

Pantheon Report

Generated at 2019-03-09 12:28:15 (UTC).

Data path: Colombia cellular on ppp0 (*remote*) → AWS Brazil 2 on ens5 (*local*).

Repeated the test of 21 congestion control schemes 3 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

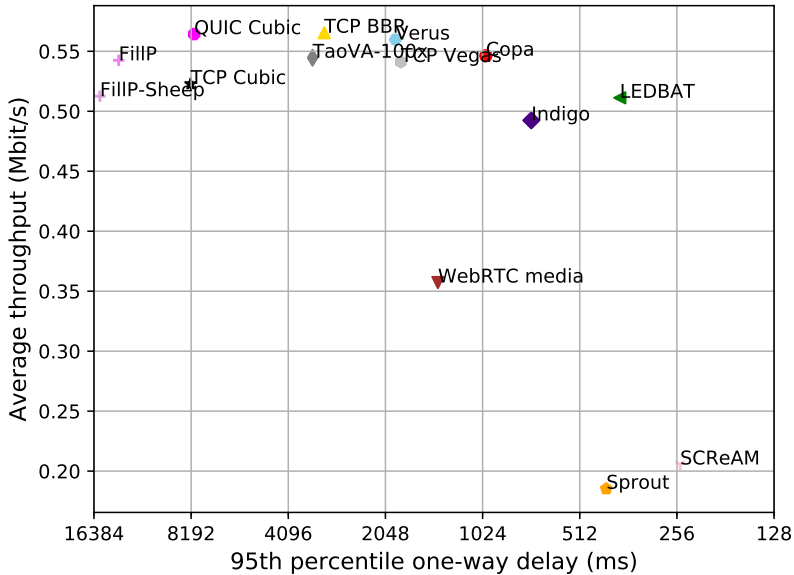
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

