

Pantheon Report

Generated at 2018-09-06 12:20:41 (UTC).
Data path: GCE Tokyo on `ens4` (*local*) → GCE London on `ens4` (*remote*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 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.

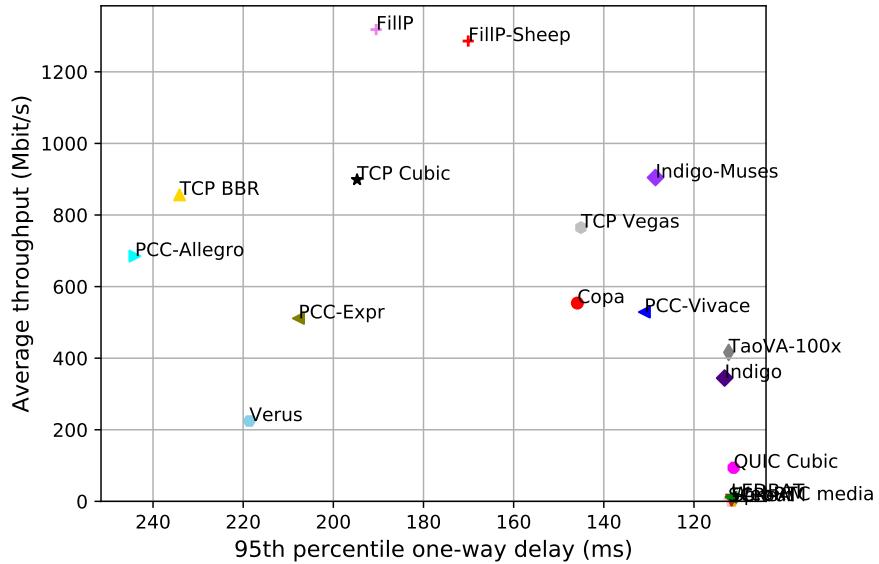
System info:

```
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 = 536870912 536870912 536870912
```

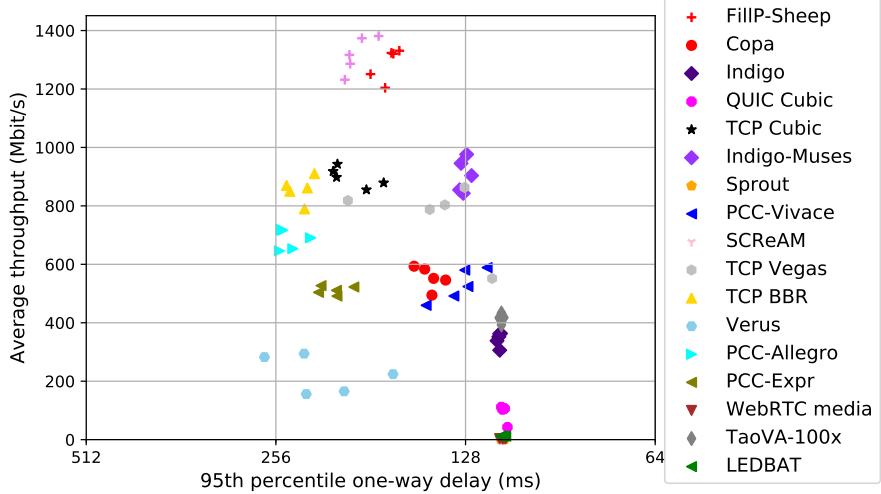
Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE Tokyo to GCE London, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



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



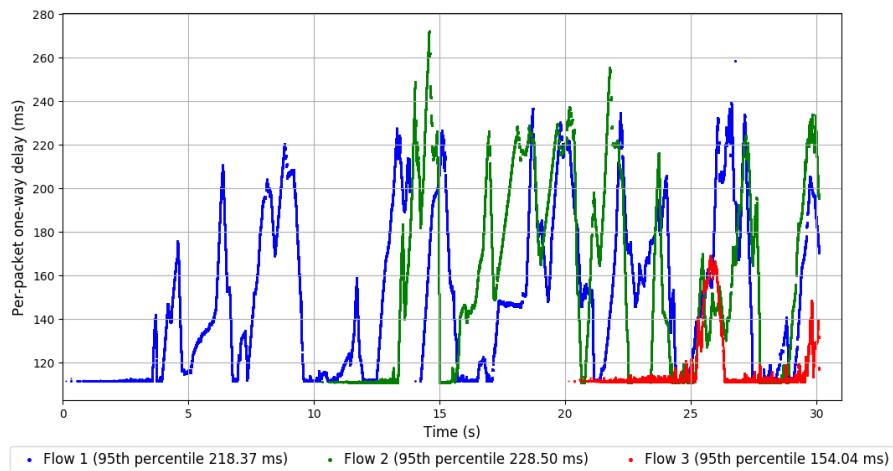
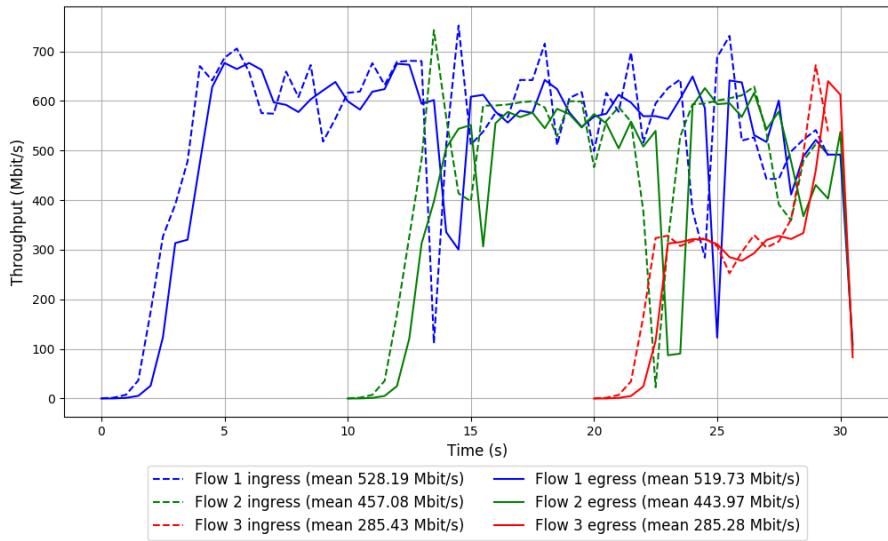
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	462.58	435.48	311.78	222.91	236.13	194.78	2.06	3.03	2.46
Copa	5	295.29	269.32	237.97	133.63	158.14	153.71	0.03	0.01	0.71
TCP Cubic	5	513.32	420.95	316.02	189.50	192.59	187.39	0.08	0.25	0.60
FillP	5	701.83	659.40	534.62	194.44	185.84	178.12	4.23	3.24	2.90
FillP-Sheep	5	717.72	613.29	482.39	171.09	172.22	142.33	1.49	1.19	0.02
Indigo	5	193.48	163.09	134.06	113.25	112.89	112.40	0.00	0.00	0.01
LEDBAT	5	7.57	5.03	2.46	111.23	111.35	111.41	0.00	0.00	0.00
Indigo-Muses	5	481.21	428.72	428.78	129.74	127.43	123.20	0.00	0.02	0.01
PCC-Allegro	5	397.52	292.61	283.33	241.83	220.01	244.60	5.46	3.97	5.89
PCC-Expr	5	283.54	245.57	194.52	199.04	166.04	162.24	1.49	1.44	1.16
QUIC Cubic	5	45.75	53.76	38.57	111.19	110.45	110.65	0.00	0.00	0.00
SCReAM	5	0.20	0.22	0.20	112.03	112.37	111.81	0.00	0.00	0.00
Sprout	5	0.22	0.21	0.24	111.37	110.59	110.90	0.00	0.00	0.00
TaoVA-100x	5	212.09	210.52	192.93	112.16	112.36	111.67	0.00	0.00	0.00
TCP Vegas	5	426.89	364.43	286.46	147.09	133.81	125.28	0.05	0.18	0.11
Verus	5	137.34	112.50	54.12	190.49	208.90	176.49	0.90	2.51	0.57
PCC-Vivace	5	335.96	210.72	160.32	127.46	135.73	139.51	0.07	0.00	0.00
WebRTC media	5	1.89	1.10	0.37	111.68	111.34	111.28	0.00	0.01	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-06 07:34:56
End at: 2018-09-06 07:35:26
Local clock offset: 0.327 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-09-06 10:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.25 Mbit/s
95th percentile per-packet one-way delay: 222.333 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 519.73 Mbit/s
95th percentile per-packet one-way delay: 218.372 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 443.97 Mbit/s
95th percentile per-packet one-way delay: 228.500 ms
Loss rate: 2.87%
-- Flow 3:
Average throughput: 285.28 Mbit/s
95th percentile per-packet one-way delay: 154.038 ms
Loss rate: 0.00%
```

Run 1: Report of TCP BBR — Data Link

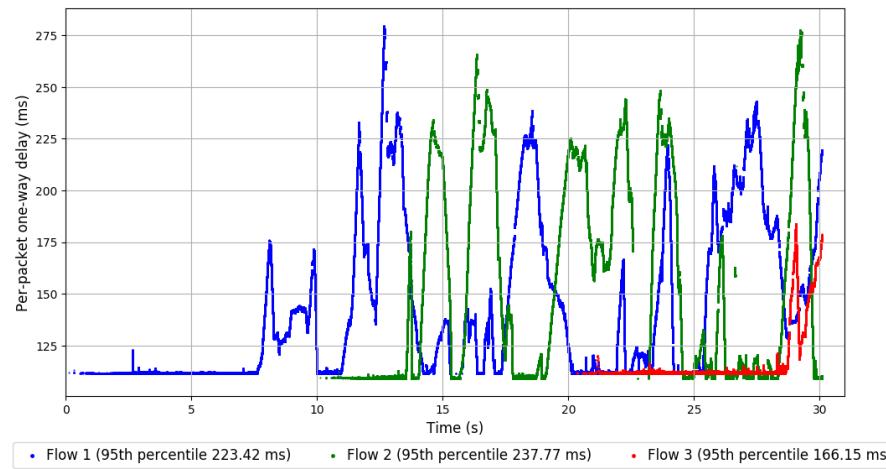
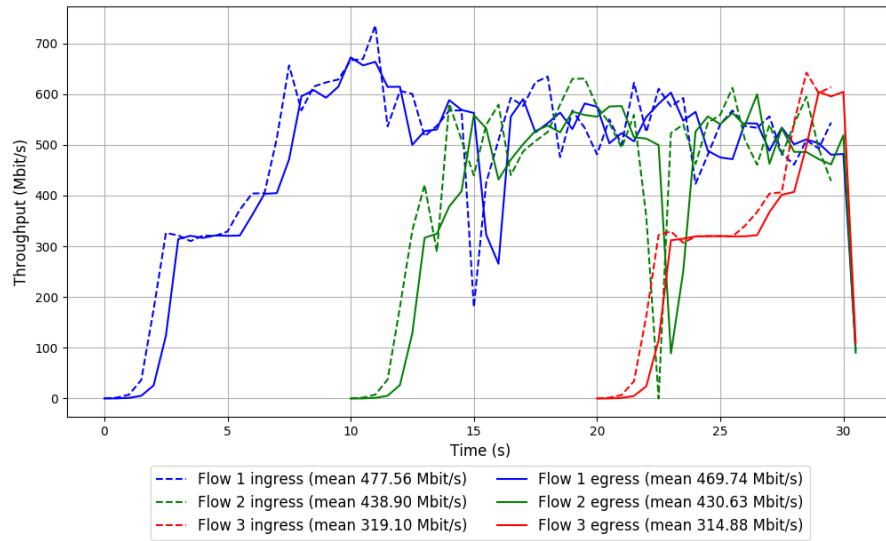


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-06 08:08:21
End at: 2018-09-06 08:08:51
Local clock offset: -0.229 ms
Remote clock offset: 0.204 ms

# Below is generated by plot.py at 2018-09-06 10:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 861.29 Mbit/s
95th percentile per-packet one-way delay: 228.165 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 469.74 Mbit/s
95th percentile per-packet one-way delay: 223.418 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 430.63 Mbit/s
95th percentile per-packet one-way delay: 237.769 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 314.88 Mbit/s
95th percentile per-packet one-way delay: 166.145 ms
Loss rate: 1.31%
```

Run 2: Report of TCP BBR — Data Link

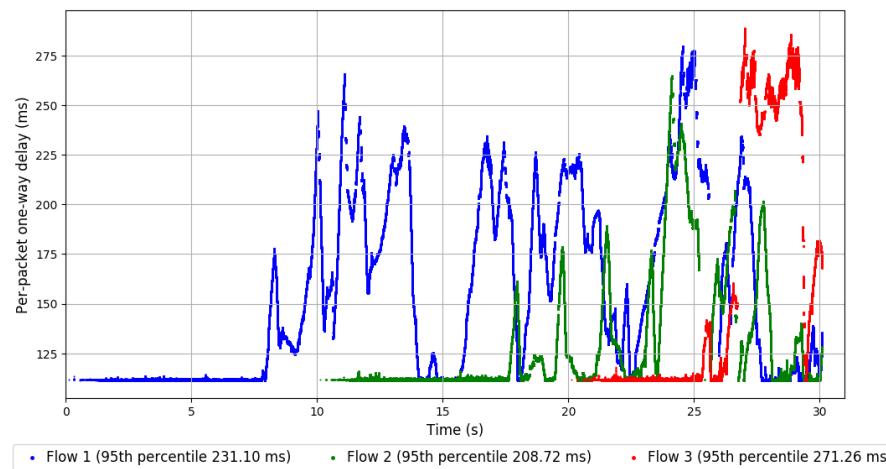
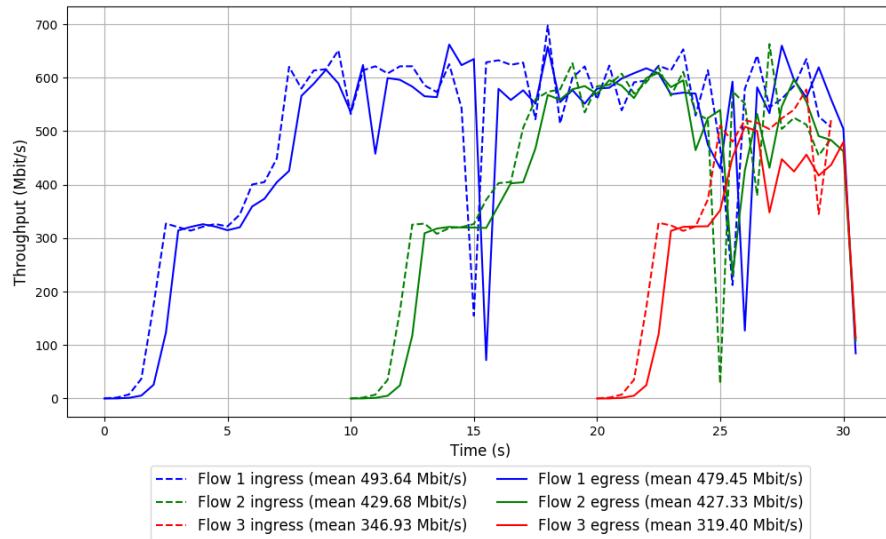


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-06 08:41:40
End at: 2018-09-06 08:42:10
Local clock offset: -0.13 ms
Remote clock offset: 0.064 ms

# Below is generated by plot.py at 2018-09-06 10:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 870.27 Mbit/s
95th percentile per-packet one-way delay: 246.208 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 479.45 Mbit/s
95th percentile per-packet one-way delay: 231.096 ms
Loss rate: 2.87%
-- Flow 2:
Average throughput: 427.33 Mbit/s
95th percentile per-packet one-way delay: 208.719 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 319.40 Mbit/s
95th percentile per-packet one-way delay: 271.260 ms
Loss rate: 7.93%
```

Run 3: Report of TCP BBR — Data Link

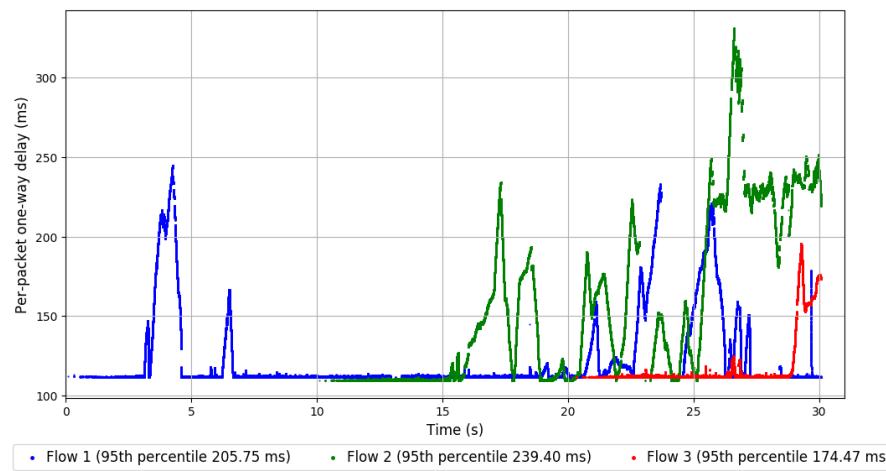
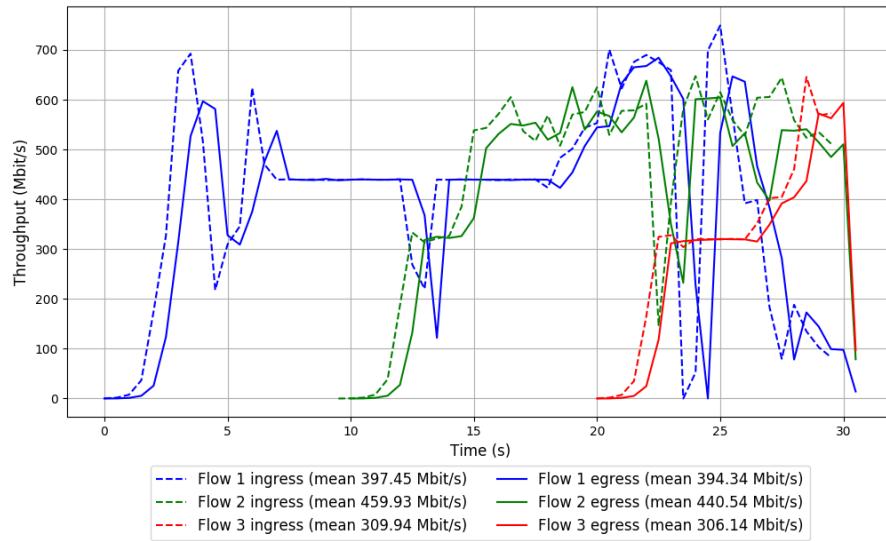


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-06 09:14:44
End at: 2018-09-06 09:15:14
Local clock offset: -0.12 ms
Remote clock offset: 0.483 ms

# Below is generated by plot.py at 2018-09-06 10:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 789.61 Mbit/s
95th percentile per-packet one-way delay: 230.542 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 394.34 Mbit/s
95th percentile per-packet one-way delay: 205.755 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 440.54 Mbit/s
95th percentile per-packet one-way delay: 239.396 ms
Loss rate: 4.20%
-- Flow 3:
Average throughput: 306.14 Mbit/s
95th percentile per-packet one-way delay: 174.469 ms
Loss rate: 1.23%
```

Run 4: Report of TCP BBR — Data Link

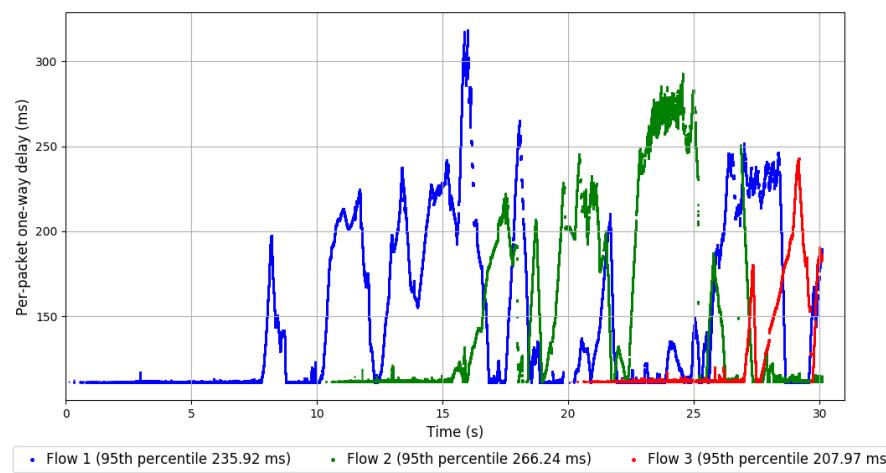
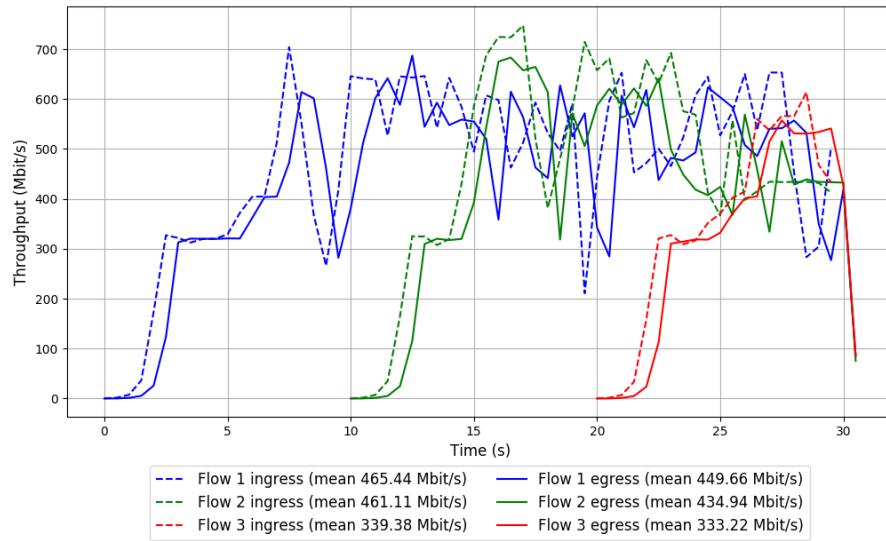


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-06 09:47:54
End at: 2018-09-06 09:48:24
Local clock offset: 0.042 ms
Remote clock offset: 0.076 ms

# Below is generated by plot.py at 2018-09-06 10:25:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 850.02 Mbit/s
95th percentile per-packet one-way delay: 243.311 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 449.66 Mbit/s
95th percentile per-packet one-way delay: 235.922 ms
Loss rate: 3.39%
-- Flow 2:
Average throughput: 434.94 Mbit/s
95th percentile per-packet one-way delay: 266.242 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 333.22 Mbit/s
95th percentile per-packet one-way delay: 207.975 ms
Loss rate: 1.81%
```

Run 5: Report of TCP BBR — Data Link

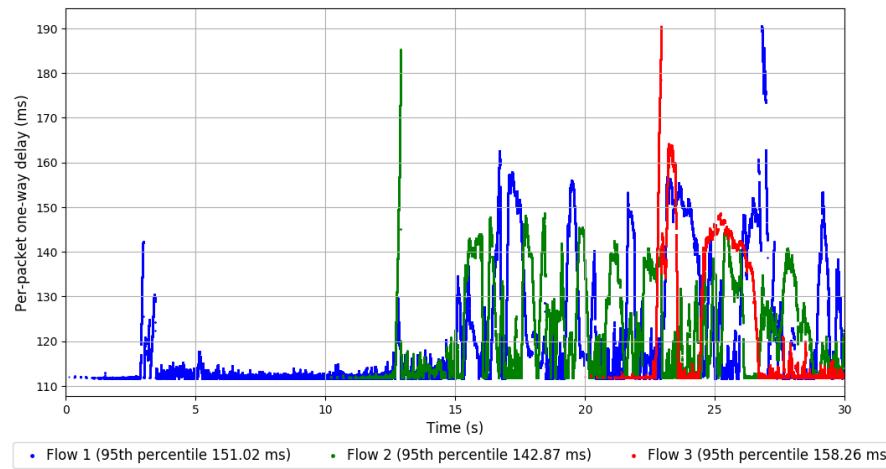
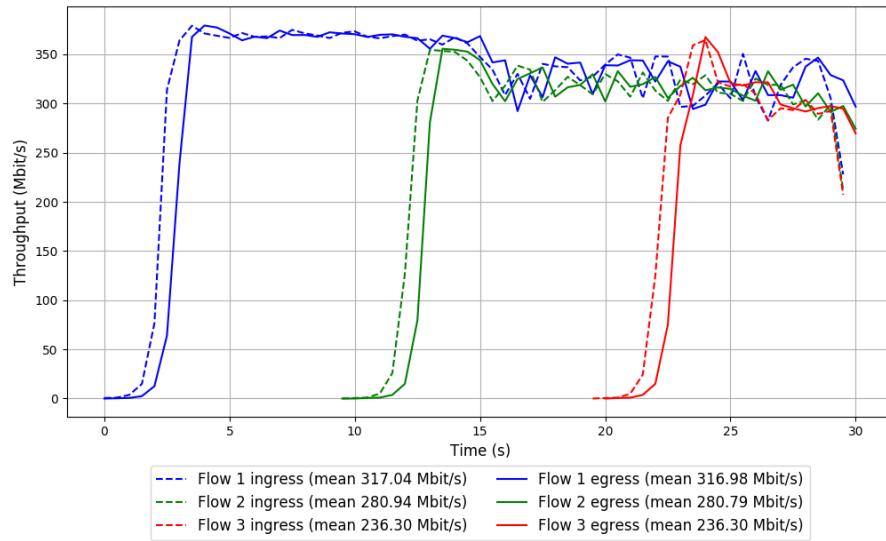


Run 1: Statistics of Copa

```
Start at: 2018-09-06 07:13:07
End at: 2018-09-06 07:13:37
Local clock offset: -0.036 ms
Remote clock offset: 0.503 ms

# Below is generated by plot.py at 2018-09-06 10:27:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 583.68 Mbit/s
95th percentile per-packet one-way delay: 148.617 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 316.98 Mbit/s
95th percentile per-packet one-way delay: 151.018 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 280.79 Mbit/s
95th percentile per-packet one-way delay: 142.872 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 236.30 Mbit/s
95th percentile per-packet one-way delay: 158.264 ms
Loss rate: 0.00%
```

Run 1: Report of Copa — Data Link

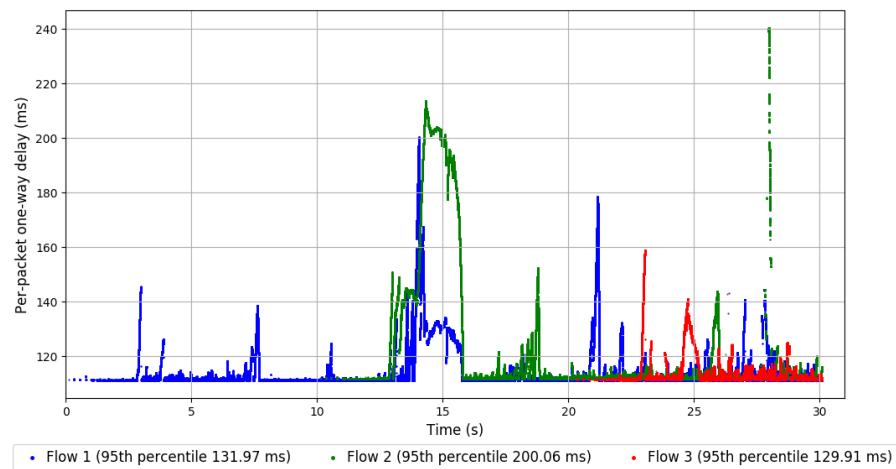
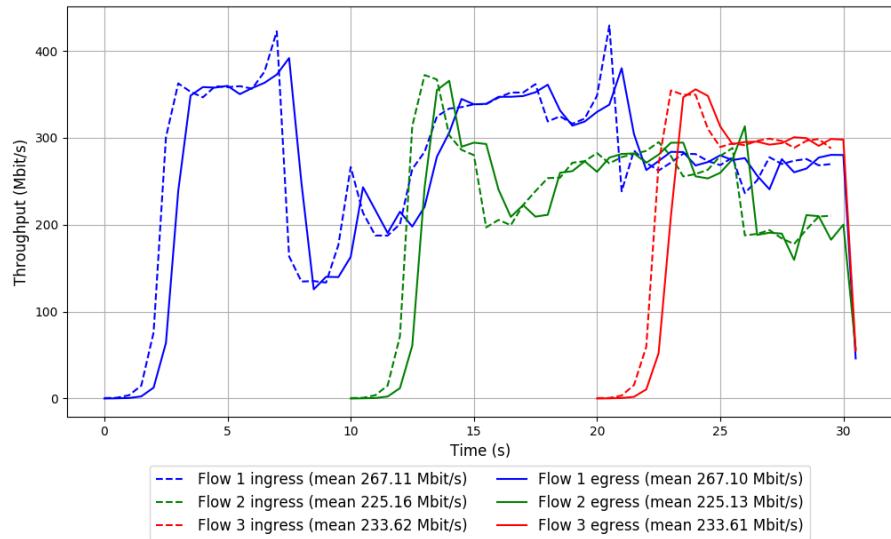


Run 2: Statistics of Copa

```
Start at: 2018-09-06 07:46:28
End at: 2018-09-06 07:46:58
Local clock offset: 0.41 ms
Remote clock offset: 0.243 ms

# Below is generated by plot.py at 2018-09-06 10:27:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 494.62 Mbit/s
95th percentile per-packet one-way delay: 144.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 267.10 Mbit/s
95th percentile per-packet one-way delay: 131.965 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 225.13 Mbit/s
95th percentile per-packet one-way delay: 200.056 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 233.61 Mbit/s
95th percentile per-packet one-way delay: 129.914 ms
Loss rate: 0.00%
```

Run 2: Report of Copa — Data Link

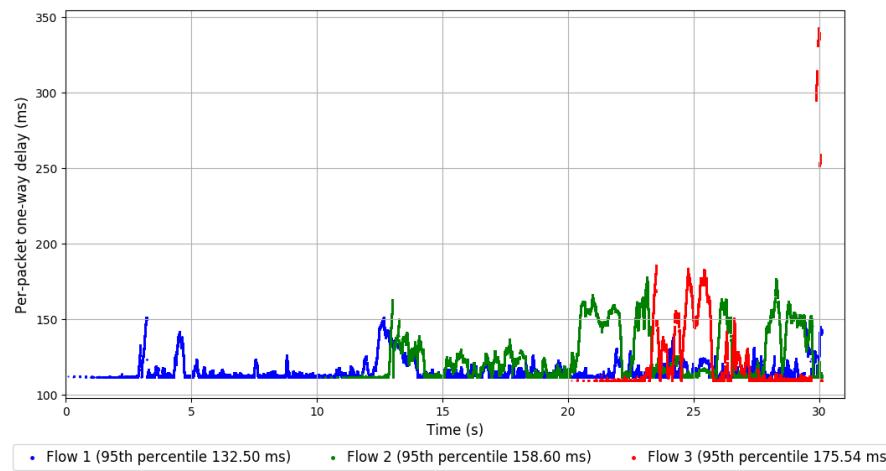
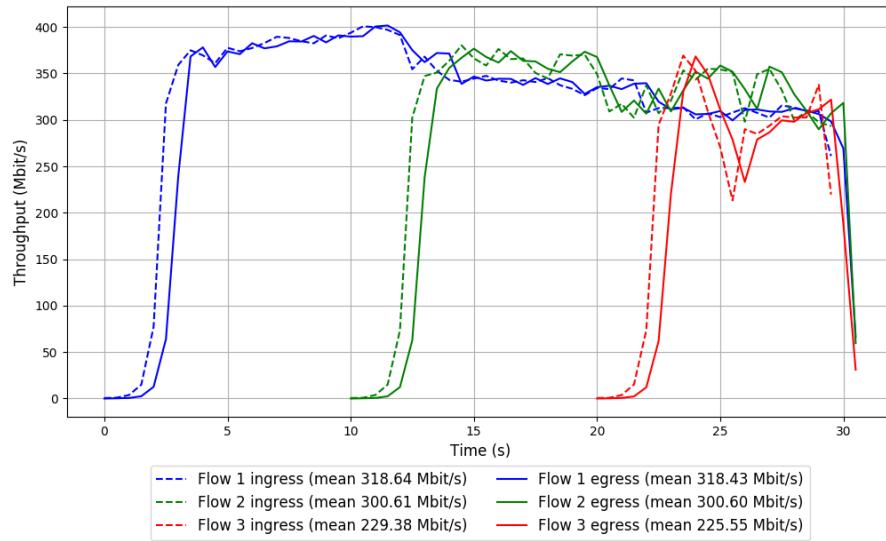


Run 3: Statistics of Copa

```
Start at: 2018-09-06 08:19:43
End at: 2018-09-06 08:20:13
Local clock offset: -0.25 ms
Remote clock offset: 0.259 ms

# Below is generated by plot.py at 2018-09-06 10:27:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 593.55 Mbit/s
95th percentile per-packet one-way delay: 154.483 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 318.43 Mbit/s
95th percentile per-packet one-way delay: 132.505 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 300.60 Mbit/s
95th percentile per-packet one-way delay: 158.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.55 Mbit/s
95th percentile per-packet one-way delay: 175.542 ms
Loss rate: 1.67%
```

Run 3: Report of Copa — Data Link

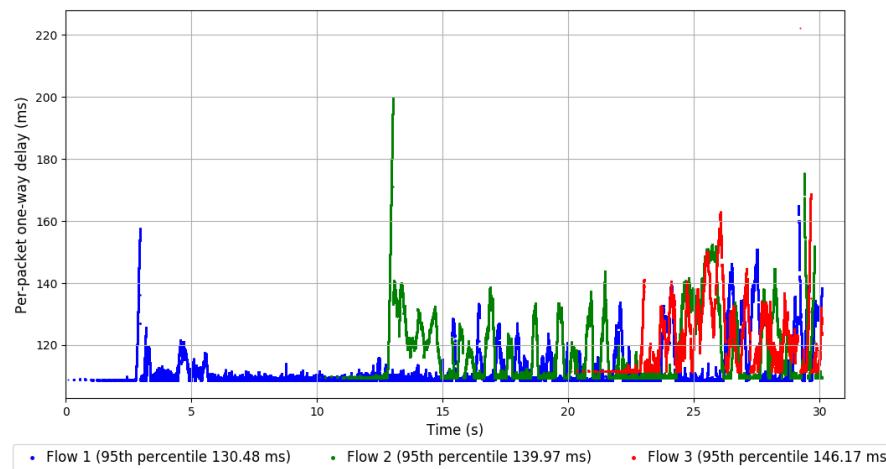
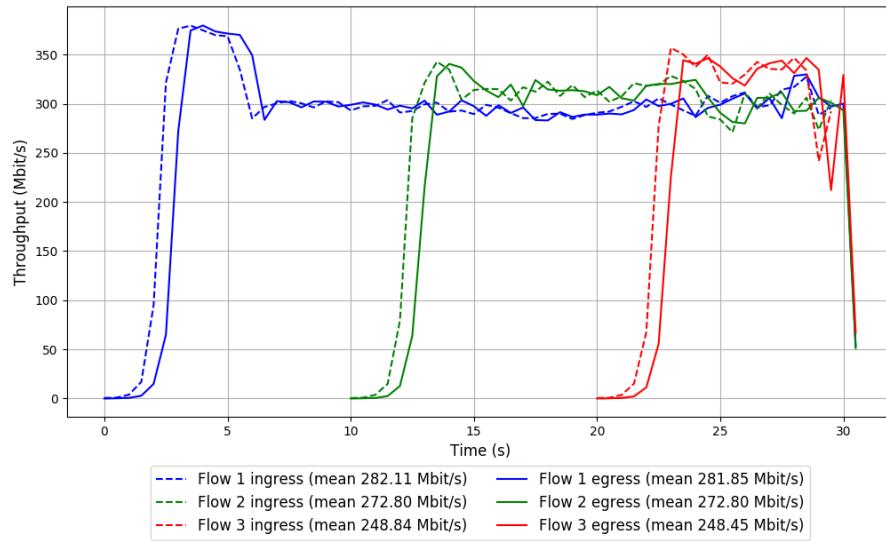


Run 4: Statistics of Copa

```
Start at: 2018-09-06 08:53:09
End at: 2018-09-06 08:53:39
Local clock offset: 0.093 ms
Remote clock offset: 0.075 ms

# Below is generated by plot.py at 2018-09-06 10:39:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 546.10 Mbit/s
95th percentile per-packet one-way delay: 137.670 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 281.85 Mbit/s
95th percentile per-packet one-way delay: 130.483 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 272.80 Mbit/s
95th percentile per-packet one-way delay: 139.968 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.45 Mbit/s
95th percentile per-packet one-way delay: 146.174 ms
Loss rate: 0.15%
```

Run 4: Report of Copa — Data Link

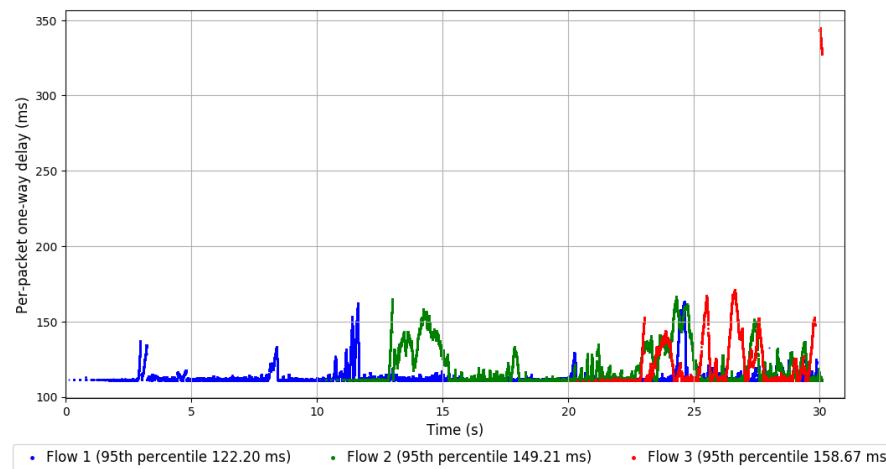
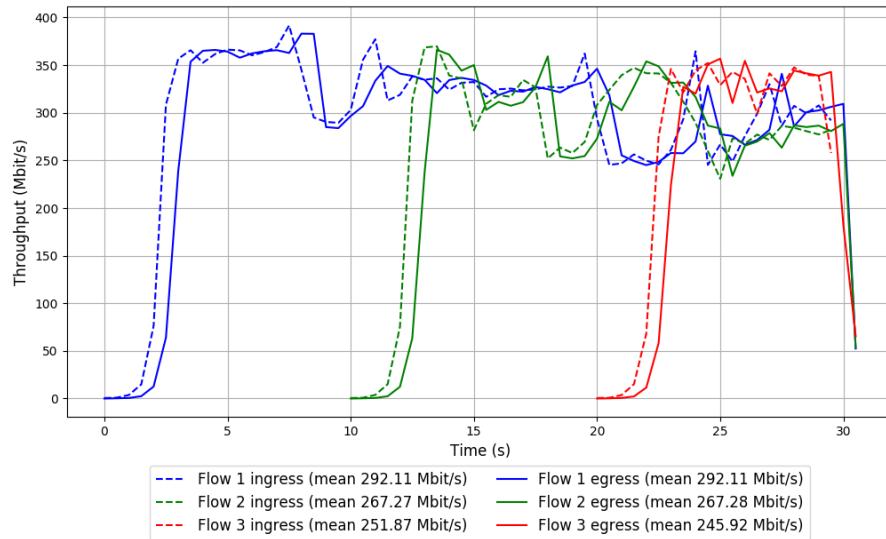


Run 5: Statistics of Copa

