

Pantheon Report

Generated at 2018-12-11 23:03:04 (UTC).

Data path: GCE Sydney on **ens4** (*local*) → GCE London on **ens4** (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

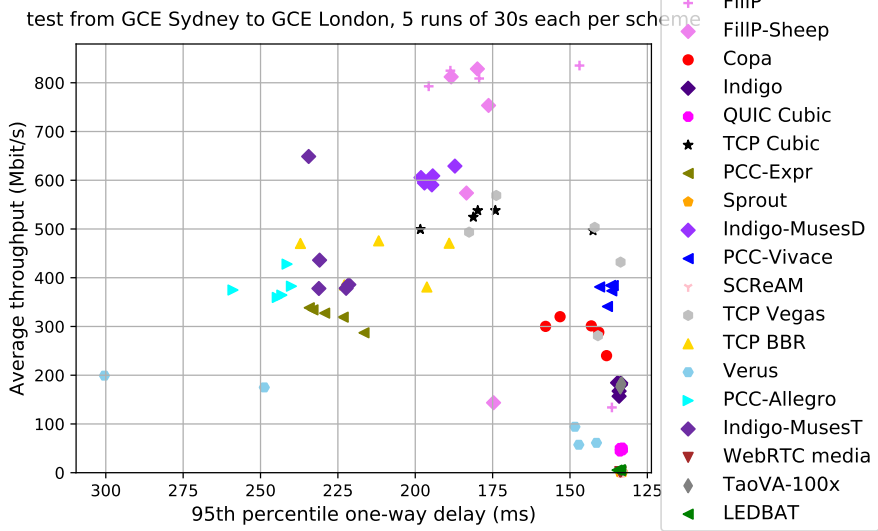
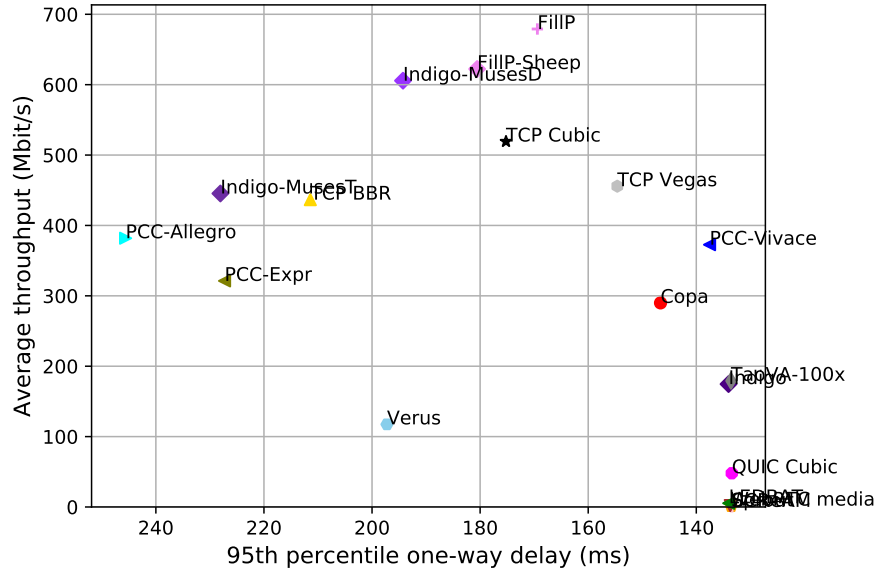
```
Linux 4.15.0-1024-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



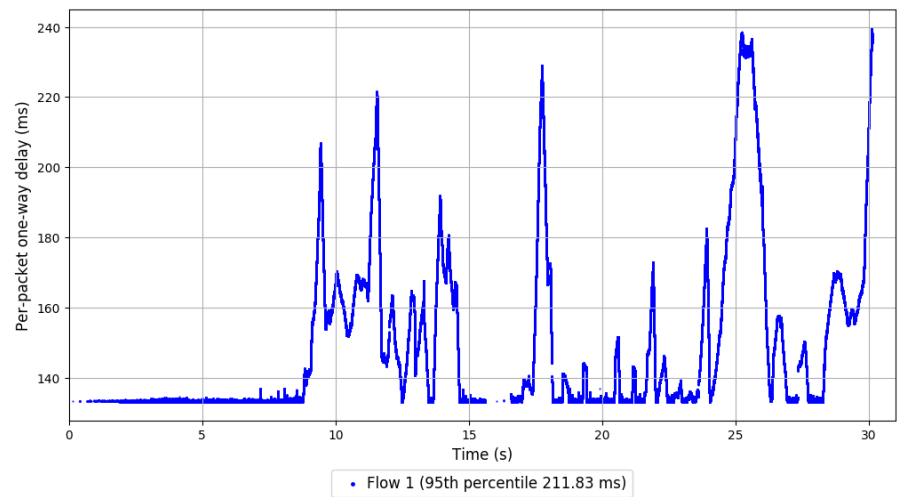
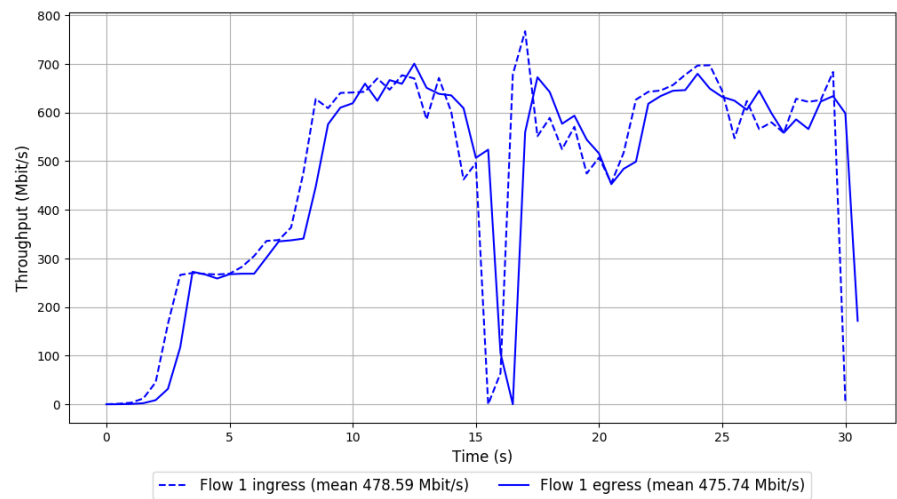
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	436.65	211.42	0.81
Copa	5	289.96	146.62	0.01
TCP Cubic	5	519.22	175.21	0.05
FillP	5	679.10	169.40	0.94
FillP-Sheep	5	622.28	180.56	0.71
Indigo	5	174.64	134.03	0.00
Indigo-MusesD	5	605.69	194.27	0.17
Indigo-MusesT	5	445.40	228.06	1.34
LEDBAT	5	5.30	134.00	0.00
PCC-Allegro	5	381.85	245.60	3.23
PCC-Expr	5	321.21	227.29	3.45
QUIC Cubic	4	47.93	133.43	0.00
SCReAM	5	0.15	133.39	0.00
Sprout	5	0.73	133.55	0.00
TaoVA-100x	5	179.23	133.59	0.00
TCP Vegas	5	455.74	154.62	0.03
Verus	5	117.40	197.24	3.97
PCC-Vivace	5	372.65	137.55	0.19
WebRTC media	5	1.96	133.72	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-12-11 19:07:19
End at: 2018-12-11 19:07:49
Local clock offset: -0.4 ms
Remote clock offset: -0.146 ms

Below is generated by plot.py at 2018-12-11 21:44:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 475.74 Mbit/s
95th percentile per-packet one-way delay: 211.831 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 475.74 Mbit/s
95th percentile per-packet one-way delay: 211.831 ms
Loss rate: 0.59%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-12-11 19:39:24

End at: 2018-12-11 19:39:54

Local clock offset: -0.076 ms

Remote clock offset: -0.1 ms

Below is generated by plot.py at 2018-12-11 21:44:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 385.29 Mbit/s

95th percentile per-packet one-way delay: 222.889 ms

Loss rate: 0.86%

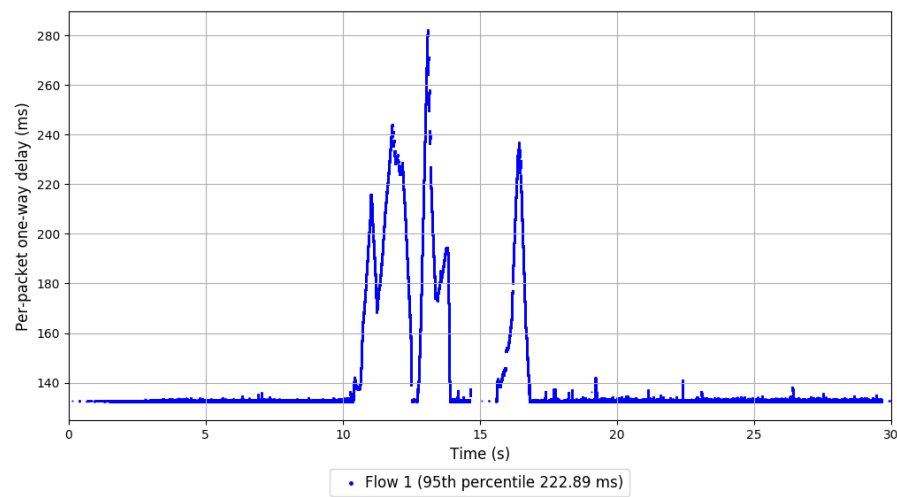
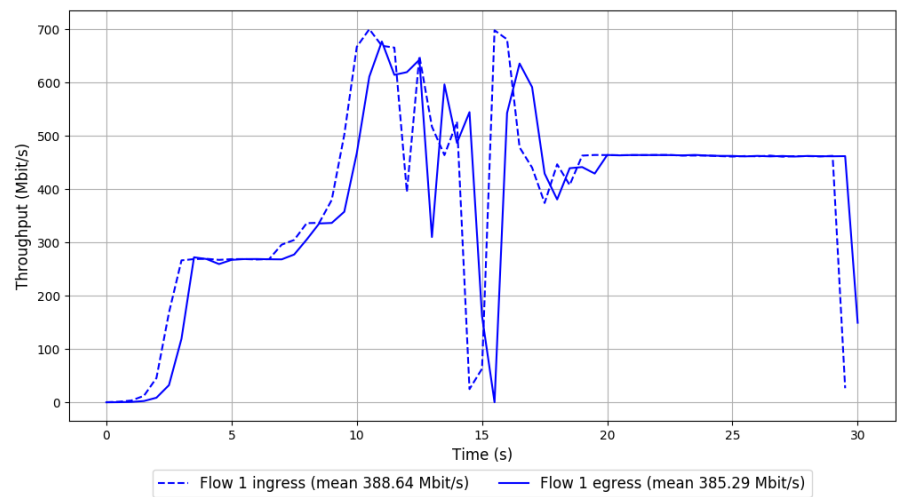
-- Flow 1:

Average throughput: 385.29 Mbit/s

95th percentile per-packet one-way delay: 222.889 ms

Loss rate: 0.86%

Run 2: Report of TCP BBR — Data Link

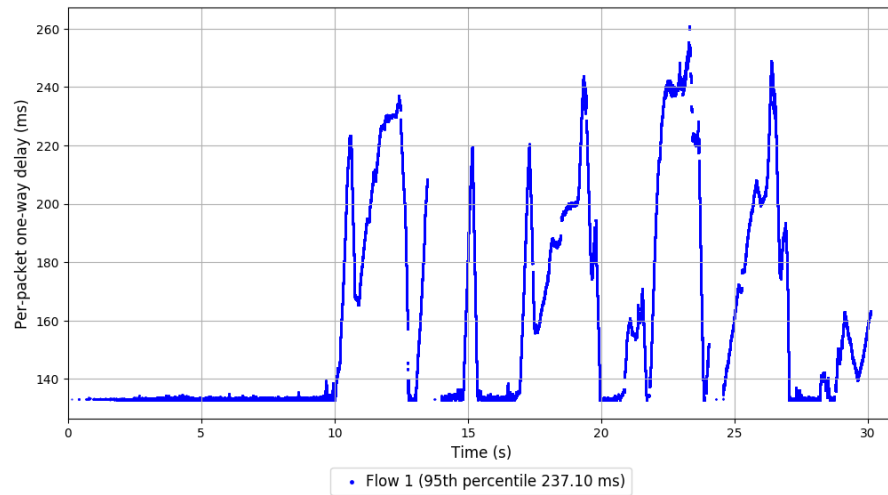
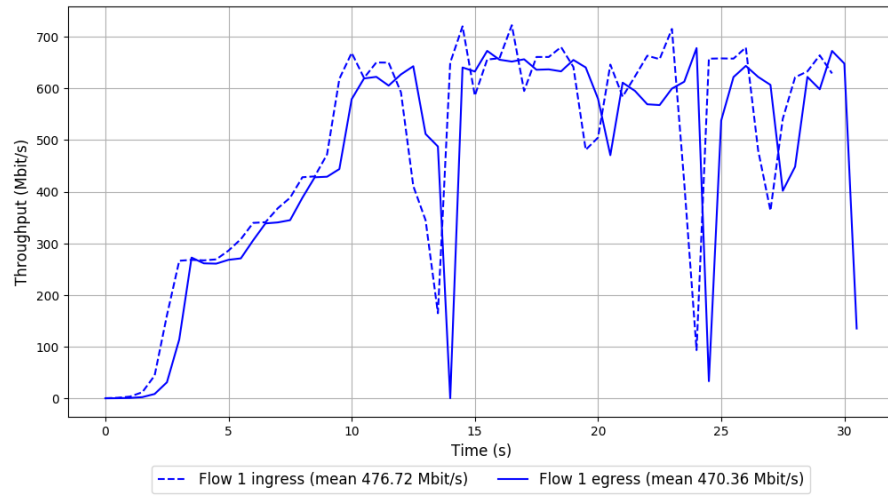


Run 3: Statistics of TCP BBR

Start at: 2018-12-11 20:10:01
End at: 2018-12-11 20:10:31
Local clock offset: -0.12 ms
Remote clock offset: -0.197 ms

Below is generated by plot.py at 2018-12-11 21:44:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 470.36 Mbit/s
95th percentile per-packet one-way delay: 237.103 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 470.36 Mbit/s
95th percentile per-packet one-way delay: 237.103 ms
Loss rate: 1.33%

Run 3: Report of TCP BBR — Data Link

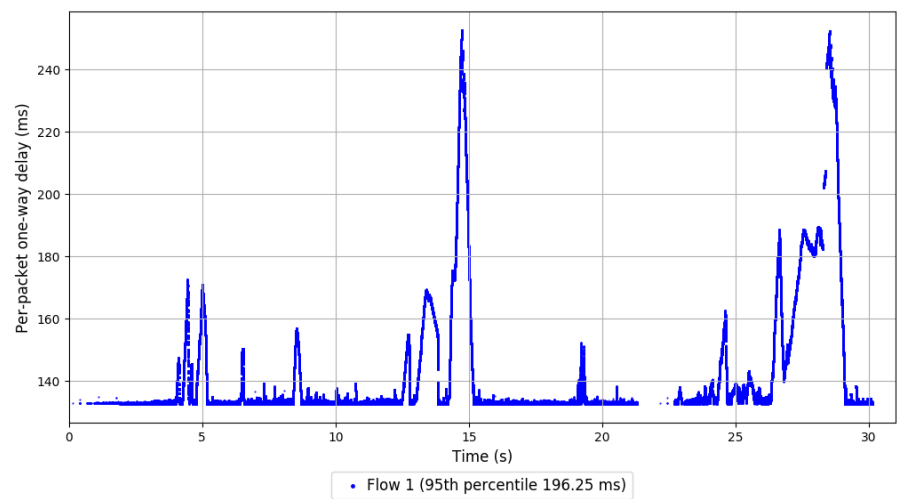
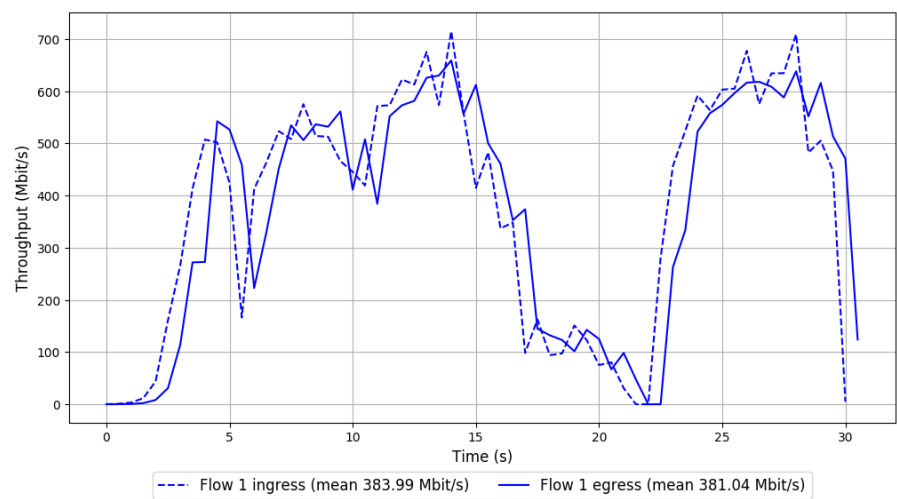


Run 4: Statistics of TCP BBR

Start at: 2018-12-11 20:39:45
End at: 2018-12-11 20:40:15
Local clock offset: 0.243 ms
Remote clock offset: -0.083 ms

Below is generated by plot.py at 2018-12-11 21:44:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 381.04 Mbit/s
95th percentile per-packet one-way delay: 196.247 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 381.04 Mbit/s
95th percentile per-packet one-way delay: 196.247 ms
Loss rate: 0.77%

Run 4: Report of TCP BBR — Data Link

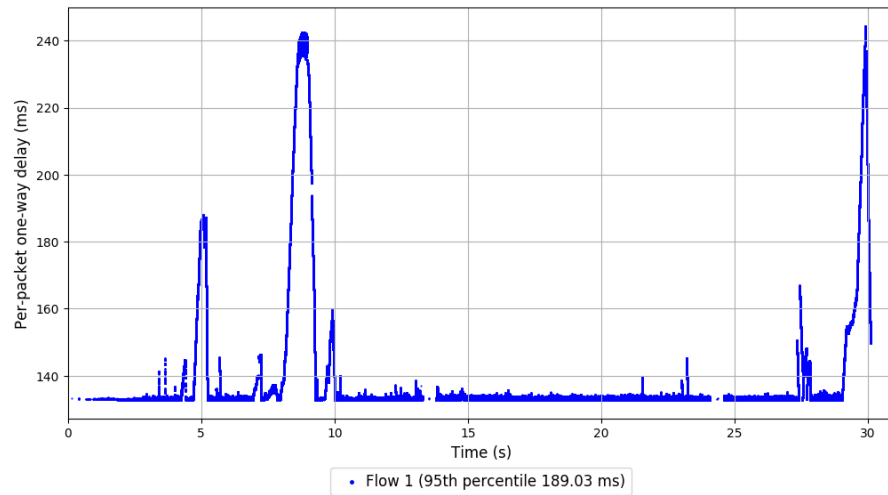
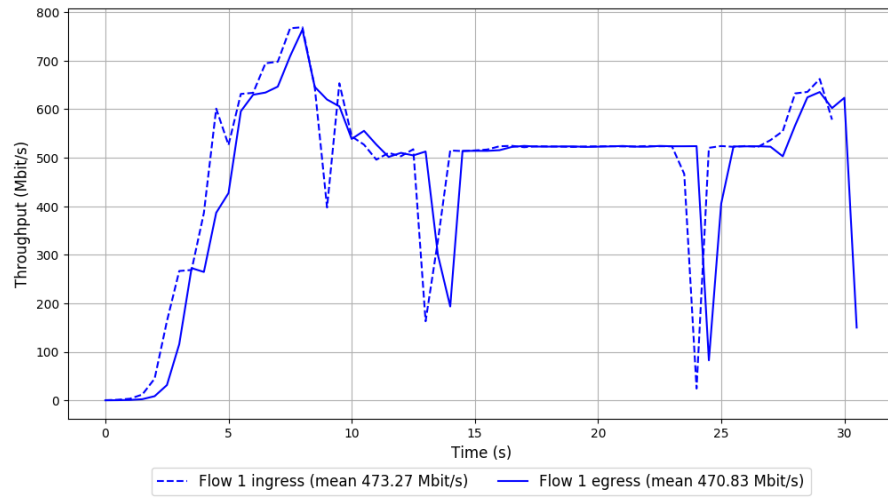


Run 5: Statistics of TCP BBR

Start at: 2018-12-11 21:10:32
End at: 2018-12-11 21:11:02
Local clock offset: 0.028 ms
Remote clock offset: -0.084 ms

Below is generated by plot.py at 2018-12-11 21:44:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 470.83 Mbit/s
95th percentile per-packet one-way delay: 189.032 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 470.83 Mbit/s
95th percentile per-packet one-way delay: 189.032 ms
Loss rate: 0.51%

Run 5: Report of TCP BBR — Data Link

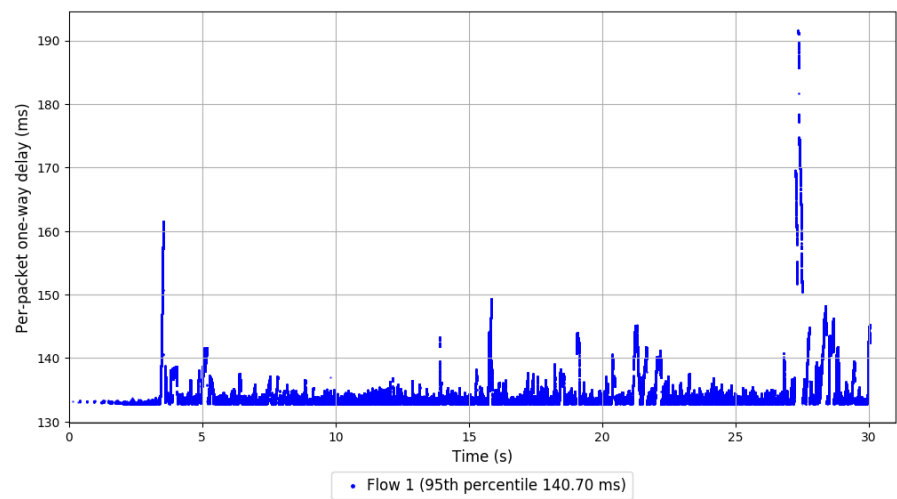
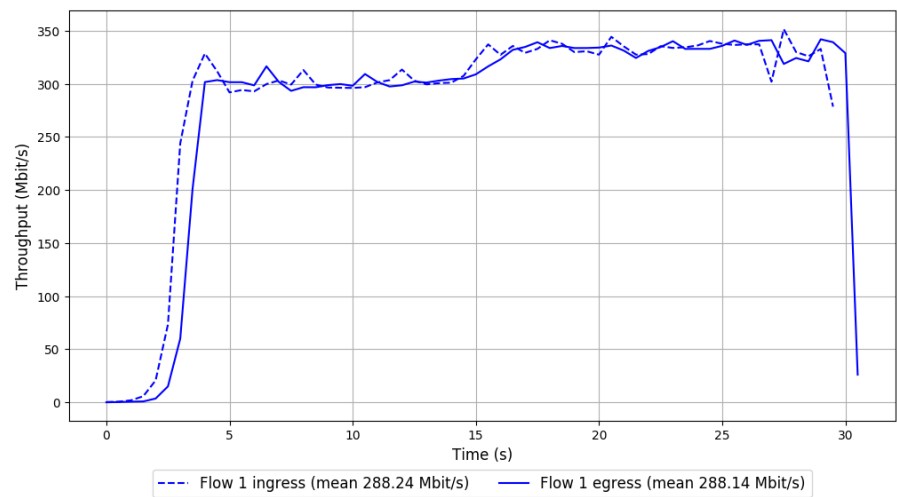


Run 1: Statistics of Copa

Start at: 2018-12-11 18:54:51
End at: 2018-12-11 18:55:21
Local clock offset: -0.101 ms
Remote clock offset: -0.128 ms

Below is generated by plot.py at 2018-12-11 21:45:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 288.14 Mbit/s
95th percentile per-packet one-way delay: 140.700 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 288.14 Mbit/s
95th percentile per-packet one-way delay: 140.700 ms
Loss rate: 0.03%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-12-11 19:26:21

End at: 2018-12-11 19:26:51

Local clock offset: -0.479 ms

Remote clock offset: -0.14 ms

Below is generated by plot.py at 2018-12-11 21:45:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 301.21 Mbit/s

95th percentile per-packet one-way delay: 143.113 ms

Loss rate: 0.00%

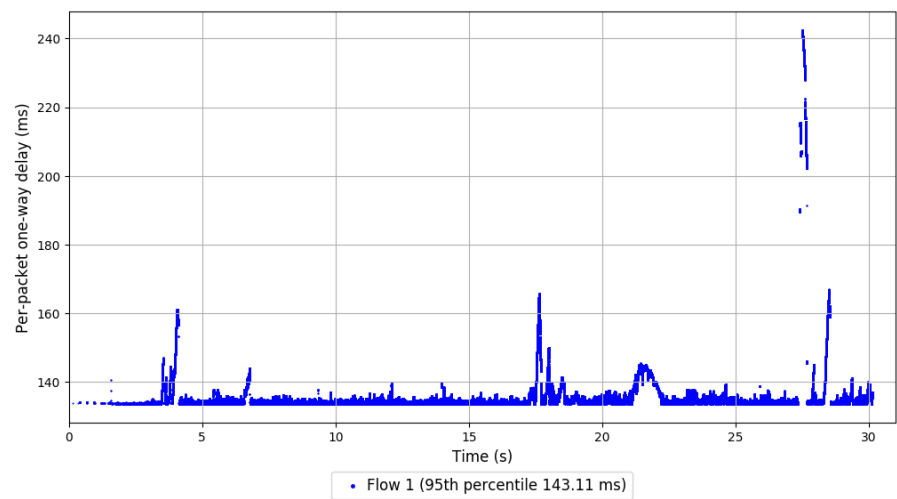
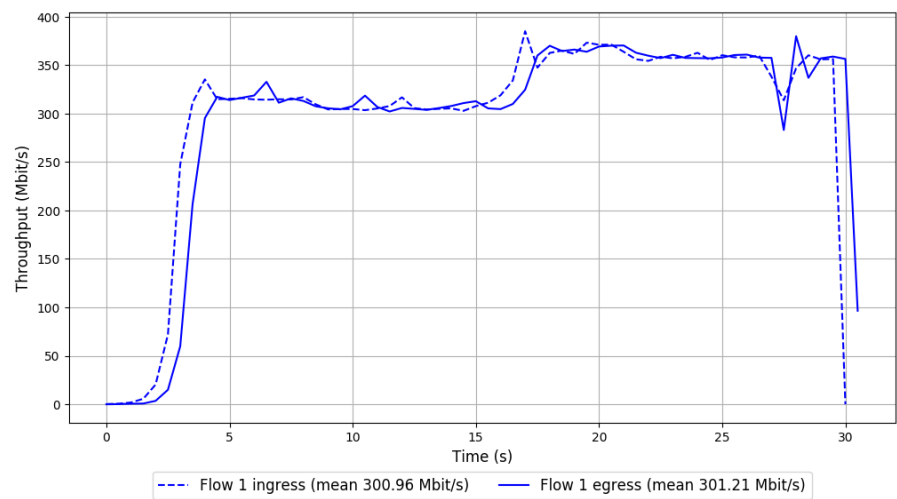
-- Flow 1:

Average throughput: 301.21 Mbit/s

95th percentile per-packet one-way delay: 143.113 ms

Loss rate: 0.00%

Run 2: Report of Copa — Data Link

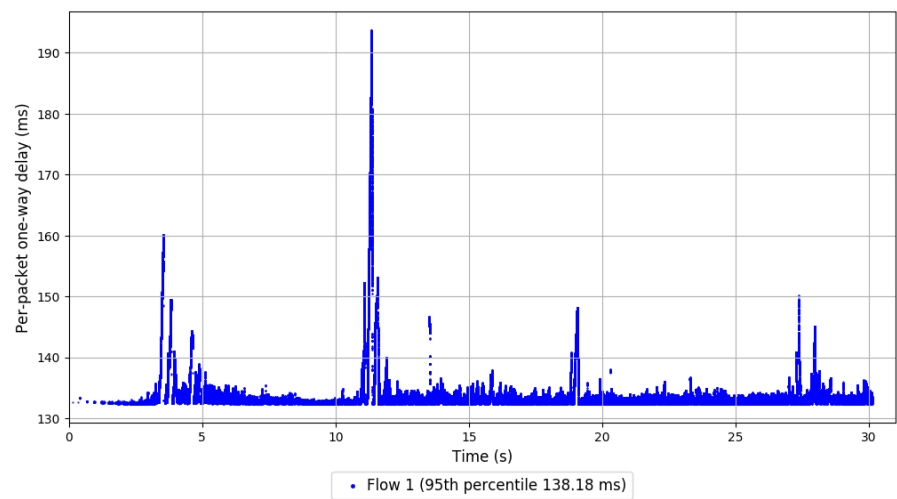
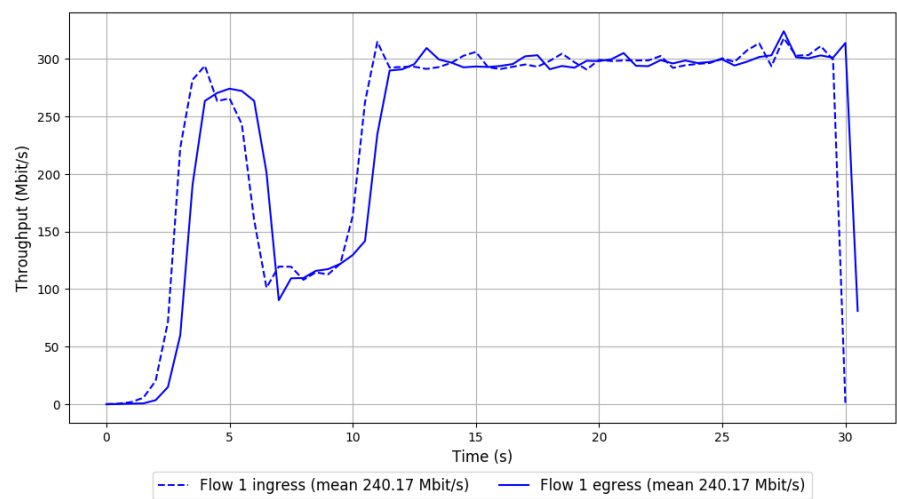


Run 3: Statistics of Copa

Start at: 2018-12-11 19:57:54
End at: 2018-12-11 19:58:24
Local clock offset: 0.216 ms
Remote clock offset: -0.201 ms

Below is generated by plot.py at 2018-12-11 21:45:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 240.17 Mbit/s
95th percentile per-packet one-way delay: 138.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 240.17 Mbit/s
95th percentile per-packet one-way delay: 138.184 ms
Loss rate: 0.00%

Run 3: Report of Copa — Data Link

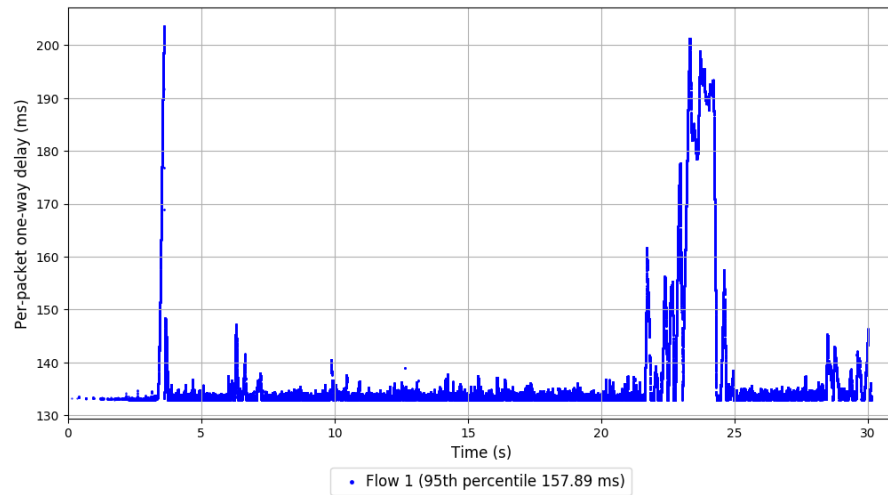
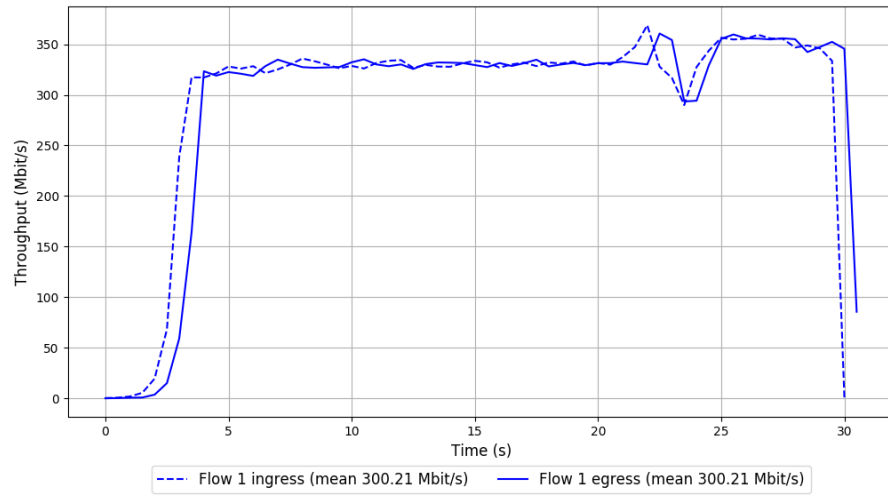


Run 4: Statistics of Copa

Start at: 2018-12-11 20:27:19
End at: 2018-12-11 20:27:49
Local clock offset: 0.318 ms
Remote clock offset: -0.184 ms

Below is generated by plot.py at 2018-12-11 21:53:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 300.21 Mbit/s
95th percentile per-packet one-way delay: 157.888 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 300.21 Mbit/s
95th percentile per-packet one-way delay: 157.888 ms
Loss rate: 0.00%

Run 4: Report of Copa — Data Link

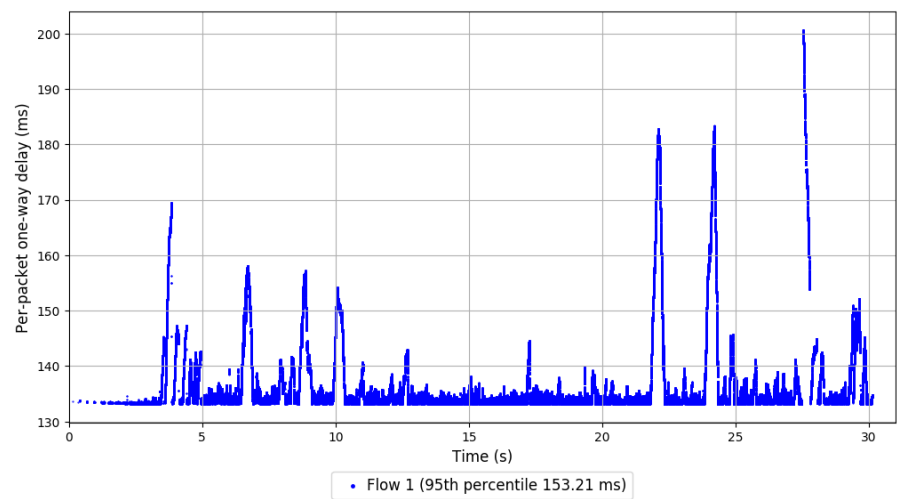
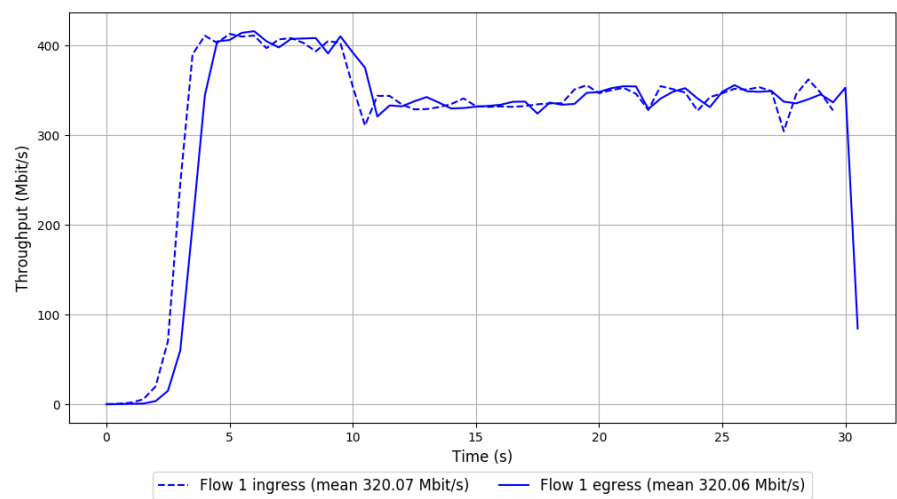


Run 5: Statistics of Copa

Start at: 2018-12-11 20:57:41
End at: 2018-12-11 20:58:11
Local clock offset: -0.415 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-12-11 21:54:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 320.06 Mbit/s
95th percentile per-packet one-way delay: 153.206 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 320.06 Mbit/s
95th percentile per-packet one-way delay: 153.206 ms
Loss rate: 0.00%

Run 5: Report of Copa — Data Link

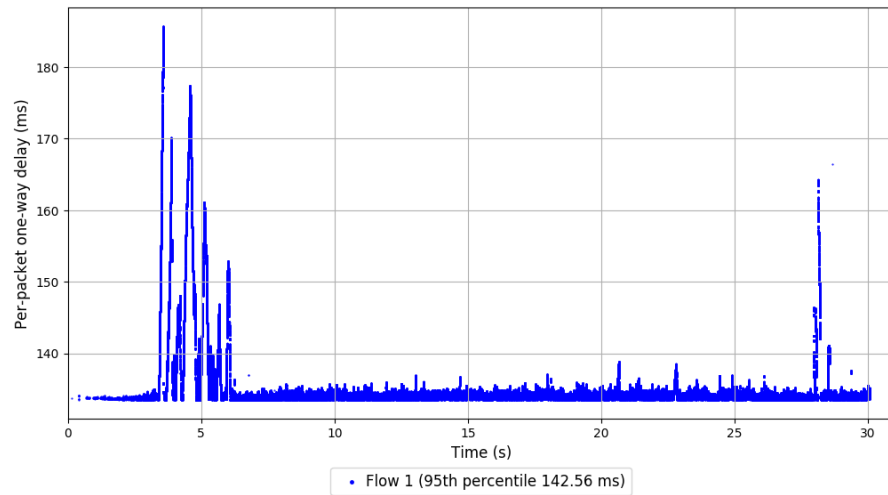
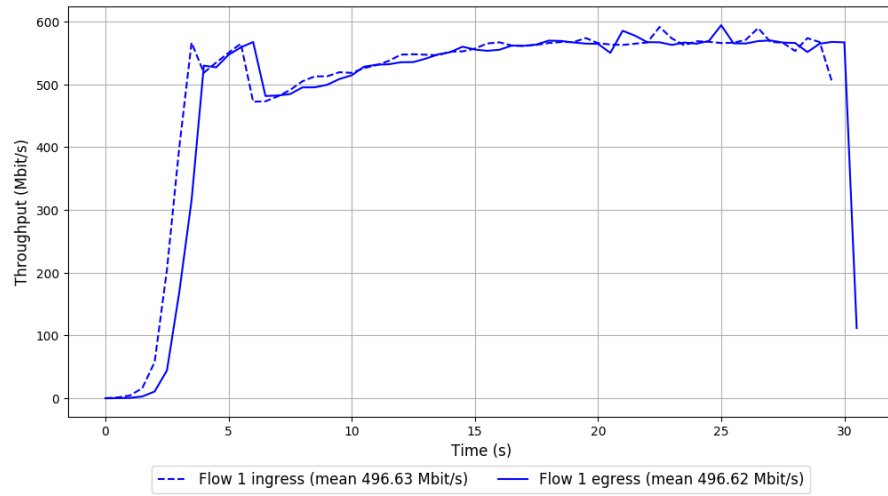


Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 18:57:51
End at: 2018-12-11 18:58:21
Local clock offset: -0.312 ms
Remote clock offset: -0.132 ms

Below is generated by plot.py at 2018-12-11 21:54:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 496.62 Mbit/s