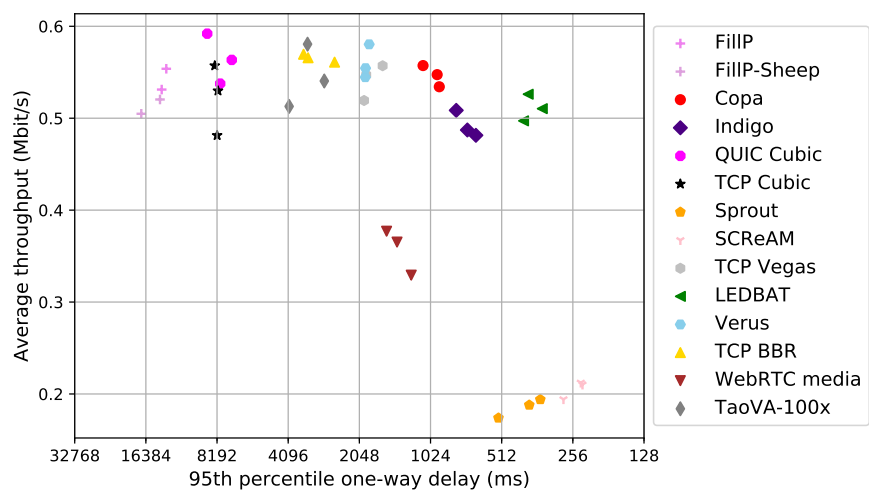
```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
```

```
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Colombia cellular to AWS Brazil 2, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from Colombia cellular to AWS Brazil 2, 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	3	0.36	0.29	0.05	3135.58	3136.25	2977.57	6.68	10.26	47.22
Copa	3	0.34	0.24	0.17	918.39	961.88	1062.57	2.80	5.06	10.42
TCP Cubic	3	0.51	0.03	0.00	8230.84	7261.11	8550.76	30.97	53.81	92.36
FillP	2	0.54	0.01	0.00	13804.71	7237.53	5902.02	21.70	0.00	79.72
FillP-Sheep	2	0.51	0.01	0.01	15782.07	9572.39	5184.16	17.26	0.00	88.66
Indigo	3	0.28	0.21	0.22	599.29	780.93	768.02	0.64	1.02	2.26
Indigo-MusesC3	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indigo-MusesC5	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indigo-MusesD	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indigo-MusesT	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEDBAT	3	0.24	0.28	0.28	351.56	397.24	403.60	0.16	0.82	5.65
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	3	0.56	0.00	0.00	8010.81	7844.35	8350.82	28.36	22.66	69.44
SCReAM	3	0.08	0.12	0.13	239.99	251.28	261.36	0.78	0.92	1.66
Sprout	3	0.09	0.09	0.10	693.04	331.66	416.43	0.85	1.54	1.99
TaoVA-100x	3	0.33	0.24	0.20	2721.35	3274.55	4048.77	4.19	8.70	22.50
TCP Vegas	3	0.35	0.21	0.17	1670.04	1858.63	1909.18	2.59	6.32	19.94
Verus	3	0.55	0.01	0.01	1904.90	1855.38	1958.40	4.22	6.35	12.22
PCC-Vivace	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WebRTC media	3	0.16	0.12	0.08	1333.34	1451.93	1410.73	0.37	0.34	2.76

Run 1: Statistics of TCP BBR

Start at: 2019-03-09 11:20:14

End at: 2019-03-09 11:20:44

Local clock offset: -4.211 ms

Remote clock offset: 2.575 ms

Below is generated by plot.py at 2019-03-09 12:27:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 2607.350 ms

Loss rate: 15.82%

-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 2569.414 ms

Loss rate: 11.03%

-- Flow 2:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 2617.375 ms

Loss rate: 18.20%

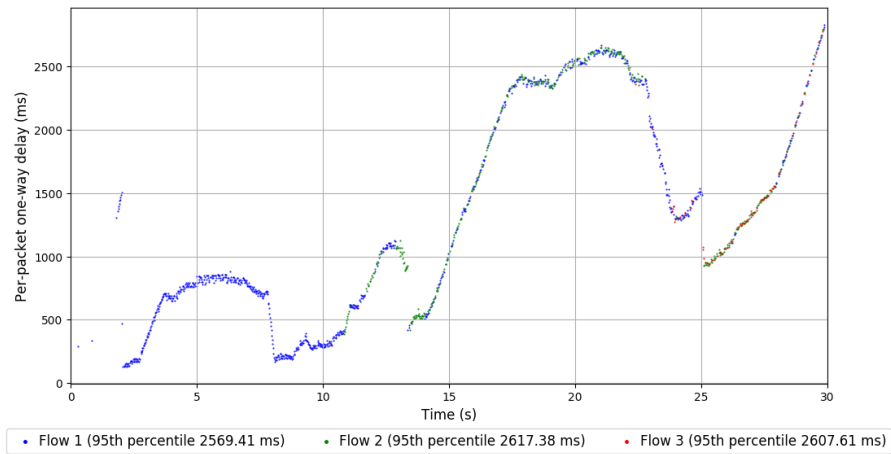
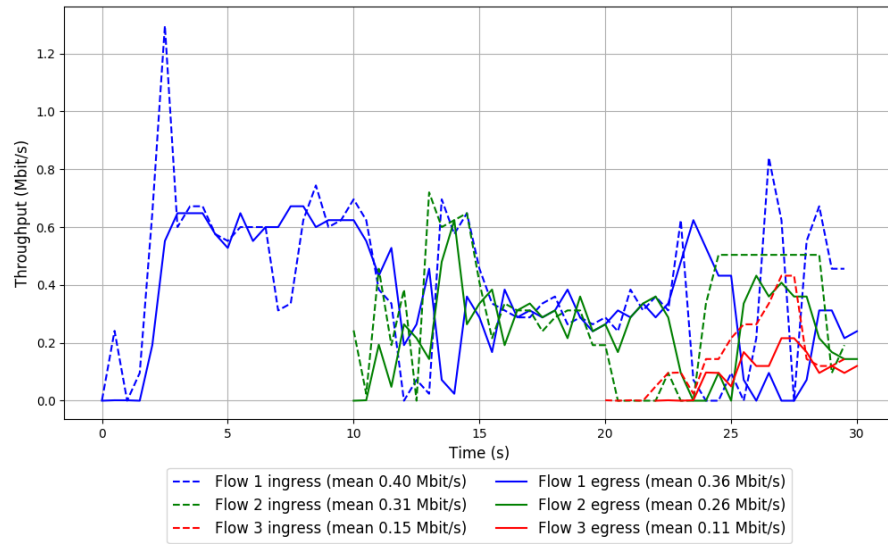
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 2607.610 ms

Loss rate: 44.36%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-09 11:46:07

End at: 2019-03-09 11:46:37

Local clock offset: -6.51 ms

Remote clock offset: 2.761 ms

Below is generated by plot.py at 2019-03-09 12:27:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 3526.808 ms

Loss rate: 4.62%

-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 3423.292 ms

Loss rate: 2.90%

-- Flow 2:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 3607.272 ms

Loss rate: 6.04%

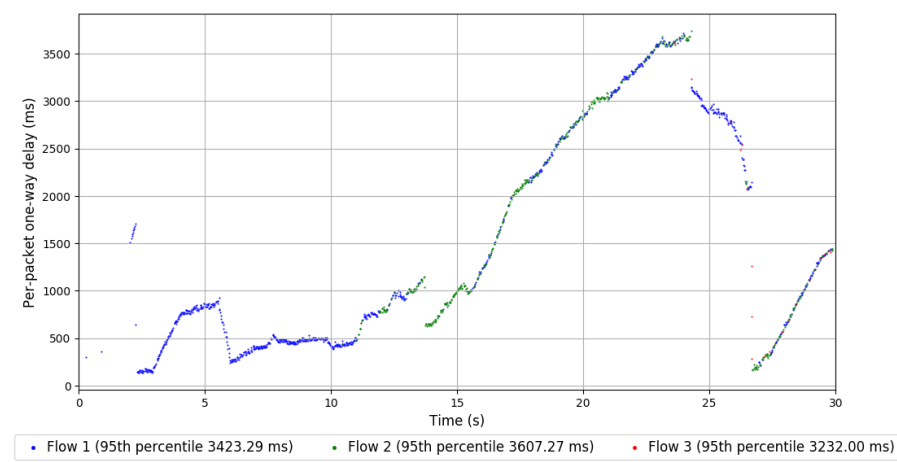
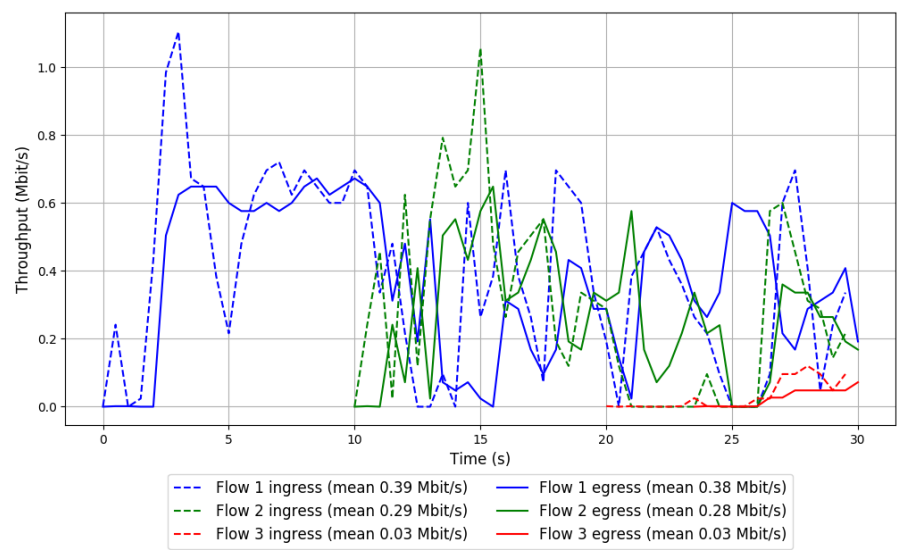
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 3232.001 ms

Loss rate: 41.62%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-03-09 12:11:59

End at: 2019-03-09 12:12:29

Local clock offset: -1.0 ms

Remote clock offset: 2.539 ms

Below is generated by plot.py at 2019-03-09 12:27:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 3374.521 ms

Loss rate: 6.76%

-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 3414.046 ms

Loss rate: 6.11%

-- Flow 2:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 3184.096 ms

Loss rate: 6.53%

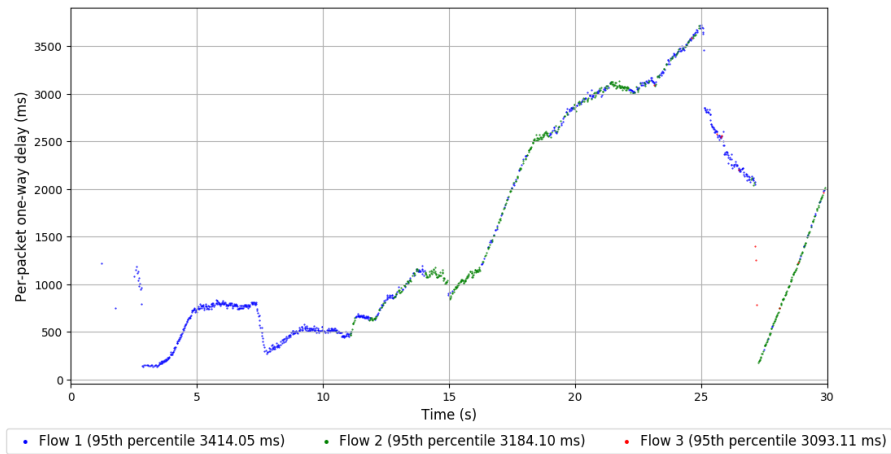
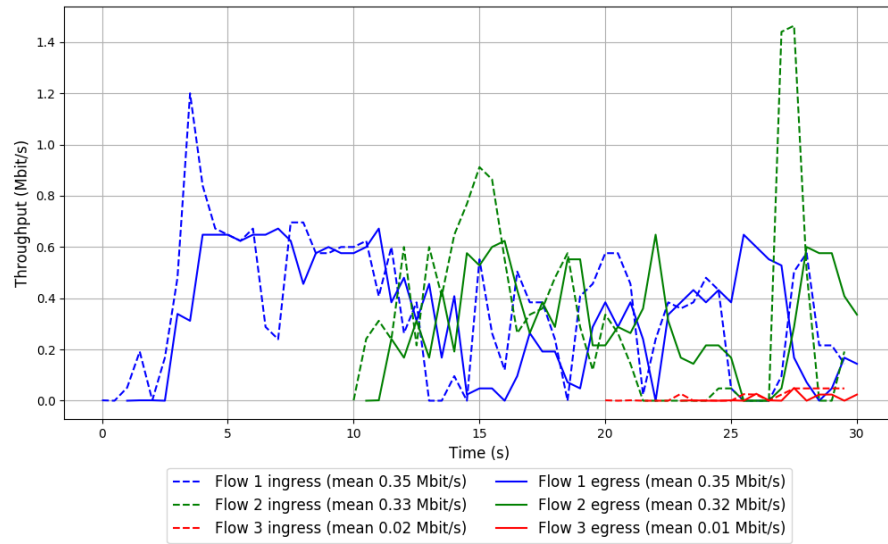
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 3093.108 ms

Loss rate: 55.68%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-03-09 11:27:37

End at: 2019-03-09 11:28:07

Local clock offset: -6.55 ms

Remote clock offset: 2.938 ms

Below is generated by plot.py at 2019-03-09 12:27:33

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 959.874 ms

Loss rate: 3.51%

-- Flow 1:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 785.920 ms

Loss rate: 1.87%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 850.320 ms

Loss rate: 4.35%

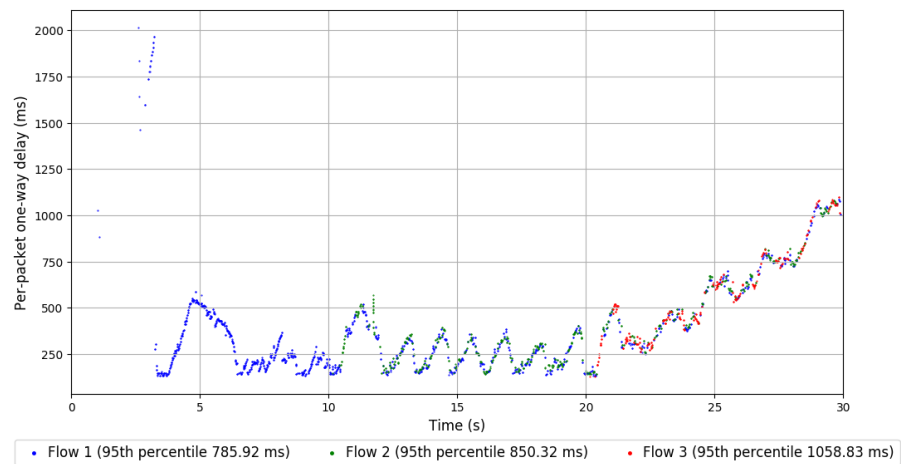
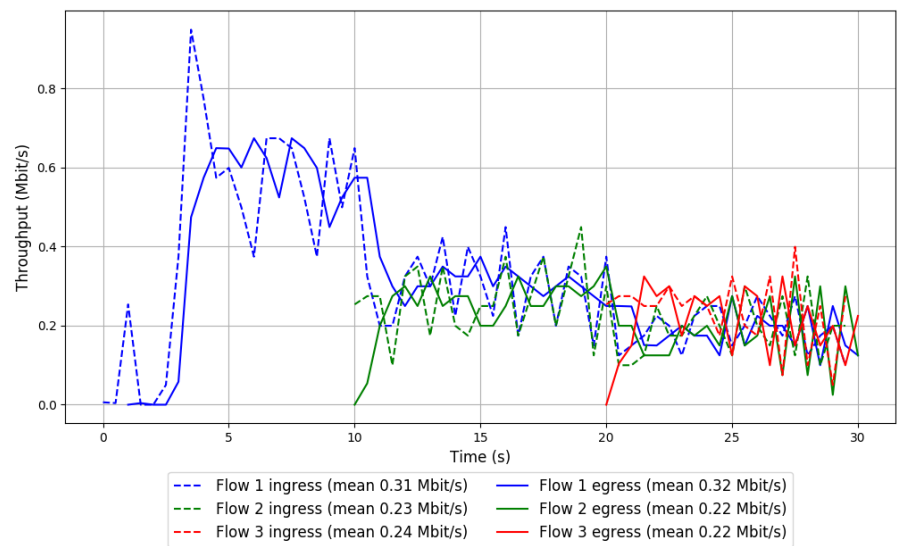
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1058.830 ms

Loss rate: 8.46%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-03-09 11:53:29

End at: 2019-03-09 11:53:59

Local clock offset: -3.036 ms

Remote clock offset: 1.526 ms

Below is generated by plot.py at 2019-03-09 12:27:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 1101.381 ms

Loss rate: 5.11%

-- Flow 1:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 1057.750 ms

Loss rate: 3.89%

-- Flow 2:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 1093.031 ms

Loss rate: 6.23%

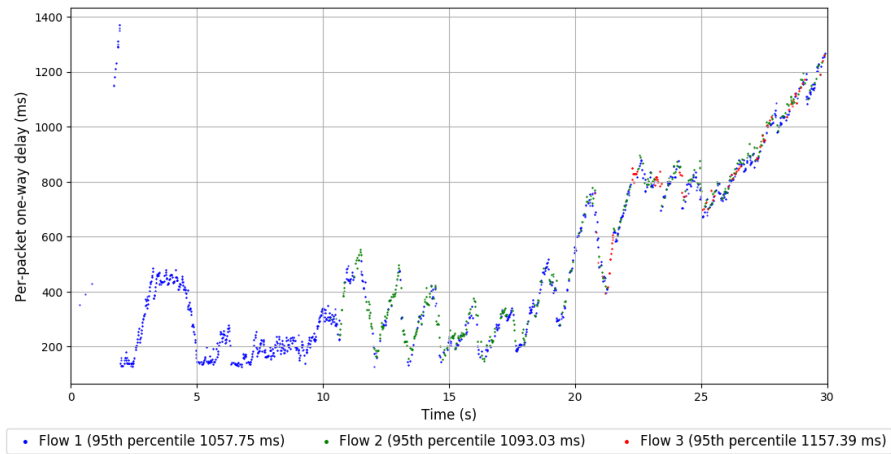
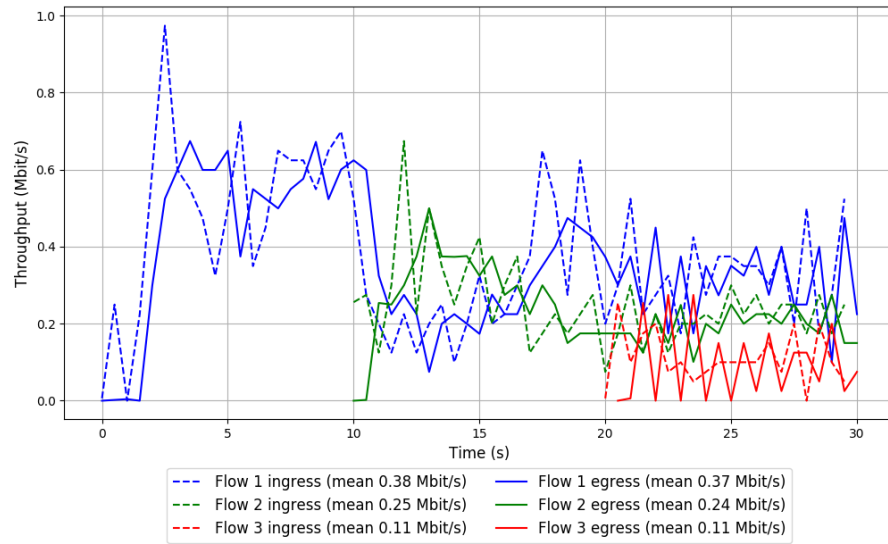
-- Flow 3:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 1157.389 ms

Loss rate: 12.44%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-09 12:19:22

End at: 2019-03-09 12:19:52

Local clock offset: -2.645 ms

Remote clock offset: 2.551 ms

Below is generated by plot.py at 2019-03-09 12:27:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 940.176 ms

Loss rate: 4.10%

-- Flow 1:

Average throughput: 0.32 Mbit/s

95th percentile per-packet one-way delay: 911.494 ms

Loss rate: 2.63%

-- Flow 2:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 942.280 ms

Loss rate: 4.60%

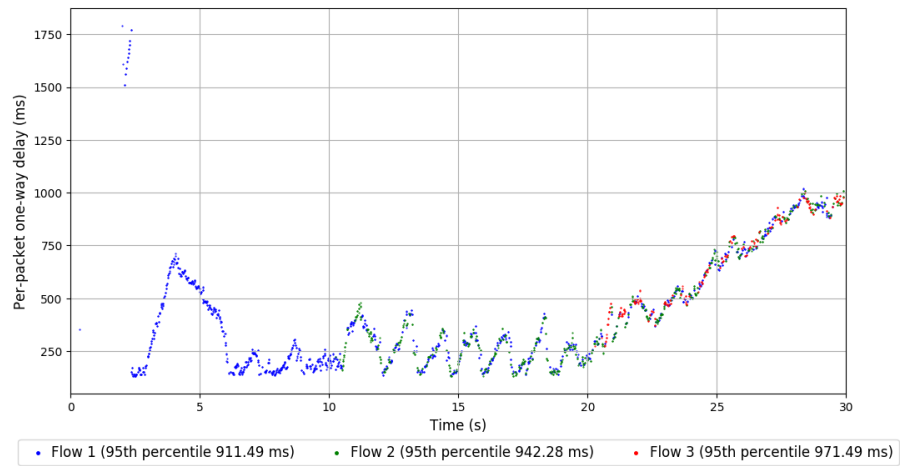
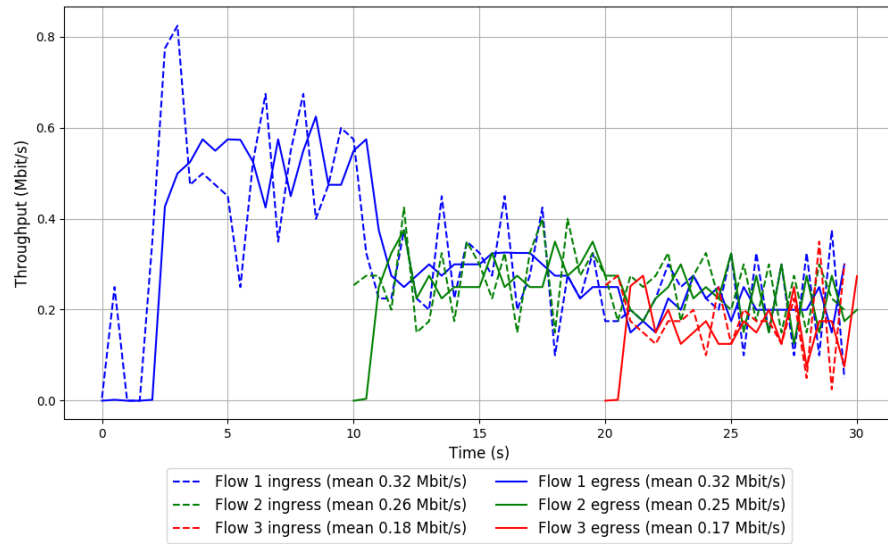
-- Flow 3:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 971.491 ms

Loss rate: 10.36%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-03-09 11:10:22

End at: 2019-03-09 11:10:52

Local clock offset: -0.064 ms

Remote clock offset: 6.857 ms

Below is generated by plot.py at 2019-03-09 12:27:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 8116.864 ms

Loss rate: 31.80%

-- Flow 1:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 8126.997 ms

Loss rate: 31.02%

-- Flow 2:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 7537.775 ms

Loss rate: 52.87%

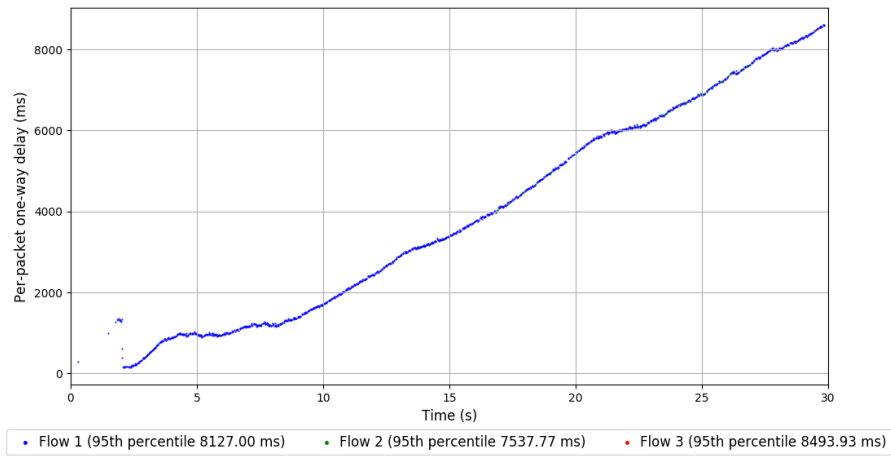
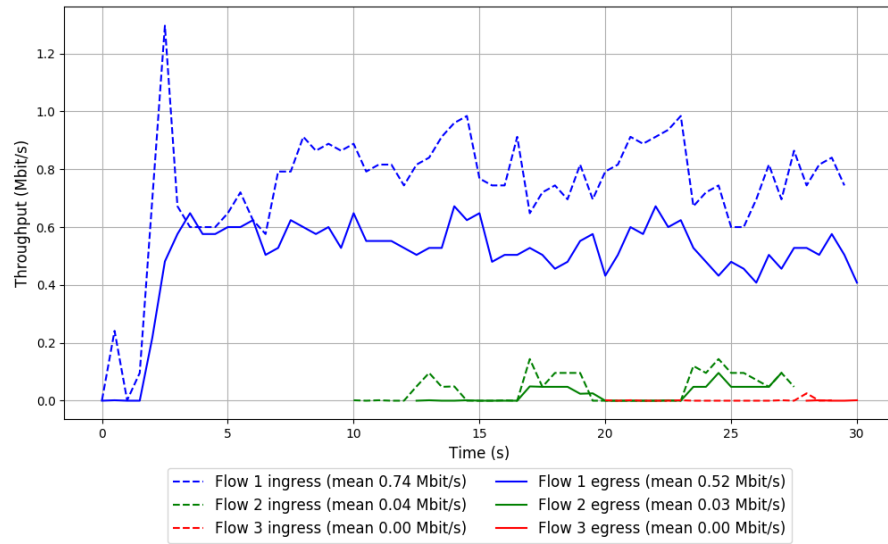
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 8493.926 ms

Loss rate: 90.68%

Run 1: Report of TCP Cubic — Data Link

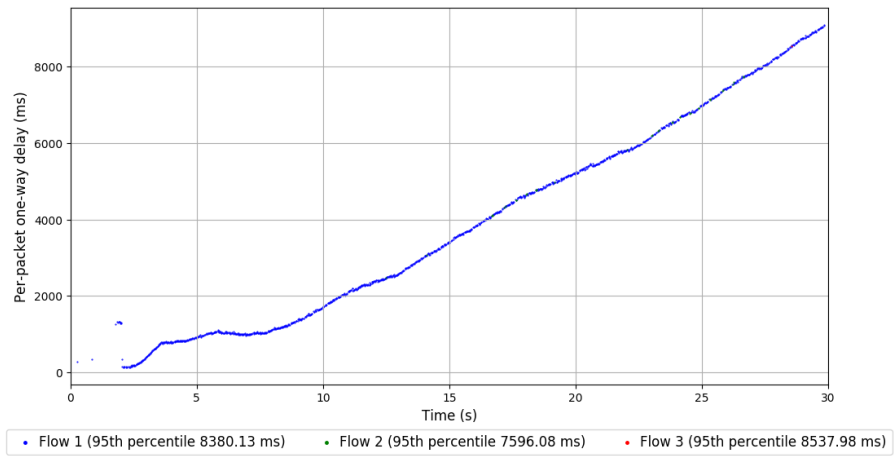
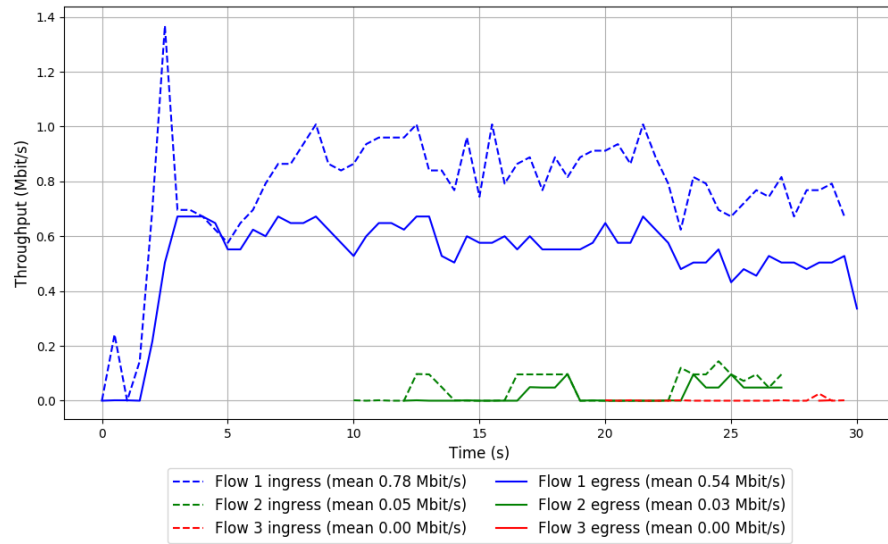


Run 2: Statistics of TCP Cubic

Start at: 2019-03-09 11:36:14
End at: 2019-03-09 11:36:44
Local clock offset: -7.828 ms
Remote clock offset: 6.838 ms

Below is generated by plot.py at 2019-03-09 12:27:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 8375.604 ms
Loss rate: 31.66%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 8380.131 ms
Loss rate: 30.84%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 7596.081 ms
Loss rate: 54.25%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8537.982 ms
Loss rate: 95.34%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2019-03-09 12:02:08

End at: 2019-03-09 12:02:38

Local clock offset: -1.956 ms

Remote clock offset: 7.685 ms

Below is generated by plot.py at 2019-03-09 12:27:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 8184.041 ms

Loss rate: 32.02%

-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 8185.404 ms

Loss rate: 31.05%

-- Flow 2:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 6649.462 ms

Loss rate: 54.30%

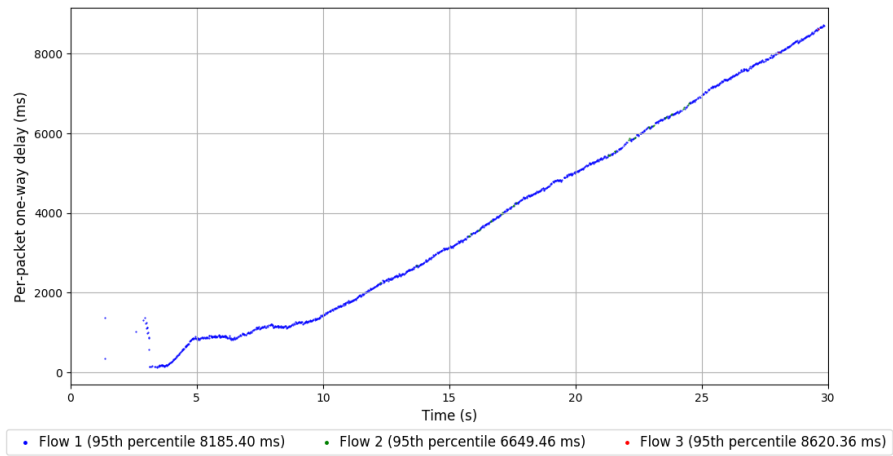
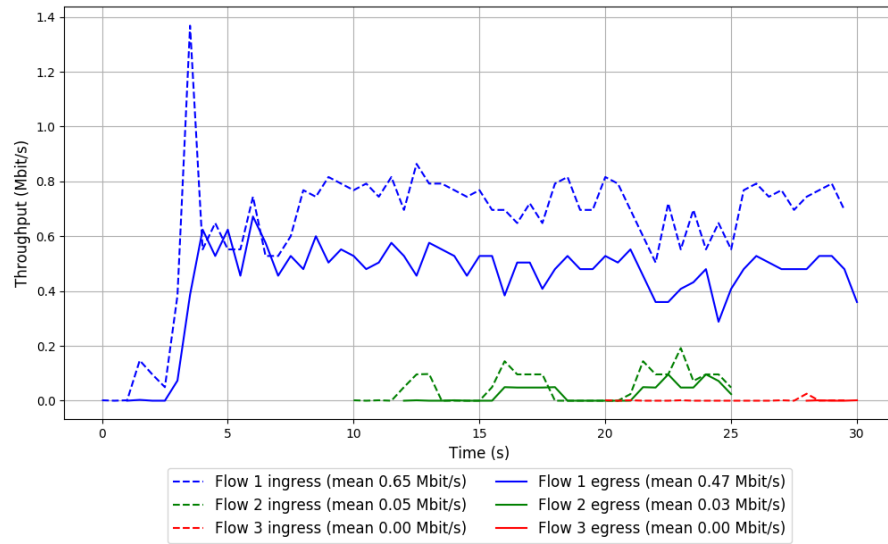
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 8620.365 ms

Loss rate: 91.06%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-03-09 11:25:08

End at: 2019-03-09 11:25:38

Local clock offset: -5.134 ms

Remote clock offset: 6.648 ms

Below is generated by plot.py at 2019-03-09 12:27:37

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 13428.982 ms

Loss rate: 20.80%

-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 13482.116 ms

Loss rate: 20.69%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 6950.289 ms

Loss rate: 0.00%

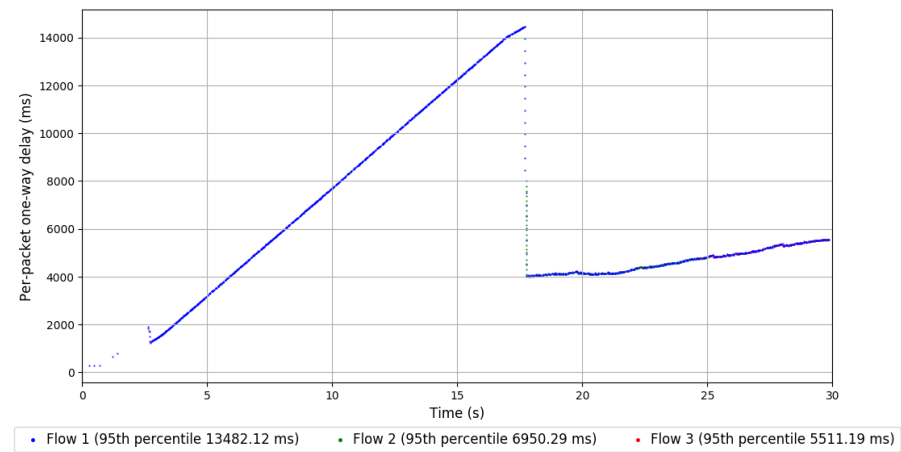
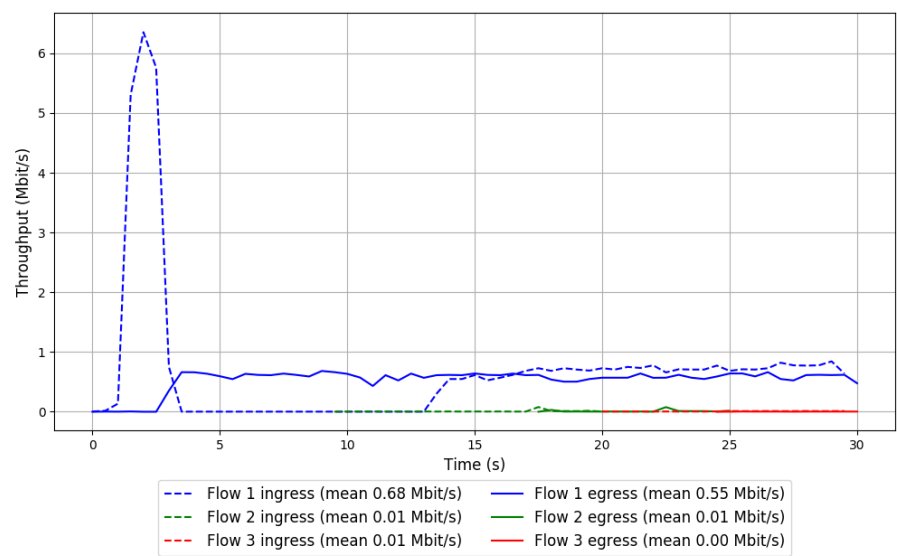
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5511.191 ms

Loss rate: 78.73%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2019-03-09 11:51:02

End at: 2019-03-09 11:51:32

Local clock offset: -4.63 ms

Remote clock offset: 7.513 ms

Below is generated by plot.py at 2019-03-09 12:27:38

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 14044.034 ms

Loss rate: 22.79%

-- Flow 1:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 14127.295 ms

Loss rate: 22.70%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 7524.763 ms

Loss rate: 0.00%

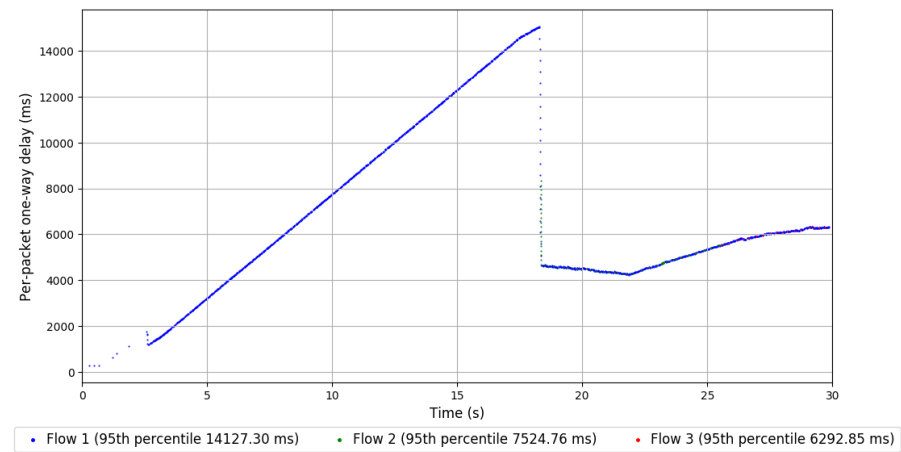
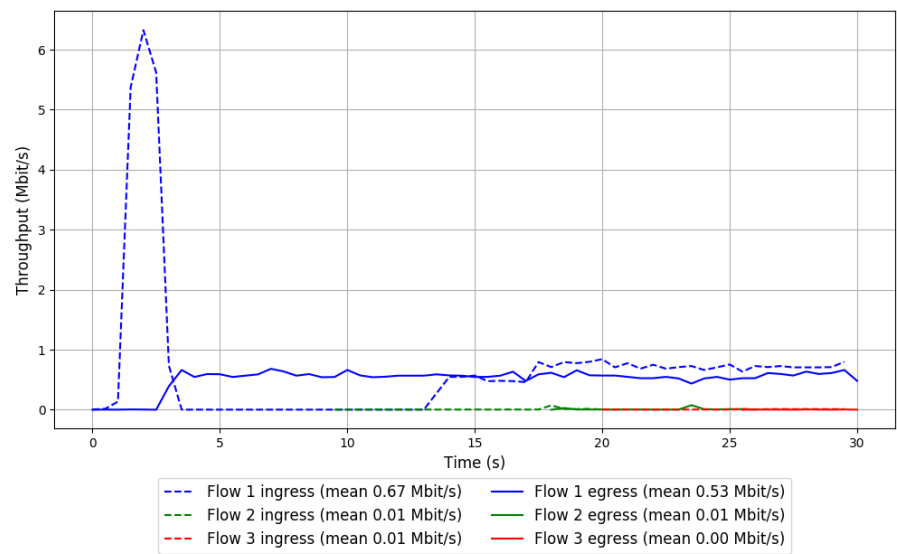
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6292.853 ms

Loss rate: 80.70%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

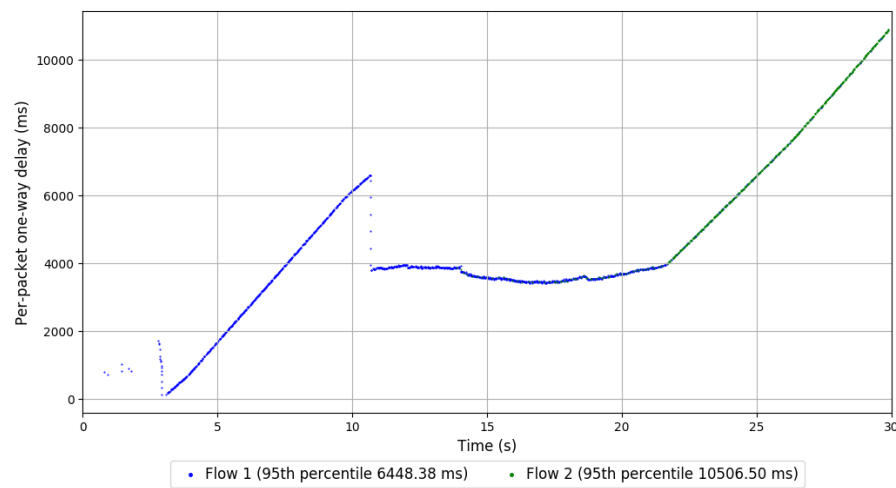
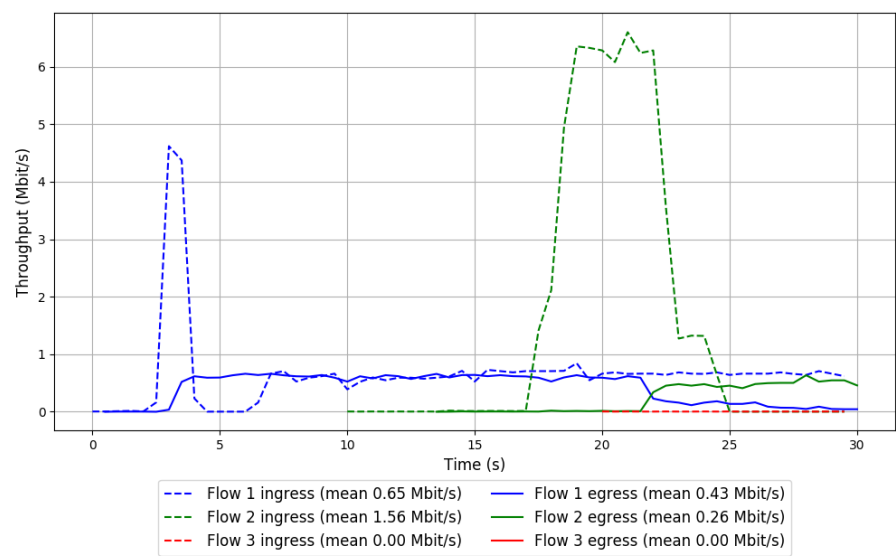
Start at: 2019-03-09 12:16:54

End at: 2019-03-09 12:17:24

Local clock offset: -2.266 ms

Remote clock offset: 6.668 ms

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2019-03-09 11:23:55

End at: 2019-03-09 11:24:25

Local clock offset: -5.498 ms

Remote clock offset: 1.739 ms

Below is generated by plot.py at 2019-03-09 12:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 17132.572 ms

Loss rate: 18.65%

-- Flow 1:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 17205.828 ms

Loss rate: 18.44%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 11137.563 ms

Loss rate: 0.00%

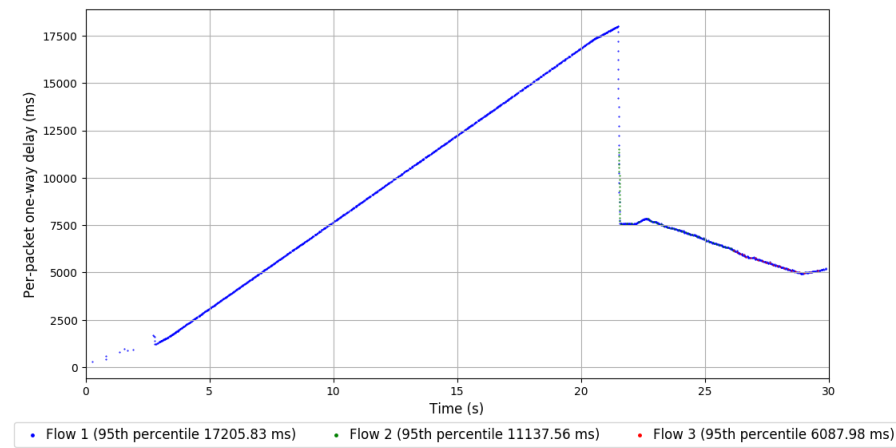
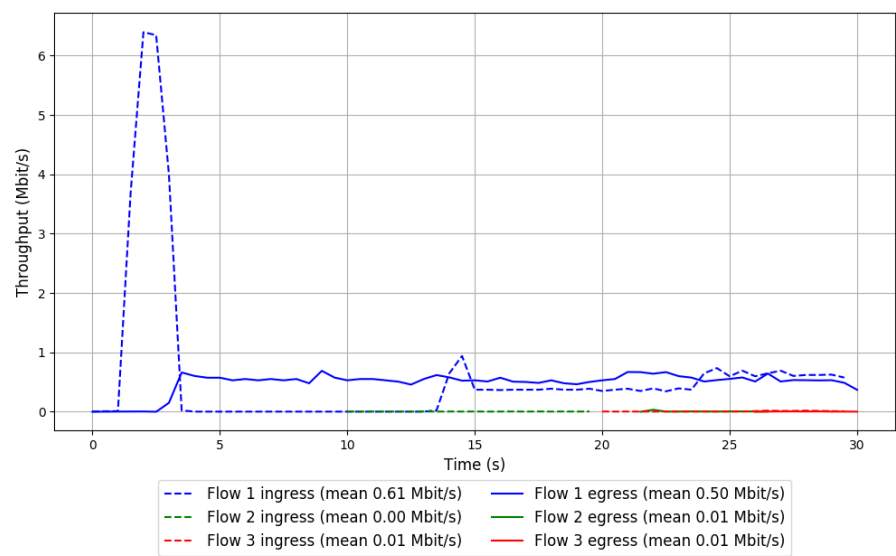
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 6087.978 ms

Loss rate: 78.04%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-09 11:49:48

End at: 2019-03-09 11:50:18

Local clock offset: -5.192 ms

Remote clock offset: 1.352 ms

Below is generated by plot.py at 2019-03-09 12:27:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 14277.270 ms

Loss rate: 33.50%

-- Flow 1:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 14358.302 ms

Loss rate: 16.08%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 8007.226 ms

Loss rate: 0.00%

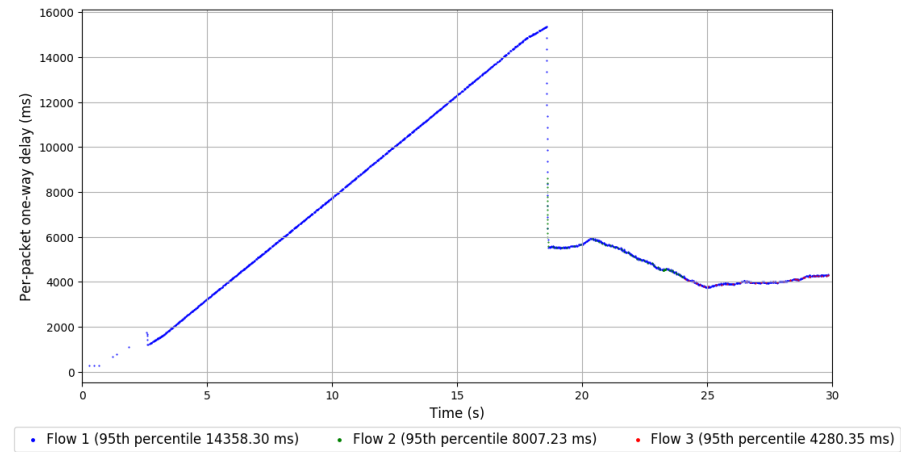
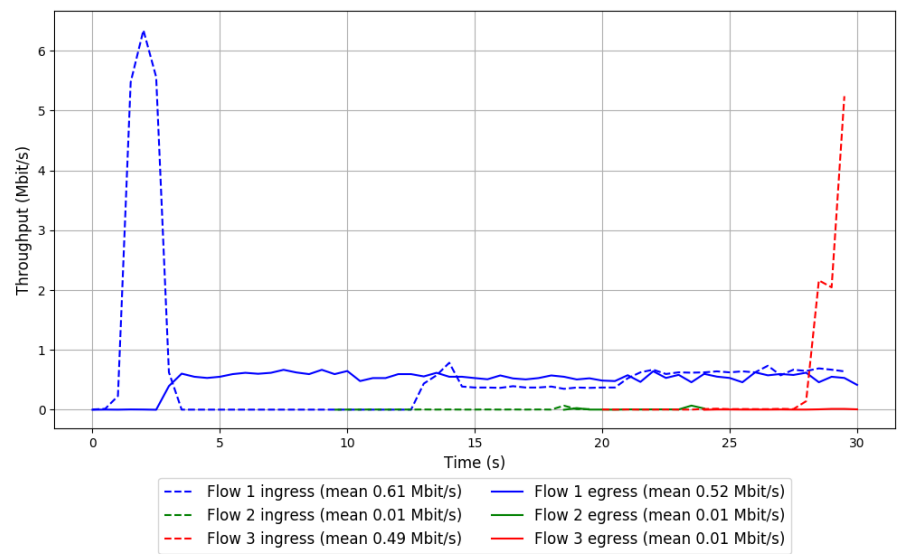
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 4280.347 ms

Loss rate: 99.27%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

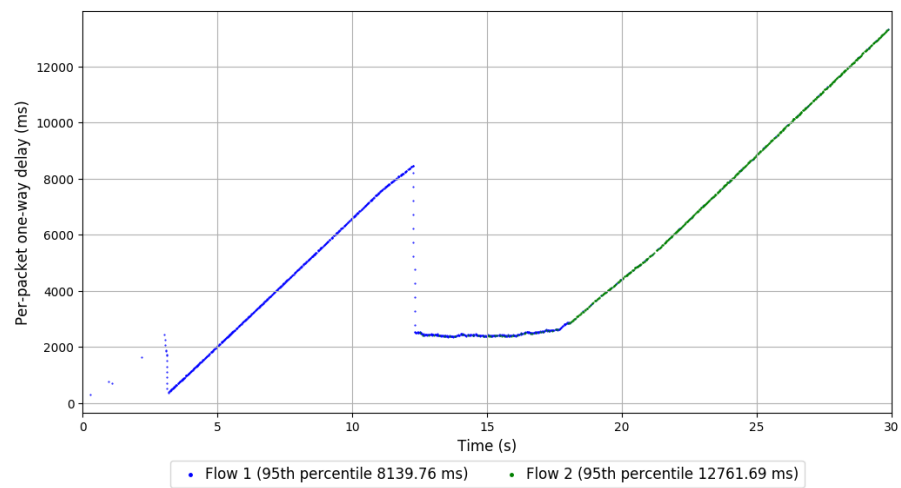
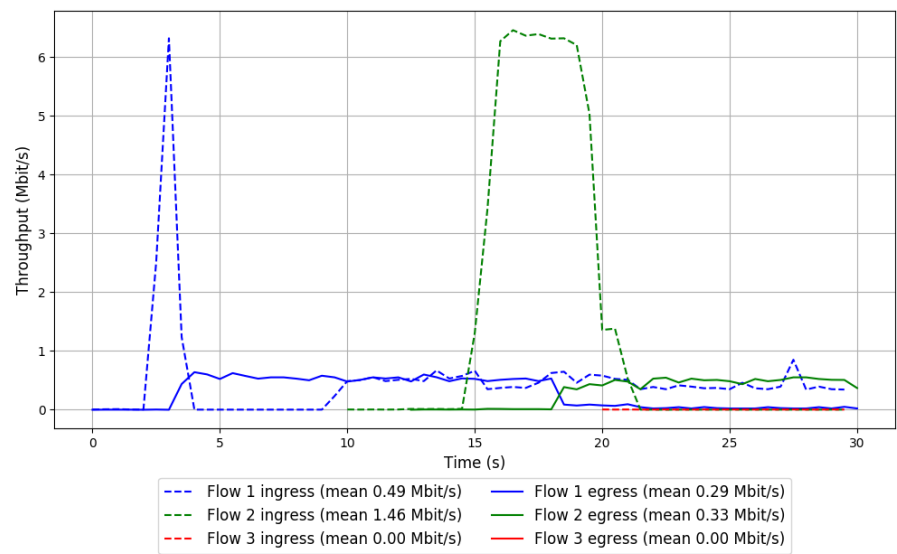
Start at: 2019-03-09 12:15:41

End at: 2019-03-09 12:16:11

Local clock offset: -1.623 ms

Remote clock offset: 7.582 ms

Run 3: Report of FillP-Sheep — Data Link

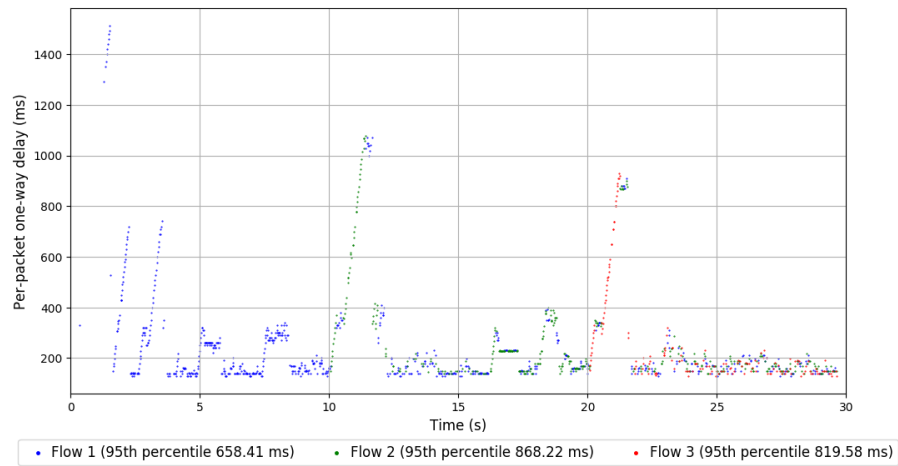
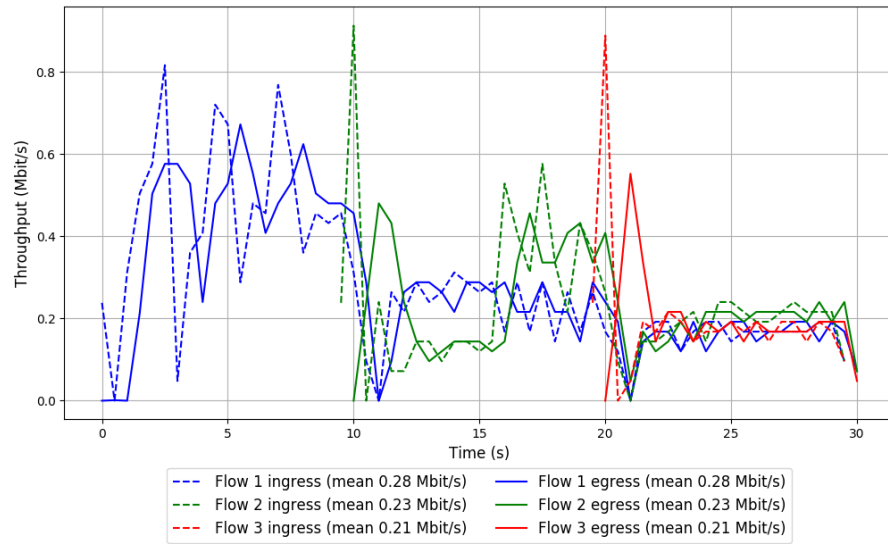


