

Pantheon Report

Generated at 2018-09-06 16:25:43 (UTC).

Data path: GCE Iowa on **ens4** (*local*) → GCE Tokyo on **ens4** (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

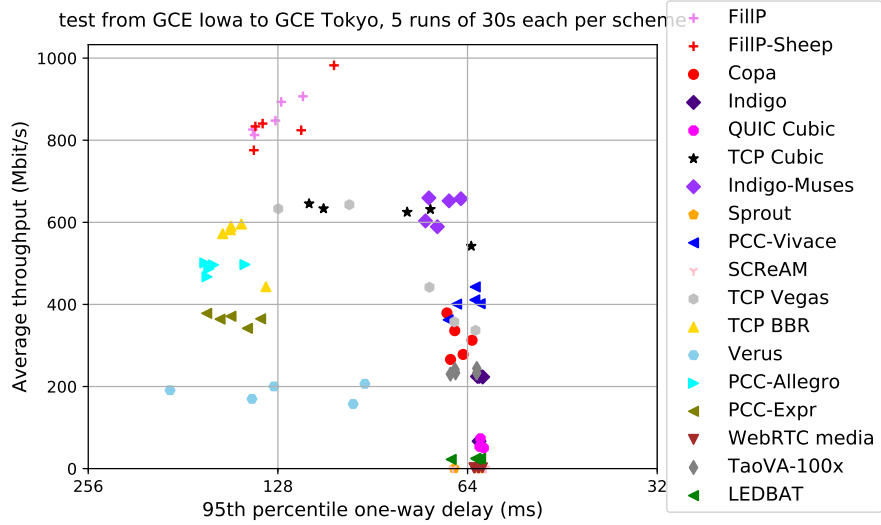
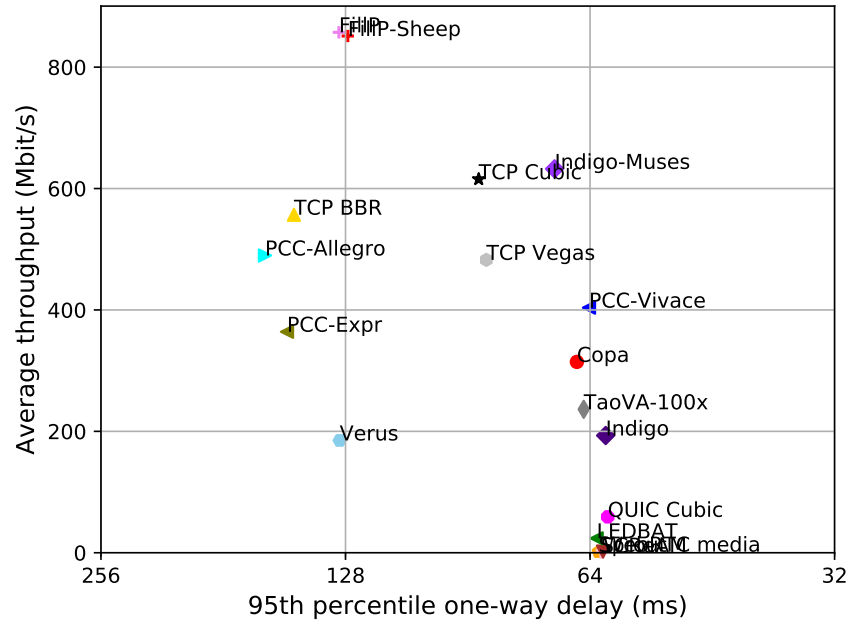
System info:

```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740d4afe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



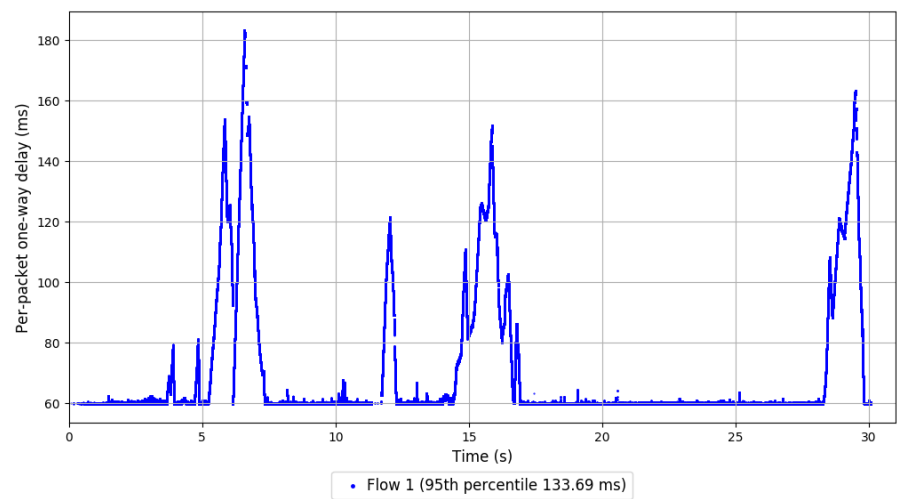
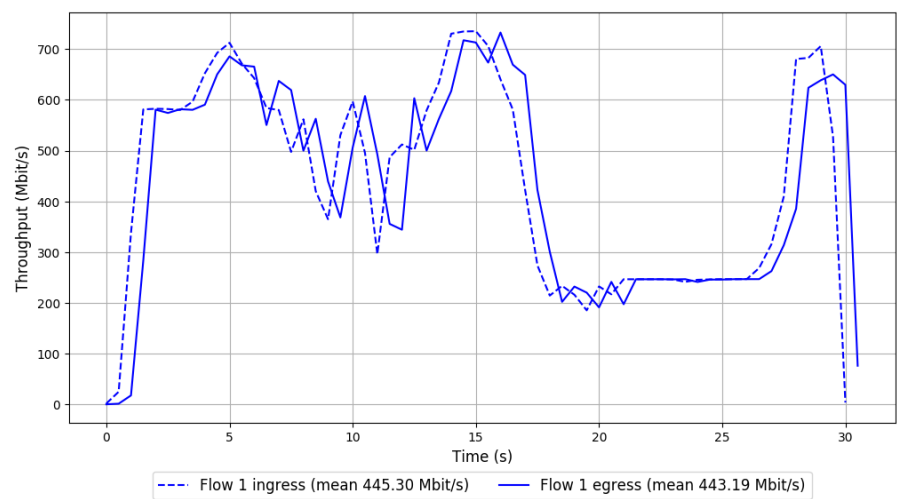
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	556.84	148.14	0.88
Copa	5	314.42	66.43	0.00
TCP Cubic	5	615.39	87.75	0.03
FillP	5	857.34	130.41	3.40
FillP-Sheep	5	851.30	127.17	1.62
Indigo	5	193.14	61.23	0.01
LEDBAT	5	23.77	62.82	0.00
Indigo-Muses	5	632.40	70.77	0.03
PCC-Allegro	5	489.70	160.82	1.75
PCC-Expr	5	364.04	151.10	3.24
QUIC Cubic	3	59.15	60.87	0.00
SCReAM	5	0.22	62.06	0.03
Sprout	5	1.45	62.48	0.00
TaoVA-100x	5	236.31	65.16	0.01
TCP Vegas	5	482.49	85.87	0.02
Verus	5	185.02	130.15	0.77
PCC-Vivace	5	403.77	64.20	0.01
WebRTC media	5	1.86	61.69	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 12:49:37
End at: 2018-09-06 12:50:07
Local clock offset: -0.057 ms
Remote clock offset: -1.188 ms

Below is generated by plot.py at 2018-09-06 15:06:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 443.19 Mbit/s
95th percentile per-packet one-way delay: 133.693 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 443.19 Mbit/s
95th percentile per-packet one-way delay: 133.693 ms
Loss rate: 0.48%

Run 1: Report of TCP BBR — Data Link

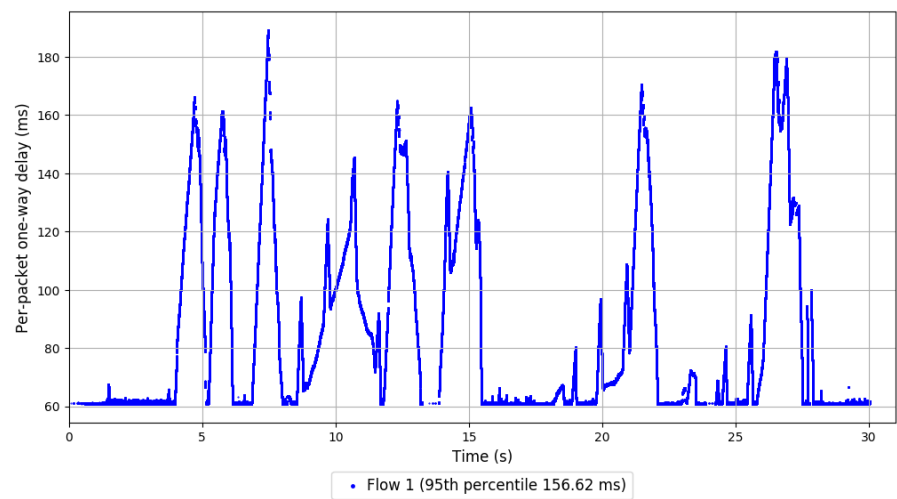
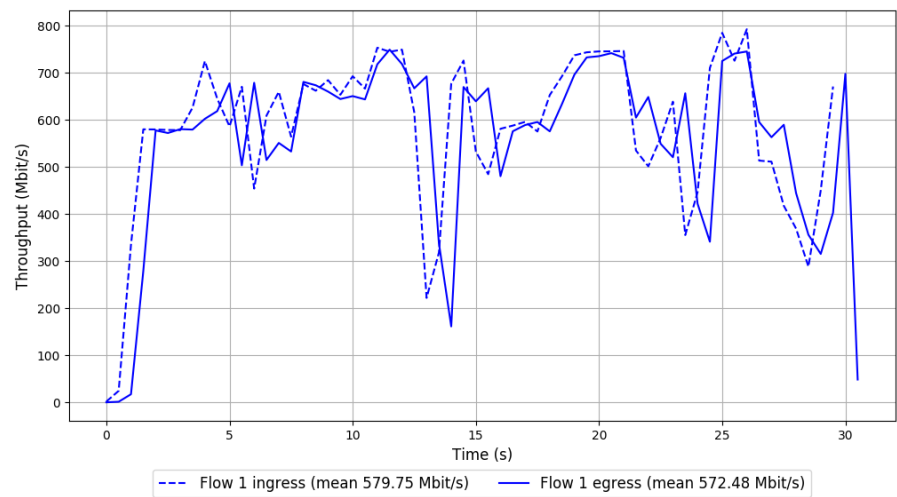


Run 2: Statistics of TCP BBR

Start at: 2018-09-06 13:15:48
End at: 2018-09-06 13:16:18
Local clock offset: -0.123 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-09-06 15:07:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 572.48 Mbit/s
95th percentile per-packet one-way delay: 156.623 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 572.48 Mbit/s
95th percentile per-packet one-way delay: 156.623 ms
Loss rate: 1.25%

Run 2: Report of TCP BBR — Data Link

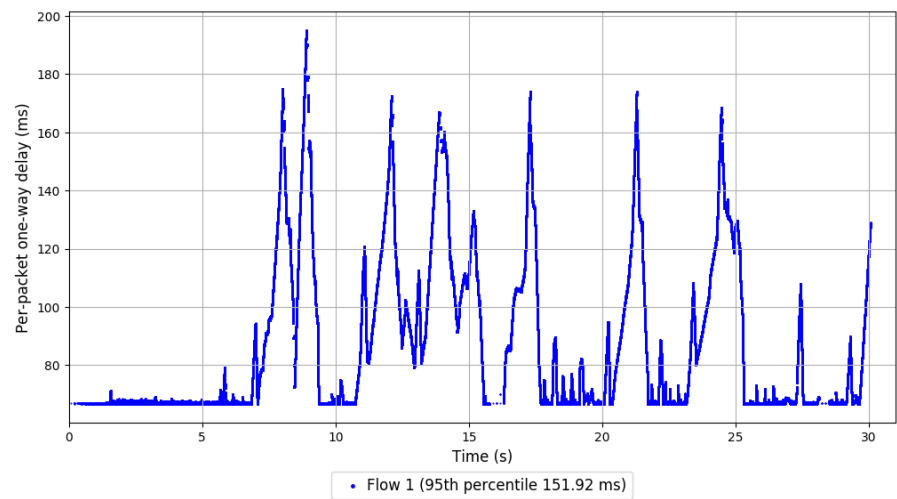
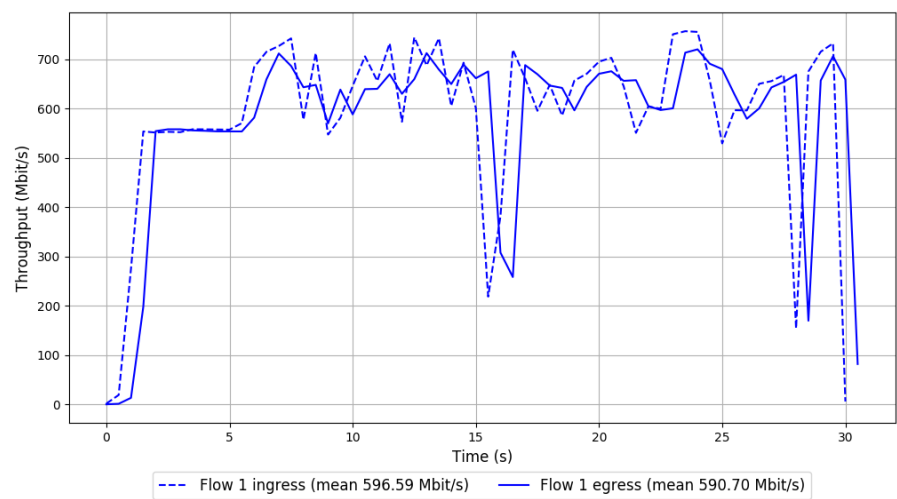


Run 3: Statistics of TCP BBR

Start at: 2018-09-06 13:41:58
End at: 2018-09-06 13:42:28
Local clock offset: -0.046 ms
Remote clock offset: -0.151 ms

Below is generated by plot.py at 2018-09-06 15:08:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 590.70 Mbit/s
95th percentile per-packet one-way delay: 151.924 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 590.70 Mbit/s
95th percentile per-packet one-way delay: 151.924 ms
Loss rate: 1.01%

Run 3: Report of TCP BBR — Data Link

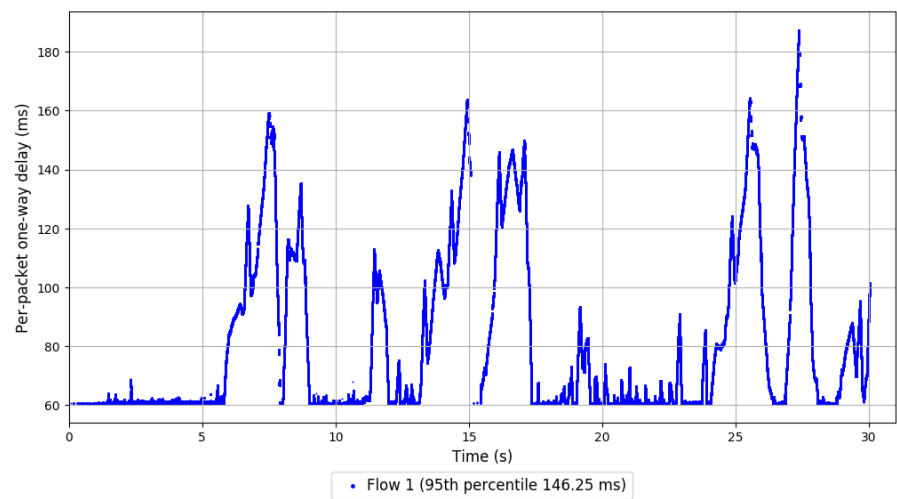
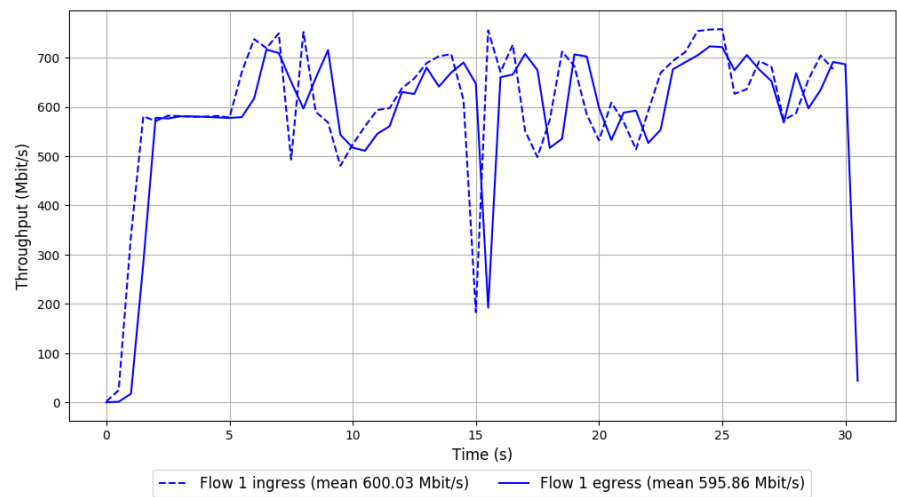


Run 4: Statistics of TCP BBR

Start at: 2018-09-06 14:08:18
End at: 2018-09-06 14:08:48
Local clock offset: -0.044 ms
Remote clock offset: -0.659 ms

Below is generated by plot.py at 2018-09-06 15:08:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 595.86 Mbit/s
95th percentile per-packet one-way delay: 146.246 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 595.86 Mbit/s
95th percentile per-packet one-way delay: 146.246 ms
Loss rate: 0.69%

Run 4: Report of TCP BBR — Data Link

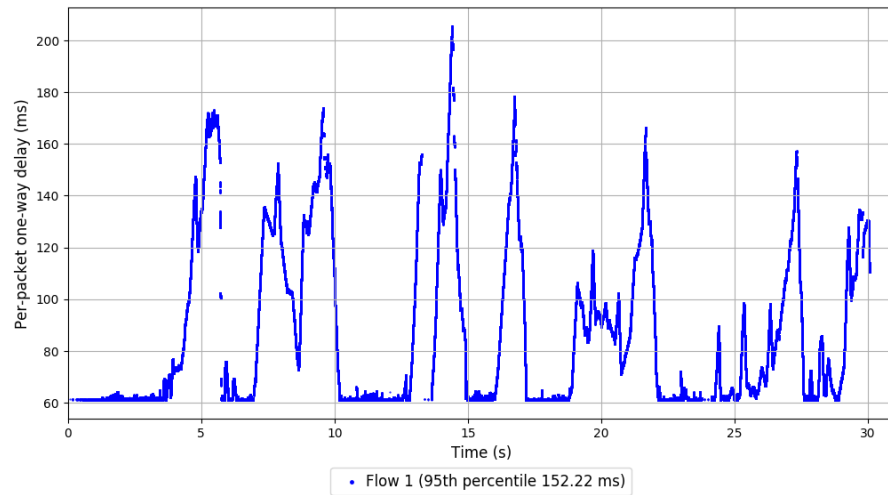
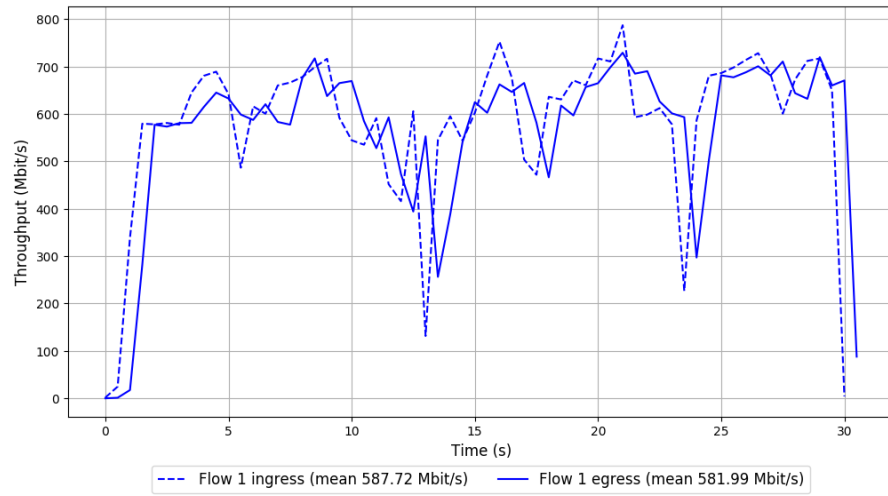


Run 5: Statistics of TCP BBR

Start at: 2018-09-06 14:34:18
End at: 2018-09-06 14:34:48
Local clock offset: -0.089 ms
Remote clock offset: -0.106 ms

Below is generated by plot.py at 2018-09-06 15:08:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 581.99 Mbit/s
95th percentile per-packet one-way delay: 152.224 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 581.99 Mbit/s
95th percentile per-packet one-way delay: 152.224 ms
Loss rate: 0.98%

Run 5: Report of TCP BBR — Data Link

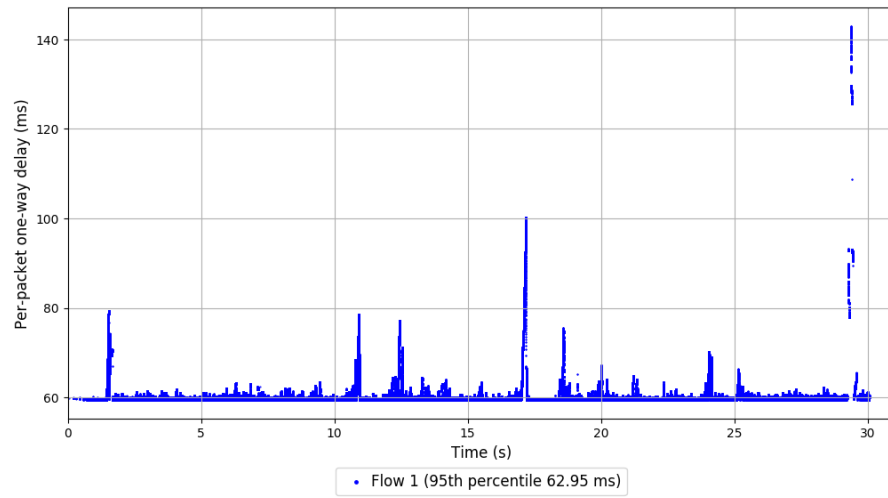
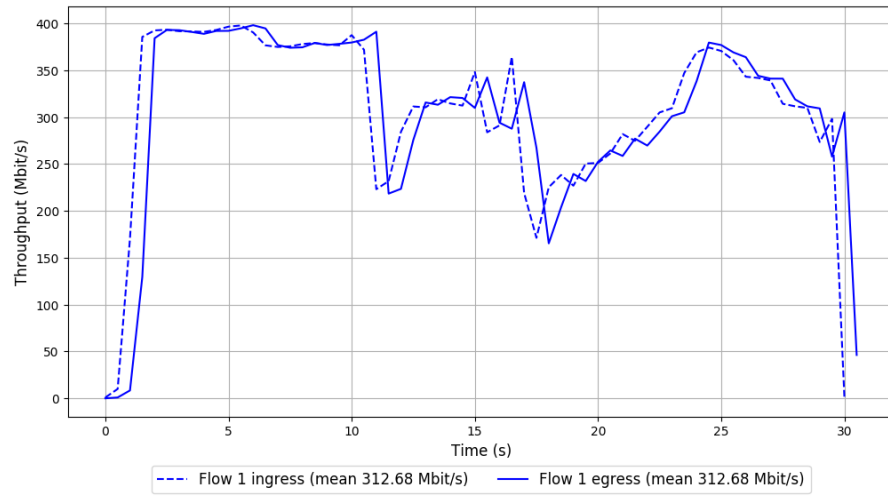


Run 1: Statistics of Copa

Start at: 2018-09-06 12:58:19
End at: 2018-09-06 12:58:49
Local clock offset: -0.058 ms
Remote clock offset: -1.333 ms

Below is generated by plot.py at 2018-09-06 15:08:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 312.68 Mbit/s
95th percentile per-packet one-way delay: 62.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 312.68 Mbit/s
95th percentile per-packet one-way delay: 62.952 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

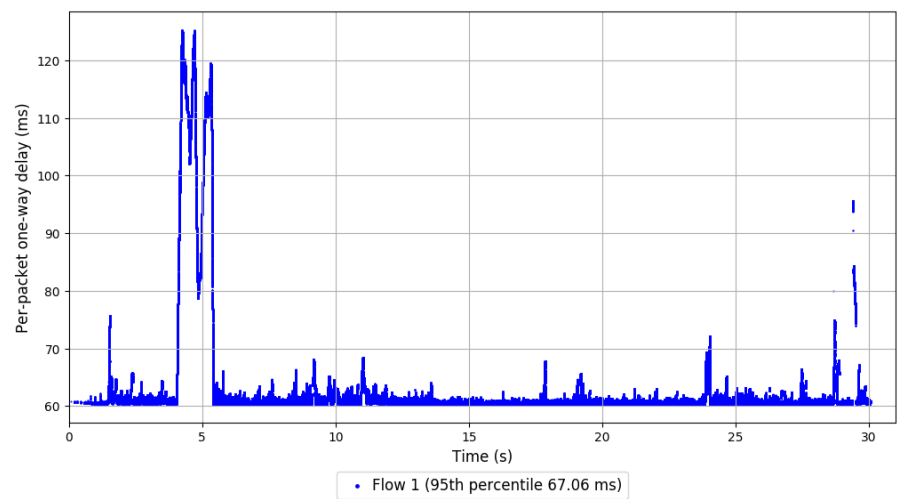
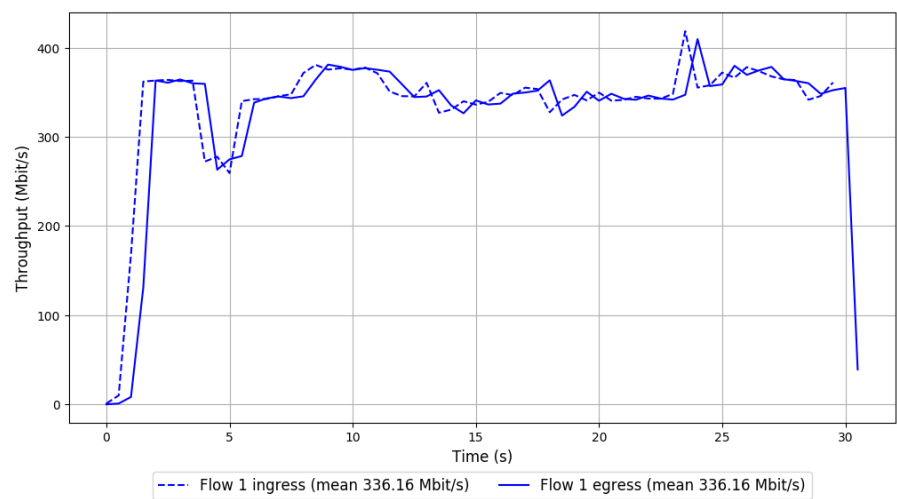


Run 2: Statistics of Copa

Start at: 2018-09-06 13:24:41
End at: 2018-09-06 13:25:11
Local clock offset: -0.221 ms
Remote clock offset: -0.544 ms

Below is generated by plot.py at 2018-09-06 15:08:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 336.16 Mbit/s
95th percentile per-packet one-way delay: 67.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 336.16 Mbit/s
95th percentile per-packet one-way delay: 67.063 ms
Loss rate: 0.00%

Run 2: Report of Copa — Data Link

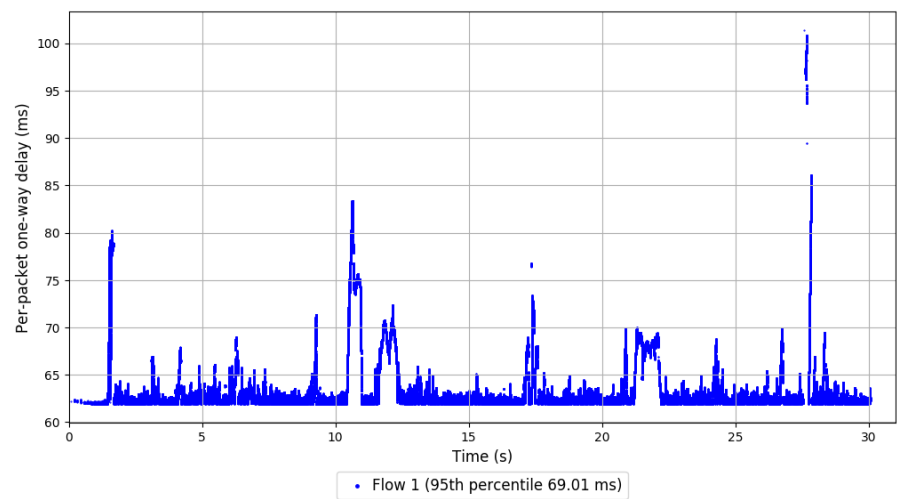
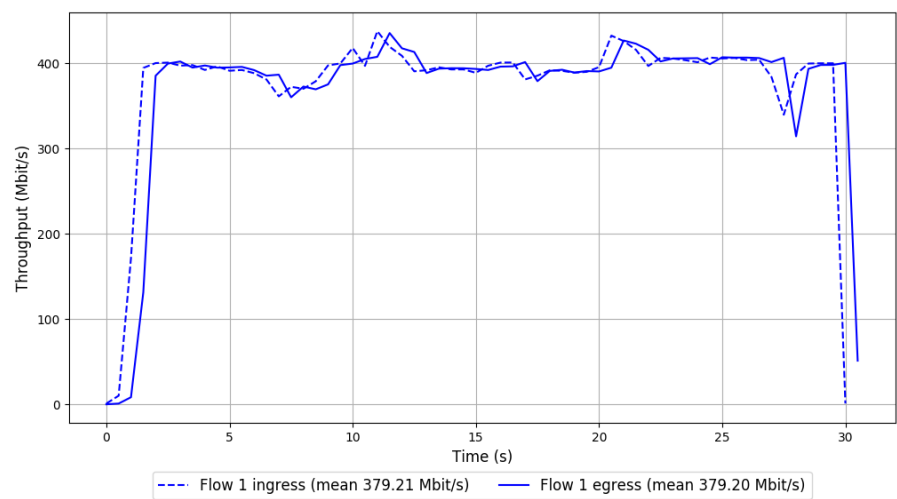


Run 3: Statistics of Copa

Start at: 2018-09-06 13:50:49
End at: 2018-09-06 13:51:19
Local clock offset: -0.018 ms
Remote clock offset: 1.038 ms

Below is generated by plot.py at 2018-09-06 15:09:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 379.20 Mbit/s
95th percentile per-packet one-way delay: 69.008 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 379.20 Mbit/s
95th percentile per-packet one-way delay: 69.008 ms
Loss rate: 0.00%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-06 14:17:09

End at: 2018-09-06 14:17:39

Local clock offset: -0.093 ms

Remote clock offset: 0.111 ms

Below is generated by plot.py at 2018-09-06 15:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 265.90 Mbit/s

95th percentile per-packet one-way delay: 68.108 ms

Loss rate: 0.00%

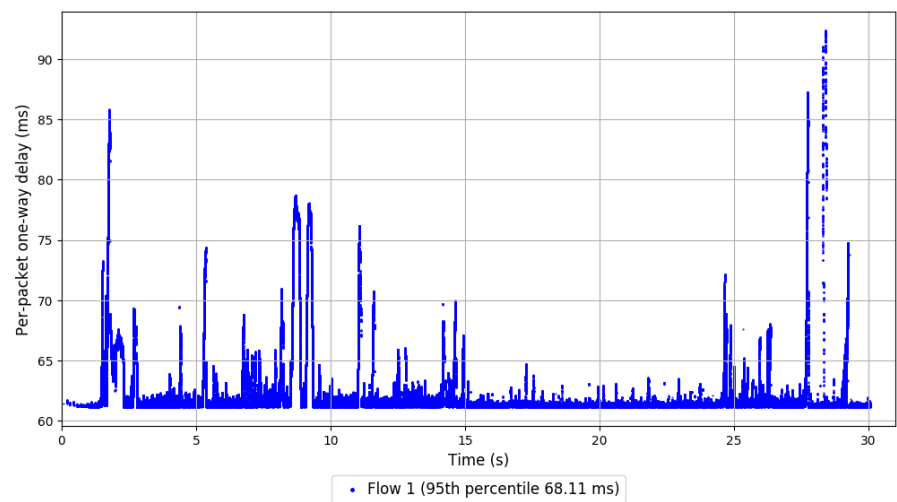
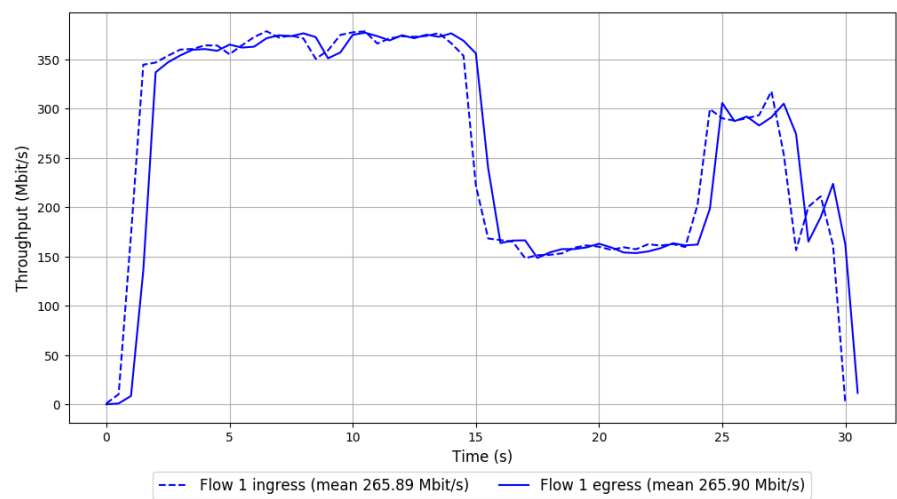
-- Flow 1:

Average throughput: 265.90 Mbit/s

95th percentile per-packet one-way delay: 68.108 ms

Loss rate: 0.00%

Run 4: Report of Copa — Data Link

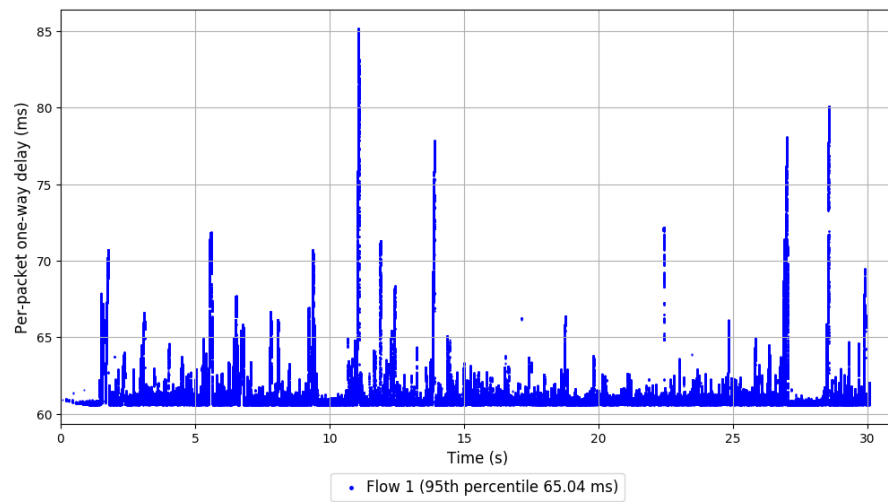
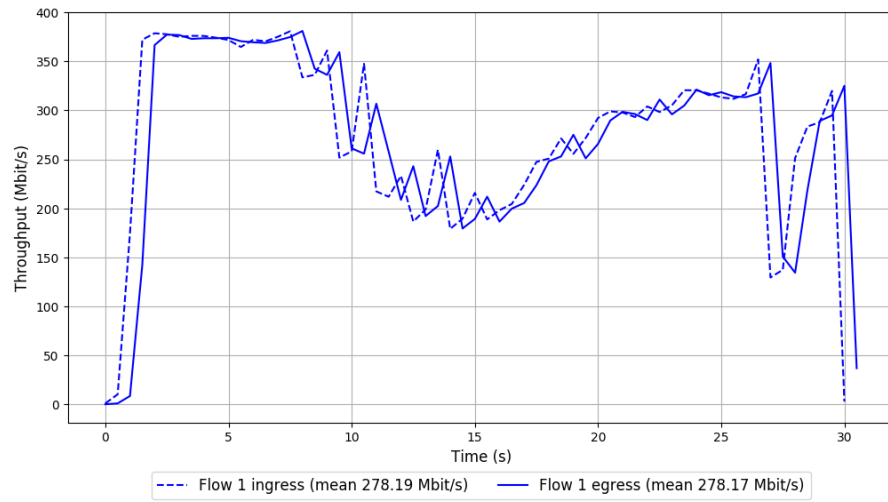


Run 5: Statistics of Copa

Start at: 2018-09-06 14:43:06
End at: 2018-09-06 14:43:36
Local clock offset: -0.111 ms
Remote clock offset: -0.488 ms

Below is generated by plot.py at 2018-09-06 15:16:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 278.17 Mbit/s
95th percentile per-packet one-way delay: 65.037 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 278.17 Mbit/s
95th percentile per-packet one-way delay: 65.037 ms
