

Pantheon Report

Generated at 2018-09-08 02:33:23 (UTC).

Data path: India on `em1` (*remote*) → AWS India 1 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

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

System info:

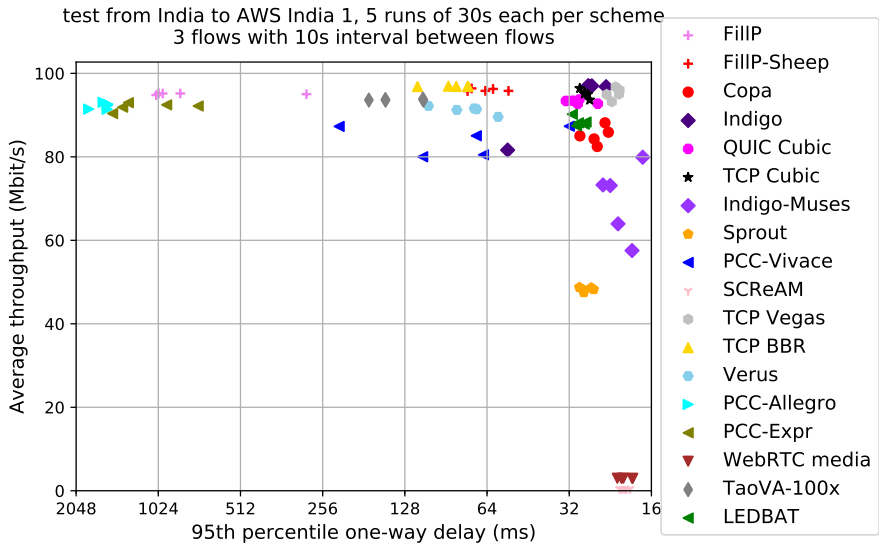
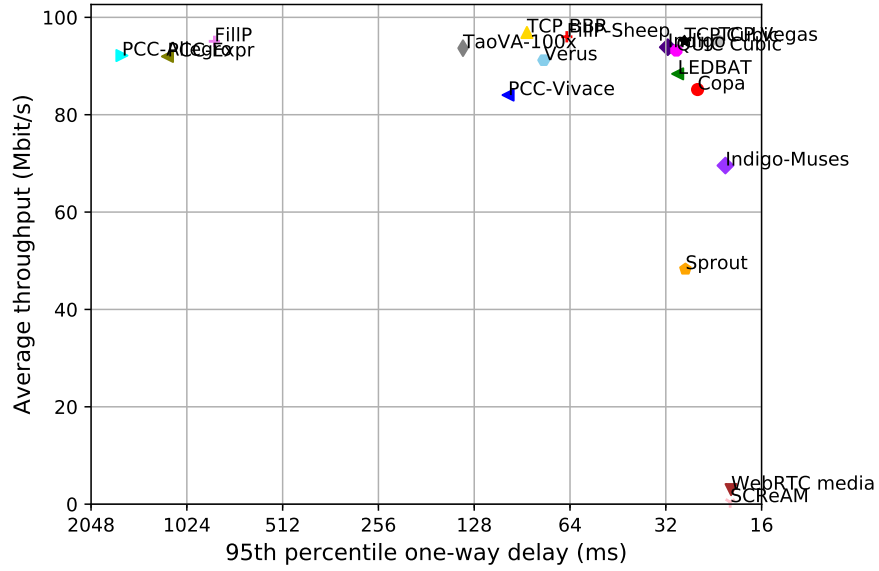
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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 India to AWS India 1, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



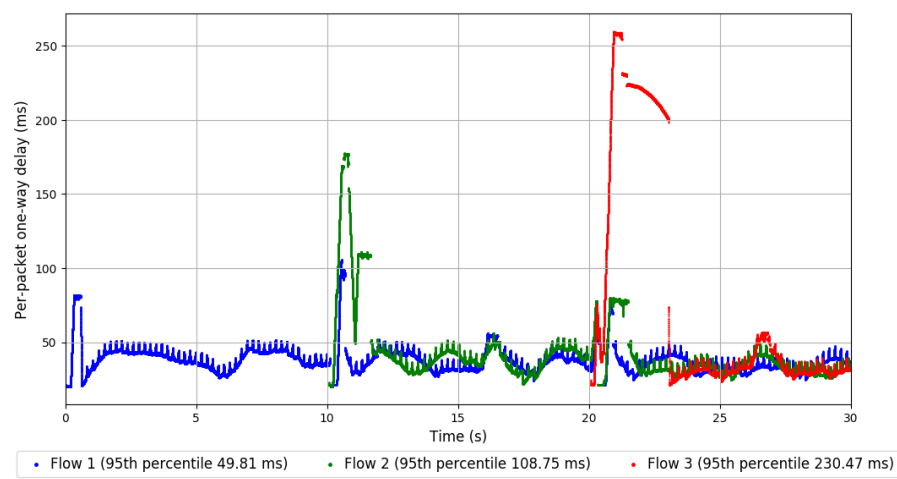
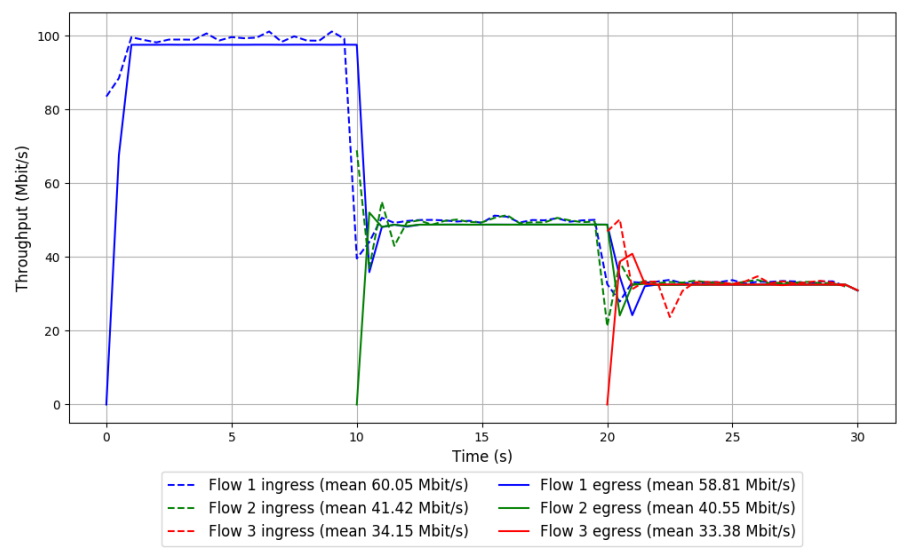
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	59.37	41.36	30.10	49.89	107.23	209.67	1.89	1.92	2.09
Copa	5	52.99	35.08	26.56	25.69	25.19	25.24	0.05	0.10	0.28
TCP Cubic	5	60.76	35.60	31.97	27.81	28.20	28.35	0.07	0.15	0.33
FillP	5	58.64	38.37	33.06	870.45	403.16	365.90	5.06	4.34	6.07
FillP-Sheep	5	59.50	38.26	33.35	59.80	75.17	82.38	1.55	1.57	0.86
Indigo	5	52.96	43.12	37.76	27.39	32.92	25.92	0.05	0.15	0.31
LEDBAT	5	51.54	38.75	33.29	28.73	30.21	30.13	0.08	0.18	0.35
Indigo-Muses	5	44.62	21.82	31.54	21.35	20.06	20.62	0.06	0.03	0.19
PCC-Allegro	5	62.38	36.08	17.61	1629.63	1835.54	31.56	9.82	12.95	0.39
PCC-Expr	5	58.46	38.14	24.76	1120.09	742.57	89.14	25.44	6.55	1.60
QUIC Cubic	5	56.98	40.55	28.06	30.17	29.11	36.92	0.10	0.19	0.69
SCReAM	5	0.21	0.20	0.22	20.08	20.08	20.09	0.13	0.17	0.36
Sprout	5	24.39	24.15	23.78	27.56	28.11	27.10	0.09	0.17	0.28
TaoVA-100x	5	56.89	37.35	35.86	111.34	167.43	120.73	0.45	1.16	2.20
TCP Vegas	5	57.19	38.61	37.04	21.76	21.82	21.96	0.05	0.11	0.28
Verus	5	54.05	39.88	31.98	73.08	68.75	205.96	0.21	0.35	0.78
PCC-Vivace	5	55.49	34.56	16.89	139.65	71.35	24.50	0.19	0.23	0.49
WebRTC media	5	1.60	0.95	0.45	19.93	19.92	20.06	0.01	0.06	0.31

Run 1: Statistics of TCP BBR

Start at: 2018-09-08 00:30:01
End at: 2018-09-08 00:30:31
Local clock offset: 3.125 ms
Remote clock offset: -2.231 ms

Below is generated by plot.py at 2018-09-08 02:21:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.88 Mbit/s
95th percentile per-packet one-way delay: 83.010 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 58.81 Mbit/s
95th percentile per-packet one-way delay: 49.815 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 108.751 ms
Loss rate: 2.23%
-- Flow 3:
Average throughput: 33.38 Mbit/s
95th percentile per-packet one-way delay: 230.469 ms
Loss rate: 2.52%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-08 00:52:18

End at: 2018-09-08 00:52:48

Local clock offset: 1.535 ms

Remote clock offset: -2.11 ms

Below is generated by plot.py at 2018-09-08 02:21:34

Datalink statistics

-- Total of 3 flows:

Average throughput: 96.90 Mbit/s

95th percentile per-packet one-way delay: 75.259 ms

Loss rate: 1.92%

-- Flow 1:

Average throughput: 56.34 Mbit/s

95th percentile per-packet one-way delay: 46.012 ms

Loss rate: 1.73%

-- Flow 2:

Average throughput: 48.29 Mbit/s

95th percentile per-packet one-way delay: 103.489 ms

Loss rate: 2.29%

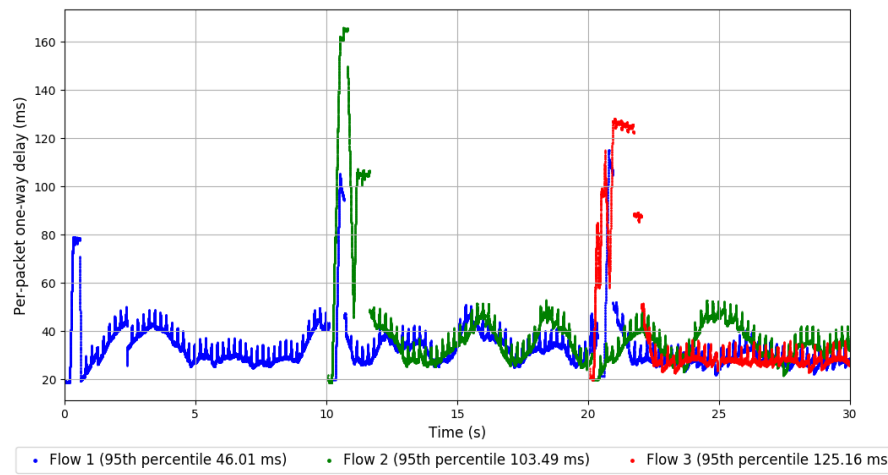
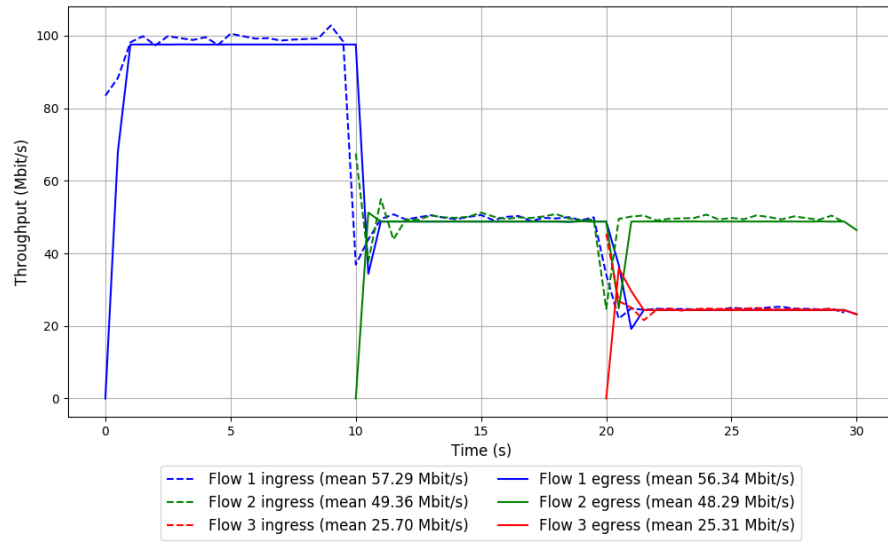
-- Flow 3:

Average throughput: 25.31 Mbit/s

95th percentile per-packet one-way delay: 125.161 ms

Loss rate: 1.78%

Run 2: Report of TCP BBR — Data Link

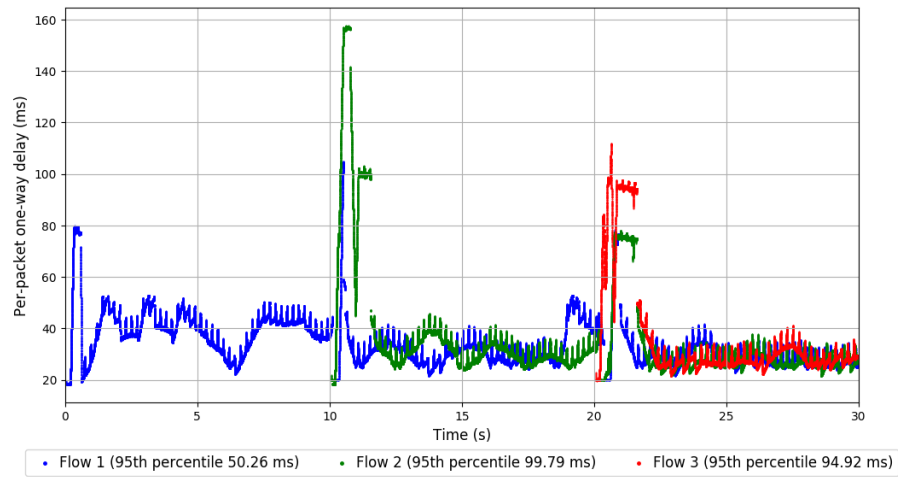
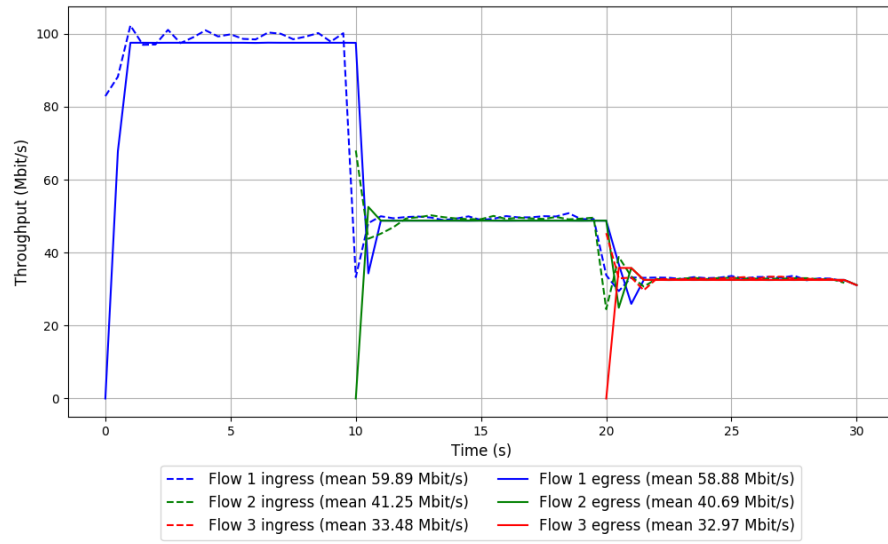


Run 3: Statistics of TCP BBR

Start at: 2018-09-08 01:14:25
End at: 2018-09-08 01:14:55
Local clock offset: 1.06 ms
Remote clock offset: -2.115 ms

Below is generated by plot.py at 2018-09-08 02:21:34
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.92 Mbit/s
95th percentile per-packet one-way delay: 75.144 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 58.88 Mbit/s
95th percentile per-packet one-way delay: 50.258 ms
Loss rate: 1.76%
-- Flow 2:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 99.789 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 94.924 ms
Loss rate: 1.76%

Run 3: Report of TCP BBR — Data Link

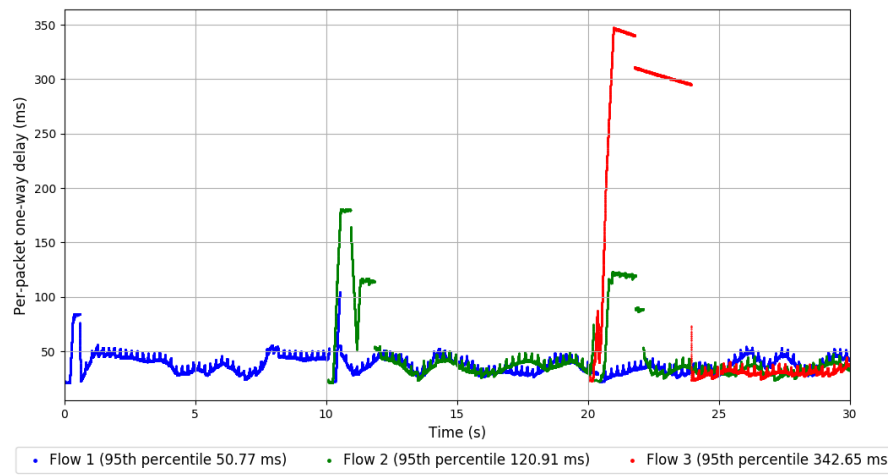
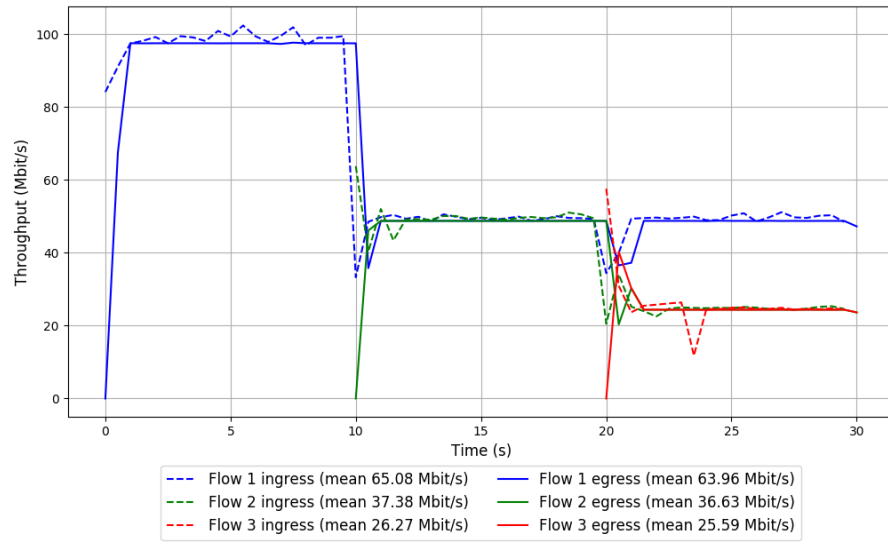


Run 4: Statistics of TCP BBR

Start at: 2018-09-08 01:36:33
End at: 2018-09-08 01:37:03
Local clock offset: 0.195 ms
Remote clock offset: -2.483 ms

Below is generated by plot.py at 2018-09-08 02:21:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.84 Mbit/s
95th percentile per-packet one-way delay: 115.028 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 63.96 Mbit/s
95th percentile per-packet one-way delay: 50.765 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 120.906 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 25.59 Mbit/s
95th percentile per-packet one-way delay: 342.651 ms
Loss rate: 2.86%

Run 4: Report of TCP BBR — Data Link

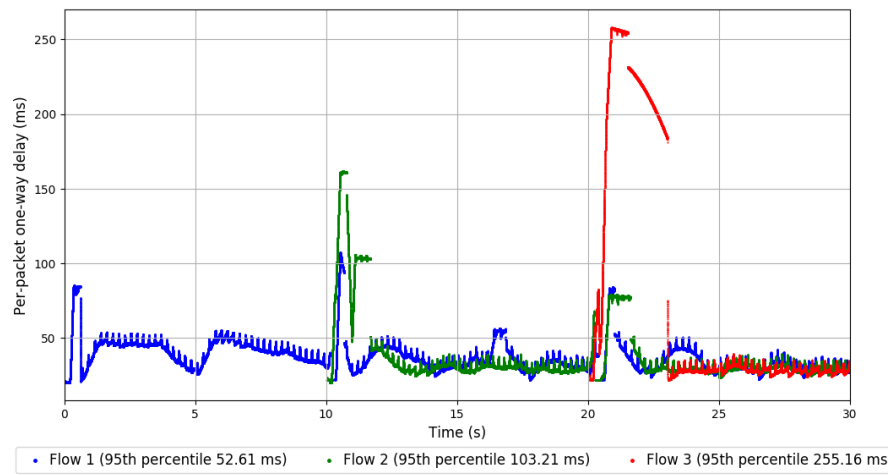
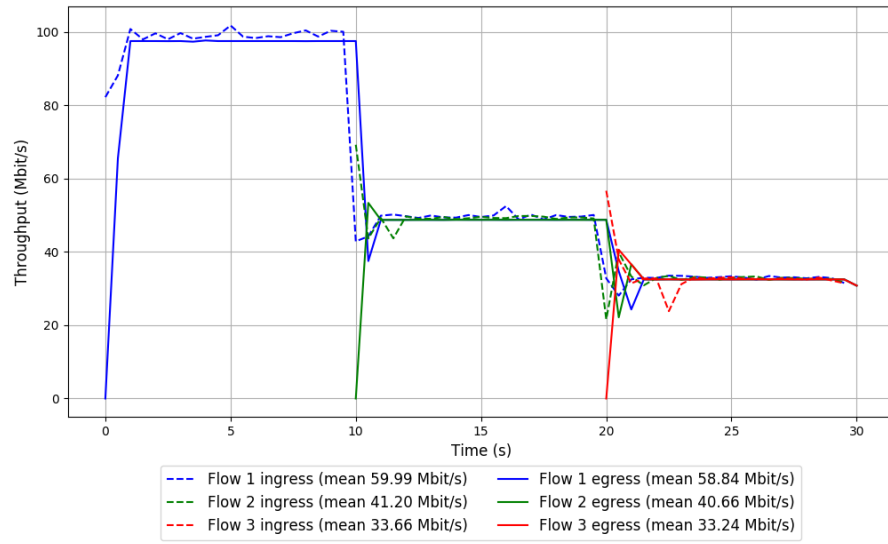


Run 5: Statistics of TCP BBR

Start at: 2018-09-08 01:59:11
End at: 2018-09-08 01:59:41
Local clock offset: 1.067 ms
Remote clock offset: -2.235 ms

Below is generated by plot.py at 2018-09-08 02:21:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 88.639 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 58.84 Mbit/s
95th percentile per-packet one-way delay: 52.613 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 103.213 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 33.24 Mbit/s
95th percentile per-packet one-way delay: 255.164 ms
Loss rate: 1.53%

Run 5: Report of TCP BBR — Data Link

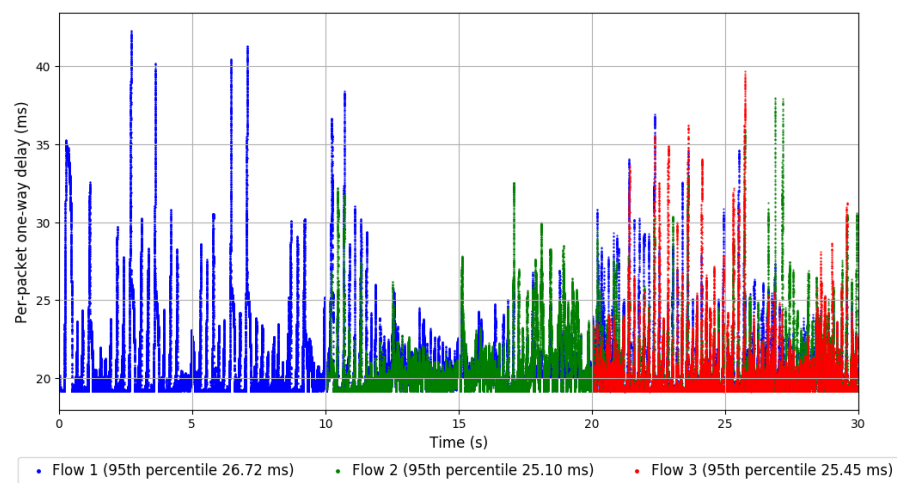
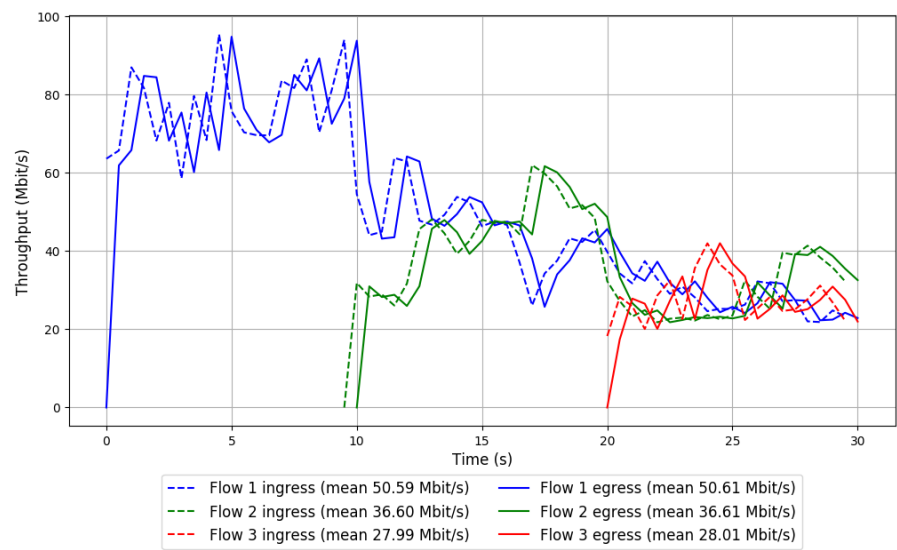


Run 1: Statistics of Copa

Start at: 2018-09-08 00:43:46
End at: 2018-09-08 00:44:16
Local clock offset: 2.008 ms
Remote clock offset: -2.401 ms

Below is generated by plot.py at 2018-09-08 02:22:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 84.29 Mbit/s
95th percentile per-packet one-way delay: 25.947 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 50.61 Mbit/s
95th percentile per-packet one-way delay: 26.719 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 36.61 Mbit/s
95th percentile per-packet one-way delay: 25.103 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 28.01 Mbit/s
95th percentile per-packet one-way delay: 25.453 ms
Loss rate: 0.17%

Run 1: Report of Copa — Data Link

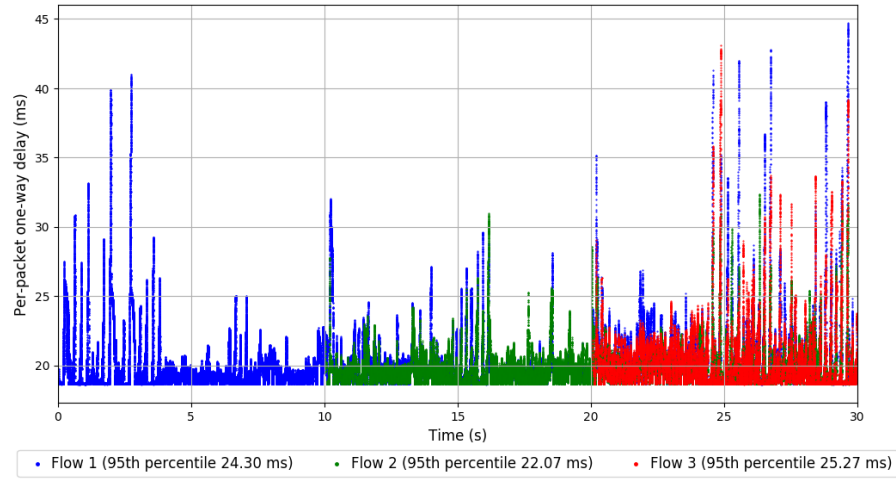
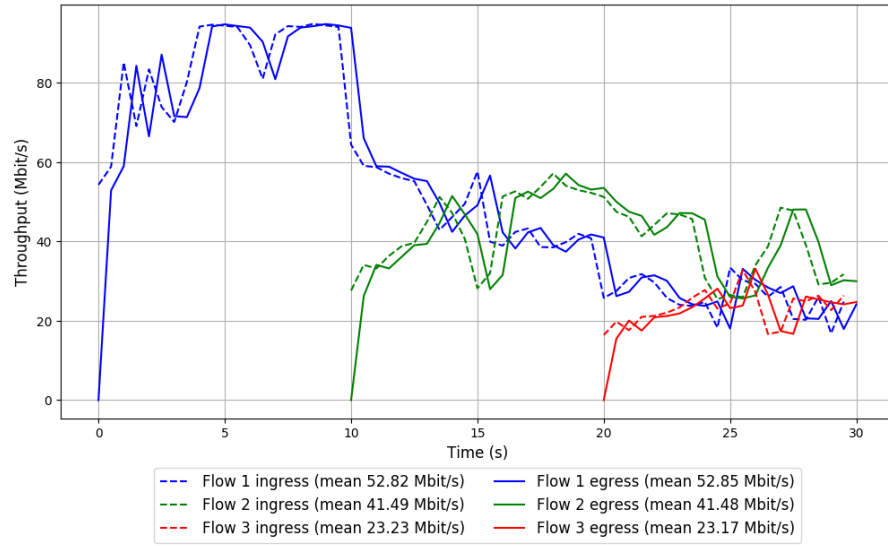


Run 2: Statistics of Copa

Start at: 2018-09-08 01:05:54
End at: 2018-09-08 01:06:24
Local clock offset: 1.185 ms
Remote clock offset: -2.296 ms

Below is generated by plot.py at 2018-09-08 02:22:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 23.666 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 52.85 Mbit/s
95th percentile per-packet one-way delay: 24.300 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 41.48 Mbit/s
95th percentile per-packet one-way delay: 22.066 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 23.17 Mbit/s
95th percentile per-packet one-way delay: 25.268 ms
Loss rate: 0.51%

Run 2: Report of Copa — Data Link

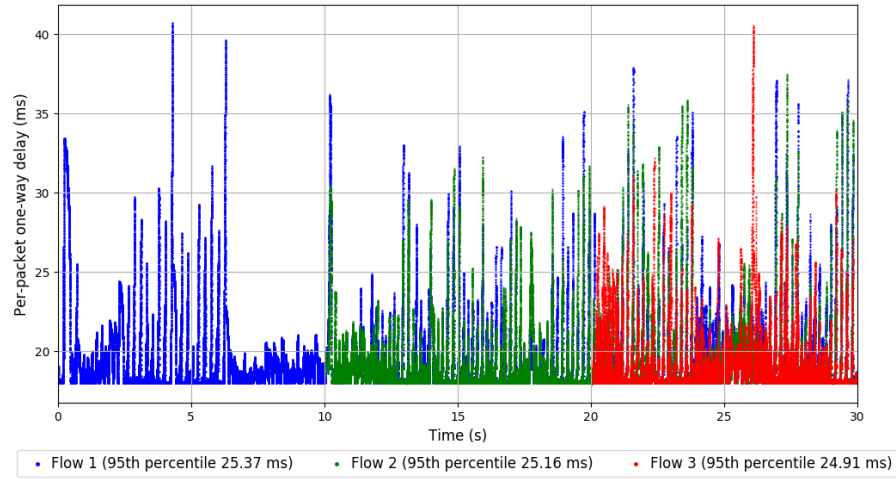
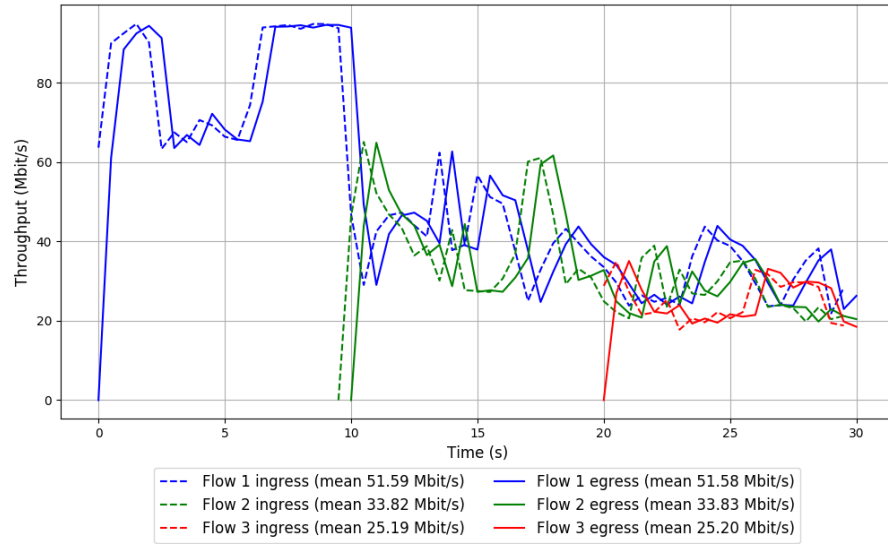


Run 3: Statistics of Copa

Start at: 2018-09-08 01:27:58
End at: 2018-09-08 01:28:28
Local clock offset: 0.185 ms
Remote clock offset: -2.133 ms

Below is generated by plot.py at 2018-09-08 02:22:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 82.48 Mbit/s
95th percentile per-packet one-way delay: 25.269 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 51.58 Mbit/s
95th percentile per-packet one-way delay: 25.367 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 25.161 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 24.907 ms
Loss rate: 0.24%

Run 3: Report of Copa — Data Link

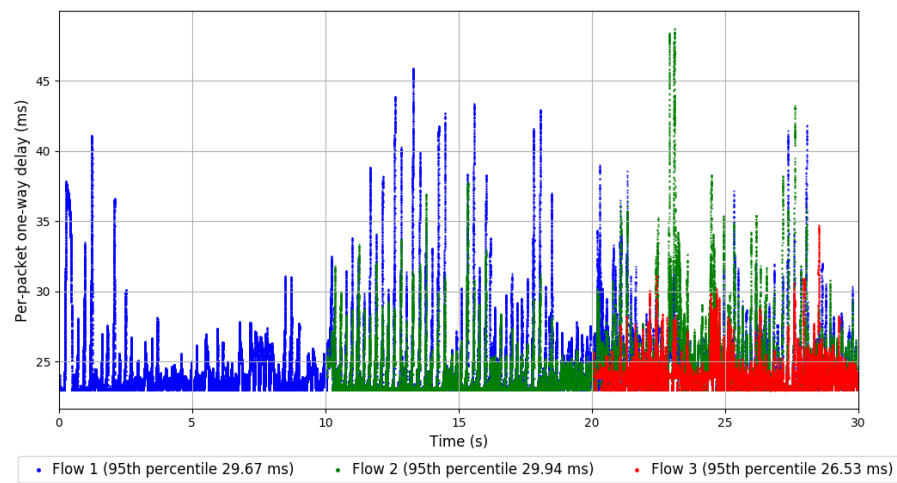
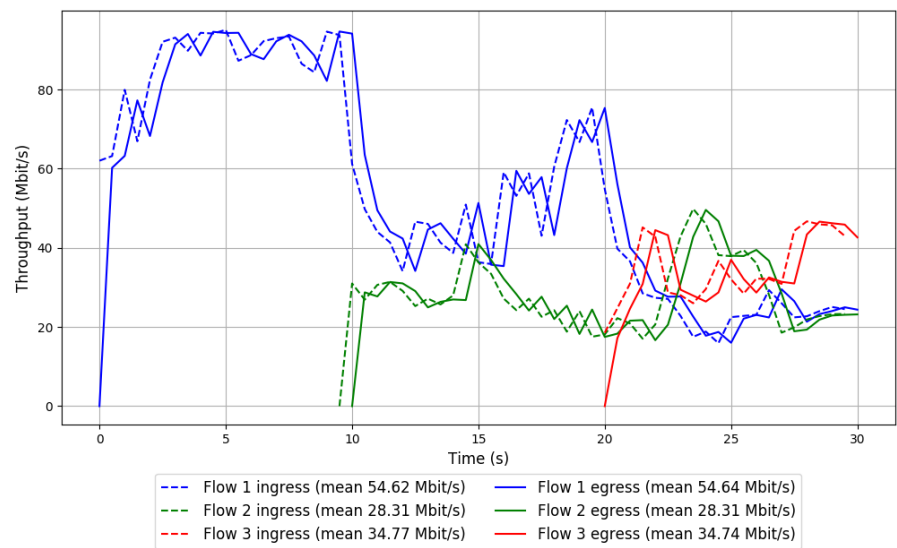


Run 4: Statistics of Copa

Start at: 2018-09-08 01:50:35
End at: 2018-09-08 01:51:05
Local clock offset: 3.246 ms
Remote clock offset: -2.754 ms

Below is generated by plot.py at 2018-09-08 02:23:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.02 Mbit/s
95th percentile per-packet one-way delay: 29.250 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 29.667 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 28.31 Mbit/s
95th percentile per-packet one-way delay: 29.941 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 34.74 Mbit/s
95th percentile per-packet one-way delay: 26.529 ms
Loss rate: 0.35%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-08 02:12:52

End at: 2018-09-08 02:13:22

Local clock offset: 1.182 ms

Remote clock offset: 0.527 ms

Below is generated by plot.py at 2018-09-08 02:23:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 85.90 Mbit/s

95th percentile per-packet one-way delay: 23.007 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 55.27 Mbit/s

95th percentile per-packet one-way delay: 22.405 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 35.19 Mbit/s

95th percentile per-packet one-way delay: 23.684 ms

Loss rate: 0.03%

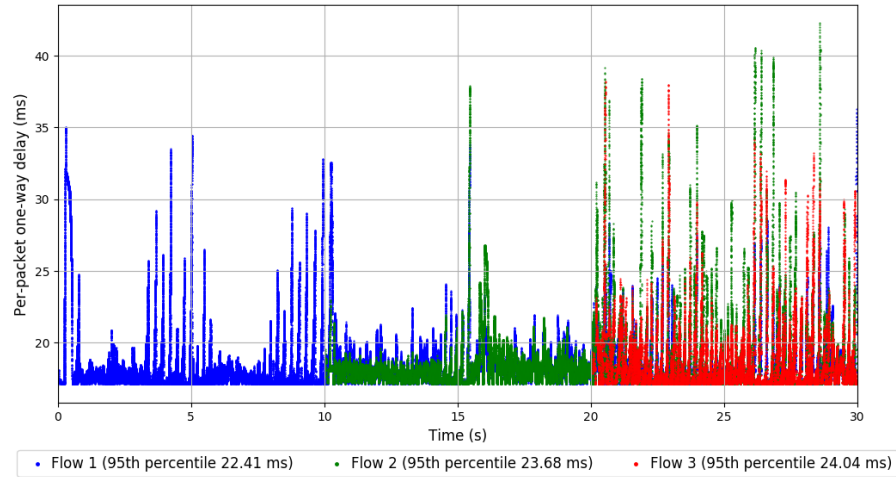
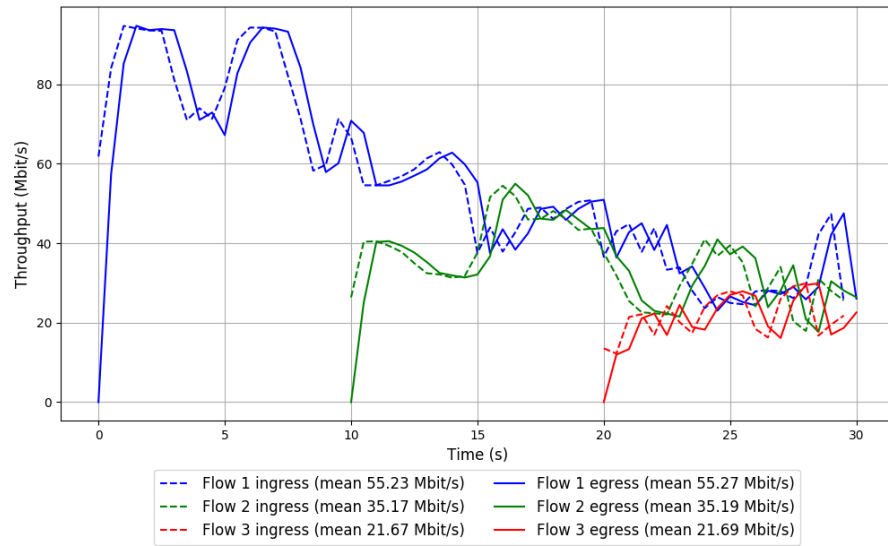
-- Flow 3:

Average throughput: 21.69 Mbit/s

95th percentile per-packet one-way delay: 24.044 ms

Loss rate: 0.14%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-08 00:31:18

End at: 2018-09-08 00:31:48

Local clock offset: 2.556 ms

Remote clock offset: -1.96 ms

Below is generated by plot.py at 2018-09-08 02:23:31

Datalink statistics

-- Total of 3 flows:

Average throughput: 95.01 Mbit/s

95th percentile per-packet one-way delay: 27.359 ms

Loss rate: 0.11%

-- Flow 1:

Average throughput: 54.86 Mbit/s

95th percentile per-packet one-way delay: 27.109 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 36.64 Mbit/s

95th percentile per-packet one-way delay: 27.765 ms

Loss rate: 0.13%

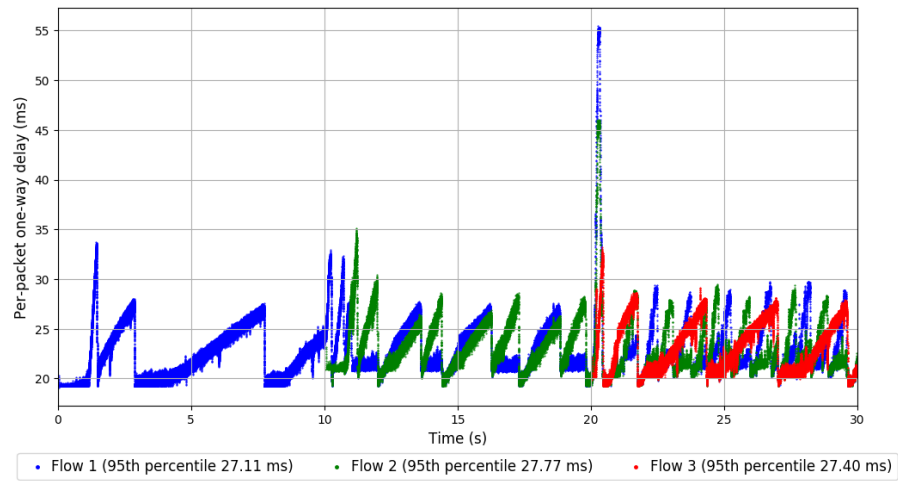
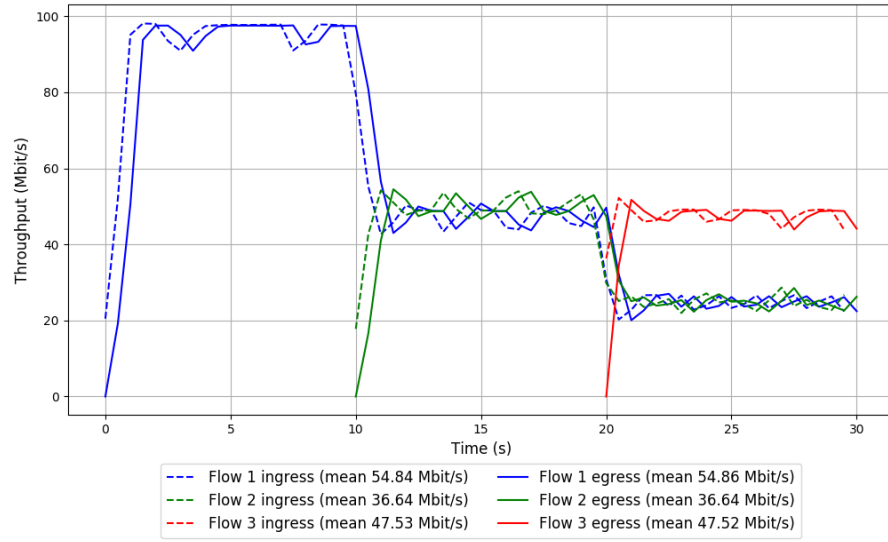
-- Flow 3:

Average throughput: 47.52 Mbit/s

95th percentile per-packet one-way delay: 27.402 ms

Loss rate: 0.27%

Run 1: Report of TCP Cubic — Data Link

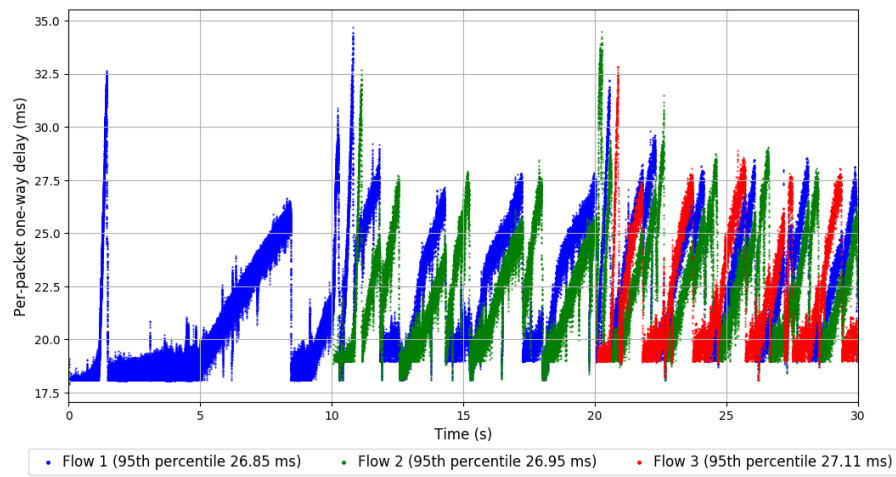
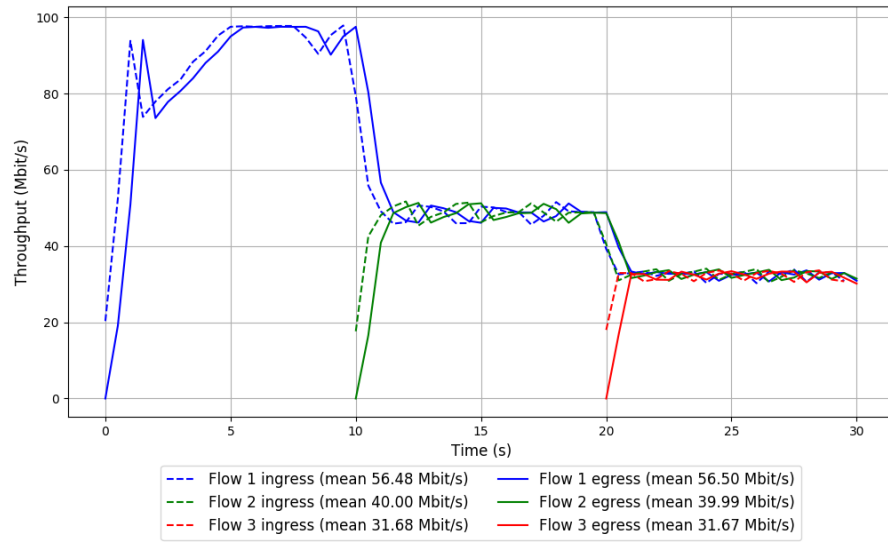


Run 2: Statistics of TCP Cubic

Start at: 2018-09-08 00:53:33
End at: 2018-09-08 00:54:03
Local clock offset: 1.057 ms
Remote clock offset: -1.971 ms

Below is generated by plot.py at 2018-09-08 02:23:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 26.932 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.50 Mbit/s
95th percentile per-packet one-way delay: 26.846 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 26.950 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 27.110 ms
Loss rate: 0.31%

Run 2: Report of TCP Cubic — Data Link

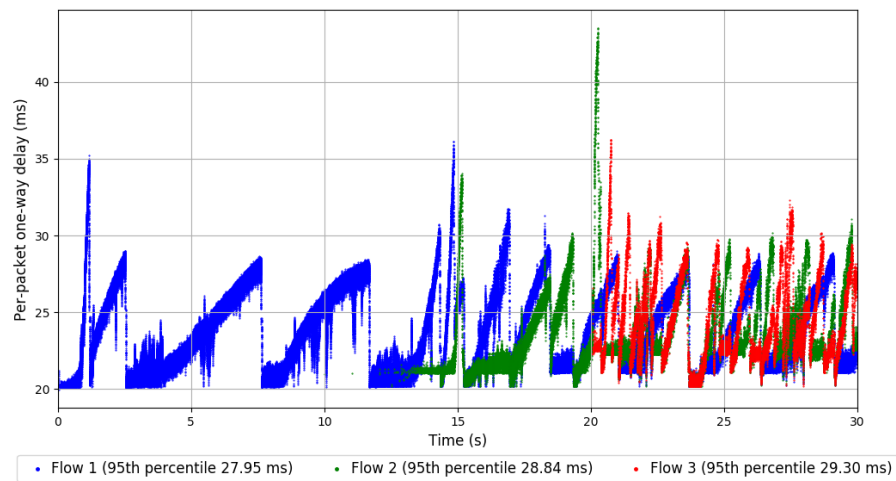
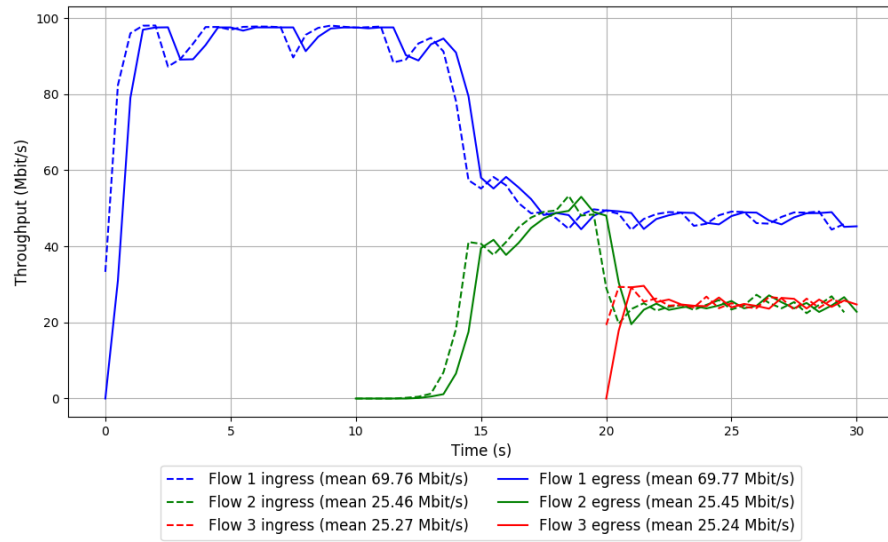


Run 3: Statistics of TCP Cubic

Start at: 2018-09-08 01:15:42
End at: 2018-09-08 01:16:12
Local clock offset: 3.83 ms
Remote clock offset: -1.075 ms

Below is generated by plot.py at 2018-09-08 02:23:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 28.196 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 69.77 Mbit/s
95th percentile per-packet one-way delay: 27.952 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 25.45 Mbit/s
95th percentile per-packet one-way delay: 28.843 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 25.24 Mbit/s
95th percentile per-packet one-way delay: 29.303 ms
Loss rate: 0.38%

Run 3: Report of TCP Cubic — Data Link

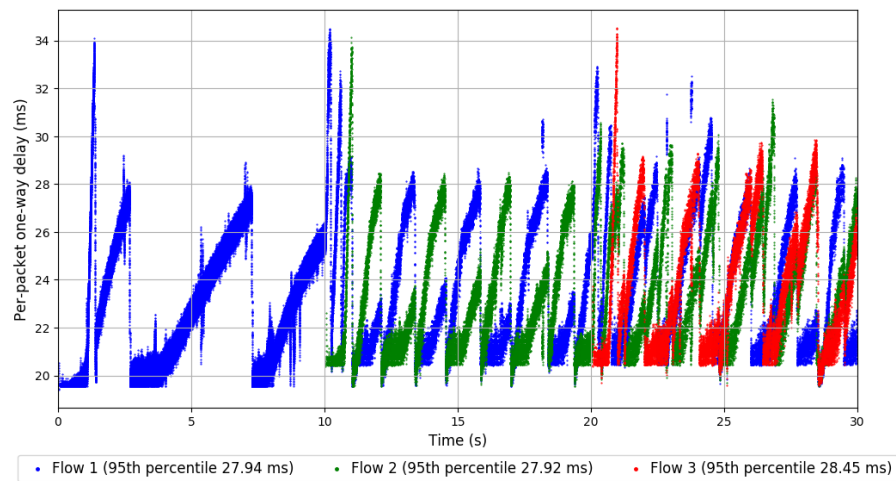
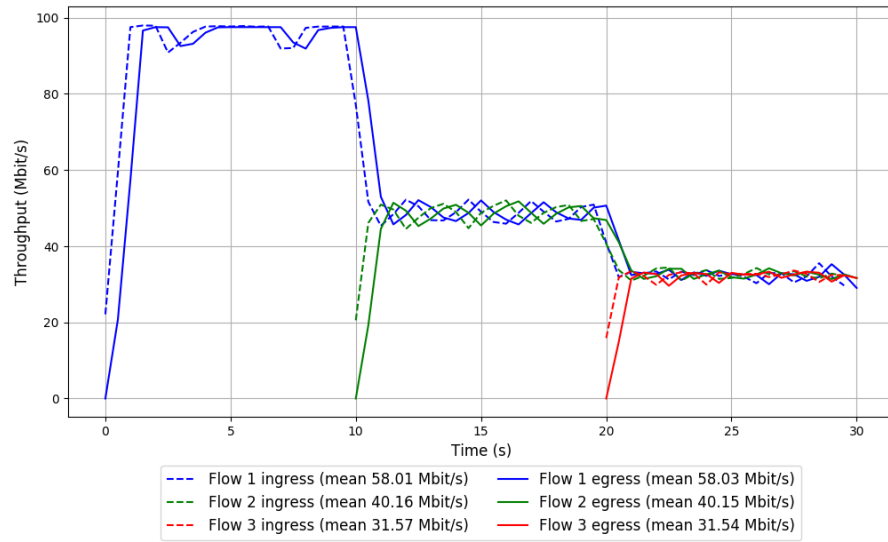


Run 4: Statistics of TCP Cubic

Start at: 2018-09-08 01:37:47
End at: 2018-09-08 01:38:17
Local clock offset: 0.918 ms
Remote clock offset: -1.226 ms

Below is generated by plot.py at 2018-09-08 02:23:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.23 Mbit/s
95th percentile per-packet one-way delay: 28.025 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 27.936 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 27.924 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 28.450 ms
Loss rate: 0.36%

Run 4: Report of TCP Cubic — Data Link

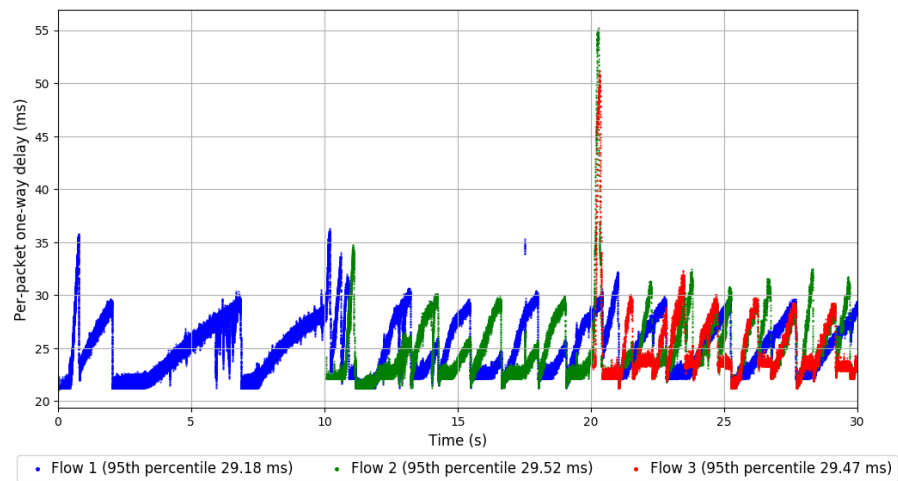
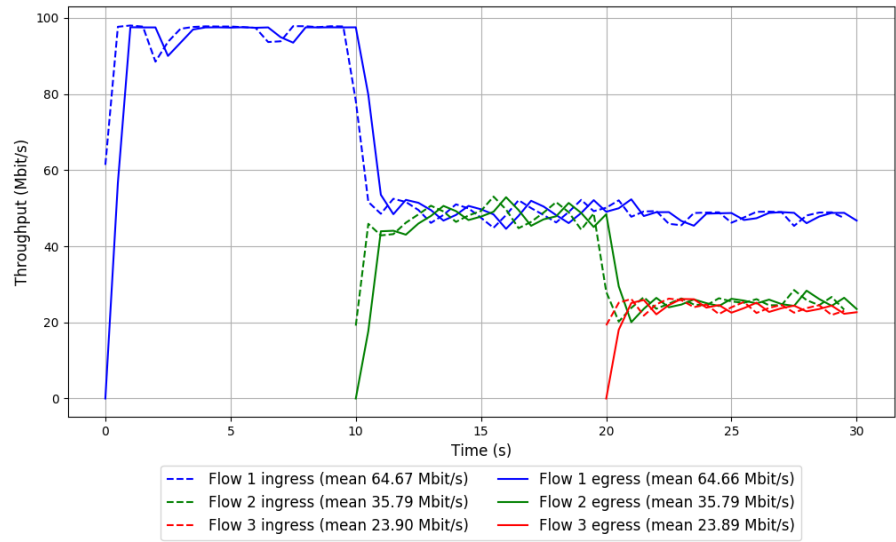


Run 5: Statistics of TCP Cubic

Start at: 2018-09-08 02:00:28
End at: 2018-09-08 02:00:58
Local clock offset: 2.285 ms
Remote clock offset: -2.293 ms

Below is generated by plot.py at 2018-09-08 02:23:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.41 Mbit/s
95th percentile per-packet one-way delay: 29.286 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 29.185 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 35.79 Mbit/s
95th percentile per-packet one-way delay: 29.524 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 29.470 ms
Loss rate: 0.33%

Run 5: Report of TCP Cubic — Data Link

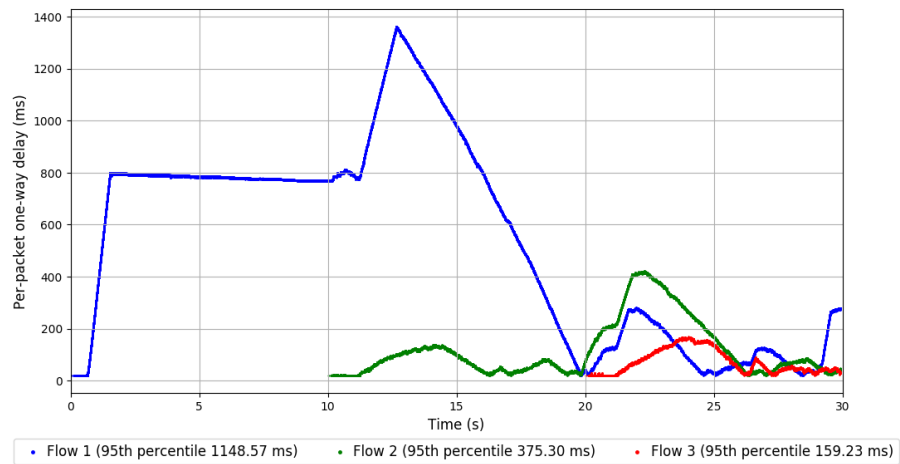
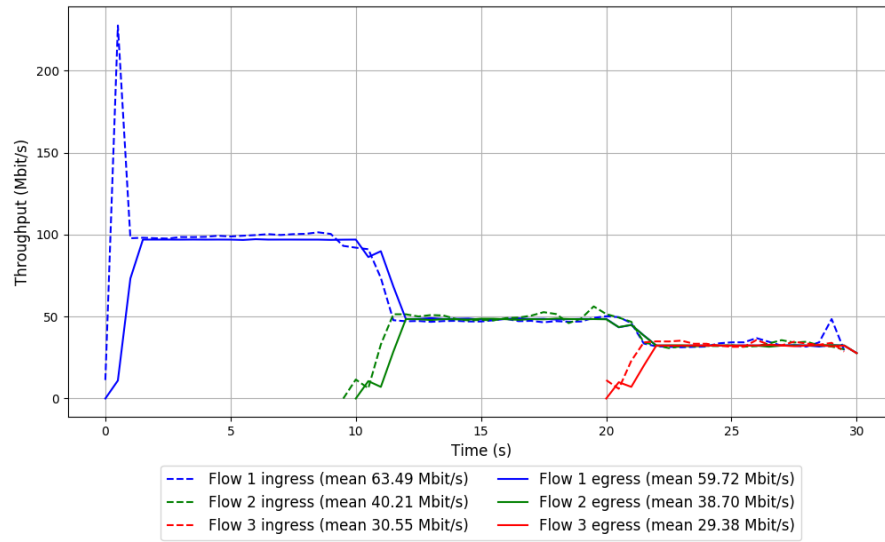


Run 1: Statistics of FillP

Start at: 2018-09-08 00:45:10
End at: 2018-09-08 00:45:40
Local clock offset: 2.985 ms
Remote clock offset: -1.794 ms

Below is generated by plot.py at 2018-09-08 02:23:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 1021.053 ms
Loss rate: 5.25%
-- Flow 1:
Average throughput: 59.72 Mbit/s
95th percentile per-packet one-way delay: 1148.569 ms
Loss rate: 6.02%
-- Flow 2:
Average throughput: 38.70 Mbit/s
95th percentile per-packet one-way delay: 375.299 ms
Loss rate: 3.86%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: 159.226 ms
Loss rate: 4.09%

Run 1: Report of FillP — Data Link

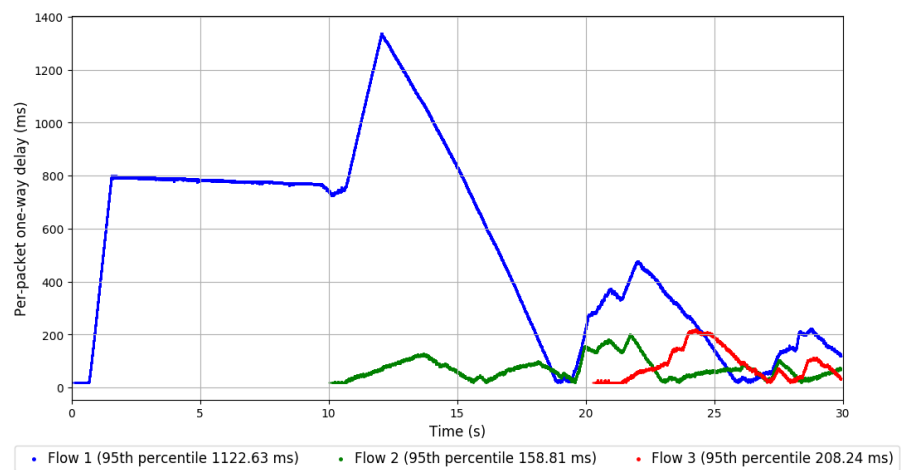
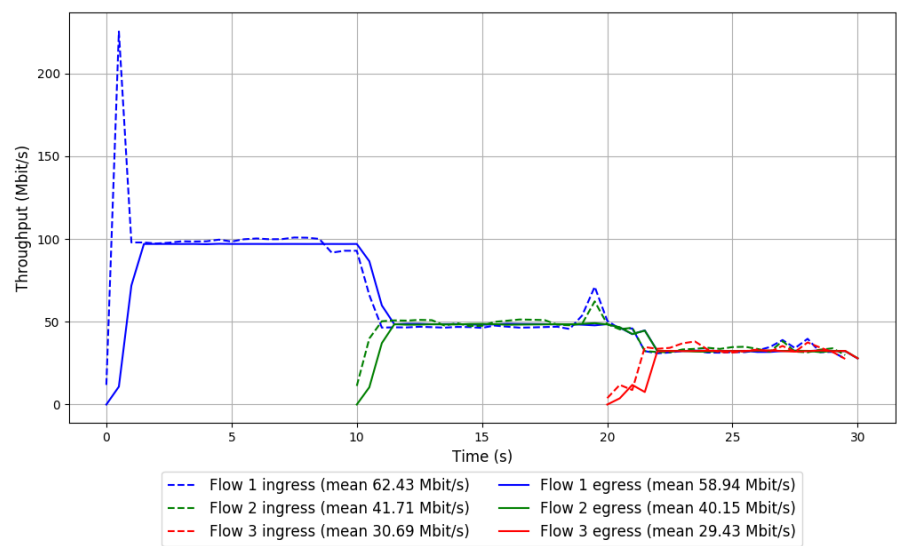


Run 2: Statistics of FillP

Start at: 2018-09-08 01:07:17
End at: 2018-09-08 01:07:47
Local clock offset: 2.272 ms
Remote clock offset: -1.703 ms

Below is generated by plot.py at 2018-09-08 02:24:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 986.659 ms
Loss rate: 5.03%
-- Flow 1:
Average throughput: 58.94 Mbit/s
95th percentile per-packet one-way delay: 1122.629 ms
Loss rate: 5.66%
-- Flow 2:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 158.805 ms
Loss rate: 3.86%
-- Flow 3:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 208.238 ms
Loss rate: 4.35%

Run 2: Report of FillP — Data Link

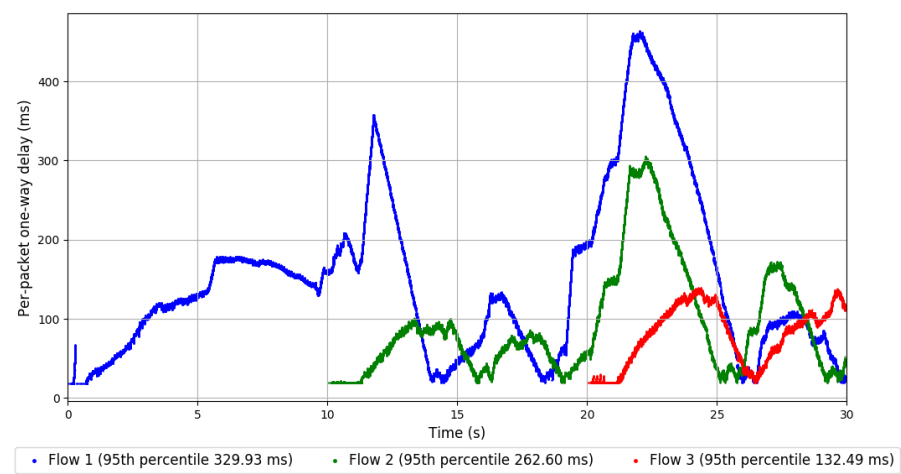
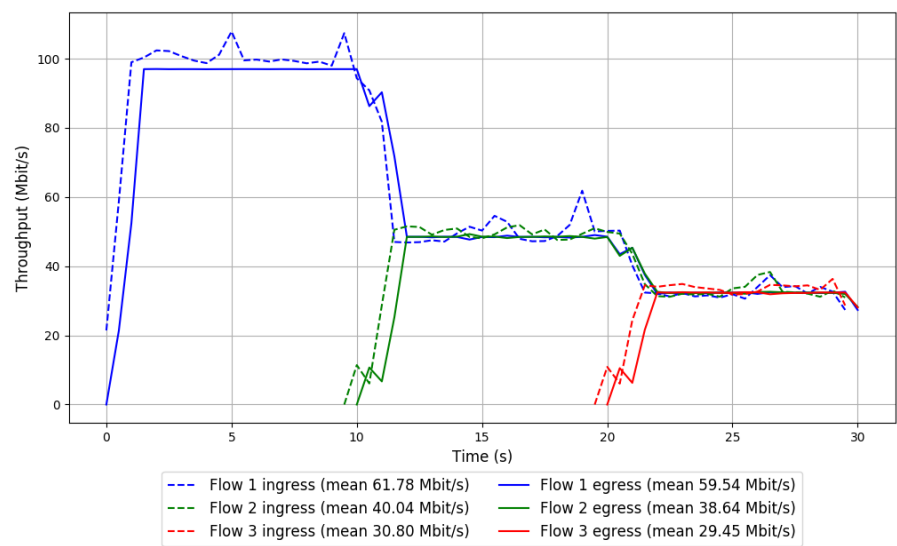


Run 3: Statistics of FillP

Start at: 2018-09-08 01:29:13
End at: 2018-09-08 01:29:43
Local clock offset: 1.165 ms
Remote clock offset: -1.626 ms

Below is generated by plot.py at 2018-09-08 02:24:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.01 Mbit/s
95th percentile per-packet one-way delay: 293.434 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 59.54 Mbit/s
95th percentile per-packet one-way delay: 329.928 ms
Loss rate: 3.71%
-- Flow 2:
Average throughput: 38.64 Mbit/s
95th percentile per-packet one-way delay: 262.598 ms
Loss rate: 3.64%
-- Flow 3:
Average throughput: 29.45 Mbit/s
95th percentile per-packet one-way delay: 132.493 ms
Loss rate: 4.62%

Run 3: Report of FillP — Data Link

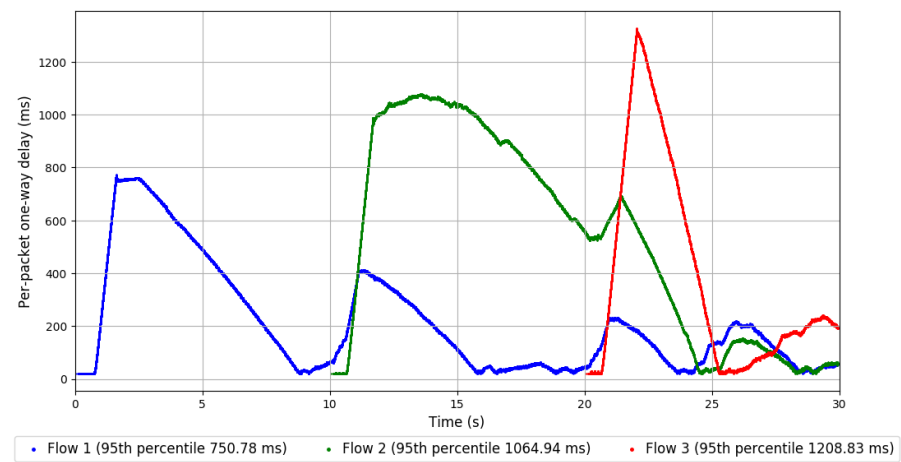
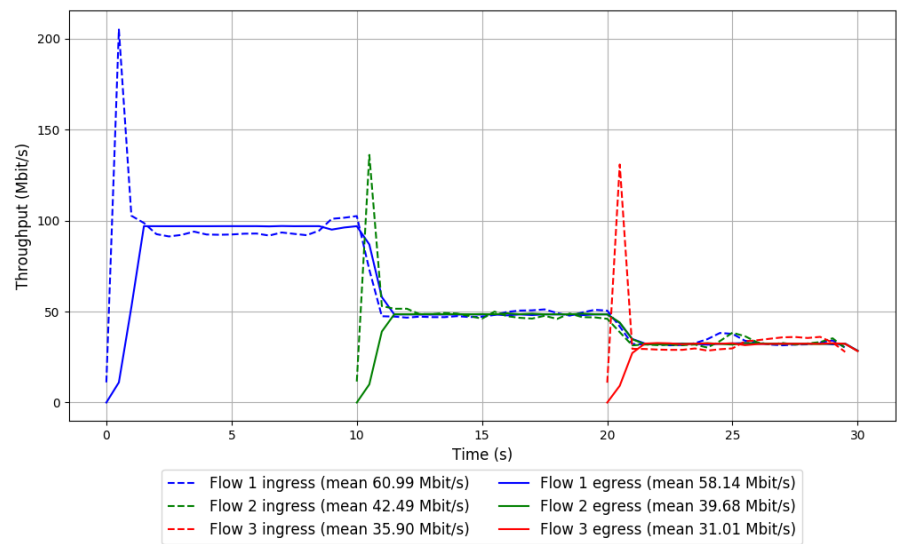


Run 4: Statistics of FillP

Start at: 2018-09-08 01:51:55
End at: 2018-09-08 01:52:25
Local clock offset: 0.984 ms
Remote clock offset: -2.235 ms

Below is generated by plot.py at 2018-09-08 02:24:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 1042.187 ms
Loss rate: 6.36%
-- Flow 1:
Average throughput: 58.14 Mbit/s
95th percentile per-packet one-way delay: 750.782 ms
Loss rate: 4.75%
-- Flow 2:
Average throughput: 39.68 Mbit/s
95th percentile per-packet one-way delay: 1064.945 ms
Loss rate: 6.71%
-- Flow 3:
Average throughput: 31.01 Mbit/s
95th percentile per-packet one-way delay: 1208.830 ms
Loss rate: 13.78%

Run 4: Report of FillP — Data Link

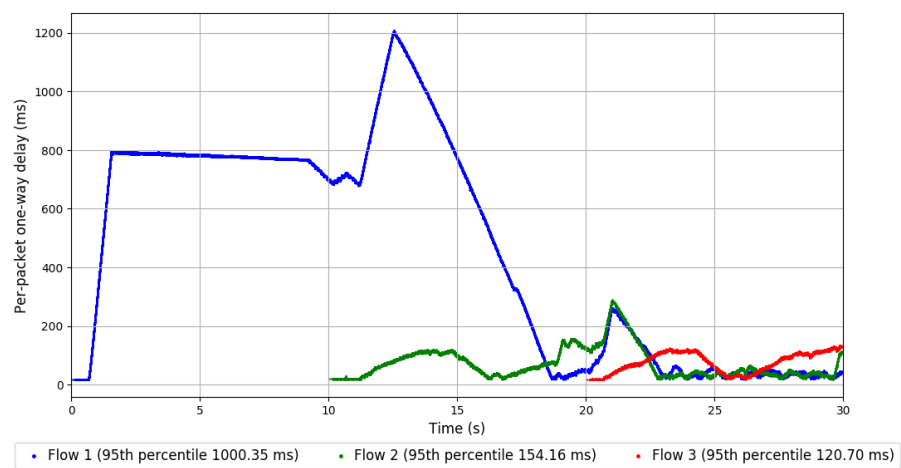
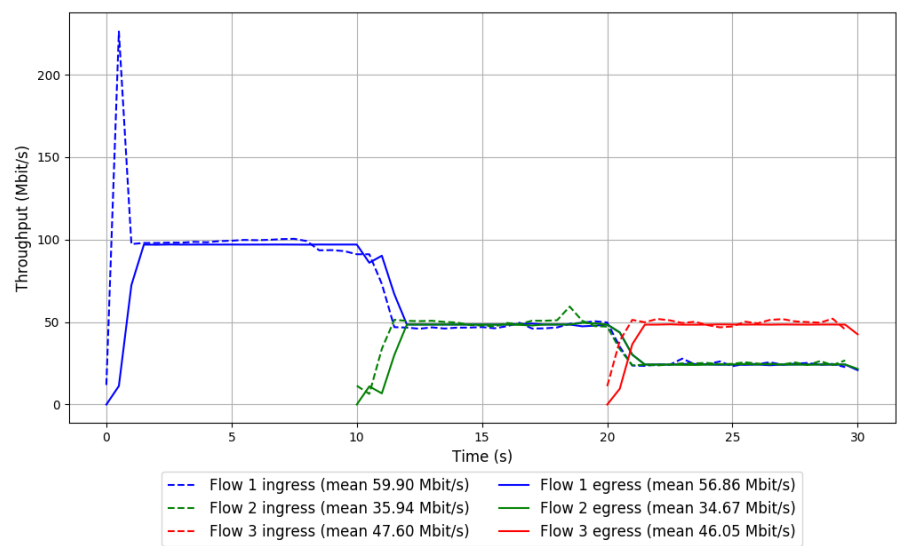


Run 5: Statistics of FillP

Start at: 2018-09-08 02:14:08
End at: 2018-09-08 02:14:38
Local clock offset: 0.146 ms
Remote clock offset: -0.647 ms

Below is generated by plot.py at 2018-09-08 02:24:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 850.525 ms
Loss rate: 4.54%
-- Flow 1:
Average throughput: 56.86 Mbit/s
95th percentile per-packet one-way delay: 1000.347 ms
Loss rate: 5.17%
-- Flow 2:
Average throughput: 34.67 Mbit/s
95th percentile per-packet one-way delay: 154.164 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 46.05 Mbit/s
95th percentile per-packet one-way delay: 120.701 ms
Loss rate: 3.52%

Run 5: Report of FillP — Data Link

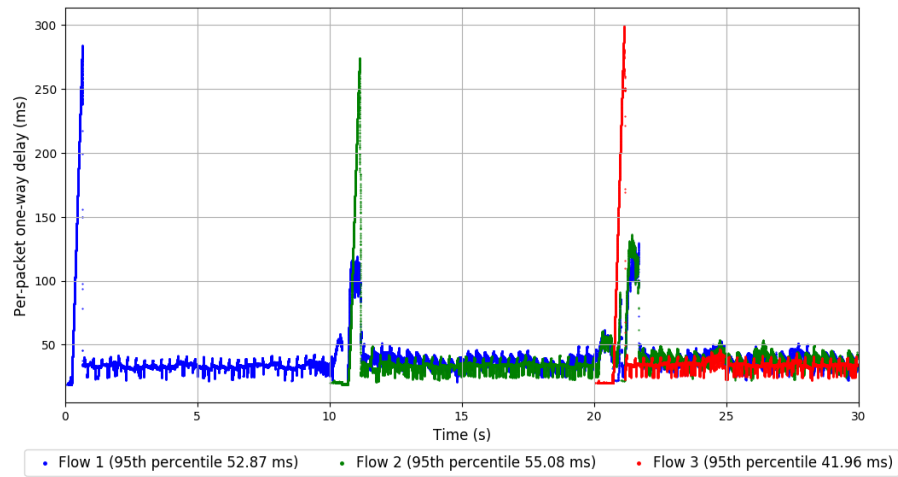
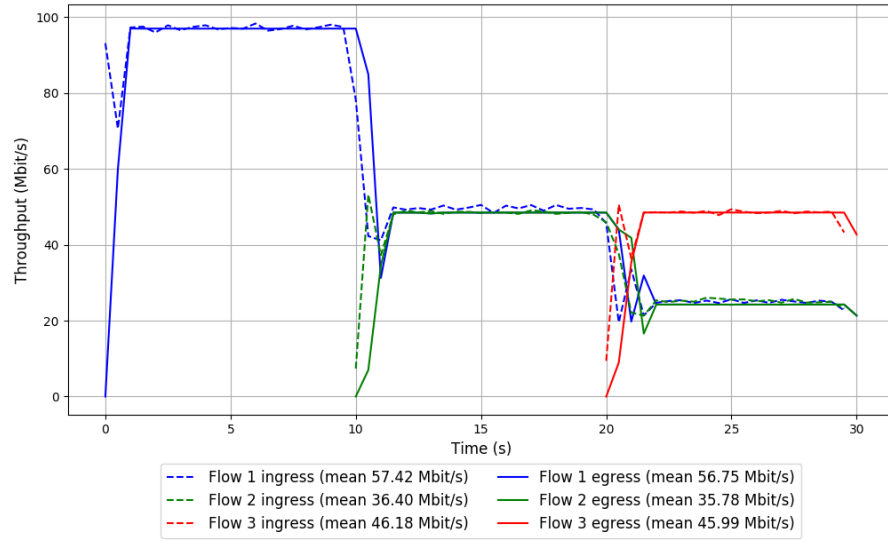


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-08 00:46:24
End at: 2018-09-08 00:46:54
Local clock offset: 2.175 ms
Remote clock offset: -2.113 ms

Below is generated by plot.py at 2018-09-08 02:24:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 53.406 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 56.75 Mbit/s
95th percentile per-packet one-way delay: 52.865 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 35.78 Mbit/s
95th percentile per-packet one-way delay: 55.080 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 45.99 Mbit/s
95th percentile per-packet one-way delay: 41.959 ms
Loss rate: 0.66%

