

Pantheon Report

Generated at 2018-09-11 01:17:03 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

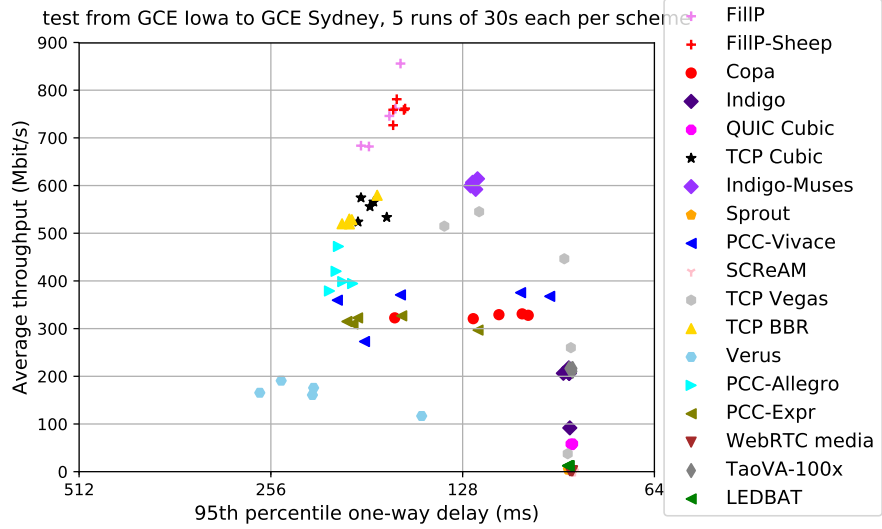
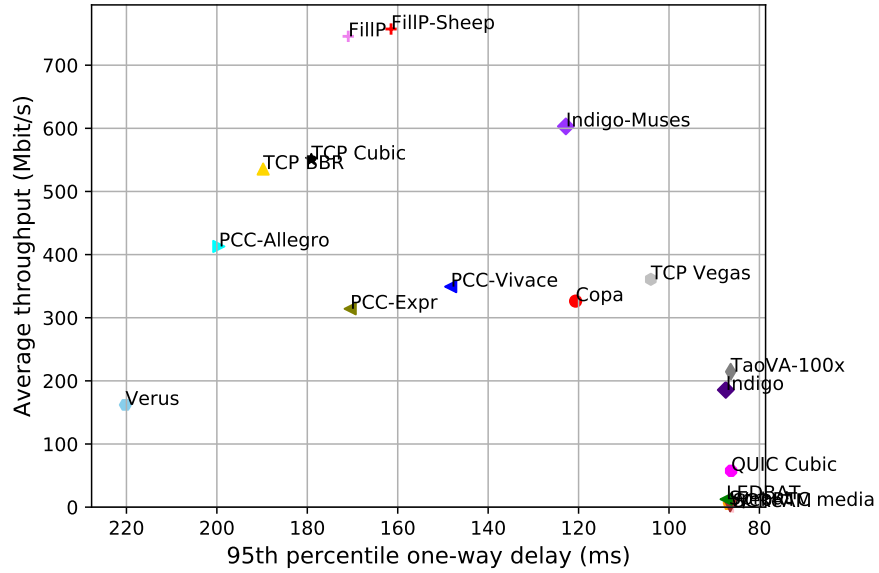
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from GCE Iowa to GCE Sydney, 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	535.50	189.76	2.68
Copa	5	326.31	120.66	0.59
TCP Cubic	5	550.67	179.11	0.75
FillP	5	745.68	170.94	7.53
FillP-Sheep	5	757.28	161.47	4.06
Indigo	5	185.64	87.45	0.63
LEDBAT	5	12.51	87.37	1.15
Indigo-Muses	4	603.05	122.82	0.85
PCC-Allegro	5	412.90	199.57	2.87
PCC-Expr	5	314.15	170.52	2.19
QUIC Cubic	4	57.55	86.27	0.96
SCReAM	5	0.22	85.92	0.59
Sprout	5	4.28	86.73	0.71
TaoVA-100x	5	214.50	86.36	0.63
TCP Vegas	5	360.84	104.02	0.55
Verus	5	161.94	220.23	10.46
PCC-Vivace	5	349.24	148.28	0.91
WebRTC media	4	1.97	86.46	0.61

Run 1: Statistics of TCP BBR

Start at: 2018-09-10 21:44:52

End at: 2018-09-10 21:45:22

Local clock offset: 16.844 ms

Remote clock offset: 17.308 ms

Below is generated by plot.py at 2018-09-10 23:59:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 528.50 Mbit/s

95th percentile per-packet one-way delay: 191.039 ms

Loss rate: 2.20%

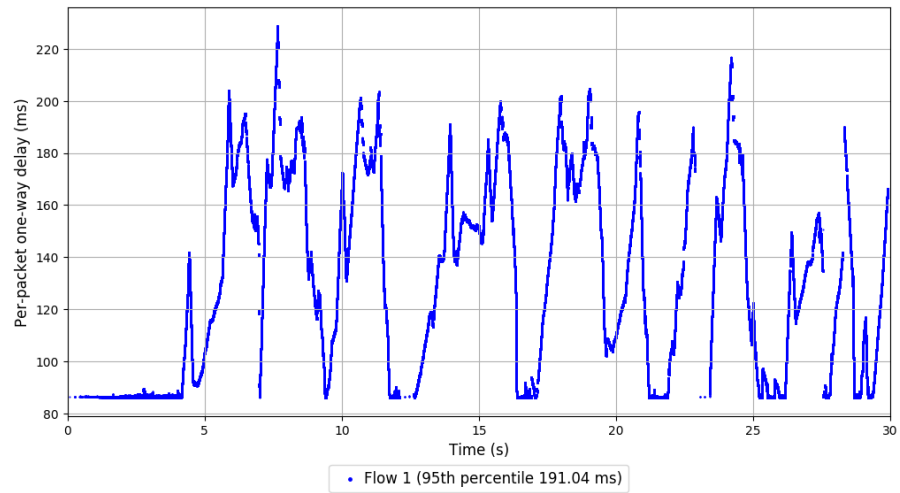
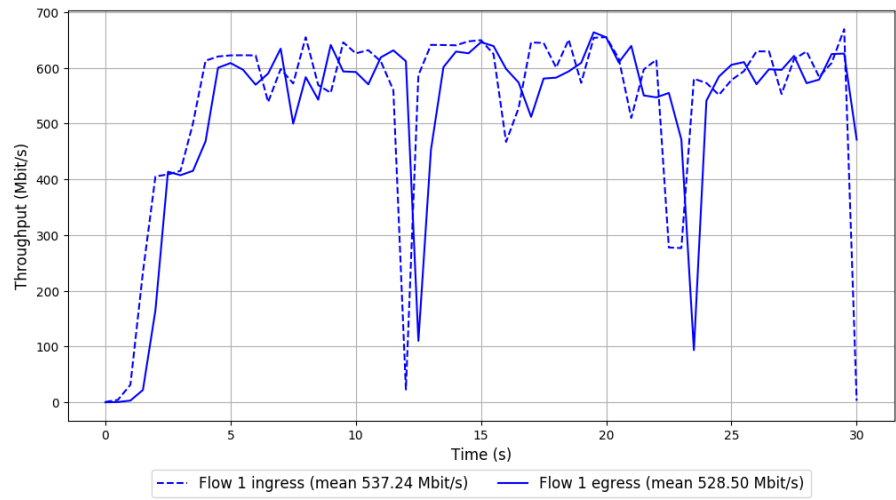
-- Flow 1:

Average throughput: 528.50 Mbit/s

95th percentile per-packet one-way delay: 191.039 ms

Loss rate: 2.20%

Run 1: Report of TCP BBR — Data Link

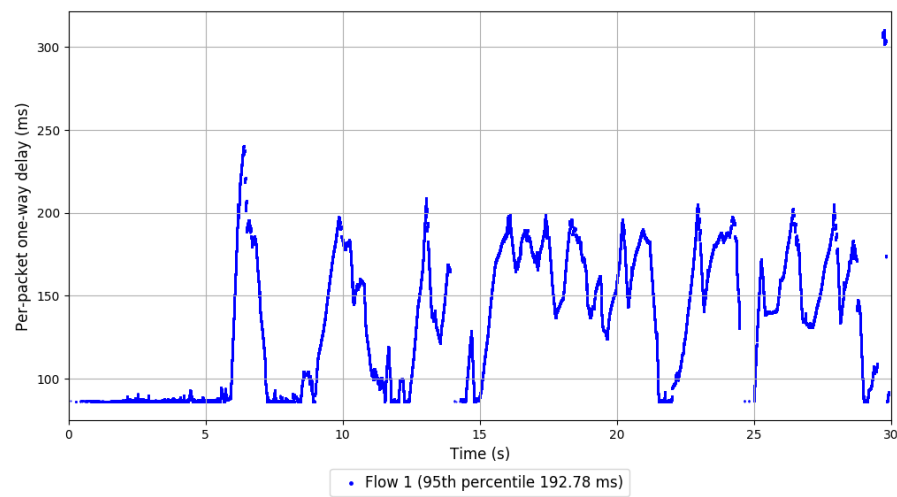
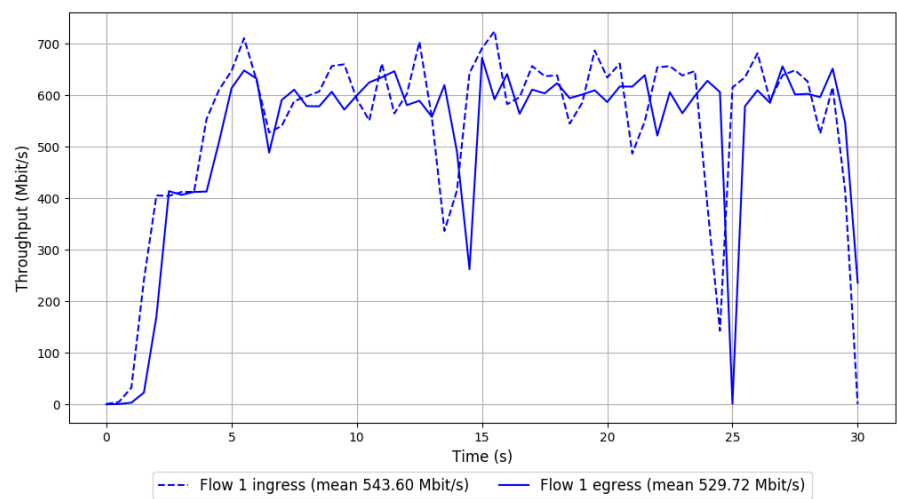


Run 2: Statistics of TCP BBR

Start at: 2018-09-10 22:10:58
End at: 2018-09-10 22:11:28
Local clock offset: 19.157 ms
Remote clock offset: 19.192 ms

Below is generated by plot.py at 2018-09-11 00:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 529.72 Mbit/s
95th percentile per-packet one-way delay: 192.777 ms
Loss rate: 3.11%
-- Flow 1:
Average throughput: 529.72 Mbit/s
95th percentile per-packet one-way delay: 192.777 ms
Loss rate: 3.11%

Run 2: Report of TCP BBR — Data Link

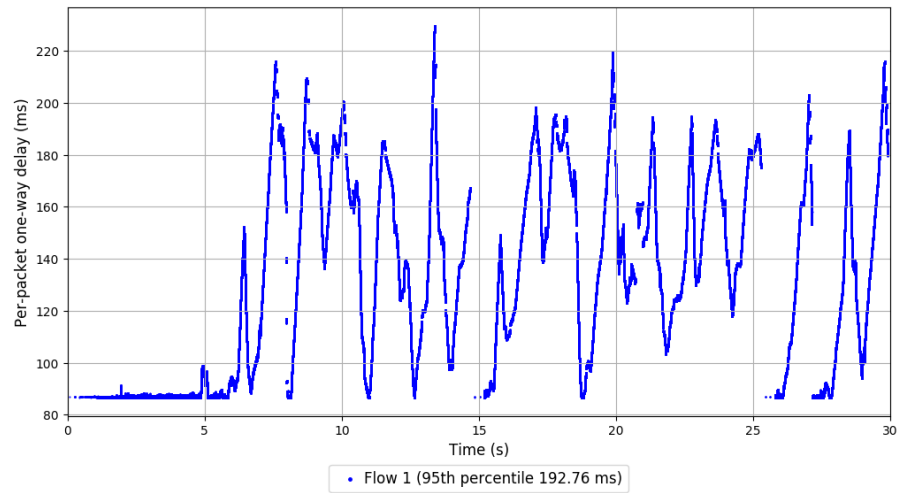
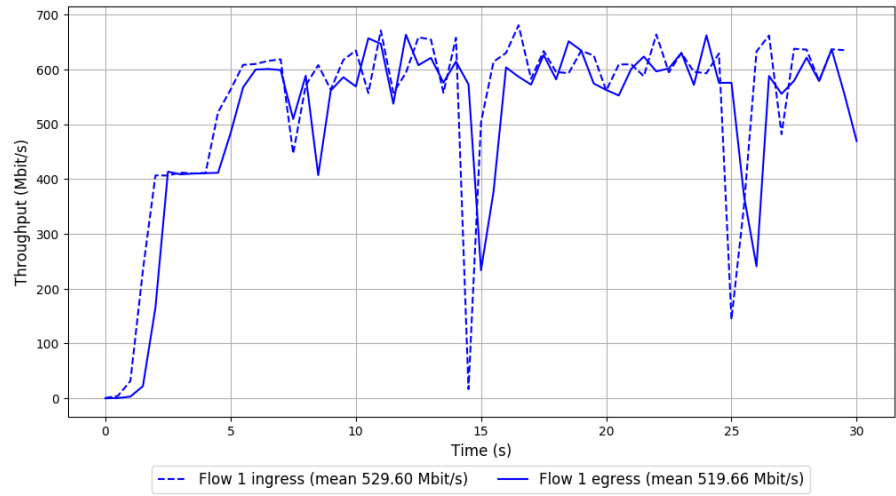


Run 3: Statistics of TCP BBR

Start at: 2018-09-10 22:37:36
End at: 2018-09-10 22:38:07
Local clock offset: 33.506 ms
Remote clock offset: 33.487 ms

Below is generated by plot.py at 2018-09-11 00:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 519.66 Mbit/s
95th percentile per-packet one-way delay: 192.762 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 519.66 Mbit/s
95th percentile per-packet one-way delay: 192.762 ms
Loss rate: 2.44%

Run 3: Report of TCP BBR — Data Link

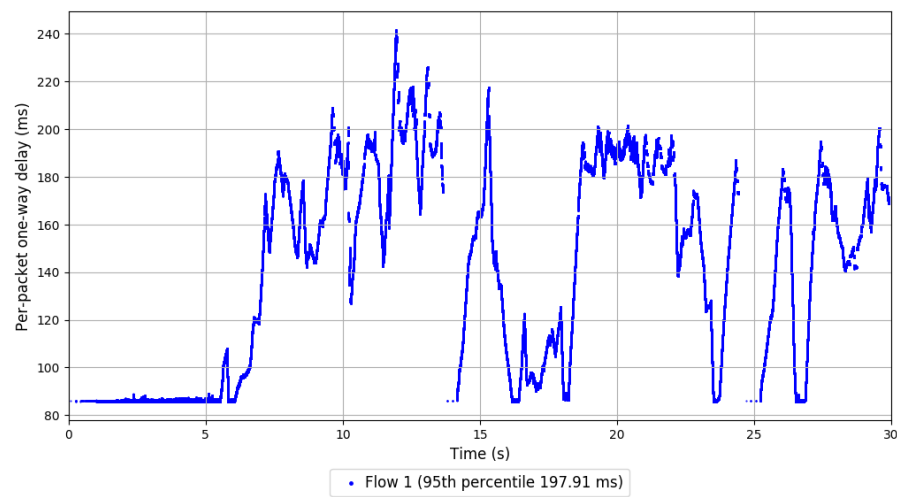
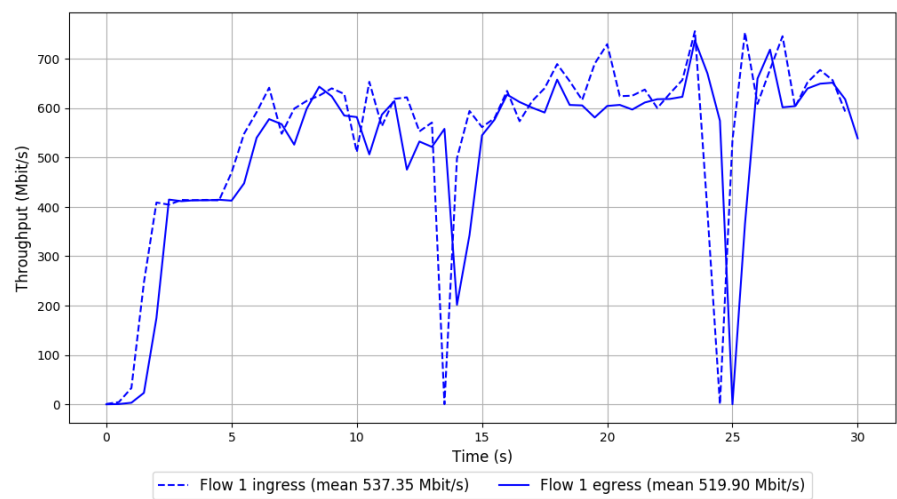


Run 4: Statistics of TCP BBR

Start at: 2018-09-10 23:03:57
End at: 2018-09-10 23:04:27
Local clock offset: 16.723 ms
Remote clock offset: 16.964 ms

Below is generated by plot.py at 2018-09-11 00:00:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 519.90 Mbit/s
95th percentile per-packet one-way delay: 197.910 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 519.90 Mbit/s
95th percentile per-packet one-way delay: 197.910 ms
Loss rate: 3.81%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-10 23:29:58

End at: 2018-09-10 23:30:28

Local clock offset: 7.06 ms

Remote clock offset: 7.162 ms

Below is generated by plot.py at 2018-09-11 00:00:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 579.71 Mbit/s

95th percentile per-packet one-way delay: 174.320 ms

Loss rate: 1.82%

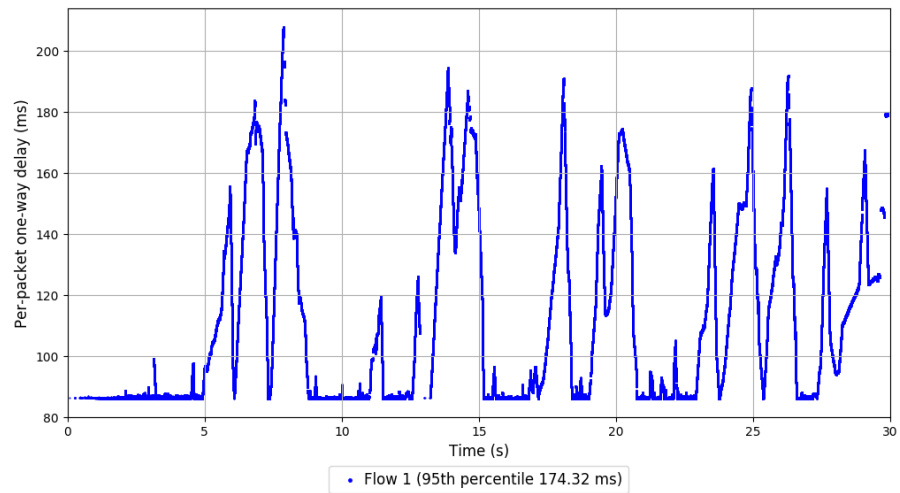
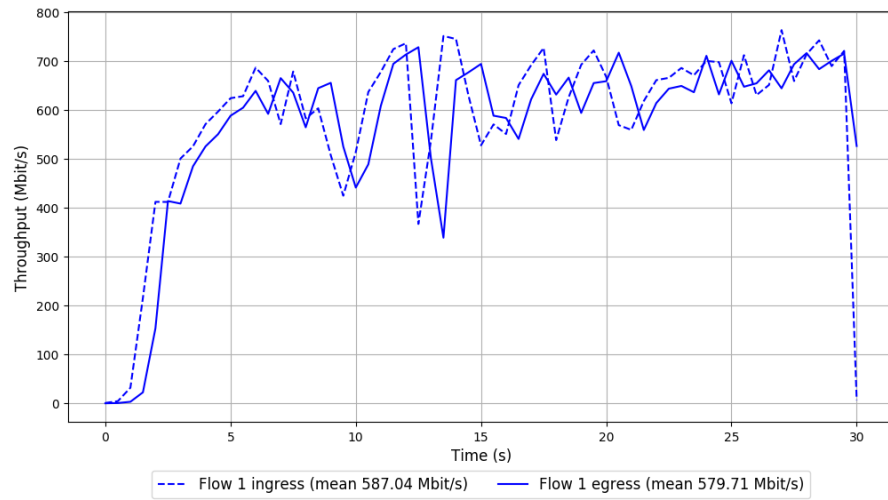
-- Flow 1:

Average throughput: 579.71 Mbit/s

95th percentile per-packet one-way delay: 174.320 ms

Loss rate: 1.82%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-10 21:39:15

End at: 2018-09-10 21:39:45

Local clock offset: 8.544 ms

Remote clock offset: 8.854 ms

Below is generated by plot.py at 2018-09-11 00:01:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 330.94 Mbit/s

95th percentile per-packet one-way delay: 103.223 ms

Loss rate: 0.53%

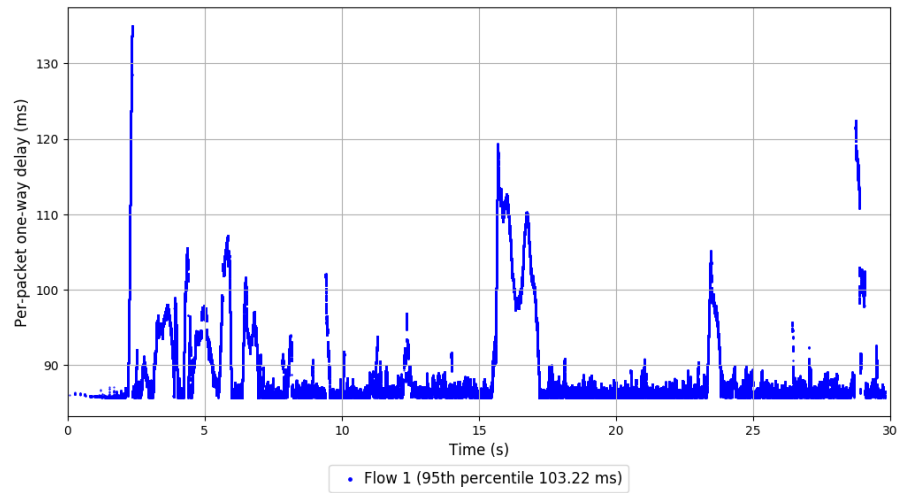
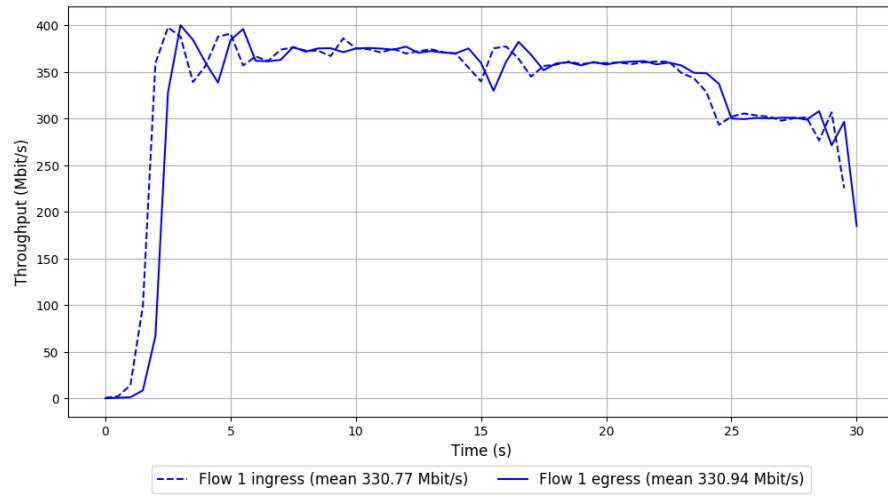
-- Flow 1:

Average throughput: 330.94 Mbit/s

95th percentile per-packet one-way delay: 103.223 ms

Loss rate: 0.53%

Run 1: Report of Copa — Data Link

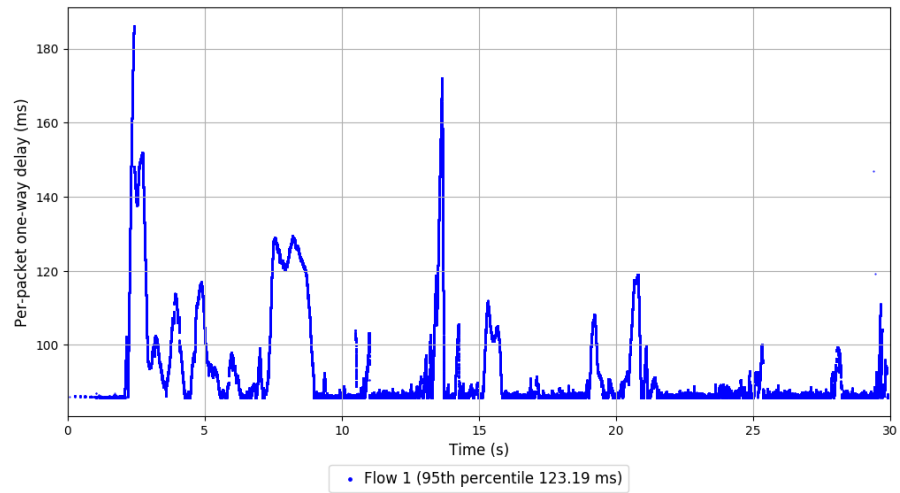
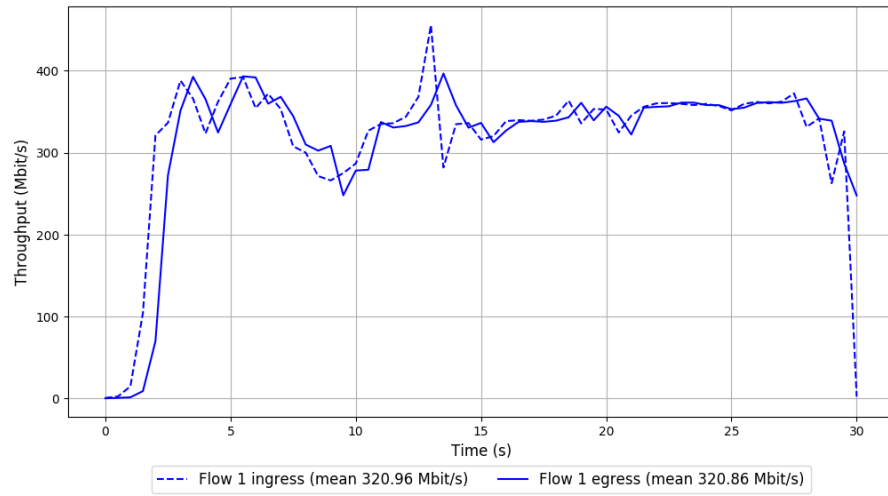


Run 2: Statistics of Copa

Start at: 2018-09-10 22:05:20
End at: 2018-09-10 22:05:50
Local clock offset: 21.092 ms
Remote clock offset: 21.239 ms

Below is generated by plot.py at 2018-09-11 00:01:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 320.86 Mbit/s
95th percentile per-packet one-way delay: 123.190 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 320.86 Mbit/s
95th percentile per-packet one-way delay: 123.190 ms
Loss rate: 0.61%

Run 2: Report of Copa — Data Link

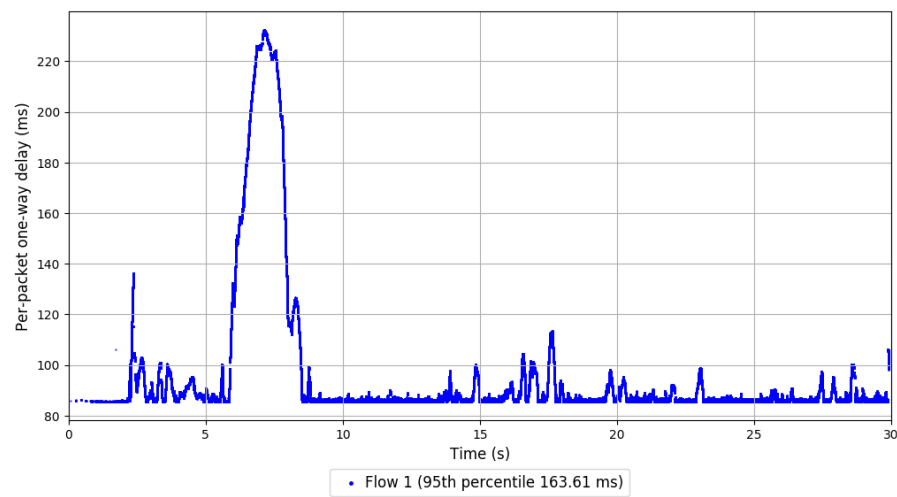
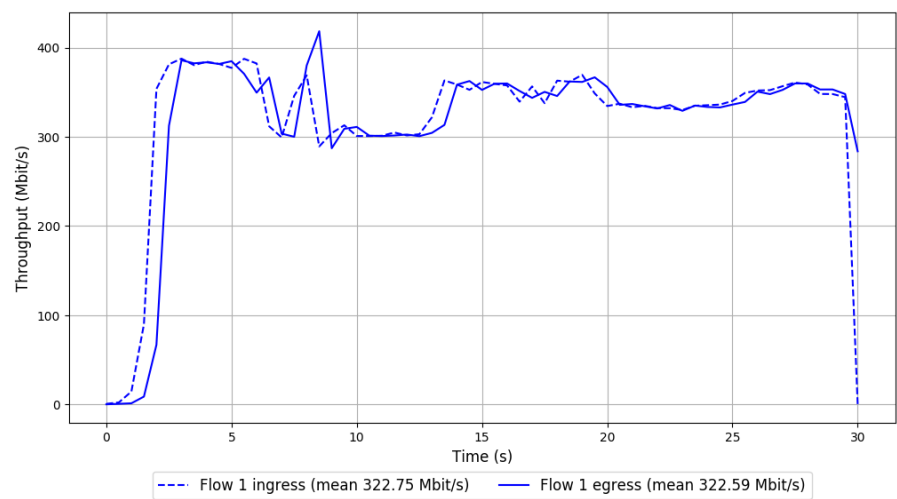


Run 3: Statistics of Copa

Start at: 2018-09-10 22:31:50
End at: 2018-09-10 22:32:20
Local clock offset: 33.844 ms
Remote clock offset: 34.446 ms

Below is generated by plot.py at 2018-09-11 00:01:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 322.59 Mbit/s
95th percentile per-packet one-way delay: 163.607 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 322.59 Mbit/s
95th percentile per-packet one-way delay: 163.607 ms
Loss rate: 0.63%

Run 3: Report of Copa — Data Link

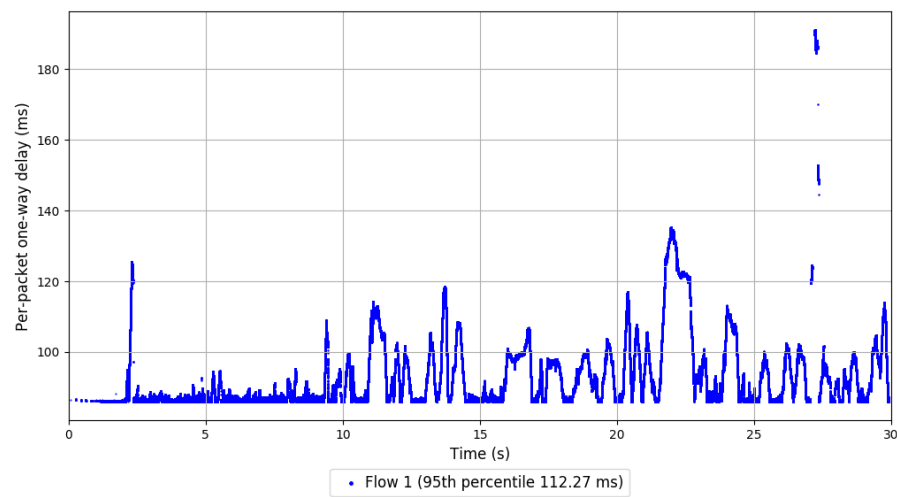
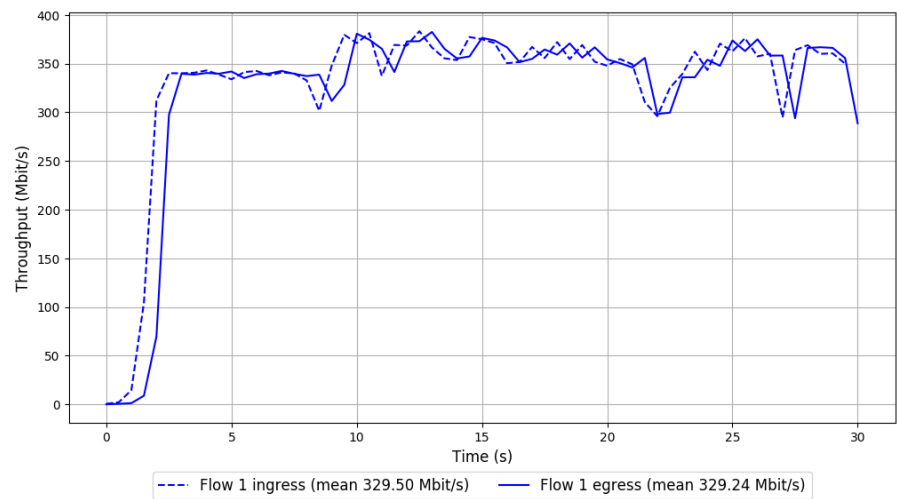


Run 4: Statistics of Copa

Start at: 2018-09-10 22:58:19
End at: 2018-09-10 22:58:49
Local clock offset: 15.017 ms
Remote clock offset: 15.232 ms

Below is generated by plot.py at 2018-09-11 00:10:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 329.24 Mbit/s
95th percentile per-packet one-way delay: 112.270 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 329.24 Mbit/s
95th percentile per-packet one-way delay: 112.270 ms
Loss rate: 0.65%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-10 23:24:17

End at: 2018-09-10 23:24:47

Local clock offset: 7.268 ms

Remote clock offset: 7.506 ms

Below is generated by plot.py at 2018-09-11 00:10:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 327.92 Mbit/s

95th percentile per-packet one-way delay: 100.993 ms

Loss rate: 0.53%

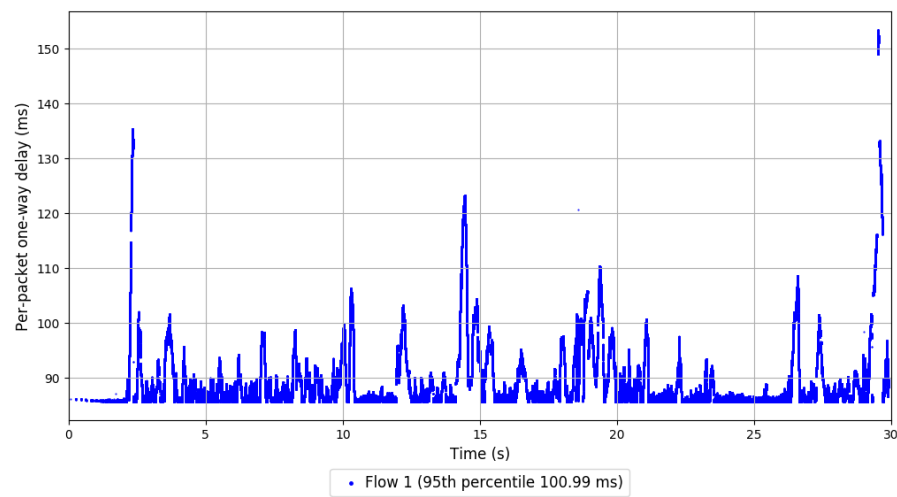
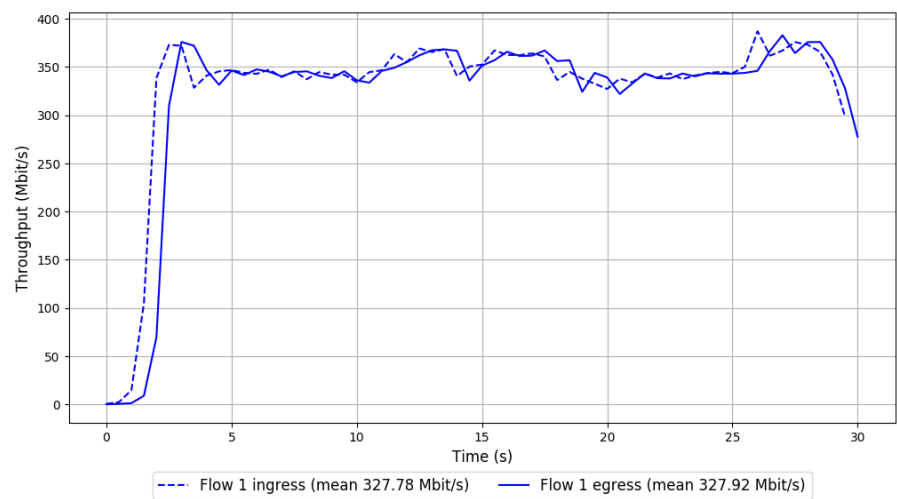
-- Flow 1:

