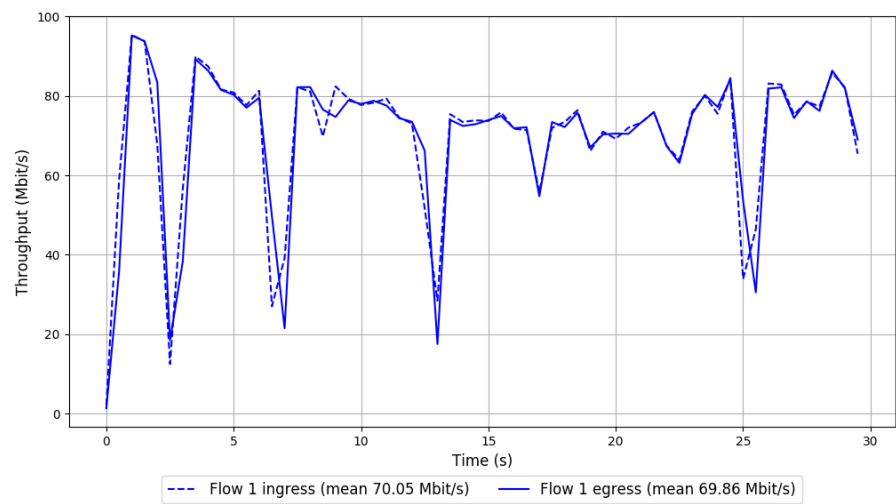
-- Flow 1:

Average throughput: 69.86 Mbit/s

95th percentile per-packet one-way delay: 163.700 ms

Loss rate: 0.45%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2017-09-18 10:56:36

End at: 2017-09-18 10:57:06

Local clock offset: 0.083 ms

Remote clock offset: -4.575 ms

# Below is generated by plot.py at 2017-09-18 13:26:00

# Datalink statistics

-- Total of 1 flow:

Average throughput: 75.93 Mbit/s

95th percentile per-packet one-way delay: 120.487 ms

Loss rate: 0.97%

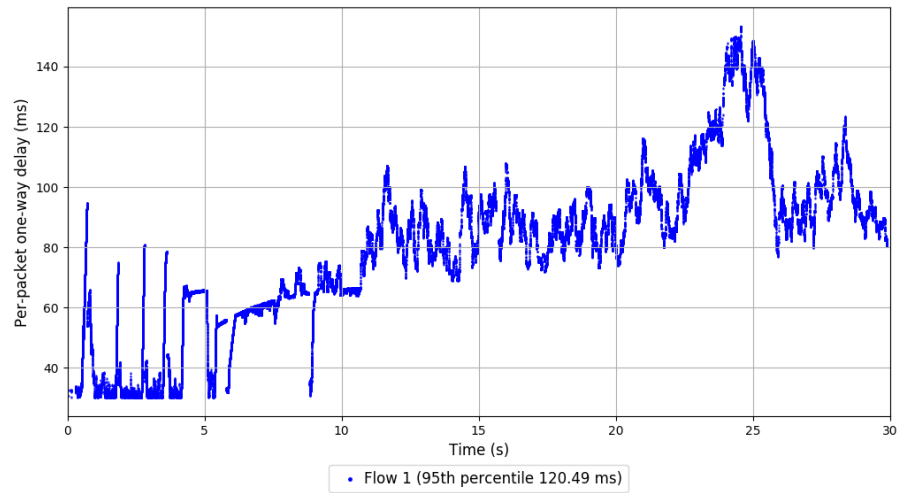
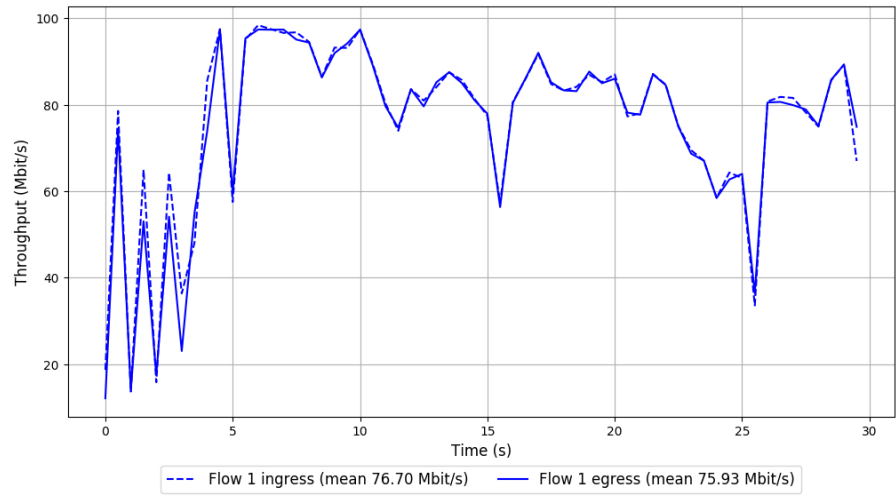
-- Flow 1:

Average throughput: 75.93 Mbit/s

95th percentile per-packet one-way delay: 120.487 ms

Loss rate: 0.97%

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



Run 3: Statistics of QUIC Cubic

Start at: 2017-09-18 11:10:52

End at: 2017-09-18 11:11:22

Local clock offset: 2.031 ms

Remote clock offset: -4.22 ms

# Below is generated by plot.py at 2017-09-18 13:26:00

# Datalink statistics

-- Total of 1 flow:

Average throughput: 67.47 Mbit/s

95th percentile per-packet one-way delay: 92.995 ms

Loss rate: 1.09%

-- Flow 1:

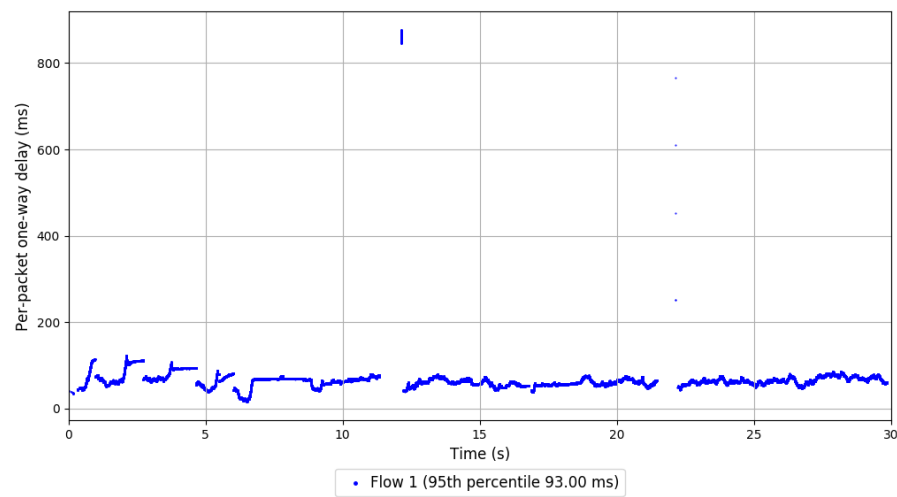
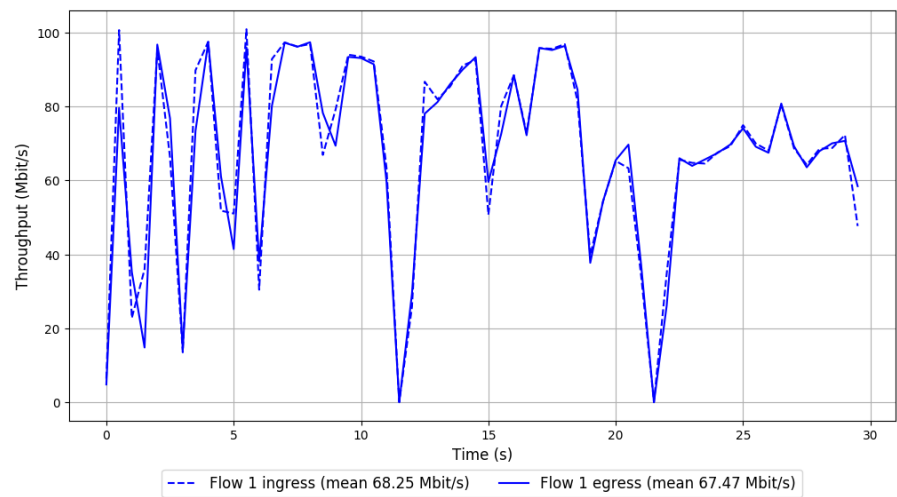
Average throughput: 67.47 Mbit/s

95th percentile per-packet one-way delay: 92.995 ms

Loss rate: 1.09%



Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2017-09-18 11:25:02

End at: 2017-09-18 11:25:32

Local clock offset: 2.764 ms

Remote clock offset: -3.863 ms

# Below is generated by plot.py at 2017-09-18 13:26:09

# Datalink statistics

-- Total of 1 flow:

Average throughput: 83.00 Mbit/s

95th percentile per-packet one-way delay: 42.490 ms

Loss rate: 0.07%

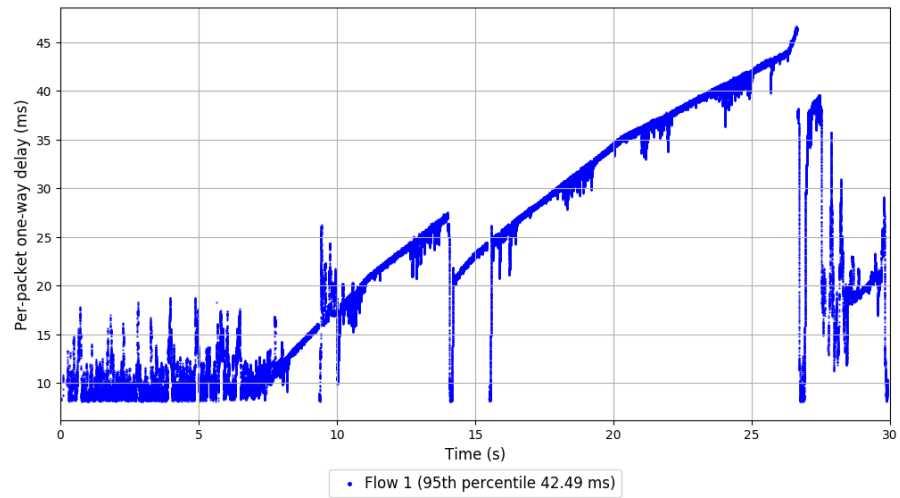
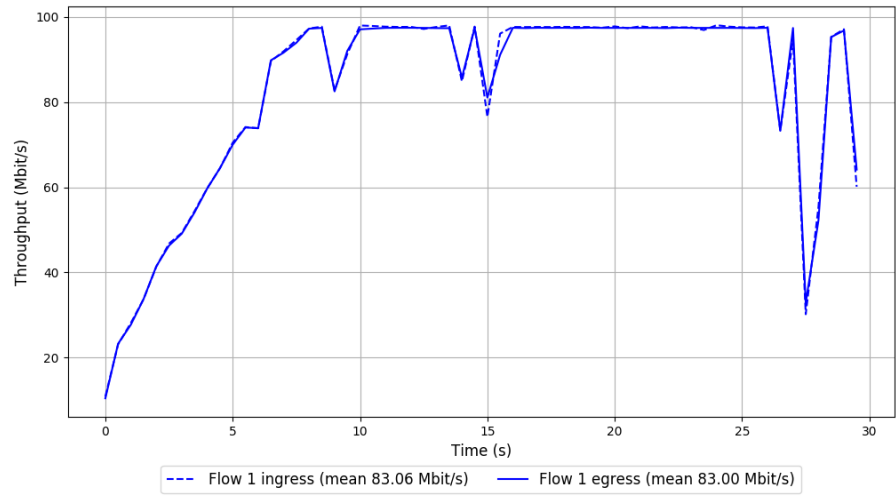
-- Flow 1:

Average throughput: 83.00 Mbit/s

95th percentile per-packet one-way delay: 42.490 ms

Loss rate: 0.07%

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



Run 5: Statistics of QUIC Cubic

Start at: 2017-09-18 11:39:50

End at: 2017-09-18 11:40:20

Local clock offset: 4.33 ms

Remote clock offset: -1.899 ms

Run 5: Report of QUIC Cubic — Data Link

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Figure is missing

Run 6: Statistics of QUIC Cubic

Start at: 2017-09-18 11:55:08

End at: 2017-09-18 11:55:38

Local clock offset: 0.483 ms

Remote clock offset: -2.709 ms

# Below is generated by plot.py at 2017-09-18 13:26:15

# Datalink statistics

-- Total of 1 flow:

Average throughput: 91.56 Mbit/s

95th percentile per-packet one-way delay: 34.581 ms

Loss rate: 0.00%

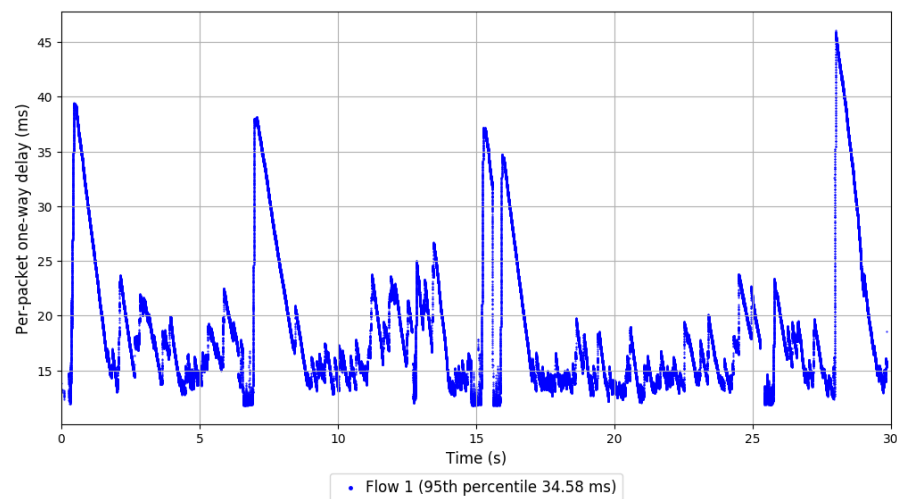
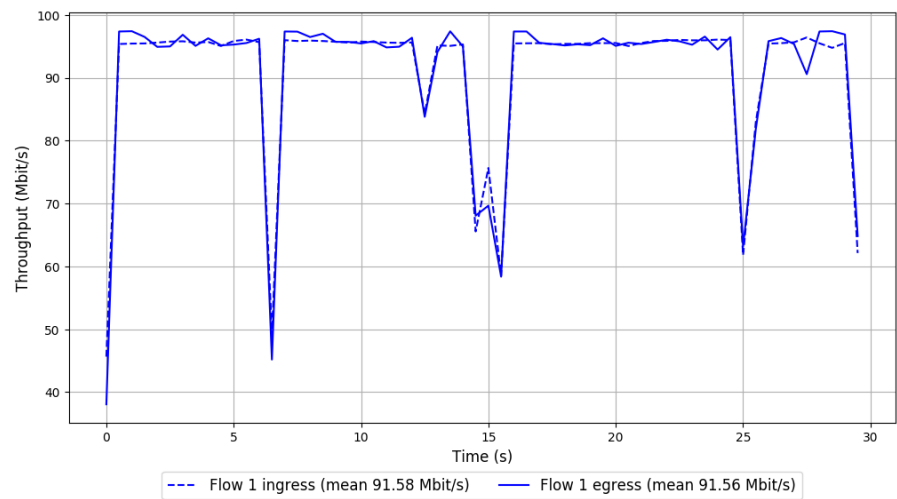
-- Flow 1:

Average throughput: 91.56 Mbit/s

95th percentile per-packet one-way delay: 34.581 ms

Loss rate: 0.00%

Run 6: Report of QUIC Cubic — Data Link



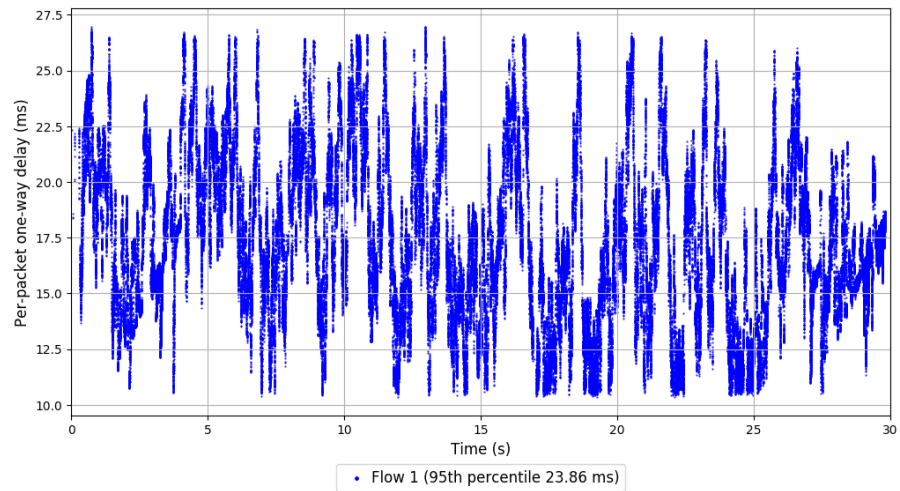
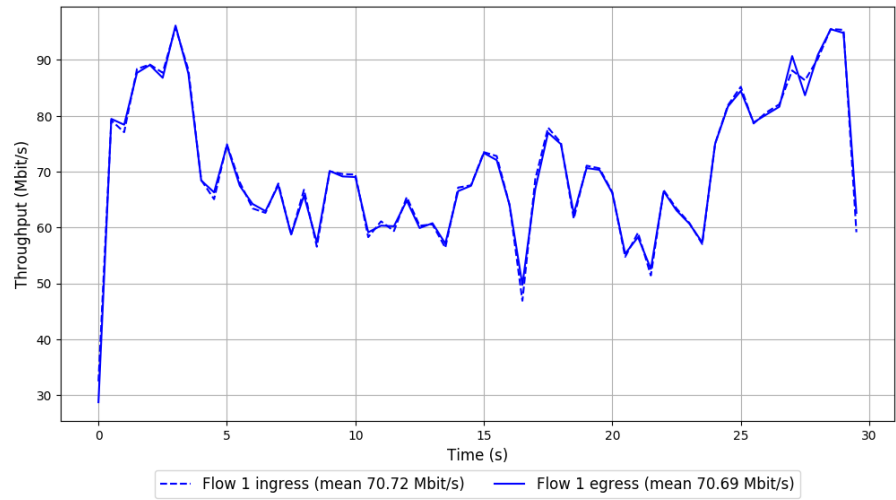
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-18 12:09:10  
End at: 2017-09-18 12:09:40  
Local clock offset: 1.932 ms  
Remote clock offset: -3.082 ms

# Below is generated by plot.py at 2017-09-18 13:26:15  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 70.69 Mbit/s  
95th percentile per-packet one-way delay: 23.862 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 70.69 Mbit/s  
95th percentile per-packet one-way delay: 23.862 ms  
Loss rate: 0.06%



### Run 7: Report of QUIC Cubic — Data Link



Run 8: Statistics of QUIC Cubic

Start at: 2017-09-18 12:31:43

End at: 2017-09-18 12:32:13

Local clock offset: 1.904 ms

Remote clock offset: -3.329 ms

# Below is generated by plot.py at 2017-09-18 13:26:39

# Datalink statistics

-- Total of 1 flow:

Average throughput: 87.59 Mbit/s

95th percentile per-packet one-way delay: 40.590 ms

Loss rate: 0.20%

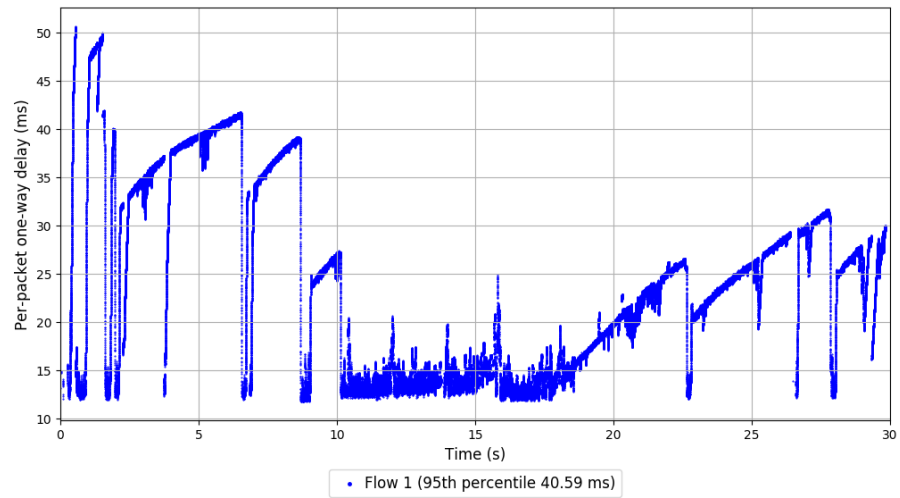
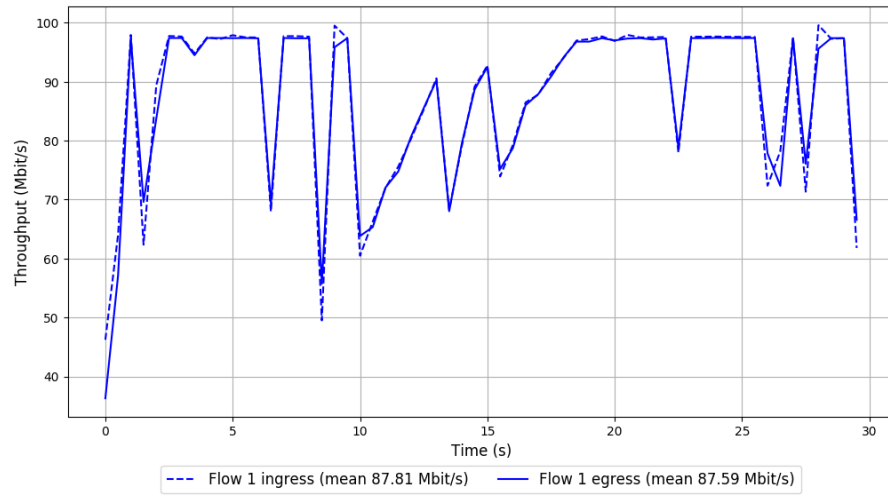
-- Flow 1:

Average throughput: 87.59 Mbit/s

95th percentile per-packet one-way delay: 40.590 ms

Loss rate: 0.20%

## Run 8: Report of QUIC Cubic — Data Link



Run 9: Statistics of QUIC Cubic

Start at: 2017-09-18 12:44:11

End at: 2017-09-18 12:44:41

Local clock offset: -1.771 ms

Remote clock offset: -4.22 ms

# Below is generated by plot.py at 2017-09-18 13:27:07

# Datalink statistics

-- Total of 1 flow:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 53.420 ms

Loss rate: 0.58%

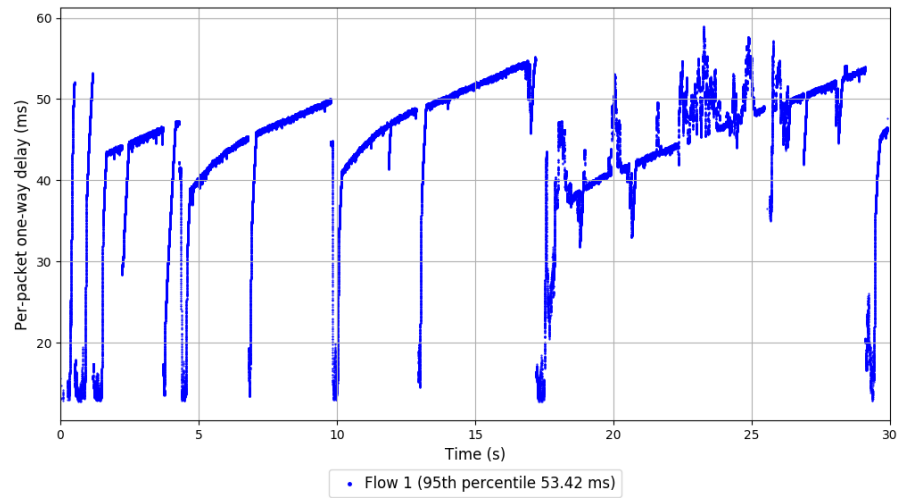
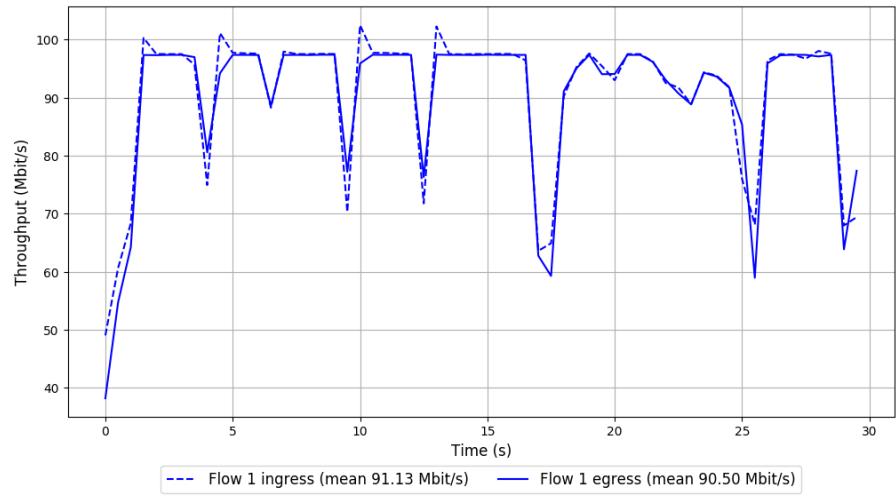
-- Flow 1:

Average throughput: 90.50 Mbit/s

95th percentile per-packet one-way delay: 53.420 ms

Loss rate: 0.58%

### Run 9: Report of QUIC Cubic — Data Link



Run 10: Statistics of QUIC Cubic

Start at: 2017-09-18 12:56:56

End at: 2017-09-18 12:57:26

Local clock offset: 4.146 ms

Remote clock offset: -4.122 ms

# Below is generated by plot.py at 2017-09-18 13:27:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 85.93 Mbit/s

95th percentile per-packet one-way delay: 70.570 ms

Loss rate: 0.89%

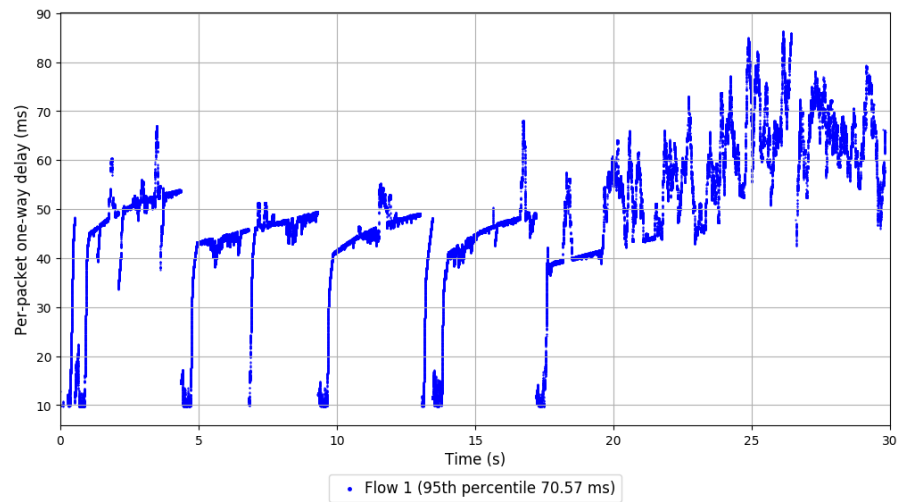
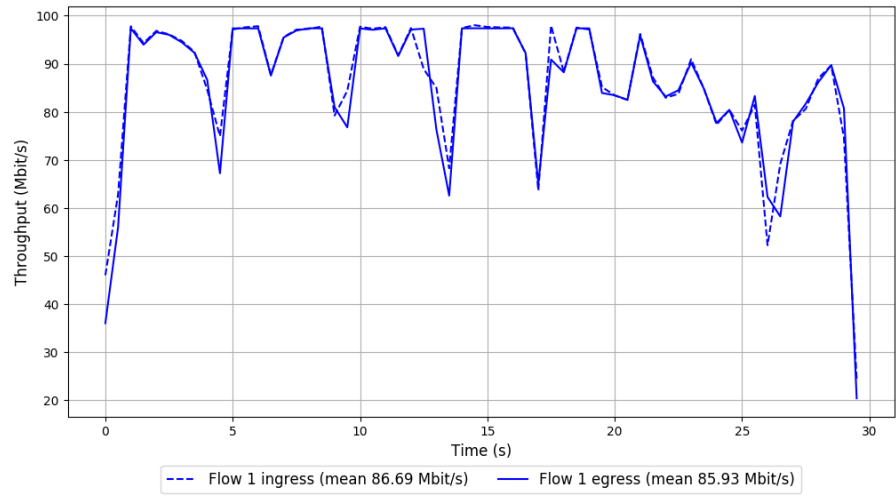
-- Flow 1:

Average throughput: 85.93 Mbit/s

95th percentile per-packet one-way delay: 70.570 ms

Loss rate: 0.89%

### Run 10: Report of QUIC Cubic — Data Link



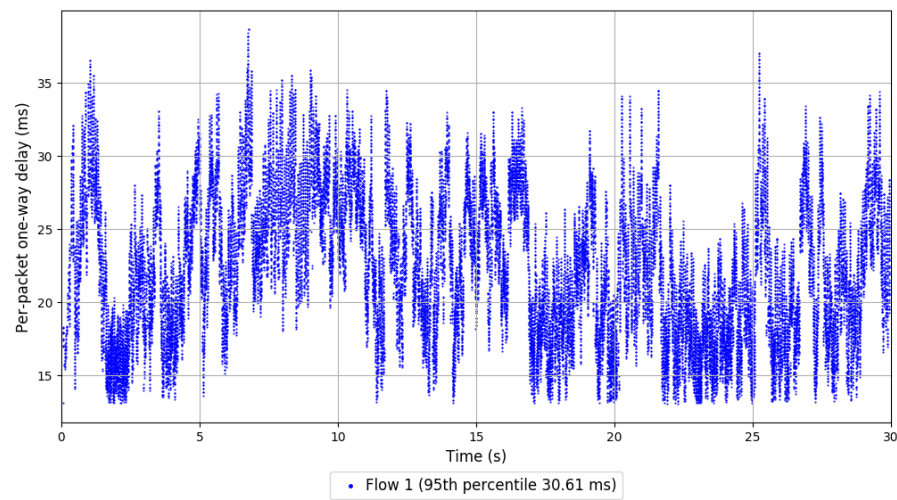
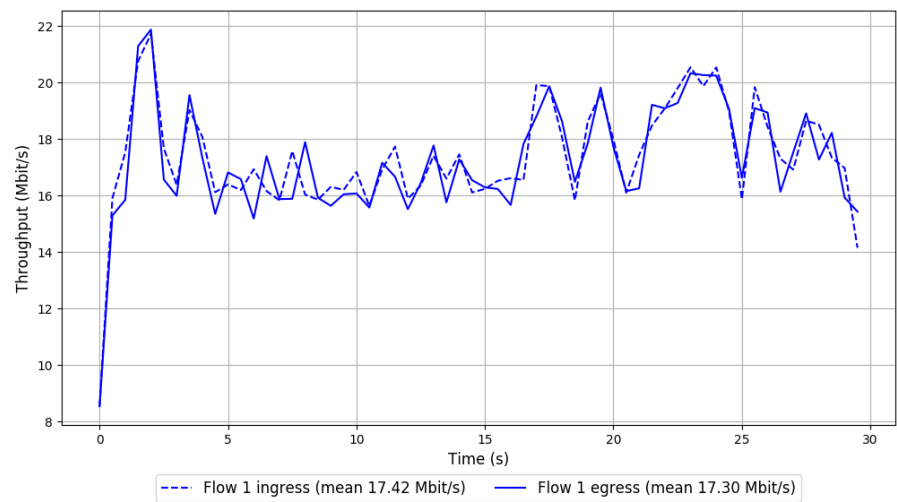
Run 1: Statistics of Sprout

Start at: 2017-09-18 10:34:26  
End at: 2017-09-18 10:34:56  
Local clock offset: 2.811 ms  
Remote clock offset: -4.765 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 17.30 Mbit/s  
95th percentile per-packet one-way delay: 30.608 ms  
Loss rate: 0.76%  
-- Flow 1:  
Average throughput: 17.30 Mbit/s  
95th percentile per-packet one-way delay: 30.608 ms  
Loss rate: 0.76%



Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

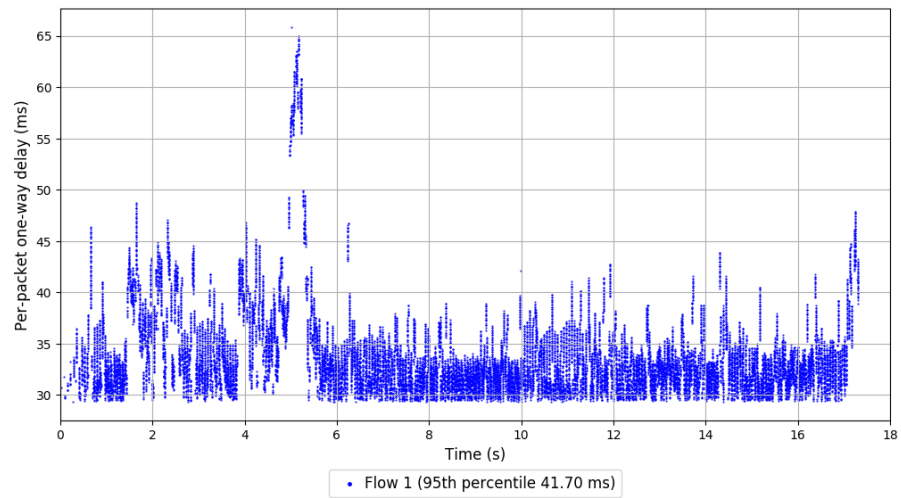
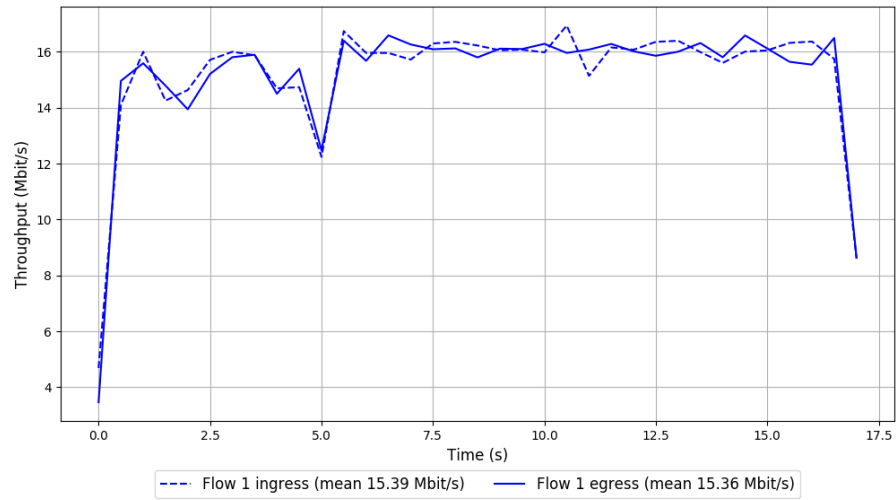
Start at: 2017-09-18 10:47:53

End at: 2017-09-18 10:48:23

Local clock offset: 0.867 ms

Remote clock offset: -4.69 ms

## Run 2: Report of Sprout — Data Link

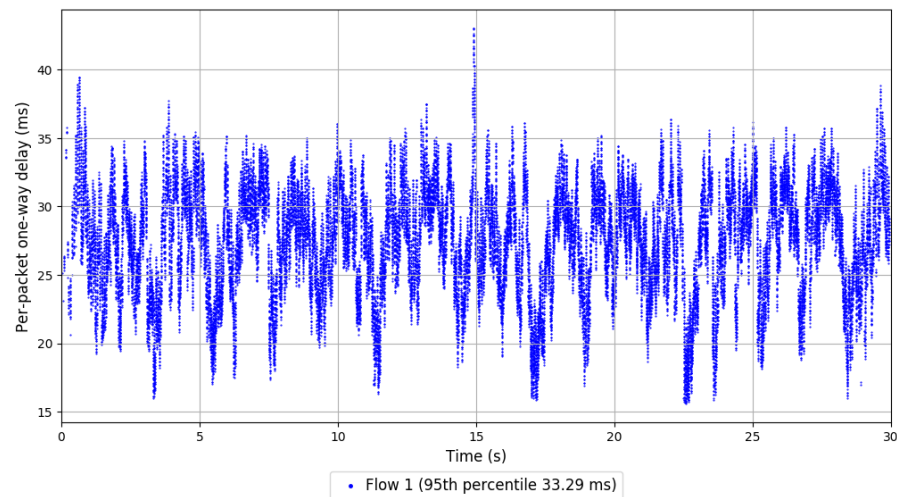
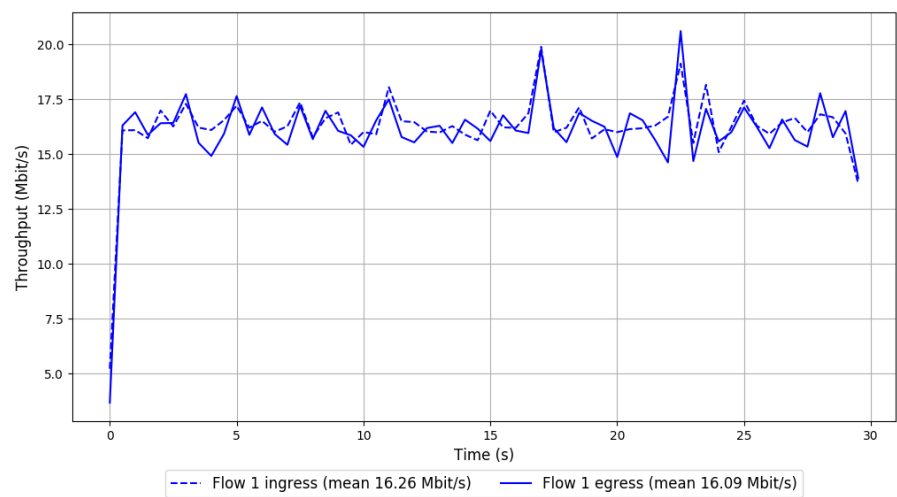


Run 3: Statistics of Sprout

Start at: 2017-09-18 11:02:22  
End at: 2017-09-18 11:02:52  
Local clock offset: 0.237 ms  
Remote clock offset: -4.691 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.09 Mbit/s  
95th percentile per-packet one-way delay: 33.290 ms  
Loss rate: 1.10%  
-- Flow 1:  
Average throughput: 16.09 Mbit/s  
95th percentile per-packet one-way delay: 33.290 ms  
Loss rate: 1.10%