Loss rate: 0.01%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 12:45:49

End at: 2018-09-06 12:46:19

Local clock offset: 0.106 ms

Remote clock offset: 0.073 ms

Below is generated by plot.py at 2018-09-06 15:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 541.93 Mbit/s

95th percentile per-packet one-way delay: 63.142 ms

Loss rate: 0.00%

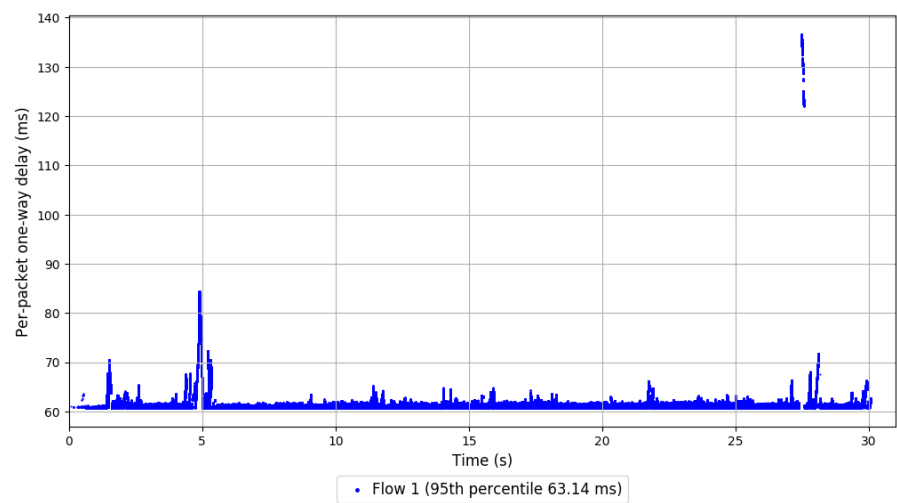
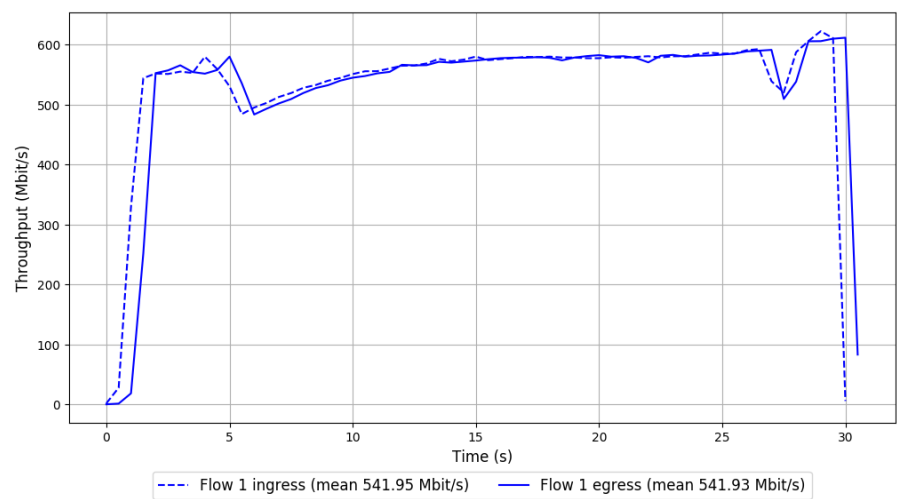
-- Flow 1:

Average throughput: 541.93 Mbit/s

95th percentile per-packet one-way delay: 63.142 ms

Loss rate: 0.00%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 13:11:56

End at: 2018-09-06 13:12:26

Local clock offset: -0.137 ms

Remote clock offset: 0.644 ms

Below is generated by plot.py at 2018-09-06 15:17:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 633.27 Mbit/s

95th percentile per-packet one-way delay: 108.329 ms

Loss rate: 0.01%

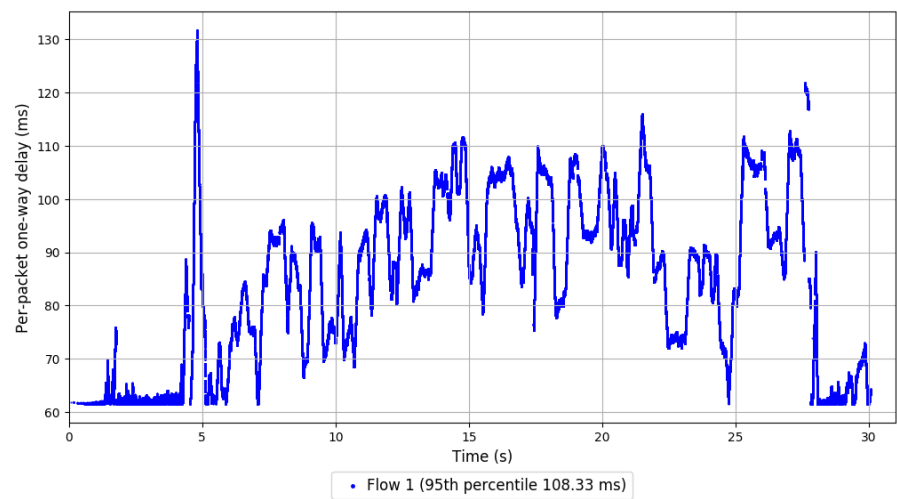
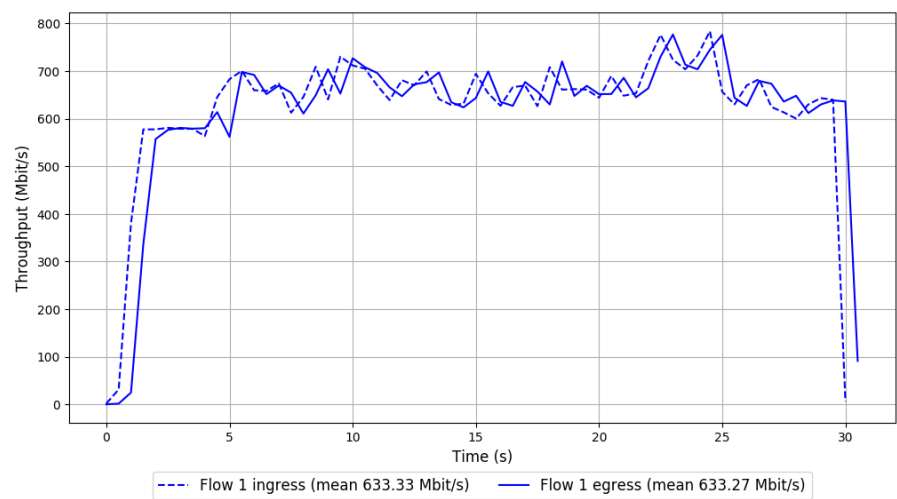
-- Flow 1:

Average throughput: 633.27 Mbit/s

95th percentile per-packet one-way delay: 108.329 ms

Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 13:38:07

End at: 2018-09-06 13:38:37

Local clock offset: -0.064 ms

Remote clock offset: 0.936 ms

Below is generated by plot.py at 2018-09-06 15:17:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 624.79 Mbit/s

95th percentile per-packet one-way delay: 79.785 ms

Loss rate: 0.01%

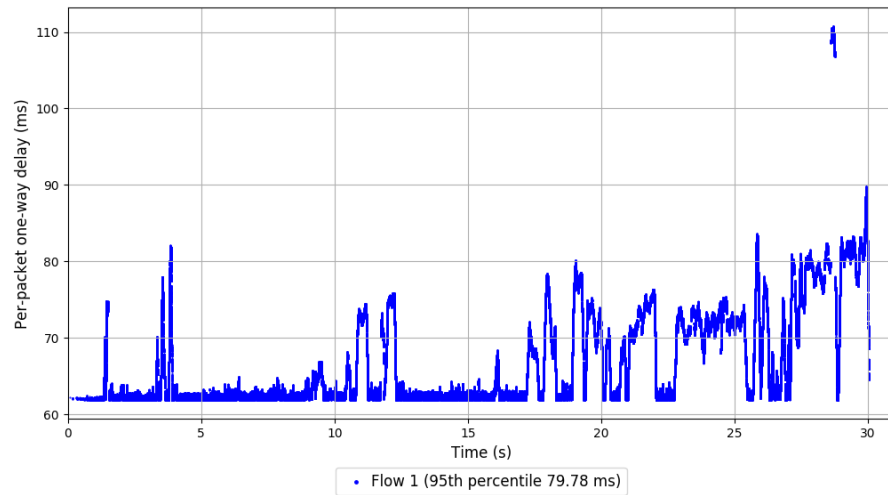
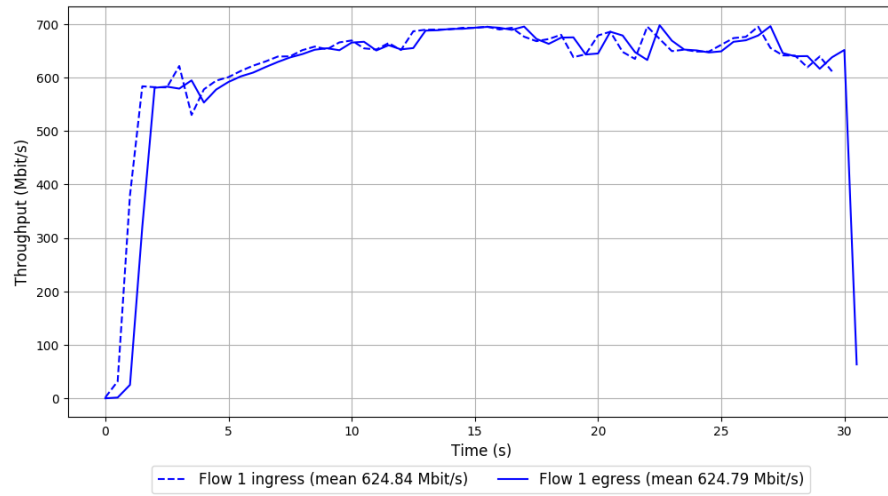
-- Flow 1:

Average throughput: 624.79 Mbit/s

95th percentile per-packet one-way delay: 79.785 ms

Loss rate: 0.01%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 14:04:26

End at: 2018-09-06 14:04:56

Local clock offset: 0.043 ms

Remote clock offset: 0.207 ms

Below is generated by plot.py at 2018-09-06 15:18:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 645.33 Mbit/s

95th percentile per-packet one-way delay: 114.198 ms

Loss rate: 0.11%

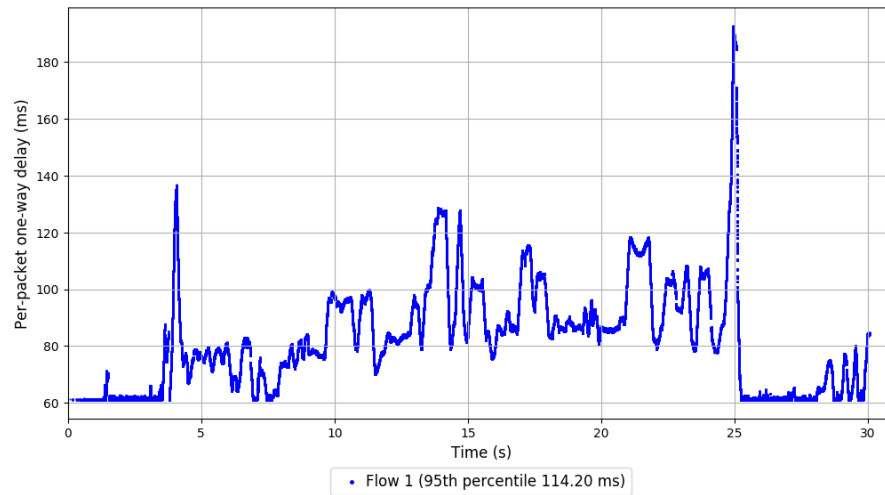
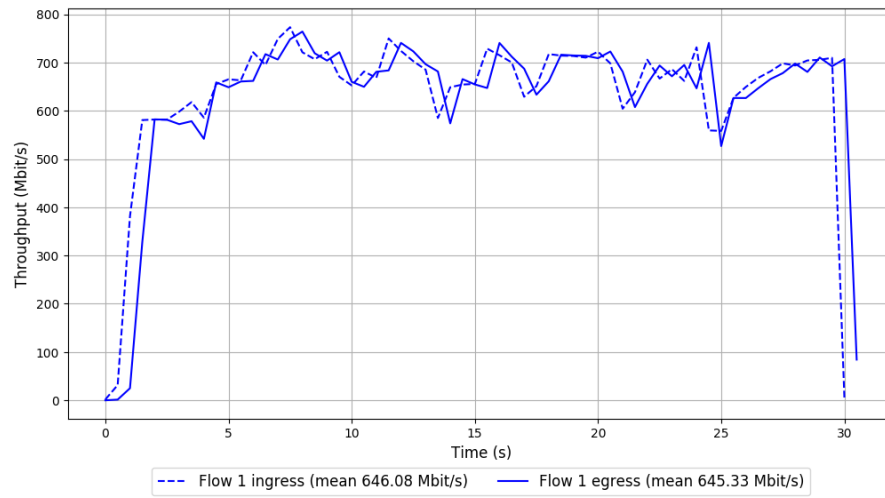
-- Flow 1:

Average throughput: 645.33 Mbit/s

95th percentile per-packet one-way delay: 114.198 ms

Loss rate: 0.11%

Run 4: Report of TCP Cubic — Data Link

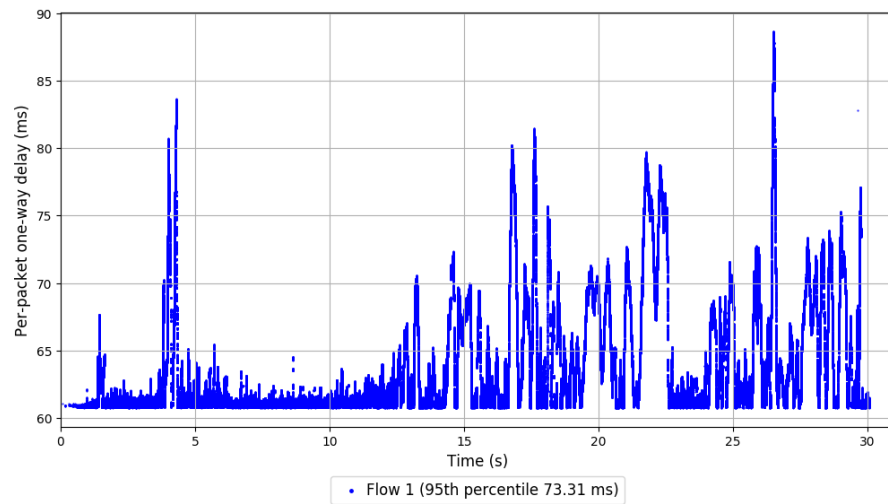
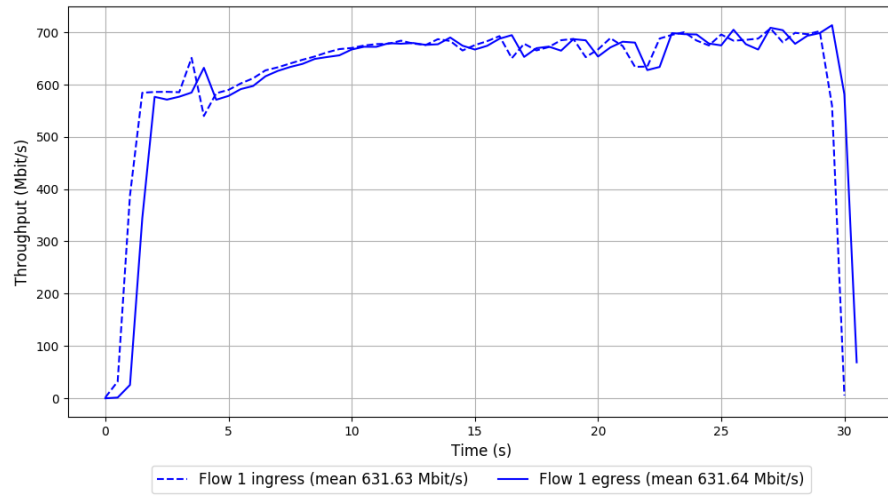


Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 14:30:26
End at: 2018-09-06 14:30:56
Local clock offset: -0.066 ms
Remote clock offset: -0.077 ms

Below is generated by plot.py at 2018-09-06 15:18:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 631.64 Mbit/s
95th percentile per-packet one-way delay: 73.306 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 631.64 Mbit/s
95th percentile per-packet one-way delay: 73.306 ms
Loss rate: 0.00%

Run 5: Report of TCP Cubic — Data Link

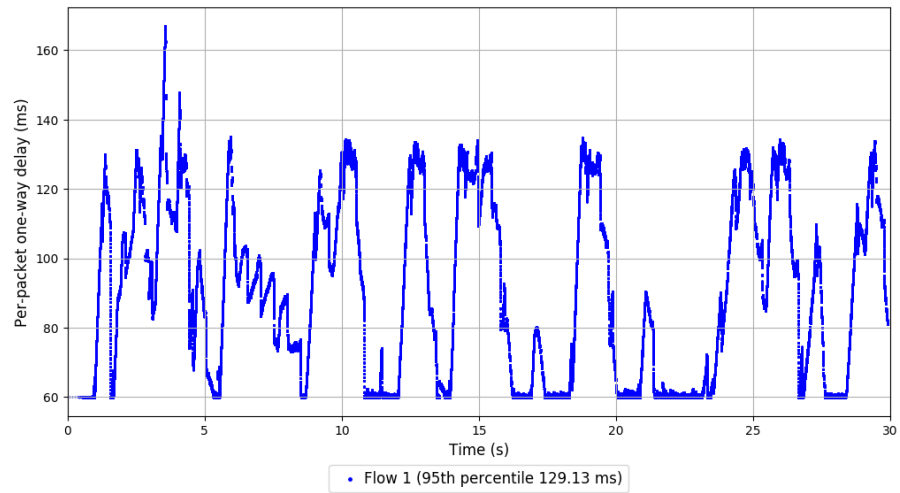
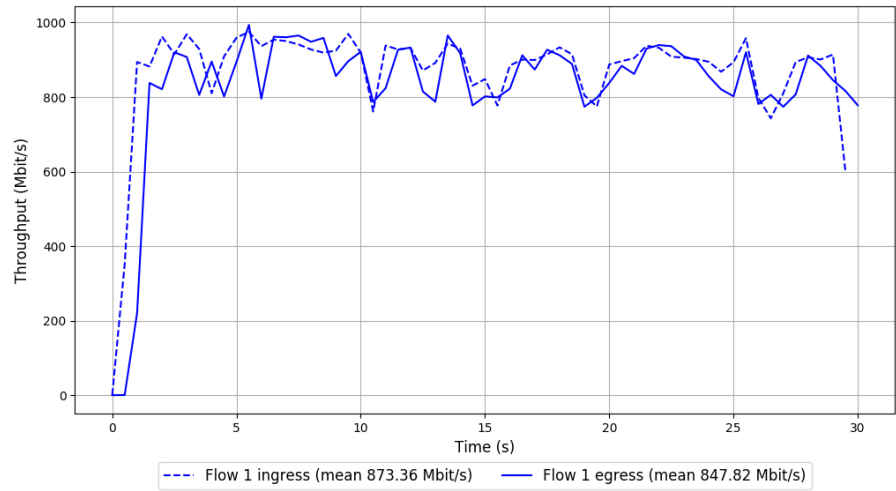


Run 1: Statistics of FillP

Start at: 2018-09-06 13:01:32
End at: 2018-09-06 13:02:02
Local clock offset: -0.11 ms
Remote clock offset: -1.155 ms

Below is generated by plot.py at 2018-09-06 15:24:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 847.82 Mbit/s
95th percentile per-packet one-way delay: 129.135 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 847.82 Mbit/s
95th percentile per-packet one-way delay: 129.135 ms
Loss rate: 2.93%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-06 13:27:42

End at: 2018-09-06 13:28:12

Local clock offset: -0.144 ms

Remote clock offset: 0.085 ms

Below is generated by plot.py at 2018-09-06 15:32:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 906.89 Mbit/s

95th percentile per-packet one-way delay: 116.799 ms

Loss rate: 1.09%

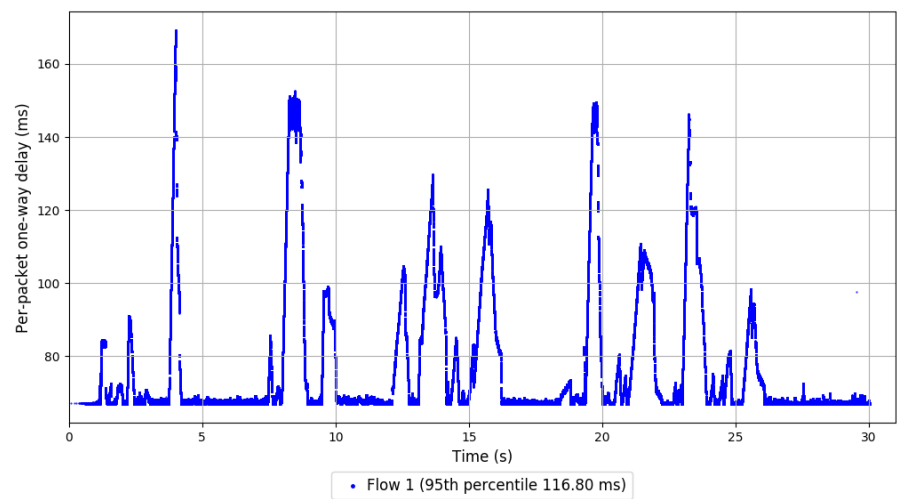
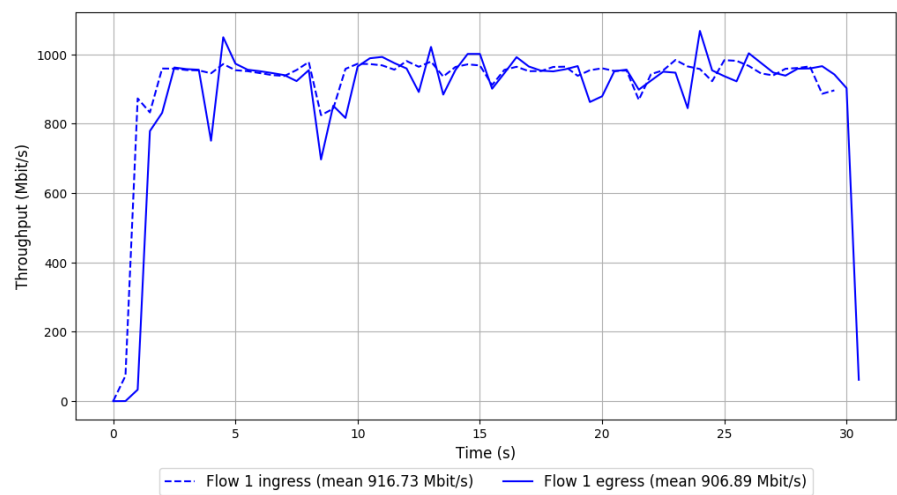
-- Flow 1:

Average throughput: 906.89 Mbit/s

95th percentile per-packet one-way delay: 116.799 ms

Loss rate: 1.09%

Run 2: Report of FillP — Data Link

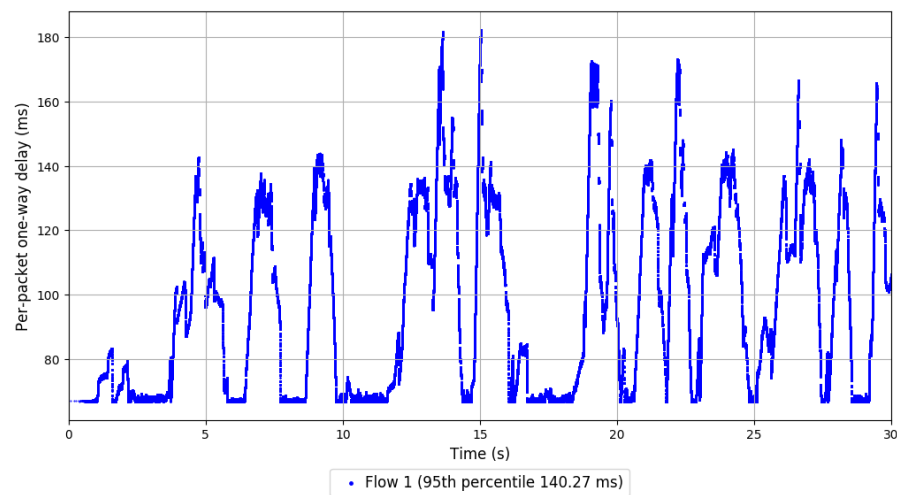
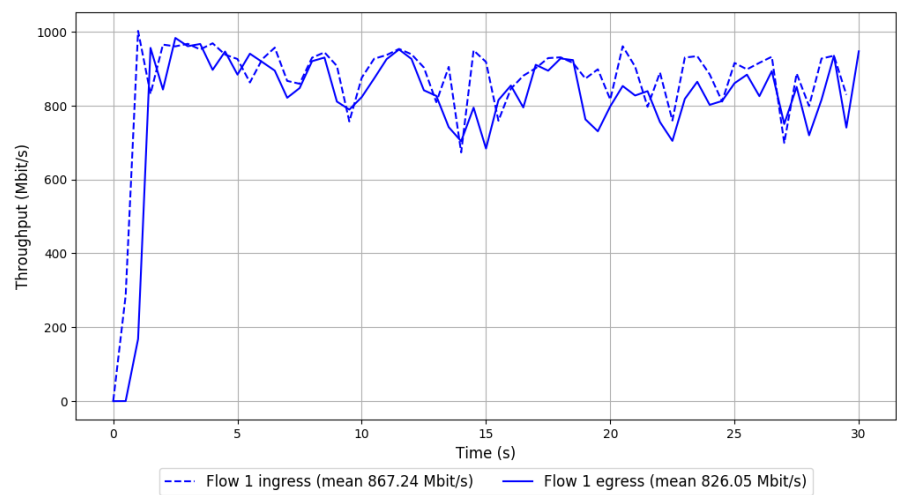


Run 3: Statistics of FillP

Start at: 2018-09-06 13:54:06
End at: 2018-09-06 13:54:36
Local clock offset: 0.002 ms
Remote clock offset: -0.131 ms

Below is generated by plot.py at 2018-09-06 15:32:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 826.05 Mbit/s
95th percentile per-packet one-way delay: 140.273 ms
Loss rate: 4.77%
-- Flow 1:
Average throughput: 826.05 Mbit/s
95th percentile per-packet one-way delay: 140.273 ms
Loss rate: 4.77%

Run 3: Report of FillP — Data Link

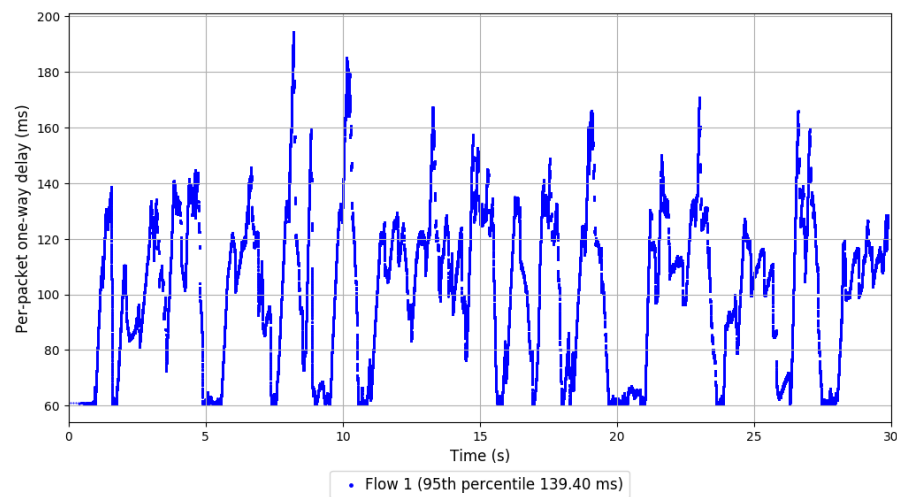
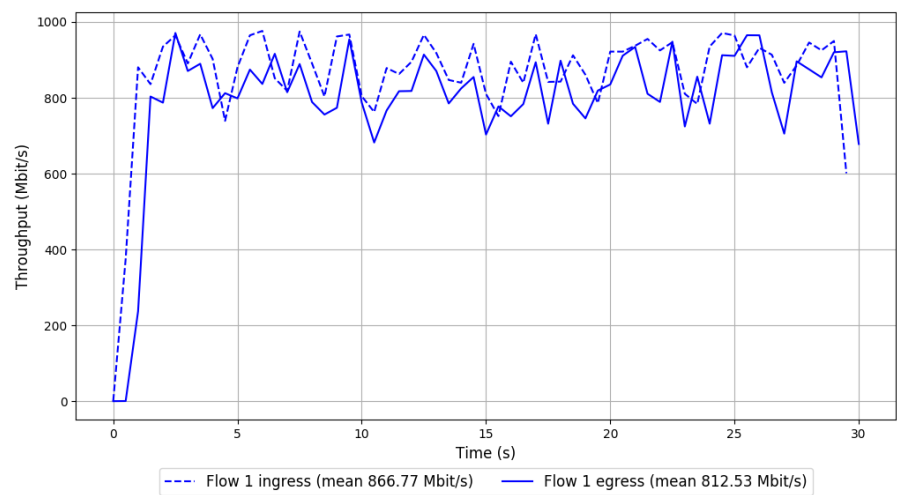


Run 4: Statistics of FillP

Start at: 2018-09-06 14:20:04
End at: 2018-09-06 14:20:34
Local clock offset: -0.138 ms
Remote clock offset: -0.419 ms

Below is generated by plot.py at 2018-09-06 15:33:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 812.53 Mbit/s
95th percentile per-packet one-way delay: 139.401 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 812.53 Mbit/s
95th percentile per-packet one-way delay: 139.401 ms
Loss rate: 6.26%

Run 4: Report of FillP — Data Link

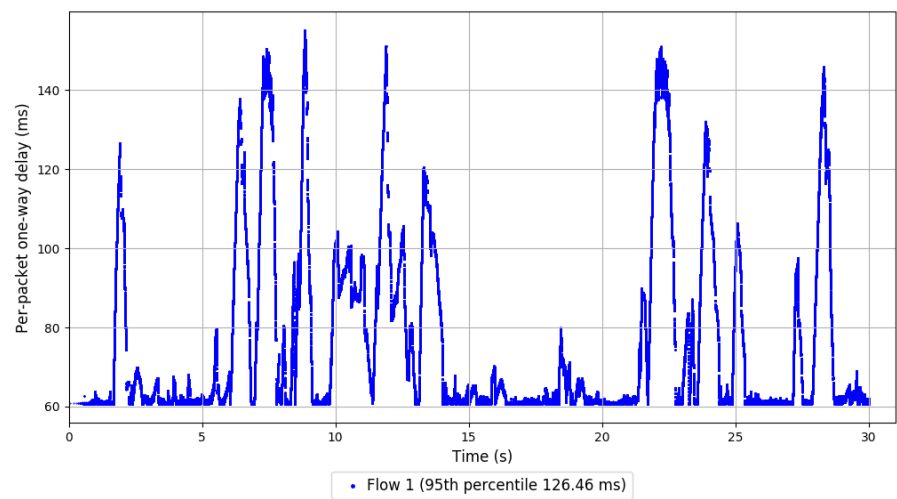
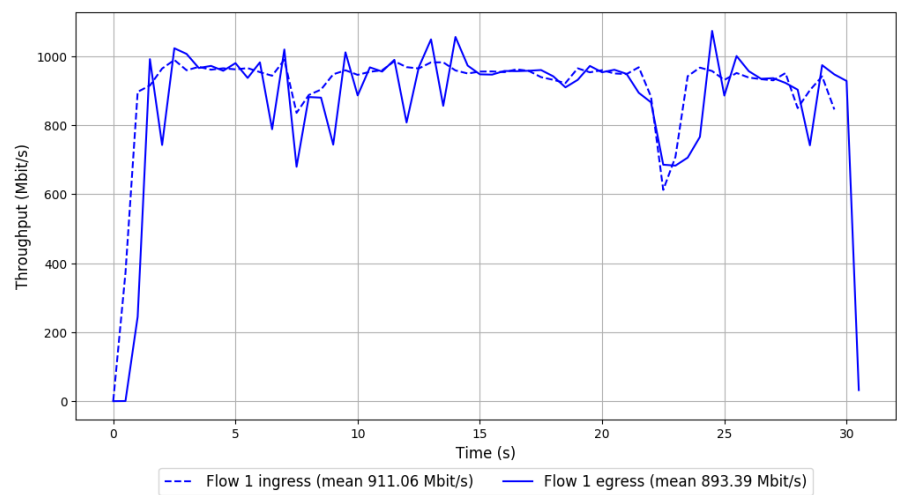


Run 5: Statistics of FillP

Start at: 2018-09-06 14:46:07
End at: 2018-09-06 14:46:37
Local clock offset: -0.119 ms
Remote clock offset: -0.329 ms

Below is generated by plot.py at 2018-09-06 15:36:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 893.39 Mbit/s
95th percentile per-packet one-way delay: 126.460 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 893.39 Mbit/s
95th percentile per-packet one-way delay: 126.460 ms
Loss rate: 1.94%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 12:52:15

End at: 2018-09-06 12:52:45

Local clock offset: -0.07 ms

Remote clock offset: 1.057 ms

Below is generated by plot.py at 2018-09-06 15:36:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 824.33 Mbit/s

95th percentile per-packet one-way delay: 117.536 ms

Loss rate: 0.82%

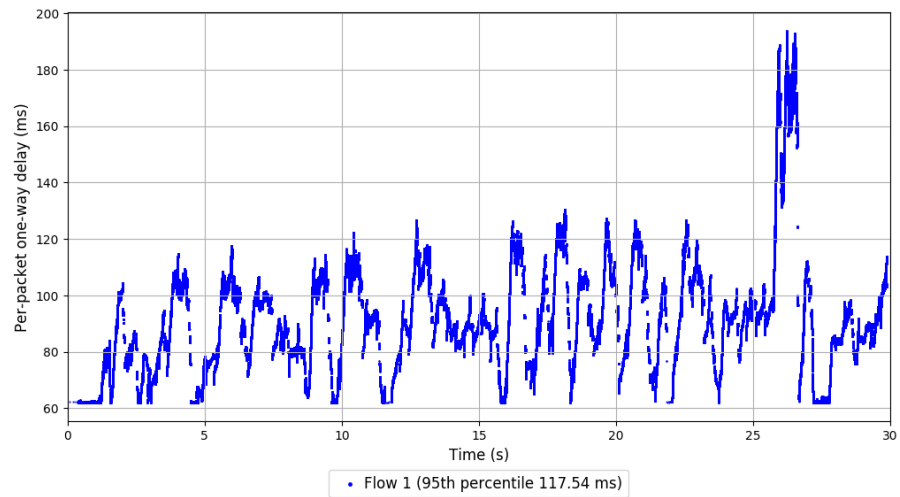
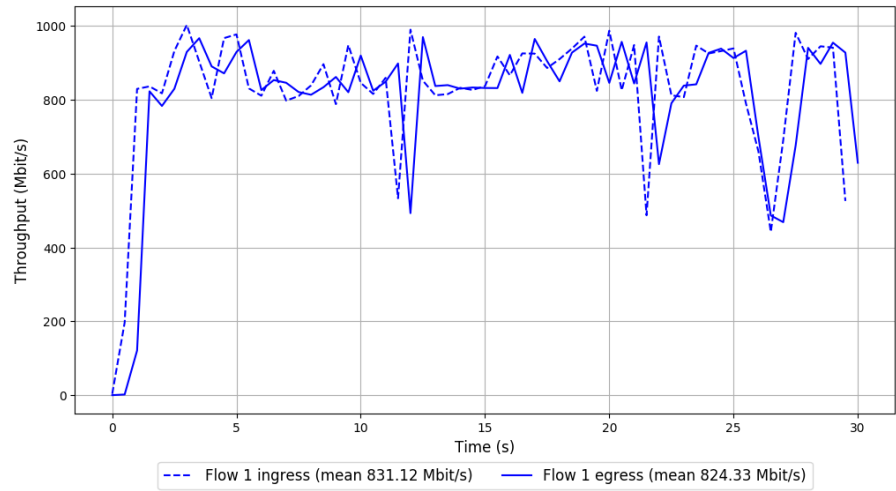
-- Flow 1:

Average throughput: 824.33 Mbit/s

95th percentile per-packet one-way delay: 117.536 ms

Loss rate: 0.82%

Run 1: Report of FillP-Sheep — Data Link

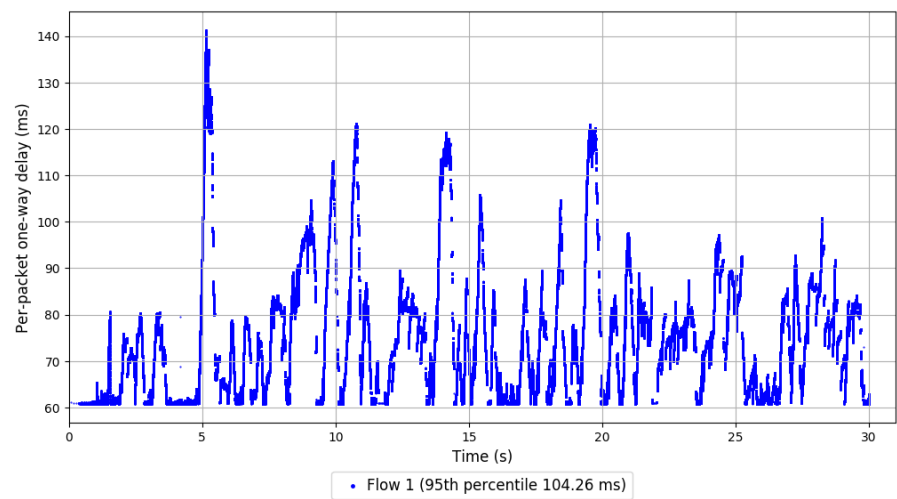
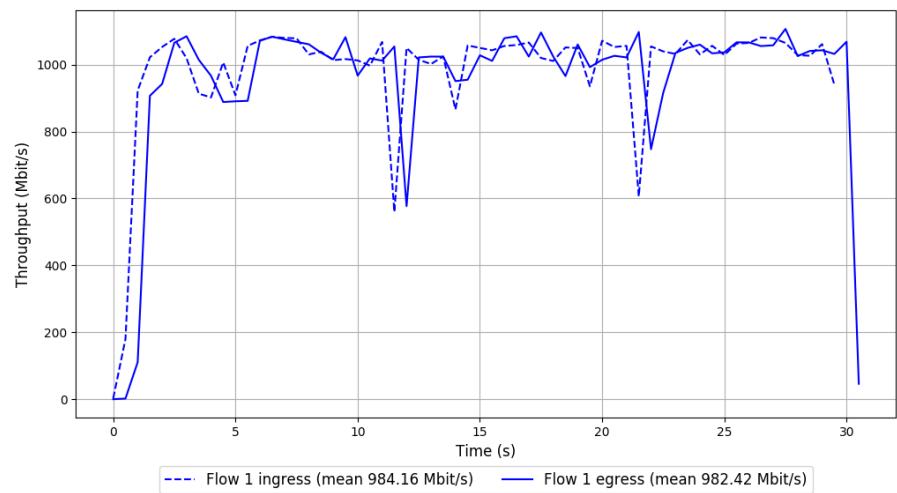


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 13:18:33
End at: 2018-09-06 13:19:03
Local clock offset: -0.135 ms
Remote clock offset: -0.124 ms

Below is generated by plot.py at 2018-09-06 15:38:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 982.42 Mbit/s
95th percentile per-packet one-way delay: 104.257 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 982.42 Mbit/s
