

Pantheon Report

Generated at 2018-09-08 02:50:37 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

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

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

System info:

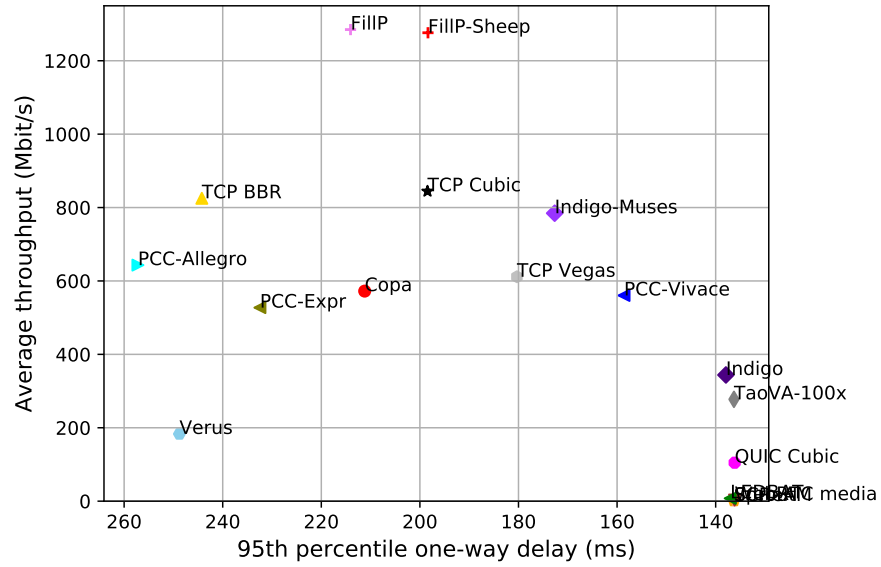
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651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

Git summary:

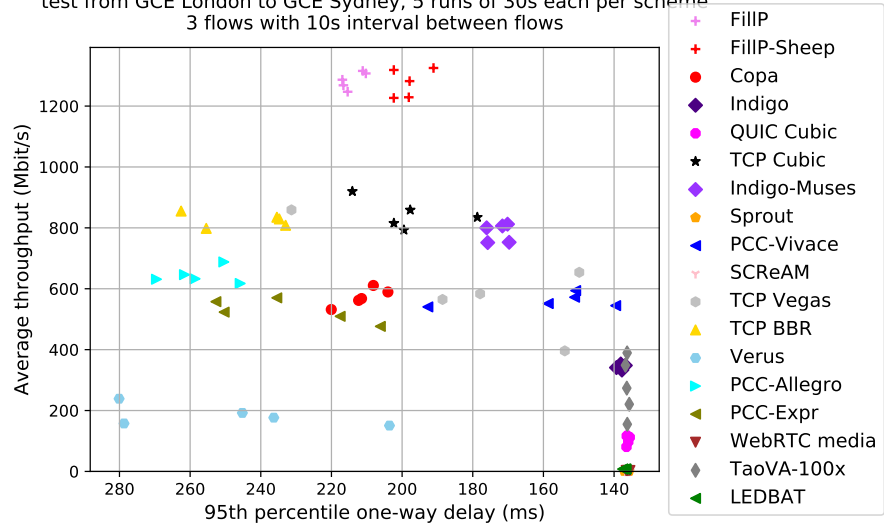
```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 GCE London to GCE Sydney, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from GCE London to GCE Sydney, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



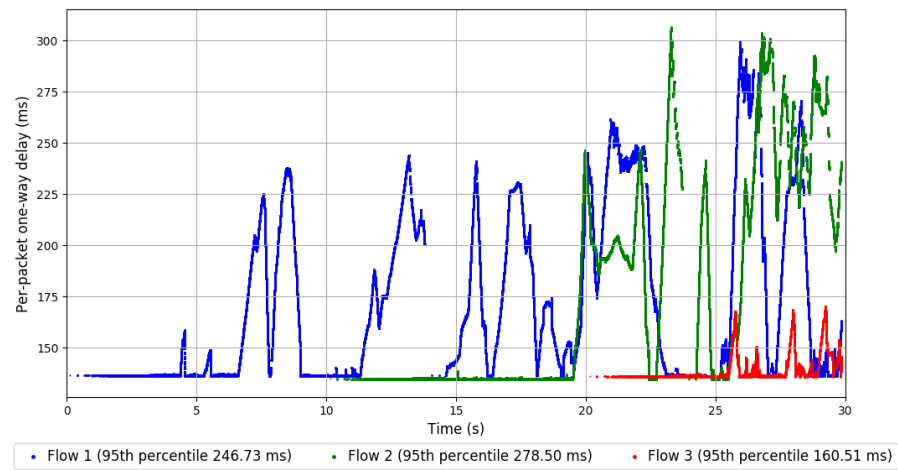
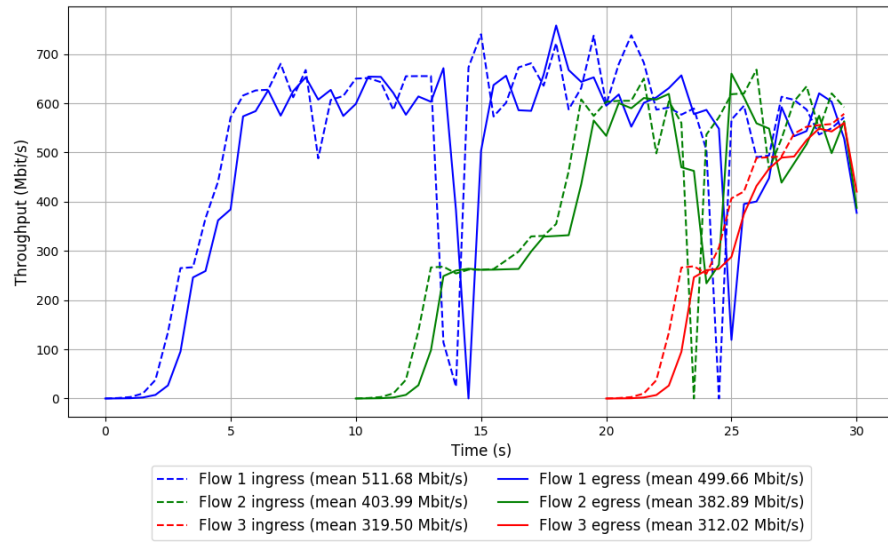
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	474.03	390.69	282.31	243.07	241.74	180.25	2.52	3.65	5.54
Copa	5	308.40	285.58	228.63	208.10	216.27	173.69	1.05	1.57	4.00
TCP Cubic	5	480.82	402.94	295.26	192.75	189.75	177.12	1.04	1.97	4.75
FillP	5	683.49	649.98	524.38	219.07	211.38	148.03	6.01	4.78	3.81
FillP-Sheep	5	703.08	634.40	469.90	200.62	182.71	163.76	3.14	2.29	3.81
Indigo	5	179.20	176.10	145.27	137.29	137.98	143.18	0.89	1.34	3.38
LEDBAT	5	5.00	3.31	1.58	137.06	136.83	136.66	1.82	2.74	5.56
Indigo-Muses	5	472.25	385.84	176.64	173.95	171.34	156.00	1.24	2.06	6.17
PCC-Allegro	5	364.44	299.50	249.28	257.36	233.77	265.73	5.42	3.80	9.60
PCC-Expr	5	312.52	244.68	163.32	227.88	202.86	180.81	4.26	4.30	4.67
QUIC Cubic	5	56.55	54.21	36.73	135.56	135.80	135.76	1.14	1.07	4.41
SCReAM	5	0.22	0.22	0.22	136.23	135.17	135.91	0.89	1.43	2.59
Sprout	5	0.42	0.46	0.49	136.18	135.54	135.83	0.81	1.29	2.40
TaoVA-100x	5	170.83	122.24	78.28	136.09	135.84	139.61	0.93	1.53	3.14
TCP Vegas	5	320.63	311.38	258.35	162.81	171.60	187.01	0.69	1.48	4.09
Verus	5	121.29	70.16	47.81	246.36	178.66	170.87	4.80	0.78	3.14
PCC-Vivace	5	330.36	275.40	147.71	151.19	157.83	164.14	1.24	1.85	4.74
WebRTC media	5	1.68	1.03	0.34	136.07	135.54	135.99	1.09	1.96	5.47

Run 1: Statistics of TCP BBR

Start at: 2018-09-07 21:57:16
End at: 2018-09-07 21:57:46
Local clock offset: -0.597 ms
Remote clock offset: -0.618 ms

Below is generated by plot.py at 2018-09-08 01:07:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 855.20 Mbit/s
95th percentile per-packet one-way delay: 262.550 ms
Loss rate: 4.45%
-- Flow 1:
Average throughput: 499.66 Mbit/s
95th percentile per-packet one-way delay: 246.730 ms
Loss rate: 3.24%
-- Flow 2:
Average throughput: 382.89 Mbit/s
95th percentile per-packet one-way delay: 278.497 ms
Loss rate: 6.51%
-- Flow 3:
Average throughput: 312.02 Mbit/s
95th percentile per-packet one-way delay: 160.511 ms
Loss rate: 5.02%

Run 1: Report of TCP BBR — Data Link

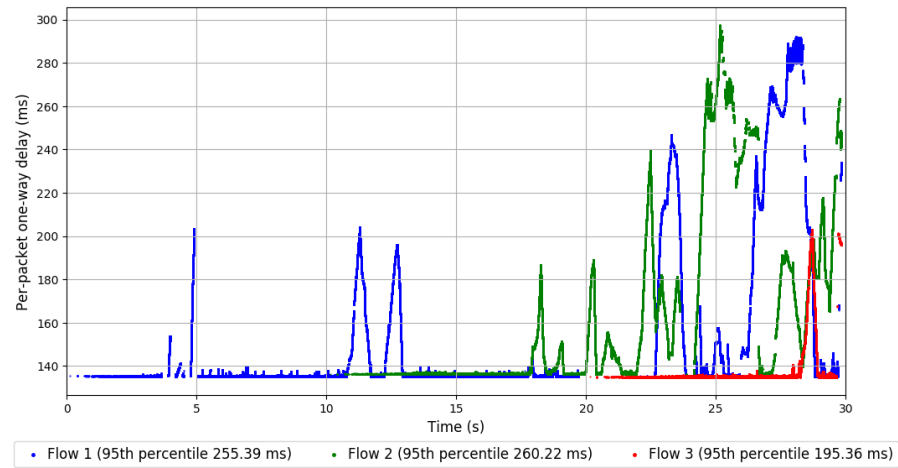
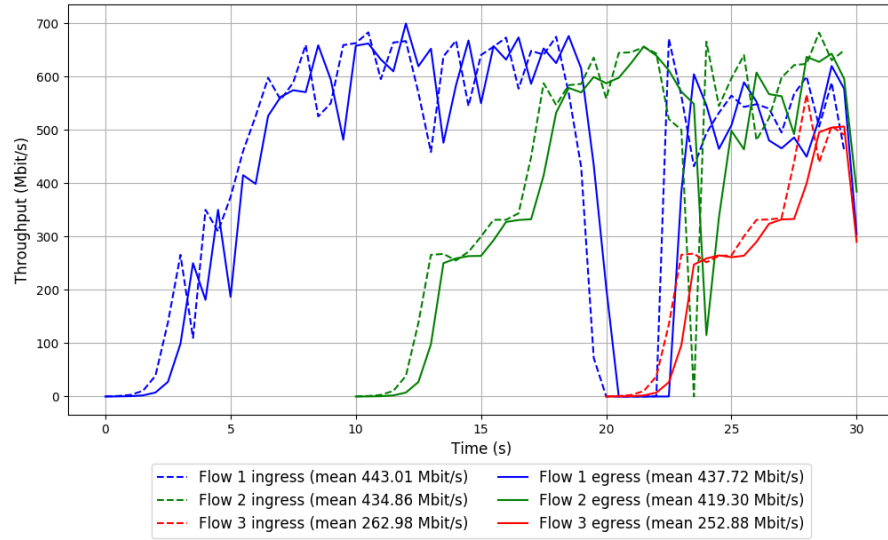


Run 2: Statistics of TCP BBR

Start at: 2018-09-07 22:30:48
End at: 2018-09-07 22:31:18
Local clock offset: 0.176 ms
Remote clock offset: -0.674 ms

Below is generated by plot.py at 2018-09-08 01:07:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 798.28 Mbit/s
95th percentile per-packet one-way delay: 255.439 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 437.72 Mbit/s
95th percentile per-packet one-way delay: 255.391 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 419.30 Mbit/s
95th percentile per-packet one-way delay: 260.222 ms
Loss rate: 4.90%
-- Flow 3:
Average throughput: 252.88 Mbit/s
95th percentile per-packet one-way delay: 195.363 ms
Loss rate: 6.46%

Run 2: Report of TCP BBR — Data Link

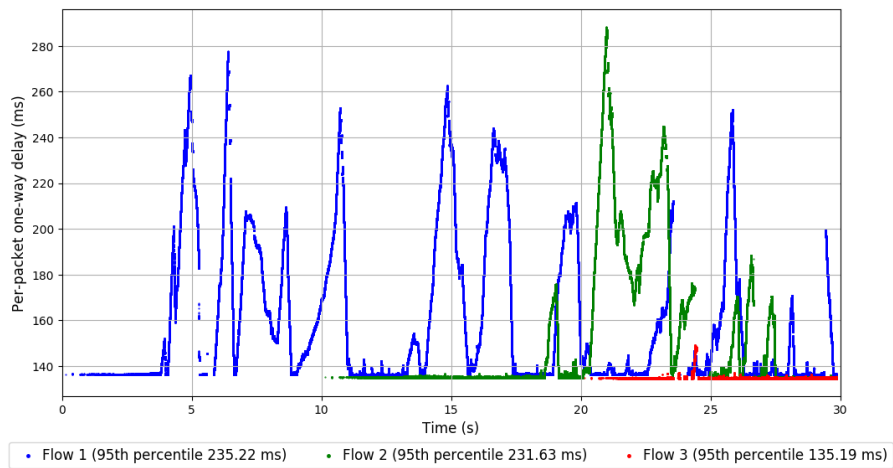
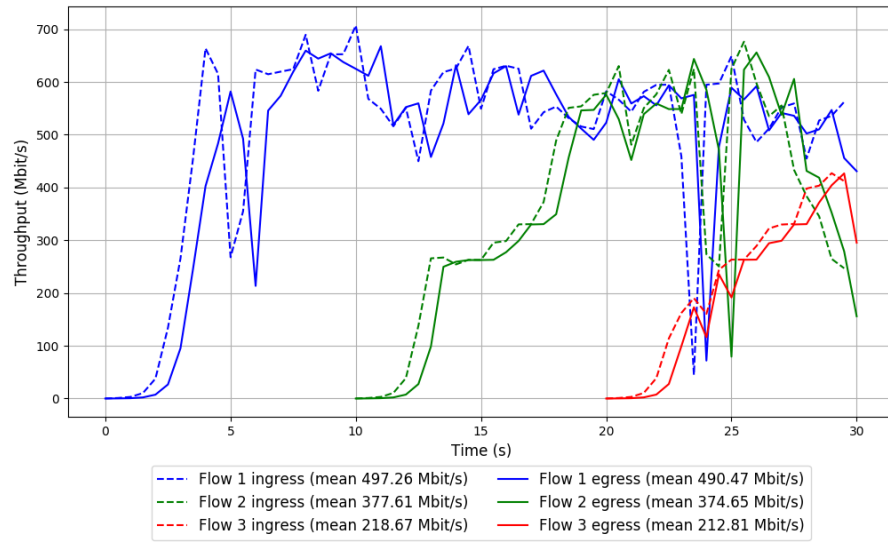


Run 3: Statistics of TCP BBR

Start at: 2018-09-07 23:04:51
End at: 2018-09-07 23:05:21
Local clock offset: 0.199 ms
Remote clock offset: -0.697 ms

Below is generated by plot.py at 2018-09-08 01:07:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 808.49 Mbit/s
95th percentile per-packet one-way delay: 232.983 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 490.47 Mbit/s
95th percentile per-packet one-way delay: 235.216 ms
Loss rate: 2.26%
-- Flow 2:
Average throughput: 374.65 Mbit/s
95th percentile per-packet one-way delay: 231.628 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 212.81 Mbit/s
95th percentile per-packet one-way delay: 135.194 ms
Loss rate: 5.33%

Run 3: Report of TCP BBR — Data Link

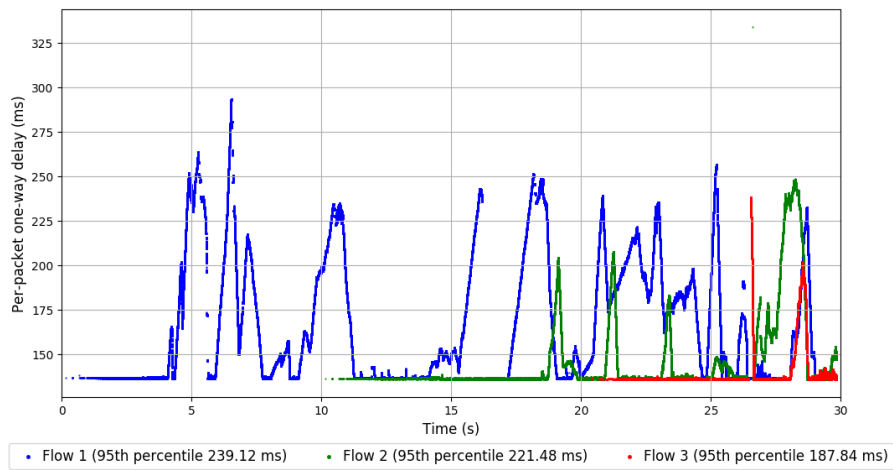
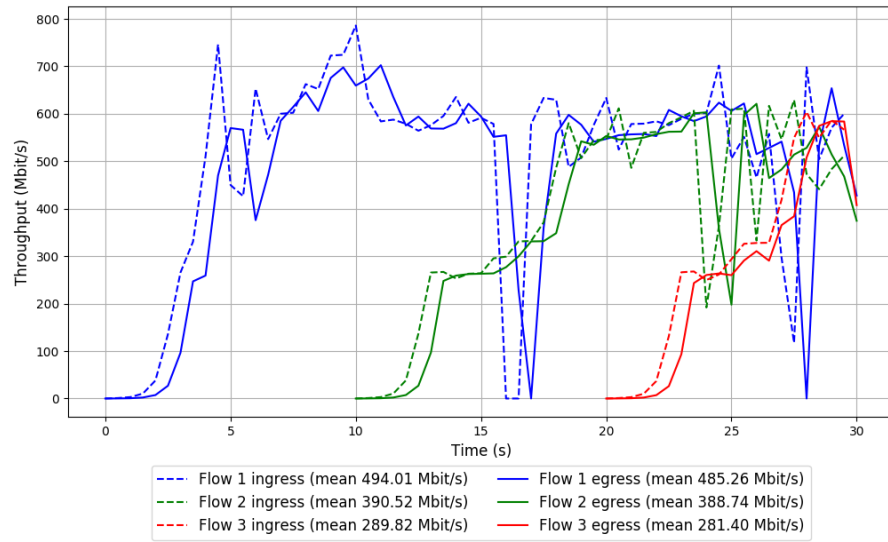


Run 4: Statistics of TCP BBR

Start at: 2018-09-07 23:39:02
End at: 2018-09-07 23:39:32
Local clock offset: 0.511 ms
Remote clock offset: -0.794 ms

Below is generated by plot.py at 2018-09-08 01:07:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 834.95 Mbit/s
95th percentile per-packet one-way delay: 235.453 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 485.26 Mbit/s
95th percentile per-packet one-way delay: 239.115 ms
Loss rate: 2.67%
-- Flow 2:
Average throughput: 388.74 Mbit/s
95th percentile per-packet one-way delay: 221.478 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 281.40 Mbit/s
95th percentile per-packet one-way delay: 187.838 ms
Loss rate: 5.56%

Run 4: Report of TCP BBR — Data Link

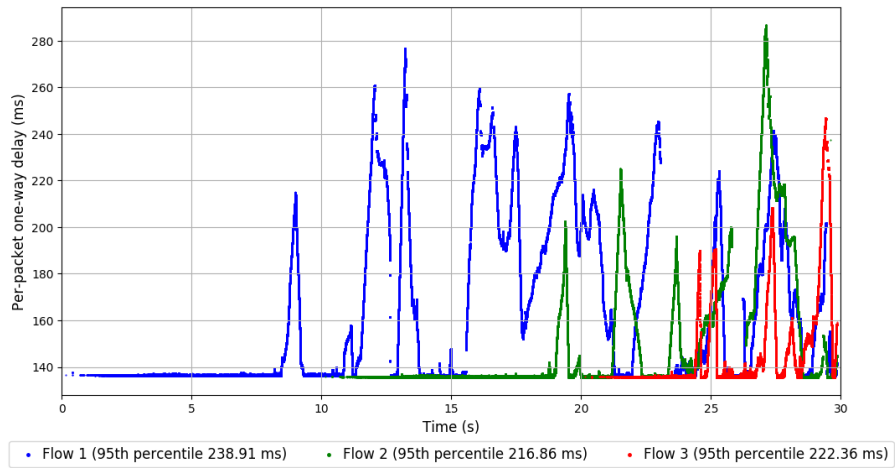
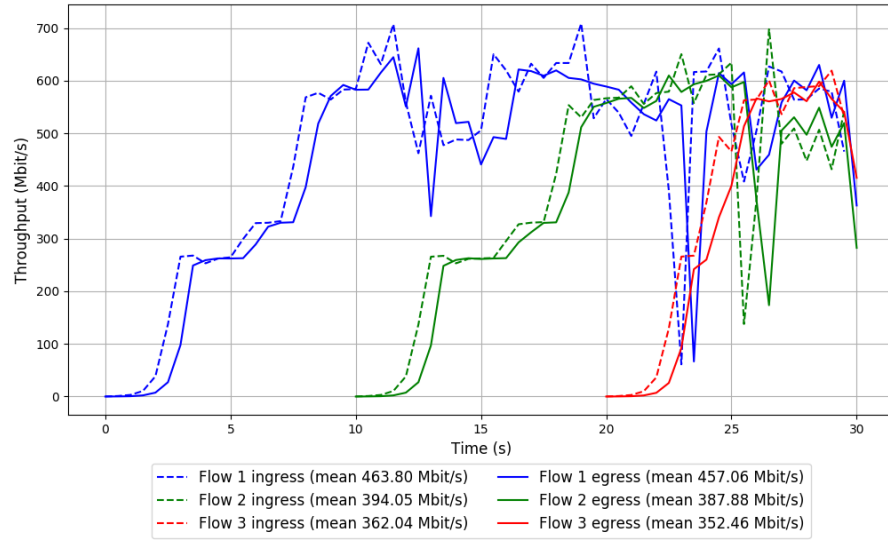


Run 5: Statistics of TCP BBR

Start at: 2018-09-08 00:13:06
End at: 2018-09-08 00:13:36
Local clock offset: 0.52 ms
Remote clock offset: -0.473 ms

Below is generated by plot.py at 2018-09-08 01:07:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 829.34 Mbit/s
95th percentile per-packet one-way delay: 234.752 ms
Loss rate: 2.95%
-- Flow 1:
Average throughput: 457.06 Mbit/s
95th percentile per-packet one-way delay: 238.905 ms
Loss rate: 2.35%
-- Flow 2:
Average throughput: 387.88 Mbit/s
95th percentile per-packet one-way delay: 216.856 ms
Loss rate: 2.91%
-- Flow 3:
Average throughput: 352.46 Mbit/s
95th percentile per-packet one-way delay: 222.356 ms
Loss rate: 5.31%

Run 5: Report of TCP BBR — Data Link

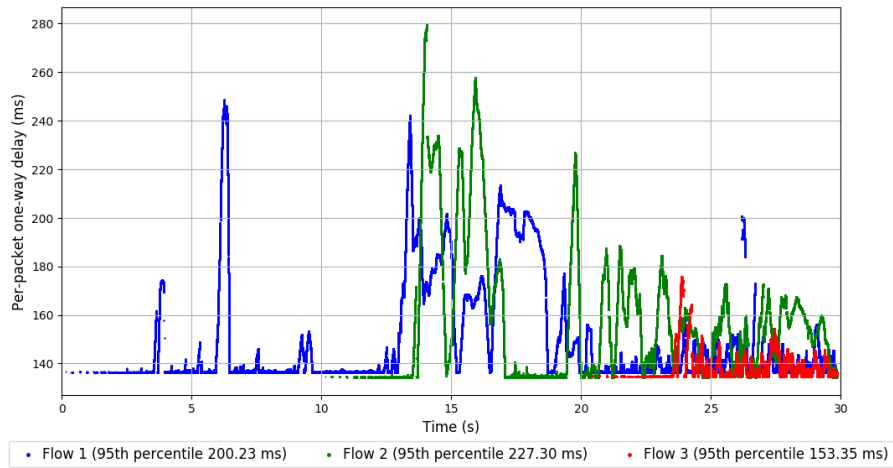
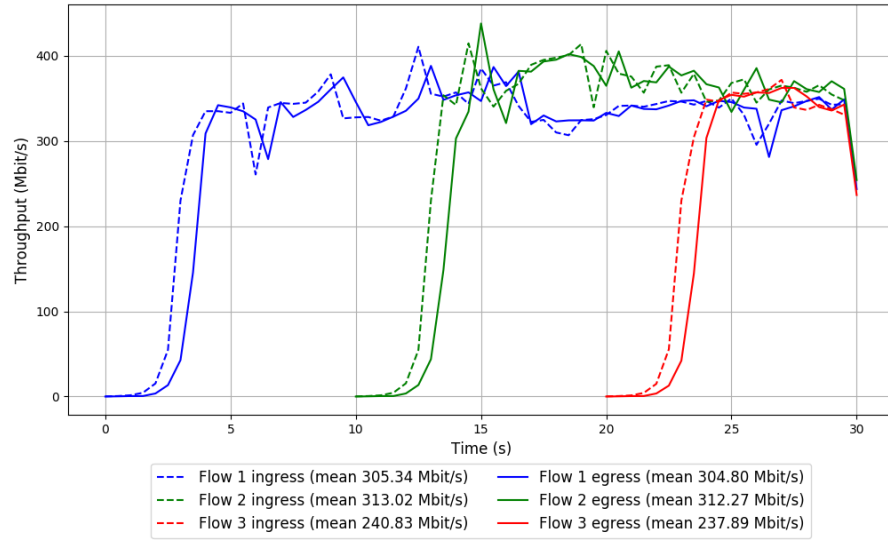


Run 1: Statistics of Copa

Start at: 2018-09-07 22:06:51
End at: 2018-09-07 22:07:21
Local clock offset: -0.563 ms
Remote clock offset: -0.267 ms

Below is generated by plot.py at 2018-09-08 01:11:07
Datalink statistics
-- Total of 3 flows:
Average throughput: 589.41 Mbit/s
95th percentile per-packet one-way delay: 204.018 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 304.80 Mbit/s
95th percentile per-packet one-way delay: 200.230 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 312.27 Mbit/s
95th percentile per-packet one-way delay: 227.296 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 237.89 Mbit/s
95th percentile per-packet one-way delay: 153.355 ms
Loss rate: 3.90%

Run 1: Report of Copa — Data Link

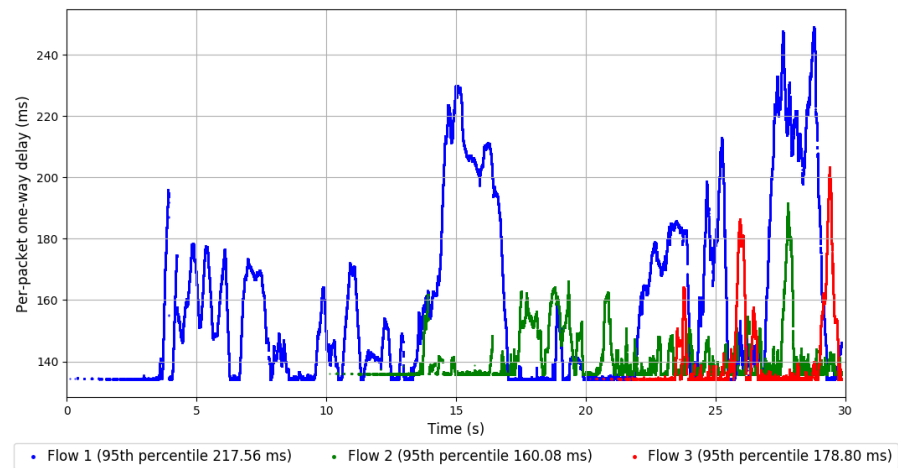
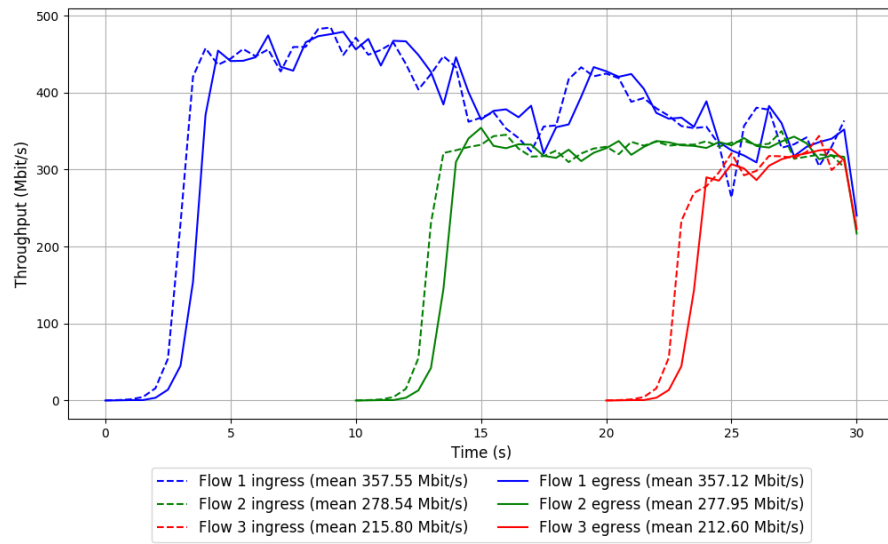


Run 2: Statistics of Copa

Start at: 2018-09-07 22:40:41
End at: 2018-09-07 22:41:11
Local clock offset: -0.029 ms
Remote clock offset: -0.349 ms

Below is generated by plot.py at 2018-09-08 01:12:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 610.80 Mbit/s
95th percentile per-packet one-way delay: 208.142 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 357.12 Mbit/s
95th percentile per-packet one-way delay: 217.560 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 277.95 Mbit/s
95th percentile per-packet one-way delay: 160.082 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 212.60 Mbit/s
95th percentile per-packet one-way delay: 178.799 ms
Loss rate: 4.17%

Run 2: Report of Copa — Data Link

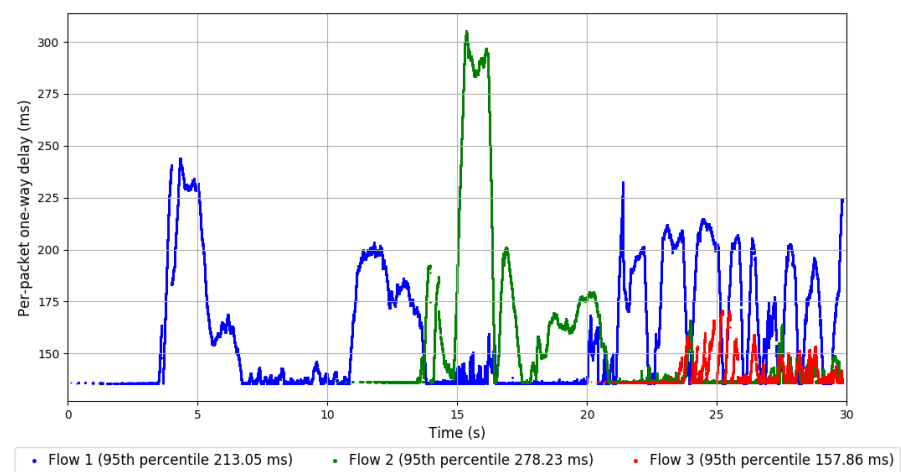
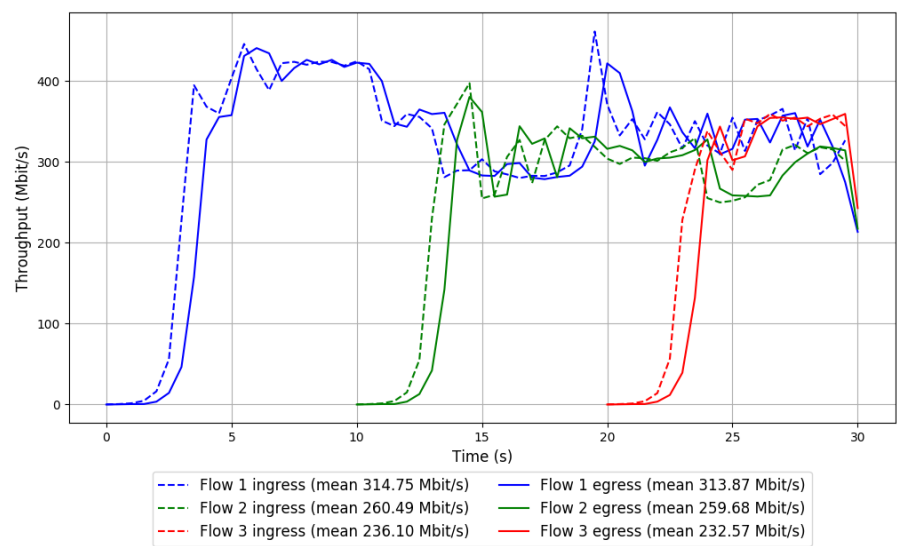


Run 3: Statistics of Copa

Start at: 2018-09-07 23:14:59
End at: 2018-09-07 23:15:29
Local clock offset: 0.271 ms
Remote clock offset: -0.375 ms

Below is generated by plot.py at 2018-09-08 01:12:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 561.83 Mbit/s
95th percentile per-packet one-way delay: 212.311 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 313.87 Mbit/s
95th percentile per-packet one-way delay: 213.050 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 259.68 Mbit/s
95th percentile per-packet one-way delay: 278.228 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 232.57 Mbit/s
95th percentile per-packet one-way delay: 157.857 ms
Loss rate: 4.19%

Run 3: Report of Copa — Data Link

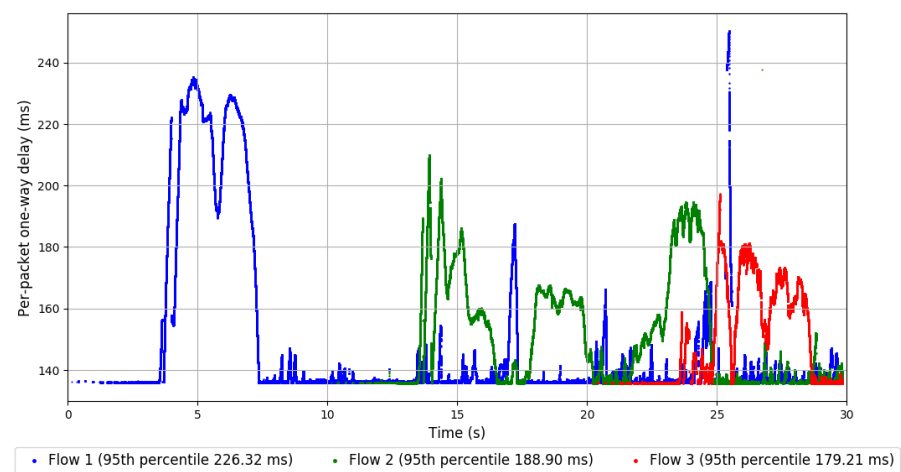
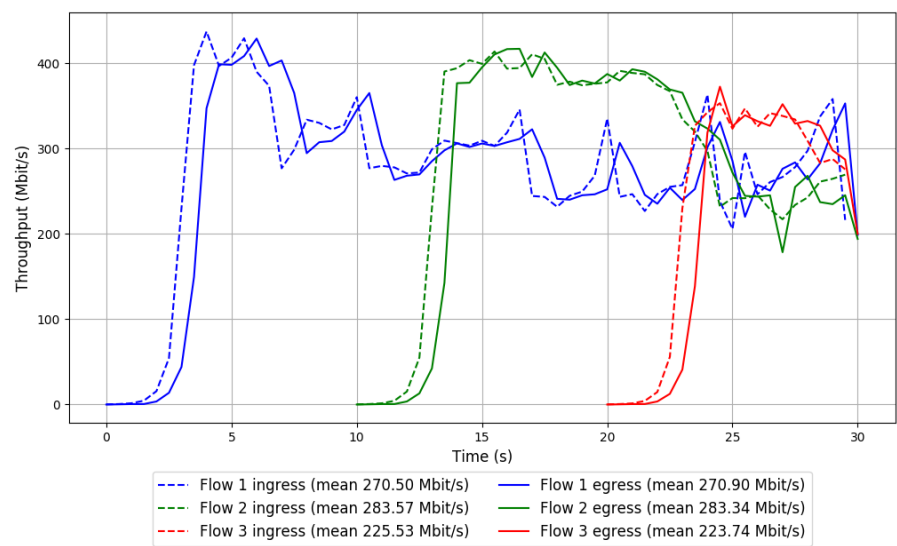


Run 4: Statistics of Copa

Start at: 2018-09-07 23:48:50
End at: 2018-09-07 23:49:20
Local clock offset: 0.405 ms
Remote clock offset: -0.453 ms

Below is generated by plot.py at 2018-09-08 01:21:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 531.76 Mbit/s
95th percentile per-packet one-way delay: 220.052 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 270.90 Mbit/s
95th percentile per-packet one-way delay: 226.319 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 283.34 Mbit/s
95th percentile per-packet one-way delay: 188.895 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 223.74 Mbit/s
95th percentile per-packet one-way delay: 179.211 ms
Loss rate: 3.50%

Run 4: Report of Copa — Data Link

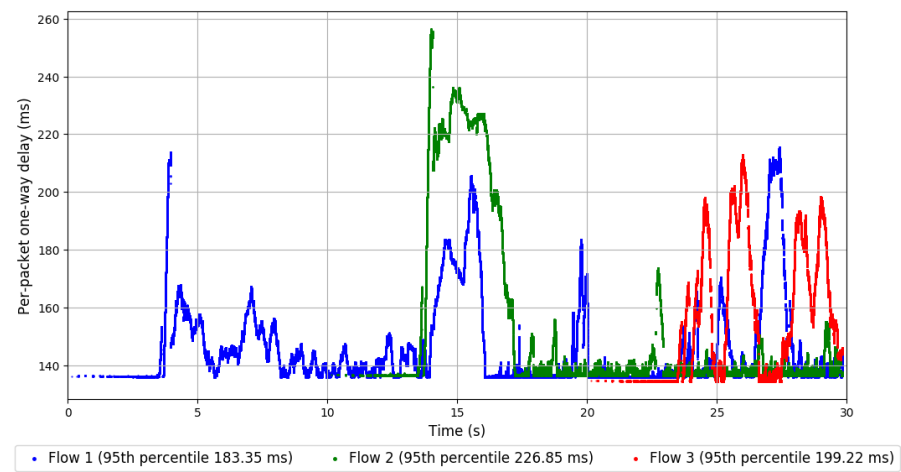
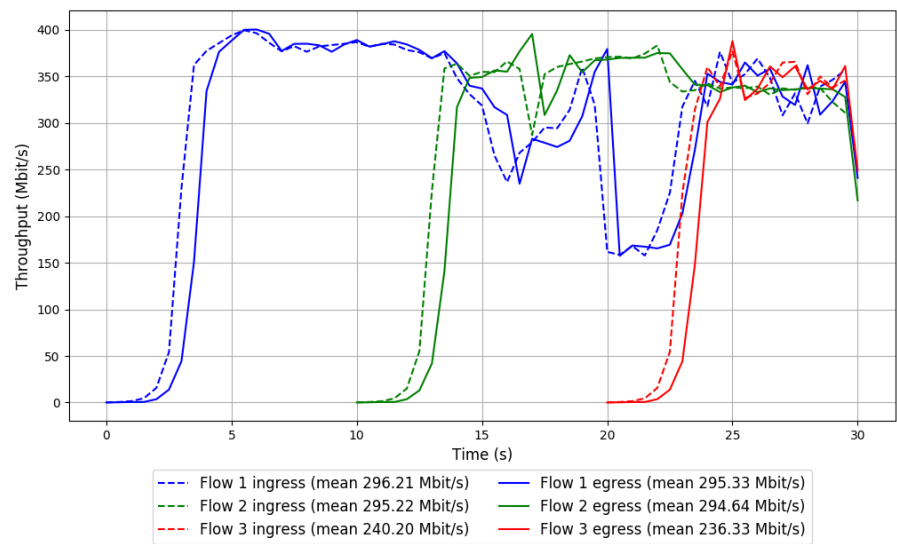


Run 5: Statistics of Copa

Start at: 2018-09-08 00:22:57
End at: 2018-09-08 00:23:28
Local clock offset: 0.493 ms
Remote clock offset: -0.836 ms

Below is generated by plot.py at 2018-09-08 01:23:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 567.82 Mbit/s
95th percentile per-packet one-way delay: 211.477 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 295.33 Mbit/s
95th percentile per-packet one-way delay: 183.352 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 294.64 Mbit/s
95th percentile per-packet one-way delay: 226.852 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 236.33 Mbit/s
95th percentile per-packet one-way delay: 199.225 ms
Loss rate: 4.25%

Run 5: Report of Copa — Data Link

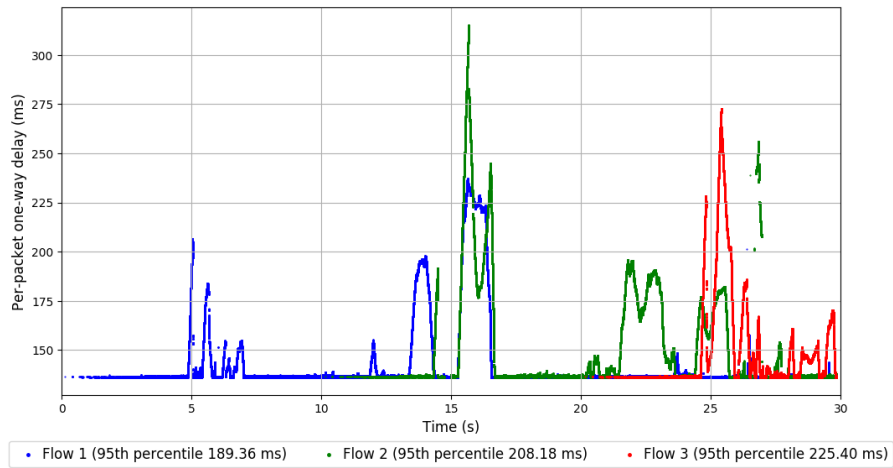
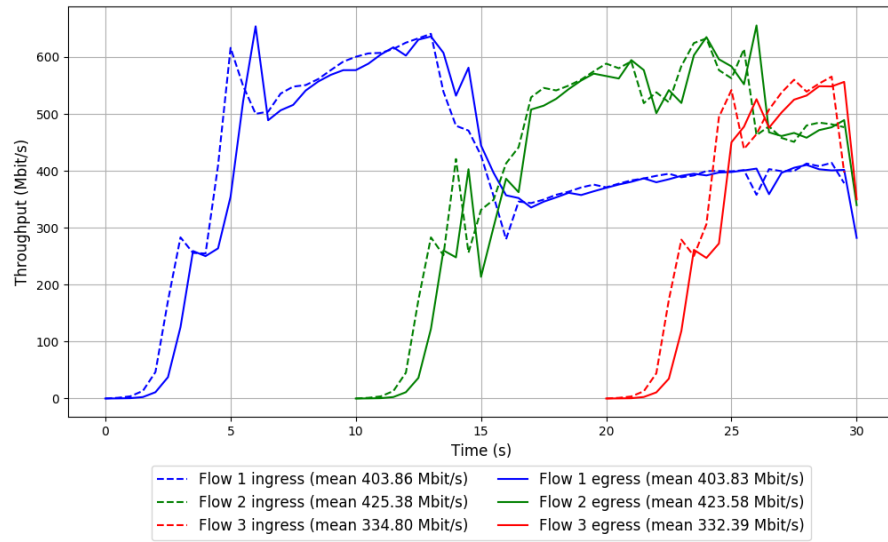


Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 21:55:09
End at: 2018-09-07 21:55:39
Local clock offset: -0.807 ms
Remote clock offset: -0.568 ms

Below is generated by plot.py at 2018-09-08 01:23:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 793.07 Mbit/s
95th percentile per-packet one-way delay: 199.484 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 403.83 Mbit/s
95th percentile per-packet one-way delay: 189.360 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 423.58 Mbit/s
95th percentile per-packet one-way delay: 208.176 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 332.39 Mbit/s
95th percentile per-packet one-way delay: 225.404 ms
Loss rate: 3.45%

Run 1: Report of TCP Cubic — Data Link

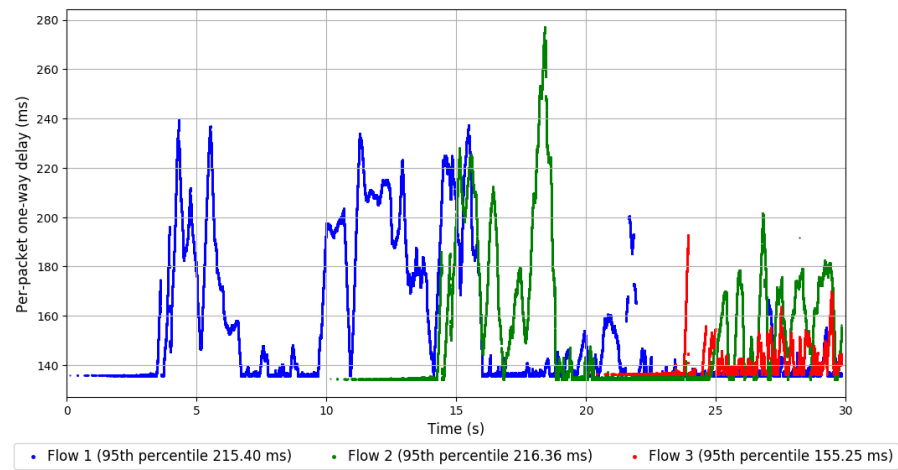
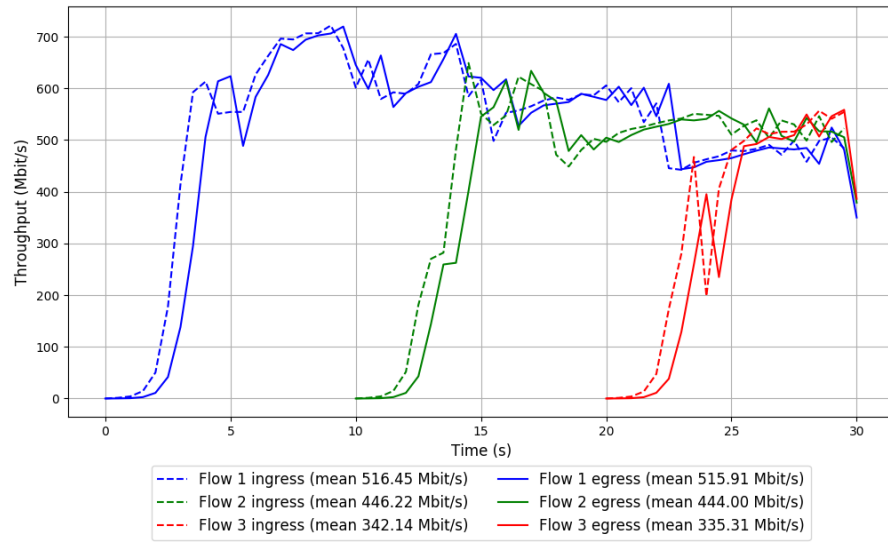


Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 22:28:35
End at: 2018-09-07 22:29:05
Local clock offset: -0.014 ms
Remote clock offset: -0.294 ms

