

Pantheon Report

Generated at 2019-01-03 08:02:38 (UTC).

Data path: Stanford on `eno1` (*remote*) → AWS California 1 on `ens5` (*local*).

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.stanford.edu` and have been applied to correct the timestamps in logs.

System info:

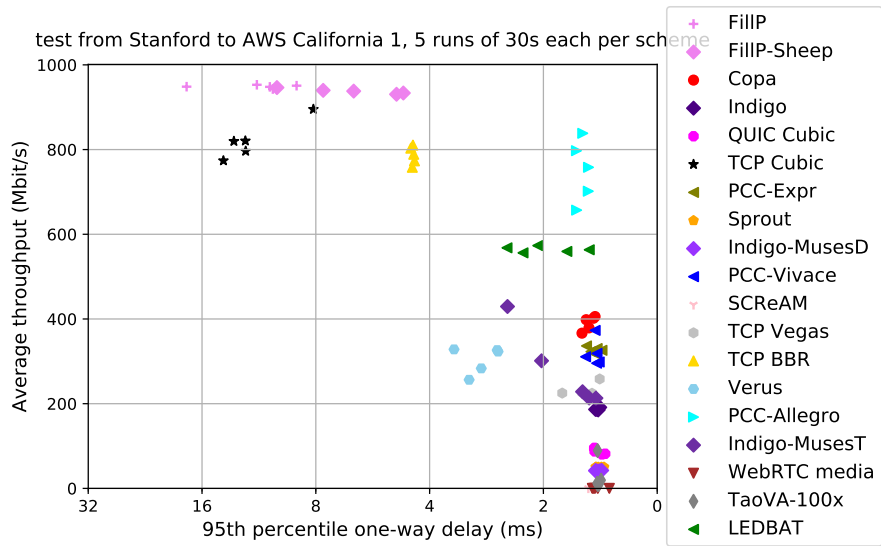
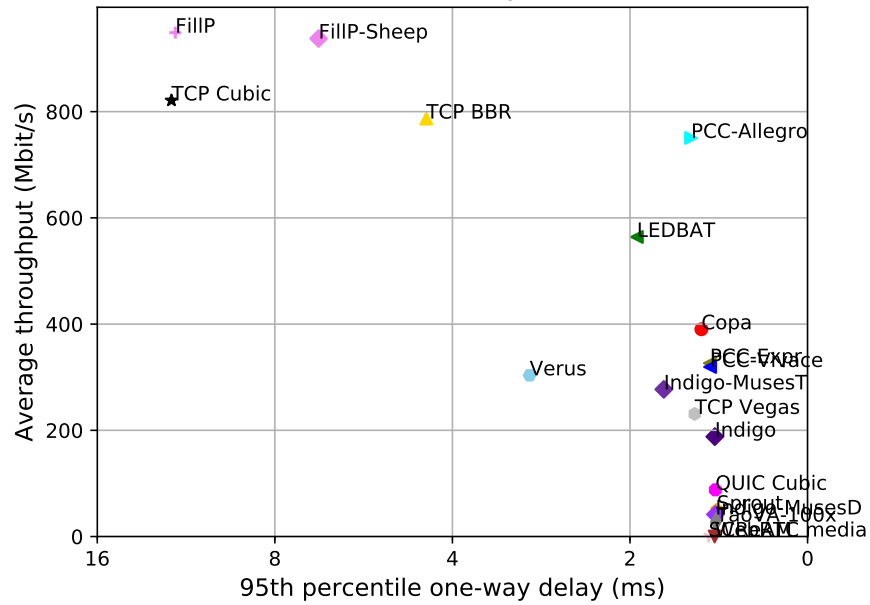
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from Stanford to AWS California 1, 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	786.90	4.43	0.02
Copa	5	390.26	1.20	0.01
TCP Cubic	5	821.09	11.98	0.03
FillP	5	948.66	11.80	0.02
FillP-Sheep	5	937.65	6.75	0.01
Indigo	5	188.08	1.04	0.01
Indigo-MusesD	5	41.67	1.04	0.01
Indigo-MusesT	5	277.10	1.62	0.01
LEDBAT	5	564.06	1.92	0.01
PCC-Allegro	5	750.50	1.31	0.01
PCC-Expr	5	326.43	1.10	0.01
QUIC Cubic	5	87.95	1.04	0.01
SCReAM	5	0.22	1.11	0.03
Sprout	5	50.25	1.02	0.01
TaoVA-100x	5	28.14	1.03	0.00
TCP Vegas	5	230.87	1.27	0.00
Verus	5	303.53	2.96	0.01
PCC-Vivace	5	319.31	1.10	0.01
WebRTC media	5	0.05	1.05	0.00

Run 1: Statistics of TCP BBR

Start at: 2019-01-03 04:50:52

End at: 2019-01-03 04:51:23

Local clock offset: -3.173 ms

Remote clock offset: -0.477 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 810.54 Mbit/s

95th percentile per-packet one-way delay: 4.428 ms

Loss rate: 0.02%

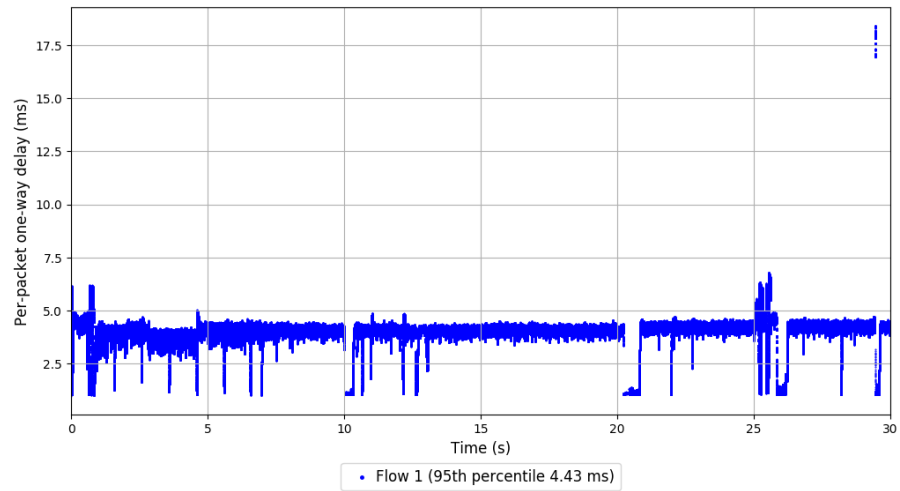
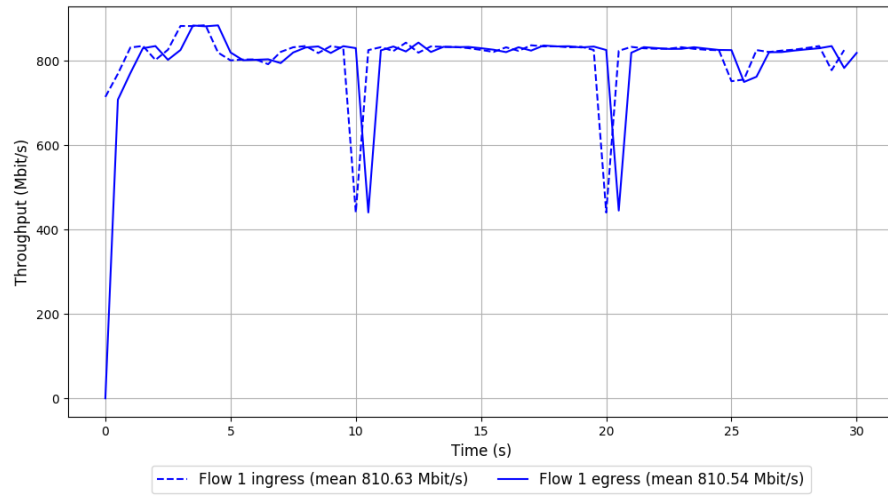
-- Flow 1:

Average throughput: 810.54 Mbit/s

95th percentile per-packet one-way delay: 4.428 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-01-03 05:17:52

End at: 2019-01-03 05:18:22

Local clock offset: 0.484 ms

Remote clock offset: 0.017 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 758.24 Mbit/s

95th percentile per-packet one-way delay: 4.444 ms

Loss rate: 0.02%

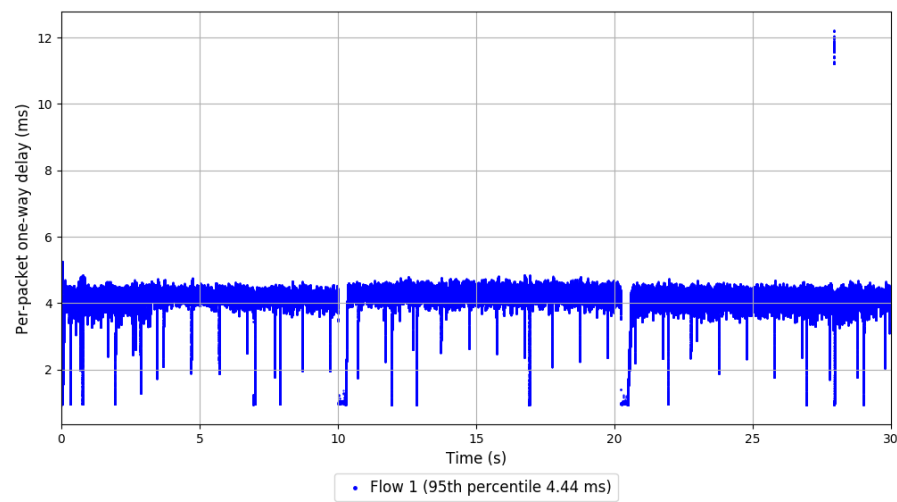
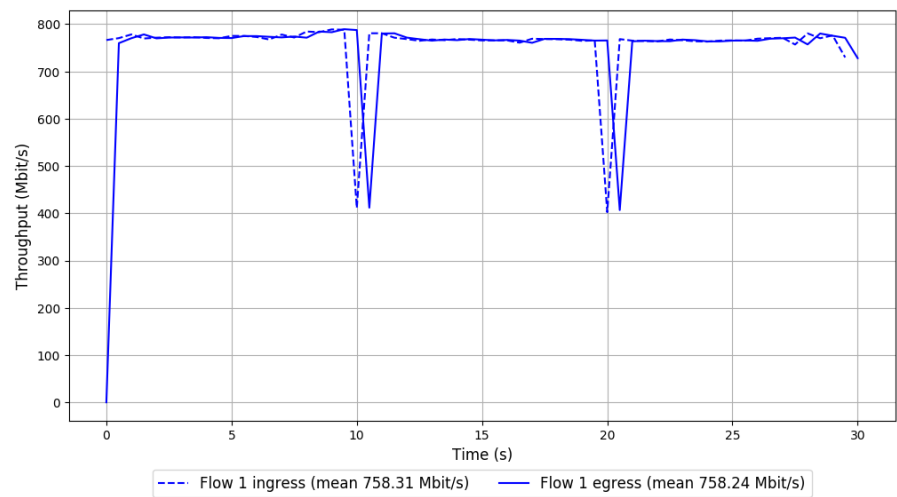
-- Flow 1:

Average throughput: 758.24 Mbit/s

95th percentile per-packet one-way delay: 4.444 ms

Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-01-03 05:44:55

End at: 2019-01-03 05:45:25

Local clock offset: 0.56 ms

Remote clock offset: 0.457 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 773.41 Mbit/s

95th percentile per-packet one-way delay: 4.387 ms

Loss rate: 0.02%

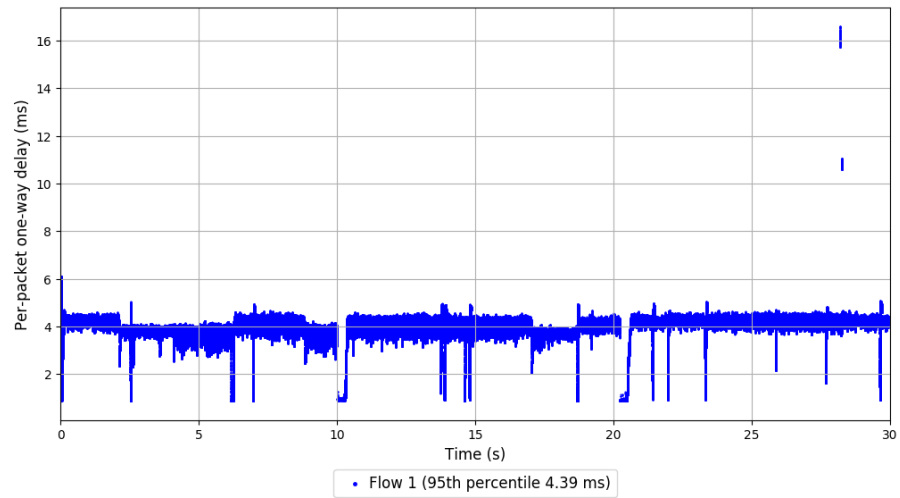
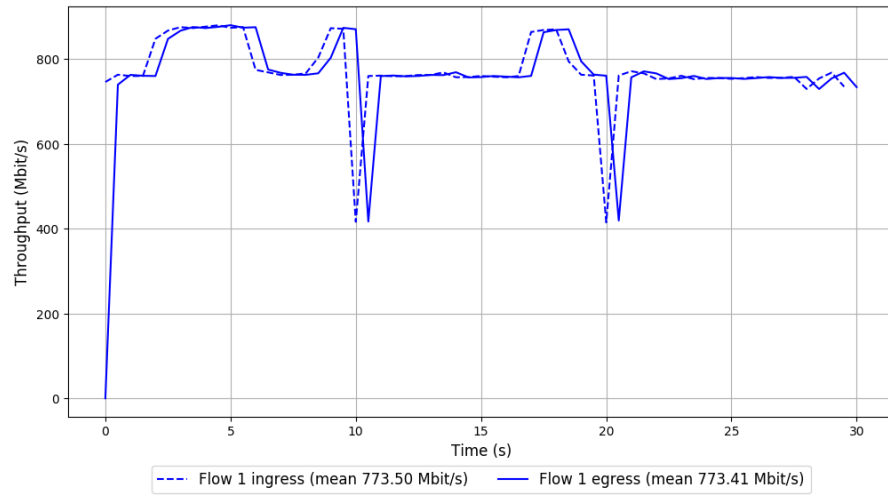
-- Flow 1:

Average throughput: 773.41 Mbit/s

95th percentile per-packet one-way delay: 4.387 ms

Loss rate: 0.02%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2019-01-03 06:11:52

End at: 2019-01-03 06:12:22

Local clock offset: 0.361 ms

Remote clock offset: -0.013 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 788.97 Mbit/s

95th percentile per-packet one-way delay: 4.406 ms

Loss rate: 0.02%

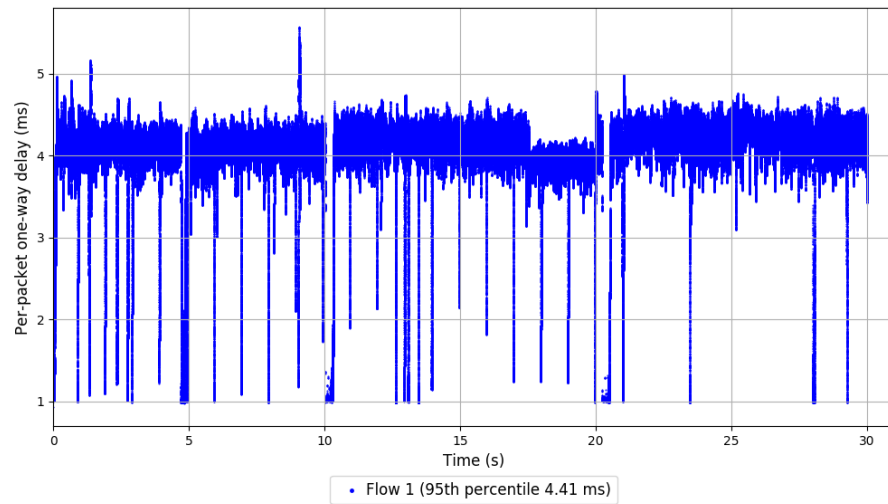
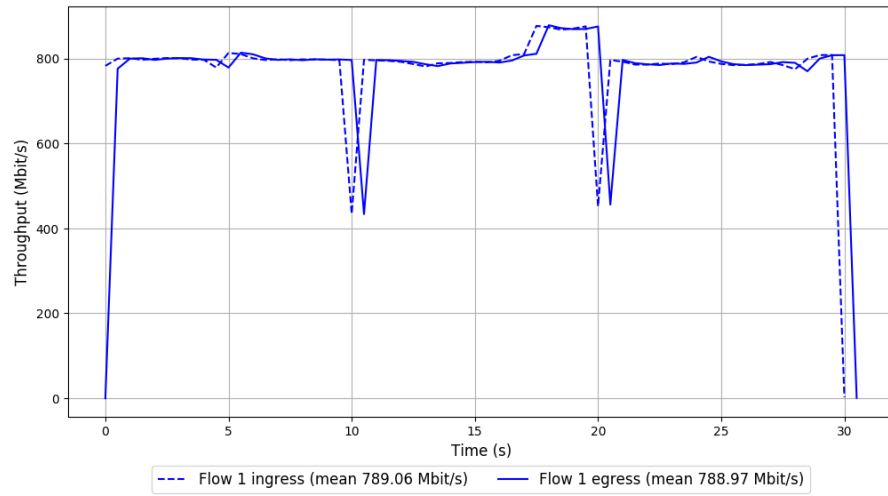
-- Flow 1:

Average throughput: 788.97 Mbit/s

95th percentile per-packet one-way delay: 4.406 ms

Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2019-01-03 06:39:05

End at: 2019-01-03 06:39:35

Local clock offset: 0.298 ms

Remote clock offset: -0.391 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 803.36 Mbit/s

95th percentile per-packet one-way delay: 4.485 ms

Loss rate: 0.02%

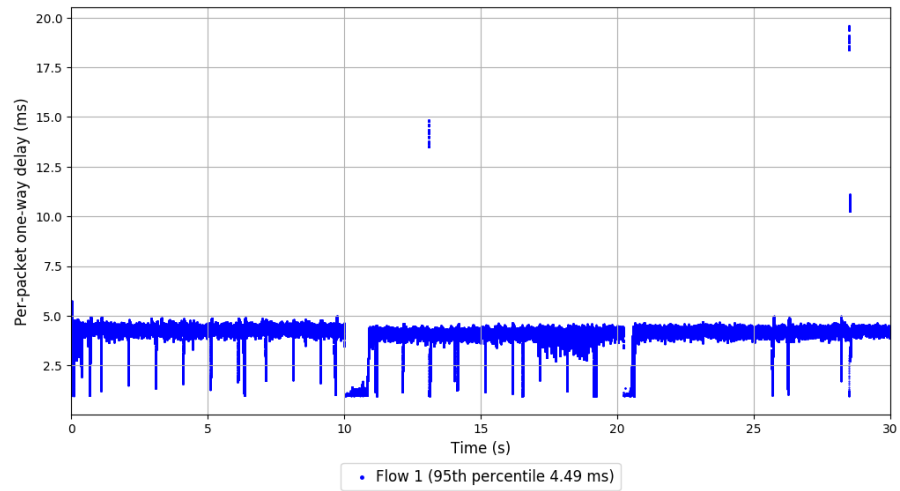
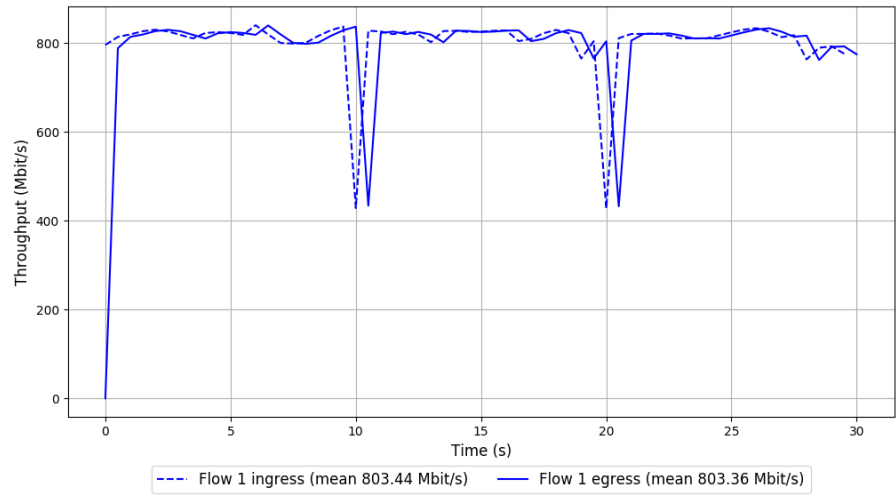
-- Flow 1:

Average throughput: 803.36 Mbit/s

95th percentile per-packet one-way delay: 4.485 ms

Loss rate: 0.02%

Run 5: Report of TCP BBR — Data Link

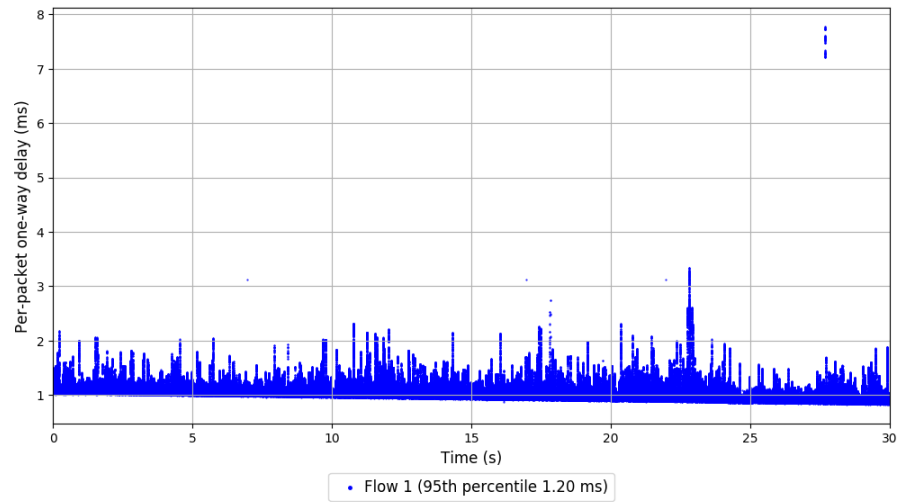
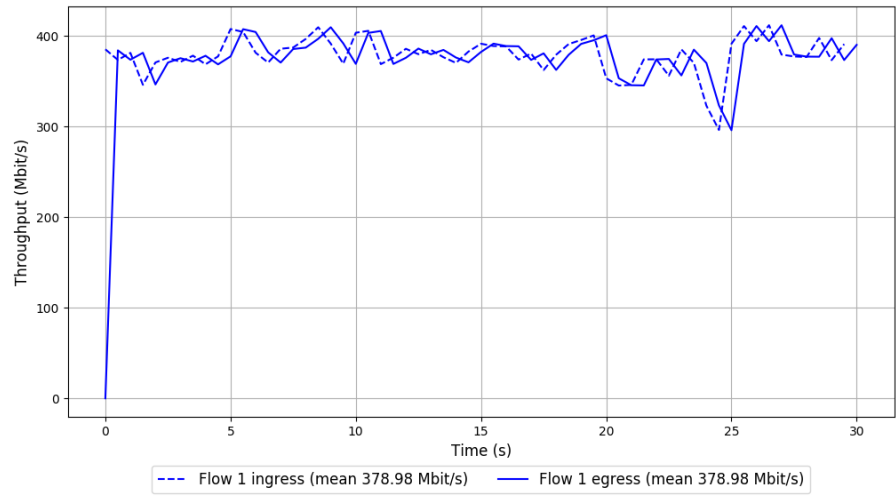


Run 1: Statistics of Copa

Start at: 2019-01-03 04:53:58
End at: 2019-01-03 04:54:28
Local clock offset: -3.308 ms
Remote clock offset: -0.388 ms

Below is generated by plot.py at 2019-01-03 07:16:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 378.98 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 378.98 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.01%

Run 1: Report of Copa — Data Link

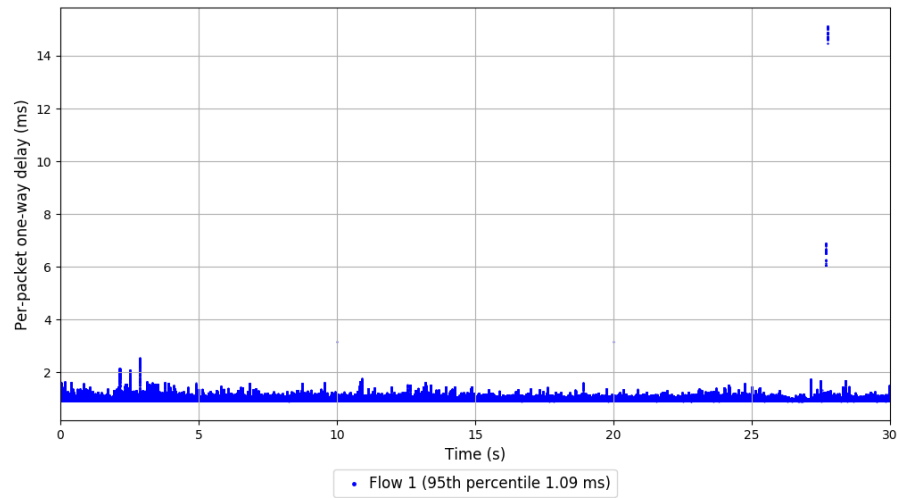
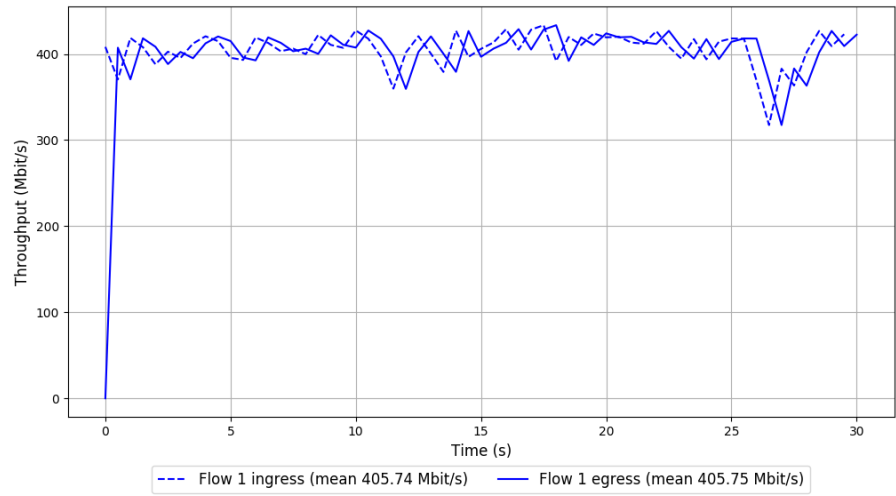


Run 2: Statistics of Copa

Start at: 2019-01-03 05:20:56
End at: 2019-01-03 05:21:26
Local clock offset: 0.628 ms
Remote clock offset: 0.084 ms

Below is generated by plot.py at 2019-01-03 07:16:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 405.75 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 405.75 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.01%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-01-03 05:47:59

End at: 2019-01-03 05:48:29

Local clock offset: 0.59 ms

Remote clock offset: 0.299 ms

Below is generated by plot.py at 2019-01-03 07:16:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 366.50 Mbit/s

95th percentile per-packet one-way delay: 1.322 ms

Loss rate: 0.01%

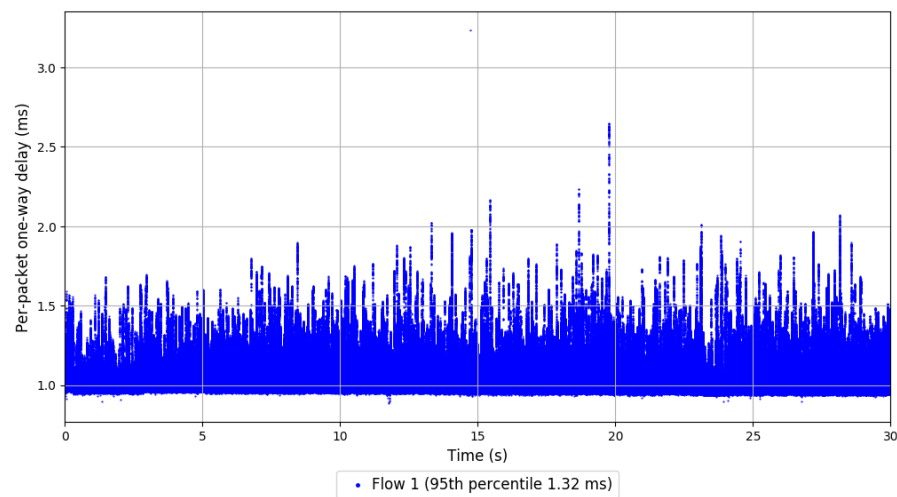
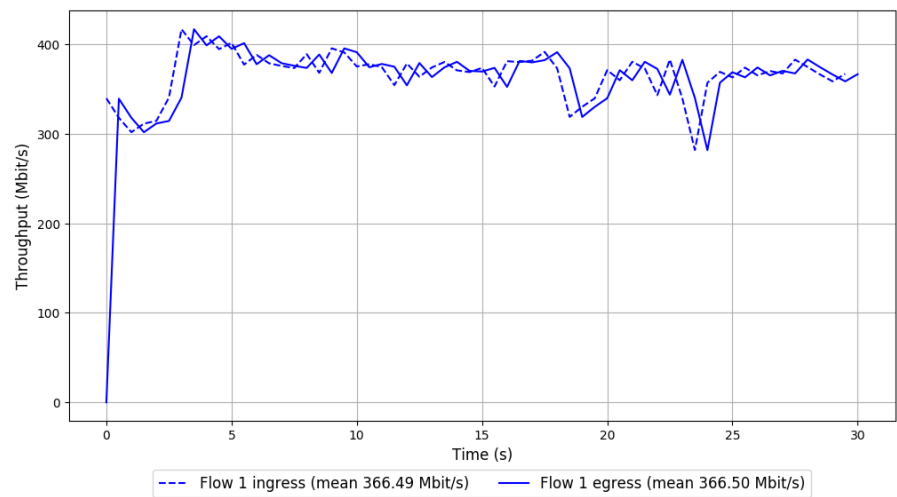
-- Flow 1:

Average throughput: 366.50 Mbit/s

95th percentile per-packet one-way delay: 1.322 ms

Loss rate: 0.01%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2019-01-03 06:14:56

End at: 2019-01-03 06:15:26

Local clock offset: 0.372 ms

Remote clock offset: 0.011 ms

Below is generated by plot.py at 2019-01-03 07:24:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 401.73 Mbit/s

95th percentile per-packet one-way delay: 1.120 ms

Loss rate: 0.01%

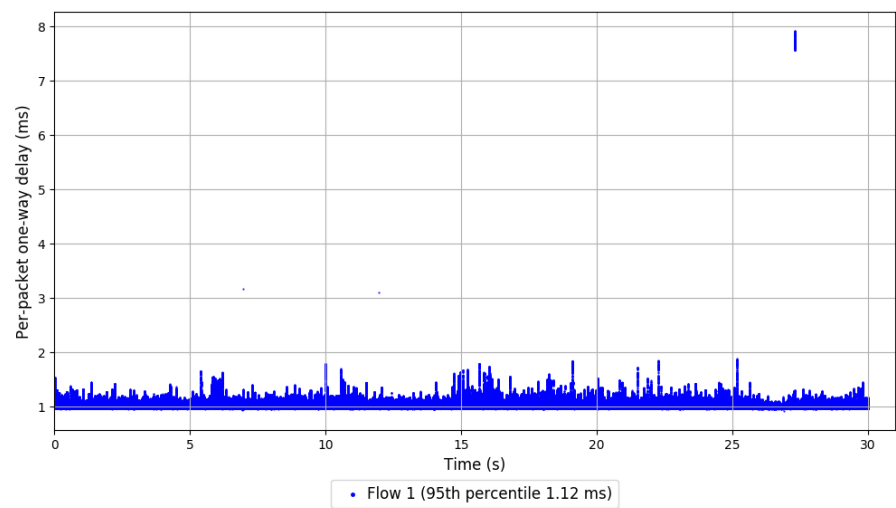
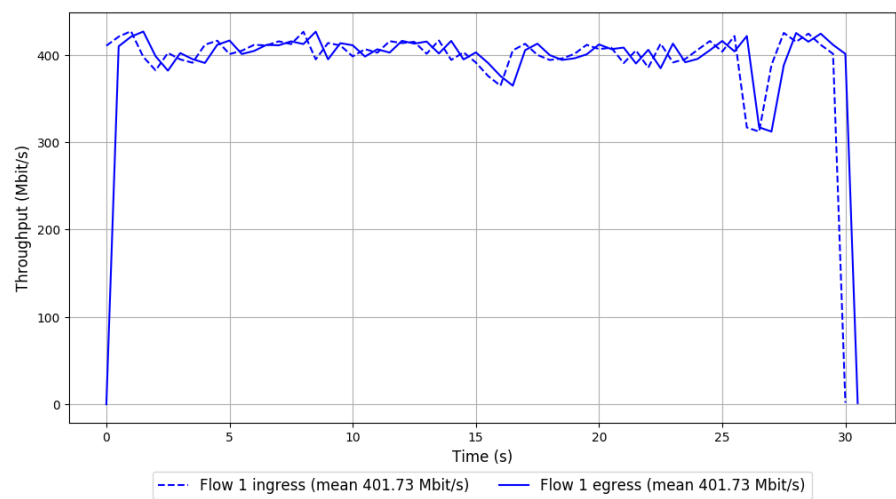
-- Flow 1:

Average throughput: 401.73 Mbit/s

95th percentile per-packet one-way delay: 1.120 ms

Loss rate: 0.01%

Run 4: Report of Copa — Data Link

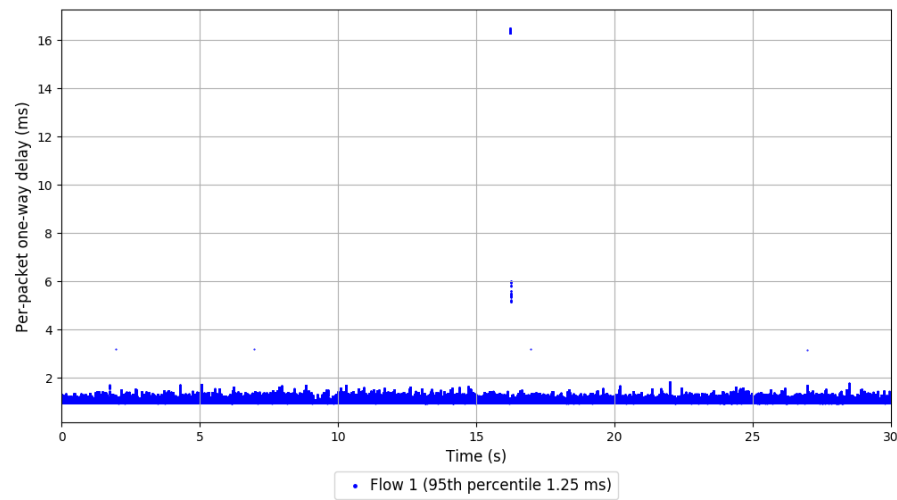
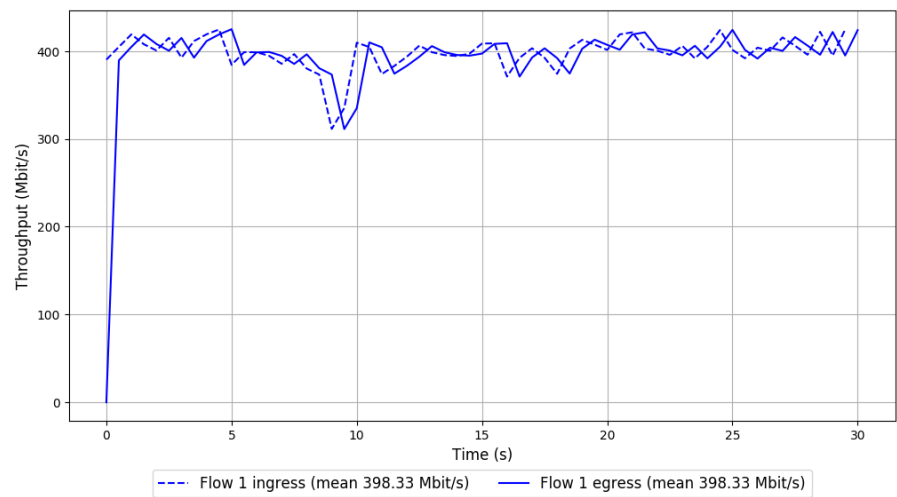


Run 5: Statistics of Copa

Start at: 2019-01-03 06:42:13
End at: 2019-01-03 06:42:43
Local clock offset: 0.326 ms
Remote clock offset: -0.387 ms

Below is generated by plot.py at 2019-01-03 07:24:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 398.33 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 398.33 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.01%

Run 5: Report of Copa — Data Link

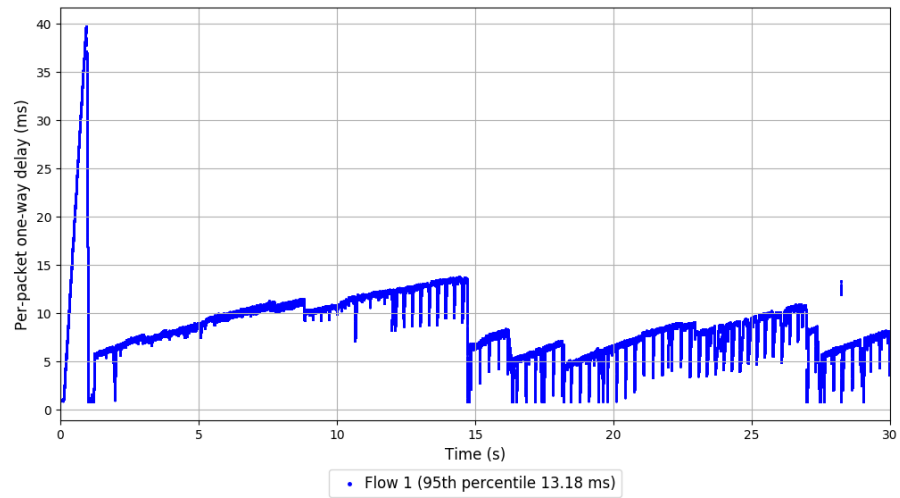
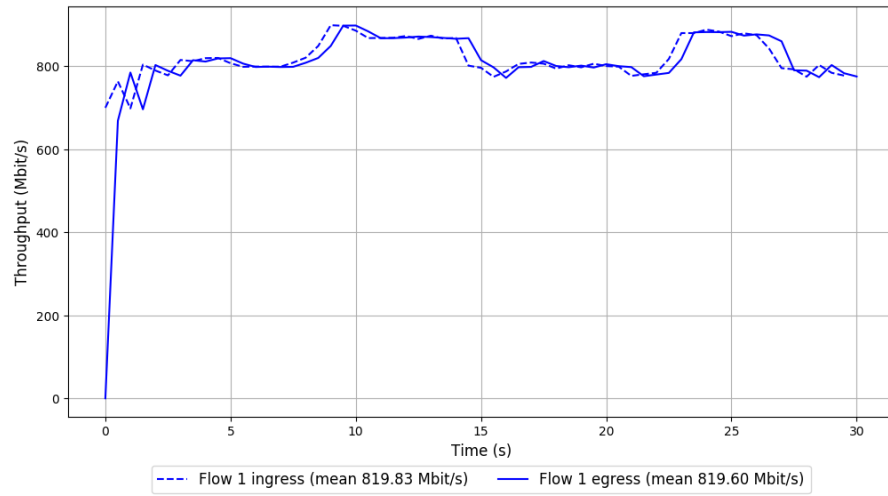


