

Pantheon Report

Generated at 2018-09-06 06:59:44 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

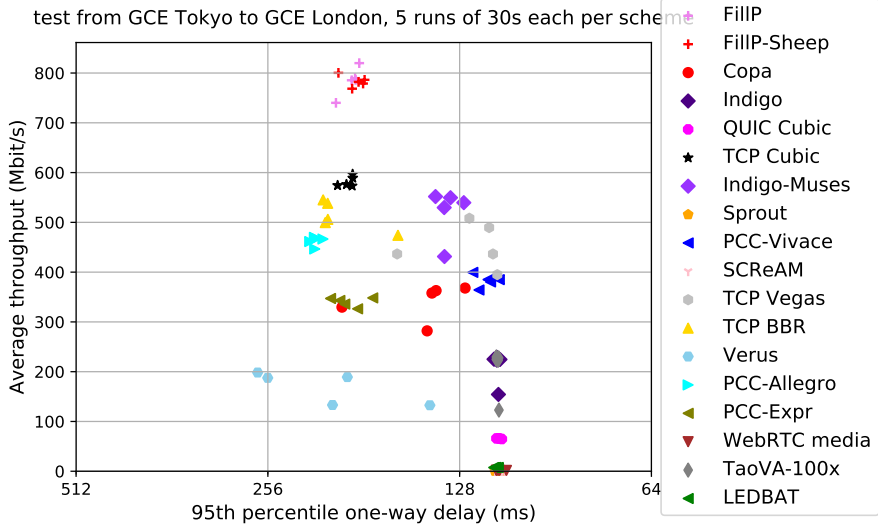
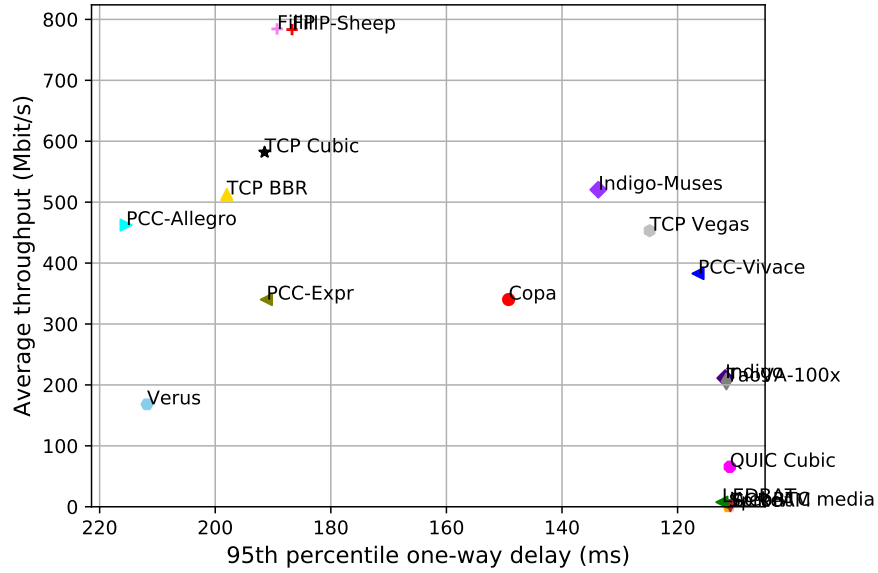
System info:

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

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ 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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	512.63	198.00	1.21
Copa	5	340.12	149.24	0.16
TCP Cubic	5	581.89	191.46	0.17
FillP	5	784.30	189.29	6.18
FillP-Sheep	5	783.25	186.71	5.54
Indigo	5	211.21	111.76	0.00
LEDBAT	5	7.56	112.33	0.00
Indigo-Muses	5	520.40	133.72	0.04
PCC-Allegro	5	462.38	215.43	2.04
PCC-Expr	5	340.11	191.14	2.06
QUIC Cubic	4	65.62	110.97	0.00
SCReAM	5	0.20	110.59	0.00
Sprout	5	0.20	111.15	0.00
TaoVA-100x	5	205.62	111.56	0.00
TCP Vegas	5	453.14	124.85	0.03
Verus	5	168.14	211.81	7.17
PCC-Vivace	5	382.79	116.47	0.09
WebRTC media	5	1.85	110.87	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 03:16:44

End at: 2018-09-06 03:17:14

Local clock offset: 3.907 ms

Remote clock offset: 4.028 ms

Below is generated by plot.py at 2018-09-06 05:48:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 538.32 Mbit/s

95th percentile per-packet one-way delay: 206.235 ms

Loss rate: 1.22%

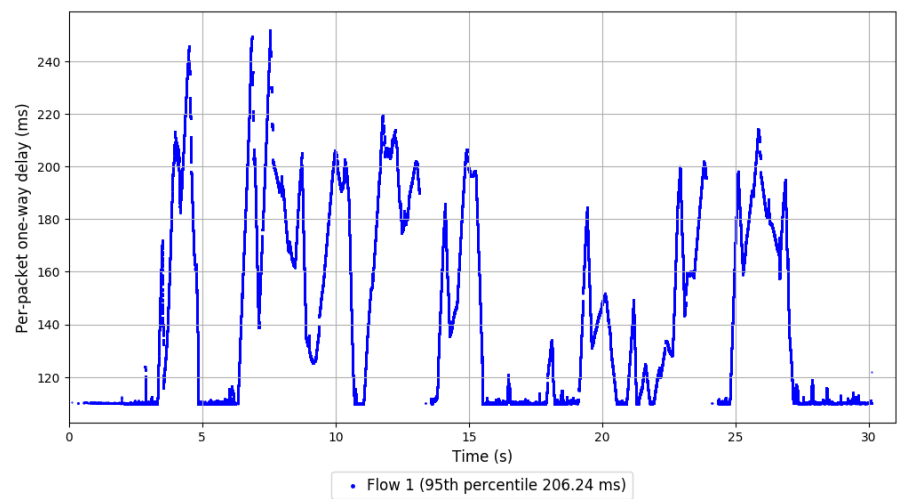
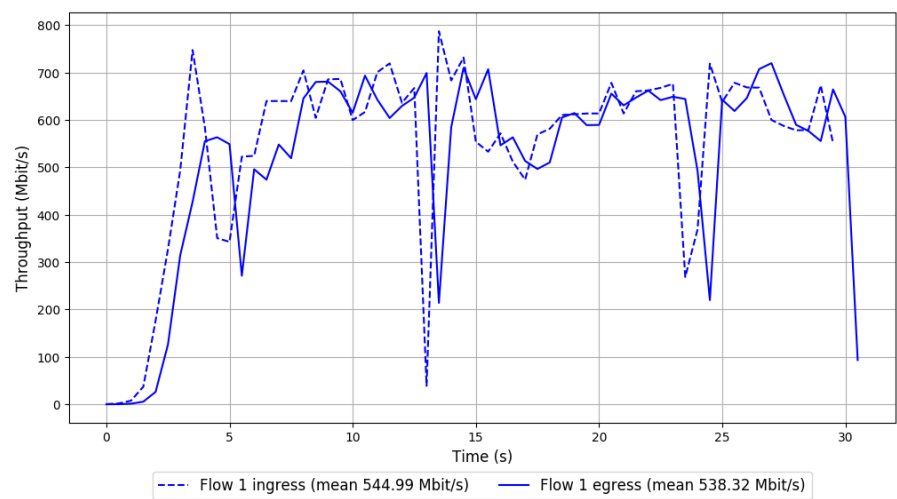
-- Flow 1:

Average throughput: 538.32 Mbit/s

95th percentile per-packet one-way delay: 206.235 ms

Loss rate: 1.22%

Run 1: Report of TCP BBR — Data Link

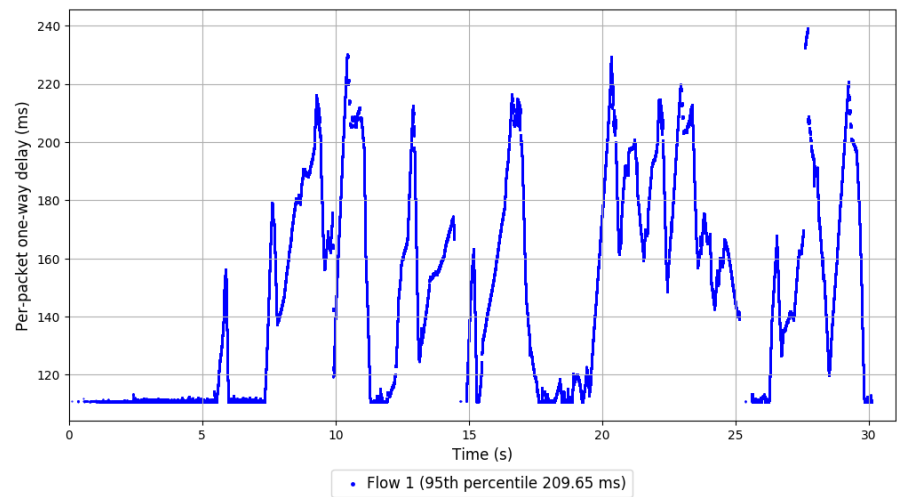
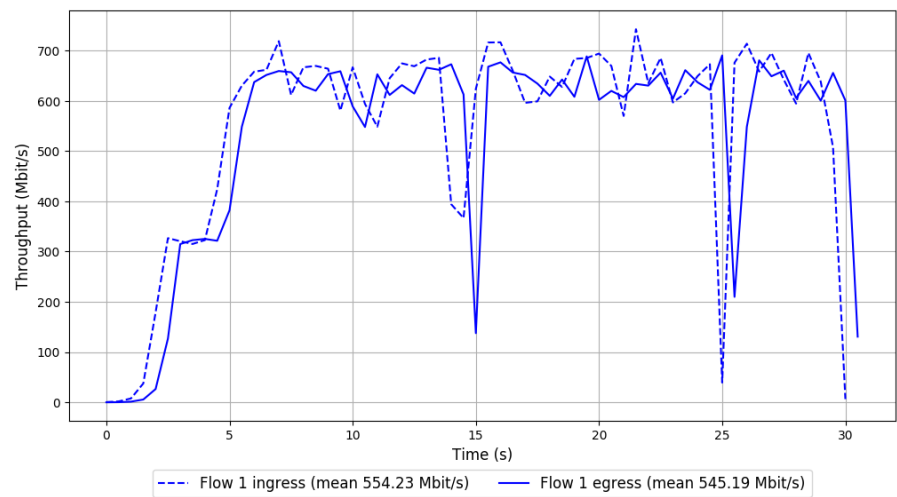


Run 2: Statistics of TCP BBR

Start at: 2018-09-06 03:43:21
End at: 2018-09-06 03:43:51
Local clock offset: 15.717 ms
Remote clock offset: 16.823 ms

Below is generated by plot.py at 2018-09-06 05:48:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 545.19 Mbit/s
95th percentile per-packet one-way delay: 209.651 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 545.19 Mbit/s
95th percentile per-packet one-way delay: 209.651 ms
Loss rate: 1.63%

Run 2: Report of TCP BBR — Data Link

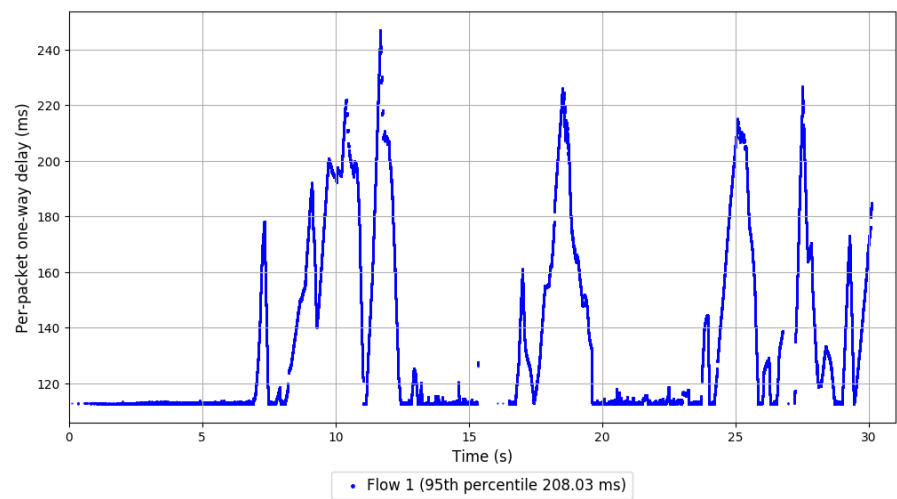
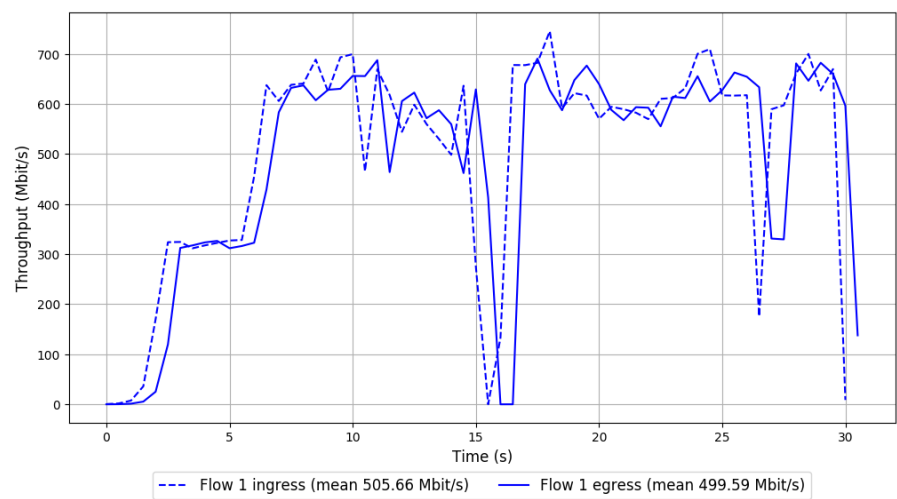


Run 3: Statistics of TCP BBR

Start at: 2018-09-06 04:10:15
End at: 2018-09-06 04:10:45
Local clock offset: 22.945 ms
Remote clock offset: 24.288 ms

Below is generated by plot.py at 2018-09-06 05:48:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 499.59 Mbit/s
95th percentile per-packet one-way delay: 208.033 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 499.59 Mbit/s
95th percentile per-packet one-way delay: 208.033 ms
Loss rate: 1.21%

Run 3: Report of TCP BBR — Data Link

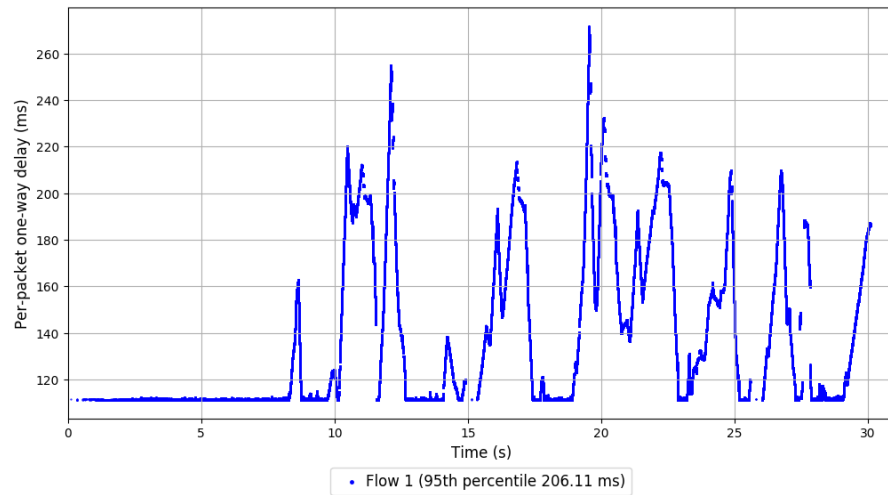
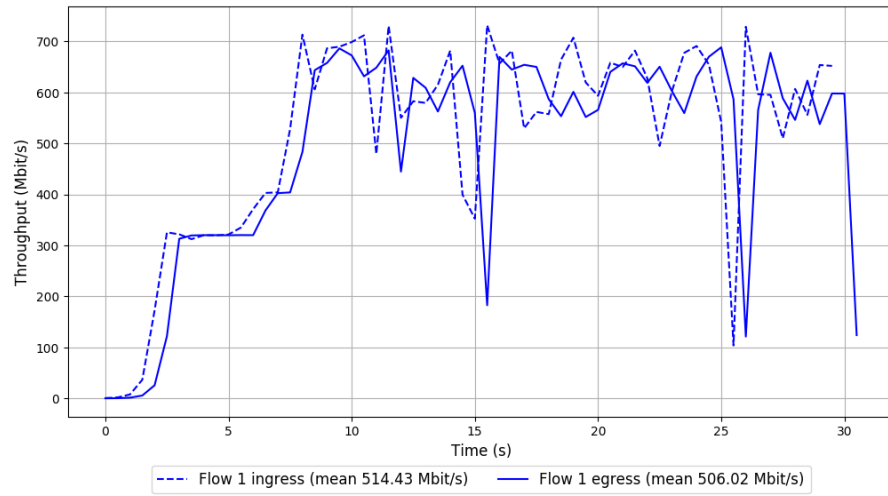


Run 4: Statistics of TCP BBR

Start at: 2018-09-06 04:37:03
End at: 2018-09-06 04:37:33
Local clock offset: 13.688 ms
Remote clock offset: 14.242 ms

Below is generated by plot.py at 2018-09-06 05:48:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 506.02 Mbit/s
95th percentile per-packet one-way delay: 206.110 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 506.02 Mbit/s
95th percentile per-packet one-way delay: 206.110 ms
Loss rate: 1.63%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-06 05:03:50

End at: 2018-09-06 05:04:20

Local clock offset: 9.466 ms

Remote clock offset: 10.037 ms

Below is generated by plot.py at 2018-09-06 05:48:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 474.02 Mbit/s

95th percentile per-packet one-way delay: 159.979 ms

Loss rate: 0.38%

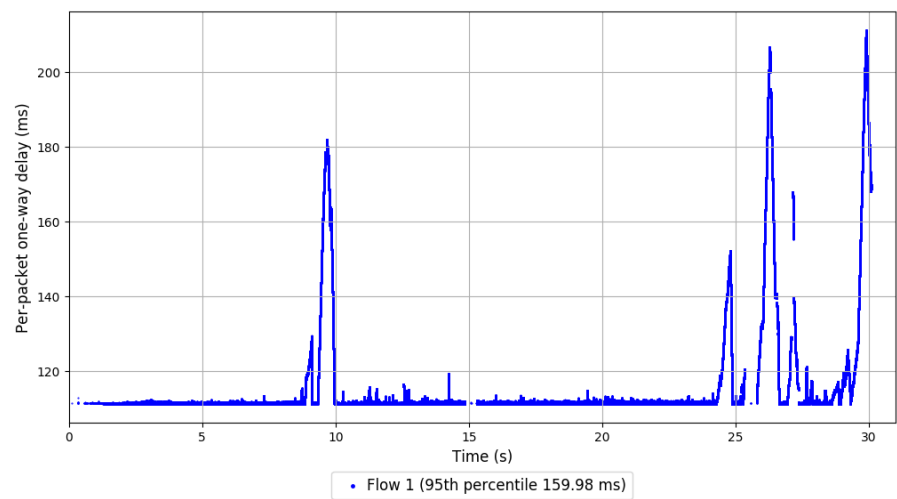
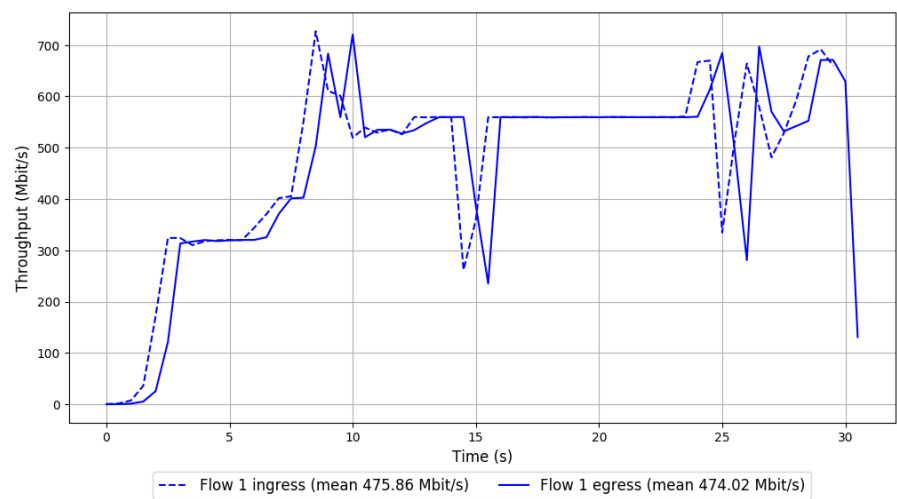
-- Flow 1:

Average throughput: 474.02 Mbit/s

95th percentile per-packet one-way delay: 159.979 ms

Loss rate: 0.38%

Run 5: Report of TCP BBR — Data Link

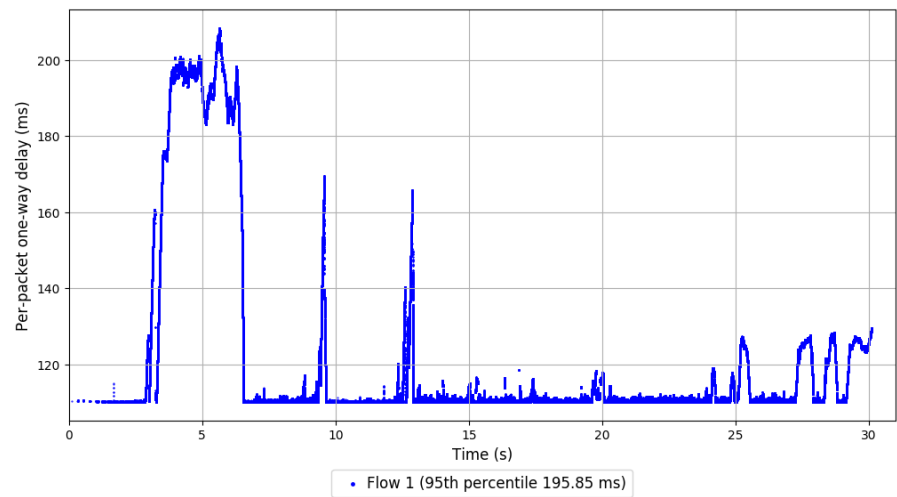
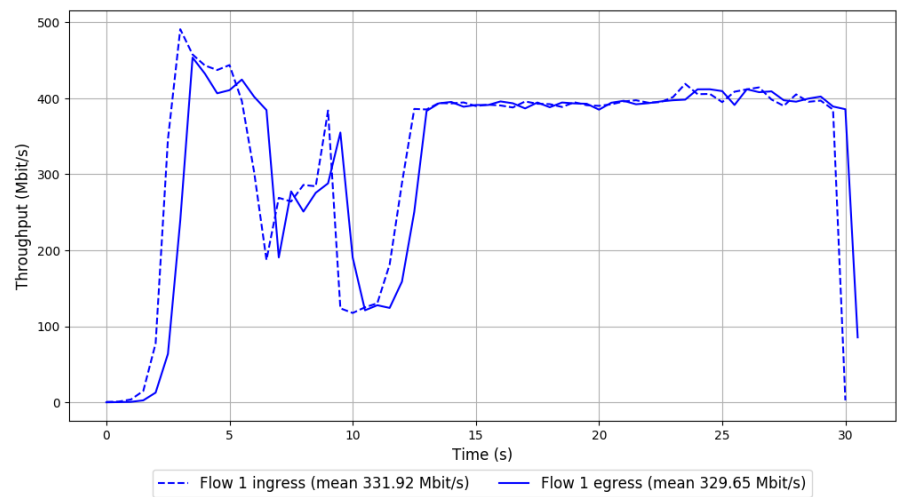


Run 1: Statistics of Copa

Start at: 2018-09-06 03:35:08
End at: 2018-09-06 03:35:38
Local clock offset: 12.726 ms
Remote clock offset: 12.207 ms

Below is generated by plot.py at 2018-09-06 05:49:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 329.65 Mbit/s
95th percentile per-packet one-way delay: 195.851 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 329.65 Mbit/s
95th percentile per-packet one-way delay: 195.851 ms
Loss rate: 0.68%

Run 1: Report of Copa — Data Link

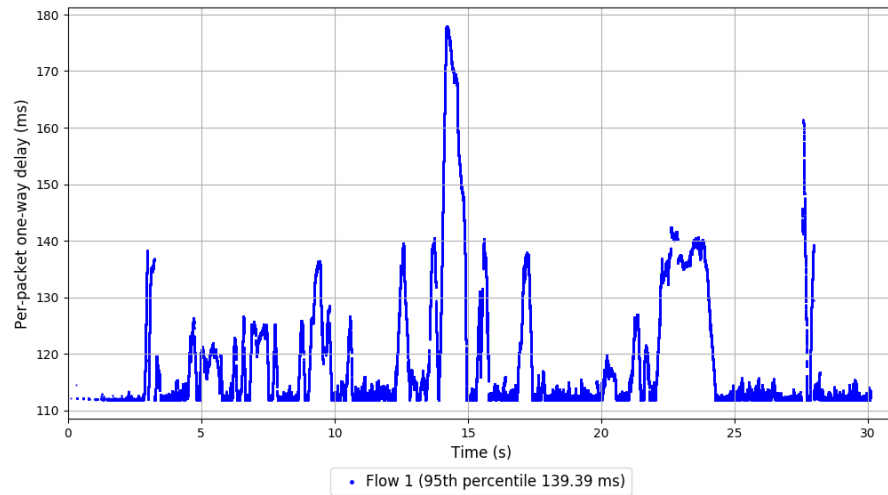
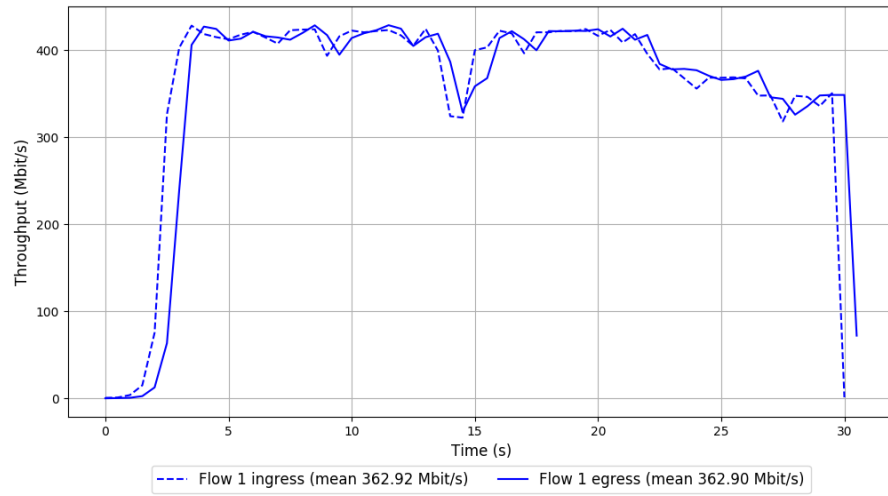


Run 2: Statistics of Copa

Start at: 2018-09-06 04:02:01
End at: 2018-09-06 04:02:31
Local clock offset: 17.773 ms
Remote clock offset: 19.285 ms

Below is generated by plot.py at 2018-09-06 05:49:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 362.90 Mbit/s
95th percentile per-packet one-way delay: 139.389 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 362.90 Mbit/s
95th percentile per-packet one-way delay: 139.389 ms
Loss rate: 0.01%

Run 2: Report of Copa — Data Link

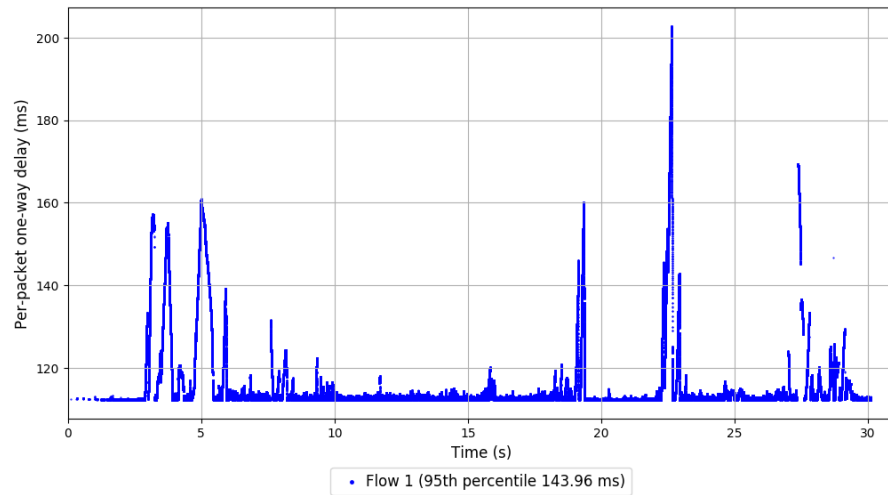
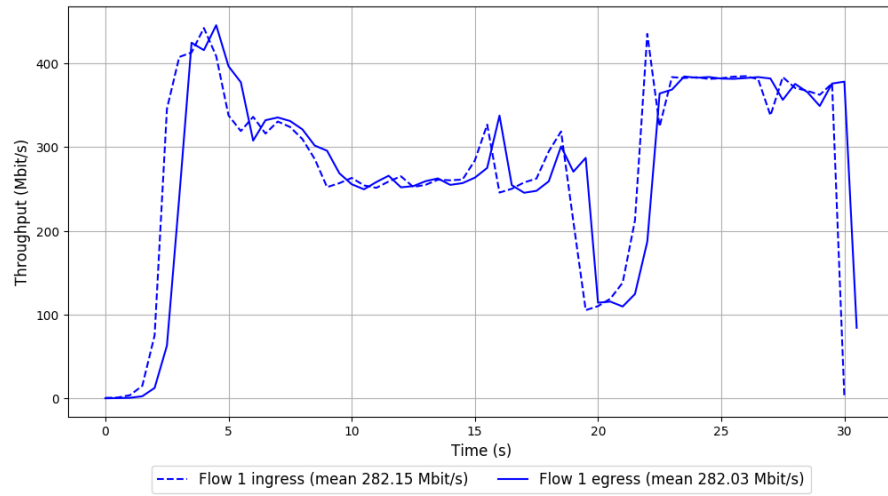


Run 3: Statistics of Copa

Start at: 2018-09-06 04:28:54
End at: 2018-09-06 04:29:24
Local clock offset: 19.248 ms
Remote clock offset: 21.125 ms

Below is generated by plot.py at 2018-09-06 05:49:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 282.03 Mbit/s
95th percentile per-packet one-way delay: 143.959 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 282.03 Mbit/s
95th percentile per-packet one-way delay: 143.959 ms
Loss rate: 0.05%

Run 3: Report of Copa — Data Link

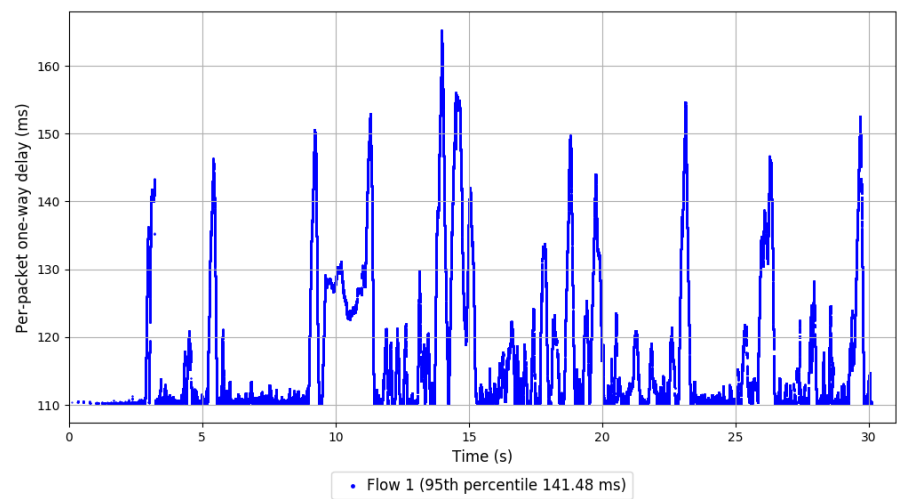
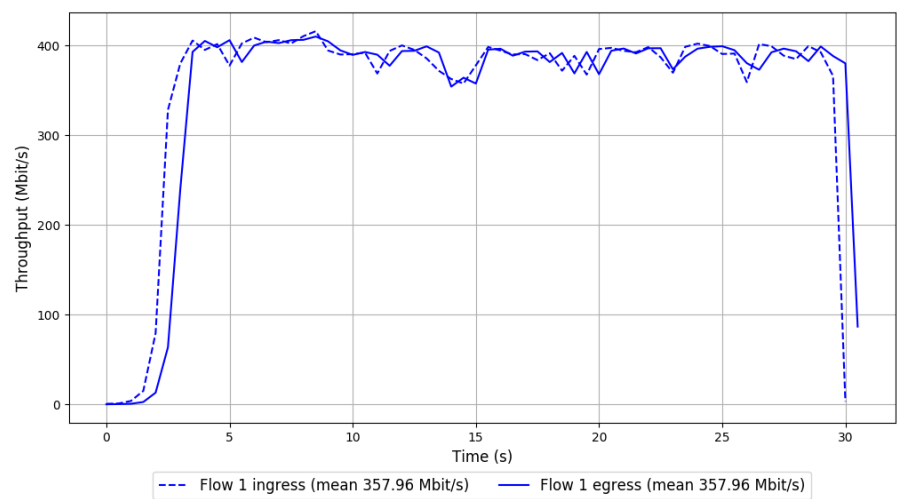


Run 4: Statistics of Copa

Start at: 2018-09-06 04:55:31
End at: 2018-09-06 04:56:01
Local clock offset: 16.909 ms
Remote clock offset: 17.093 ms

Below is generated by plot.py at 2018-09-06 05:57:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 357.96 Mbit/s
95th percentile per-packet one-way delay: 141.478 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 357.96 Mbit/s
95th percentile per-packet one-way delay: 141.478 ms
Loss rate: 0.00%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-06 05:22:20

End at: 2018-09-06 05:22:50

Local clock offset: 6.451 ms

Remote clock offset: 7.368 ms

Below is generated by plot.py at 2018-09-06 05:58:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 368.04 Mbit/s

95th percentile per-packet one-way delay: 125.513 ms

Loss rate: 0.08%

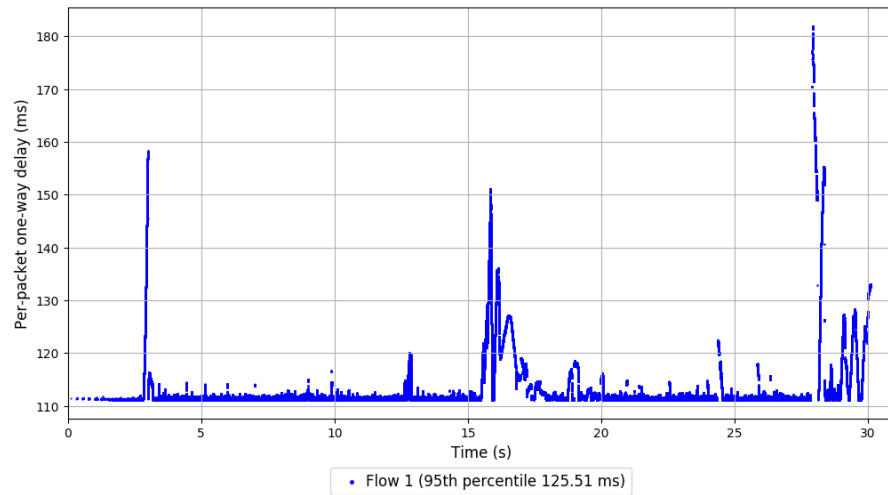
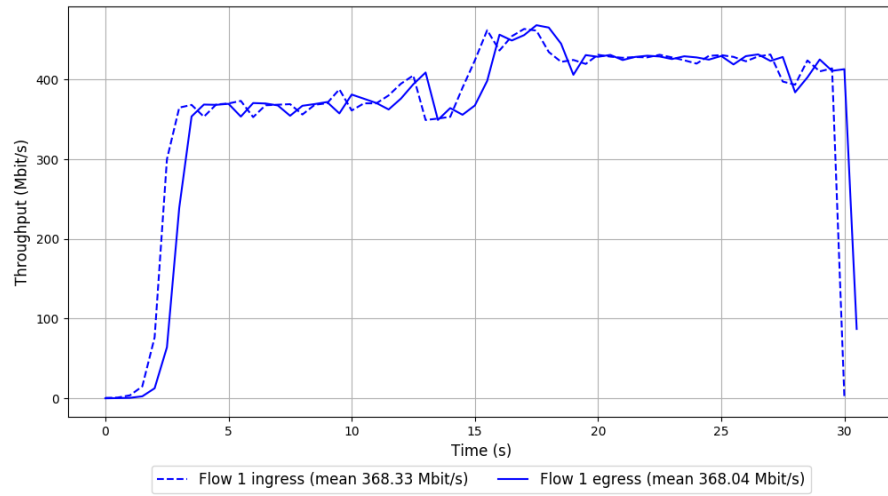
-- Flow 1:

Average throughput: 368.04 Mbit/s

95th percentile per-packet one-way delay: 125.513 ms

Loss rate: 0.08%

Run 5: Report of Copa — Data Link

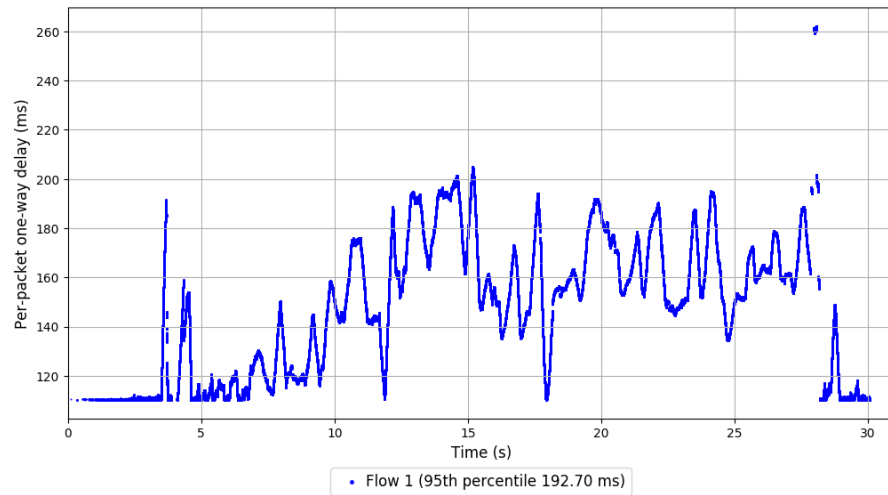
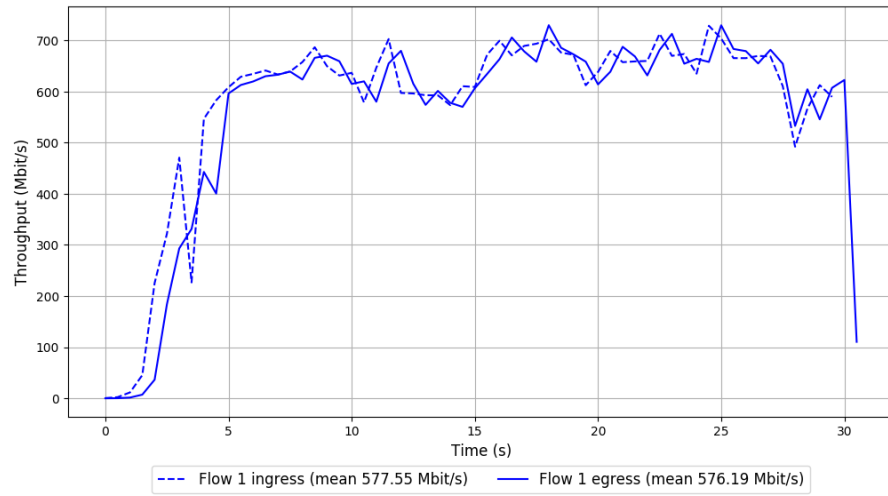


Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 03:31:58
End at: 2018-09-06 03:32:28
Local clock offset: 15.106 ms
Remote clock offset: 15.506 ms

Below is generated by plot.py at 2018-09-06 05:58:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 576.19 Mbit/s
95th percentile per-packet one-way delay: 192.697 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 576.19 Mbit/s
95th percentile per-packet one-way delay: 192.697 ms
Loss rate: 0.24%

Run 1: Report of TCP Cubic — Data Link

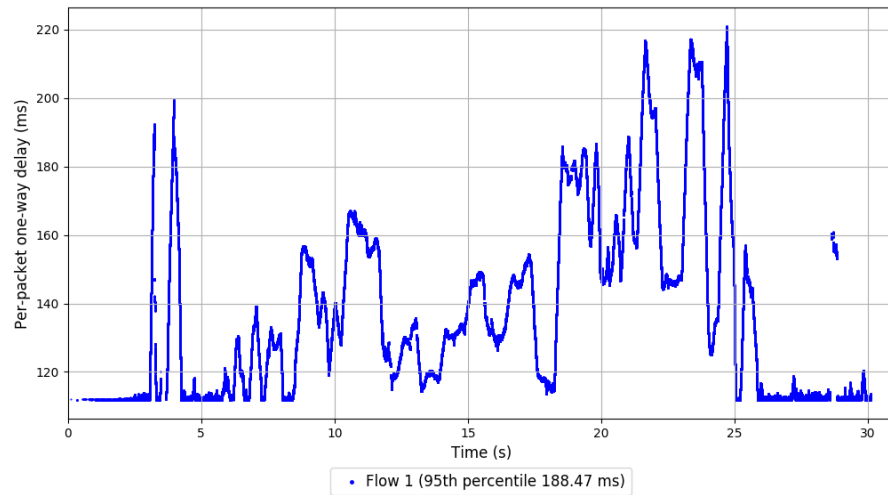
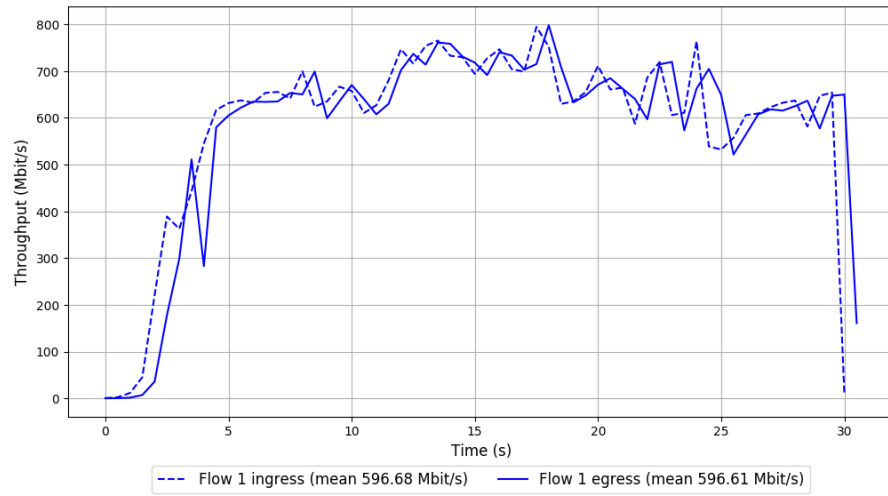


Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 03:58:43
End at: 2018-09-06 03:59:13
Local clock offset: 16.746 ms
Remote clock offset: 18.319 ms

Below is generated by plot.py at 2018-09-06 05:58:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 596.61 Mbit/s
95th percentile per-packet one-way delay: 188.471 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 596.61 Mbit/s
95th percentile per-packet one-way delay: 188.471 ms
Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link

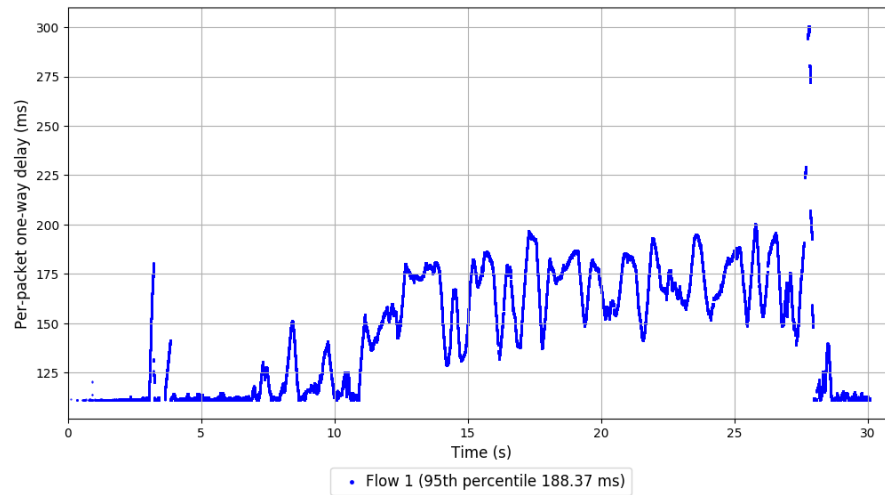
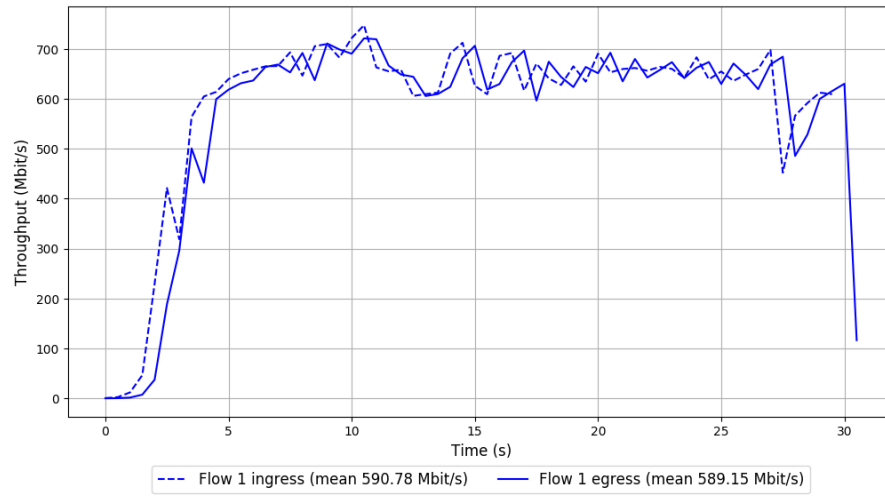


Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 04:25:38
End at: 2018-09-06 04:26:08
Local clock offset: 25.862 ms
Remote clock offset: 28.284 ms

Below is generated by plot.py at 2018-09-06 05:58:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 589.15 Mbit/s
95th percentile per-packet one-way delay: 188.366 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 589.15 Mbit/s
95th percentile per-packet one-way delay: 188.366 ms
Loss rate: 0.28%

Run 3: Report of TCP Cubic — Data Link

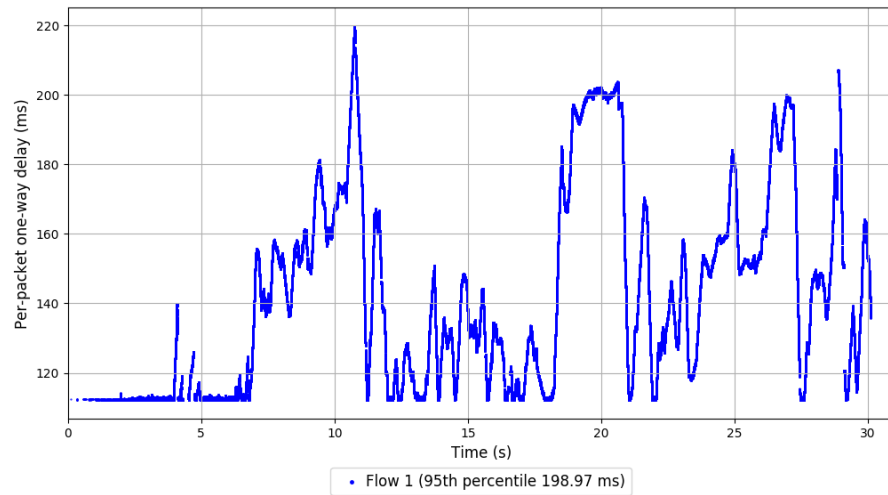
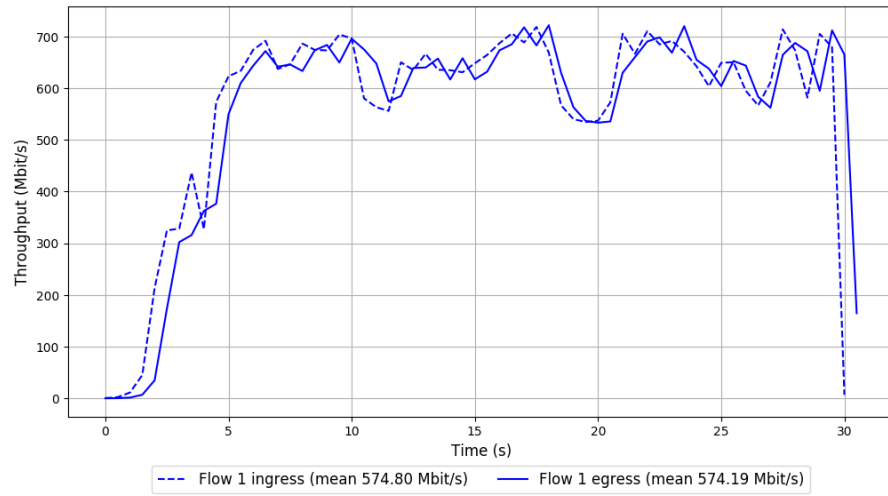


Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 04:52:15
End at: 2018-09-06 04:52:45
Local clock offset: 14.833 ms
Remote clock offset: 16.444 ms

Below is generated by plot.py at 2018-09-06 05:58:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 574.19 Mbit/s
95th percentile per-packet one-way delay: 198.971 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 574.19 Mbit/s
95th percentile per-packet one-way delay: 198.971 ms
Loss rate: 0.10%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 05:19:04

End at: 2018-09-06 05:19:34

Local clock offset: 5.959 ms

Remote clock offset: 7.352 ms

Below is generated by plot.py at 2018-09-06 05:58:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 573.32 Mbit/s

95th percentile per-packet one-way delay: 188.796 ms

Loss rate: 0.20%

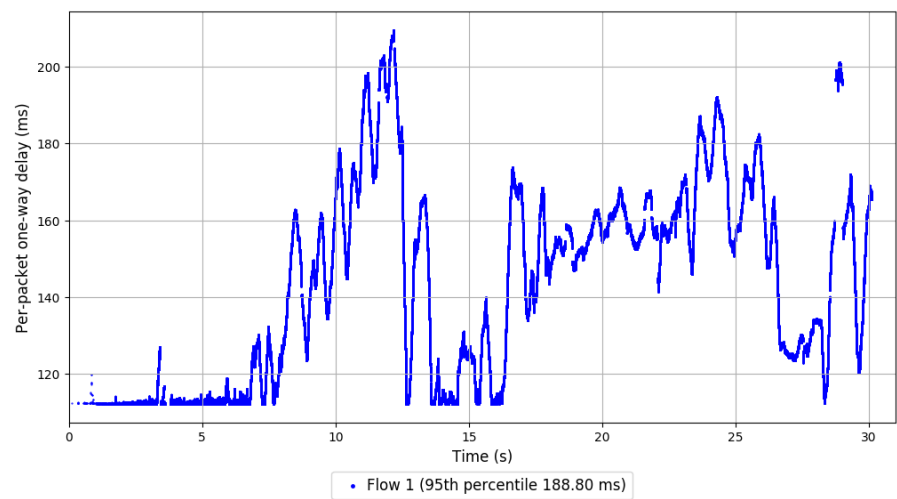
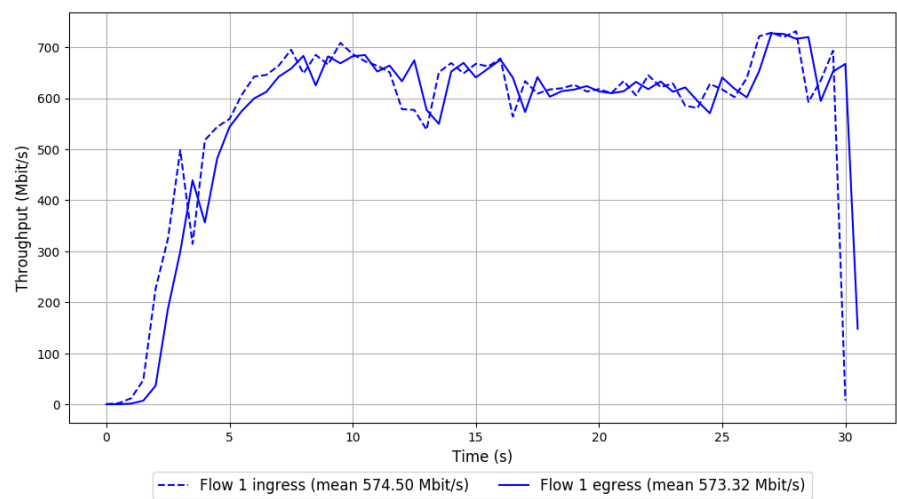
-- Flow 1:

Average throughput: 573.32 Mbit/s

95th percentile per-packet one-way delay: 188.796 ms

Loss rate: 0.20%

Run 5: Report of TCP Cubic — Data Link

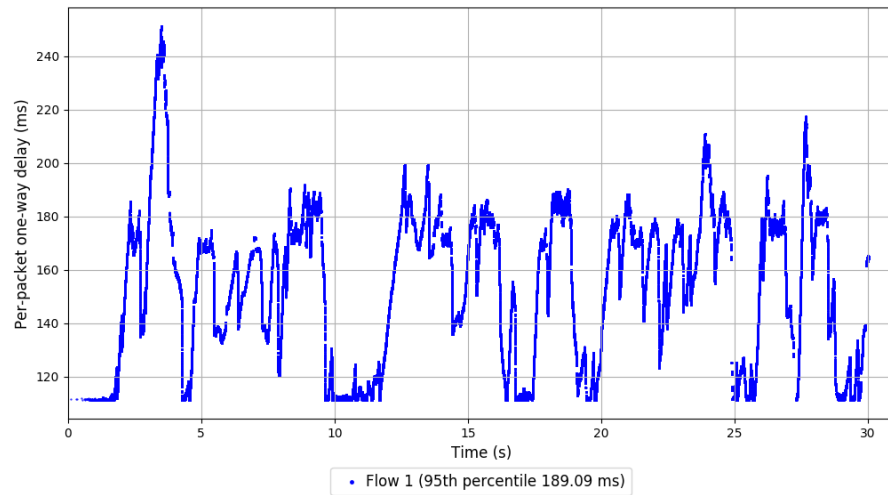
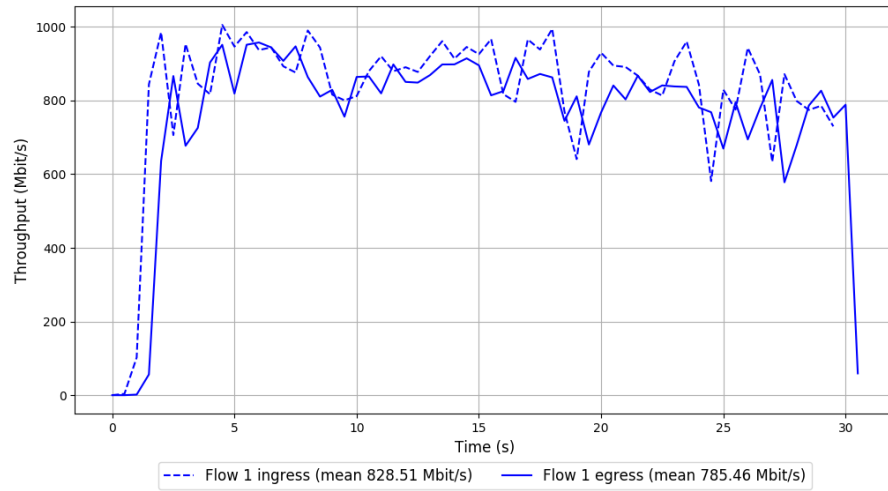


Run 1: Statistics of FillP

Start at: 2018-09-06 03:36:48
End at: 2018-09-06 03:37:18
Local clock offset: 10.932 ms
Remote clock offset: 12.063 ms

Below is generated by plot.py at 2018-09-06 06:04:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 785.46 Mbit/s
95th percentile per-packet one-way delay: 189.085 ms
Loss rate: 5.19%
-- Flow 1:
Average throughput: 785.46 Mbit/s
95th percentile per-packet one-way delay: 189.085 ms
Loss rate: 5.19%

Run 1: Report of FillP — Data Link

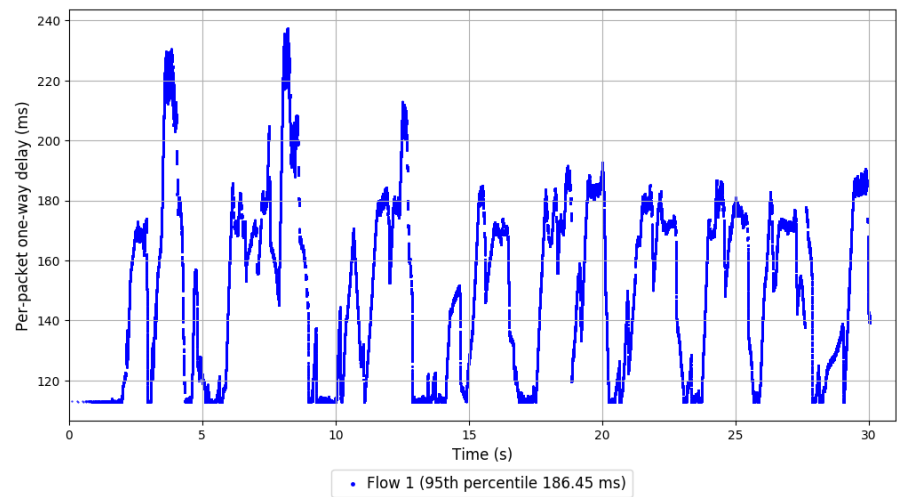
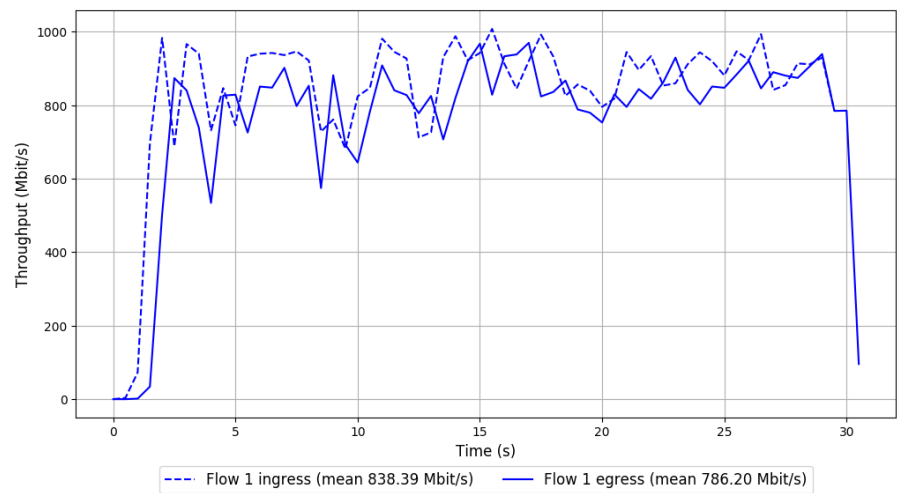


Run 2: Statistics of FillP

Start at: 2018-09-06 04:03:44
End at: 2018-09-06 04:04:14
Local clock offset: 18.447 ms
Remote clock offset: 20.156 ms

Below is generated by plot.py at 2018-09-06 06:13:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 786.20 Mbit/s
95th percentile per-packet one-way delay: 186.449 ms
Loss rate: 6.23%
-- Flow 1:
Average throughput: 786.20 Mbit/s
95th percentile per-packet one-way delay: 186.449 ms
Loss rate: 6.23%

Run 2: Report of FillP — Data Link

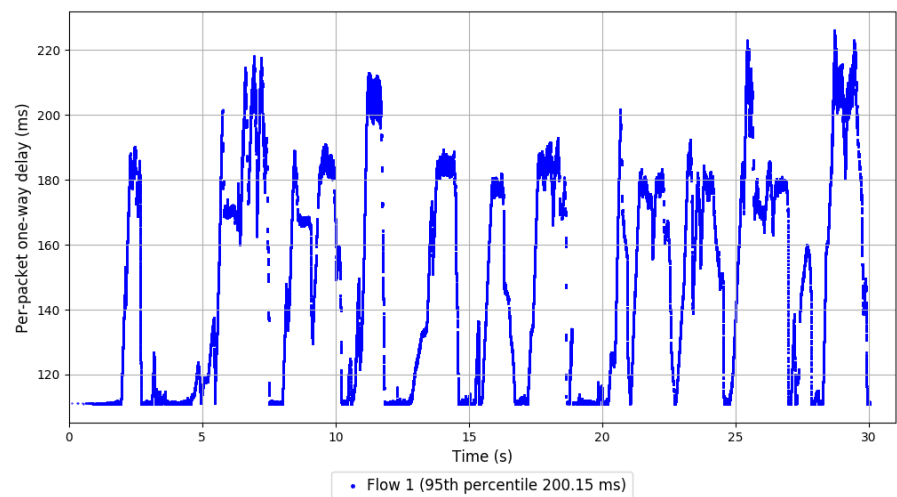
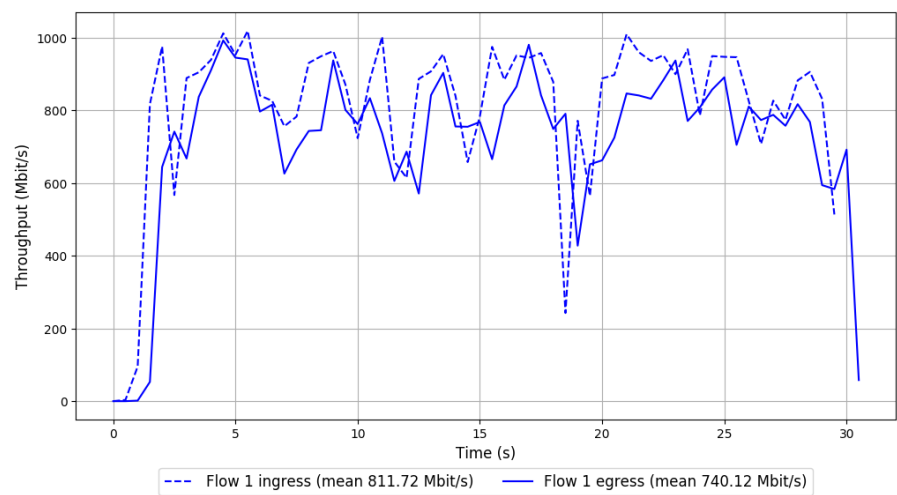


Run 3: Statistics of FillP

Start at: 2018-09-06 04:30:29
End at: 2018-09-06 04:30:59
Local clock offset: 18.186 ms
Remote clock offset: 18.593 ms

Below is generated by plot.py at 2018-09-06 06:13:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 740.12 Mbit/s
95th percentile per-packet one-way delay: 200.153 ms
Loss rate: 8.82%
-- Flow 1:
Average throughput: 740.12 Mbit/s
95th percentile per-packet one-way delay: 200.153 ms
Loss rate: 8.82%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-06 04:57:14

End at: 2018-09-06 04:57:44

Local clock offset: 16.937 ms

Remote clock offset: 17.75 ms

Below is generated by plot.py at 2018-09-06 06:14:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 819.90 Mbit/s

95th percentile per-packet one-way delay: 183.985 ms

Loss rate: 5.96%

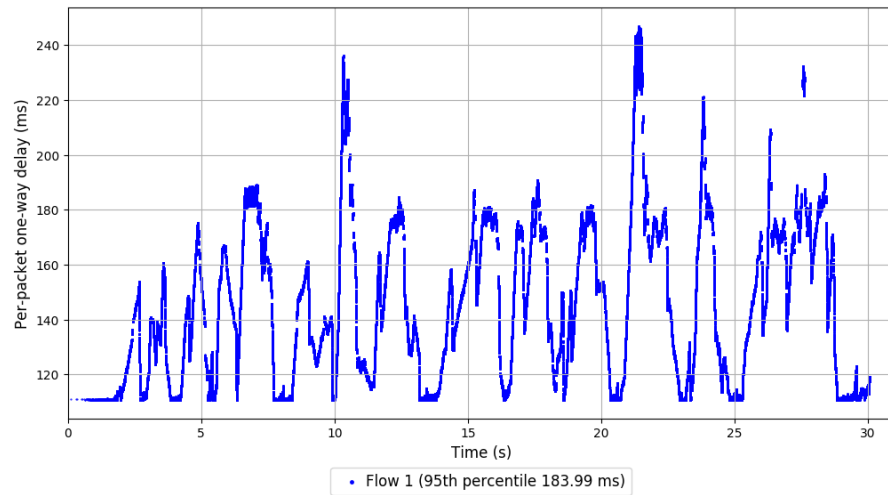
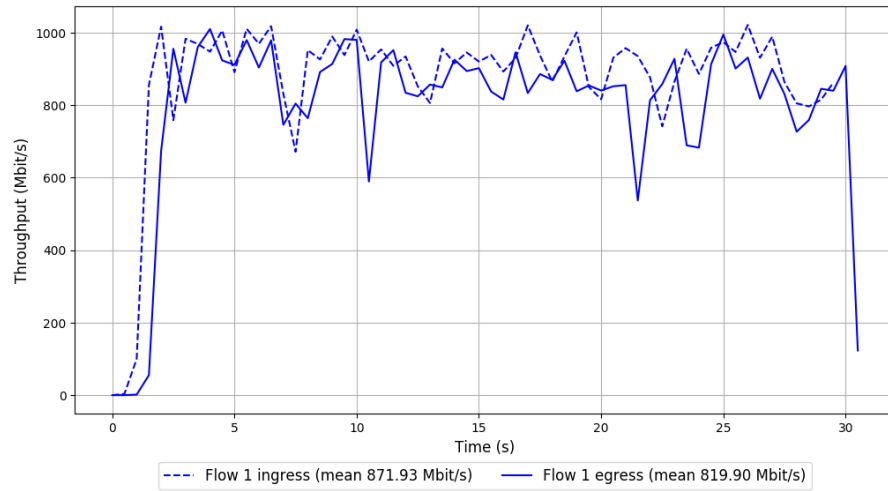
-- Flow 1:

Average throughput: 819.90 Mbit/s

95th percentile per-packet one-way delay: 183.985 ms

Loss rate: 5.96%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-06 05:24:04

End at: 2018-09-06 05:24:34

Local clock offset: 6.527 ms

Remote clock offset: 7.608 ms

Below is generated by plot.py at 2018-09-06 06:14:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 789.81 Mbit/s

95th percentile per-packet one-way delay: 186.802 ms

Loss rate: 4.71%

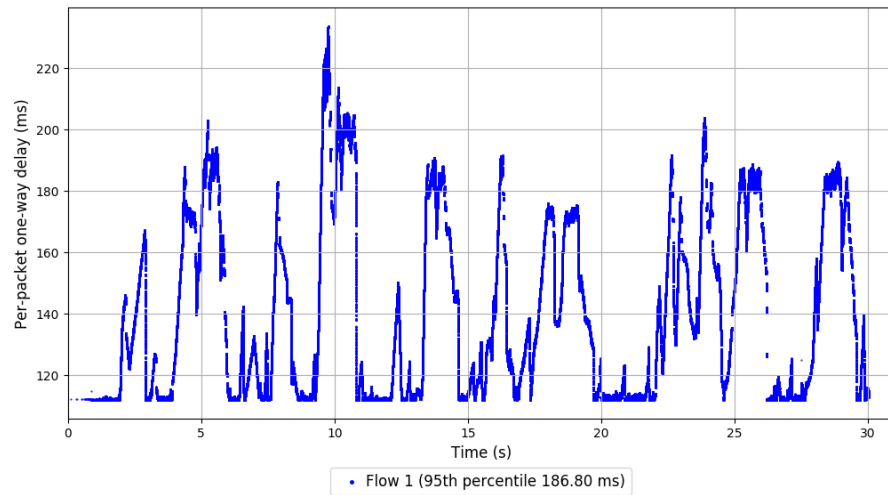
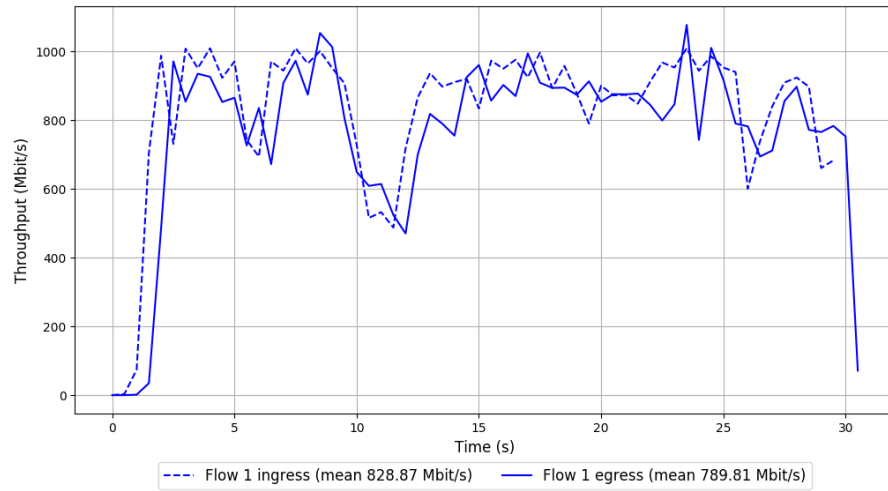
-- Flow 1:

Average throughput: 789.81 Mbit/s

95th percentile per-packet one-way delay: 186.802 ms

Loss rate: 4.71%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 03:38:32

End at: 2018-09-06 03:39:02

Local clock offset: 11.769 ms

Remote clock offset: 12.766 ms

Below is generated by plot.py at 2018-09-06 06:14:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 786.35 Mbit/s

95th percentile per-packet one-way delay: 180.469 ms

Loss rate: 5.09%

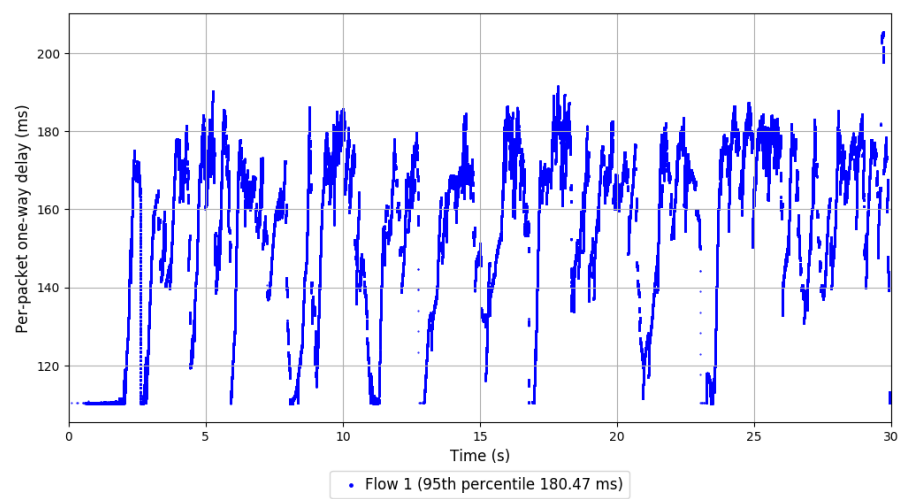
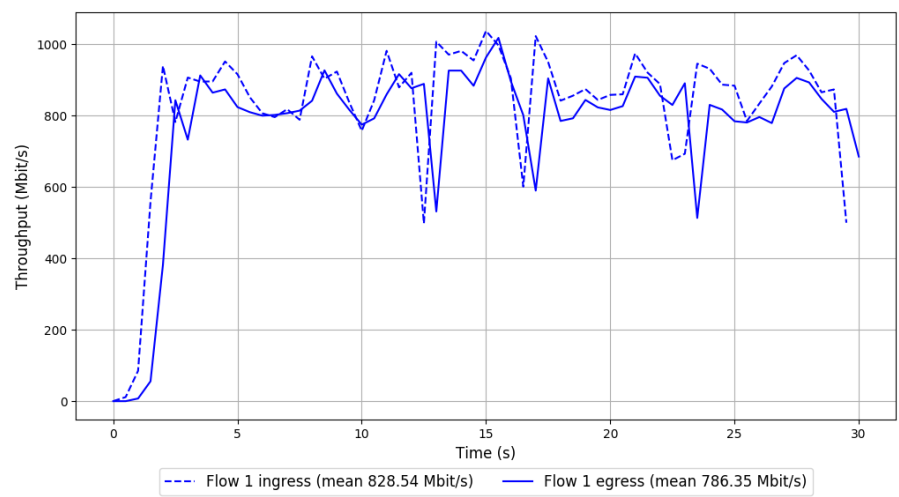
-- Flow 1:

Average throughput: 786.35 Mbit/s

95th percentile per-packet one-way delay: 180.469 ms

Loss rate: 5.09%

Run 1: Report of FillP-Sheep — Data Link

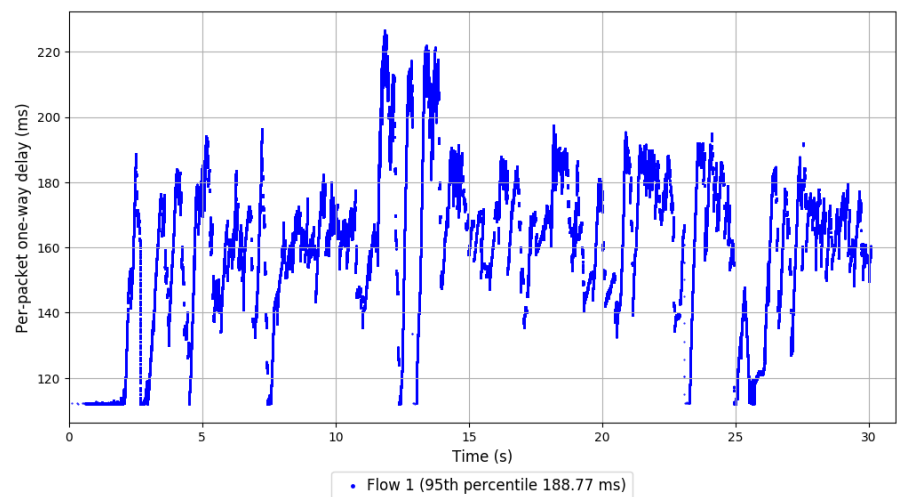
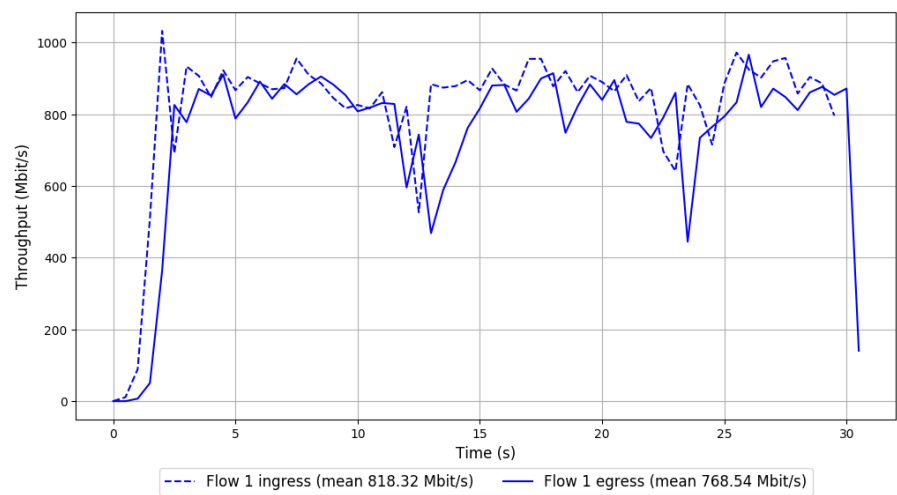


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 04:05:27
End at: 2018-09-06 04:05:57
Local clock offset: 19.483 ms
Remote clock offset: 21.182 ms

Below is generated by plot.py at 2018-09-06 06:14:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 768.54 Mbit/s
95th percentile per-packet one-way delay: 188.774 ms
Loss rate: 6.09%
-- Flow 1:
Average throughput: 768.54 Mbit/s
95th percentile per-packet one-way delay: 188.774 ms
Loss rate: 6.09%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 04:32:11

End at: 2018-09-06 04:32:41

Local clock offset: 16.232 ms

Remote clock offset: 17.18 ms

Below is generated by plot.py at 2018-09-06 06:14:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 782.14 Mbit/s

95th percentile per-packet one-way delay: 184.463 ms

Loss rate: 5.88%

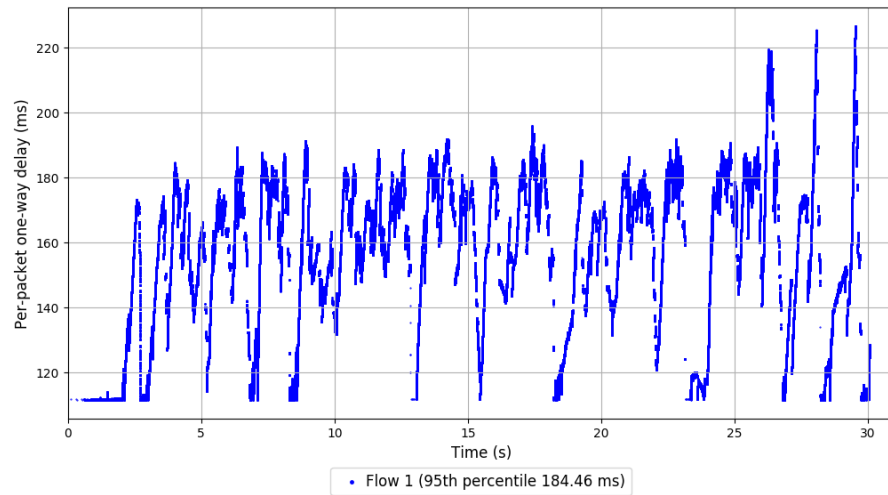
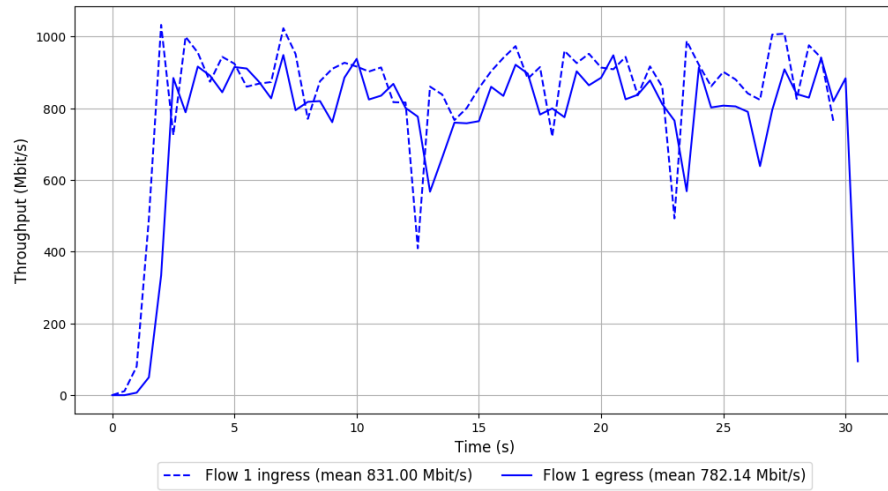
-- Flow 1:

Average throughput: 782.14 Mbit/s

95th percentile per-packet one-way delay: 184.463 ms

Loss rate: 5.88%

Run 3: Report of FillP-Sheep — Data Link

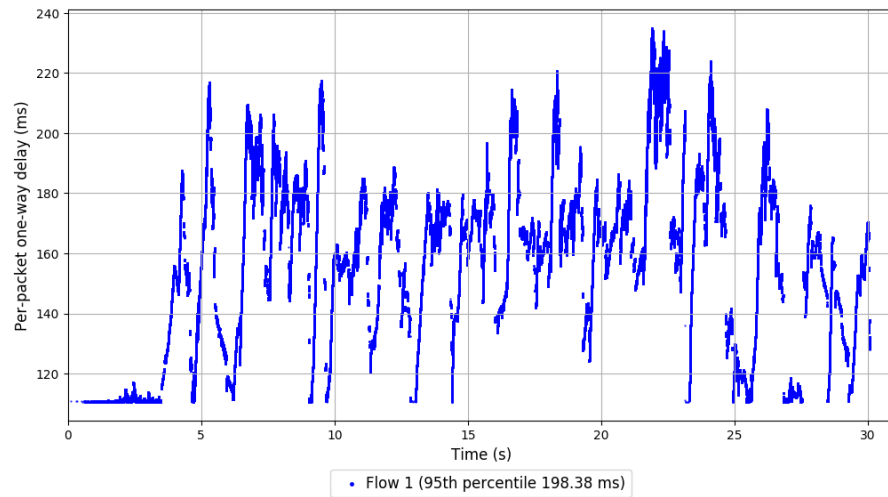
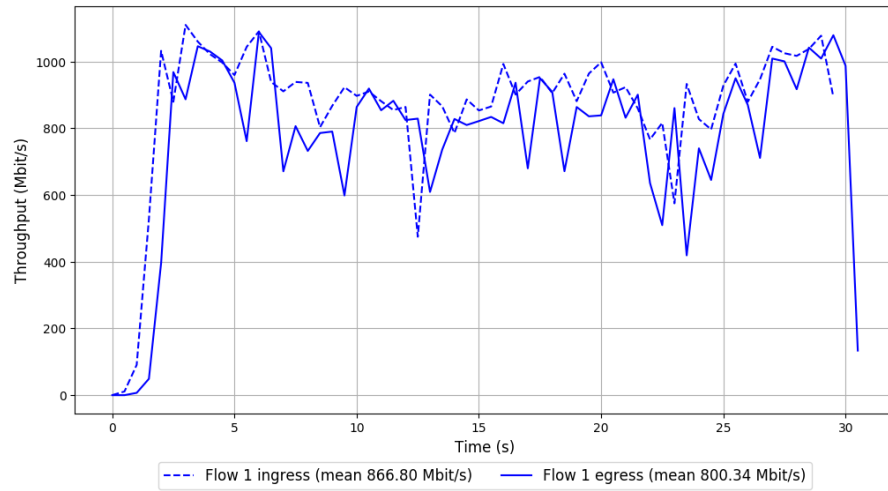


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 04:58:59
End at: 2018-09-06 04:59:29
Local clock offset: 15.507 ms
Remote clock offset: 15.385 ms

Below is generated by plot.py at 2018-09-06 06:23:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 800.34 Mbit/s
95th percentile per-packet one-way delay: 198.380 ms
Loss rate: 7.66%
-- Flow 1:
Average throughput: 800.34 Mbit/s
95th percentile per-packet one-way delay: 198.380 ms
Loss rate: 7.66%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 05:25:49

End at: 2018-09-06 05:26:19

Local clock offset: 7.215 ms

Remote clock offset: 7.952 ms

Below is generated by plot.py at 2018-09-06 06:28:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 778.88 Mbit/s

95th percentile per-packet one-way delay: 181.452 ms

Loss rate: 2.99%

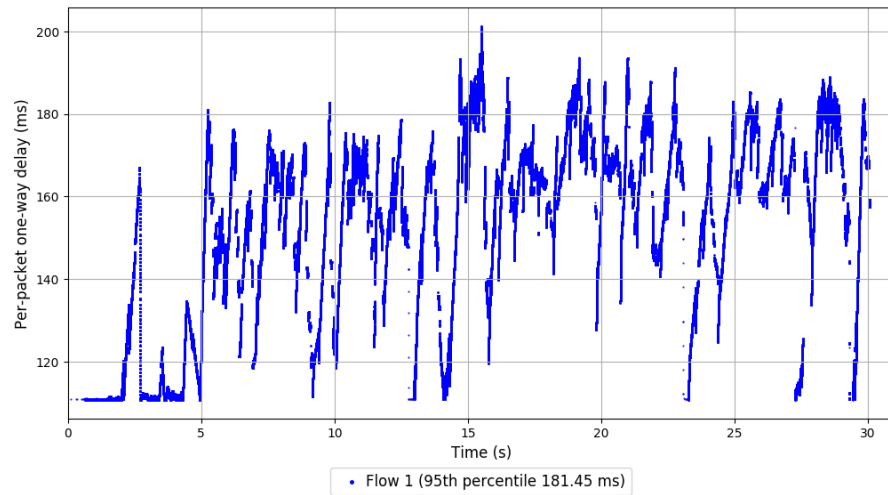
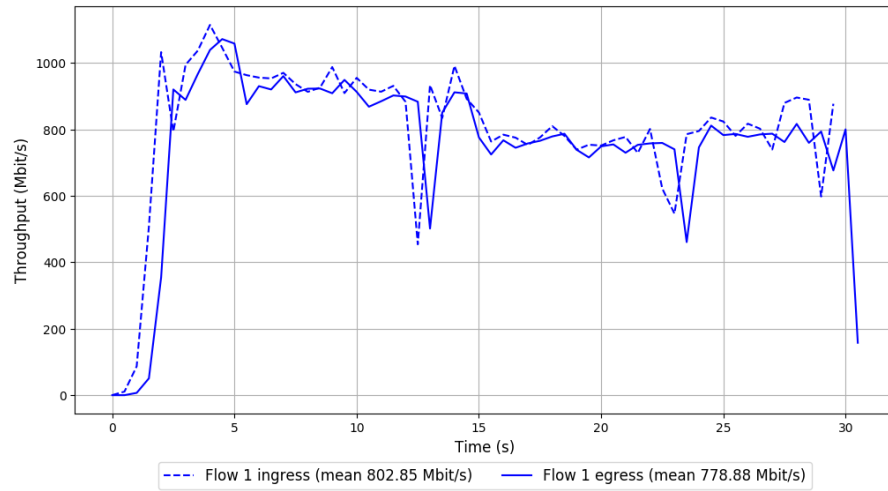
-- Flow 1:

Average throughput: 778.88 Mbit/s

95th percentile per-packet one-way delay: 181.452 ms

Loss rate: 2.99%

Run 5: Report of FillP-Sheep — Data Link

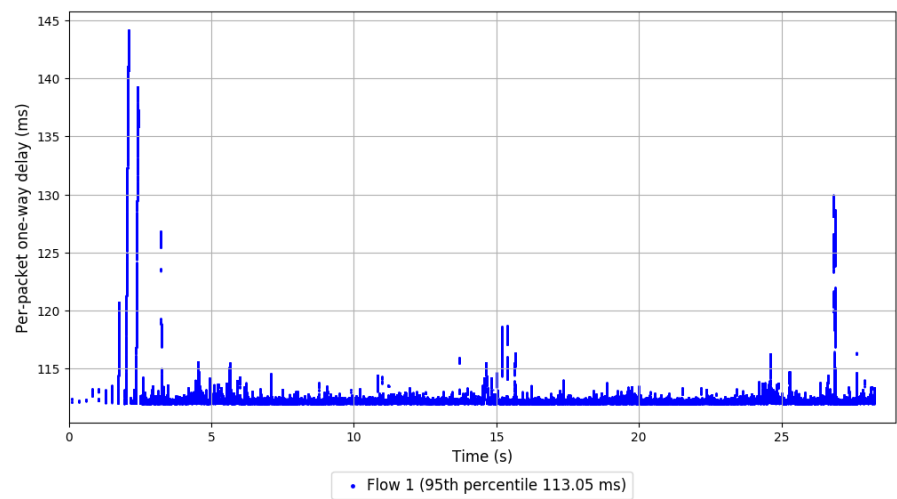
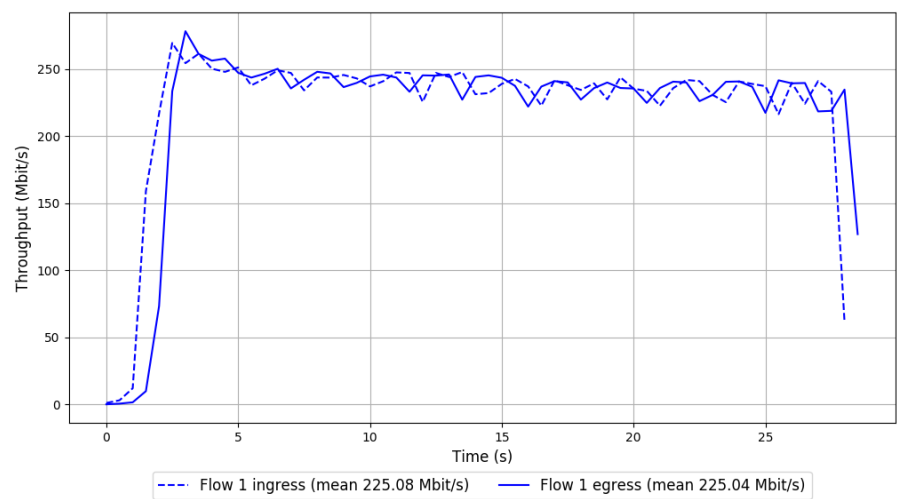


```
Run 1: Statistics of Indigo

Start at: 2018-09-06 03:40:15
End at: 2018-09-06 03:40:45
Local clock offset: 12.908 ms
Remote clock offset: 14.32 ms

# Below is generated by plot.py at 2018-09-06 06:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 225.04 Mbit/s
95th percentile per-packet one-way delay: 113.050 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 225.04 Mbit/s
95th percentile per-packet one-way delay: 113.050 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo — Data Link

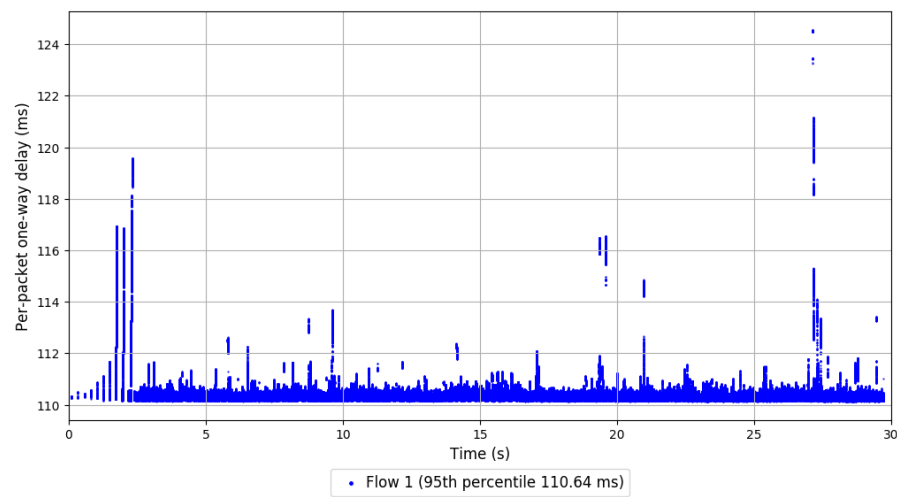
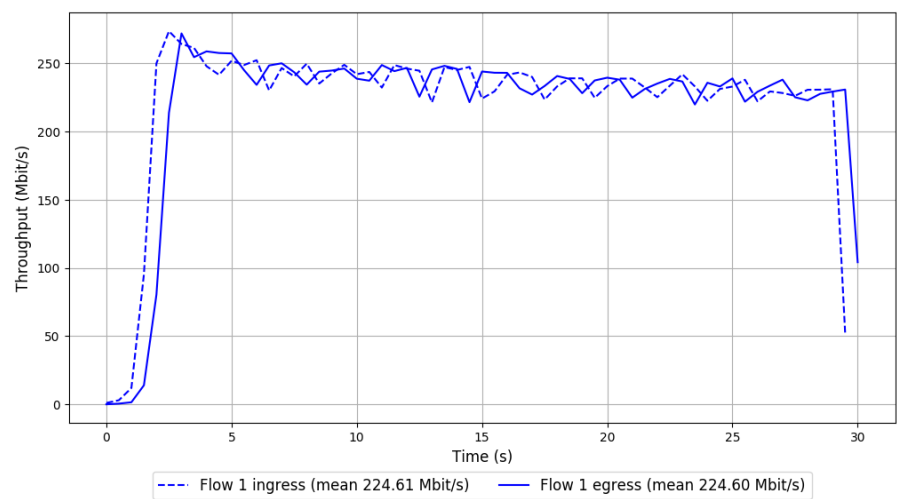


Run 2: Statistics of Indigo

Start at: 2018-09-06 04:07:09
End at: 2018-09-06 04:07:39
Local clock offset: 21.38 ms
Remote clock offset: 22.013 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 224.60 Mbit/s
95th percentile per-packet one-way delay: 110.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.60 Mbit/s
95th percentile per-packet one-way delay: 110.636 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

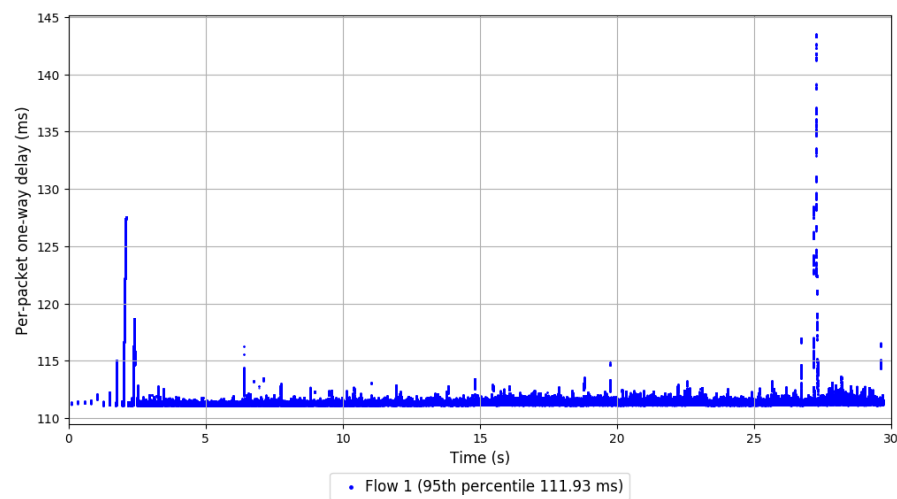
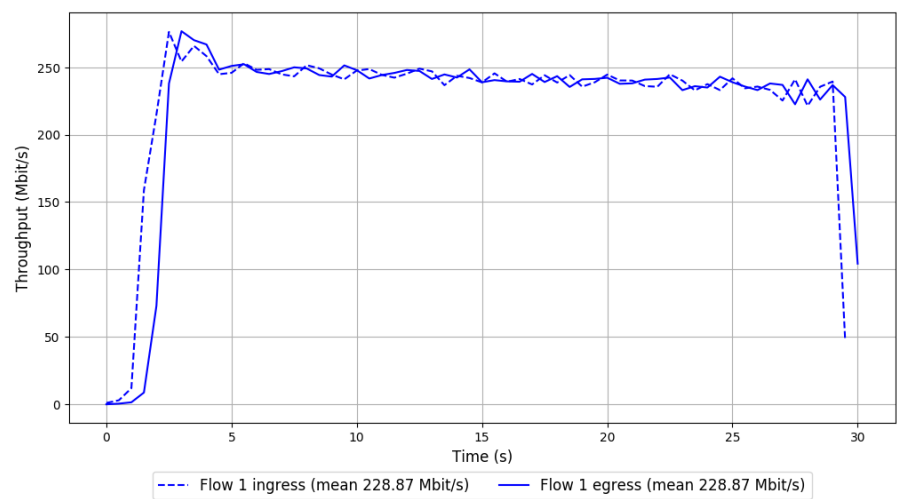


Run 3: Statistics of Indigo

Start at: 2018-09-06 04:33:54
End at: 2018-09-06 04:34:24
Local clock offset: 15.393 ms
Remote clock offset: 15.795 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 228.87 Mbit/s
95th percentile per-packet one-way delay: 111.931 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.87 Mbit/s
95th percentile per-packet one-way delay: 111.931 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

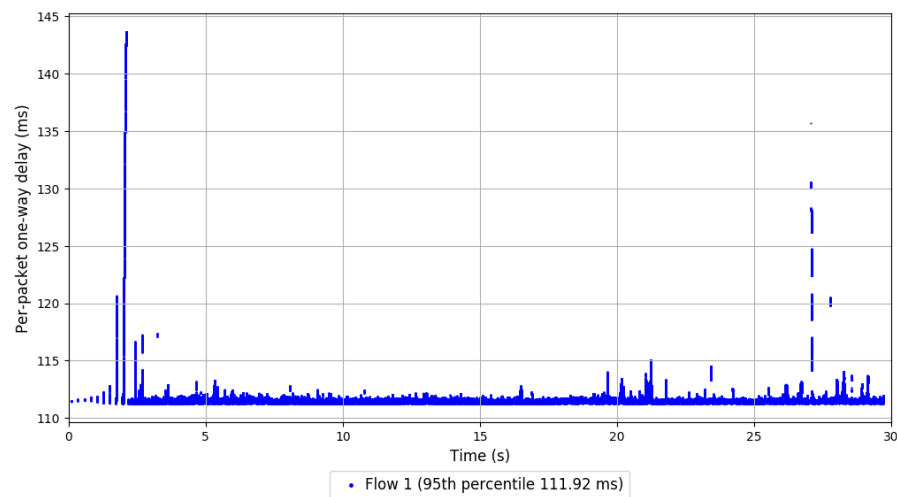
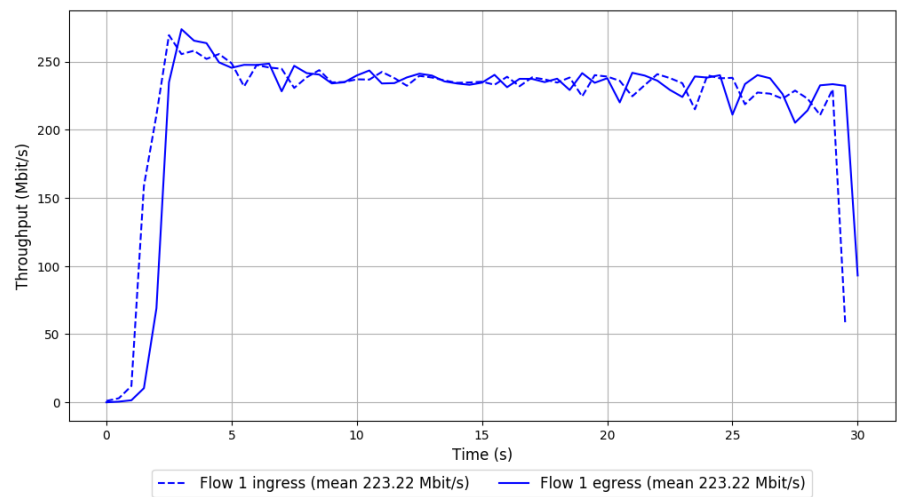


Run 4: Statistics of Indigo

Start at: 2018-09-06 05:00:42
End at: 2018-09-06 05:01:12
Local clock offset: 12.421 ms
Remote clock offset: 12.899 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 223.22 Mbit/s
95th percentile per-packet one-way delay: 111.918 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 223.22 Mbit/s
95th percentile per-packet one-way delay: 111.918 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-06 05:27:32

End at: 2018-09-06 05:28:02

Local clock offset: 7.205 ms

Remote clock offset: 7.876 ms

Below is generated by plot.py at 2018-09-06 06:28:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 154.32 Mbit/s

95th percentile per-packet one-way delay: 111.258 ms

Loss rate: 0.00%

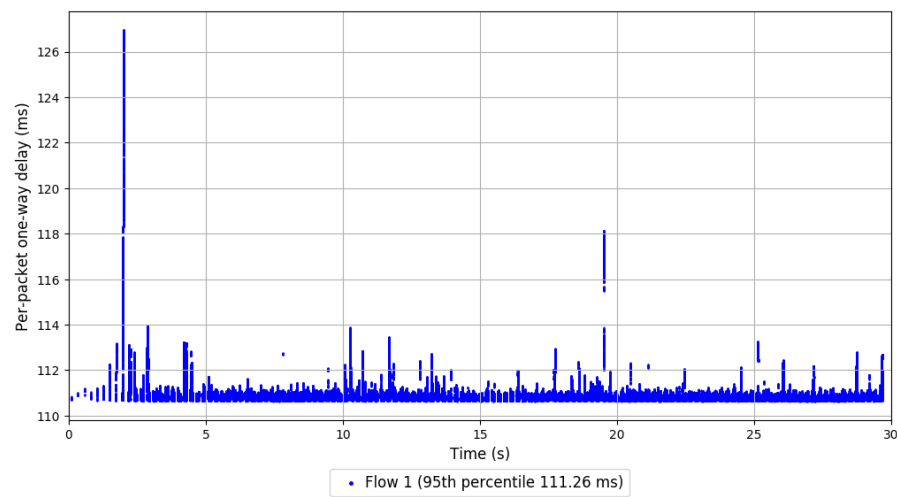
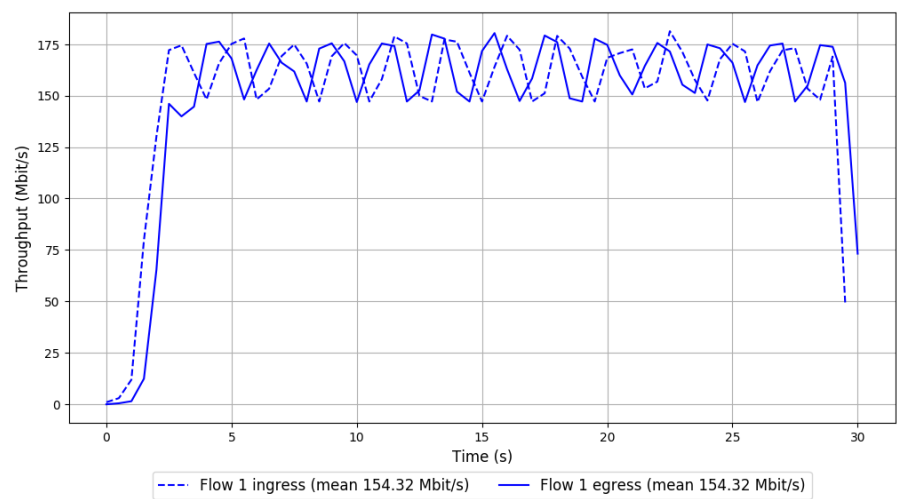
-- Flow 1:

Average throughput: 154.32 Mbit/s

95th percentile per-packet one-way delay: 111.258 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

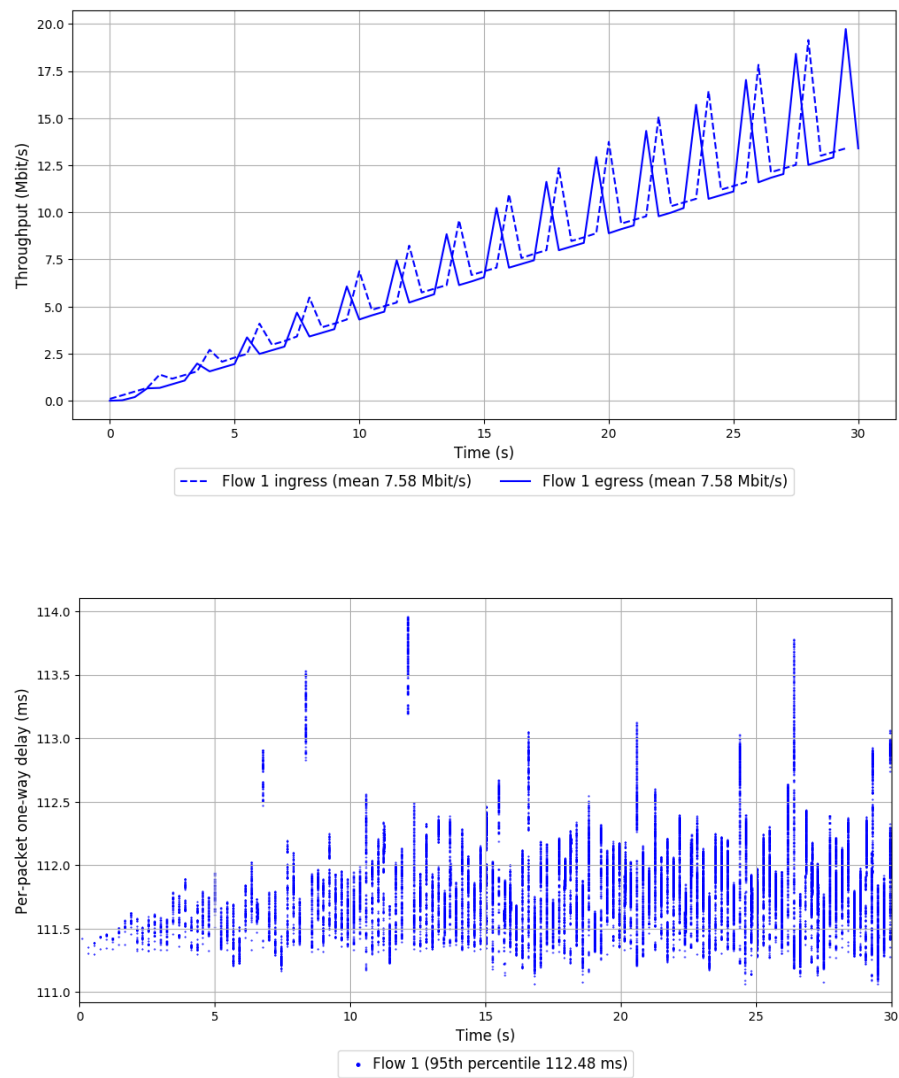


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 03:29:40
End at: 2018-09-06 03:30:10
Local clock offset: 11.263 ms
Remote clock offset: 12.408 ms

# Below is generated by plot.py at 2018-09-06 06:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 112.478 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 112.478 ms
Loss rate: 0.00%
```


Run 1: Report of LEDBAT — Data Link

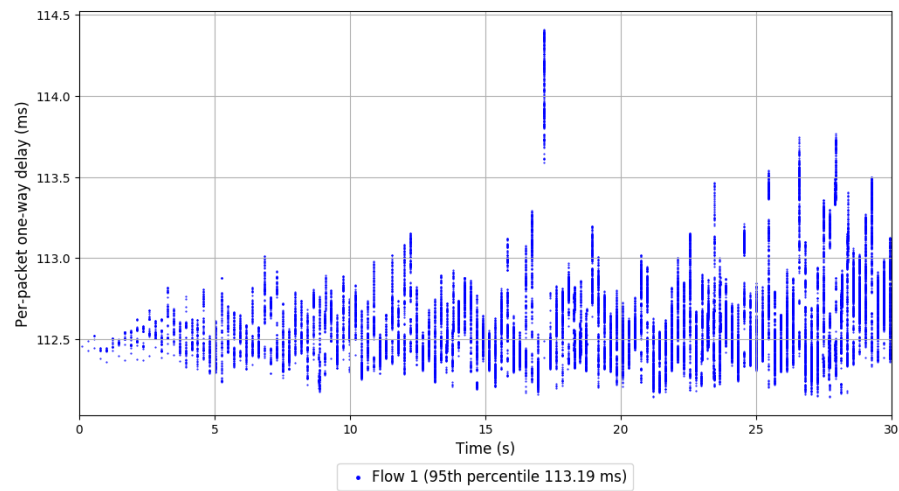
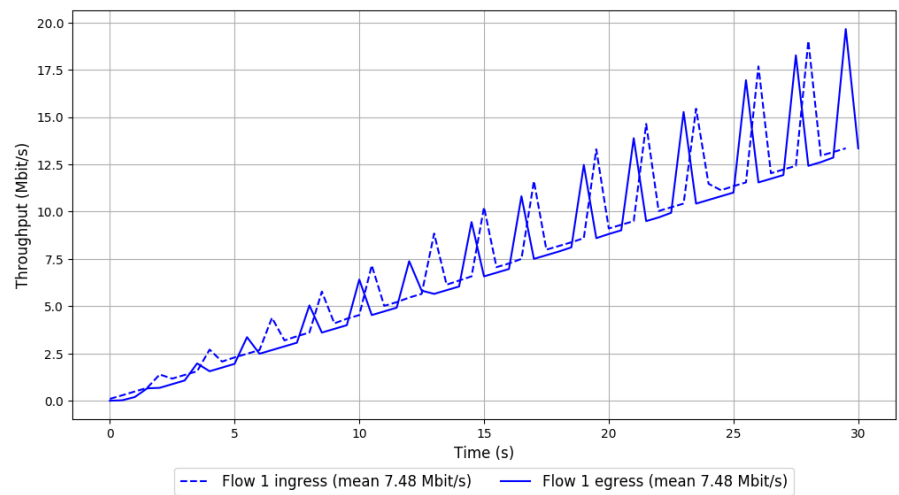


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 03:56:21
End at: 2018-09-06 03:56:51
Local clock offset: 17.314 ms
Remote clock offset: 17.952 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 113.186 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 113.186 ms
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