Run 3: Report of Sprout — Data Link

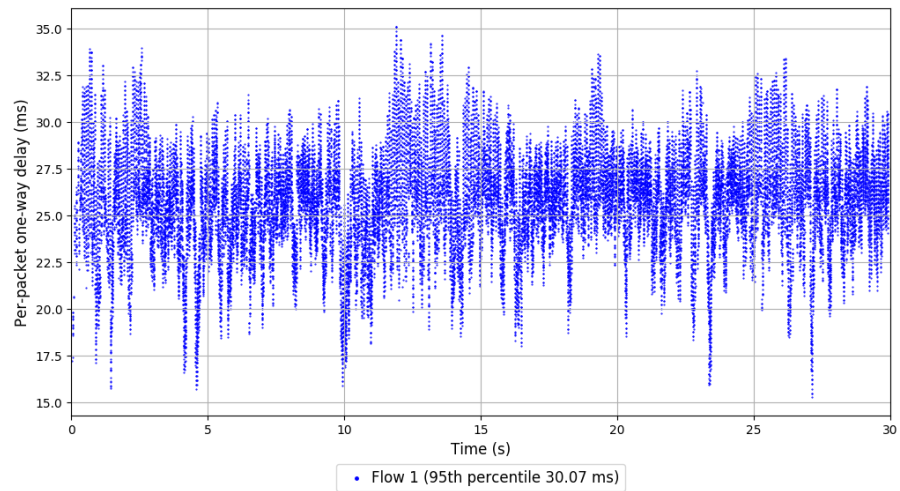
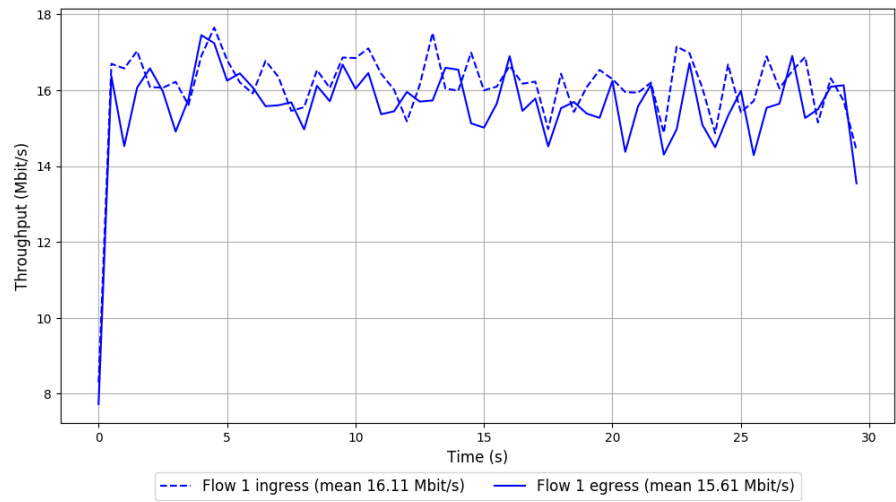


Run 4: Statistics of Sprout

Start at: 2017-09-18 11:17:09  
End at: 2017-09-18 11:17:39  
Local clock offset: 1.472 ms  
Remote clock offset: -3.108 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 15.61 Mbit/s  
95th percentile per-packet one-way delay: 30.066 ms  
Loss rate: 3.17%  
-- Flow 1:  
Average throughput: 15.61 Mbit/s  
95th percentile per-packet one-way delay: 30.066 ms  
Loss rate: 3.17%

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



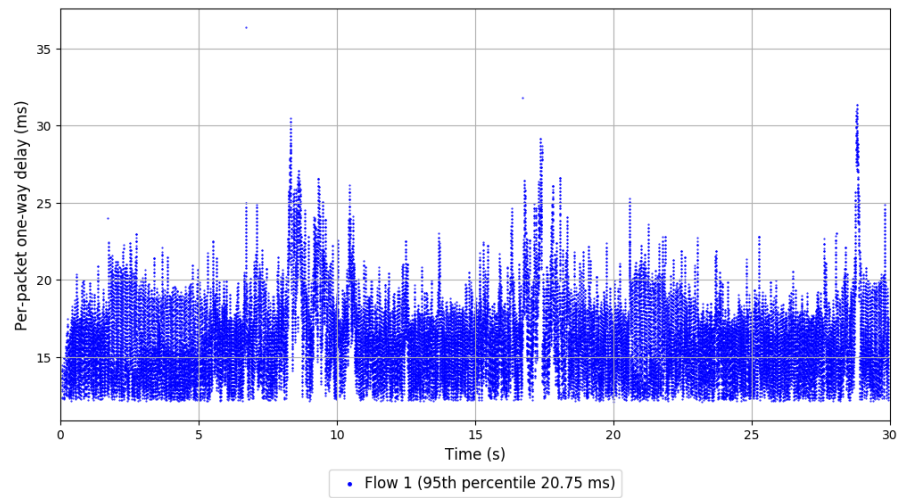
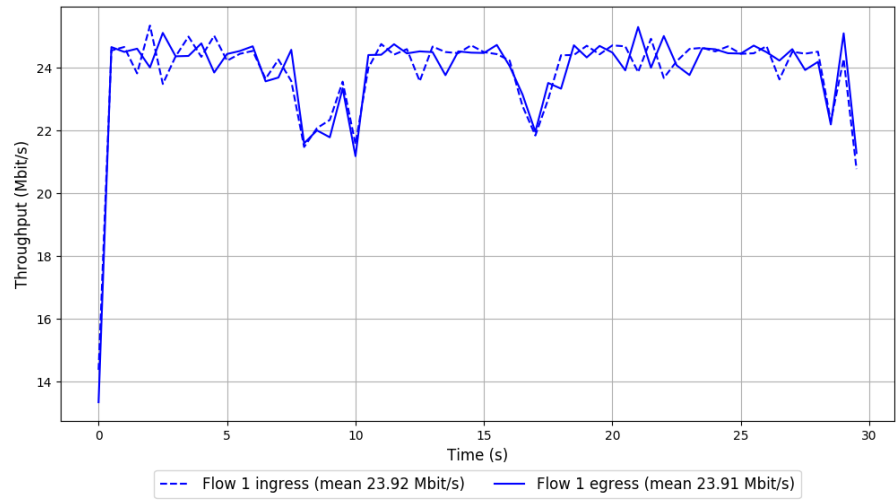
Run 5: Statistics of Sprout

Start at: 2017-09-18 11:30:48  
End at: 2017-09-18 11:31:18  
Local clock offset: 0.07 ms  
Remote clock offset: -2.549 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 23.91 Mbit/s  
95th percentile per-packet one-way delay: 20.745 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 23.91 Mbit/s  
95th percentile per-packet one-way delay: 20.745 ms  
Loss rate: 0.03%



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



Run 6: Statistics of Sprout

Start at: 2017-09-18 11:45:23

End at: 2017-09-18 11:45:53

Local clock offset: 1.687 ms

Remote clock offset: -2.26 ms

# Below is generated by plot.py at 2017-09-18 13:27:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 24.30 Mbit/s

95th percentile per-packet one-way delay: 18.306 ms

Loss rate: 0.05%

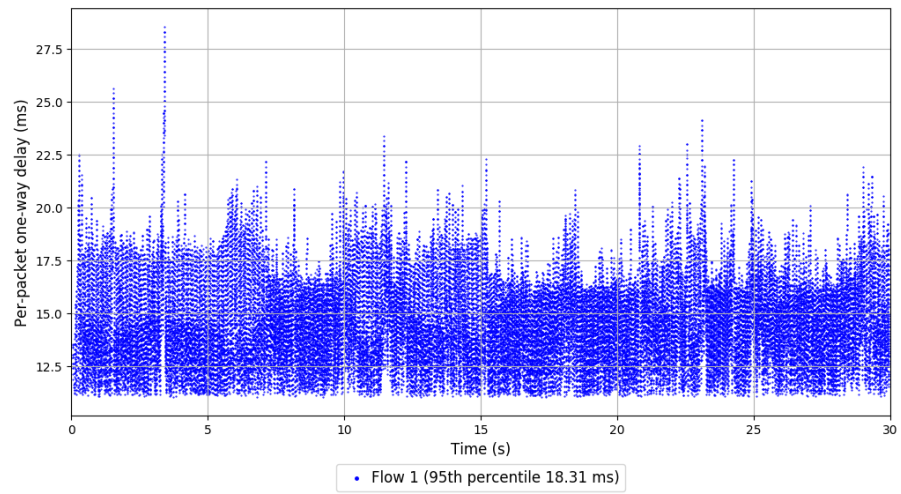
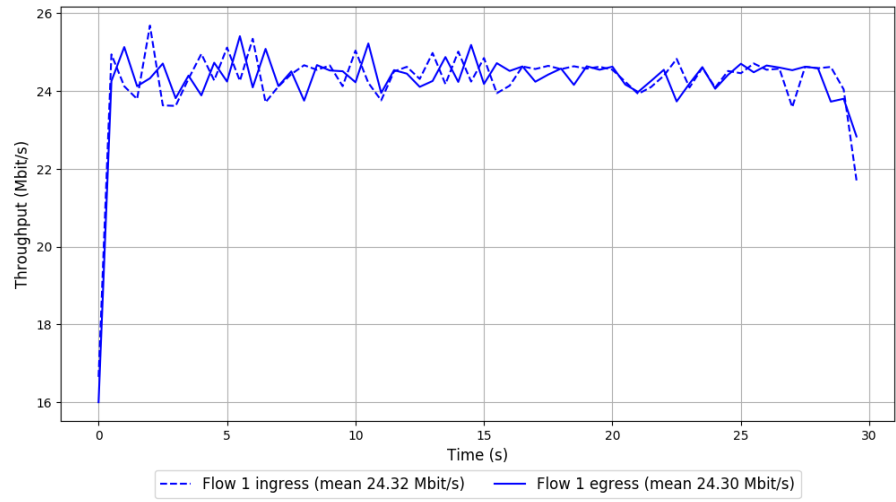
-- Flow 1:

Average throughput: 24.30 Mbit/s

95th percentile per-packet one-way delay: 18.306 ms

Loss rate: 0.05%

# Run 6: Report of Sprout — Data Link

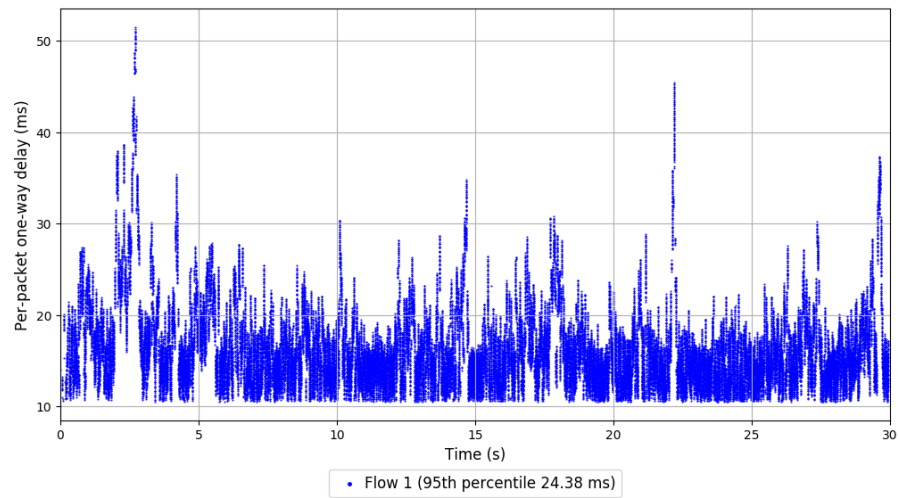
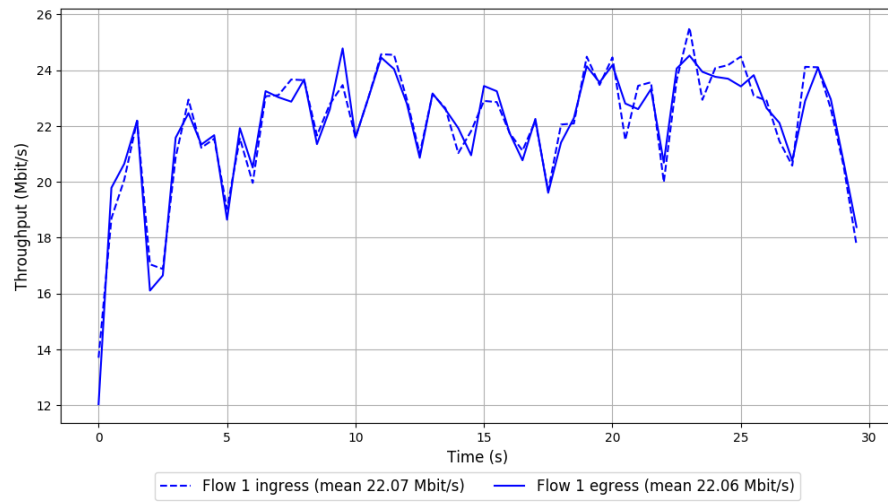


Run 7: Statistics of Sprout

Start at: 2017-09-18 12:01:39  
End at: 2017-09-18 12:02:09  
Local clock offset: 3.77 ms  
Remote clock offset: -2.812 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 22.06 Mbit/s  
95th percentile per-packet one-way delay: 24.378 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 22.06 Mbit/s  
95th percentile per-packet one-way delay: 24.378 ms  
Loss rate: 0.05%

### Run 7: Report of Sprout — Data Link

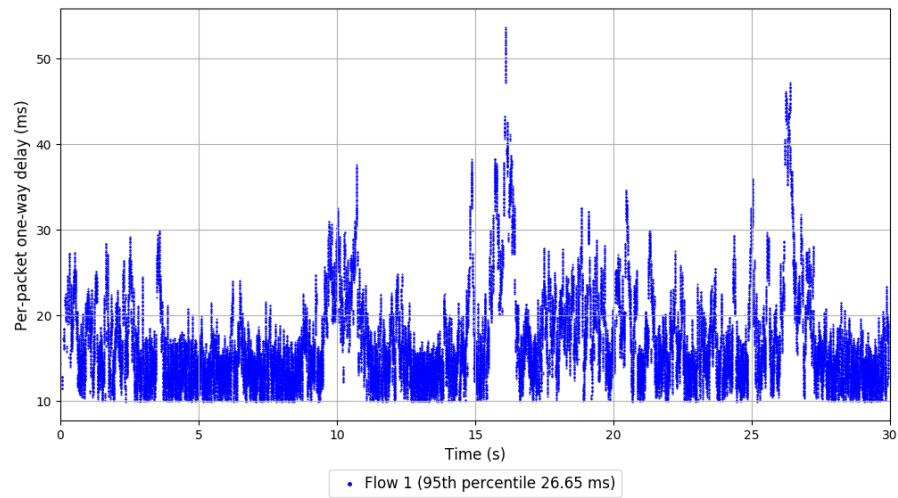
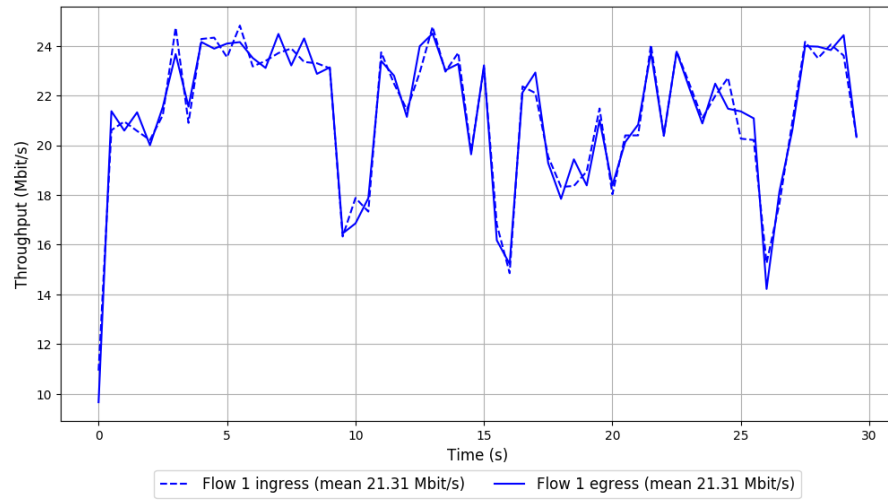


Run 8: Statistics of Sprout

Start at: 2017-09-18 12:15:32  
End at: 2017-09-18 12:16:02  
Local clock offset: 3.534 ms  
Remote clock offset: -3.956 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 21.31 Mbit/s  
95th percentile per-packet one-way delay: 26.649 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 21.31 Mbit/s  
95th percentile per-packet one-way delay: 26.649 ms  
Loss rate: 0.00%

## Run 8: Report of Sprout — Data Link



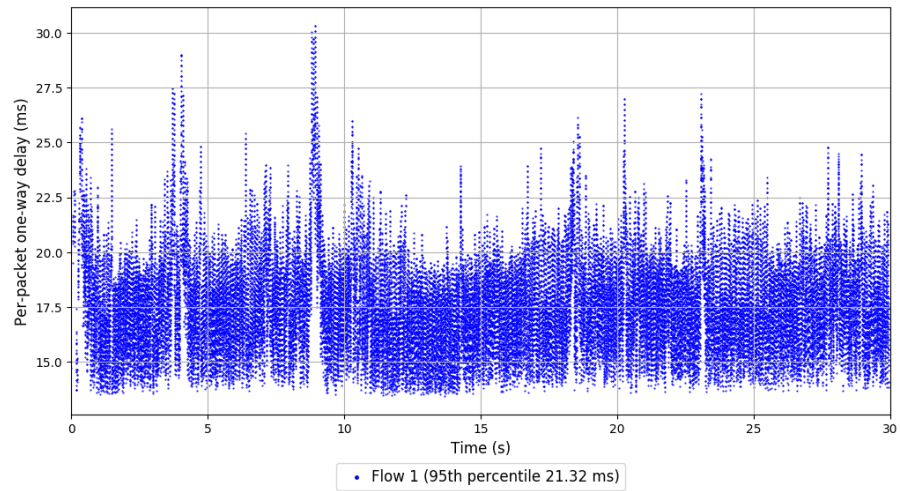
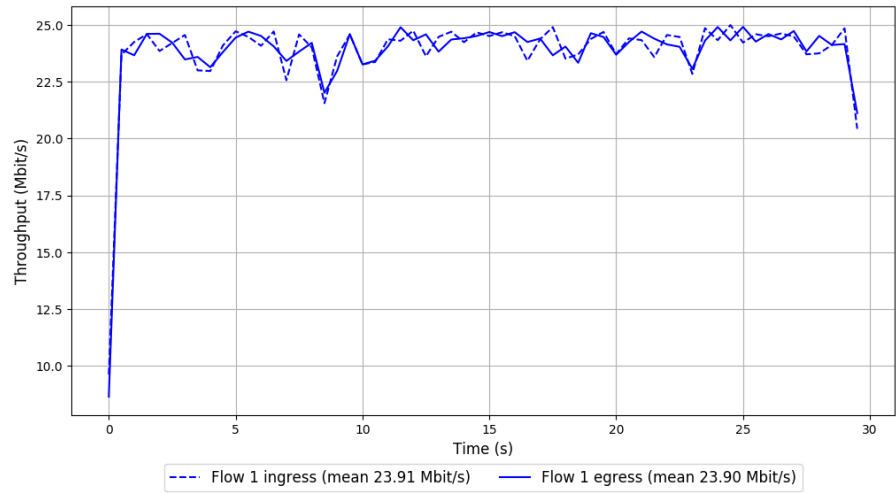
Run 9: Statistics of Sprout

Start at: 2017-09-18 12:36:43  
End at: 2017-09-18 12:37:13  
Local clock offset: 0.153 ms  
Remote clock offset: -3.614 ms

# Below is generated by plot.py at 2017-09-18 13:27:12  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 23.90 Mbit/s  
95th percentile per-packet one-way delay: 21.325 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 23.90 Mbit/s  
95th percentile per-packet one-way delay: 21.325 ms  
Loss rate: 0.02%



### Run 9: Report of Sprout — Data Link



Run 10: Statistics of Sprout

Start at: 2017-09-18 12:49:14

End at: 2017-09-18 12:49:44

Local clock offset: 2.731 ms

Remote clock offset: -3.65 ms

# Below is generated by plot.py at 2017-09-18 13:27:12

# Datalink statistics

-- Total of 1 flow:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 29.854 ms