95th percentile per-packet one-way delay: 104.257 ms
Loss rate: 0.18%

Run 2: Report of FillP-Sheep — Data Link

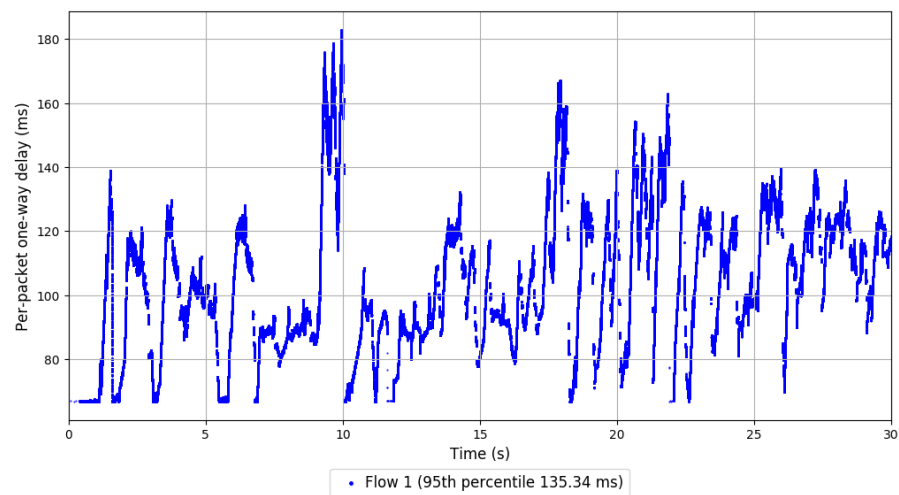
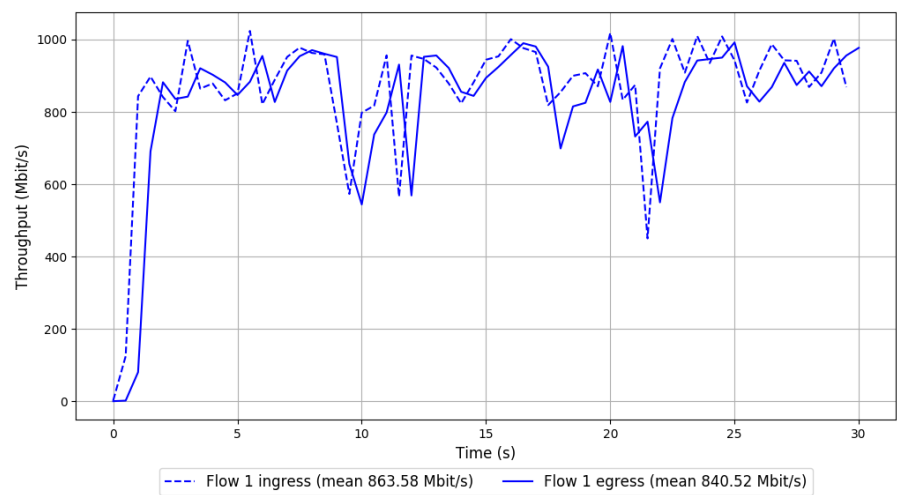


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 13:44:43
End at: 2018-09-06 13:45:13
Local clock offset: -0.03 ms
Remote clock offset: -0.008 ms

Below is generated by plot.py at 2018-09-06 15:38:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 840.52 Mbit/s
95th percentile per-packet one-way delay: 135.337 ms
Loss rate: 2.69%
-- Flow 1:
Average throughput: 840.52 Mbit/s
95th percentile per-packet one-way delay: 135.337 ms
Loss rate: 2.69%

Run 3: Report of FillP-Sheep — Data Link

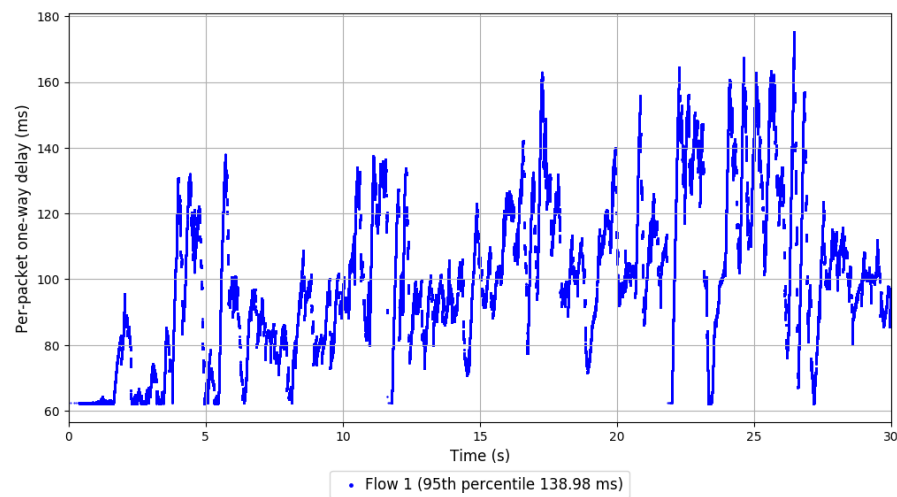
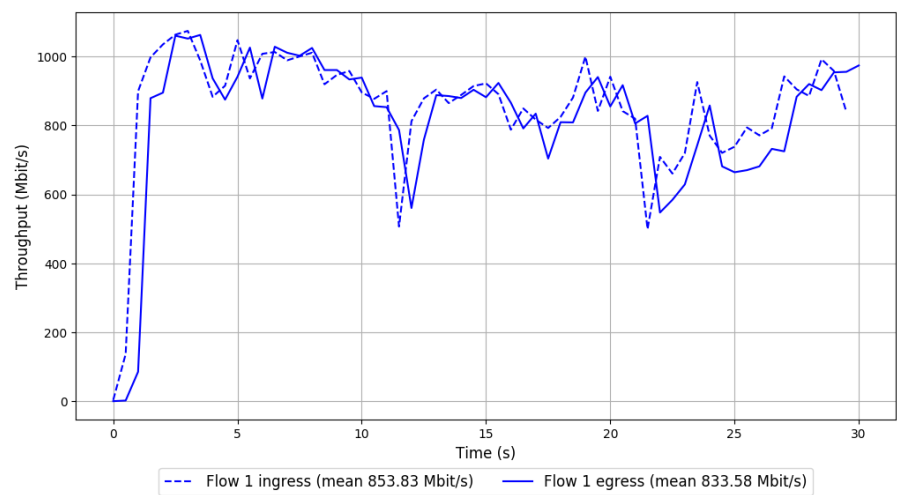


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 14:11:03
End at: 2018-09-06 14:11:33
Local clock offset: -0.064 ms
Remote clock offset: 1.036 ms

Below is generated by plot.py at 2018-09-06 15:44:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 833.58 Mbit/s
95th percentile per-packet one-way delay: 138.976 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 833.58 Mbit/s
95th percentile per-packet one-way delay: 138.976 ms
Loss rate: 2.37%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 14:37:04

End at: 2018-09-06 14:37:34

Local clock offset: -0.12 ms

Remote clock offset: -0.303 ms

Below is generated by plot.py at 2018-09-06 15:48:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 775.64 Mbit/s

95th percentile per-packet one-way delay: 139.751 ms

Loss rate: 2.03%

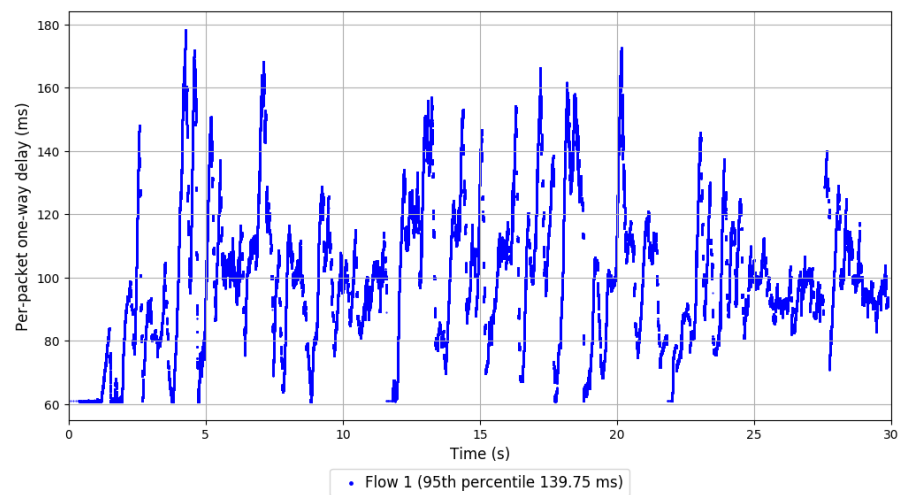
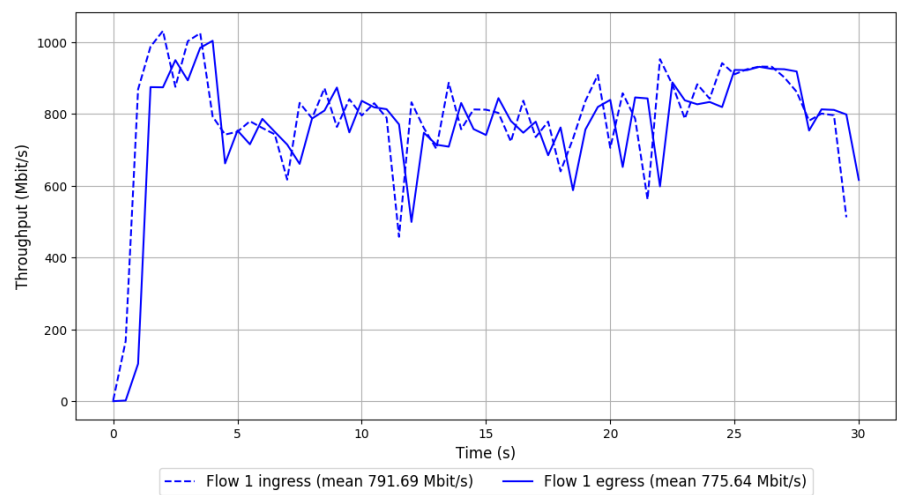
-- Flow 1:

Average throughput: 775.64 Mbit/s

95th percentile per-packet one-way delay: 139.751 ms

Loss rate: 2.03%

Run 5: Report of FillP-Sheep — Data Link

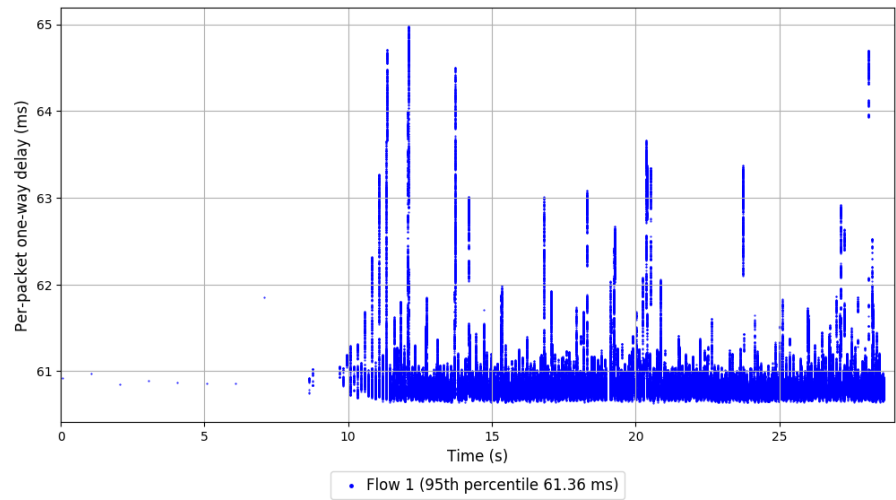
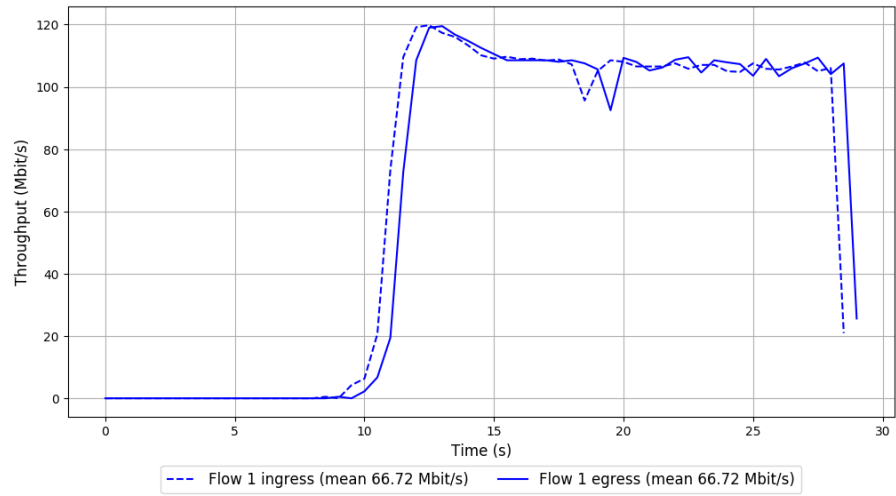


Run 1: Statistics of Indigo

Start at: 2018-09-06 12:40:40
End at: 2018-09-06 12:41:11
Local clock offset: -0.059 ms
Remote clock offset: -0.161 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 66.72 Mbit/s
95th percentile per-packet one-way delay: 61.362 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.72 Mbit/s
95th percentile per-packet one-way delay: 61.362 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

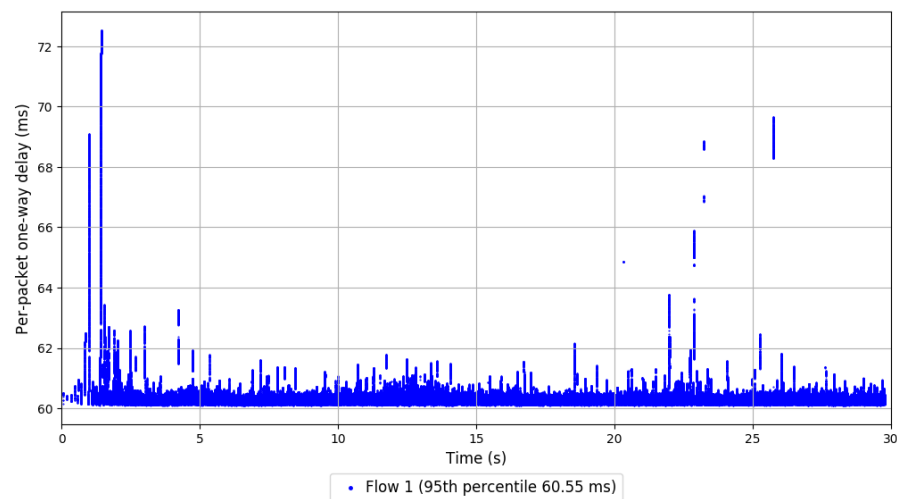
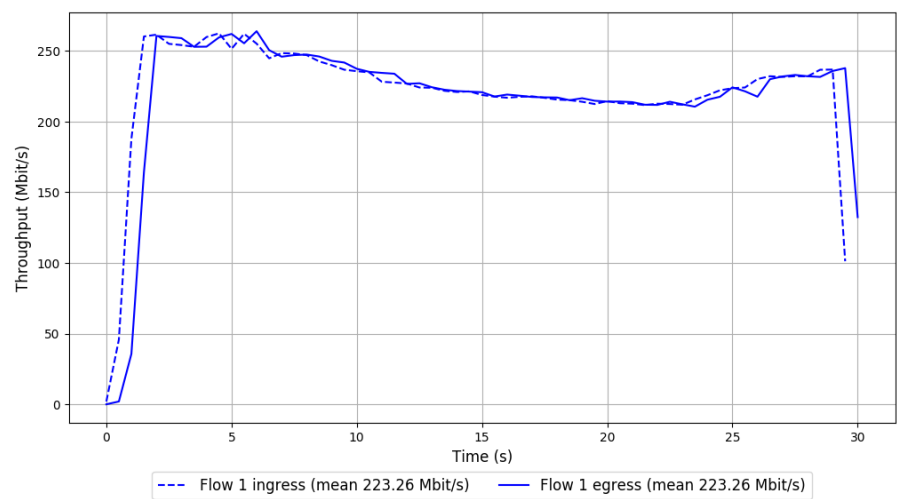


Run 2: Statistics of Indigo

Start at: 2018-09-06 13:06:28
End at: 2018-09-06 13:06:58
Local clock offset: -0.146 ms
Remote clock offset: -0.806 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 223.26 Mbit/s
95th percentile per-packet one-way delay: 60.548 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 223.26 Mbit/s
95th percentile per-packet one-way delay: 60.548 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-06 13:32:38

End at: 2018-09-06 13:33:08

Local clock offset: -0.148 ms

Remote clock offset: 0.218 ms

Below is generated by plot.py at 2018-09-06 15:48:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 224.62 Mbit/s

95th percentile per-packet one-way delay: 61.706 ms

Loss rate: 0.00%

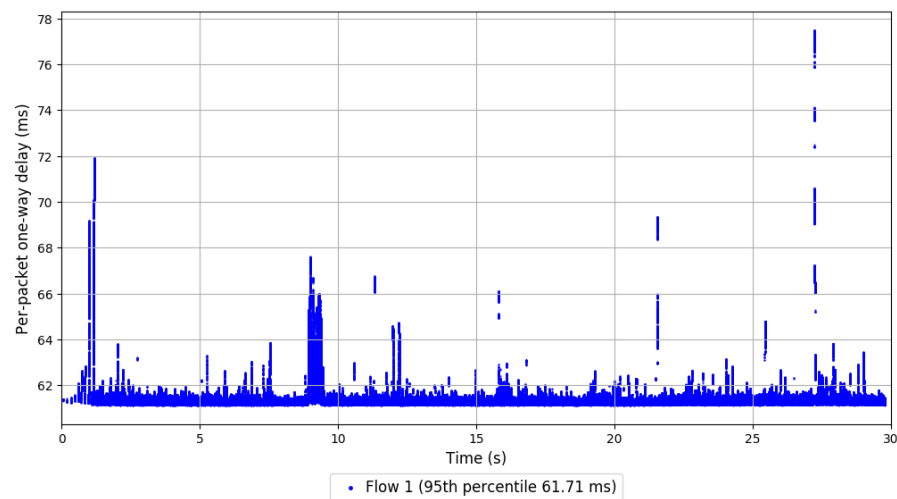
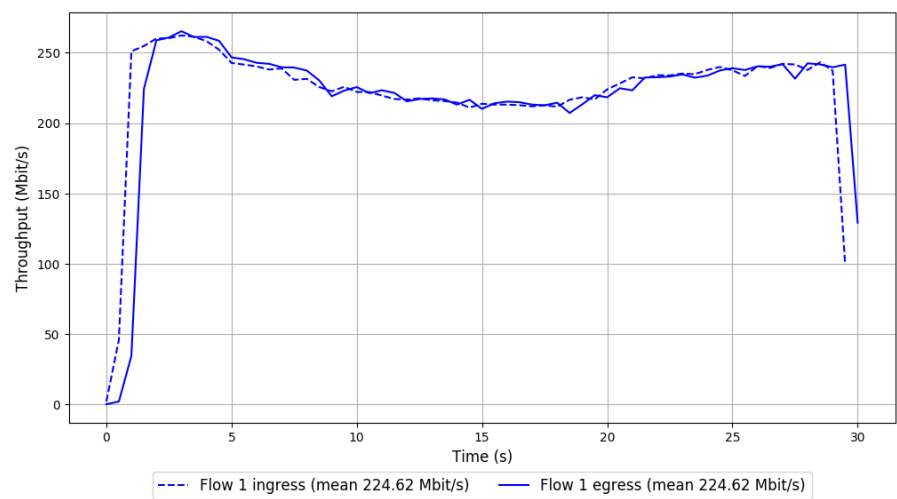
-- Flow 1:

Average throughput: 224.62 Mbit/s

95th percentile per-packet one-way delay: 61.706 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

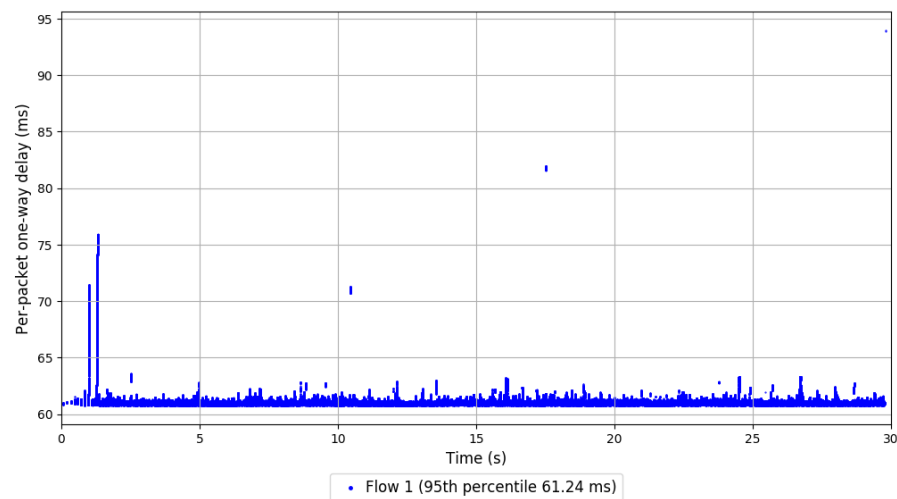
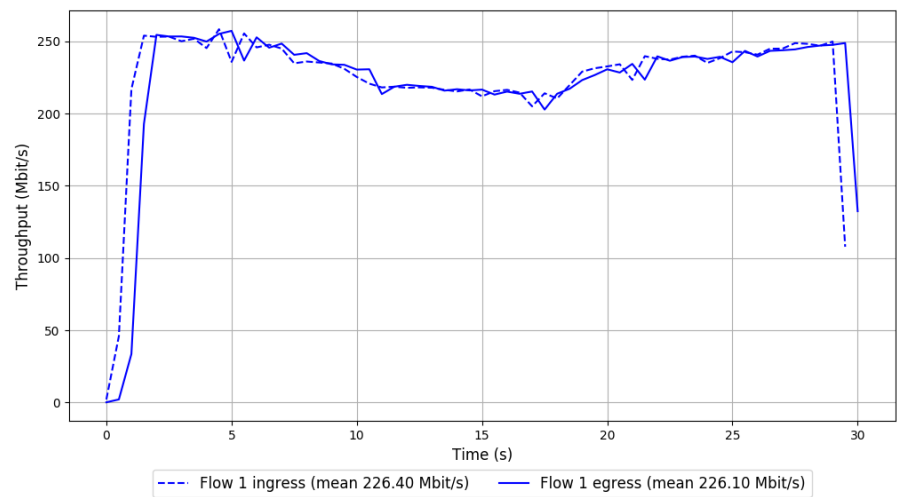


Run 4: Statistics of Indigo

Start at: 2018-09-06 13:58:54
End at: 2018-09-06 13:59:24
Local clock offset: 0.042 ms
Remote clock offset: -0.012 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 226.10 Mbit/s
95th percentile per-packet one-way delay: 61.238 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 226.10 Mbit/s
95th percentile per-packet one-way delay: 61.238 ms
Loss rate: 0.07%

Run 4: Report of Indigo — Data Link

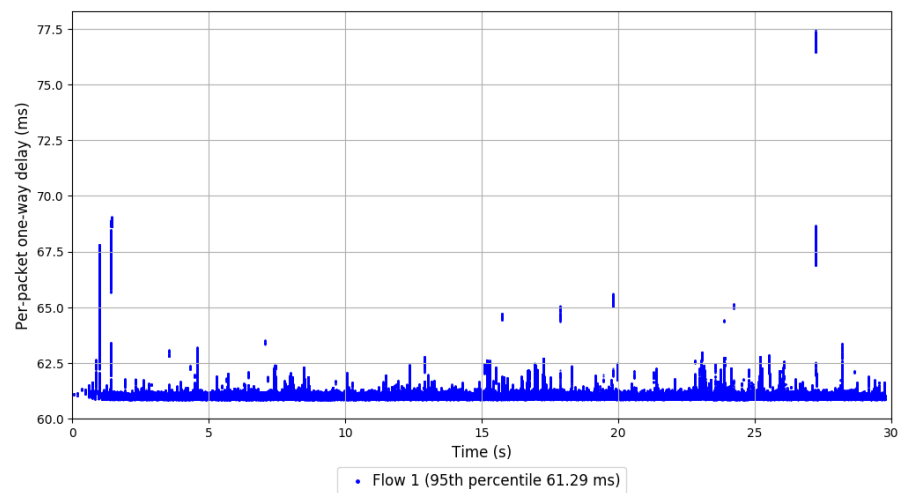
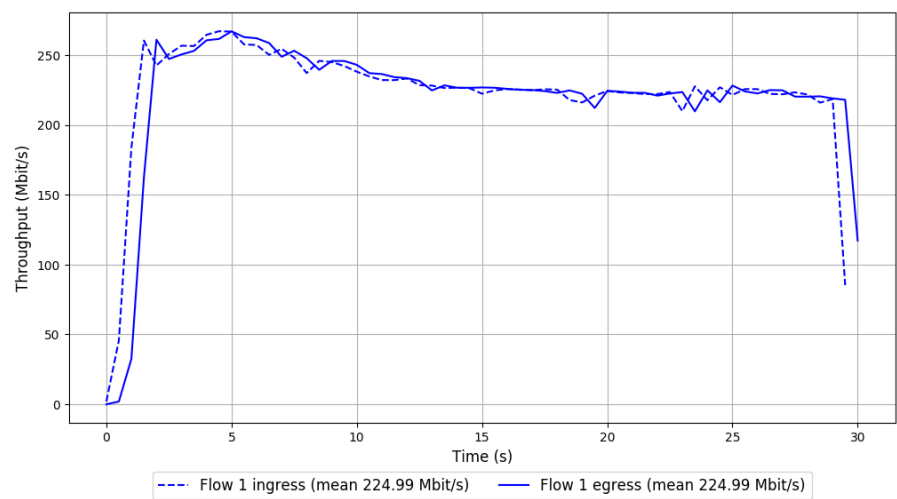


Run 5: Statistics of Indigo

Start at: 2018-09-06 14:25:00
End at: 2018-09-06 14:25:30
Local clock offset: -0.09 ms
Remote clock offset: -0.197 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 224.99 Mbit/s
95th percentile per-packet one-way delay: 61.294 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.99 Mbit/s
95th percentile per-packet one-way delay: 61.294 ms
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

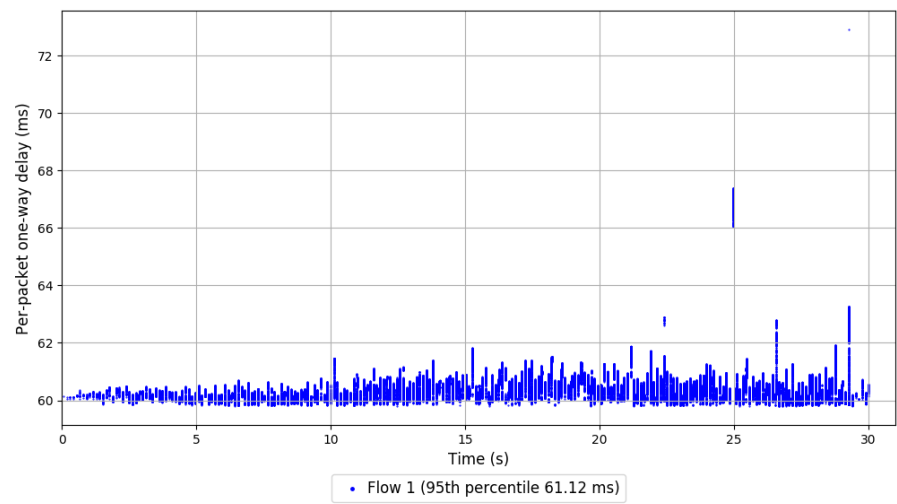
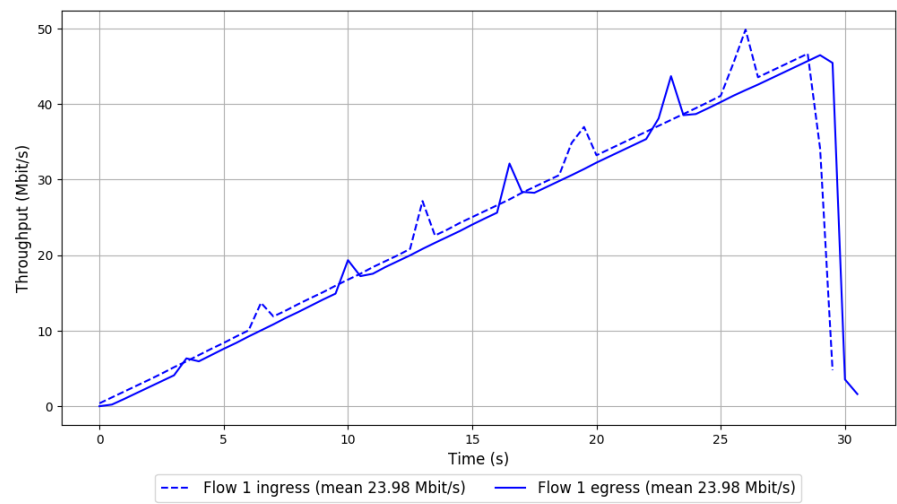


Run 1: Statistics of LEDBAT

Start at: 2018-09-06 12:53:54
End at: 2018-09-06 12:54:24
Local clock offset: -0.007 ms
Remote clock offset: -0.817 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.98 Mbit/s
95th percentile per-packet one-way delay: 61.117 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.98 Mbit/s
95th percentile per-packet one-way delay: 61.117 ms
Loss rate: 0.00%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-06 13:20:19

End at: 2018-09-06 13:20:49

Local clock offset: -0.157 ms

Remote clock offset: 0.025 ms

Below is generated by plot.py at 2018-09-06 15:48:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 22.44 Mbit/s

95th percentile per-packet one-way delay: 67.942 ms

Loss rate: 0.00%

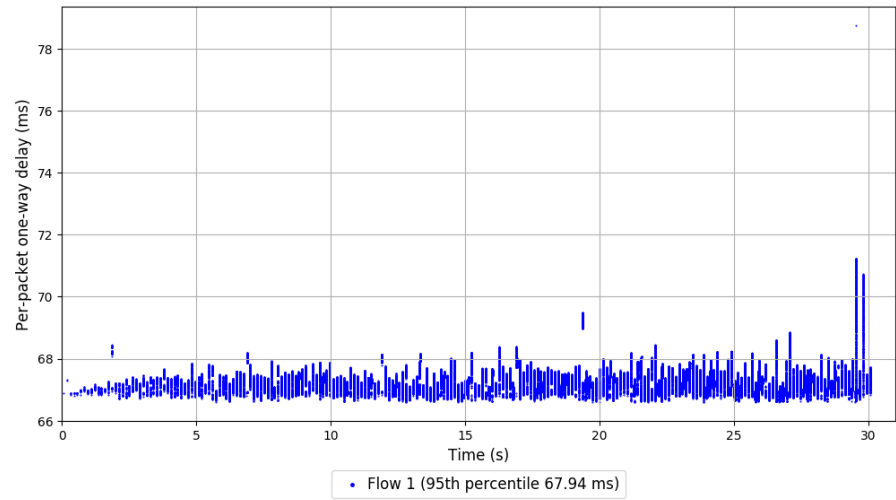
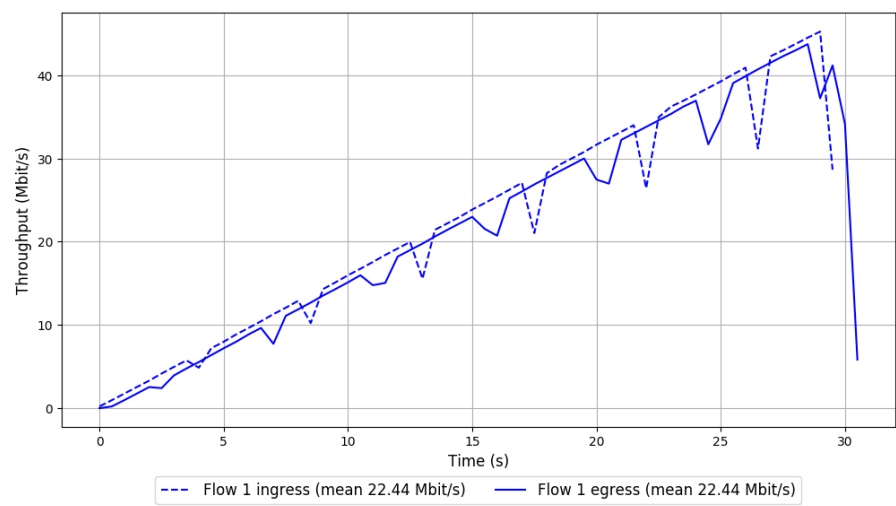
-- Flow 1:

Average throughput: 22.44 Mbit/s

95th percentile per-packet one-way delay: 67.942 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

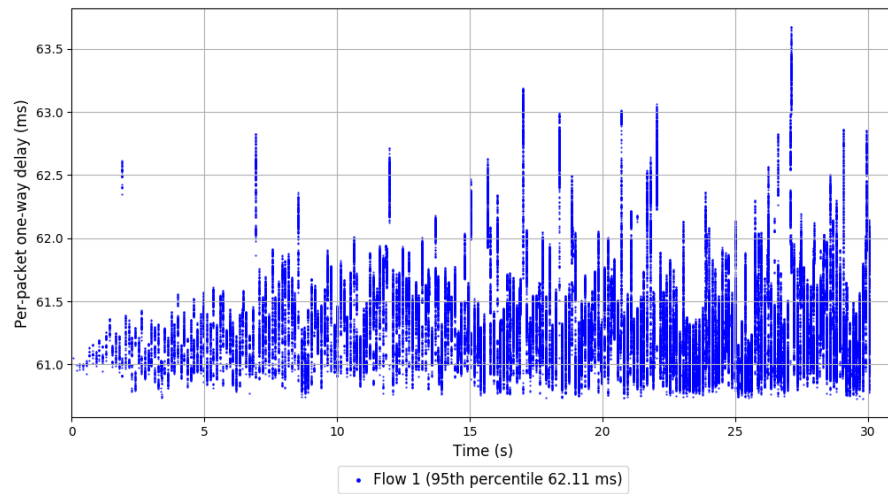
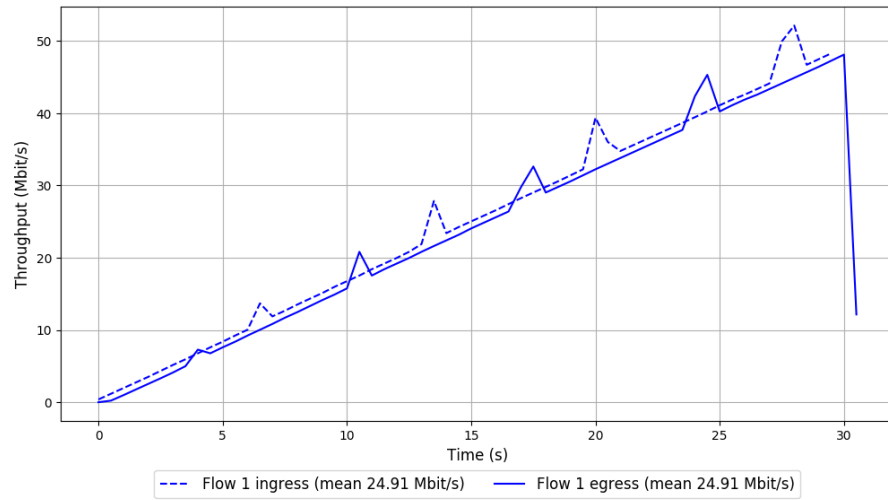


Run 3: Statistics of LEDBAT

Start at: 2018-09-06 13:46:23
End at: 2018-09-06 13:46:53
Local clock offset: -0.014 ms
Remote clock offset: -0.148 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.91 Mbit/s
95th percentile per-packet one-way delay: 62.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.91 Mbit/s
95th percentile per-packet one-way delay: 62.114 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

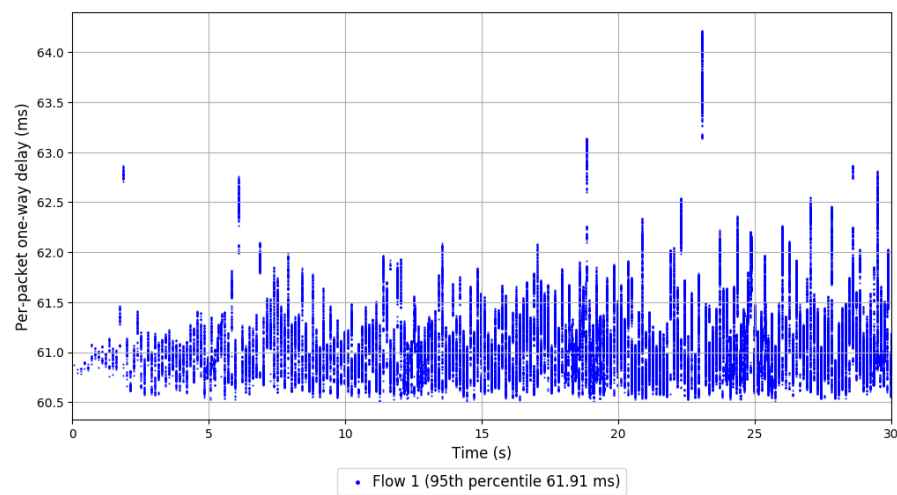
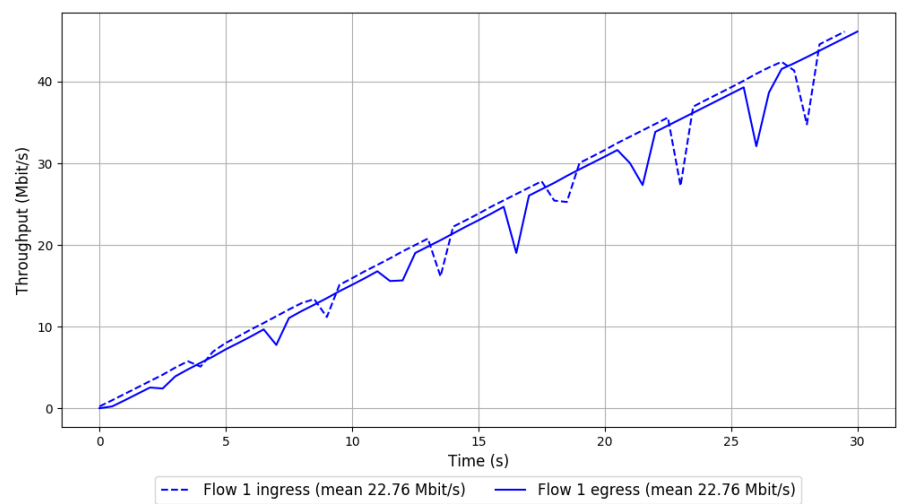


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 14:12:43
End at: 2018-09-06 14:13:13
Local clock offset: -0.048 ms
Remote clock offset: -0.274 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 22.76 Mbit/s
95th percentile per-packet one-way delay: 61.906 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 22.76 Mbit/s
95th percentile per-packet one-way delay: 61.906 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

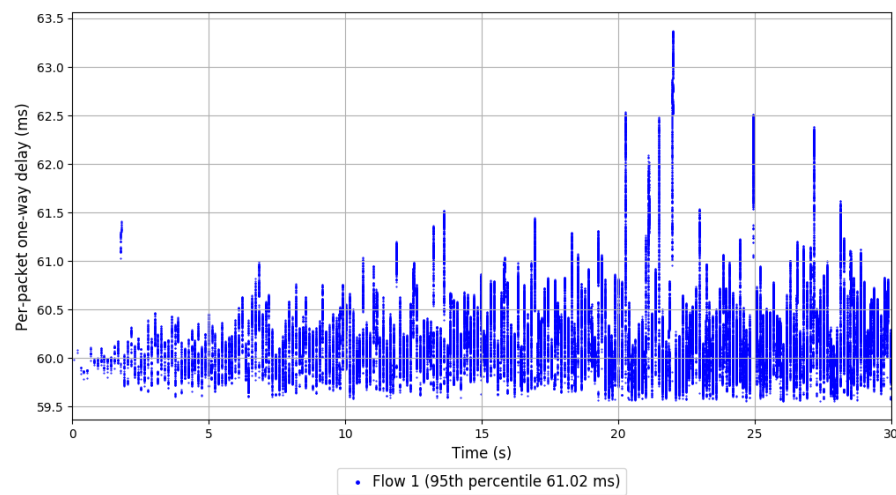
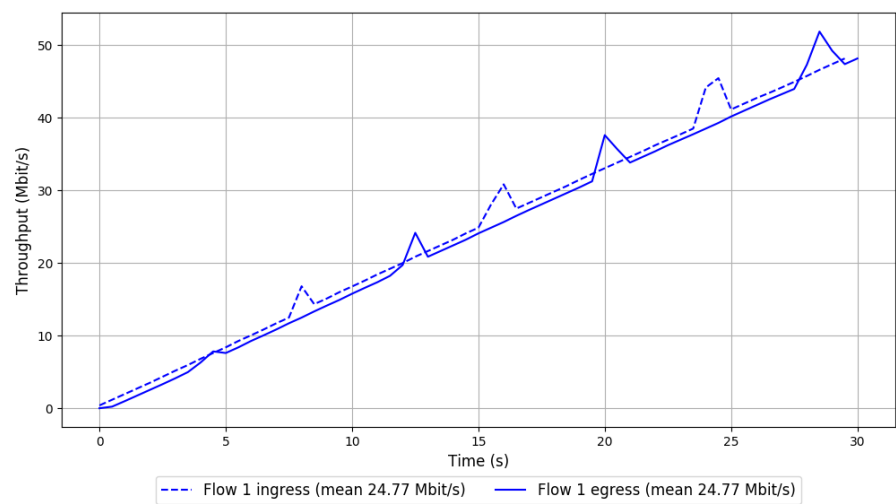