```
Run 1: Statistics of Indigo

Start at: 2019-03-09 11:26:23
End at: 2019-03-09 11:26:53
Local clock offset: -5.5 ms
Remote clock offset: 1.605 ms

# Below is generated by plot.py at 2019-03-09 12:27:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 797.030 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 658.409 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 868.223 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 819.578 ms
Loss rate: 1.76%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-03-09 11:52:16

End at: 2019-03-09 11:52:46

Local clock offset: -4.142 ms

Remote clock offset: 2.709 ms

Below is generated by plot.py at 2019-03-09 12:27:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 715.157 ms

Loss rate: 1.08%

-- Flow 1:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 597.278 ms

Loss rate: 0.78%

-- Flow 2:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 784.442 ms

Loss rate: 1.00%

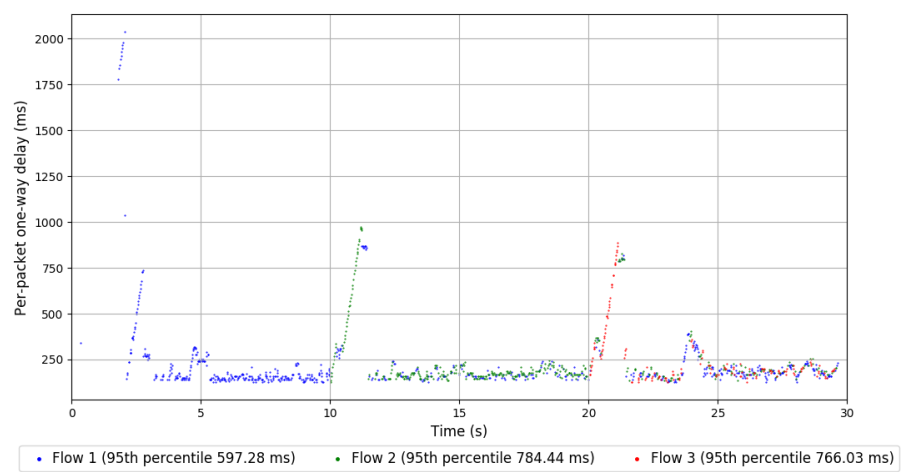
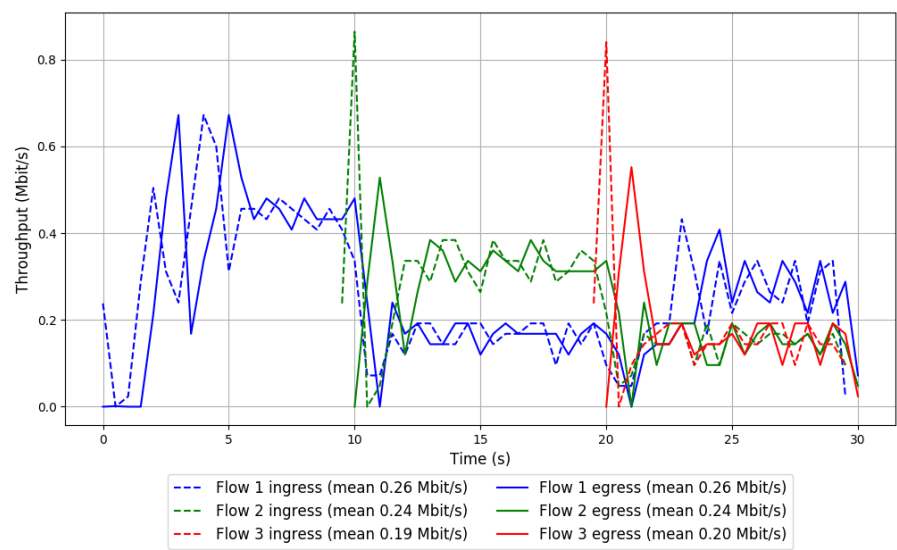
-- Flow 3:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 766.035 ms

Loss rate: 2.53%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-09 12:18:08

End at: 2019-03-09 12:18:38

Local clock offset: -2.123 ms

Remote clock offset: 2.445 ms

Below is generated by plot.py at 2019-03-09 12:27:40

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 658.291 ms

Loss rate: 1.01%

-- Flow 1:

Average throughput: 0.29 Mbit/s

95th percentile per-packet one-way delay: 542.176 ms

Loss rate: 0.57%

-- Flow 2:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 690.124 ms

Loss rate: 1.04%

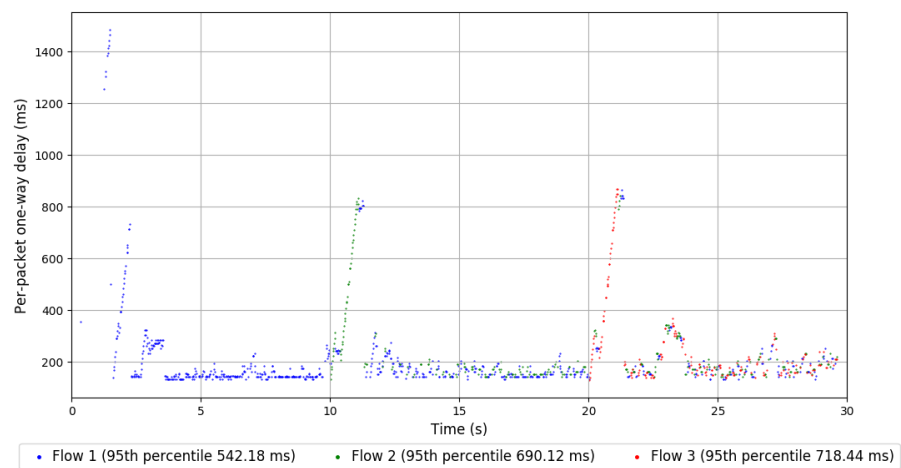
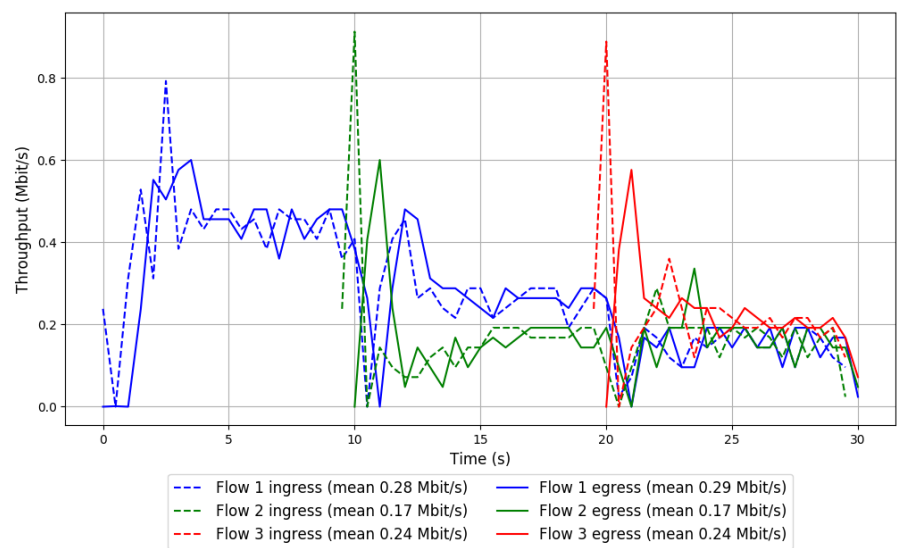
-- Flow 3:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 718.439 ms

Loss rate: 2.50%

Run 3: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

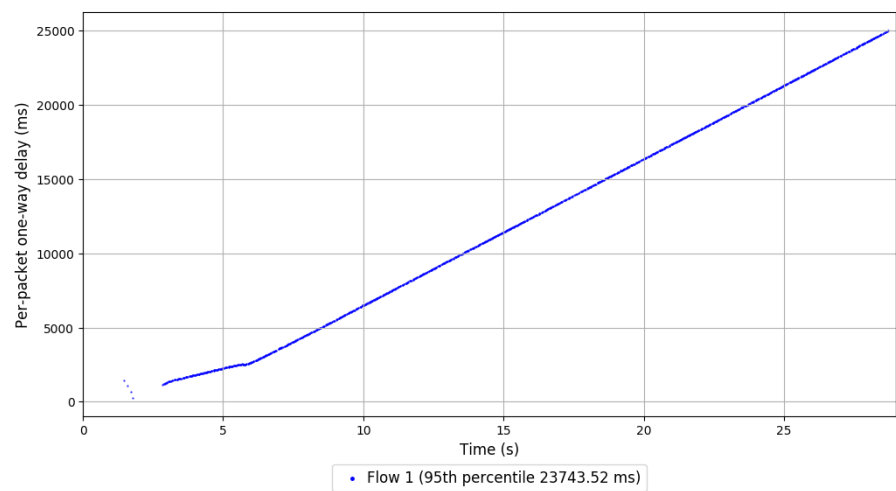
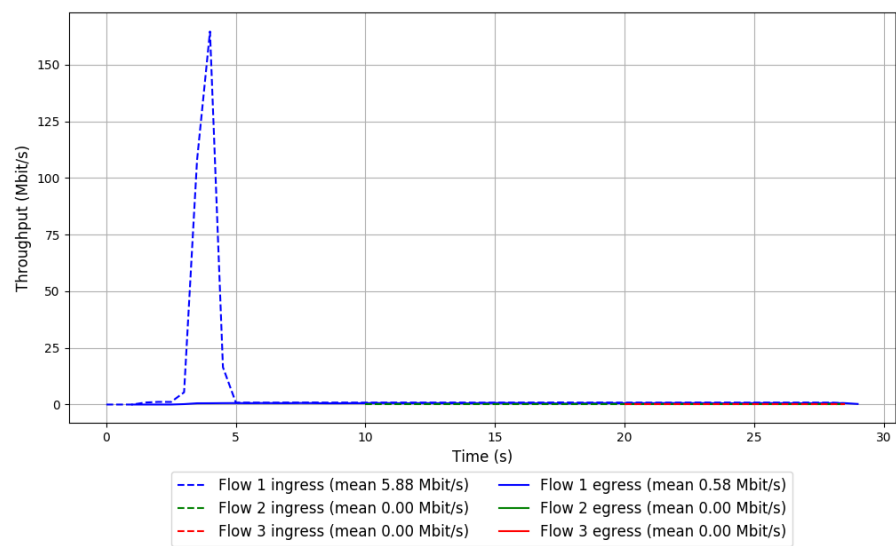
Start at: 2019-03-09 11:33:46

End at: 2019-03-09 11:34:16

Local clock offset: -7.522 ms

Remote clock offset: 1.916 ms

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

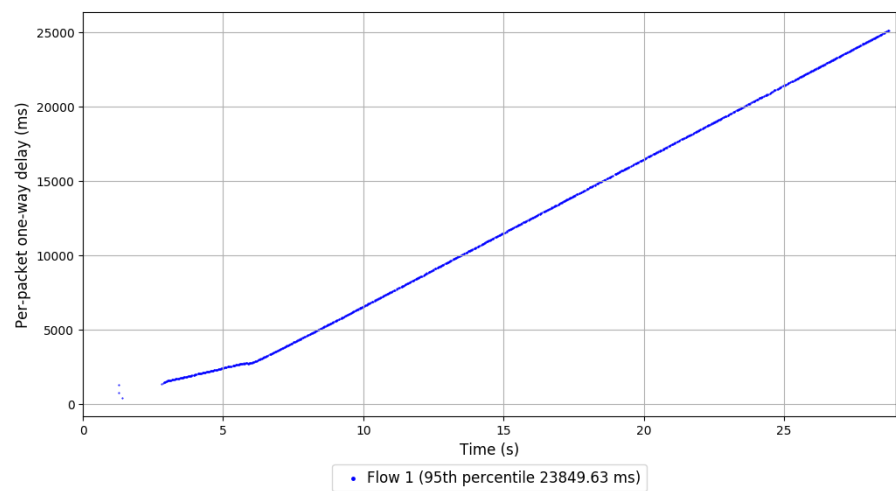
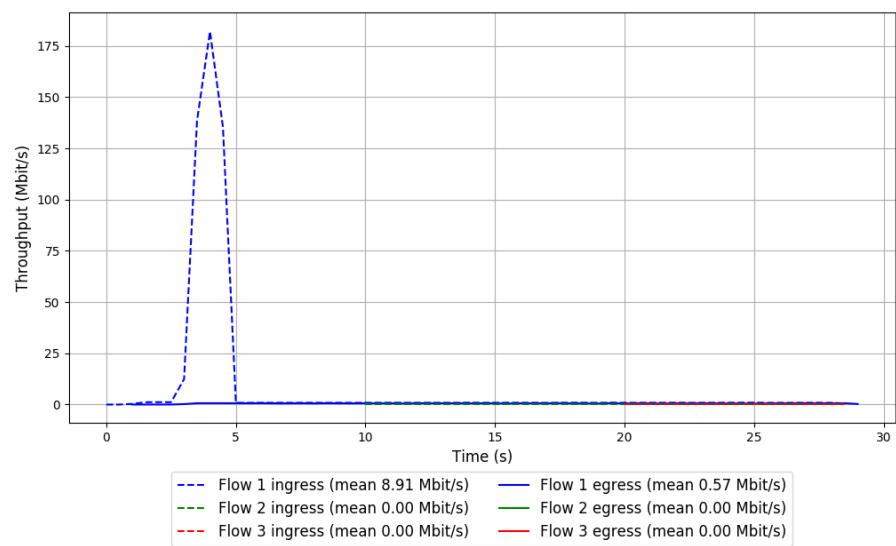
Start at: 2019-03-09 11:59:40

End at: 2019-03-09 12:00:10

Local clock offset: -2.3 ms

Remote clock offset: 1.633 ms

Run 2: Report of Indigo-MusesC3 — Data Link



Run 3: Statistics of Indigo-MusesC3

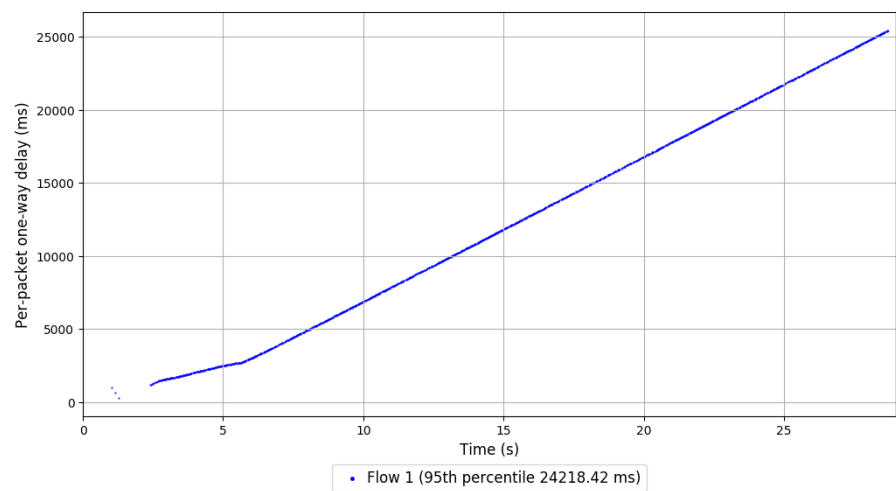
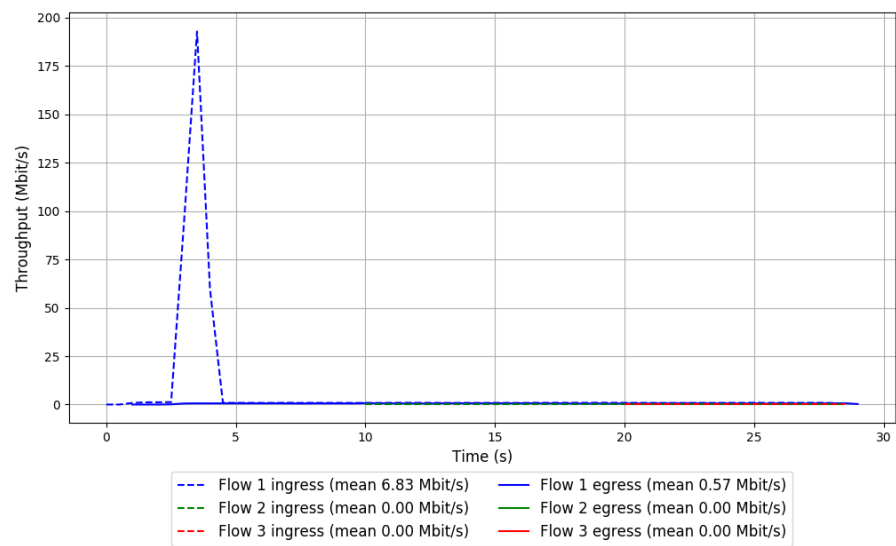
Start at: 2019-03-09 12:25:34

End at: 2019-03-09 12:26:04

Local clock offset: -5.129 ms

Remote clock offset: 1.525 ms

Run 3: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

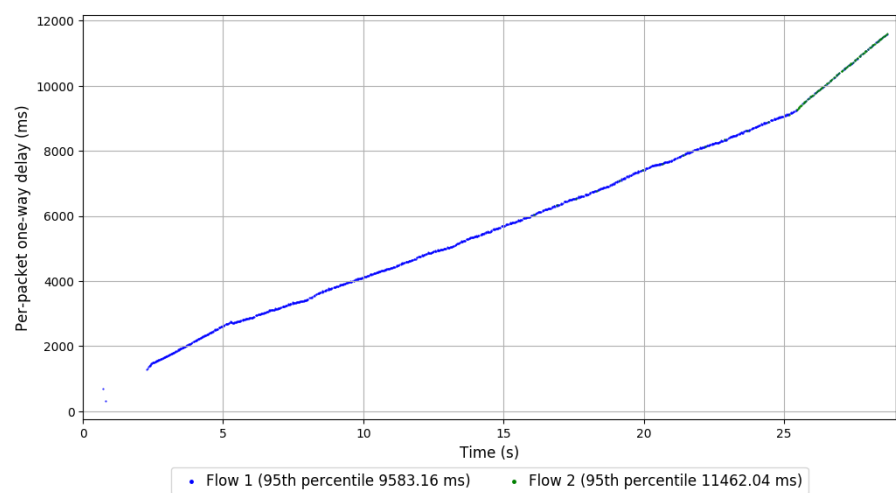
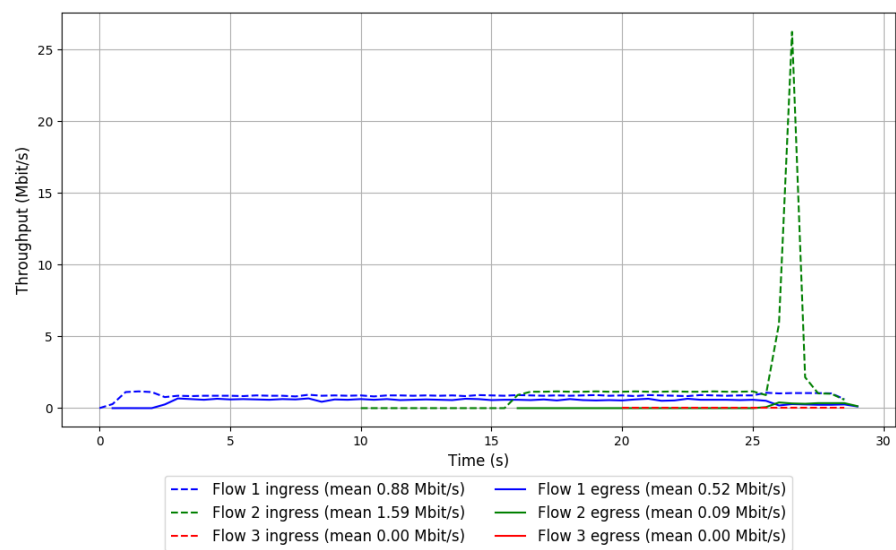
Start at: 2019-03-09 11:30:05