95th percentile per-packet one-way delay: 142.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 496.62 Mbit/s
95th percentile per-packet one-way delay: 142.563 ms
Loss rate: 0.00%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 19:29:29

End at: 2018-12-11 19:29:59

Local clock offset: 0.188 ms

Remote clock offset: 0.246 ms

Below is generated by plot.py at 2018-12-11 21:54:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 538.03 Mbit/s

95th percentile per-packet one-way delay: 174.112 ms

Loss rate: 0.09%

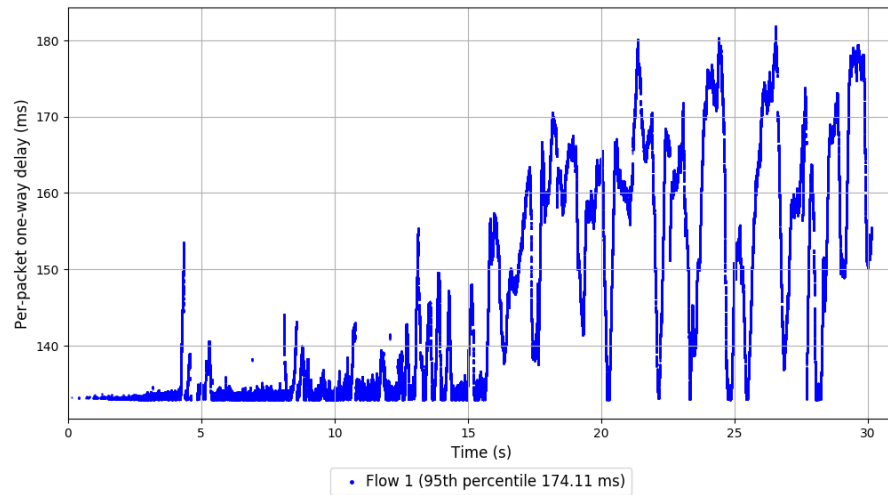
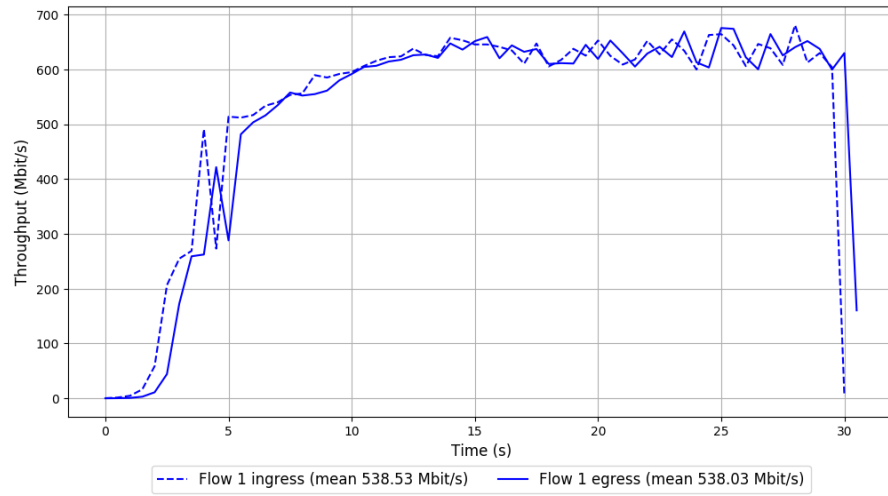
-- Flow 1:

Average throughput: 538.03 Mbit/s

95th percentile per-packet one-way delay: 174.112 ms

Loss rate: 0.09%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 20:00:55

End at: 2018-12-11 20:01:25

Local clock offset: 0.312 ms

Remote clock offset: -0.19 ms

Below is generated by plot.py at 2018-12-11 21:54:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 524.42 Mbit/s

95th percentile per-packet one-way delay: 181.230 ms

Loss rate: 0.10%

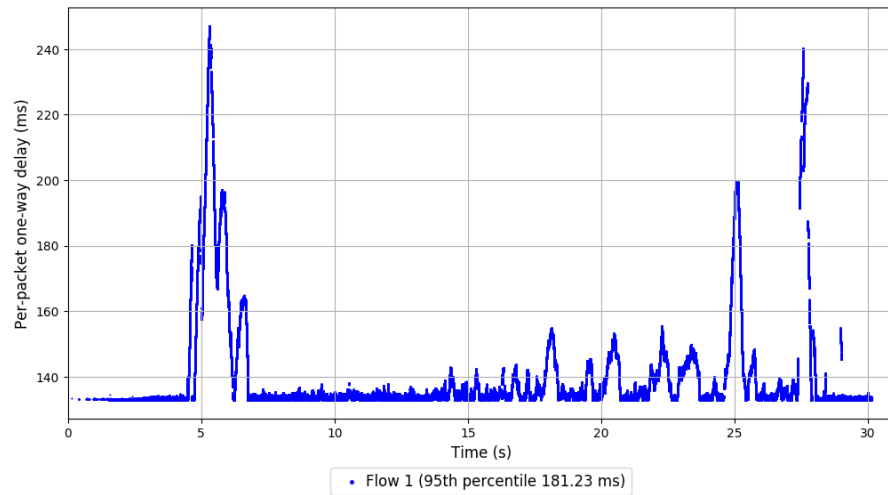
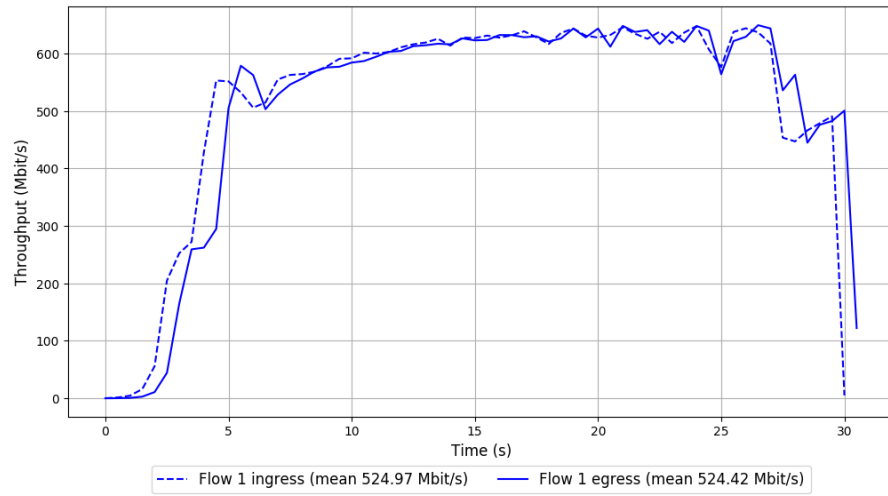
-- Flow 1:

Average throughput: 524.42 Mbit/s

95th percentile per-packet one-way delay: 181.230 ms

Loss rate: 0.10%

Run 3: Report of TCP Cubic — Data Link

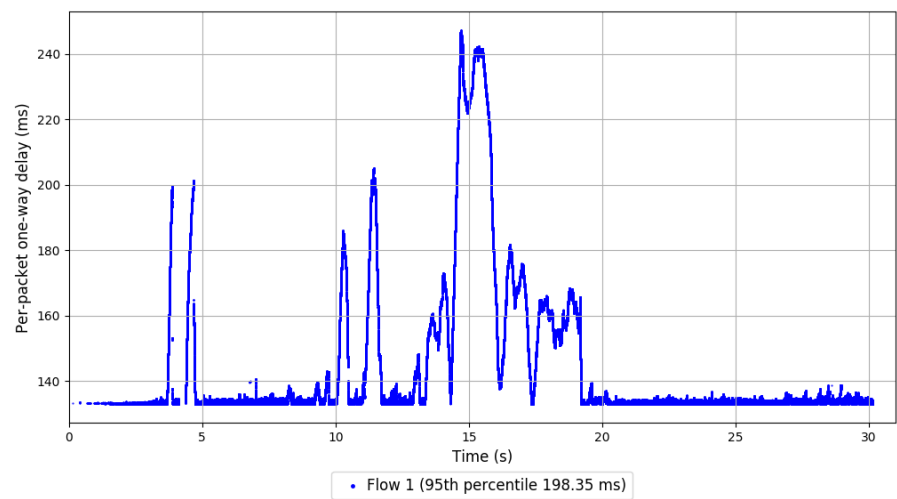
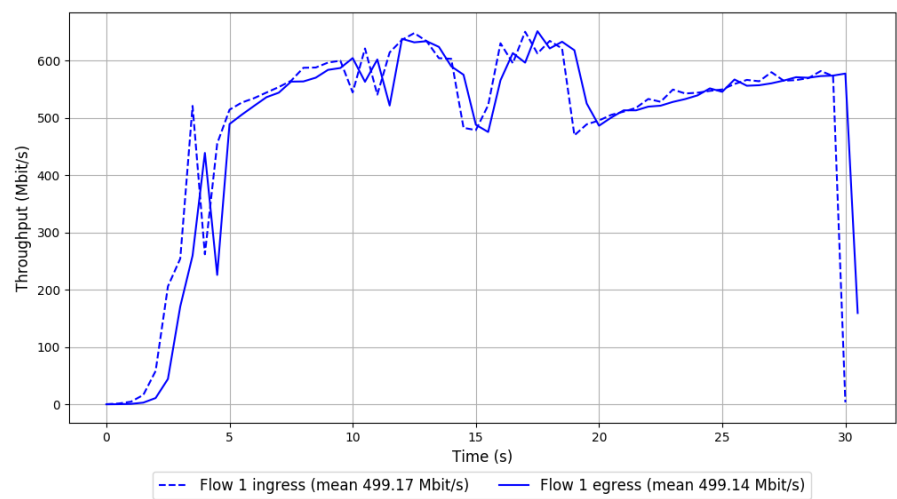


Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 20:30:14
End at: 2018-12-11 20:30:44
Local clock offset: 0.099 ms
Remote clock offset: -0.128 ms

Below is generated by plot.py at 2018-12-11 21:54:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 499.14 Mbit/s
95th percentile per-packet one-way delay: 198.347 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 499.14 Mbit/s
95th percentile per-packet one-way delay: 198.347 ms
Loss rate: 0.00%

Run 4: Report of TCP Cubic — Data Link

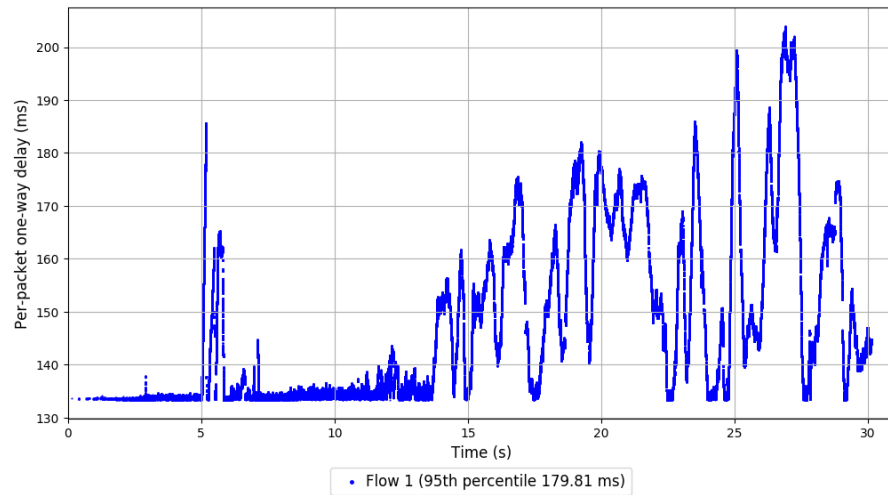
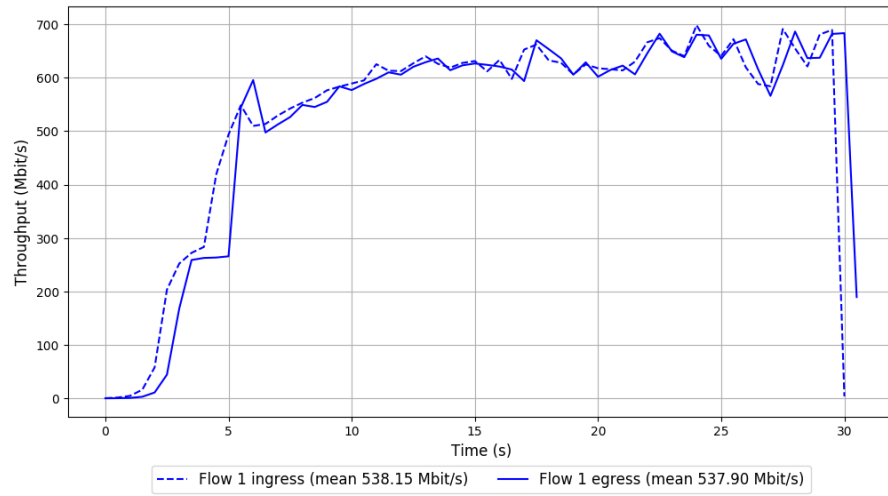


Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 21:00:38
End at: 2018-12-11 21:01:08
Local clock offset: 0.04 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2018-12-11 21:55:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 537.90 Mbit/s
95th percentile per-packet one-way delay: 179.805 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 537.90 Mbit/s
95th percentile per-packet one-way delay: 179.805 ms
Loss rate: 0.04%

Run 5: Report of TCP Cubic — Data Link

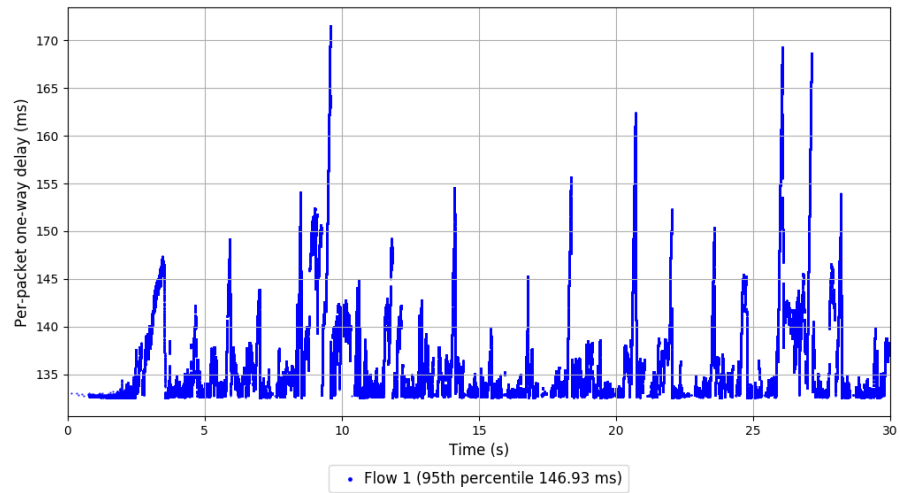
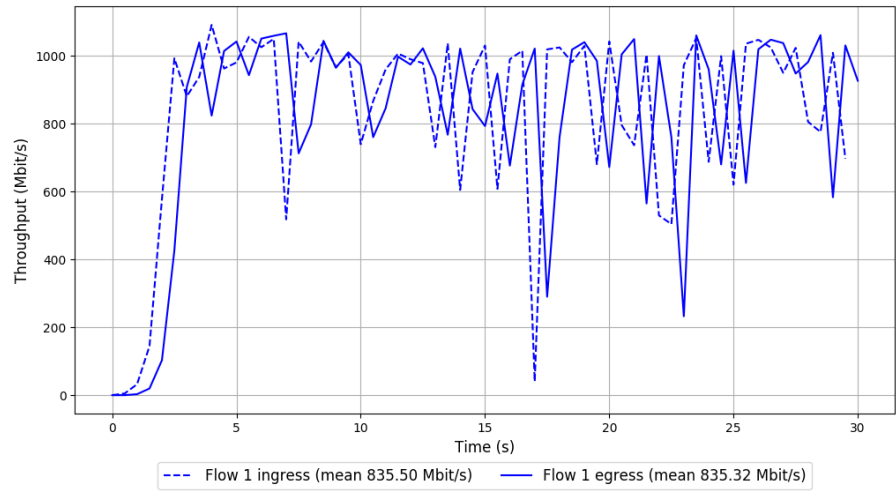


Run 1: Statistics of FillP

Start at: 2018-12-11 18:52:59
End at: 2018-12-11 18:53:29
Local clock offset: -0.349 ms
Remote clock offset: -0.509 ms

Below is generated by plot.py at 2018-12-11 22:03:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 835.32 Mbit/s
95th percentile per-packet one-way delay: 146.925 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 835.32 Mbit/s
95th percentile per-packet one-way delay: 146.925 ms
Loss rate: 0.02%

Run 1: Report of FillP — Data Link

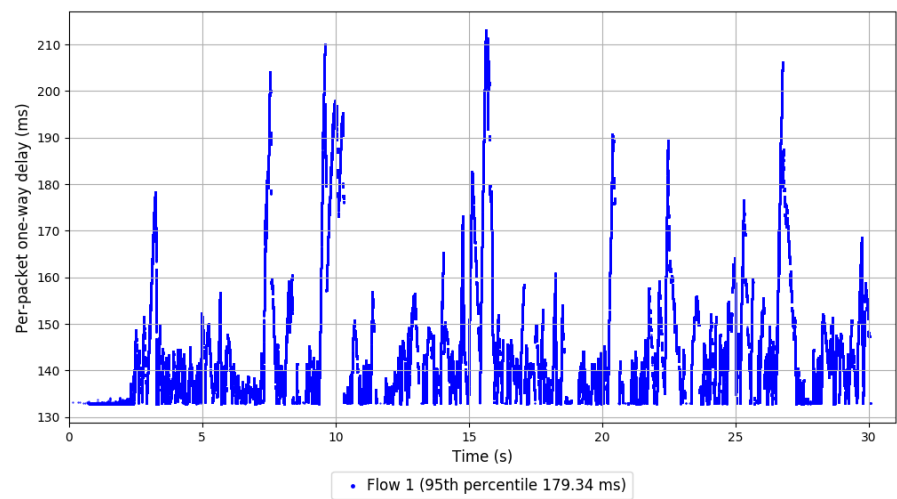
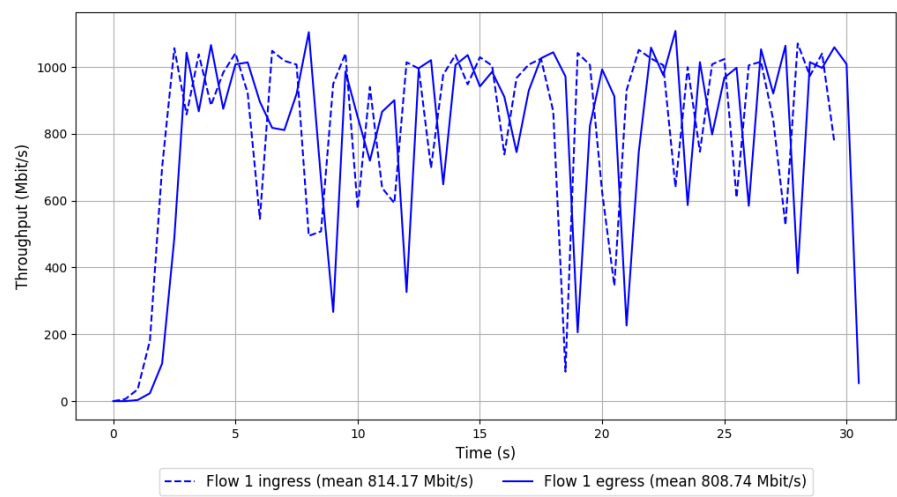


Run 2: Statistics of FillP

Start at: 2018-12-11 19:24:11
End at: 2018-12-11 19:24:41
Local clock offset: -0.056 ms
Remote clock offset: -0.144 ms

Below is generated by plot.py at 2018-12-11 22:12:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 808.74 Mbit/s
95th percentile per-packet one-way delay: 179.343 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 808.74 Mbit/s
95th percentile per-packet one-way delay: 179.343 ms
Loss rate: 0.67%

Run 2: Report of FillP — Data Link

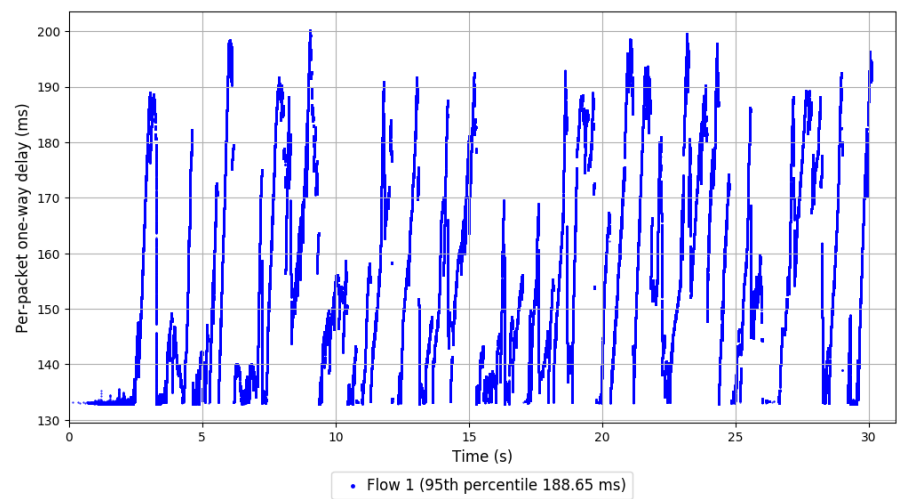
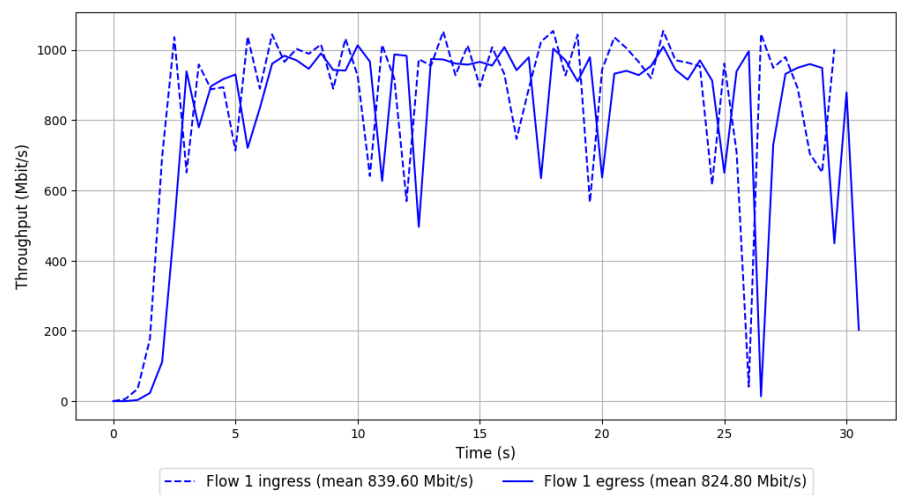


Run 3: Statistics of FillP

Start at: 2018-12-11 19:55:43
End at: 2018-12-11 19:56:13
Local clock offset: -0.124 ms
Remote clock offset: -0.145 ms

Below is generated by plot.py at 2018-12-11 22:13:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 824.80 Mbit/s
95th percentile per-packet one-way delay: 188.646 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 824.80 Mbit/s
95th percentile per-packet one-way delay: 188.646 ms
Loss rate: 1.76%

Run 3: Report of FillP — Data Link

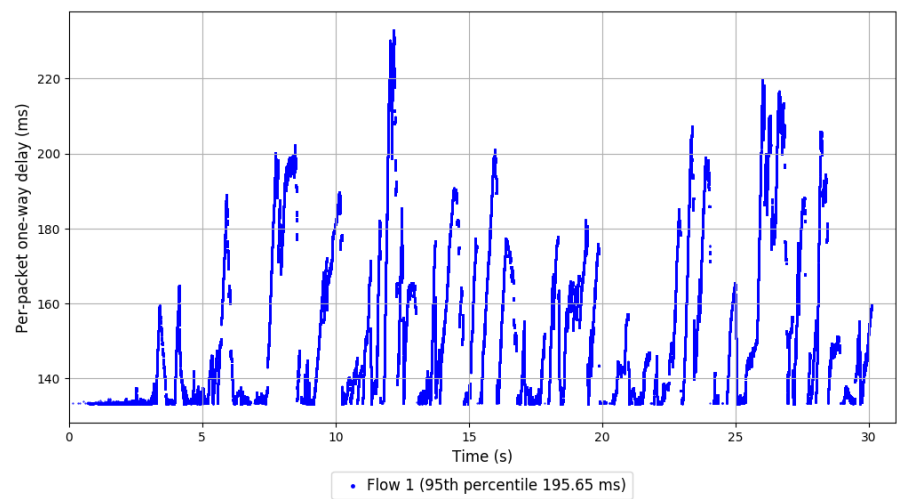
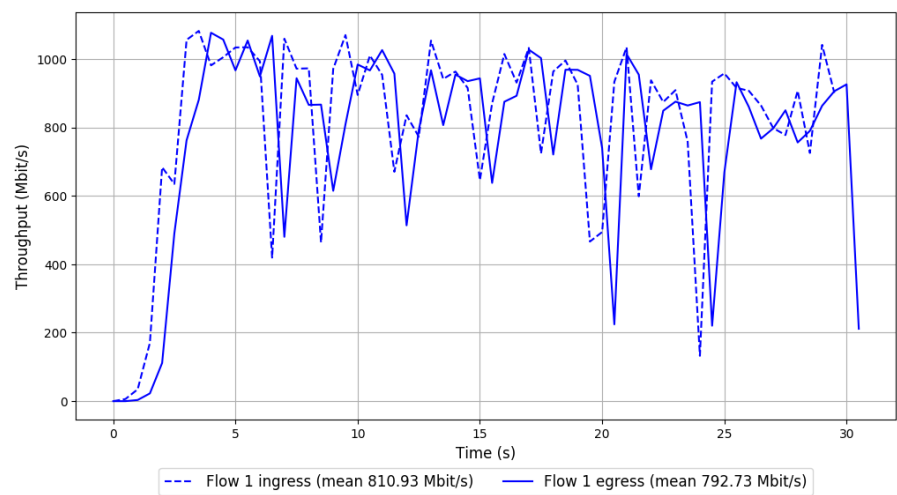


Run 4: Statistics of FillP

Start at: 2018-12-11 20:25:29
End at: 2018-12-11 20:25:59
Local clock offset: -0.013 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-12-11 22:13:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 792.73 Mbit/s
95th percentile per-packet one-way delay: 195.650 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 792.73 Mbit/s
95th percentile per-packet one-way delay: 195.650 ms
Loss rate: 2.24%

Run 4: Report of FillP — Data Link

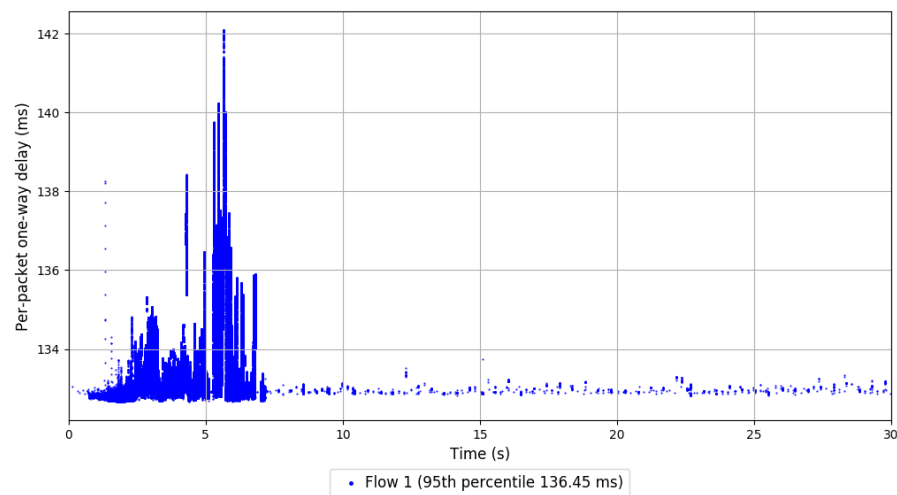
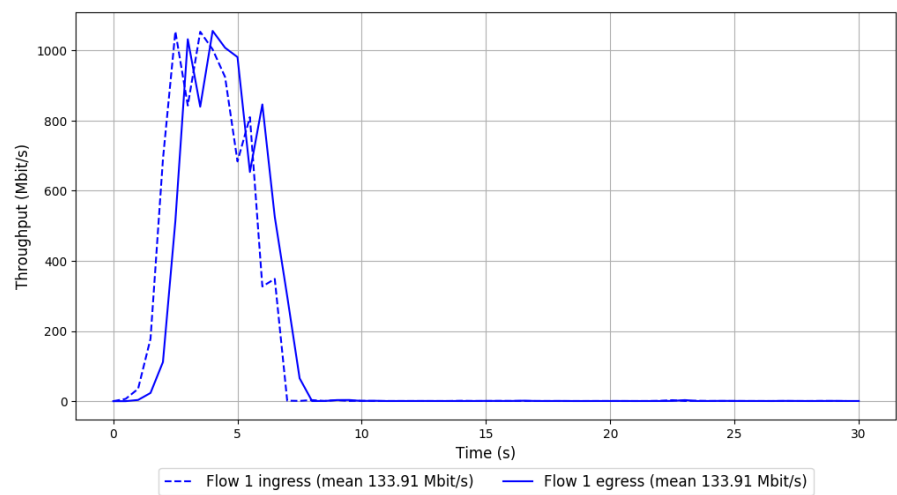


Run 5: Statistics of FillP

Start at: 2018-12-11 20:56:23
End at: 2018-12-11 20:56:53
Local clock offset: 0.037 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-12-11 22:13:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 133.91 Mbit/s
95th percentile per-packet one-way delay: 136.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 133.91 Mbit/s
95th percentile per-packet one-way delay: 136.453 ms
Loss rate: 0.00%

Run 5: Report of FillP — Data Link

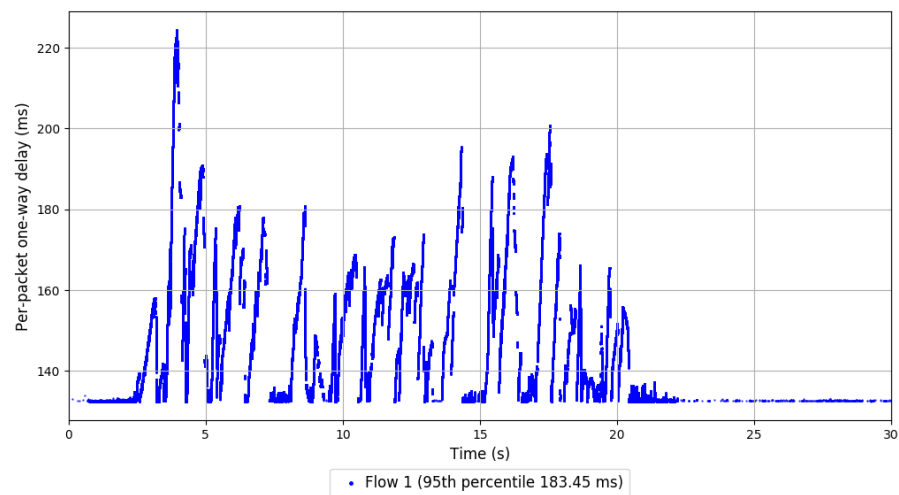
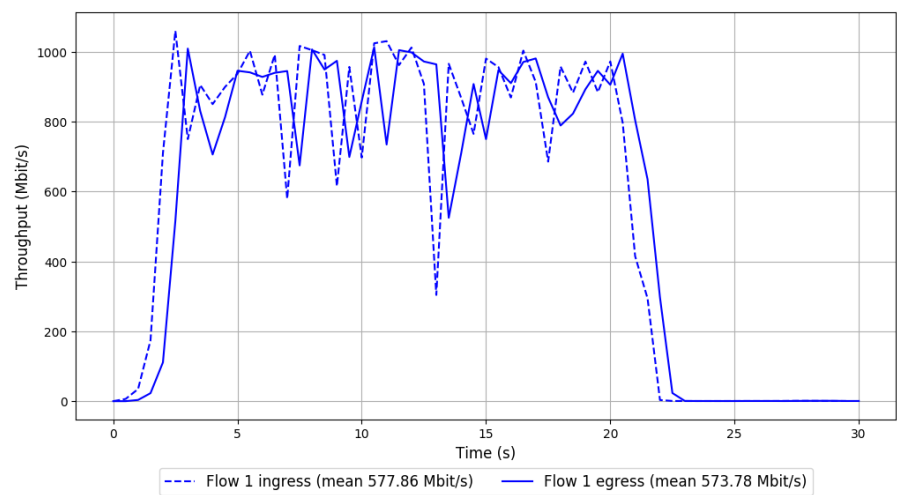


Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 19:02:13
End at: 2018-12-11 19:02:43
Local clock offset: -0.057 ms
Remote clock offset: -0.133 ms

Below is generated by plot.py at 2018-12-11 22:13:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 573.78 Mbit/s
95th percentile per-packet one-way delay: 183.451 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 573.78 Mbit/s
95th percentile per-packet one-way delay: 183.451 ms
Loss rate: 0.71%

Run 1: Report of FillP-Sheep — Data Link

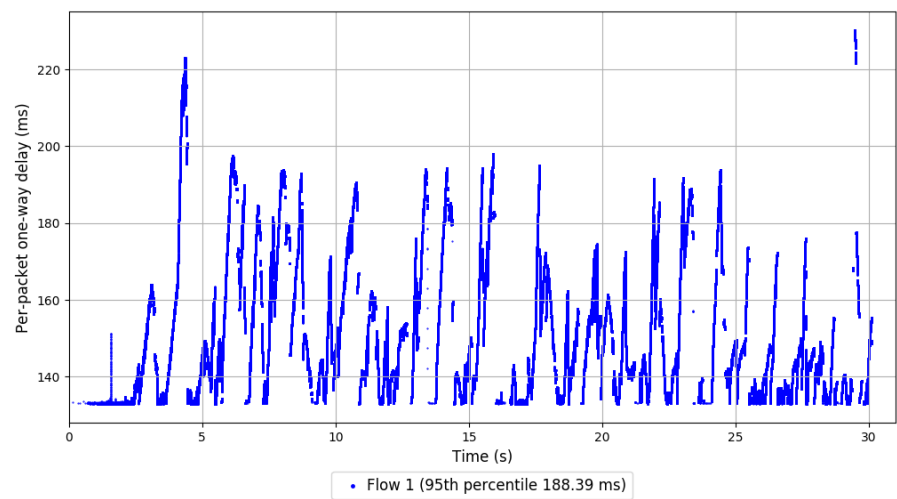
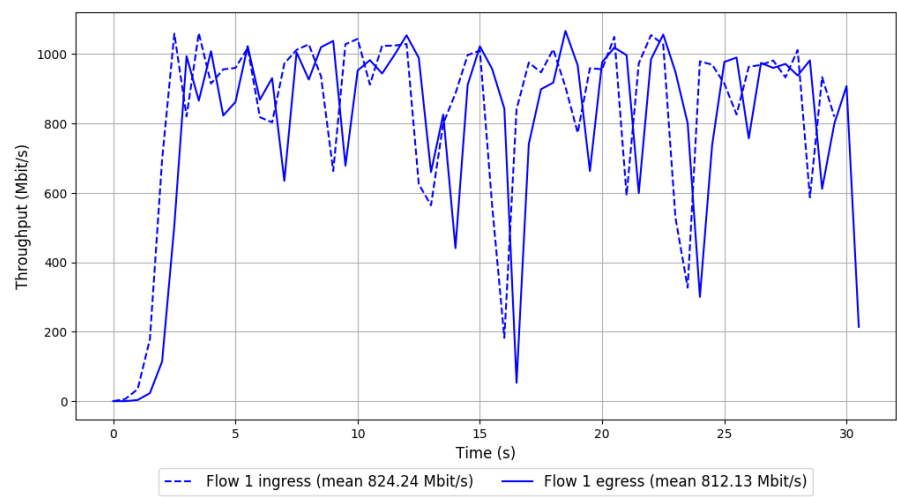


Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 19:33:49
End at: 2018-12-11 19:34:19
Local clock offset: 0.168 ms
Remote clock offset: -0.118 ms

Below is generated by plot.py at 2018-12-11 22:13:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 812.13 Mbit/s
95th percentile per-packet one-way delay: 188.393 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 812.13 Mbit/s
95th percentile per-packet one-way delay: 188.393 ms
Loss rate: 1.46%

Run 2: Report of FillP-Sheep — Data Link

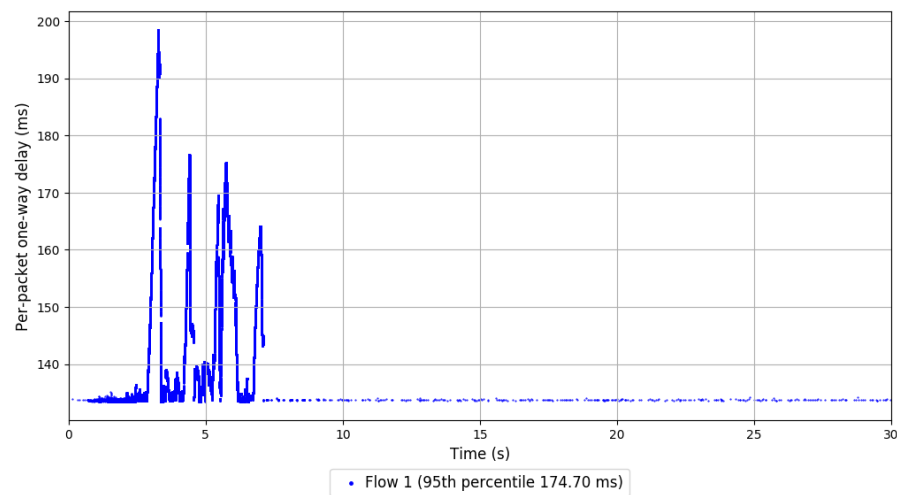
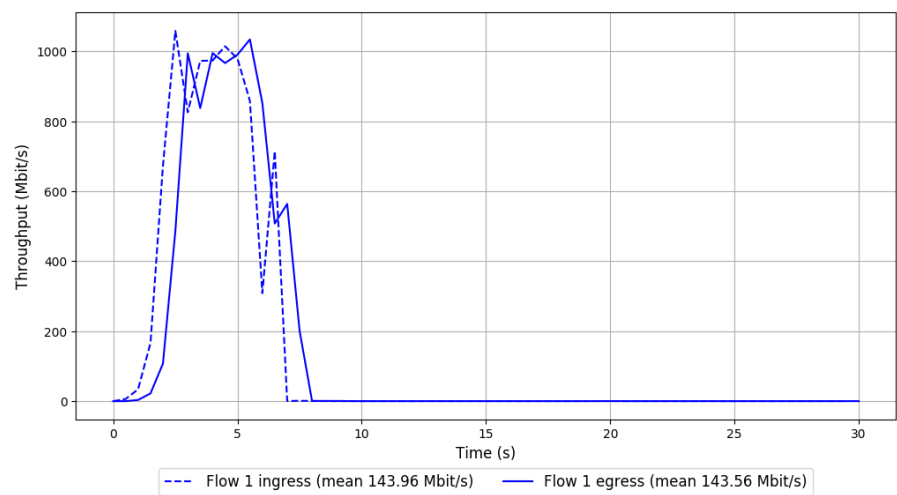


Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 20:05:12
End at: 2018-12-11 20:05:42
Local clock offset: -0.215 ms
Remote clock offset: -0.226 ms

Below is generated by plot.py at 2018-12-11 22:13:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 143.56 Mbit/s
95th percentile per-packet one-way delay: 174.696 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 143.56 Mbit/s