Run 5: Statistics of LEDBAT

Start at: 2018-09-06 14:38:40
End at: 2018-09-06 14:39:10
Local clock offset: -0.138 ms
Remote clock offset: -1.544 ms

Below is generated by plot.py at 2018-09-06 15:48:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 61.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 61.019 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

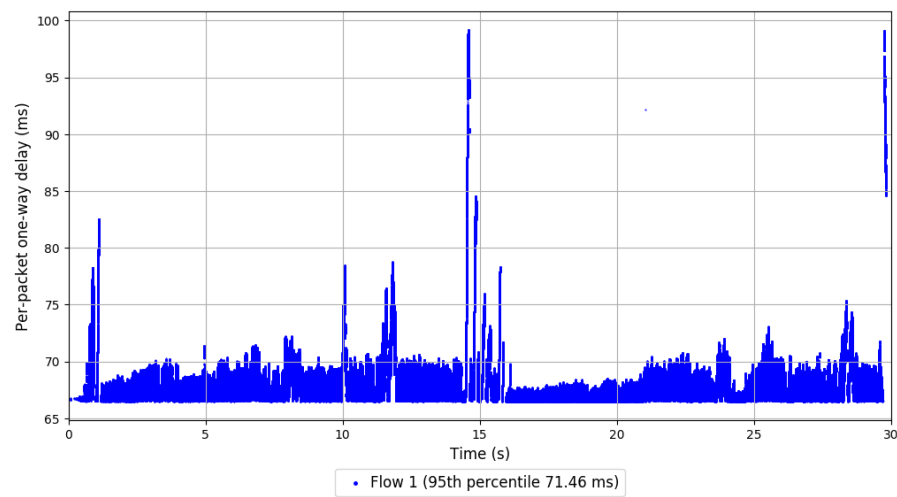
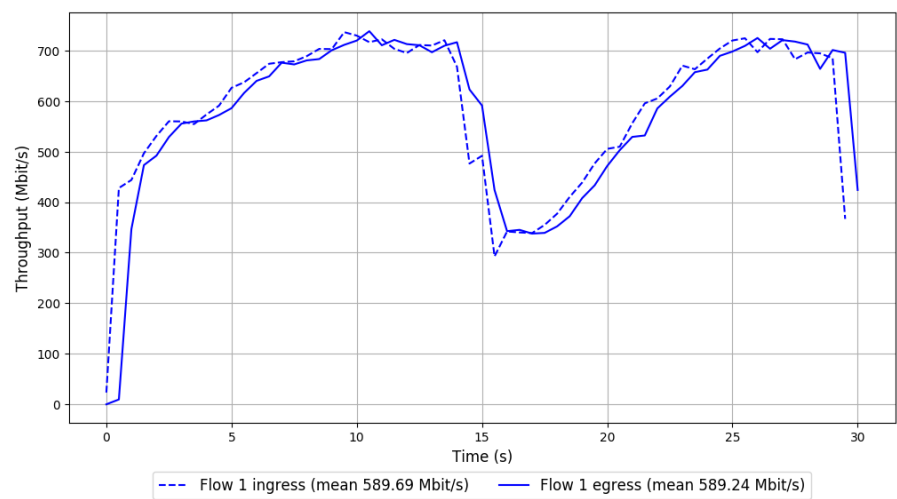


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 12:55:04
End at: 2018-09-06 12:55:34
Local clock offset: -0.048 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-09-06 15:49:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 589.24 Mbit/s
95th percentile per-packet one-way delay: 71.463 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 589.24 Mbit/s
95th percentile per-packet one-way delay: 71.463 ms
Loss rate: 0.09%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 13:21:28

End at: 2018-09-06 13:21:58

Local clock offset: -0.176 ms

Remote clock offset: 0.222 ms

Below is generated by plot.py at 2018-09-06 15:50:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 603.43 Mbit/s

95th percentile per-packet one-way delay: 74.638 ms

Loss rate: 0.04%

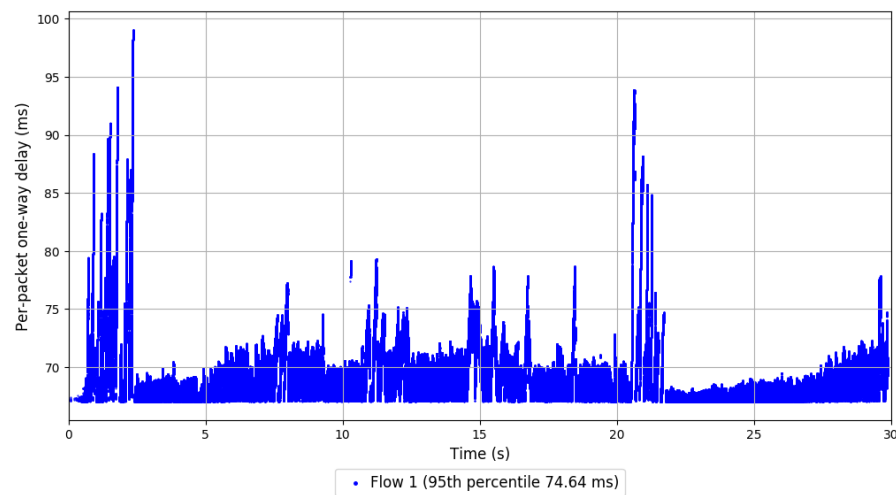
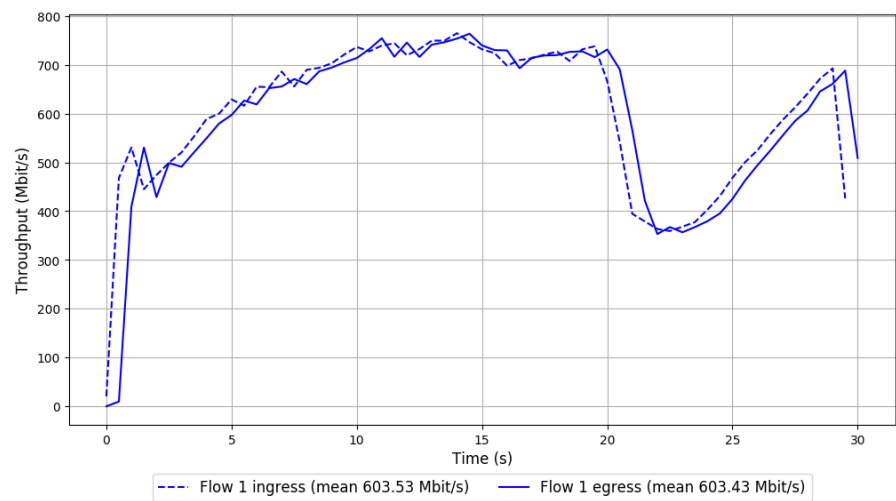
-- Flow 1:

Average throughput: 603.43 Mbit/s

95th percentile per-packet one-way delay: 74.638 ms

Loss rate: 0.04%

Run 2: Report of Indigo-Muses — Data Link

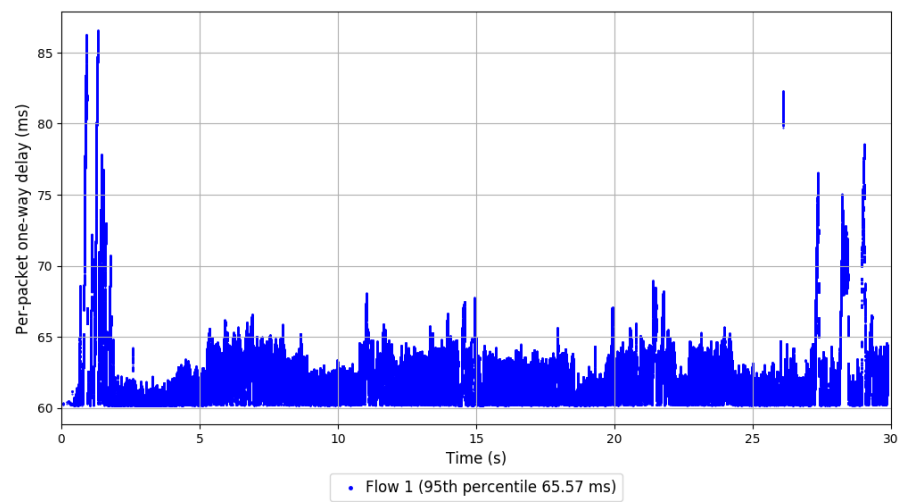
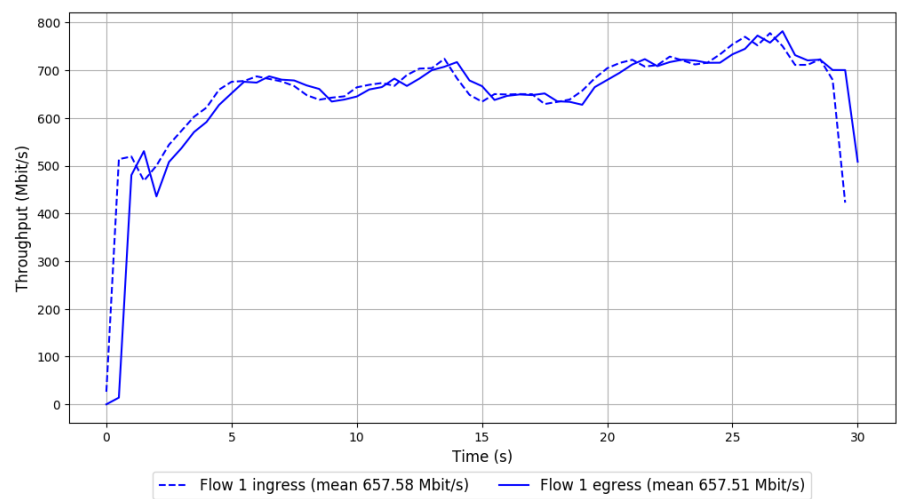


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 13:47:33
End at: 2018-09-06 13:48:03
Local clock offset: -0.007 ms
Remote clock offset: -0.683 ms

Below is generated by plot.py at 2018-09-06 15:51:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 657.51 Mbit/s
95th percentile per-packet one-way delay: 65.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 657.51 Mbit/s
95th percentile per-packet one-way delay: 65.570 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

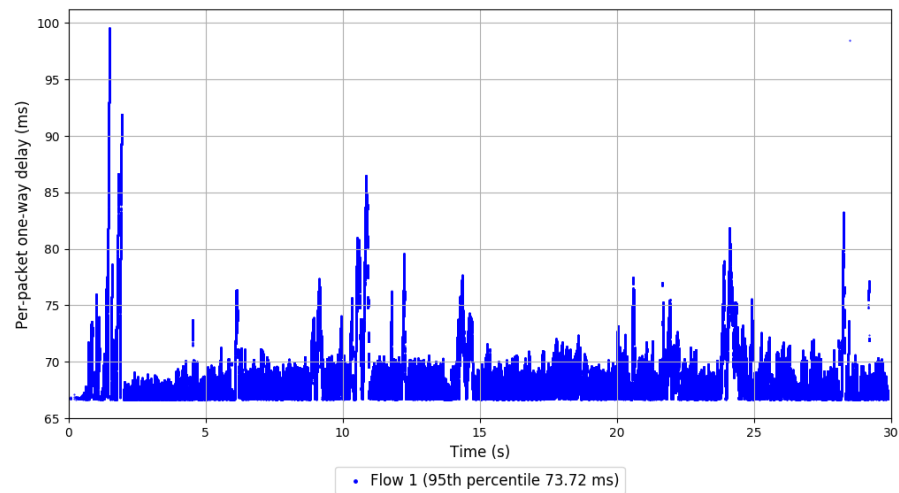
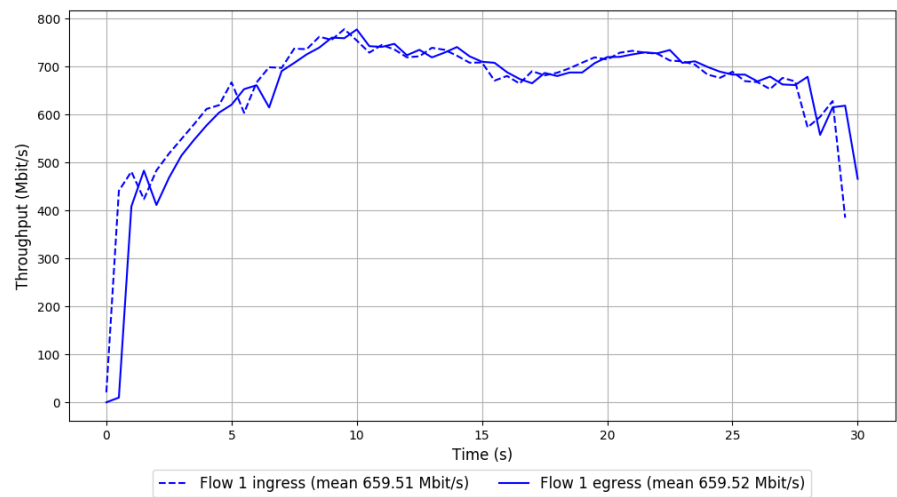


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 14:13:52
End at: 2018-09-06 14:14:22
Local clock offset: -0.074 ms
Remote clock offset: -0.135 ms

Below is generated by plot.py at 2018-09-06 15:52:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 659.52 Mbit/s
95th percentile per-packet one-way delay: 73.715 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 659.52 Mbit/s
95th percentile per-packet one-way delay: 73.715 ms
Loss rate: 0.02%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 14:39:50

End at: 2018-09-06 14:40:20

Local clock offset: -0.128 ms

Remote clock offset: 1.036 ms

Below is generated by plot.py at 2018-09-06 15:52:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 652.30 Mbit/s

95th percentile per-packet one-way delay: 68.467 ms

Loss rate: 0.00%

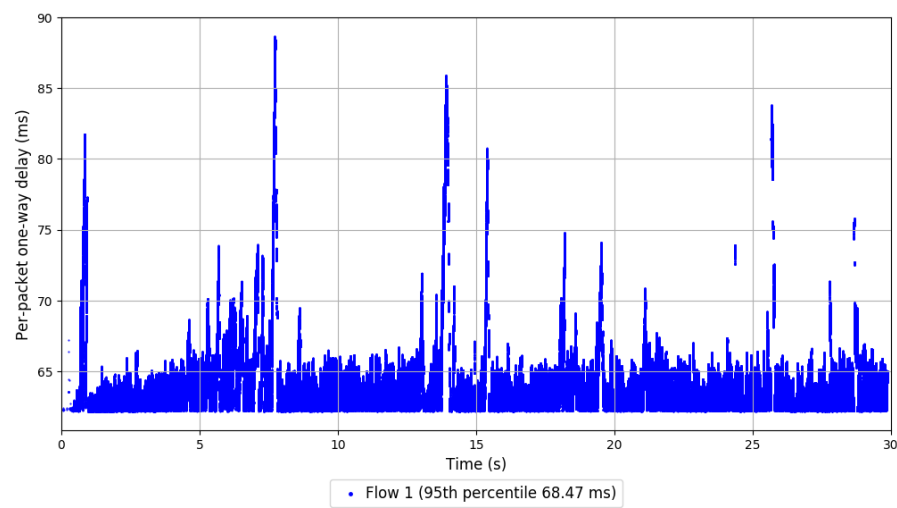
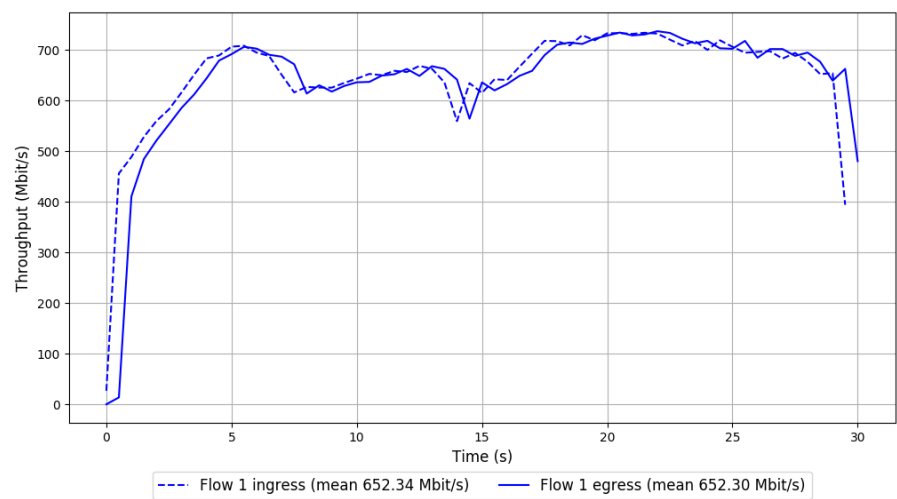
-- Flow 1:

Average throughput: 652.30 Mbit/s

95th percentile per-packet one-way delay: 68.467 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

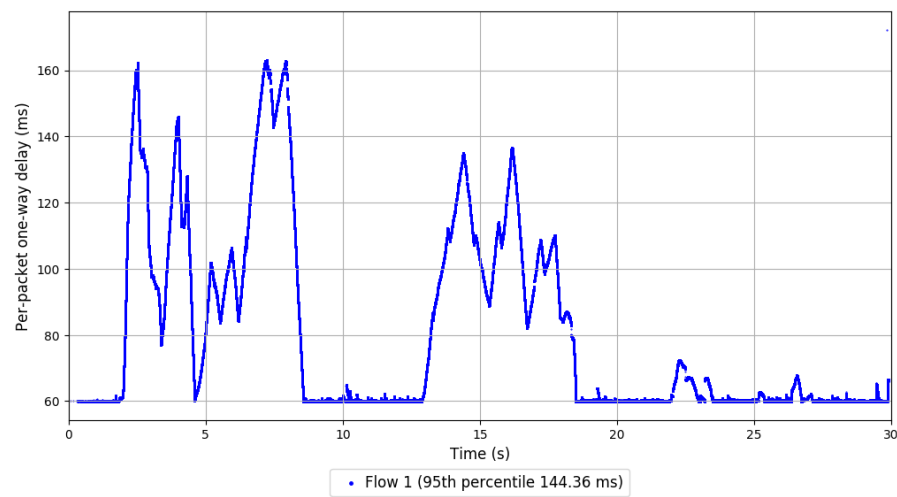
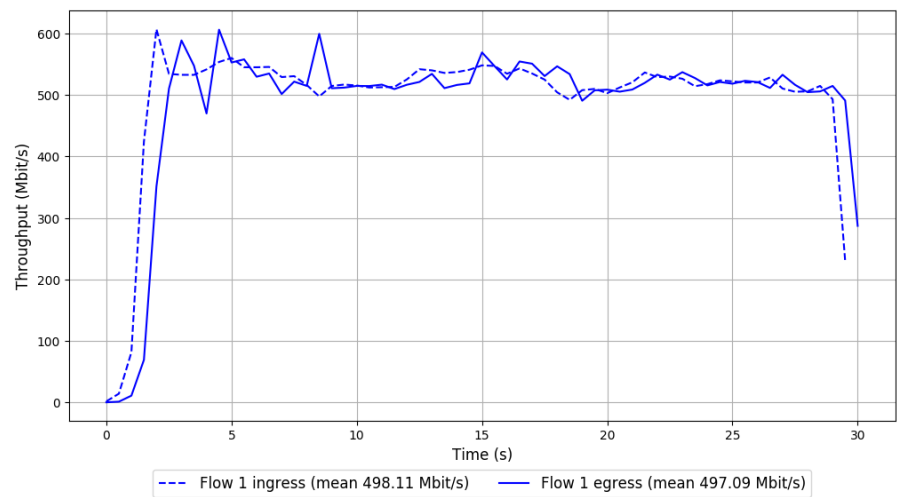


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 12:56:39
End at: 2018-09-06 12:57:10
Local clock offset: -0.05 ms
Remote clock offset: -1.132 ms

# Below is generated by plot.py at 2018-09-06 15:57:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 497.09 Mbit/s
95th percentile per-packet one-way delay: 144.362 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 497.09 Mbit/s
95th percentile per-packet one-way delay: 144.362 ms
Loss rate: 0.20%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 13:23:04

End at: 2018-09-06 13:23:34

Local clock offset: -0.159 ms

Remote clock offset: -0.611 ms

Below is generated by plot.py at 2018-09-06 15:58:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 467.36 Mbit/s

95th percentile per-packet one-way delay: 165.829 ms

Loss rate: 4.02%

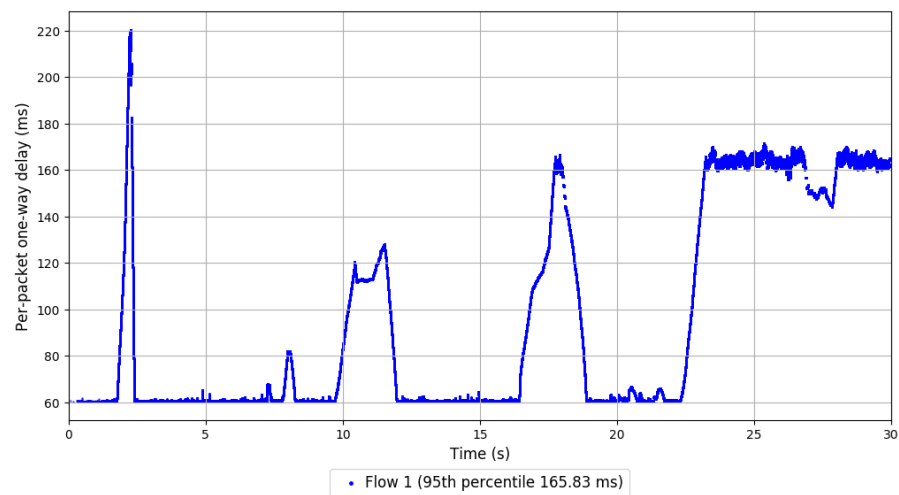
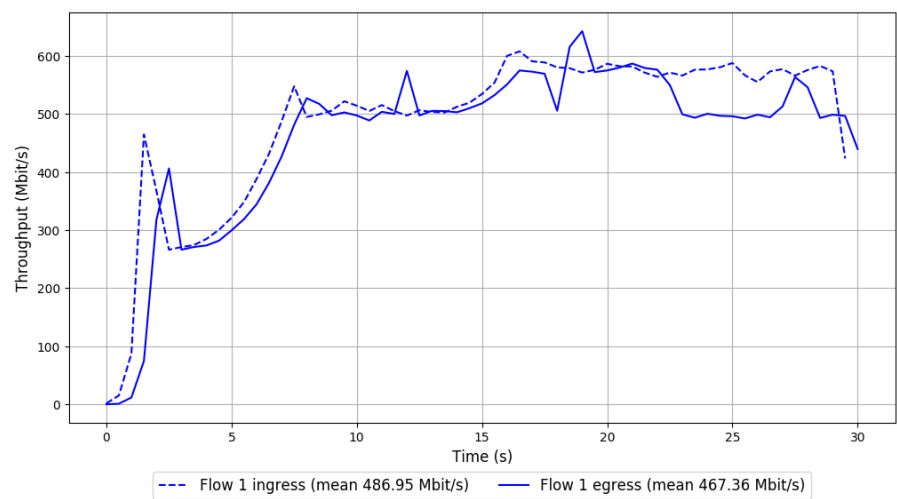
-- Flow 1:

Average throughput: 467.36 Mbit/s

95th percentile per-packet one-way delay: 165.829 ms

Loss rate: 4.02%

Run 2: Report of PCC-Allegro — Data Link

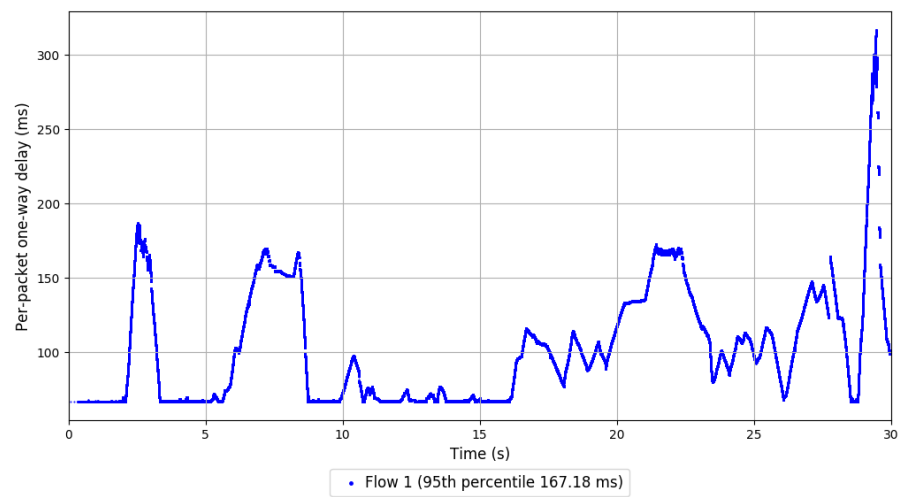
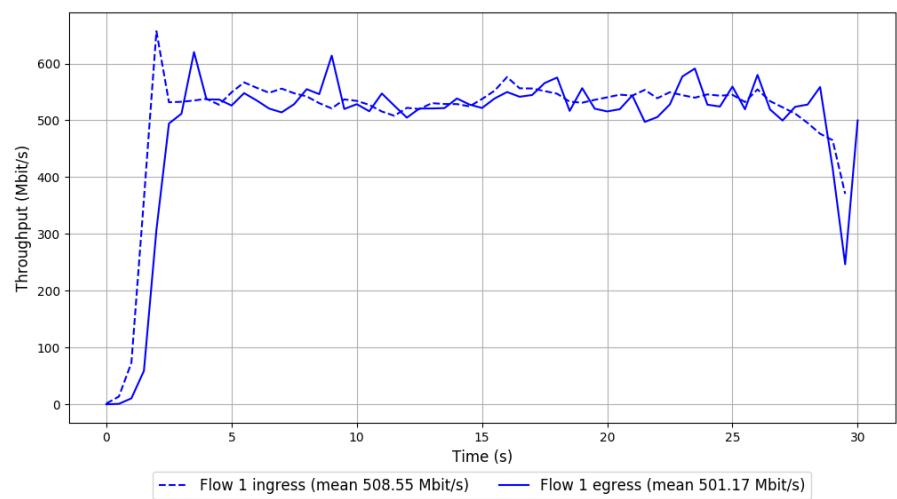


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 13:49:10
End at: 2018-09-06 13:49:40
Local clock offset: 0.004 ms
Remote clock offset: -0.289 ms

Below is generated by plot.py at 2018-09-06 16:04:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 501.17 Mbit/s
95th percentile per-packet one-way delay: 167.182 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 501.17 Mbit/s
95th percentile per-packet one-way delay: 167.182 ms
Loss rate: 1.47%

Run 3: Report of PCC-Allegro — Data Link

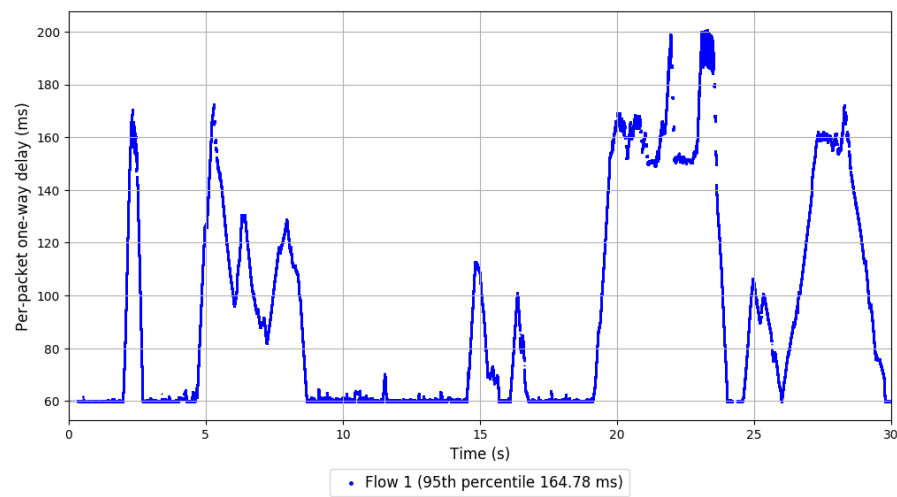
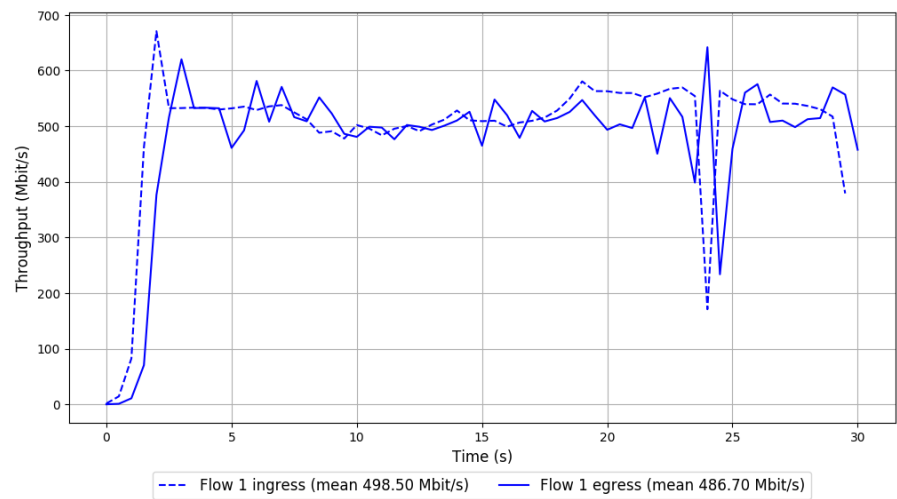


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 14:15:30
End at: 2018-09-06 14:16:00
Local clock offset: -0.113 ms
Remote clock offset: -1.302 ms

Below is generated by plot.py at 2018-09-06 16:05:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 486.70 Mbit/s
95th percentile per-packet one-way delay: 164.784 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 486.70 Mbit/s
95th percentile per-packet one-way delay: 164.784 ms
Loss rate: 2.37%

Run 4: Report of PCC-Allegro — Data Link

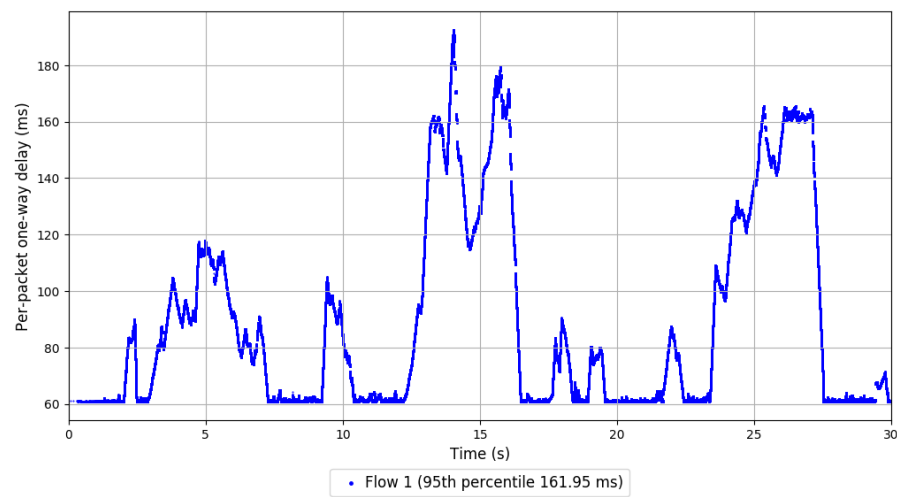
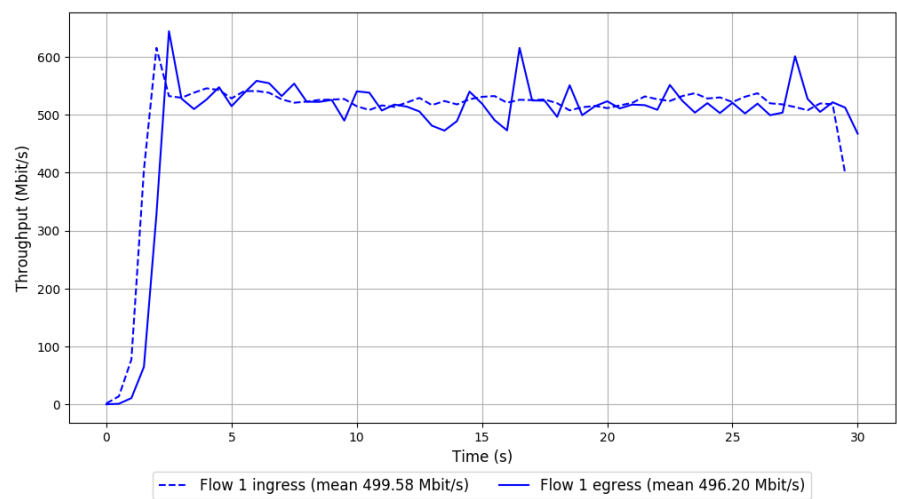


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 14:41:28
End at: 2018-09-06 14:41:58
Local clock offset: -0.127 ms
Remote clock offset: -0.314 ms

Below is generated by plot.py at 2018-09-06 16:06:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 496.20 Mbit/s
95th percentile per-packet one-way delay: 161.947 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 496.20 Mbit/s
95th percentile per-packet one-way delay: 161.947 ms
Loss rate: 0.68%

Run 5: Report of PCC-Allegro — Data Link

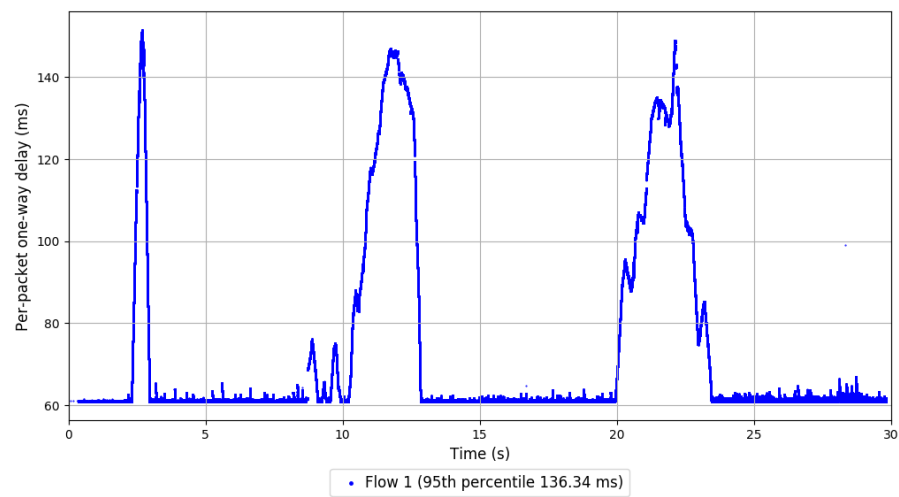
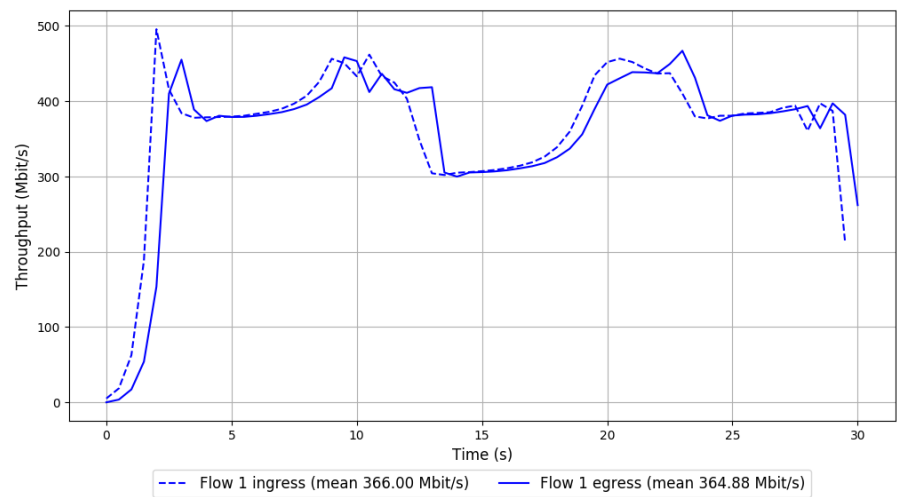


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 12:39:01
End at: 2018-09-06 12:39:31
Local clock offset: -0.056 ms
Remote clock offset: 0.083 ms

# Below is generated by plot.py at 2018-09-06 16:06:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 364.88 Mbit/s
95th percentile per-packet one-way delay: 136.342 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 364.88 Mbit/s
95th percentile per-packet one-way delay: 136.342 ms
Loss rate: 0.31%
```