Loss rate: 0.06%

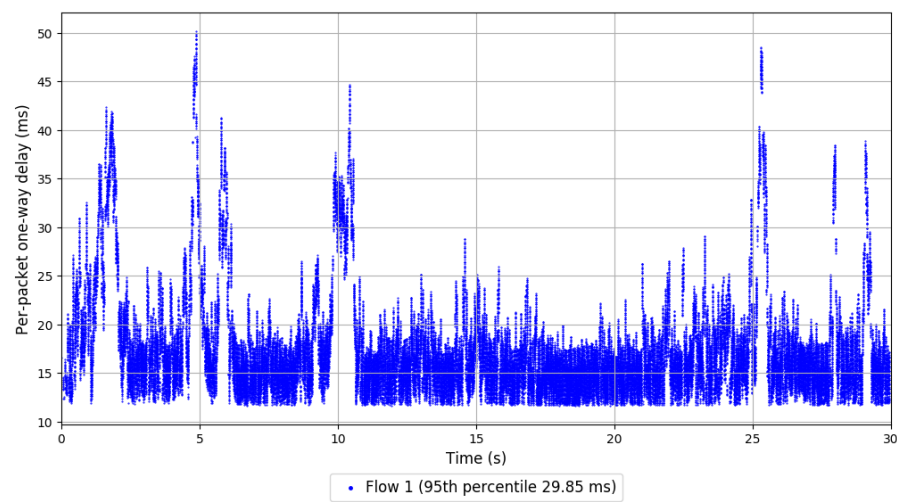
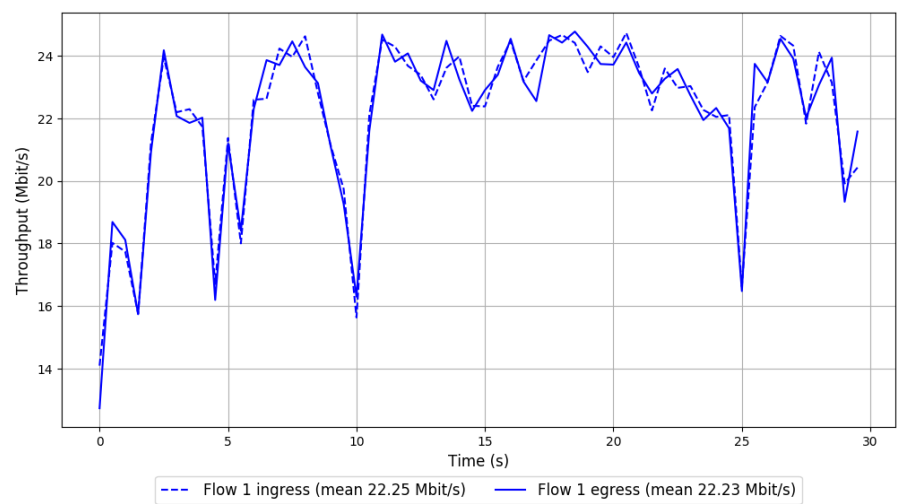
-- Flow 1:

Average throughput: 22.23 Mbit/s

95th percentile per-packet one-way delay: 29.854 ms

Loss rate: 0.06%

Run 10: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2017-09-18 10:39:16

End at: 2017-09-18 10:39:46

Local clock offset: 1.65 ms

Remote clock offset: -4.42 ms

# Below is generated by plot.py at 2017-09-18 13:27:34

# Datalink statistics

-- Total of 1 flow:

Average throughput: 41.81 Mbit/s

95th percentile per-packet one-way delay: 30.341 ms

Loss rate: 0.34%

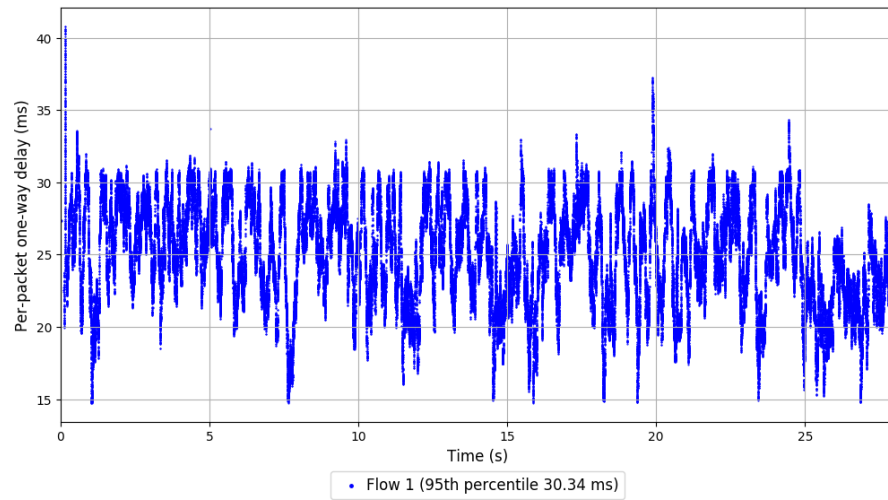
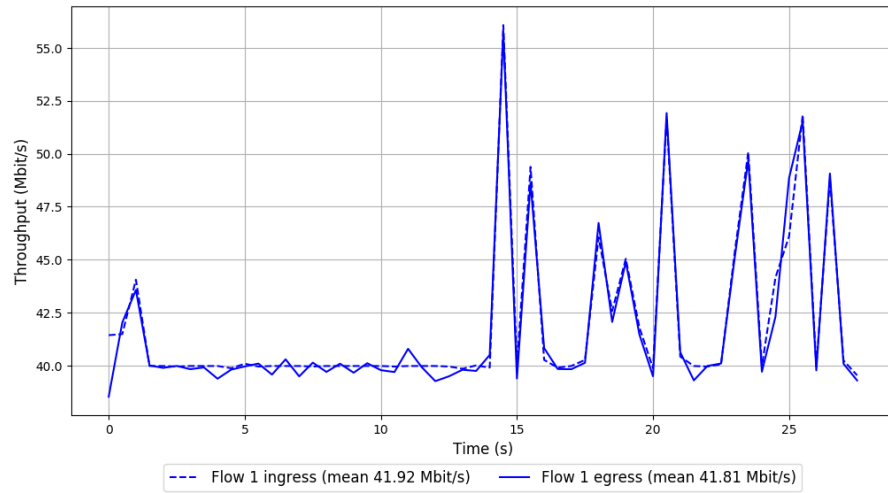
-- Flow 1:

Average throughput: 41.81 Mbit/s

95th percentile per-packet one-way delay: 30.341 ms

Loss rate: 0.34%

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



Run 2: Statistics of TaoVA-100x

Start at: 2017-09-18 10:53:34

End at: 2017-09-18 10:54:04

Local clock offset: 3.172 ms

Remote clock offset: -4.038 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 80.39 Mbit/s

95th percentile per-packet one-way delay: 19.891 ms

Loss rate: 0.00%

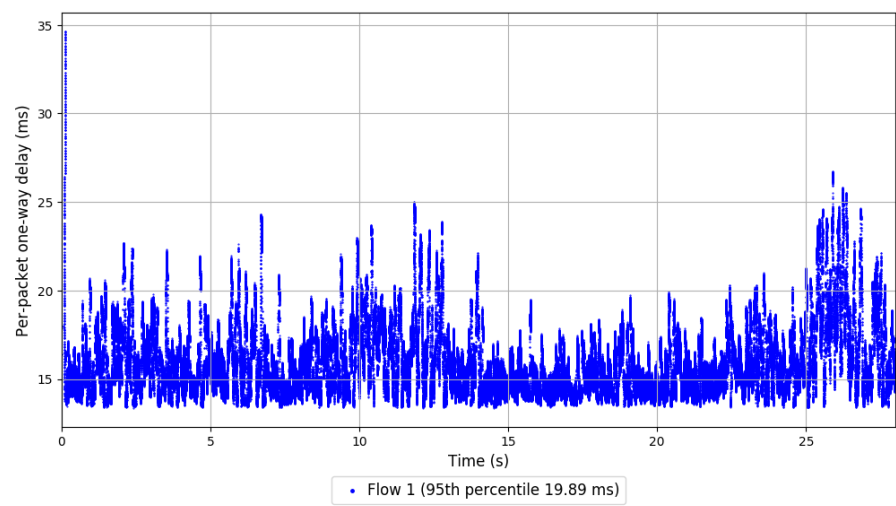
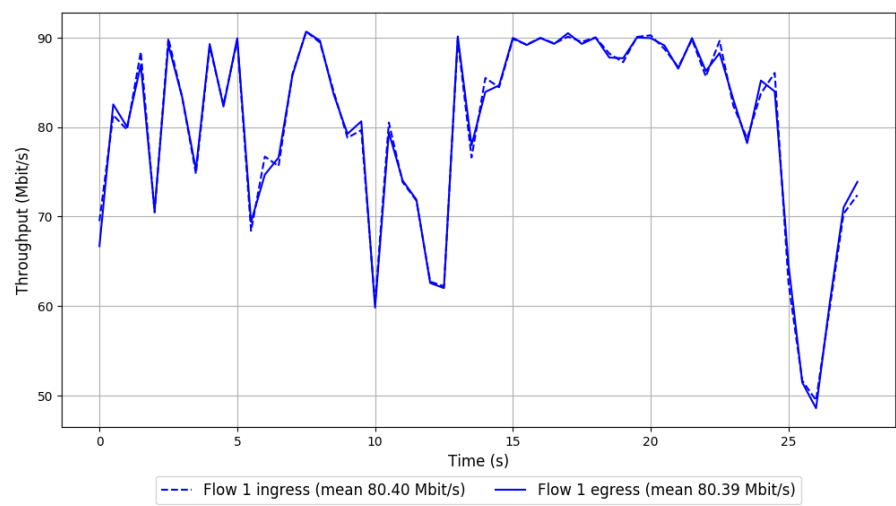
-- Flow 1:

Average throughput: 80.39 Mbit/s

95th percentile per-packet one-way delay: 19.891 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2017-09-18 11:07:28

End at: 2017-09-18 11:07:58

Local clock offset: 0.518 ms

Remote clock offset: -4.294 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 39.61 Mbit/s

95th percentile per-packet one-way delay: 109.795 ms

Loss rate: 0.21%

-- Flow 1:

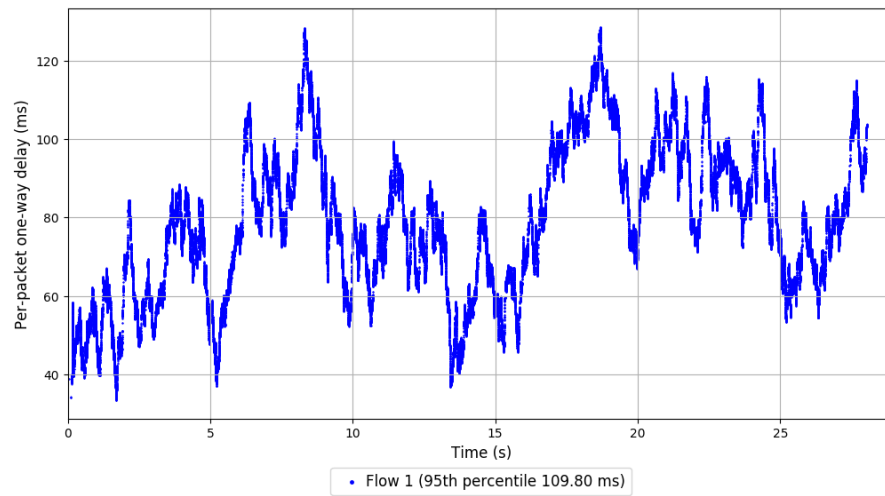
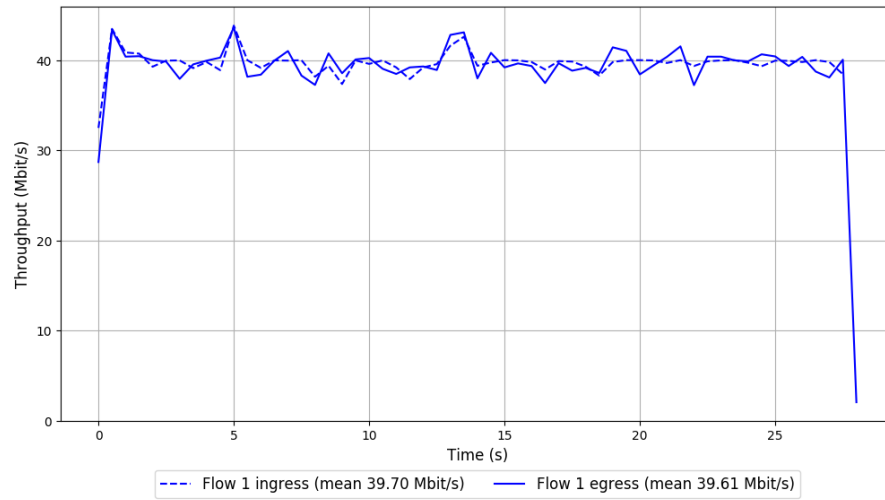
Average throughput: 39.61 Mbit/s

95th percentile per-packet one-way delay: 109.795 ms

Loss rate: 0.21%



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



Run 4: Statistics of TaoVA-100x

Start at: 2017-09-18 11:22:24

End at: 2017-09-18 11:22:54

Local clock offset: 0.38 ms

Remote clock offset: -3.359 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 40.49 Mbit/s

95th percentile per-packet one-way delay: 57.556 ms

Loss rate: 0.00%

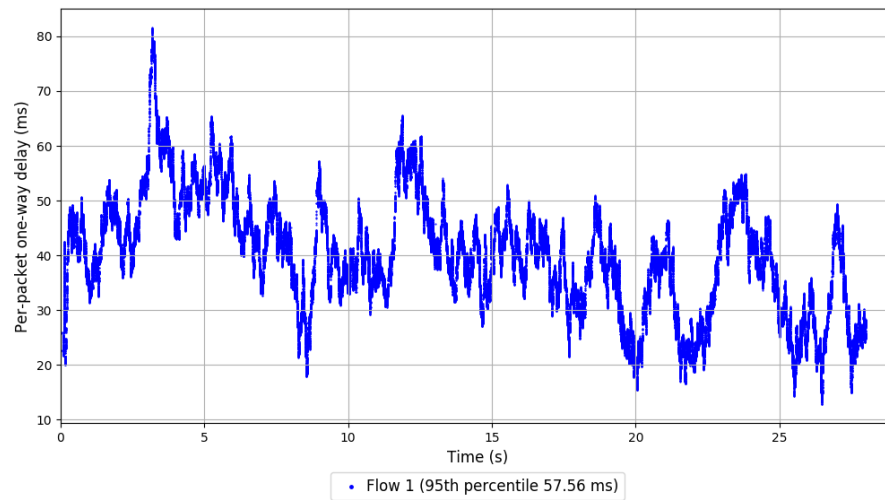
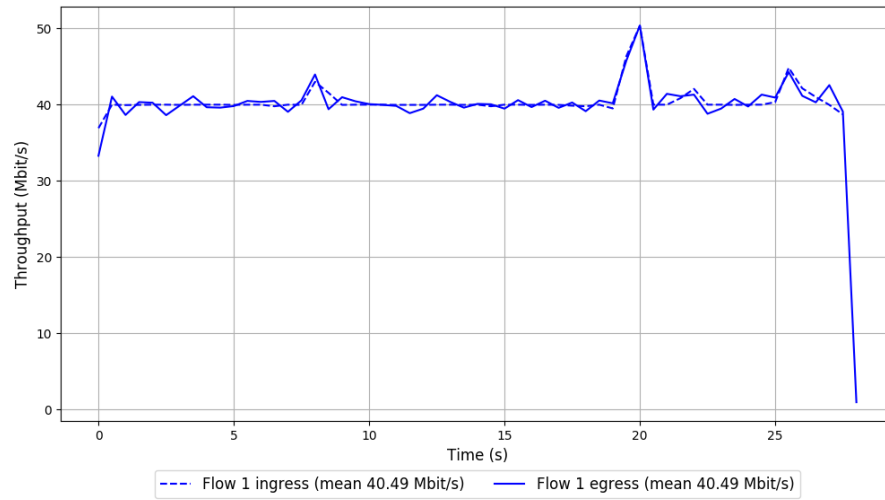
-- Flow 1:

Average throughput: 40.49 Mbit/s

95th percentile per-packet one-way delay: 57.556 ms

Loss rate: 0.00%

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

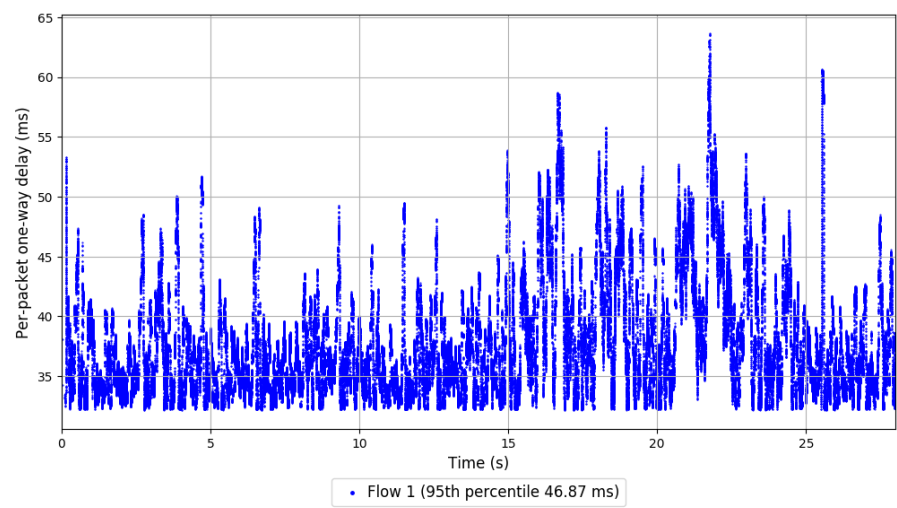
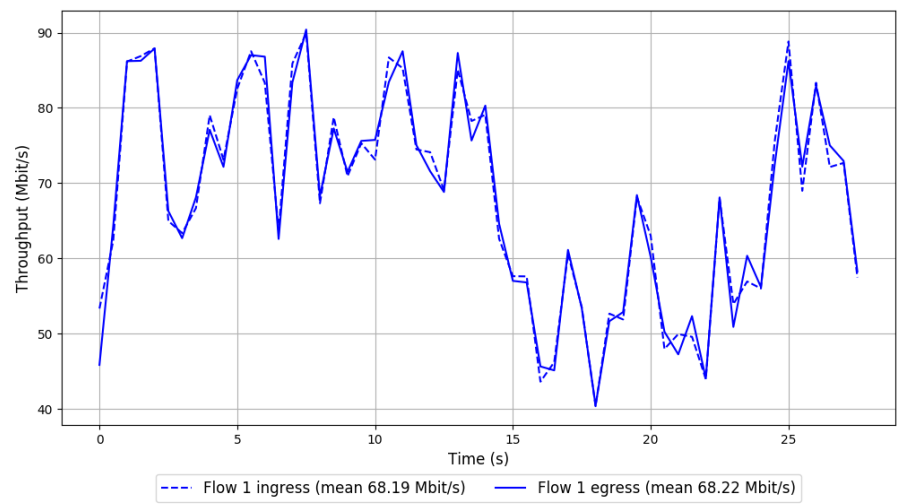


Run 5: Statistics of TaoVA-100x

Start at: 2017-09-18 11:36:47  
End at: 2017-09-18 11:37:17  
Local clock offset: -0.249 ms  
Remote clock offset: -2.382 ms

# Below is generated by plot.py at 2017-09-18 13:28:42  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 68.22 Mbit/s  
95th percentile per-packet one-way delay: 46.873 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 68.22 Mbit/s  
95th percentile per-packet one-way delay: 46.873 ms  
Loss rate: 0.05%

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



Run 6: Statistics of TaoVA-100x

Start at: 2017-09-18 11:52:13

End at: 2017-09-18 11:52:43

Local clock offset: 1.383 ms

Remote clock offset: -3.676 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 57.15 Mbit/s