Run 1: Statistics of TCP Cubic

Start at: 2019-01-03 05:05:10
End at: 2019-01-03 05:05:40
Local clock offset: -0.631 ms
Remote clock offset: -0.226 ms

Below is generated by plot.py at 2019-01-03 07:24:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 819.60 Mbit/s
95th percentile per-packet one-way delay: 13.178 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 819.60 Mbit/s
95th percentile per-packet one-way delay: 13.178 ms
Loss rate: 0.03%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-01-03 05:32:07

End at: 2019-01-03 05:32:37

Local clock offset: 0.565 ms

Remote clock offset: 0.271 ms

Below is generated by plot.py at 2019-01-03 07:24:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 796.32 Mbit/s

95th percentile per-packet one-way delay: 12.265 ms

Loss rate: 0.03%

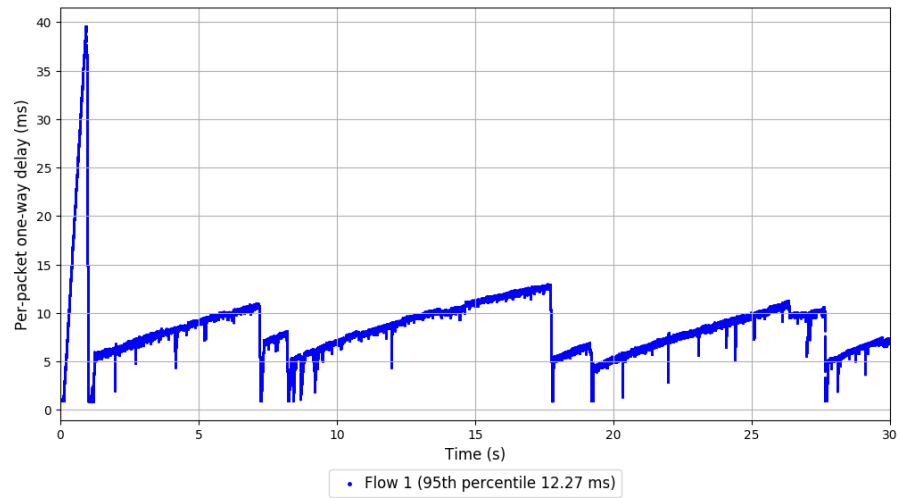
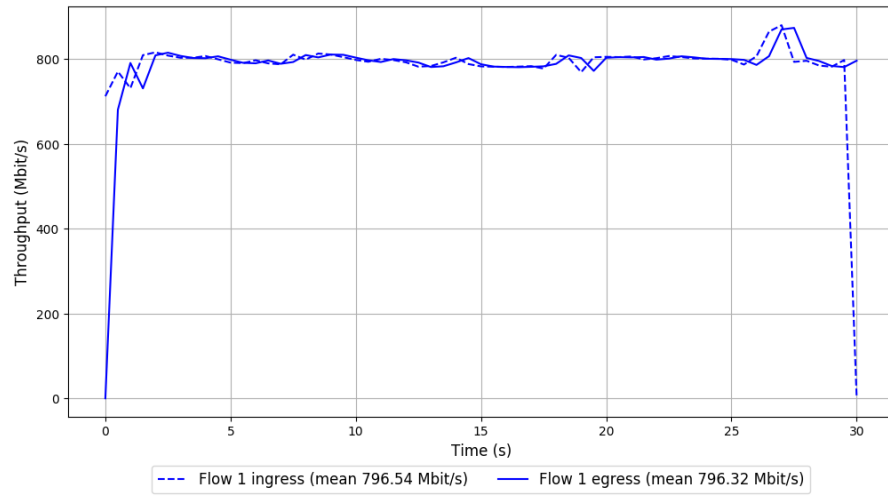
-- Flow 1:

Average throughput: 796.32 Mbit/s

95th percentile per-packet one-way delay: 12.265 ms

Loss rate: 0.03%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-01-03 05:59:12

End at: 2019-01-03 05:59:42

Local clock offset: 0.512 ms

Remote clock offset: 0.049 ms

Below is generated by plot.py at 2019-01-03 07:24:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 773.77 Mbit/s

95th percentile per-packet one-way delay: 14.045 ms

Loss rate: 0.04%

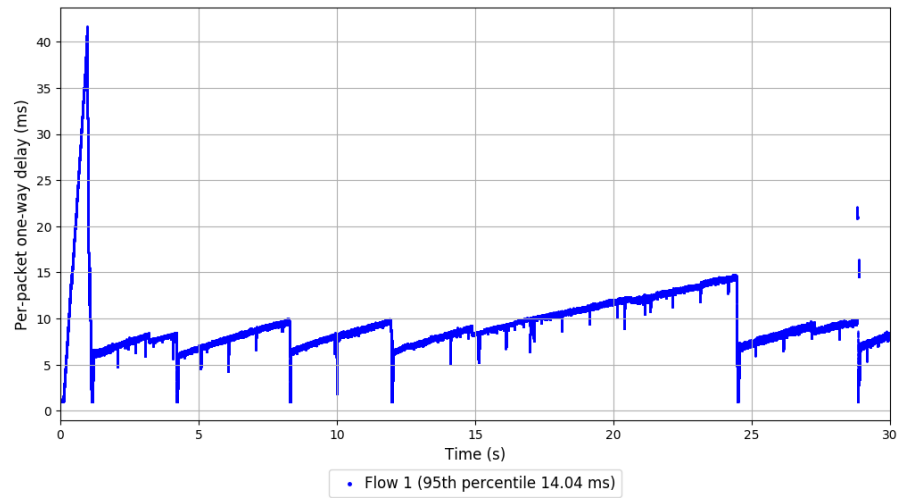
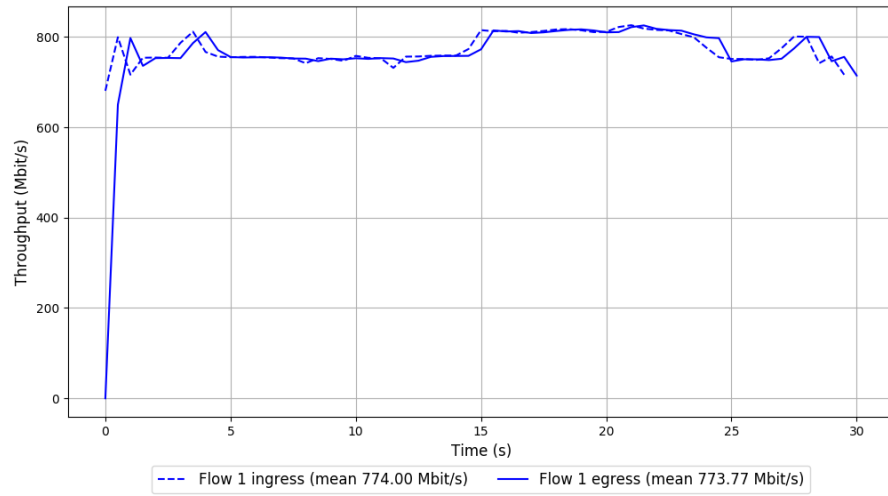
-- Flow 1:

Average throughput: 773.77 Mbit/s

95th percentile per-packet one-way delay: 14.045 ms

Loss rate: 0.04%

Run 3: Report of TCP Cubic — Data Link

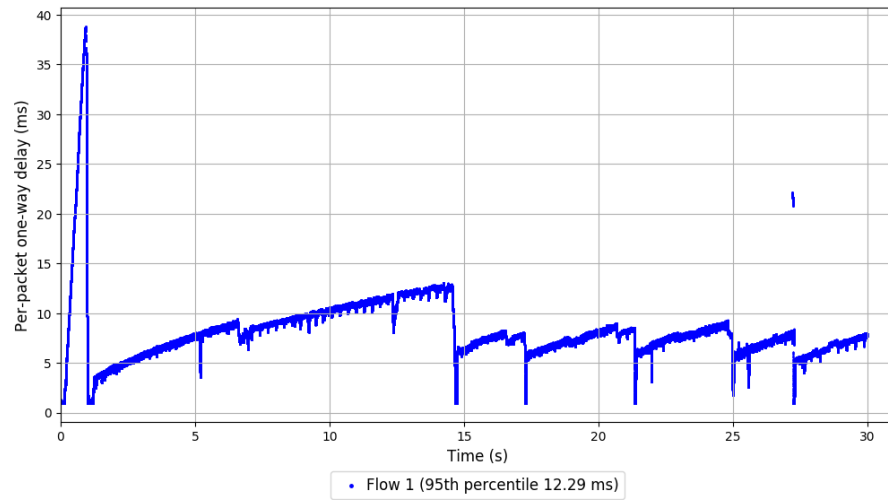
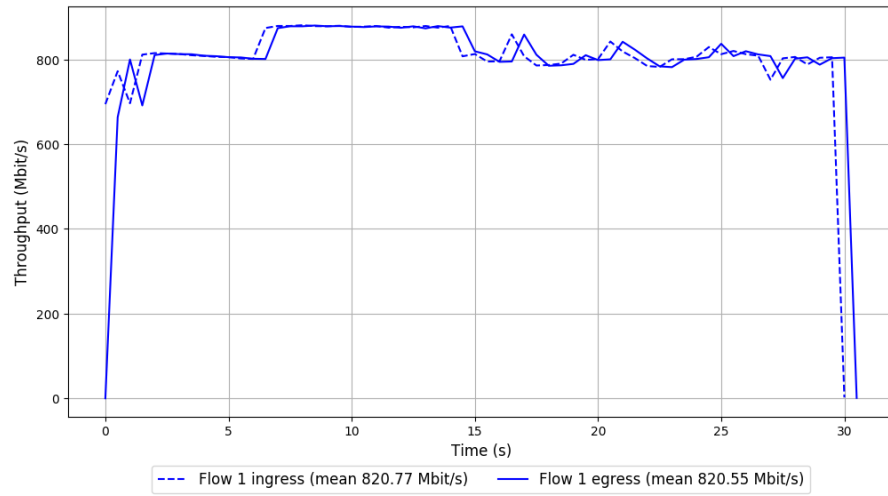


Run 4: Statistics of TCP Cubic

Start at: 2019-01-03 06:26:20
End at: 2019-01-03 06:26:50
Local clock offset: 0.355 ms
Remote clock offset: -0.187 ms

Below is generated by plot.py at 2019-01-03 07:25:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 820.55 Mbit/s
95th percentile per-packet one-way delay: 12.286 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 820.55 Mbit/s
95th percentile per-packet one-way delay: 12.286 ms
Loss rate: 0.03%

Run 4: Report of TCP Cubic — Data Link

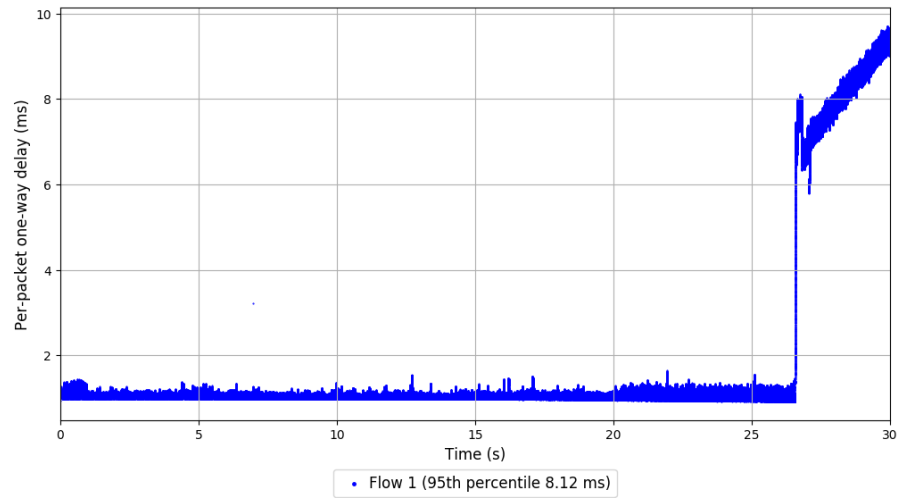
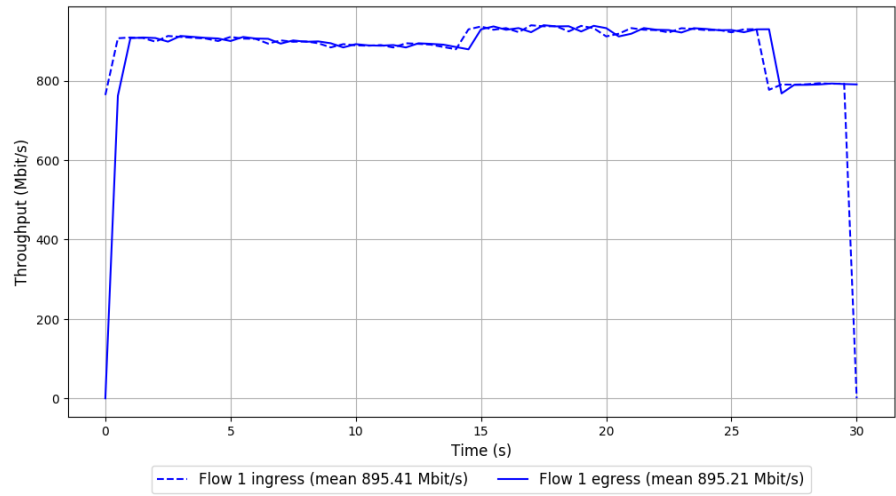


Run 5: Statistics of TCP Cubic

Start at: 2019-01-03 06:53:32
End at: 2019-01-03 06:54:02
Local clock offset: 0.408 ms
Remote clock offset: -0.493 ms

Below is generated by plot.py at 2019-01-03 07:26:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 895.21 Mbit/s
95th percentile per-packet one-way delay: 8.119 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 895.21 Mbit/s
95th percentile per-packet one-way delay: 8.119 ms
Loss rate: 0.03%

Run 5: Report of TCP Cubic — Data Link

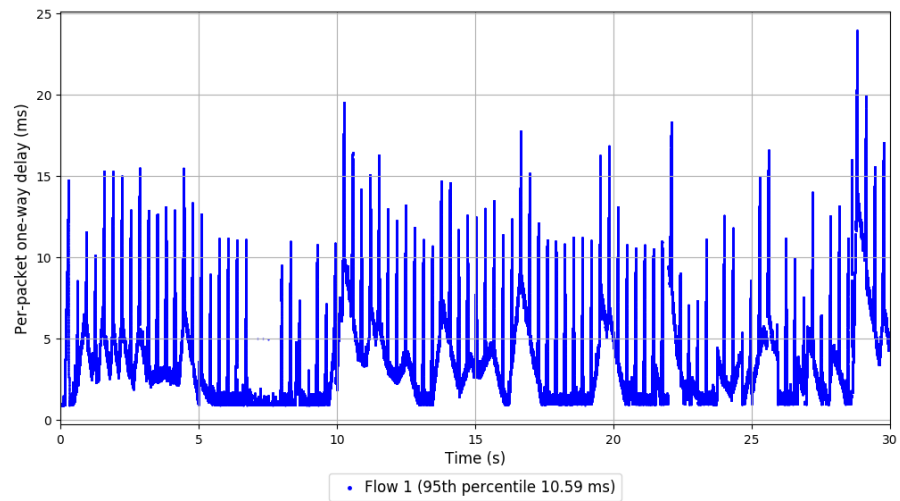
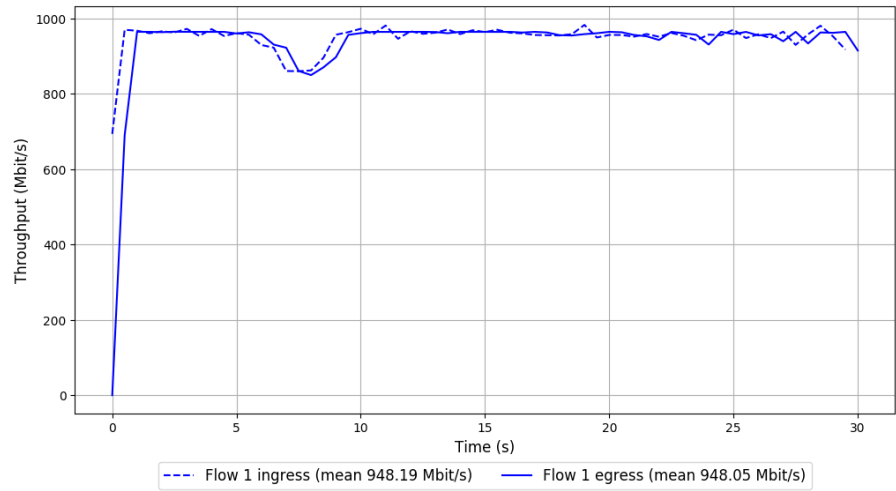


Run 1: Statistics of FillP

Start at: 2019-01-03 04:49:15
End at: 2019-01-03 04:49:45
Local clock offset: -3.103 ms
Remote clock offset: -0.436 ms

Below is generated by plot.py at 2019-01-03 07:28:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 948.05 Mbit/s
95th percentile per-packet one-way delay: 10.586 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 948.05 Mbit/s
95th percentile per-packet one-way delay: 10.586 ms
Loss rate: 0.02%

Run 1: Report of FillP — Data Link

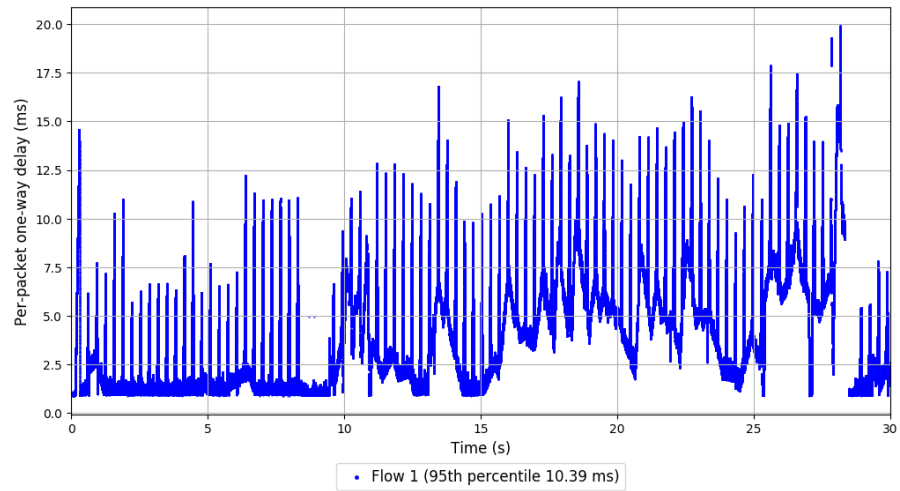
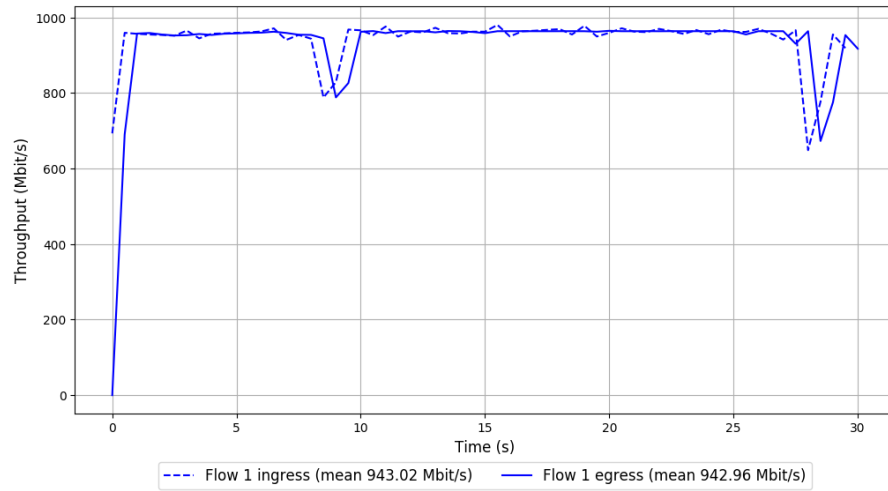


Run 2: Statistics of FillP

Start at: 2019-01-03 05:16:13
End at: 2019-01-03 05:16:43
Local clock offset: 0.388 ms
Remote clock offset: -0.028 ms

Below is generated by plot.py at 2019-01-03 07:36:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 942.96 Mbit/s
95th percentile per-packet one-way delay: 10.395 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 942.96 Mbit/s
95th percentile per-packet one-way delay: 10.395 ms
Loss rate: 0.01%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-01-03 05:43:18

End at: 2019-01-03 05:43:48

Local clock offset: 0.565 ms

Remote clock offset: 0.3 ms

Below is generated by plot.py at 2019-01-03 07:36:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 950.82 Mbit/s

95th percentile per-packet one-way delay: 8.994 ms

Loss rate: 0.01%

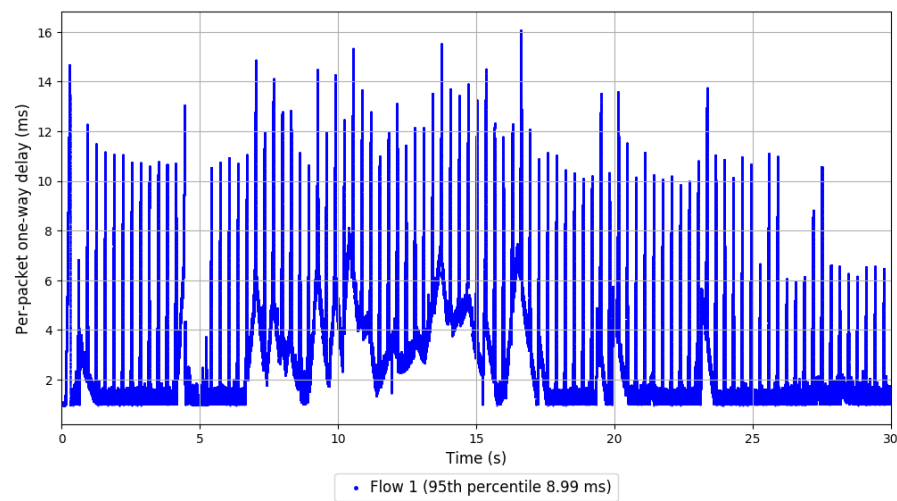
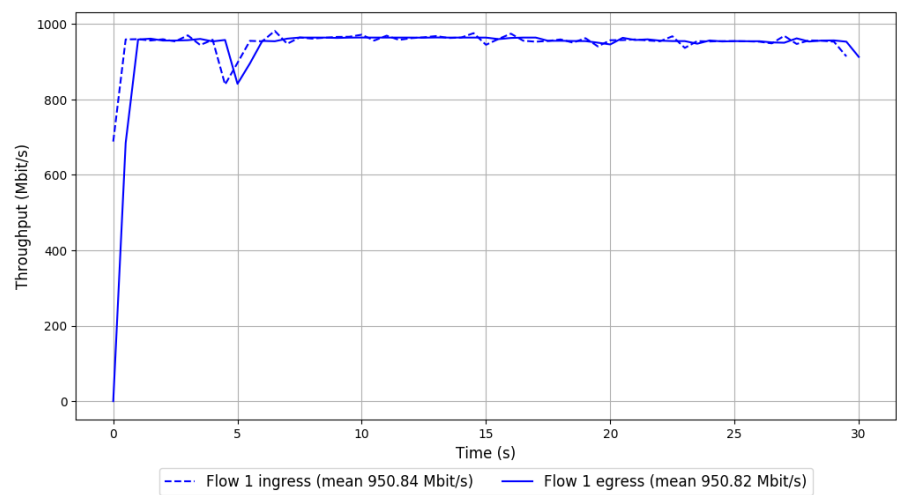
-- Flow 1:

Average throughput: 950.82 Mbit/s

95th percentile per-packet one-way delay: 8.994 ms

Loss rate: 0.01%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-01-03 06:10:14

End at: 2019-01-03 06:10:44

Local clock offset: 0.358 ms

Remote clock offset: 0.065 ms

Below is generated by plot.py at 2019-01-03 07:36:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 952.96 Mbit/s

95th percentile per-packet one-way delay: 11.456 ms

Loss rate: 0.02%

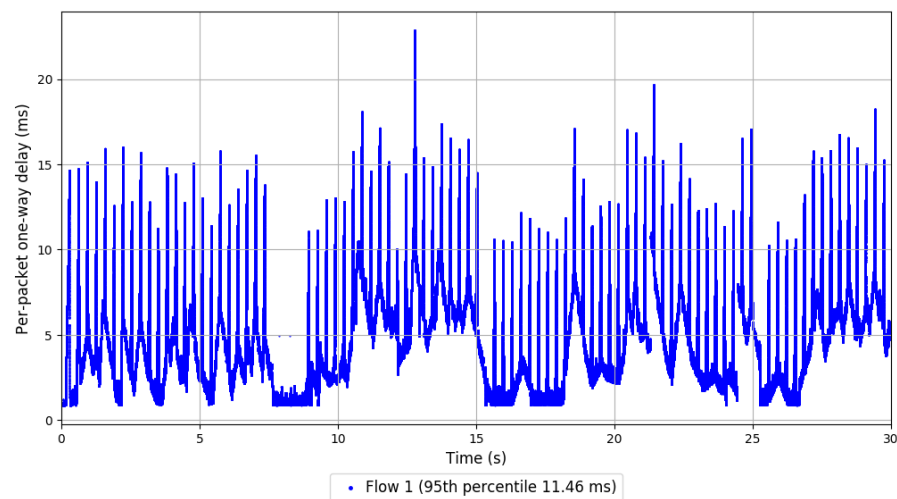
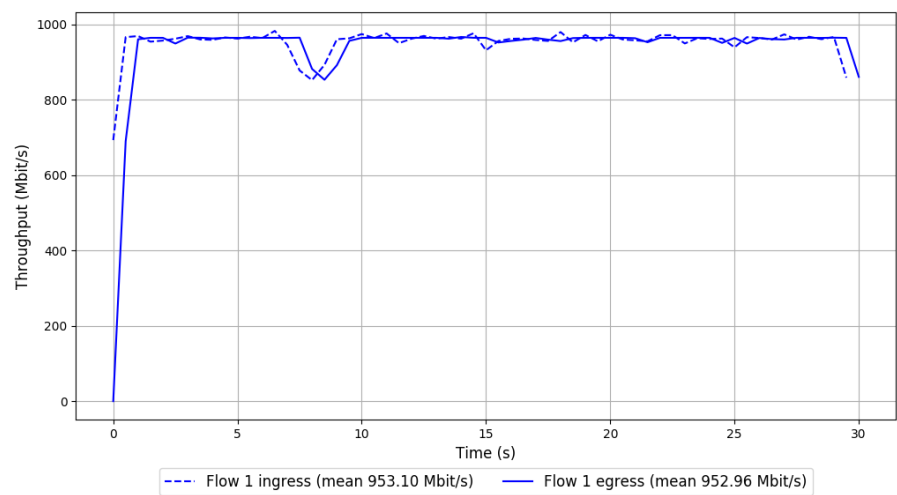
-- Flow 1:

Average throughput: 952.96 Mbit/s

95th percentile per-packet one-way delay: 11.456 ms

Loss rate: 0.02%

Run 4: Report of FillP — Data Link

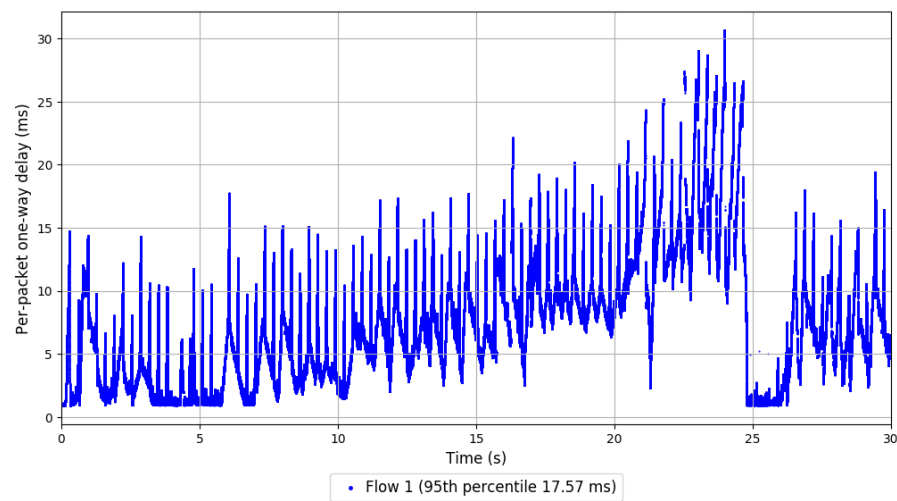
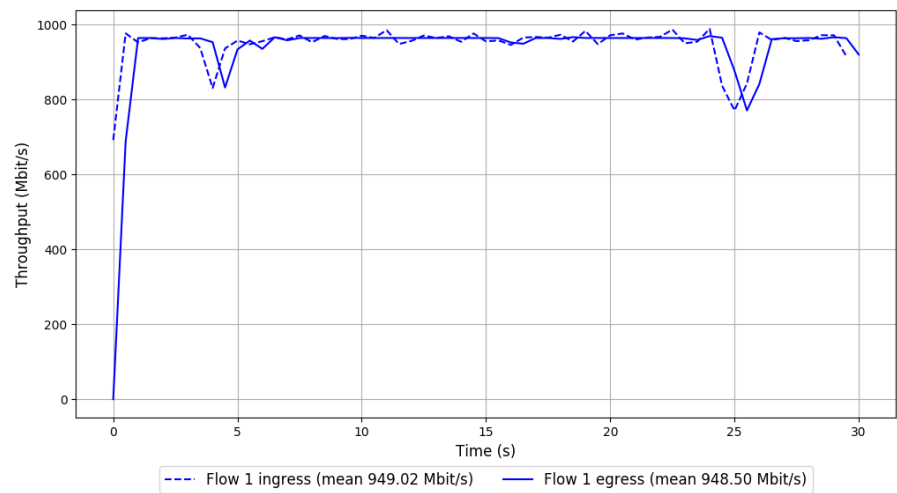


Run 5: Statistics of FillP

Start at: 2019-01-03 06:37:27
End at: 2019-01-03 06:37:57
Local clock offset: 0.299 ms
Remote clock offset: -0.351 ms

Below is generated by plot.py at 2019-01-03 07:36:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 948.50 Mbit/s
95th percentile per-packet one-way delay: 17.575 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 948.50 Mbit/s
95th percentile per-packet one-way delay: 17.575 ms
Loss rate: 0.06%

Run 5: Report of FillP — Data Link

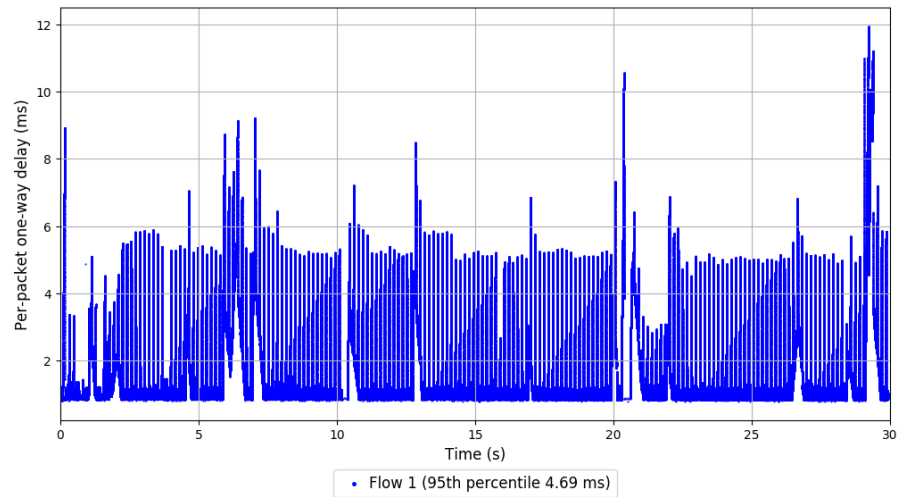
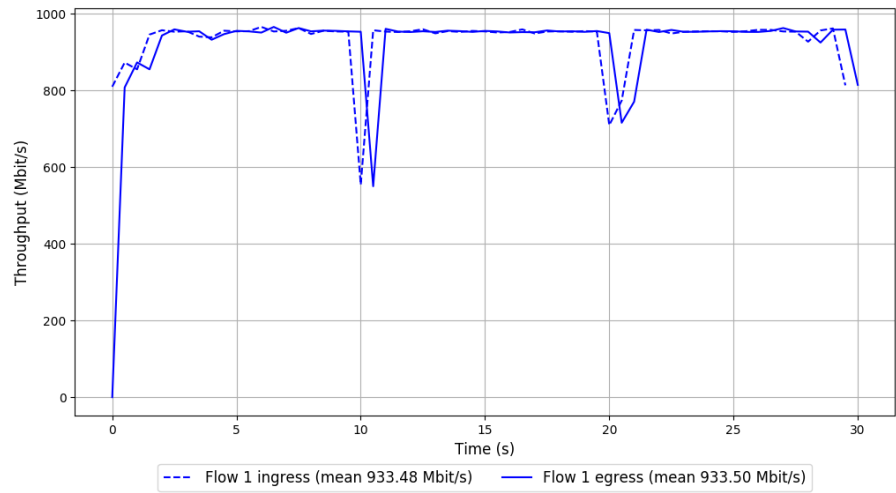


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-03 05:11:51
End at: 2019-01-03 05:12:21
Local clock offset: 0.088 ms
Remote clock offset: -0.104 ms

Below is generated by plot.py at 2019-01-03 07:36:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 933.50 Mbit/s
95th percentile per-packet one-way delay: 4.694 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 933.50 Mbit/s
95th percentile per-packet one-way delay: 4.694 ms
Loss rate: 0.01%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-01-03 05:38:53

End at: 2019-01-03 05:39:23

Local clock offset: 0.536 ms

Remote clock offset: 0.342 ms

Below is generated by plot.py at 2019-01-03 07:37:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 946.37 Mbit/s

95th percentile per-packet one-way delay: 10.138 ms

Loss rate: 0.02%

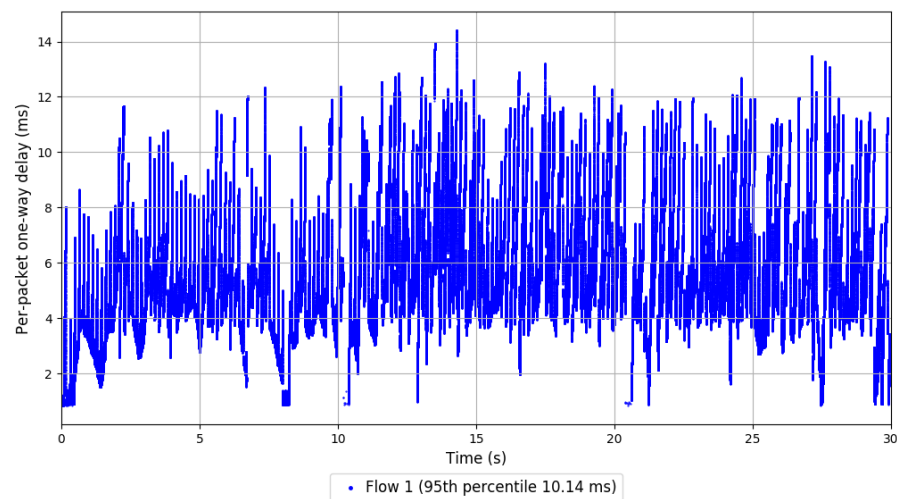
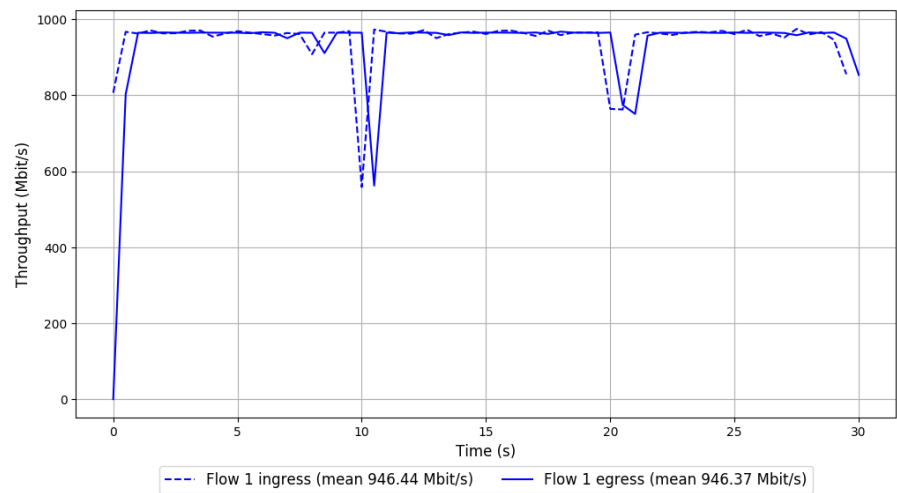
-- Flow 1:

Average throughput: 946.37 Mbit/s

95th percentile per-packet one-way delay: 10.138 ms

Loss rate: 0.02%

Run 2: Report of FillP-Sheep — Data Link

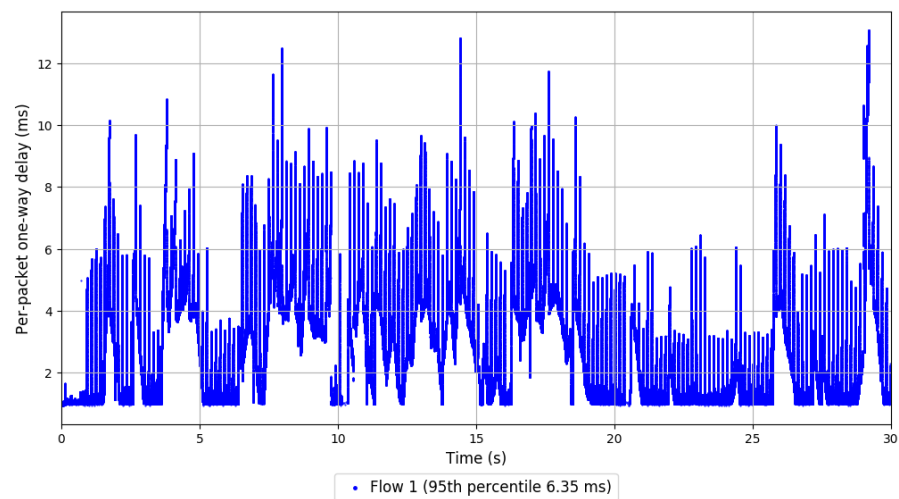
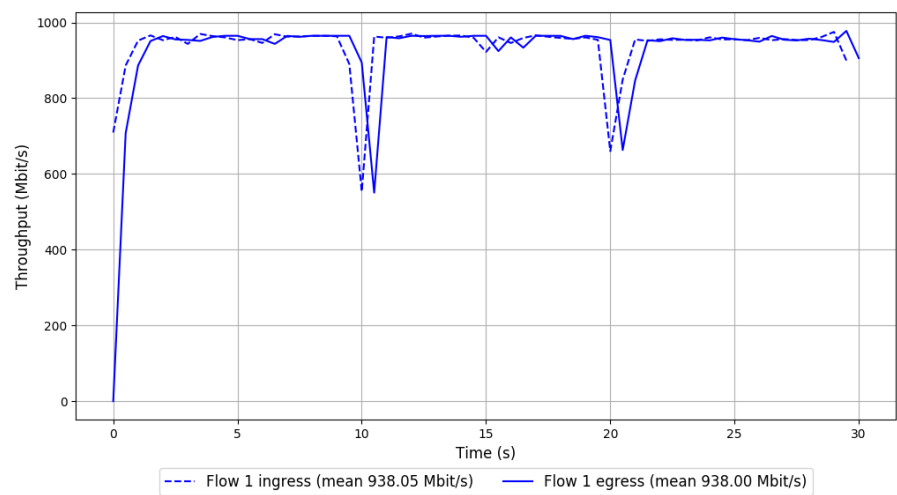


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-03 06:05:52
End at: 2019-01-03 06:06:22
Local clock offset: 0.402 ms
Remote clock offset: -0.031 ms

Below is generated by plot.py at 2019-01-03 07:38:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 938.00 Mbit/s
95th percentile per-packet one-way delay: 6.352 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 938.00 Mbit/s
95th percentile per-packet one-way delay: 6.352 ms
Loss rate: 0.01%

Run 3: Report of FillP-Sheep — Data Link

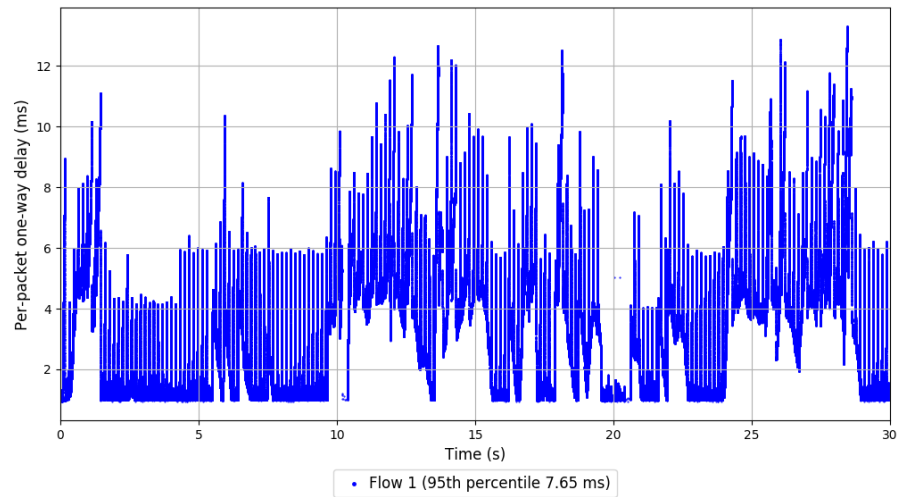
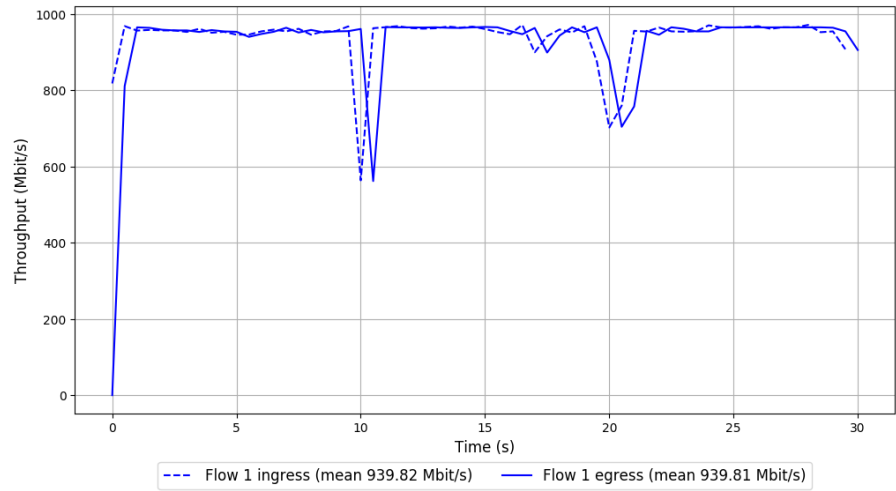


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-03 06:33:02
End at: 2019-01-03 06:33:32
Local clock offset: 0.307 ms
Remote clock offset: -0.338 ms

Below is generated by plot.py at 2019-01-03 07:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 939.81 Mbit/s
95th percentile per-packet one-way delay: 7.649 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 939.81 Mbit/s
95th percentile per-packet one-way delay: 7.649 ms
Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2019-01-03 07:00:16

End at: 2019-01-03 07:00:46

Local clock offset: 0.324 ms

Remote clock offset: -2.063 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 930.57 Mbit/s

95th percentile per-packet one-way delay: 4.893 ms

Loss rate: 0.01%

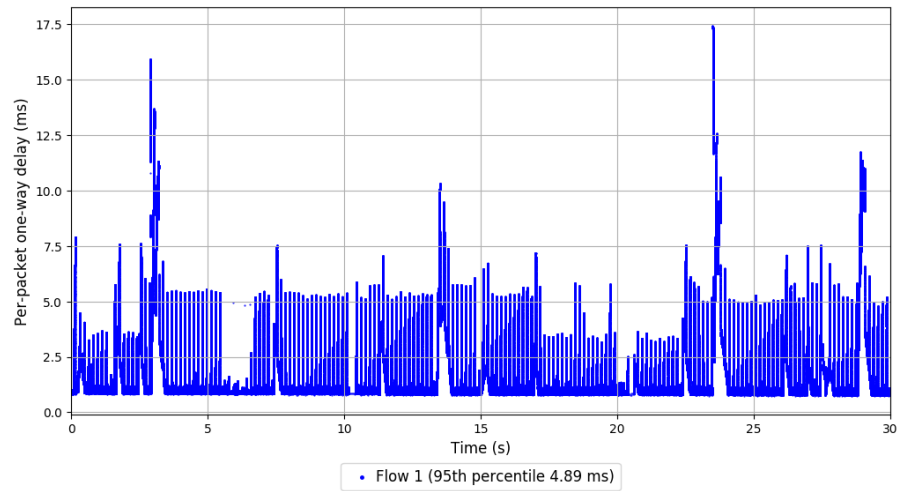
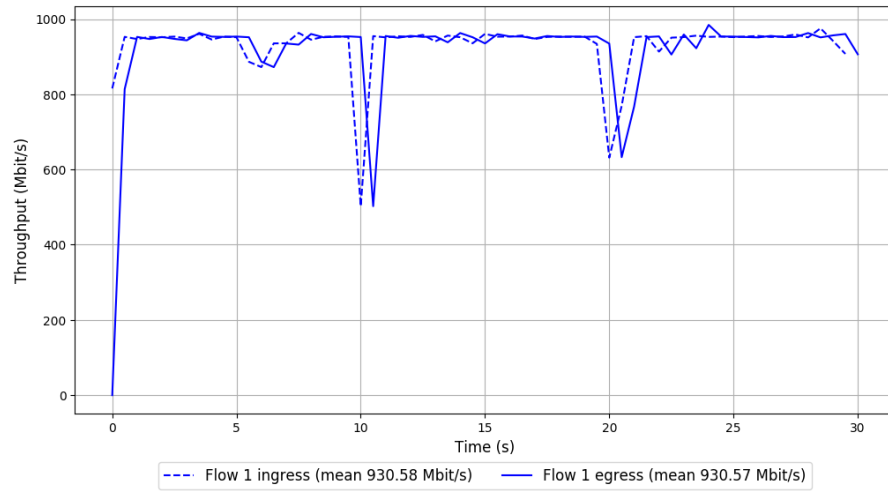
-- Flow 1:

Average throughput: 930.57 Mbit/s

95th percentile per-packet one-way delay: 4.893 ms

Loss rate: 0.01%

Run 5: Report of FillP-Sheep — Data Link

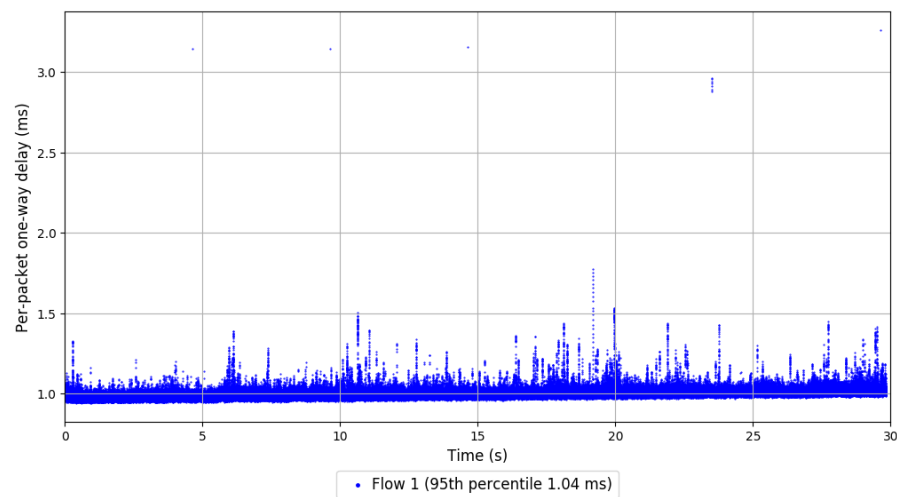
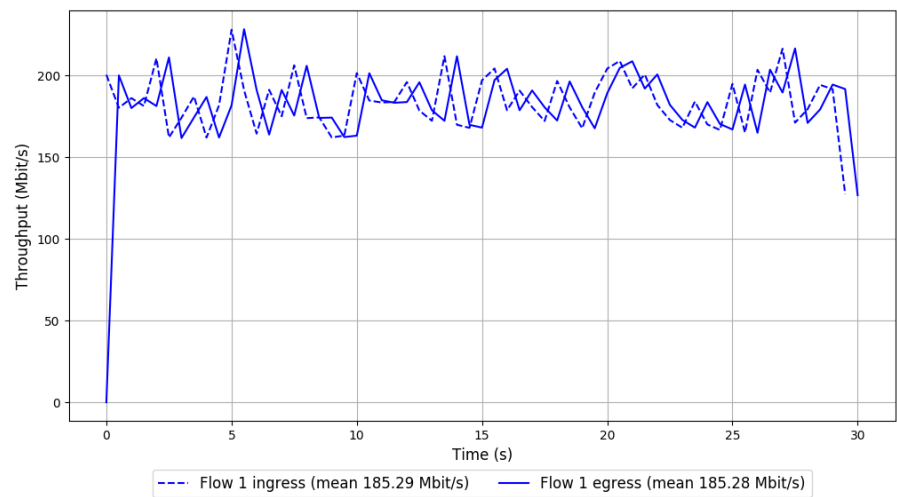


Run 1: Statistics of Indigo

Start at: 2019-01-03 04:46:28
End at: 2019-01-03 04:46:58
Local clock offset: -2.962 ms
Remote clock offset: -0.546 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 185.28 Mbit/s
95th percentile per-packet one-way delay: 1.037 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 185.28 Mbit/s
95th percentile per-packet one-way delay: 1.037 ms
Loss rate: 0.01%

Run 1: Report of Indigo — Data Link

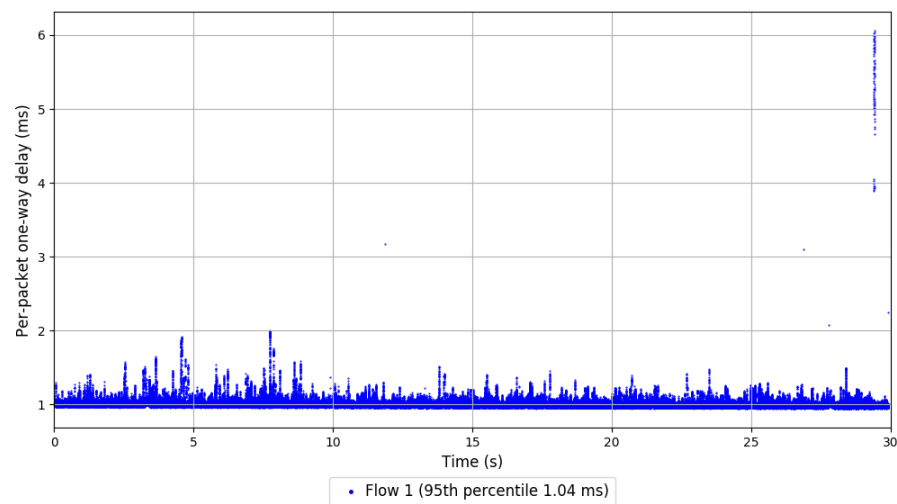
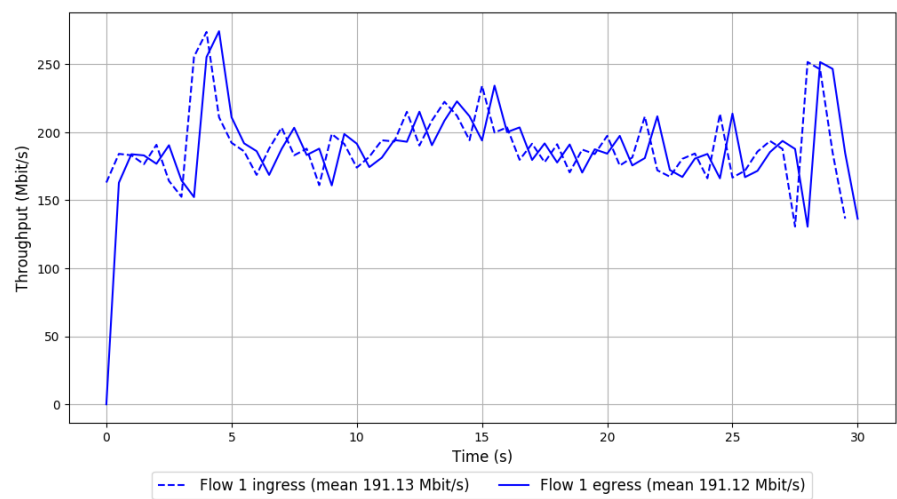


Run 2: Statistics of Indigo

Start at: 2019-01-03 05:13:29
End at: 2019-01-03 05:13:59
Local clock offset: 0.22 ms
Remote clock offset: -0.134 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 191.12 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 191.12 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.01%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-01-03 05:40:30

End at: 2019-01-03 05:41:00

Local clock offset: 0.53 ms

Remote clock offset: 0.386 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 186.18 Mbit/s

95th percentile per-packet one-way delay: 1.054 ms

Loss rate: 0.00%

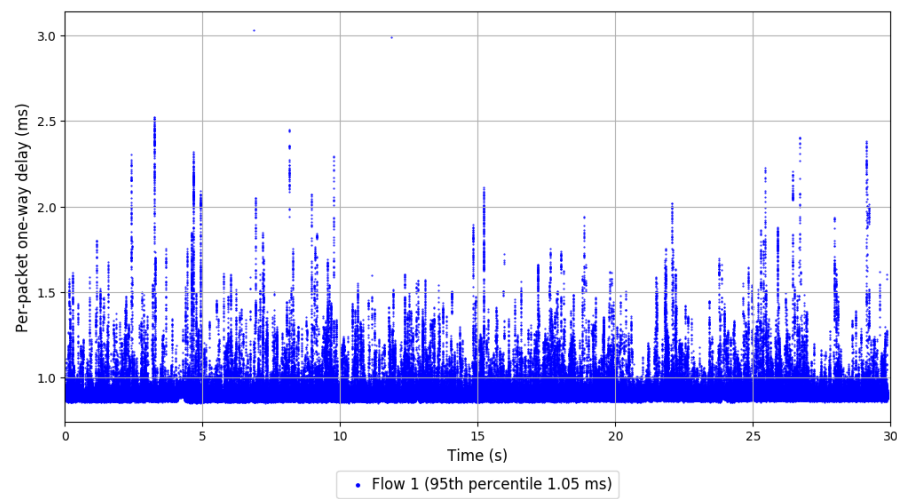
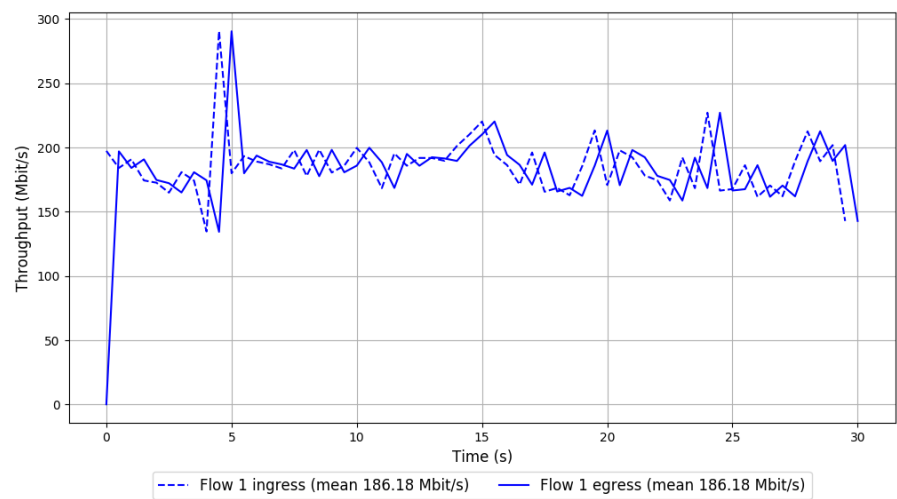
-- Flow 1:

Average throughput: 186.18 Mbit/s

95th percentile per-packet one-way delay: 1.054 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

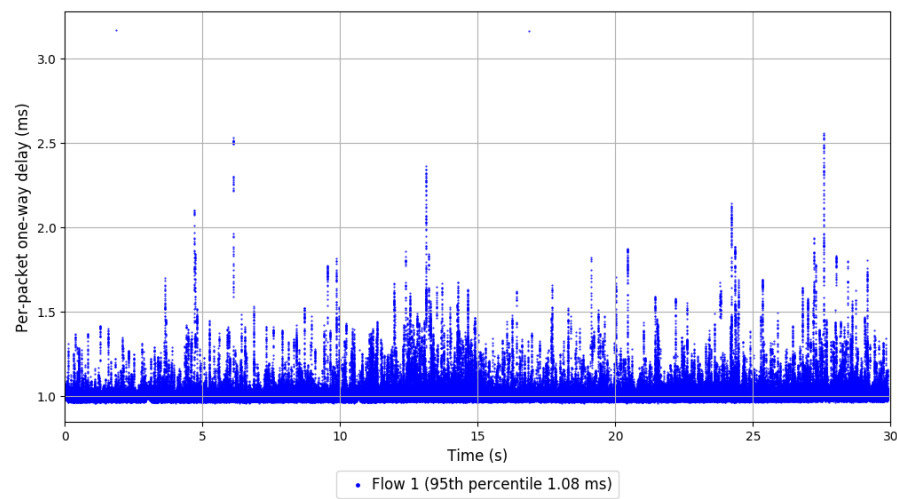
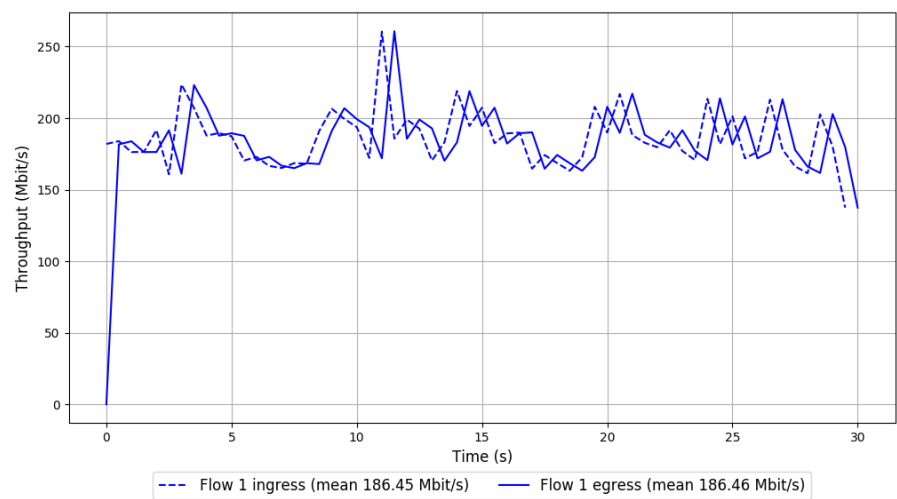


Run 4: Statistics of Indigo

Start at: 2019-01-03 06:07:29
End at: 2019-01-03 06:07:59
Local clock offset: 0.387 ms
Remote clock offset: -0.008 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 186.46 Mbit/s
95th percentile per-packet one-way delay: 1.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 186.46 Mbit/s
95th percentile per-packet one-way delay: 1.083 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

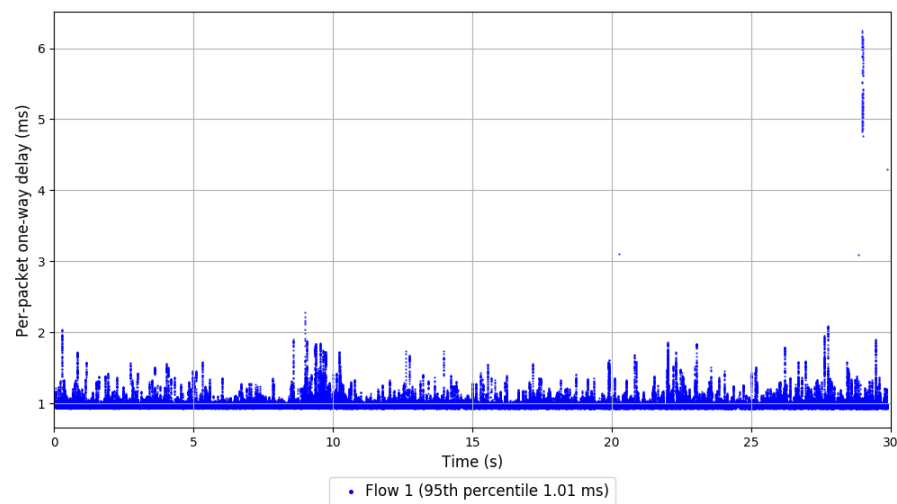
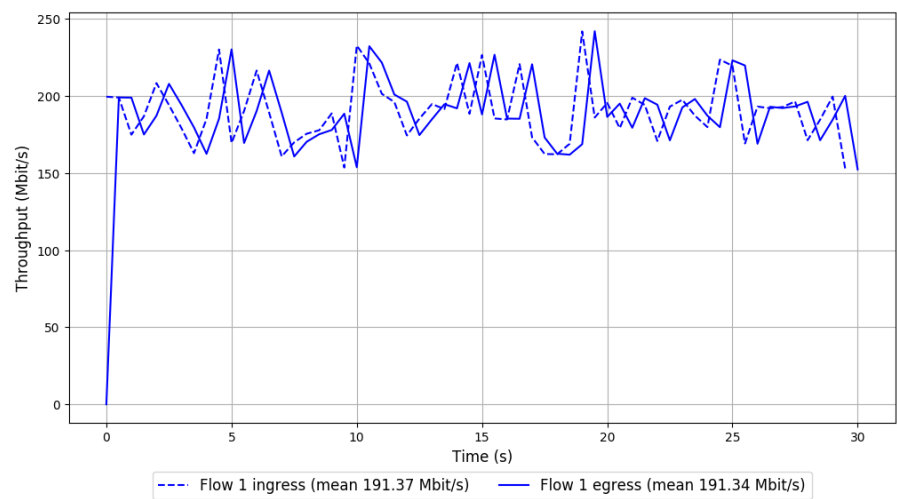


Run 5: Statistics of Indigo

Start at: 2019-01-03 06:34:40
End at: 2019-01-03 06:35:10
Local clock offset: 0.314 ms
Remote clock offset: -0.291 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 191.34 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 191.34 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%

Run 5: Report of Indigo — Data Link

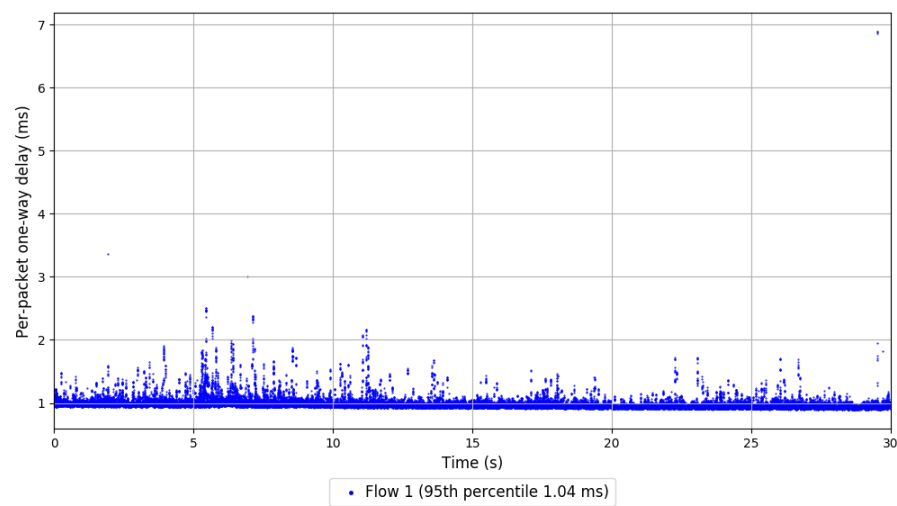
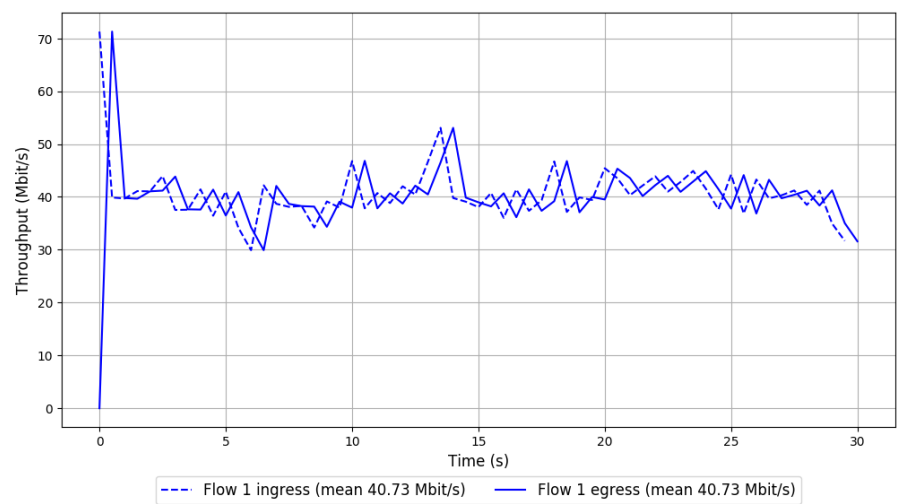


```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:08:08
End at: 2019-01-03 05:08:39
Local clock offset: -0.247 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2019-01-03 07:47:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.73 Mbit/s
95th percentile per-packet one-way delay: 1.042 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.73 Mbit/s
95th percentile per-packet one-way delay: 1.042 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-03 05:35:05

End at: 2019-01-03 05:35:35

Local clock offset: 0.547 ms

Remote clock offset: 0.222 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.39 Mbit/s

95th percentile per-packet one-way delay: 1.079 ms

Loss rate: 0.01%

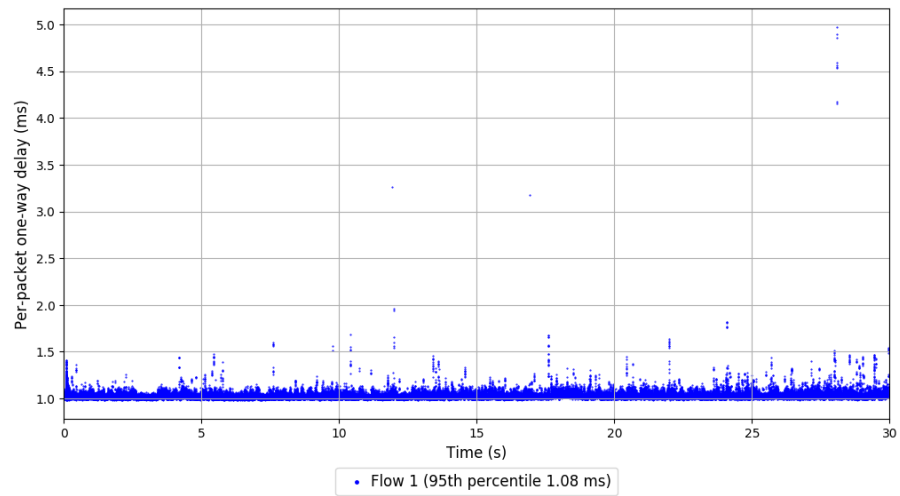
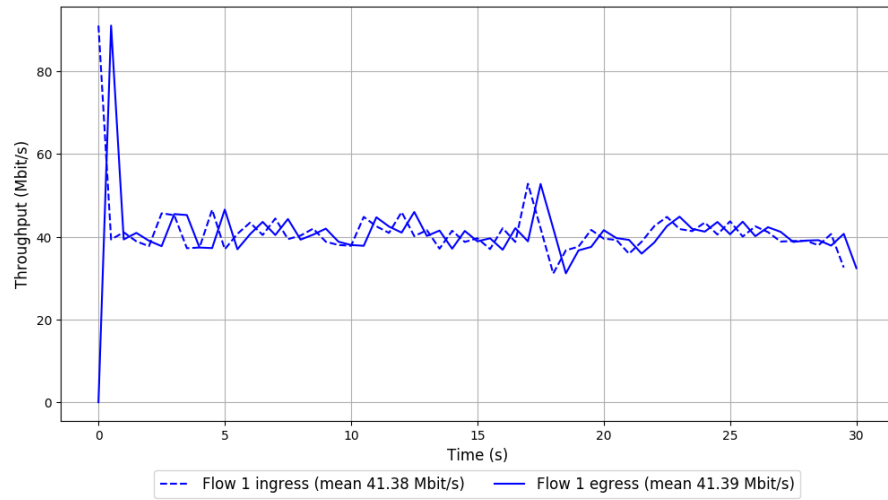
-- Flow 1:

Average throughput: 41.39 Mbit/s

95th percentile per-packet one-way delay: 1.079 ms

Loss rate: 0.01%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:02:09

End at: 2019-01-03 06:02:39

Local clock offset: 0.424 ms

Remote clock offset: 0.124 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.42 Mbit/s

95th percentile per-packet one-way delay: 0.976 ms

Loss rate: 0.01%

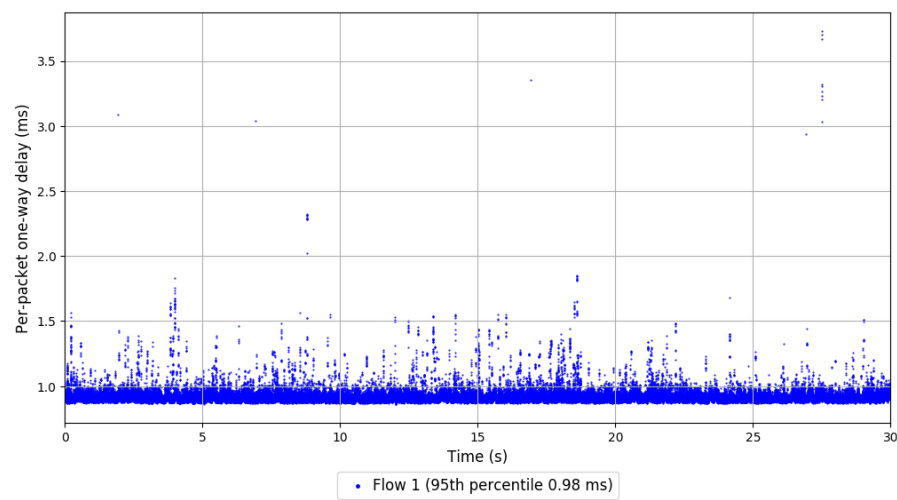
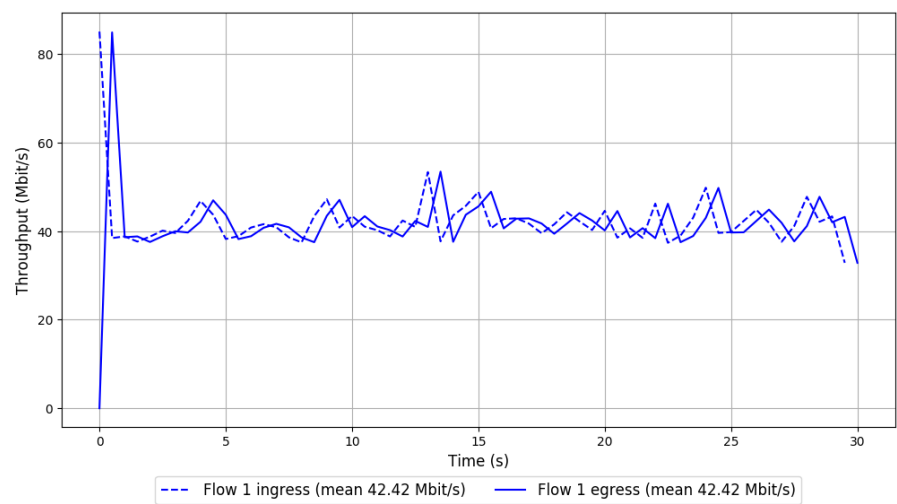
-- Flow 1:

Average throughput: 42.42 Mbit/s

95th percentile per-packet one-way delay: 0.976 ms

Loss rate: 0.01%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:29:18

End at: 2019-01-03 06:29:48

Local clock offset: 0.335 ms

Remote clock offset: -0.259 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.25 Mbit/s

95th percentile per-packet one-way delay: 1.083 ms

Loss rate: 0.01%

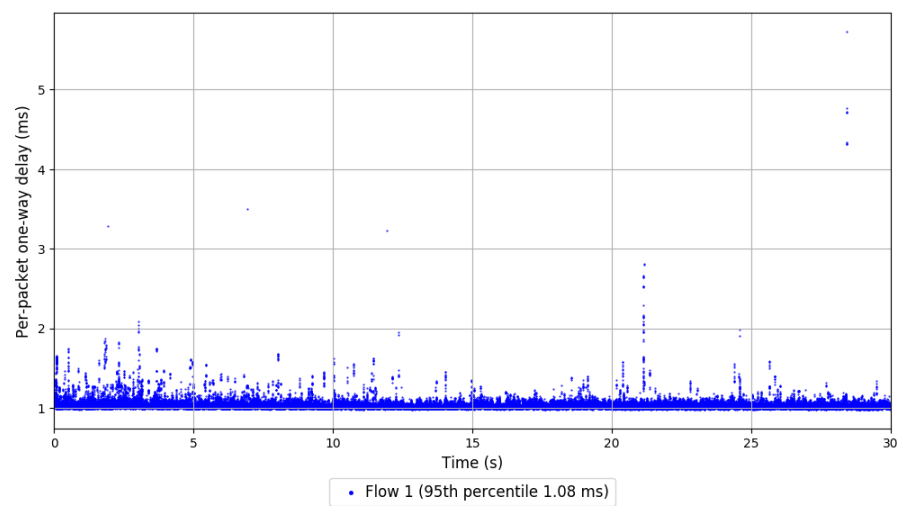
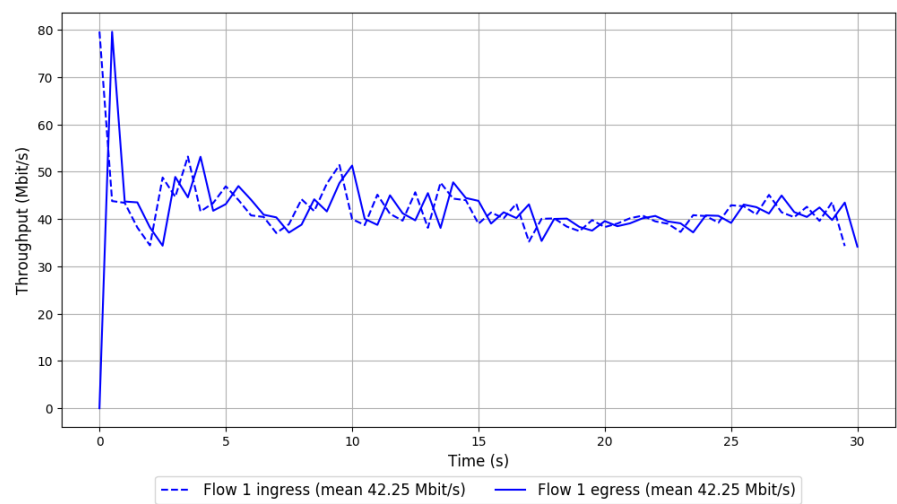
-- Flow 1:

Average throughput: 42.25 Mbit/s

95th percentile per-packet one-way delay: 1.083 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesD — Data Link



Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-03 06:56:34

End at: 2019-01-03 06:57:04

Local clock offset: 0.372 ms

Remote clock offset: -1.303 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.54 Mbit/s

95th percentile per-packet one-way delay: 1.008 ms

Loss rate: 0.01%

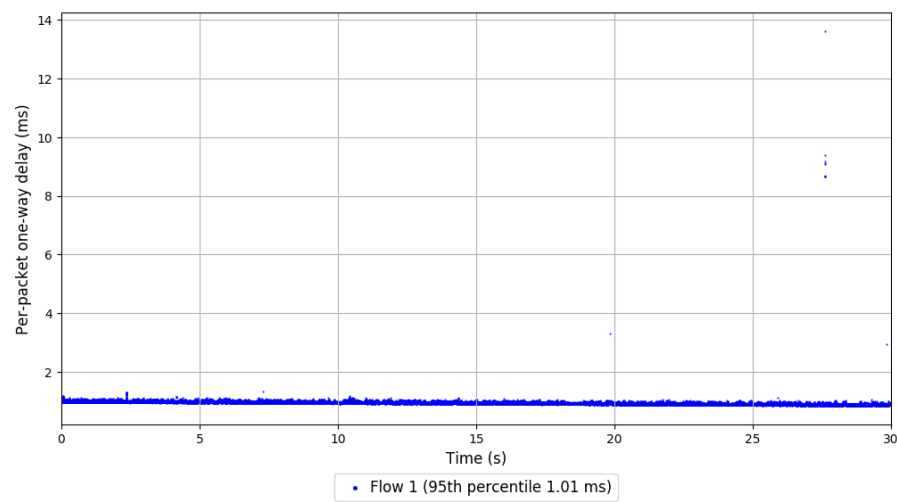
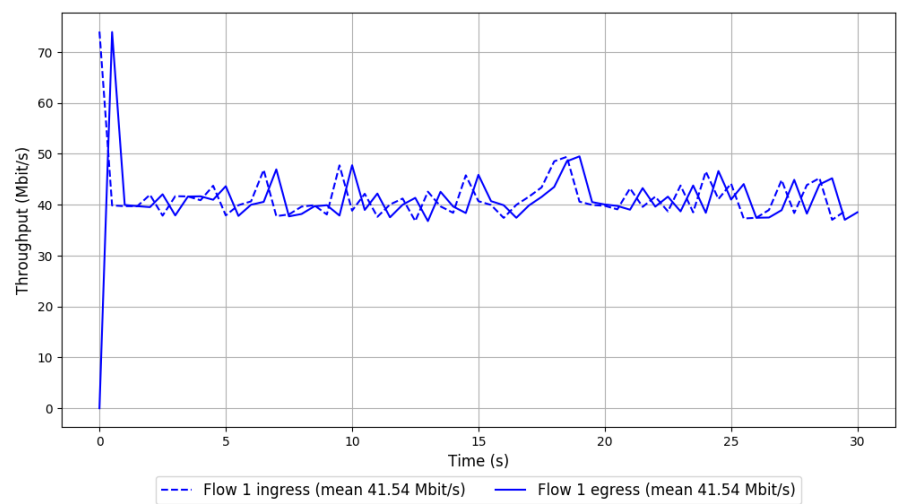
-- Flow 1:

Average throughput: 41.54 Mbit/s

95th percentile per-packet one-way delay: 1.008 ms

Loss rate: 0.01%

Run 5: Report of Indigo-MusesD — Data Link

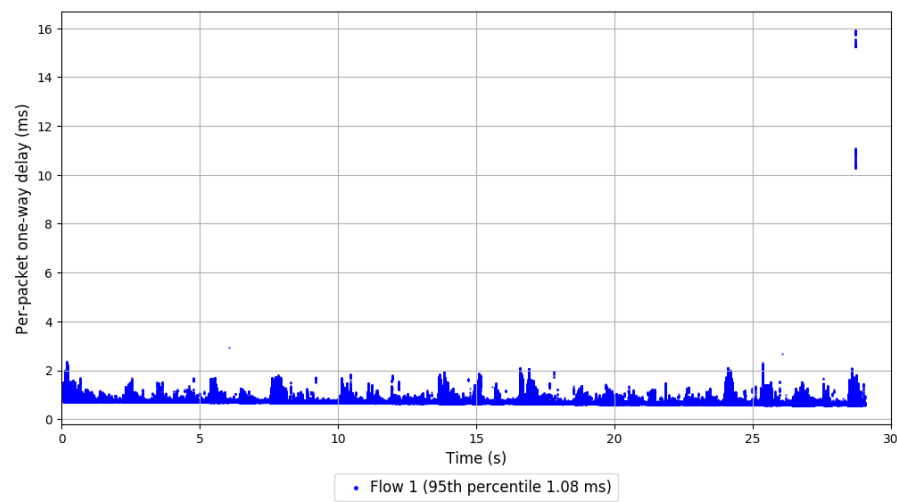
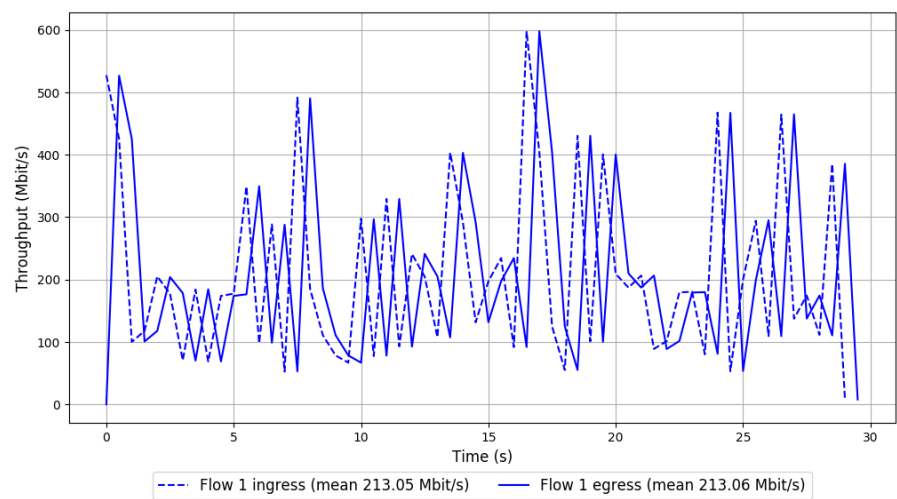