Run 1: Report of PCC-Expr — Data Link

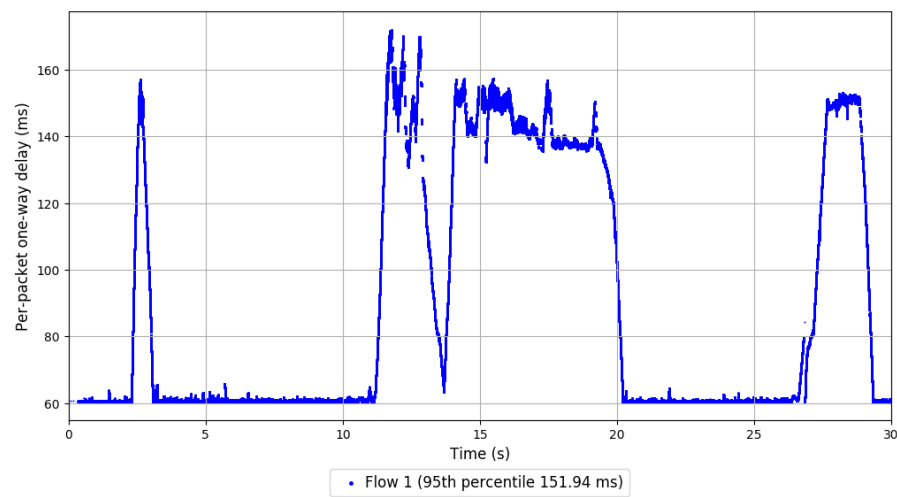
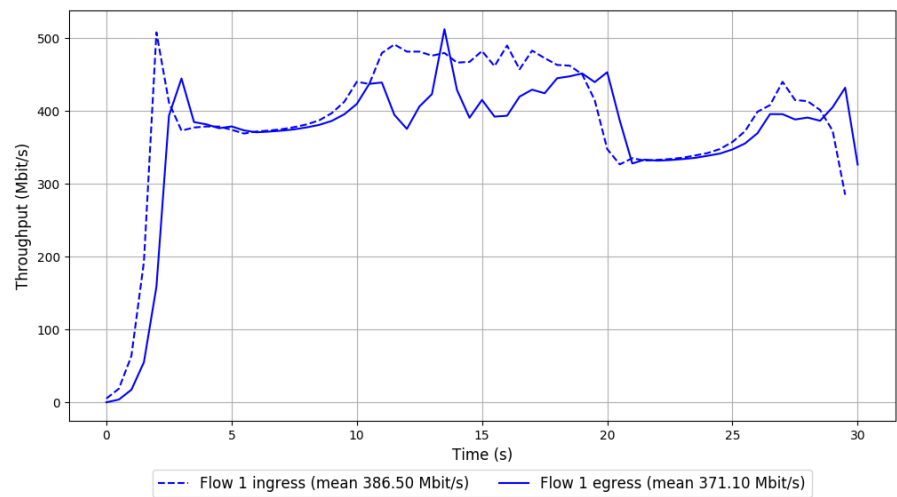


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 13:04:47
End at: 2018-09-06 13:05:17
Local clock offset: -0.135 ms
Remote clock offset: -0.182 ms

Below is generated by plot.py at 2018-09-06 16:06:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 371.10 Mbit/s
95th percentile per-packet one-way delay: 151.945 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 371.10 Mbit/s
95th percentile per-packet one-way delay: 151.945 ms
Loss rate: 3.98%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 13:30:58

End at: 2018-09-06 13:31:28

Local clock offset: -0.1 ms

Remote clock offset: 1.095 ms

Below is generated by plot.py at 2018-09-06 16:06:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 364.16 Mbit/s

95th percentile per-packet one-way delay: 158.134 ms

Loss rate: 1.79%

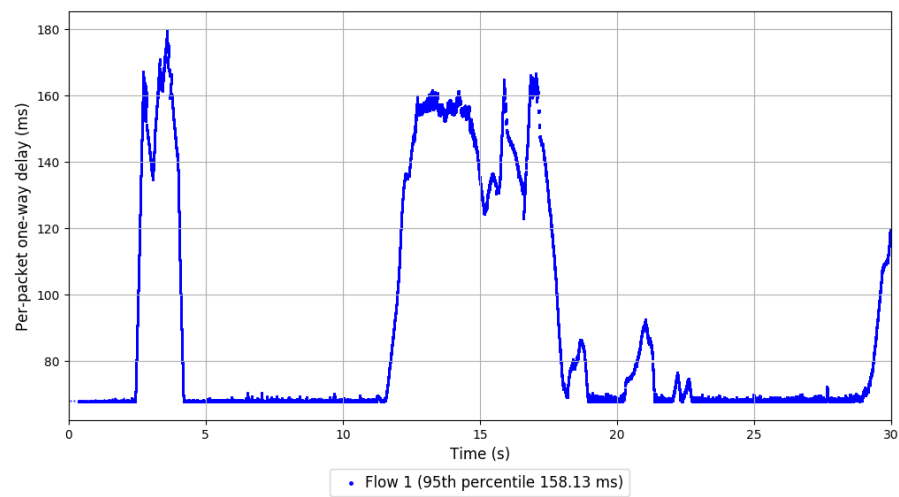
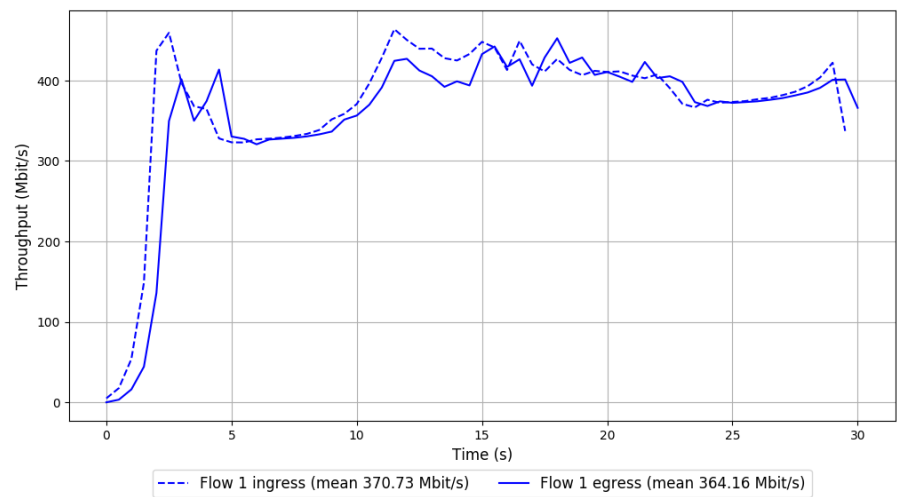
-- Flow 1:

Average throughput: 364.16 Mbit/s

95th percentile per-packet one-way delay: 158.134 ms

Loss rate: 1.79%

Run 3: Report of PCC-Expr — Data Link

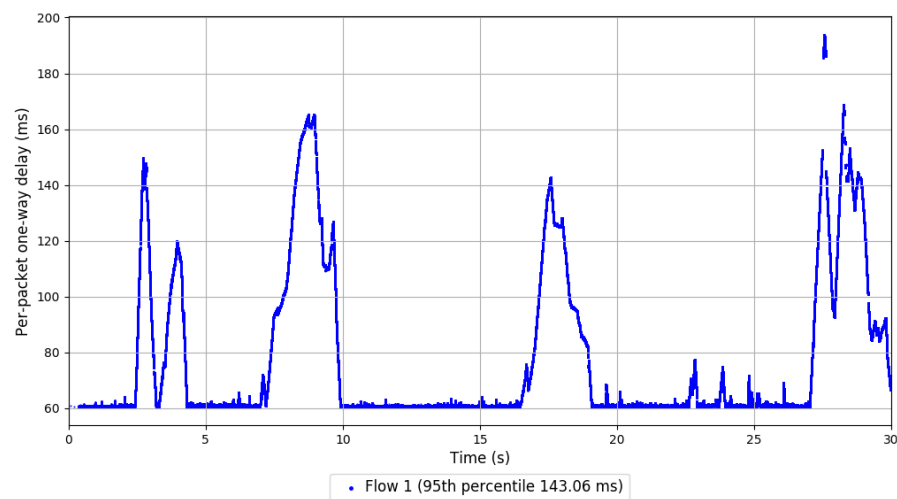
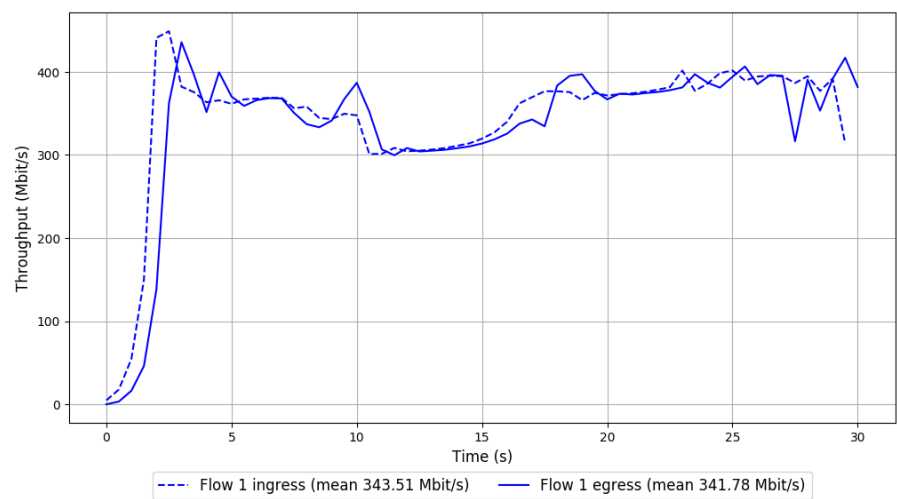


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 13:57:17
End at: 2018-09-06 13:57:47
Local clock offset: 0.048 ms
Remote clock offset: -0.257 ms

Below is generated by plot.py at 2018-09-06 16:10:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 341.78 Mbit/s
95th percentile per-packet one-way delay: 143.062 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 341.78 Mbit/s
95th percentile per-packet one-way delay: 143.062 ms
Loss rate: 0.50%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 14:23:19

End at: 2018-09-06 14:23:49

Local clock offset: -0.078 ms

Remote clock offset: 0.29 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 378.27 Mbit/s

95th percentile per-packet one-way delay: 166.028 ms

Loss rate: 9.60%

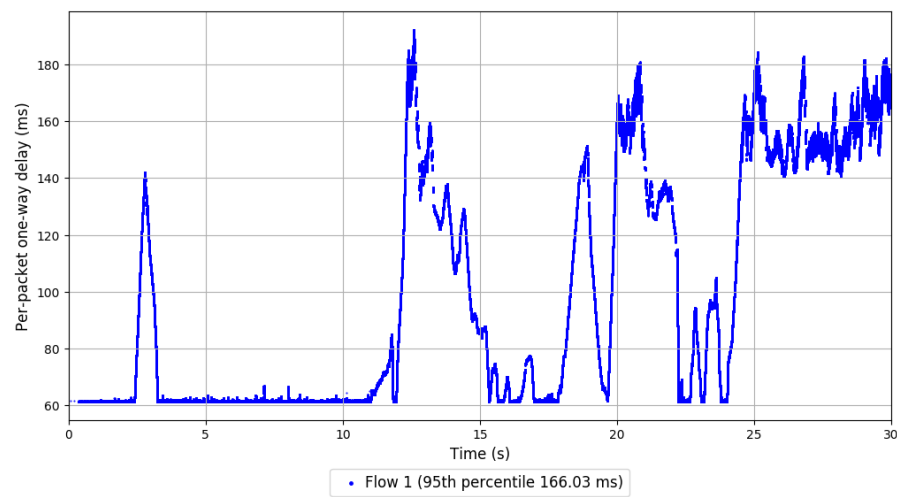
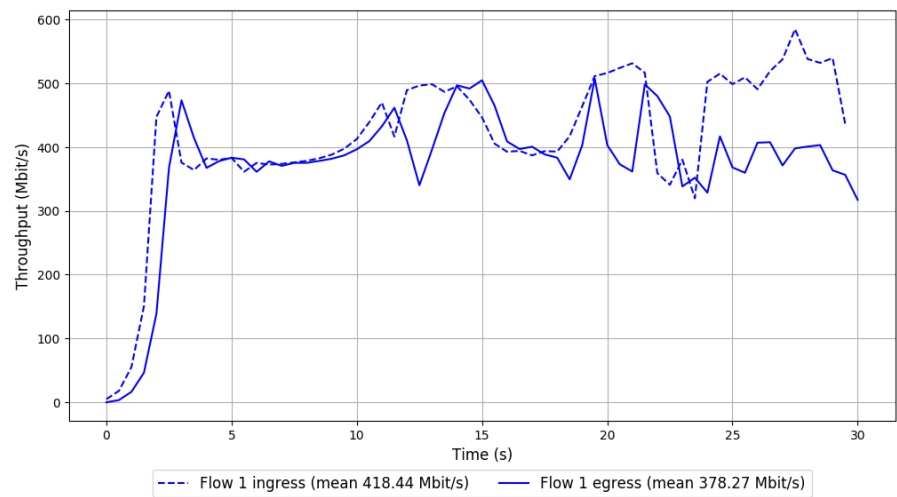
-- Flow 1:

Average throughput: 378.27 Mbit/s

95th percentile per-packet one-way delay: 166.028 ms

Loss rate: 9.60%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

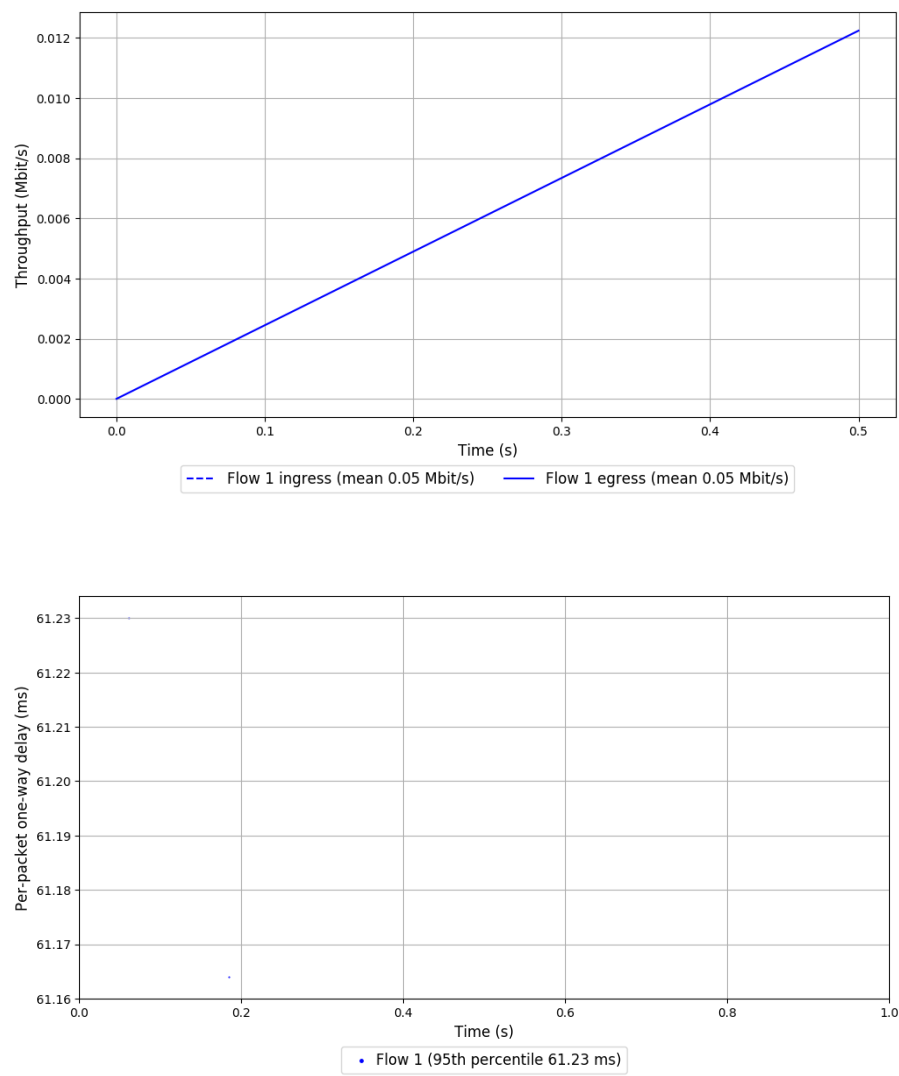
Start at: 2018-09-06 12:44:43

End at: 2018-09-06 12:45:13

Local clock offset: -0.064 ms

Remote clock offset: -0.044 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

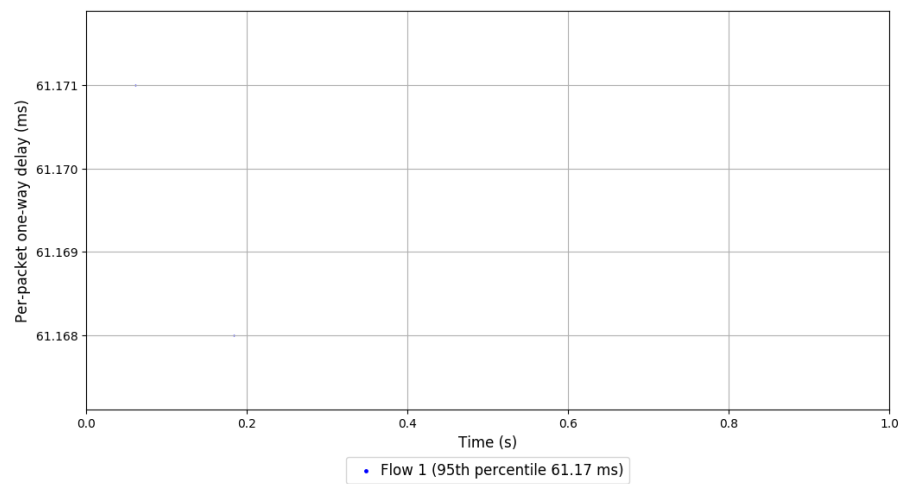
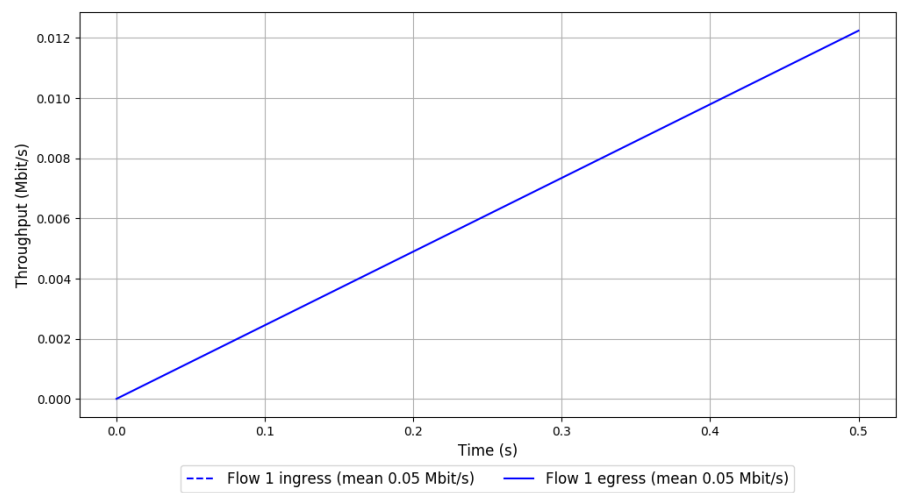
Start at: 2018-09-06 13:10:49

End at: 2018-09-06 13:11:19

Local clock offset: -0.099 ms

Remote clock offset: 0.031 ms

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 13:36:58

End at: 2018-09-06 13:37:28

Local clock offset: -0.079 ms

Remote clock offset: 0.35 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 53.70 Mbit/s

95th percentile per-packet one-way delay: 61.239 ms

Loss rate: 0.00%

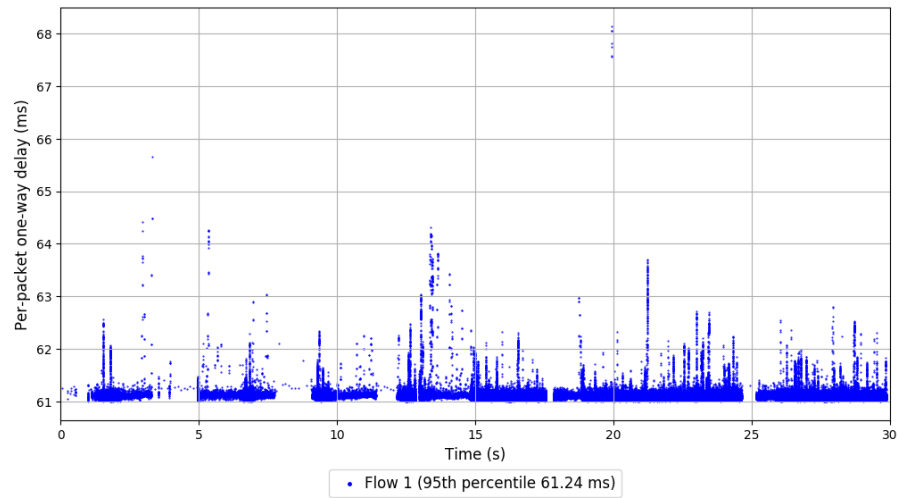
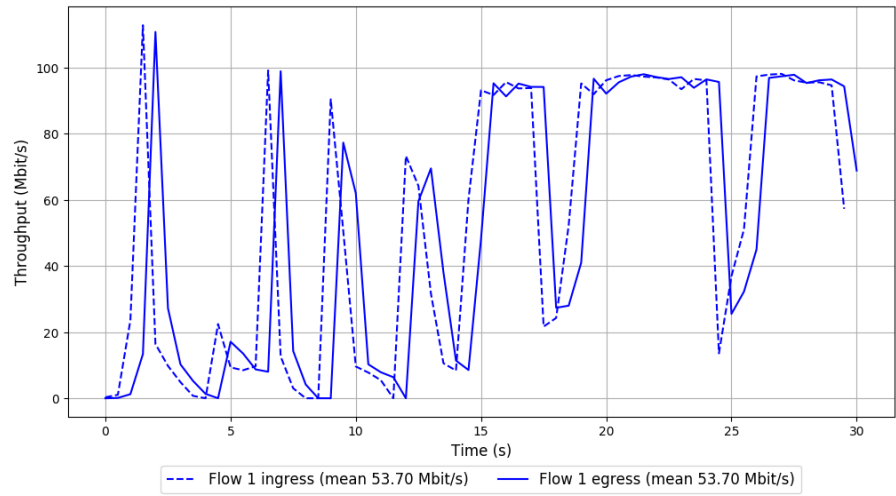
-- Flow 1:

Average throughput: 53.70 Mbit/s

95th percentile per-packet one-way delay: 61.239 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 14:03:15

End at: 2018-09-06 14:03:45

Local clock offset: 0.022 ms

Remote clock offset: -0.101 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 73.35 Mbit/s

95th percentile per-packet one-way delay: 61.047 ms

Loss rate: 0.00%

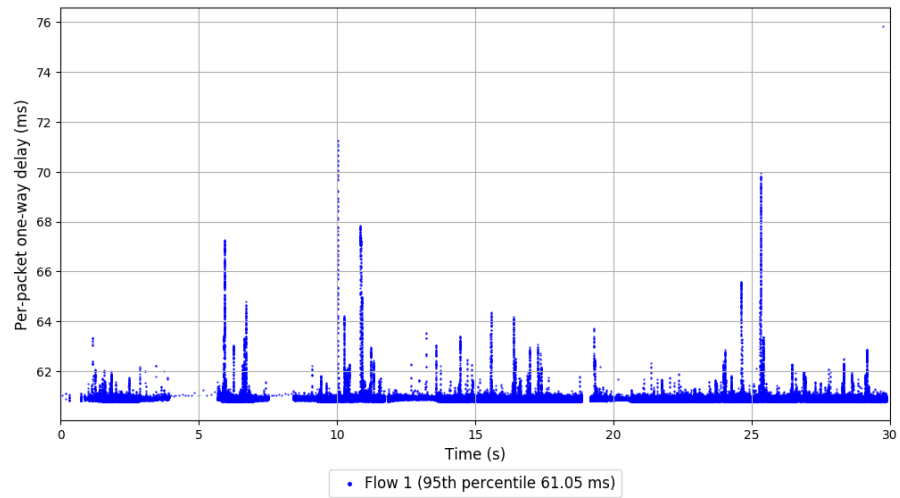
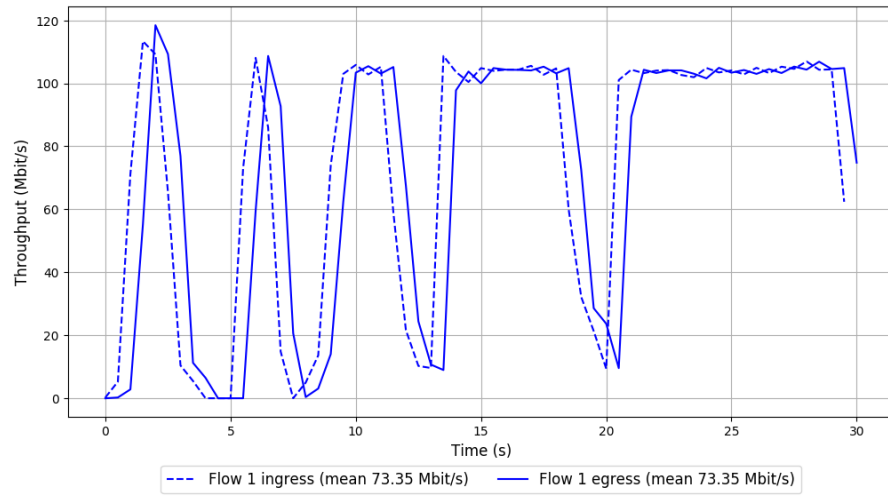
-- Flow 1:

Average throughput: 73.35 Mbit/s

95th percentile per-packet one-way delay: 61.047 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 14:29:17

End at: 2018-09-06 14:29:47

Local clock offset: -0.108 ms

Remote clock offset: -0.999 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.40 Mbit/s

95th percentile per-packet one-way delay: 60.330 ms

Loss rate: 0.00%

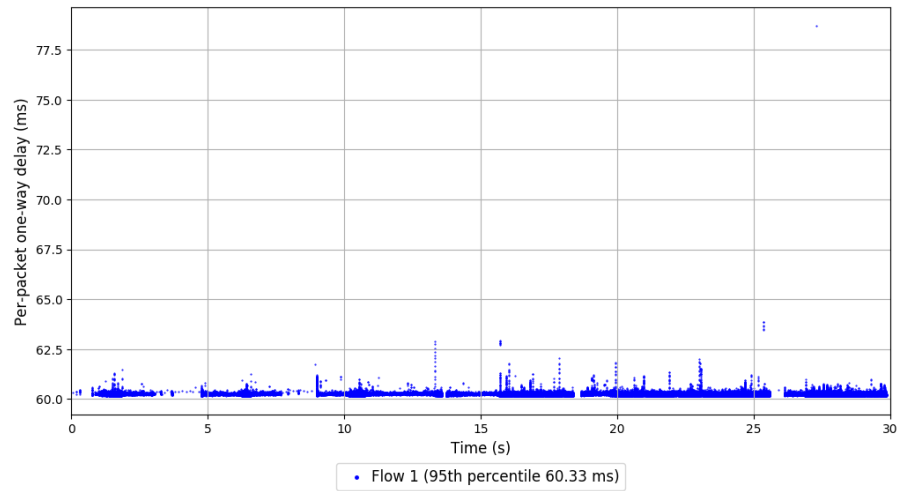
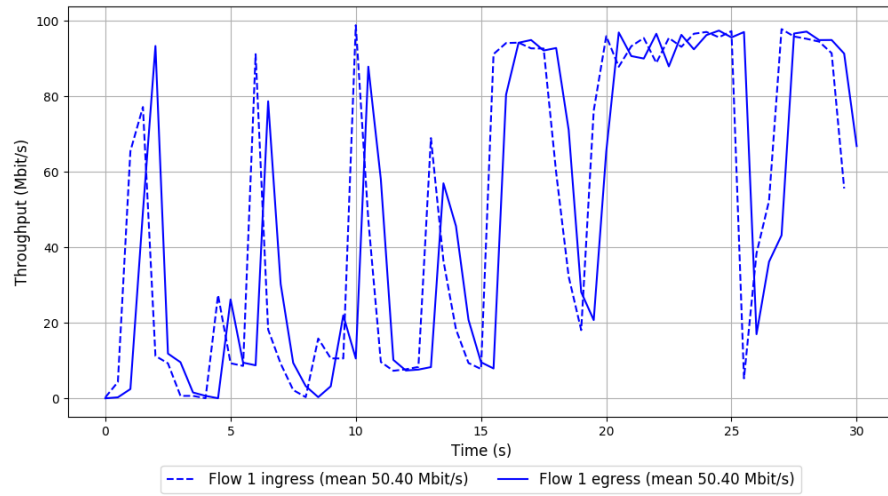
-- Flow 1:

Average throughput: 50.40 Mbit/s

95th percentile per-packet one-way delay: 60.330 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

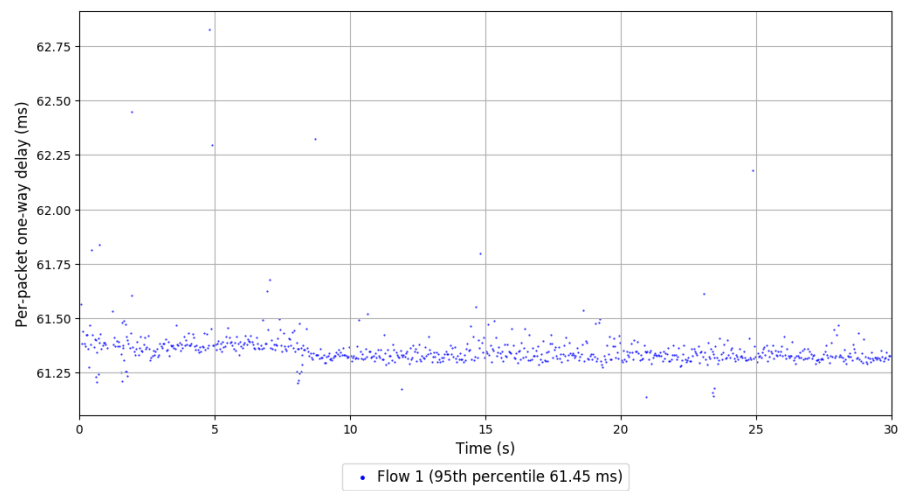
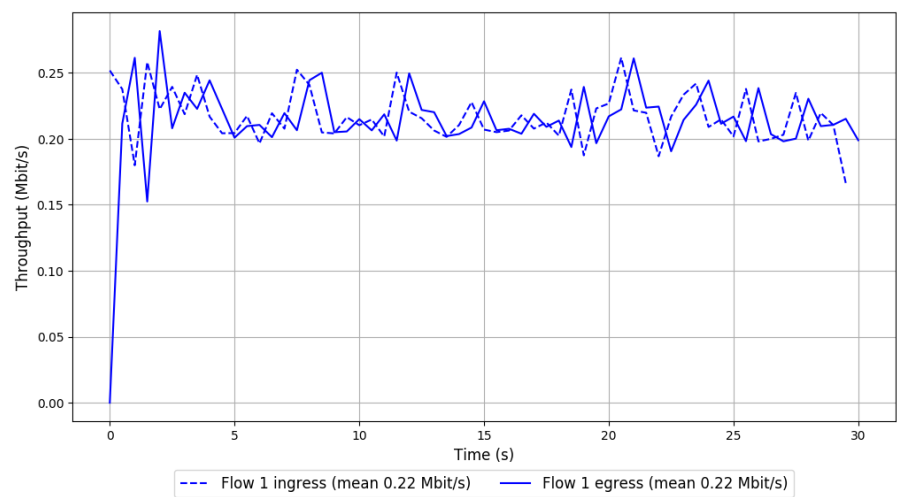


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 12:48:30
End at: 2018-09-06 12:49:00
Local clock offset: -0.056 ms
Remote clock offset: 0.098 ms

# Below is generated by plot.py at 2018-09-06 16:12:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.450 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-09-06 13:14:41

End at: 2018-09-06 13:15:11

Local clock offset: -0.181 ms

Remote clock offset: 0.591 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 67.519 ms

Loss rate: 0.13%

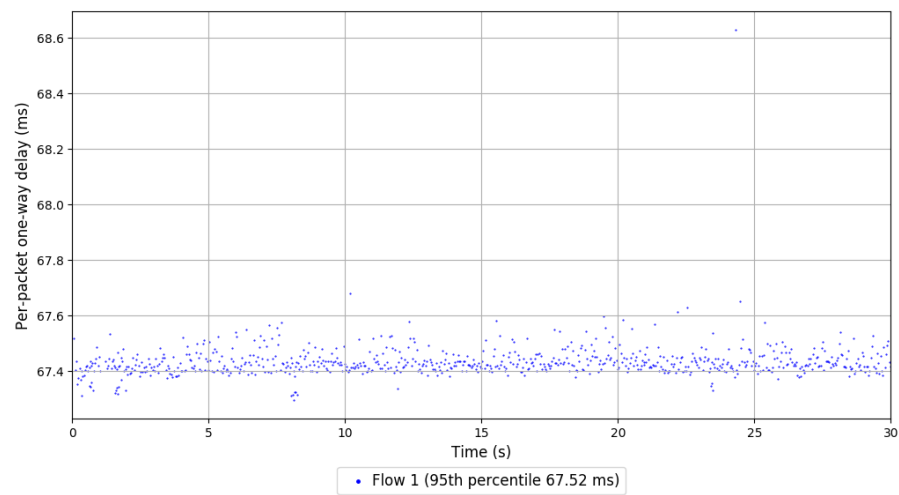
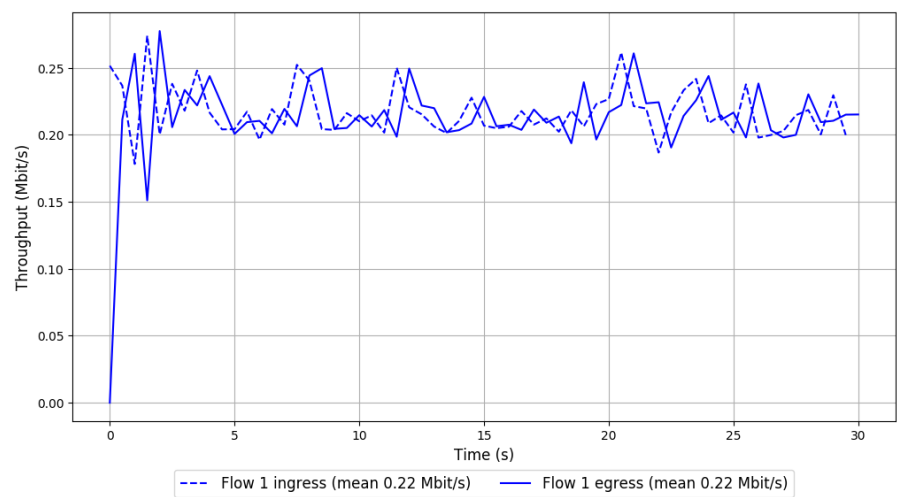
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 67.519 ms

Loss rate: 0.13%

Run 2: Report of SReAM — Data Link

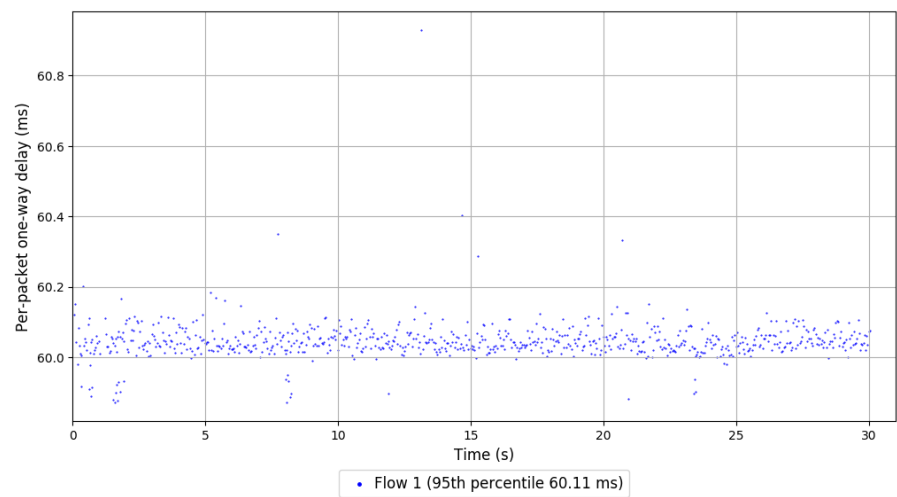
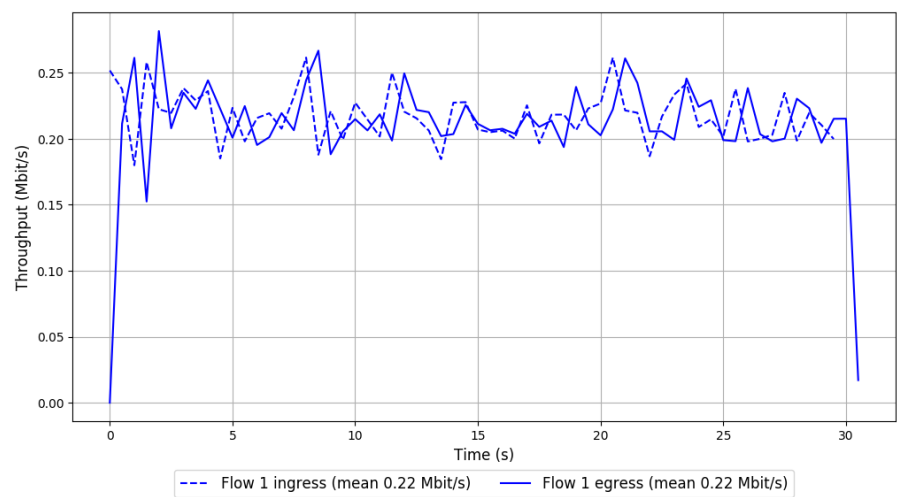


Run 3: Statistics of SCReAM

Start at: 2018-09-06 13:40:52
End at: 2018-09-06 13:41:22
Local clock offset: -0.069 ms
Remote clock offset: -1.219 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.109 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.109 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

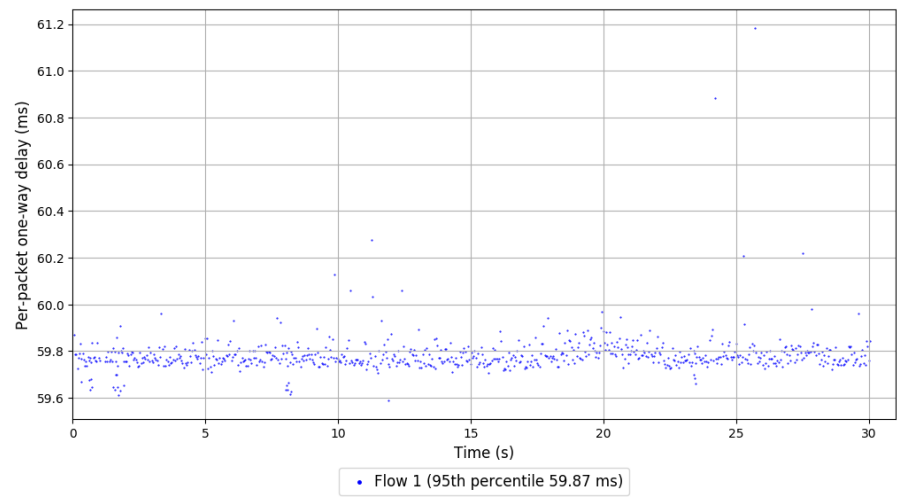
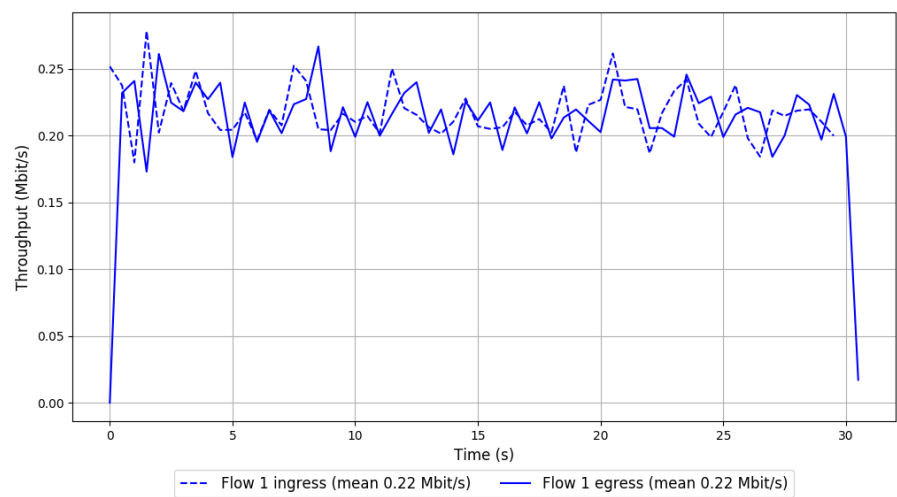


Run 4: Statistics of SCReAM

Start at: 2018-09-06 14:07:11
End at: 2018-09-06 14:07:41
Local clock offset: -0.016 ms
Remote clock offset: -1.417 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.869 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.869 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

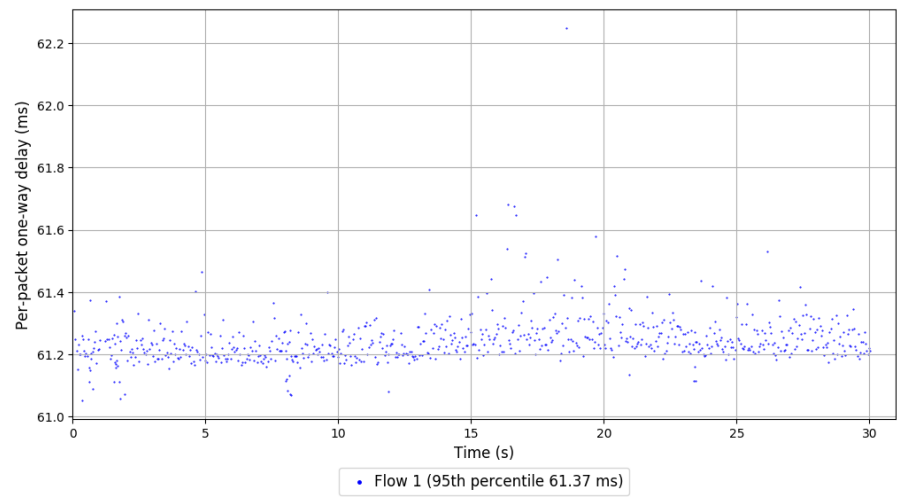
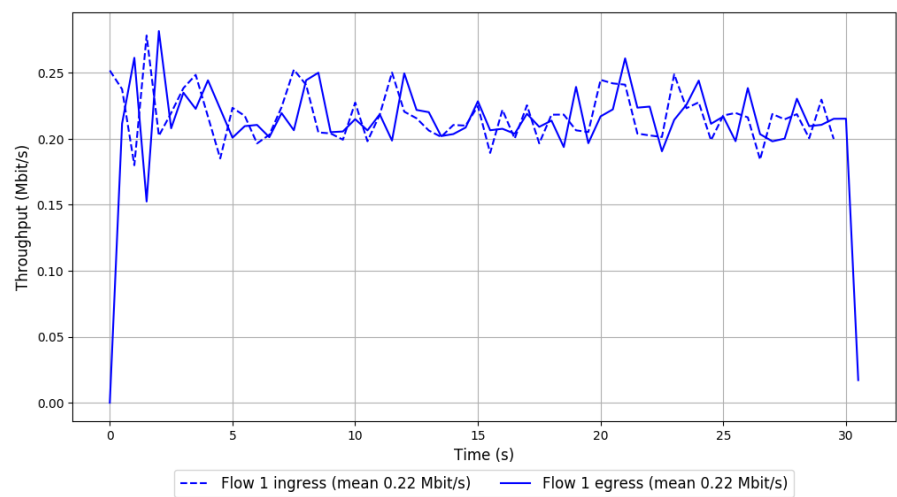


Run 5: Statistics of SCReAM

Start at: 2018-09-06 14:33:11
End at: 2018-09-06 14:33:41
Local clock offset: -0.114 ms
Remote clock offset: -0.197 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.374 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.374 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

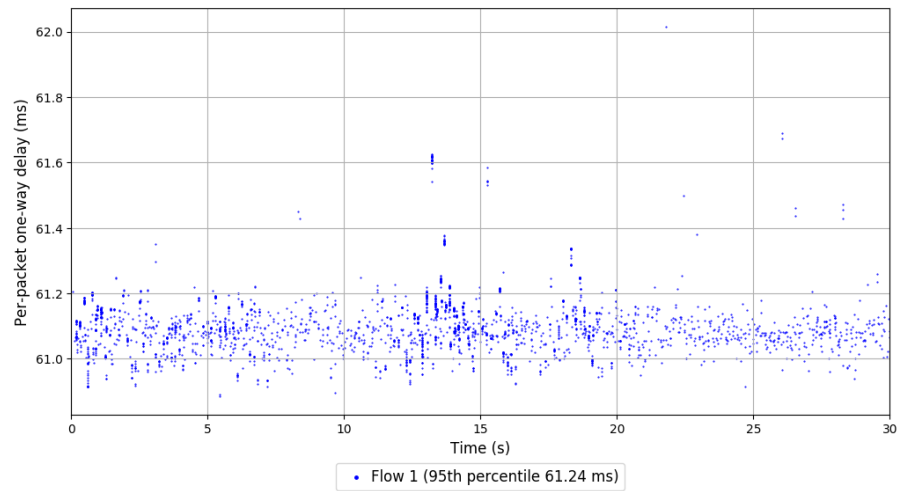
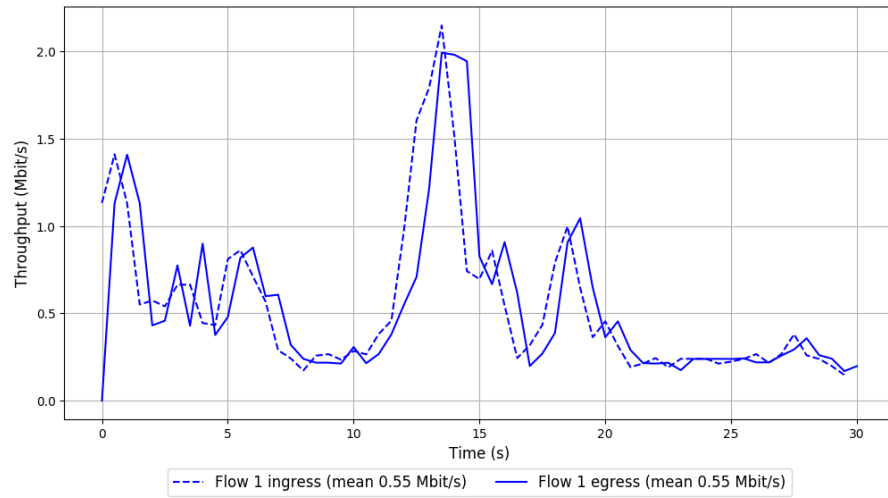


Run 1: Statistics of Sprout

Start at: 2018-09-06 12:47:23
End at: 2018-09-06 12:47:53
Local clock offset: -0.021 ms
Remote clock offset: -0.111 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 61.237 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 61.237 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-06 13:13:33

End at: 2018-09-06 13:14:03

Local clock offset: -0.129 ms

Remote clock offset: 0.577 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.33 Mbit/s

95th percentile per-packet one-way delay: 62.046 ms

Loss rate: 0.00%

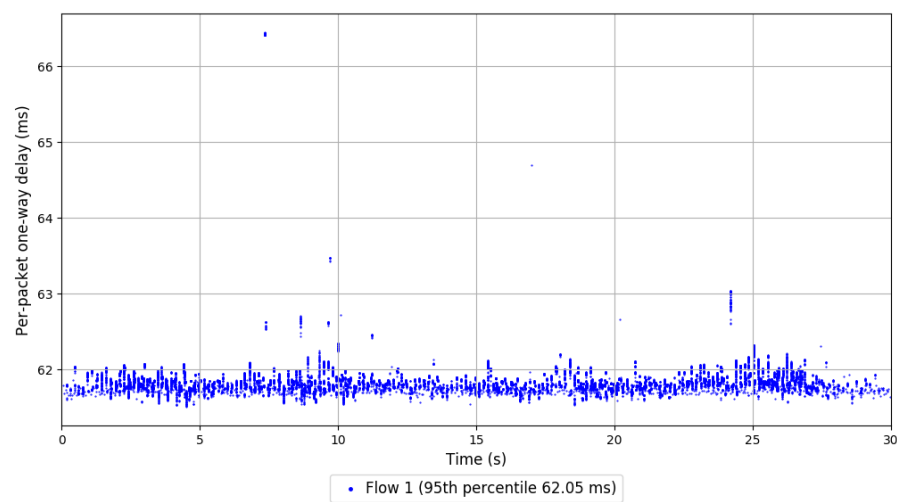
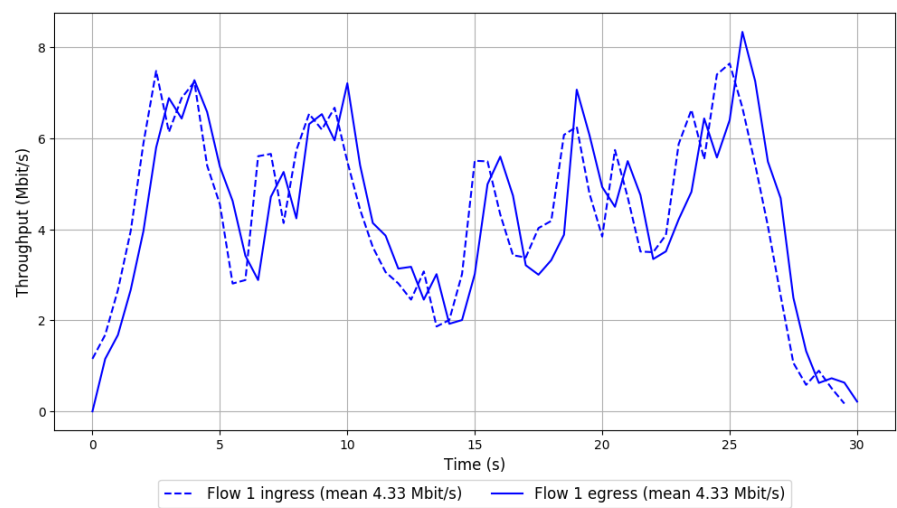
-- Flow 1:

Average throughput: 4.33 Mbit/s

95th percentile per-packet one-way delay: 62.046 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

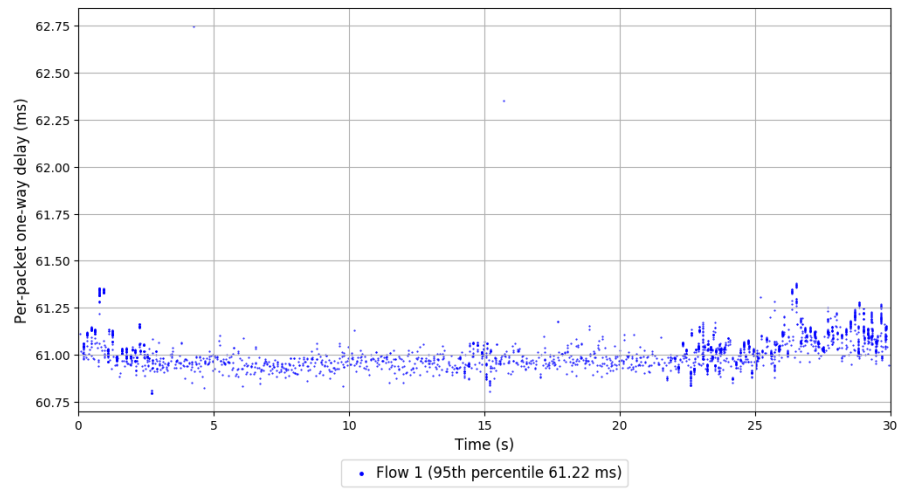
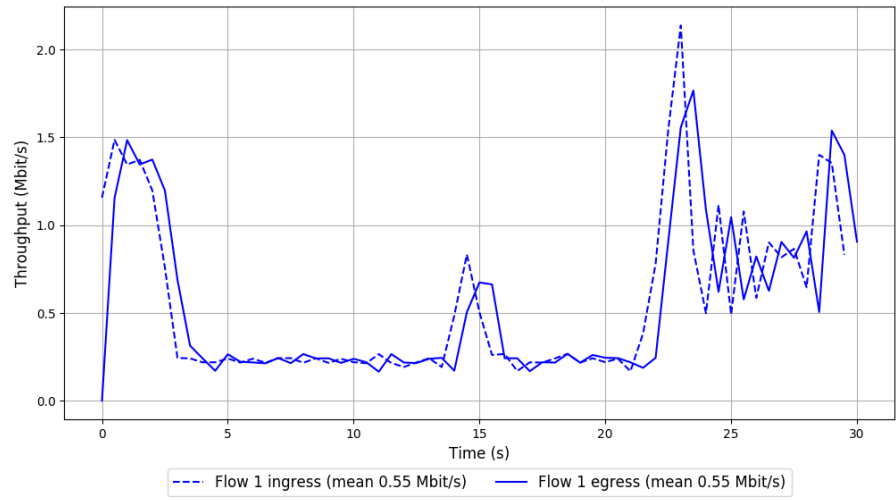


Run 3: Statistics of Sprout

Start at: 2018-09-06 13:39:45
End at: 2018-09-06 13:40:15
Local clock offset: -0.065 ms
Remote clock offset: -0.085 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 61.222 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 61.222 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

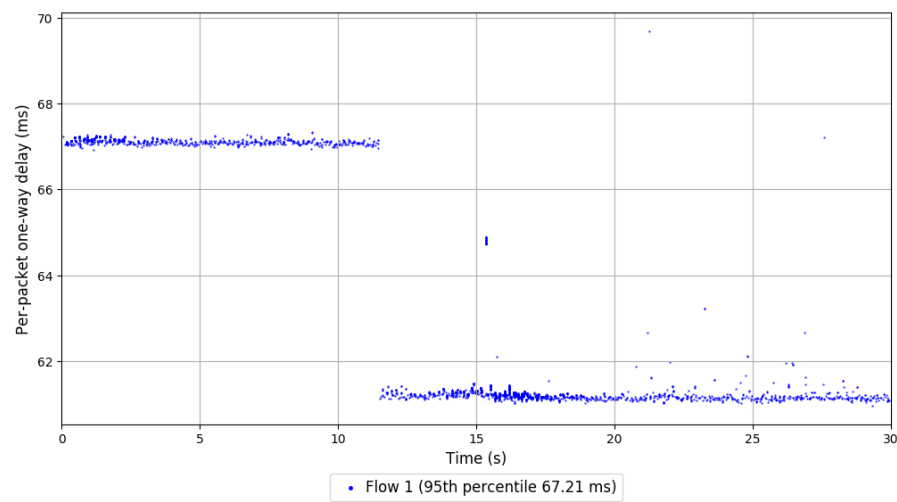
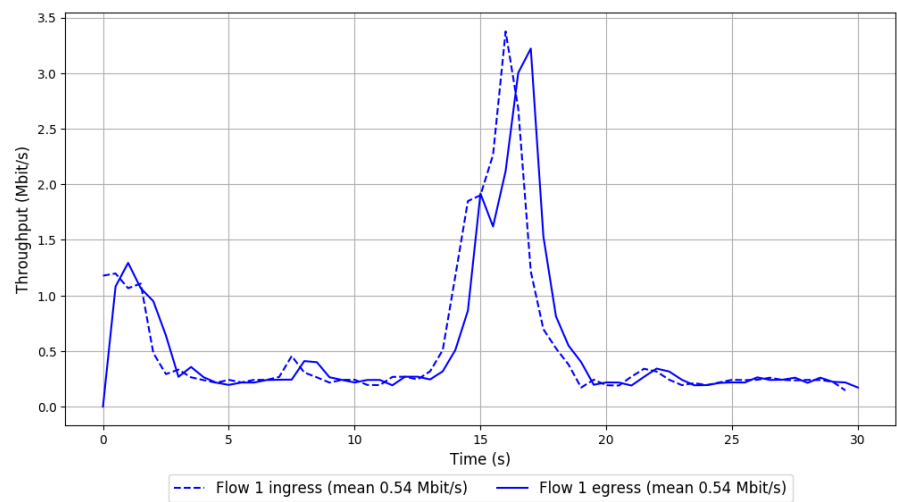


Run 4: Statistics of Sprout

Start at: 2018-09-06 14:06:04
End at: 2018-09-06 14:06:34
Local clock offset: -0.002 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-09-06 16:12:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 67.208 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 67.208 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-06 14:32:04

End at: 2018-09-06 14:32:34

Local clock offset: -0.101 ms

Remote clock offset: -1.37 ms

Below is generated by plot.py at 2018-09-06 16:12:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 60.680 ms

Loss rate: 0.00%

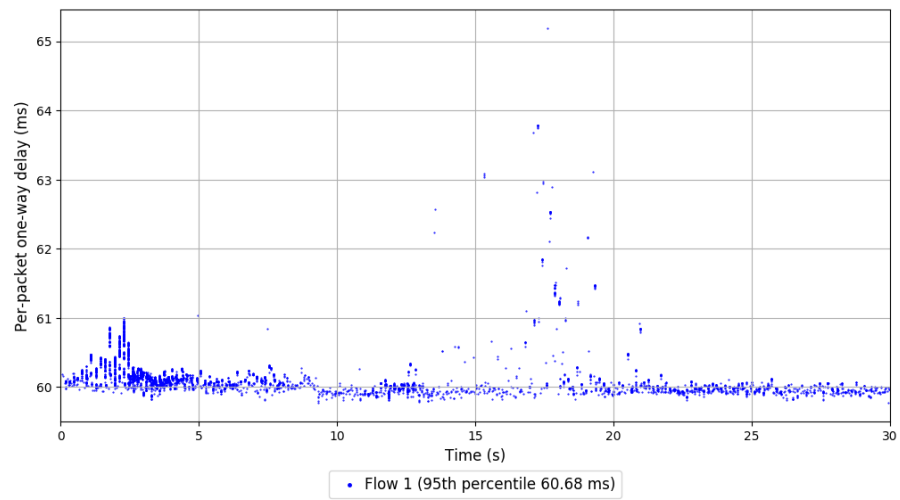
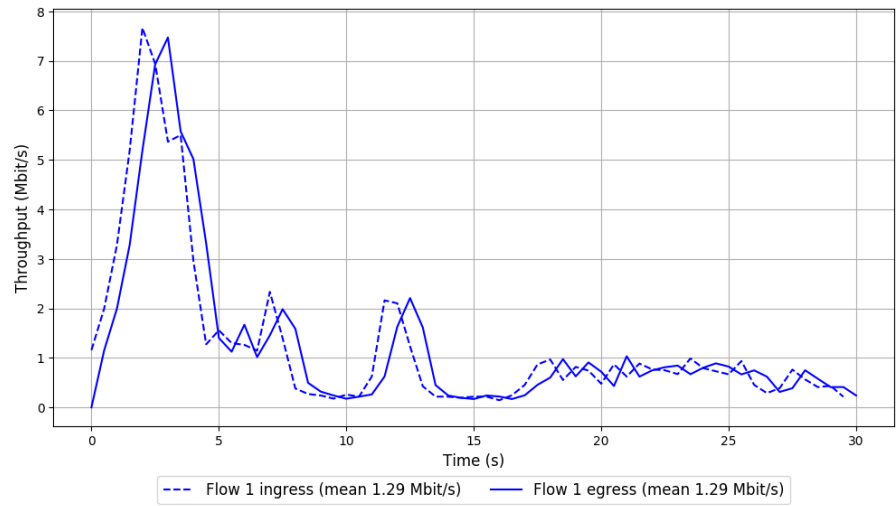
-- Flow 1:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 60.680 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

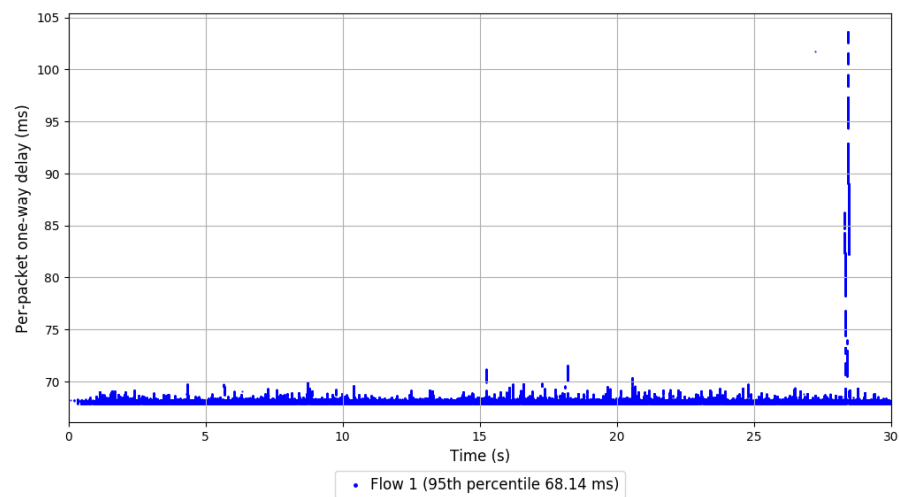
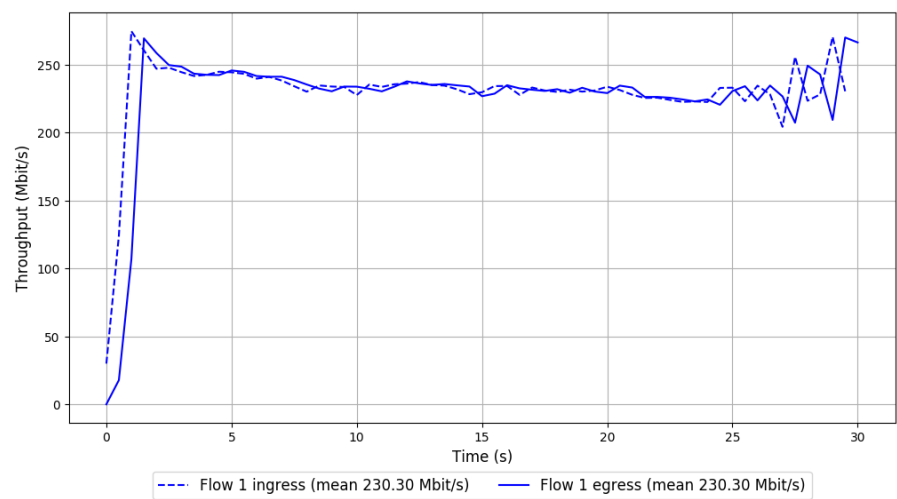


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 12:41:53
End at: 2018-09-06 12:42:23
Local clock offset: -0.047 ms
Remote clock offset: 1.132 ms