95th percentile per-packet one-way delay: 26.815 ms

Loss rate: 0.00%

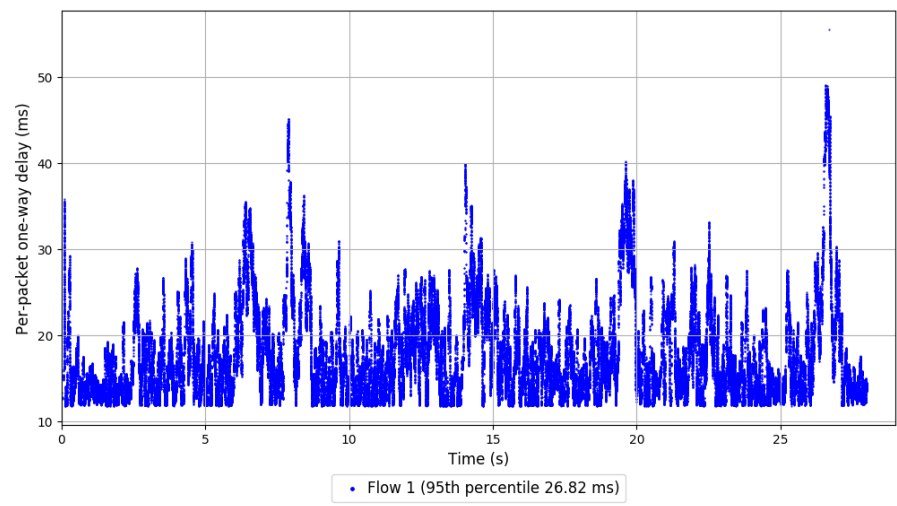
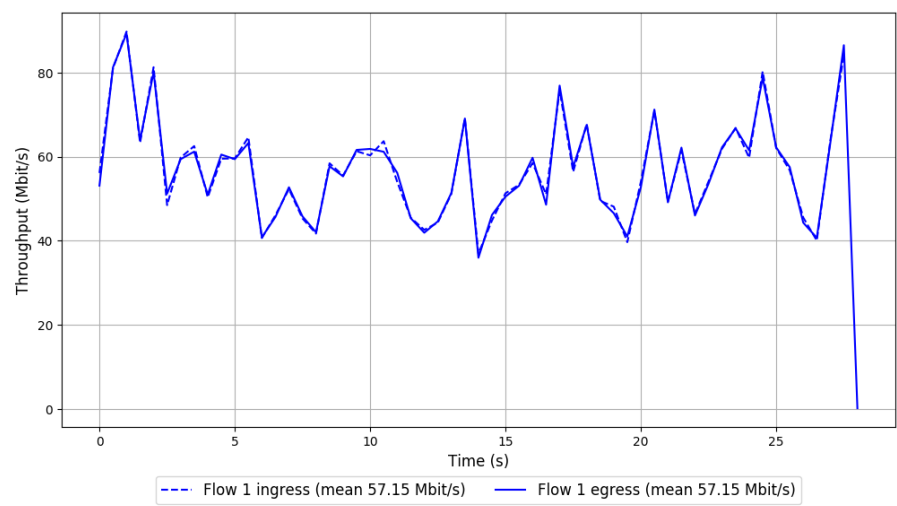
-- Flow 1:

Average throughput: 57.15 Mbit/s

95th percentile per-packet one-way delay: 26.815 ms

Loss rate: 0.00%

Run 6: Report of TaoVA-100x — Data Link



Run 7: Statistics of TaoVA-100x

Start at: 2017-09-18 12:06:23

End at: 2017-09-18 12:06:53

Local clock offset: 0.833 ms

Remote clock offset: -3.203 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 43.28 Mbit/s

95th percentile per-packet one-way delay: 42.960 ms

Loss rate: 0.69%

-- Flow 1:

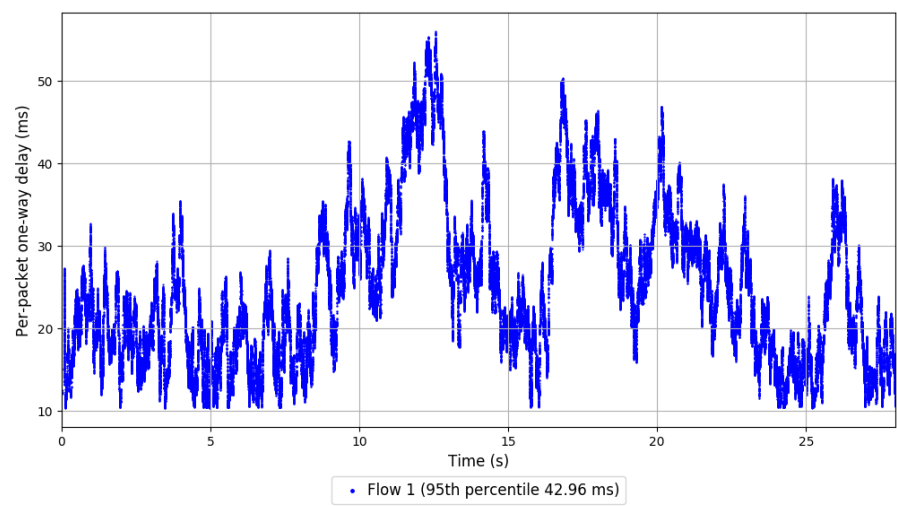
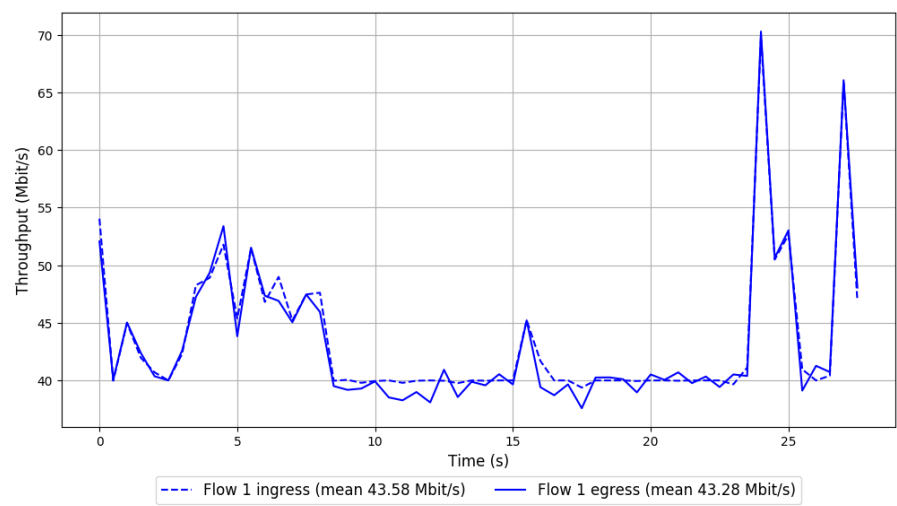
Average throughput: 43.28 Mbit/s

95th percentile per-packet one-way delay: 42.960 ms

Loss rate: 0.69%



Run 7: Report of TaoVA-100x — Data Link



Run 8: Statistics of TaoVA-100x

Start at: 2017-09-18 12:27:15

End at: 2017-09-18 12:27:45

Local clock offset: 2.703 ms

Remote clock offset: -4.371 ms

# Below is generated by plot.py at 2017-09-18 13:28:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 41.40 Mbit/s

95th percentile per-packet one-way delay: 65.902 ms

Loss rate: 0.07%

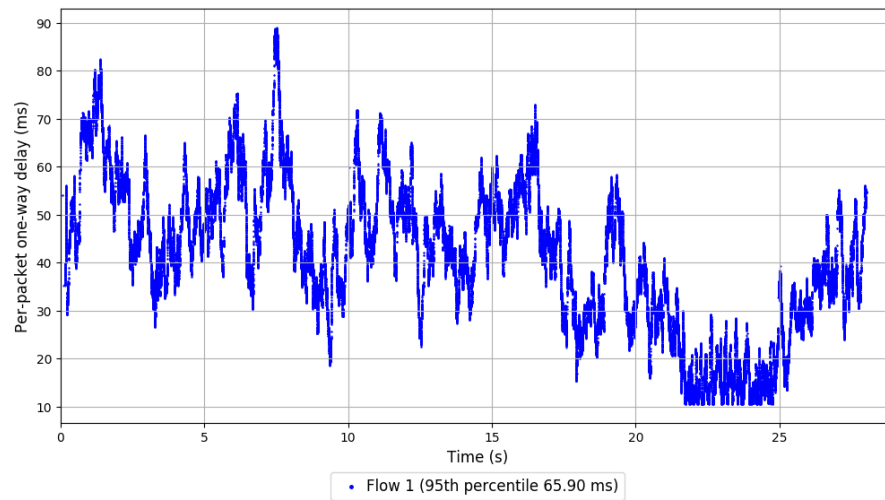
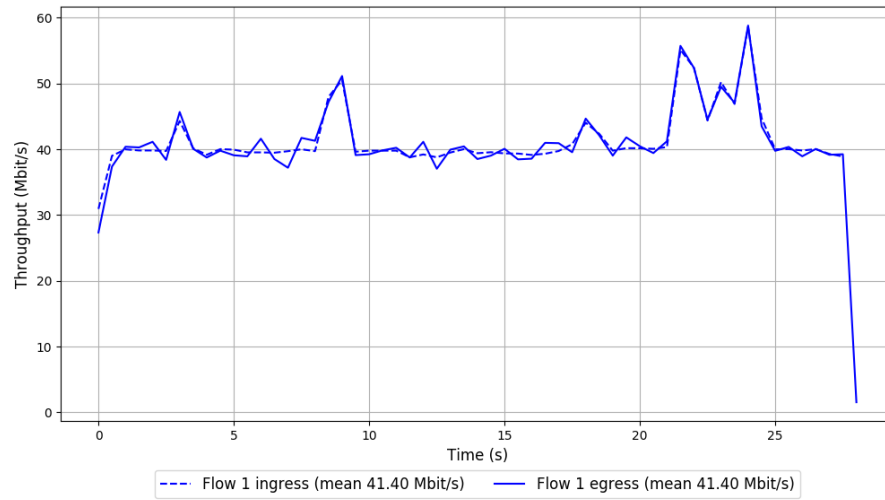
-- Flow 1:

Average throughput: 41.40 Mbit/s

95th percentile per-packet one-way delay: 65.902 ms

Loss rate: 0.07%

### Run 8: Report of TaoVA-100x — Data Link



Run 9: Statistics of TaoVA-100x

Start at: 2017-09-18 12:41:44

End at: 2017-09-18 12:42:14

Local clock offset: 3.045 ms

Remote clock offset: -3.436 ms

# Below is generated by plot.py at 2017-09-18 13:29:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 79.97 Mbit/s

95th percentile per-packet one-way delay: 15.851 ms

Loss rate: 0.55%

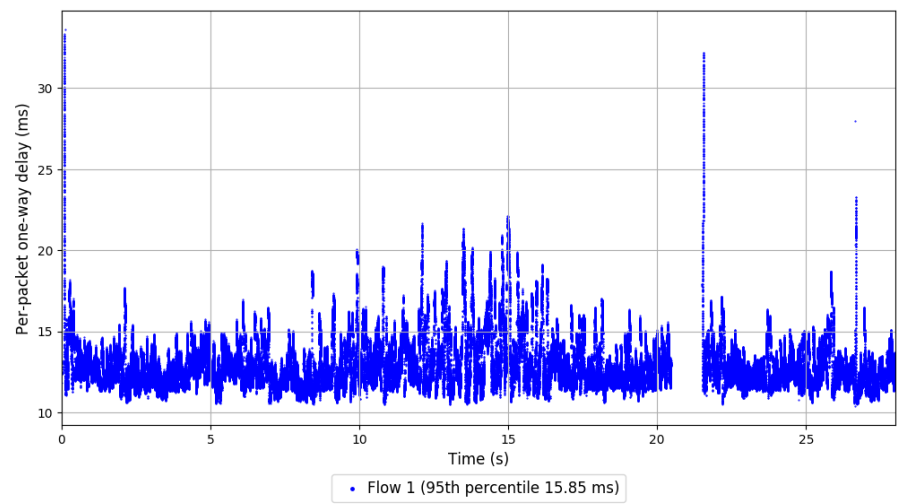
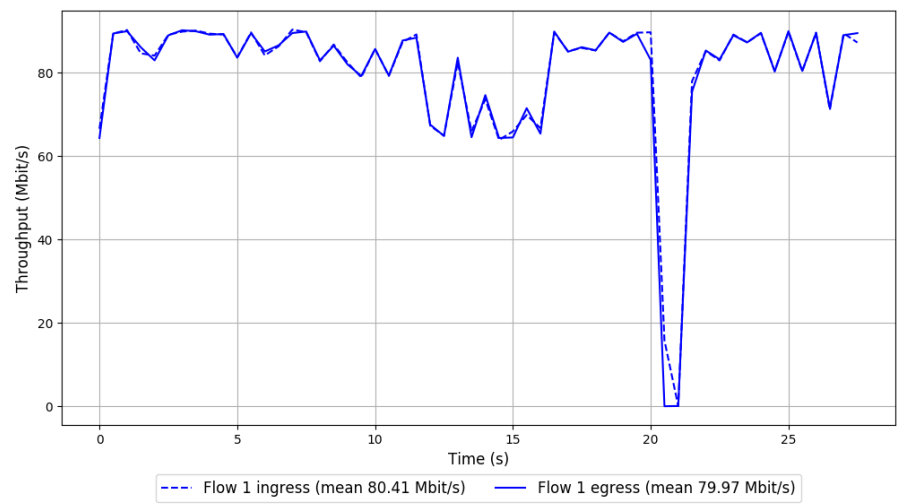
-- Flow 1:

Average throughput: 79.97 Mbit/s

95th percentile per-packet one-way delay: 15.851 ms

Loss rate: 0.55%

Run 9: Report of TaoVA-100x — Data Link



Run 10: Statistics of TaoVA-100x

Start at: 2017-09-18 12:54:20

End at: 2017-09-18 12:54:50

Local clock offset: 1.529 ms

Remote clock offset: -3.652 ms

# Below is generated by plot.py at 2017-09-18 13:29:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 64.94 Mbit/s

95th percentile per-packet one-way delay: 20.193 ms

Loss rate: 0.00%

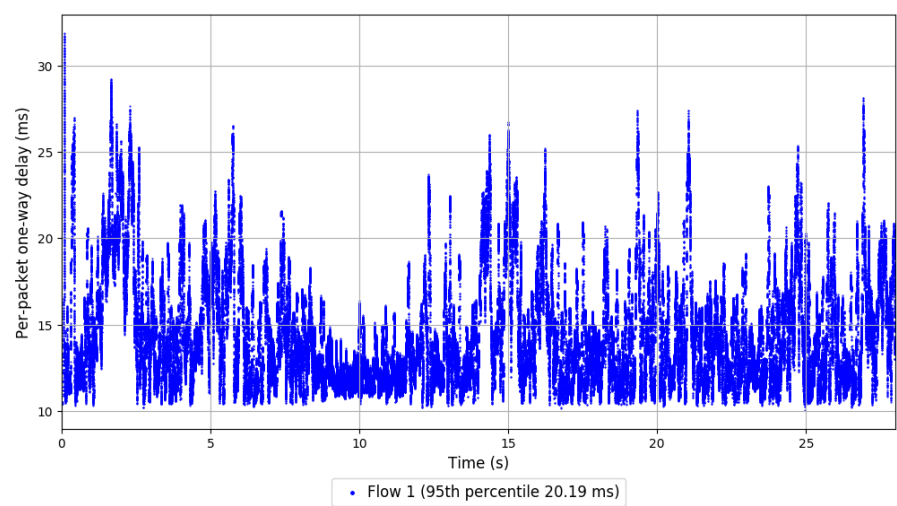
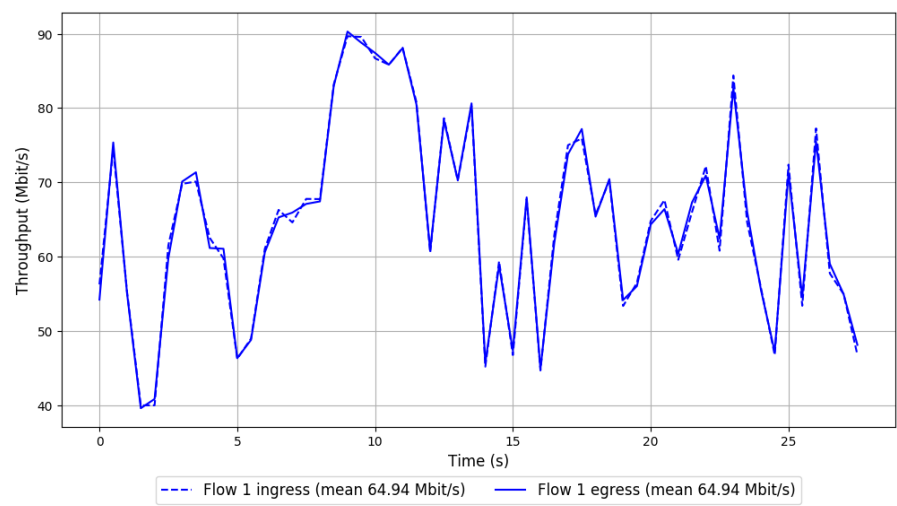
-- Flow 1:

Average throughput: 64.94 Mbit/s

95th percentile per-packet one-way delay: 20.193 ms

Loss rate: 0.00%

Run 10: Report of TaoVA-100x — Data Link



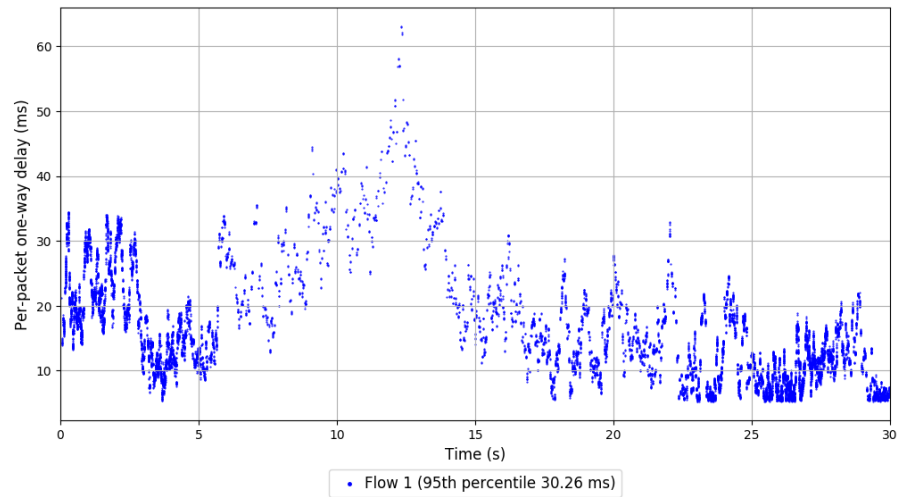
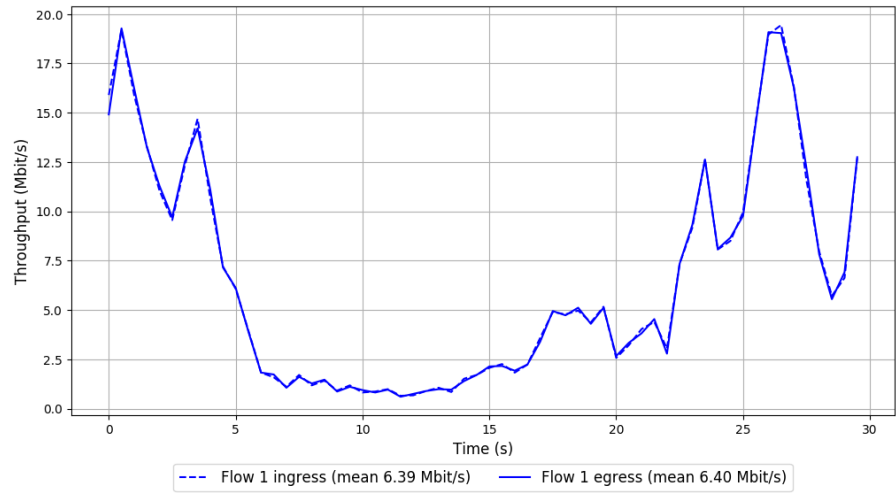
Run 1: Statistics of TCP Vegas

Start at: 2017-09-18 10:43:27  
End at: 2017-09-18 10:43:57  
Local clock offset: 3.471 ms  
Remote clock offset: -5.615 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 6.40 Mbit/s  
95th percentile per-packet one-way delay: 30.257 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 6.40 Mbit/s  
95th percentile per-packet one-way delay: 30.257 ms  
Loss rate: 0.00%