End at: 2019-03-09 11:30:35

Local clock offset: -6.221 ms

Remote clock offset: 2.914 ms

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

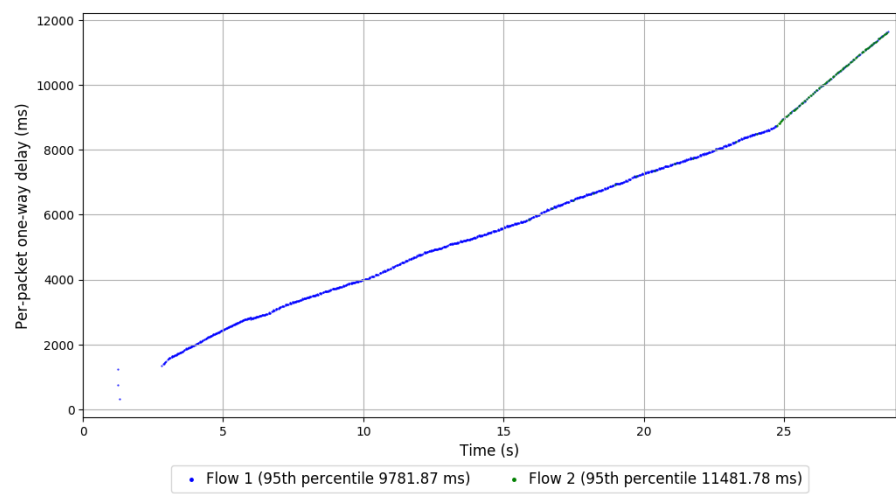
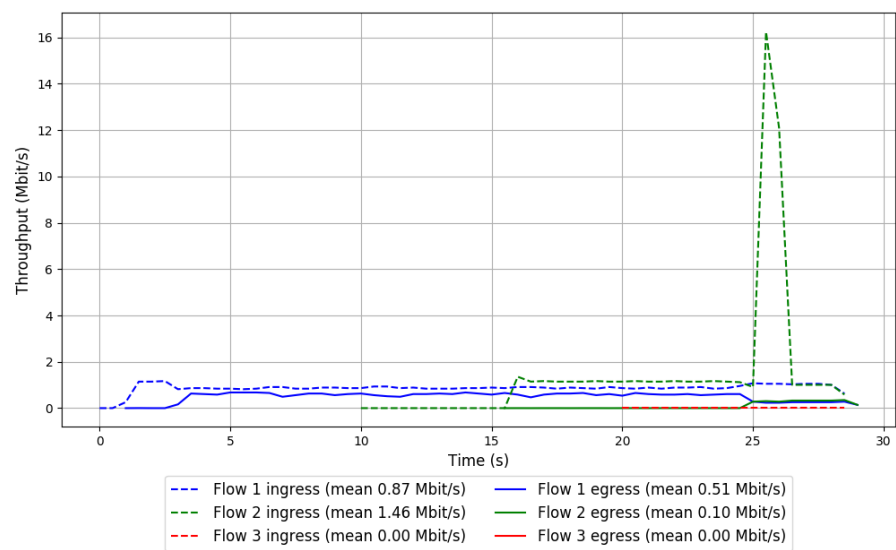
Start at: 2019-03-09 11:55:57

End at: 2019-03-09 11:56:27

Local clock offset: -2.342 ms

Remote clock offset: 7.633 ms

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

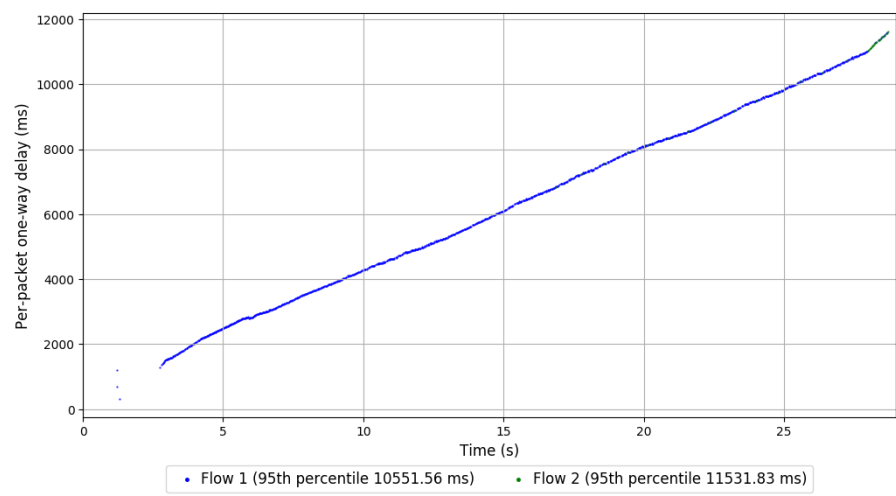
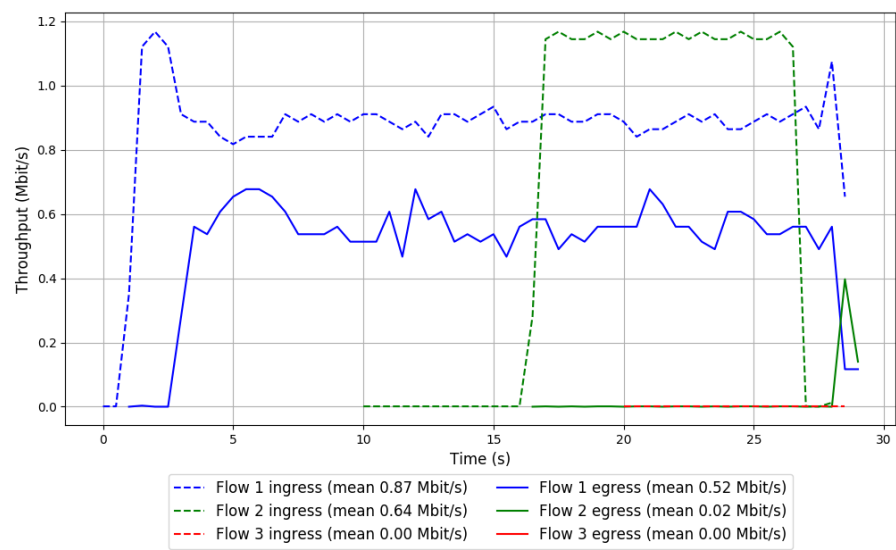
Start at: 2019-03-09 12:21:50

End at: 2019-03-09 12:22:20

Local clock offset: -4.126 ms

Remote clock offset: 5.275 ms

Run 3: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

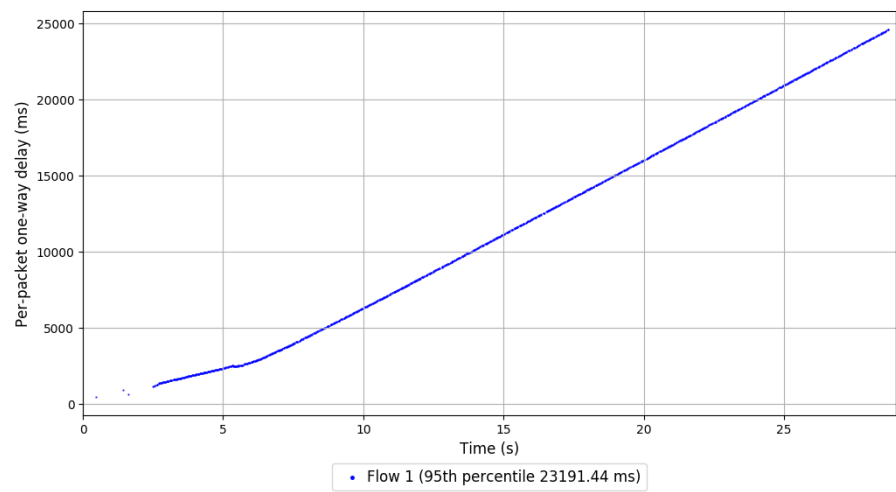
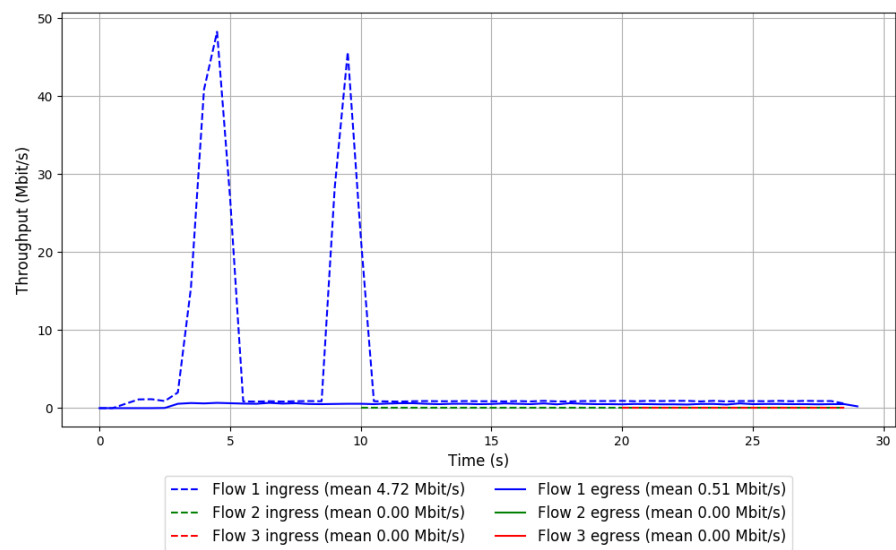
Start at: 2019-03-09 11:28:51

End at: 2019-03-09 11:29:21

Local clock offset: -6.703 ms

Remote clock offset: 7.061 ms

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

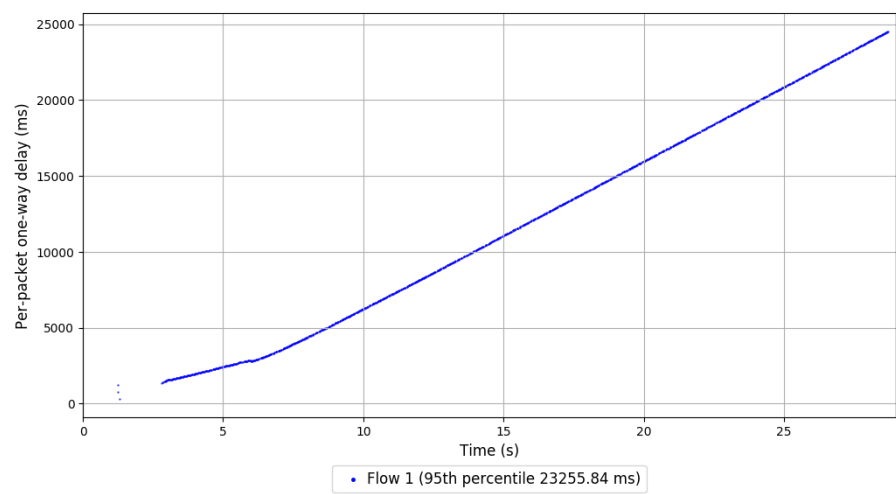
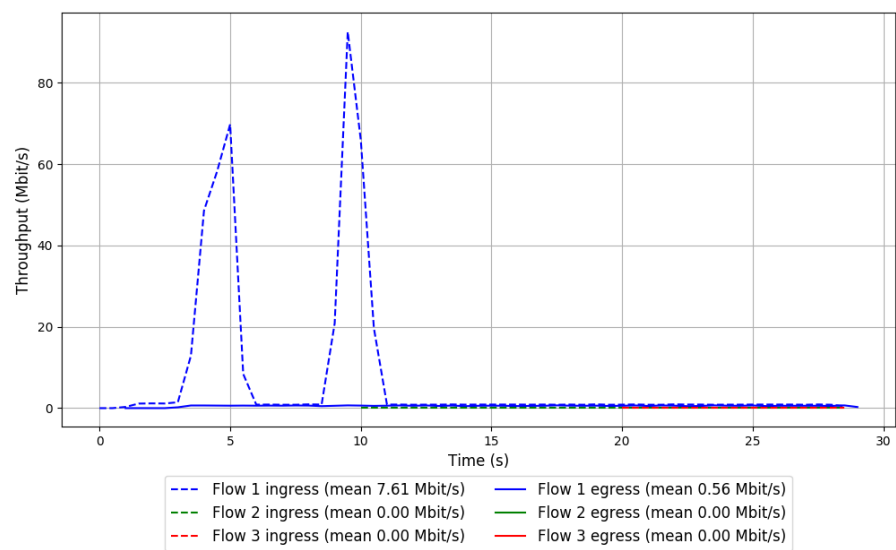
Start at: 2019-03-09 11:54:43

End at: 2019-03-09 11:55:13

Local clock offset: -3.433 ms

Remote clock offset: 7.641 ms

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

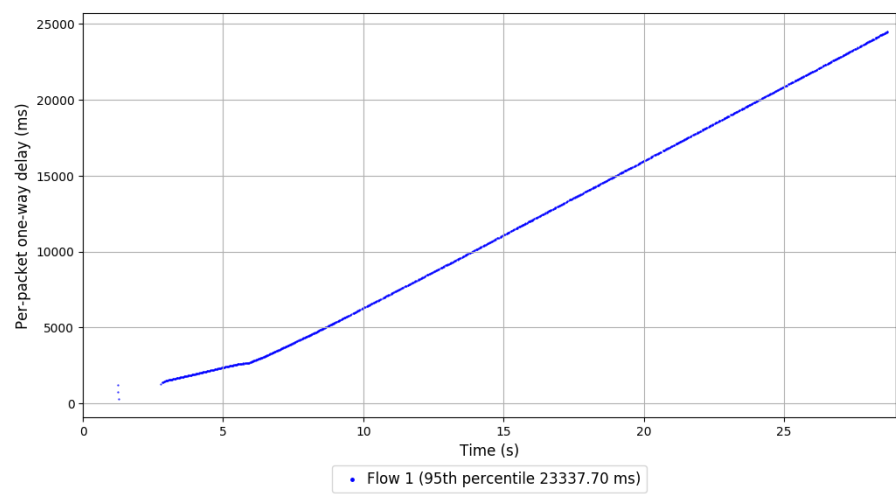
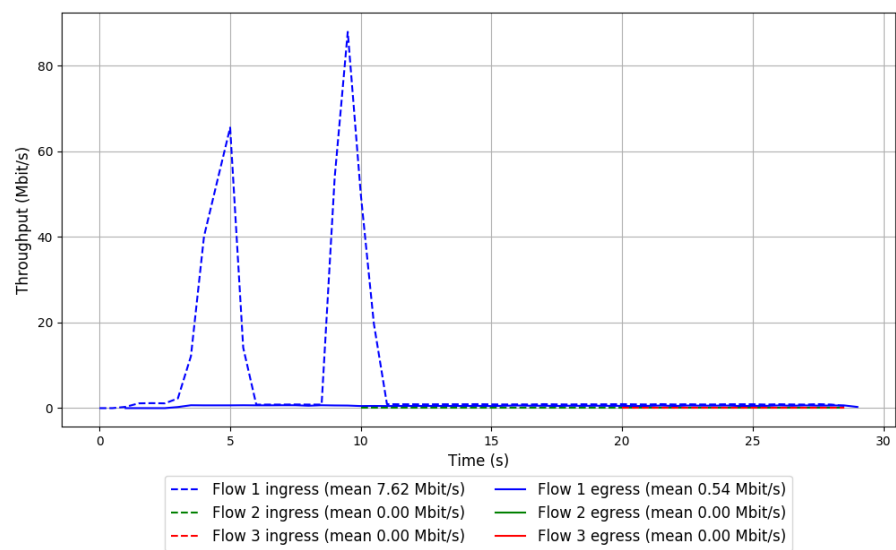
Start at: 2019-03-09 12:20:35

End at: 2019-03-09 12:21:05

Local clock offset: -3.789 ms

Remote clock offset: 6.503 ms

Run 3: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

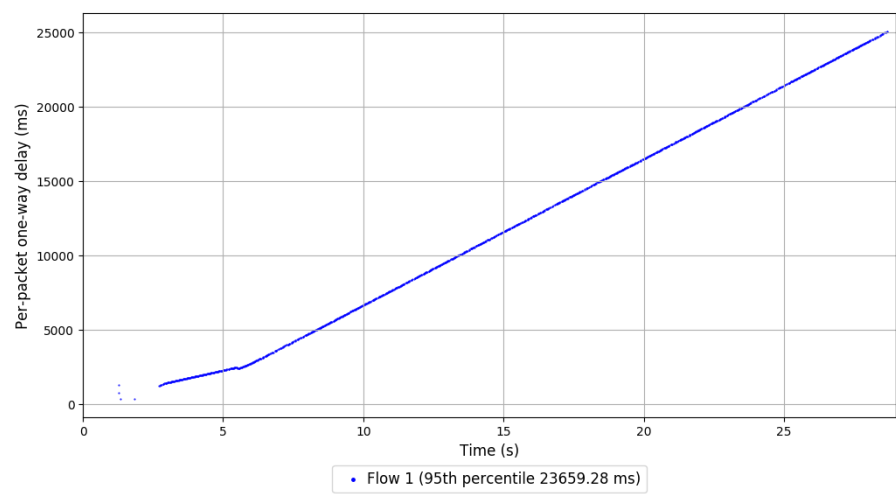
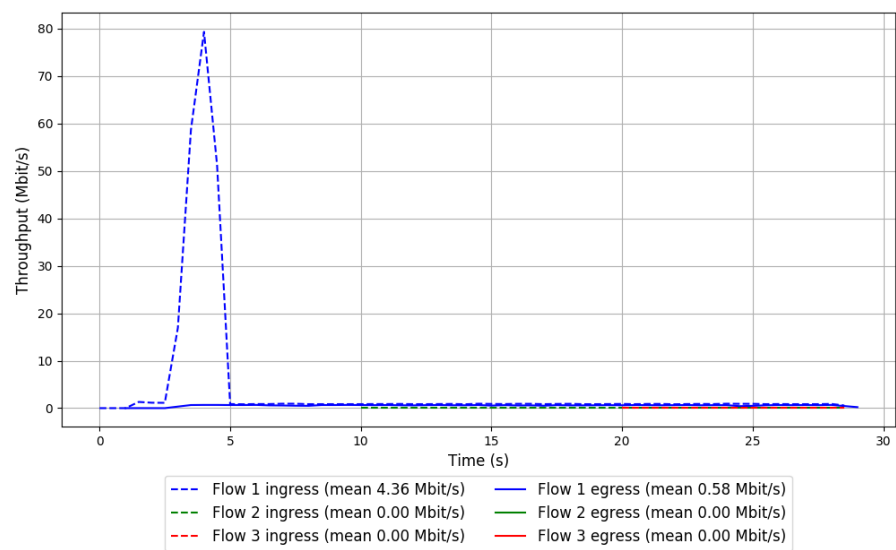
Start at: 2019-03-09 11:18:59

End at: 2019-03-09 11:19:29

Local clock offset: -2.957 ms

Remote clock offset: 6.889 ms

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

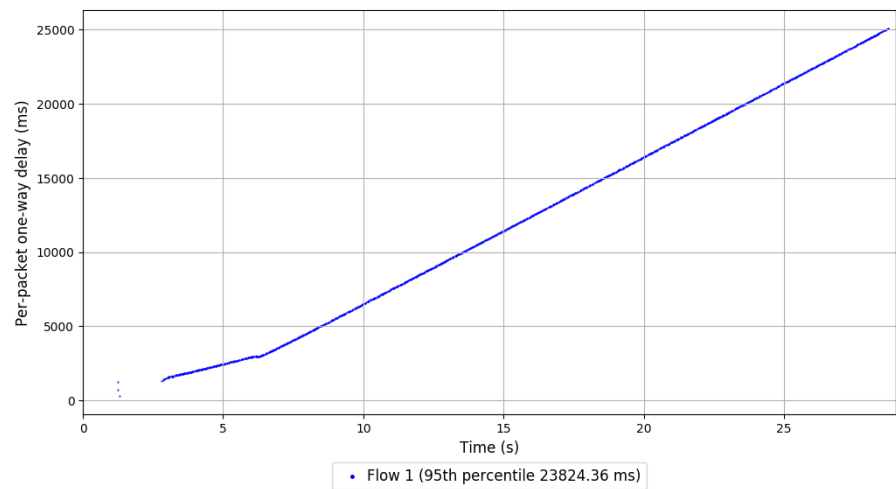
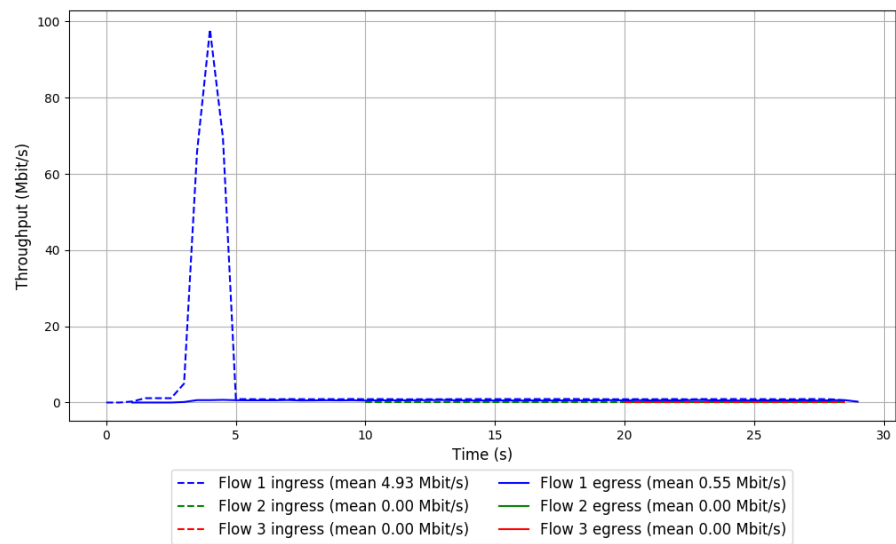
Start at: 2019-03-09 11:44:52

End at: 2019-03-09 11:45:22

Local clock offset: -7.461 ms

Remote clock offset: 7.618 ms

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

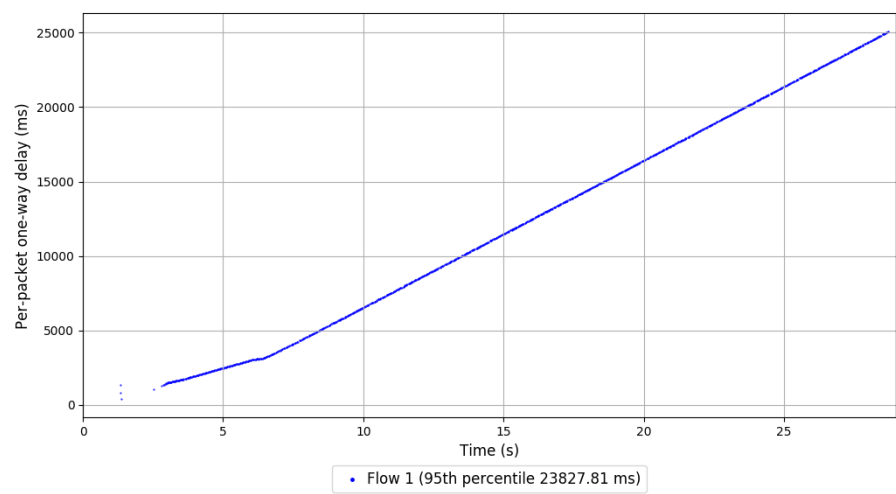
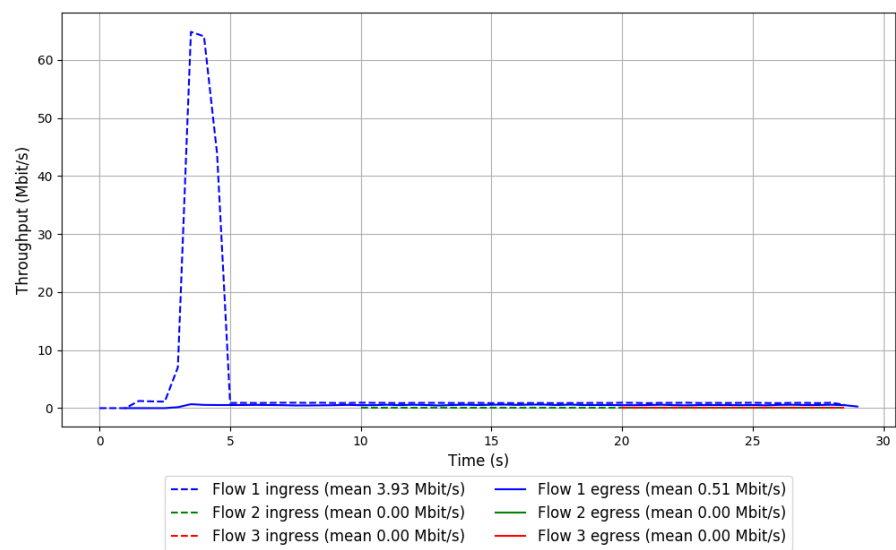
Start at: 2019-03-09 12:10:45

