

Pantheon Report

Generated at 2018-10-02 18:32:51 (UTC).
Data path: Brazil on p4p1 (*remote*) → AWS Brazil 1 on `ens5` (*local*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

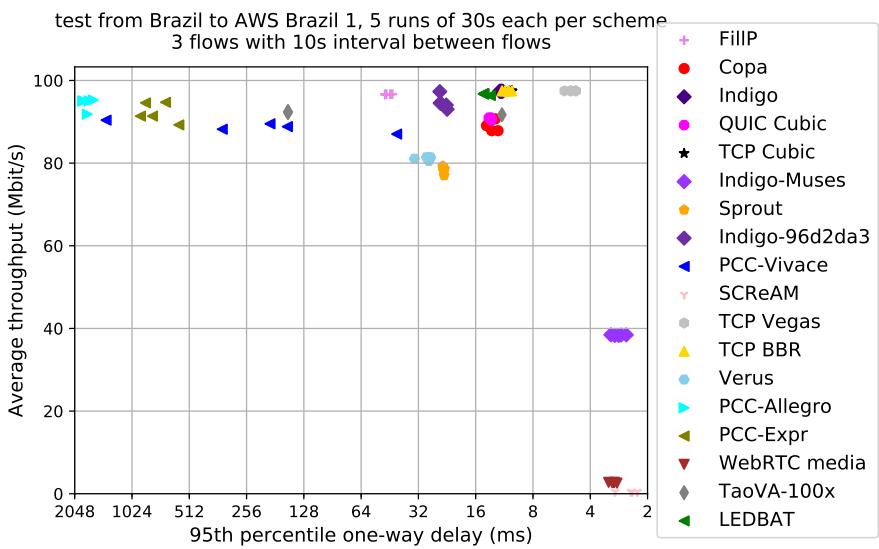
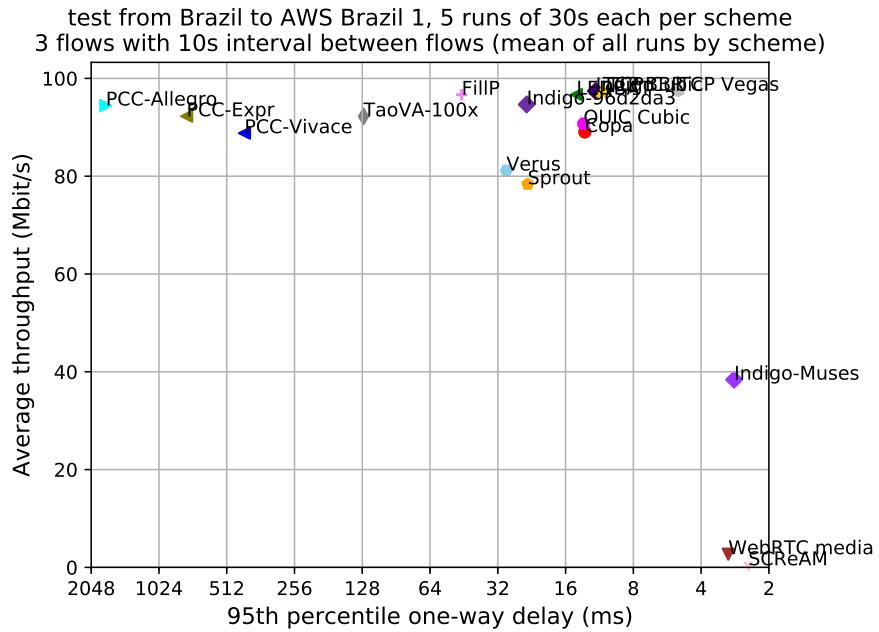
System info:

```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
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
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



↳

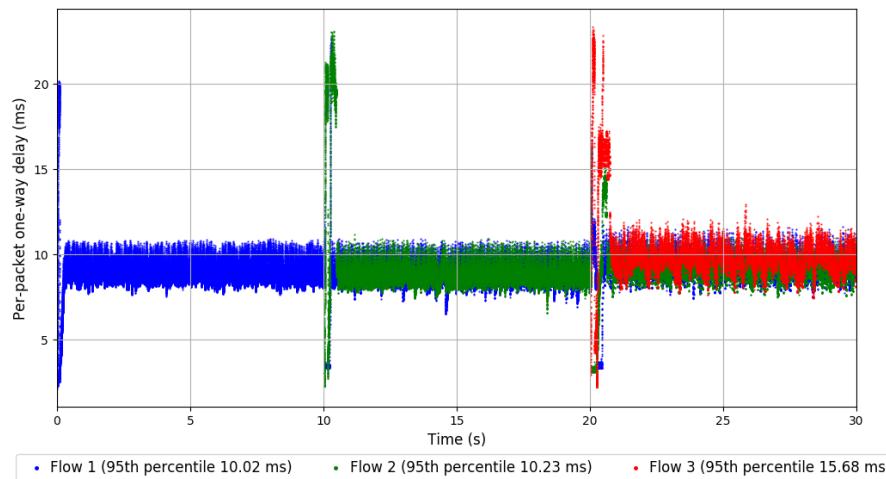
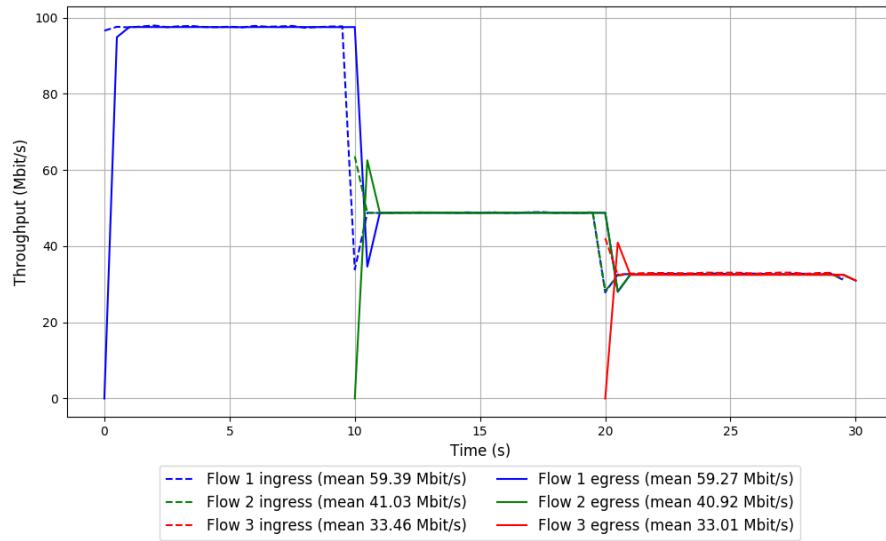
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	59.26	40.93	33.00	10.66	11.19	12.97	0.39	0.69	1.38
Copa	5	52.77	38.95	31.10	12.19	13.91	15.02	0.04	0.07	0.15
TCP Cubic	5	59.60	40.64	32.48	10.46	10.33	10.64	0.07	0.14	0.23
FillP	5	58.88	40.62	32.45	34.37	53.83	48.07	1.59	1.64	1.06
Indigo	5	59.68	40.68	32.44	9.75	12.16	9.90	0.03	2.14	0.67
Indigo-96d2da3	5	55.46	42.46	33.08	14.13	20.36	25.26	0.16	0.98	3.17
LEDBAT	5	58.97	40.50	32.37	14.06	14.59	13.57	0.12	0.22	0.36
Indigo-Muses	5	19.40	19.07	19.00	2.76	2.86	3.13	0.02	0.02	0.05
PCC-Allegro	5	61.71	36.86	25.04	1812.45	793.53	30.42	16.09	7.59	0.37
PCC-Expr	5	57.88	36.71	30.22	662.77	422.81	394.74	24.67	4.21	4.04
QUIC Cubic	5	53.79	40.10	31.09	13.11	13.27	13.86	0.16	0.30	0.48
SCReAM	5	0.22	0.22	0.22	2.47	2.46	2.45	0.00	0.04	0.07
Sprout	5	42.42	38.02	32.23	22.23	23.66	24.88	0.05	0.07	0.16
TaoVA-100x	5	56.26	40.46	27.14	125.73	126.70	132.06	0.42	0.90	2.27
TCP Vegas	5	53.98	48.72	33.25	4.56	4.83	5.39	0.01	0.02	0.06
Verus	5	47.35	35.31	31.02	25.86	27.96	113.20	0.05	0.09	0.18
PCC-Vivace	5	54.92	37.55	26.99	405.00	215.58	10.47	1.20	0.88	0.14
WebRTC media	5	1.52	0.80	0.39	3.00	2.97	3.15	0.00	0.00	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-02 16:36:32
End at: 2018-10-02 16:37:02
Local clock offset: -3.107 ms
Remote clock offset: -0.865 ms

# Below is generated by plot.py at 2018-10-02 18:20:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 10.344 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 59.27 Mbit/s
95th percentile per-packet one-way delay: 10.018 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 10.230 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 33.01 Mbit/s
95th percentile per-packet one-way delay: 15.676 ms
Loss rate: 1.39%
```