95th percentile per-packet one-way delay: 174.696 ms
Loss rate: 0.28%

Run 3: Report of FillP-Sheep — Data Link

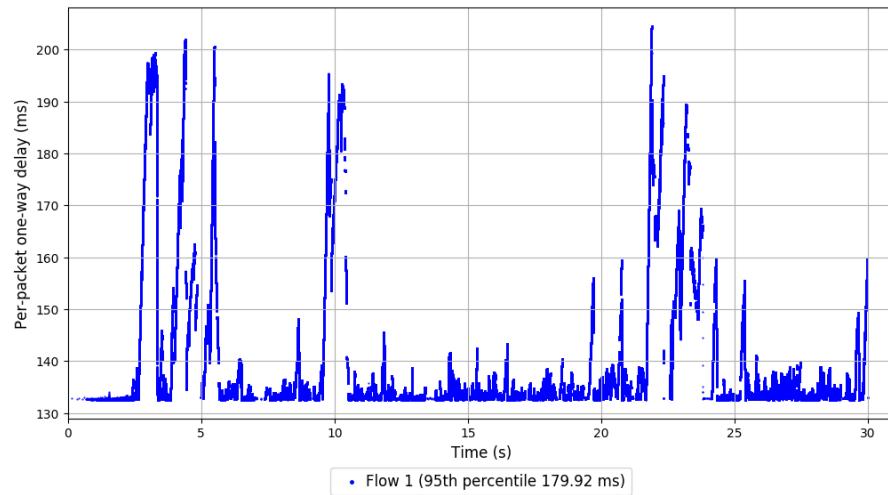
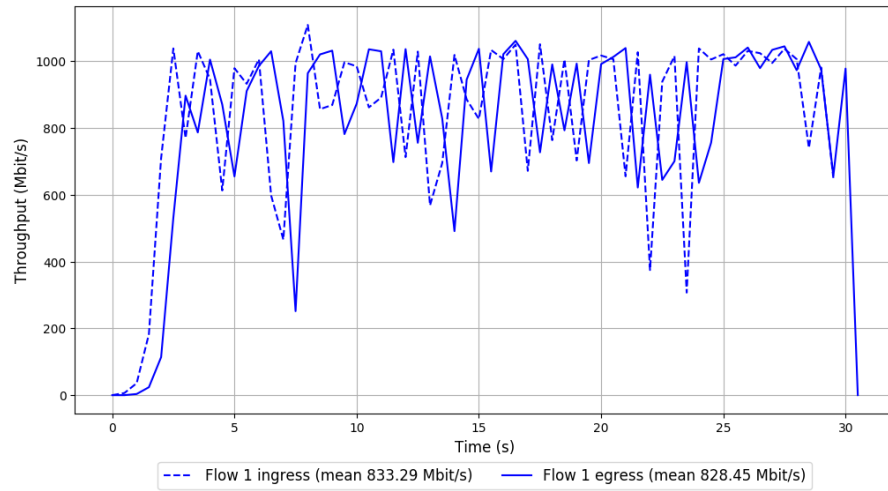


Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 20:34:21
End at: 2018-12-11 20:34:51
Local clock offset: -0.194 ms
Remote clock offset: -0.115 ms

Below is generated by plot.py at 2018-12-11 22:16:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 828.45 Mbit/s
95th percentile per-packet one-way delay: 179.923 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 828.45 Mbit/s
95th percentile per-packet one-way delay: 179.923 ms
Loss rate: 0.58%

Run 4: Report of FillP-Sheep — Data Link

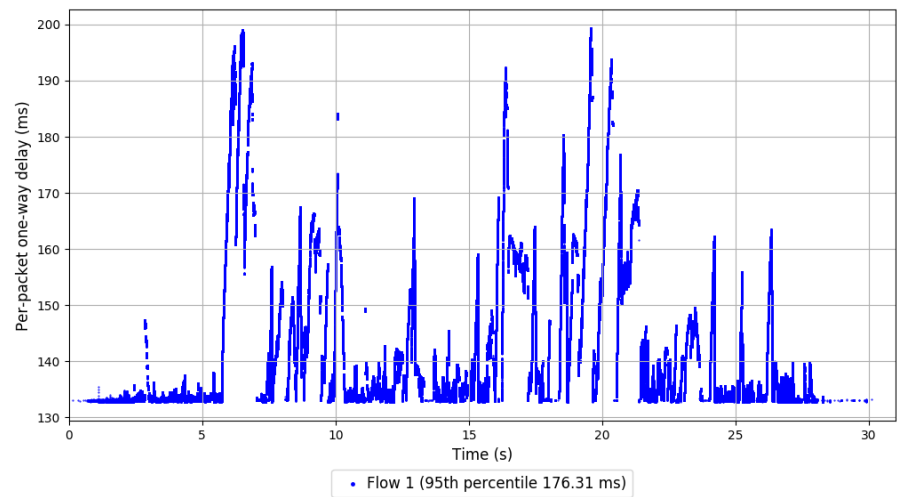
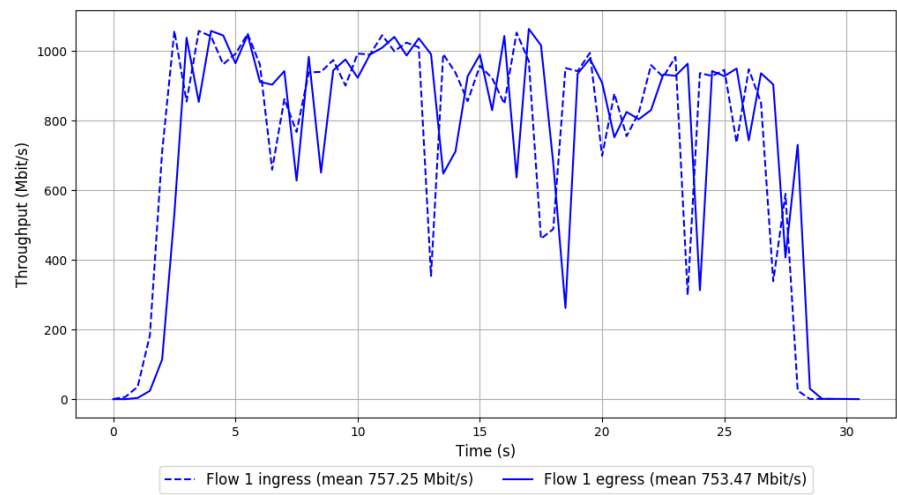


Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 21:04:52
End at: 2018-12-11 21:05:22
Local clock offset: -0.382 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-12-11 22:16:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 753.47 Mbit/s
95th percentile per-packet one-way delay: 176.315 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 753.47 Mbit/s
95th percentile per-packet one-way delay: 176.315 ms
Loss rate: 0.50%

Run 5: Report of FillP-Sheep — Data Link

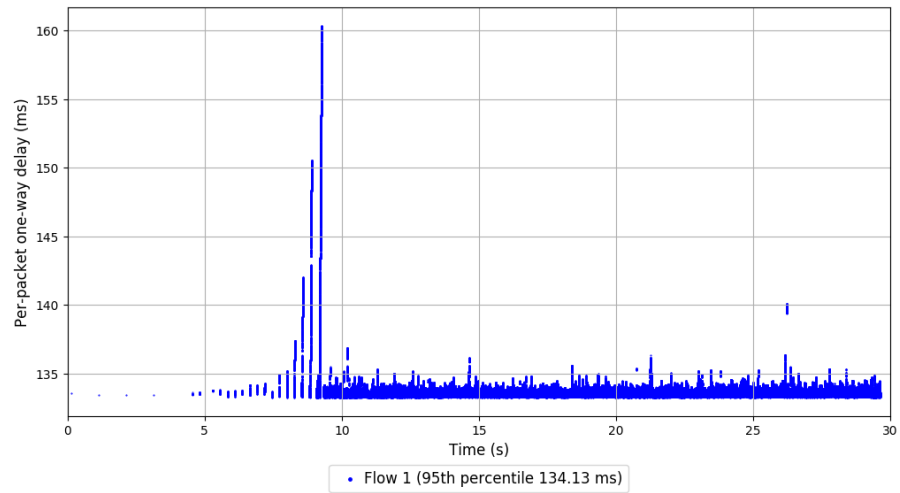
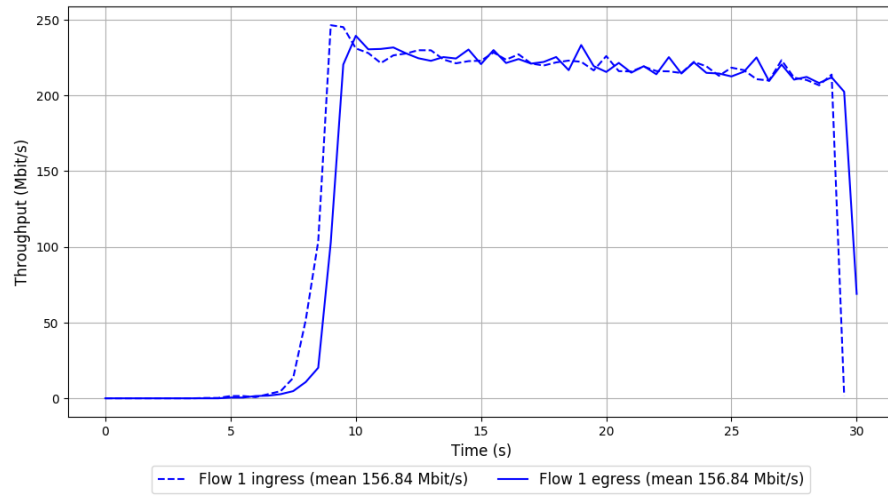


Run 1: Statistics of Indigo

Start at: 2018-12-11 19:10:17
End at: 2018-12-11 19:10:47
Local clock offset: -0.312 ms
Remote clock offset: -0.141 ms

Below is generated by plot.py at 2018-12-11 22:16:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 156.84 Mbit/s
95th percentile per-packet one-way delay: 134.131 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.84 Mbit/s
95th percentile per-packet one-way delay: 134.131 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

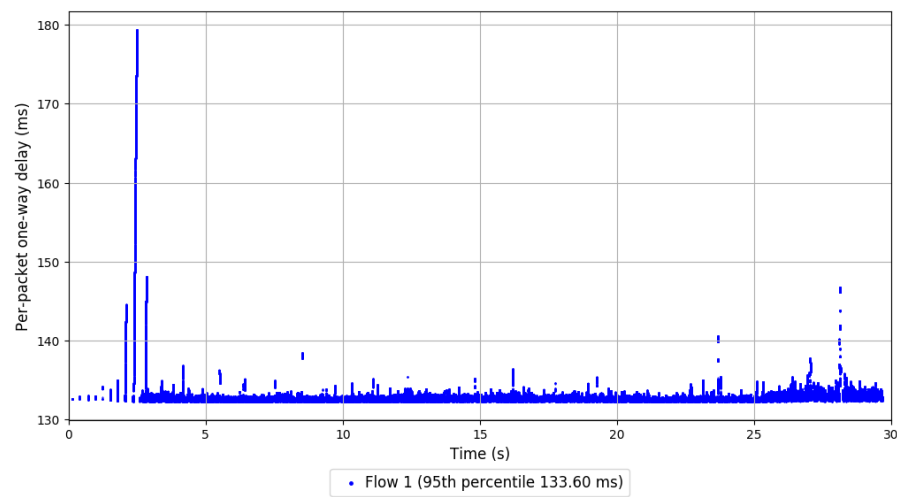
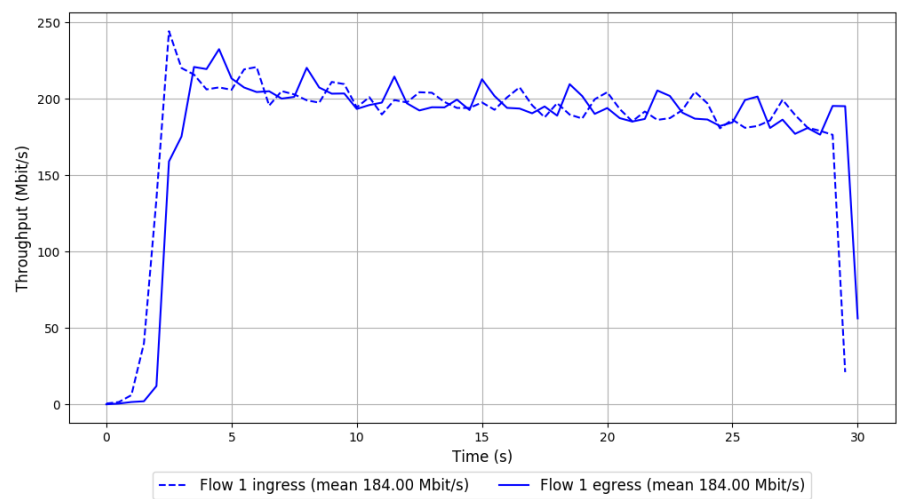


Run 2: Statistics of Indigo

Start at: 2018-12-11 19:42:13
End at: 2018-12-11 19:42:43
Local clock offset: -0.034 ms
Remote clock offset: -0.143 ms

Below is generated by plot.py at 2018-12-11 22:16:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 184.00 Mbit/s
95th percentile per-packet one-way delay: 133.602 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 184.00 Mbit/s
95th percentile per-packet one-way delay: 133.602 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

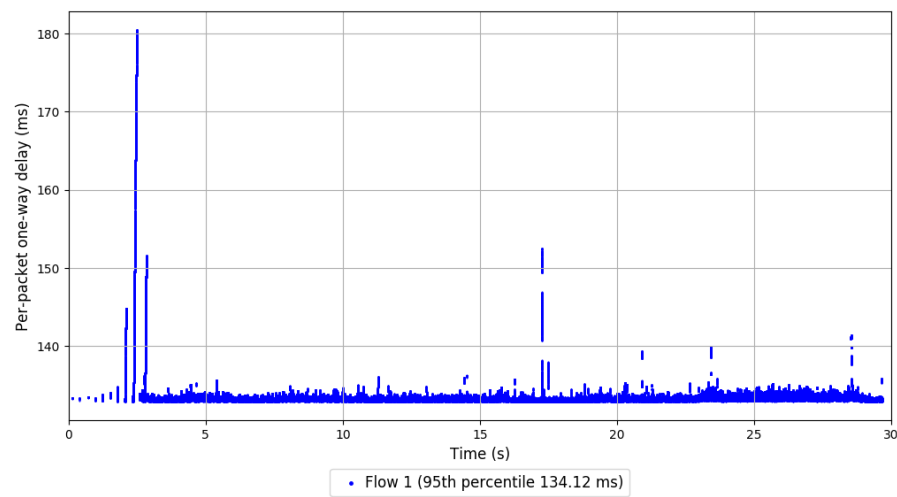
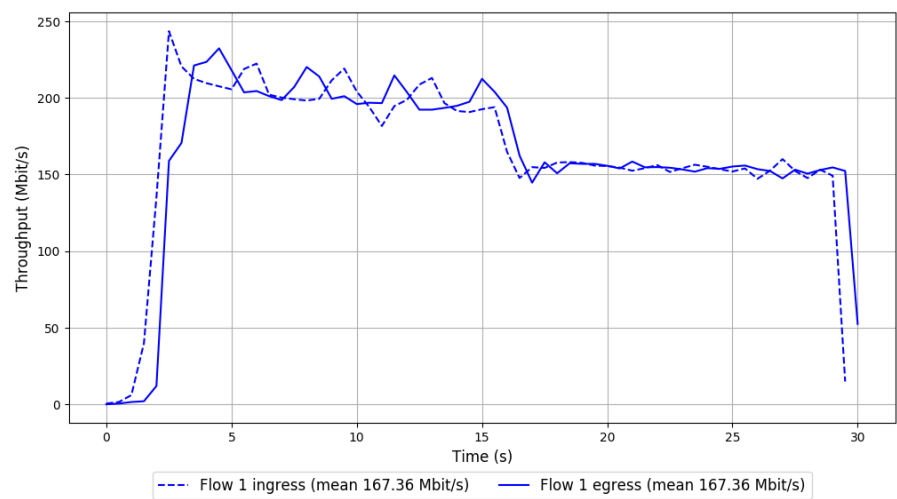


Run 3: Statistics of Indigo

Start at: 2018-12-11 20:12:52
End at: 2018-12-11 20:13:22
Local clock offset: -0.32 ms
Remote clock offset: -0.216 ms

Below is generated by plot.py at 2018-12-11 22:16:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 167.36 Mbit/s
95th percentile per-packet one-way delay: 134.120 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 167.36 Mbit/s
95th percentile per-packet one-way delay: 134.120 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-12-11 20:42:36

End at: 2018-12-11 20:43:06

Local clock offset: -0.18 ms

Remote clock offset: -0.08 ms

Below is generated by plot.py at 2018-12-11 22:18:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 184.51 Mbit/s

95th percentile per-packet one-way delay: 134.631 ms

Loss rate: 0.00%

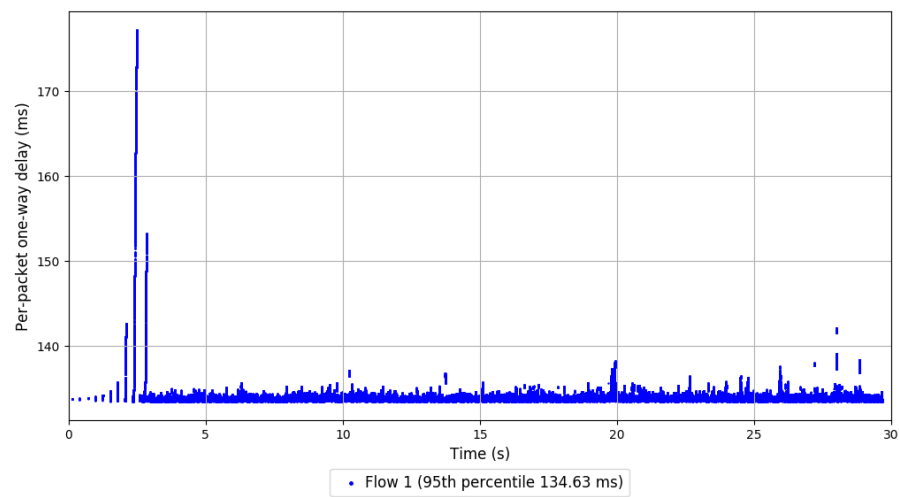
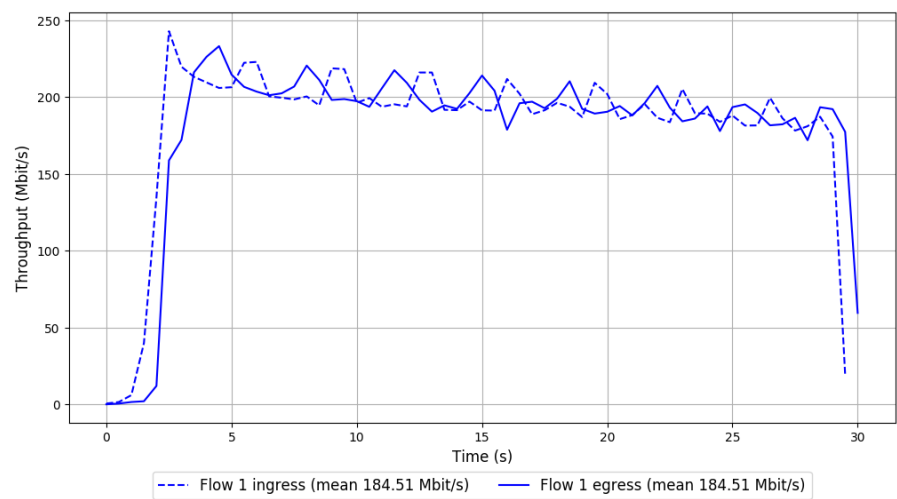
-- Flow 1:

Average throughput: 184.51 Mbit/s

95th percentile per-packet one-way delay: 134.631 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

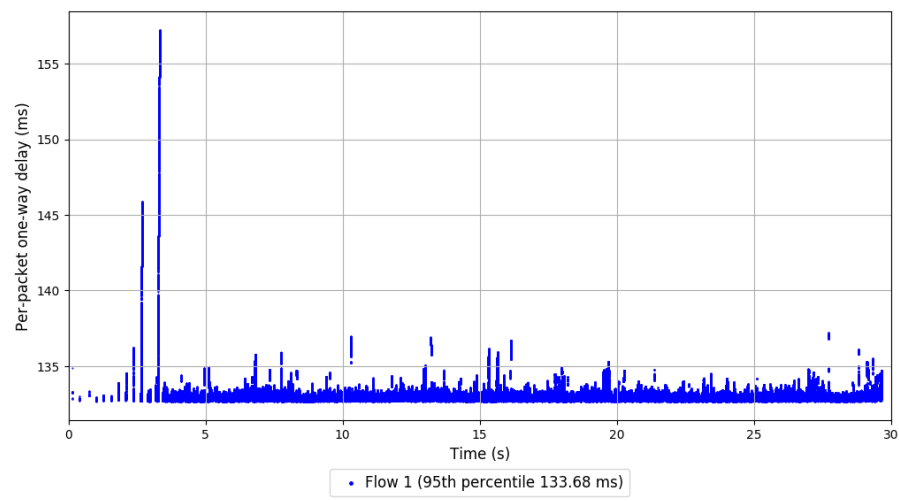
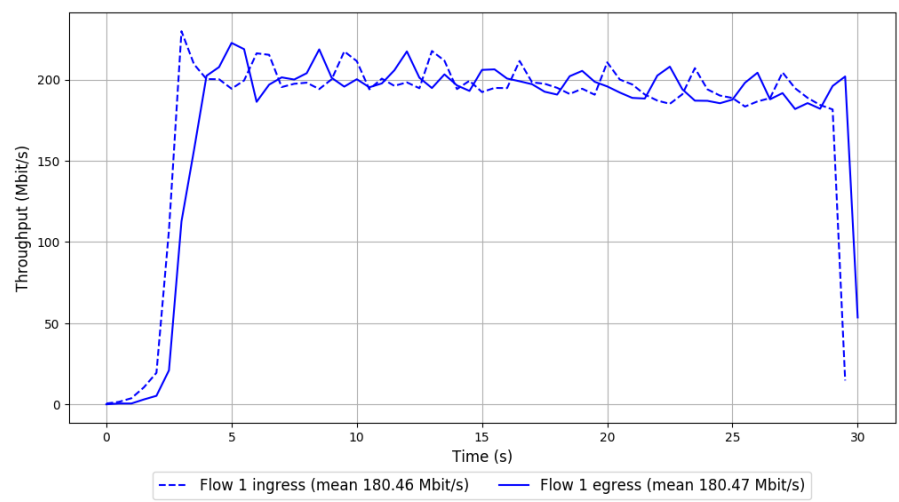


Run 5: Statistics of Indigo

Start at: 2018-12-11 21:13:34
End at: 2018-12-11 21:14:04
Local clock offset: 0.086 ms
Remote clock offset: -0.103 ms

Below is generated by plot.py at 2018-12-11 22:18:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 180.47 Mbit/s
95th percentile per-packet one-way delay: 133.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 180.47 Mbit/s
95th percentile per-packet one-way delay: 133.681 ms
Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 19:20:14

End at: 2018-12-11 19:20:44

Local clock offset: -0.475 ms

Remote clock offset: 0.181 ms

Below is generated by plot.py at 2018-12-11 22:24:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 609.01 Mbit/s

95th percentile per-packet one-way delay: 194.350 ms

Loss rate: 0.32%

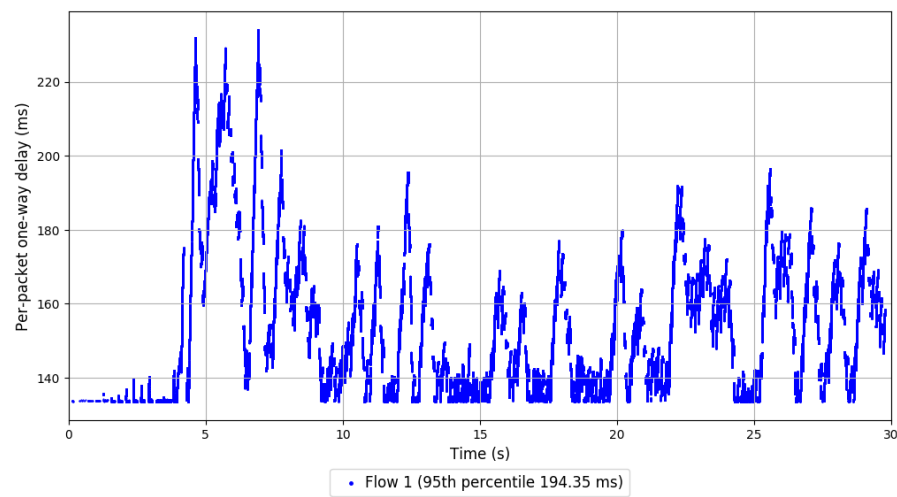
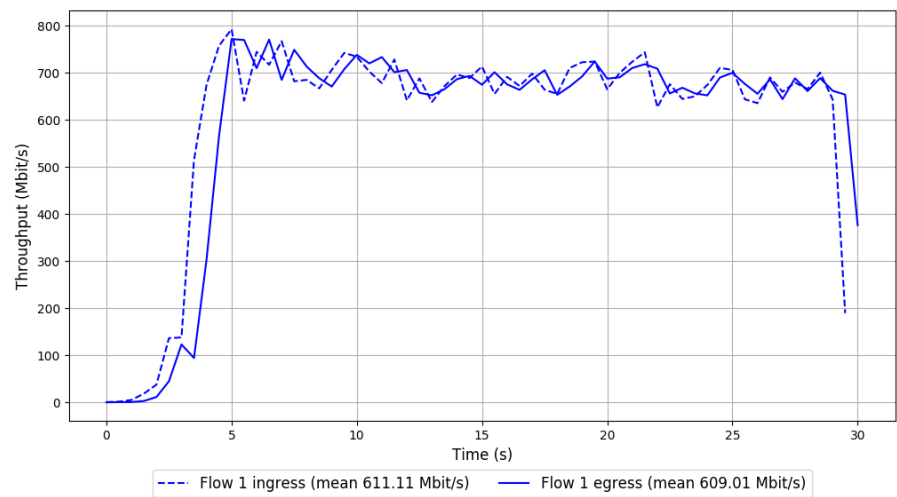
-- Flow 1:

Average throughput: 609.01 Mbit/s

95th percentile per-packet one-way delay: 194.350 ms

Loss rate: 0.32%

Run 1: Report of Indigo-MusesD — Data Link

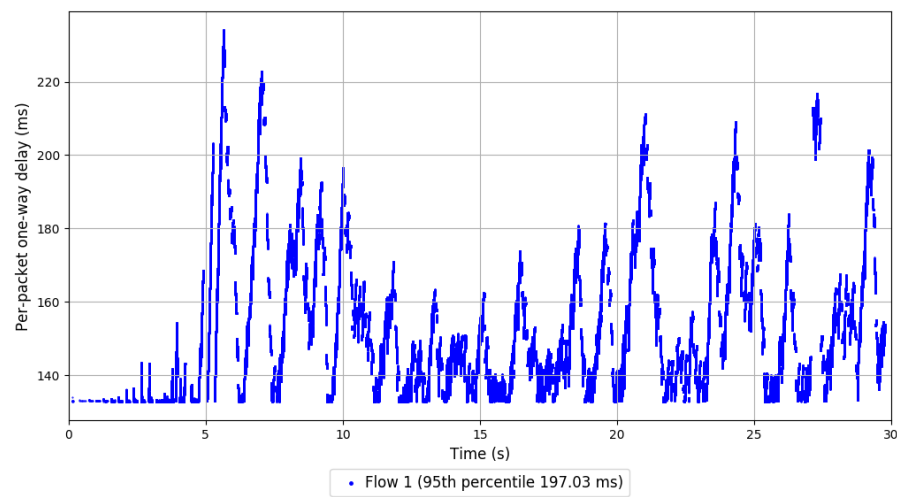
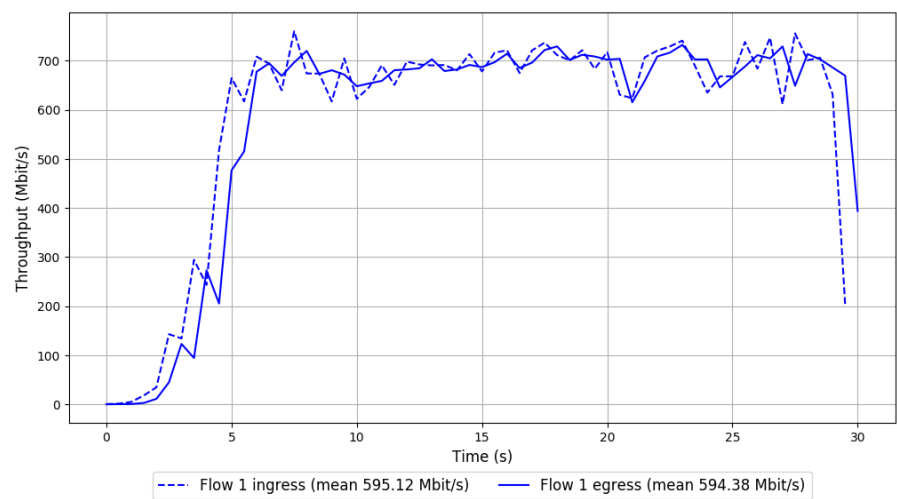


Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 19:52:08
End at: 2018-12-11 19:52:38
Local clock offset: -0.119 ms
Remote clock offset: -0.138 ms

Below is generated by plot.py at 2018-12-11 22:24:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 594.38 Mbit/s
95th percentile per-packet one-way delay: 197.027 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 594.38 Mbit/s
95th percentile per-packet one-way delay: 197.027 ms
Loss rate: 0.13%

Run 2: Report of Indigo-MusesD — Data Link

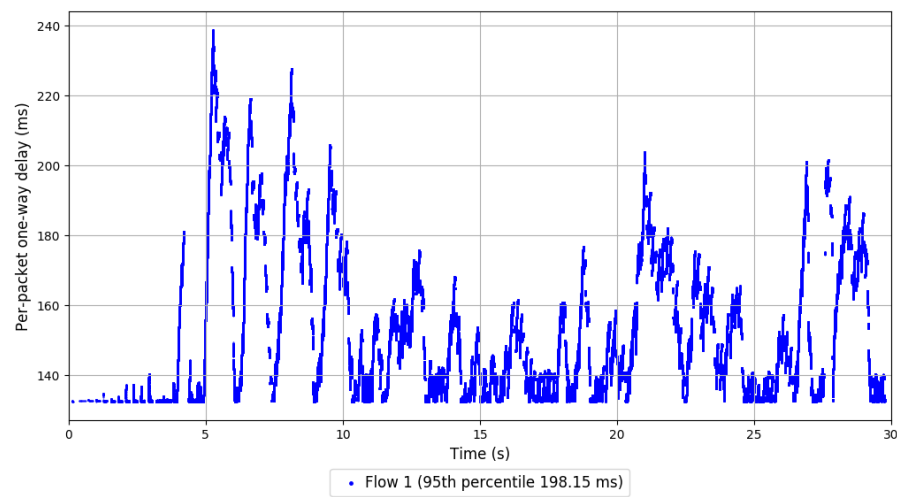
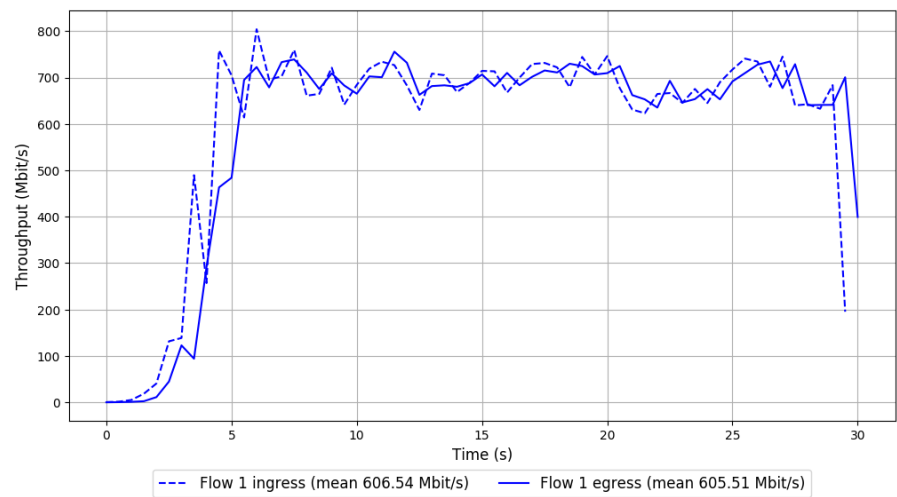


Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 20:22:09
End at: 2018-12-11 20:22:39
Local clock offset: -0.521 ms
Remote clock offset: -0.551 ms

Below is generated by plot.py at 2018-12-11 22:26:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 605.51 Mbit/s
95th percentile per-packet one-way delay: 198.153 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 605.51 Mbit/s
95th percentile per-packet one-way delay: 198.153 ms
Loss rate: 0.17%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 20:52:12

End at: 2018-12-11 20:52:42

Local clock offset: 0.035 ms

Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-12-11 22:28:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 629.04 Mbit/s

95th percentile per-packet one-way delay: 187.187 ms

Loss rate: 0.06%

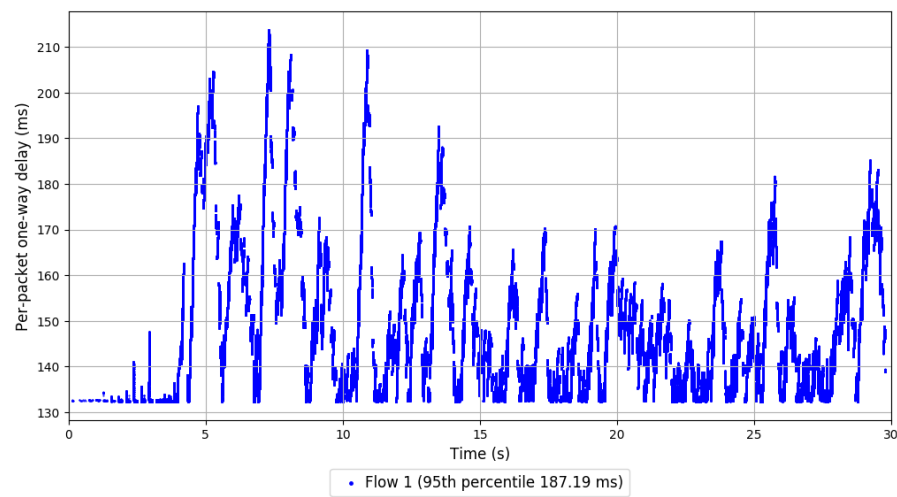
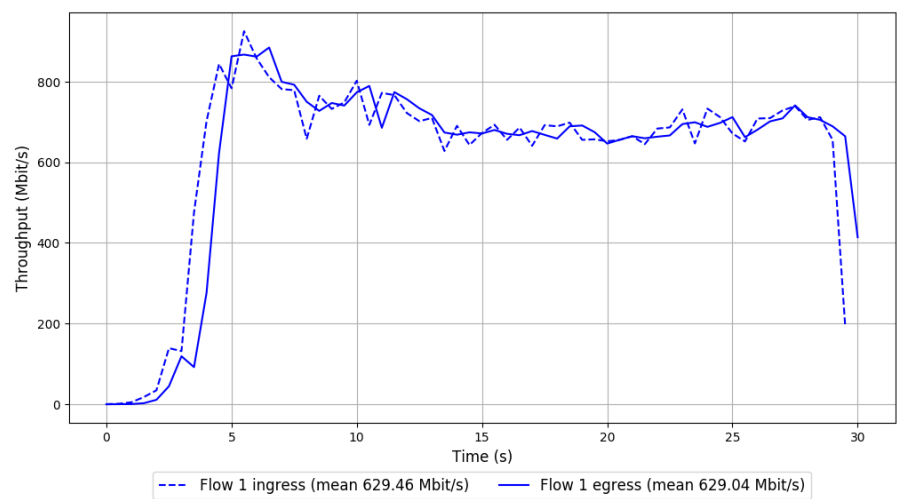
-- Flow 1:

Average throughput: 629.04 Mbit/s

95th percentile per-packet one-way delay: 187.187 ms

Loss rate: 0.06%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 21:23:13

End at: 2018-12-11 21:23:43

Local clock offset: 0.452 ms

Remote clock offset: -0.108 ms

Below is generated by plot.py at 2018-12-11 22:28:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 590.49 Mbit/s

95th percentile per-packet one-way delay: 194.641 ms

Loss rate: 0.19%

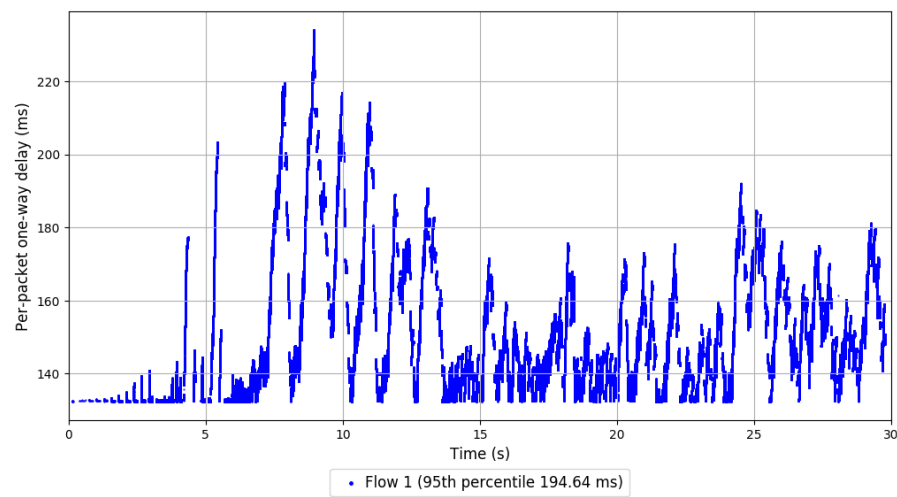
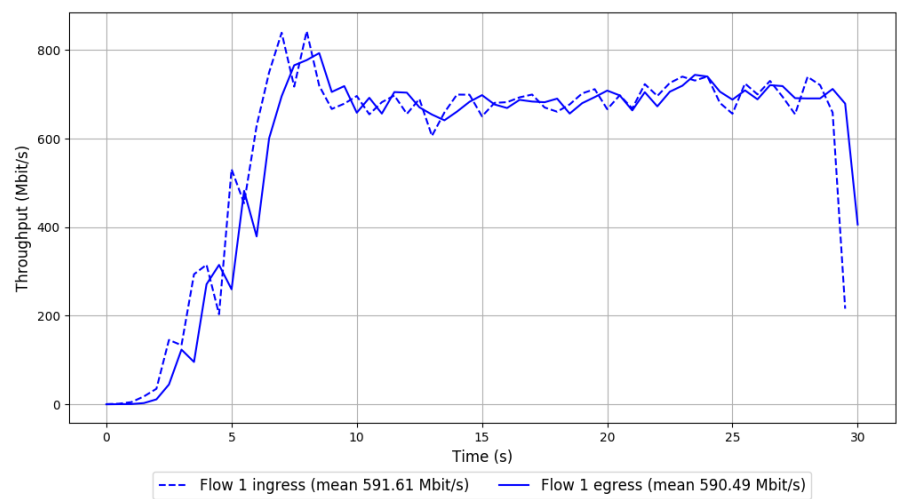
-- Flow 1:

Average throughput: 590.49 Mbit/s

95th percentile per-packet one-way delay: 194.641 ms

Loss rate: 0.19%

Run 5: Report of Indigo-MusesD — Data Link

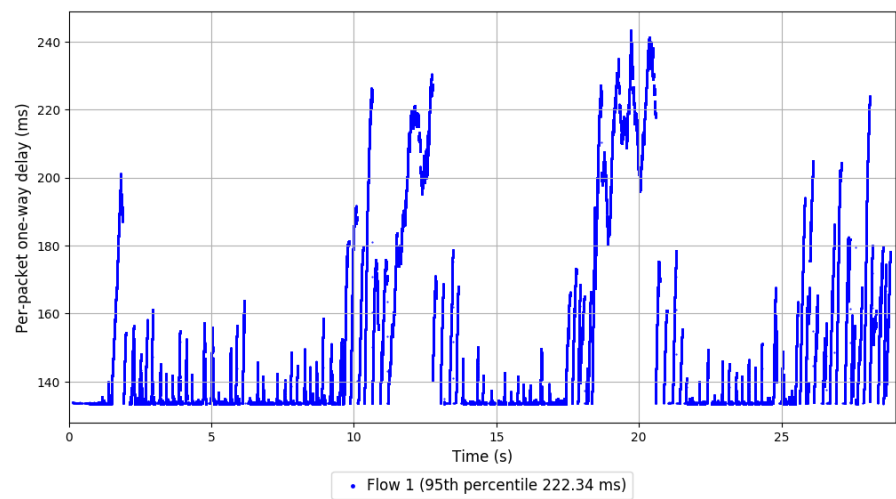
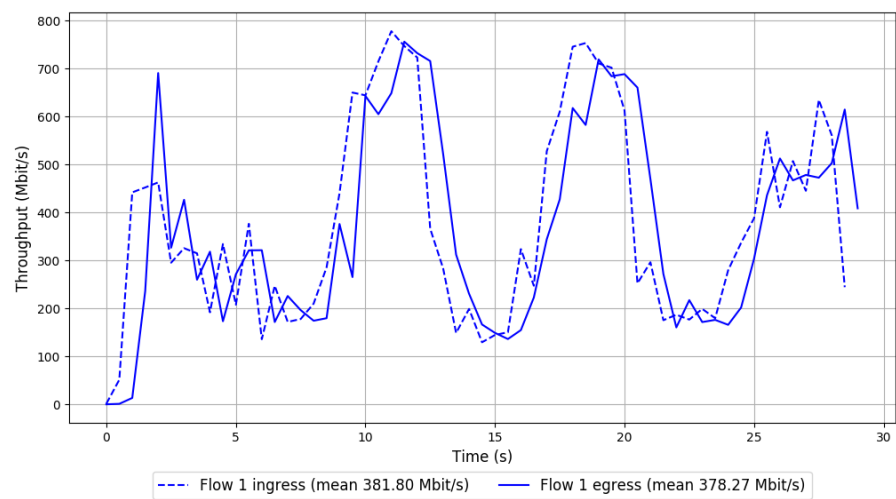