# Below is generated by plot.py at 2018-09-06 16:12:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 230.30 Mbit/s
95th percentile per-packet one-way delay: 68.142 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 230.30 Mbit/s
95th percentile per-packet one-way delay: 68.142 ms
Loss rate: 0.00%
```

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

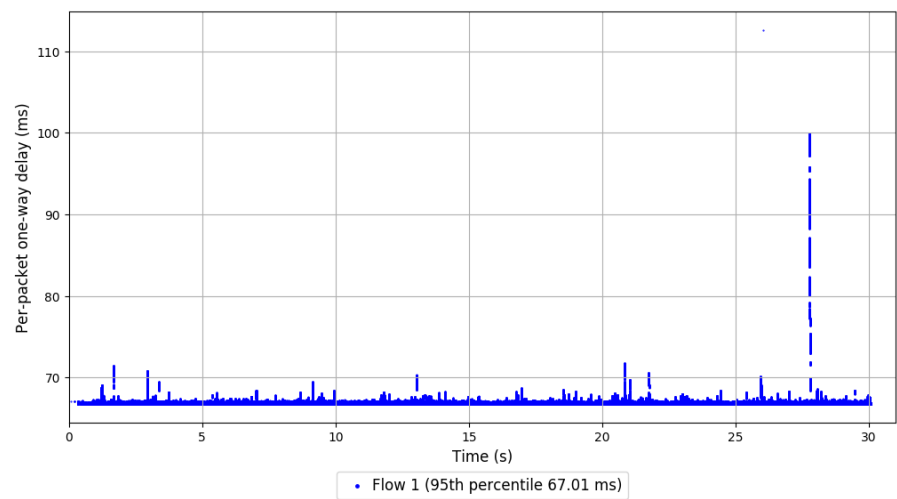
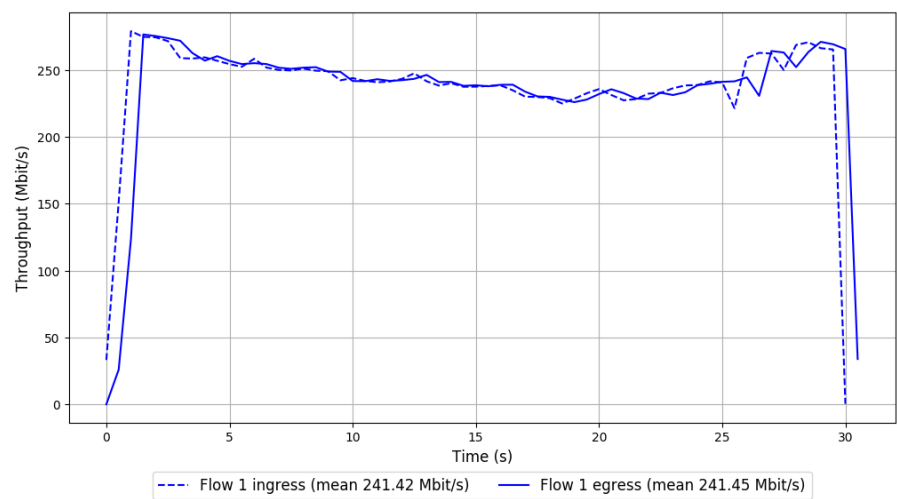


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 13:07:55
End at: 2018-09-06 13:08:25
Local clock offset: -0.132 ms
Remote clock offset: -0.031 ms

Below is generated by plot.py at 2018-09-06 16:12:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 241.45 Mbit/s
95th percentile per-packet one-way delay: 67.007 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 241.45 Mbit/s
95th percentile per-packet one-way delay: 67.007 ms
Loss rate: 0.01%

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

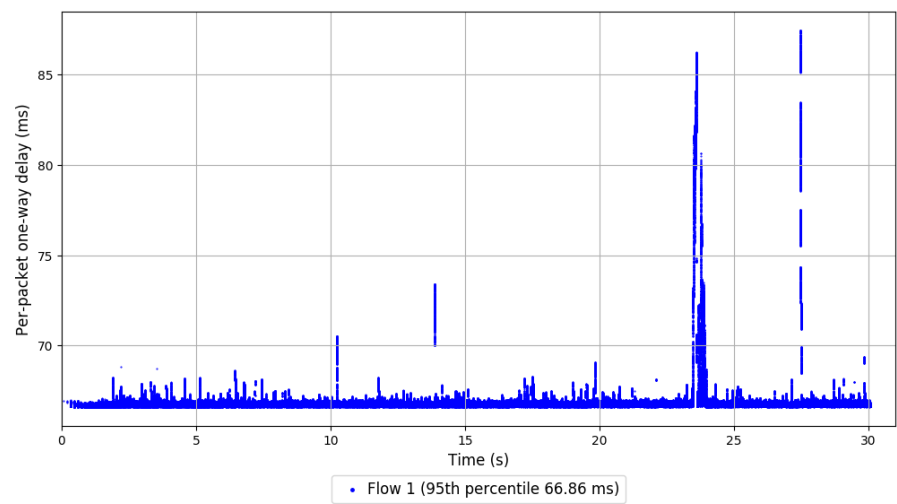
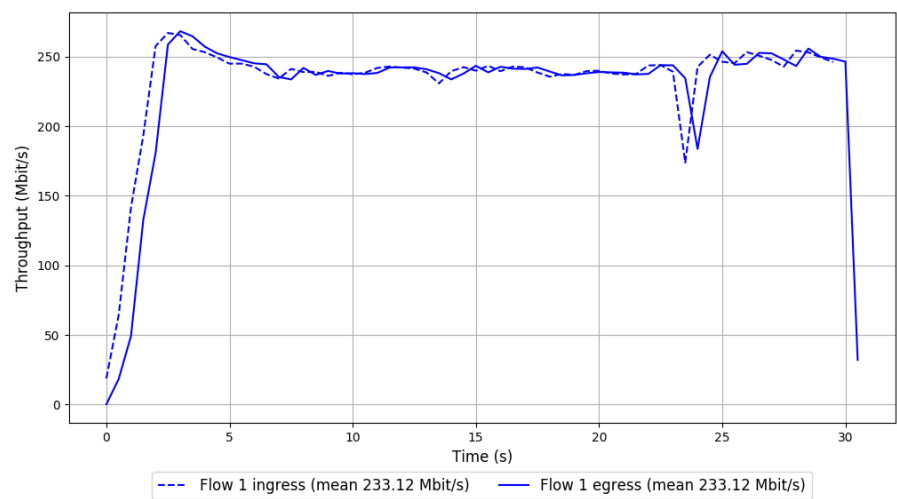


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 13:34:05
End at: 2018-09-06 13:34:35
Local clock offset: -0.109 ms
Remote clock offset: -0.114 ms

Below is generated by plot.py at 2018-09-06 16:13:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 233.12 Mbit/s
95th percentile per-packet one-way delay: 66.865 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 233.12 Mbit/s
95th percentile per-packet one-way delay: 66.865 ms
Loss rate: 0.02%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 14:00:21

End at: 2018-09-06 14:00:52

Local clock offset: 0.034 ms

Remote clock offset: 0.58 ms

Below is generated by plot.py at 2018-09-06 16:13:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 243.98 Mbit/s

95th percentile per-packet one-way delay: 61.871 ms

Loss rate: 0.00%

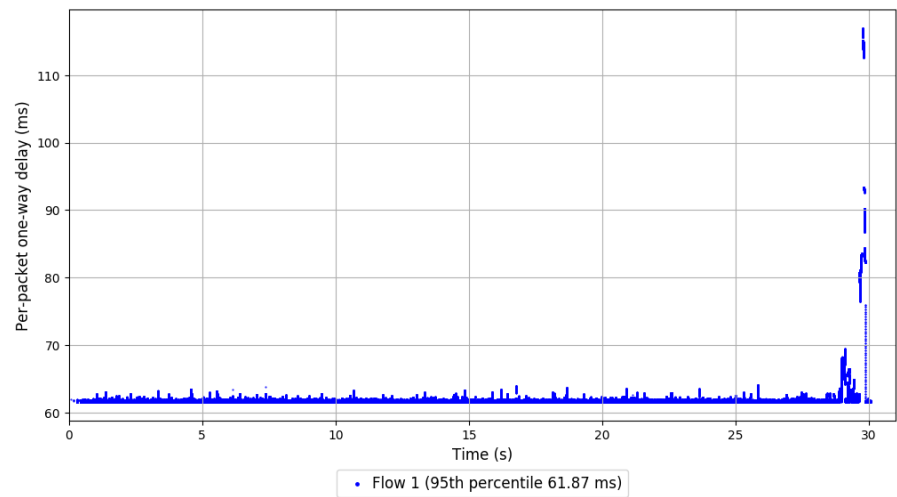
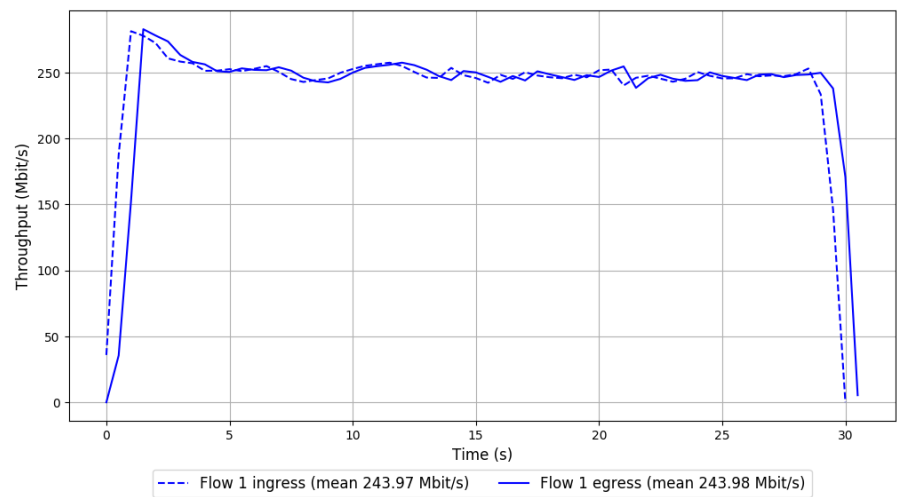
-- Flow 1:

Average throughput: 243.98 Mbit/s

95th percentile per-packet one-way delay: 61.871 ms

Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 14:26:27

End at: 2018-09-06 14:26:57

Local clock offset: -0.112 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2018-09-06 16:13:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 232.69 Mbit/s

95th percentile per-packet one-way delay: 61.901 ms

Loss rate: 0.00%

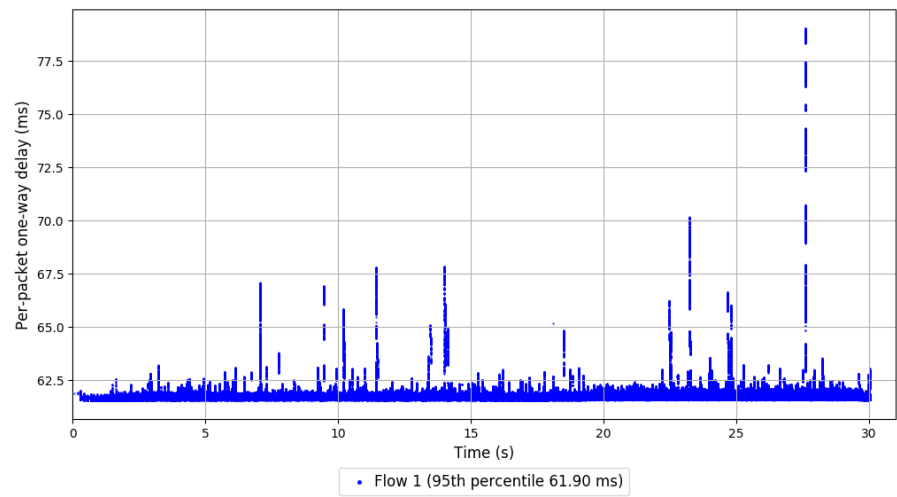
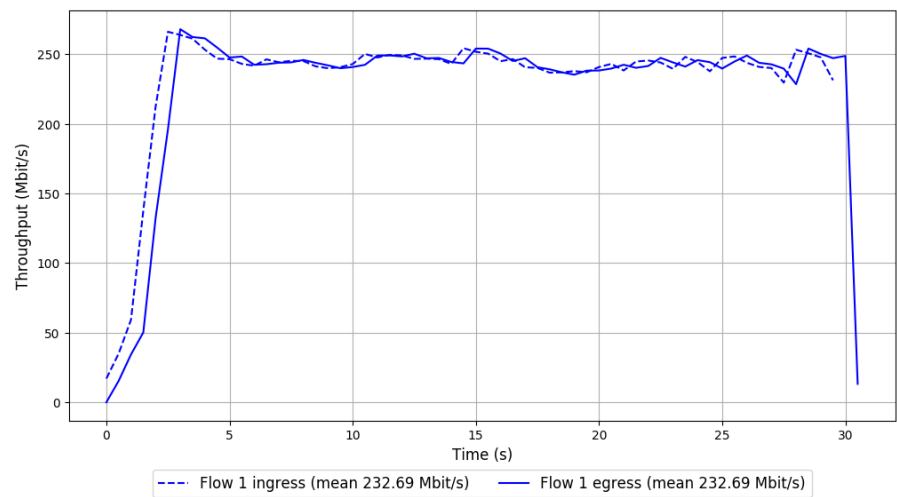
-- Flow 1:

Average throughput: 232.69 Mbit/s

95th percentile per-packet one-way delay: 61.901 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 12:59:54

End at: 2018-09-06 13:00:24

Local clock offset: -0.097 ms

Remote clock offset: 0.107 ms

Below is generated by plot.py at 2018-09-06 16:17:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 633.12 Mbit/s

95th percentile per-packet one-way delay: 127.850 ms

Loss rate: 0.01%

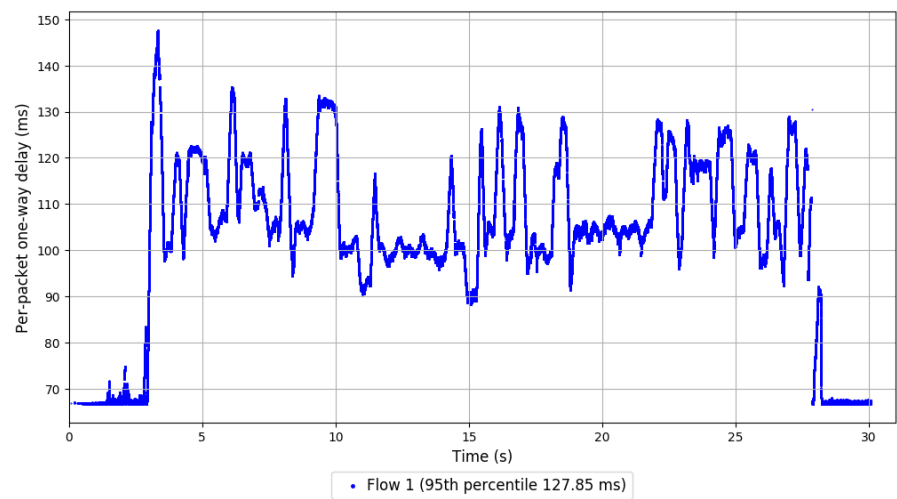
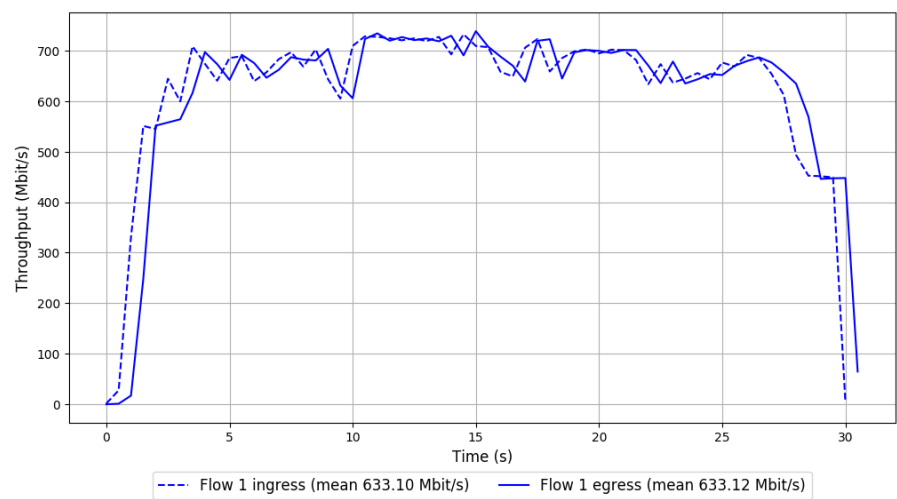
-- Flow 1:

Average throughput: 633.12 Mbit/s

95th percentile per-packet one-way delay: 127.850 ms

Loss rate: 0.01%

Run 1: Report of TCP Vegas — Data Link

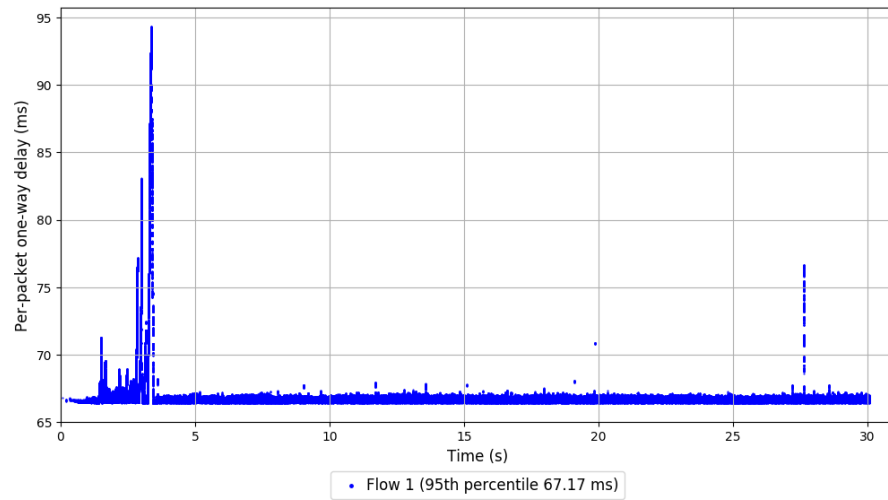
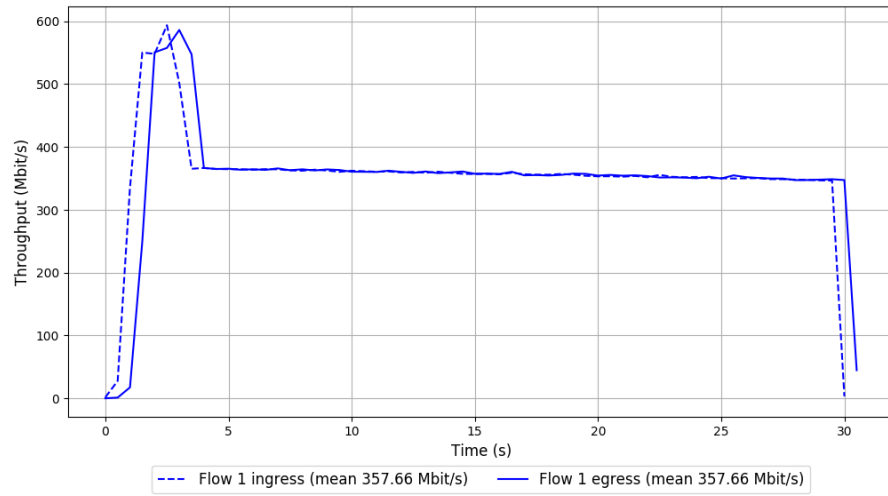


Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 13:26:17
End at: 2018-09-06 13:26:47
Local clock offset: -0.191 ms
Remote clock offset: -0.108 ms

Below is generated by plot.py at 2018-09-06 16:17:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 357.66 Mbit/s
95th percentile per-packet one-way delay: 67.172 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 357.66 Mbit/s
95th percentile per-packet one-way delay: 67.172 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

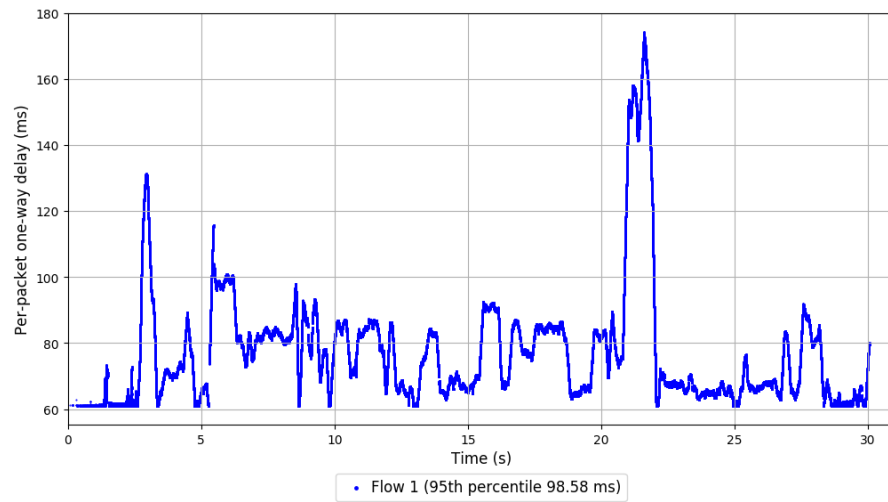
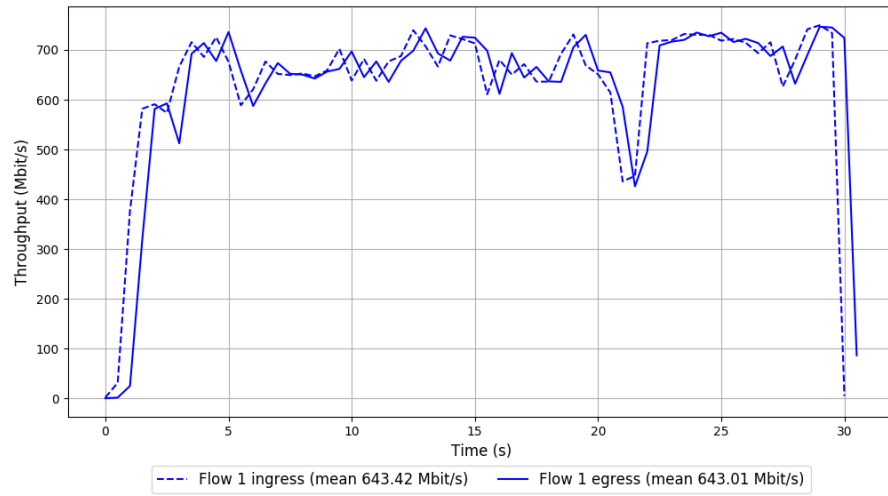


Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 13:52:28
End at: 2018-09-06 13:52:58
Local clock offset: -0.036 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-09-06 16:24:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 643.01 Mbit/s
95th percentile per-packet one-way delay: 98.579 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 643.01 Mbit/s
95th percentile per-packet one-way delay: 98.579 ms
Loss rate: 0.06%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 14:18:40

End at: 2018-09-06 14:19:10

Local clock offset: -0.084 ms

Remote clock offset: -0.28 ms

Below is generated by plot.py at 2018-09-06 16:24:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 336.80 Mbit/s

95th percentile per-packet one-way delay: 62.173 ms

Loss rate: 0.00%

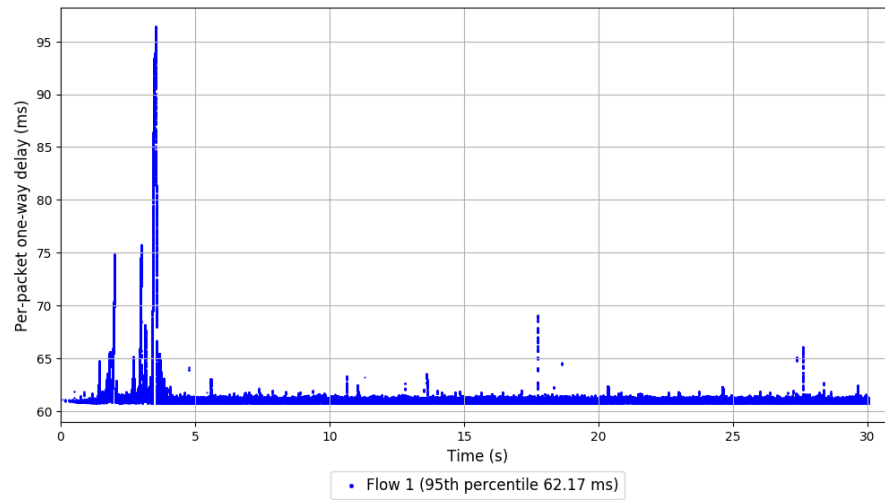
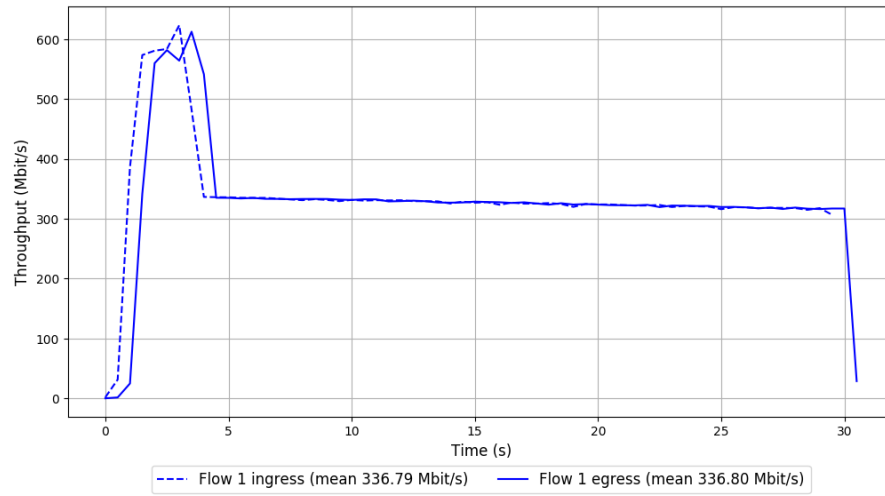
-- Flow 1:

Average throughput: 336.80 Mbit/s

95th percentile per-packet one-way delay: 62.173 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 14:44:39

End at: 2018-09-06 14:45:09

Local clock offset: -0.11 ms

Remote clock offset: 0.749 ms

Below is generated by plot.py at 2018-09-06 16:24:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 441.84 Mbit/s

95th percentile per-packet one-way delay: 73.560 ms

Loss rate: 0.02%

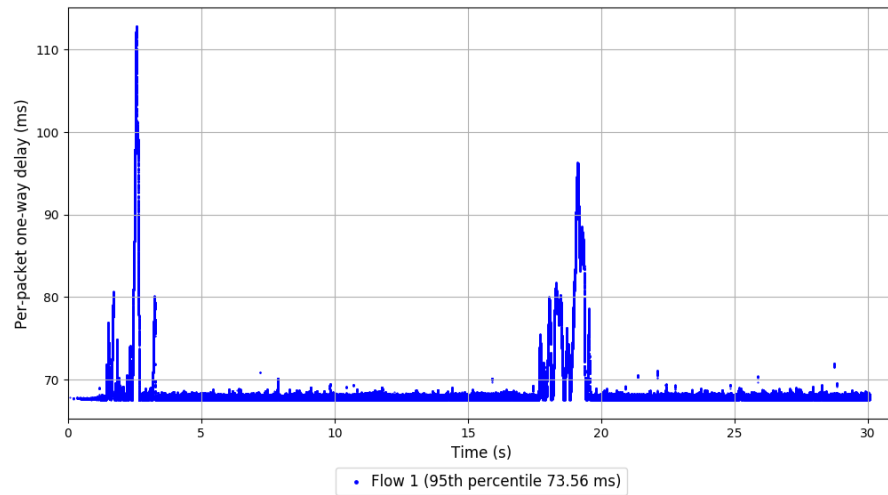
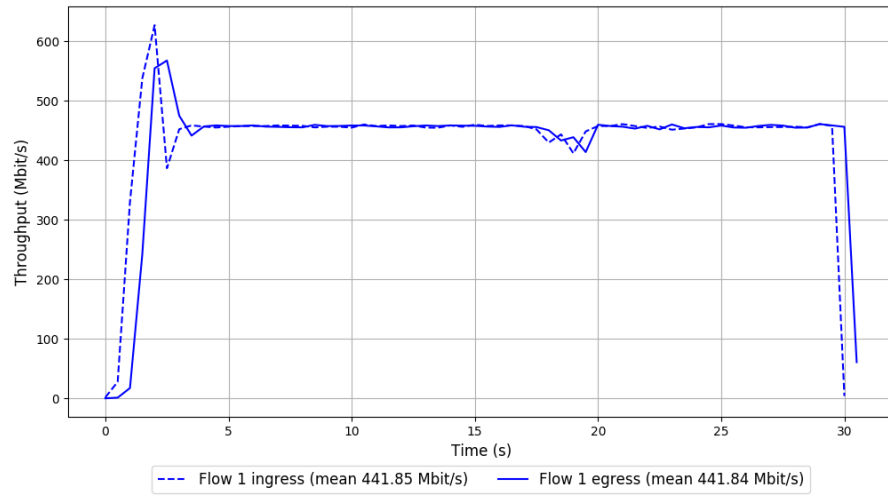
-- Flow 1:

Average throughput: 441.84 Mbit/s

95th percentile per-packet one-way delay: 73.560 ms

Loss rate: 0.02%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-06 12:43:21

End at: 2018-09-06 12:43:51

Local clock offset: -0.072 ms

Remote clock offset: 1.047 ms

Below is generated by plot.py at 2018-09-06 16:24:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 157.45 Mbit/s

95th percentile per-packet one-way delay: 97.210 ms

Loss rate: 0.00%

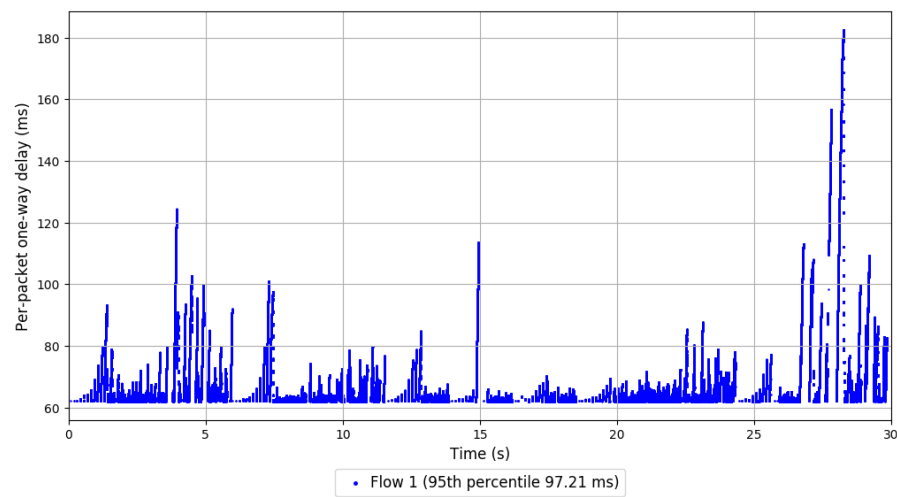
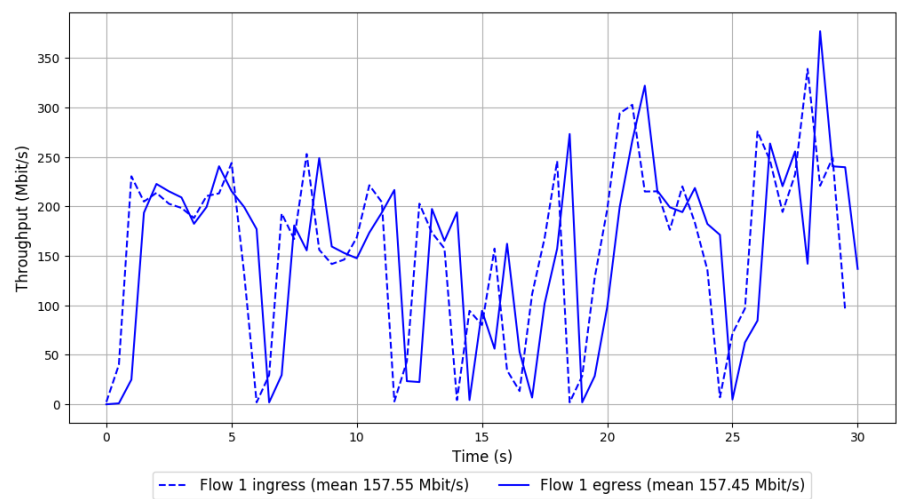
-- Flow 1:

Average throughput: 157.45 Mbit/s

95th percentile per-packet one-way delay: 97.210 ms

Loss rate: 0.00%

Run 1: Report of Verus — Data Link

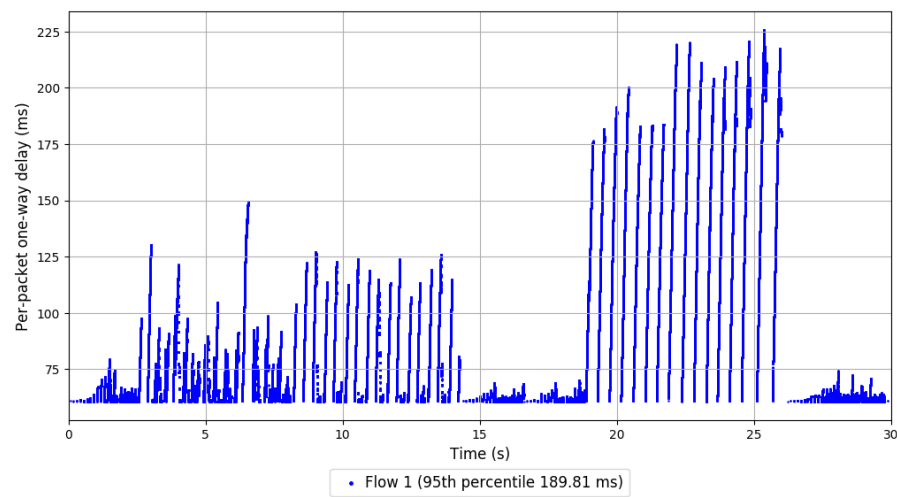
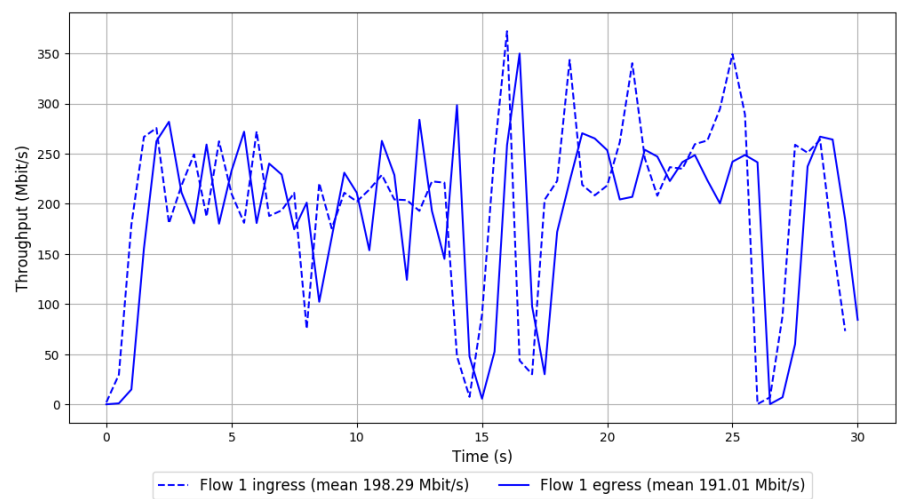


Run 2: Statistics of Verus

Start at: 2018-09-06 13:09:24
End at: 2018-09-06 13:09:54
Local clock offset: -0.108 ms
Remote clock offset: -0.138 ms

Below is generated by plot.py at 2018-09-06 16:24:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 191.01 Mbit/s
95th percentile per-packet one-way delay: 189.813 ms
Loss rate: 3.67%
-- Flow 1:
Average throughput: 191.01 Mbit/s
95th percentile per-packet one-way delay: 189.813 ms
Loss rate: 3.67%

Run 2: Report of Verus — Data Link

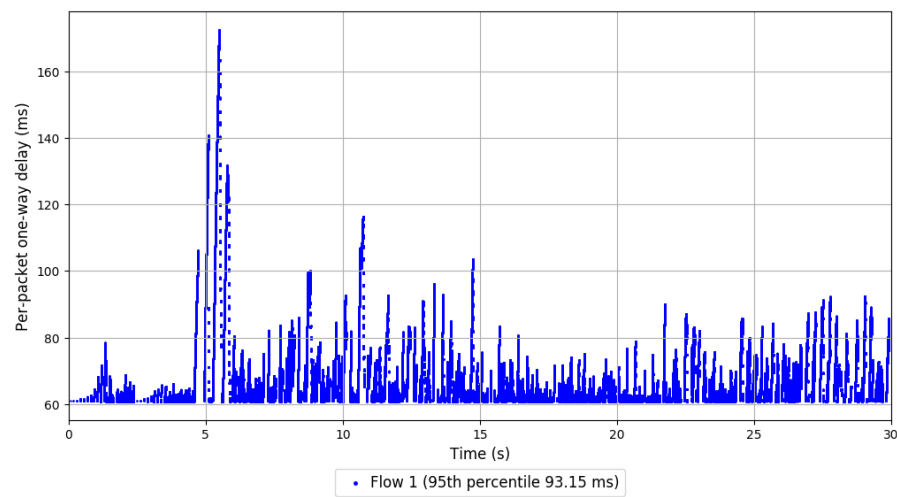
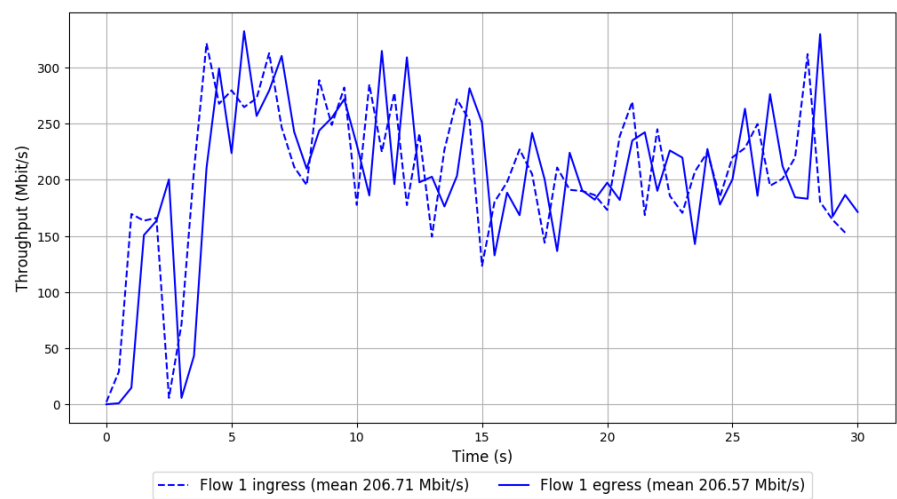


Run 3: Statistics of Verus