Below is generated by plot.py at 2018-09-08 01:23:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 919.78 Mbit/s
95th percentile per-packet one-way delay: 214.078 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 515.91 Mbit/s
95th percentile per-packet one-way delay: 215.404 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 444.00 Mbit/s
95th percentile per-packet one-way delay: 216.360 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 335.31 Mbit/s
95th percentile per-packet one-way delay: 155.245 ms
Loss rate: 4.67%

Run 2: Report of TCP Cubic — Data Link

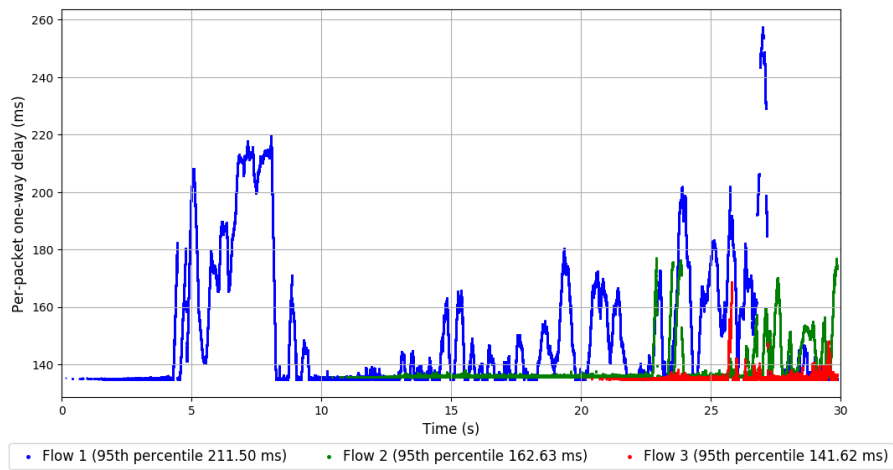
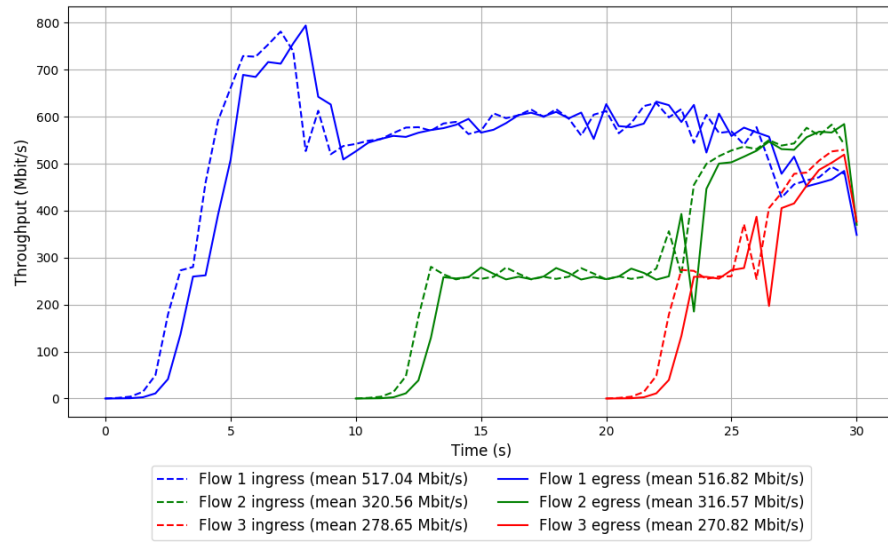


Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 23:02:44
End at: 2018-09-07 23:03:14
Local clock offset: 0.199 ms
Remote clock offset: -0.397 ms

Below is generated by plot.py at 2018-09-08 01:23:04
Datalink statistics
-- Total of 3 flows:
Average throughput: 815.19 Mbit/s
95th percentile per-packet one-way delay: 202.334 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 516.82 Mbit/s
95th percentile per-packet one-way delay: 211.504 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 316.57 Mbit/s
95th percentile per-packet one-way delay: 162.629 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 270.82 Mbit/s
95th percentile per-packet one-way delay: 141.617 ms
Loss rate: 5.45%

Run 3: Report of TCP Cubic — Data Link

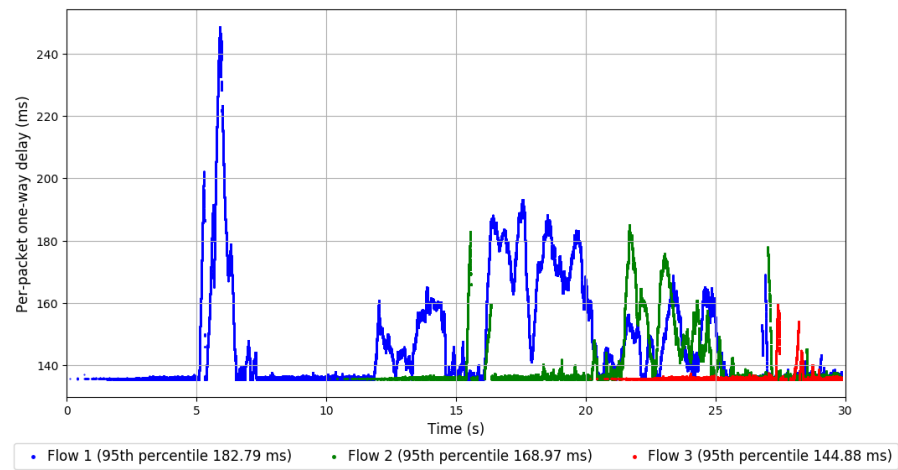
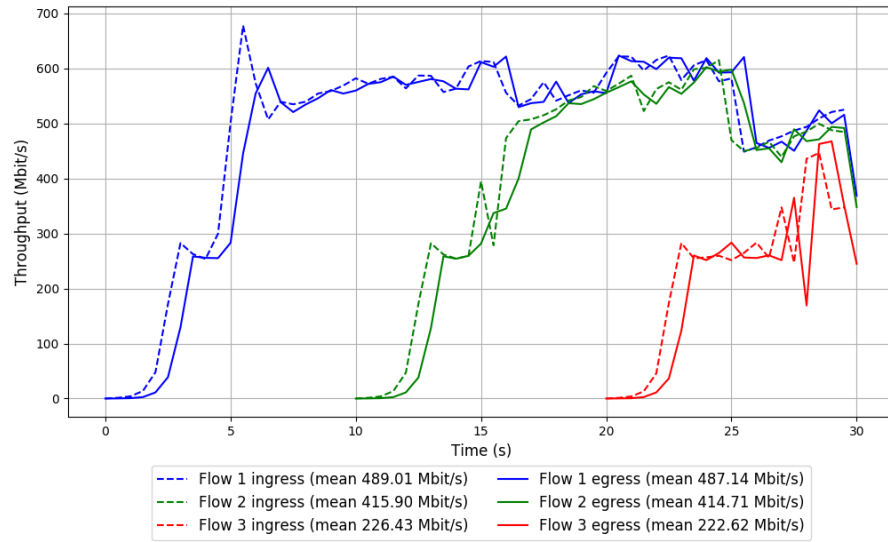


Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 23:36:52
End at: 2018-09-07 23:37:22
Local clock offset: 0.391 ms
Remote clock offset: -0.435 ms

Below is generated by plot.py at 2018-09-08 01:23:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 834.79 Mbit/s
95th percentile per-packet one-way delay: 178.703 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 487.14 Mbit/s
95th percentile per-packet one-way delay: 182.790 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 414.71 Mbit/s
95th percentile per-packet one-way delay: 168.975 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 222.62 Mbit/s
95th percentile per-packet one-way delay: 144.881 ms
Loss rate: 4.35%

Run 4: Report of TCP Cubic — Data Link

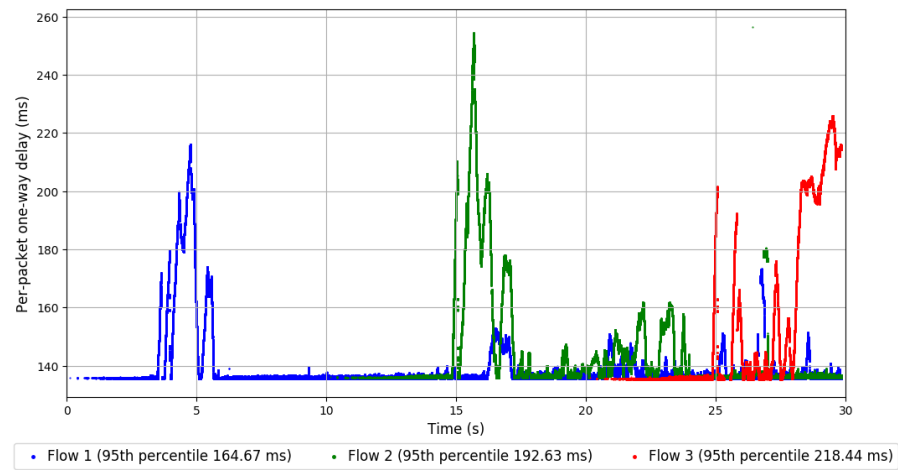
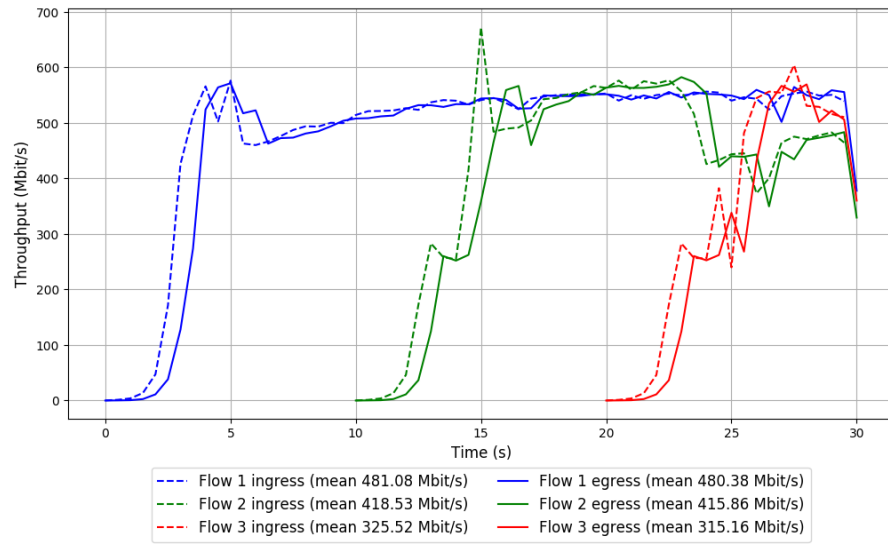


Run 5: Statistics of TCP Cubic

Start at: 2018-09-08 00:10:55
End at: 2018-09-08 00:11:25
Local clock offset: 0.402 ms
Remote clock offset: -0.489 ms

Below is generated by plot.py at 2018-09-08 01:24:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 858.80 Mbit/s
95th percentile per-packet one-way delay: 197.698 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 480.38 Mbit/s
95th percentile per-packet one-way delay: 164.674 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 415.86 Mbit/s
95th percentile per-packet one-way delay: 192.629 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 315.16 Mbit/s
95th percentile per-packet one-way delay: 218.436 ms
Loss rate: 5.83%

Run 5: Report of TCP Cubic — Data Link

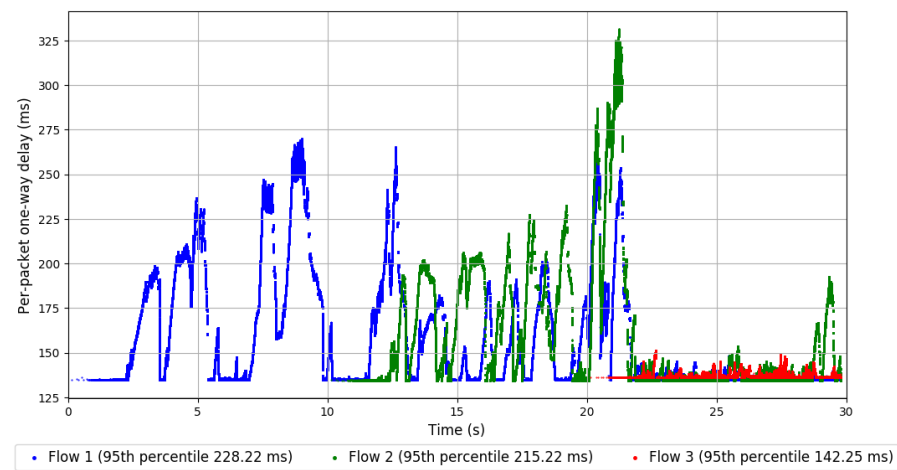
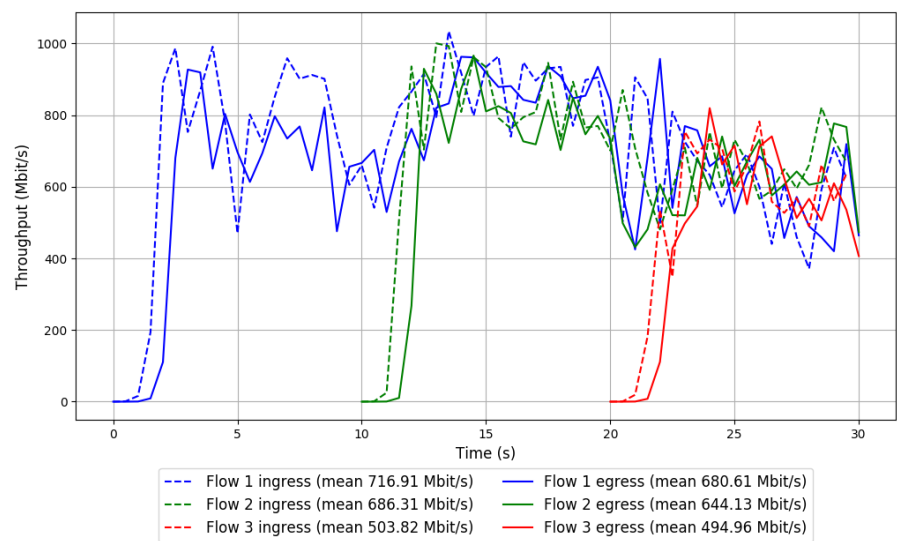


Run 1: Statistics of FillP

Start at: 2018-09-07 22:11:08
End at: 2018-09-07 22:11:38
Local clock offset: -0.372 ms
Remote clock offset: -0.238 ms

Below is generated by plot.py at 2018-09-08 01:35:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 1268.23 Mbit/s
95th percentile per-packet one-way delay: 216.618 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 680.61 Mbit/s
95th percentile per-packet one-way delay: 228.216 ms
Loss rate: 5.93%
-- Flow 2:
Average throughput: 644.13 Mbit/s
95th percentile per-packet one-way delay: 215.223 ms
Loss rate: 7.45%
-- Flow 3:
Average throughput: 494.96 Mbit/s
95th percentile per-packet one-way delay: 142.249 ms
Loss rate: 4.46%

Run 1: Report of FillP — Data Link

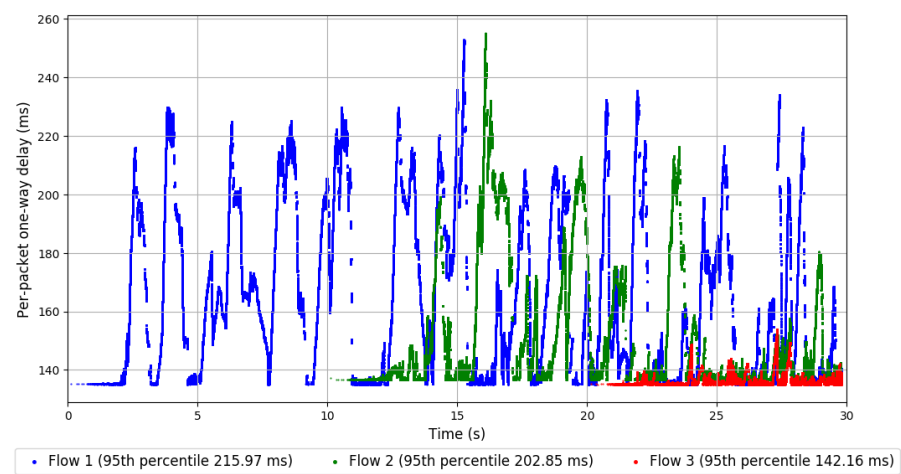
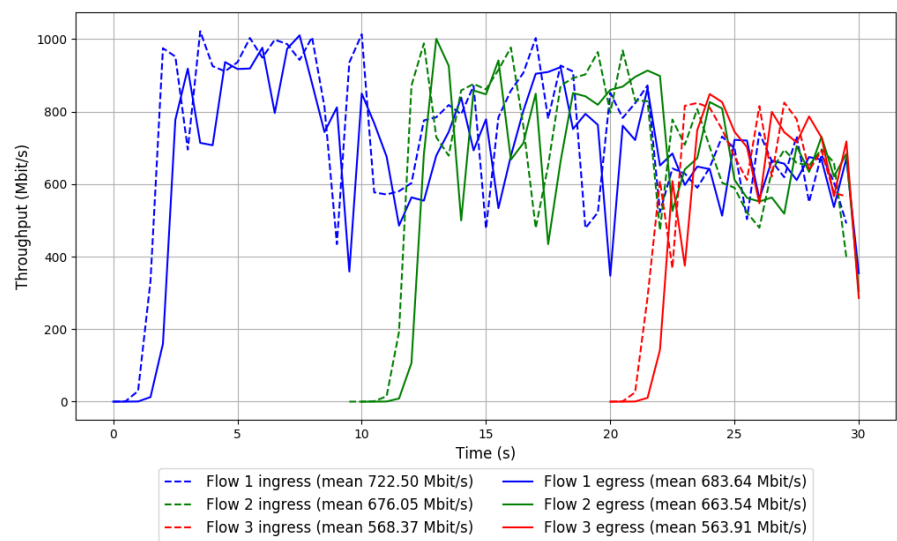


Run 2: Statistics of FillP

Start at: 2018-09-07 22:45:03
End at: 2018-09-07 22:45:33
Local clock offset: 0.083 ms
Remote clock offset: -0.699 ms

Below is generated by plot.py at 2018-09-08 01:43:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 1307.19 Mbit/s
95th percentile per-packet one-way delay: 210.271 ms
Loss rate: 4.85%
-- Flow 1:
Average throughput: 683.64 Mbit/s
95th percentile per-packet one-way delay: 215.966 ms
Loss rate: 6.22%
-- Flow 2:
Average throughput: 663.54 Mbit/s
95th percentile per-packet one-way delay: 202.848 ms
Loss rate: 3.21%
-- Flow 3:
Average throughput: 563.91 Mbit/s
95th percentile per-packet one-way delay: 142.158 ms
Loss rate: 3.50%

Run 2: Report of FillP — Data Link

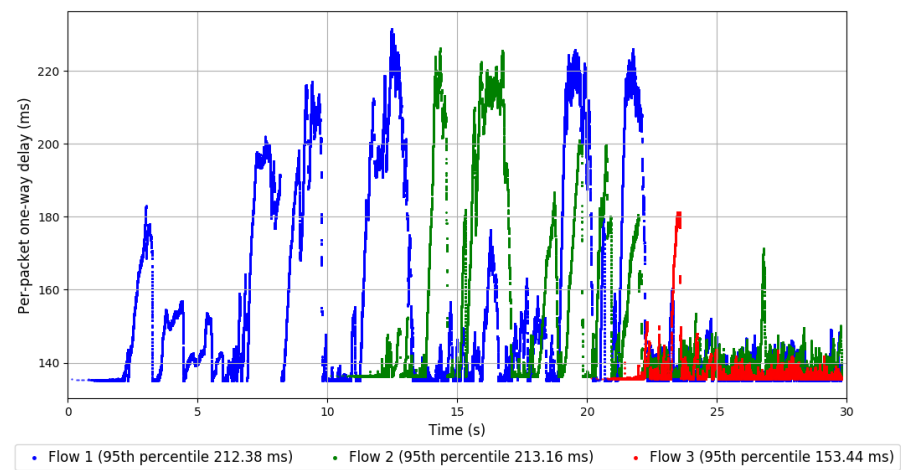
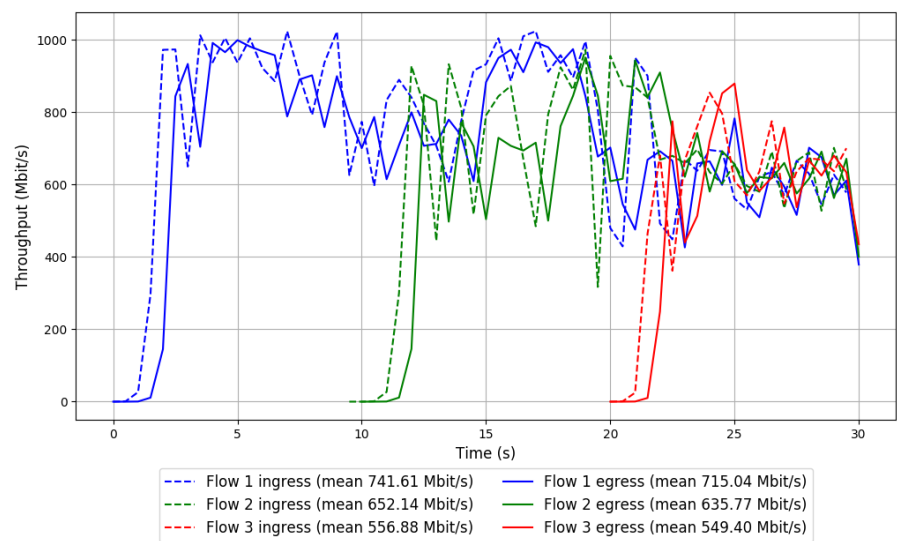


Run 3: Statistics of FillP

Start at: 2018-09-07 23:19:16
End at: 2018-09-07 23:19:46
Local clock offset: 0.138 ms
Remote clock offset: -0.403 ms

Below is generated by plot.py at 2018-09-08 01:44:47
Datalink statistics
-- Total of 3 flows:
Average throughput: 1315.48 Mbit/s
95th percentile per-packet one-way delay: 211.145 ms
Loss rate: 4.21%
-- Flow 1:
Average throughput: 715.04 Mbit/s
95th percentile per-packet one-way delay: 212.375 ms
Loss rate: 4.46%
-- Flow 2:
Average throughput: 635.77 Mbit/s
95th percentile per-packet one-way delay: 213.159 ms
Loss rate: 3.85%
-- Flow 3:
Average throughput: 549.40 Mbit/s
95th percentile per-packet one-way delay: 153.444 ms
Loss rate: 4.05%

Run 3: Report of FillP — Data Link

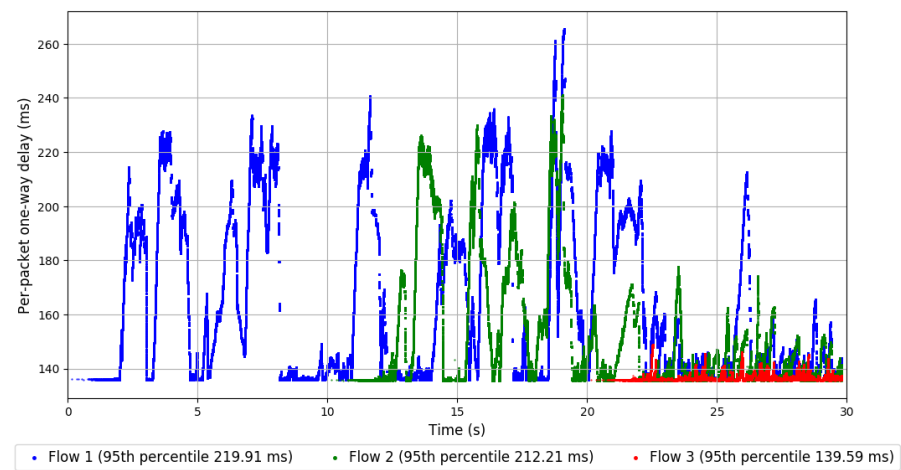
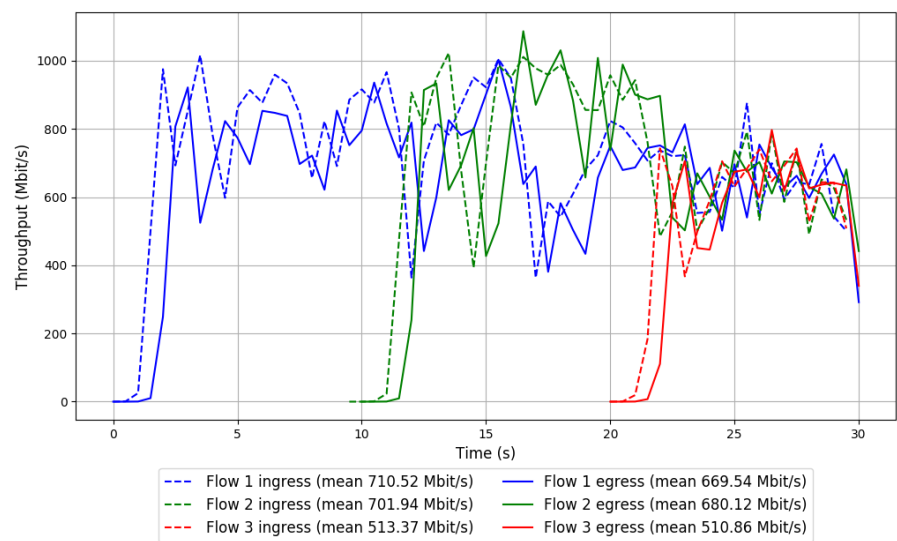


Run 4: Statistics of FillP

Start at: 2018-09-07 23:53:04
End at: 2018-09-07 23:53:34
Local clock offset: 0.411 ms
Remote clock offset: -0.814 ms

Below is generated by plot.py at 2018-09-08 01:44:59
Datalink statistics
-- Total of 3 flows:
Average throughput: 1286.54 Mbit/s
95th percentile per-packet one-way delay: 216.910 ms
Loss rate: 5.44%
-- Flow 1:
Average throughput: 669.54 Mbit/s
95th percentile per-packet one-way delay: 219.910 ms
Loss rate: 6.65%
-- Flow 2:
Average throughput: 680.12 Mbit/s
95th percentile per-packet one-way delay: 212.210 ms
Loss rate: 4.41%
-- Flow 3:
Average throughput: 510.86 Mbit/s
95th percentile per-packet one-way delay: 139.593 ms
Loss rate: 3.23%

Run 4: Report of FillP — Data Link

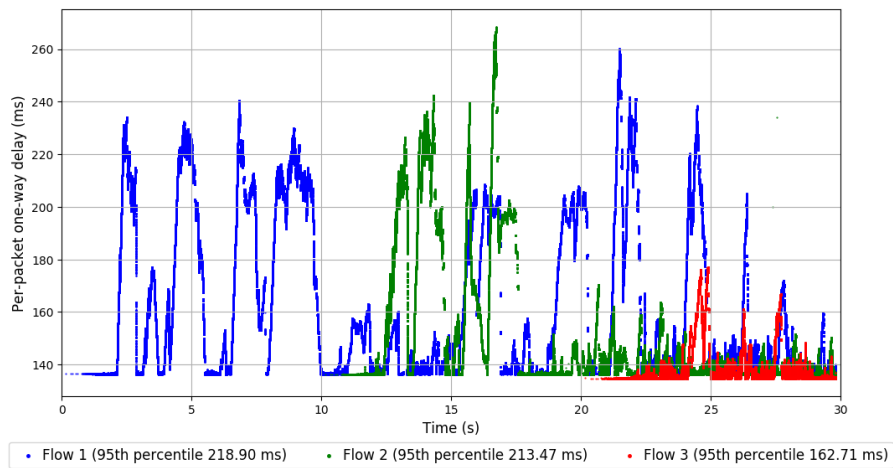
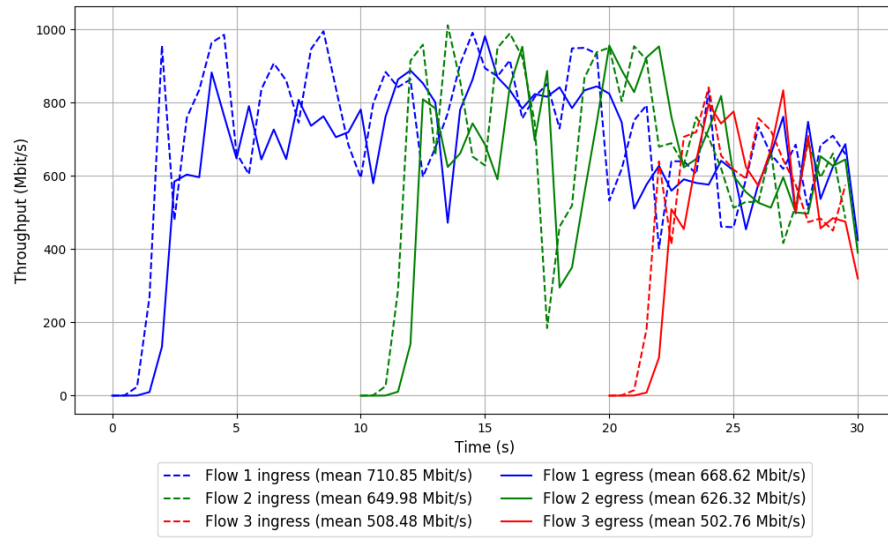


Run 5: Statistics of FillP

Start at: 2018-09-08 00:27:13
End at: 2018-09-08 00:27:44
Local clock offset: 0.565 ms
Remote clock offset: -0.502 ms

Below is generated by plot.py at 2018-09-08 01:45:05
Datalink statistics
-- Total of 3 flows:
Average throughput: 1247.03 Mbit/s
95th percentile per-packet one-way delay: 215.410 ms
Loss rate: 5.81%
-- Flow 1:
Average throughput: 668.62 Mbit/s
95th percentile per-packet one-way delay: 218.899 ms
Loss rate: 6.80%
-- Flow 2:
Average throughput: 626.32 Mbit/s
95th percentile per-packet one-way delay: 213.470 ms
Loss rate: 4.96%
-- Flow 3:
Average throughput: 502.76 Mbit/s
95th percentile per-packet one-way delay: 162.709 ms
Loss rate: 3.82%

Run 5: Report of FillP — Data Link

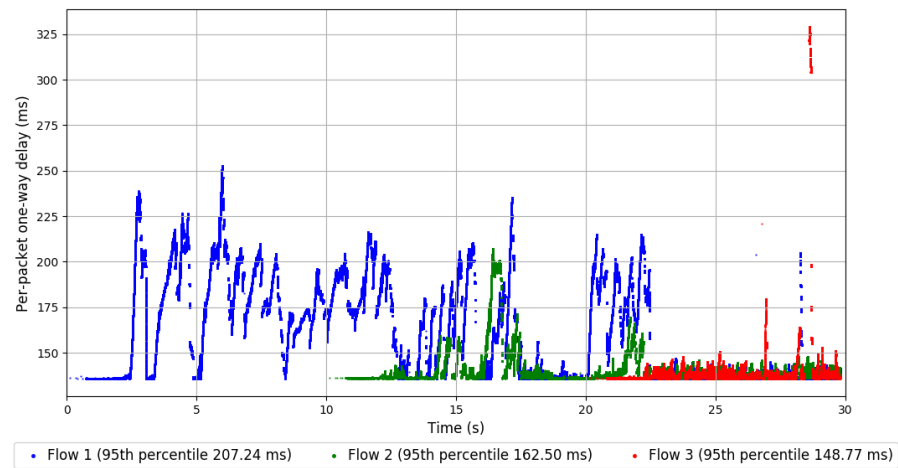
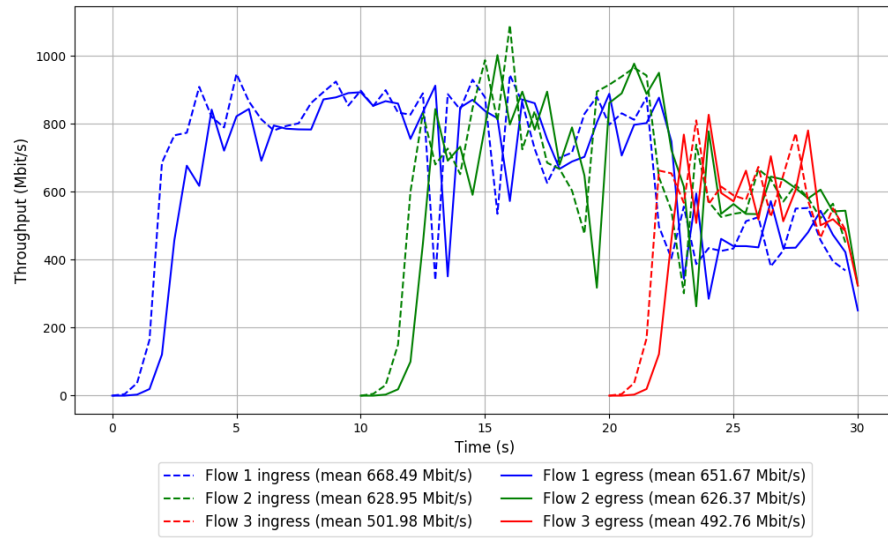


Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 22:04:33
End at: 2018-09-07 22:05:03
Local clock offset: -0.69 ms
Remote clock offset: -0.232 ms

Below is generated by plot.py at 2018-09-08 01:45:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 1226.75 Mbit/s
95th percentile per-packet one-way delay: 202.359 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 651.67 Mbit/s
95th percentile per-packet one-way delay: 207.242 ms
Loss rate: 3.36%
-- Flow 2:
Average throughput: 626.37 Mbit/s
95th percentile per-packet one-way delay: 162.504 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 492.76 Mbit/s
95th percentile per-packet one-way delay: 148.767 ms
Loss rate: 4.62%

Run 1: Report of FillP-Sheep — Data Link

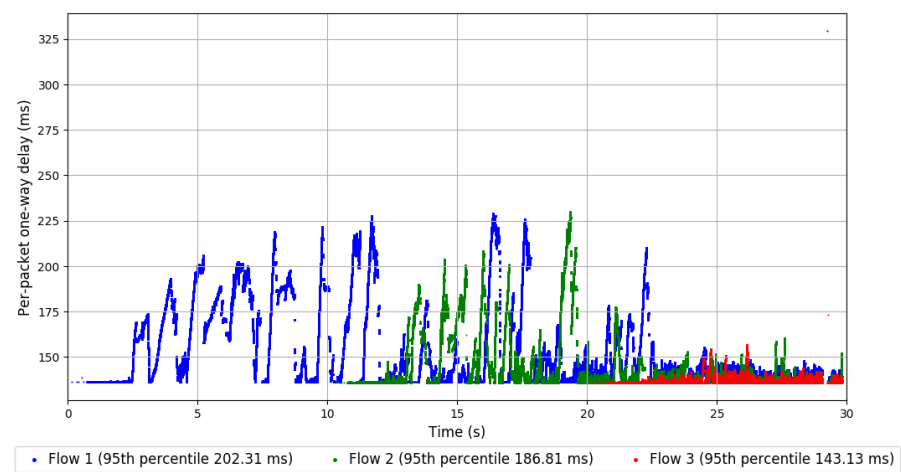
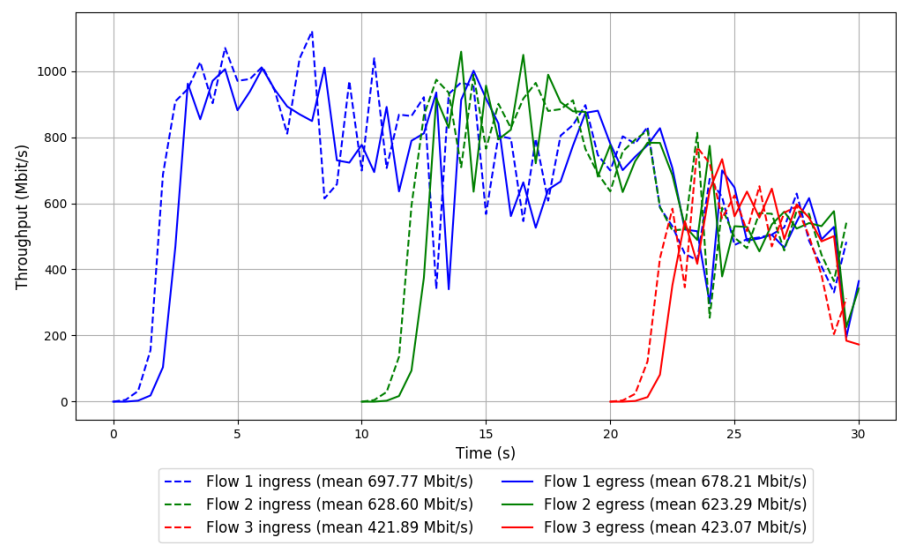


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 22:38:24
End at: 2018-09-07 22:38:54
Local clock offset: 0.179 ms
Remote clock offset: -0.681 ms

Below is generated by plot.py at 2018-09-08 01:46:39
Datalink statistics
-- Total of 3 flows:
Average throughput: 1228.89 Mbit/s
95th percentile per-packet one-way delay: 198.106 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 678.21 Mbit/s
95th percentile per-packet one-way delay: 202.314 ms
Loss rate: 3.59%
-- Flow 2:
Average throughput: 623.29 Mbit/s
95th percentile per-packet one-way delay: 186.812 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 423.07 Mbit/s
95th percentile per-packet one-way delay: 143.135 ms
Loss rate: 2.50%

Run 2: Report of FillP-Sheep — Data Link

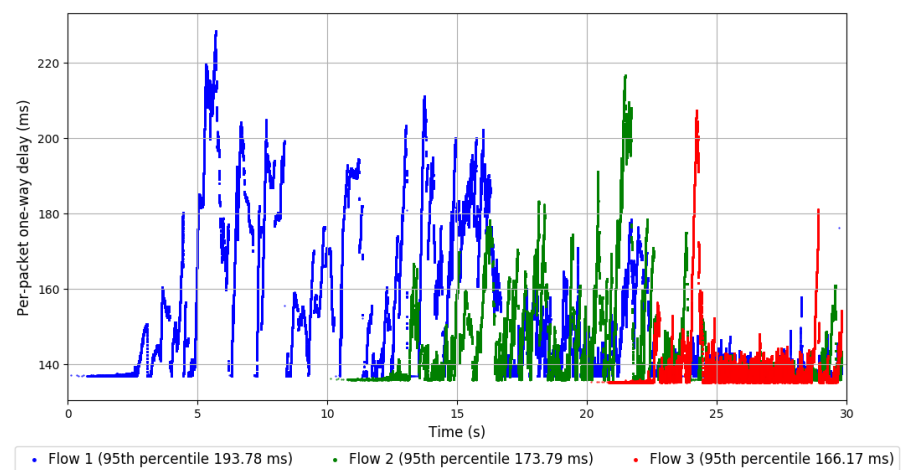
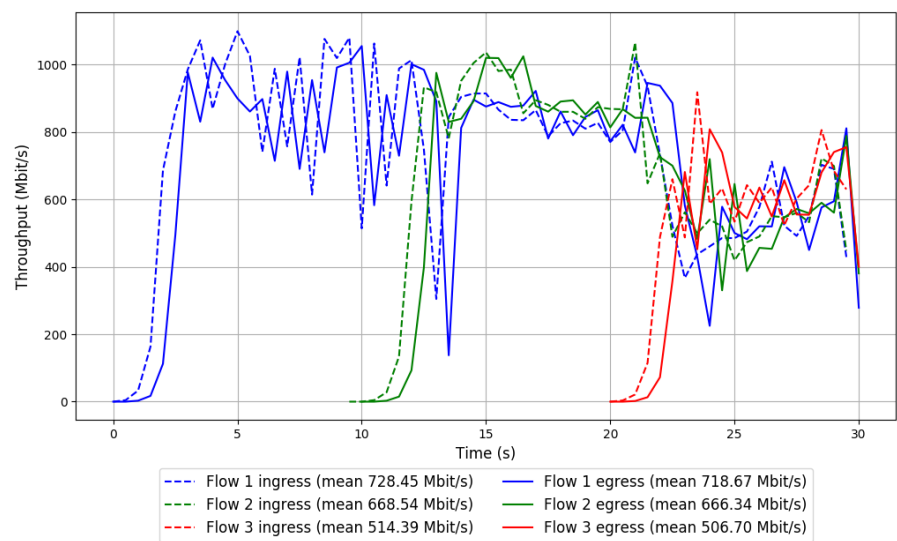


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 23:12:37
End at: 2018-09-07 23:13:07
Local clock offset: 0.303 ms
Remote clock offset: -0.735 ms

Below is generated by plot.py at 2018-09-08 01:49:36
Datalink statistics
-- Total of 3 flows:
Average throughput: 1325.08 Mbit/s
95th percentile per-packet one-way delay: 191.113 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 718.67 Mbit/s
95th percentile per-packet one-way delay: 193.779 ms
Loss rate: 2.24%
-- Flow 2:
Average throughput: 666.34 Mbit/s
95th percentile per-packet one-way delay: 173.790 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 506.70 Mbit/s
95th percentile per-packet one-way delay: 166.167 ms
Loss rate: 4.20%

Run 3: Report of FillP-Sheep — Data Link

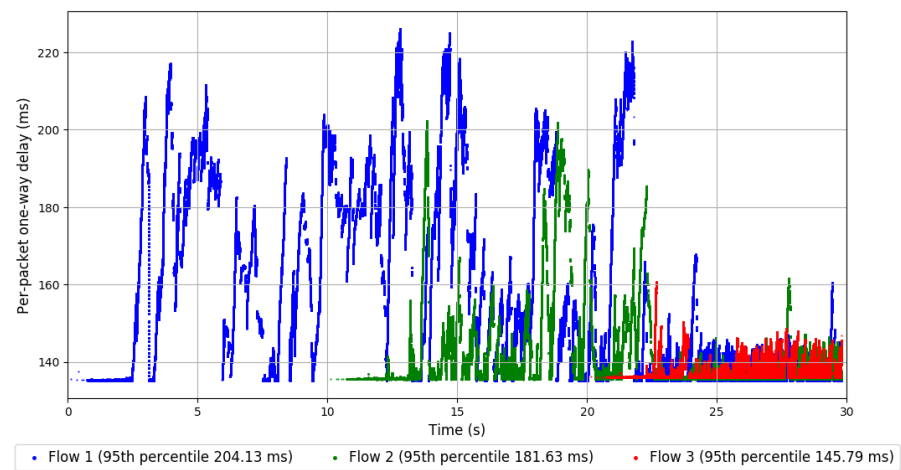
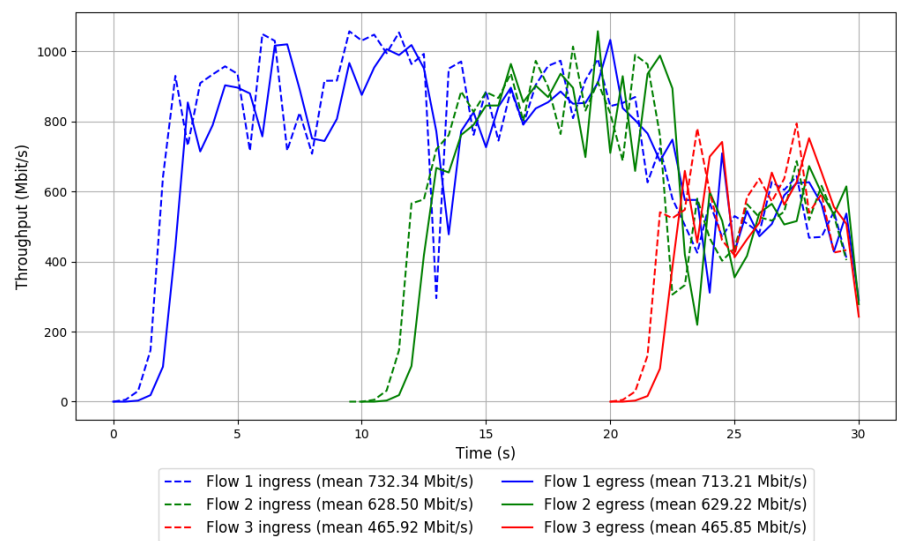


Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 23:46:30
End at: 2018-09-07 23:47:01
Local clock offset: 0.359 ms
Remote clock offset: -0.449 ms

Below is generated by plot.py at 2018-09-08 02:02:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 1281.97 Mbit/s
95th percentile per-packet one-way delay: 197.882 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 713.21 Mbit/s
95th percentile per-packet one-way delay: 204.126 ms
Loss rate: 3.47%
-- Flow 2:
Average throughput: 629.22 Mbit/s
95th percentile per-packet one-way delay: 181.630 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 465.85 Mbit/s
95th percentile per-packet one-way delay: 145.789 ms
Loss rate: 2.76%

Run 4: Report of FillP-Sheep — Data Link

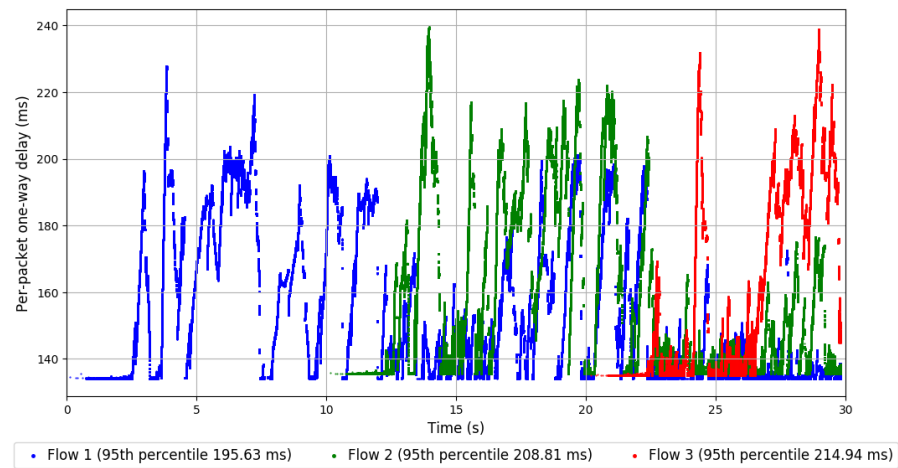
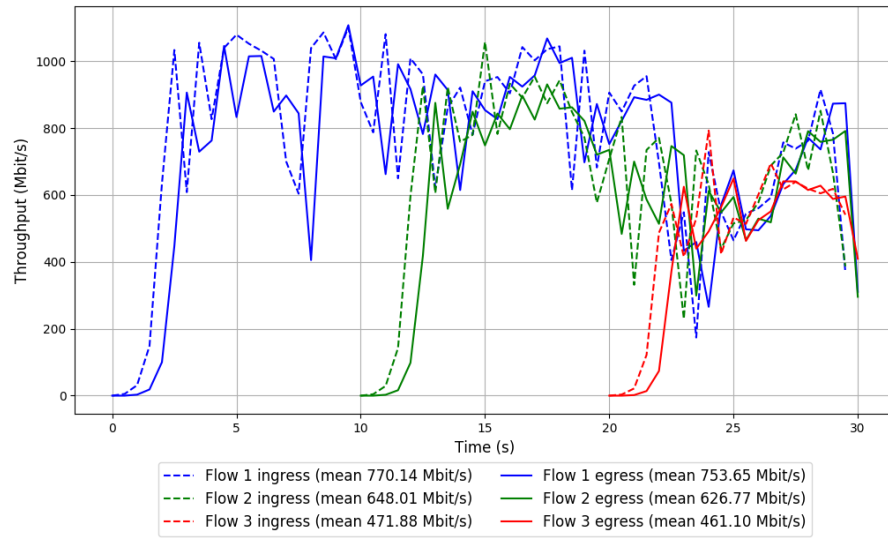


Run 5: Statistics of FillP-Sheep

Start at: 2018-09-08 00:20:36
End at: 2018-09-08 00:21:06
Local clock offset: 0.388 ms
Remote clock offset: -0.136 ms