```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-03 04:55:34
End at: 2019-01-03 04:56:04
Local clock offset: -2.972 ms
Remote clock offset: -0.339 ms

# Below is generated by plot.py at 2019-01-03 07:47:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.06 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 213.06 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:22:33

End at: 2019-01-03 05:23:03

Local clock offset: 0.682 ms

Remote clock offset: 0.154 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 213.44 Mbit/s

95th percentile per-packet one-way delay: 1.196 ms

Loss rate: 0.01%

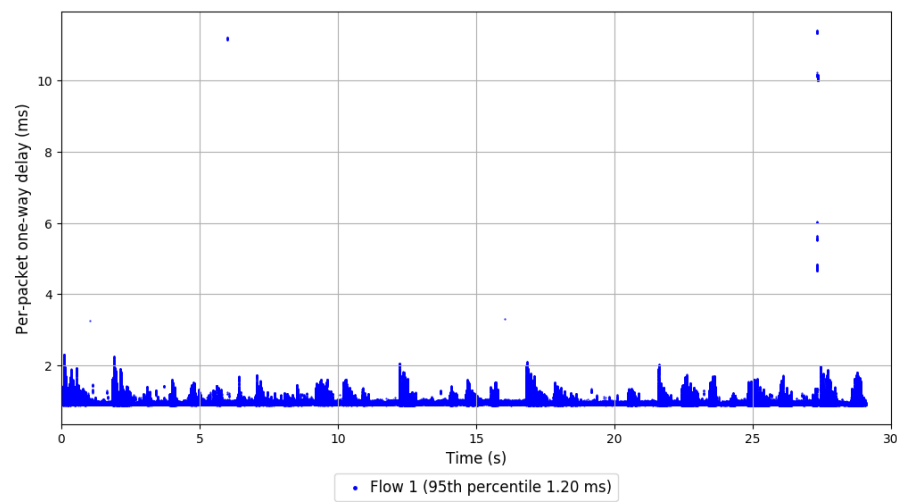
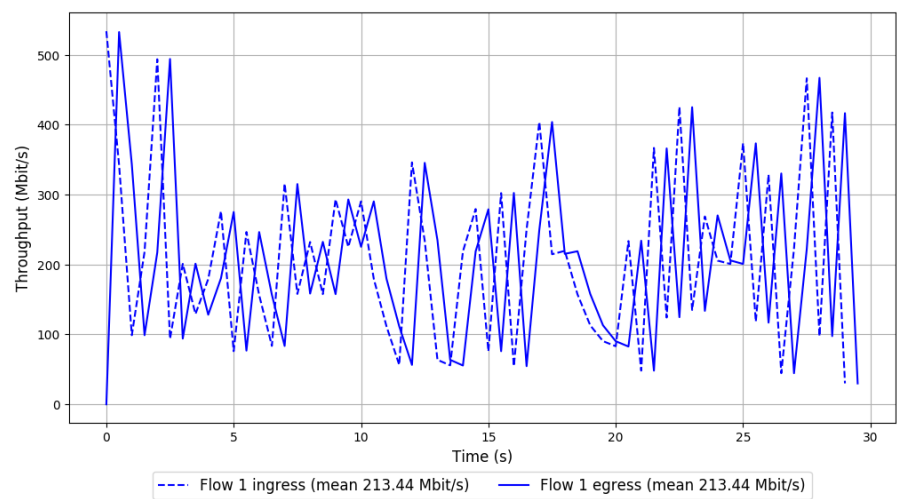
-- Flow 1:

Average throughput: 213.44 Mbit/s

95th percentile per-packet one-way delay: 1.196 ms

Loss rate: 0.01%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-03 05:49:34

End at: 2019-01-03 05:50:04

Local clock offset: 0.613 ms

Remote clock offset: 0.228 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 228.28 Mbit/s

95th percentile per-packet one-way delay: 1.312 ms

Loss rate: 0.02%

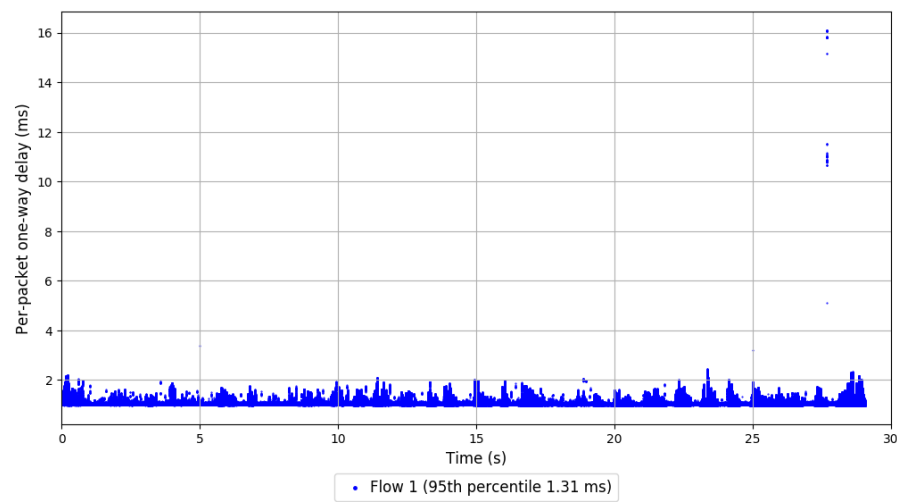
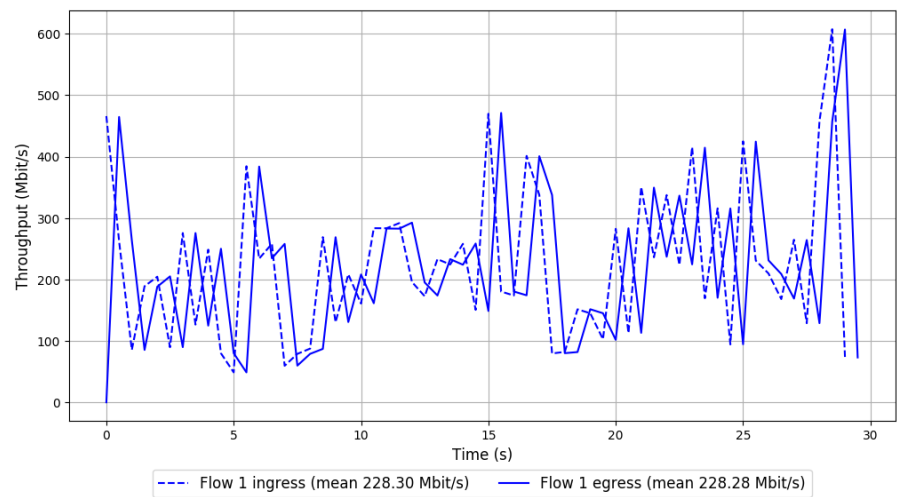
-- Flow 1:

Average throughput: 228.28 Mbit/s

95th percentile per-packet one-way delay: 1.312 ms

Loss rate: 0.02%

Run 3: Report of Indigo-MusesT — Data Link



Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-03 06:16:34

End at: 2019-01-03 06:17:04

Local clock offset: 0.359 ms

Remote clock offset: -0.018 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 429.45 Mbit/s

95th percentile per-packet one-way delay: 2.489 ms

Loss rate: 0.01%

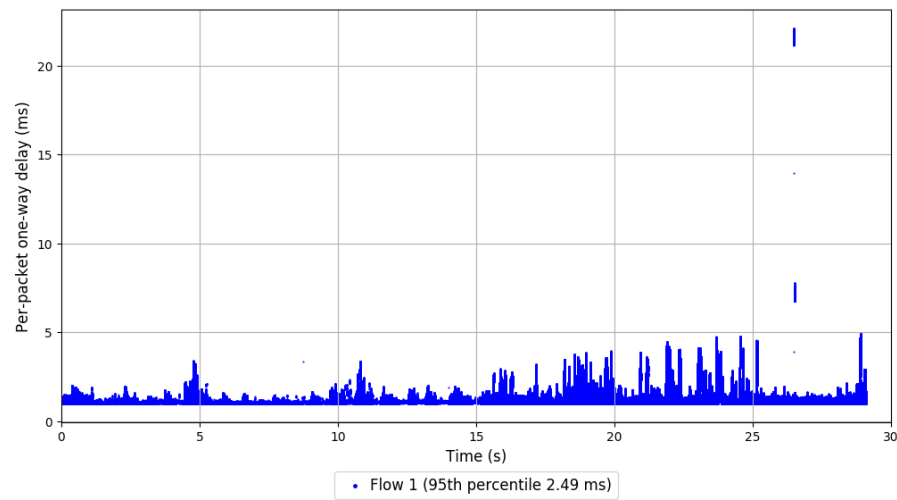
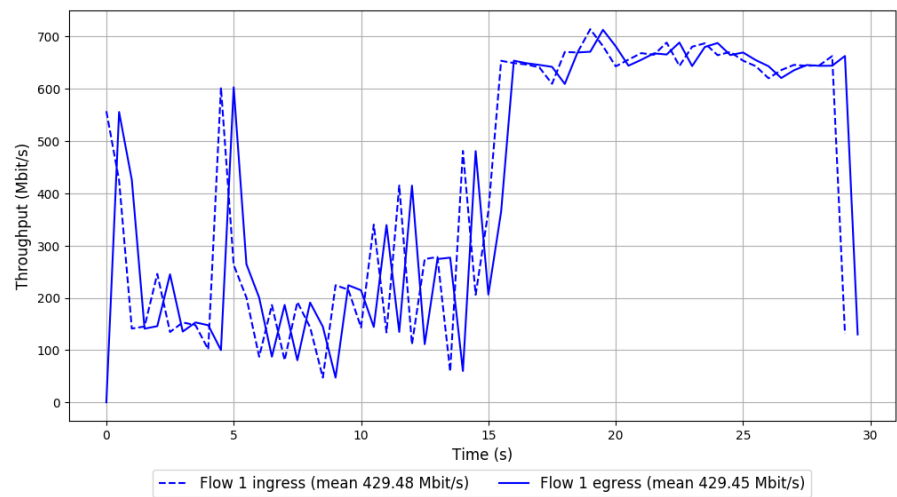
-- Flow 1:

Average throughput: 429.45 Mbit/s

95th percentile per-packet one-way delay: 2.489 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesT — Data Link

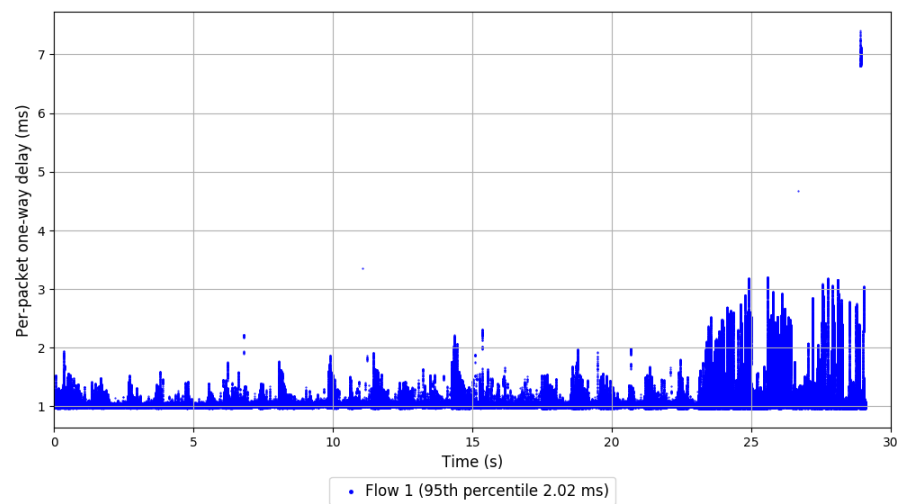
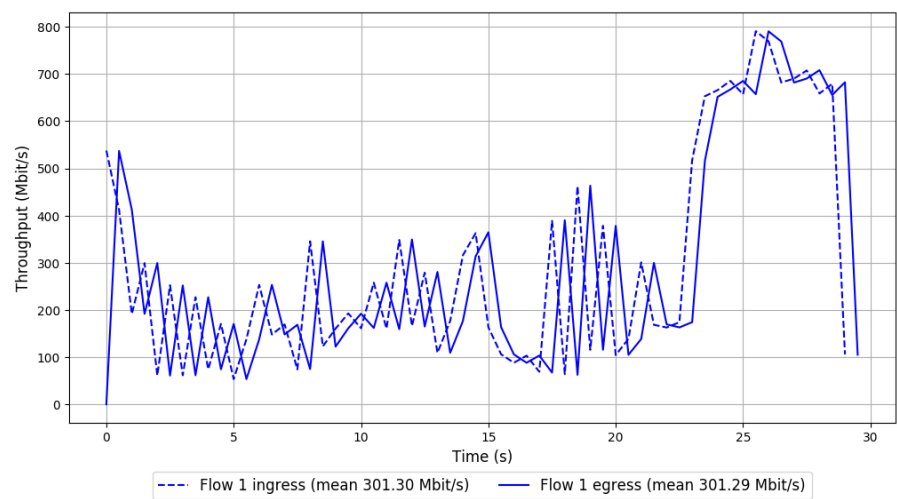


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-03 06:43:50
End at: 2019-01-03 06:44:20
Local clock offset: 0.334 ms
Remote clock offset: -0.385 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 301.29 Mbit/s
95th percentile per-packet one-way delay: 2.023 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 301.29 Mbit/s
95th percentile per-packet one-way delay: 2.023 ms
Loss rate: 0.01%

Run 5: Report of Indigo-MusesT — Data Link

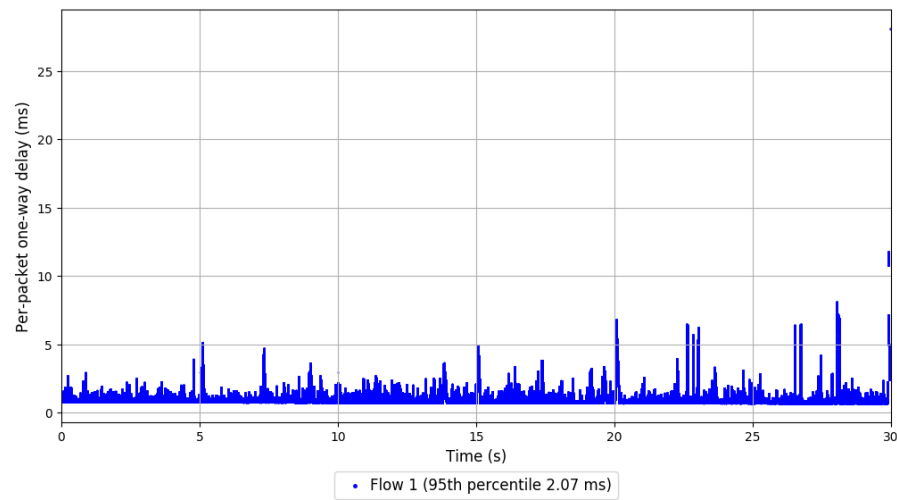
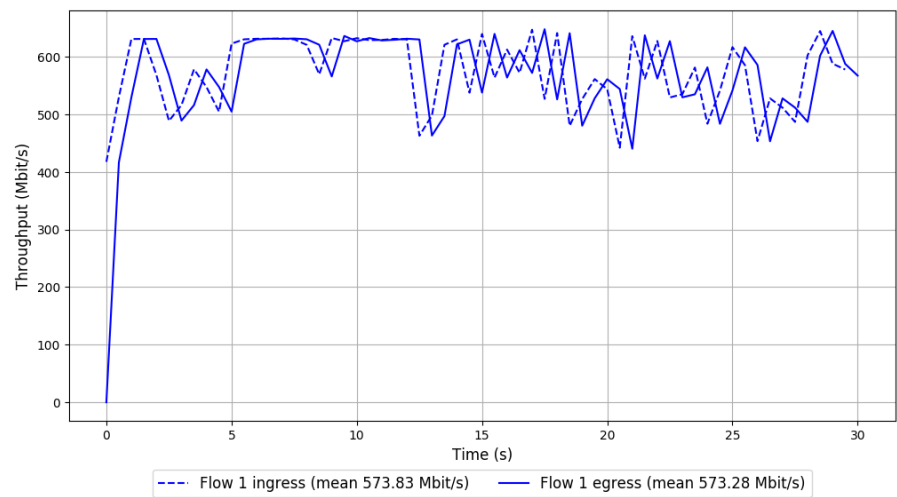


Run 1: Statistics of LEDBAT

Start at: 2019-01-03 04:59:20
End at: 2019-01-03 04:59:50
Local clock offset: -1.748 ms
Remote clock offset: -0.276 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 573.28 Mbit/s
95th percentile per-packet one-way delay: 2.070 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 573.28 Mbit/s
95th percentile per-packet one-way delay: 2.070 ms
Loss rate: 0.03%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-01-03 05:26:19

End at: 2019-01-03 05:26:49

Local clock offset: 0.697 ms

Remote clock offset: 0.124 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 559.48 Mbit/s

95th percentile per-packet one-way delay: 1.588 ms

Loss rate: 0.01%

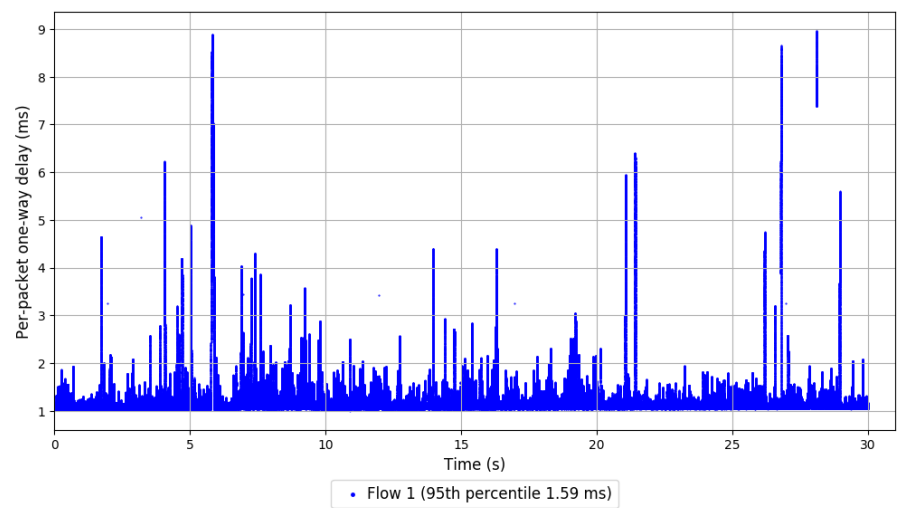
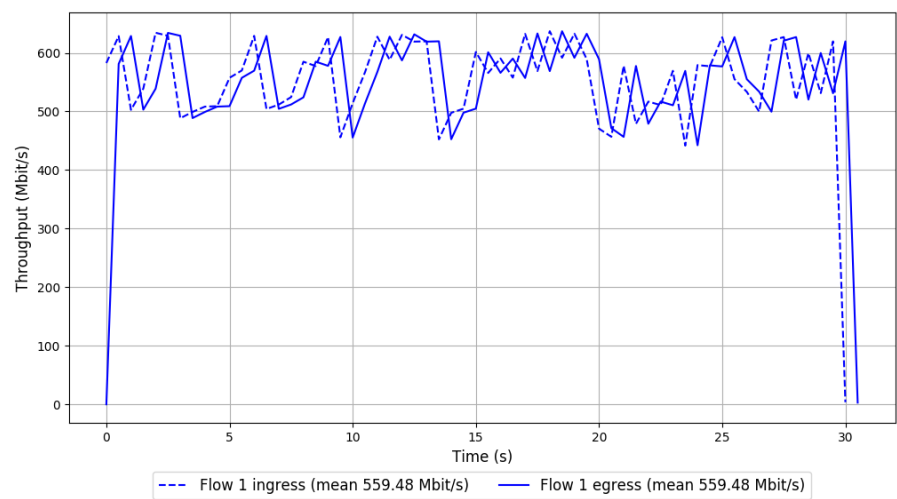
-- Flow 1:

Average throughput: 559.48 Mbit/s

95th percentile per-packet one-way delay: 1.588 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-01-03 05:53:20

End at: 2019-01-03 05:53:50

Local clock offset: 0.672 ms

Remote clock offset: 0.213 ms

Below is generated by plot.py at 2019-01-03 07:47:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 563.36 Mbit/s

95th percentile per-packet one-way delay: 1.195 ms

Loss rate: 0.01%

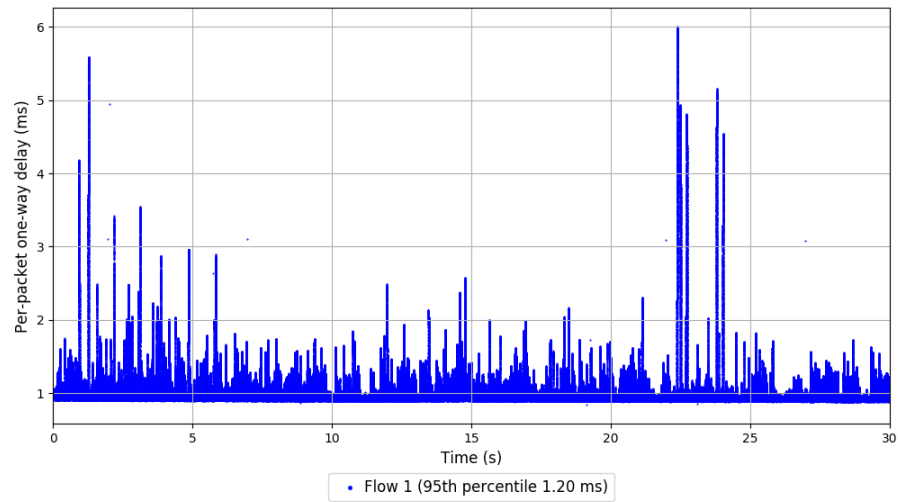
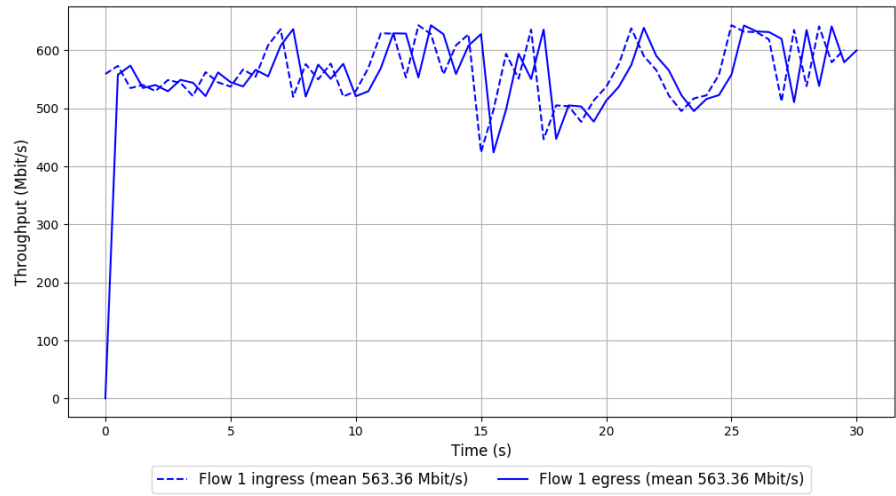
-- Flow 1:

Average throughput: 563.36 Mbit/s

95th percentile per-packet one-way delay: 1.195 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link

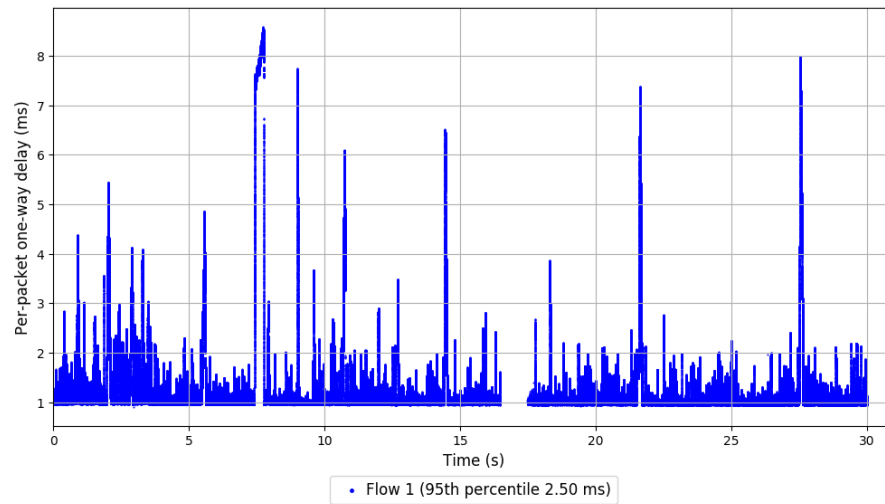
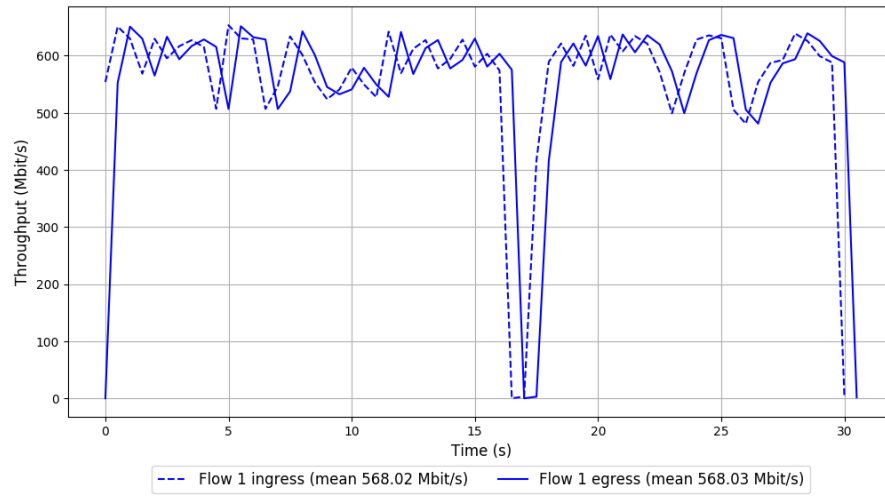


Run 4: Statistics of LEDBAT

Start at: 2019-01-03 06:20:26
End at: 2019-01-03 06:20:56
Local clock offset: 0.389 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2019-01-03 07:47:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 568.03 Mbit/s
95th percentile per-packet one-way delay: 2.497 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 568.03 Mbit/s
95th percentile per-packet one-way delay: 2.497 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

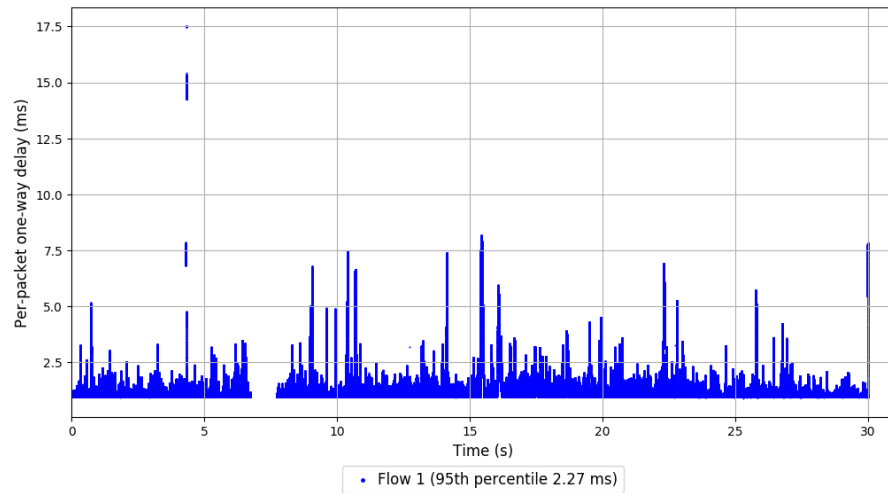
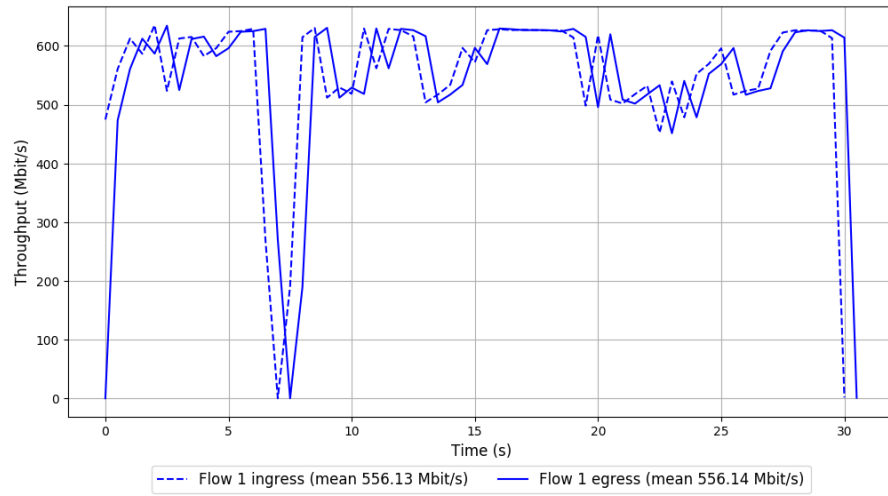


Run 5: Statistics of LEDBAT

Start at: 2019-01-03 06:47:39
End at: 2019-01-03 06:48:09
Local clock offset: 0.375 ms
Remote clock offset: -0.403 ms

Below is generated by plot.py at 2019-01-03 07:48:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 556.14 Mbit/s
95th percentile per-packet one-way delay: 2.265 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 556.14 Mbit/s
95th percentile per-packet one-way delay: 2.265 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-01-03 05:00:56

End at: 2019-01-03 05:01:26

Local clock offset: -1.34 ms

Remote clock offset: -0.26 ms

Below is generated by plot.py at 2019-01-03 07:49:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 701.65 Mbit/s

95th percentile per-packet one-way delay: 1.211 ms

Loss rate: 0.00%

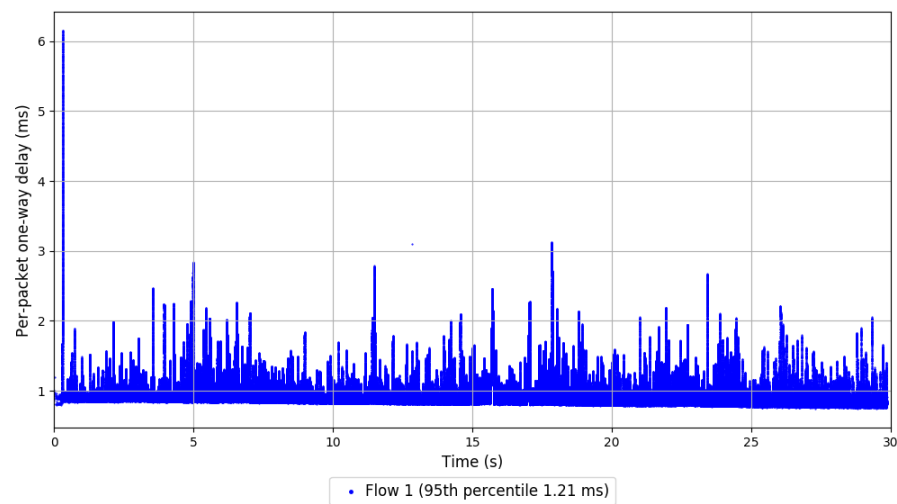
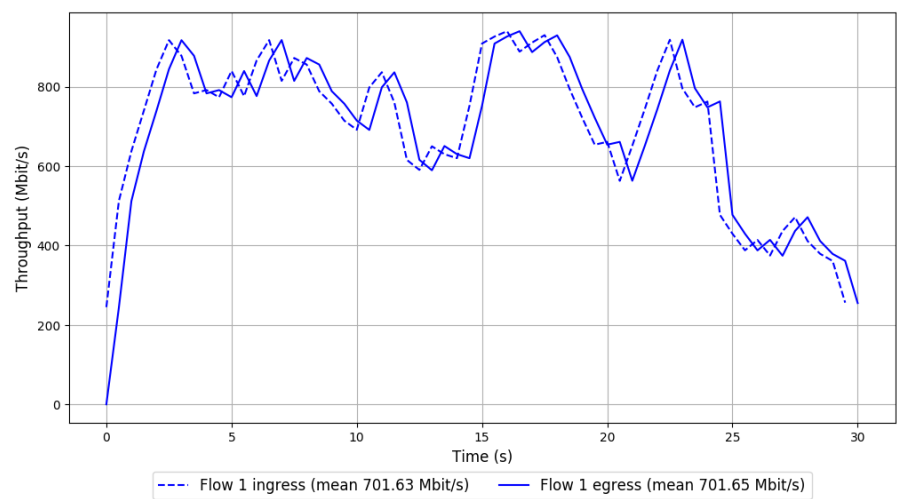
-- Flow 1:

Average throughput: 701.65 Mbit/s

95th percentile per-packet one-way delay: 1.211 ms

Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-01-03 05:27:54

End at: 2019-01-03 05:28:24

Local clock offset: 0.643 ms

Remote clock offset: 0.192 ms

Below is generated by plot.py at 2019-01-03 07:50:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 656.98 Mbit/s

95th percentile per-packet one-way delay: 1.416 ms

Loss rate: 0.01%

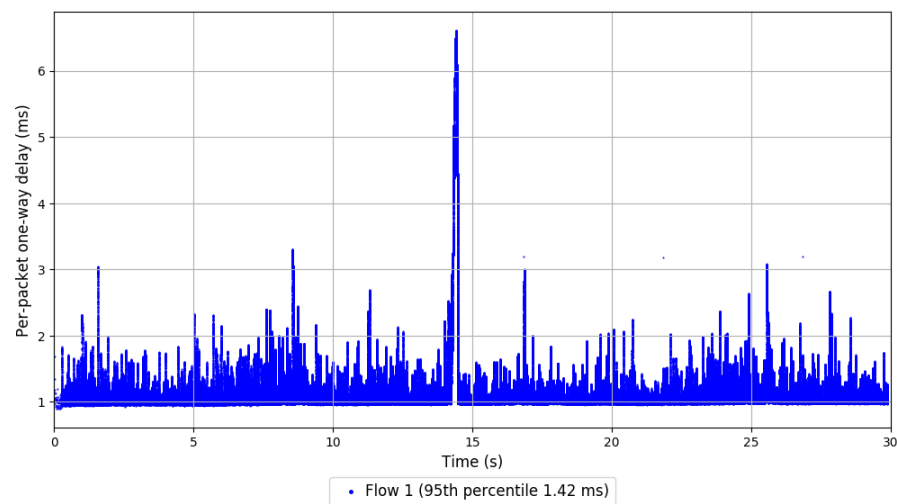
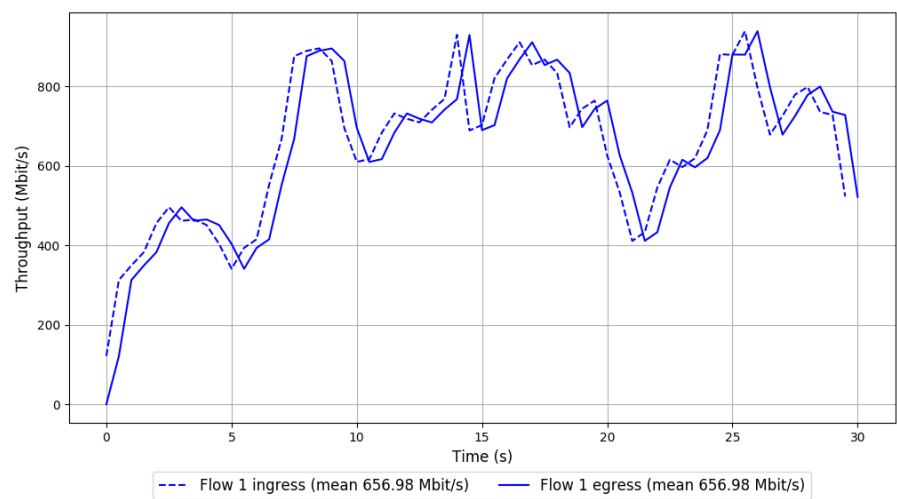
-- Flow 1:

Average throughput: 656.98 Mbit/s

95th percentile per-packet one-way delay: 1.416 ms

Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-01-03 05:54:56

End at: 2019-01-03 05:55:26

Local clock offset: 0.674 ms

Remote clock offset: 0.141 ms

Below is generated by plot.py at 2019-01-03 07:54:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 797.40 Mbit/s

95th percentile per-packet one-way delay: 1.419 ms

Loss rate: 0.01%

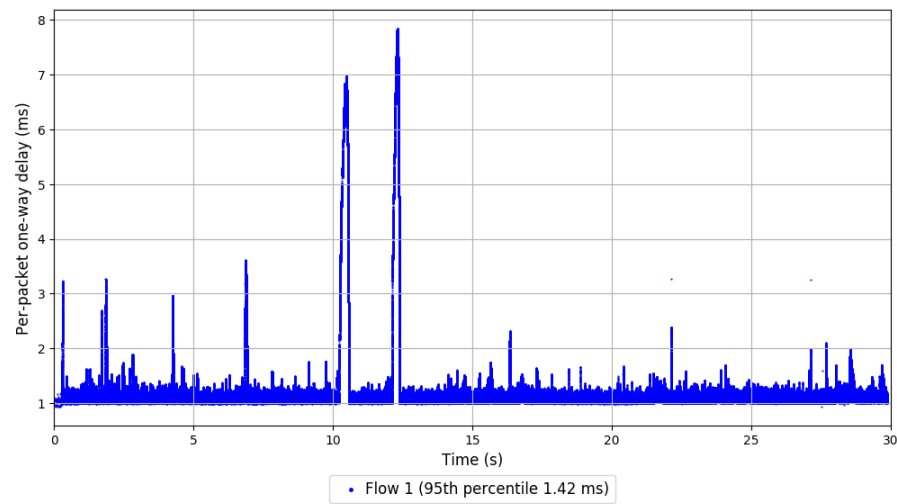
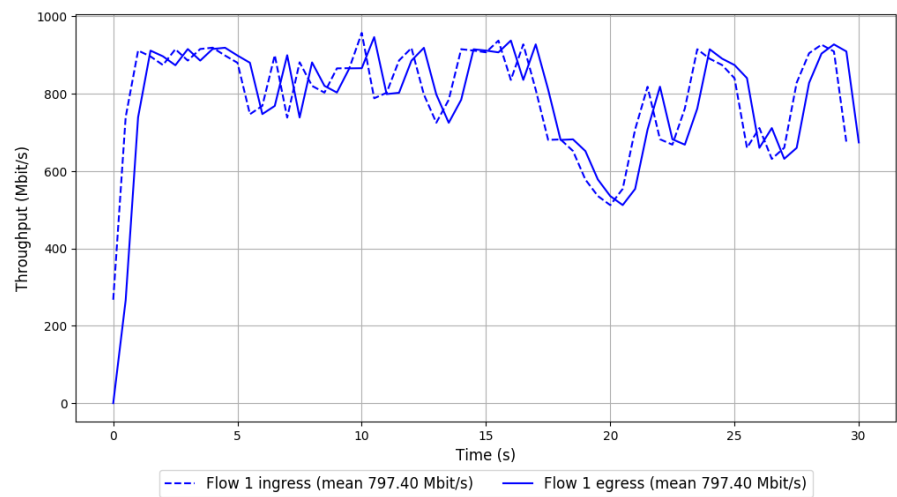
-- Flow 1:

Average throughput: 797.40 Mbit/s

95th percentile per-packet one-way delay: 1.419 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-01-03 06:22:03

End at: 2019-01-03 06:22:33

Local clock offset: 0.393 ms

Remote clock offset: -0.093 ms

Below is generated by plot.py at 2019-01-03 07:55:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 758.10 Mbit/s

95th percentile per-packet one-way delay: 1.207 ms

Loss rate: 0.01%

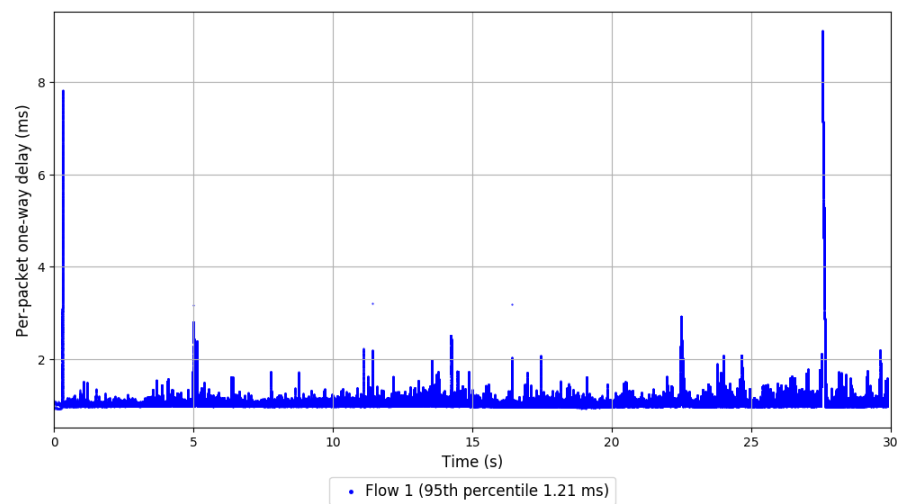
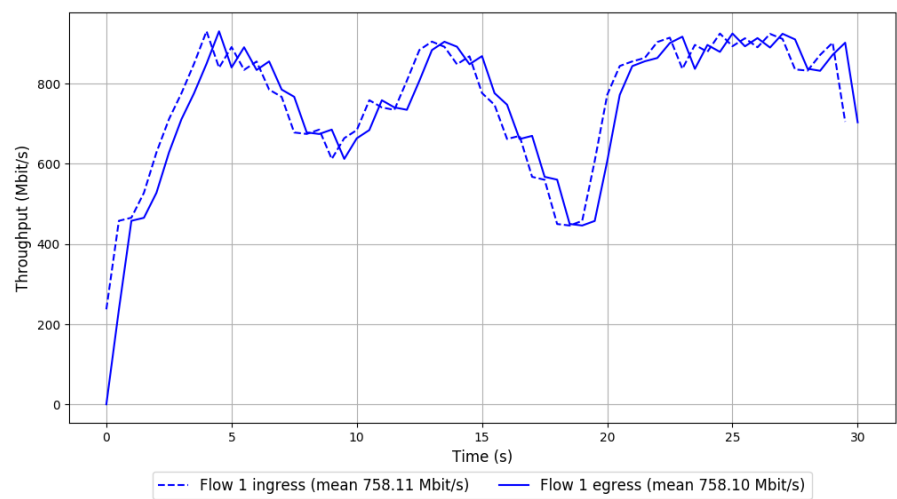
-- Flow 1:

Average throughput: 758.10 Mbit/s

95th percentile per-packet one-way delay: 1.207 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-01-03 06:49:15

End at: 2019-01-03 06:49:45

Local clock offset: 0.383 ms

Remote clock offset: -0.349 ms

Below is generated by plot.py at 2019-01-03 07:56:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 838.38 Mbit/s

95th percentile per-packet one-way delay: 1.308 ms

Loss rate: 0.01%

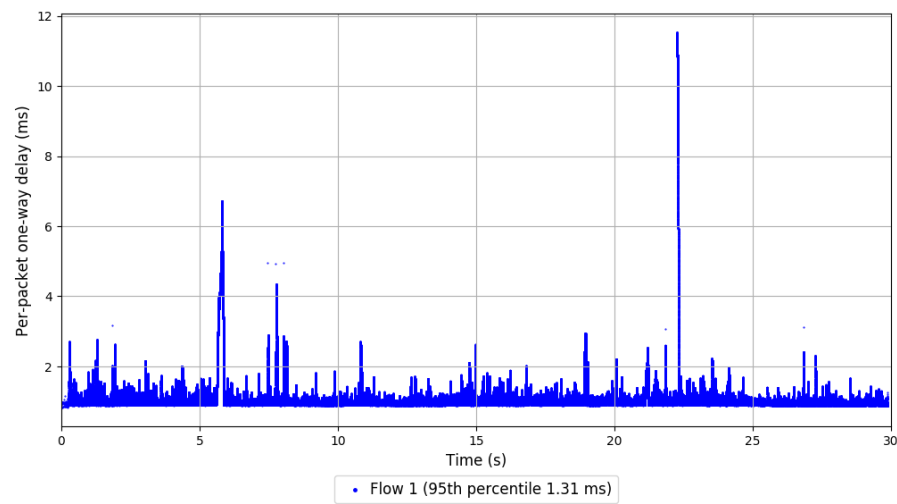
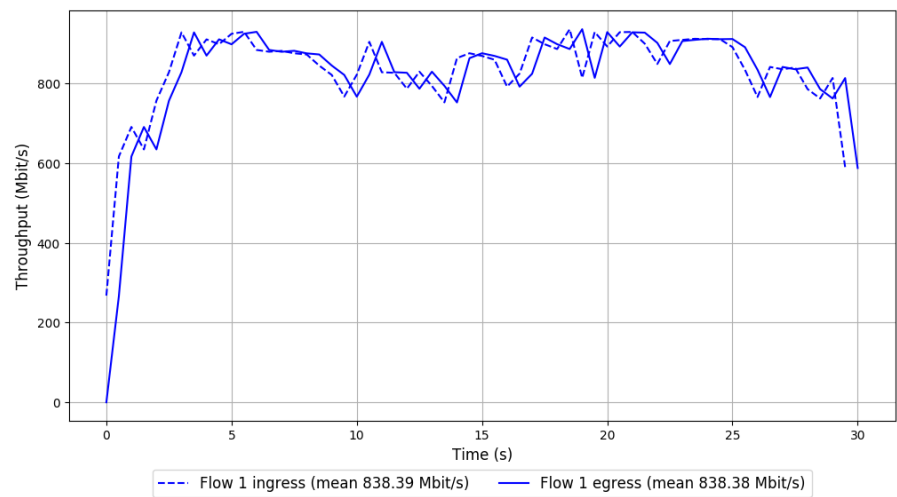
-- Flow 1:

Average throughput: 838.38 Mbit/s

95th percentile per-packet one-way delay: 1.308 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-01-03 05:03:38
End at: 2019-01-03 05:04:08
Local clock offset: -0.868 ms
Remote clock offset: -0.156 ms

Below is generated by plot.py at 2019-01-03 07:56:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 330.20 Mbit/s

95th percentile per-packet one-way delay: 1.056 ms

Loss rate: 0.00%

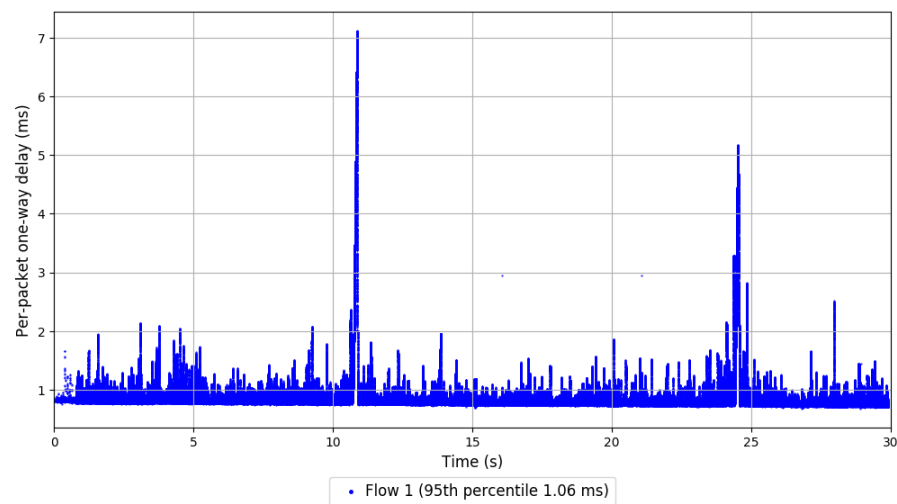
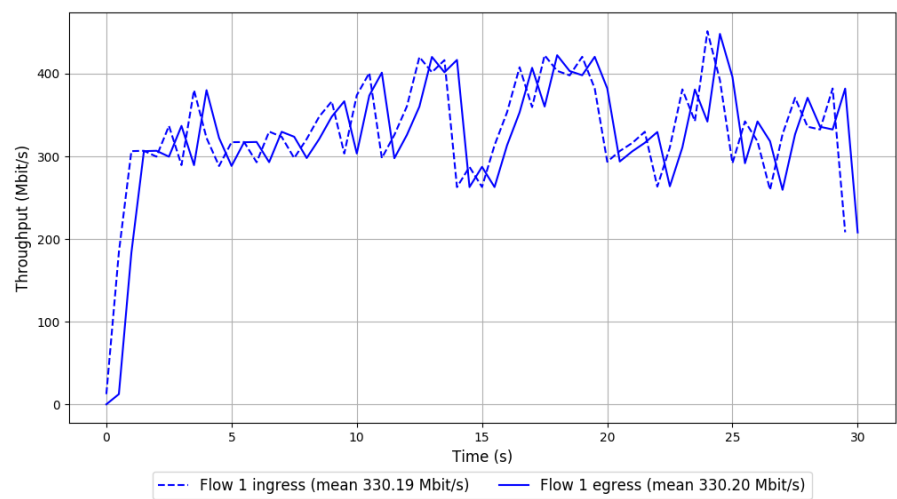
-- Flow 1:

Average throughput: 330.20 Mbit/s

95th percentile per-packet one-way delay: 1.056 ms

Loss rate: 0.00%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-01-03 05:30:35

End at: 2019-01-03 05:31:05

Local clock offset: 0.591 ms

Remote clock offset: 0.247 ms

Below is generated by plot.py at 2019-01-03 07:56:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 316.63 Mbit/s

95th percentile per-packet one-way delay: 1.069 ms

Loss rate: 0.00%

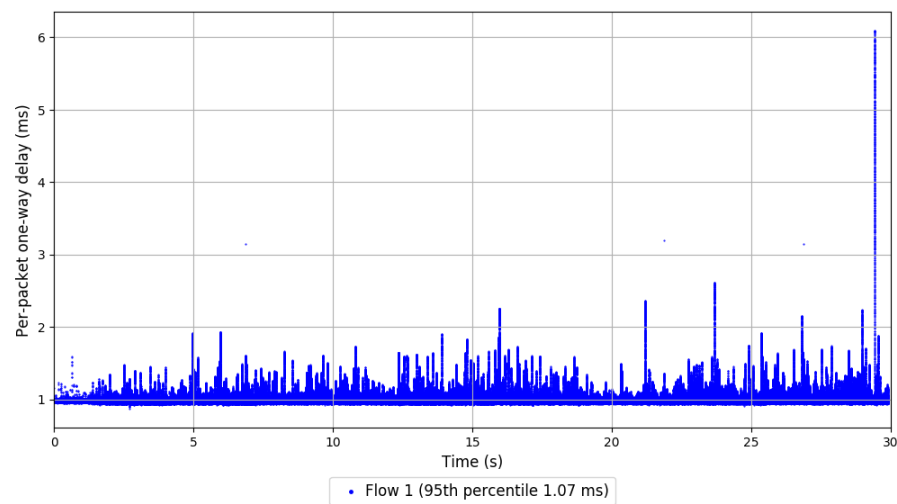
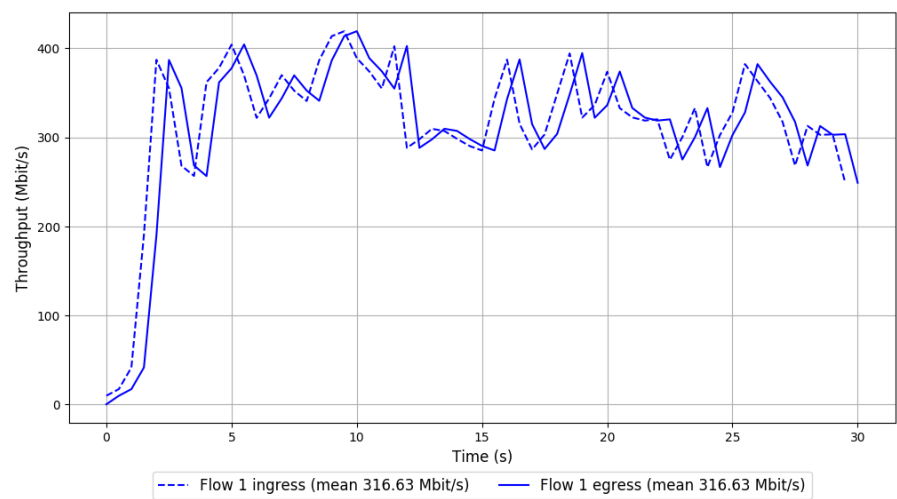
-- Flow 1:

Average throughput: 316.63 Mbit/s

95th percentile per-packet one-way delay: 1.069 ms

Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-01-03 05:57:40

End at: 2019-01-03 05:58:10

Local clock offset: 0.57 ms

Remote clock offset: 0.082 ms

Below is generated by plot.py at 2019-01-03 07:56:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 322.94 Mbit/s

95th percentile per-packet one-way delay: 1.165 ms

Loss rate: 0.01%

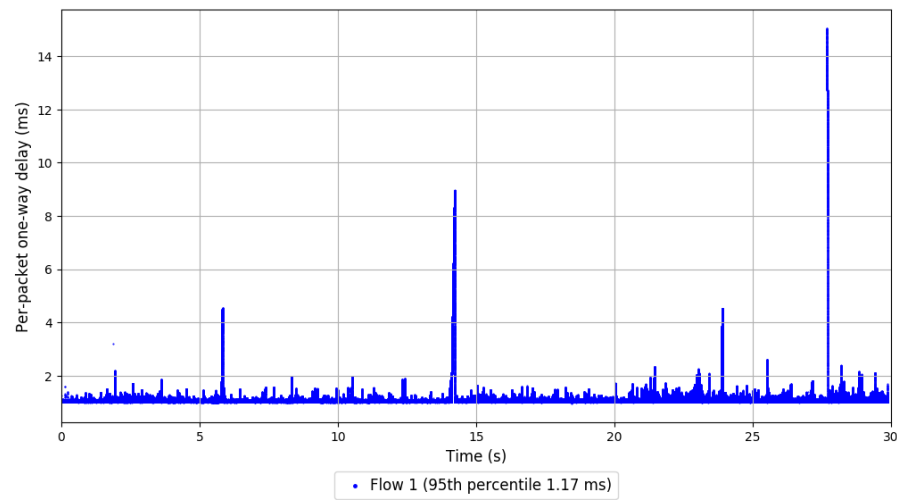
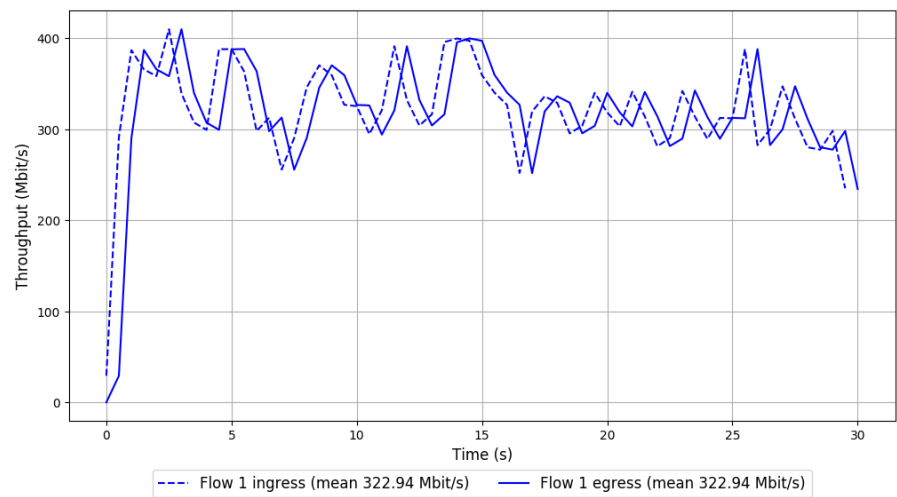
-- Flow 1:

Average throughput: 322.94 Mbit/s

95th percentile per-packet one-way delay: 1.165 ms

Loss rate: 0.01%

Run 3: Report of PCC-Expr — Data Link

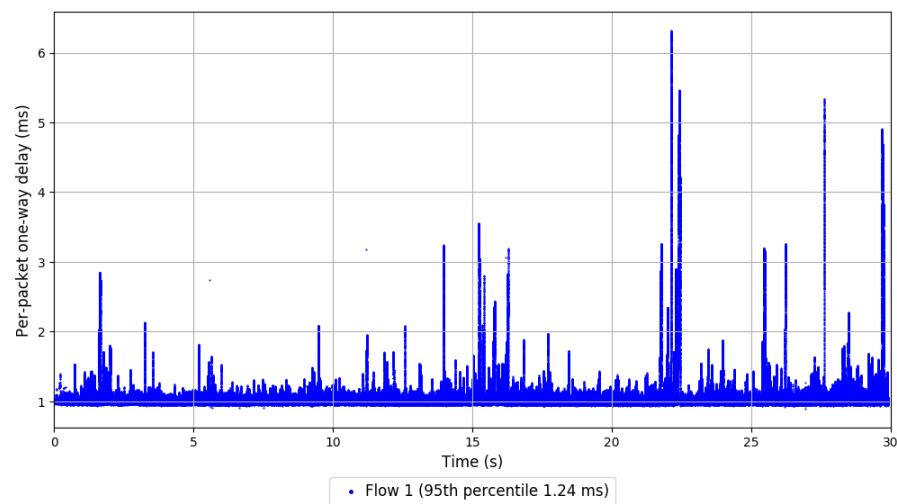
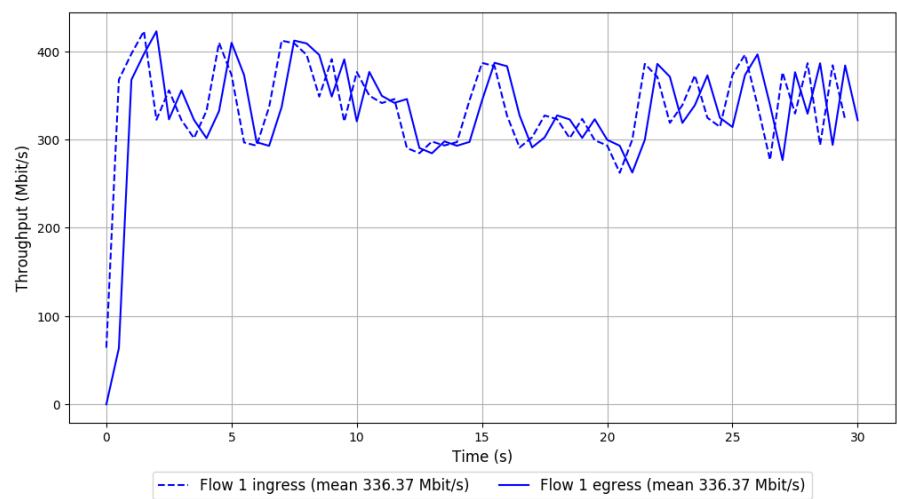


Run 4: Statistics of PCC-Expr

Start at: 2019-01-03 06:24:46
End at: 2019-01-03 06:25:16
Local clock offset: 0.383 ms
Remote clock offset: -0.143 ms

Below is generated by plot.py at 2019-01-03 07:56:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 336.37 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 336.37 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.01%

Run 4: Report of PCC-Expr — Data Link

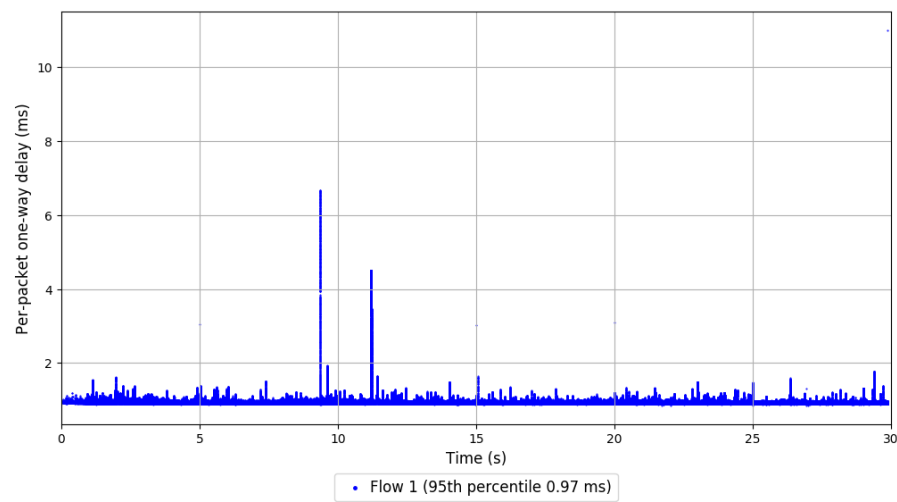
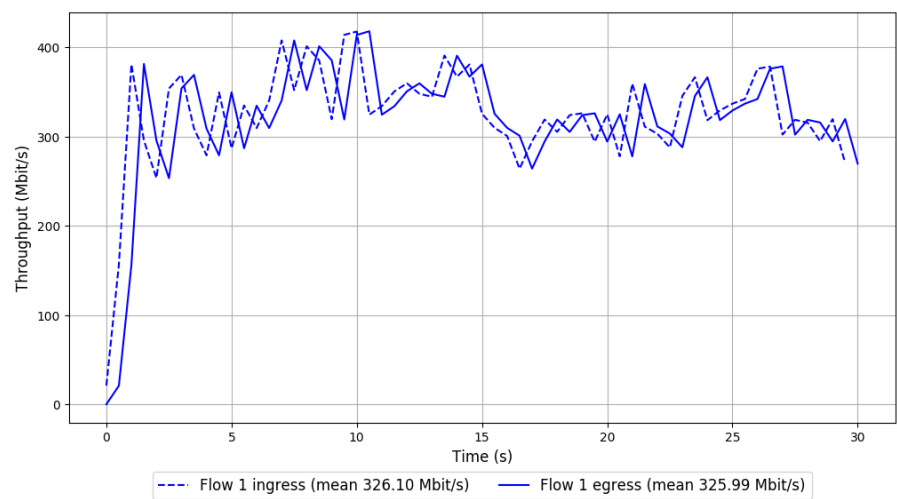


Run 5: Statistics of PCC-Expr

Start at: 2019-01-03 06:51:59
End at: 2019-01-03 06:52:29
Local clock offset: 0.404 ms
Remote clock offset: -0.385 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 325.99 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 325.99 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.01%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 05:10:36

End at: 2019-01-03 05:11:06

Local clock offset: -0.007 ms

Remote clock offset: -0.112 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.79 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

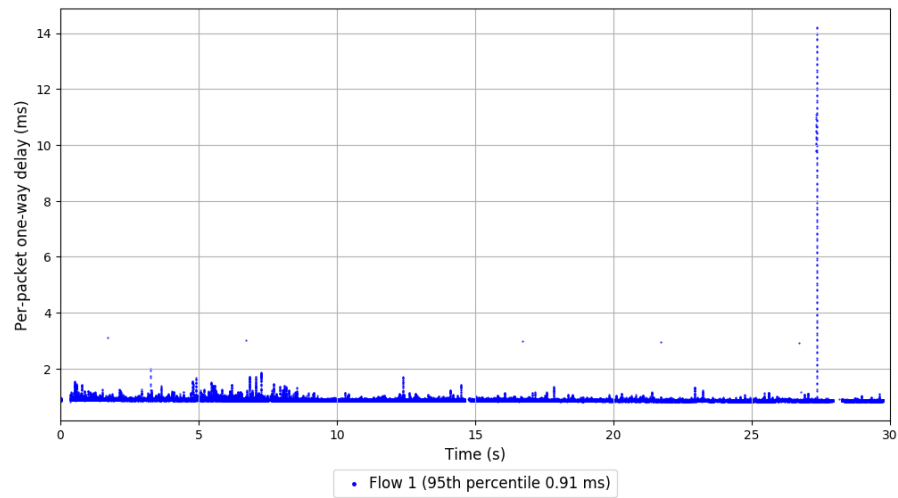
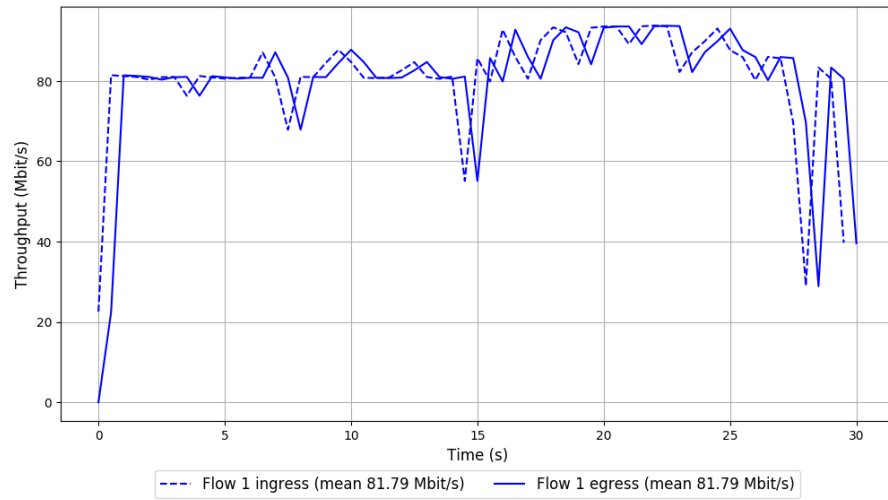
-- Flow 1:

Average throughput: 81.79 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-01-03 05:37:37

End at: 2019-01-03 05:38:07

Local clock offset: 0.546 ms

Remote clock offset: 0.258 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.58 Mbit/s

95th percentile per-packet one-way delay: 1.108 ms

Loss rate: 0.01%

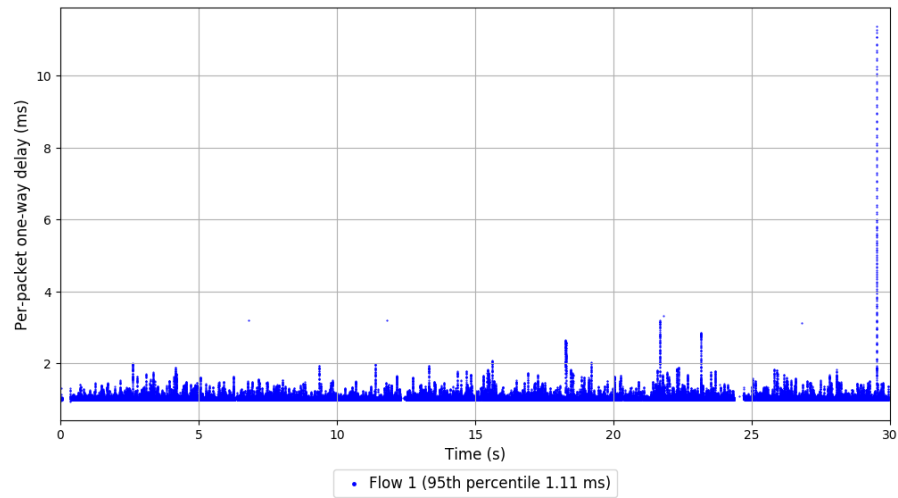
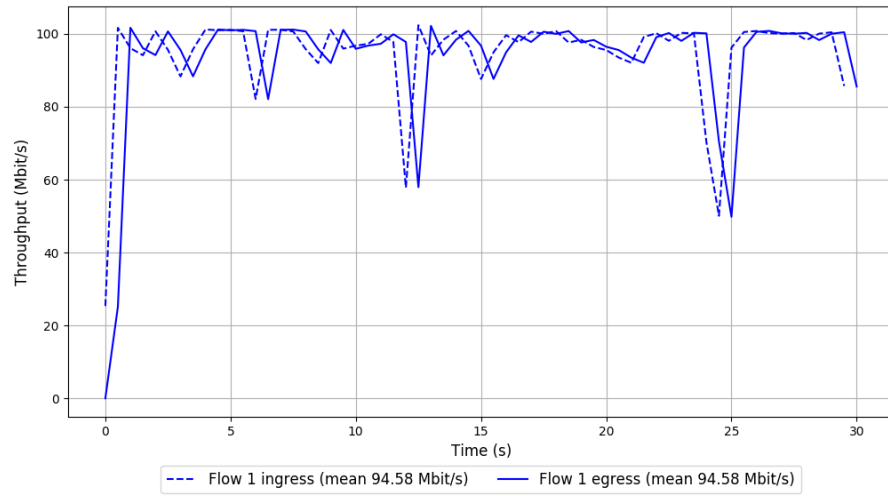
-- Flow 1:

Average throughput: 94.58 Mbit/s

95th percentile per-packet one-way delay: 1.108 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-01-03 06:04:36

End at: 2019-01-03 06:05:06

Local clock offset: 0.404 ms

Remote clock offset: -0.029 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.32 Mbit/s

95th percentile per-packet one-way delay: 1.100 ms

Loss rate: 0.01%

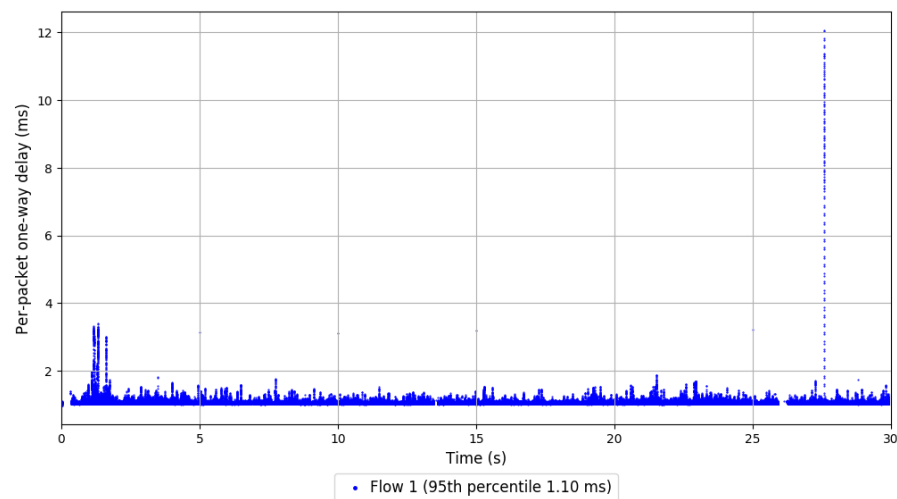
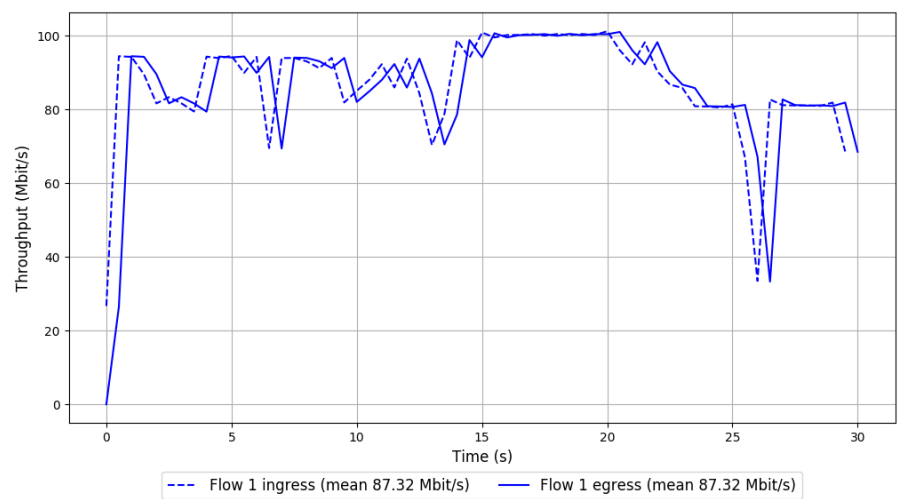
-- Flow 1:

Average throughput: 87.32 Mbit/s

95th percentile per-packet one-way delay: 1.100 ms

Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2019-01-03 06:31:46

End at: 2019-01-03 06:32:16

Local clock offset: 0.318 ms

Remote clock offset: -0.26 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 1.102 ms

Loss rate: 0.01%

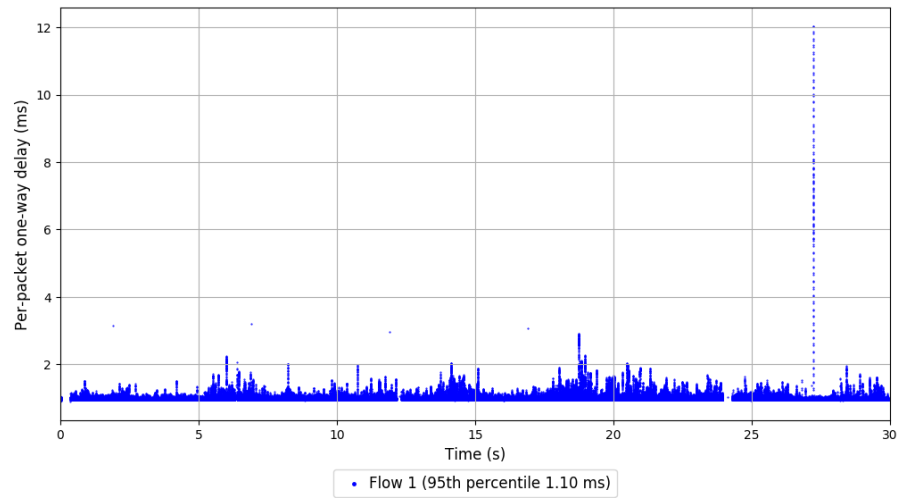
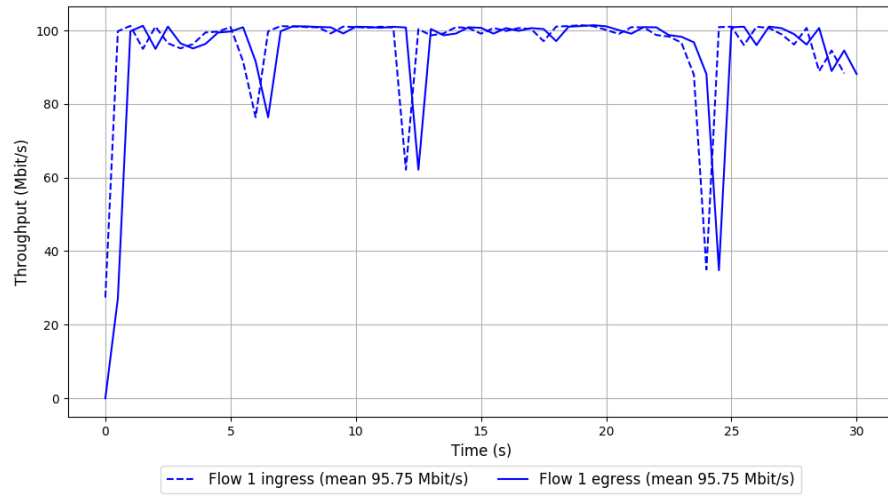
-- Flow 1:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 1.102 ms

Loss rate: 0.01%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-01-03 06:59:01

End at: 2019-01-03 06:59:31

Local clock offset: 0.343 ms

Remote clock offset: -1.881 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.29 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.01%

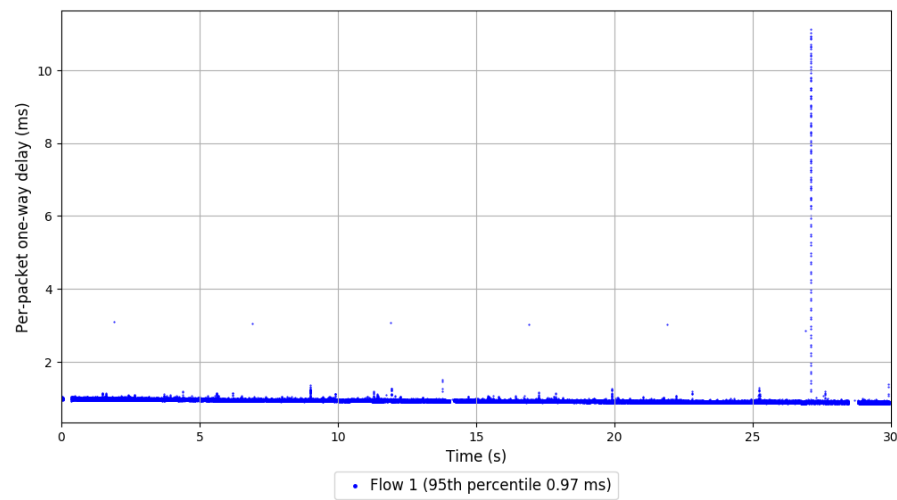
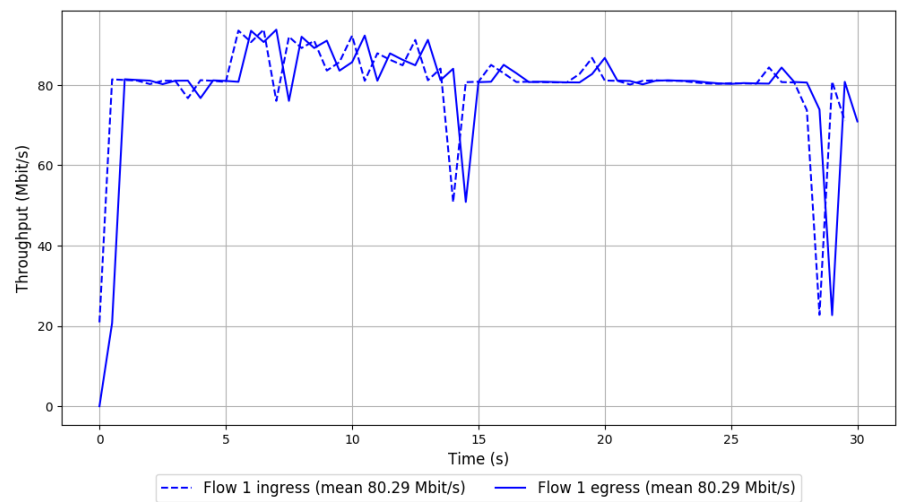
-- Flow 1:

Average throughput: 80.29 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link

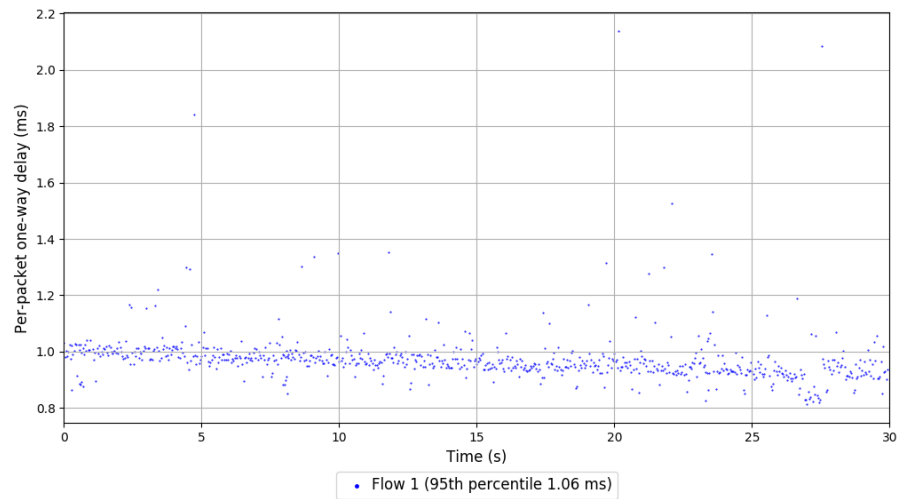
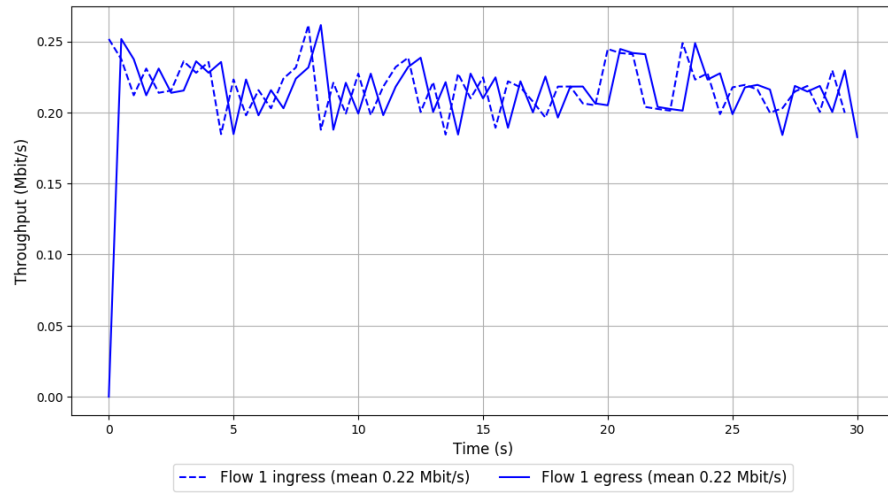


Run 1: Statistics of SCReAM

Start at: 2019-01-03 05:02:25
End at: 2019-01-03 05:02:55
Local clock offset: -1.062 ms
Remote clock offset: -0.248 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2019-01-03 05:29:23

End at: 2019-01-03 05:29:53

Local clock offset: 0.609 ms

Remote clock offset: 0.185 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.210 ms

Loss rate: 0.00%

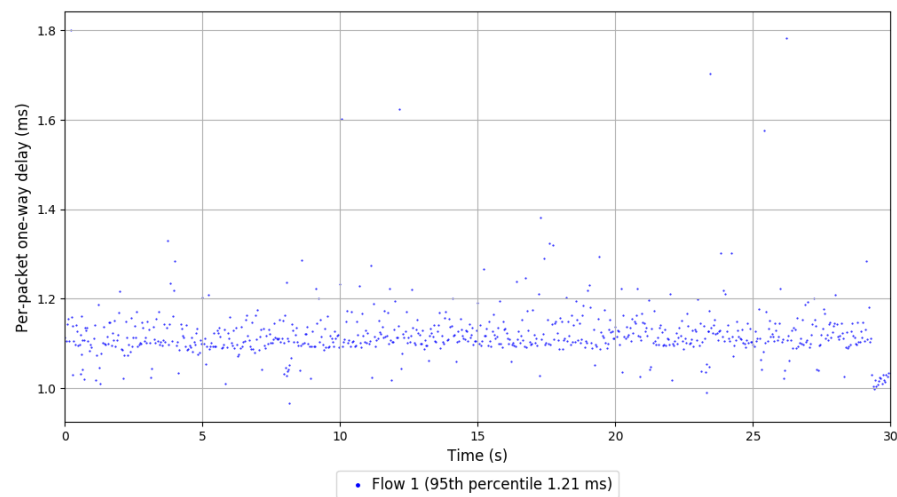
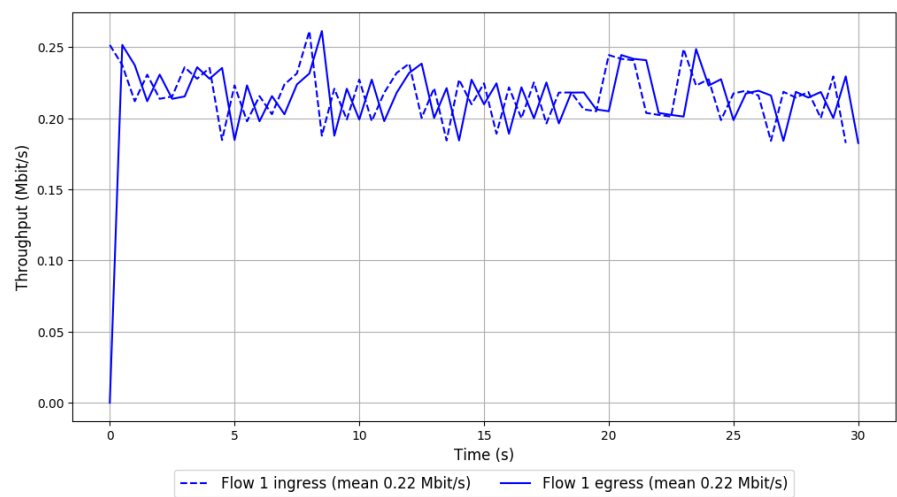
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.210 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-01-03 05:56:27

End at: 2019-01-03 05:56:57

Local clock offset: 0.609 ms

Remote clock offset: 0.181 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.080 ms

Loss rate: 0.00%

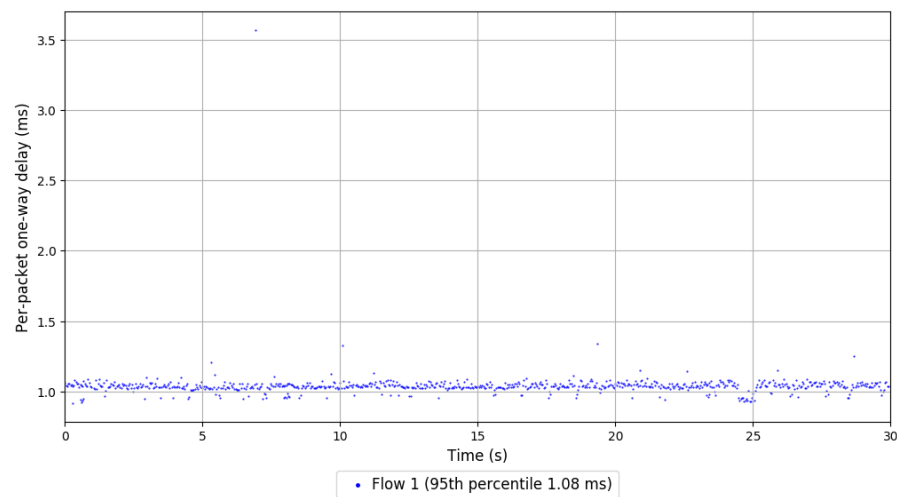
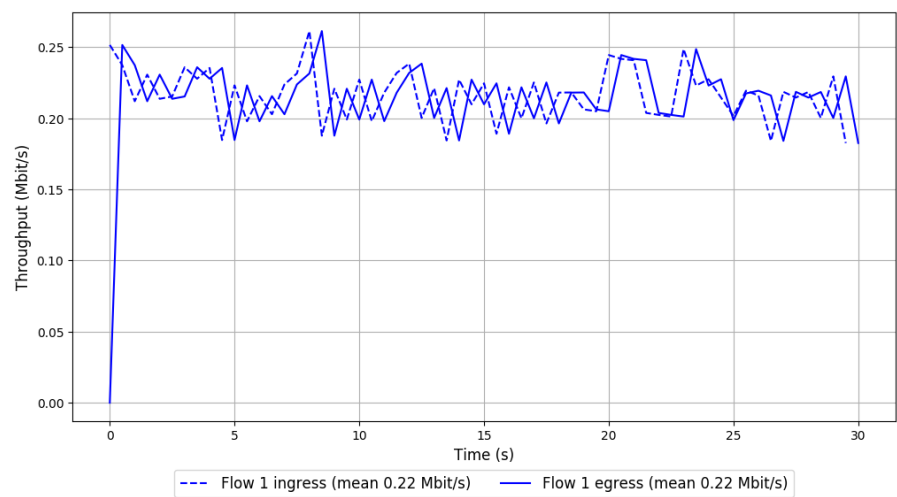
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.080 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

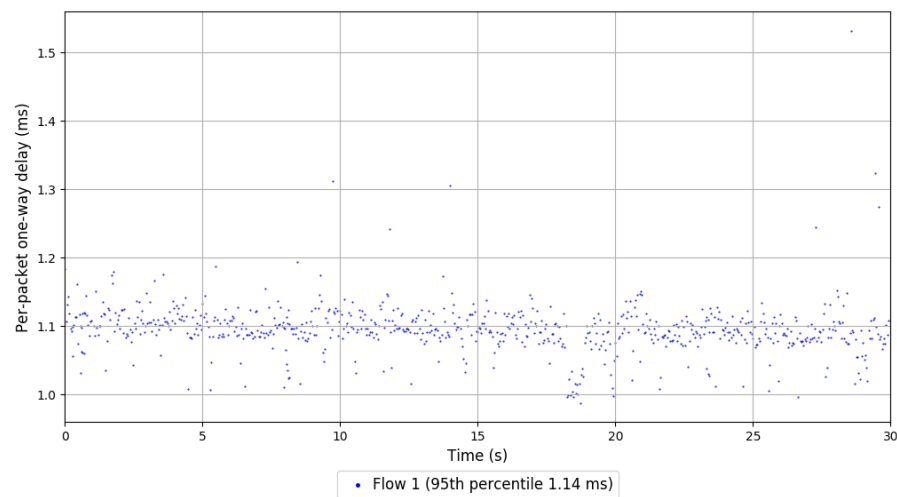
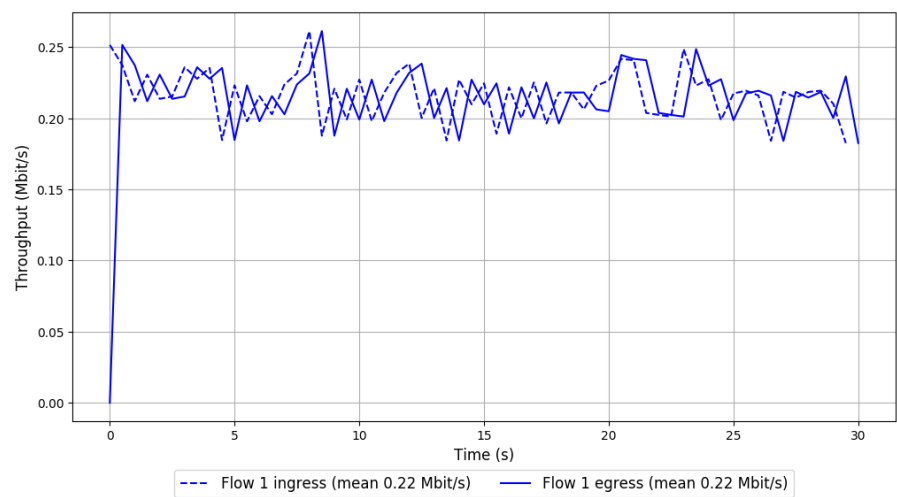


Run 4: Statistics of SCReAM

Start at: 2019-01-03 06:23:34
End at: 2019-01-03 06:24:04
Local clock offset: 0.397 ms
Remote clock offset: -0.134 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

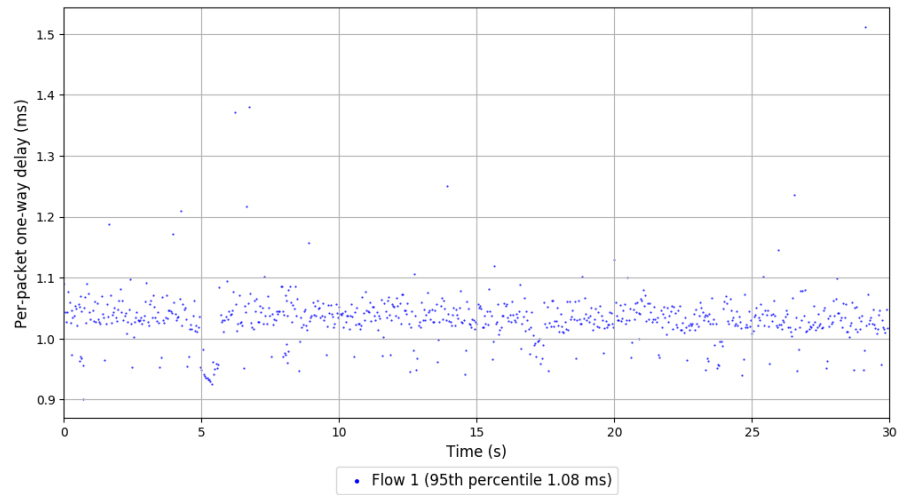
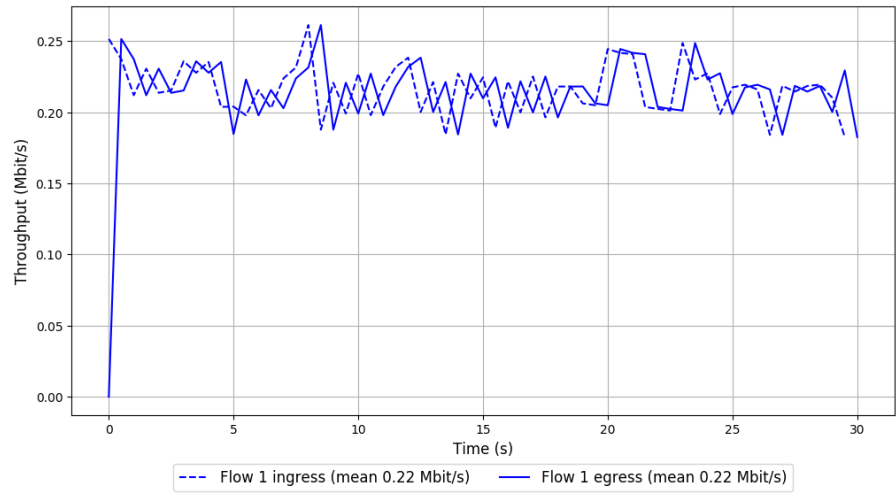


Run 5: Statistics of SCReAM

Start at: 2019-01-03 06:50:47
End at: 2019-01-03 06:51:17
Local clock offset: 0.389 ms
Remote clock offset: -0.402 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

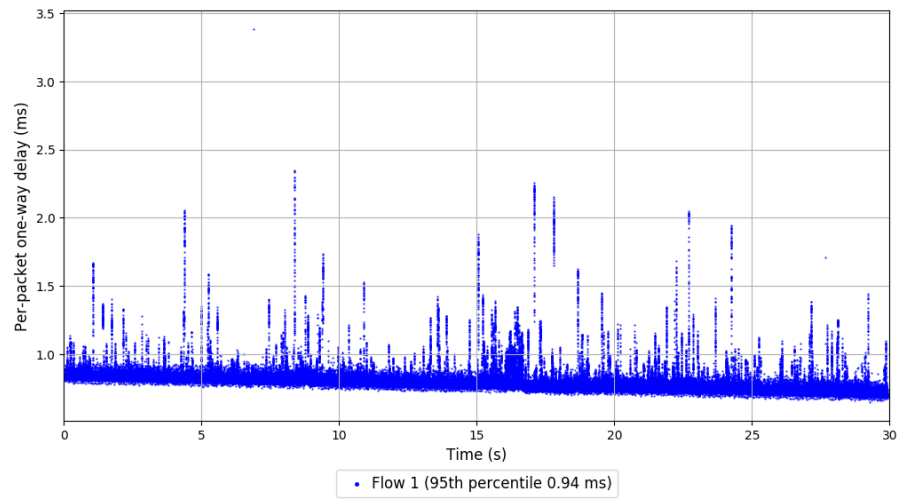
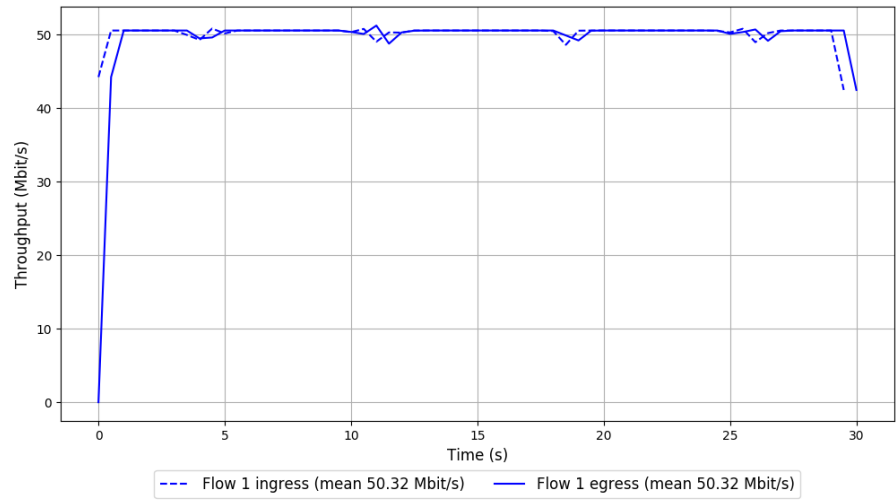


Run 1: Statistics of Sprout

Start at: 2019-01-03 04:58:06
End at: 2019-01-03 04:58:36
Local clock offset: -2.024 ms
Remote clock offset: -0.241 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2019-01-03 05:25:05

End at: 2019-01-03 05:25:35

Local clock offset: 0.741 ms

Remote clock offset: 0.232 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.20 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.00%

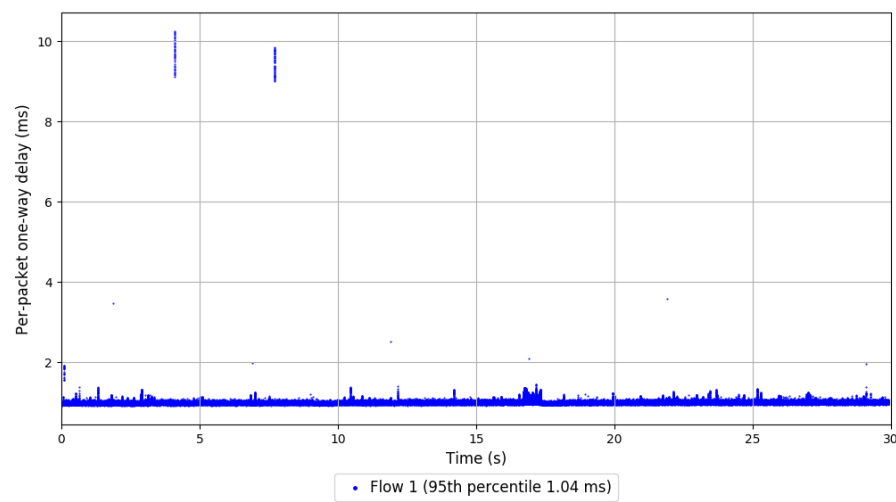
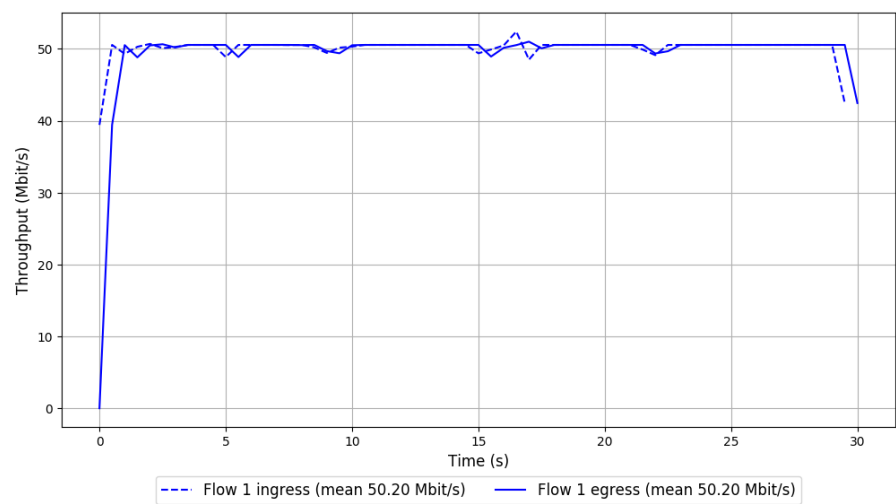
-- Flow 1:

Average throughput: 50.20 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-01-03 05:52:06

End at: 2019-01-03 05:52:36

Local clock offset: 0.64 ms

Remote clock offset: 0.21 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.25 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.00%

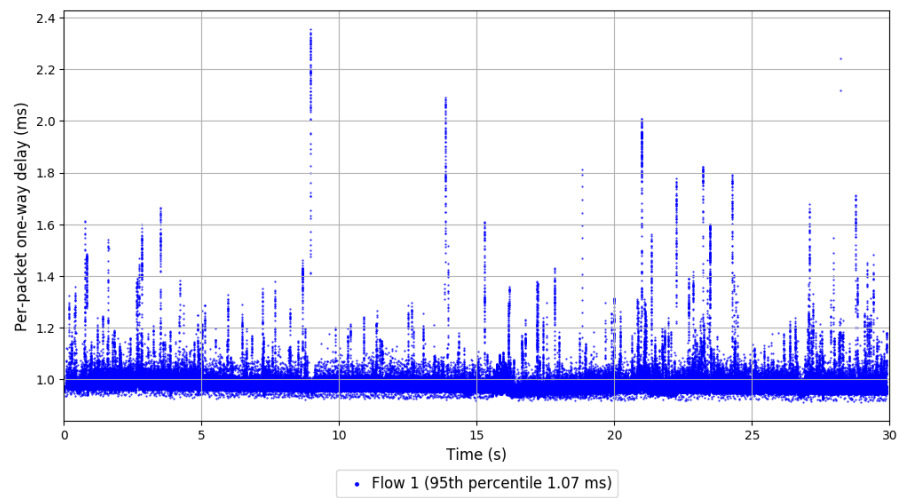
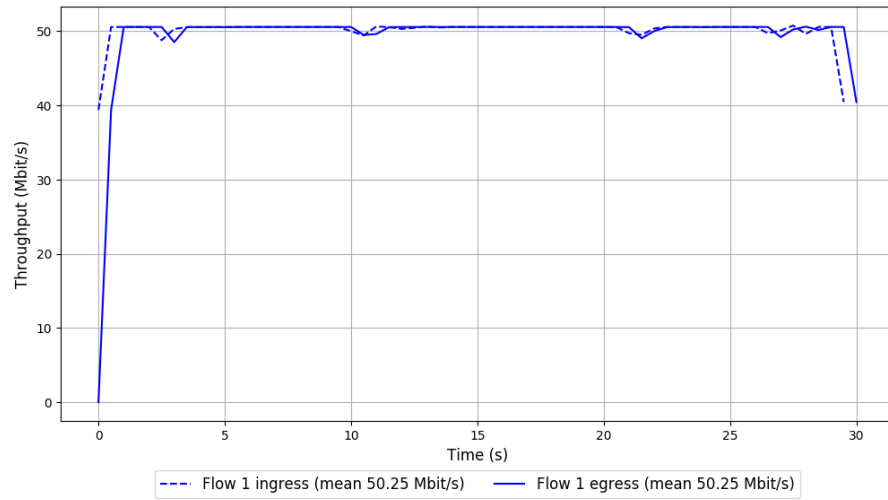
-- Flow 1:

Average throughput: 50.25 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2019-01-03 06:19:12

End at: 2019-01-03 06:19:42

Local clock offset: 0.364 ms

Remote clock offset: 0.098 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 0.980 ms

Loss rate: 0.03%

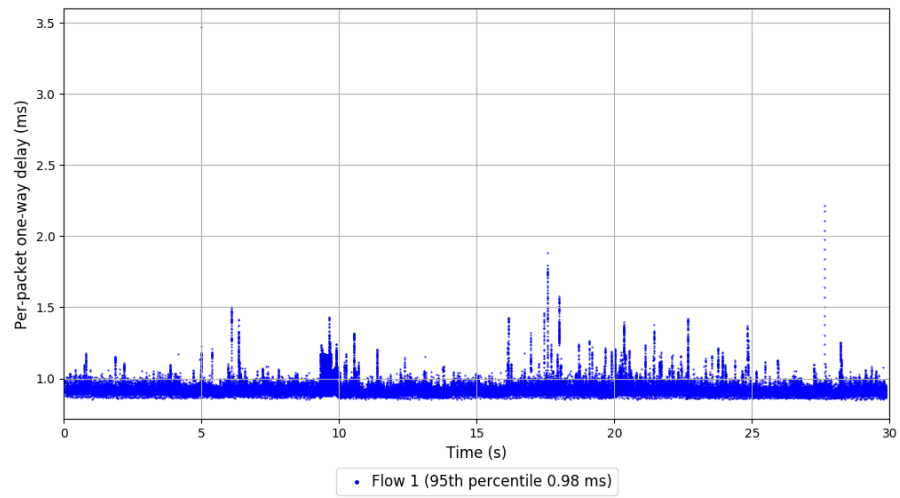
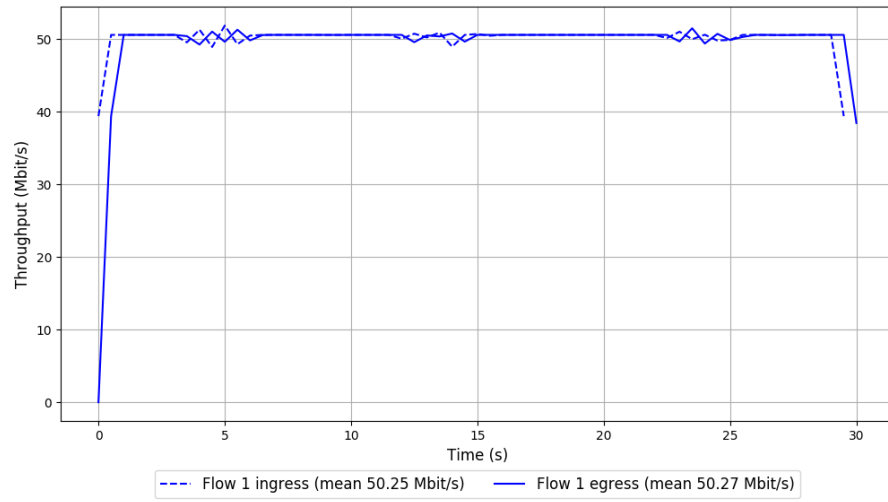
-- Flow 1:

Average throughput: 50.27 Mbit/s

95th percentile per-packet one-way delay: 0.980 ms

Loss rate: 0.03%

Run 4: Report of Sprout — Data Link

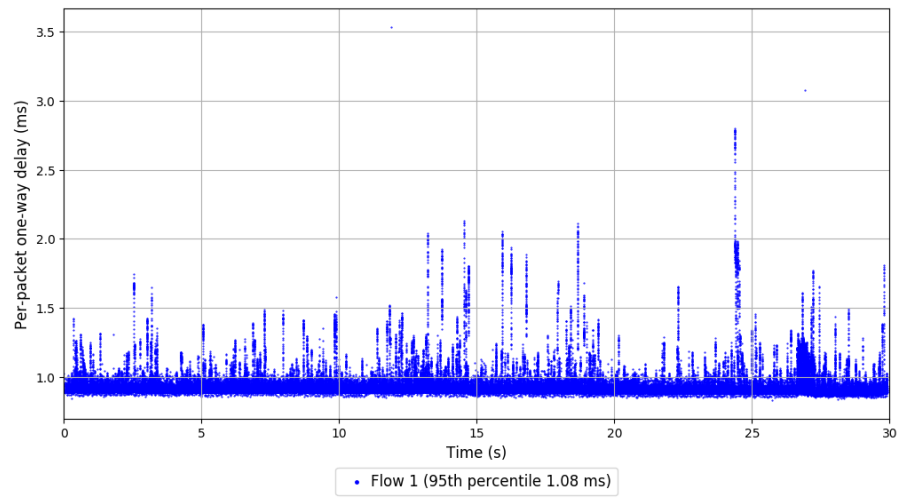
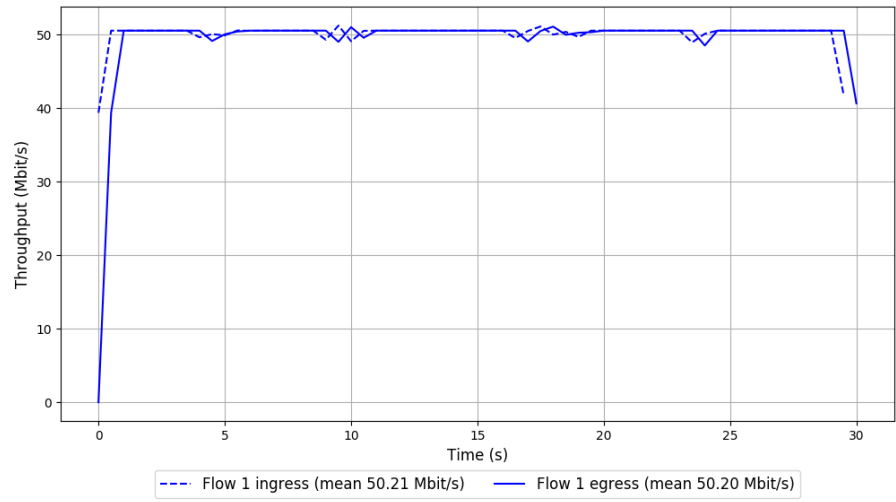


Run 5: Statistics of Sprout

Start at: 2019-01-03 06:46:25
End at: 2019-01-03 06:46:55
Local clock offset: 0.349 ms
Remote clock offset: -0.297 ms

Below is generated by plot.py at 2019-01-03 07:57:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.04%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-01-03 05:09:22

End at: 2019-01-03 05:09:52

Local clock offset: -0.124 ms

Remote clock offset: -0.208 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.14 Mbit/s

