

Pantheon Report

Generated at 2018-07-25 07:00:14 (UTC).

Data path: India ppp0 ppp0 (*remote*) → AWS India 1 Ethernet (*local*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

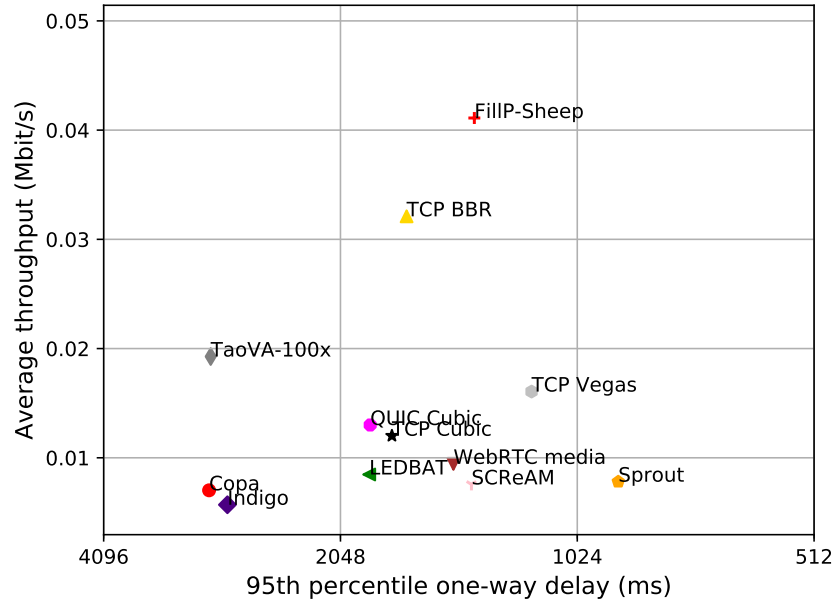
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

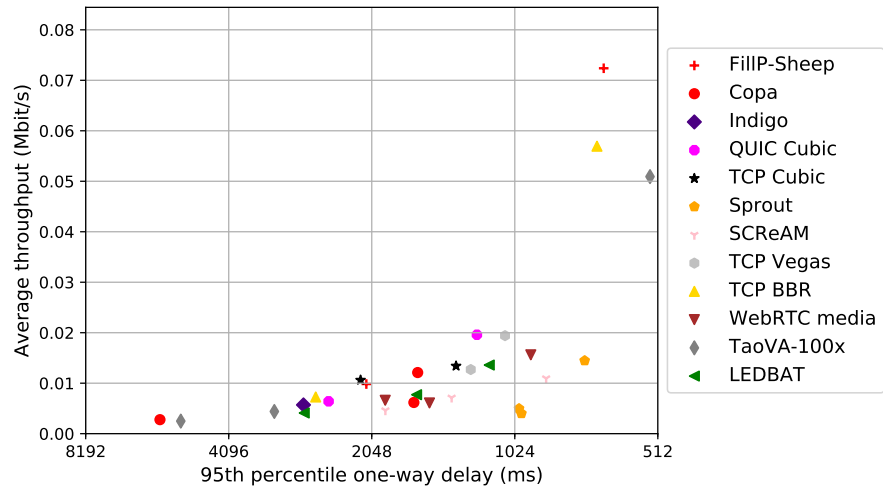
Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows



scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	2	0.02	0.02	0.01	1671.93	825.70	1116.93	58.09	62.48	74.58
Copa	3	0.01	0.01	0.00	1781.75	4874.87	736.89	94.17	93.72	98.95
TCP Cubic	2	0.01	0.01	0.01	1236.57	2078.79	1401.77	58.70	64.67	87.84
FillP	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FillP-Sheep	2	0.03	0.01	0.00	1336.49	1317.94	334.45	93.72	97.31	97.22
Indigo	1	0.01	0.01	0.01	2858.37	2342.93	2368.07	93.36	94.87	93.48
LEDBAT	3	0.00	0.01	0.00	2280.55	821.72	86.15	46.73	73.23	97.86
PCC-Allegro	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCC-Expr	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
QUIC Cubic	2	0.01	0.01	0.01	1830.15	528.85	1750.61	84.50	91.27	89.42
SCReAM	3	0.00	0.00	0.01	1206.36	1324.04	2207.05	68.00	82.14	83.11
Sprout	3	0.00	0.00	0.00	1186.93	811.46	737.36	88.60	93.10	95.23
TaoVA-100x	3	0.01	0.01	0.02	3449.23	1976.92	408.41	84.45	95.32	95.47
TCP Vegas	2	0.01	0.01	0.02	1252.39	815.57	1240.84	55.78	73.22	60.14
Verus	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCC-Vivace	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WebRTC media	3	0.00	0.00	0.00	1626.69	1124.45	1122.49	81.42	83.53	82.15

Run 1: Statistics of TCP BBR

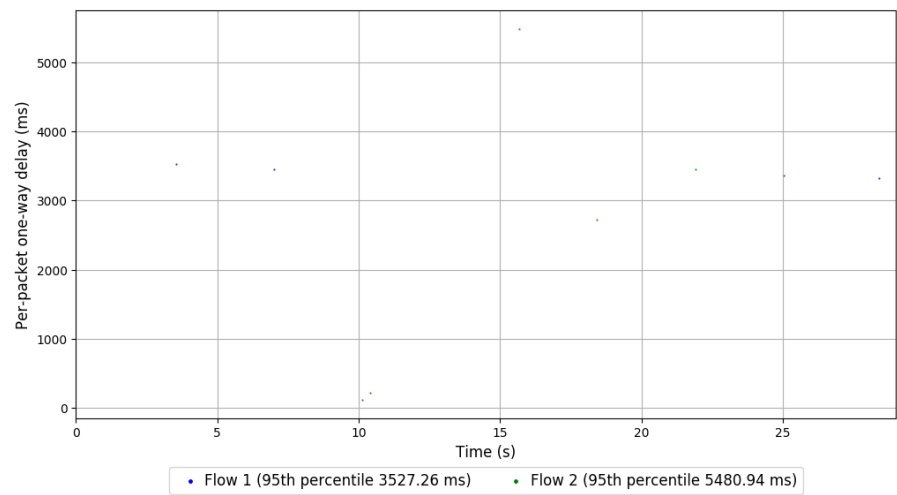
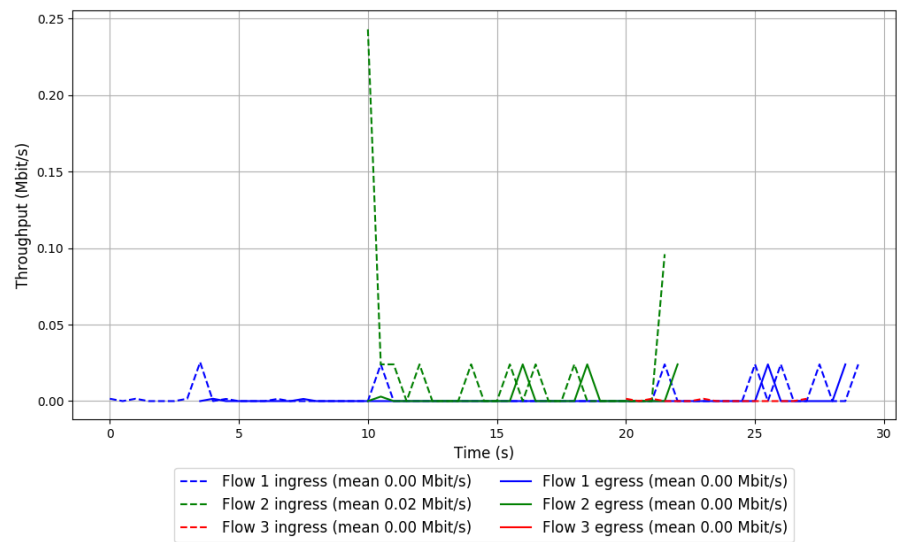
Start at: 2018-07-25 06:14:12

End at: 2018-07-25 06:14:42

Local clock offset: 0.803 ms

Remote clock offset: -5.891 ms

Run 1: Report of TCP BBR — Data Link

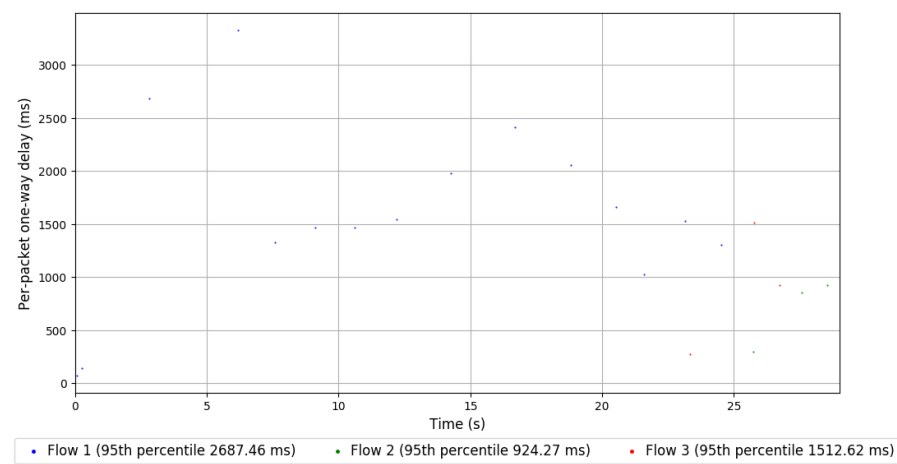
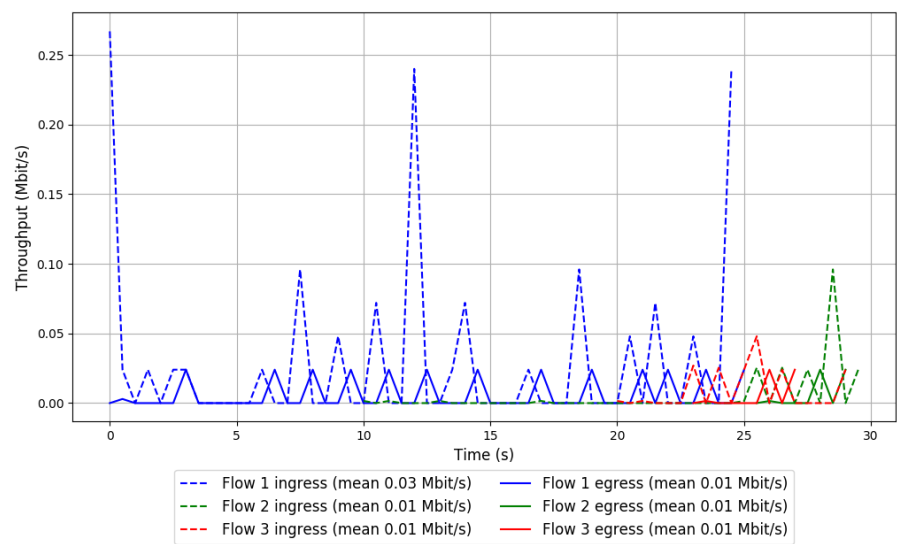


Run 2: Statistics of TCP BBR

Start at: 2018-07-25 06:32:48
End at: 2018-07-25 06:33:18
Local clock offset: -1.206 ms
Remote clock offset: -7.874 ms

Below is generated by plot.py at 2018-07-25 06:59:42
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2687.461 ms
Loss rate: 77.56%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2687.461 ms
Loss rate: 78.53%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 924.271 ms
Loss rate: 75.54%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1512.616 ms
Loss rate: 71.76%

Run 2: Report of TCP BBR — Data Link

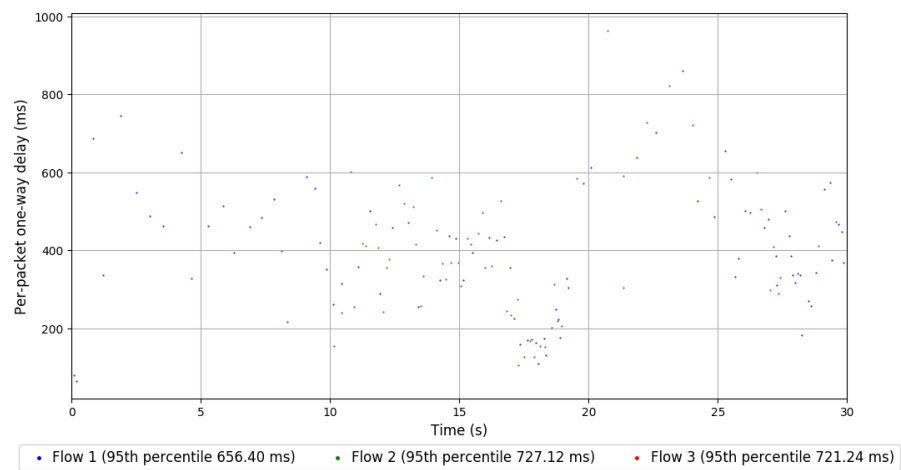
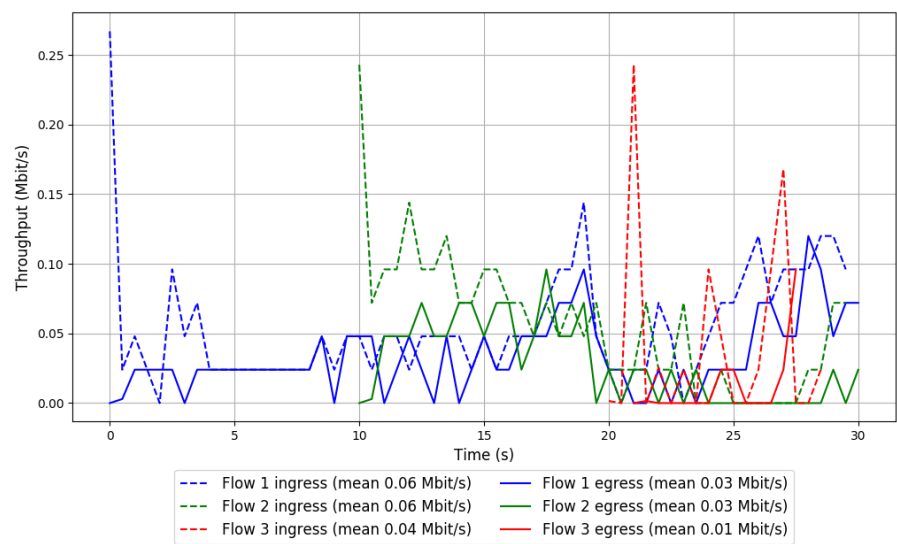


Run 3: Statistics of TCP BBR

Start at: 2018-07-25 06:51:22
End at: 2018-07-25 06:51:52
Local clock offset: -0.177 ms
Remote clock offset: -2.214 ms

Below is generated by plot.py at 2018-07-25 06:59:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 687.612 ms
Loss rate: 46.57%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 656.401 ms
Loss rate: 37.65%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 727.123 ms
Loss rate: 49.41%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 721.242 ms
Loss rate: 77.39%

Run 3: Report of TCP BBR — Data Link

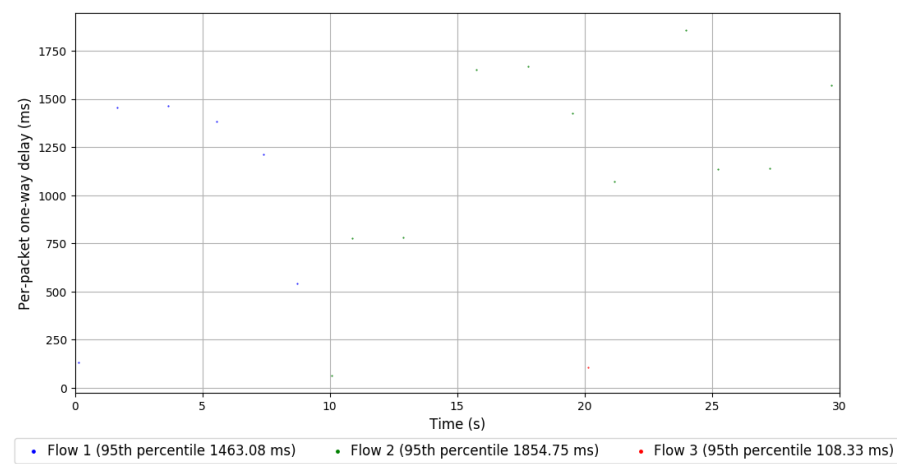
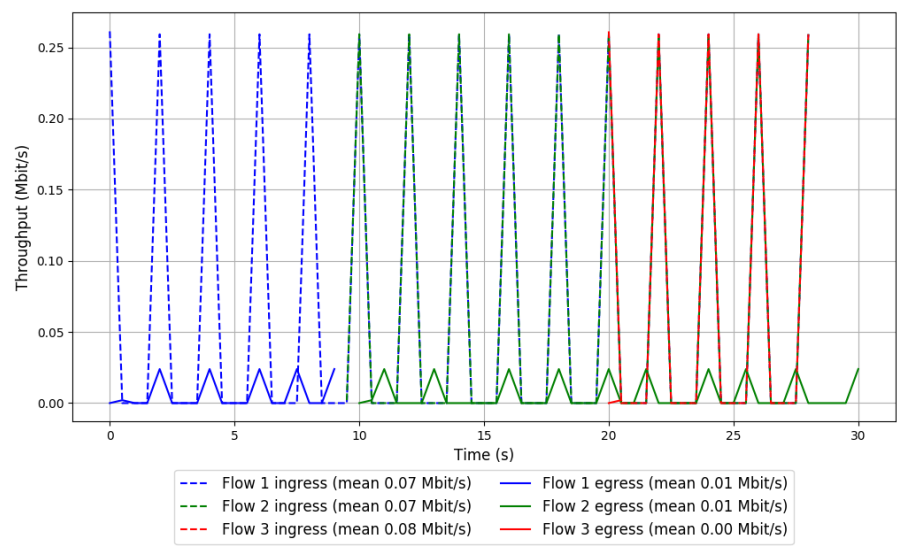


Run 1: Statistics of Copa

Start at: 2018-07-25 06:09:50
End at: 2018-07-25 06:10:20
Local clock offset: 1.438 ms
Remote clock offset: -3.678 ms

Below is generated by plot.py at 2018-07-25 06:59:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1669.947 ms
Loss rate: 95.31%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1463.075 ms
Loss rate: 96.87%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1854.751 ms
Loss rate: 90.69%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 108.327 ms
Loss rate: 99.84%

Run 1: Report of Copa — Data Link

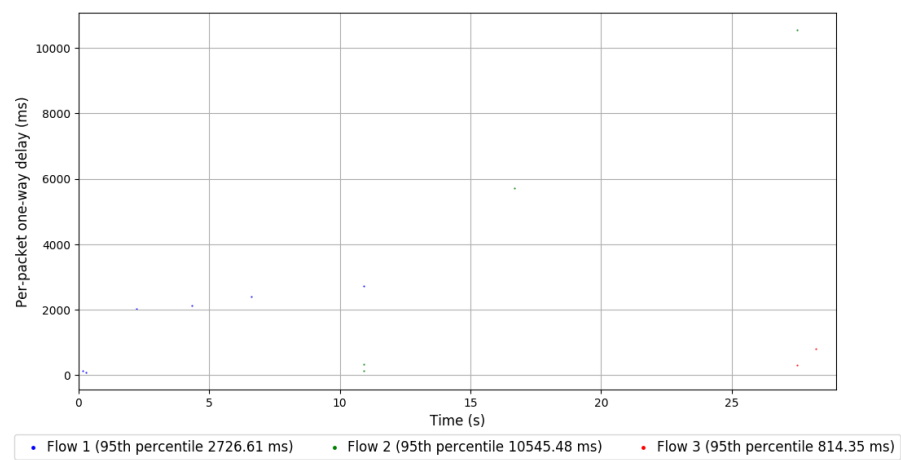
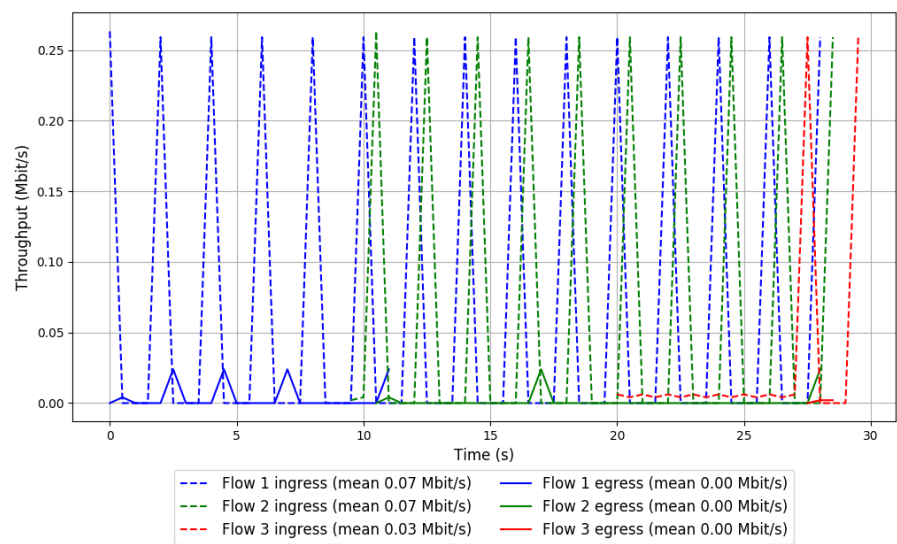