Run 1: Report of FillP-Sheep — Data Link

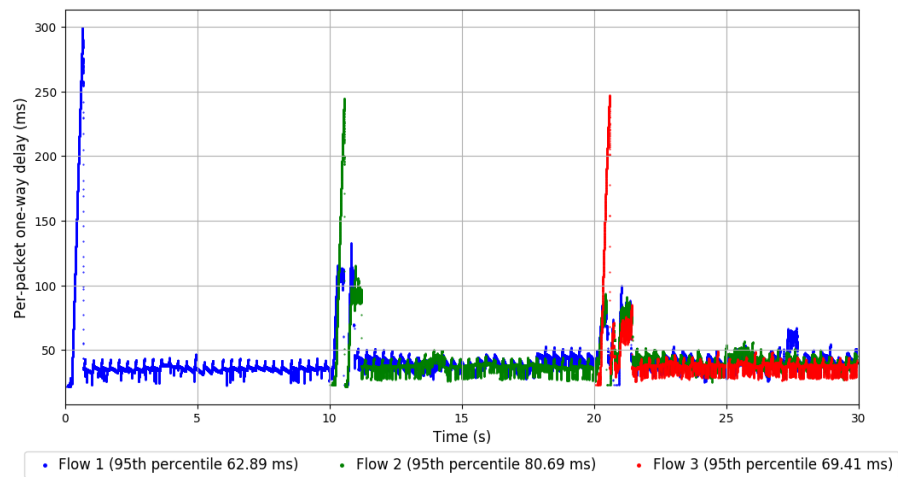
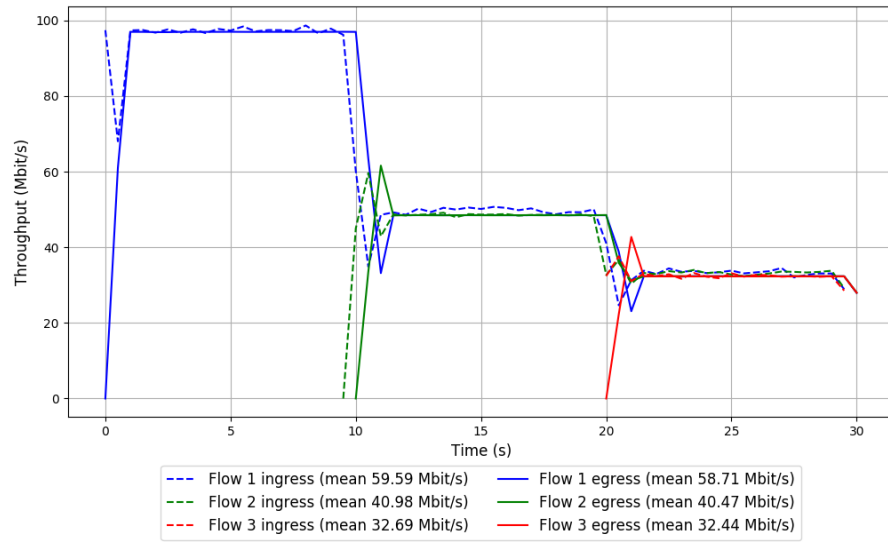


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-08 01:08:29
End at: 2018-09-08 01:08:59
Local clock offset: 4.549 ms
Remote clock offset: -2.358 ms

Below is generated by plot.py at 2018-09-08 02:24:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.40 Mbit/s
95th percentile per-packet one-way delay: 72.896 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 58.71 Mbit/s
95th percentile per-packet one-way delay: 62.891 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 80.694 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 69.408 ms
Loss rate: 0.99%

Run 2: Report of FillP-Sheep — Data Link

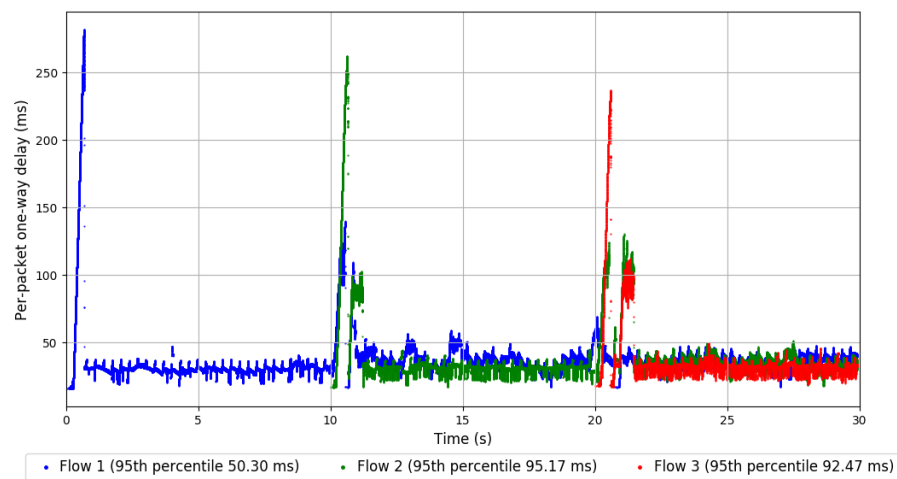
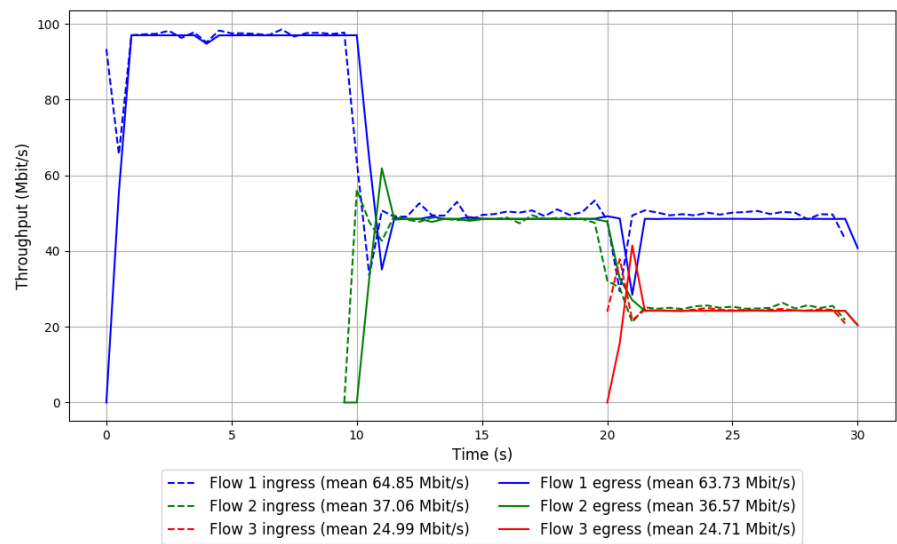


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-08 01:30:25
End at: 2018-09-08 01:30:55
Local clock offset: -0.604 ms
Remote clock offset: -1.042 ms

Below is generated by plot.py at 2018-09-08 02:24:55
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 60.836 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 63.73 Mbit/s
95th percentile per-packet one-way delay: 50.304 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 36.57 Mbit/s
95th percentile per-packet one-way delay: 95.174 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 92.466 ms
Loss rate: 1.30%

Run 3: Report of FillP-Sheep — Data Link

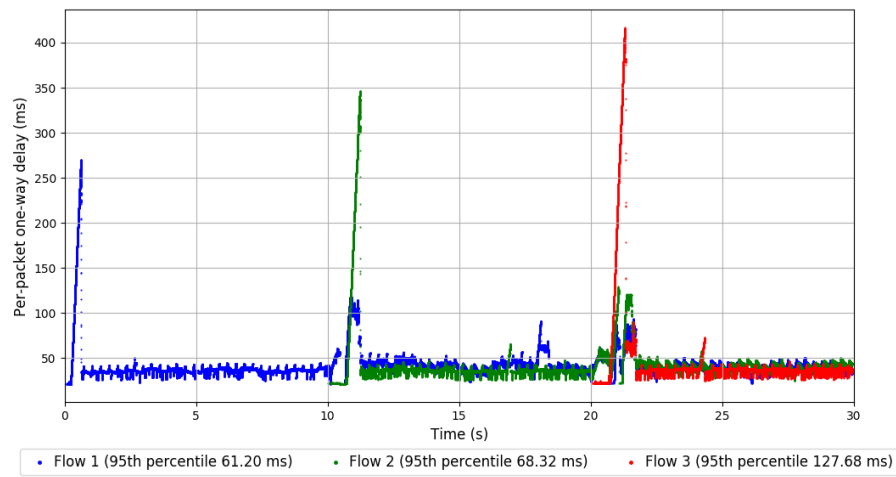
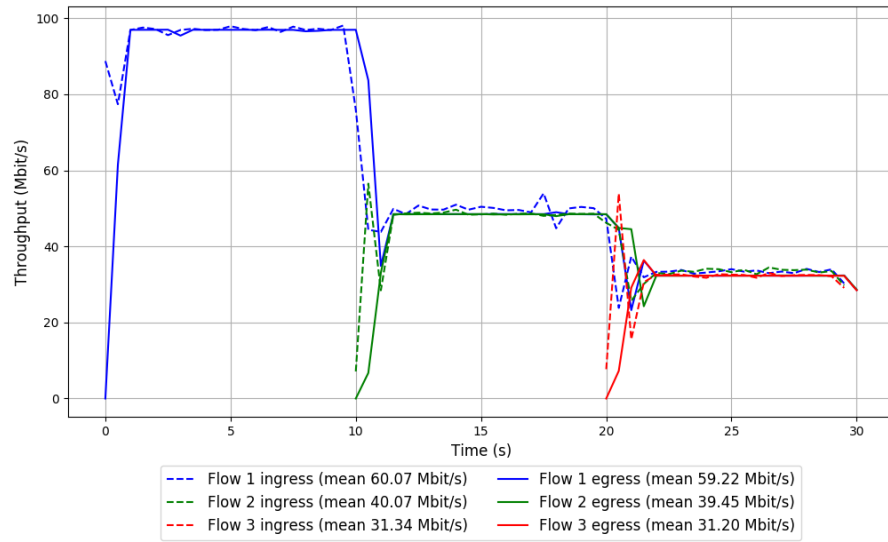


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-08 01:53:08
End at: 2018-09-08 01:53:38
Local clock offset: 2.239 ms
Remote clock offset: -2.091 ms

Below is generated by plot.py at 2018-09-08 02:25:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.81 Mbit/s
95th percentile per-packet one-way delay: 64.922 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 61.197 ms
Loss rate: 1.51%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 68.320 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 31.20 Mbit/s
95th percentile per-packet one-way delay: 127.684 ms
Loss rate: 0.72%

Run 4: Report of FillP-Sheep — Data Link

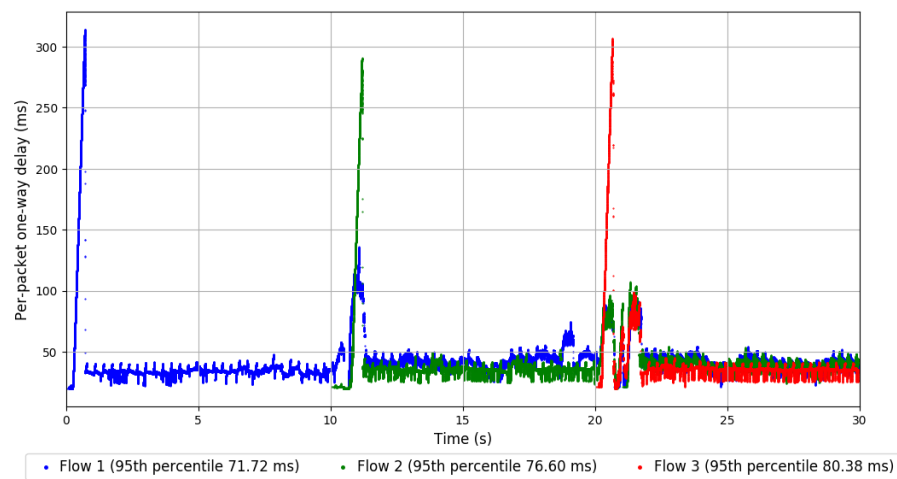
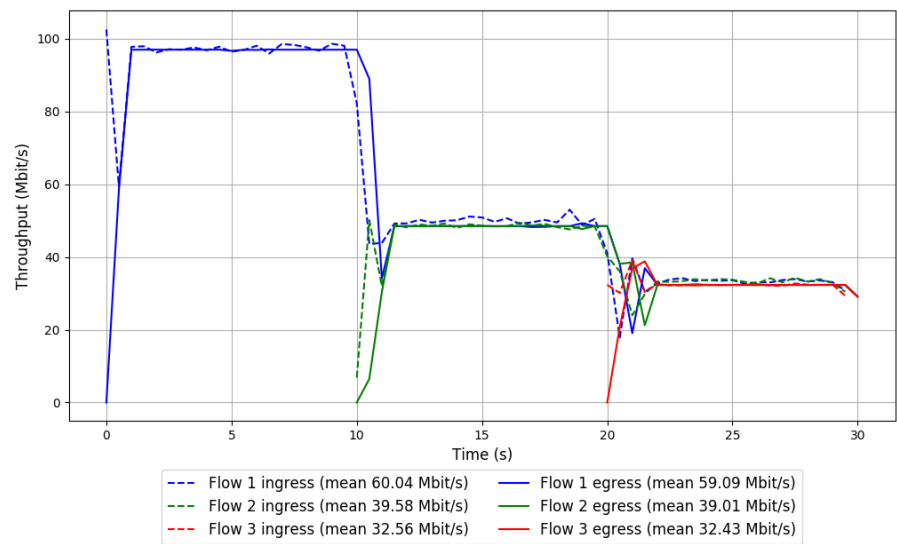


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-08 02:15:24
End at: 2018-09-08 02:15:54
Local clock offset: 2.796 ms
Remote clock offset: -0.716 ms

Below is generated by plot.py at 2018-09-08 02:25:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 75.432 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 71.722 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 76.599 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 32.43 Mbit/s
95th percentile per-packet one-way delay: 80.376 ms
Loss rate: 0.63%

Run 5: Report of FillP-Sheep — Data Link

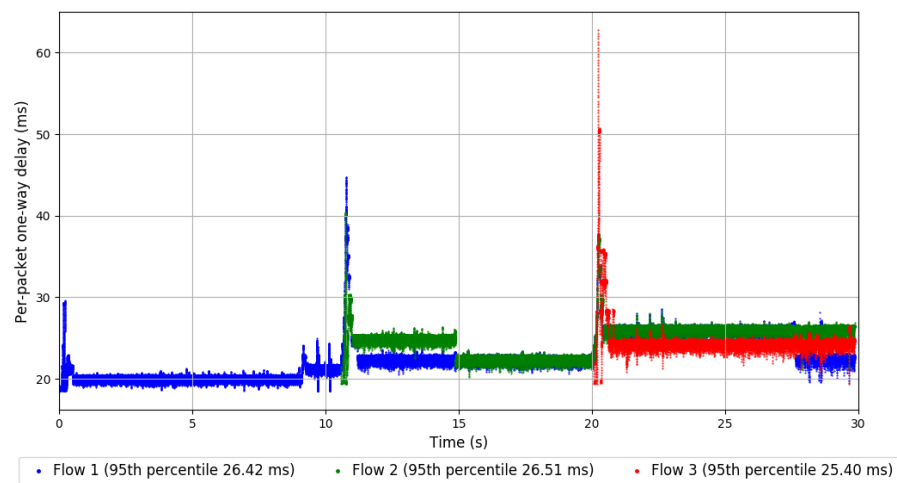
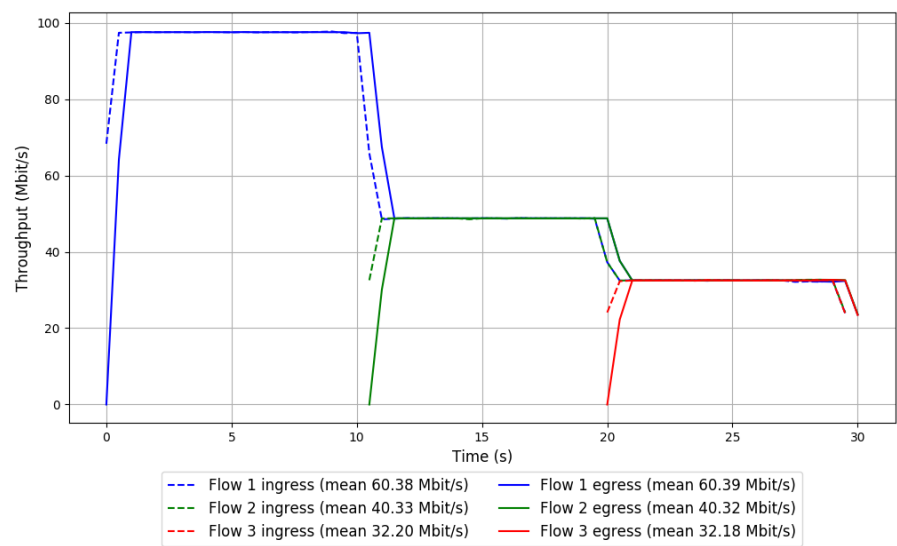


Run 1: Statistics of Indigo

Start at: 2018-09-08 00:39:53
End at: 2018-09-08 00:40:23
Local clock offset: 1.716 ms
Remote clock offset: -2.063 ms

Below is generated by plot.py at 2018-09-08 02:25:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.01 Mbit/s
95th percentile per-packet one-way delay: 26.458 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 60.39 Mbit/s
95th percentile per-packet one-way delay: 26.419 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.32 Mbit/s
95th percentile per-packet one-way delay: 26.511 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 25.398 ms
Loss rate: 0.32%

Run 1: Report of Indigo — Data Link

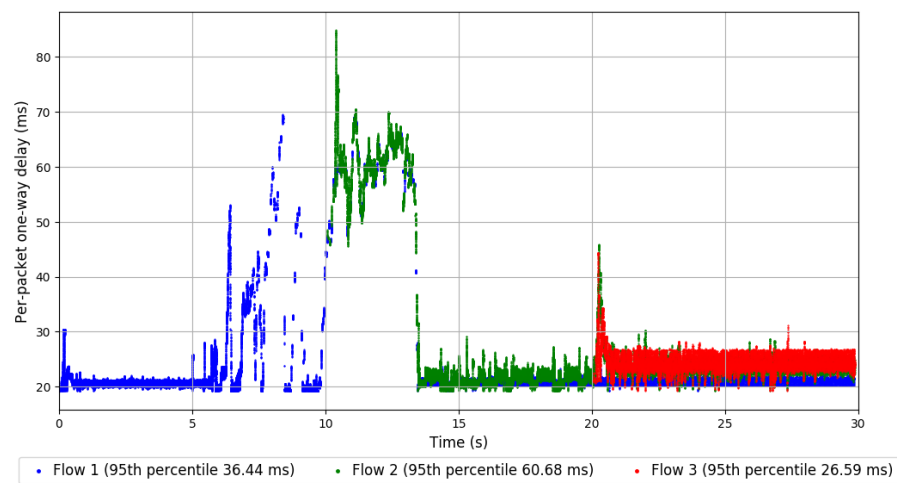
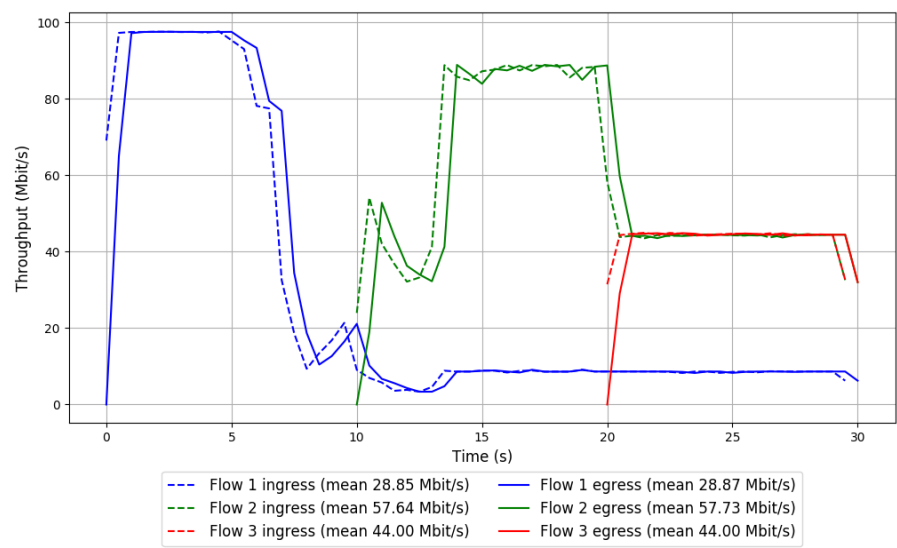


Run 2: Statistics of Indigo

Start at: 2018-09-08 01:01:57
End at: 2018-09-08 01:02:27
Local clock offset: 2.923 ms
Remote clock offset: -1.202 ms

Below is generated by plot.py at 2018-09-08 02:25:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 81.63 Mbit/s
95th percentile per-packet one-way delay: 53.791 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 28.87 Mbit/s
95th percentile per-packet one-way delay: 36.441 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 60.679 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 44.00 Mbit/s
95th percentile per-packet one-way delay: 26.587 ms
Loss rate: 0.32%

Run 2: Report of Indigo — Data Link

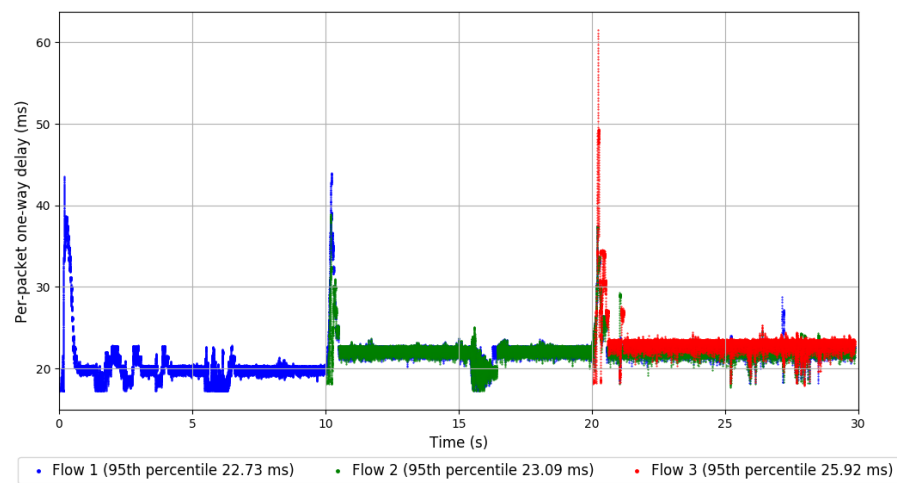
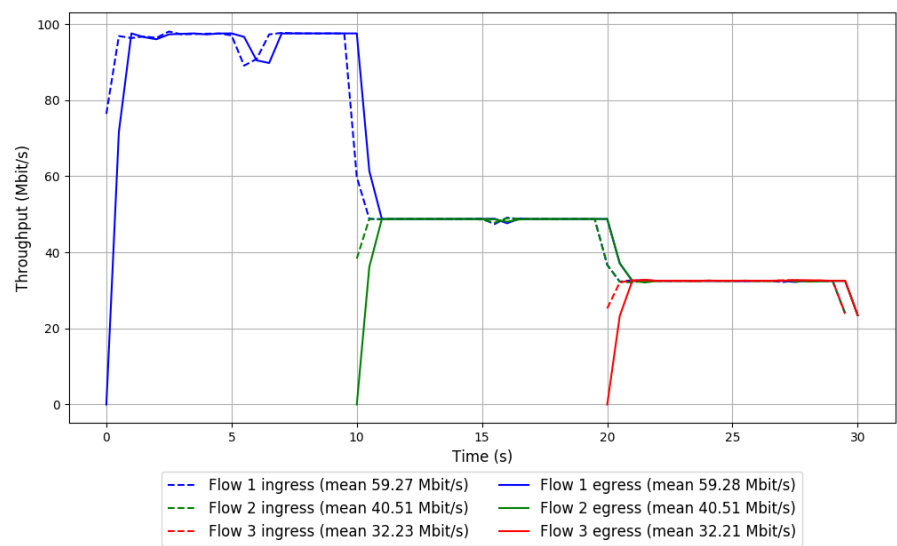


Run 3: Statistics of Indigo

Start at: 2018-09-08 01:24:06
End at: 2018-09-08 01:24:36
Local clock offset: 0.433 ms
Remote clock offset: -1.162 ms

Below is generated by plot.py at 2018-09-08 02:25:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 23.445 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 22.732 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 23.085 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.21 Mbit/s
95th percentile per-packet one-way delay: 25.920 ms
Loss rate: 0.31%

Run 3: Report of Indigo — Data Link

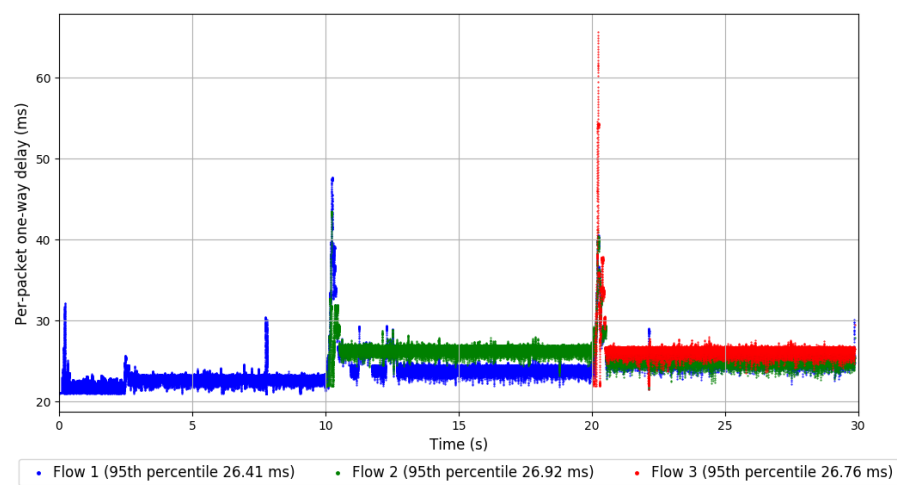
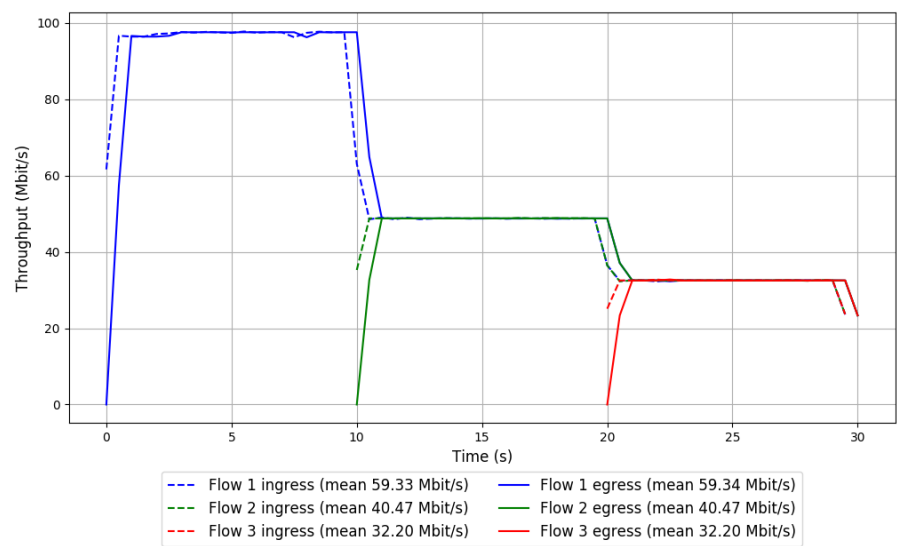


Run 4: Statistics of Indigo

Start at: 2018-09-08 01:46:35
End at: 2018-09-08 01:47:05
Local clock offset: 0.982 ms
Remote clock offset: -2.754 ms

Below is generated by plot.py at 2018-09-08 02:25:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.82 Mbit/s
95th percentile per-packet one-way delay: 26.813 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 59.34 Mbit/s
95th percentile per-packet one-way delay: 26.412 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 26.921 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.20 Mbit/s
95th percentile per-packet one-way delay: 26.761 ms
Loss rate: 0.32%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-08 02:09:04

End at: 2018-09-08 02:09:34

Local clock offset: 2.501 ms

Remote clock offset: 0.337 ms

Below is generated by plot.py at 2018-09-08 02:26:01

Datalink statistics

-- Total of 3 flows:

Average throughput: 97.06 Mbit/s

95th percentile per-packet one-way delay: 27.253 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 56.92 Mbit/s

95th percentile per-packet one-way delay: 24.943 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 36.55 Mbit/s

95th percentile per-packet one-way delay: 27.386 ms

Loss rate: 0.25%

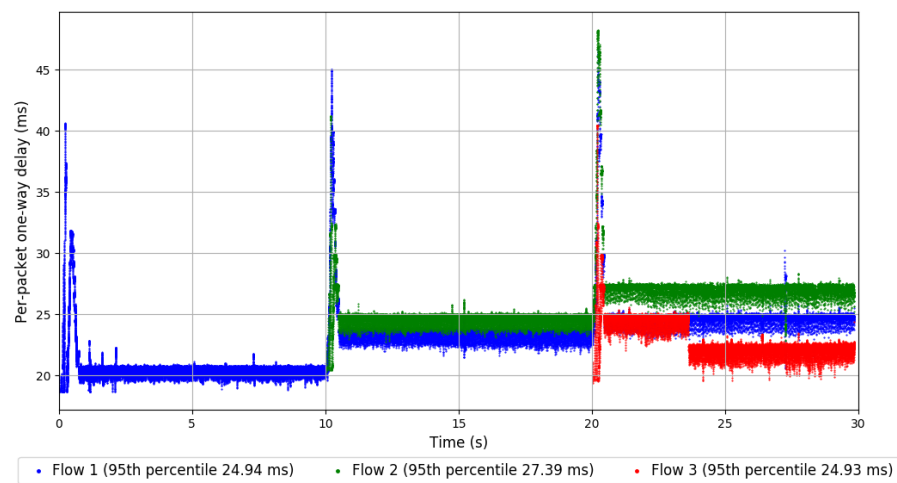
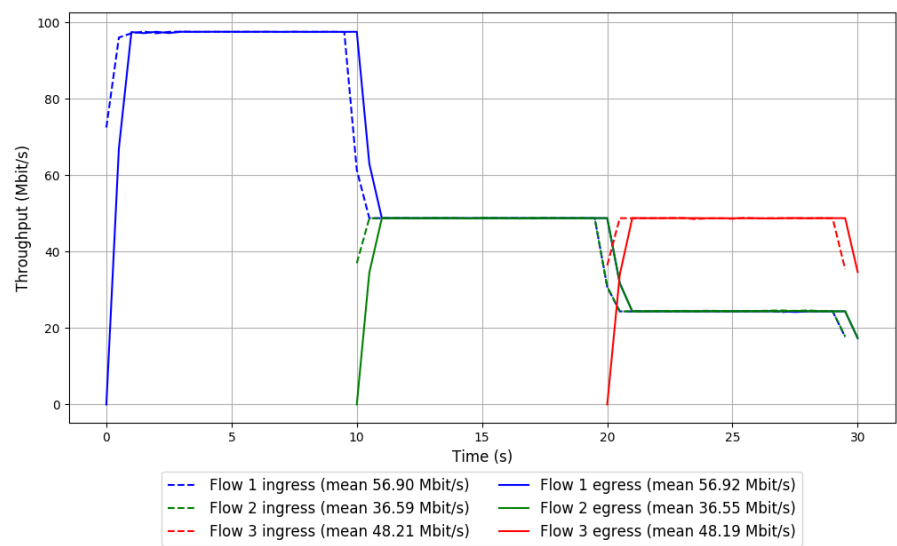
-- Flow 3:

Average throughput: 48.19 Mbit/s

95th percentile per-packet one-way delay: 24.928 ms

Loss rate: 0.30%

Run 5: Report of Indigo — Data Link

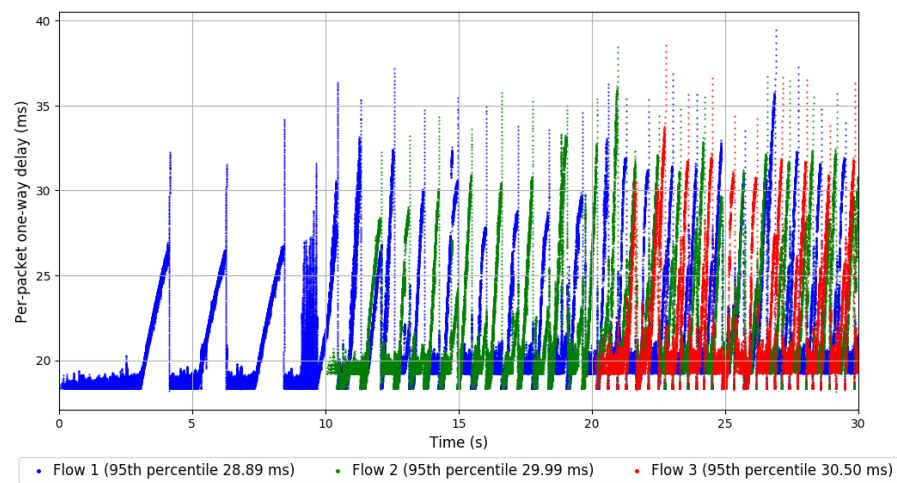
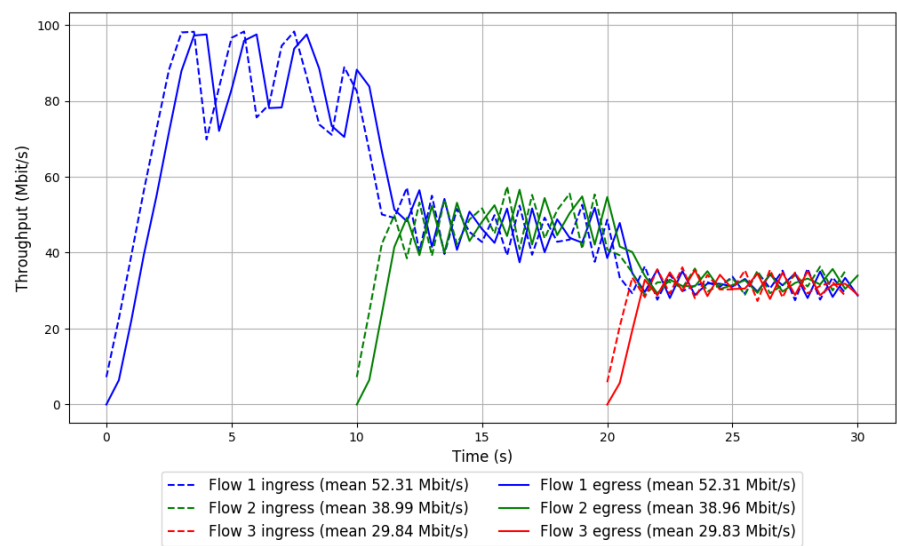


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-08 00:36:06
End at: 2018-09-08 00:36:36
Local clock offset: 0.943 ms
Remote clock offset: -2.66 ms