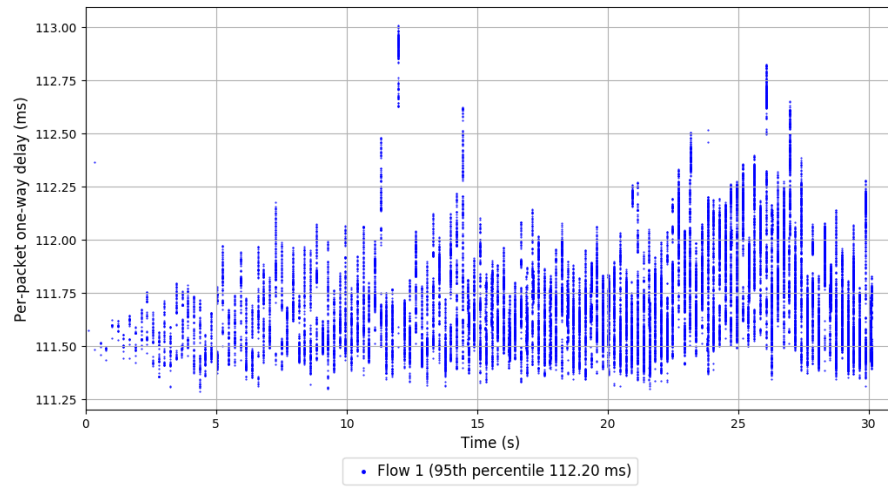
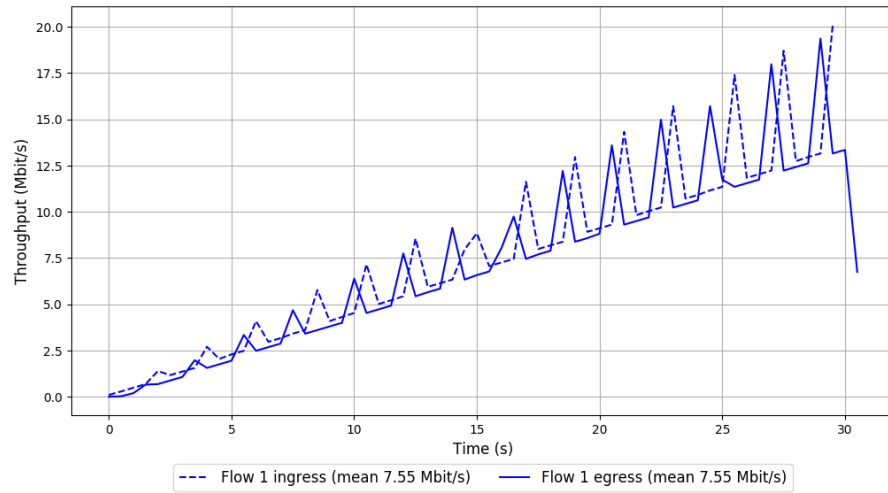


Run 3: Statistics of LEDBAT

Start at: 2018-09-06 04:23:16
End at: 2018-09-06 04:23:46
Local clock offset: 34.169 ms
Remote clock offset: 35.803 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 112.198 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 112.198 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

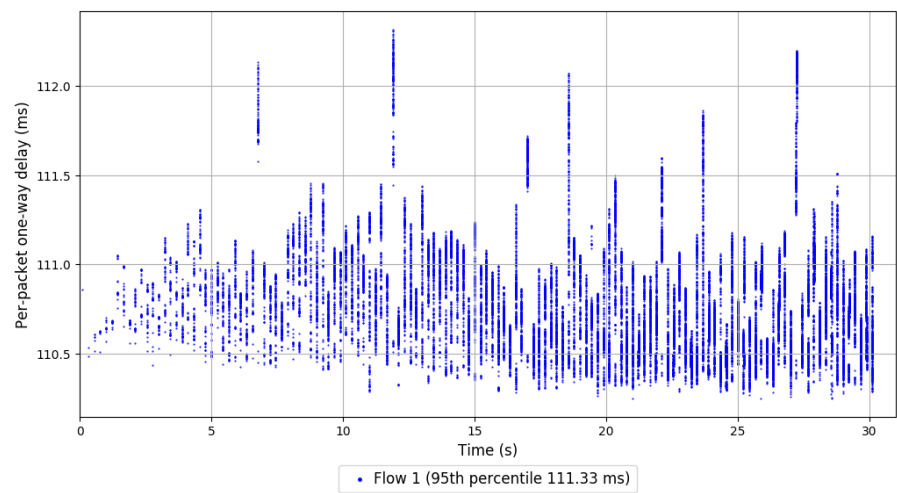
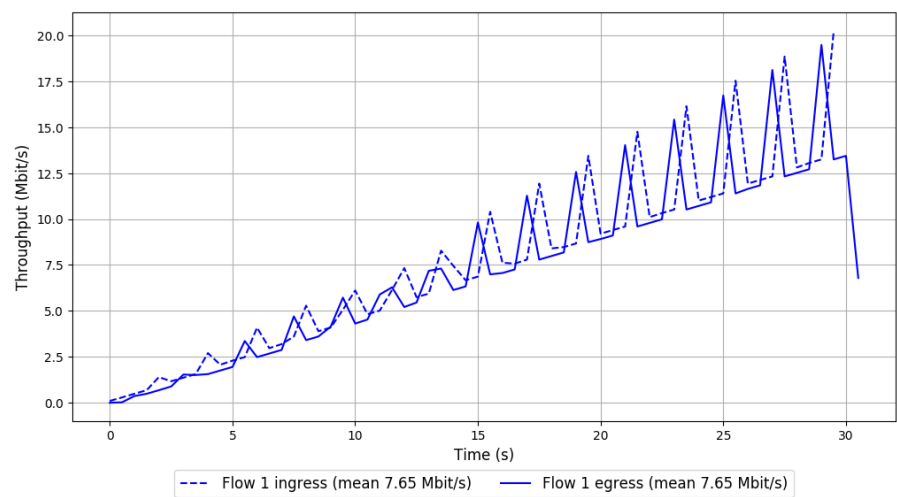


Run 4: Statistics of LEDBAT

Start at: 2018-09-06 04:49:52
End at: 2018-09-06 04:50:22
Local clock offset: 14.575 ms
Remote clock offset: 15.595 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 111.328 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 111.328 ms
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-06 05:16:41

End at: 2018-09-06 05:17:11

Local clock offset: 6.183 ms

Remote clock offset: 6.836 ms

Below is generated by plot.py at 2018-09-06 06:28:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.55 Mbit/s

95th percentile per-packet one-way delay: 112.482 ms

Loss rate: 0.00%

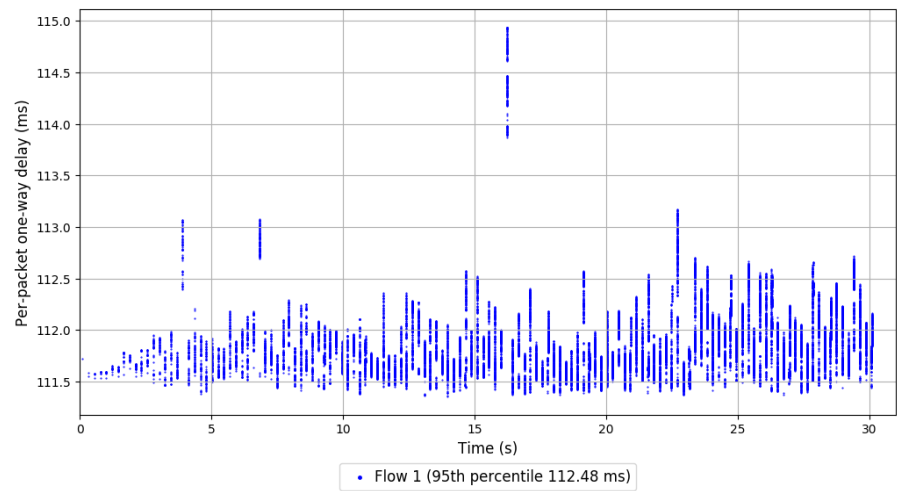
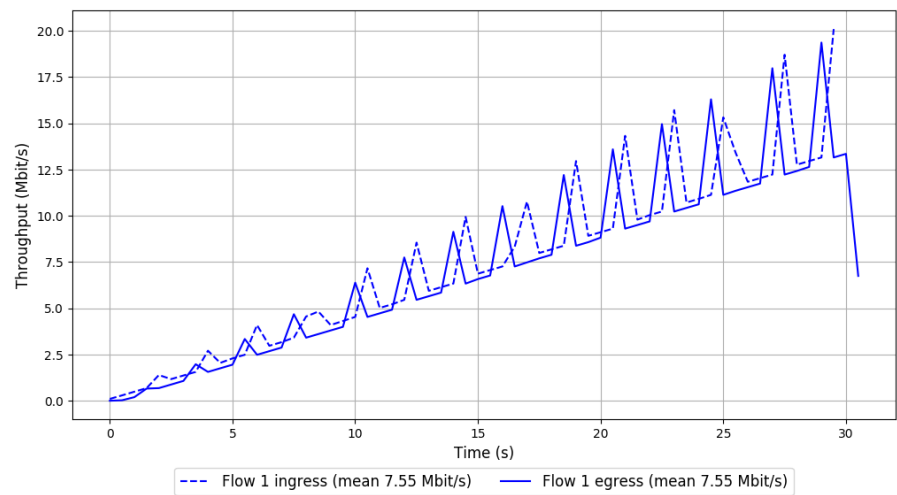
-- Flow 1:

Average throughput: 7.55 Mbit/s

95th percentile per-packet one-way delay: 112.482 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

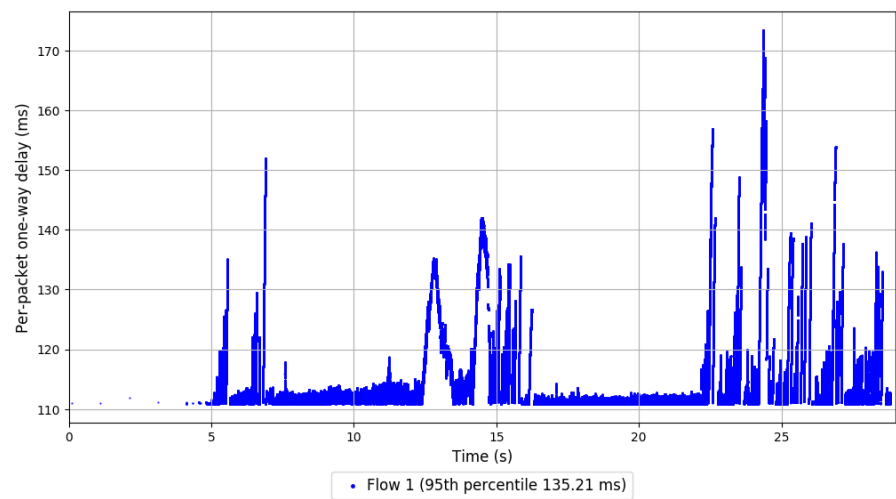
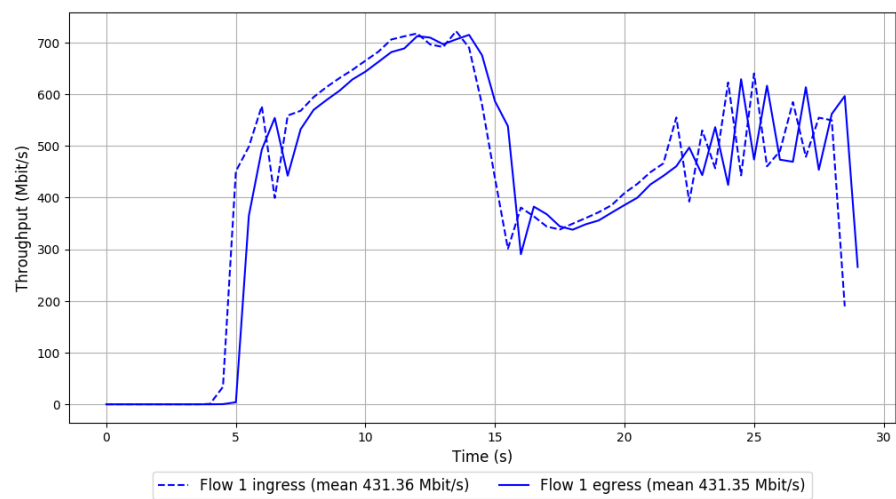


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 03:33:37
End at: 2018-09-06 03:34:07
Local clock offset: 13.001 ms
Remote clock offset: 13.299 ms

# Below is generated by plot.py at 2018-09-06 06:28:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 431.35 Mbit/s
95th percentile per-packet one-way delay: 135.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 431.35 Mbit/s
95th percentile per-packet one-way delay: 135.211 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

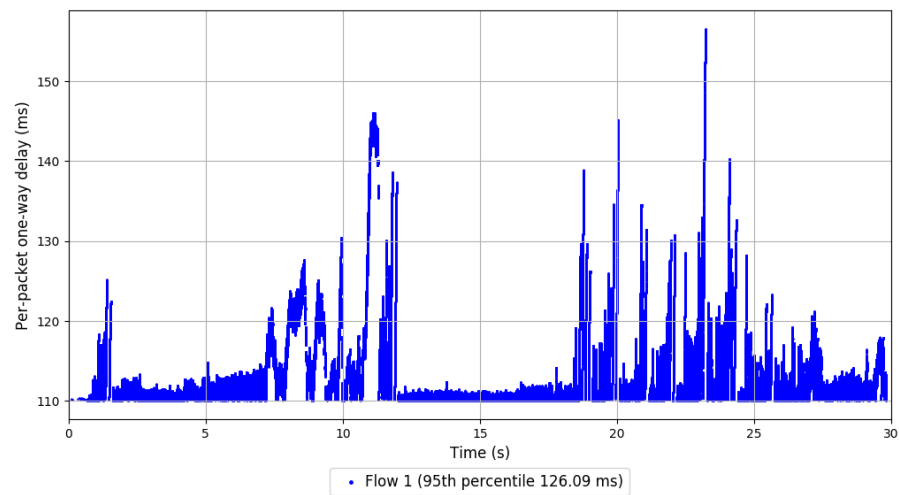
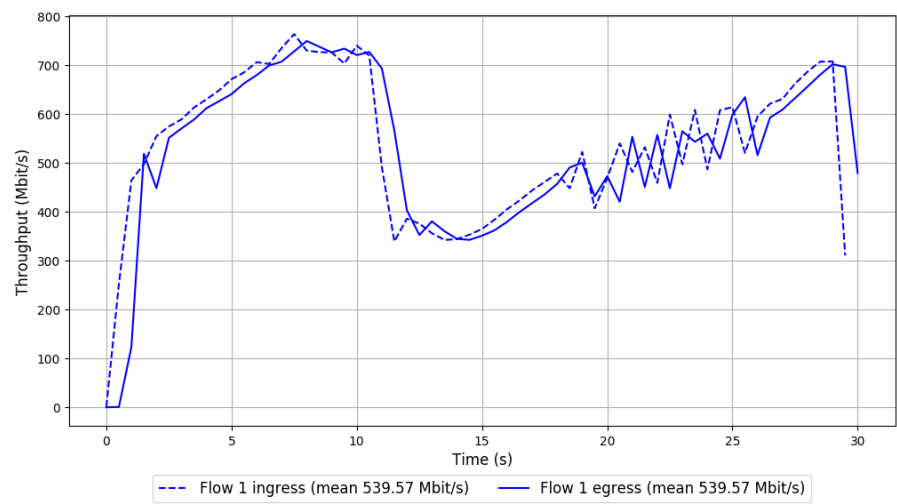


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 04:00:24
End at: 2018-09-06 04:00:54
Local clock offset: 17.345 ms
Remote clock offset: 18.382 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 539.57 Mbit/s
95th percentile per-packet one-way delay: 126.089 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 539.57 Mbit/s
95th percentile per-packet one-way delay: 126.089 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

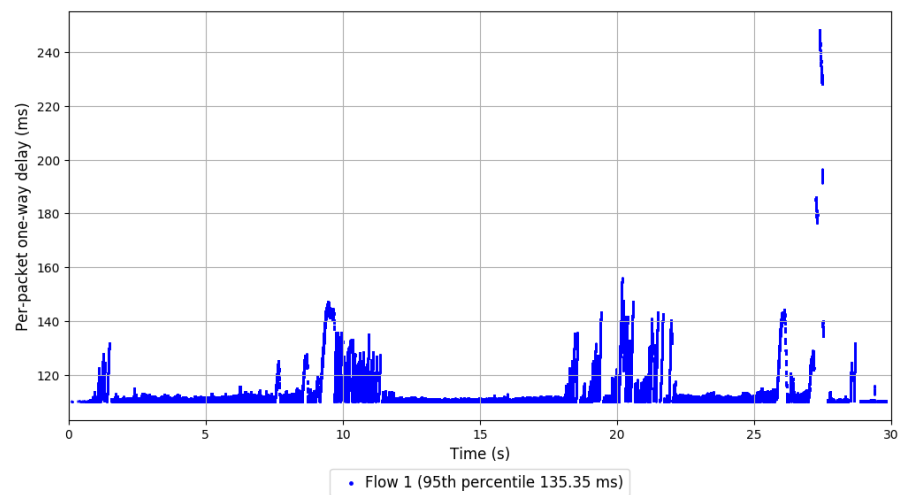
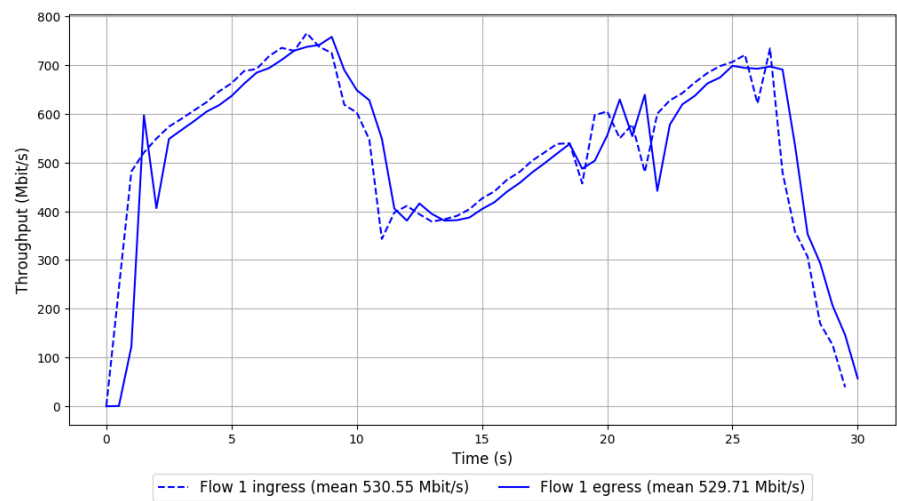


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 04:27:18
End at: 2018-09-06 04:27:48
Local clock offset: 24.053 ms
Remote clock offset: 24.039 ms

Below is generated by plot.py at 2018-09-06 06:28:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 529.71 Mbit/s
95th percentile per-packet one-way delay: 135.348 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 529.71 Mbit/s
95th percentile per-packet one-way delay: 135.348 ms
Loss rate: 0.16%

Run 3: Report of Indigo-Muses — Data Link

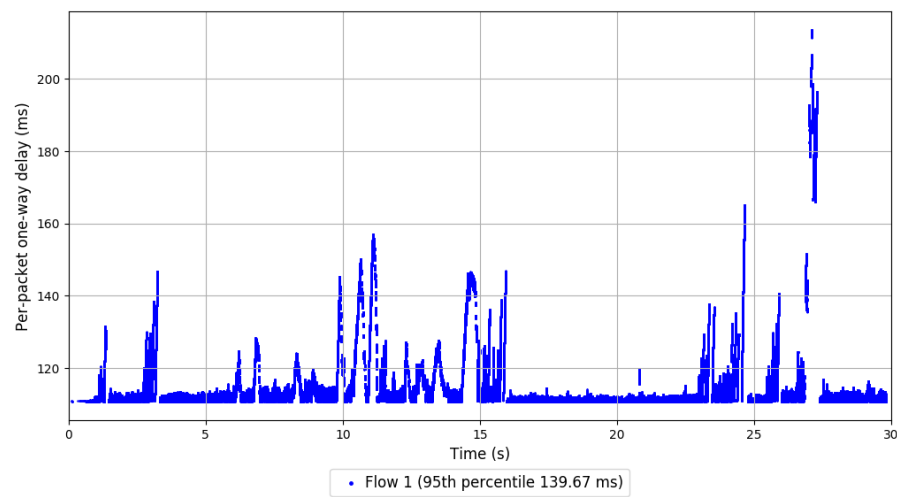
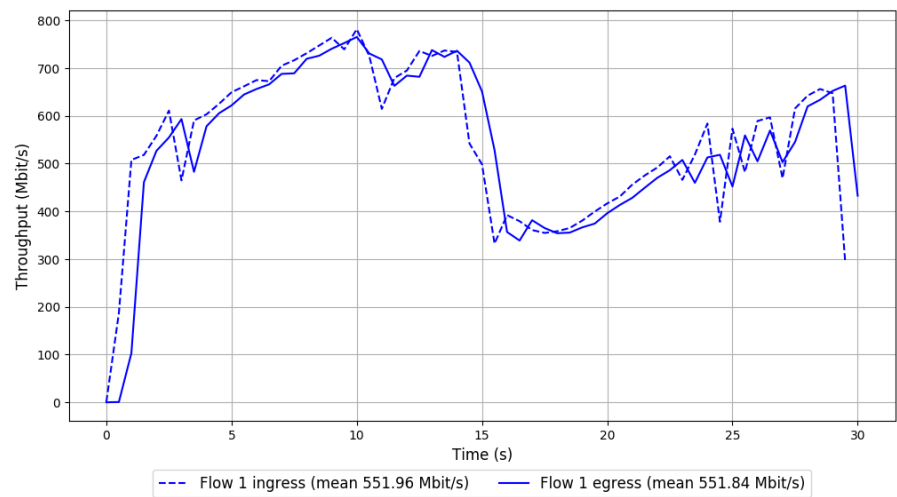


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 04:53:54
End at: 2018-09-06 04:54:24
Local clock offset: 16.655 ms
Remote clock offset: 16.805 ms

Below is generated by plot.py at 2018-09-06 06:29:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 551.84 Mbit/s
95th percentile per-packet one-way delay: 139.668 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 551.84 Mbit/s
95th percentile per-packet one-way delay: 139.668 ms
Loss rate: 0.02%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 05:20:43

End at: 2018-09-06 05:21:13

Local clock offset: 7.35 ms

Remote clock offset: 7.165 ms

Below is generated by plot.py at 2018-09-06 06:29:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 549.52 Mbit/s

95th percentile per-packet one-way delay: 132.305 ms

Loss rate: 0.00%

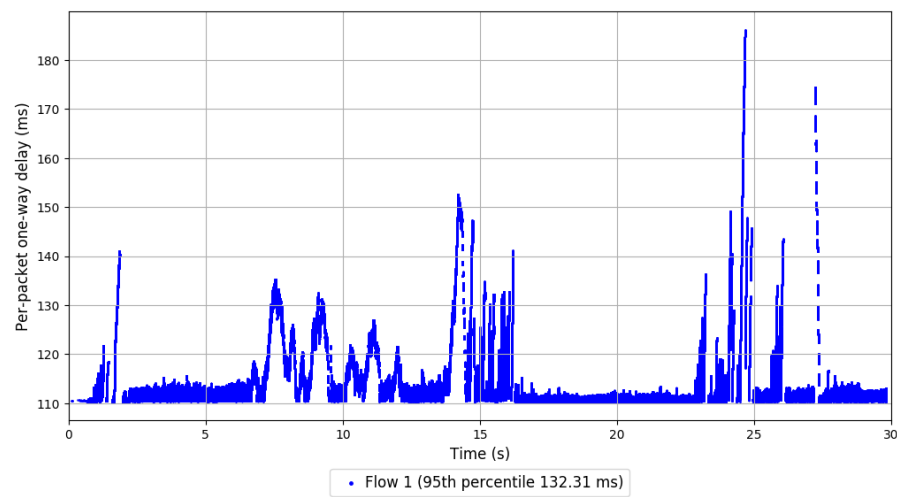
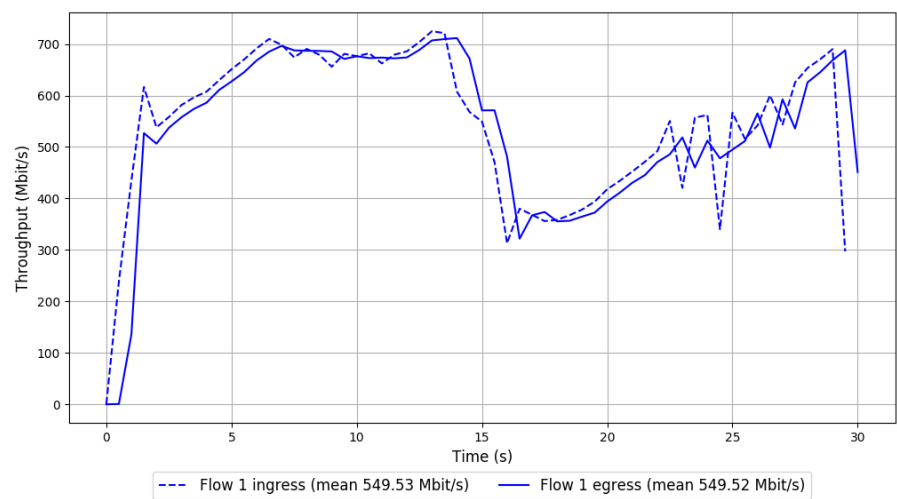
-- Flow 1:

Average throughput: 549.52 Mbit/s

95th percentile per-packet one-way delay: 132.305 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

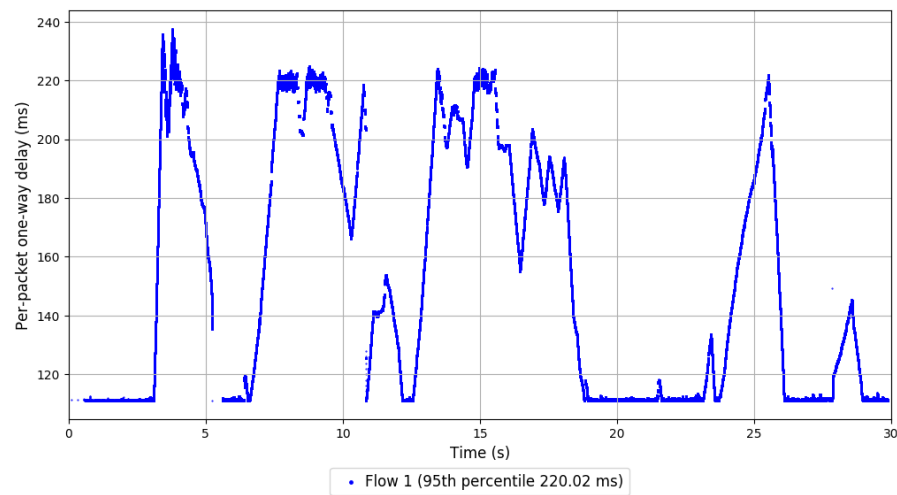
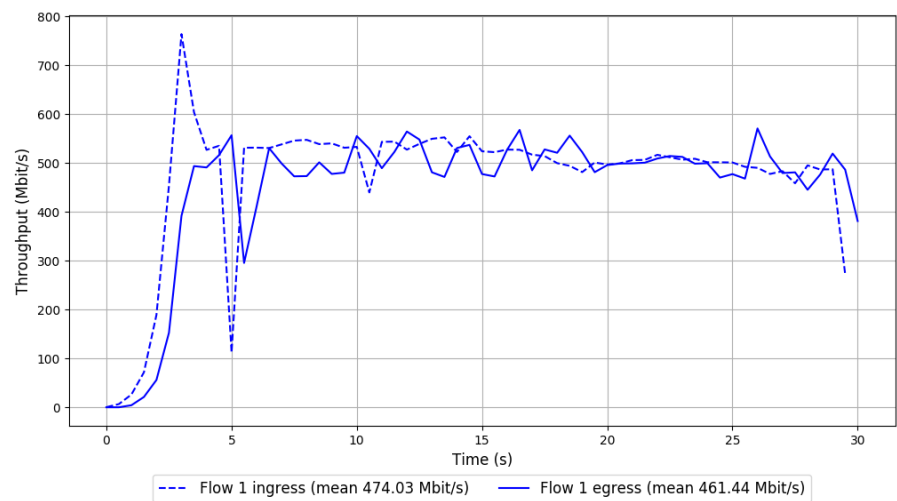


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 03:19:37
End at: 2018-09-06 03:20:07
Local clock offset: 6.084 ms
Remote clock offset: 6.232 ms

# Below is generated by plot.py at 2018-09-06 06:35:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 461.44 Mbit/s
95th percentile per-packet one-way delay: 220.023 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 461.44 Mbit/s
95th percentile per-packet one-way delay: 220.023 ms
Loss rate: 2.65%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 03:46:10

End at: 2018-09-06 03:46:40

Local clock offset: 20.437 ms

Remote clock offset: 20.682 ms

Below is generated by plot.py at 2018-09-06 06:37:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 469.84 Mbit/s

95th percentile per-packet one-way delay: 216.372 ms

Loss rate: 2.08%

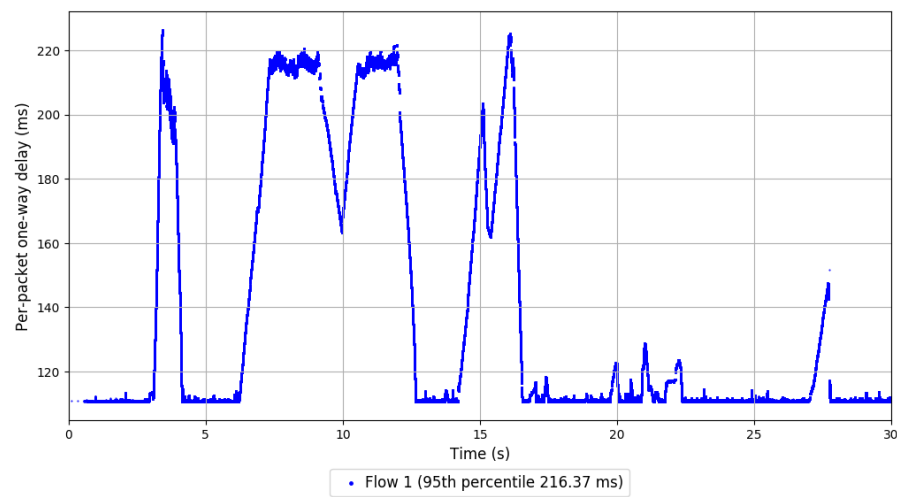
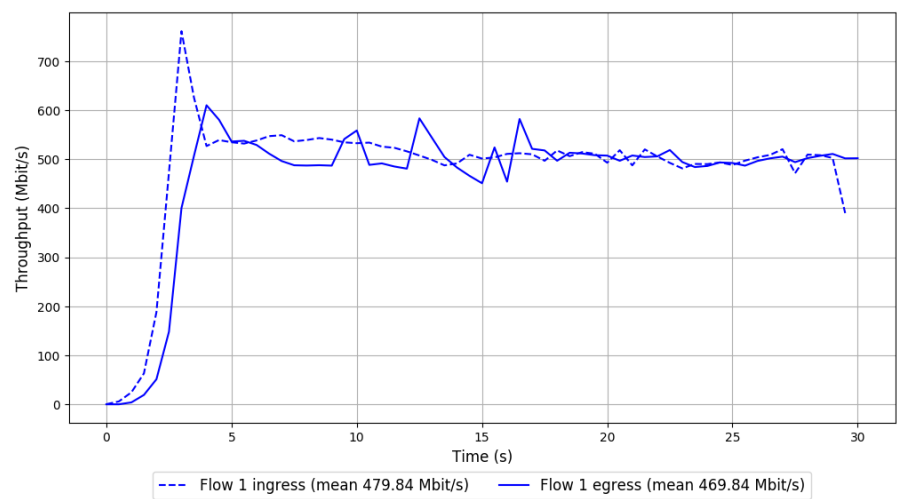
-- Flow 1:

Average throughput: 469.84 Mbit/s

95th percentile per-packet one-way delay: 216.372 ms

Loss rate: 2.08%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 04:13:02

End at: 2018-09-06 04:13:32

Local clock offset: 24.951 ms

Remote clock offset: 26.364 ms

Below is generated by plot.py at 2018-09-06 06:39:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 467.58 Mbit/s

95th percentile per-packet one-way delay: 214.875 ms

Loss rate: 2.08%

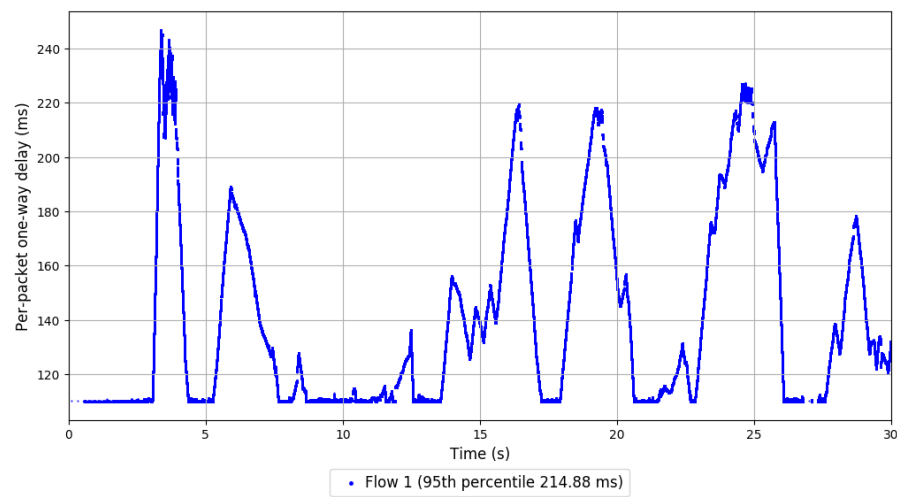
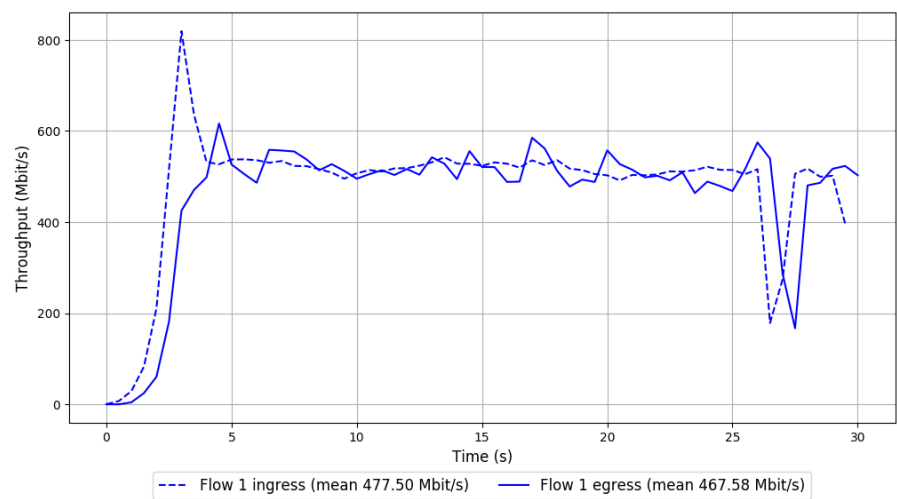
-- Flow 1:

Average throughput: 467.58 Mbit/s

95th percentile per-packet one-way delay: 214.875 ms

Loss rate: 2.08%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 04:39:50

End at: 2018-09-06 04:40:20

Local clock offset: 13.036 ms

Remote clock offset: 13.674 ms

Below is generated by plot.py at 2018-09-06 06:42:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 466.52 Mbit/s