Run 1: Report of TCP BBR — Data Link

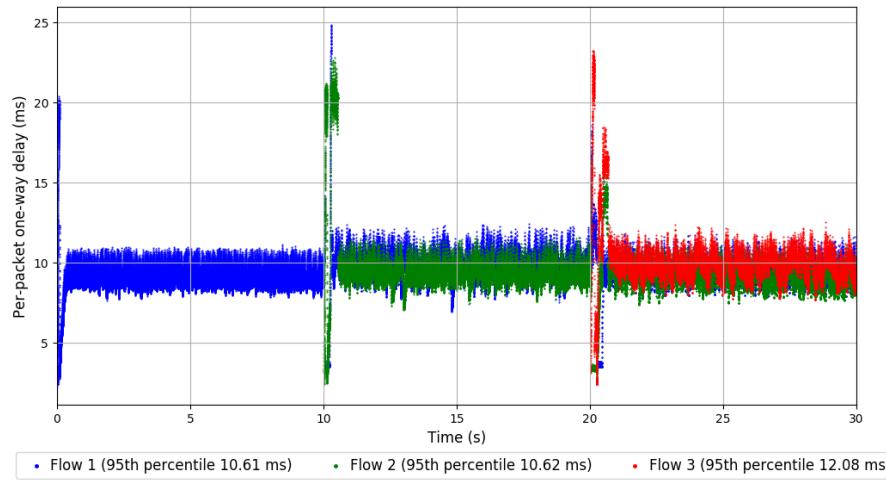
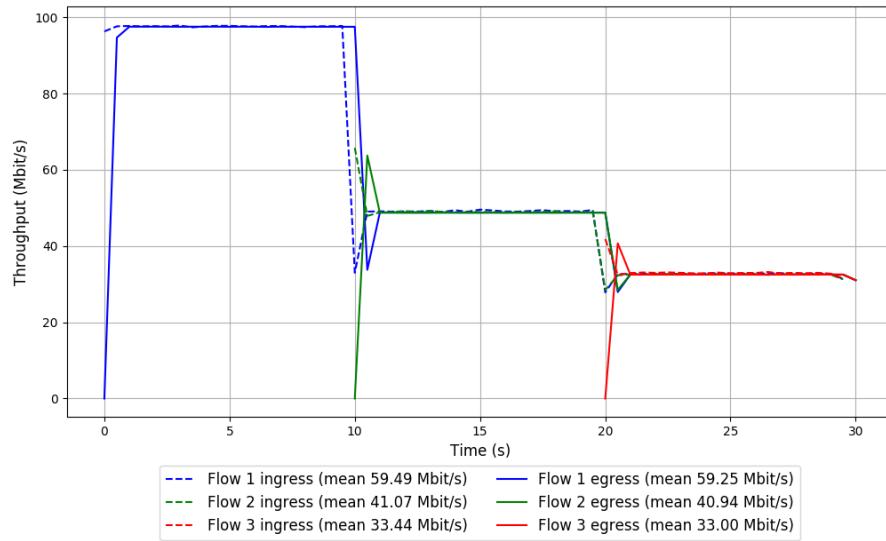


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-02 16:57:22
End at: 2018-10-02 16:57:52
Local clock offset: -2.072 ms
Remote clock offset: -0.954 ms