Run 2: Statistics of Copa

Start at: 2018-07-25 06:28:27
End at: 2018-07-25 06:28:57
Local clock offset: -0.673 ms
Remote clock offset: -7.624 ms

Below is generated by plot.py at 2018-07-25 06:59:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5716.135 ms
Loss rate: 97.80%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2726.609 ms
Loss rate: 97.43%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10545.481 ms
Loss rate: 98.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 814.352 ms
Loss rate: 99.31%

Run 2: Report of Copa — Data Link

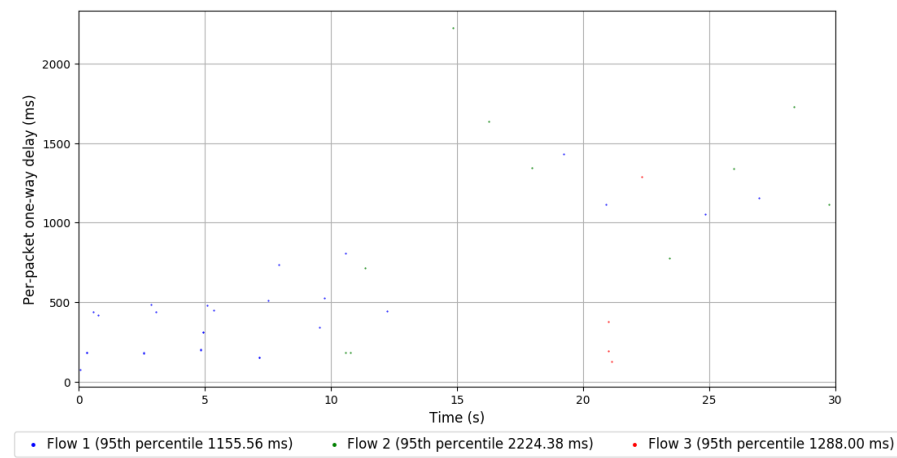
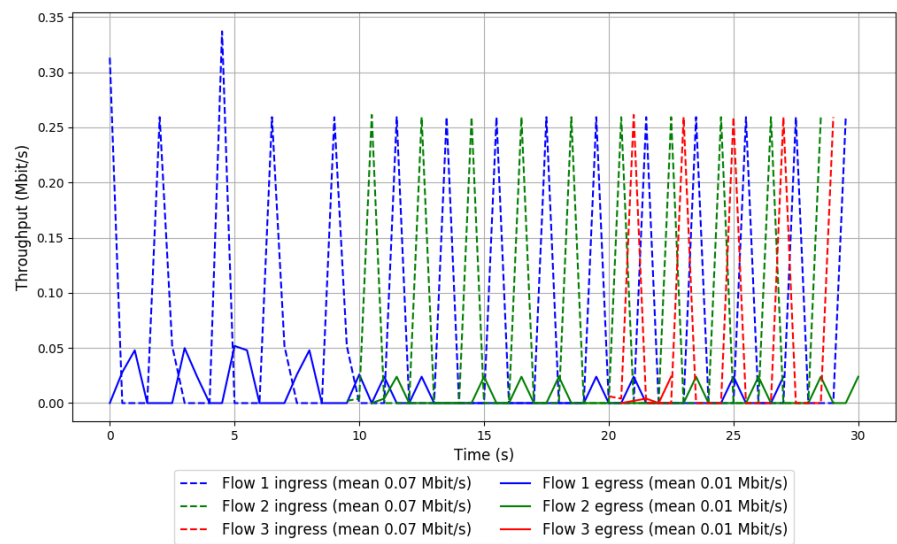


Run 3: Statistics of Copa

Start at: 2018-07-25 06:47:01
End at: 2018-07-25 06:47:31
Local clock offset: -0.688 ms
Remote clock offset: -1.865 ms

Below is generated by plot.py at 2018-07-25 06:59:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1639.434 ms
Loss rate: 91.11%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1155.563 ms
Loss rate: 88.20%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2224.382 ms
Loss rate: 92.48%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1287.998 ms
Loss rate: 97.70%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

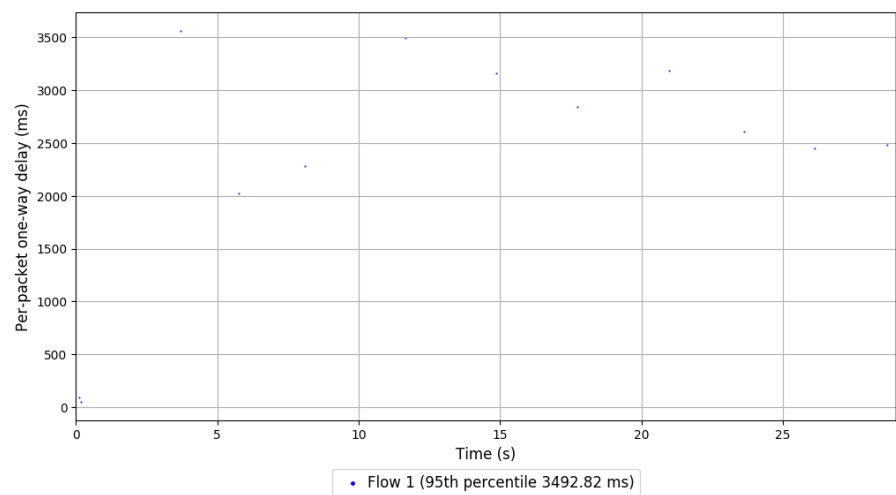
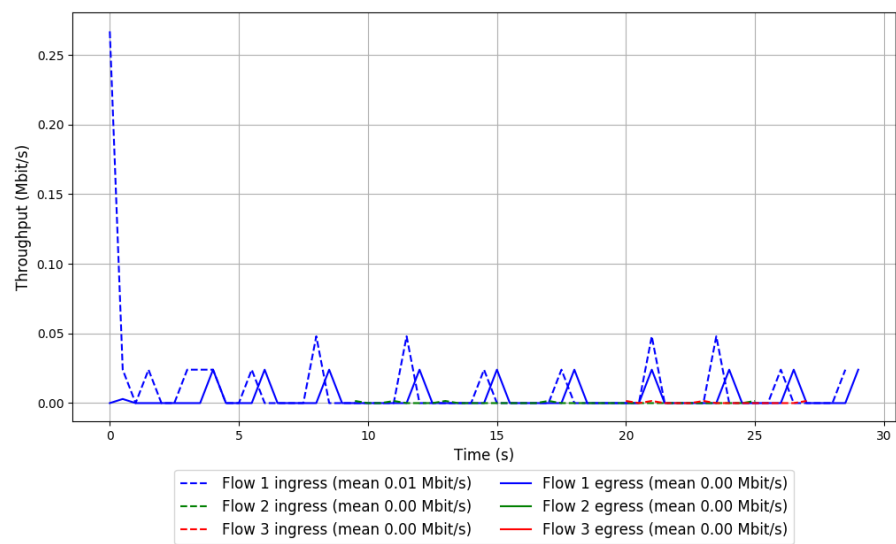
Start at: 2018-07-25 06:18:34

End at: 2018-07-25 06:19:04

Local clock offset: 0.296 ms

Remote clock offset: -7.082 ms

Run 1: Report of TCP Cubic — Data Link

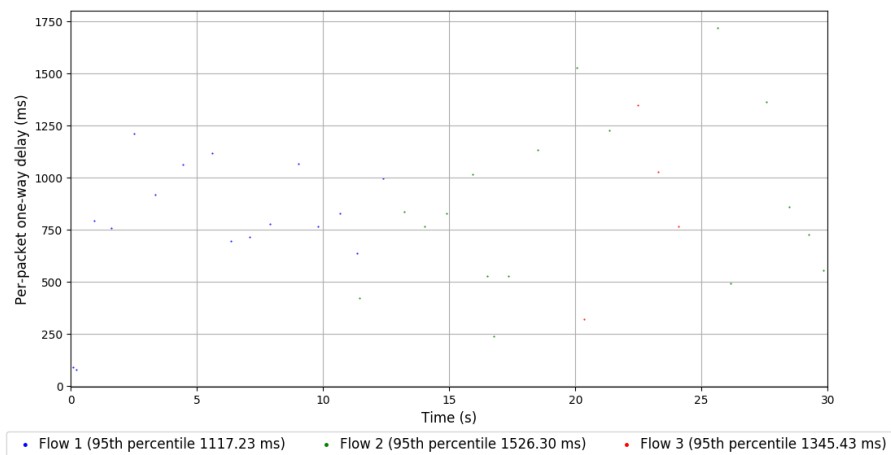
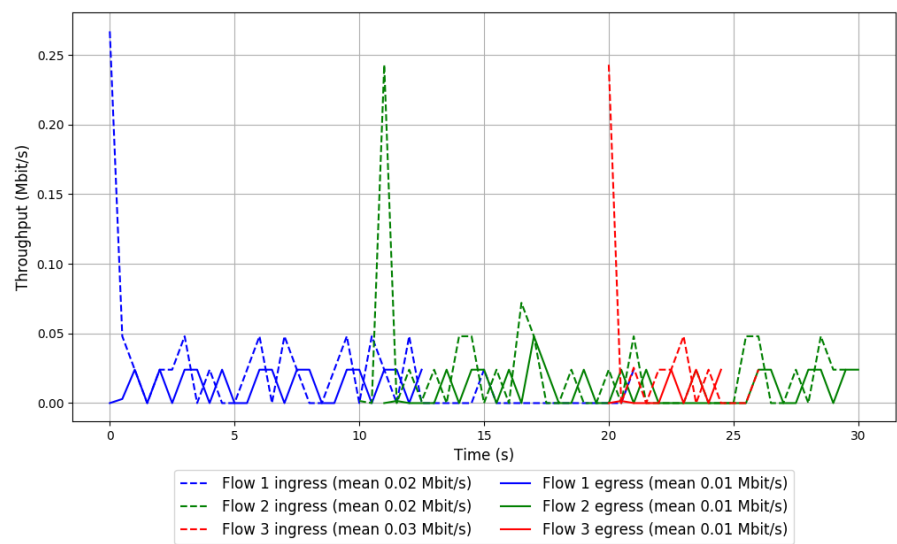


Run 2: Statistics of TCP Cubic

Start at: 2018-07-25 06:37:10
End at: 2018-07-25 06:37:40
Local clock offset: 1.257 ms
Remote clock offset: -9.141 ms

Below is generated by plot.py at 2018-07-25 06:59:43
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1361.123 ms
Loss rate: 62.45%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1117.232 ms
Loss rate: 59.79%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1526.298 ms
Loss rate: 55.68%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1345.435 ms
Loss rate: 82.17%

Run 2: Report of TCP Cubic — Data Link

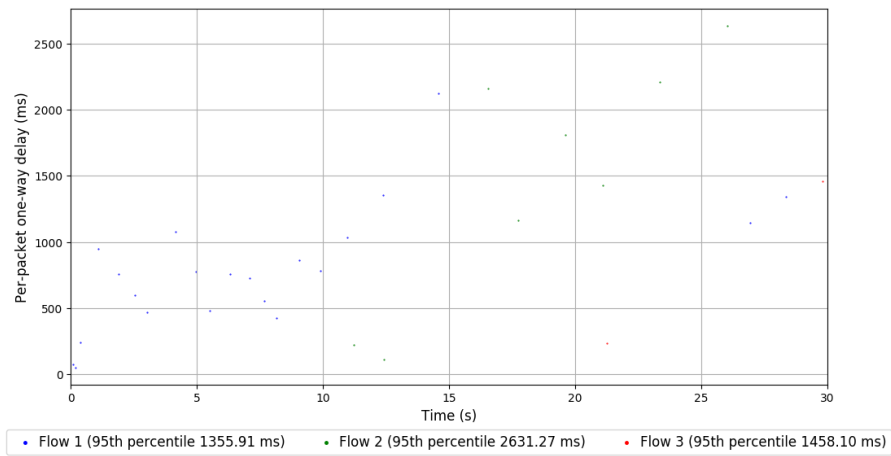
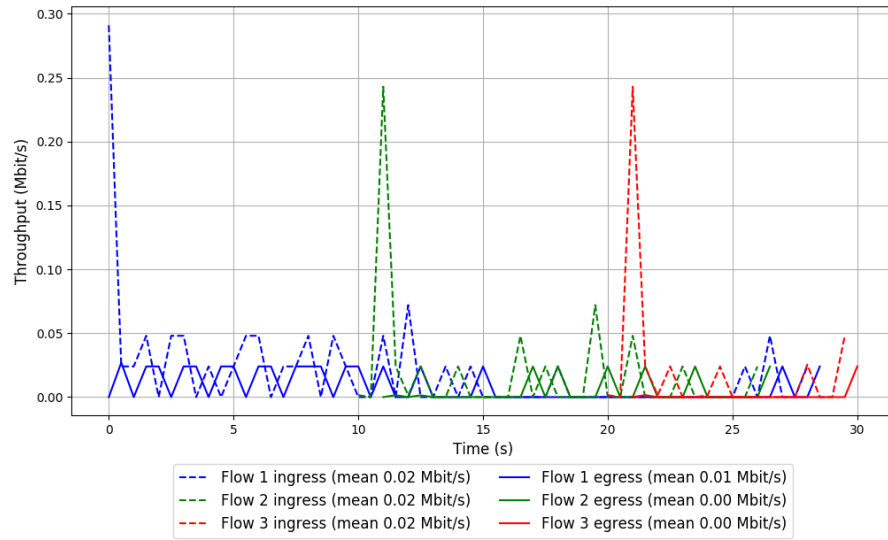


Run 3: Statistics of TCP Cubic

Start at: 2018-07-25 06:55:48
End at: 2018-07-25 06:56:18
Local clock offset: -4.642 ms
Remote clock offset: -3.959 ms

Below is generated by plot.py at 2018-07-25 06:59:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2162.191 ms
Loss rate: 68.95%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1355.907 ms
Loss rate: 57.62%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2631.274 ms
Loss rate: 73.66%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1458.104 ms
Loss rate: 93.50%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

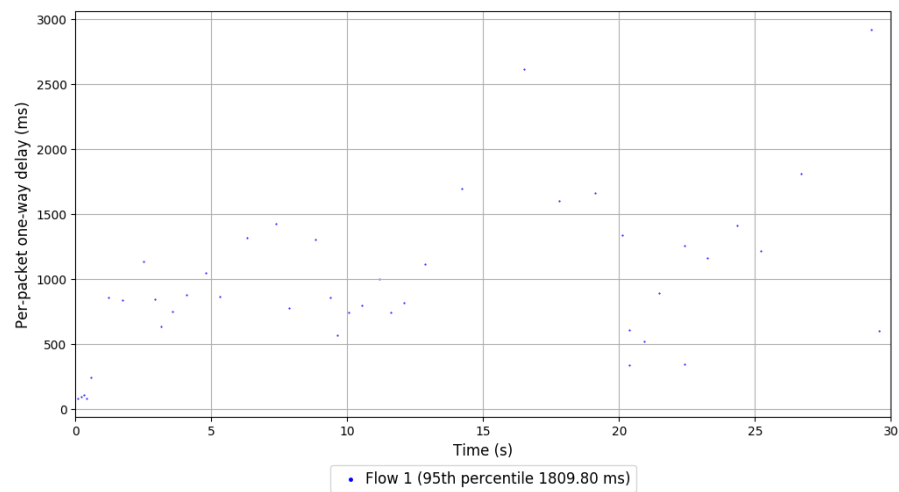
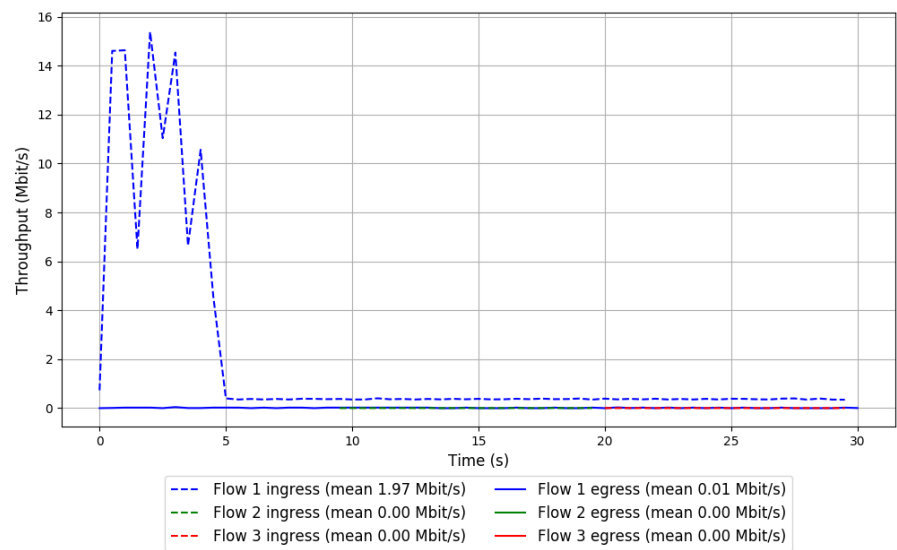
Start at: 2018-07-25 06:06:33

End at: 2018-07-25 06:07:03

Local clock offset: 0.83 ms

Remote clock offset: -5.815 ms

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

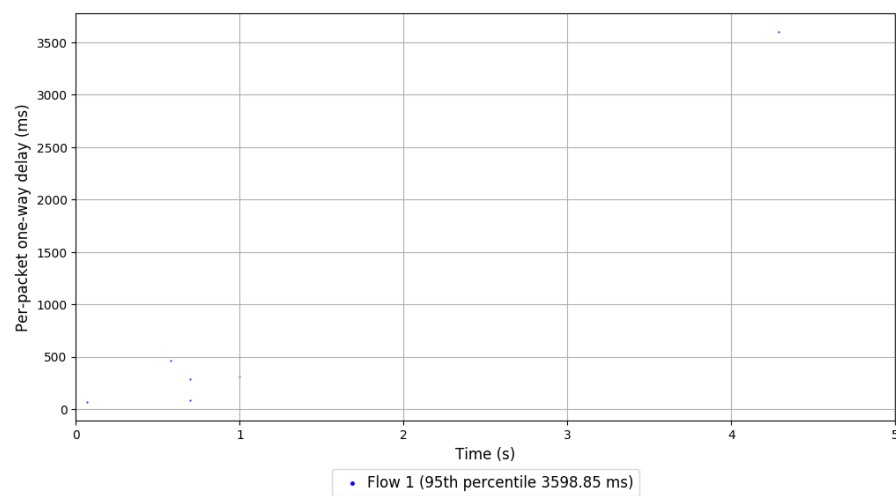
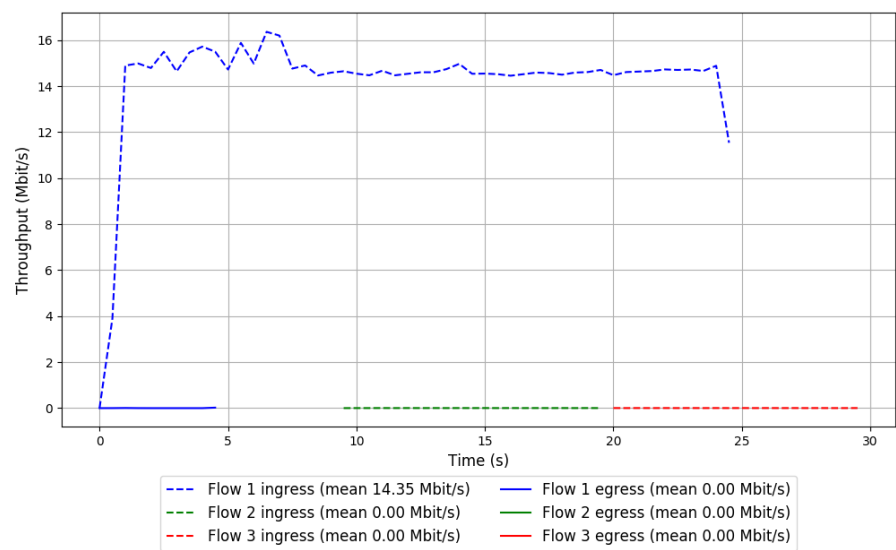
Start at: 2018-07-25 06:25:09