```
Start at: 2018-09-06 09:25:54
End at: 2018-09-06 09:26:24
Local clock offset: -0.207 ms
Remote clock offset: -0.195 ms

# Below is generated by plot.py at 2018-09-06 10:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.87 Mbit/s
95th percentile per-packet one-way delay: 143.833 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 292.11 Mbit/s
95th percentile per-packet one-way delay: 122.198 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 267.28 Mbit/s
95th percentile per-packet one-way delay: 149.209 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 245.92 Mbit/s
95th percentile per-packet one-way delay: 158.667 ms
Loss rate: 1.73%
```

Run 5: Report of Copa — Data Link

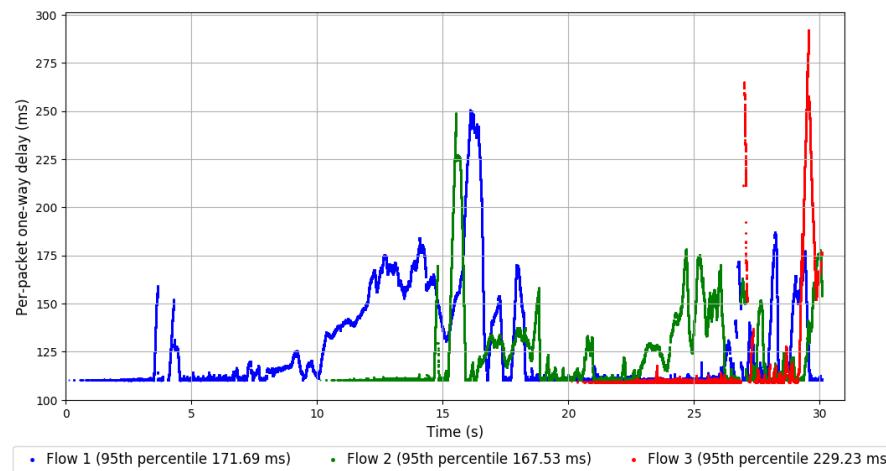
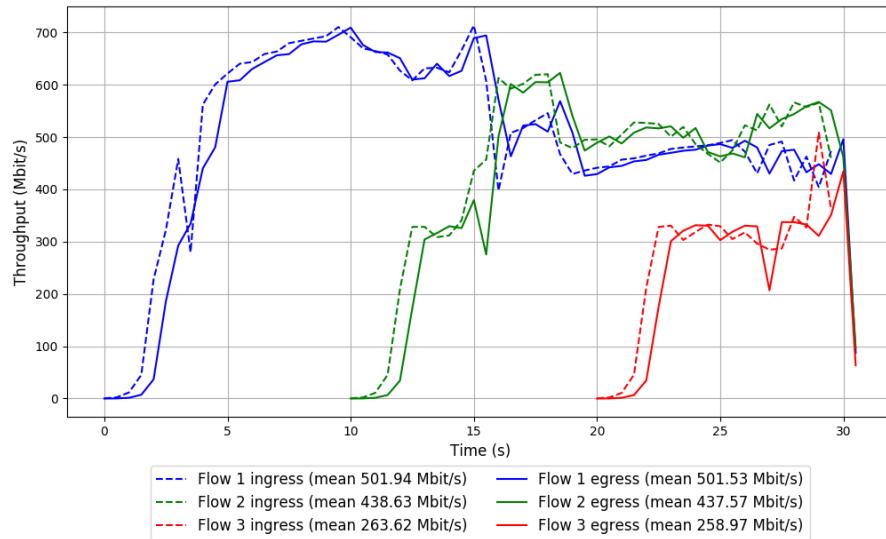


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-06 07:19:32
End at: 2018-09-06 07:20:02
Local clock offset: 1.192 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2018-09-06 10:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 878.98 Mbit/s
95th percentile per-packet one-way delay: 172.661 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 501.53 Mbit/s
95th percentile per-packet one-way delay: 171.689 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 437.57 Mbit/s
95th percentile per-packet one-way delay: 167.528 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 258.97 Mbit/s
95th percentile per-packet one-way delay: 229.232 ms
Loss rate: 1.74%
```

Run 1: Report of TCP Cubic — Data Link

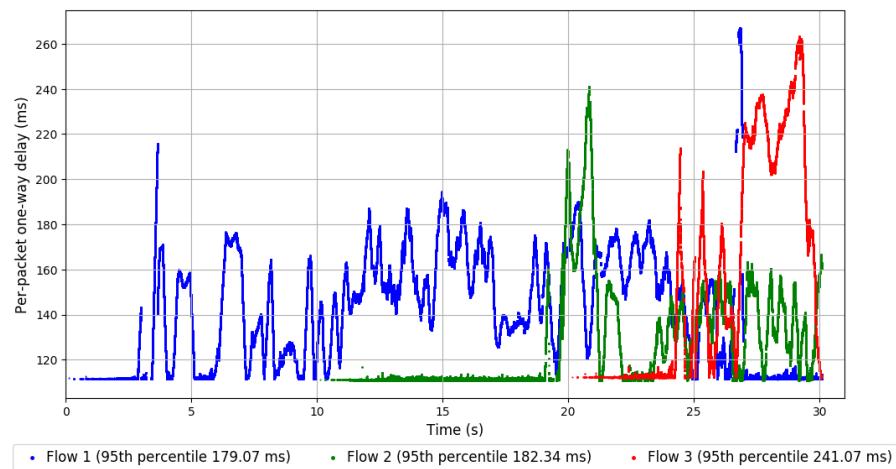
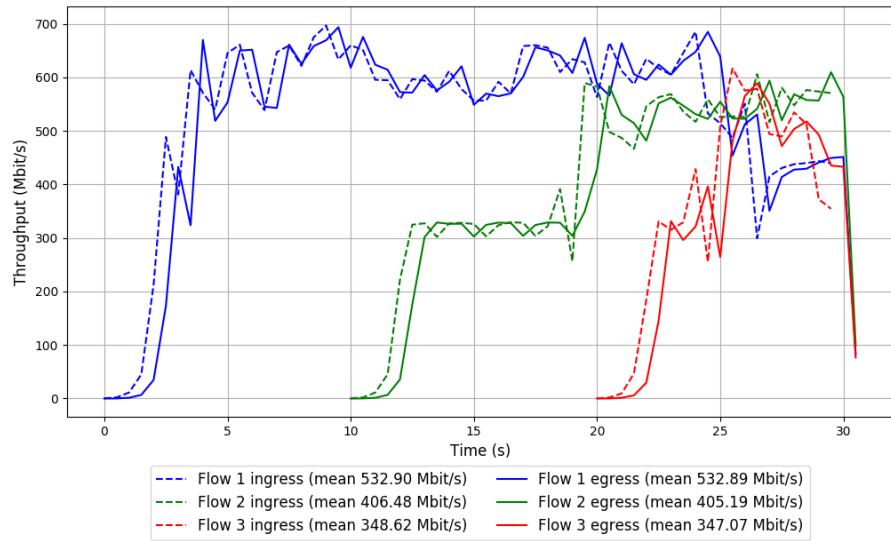


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-06 07:52:43
End at: 2018-09-06 07:53:13
Local clock offset: 0.402 ms
Remote clock offset: 0.214 ms

# Below is generated by plot.py at 2018-09-06 10:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 918.02 Mbit/s
95th percentile per-packet one-way delay: 207.665 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 532.89 Mbit/s
95th percentile per-packet one-way delay: 179.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 405.19 Mbit/s
95th percentile per-packet one-way delay: 182.338 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 347.07 Mbit/s
95th percentile per-packet one-way delay: 241.067 ms
Loss rate: 0.44%
```

Run 2: Report of TCP Cubic — Data Link

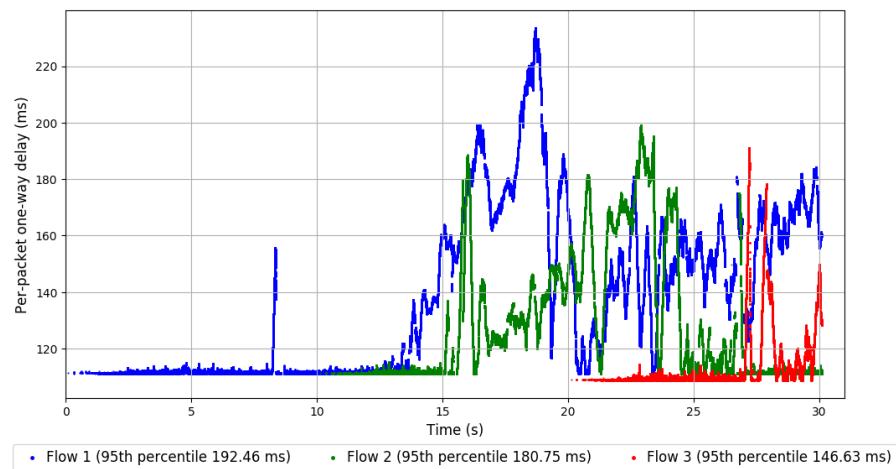
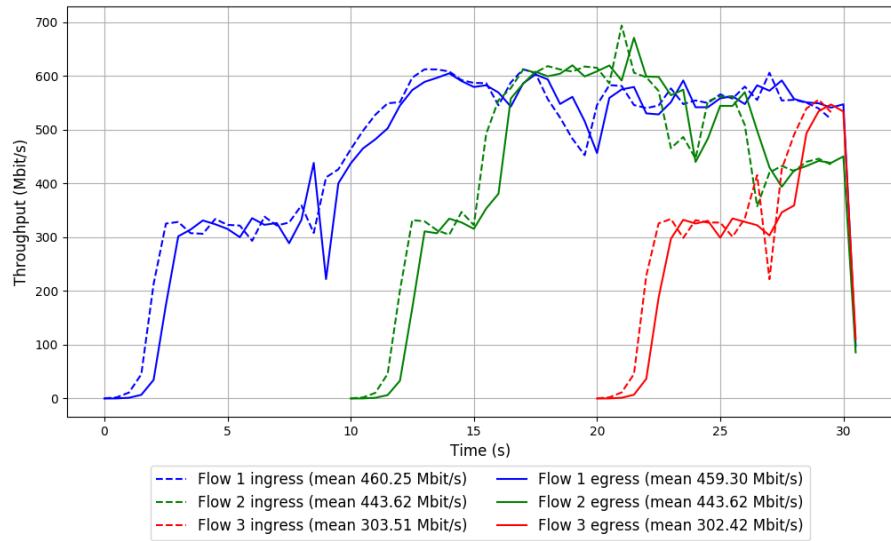


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-06 08:26:07
End at: 2018-09-06 08:26:37
Local clock offset: 0.511 ms
Remote clock offset: 0.52 ms

# Below is generated by plot.py at 2018-09-06 10:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 855.18 Mbit/s
95th percentile per-packet one-way delay: 183.879 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 459.30 Mbit/s
95th percentile per-packet one-way delay: 192.460 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 443.62 Mbit/s
95th percentile per-packet one-way delay: 180.755 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 302.42 Mbit/s
95th percentile per-packet one-way delay: 146.634 ms
Loss rate: 0.33%
```

Run 3: Report of TCP Cubic — Data Link

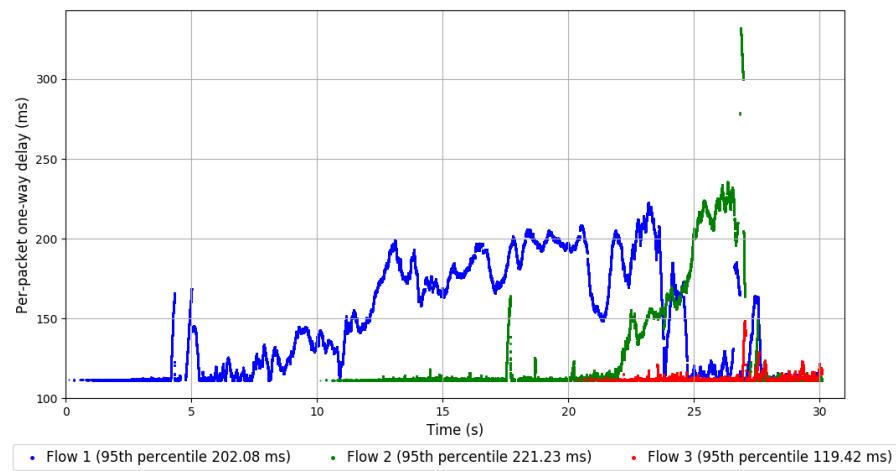
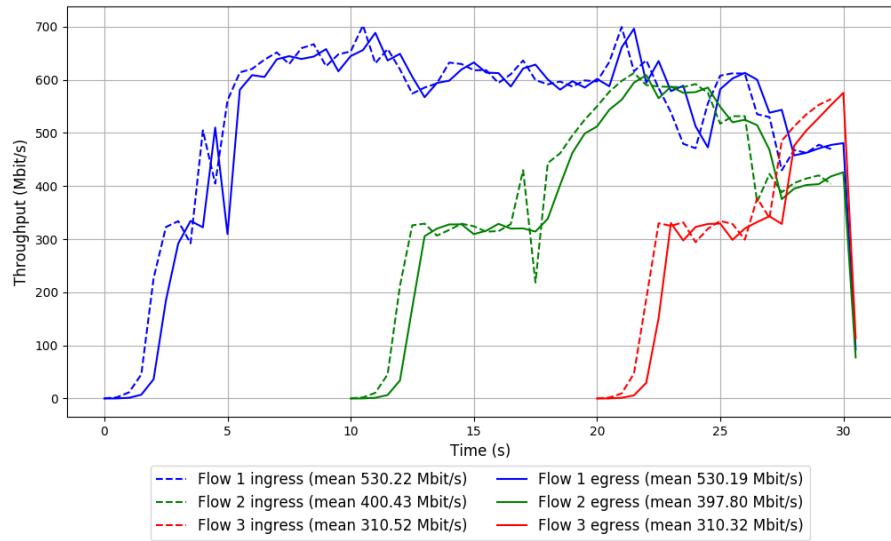


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-06 08:59:13
End at: 2018-09-06 08:59:43
Local clock offset: 0.096 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2018-09-06 10:40:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 897.98 Mbit/s
95th percentile per-packet one-way delay: 205.035 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 530.19 Mbit/s
95th percentile per-packet one-way delay: 202.077 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 397.80 Mbit/s
95th percentile per-packet one-way delay: 221.233 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 310.32 Mbit/s
95th percentile per-packet one-way delay: 119.419 ms
Loss rate: 0.06%
```

Run 4: Report of TCP Cubic — Data Link

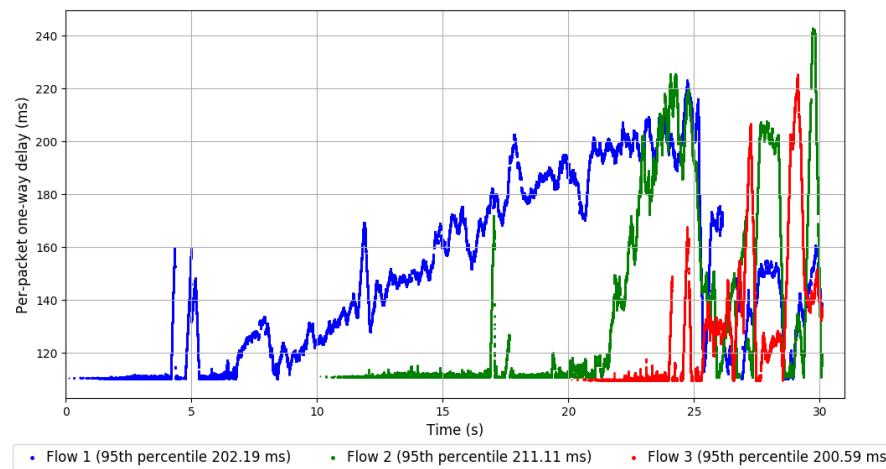
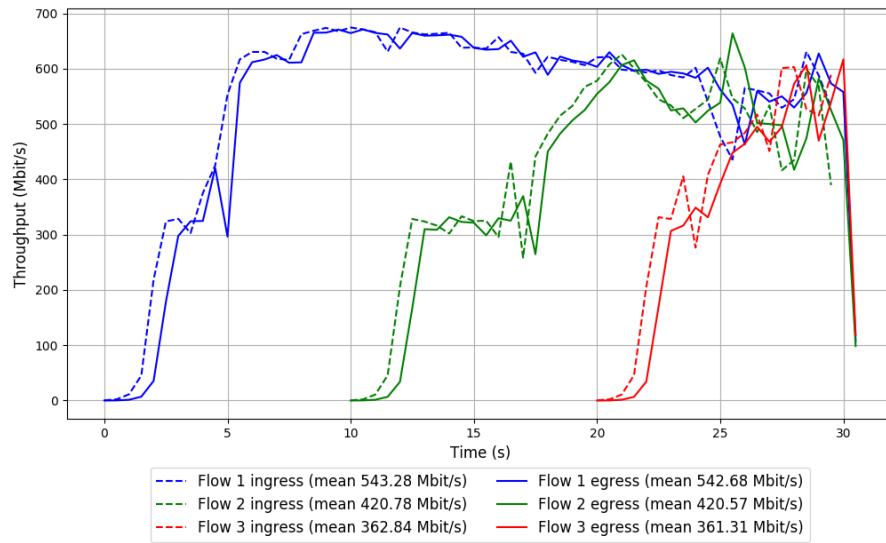


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-06 09:32:17
End at: 2018-09-06 09:32:47
Local clock offset: 0.435 ms
Remote clock offset: 0.156 ms

# Below is generated by plot.py at 2018-09-06 10:42:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 942.94 Mbit/s
95th percentile per-packet one-way delay: 204.424 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 542.68 Mbit/s
95th percentile per-packet one-way delay: 202.190 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 420.57 Mbit/s
95th percentile per-packet one-way delay: 211.108 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 361.31 Mbit/s
95th percentile per-packet one-way delay: 200.593 ms
Loss rate: 0.42%
```

Run 5: Report of TCP Cubic — Data Link

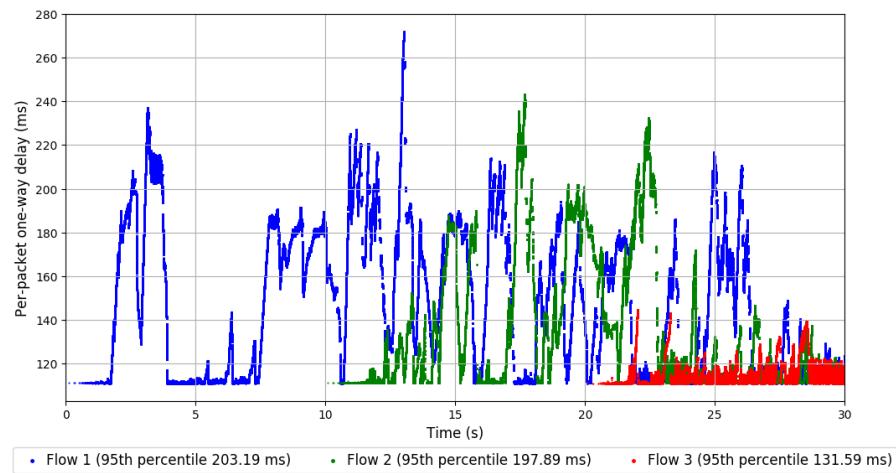
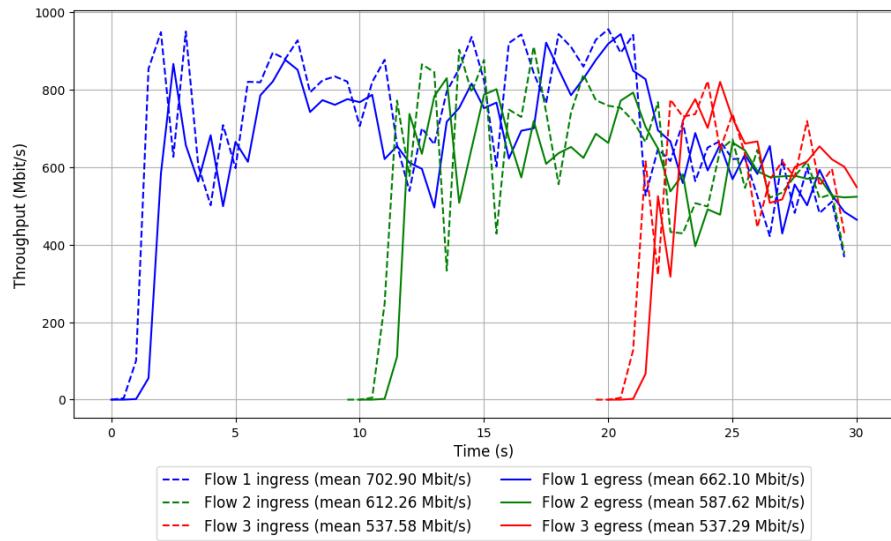


```
Run 1: Statistics of FillP

Start at: 2018-09-06 07:37:09
End at: 2018-09-06 07:37:39
Local clock offset: 0.695 ms
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2018-09-06 10:50:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1231.80 Mbit/s
95th percentile per-packet one-way delay: 198.958 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 662.10 Mbit/s
95th percentile per-packet one-way delay: 203.192 ms
Loss rate: 5.80%
-- Flow 2:
Average throughput: 587.62 Mbit/s
95th percentile per-packet one-way delay: 197.893 ms
Loss rate: 4.02%
-- Flow 3:
Average throughput: 537.29 Mbit/s
95th percentile per-packet one-way delay: 131.589 ms
Loss rate: 0.04%
```

Run 1: Report of FillP — Data Link

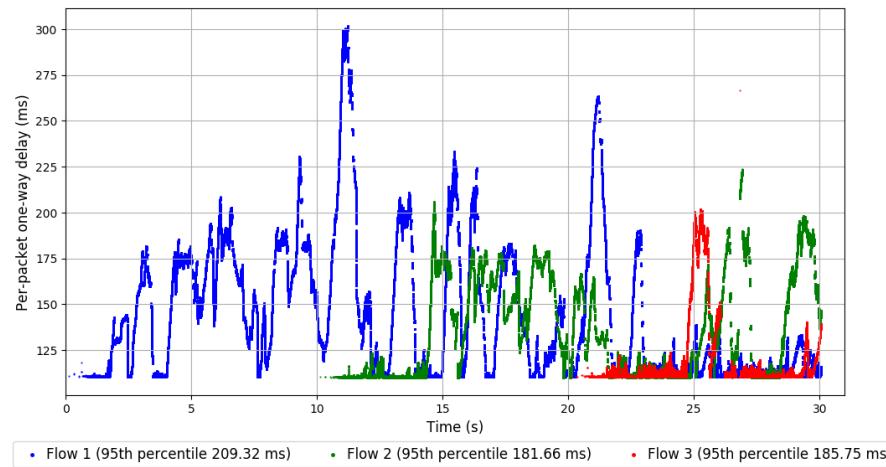
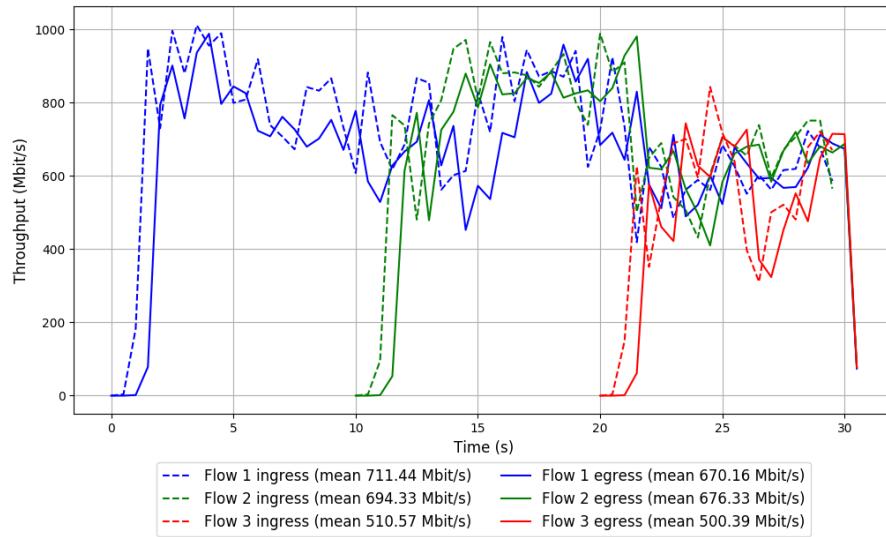


Run 2: Statistics of FillP

```
Start at: 2018-09-06 08:10:31
End at: 2018-09-06 08:11:01
Local clock offset: 1.079 ms
Remote clock offset: 0.563 ms

# Below is generated by plot.py at 2018-09-06 11:04:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1286.29 Mbit/s
95th percentile per-packet one-way delay: 195.113 ms
Loss rate: 4.21%
-- Flow 1:
Average throughput: 670.16 Mbit/s
95th percentile per-packet one-way delay: 209.319 ms
Loss rate: 5.80%
-- Flow 2:
Average throughput: 676.33 Mbit/s
95th percentile per-packet one-way delay: 181.661 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 500.39 Mbit/s
95th percentile per-packet one-way delay: 185.754 ms
Loss rate: 1.99%
```

Run 2: Report of FillP — Data Link

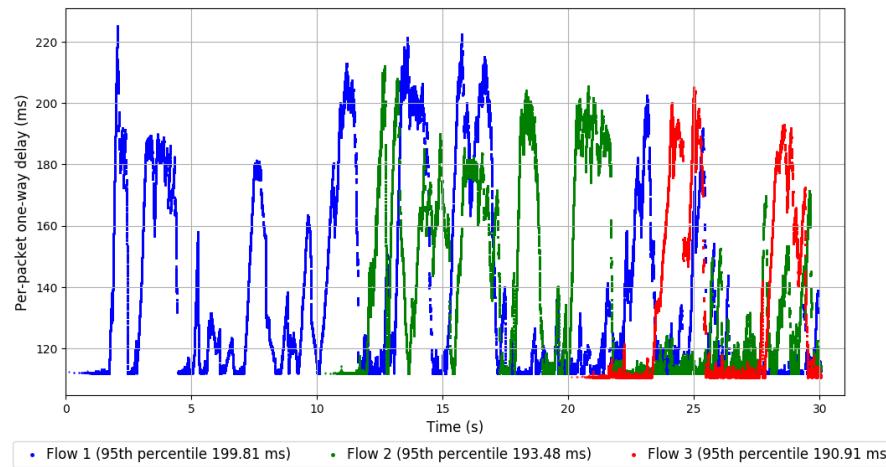
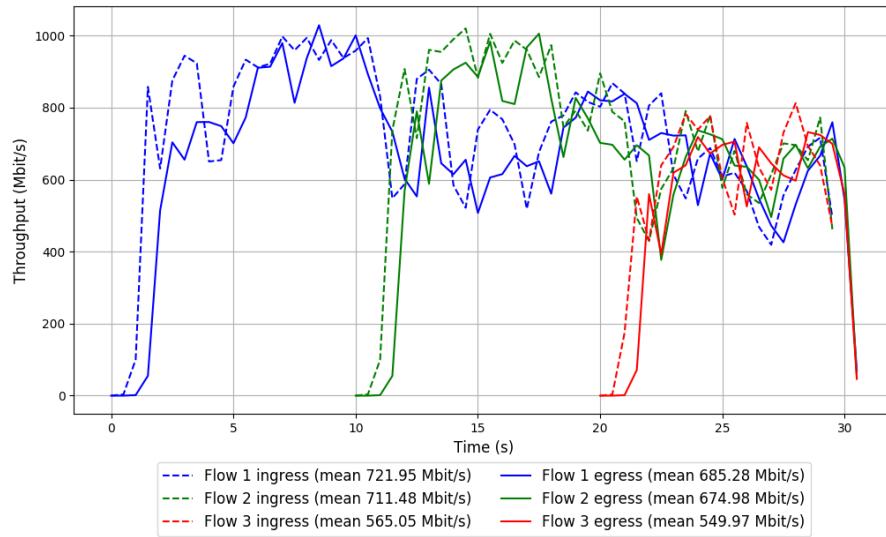


Run 3: Statistics of FillP

```
Start at: 2018-09-06 08:43:51
End at: 2018-09-06 08:44:21
Local clock offset: -0.435 ms
Remote clock offset: 0.061 ms

# Below is generated by plot.py at 2018-09-06 11:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1316.76 Mbit/s
95th percentile per-packet one-way delay: 195.666 ms
Loss rate: 4.77%
-- Flow 1:
Average throughput: 685.28 Mbit/s
95th percentile per-packet one-way delay: 199.814 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 674.98 Mbit/s
95th percentile per-packet one-way delay: 193.476 ms
Loss rate: 5.12%
-- Flow 3:
Average throughput: 549.97 Mbit/s
95th percentile per-packet one-way delay: 190.910 ms
Loss rate: 2.66%
```

Run 3: Report of FillP — Data Link

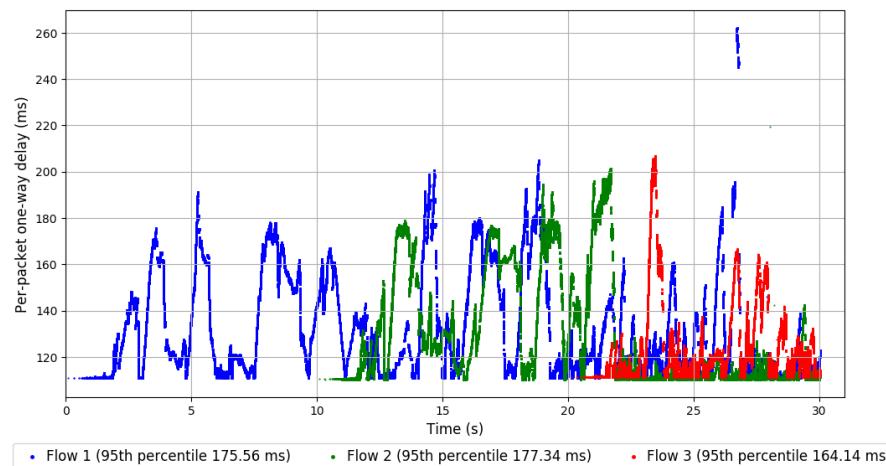
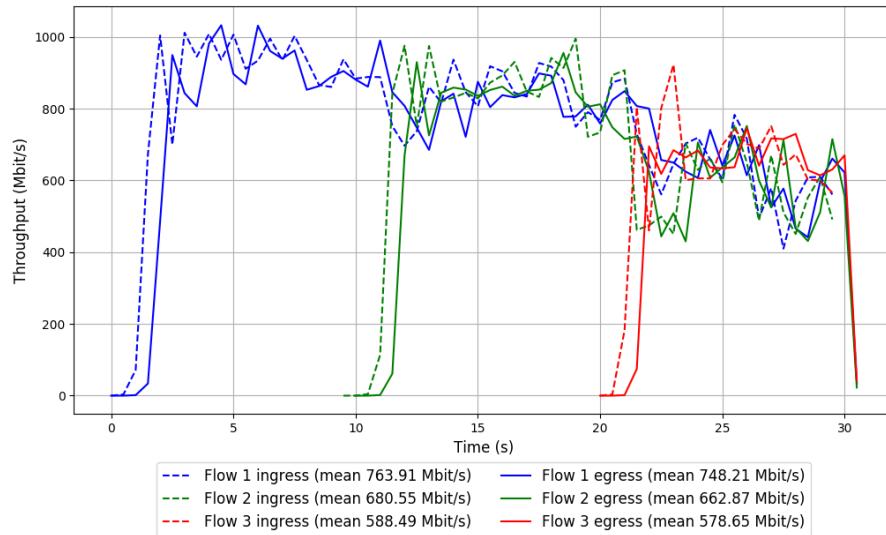


Run 4: Statistics of FillP

```
Start at: 2018-09-06 09:16:50
End at: 2018-09-06 09:17:20
Local clock offset: -0.331 ms
Remote clock offset: -0.243 ms

# Below is generated by plot.py at 2018-09-06 11:06:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1381.26 Mbit/s
95th percentile per-packet one-way delay: 175.866 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 748.21 Mbit/s
95th percentile per-packet one-way delay: 175.559 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 662.87 Mbit/s
95th percentile per-packet one-way delay: 177.335 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 578.65 Mbit/s
95th percentile per-packet one-way delay: 164.143 ms
Loss rate: 1.66%
```

Run 4: Report of FillP — Data Link

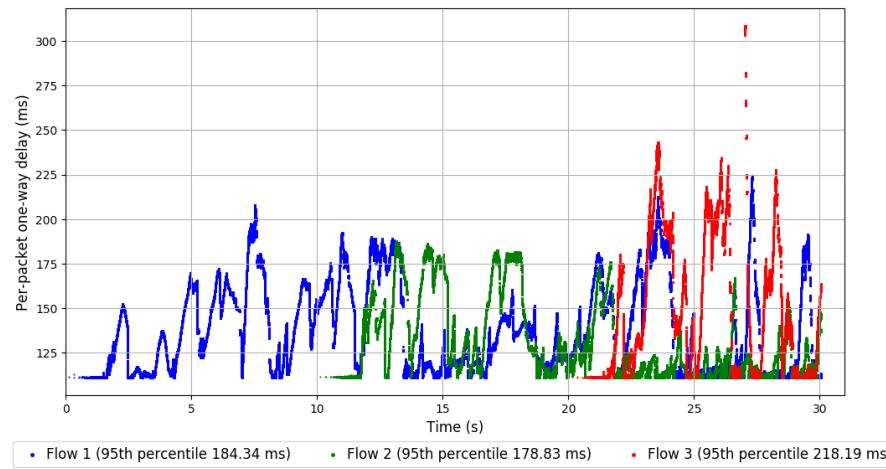
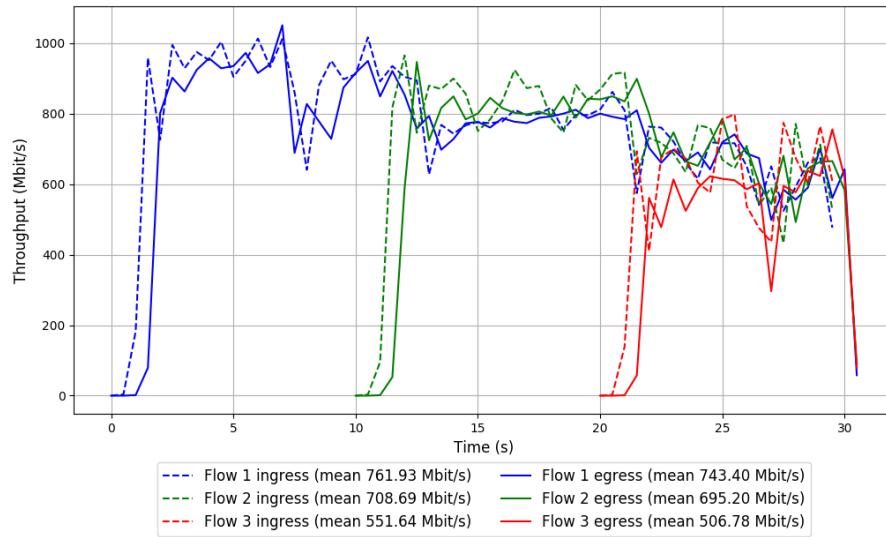


Run 5: Statistics of FillP

```
Start at: 2018-09-06 09:50:05
End at: 2018-09-06 09:50:35
Local clock offset: 0.13 ms
Remote clock offset: 0.06 ms

# Below is generated by plot.py at 2018-09-06 11:07:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1373.67 Mbit/s
95th percentile per-packet one-way delay: 186.934 ms
Loss rate: 2.99%
-- Flow 1:
Average throughput: 743.40 Mbit/s
95th percentile per-packet one-way delay: 184.341 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 695.20 Mbit/s
95th percentile per-packet one-way delay: 178.828 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 506.78 Mbit/s
95th percentile per-packet one-way delay: 218.192 ms
Loss rate: 8.13%
```