End at: 2019-03-09 12:11:15

Local clock offset: -1.099 ms

Remote clock offset: 2.883 ms

Run 3: Report of Indigo-MusesT — Data Link

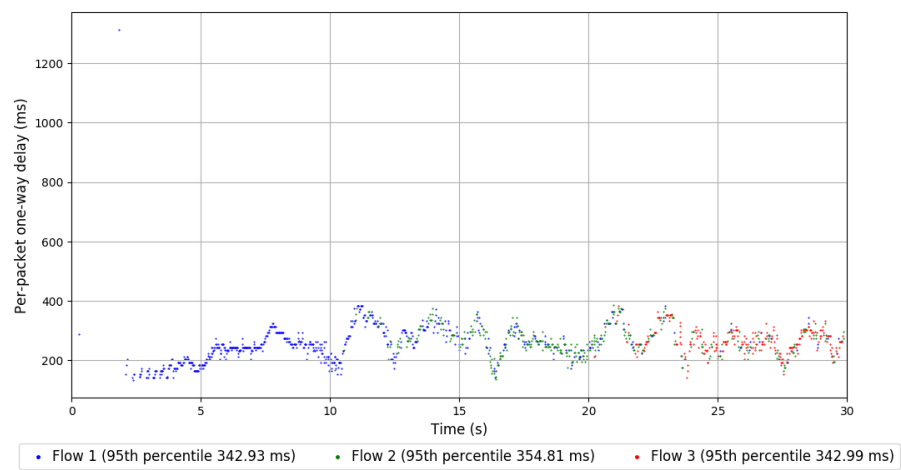
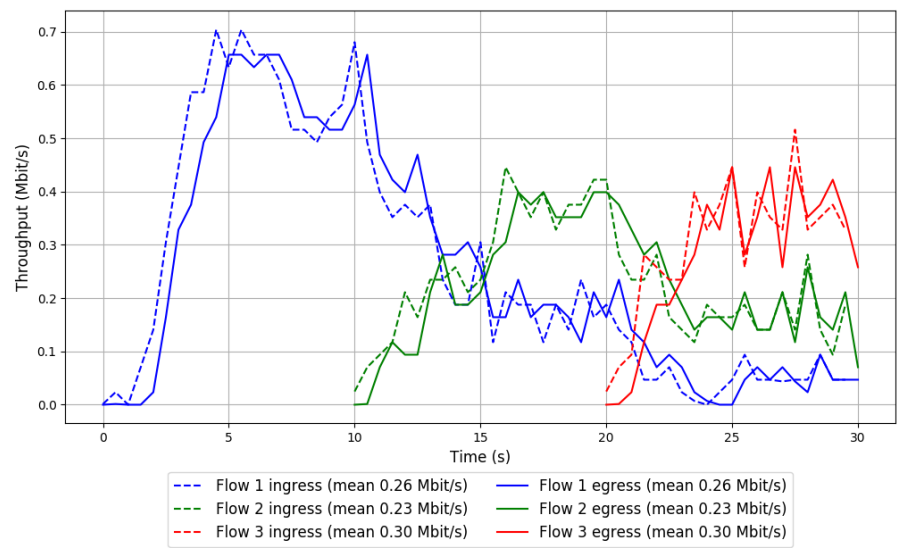



```
Run 1: Statistics of LEDBAT

Start at: 2019-03-09 11:14:04
End at: 2019-03-09 11:14:34
Local clock offset: 0.105 ms
Remote clock offset: 7.724 ms

# Below is generated by plot.py at 2019-03-09 12:27:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 344.898 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 342.930 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 354.813 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 342.994 ms
Loss rate: 4.31%
```

Run 1: Report of LEDBAT — Data Link

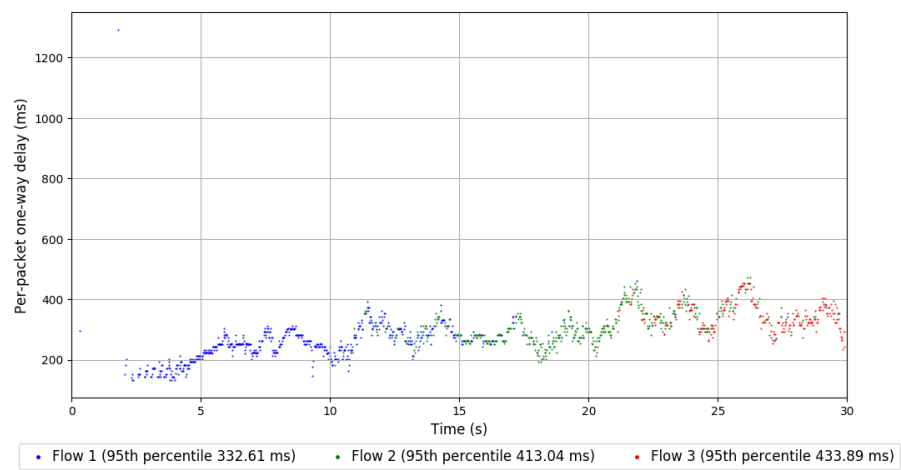
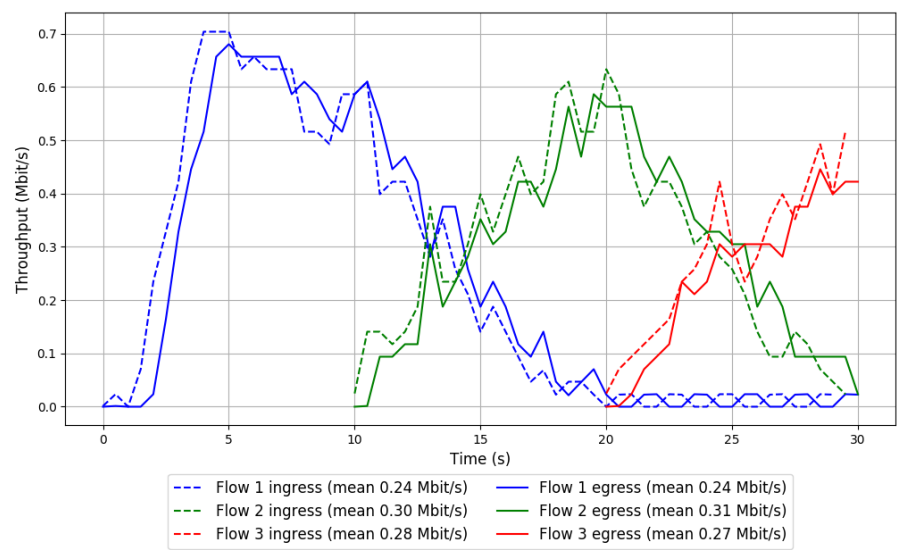


Run 2: Statistics of LEDBAT

Start at: 2019-03-09 11:39:56
End at: 2019-03-09 11:40:26
Local clock offset: -8.201 ms
Remote clock offset: 2.851 ms

Below is generated by plot.py at 2019-03-09 12:27:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 395.627 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 332.605 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 413.036 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 433.893 ms
Loss rate: 6.72%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-03-09 12:05:49

End at: 2019-03-09 12:06:19

Local clock offset: -0.734 ms

Remote clock offset: 1.391 ms

Below is generated by plot.py at 2019-03-09 12:27:51

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 413.918 ms

Loss rate: 1.54%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 379.142 ms

Loss rate: 0.19%

-- Flow 2:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 423.867 ms

Loss rate: 0.98%

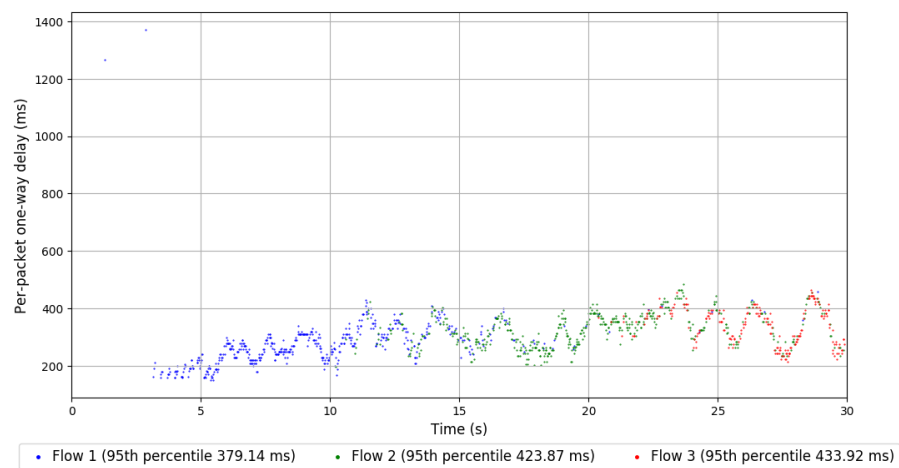
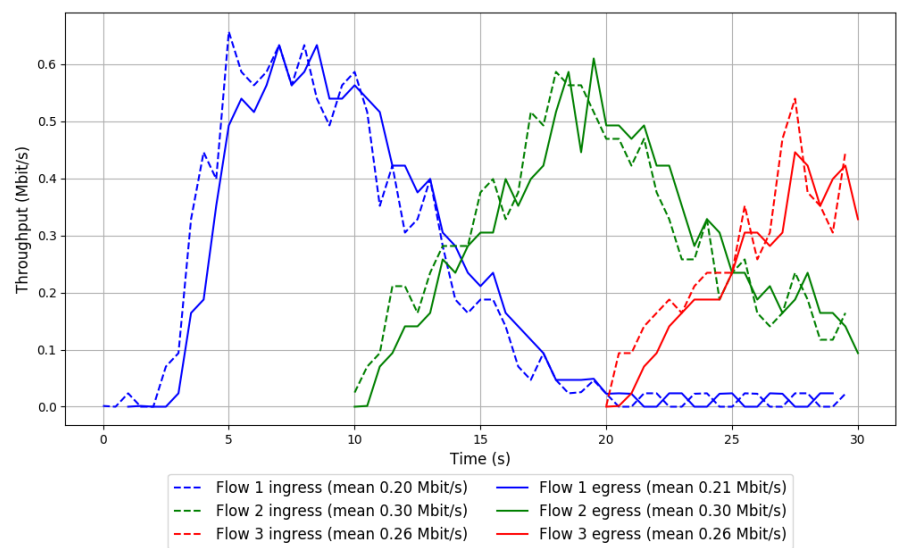
-- Flow 3:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 433.920 ms

Loss rate: 5.91%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

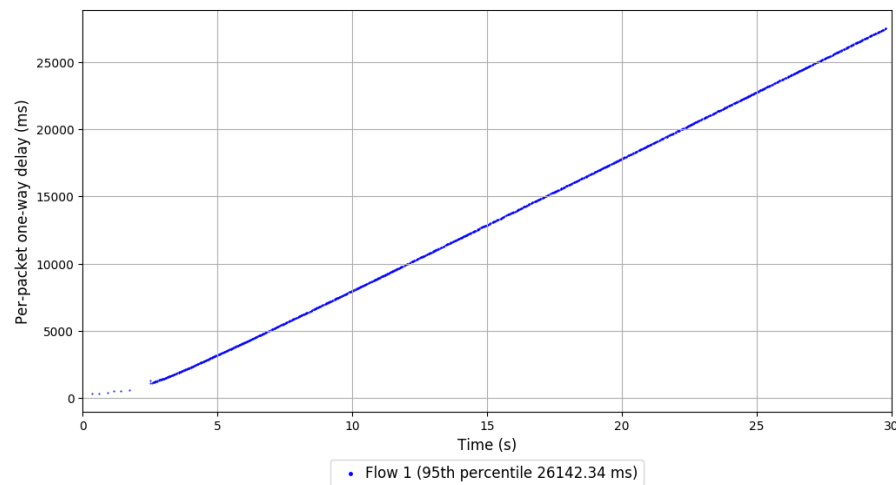
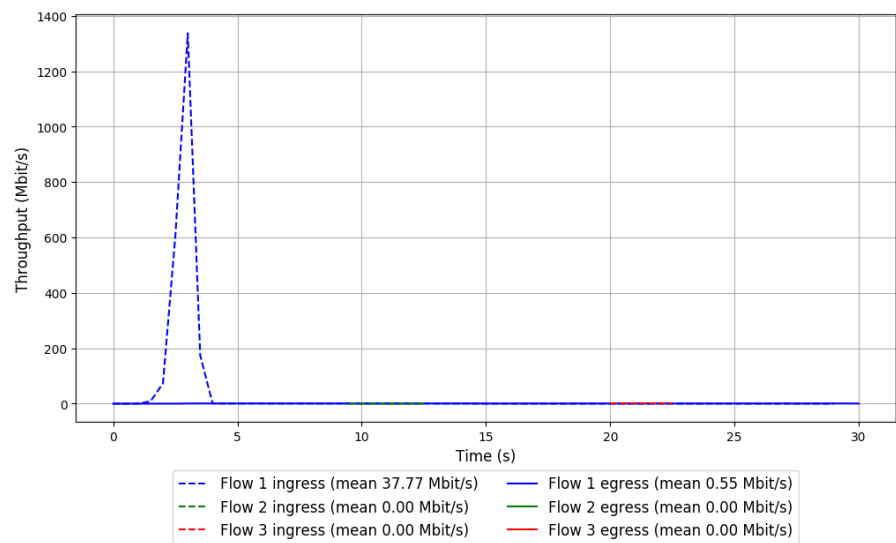
Start at: 2019-03-09 11:15:17

End at: 2019-03-09 11:15:47

Local clock offset: -1.476 ms

Remote clock offset: 5.442 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

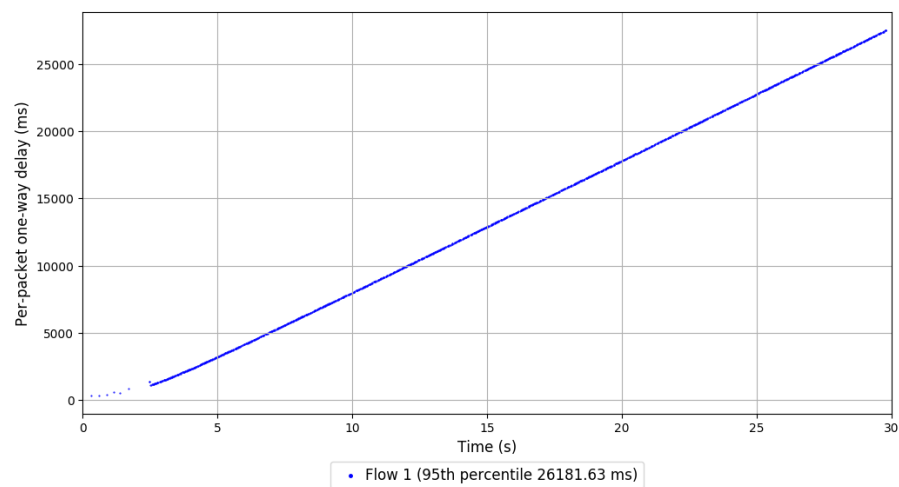
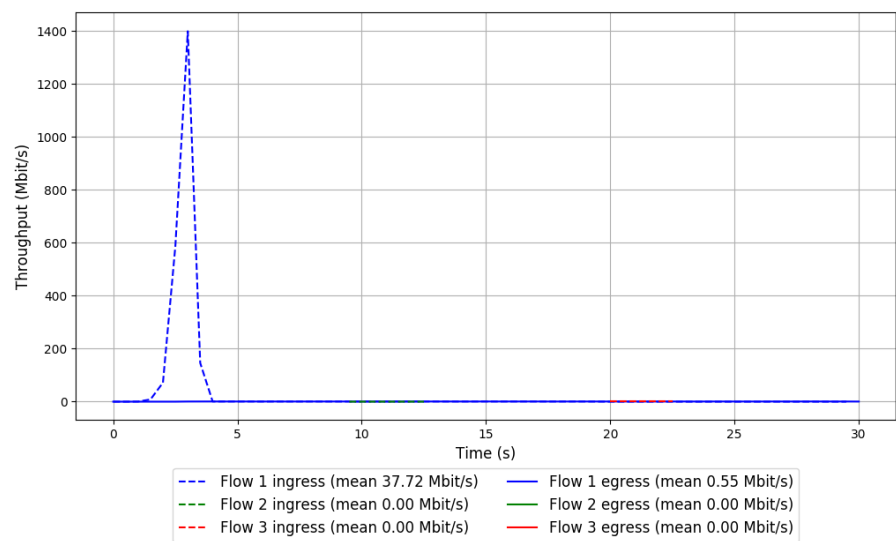
Start at: 2019-03-09 11:41:10

End at: 2019-03-09 11:41:40

Local clock offset: -8.313 ms

Remote clock offset: 5.56 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

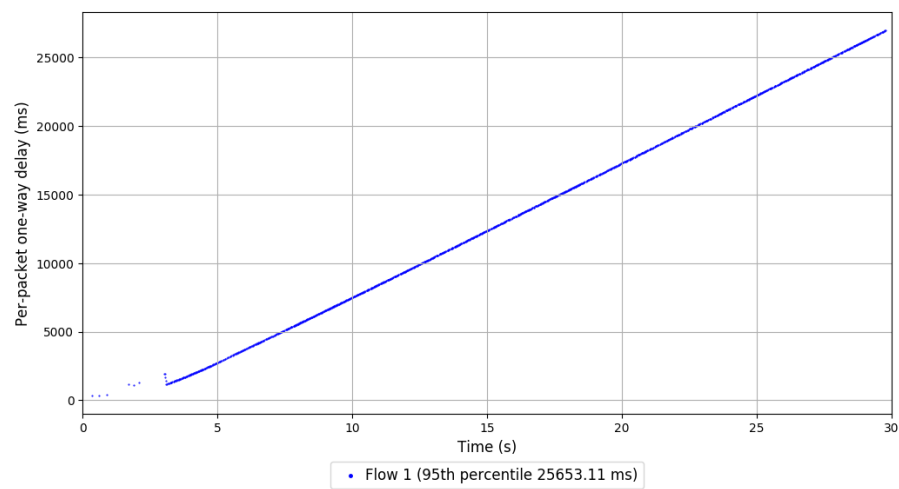
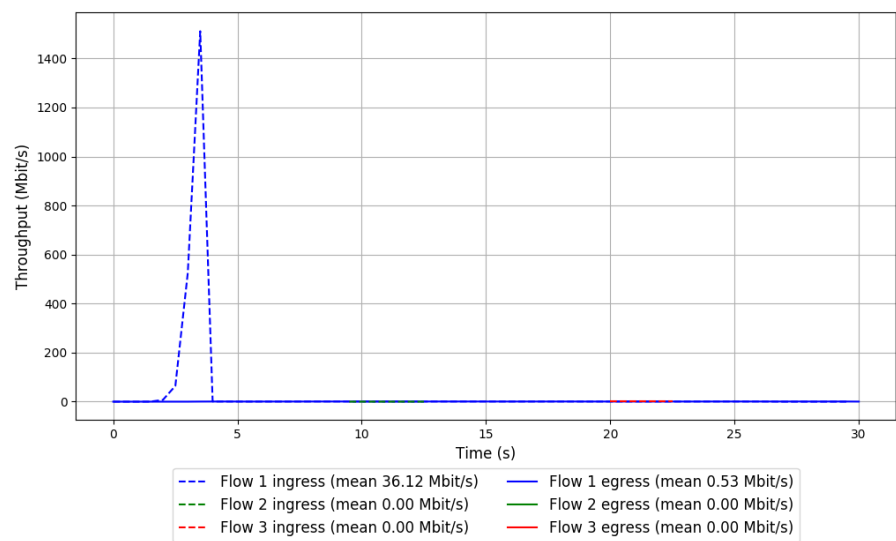
Start at: 2019-03-09 12:07:03

End at: 2019-03-09 12:07:33

Local clock offset: -0.652 ms

Remote clock offset: 6.677 ms

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

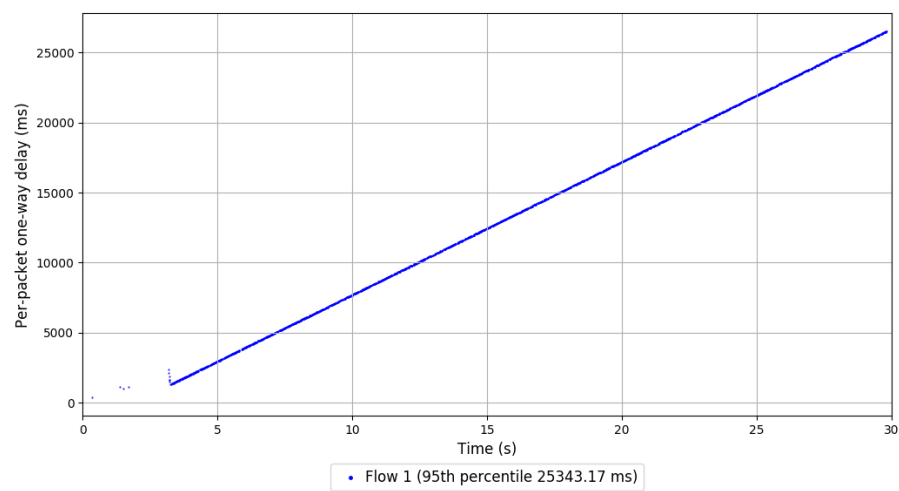
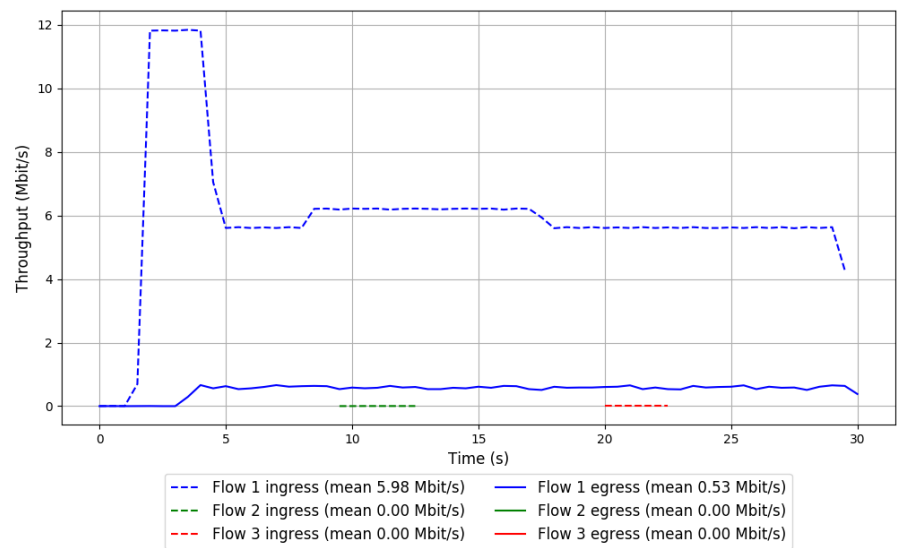
Start at: 2019-03-09 11:31:19

End at: 2019-03-09 11:31:49

Local clock offset: -7.209 ms

Remote clock offset: 2.845 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

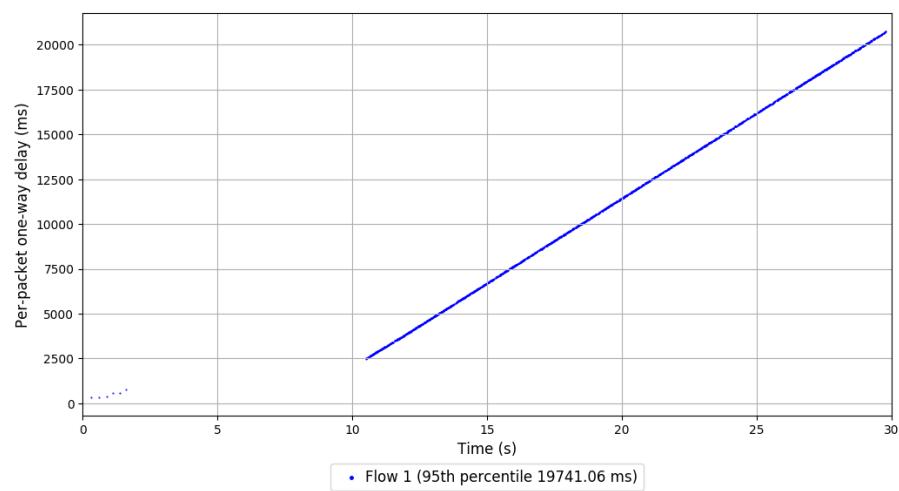
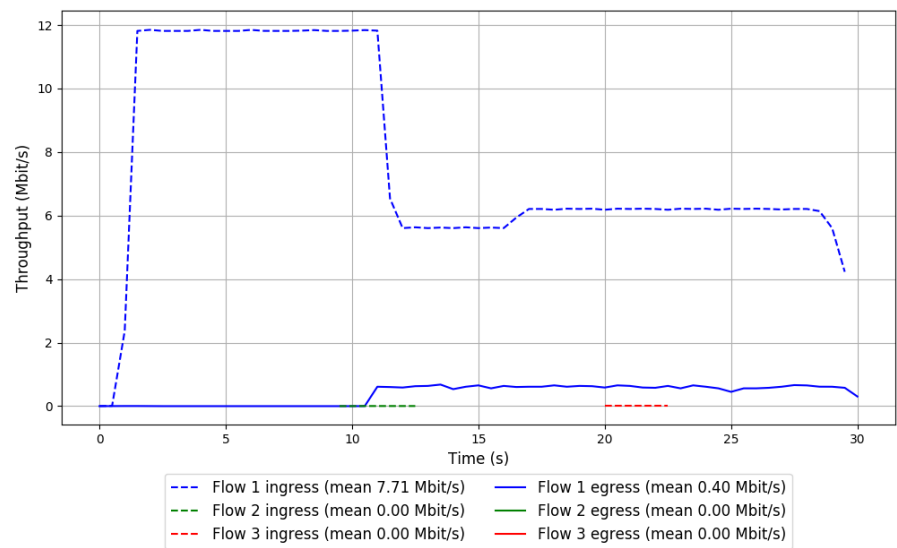
Start at: 2019-03-09 11:57:12