# Below is generated by plot.py at 2018-10-02 18:20:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.744 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 10.609 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 10.623 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 12.079 ms
Loss rate: 1.36%
```

Run 2: Report of TCP BBR — Data Link

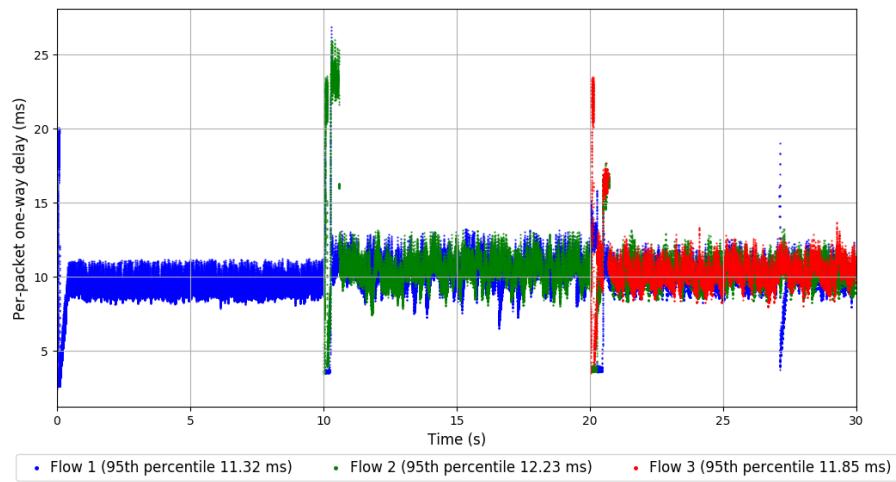
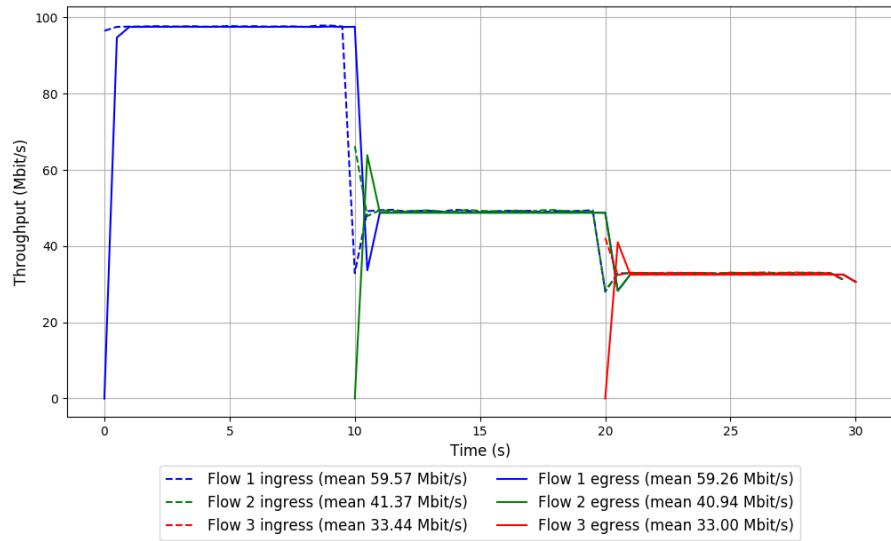


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-02 17:18:11
End at: 2018-10-02 17:18:41
Local clock offset: -2.815 ms
Remote clock offset: -0.855 ms

# Below is generated by plot.py at 2018-10-02 18:20:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 11.636 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 59.26 Mbit/s
95th percentile per-packet one-way delay: 11.320 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 12.227 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 11.849 ms
Loss rate: 1.37%
```

Run 3: Report of TCP BBR — Data Link

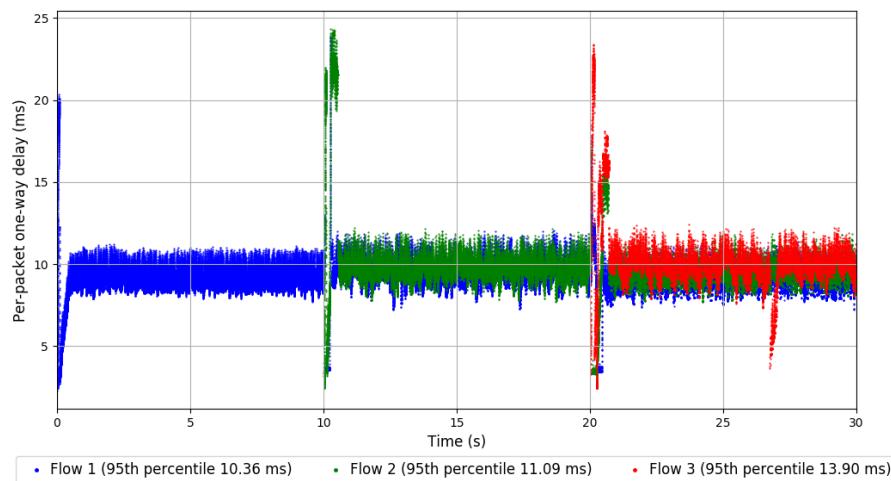
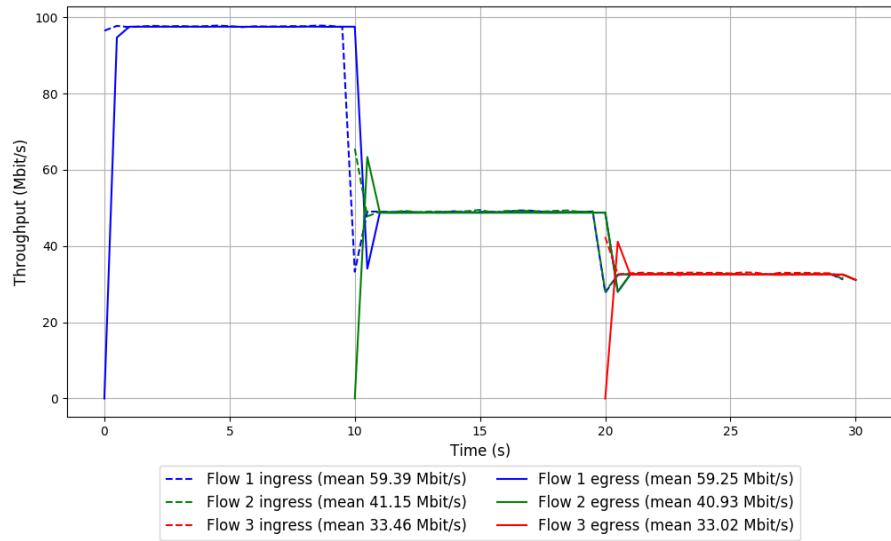


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-02 17:39:01
End at: 2018-10-02 17:39:31
Local clock offset: -6.893 ms
Remote clock offset: -0.8 ms

# Below is generated by plot.py at 2018-10-02 18:20:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 10.760 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 10.357 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 40.93 Mbit/s
95th percentile per-packet one-way delay: 11.089 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 13.900 ms
Loss rate: 1.40%
```

Run 4: Report of TCP BBR — Data Link

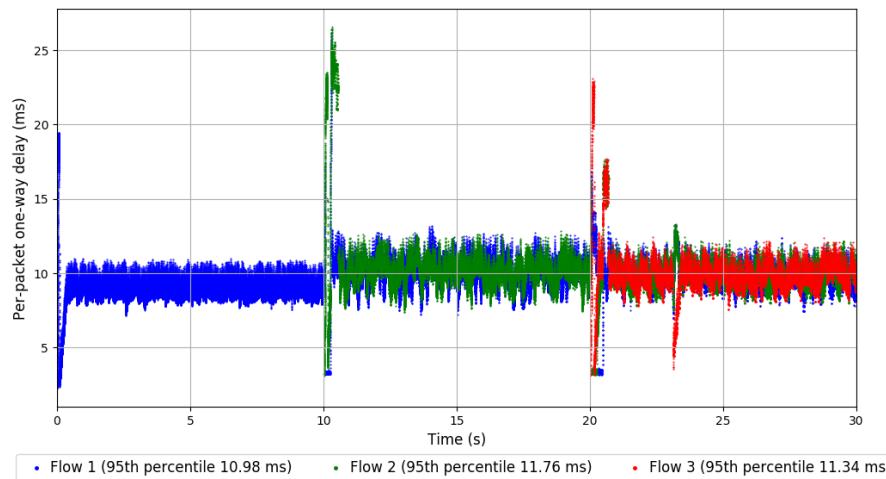
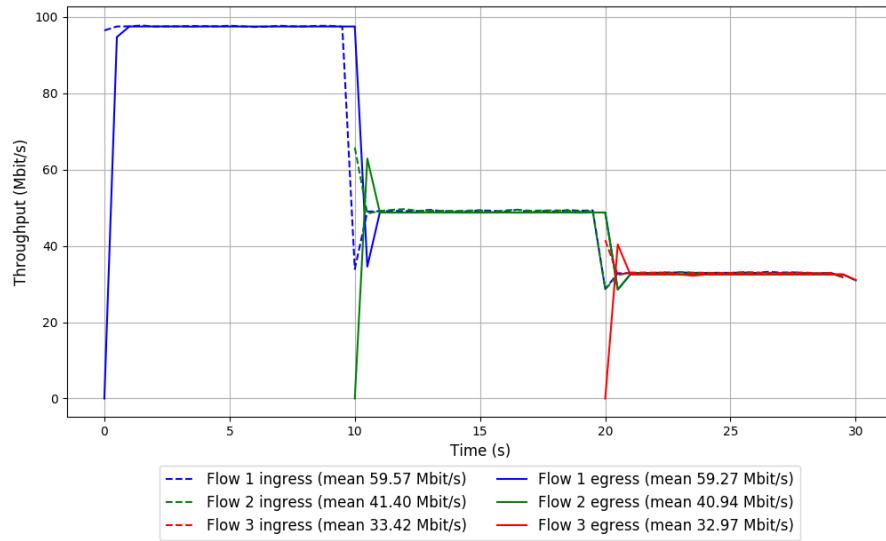


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-02 17:59:50
End at: 2018-10-02 18:00:20
Local clock offset: -3.624 ms
Remote clock offset: -0.811 ms

# Below is generated by plot.py at 2018-10-02 18:20:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 11.235 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 59.27 Mbit/s
95th percentile per-packet one-way delay: 10.984 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 11.763 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 11.342 ms
Loss rate: 1.40%
```