Run 5: Report of FillP — Data Link

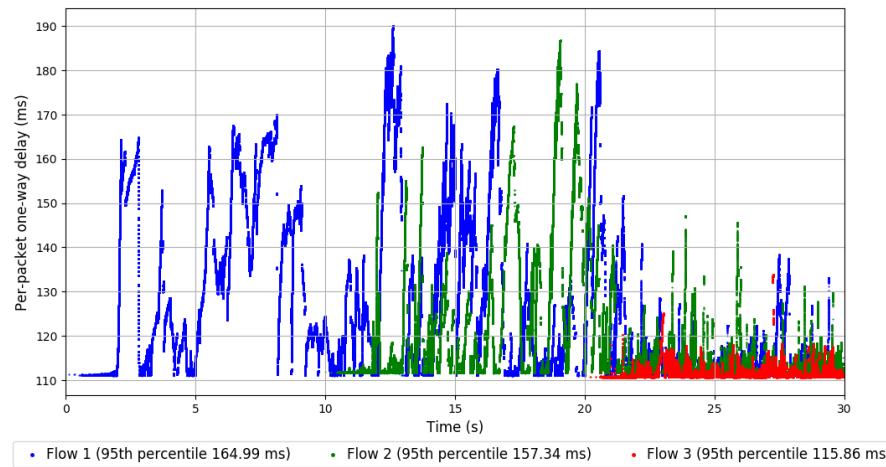
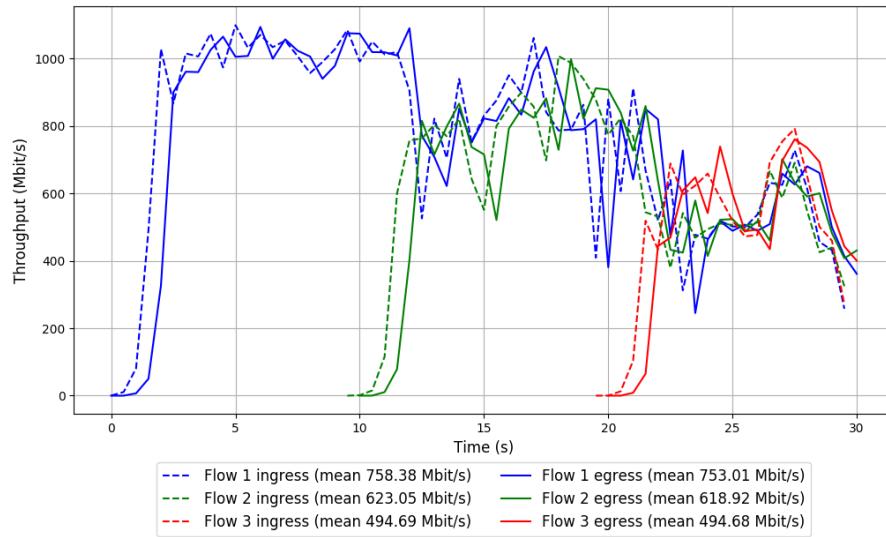


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-09-06 07:32:40
End at: 2018-09-06 07:33:10
Local clock offset: 0.211 ms
Remote clock offset: 0.217 ms

# Below is generated by plot.py at 2018-09-06 11:07:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1330.92 Mbit/s
95th percentile per-packet one-way delay: 163.046 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 753.01 Mbit/s
95th percentile per-packet one-way delay: 164.990 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 618.92 Mbit/s
95th percentile per-packet one-way delay: 157.335 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 494.68 Mbit/s
95th percentile per-packet one-way delay: 115.855 ms
Loss rate: 0.00%
```

Run 1: Report of FillP-Sheep — Data Link

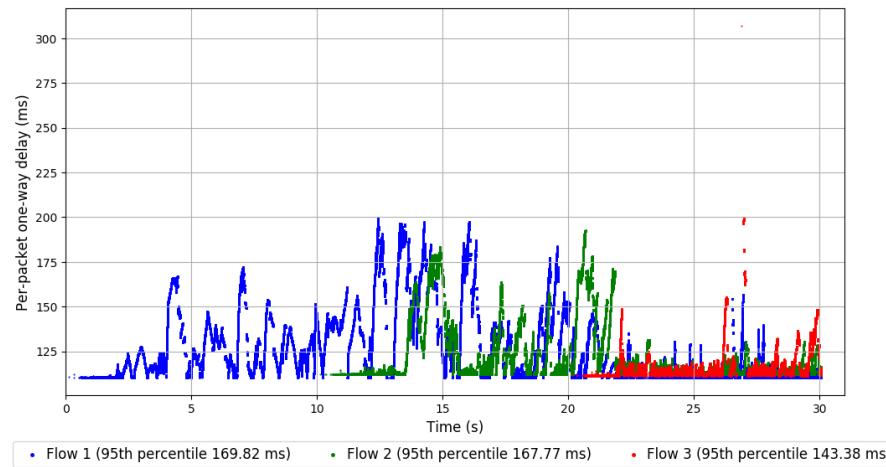
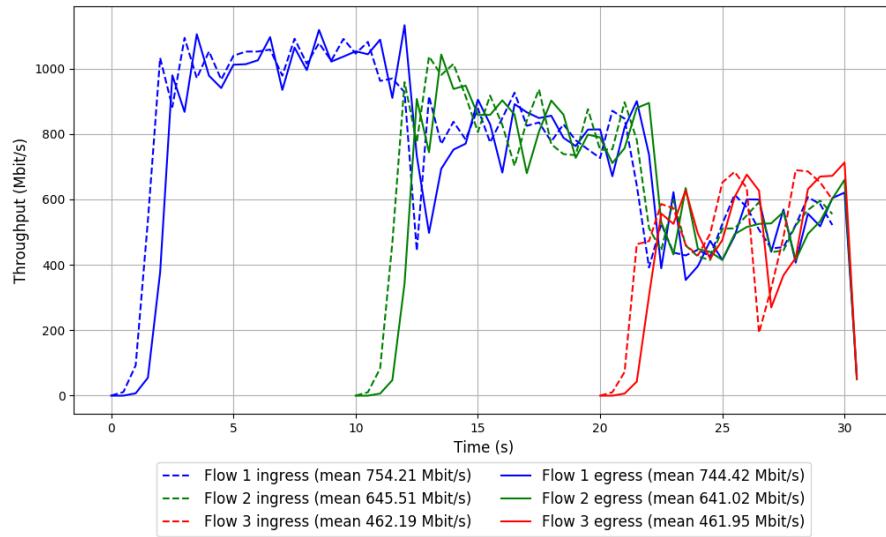


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-06 08:06:04
End at: 2018-09-06 08:06:34
Local clock offset: -1.394 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-09-06 11:07:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1323.52 Mbit/s
95th percentile per-packet one-way delay: 167.836 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 744.42 Mbit/s
95th percentile per-packet one-way delay: 169.820 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 641.02 Mbit/s
95th percentile per-packet one-way delay: 167.771 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 461.95 Mbit/s
95th percentile per-packet one-way delay: 143.375 ms
Loss rate: 0.02%
```

Run 2: Report of FillP-Sheep — Data Link

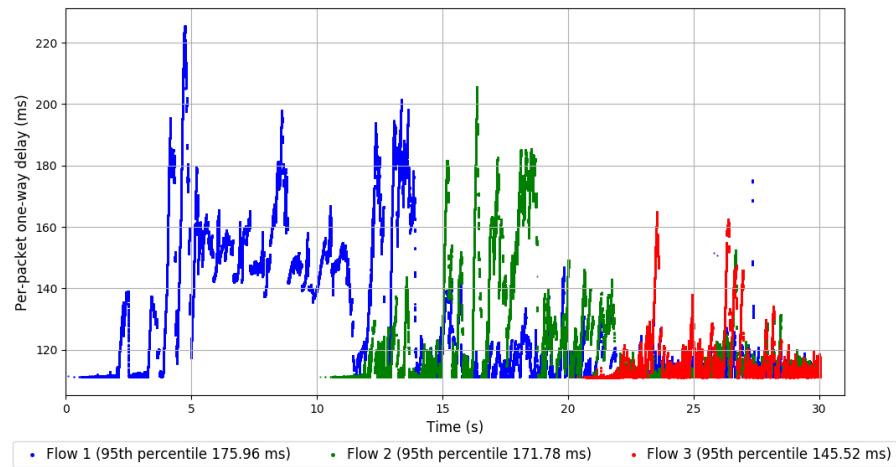
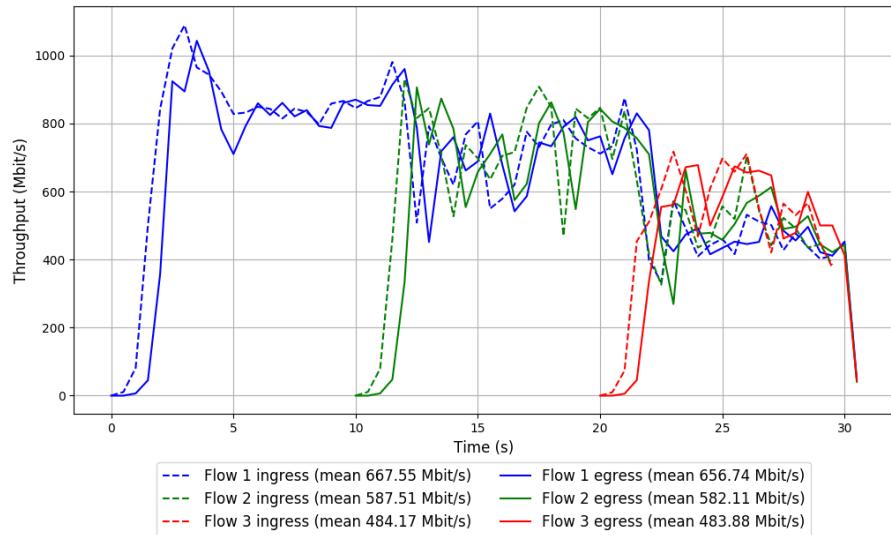


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-06 08:39:29
End at: 2018-09-06 08:39:59
Local clock offset: 0.629 ms
Remote clock offset: 0.386 ms

# Below is generated by plot.py at 2018-09-06 11:07:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1204.13 Mbit/s
95th percentile per-packet one-way delay: 171.708 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 656.74 Mbit/s
95th percentile per-packet one-way delay: 175.955 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 582.11 Mbit/s
95th percentile per-packet one-way delay: 171.780 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 483.88 Mbit/s
95th percentile per-packet one-way delay: 145.523 ms
Loss rate: 0.05%
```

Run 3: Report of FillP-Sheep — Data Link

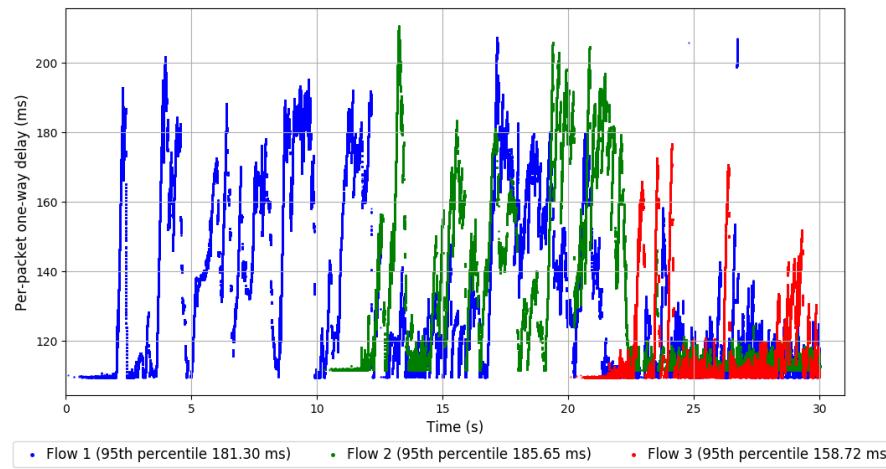
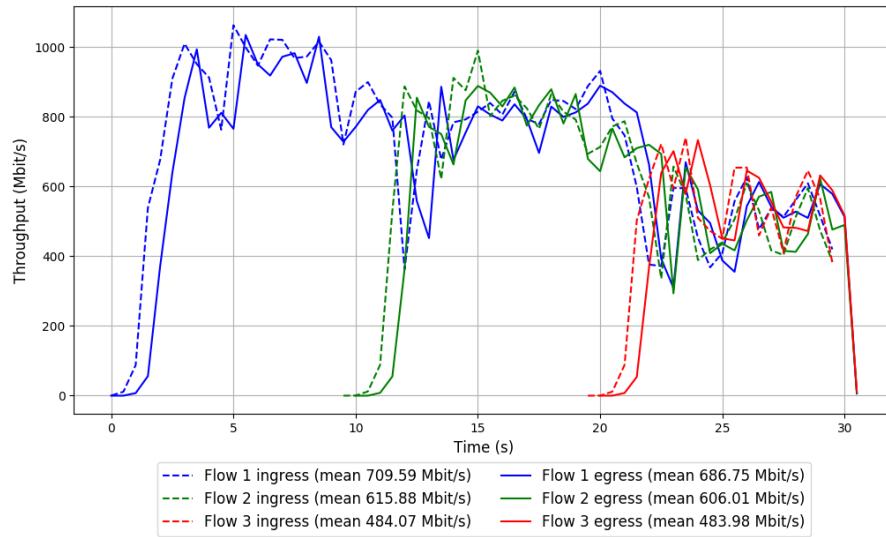


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-06 09:12:32
End at: 2018-09-06 09:13:02
Local clock offset: -0.298 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-09-06 11:18:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1250.88 Mbit/s
95th percentile per-packet one-way delay: 181.139 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 686.75 Mbit/s
95th percentile per-packet one-way delay: 181.298 ms
Loss rate: 3.19%
-- Flow 2:
Average throughput: 606.01 Mbit/s
95th percentile per-packet one-way delay: 185.651 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 483.98 Mbit/s
95th percentile per-packet one-way delay: 158.724 ms
Loss rate: 0.00%
```

Run 4: Report of FillP-Sheep — Data Link

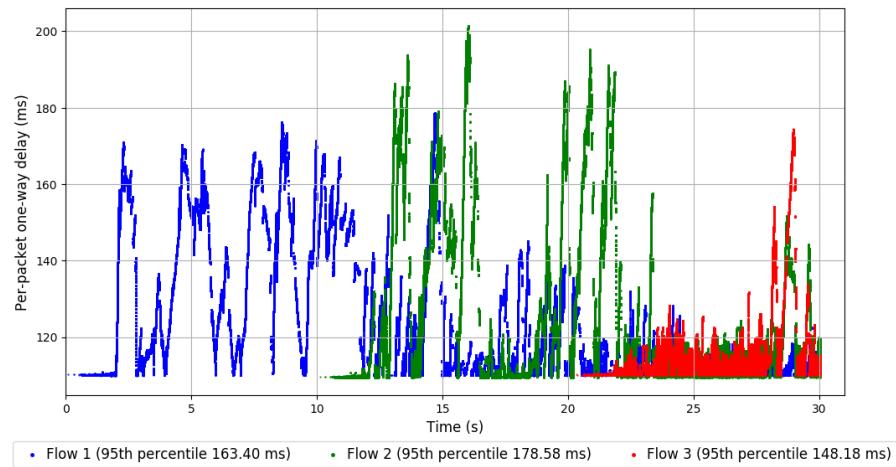
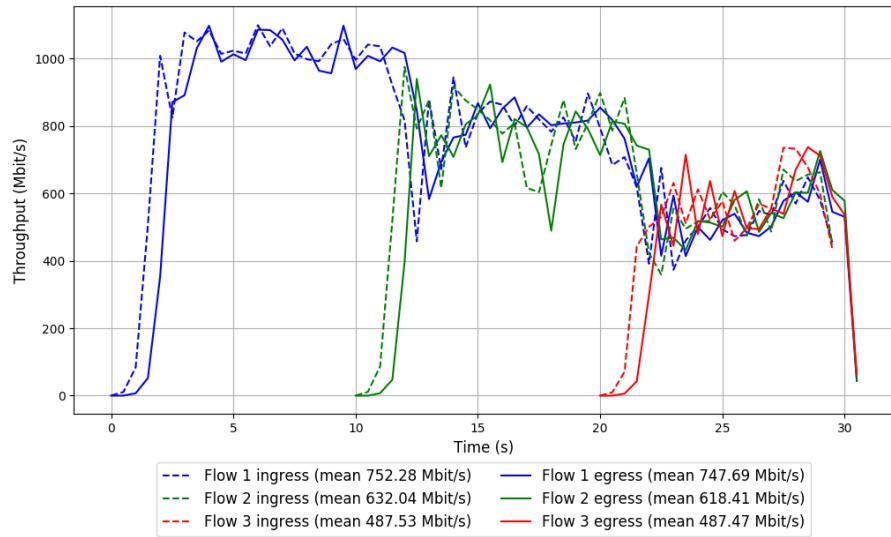


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-06 09:45:38
End at: 2018-09-06 09:46:08
Local clock offset: 1.247 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1320.64 Mbit/s
95th percentile per-packet one-way delay: 166.654 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 747.69 Mbit/s
95th percentile per-packet one-way delay: 163.403 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 618.41 Mbit/s
95th percentile per-packet one-way delay: 178.582 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 487.47 Mbit/s
95th percentile per-packet one-way delay: 148.181 ms
Loss rate: 0.01%
```

Run 5: Report of FillP-Sheep — Data Link

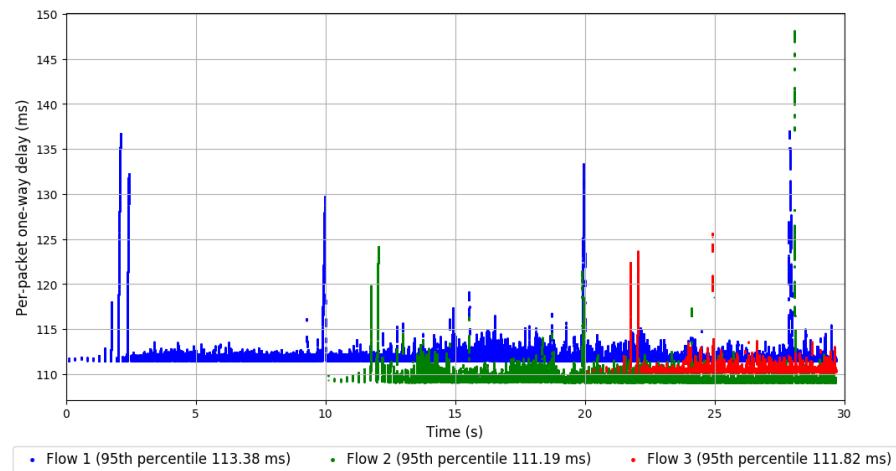
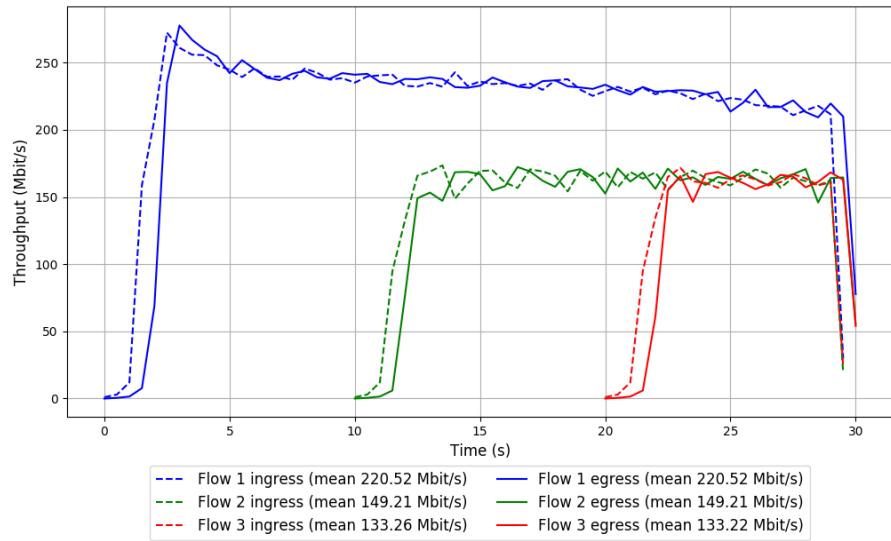


Run 1: Statistics of Indigo

```
Start at: 2018-09-06 07:40:37
End at: 2018-09-06 07:41:07
Local clock offset: 0.259 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.26 Mbit/s
95th percentile per-packet one-way delay: 112.981 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 220.52 Mbit/s
95th percentile per-packet one-way delay: 113.381 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.21 Mbit/s
95th percentile per-packet one-way delay: 111.195 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 133.22 Mbit/s
95th percentile per-packet one-way delay: 111.824 ms
Loss rate: 0.03%
```

Run 1: Report of Indigo — Data Link

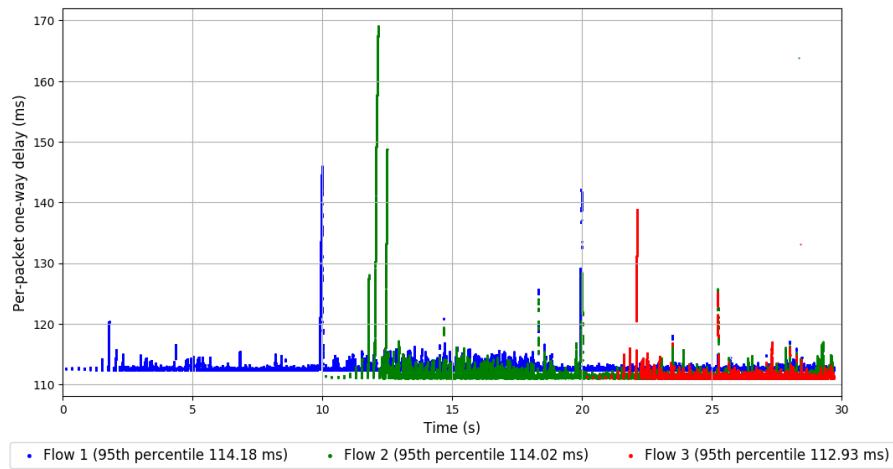
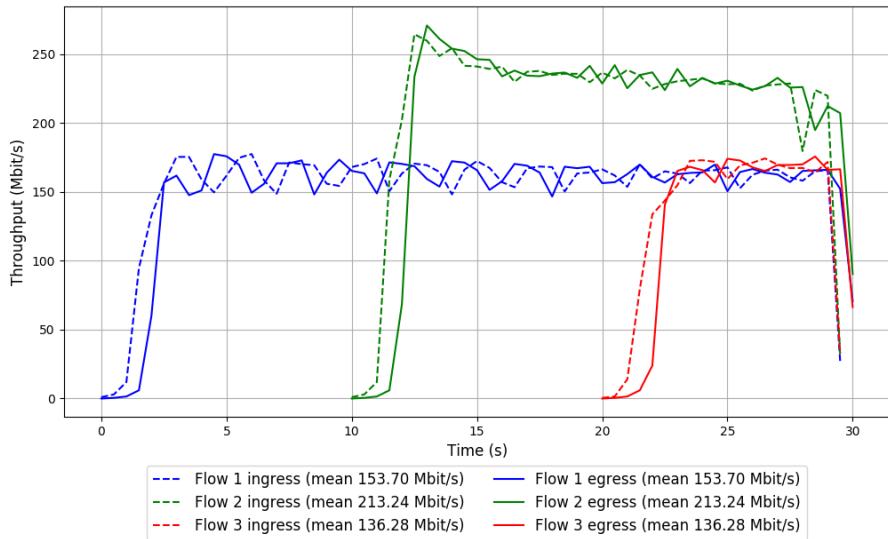


Run 2: Statistics of Indigo

```
Start at: 2018-09-06 08:14:02
End at: 2018-09-06 08:14:32
Local clock offset: 0.164 ms
Remote clock offset: 0.244 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.46 Mbit/s
95th percentile per-packet one-way delay: 114.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.70 Mbit/s
95th percentile per-packet one-way delay: 114.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 213.24 Mbit/s
95th percentile per-packet one-way delay: 114.018 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 136.28 Mbit/s
95th percentile per-packet one-way delay: 112.926 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link

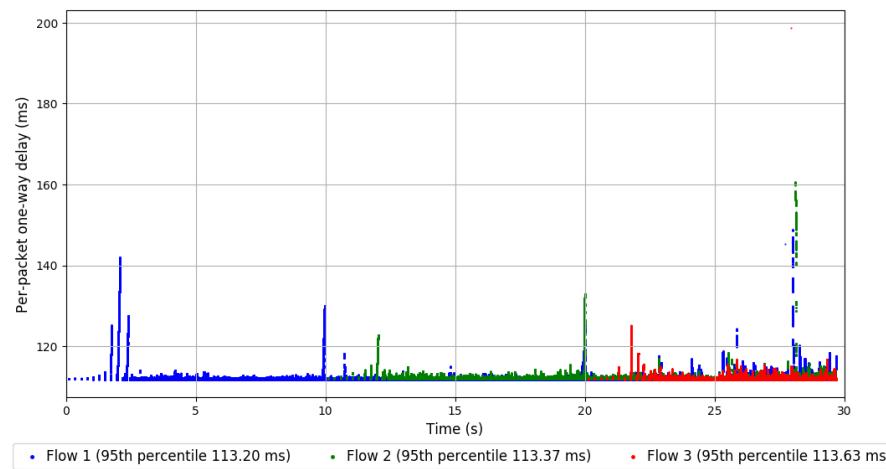
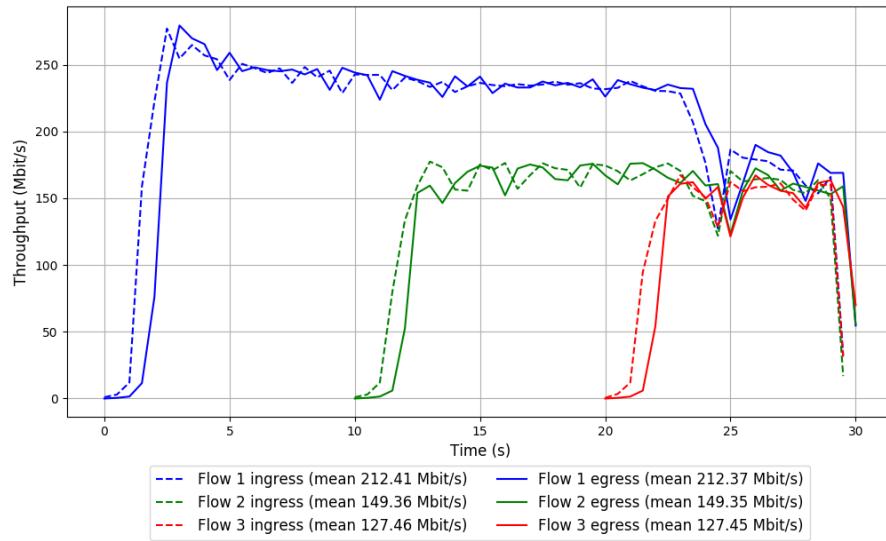


Run 3: Statistics of Indigo

```
Start at: 2018-09-06 08:47:22
End at: 2018-09-06 08:47:52
Local clock offset: -0.102 ms
Remote clock offset: 0.43 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.14 Mbit/s
95th percentile per-packet one-way delay: 113.336 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 212.37 Mbit/s
95th percentile per-packet one-way delay: 113.197 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 149.35 Mbit/s
95th percentile per-packet one-way delay: 113.366 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 127.45 Mbit/s
95th percentile per-packet one-way delay: 113.632 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

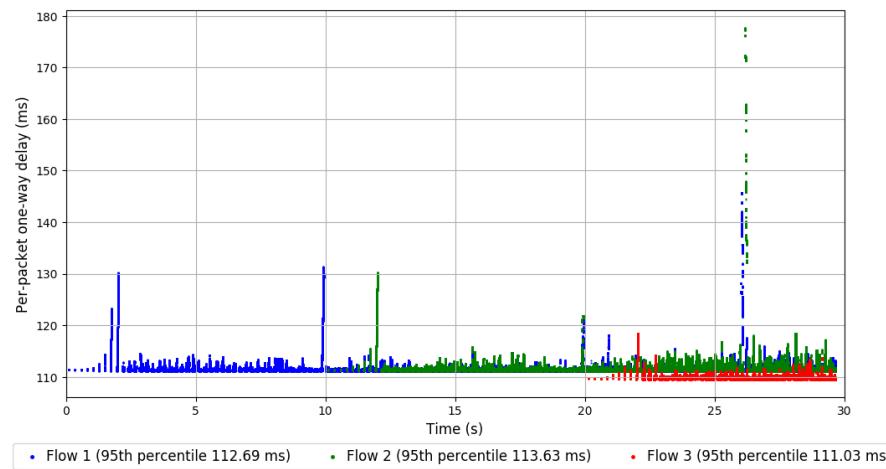
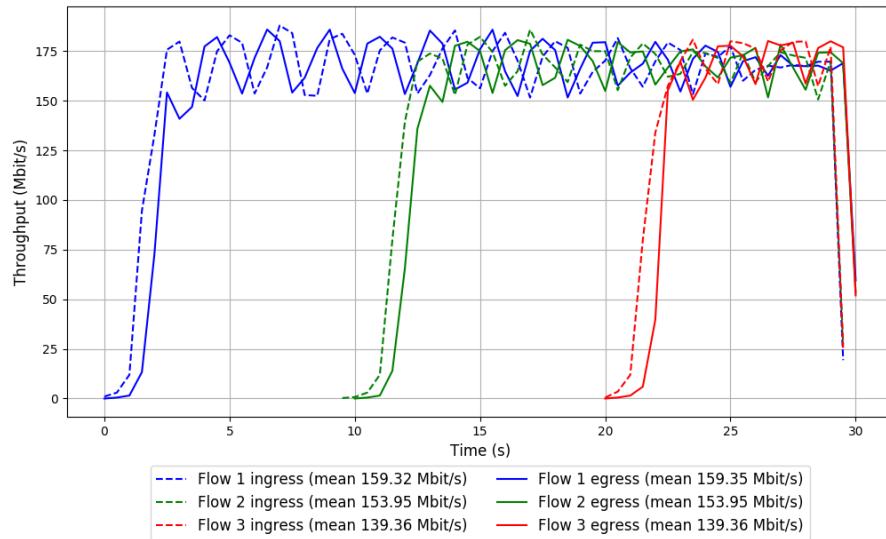


Run 4: Statistics of Indigo

```
Start at: 2018-09-06 09:20:23
End at: 2018-09-06 09:20:53
Local clock offset: -0.363 ms
Remote clock offset: 0.148 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 306.09 Mbit/s
95th percentile per-packet one-way delay: 112.979 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 159.35 Mbit/s
95th percentile per-packet one-way delay: 112.693 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 153.95 Mbit/s
95th percentile per-packet one-way delay: 113.634 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 139.36 Mbit/s
95th percentile per-packet one-way delay: 111.034 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

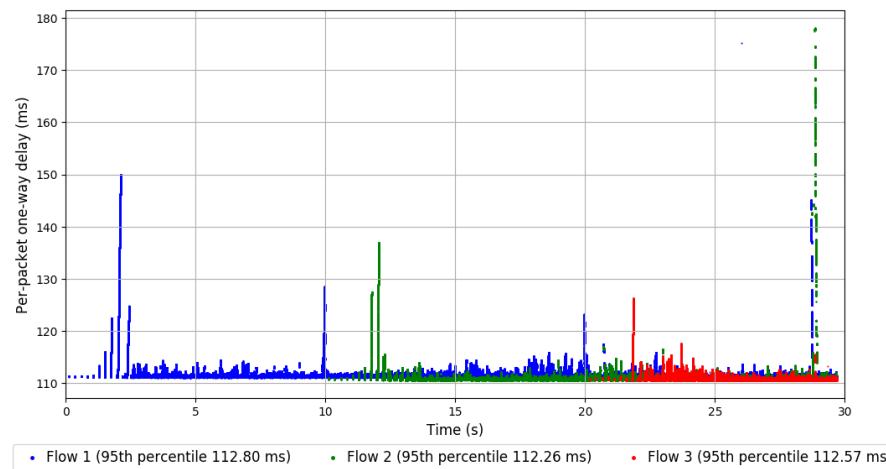
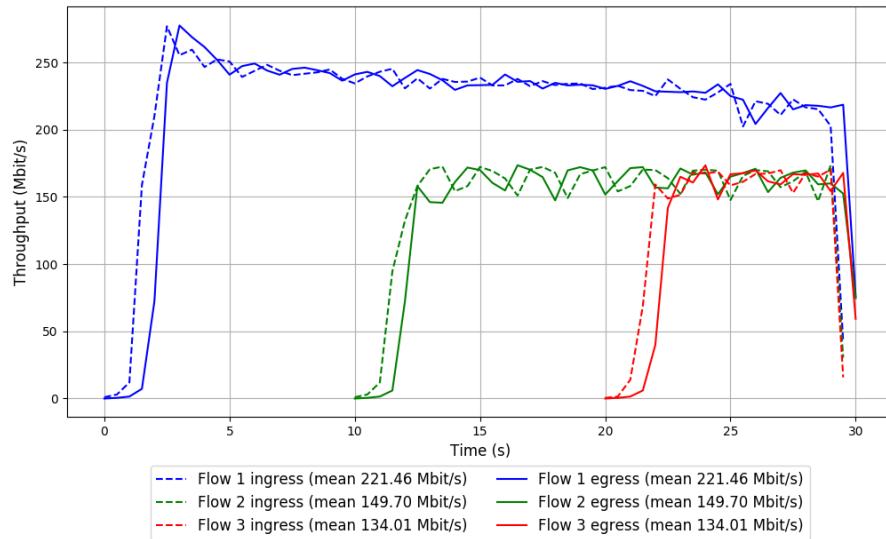