End at: 2019-03-09 11:57:42

Local clock offset: -2.112 ms

Remote clock offset: 6.564 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

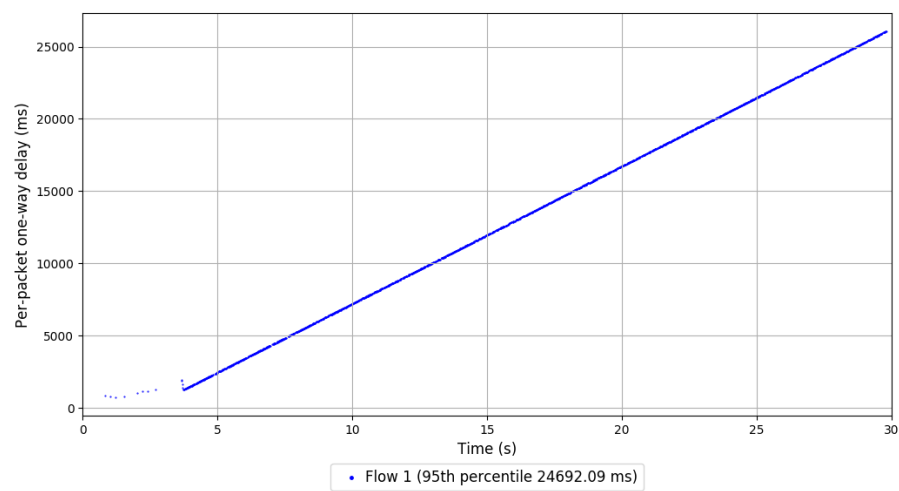
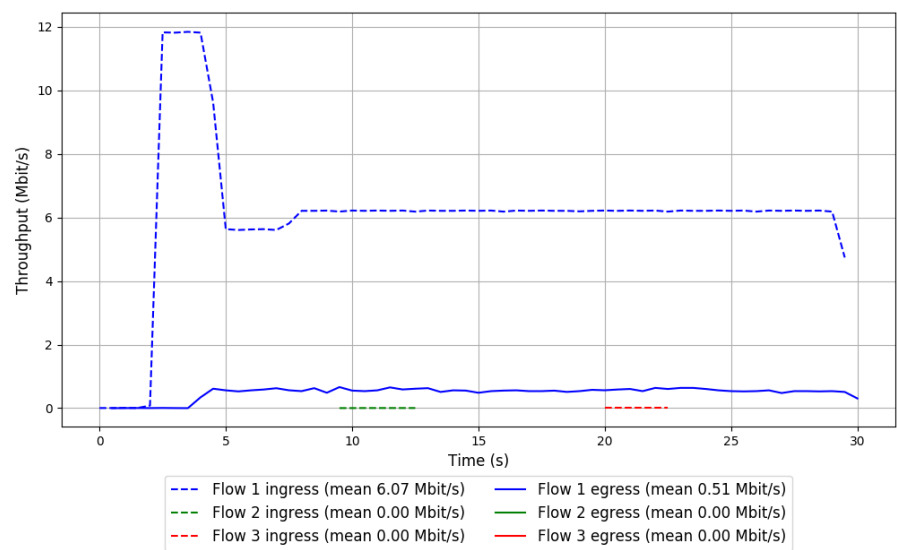
Start at: 2019-03-09 12:23:04

End at: 2019-03-09 12:23:34

Local clock offset: -4.498 ms

Remote clock offset: 5.202 ms

Run 3: Report of PCC-Expr — Data Link

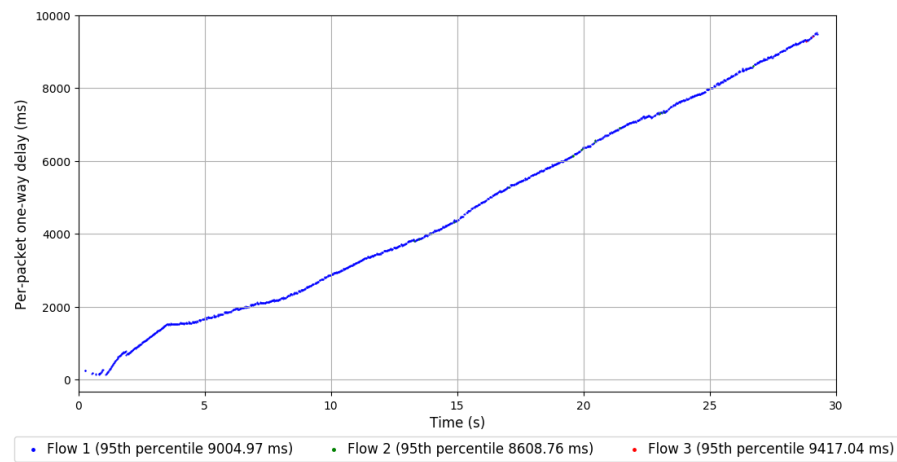
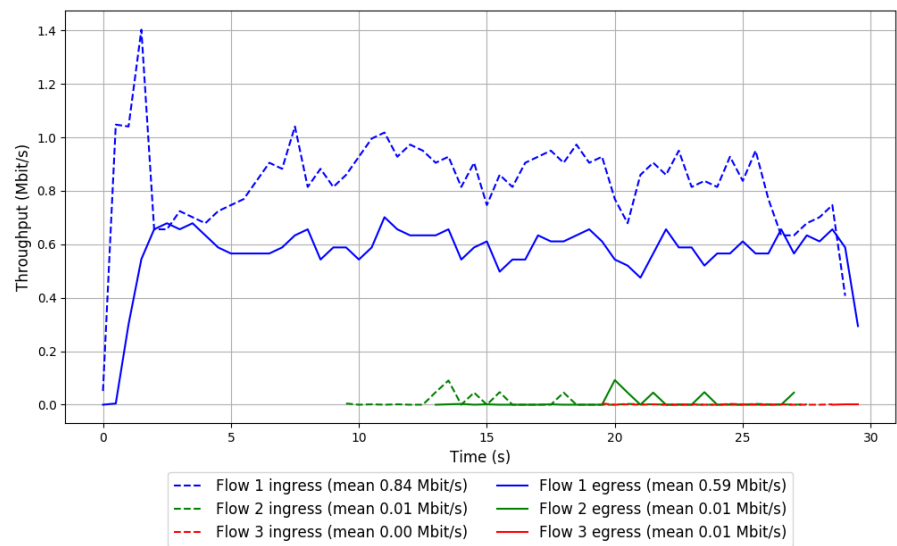


```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-09 11:16:32
End at: 2019-03-09 11:17:02
Local clock offset: -1.424 ms
Remote clock offset: 2.674 ms

# Below is generated by plot.py at 2019-03-09 12:28:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 9013.666 ms
Loss rate: 30.73%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 9004.974 ms
Loss rate: 30.86%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 8608.761 ms
Loss rate: 5.48%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 9417.040 ms
Loss rate: 83.33%
```

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-09 11:42:25

End at: 2019-03-09 11:42:55

Local clock offset: -7.7 ms

Remote clock offset: 2.855 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 7097.009 ms

Loss rate: 25.63%

-- Flow 1:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 7097.009 ms

Loss rate: 25.61%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6973.498 ms

Loss rate: 29.17%

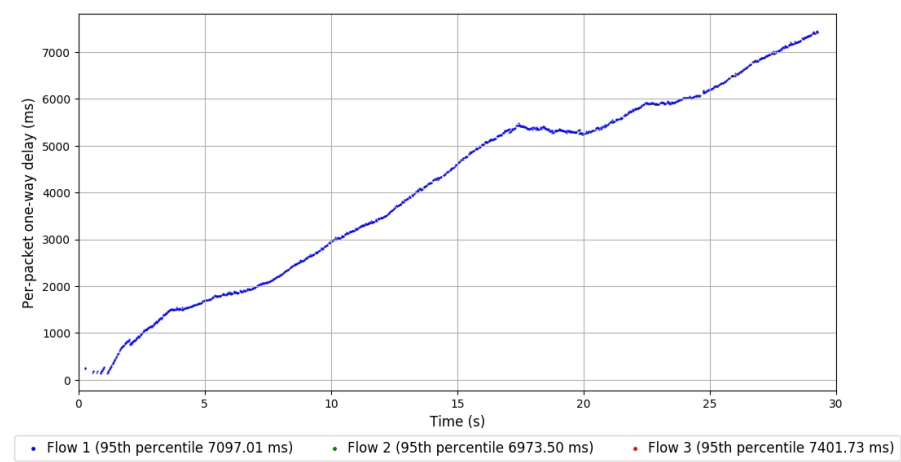
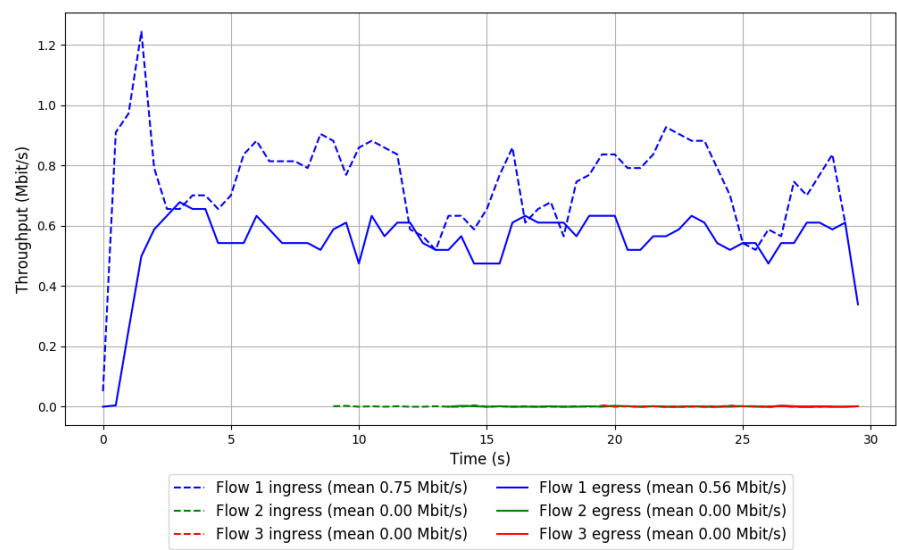
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 7401.730 ms

Loss rate: 58.33%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-03-09 12:08:18

End at: 2019-03-09 12:08:48

Local clock offset: -0.518 ms

Remote clock offset: 6.659 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 7944.085 ms

Loss rate: 28.64%

-- Flow 1:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 7930.436 ms

Loss rate: 28.62%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 7950.794 ms

Loss rate: 33.33%

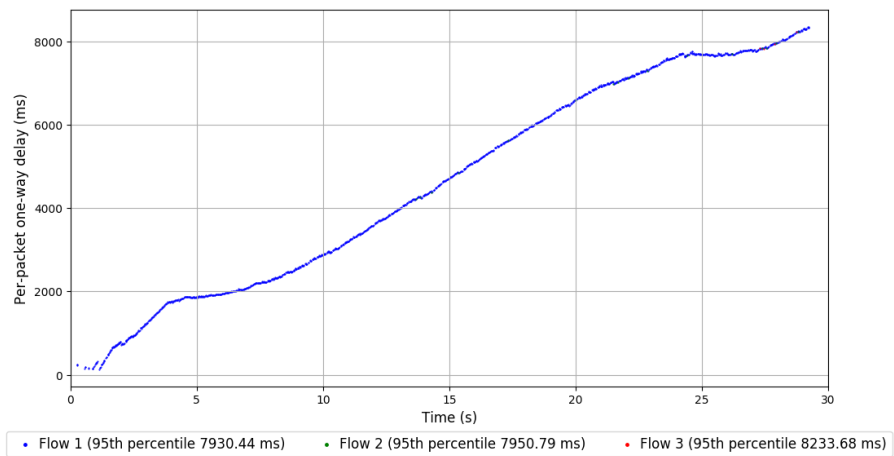
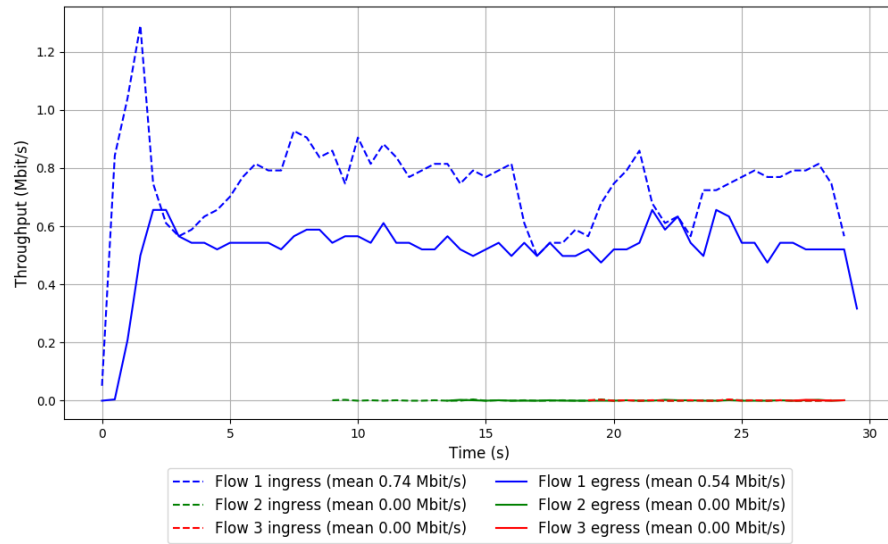
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 8233.680 ms

Loss rate: 66.67%

Run 3: Report of QUIC Cubic — Data Link

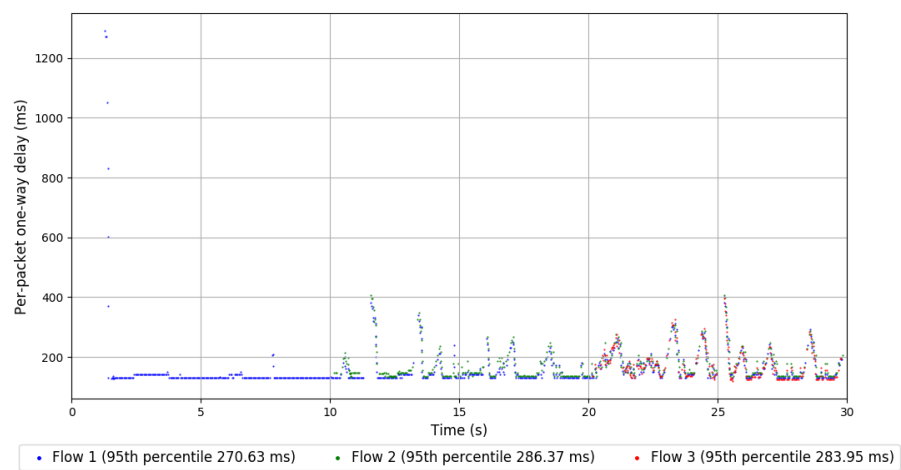
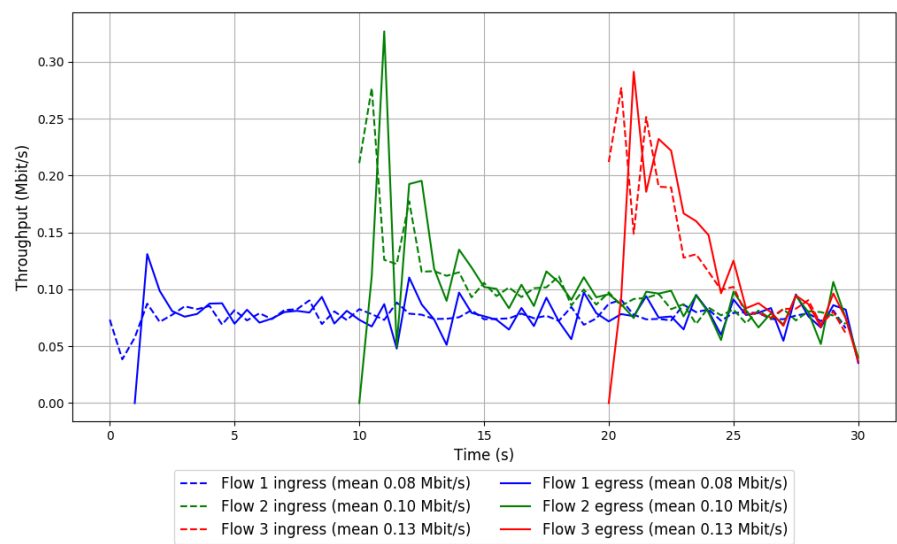



```
Run 1: Statistics of SReAM

Start at: 2019-03-09 11:22:41
End at: 2019-03-09 11:23:11
Local clock offset: -5.168 ms
Remote clock offset: 1.715 ms

# Below is generated by plot.py at 2019-03-09 12:28:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 280.507 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 270.634 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 286.374 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 283.954 ms
Loss rate: 1.92%
```

Run 1: Report of SReAM — Data Link

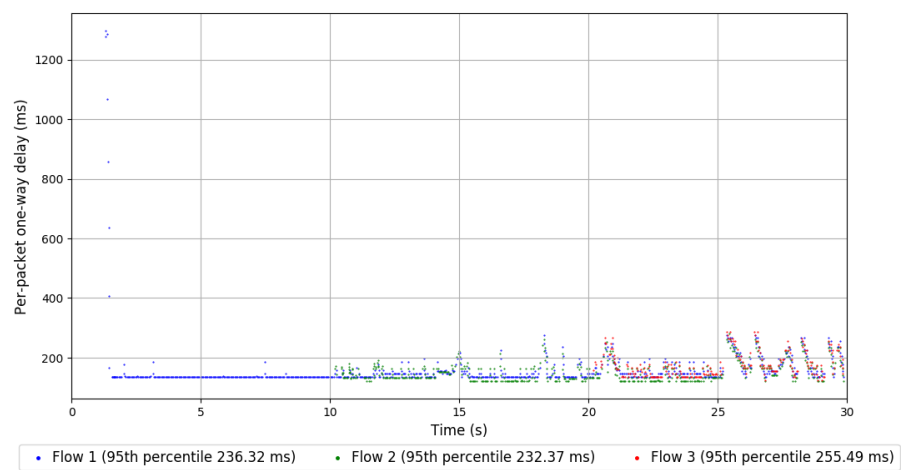
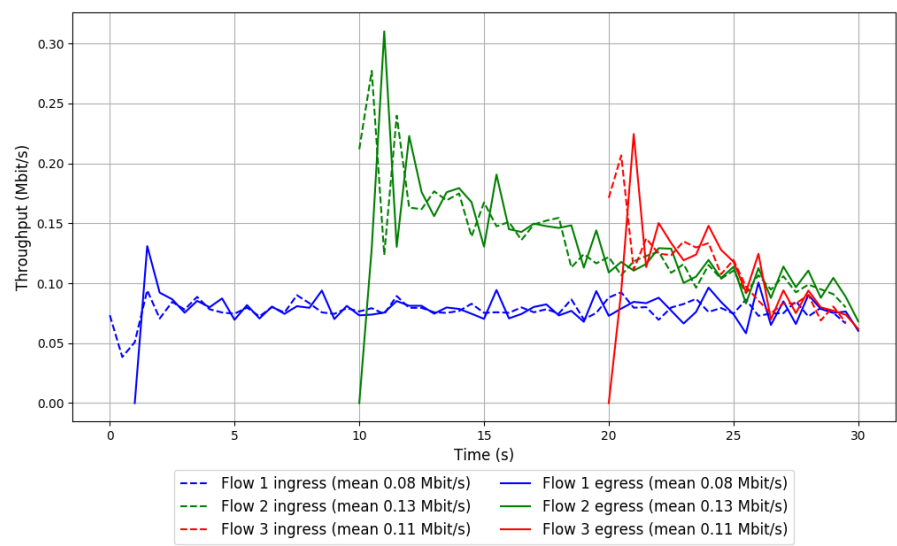


Run 2: Statistics of SCReAM

Start at: 2019-03-09 11:48:35
End at: 2019-03-09 11:49:05
Local clock offset: -5.775 ms
Remote clock offset: 1.281 ms

Below is generated by plot.py at 2019-03-09 12:28:14
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 236.930 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 236.316 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 232.369 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 255.494 ms
Loss rate: 1.61%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-03-09 12:14:27

End at: 2019-03-09 12:14:57

Local clock offset: -0.259 ms

Remote clock offset: 2.721 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 233.056 ms

Loss rate: 0.90%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 213.018 ms

Loss rate: 0.66%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 235.084 ms

Loss rate: 0.81%

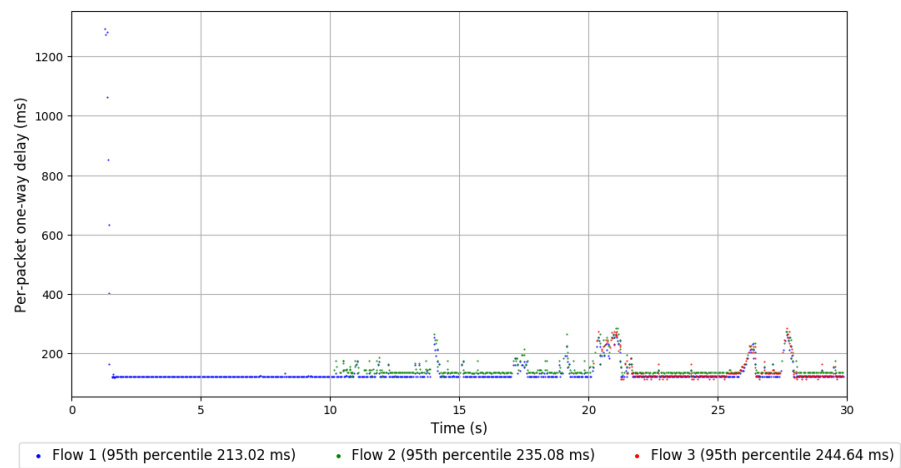
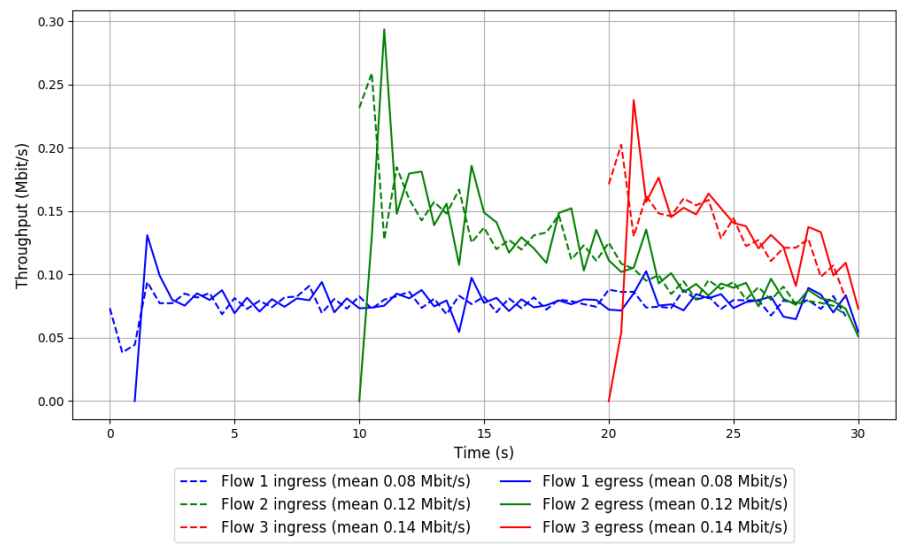
-- Flow 3:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 244.636 ms

Loss rate: 1.46%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-03-09 11:32:33

End at: 2019-03-09 11:33:03

Local clock offset: -7.342 ms

Remote clock offset: 6.952 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 351.470 ms

Loss rate: 1.21%

-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 668.280 ms

Loss rate: 0.81%

-- Flow 2:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 263.857 ms

Loss rate: 1.26%

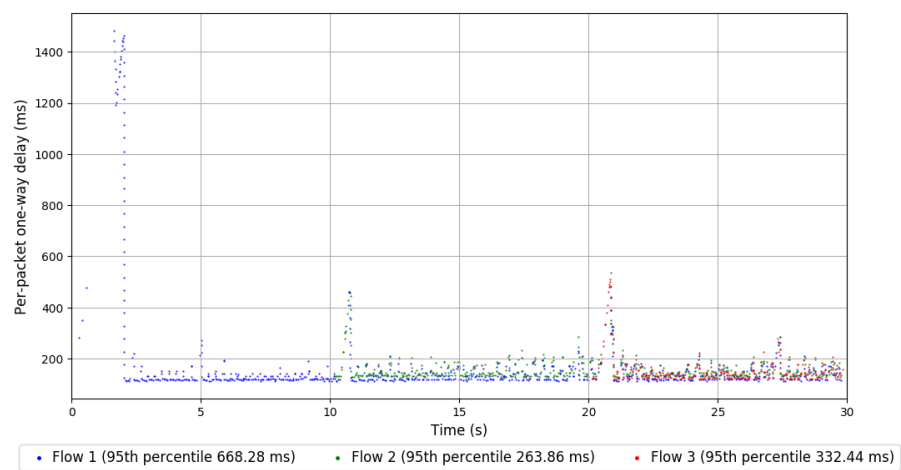
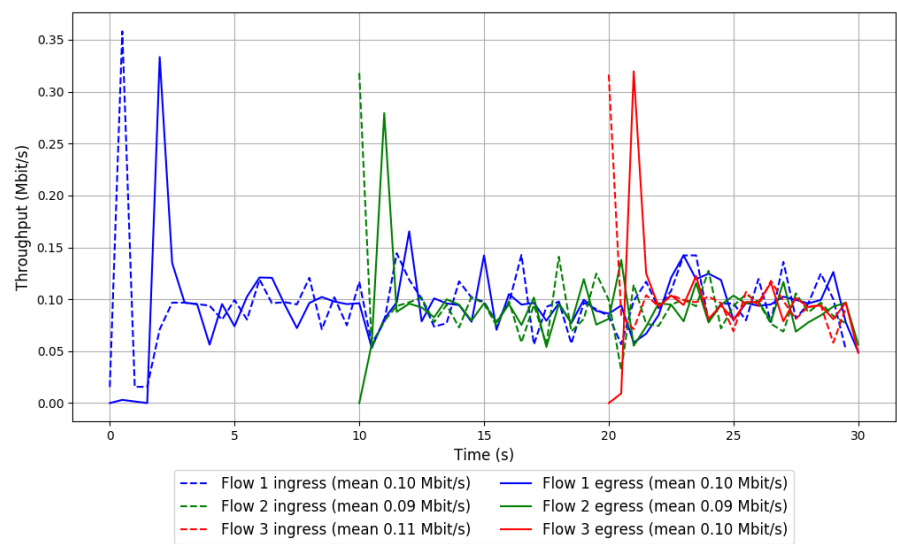
-- Flow 3:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 332.436 ms