```
# Below is generated by plot.py at 2018-09-08 02:08:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1318.53 Mbit/s
95th percentile per-packet one-way delay: 202.347 ms
Loss rate: 3.75%
-- Flow 1:
Average throughput: 753.65 Mbit/s
95th percentile per-packet one-way delay: 195.632 ms
Loss rate: 3.02%
-- Flow 2:
Average throughput: 626.77 Mbit/s
95th percentile per-packet one-way delay: 208.815 ms
Loss rate: 4.62%
-- Flow 3:
Average throughput: 461.10 Mbit/s
95th percentile per-packet one-way delay: 214.942 ms
Loss rate: 4.99%
```

Run 5: Report of FillP-Sheep — Data Link

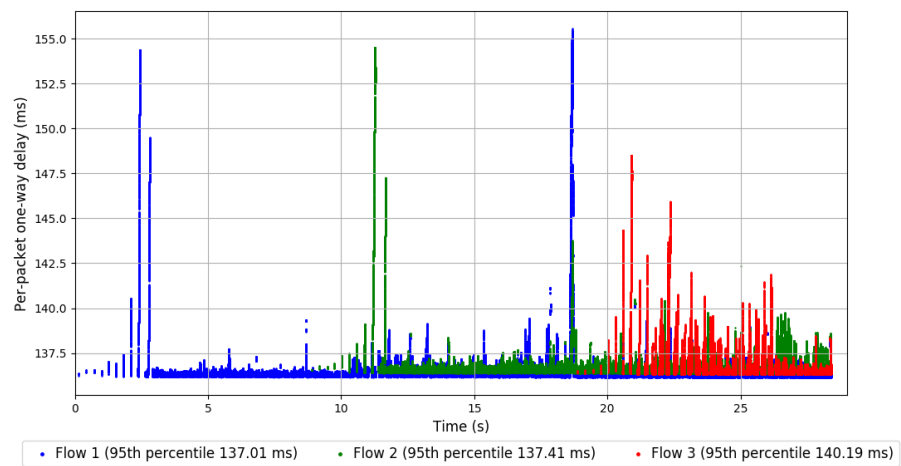
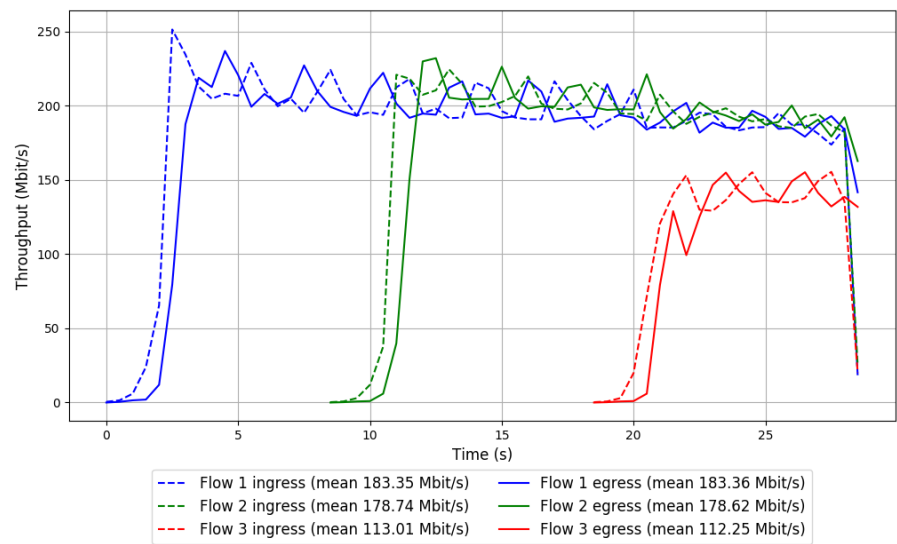


Run 1: Statistics of Indigo

Start at: 2018-09-07 22:09:13
End at: 2018-09-07 22:09:43
Local clock offset: -0.732 ms
Remote clock offset: -0.595 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 344.51 Mbit/s
95th percentile per-packet one-way delay: 137.575 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 183.36 Mbit/s
95th percentile per-packet one-way delay: 137.008 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 178.62 Mbit/s
95th percentile per-packet one-way delay: 137.411 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 112.25 Mbit/s
95th percentile per-packet one-way delay: 140.192 ms
Loss rate: 3.51%

Run 1: Report of Indigo — Data Link

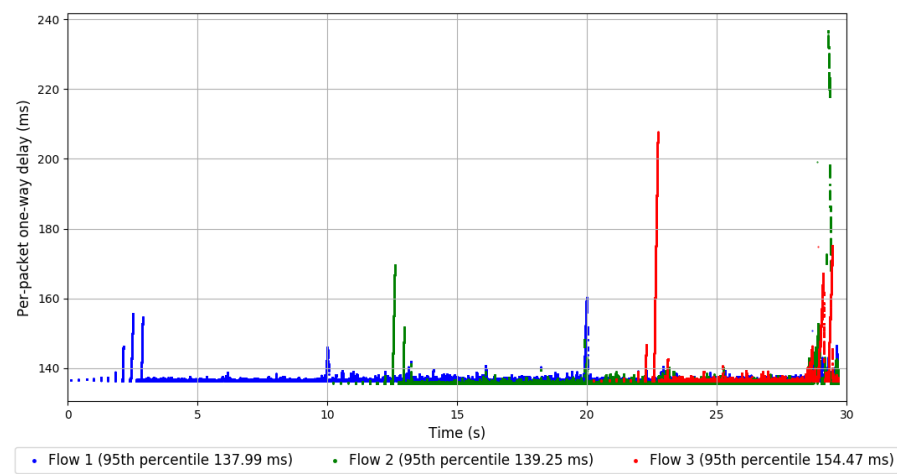
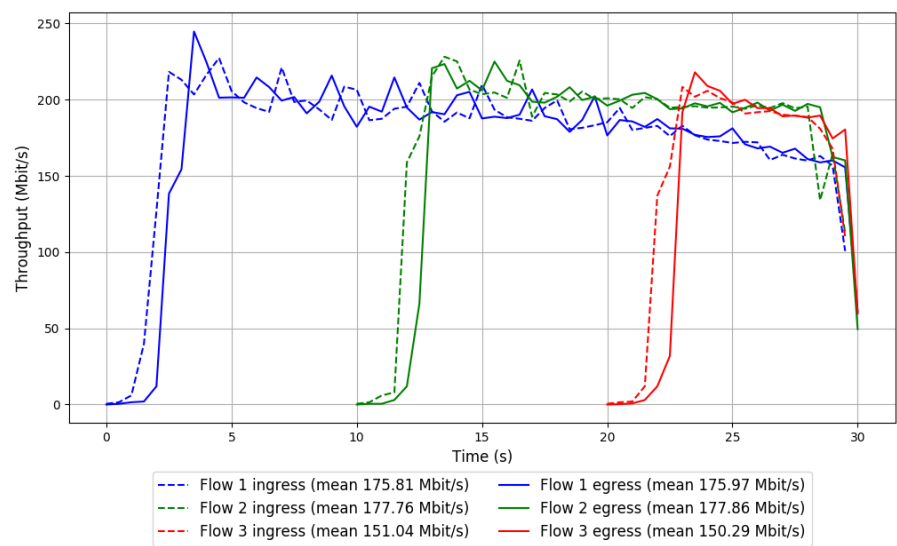


Run 2: Statistics of Indigo

Start at: 2018-09-07 22:43:07
End at: 2018-09-07 22:43:37
Local clock offset: 0.129 ms
Remote clock offset: -0.365 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 341.00 Mbit/s
95th percentile per-packet one-way delay: 139.328 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 175.97 Mbit/s
95th percentile per-packet one-way delay: 137.991 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 177.86 Mbit/s
95th percentile per-packet one-way delay: 139.250 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 150.29 Mbit/s
95th percentile per-packet one-way delay: 154.468 ms
Loss rate: 3.30%

Run 2: Report of Indigo — Data Link

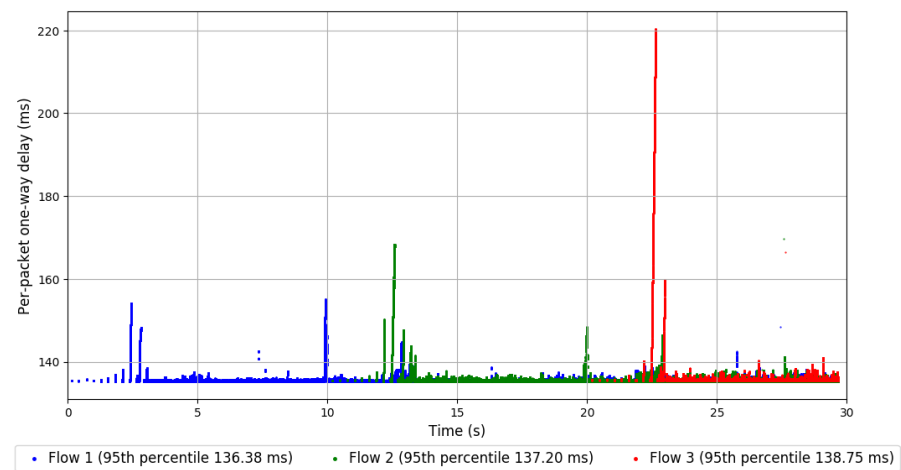
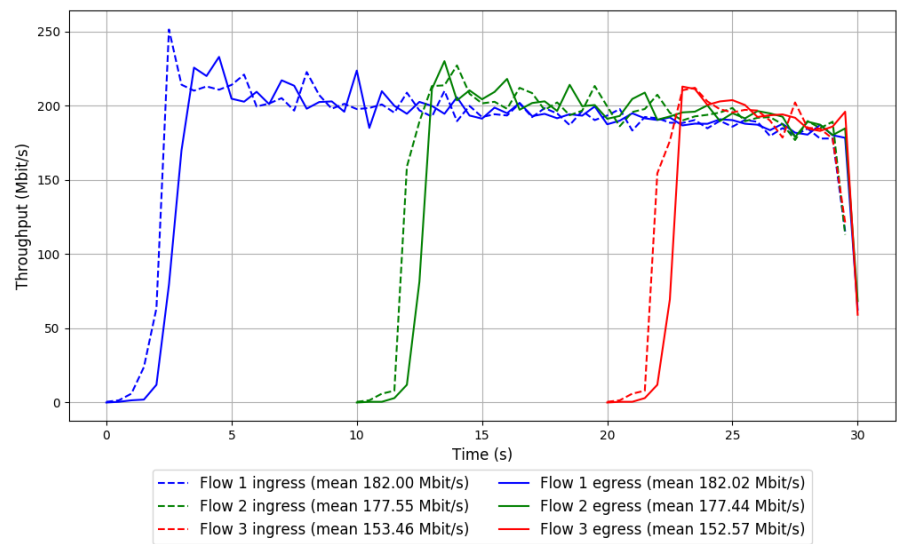


Run 3: Statistics of Indigo

Start at: 2018-09-07 23:17:18
End at: 2018-09-07 23:17:48
Local clock offset: 0.191 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 348.06 Mbit/s
95th percentile per-packet one-way delay: 136.814 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 182.02 Mbit/s
95th percentile per-packet one-way delay: 136.382 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 177.44 Mbit/s
95th percentile per-packet one-way delay: 137.200 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 152.57 Mbit/s
95th percentile per-packet one-way delay: 138.755 ms
Loss rate: 3.36%

Run 3: Report of Indigo — Data Link

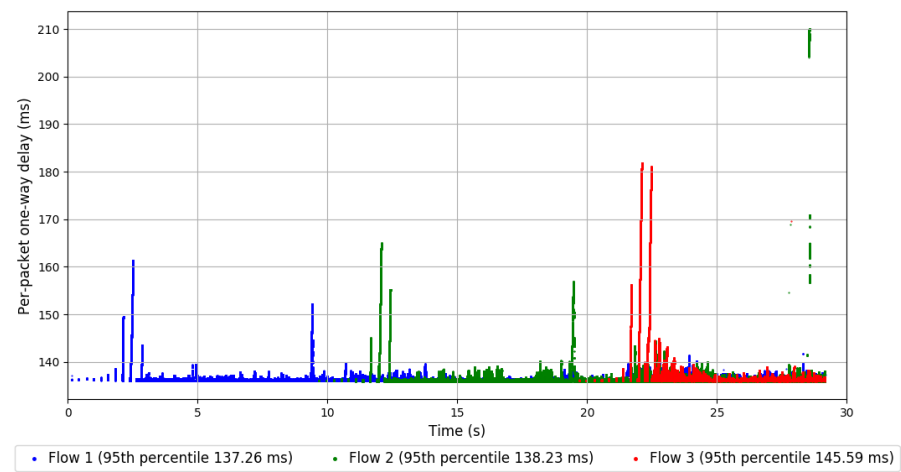
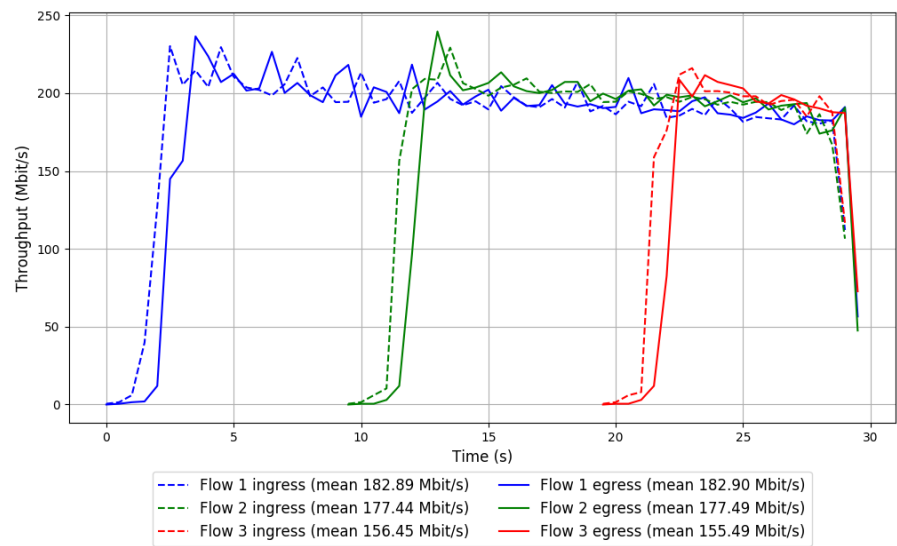


Run 4: Statistics of Indigo

Start at: 2018-09-07 23:51:07
End at: 2018-09-07 23:51:37
Local clock offset: 0.381 ms
Remote clock offset: -0.784 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 352.79 Mbit/s
95th percentile per-packet one-way delay: 138.111 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 182.90 Mbit/s
95th percentile per-packet one-way delay: 137.261 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 177.49 Mbit/s
95th percentile per-packet one-way delay: 138.230 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 155.49 Mbit/s
95th percentile per-packet one-way delay: 145.591 ms
Loss rate: 3.40%

Run 4: Report of Indigo — Data Link

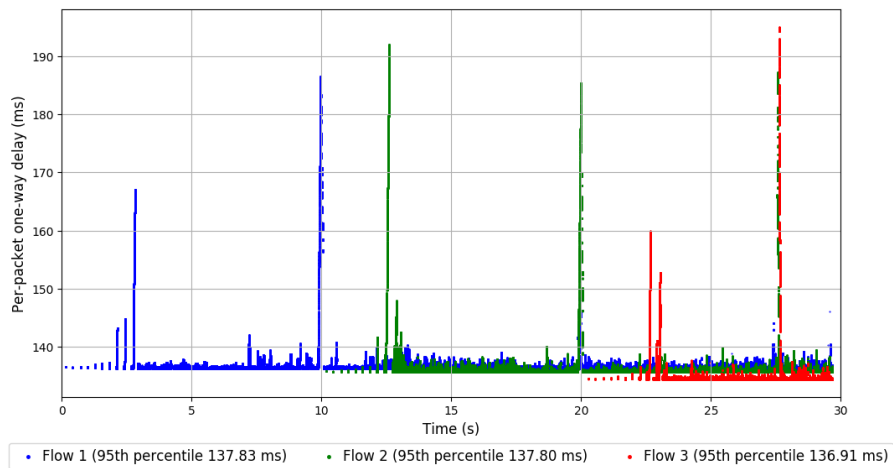
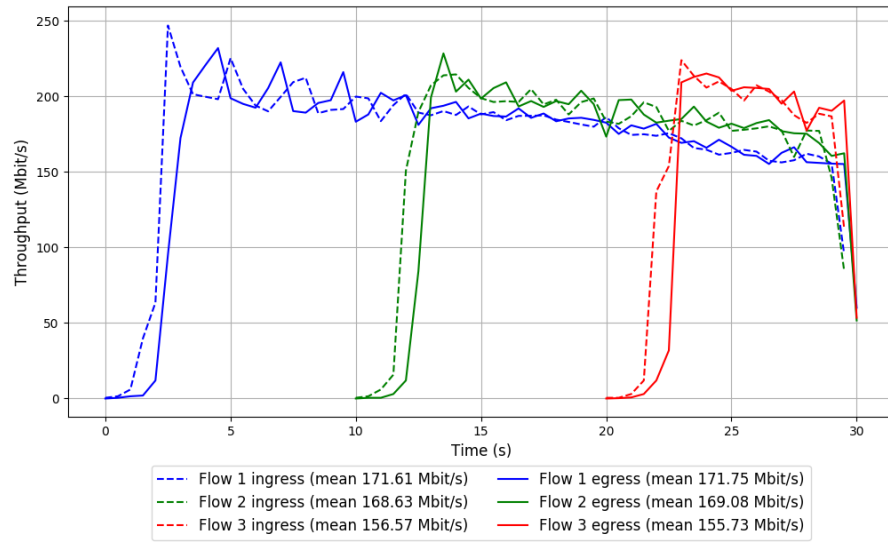


Run 5: Statistics of Indigo

Start at: 2018-09-08 00:25:18
End at: 2018-09-08 00:25:48
Local clock offset: 0.753 ms
Remote clock offset: -0.505 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 332.95 Mbit/s
95th percentile per-packet one-way delay: 137.784 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 171.75 Mbit/s
95th percentile per-packet one-way delay: 137.830 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 169.08 Mbit/s
95th percentile per-packet one-way delay: 137.796 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 155.73 Mbit/s
95th percentile per-packet one-way delay: 136.905 ms
Loss rate: 3.33%

Run 5: Report of Indigo — Data Link

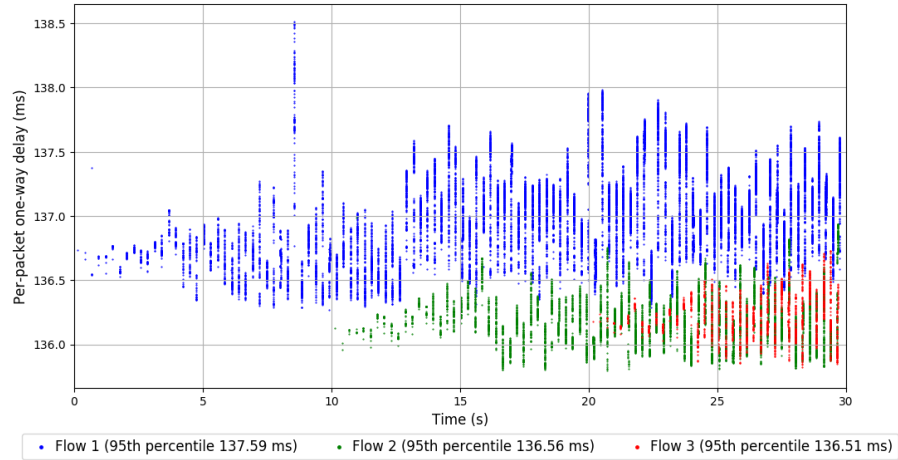
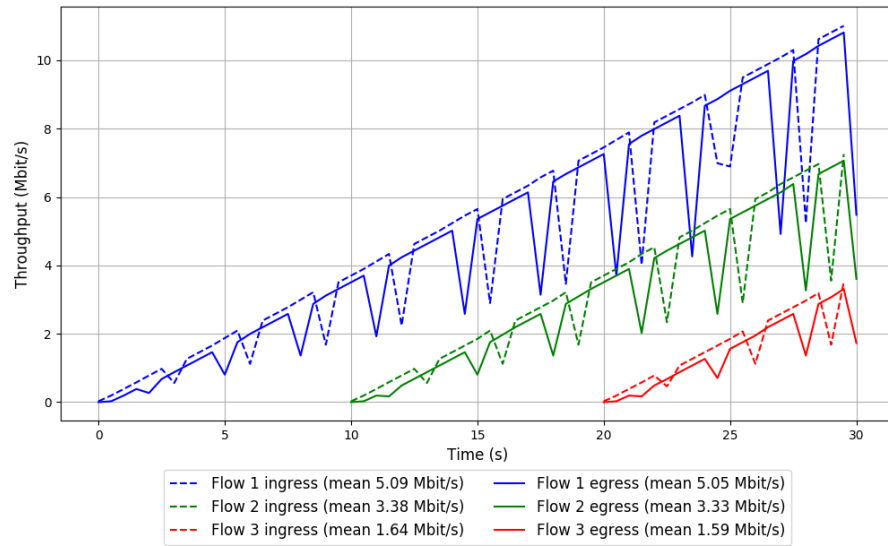


Run 1: Statistics of LEDBAT

Start at: 2018-09-07 21:51:37
End at: 2018-09-07 21:52:07
Local clock offset: -0.433 ms
Remote clock offset: -0.248 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 137.513 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 137.587 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 136.565 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 136.509 ms
Loss rate: 5.55%

Run 1: Report of LEDBAT — Data Link

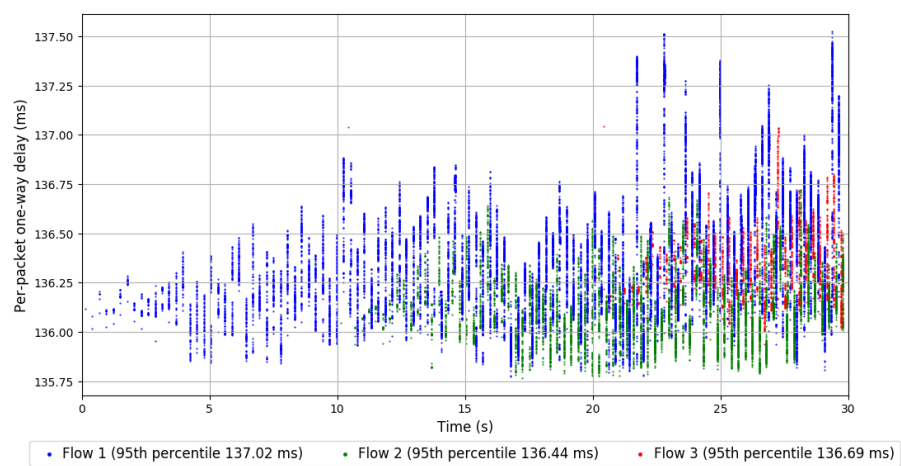
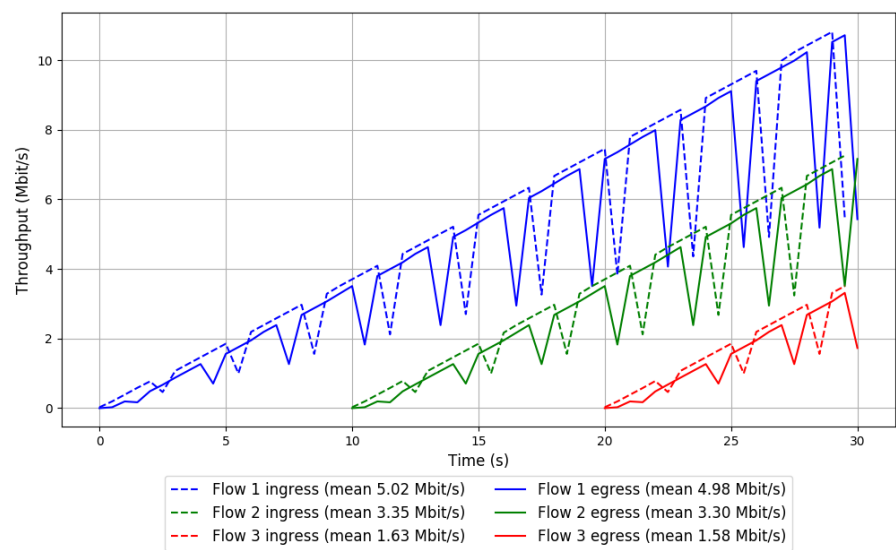


Run 2: Statistics of LEDBAT

Start at: 2018-09-07 22:24:57
End at: 2018-09-07 22:25:27
Local clock offset: -0.181 ms
Remote clock offset: -0.641 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 136.893 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 137.016 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 136.440 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 136.687 ms
Loss rate: 5.55%

Run 2: Report of LEDBAT — Data Link

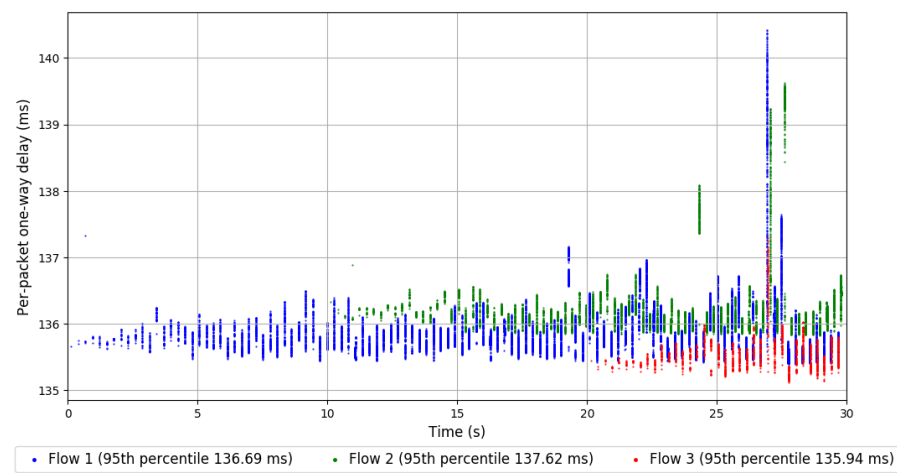
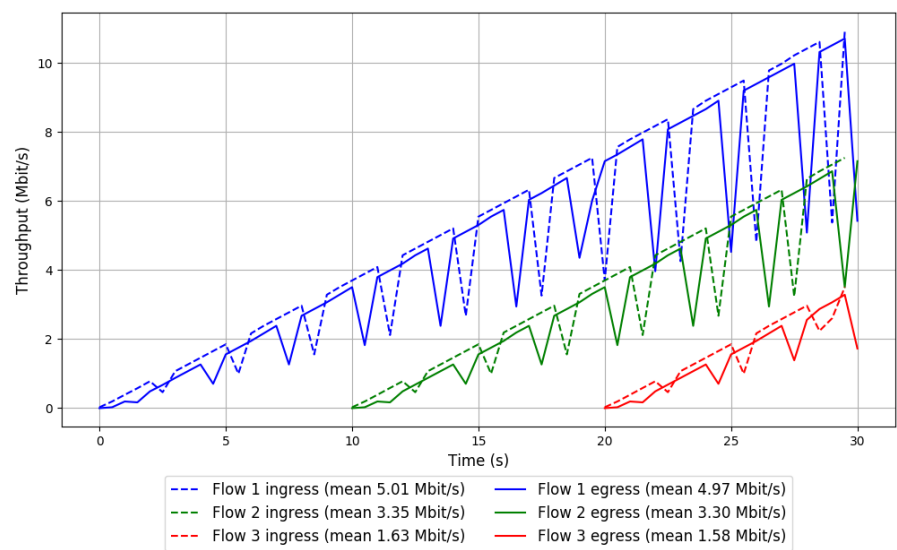


Run 3: Statistics of LEDBAT

Start at: 2018-09-07 22:59:13
End at: 2018-09-07 22:59:43
Local clock offset: 0.203 ms
Remote clock offset: -0.027 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 136.708 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 136.694 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 137.621 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 135.942 ms
Loss rate: 5.56%

Run 3: Report of LEDBAT — Data Link

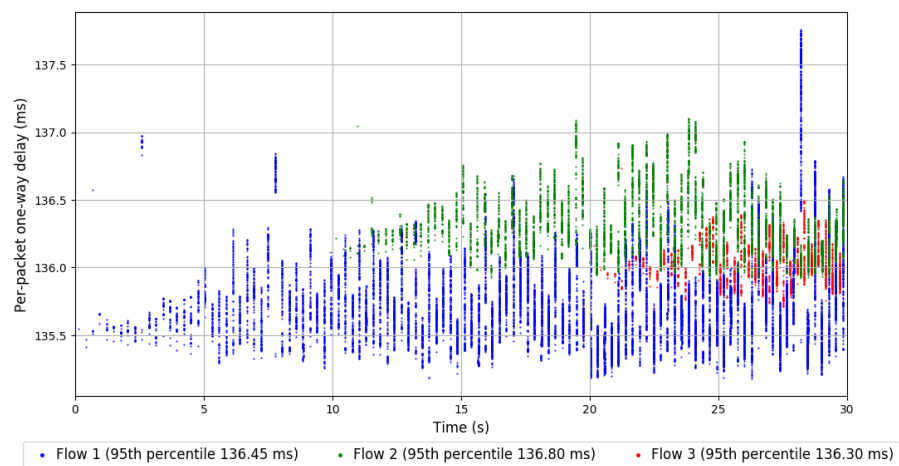
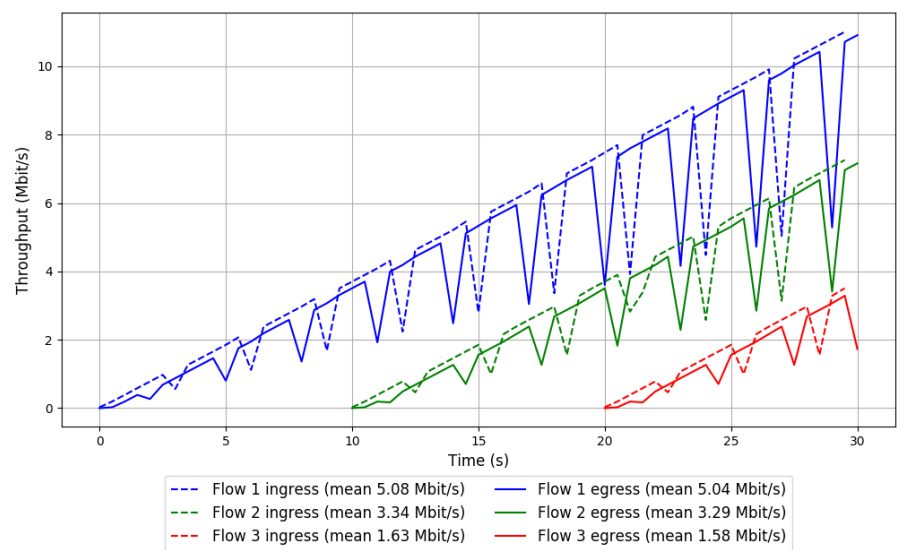


Run 4: Statistics of LEDBAT

Start at: 2018-09-07 23:33:24
End at: 2018-09-07 23:33:54
Local clock offset: 0.337 ms
Remote clock offset: -0.405 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 136.625 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 5.04 Mbit/s
95th percentile per-packet one-way delay: 136.447 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 136.804 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 136.304 ms
Loss rate: 5.56%

Run 4: Report of LEDBAT — Data Link

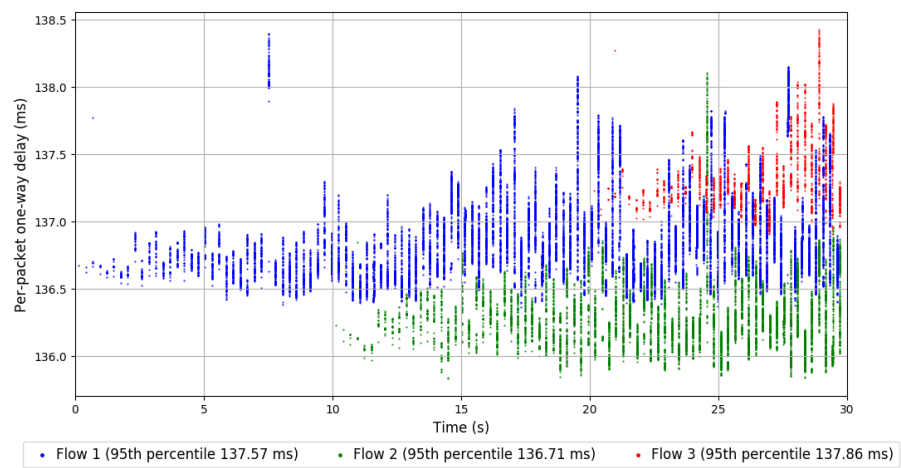
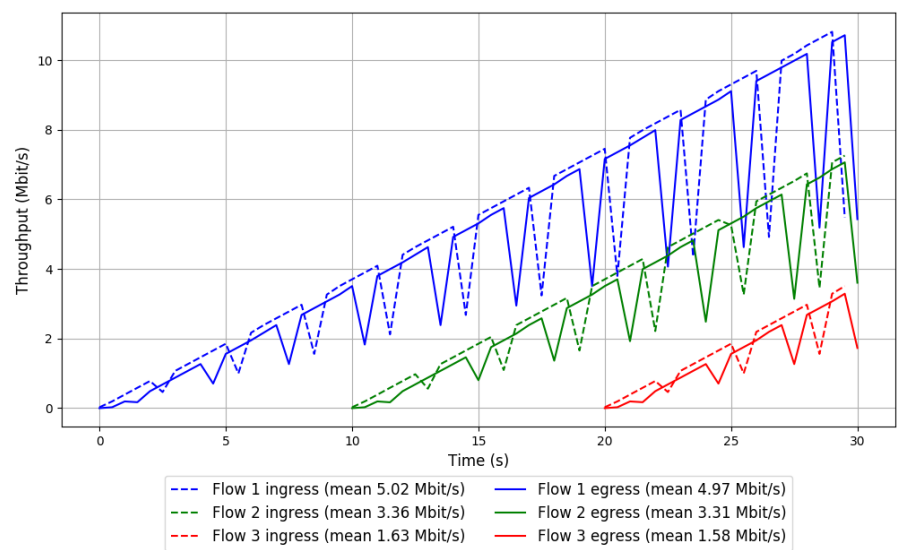


Run 5: Statistics of LEDBAT

Start at: 2018-09-08 00:07:17
End at: 2018-09-08 00:07:47
Local clock offset: 0.804 ms
Remote clock offset: -0.846 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 137.545 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 137.568 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 136.713 ms
Loss rate: 2.74%
-- Flow 3:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 137.862 ms
Loss rate: 5.56%

Run 5: Report of LEDBAT — Data Link

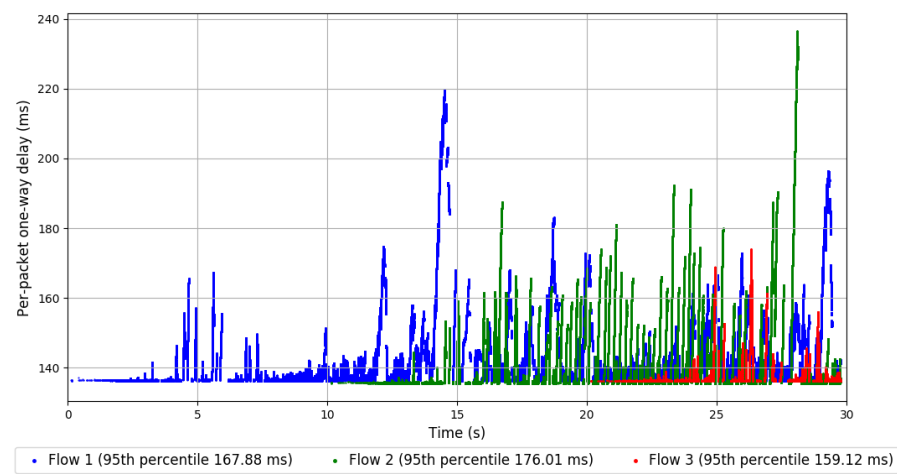
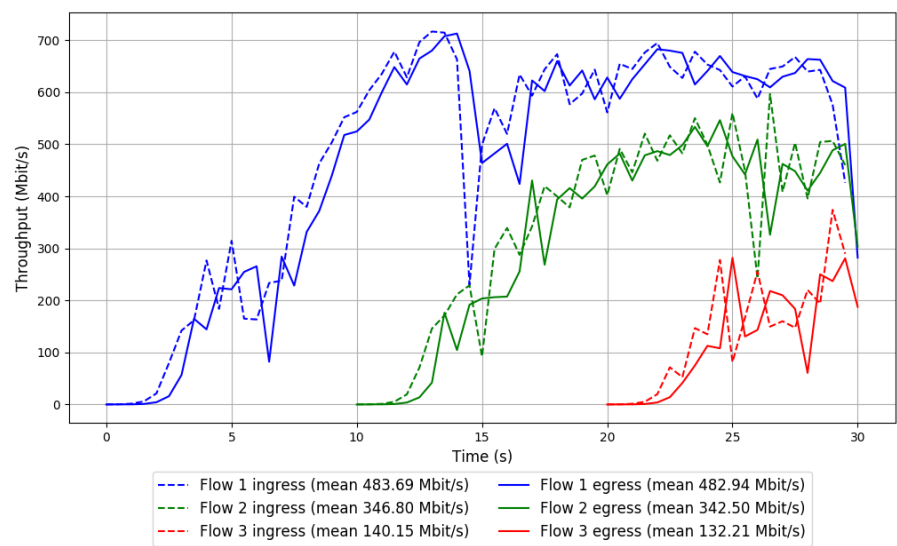


Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 22:01:13
End at: 2018-09-07 22:01:43
Local clock offset: -0.662 ms
Remote clock offset: -0.277 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 752.61 Mbit/s
95th percentile per-packet one-way delay: 169.700 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 482.94 Mbit/s
95th percentile per-packet one-way delay: 167.881 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 342.50 Mbit/s
95th percentile per-packet one-way delay: 176.011 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 132.21 Mbit/s
95th percentile per-packet one-way delay: 159.116 ms
Loss rate: 7.59%

Run 1: Report of Indigo-Muses — Data Link

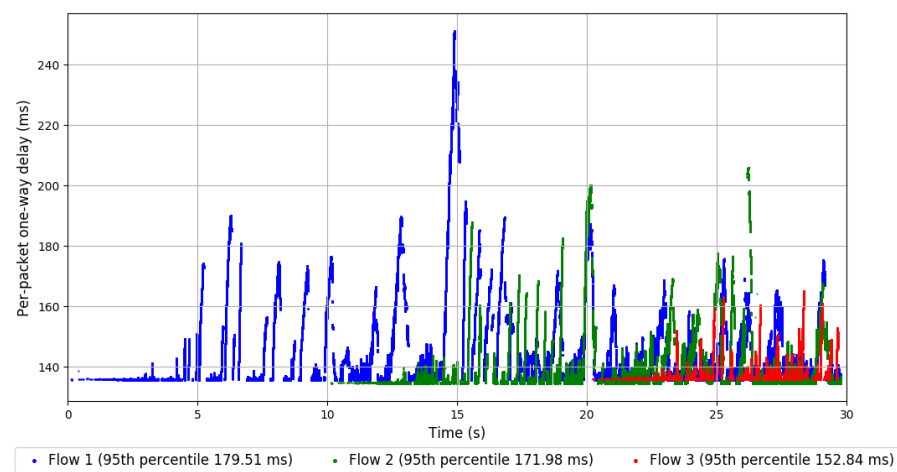
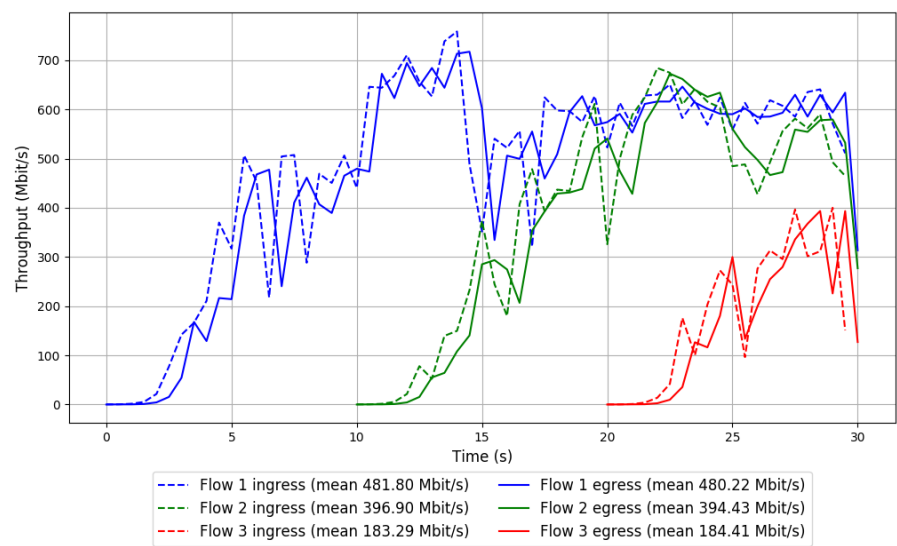


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 22:35:01
End at: 2018-09-07 22:35:31
Local clock offset: 0.004 ms
Remote clock offset: -0.356 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 800.13 Mbit/s
95th percentile per-packet one-way delay: 176.072 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 480.22 Mbit/s
95th percentile per-packet one-way delay: 179.513 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 394.43 Mbit/s
95th percentile per-packet one-way delay: 171.982 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 184.41 Mbit/s
95th percentile per-packet one-way delay: 152.840 ms
Loss rate: 3.23%

Run 2: Report of Indigo-Muses — Data Link

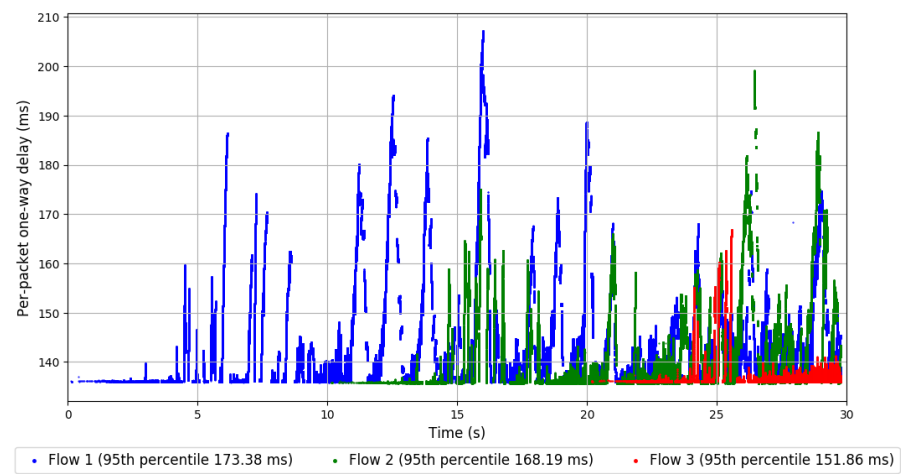
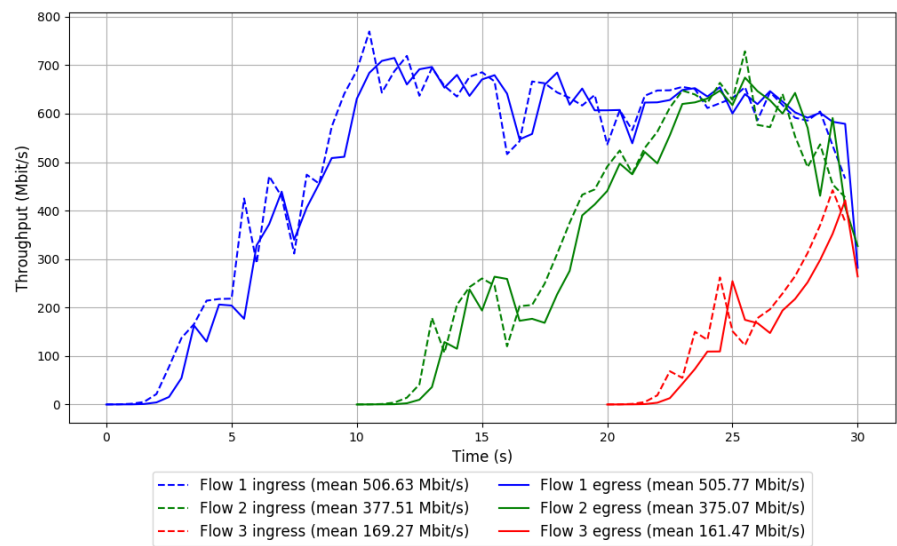


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 23:09:14
End at: 2018-09-07 23:09:44
Local clock offset: 0.241 ms
Remote clock offset: -0.364 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 806.26 Mbit/s
95th percentile per-packet one-way delay: 171.606 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 505.77 Mbit/s
95th percentile per-packet one-way delay: 173.379 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 375.07 Mbit/s
95th percentile per-packet one-way delay: 168.193 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 161.47 Mbit/s
95th percentile per-packet one-way delay: 151.864 ms
Loss rate: 7.25%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 23:43:10

End at: 2018-09-07 23:43:40

Local clock offset: 0.325 ms

Remote clock offset: -0.81 ms

Below is generated by plot.py at 2018-09-08 02:08:57

Datalink statistics

-- Total of 3 flows:

Average throughput: 751.58 Mbit/s

95th percentile per-packet one-way delay: 175.769 ms

Loss rate: 2.26%

-- Flow 1:

Average throughput: 427.61 Mbit/s

95th percentile per-packet one-way delay: 177.659 ms

Loss rate: 1.70%

-- Flow 2:

Average throughput: 397.66 Mbit/s

95th percentile per-packet one-way delay: 169.408 ms

Loss rate: 1.96%

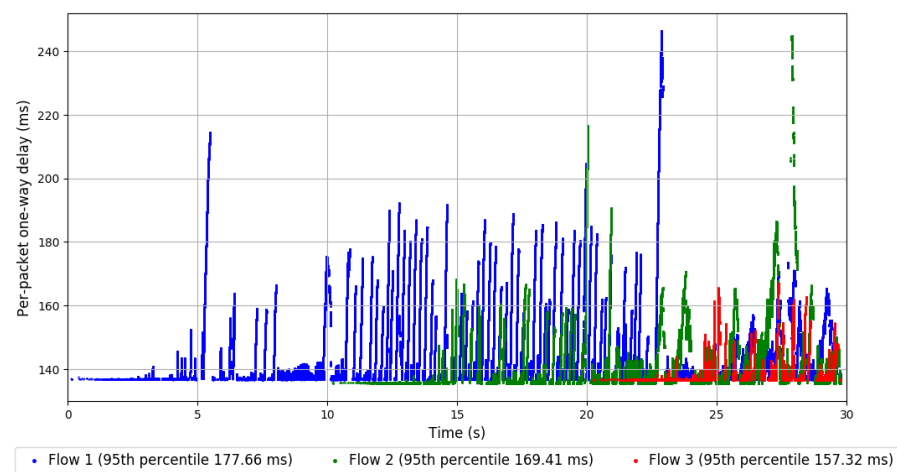
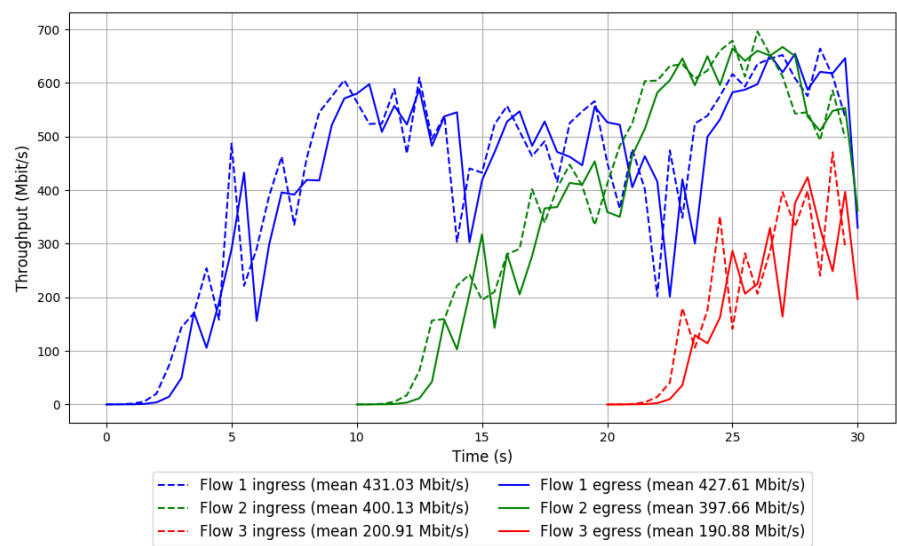
-- Flow 3:

Average throughput: 190.88 Mbit/s

95th percentile per-packet one-way delay: 157.318 ms

Loss rate: 7.19%

Run 4: Report of Indigo-Muses — Data Link

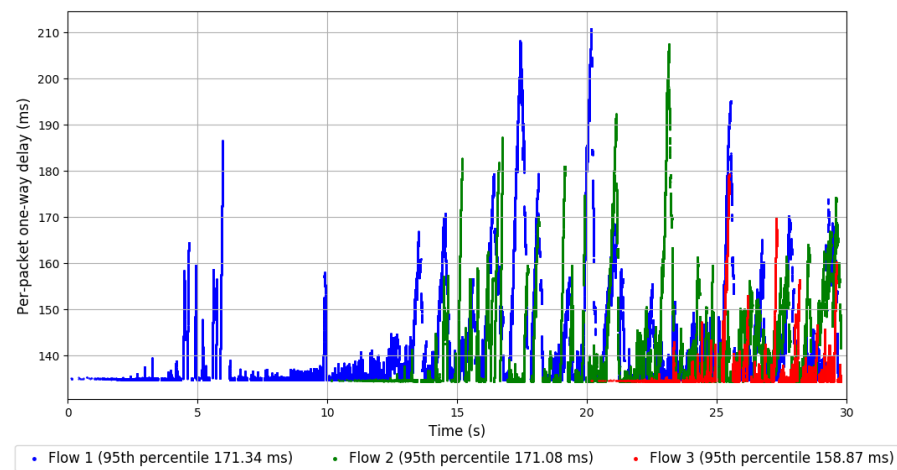
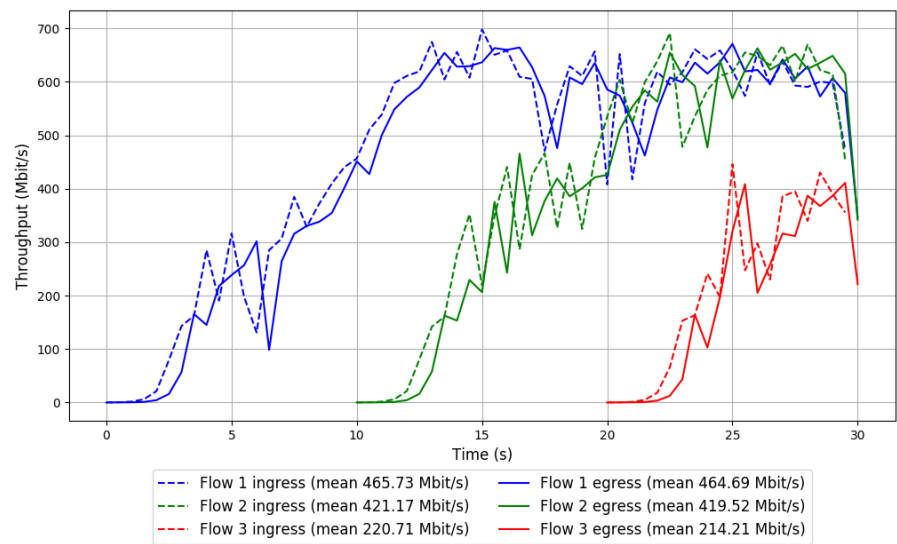


Run 5: Statistics of Indigo-Muses

Start at: 2018-09-08 00:17:12
End at: 2018-09-08 00:17:42
Local clock offset: 0.322 ms
Remote clock offset: -0.866 ms

Below is generated by plot.py at 2018-09-08 02:08:57
Datalink statistics
-- Total of 3 flows:
Average throughput: 812.10 Mbit/s
95th percentile per-packet one-way delay: 170.158 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 464.69 Mbit/s
95th percentile per-packet one-way delay: 171.342 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 419.52 Mbit/s
95th percentile per-packet one-way delay: 171.084 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 214.21 Mbit/s
95th percentile per-packet one-way delay: 158.871 ms
Loss rate: 5.60%

Run 5: Report of Indigo-Muses — Data Link

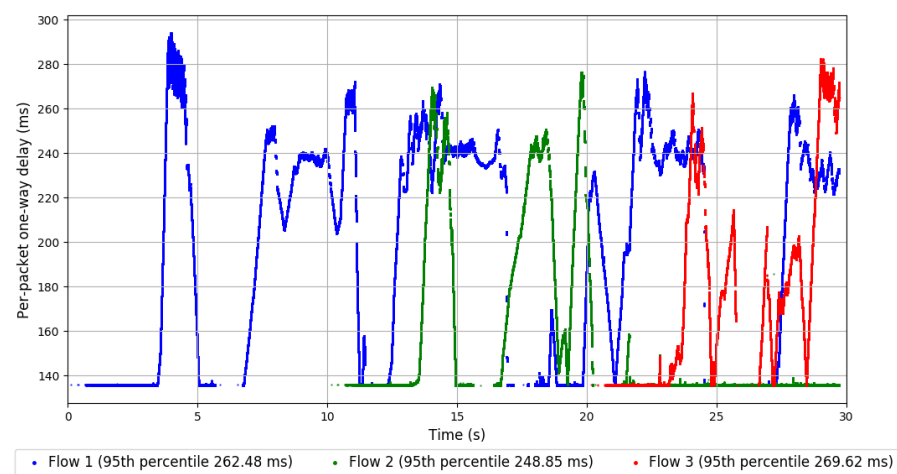
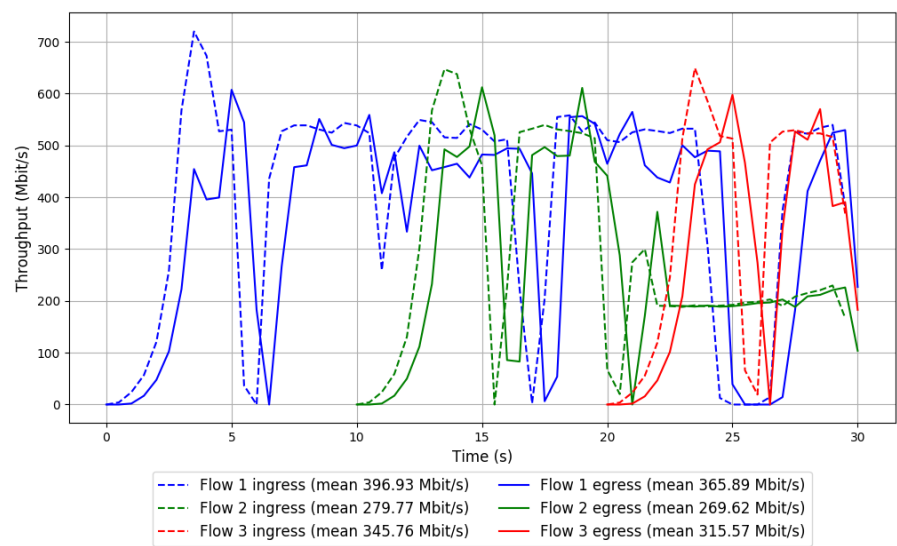



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 22:18:47
End at: 2018-09-07 22:19:17
Local clock offset: -0.047 ms
Remote clock offset: 0.078 ms

# Below is generated by plot.py at 2018-09-08 02:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 646.31 Mbit/s
95th percentile per-packet one-way delay: 261.598 ms
Loss rate: 8.10%
-- Flow 1:
Average throughput: 365.89 Mbit/s
95th percentile per-packet one-way delay: 262.475 ms
Loss rate: 8.66%
-- Flow 2:
Average throughput: 269.62 Mbit/s
95th percentile per-packet one-way delay: 248.855 ms
Loss rate: 4.95%
-- Flow 3:
Average throughput: 315.57 Mbit/s
95th percentile per-packet one-way delay: 269.617 ms
Loss rate: 11.26%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 22:53:06

End at: 2018-09-07 22:53:36

Local clock offset: 0.2 ms

Remote clock offset: 0.036 ms

Below is generated by plot.py at 2018-09-08 02:22:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 632.79 Mbit/s

95th percentile per-packet one-way delay: 258.592 ms

Loss rate: 4.13%

-- Flow 1:

Average throughput: 343.31 Mbit/s

95th percentile per-packet one-way delay: 249.725 ms

Loss rate: 2.33%

-- Flow 2:

Average throughput: 287.68 Mbit/s

95th percentile per-packet one-way delay: 266.001 ms

Loss rate: 3.33%

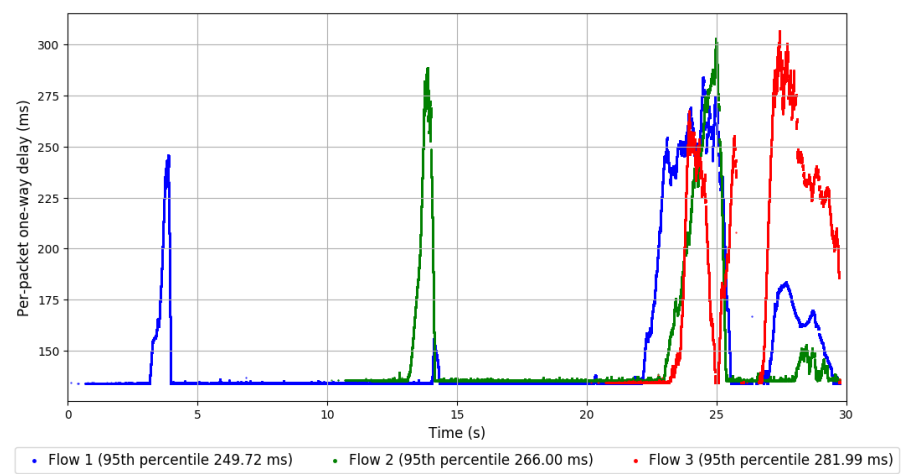
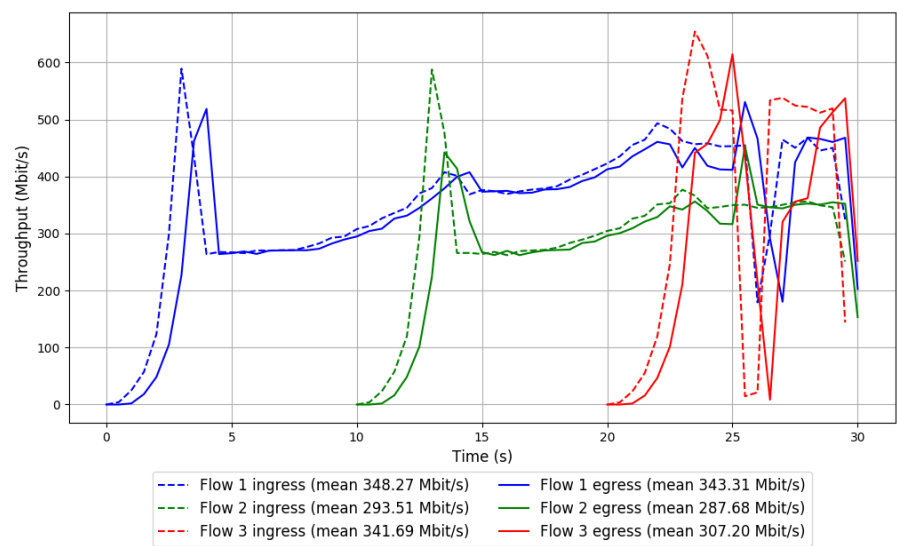
-- Flow 3:

Average throughput: 307.20 Mbit/s

95th percentile per-packet one-way delay: 281.986 ms

Loss rate: 11.23%

Run 2: Report of PCC-Allegro — Data Link

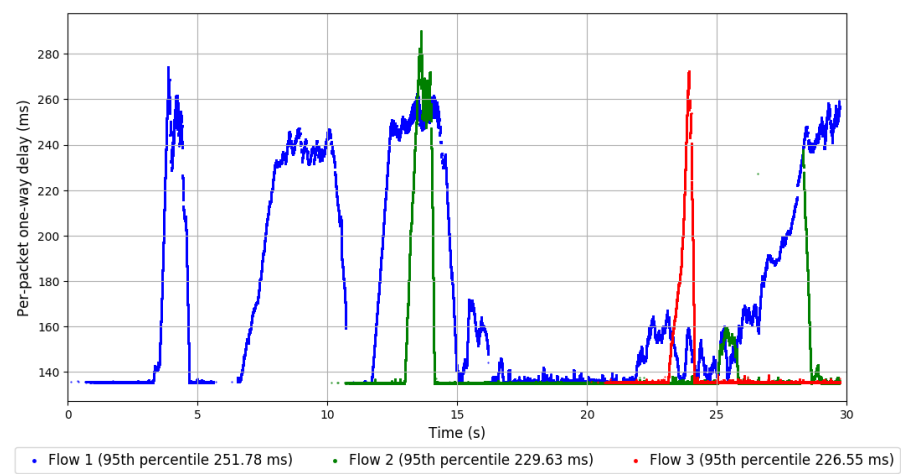
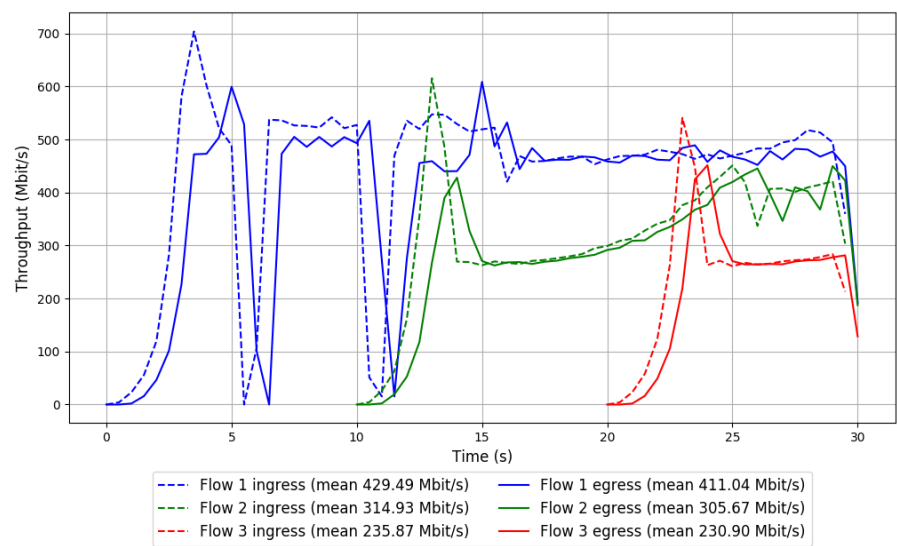


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 23:27:13
End at: 2018-09-07 23:27:43
Local clock offset: 0.103 ms
Remote clock offset: -0.402 ms

Below is generated by plot.py at 2018-09-08 02:25:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 688.02 Mbit/s
95th percentile per-packet one-way delay: 250.455 ms
Loss rate: 4.87%
-- Flow 1:
Average throughput: 411.04 Mbit/s
95th percentile per-packet one-way delay: 251.778 ms
Loss rate: 5.17%
-- Flow 2:
Average throughput: 305.67 Mbit/s
95th percentile per-packet one-way delay: 229.631 ms
Loss rate: 4.27%
-- Flow 3:
Average throughput: 230.90 Mbit/s
95th percentile per-packet one-way delay: 226.553 ms
Loss rate: 4.82%

Run 3: Report of PCC-Allegro — Data Link

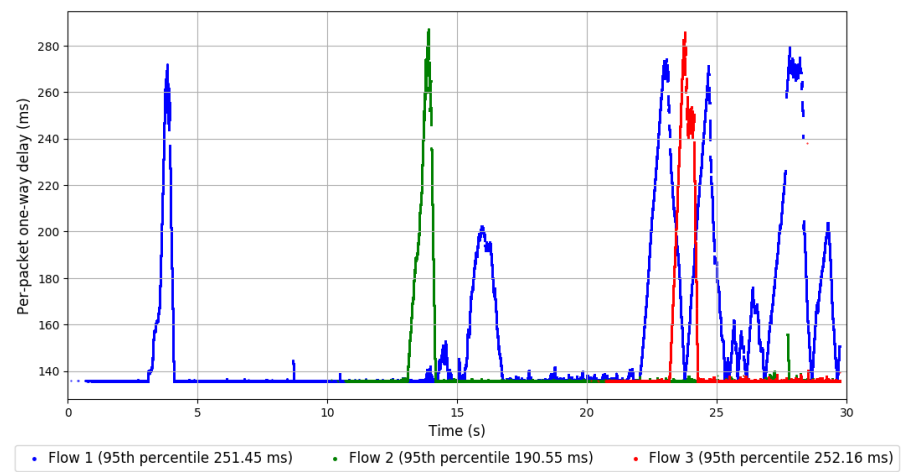
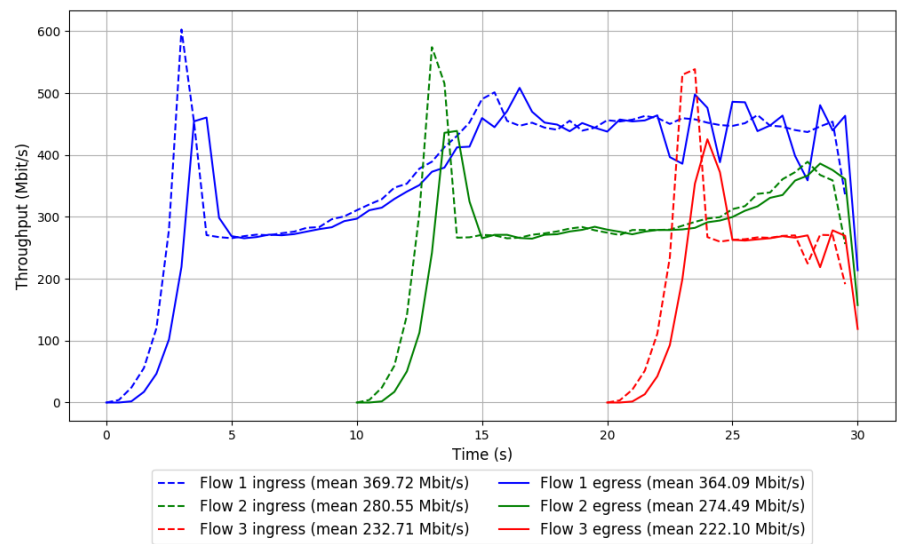


Run 4: Statistics of PCC-Allegro

Start at: 2018-09-08 00:01:11
End at: 2018-09-08 00:01:41
Local clock offset: 0.533 ms
Remote clock offset: -0.486 ms

Below is generated by plot.py at 2018-09-08 02:25:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 617.37 Mbit/s
95th percentile per-packet one-way delay: 245.824 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 364.09 Mbit/s
95th percentile per-packet one-way delay: 251.454 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 274.49 Mbit/s
95th percentile per-packet one-way delay: 190.548 ms
Loss rate: 3.51%
-- Flow 3:
Average throughput: 222.10 Mbit/s
95th percentile per-packet one-way delay: 252.157 ms
Loss rate: 7.18%

Run 4: Report of PCC-Allegro — Data Link

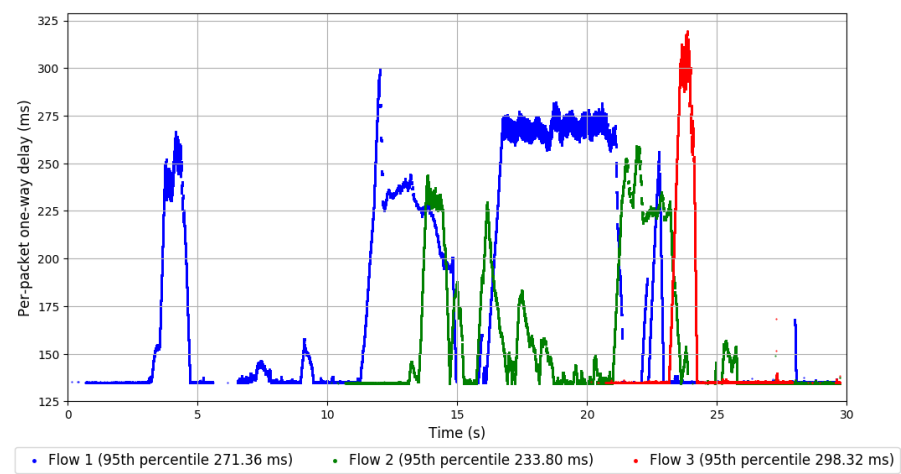
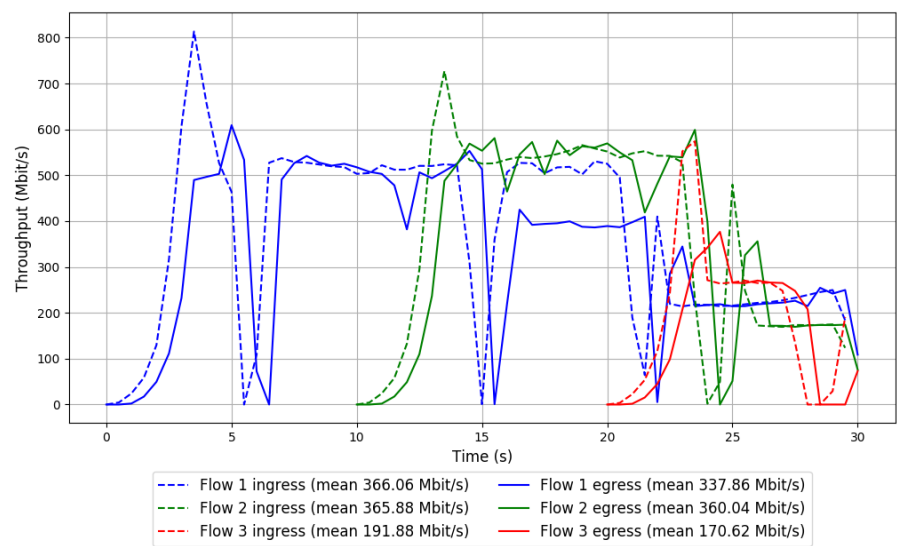


Run 5: Statistics of PCC-Allegro

Start at: 2018-09-08 00:34:48
End at: 2018-09-08 00:35:18
Local clock offset: 0.326 ms
Remote clock offset: -0.539 ms

Below is generated by plot.py at 2018-09-08 02:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 631.26 Mbit/s
95th percentile per-packet one-way delay: 269.523 ms
Loss rate: 6.98%
-- Flow 1:
Average throughput: 337.86 Mbit/s
95th percentile per-packet one-way delay: 271.364 ms
Loss rate: 8.54%
-- Flow 2:
Average throughput: 360.04 Mbit/s
95th percentile per-packet one-way delay: 233.797 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 170.62 Mbit/s
95th percentile per-packet one-way delay: 298.324 ms
Loss rate: 13.51%

Run 5: Report of PCC-Allegro — Data Link

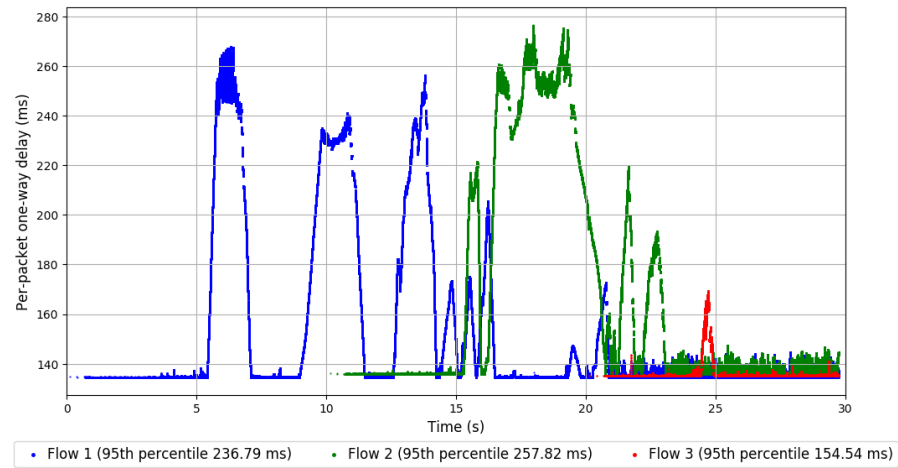
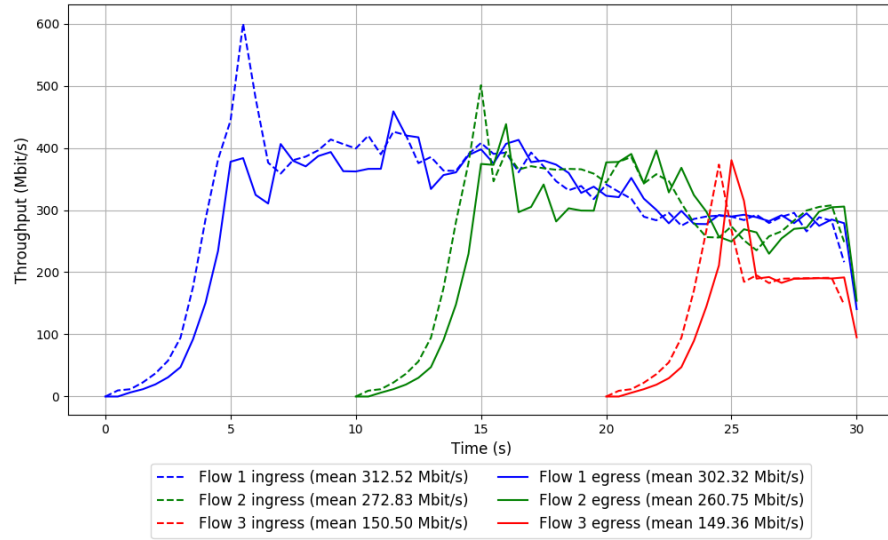


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 21:52:56
End at: 2018-09-07 21:53:26
Local clock offset: -0.685 ms
Remote clock offset: -0.226 ms

# Below is generated by plot.py at 2018-09-08 02:26:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 523.21 Mbit/s
95th percentile per-packet one-way delay: 250.380 ms
Loss rate: 4.64%
-- Flow 1:
Average throughput: 302.32 Mbit/s
95th percentile per-packet one-way delay: 236.788 ms
Loss rate: 4.17%
-- Flow 2:
Average throughput: 260.75 Mbit/s
95th percentile per-packet one-way delay: 257.817 ms
Loss rate: 5.75%
-- Flow 3:
Average throughput: 149.36 Mbit/s
95th percentile per-packet one-way delay: 154.544 ms
Loss rate: 3.51%
```