Run 5: Statistics of Indigo

```
Start at: 2018-09-06 09:53:38
End at: 2018-09-06 09:54:08
Local clock offset: 0.126 ms
Remote clock offset: 0.069 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.34 Mbit/s
95th percentile per-packet one-way delay: 112.644 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.46 Mbit/s
95th percentile per-packet one-way delay: 112.803 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.70 Mbit/s
95th percentile per-packet one-way delay: 112.260 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 134.01 Mbit/s
95th percentile per-packet one-way delay: 112.574 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

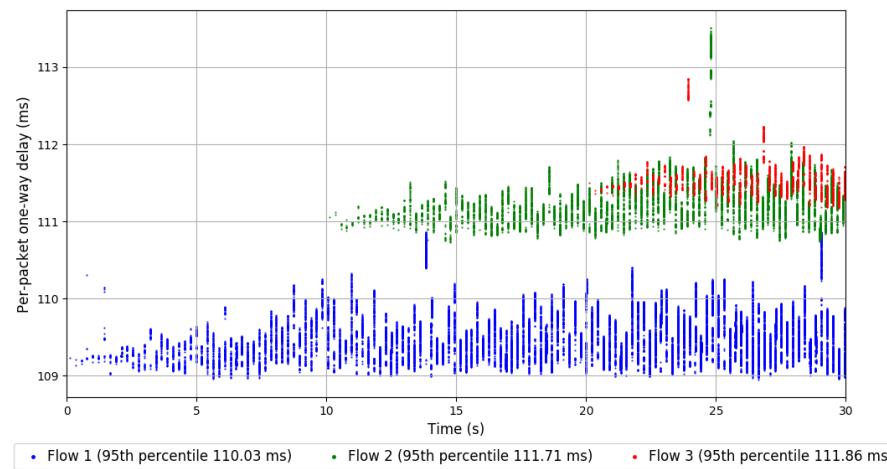
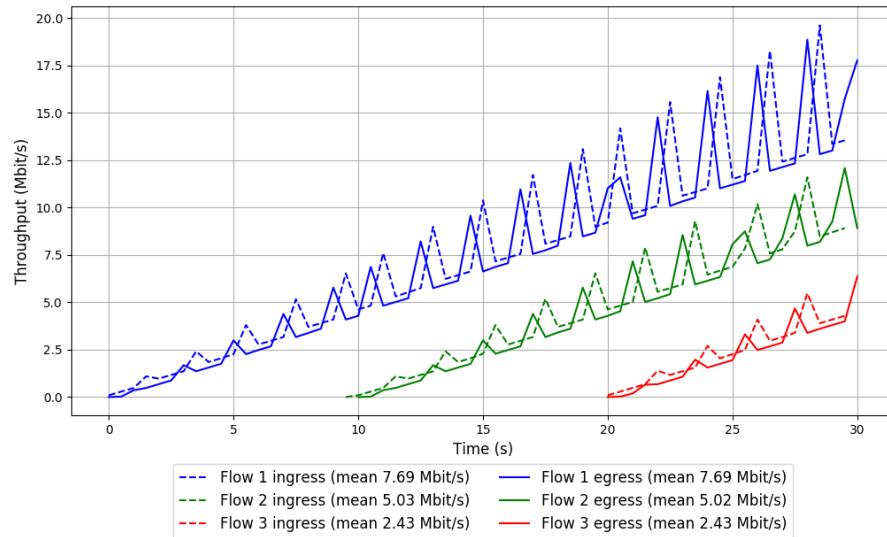


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-06 07:28:07
End at: 2018-09-06 07:28:37
Local clock offset: 0.254 ms
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 111.597 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.69 Mbit/s
95th percentile per-packet one-way delay: 110.025 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 111.709 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 111.864 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

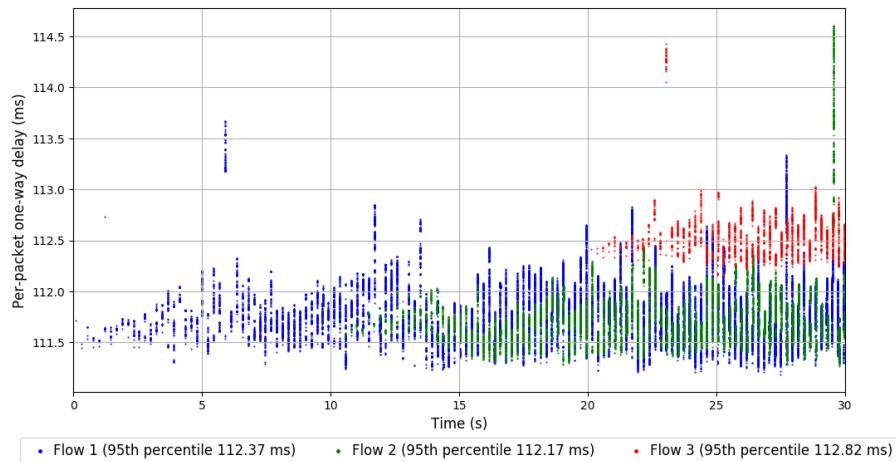
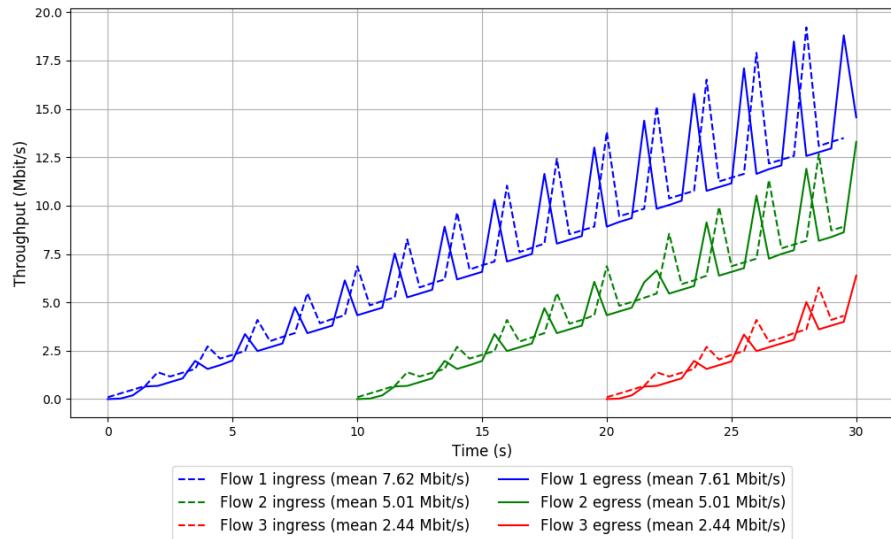


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-06 08:01:26
End at: 2018-09-06 08:01:56
Local clock offset: 0.525 ms
Remote clock offset: 0.568 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 112.566 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 112.368 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 112.167 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 112.821 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

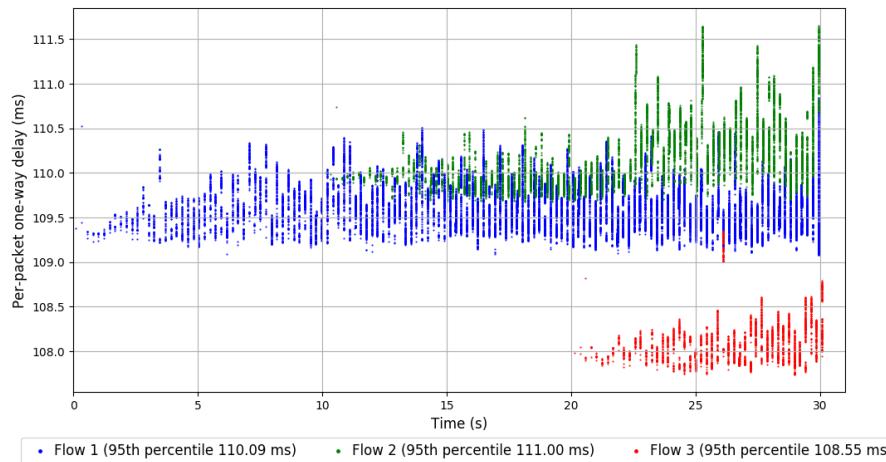
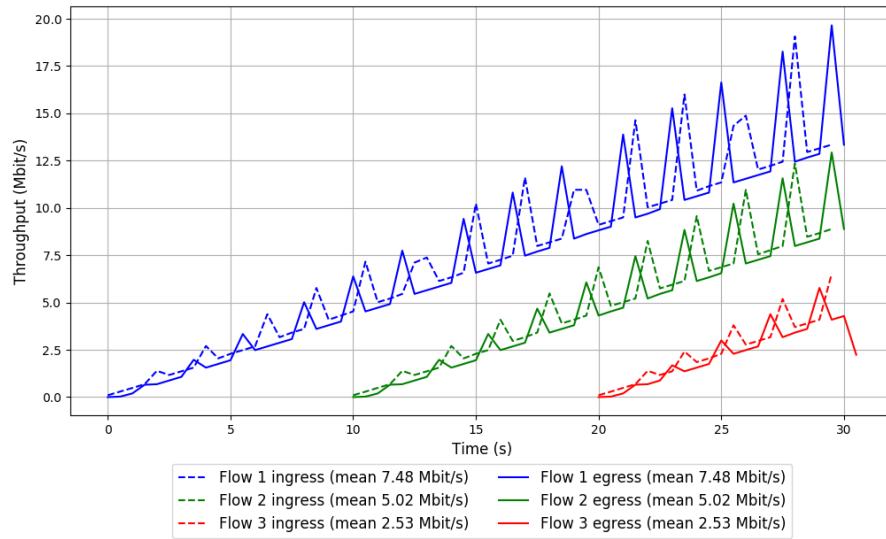


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-06 08:34:54
End at: 2018-09-06 08:35:24
Local clock offset: 1.23 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.60 Mbit/s
95th percentile per-packet one-way delay: 110.535 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.48 Mbit/s
95th percentile per-packet one-way delay: 110.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 110.995 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 108.546 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

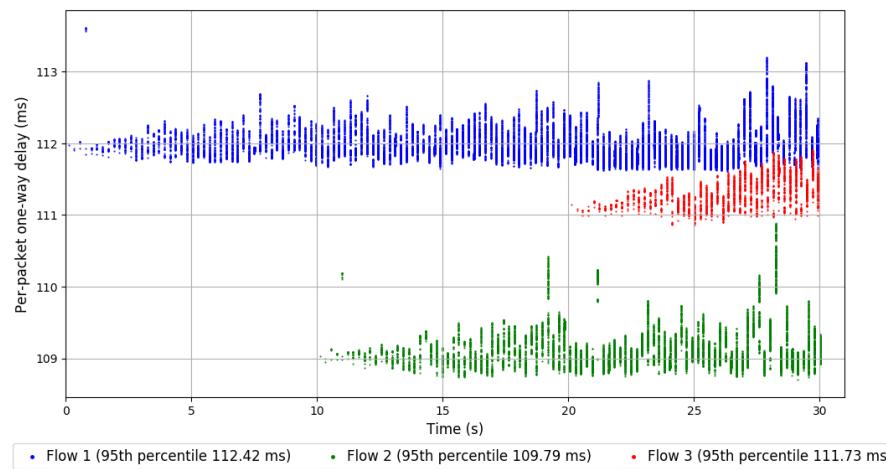
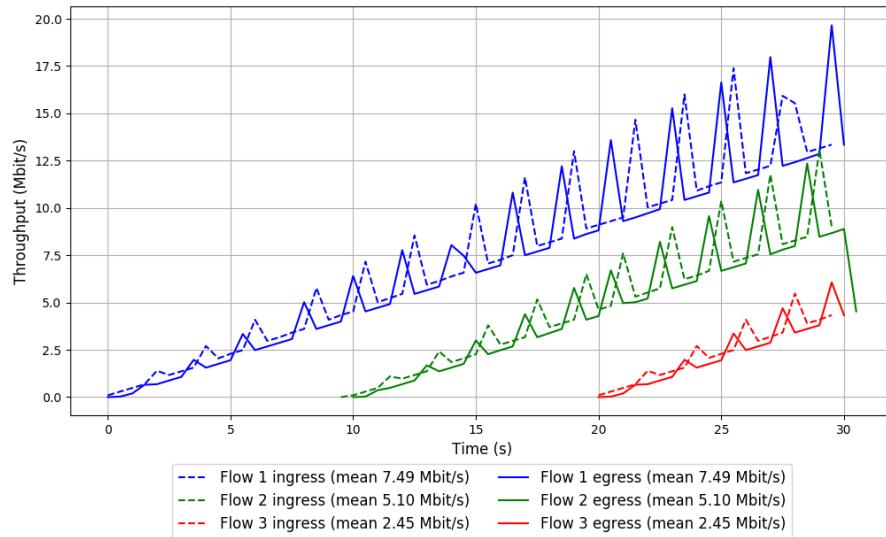


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-06 09:07:54
End at: 2018-09-06 09:08:24
Local clock offset: 0.407 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 112.339 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 112.421 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.10 Mbit/s
95th percentile per-packet one-way delay: 109.789 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 111.734 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

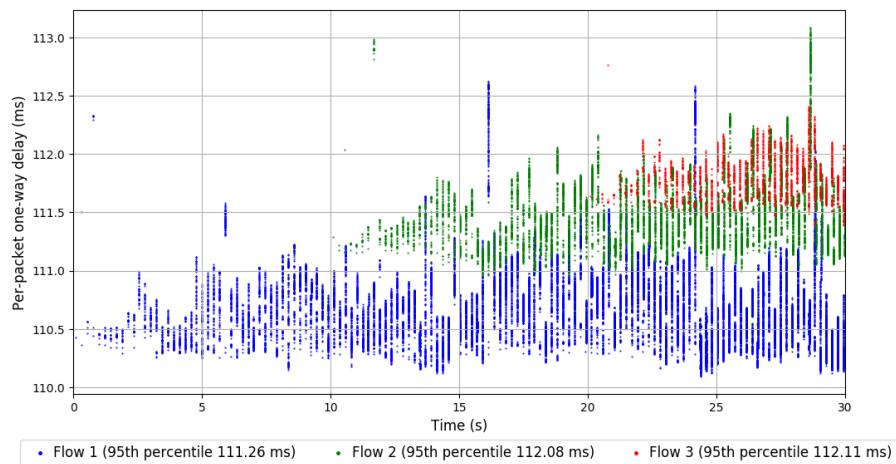
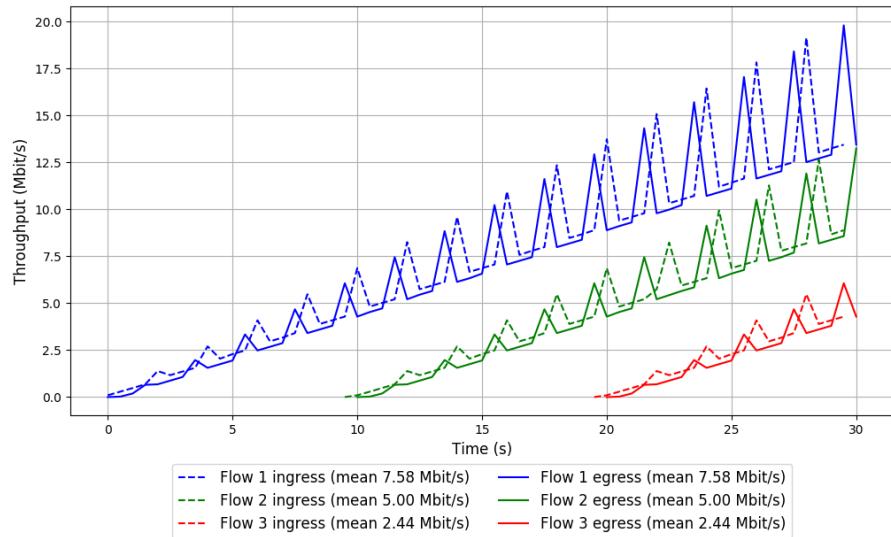


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-06 09:41:00
End at: 2018-09-06 09:41:30
Local clock offset: -0.077 ms
Remote clock offset: 0.102 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 111.901 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 111.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 112.082 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 112.108 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

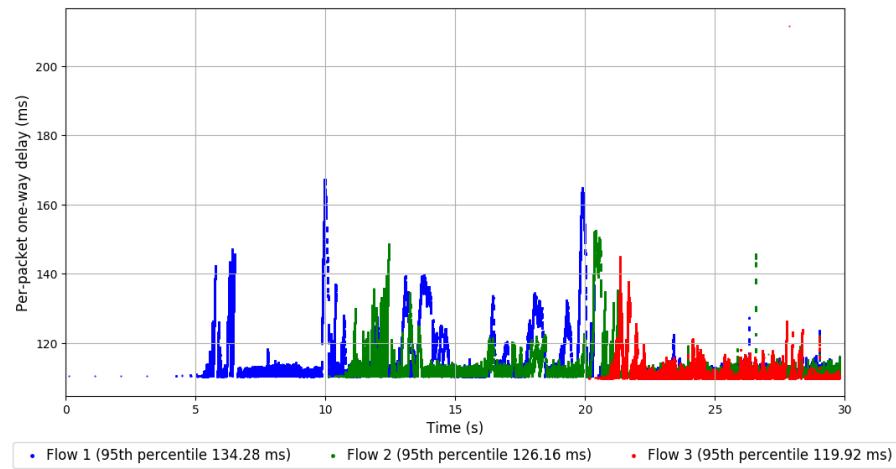
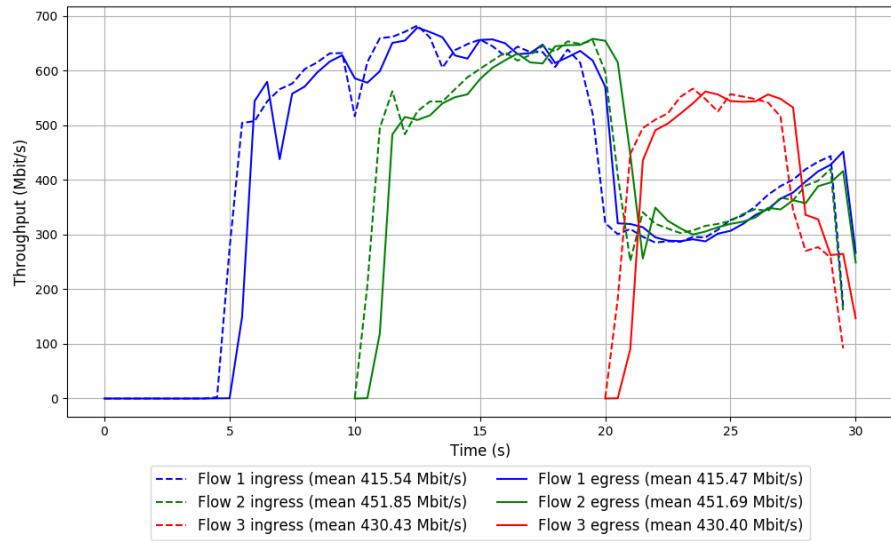


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-06 07:21:38
End at: 2018-09-06 07:22:08
Local clock offset: 1.83 ms
Remote clock offset: 0.696 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 854.77 Mbit/s
95th percentile per-packet one-way delay: 130.810 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 415.47 Mbit/s
95th percentile per-packet one-way delay: 134.285 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 451.69 Mbit/s
95th percentile per-packet one-way delay: 126.164 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 430.40 Mbit/s
95th percentile per-packet one-way delay: 119.923 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

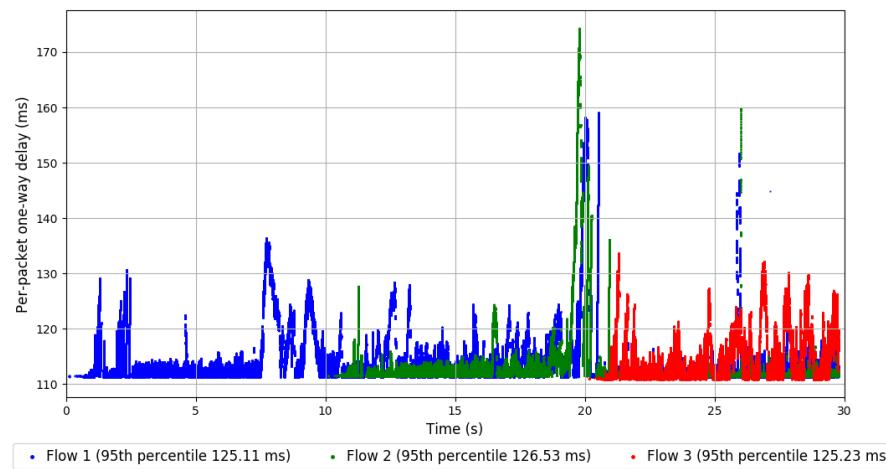
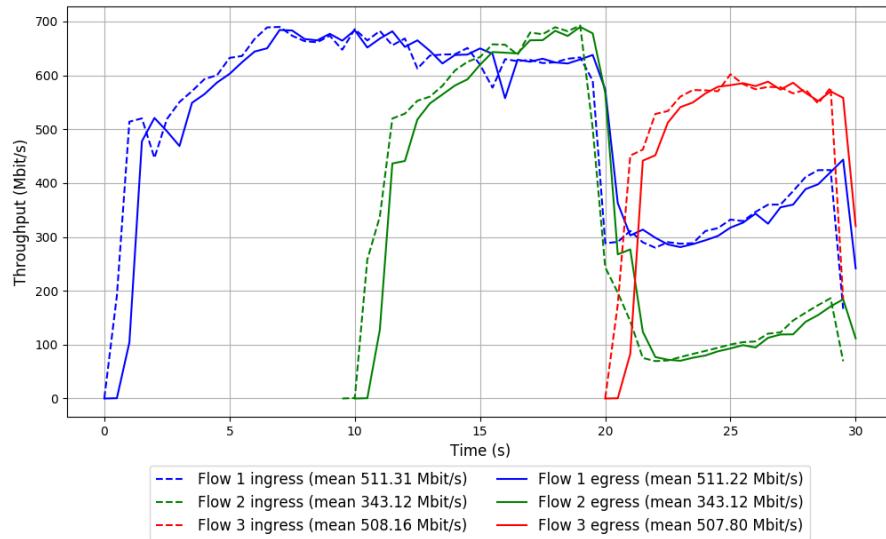


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-06 07:54:52
End at: 2018-09-06 07:55:22
Local clock offset: 0.293 ms
Remote clock offset: 0.23 ms

# Below is generated by plot.py at 2018-09-06 11:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.73 Mbit/s
95th percentile per-packet one-way delay: 125.216 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 511.22 Mbit/s
95th percentile per-packet one-way delay: 125.115 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 343.12 Mbit/s
95th percentile per-packet one-way delay: 126.530 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 507.80 Mbit/s
95th percentile per-packet one-way delay: 125.235 ms
Loss rate: 0.04%
```

Run 2: Report of Indigo-Muses — Data Link

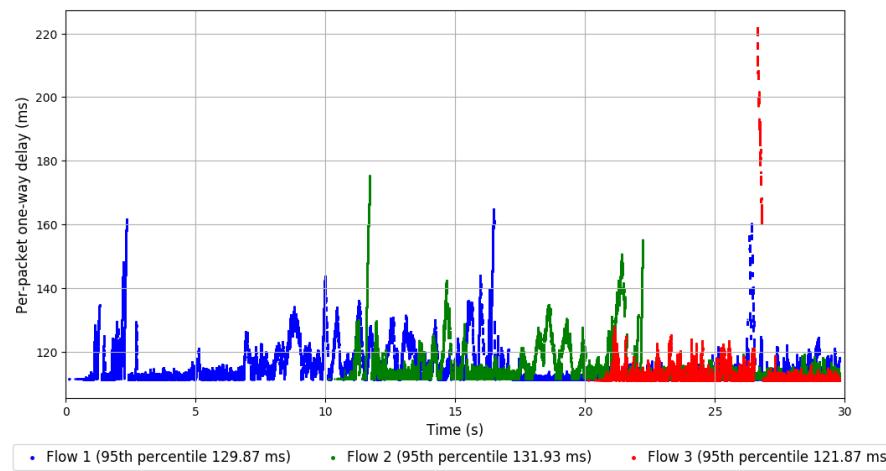
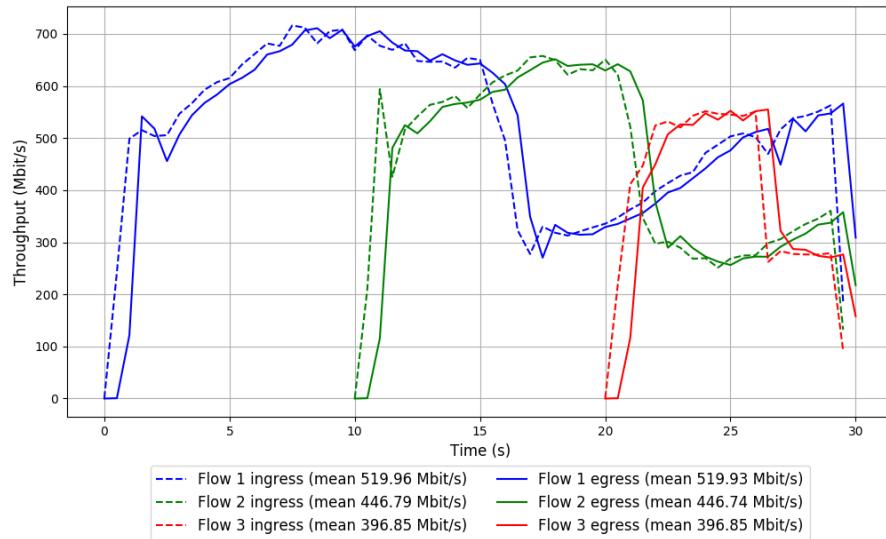


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-06 08:28:13
End at: 2018-09-06 08:28:43
Local clock offset: -0.077 ms
Remote clock offset: 0.199 ms

# Below is generated by plot.py at 2018-09-06 11:31:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 945.46 Mbit/s
95th percentile per-packet one-way delay: 130.108 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 519.93 Mbit/s
95th percentile per-packet one-way delay: 129.866 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 446.74 Mbit/s
95th percentile per-packet one-way delay: 131.933 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 396.85 Mbit/s
95th percentile per-packet one-way delay: 121.874 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-Muses — Data Link

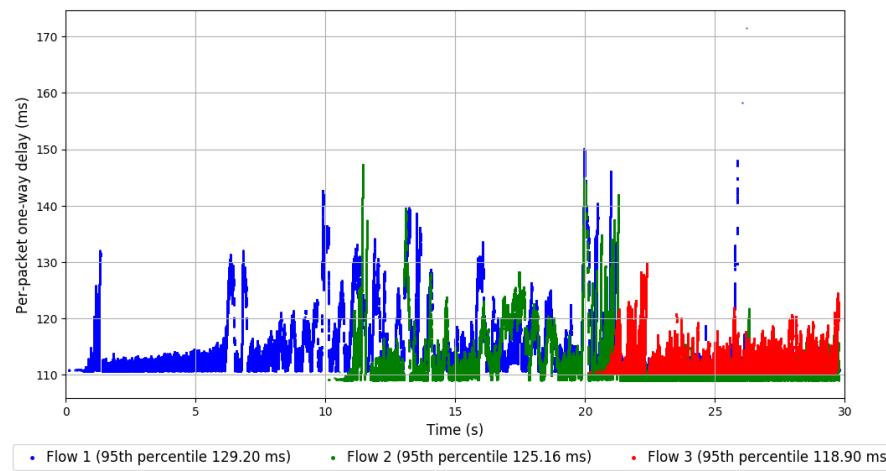
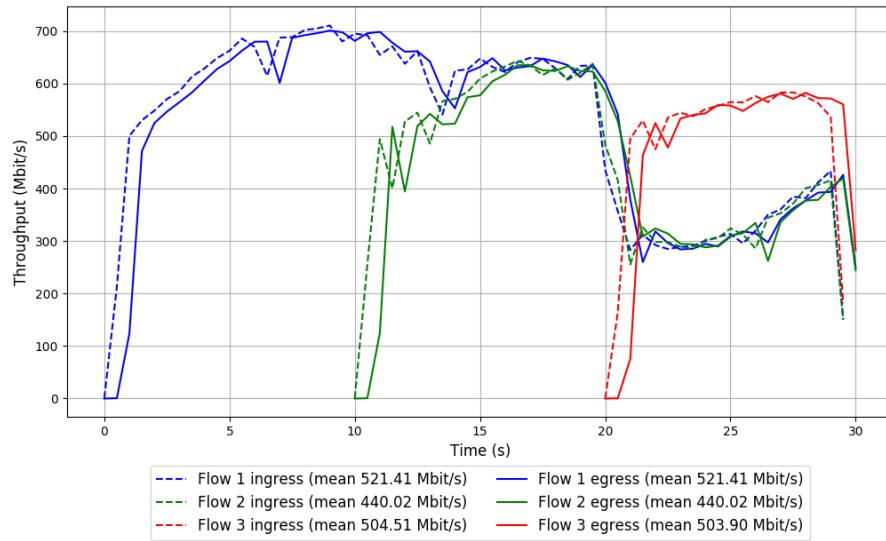


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-06 09:01:21
End at: 2018-09-06 09:01:51
Local clock offset: -0.248 ms
Remote clock offset: -0.22 ms

# Below is generated by plot.py at 2018-09-06 11:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 976.21 Mbit/s
95th percentile per-packet one-way delay: 127.478 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 521.41 Mbit/s
95th percentile per-packet one-way delay: 129.197 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 440.02 Mbit/s
95th percentile per-packet one-way delay: 125.160 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 503.90 Mbit/s
95th percentile per-packet one-way delay: 118.899 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-Muses — Data Link

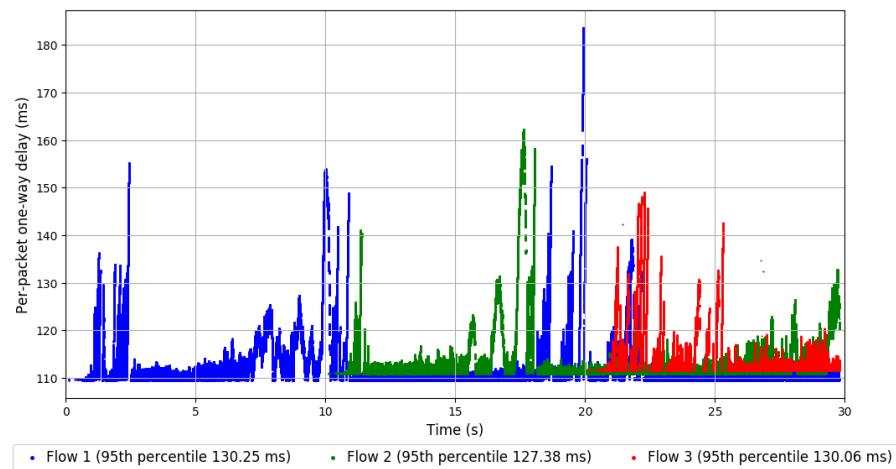
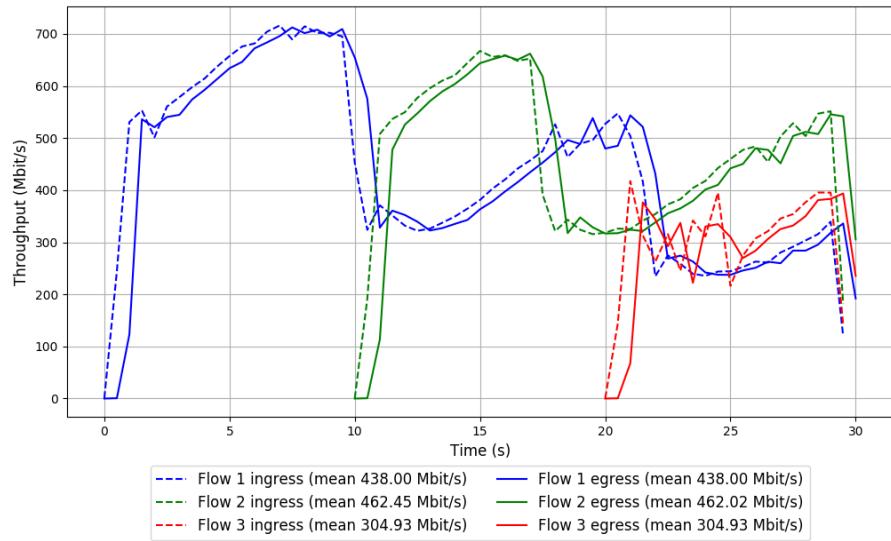


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-06 09:34:26
End at: 2018-09-06 09:34:56
Local clock offset: -0.188 ms
Remote clock offset: 0.109 ms

# Below is generated by plot.py at 2018-09-06 11:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 843.04 Mbit/s
95th percentile per-packet one-way delay: 129.084 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 438.00 Mbit/s
95th percentile per-packet one-way delay: 130.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 462.02 Mbit/s
95th percentile per-packet one-way delay: 127.376 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 304.93 Mbit/s
95th percentile per-packet one-way delay: 130.065 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-Muses — Data Link

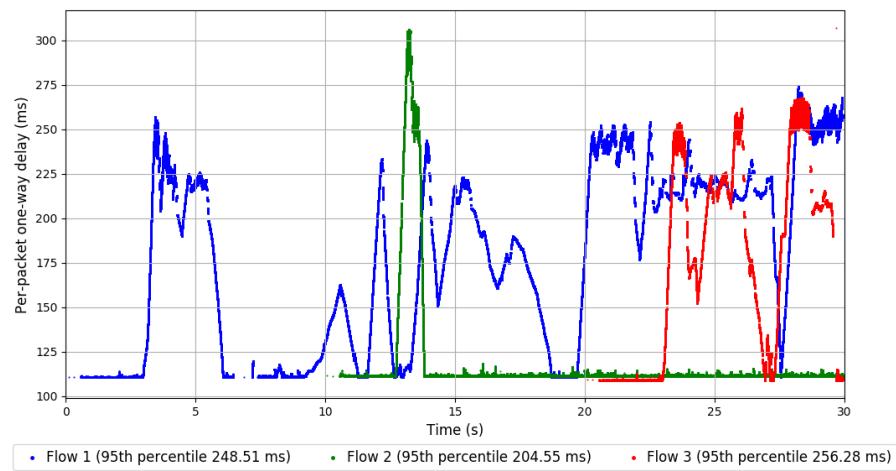
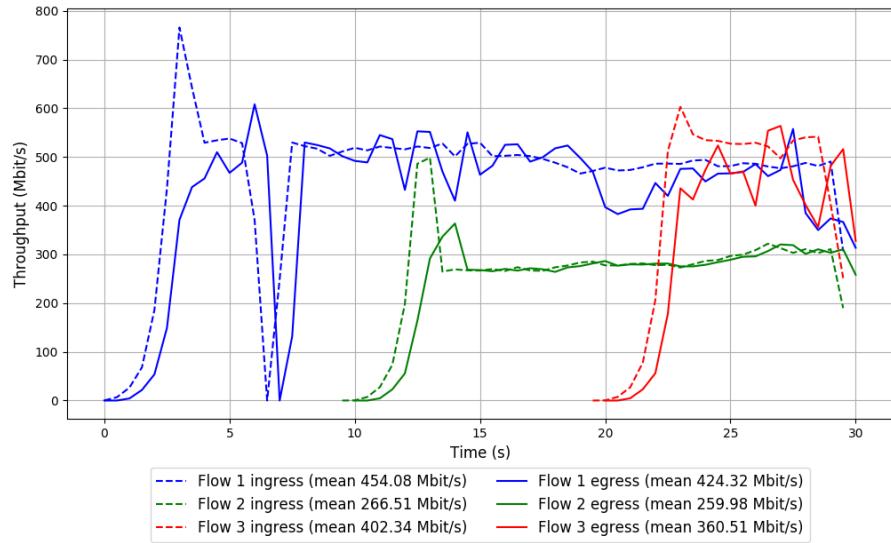


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-06 07:15:21
End at: 2018-09-06 07:15:51
Local clock offset: 0.297 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-09-06 11:41:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.43 Mbit/s
95th percentile per-packet one-way delay: 249.881 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 424.32 Mbit/s
95th percentile per-packet one-way delay: 248.512 ms
Loss rate: 6.55%
-- Flow 2:
Average throughput: 259.98 Mbit/s
95th percentile per-packet one-way delay: 204.547 ms
Loss rate: 2.44%
-- Flow 3:
Average throughput: 360.51 Mbit/s
95th percentile per-packet one-way delay: 256.283 ms
Loss rate: 10.39%
```

Run 1: Report of PCC-Allegro — Data Link

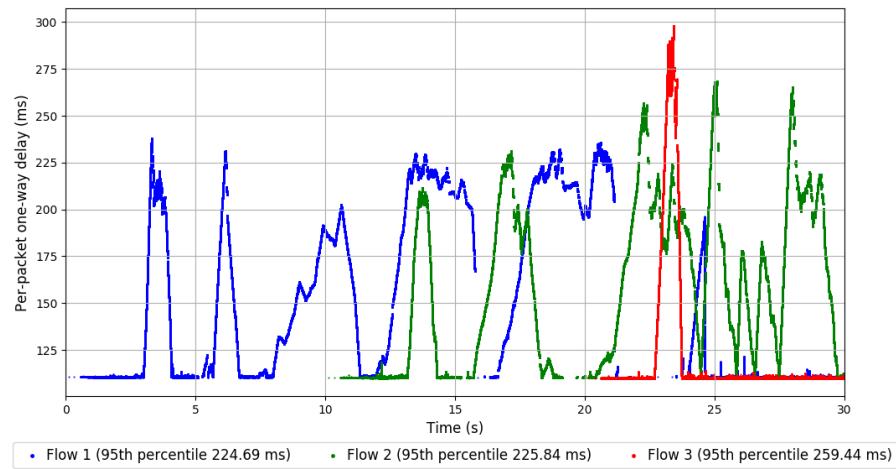
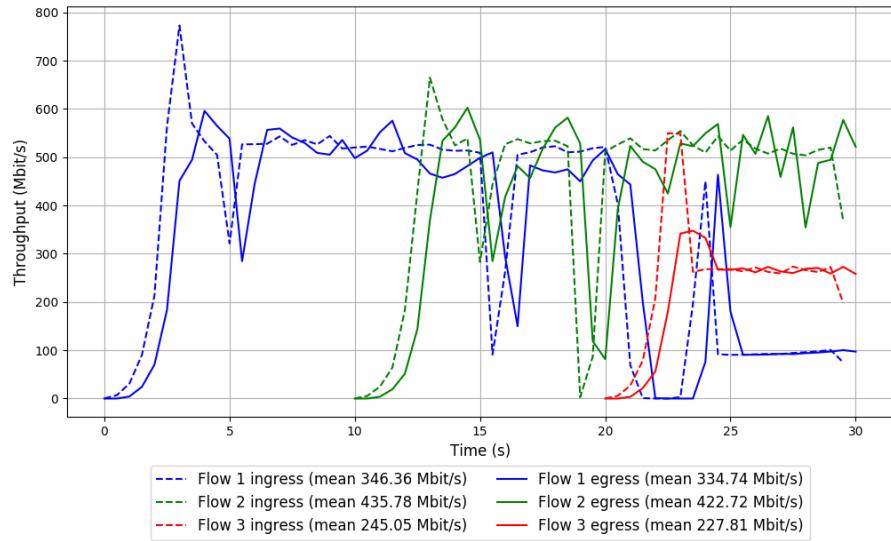


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-06 07:48:34
End at: 2018-09-06 07:49:04
Local clock offset: 1.369 ms
Remote clock offset: 0.26 ms

# Below is generated by plot.py at 2018-09-06 11:41:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 690.62 Mbit/s
95th percentile per-packet one-way delay: 225.515 ms
Loss rate: 3.63%
-- Flow 1:
Average throughput: 334.74 Mbit/s
95th percentile per-packet one-way delay: 224.686 ms
Loss rate: 3.36%
-- Flow 2:
Average throughput: 422.72 Mbit/s
95th percentile per-packet one-way delay: 225.845 ms
Loss rate: 3.00%
-- Flow 3:
Average throughput: 227.81 Mbit/s
95th percentile per-packet one-way delay: 259.442 ms
Loss rate: 7.04%
```

Run 2: Report of PCC-Allegro — Data Link

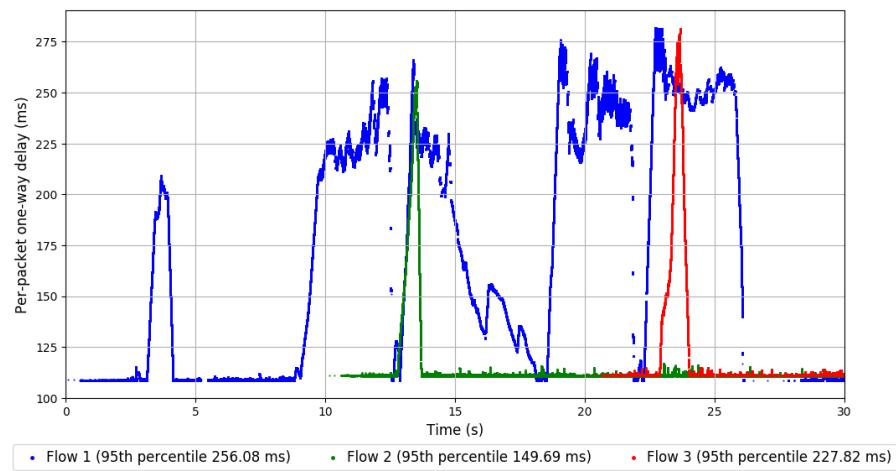
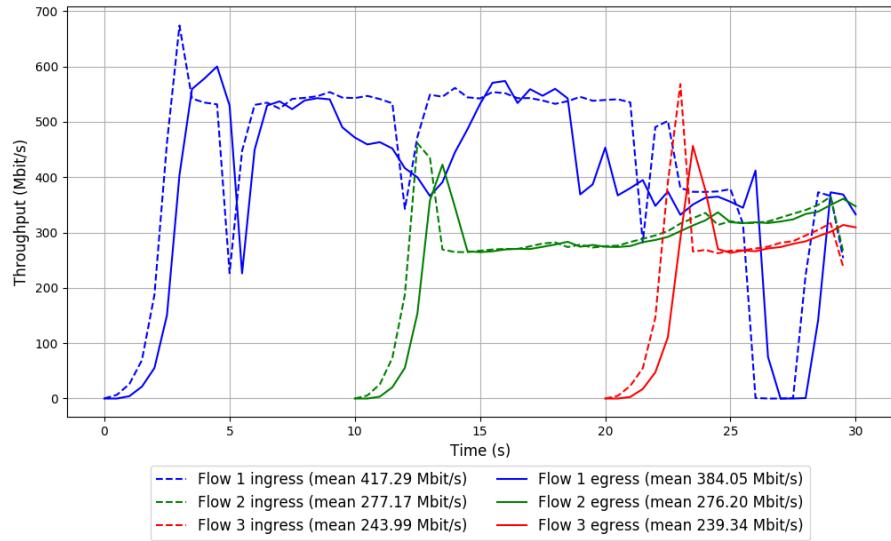


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-06 08:21:58
End at: 2018-09-06 08:22:28
Local clock offset: 0.407 ms
Remote clock offset: 0.256 ms