Start at: 2018-09-06 13:35:32
End at: 2018-09-06 13:36:02
Local clock offset: -0.103 ms
Remote clock offset: -0.156 ms

Below is generated by plot.py at 2018-09-06 16:24:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 206.57 Mbit/s
95th percentile per-packet one-way delay: 93.146 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 206.57 Mbit/s
95th percentile per-packet one-way delay: 93.146 ms
Loss rate: 0.06%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-06 14:01:50

End at: 2018-09-06 14:02:20

Local clock offset: 0.055 ms

Remote clock offset: 0.387 ms

Below is generated by plot.py at 2018-09-06 16:24:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 200.23 Mbit/s

95th percentile per-packet one-way delay: 129.874 ms

Loss rate: 0.13%

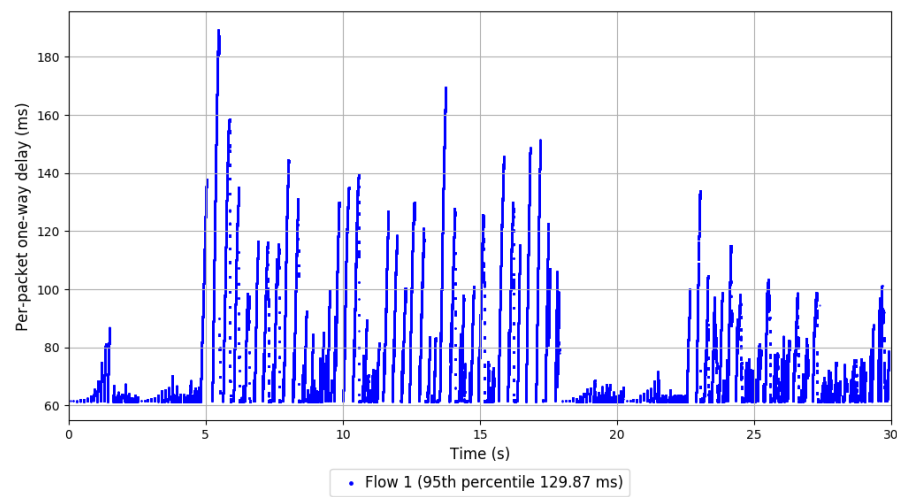
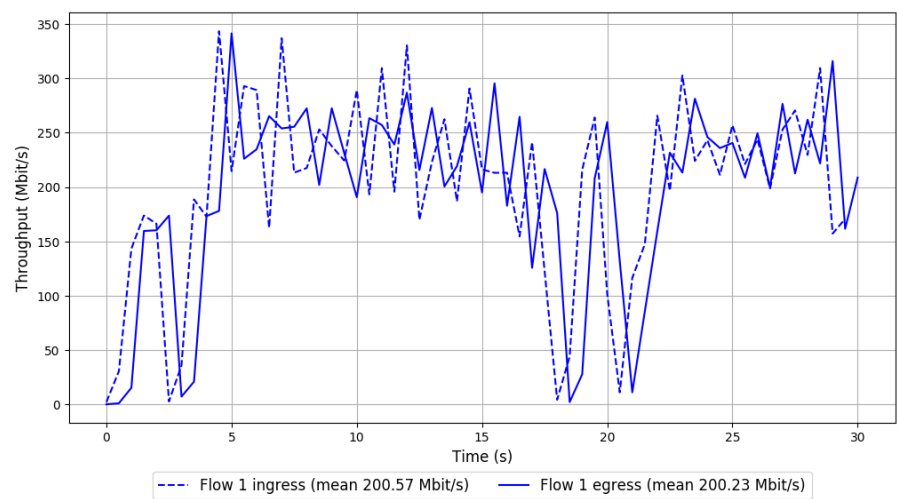
-- Flow 1:

Average throughput: 200.23 Mbit/s

95th percentile per-packet one-way delay: 129.874 ms

Loss rate: 0.13%

Run 4: Report of Verus — Data Link

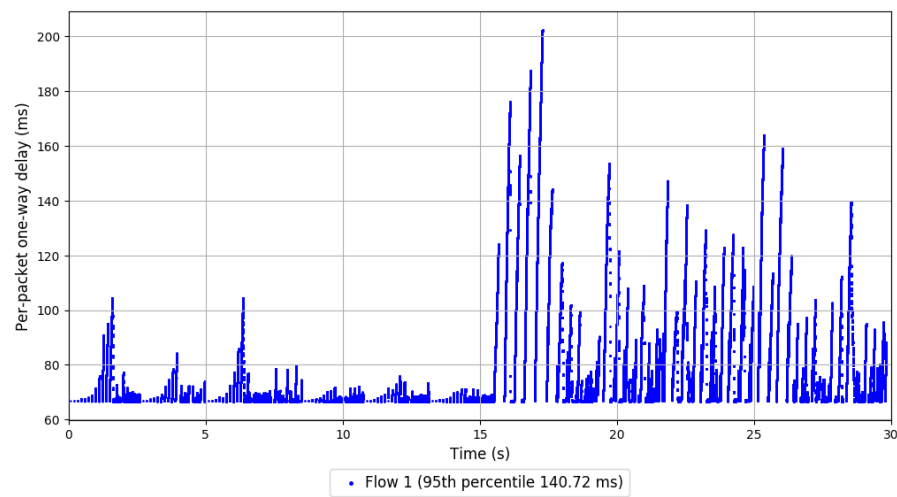
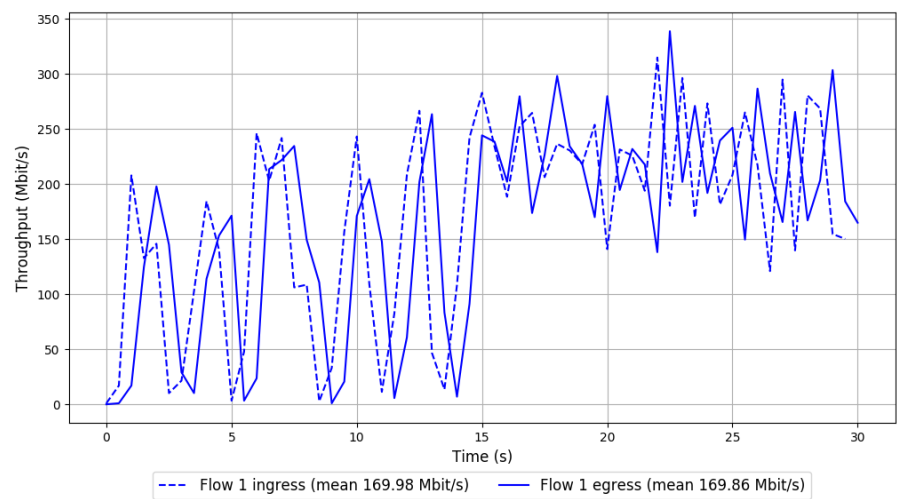


Run 5: Statistics of Verus

Start at: 2018-09-06 14:27:54
End at: 2018-09-06 14:28:24
Local clock offset: -0.146 ms
Remote clock offset: -0.343 ms

Below is generated by plot.py at 2018-09-06 16:24:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 169.86 Mbit/s
95th percentile per-packet one-way delay: 140.719 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 169.86 Mbit/s
95th percentile per-packet one-way delay: 140.719 ms
Loss rate: 0.00%

Run 5: Report of Verus — Data Link

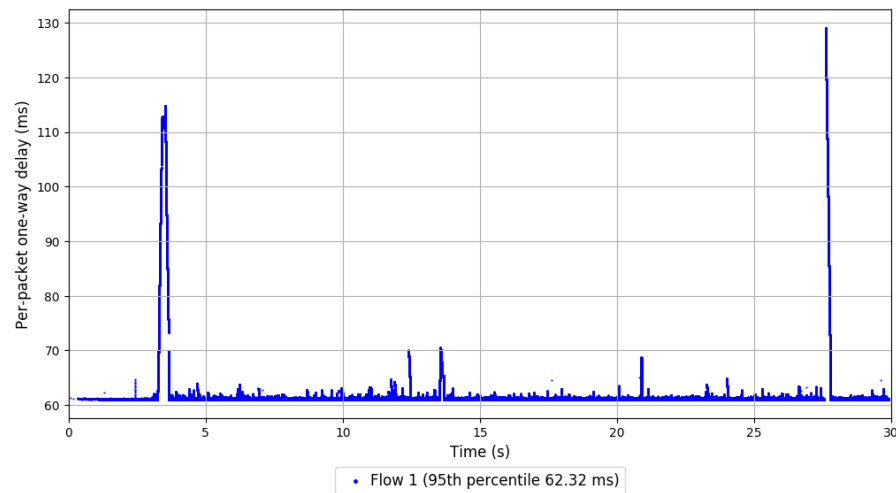
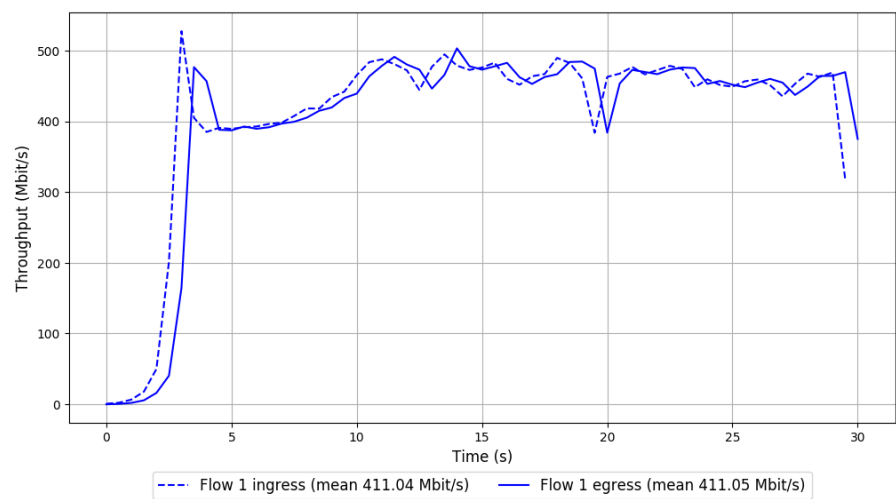


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 12:37:25
End at: 2018-09-06 12:37:55
Local clock offset: -0.095 ms
Remote clock offset: -0.112 ms

Below is generated by plot.py at 2018-09-06 16:25:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 411.05 Mbit/s
95th percentile per-packet one-way delay: 62.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 411.05 Mbit/s
95th percentile per-packet one-way delay: 62.323 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link

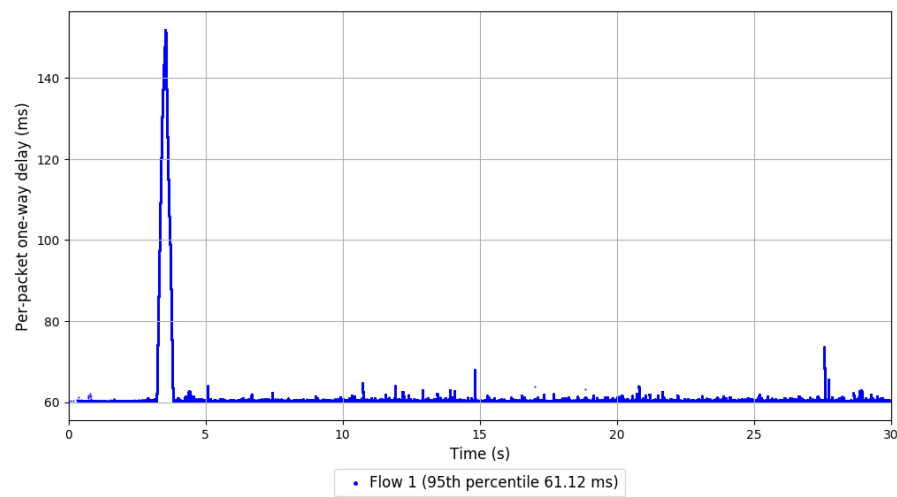
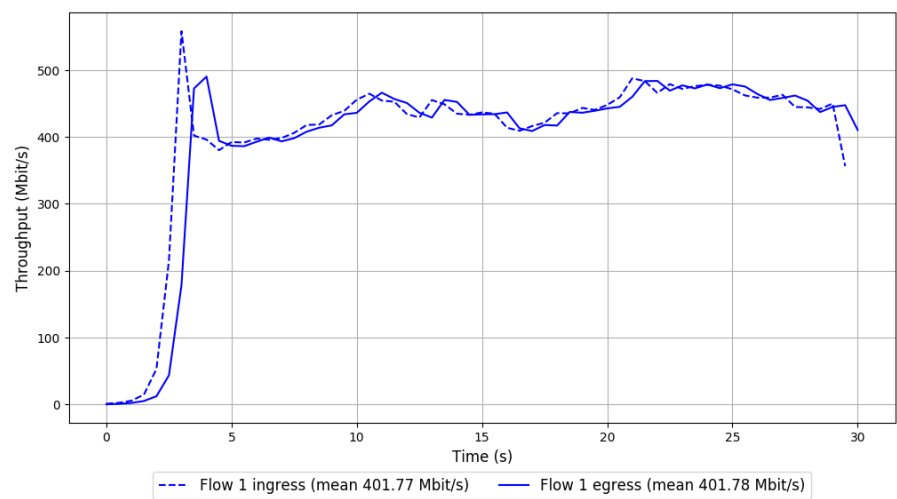


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 13:03:13
End at: 2018-09-06 13:03:43
Local clock offset: -0.136 ms
Remote clock offset: -0.779 ms

Below is generated by plot.py at 2018-09-06 16:25:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 401.78 Mbit/s
95th percentile per-packet one-way delay: 61.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 401.78 Mbit/s
95th percentile per-packet one-way delay: 61.118 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

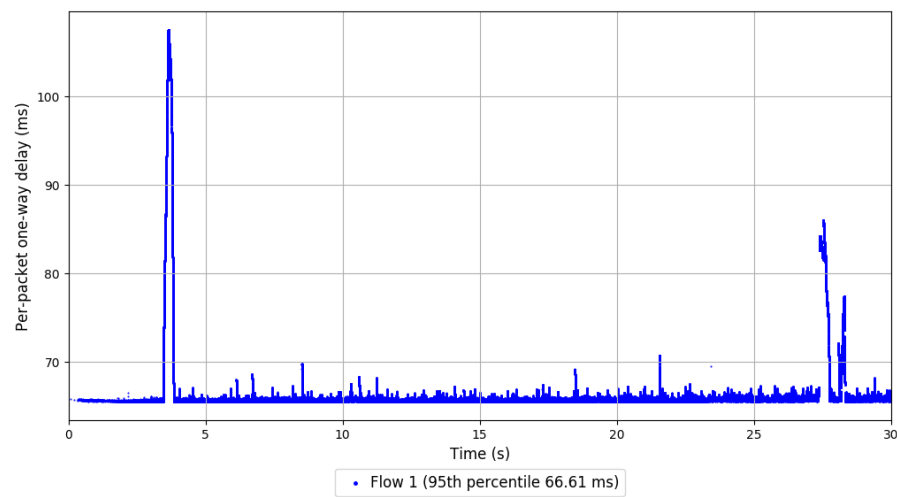
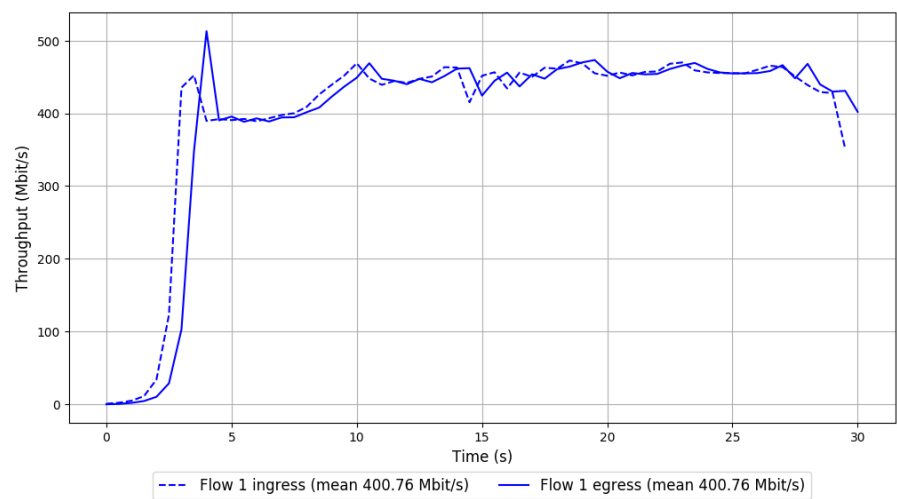


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 13:29:25
End at: 2018-09-06 13:29:55
Local clock offset: -0.17 ms
Remote clock offset: -1.228 ms

Below is generated by plot.py at 2018-09-06 16:25:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 400.76 Mbit/s
95th percentile per-packet one-way delay: 66.605 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 400.76 Mbit/s
95th percentile per-packet one-way delay: 66.605 ms
Loss rate: 0.02%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 13:55:46

End at: 2018-09-06 13:56:16

Local clock offset: 0.021 ms

Remote clock offset: 1.06 ms

Below is generated by plot.py at 2018-09-06 16:25:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 362.58 Mbit/s

95th percentile per-packet one-way delay: 68.707 ms

Loss rate: 0.01%

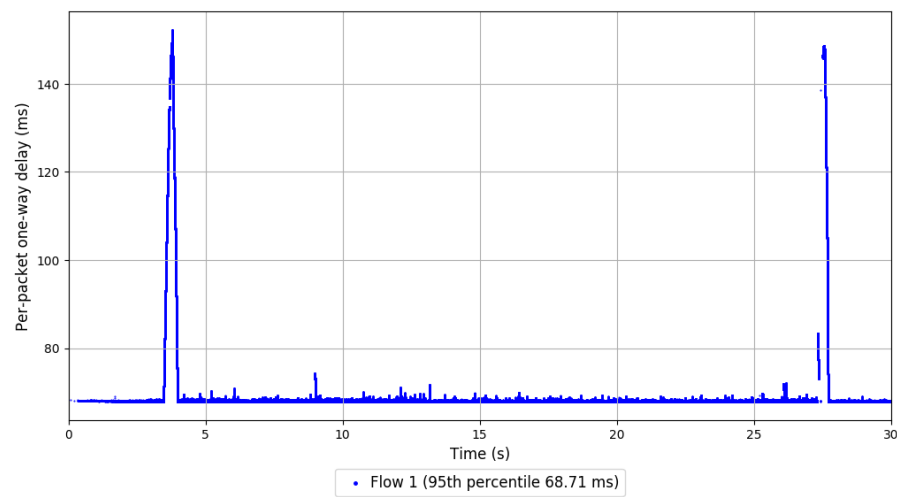
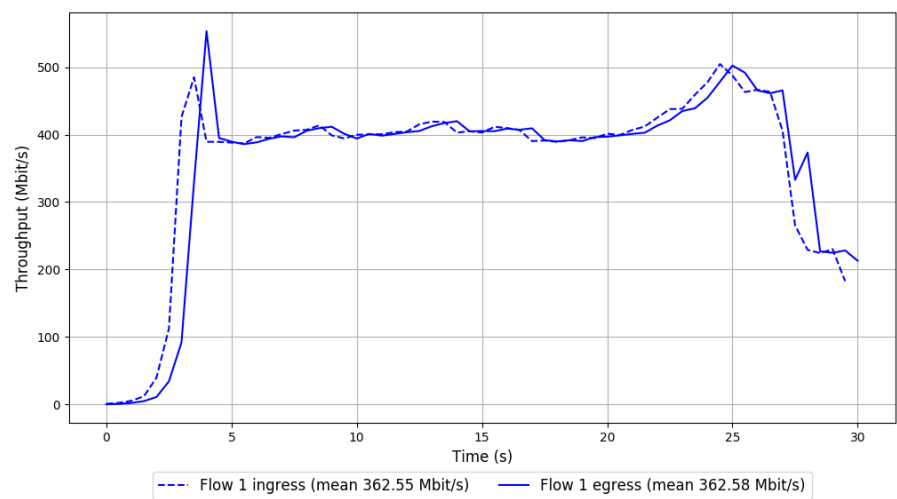
-- Flow 1:

Average throughput: 362.58 Mbit/s

95th percentile per-packet one-way delay: 68.707 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 14:21:43

End at: 2018-09-06 14:22:13

Local clock offset: -0.09 ms

Remote clock offset: -1.379 ms

Below is generated by plot.py at 2018-09-06 16:25:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 442.70 Mbit/s

95th percentile per-packet one-way delay: 62.227 ms

Loss rate: 0.00%

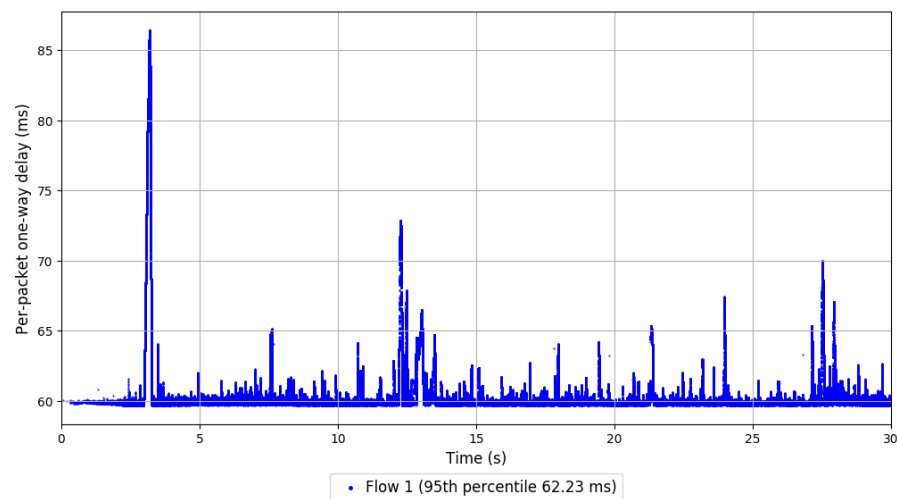
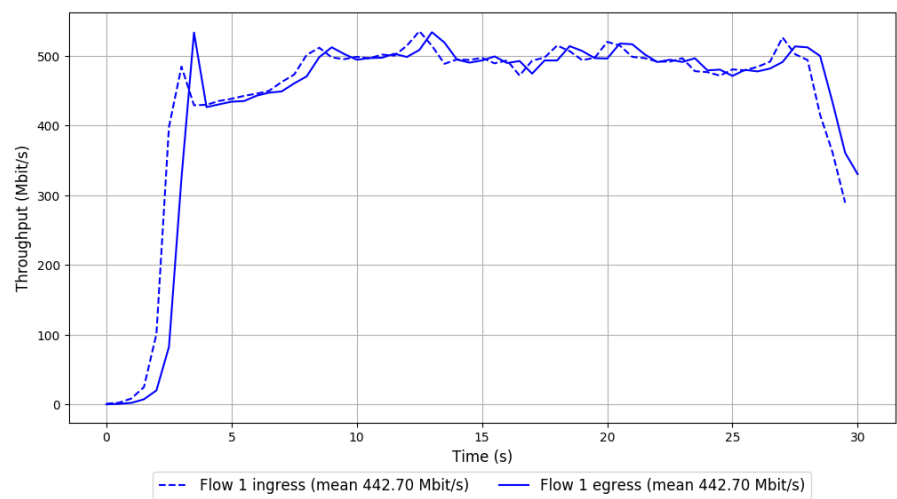
-- Flow 1:

Average throughput: 442.70 Mbit/s

95th percentile per-packet one-way delay: 62.227 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-06 12:51:08

End at: 2018-09-06 12:51:38

Local clock offset: -0.037 ms

Remote clock offset: 1.13 ms

Below is generated by plot.py at 2018-09-06 16:25:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.57 Mbit/s

95th percentile per-packet one-way delay: 62.344 ms

Loss rate: 0.00%

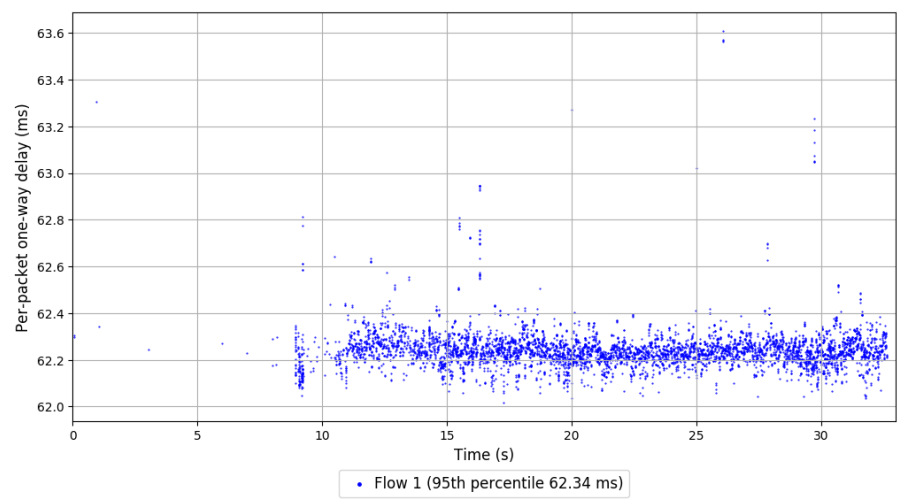
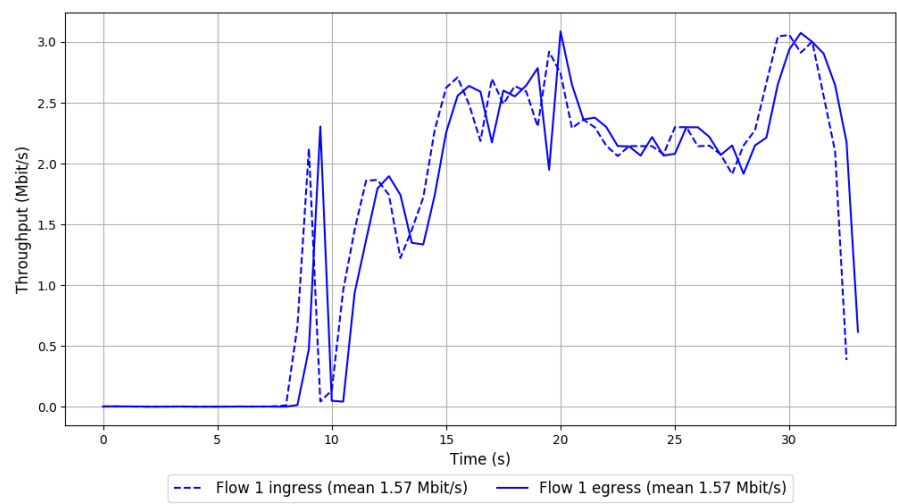
-- Flow 1:

Average throughput: 1.57 Mbit/s

95th percentile per-packet one-way delay: 62.344 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-06 13:17:26

End at: 2018-09-06 13:17:56

Local clock offset: -0.123 ms

Remote clock offset: 1.283 ms

Below is generated by plot.py at 2018-09-06 16:25:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 62.530 ms

Loss rate: 0.00%

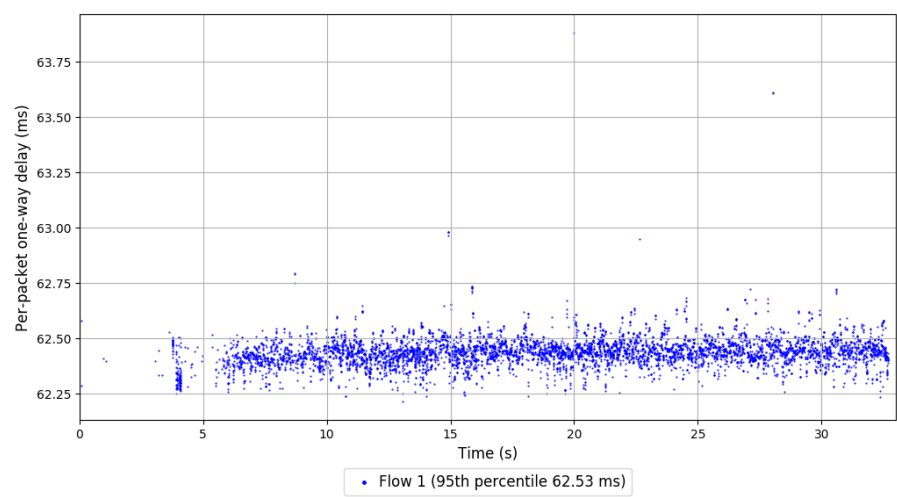
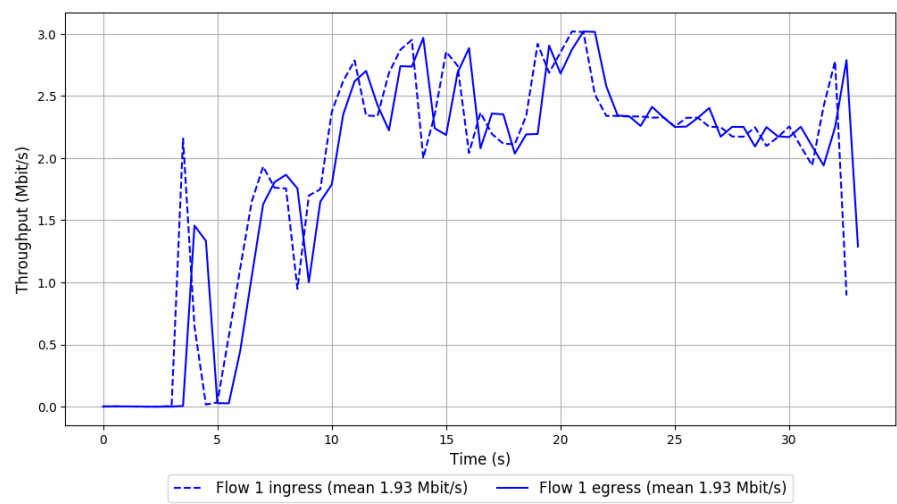
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 62.530 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

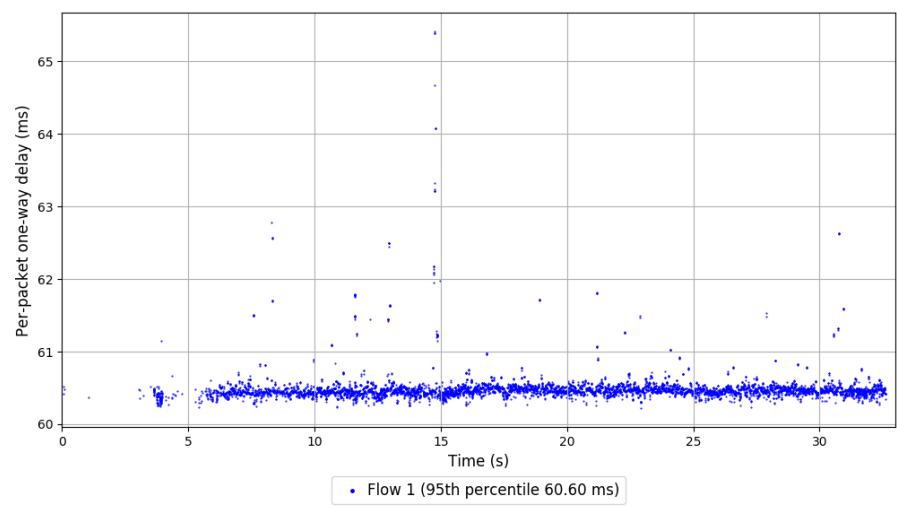
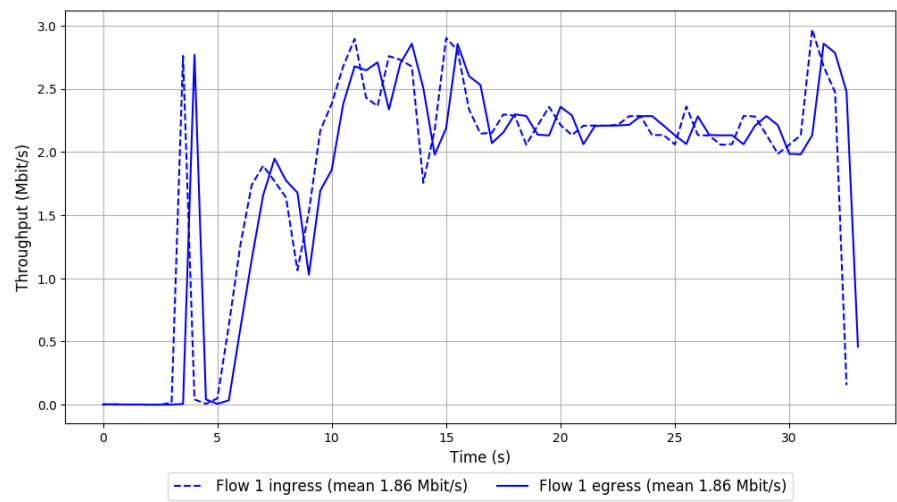


Run 3: Statistics of WebRTC media

Start at: 2018-09-06 13:43:36
End at: 2018-09-06 13:44:06
Local clock offset: -0.04 ms
Remote clock offset: -0.621 ms

Below is generated by plot.py at 2018-09-06 16:25:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 60.603 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 60.603 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

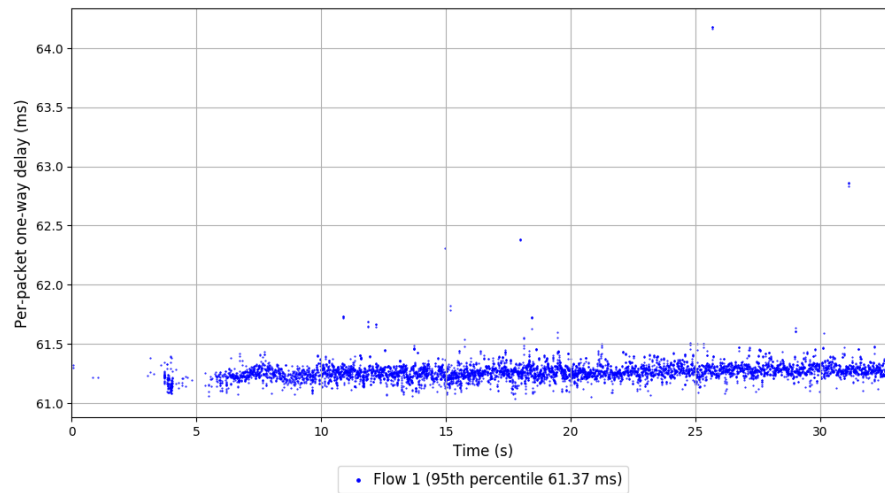
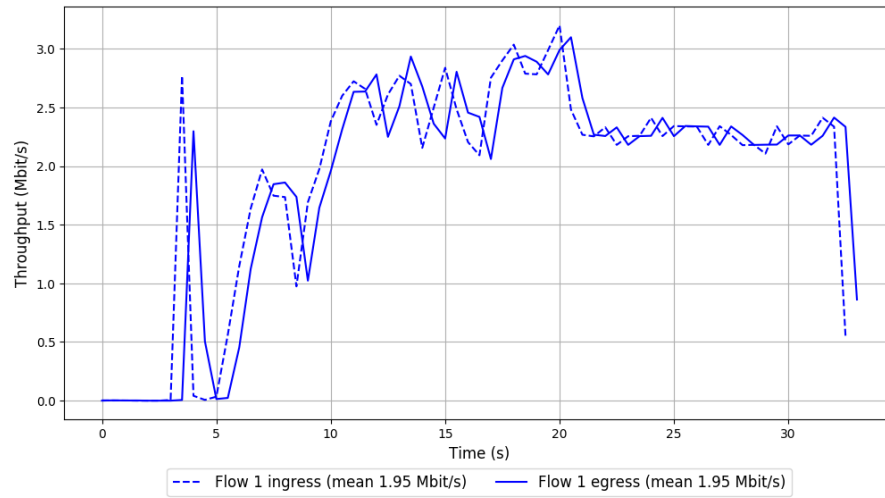


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 14:09:56
End at: 2018-09-06 14:10:26
Local clock offset: -0.05 ms
Remote clock offset: -0.033 ms

Below is generated by plot.py at 2018-09-06 16:25:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 61.374 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 61.374 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 14:35:56

End at: 2018-09-06 14:36:26

Local clock offset: -0.115 ms

Remote clock offset: 0.35 ms

Below is generated by plot.py at 2018-09-06 16:25:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 61.593 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 61.593 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