Run 5: Report of TCP BBR — Data Link

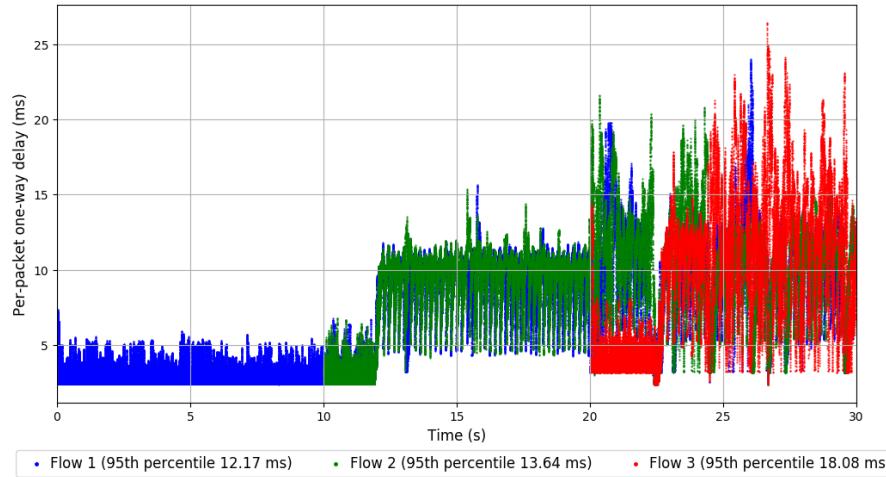
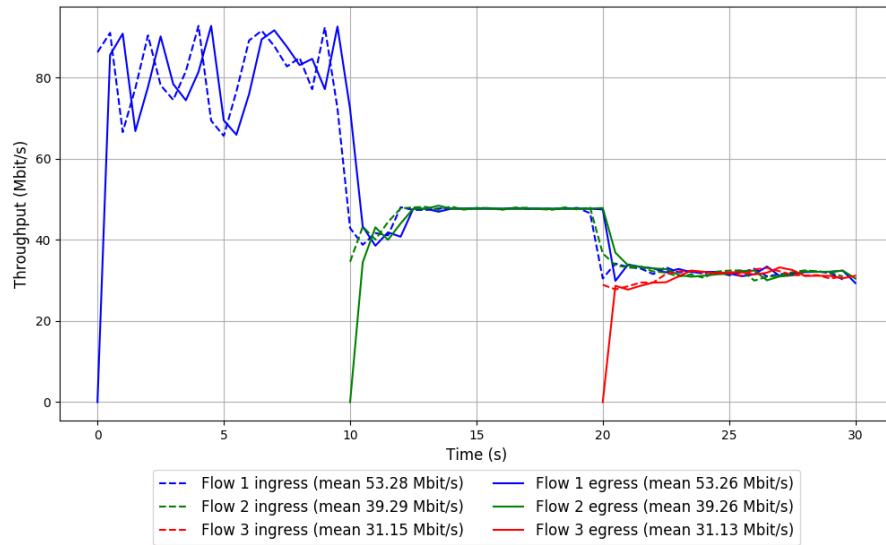


Run 1: Statistics of Copa

```
Start at: 2018-10-02 16:35:19
End at: 2018-10-02 16:35:49
Local clock offset: -3.165 ms
Remote clock offset: -0.975 ms

# Below is generated by plot.py at 2018-10-02 18:21:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.74 Mbit/s
95th percentile per-packet one-way delay: 13.670 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 53.26 Mbit/s
95th percentile per-packet one-way delay: 12.173 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.26 Mbit/s
95th percentile per-packet one-way delay: 13.637 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.13 Mbit/s
95th percentile per-packet one-way delay: 18.082 ms
Loss rate: 0.13%
```