# Below is generated by plot.py at 2018-09-06 11:45:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.91 Mbit/s
95th percentile per-packet one-way delay: 252.713 ms
Loss rate: 5.22%
-- Flow 1:
Average throughput: 384.05 Mbit/s
95th percentile per-packet one-way delay: 256.082 ms
Loss rate: 8.01%
-- Flow 2:
Average throughput: 276.20 Mbit/s
95th percentile per-packet one-way delay: 149.694 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 239.34 Mbit/s
95th percentile per-packet one-way delay: 227.823 ms
Loss rate: 1.91%
```

Run 3: Report of PCC-Allegro — Data Link

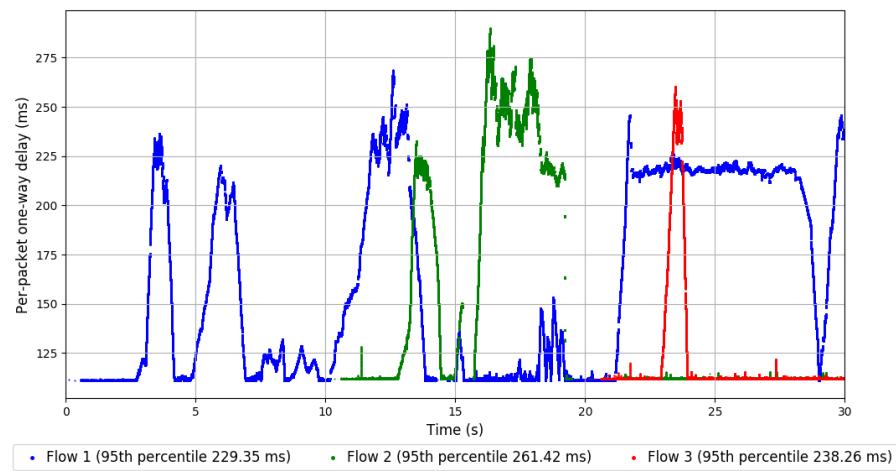
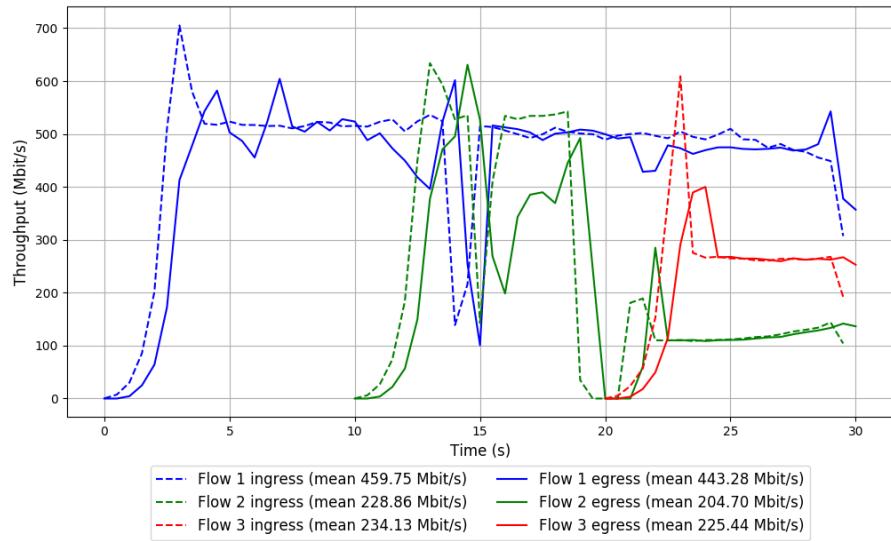


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-06 08:55:20
End at: 2018-09-06 08:55:50
Local clock offset: -0.239 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2018-09-06 11:52:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 653.38 Mbit/s
95th percentile per-packet one-way delay: 240.638 ms
Loss rate: 5.14%
-- Flow 1:
Average throughput: 443.28 Mbit/s
95th percentile per-packet one-way delay: 229.347 ms
Loss rate: 3.58%
-- Flow 2:
Average throughput: 204.70 Mbit/s
95th percentile per-packet one-way delay: 261.422 ms
Loss rate: 10.56%
-- Flow 3:
Average throughput: 225.44 Mbit/s
95th percentile per-packet one-way delay: 238.258 ms
Loss rate: 3.71%
```

Run 4: Report of PCC-Allegro — Data Link

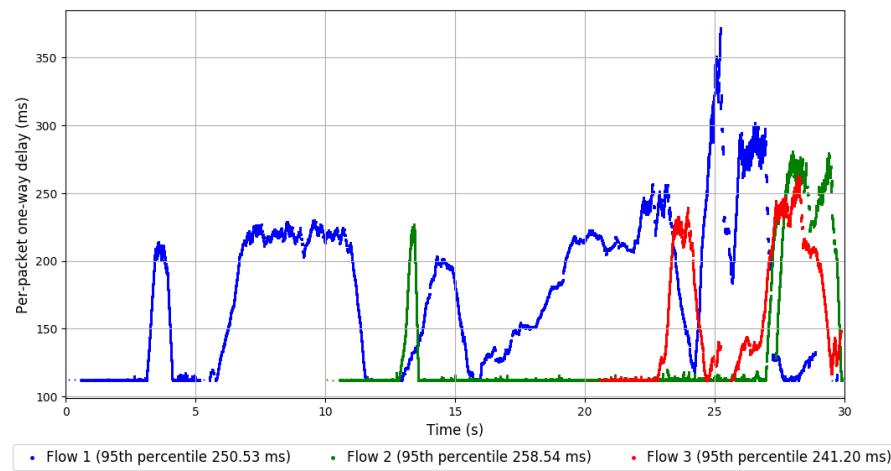
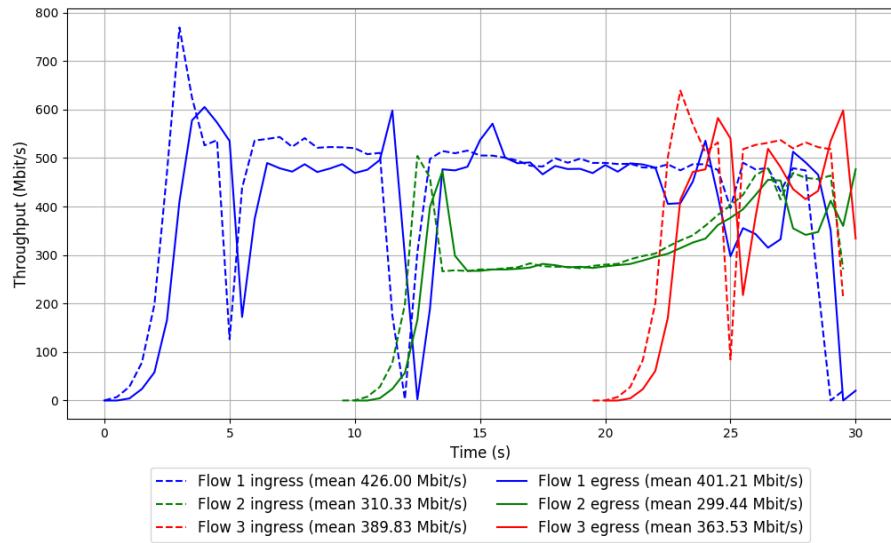


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-06 09:28:05
End at: 2018-09-06 09:28:35
Local clock offset: -0.87 ms
Remote clock offset: 0.153 ms

# Below is generated by plot.py at 2018-09-06 11:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 719.59 Mbit/s
95th percentile per-packet one-way delay: 251.288 ms
Loss rate: 5.28%
-- Flow 1:
Average throughput: 401.21 Mbit/s
95th percentile per-packet one-way delay: 250.528 ms
Loss rate: 5.82%
-- Flow 2:
Average throughput: 299.44 Mbit/s
95th percentile per-packet one-way delay: 258.544 ms
Loss rate: 3.50%
-- Flow 3:
Average throughput: 363.53 Mbit/s
95th percentile per-packet one-way delay: 241.201 ms
Loss rate: 6.40%
```

Run 5: Report of PCC-Allegro — Data Link

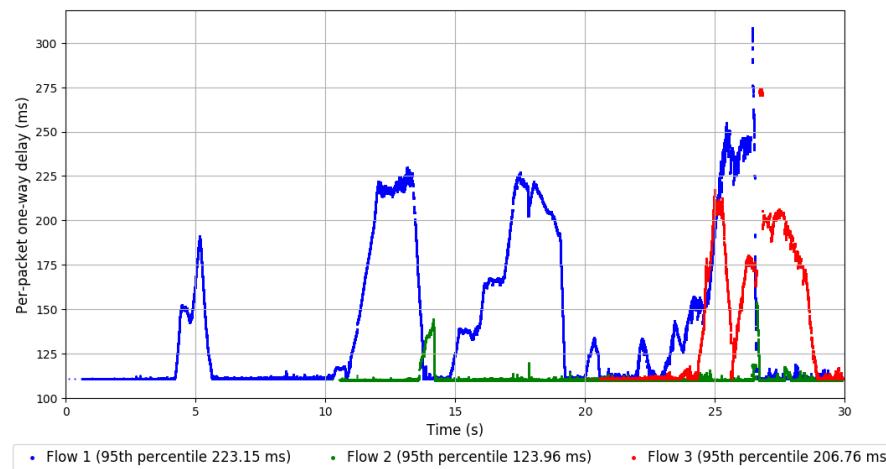
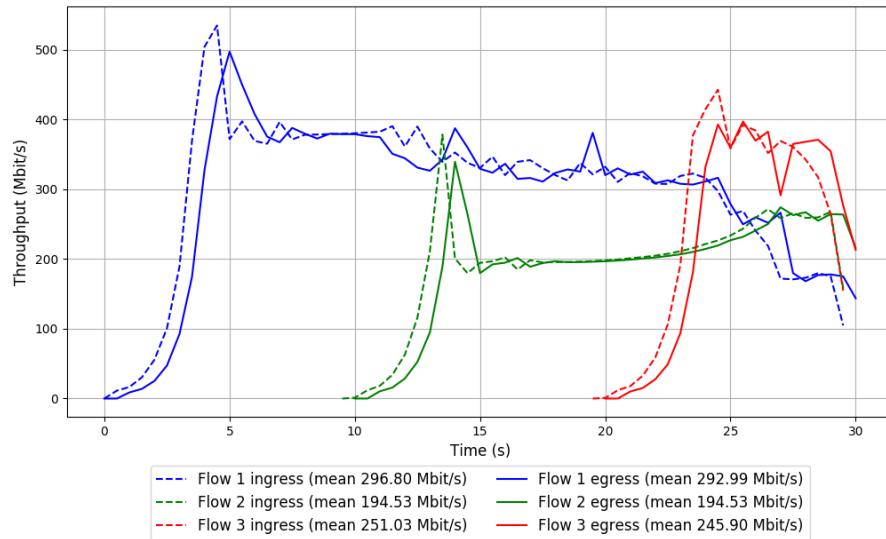


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-06 07:09:27
End at: 2018-09-06 07:09:57
Local clock offset: 0.611 ms
Remote clock offset: 0.804 ms

# Below is generated by plot.py at 2018-09-06 11:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.02 Mbit/s
95th percentile per-packet one-way delay: 219.077 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 292.99 Mbit/s
95th percentile per-packet one-way delay: 223.154 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 194.53 Mbit/s
95th percentile per-packet one-way delay: 123.960 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 245.90 Mbit/s
95th percentile per-packet one-way delay: 206.760 ms
Loss rate: 2.05%
```

Run 1: Report of PCC-Expr — Data Link

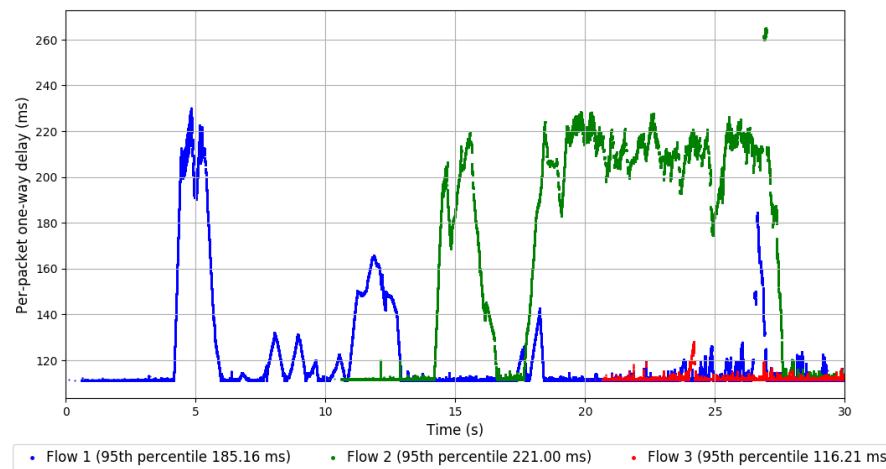
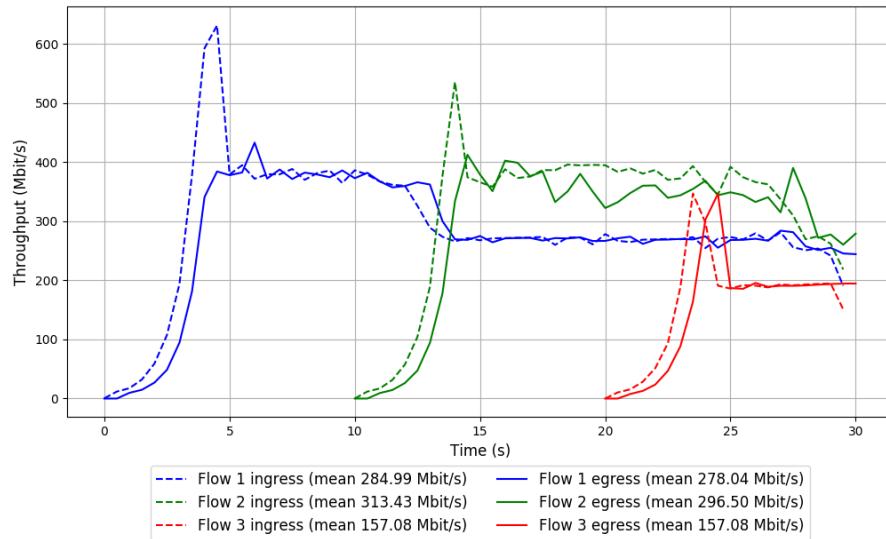


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-06 07:42:31
End at: 2018-09-06 07:43:01
Local clock offset: 0.534 ms
Remote clock offset: 0.235 ms

# Below is generated by plot.py at 2018-09-06 11:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 527.01 Mbit/s
95th percentile per-packet one-way delay: 217.078 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 278.04 Mbit/s
95th percentile per-packet one-way delay: 185.165 ms
Loss rate: 2.44%
-- Flow 2:
Average throughput: 296.50 Mbit/s
95th percentile per-packet one-way delay: 221.004 ms
Loss rate: 5.40%
-- Flow 3:
Average throughput: 157.08 Mbit/s
95th percentile per-packet one-way delay: 116.208 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Expr — Data Link

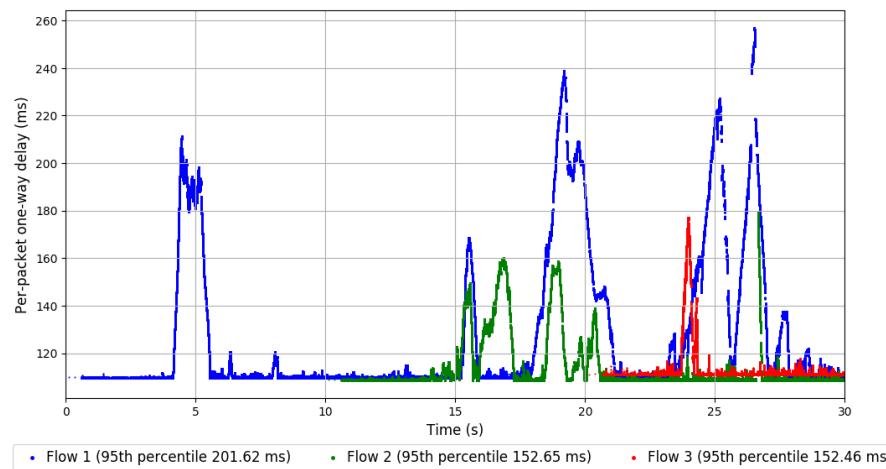
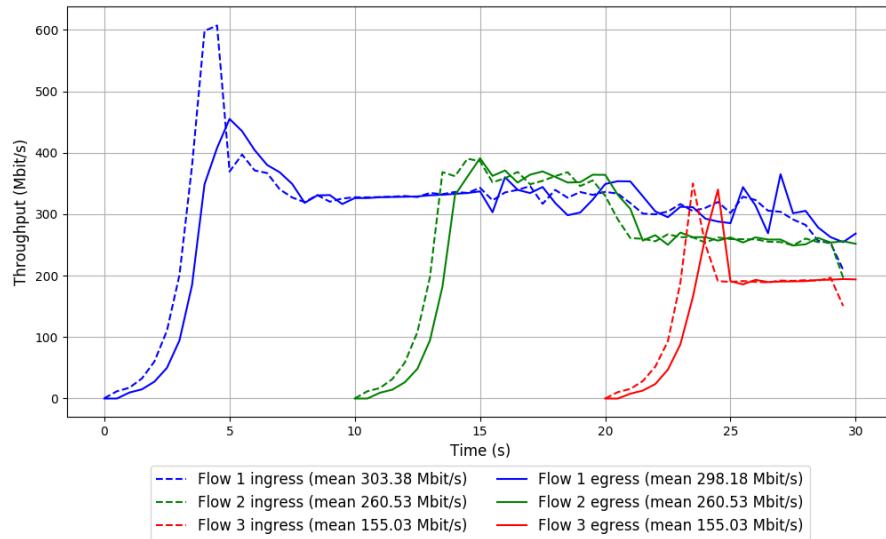


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-06 08:15:54
End at: 2018-09-06 08:16:24
Local clock offset: -0.047 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-09-06 11:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.54 Mbit/s
95th percentile per-packet one-way delay: 192.543 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 298.18 Mbit/s
95th percentile per-packet one-way delay: 201.619 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 260.53 Mbit/s
95th percentile per-packet one-way delay: 152.645 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 155.03 Mbit/s
95th percentile per-packet one-way delay: 152.458 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Expr — Data Link

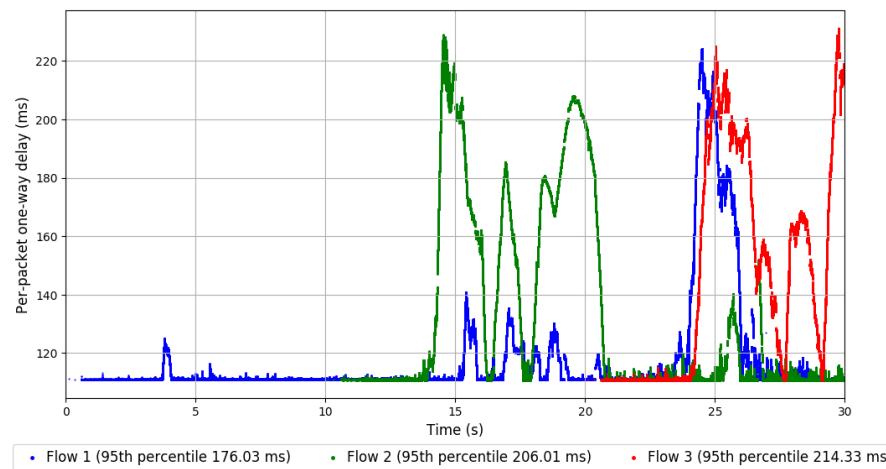
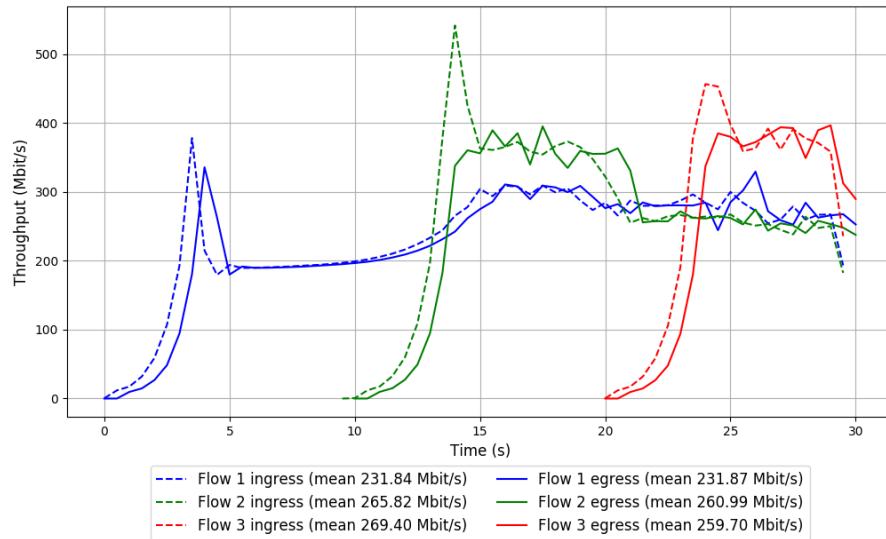


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-06 08:49:16
End at: 2018-09-06 08:49:46
Local clock offset: 0.587 ms
Remote clock offset: 0.091 ms

# Below is generated by plot.py at 2018-09-06 11:57:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.32 Mbit/s
95th percentile per-packet one-way delay: 204.806 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 231.87 Mbit/s
95th percentile per-packet one-way delay: 176.028 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 260.99 Mbit/s
95th percentile per-packet one-way delay: 206.007 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 259.70 Mbit/s
95th percentile per-packet one-way delay: 214.330 ms
Loss rate: 3.59%
```

Run 4: Report of PCC-Expr — Data Link

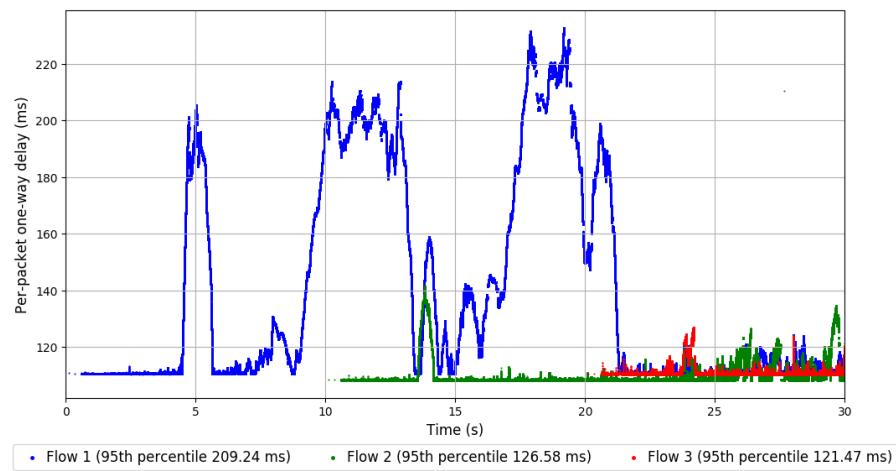
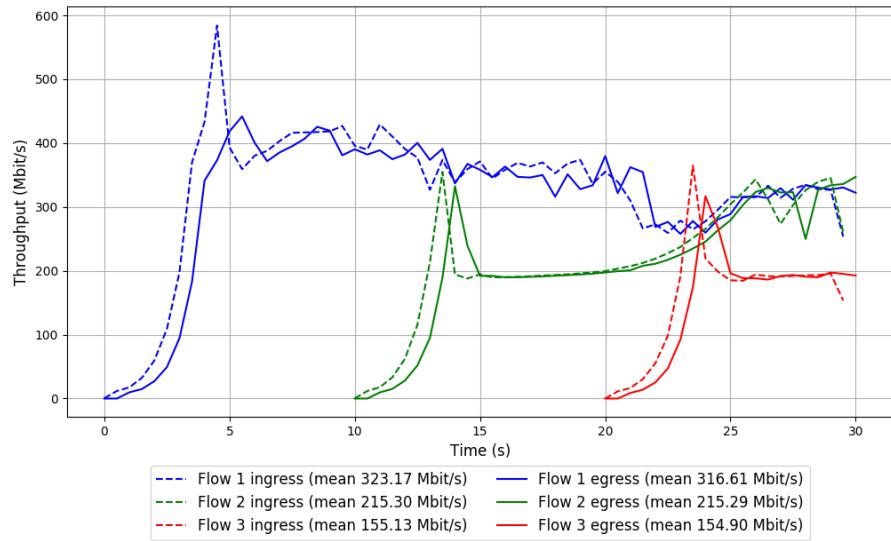


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-06 09:22:12
End at: 2018-09-06 09:22:42
Local clock offset: 1.16 ms
Remote clock offset: 0.526 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 510.90 Mbit/s
95th percentile per-packet one-way delay: 205.194 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 316.61 Mbit/s
95th percentile per-packet one-way delay: 209.238 ms
Loss rate: 2.03%
-- Flow 2:
Average throughput: 215.29 Mbit/s
95th percentile per-packet one-way delay: 126.578 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 154.90 Mbit/s
95th percentile per-packet one-way delay: 121.466 ms
Loss rate: 0.14%
```

Run 5: Report of PCC-Expr — Data Link

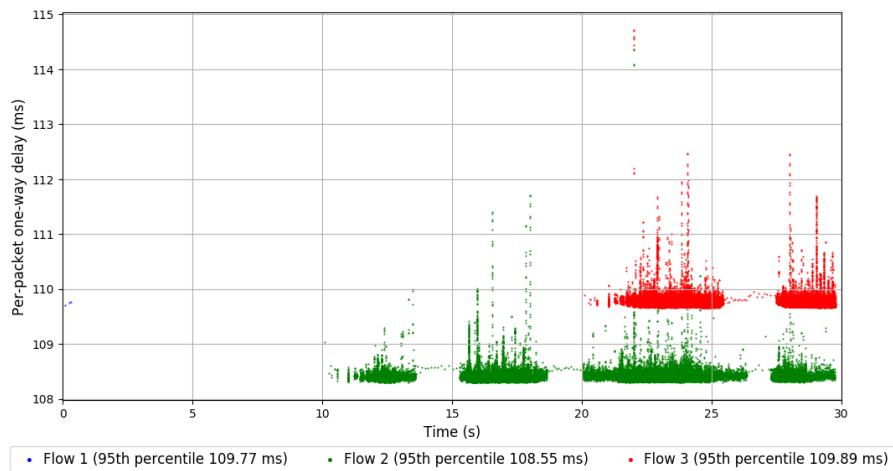
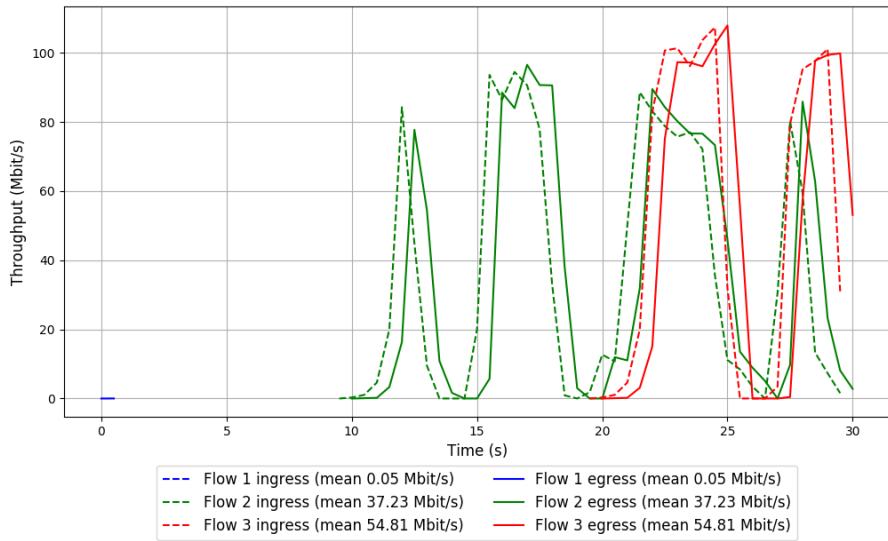


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-09-06 07:29:24
End at: 2018-09-06 07:29:54
Local clock offset: 1.862 ms
Remote clock offset: -0.189 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.52 Mbit/s
95th percentile per-packet one-way delay: 109.826 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 109.771 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.23 Mbit/s
95th percentile per-packet one-way delay: 108.546 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.81 Mbit/s
95th percentile per-packet one-way delay: 109.892 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

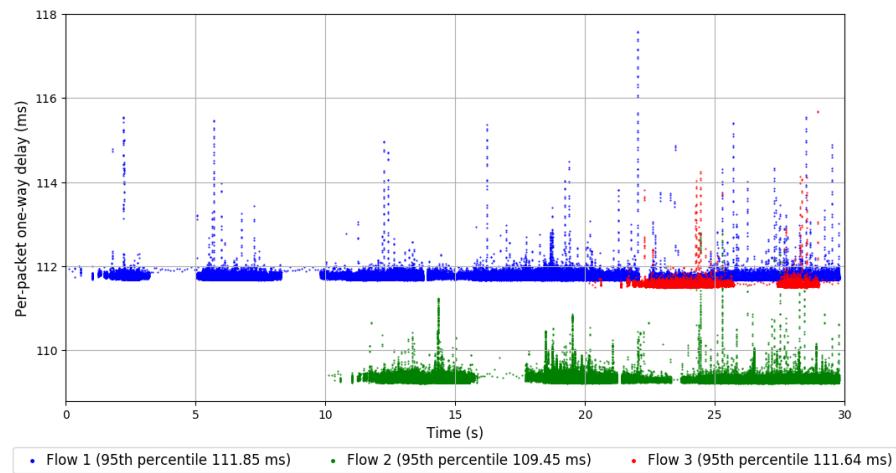
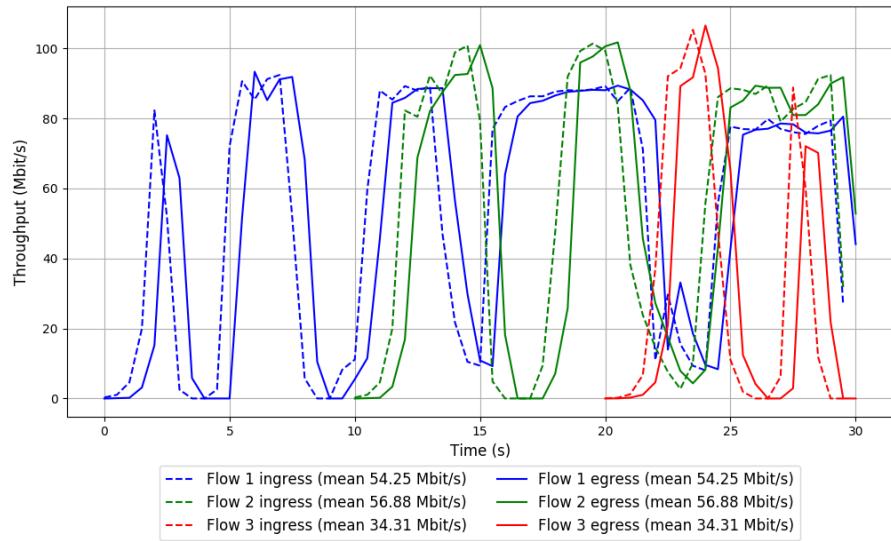


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-06 08:02:43
End at: 2018-09-06 08:03:13
Local clock offset: -0.151 ms
Remote clock offset: 0.211 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.04 Mbit/s
95th percentile per-packet one-way delay: 111.821 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.25 Mbit/s
95th percentile per-packet one-way delay: 111.852 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 56.88 Mbit/s
95th percentile per-packet one-way delay: 109.447 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.31 Mbit/s
95th percentile per-packet one-way delay: 111.636 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link

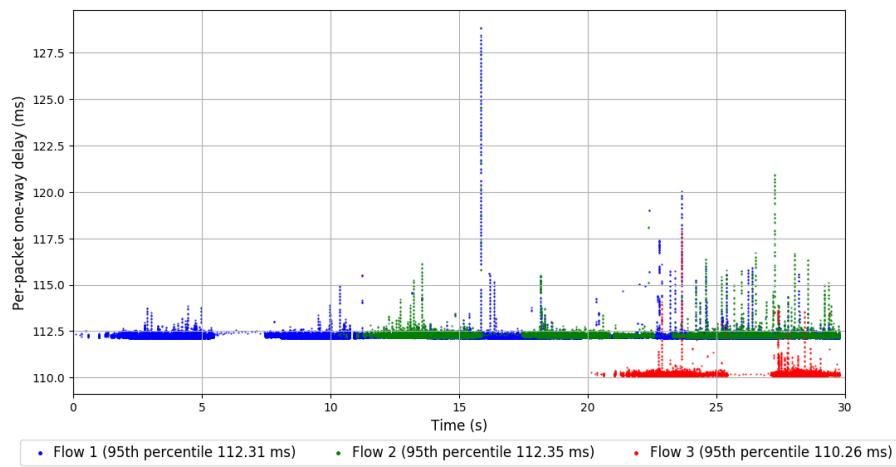
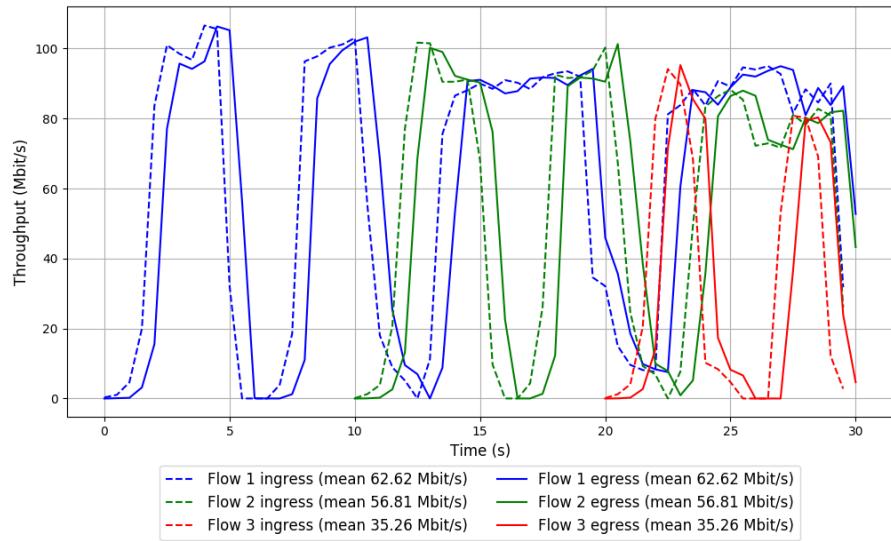


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-06 08:36:11
End at: 2018-09-06 08:36:41
Local clock offset: -0.803 ms
Remote clock offset: 0.129 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.67 Mbit/s
95th percentile per-packet one-way delay: 112.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.62 Mbit/s
95th percentile per-packet one-way delay: 112.313 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 56.81 Mbit/s
95th percentile per-packet one-way delay: 112.349 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.26 Mbit/s
95th percentile per-packet one-way delay: 110.258 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

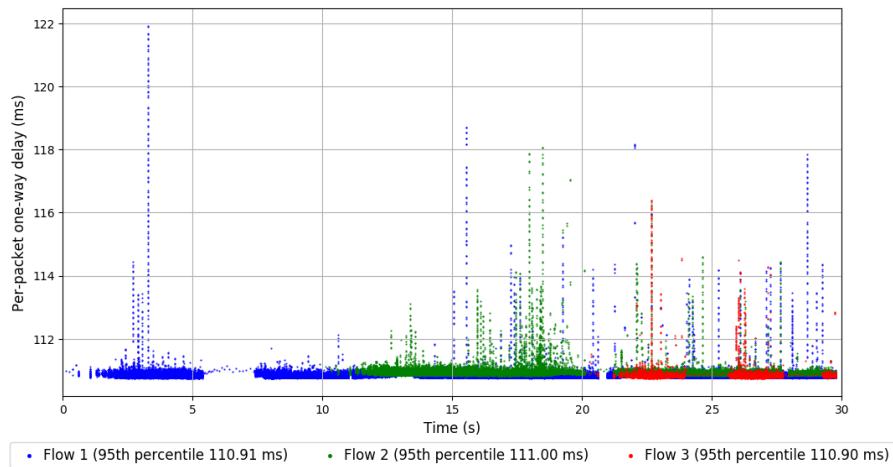
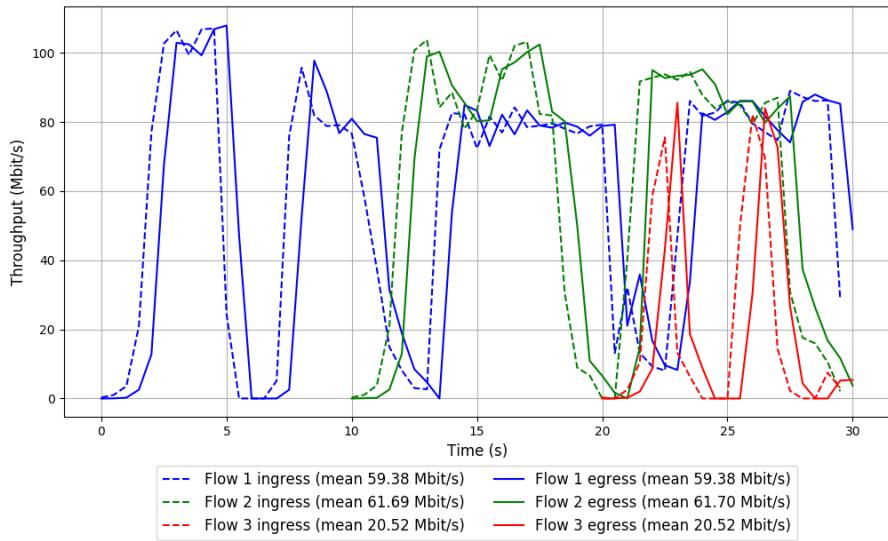


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-06 09:09:11
End at: 2018-09-06 09:09:41
Local clock offset: 0.421 ms
Remote clock offset: 0.141 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.93 Mbit/s
95th percentile per-packet one-way delay: 110.967 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.38 Mbit/s
95th percentile per-packet one-way delay: 110.914 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.70 Mbit/s
95th percentile per-packet one-way delay: 111.004 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 110.899 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