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

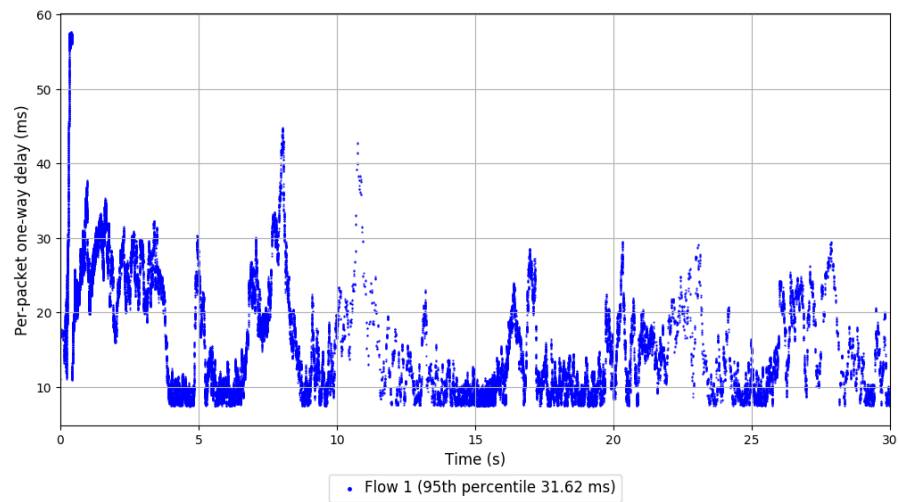
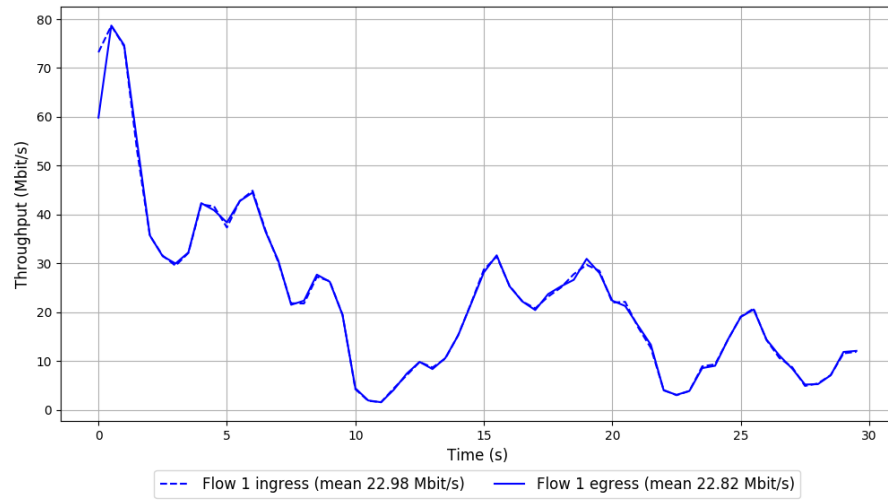


Run 2: Statistics of TCP Vegas

Start at: 2017-09-18 10:57:56  
End at: 2017-09-18 10:58:26  
Local clock offset: 2.514 ms  
Remote clock offset: -4.347 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 22.82 Mbit/s  
95th percentile per-packet one-way delay: 31.617 ms  
Loss rate: 0.71%  
-- Flow 1:  
Average throughput: 22.82 Mbit/s  
95th percentile per-packet one-way delay: 31.617 ms  
Loss rate: 0.71%

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

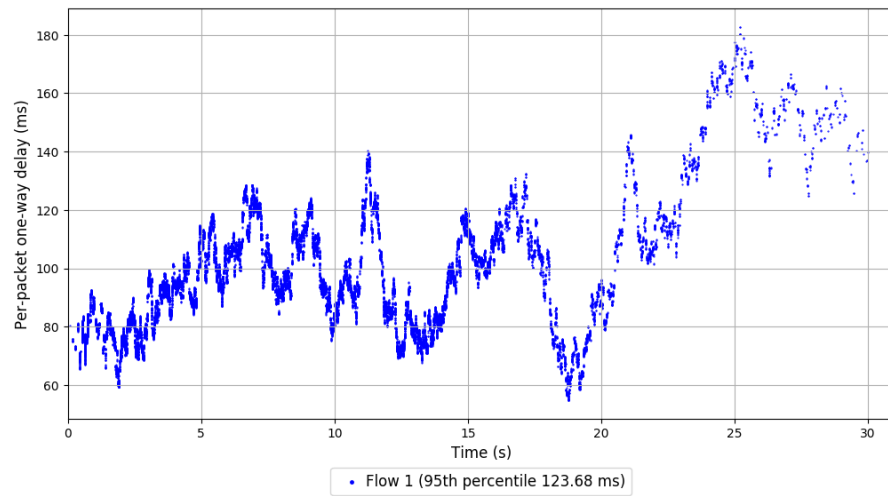
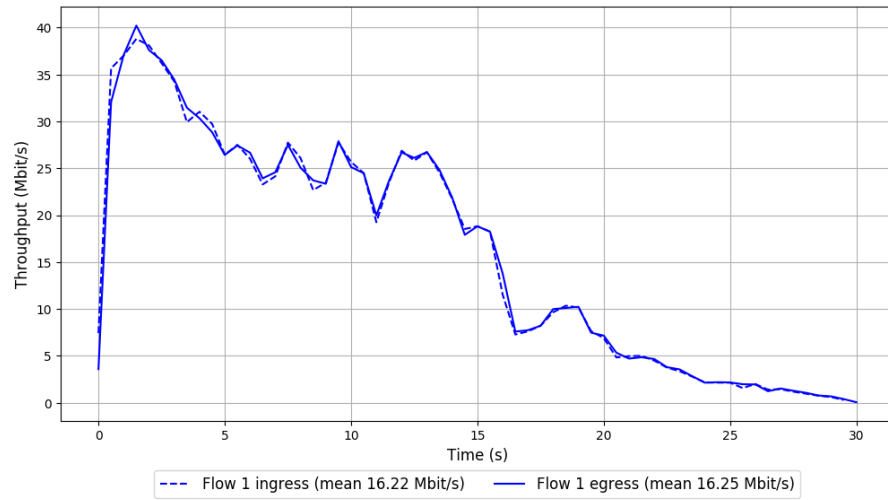


Run 3: Statistics of TCP Vegas

Start at: 2017-09-18 11:12:20  
End at: 2017-09-18 11:12:50  
Local clock offset: 1.62 ms  
Remote clock offset: -3.579 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 16.25 Mbit/s  
95th percentile per-packet one-way delay: 123.676 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 16.25 Mbit/s  
95th percentile per-packet one-way delay: 123.676 ms  
Loss rate: 0.01%

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

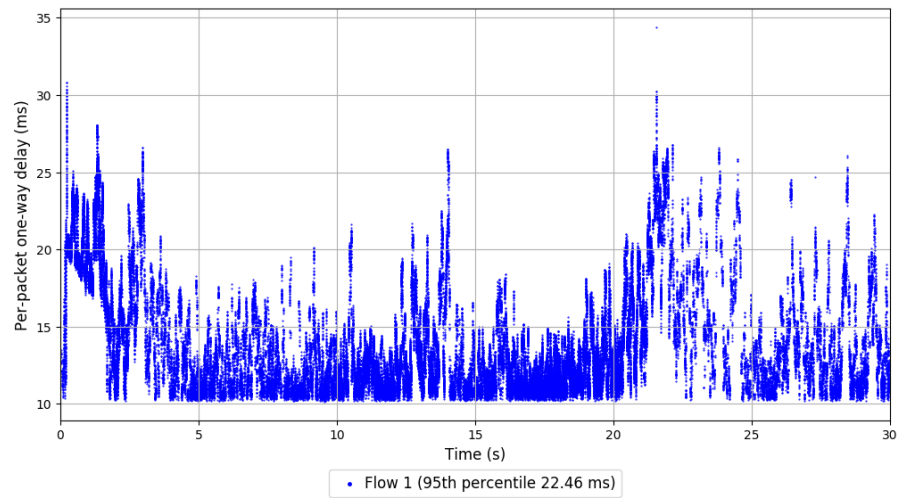
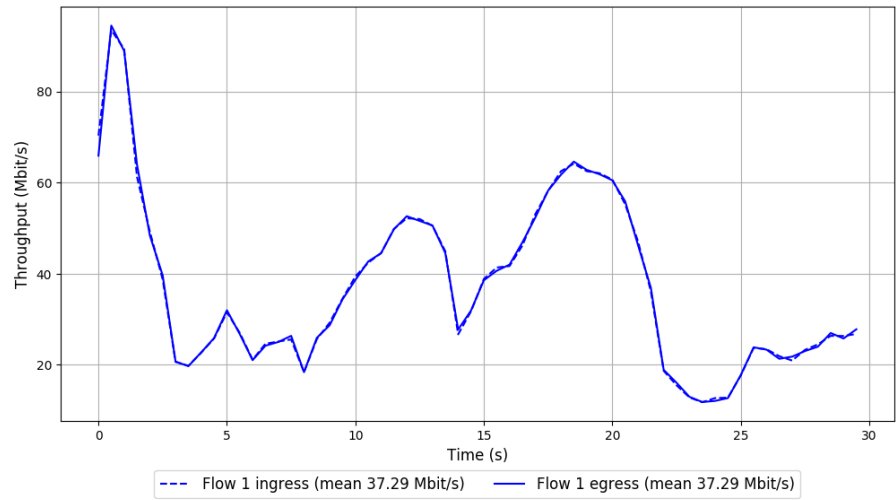


Run 4: Statistics of TCP Vegas

Start at: 2017-09-18 11:26:33  
End at: 2017-09-18 11:27:03  
Local clock offset: 1.722 ms  
Remote clock offset: -2.846 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 37.29 Mbit/s  
95th percentile per-packet one-way delay: 22.464 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 37.29 Mbit/s  
95th percentile per-packet one-way delay: 22.464 ms  
Loss rate: 0.01%

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



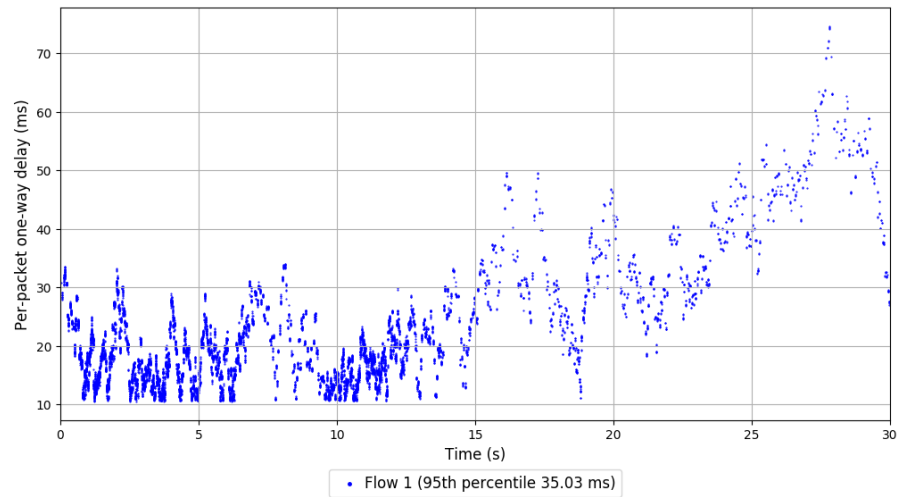
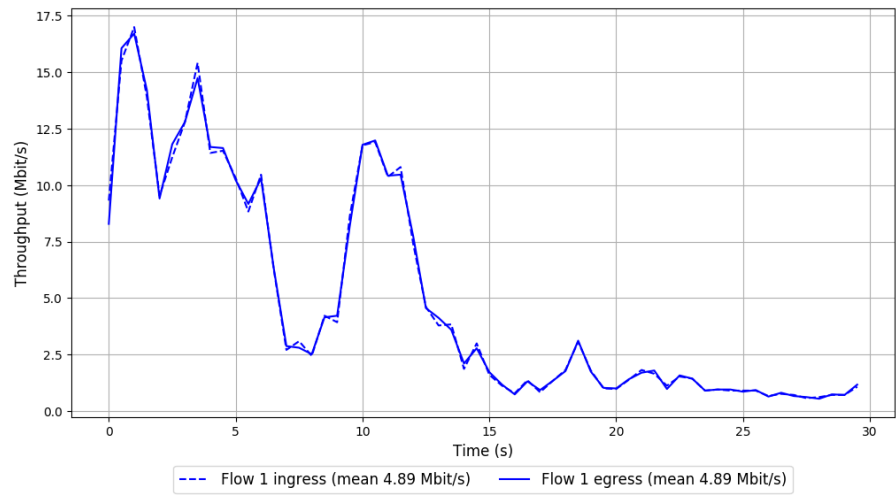
Run 5: Statistics of TCP Vegas

Start at: 2017-09-18 11:40:54  
End at: 2017-09-18 11:41:24  
Local clock offset: -0.056 ms  
Remote clock offset: -3.437 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 4.89 Mbit/s  
95th percentile per-packet one-way delay: 35.026 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 4.89 Mbit/s  
95th percentile per-packet one-way delay: 35.026 ms  
Loss rate: 0.00%



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



Run 6: Statistics of TCP Vegas

Start at: 2017-09-18 11:56:34

End at: 2017-09-18 11:57:04

Local clock offset: 1.5 ms

Remote clock offset: -3.158 ms

# Below is generated by plot.py at 2017-09-18 13:29:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 69.38 Mbit/s

95th percentile per-packet one-way delay: 15.593 ms

Loss rate: 0.03%

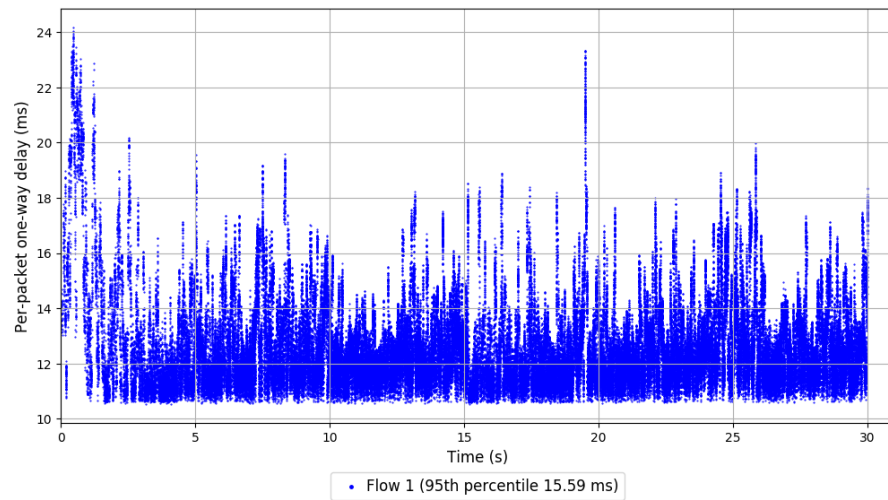
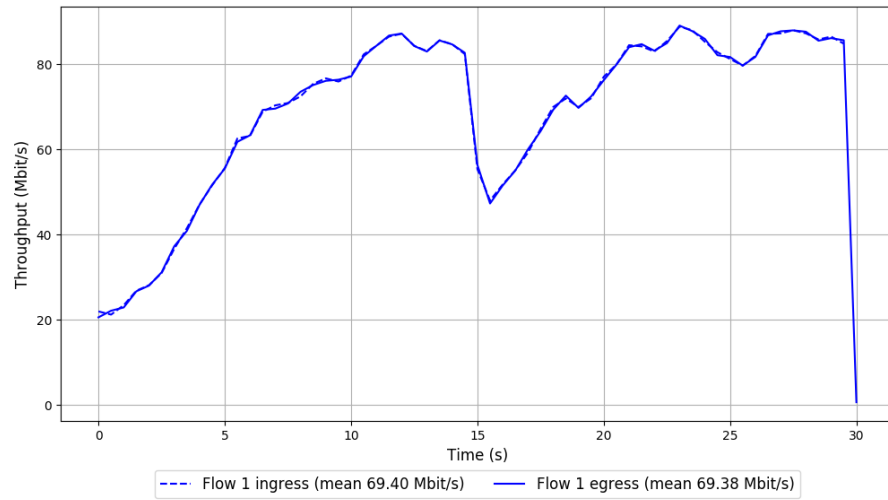
-- Flow 1:

Average throughput: 69.38 Mbit/s

95th percentile per-packet one-way delay: 15.593 ms

Loss rate: 0.03%

## Run 6: Report of TCP Vegas — Data Link

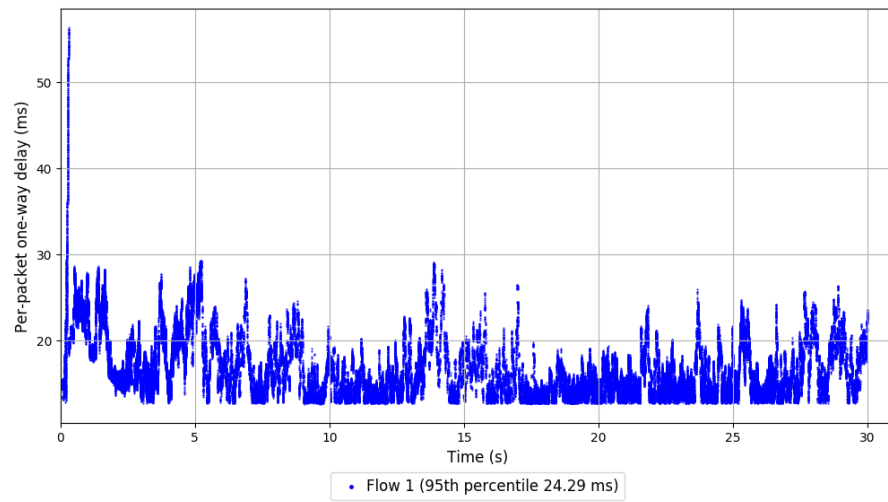
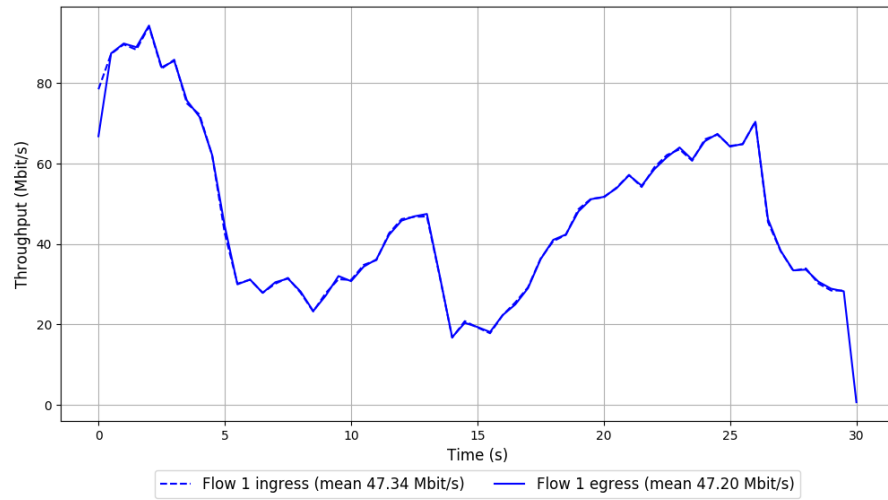


Run 7: Statistics of TCP Vegas

Start at: 2017-09-18 12:10:36  
End at: 2017-09-18 12:11:06  
Local clock offset: 0.187 ms  
Remote clock offset: -2.531 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 47.20 Mbit/s  
95th percentile per-packet one-way delay: 24.292 ms  
Loss rate: 0.28%  
-- Flow 1:  
Average throughput: 47.20 Mbit/s  
95th percentile per-packet one-way delay: 24.292 ms  
Loss rate: 0.28%