End at: 2018-07-25 06:25:39

Local clock offset: 1.092 ms

Remote clock offset: -6.438 ms

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

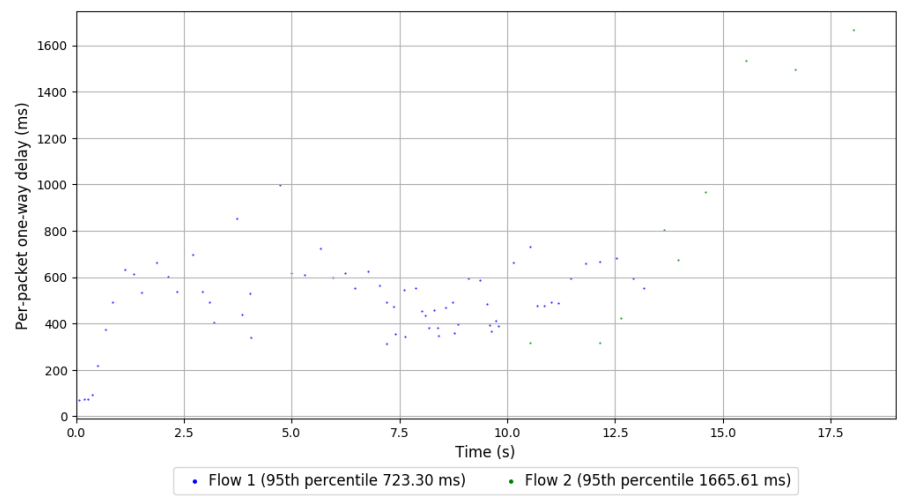
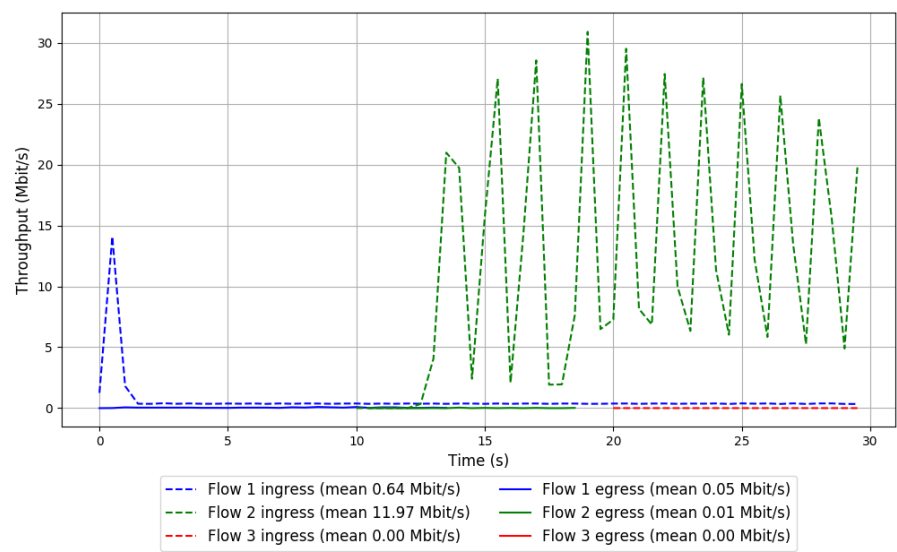
Start at: 2018-07-25 06:43:44

End at: 2018-07-25 06:44:14

Local clock offset: 0.05 ms

Remote clock offset: -4.36 ms

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

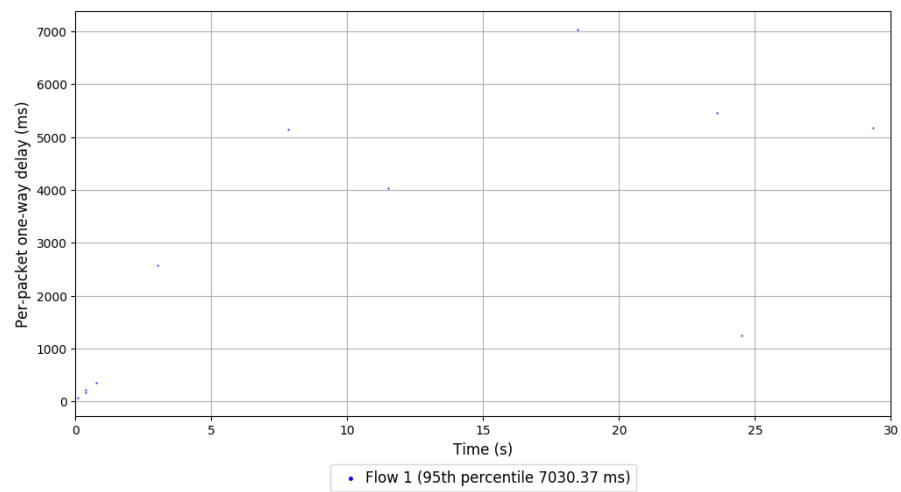
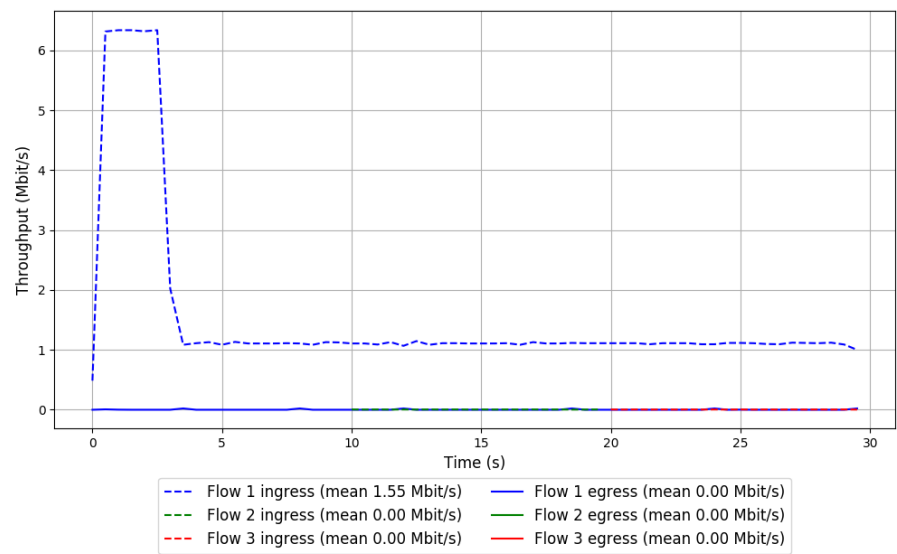
Start at: 2018-07-25 06:15:17

End at: 2018-07-25 06:15:47

Local clock offset: 0.562 ms

Remote clock offset: -6.035 ms

Run 1: Report of FillP-Sheep — Data Link

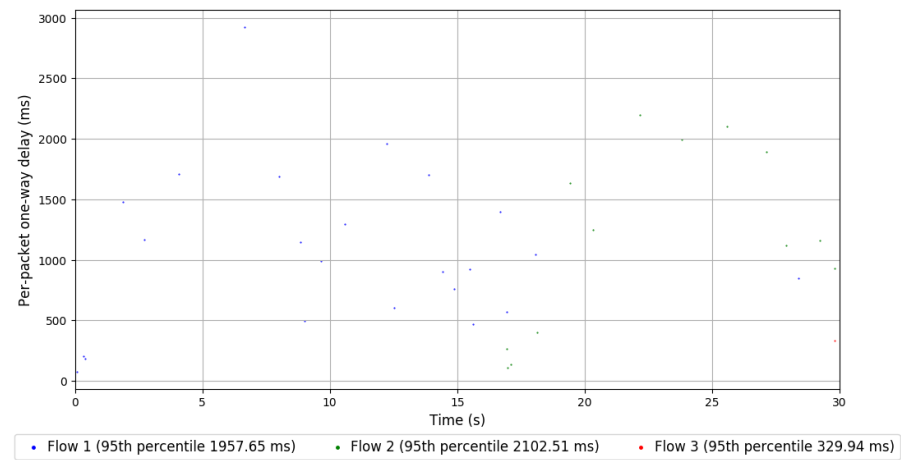
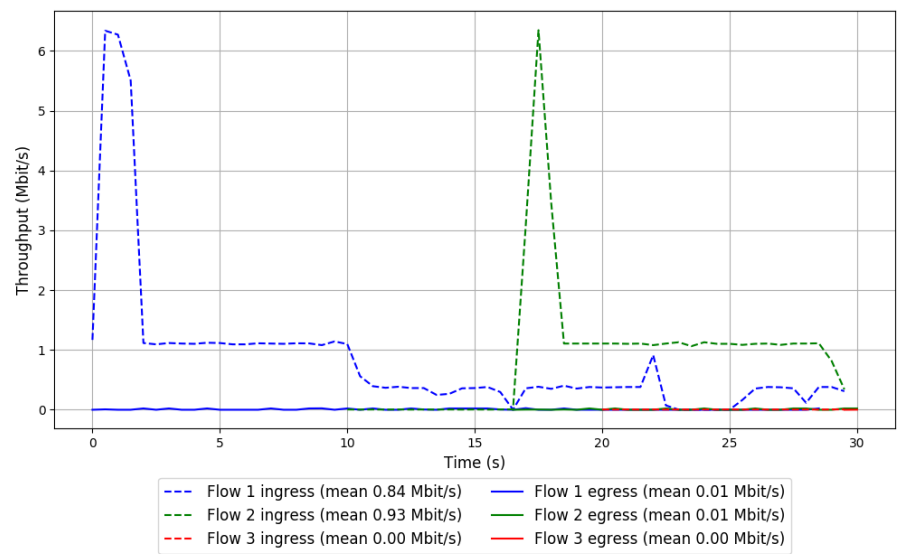


Run 2: Statistics of FillP-Sheep

Start at: 2018-07-25 06:33:54
End at: 2018-07-25 06:34:24
Local clock offset: -1.108 ms
Remote clock offset: -9.977 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2102.505 ms
Loss rate: 99.33%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1957.652 ms
Loss rate: 99.25%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2102.505 ms
Loss rate: 99.44%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 329.941 ms
Loss rate: 98.09%

Run 2: Report of FillP-Sheep — Data Link

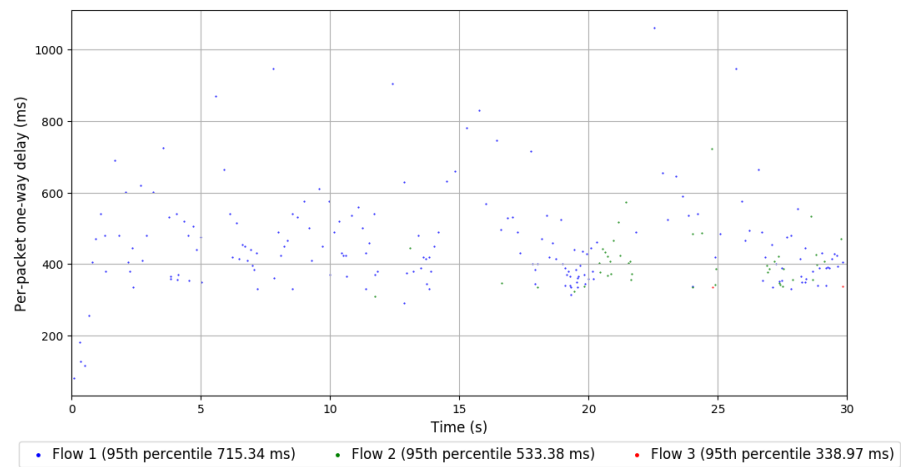
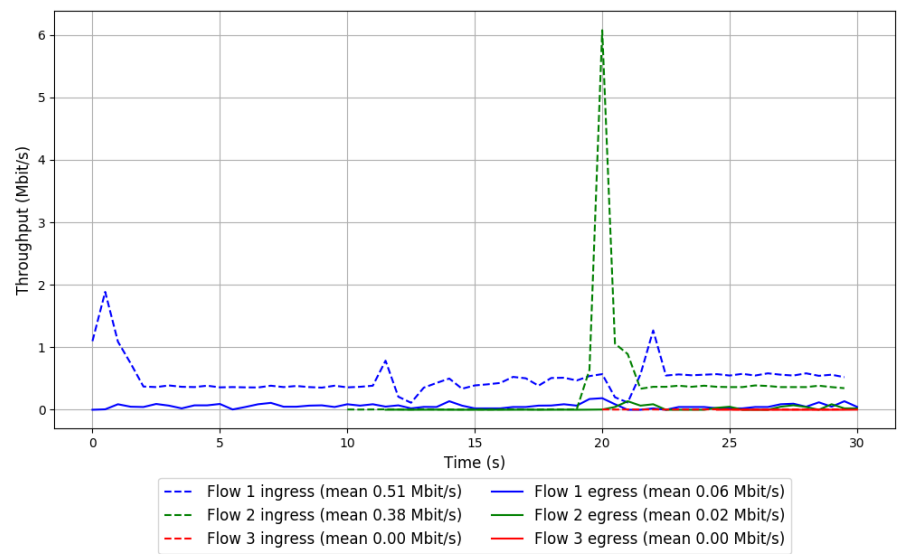


Run 3: Statistics of FillP-Sheep

Start at: 2018-07-25 06:52:28
End at: 2018-07-25 06:52:58
Local clock offset: 0.205 ms
Remote clock offset: -0.752 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 665.542 ms
Loss rate: 90.51%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 715.335 ms
Loss rate: 88.18%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 533.382 ms
Loss rate: 95.19%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 338.967 ms
Loss rate: 96.35%

Run 3: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

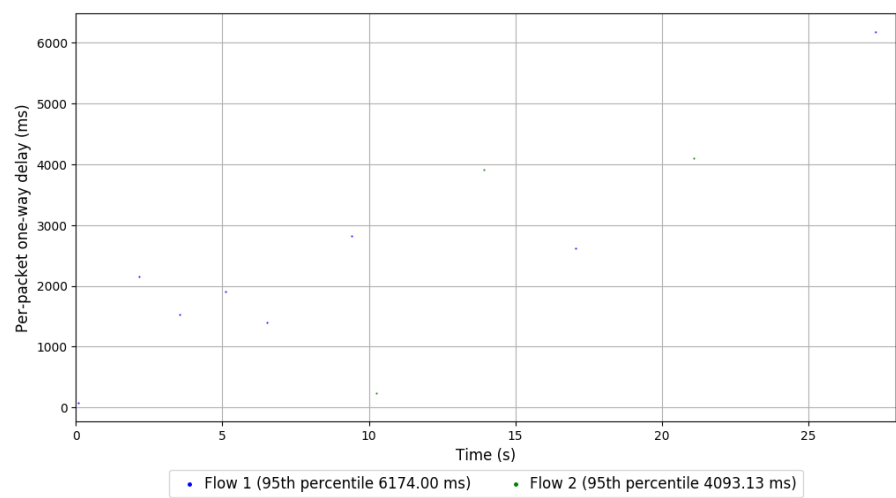
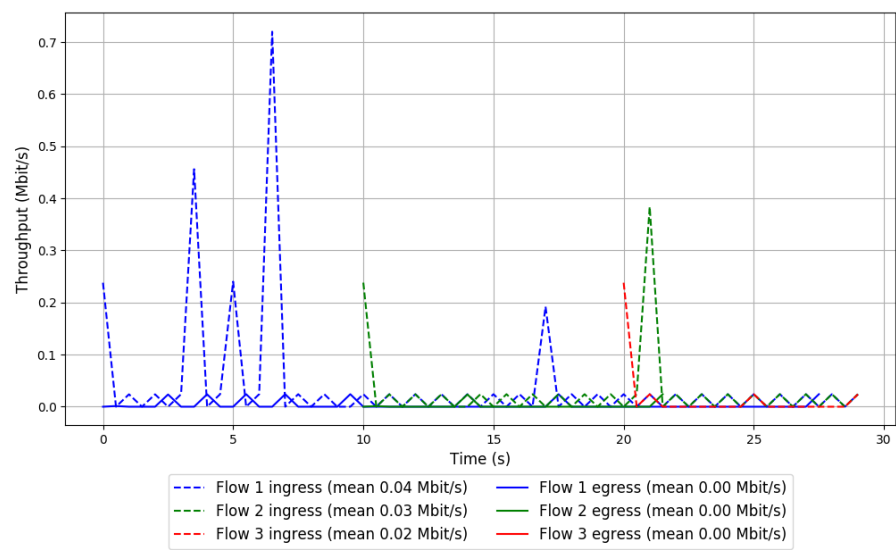
Start at: 2018-07-25 06:13:06

End at: 2018-07-25 06:13:36

Local clock offset: 1.096 ms

Remote clock offset: -8.512 ms

Run 1: Report of Indigo — Data Link

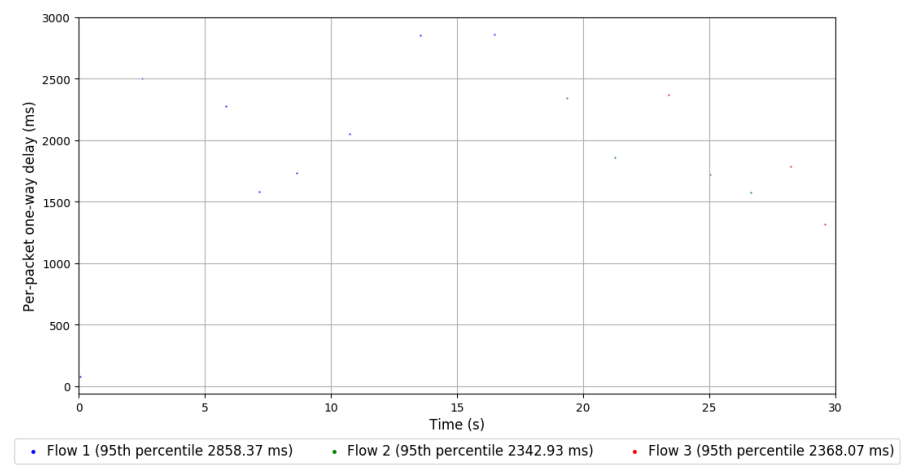
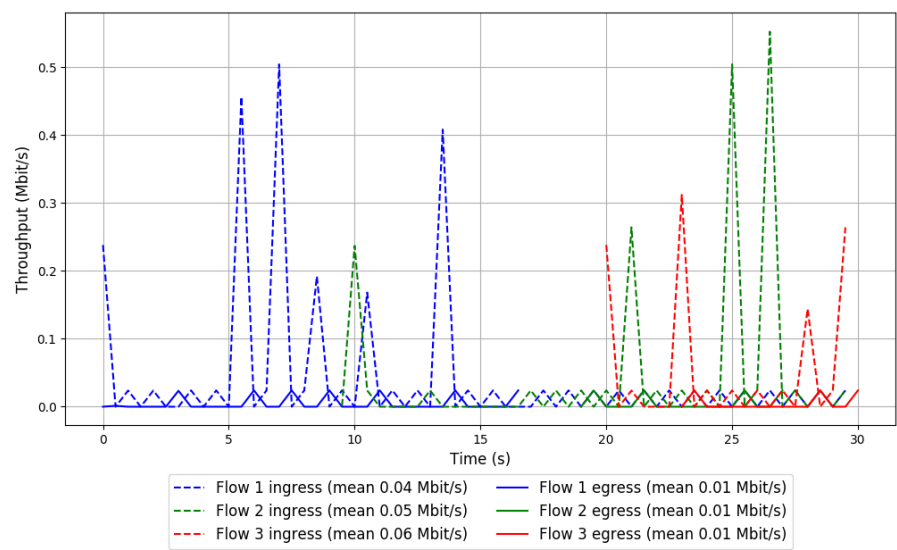


Run 2: Statistics of Indigo

Start at: 2018-07-25 06:31:43
End at: 2018-07-25 06:32:13
Local clock offset: 1.917 ms
Remote clock offset: -8.017 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2851.370 ms
Loss rate: 93.90%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2858.366 ms
Loss rate: 93.36%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2342.931 ms
Loss rate: 94.87%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2368.074 ms
Loss rate: 93.48%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

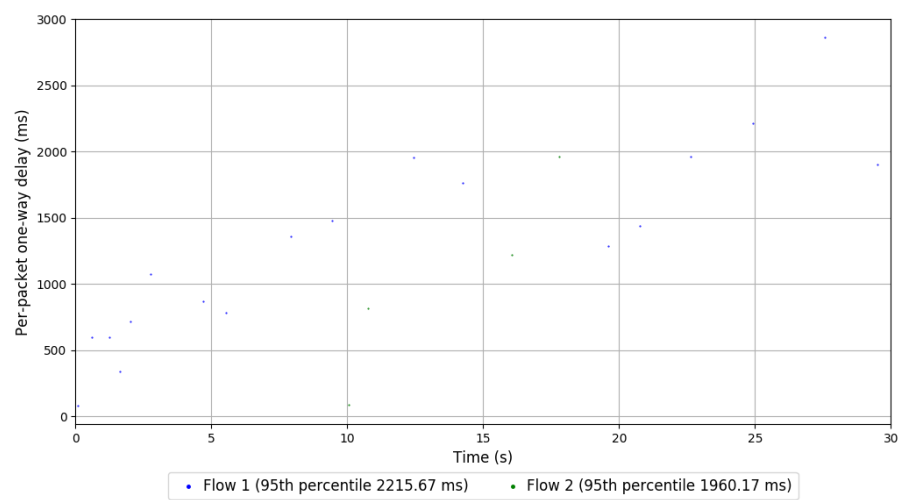
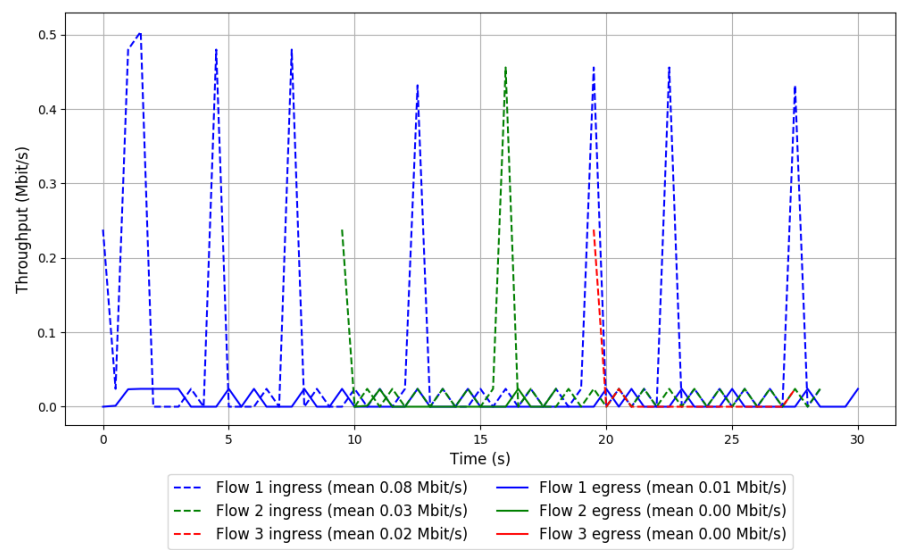
Start at: 2018-07-25 06:50:17