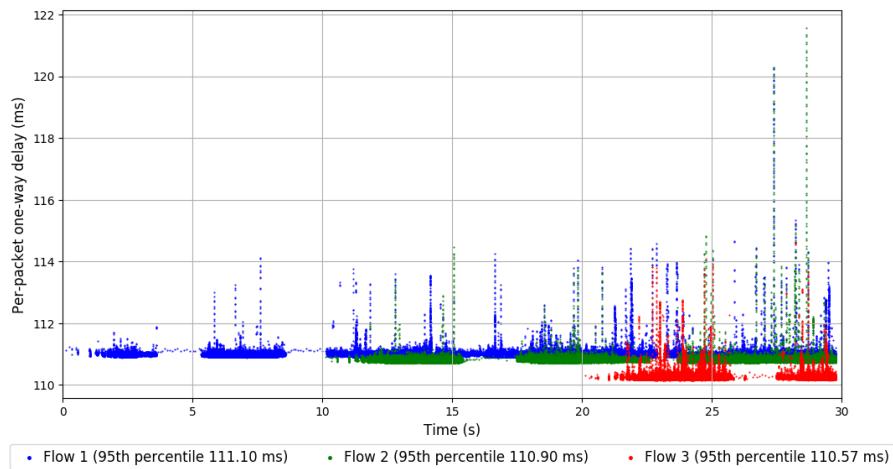
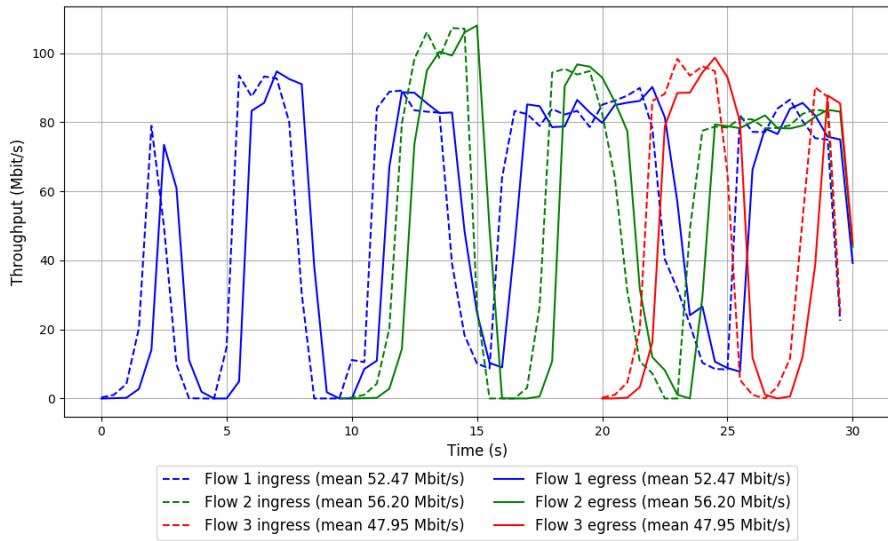


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-06 09:42:17
End at: 2018-09-06 09:42:47
Local clock offset: -0.043 ms
Remote clock offset: 0.11 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.31 Mbit/s
95th percentile per-packet one-way delay: 111.059 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.47 Mbit/s
95th percentile per-packet one-way delay: 111.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 56.20 Mbit/s
95th percentile per-packet one-way delay: 110.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.95 Mbit/s
95th percentile per-packet one-way delay: 110.570 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

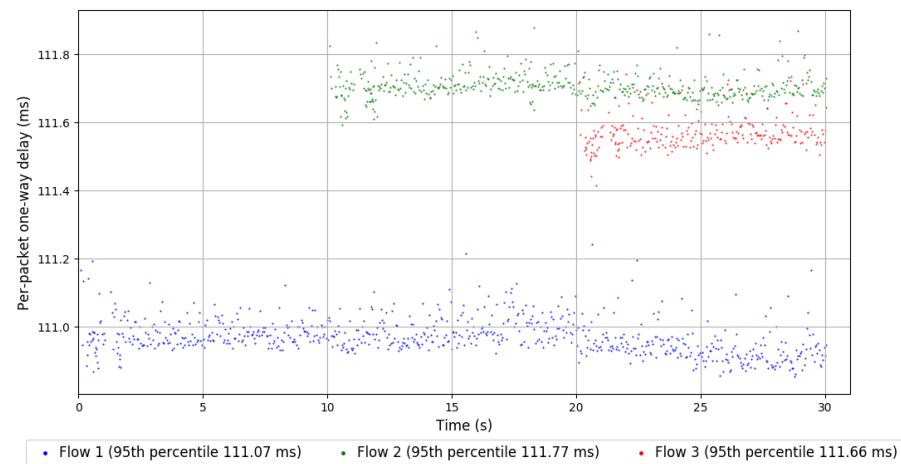
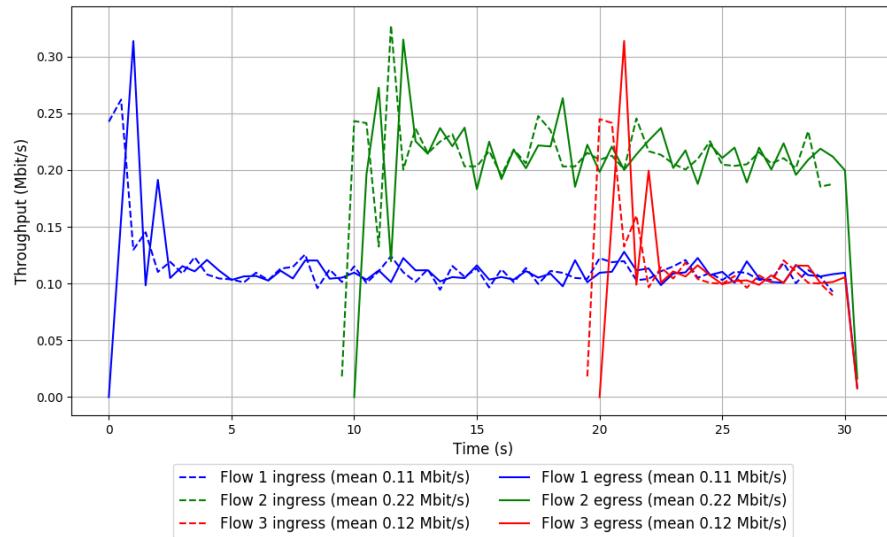


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 07:39:22
End at: 2018-09-06 07:39:52
Local clock offset: 0.619 ms
Remote clock offset: 0.201 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 111.741 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 111.066 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.774 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 111.659 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

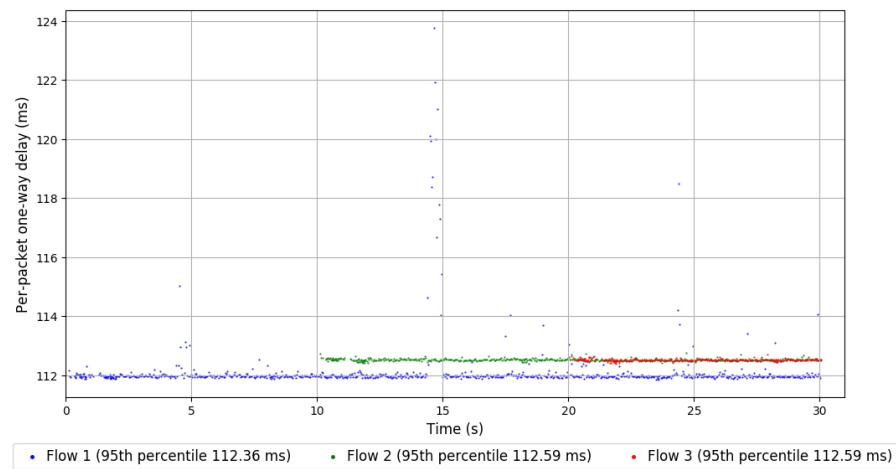
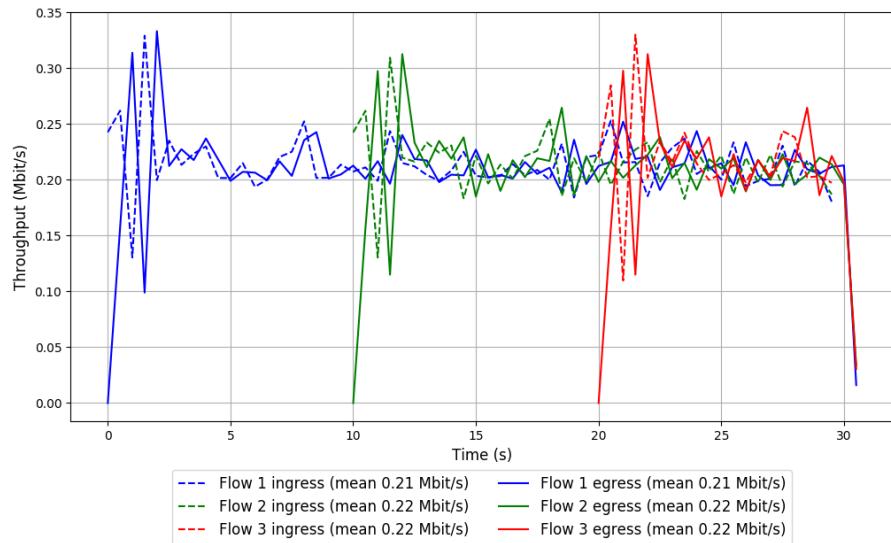


Run 2: Statistics of SCReAM

```
Start at: 2018-09-06 08:12:47
End at: 2018-09-06 08:13:17
Local clock offset: -0.195 ms
Remote clock offset: 0.549 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.587 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.362 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.593 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.590 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

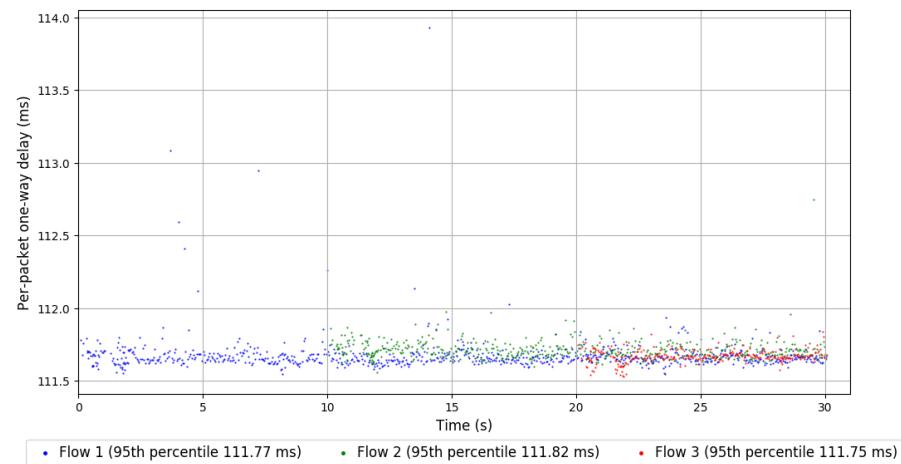
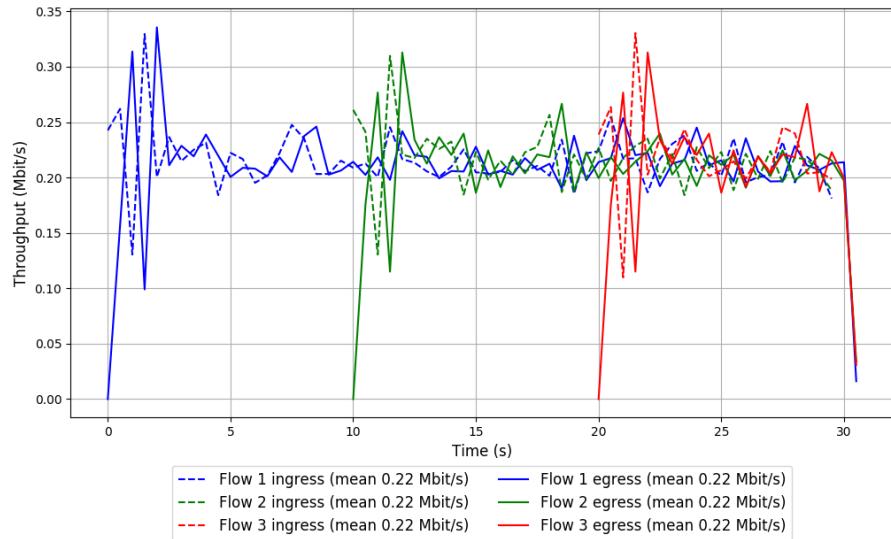


Run 3: Statistics of SCReAM

```
Start at: 2018-09-06 08:46:07
End at: 2018-09-06 08:46:37
Local clock offset: -0.154 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.794 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.817 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.747 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

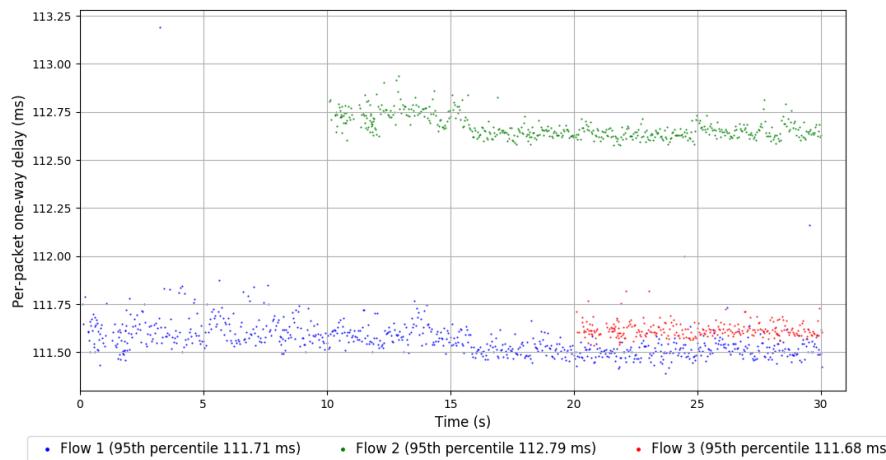
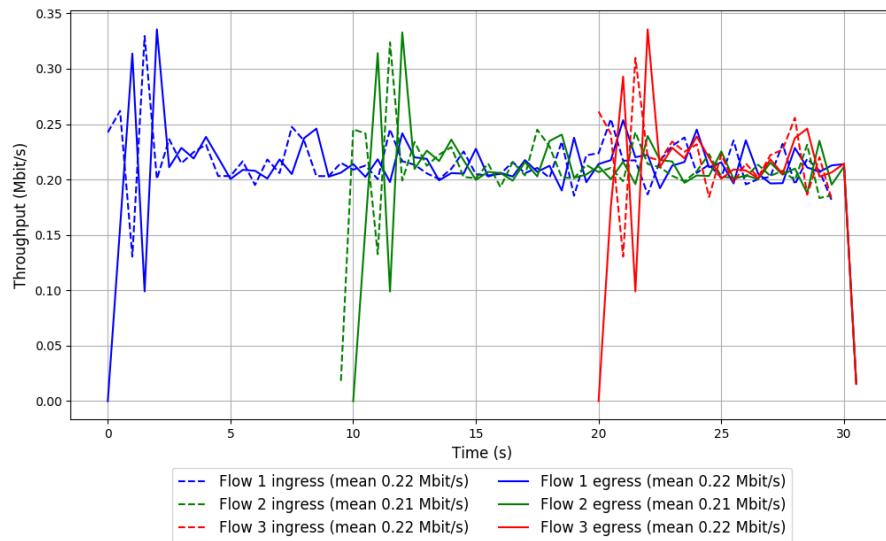


Run 4: Statistics of SCReAM

```
Start at: 2018-09-06 09:19:08
End at: 2018-09-06 09:19:38
Local clock offset: -0.464 ms
Remote clock offset: 0.109 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.740 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.711 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.787 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.684 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

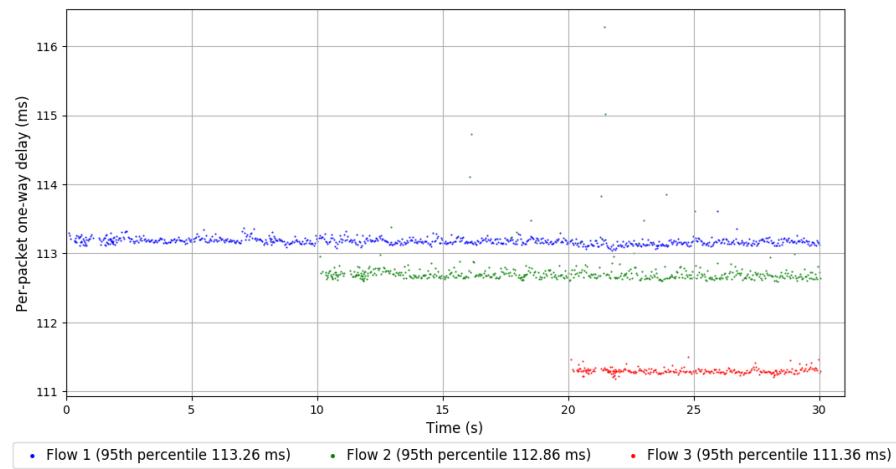
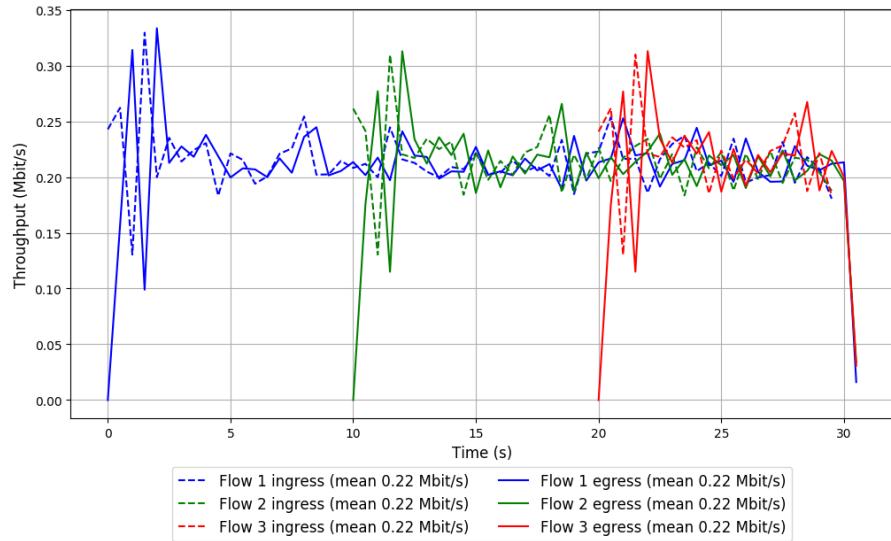


Run 5: Statistics of SCReAM

```
Start at: 2018-09-06 09:52:23
End at: 2018-09-06 09:52:53
Local clock offset: -1.595 ms
Remote clock offset: -0.291 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 113.239 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.257 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.357 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

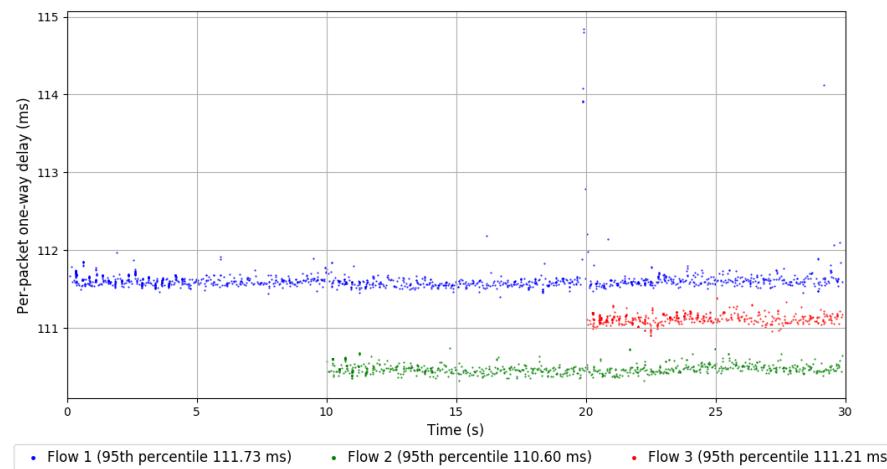
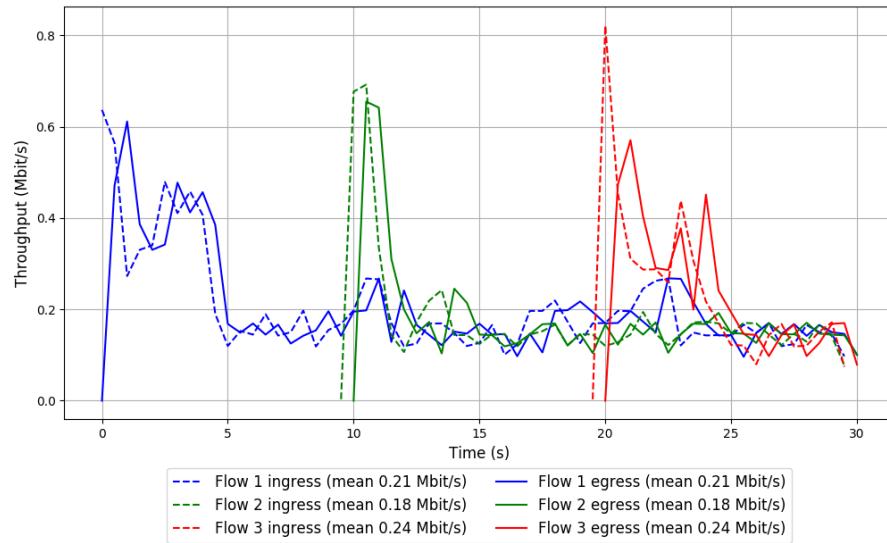


Run 1: Statistics of Sprout

```
Start at: 2018-09-06 07:26:52
End at: 2018-09-06 07:27:22
Local clock offset: 0.448 ms
Remote clock offset: 0.245 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 111.685 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.728 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 110.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 111.209 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

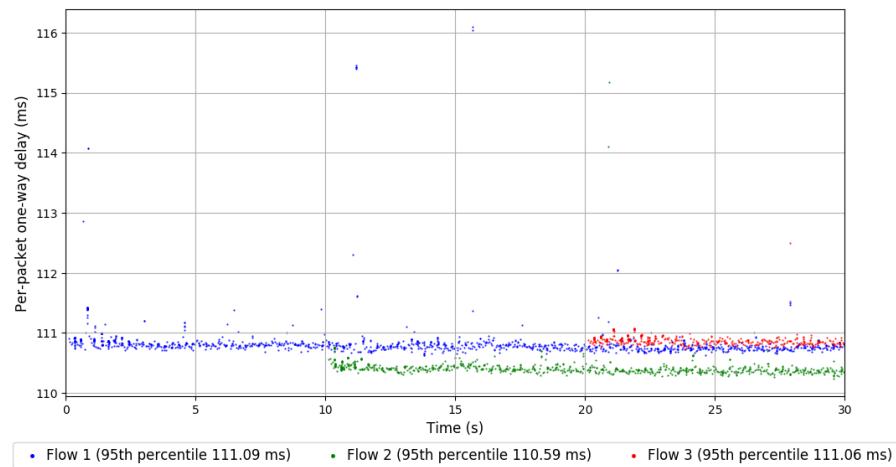
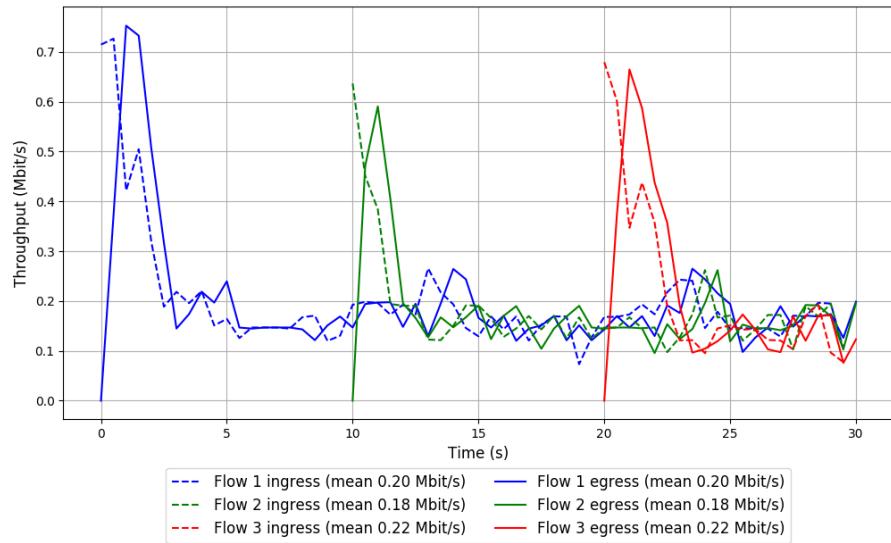


Run 2: Statistics of Sprout

```
Start at: 2018-09-06 08:00:11
End at: 2018-09-06 08:00:41
Local clock offset: 0.759 ms
Remote clock offset: 0.162 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 110.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 111.092 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 110.589 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.057 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

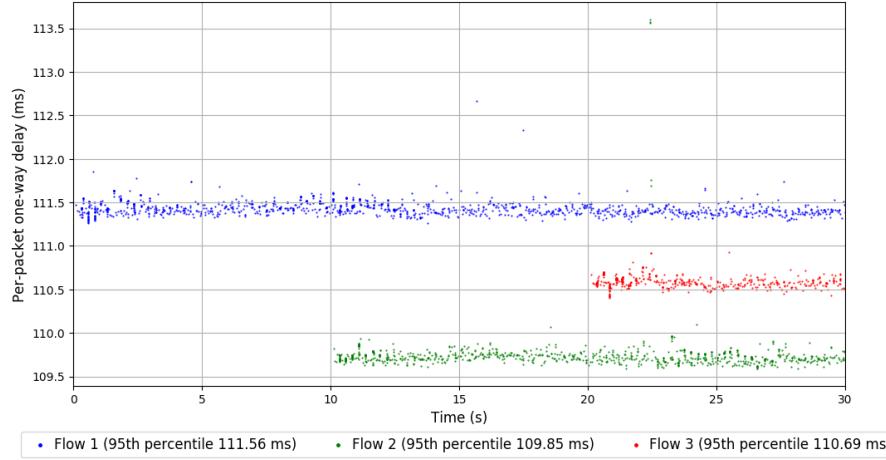
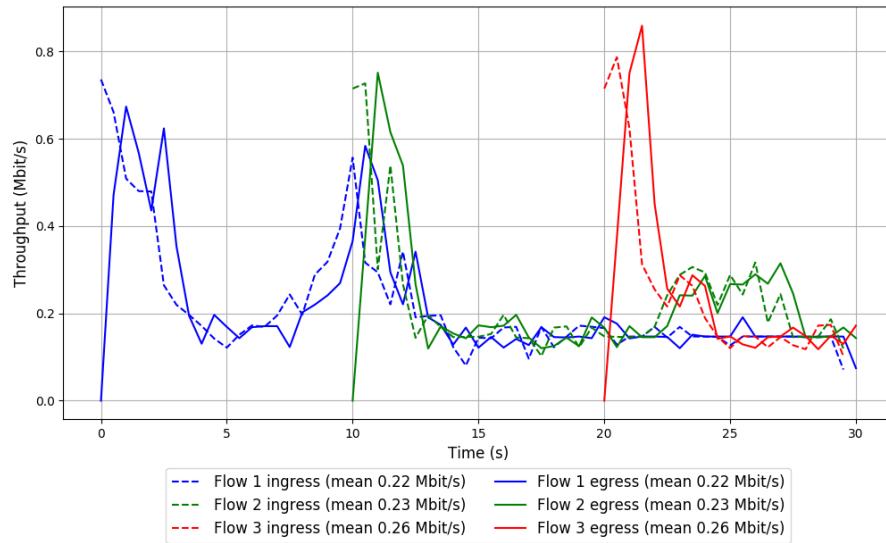


Run 3: Statistics of Sprout

```
Start at: 2018-09-06 08:33:39
End at: 2018-09-06 08:34:09
Local clock offset: -0.373 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 111.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.561 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 109.851 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 110.692 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

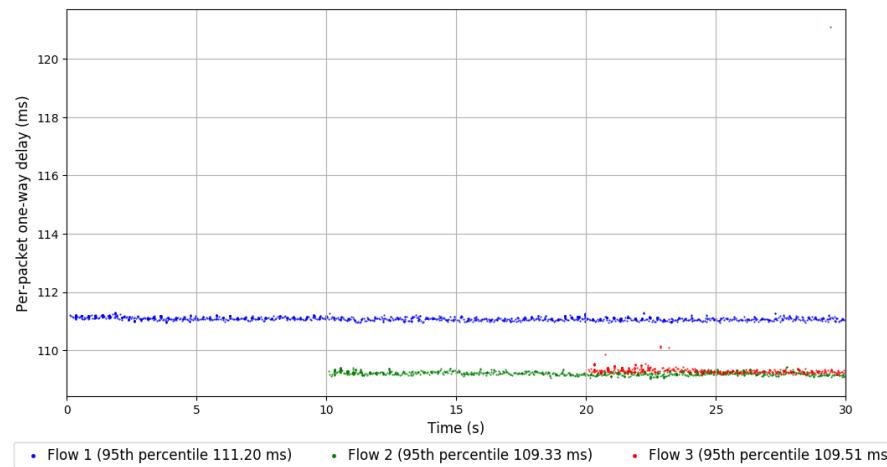
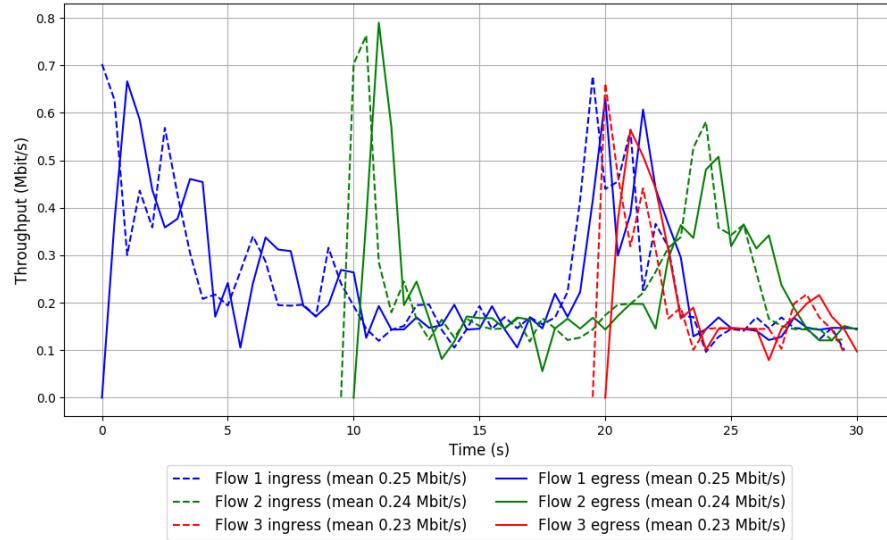


Run 4: Statistics of Sprout

```
Start at: 2018-09-06 09:06:39
End at: 2018-09-06 09:07:09
Local clock offset: 1.154 ms
Remote clock offset: 0.139 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 111.180 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 111.196 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 109.335 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 109.506 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

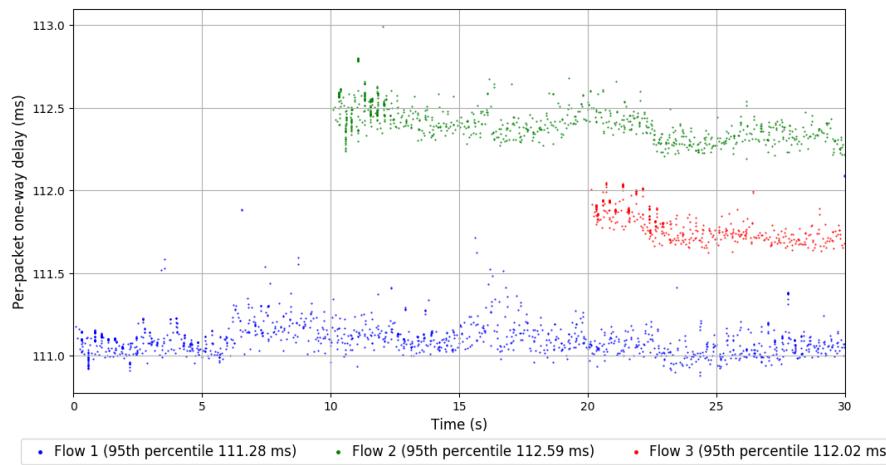
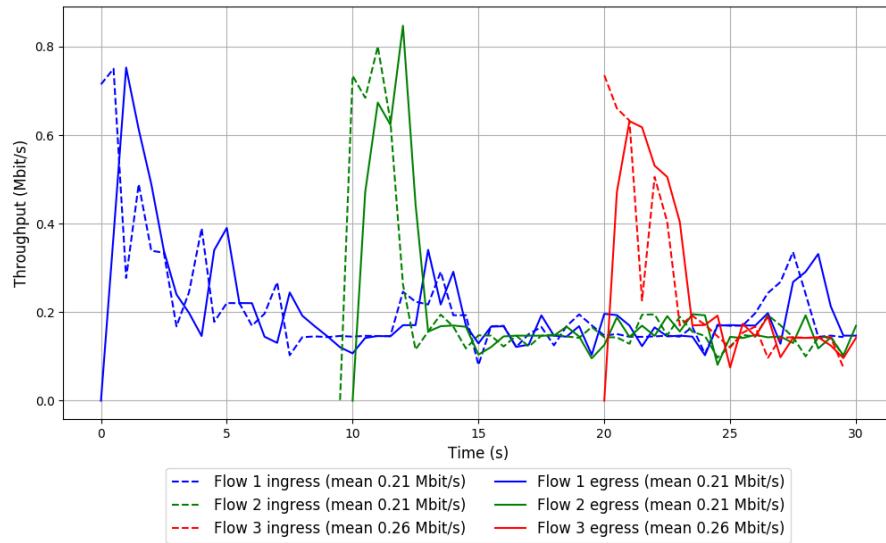


Run 5: Statistics of Sprout

```
Start at: 2018-09-06 09:39:45
End at: 2018-09-06 09:40:15
Local clock offset: -0.682 ms
Remote clock offset: 0.104 ms

# Below is generated by plot.py at 2018-09-06 11:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 112.529 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.275 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.591 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 112.022 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

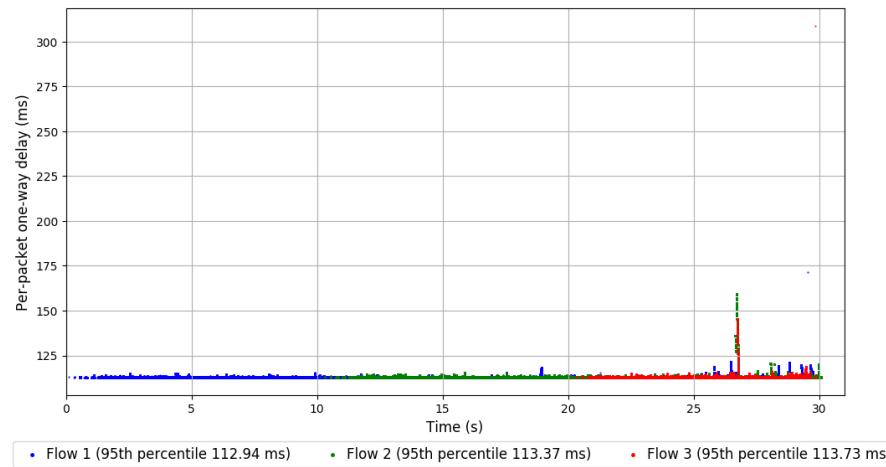
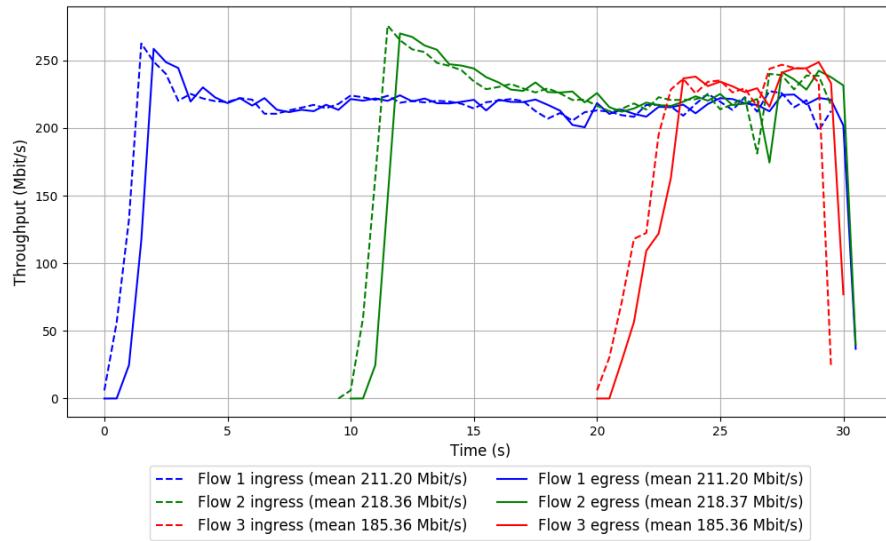


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-06 07:30:43
End at: 2018-09-06 07:31:13
Local clock offset: -0.841 ms
Remote clock offset: 0.211 ms

# Below is generated by plot.py at 2018-09-06 12:03:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 416.96 Mbit/s
95th percentile per-packet one-way delay: 113.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 211.20 Mbit/s
95th percentile per-packet one-way delay: 112.942 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 218.37 Mbit/s
95th percentile per-packet one-way delay: 113.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 185.36 Mbit/s
95th percentile per-packet one-way delay: 113.733 ms
Loss rate: 0.00%
```