# Below is generated by plot.py at 2018-09-08 02:26:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.15 Mbit/s
95th percentile per-packet one-way delay: 29.605 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 52.31 Mbit/s
95th percentile per-packet one-way delay: 28.893 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 29.988 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 29.83 Mbit/s
95th percentile per-packet one-way delay: 30.495 ms
Loss rate: 0.28%
```

Run 1: Report of LEDBAT — Data Link

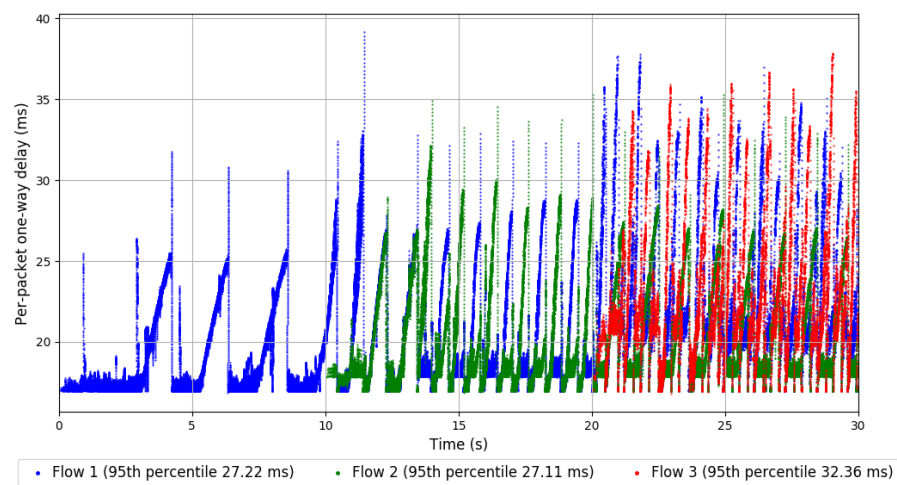
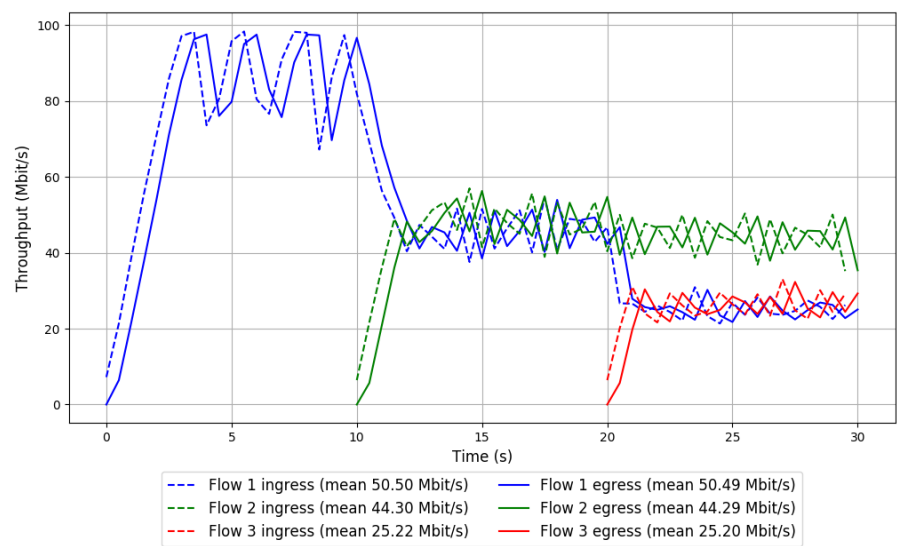


Run 2: Statistics of LEDBAT

Start at: 2018-09-08 00:58:16
End at: 2018-09-08 00:58:46
Local clock offset: 0.569 ms
Remote clock offset: -1.269 ms

Below is generated by plot.py at 2018-09-08 02:26:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 88.34 Mbit/s
95th percentile per-packet one-way delay: 27.770 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 50.49 Mbit/s
95th percentile per-packet one-way delay: 27.216 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 44.29 Mbit/s
95th percentile per-packet one-way delay: 27.113 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 32.363 ms
Loss rate: 0.32%

Run 2: Report of LEDBAT — Data Link

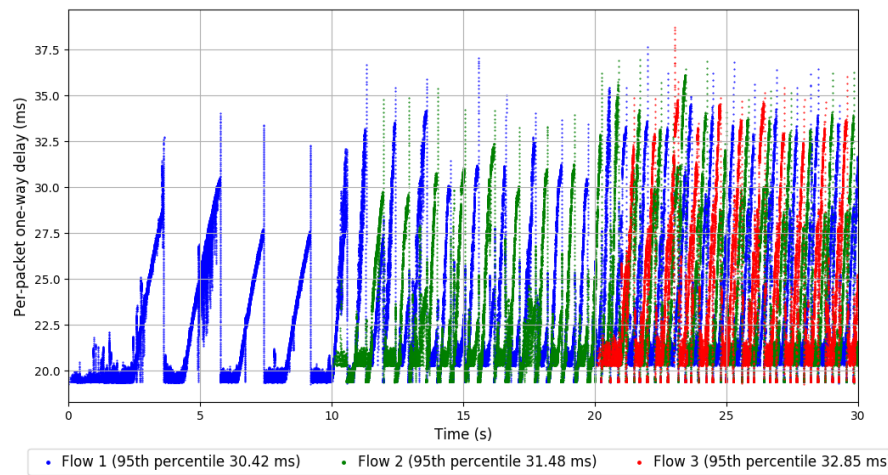
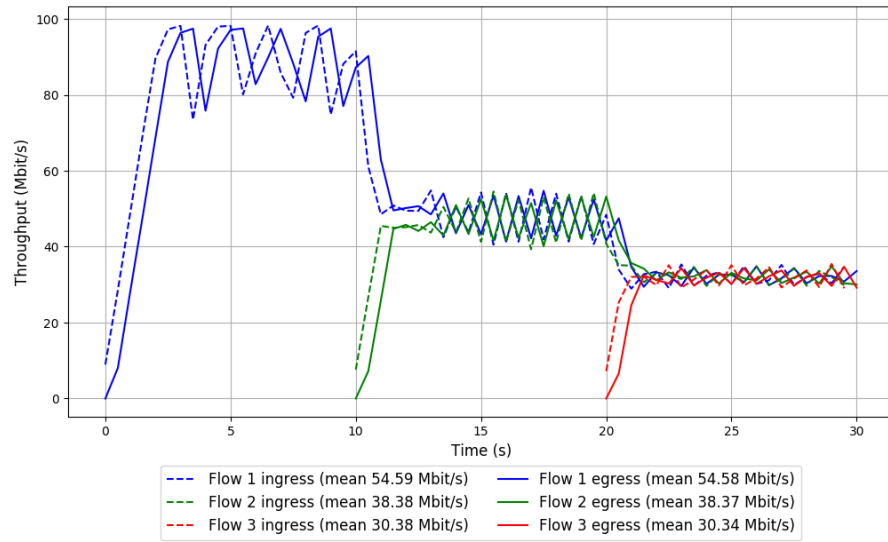


Run 3: Statistics of LEDBAT

Start at: 2018-09-08 01:20:25
End at: 2018-09-08 01:20:55
Local clock offset: 1.62 ms
Remote clock offset: -2.278 ms

Below is generated by plot.py at 2018-09-08 02:26:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 31.186 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 30.418 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 31.480 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 30.34 Mbit/s
95th percentile per-packet one-way delay: 32.854 ms
Loss rate: 0.38%

Run 3: Report of LEDBAT — Data Link

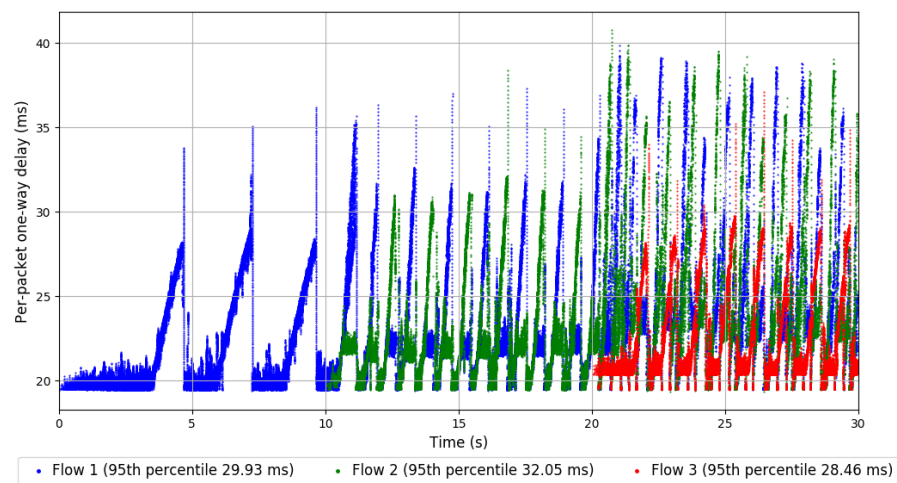
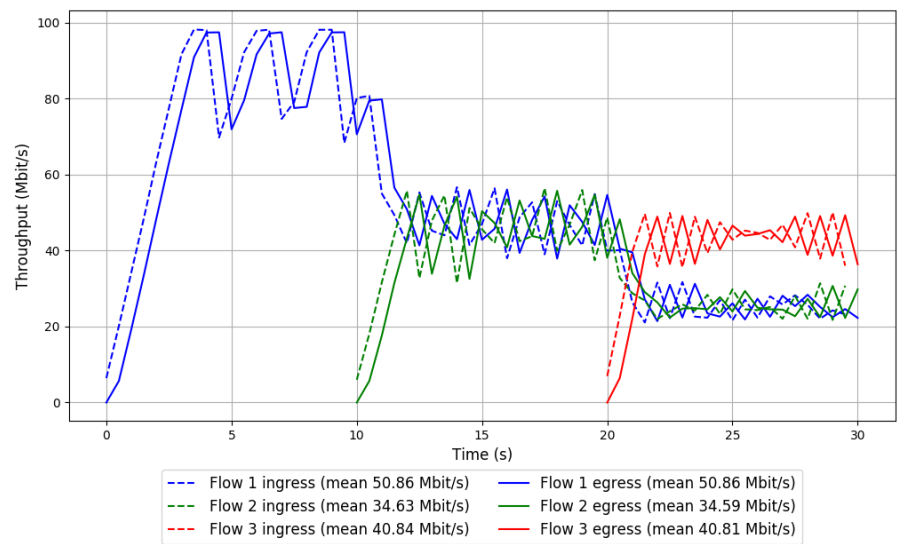


Run 4: Statistics of LEDBAT

Start at: 2018-09-08 01:42:35
End at: 2018-09-08 01:43:05
Local clock offset: 0.782 ms
Remote clock offset: -1.236 ms

Below is generated by plot.py at 2018-09-08 02:26:23
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.44 Mbit/s
95th percentile per-packet one-way delay: 30.093 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 50.86 Mbit/s
95th percentile per-packet one-way delay: 29.928 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 32.055 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 40.81 Mbit/s
95th percentile per-packet one-way delay: 28.459 ms
Loss rate: 0.33%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-08 02:05:13

End at: 2018-09-08 02:05:43

Local clock offset: 1.454 ms

Remote clock offset: 0.35 ms

Below is generated by plot.py at 2018-09-08 02:26:36

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.84 Mbit/s

95th percentile per-packet one-way delay: 28.196 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 49.48 Mbit/s

95th percentile per-packet one-way delay: 27.212 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 37.56 Mbit/s

95th percentile per-packet one-way delay: 30.400 ms

Loss rate: 0.16%

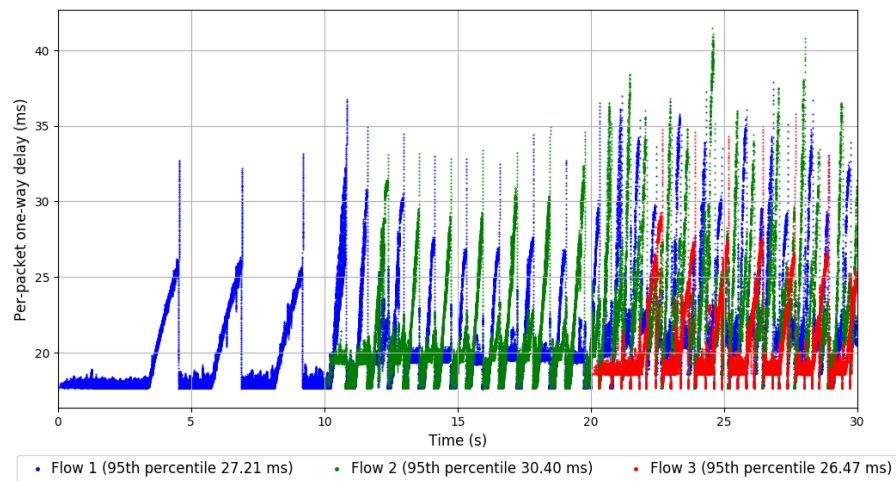
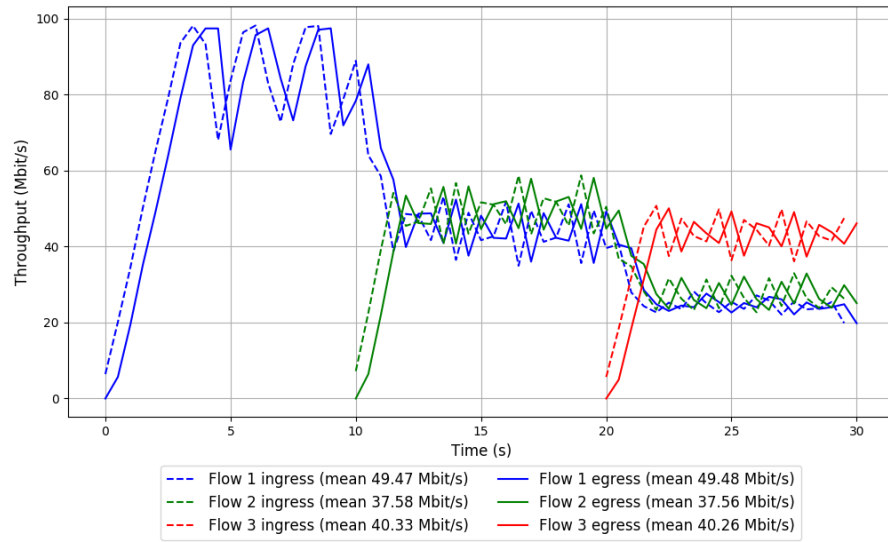
-- Flow 3:

Average throughput: 40.26 Mbit/s

95th percentile per-packet one-way delay: 26.469 ms

Loss rate: 0.42%

Run 5: Report of LEDBAT — Data Link

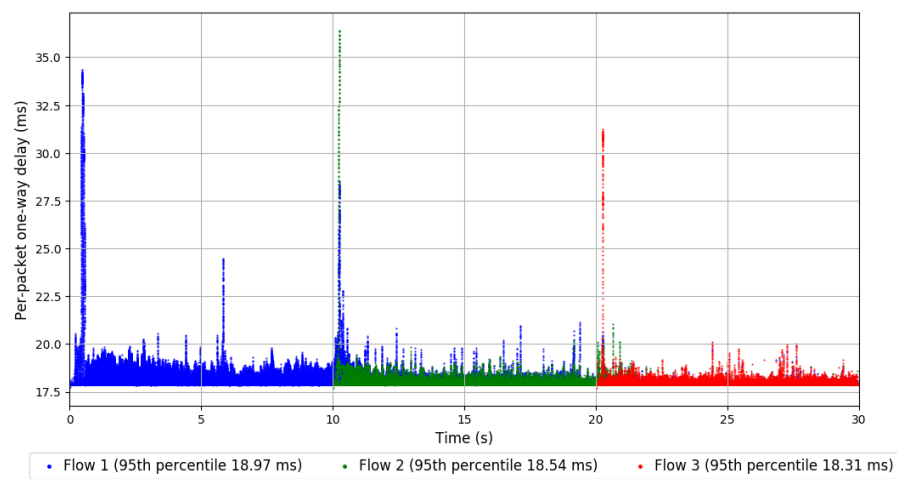
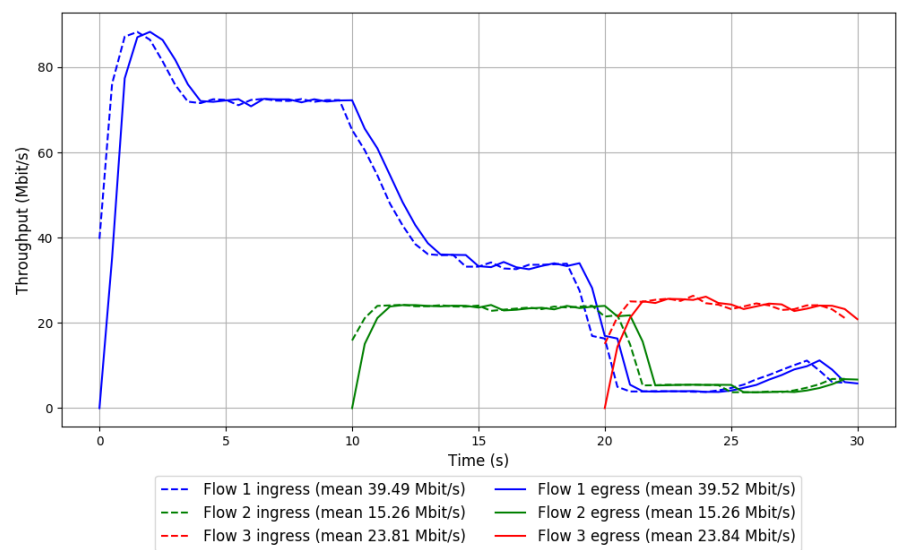


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-08 00:33:47
End at: 2018-09-08 00:34:17
Local clock offset: 1.148 ms
Remote clock offset: -1.986 ms

Below is generated by plot.py at 2018-09-08 02:26:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 57.55 Mbit/s
95th percentile per-packet one-way delay: 18.840 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 39.52 Mbit/s
95th percentile per-packet one-way delay: 18.966 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 15.26 Mbit/s
95th percentile per-packet one-way delay: 18.537 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 23.84 Mbit/s
95th percentile per-packet one-way delay: 18.310 ms
Loss rate: 0.25%

Run 1: Report of Indigo-Muses — Data Link

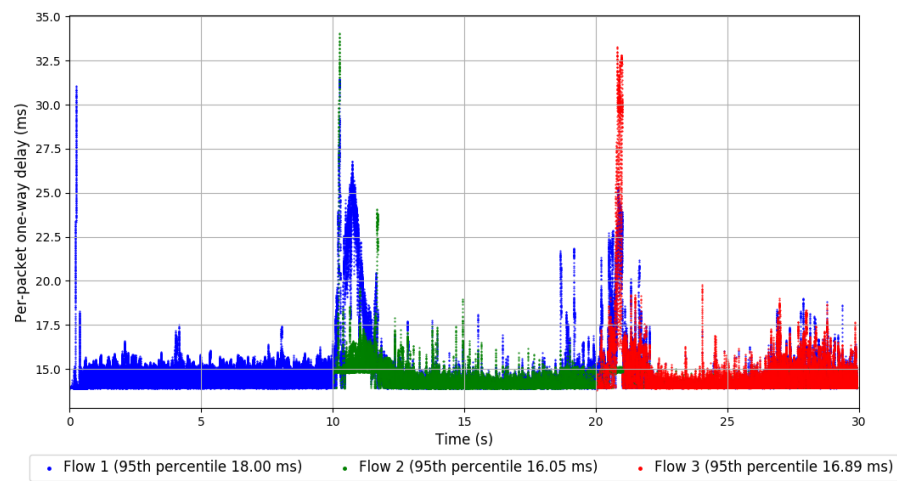
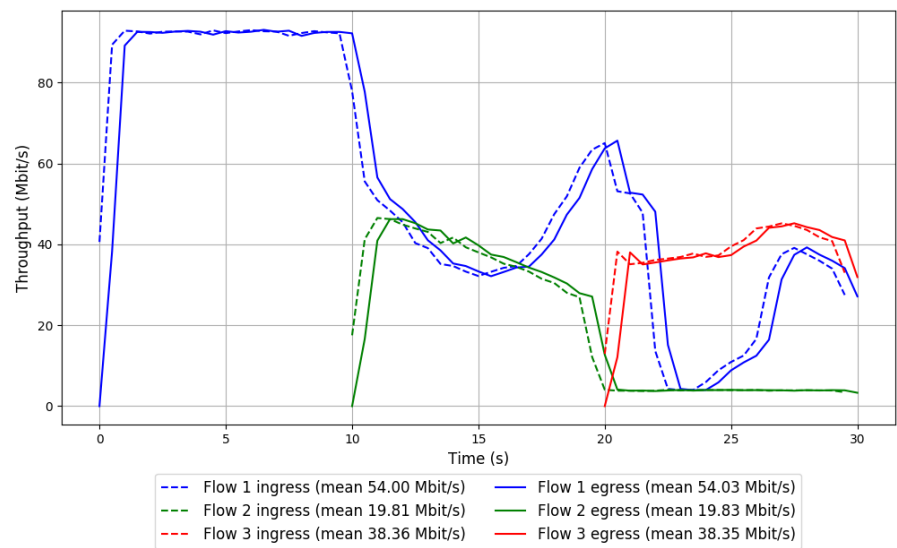


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-08 00:55:58
End at: 2018-09-08 00:56:28
Local clock offset: -2.216 ms
Remote clock offset: -1.047 ms

Below is generated by plot.py at 2018-09-08 02:26:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 79.91 Mbit/s
95th percentile per-packet one-way delay: 17.221 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 54.03 Mbit/s
95th percentile per-packet one-way delay: 17.995 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 19.83 Mbit/s
95th percentile per-packet one-way delay: 16.045 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 38.35 Mbit/s
95th percentile per-packet one-way delay: 16.894 ms
Loss rate: 0.29%

Run 2: Report of Indigo-Muses — Data Link

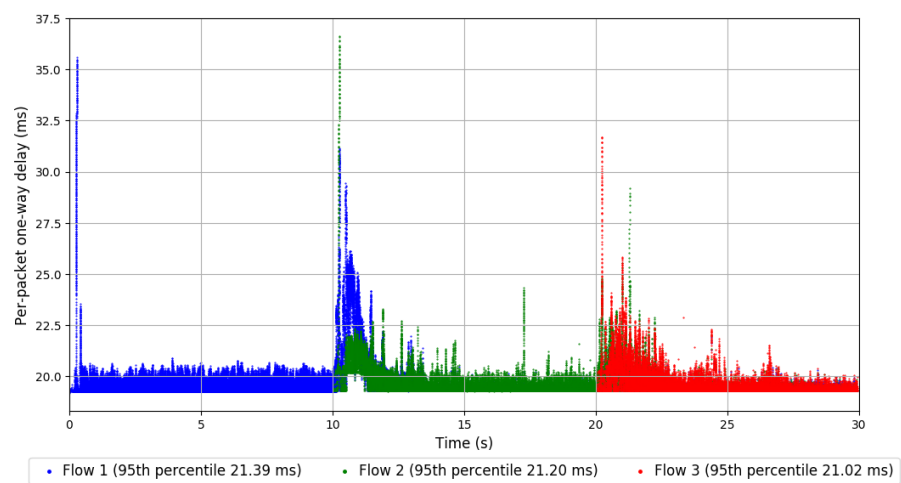
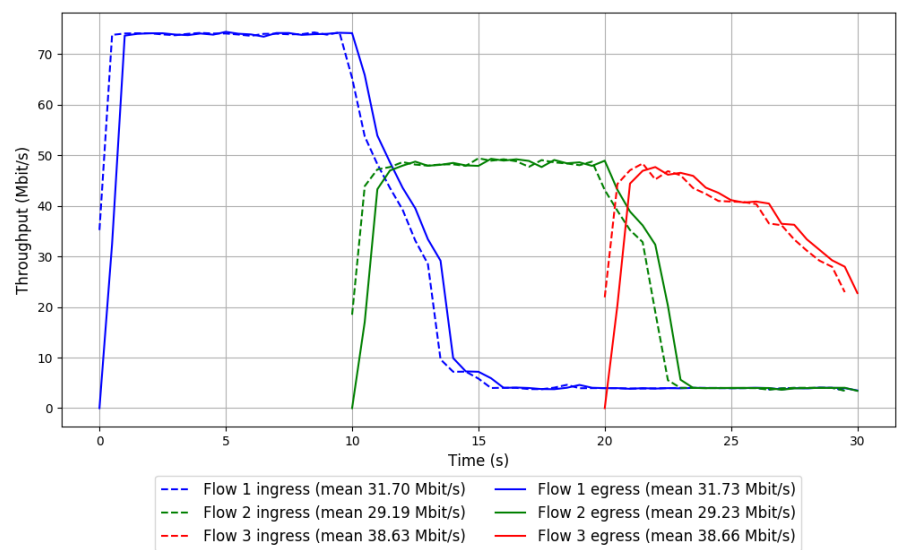


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-08 01:18:06
End at: 2018-09-08 01:18:36
Local clock offset: 1.637 ms
Remote clock offset: -2.276 ms

Below is generated by plot.py at 2018-09-08 02:26:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 21.202 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 31.73 Mbit/s
95th percentile per-packet one-way delay: 21.393 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 29.23 Mbit/s
95th percentile per-packet one-way delay: 21.203 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 38.66 Mbit/s
95th percentile per-packet one-way delay: 21.020 ms
Loss rate: 0.16%

Run 3: Report of Indigo-Muses — Data Link

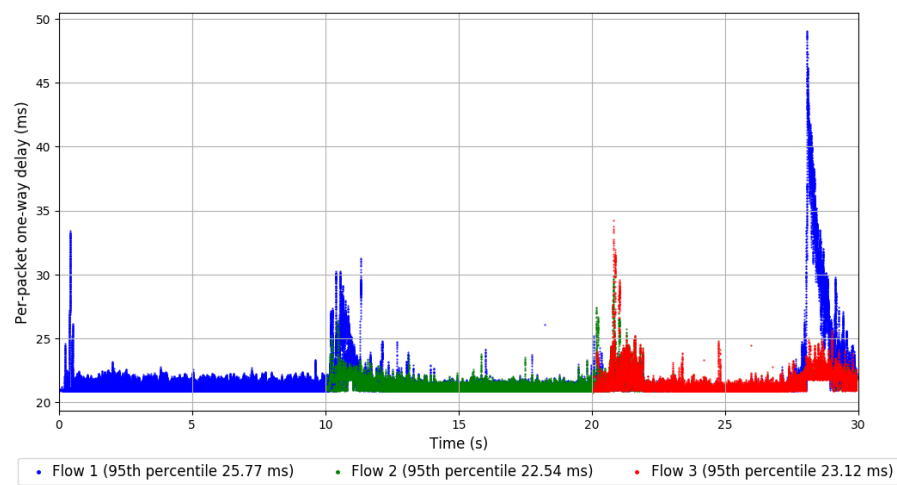
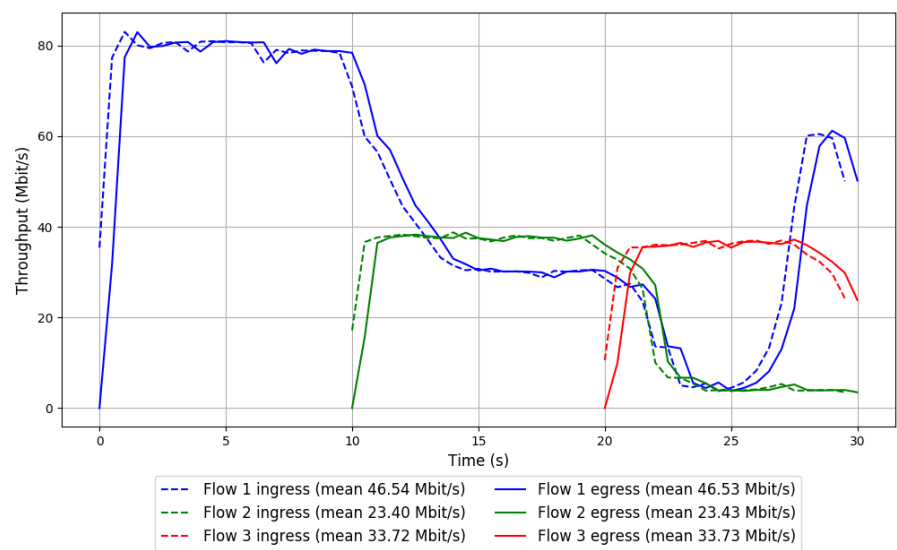


Run 4: Statistics of Indigo-Muses

Start at: 2018-09-08 01:40:15
End at: 2018-09-08 01:40:45
Local clock offset: 1.296 ms
Remote clock offset: -2.184 ms

Below is generated by plot.py at 2018-09-08 02:26:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.27 Mbit/s
95th percentile per-packet one-way delay: 24.071 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 46.53 Mbit/s
95th percentile per-packet one-way delay: 25.772 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 22.536 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 33.73 Mbit/s
95th percentile per-packet one-way delay: 23.117 ms
Loss rate: 0.22%

Run 4: Report of Indigo-Muses — Data Link

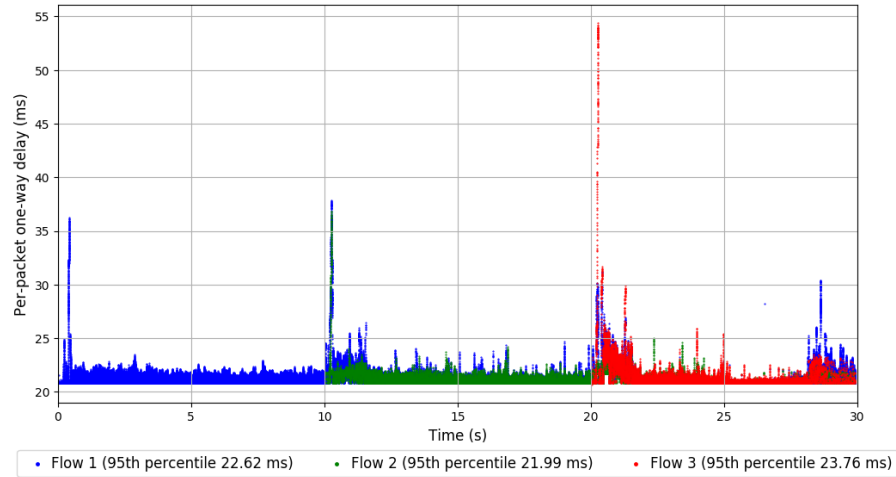
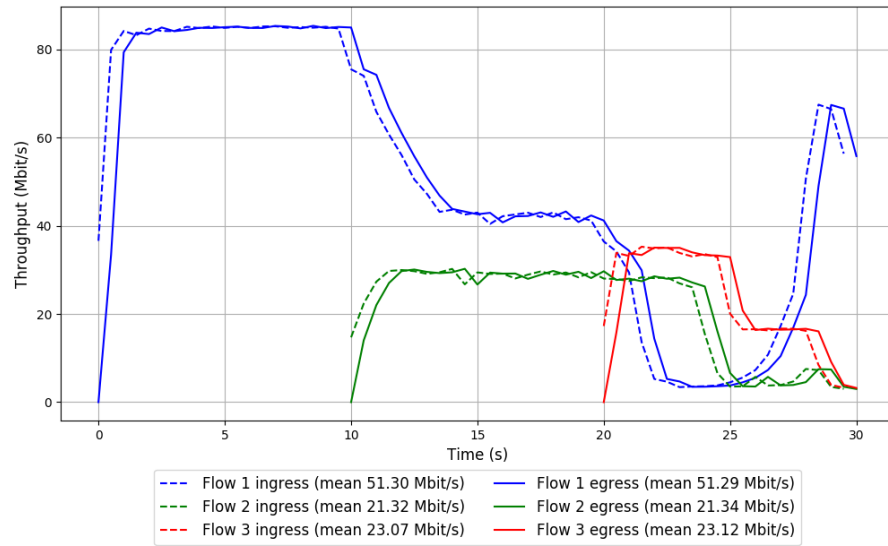


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-08 02:02:55
End at: 2018-09-08 02:03:25
Local clock offset: 2.042 ms
Remote clock offset: -2.175 ms

Below is generated by plot.py at 2018-09-08 02:27:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 73.12 Mbit/s
95th percentile per-packet one-way delay: 22.642 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 51.29 Mbit/s
95th percentile per-packet one-way delay: 22.624 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 21.34 Mbit/s
95th percentile per-packet one-way delay: 21.992 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 23.12 Mbit/s
95th percentile per-packet one-way delay: 23.764 ms
Loss rate: 0.04%

Run 5: Report of Indigo-Muses — Data Link

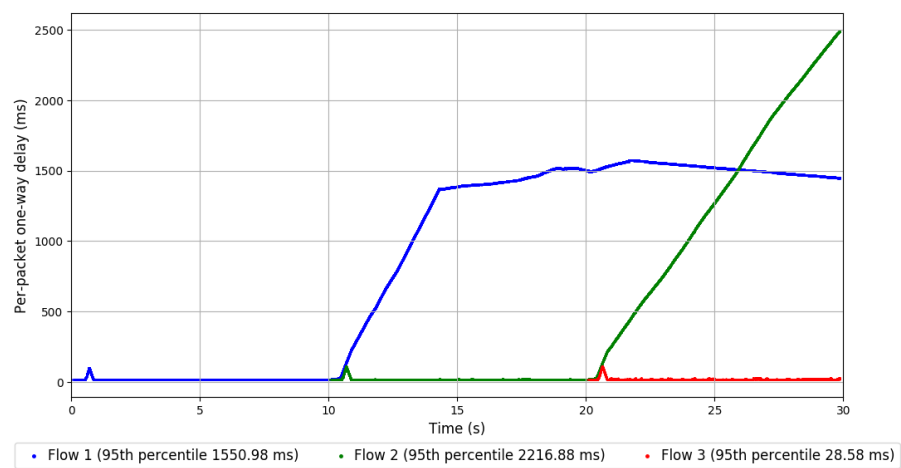
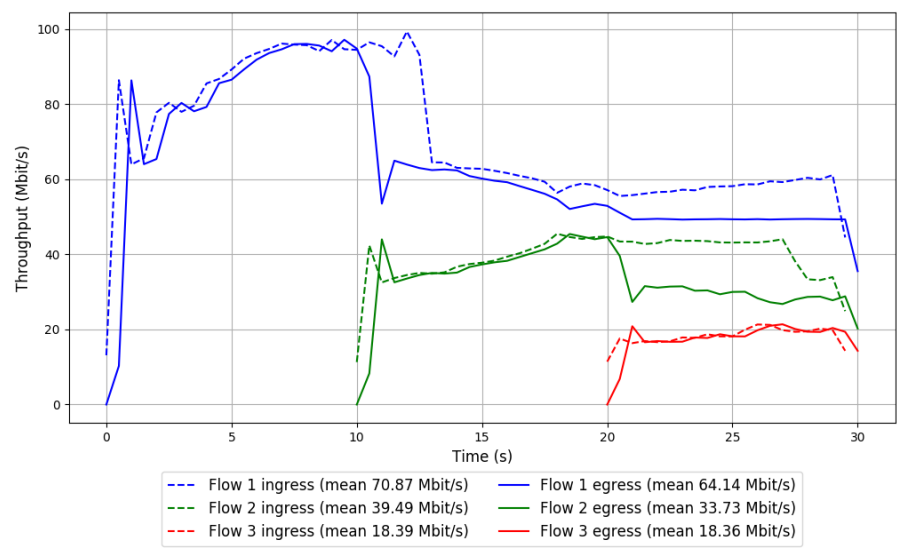


Run 1: Statistics of PCC-Allegro

Start at: 2018-09-08 00:32:32
End at: 2018-09-08 00:33:02
Local clock offset: 1.759 ms
Remote clock offset: -2.652 ms

Below is generated by plot.py at 2018-09-08 02:27:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.59 Mbit/s
95th percentile per-packet one-way delay: 1565.712 ms
Loss rate: 10.34%
-- Flow 1:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 1550.981 ms
Loss rate: 9.57%
-- Flow 2:
Average throughput: 33.73 Mbit/s
95th percentile per-packet one-way delay: 2216.876 ms
Loss rate: 14.69%
-- Flow 3:
Average throughput: 18.36 Mbit/s
95th percentile per-packet one-way delay: 28.583 ms
Loss rate: 0.45%

Run 1: Report of PCC-Allegro — Data Link

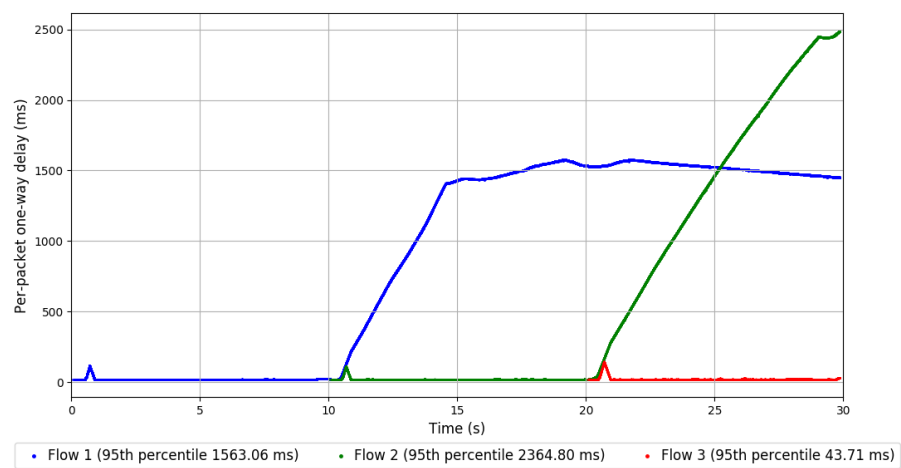
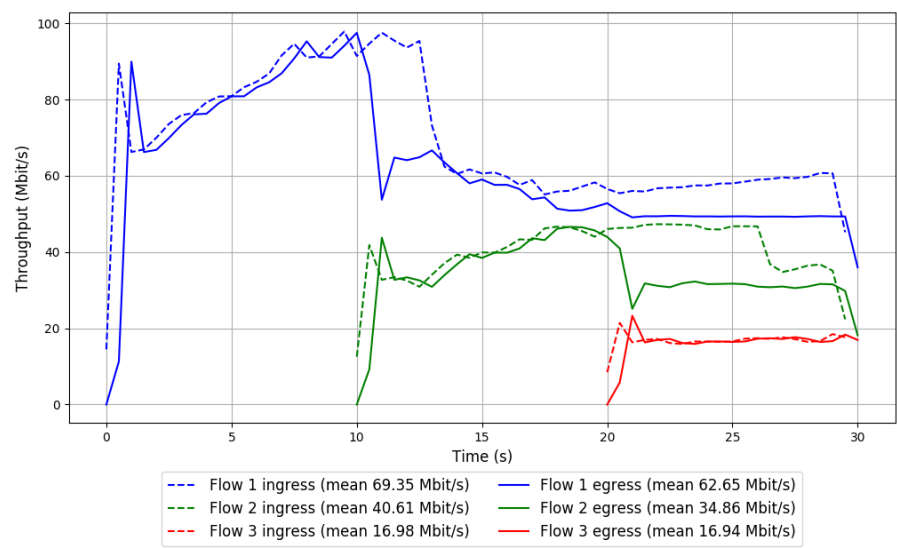


Run 2: Statistics of PCC-Allegro

Start at: 2018-09-08 00:54:45
End at: 2018-09-08 00:55:15
Local clock offset: 2.469 ms
Remote clock offset: -1.994 ms

Below is generated by plot.py at 2018-09-08 02:27:31
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.39 Mbit/s
95th percentile per-packet one-way delay: 1577.102 ms
Loss rate: 10.44%
-- Flow 1:
Average throughput: 62.65 Mbit/s
95th percentile per-packet one-way delay: 1563.055 ms
Loss rate: 9.74%
-- Flow 2:
Average throughput: 34.86 Mbit/s
95th percentile per-packet one-way delay: 2364.799 ms
Loss rate: 14.30%
-- Flow 3:
Average throughput: 16.94 Mbit/s
95th percentile per-packet one-way delay: 43.713 ms
Loss rate: 0.52%

Run 2: Report of PCC-Allegro — Data Link

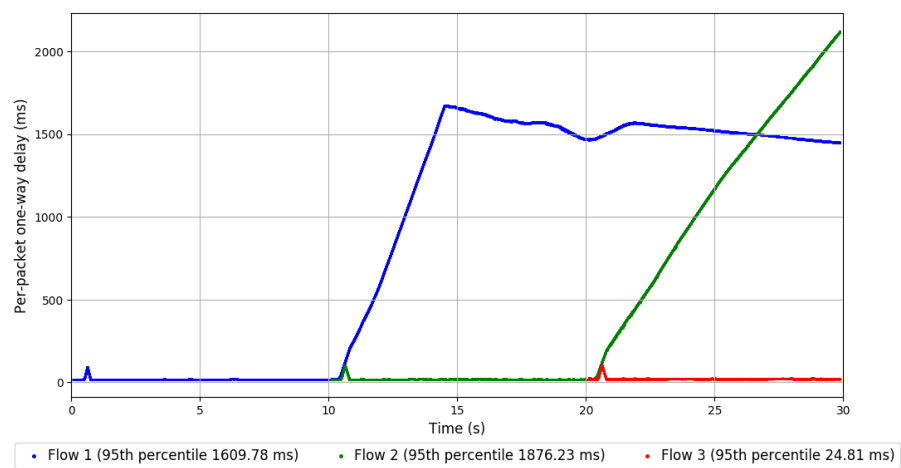
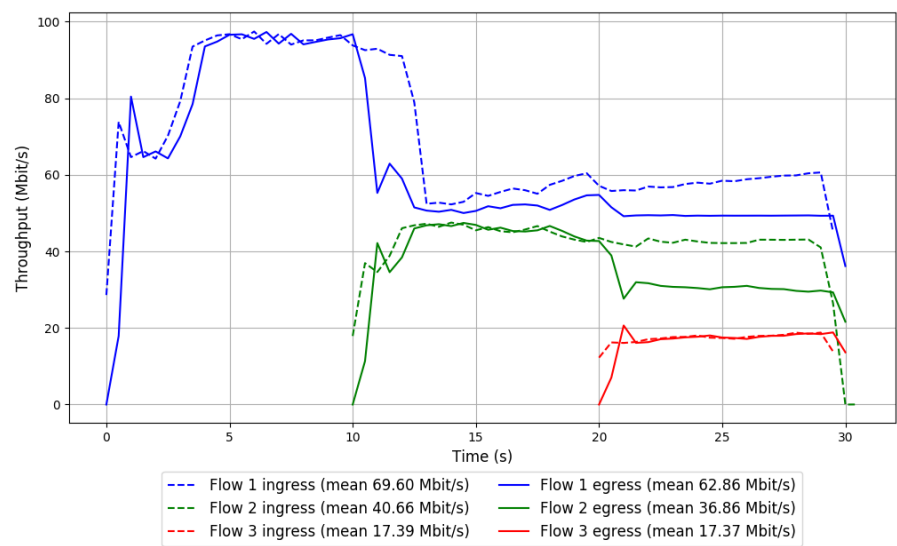


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-08 01:16:55
End at: 2018-09-08 01:17:25
Local clock offset: 0.613 ms
Remote clock offset: -1.665 ms

Below is generated by plot.py at 2018-09-08 02:27:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 1630.275 ms
Loss rate: 10.28%
-- Flow 1:
Average throughput: 62.86 Mbit/s
95th percentile per-packet one-way delay: 1609.777 ms
Loss rate: 9.76%
-- Flow 2:
Average throughput: 36.86 Mbit/s
95th percentile per-packet one-way delay: 1876.227 ms
Loss rate: 13.59%
-- Flow 3:
Average throughput: 17.37 Mbit/s
95th percentile per-packet one-way delay: 24.814 ms
Loss rate: 0.31%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-08 01:39:02

End at: 2018-09-08 01:39:32

Local clock offset: 1.703 ms

Remote clock offset: -2.84 ms

Below is generated by plot.py at 2018-09-08 02:27:45

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.43 Mbit/s

95th percentile per-packet one-way delay: 1841.895 ms

Loss rate: 9.63%

-- Flow 1:

Average throughput: 59.31 Mbit/s

95th percentile per-packet one-way delay: 1847.469 ms

Loss rate: 10.23%

-- Flow 2:

Average throughput: 39.17 Mbit/s

95th percentile per-packet one-way delay: 1170.171 ms

Loss rate: 10.23%

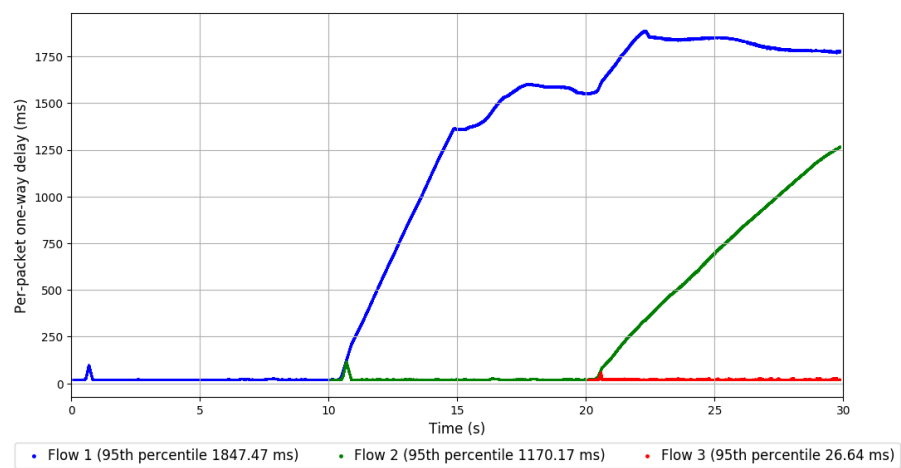
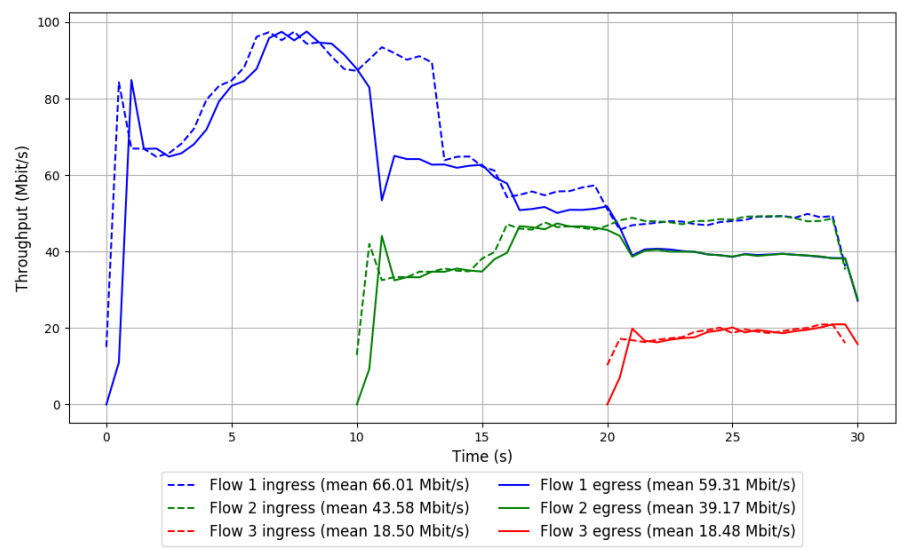
-- Flow 3:

Average throughput: 18.48 Mbit/s

95th percentile per-packet one-way delay: 26.640 ms

Loss rate: 0.34%

Run 4: Report of PCC-Allegro — Data Link

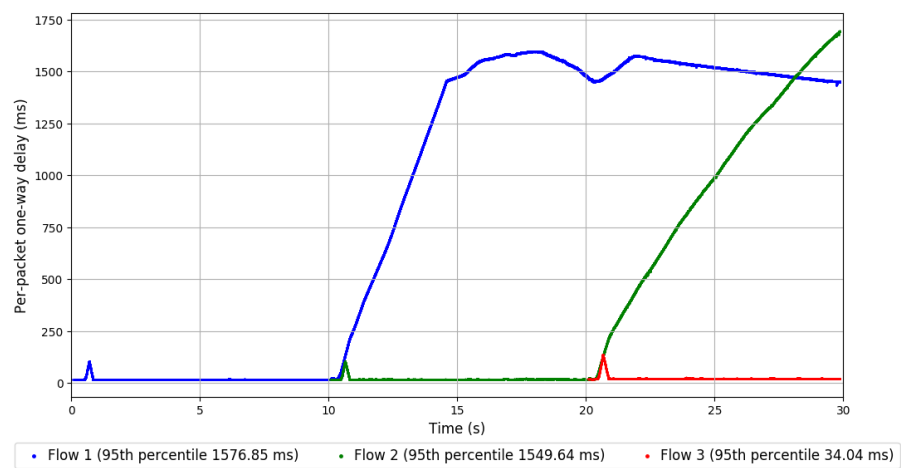
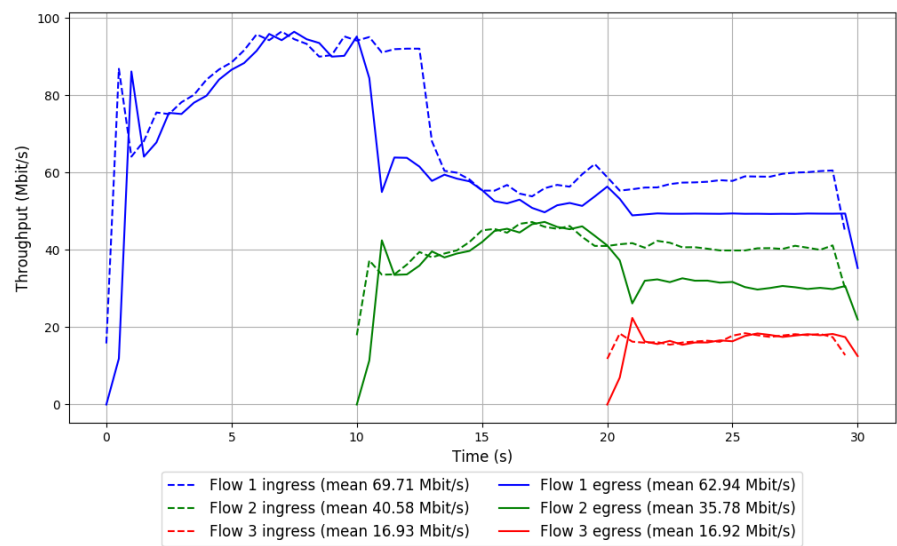


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-08 02:01:41
End at: 2018-09-08 02:02:11
Local clock offset: -0.275 ms
Remote clock offset: -1.674 ms

Below is generated by plot.py at 2018-09-08 02:27:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.28 Mbit/s
95th percentile per-packet one-way delay: 1574.248 ms
Loss rate: 9.84%
-- Flow 1:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 1576.850 ms
Loss rate: 9.79%
-- Flow 2:
Average throughput: 35.78 Mbit/s
95th percentile per-packet one-way delay: 1549.643 ms
Loss rate: 11.93%
-- Flow 3:
Average throughput: 16.92 Mbit/s
95th percentile per-packet one-way delay: 34.040 ms
Loss rate: 0.33%

Run 5: Report of PCC-Allegro — Data Link

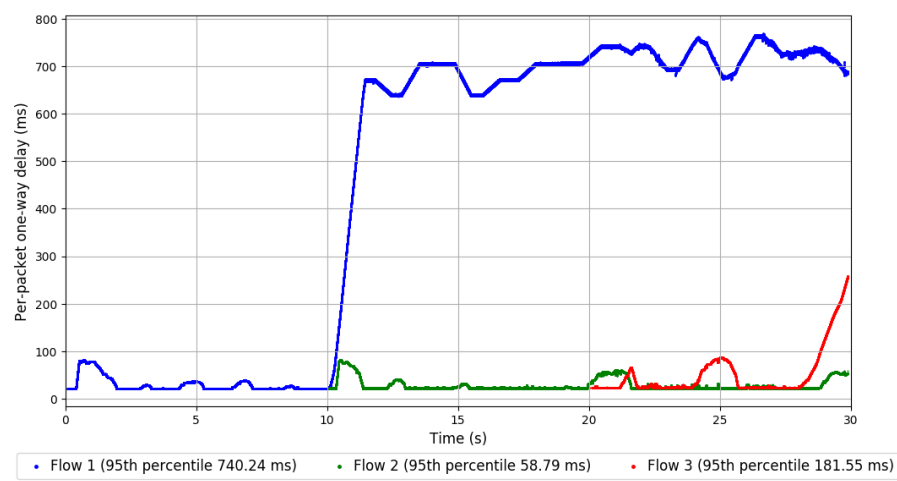
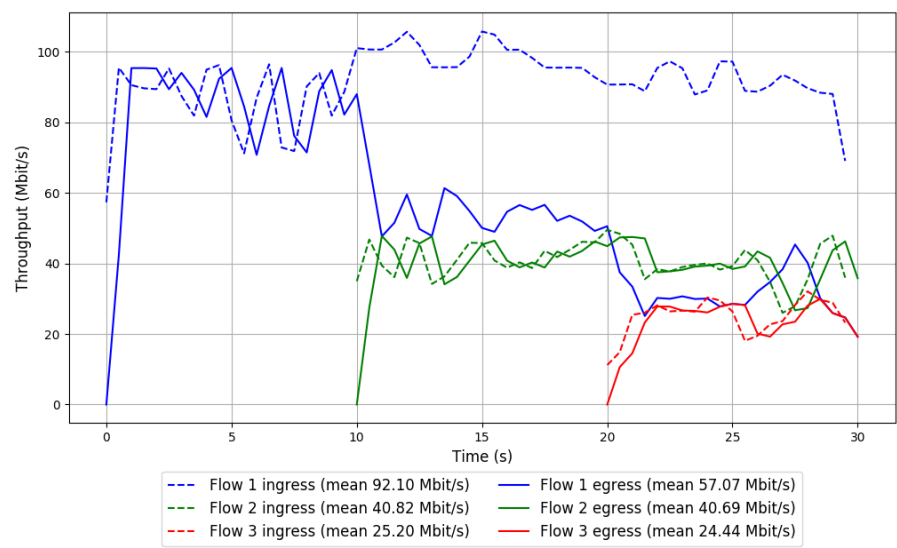


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-08 00:41:08
End at: 2018-09-08 00:41:38
Local clock offset: 4.497 ms
Remote clock offset: -2.086 ms

# Below is generated by plot.py at 2018-09-08 02:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 731.570 ms
Loss rate: 27.80%
-- Flow 1:
Average throughput: 57.07 Mbit/s
95th percentile per-packet one-way delay: 740.236 ms
Loss rate: 38.09%
-- Flow 2:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 58.786 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 181.547 ms
Loss rate: 3.26%
```