## Run 7: Report of TCP Vegas — Data Link

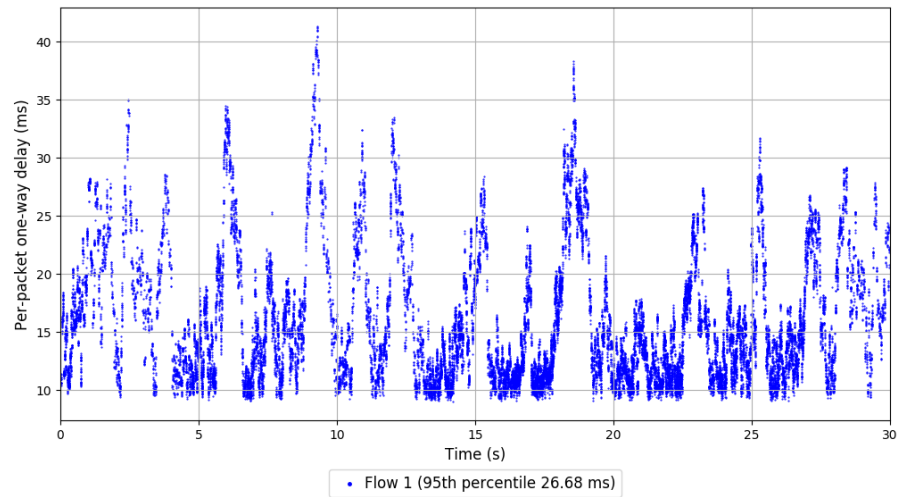
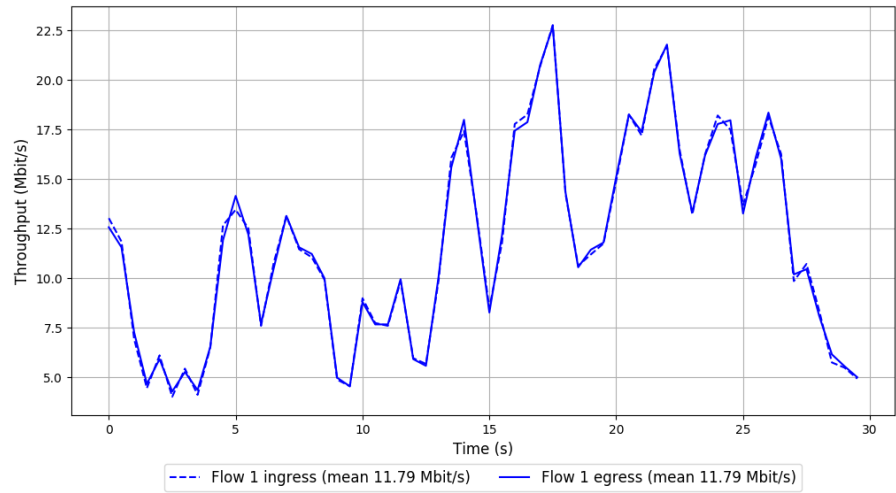


Run 8: Statistics of TCP Vegas

Start at: 2017-09-18 12:33:02  
End at: 2017-09-18 12:33:32  
Local clock offset: 2.145 ms  
Remote clock offset: -3.848 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 26.684 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 11.79 Mbit/s  
95th percentile per-packet one-way delay: 26.684 ms  
Loss rate: 0.00%

## Run 8: Report of TCP Vegas — Data Link



Run 9: Statistics of TCP Vegas

Start at: 2017-09-18 12:45:27

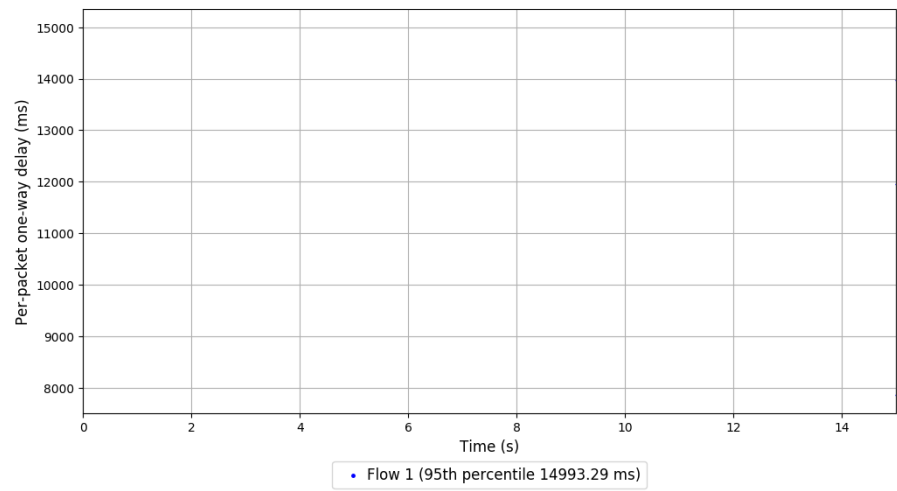
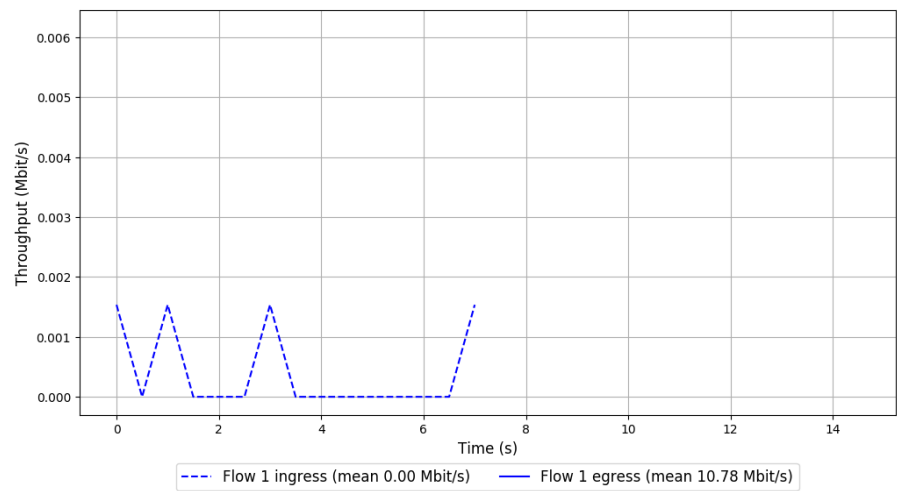
End at: 2017-09-18 12:45:57

Local clock offset: -4.406 ms

Remote clock offset: -4.14 ms



Run 9: Report of TCP Vegas — Data Link



Run 10: Statistics of TCP Vegas

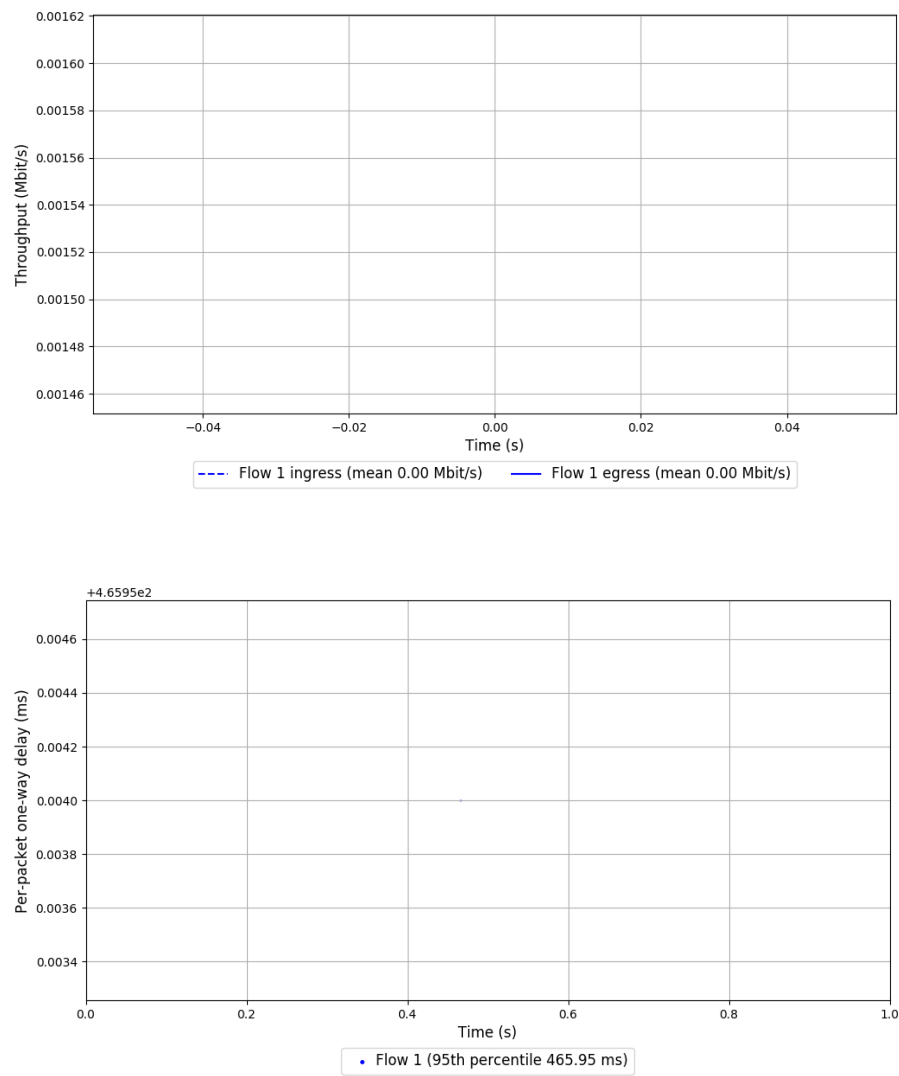
Start at: 2017-09-18 12:58:22

End at: 2017-09-18 12:58:52

Local clock offset: 1.212 ms

Remote clock offset: -4.063 ms

Run 10: Report of TCP Vegas — Data Link

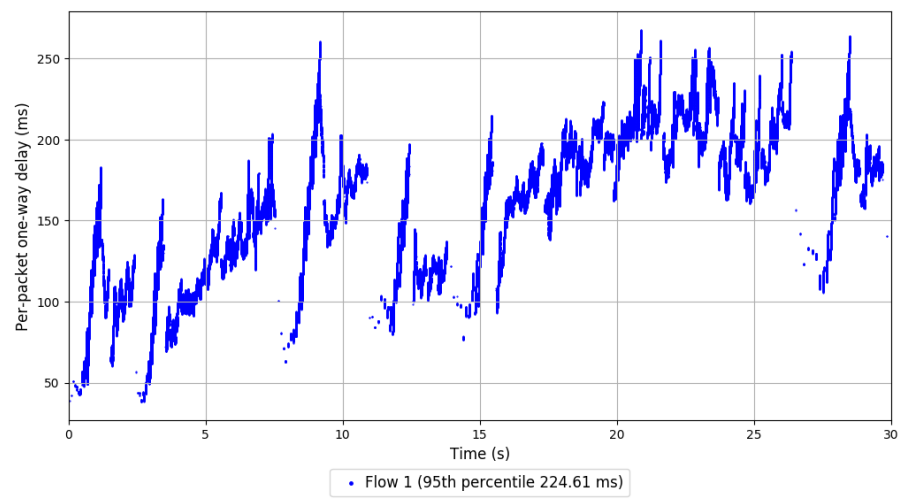
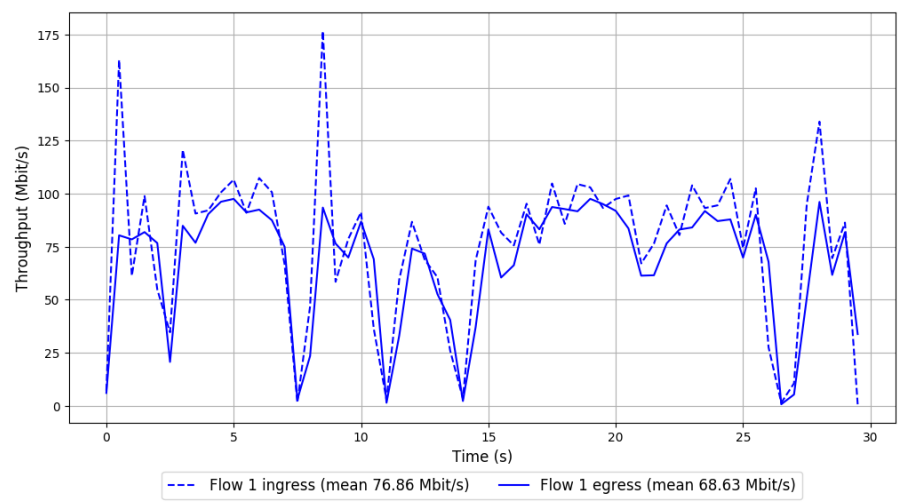


Run 1: Statistics of Verus

Start at: 2017-09-18 10:46:13  
End at: 2017-09-18 10:46:43  
Local clock offset: -0.208 ms  
Remote clock offset: -4.113 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 68.63 Mbit/s  
95th percentile per-packet one-way delay: 224.609 ms  
Loss rate: 10.88%  
-- Flow 1:  
Average throughput: 68.63 Mbit/s  
95th percentile per-packet one-way delay: 224.609 ms  
Loss rate: 10.88%

Run 1: Report of Verus — Data Link

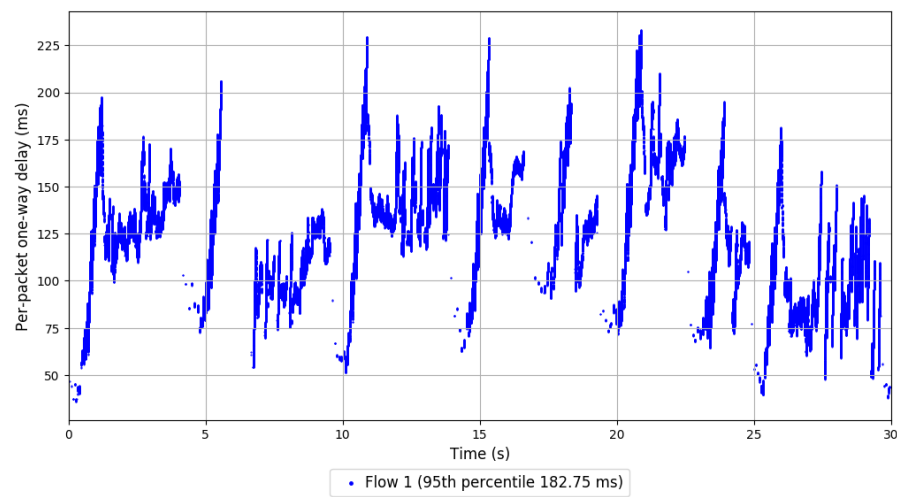
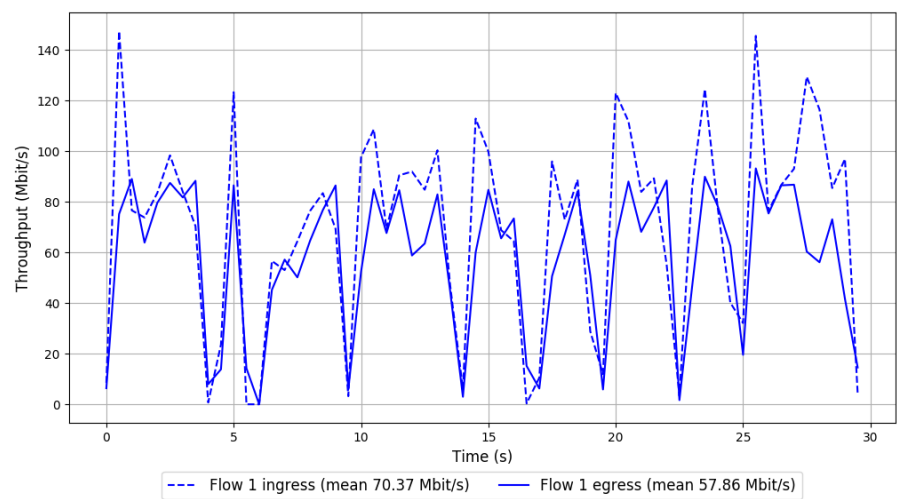


Run 2: Statistics of Verus

Start at: 2017-09-18 11:00:45  
End at: 2017-09-18 11:01:15  
Local clock offset: 0.427 ms  
Remote clock offset: -4.647 ms

# Below is generated by plot.py at 2017-09-18 13:29:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 57.86 Mbit/s  
95th percentile per-packet one-way delay: 182.753 ms  
Loss rate: 17.79%  
-- Flow 1:  
Average throughput: 57.86 Mbit/s  
95th percentile per-packet one-way delay: 182.753 ms  
Loss rate: 17.79%

Run 2: Report of Verus — Data Link



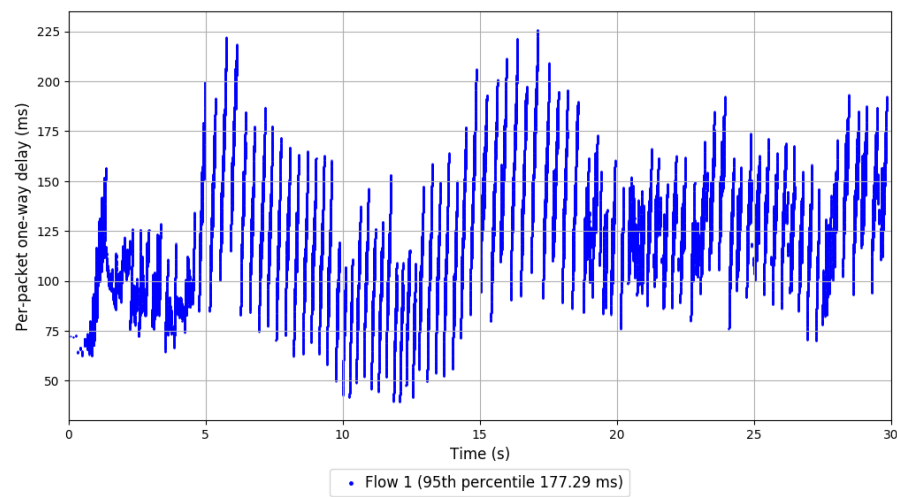
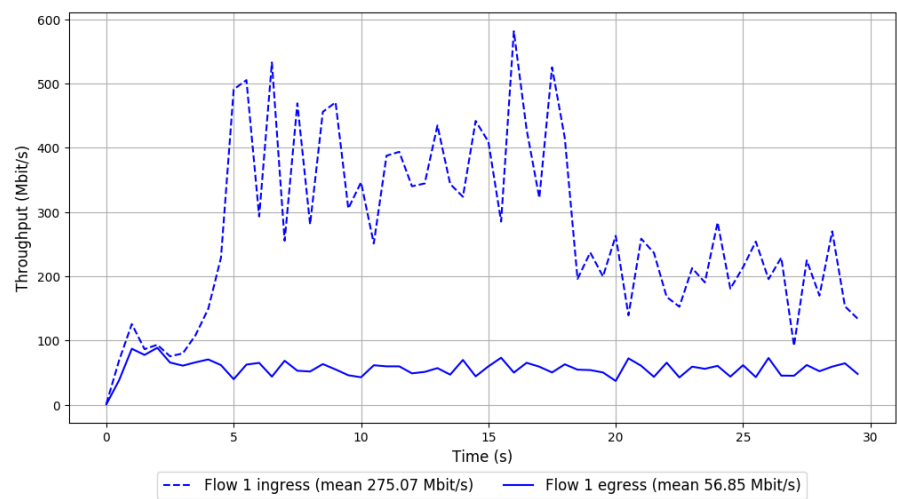
Run 3: Statistics of Verus

Start at: 2017-09-18 11:15:21  
End at: 2017-09-18 11:15:51  
Local clock offset: 2.115 ms  
Remote clock offset: -3.312 ms

# Below is generated by plot.py at 2017-09-18 13:30:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 56.85 Mbit/s  
95th percentile per-packet one-way delay: 177.287 ms  
Loss rate: 79.25%  
-- Flow 1:  
Average throughput: 56.85 Mbit/s  
95th percentile per-packet one-way delay: 177.287 ms  
Loss rate: 79.25%