Run 1: Report of Copa — Data Link

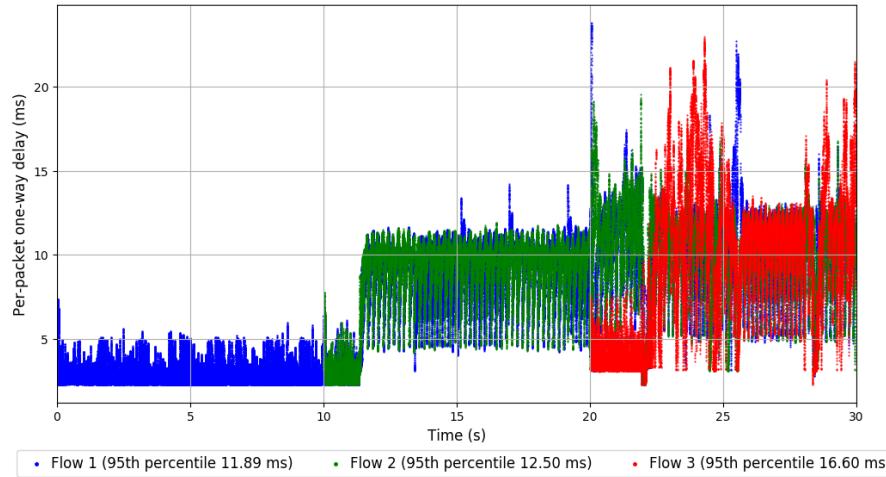
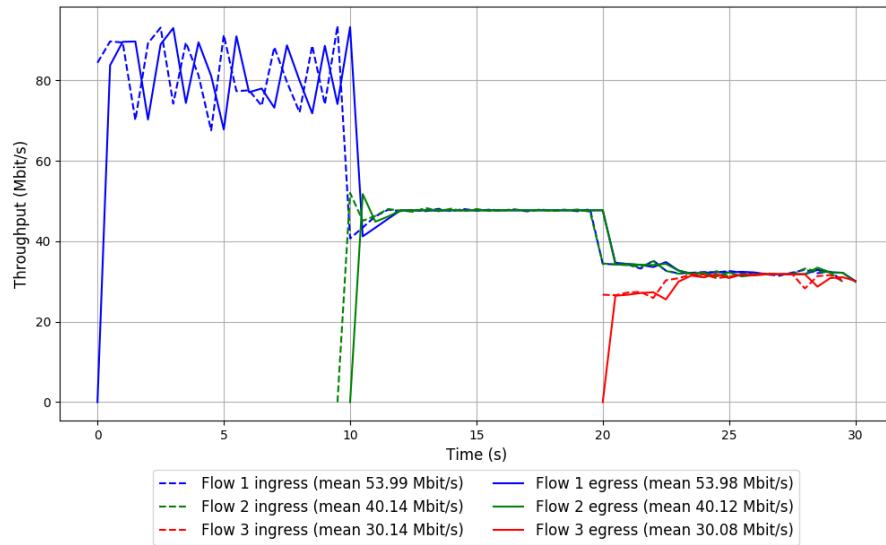


Run 2: Statistics of Copa

```
Start at: 2018-10-02 16:56:10
End at: 2018-10-02 16:56:40
Local clock offset: -2.181 ms
Remote clock offset: -0.964 ms

# Below is generated by plot.py at 2018-10-02 18:21:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.71 Mbit/s
95th percentile per-packet one-way delay: 12.617 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 53.98 Mbit/s
95th percentile per-packet one-way delay: 11.893 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.12 Mbit/s
95th percentile per-packet one-way delay: 12.498 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 30.08 Mbit/s
95th percentile per-packet one-way delay: 16.600 ms
Loss rate: 0.25%
```

Run 2: Report of Copa — Data Link

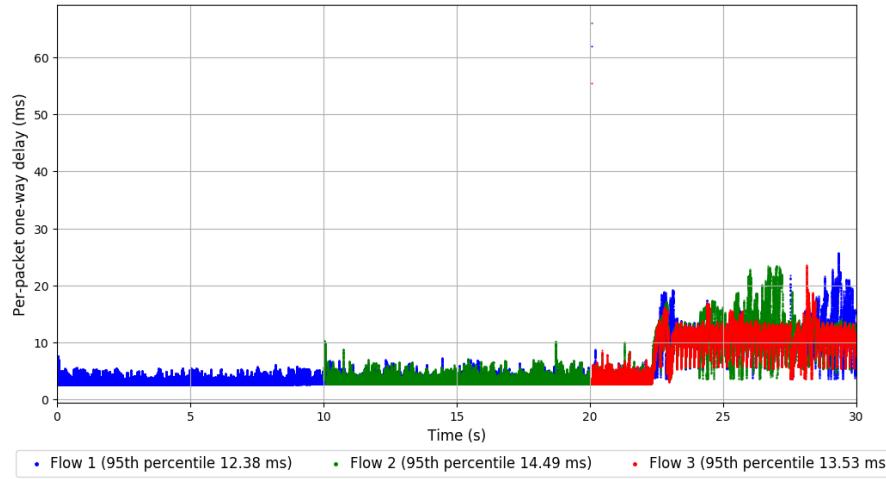
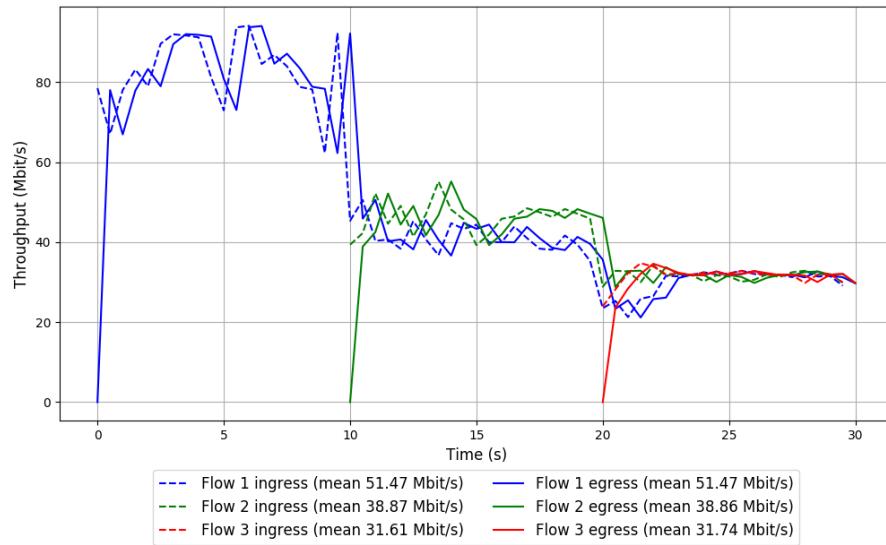


Run 3: Statistics of Copa

```
Start at: 2018-10-02 17:16:59
End at: 2018-10-02 17:17:29
Local clock offset: -2.126 ms
Remote clock offset: -0.814 ms

# Below is generated by plot.py at 2018-10-02 18:21:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.85 Mbit/s
95th percentile per-packet one-way delay: 13.171 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 51.47 Mbit/s
95th percentile per-packet one-way delay: 12.385 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 14.487 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 31.74 Mbit/s
95th percentile per-packet one-way delay: 13.533 ms
Loss rate: 0.17%
```