95th percentile per-packet one-way delay: 209.757 ms

Loss rate: 1.63%

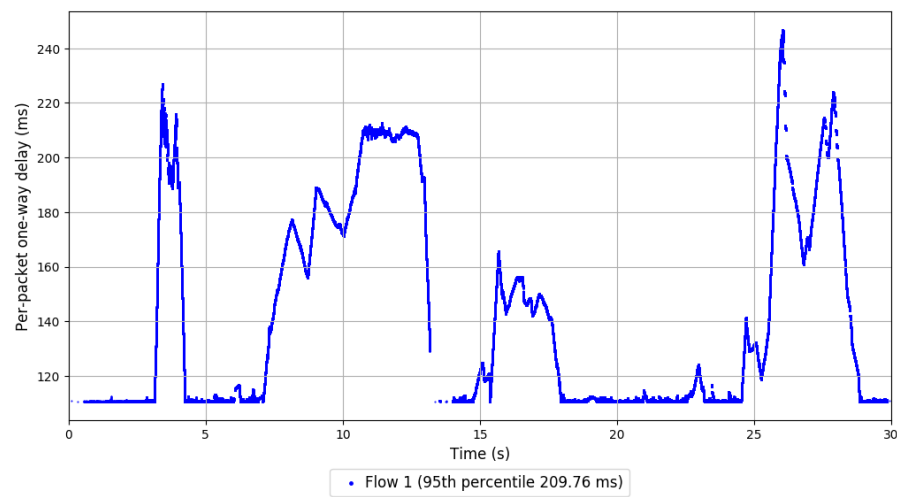
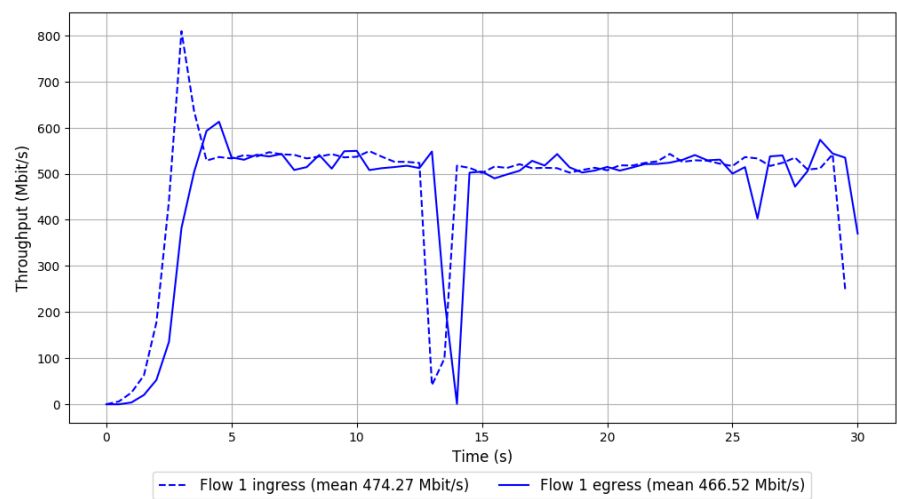
-- Flow 1:

Average throughput: 466.52 Mbit/s

95th percentile per-packet one-way delay: 209.757 ms

Loss rate: 1.63%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 05:06:34

End at: 2018-09-06 05:07:04

Local clock offset: 9.156 ms

Remote clock offset: 8.533 ms

Below is generated by plot.py at 2018-09-06 06:42:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 446.54 Mbit/s

95th percentile per-packet one-way delay: 216.100 ms

Loss rate: 1.75%

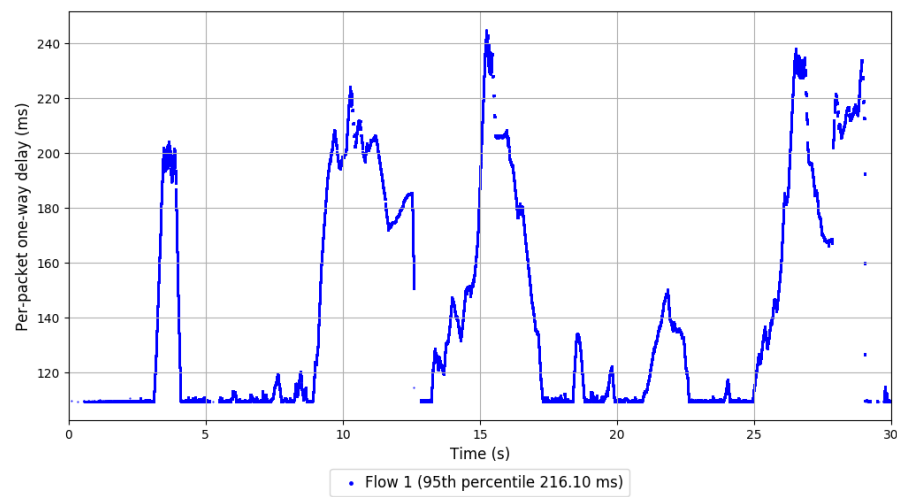
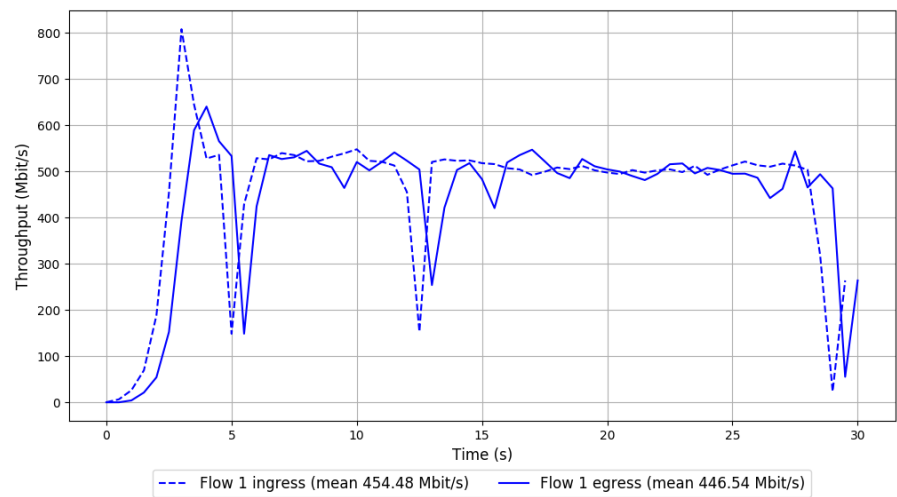
-- Flow 1:

Average throughput: 446.54 Mbit/s

95th percentile per-packet one-way delay: 216.100 ms

Loss rate: 1.75%

Run 5: Report of PCC-Allegro — Data Link

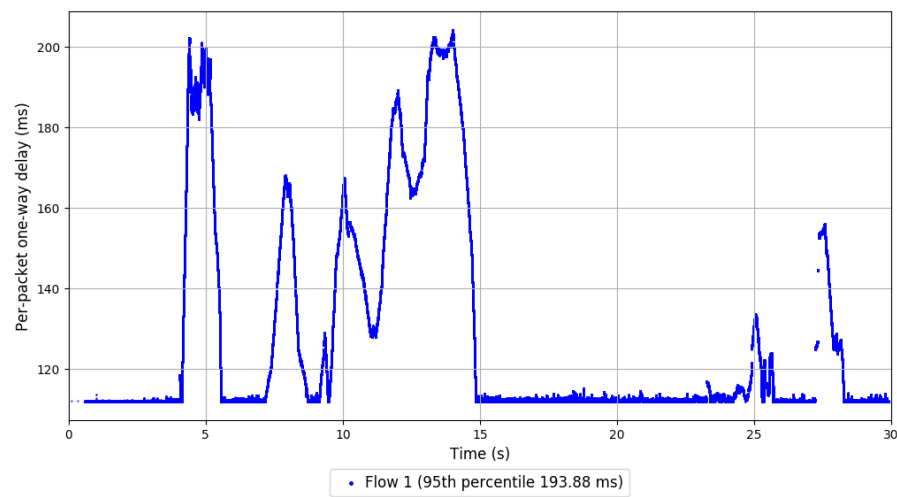
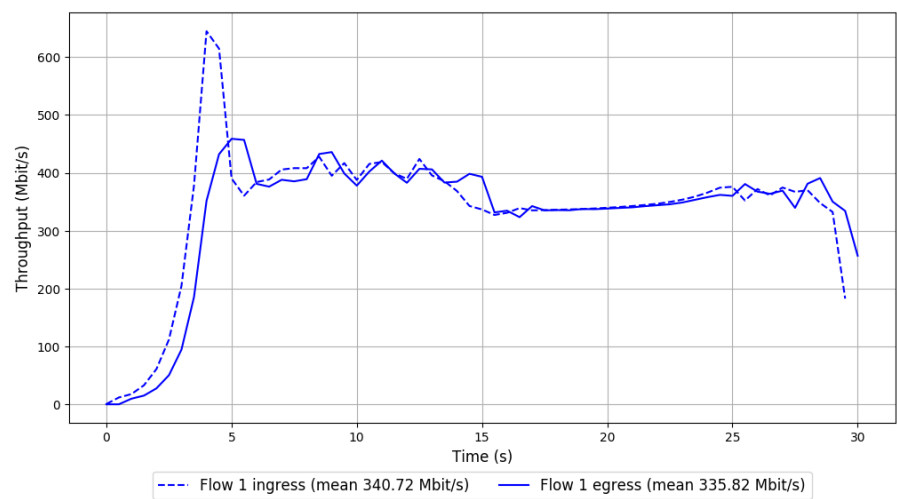


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 03:26:37
End at: 2018-09-06 03:27:07
Local clock offset: 7.595 ms
Remote clock offset: 8.668 ms