Average throughput: 327.92 Mbit/s

95th percentile per-packet one-way delay: 100.993 ms

Loss rate: 0.53%

Run 5: Report of Copa — Data Link

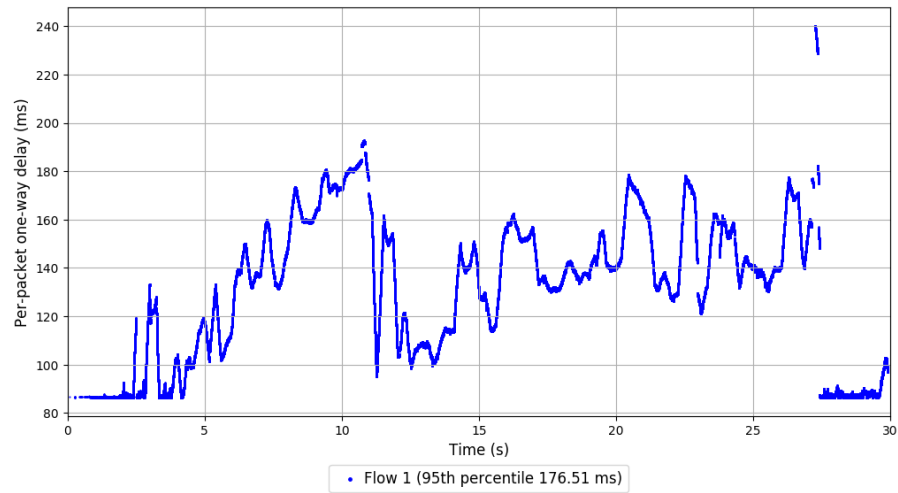
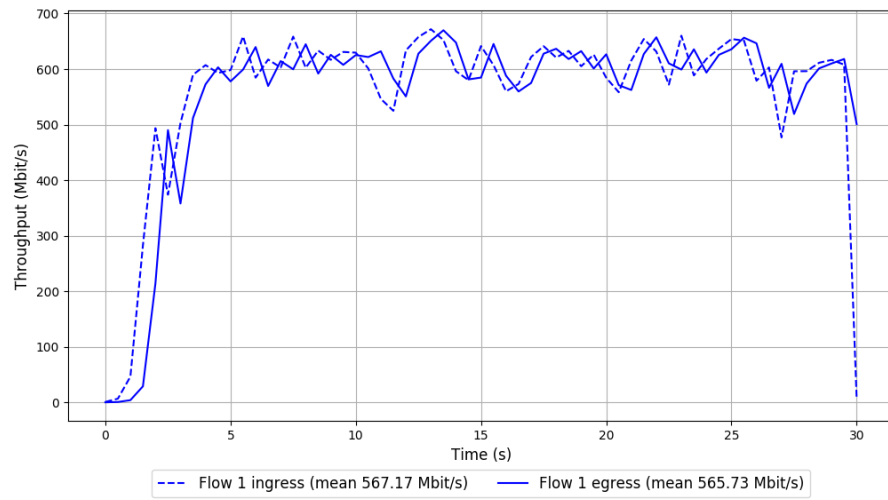


Run 1: Statistics of TCP Cubic

Start at: 2018-09-10 21:36:27
End at: 2018-09-10 21:36:57
Local clock offset: 11.381 ms
Remote clock offset: 11.384 ms

Below is generated by plot.py at 2018-09-11 00:10:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 565.73 Mbit/s
95th percentile per-packet one-way delay: 176.510 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 565.73 Mbit/s
95th percentile per-packet one-way delay: 176.510 ms
Loss rate: 0.83%

Run 1: Report of TCP Cubic — Data Link

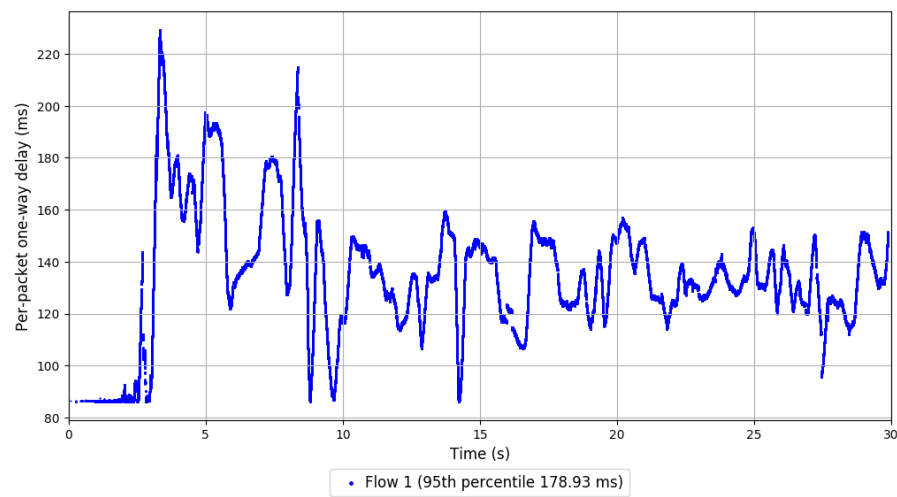
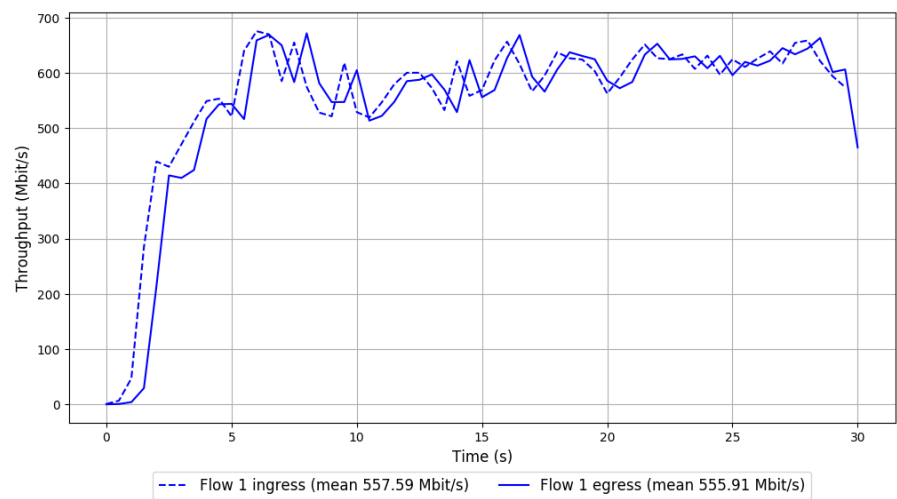


Run 2: Statistics of TCP Cubic

Start at: 2018-09-10 22:02:33
End at: 2018-09-10 22:03:03
Local clock offset: 25.09 ms
Remote clock offset: 25.005 ms

Below is generated by plot.py at 2018-09-11 00:10:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 555.91 Mbit/s
95th percentile per-packet one-way delay: 178.928 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 555.91 Mbit/s
95th percentile per-packet one-way delay: 178.928 ms
Loss rate: 0.87%

Run 2: Report of TCP Cubic — Data Link

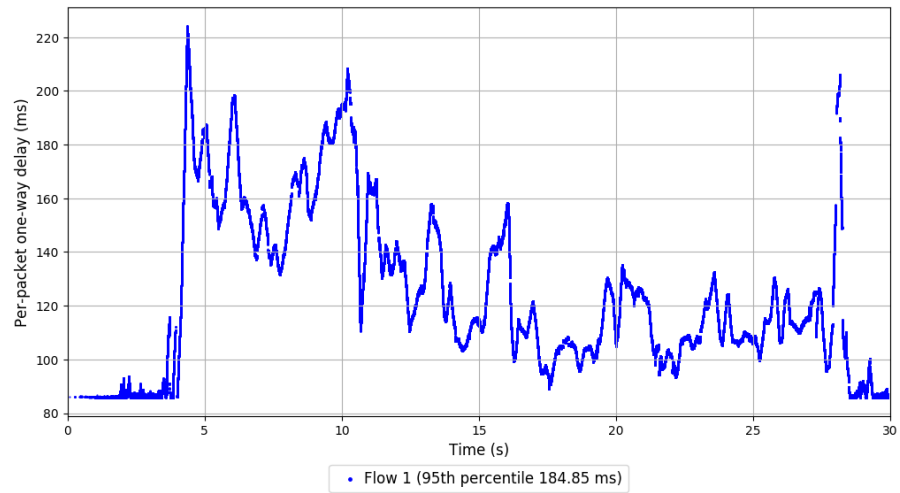
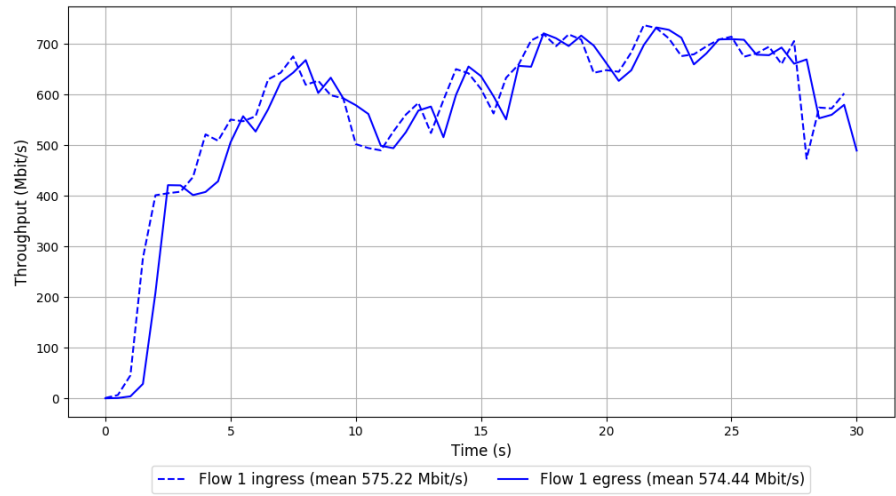


Run 3: Statistics of TCP Cubic

Start at: 2018-09-10 22:29:02
End at: 2018-09-10 22:29:32
Local clock offset: 30.989 ms
Remote clock offset: 31.722 ms

Below is generated by plot.py at 2018-09-11 00:11:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 574.44 Mbit/s
95th percentile per-packet one-way delay: 184.849 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 574.44 Mbit/s
95th percentile per-packet one-way delay: 184.849 ms
Loss rate: 0.71%

Run 3: Report of TCP Cubic — Data Link

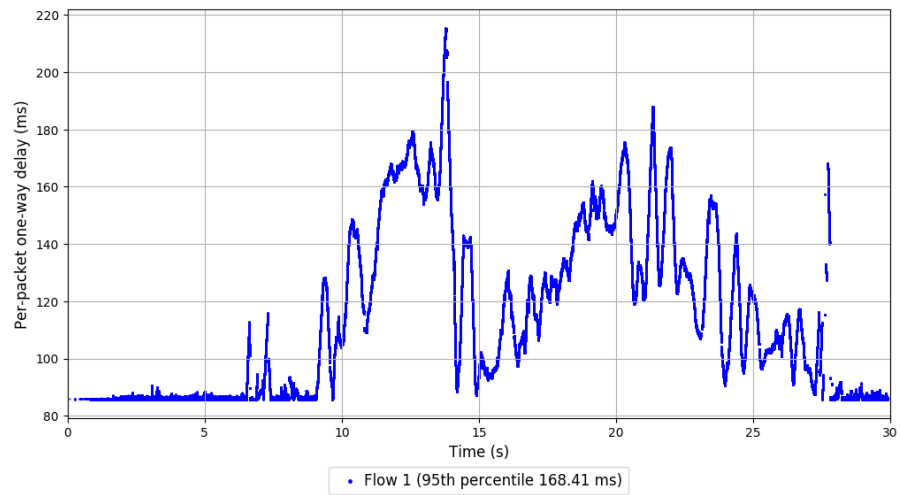
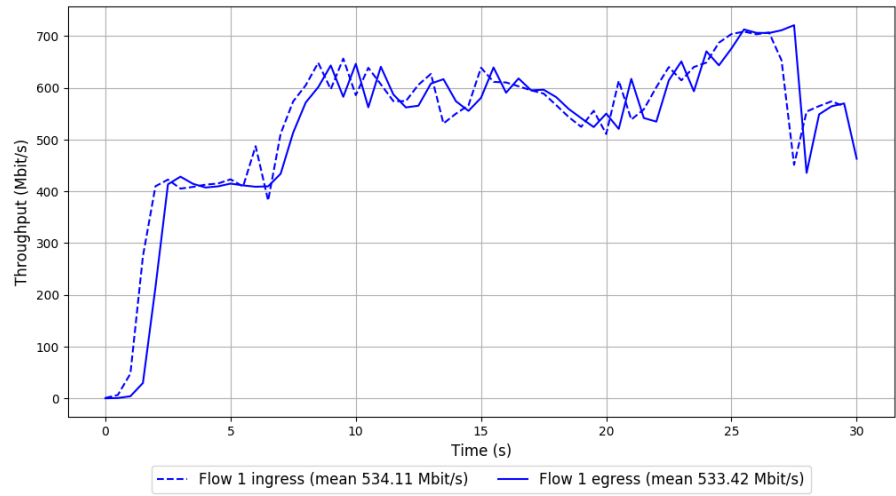


Run 4: Statistics of TCP Cubic

Start at: 2018-09-10 22:55:32
End at: 2018-09-10 22:56:02
Local clock offset: 14.4 ms
Remote clock offset: 14.821 ms

Below is generated by plot.py at 2018-09-11 00:11:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 533.42 Mbit/s
95th percentile per-packet one-way delay: 168.411 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 533.42 Mbit/s
95th percentile per-packet one-way delay: 168.411 ms
Loss rate: 0.70%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-10 23:21:32

End at: 2018-09-10 23:22:02

Local clock offset: 8.318 ms

Remote clock offset: 8.216 ms

Below is generated by plot.py at 2018-09-11 00:11:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 523.84 Mbit/s

95th percentile per-packet one-way delay: 186.850 ms

Loss rate: 0.62%

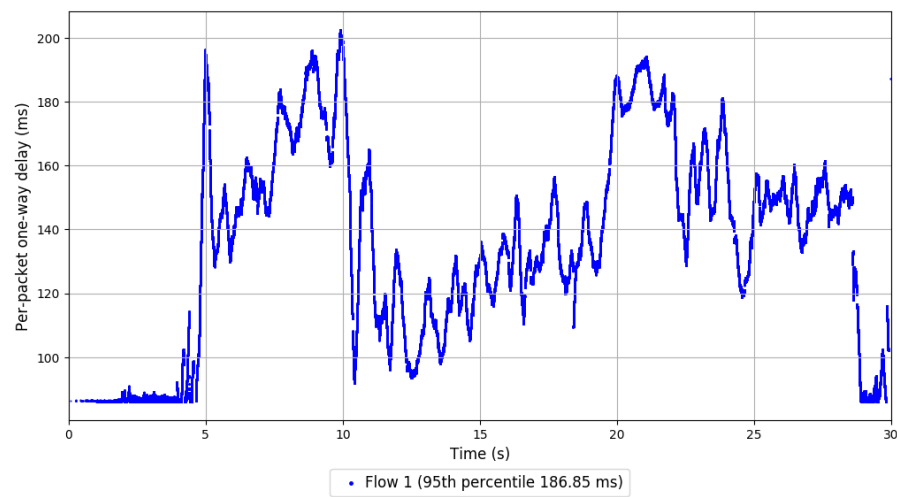
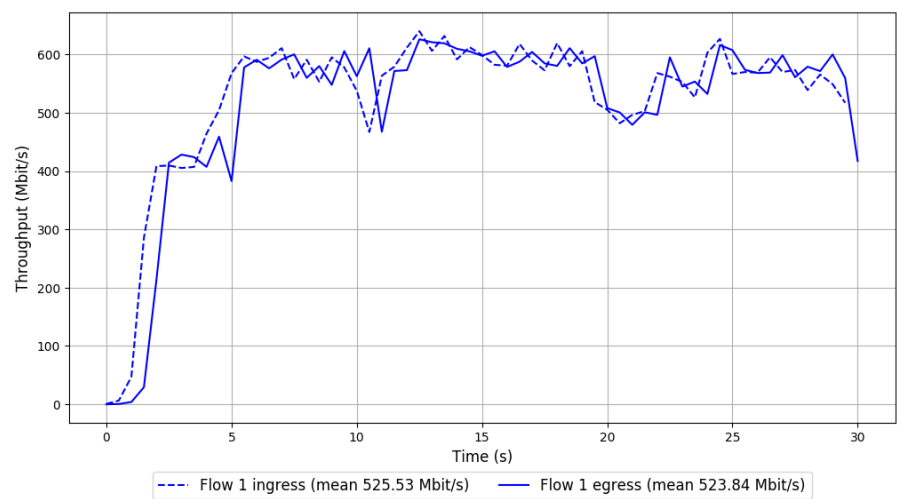
-- Flow 1:

Average throughput: 523.84 Mbit/s

95th percentile per-packet one-way delay: 186.850 ms

Loss rate: 0.62%

Run 5: Report of TCP Cubic — Data Link

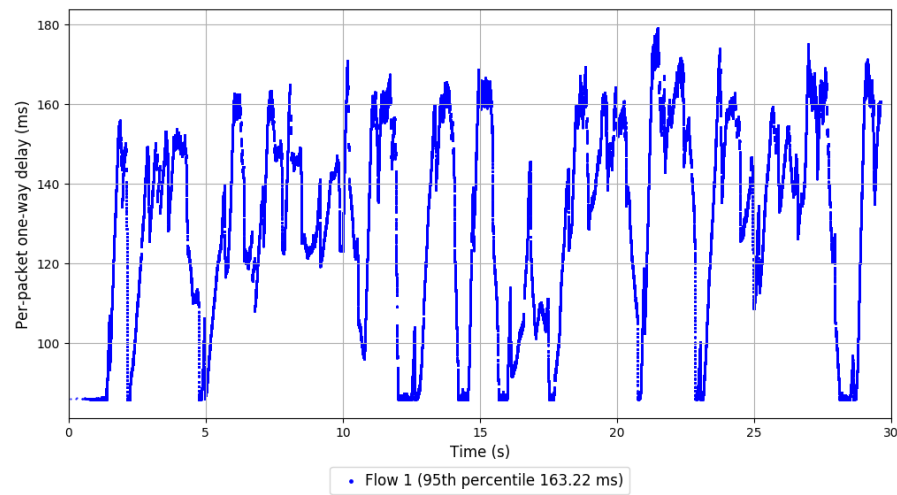
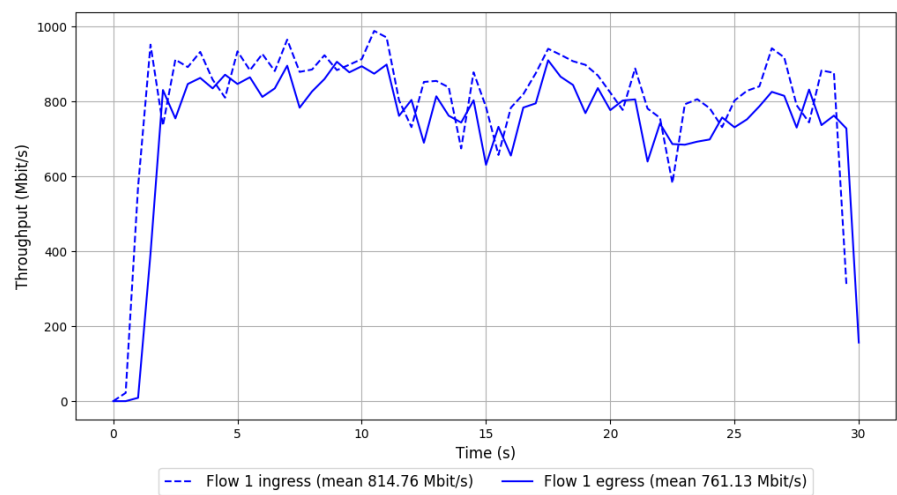


Run 1: Statistics of FillP

Start at: 2018-09-10 21:40:55
End at: 2018-09-10 21:41:25
Local clock offset: 10.129 ms
Remote clock offset: 10.604 ms

Below is generated by plot.py at 2018-09-11 00:17:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 761.13 Mbit/s
95th percentile per-packet one-way delay: 163.218 ms
Loss rate: 7.13%
-- Flow 1:
Average throughput: 761.13 Mbit/s
95th percentile per-packet one-way delay: 163.218 ms
Loss rate: 7.13%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-10 22:06:59

End at: 2018-09-10 22:07:29

Local clock offset: 20.196 ms

Remote clock offset: 20.03 ms

Below is generated by plot.py at 2018-09-11 00:26:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 683.63 Mbit/s

95th percentile per-packet one-way delay: 184.842 ms

Loss rate: 9.92%

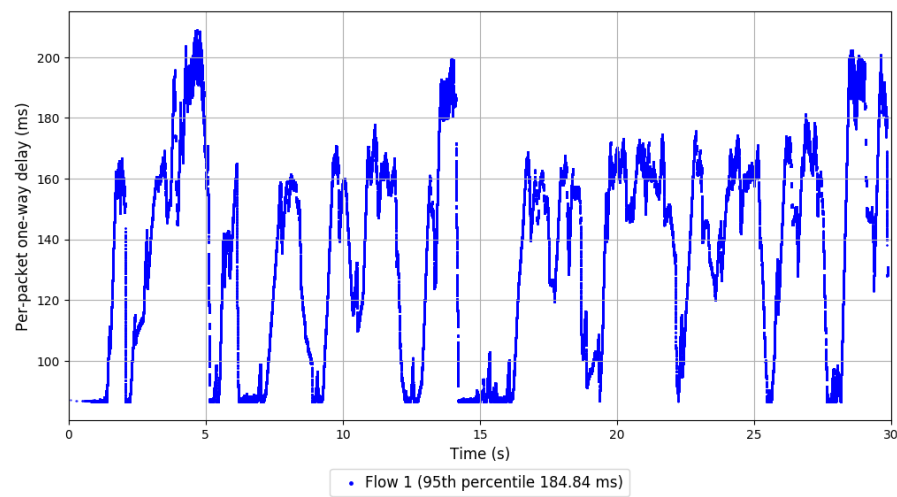
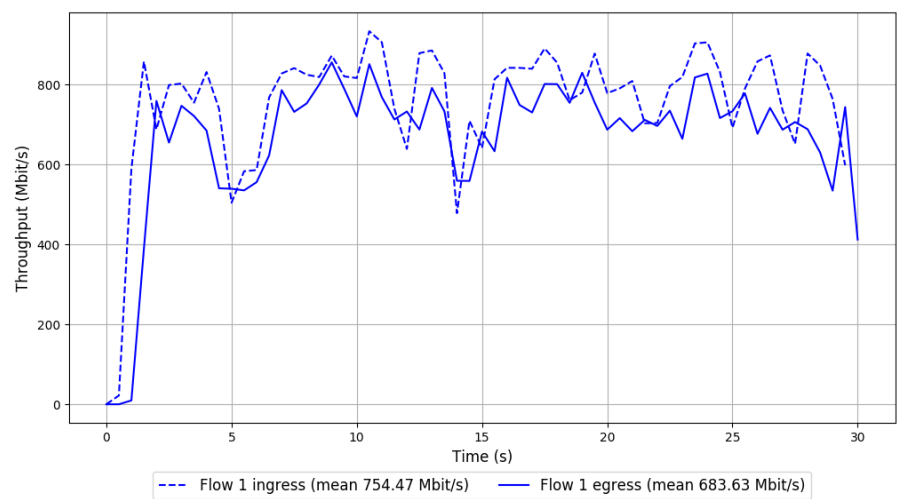
-- Flow 1:

Average throughput: 683.63 Mbit/s

95th percentile per-packet one-way delay: 184.842 ms

Loss rate: 9.92%

Run 2: Report of FillP — Data Link

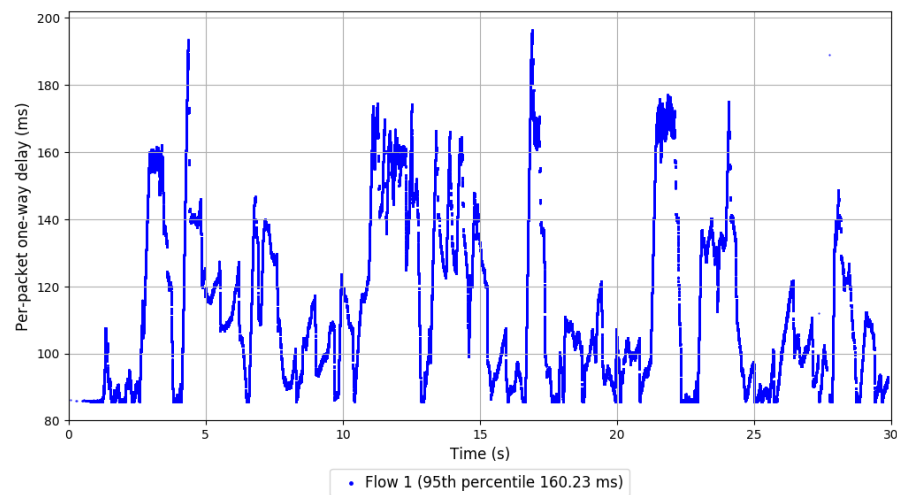
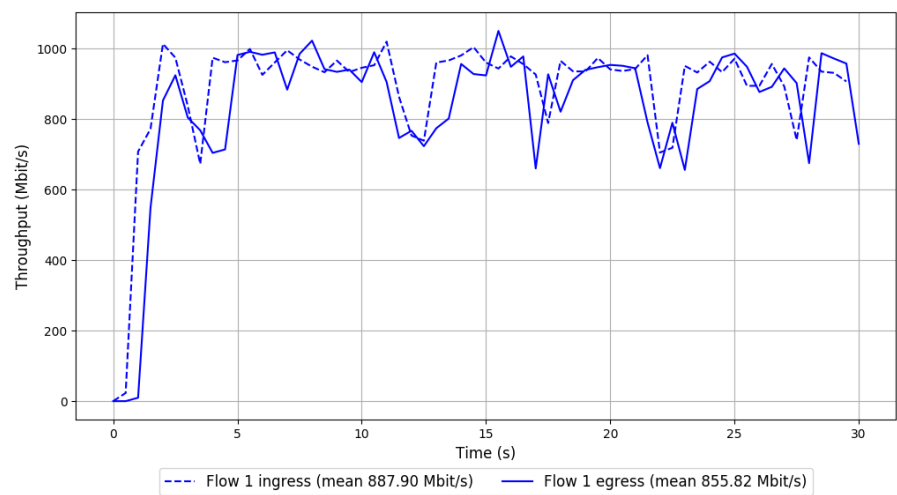


Run 3: Statistics of FillP

Start at: 2018-09-10 22:33:29
End at: 2018-09-10 22:33:59
Local clock offset: 35.505 ms
Remote clock offset: 36.073 ms

Below is generated by plot.py at 2018-09-11 00:29:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 855.82 Mbit/s
95th percentile per-packet one-way delay: 160.230 ms
Loss rate: 4.17%
-- Flow 1:
Average throughput: 855.82 Mbit/s
95th percentile per-packet one-way delay: 160.230 ms
Loss rate: 4.17%

Run 3: Report of FillP — Data Link

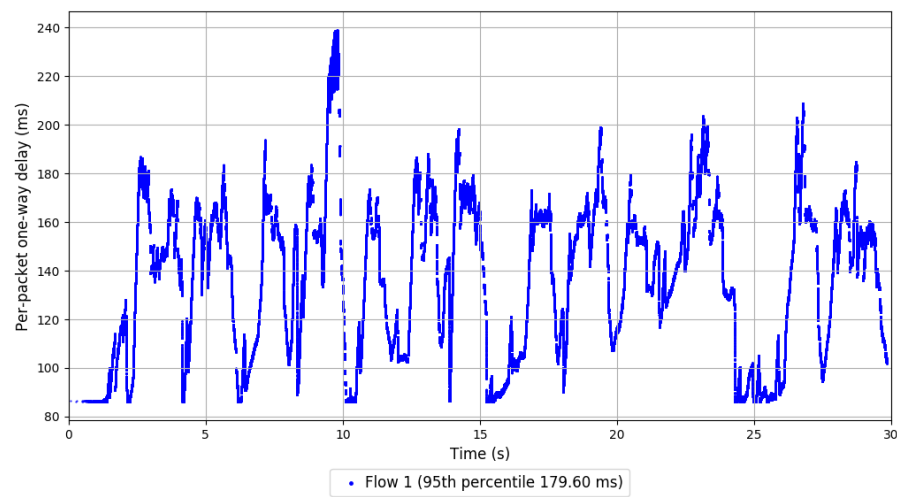
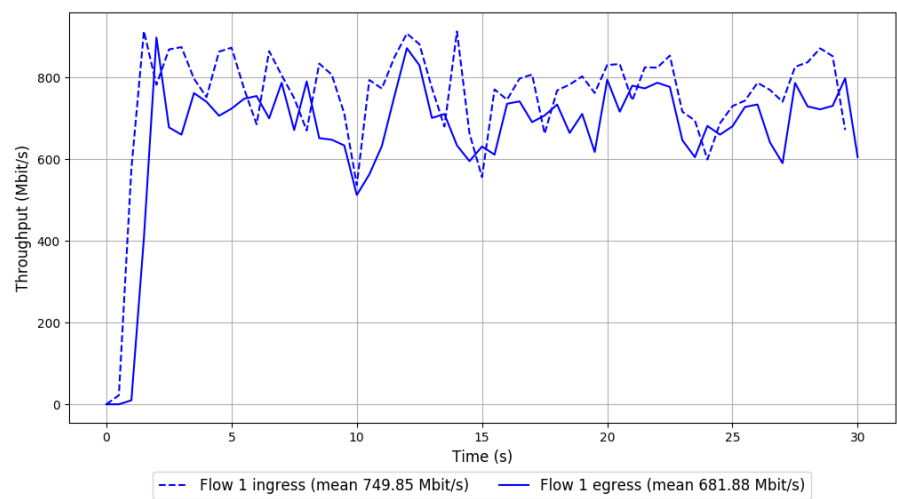


Run 4: Statistics of FillP

Start at: 2018-09-10 22:59:58
End at: 2018-09-10 23:00:28
Local clock offset: 15.275 ms
Remote clock offset: 15.658 ms

Below is generated by plot.py at 2018-09-11 00:29:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 681.88 Mbit/s
95th percentile per-packet one-way delay: 179.598 ms
Loss rate: 9.59%
-- Flow 1:
Average throughput: 681.88 Mbit/s
95th percentile per-packet one-way delay: 179.598 ms
Loss rate: 9.59%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-10 23:25:57

End at: 2018-09-10 23:26:27

Local clock offset: 7.084 ms

Remote clock offset: 7.269 ms

Below is generated by plot.py at 2018-09-11 00:29:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 745.94 Mbit/s

95th percentile per-packet one-way delay: 166.825 ms

Loss rate: 6.84%

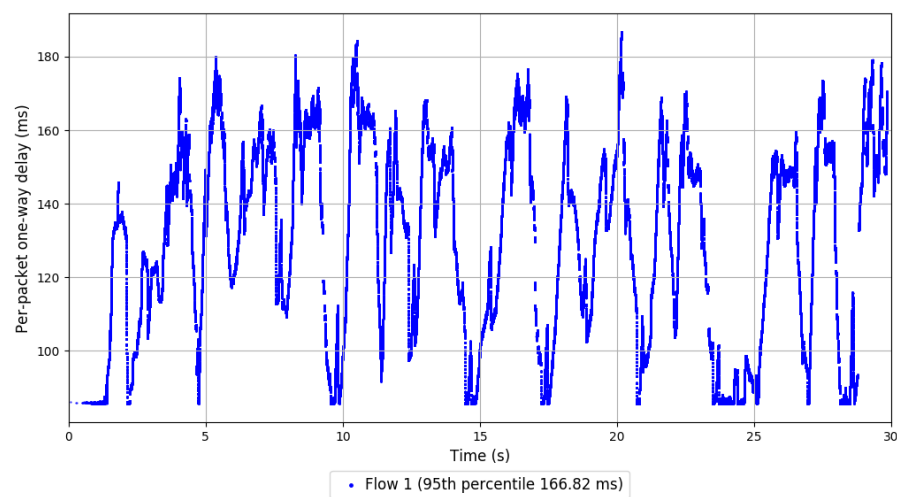
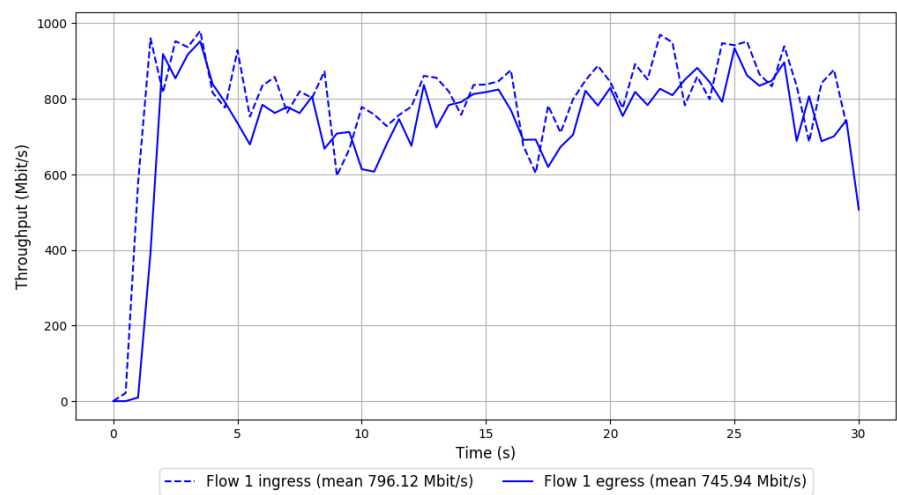
-- Flow 1:

Average throughput: 745.94 Mbit/s

95th percentile per-packet one-way delay: 166.825 ms

Loss rate: 6.84%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-10 21:34:47

End at: 2018-09-10 21:35:17

Local clock offset: 7.649 ms

Remote clock offset: 7.739 ms

Below is generated by plot.py at 2018-09-11 00:29:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 761.43 Mbit/s

95th percentile per-packet one-way delay: 157.591 ms

Loss rate: 4.23%

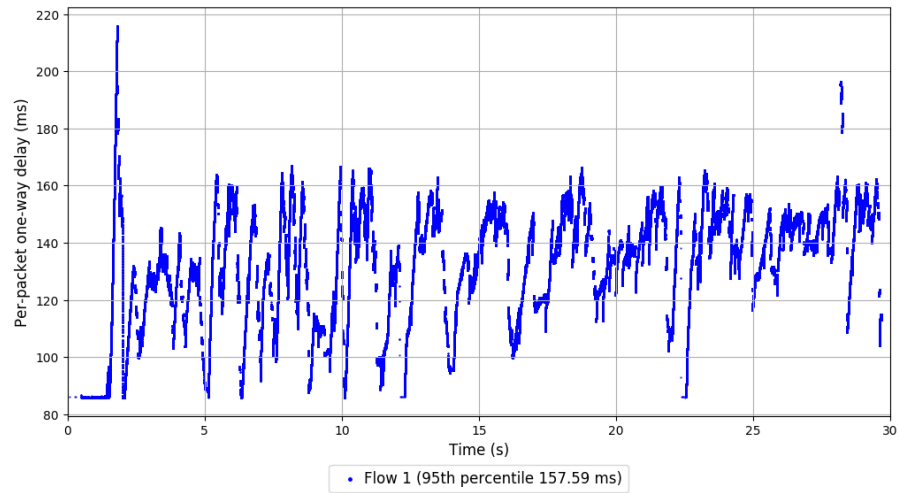
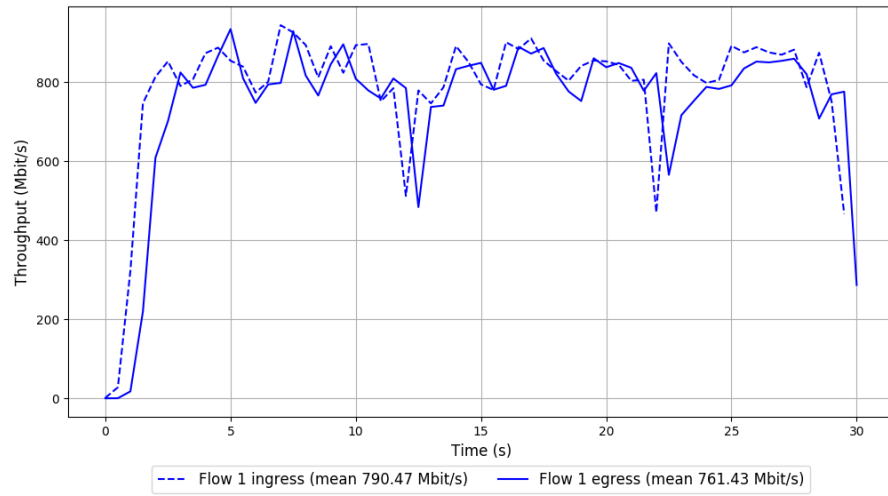
-- Flow 1:

Average throughput: 761.43 Mbit/s

95th percentile per-packet one-way delay: 157.591 ms

Loss rate: 4.23%

Run 1: Report of FillP-Sheep — Data Link

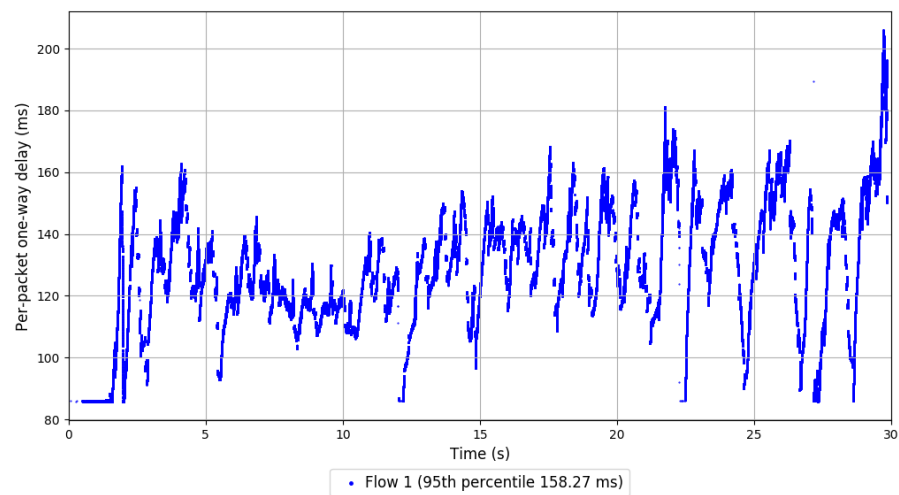
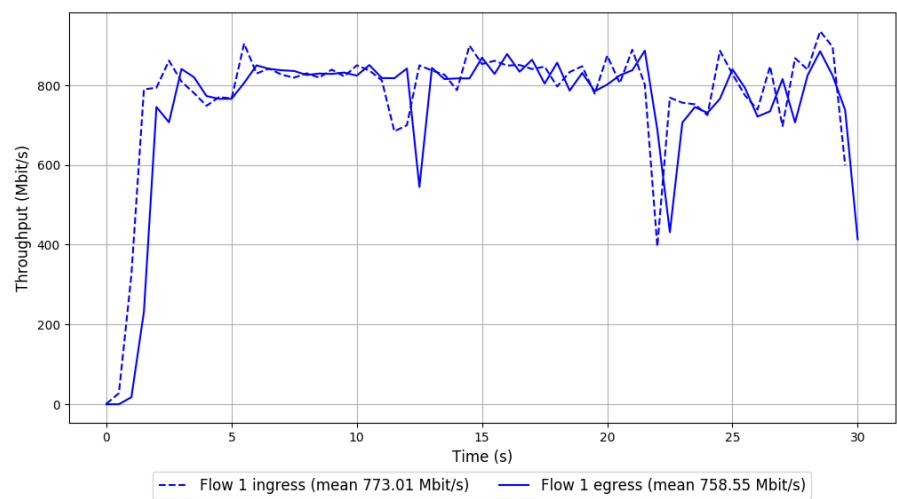


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-10 22:00:53
End at: 2018-09-10 22:01:23
Local clock offset: 24.176 ms
Remote clock offset: 24.438 ms

Below is generated by plot.py at 2018-09-11 00:29:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 758.55 Mbit/s
95th percentile per-packet one-way delay: 158.270 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 758.55 Mbit/s
95th percentile per-packet one-way delay: 158.270 ms
Loss rate: 2.44%

Run 2: Report of FillP-Sheep — Data Link

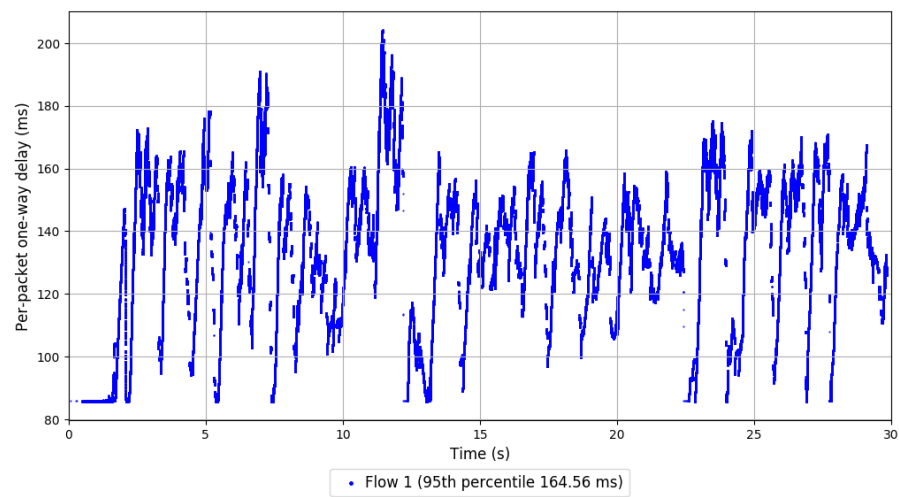
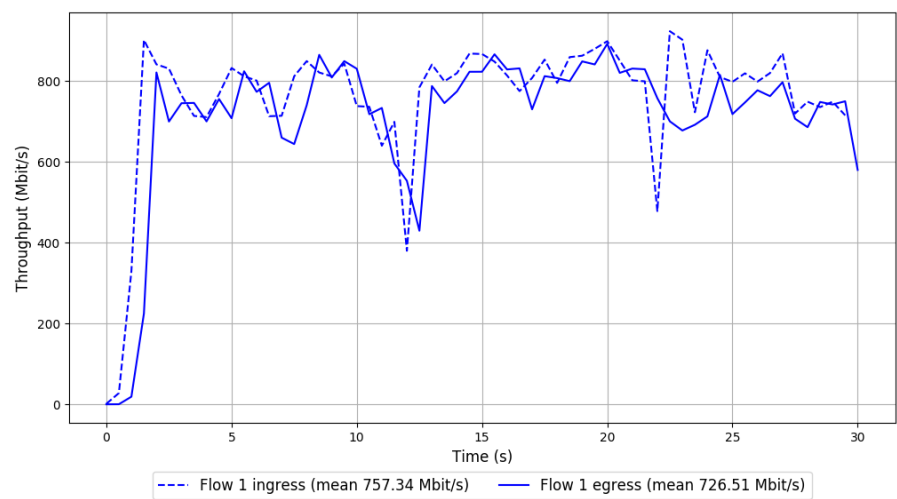


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-10 22:27:23
End at: 2018-09-10 22:27:53
Local clock offset: 29.555 ms
Remote clock offset: 30.031 ms

Below is generated by plot.py at 2018-09-11 00:29:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 726.51 Mbit/s
95th percentile per-packet one-way delay: 164.555 ms
Loss rate: 4.62%
-- Flow 1:
Average throughput: 726.51 Mbit/s
95th percentile per-packet one-way delay: 164.555 ms
Loss rate: 4.62%

Run 3: Report of FillP-Sheep — Data Link

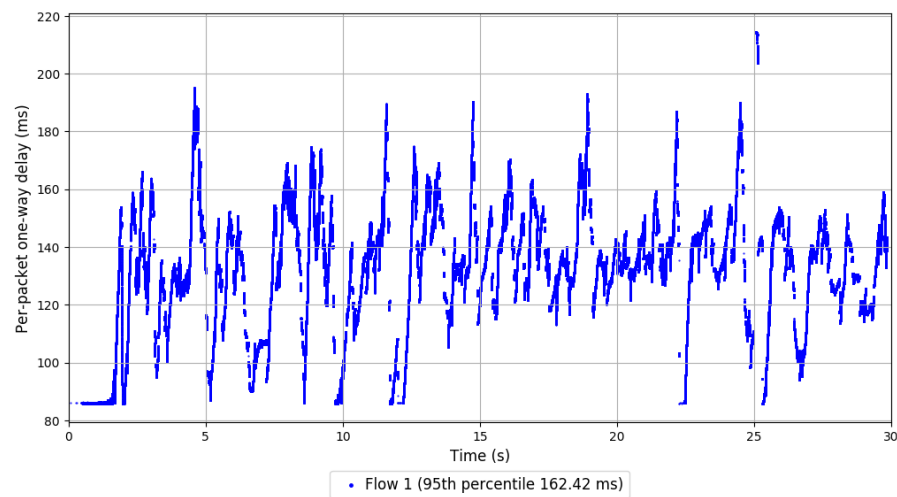
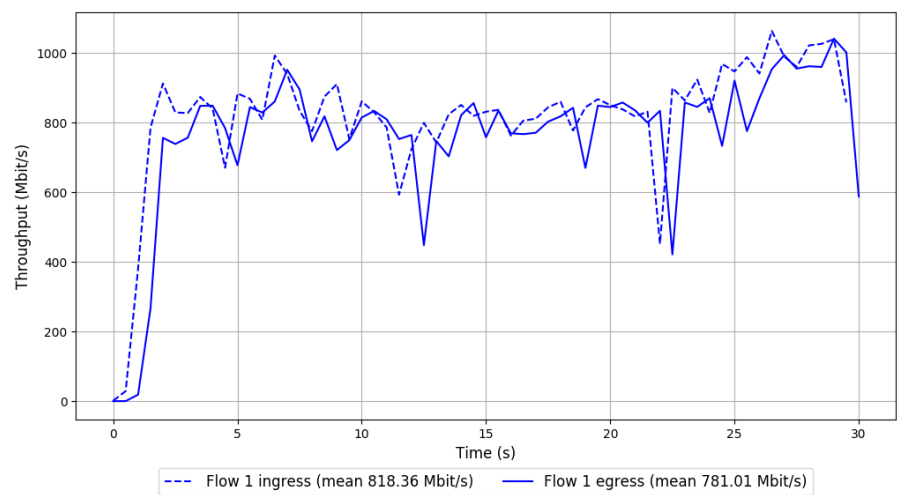


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-10 22:53:50
End at: 2018-09-10 22:54:20
Local clock offset: 14.519 ms
Remote clock offset: 14.724 ms

Below is generated by plot.py at 2018-09-11 00:37:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 781.01 Mbit/s
95th percentile per-packet one-way delay: 162.423 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 781.01 Mbit/s
95th percentile per-packet one-way delay: 162.423 ms
Loss rate: 5.12%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-10 23:19:50

End at: 2018-09-10 23:20:20

Local clock offset: 8.669 ms

Remote clock offset: 8.981 ms

Below is generated by plot.py at 2018-09-11 00:43:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 758.90 Mbit/s

95th percentile per-packet one-way delay: 164.536 ms

Loss rate: 3.88%

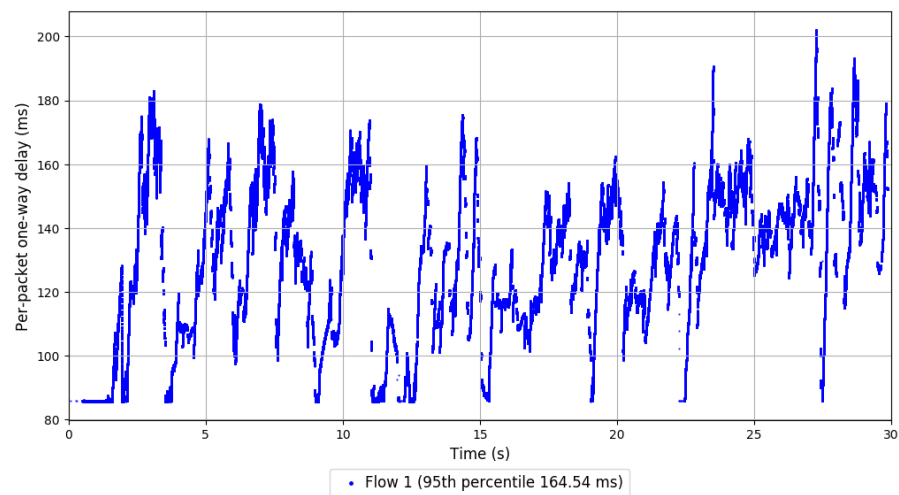
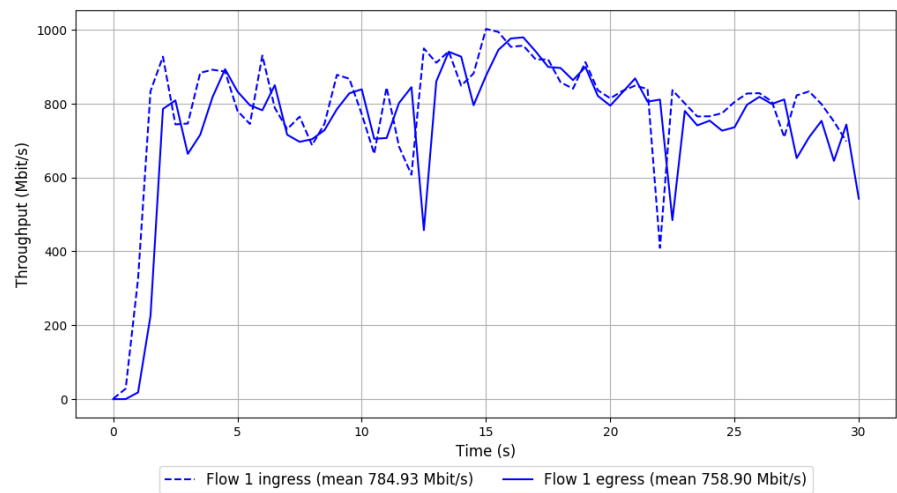
-- Flow 1:

Average throughput: 758.90 Mbit/s

95th percentile per-packet one-way delay: 164.536 ms

Loss rate: 3.88%

Run 5: Report of FillP-Sheep — Data Link

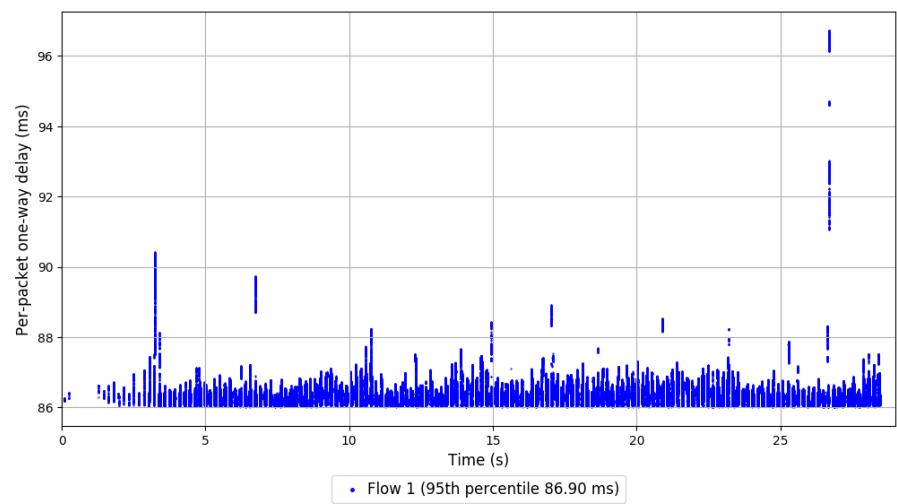
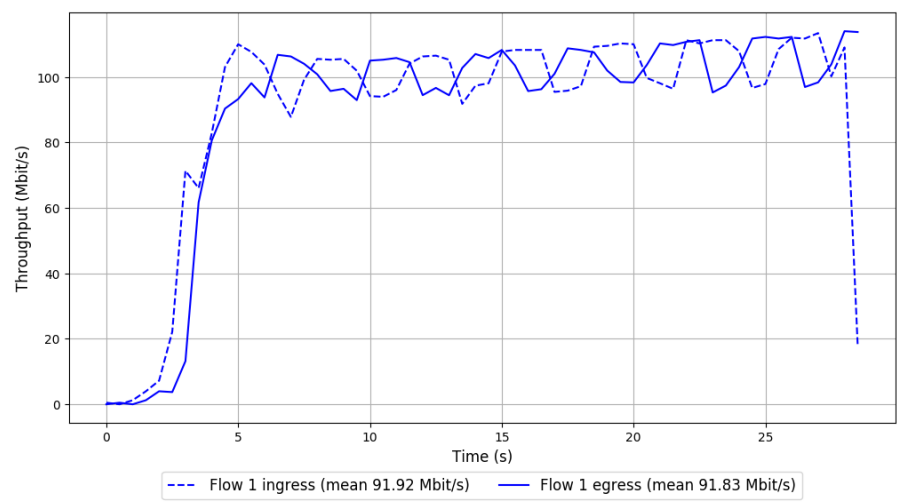


Run 1: Statistics of Indigo

Start at: 2018-09-10 21:46:31
End at: 2018-09-10 21:47:01
Local clock offset: 14.659 ms
Remote clock offset: 14.501 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 86.899 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 86.899 ms
Loss rate: 0.72%

Run 1: Report of Indigo — Data Link

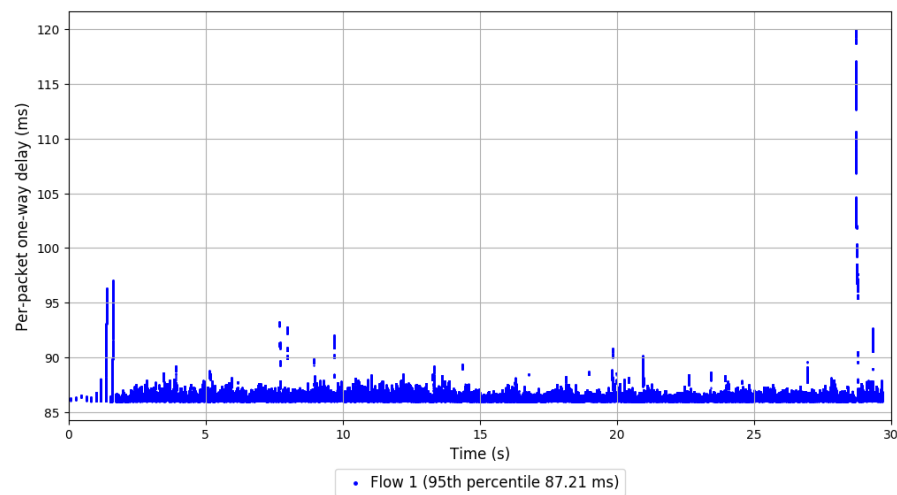
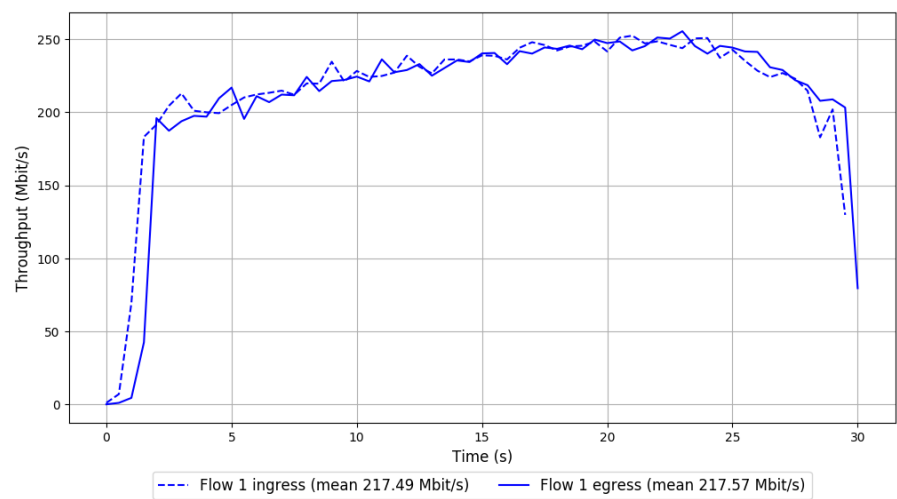


Run 2: Statistics of Indigo

Start at: 2018-09-10 22:12:37
End at: 2018-09-10 22:13:07
Local clock offset: 19.077 ms
Remote clock offset: 19.456 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 217.57 Mbit/s
95th percentile per-packet one-way delay: 87.210 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 217.57 Mbit/s
95th percentile per-packet one-way delay: 87.210 ms
Loss rate: 0.54%

Run 2: Report of Indigo — Data Link

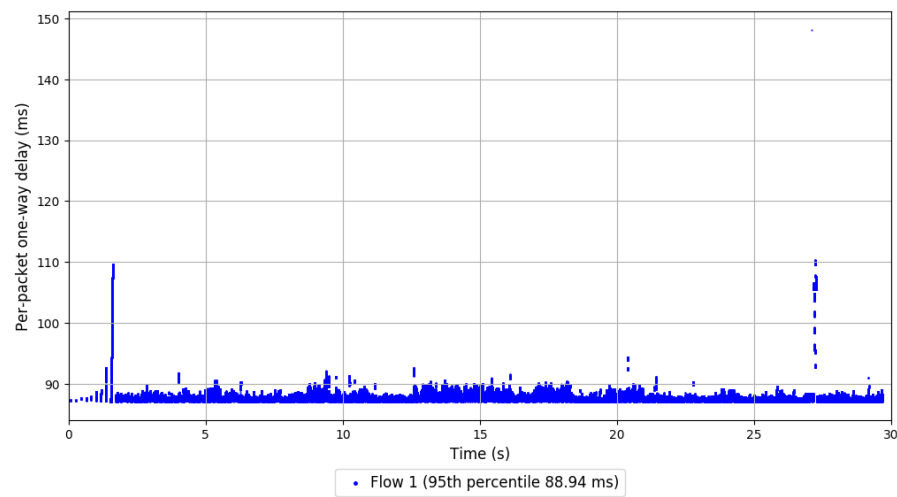
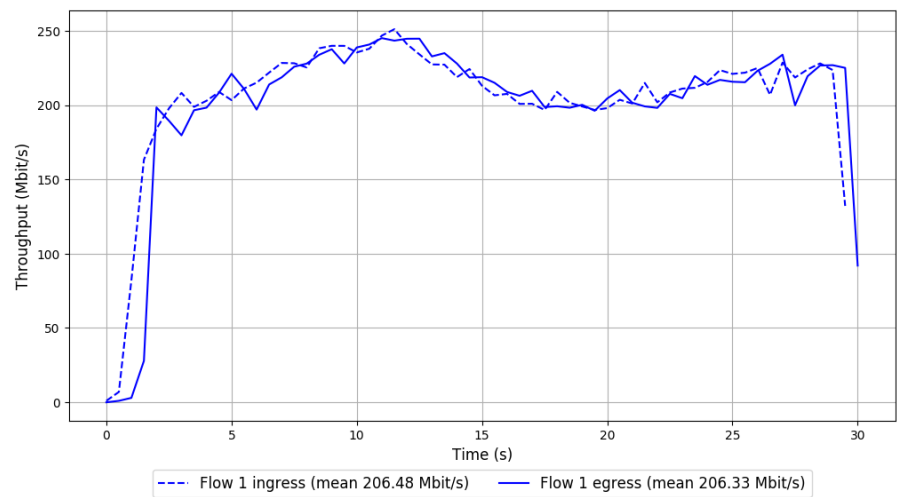


Run 3: Statistics of Indigo

Start at: 2018-09-10 22:39:14
End at: 2018-09-10 22:39:44
Local clock offset: 29.134 ms
Remote clock offset: 28.561 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 206.33 Mbit/s
95th percentile per-packet one-way delay: 88.941 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 206.33 Mbit/s
95th percentile per-packet one-way delay: 88.941 ms
Loss rate: 0.64%

Run 3: Report of Indigo — Data Link

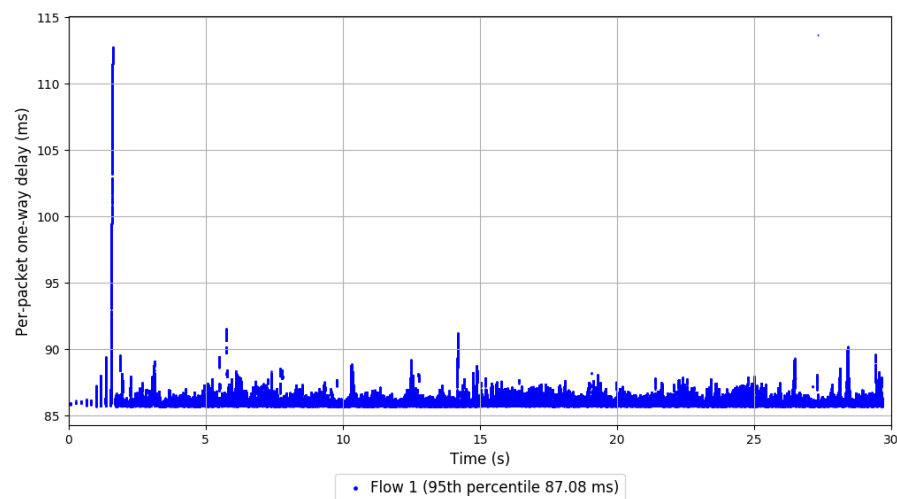
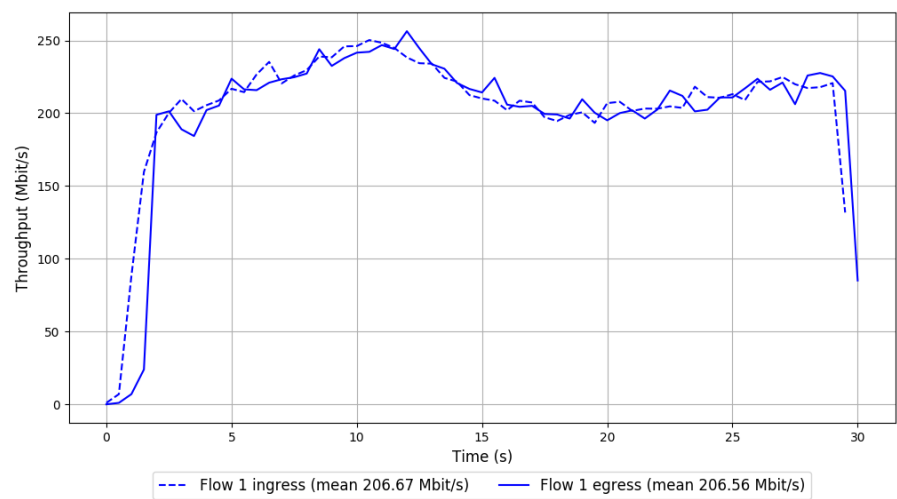


Run 4: Statistics of Indigo

Start at: 2018-09-10 23:05:35
End at: 2018-09-10 23:06:05
Local clock offset: 17.35 ms
Remote clock offset: 17.655 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 206.56 Mbit/s
95th percentile per-packet one-way delay: 87.076 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 206.56 Mbit/s
95th percentile per-packet one-way delay: 87.076 ms
Loss rate: 0.63%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-10 23:31:39

End at: 2018-09-10 23:32:09

Local clock offset: 7.008 ms

Remote clock offset: 7.273 ms

Below is generated by plot.py at 2018-09-11 00:43:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 205.91 Mbit/s

95th percentile per-packet one-way delay: 87.111 ms

Loss rate: 0.64%

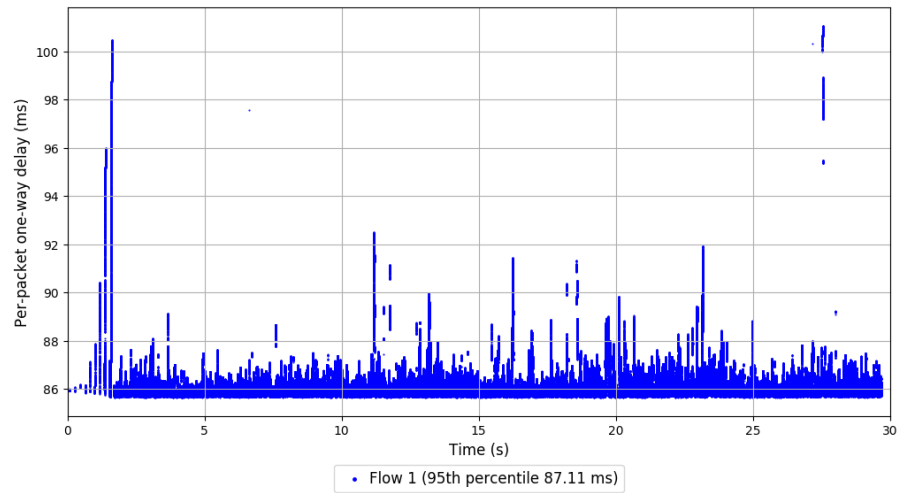
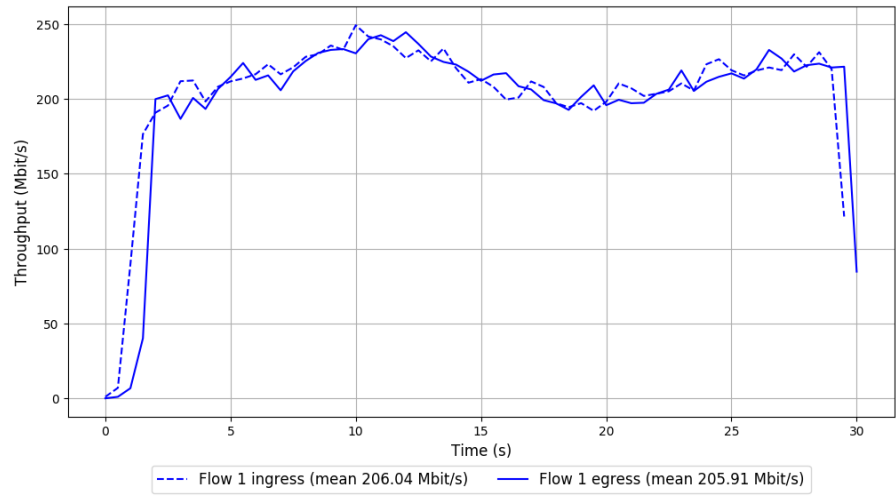
-- Flow 1:

Average throughput: 205.91 Mbit/s

95th percentile per-packet one-way delay: 87.111 ms

Loss rate: 0.64%

Run 5: Report of Indigo — Data Link

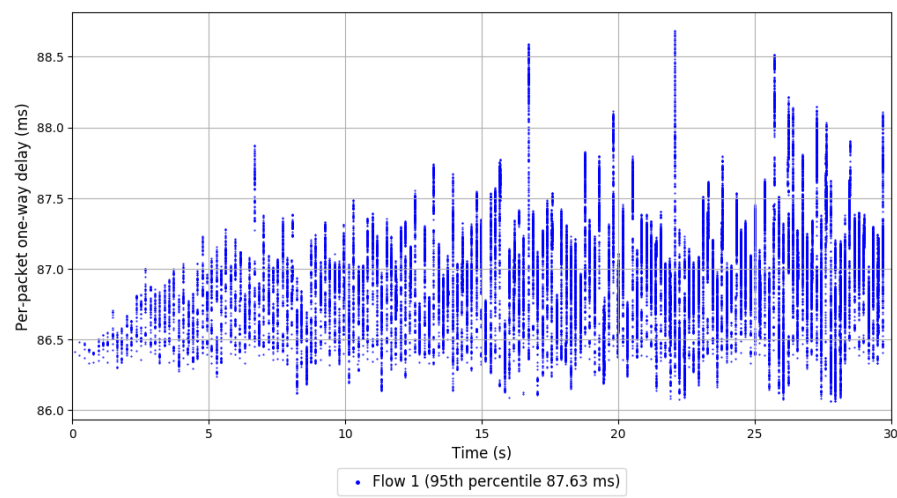
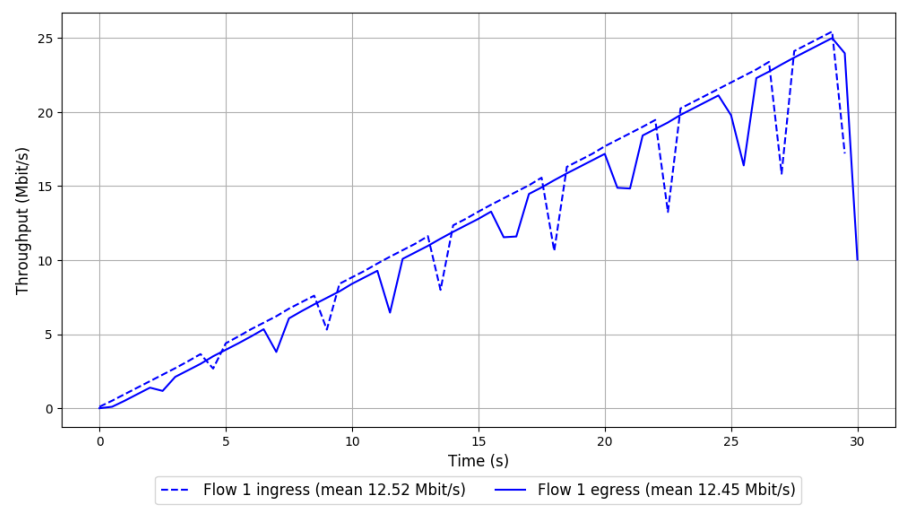


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-10 21:38:06
End at: 2018-09-10 21:38:36
Local clock offset: 8.729 ms
Remote clock offset: 8.638 ms