Loss rate: 2.24%

Run 1: Report of Sprout — Data Link

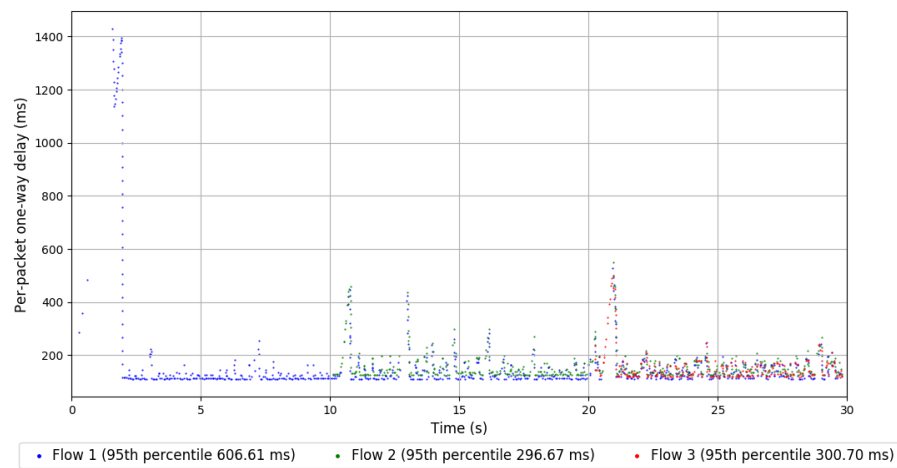
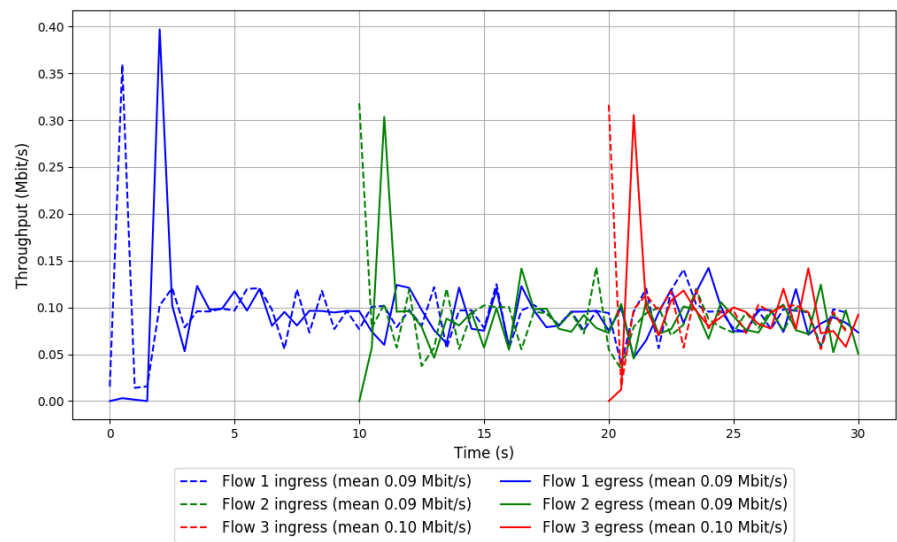


Run 2: Statistics of Sprout

Start at: 2019-03-09 11:58:26
End at: 2019-03-09 11:58:56
Local clock offset: -1.818 ms
Remote clock offset: 6.534 ms

```
# Below is generated by plot.py at 2019-03-09 12:28:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 391.353 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 606.608 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 296.668 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 300.704 ms
Loss rate: 1.38%
```

Run 2: Report of Sprout — Data Link

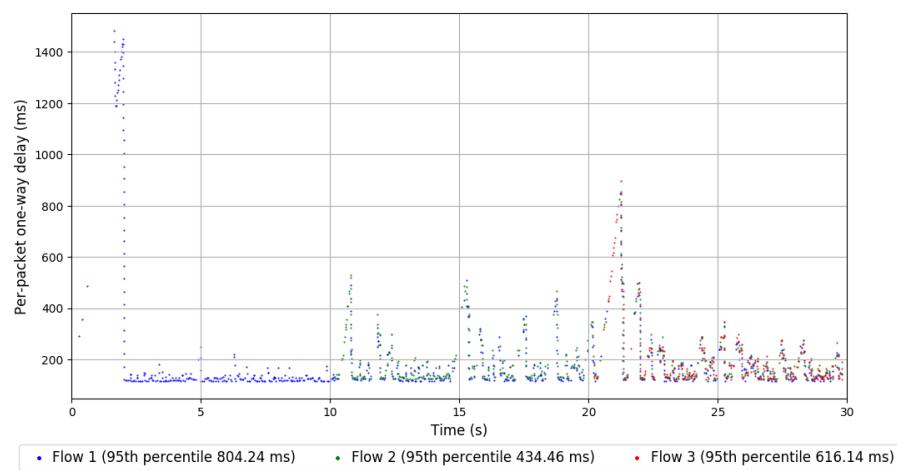
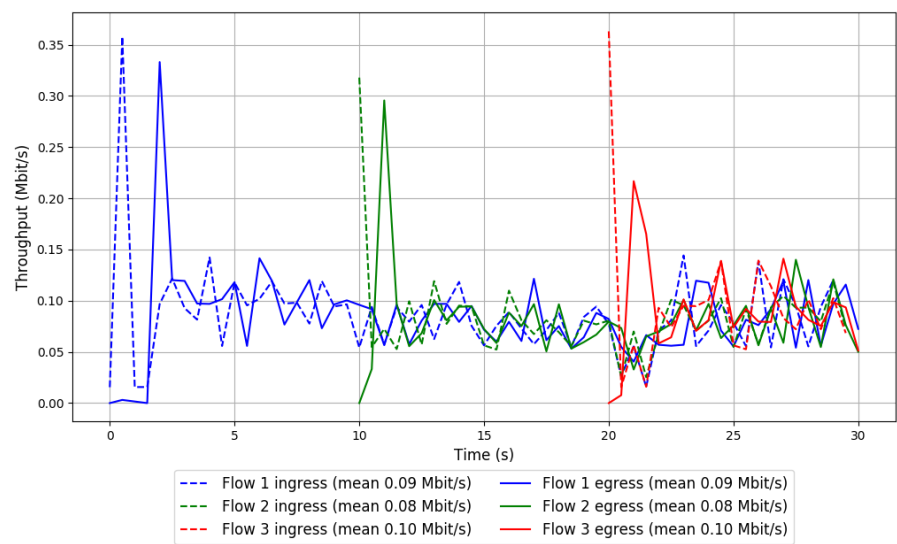


Run 3: Statistics of Sprout

Start at: 2019-03-09 12:24:20
End at: 2019-03-09 12:24:50
Local clock offset: -4.037 ms
Remote clock offset: 1.516 ms

```
# Below is generated by plot.py at 2019-03-09 12:28:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 528.234 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 804.235 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 434.464 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 616.139 ms
Loss rate: 2.34%
```

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-03-09 11:11:35

End at: 2019-03-09 11:12:05

Local clock offset: 0.044 ms

Remote clock offset: 2.773 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 3392.328 ms

Loss rate: 7.41%

-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2579.463 ms

Loss rate: 3.83%

-- Flow 2:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 3178.206 ms

Loss rate: 8.11%

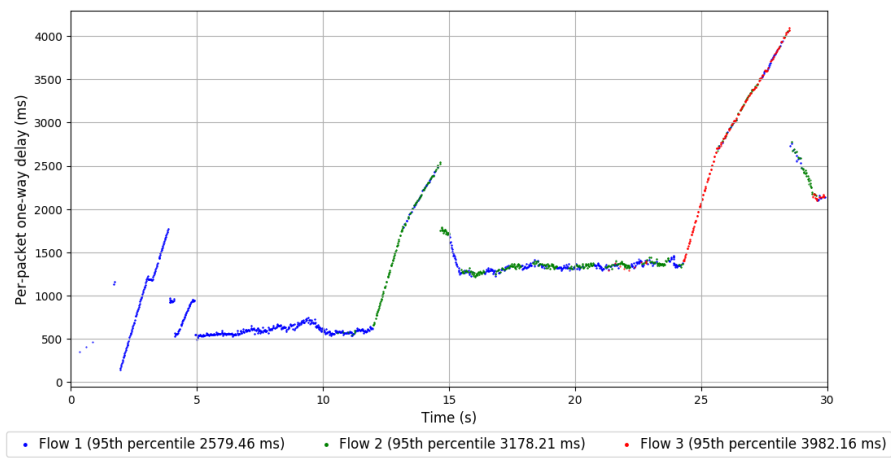
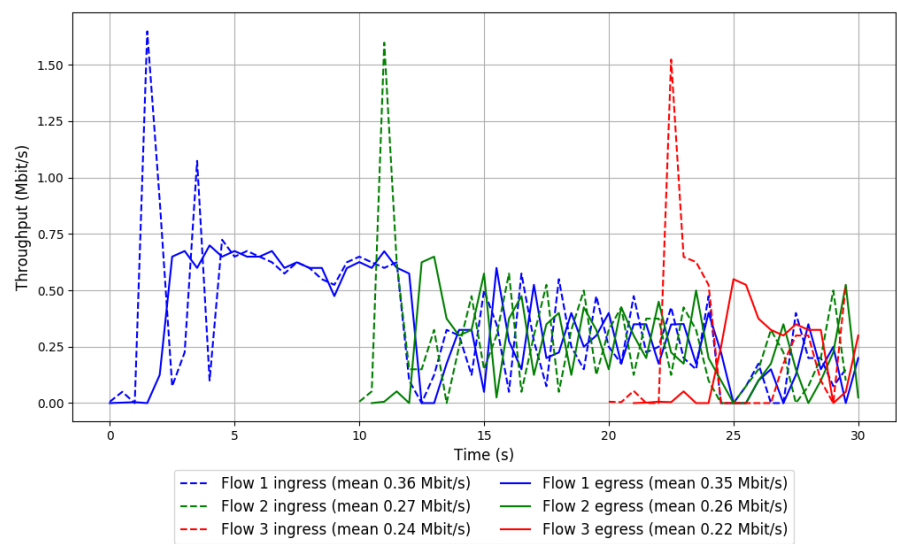
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3982.156 ms

Loss rate: 21.92%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-09 11:37:28

End at: 2019-03-09 11:37:58

Local clock offset: -7.278 ms

Remote clock offset: 8.151 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 2881.793 ms

Loss rate: 7.85%

-- Flow 1:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 2539.791 ms

Loss rate: 4.21%

-- Flow 2:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 2957.745 ms

Loss rate: 8.33%

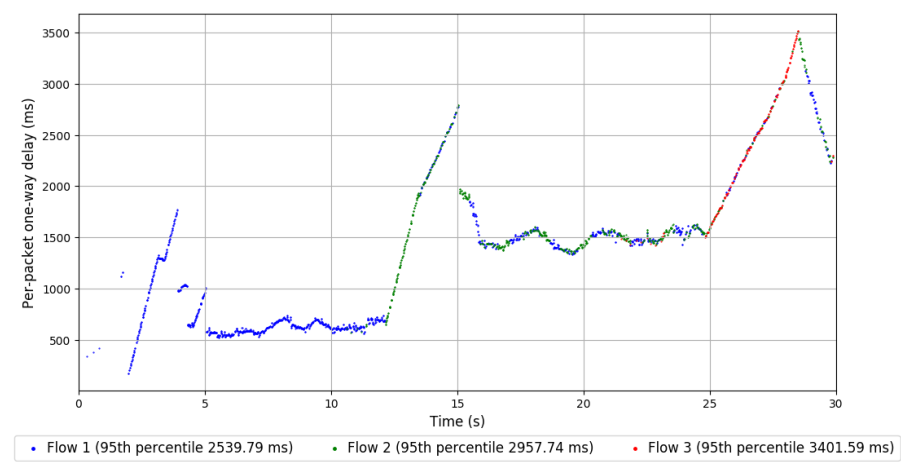
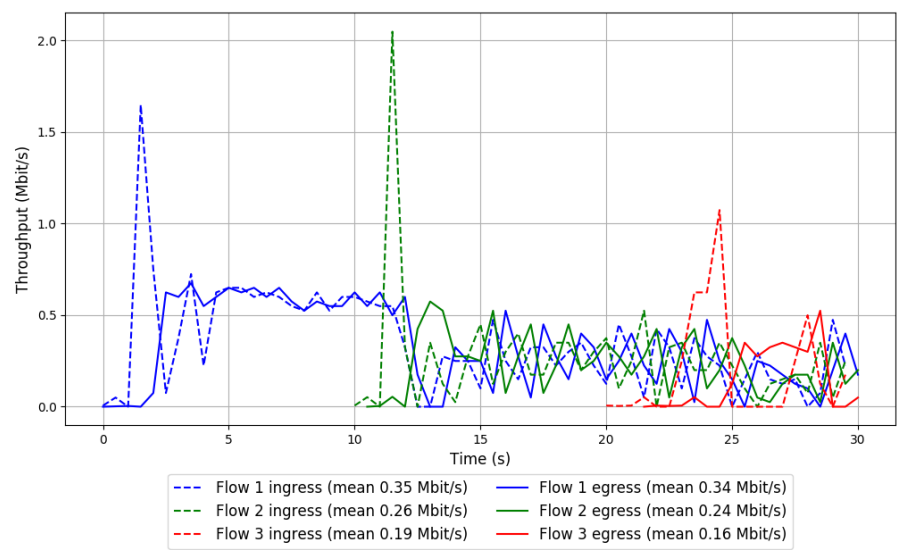
-- Flow 3:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 3401.588 ms

Loss rate: 27.07%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-09 12:03:22

End at: 2019-03-09 12:03:52

Local clock offset: -1.04 ms

Remote clock offset: 2.875 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.51 Mbit/s

95th percentile per-packet one-way delay: 4058.381 ms

Loss rate: 7.89%

-- Flow 1:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 3044.809 ms

Loss rate: 4.53%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3687.692 ms

Loss rate: 9.66%

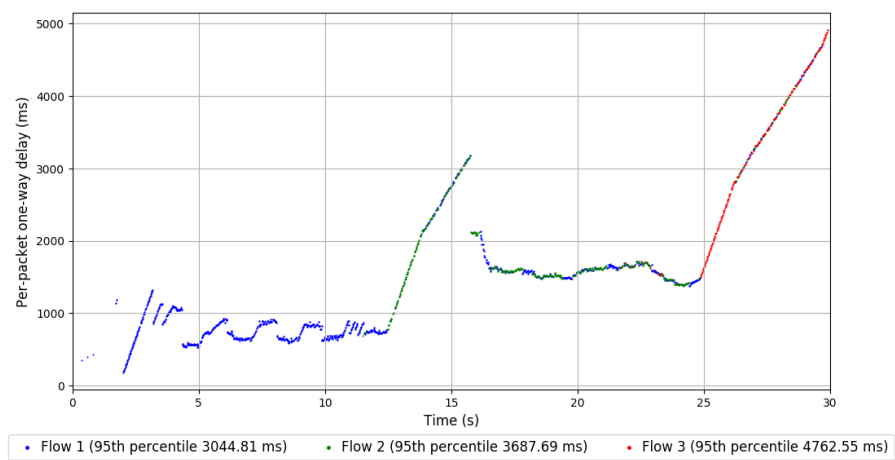
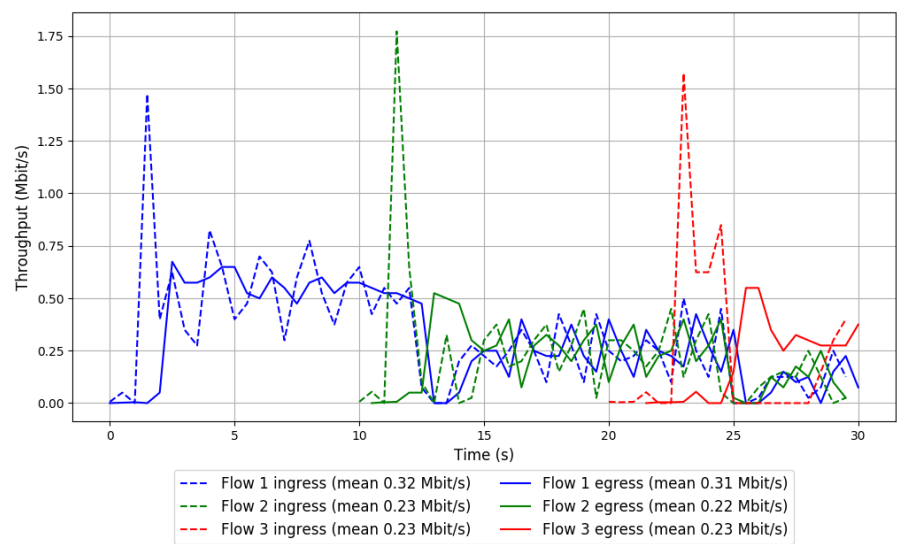
-- Flow 3:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 4762.554 ms

Loss rate: 18.50%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-03-09 11:17:46

End at: 2019-03-09 11:18:16

Local clock offset: -2.179 ms

Remote clock offset: 6.51 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 1632.622 ms

Loss rate: 5.04%

-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 1439.812 ms

Loss rate: 2.16%

-- Flow 2:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 1670.794 ms

Loss rate: 5.47%

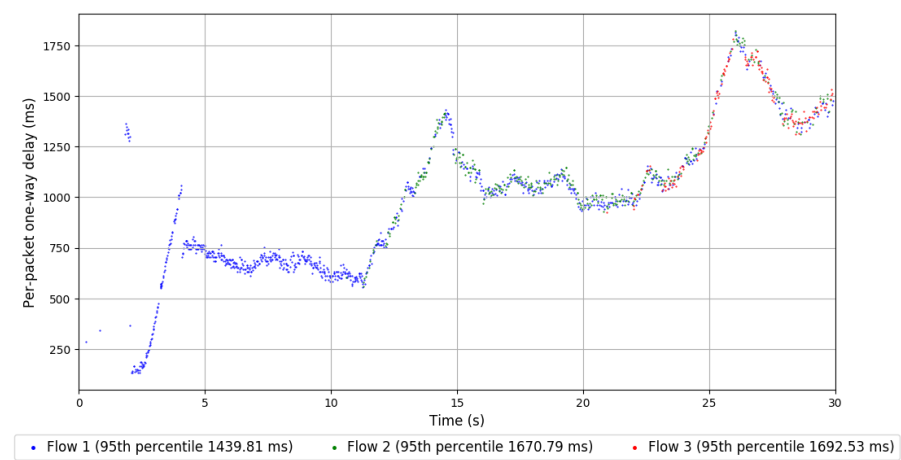
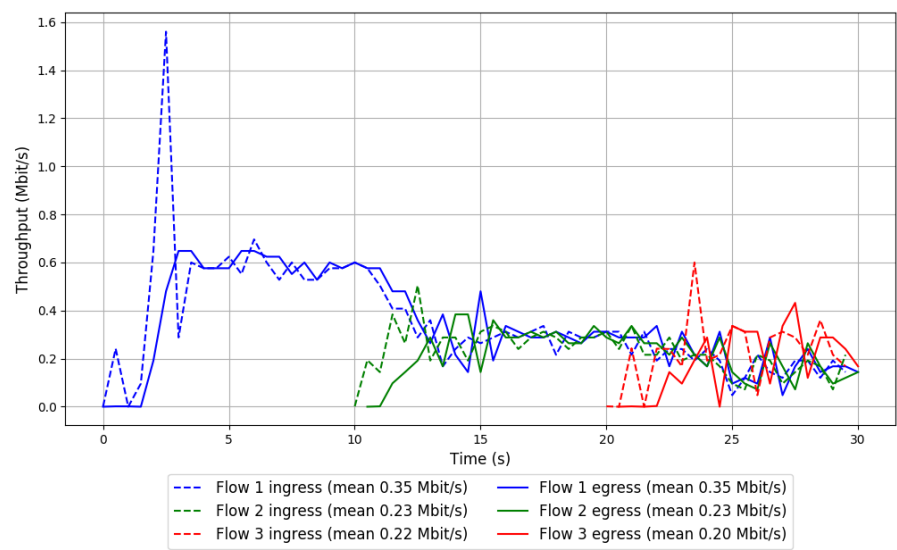
-- Flow 3:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 1692.534 ms

Loss rate: 17.81%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-09 11:43:38

End at: 2019-03-09 11:44:08

Local clock offset: -8.504 ms

Remote clock offset: 6.555 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 1956.082 ms

Loss rate: 5.81%

-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 1817.032 ms

Loss rate: 3.01%

-- Flow 2:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 1982.221 ms

Loss rate: 7.01%

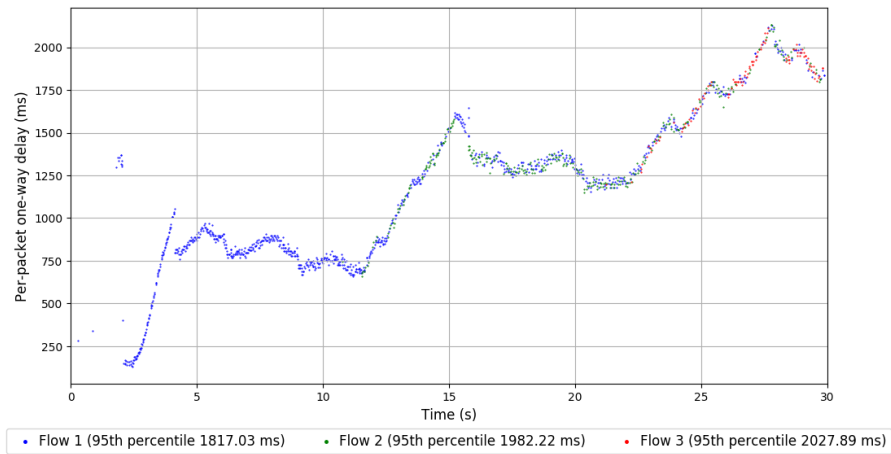
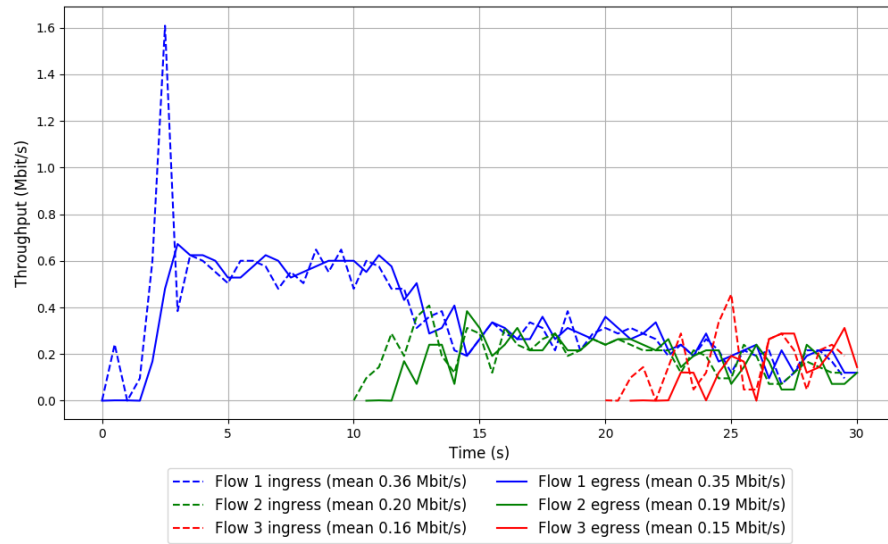
-- Flow 3:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 2027.892 ms

Loss rate: 21.76%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-03-09 12:09:31

End at: 2019-03-09 12:10:01

Local clock offset: -0.41 ms

Remote clock offset: 7.635 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1915.369 ms

Loss rate: 5.40%

-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 1753.271 ms

Loss rate: 2.60%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 1922.865 ms

Loss rate: 6.48%

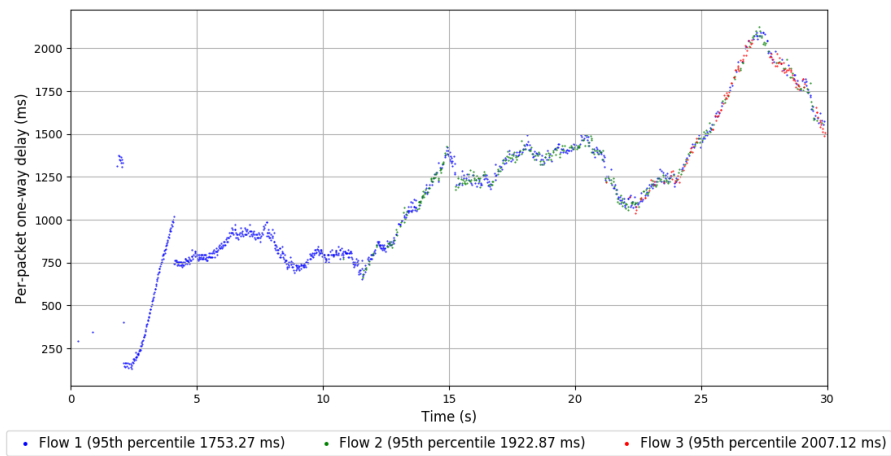
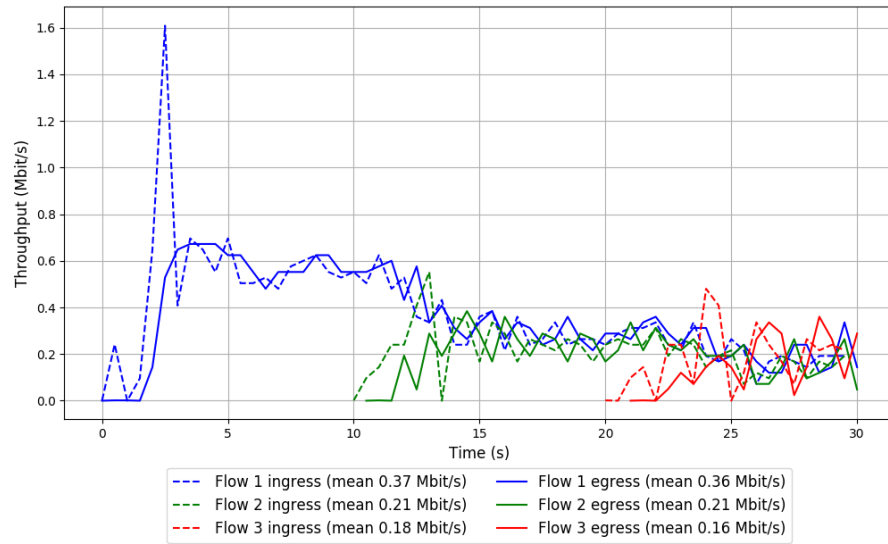
-- Flow 3:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 2007.115 ms

Loss rate: 20.24%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-03-09 11:35:00

End at: 2019-03-09 11:35:30

Local clock offset: -7.668 ms

Remote clock offset: 2.943 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1928.294 ms