# Below is generated by plot.py at 2018-09-06 06:42:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 335.82 Mbit/s
95th percentile per-packet one-way delay: 193.877 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 335.82 Mbit/s
95th percentile per-packet one-way delay: 193.877 ms
Loss rate: 1.44%
```

Run 1: Report of PCC-Expr — Data Link

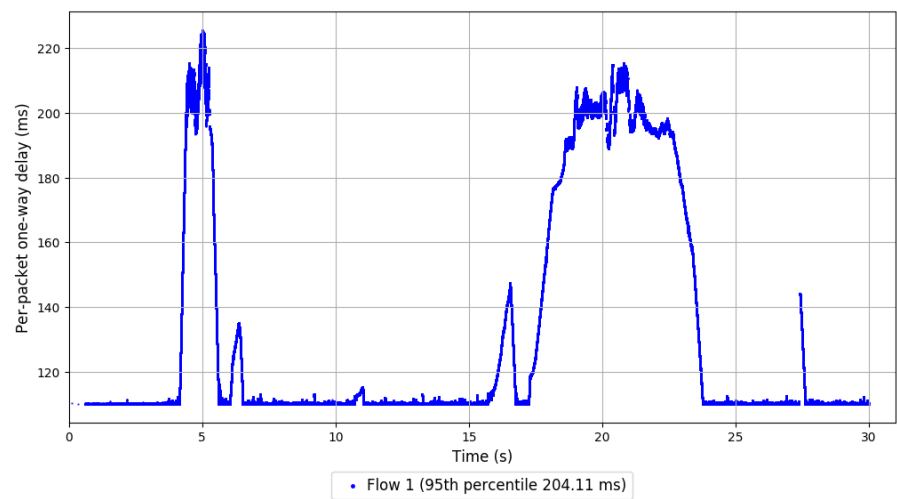
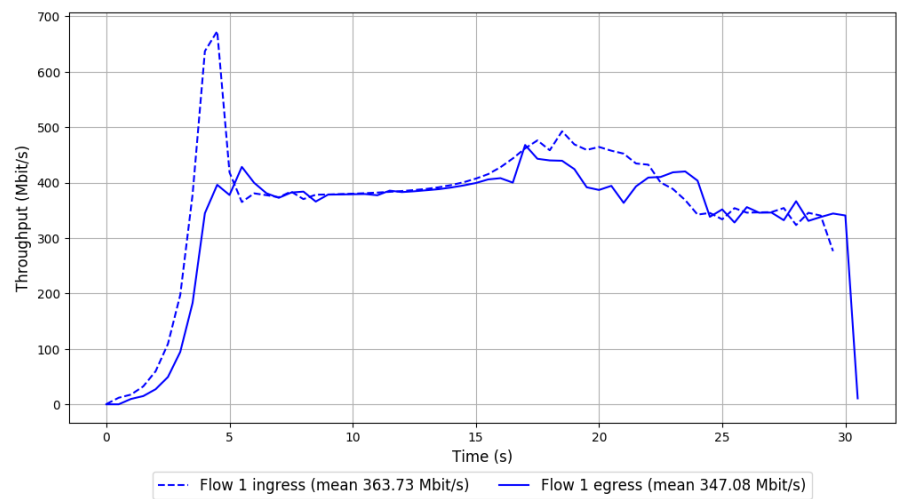


Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 03:53:09
End at: 2018-09-06 03:53:39
Local clock offset: 18.717 ms
Remote clock offset: 18.879 ms

Below is generated by plot.py at 2018-09-06 06:42:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 347.08 Mbit/s
95th percentile per-packet one-way delay: 204.114 ms
Loss rate: 4.58%
-- Flow 1:
Average throughput: 347.08 Mbit/s
95th percentile per-packet one-way delay: 204.114 ms
Loss rate: 4.58%

Run 2: Report of PCC-Expr — Data Link

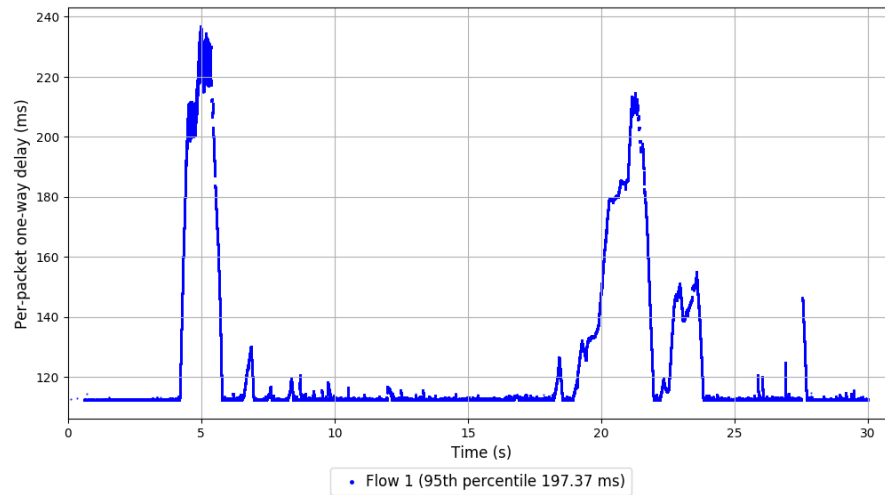
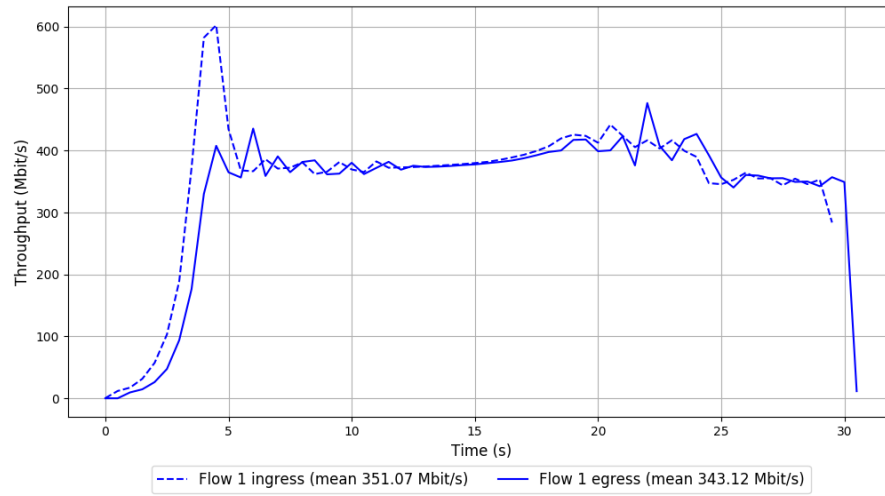


Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 04:20:05
End at: 2018-09-06 04:20:35
Local clock offset: 31.548 ms
Remote clock offset: 32.826 ms

Below is generated by plot.py at 2018-09-06 06:42:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 343.12 Mbit/s
95th percentile per-packet one-way delay: 197.369 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 343.12 Mbit/s
95th percentile per-packet one-way delay: 197.369 ms
Loss rate: 2.27%

Run 3: Report of PCC-Expr — Data Link

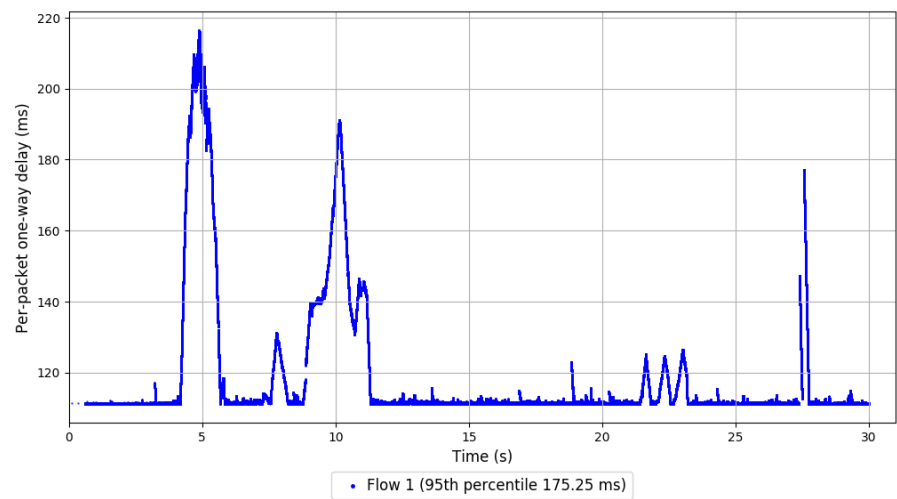
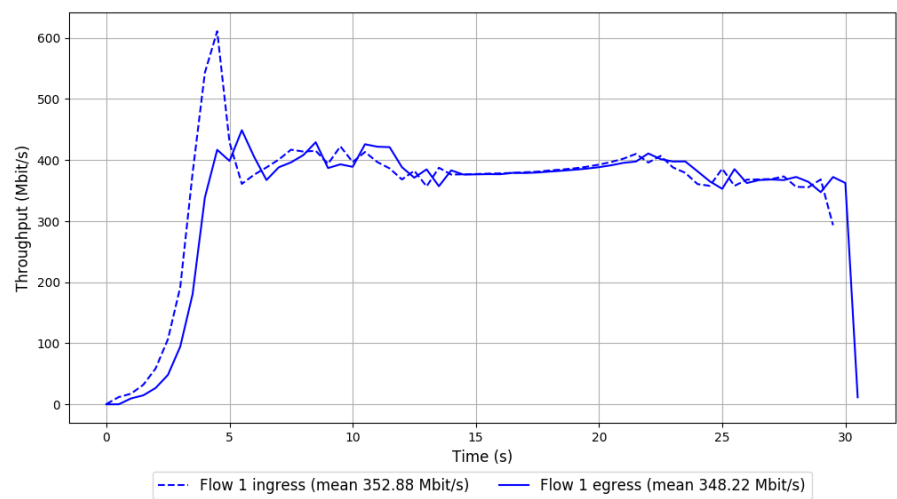


Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 04:46:42
End at: 2018-09-06 04:47:12
Local clock offset: 13.892 ms
Remote clock offset: 14.414 ms

Below is generated by plot.py at 2018-09-06 06:47:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 348.22 Mbit/s
95th percentile per-packet one-way delay: 175.245 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 348.22 Mbit/s
95th percentile per-packet one-way delay: 175.245 ms
Loss rate: 1.32%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 05:13:39

End at: 2018-09-06 05:14:09

Local clock offset: 7.45 ms

Remote clock offset: 6.545 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 326.30 Mbit/s

95th percentile per-packet one-way delay: 185.103 ms

Loss rate: 0.68%

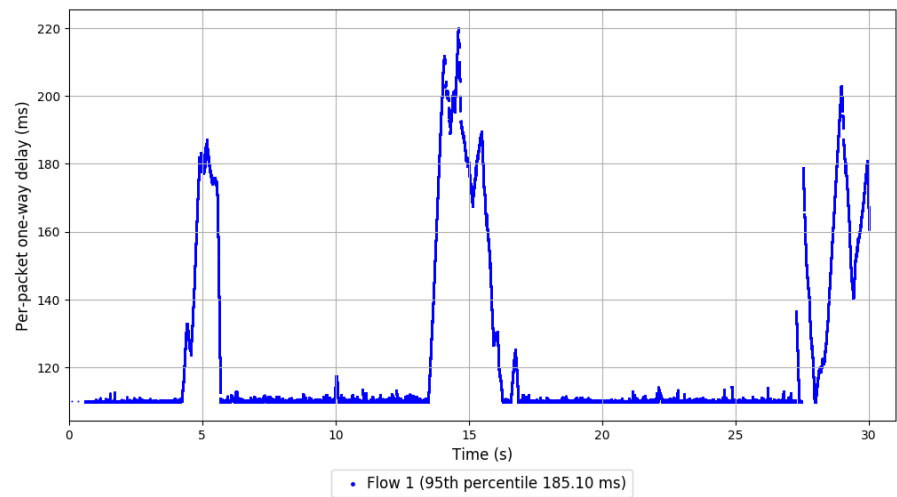
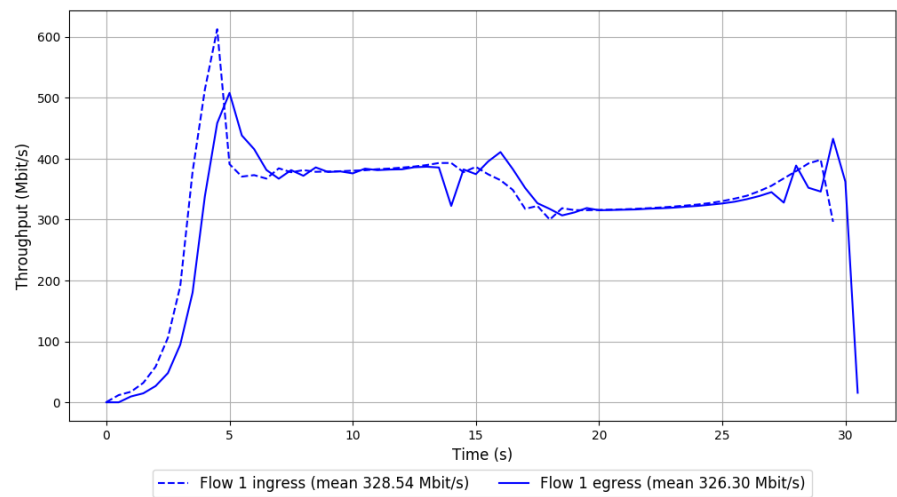
-- Flow 1:

Average throughput: 326.30 Mbit/s

95th percentile per-packet one-way delay: 185.103 ms

Loss rate: 0.68%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

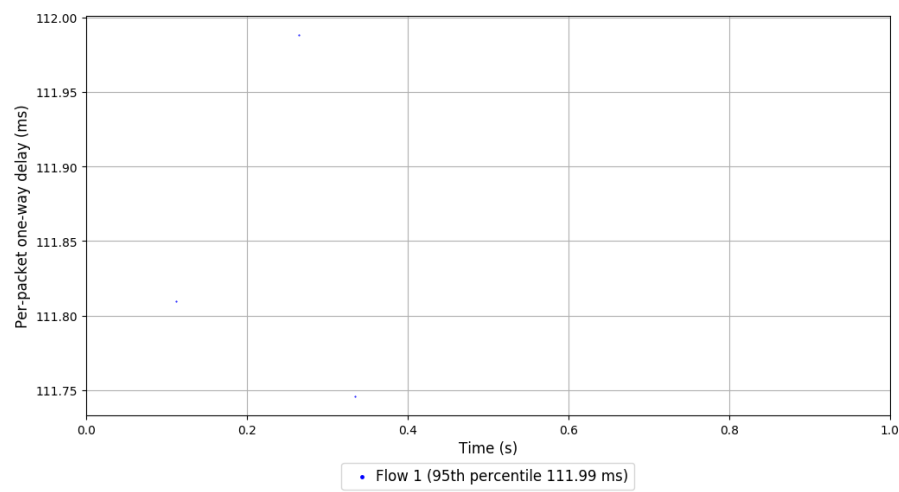
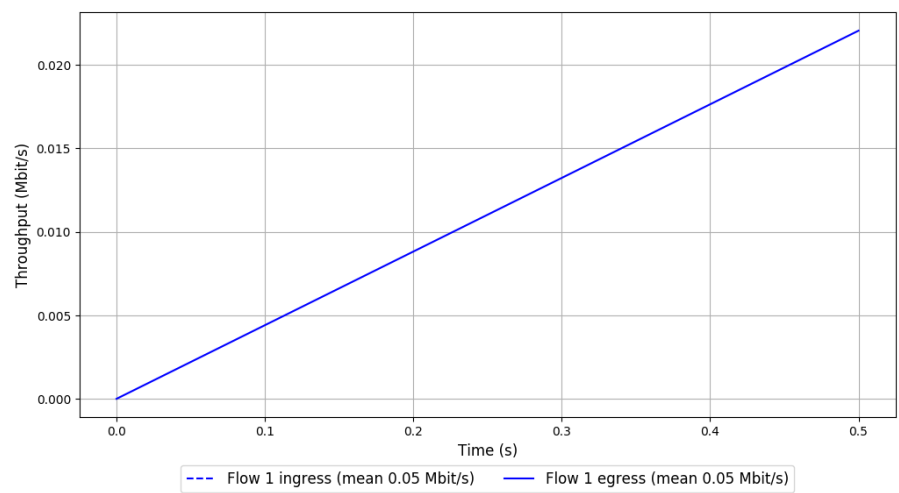
Start at: 2018-09-06 03:30:50

End at: 2018-09-06 03:31:20

Local clock offset: 13.329 ms

Remote clock offset: 14.62 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 03:57:31

End at: 2018-09-06 03:58:01

Local clock offset: 16.87 ms

Remote clock offset: 17.522 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.75 Mbit/s

95th percentile per-packet one-way delay: 109.887 ms

Loss rate: 0.00%

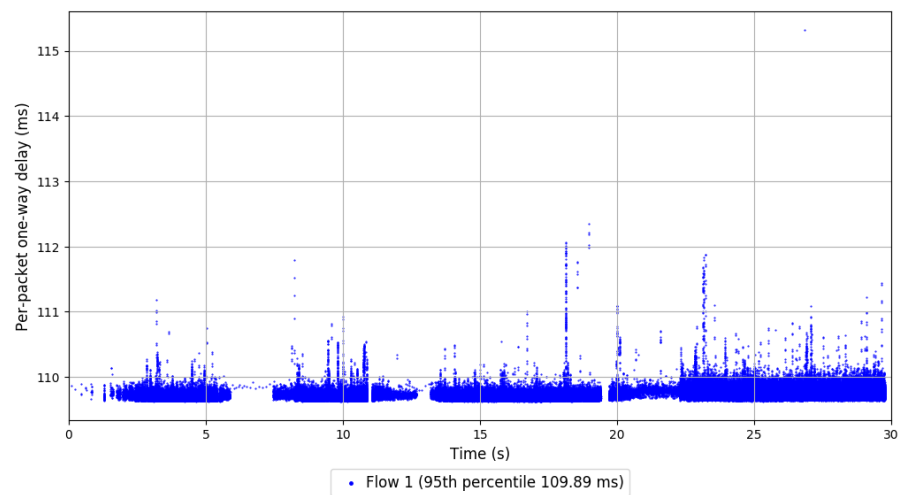
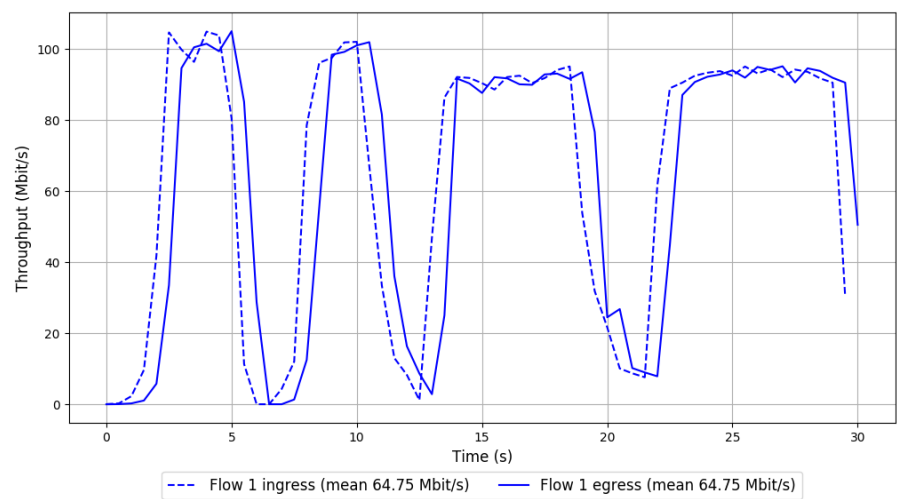
-- Flow 1:

Average throughput: 64.75 Mbit/s

95th percentile per-packet one-way delay: 109.887 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 04:24:25

End at: 2018-09-06 04:24:55

Local clock offset: 30.91 ms

Remote clock offset: 31.892 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.22 Mbit/s

95th percentile per-packet one-way delay: 111.224 ms

Loss rate: 0.01%

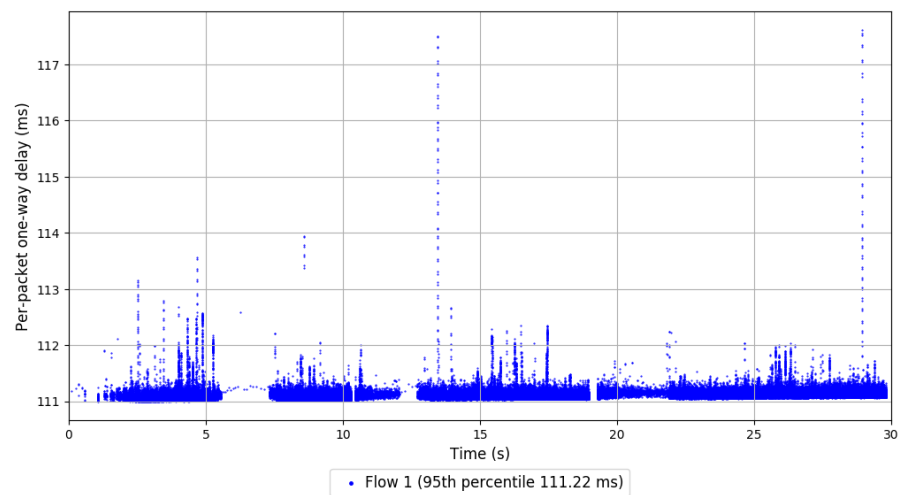
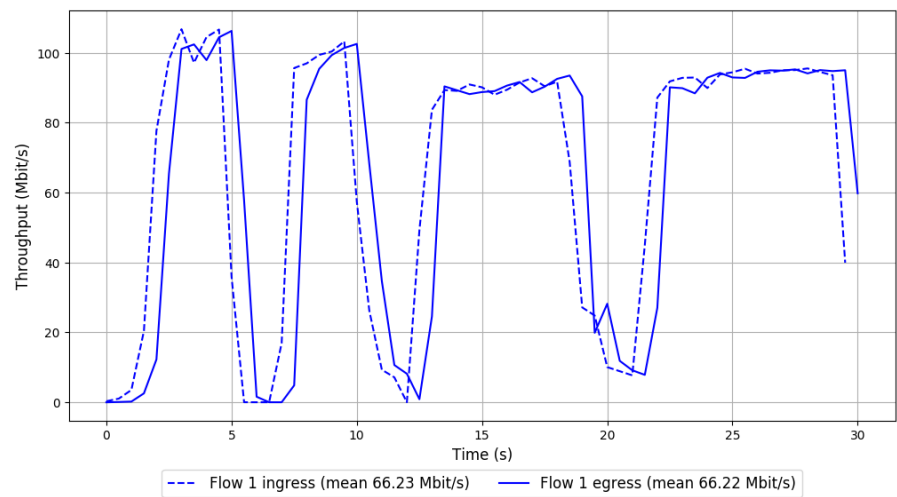
-- Flow 1:

Average throughput: 66.22 Mbit/s

95th percentile per-packet one-way delay: 111.224 ms

Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 04:51:02

End at: 2018-09-06 04:51:32

Local clock offset: 14.917 ms

Remote clock offset: 16.097 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.94 Mbit/s

95th percentile per-packet one-way delay: 112.074 ms

Loss rate: 0.00%

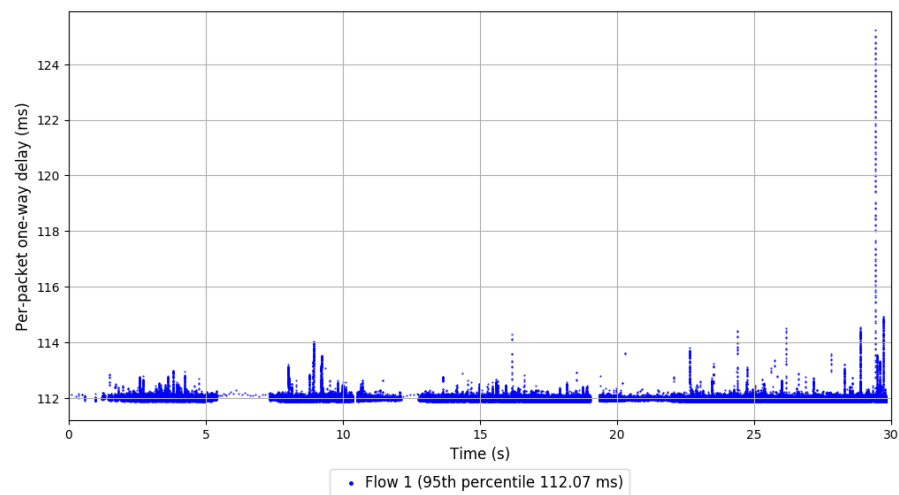
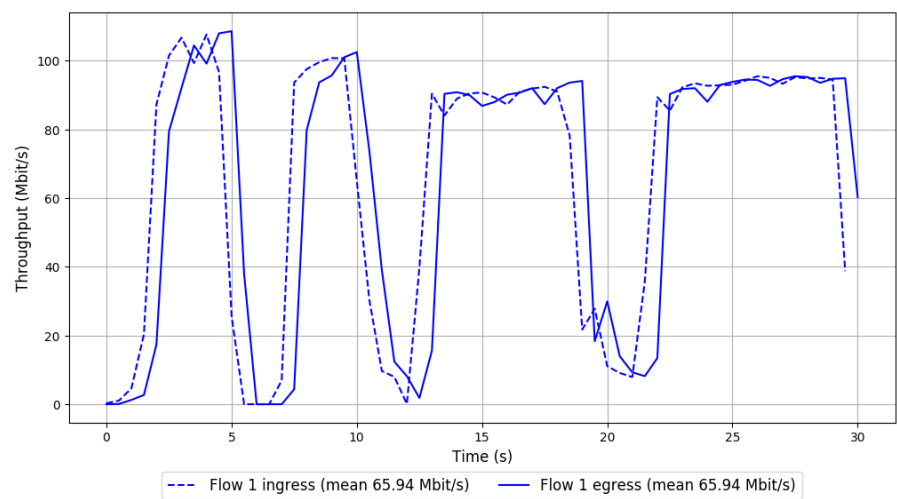
-- Flow 1:

Average throughput: 65.94 Mbit/s

95th percentile per-packet one-way delay: 112.074 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 05:17:51

End at: 2018-09-06 05:18:21

Local clock offset: 6.137 ms

Remote clock offset: 6.576 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.59 Mbit/s

95th percentile per-packet one-way delay: 110.696 ms

Loss rate: 0.00%

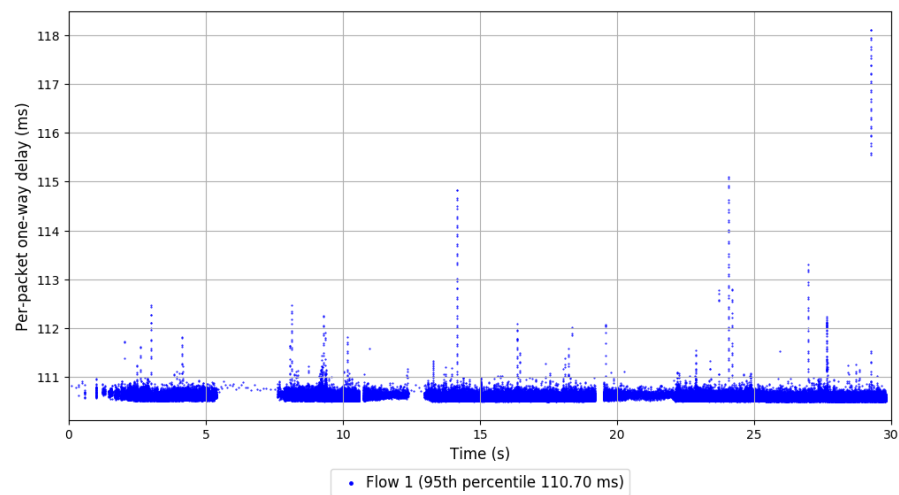
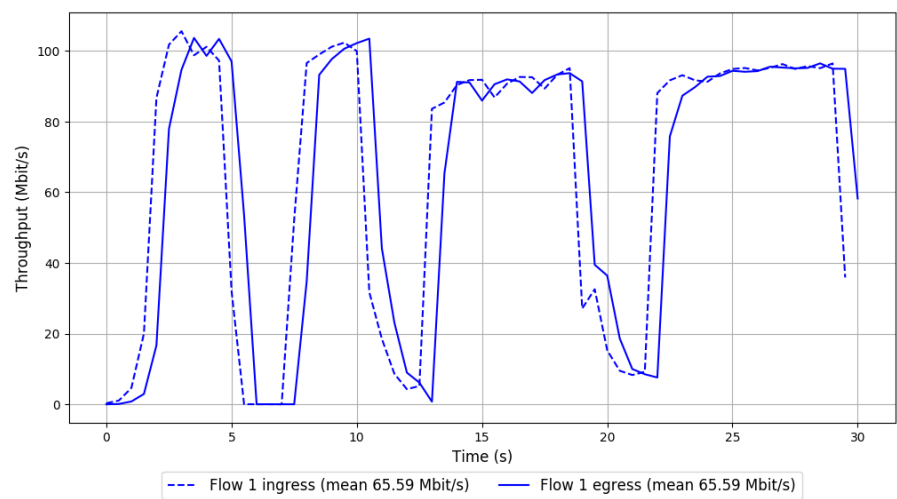
-- Flow 1:

Average throughput: 65.59 Mbit/s

95th percentile per-packet one-way delay: 110.696 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

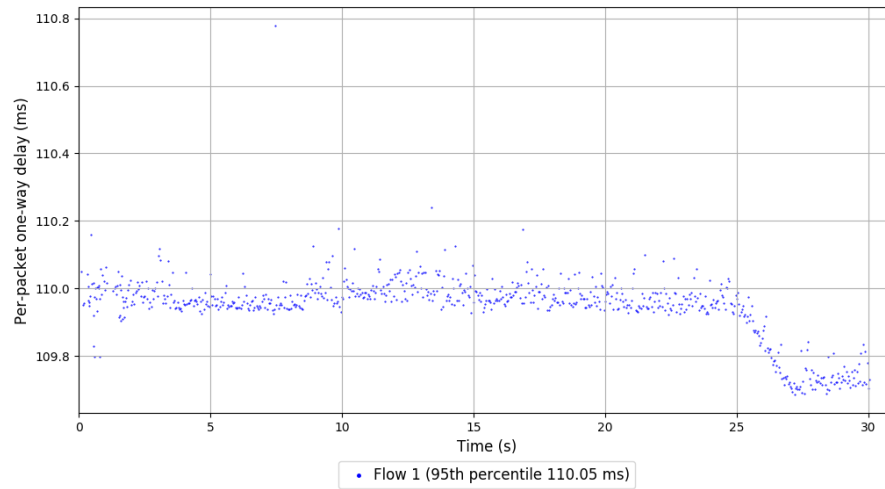
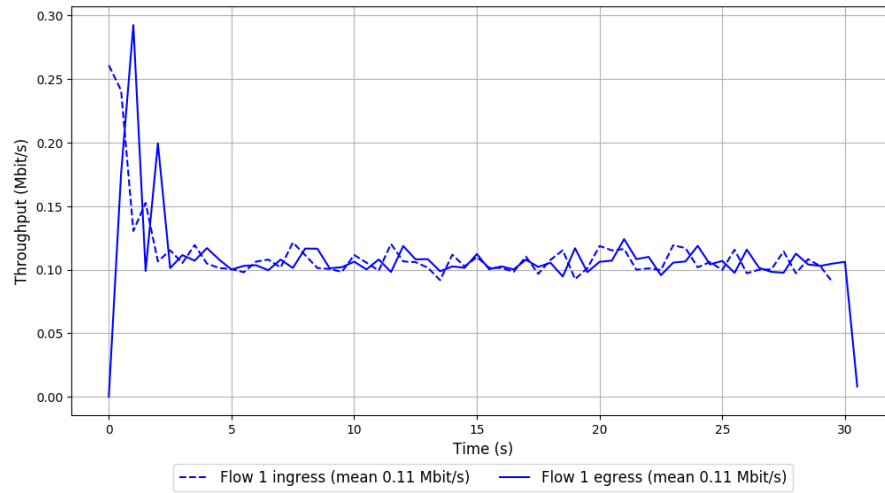


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 03:18:28
End at: 2018-09-06 03:18:58
Local clock offset: 4.913 ms
Remote clock offset: 5.012 ms

# Below is generated by plot.py at 2018-09-06 06:48:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 110.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 110.051 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

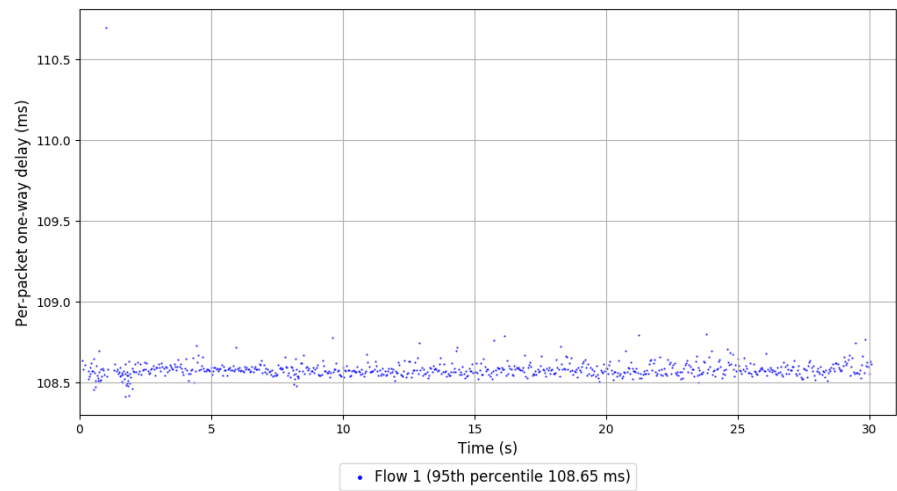
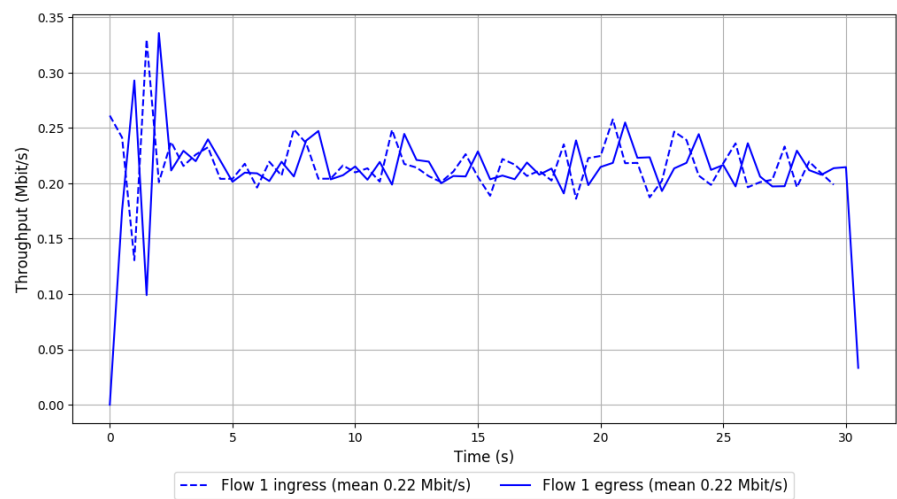


Run 2: Statistics of SCReAM

Start at: 2018-09-06 03:45:02
End at: 2018-09-06 03:45:32
Local clock offset: 19.374 ms
Remote clock offset: 19.531 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 108.652 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 108.652 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

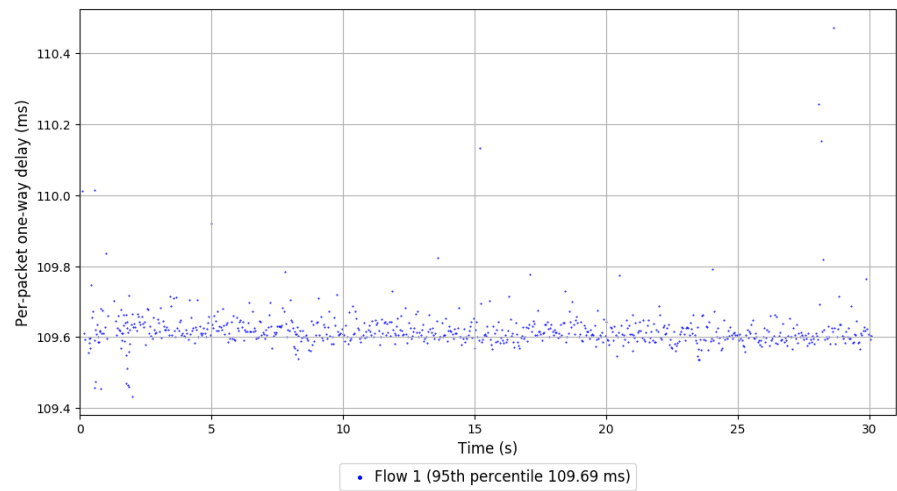
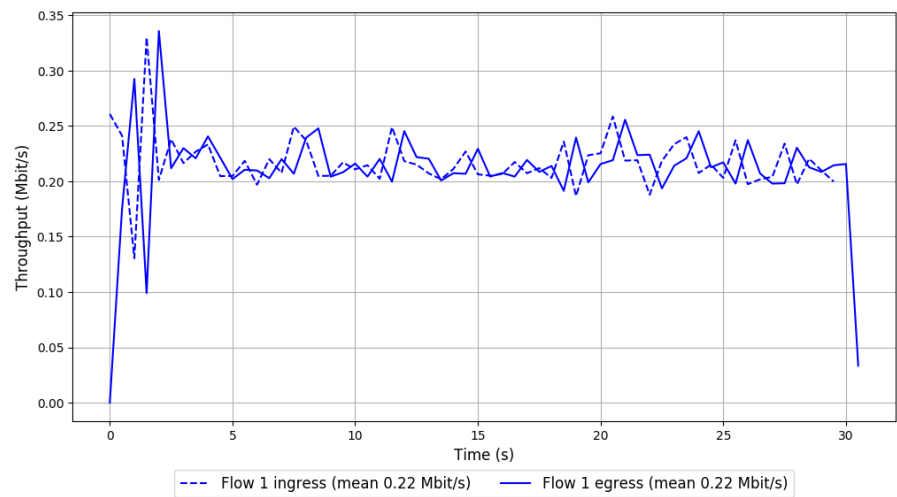


Run 3: Statistics of SCReAM

Start at: 2018-09-06 04:11:53
End at: 2018-09-06 04:12:23
Local clock offset: 24.131 ms
Remote clock offset: 25.673 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.687 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 109.687 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

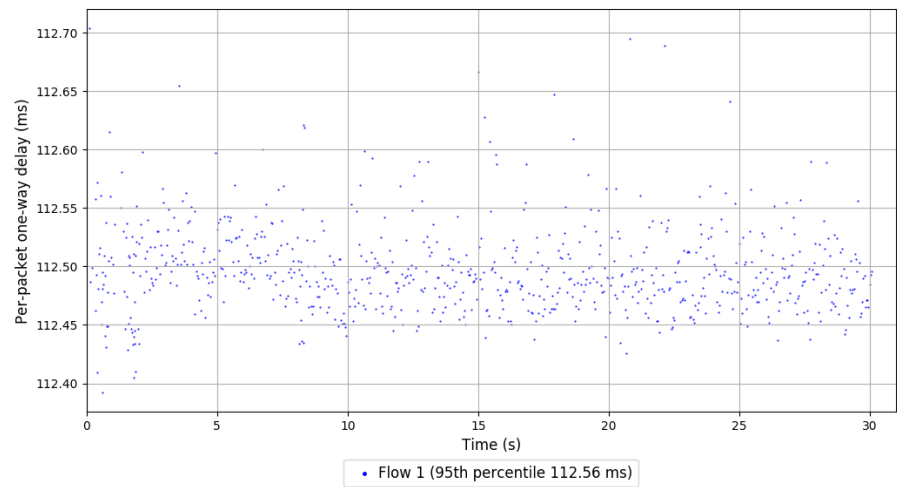
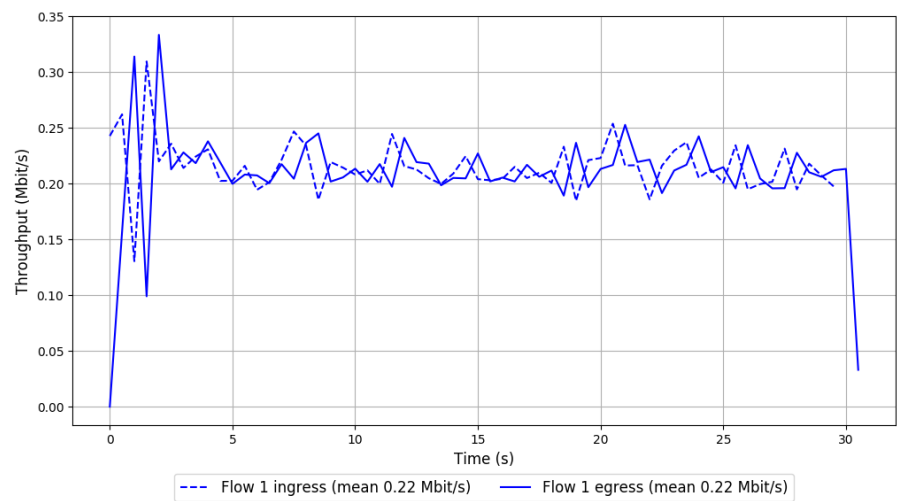


Run 4: Statistics of SCReAM

Start at: 2018-09-06 04:38:42
End at: 2018-09-06 04:39:12
Local clock offset: 12.415 ms
Remote clock offset: 13.445 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-06 05:05:26

End at: 2018-09-06 05:05:56

Local clock offset: 8.501 ms

Remote clock offset: 9.476 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 112.022 ms

Loss rate: 0.00%

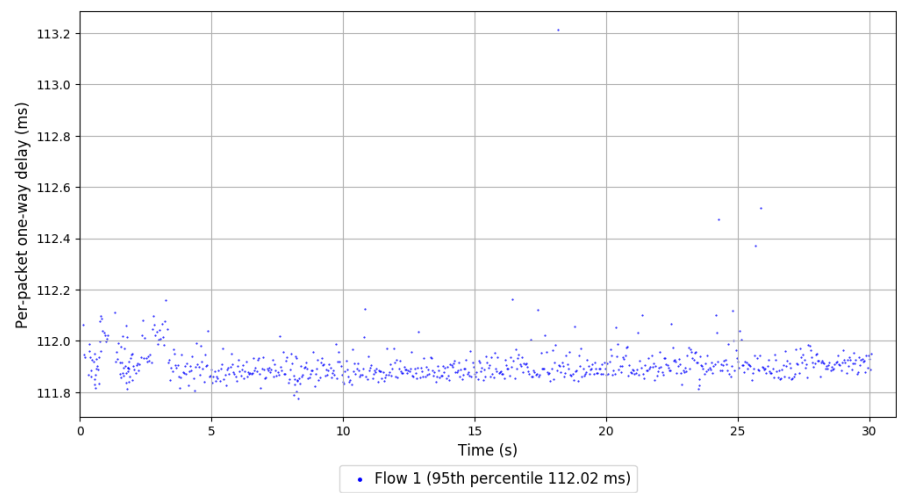
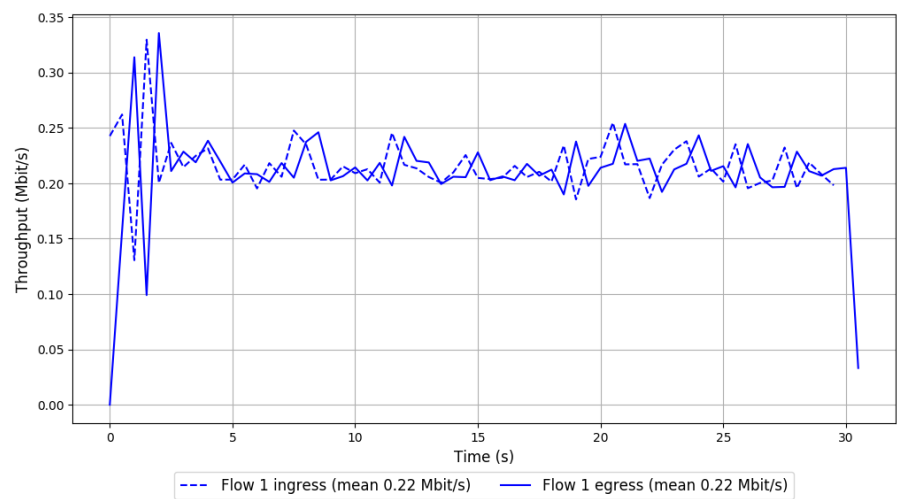
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 112.022 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-06 03:22:47

End at: 2018-09-06 03:23:18

Local clock offset: 8.388 ms

Remote clock offset: 9.236 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 112.692 ms

Loss rate: 0.00%

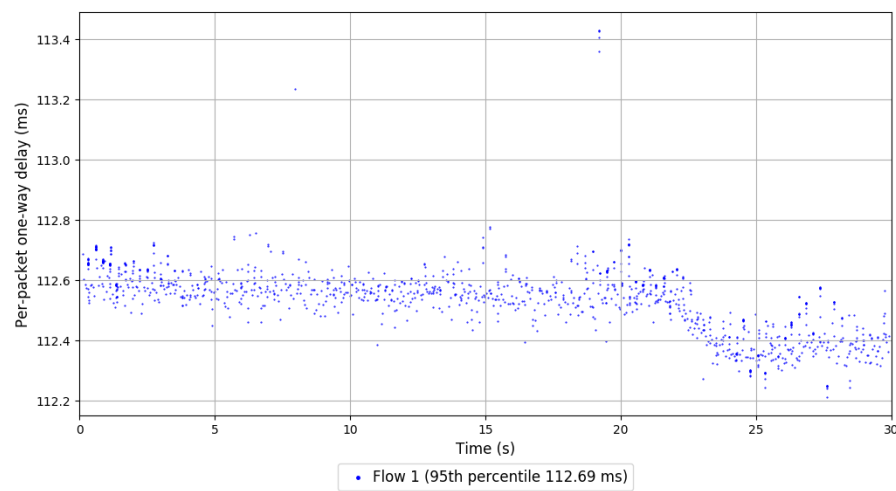
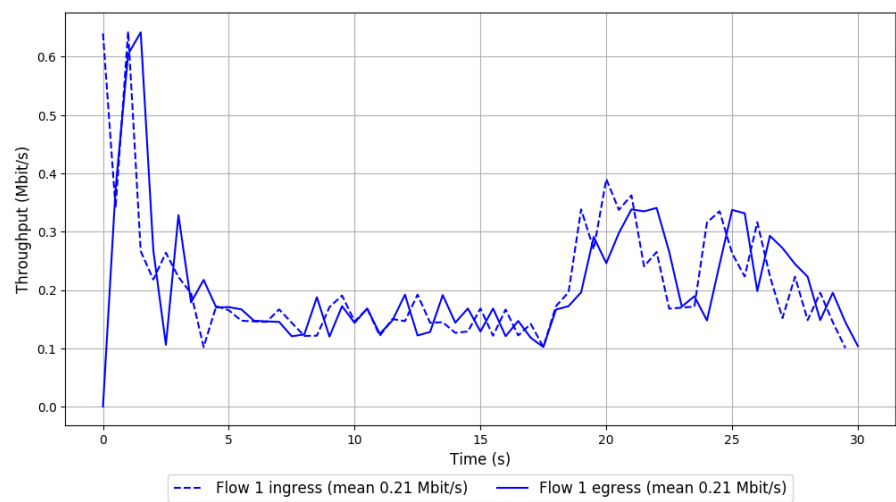
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 112.692 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

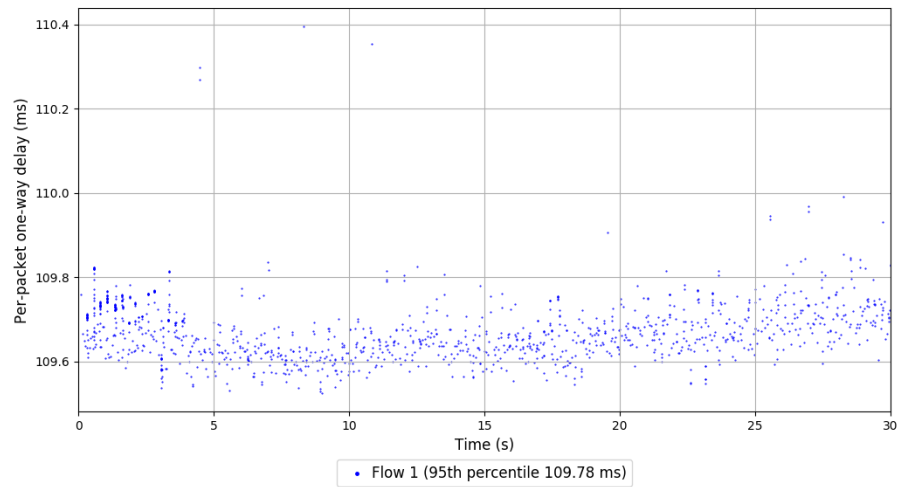
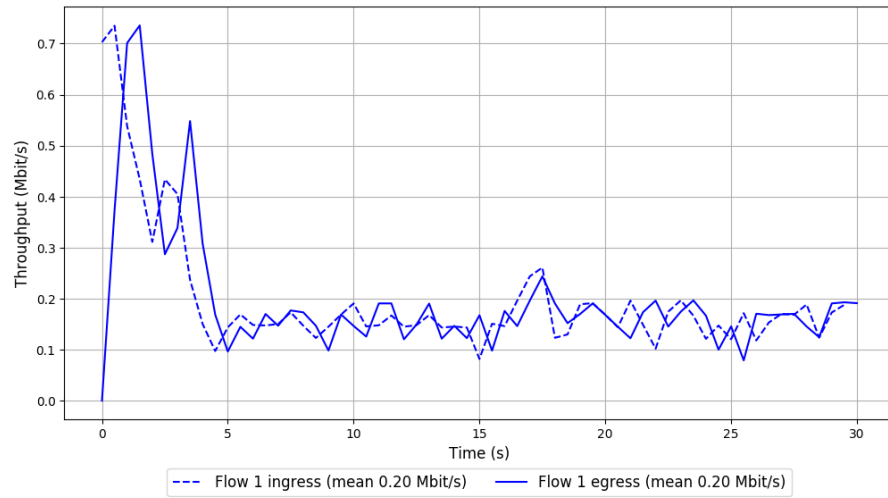


Run 2: Statistics of Sprout

Start at: 2018-09-06 03:49:21
End at: 2018-09-06 03:49:51
Local clock offset: 22.692 ms