End at: 2018-07-25 06:50:47

Local clock offset: 0.465 ms

Remote clock offset: -1.25 ms

Run 3: Report of Indigo — Data Link

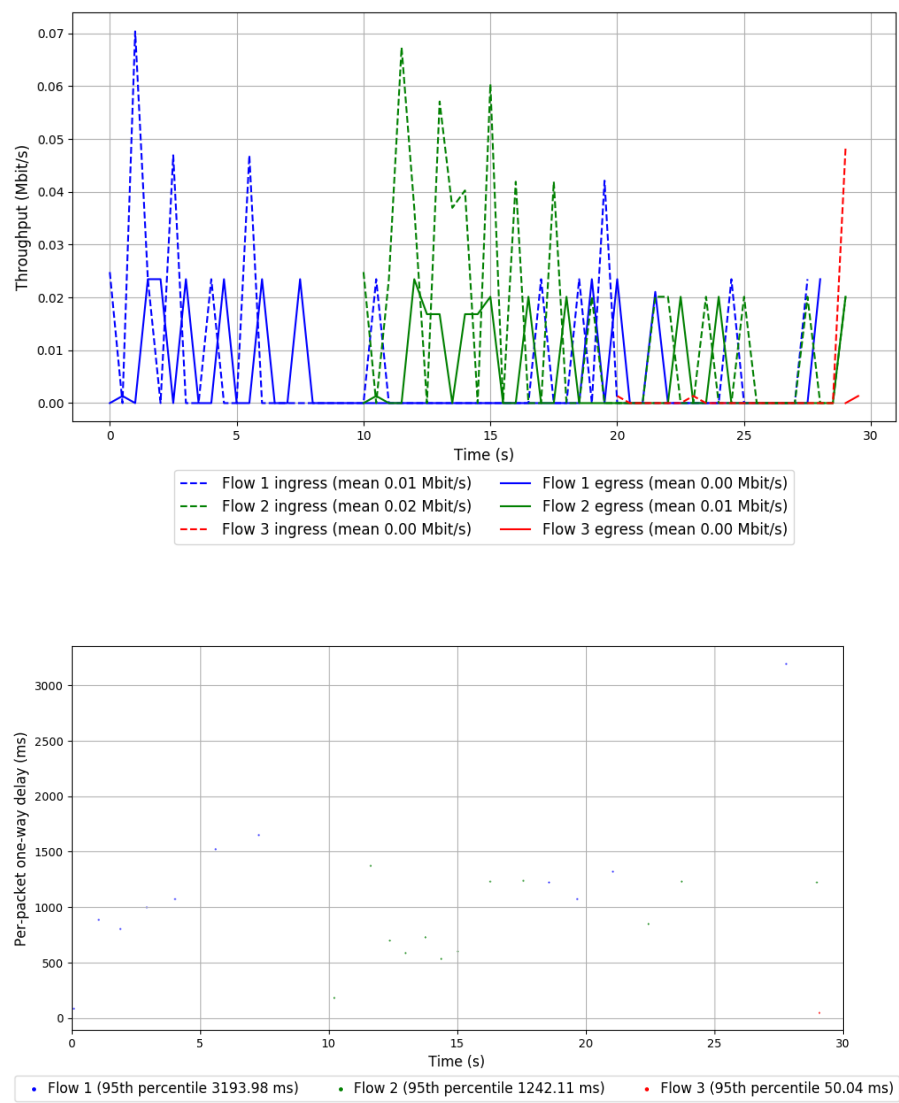


Run 1: Statistics of LEDBAT

Start at: 2018-07-25 06:10:55
End at: 2018-07-25 06:11:25
Local clock offset: -0.643 ms
Remote clock offset: -7.498 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1648.241 ms
Loss rate: 56.02%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3193.979 ms
Loss rate: 40.93%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1242.106 ms
Loss rate: 62.78%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 50.037 ms
Loss rate: 97.36%

Run 1: Report of LEDBAT — Data Link

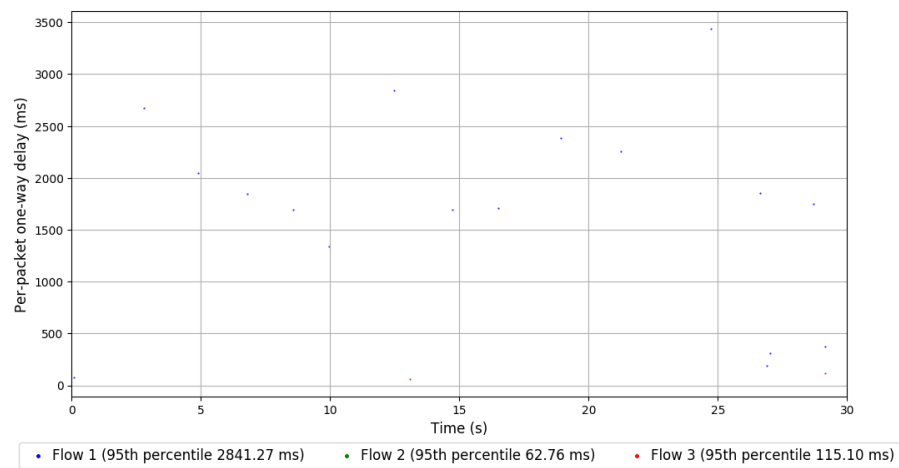
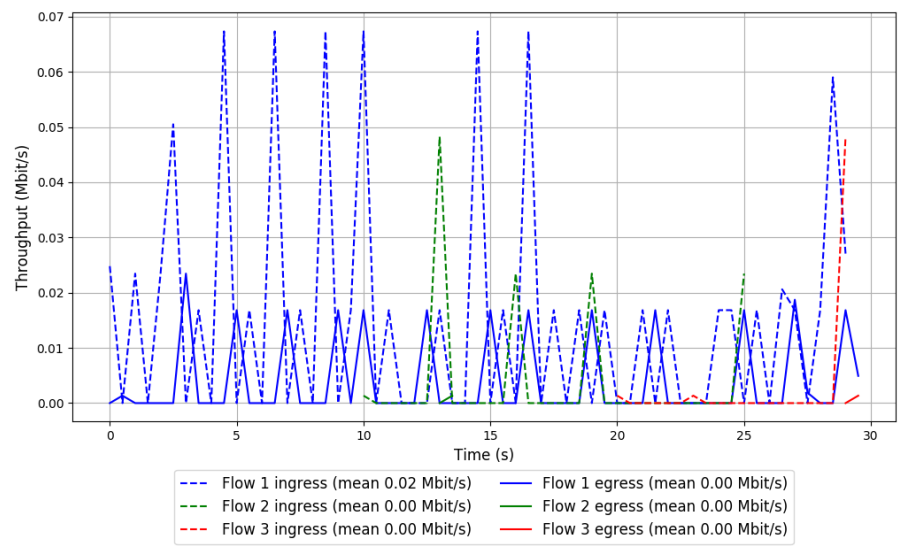


Run 2: Statistics of LEDBAT

Start at: 2018-07-25 06:29:32
End at: 2018-07-25 06:30:02
Local clock offset: 1.955 ms
Remote clock offset: -5.315 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2841.272 ms
Loss rate: 78.15%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2841.272 ms
Loss rate: 74.37%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 62.755 ms
Loss rate: 98.88%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 115.103 ms
Loss rate: 97.36%

Run 2: Report of LEDBAT — Data Link

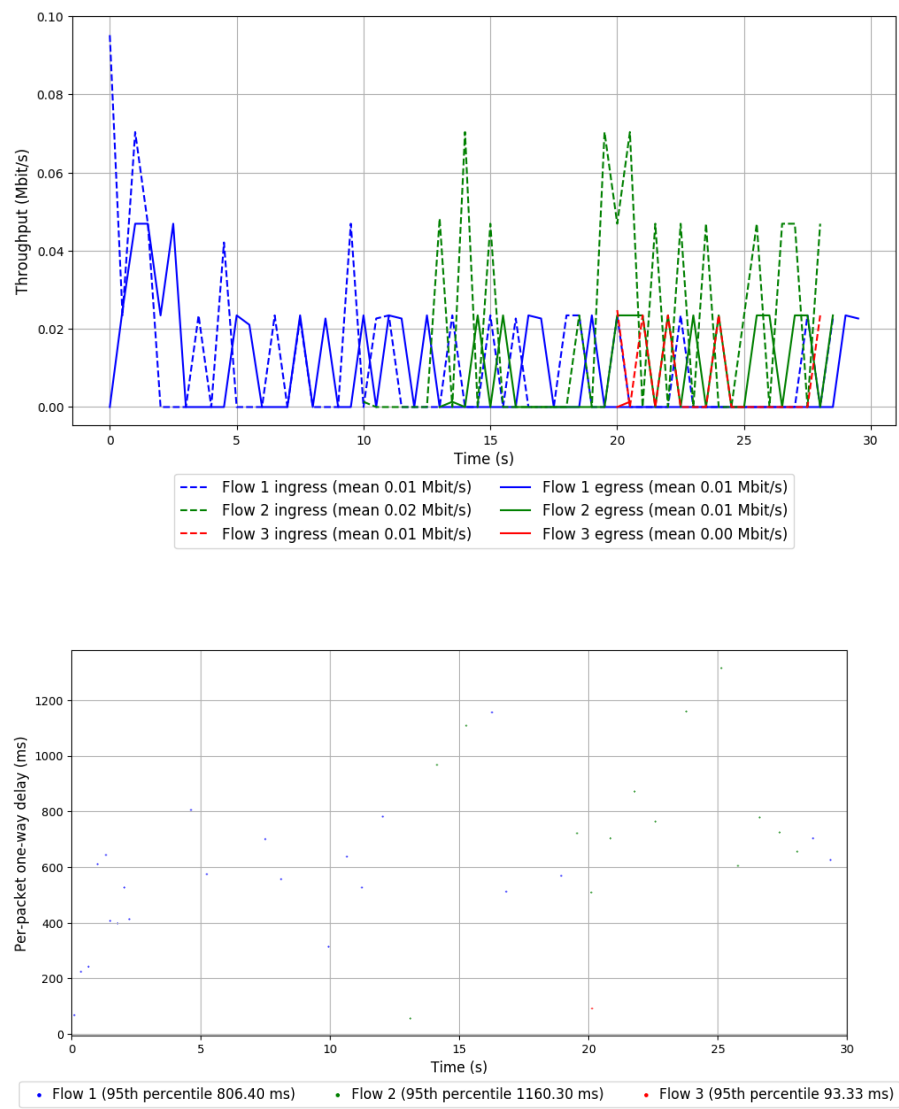


Run 3: Statistics of LEDBAT

Start at: 2018-07-25 06:48:06
End at: 2018-07-25 06:48:36
Local clock offset: -0.117 ms
Remote clock offset: -1.181 ms

Below is generated by plot.py at 2018-07-25 06:59:54
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1159.066 ms
Loss rate: 46.89%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 806.396 ms
Loss rate: 24.89%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1160.299 ms
Loss rate: 58.03%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 93.325 ms
Loss rate: 98.87%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

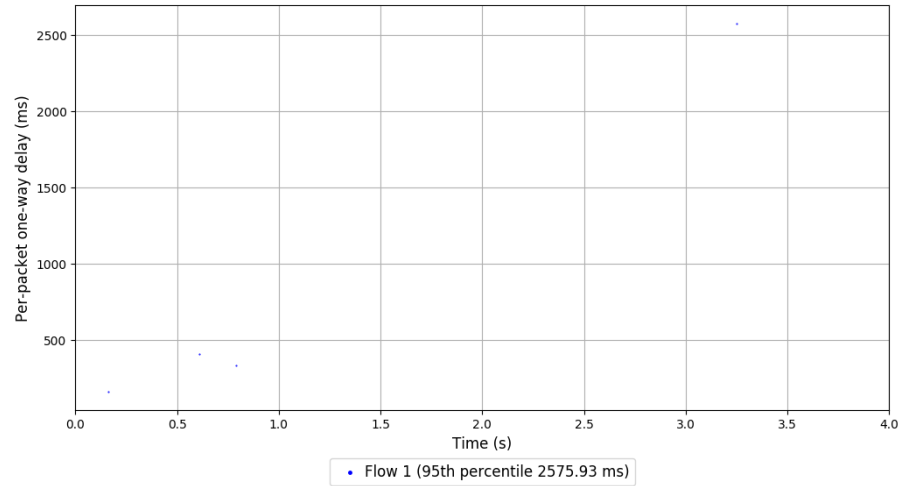
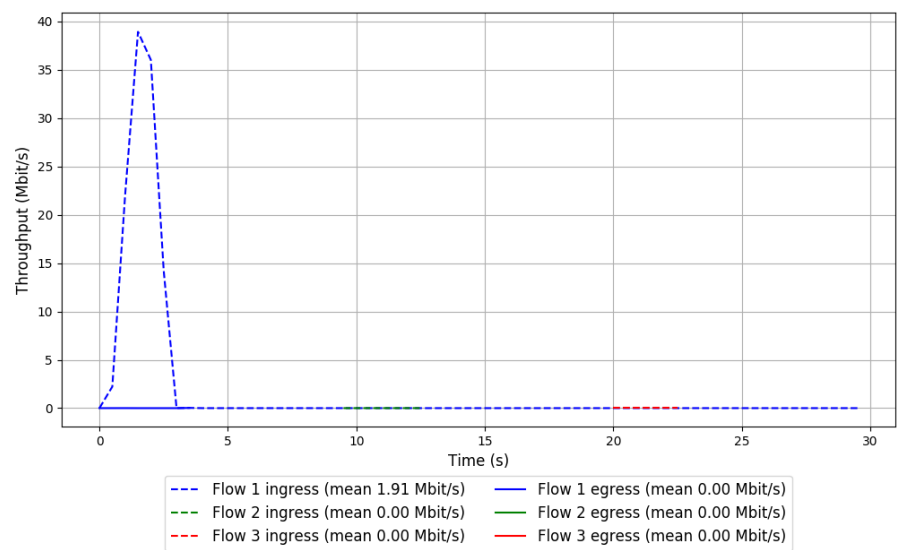
Start at: 2018-07-25 06:17:29

End at: 2018-07-25 06:17:59

Local clock offset: 0.005 ms

Remote clock offset: -7.431 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

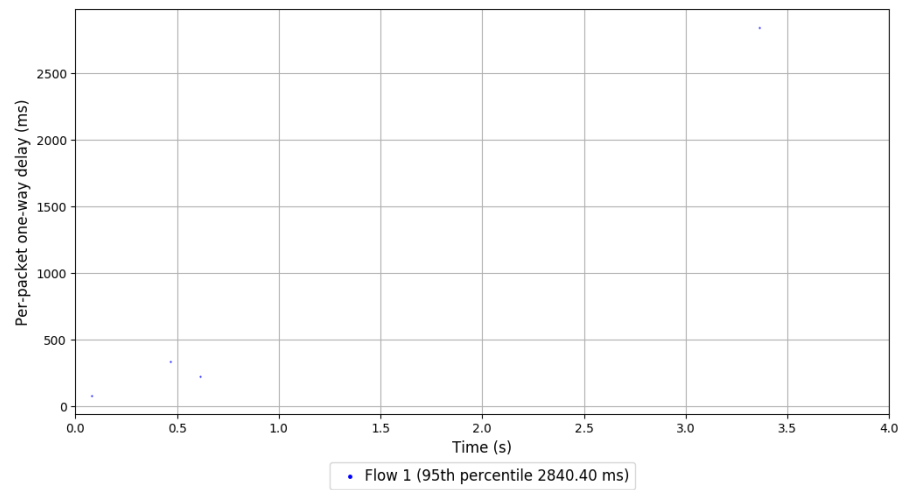
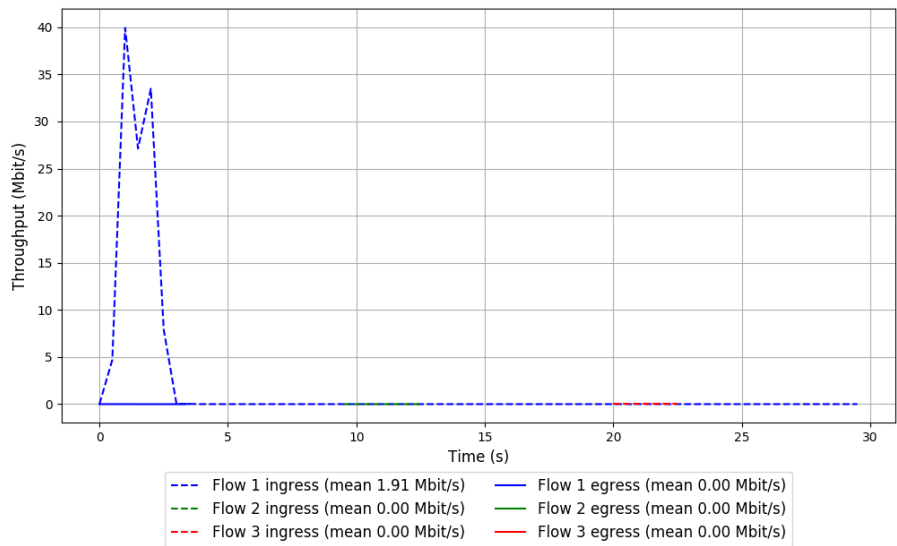
Start at: 2018-07-25 06:36:05

End at: 2018-07-25 06:36:35

Local clock offset: -0.419 ms

Remote clock offset: -7.366 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

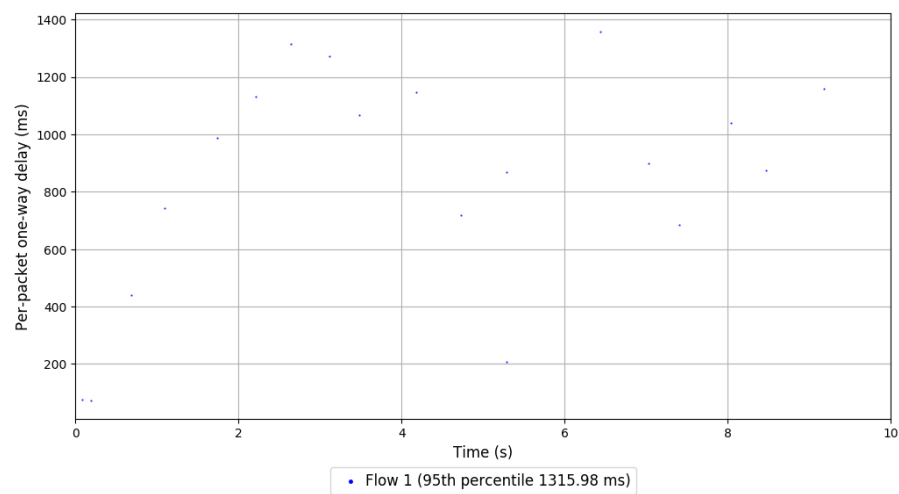
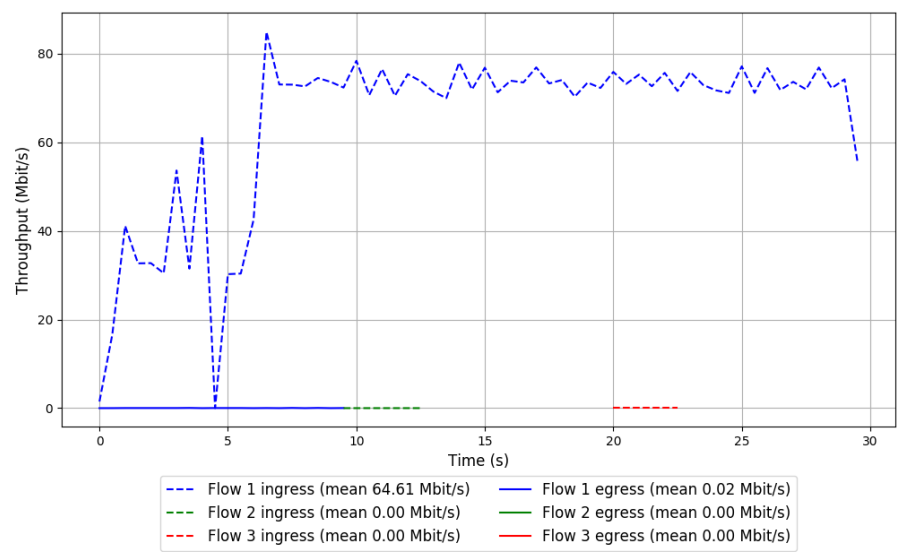
Start at: 2018-07-25 06:54:39