Run 3: Report of Copa — Data Link

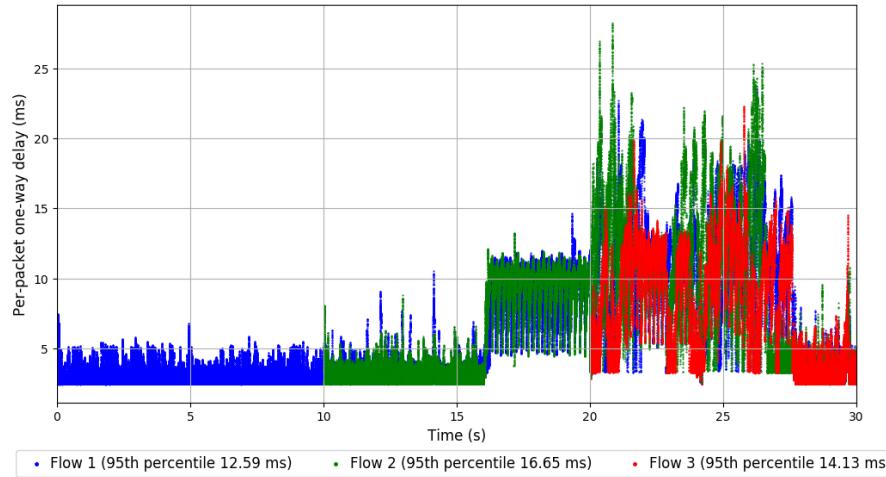
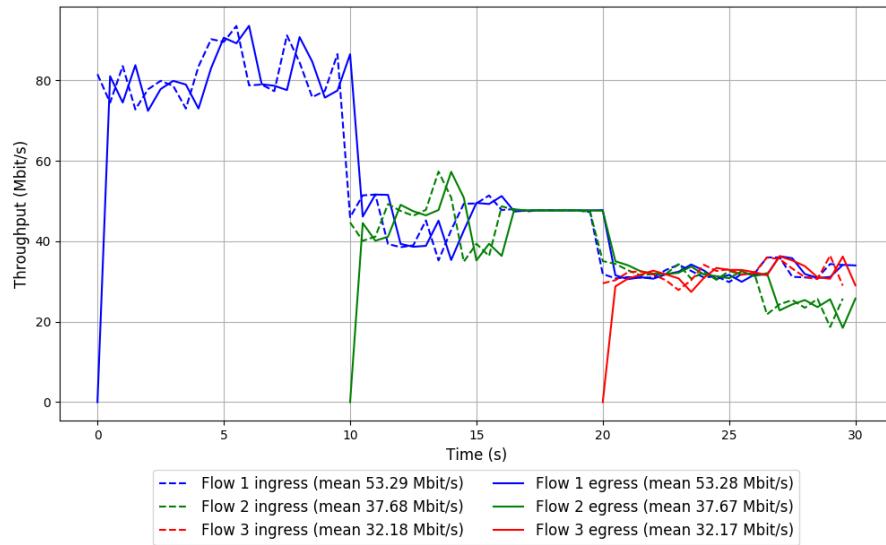


Run 4: Statistics of Copa

```
Start at: 2018-10-02 17:37:49
End at: 2018-10-02 17:38:19
Local clock offset: -6.788 ms
Remote clock offset: -0.872 ms

# Below is generated by plot.py at 2018-10-02 18:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.06 Mbit/s
95th percentile per-packet one-way delay: 14.049 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 53.28 Mbit/s
95th percentile per-packet one-way delay: 12.592 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.67 Mbit/s
95th percentile per-packet one-way delay: 16.654 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 14.133 ms
Loss rate: 0.06%
```

Run 4: Report of Copa — Data Link

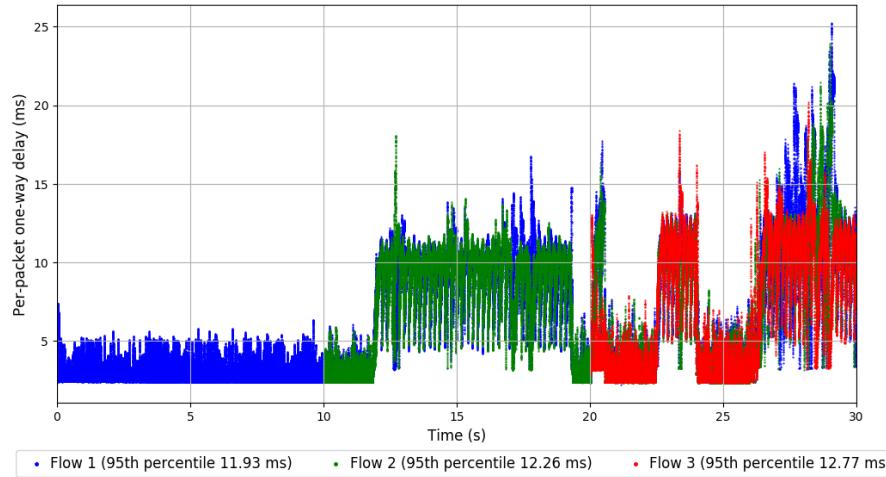
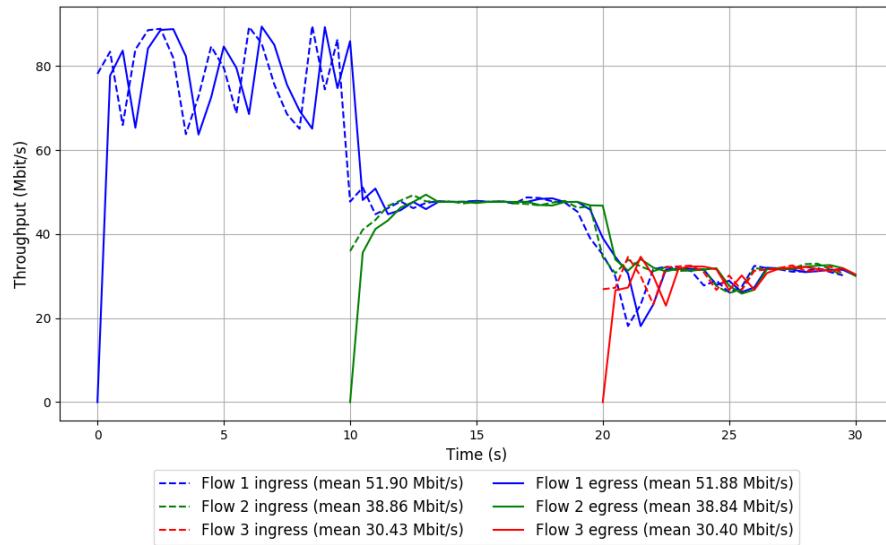


Run 5: Statistics of Copa

```
Start at: 2018-10-02 17:58:38
End at: 2018-10-02 17:59:08
Local clock offset: -3.715 ms
Remote clock offset: -0.843 ms

# Below is generated by plot.py at 2018-10-02 18:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.85 Mbit/s
95th percentile per-packet one-way delay: 12.207 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 11.931 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.84 Mbit/s
95th percentile per-packet one-way delay: 12.264 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 12.772 ms
Loss rate: 0.16%
```