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

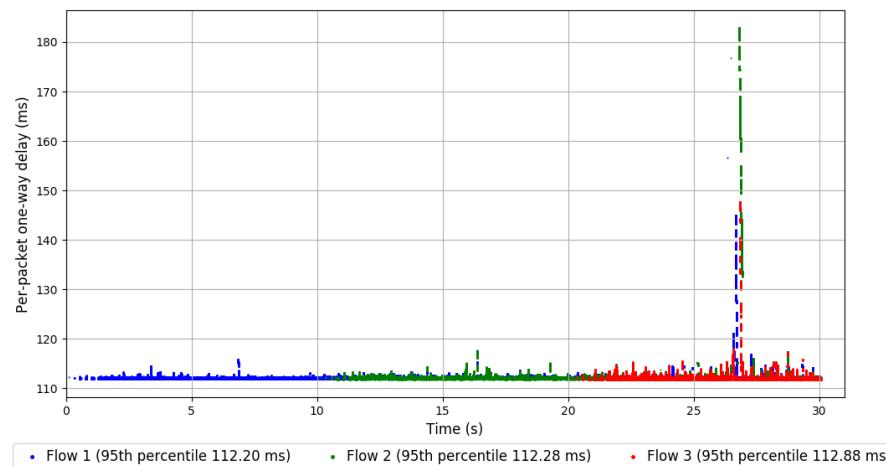
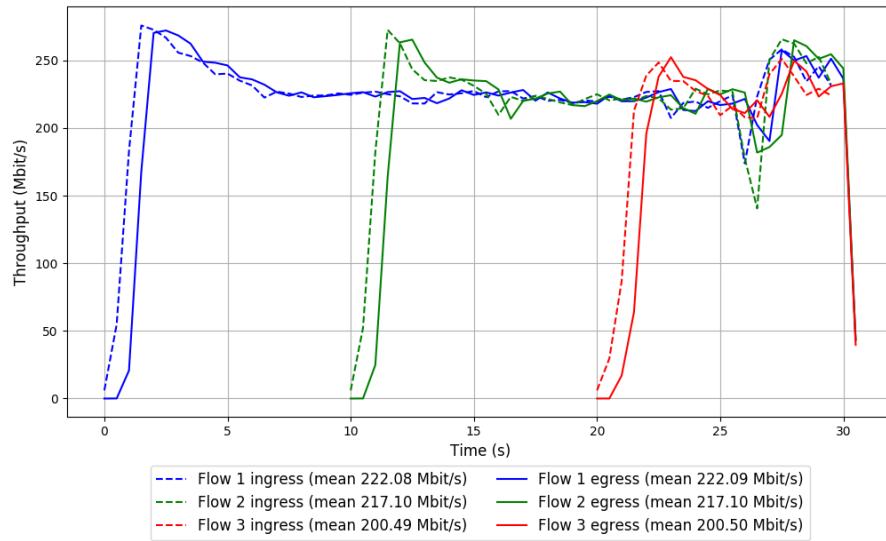


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-06 08:04:05
End at: 2018-09-06 08:04:35
Local clock offset: -0.108 ms
Remote clock offset: 0.603 ms

# Below is generated by plot.py at 2018-09-06 12:03:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.25 Mbit/s
95th percentile per-packet one-way delay: 112.265 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 222.09 Mbit/s
95th percentile per-packet one-way delay: 112.200 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 217.10 Mbit/s
95th percentile per-packet one-way delay: 112.278 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 200.50 Mbit/s
95th percentile per-packet one-way delay: 112.882 ms
Loss rate: 0.00%
```

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

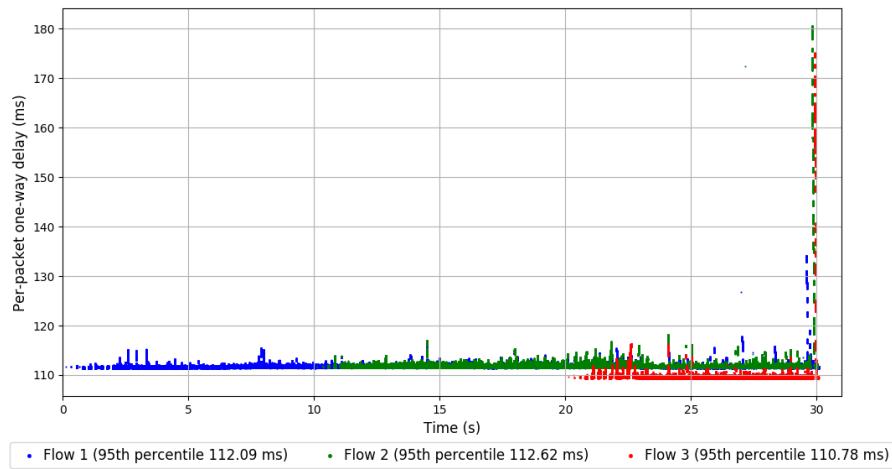
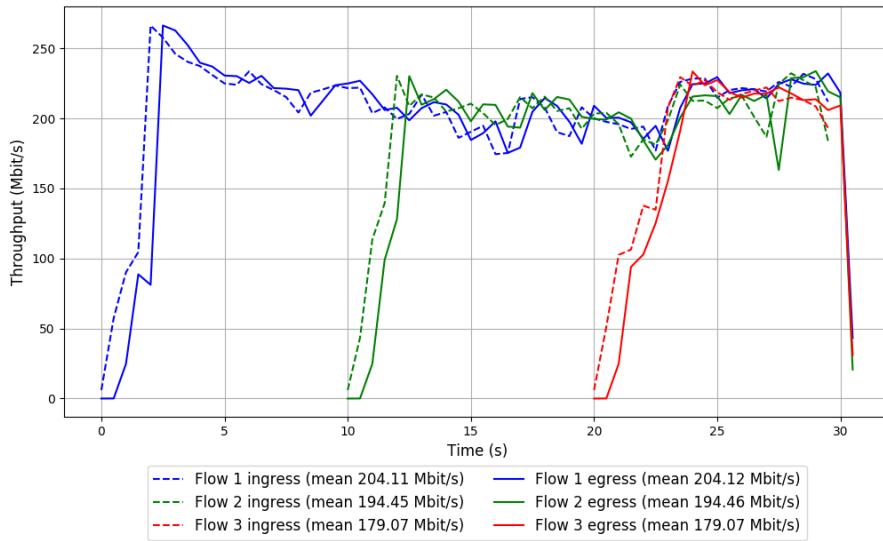


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-06 08:37:34
End at: 2018-09-06 08:38:04
Local clock offset: 0.298 ms
Remote clock offset: 0.488 ms

# Below is generated by plot.py at 2018-09-06 12:03:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.67 Mbit/s
95th percentile per-packet one-way delay: 112.274 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 204.12 Mbit/s
95th percentile per-packet one-way delay: 112.089 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.46 Mbit/s
95th percentile per-packet one-way delay: 112.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.07 Mbit/s
95th percentile per-packet one-way delay: 110.777 ms
Loss rate: 0.00%
```

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

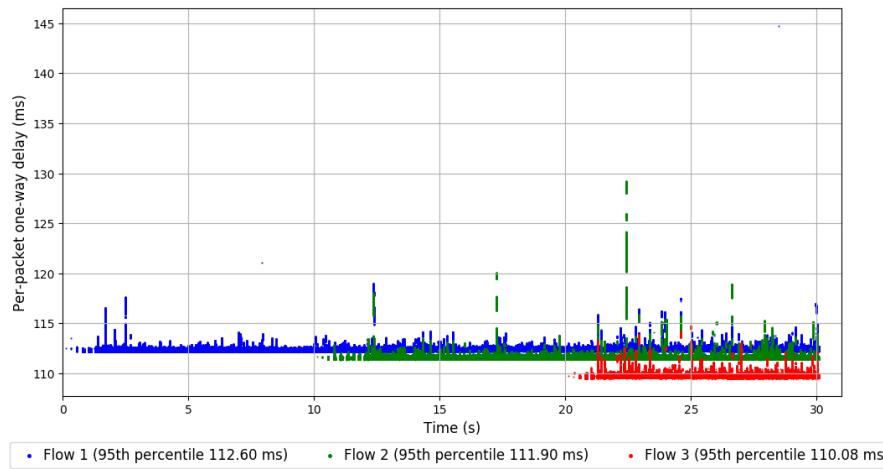
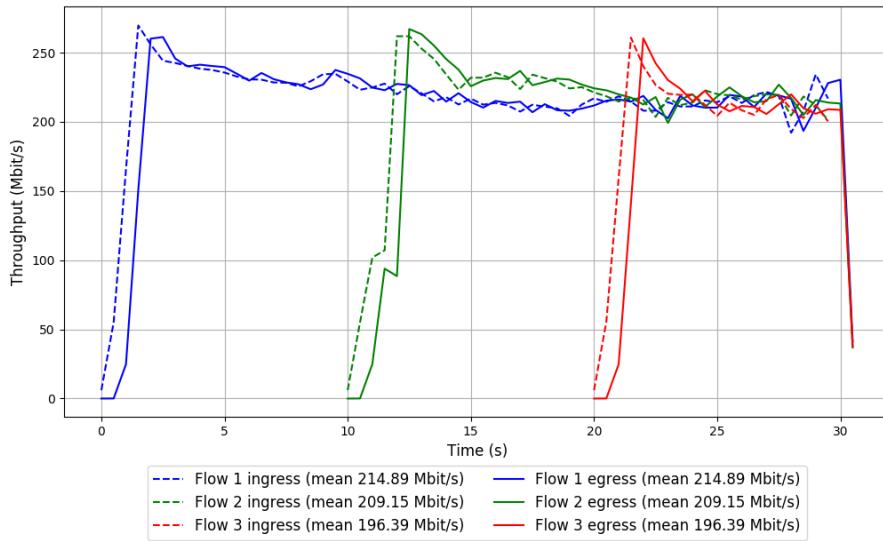


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-06 09:10:33
End at: 2018-09-06 09:11:03
Local clock offset: -0.167 ms
Remote clock offset: 0.128 ms

# Below is generated by plot.py at 2018-09-06 12:03:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.48 Mbit/s
95th percentile per-packet one-way delay: 112.513 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 214.89 Mbit/s
95th percentile per-packet one-way delay: 112.596 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 209.15 Mbit/s
95th percentile per-packet one-way delay: 111.901 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 196.39 Mbit/s
95th percentile per-packet one-way delay: 110.079 ms
Loss rate: 0.00%
```

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

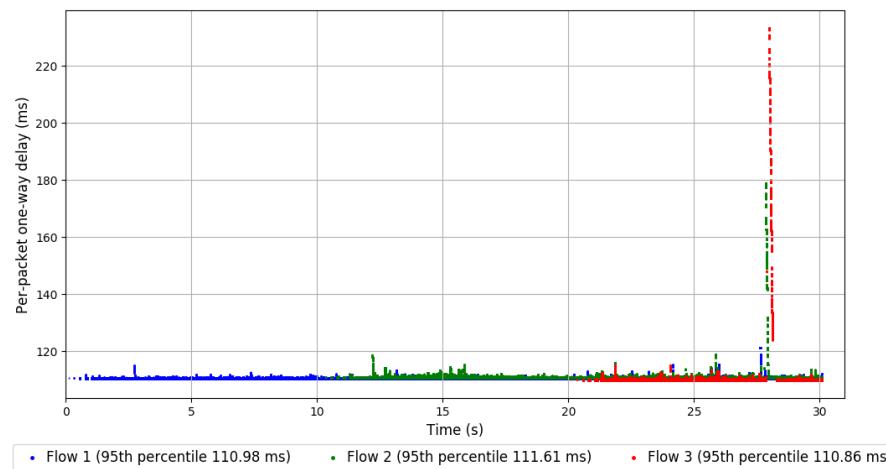
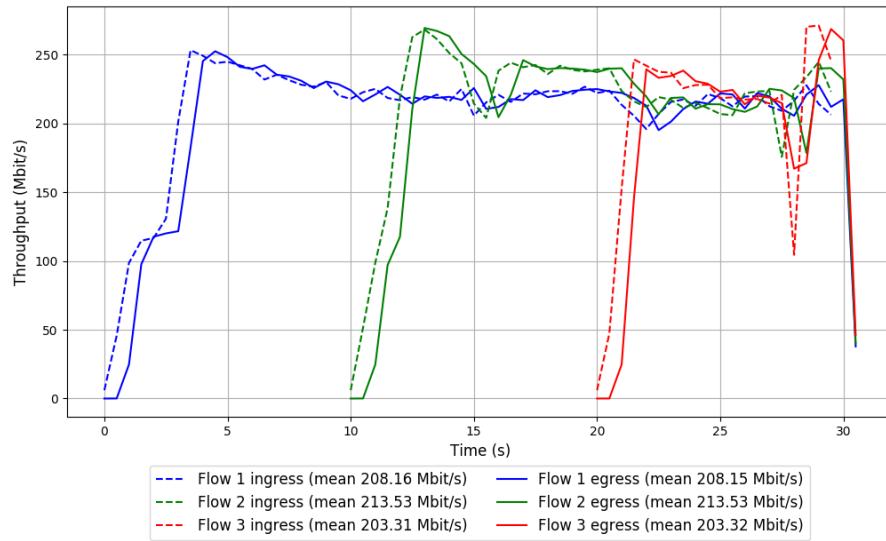


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-06 09:43:40
End at: 2018-09-06 09:44:10
Local clock offset: 0.399 ms
Remote clock offset: -0.298 ms

# Below is generated by plot.py at 2018-09-06 12:06:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.90 Mbit/s
95th percentile per-packet one-way delay: 111.272 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.15 Mbit/s
95th percentile per-packet one-way delay: 110.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 213.53 Mbit/s
95th percentile per-packet one-way delay: 111.609 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 203.32 Mbit/s
95th percentile per-packet one-way delay: 110.861 ms
Loss rate: 0.00%
```

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

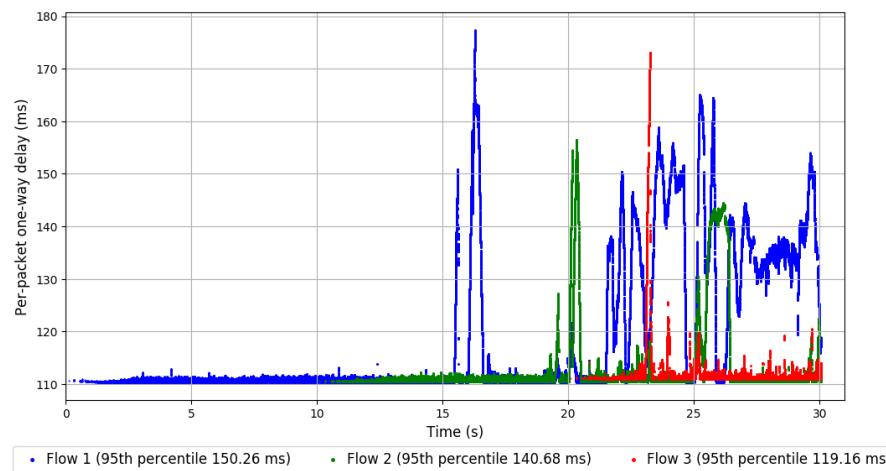
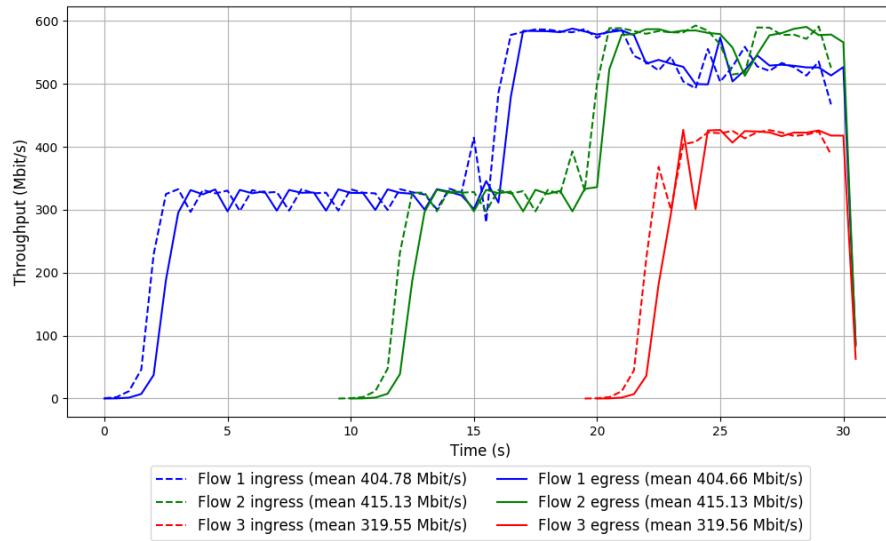


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-06 07:17:31
End at: 2018-09-06 07:18:01
Local clock offset: 0.265 ms
Remote clock offset: 0.376 ms

# Below is generated by plot.py at 2018-09-06 12:08:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 787.62 Mbit/s
95th percentile per-packet one-way delay: 145.899 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 404.66 Mbit/s
95th percentile per-packet one-way delay: 150.262 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 415.13 Mbit/s
95th percentile per-packet one-way delay: 140.682 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 319.56 Mbit/s
95th percentile per-packet one-way delay: 119.157 ms
Loss rate: 0.00%
```

Run 1: Report of TCP Vegas — Data Link

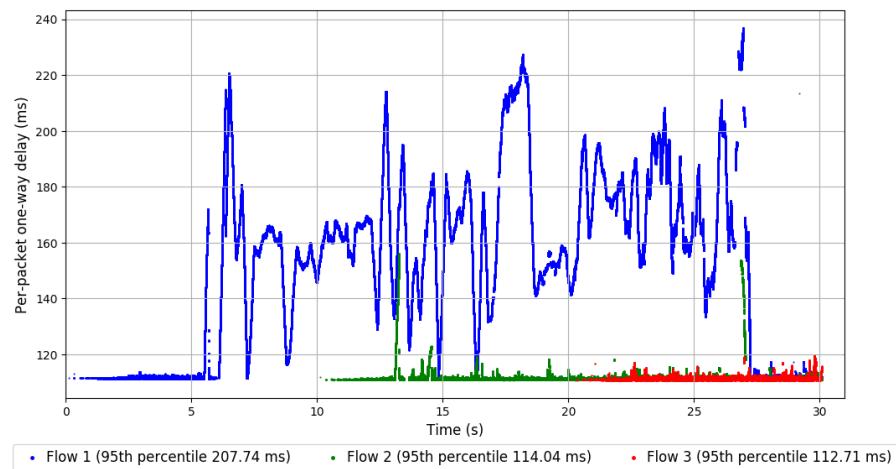
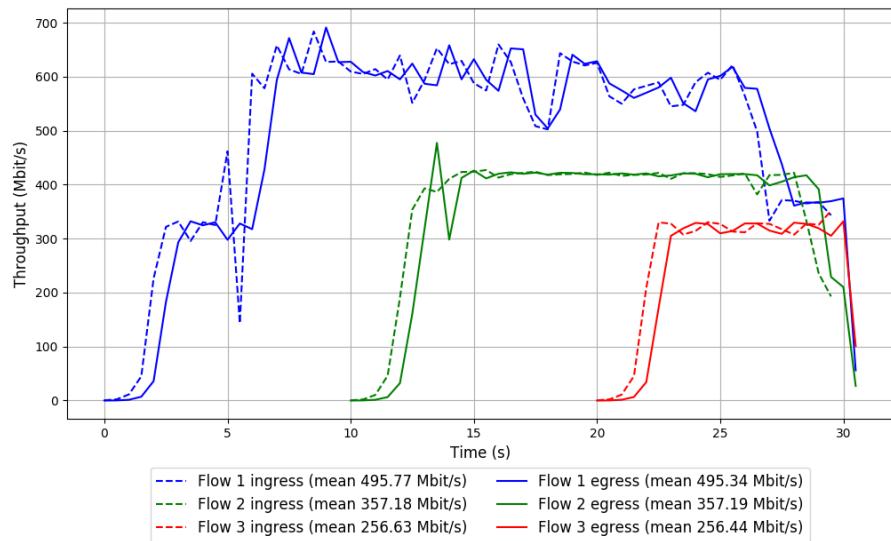


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-06 07:50:41
End at: 2018-09-06 07:51:11
Local clock offset: 0.521 ms
Remote clock offset: 0.228 ms

# Below is generated by plot.py at 2018-09-06 12:12:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 818.44 Mbit/s
95th percentile per-packet one-way delay: 196.763 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 495.34 Mbit/s
95th percentile per-packet one-way delay: 207.743 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 357.19 Mbit/s
95th percentile per-packet one-way delay: 114.037 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 256.44 Mbit/s
95th percentile per-packet one-way delay: 112.712 ms
Loss rate: 0.06%
```

Run 2: Report of TCP Vegas — Data Link

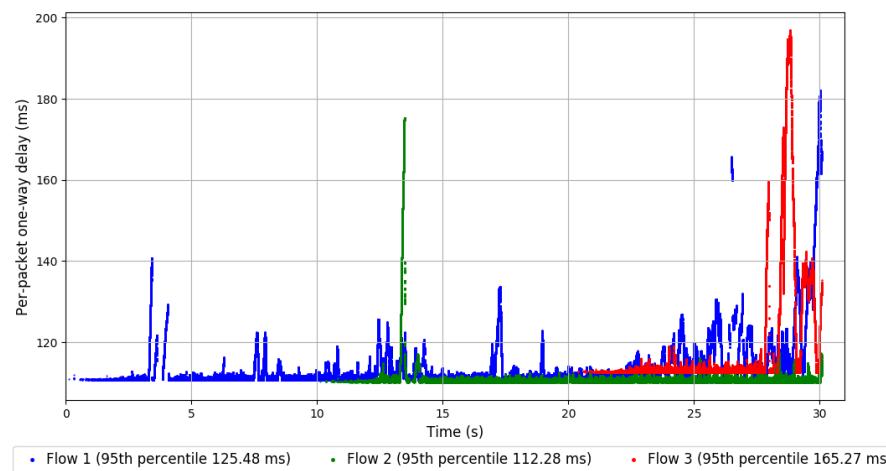
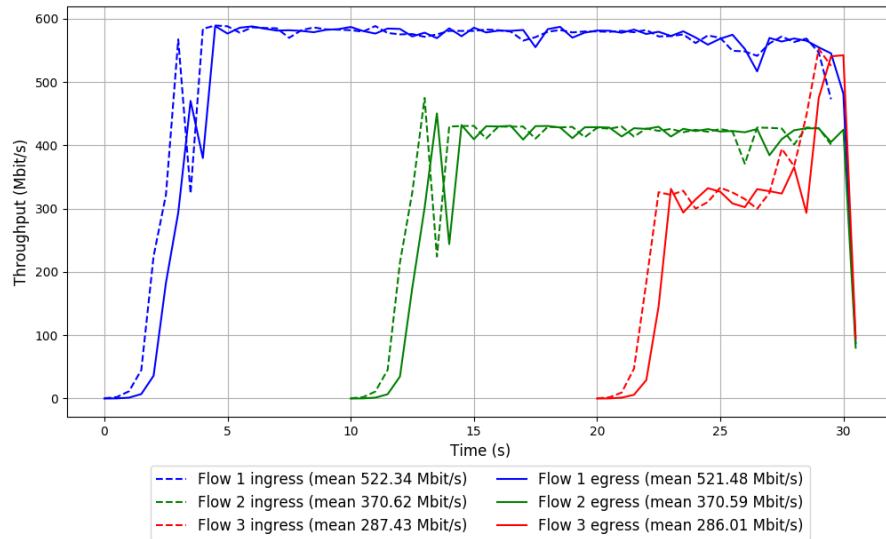


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-06 08:24:02
End at: 2018-09-06 08:24:32
Local clock offset: -0.467 ms
Remote clock offset: -0.181 ms

# Below is generated by plot.py at 2018-09-06 12:14:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 863.12 Mbit/s
95th percentile per-packet one-way delay: 128.466 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 521.48 Mbit/s
95th percentile per-packet one-way delay: 125.478 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 370.59 Mbit/s
95th percentile per-packet one-way delay: 112.279 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 286.01 Mbit/s
95th percentile per-packet one-way delay: 165.271 ms
Loss rate: 0.50%
```

Run 3: Report of TCP Vegas — Data Link

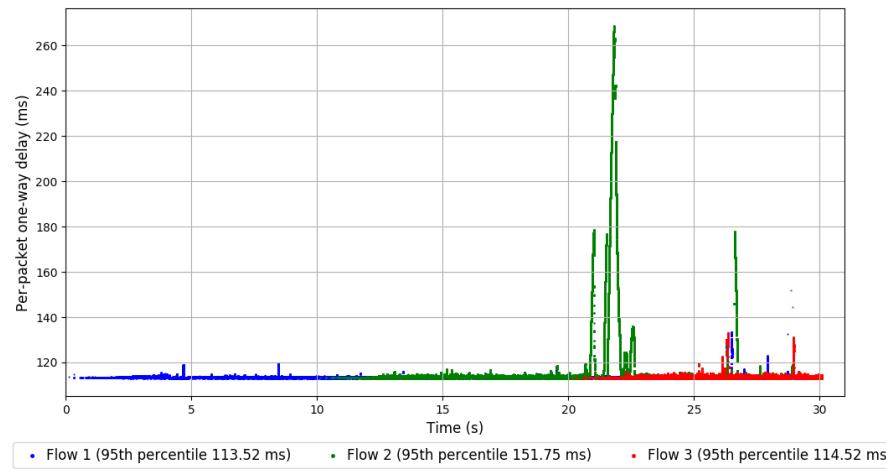
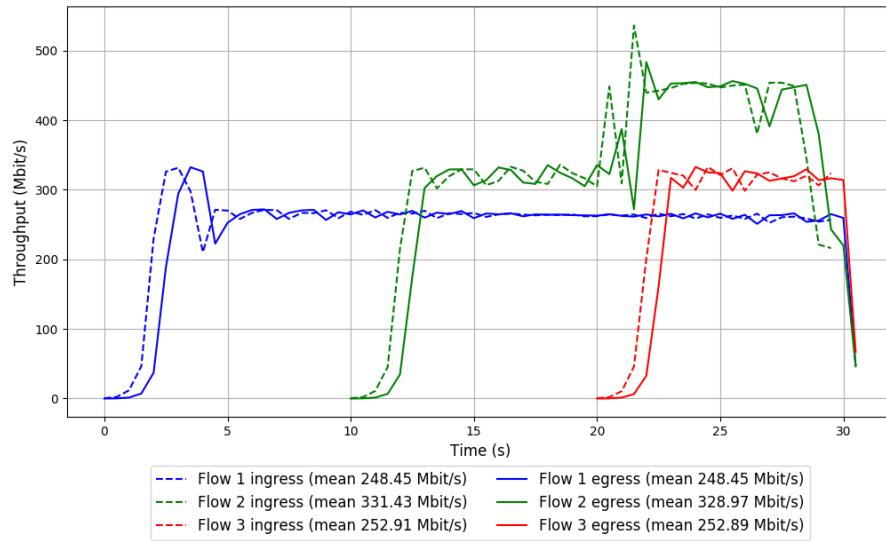


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-06 08:57:25
End at: 2018-09-06 08:57:55
Local clock offset: -1.528 ms
Remote clock offset: 0.089 ms

# Below is generated by plot.py at 2018-09-06 12:14:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.65 Mbit/s
95th percentile per-packet one-way delay: 116.154 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 248.45 Mbit/s
95th percentile per-packet one-way delay: 113.522 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 328.97 Mbit/s
95th percentile per-packet one-way delay: 151.749 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 252.89 Mbit/s
95th percentile per-packet one-way delay: 114.517 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link

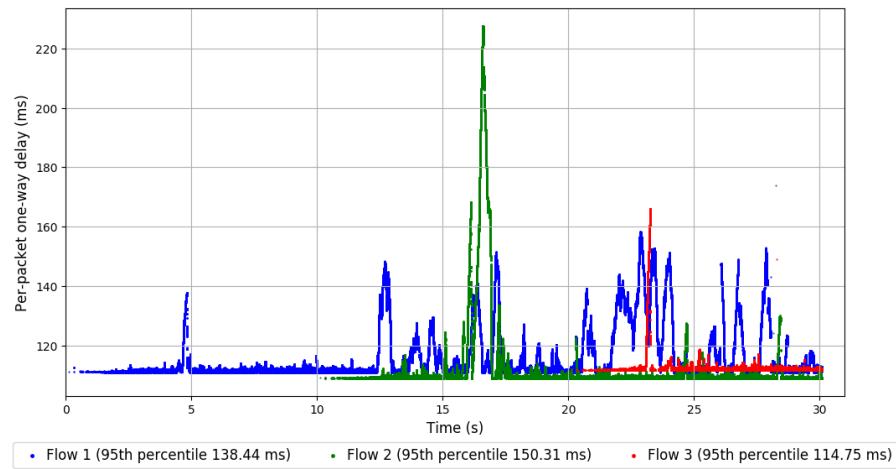
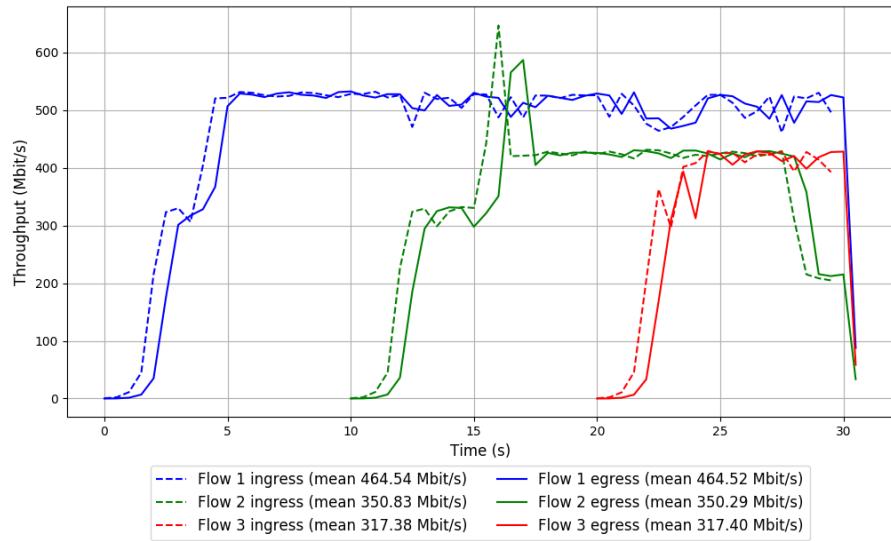


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-06 09:30:15
End at: 2018-09-06 09:30:45
Local clock offset: 0.017 ms
Remote clock offset: -0.232 ms

# Below is generated by plot.py at 2018-09-06 12:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 803.34 Mbit/s
95th percentile per-packet one-way delay: 138.059 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 464.52 Mbit/s
95th percentile per-packet one-way delay: 138.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 350.29 Mbit/s
95th percentile per-packet one-way delay: 150.306 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 317.40 Mbit/s
95th percentile per-packet one-way delay: 114.745 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link

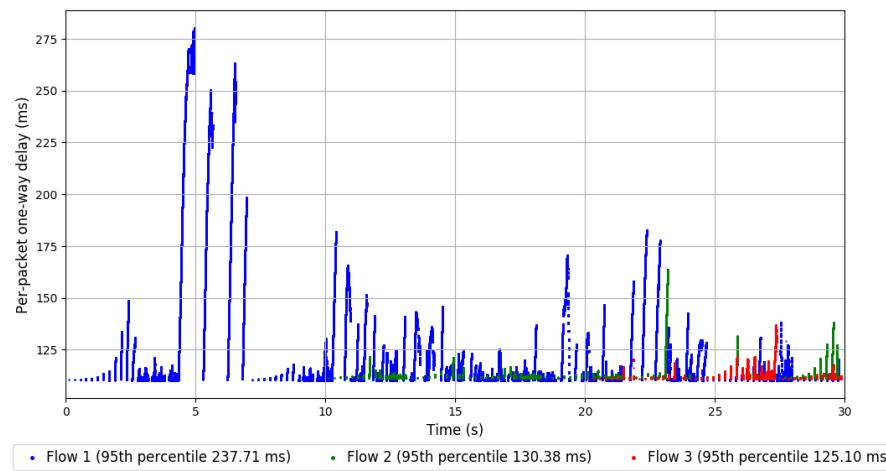
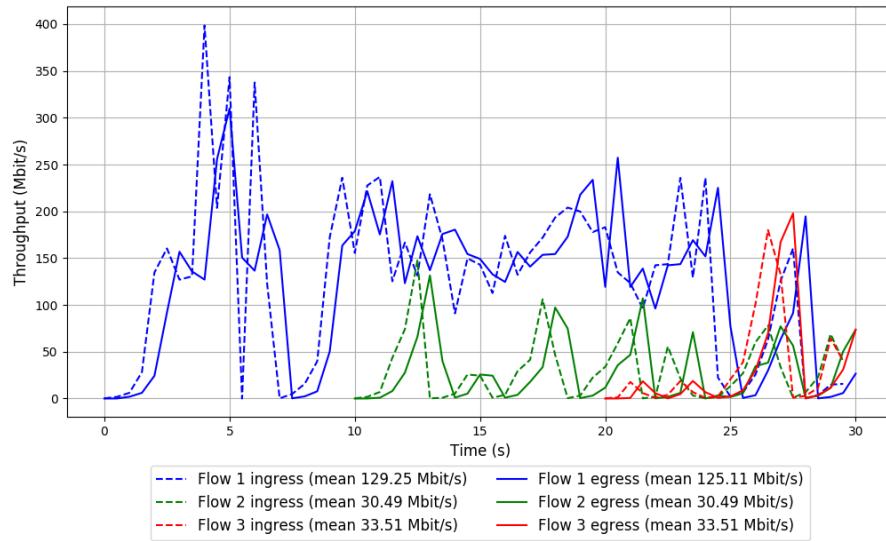


Run 1: Statistics of Verus

```
Start at: 2018-09-06 07:11:34
End at: 2018-09-06 07:12:04
Local clock offset: 0.396 ms
Remote clock offset: 0.509 ms

# Below is generated by plot.py at 2018-09-06 12:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 155.89 Mbit/s
95th percentile per-packet one-way delay: 229.106 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 125.11 Mbit/s
95th percentile per-packet one-way delay: 237.707 ms
Loss rate: 3.16%
-- Flow 2:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 130.382 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.51 Mbit/s
95th percentile per-packet one-way delay: 125.100 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link

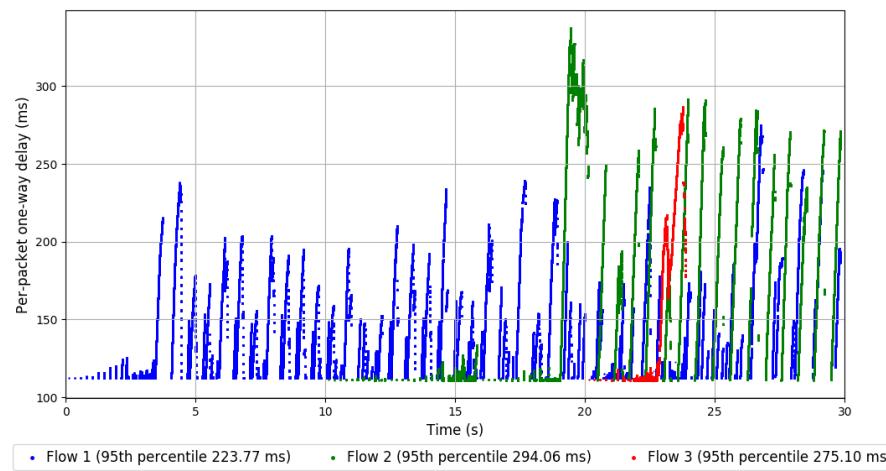
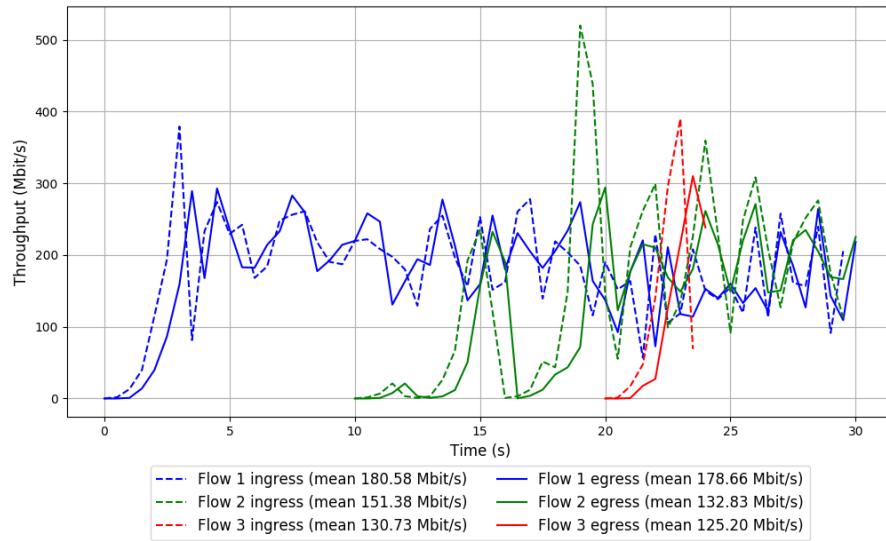


Run 2: Statistics of Verus

```
Start at: 2018-09-06 07:44:42
End at: 2018-09-06 07:45:12
Local clock offset: 0.812 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-09-06 12:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.53 Mbit/s
95th percentile per-packet one-way delay: 266.894 ms
Loss rate: 4.71%
-- Flow 1:
Average throughput: 178.66 Mbit/s
95th percentile per-packet one-way delay: 223.767 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 132.83 Mbit/s
95th percentile per-packet one-way delay: 294.055 ms
Loss rate: 11.68%
-- Flow 3:
Average throughput: 125.20 Mbit/s
95th percentile per-packet one-way delay: 275.096 ms
Loss rate: 2.49%
```

Run 2: Report of Verus — Data Link

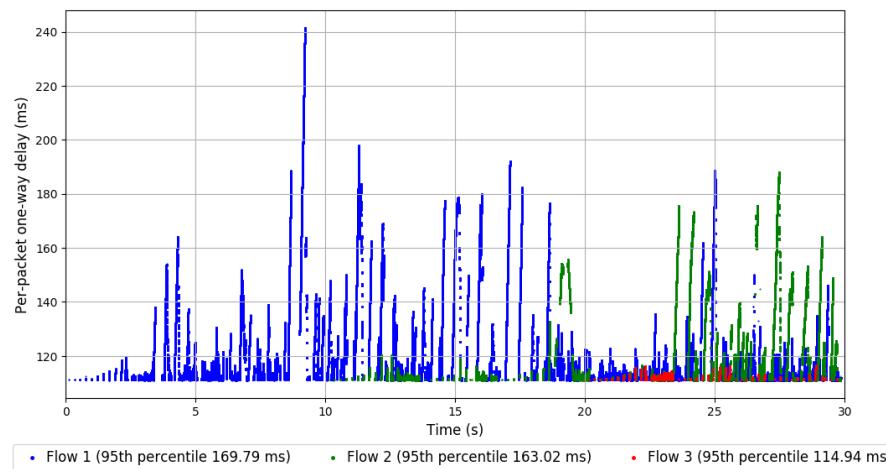
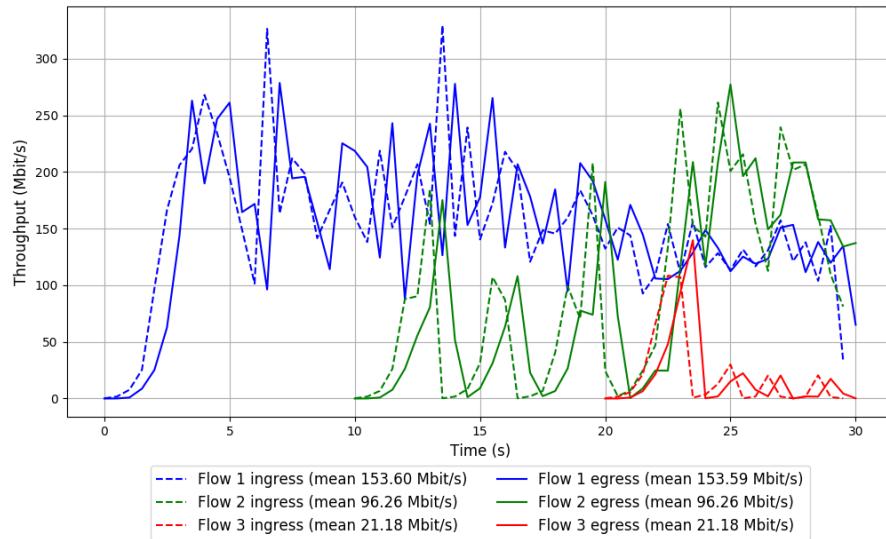