# Below is generated by plot.py at 2018-09-11 00:43:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.626 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.626 ms
Loss rate: 1.16%
```

Run 1: Report of LEDBAT — Data Link

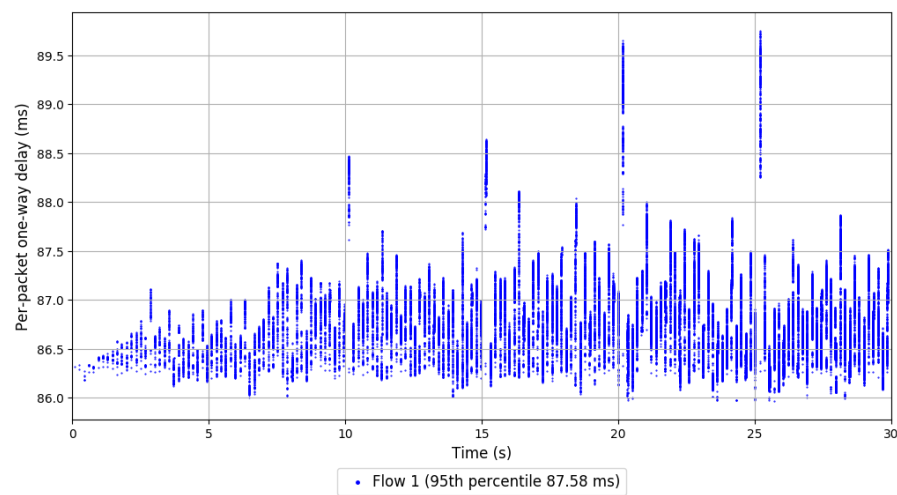
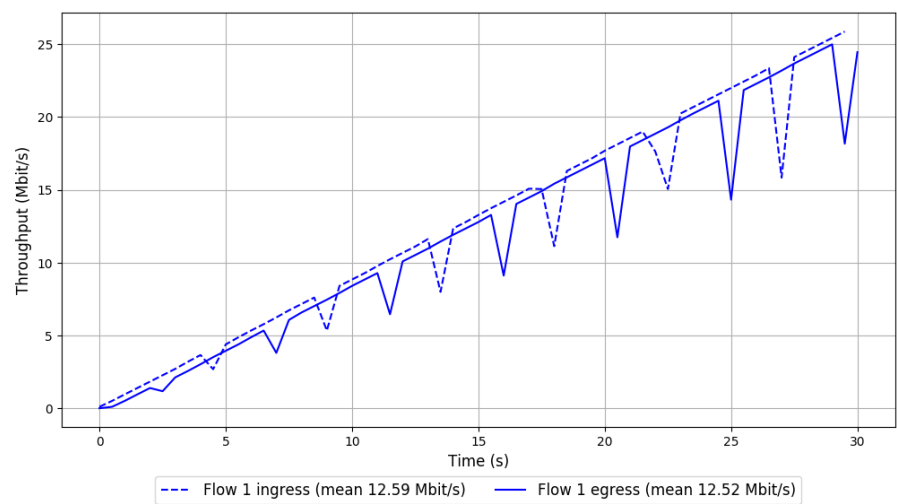


Run 2: Statistics of LEDBAT

Start at: 2018-09-10 22:04:10
End at: 2018-09-10 22:04:40
Local clock offset: 22.581 ms
Remote clock offset: 22.593 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 87.584 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 87.584 ms
Loss rate: 1.15%

Run 2: Report of LEDBAT — Data Link

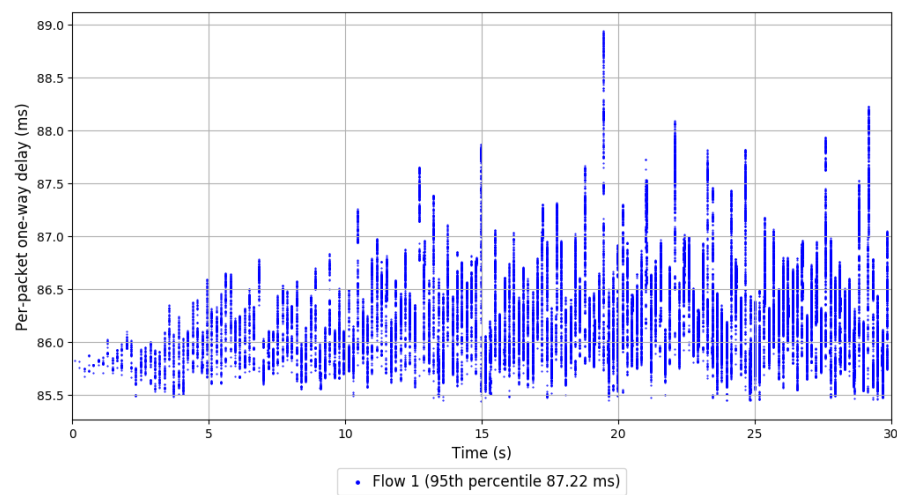
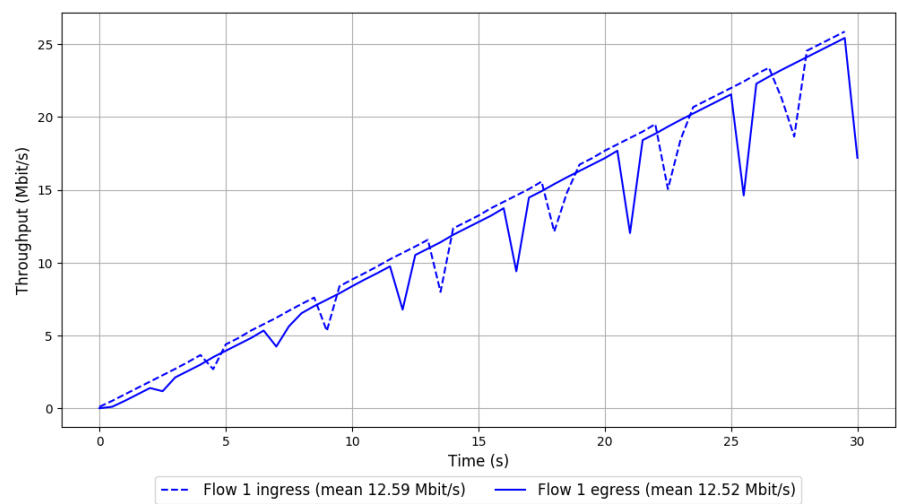


Run 3: Statistics of LEDBAT

Start at: 2018-09-10 22:30:41
End at: 2018-09-10 22:31:11
Local clock offset: 32.533 ms
Remote clock offset: 33.266 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 87.218 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 87.218 ms
Loss rate: 1.15%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-10 22:57:09

End at: 2018-09-10 22:57:39

Local clock offset: 14.739 ms

Remote clock offset: 15.0 ms

Below is generated by plot.py at 2018-09-11 00:43:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.287 ms

Loss rate: 1.15%

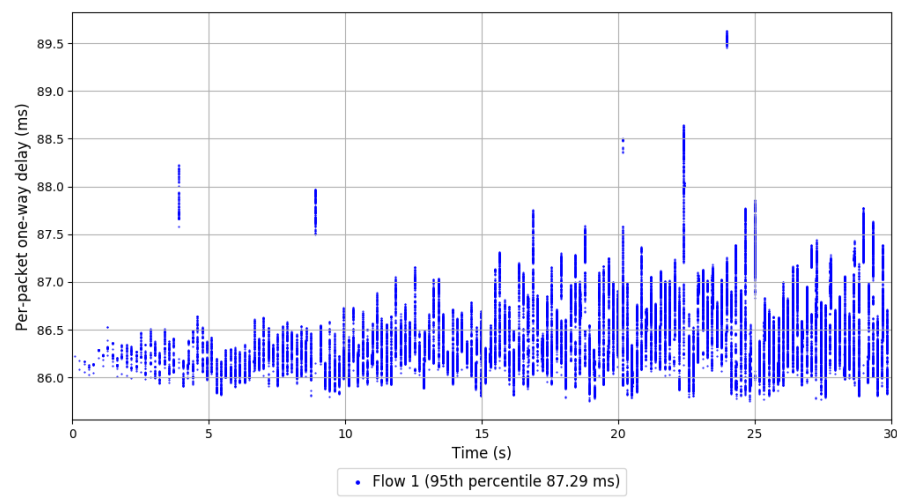
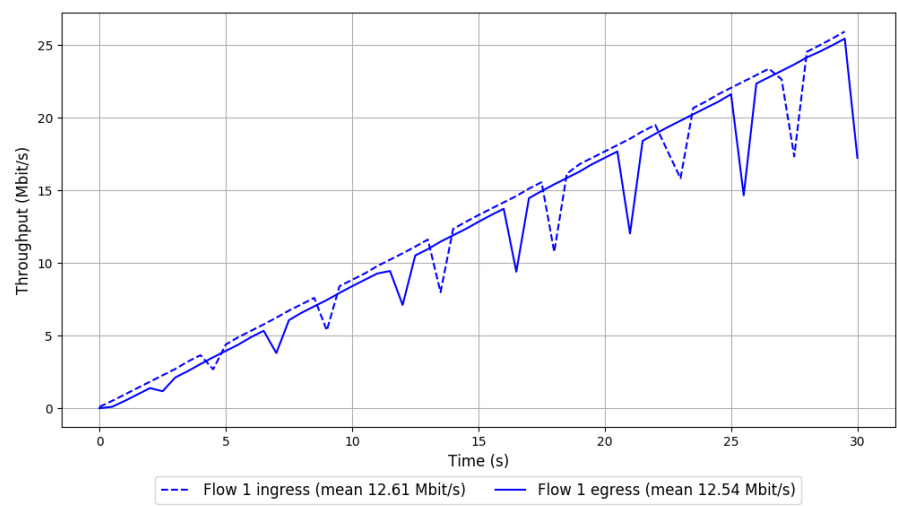
-- Flow 1:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.287 ms

Loss rate: 1.15%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-10 23:23:08

End at: 2018-09-10 23:23:38

Local clock offset: 7.582 ms

Remote clock offset: 7.747 ms

Below is generated by plot.py at 2018-09-11 00:43:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.137 ms

Loss rate: 1.15%

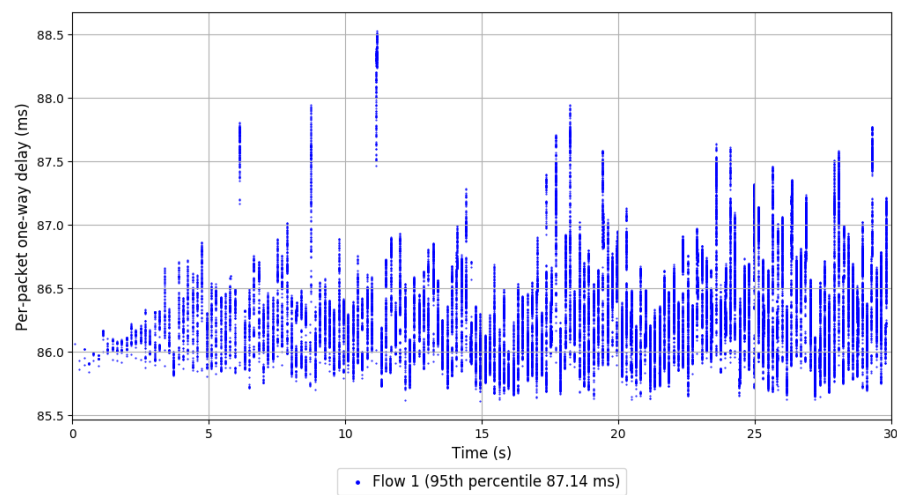
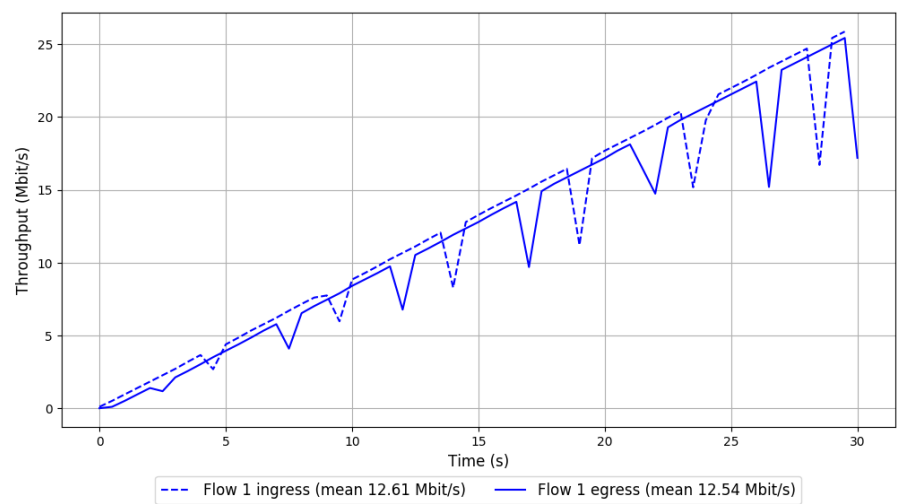
-- Flow 1:

Average throughput: 12.54 Mbit/s

95th percentile per-packet one-way delay: 87.137 ms

Loss rate: 1.15%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

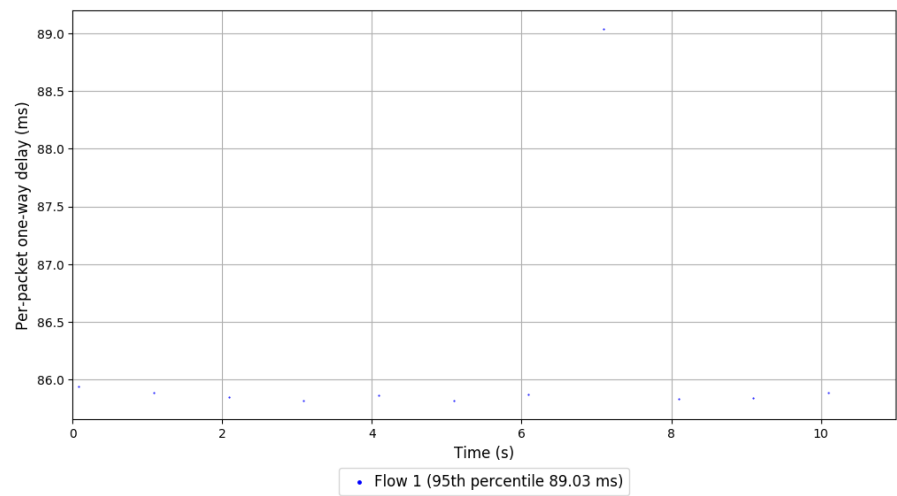
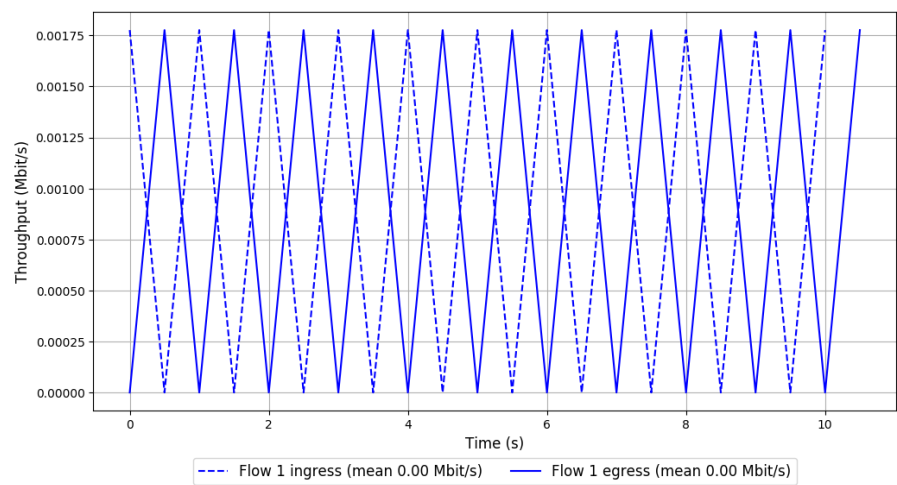
Start at: 2018-09-10 21:33:40

End at: 2018-09-10 21:34:10

Local clock offset: 5.704 ms

Remote clock offset: 6.038 ms

Run 1: Report of Indigo-Muses — Data Link

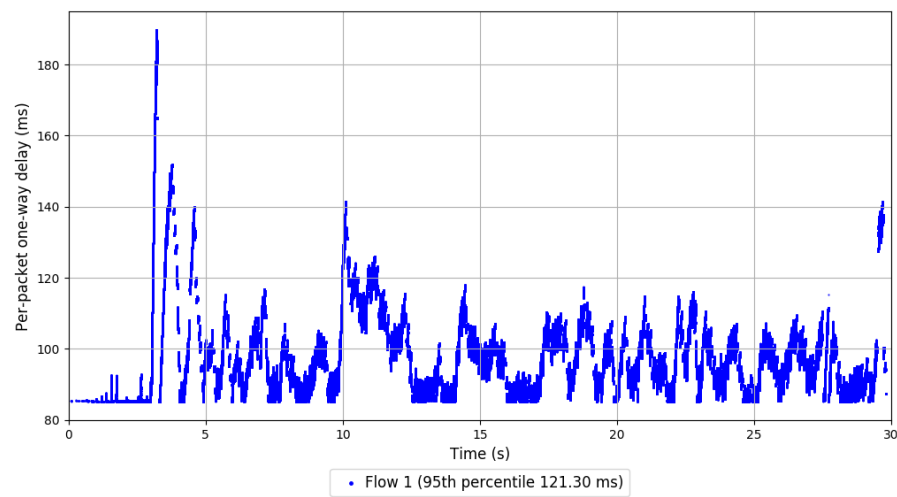
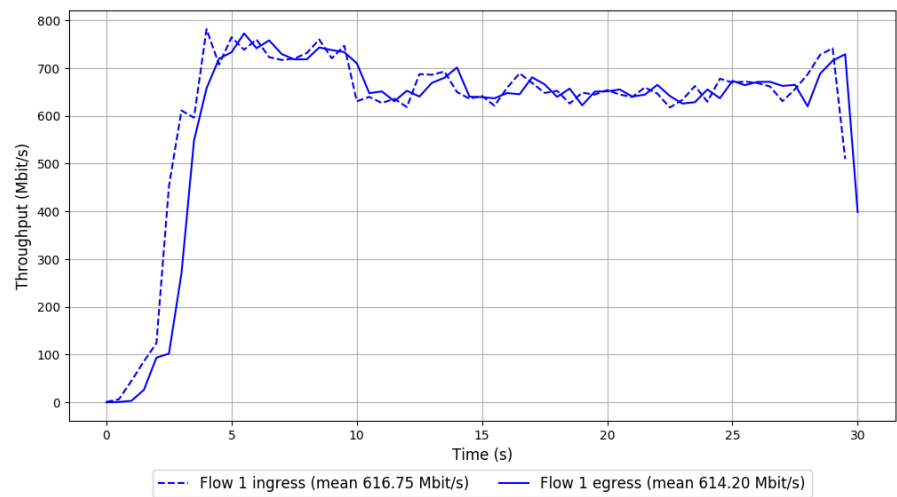


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-10 21:59:13
End at: 2018-09-10 21:59:43
Local clock offset: 21.328 ms
Remote clock offset: 22.114 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 614.20 Mbit/s
95th percentile per-packet one-way delay: 121.304 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 614.20 Mbit/s
95th percentile per-packet one-way delay: 121.304 ms
Loss rate: 0.99%

Run 2: Report of Indigo-Muses — Data Link

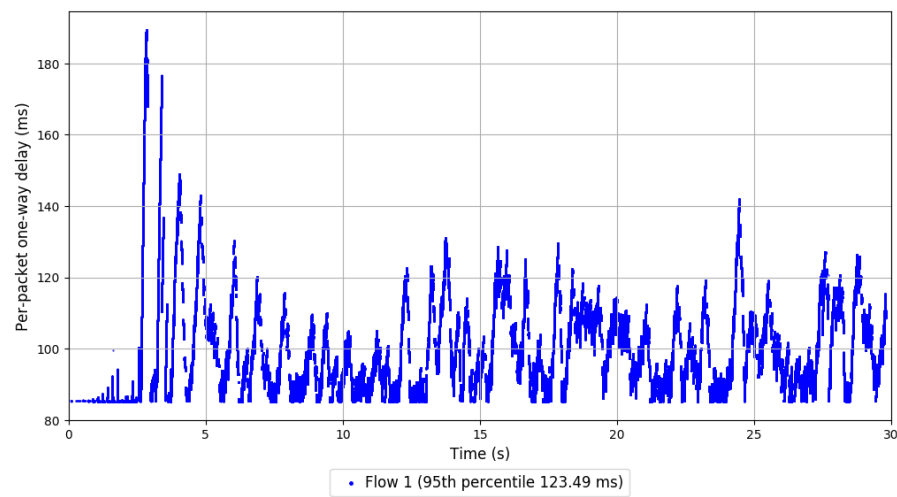
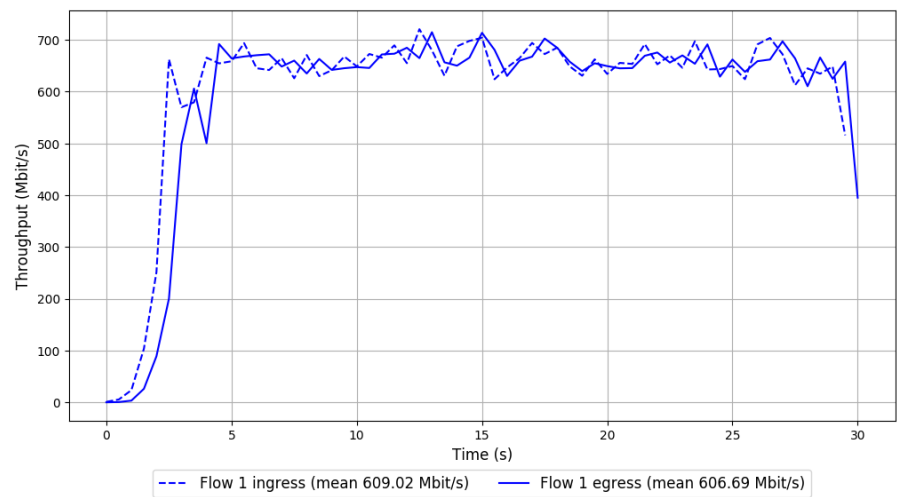


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-10 22:25:44
End at: 2018-09-10 22:26:14
Local clock offset: 27.55 ms
Remote clock offset: 28.457 ms

Below is generated by plot.py at 2018-09-11 00:43:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 606.69 Mbit/s
95th percentile per-packet one-way delay: 123.489 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 606.69 Mbit/s
95th percentile per-packet one-way delay: 123.489 ms
Loss rate: 0.96%

Run 3: Report of Indigo-Muses — Data Link

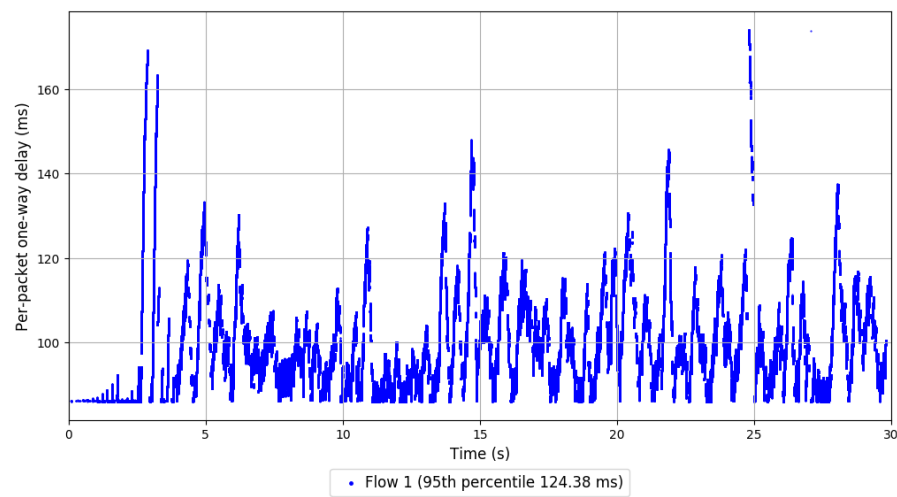
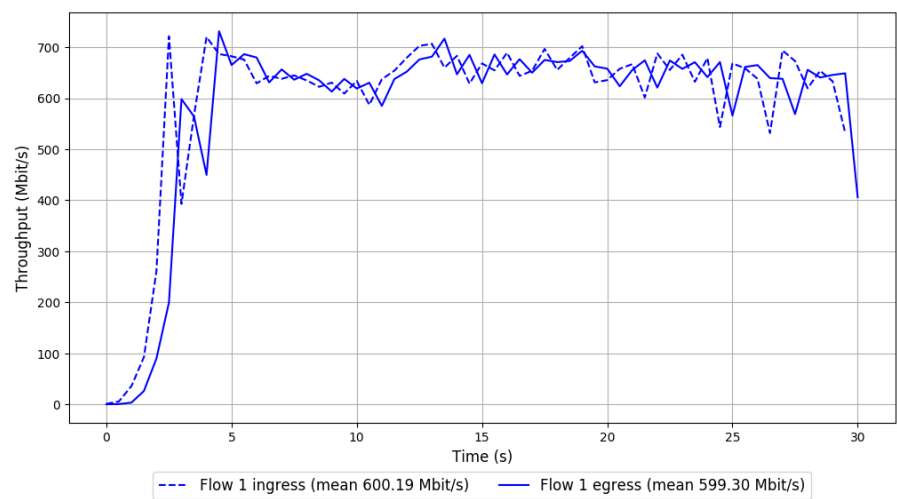


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-10 22:52:12
End at: 2018-09-10 22:52:42
Local clock offset: 14.764 ms
Remote clock offset: 14.829 ms

Below is generated by plot.py at 2018-09-11 00:47:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 599.30 Mbit/s
95th percentile per-packet one-way delay: 124.378 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 599.30 Mbit/s
95th percentile per-packet one-way delay: 124.378 ms
Loss rate: 0.72%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-10 23:18:12

End at: 2018-09-10 23:18:42

Local clock offset: 9.668 ms

Remote clock offset: 9.845 ms

Below is generated by plot.py at 2018-09-11 00:47:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 591.99 Mbit/s

95th percentile per-packet one-way delay: 122.103 ms

Loss rate: 0.72%

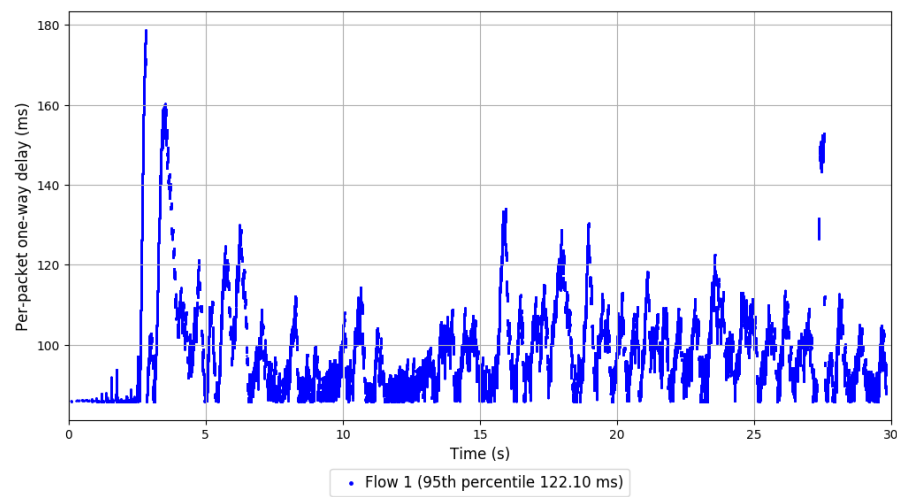
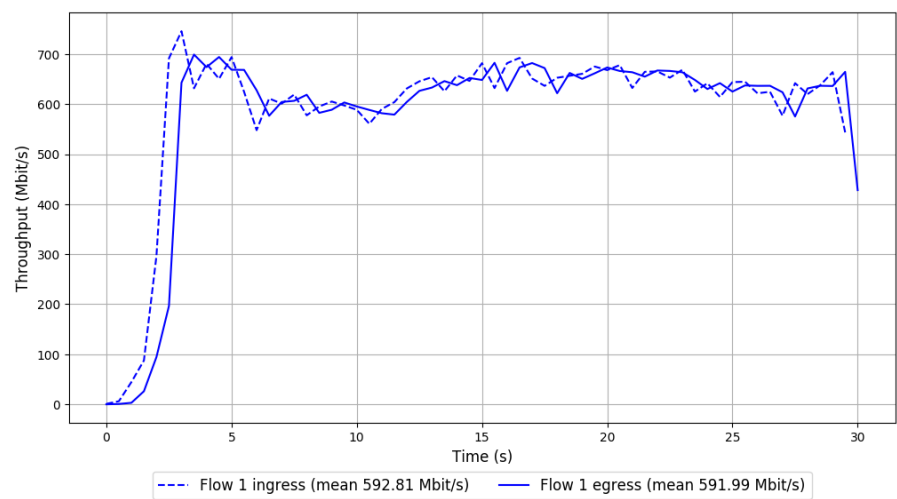
-- Flow 1:

Average throughput: 591.99 Mbit/s

95th percentile per-packet one-way delay: 122.103 ms

Loss rate: 0.72%

Run 5: Report of Indigo-Muses — Data Link

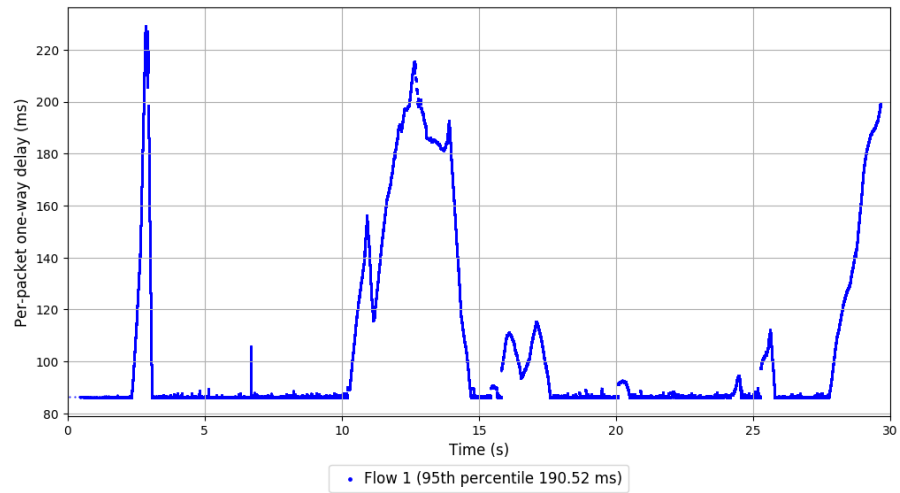
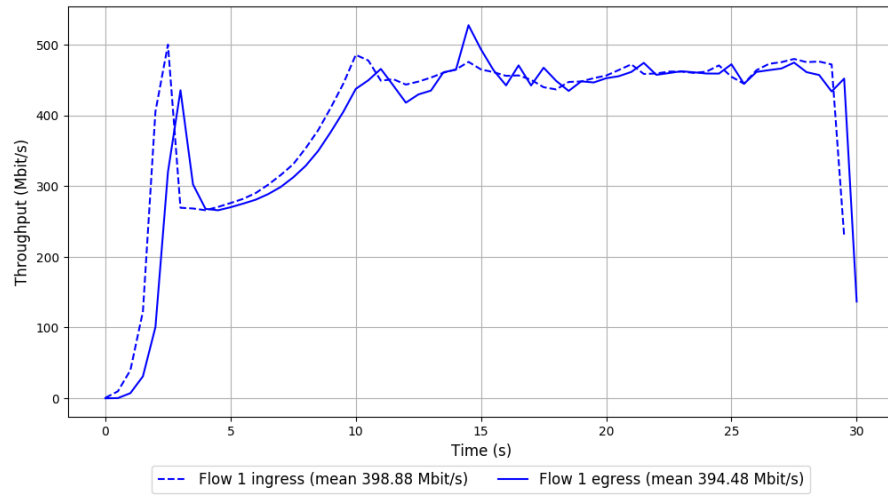


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-10 21:53:47
End at: 2018-09-10 21:54:17
Local clock offset: 15.233 ms
Remote clock offset: 15.48 ms

# Below is generated by plot.py at 2018-09-11 00:49:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 394.48 Mbit/s
95th percentile per-packet one-way delay: 190.521 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 394.48 Mbit/s
95th percentile per-packet one-way delay: 190.521 ms
Loss rate: 1.68%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-10 22:20:16

End at: 2018-09-10 22:20:46

Local clock offset: 23.222 ms

Remote clock offset: 23.582 ms

Below is generated by plot.py at 2018-09-11 00:49:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 398.59 Mbit/s

95th percentile per-packet one-way delay: 197.408 ms

Loss rate: 1.67%

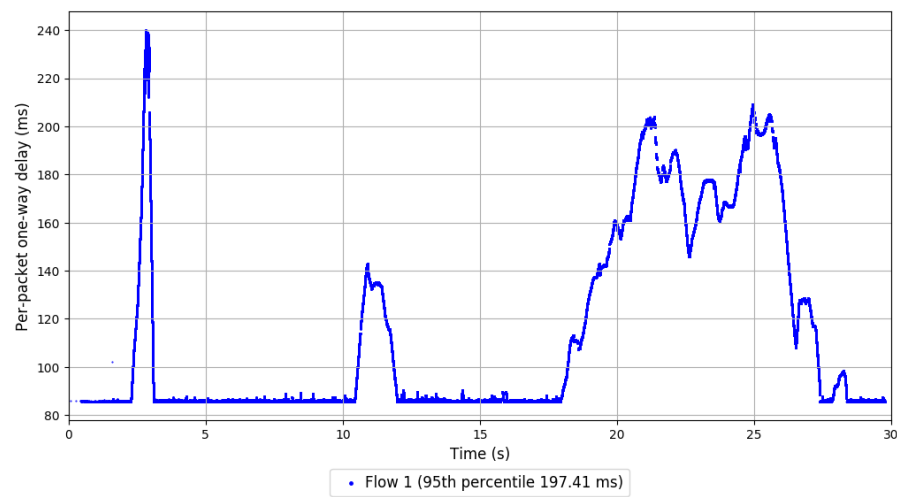
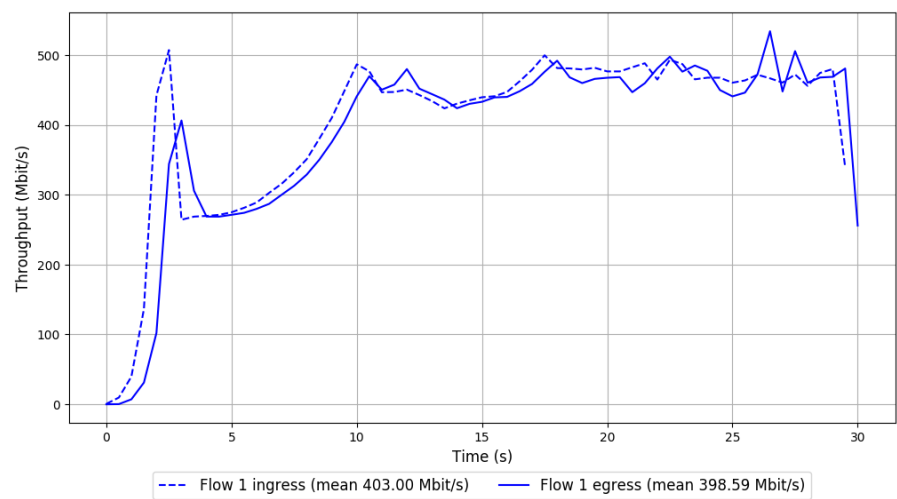
-- Flow 1:

Average throughput: 398.59 Mbit/s

95th percentile per-packet one-way delay: 197.408 ms

Loss rate: 1.67%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-10 22:46:53

End at: 2018-09-10 22:47:23

Local clock offset: 17.012 ms

Remote clock offset: 16.985 ms

Below is generated by plot.py at 2018-09-11 00:56:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 472.28 Mbit/s

95th percentile per-packet one-way delay: 200.538 ms

Loss rate: 2.56%

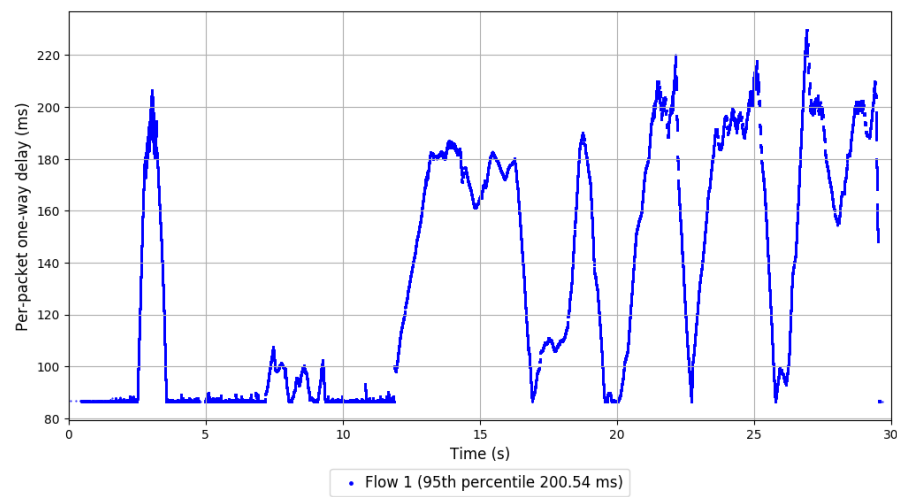
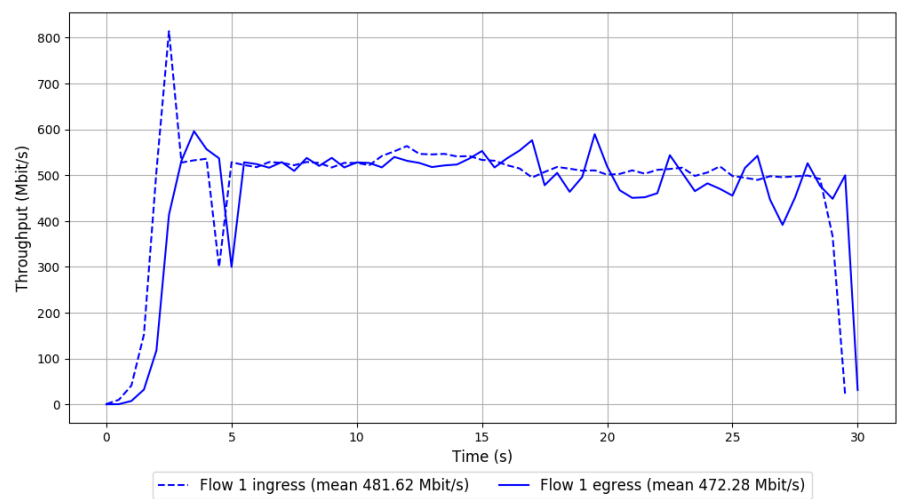
-- Flow 1:

Average throughput: 472.28 Mbit/s

95th percentile per-packet one-way delay: 200.538 ms

Loss rate: 2.56%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-10 23:13:08

End at: 2018-09-10 23:13:38

Local clock offset: 15.062 ms

Remote clock offset: 14.675 ms

Below is generated by plot.py at 2018-09-11 00:59:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 420.19 Mbit/s

95th percentile per-packet one-way delay: 202.220 ms

Loss rate: 2.91%

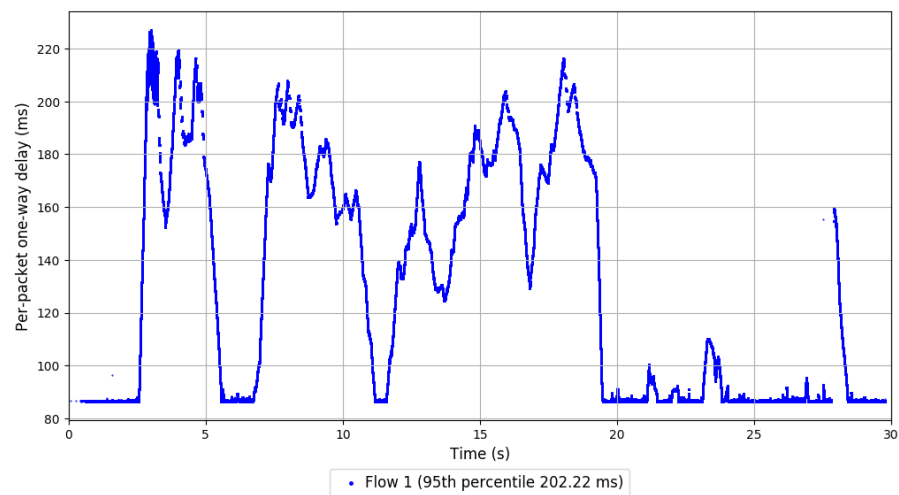
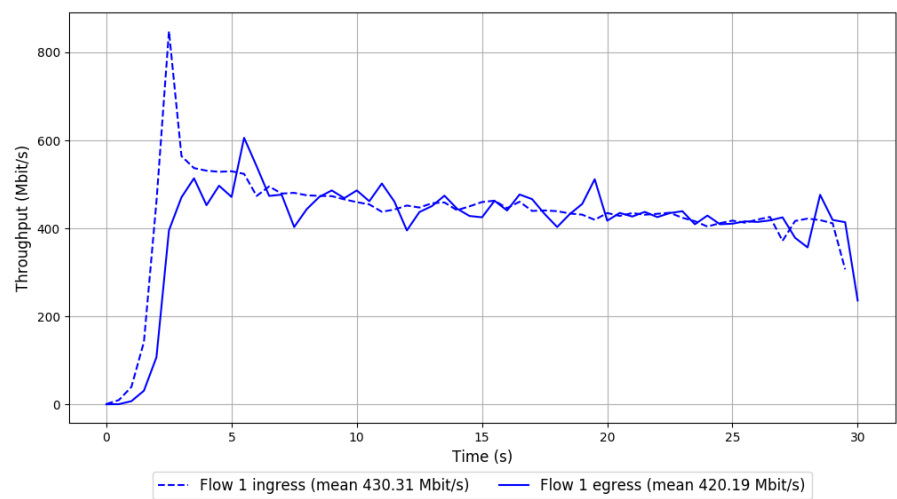
-- Flow 1:

Average throughput: 420.19 Mbit/s

95th percentile per-packet one-way delay: 202.220 ms

Loss rate: 2.91%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-10 23:39:07

End at: 2018-09-10 23:39:37

Local clock offset: 8.174 ms

Remote clock offset: 8.373 ms

Below is generated by plot.py at 2018-09-11 00:59:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 378.94 Mbit/s

95th percentile per-packet one-way delay: 207.144 ms

Loss rate: 5.54%

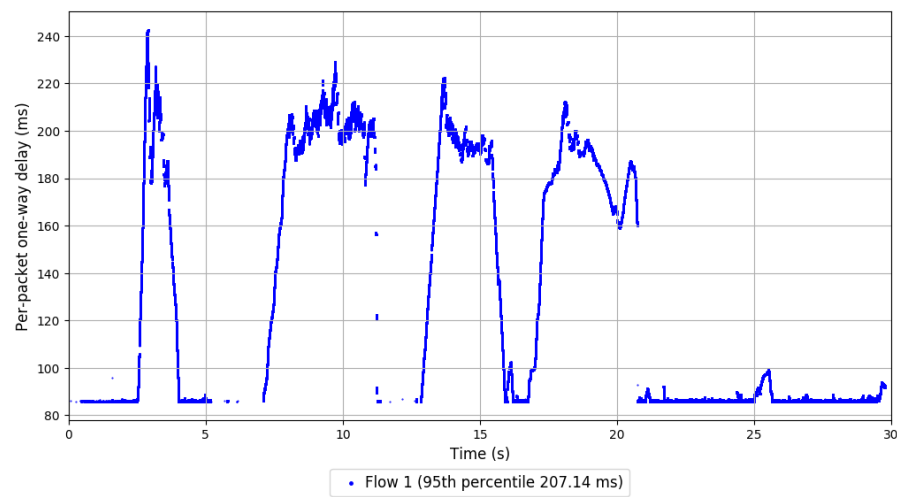
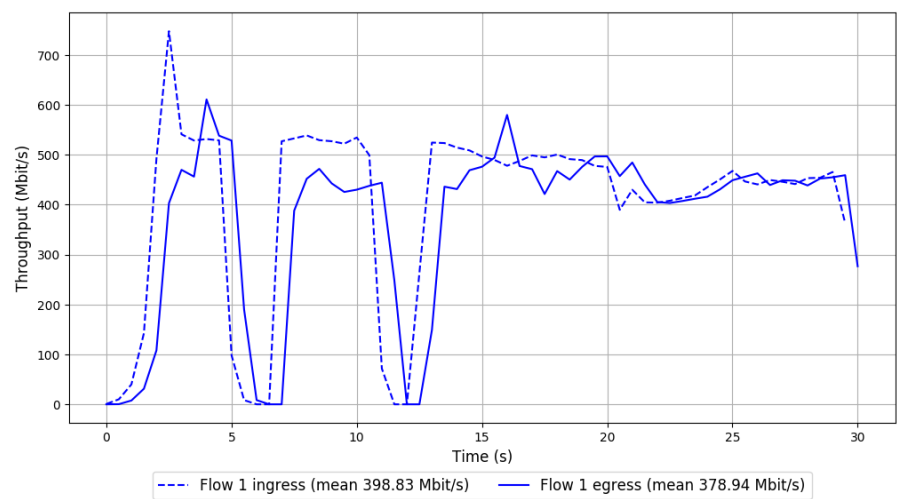
-- Flow 1:

Average throughput: 378.94 Mbit/s

95th percentile per-packet one-way delay: 207.144 ms

Loss rate: 5.54%

Run 5: Report of PCC-Allegro — Data Link

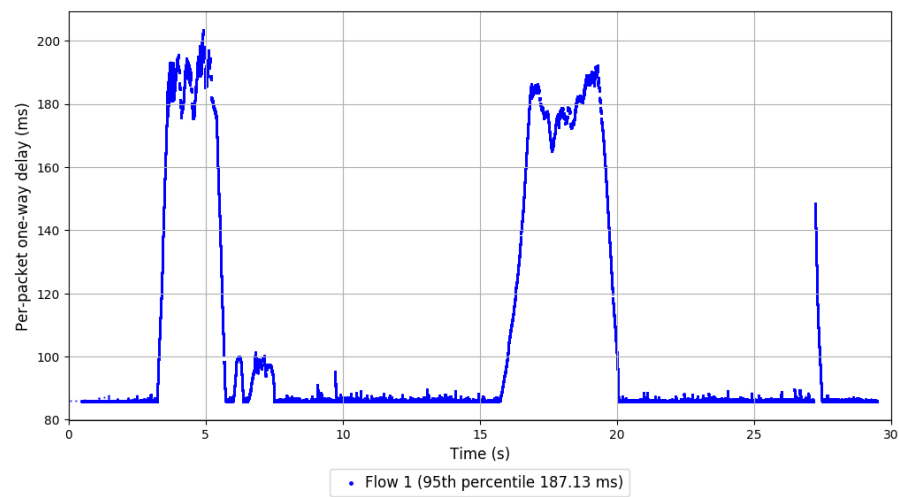
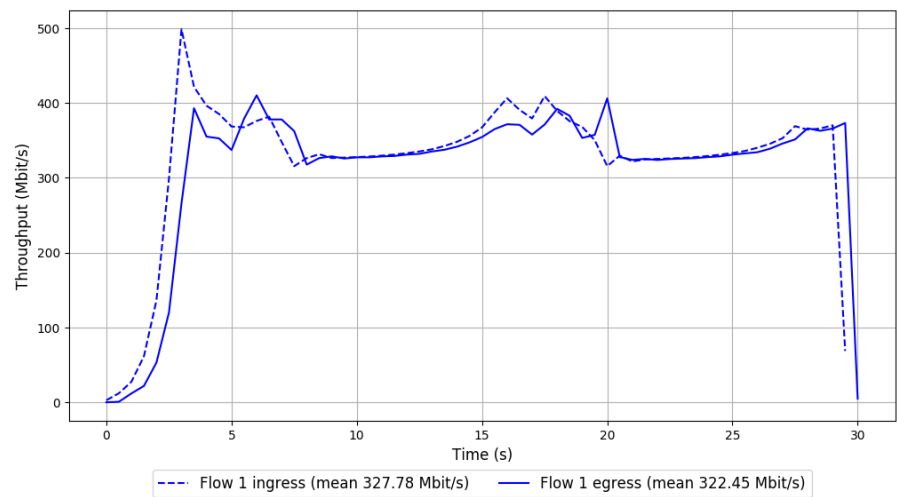


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-10 21:49:17
End at: 2018-09-10 21:49:47
Local clock offset: 12.709 ms
Remote clock offset: 12.781 ms

# Below is generated by plot.py at 2018-09-11 00:59:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 322.45 Mbit/s
95th percentile per-packet one-way delay: 187.129 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 322.45 Mbit/s
95th percentile per-packet one-way delay: 187.129 ms
Loss rate: 2.20%
```