Run 5: Report of Copa — Data Link

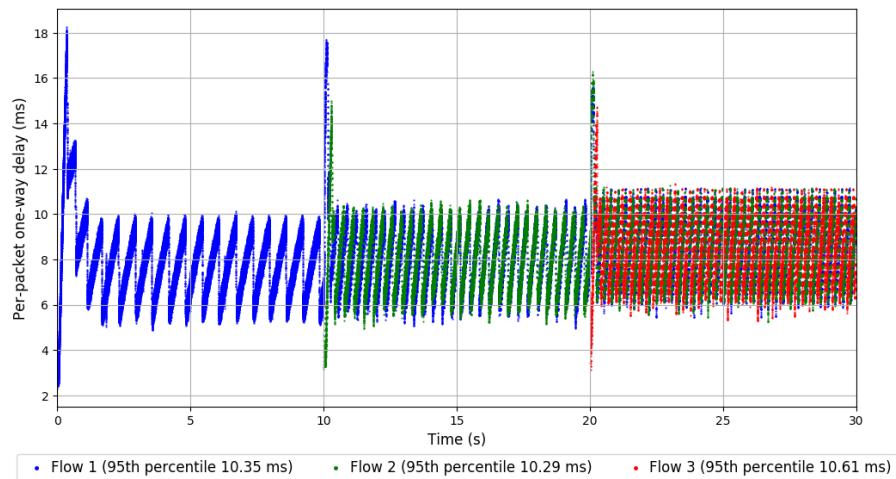
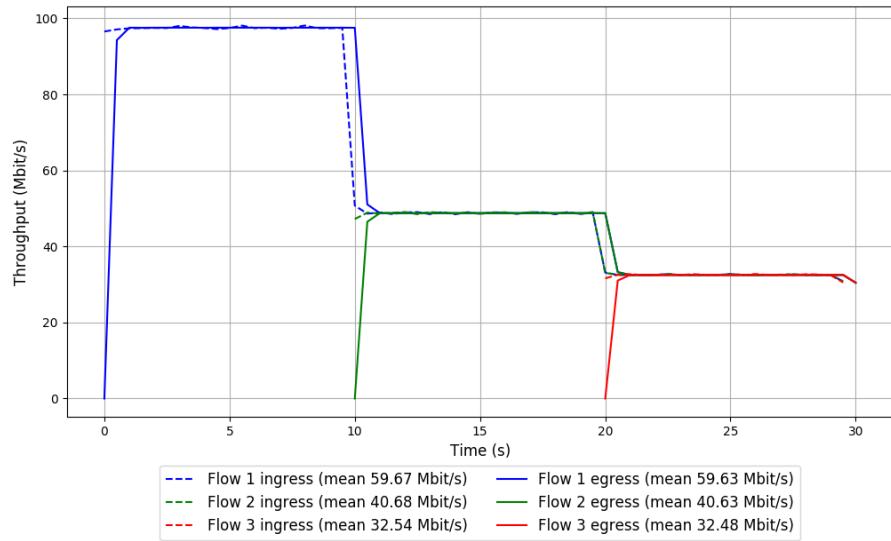


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-02 16:42:20
End at: 2018-10-02 16:42:50
Local clock offset: -2.587 ms
Remote clock offset: -1.019 ms

# Below is generated by plot.py at 2018-10-02 18:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 10.360 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.63 Mbit/s
95th percentile per-packet one-way delay: 10.349 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.63 Mbit/s
95th percentile per-packet one-way delay: 10.286 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.606 ms
Loss rate: 0.22%
```

Run 1: Report of TCP Cubic — Data Link

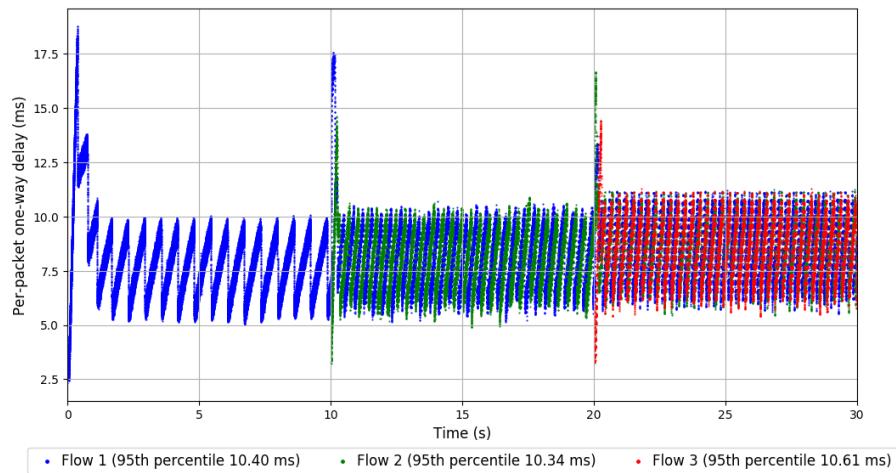
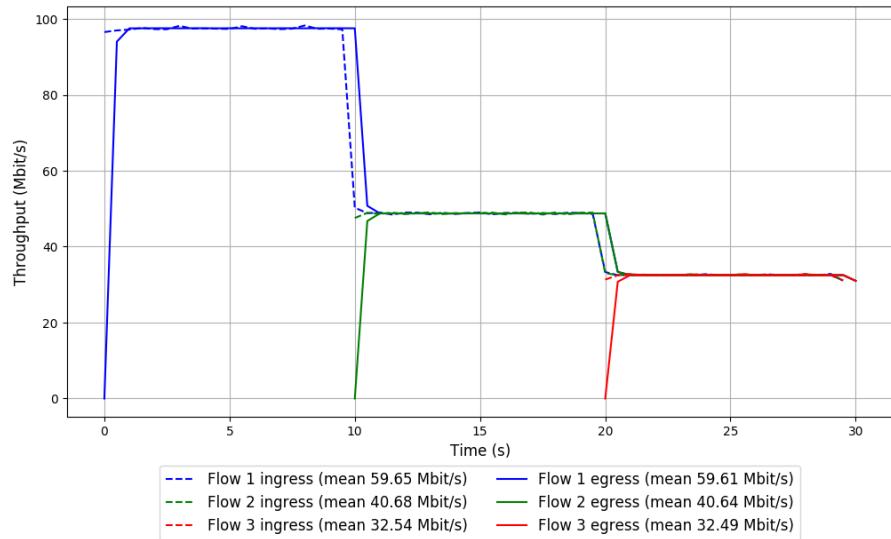


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-02 17:03:10
End at: 2018-10-02 17:03:40
Local clock offset: -1.862 ms
Remote clock offset: -0.964 ms

# Below is generated by plot.py at 2018-10-02 18:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.391 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 10.403 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.337 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 10.608 ms
Loss rate: 0.22%
```