```
Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 19:22:30
End at: 2018-12-11 19:23:00
Local clock offset: -0.286 ms
Remote clock offset: -0.308 ms

# Below is generated by plot.py at 2018-12-11 22:28:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 378.27 Mbit/s
95th percentile per-packet one-way delay: 222.344 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 378.27 Mbit/s
95th percentile per-packet one-way delay: 222.344 ms
Loss rate: 0.82%
```

Run 1: Report of Indigo-MusesT — Data Link

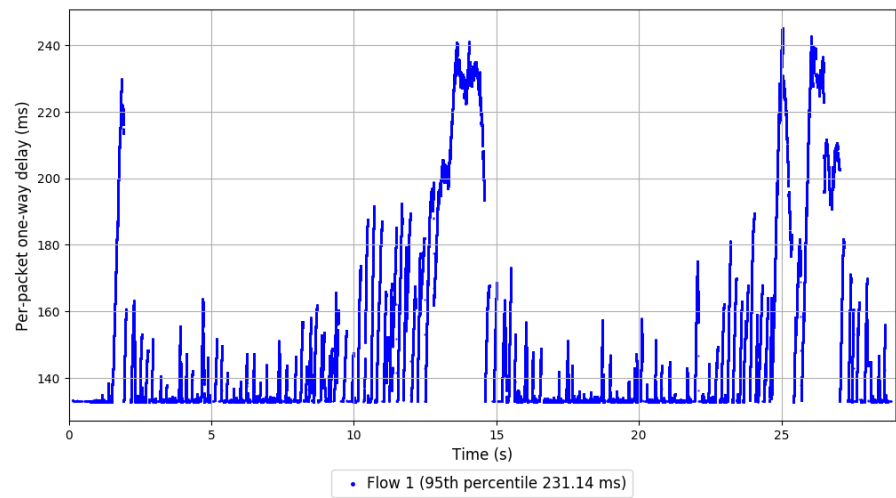
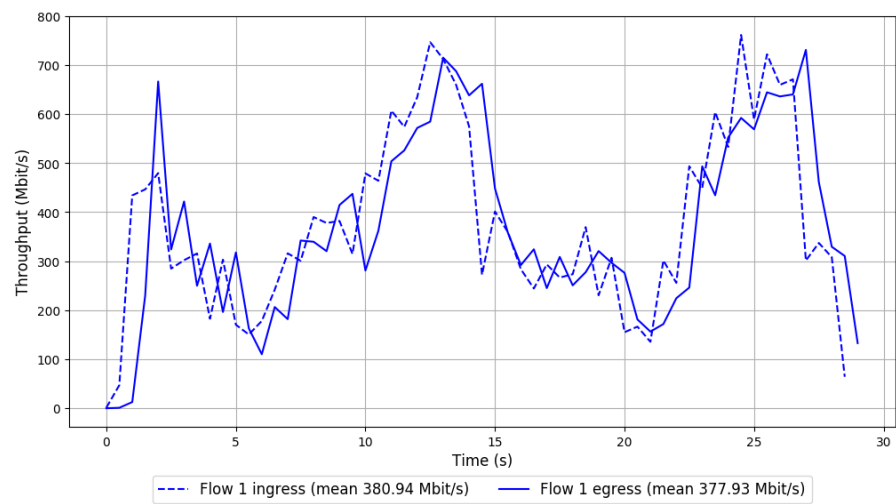


Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 19:54:06
End at: 2018-12-11 19:54:36
Local clock offset: -0.054 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-12-11 22:28:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 377.93 Mbit/s
95th percentile per-packet one-way delay: 231.140 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 377.93 Mbit/s
95th percentile per-packet one-way delay: 231.140 ms
Loss rate: 0.79%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-11 20:23:54

End at: 2018-12-11 20:24:24

Local clock offset: -0.275 ms

Remote clock offset: -0.25 ms

Below is generated by plot.py at 2018-12-11 22:28:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 436.07 Mbit/s

95th percentile per-packet one-way delay: 230.915 ms

Loss rate: 0.77%

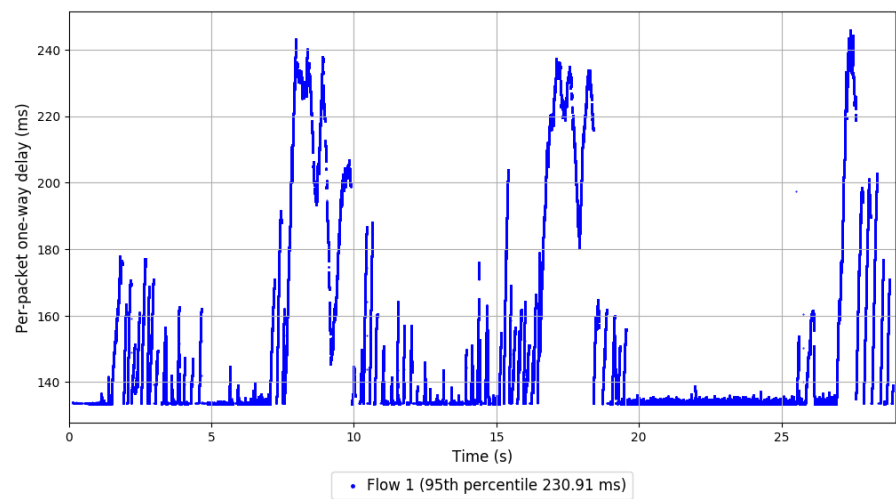
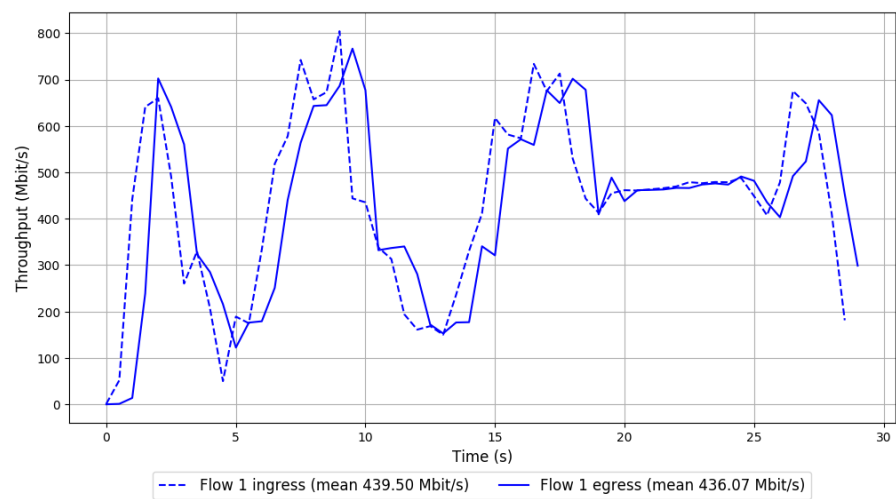
-- Flow 1:

Average throughput: 436.07 Mbit/s

95th percentile per-packet one-way delay: 230.915 ms

Loss rate: 0.77%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 20:54:26

End at: 2018-12-11 20:54:56

Local clock offset: 0.023 ms

Remote clock offset: -0.082 ms

Below is generated by plot.py at 2018-12-11 22:35:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 648.76 Mbit/s

95th percentile per-packet one-way delay: 234.441 ms

Loss rate: 4.09%

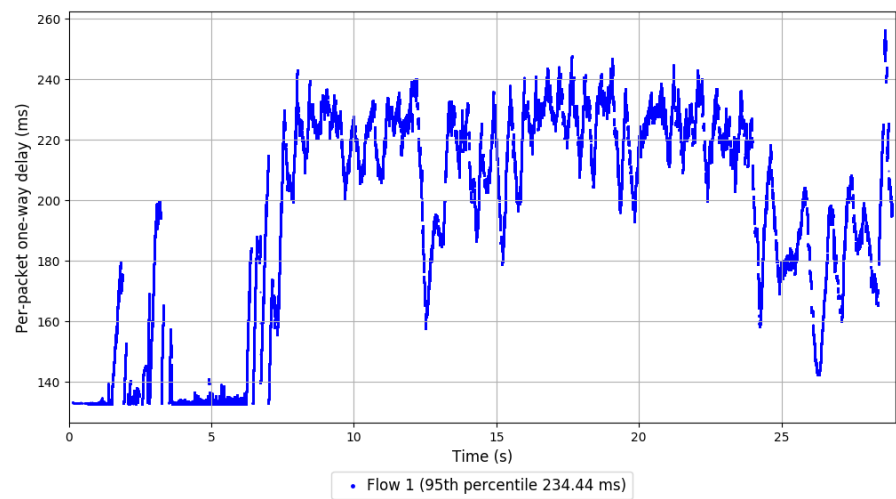
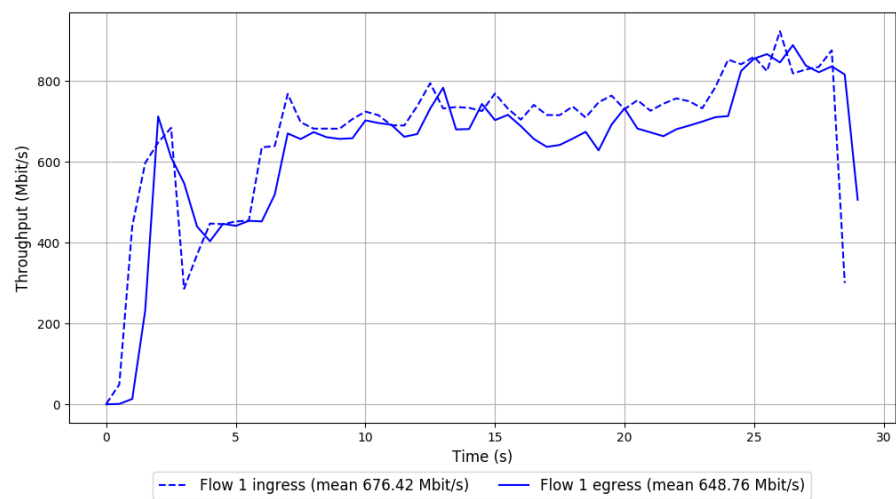
-- Flow 1:

Average throughput: 648.76 Mbit/s

95th percentile per-packet one-way delay: 234.441 ms

Loss rate: 4.09%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 21:25:12

End at: 2018-12-11 21:25:42

Local clock offset: 0.391 ms

Remote clock offset: -0.148 ms

Below is generated by plot.py at 2018-12-11 22:35:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 385.99 Mbit/s

95th percentile per-packet one-way delay: 221.465 ms

Loss rate: 0.24%

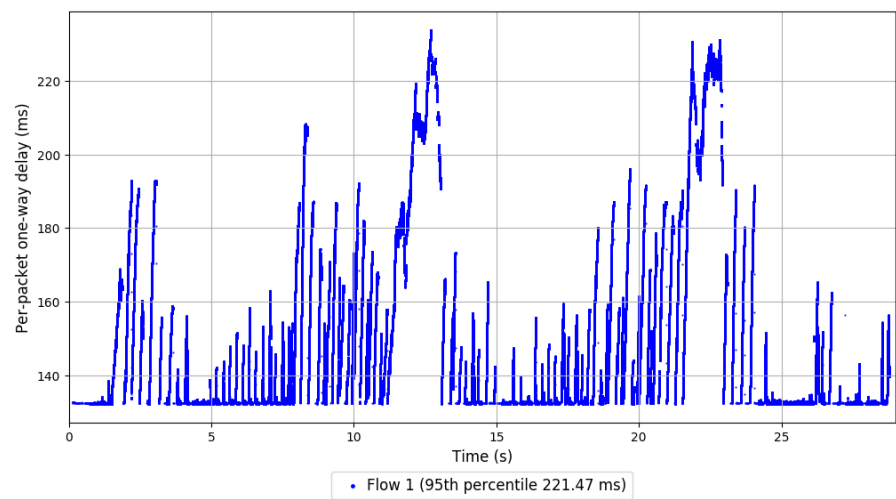
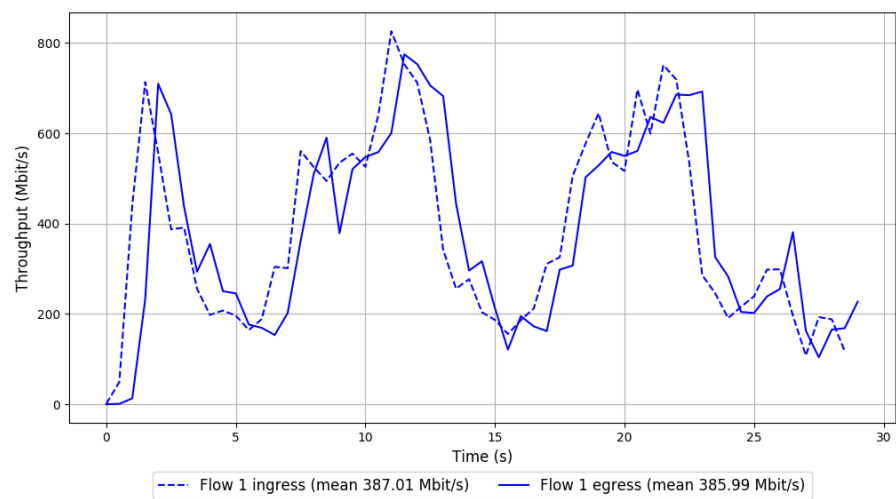
-- Flow 1:

Average throughput: 385.99 Mbit/s

95th percentile per-packet one-way delay: 221.465 ms

Loss rate: 0.24%

Run 5: Report of Indigo-MusesT — Data Link

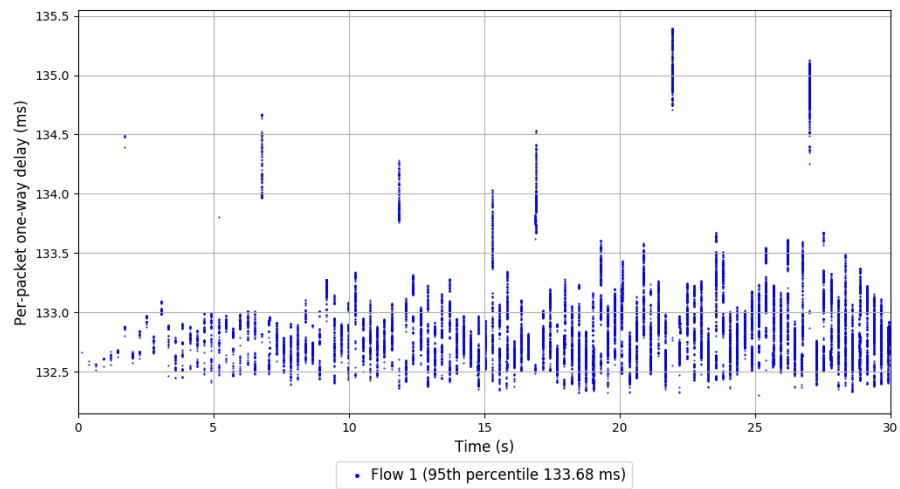
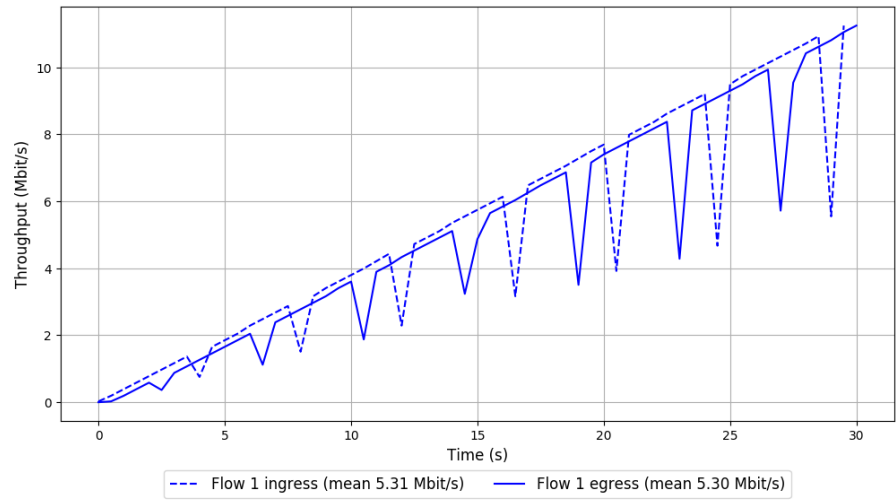



```
Run 1: Statistics of LEDBAT

Start at: 2018-12-11 19:13:21
End at: 2018-12-11 19:13:52
Local clock offset: -0.086 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2018-12-11 22:35:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 133.675 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 133.675 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

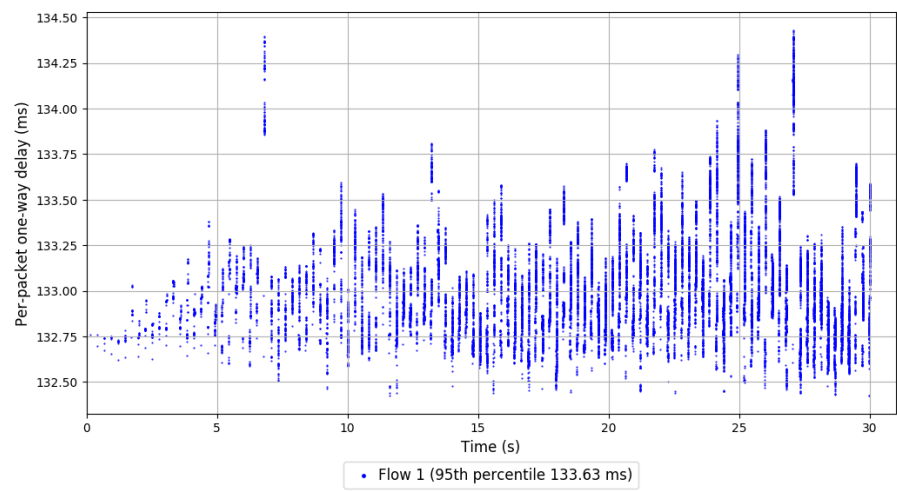
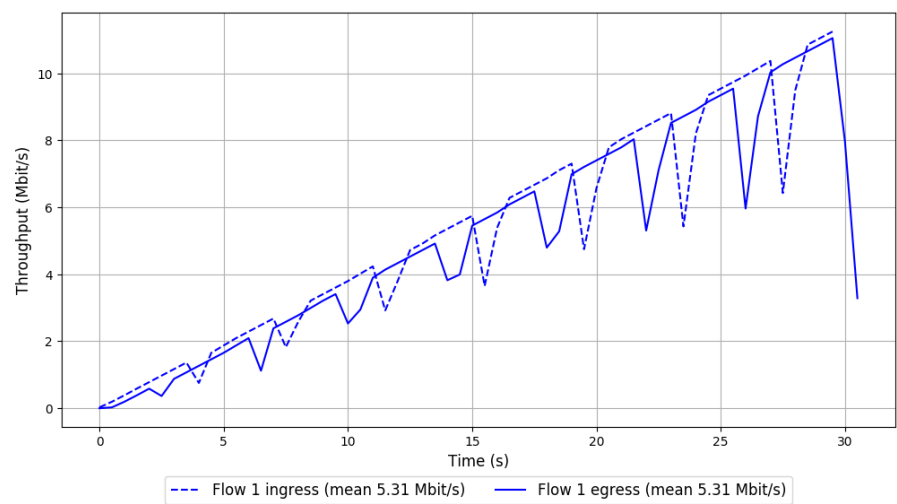


Run 2: Statistics of LEDBAT

Start at: 2018-12-11 19:45:15
End at: 2018-12-11 19:45:45
Local clock offset: 0.175 ms
Remote clock offset: -0.149 ms

Below is generated by plot.py at 2018-12-11 22:35:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 133.635 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 133.635 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

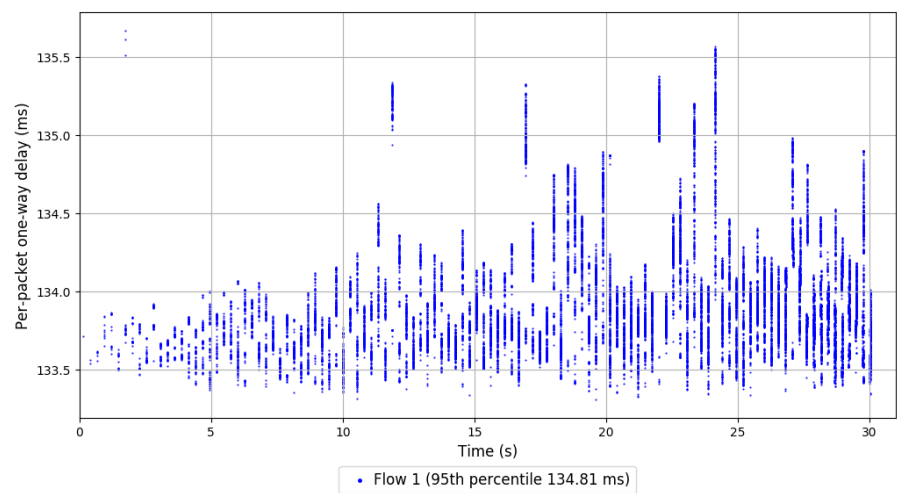
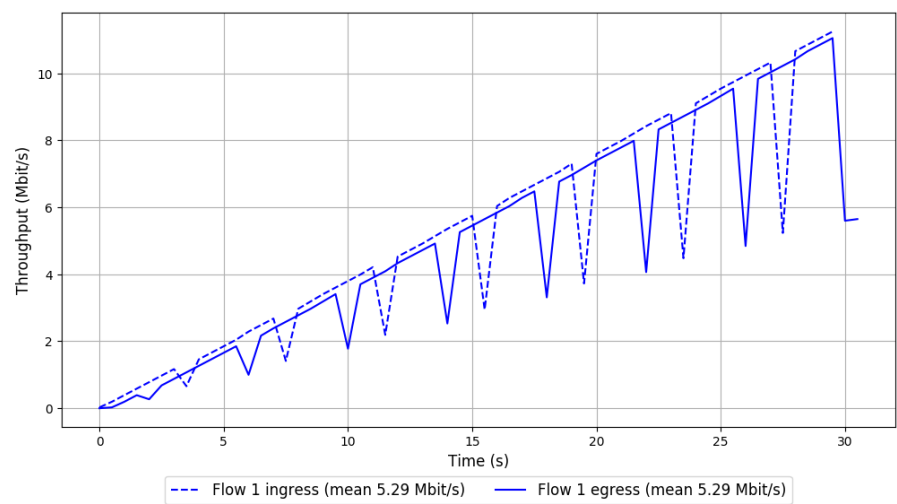


Run 3: Statistics of LEDBAT

Start at: 2018-12-11 20:15:39
End at: 2018-12-11 20:16:09
Local clock offset: -0.131 ms
Remote clock offset: -0.203 ms

Below is generated by plot.py at 2018-12-11 22:35:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 134.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 134.808 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

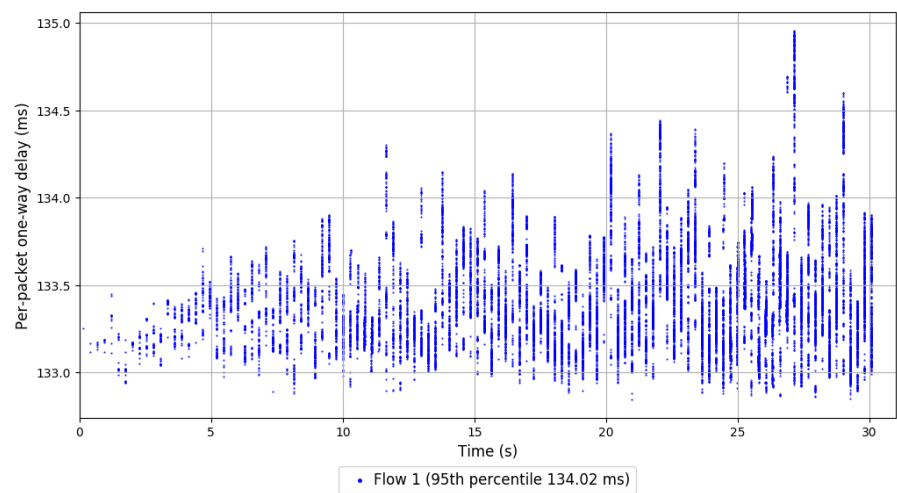
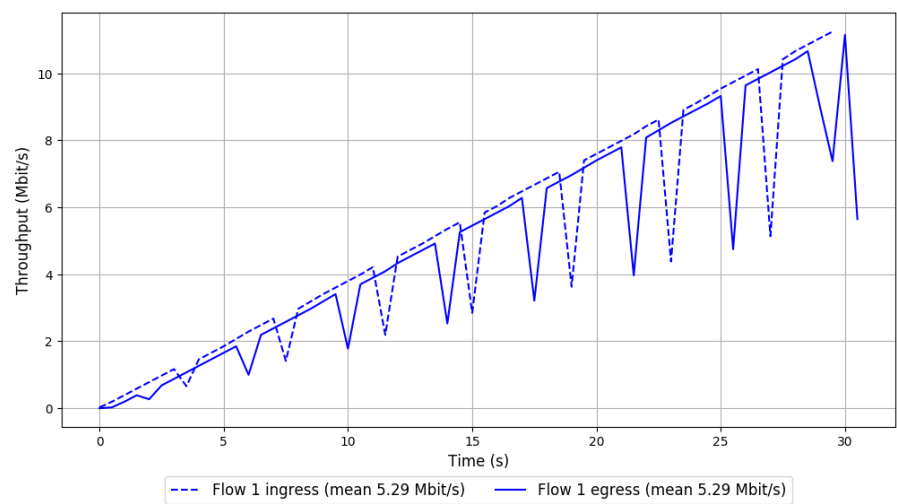


Run 4: Statistics of LEDBAT

Start at: 2018-12-11 20:45:31
End at: 2018-12-11 20:46:01
Local clock offset: -0.158 ms
Remote clock offset: -0.118 ms

Below is generated by plot.py at 2018-12-11 22:35:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 134.022 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 134.022 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

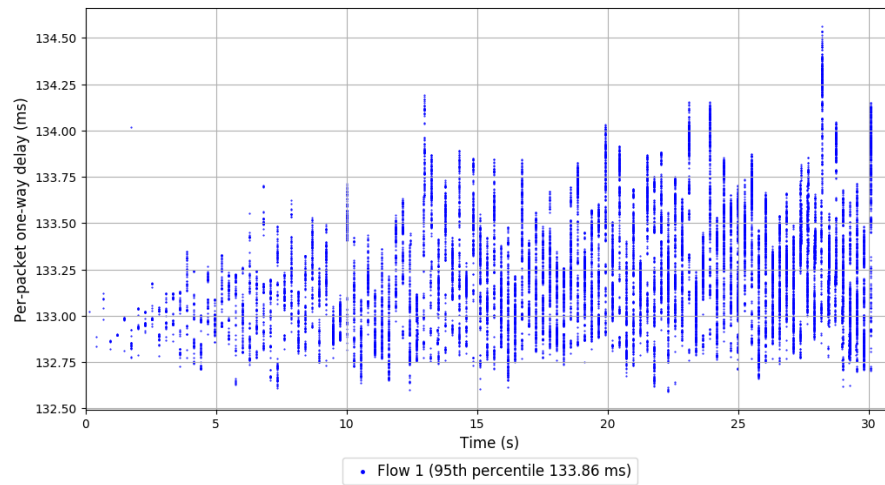
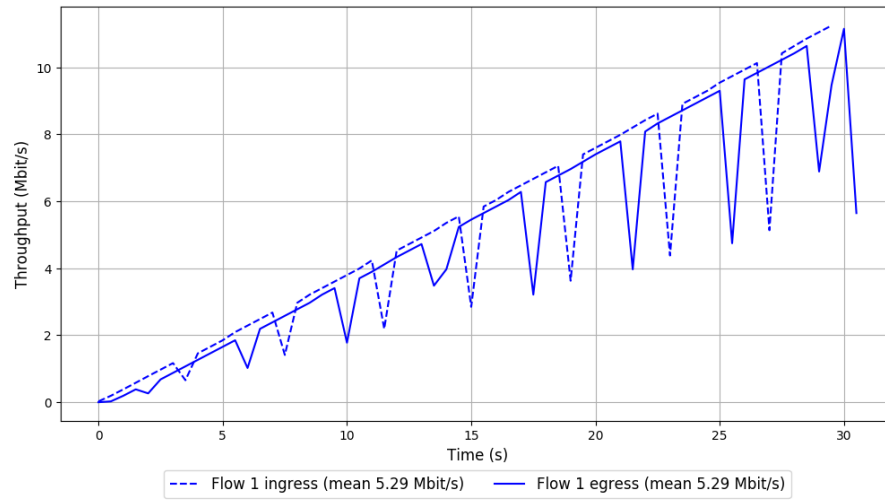


Run 5: Statistics of LEDBAT

Start at: 2018-12-11 21:16:53
End at: 2018-12-11 21:17:23
Local clock offset: 0.22 ms
Remote clock offset: -0.052 ms

Below is generated by plot.py at 2018-12-11 22:35:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 133.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 133.856 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 19:18:13

End at: 2018-12-11 19:18:43

Local clock offset: -0.485 ms

Remote clock offset: -0.141 ms

Below is generated by plot.py at 2018-12-11 22:41:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 427.93 Mbit/s

95th percentile per-packet one-way delay: 241.415 ms

Loss rate: 2.74%

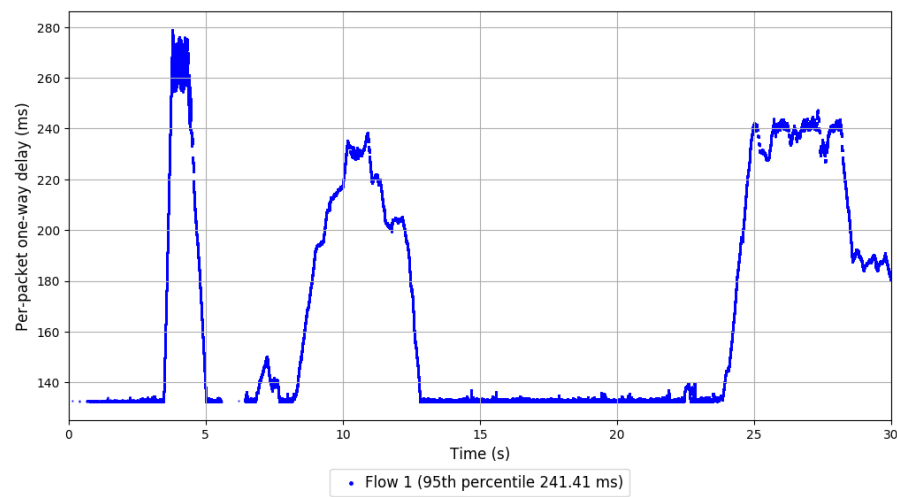
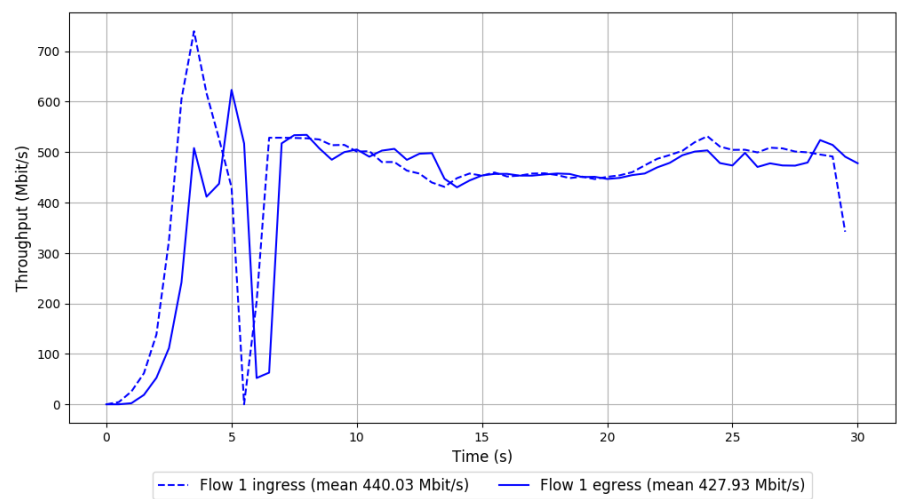
-- Flow 1:

Average throughput: 427.93 Mbit/s

95th percentile per-packet one-way delay: 241.415 ms

Loss rate: 2.74%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 19:50:18

End at: 2018-12-11 19:50:48

Local clock offset: 0.167 ms

Remote clock offset: -0.053 ms

Below is generated by plot.py at 2018-12-11 22:41:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 359.57 Mbit/s

95th percentile per-packet one-way delay: 244.579 ms

Loss rate: 2.02%

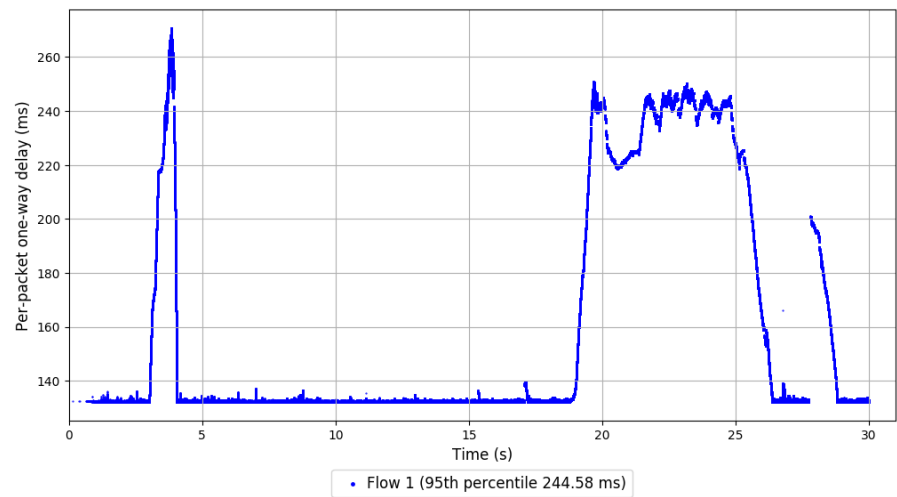
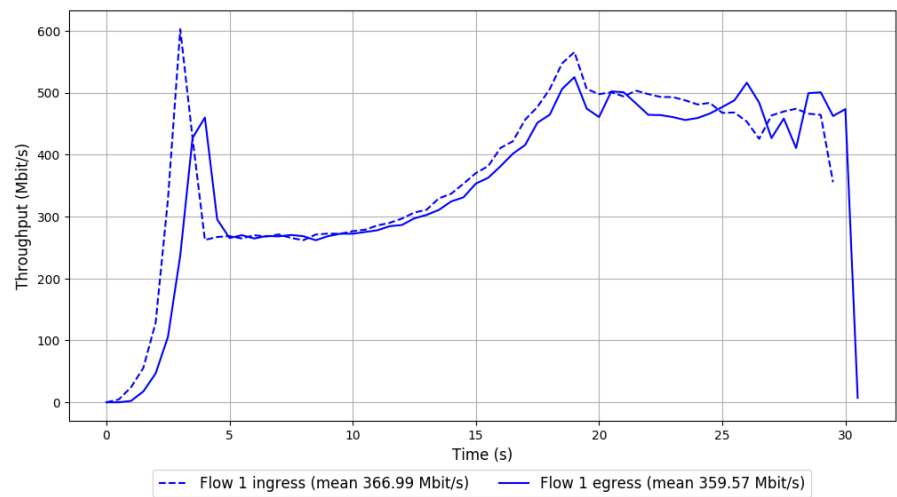
-- Flow 1:

Average throughput: 359.57 Mbit/s

95th percentile per-packet one-way delay: 244.579 ms

Loss rate: 2.02%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 20:20:26

End at: 2018-12-11 20:20:56

Local clock offset: 0.091 ms

Remote clock offset: -0.22 ms

Below is generated by plot.py at 2018-12-11 22:41:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 364.34 Mbit/s

95th percentile per-packet one-way delay: 243.104 ms

Loss rate: 1.71%

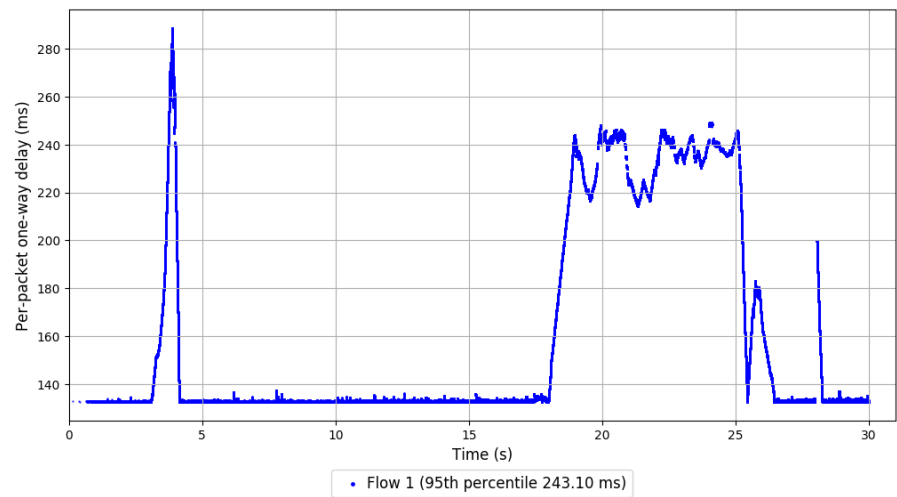
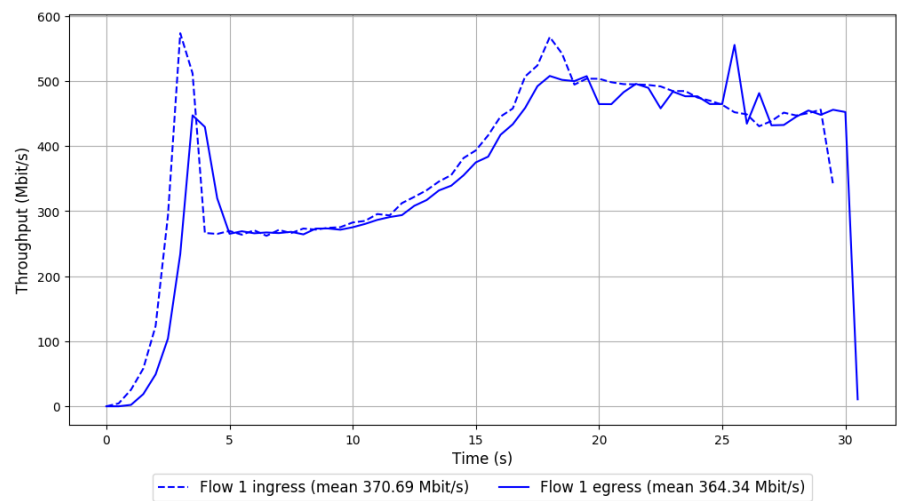
-- Flow 1:

Average throughput: 364.34 Mbit/s

95th percentile per-packet one-way delay: 243.104 ms

Loss rate: 1.71%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 20:50:19

End at: 2018-12-11 20:50:49

Local clock offset: 0.033 ms

Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-12-11 22:41:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 374.80 Mbit/s

95th percentile per-packet one-way delay: 258.896 ms

Loss rate: 8.10%

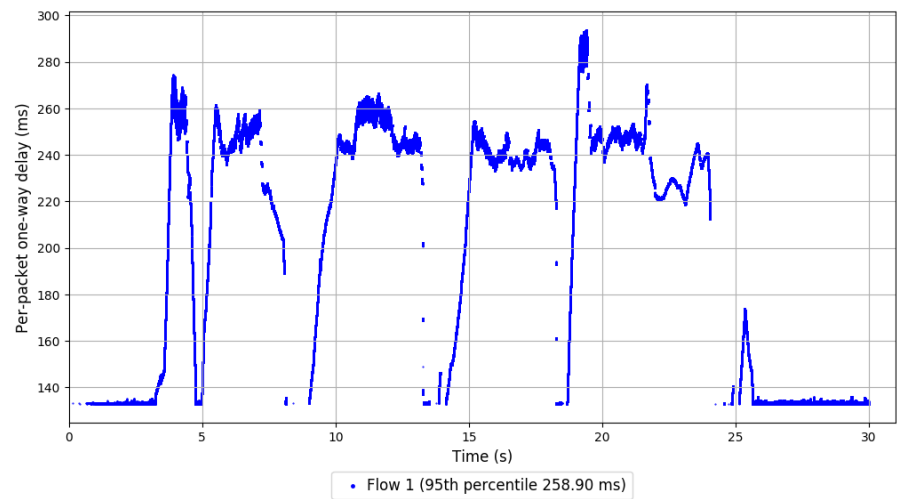
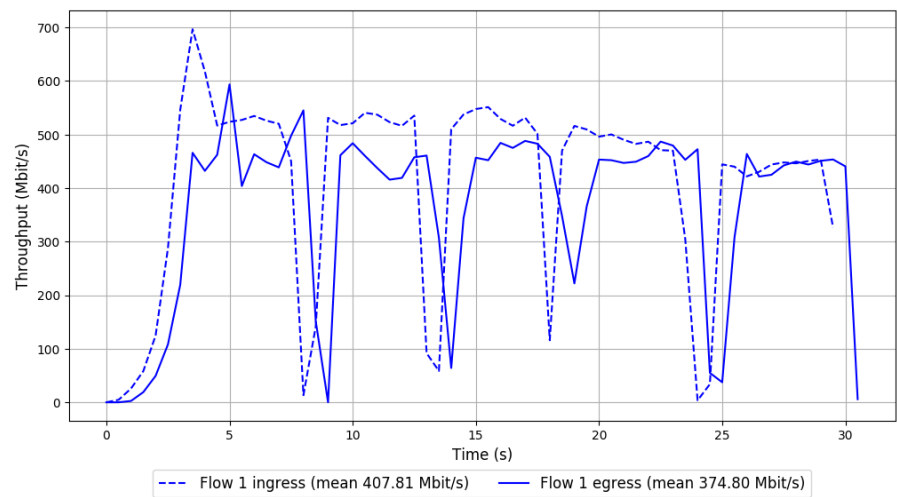
-- Flow 1:

Average throughput: 374.80 Mbit/s

95th percentile per-packet one-way delay: 258.896 ms

Loss rate: 8.10%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 21:21:24

End at: 2018-12-11 21:21:54

Local clock offset: 0.17 ms

Remote clock offset: -0.12 ms

Below is generated by plot.py at 2018-12-11 22:42:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 382.62 Mbit/s

95th percentile per-packet one-way delay: 240.009 ms

Loss rate: 1.56%

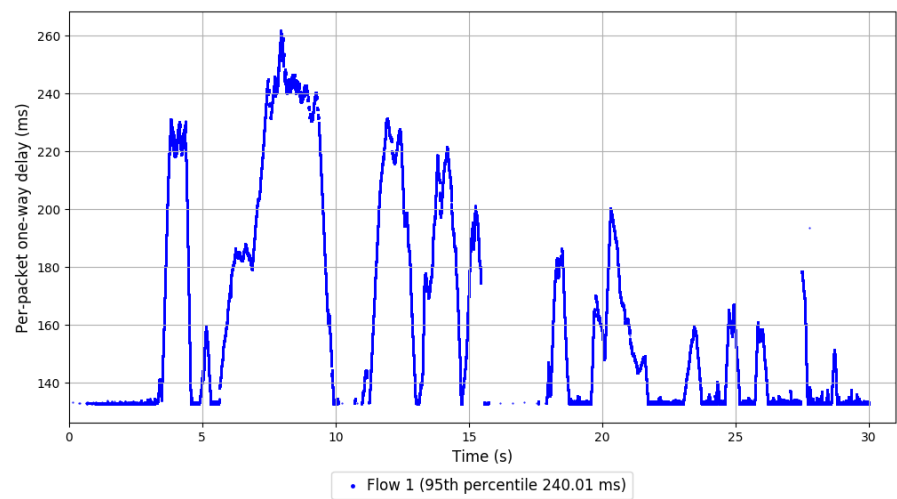
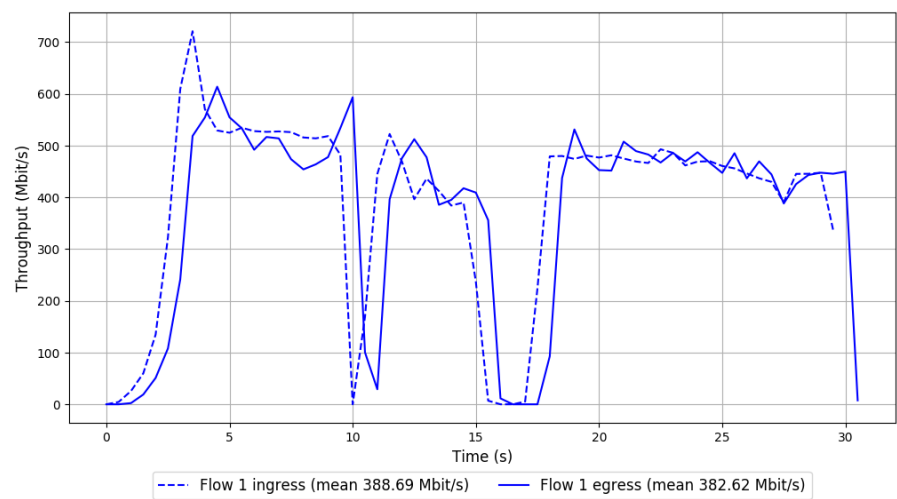
-- Flow 1:

Average throughput: 382.62 Mbit/s

95th percentile per-packet one-way delay: 240.009 ms

Loss rate: 1.56%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-12-11 19:16:20

End at: 2018-12-11 19:16:50

Local clock offset: 0.112 ms

Remote clock offset: -0.14 ms

Below is generated by plot.py at 2018-12-11 22:42:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 327.37 Mbit/s

95th percentile per-packet one-way delay: 229.276 ms

Loss rate: 2.97%

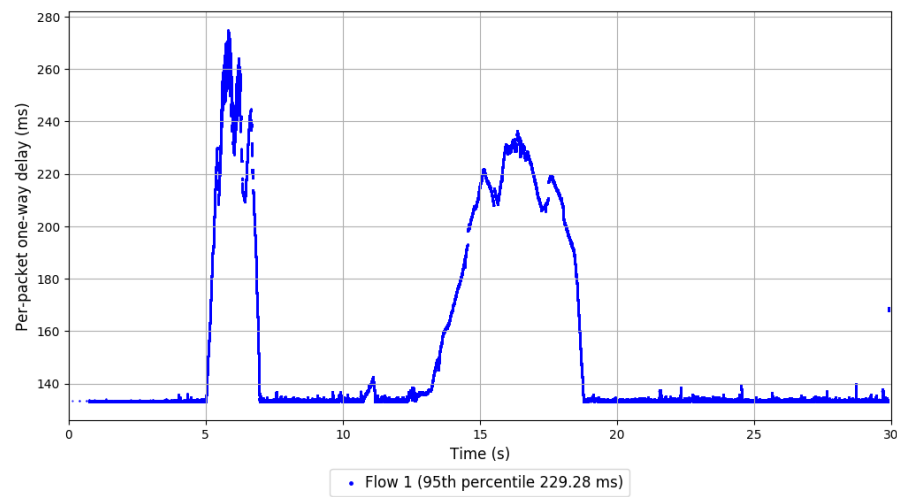
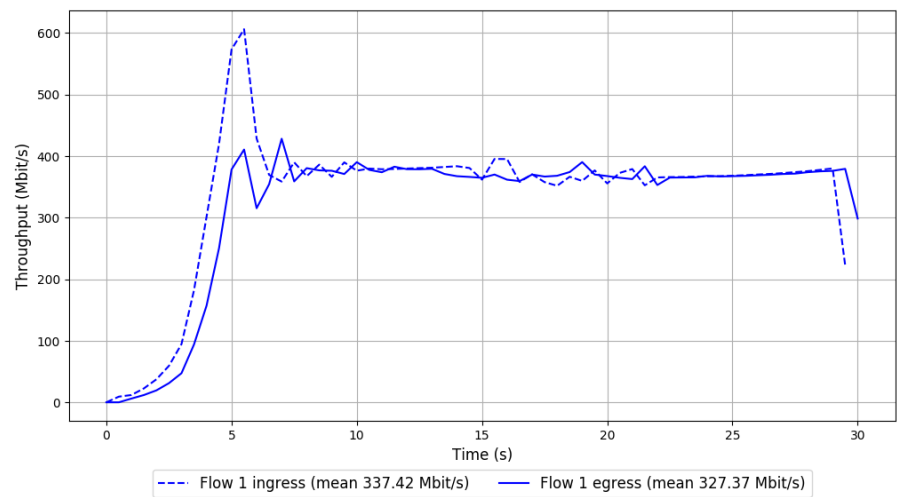
-- Flow 1:

Average throughput: 327.37 Mbit/s

95th percentile per-packet one-way delay: 229.276 ms

Loss rate: 2.97%

Run 1: Report of PCC-Expr — Data Link

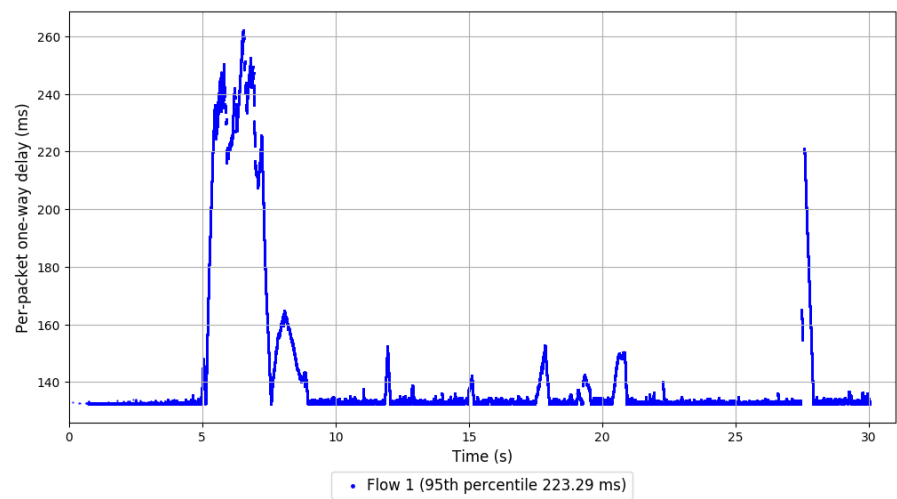
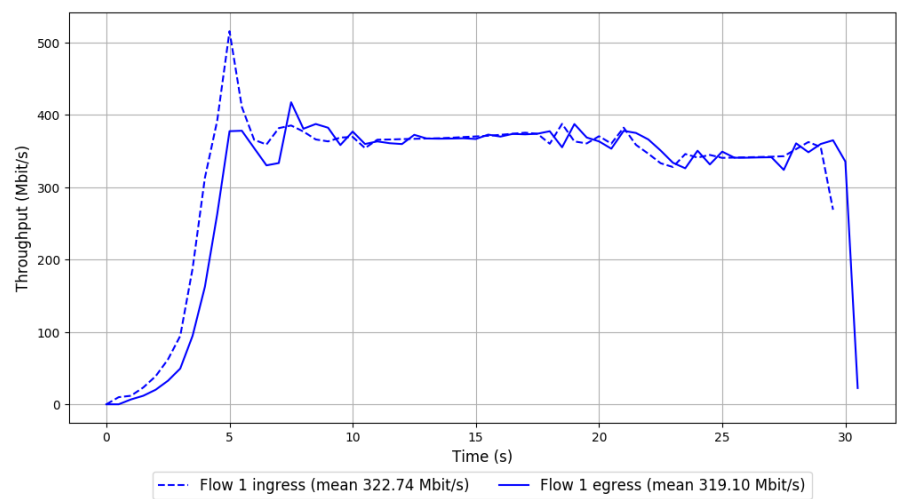


Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 19:48:20
End at: 2018-12-11 19:48:50
Local clock offset: 0.297 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-12-11 22:43:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 319.10 Mbit/s
95th percentile per-packet one-way delay: 223.294 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 319.10 Mbit/s
95th percentile per-packet one-way delay: 223.294 ms
Loss rate: 1.13%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 20:18:34

End at: 2018-12-11 20:19:04

Local clock offset: -0.117 ms

Remote clock offset: 0.124 ms

Below is generated by plot.py at 2018-12-11 22:48:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 334.09 Mbit/s

95th percentile per-packet one-way delay: 233.057 ms

Loss rate: 2.67%

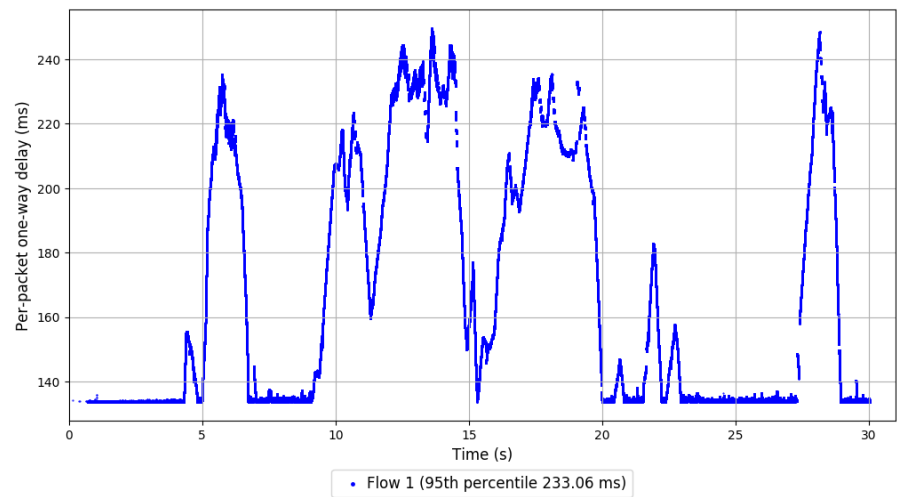
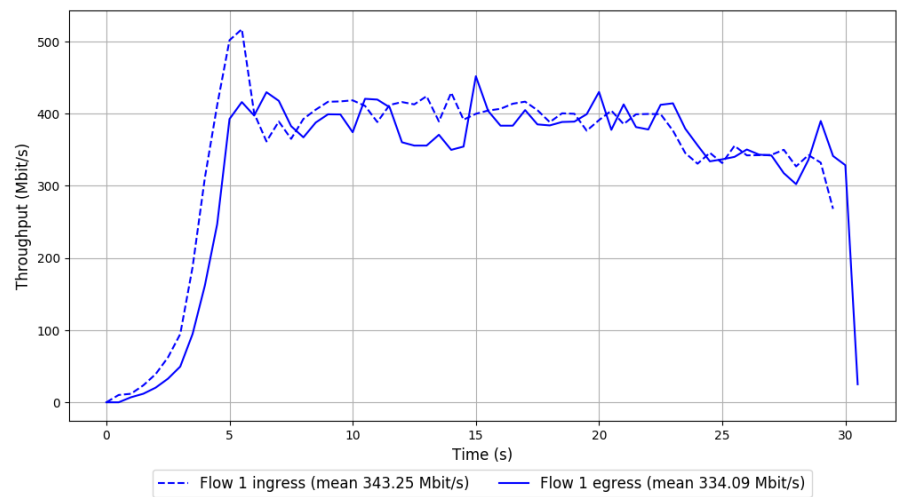
-- Flow 1:

Average throughput: 334.09 Mbit/s

95th percentile per-packet one-way delay: 233.057 ms

Loss rate: 2.67%

Run 3: Report of PCC-Expr — Data Link

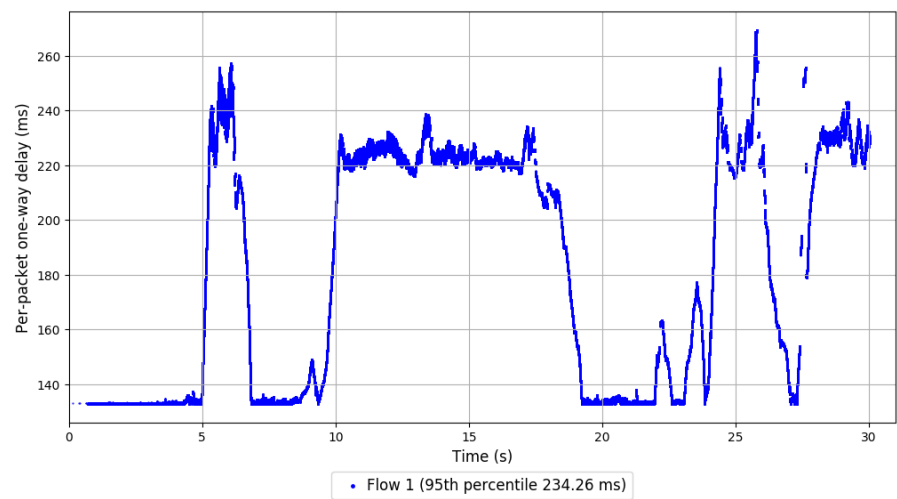
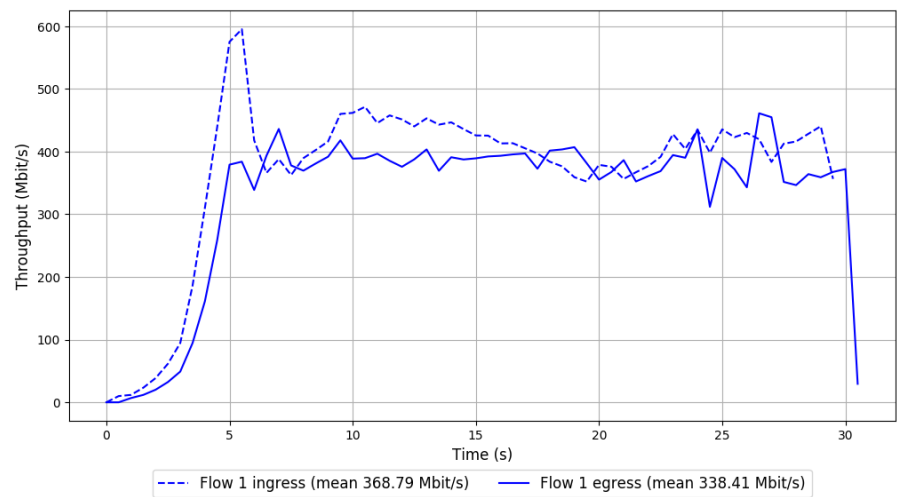


Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 20:48:23
End at: 2018-12-11 20:48:53
Local clock offset: 0.203 ms
Remote clock offset: -0.059 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 338.41 Mbit/s
95th percentile per-packet one-way delay: 234.261 ms
Loss rate: 8.24%
-- Flow 1:
Average throughput: 338.41 Mbit/s
95th percentile per-packet one-way delay: 234.261 ms
Loss rate: 8.24%

Run 4: Report of PCC-Expr — Data Link

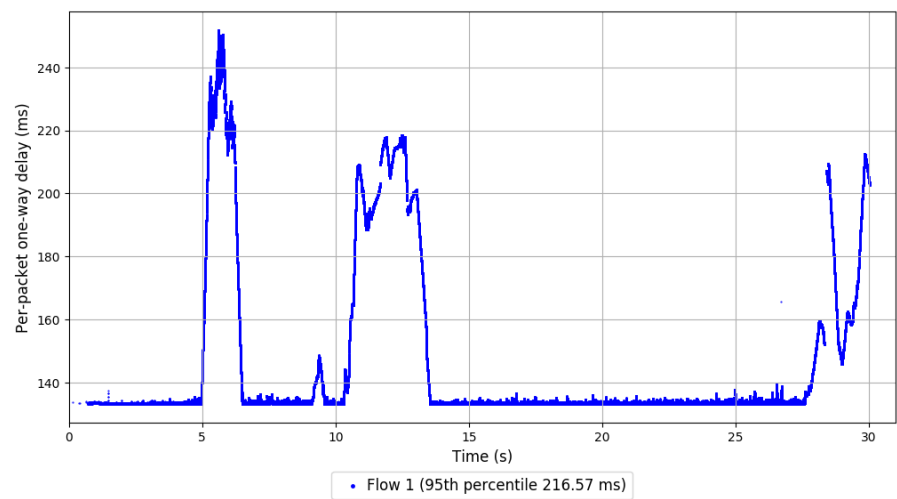
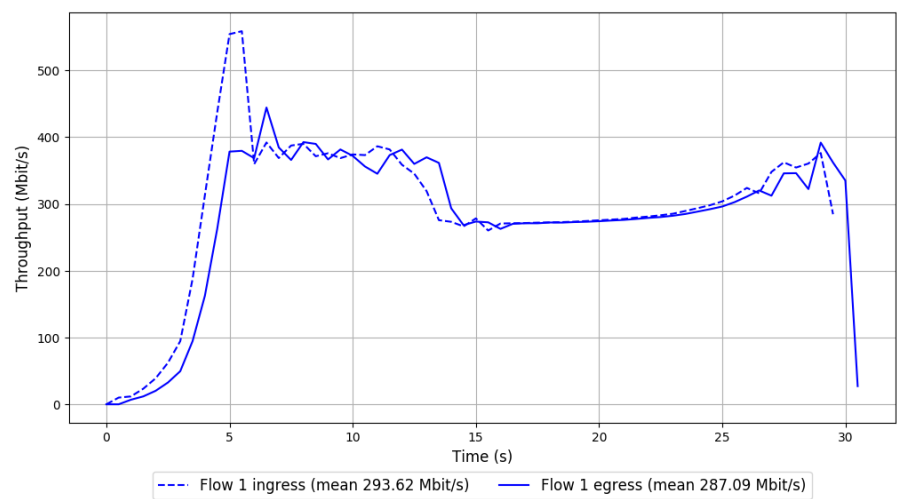


Run 5: Statistics of PCC-Expr

Start at: 2018-12-11 21:19:42
End at: 2018-12-11 21:20:12
Local clock offset: -0.392 ms
Remote clock offset: -0.121 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 287.09 Mbit/s
95th percentile per-packet one-way delay: 216.572 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 287.09 Mbit/s
95th percentile per-packet one-way delay: 216.572 ms
Loss rate: 2.22%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

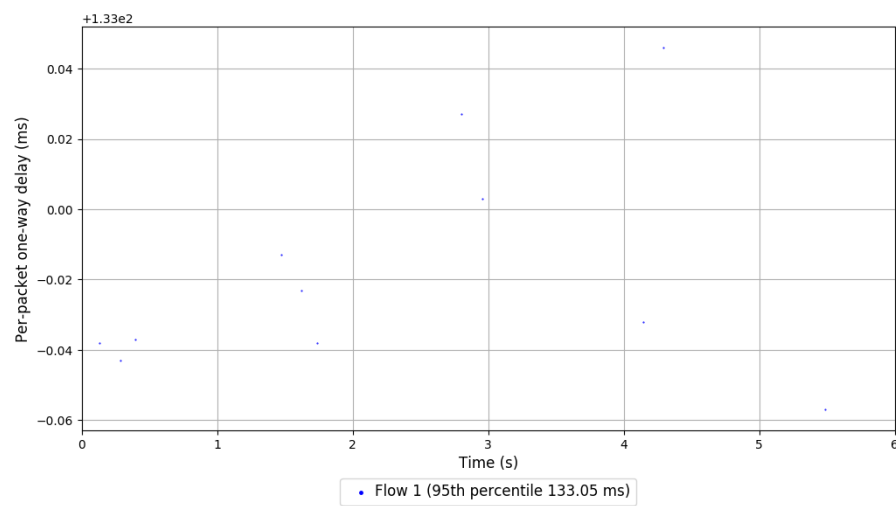
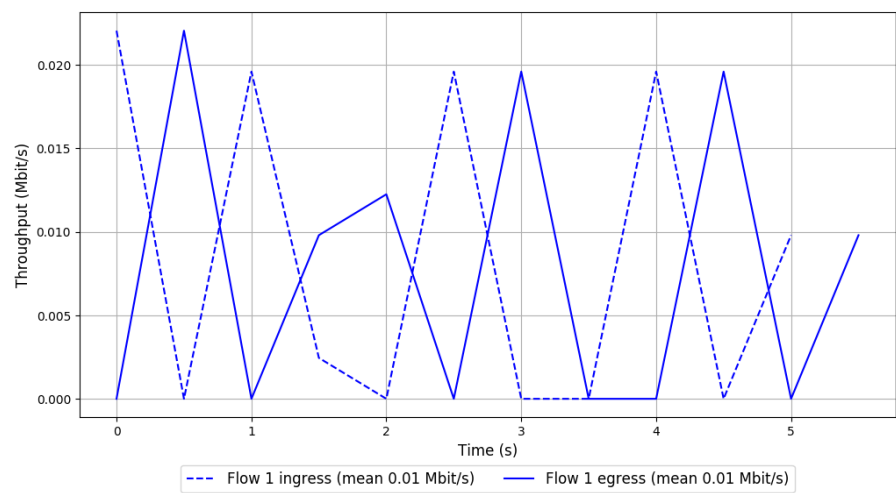
Start at: 2018-12-11 19:01:03

End at: 2018-12-11 19:01:33

Local clock offset: -0.537 ms

Remote clock offset: -0.162 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 19:32:34

End at: 2018-12-11 19:33:04

Local clock offset: -0.272 ms

Remote clock offset: -0.125 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 43.92 Mbit/s

95th percentile per-packet one-way delay: 133.853 ms

Loss rate: 0.00%

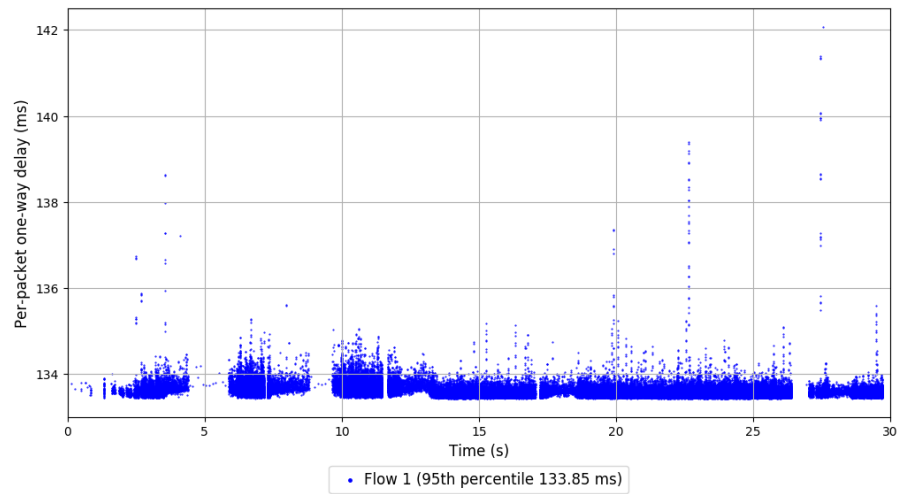
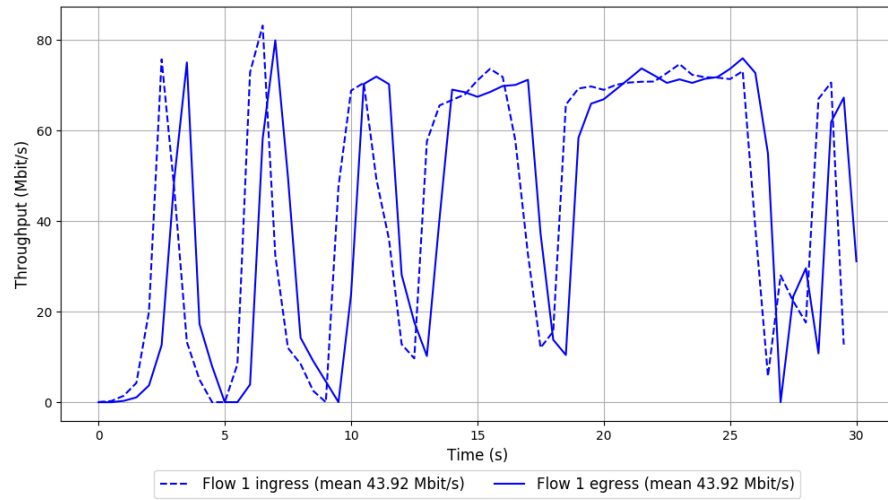
-- Flow 1:

Average throughput: 43.92 Mbit/s

95th percentile per-packet one-way delay: 133.853 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

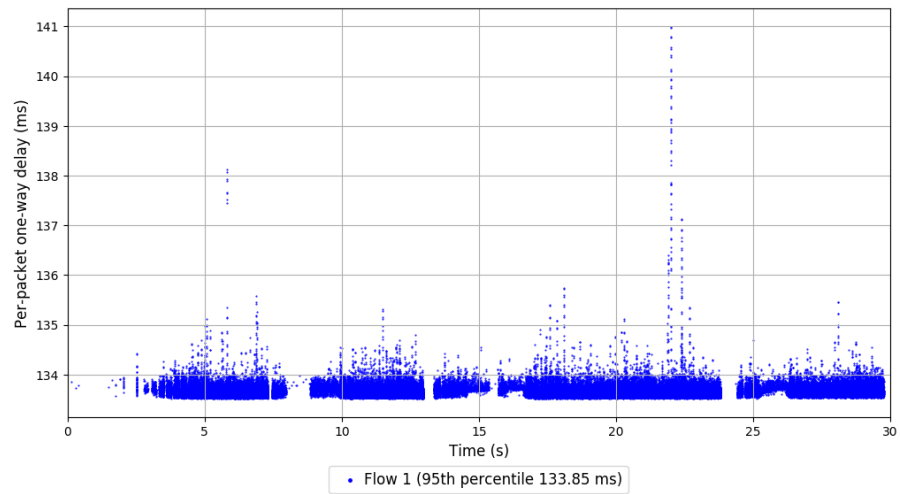
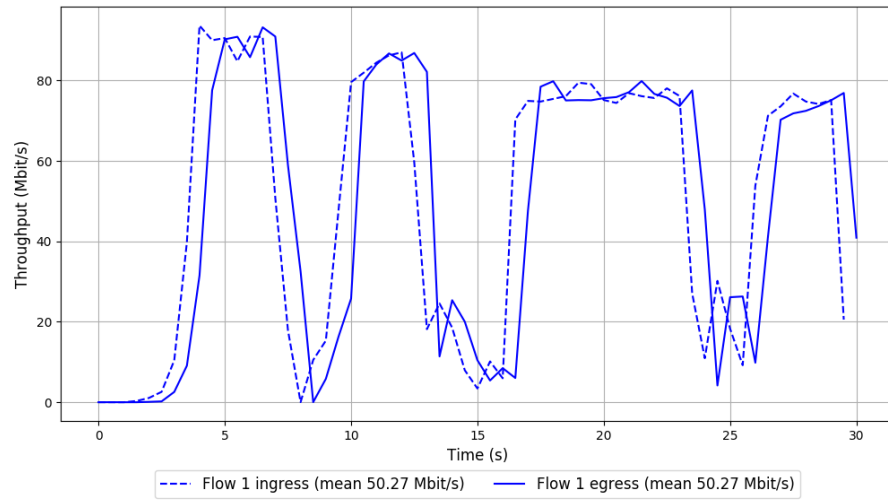


Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 20:03:57
End at: 2018-12-11 20:04:27
Local clock offset: -0.303 ms
Remote clock offset: -0.182 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.27 Mbit/s
95th percentile per-packet one-way delay: 133.848 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.27 Mbit/s
95th percentile per-packet one-way delay: 133.848 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

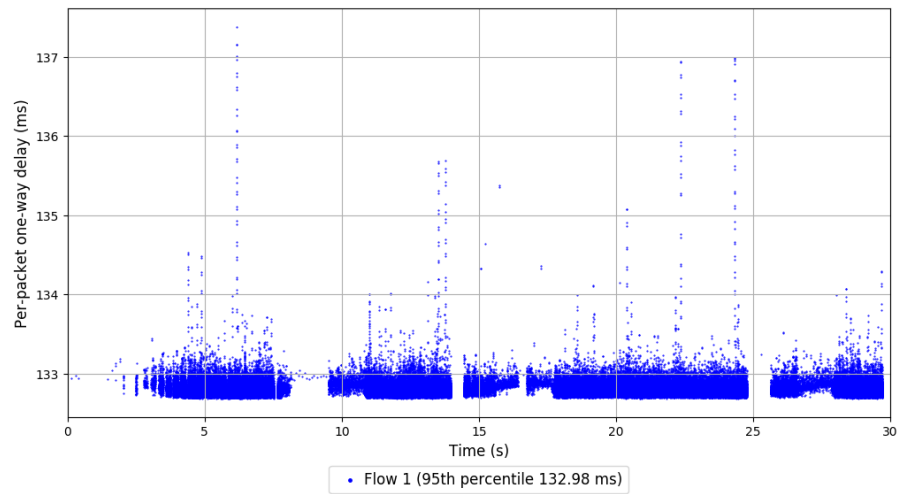
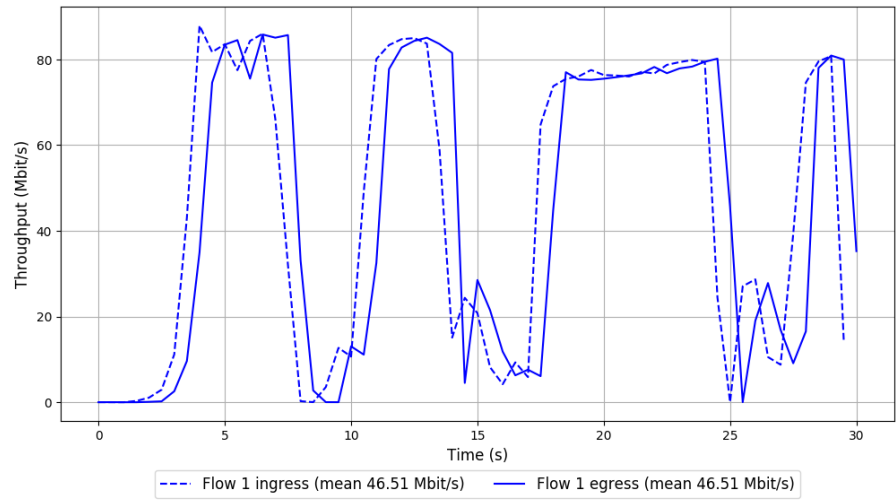


Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 20:33:07
End at: 2018-12-11 20:33:37
Local clock offset: -0.012 ms
Remote clock offset: -0.097 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 132.976 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 132.976 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 21:03:37

End at: 2018-12-11 21:04:07

Local clock offset: 0.019 ms

Remote clock offset: -0.063 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.04 Mbit/s

95th percentile per-packet one-way delay: 133.051 ms

Loss rate: 0.00%

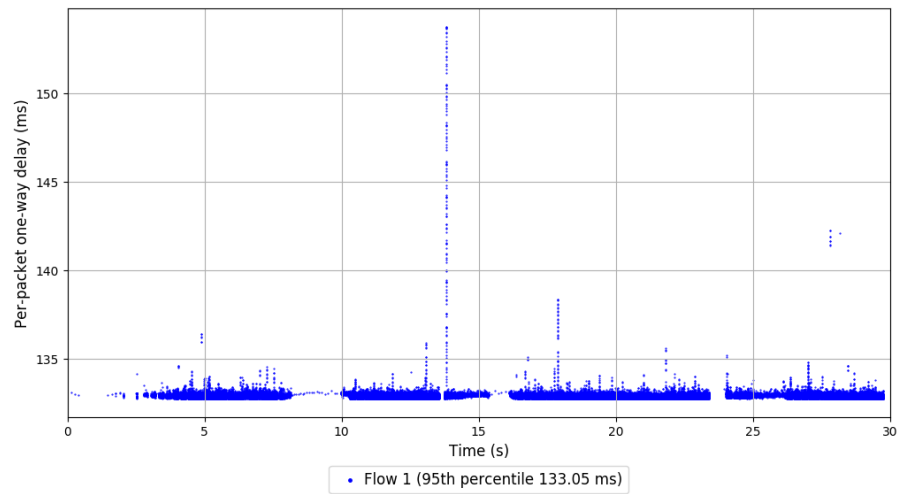
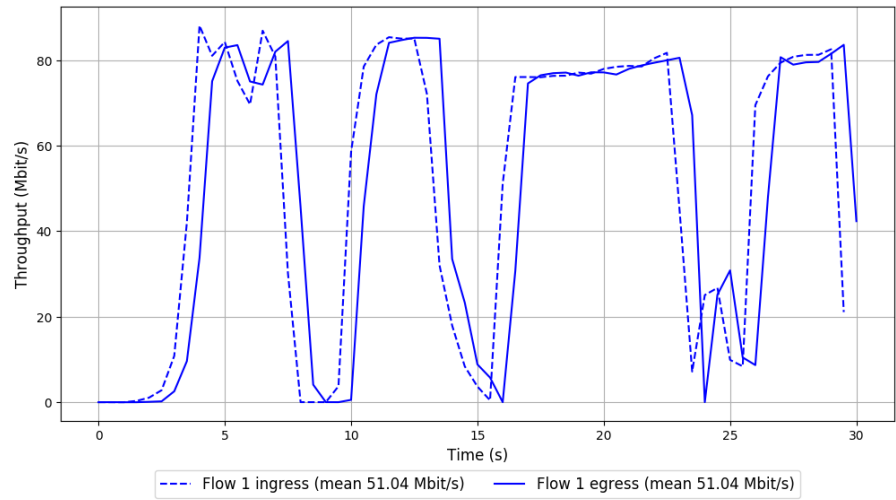
-- Flow 1:

Average throughput: 51.04 Mbit/s

95th percentile per-packet one-way delay: 133.051 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2018-12-11 19:09:06

End at: 2018-12-11 19:09:36

Local clock offset: 0.359 ms

Remote clock offset: 0.217 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 132.682 ms

Loss rate: 0.00%

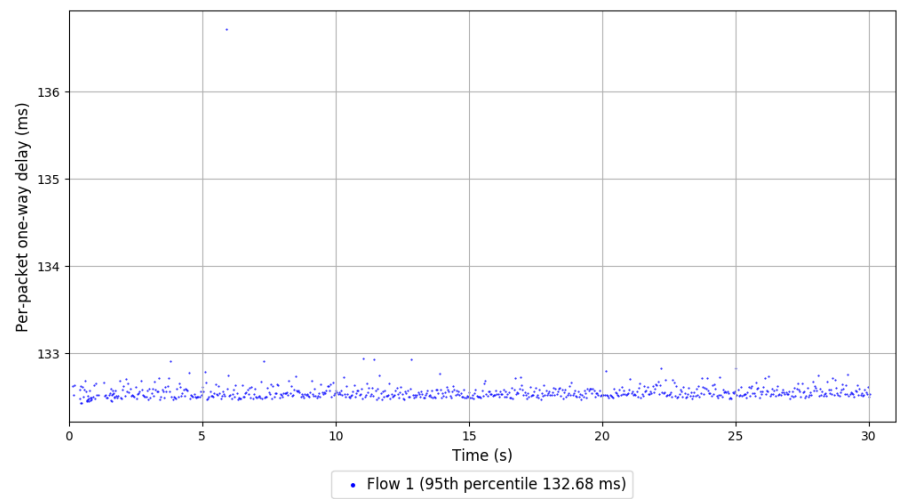
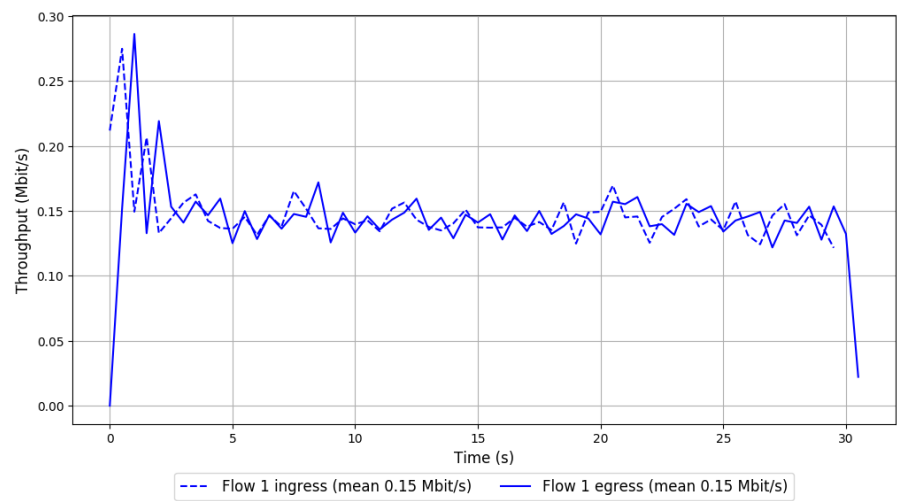
-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 132.682 ms

Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

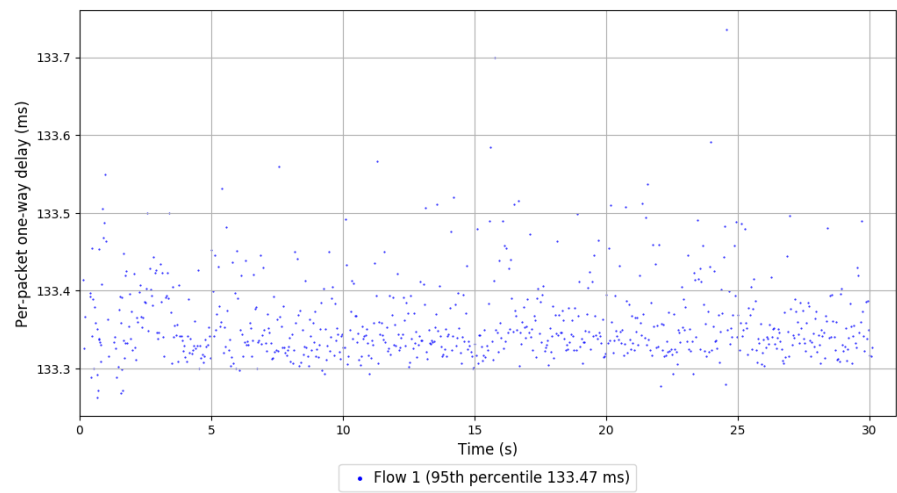
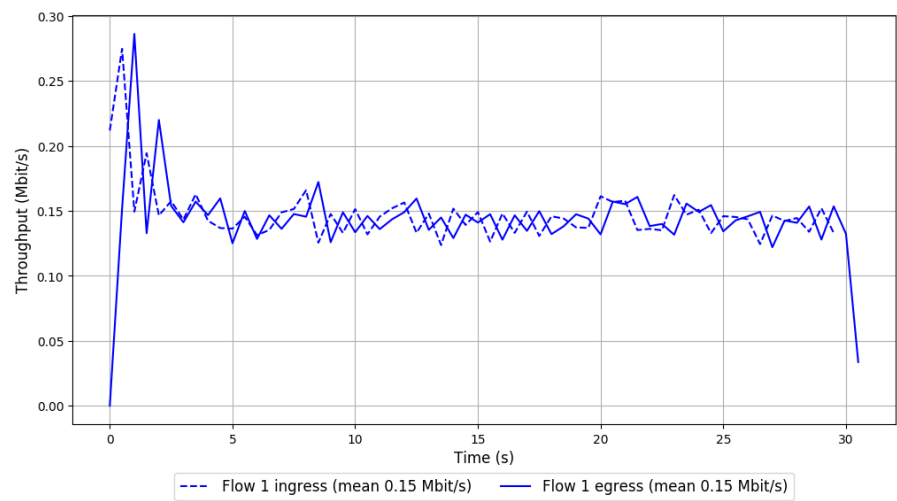


Run 2: Statistics of SCReAM

Start at: 2018-12-11 19:41:02
End at: 2018-12-11 19:41:32
Local clock offset: -0.081 ms
Remote clock offset: -0.465 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.468 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

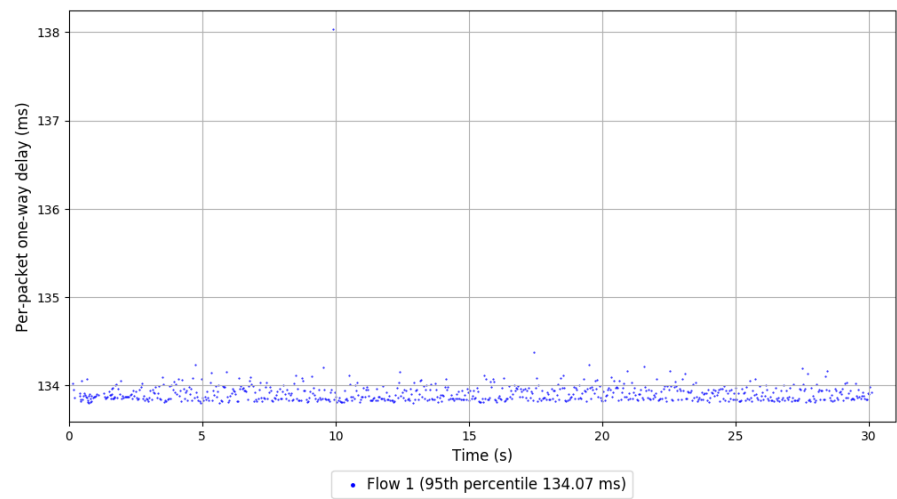
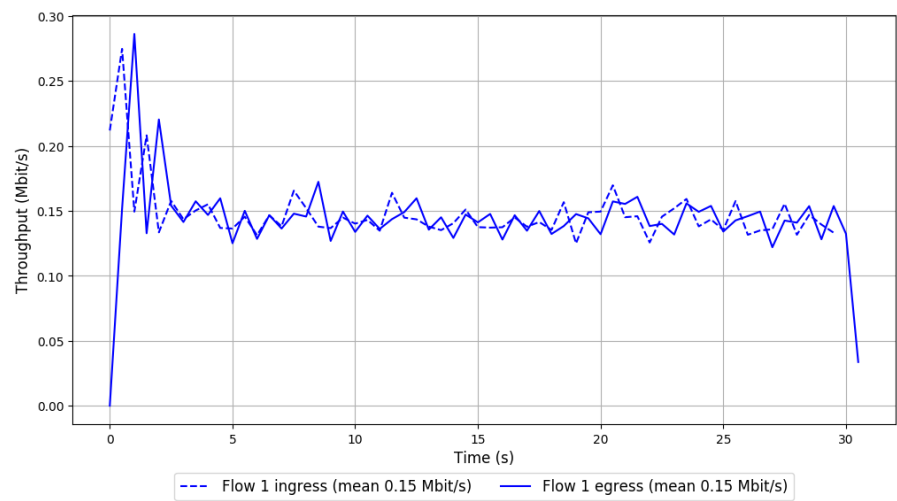


Run 3: Statistics of SCReAM

Start at: 2018-12-11 20:11:42
End at: 2018-12-11 20:12:12
Local clock offset: -0.281 ms
Remote clock offset: -0.176 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 134.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 134.067 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-12-11 20:41:25

End at: 2018-12-11 20:41:55

Local clock offset: -0.236 ms

Remote clock offset: 0.286 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 133.301 ms

Loss rate: 0.00%

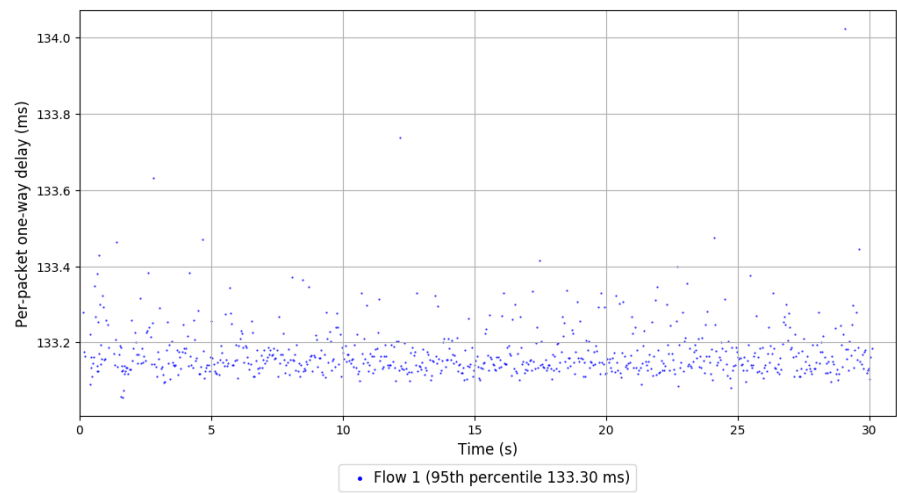
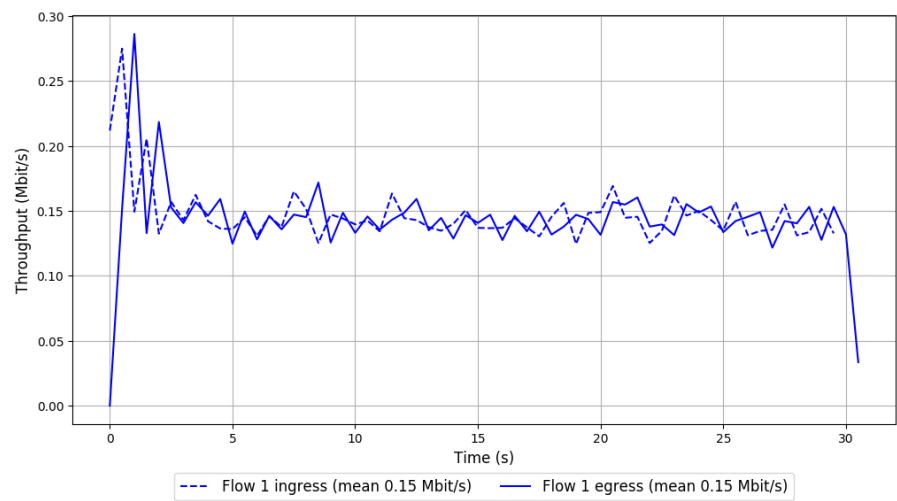
-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 133.301 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

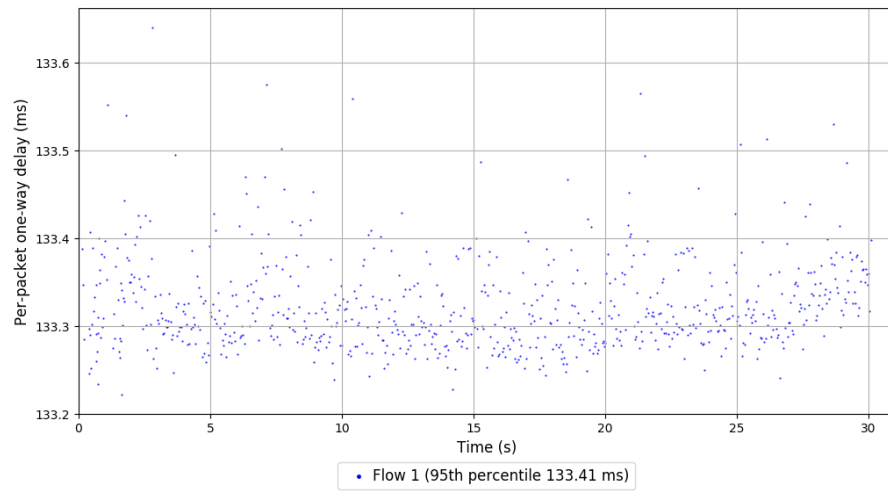
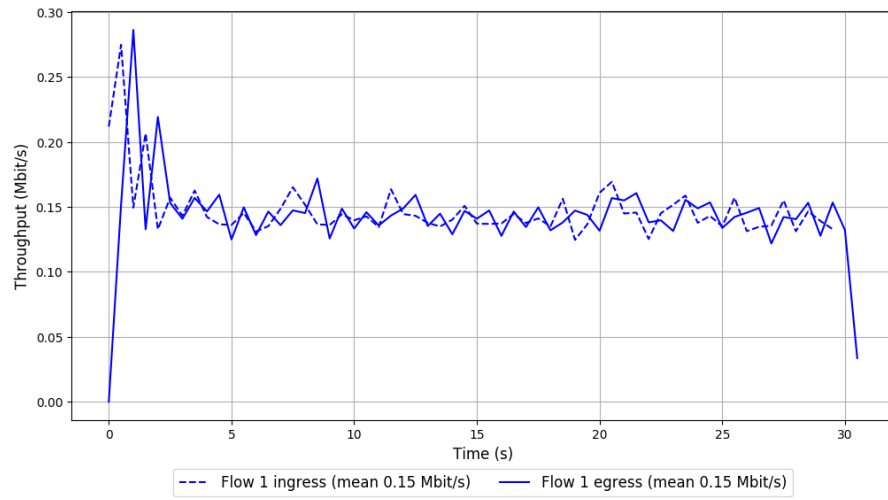


Run 5: Statistics of SCReAM

Start at: 2018-12-11 21:12:23
End at: 2018-12-11 21:12:53
Local clock offset: -0.029 ms
Remote clock offset: -0.129 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.414 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.414 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

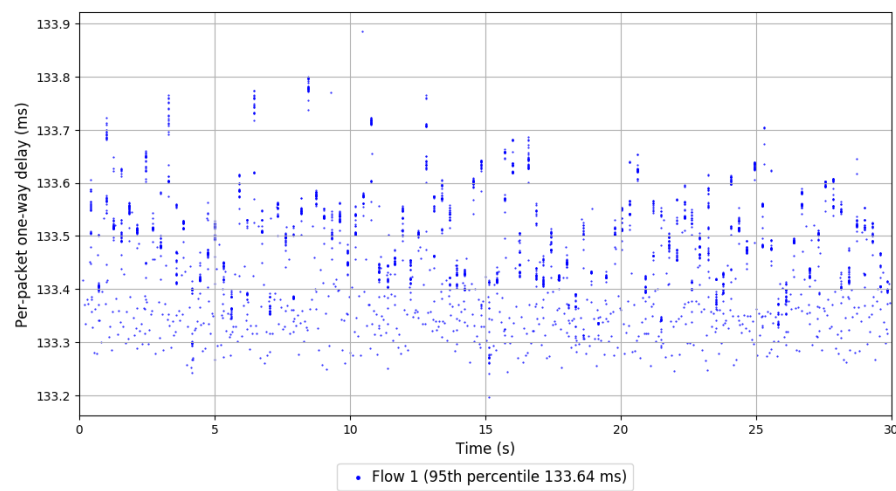
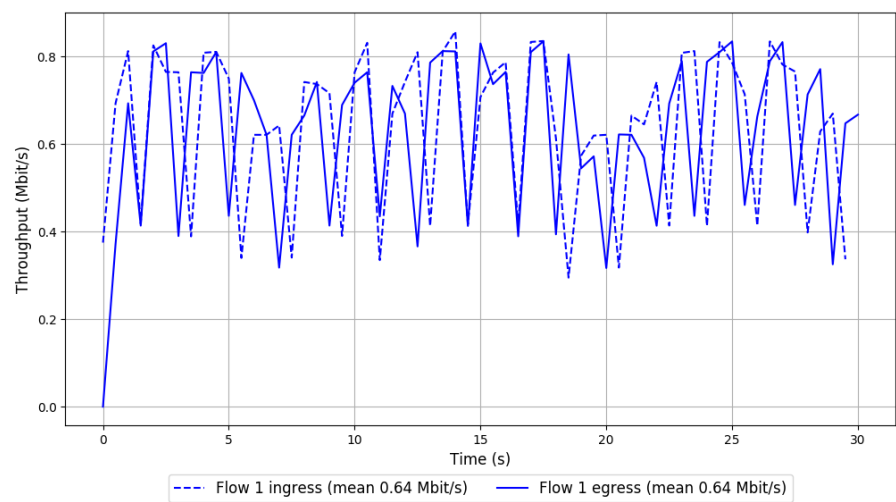


Run 1: Statistics of Sprout

Start at: 2018-12-11 18:59:52
End at: 2018-12-11 19:00:22
Local clock offset: 0.056 ms
Remote clock offset: -0.144 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 133.642 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 133.642 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

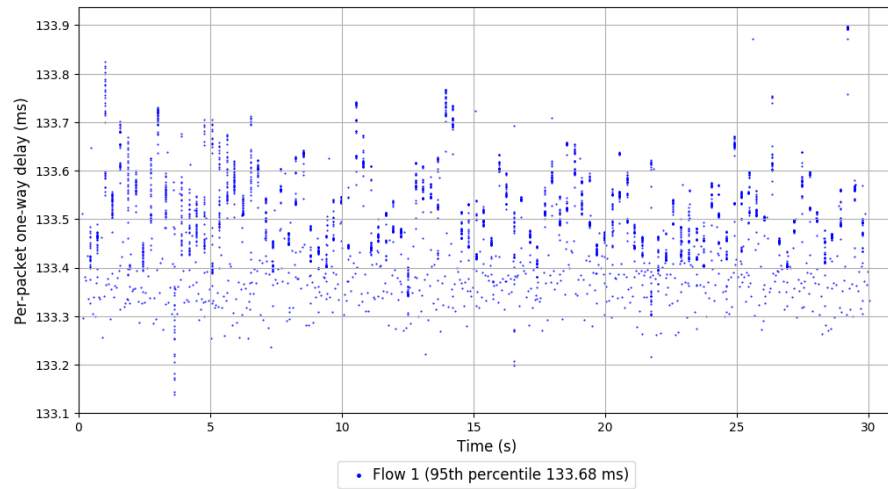
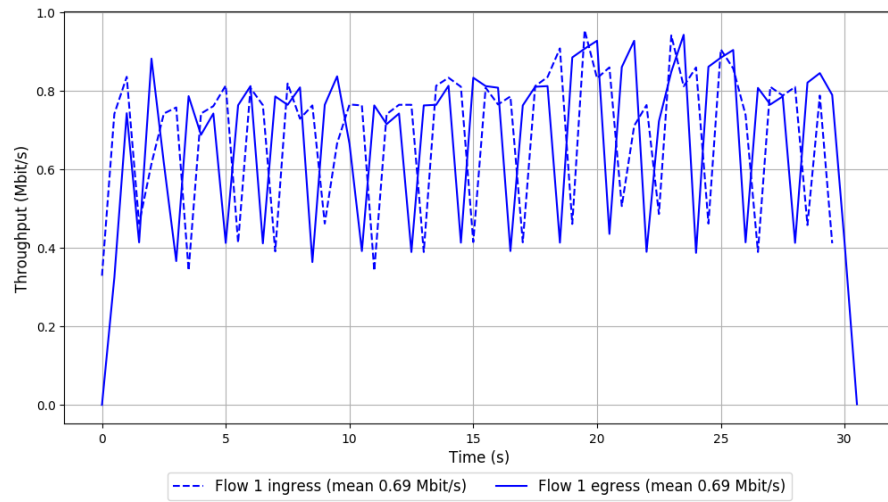


Run 2: Statistics of Sprout

Start at: 2018-12-11 19:31:24
End at: 2018-12-11 19:31:54
Local clock offset: 0.165 ms
Remote clock offset: -0.067 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.680 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.680 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

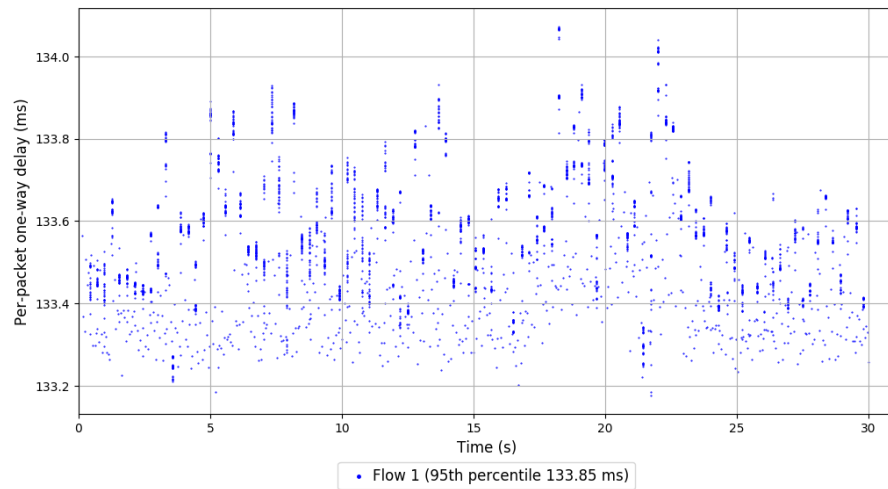
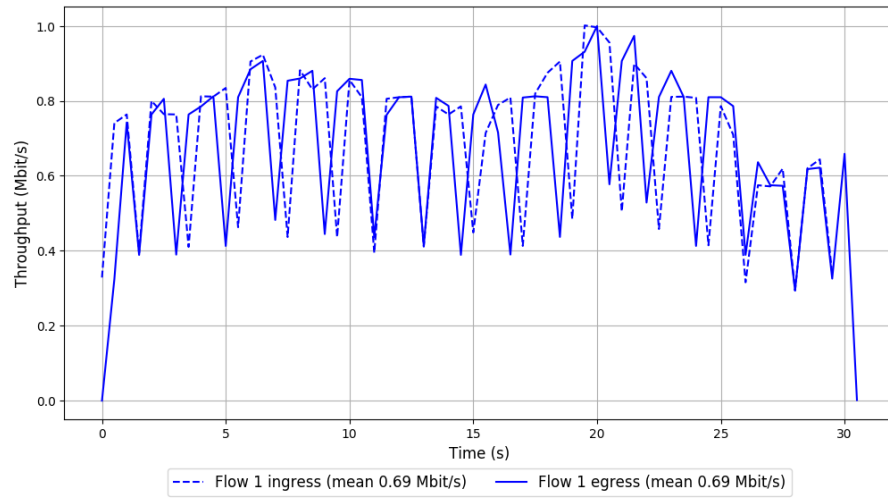


Run 3: Statistics of Sprout

Start at: 2018-12-11 20:02:46
End at: 2018-12-11 20:03:16
Local clock offset: 0.071 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.850 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

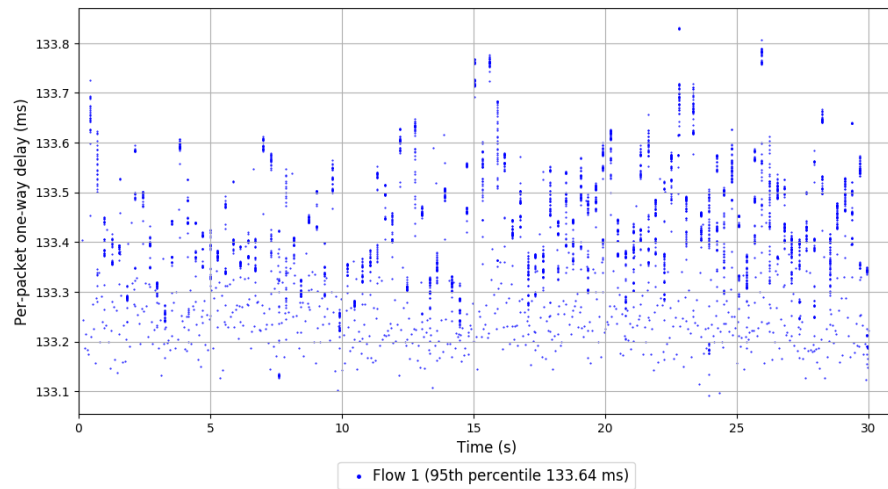
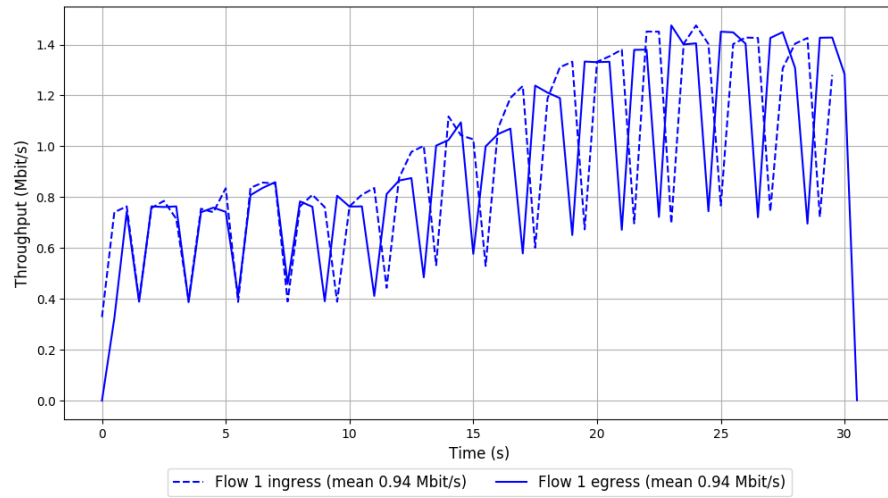


Run 4: Statistics of Sprout

Start at: 2018-12-11 20:31:56
End at: 2018-12-11 20:32:26
Local clock offset: -0.048 ms
Remote clock offset: -0.179 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 133.643 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 133.643 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

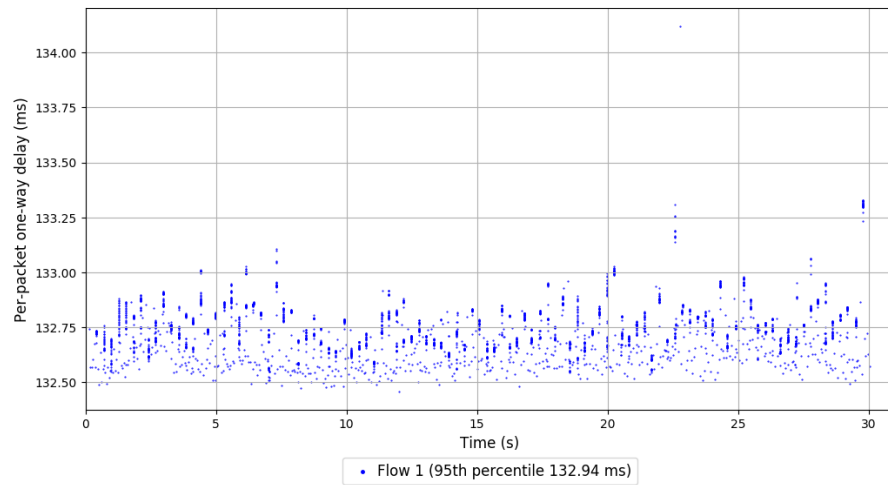
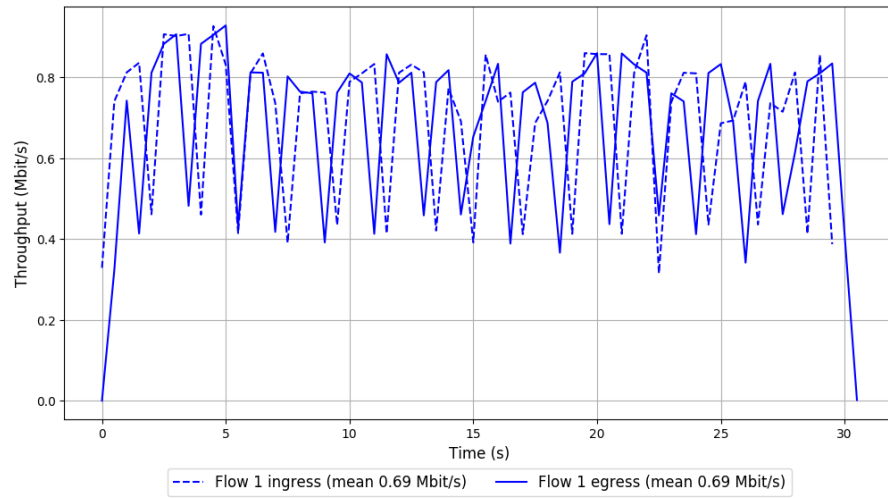


Run 5: Statistics of Sprout

Start at: 2018-12-11 21:02:26
End at: 2018-12-11 21:02:56
Local clock offset: 0.384 ms
Remote clock offset: -0.092 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 132.939 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 132.939 ms
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