95th percentile per-packet one-way delay: 1.057 ms

Loss rate: 0.00%

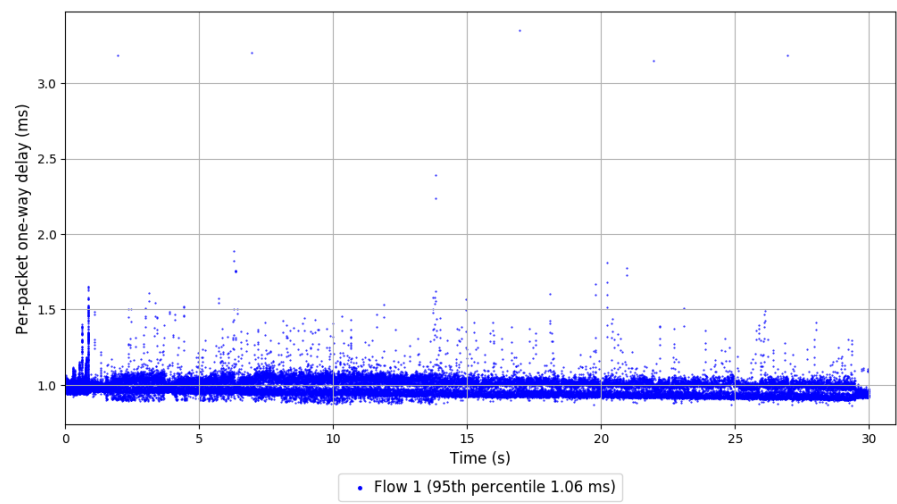
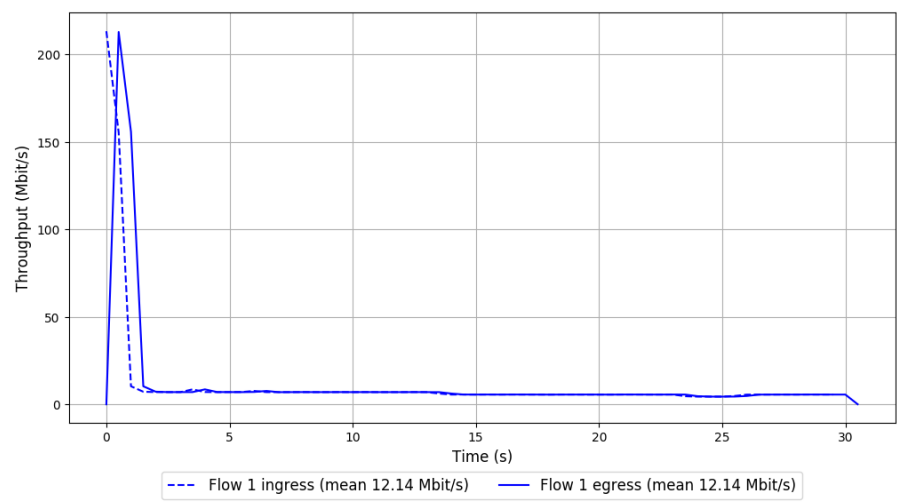
-- Flow 1:

Average throughput: 12.14 Mbit/s

95th percentile per-packet one-way delay: 1.057 ms

Loss rate: 0.00%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-03 05:36:19

End at: 2019-01-03 05:36:49

Local clock offset: 0.534 ms

Remote clock offset: 0.236 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 1.048 ms

Loss rate: 0.01%

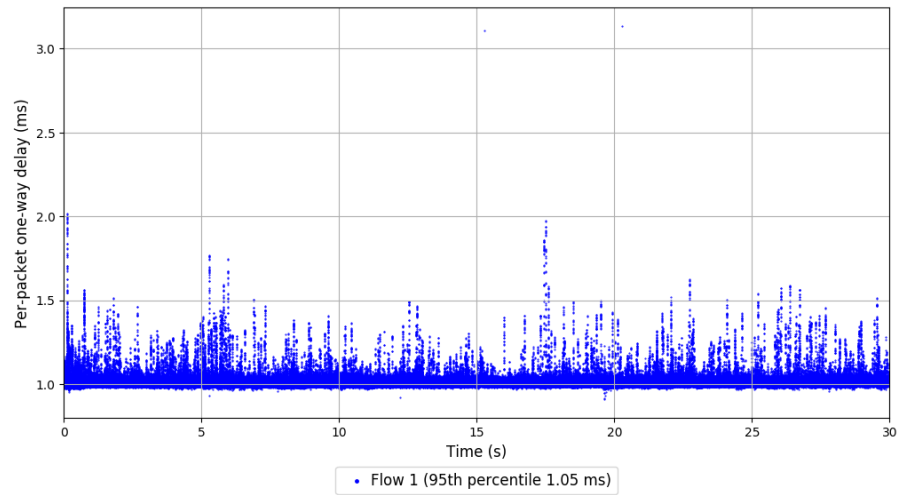
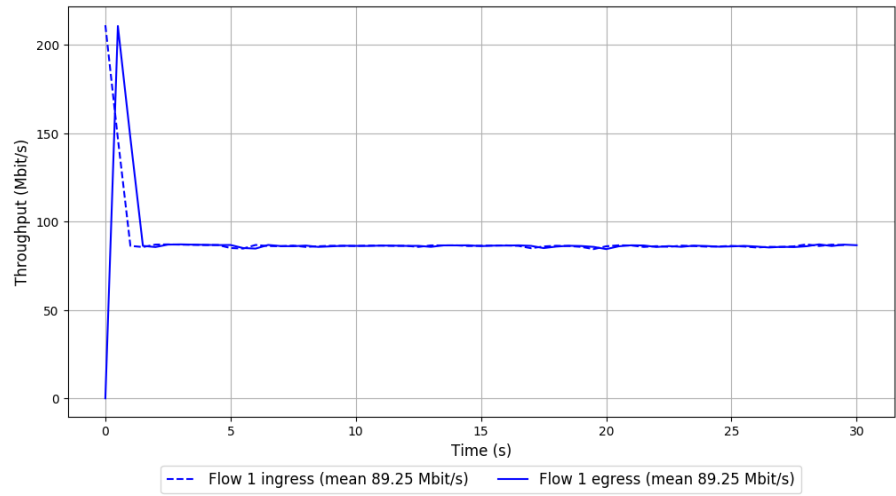
-- Flow 1:

Average throughput: 89.25 Mbit/s

95th percentile per-packet one-way delay: 1.048 ms

Loss rate: 0.01%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-03 06:03:23

End at: 2019-01-03 06:03:53

Local clock offset: 0.432 ms

Remote clock offset: 0.121 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 1.019 ms

Loss rate: 0.00%

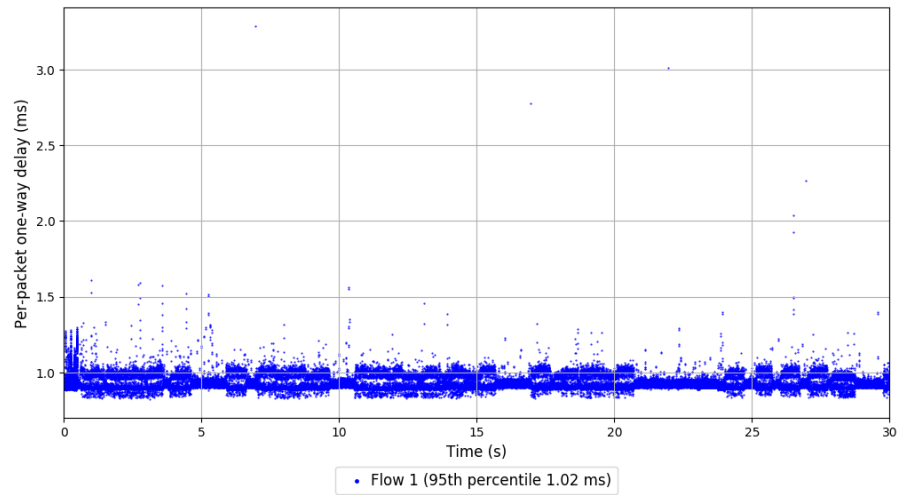
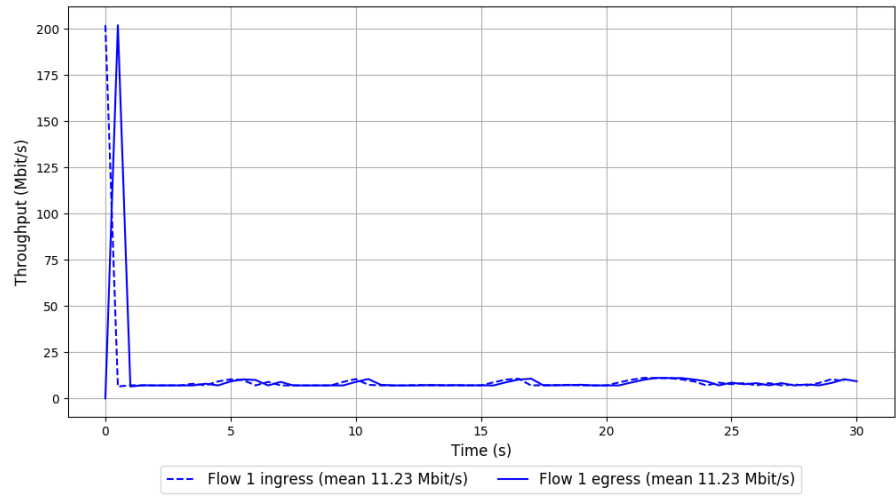
-- Flow 1:

Average throughput: 11.23 Mbit/s

95th percentile per-packet one-way delay: 1.019 ms

Loss rate: 0.00%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-03 06:30:32

End at: 2019-01-03 06:31:02

Local clock offset: 0.318 ms

Remote clock offset: -0.193 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 19.38 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 0.00%

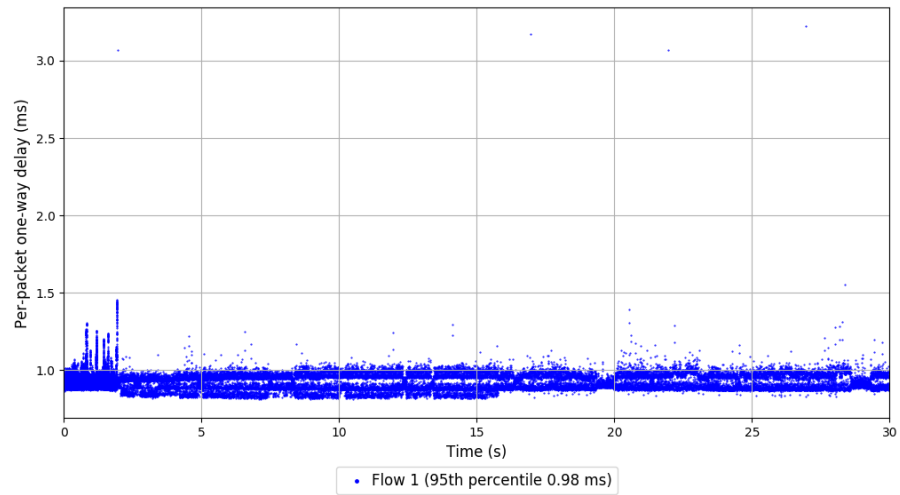
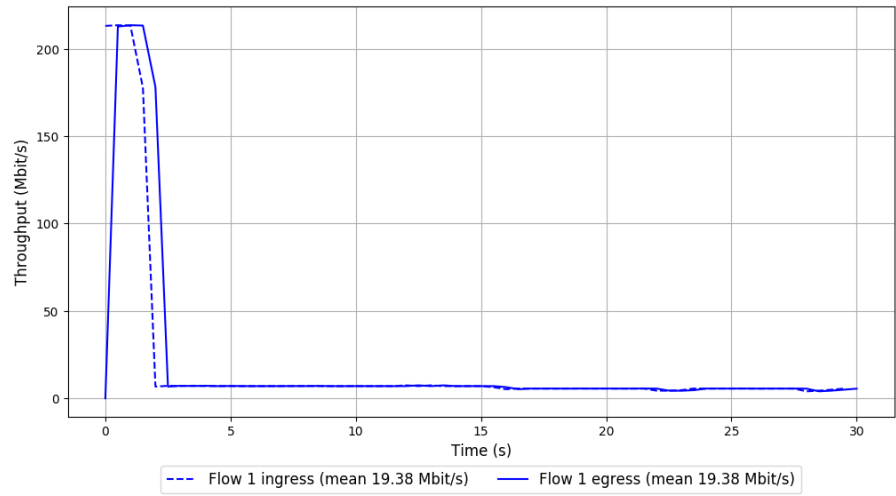
-- Flow 1:

Average throughput: 19.38 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2019-01-03 06:57:48

End at: 2019-01-03 06:58:18

Local clock offset: 0.351 ms

Remote clock offset: -1.615 ms

Below is generated by plot.py at 2019-01-03 07:57:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.69 Mbit/s

95th percentile per-packet one-way delay: 1.042 ms

Loss rate: 0.00%

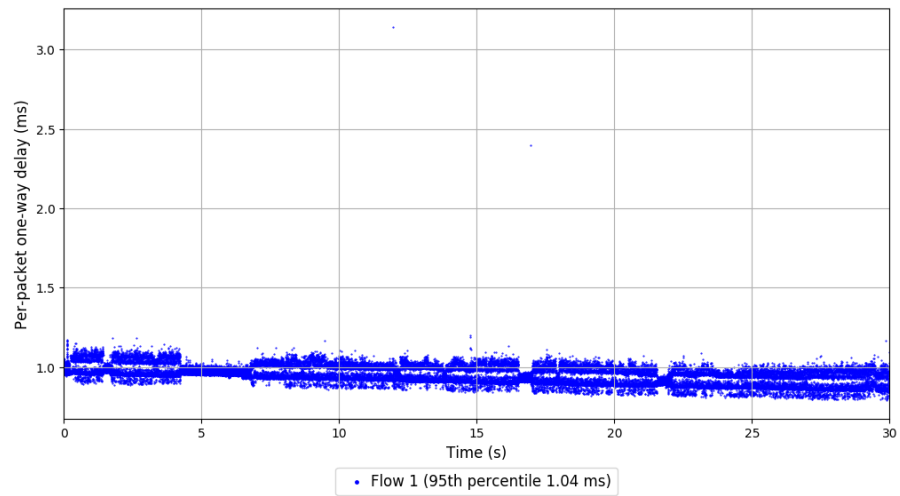
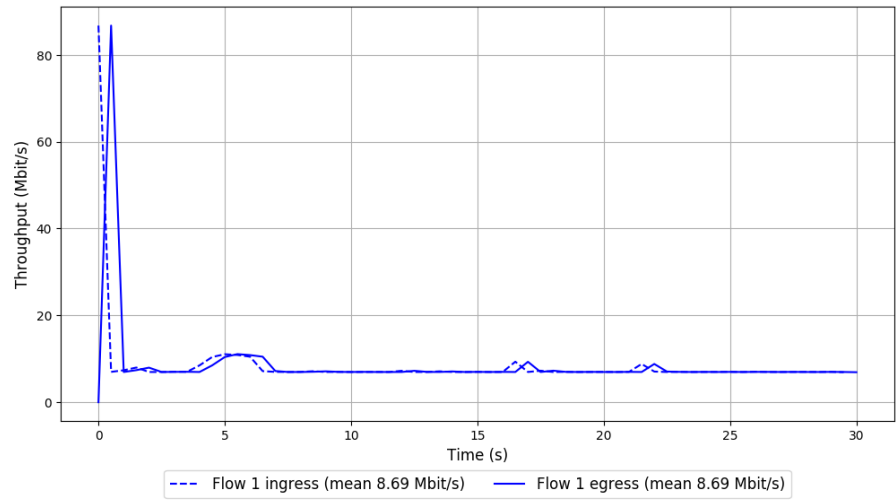
-- Flow 1:

Average throughput: 8.69 Mbit/s

95th percentile per-packet one-way delay: 1.042 ms

Loss rate: 0.00%

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

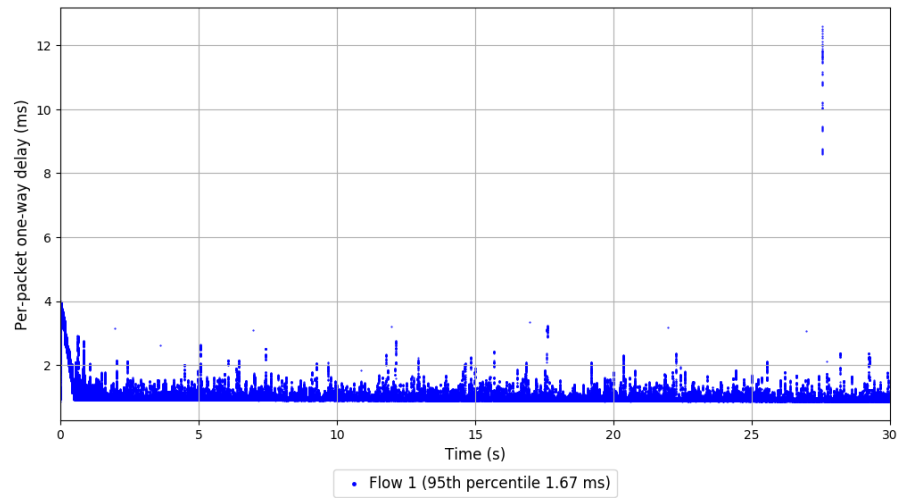
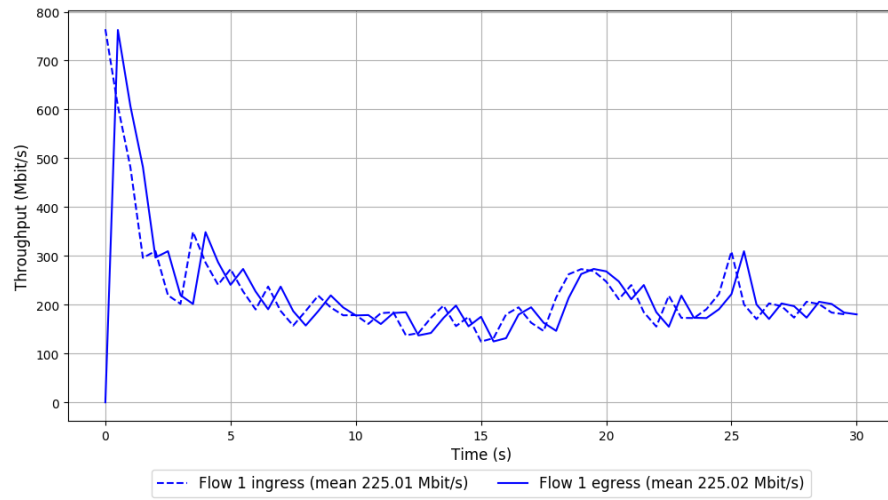


Run 1: Statistics of TCP Vegas

Start at: 2019-01-03 05:06:49
End at: 2019-01-03 05:07:19
Local clock offset: -0.425 ms
Remote clock offset: -0.203 ms

Below is generated by plot.py at 2019-01-03 07:58:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 225.02 Mbit/s
95th percentile per-packet one-way delay: 1.669 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 225.02 Mbit/s
95th percentile per-packet one-way delay: 1.669 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-01-03 05:33:45

End at: 2019-01-03 05:34:15

Local clock offset: 0.565 ms

Remote clock offset: 0.227 ms

Below is generated by plot.py at 2019-01-03 07:58:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 224.52 Mbit/s

95th percentile per-packet one-way delay: 1.146 ms

Loss rate: 0.00%

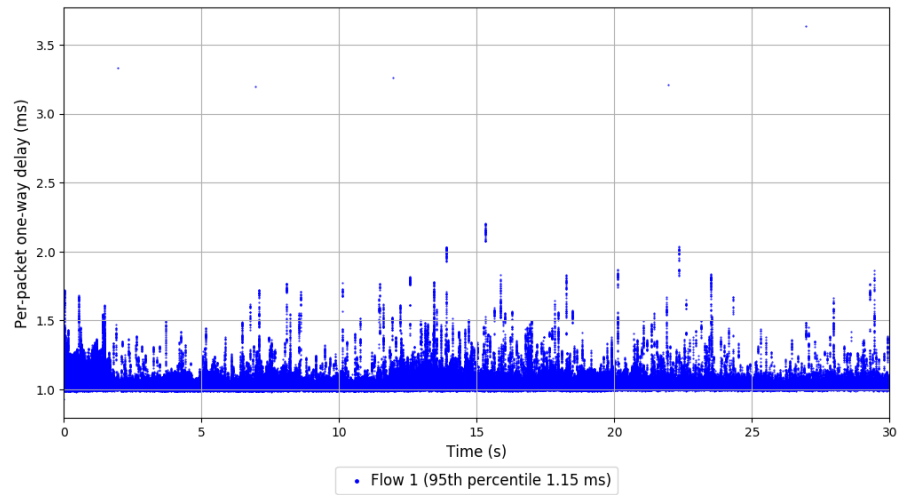
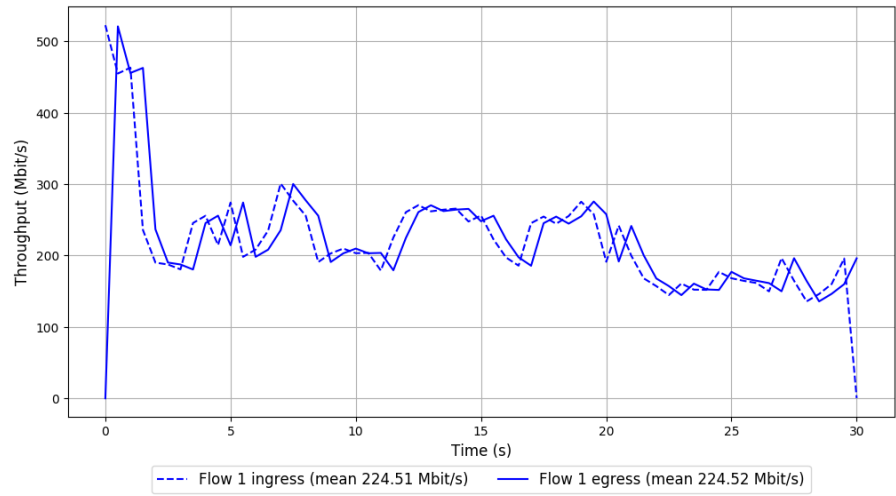
-- Flow 1:

Average throughput: 224.52 Mbit/s

95th percentile per-packet one-way delay: 1.146 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-01-03 06:00:49

End at: 2019-01-03 06:01:19

Local clock offset: 0.48 ms

Remote clock offset: 0.066 ms

Below is generated by plot.py at 2019-01-03 07:58:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 225.97 Mbit/s

95th percentile per-packet one-way delay: 1.314 ms

Loss rate: 0.00%

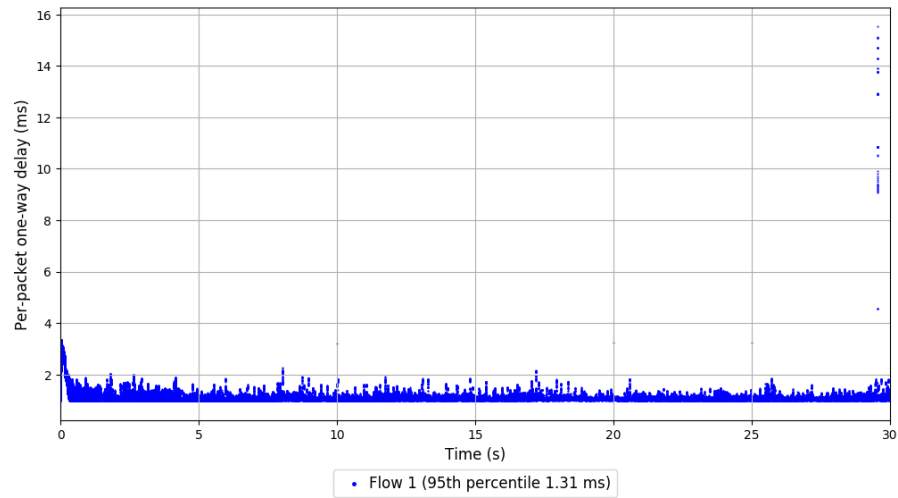
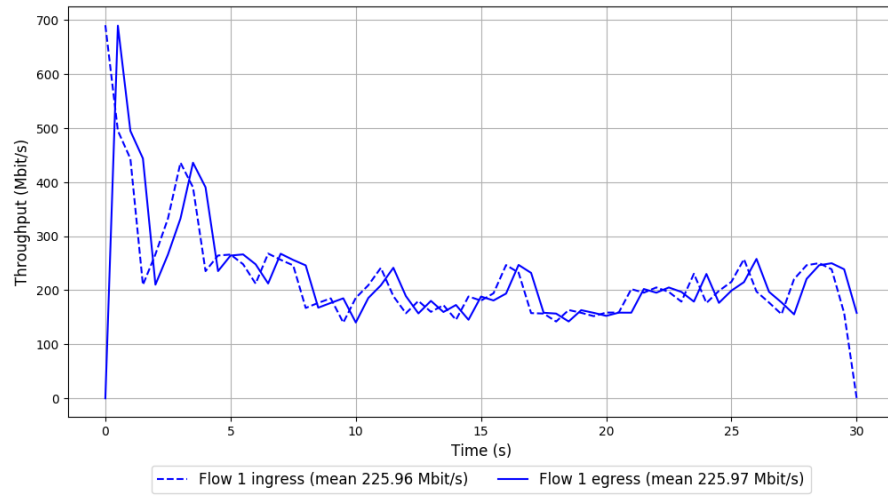
-- Flow 1:

Average throughput: 225.97 Mbit/s

95th percentile per-packet one-way delay: 1.314 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

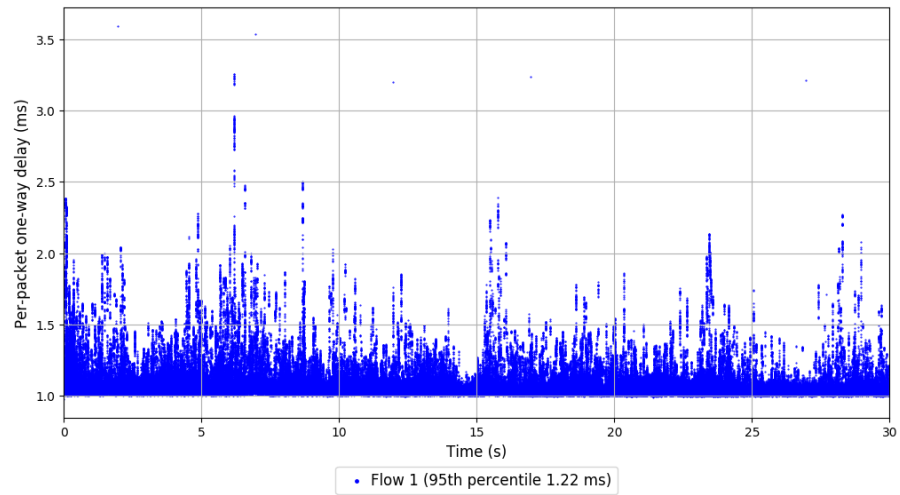
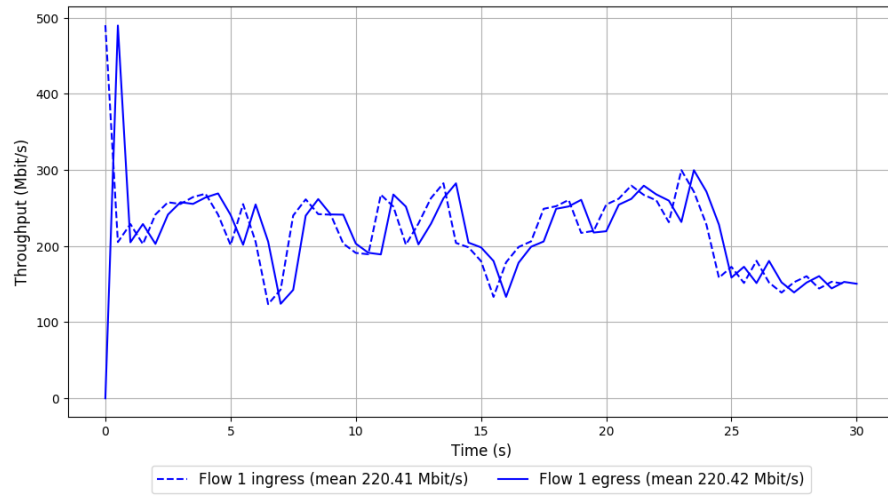


Run 4: Statistics of TCP Vegas

Start at: 2019-01-03 06:27:59
End at: 2019-01-03 06:28:29
Local clock offset: 0.341 ms
Remote clock offset: -0.241 ms

Below is generated by plot.py at 2019-01-03 07:58:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 220.42 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 220.42 Mbit/s
95th percentile per-packet one-way delay: 1.215 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link

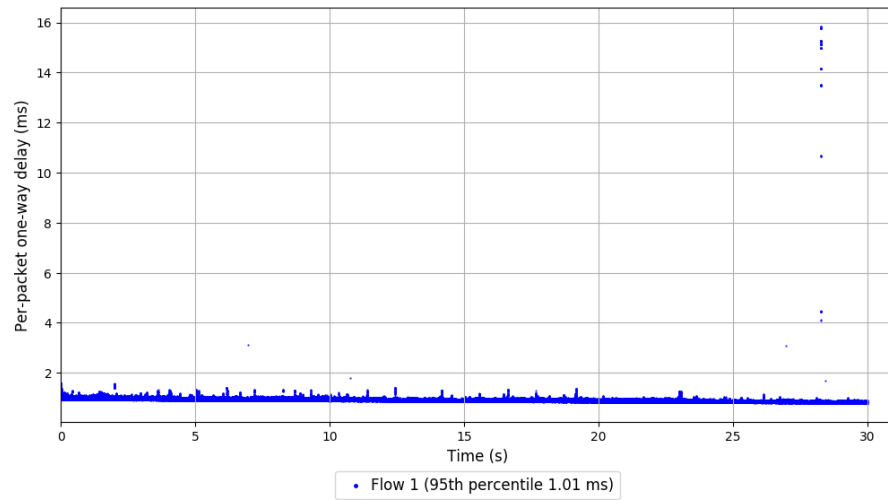
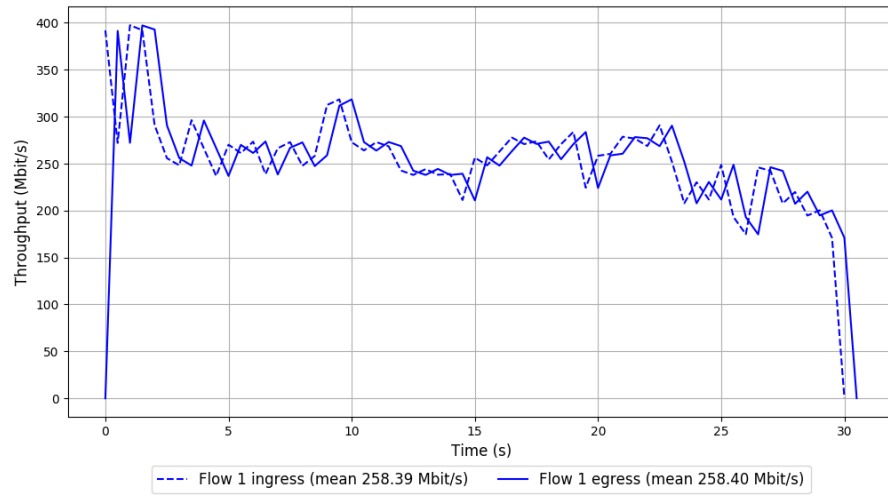


Run 5: Statistics of TCP Vegas

Start at: 2019-01-03 06:55:13
End at: 2019-01-03 06:55:43
Local clock offset: 0.407 ms
Remote clock offset: -0.869 ms

Below is generated by plot.py at 2019-01-03 07:59:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 258.40 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 258.40 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

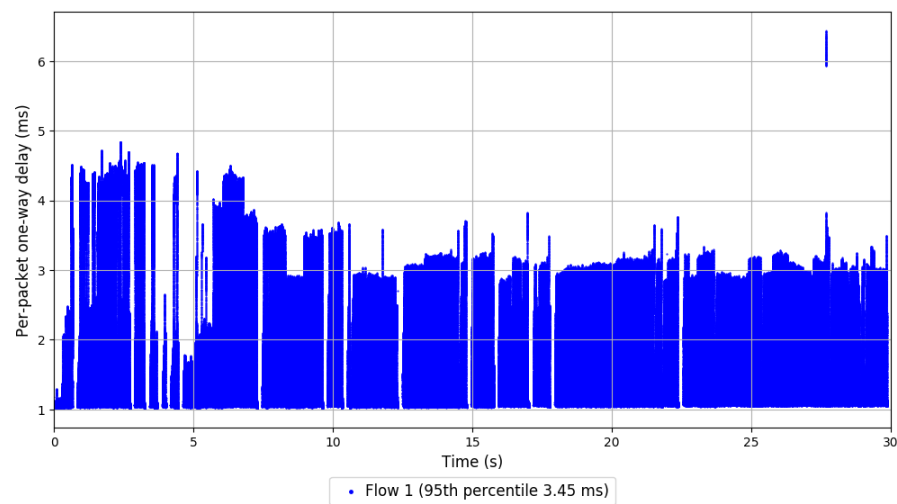
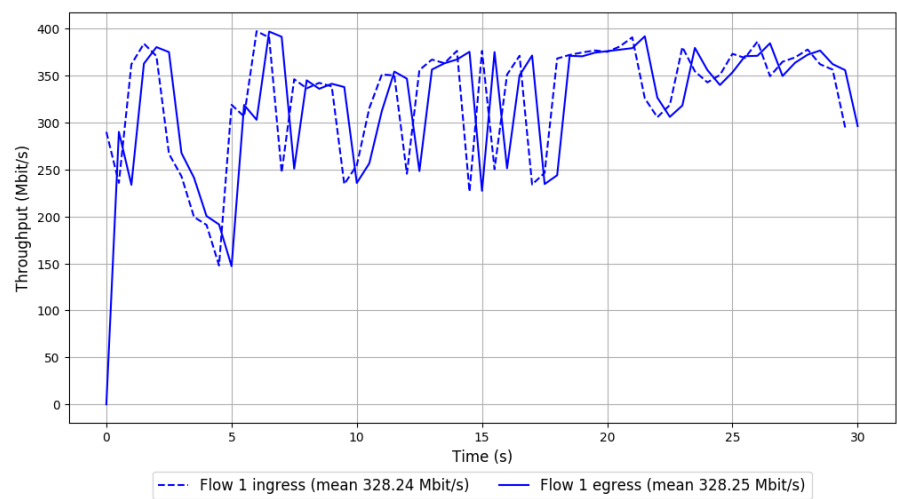


Run 1: Statistics of Verus

Start at: 2019-01-03 04:47:48
End at: 2019-01-03 04:48:18
Local clock offset: -3.033 ms
Remote clock offset: -0.563 ms

Below is generated by plot.py at 2019-01-03 08:00:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 328.25 Mbit/s
95th percentile per-packet one-way delay: 3.447 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 328.25 Mbit/s
95th percentile per-packet one-way delay: 3.447 ms
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

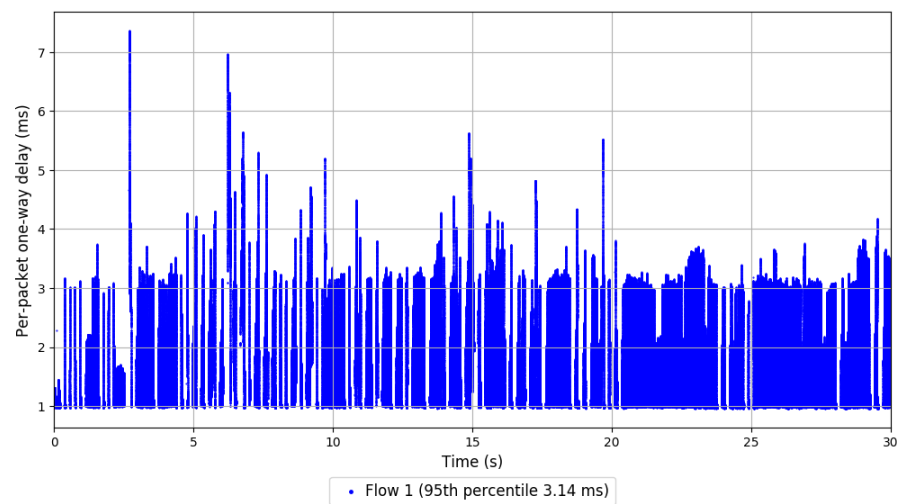
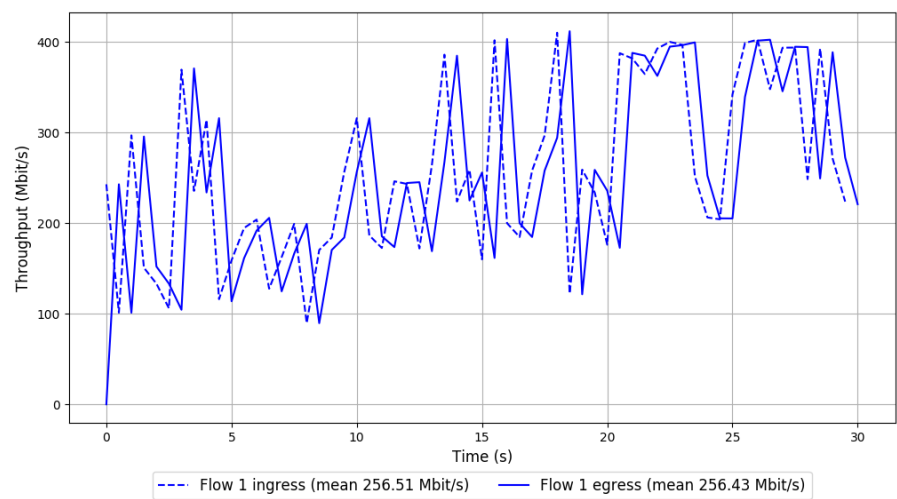


Run 2: Statistics of Verus

Start at: 2019-01-03 05:14:50
End at: 2019-01-03 05:15:20
Local clock offset: 0.322 ms
Remote clock offset: -0.106 ms

Below is generated by plot.py at 2019-01-03 08:00:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 256.43 Mbit/s
95th percentile per-packet one-way delay: 3.144 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 256.43 Mbit/s
95th percentile per-packet one-way delay: 3.144 ms
Loss rate: 0.04%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-01-03 05:41:51

End at: 2019-01-03 05:42:21

Local clock offset: 0.544 ms

Remote clock offset: 0.311 ms

Below is generated by plot.py at 2019-01-03 08:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 326.51 Mbit/s