Loss rate: 3.68%

-- Flow 1:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 1929.214 ms

Loss rate: 3.62%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1860.076 ms

Loss rate: 4.76%

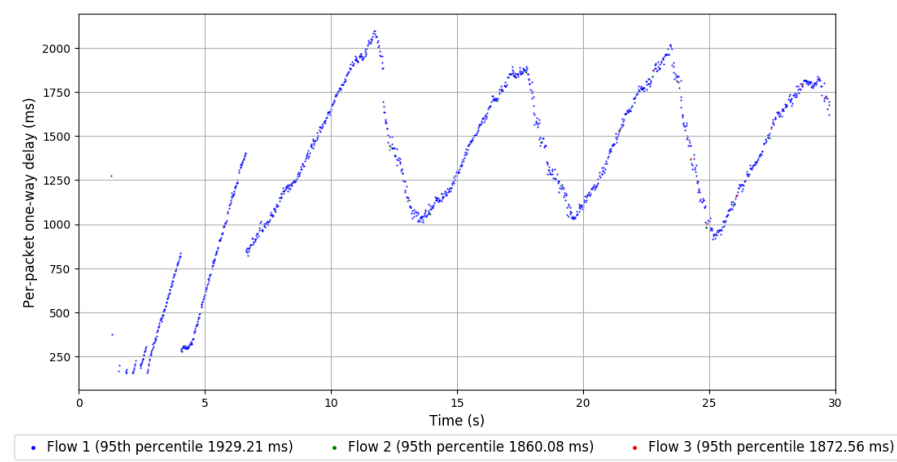
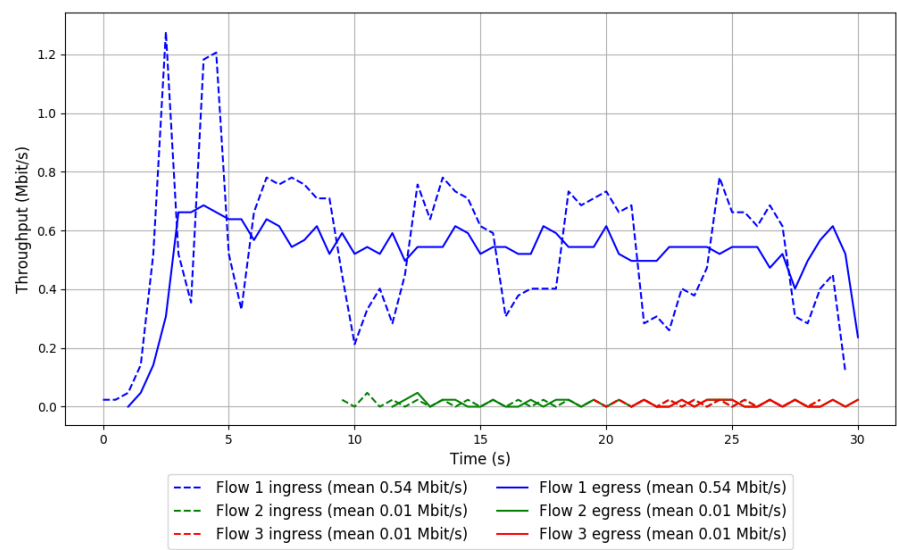
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1872.560 ms

Loss rate: 10.00%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-03-09 12:00:55

End at: 2019-03-09 12:01:25

Local clock offset: -2.111 ms

Remote clock offset: 1.686 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 1932.911 ms

Loss rate: 4.80%

-- Flow 1:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 1928.092 ms

Loss rate: 4.77%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1985.615 ms

Loss rate: 4.76%

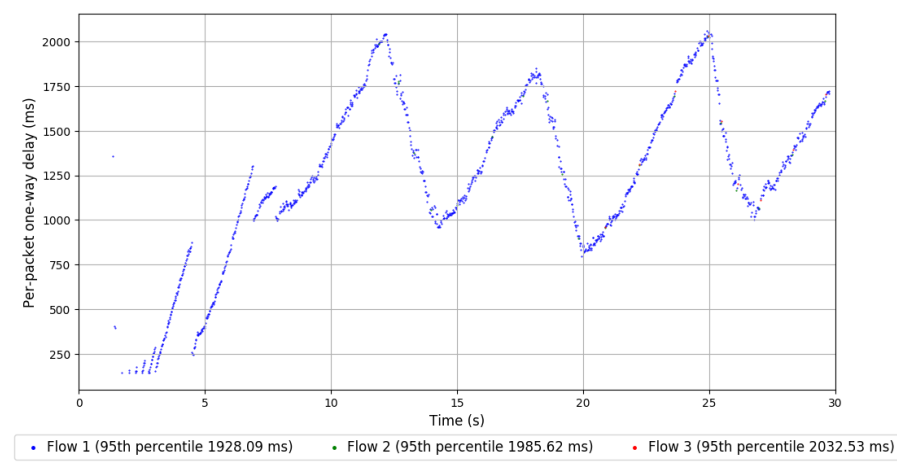
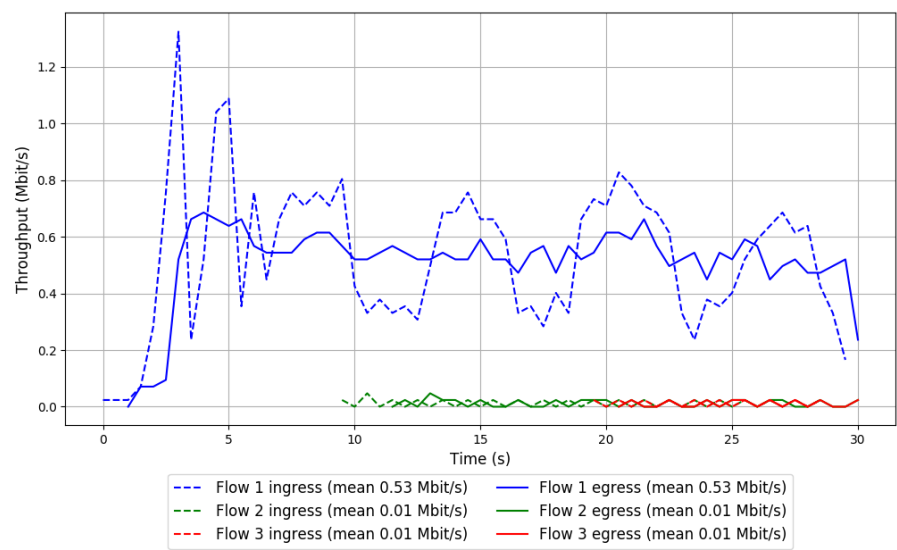
-- Flow 3:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 2032.532 ms

Loss rate: 10.00%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-03-09 12:26:48

End at: 2019-03-09 12:27:18

Local clock offset: -5.326 ms

Remote clock offset: 2.525 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 1861.079 ms

Loss rate: 4.46%

-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 1857.407 ms

Loss rate: 4.28%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 1720.440 ms

Loss rate: 9.52%

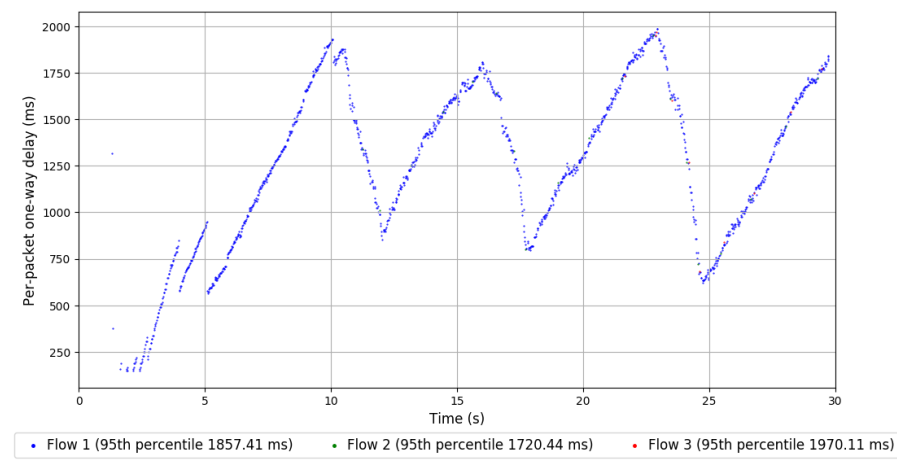
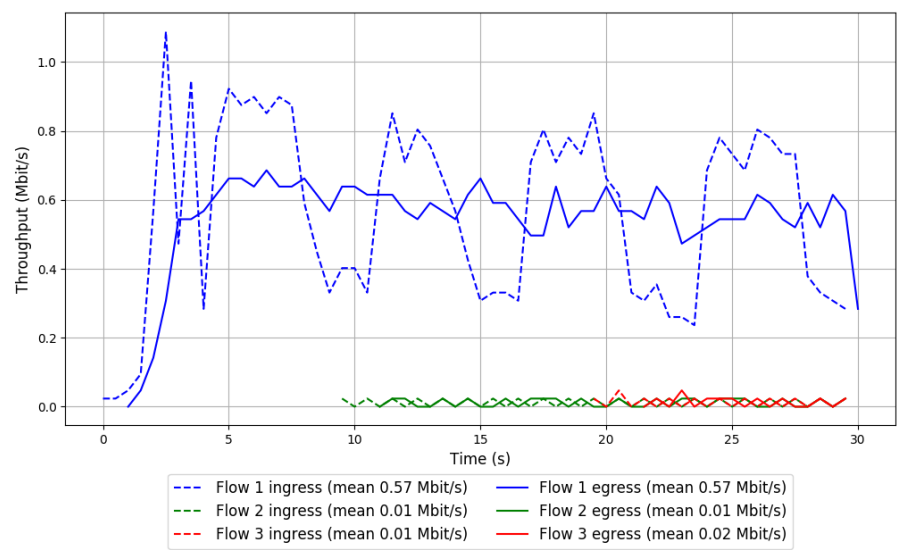
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1970.110 ms

Loss rate: 16.67%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

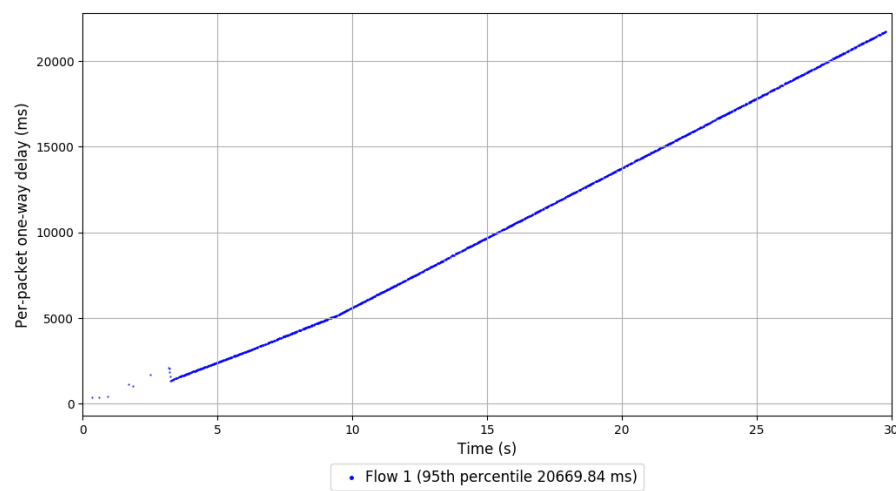
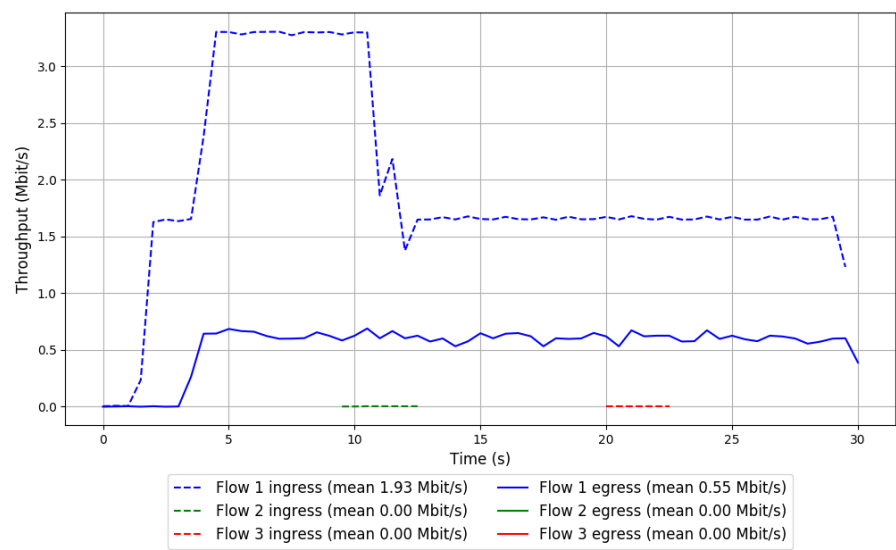
Start at: 2019-03-09 11:12:49

End at: 2019-03-09 11:13:19

Local clock offset: -0.633 ms

Remote clock offset: 7.711 ms

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

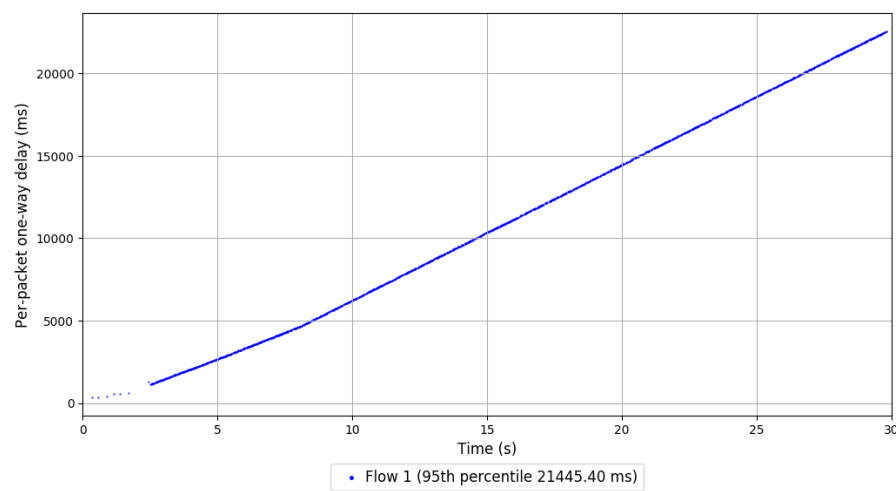
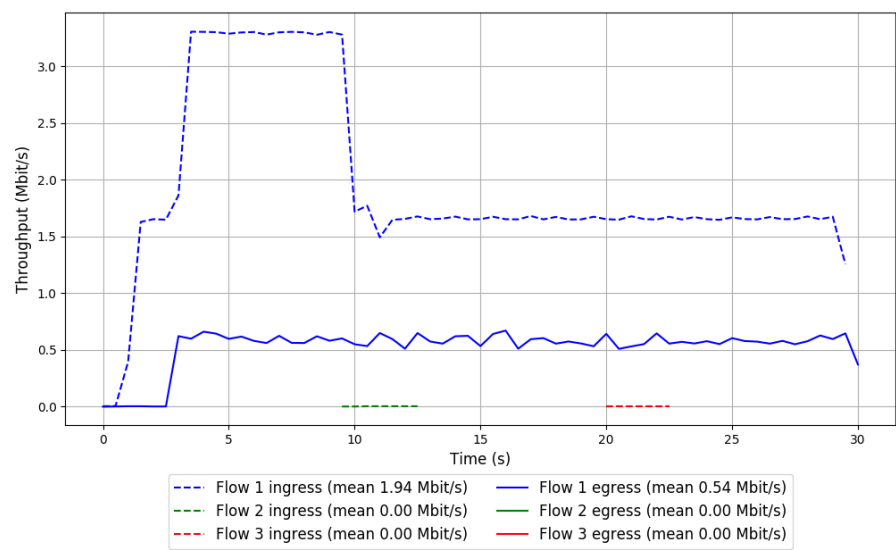
Start at: 2019-03-09 11:38:41

End at: 2019-03-09 11:39:11

Local clock offset: -7.415 ms

Remote clock offset: 6.879 ms

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

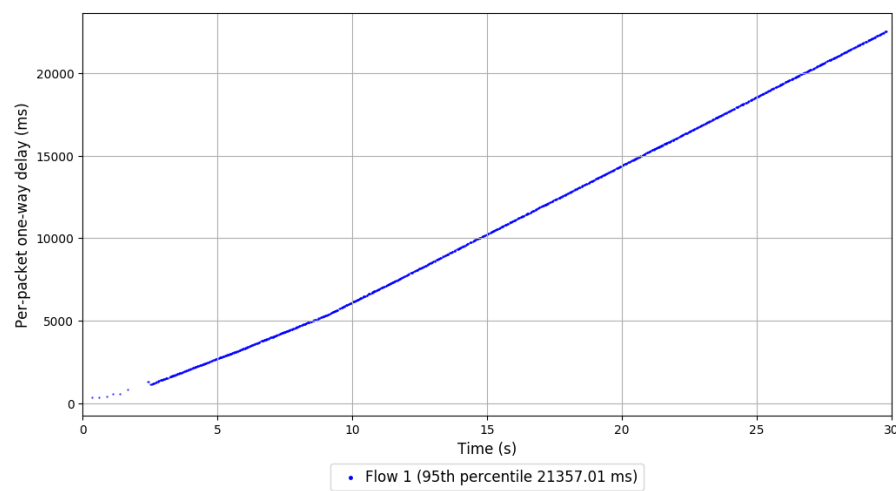
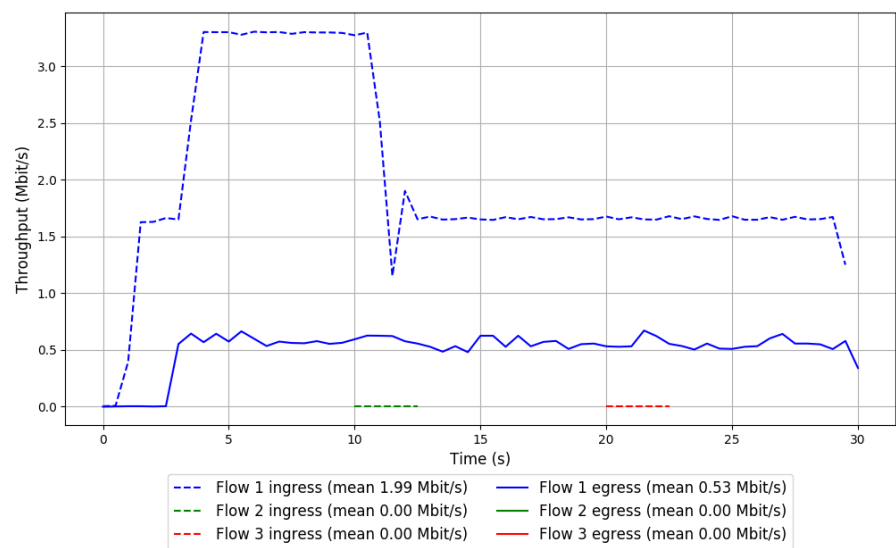
Start at: 2019-03-09 12:04:35

End at: 2019-03-09 12:05:05

Local clock offset: -1.704 ms

Remote clock offset: 6.578 ms

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2019-03-09 11:21:28

End at: 2019-03-09 11:21:58

Local clock offset: -3.984 ms

Remote clock offset: 7.671 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1235.509 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 1157.310 ms

Loss rate: 0.50%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1227.038 ms

Loss rate: 0.45%

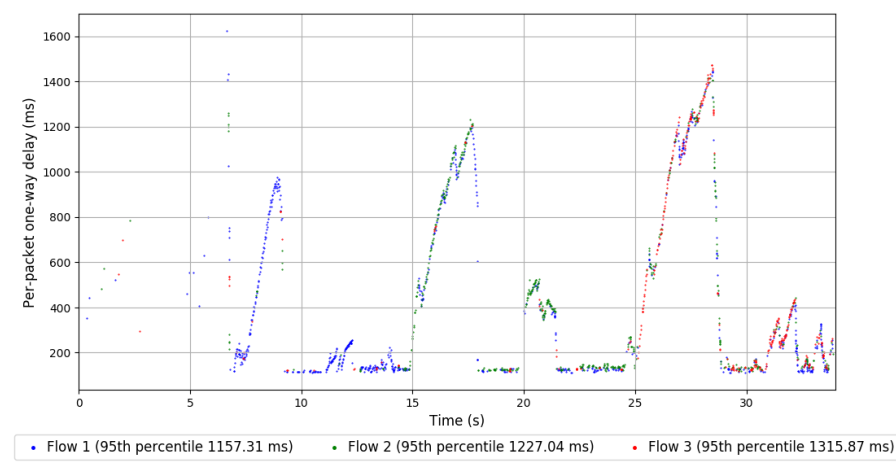
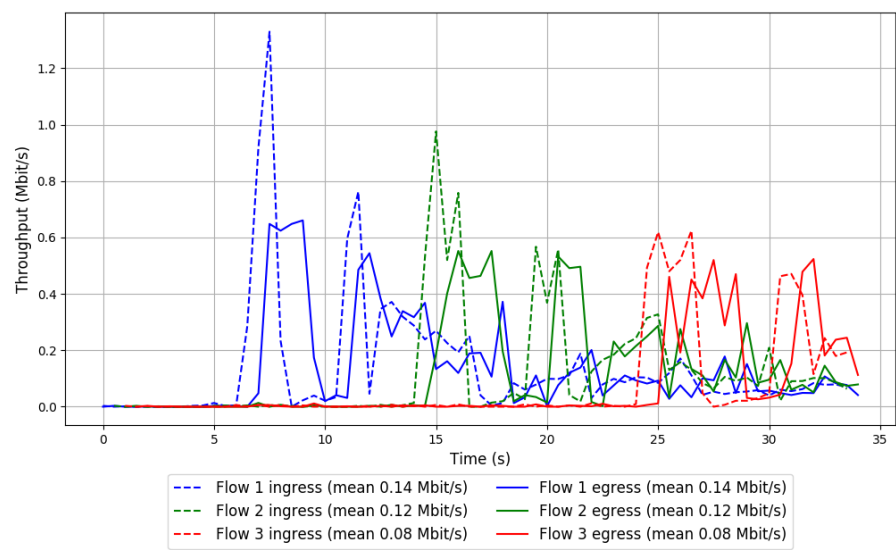
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 1315.867 ms

Loss rate: 2.65%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-09 11:47:21

End at: 2019-03-09 11:47:51

Local clock offset: -5.689 ms

Remote clock offset: 1.458 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 1571.059 ms

Loss rate: 1.06%

-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 1566.651 ms

Loss rate: 0.41%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1614.594 ms

Loss rate: 0.25%

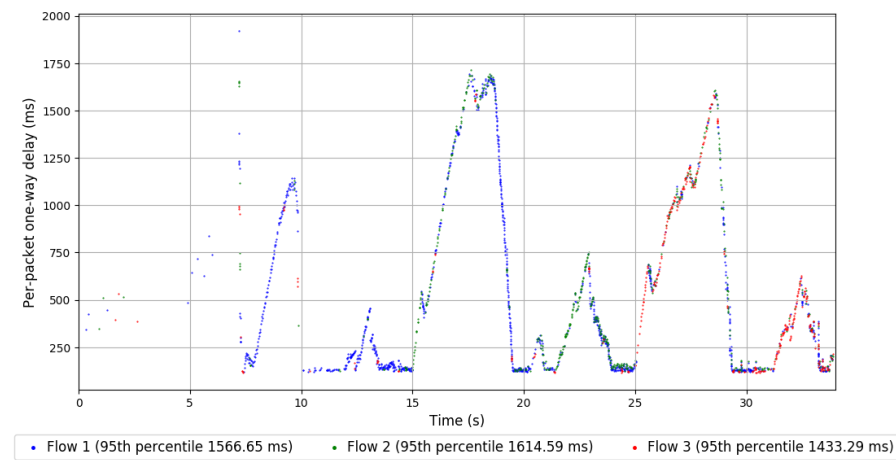
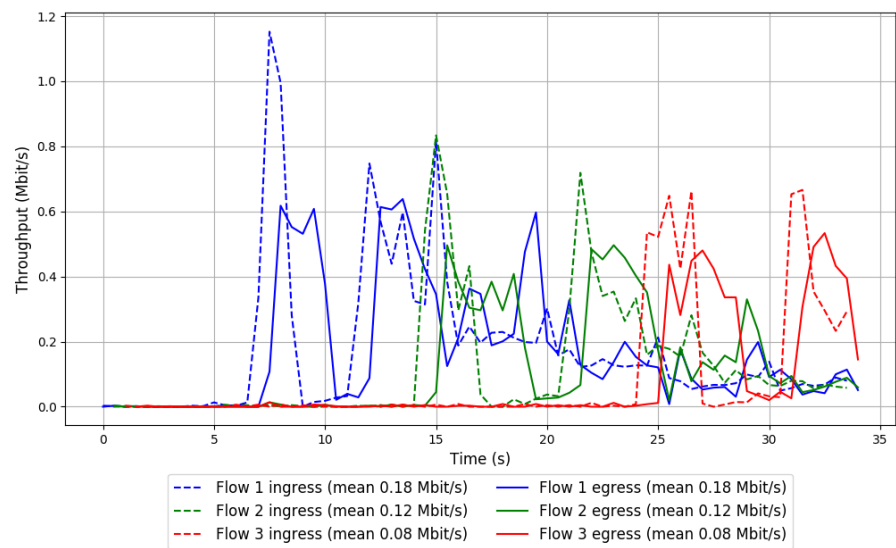
-- Flow 3:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 1433.292 ms

Loss rate: 3.64%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-03-09 12:13:13

End at: 2019-03-09 12:13:43

Local clock offset: -0.936 ms

Remote clock offset: 2.633 ms

Below is generated by plot.py at 2019-03-09 12:28:14

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 1418.690 ms

Loss rate: 0.64%

-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 1276.046 ms

Loss rate: 0.21%

-- Flow 2:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 1514.166 ms

Loss rate: 0.31%

-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 1483.025 ms

Loss rate: 1.98%

Run 3: Report of WebRTC media — Data Link