Run 1: Report of PCC-Expr — Data Link

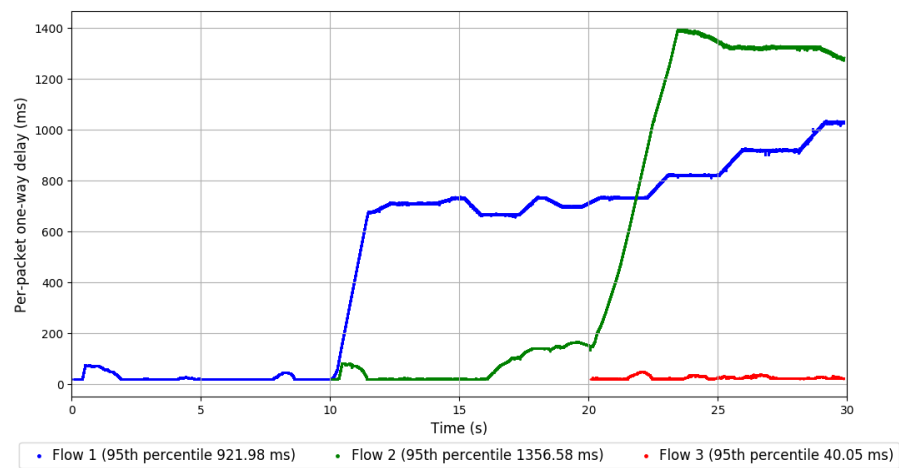
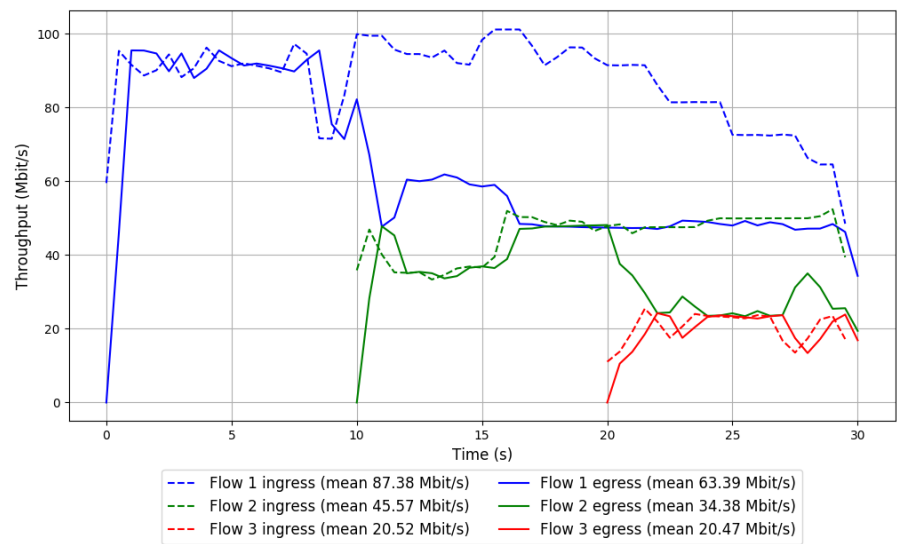


Run 2: Statistics of PCC-Expr

Start at: 2018-09-08 01:03:10
End at: 2018-09-08 01:03:40
Local clock offset: 1.665 ms
Remote clock offset: -2.066 ms

Below is generated by plot.py at 2018-09-08 02:29:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.98 Mbit/s
95th percentile per-packet one-way delay: 1317.891 ms
Loss rate: 25.36%
-- Flow 1:
Average throughput: 63.39 Mbit/s
95th percentile per-packet one-way delay: 921.976 ms
Loss rate: 27.54%
-- Flow 2:
Average throughput: 34.38 Mbit/s
95th percentile per-packet one-way delay: 1356.584 ms
Loss rate: 24.63%
-- Flow 3:
Average throughput: 20.47 Mbit/s
95th percentile per-packet one-way delay: 40.050 ms
Loss rate: 0.46%

Run 2: Report of PCC-Expr — Data Link

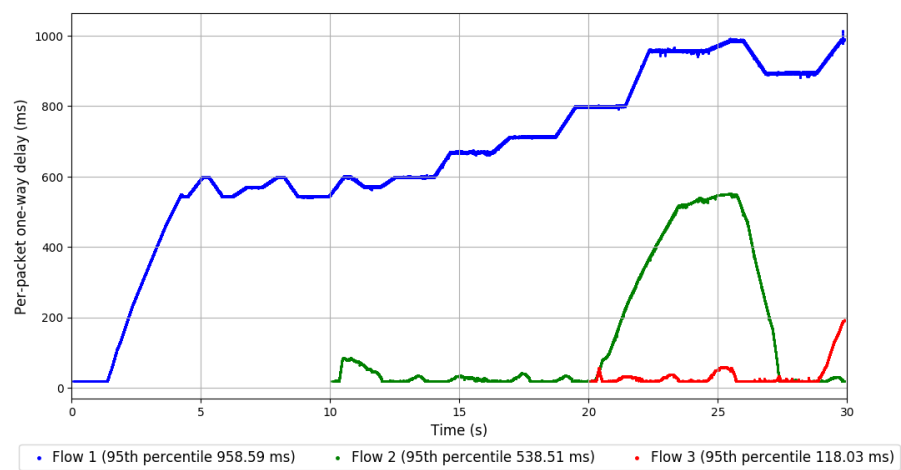
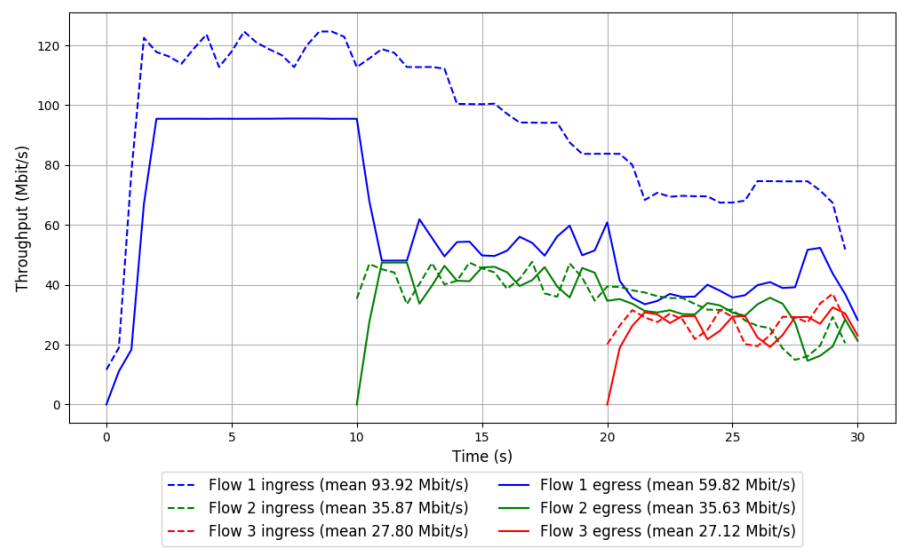


Run 3: Statistics of PCC-Expr

Start at: 2018-09-08 01:25:20
End at: 2018-09-08 01:25:50
Local clock offset: 1.179 ms
Remote clock offset: -1.928 ms

Below is generated by plot.py at 2018-09-08 02:29:18
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.45 Mbit/s
95th percentile per-packet one-way delay: 954.306 ms
Loss rate: 27.25%
-- Flow 1:
Average throughput: 59.82 Mbit/s
95th percentile per-packet one-way delay: 958.587 ms
Loss rate: 36.37%
-- Flow 2:
Average throughput: 35.63 Mbit/s
95th percentile per-packet one-way delay: 538.514 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 27.12 Mbit/s
95th percentile per-packet one-way delay: 118.027 ms
Loss rate: 2.75%

Run 3: Report of PCC-Expr — Data Link

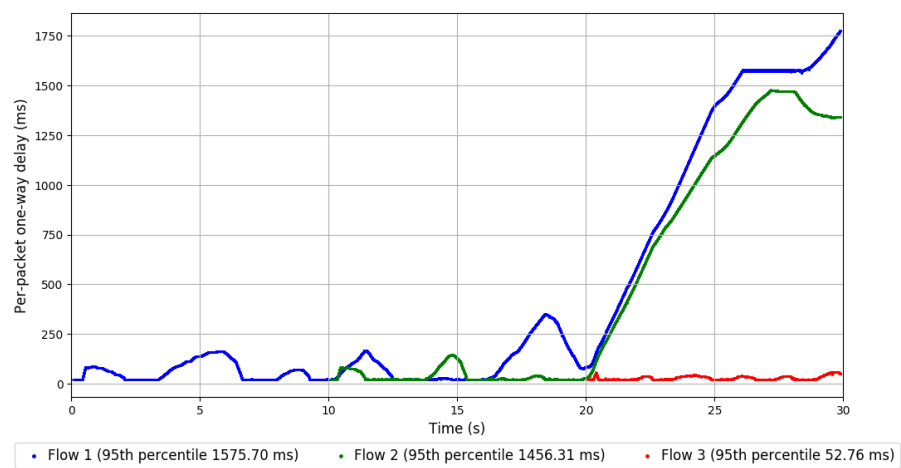
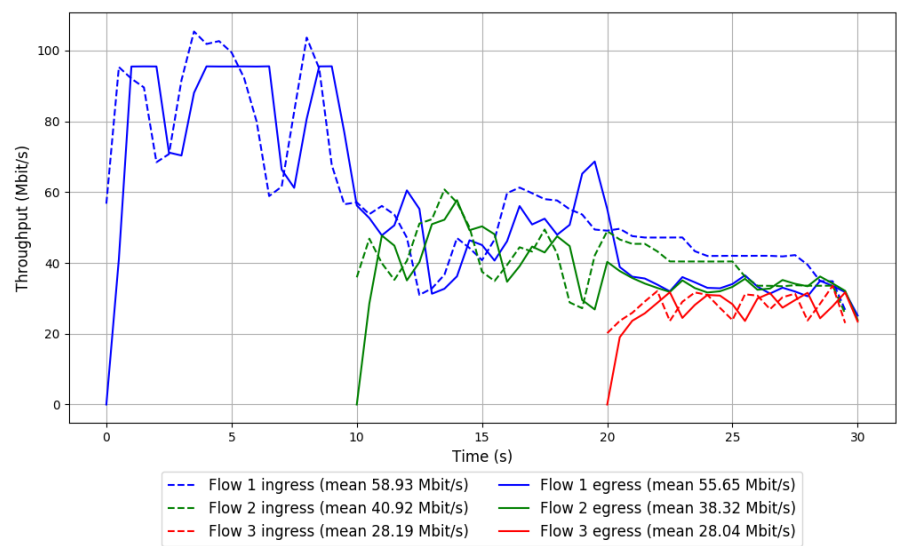


Run 4: Statistics of PCC-Expr

Start at: 2018-09-08 01:47:53
End at: 2018-09-08 01:48:23
Local clock offset: 1.15 ms
Remote clock offset: -2.941 ms

Below is generated by plot.py at 2018-09-08 02:29:33
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.38 Mbit/s
95th percentile per-packet one-way delay: 1505.442 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 55.65 Mbit/s
95th percentile per-packet one-way delay: 1575.698 ms
Loss rate: 5.67%
-- Flow 2:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 1456.309 ms
Loss rate: 6.52%
-- Flow 3:
Average throughput: 28.04 Mbit/s
95th percentile per-packet one-way delay: 52.756 ms
Loss rate: 0.78%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-08 02:10:18

End at: 2018-09-08 02:10:48

Local clock offset: 3.06 ms

Remote clock offset: 0.313 ms

Below is generated by plot.py at 2018-09-08 02:29:39

Datalink statistics

-- Total of 3 flows:

Average throughput: 91.89 Mbit/s

95th percentile per-packet one-way delay: 1382.850 ms

Loss rate: 13.09%

-- Flow 1:

Average throughput: 56.36 Mbit/s

95th percentile per-packet one-way delay: 1403.943 ms

Loss rate: 19.52%

-- Flow 2:

Average throughput: 41.68 Mbit/s

95th percentile per-packet one-way delay: 302.676 ms

Loss rate: 0.40%

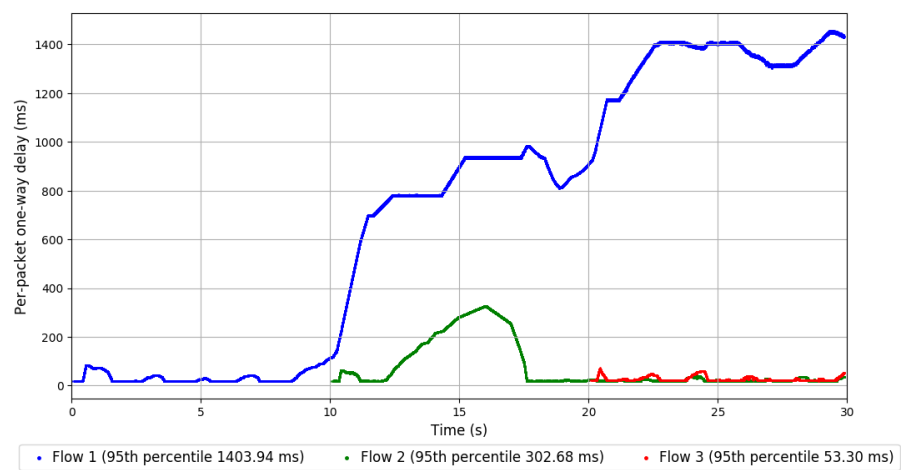
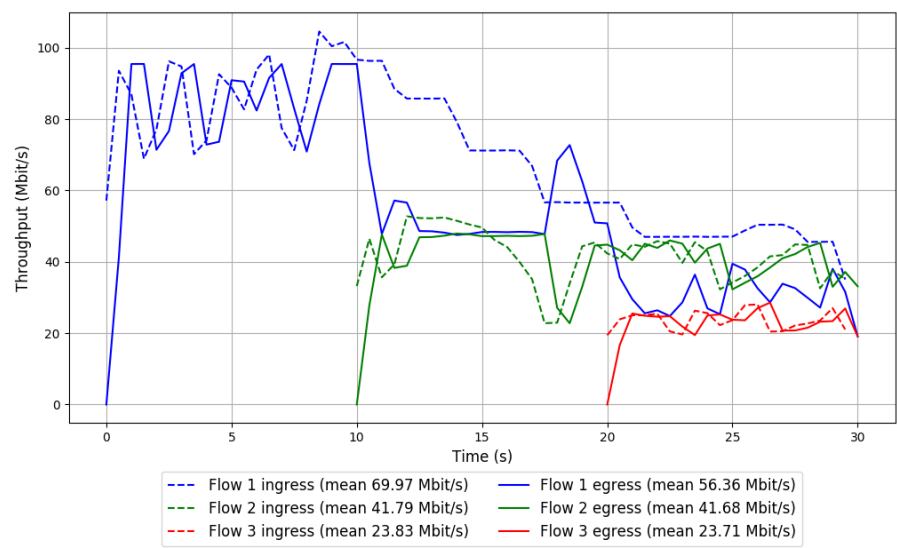
-- Flow 3:

Average throughput: 23.71 Mbit/s

95th percentile per-packet one-way delay: 53.300 ms

Loss rate: 0.76%

Run 5: Report of PCC-Expr — Data Link

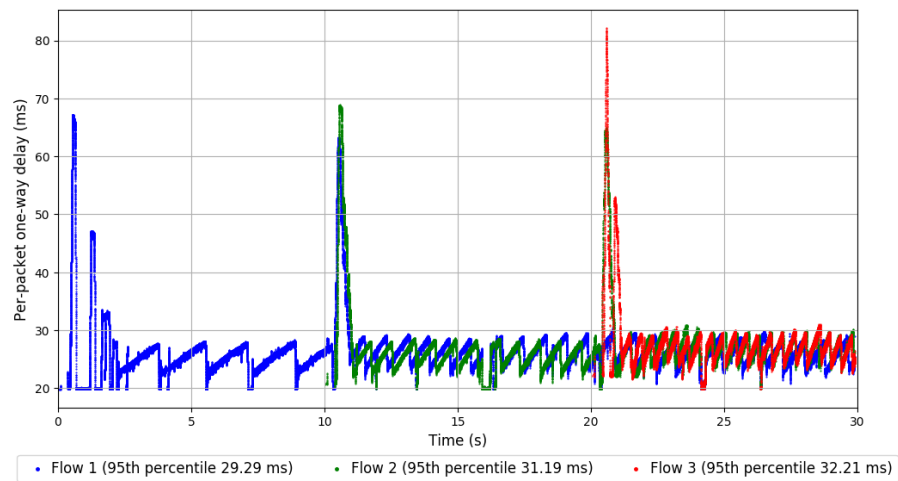
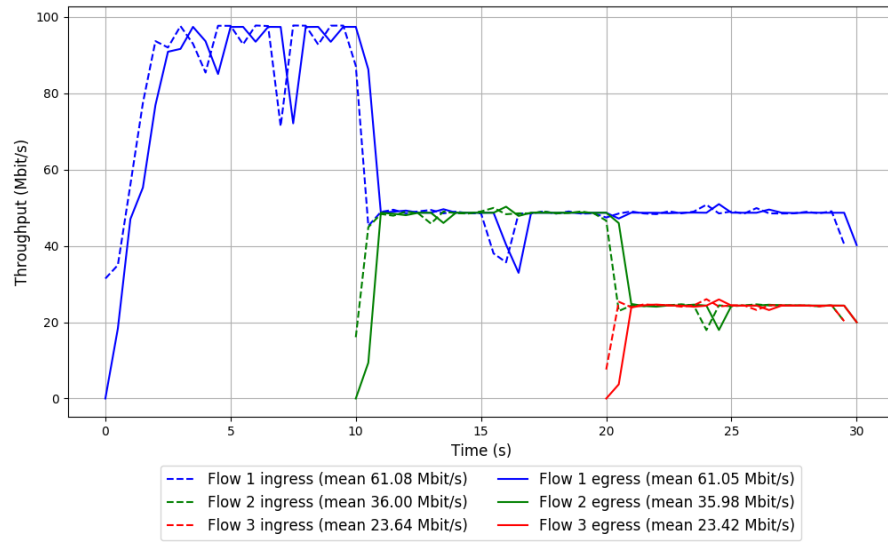


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-08 00:37:20
End at: 2018-09-08 00:37:50
Local clock offset: 2.677 ms
Remote clock offset: -2.463 ms

Below is generated by plot.py at 2018-09-08 02:29:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.70 Mbit/s
95th percentile per-packet one-way delay: 29.777 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 61.05 Mbit/s
95th percentile per-packet one-way delay: 29.290 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 31.186 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 23.42 Mbit/s
95th percentile per-packet one-way delay: 32.209 ms
Loss rate: 1.20%

Run 1: Report of QUIC Cubic — Data Link

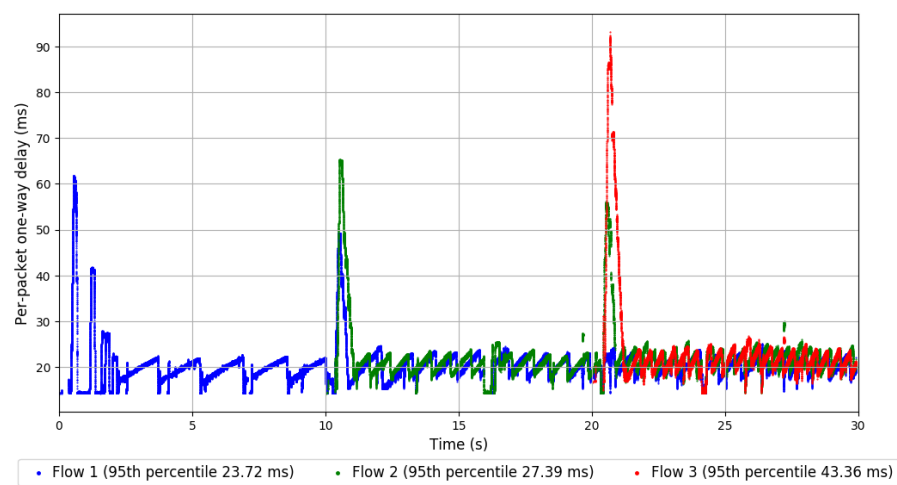
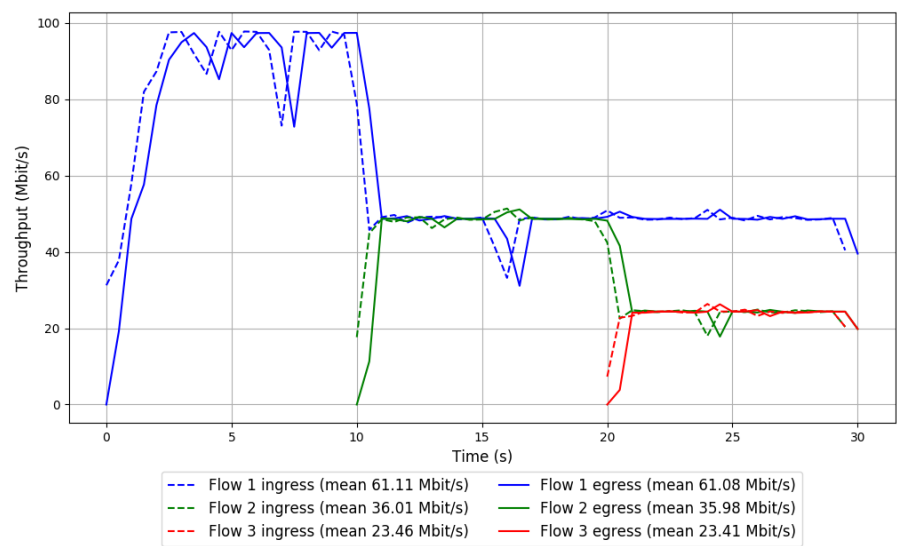


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-08 00:59:31
End at: 2018-09-08 01:00:01
Local clock offset: -2.24 ms
Remote clock offset: -1.524 ms

Below is generated by plot.py at 2018-09-08 02:29:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.73 Mbit/s
95th percentile per-packet one-way delay: 25.148 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 61.08 Mbit/s
95th percentile per-packet one-way delay: 23.721 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 27.389 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.41 Mbit/s
95th percentile per-packet one-way delay: 43.364 ms
Loss rate: 0.51%

Run 2: Report of QUIC Cubic — Data Link

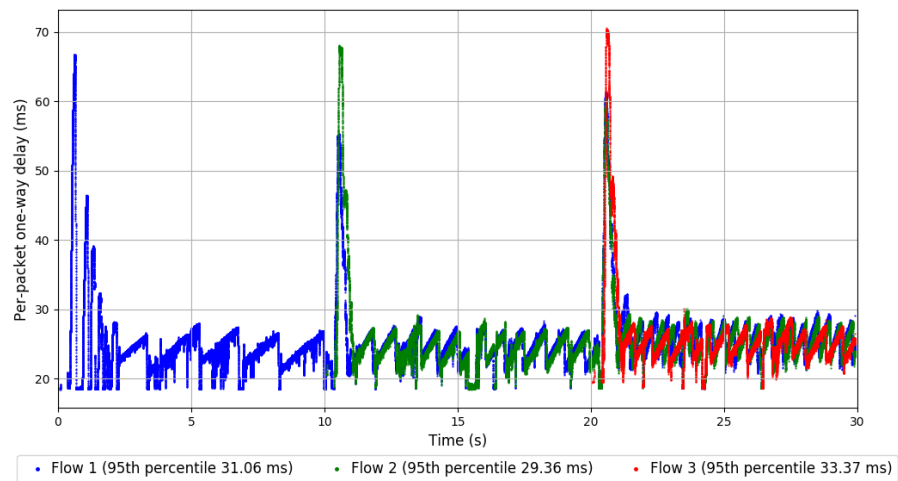
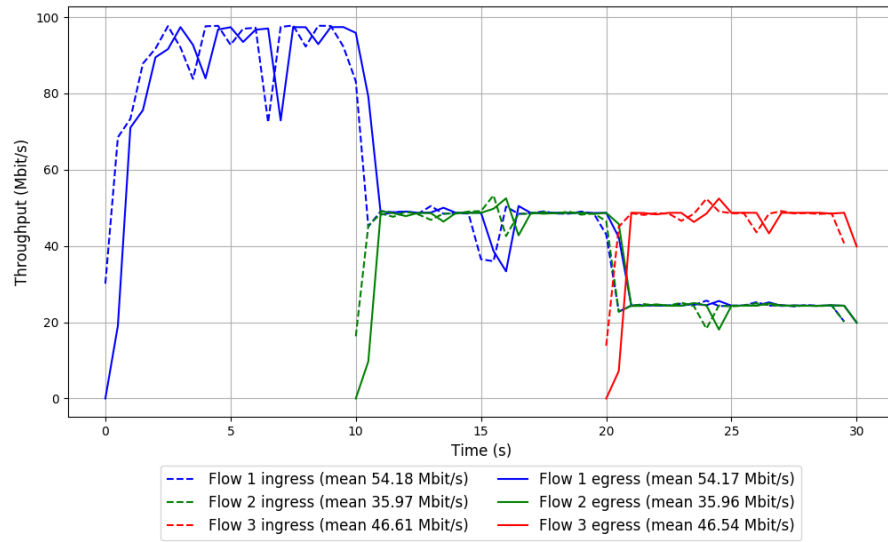


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-08 01:21:39
End at: 2018-09-08 01:22:09
Local clock offset: 1.058 ms
Remote clock offset: -1.999 ms

Below is generated by plot.py at 2018-09-08 02:29:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.44 Mbit/s
95th percentile per-packet one-way delay: 31.032 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 54.17 Mbit/s
95th percentile per-packet one-way delay: 31.062 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 29.362 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 46.54 Mbit/s
95th percentile per-packet one-way delay: 33.374 ms
Loss rate: 0.39%

Run 3: Report of QUIC Cubic — Data Link

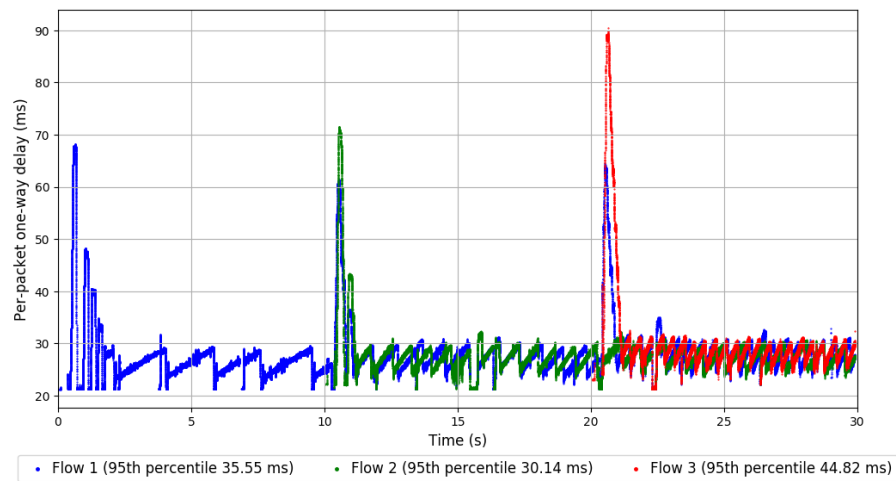
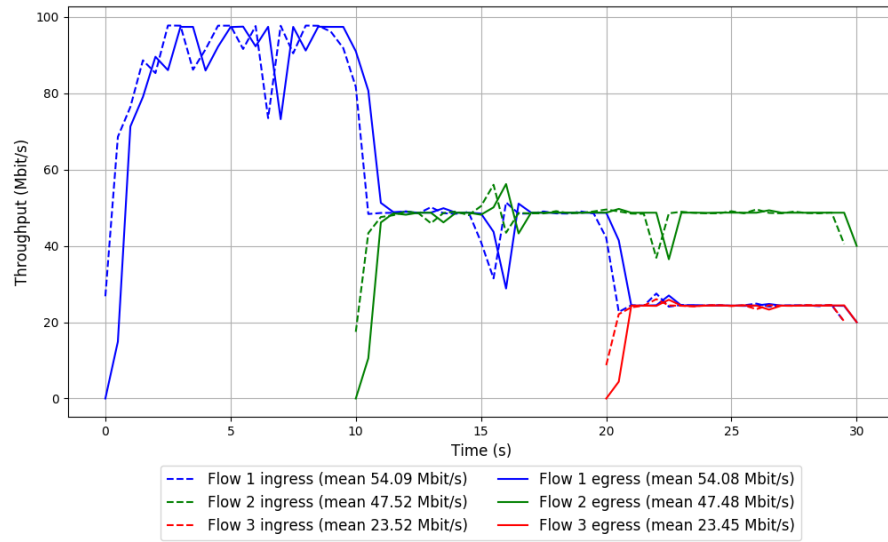


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-08 01:43:57
End at: 2018-09-08 01:44:27
Local clock offset: 1.257 ms
Remote clock offset: -2.529 ms

Below is generated by plot.py at 2018-09-08 02:30:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.40 Mbit/s
95th percentile per-packet one-way delay: 32.892 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 54.08 Mbit/s
95th percentile per-packet one-way delay: 35.546 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.48 Mbit/s
95th percentile per-packet one-way delay: 30.138 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 23.45 Mbit/s
95th percentile per-packet one-way delay: 44.822 ms
Loss rate: 0.53%

Run 4: Report of QUIC Cubic — Data Link

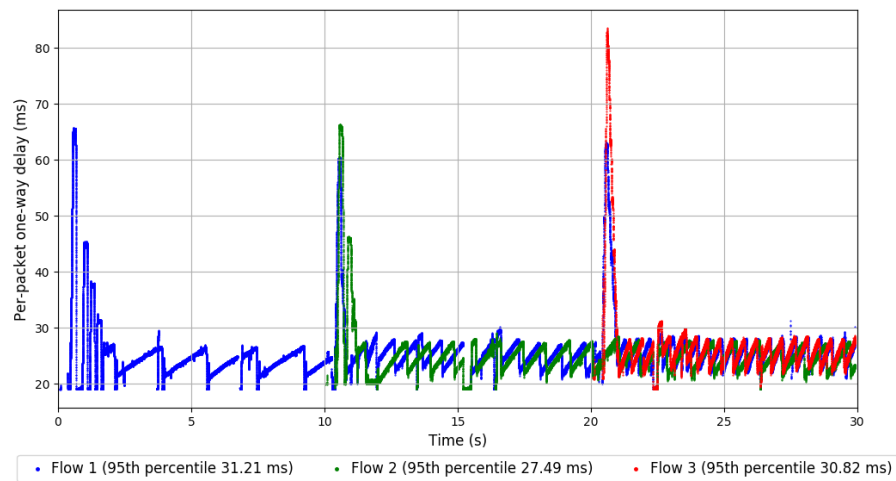
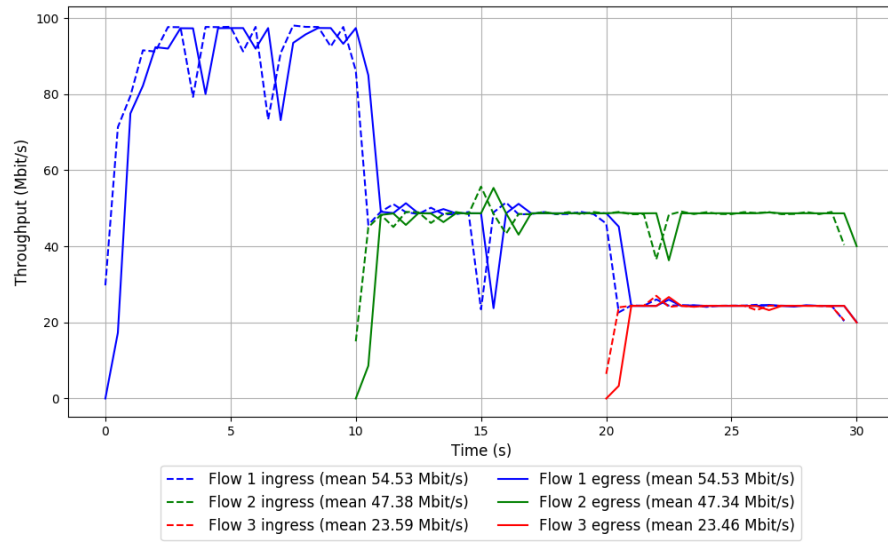