95th percentile per-packet one-way delay: 2.650 ms

Loss rate: 0.01%

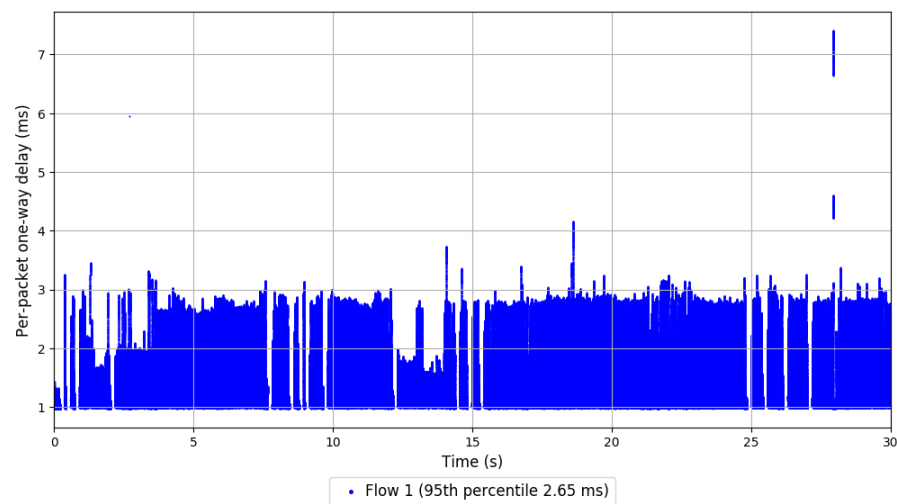
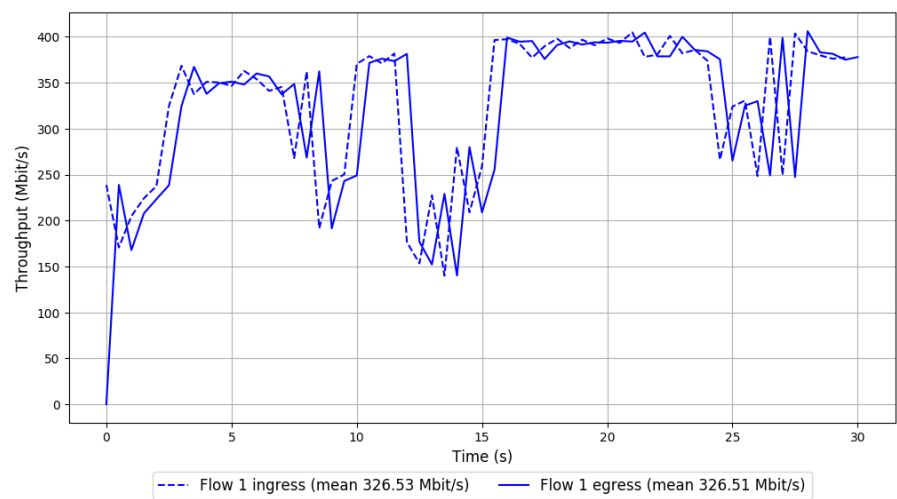
-- Flow 1:

Average throughput: 326.51 Mbit/s

95th percentile per-packet one-way delay: 2.650 ms

Loss rate: 0.01%

Run 3: Report of Verus — Data Link

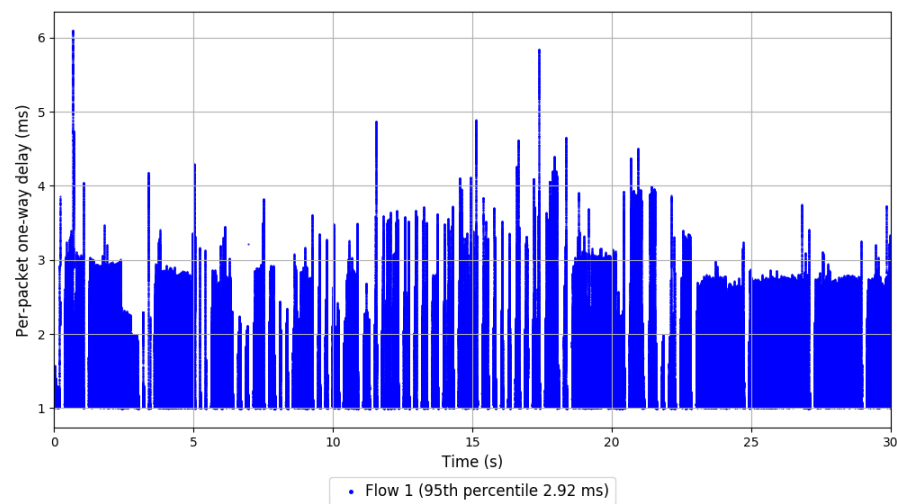
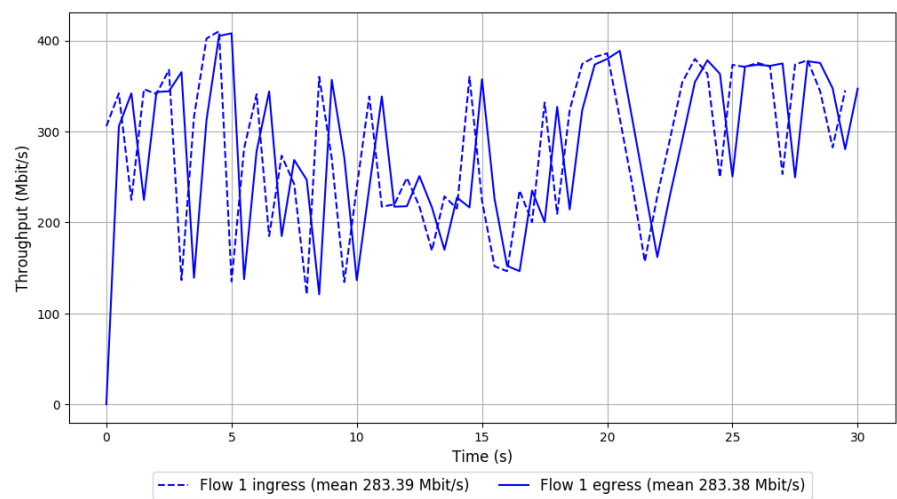


Run 4: Statistics of Verus

Start at: 2019-01-03 06:08:49
End at: 2019-01-03 06:09:19
Local clock offset: 0.372 ms
Remote clock offset: -0.029 ms

Below is generated by plot.py at 2019-01-03 08:01:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 283.38 Mbit/s
95th percentile per-packet one-way delay: 2.920 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 283.38 Mbit/s
95th percentile per-packet one-way delay: 2.920 ms
Loss rate: 0.00%

Run 4: Report of Verus — Data Link

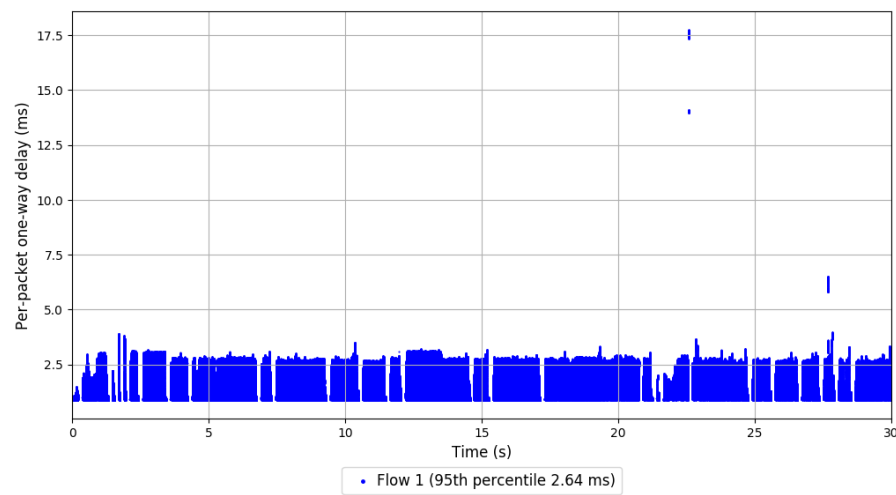
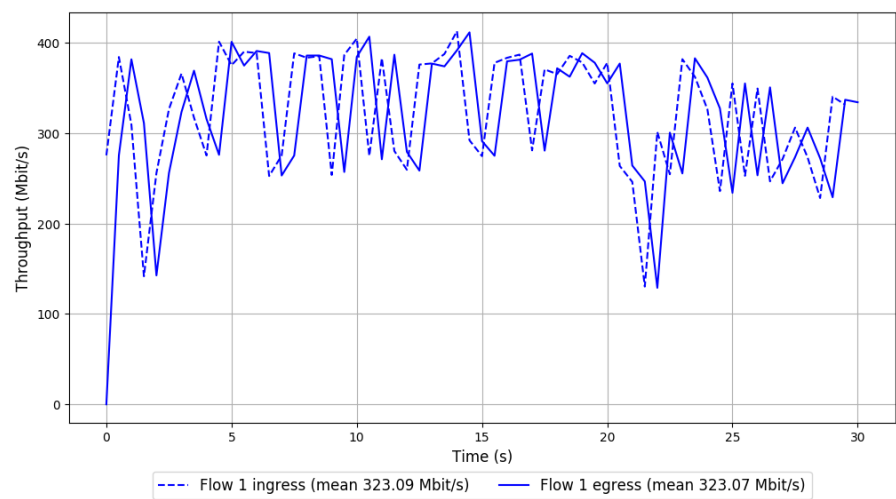


Run 5: Statistics of Verus

Start at: 2019-01-03 06:36:00
End at: 2019-01-03 06:36:30
Local clock offset: 0.302 ms
Remote clock offset: -0.247 ms

Below is generated by plot.py at 2019-01-03 08:01:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 323.07 Mbit/s
95th percentile per-packet one-way delay: 2.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 323.07 Mbit/s
95th percentile per-packet one-way delay: 2.636 ms
Loss rate: 0.00%

Run 5: Report of Verus — Data Link

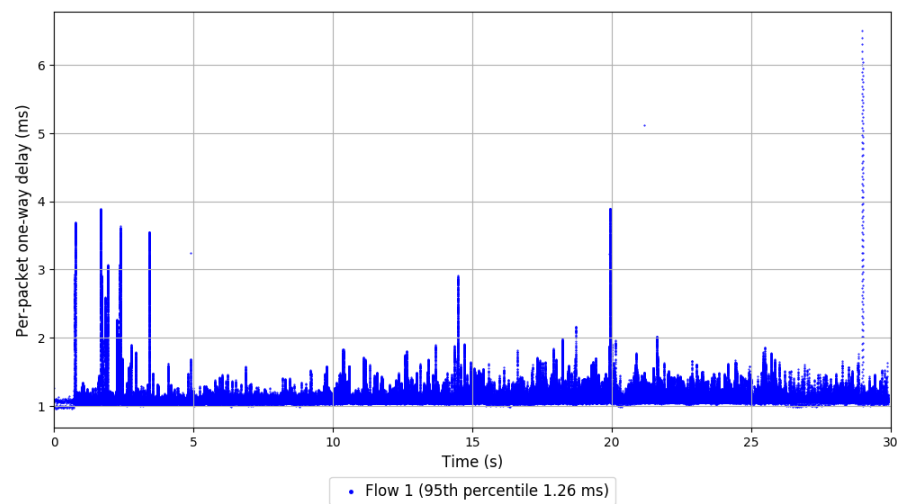
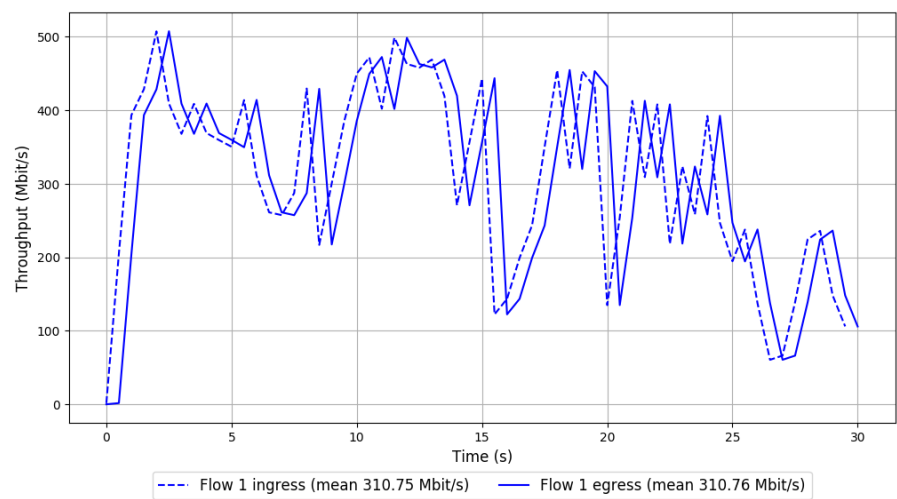


Run 1: Statistics of PCC-Vivace

Start at: 2019-01-03 04:52:31
End at: 2019-01-03 04:53:01
Local clock offset: -3.266 ms
Remote clock offset: -0.447 ms

Below is generated by plot.py at 2019-01-03 08:02:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 310.76 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 310.76 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2019-01-03 05:19:28

End at: 2019-01-03 05:19:58

Local clock offset: 0.567 ms

Remote clock offset: 0.043 ms

Below is generated by plot.py at 2019-01-03 08:02:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 318.64 Mbit/s

95th percentile per-packet one-way delay: 1.058 ms

Loss rate: 0.01%

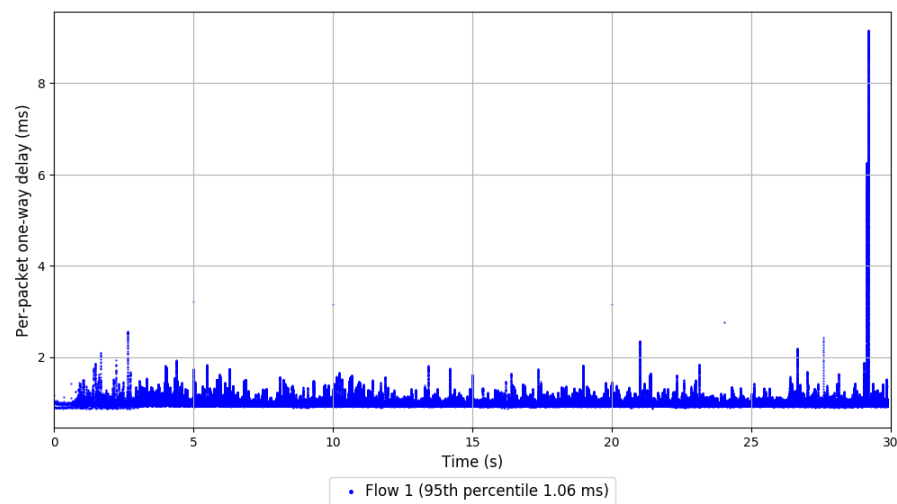
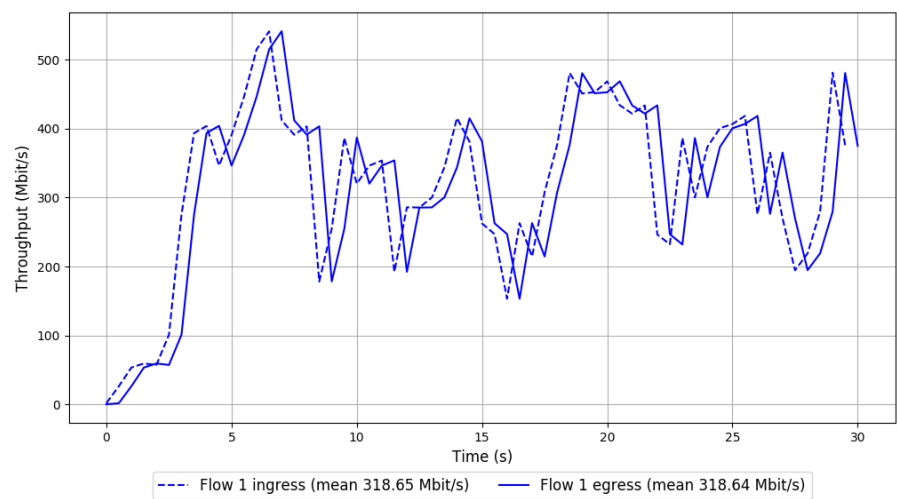
-- Flow 1:

Average throughput: 318.64 Mbit/s

95th percentile per-packet one-way delay: 1.058 ms

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-01-03 05:46:33

End at: 2019-01-03 05:47:03

Local clock offset: 0.566 ms

Remote clock offset: 0.381 ms

Below is generated by plot.py at 2019-01-03 08:02:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 295.58 Mbit/s

95th percentile per-packet one-way delay: 1.065 ms

Loss rate: 0.01%

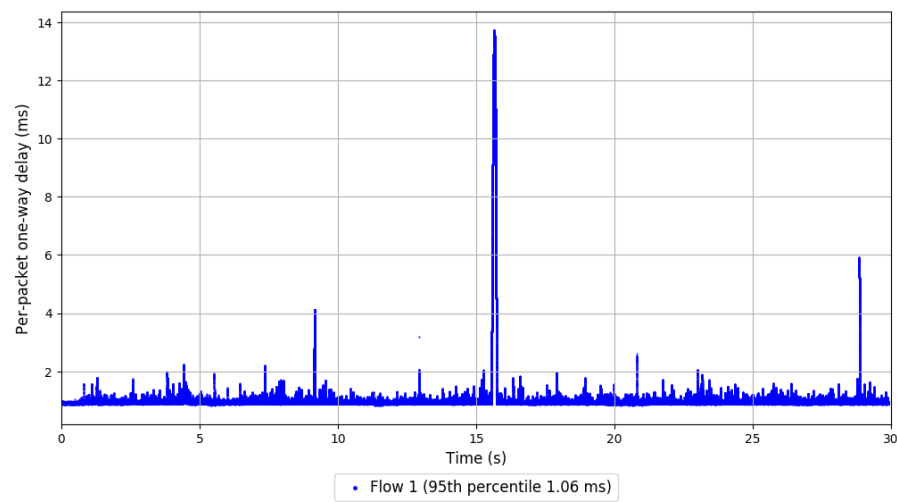
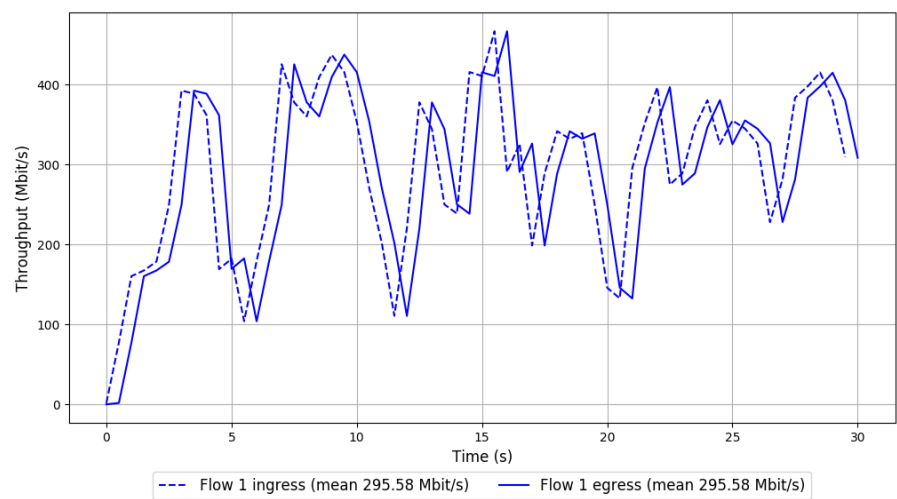
-- Flow 1:

Average throughput: 295.58 Mbit/s

95th percentile per-packet one-way delay: 1.065 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-01-03 06:13:29

End at: 2019-01-03 06:13:59

Local clock offset: 0.358 ms

Remote clock offset: 0.055 ms

Below is generated by plot.py at 2019-01-03 08:02:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 298.46 Mbit/s

95th percentile per-packet one-way delay: 1.020 ms

Loss rate: 0.01%

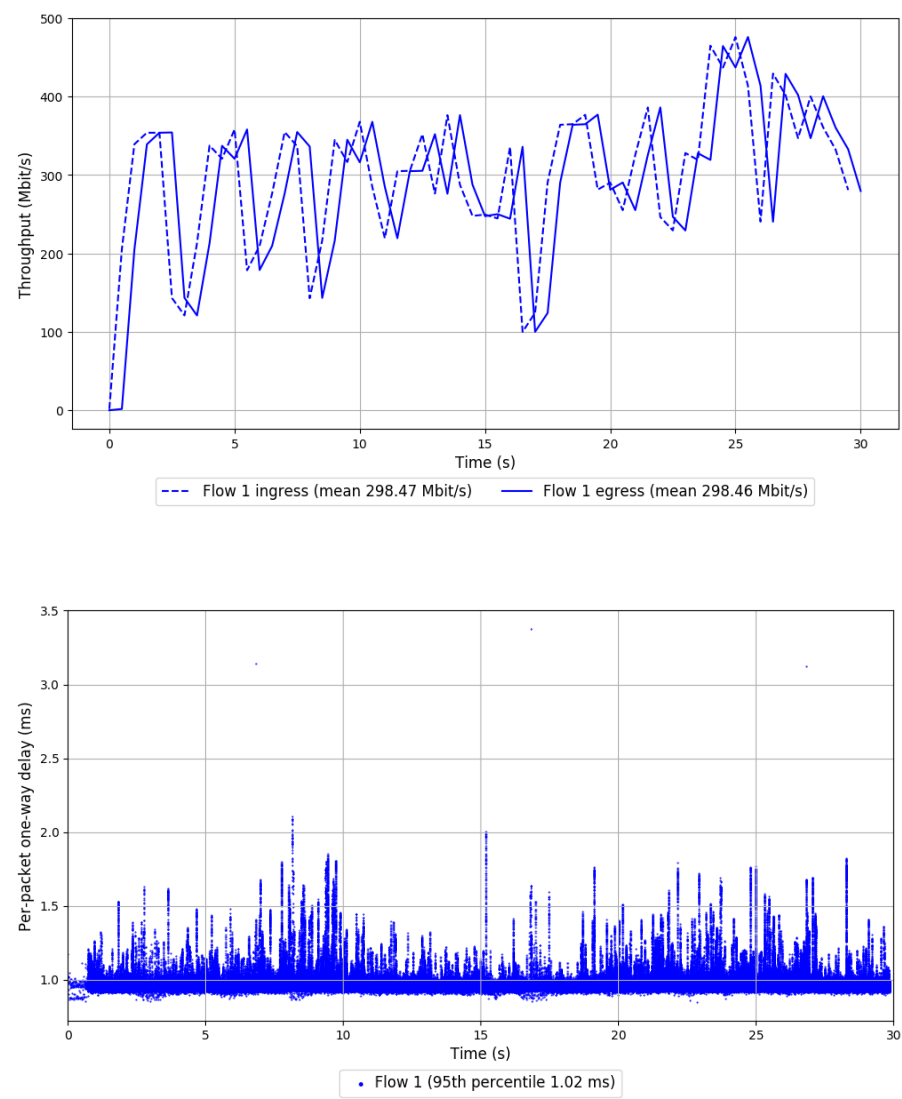
-- Flow 1:

Average throughput: 298.46 Mbit/s

95th percentile per-packet one-way delay: 1.020 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-01-03 06:40:43

End at: 2019-01-03 06:41:13

Local clock offset: 0.317 ms

Remote clock offset: -0.407 ms

Below is generated by plot.py at 2019-01-03 08:02:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 373.10 Mbit/s

95th percentile per-packet one-way delay: 1.091 ms

Loss rate: 0.01%

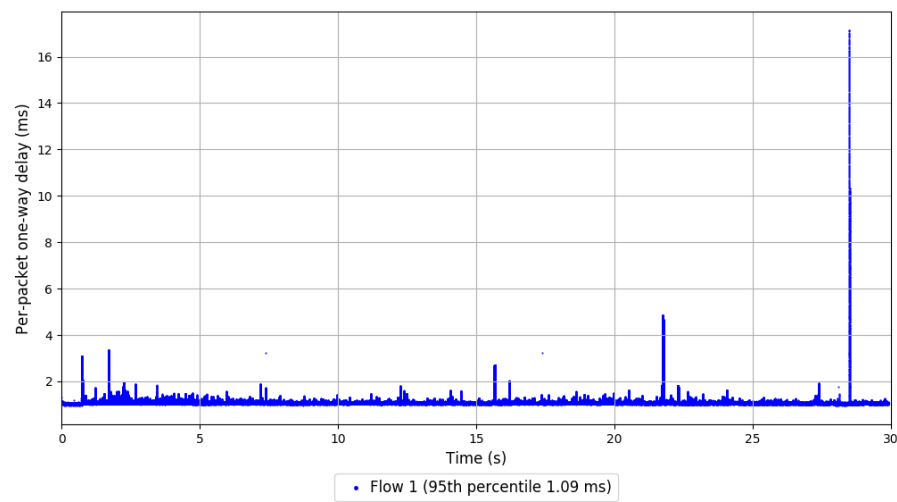
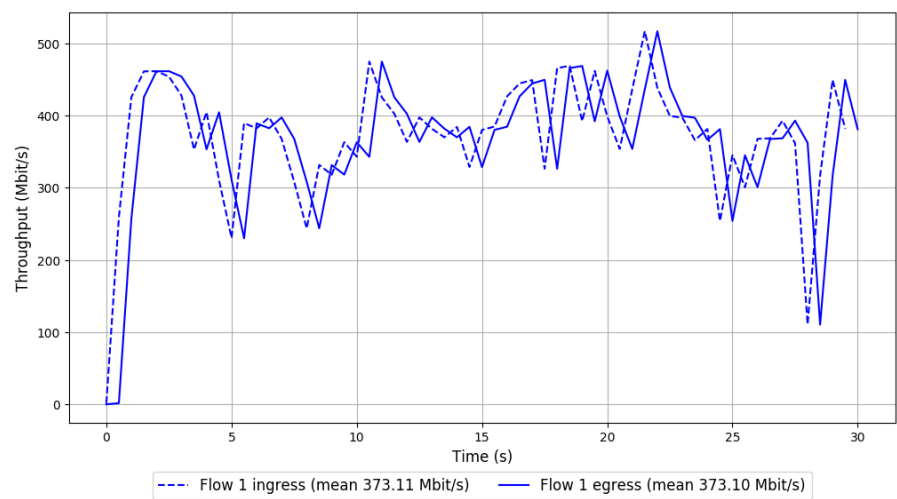
-- Flow 1:

Average throughput: 373.10 Mbit/s

95th percentile per-packet one-way delay: 1.091 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

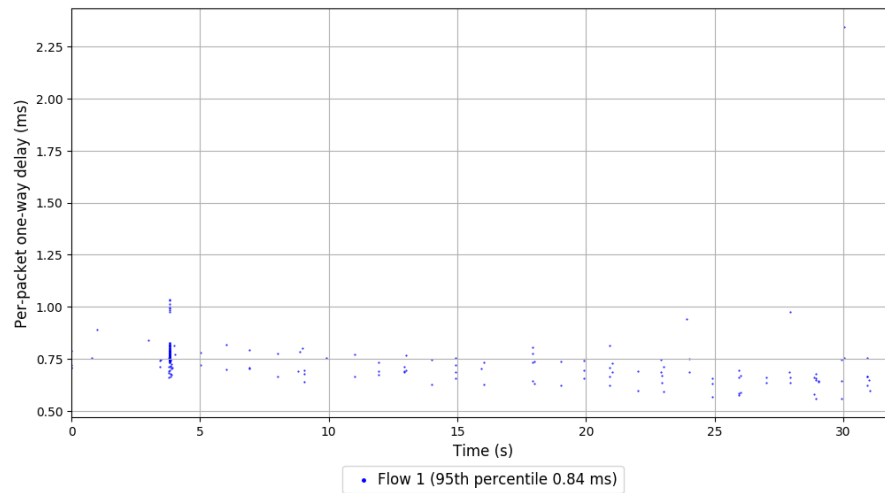
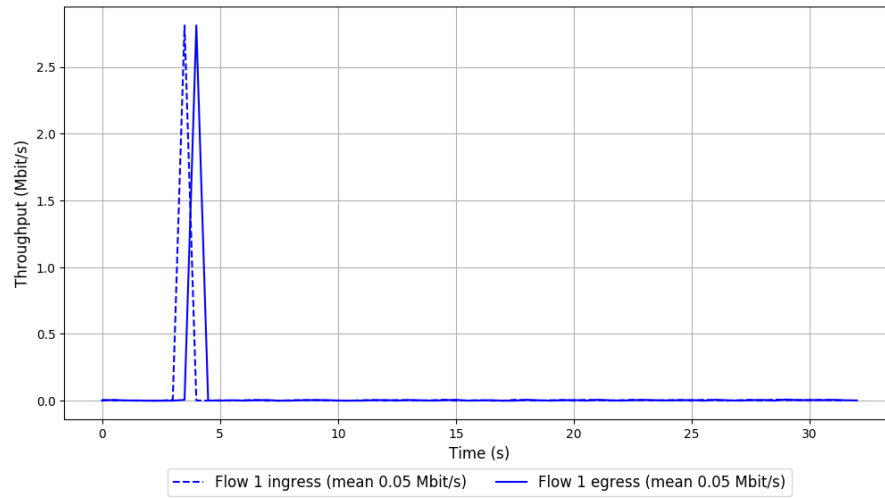


Run 1: Statistics of WebRTC media

Start at: 2019-01-03 04:56:53
End at: 2019-01-03 04:57:23
Local clock offset: -2.436 ms
Remote clock offset: -0.242 ms

Below is generated by plot.py at 2019-01-03 08:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 0.841 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 0.841 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-01-03 05:23:53

End at: 2019-01-03 05:24:23

Local clock offset: 0.727 ms

Remote clock offset: 0.128 ms

Below is generated by plot.py at 2019-01-03 08:02:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 1.044 ms

Loss rate: 0.00%

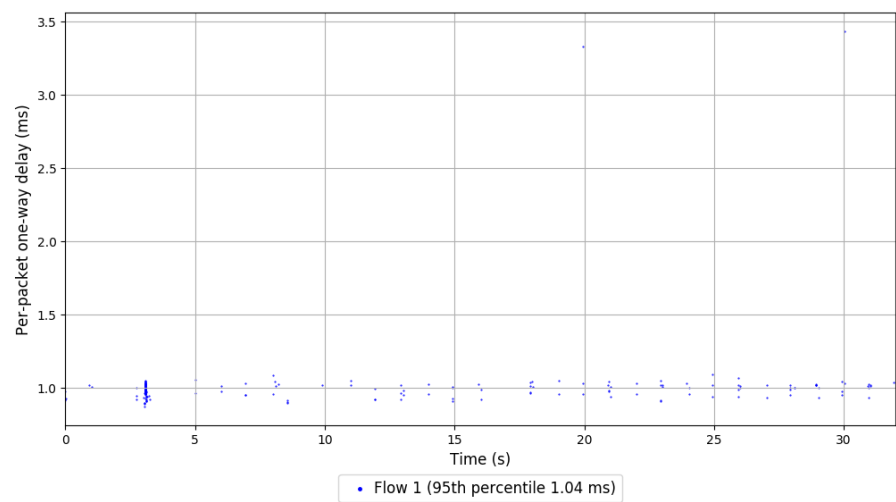
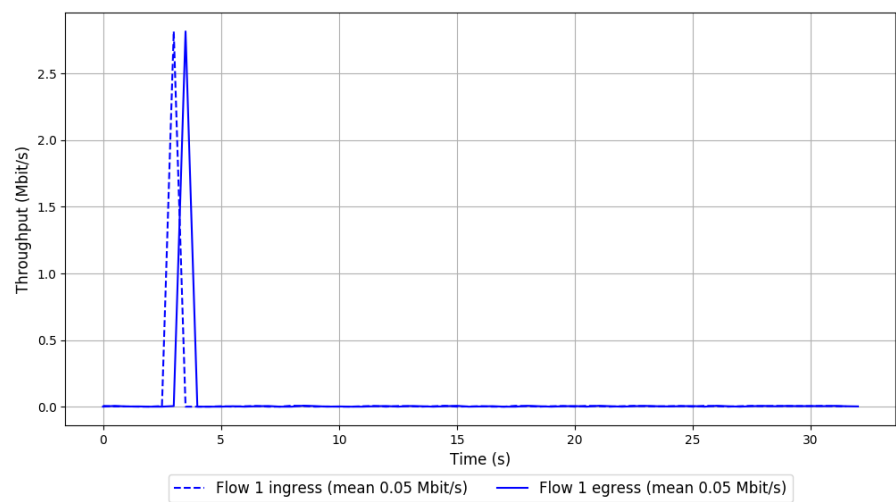
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 1.044 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-01-03 05:50:54

End at: 2019-01-03 05:51:24

Local clock offset: 0.626 ms

Remote clock offset: 0.204 ms

Below is generated by plot.py at 2019-01-03 08:02:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 1.115 ms

Loss rate: 0.00%

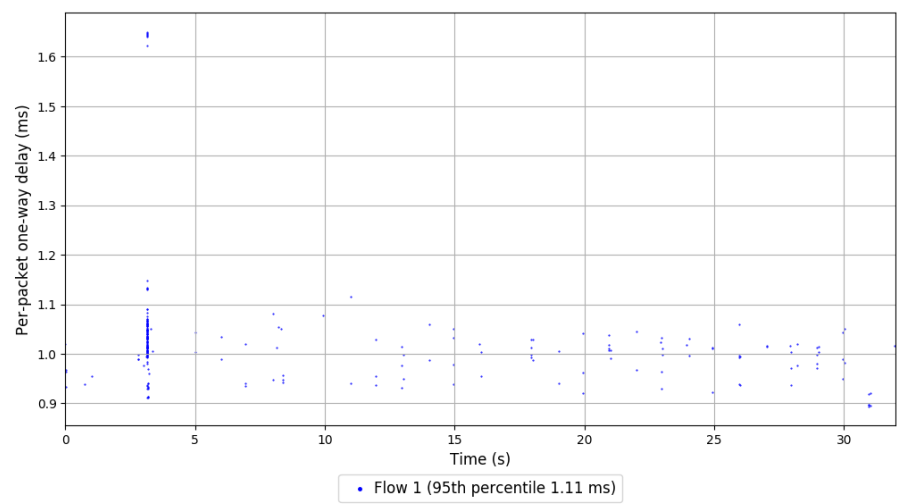
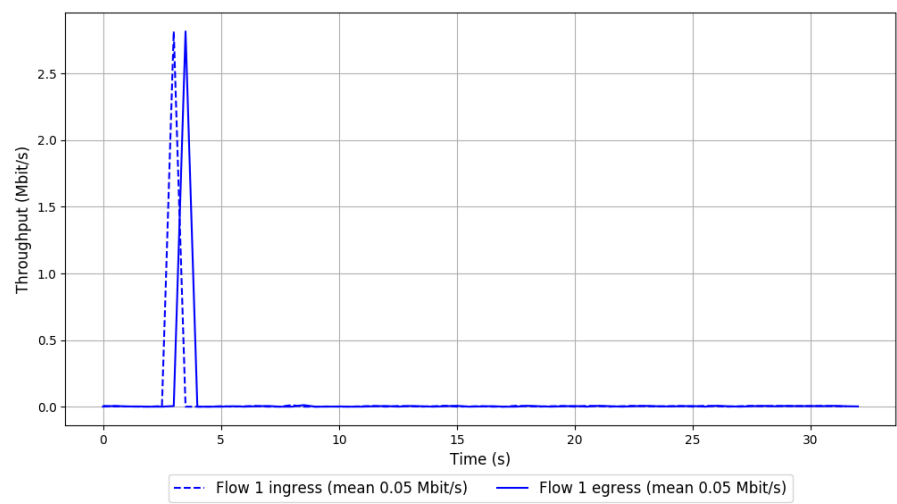
-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 1.115 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

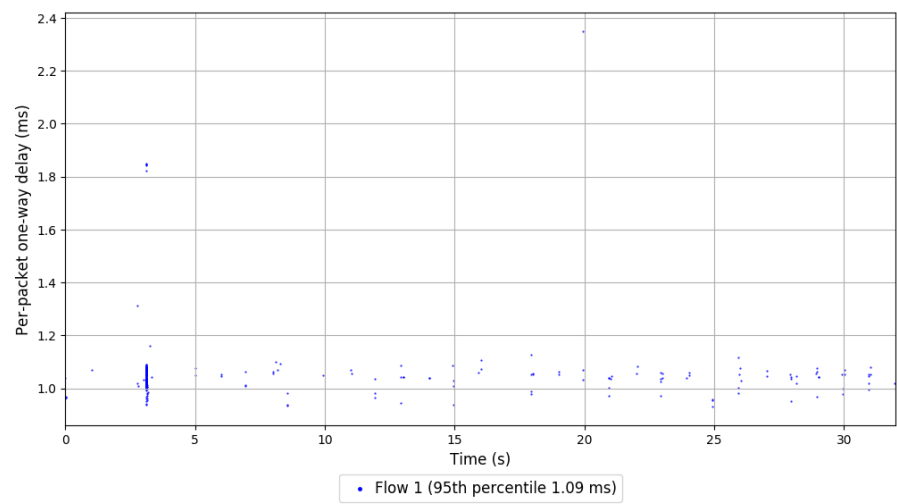
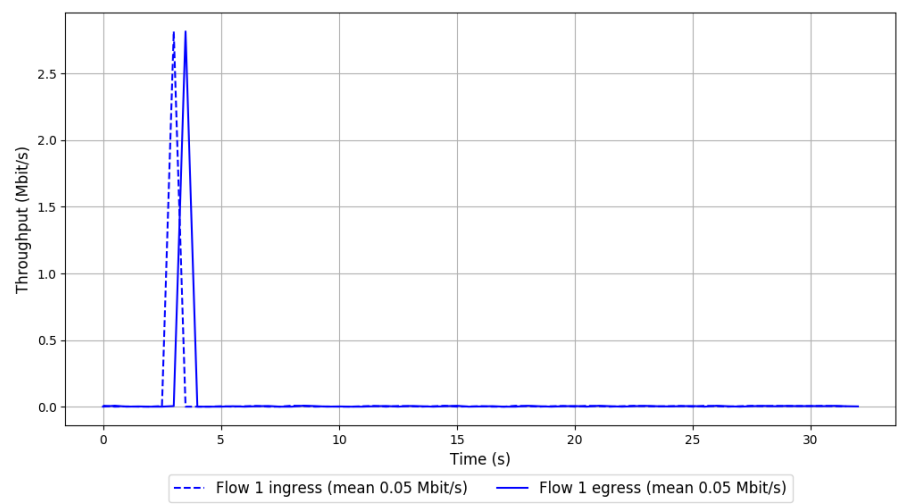


Run 4: Statistics of WebRTC media

Start at: 2019-01-03 06:18:00
End at: 2019-01-03 06:18:30
Local clock offset: 0.377 ms
Remote clock offset: -0.003 ms

Below is generated by plot.py at 2019-01-03 08:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-01-03 06:45:12
End at: 2019-01-03 06:45:42
Local clock offset: 0.356 ms
Remote clock offset: -0.414 ms

Below is generated by plot.py at 2019-01-03 08:02:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