Remote clock offset: 23.361 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 109.779 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 109.779 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

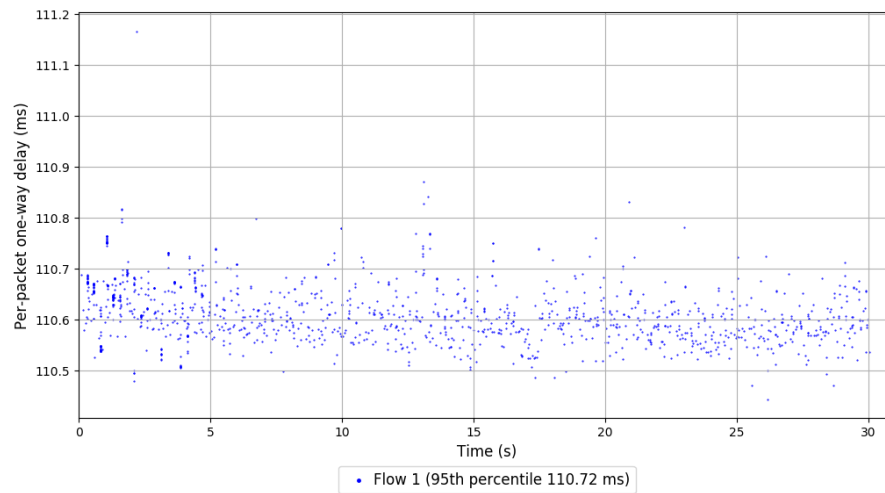
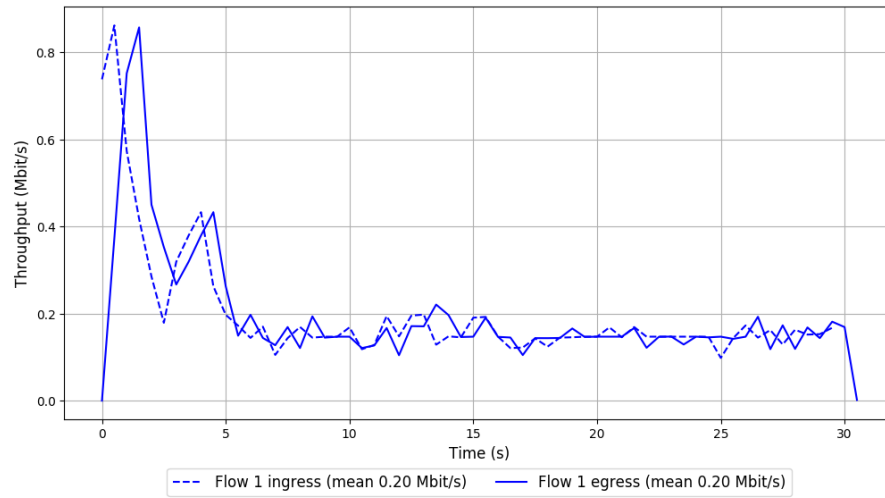


Run 3: Statistics of Sprout

Start at: 2018-09-06 04:16:13
End at: 2018-09-06 04:16:43
Local clock offset: 28.219 ms
Remote clock offset: 29.431 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 110.725 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 110.725 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

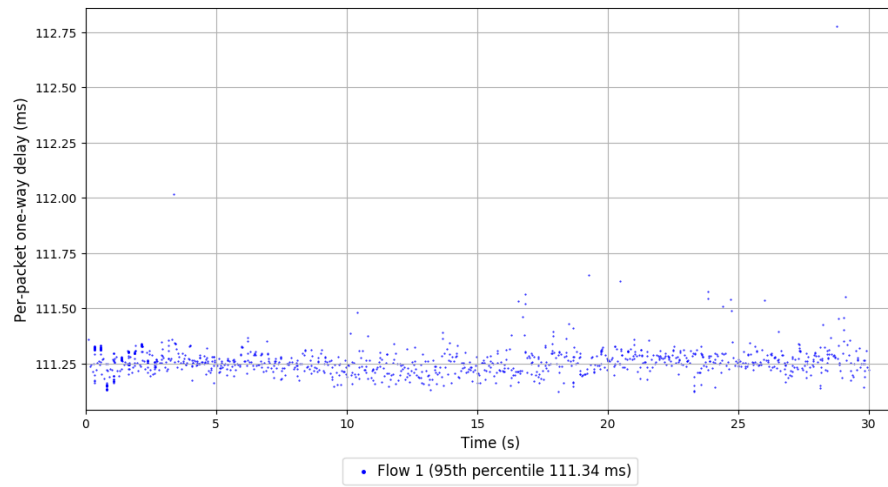
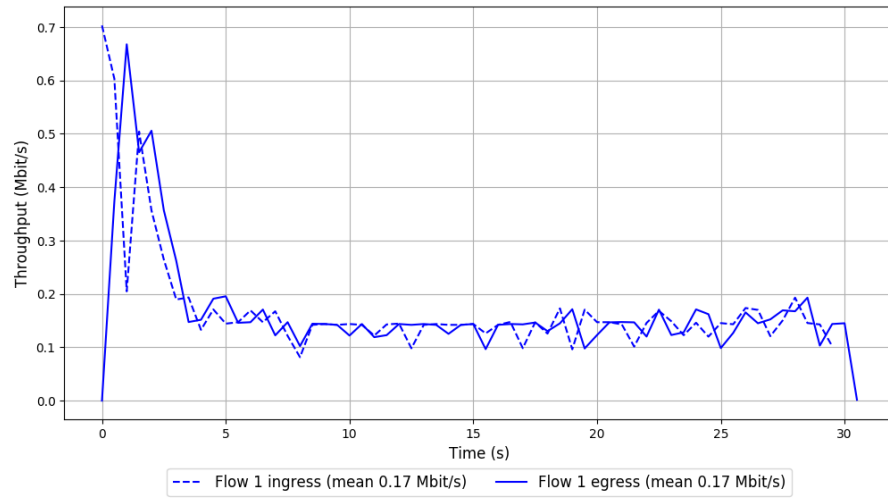


Run 4: Statistics of Sprout

Start at: 2018-09-06 04:42:52
End at: 2018-09-06 04:43:22
Local clock offset: 12.949 ms
Remote clock offset: 13.348 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 111.337 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 111.337 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-06 05:09:46

End at: 2018-09-06 05:10:16

Local clock offset: 7.221 ms

Remote clock offset: 7.472 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 111.200 ms

Loss rate: 0.00%

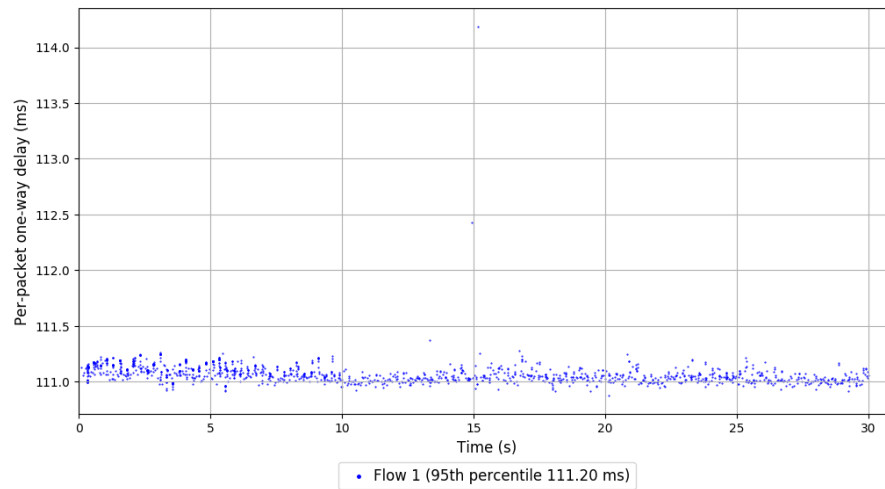
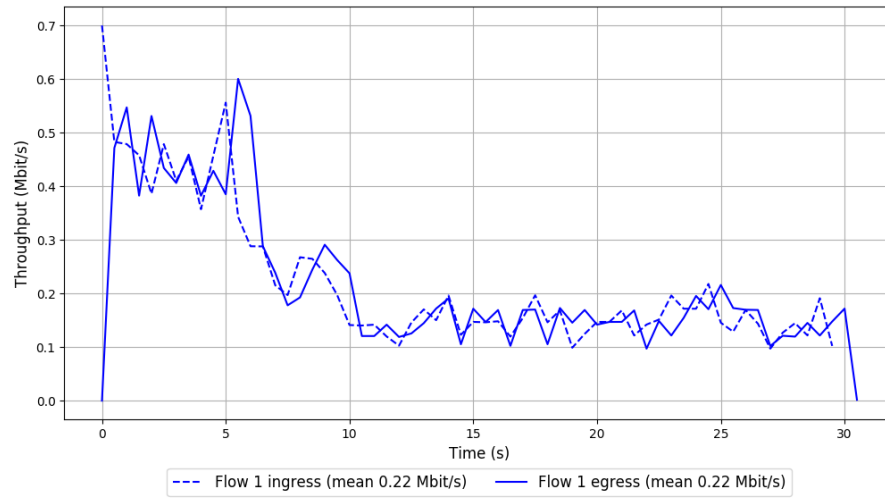
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 111.200 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 03:21:18

End at: 2018-09-06 03:21:48

Local clock offset: 5.879 ms

Remote clock offset: 6.532 ms

Below is generated by plot.py at 2018-09-06 06:48:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 222.99 Mbit/s

95th percentile per-packet one-way delay: 111.358 ms

Loss rate: 0.00%

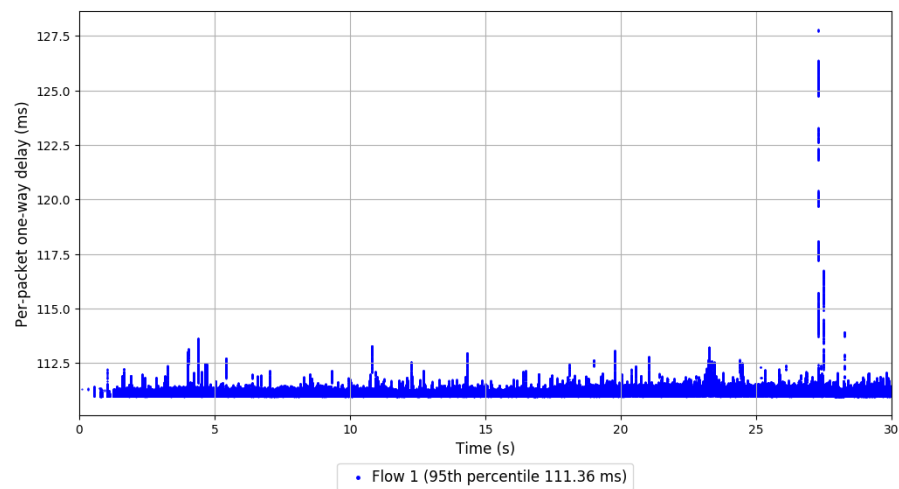
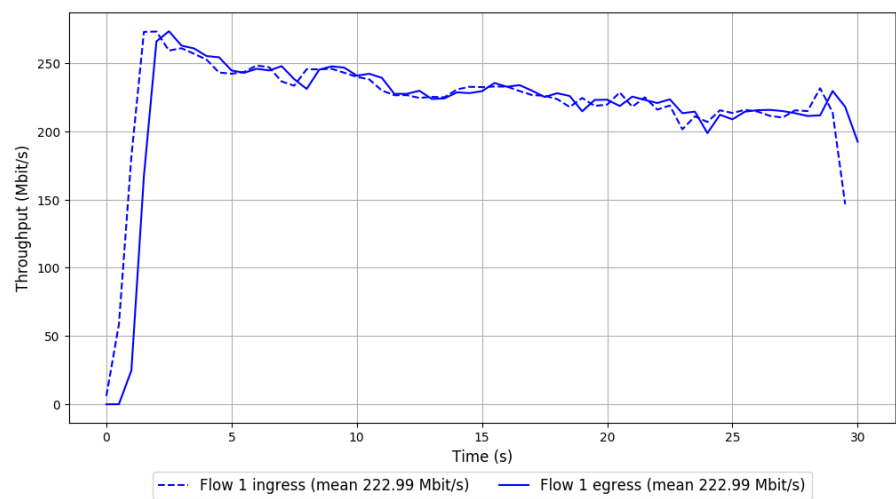
-- Flow 1:

Average throughput: 222.99 Mbit/s

95th percentile per-packet one-way delay: 111.358 ms

Loss rate: 0.00%

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

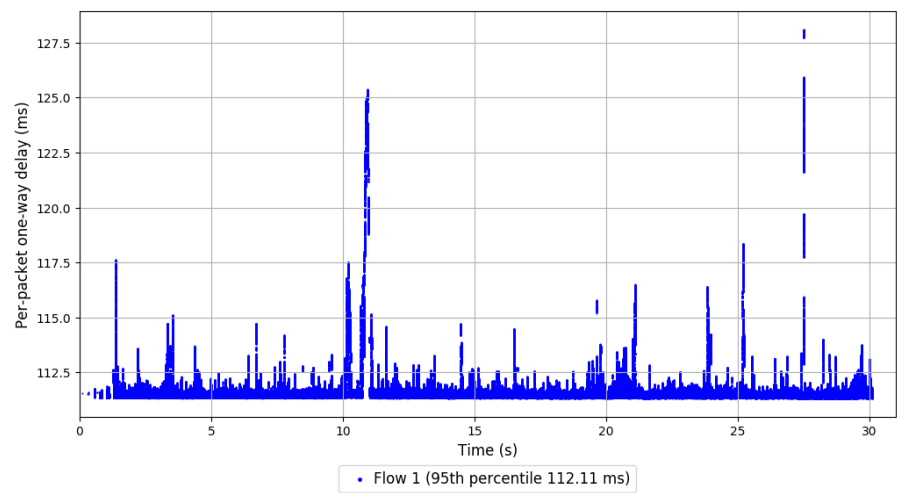
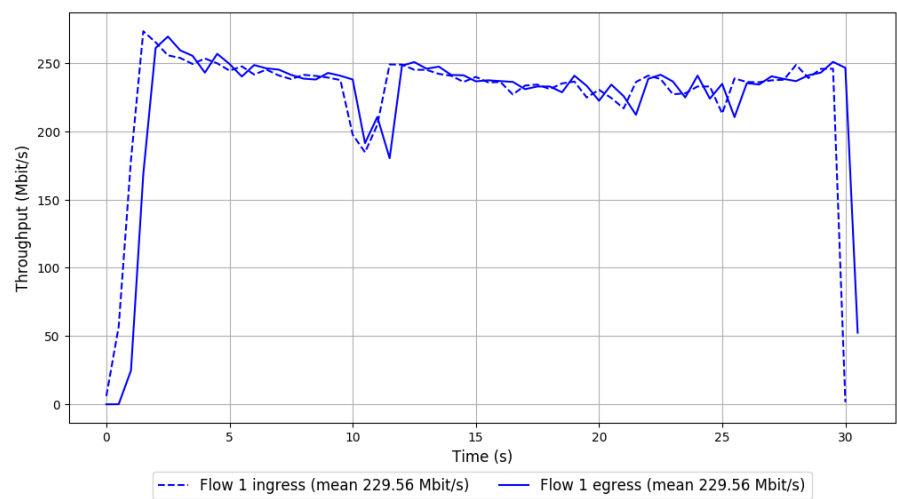


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 03:47:51
End at: 2018-09-06 03:48:21
Local clock offset: 21.393 ms
Remote clock offset: 22.383 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 229.56 Mbit/s
95th percentile per-packet one-way delay: 112.108 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 229.56 Mbit/s
95th percentile per-packet one-way delay: 112.108 ms
Loss rate: 0.00%

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

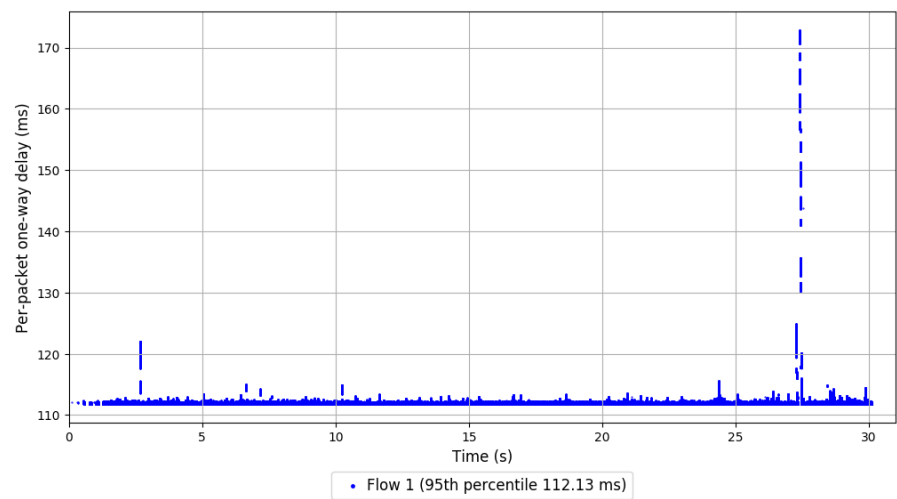
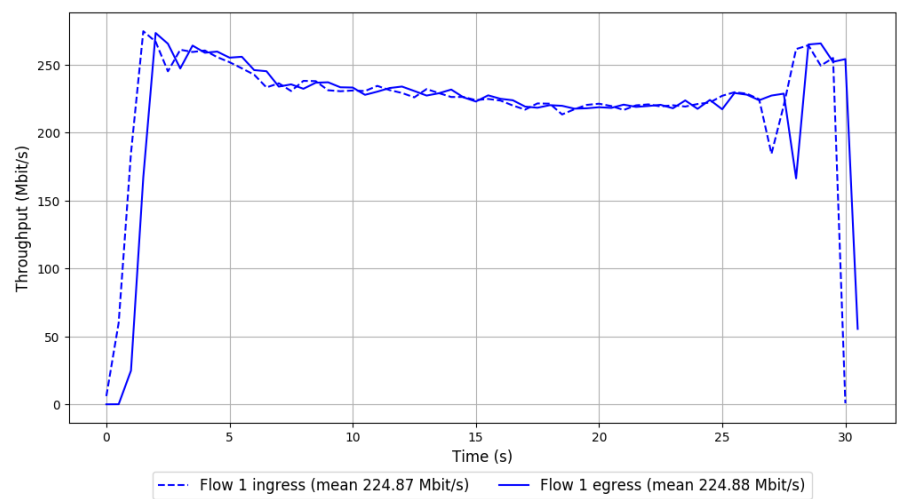


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 04:14:43
End at: 2018-09-06 04:15:13
Local clock offset: 24.941 ms
Remote clock offset: 28.216 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 224.88 Mbit/s
95th percentile per-packet one-way delay: 112.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.88 Mbit/s
95th percentile per-packet one-way delay: 112.132 ms
Loss rate: 0.00%

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

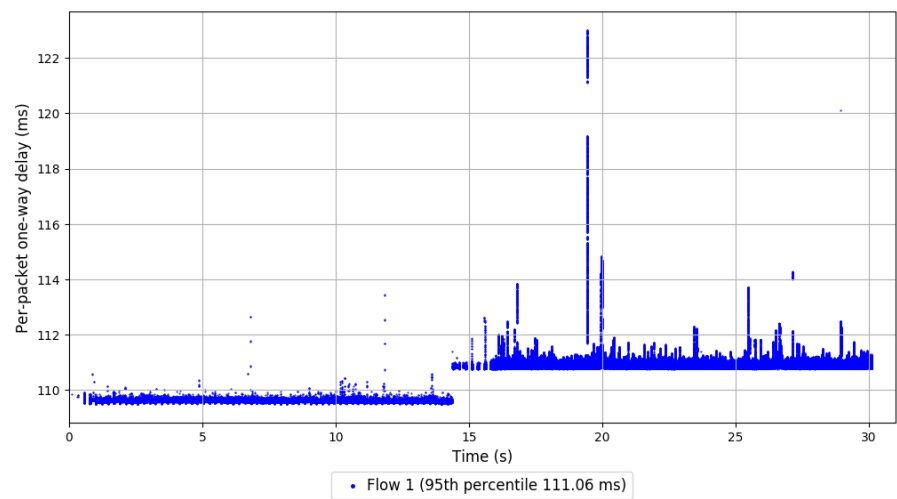
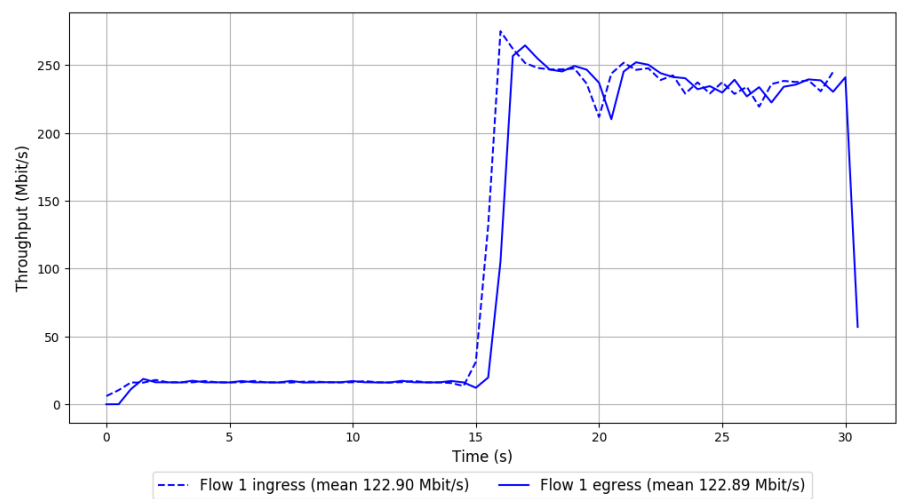


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 04:41:31
End at: 2018-09-06 04:42:01
Local clock offset: 13.336 ms
Remote clock offset: 13.593 ms

Below is generated by plot.py at 2018-09-06 06:48:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 122.89 Mbit/s
95th percentile per-packet one-way delay: 111.057 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 122.89 Mbit/s
95th percentile per-packet one-way delay: 111.057 ms
Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 05:08:15

End at: 2018-09-06 05:08:45

Local clock offset: 7.117 ms

Remote clock offset: 7.82 ms

Below is generated by plot.py at 2018-09-06 06:50:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 227.76 Mbit/s

95th percentile per-packet one-way delay: 111.168 ms

Loss rate: 0.00%

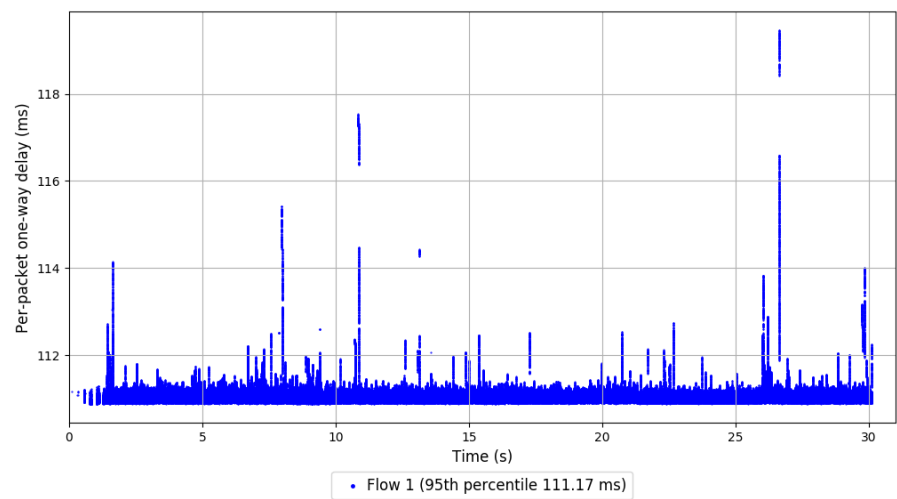
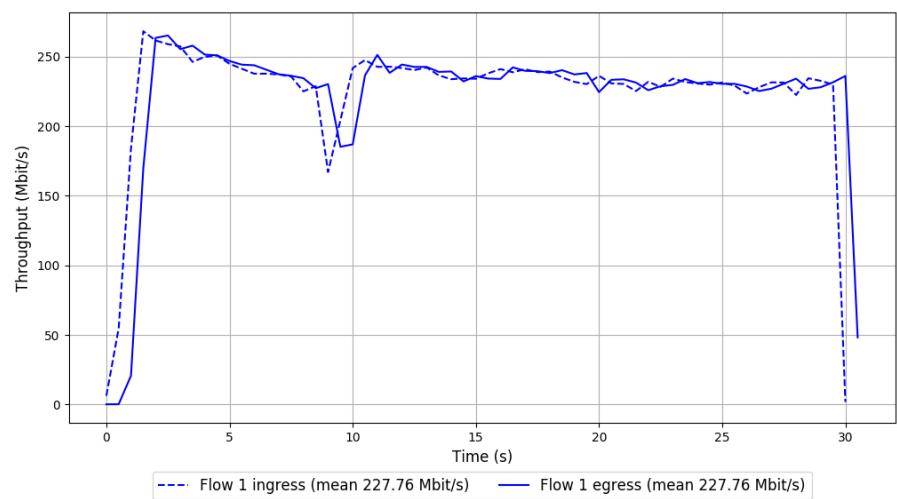
-- Flow 1:

Average throughput: 227.76 Mbit/s

95th percentile per-packet one-way delay: 111.168 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 03:25:05

End at: 2018-09-06 03:25:35

Local clock offset: 7.784 ms

Remote clock offset: 8.122 ms

Below is generated by plot.py at 2018-09-06 06:50:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 436.50 Mbit/s

95th percentile per-packet one-way delay: 160.440 ms

Loss rate: 0.16%

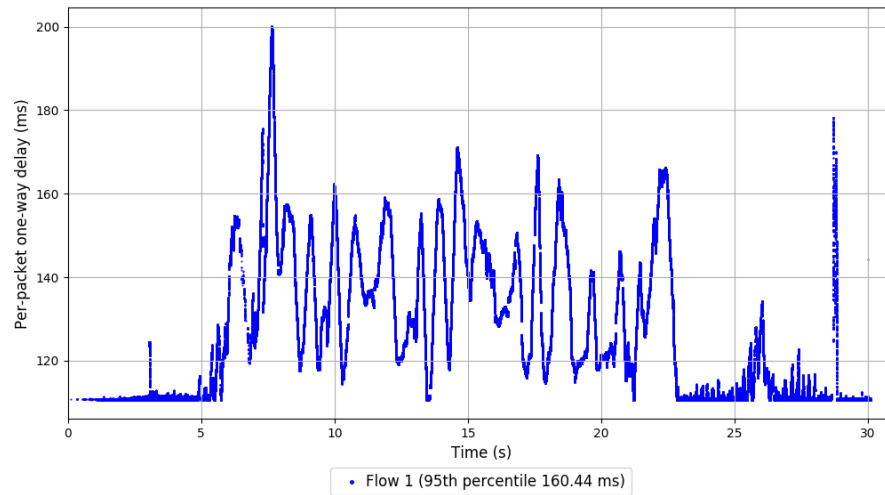
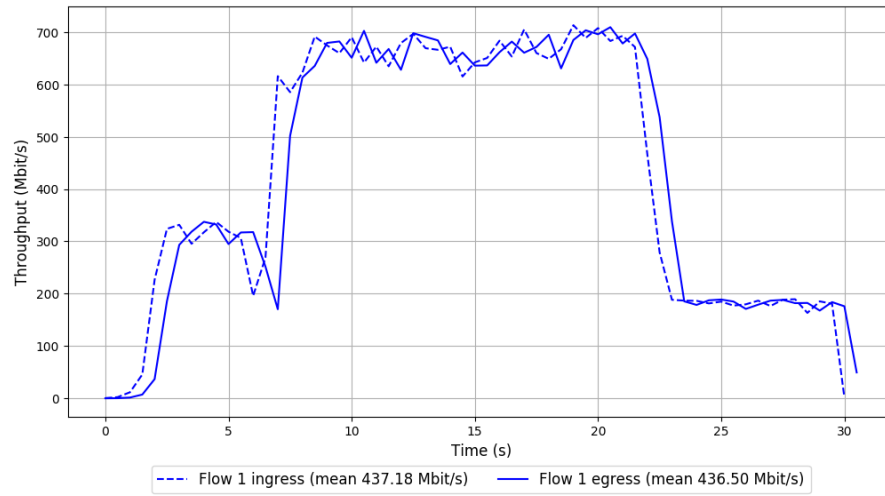
-- Flow 1:

Average throughput: 436.50 Mbit/s

95th percentile per-packet one-way delay: 160.440 ms

Loss rate: 0.16%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 03:51:39

End at: 2018-09-06 03:52:09

Local clock offset: 19.681 ms

Remote clock offset: 20.6 ms

Below is generated by plot.py at 2018-09-06 06:51:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 394.94 Mbit/s

95th percentile per-packet one-way delay: 111.714 ms

Loss rate: 0.00%

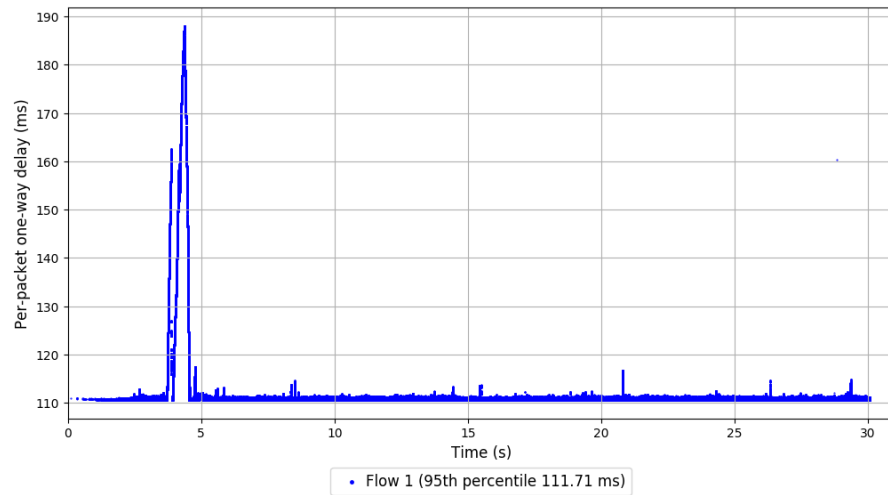
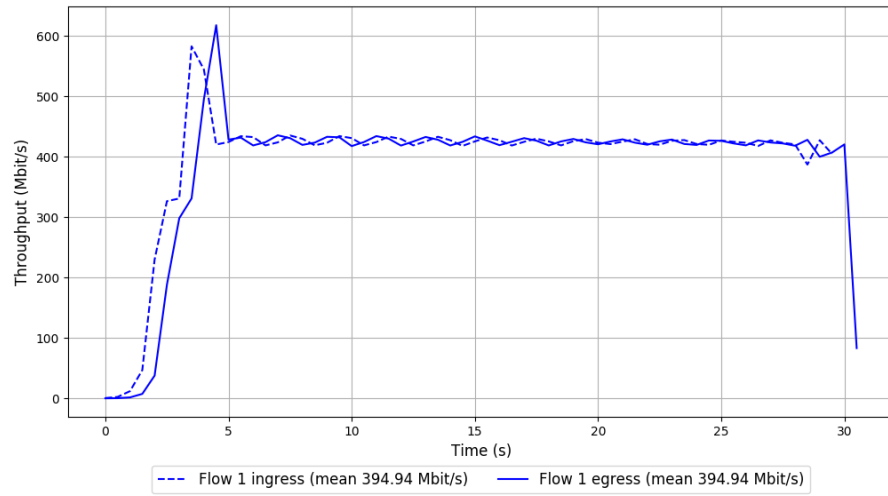
-- Flow 1:

Average throughput: 394.94 Mbit/s

95th percentile per-packet one-way delay: 111.714 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

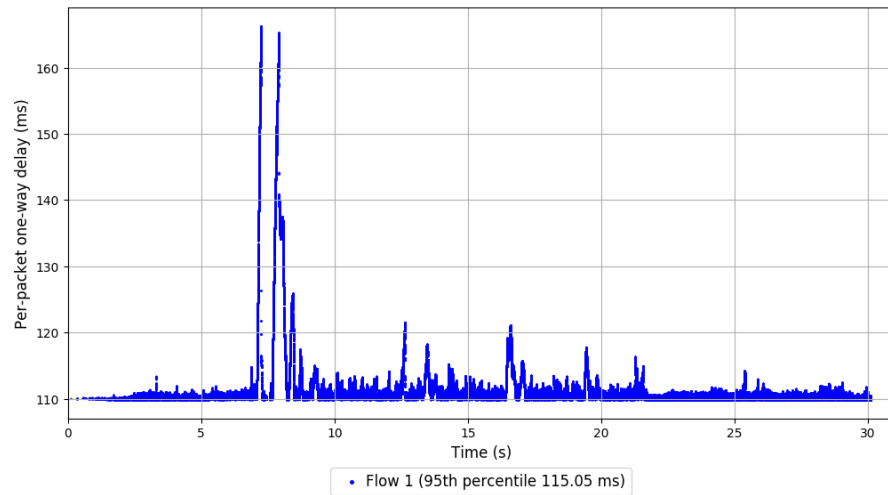
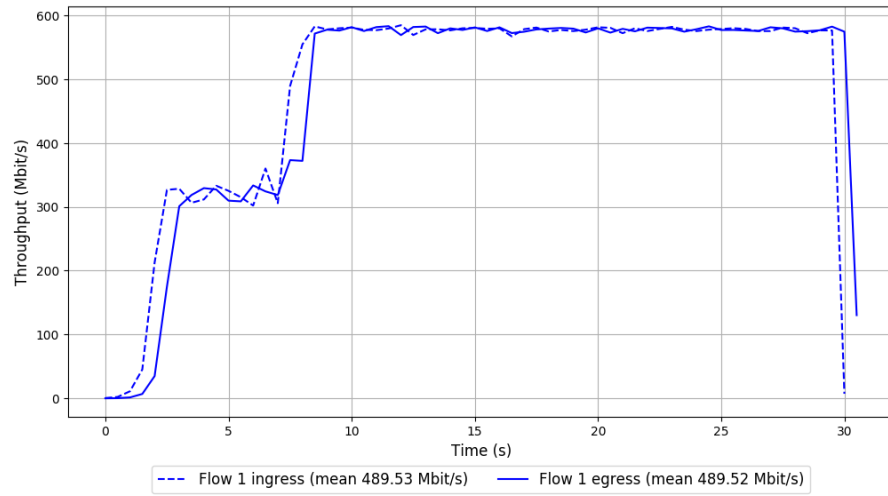


Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 04:18:30
End at: 2018-09-06 04:19:00
Local clock offset: 31.333 ms
Remote clock offset: 31.317 ms

Below is generated by plot.py at 2018-09-06 06:55:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 489.52 Mbit/s
95th percentile per-packet one-way delay: 115.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 489.52 Mbit/s
95th percentile per-packet one-way delay: 115.051 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

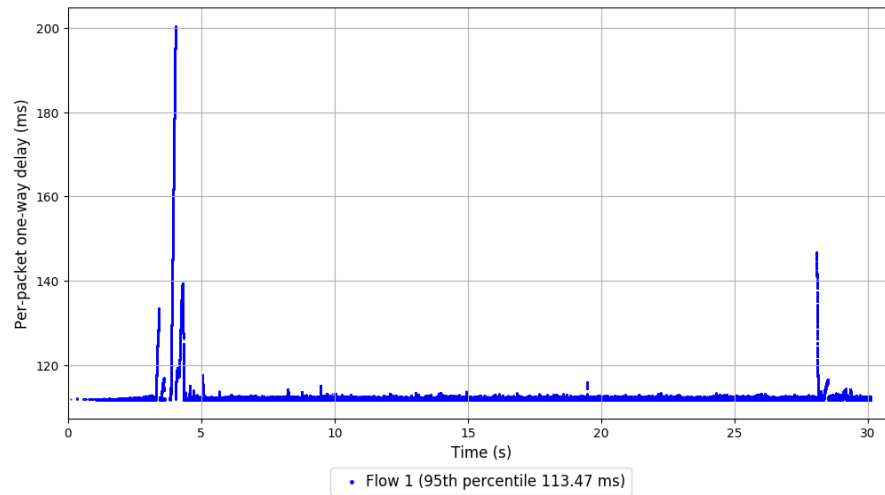
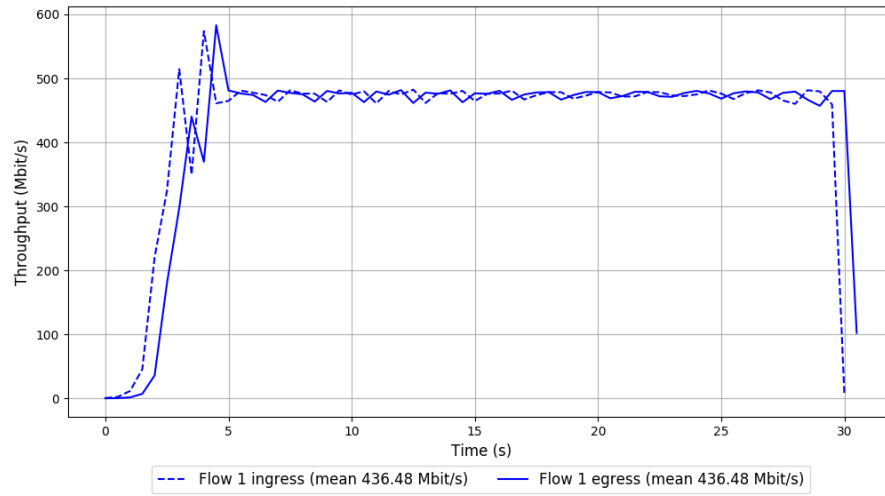


Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 04:45:10
End at: 2018-09-06 04:45:40
Local clock offset: 13.228 ms
Remote clock offset: 14.402 ms

Below is generated by plot.py at 2018-09-06 06:55:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 436.48 Mbit/s
95th percentile per-packet one-way delay: 113.475 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 436.48 Mbit/s
95th percentile per-packet one-way delay: 113.475 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 05:12:03

End at: 2018-09-06 05:12:33

Local clock offset: 6.576 ms

Remote clock offset: 7.371 ms

Below is generated by plot.py at 2018-09-06 06:56:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 508.24 Mbit/s

95th percentile per-packet one-way delay: 123.574 ms

Loss rate: 0.00%

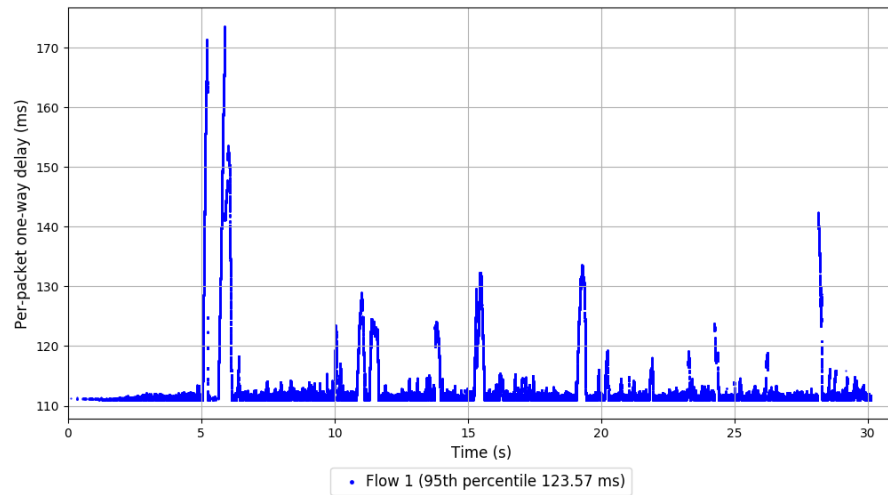
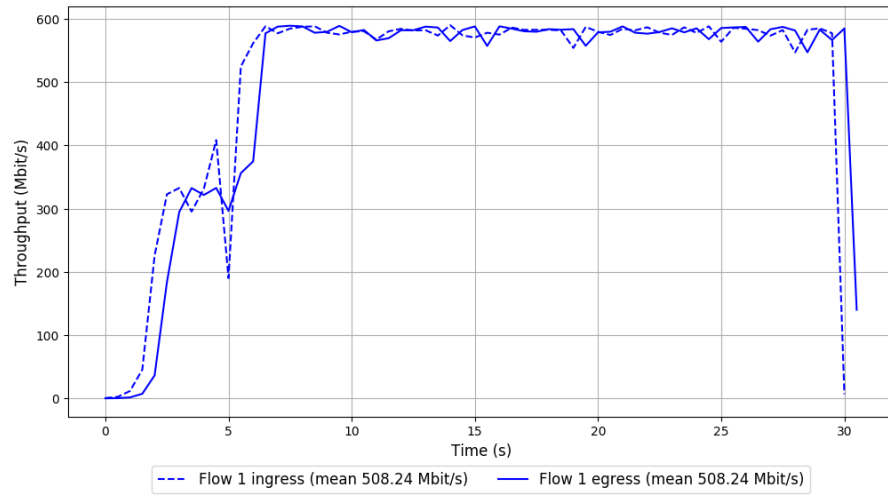
-- Flow 1:

Average throughput: 508.24 Mbit/s

95th percentile per-packet one-way delay: 123.574 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

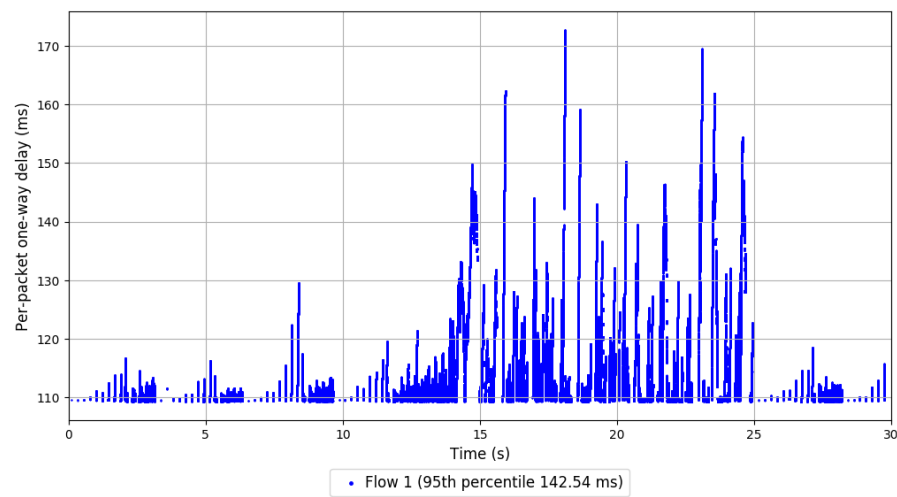
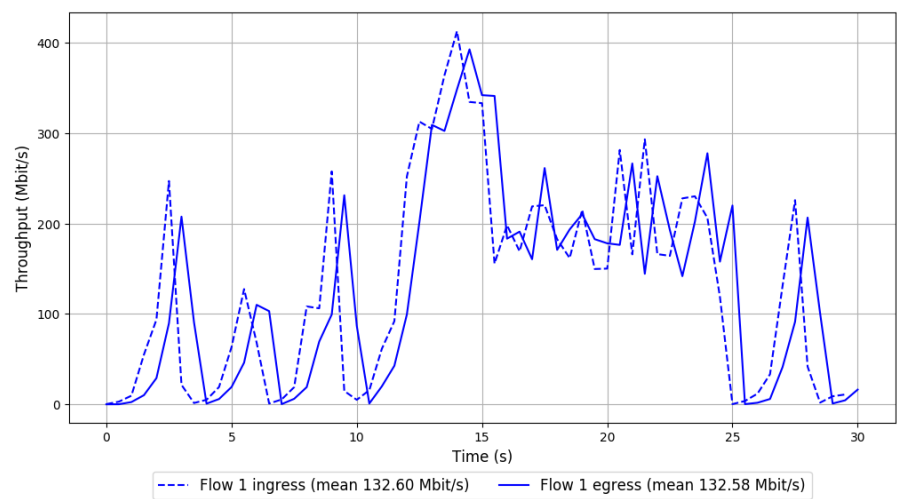


Run 1: Statistics of Verus

Start at: 2018-09-06 03:28:18
End at: 2018-09-06 03:28:48
Local clock offset: 10.824 ms
Remote clock offset: 10.552 ms

Below is generated by plot.py at 2018-09-06 06:56:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 132.58 Mbit/s
95th percentile per-packet one-way delay: 142.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.58 Mbit/s
95th percentile per-packet one-way delay: 142.541 ms