End at: 2018-07-25 06:55:09

Local clock offset: -2.461 ms

Remote clock offset: -0.068 ms

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

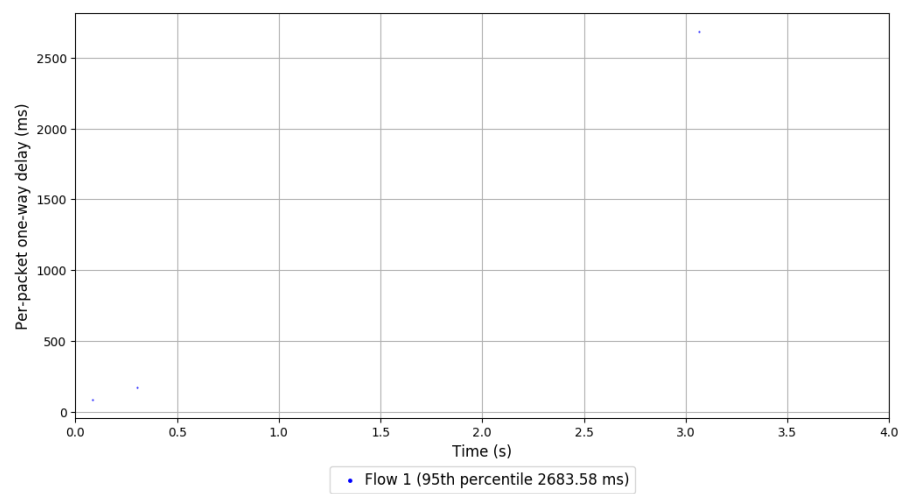
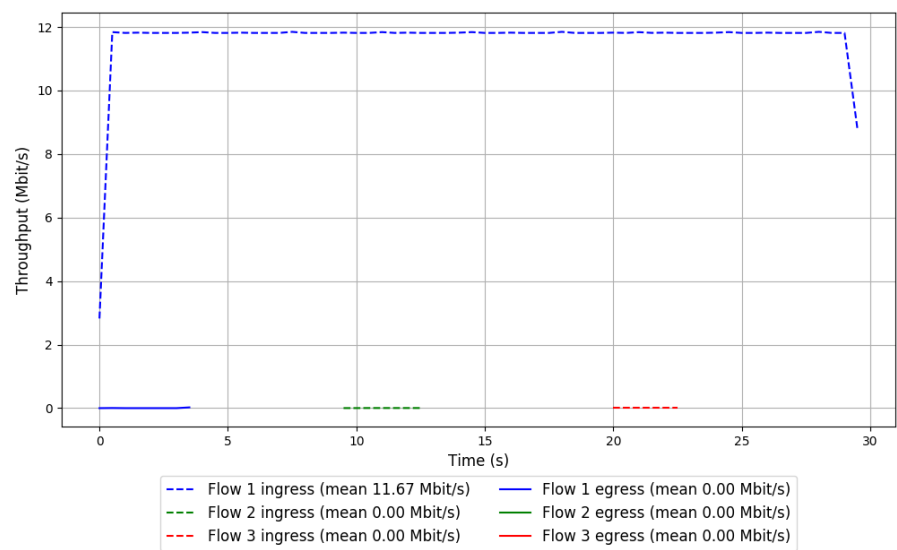
Start at: 2018-07-25 06:04:21

End at: 2018-07-25 06:04:51

Local clock offset: 1.383 ms

Remote clock offset: -0.067 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

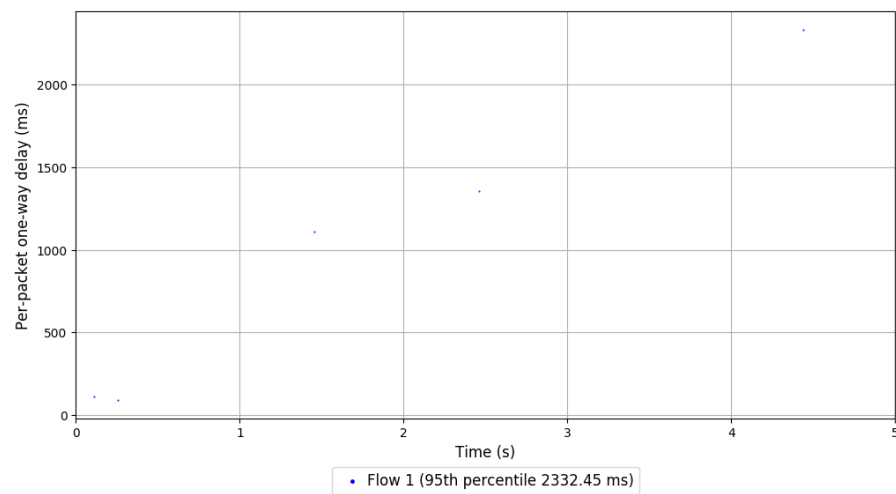
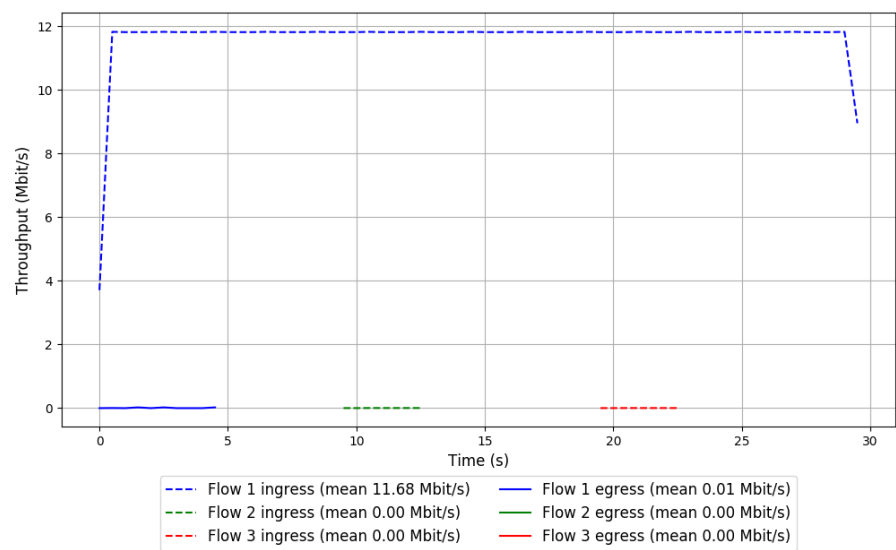
Start at: 2018-07-25 06:22:56

End at: 2018-07-25 06:23:26

Local clock offset: -1.18 ms

Remote clock offset: -8.301 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

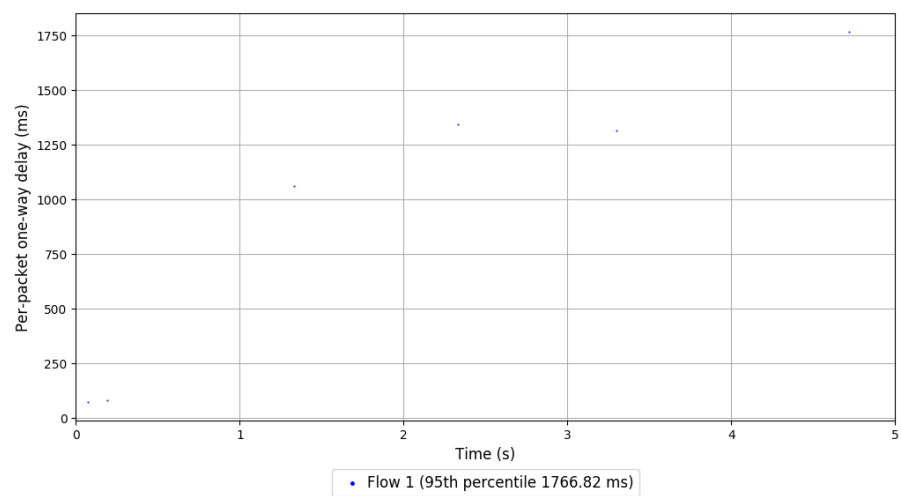
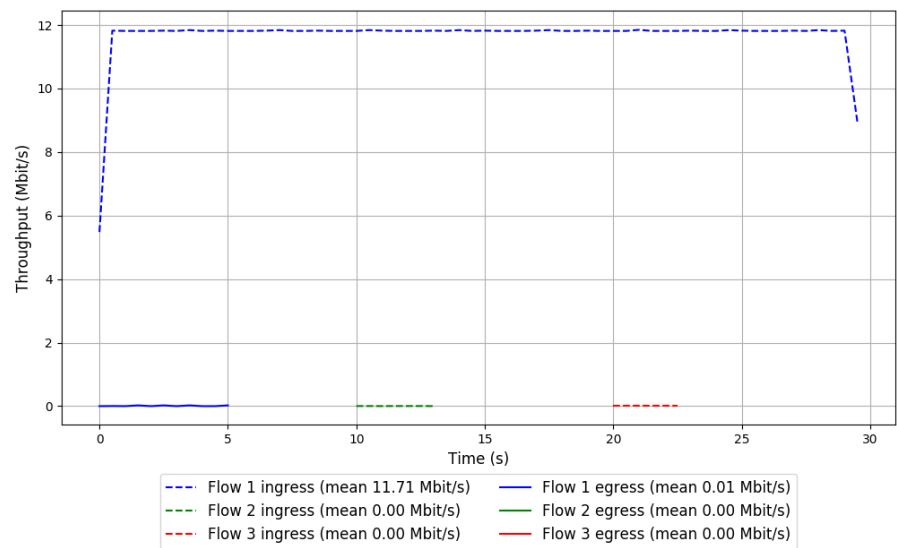
Start at: 2018-07-25 06:41:31

End at: 2018-07-25 06:42:01

Local clock offset: 0.013 ms

Remote clock offset: -5.164 ms

Run 3: Report of PCC-Expr — Data Link

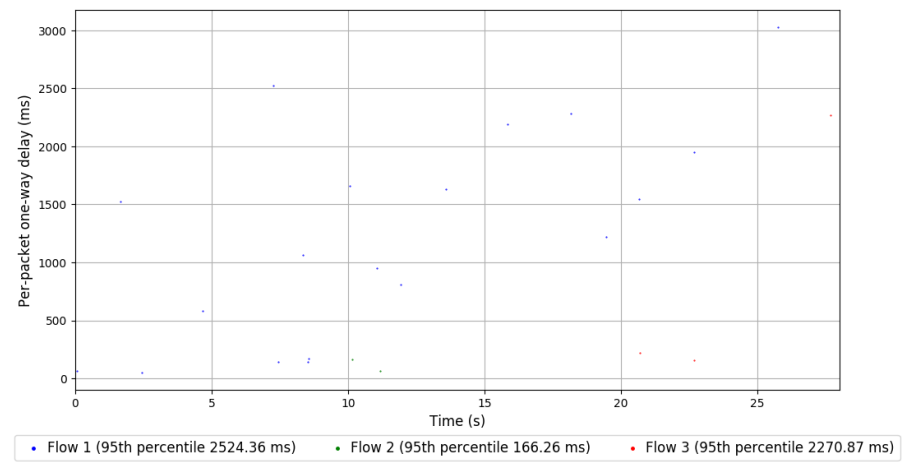
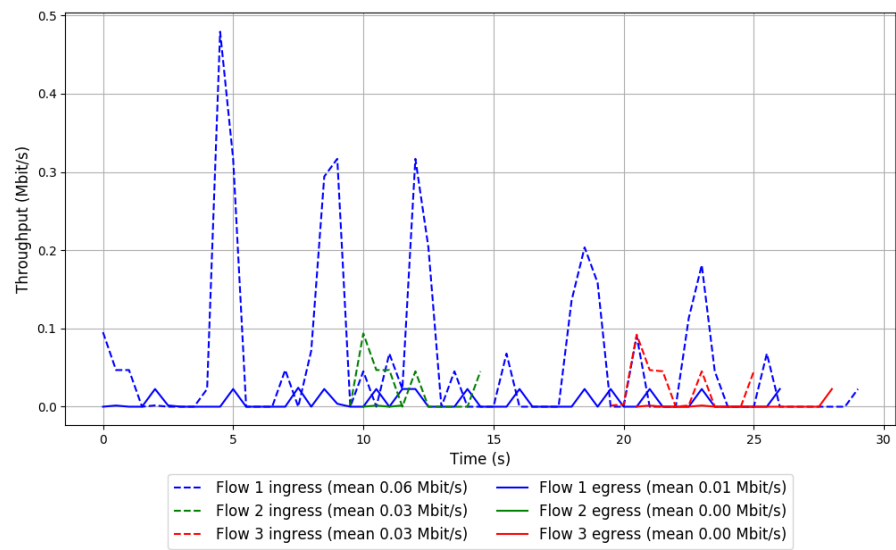


Run 1: Statistics of QUIC Cubic

Start at: 2018-07-25 06:20:45
End at: 2018-07-25 06:21:15
Local clock offset: -0.933 ms
Remote clock offset: -5.988 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2524.363 ms
Loss rate: 91.33%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2524.363 ms
Loss rate: 90.77%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 166.264 ms
Loss rate: 98.90%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2270.872 ms
Loss rate: 90.85%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

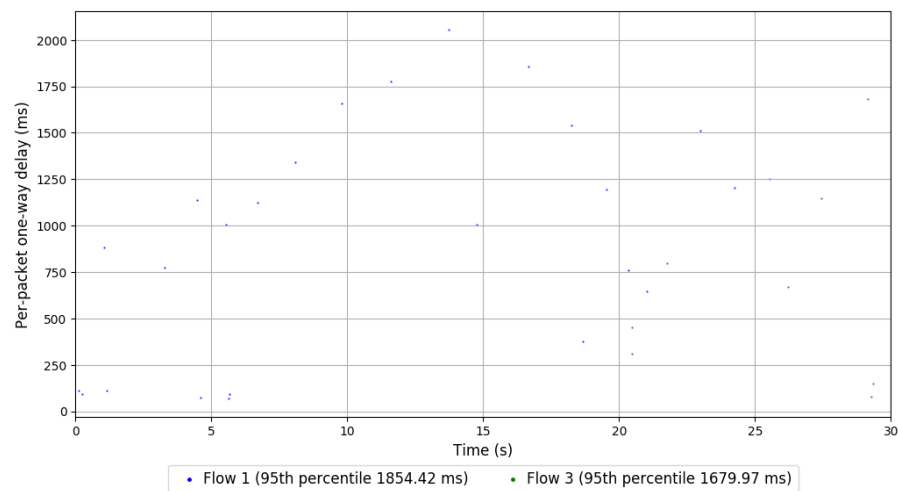
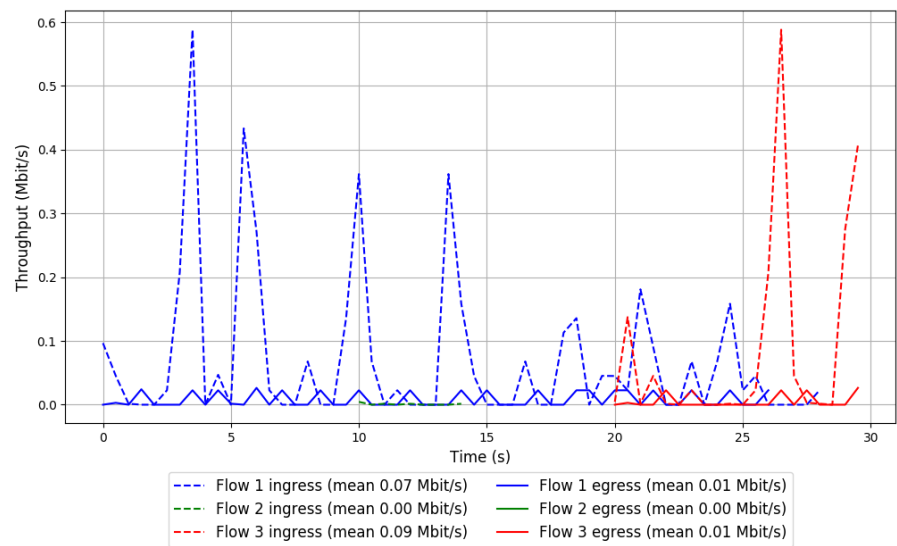
Start at: 2018-07-25 06:39:21

End at: 2018-07-25 06:39:51

Local clock offset: -0.62 ms

Remote clock offset: -8.759 ms

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-25 06:57:59

End at: 2018-07-25 06:58:29

Local clock offset: -2.75 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-07-25 07:00:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1230.352 ms

Loss rate: 78.79%

-- Flow 1:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1135.946 ms

Loss rate: 78.22%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 891.426 ms

Loss rate: 83.63%

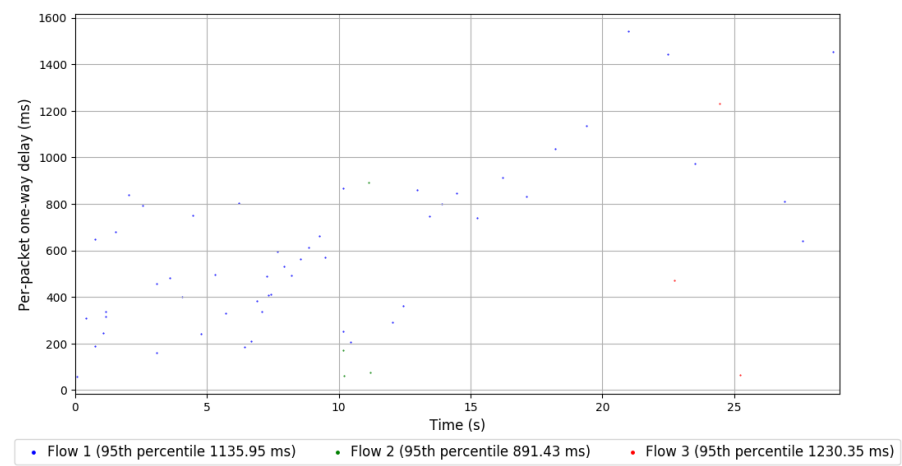
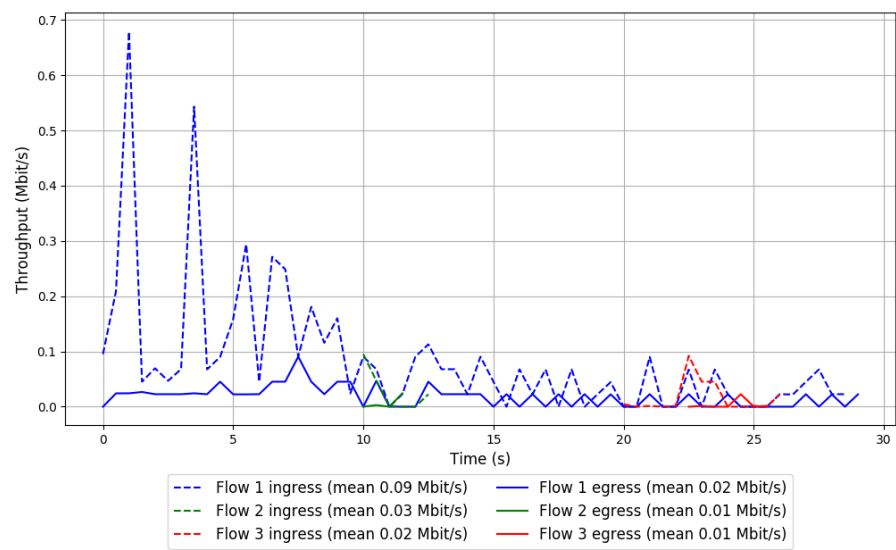
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1230.352 ms