Run 1: Report of PCC-Expr — Data Link

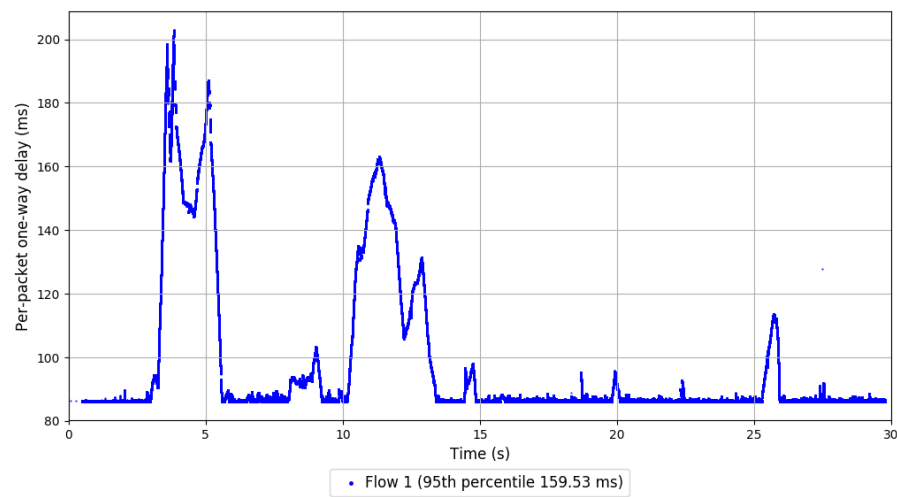
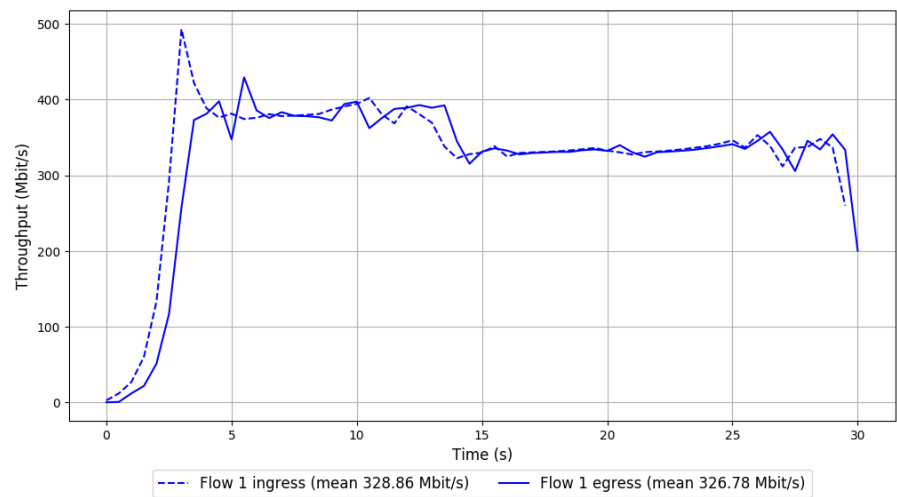


Run 2: Statistics of PCC-Expr

Start at: 2018-09-10 22:15:36
End at: 2018-09-10 22:16:06
Local clock offset: 20.225 ms
Remote clock offset: 20.584 ms

Below is generated by plot.py at 2018-09-11 00:59:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 326.78 Mbit/s
95th percentile per-packet one-way delay: 159.532 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 326.78 Mbit/s
95th percentile per-packet one-way delay: 159.532 ms
Loss rate: 1.21%

Run 2: Report of PCC-Expr — Data Link

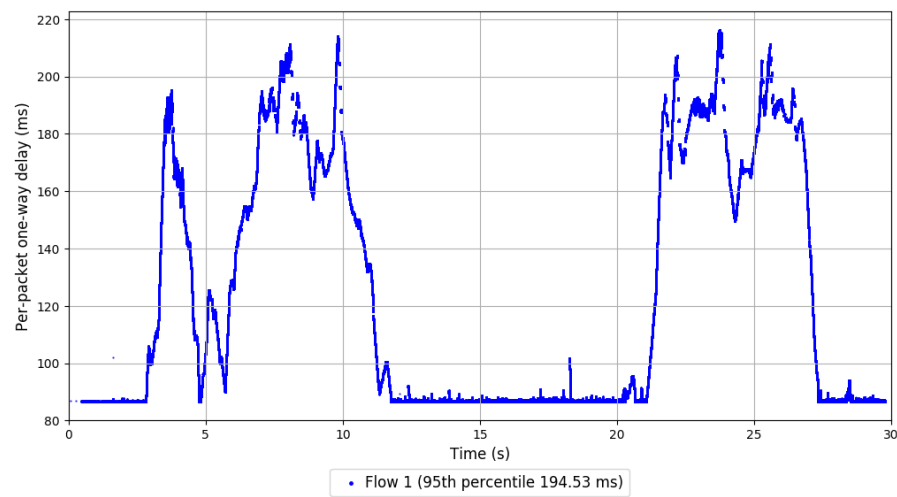
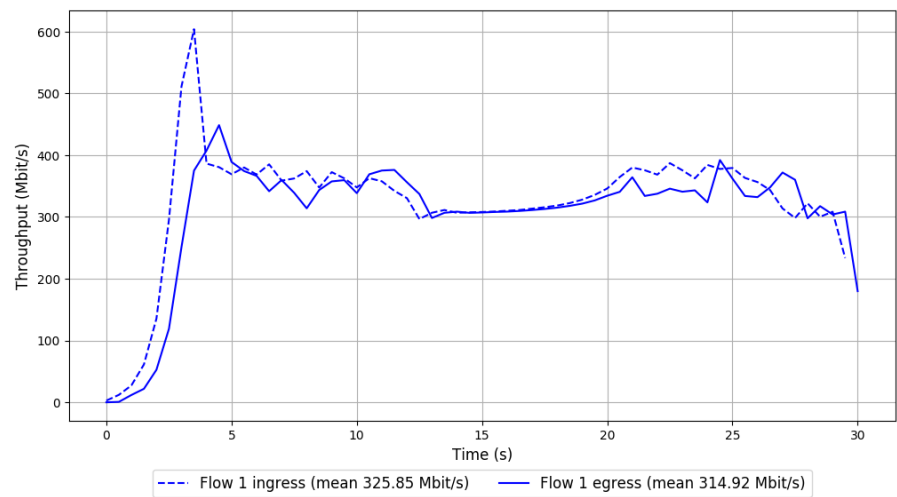


Run 3: Statistics of PCC-Expr

Start at: 2018-09-10 22:42:11
End at: 2018-09-10 22:42:41
Local clock offset: 22.623 ms
Remote clock offset: 22.476 ms

Below is generated by plot.py at 2018-09-11 00:59:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 314.92 Mbit/s
95th percentile per-packet one-way delay: 194.525 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 314.92 Mbit/s
95th percentile per-packet one-way delay: 194.525 ms
Loss rate: 3.92%

Run 3: Report of PCC-Expr — Data Link

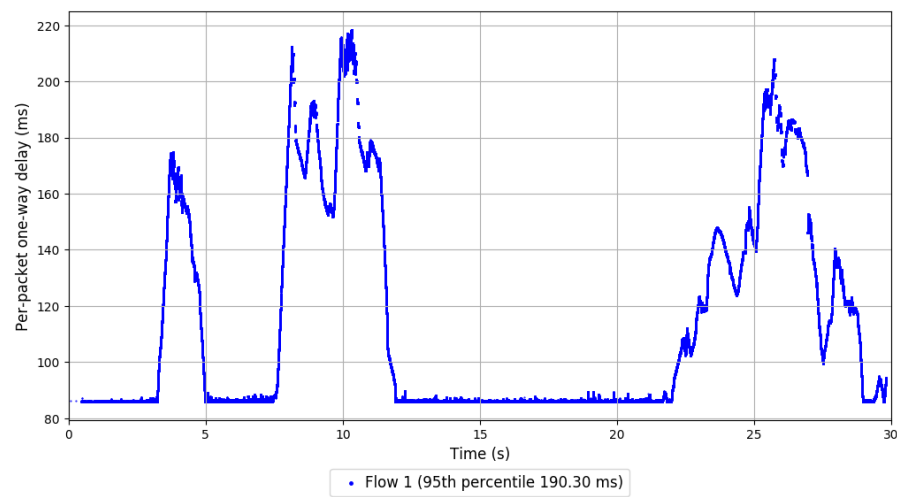
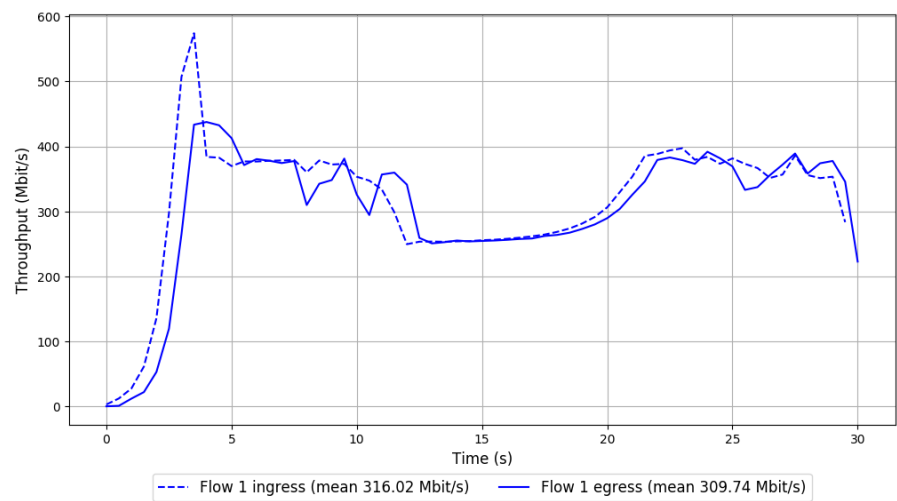


Run 4: Statistics of PCC-Expr

Start at: 2018-09-10 23:08:31
End at: 2018-09-10 23:09:01
Local clock offset: 18.319 ms
Remote clock offset: 18.843 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 309.74 Mbit/s
95th percentile per-packet one-way delay: 190.299 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 309.74 Mbit/s
95th percentile per-packet one-way delay: 190.299 ms
Loss rate: 2.55%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-10 23:34:36

End at: 2018-09-10 23:35:06

Local clock offset: 7.567 ms

Remote clock offset: 7.605 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 296.88 Mbit/s

95th percentile per-packet one-way delay: 121.095 ms

Loss rate: 1.09%

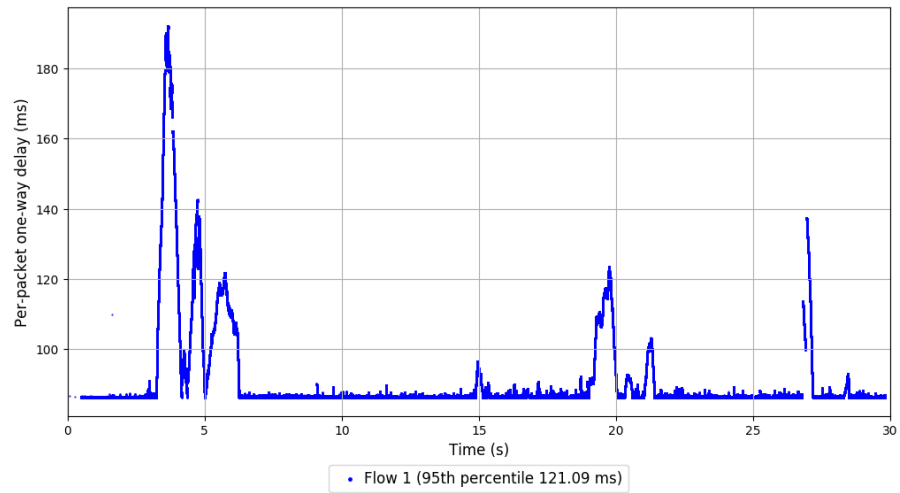
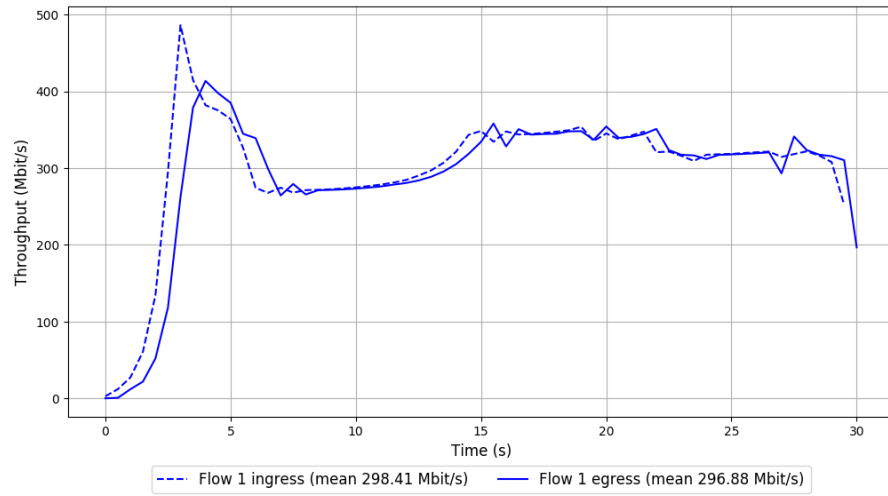
-- Flow 1:

Average throughput: 296.88 Mbit/s

95th percentile per-packet one-way delay: 121.095 ms

Loss rate: 1.09%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

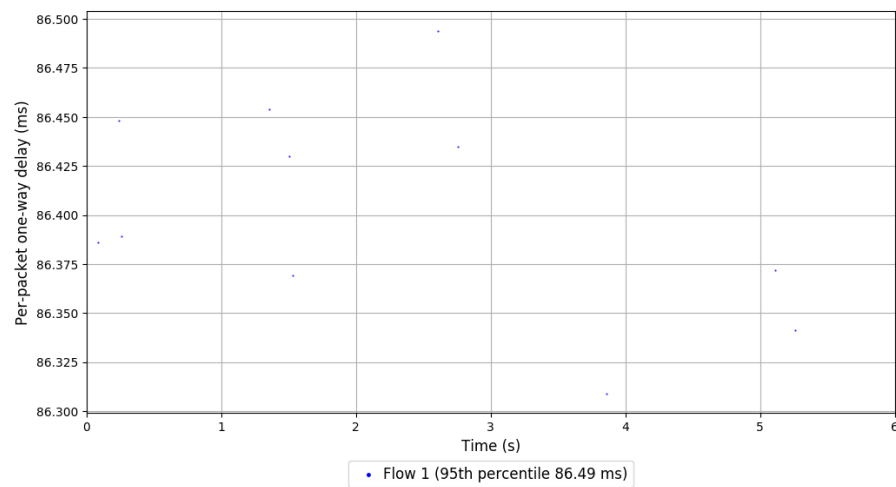
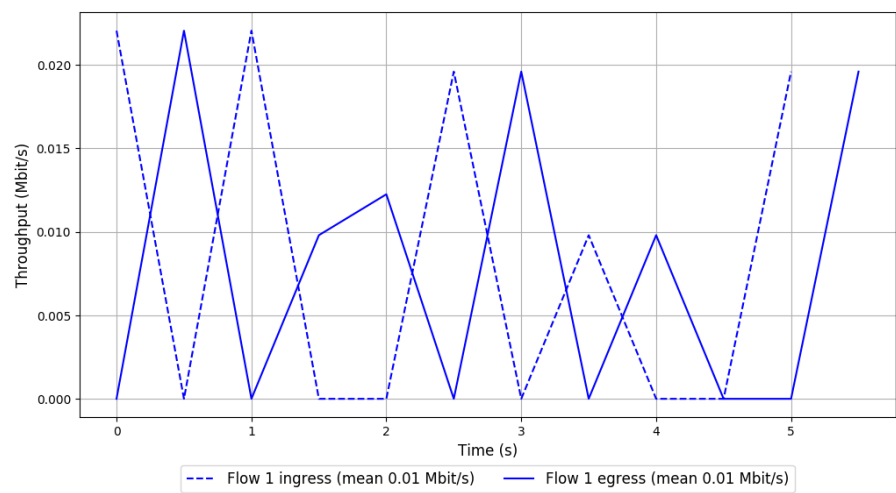
Start at: 2018-09-10 21:43:45

End at: 2018-09-10 21:44:15

Local clock offset: 14.912 ms

Remote clock offset: 15.171 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-10 22:09:46

End at: 2018-09-10 22:10:16

Local clock offset: 19.225 ms

Remote clock offset: 19.181 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.22 Mbit/s

95th percentile per-packet one-way delay: 86.237 ms

Loss rate: 0.97%

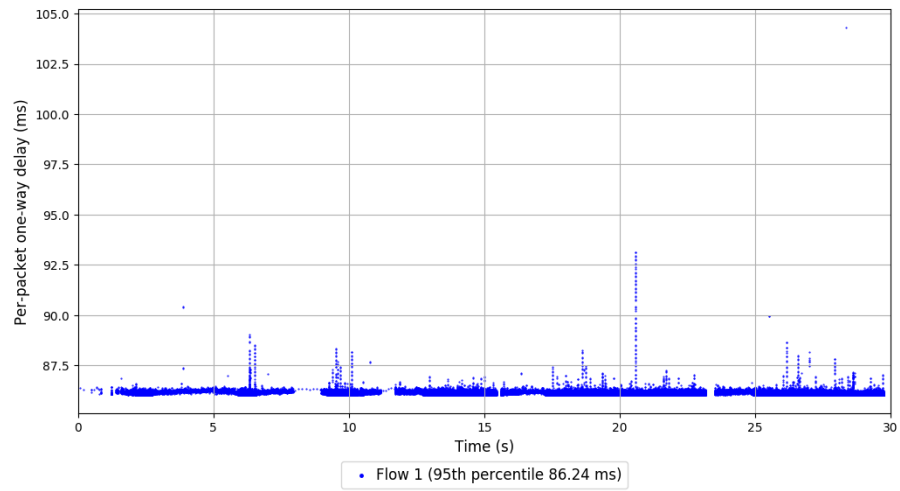
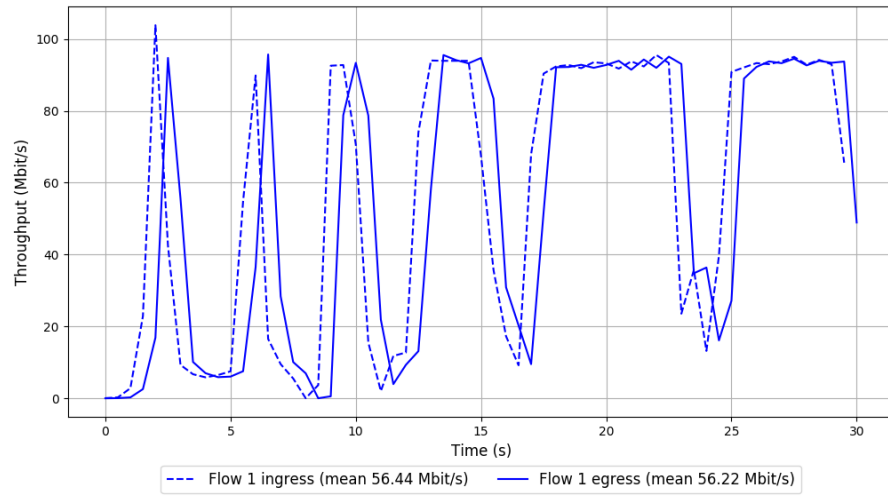
-- Flow 1:

Average throughput: 56.22 Mbit/s

95th percentile per-packet one-way delay: 86.237 ms

Loss rate: 0.97%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-10 22:36:24

End at: 2018-09-10 22:36:54

Local clock offset: 37.853 ms

Remote clock offset: 37.726 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.23 Mbit/s

95th percentile per-packet one-way delay: 86.585 ms

Loss rate: 0.93%

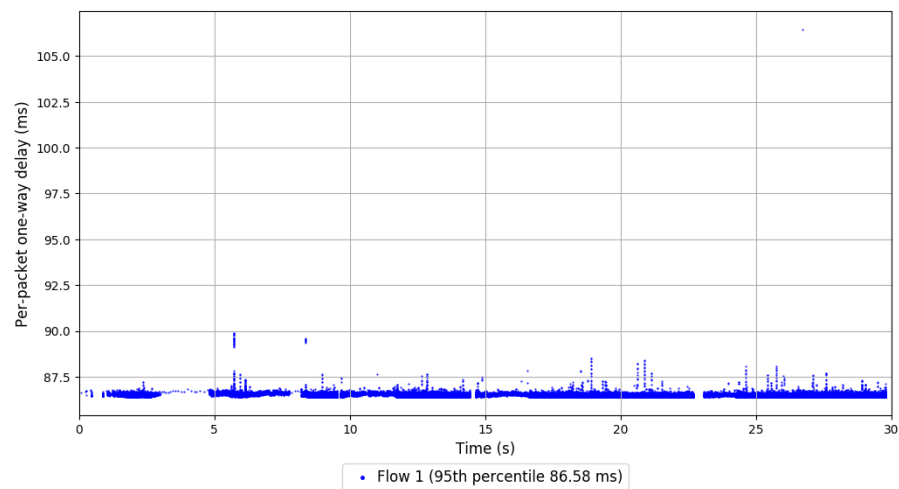
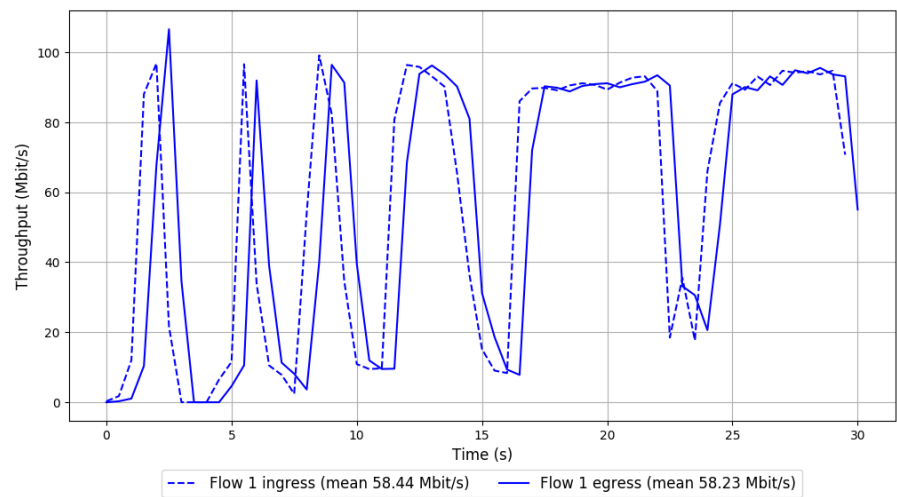
-- Flow 1:

Average throughput: 58.23 Mbit/s

95th percentile per-packet one-way delay: 86.585 ms

Loss rate: 0.93%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-10 23:02:45

End at: 2018-09-10 23:03:15

Local clock offset: 16.274 ms

Remote clock offset: 16.508 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 58.70 Mbit/s

95th percentile per-packet one-way delay: 85.942 ms

Loss rate: 0.96%

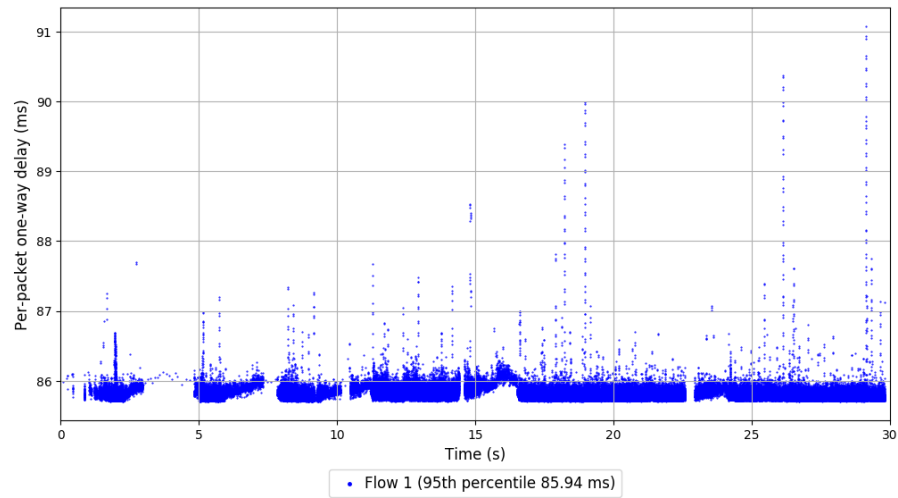
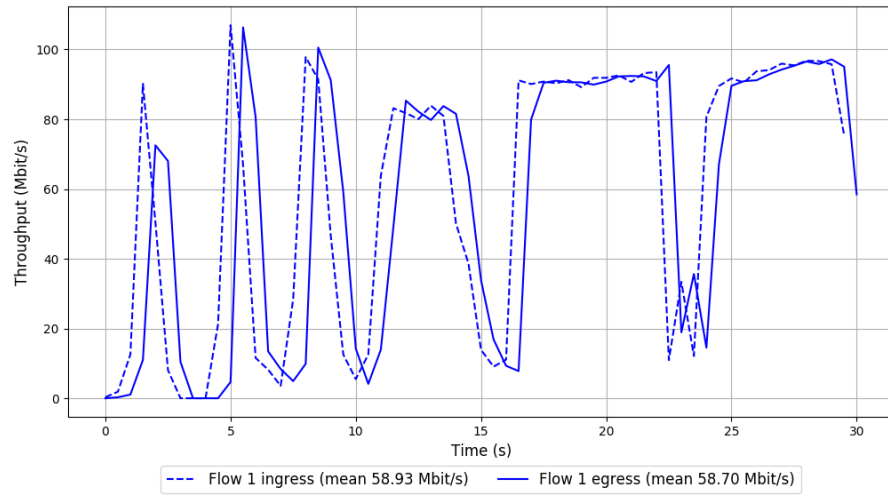
-- Flow 1:

Average throughput: 58.70 Mbit/s

95th percentile per-packet one-way delay: 85.942 ms

Loss rate: 0.96%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-10 23:28:47

End at: 2018-09-10 23:29:17

Local clock offset: 7.004 ms

Remote clock offset: 7.157 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.05 Mbit/s

95th percentile per-packet one-way delay: 86.296 ms

Loss rate: 0.97%

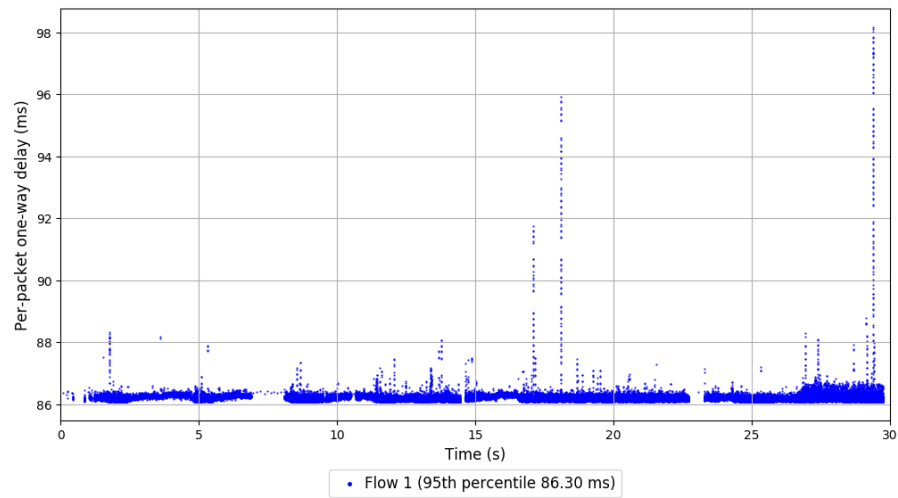
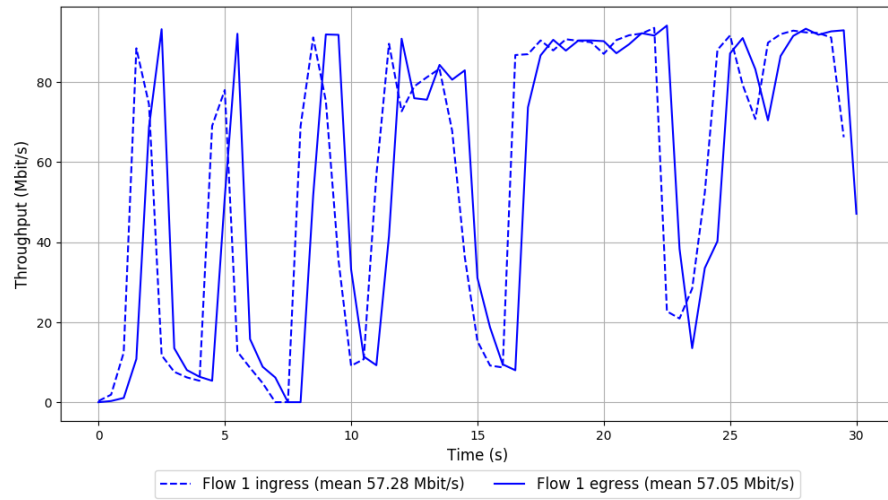
-- Flow 1:

Average throughput: 57.05 Mbit/s

95th percentile per-packet one-way delay: 86.296 ms

Loss rate: 0.97%

Run 5: Report of QUIC Cubic — Data Link

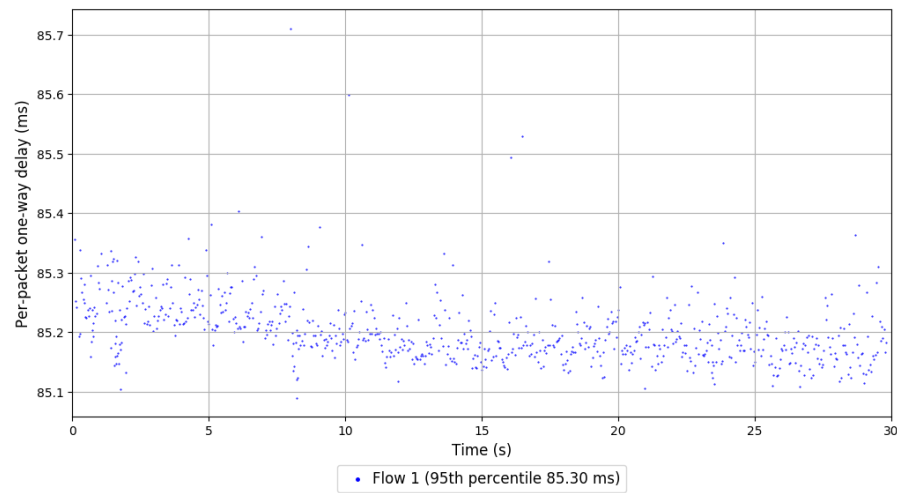
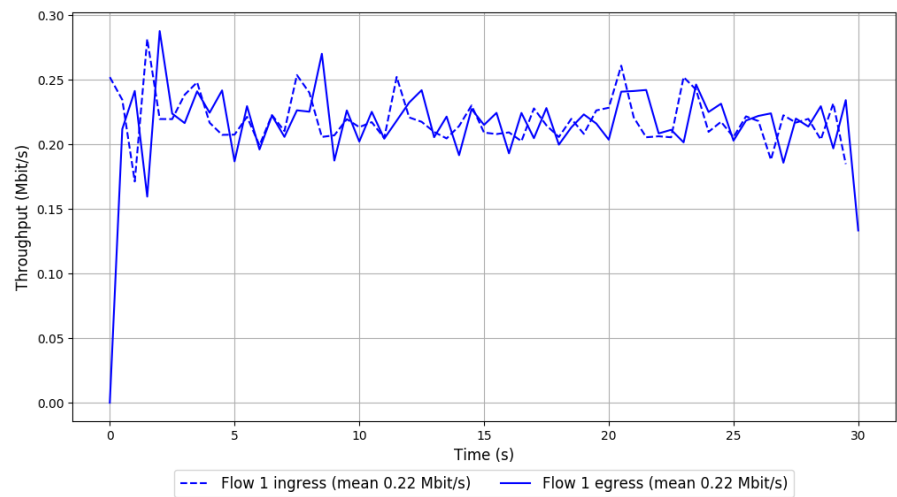


```
Run 1: Statistics of SCReAM

Start at: 2018-09-10 21:29:50
End at: 2018-09-10 21:30:20
Local clock offset: 3.519 ms
Remote clock offset: 4.579 ms

# Below is generated by plot.py at 2018-09-11 01:01:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.296 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.296 ms
Loss rate: 0.64%
```

Run 1: Report of SReAM — Data Link

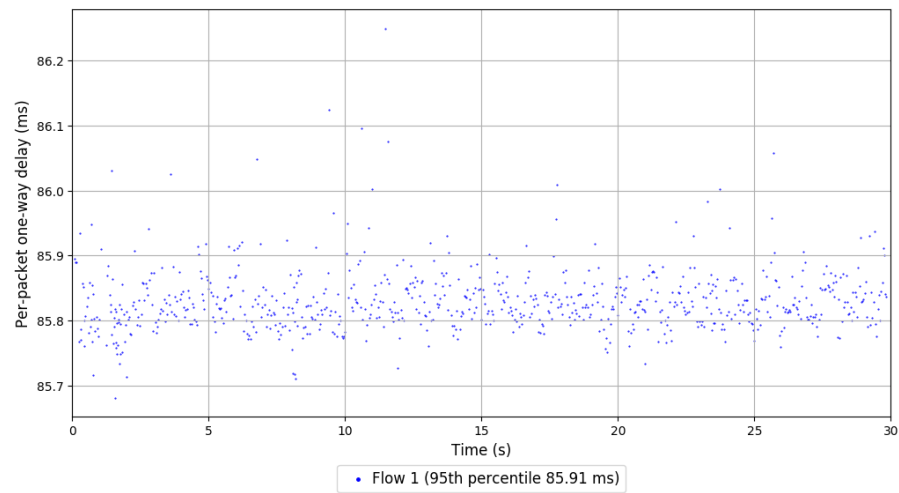
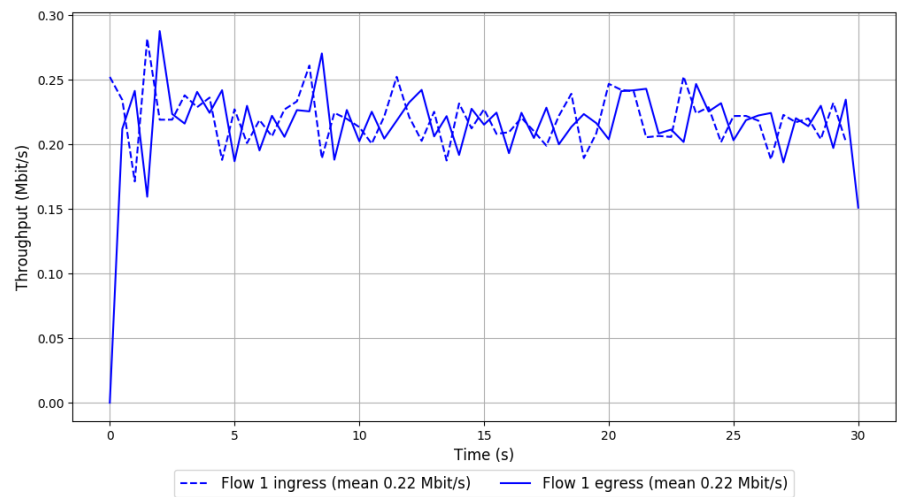


Run 2: Statistics of SCReAM

Start at: 2018-09-10 21:55:22
End at: 2018-09-10 21:55:52
Local clock offset: 16.838 ms
Remote clock offset: 17.124 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.912 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.912 ms
Loss rate: 0.64%

Run 2: Report of SReAM — Data Link

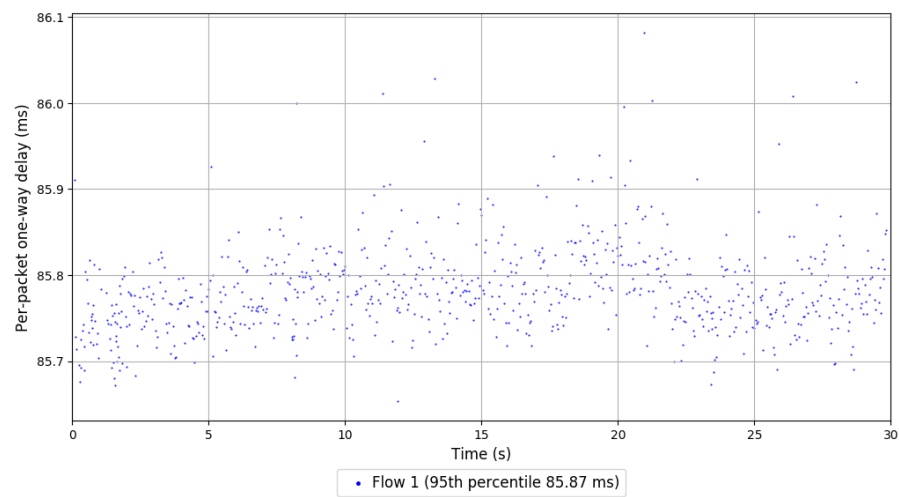
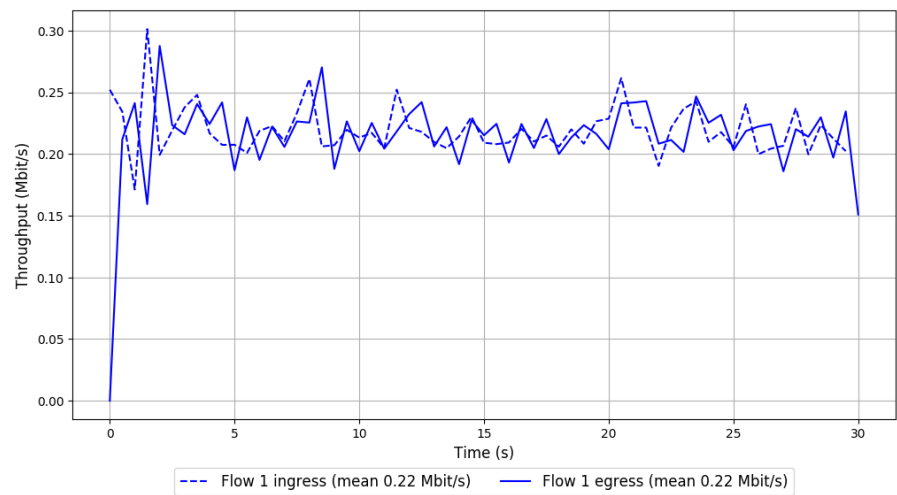


Run 3: Statistics of SCReAM

Start at: 2018-09-10 22:21:51
End at: 2018-09-10 22:22:21
Local clock offset: 24.425 ms
Remote clock offset: 25.028 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.872 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.872 ms
Loss rate: 0.64%

Run 3: Report of SReAM — Data Link

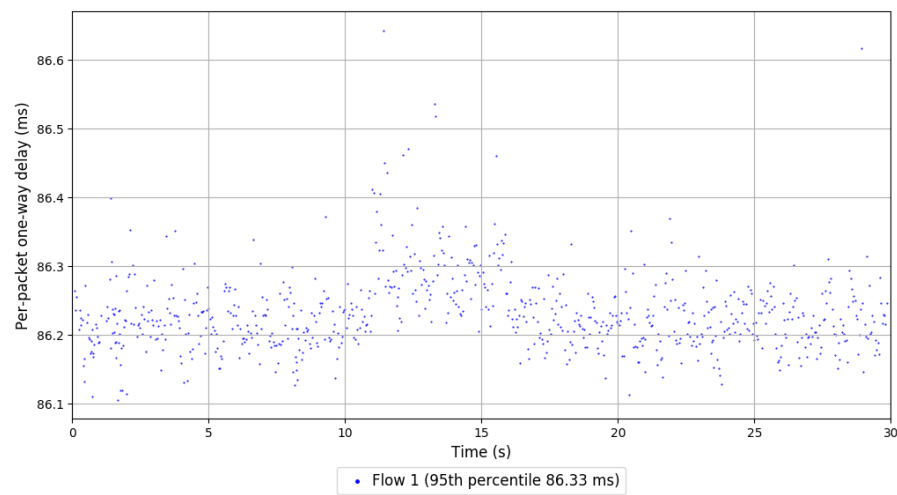
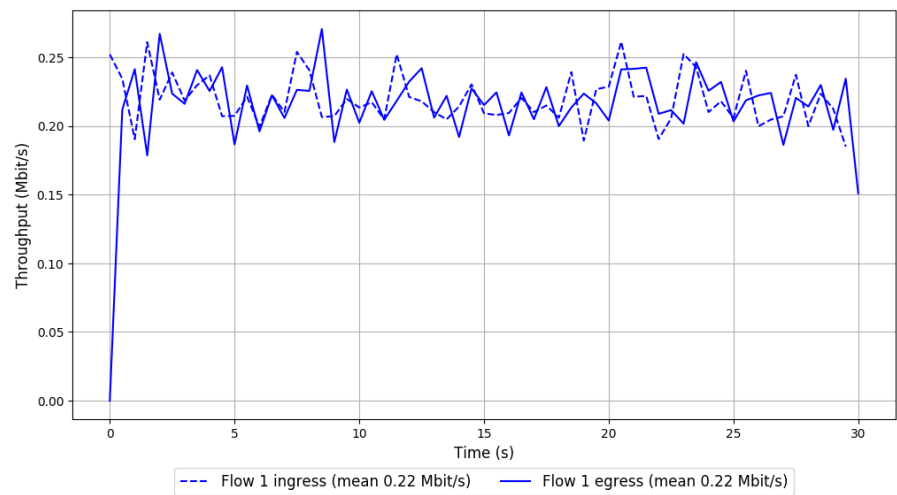


Run 4: Statistics of SCReAM

Start at: 2018-09-10 22:48:33
End at: 2018-09-10 22:49:03
Local clock offset: 15.901 ms
Remote clock offset: 15.924 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.331 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.331 ms
Loss rate: 0.51%

Run 4: Report of SReAM — Data Link

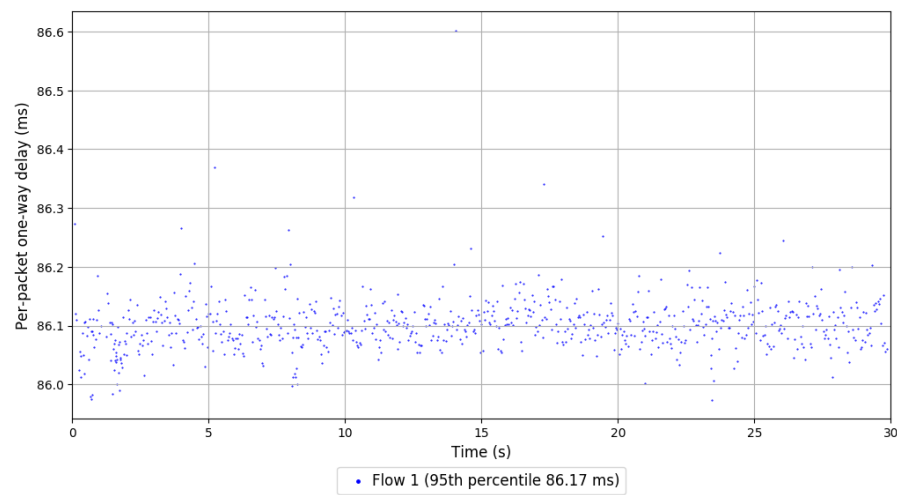
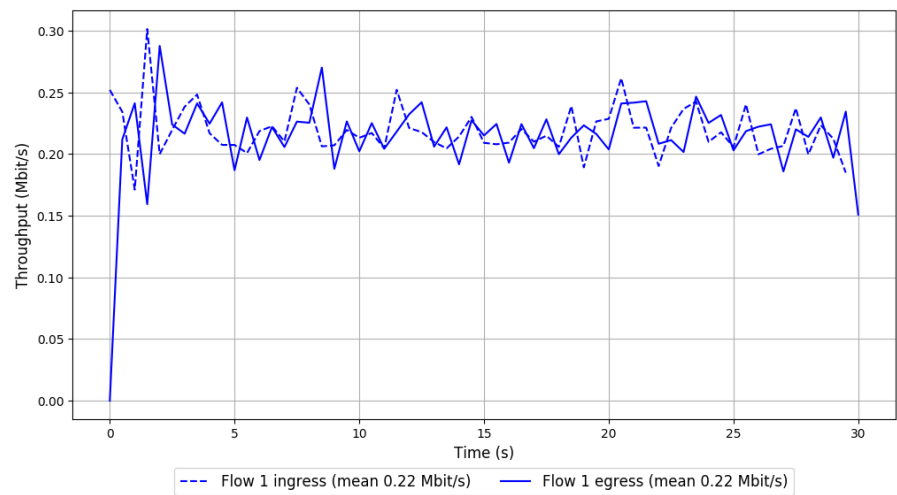


Run 5: Statistics of SCReAM

Start at: 2018-09-10 23:14:44
End at: 2018-09-10 23:15:14
Local clock offset: 12.695 ms
Remote clock offset: 12.819 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.167 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.167 ms
Loss rate: 0.51%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-10 21:31:00

End at: 2018-09-10 21:31:30

Local clock offset: 3.958 ms

Remote clock offset: 4.509 ms

Below is generated by plot.py at 2018-09-11 01:01:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.55 Mbit/s

95th percentile per-packet one-way delay: 86.116 ms

Loss rate: 0.63%

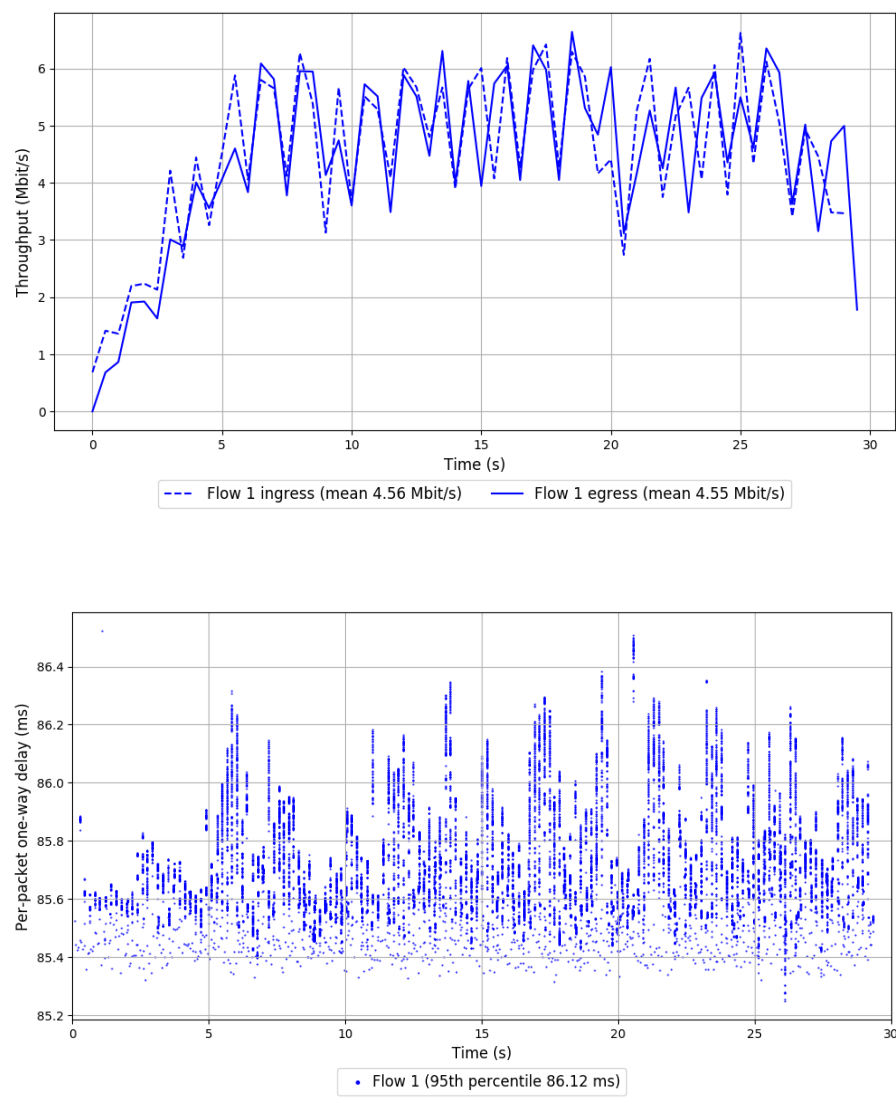
-- Flow 1:

Average throughput: 4.55 Mbit/s

95th percentile per-packet one-way delay: 86.116 ms

Loss rate: 0.63%

Run 1: Report of Sprout — Data Link

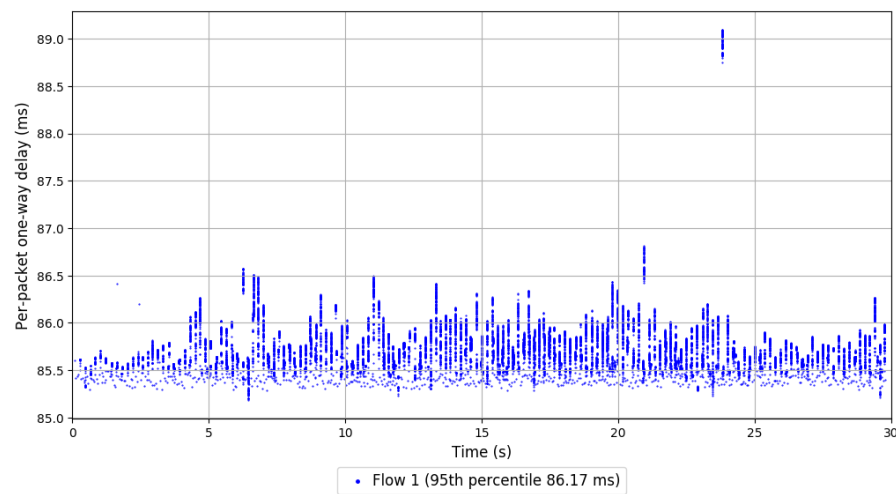
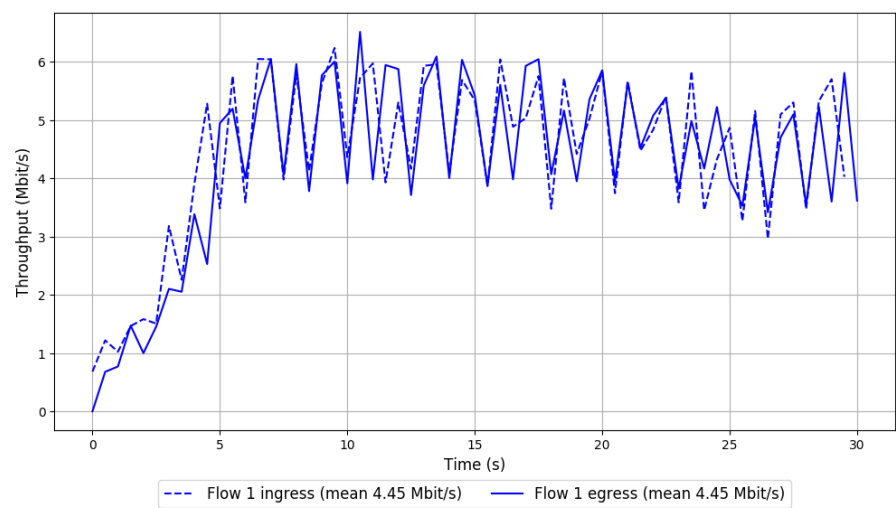


Run 2: Statistics of Sprout

Start at: 2018-09-10 21:56:30
End at: 2018-09-10 21:57:00
Local clock offset: 18.005 ms
Remote clock offset: 18.669 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 86.172 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 86.172 ms
Loss rate: 0.76%

Run 2: Report of Sprout — Data Link

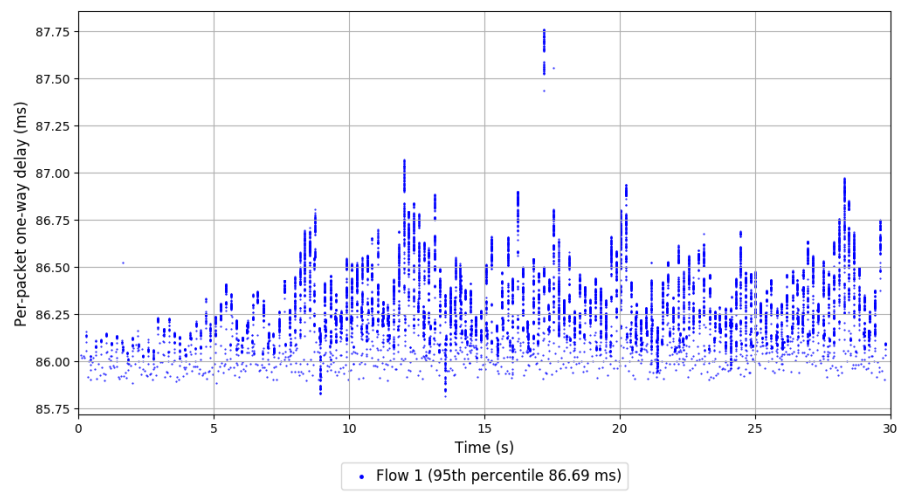
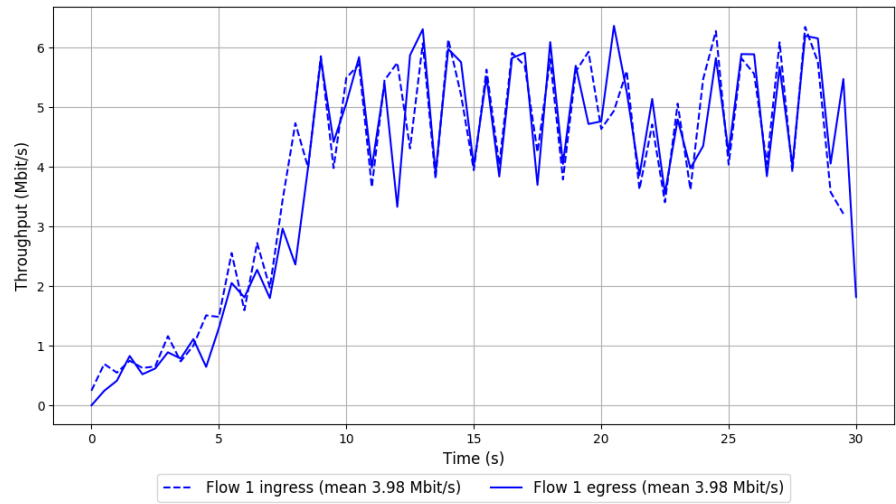


Run 3: Statistics of Sprout

Start at: 2018-09-10 22:22:59
End at: 2018-09-10 22:23:29
Local clock offset: 25.482 ms
Remote clock offset: 25.844 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 86.695 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 86.695 ms
Loss rate: 0.59%

Run 3: Report of Sprout — Data Link

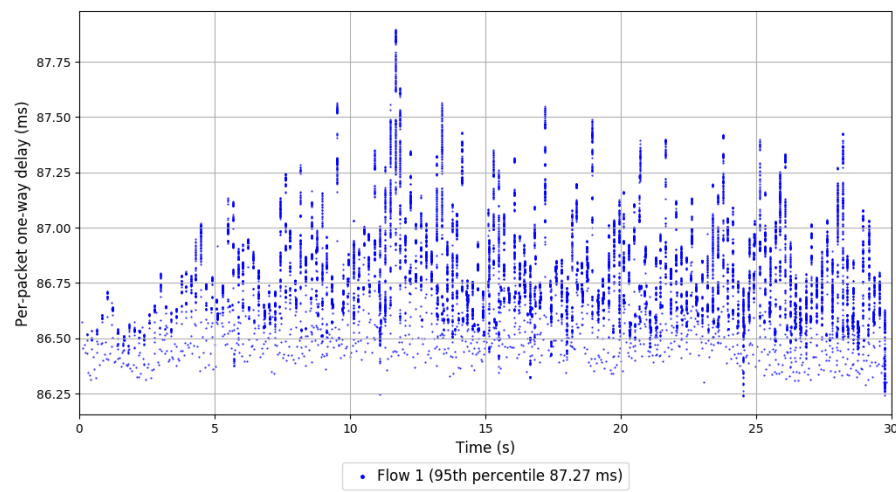
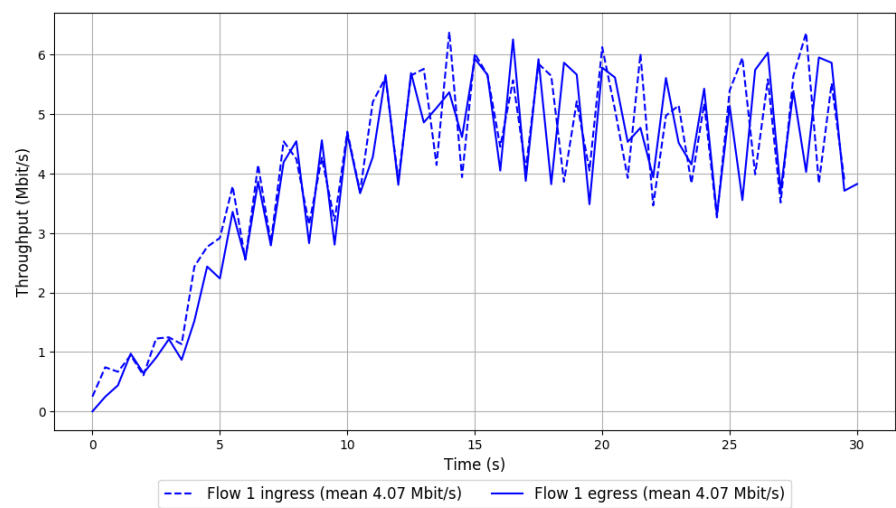


Run 4: Statistics of Sprout

Start at: 2018-09-10 22:49:41
End at: 2018-09-10 22:50:11
Local clock offset: 15.566 ms
Remote clock offset: 15.458 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 87.270 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 87.270 ms
Loss rate: 0.77%

Run 4: Report of Sprout — Data Link

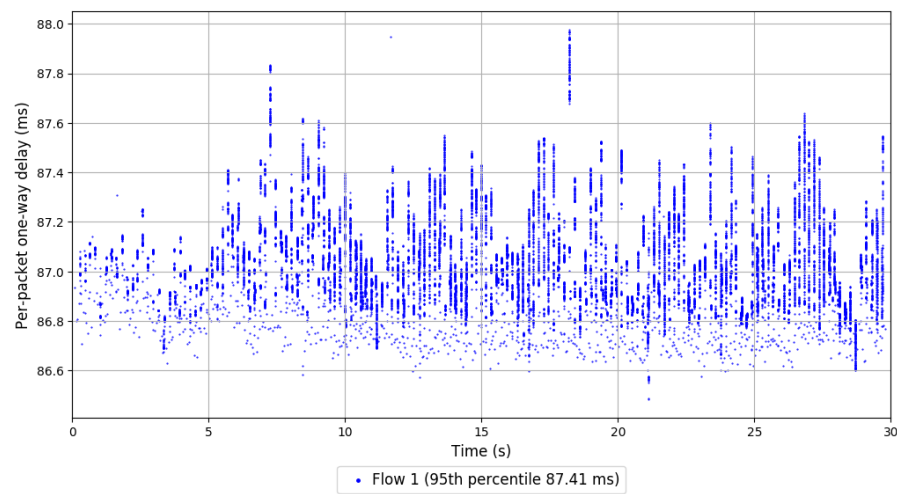
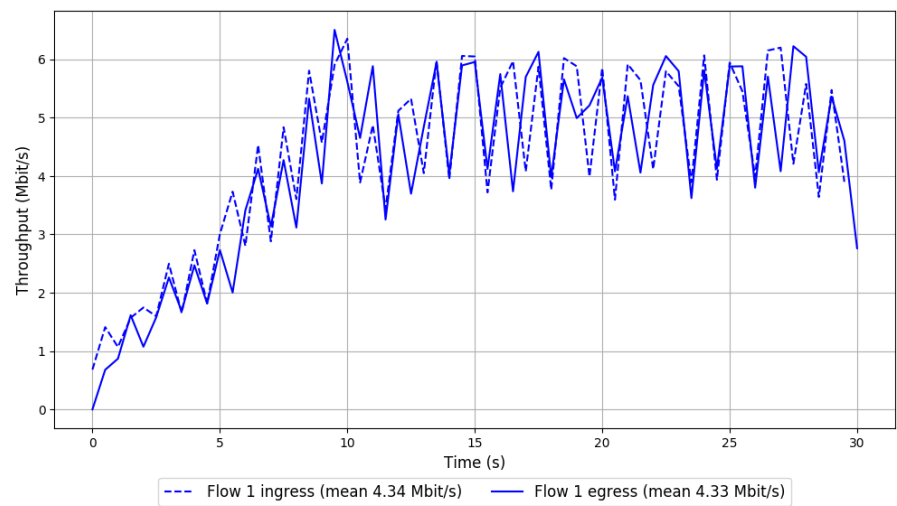


Run 5: Statistics of Sprout

Start at: 2018-09-10 23:15:52
End at: 2018-09-10 23:16:22
Local clock offset: 11.785 ms
Remote clock offset: 11.649 ms

Below is generated by plot.py at 2018-09-11 01:01:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 87.407 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 87.407 ms
Loss rate: 0.78%

Run 5: Report of Sprout — Data Link

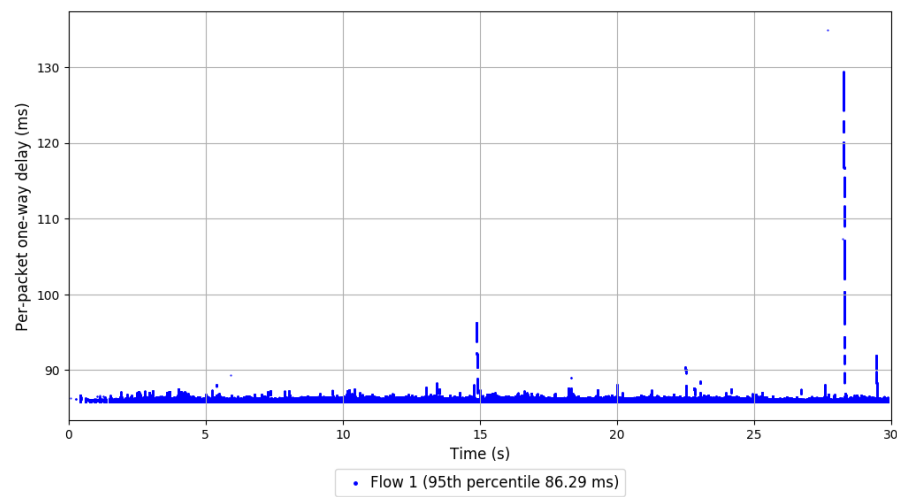
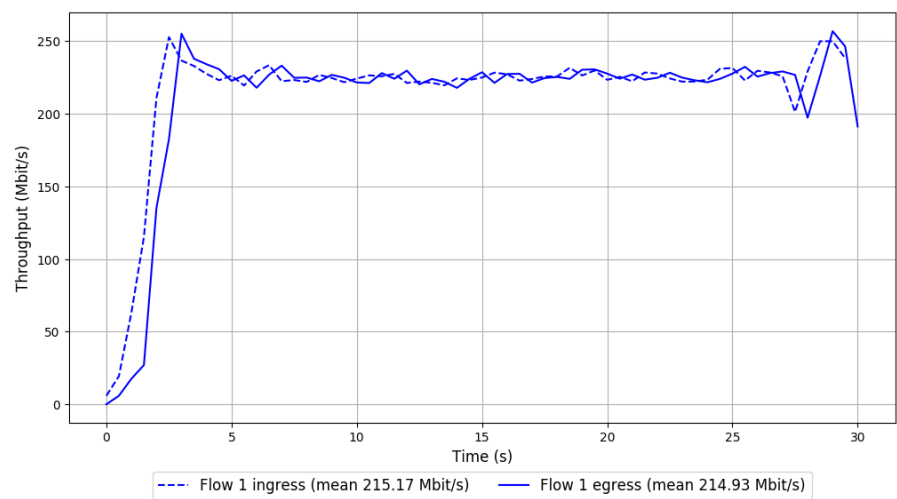


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-10 21:47:48
End at: 2018-09-10 21:48:18
Local clock offset: 13.076 ms
Remote clock offset: 13.185 ms