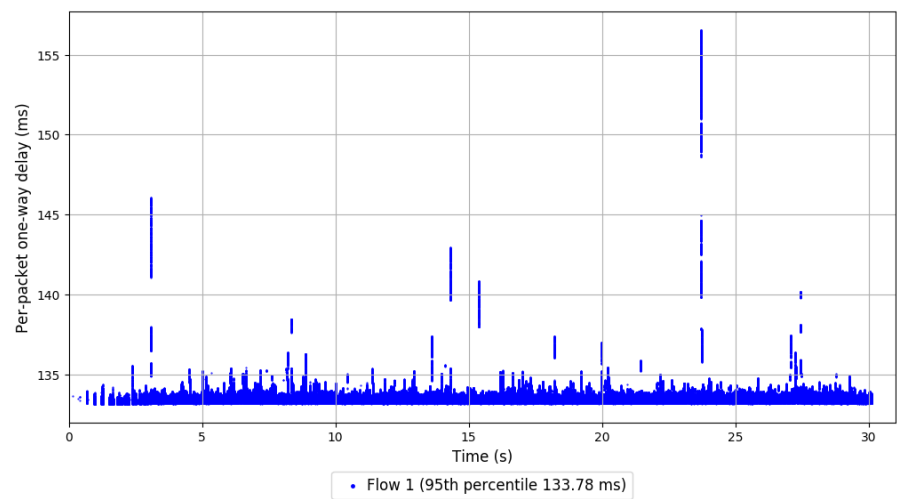
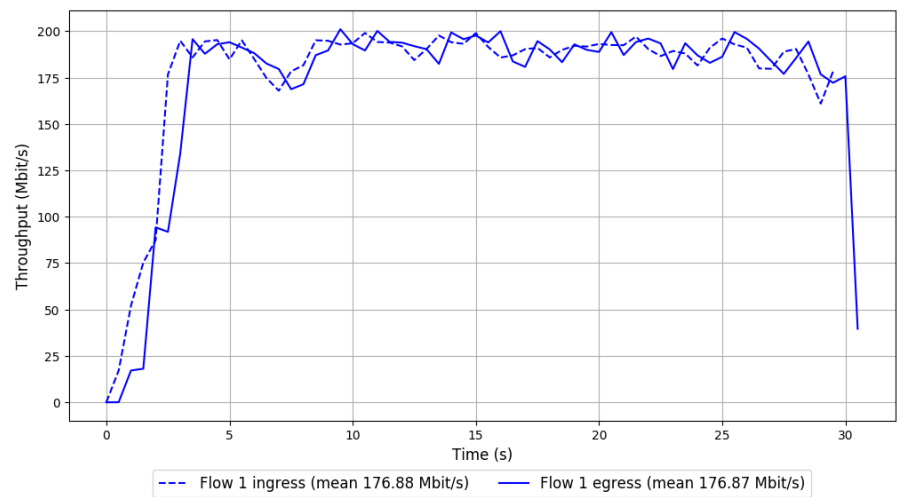


Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 19:05:45
End at: 2018-12-11 19:06:15
Local clock offset: -0.038 ms
Remote clock offset: -0.176 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 176.87 Mbit/s
95th percentile per-packet one-way delay: 133.779 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 176.87 Mbit/s
95th percentile per-packet one-way delay: 133.779 ms
Loss rate: 0.01%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 19:37:54

End at: 2018-12-11 19:38:24

Local clock offset: 0.197 ms

Remote clock offset: -0.129 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 180.62 Mbit/s

95th percentile per-packet one-way delay: 133.619 ms

Loss rate: 0.00%

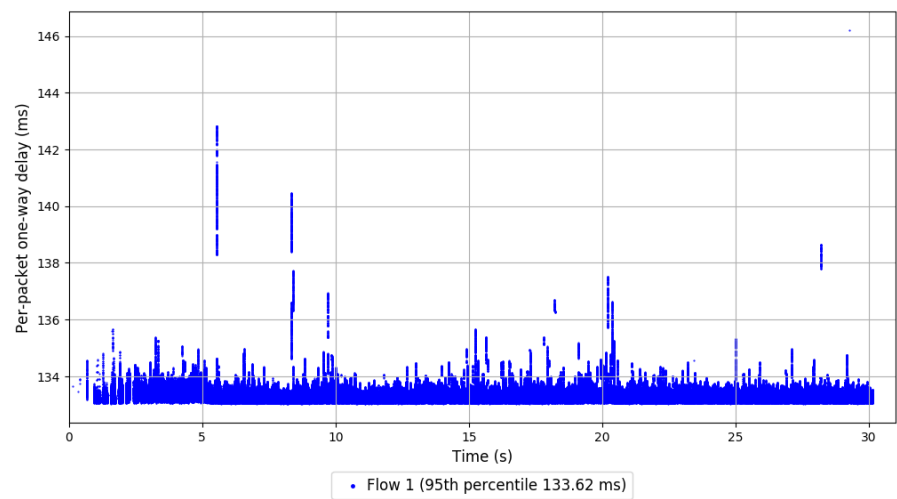
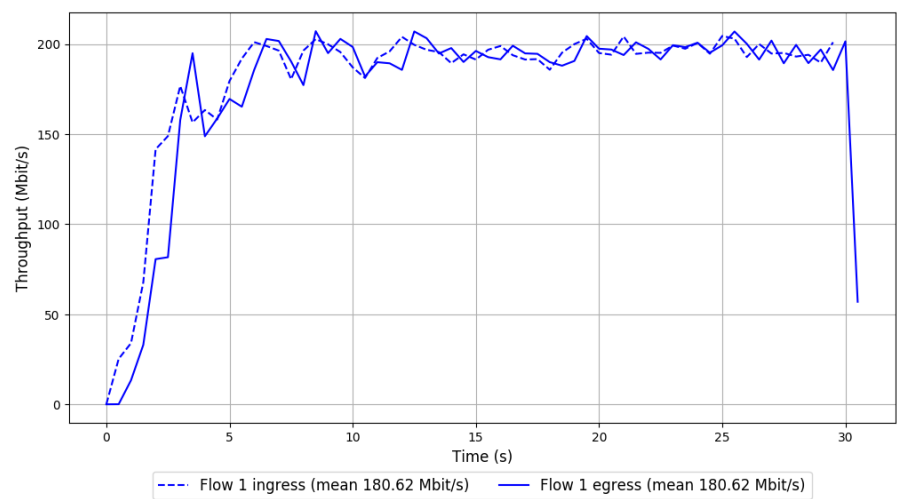
-- Flow 1:

Average throughput: 180.62 Mbit/s

95th percentile per-packet one-way delay: 133.619 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-12-11 20:08:27

End at: 2018-12-11 20:08:57

Local clock offset: 0.258 ms

Remote clock offset: -0.19 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 180.28 Mbit/s

95th percentile per-packet one-way delay: 133.534 ms

Loss rate: 0.00%

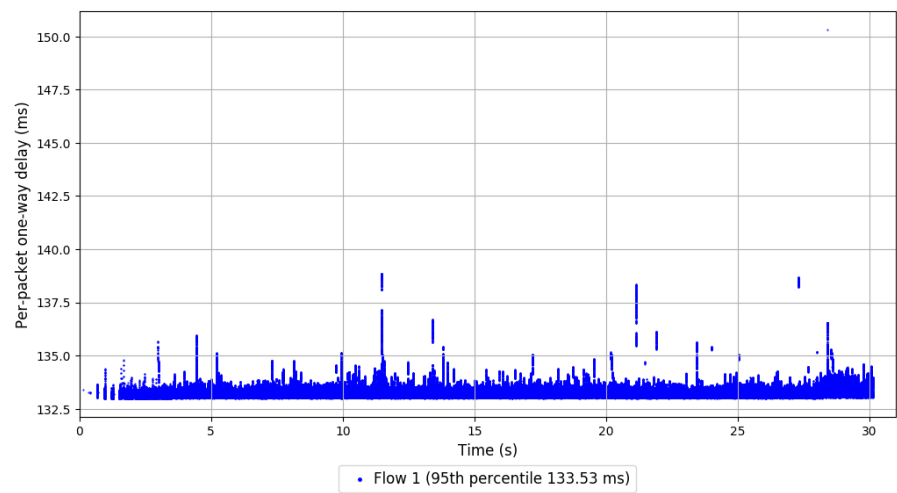
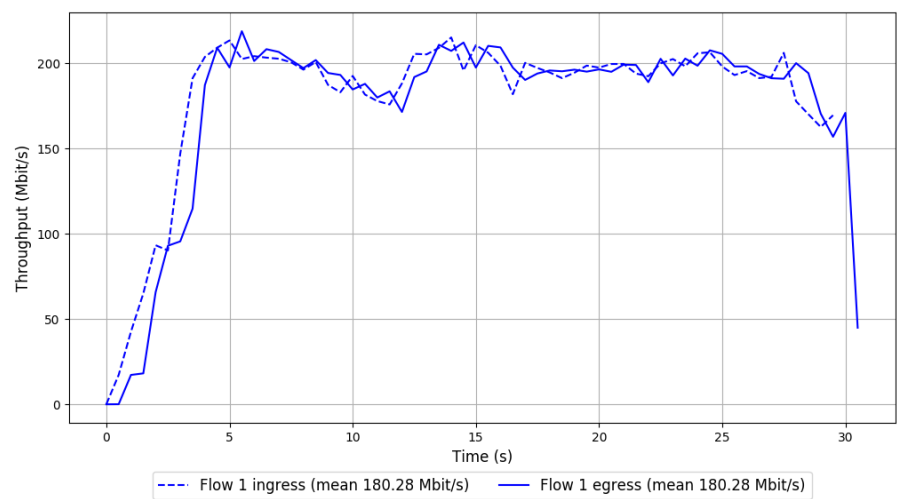
-- Flow 1:

Average throughput: 180.28 Mbit/s

95th percentile per-packet one-way delay: 133.534 ms

Loss rate: 0.00%

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

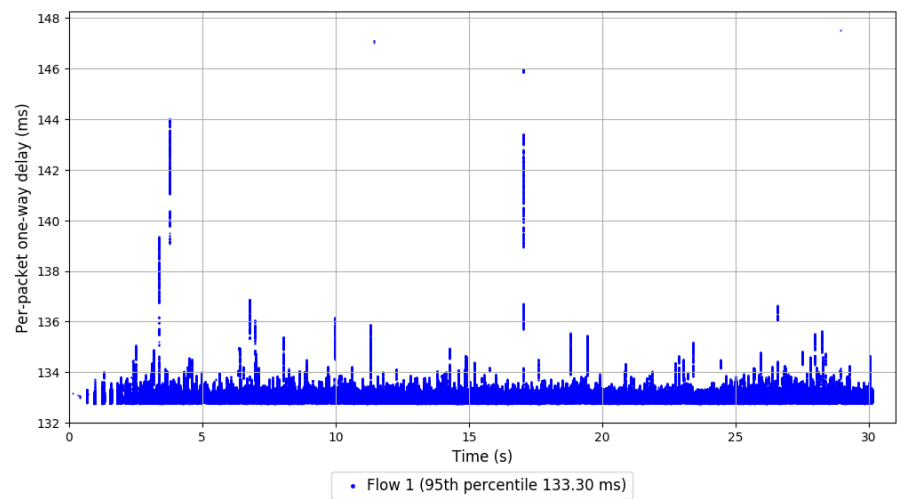
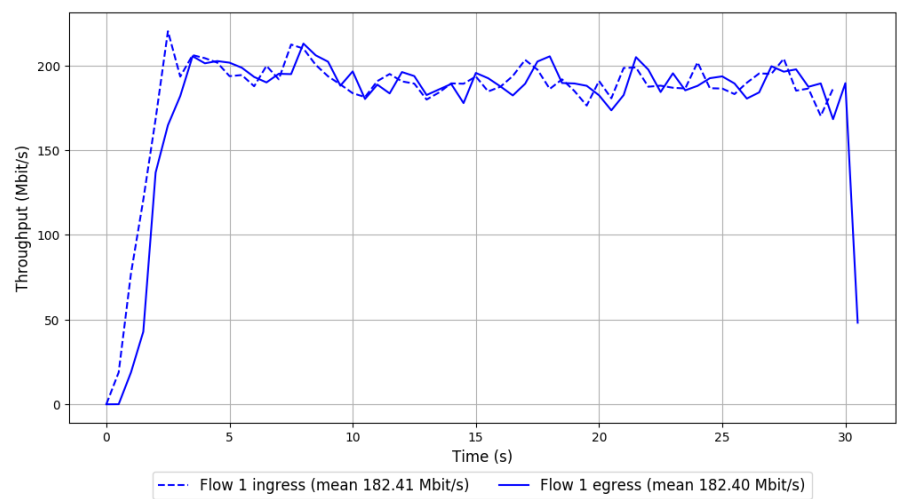


Run 4: Statistics of TaoVA-100x

Start at: 2018-12-11 20:38:15
End at: 2018-12-11 20:38:45
Local clock offset: -0.008 ms
Remote clock offset: -0.062 ms

Below is generated by plot.py at 2018-12-11 22:51:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 182.40 Mbit/s
95th percentile per-packet one-way delay: 133.299 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 182.40 Mbit/s
95th percentile per-packet one-way delay: 133.299 ms
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-11 21:08:50

End at: 2018-12-11 21:09:20

Local clock offset: 0.018 ms

Remote clock offset: -0.092 ms

Below is generated by plot.py at 2018-12-11 22:51:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 175.97 Mbit/s

95th percentile per-packet one-way delay: 133.705 ms

Loss rate: 0.00%

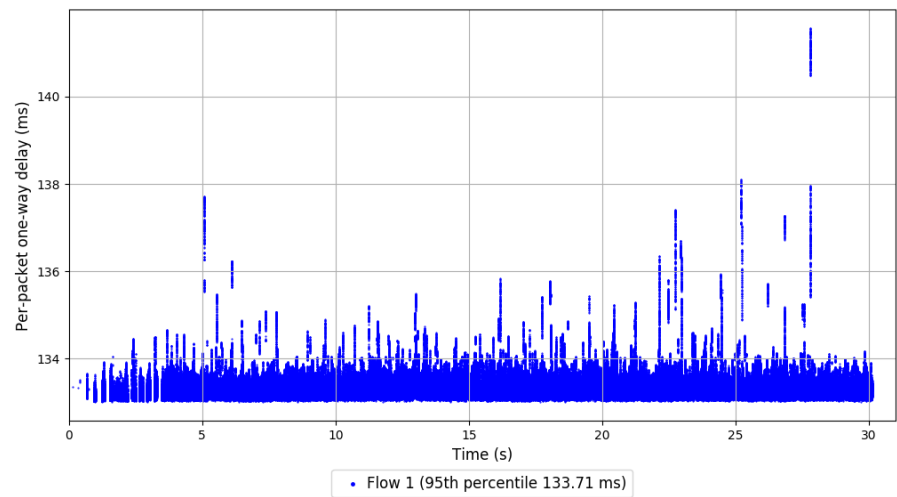
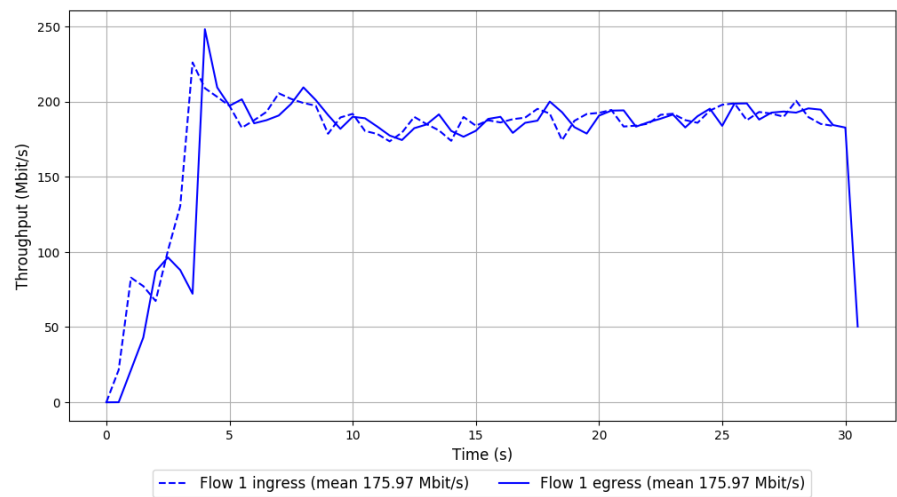
-- Flow 1:

Average throughput: 175.97 Mbit/s

95th percentile per-packet one-way delay: 133.705 ms

Loss rate: 0.00%

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

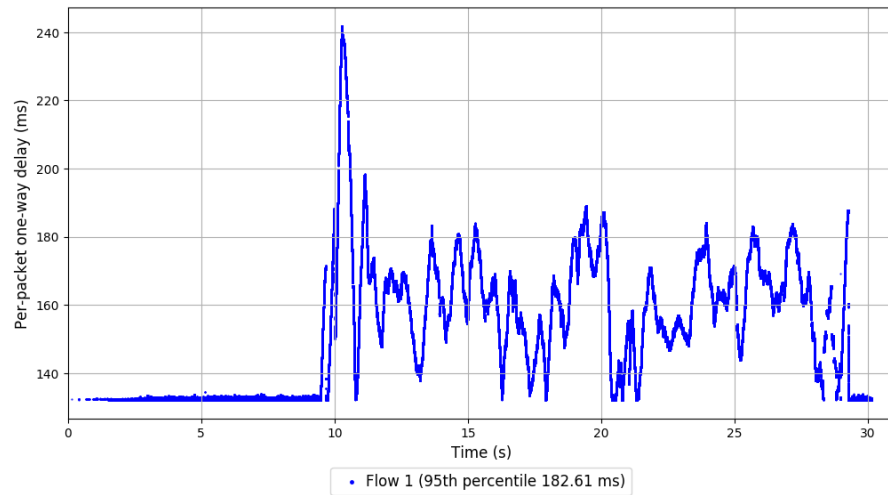
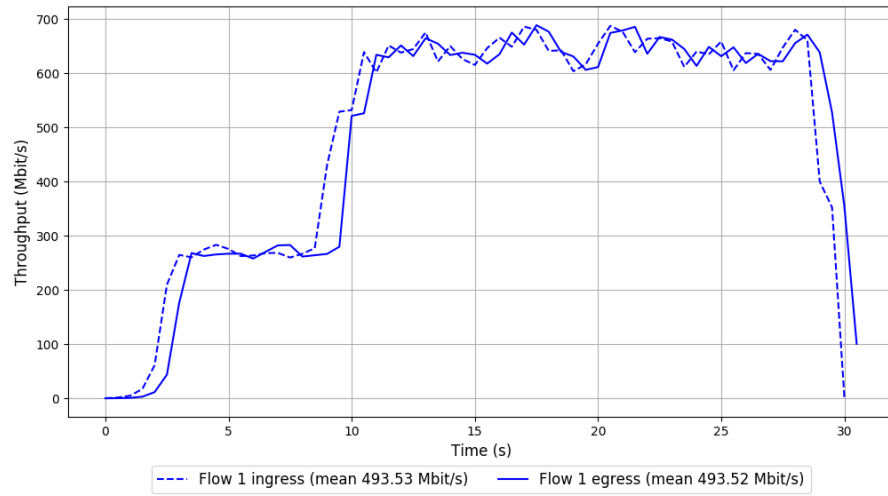


Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 19:14:34
End at: 2018-12-11 19:15:04
Local clock offset: -0.074 ms
Remote clock offset: -0.106 ms

Below is generated by plot.py at 2018-12-11 22:58:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 493.52 Mbit/s
95th percentile per-packet one-way delay: 182.607 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 493.52 Mbit/s
95th percentile per-packet one-way delay: 182.607 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 19:46:27

End at: 2018-12-11 19:46:57

Local clock offset: -0.215 ms

Remote clock offset: -0.18 ms

Below is generated by plot.py at 2018-12-11 22:59:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 503.32 Mbit/s

95th percentile per-packet one-way delay: 142.023 ms

Loss rate: 0.00%

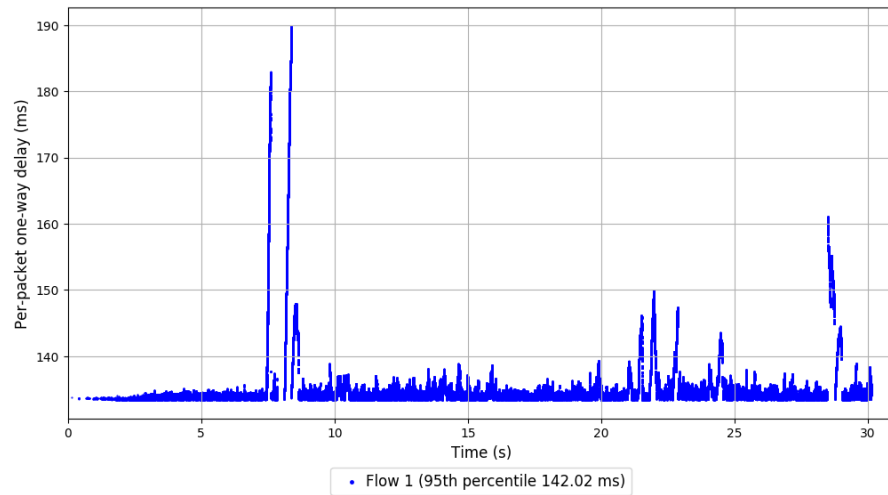
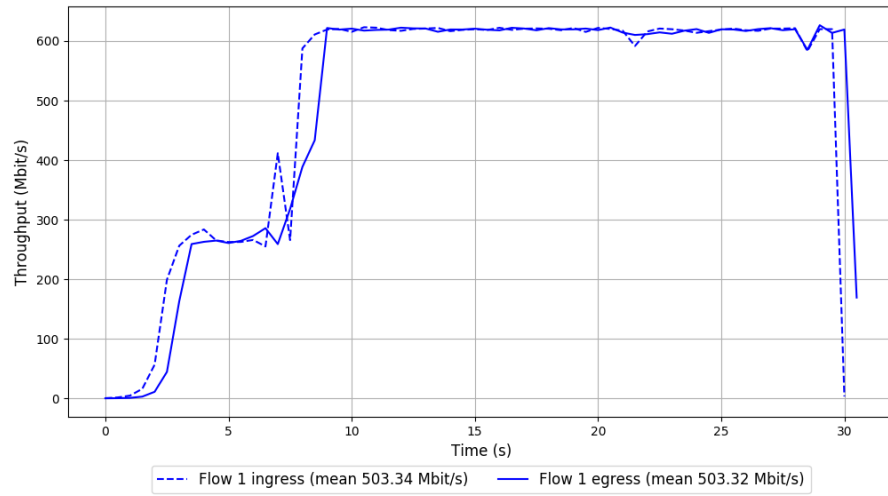
-- Flow 1:

Average throughput: 503.32 Mbit/s

95th percentile per-packet one-way delay: 142.023 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

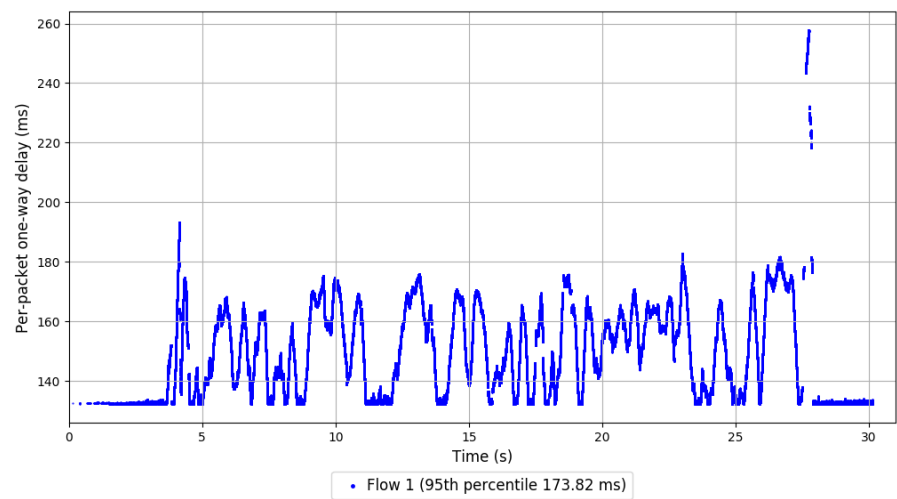
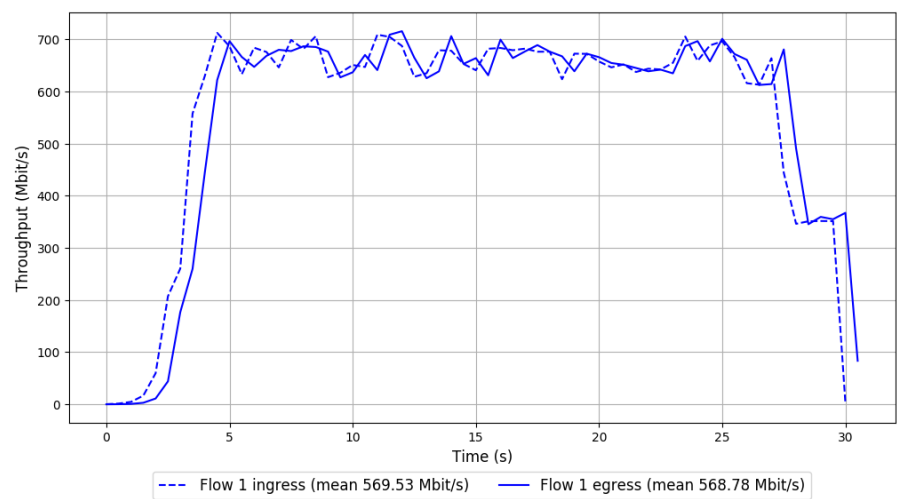


Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 20:16:51
End at: 2018-12-11 20:17:21
Local clock offset: 0.065 ms
Remote clock offset: -0.268 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 568.78 Mbit/s
95th percentile per-packet one-way delay: 173.823 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 568.78 Mbit/s
95th percentile per-packet one-way delay: 173.823 ms
Loss rate: 0.13%

Run 3: Report of TCP Vegas — Data Link

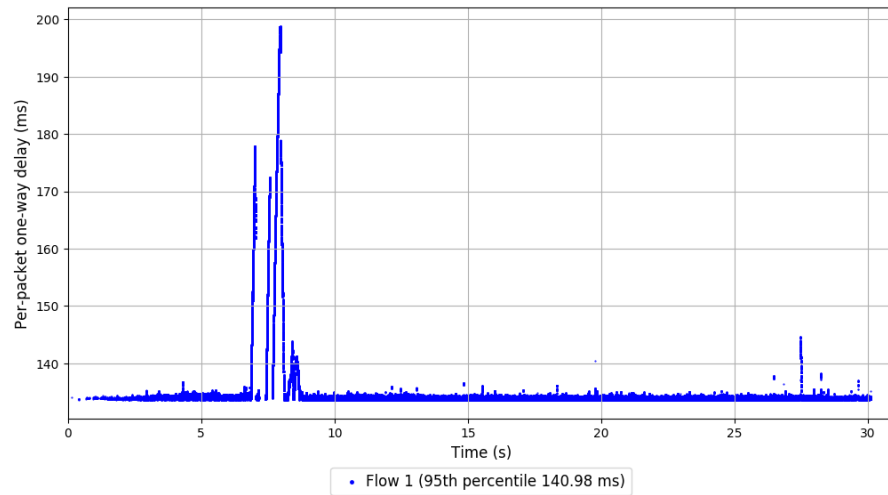
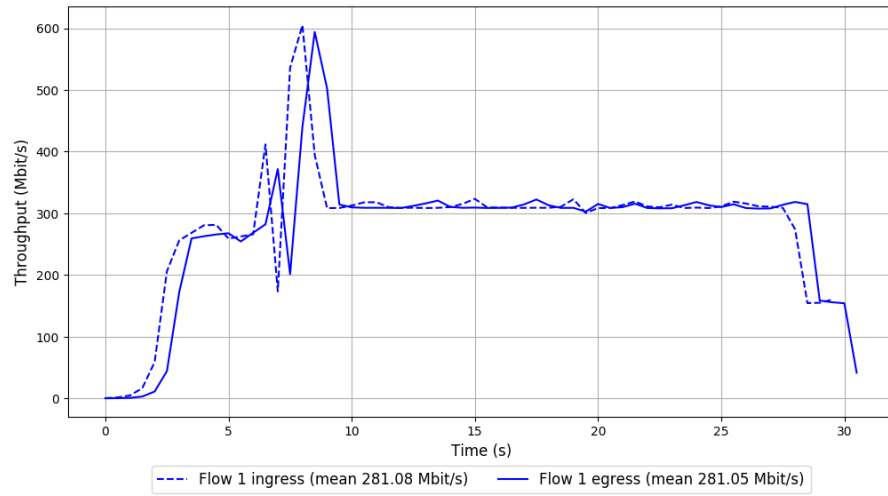


Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 20:46:43
End at: 2018-12-11 20:47:13
Local clock offset: -0.431 ms
Remote clock offset: 0.323 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 281.05 Mbit/s
95th percentile per-packet one-way delay: 140.981 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 281.05 Mbit/s
95th percentile per-packet one-way delay: 140.981 ms
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link

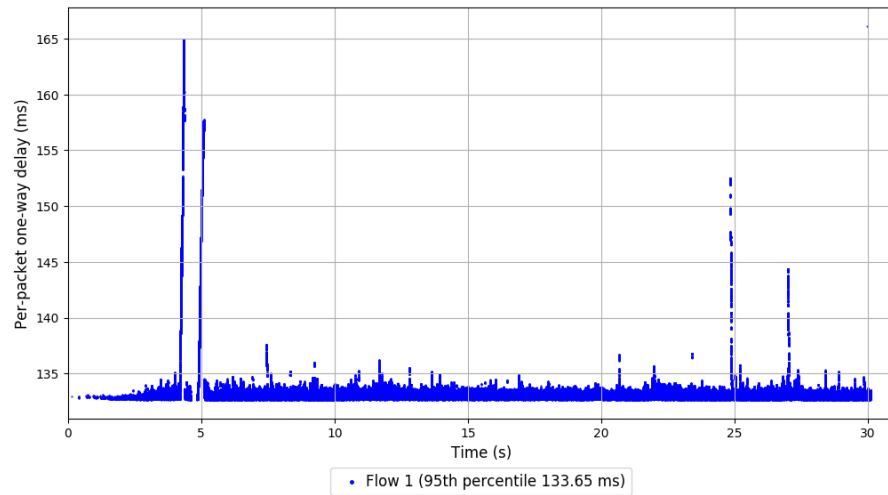
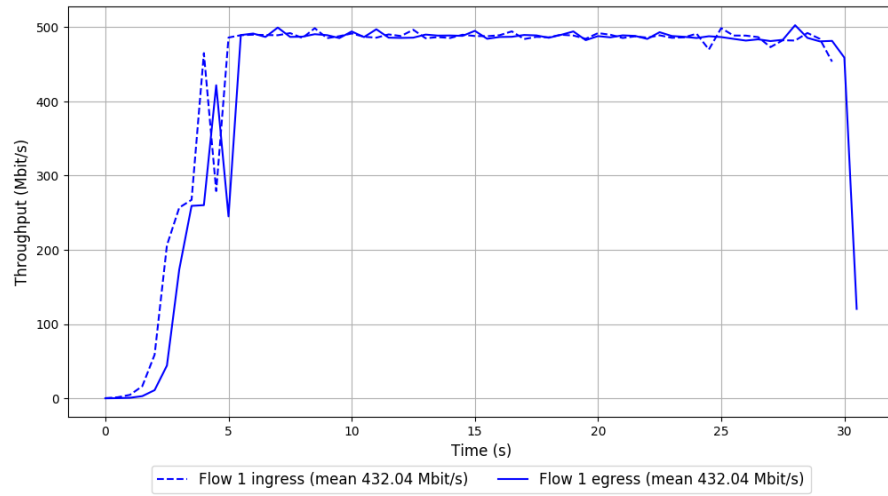


Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 21:18:05
End at: 2018-12-11 21:18:35
Local clock offset: 0.211 ms
Remote clock offset: -0.068 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 432.04 Mbit/s
95th percentile per-packet one-way delay: 133.654 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 432.04 Mbit/s
95th percentile per-packet one-way delay: 133.654 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

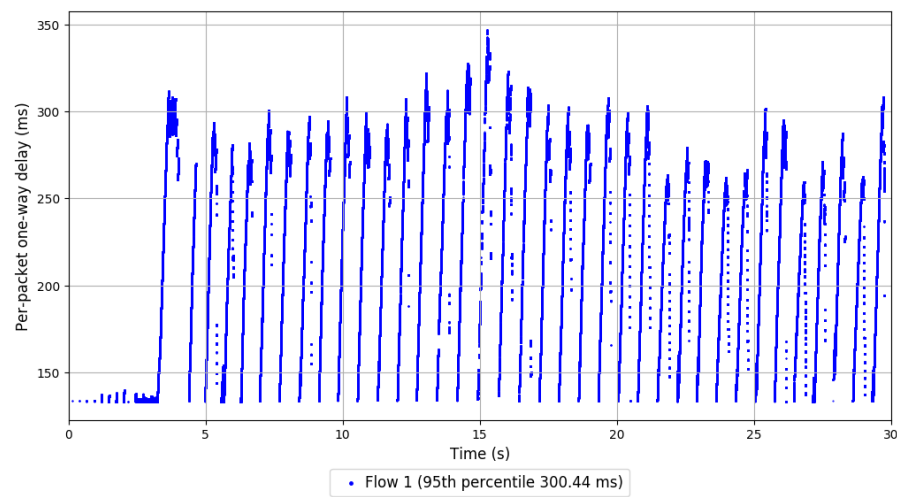
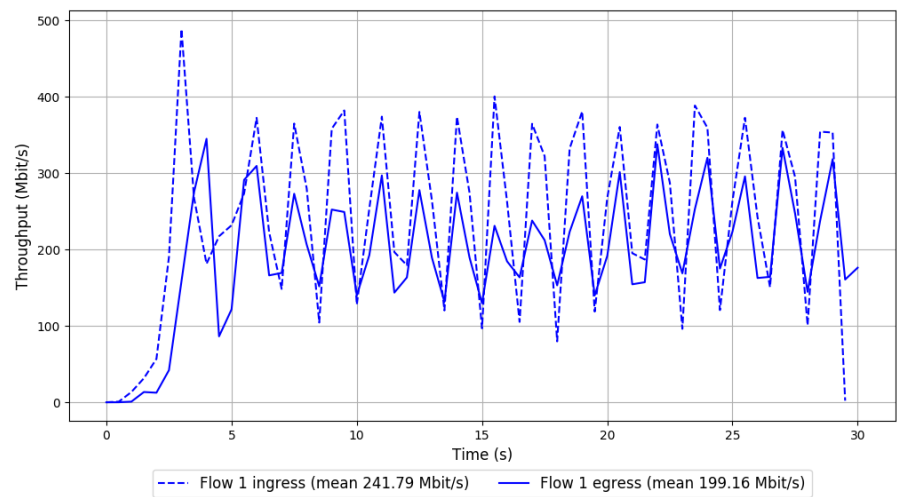


Run 1: Statistics of Verus

Start at: 2018-12-11 19:11:45
End at: 2018-12-11 19:12:16
Local clock offset: -0.511 ms
Remote clock offset: -0.166 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 199.16 Mbit/s
95th percentile per-packet one-way delay: 300.441 ms
Loss rate: 17.46%
-- Flow 1:
Average throughput: 199.16 Mbit/s
95th percentile per-packet one-way delay: 300.441 ms
Loss rate: 17.46%

Run 1: Report of Verus — Data Link

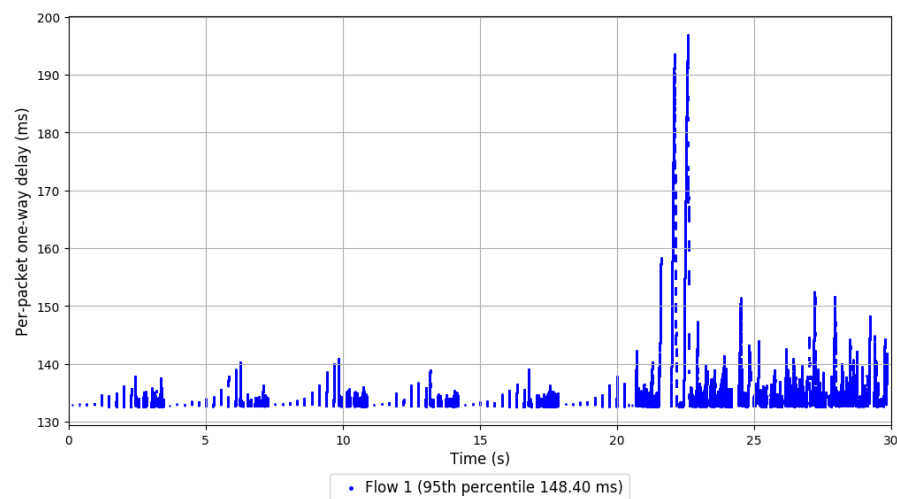
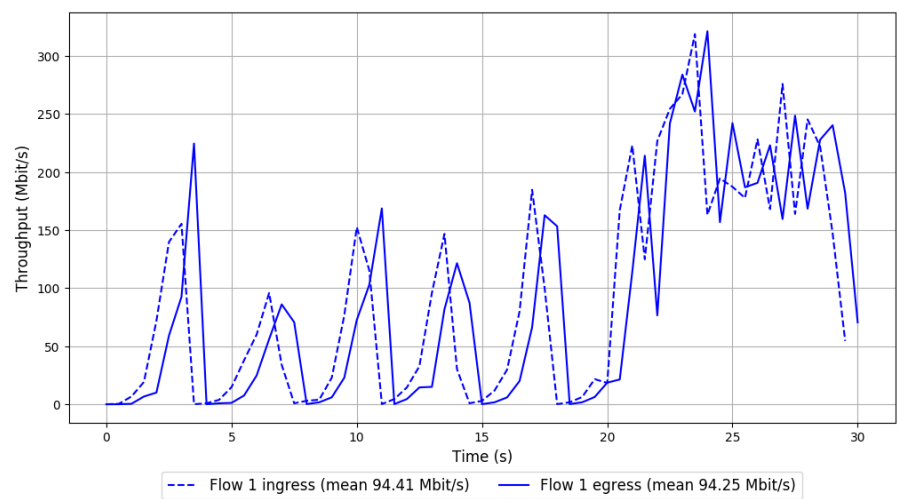


Run 2: Statistics of Verus

Start at: 2018-12-11 19:43:49
End at: 2018-12-11 19:44:19
Local clock offset: -0.022 ms
Remote clock offset: -0.122 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 148.404 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 148.404 ms
Loss rate: 0.16%