Loss rate: 87.99%

Run 3: Report of QUIC Cubic — Data Link

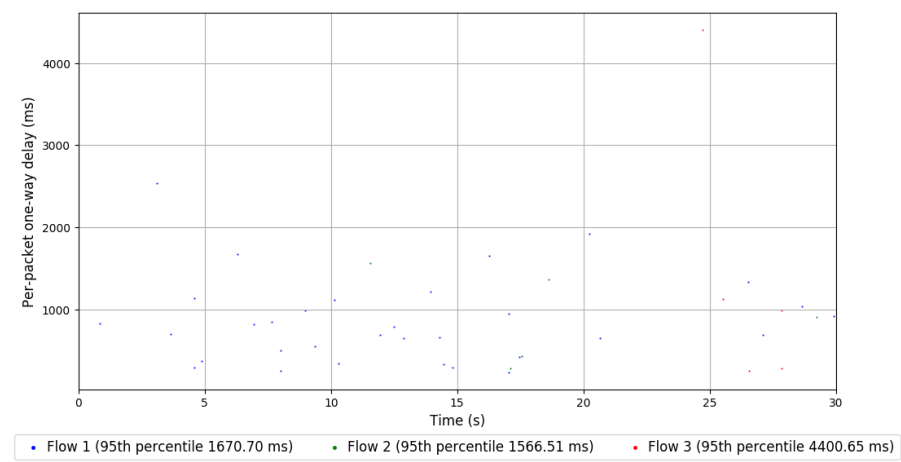
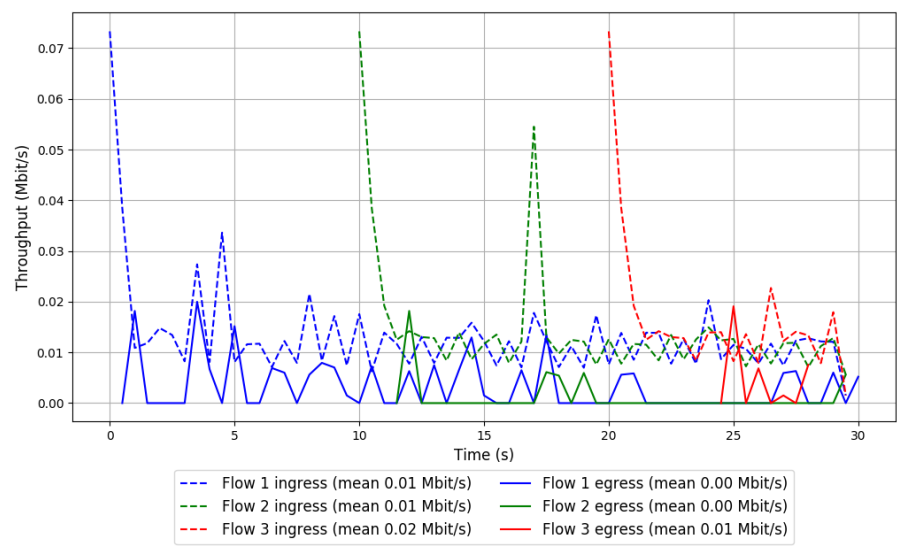


```
Run 1: Statistics of SCReAM

Start at: 2018-07-25 06:12:01
End at: 2018-07-25 06:12:31
Local clock offset: -1.217 ms
Remote clock offset: -7.184 ms

# Below is generated by plot.py at 2018-07-25 07:00:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1917.207 ms
Loss rate: 84.42%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1670.702 ms
Loss rate: 75.99%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1566.507 ms
Loss rate: 92.92%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 4400.653 ms
Loss rate: 89.68%
```

Run 1: Report of SReAM — Data Link

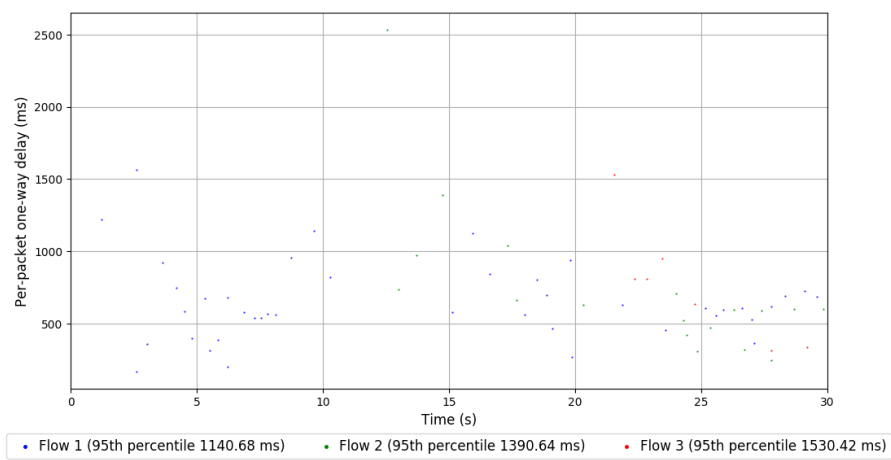
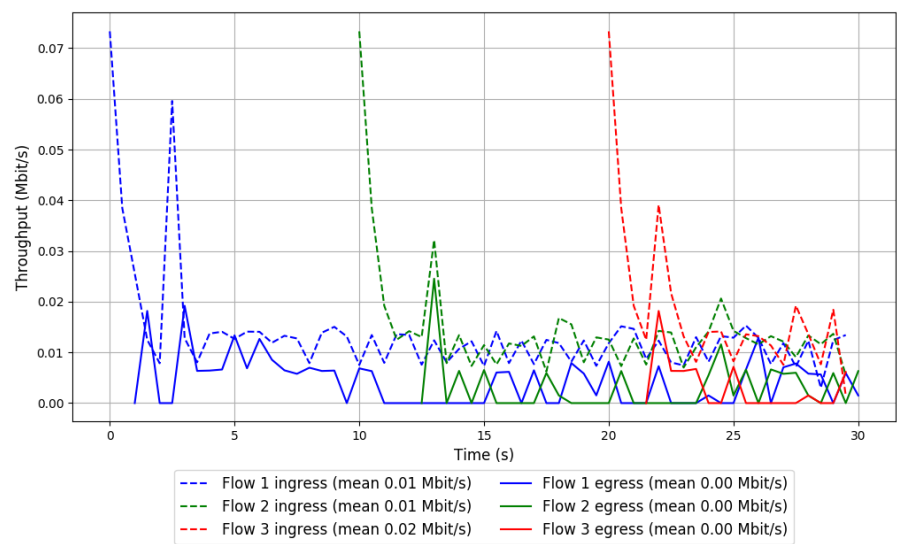


Run 2: Statistics of SReAM

Start at: 2018-07-25 06:30:37
End at: 2018-07-25 06:31:07
Local clock offset: -0.583 ms
Remote clock offset: -7.296 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1390.643 ms
Loss rate: 77.03%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1140.679 ms
Loss rate: 69.99%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1390.643 ms
Loss rate: 81.45%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1530.423 ms
Loss rate: 85.76%

Run 2: Report of SReAM — Data Link

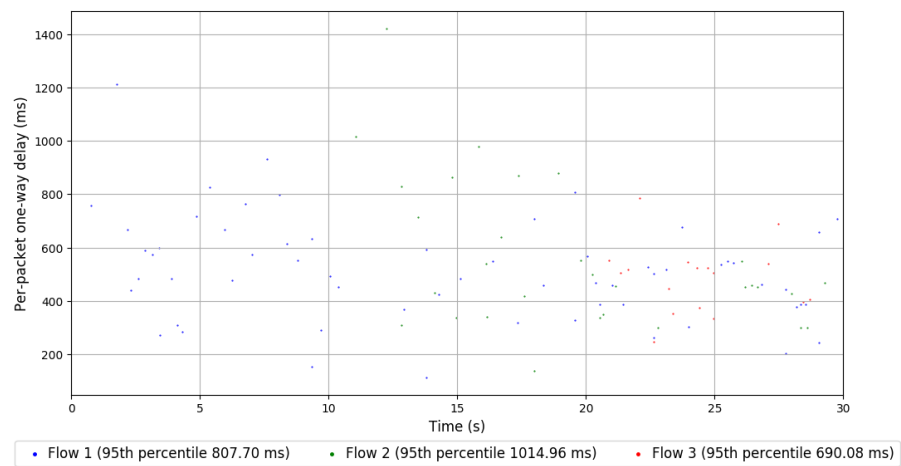
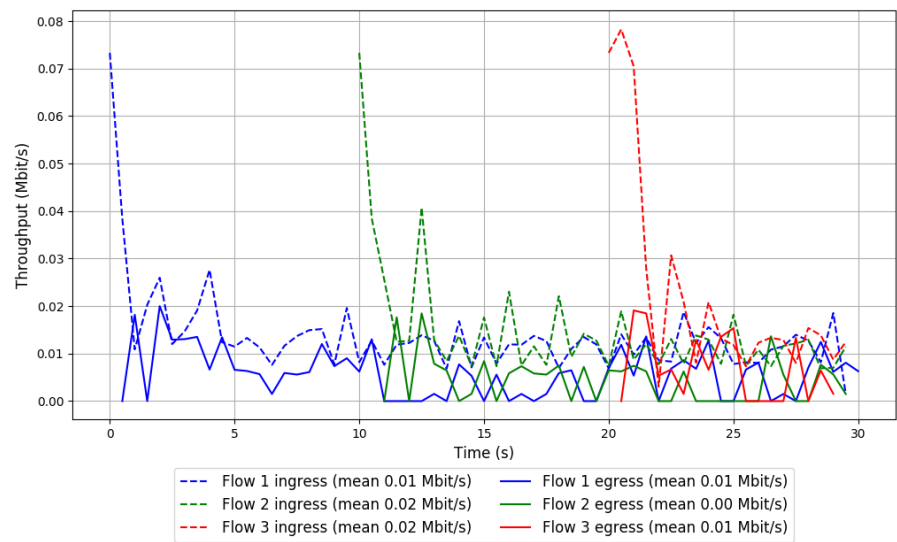


Run 3: Statistics of SCReAM

Start at: 2018-07-25 06:49:12
End at: 2018-07-25 06:49:42
Local clock offset: 0.684 ms
Remote clock offset: -3.126 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 879.716 ms
Loss rate: 66.34%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 807.698 ms
Loss rate: 58.01%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1014.957 ms
Loss rate: 72.05%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 690.082 ms
Loss rate: 73.90%

Run 3: Report of SReAM — Data Link

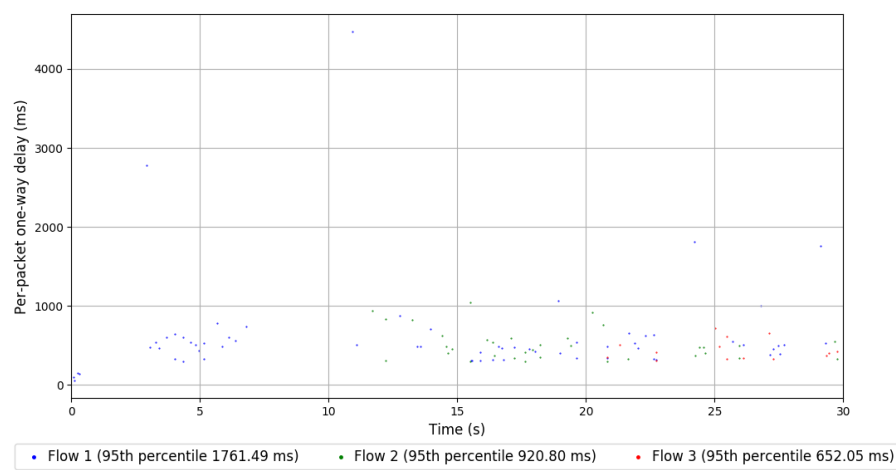
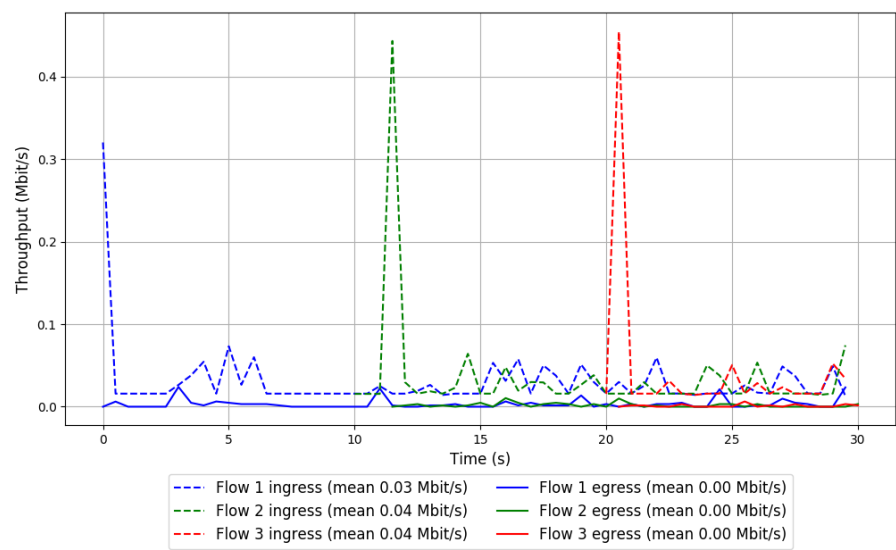


Run 1: Statistics of Sprout

Start at: 2018-07-25 06:07:39
End at: 2018-07-25 06:08:09
Local clock offset: 1.701 ms
Remote clock offset: -4.409 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1003.171 ms
Loss rate: 92.81%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1761.490 ms
Loss rate: 88.87%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 920.800 ms
Loss rate: 95.02%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 652.048 ms
Loss rate: 97.48%

Run 1: Report of Sprout — Data Link

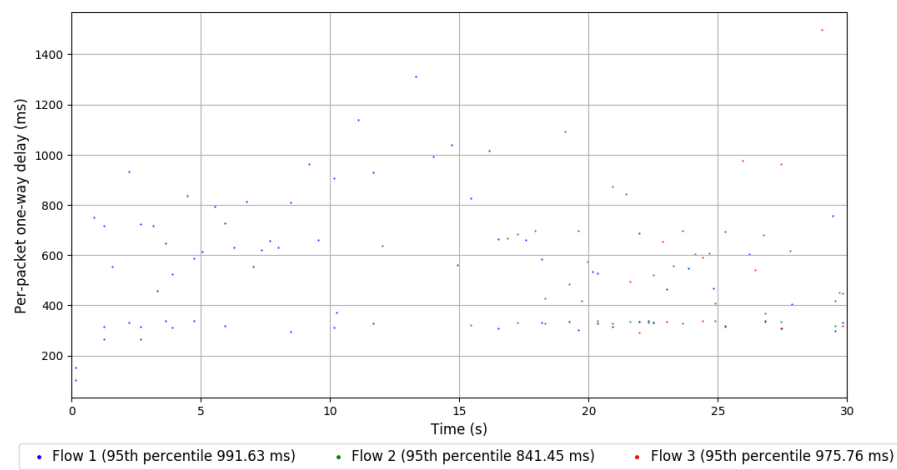
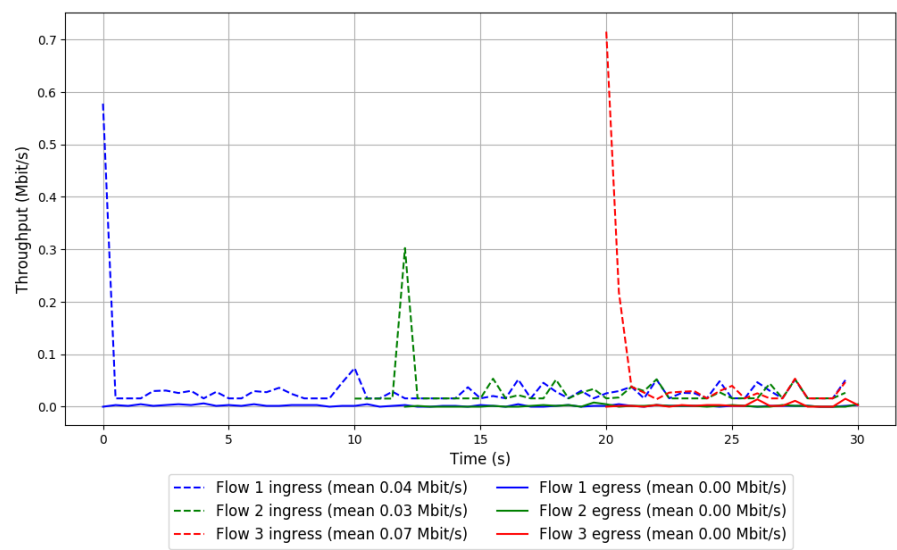


Run 2: Statistics of Sprout

Start at: 2018-07-25 06:26:16
End at: 2018-07-25 06:26:46
Local clock offset: -0.549 ms
Remote clock offset: -8.111 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 991.633 ms
Loss rate: 94.95%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 991.633 ms
Loss rate: 94.49%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 841.452 ms
Loss rate: 95.47%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 975.758 ms
Loss rate: 95.20%

Run 2: Report of Sprout — Data Link

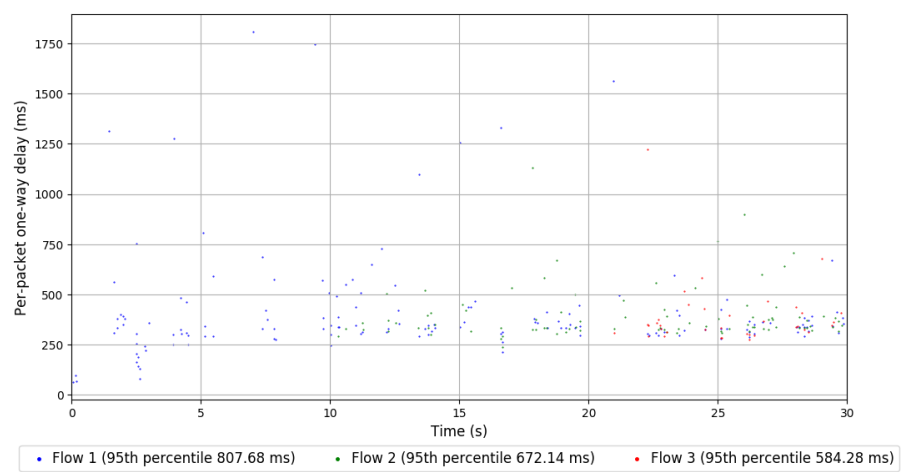
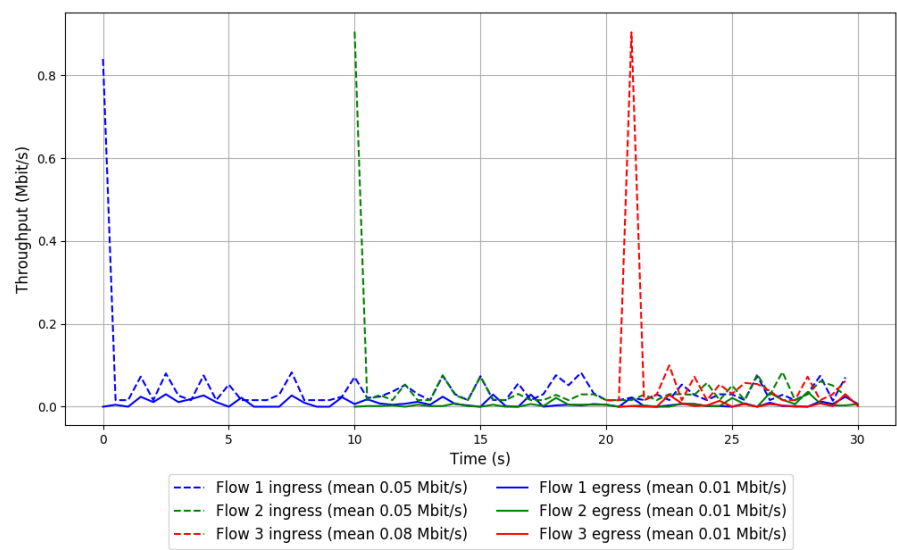


Run 3: Statistics of Sprout

Start at: 2018-07-25 06:44:50
End at: 2018-07-25 06:45:20
Local clock offset: 0.295 ms
Remote clock offset: -3.452 ms

```
# Below is generated by plot.py at 2018-07-25 07:00:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 729.885 ms
Loss rate: 87.06%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 807.680 ms
Loss rate: 82.43%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 672.139 ms
Loss rate: 88.81%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 584.277 ms
Loss rate: 93.00%
```

Run 3: Report of Sprout — Data Link

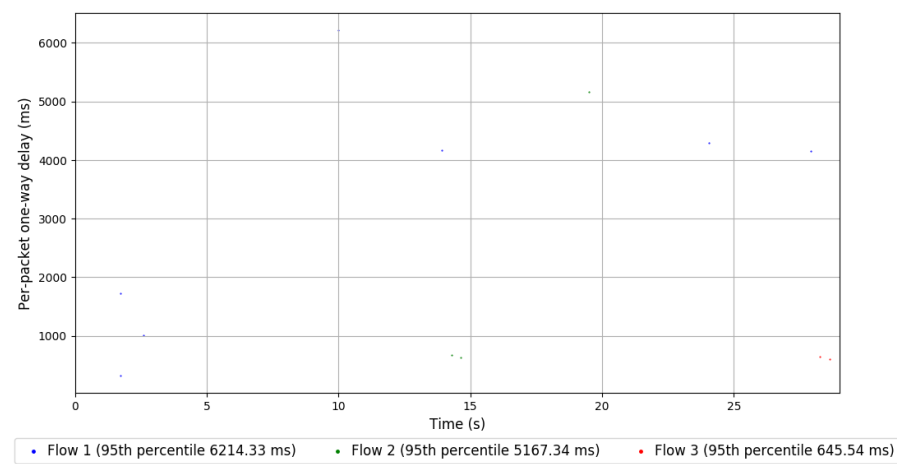
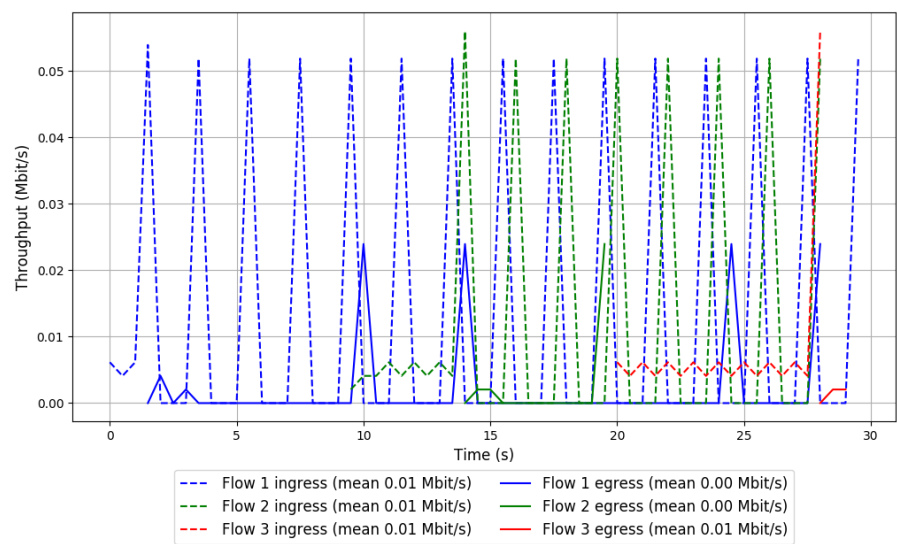