# Below is generated by plot.py at 2018-09-11 01:06:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.93 Mbit/s
95th percentile per-packet one-way delay: 86.292 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 214.93 Mbit/s
95th percentile per-packet one-way delay: 86.292 ms
Loss rate: 0.69%
```

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

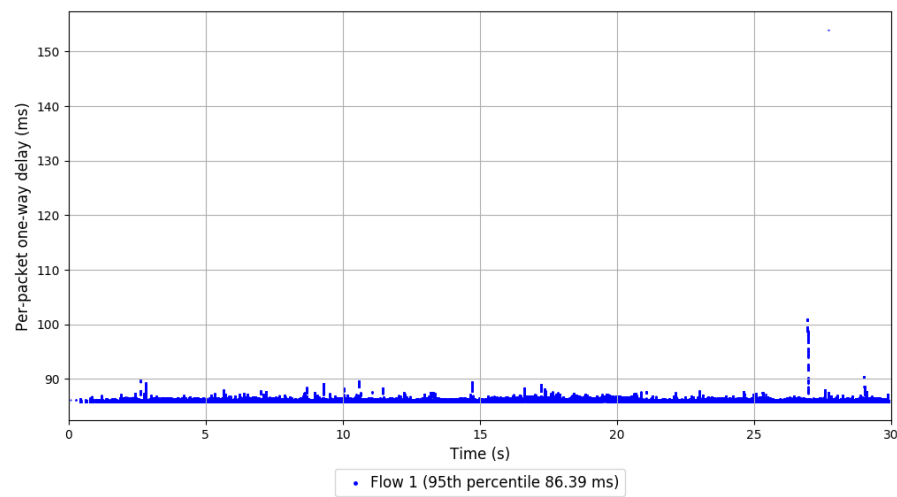
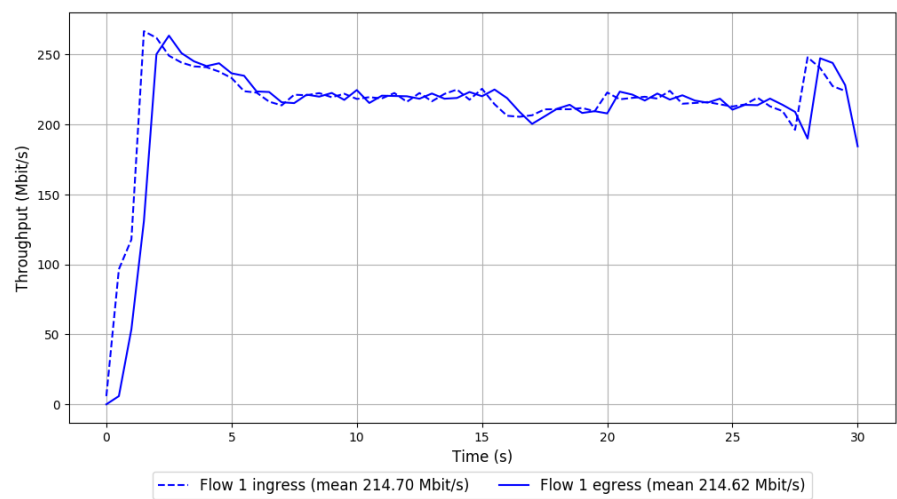


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-10 22:14:07
End at: 2018-09-10 22:14:37
Local clock offset: 19.719 ms
Remote clock offset: 19.905 ms

Below is generated by plot.py at 2018-09-11 01:06:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 214.62 Mbit/s
95th percentile per-packet one-way delay: 86.394 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 214.62 Mbit/s
95th percentile per-packet one-way delay: 86.394 ms
Loss rate: 0.62%

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

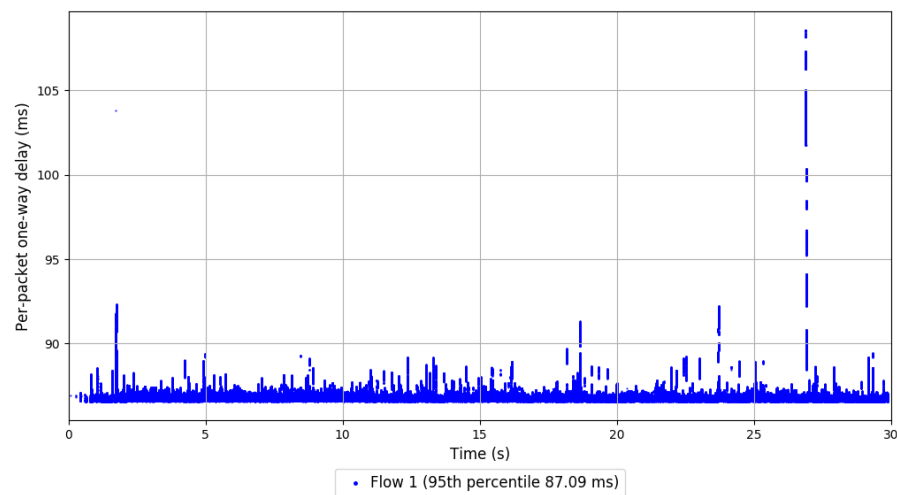
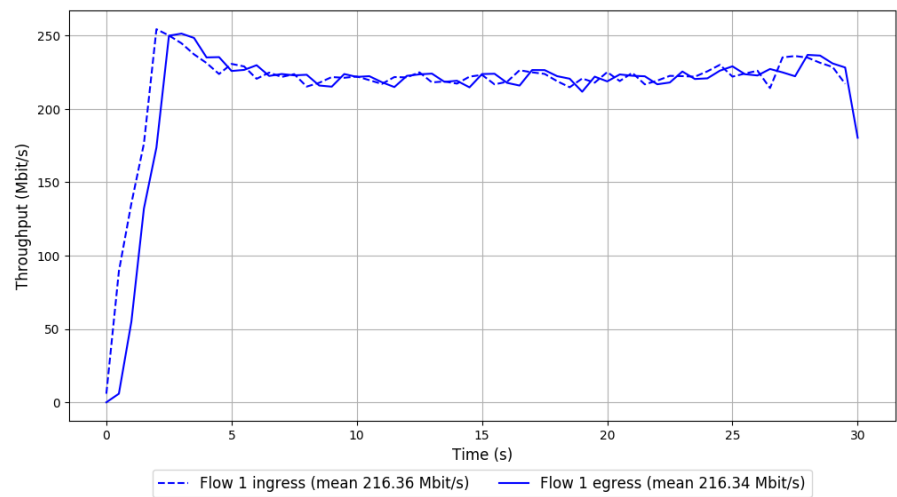


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-10 22:40:42
End at: 2018-09-10 22:41:12
Local clock offset: 25.606 ms
Remote clock offset: 25.486 ms

Below is generated by plot.py at 2018-09-11 01:06:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 216.34 Mbit/s
95th percentile per-packet one-way delay: 87.091 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 216.34 Mbit/s
95th percentile per-packet one-way delay: 87.091 ms
Loss rate: 0.59%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-10 23:07:03

End at: 2018-09-10 23:07:33

Local clock offset: 17.858 ms

Remote clock offset: 18.23 ms

Below is generated by plot.py at 2018-09-11 01:06:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 210.32 Mbit/s

95th percentile per-packet one-way delay: 86.020 ms

Loss rate: 0.65%

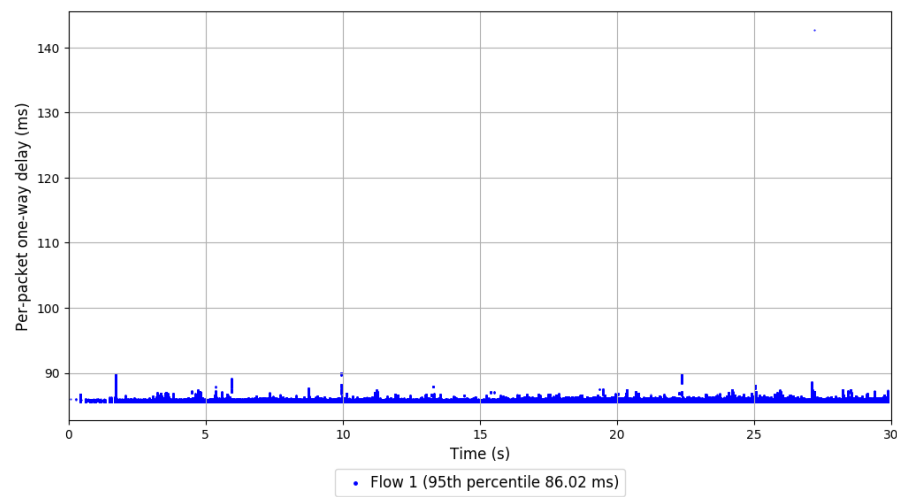
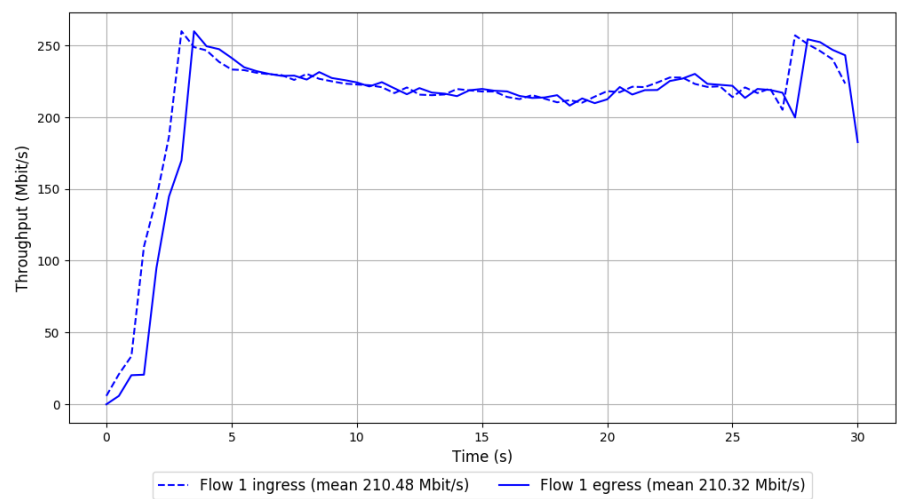
-- Flow 1:

Average throughput: 210.32 Mbit/s

95th percentile per-packet one-way delay: 86.020 ms

Loss rate: 0.65%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-10 23:33:07

End at: 2018-09-10 23:33:37

Local clock offset: 7.214 ms

Remote clock offset: 7.418 ms

Below is generated by plot.py at 2018-09-11 01:06:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 216.29 Mbit/s

95th percentile per-packet one-way delay: 86.010 ms

Loss rate: 0.62%

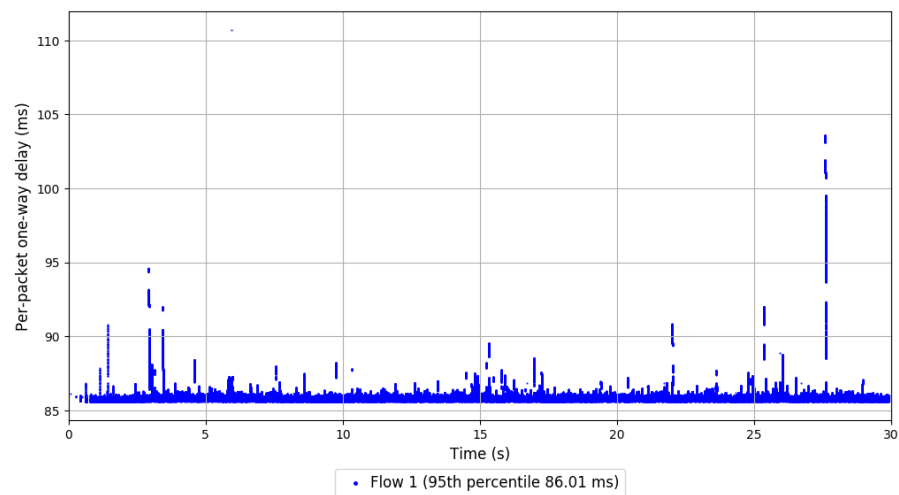
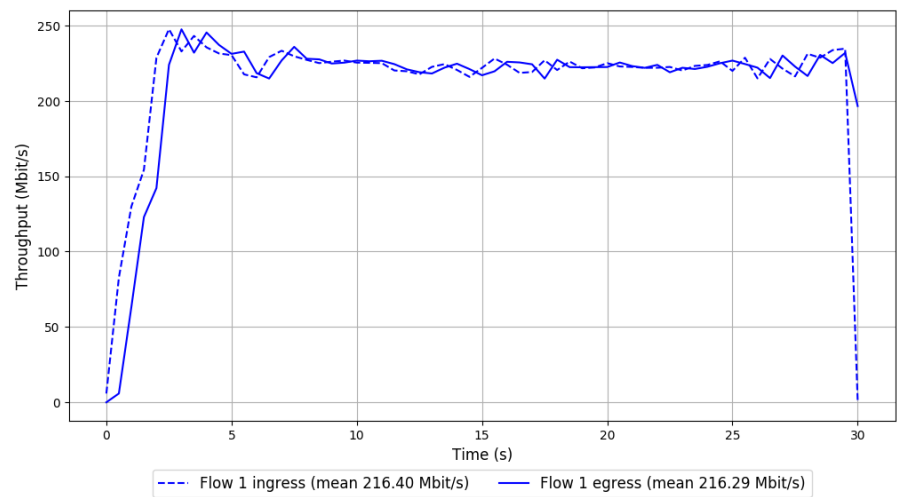
-- Flow 1:

Average throughput: 216.29 Mbit/s

95th percentile per-packet one-way delay: 86.010 ms

Loss rate: 0.62%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-10 21:32:09

End at: 2018-09-10 21:32:39

Local clock offset: 7.145 ms

Remote clock offset: 7.74 ms

Below is generated by plot.py at 2018-09-11 01:07:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 446.48 Mbit/s

95th percentile per-packet one-way delay: 88.637 ms

Loss rate: 0.62%

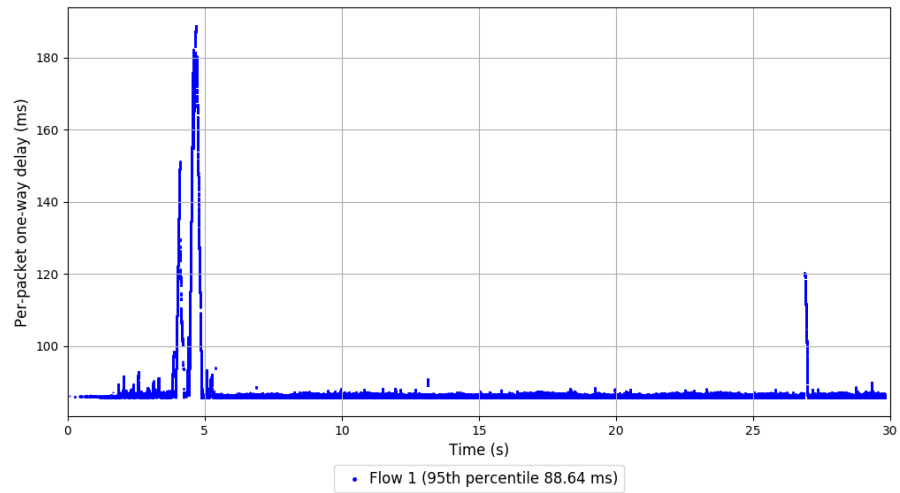
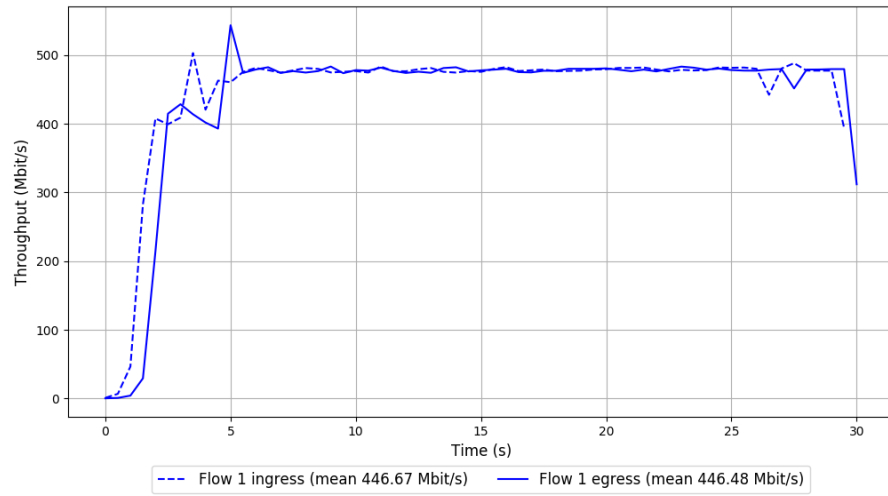
-- Flow 1:

Average throughput: 446.48 Mbit/s

95th percentile per-packet one-way delay: 88.637 ms

Loss rate: 0.62%

Run 1: Report of TCP Vegas — Data Link

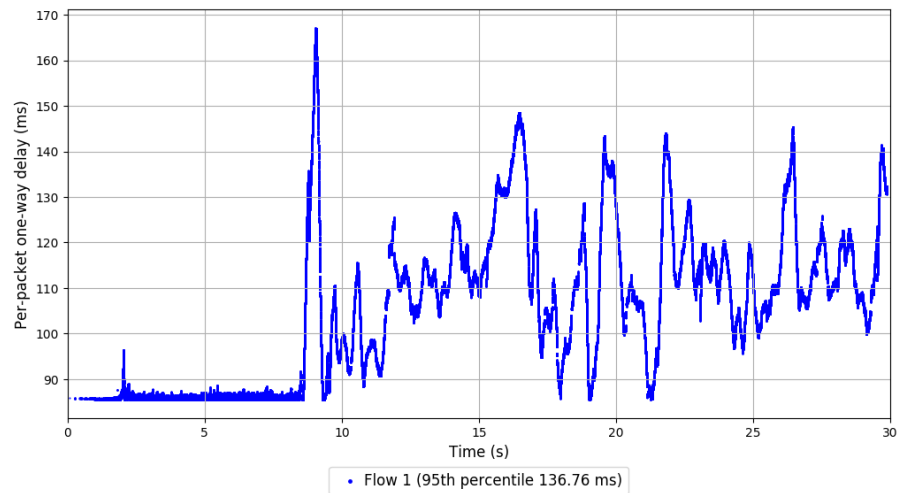
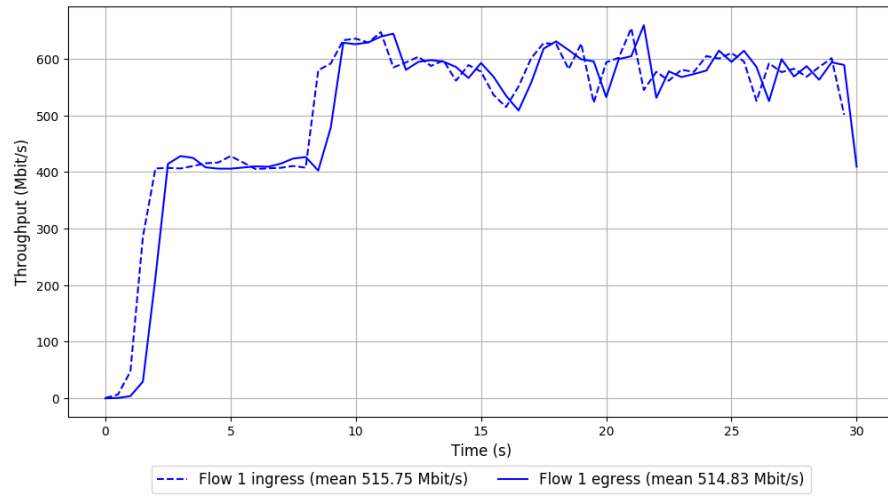


Run 2: Statistics of TCP Vegas

Start at: 2018-09-10 21:57:39
End at: 2018-09-10 21:58:09
Local clock offset: 19.596 ms
Remote clock offset: 19.943 ms

Below is generated by plot.py at 2018-09-11 01:11:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 514.83 Mbit/s
95th percentile per-packet one-way delay: 136.761 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 514.83 Mbit/s
95th percentile per-packet one-way delay: 136.761 ms
Loss rate: 0.75%

Run 2: Report of TCP Vegas — Data Link

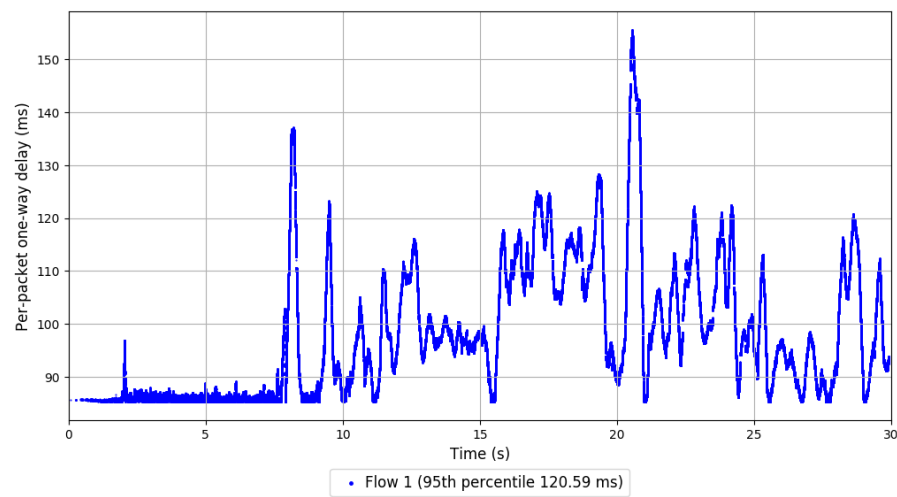
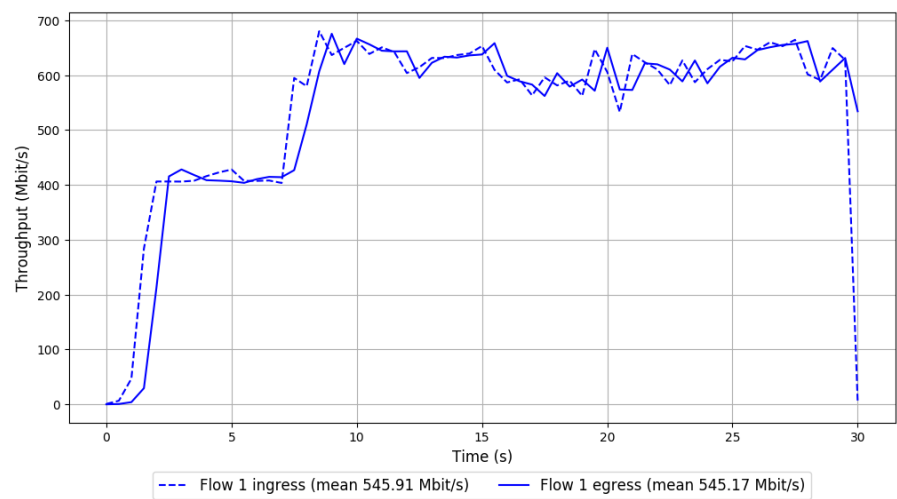


Run 3: Statistics of TCP Vegas

Start at: 2018-09-10 22:24:08
End at: 2018-09-10 22:24:38
Local clock offset: 26.386 ms
Remote clock offset: 27.066 ms

Below is generated by plot.py at 2018-09-11 01:12:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 545.17 Mbit/s
95th percentile per-packet one-way delay: 120.594 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 545.17 Mbit/s
95th percentile per-packet one-way delay: 120.594 ms
Loss rate: 0.71%

Run 3: Report of TCP Vegas — Data Link

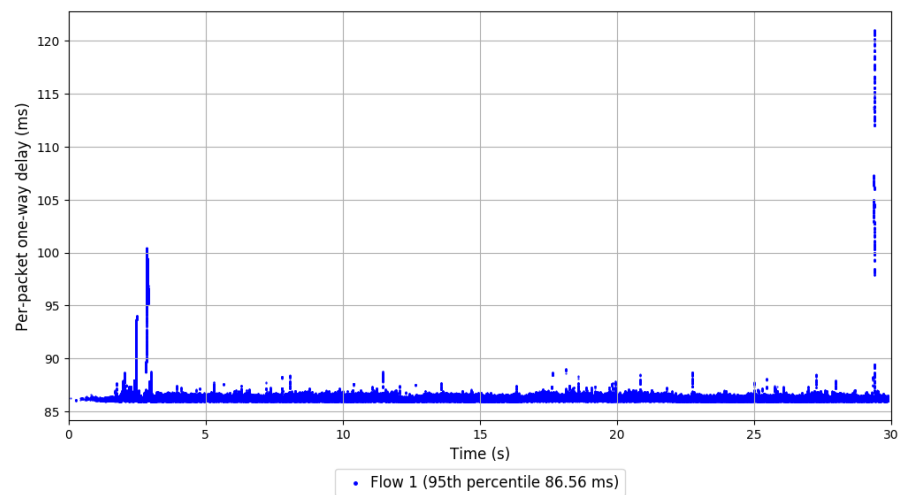
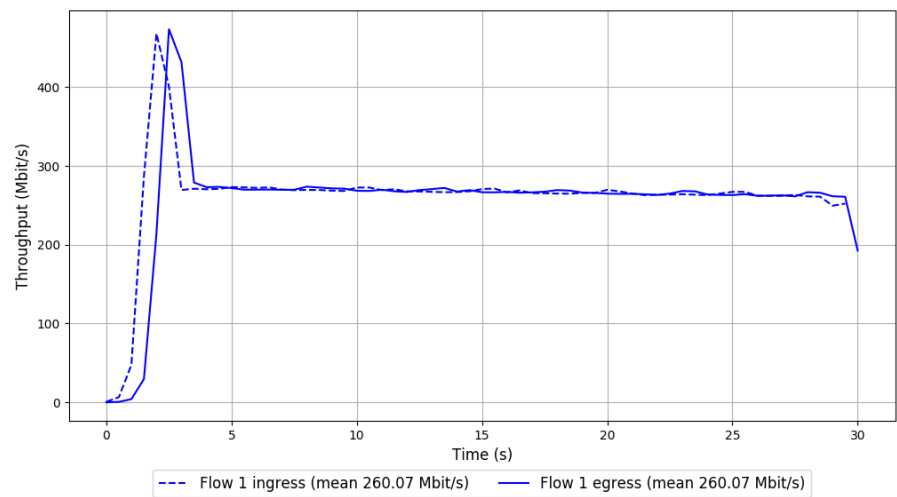


Run 4: Statistics of TCP Vegas

Start at: 2018-09-10 22:50:50
End at: 2018-09-10 22:51:20
Local clock offset: 15.197 ms
Remote clock offset: 15.135 ms

Below is generated by plot.py at 2018-09-11 01:12:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 260.07 Mbit/s
95th percentile per-packet one-way delay: 86.563 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 260.07 Mbit/s
95th percentile per-packet one-way delay: 86.563 ms
Loss rate: 0.58%

Run 4: Report of TCP Vegas — Data Link

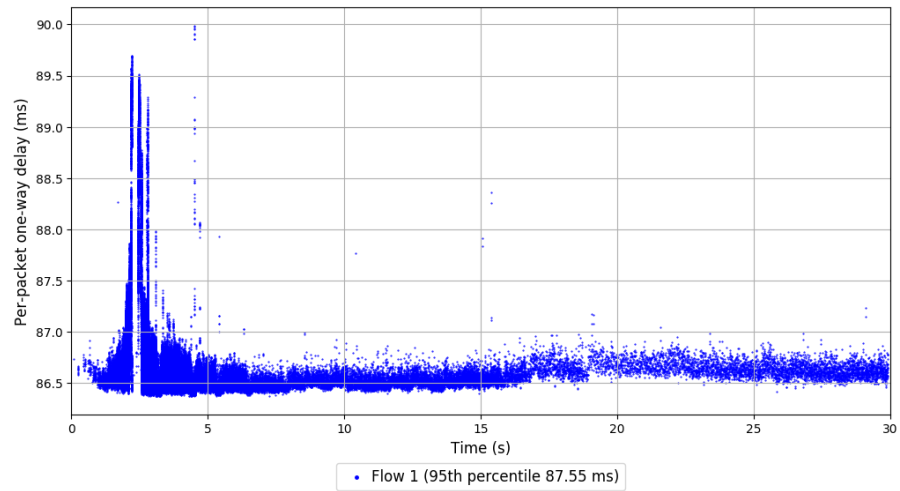
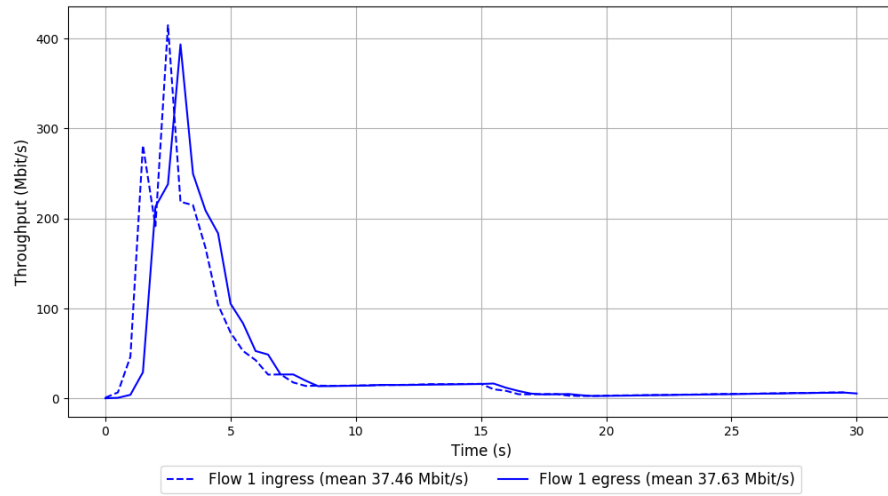


Run 5: Statistics of TCP Vegas

Start at: 2018-09-10 23:17:01
End at: 2018-09-10 23:17:31
Local clock offset: 10.702 ms
Remote clock offset: 10.627 ms

Below is generated by plot.py at 2018-09-11 01:12:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.63 Mbit/s
95th percentile per-packet one-way delay: 87.553 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 37.63 Mbit/s
95th percentile per-packet one-way delay: 87.553 ms
Loss rate: 0.11%

Run 5: Report of TCP Vegas — Data Link

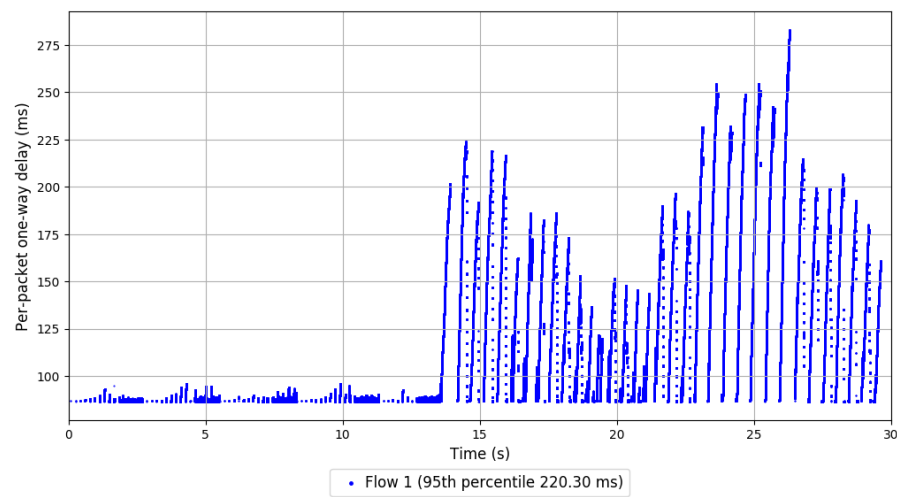
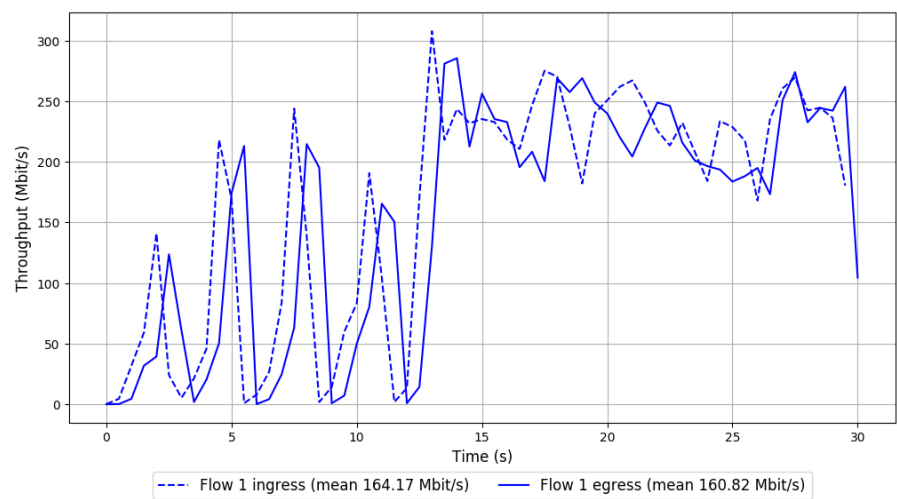


Run 1: Statistics of Verus

Start at: 2018-09-10 21:50:55
End at: 2018-09-10 21:51:25
Local clock offset: 13.269 ms
Remote clock offset: 13.223 ms

Below is generated by plot.py at 2018-09-11 01:12:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 160.82 Mbit/s
95th percentile per-packet one-way delay: 220.296 ms
Loss rate: 3.17%
-- Flow 1:
Average throughput: 160.82 Mbit/s
95th percentile per-packet one-way delay: 220.296 ms
Loss rate: 3.17%

Run 1: Report of Verus — Data Link

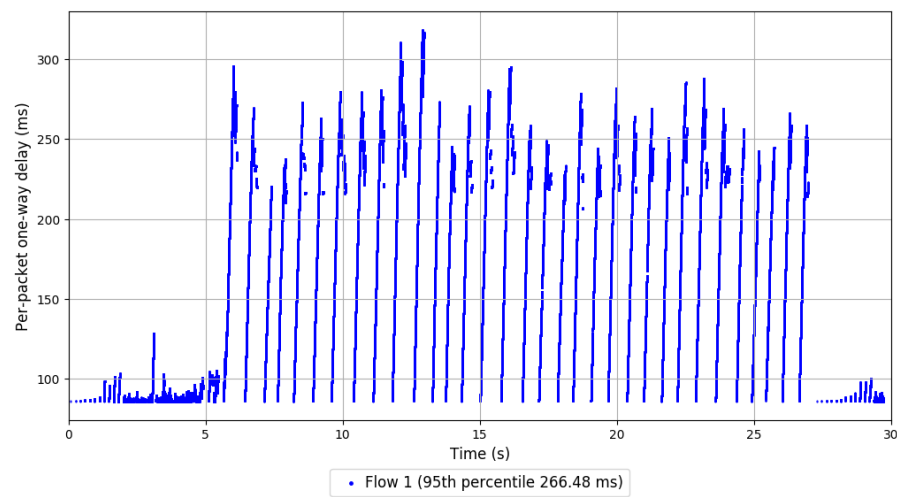
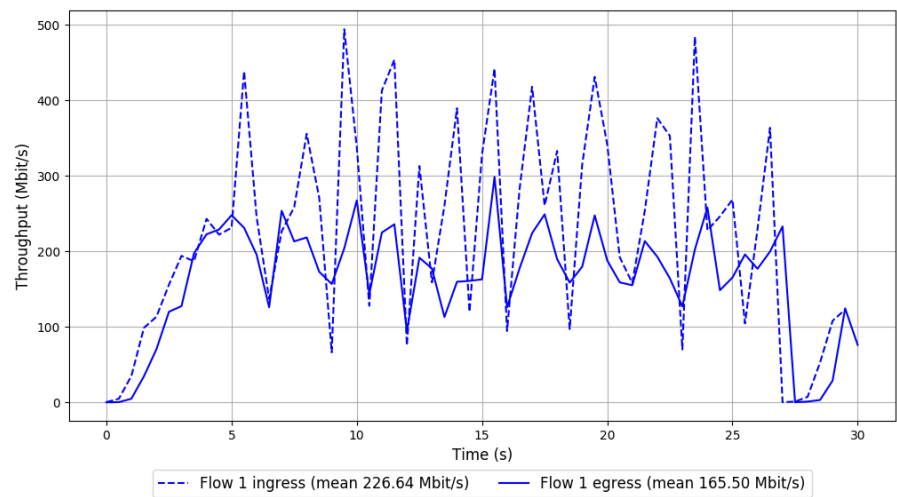


Run 2: Statistics of Verus

Start at: 2018-09-10 22:17:14
End at: 2018-09-10 22:17:44
Local clock offset: 21.378 ms
Remote clock offset: 21.587 ms

Below is generated by plot.py at 2018-09-11 01:13:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 165.50 Mbit/s
95th percentile per-packet one-way delay: 266.475 ms
Loss rate: 27.75%
-- Flow 1:
Average throughput: 165.50 Mbit/s
95th percentile per-packet one-way delay: 266.475 ms
Loss rate: 27.75%

Run 2: Report of Verus — Data Link