Run 2: Report of Verus — Data Link

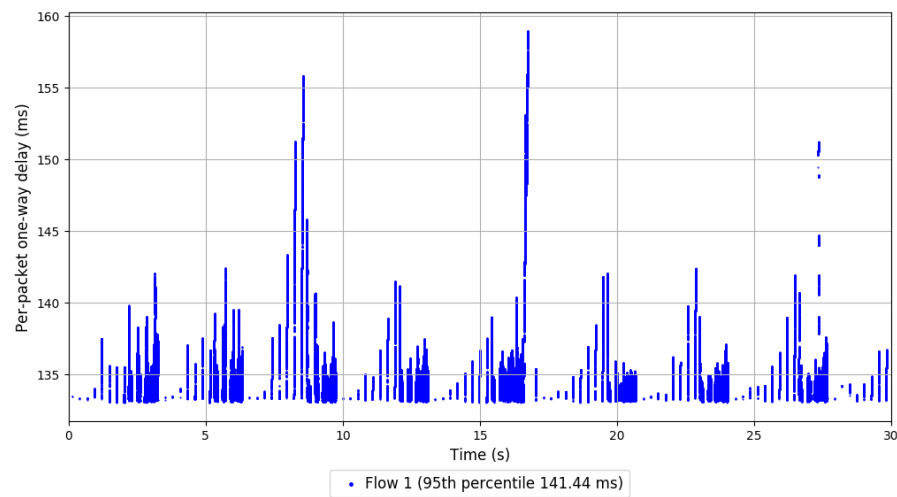
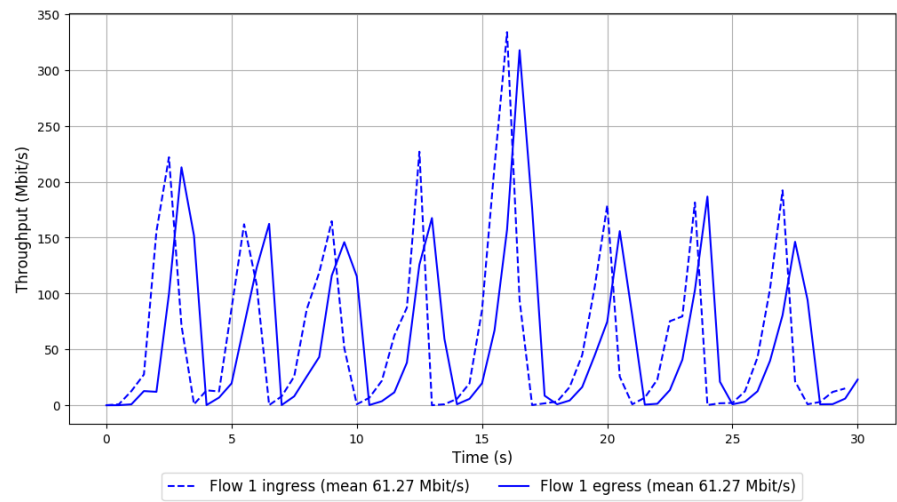


Run 3: Statistics of Verus

Start at: 2018-12-11 20:14:21
End at: 2018-12-11 20:14:51
Local clock offset: 0.164 ms
Remote clock offset: -0.207 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 61.27 Mbit/s
95th percentile per-packet one-way delay: 141.439 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.27 Mbit/s
95th percentile per-packet one-way delay: 141.439 ms
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

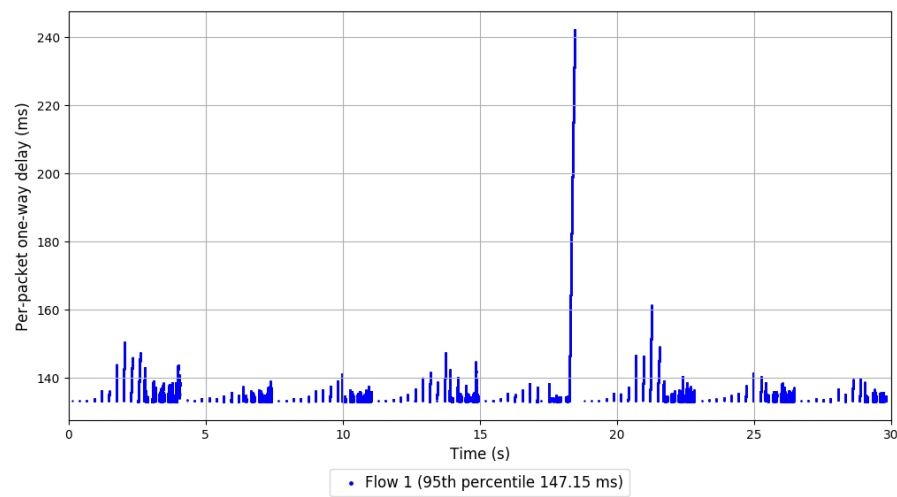
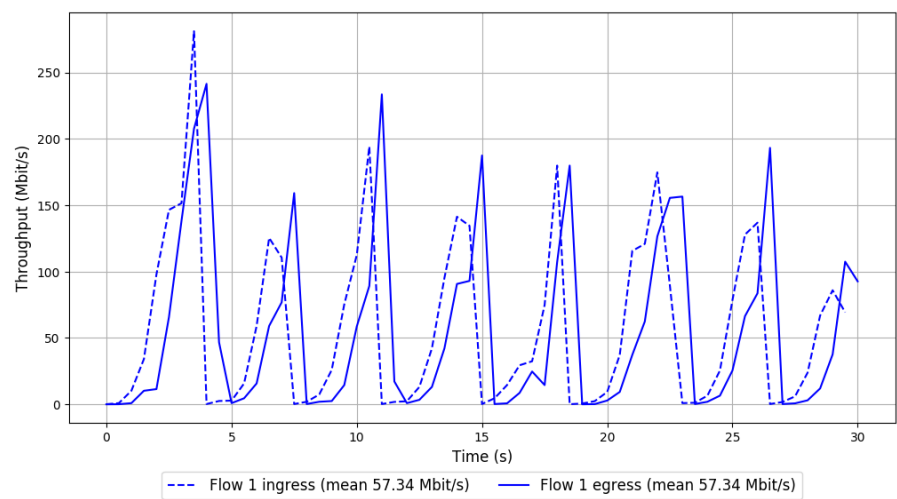


Run 4: Statistics of Verus

Start at: 2018-12-11 20:44:12
End at: 2018-12-11 20:44:42
Local clock offset: 0.221 ms
Remote clock offset: -0.034 ms

Below is generated by plot.py at 2018-12-11 23:00:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 57.34 Mbit/s
95th percentile per-packet one-way delay: 147.152 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 57.34 Mbit/s
95th percentile per-packet one-way delay: 147.152 ms
Loss rate: 0.01%

Run 4: Report of Verus — Data Link

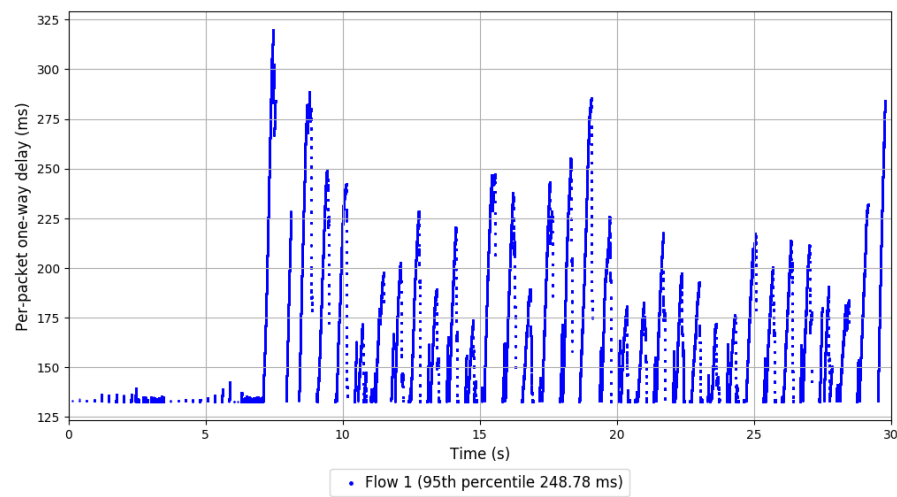
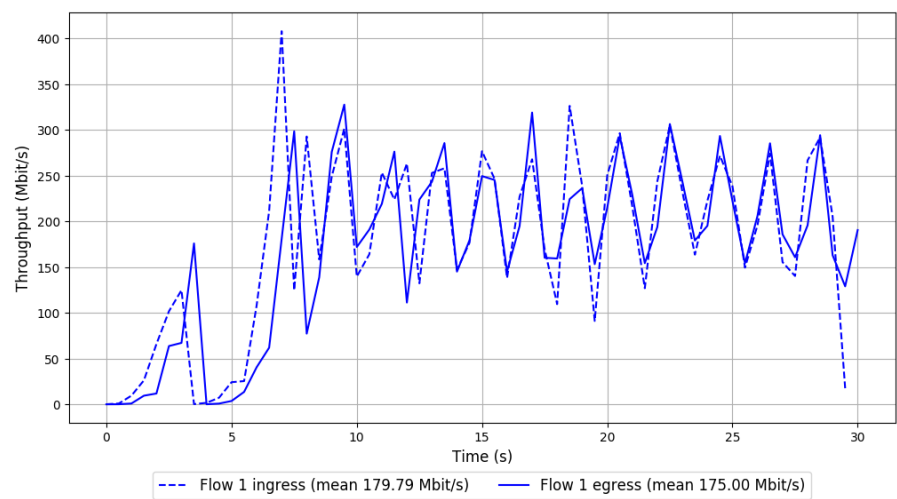


Run 5: Statistics of Verus

Start at: 2018-12-11 21:15:12
End at: 2018-12-11 21:15:42
Local clock offset: -0.229 ms
Remote clock offset: -0.082 ms

Below is generated by plot.py at 2018-12-11 23:00:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 175.00 Mbit/s
95th percentile per-packet one-way delay: 248.781 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 175.00 Mbit/s
95th percentile per-packet one-way delay: 248.781 ms
Loss rate: 2.21%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 19:04:02

End at: 2018-12-11 19:04:32

Local clock offset: -0.194 ms

Remote clock offset: -0.19 ms

Below is generated by plot.py at 2018-12-11 23:01:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 341.01 Mbit/s

95th percentile per-packet one-way delay: 137.904 ms

Loss rate: 0.22%

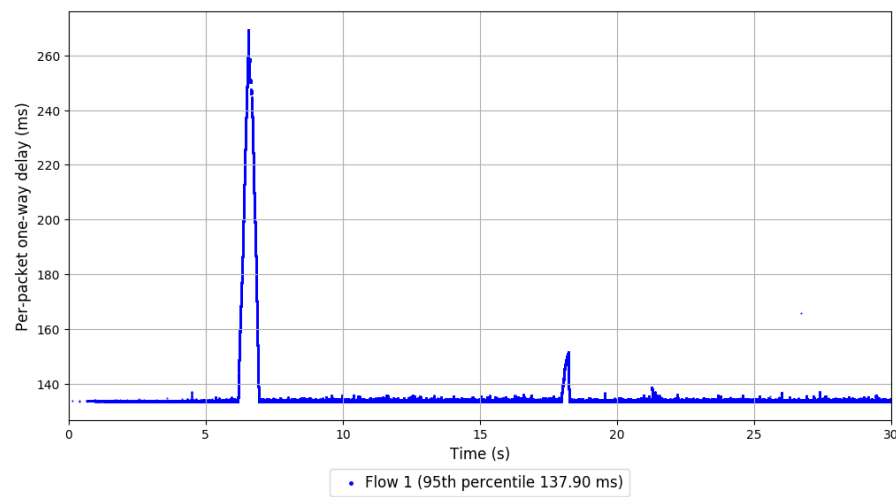
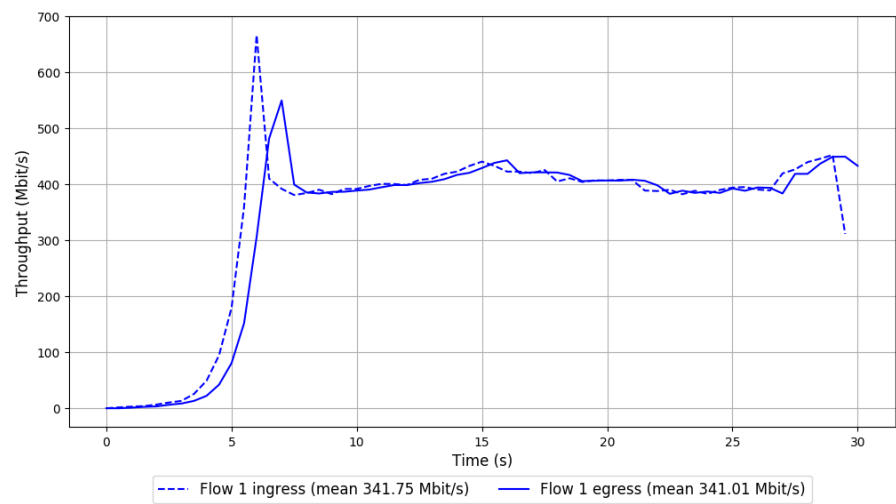
-- Flow 1:

Average throughput: 341.01 Mbit/s

95th percentile per-packet one-way delay: 137.904 ms

Loss rate: 0.22%

Run 1: Report of PCC-Vivace — Data Link

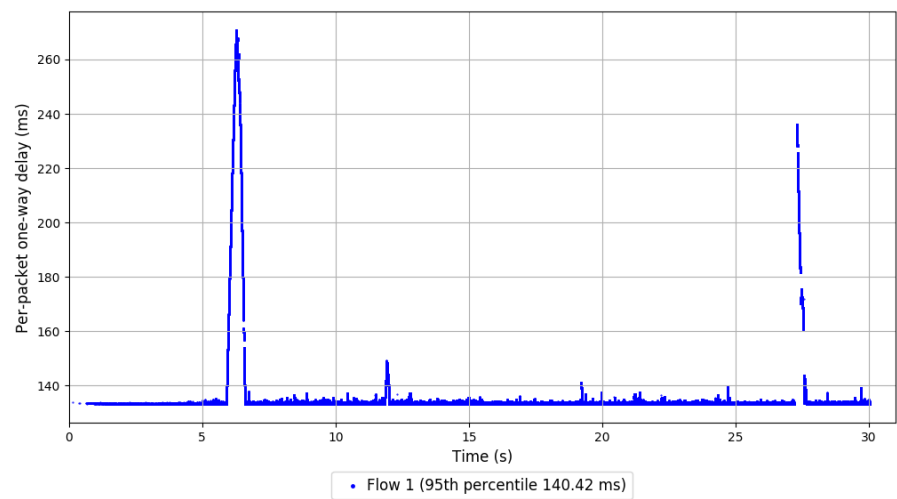
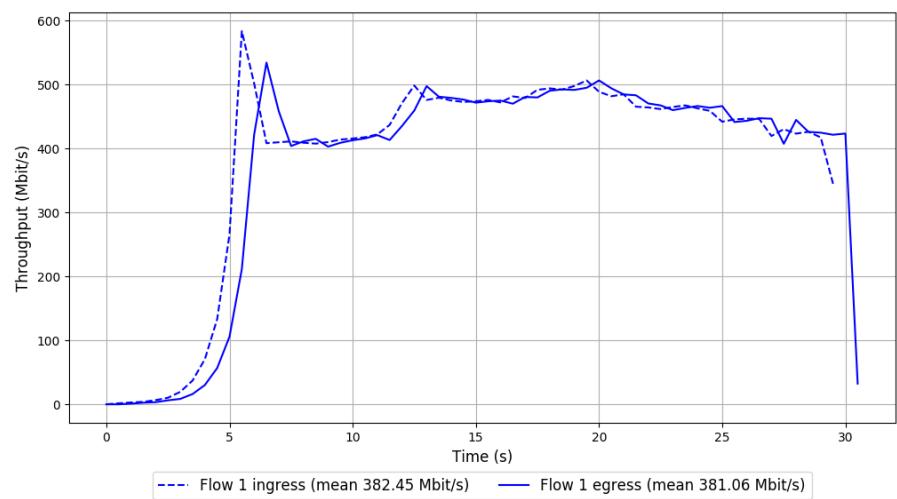


Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 19:36:07
End at: 2018-12-11 19:36:37
Local clock offset: -0.075 ms
Remote clock offset: -0.112 ms

Below is generated by plot.py at 2018-12-11 23:02:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 381.06 Mbit/s
95th percentile per-packet one-way delay: 140.424 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 381.06 Mbit/s
95th percentile per-packet one-way delay: 140.424 ms
Loss rate: 0.36%

Run 2: Report of PCC-Vivace — Data Link

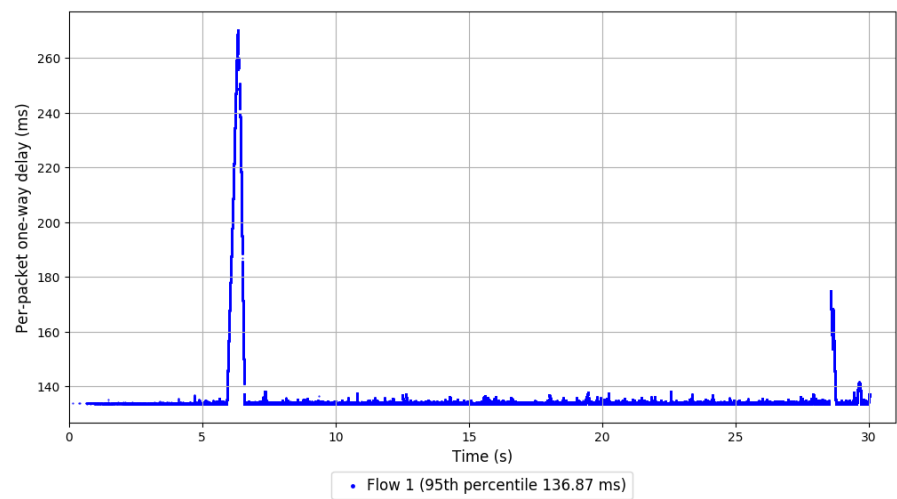
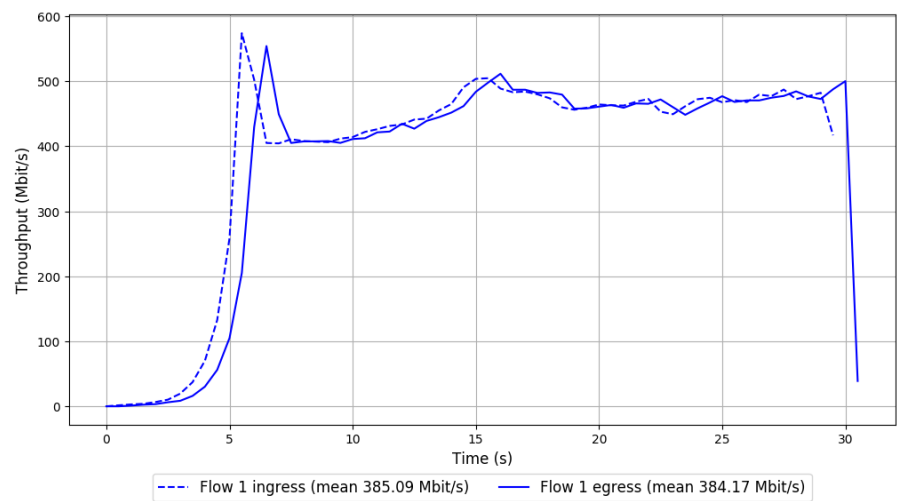


Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 20:06:32
End at: 2018-12-11 20:07:02
Local clock offset: -0.272 ms
Remote clock offset: -0.182 ms

Below is generated by plot.py at 2018-12-11 23:02:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 384.17 Mbit/s
95th percentile per-packet one-way delay: 136.869 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 384.17 Mbit/s
95th percentile per-packet one-way delay: 136.869 ms
Loss rate: 0.24%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 20:36:18

End at: 2018-12-11 20:36:48

Local clock offset: 0.23 ms

Remote clock offset: -0.107 ms

Below is generated by plot.py at 2018-12-11 23:03:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 383.94 Mbit/s

95th percentile per-packet one-way delay: 136.040 ms

Loss rate: 0.11%

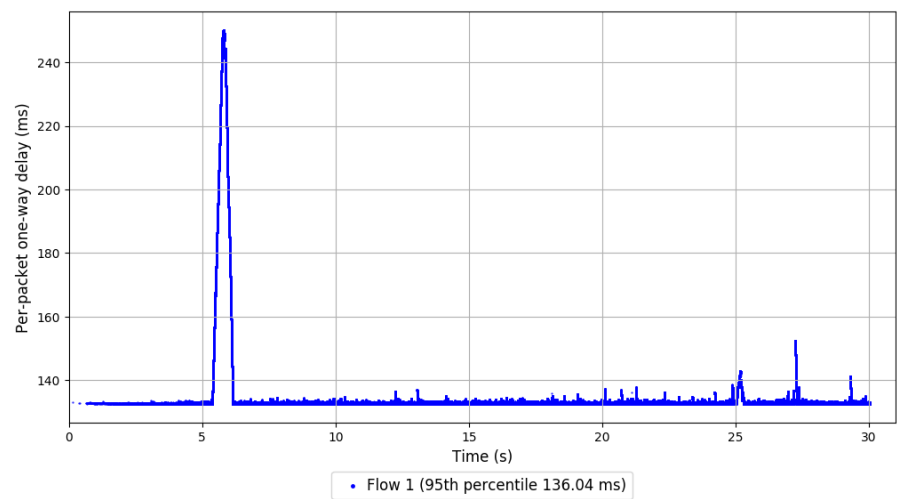
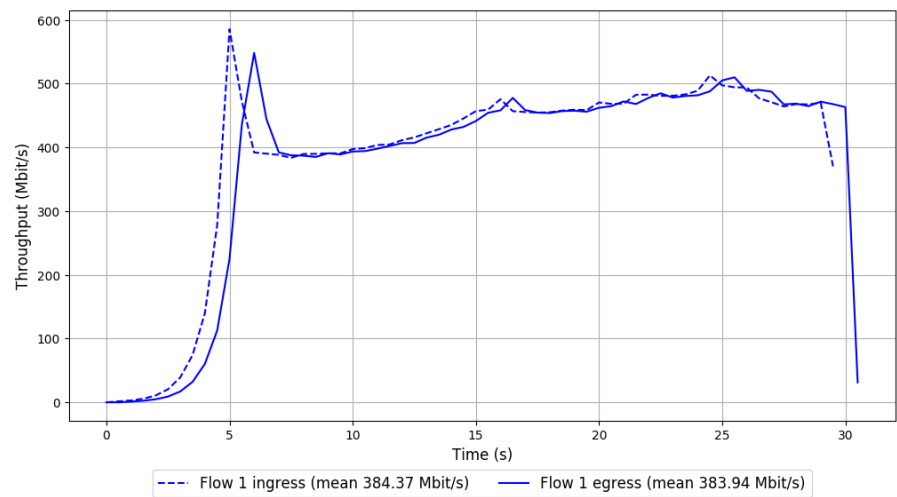
-- Flow 1:

Average throughput: 383.94 Mbit/s

95th percentile per-packet one-way delay: 136.040 ms

Loss rate: 0.11%

Run 4: Report of PCC-Vivace — Data Link

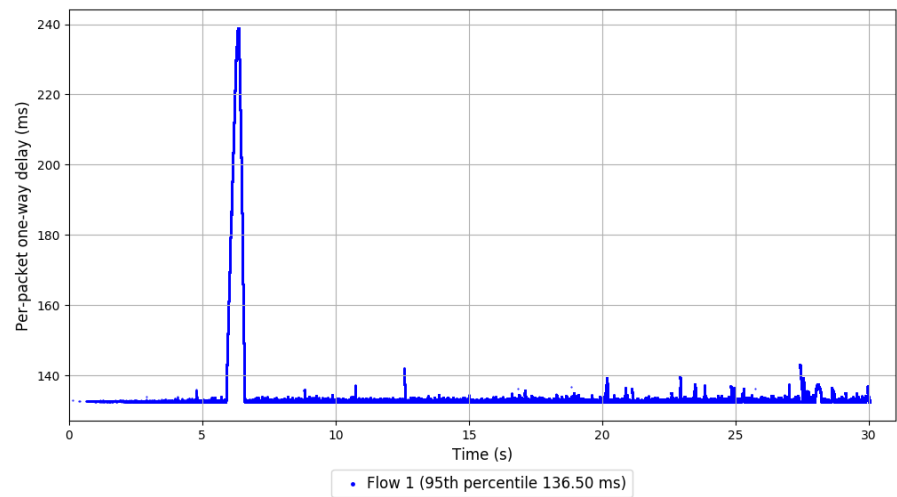
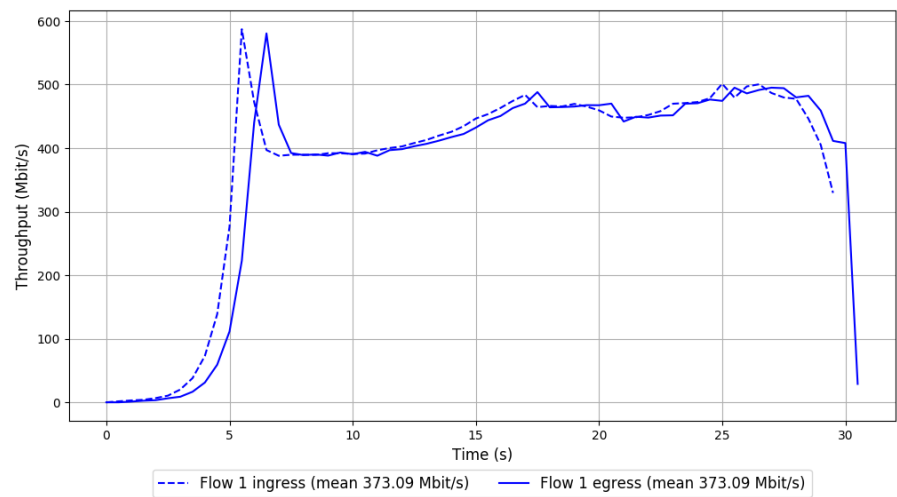


Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 21:06:51
End at: 2018-12-11 21:07:22
Local clock offset: 0.027 ms
Remote clock offset: -0.068 ms

Below is generated by plot.py at 2018-12-11 23:03:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 373.09 Mbit/s
95th percentile per-packet one-way delay: 136.497 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 373.09 Mbit/s
95th percentile per-packet one-way delay: 136.497 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

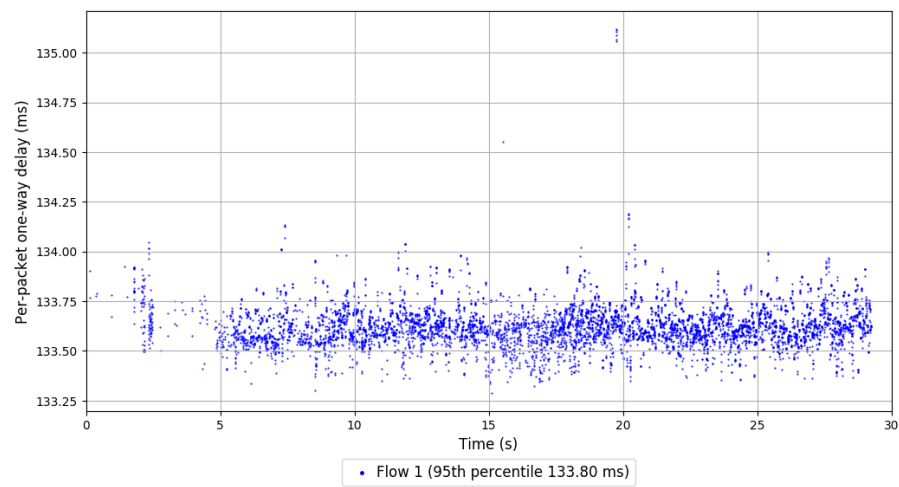
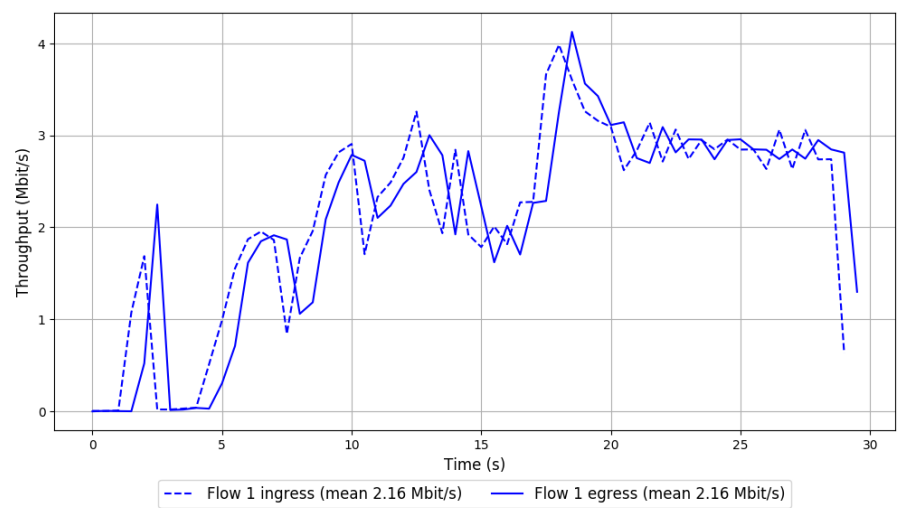


Run 1: Statistics of WebRTC media

Start at: 2018-12-11 18:56:40
End at: 2018-12-11 18:57:10
Local clock offset: -0.125 ms
Remote clock offset: -0.142 ms

Below is generated by plot.py at 2018-12-11 23:03:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 133.801 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 133.801 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

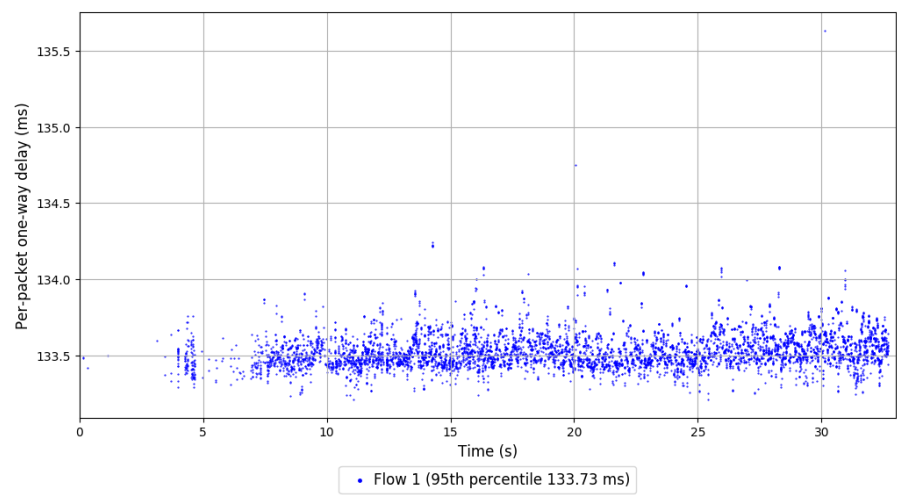
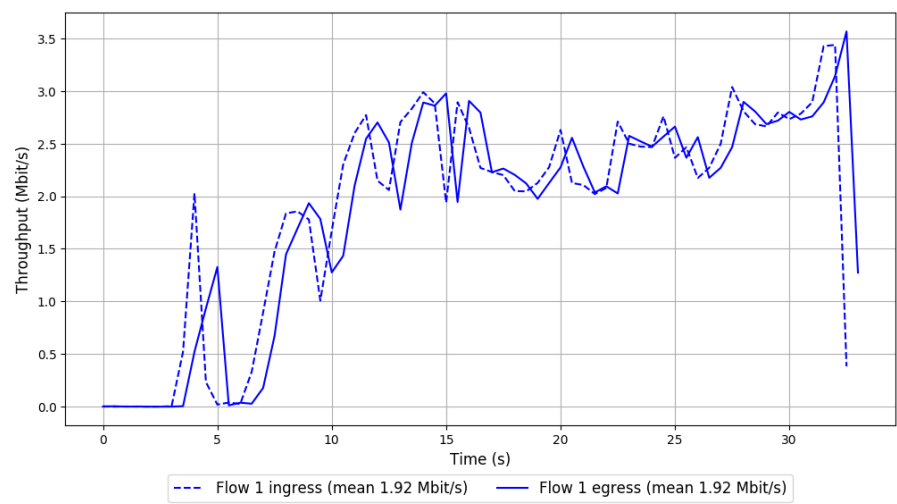


Run 2: Statistics of WebRTC media

Start at: 2018-12-11 19:28:18
End at: 2018-12-11 19:28:48
Local clock offset: -0.428 ms
Remote clock offset: -0.116 ms

Below is generated by plot.py at 2018-12-11 23:03:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 133.726 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 133.726 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

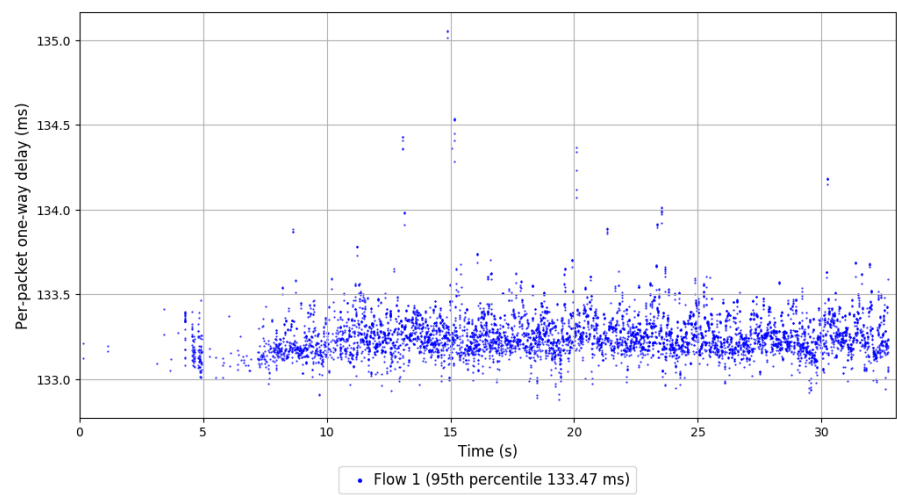
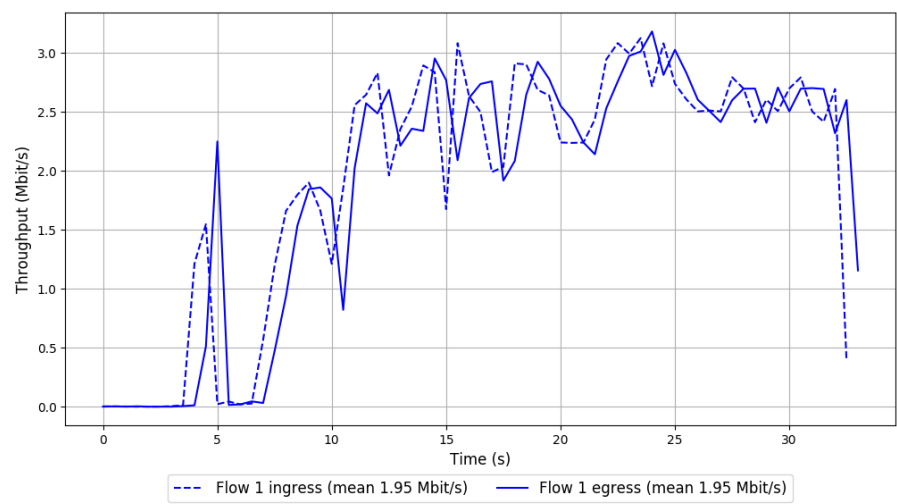


Run 3: Statistics of WebRTC media

Start at: 2018-12-11 19:59:44
End at: 2018-12-11 20:00:14
Local clock offset: -0.297 ms
Remote clock offset: -0.162 ms

Below is generated by plot.py at 2018-12-11 23:03:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 133.472 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 133.472 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-12-11 20:29:03

End at: 2018-12-11 20:29:33

Local clock offset: -0.122 ms

Remote clock offset: 0.231 ms

Below is generated by plot.py at 2018-12-11 23:03:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 133.735 ms

Loss rate: 0.00%

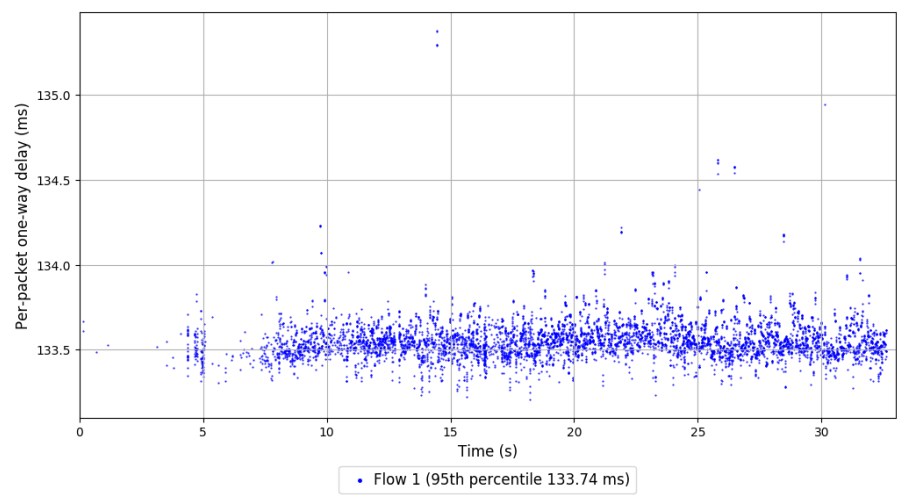
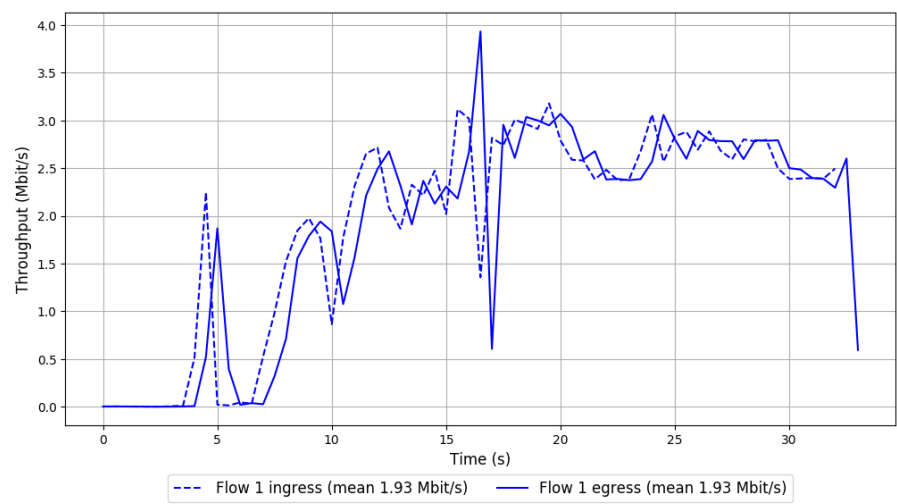
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 133.735 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-12-11 20:59:26
End at: 2018-12-11 20:59:56
Local clock offset: 0.029 ms
Remote clock offset: -0.021 ms

Below is generated by plot.py at 2018-12-11 23:03:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 133.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 133.844 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