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-07-25 06:16:23
End at: 2018-07-25 06:16:53
Local clock offset: -0.255 ms
Remote clock offset: -8.086 ms

# Below is generated by plot.py at 2018-07-25 07:00:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5167.343 ms
Loss rate: 90.38%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6214.328 ms
Loss rate: 87.20%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5167.343 ms
Loss rate: 93.90%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 645.536 ms
Loss rate: 97.03%
```

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

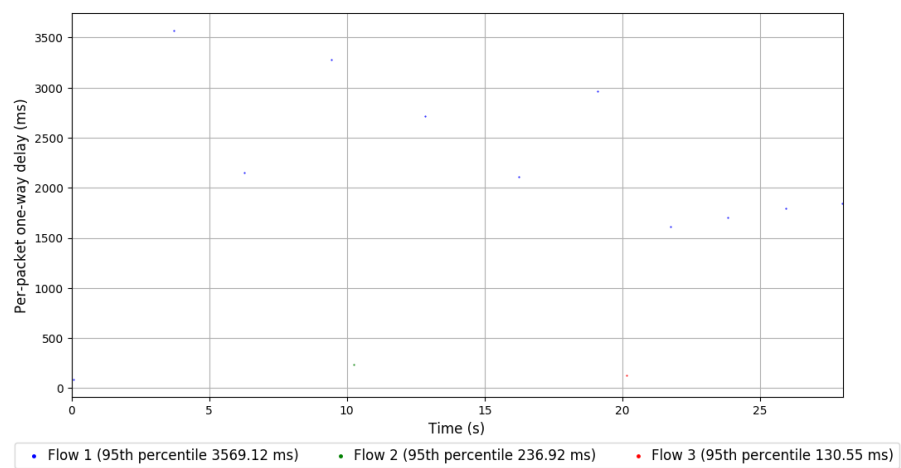
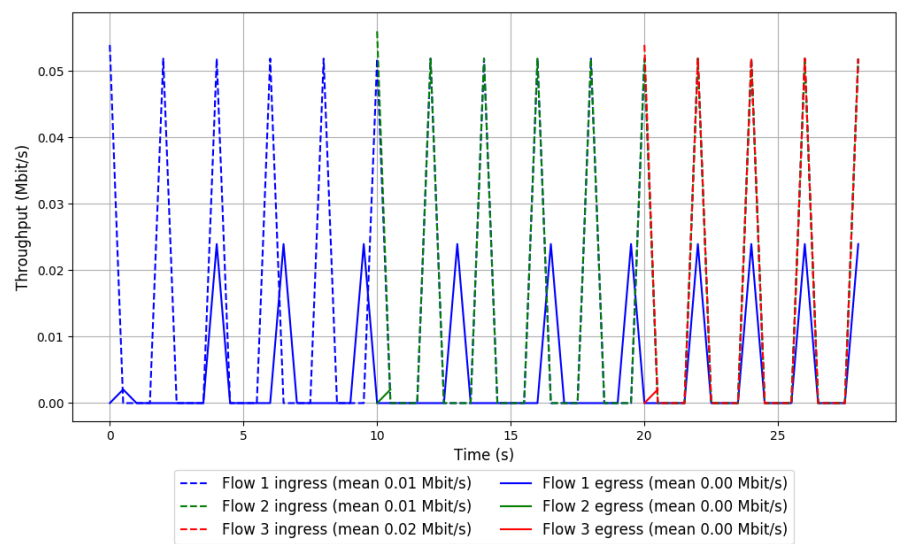


Run 2: Statistics of TaoVA-100x

Start at: 2018-07-25 06:35:00
End at: 2018-07-25 06:35:30
Local clock offset: -1.965 ms
Remote clock offset: -9.088 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3283.719 ms
Loss rate: 84.30%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3569.122 ms
Loss rate: 69.04%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 236.916 ms
Loss rate: 99.61%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 130.552 ms
Loss rate: 99.22%

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

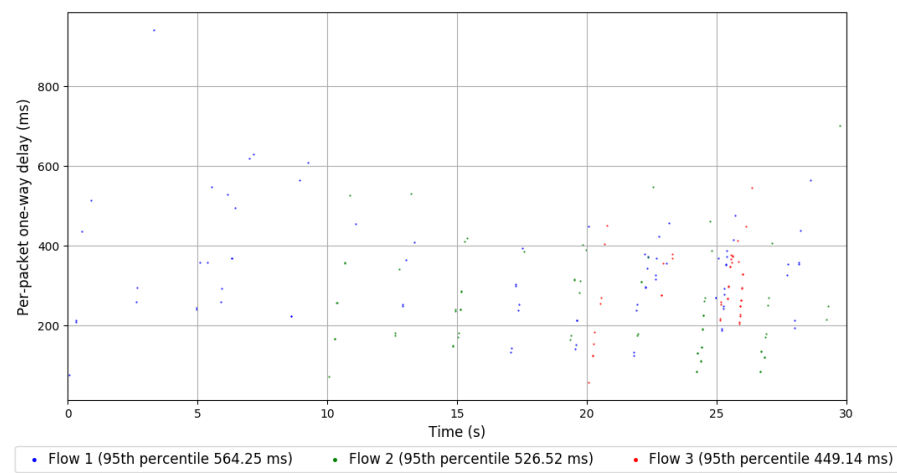
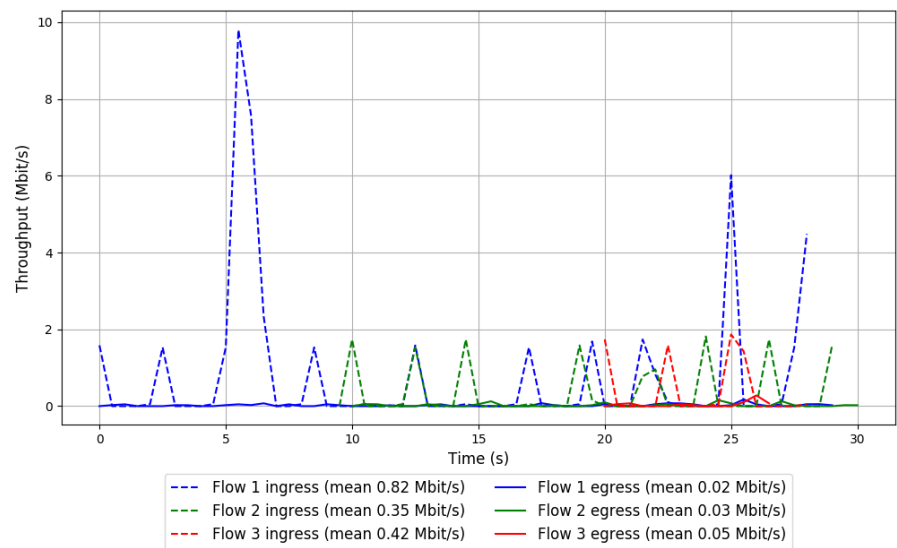


Run 3: Statistics of TaoVA-100x

Start at: 2018-07-25 06:53:33
End at: 2018-07-25 06:54:03
Local clock offset: -0.077 ms
Remote clock offset: -2.068 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 531.743 ms
Loss rate: 95.44%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 564.249 ms
Loss rate: 97.11%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 526.516 ms
Loss rate: 92.44%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 449.141 ms
Loss rate: 90.17%

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



Run 1: Statistics of TCP Vegas

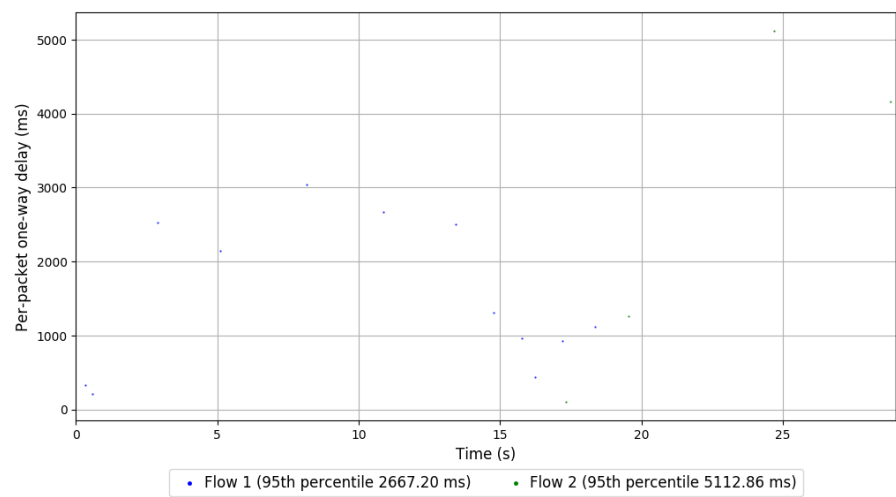
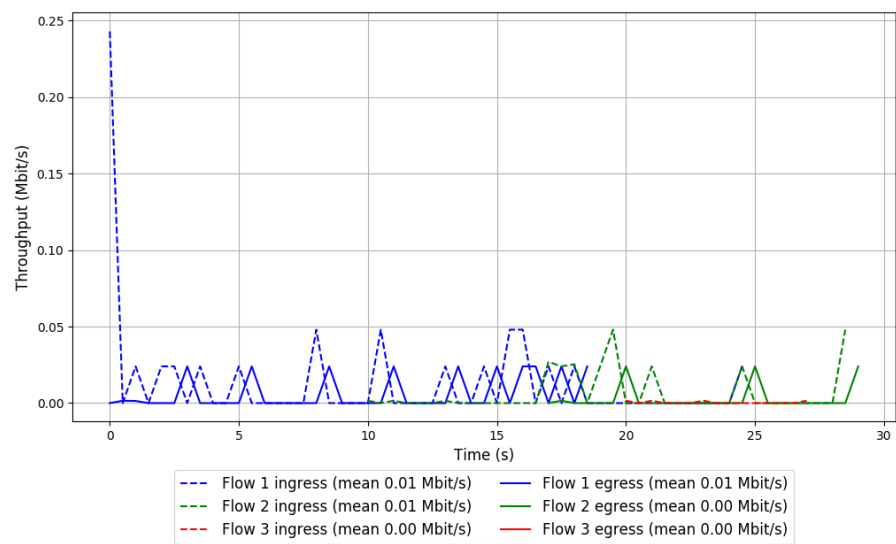
Start at: 2018-07-25 06:05:28

End at: 2018-07-25 06:05:58

Local clock offset: 2.061 ms

Remote clock offset: -4.943 ms

Run 1: Report of TCP Vegas — Data Link

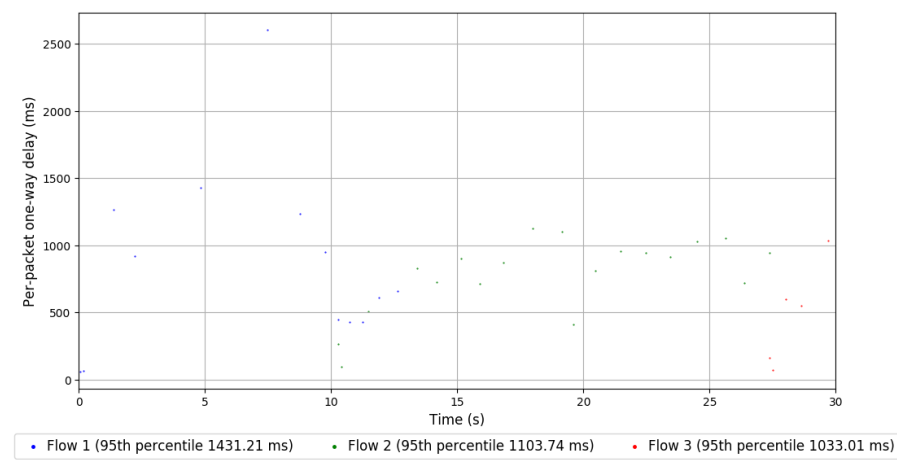


Run 2: Statistics of TCP Vegas

Start at: 2018-07-25 06:24:03
End at: 2018-07-25 06:24:33
Local clock offset: 1.624 ms
Remote clock offset: -7.895 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1267.543 ms
Loss rate: 58.49%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1431.208 ms
Loss rate: 65.37%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1103.744 ms
Loss rate: 52.60%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1033.005 ms
Loss rate: 57.31%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-25 06:42:38

End at: 2018-07-25 06:43:08

Local clock offset: -2.138 ms

Remote clock offset: -6.05 ms

Below is generated by plot.py at 2018-07-25 07:00:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1073.575 ms

Loss rate: 57.94%

-- Flow 1:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1073.575 ms

Loss rate: 46.18%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 527.393 ms

Loss rate: 93.83%

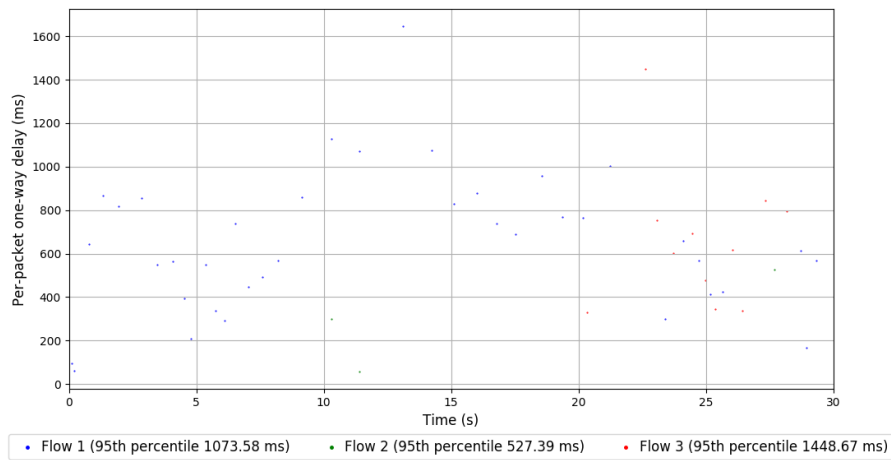
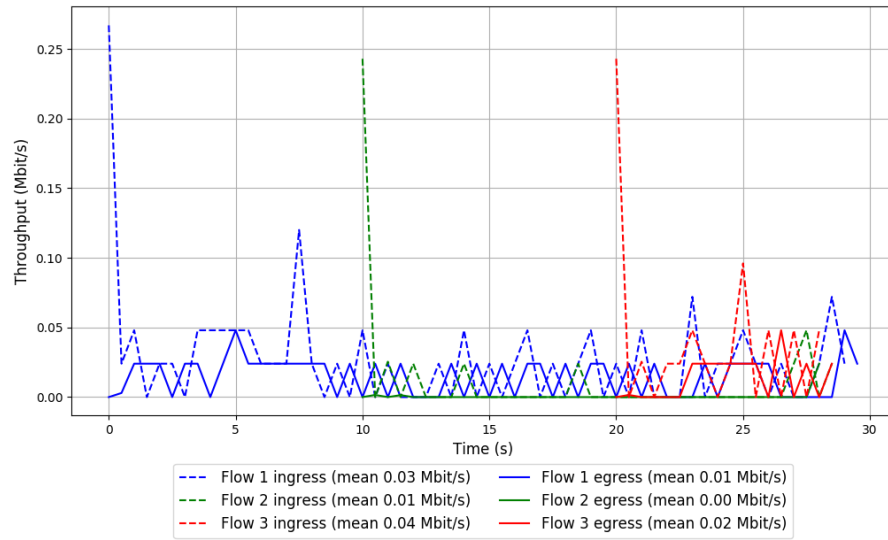
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1448.672 ms

Loss rate: 62.97%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