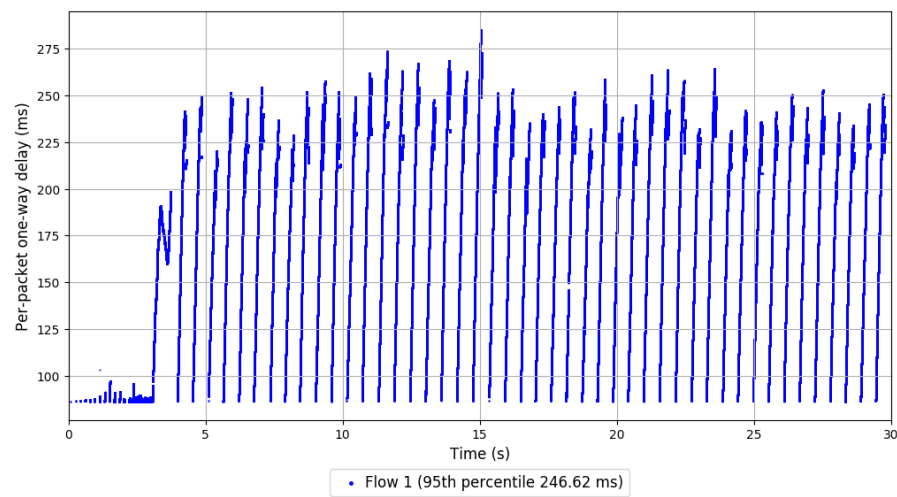
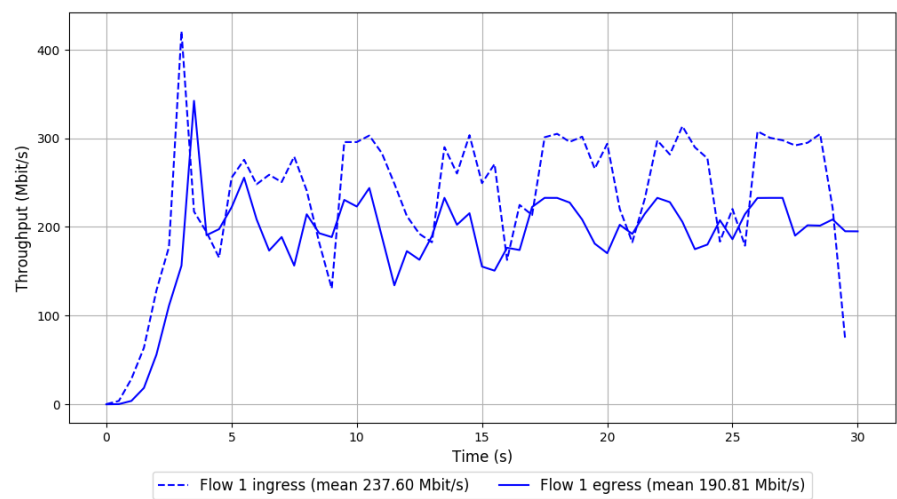


Run 3: Statistics of Verus

Start at: 2018-09-10 22:43:49
End at: 2018-09-10 22:44:19
Local clock offset: 20.186 ms
Remote clock offset: 20.035 ms

Below is generated by plot.py at 2018-09-11 01:14:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 190.81 Mbit/s
95th percentile per-packet one-way delay: 246.621 ms
Loss rate: 19.29%
-- Flow 1:
Average throughput: 190.81 Mbit/s
95th percentile per-packet one-way delay: 246.621 ms
Loss rate: 19.29%

Run 3: Report of Verus — Data Link

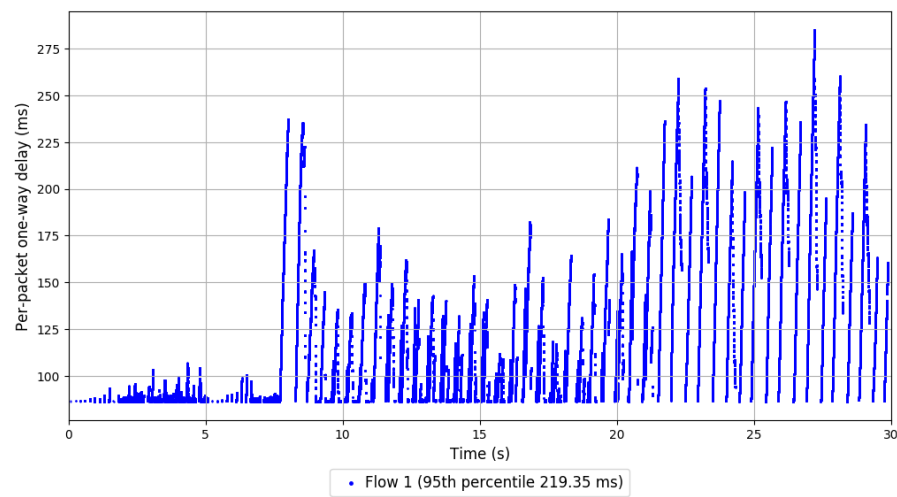
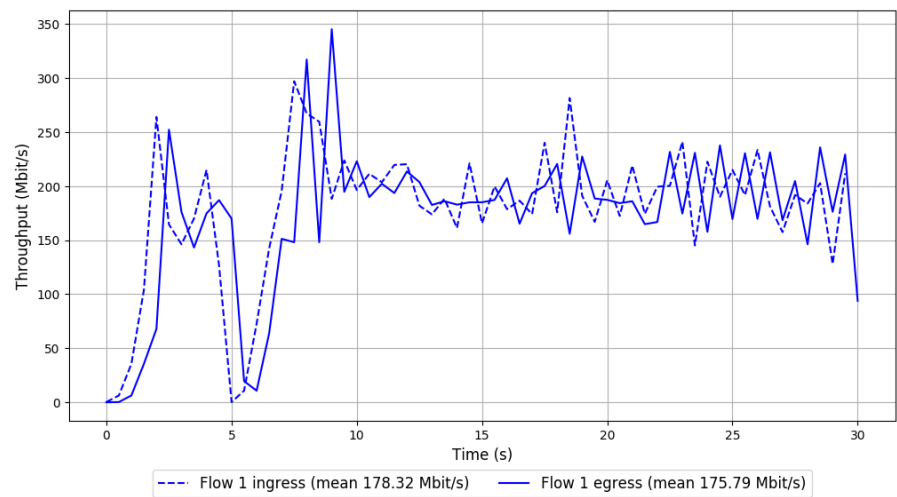


Run 4: Statistics of Verus

Start at: 2018-09-10 23:10:09
End at: 2018-09-10 23:10:39
Local clock offset: 19.261 ms
Remote clock offset: 19.607 ms

Below is generated by plot.py at 2018-09-11 01:14:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 175.79 Mbit/s
95th percentile per-packet one-way delay: 219.352 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 175.79 Mbit/s
95th percentile per-packet one-way delay: 219.352 ms
Loss rate: 1.99%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-10 23:36:12

End at: 2018-09-10 23:36:42

Local clock offset: 7.7 ms

Remote clock offset: 7.819 ms

Below is generated by plot.py at 2018-09-11 01:14:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 116.78 Mbit/s

95th percentile per-packet one-way delay: 148.424 ms

Loss rate: 0.11%

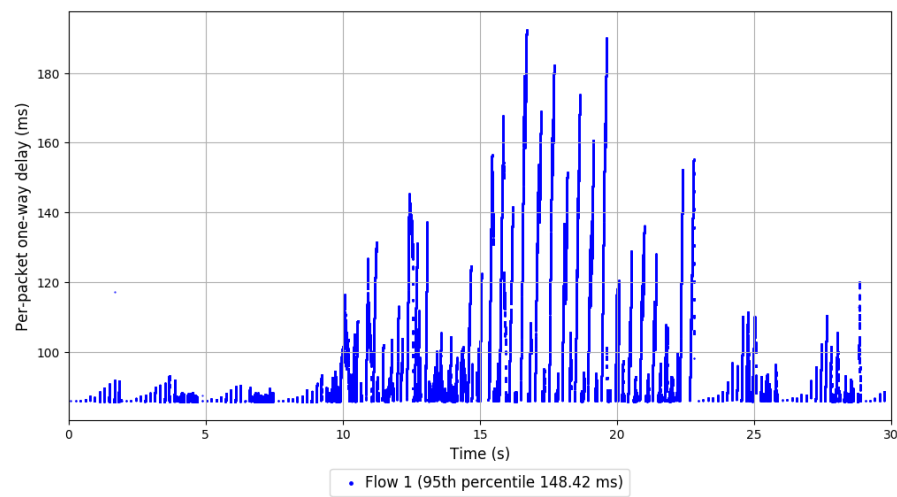
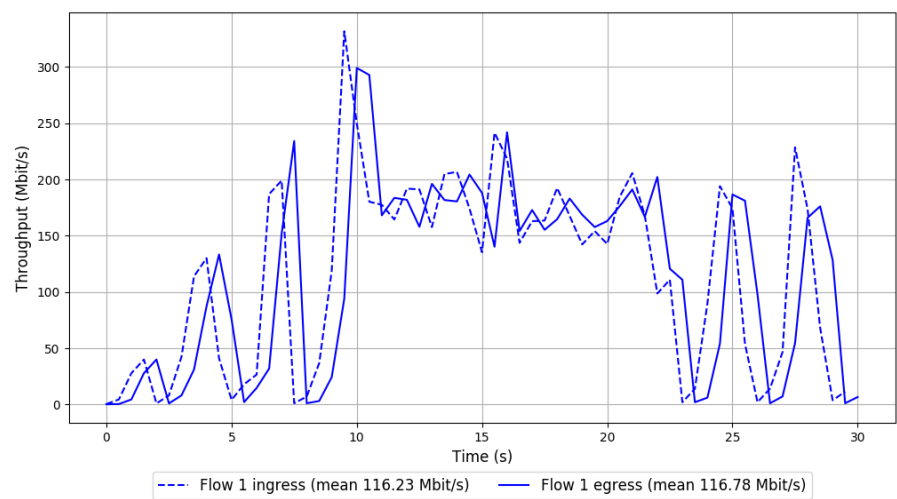
-- Flow 1:

Average throughput: 116.78 Mbit/s

95th percentile per-packet one-way delay: 148.424 ms

Loss rate: 0.11%

Run 5: Report of Verus — Data Link

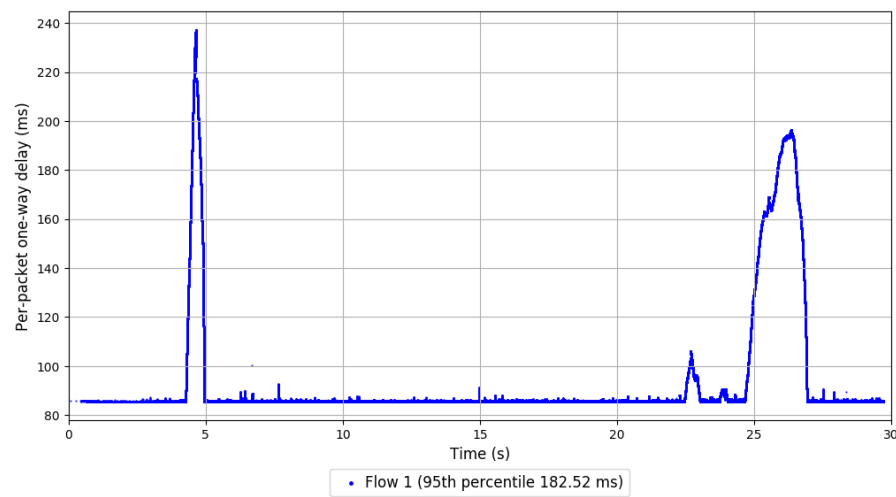
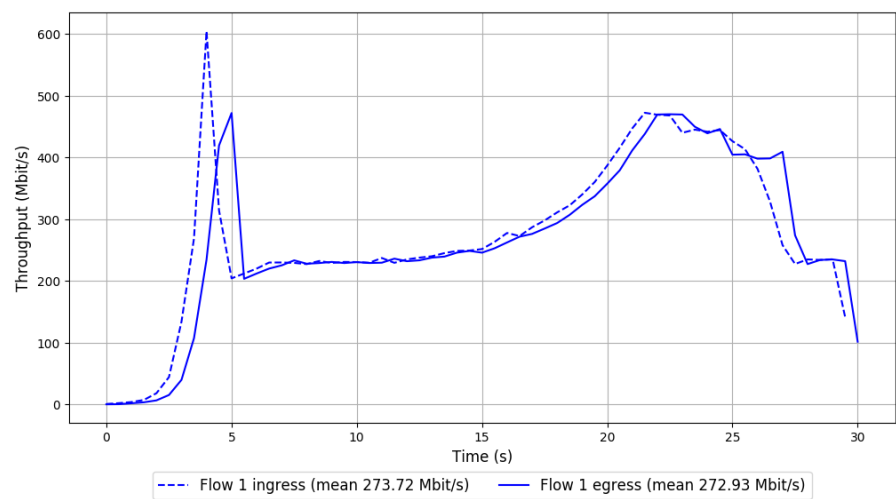


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-10 21:52:19
End at: 2018-09-10 21:52:49
Local clock offset: 13.838 ms
Remote clock offset: 14.231 ms

Below is generated by plot.py at 2018-09-11 01:15:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 272.93 Mbit/s
95th percentile per-packet one-way delay: 182.516 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 272.93 Mbit/s
95th percentile per-packet one-way delay: 182.516 ms
Loss rate: 0.87%

Run 1: Report of PCC-Vivace — Data Link

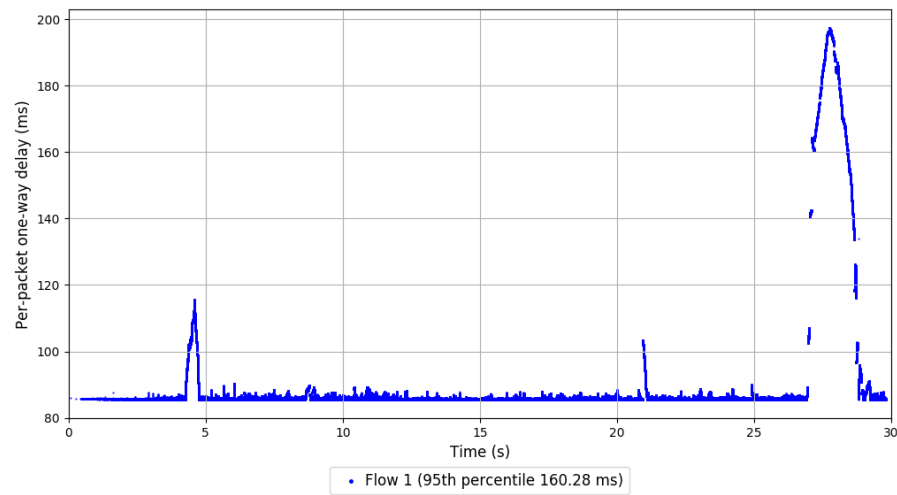
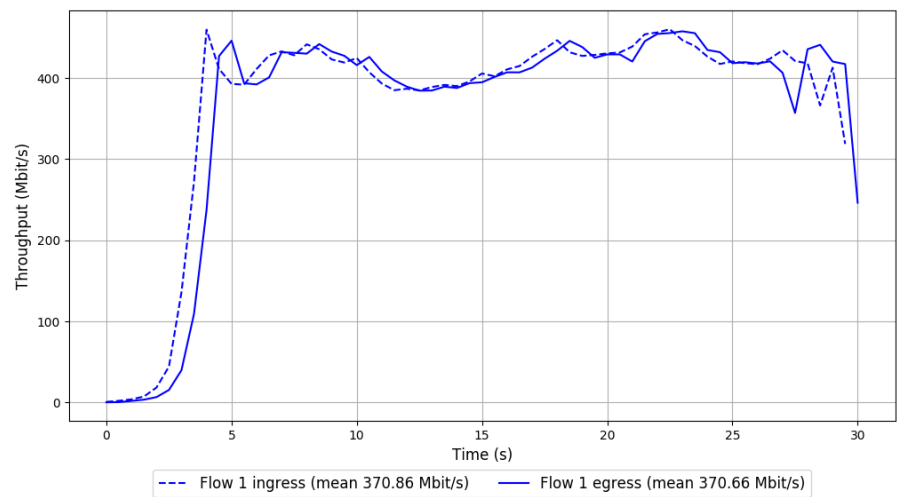


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-10 22:18:41
End at: 2018-09-10 22:19:11
Local clock offset: 22.096 ms
Remote clock offset: 22.574 ms

Below is generated by plot.py at 2018-09-11 01:16:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 370.66 Mbit/s
95th percentile per-packet one-way delay: 160.282 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 370.66 Mbit/s
95th percentile per-packet one-way delay: 160.282 ms
Loss rate: 0.63%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-10 22:45:19

End at: 2018-09-10 22:45:49

Local clock offset: 18.49 ms

Remote clock offset: 18.43 ms

Below is generated by plot.py at 2018-09-11 01:16:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 367.65 Mbit/s

95th percentile per-packet one-way delay: 93.445 ms

Loss rate: 1.05%

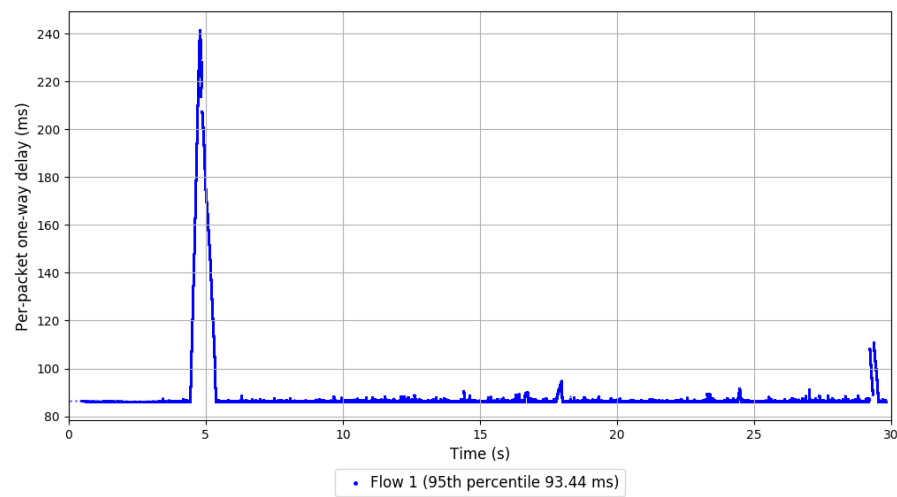
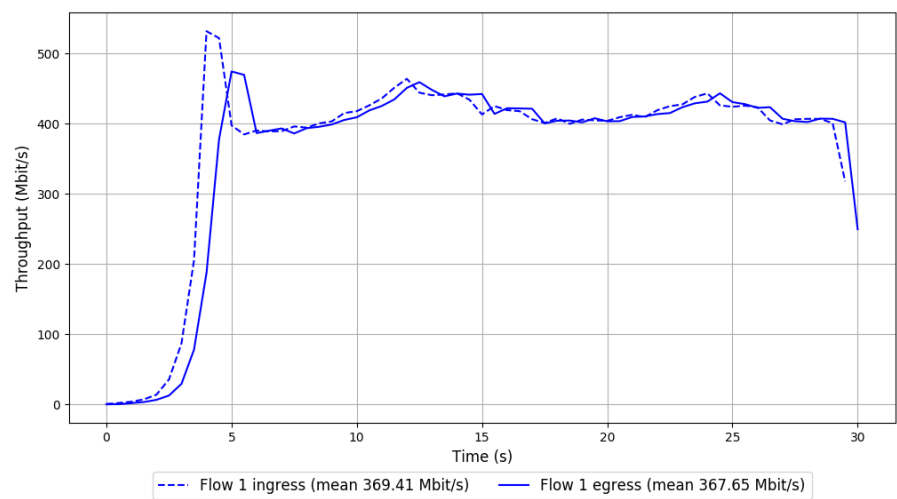
-- Flow 1:

Average throughput: 367.65 Mbit/s

95th percentile per-packet one-way delay: 93.445 ms

Loss rate: 1.05%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-10 23:11:34

End at: 2018-09-10 23:12:04

Local clock offset: 17.504 ms

Remote clock offset: 17.18 ms

Below is generated by plot.py at 2018-09-11 01:16:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 359.57 Mbit/s

95th percentile per-packet one-way delay: 201.347 ms

Loss rate: 1.34%

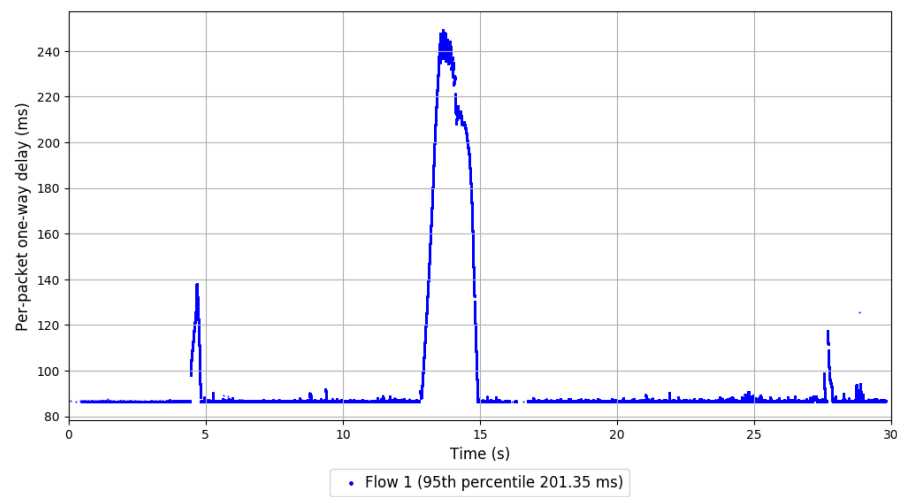
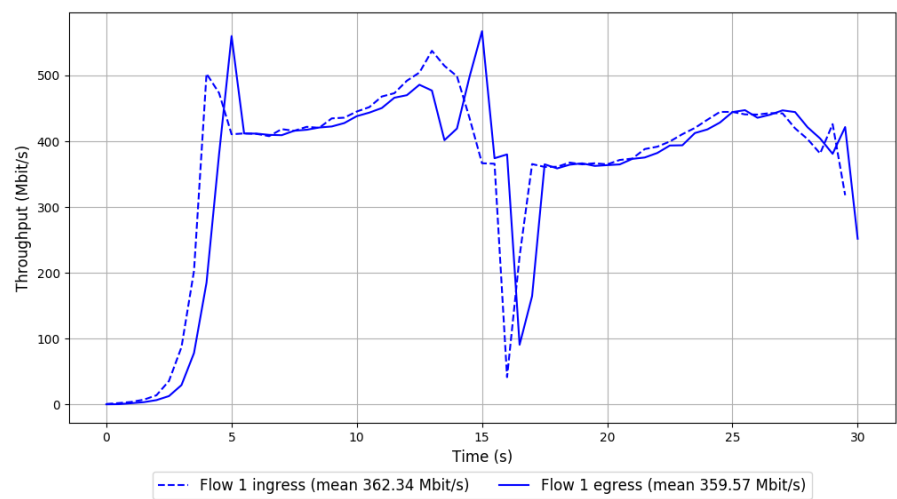
-- Flow 1:

Average throughput: 359.57 Mbit/s

95th percentile per-packet one-way delay: 201.347 ms

Loss rate: 1.34%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-10 23:37:32

End at: 2018-09-10 23:38:02

Local clock offset: 7.784 ms

Remote clock offset: 8.016 ms

Below is generated by plot.py at 2018-09-11 01:16:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 375.38 Mbit/s

95th percentile per-packet one-way delay: 103.823 ms

Loss rate: 0.64%

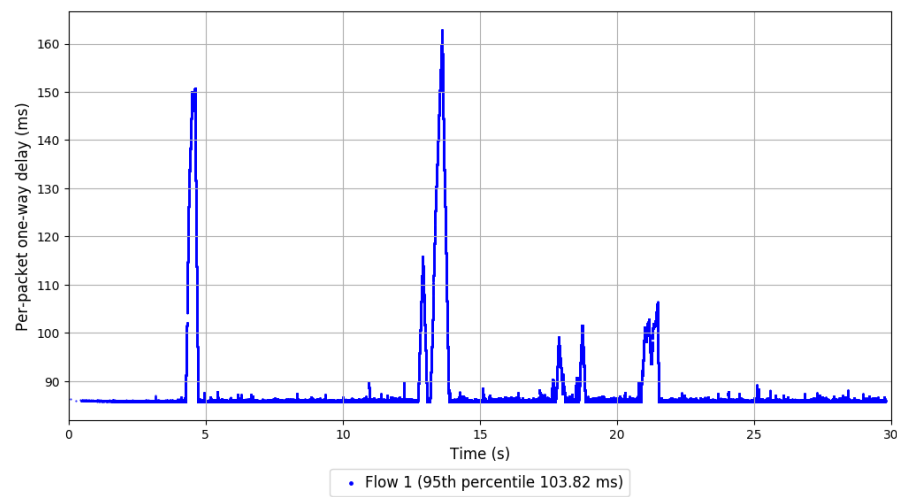
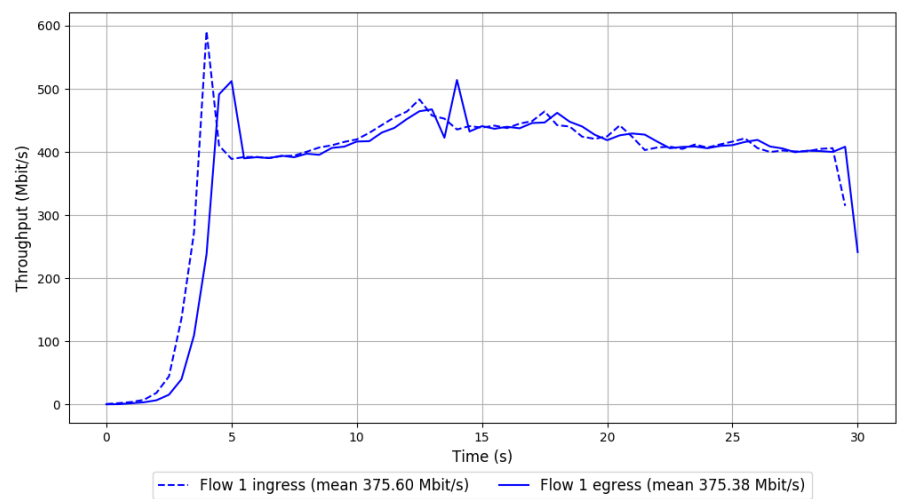
-- Flow 1:

Average throughput: 375.38 Mbit/s

95th percentile per-packet one-way delay: 103.823 ms

Loss rate: 0.64%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

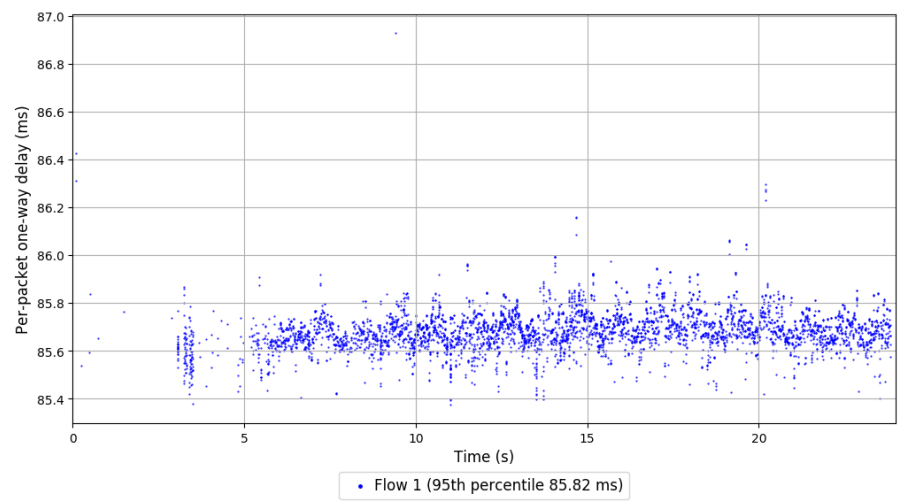
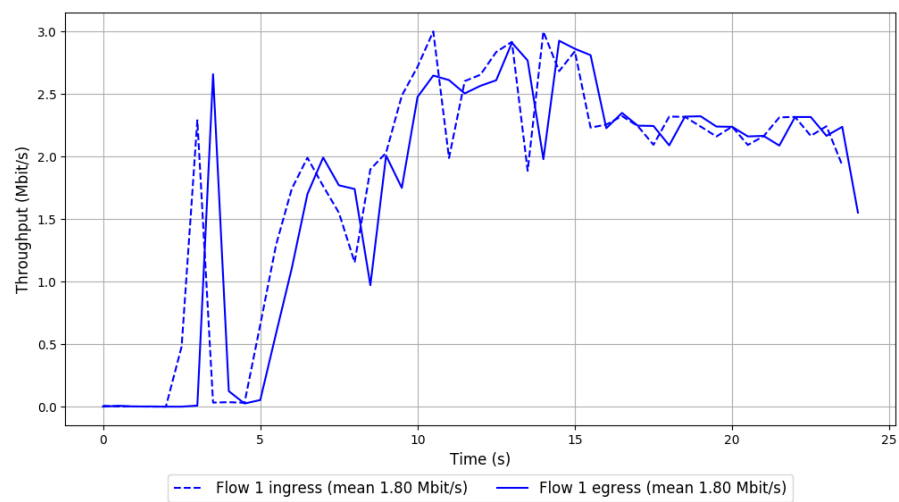
Start at: 2018-09-10 21:42:36

End at: 2018-09-10 21:43:06

Local clock offset: 12.601 ms

Remote clock offset: 13.162 ms

Run 1: Report of WebRTC media — Data Link

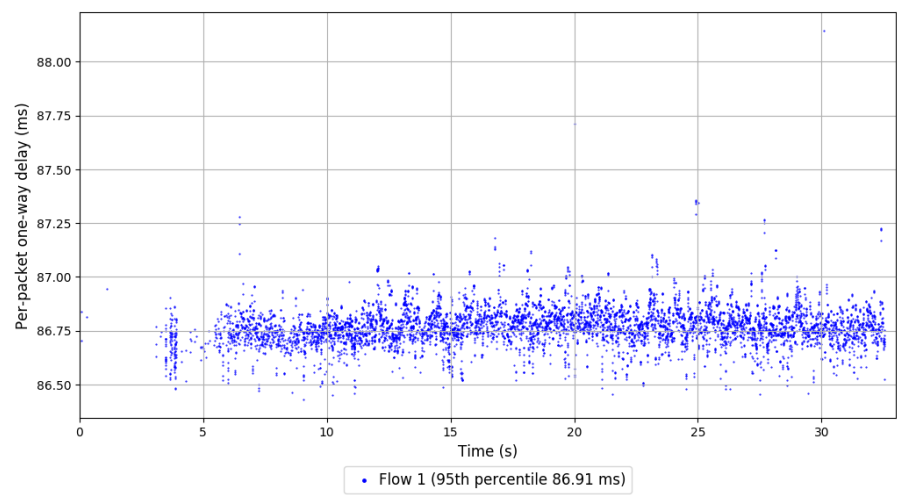
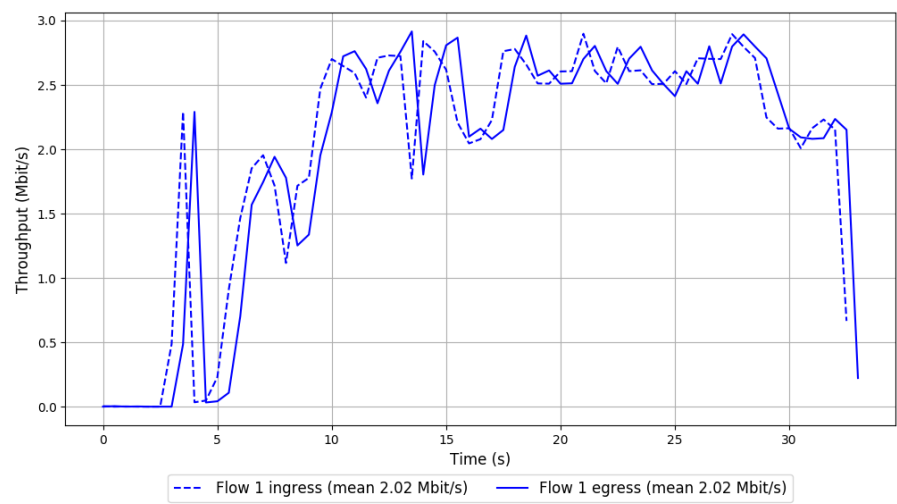


Run 2: Statistics of WebRTC media

Start at: 2018-09-10 22:08:38
End at: 2018-09-10 22:09:08
Local clock offset: 19.567 ms
Remote clock offset: 19.475 ms

Below is generated by plot.py at 2018-09-11 01:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 86.911 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 86.911 ms
Loss rate: 0.62%

Run 2: Report of WebRTC media — Data Link

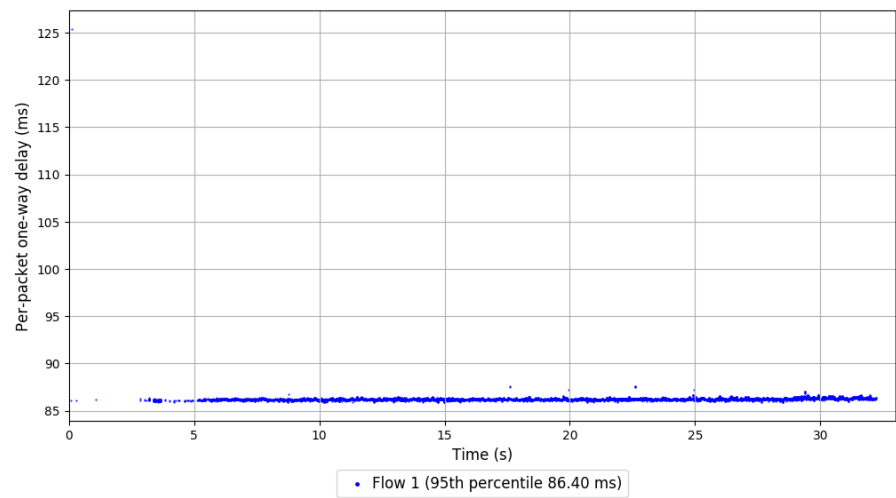
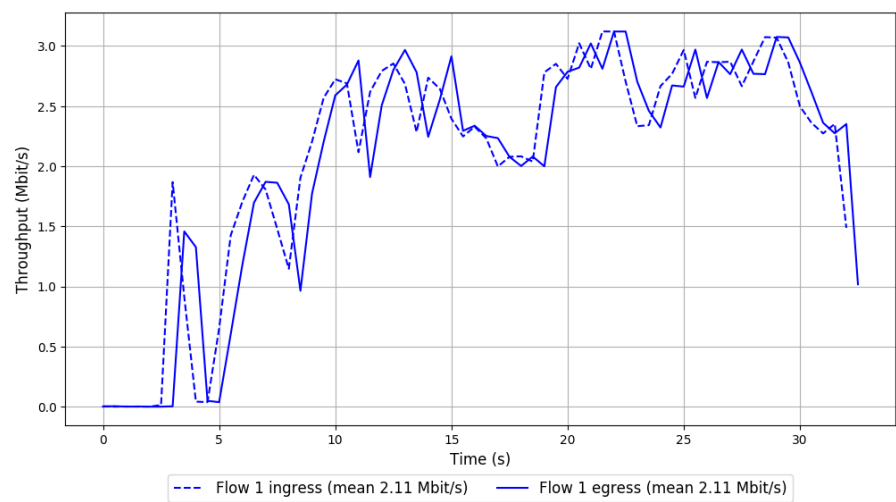


Run 3: Statistics of WebRTC media

Start at: 2018-09-10 22:35:16
End at: 2018-09-10 22:35:46
Local clock offset: 37.276 ms
Remote clock offset: 37.941 ms

Below is generated by plot.py at 2018-09-11 01:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 86.404 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 86.404 ms
Loss rate: 0.63%

Run 3: Report of WebRTC media — Data Link

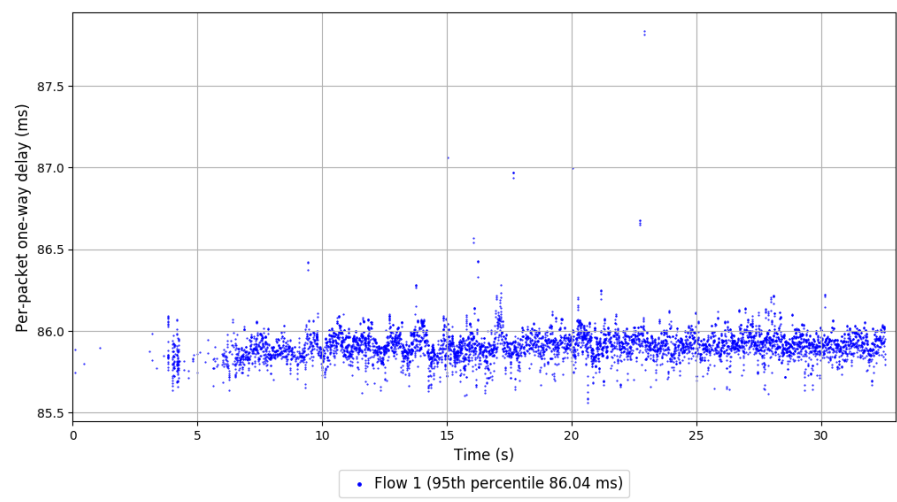
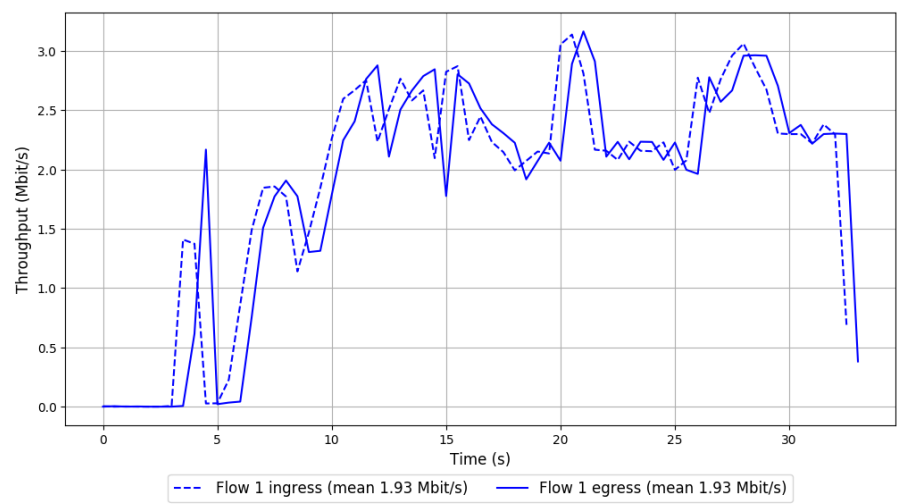


Run 4: Statistics of WebRTC media

Start at: 2018-09-10 23:01:37
End at: 2018-09-10 23:02:07
Local clock offset: 15.834 ms
Remote clock offset: 16.159 ms

Below is generated by plot.py at 2018-09-11 01:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 86.041 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 86.041 ms
Loss rate: 0.61%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-10 23:27:38

End at: 2018-09-10 23:28:08

Local clock offset: 7.355 ms

Remote clock offset: 7.148 ms

Below is generated by plot.py at 2018-09-11 01:16:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.84 Mbit/s

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

Loss rate: 0.57%

-- Flow 1:

Average throughput: 1.84 Mbit/s

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

Loss rate: 0.57%

Run 5: Report of WebRTC media — Data Link