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-08 02:06:31
End at: 2018-09-08 02:07:01
Local clock offset: 2.498 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 29.387 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 31.215 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.34 Mbit/s
95th percentile per-packet one-way delay: 27.487 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 30.821 ms
Loss rate: 0.82%

Run 5: Report of QUIC Cubic — Data Link

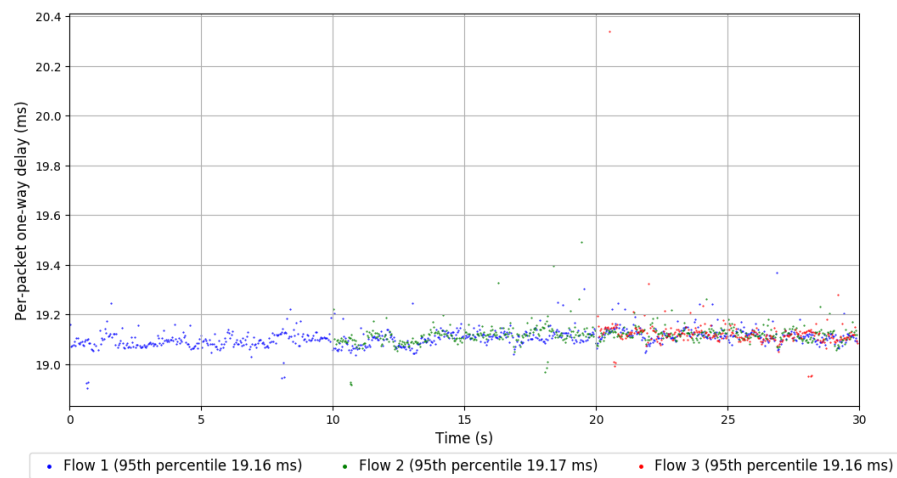
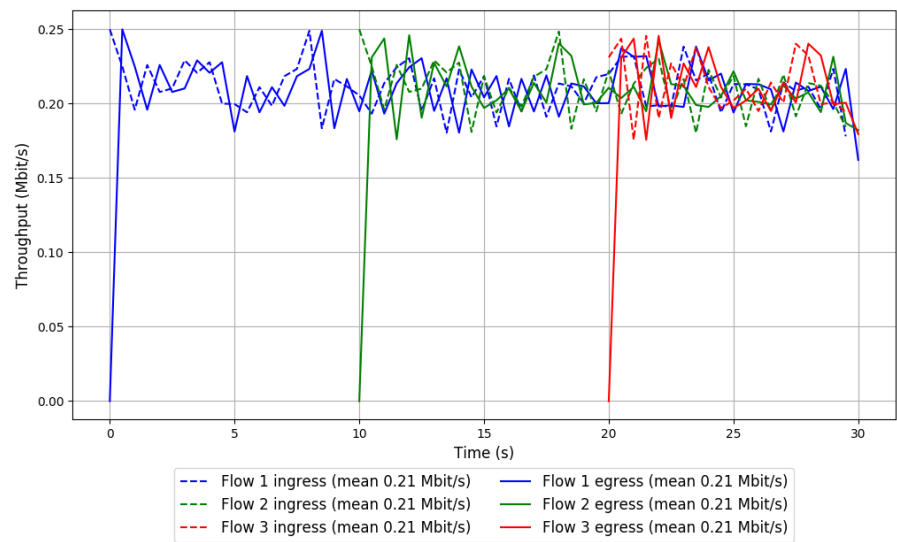


```
Run 1: Statistics of SReAM

Start at: 2018-09-08 00:34:59
End at: 2018-09-08 00:35:29
Local clock offset: 2.382 ms
Remote clock offset: -1.97 ms

# Below is generated by plot.py at 2018-09-08 02:30:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 19.163 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.158 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.168 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.164 ms
Loss rate: 0.36%
```

Run 1: Report of SReAM — Data Link

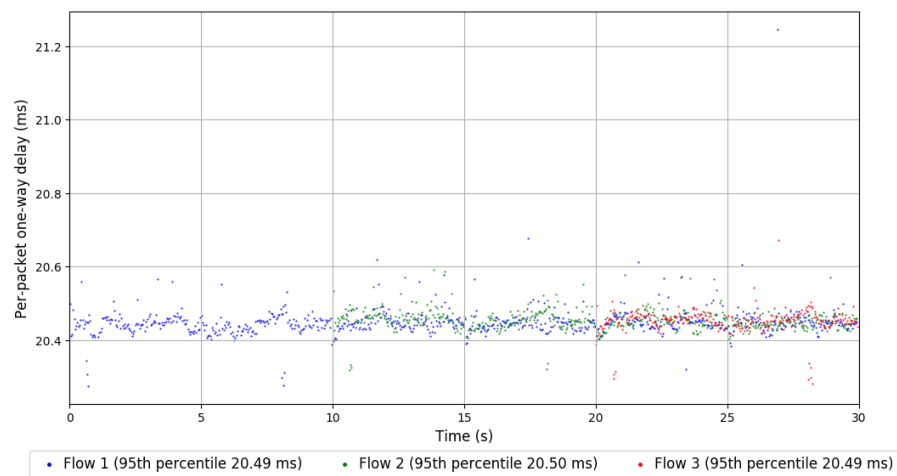
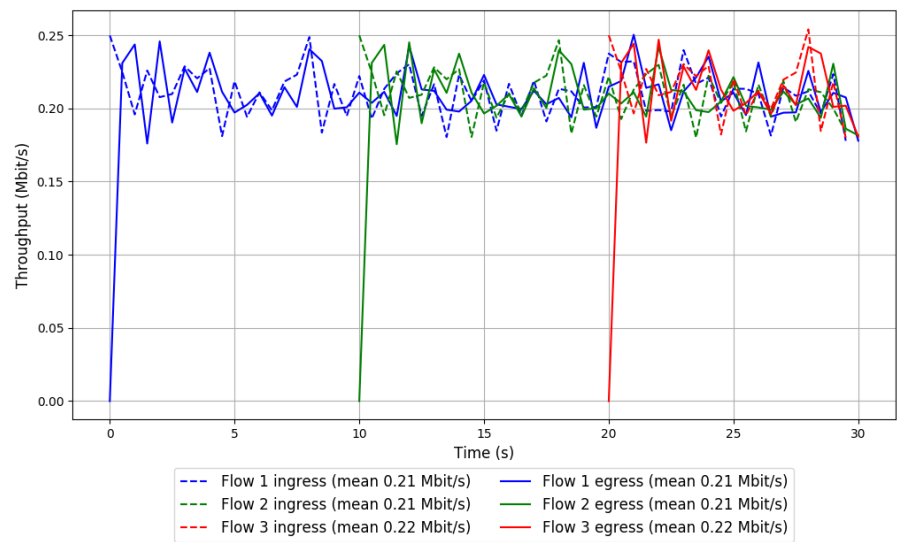


Run 2: Statistics of SReAM

Start at: 2018-09-08 00:57:10
End at: 2018-09-08 00:57:40
Local clock offset: -1.954 ms
Remote clock offset: -7.276 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 20.493 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.491 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.500 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.490 ms
Loss rate: 0.36%

Run 2: Report of SReAM — Data Link

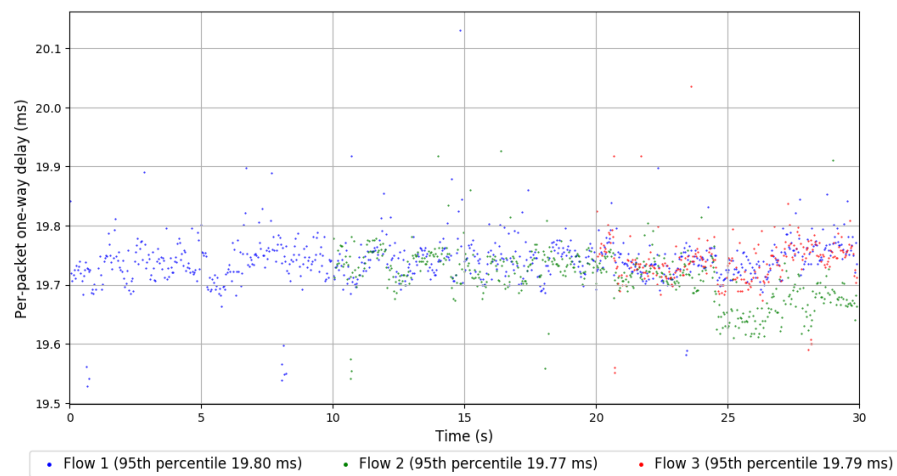
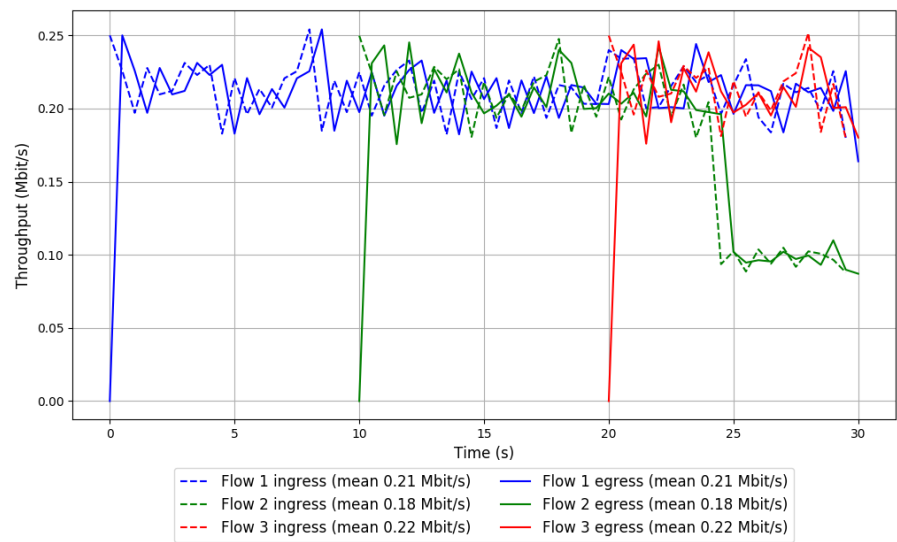


Run 3: Statistics of SCReAM

Start at: 2018-09-08 01:19:17
End at: 2018-09-08 01:19:47
Local clock offset: 1.969 ms
Remote clock offset: -2.319 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 19.788 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 19.796 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 19.768 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.792 ms
Loss rate: 0.36%

Run 3: Report of SCRaM — Data Link

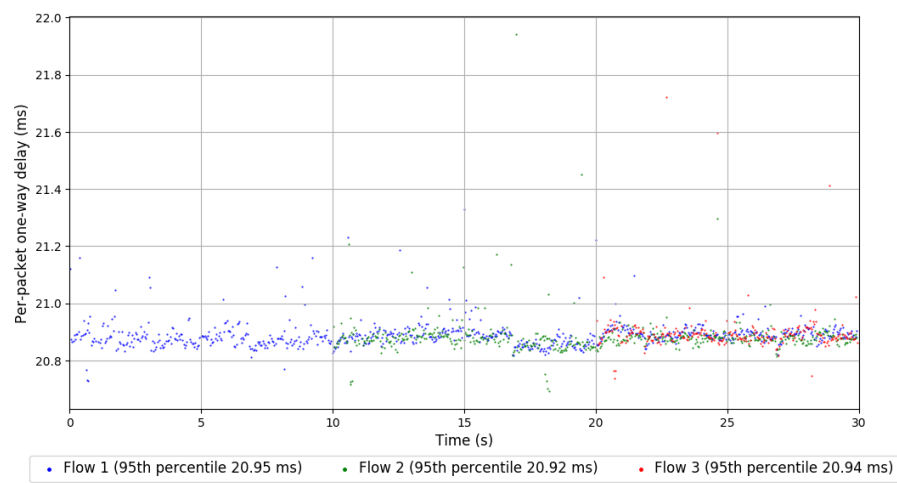
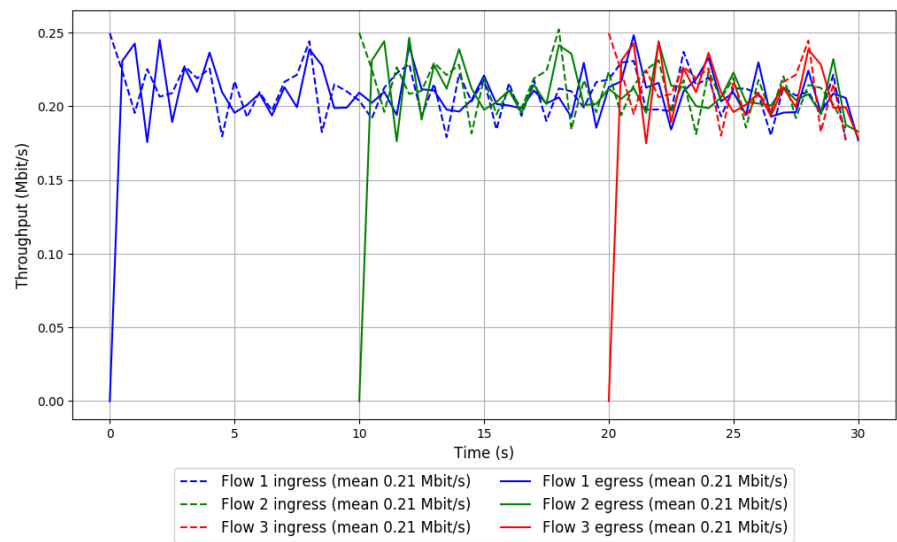


Run 4: Statistics of SReAM

Start at: 2018-09-08 01:41:29
End at: 2018-09-08 01:41:59
Local clock offset: 0.94 ms
Remote clock offset: -2.484 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 20.940 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.945 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.924 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.940 ms
Loss rate: 0.36%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2018-09-08 02:04:07

End at: 2018-09-08 02:04:37

Local clock offset: 0.887 ms

Remote clock offset: -2.51 ms

Below is generated by plot.py at 2018-09-08 02:30:10

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 20.036 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 20.029 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 20.045 ms

Loss rate: 0.19%

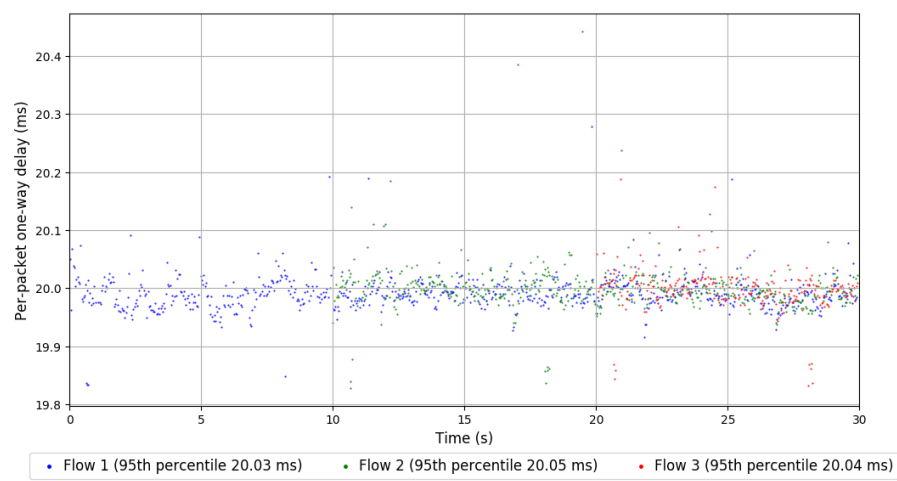
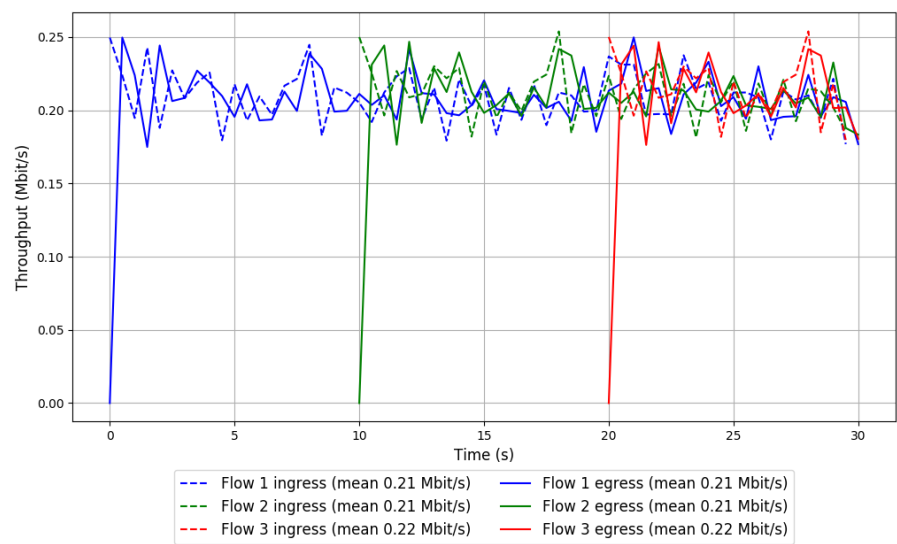
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 20.040 ms

Loss rate: 0.36%

Run 5: Report of SReAM — Data Link

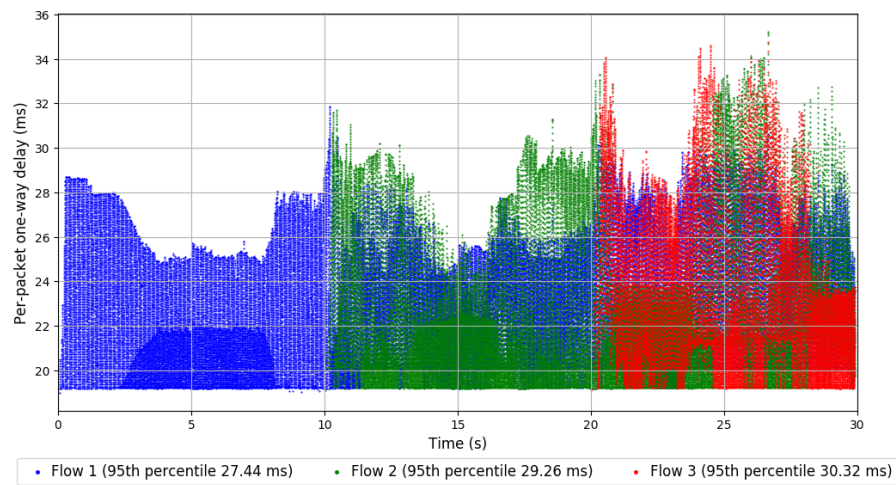
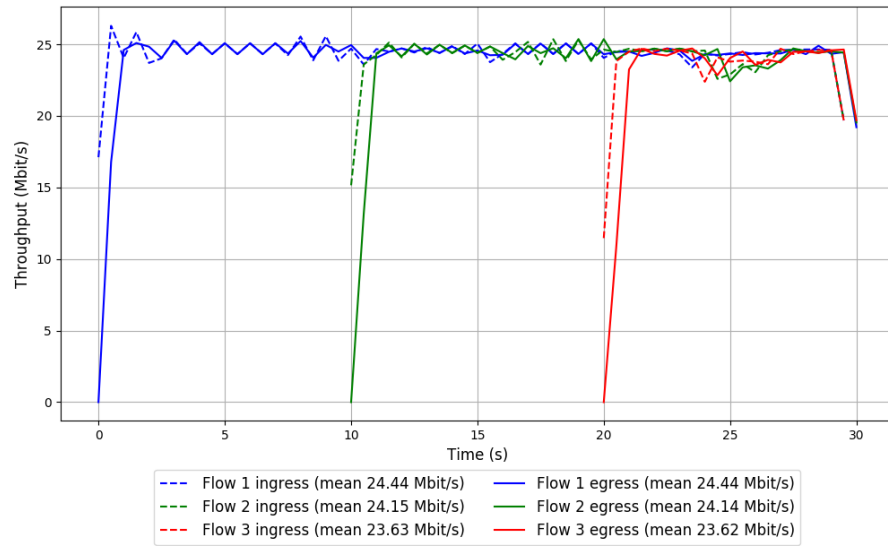


Run 1: Statistics of Sprout

Start at: 2018-09-08 00:48:50
End at: 2018-09-08 00:49:20
Local clock offset: 2.751 ms
Remote clock offset: -1.473 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 48.27 Mbit/s
95th percentile per-packet one-way delay: 28.545 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 27.444 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 24.14 Mbit/s
95th percentile per-packet one-way delay: 29.258 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 23.62 Mbit/s
95th percentile per-packet one-way delay: 30.323 ms
Loss rate: 0.21%

Run 1: Report of Sprout — Data Link

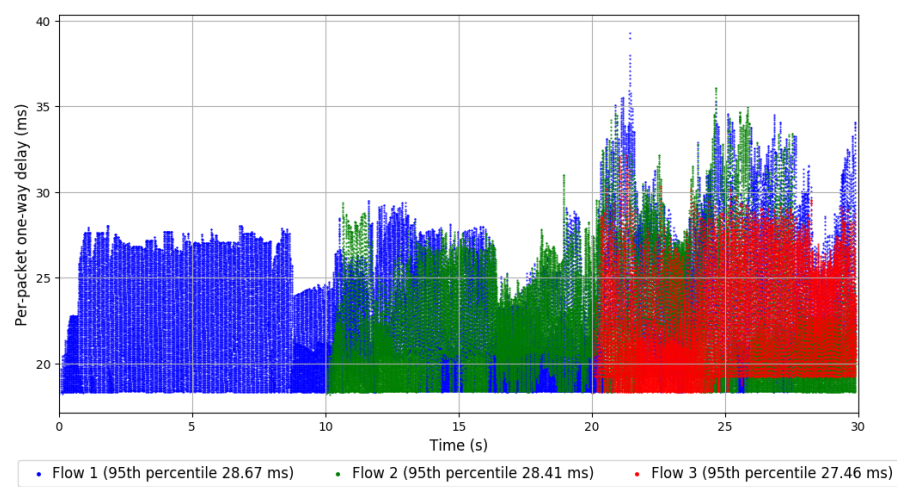
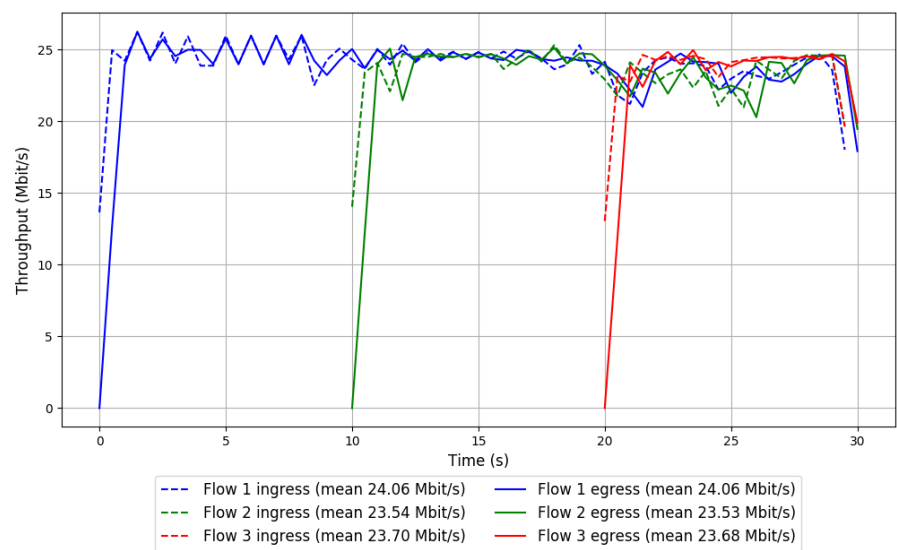


Run 2: Statistics of Sprout

Start at: 2018-09-08 01:10:56
End at: 2018-09-08 01:11:26
Local clock offset: 1.324 ms
Remote clock offset: -1.867 ms

Below is generated by plot.py at 2018-09-08 02:30:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 47.51 Mbit/s
95th percentile per-packet one-way delay: 28.292 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.06 Mbit/s
95th percentile per-packet one-way delay: 28.670 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 28.407 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.68 Mbit/s
95th percentile per-packet one-way delay: 27.459 ms
Loss rate: 0.21%

Run 2: Report of Sprout — Data Link

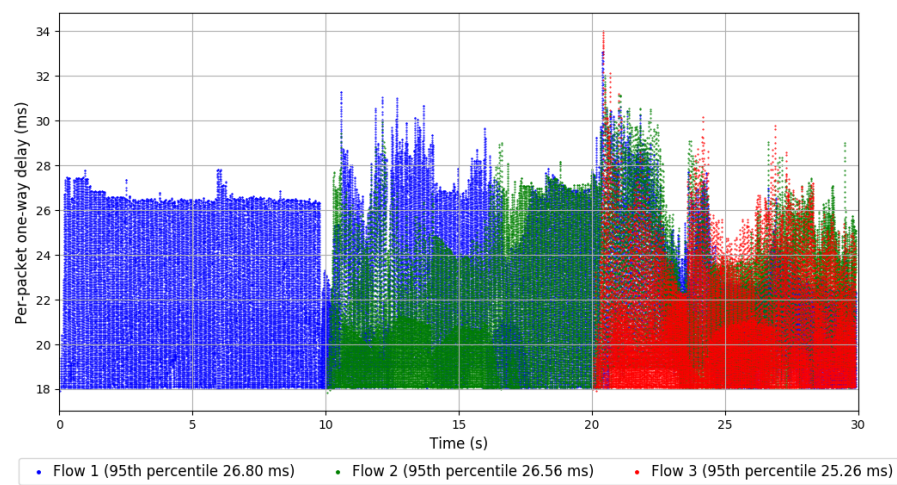
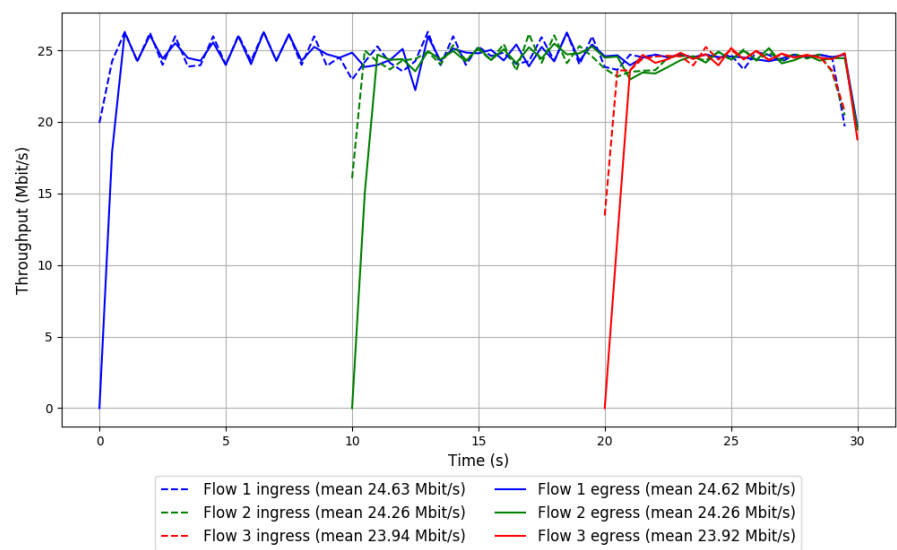


Run 3: Statistics of Sprout

Start at: 2018-09-08 01:32:50
End at: 2018-09-08 01:33:20
Local clock offset: 0.941 ms
Remote clock offset: -1.326 ms

```
# Below is generated by plot.py at 2018-09-08 02:30:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.65 Mbit/s
95th percentile per-packet one-way delay: 26.578 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 26.796 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 26.559 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 23.92 Mbit/s
95th percentile per-packet one-way delay: 25.257 ms
Loss rate: 0.42%
```

Run 3: Report of Sprout — Data Link

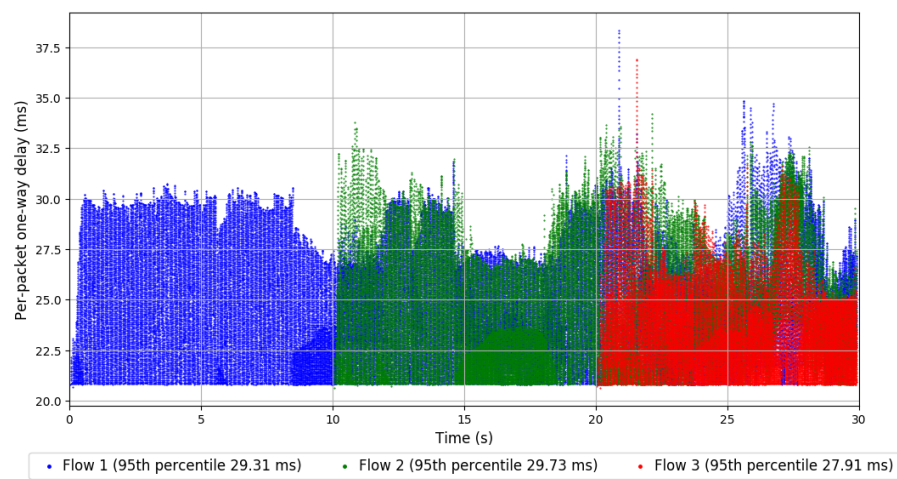
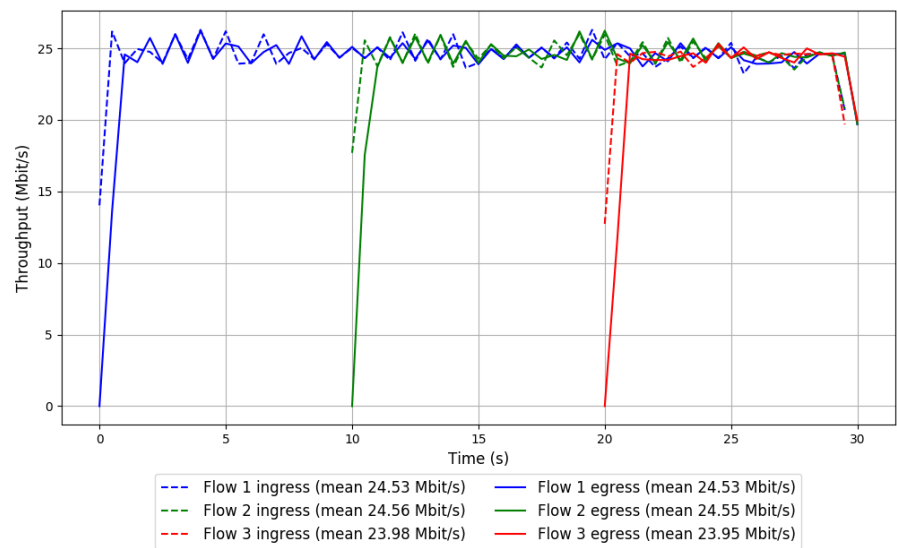


Run 4: Statistics of Sprout

Start at: 2018-09-08 01:55:38
End at: 2018-09-08 01:56:08
Local clock offset: 1.652 ms
Remote clock offset: -2.363 ms

```
# Below is generated by plot.py at 2018-09-08 02:30:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.74 Mbit/s
95th percentile per-packet one-way delay: 29.364 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 29.307 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 24.55 Mbit/s
95th percentile per-packet one-way delay: 29.731 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 23.95 Mbit/s
95th percentile per-packet one-way delay: 27.913 ms
Loss rate: 0.29%
```

Run 4: Report of Sprout — Data Link

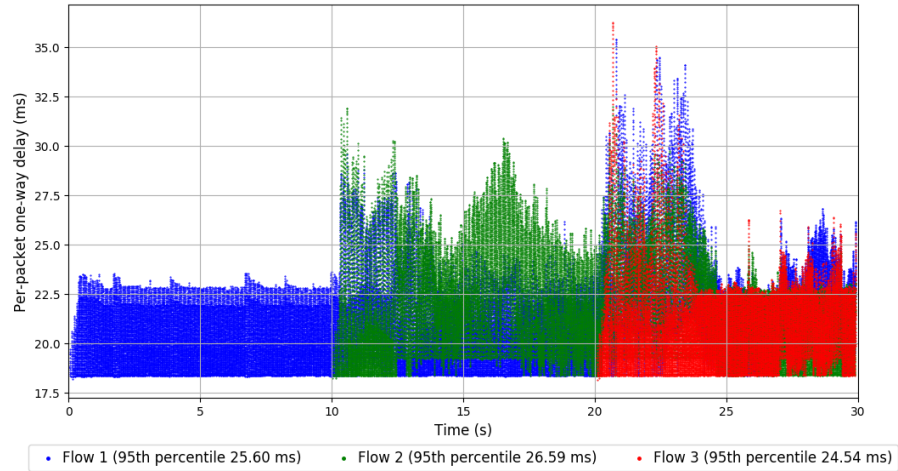
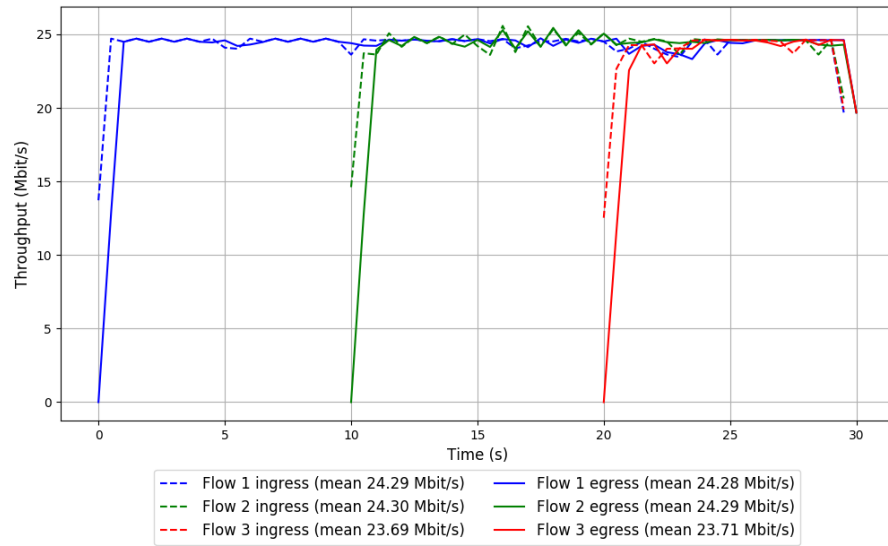


Run 5: Statistics of Sprout

Start at: 2018-09-08 02:17:54
End at: 2018-09-08 02:18:24
Local clock offset: 0.698 ms
Remote clock offset: -0.863 ms

```
# Below is generated by plot.py at 2018-09-08 02:30:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.25 Mbit/s
95th percentile per-packet one-way delay: 26.040 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 25.600 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 26.593 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 23.71 Mbit/s
95th percentile per-packet one-way delay: 24.543 ms
Loss rate: 0.26%
```

Run 5: Report of Sprout — Data Link

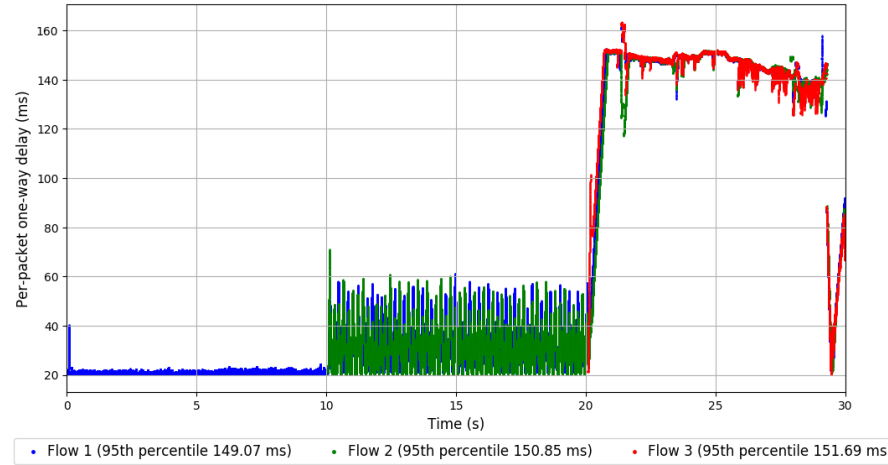
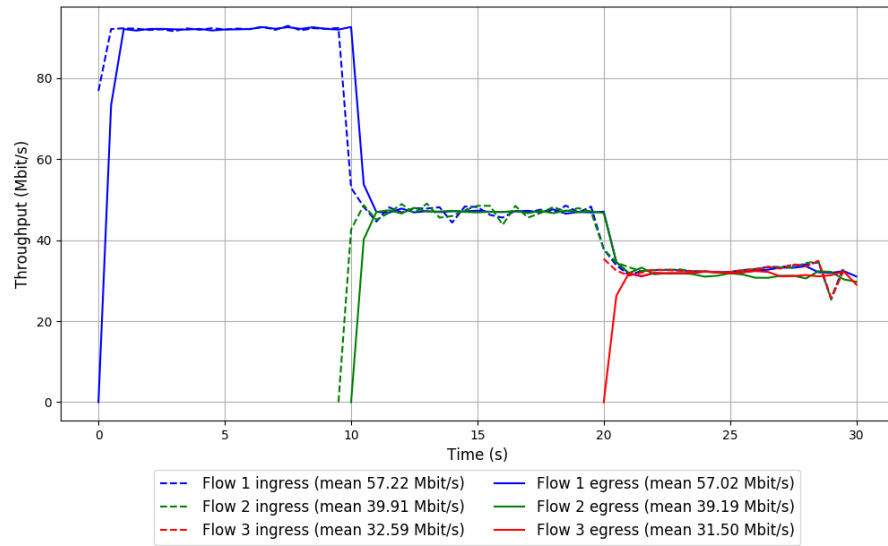


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-08 00:42:26
End at: 2018-09-08 00:42:56
Local clock offset: 2.979 ms
Remote clock offset: -2.535 ms

Below is generated by plot.py at 2018-09-08 02:31:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 150.615 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 57.02 Mbit/s
95th percentile per-packet one-way delay: 149.074 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 150.848 ms
Loss rate: 1.91%
-- Flow 3:
Average throughput: 31.50 Mbit/s
95th percentile per-packet one-way delay: 151.694 ms
Loss rate: 3.59%