Run 1: Report of PCC-Expr — Data Link

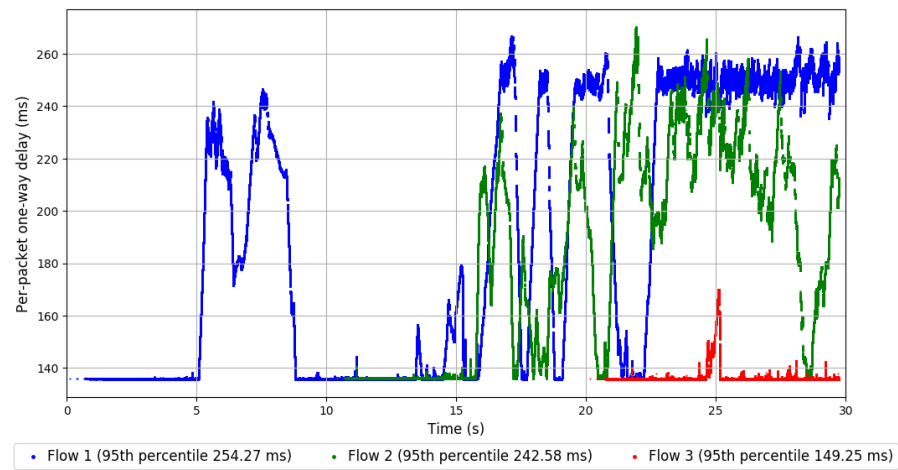
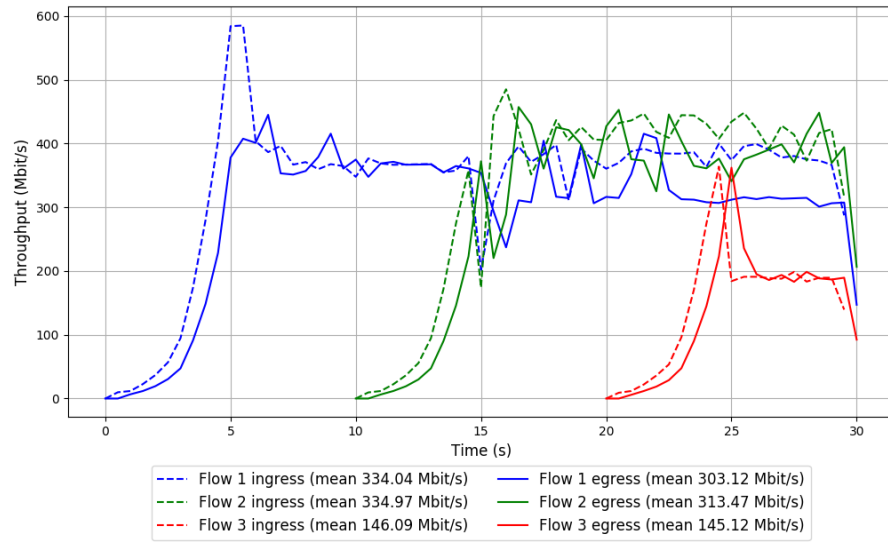


Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 22:26:16
End at: 2018-09-07 22:26:46
Local clock offset: 0.049 ms
Remote clock offset: -0.282 ms

Below is generated by plot.py at 2018-09-08 02:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 557.61 Mbit/s
95th percentile per-packet one-way delay: 252.711 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 303.12 Mbit/s
95th percentile per-packet one-way delay: 254.267 ms
Loss rate: 10.10%
-- Flow 2:
Average throughput: 313.47 Mbit/s
95th percentile per-packet one-way delay: 242.583 ms
Loss rate: 7.71%
-- Flow 3:
Average throughput: 145.12 Mbit/s
95th percentile per-packet one-way delay: 149.246 ms
Loss rate: 3.42%

Run 2: Report of PCC-Expr — Data Link

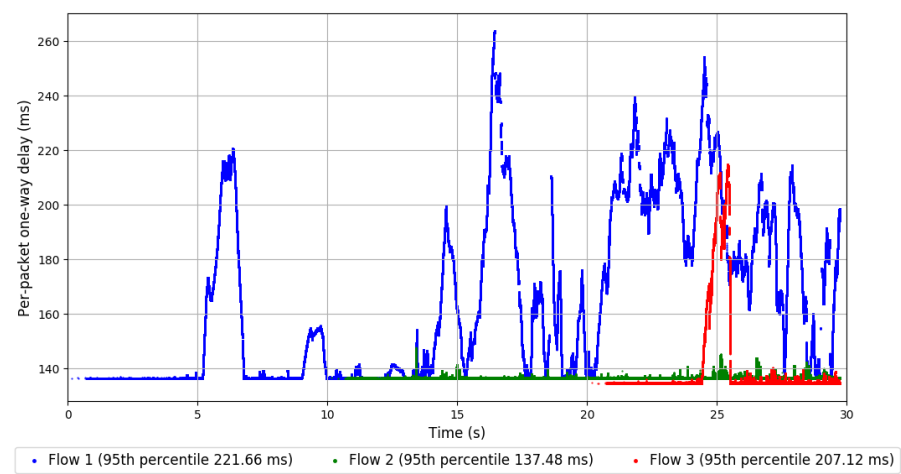
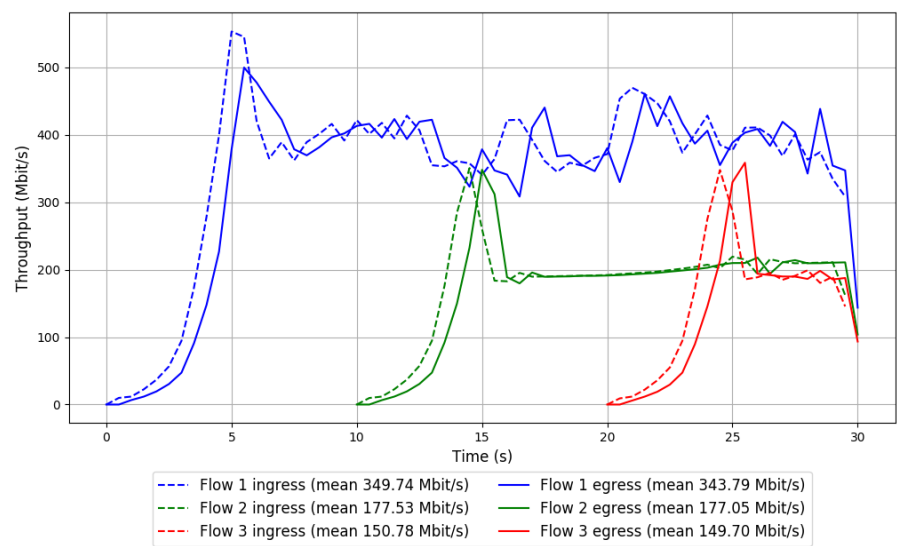


Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 23:00:32
End at: 2018-09-07 23:01:02
Local clock offset: 0.448 ms
Remote clock offset: -0.355 ms

Below is generated by plot.py at 2018-09-08 02:26:58
Datalink statistics
-- Total of 3 flows:
Average throughput: 509.40 Mbit/s
95th percentile per-packet one-way delay: 217.543 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 343.79 Mbit/s
95th percentile per-packet one-way delay: 221.655 ms
Loss rate: 2.60%
-- Flow 2:
Average throughput: 177.05 Mbit/s
95th percentile per-packet one-way delay: 137.484 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 149.70 Mbit/s
95th percentile per-packet one-way delay: 207.115 ms
Loss rate: 3.46%

Run 3: Report of PCC-Expr — Data Link

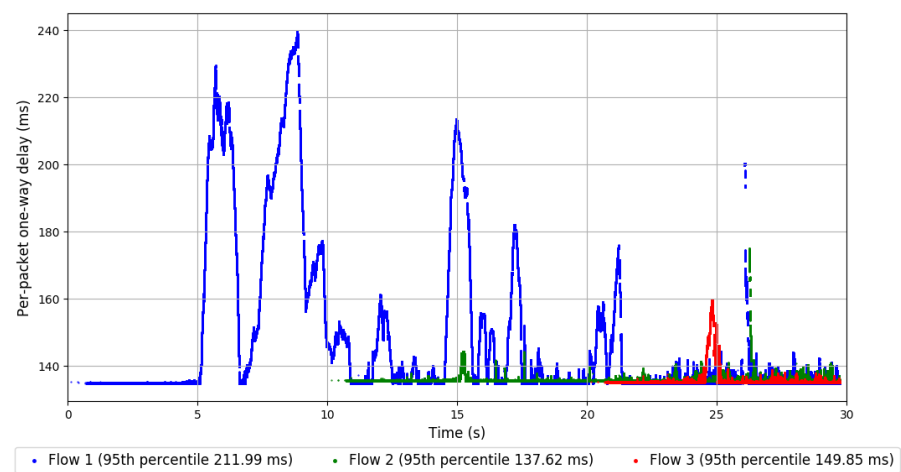
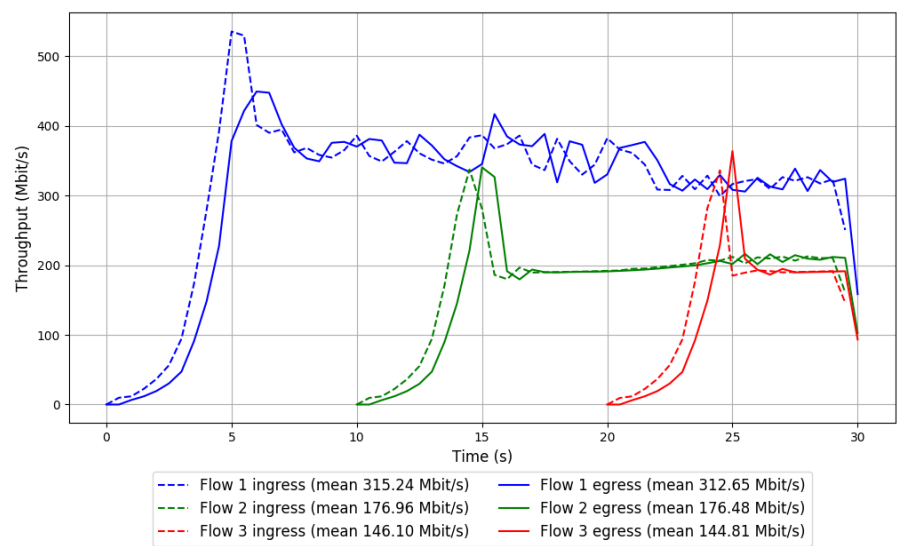


Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 23:34:43
End at: 2018-09-07 23:35:13
Local clock offset: 0.255 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-09-08 02:32:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 476.39 Mbit/s
95th percentile per-packet one-way delay: 206.175 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 312.65 Mbit/s
95th percentile per-packet one-way delay: 211.992 ms
Loss rate: 1.73%
-- Flow 2:
Average throughput: 176.48 Mbit/s
95th percentile per-packet one-way delay: 137.619 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 144.81 Mbit/s
95th percentile per-packet one-way delay: 149.852 ms
Loss rate: 3.63%

Run 4: Report of PCC-Expr — Data Link

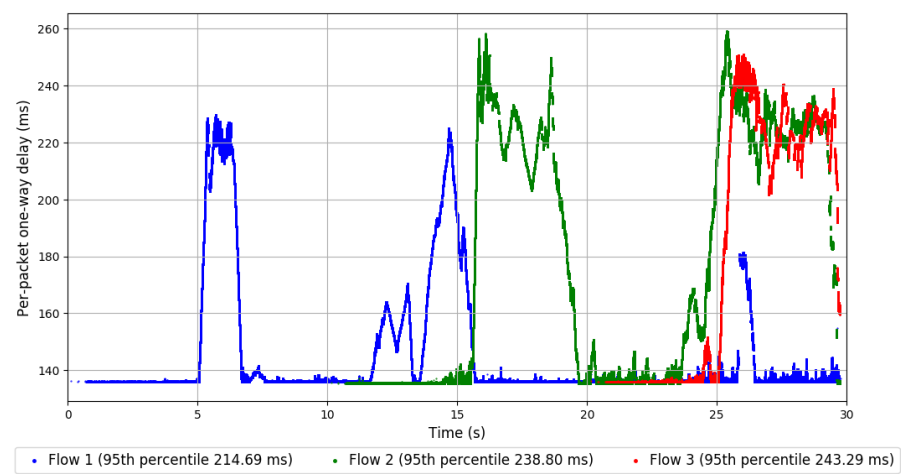
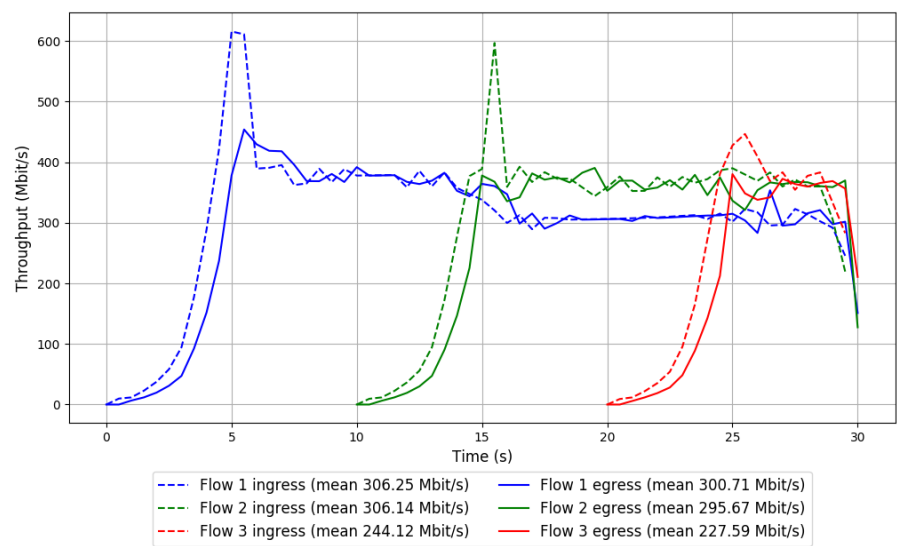


Run 5: Statistics of PCC-Expr

Start at: 2018-09-08 00:08:36
End at: 2018-09-08 00:09:06
Local clock offset: 0.302 ms
Remote clock offset: -0.863 ms

Below is generated by plot.py at 2018-09-08 02:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 570.13 Mbit/s
95th percentile per-packet one-way delay: 235.475 ms
Loss rate: 4.31%
-- Flow 1:
Average throughput: 300.71 Mbit/s
95th percentile per-packet one-way delay: 214.689 ms
Loss rate: 2.70%
-- Flow 2:
Average throughput: 295.67 Mbit/s
95th percentile per-packet one-way delay: 238.797 ms
Loss rate: 4.74%
-- Flow 3:
Average throughput: 227.59 Mbit/s
95th percentile per-packet one-way delay: 243.291 ms
Loss rate: 9.34%

Run 5: Report of PCC-Expr — Data Link

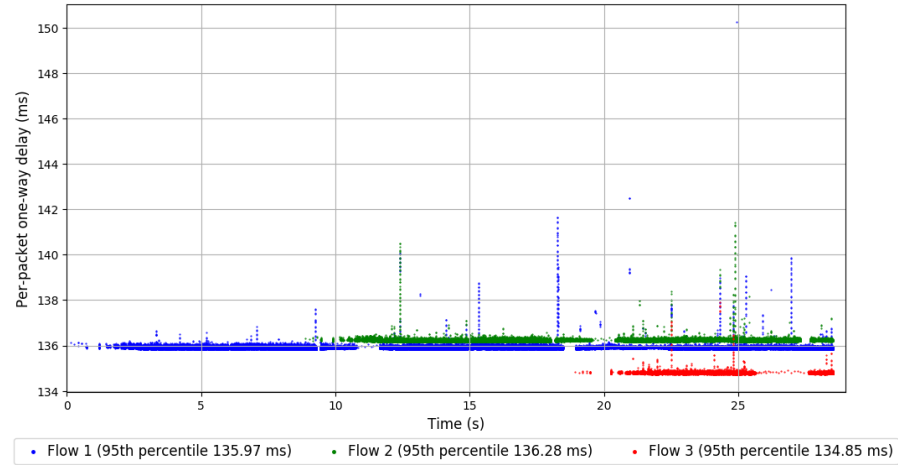
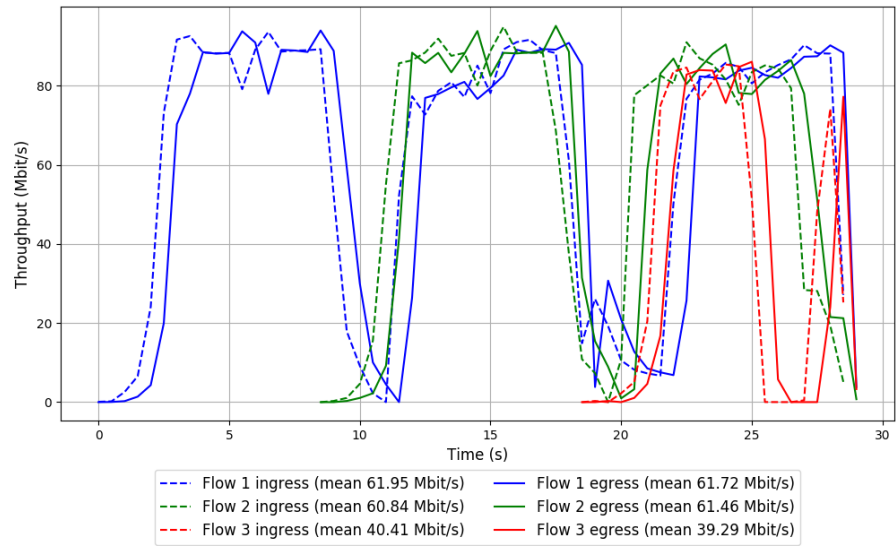


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 22:20:57
End at: 2018-09-07 22:21:27
Local clock offset: 0.04 ms
Remote clock offset: -0.255 ms

Below is generated by plot.py at 2018-09-08 02:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 117.53 Mbit/s
95th percentile per-packet one-way delay: 136.260 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 61.72 Mbit/s
95th percentile per-packet one-way delay: 135.973 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 61.46 Mbit/s
95th percentile per-packet one-way delay: 136.285 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 134.847 ms
Loss rate: 5.43%

Run 1: Report of QUIC Cubic — Data Link

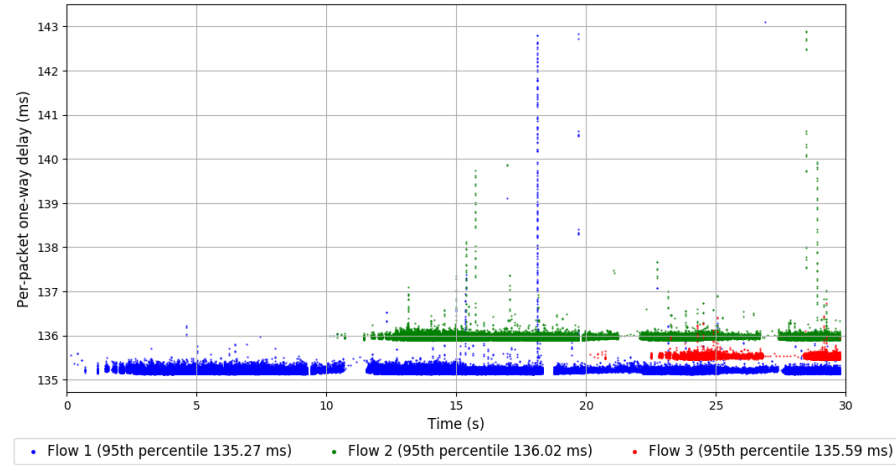
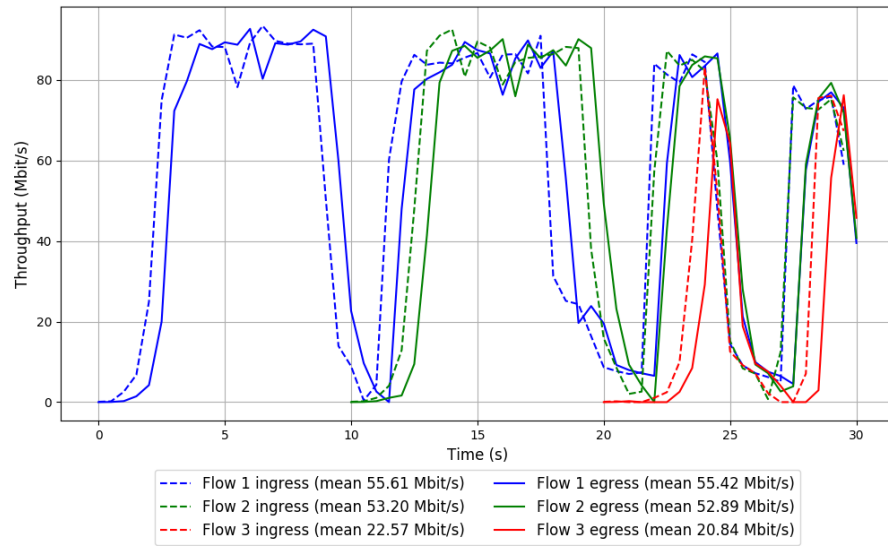


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 22:55:14
End at: 2018-09-07 22:55:44
Local clock offset: 0.2 ms
Remote clock offset: -0.341 ms

Below is generated by plot.py at 2018-09-08 02:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 135.989 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 55.42 Mbit/s
95th percentile per-packet one-way delay: 135.268 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 52.89 Mbit/s
95th percentile per-packet one-way delay: 136.019 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 20.84 Mbit/s
95th percentile per-packet one-way delay: 135.586 ms
Loss rate: 10.18%

Run 2: Report of QUIC Cubic — Data Link

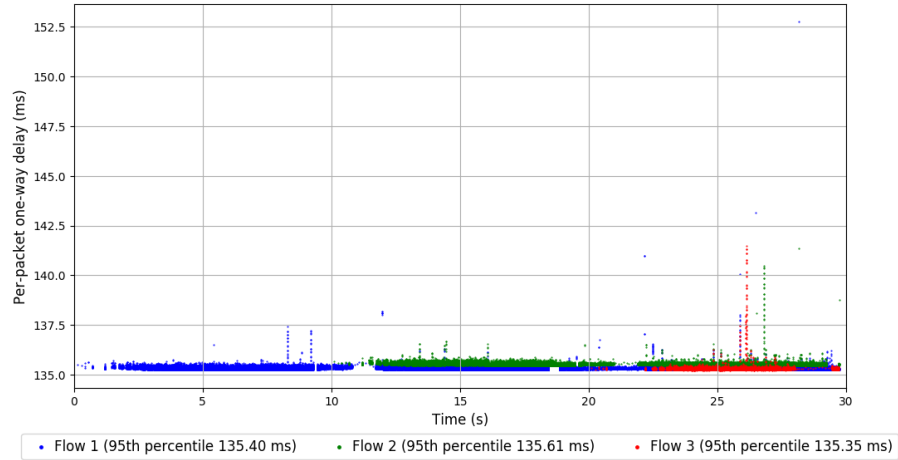
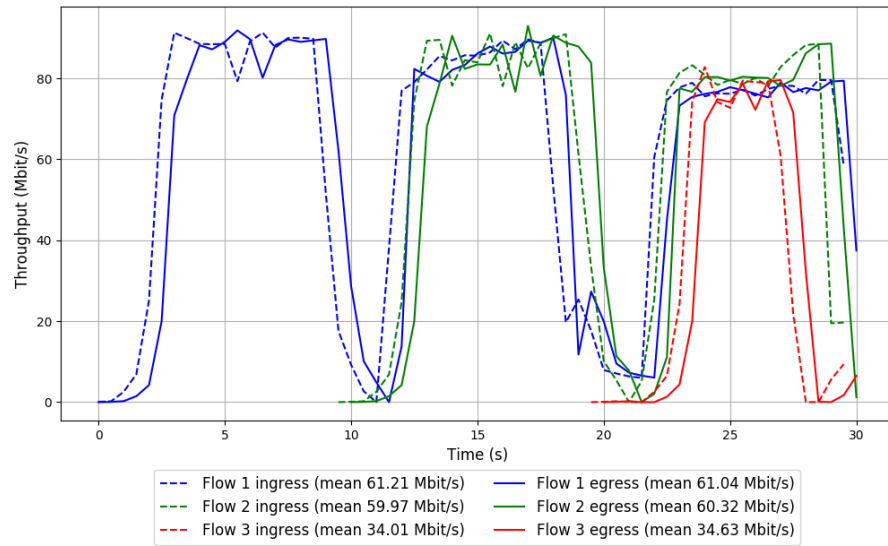


Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 23:29:24
End at: 2018-09-07 23:29:55
Local clock offset: 0.083 ms
Remote clock offset: -0.423 ms

Below is generated by plot.py at 2018-09-08 02:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 112.27 Mbit/s
95th percentile per-packet one-way delay: 135.575 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 61.04 Mbit/s
95th percentile per-packet one-way delay: 135.403 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 60.32 Mbit/s
95th percentile per-packet one-way delay: 135.612 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 135.355 ms
Loss rate: 1.01%

Run 3: Report of QUIC Cubic — Data Link

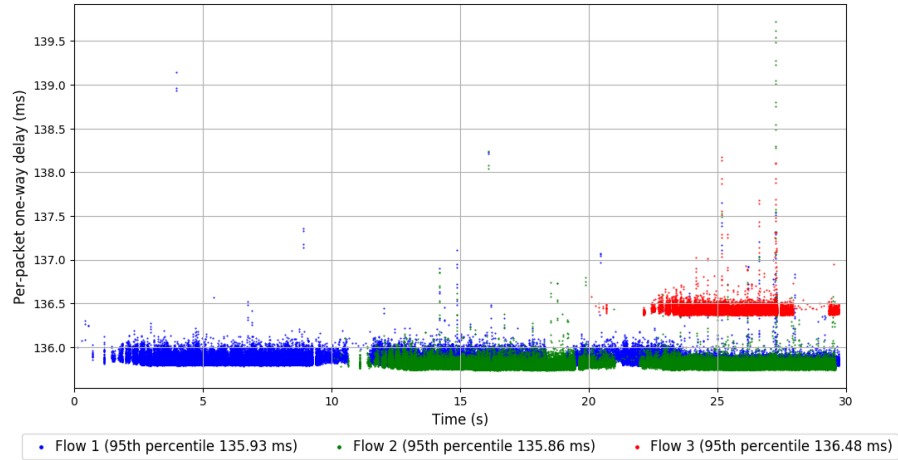
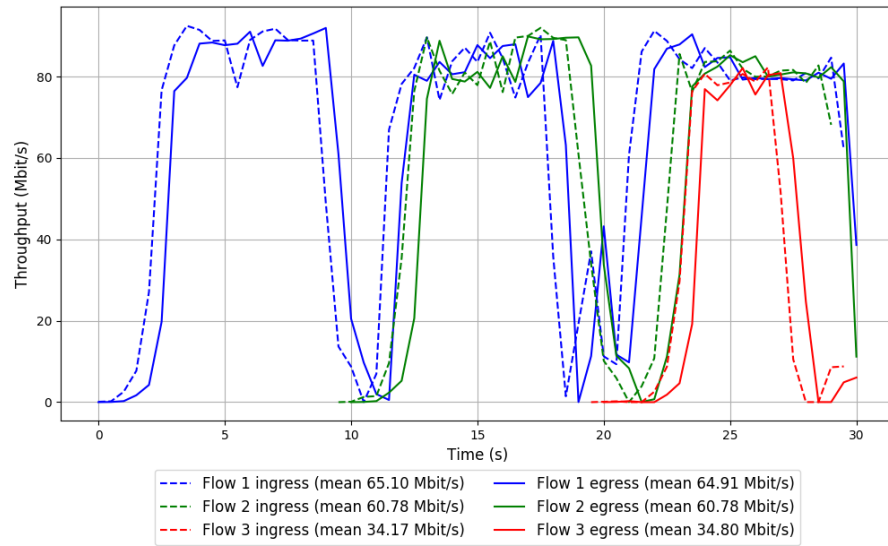


Run 4: Statistics of QUIC Cubic

Start at: 2018-09-08 00:03:17
End at: 2018-09-08 00:03:47
Local clock offset: 0.3 ms
Remote clock offset: -0.801 ms

Below is generated by plot.py at 2018-09-08 02:40:29
Datalink statistics
-- Total of 3 flows:
Average throughput: 116.23 Mbit/s
95th percentile per-packet one-way delay: 136.411 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 64.91 Mbit/s
95th percentile per-packet one-way delay: 135.925 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 60.78 Mbit/s
95th percentile per-packet one-way delay: 135.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.80 Mbit/s
95th percentile per-packet one-way delay: 136.476 ms
Loss rate: 0.95%

Run 4: Report of QUIC Cubic — Data Link

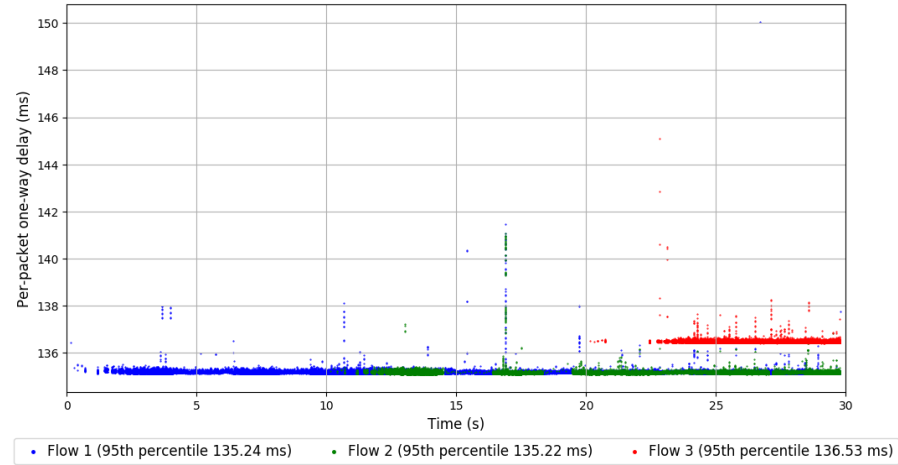
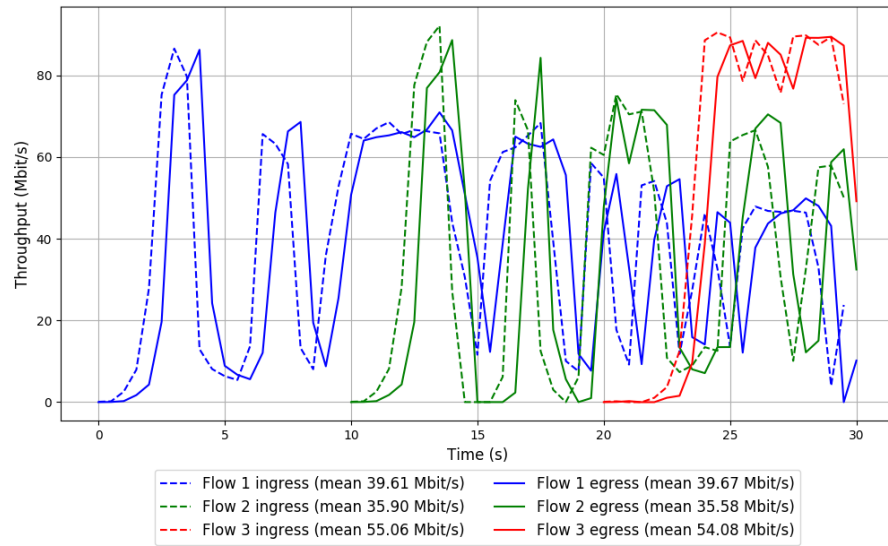