Loss rate: 0.00%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-06 03:54:51

End at: 2018-09-06 03:55:21

Local clock offset: 17.219 ms

Remote clock offset: 18.02 ms

Below is generated by plot.py at 2018-09-06 06:56:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 198.31 Mbit/s

95th percentile per-packet one-way delay: 265.637 ms

Loss rate: 22.57%

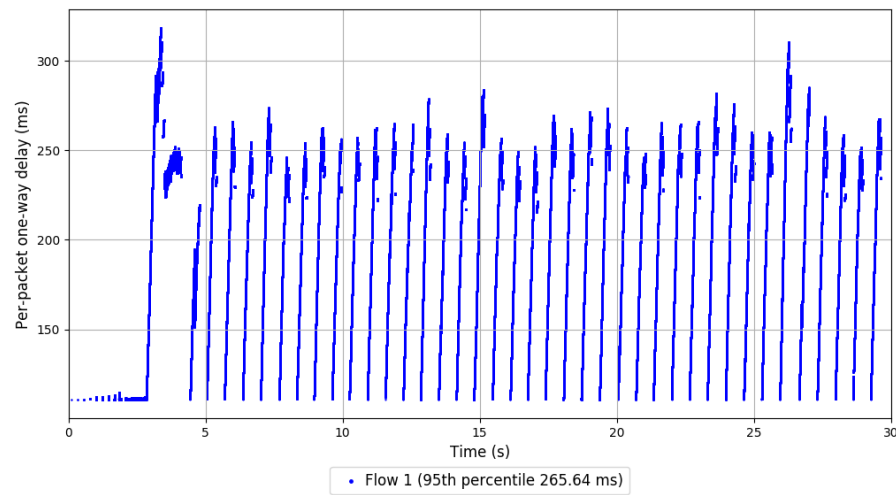
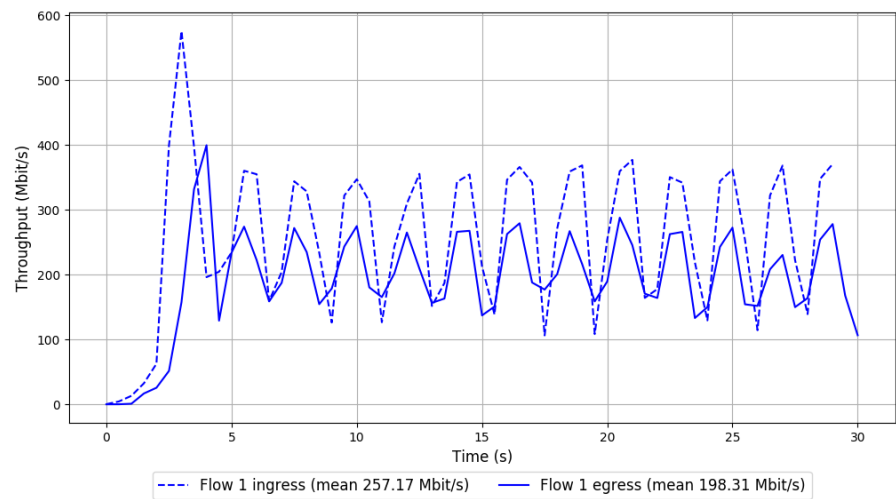
-- Flow 1:

Average throughput: 198.31 Mbit/s

95th percentile per-packet one-way delay: 265.637 ms

Loss rate: 22.57%

Run 2: Report of Verus — Data Link

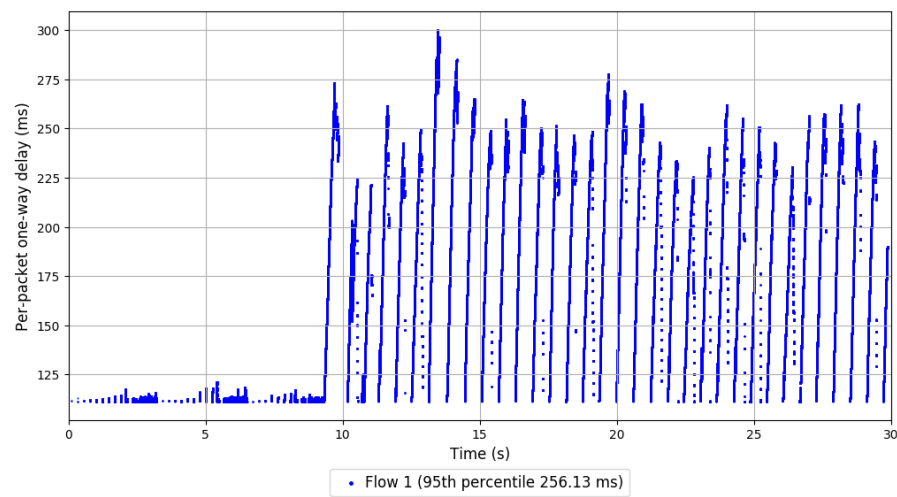
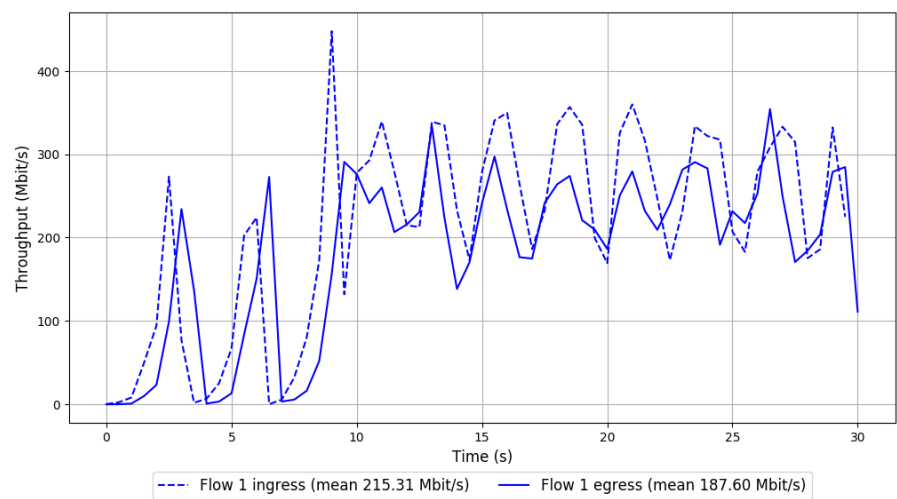


Run 3: Statistics of Verus

Start at: 2018-09-06 04:21:47
End at: 2018-09-06 04:22:17
Local clock offset: 33.025 ms
Remote clock offset: 34.478 ms

Below is generated by plot.py at 2018-09-06 06:56:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 187.60 Mbit/s
95th percentile per-packet one-way delay: 256.130 ms
Loss rate: 12.88%
-- Flow 1:
Average throughput: 187.60 Mbit/s
95th percentile per-packet one-way delay: 256.130 ms
Loss rate: 12.88%

Run 3: Report of Verus — Data Link

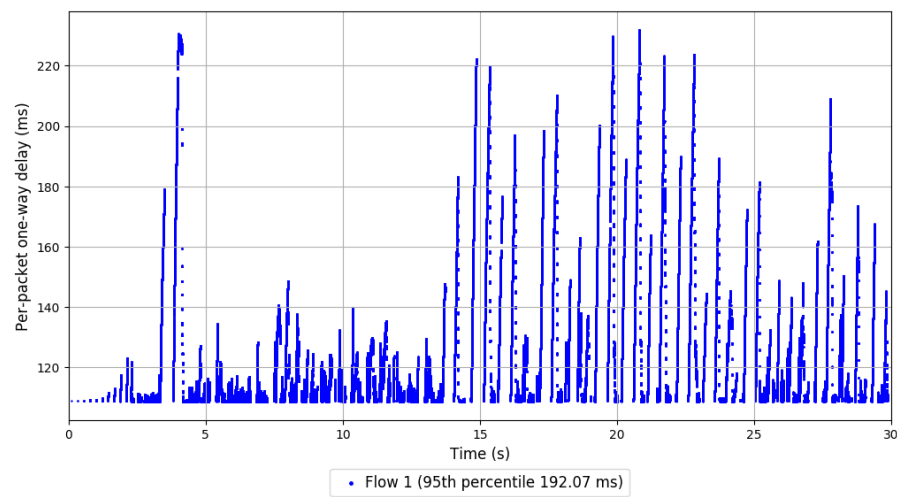
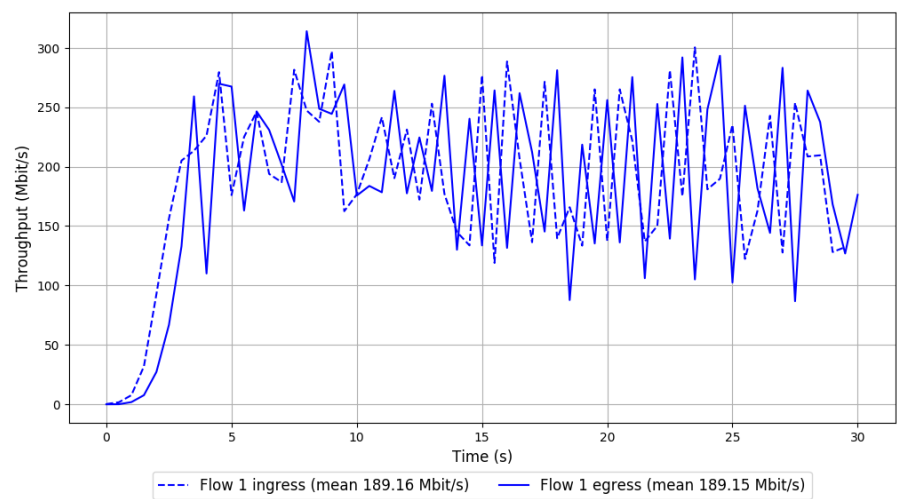


Run 4: Statistics of Verus

Start at: 2018-09-06 04:48:24
End at: 2018-09-06 04:48:54
Local clock offset: 15.22 ms
Remote clock offset: 14.424 ms

Below is generated by plot.py at 2018-09-06 06:56:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 189.15 Mbit/s
95th percentile per-packet one-way delay: 192.074 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.15 Mbit/s
95th percentile per-packet one-way delay: 192.074 ms
Loss rate: 0.00%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-06 05:15:19

End at: 2018-09-06 05:15:49

Local clock offset: 6.049 ms

Remote clock offset: 6.476 ms

Below is generated by plot.py at 2018-09-06 06:56:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 133.07 Mbit/s

95th percentile per-packet one-way delay: 202.643 ms

Loss rate: 0.42%

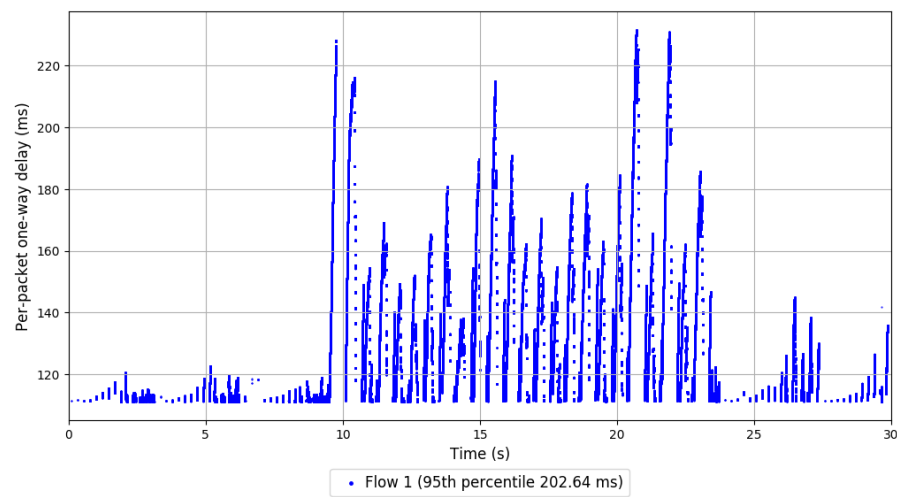
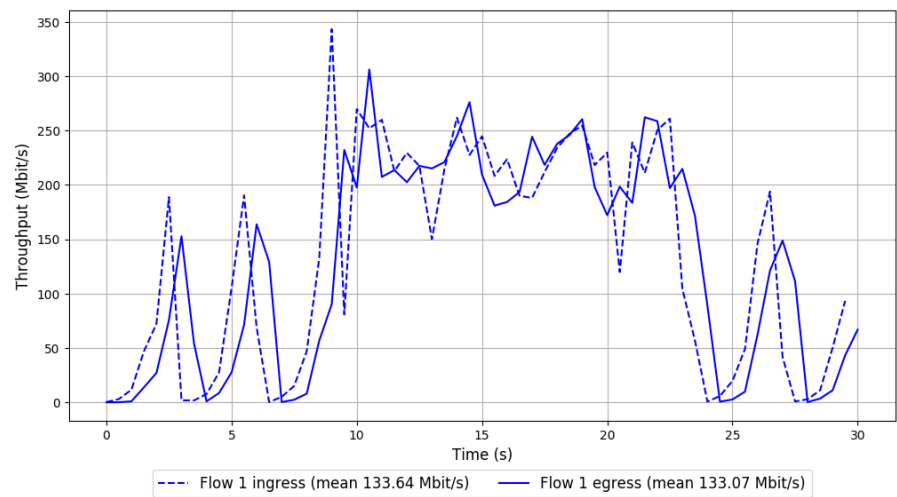
-- Flow 1:

Average throughput: 133.07 Mbit/s

95th percentile per-packet one-way delay: 202.643 ms

Loss rate: 0.42%

Run 5: Report of Verus — Data Link

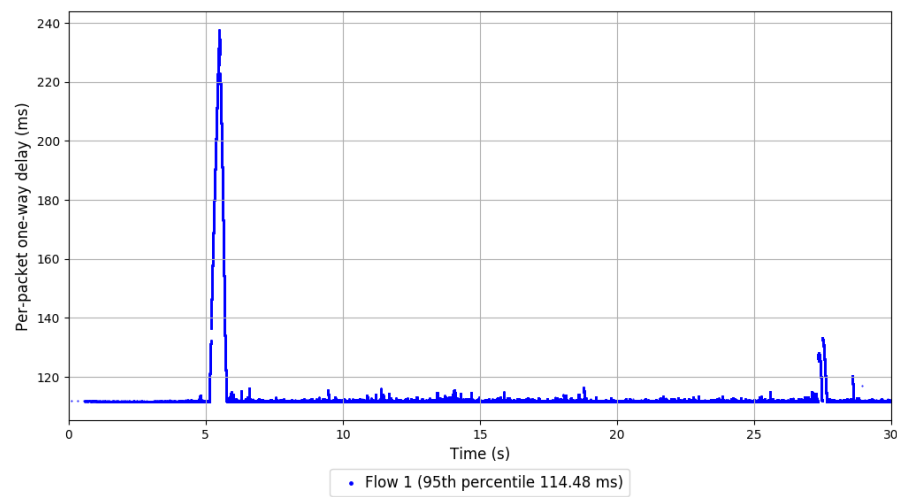
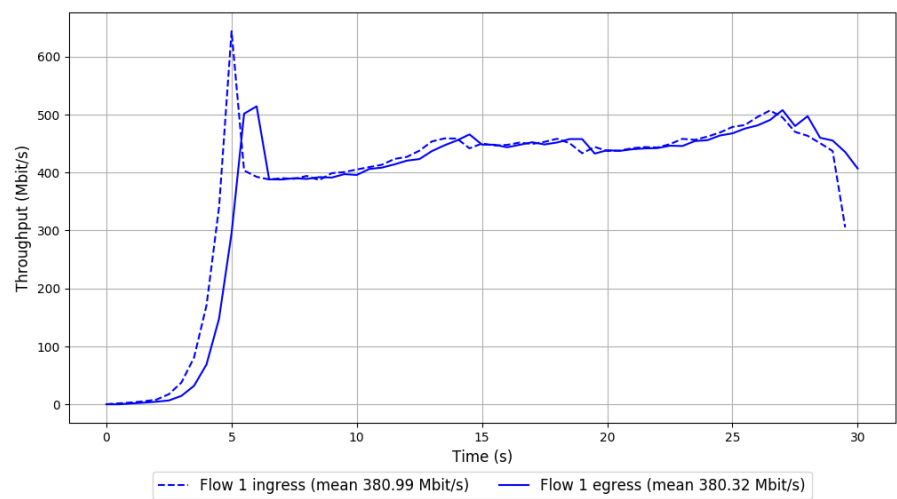


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 03:41:45
End at: 2018-09-06 03:42:15
Local clock offset: 14.746 ms
Remote clock offset: 15.846 ms

Below is generated by plot.py at 2018-09-06 06:58:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 380.32 Mbit/s
95th percentile per-packet one-way delay: 114.476 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 380.32 Mbit/s
95th percentile per-packet one-way delay: 114.476 ms
Loss rate: 0.18%

Run 1: Report of PCC-Vivace — Data Link

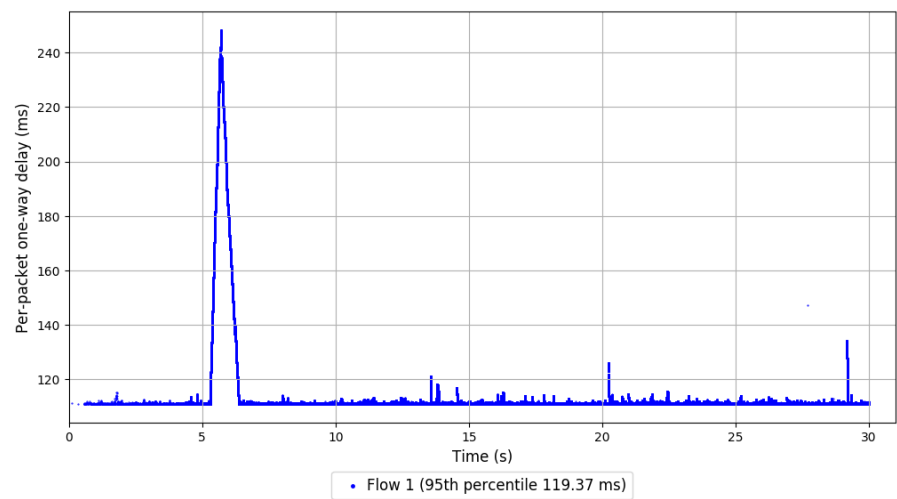
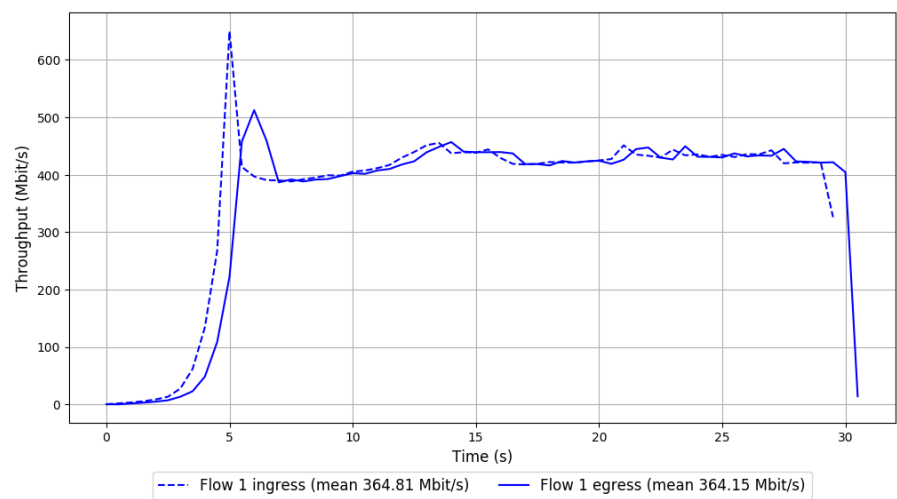


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 04:08:40
End at: 2018-09-06 04:09:10
Local clock offset: 21.829 ms
Remote clock offset: 23.092 ms

Below is generated by plot.py at 2018-09-06 06:59:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 364.15 Mbit/s
95th percentile per-packet one-way delay: 119.370 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 364.15 Mbit/s
95th percentile per-packet one-way delay: 119.370 ms
Loss rate: 0.18%

Run 2: Report of PCC-Vivace — Data Link

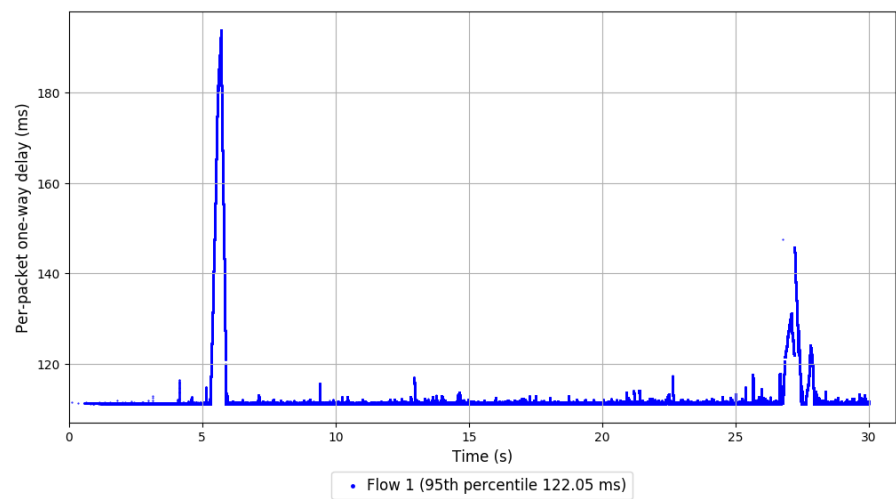
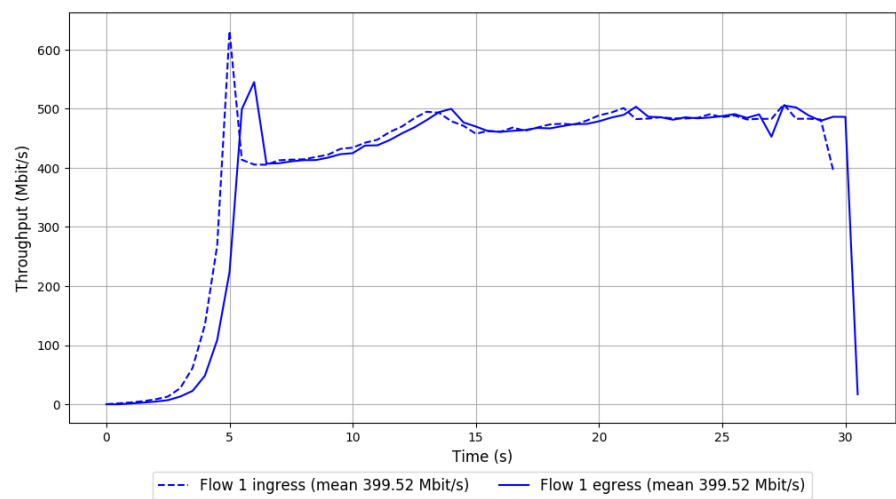


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 04:35:25
End at: 2018-09-06 04:35:55
Local clock offset: 14.127 ms
Remote clock offset: 15.232 ms

Below is generated by plot.py at 2018-09-06 06:59:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 399.52 Mbit/s
95th percentile per-packet one-way delay: 122.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 399.52 Mbit/s
95th percentile per-packet one-way delay: 122.046 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

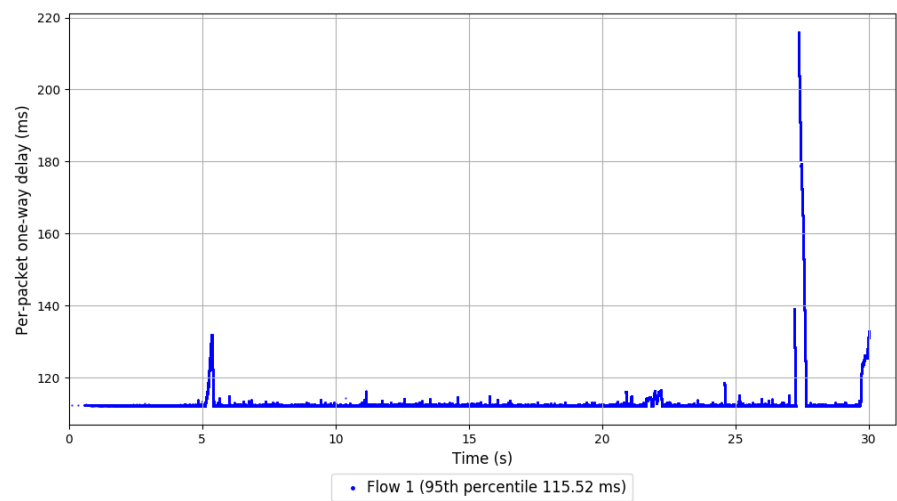
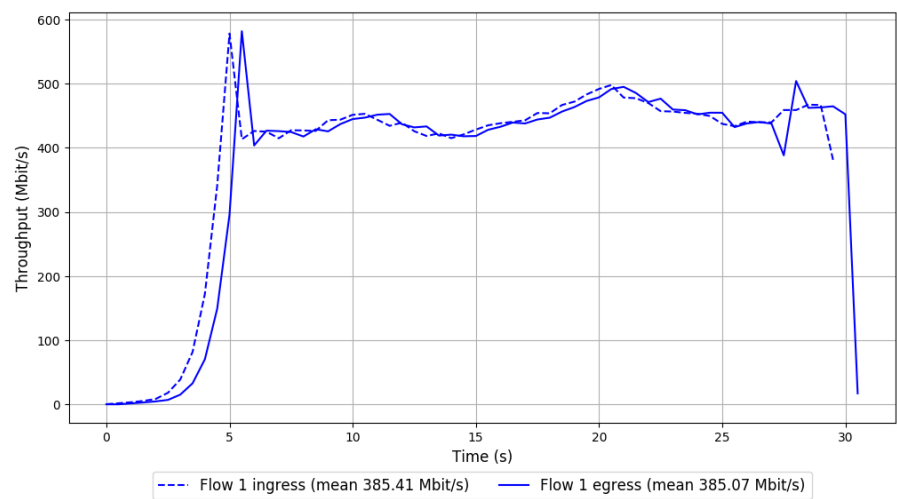


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 05:02:13
End at: 2018-09-06 05:02:43
Local clock offset: 10.742 ms
Remote clock offset: 11.373 ms

Below is generated by plot.py at 2018-09-06 06:59:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 385.07 Mbit/s
95th percentile per-packet one-way delay: 115.519 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 385.07 Mbit/s
95th percentile per-packet one-way delay: 115.519 ms
Loss rate: 0.09%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 05:28:56

End at: 2018-09-06 05:29:26

Local clock offset: 7.796 ms

Remote clock offset: 8.173 ms

Below is generated by plot.py at 2018-09-06 06:59:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 384.91 Mbit/s

95th percentile per-packet one-way delay: 110.933 ms

Loss rate: 0.00%

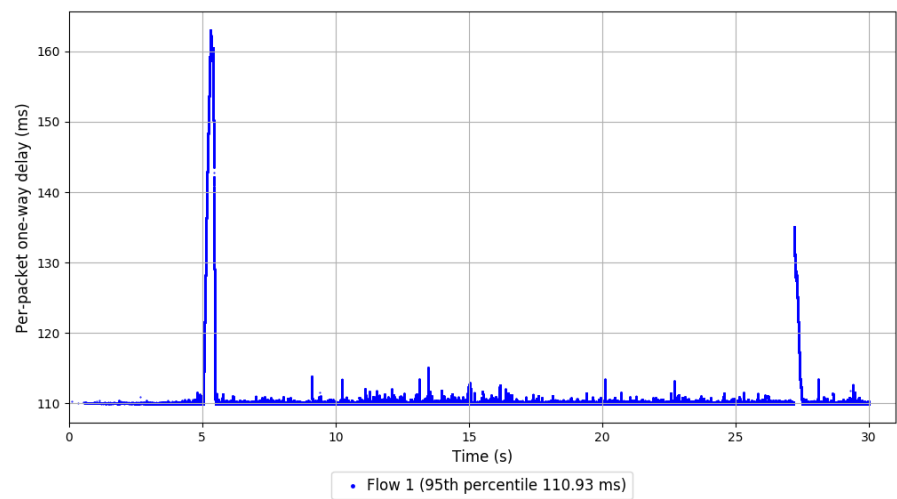
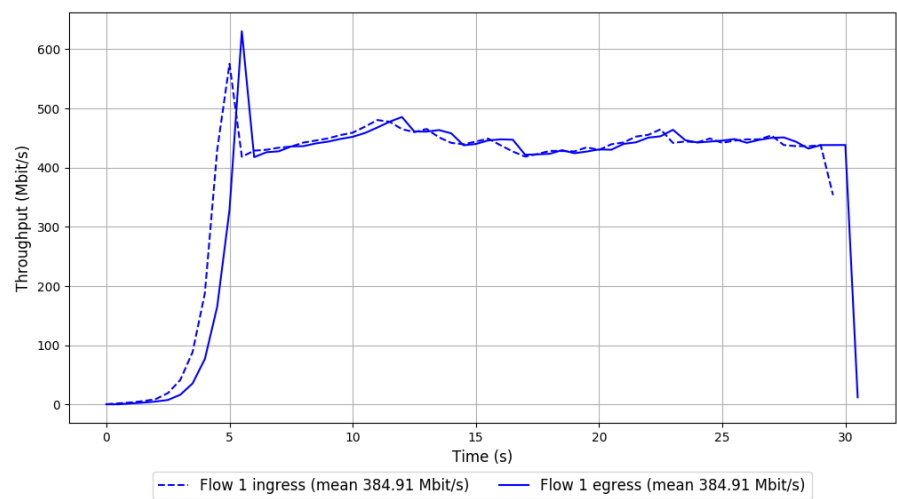
-- Flow 1:

Average throughput: 384.91 Mbit/s

95th percentile per-packet one-way delay: 110.933 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-06 03:23:56

End at: 2018-09-06 03:24:26

Local clock offset: 10.762 ms

Remote clock offset: 8.876 ms

Below is generated by plot.py at 2018-09-06 06:59:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 108.090 ms

Loss rate: 0.00%

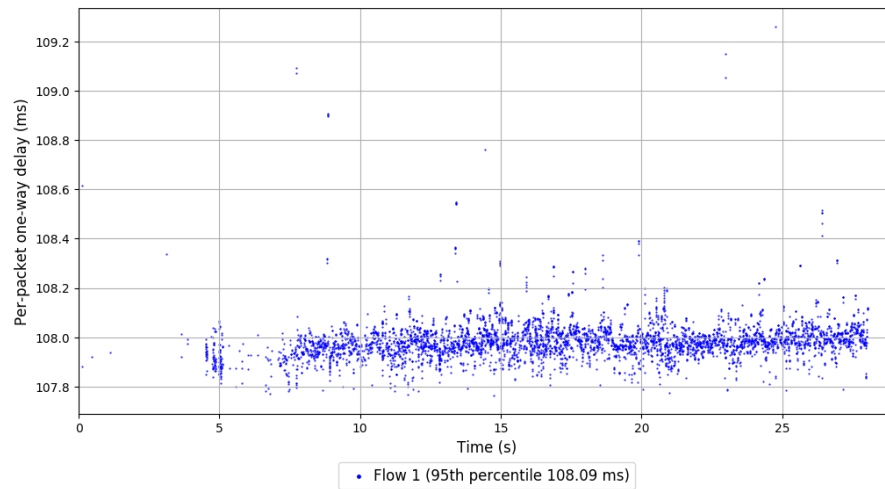
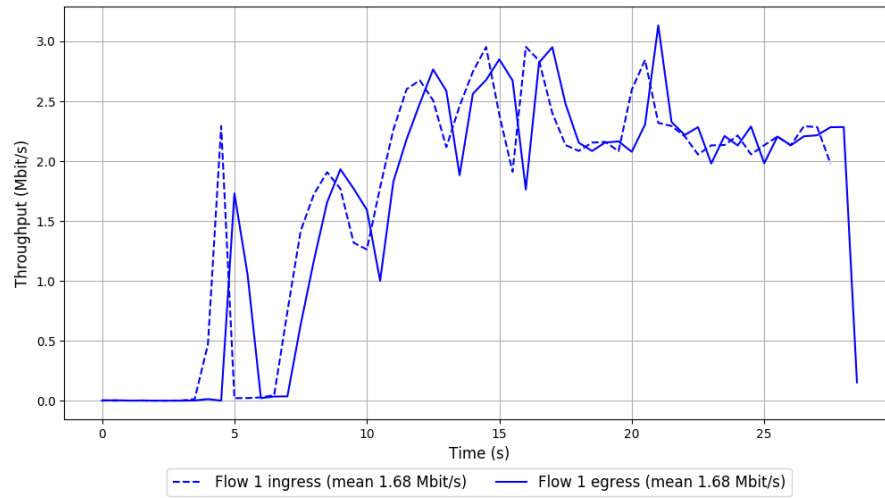
-- Flow 1:

Average throughput: 1.68 Mbit/s

95th percentile per-packet one-way delay: 108.090 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

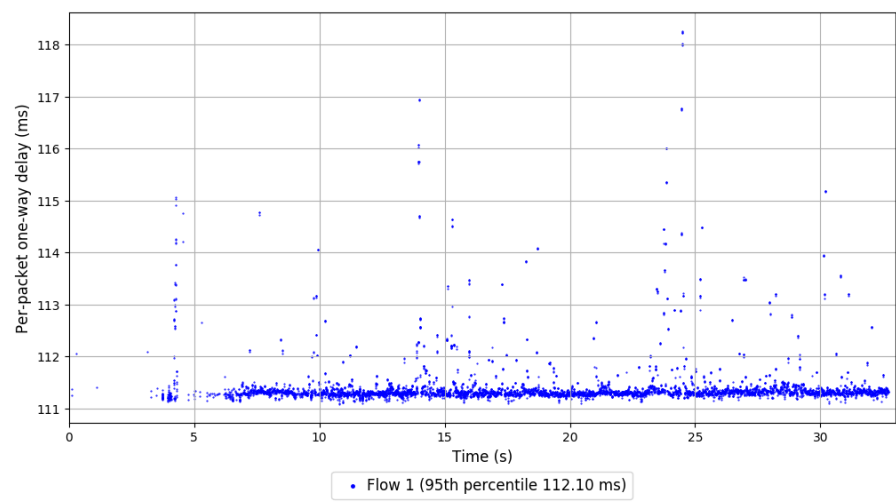
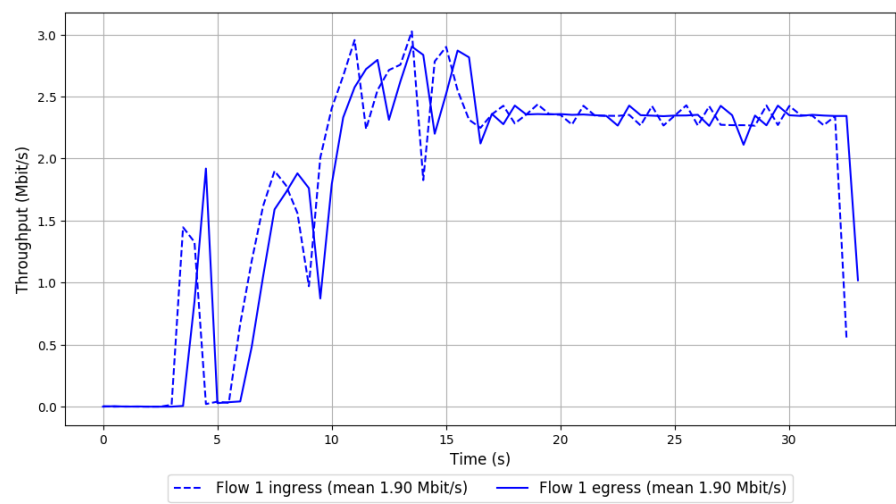


Run 2: Statistics of WebRTC media

Start at: 2018-09-06 03:50:30
End at: 2018-09-06 03:51:00
Local clock offset: 20.858 ms
Remote clock offset: 21.745 ms

Below is generated by plot.py at 2018-09-06 06:59:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 112.102 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 112.102 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

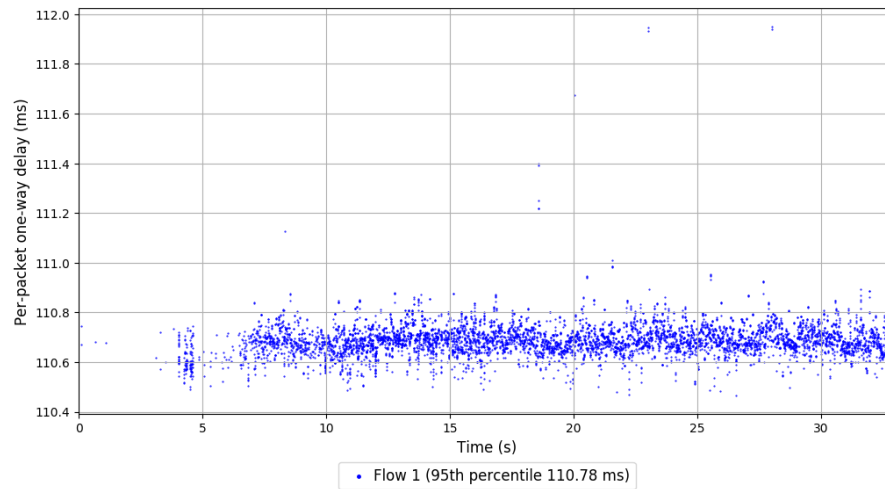
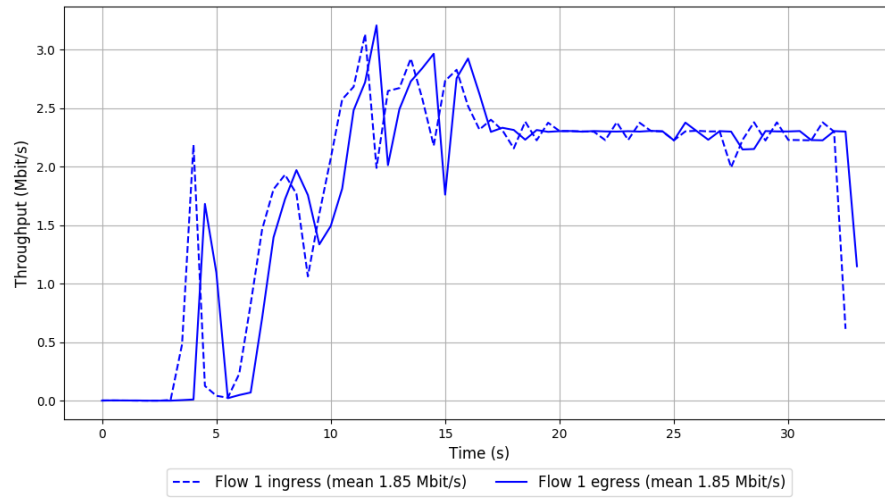


Run 3: Statistics of WebRTC media

Start at: 2018-09-06 04:17:21
End at: 2018-09-06 04:17:51
Local clock offset: 29.223 ms
Remote clock offset: 30.567 ms

Below is generated by plot.py at 2018-09-06 06:59:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 110.783 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 110.783 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

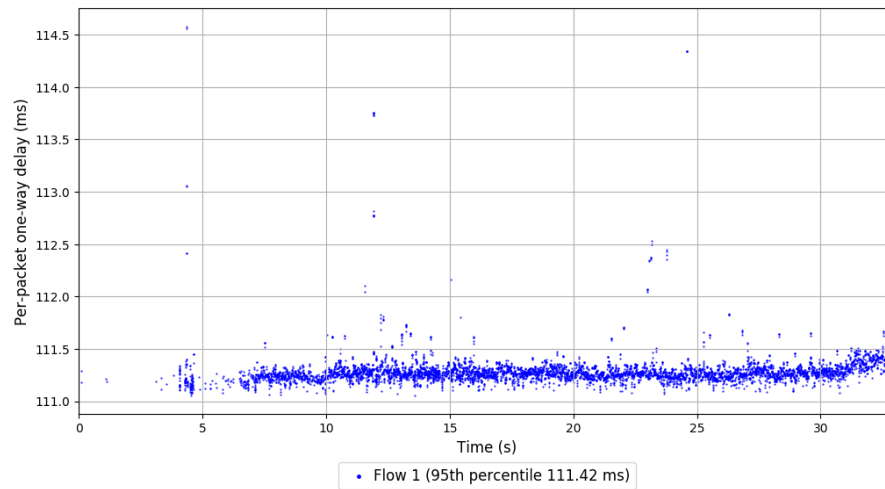
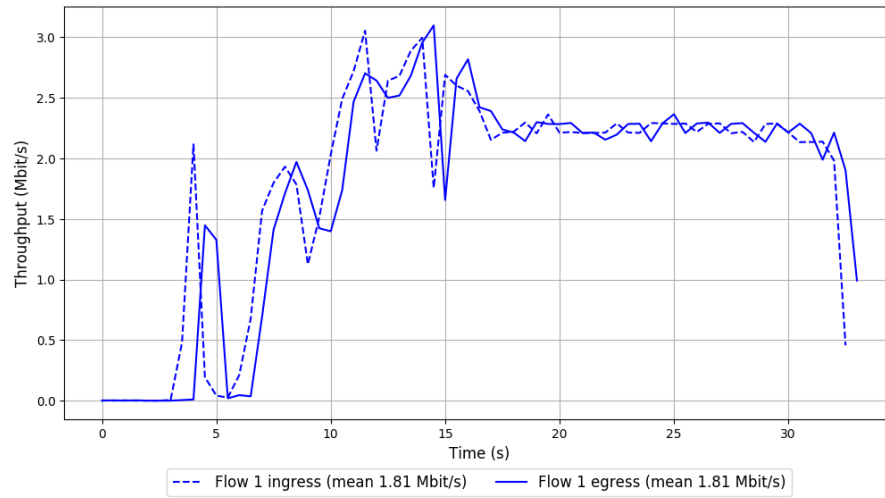


Run 4: Statistics of WebRTC media

Start at: 2018-09-06 04:44:01
End at: 2018-09-06 04:44:31
Local clock offset: 13.238 ms
Remote clock offset: 14.191 ms

Below is generated by plot.py at 2018-09-06 06:59:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 111.416 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 111.416 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 05:10:54

End at: 2018-09-06 05:11:24

Local clock offset: 6.385 ms

Remote clock offset: 7.181 ms

Below is generated by plot.py at 2018-09-06 06:59:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 111.980 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 111.980 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