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

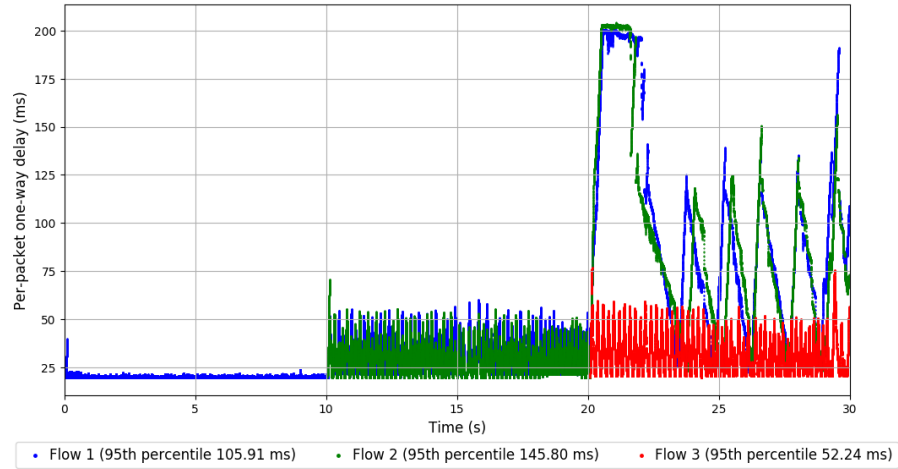
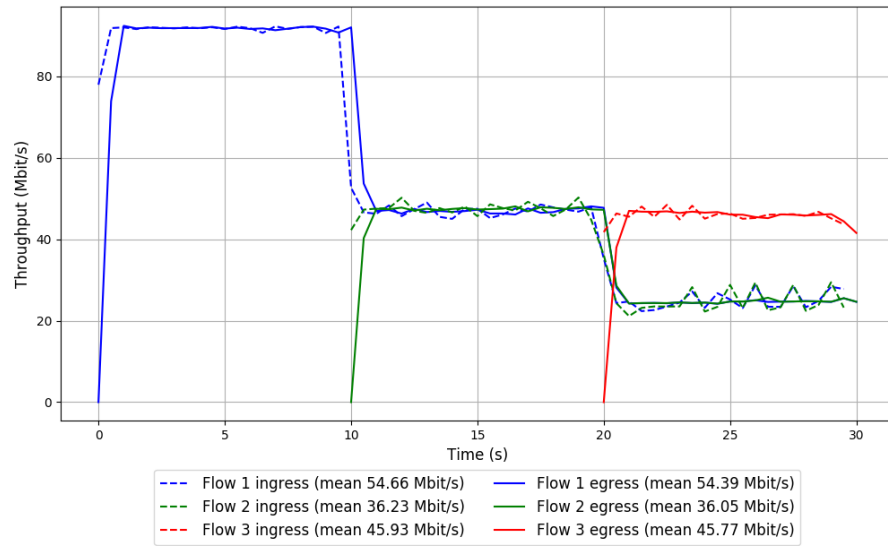


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-08 01:04:33
End at: 2018-09-08 01:05:03
Local clock offset: 2.333 ms
Remote clock offset: -2.286 ms

Below is generated by plot.py at 2018-09-08 02:31:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.59 Mbit/s
95th percentile per-packet one-way delay: 109.421 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 54.39 Mbit/s
95th percentile per-packet one-way delay: 105.912 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 145.799 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 52.243 ms
Loss rate: 0.60%

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

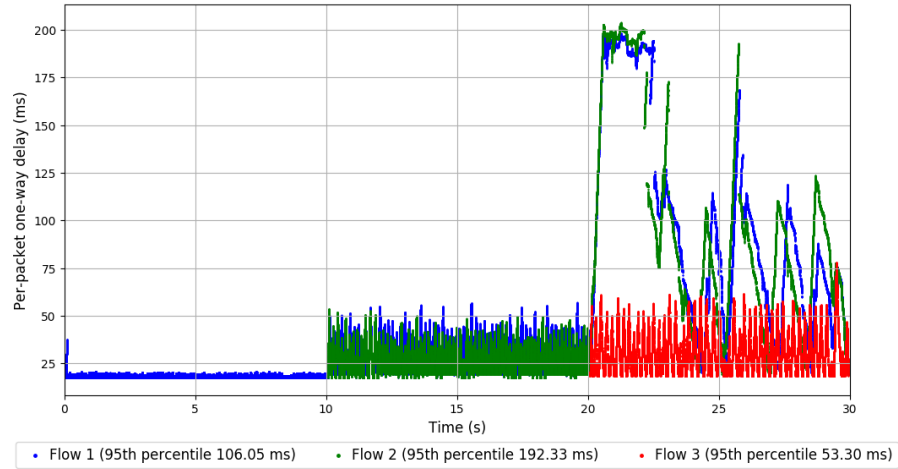
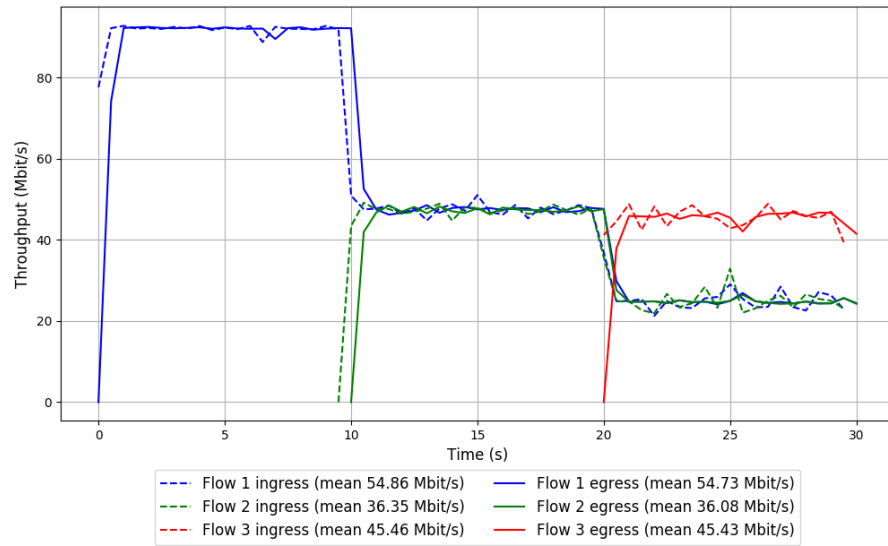


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-08 01:26:40
End at: 2018-09-08 01:27:10
Local clock offset: 0.778 ms
Remote clock offset: -1.254 ms

Below is generated by plot.py at 2018-09-08 02:31:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 109.954 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 54.73 Mbit/s
95th percentile per-packet one-way delay: 106.054 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 36.08 Mbit/s
95th percentile per-packet one-way delay: 192.334 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 45.43 Mbit/s
95th percentile per-packet one-way delay: 53.299 ms
Loss rate: 0.30%

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

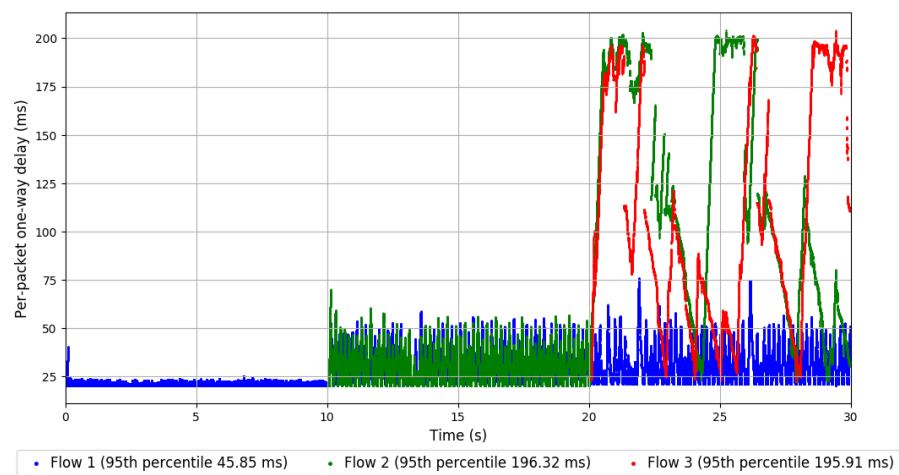
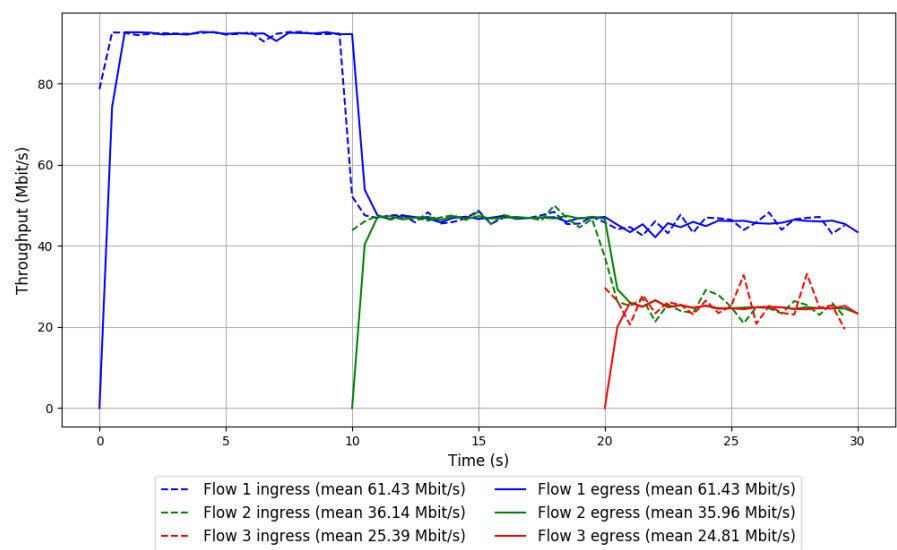


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-08 01:49:14
End at: 2018-09-08 01:49:44
Local clock offset: 1.664 ms
Remote clock offset: -1.588 ms

Below is generated by plot.py at 2018-09-08 02:31:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 173.394 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 61.43 Mbit/s
95th percentile per-packet one-way delay: 45.851 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 196.325 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 24.81 Mbit/s
95th percentile per-packet one-way delay: 195.913 ms
Loss rate: 2.56%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-08 02:11:34

End at: 2018-09-08 02:12:04

Local clock offset: -2.587 ms

Remote clock offset: -5.88 ms

Below is generated by plot.py at 2018-09-08 02:32:00

Datalink statistics

-- Total of 3 flows:

Average throughput: 93.73 Mbit/s

95th percentile per-packet one-way delay: 150.850 ms

Loss rate: 1.45%

-- Flow 1:

Average throughput: 56.89 Mbit/s

95th percentile per-packet one-way delay: 149.793 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 39.45 Mbit/s

95th percentile per-packet one-way delay: 151.865 ms

Loss rate: 1.78%

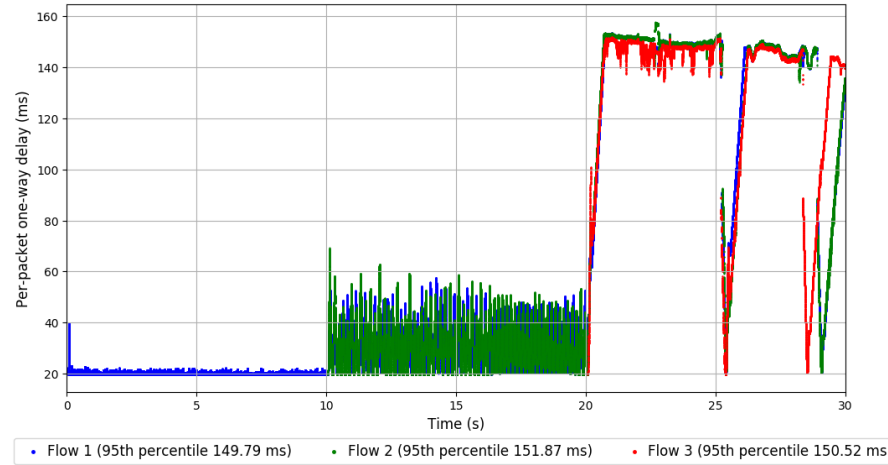
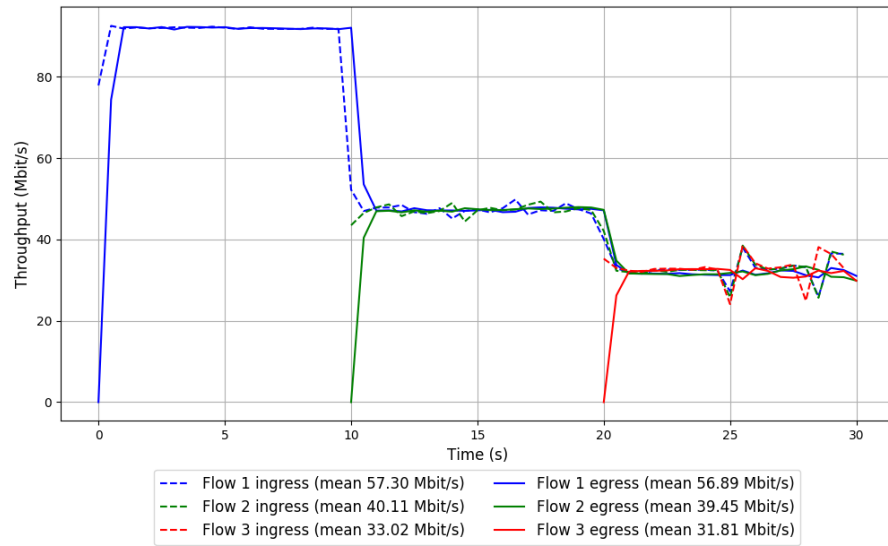
-- Flow 3:

Average throughput: 31.81 Mbit/s

95th percentile per-packet one-way delay: 150.518 ms

Loss rate: 3.93%

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

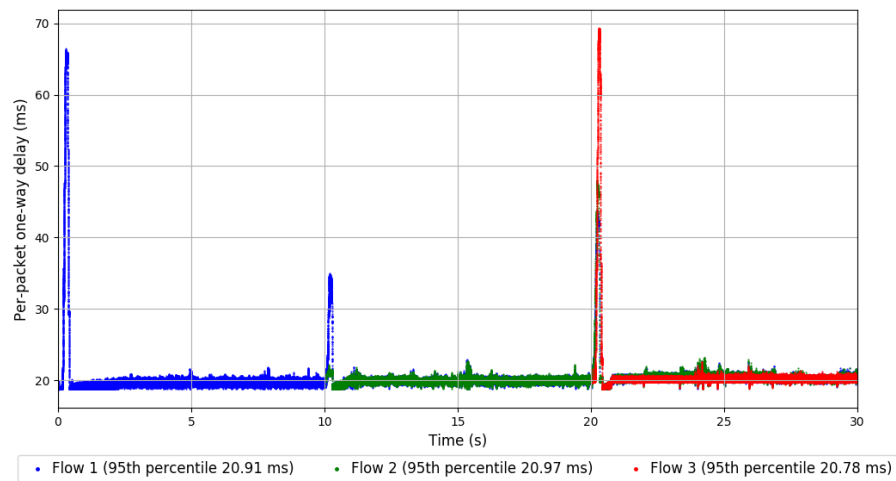
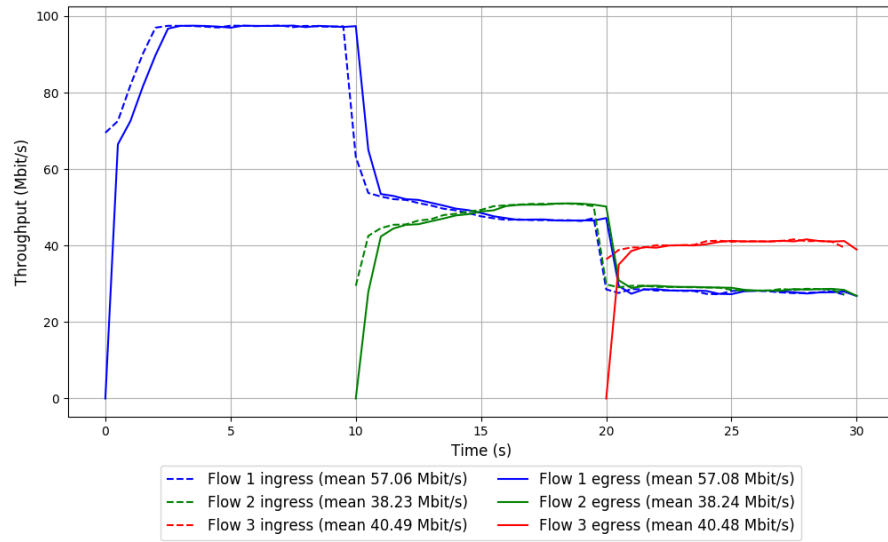


Run 1: Statistics of TCP Vegas

Start at: 2018-09-08 00:47:37
End at: 2018-09-08 00:48:07
Local clock offset: 2.039 ms
Remote clock offset: -1.916 ms

Below is generated by plot.py at 2018-09-08 02:32:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 20.924 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 57.08 Mbit/s
95th percentile per-packet one-way delay: 20.911 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 38.24 Mbit/s
95th percentile per-packet one-way delay: 20.967 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 20.780 ms
Loss rate: 0.27%

Run 1: Report of TCP Vegas — Data Link

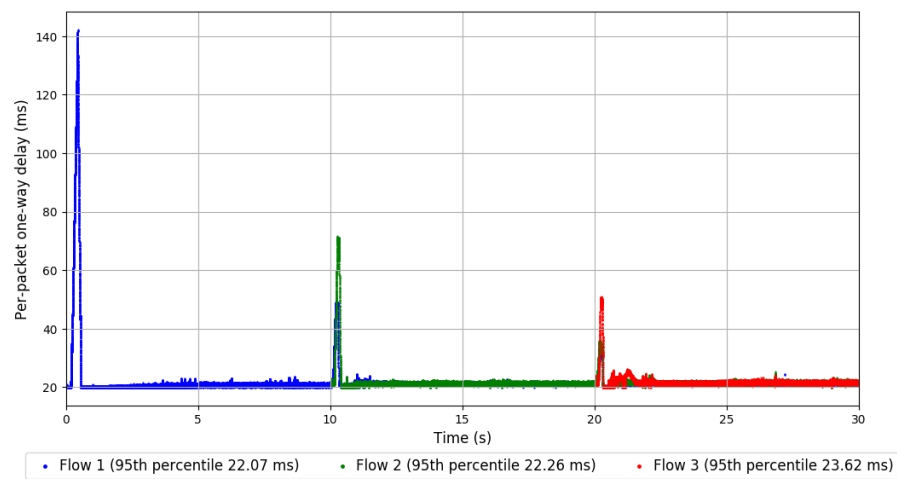
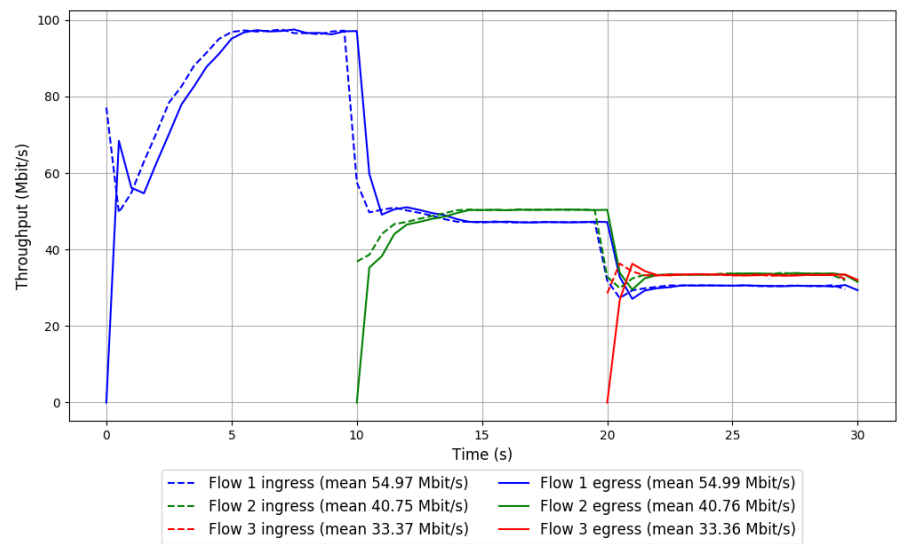


Run 2: Statistics of TCP Vegas

Start at: 2018-09-08 01:09:41
End at: 2018-09-08 01:10:11
Local clock offset: 3.343 ms
Remote clock offset: -1.407 ms

Below is generated by plot.py at 2018-09-08 02:32:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.20 Mbit/s
95th percentile per-packet one-way delay: 22.340 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 54.99 Mbit/s
95th percentile per-packet one-way delay: 22.069 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.76 Mbit/s
95th percentile per-packet one-way delay: 22.261 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 33.36 Mbit/s
95th percentile per-packet one-way delay: 23.616 ms
Loss rate: 0.28%

Run 2: Report of TCP Vegas — Data Link

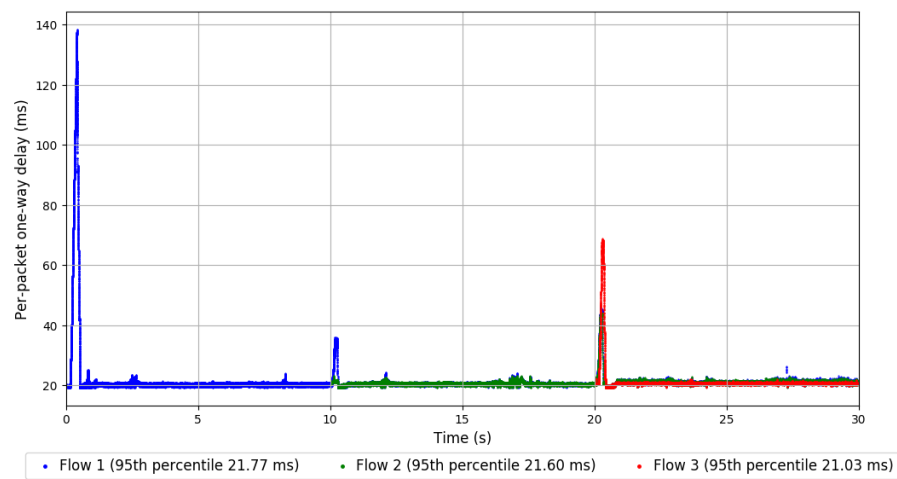
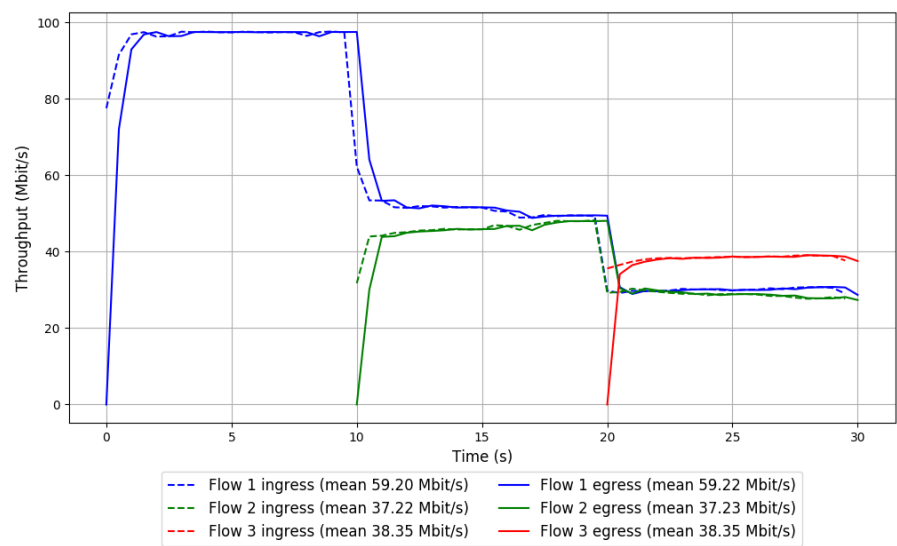


Run 3: Statistics of TCP Vegas

Start at: 2018-09-08 01:31:37
End at: 2018-09-08 01:32:07
Local clock offset: 1.31 ms
Remote clock offset: -2.267 ms

Below is generated by plot.py at 2018-09-08 02:32:00
Datalink statistics
-- Total of 3 flows:
Average throughput: 96.75 Mbit/s
95th percentile per-packet one-way delay: 21.644 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 21.774 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.23 Mbit/s
95th percentile per-packet one-way delay: 21.596 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 38.35 Mbit/s
95th percentile per-packet one-way delay: 21.033 ms
Loss rate: 0.26%

Run 3: Report of TCP Vegas — Data Link

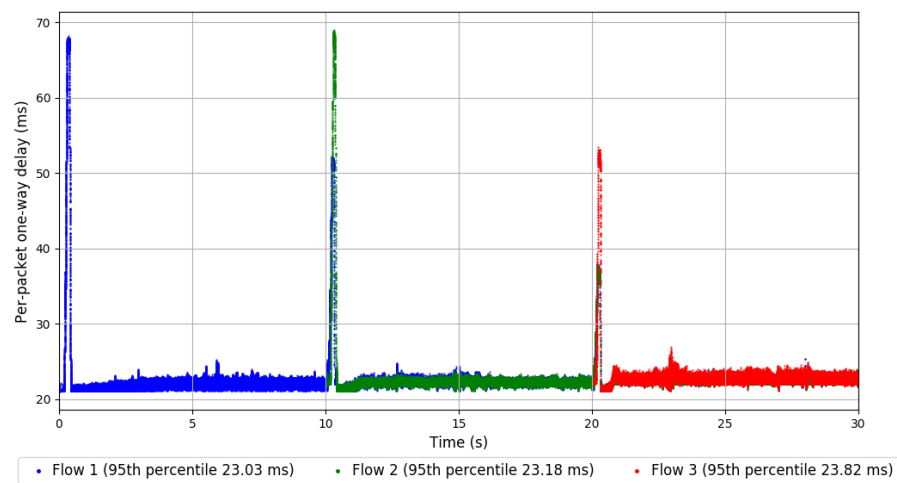
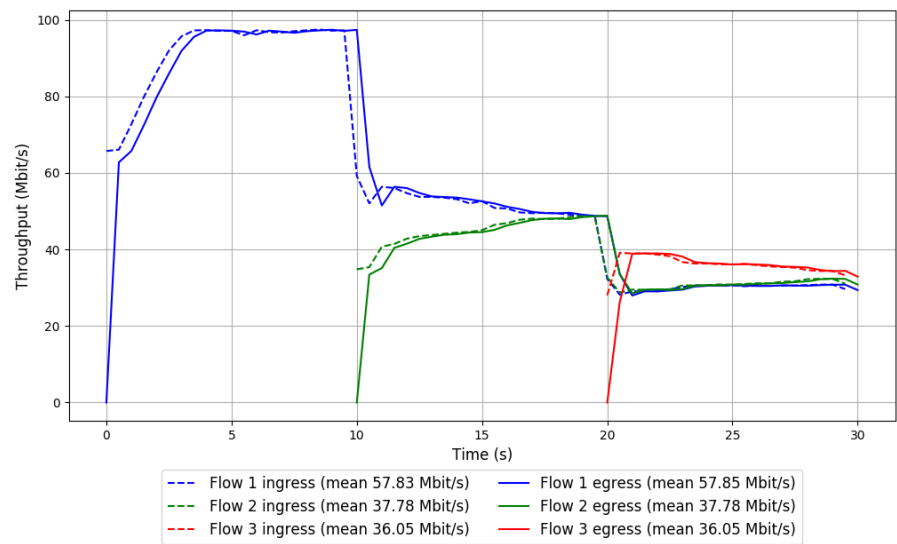


Run 4: Statistics of TCP Vegas

Start at: 2018-09-08 01:54:23
End at: 2018-09-08 01:54:53
Local clock offset: 1.263 ms
Remote clock offset: -3.035 ms

Below is generated by plot.py at 2018-09-08 02:32:20
Datalink statistics
-- Total of 3 flows:
Average throughput: 94.96 Mbit/s
95th percentile per-packet one-way delay: 23.340 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 23.032 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.78 Mbit/s
95th percentile per-packet one-way delay: 23.177 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 23.819 ms
Loss rate: 0.28%

Run 4: Report of TCP Vegas — Data Link

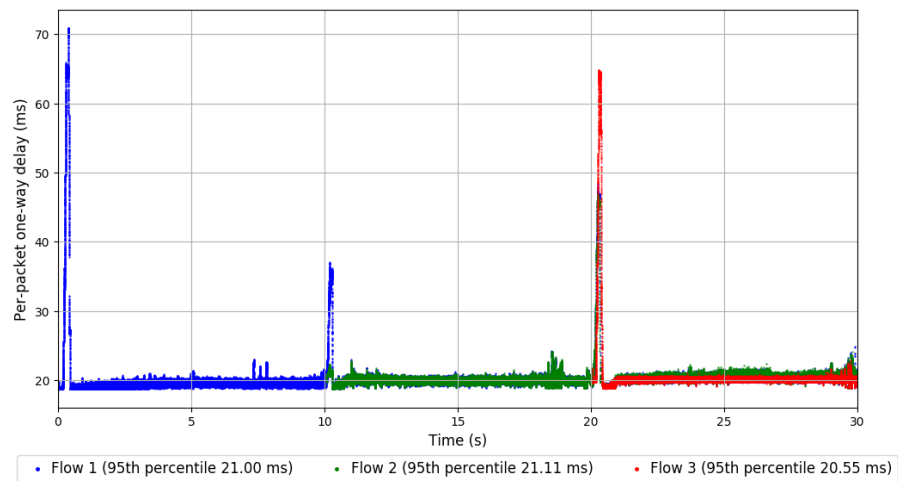
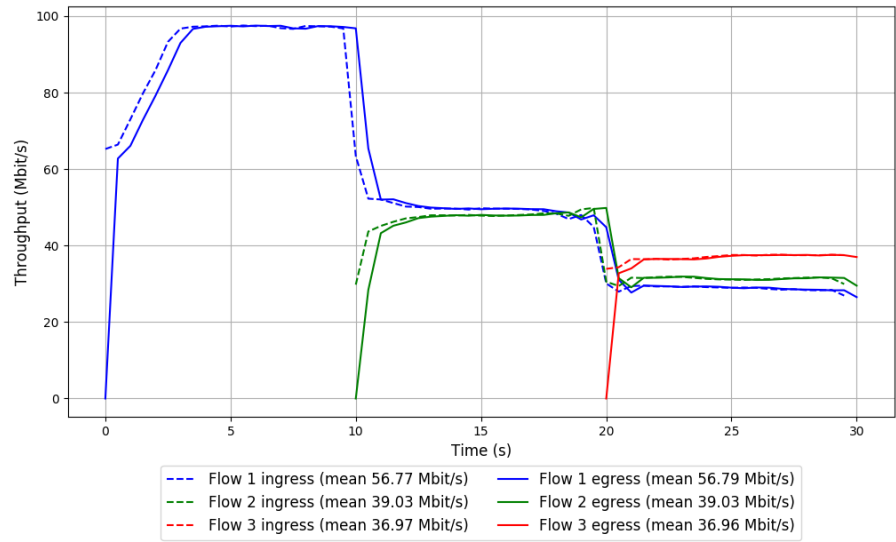


Run 5: Statistics of TCP Vegas

Start at: 2018-09-08 02:16:37
End at: 2018-09-08 02:17:07
Local clock offset: 1.563 ms
Remote clock offset: -0.581 ms

Below is generated by plot.py at 2018-09-08 02:32:21
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.04 Mbit/s
95th percentile per-packet one-way delay: 21.033 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 56.79 Mbit/s
95th percentile per-packet one-way delay: 21.004 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 21.105 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 36.96 Mbit/s
95th percentile per-packet one-way delay: 20.550 ms
Loss rate: 0.29%

Run 5: Report of TCP Vegas — Data Link

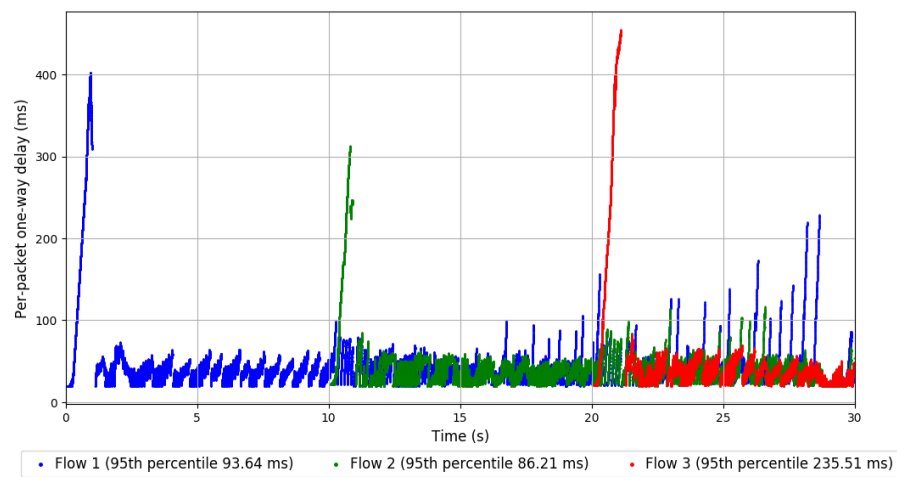
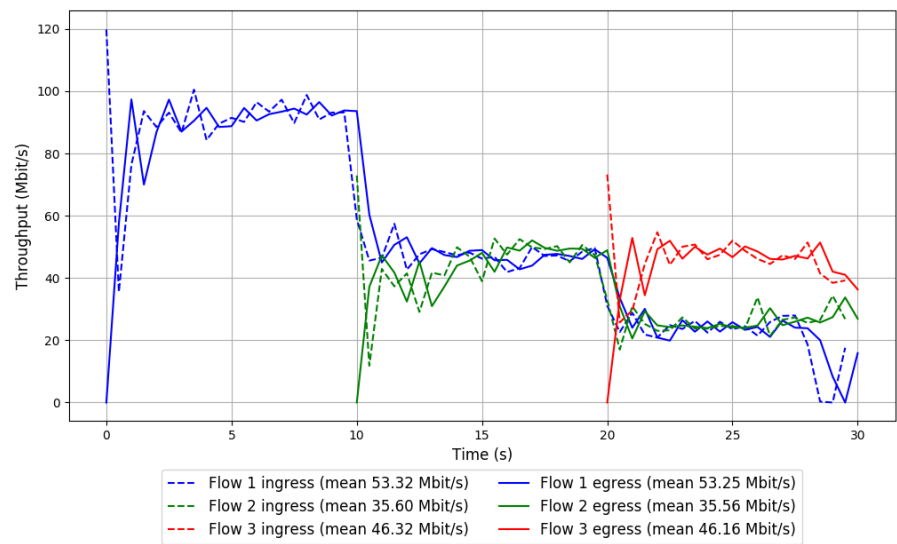


Run 1: Statistics of Verus

Start at: 2018-09-08 00:27:39
End at: 2018-09-08 00:28:09
Local clock offset: 3.685 ms
Remote clock offset: -1.301 ms

Below is generated by plot.py at 2018-09-08 02:32:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 104.883 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 53.25 Mbit/s
95th percentile per-packet one-way delay: 93.643 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 35.56 Mbit/s
95th percentile per-packet one-way delay: 86.210 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 46.16 Mbit/s
95th percentile per-packet one-way delay: 235.515 ms
Loss rate: 0.57%

Run 1: Report of Verus — Data Link

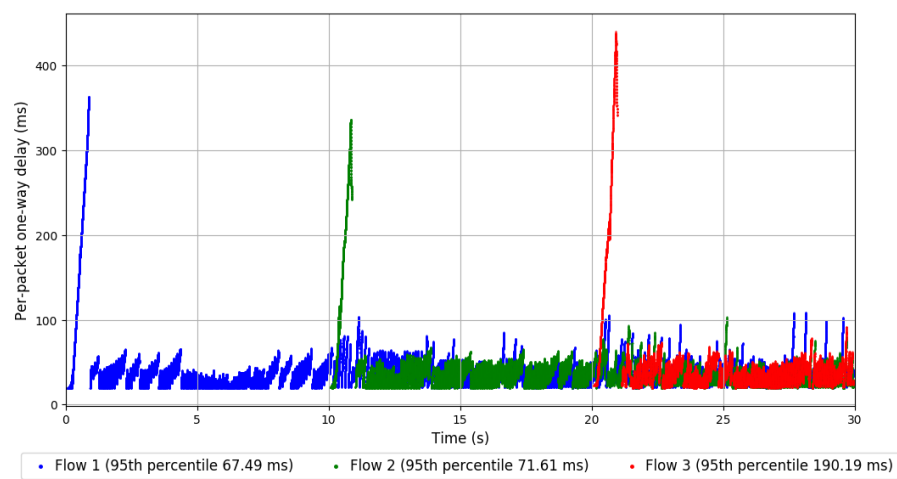
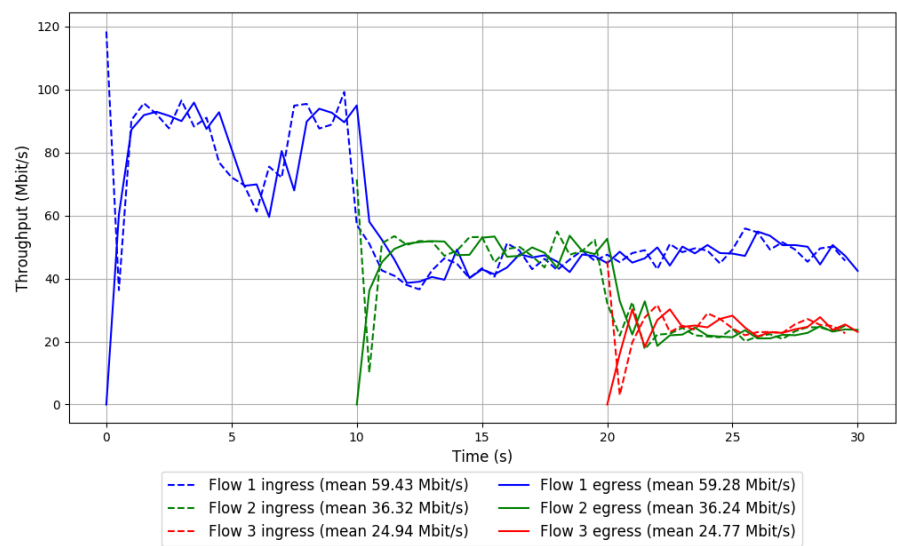


Run 2: Statistics of Verus

Start at: 2018-09-08 00:49:58
End at: 2018-09-08 00:50:28
Local clock offset: 1.984 ms
Remote clock offset: -2.664 ms

Below is generated by plot.py at 2018-09-08 02:32:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.61 Mbit/s
95th percentile per-packet one-way delay: 71.297 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 67.486 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 71.605 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 190.185 ms
Loss rate: 0.92%

Run 2: Report of Verus — Data Link

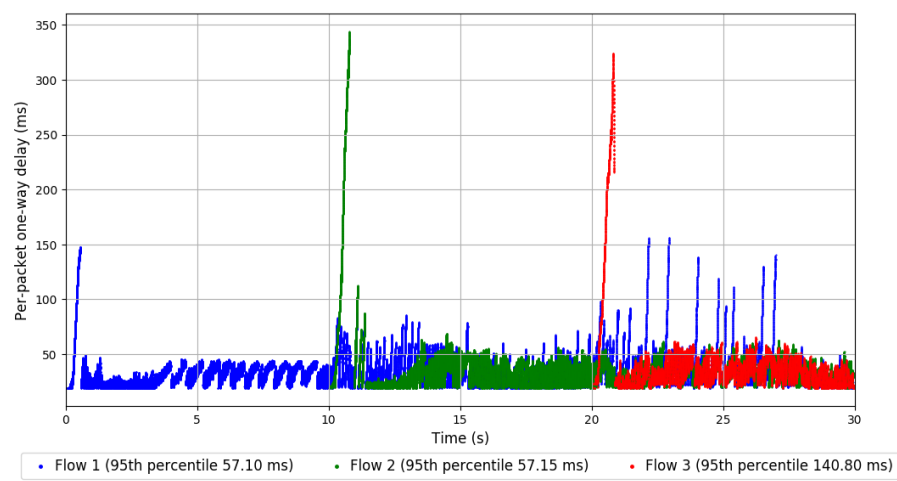
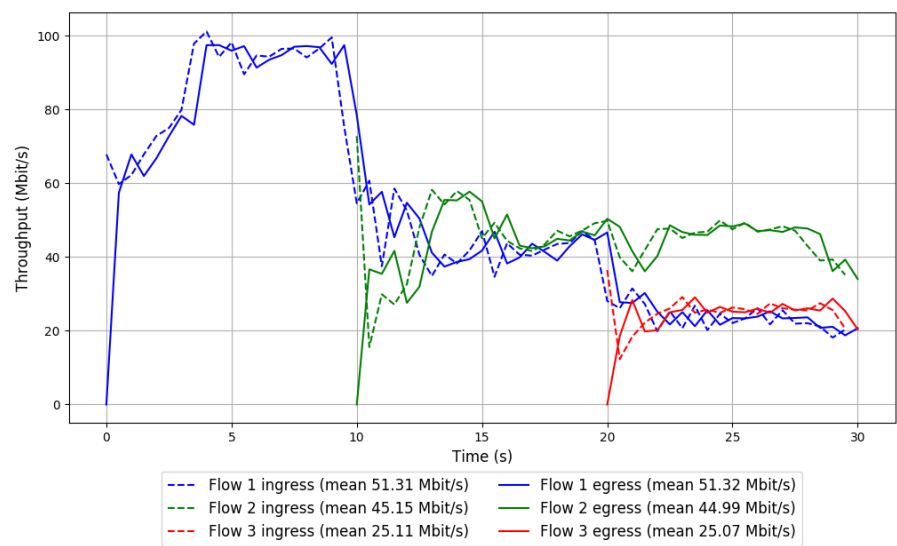