Run 3: Report of Verus — Data Link

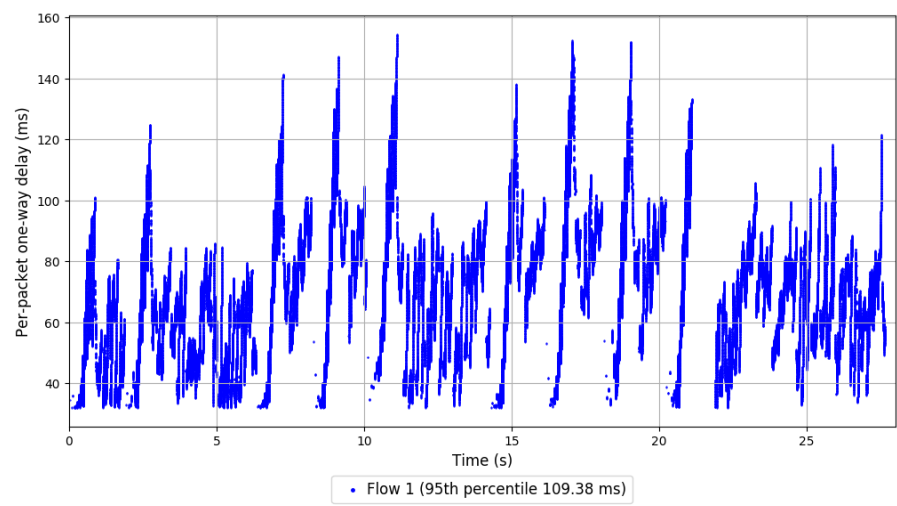
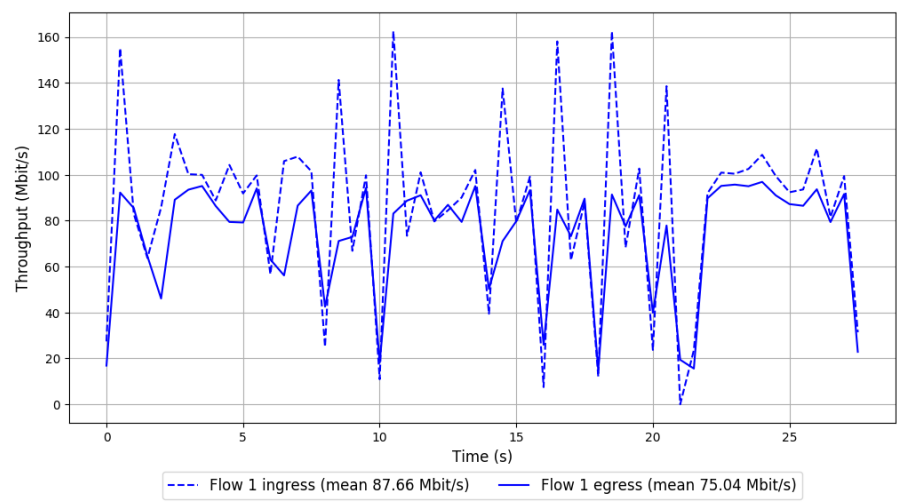


Run 4: Statistics of Verus

Start at: 2017-09-18 11:29:23  
End at: 2017-09-18 11:29:53  
Local clock offset: -0.029 ms  
Remote clock offset: -2.631 ms

# Below is generated by plot.py at 2017-09-18 13:30:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 75.04 Mbit/s  
95th percentile per-packet one-way delay: 109.378 ms  
Loss rate: 14.43%  
-- Flow 1:  
Average throughput: 75.04 Mbit/s  
95th percentile per-packet one-way delay: 109.378 ms  
Loss rate: 14.43%

Run 4: Report of Verus — Data Link

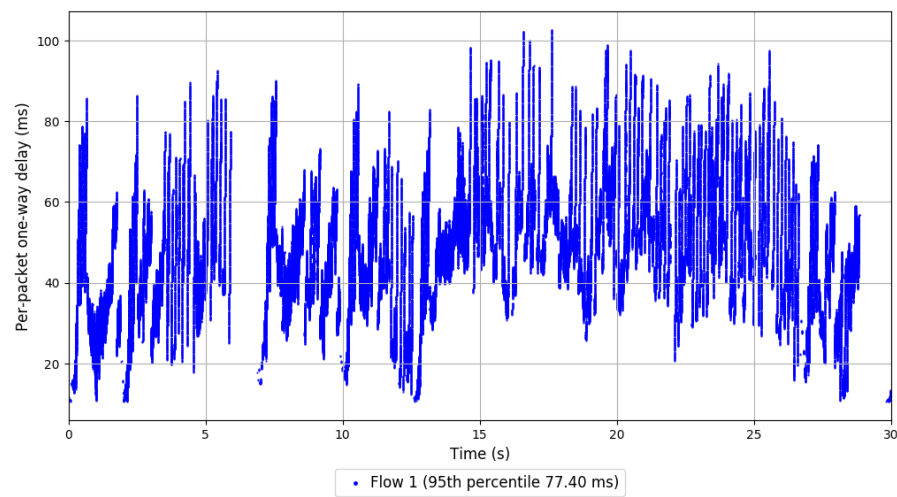
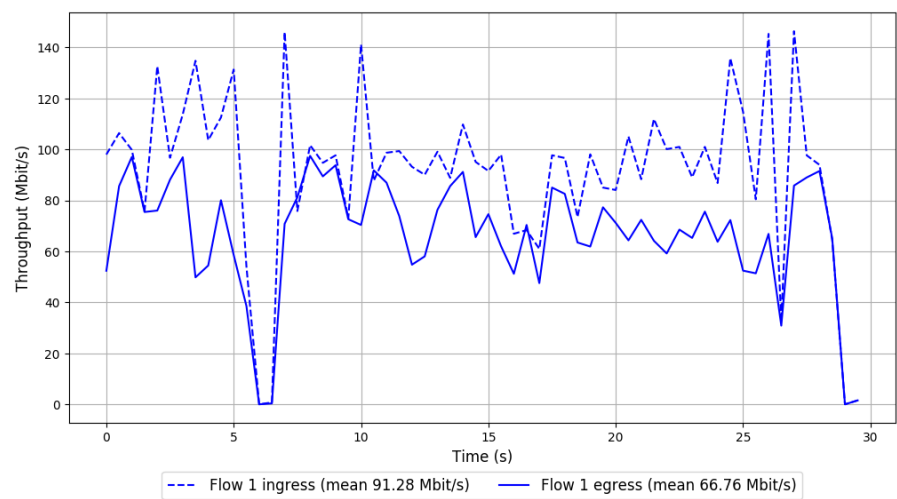


Run 5: Statistics of Verus

Start at: 2017-09-18 11:43:42  
End at: 2017-09-18 11:44:12  
Local clock offset: 0.815 ms  
Remote clock offset: -2.734 ms

# Below is generated by plot.py at 2017-09-18 13:30:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 66.76 Mbit/s  
95th percentile per-packet one-way delay: 77.403 ms  
Loss rate: 26.85%  
-- Flow 1:  
Average throughput: 66.76 Mbit/s  
95th percentile per-packet one-way delay: 77.403 ms  
Loss rate: 26.85%

Run 5: Report of Verus — Data Link

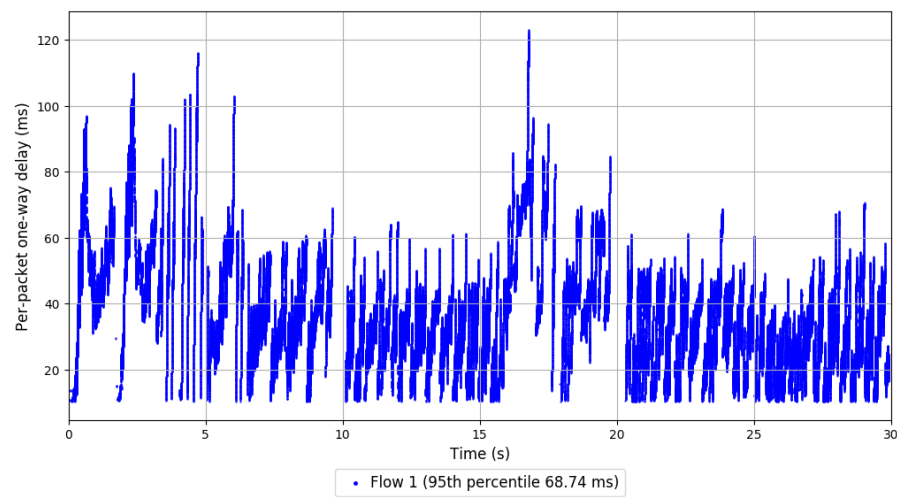
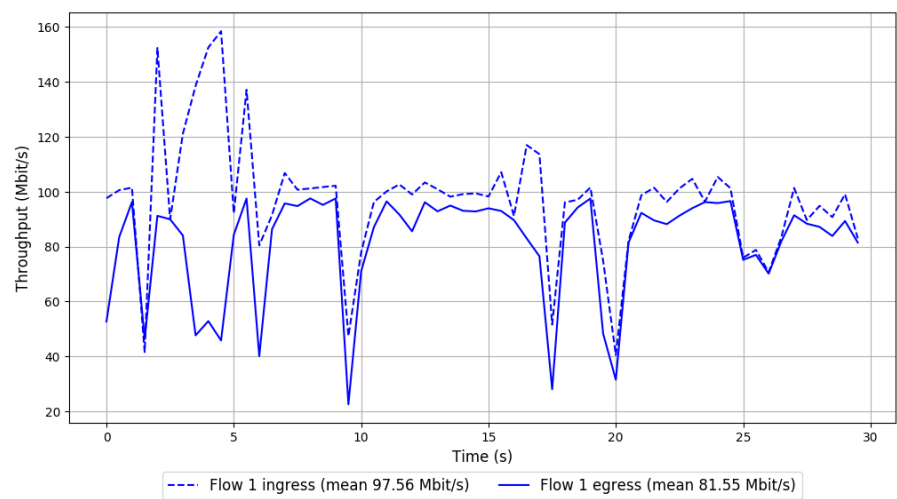


Run 6: Statistics of Verus

Start at: 2017-09-18 11:59:52  
End at: 2017-09-18 12:00:22  
Local clock offset: 3.304 ms  
Remote clock offset: -3.445 ms

# Below is generated by plot.py at 2017-09-18 13:30:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 81.55 Mbit/s  
95th percentile per-packet one-way delay: 68.738 ms  
Loss rate: 16.38%  
-- Flow 1:  
Average throughput: 81.55 Mbit/s  
95th percentile per-packet one-way delay: 68.738 ms  
Loss rate: 16.38%

Run 6: Report of Verus — Data Link



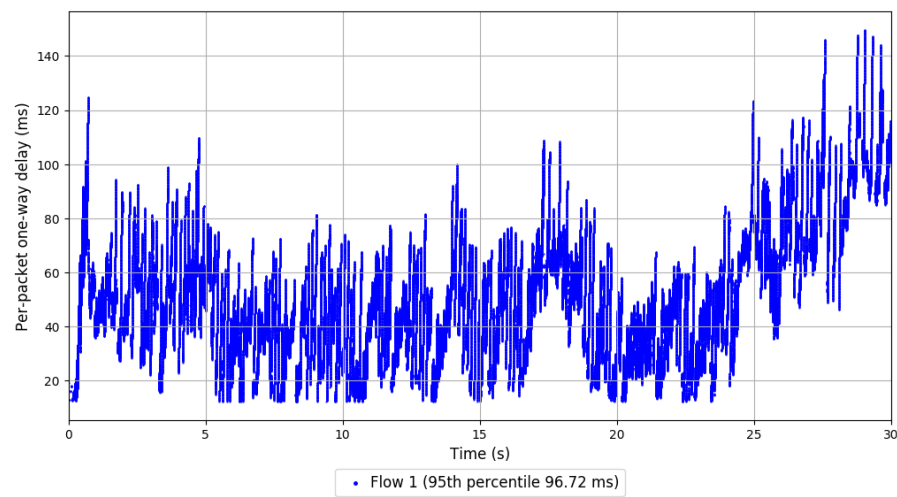
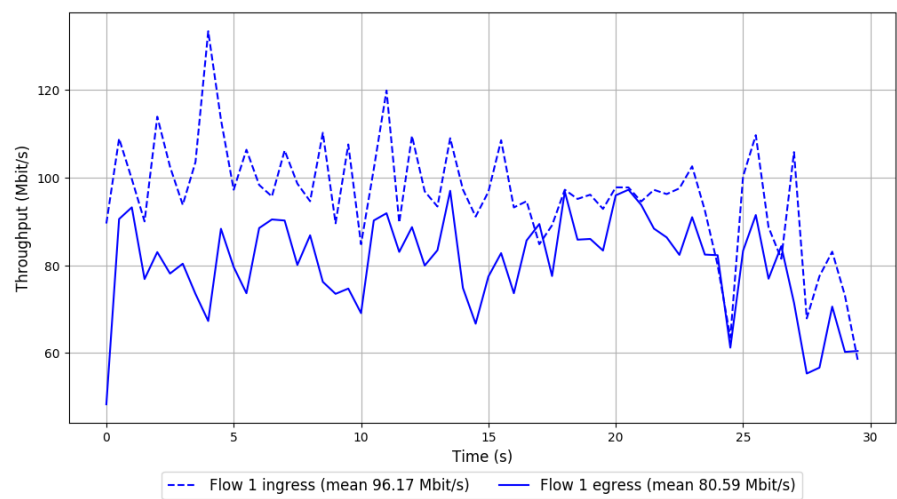
Run 7: Statistics of Verus

Start at: 2017-09-18 12:13:29  
End at: 2017-09-18 12:13:59  
Local clock offset: 2.759 ms  
Remote clock offset: -2.445 ms

# Below is generated by plot.py at 2017-09-18 13:30:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 80.59 Mbit/s  
95th percentile per-packet one-way delay: 96.717 ms  
Loss rate: 16.19%  
-- Flow 1:  
Average throughput: 80.59 Mbit/s  
95th percentile per-packet one-way delay: 96.717 ms  
Loss rate: 16.19%



Run 7: Report of Verus — Data Link

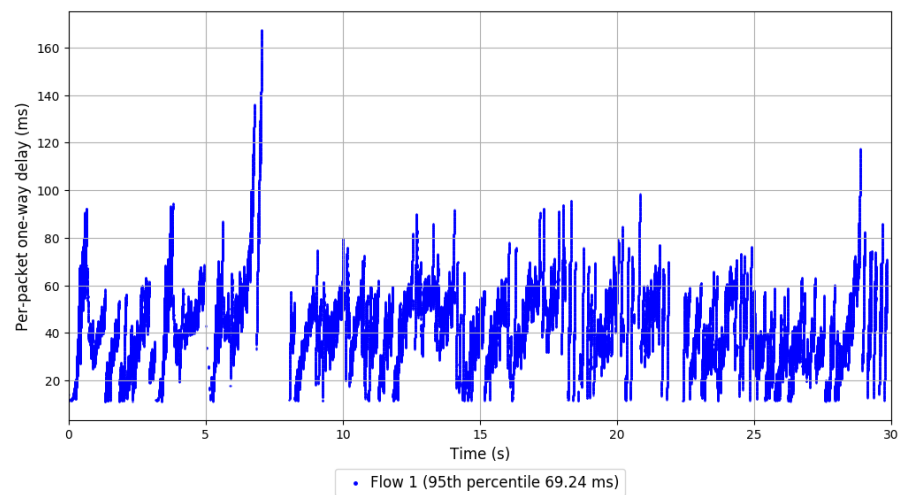
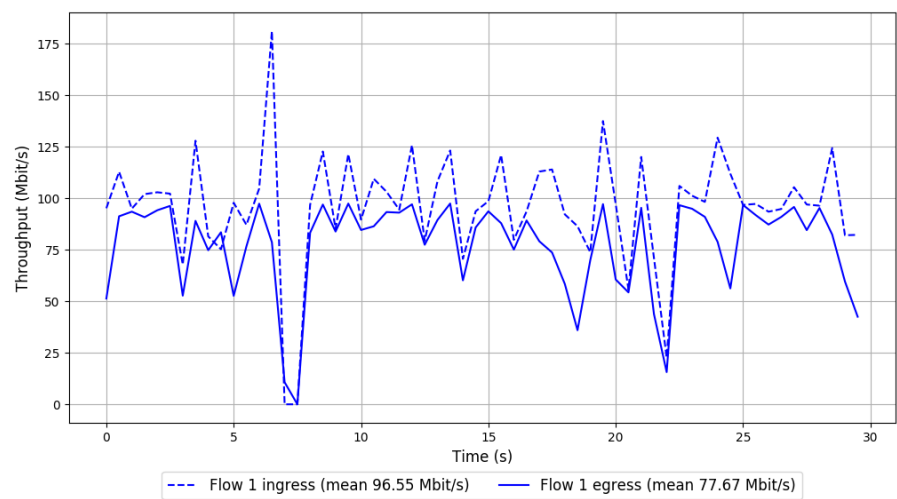


Run 8: Statistics of Verus

Start at: 2017-09-18 12:35:25  
End at: 2017-09-18 12:35:55  
Local clock offset: 3.001 ms  
Remote clock offset: -3.819 ms

# Below is generated by plot.py at 2017-09-18 13:30:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 77.67 Mbit/s  
95th percentile per-packet one-way delay: 69.237 ms  
Loss rate: 19.41%  
-- Flow 1:  
Average throughput: 77.67 Mbit/s  
95th percentile per-packet one-way delay: 69.237 ms  
Loss rate: 19.41%

Run 8: Report of Verus — Data Link

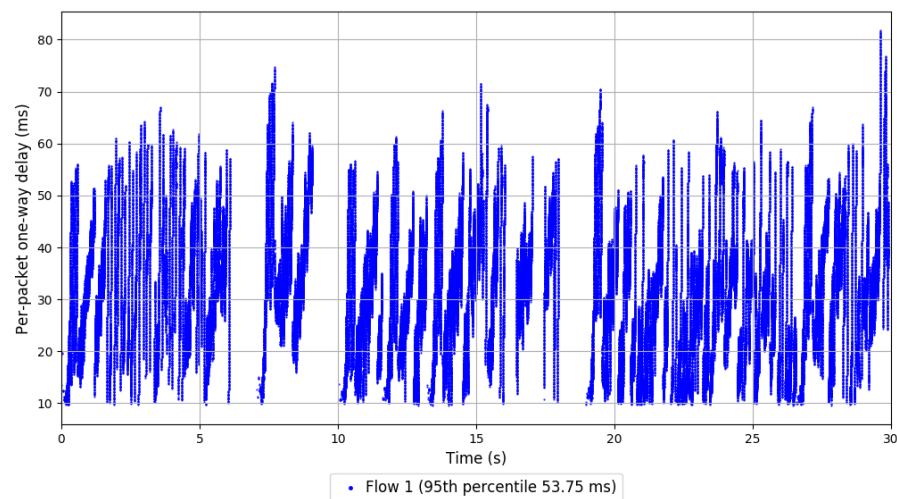
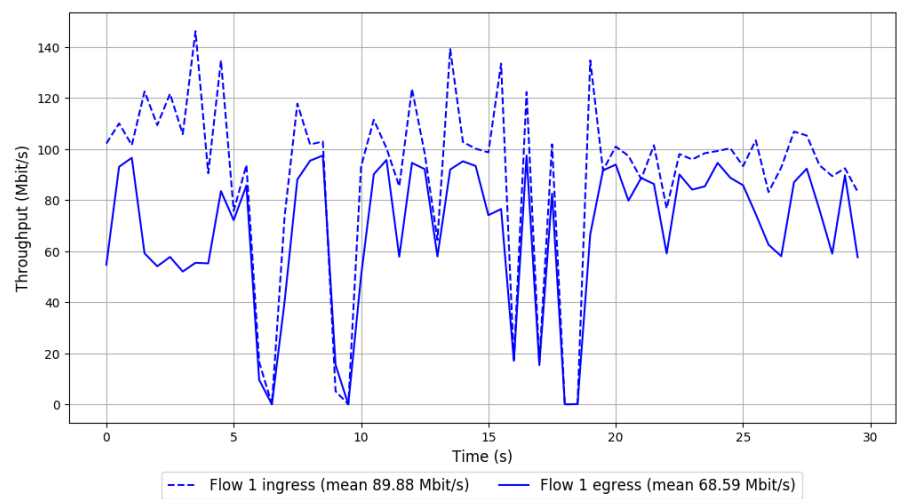


Run 9: Statistics of Verus

Start at: 2017-09-18 12:47:50  
End at: 2017-09-18 12:48:20  
Local clock offset: 3.16 ms  
Remote clock offset: -2.717 ms

# Below is generated by plot.py at 2017-09-18 13:30:33  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 68.59 Mbit/s  
95th percentile per-packet one-way delay: 53.749 ms  
Loss rate: 23.62%  
-- Flow 1:  
Average throughput: 68.59 Mbit/s  
95th percentile per-packet one-way delay: 53.749 ms  
Loss rate: 23.62%

Run 9: Report of Verus — Data Link



Run 10: Statistics of Verus

Start at: 2017-09-18 13:01:00  
End at: 2017-09-18 13:01:30  
Local clock offset: 3.377 ms  
Remote clock offset: -2.397 ms

# Below is generated by plot.py at 2017-09-18 13:30:34  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 69.56 Mbit/s  
95th percentile per-packet one-way delay: 77.184 ms  
Loss rate: 35.17%  
-- Flow 1:  
Average throughput: 69.56 Mbit/s  
95th percentile per-packet one-way delay: 77.184 ms  
Loss rate: 35.17%

Run 10: Report of Verus — Data Link