Run 5: Statistics of QUIC Cubic

Start at: 2018-09-08 00:36:56
End at: 2018-09-08 00:37:26
Local clock offset: 0.158 ms
Remote clock offset: -0.948 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 80.78 Mbit/s
95th percentile per-packet one-way delay: 136.492 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 39.67 Mbit/s
95th percentile per-packet one-way delay: 135.239 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 35.58 Mbit/s
95th percentile per-packet one-way delay: 135.220 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 54.08 Mbit/s
95th percentile per-packet one-way delay: 136.533 ms
Loss rate: 4.47%

Run 5: Report of QUIC Cubic — Data Link

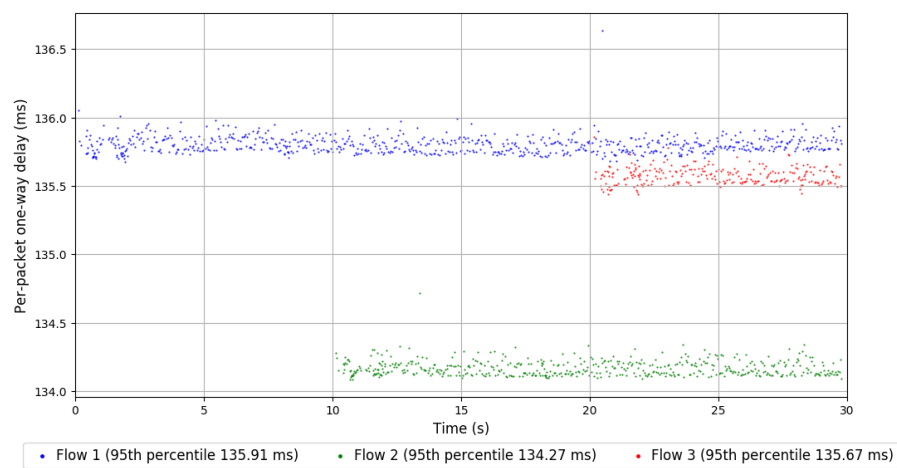
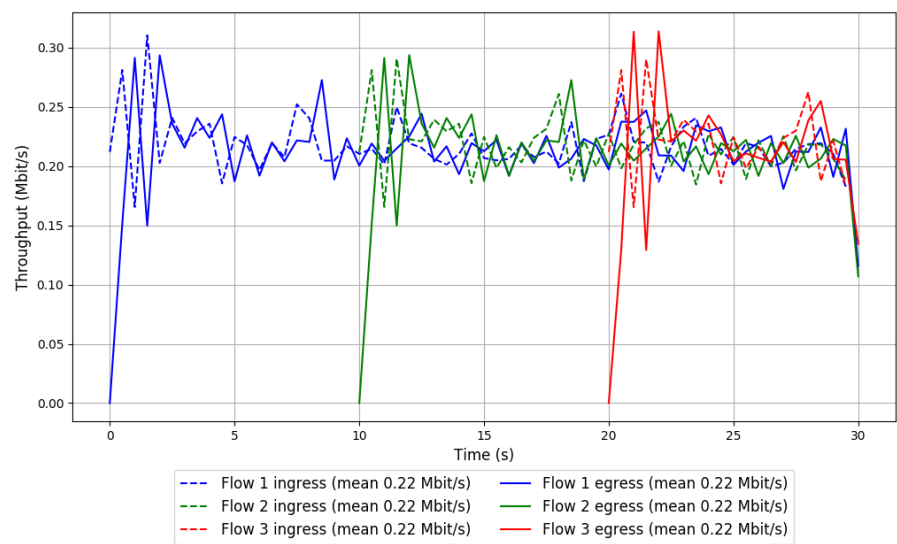


```
Run 1: Statistics of SReAM

Start at: 2018-09-07 22:22:22
End at: 2018-09-07 22:22:52
Local clock offset: -0.003 ms
Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2018-09-08 02:40:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 135.877 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.906 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.274 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.671 ms
Loss rate: 2.59%
```

Run 1: Report of SReAM — Data Link

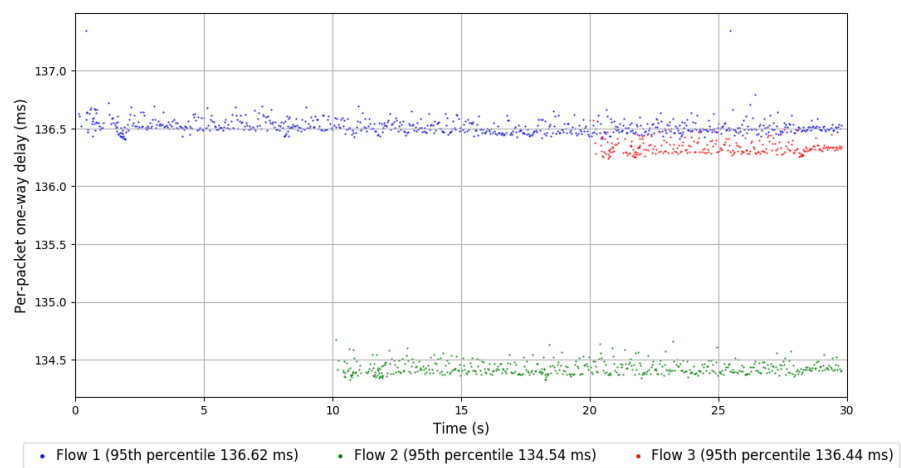
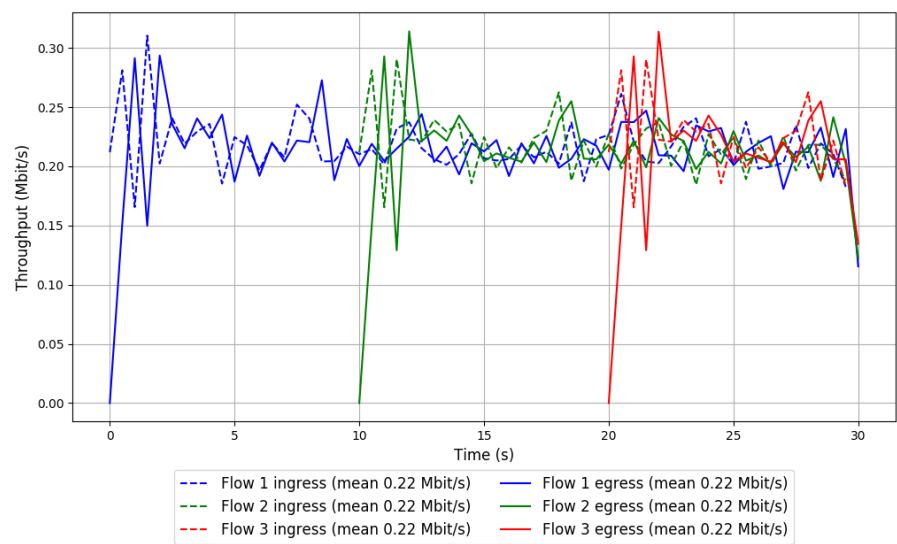


Run 2: Statistics of SReAM

Start at: 2018-09-07 22:56:38
End at: 2018-09-07 22:57:08
Local clock offset: 0.15 ms
Remote clock offset: -0.342 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.596 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.625 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.538 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.444 ms
Loss rate: 2.59%

Run 2: Report of SCSReAM — Data Link

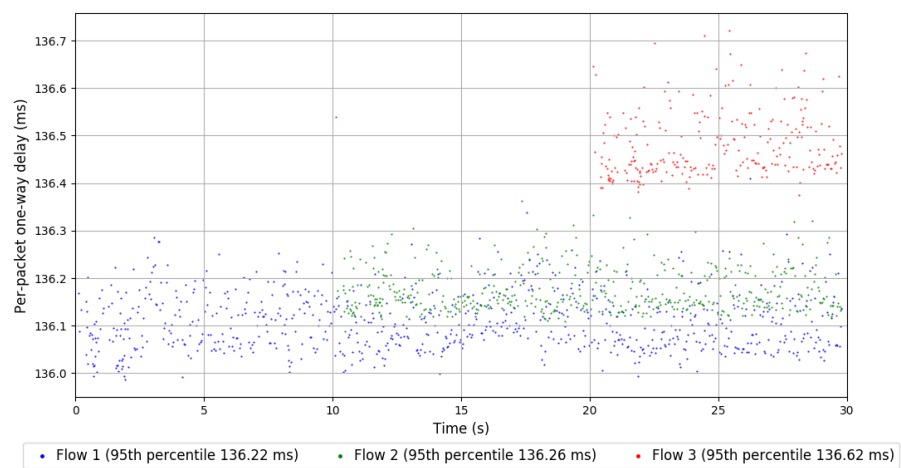
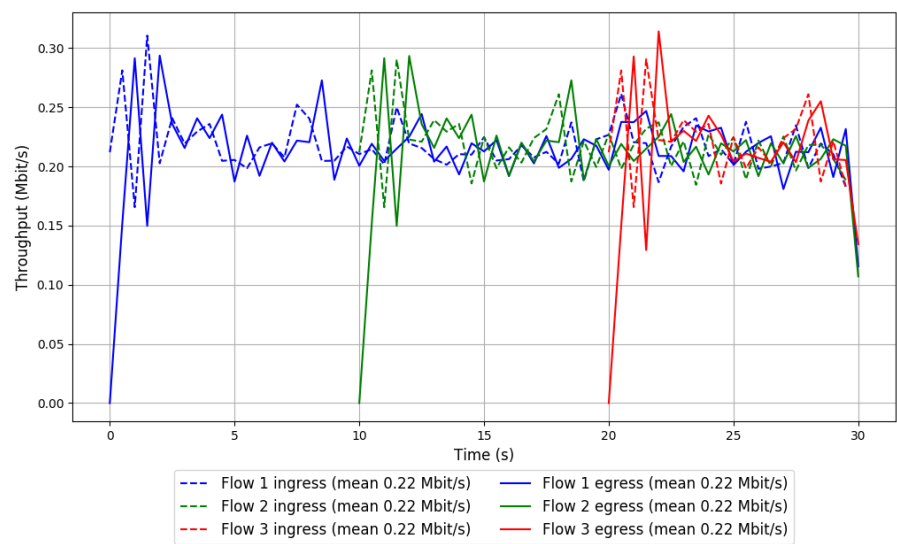


Run 3: Statistics of SReAM

Start at: 2018-09-07 23:30:49
End at: 2018-09-07 23:31:19
Local clock offset: 0.387 ms
Remote clock offset: -0.781 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.514 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.216 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.265 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.616 ms
Loss rate: 2.59%

Run 3: Report of SReAM — Data Link

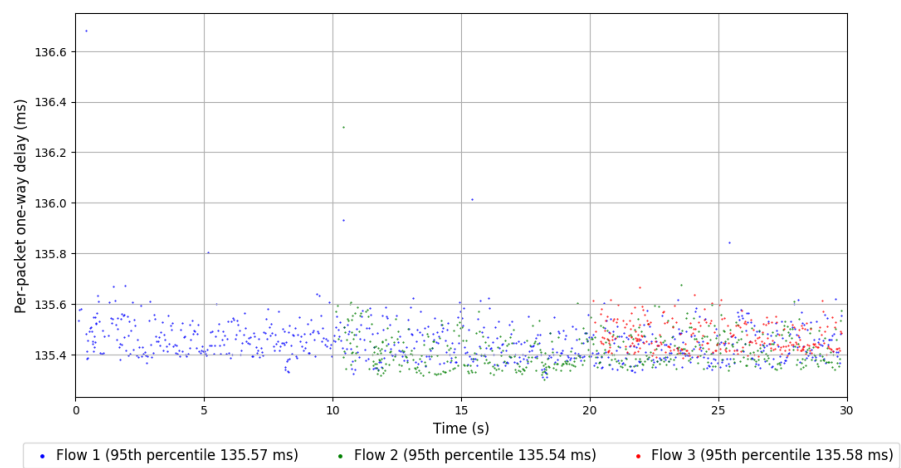
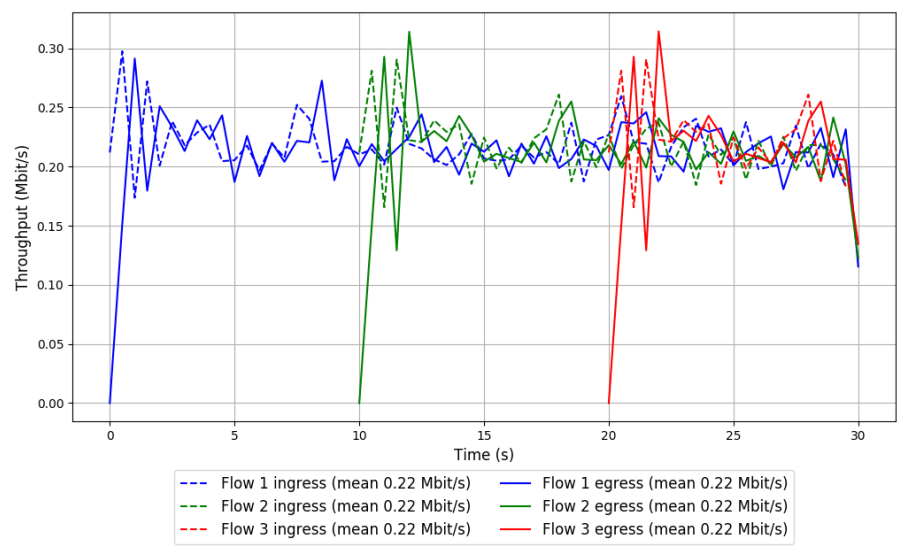


Run 4: Statistics of SReAM

Start at: 2018-09-08 00:04:42
End at: 2018-09-08 00:05:12
Local clock offset: 0.474 ms
Remote clock offset: -0.098 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 135.568 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.572 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.541 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.579 ms
Loss rate: 2.59%

Run 4: Report of SReAM — Data Link

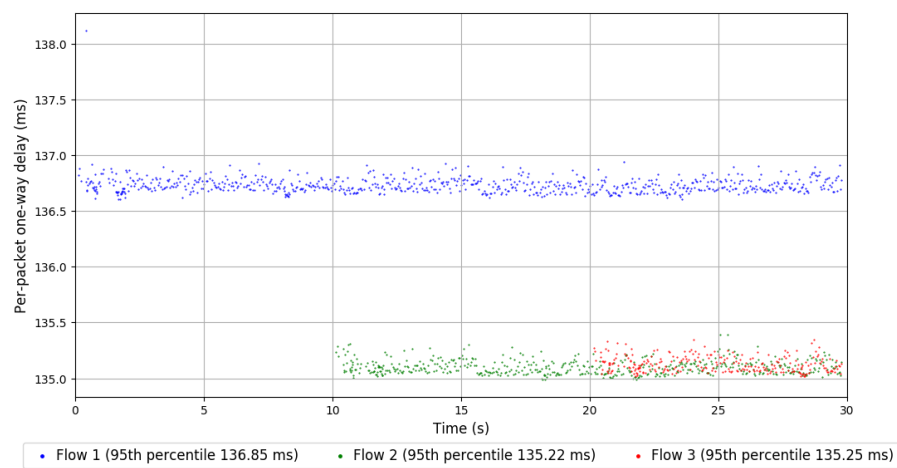
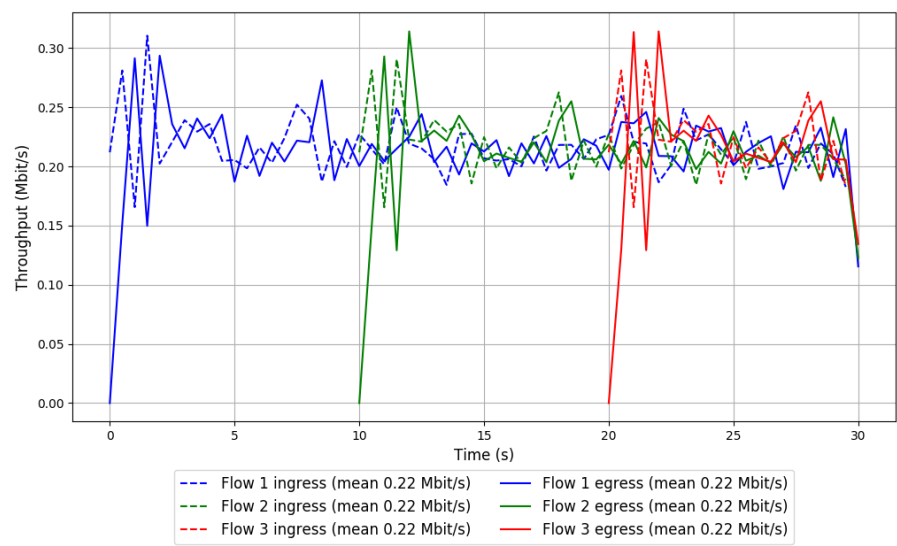


Run 5: Statistics of SReAM

Start at: 2018-09-08 00:38:19
End at: 2018-09-08 00:38:49
Local clock offset: -0.01 ms
Remote clock offset: -0.897 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.819 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.852 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.219 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.254 ms
Loss rate: 2.59%

Run 5: Report of SCRaM — Data Link

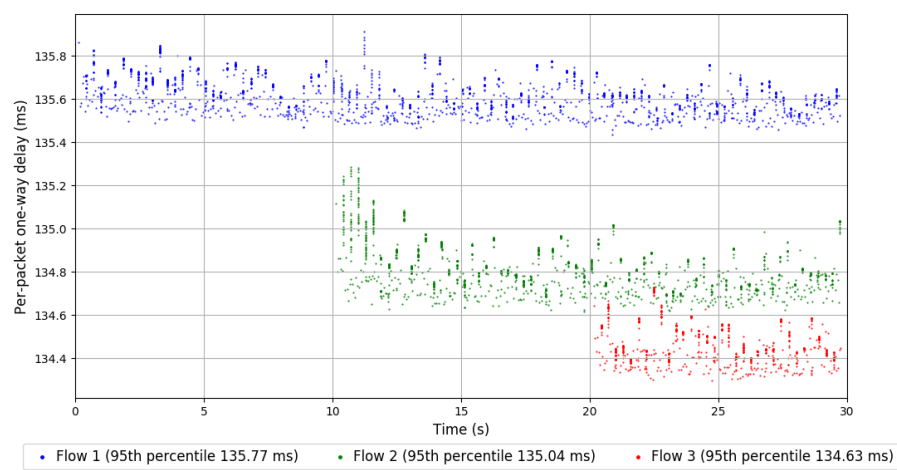
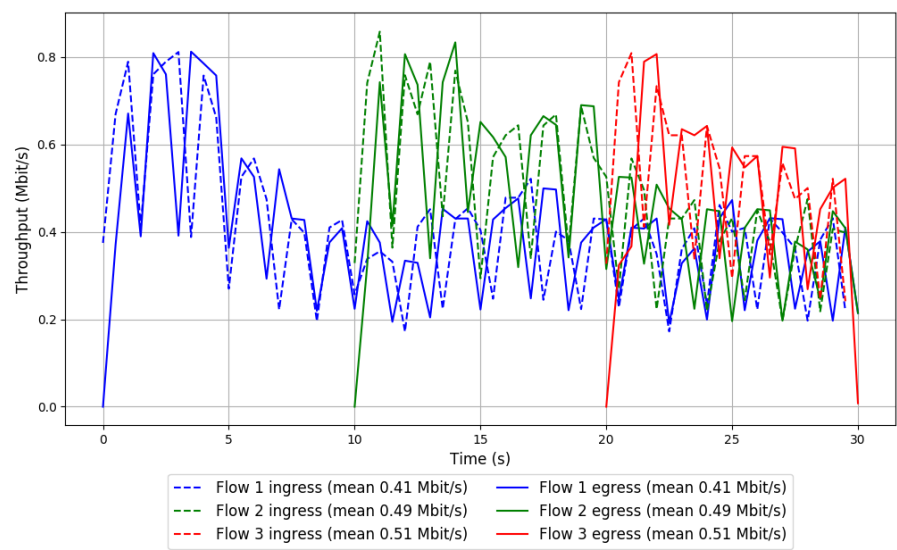


Run 1: Statistics of Sprout

Start at: 2018-09-07 22:03:16
End at: 2018-09-07 22:03:46
Local clock offset: -0.627 ms
Remote clock offset: -0.244 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 135.737 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 135.774 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 135.039 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 134.630 ms
Loss rate: 2.34%

Run 1: Report of Sprout — Data Link

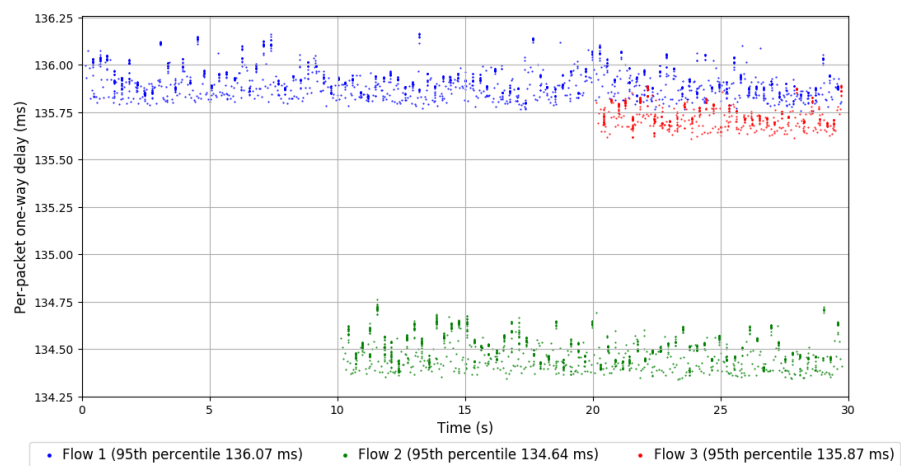
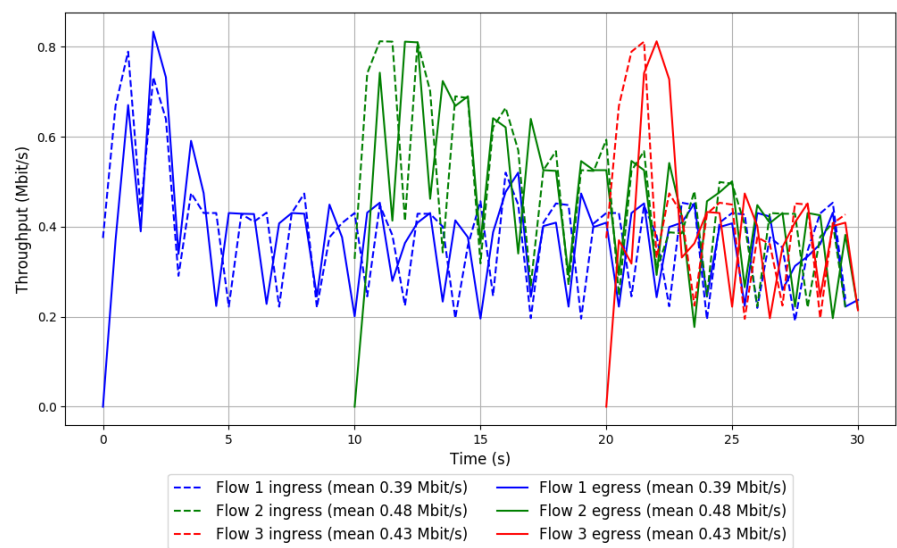


Run 2: Statistics of Sprout

Start at: 2018-09-07 22:37:06
End at: 2018-09-07 22:37:36
Local clock offset: 0.071 ms
Remote clock offset: -0.308 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 136.032 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.075 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 134.644 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 135.867 ms
Loss rate: 2.53%

Run 2: Report of Sprout — Data Link

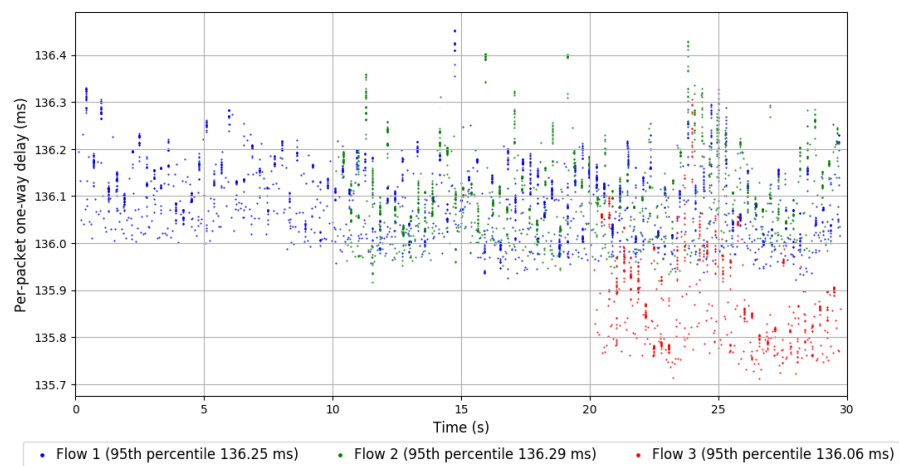
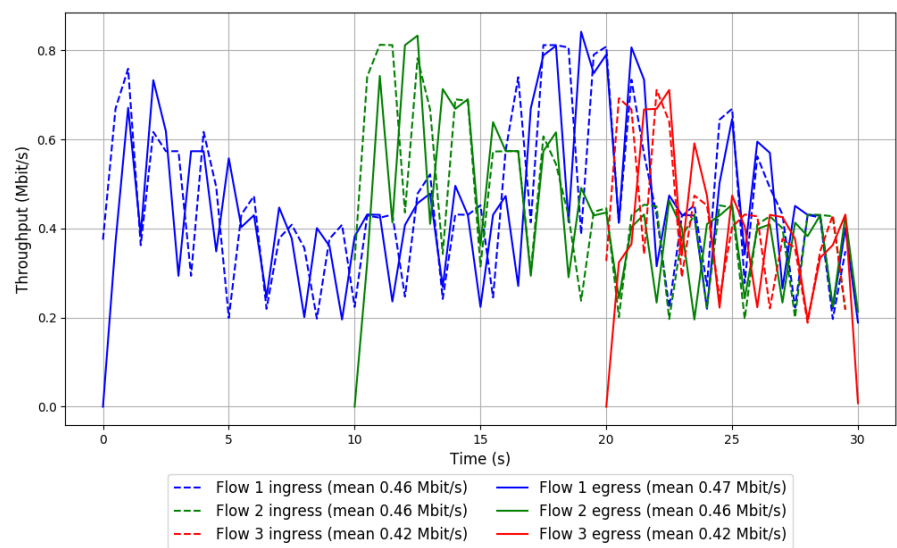


Run 3: Statistics of Sprout

Start at: 2018-09-07 23:11:20
End at: 2018-09-07 23:11:50
Local clock offset: 0.267 ms
Remote clock offset: -0.355 ms

```
# Below is generated by plot.py at 2018-09-08 02:40:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 136.256 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 136.247 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 136.290 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.061 ms
Loss rate: 2.58%
```

Run 3: Report of Sprout — Data Link

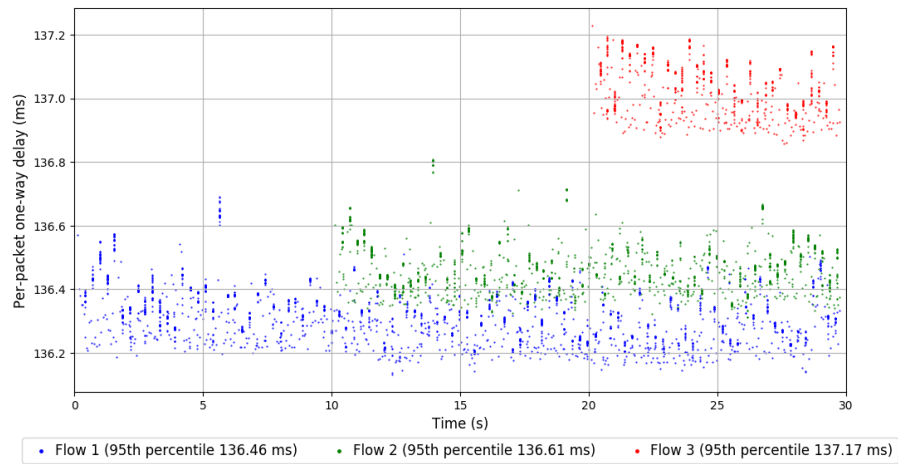
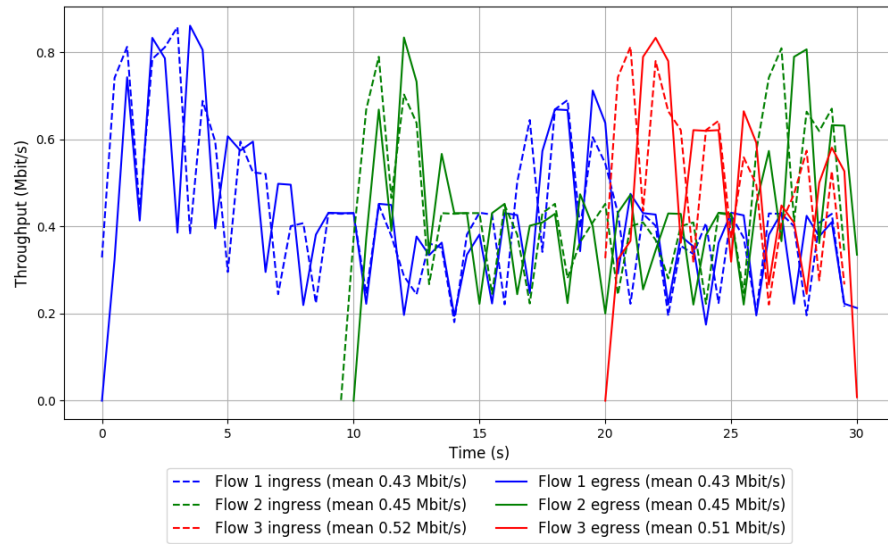


Run 4: Statistics of Sprout

Start at: 2018-09-07 23:45:13
End at: 2018-09-07 23:45:43
Local clock offset: 0.626 ms
Remote clock offset: -0.807 ms

```
# Below is generated by plot.py at 2018-09-08 02:40:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 137.106 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.464 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 136.608 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 137.168 ms
Loss rate: 2.59%
```

Run 4: Report of Sprout — Data Link

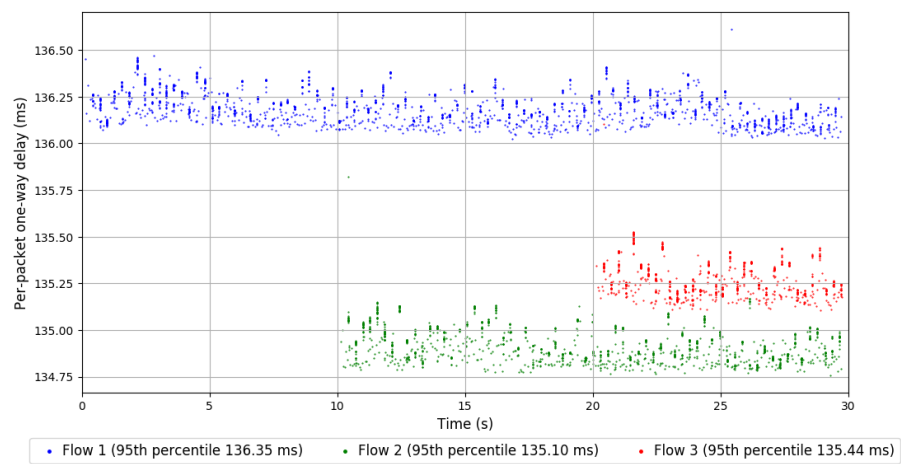
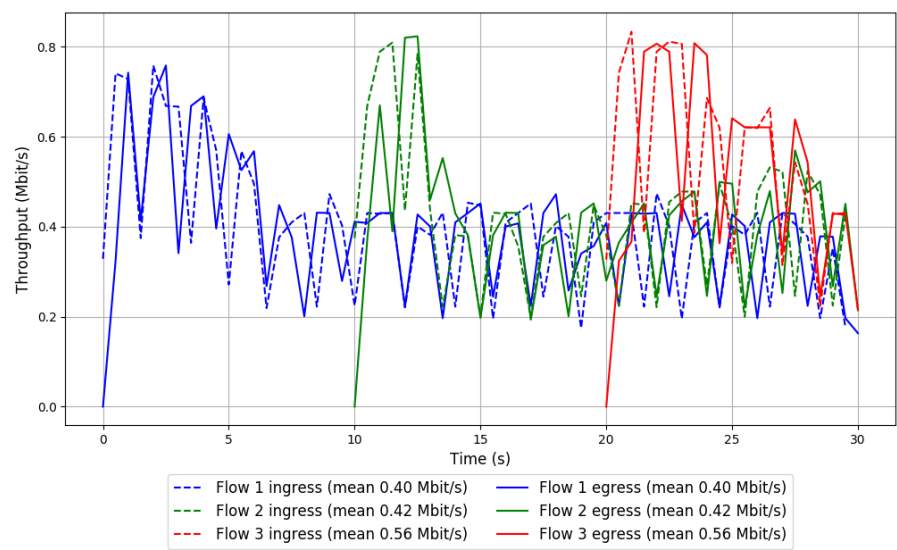


Run 5: Statistics of Sprout

Start at: 2018-09-08 00:19:18
End at: 2018-09-08 00:19:48
Local clock offset: 0.623 ms
Remote clock offset: -0.901 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 136.309 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 136.349 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 135.100 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 135.440 ms
Loss rate: 1.95%

Run 5: Report of Sprout — Data Link

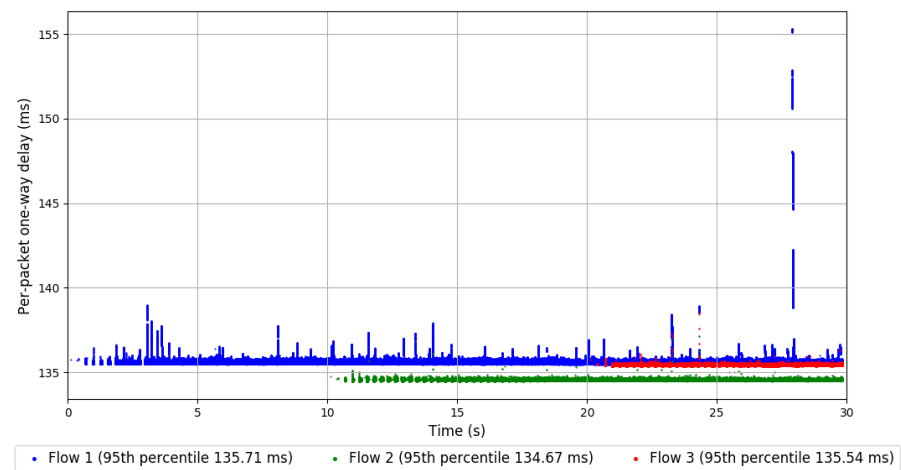
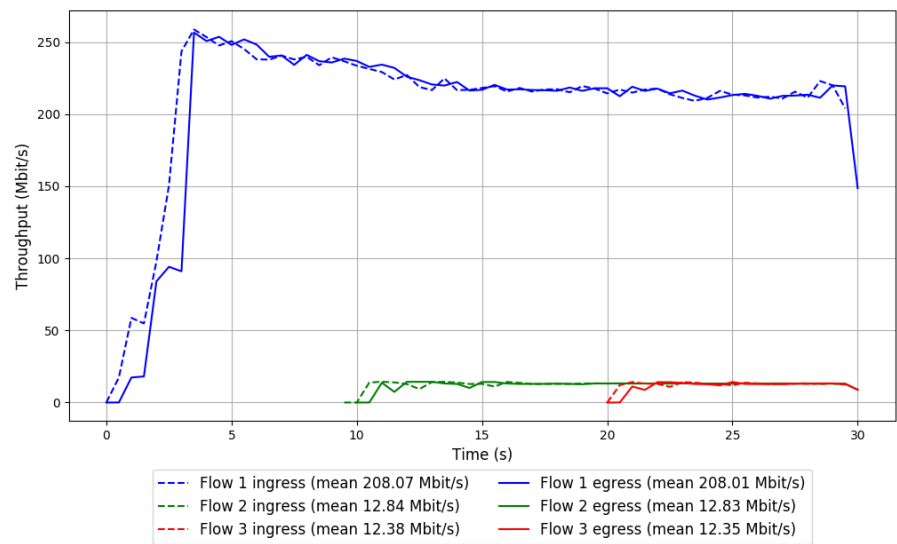


Run 1: Statistics of TaoVA-100x

Start at: 2018-09-07 22:15:03
End at: 2018-09-07 22:15:33
Local clock offset: -0.415 ms
Remote clock offset: -0.283 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 220.55 Mbit/s
95th percentile per-packet one-way delay: 135.704 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 208.01 Mbit/s
95th percentile per-packet one-way delay: 135.709 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 134.668 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 12.35 Mbit/s
95th percentile per-packet one-way delay: 135.538 ms
Loss rate: 2.91%

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

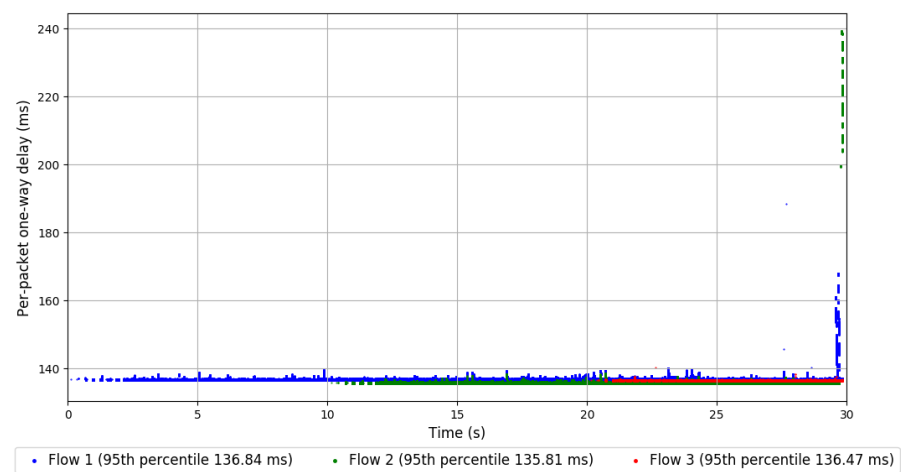
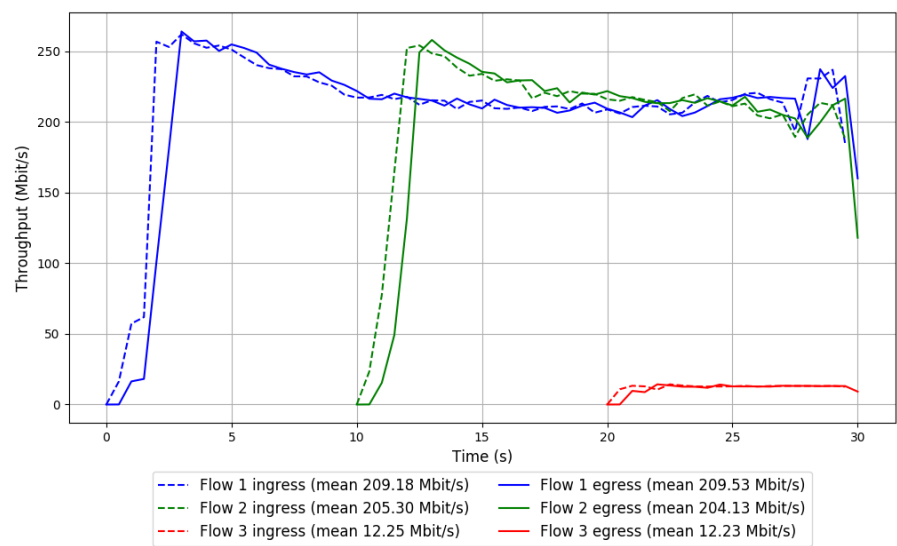


Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 22:49:04
End at: 2018-09-07 22:49:35
Local clock offset: 0.173 ms
Remote clock offset: -0.725 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 348.86 Mbit/s
95th percentile per-packet one-way delay: 136.780 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 209.53 Mbit/s
95th percentile per-packet one-way delay: 136.839 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 204.13 Mbit/s
95th percentile per-packet one-way delay: 135.814 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 12.23 Mbit/s
95th percentile per-packet one-way delay: 136.475 ms
Loss rate: 2.94%

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

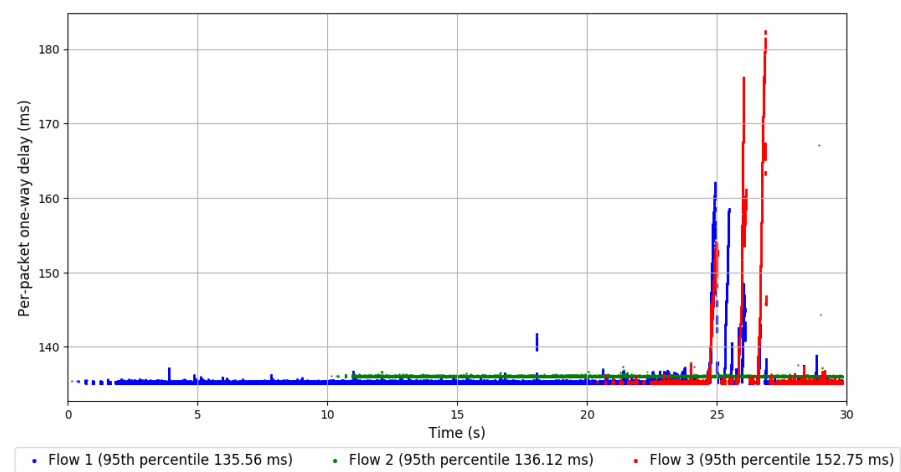
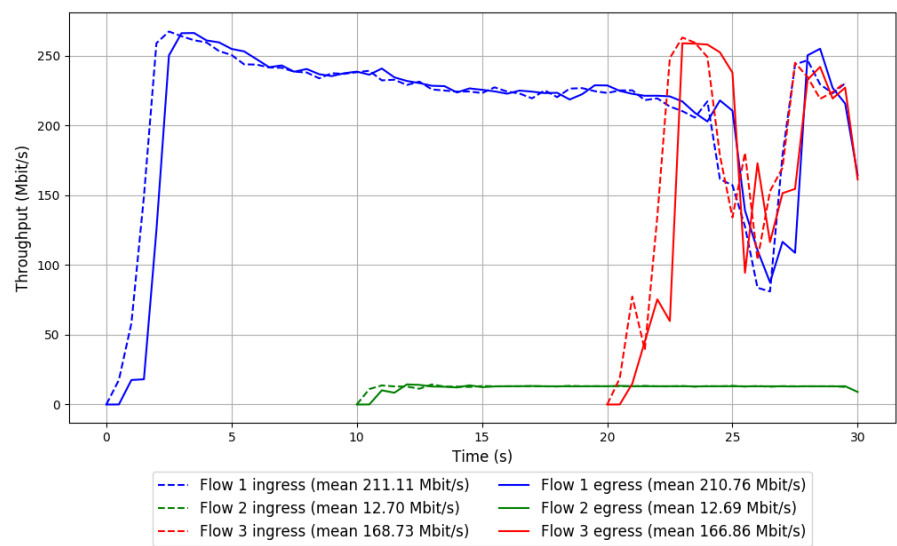


Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 23:23:23
End at: 2018-09-07 23:23:53
Local clock offset: 0.299 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 273.59 Mbit/s
95th percentile per-packet one-way delay: 136.407 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 210.76 Mbit/s
95th percentile per-packet one-way delay: 135.555 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 136.124 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 166.86 Mbit/s
95th percentile per-packet one-way delay: 152.750 ms
Loss rate: 3.84%

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

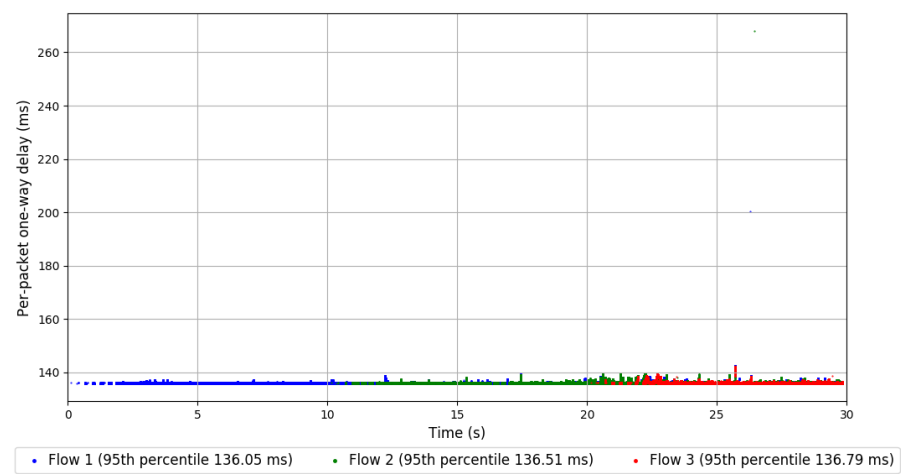
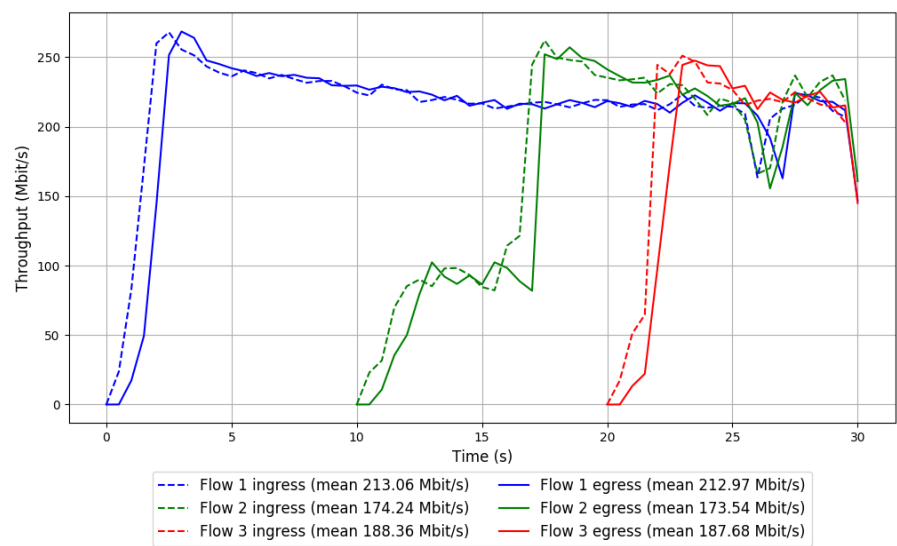


Run 4: Statistics of TaoVA-100x

Start at: 2018-09-07 23:57:04
End at: 2018-09-07 23:57:34
Local clock offset: 0.599 ms
Remote clock offset: -0.474 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 389.29 Mbit/s
95th percentile per-packet one-way delay: 136.303 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 212.97 Mbit/s
95th percentile per-packet one-way delay: 136.047 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 173.54 Mbit/s
95th percentile per-packet one-way delay: 136.511 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 187.68 Mbit/s
95th percentile per-packet one-way delay: 136.795 ms
Loss rate: 3.07%

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

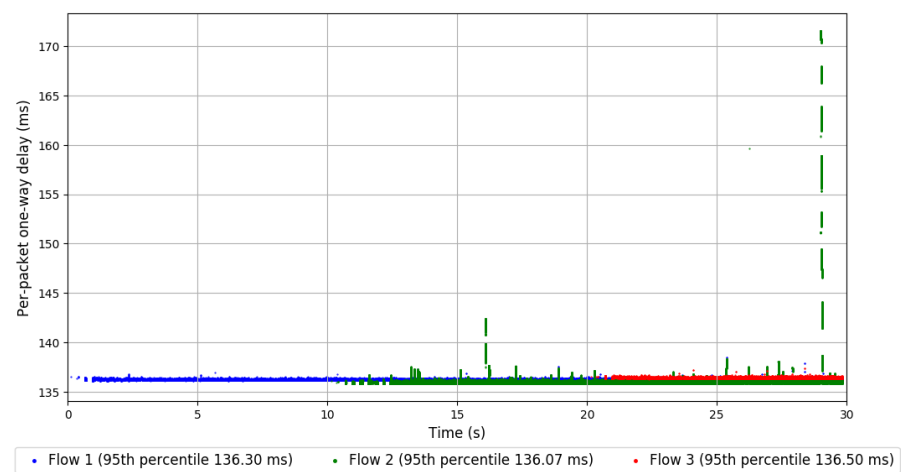
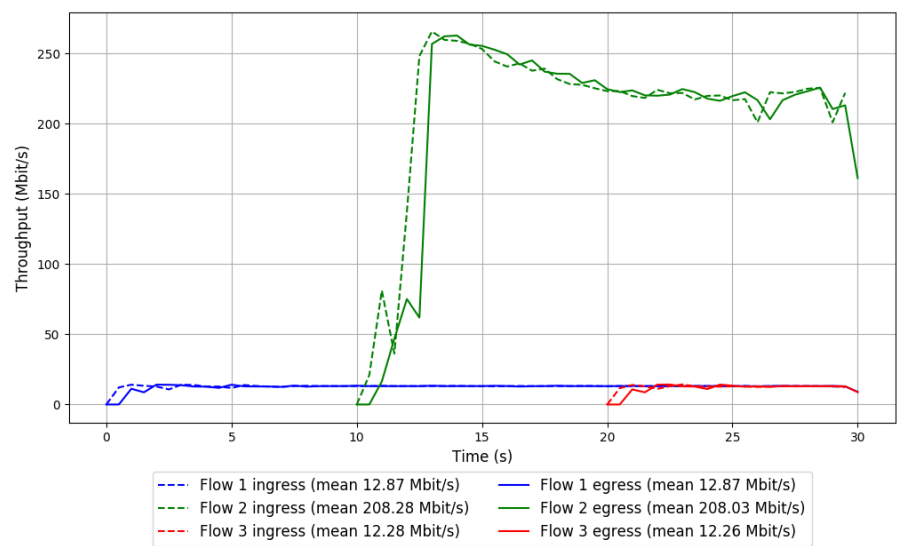


Run 5: Statistics of TaoVA-100x

Start at: 2018-09-08 00:31:10
End at: 2018-09-08 00:31:40
Local clock offset: 0.317 ms
Remote clock offset: -0.515 ms

Below is generated by plot.py at 2018-09-08 02:40:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 154.83 Mbit/s
95th percentile per-packet one-way delay: 136.261 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 136.302 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 208.03 Mbit/s
95th percentile per-packet one-way delay: 136.073 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 136.500 ms
Loss rate: 2.94%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 21:59:30

End at: 2018-09-07 22:00:00

Local clock offset: -0.481 ms

Remote clock offset: 0.11 ms

Below is generated by plot.py at 2018-09-08 02:40:30

Datalink statistics

-- Total of 3 flows:

Average throughput: 395.96 Mbit/s

95th percentile per-packet one-way delay: 153.949 ms

Loss rate: 1.68%

-- Flow 1:

Average throughput: 88.83 Mbit/s

95th percentile per-packet one-way delay: 145.044 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 336.79 Mbit/s

95th percentile per-packet one-way delay: 136.539 ms

Loss rate: 1.89%

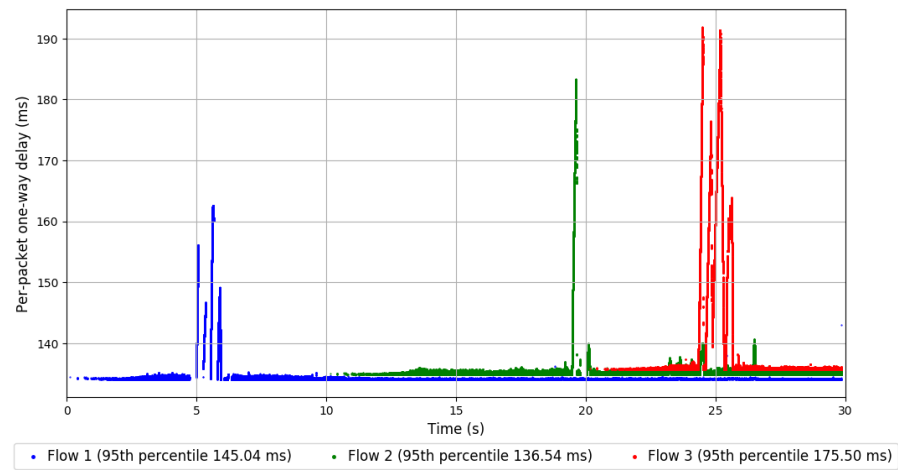
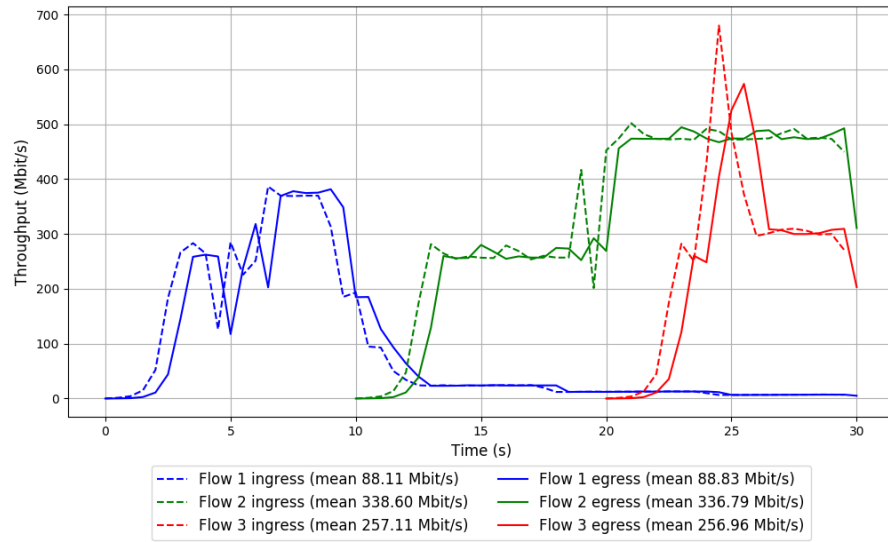
-- Flow 3:

Average throughput: 256.96 Mbit/s

95th percentile per-packet one-way delay: 175.504 ms

Loss rate: 2.80%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 22:33:03

End at: 2018-09-07 22:33:33

Local clock offset: 0.052 ms

Remote clock offset: 0.031 ms

Below is generated by plot.py at 2018-09-08 02:42:53

Datalink statistics

-- Total of 3 flows:

Average throughput: 653.97 Mbit/s

95th percentile per-packet one-way delay: 149.852 ms

Loss rate: 1.47%

-- Flow 1:

Average throughput: 421.14 Mbit/s

95th percentile per-packet one-way delay: 140.060 ms

Loss rate: 1.02%

-- Flow 2:

Average throughput: 252.54 Mbit/s

95th percentile per-packet one-way delay: 157.493 ms

Loss rate: 1.34%

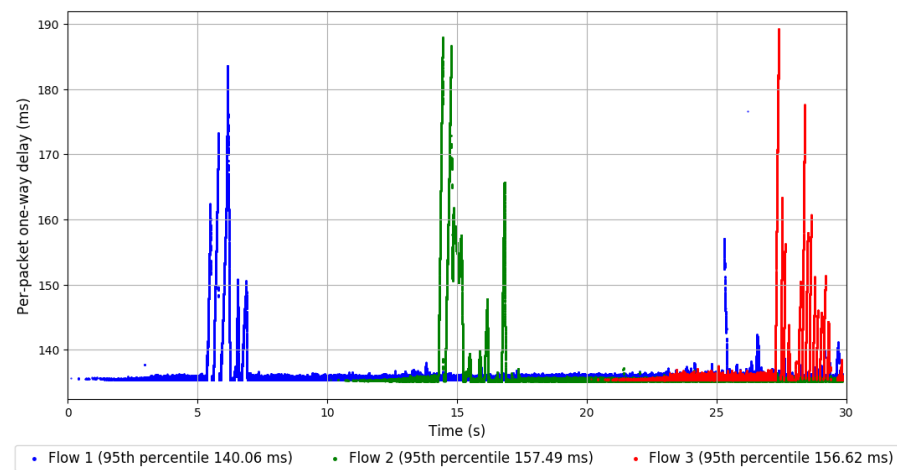
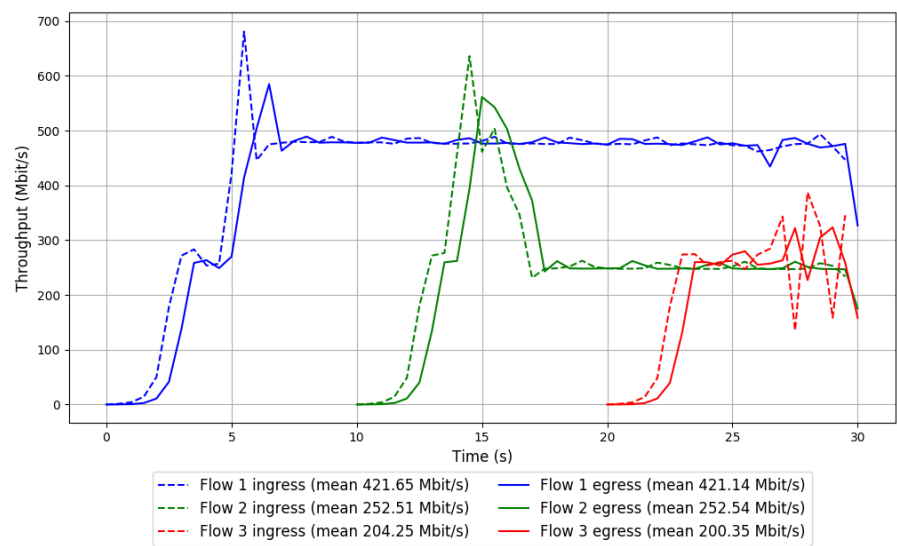
-- Flow 3:

Average throughput: 200.35 Mbit/s

95th percentile per-packet one-way delay: 156.623 ms

Loss rate: 4.60%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 23:07:04

End at: 2018-09-07 23:07:34

Local clock offset: 0.284 ms

Remote clock offset: 0.016 ms

Below is generated by plot.py at 2018-09-08 02:47:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 859.01 Mbit/s

95th percentile per-packet one-way delay: 231.317 ms

Loss rate: 1.58%

-- Flow 1:

Average throughput: 531.84 Mbit/s

95th percentile per-packet one-way delay: 233.051 ms

Loss rate: 0.88%

-- Flow 2:

Average throughput: 299.41 Mbit/s

95th percentile per-packet one-way delay: 172.921 ms

Loss rate: 2.15%

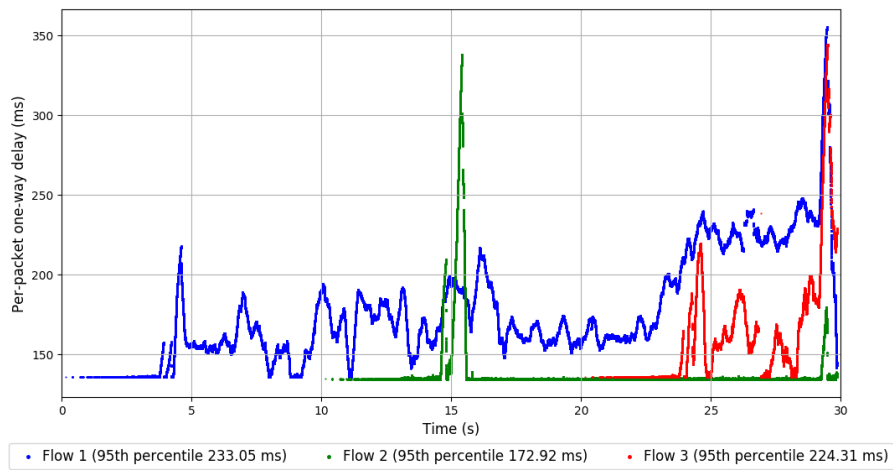
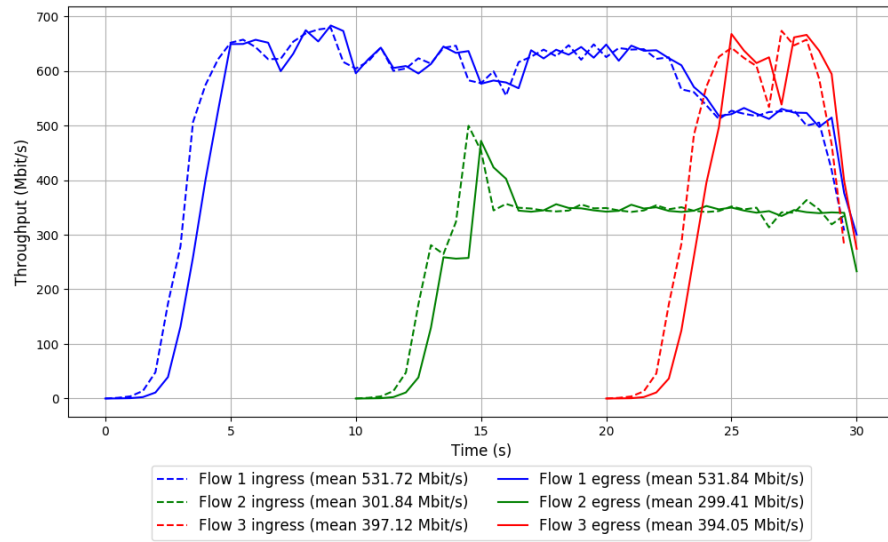
-- Flow 3:

Average throughput: 394.05 Mbit/s

95th percentile per-packet one-way delay: 224.307 ms

Loss rate: 3.48%

Run 3: Report of TCP Vegas — Data Link

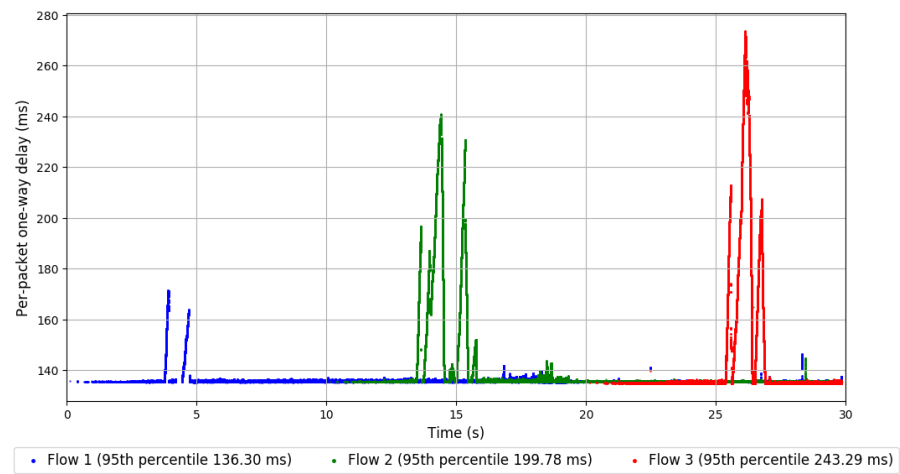
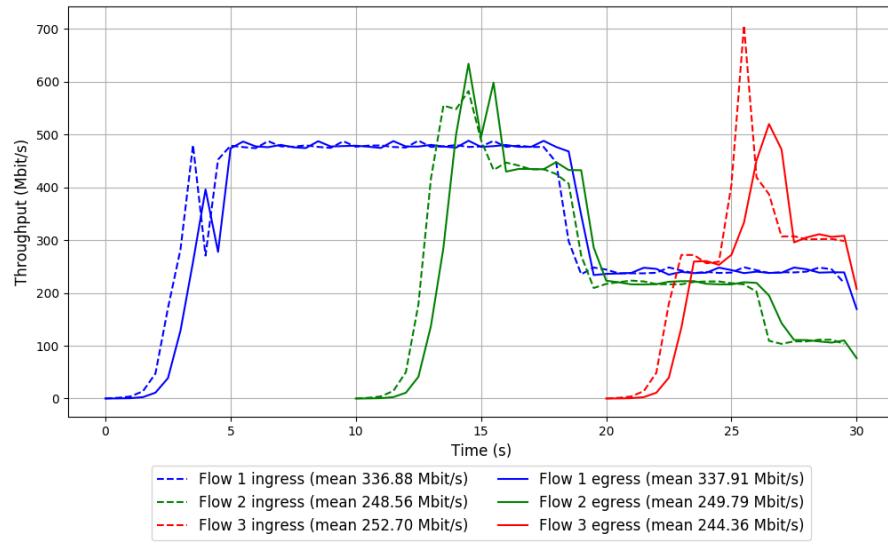


Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 23:41:15
End at: 2018-09-07 23:41:45
Local clock offset: 0.338 ms
Remote clock offset: -0.085 ms

Below is generated by plot.py at 2018-09-08 02:47:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 583.42 Mbit/s
95th percentile per-packet one-way delay: 177.916 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 337.91 Mbit/s
95th percentile per-packet one-way delay: 136.303 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 249.79 Mbit/s
95th percentile per-packet one-way delay: 199.775 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 244.36 Mbit/s
95th percentile per-packet one-way delay: 243.286 ms
Loss rate: 5.94%

Run 4: Report of TCP Vegas — Data Link

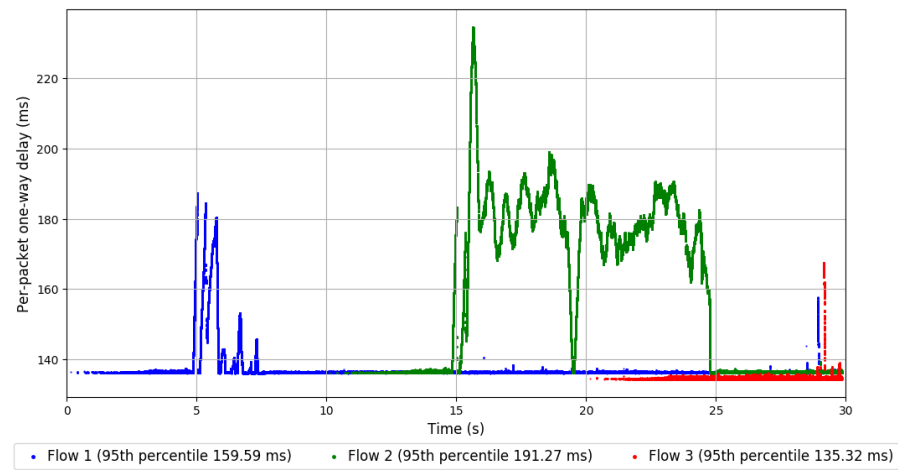
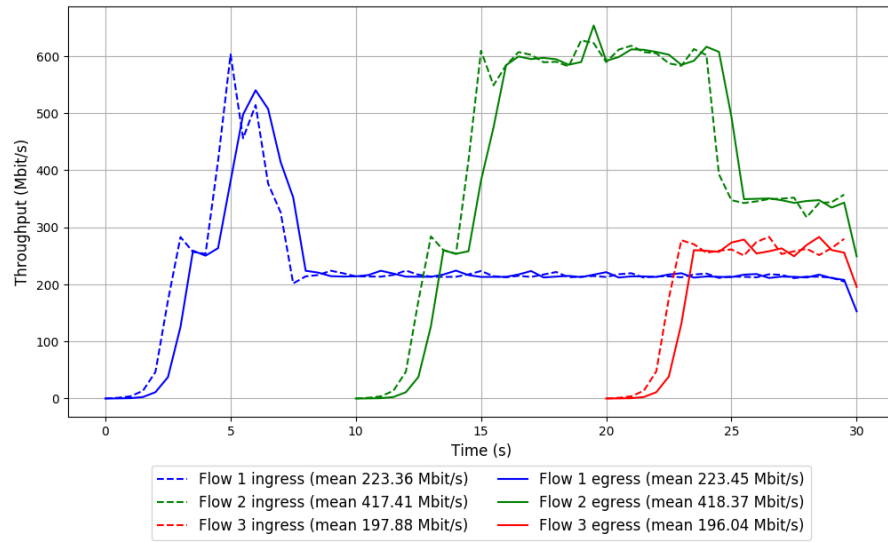


Run 5: Statistics of TCP Vegas

Start at: 2018-09-08 00:15:18
End at: 2018-09-08 00:15:48
Local clock offset: 0.56 ms
Remote clock offset: -0.505 ms

Below is generated by plot.py at 2018-09-08 02:47:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 564.84 Mbit/s
95th percentile per-packet one-way delay: 188.556 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 223.45 Mbit/s
95th percentile per-packet one-way delay: 159.590 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 418.37 Mbit/s
95th percentile per-packet one-way delay: 191.269 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 196.04 Mbit/s
95th percentile per-packet one-way delay: 135.319 ms
Loss rate: 3.62%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-07 22:13:27

End at: 2018-09-07 22:13:57

Local clock offset: -0.503 ms

Remote clock offset: 0.089 ms

Below is generated by plot.py at 2018-09-08 02:47:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 150.60 Mbit/s

95th percentile per-packet one-way delay: 203.576 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 51.62 Mbit/s

95th percentile per-packet one-way delay: 181.924 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 132.33 Mbit/s

95th percentile per-packet one-way delay: 210.741 ms

Loss rate: 0.26%

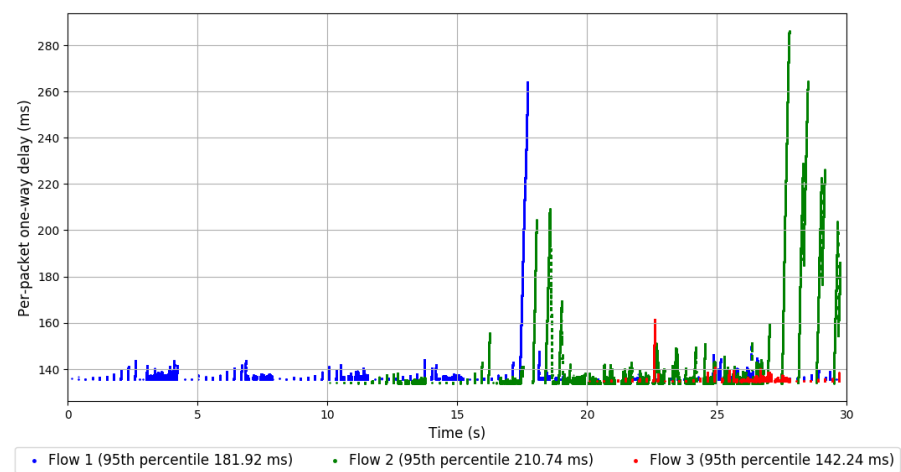
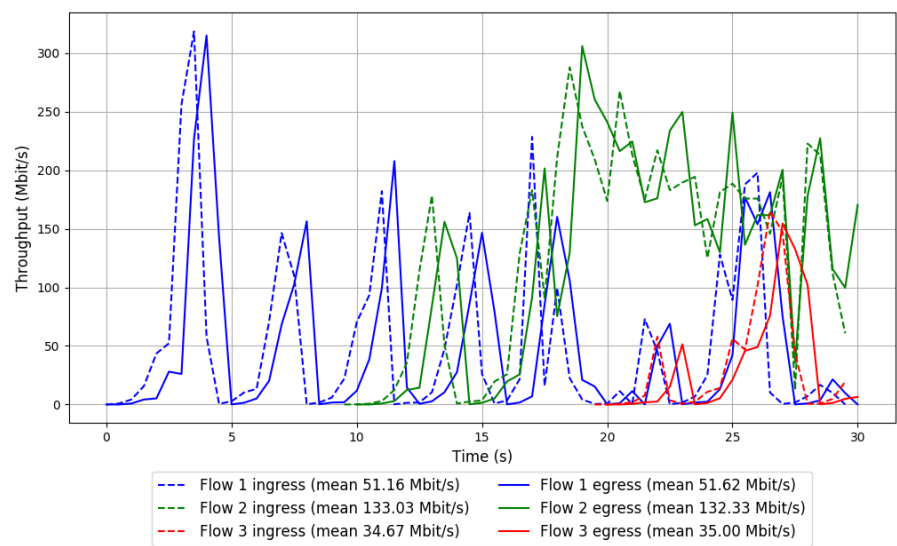
-- Flow 3:

Average throughput: 35.00 Mbit/s

95th percentile per-packet one-way delay: 142.241 ms

Loss rate: 1.88%

Run 1: Report of Verus — Data Link

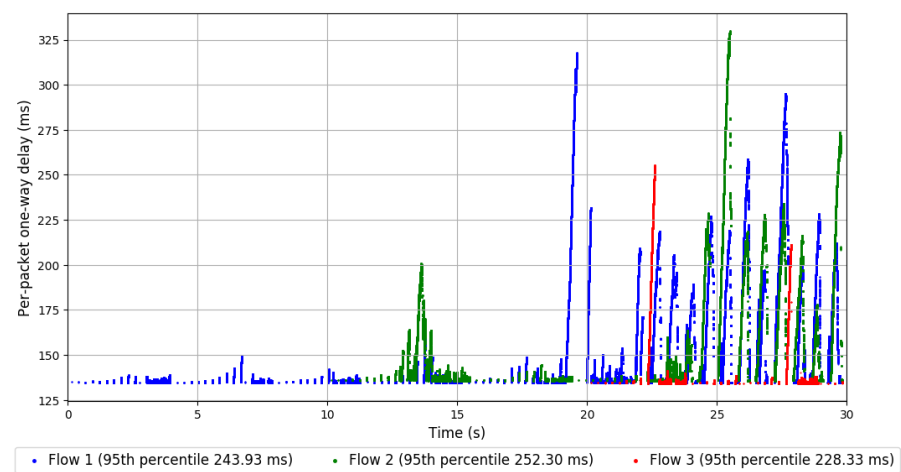
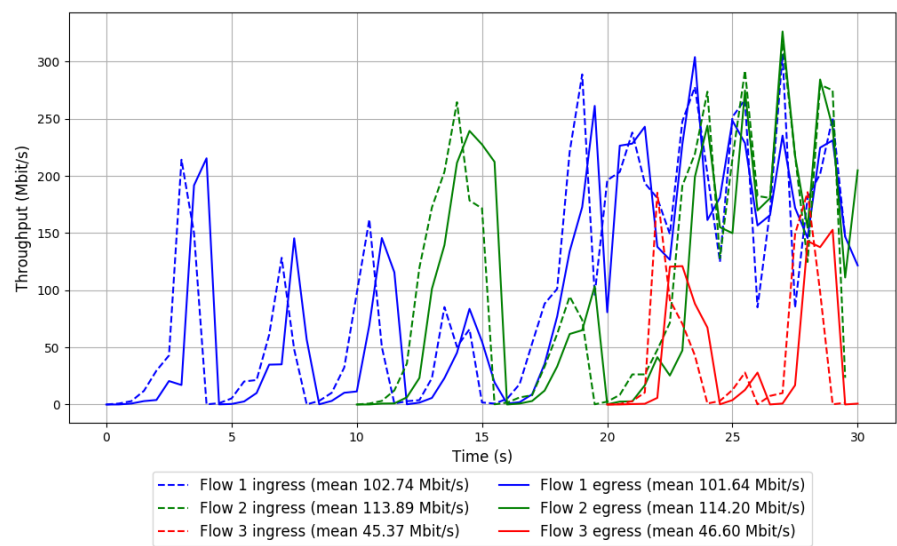


Run 2: Statistics of Verus

Start at: 2018-09-07 22:47:24
End at: 2018-09-07 22:47:54
Local clock offset: 0.156 ms
Remote clock offset: -0.337 ms

Below is generated by plot.py at 2018-09-08 02:47:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 192.17 Mbit/s
95th percentile per-packet one-way delay: 245.216 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 101.64 Mbit/s
95th percentile per-packet one-way delay: 243.927 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 114.20 Mbit/s
95th percentile per-packet one-way delay: 252.296 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 46.60 Mbit/s
95th percentile per-packet one-way delay: 228.331 ms
Loss rate: 0.10%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-07 23:21:38

End at: 2018-09-07 23:22:08

Local clock offset: 0.294 ms

Remote clock offset: 0.01 ms

Below is generated by plot.py at 2018-09-08 02:47:02

Datalink statistics

-- Total of 3 flows:

Average throughput: 238.82 Mbit/s

95th percentile per-packet one-way delay: 280.104 ms

Loss rate: 6.97%

-- Flow 1:

Average throughput: 195.28 Mbit/s

95th percentile per-packet one-way delay: 282.213 ms

Loss rate: 8.15%

-- Flow 2:

Average throughput: 34.22 Mbit/s

95th percentile per-packet one-way delay: 141.236 ms

Loss rate: 2.49%

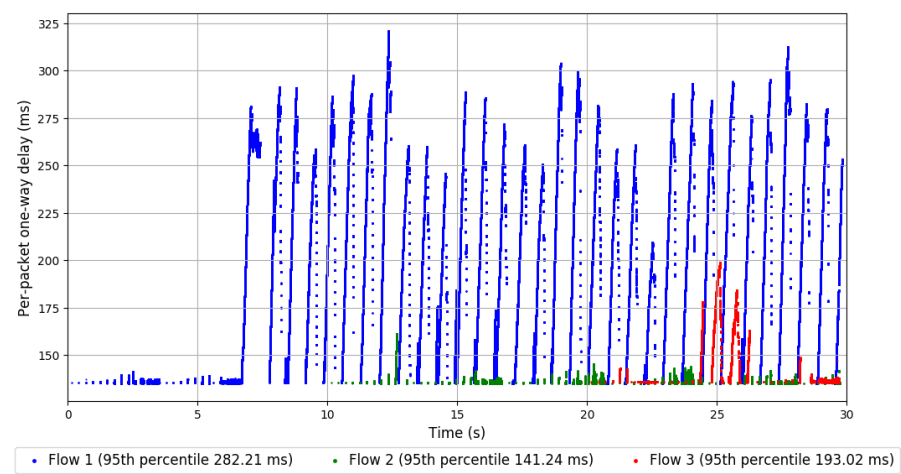
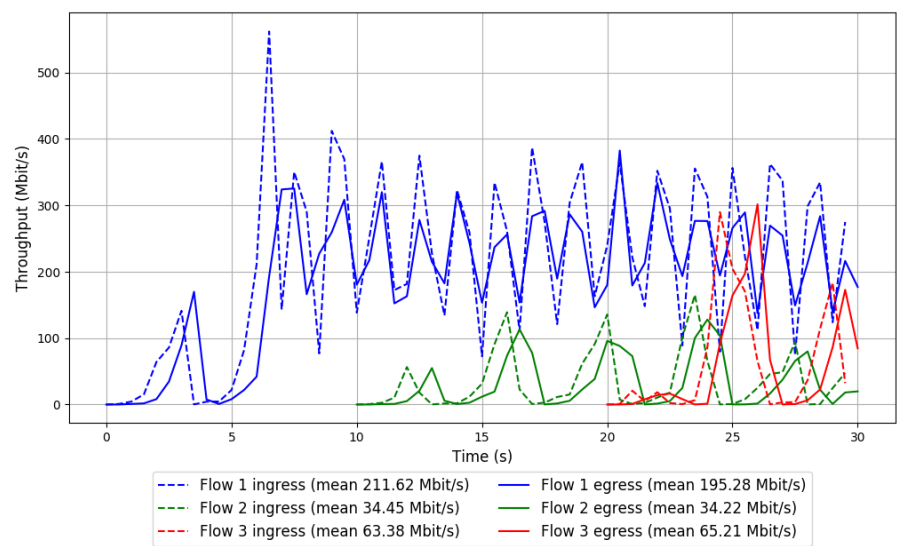
-- Flow 3:

Average throughput: 65.21 Mbit/s

95th percentile per-packet one-way delay: 193.021 ms

Loss rate: 0.00%

Run 3: Report of Verus — Data Link

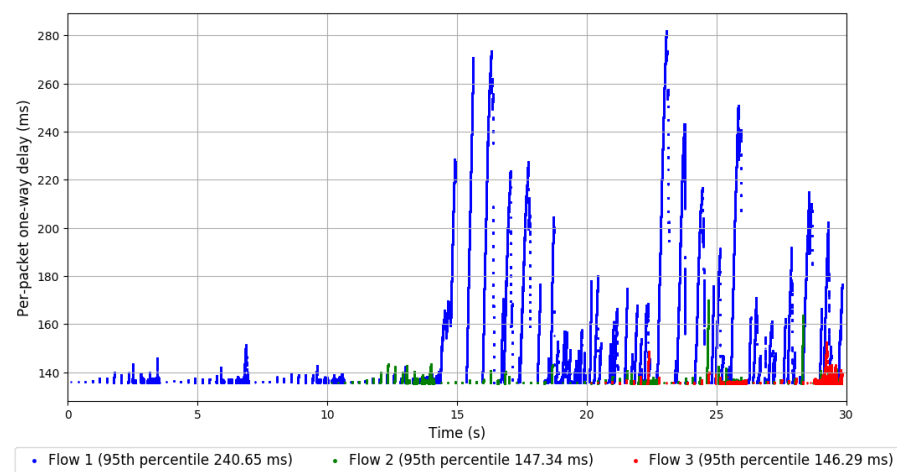
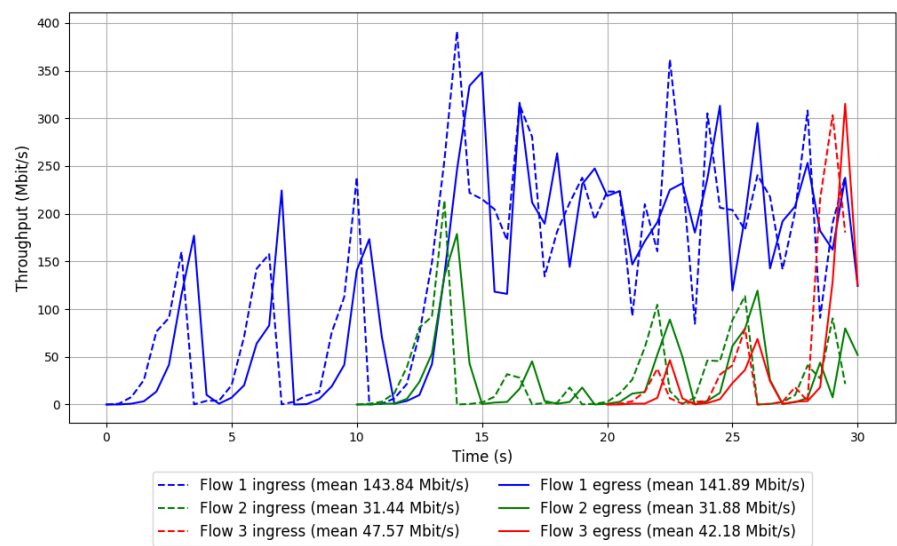


Run 4: Statistics of Verus

Start at: 2018-09-07 23:55:25
End at: 2018-09-07 23:55:55
Local clock offset: 0.376 ms
Remote clock offset: -0.489 ms

Below is generated by plot.py at 2018-09-08 02:47:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 176.66 Mbit/s
95th percentile per-packet one-way delay: 236.321 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 141.89 Mbit/s
95th percentile per-packet one-way delay: 240.649 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 31.88 Mbit/s
95th percentile per-packet one-way delay: 147.337 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.18 Mbit/s
95th percentile per-packet one-way delay: 146.291 ms
Loss rate: 13.72%

Run 4: Report of Verus — Data Link

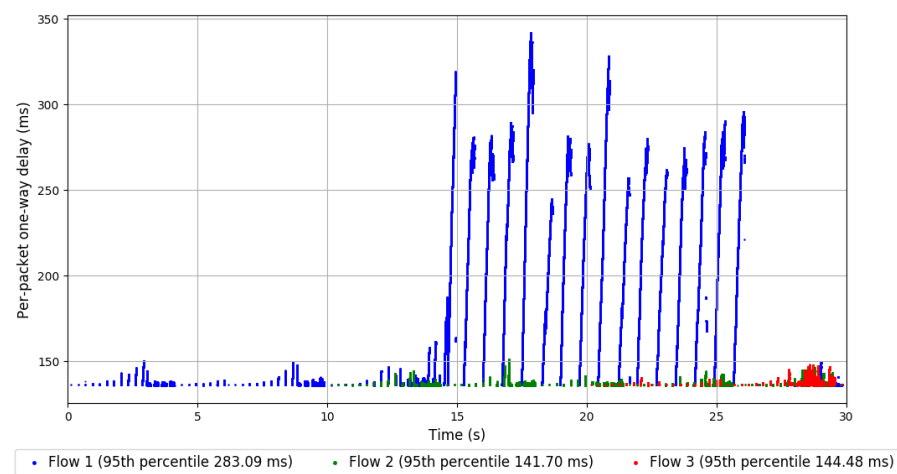
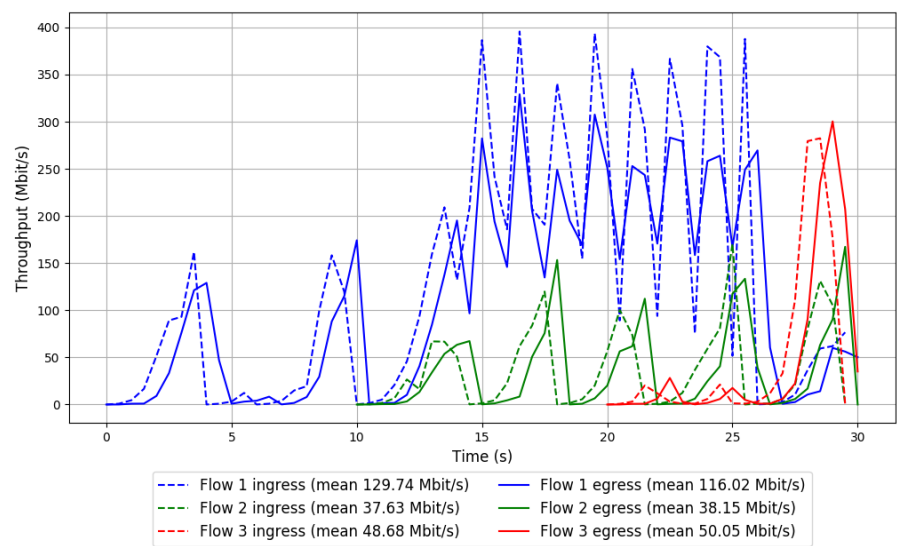


Run 5: Statistics of Verus

Start at: 2018-09-08 00:29:32
End at: 2018-09-08 00:30:02
Local clock offset: 0.358 ms
Remote clock offset: -0.522 ms

Below is generated by plot.py at 2018-09-08 02:47:02
Datalink statistics
-- Total of 3 flows:
Average throughput: 157.52 Mbit/s
95th percentile per-packet one-way delay: 278.712 ms
Loss rate: 8.65%
-- Flow 1:
Average throughput: 116.02 Mbit/s
95th percentile per-packet one-way delay: 283.091 ms
Loss rate: 11.39%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 141.702 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 144.483 ms
Loss rate: 0.02%

Run 5: Report of Verus — Data Link

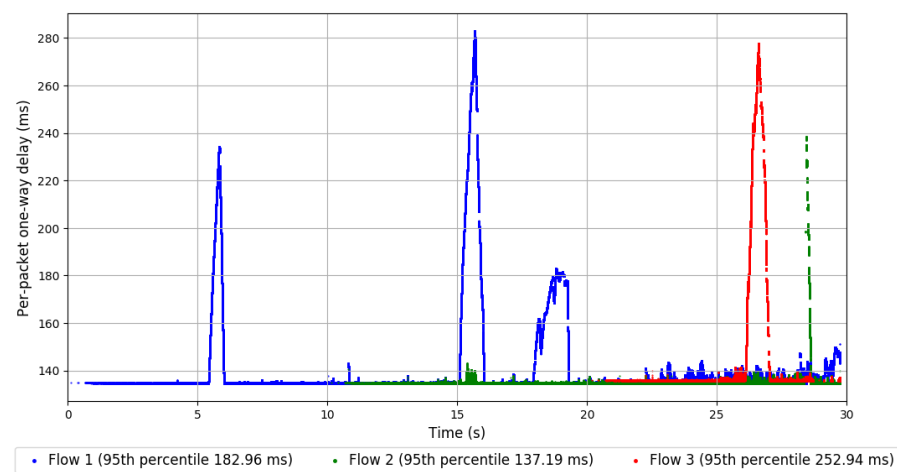
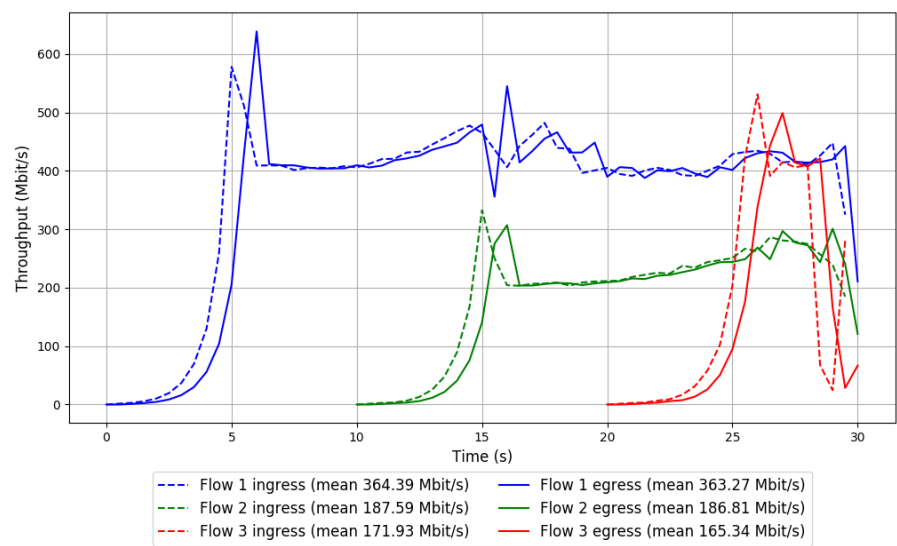


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 22:16:46
End at: 2018-09-07 22:17:16
Local clock offset: -0.223 ms
Remote clock offset: -0.276 ms

Below is generated by plot.py at 2018-09-08 02:49:48
Datalink statistics
-- Total of 3 flows:
Average throughput: 540.38 Mbit/s
95th percentile per-packet one-way delay: 192.719 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 363.27 Mbit/s
95th percentile per-packet one-way delay: 182.961 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 186.81 Mbit/s
95th percentile per-packet one-way delay: 137.186 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 165.34 Mbit/s
95th percentile per-packet one-way delay: 252.942 ms
Loss rate: 6.49%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 22:51:02

End at: 2018-09-07 22:51:32

Local clock offset: 0.356 ms

Remote clock offset: -0.32 ms

Below is generated by plot.py at 2018-09-08 02:50:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 572.10 Mbit/s

95th percentile per-packet one-way delay: 151.184 ms

Loss rate: 2.03%

-- Flow 1:

Average throughput: 317.16 Mbit/s

95th percentile per-packet one-way delay: 139.554 ms

Loss rate: 1.46%

-- Flow 2:

Average throughput: 300.43 Mbit/s

95th percentile per-packet one-way delay: 196.210 ms

Loss rate: 2.51%

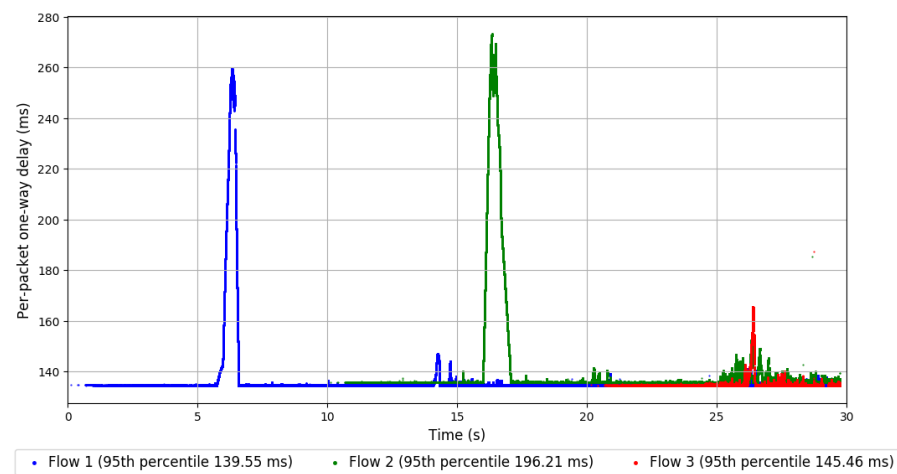
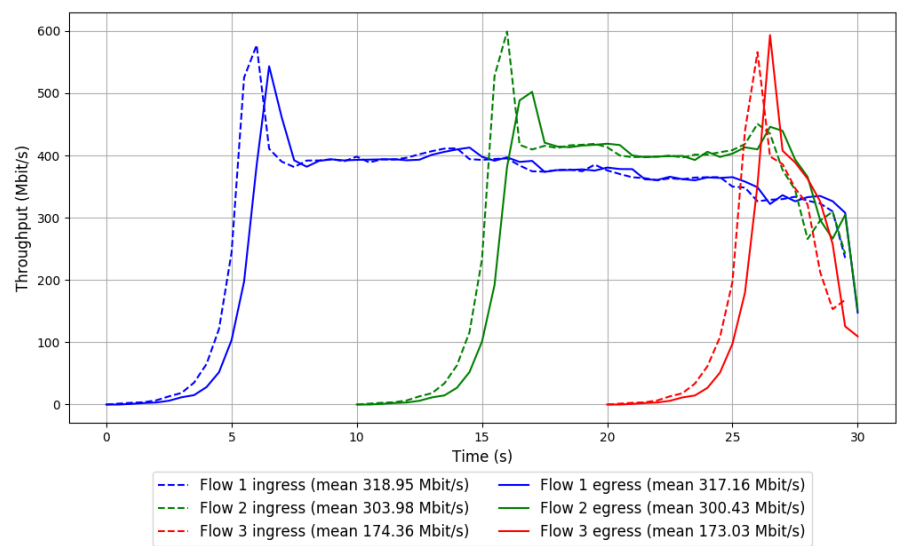
-- Flow 3:

Average throughput: 173.03 Mbit/s

95th percentile per-packet one-way delay: 145.461 ms

Loss rate: 3.52%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 23:25:11

End at: 2018-09-07 23:25:41

Local clock offset: 0.32 ms

Remote clock offset: -0.05 ms

Below is generated by plot.py at 2018-09-08 02:50:07

Datalink statistics

-- Total of 3 flows:

Average throughput: 544.62 Mbit/s

95th percentile per-packet one-way delay: 139.557 ms

Loss rate: 1.59%

-- Flow 1:

Average throughput: 319.98 Mbit/s

95th percentile per-packet one-way delay: 142.165 ms

Loss rate: 1.09%

-- Flow 2:

Average throughput: 287.08 Mbit/s

95th percentile per-packet one-way delay: 137.724 ms

Loss rate: 1.91%

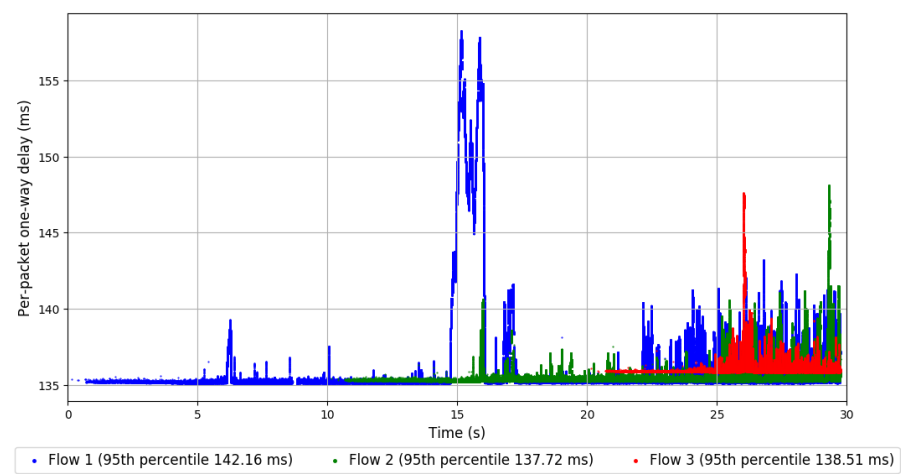
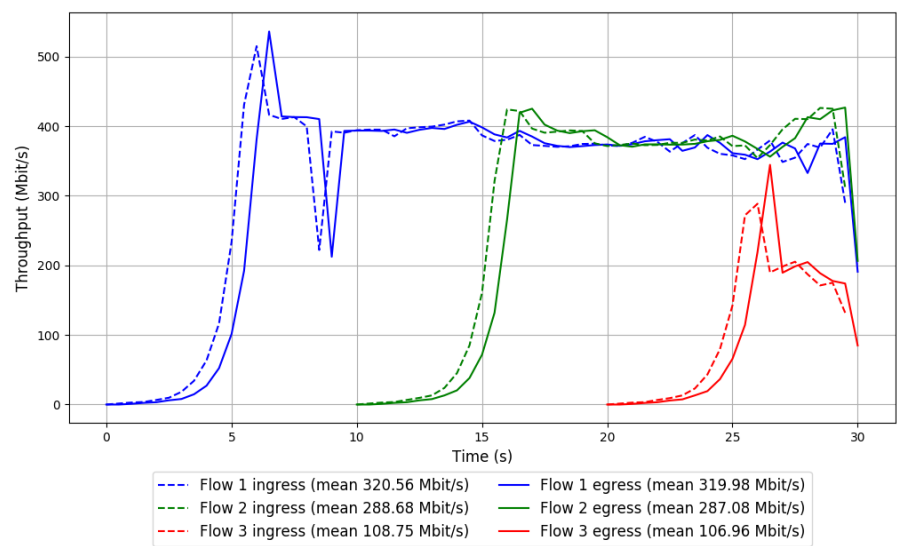
-- Flow 3:

Average throughput: 106.96 Mbit/s

95th percentile per-packet one-way delay: 138.509 ms

Loss rate: 4.37%

Run 3: Report of PCC-Vivace — Data Link

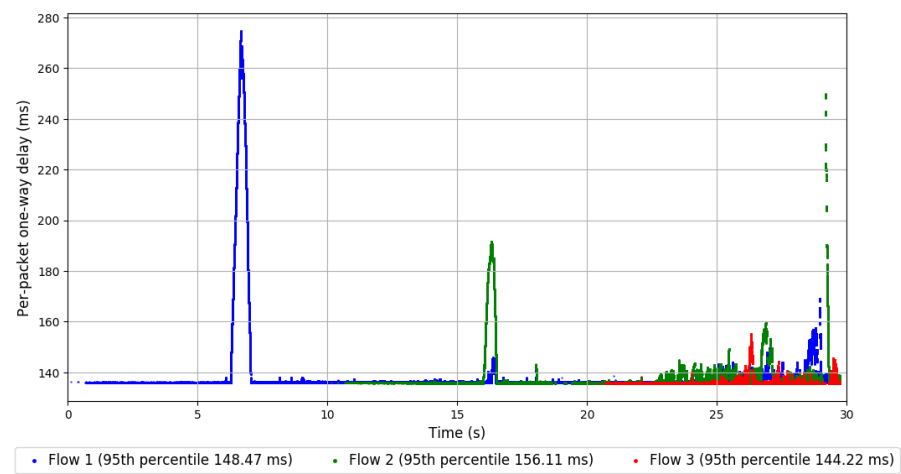
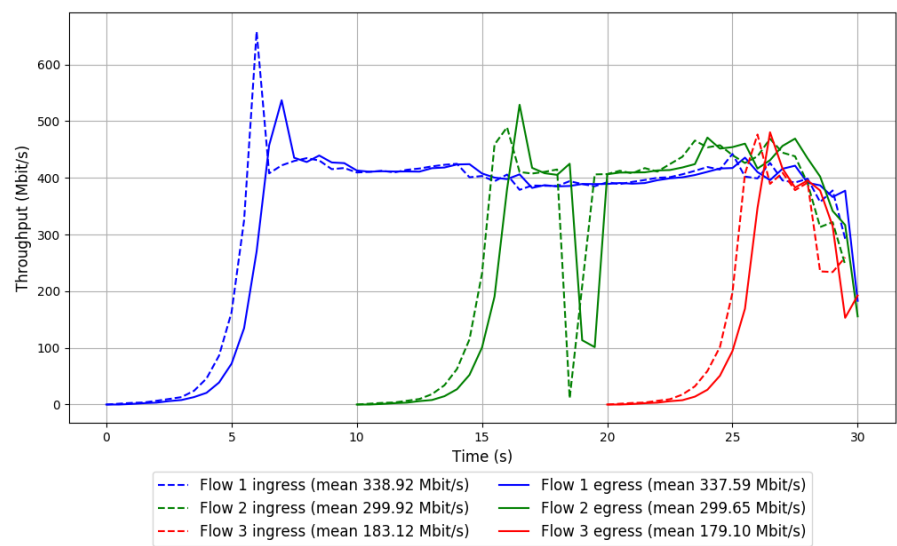


Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 23:59:05
End at: 2018-09-07 23:59:35
Local clock offset: 0.602 ms
Remote clock offset: -0.458 ms

Below is generated by plot.py at 2018-09-08 02:50:26
Datalink statistics
-- Total of 3 flows:
Average throughput: 594.01 Mbit/s
95th percentile per-packet one-way delay: 150.881 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 337.59 Mbit/s
95th percentile per-packet one-way delay: 148.465 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 299.65 Mbit/s
95th percentile per-packet one-way delay: 156.113 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 179.10 Mbit/s
95th percentile per-packet one-way delay: 144.225 ms
Loss rate: 4.90%

Run 4: Report of PCC-Vivace — Data Link

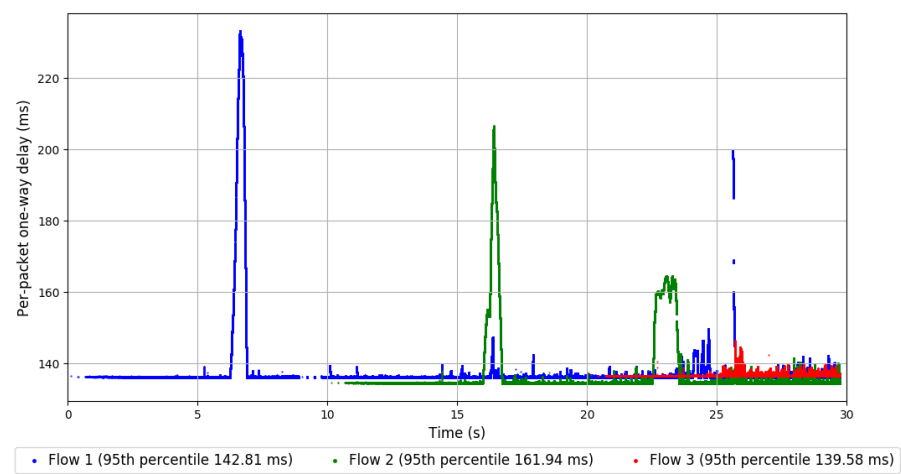
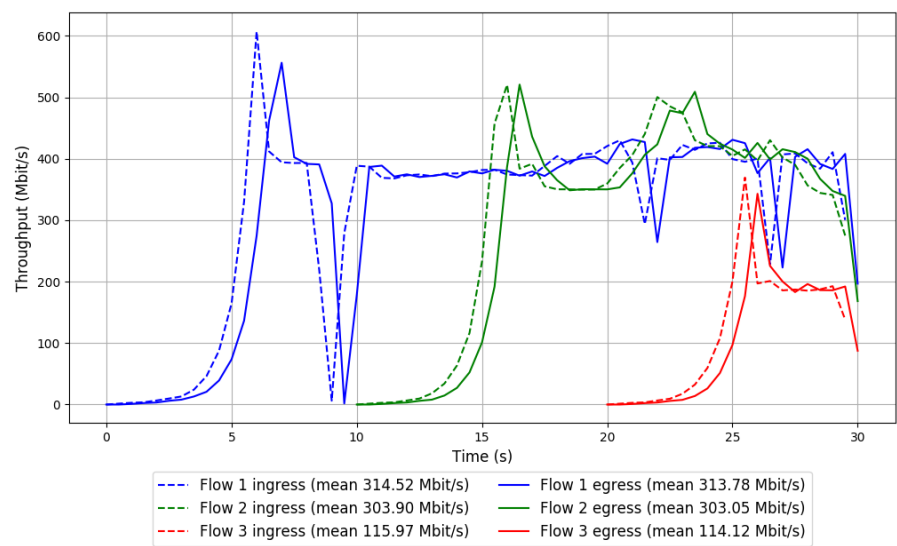


Run 5: Statistics of PCC-Vivace

Start at: 2018-09-08 00:32:46
End at: 2018-09-08 00:33:16
Local clock offset: 0.239 ms
Remote clock offset: -0.533 ms

Below is generated by plot.py at 2018-09-08 02:50:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 551.33 Mbit/s
95th percentile per-packet one-way delay: 158.644 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 313.78 Mbit/s
95th percentile per-packet one-way delay: 142.805 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 303.05 Mbit/s
95th percentile per-packet one-way delay: 161.941 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 114.12 Mbit/s
95th percentile per-packet one-way delay: 139.583 ms
Loss rate: 4.41%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-07 21:50:19

End at: 2018-09-07 21:50:49

Local clock offset: -0.52 ms

Remote clock offset: 0.133 ms

Below is generated by plot.py at 2018-09-08 02:50:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 2.71 Mbit/s

95th percentile per-packet one-way delay: 136.066 ms

Loss rate: 2.00%

-- Flow 1:

Average throughput: 1.38 Mbit/s

95th percentile per-packet one-way delay: 136.011 ms

Loss rate: 1.20%

-- Flow 2:

Average throughput: 1.02 Mbit/s

95th percentile per-packet one-way delay: 135.413 ms

Loss rate: 1.73%

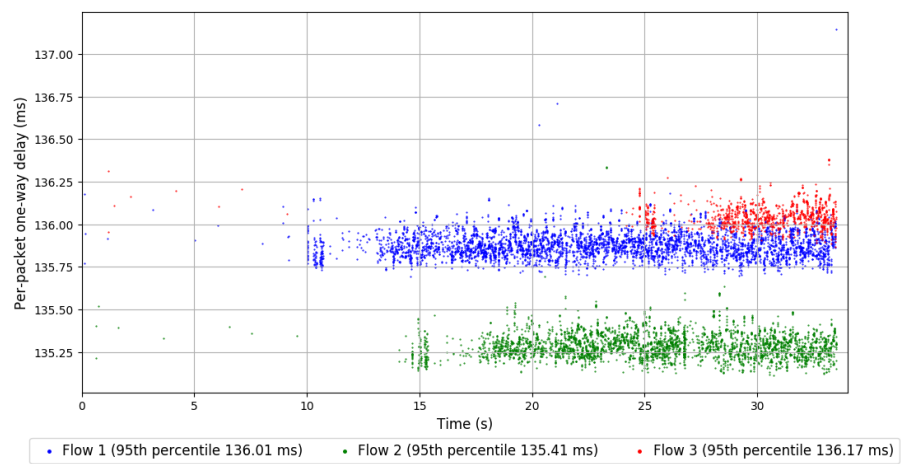
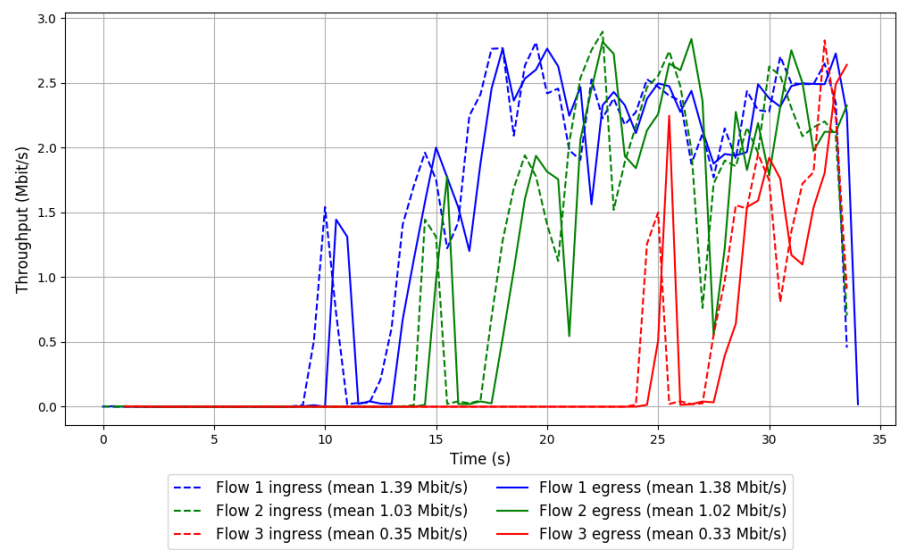
-- Flow 3:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 136.171 ms

Loss rate: 6.09%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-07 22:23:39

End at: 2018-09-07 22:24:09

Local clock offset: -0.119 ms

Remote clock offset: 0.066 ms

Below is generated by plot.py at 2018-09-08 02:50:35

Datalink statistics

-- Total of 3 flows:

Average throughput: 3.11 Mbit/s

95th percentile per-packet one-way delay: 135.520 ms

Loss rate: 1.79%

-- Flow 1:

Average throughput: 1.78 Mbit/s

95th percentile per-packet one-way delay: 135.546 ms

Loss rate: 1.11%

-- Flow 2:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 134.498 ms

Loss rate: 1.97%

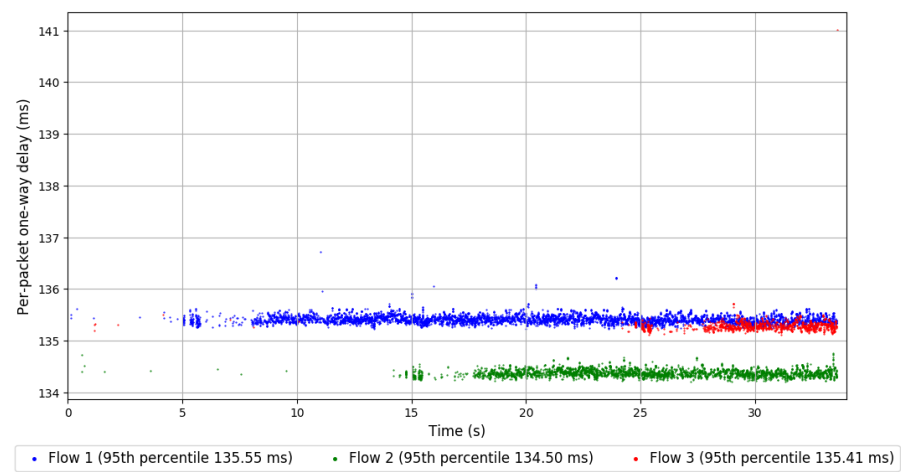
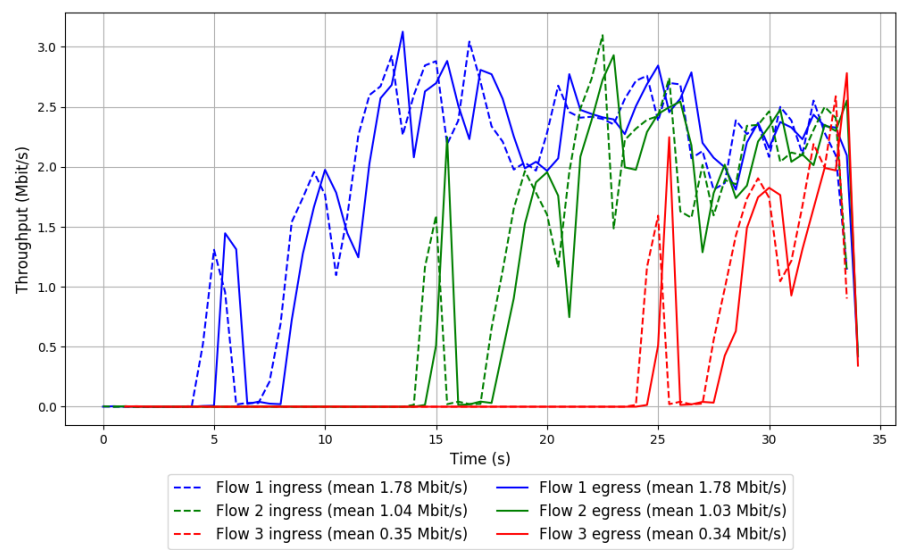
-- Flow 3:

Average throughput: 0.34 Mbit/s

95th percentile per-packet one-way delay: 135.412 ms

Loss rate: 4.80%

Run 2: Report of WebRTC media — Data Link

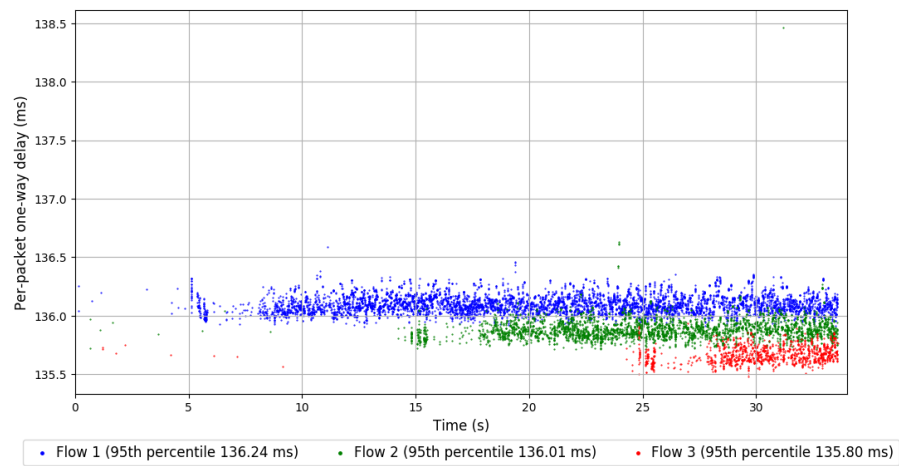
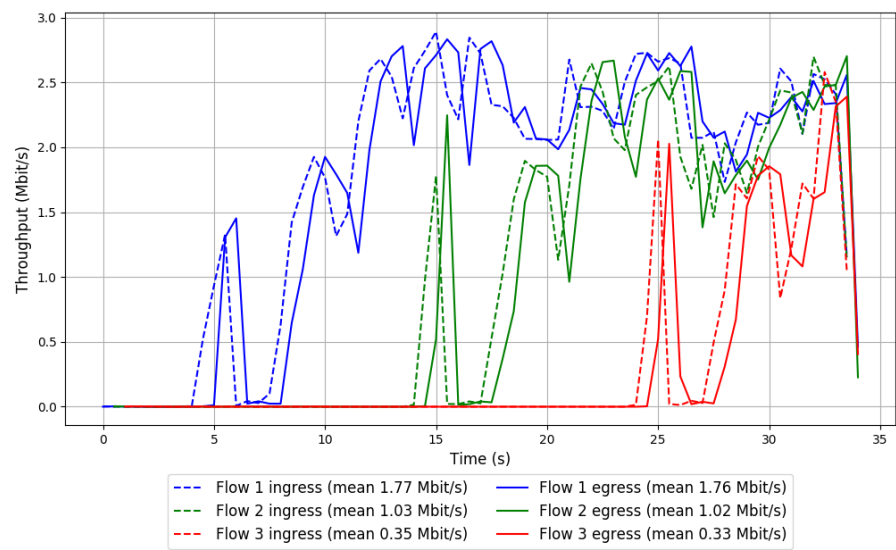


Run 3: Statistics of WebRTC media

Start at: 2018-09-07 22:57:55
End at: 2018-09-07 22:58:25
Local clock offset: 0.165 ms
Remote clock offset: -0.381 ms

Below is generated by plot.py at 2018-09-08 02:50:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 136.204 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 136.240 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 136.011 ms
Loss rate: 1.98%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 135.799 ms
Loss rate: 5.58%

Run 3: Report of WebRTC media — Data Link

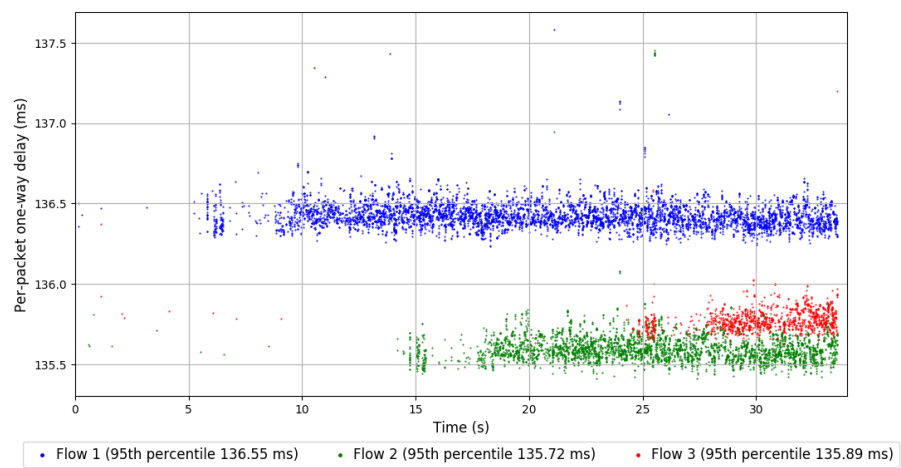
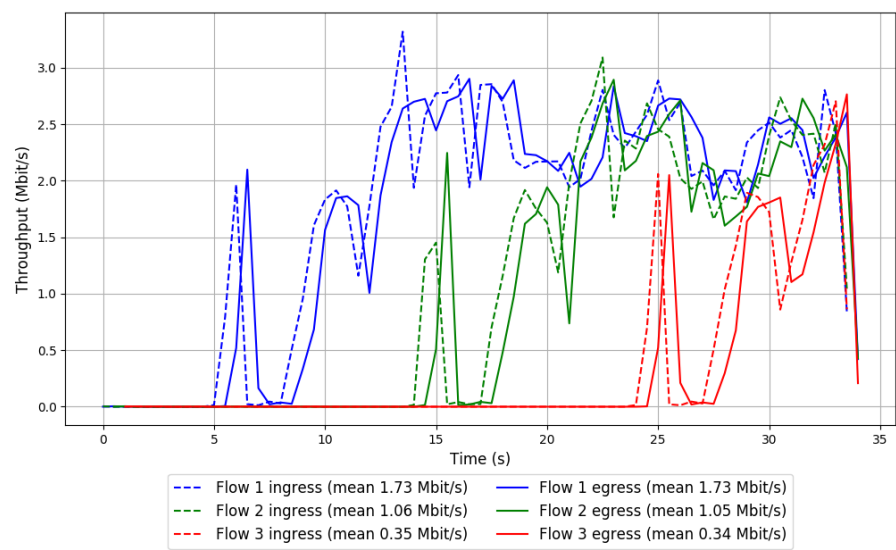


Run 4: Statistics of WebRTC media

Start at: 2018-09-07 23:32:06
End at: 2018-09-07 23:32:36
Local clock offset: 0.263 ms
Remote clock offset: -0.406 ms

Below is generated by plot.py at 2018-09-08 02:50:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 136.524 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 136.553 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 135.723 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 135.888 ms
Loss rate: 4.87%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-08 00:05:59
End at: 2018-09-08 00:06:29
Local clock offset: 0.488 ms
Remote clock offset: -0.541 ms

Below is generated by plot.py at 2018-09-08 02:50:35
Datalink statistics
-- Total of 3 flows:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 136.546 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 136.024 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 136.063 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 136.666 ms
Loss rate: 6.02%

Run 5: Report of WebRTC media — Data Link