Run 3: Statistics of Verus

Start at: 2018-09-08 01:12:04
End at: 2018-09-08 01:12:34
Local clock offset: 1.517 ms
Remote clock offset: -2.458 ms

Below is generated by plot.py at 2018-09-08 02:32:49
Datalink statistics
-- Total of 3 flows:
Average throughput: 89.58 Mbit/s
95th percentile per-packet one-way delay: 58.293 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 51.32 Mbit/s
95th percentile per-packet one-way delay: 57.105 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 44.99 Mbit/s
95th percentile per-packet one-way delay: 57.149 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 25.07 Mbit/s
95th percentile per-packet one-way delay: 140.798 ms
Loss rate: 0.41%

Run 3: Report of Verus — Data Link

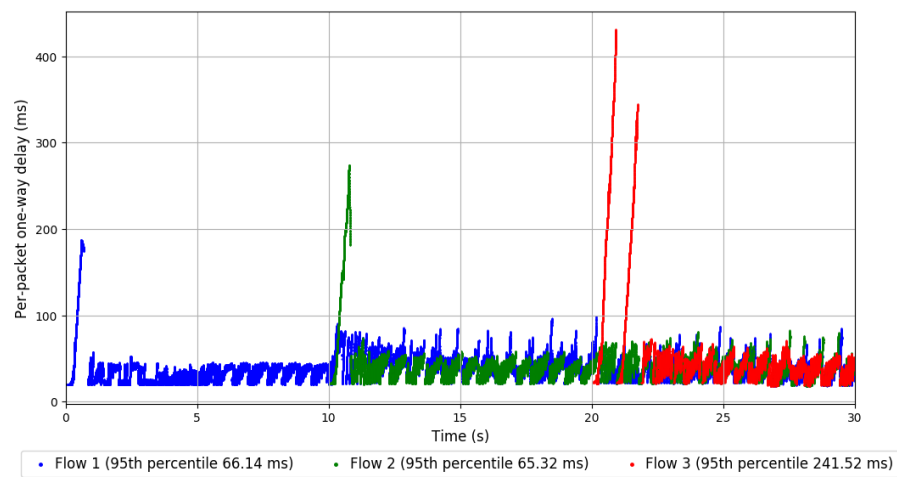
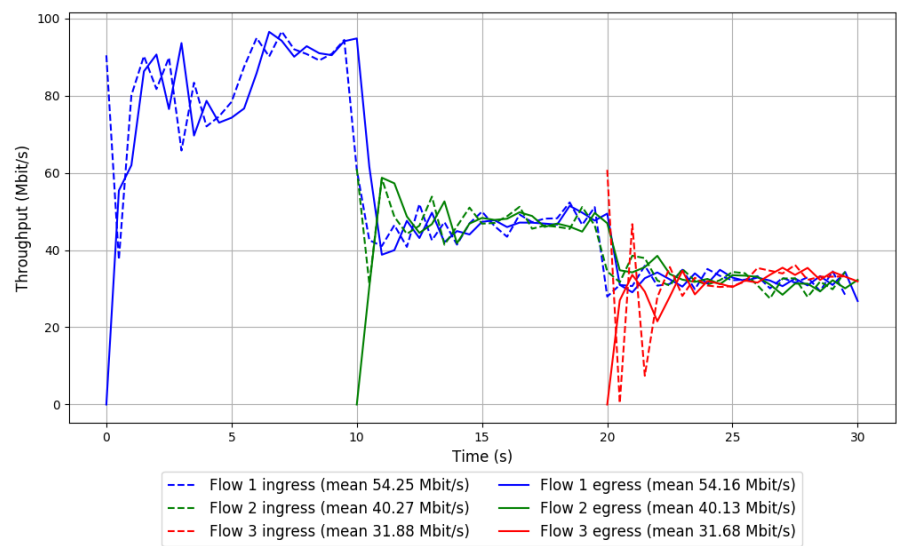


Run 4: Statistics of Verus

Start at: 2018-09-08 01:33:59
End at: 2018-09-08 01:34:29
Local clock offset: 0.994 ms
Remote clock offset: -1.823 ms

Below is generated by plot.py at 2018-09-08 02:32:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 69.916 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 54.16 Mbit/s
95th percentile per-packet one-way delay: 66.136 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 65.324 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 241.517 ms
Loss rate: 0.90%

Run 4: Report of Verus — Data Link

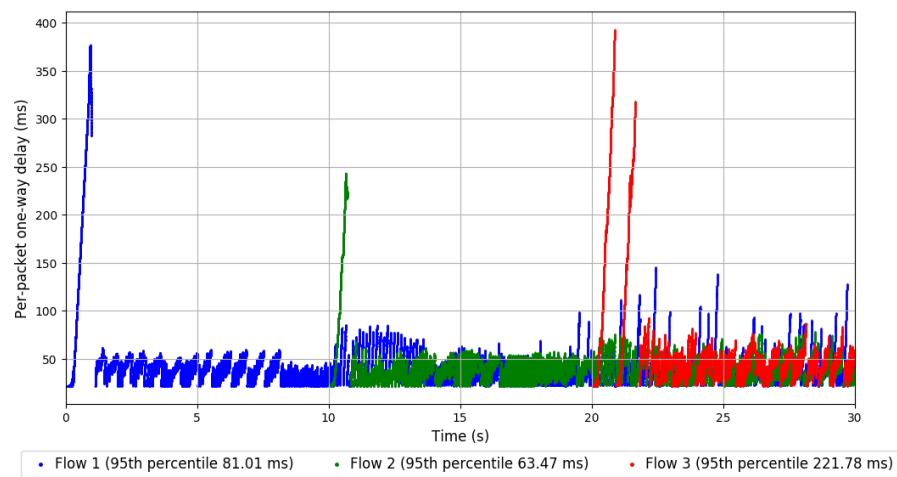
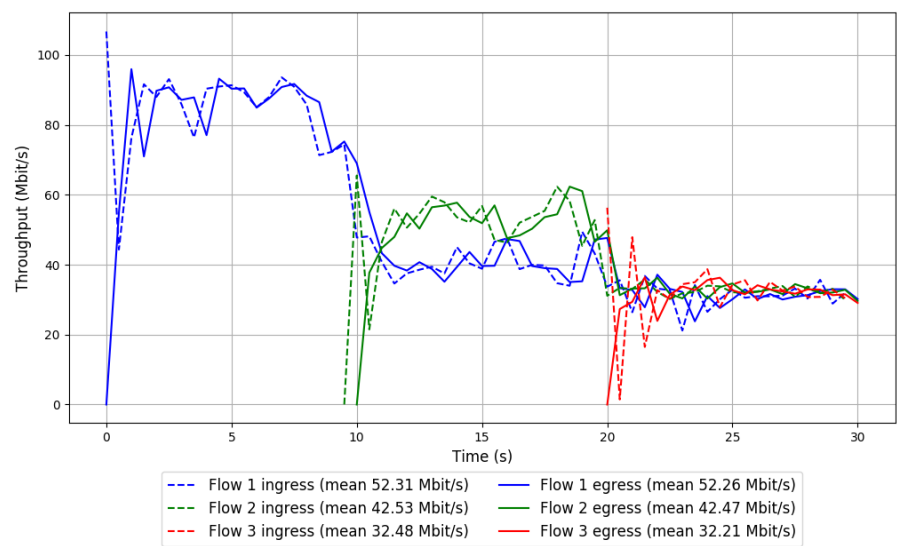


Run 5: Statistics of Verus

Start at: 2018-09-08 01:56:48
End at: 2018-09-08 01:57:18
Local clock offset: 2.193 ms
Remote clock offset: -2.606 ms

Below is generated by plot.py at 2018-09-08 02:32:56
Datalink statistics
-- Total of 3 flows:
Average throughput: 91.23 Mbit/s
95th percentile per-packet one-way delay: 82.572 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 52.26 Mbit/s
95th percentile per-packet one-way delay: 81.009 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 42.47 Mbit/s
95th percentile per-packet one-way delay: 63.466 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 32.21 Mbit/s
95th percentile per-packet one-way delay: 221.784 ms
Loss rate: 1.08%

Run 5: Report of Verus — Data Link

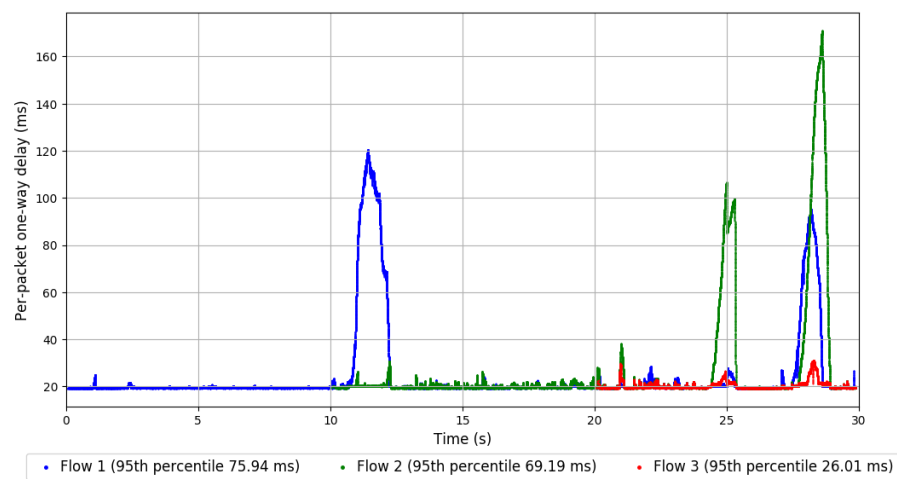
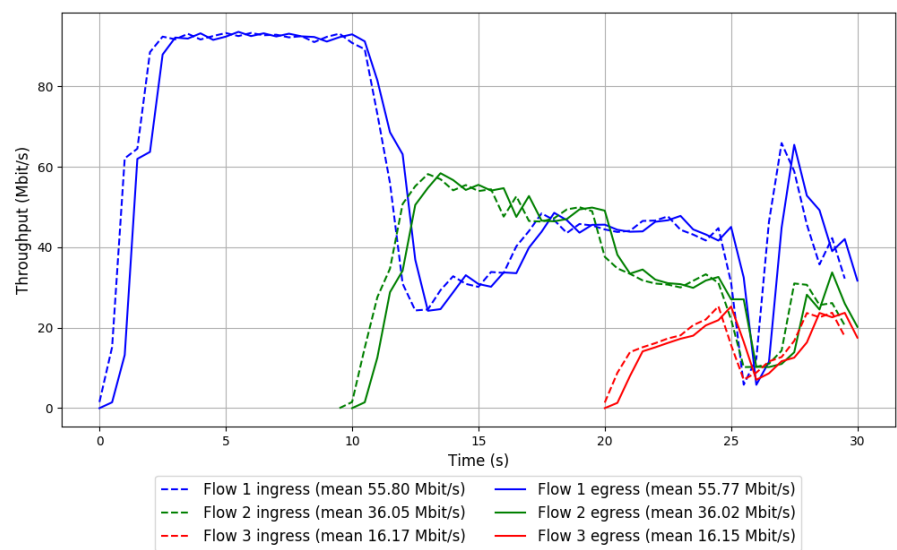


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-08 00:38:35
End at: 2018-09-08 00:39:05
Local clock offset: 1.868 ms
Remote clock offset: -2.731 ms

Below is generated by plot.py at 2018-09-08 02:33:10
Datalink statistics
-- Total of 3 flows:
Average throughput: 85.05 Mbit/s
95th percentile per-packet one-way delay: 70.099 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 55.77 Mbit/s
95th percentile per-packet one-way delay: 75.936 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.02 Mbit/s
95th percentile per-packet one-way delay: 69.187 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 16.15 Mbit/s
95th percentile per-packet one-way delay: 26.009 ms
Loss rate: 0.40%

Run 1: Report of PCC-Vivace — Data Link

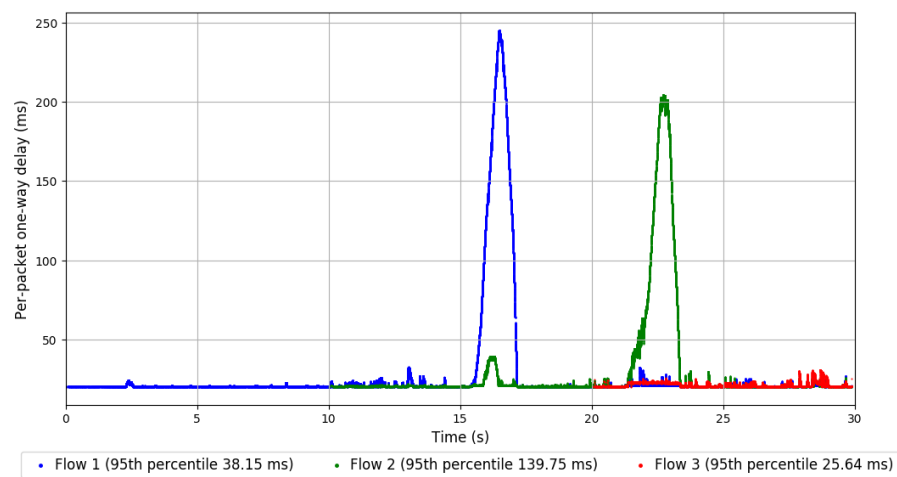
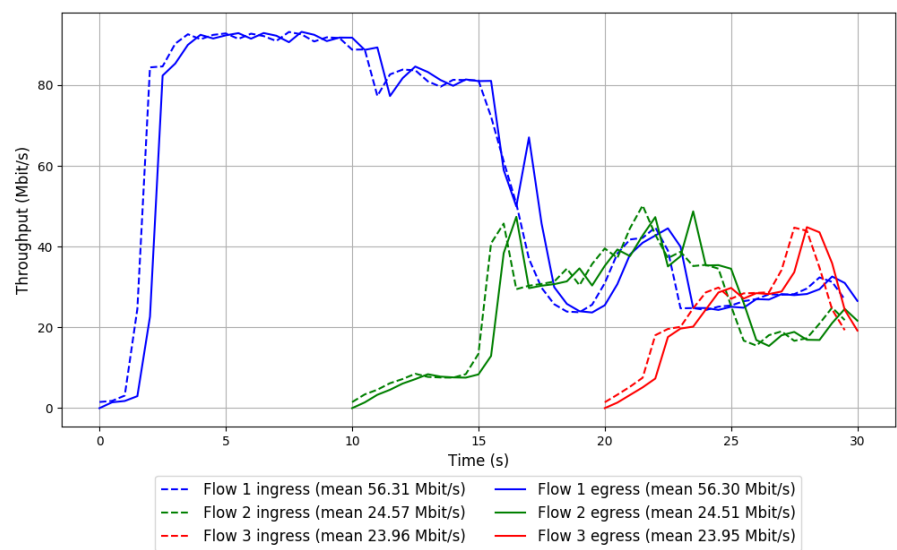


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-08 01:00:42
End at: 2018-09-08 01:01:12
Local clock offset: 2.707 ms
Remote clock offset: -2.329 ms

Below is generated by plot.py at 2018-09-08 02:33:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.48 Mbit/s
95th percentile per-packet one-way delay: 65.946 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 56.30 Mbit/s
95th percentile per-packet one-way delay: 38.149 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 139.748 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 23.95 Mbit/s
95th percentile per-packet one-way delay: 25.636 ms
Loss rate: 0.25%

Run 2: Report of PCC-Vivace — Data Link

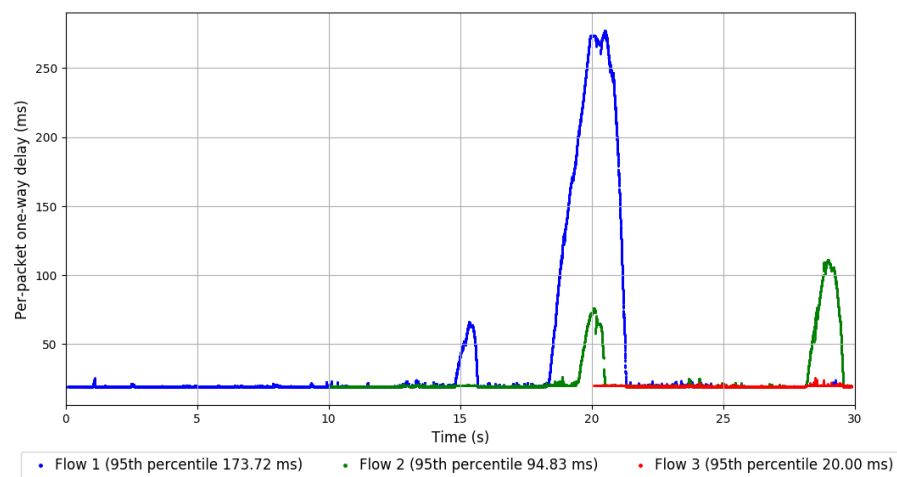
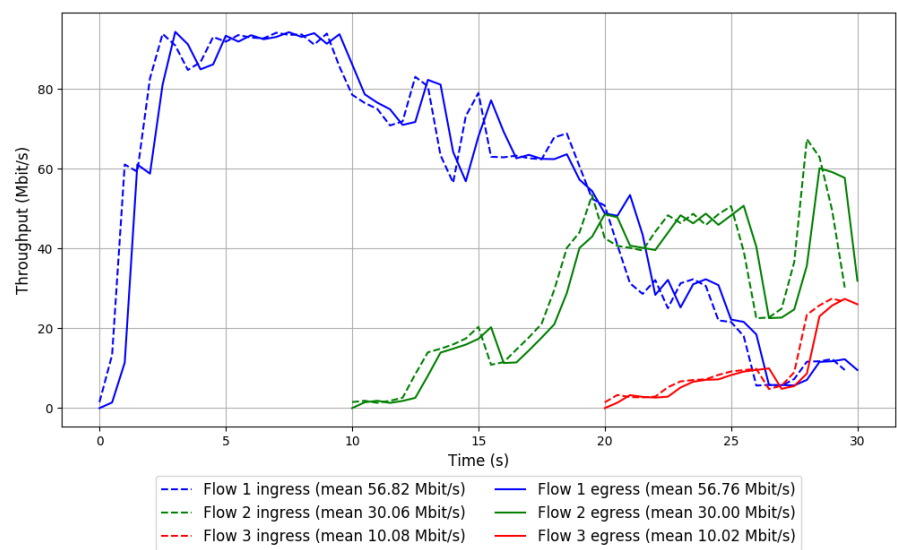


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-08 01:22:50
End at: 2018-09-08 01:23:20
Local clock offset: 1.24 ms
Remote clock offset: -2.083 ms

Below is generated by plot.py at 2018-09-08 02:33:17
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.02 Mbit/s
95th percentile per-packet one-way delay: 110.148 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 56.76 Mbit/s
95th percentile per-packet one-way delay: 173.721 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 94.833 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 19.995 ms
Loss rate: 0.86%

Run 3: Report of PCC-Vivace — Data Link

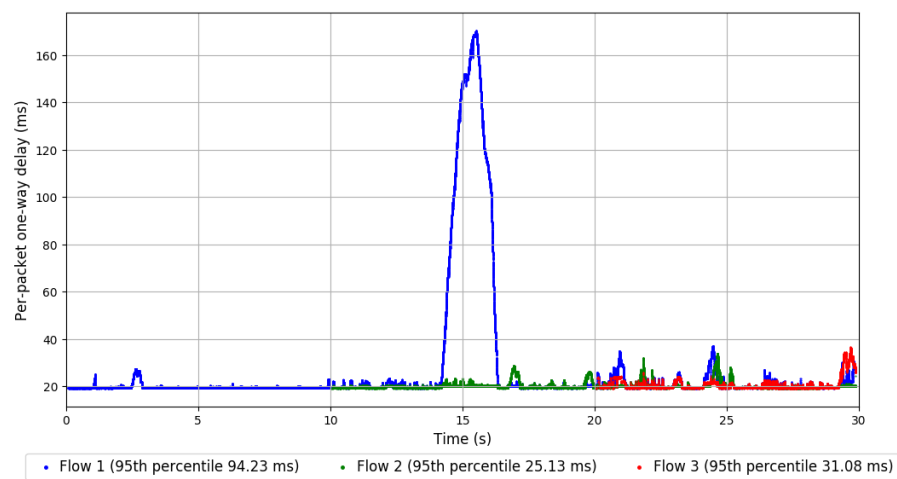
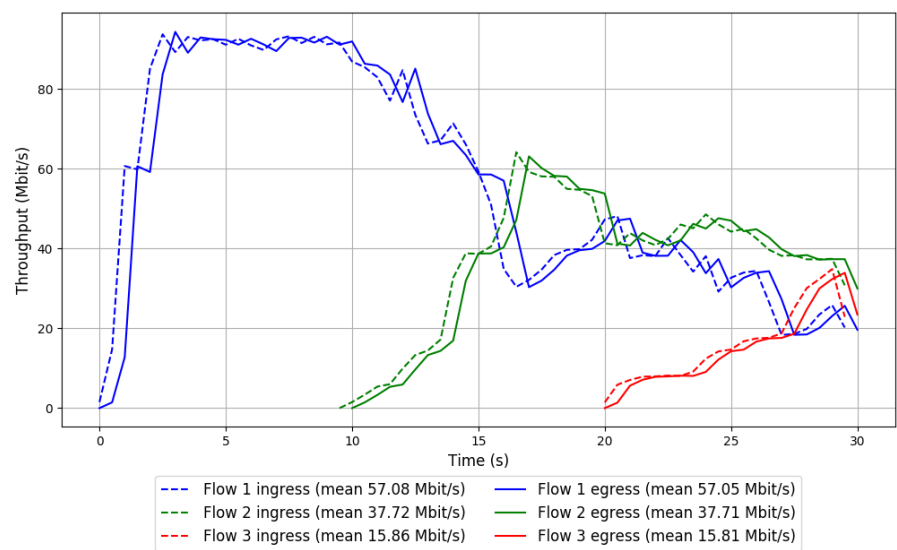


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-08 01:45:15
End at: 2018-09-08 01:45:45
Local clock offset: -0.037 ms
Remote clock offset: -1.978 ms

Below is generated by plot.py at 2018-09-08 02:33:19
Datalink statistics
-- Total of 3 flows:
Average throughput: 87.34 Mbit/s
95th percentile per-packet one-way delay: 31.987 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 57.05 Mbit/s
95th percentile per-packet one-way delay: 94.234 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 37.71 Mbit/s
95th percentile per-packet one-way delay: 25.134 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 15.81 Mbit/s
95th percentile per-packet one-way delay: 31.079 ms
Loss rate: 0.52%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-08 02:07:44

End at: 2018-09-08 02:08:14

Local clock offset: 2.129 ms

Remote clock offset: 0.089 ms

Below is generated by plot.py at 2018-09-08 02:33:22

Datalink statistics

-- Total of 3 flows:

Average throughput: 87.29 Mbit/s

95th percentile per-packet one-way delay: 222.813 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 51.58 Mbit/s

95th percentile per-packet one-way delay: 316.199 ms

Loss rate: 0.40%

-- Flow 2:

Average throughput: 44.55 Mbit/s

95th percentile per-packet one-way delay: 27.836 ms

Loss rate: 0.11%

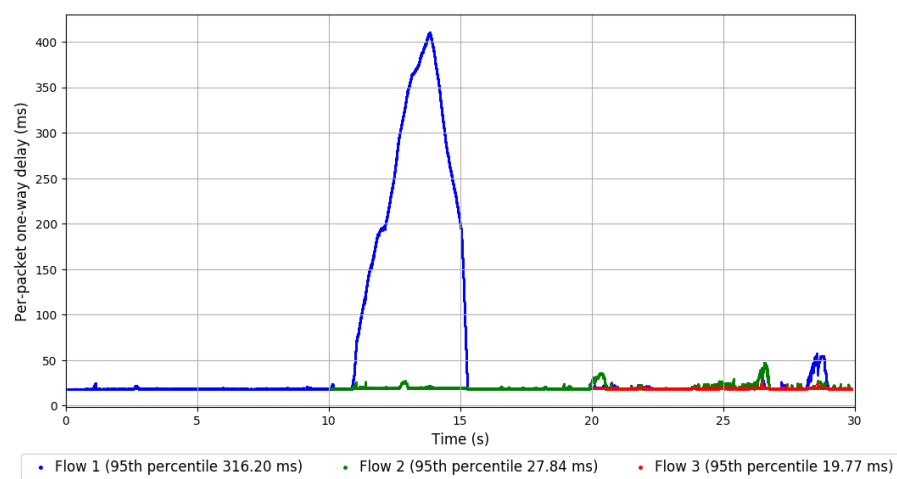
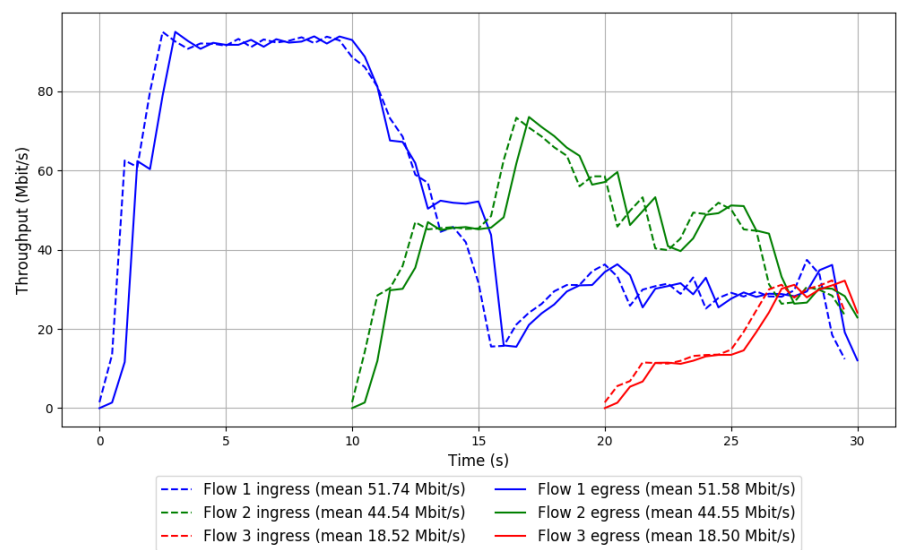
-- Flow 3:

Average throughput: 18.50 Mbit/s

95th percentile per-packet one-way delay: 19.773 ms

Loss rate: 0.41%

Run 5: Report of PCC-Vivace — Data Link

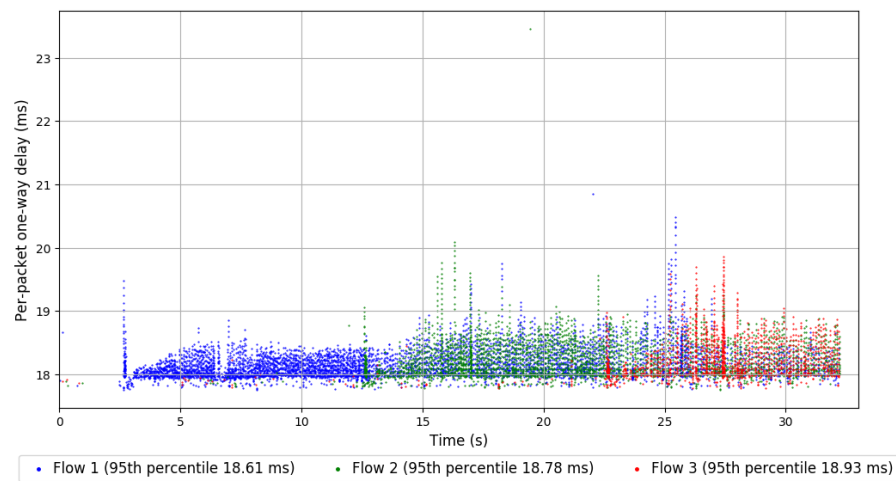
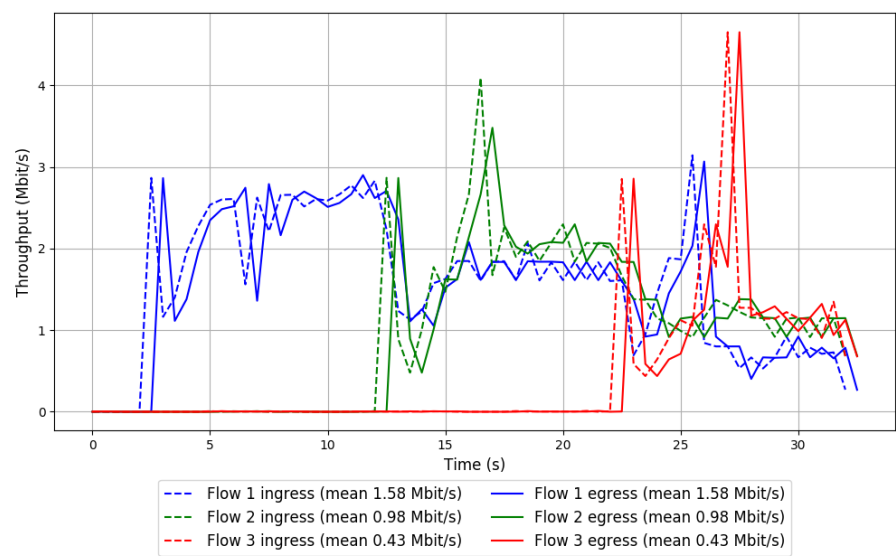


Run 1: Statistics of WebRTC media

Start at: 2018-09-08 00:28:54
End at: 2018-09-08 00:29:24
Local clock offset: 1.252 ms
Remote clock offset: -1.978 ms

Below is generated by plot.py at 2018-09-08 02:33:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 18.736 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 18.615 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 18.783 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 18.935 ms
Loss rate: 0.82%

Run 1: Report of WebRTC media — Data Link

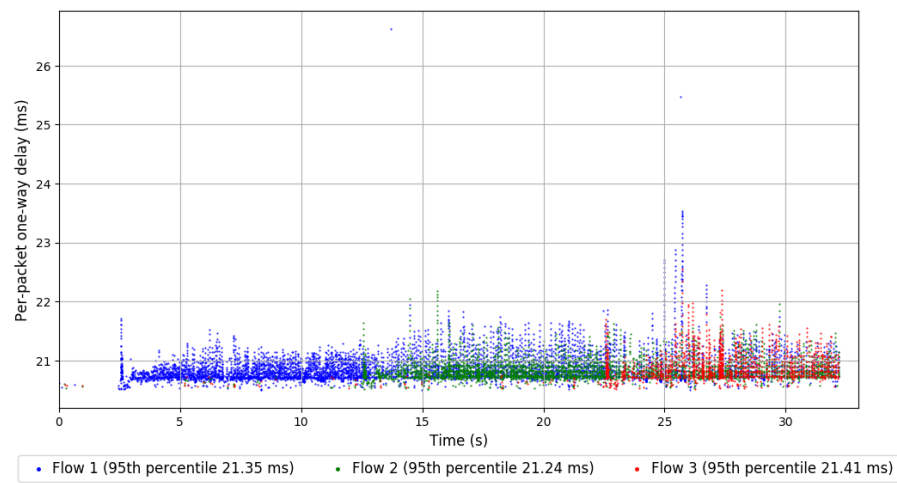
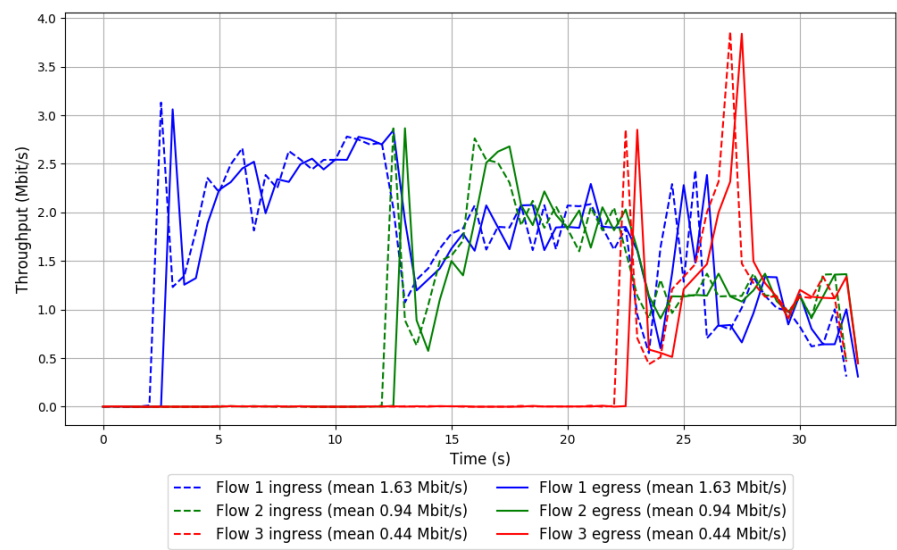


Run 2: Statistics of WebRTC media

Start at: 2018-09-08 00:51:12
End at: 2018-09-08 00:51:42
Local clock offset: 3.449 ms
Remote clock offset: -2.239 ms

Below is generated by plot.py at 2018-09-08 02:33:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 21.333 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 21.353 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 21.243 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 21.414 ms
Loss rate: 0.07%

Run 2: Report of WebRTC media — Data Link

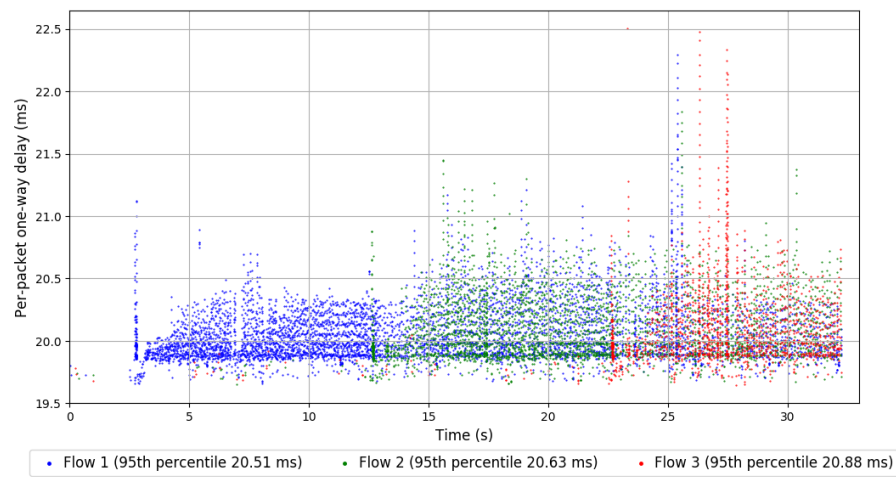
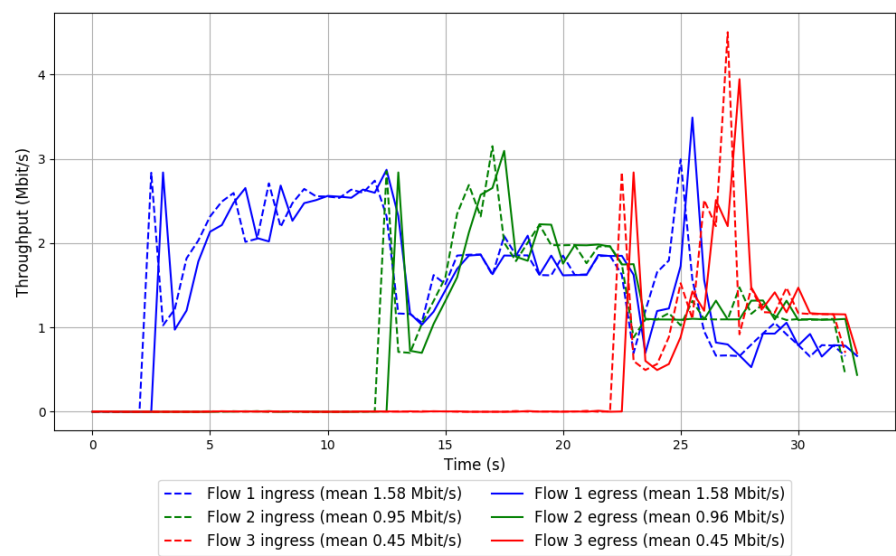


Run 3: Statistics of WebRTC media

Start at: 2018-09-08 01:13:19
End at: 2018-09-08 01:13:49
Local clock offset: 1.966 ms
Remote clock offset: -2.769 ms

Below is generated by plot.py at 2018-09-08 02:33:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 20.600 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 20.506 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 20.631 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 20.876 ms
Loss rate: 0.02%

Run 3: Report of WebRTC media — Data Link

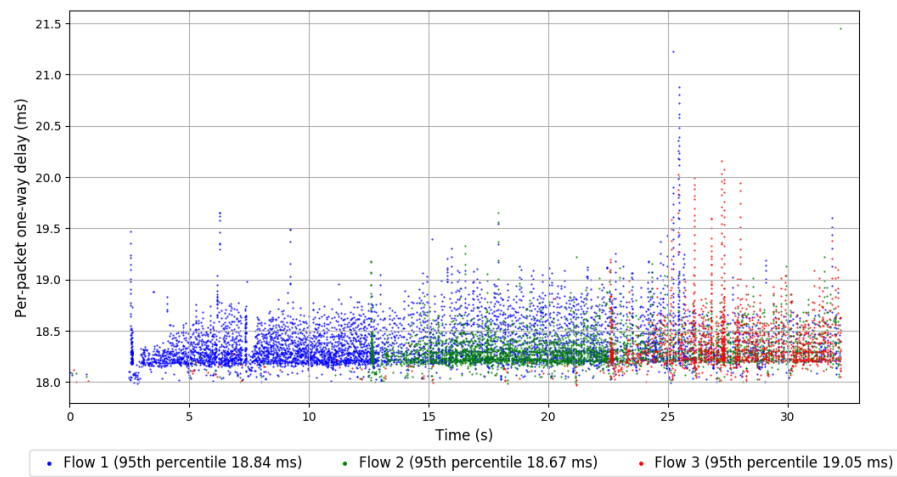
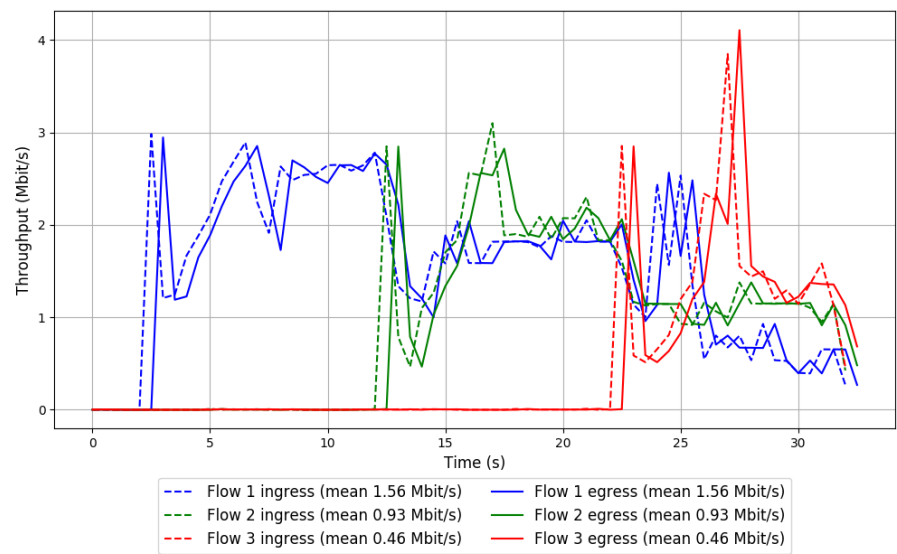


Run 4: Statistics of WebRTC media

Start at: 2018-09-08 01:35:18
End at: 2018-09-08 01:35:48
Local clock offset: -0.174 ms
Remote clock offset: -2.954 ms

Below is generated by plot.py at 2018-09-08 02:33:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 18.820 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 18.837 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 18.673 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 19.046 ms
Loss rate: 0.01%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-08 01:58:05
End at: 2018-09-08 01:58:35
Local clock offset: 0.308 ms
Remote clock offset: -2.595 ms

Below is generated by plot.py at 2018-09-08 02:33:22
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 20.282 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 20.341 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 20.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 20.005 ms
Loss rate: 0.65%

Run 5: Report of WebRTC media — Data Link