Run 3: Statistics of Verus

```
Start at: 2018-09-06 08:18:03
End at: 2018-09-06 08:18:33
Local clock offset: -0.22 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-09-06 12:16:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 224.21 Mbit/s
95th percentile per-packet one-way delay: 166.840 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.59 Mbit/s
95th percentile per-packet one-way delay: 169.790 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 163.022 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 114.935 ms
Loss rate: 0.00%
```

Run 3: Report of Verus — Data Link

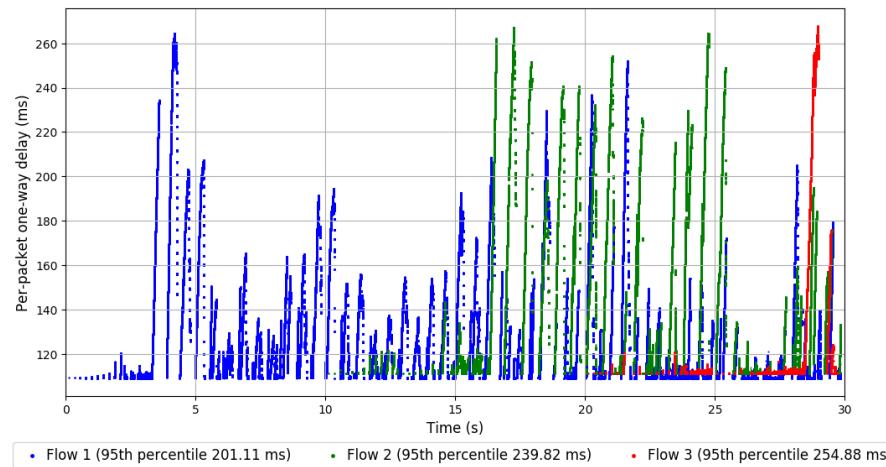
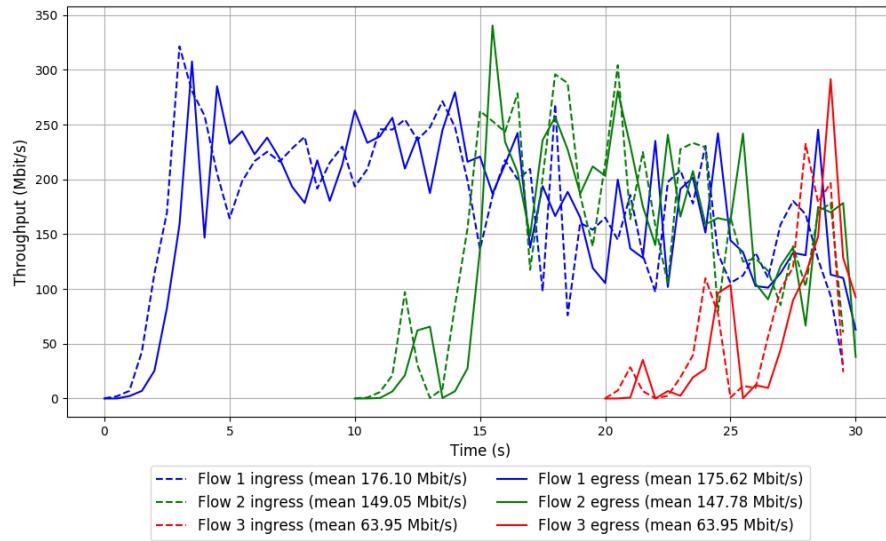


Run 4: Statistics of Verus

```
Start at: 2018-09-06 08:51:22
End at: 2018-09-06 08:51:52
Local clock offset: -0.145 ms
Remote clock offset: -0.282 ms

# Below is generated by plot.py at 2018-09-06 12:17:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.19 Mbit/s
95th percentile per-packet one-way delay: 230.902 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 175.62 Mbit/s
95th percentile per-packet one-way delay: 201.108 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 147.78 Mbit/s
95th percentile per-packet one-way delay: 239.817 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 254.879 ms
Loss rate: 0.00%
```

Run 4: Report of Verus — Data Link

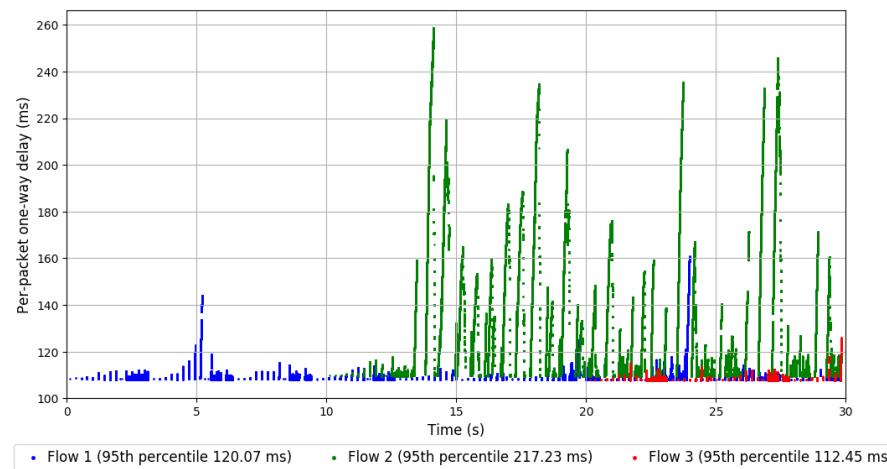
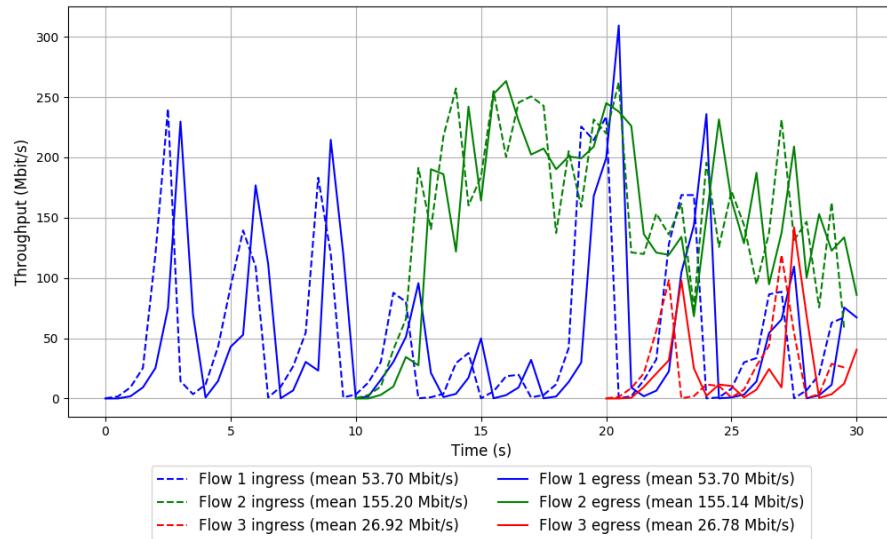


Run 5: Statistics of Verus

```
Start at: 2018-09-06 09:24:20
End at: 2018-09-06 09:24:50
Local clock offset: 1.333 ms
Remote clock offset: 0.109 ms

# Below is generated by plot.py at 2018-09-06 12:17:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.30 Mbit/s
95th percentile per-packet one-way delay: 199.470 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 120.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 155.14 Mbit/s
95th percentile per-packet one-way delay: 217.231 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 26.78 Mbit/s
95th percentile per-packet one-way delay: 112.450 ms
Loss rate: 0.34%
```

Run 5: Report of Verus — Data Link

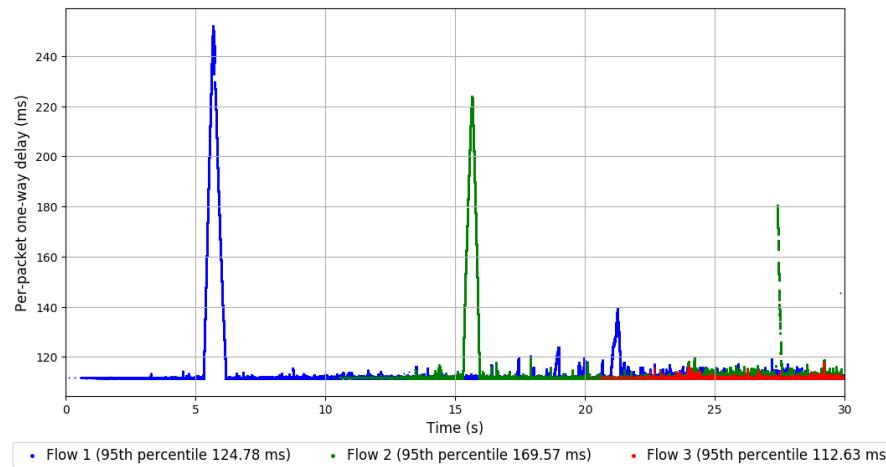
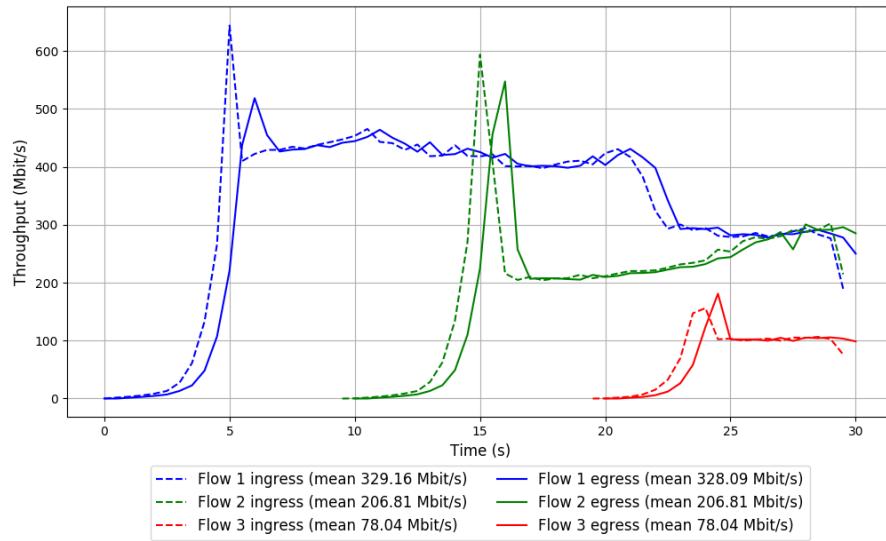


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-09-06 07:24:58
End at: 2018-09-06 07:25:28
Local clock offset: 0.338 ms
Remote clock offset: 0.24 ms

# Below is generated by plot.py at 2018-09-06 12:19:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.55 Mbit/s
95th percentile per-packet one-way delay: 133.593 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 328.09 Mbit/s
95th percentile per-packet one-way delay: 124.781 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 206.81 Mbit/s
95th percentile per-packet one-way delay: 169.574 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 78.04 Mbit/s
95th percentile per-packet one-way delay: 112.634 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

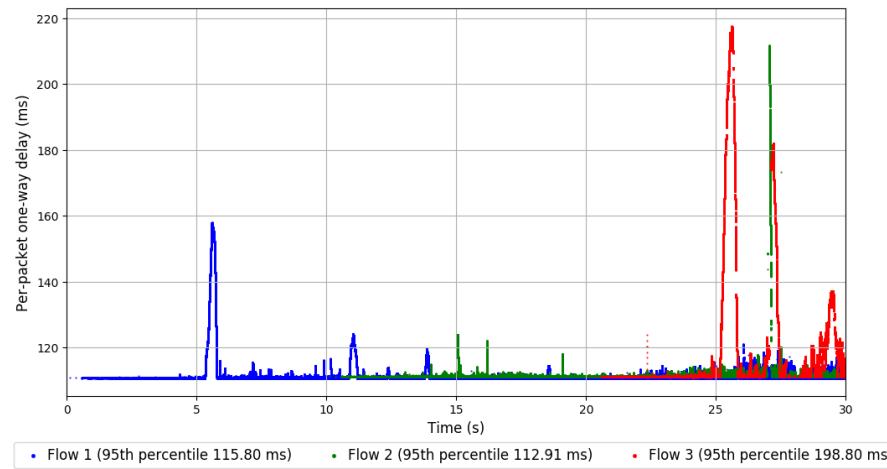
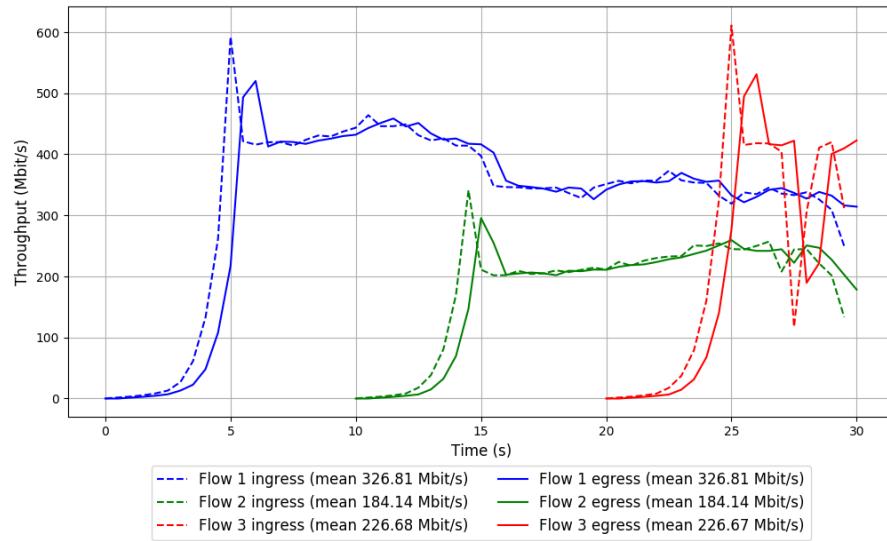


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-06 07:58:14
End at: 2018-09-06 07:58:44
Local clock offset: 0.07 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2018-09-06 12:20:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 524.04 Mbit/s
95th percentile per-packet one-way delay: 126.883 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 326.81 Mbit/s
95th percentile per-packet one-way delay: 115.800 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 184.14 Mbit/s
95th percentile per-packet one-way delay: 112.911 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 226.67 Mbit/s
95th percentile per-packet one-way delay: 198.804 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

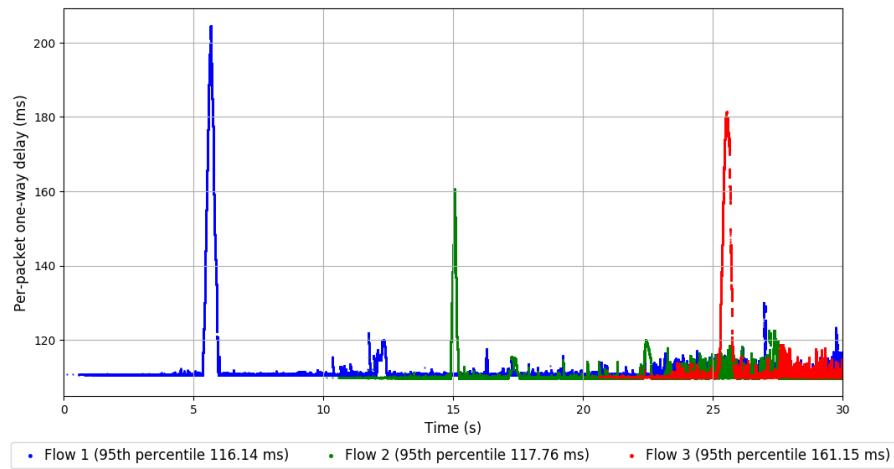
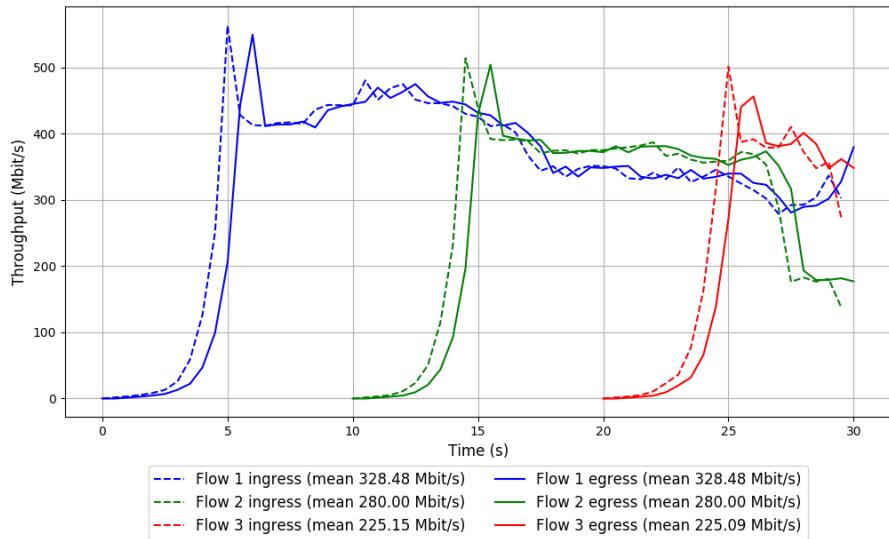


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-06 08:31:38
End at: 2018-09-06 08:32:08
Local clock offset: 0.906 ms
Remote clock offset: -0.242 ms

# Below is generated by plot.py at 2018-09-06 12:20:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 588.93 Mbit/s
95th percentile per-packet one-way delay: 118.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 328.48 Mbit/s
95th percentile per-packet one-way delay: 116.138 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.00 Mbit/s
95th percentile per-packet one-way delay: 117.759 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.09 Mbit/s
95th percentile per-packet one-way delay: 161.151 ms
Loss rate: 0.02%
```

Run 3: Report of PCC-Vivace — Data Link

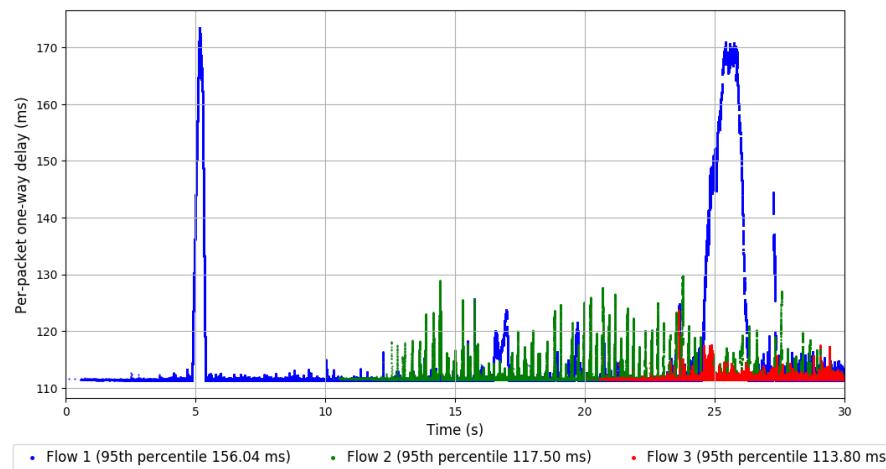
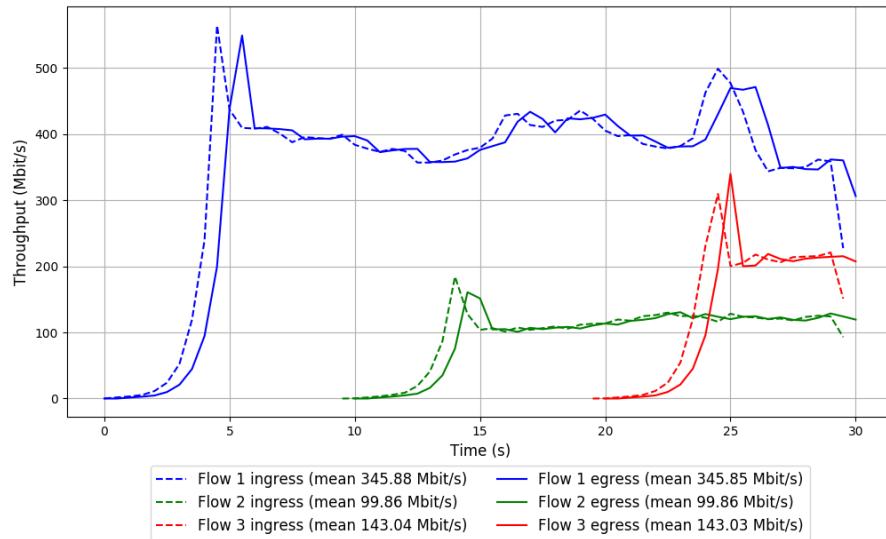


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-06 09:04:47
End at: 2018-09-06 09:05:17
Local clock offset: -0.089 ms
Remote clock offset: 0.122 ms

# Below is generated by plot.py at 2018-09-06 12:20:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 459.61 Mbit/s
95th percentile per-packet one-way delay: 147.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 345.85 Mbit/s
95th percentile per-packet one-way delay: 156.043 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 99.86 Mbit/s
95th percentile per-packet one-way delay: 117.503 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 143.03 Mbit/s
95th percentile per-packet one-way delay: 113.804 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

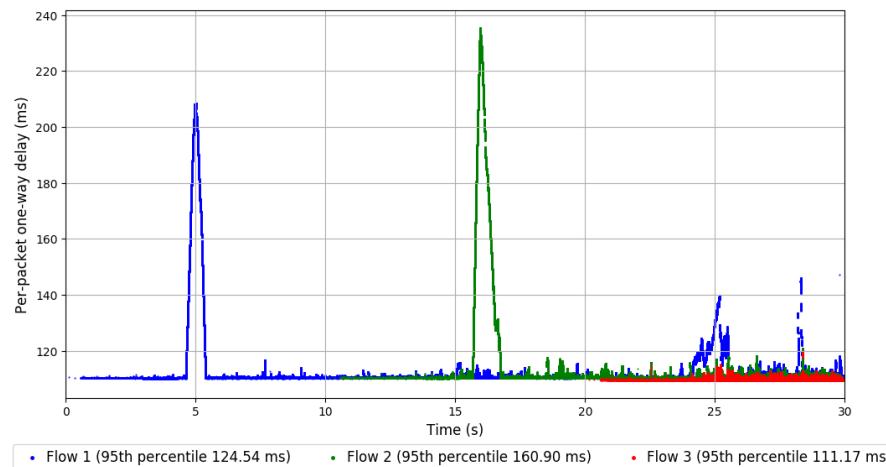
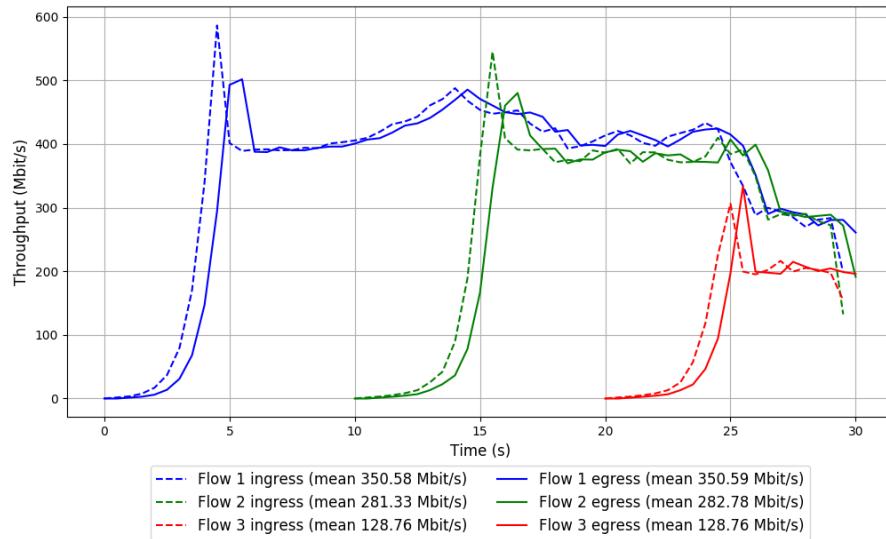


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-06 09:37:45
End at: 2018-09-06 09:38:15
Local clock offset: -0.197 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 580.17 Mbit/s
95th percentile per-packet one-way delay: 128.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 350.59 Mbit/s
95th percentile per-packet one-way delay: 124.540 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 282.78 Mbit/s
95th percentile per-packet one-way delay: 160.899 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 128.76 Mbit/s
95th percentile per-packet one-way delay: 111.165 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

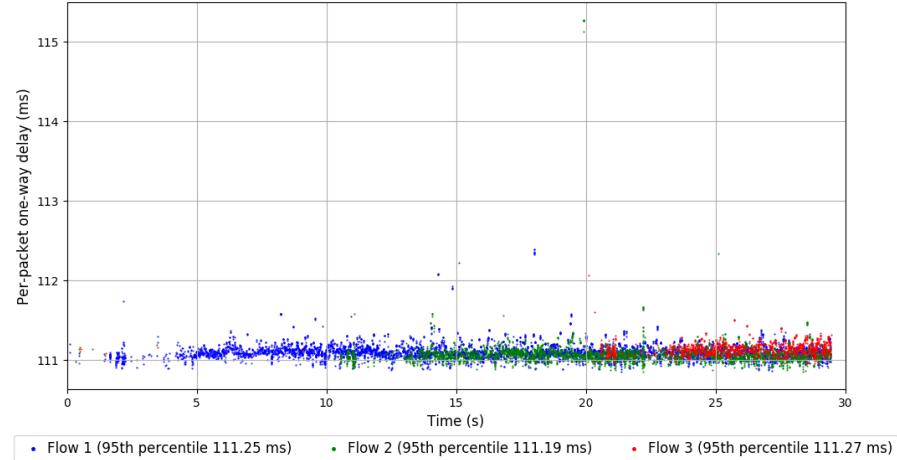
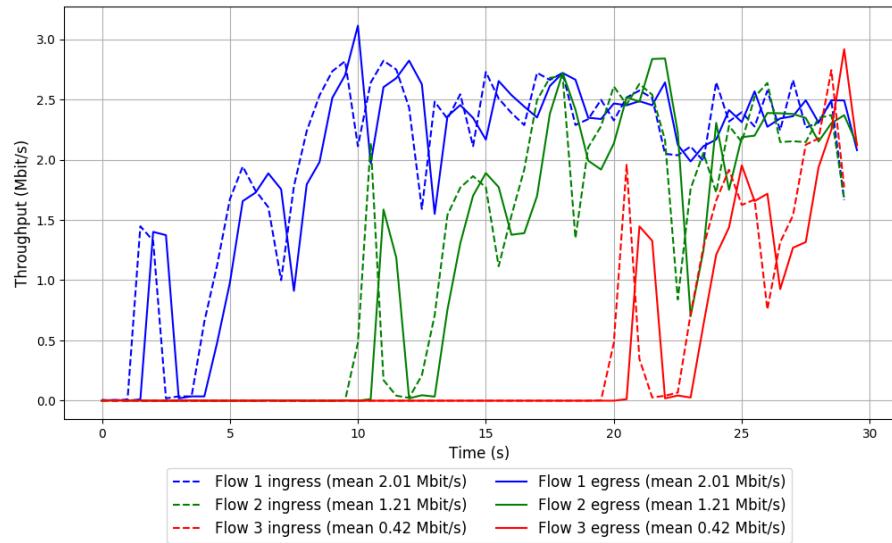


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 07:23:42
End at: 2018-09-06 07:24:12
Local clock offset: 0.35 ms
Remote clock offset: 0.255 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 111.236 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 111.245 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 111.188 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 111.268 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

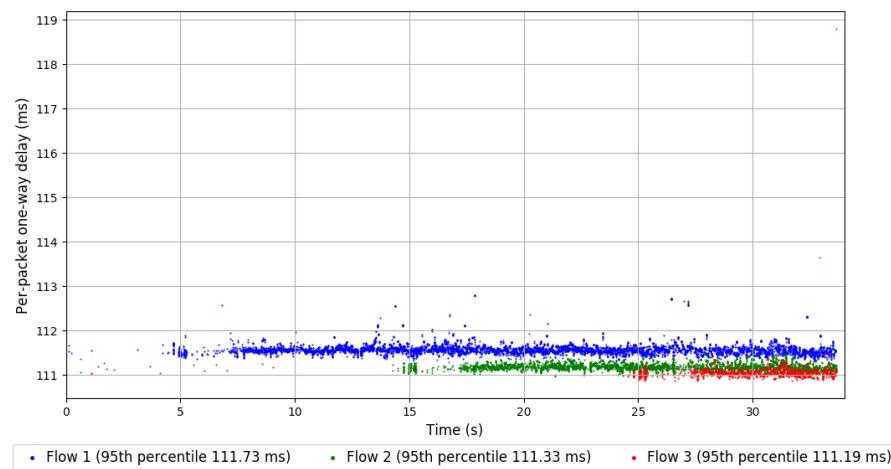
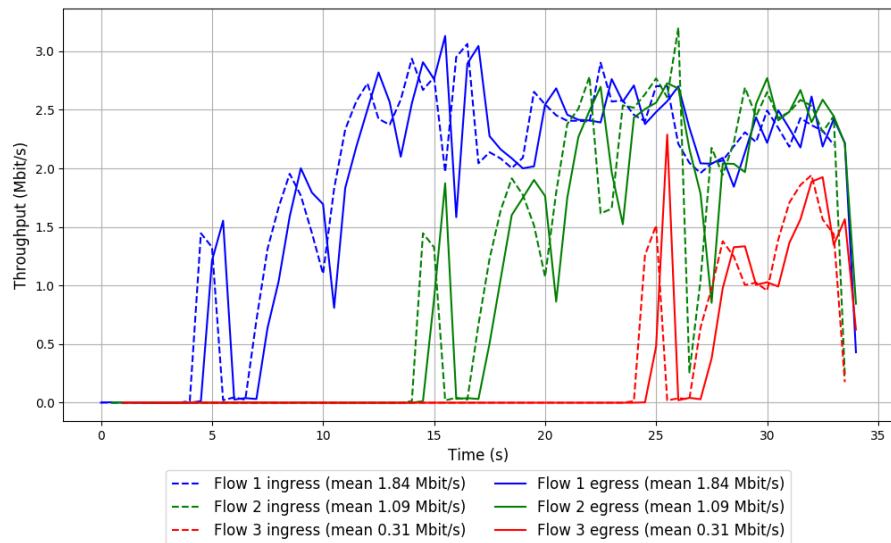


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-06 07:56:58
End at: 2018-09-06 07:57:28
Local clock offset: -0.063 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 111.677 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 111.732 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 111.332 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 111.185 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

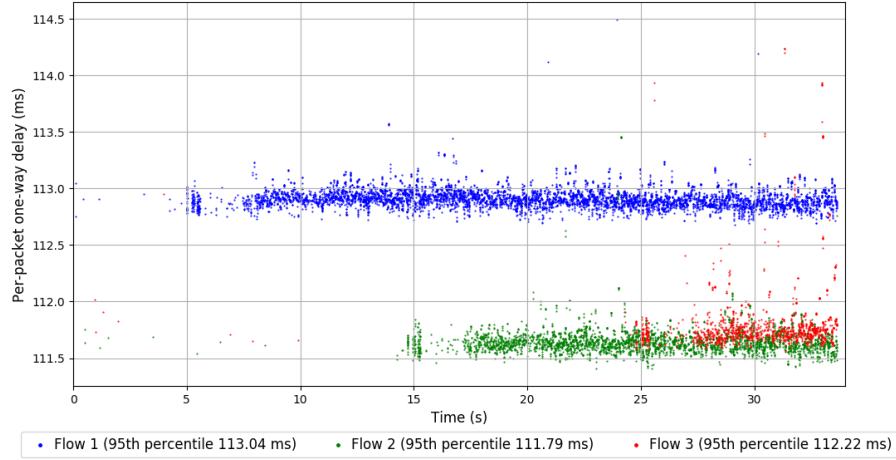
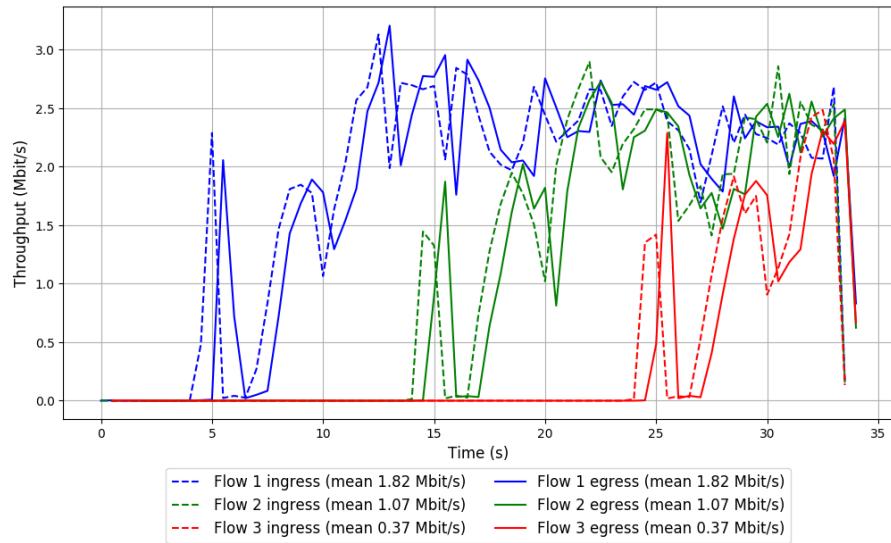


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-06 08:30:22
End at: 2018-09-06 08:30:52
Local clock offset: 0.245 ms
Remote clock offset: 0.499 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 113.008 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 113.039 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 111.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 112.215 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

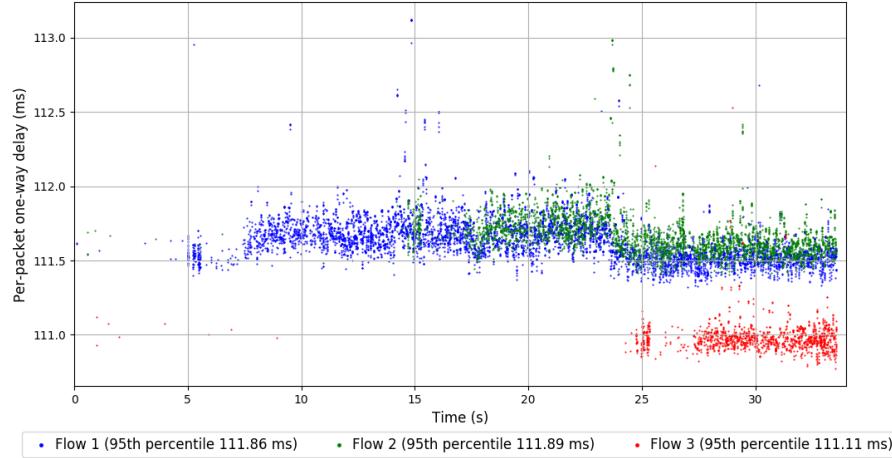
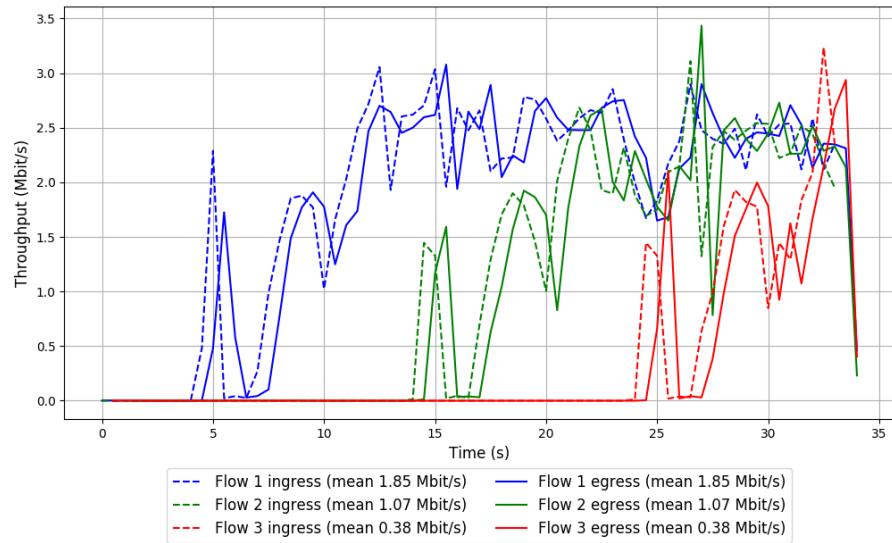


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-06 09:03:31
End at: 2018-09-06 09:04:01
Local clock offset: -0.11 ms
Remote clock offset: 0.064 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 111.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 111.855 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 111.895 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 111.108 ms
Loss rate: 0.01%
```

Run 4: Report of WebRTC media — Data Link



```
Run 5: Statistics of WebRTC media

Start at: 2018-09-06 09:36:29
End at: 2018-09-06 09:36:59
Local clock offset: 0.421 ms
Remote clock offset: -0.227 ms

# Below is generated by plot.py at 2018-09-06 12:20:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 110.564 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 110.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 110.508 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 110.635 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