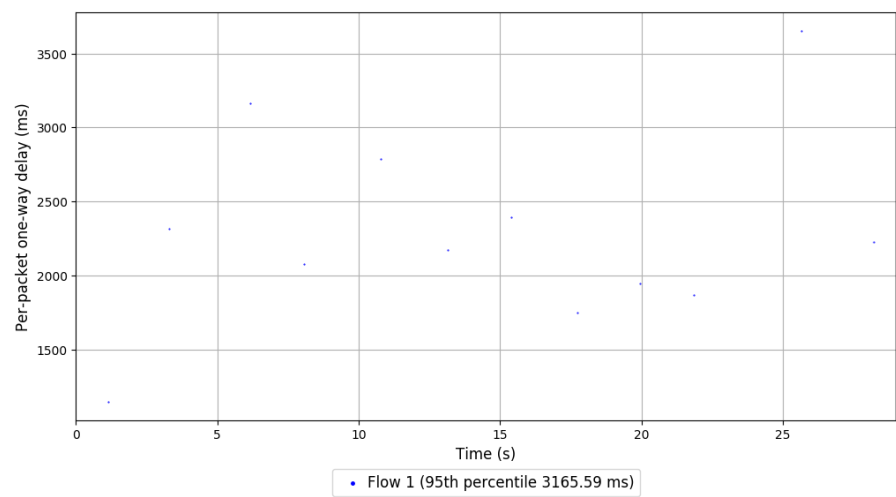
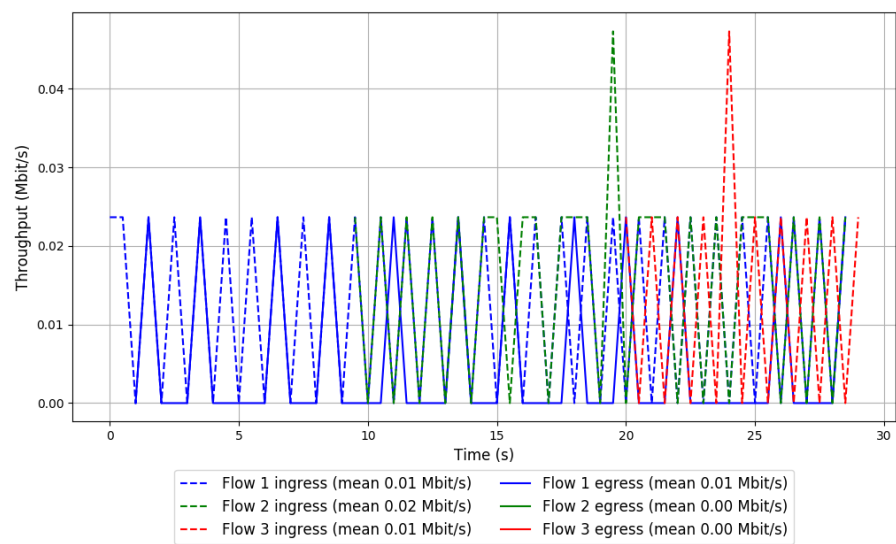
Start at: 2018-07-25 06:08:45

End at: 2018-07-25 06:09:15

Local clock offset: -0.215 ms

Remote clock offset: -2.834 ms

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

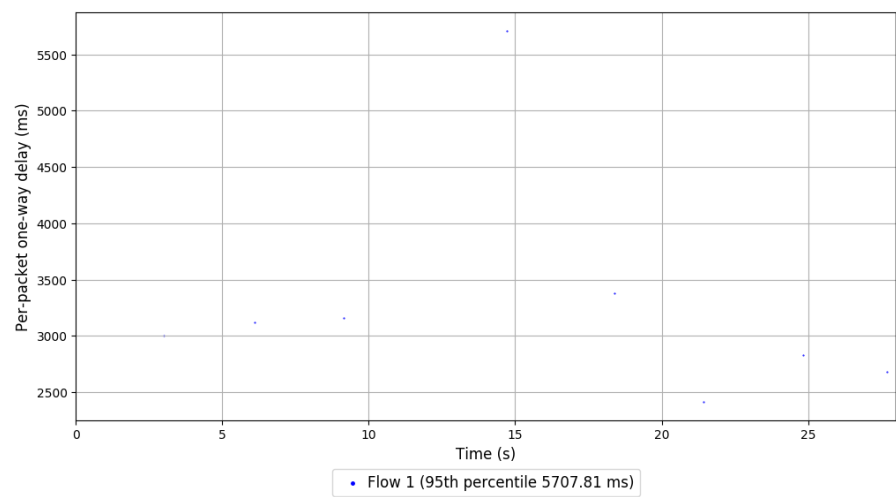
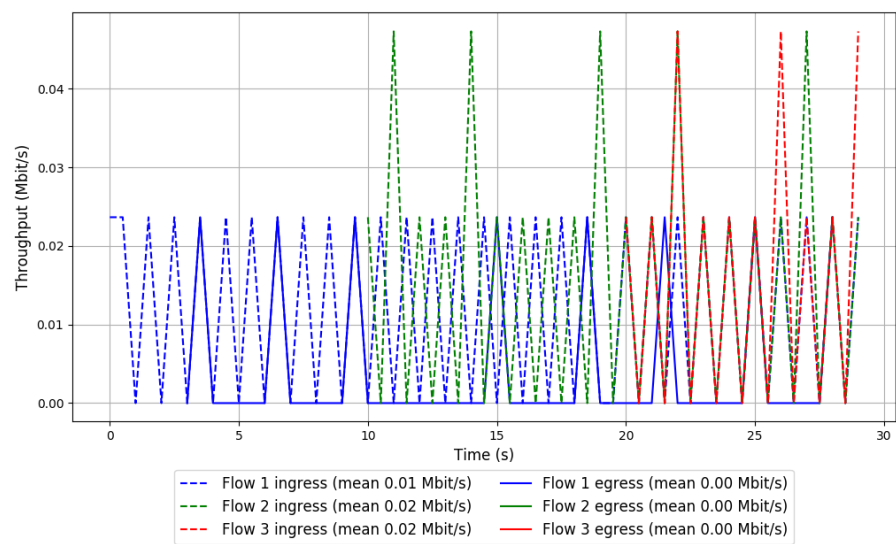
Start at: 2018-07-25 06:27:22

End at: 2018-07-25 06:27:52

Local clock offset: -0.923 ms

Remote clock offset: -8.101 ms

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

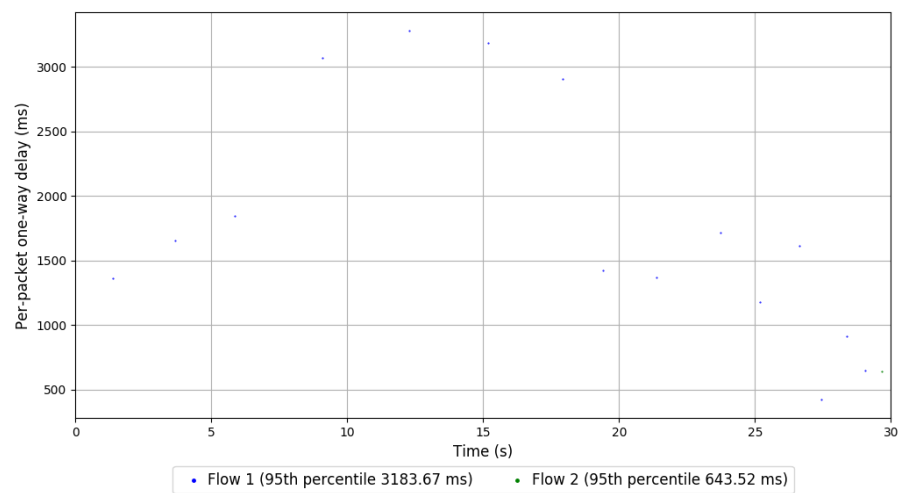
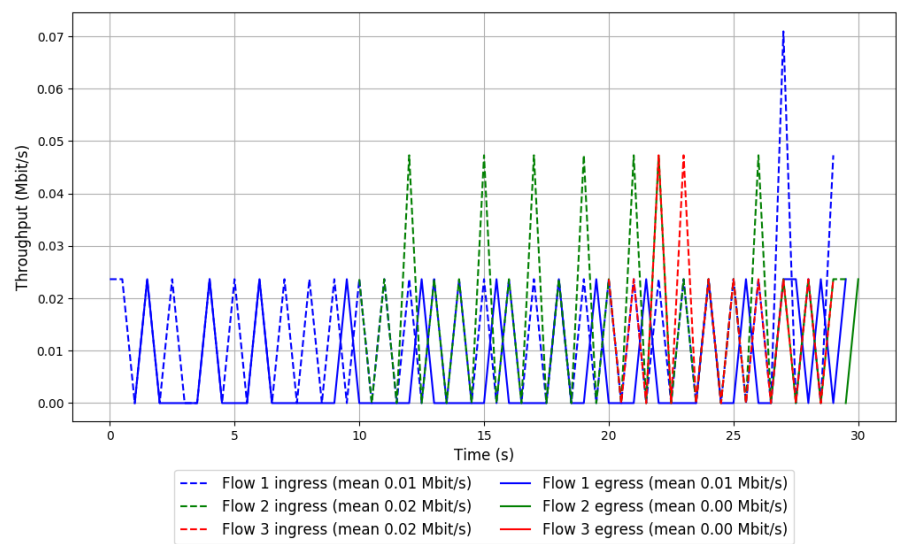
Start at: 2018-07-25 06:45:55

End at: 2018-07-25 06:46:25

Local clock offset: -0.0 ms

Remote clock offset: -3.098 ms

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

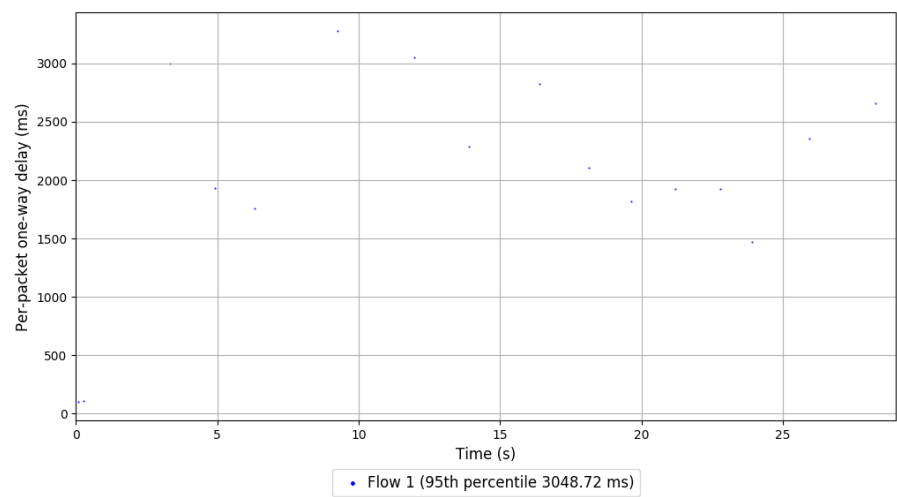
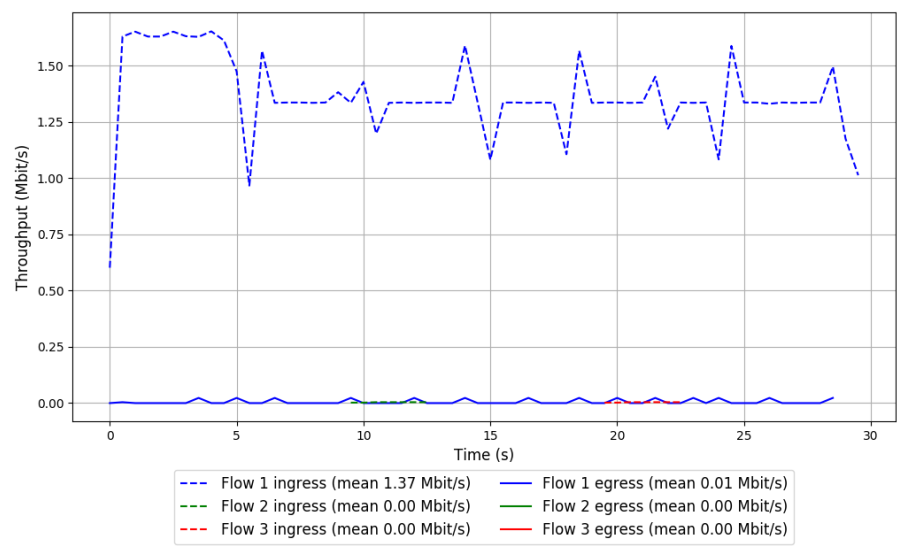
Start at: 2018-07-25 06:19:40

End at: 2018-07-25 06:20:10

Local clock offset: 1.072 ms

Remote clock offset: -8.689 ms

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

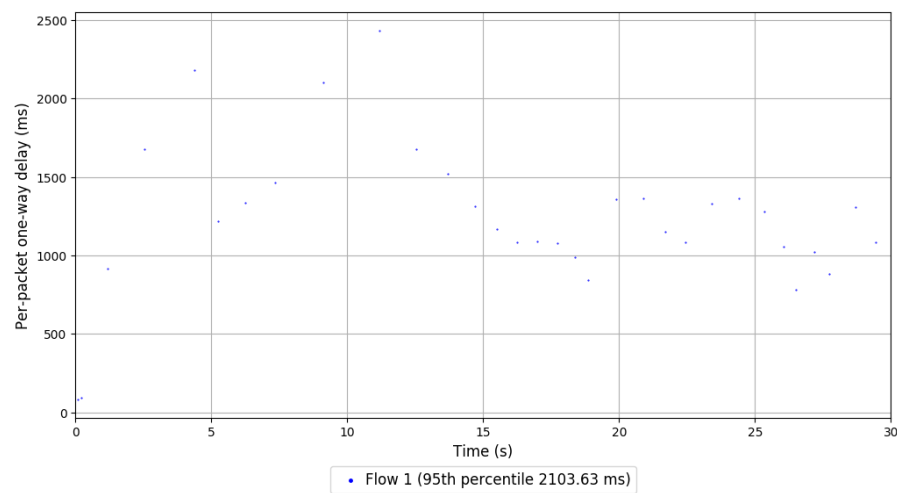
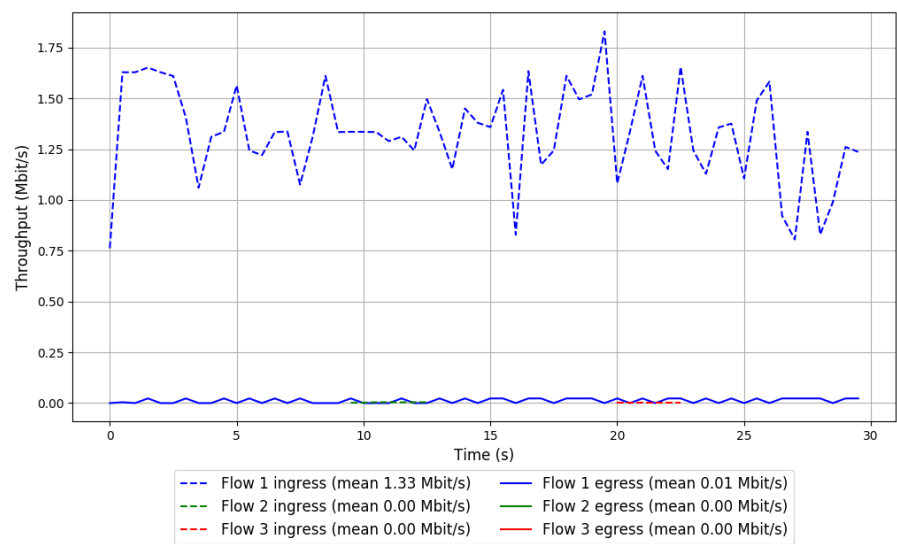
Start at: 2018-07-25 06:38:16

End at: 2018-07-25 06:38:46

Local clock offset: 2.386 ms

Remote clock offset: -8.652 ms

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

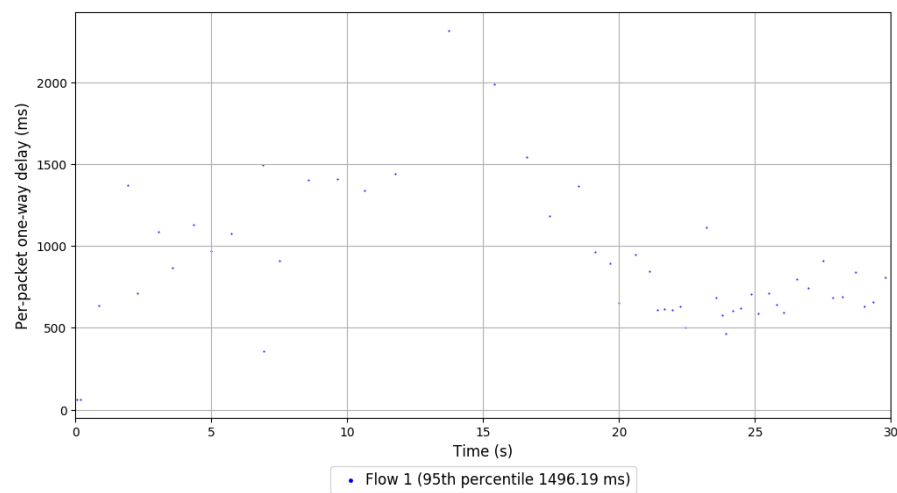
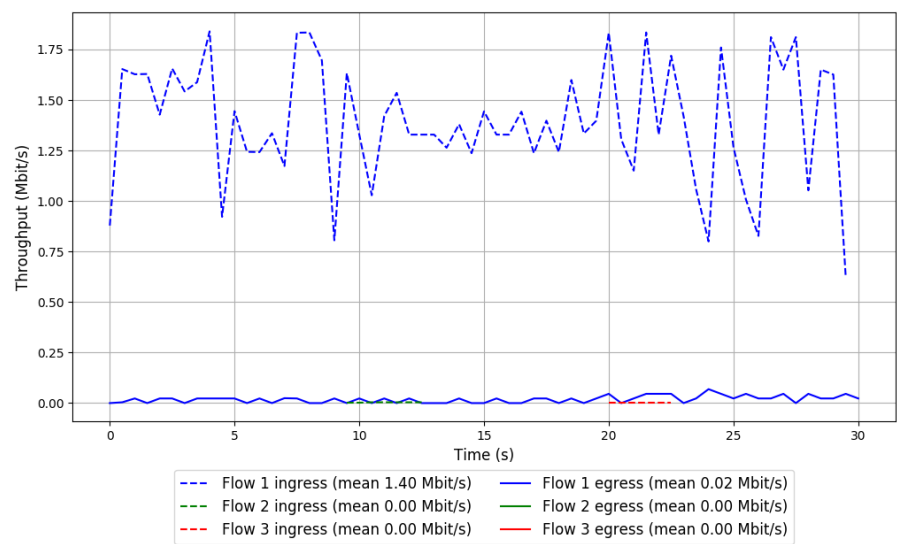
Start at: 2018-07-25 06:56:54

End at: 2018-07-25 06:57:24

Local clock offset: -0.084 ms

Remote clock offset: -0.158 ms

Run 3: Report of PCC-Vivace — Data Link

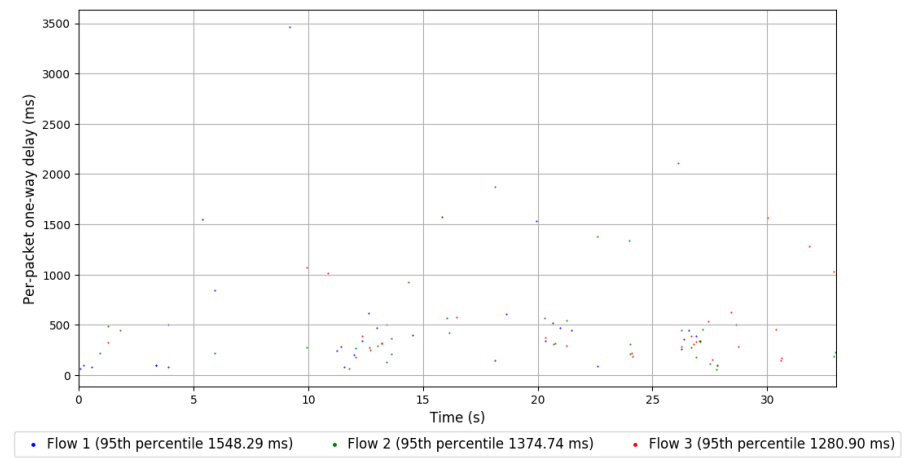
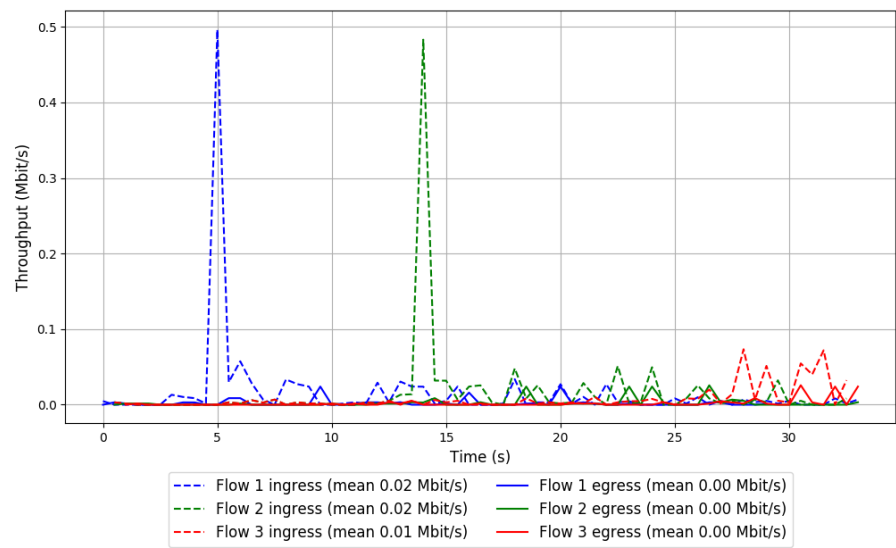


Run 1: Statistics of WebRTC media

Start at: 2018-07-25 06:21:51
End at: 2018-07-25 06:22:21
Local clock offset: 1.854 ms
Remote clock offset: -8.828 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1548.289 ms
Loss rate: 84.51%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1548.289 ms
Loss rate: 88.36%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1374.737 ms
Loss rate: 84.77%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1280.902 ms
Loss rate: 75.81%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-07-25 06:40:26

End at: 2018-07-25 06:40:56

Local clock offset: -1.179 ms

Remote clock offset: -9.82 ms

Below is generated by plot.py at 2018-07-25 07:00:13

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1918.565 ms

Loss rate: 86.30%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2353.725 ms

Loss rate: 79.18%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 1114.710 ms

Loss rate: 92.22%

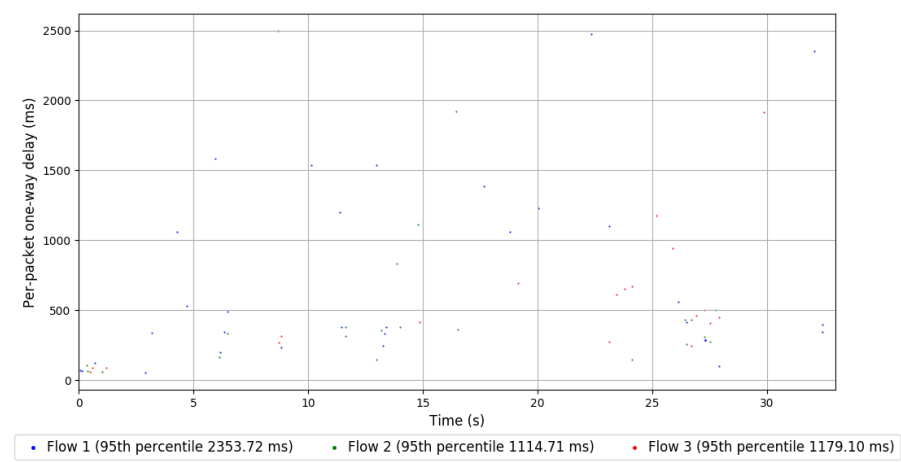
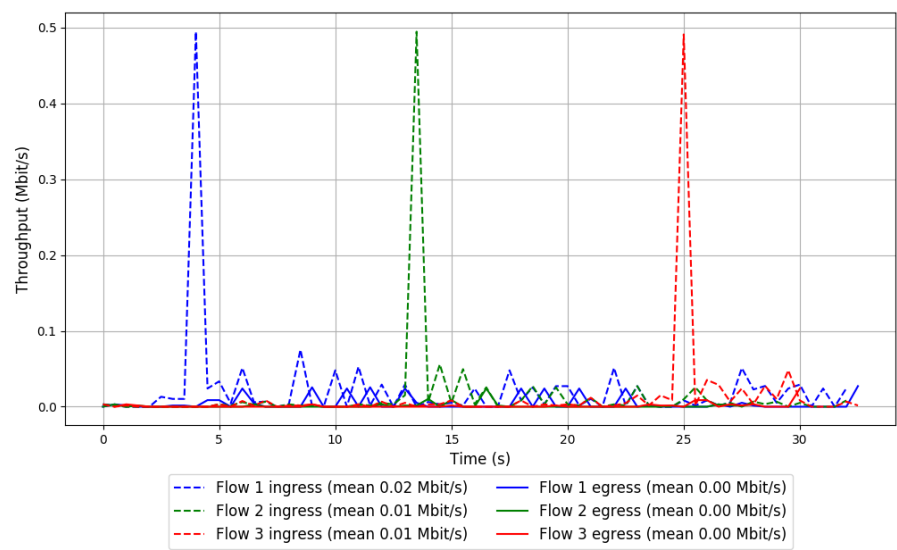
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 1179.095 ms

Loss rate: 91.98%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-25 06:59:04
End at: 2018-07-25 06:59:34
Local clock offset: 0.759 ms
Remote clock offset: -0.833 ms

Below is generated by plot.py at 2018-07-25 07:00:13
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 947.560 ms
Loss rate: 76.11%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 978.051 ms
Loss rate: 76.71%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 883.893 ms
Loss rate: 73.60%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 907.471 ms
Loss rate: 78.65%

Run 3: Report of WebRTC media — Data Link