Run 2: Report of TCP Cubic — Data Link

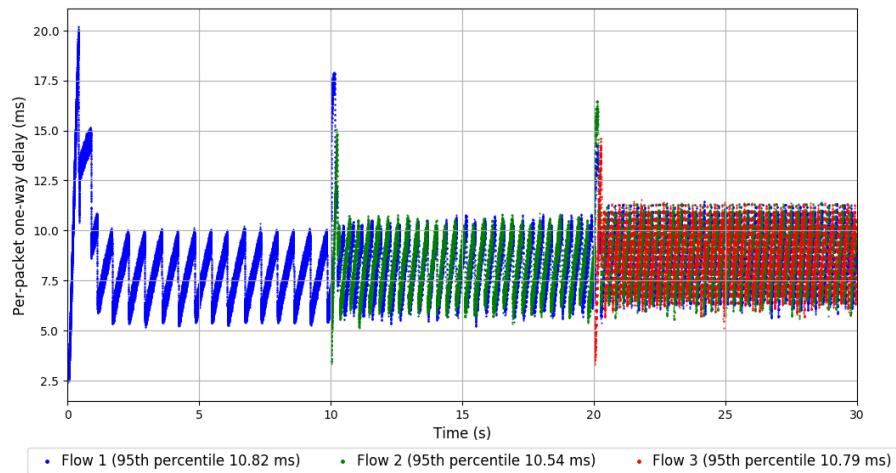
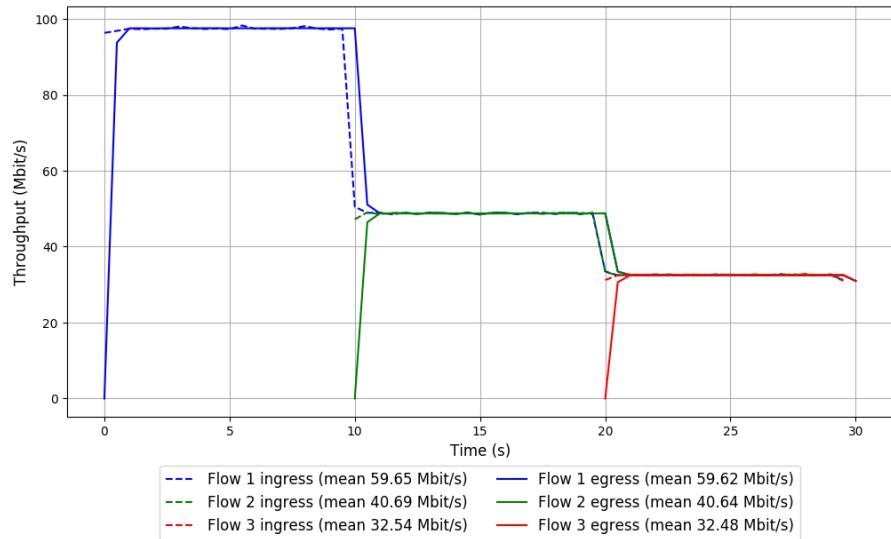


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-02 17:24:00
End at: 2018-10-02 17:24:30
Local clock offset: -4.848 ms
Remote clock offset: -0.868 ms

# Below is generated by plot.py at 2018-10-02 18:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.642 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.62 Mbit/s
95th percentile per-packet one-way delay: 10.816 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.538 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.795 ms
Loss rate: 0.22%
```

Run 3: Report of TCP Cubic — Data Link

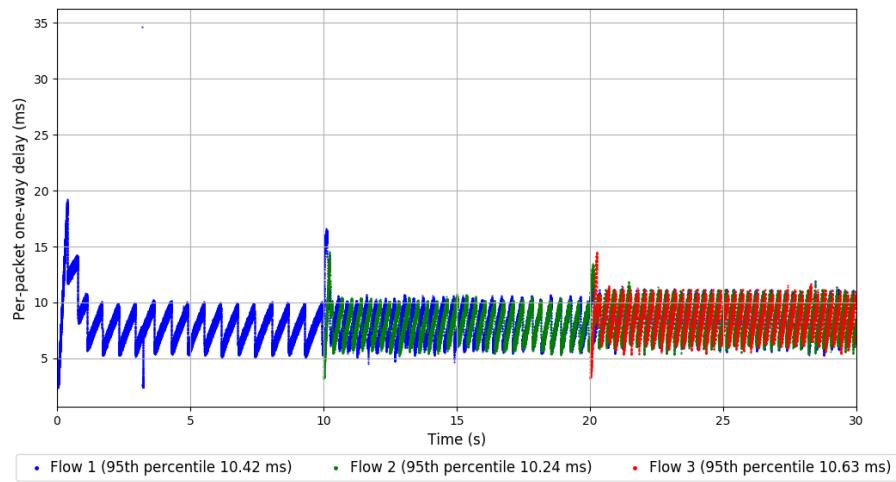
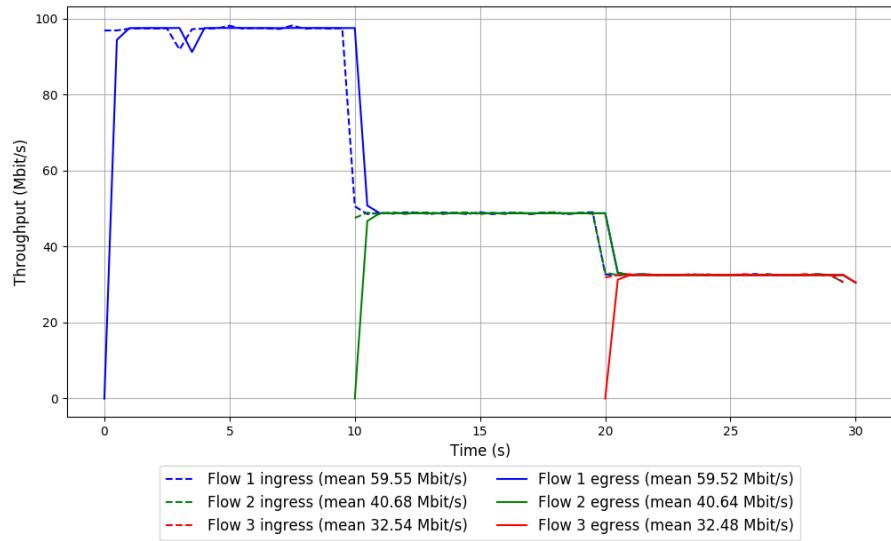


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-02 17:44:50
End at: 2018-10-02 17:45:20
Local clock offset: -7.242 ms
Remote clock offset: -0.815 ms

# Below is generated by plot.py at 2018-10-02 18:22:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 10.377 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.52 Mbit/s
95th percentile per-packet one-way delay: 10.416 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.245 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.626 ms
Loss rate: 0.23%
```

Run 4: Report of TCP Cubic — Data Link

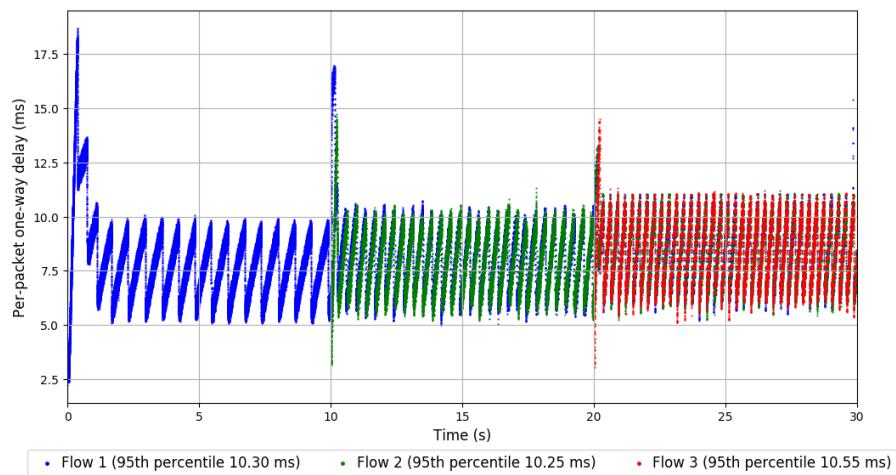
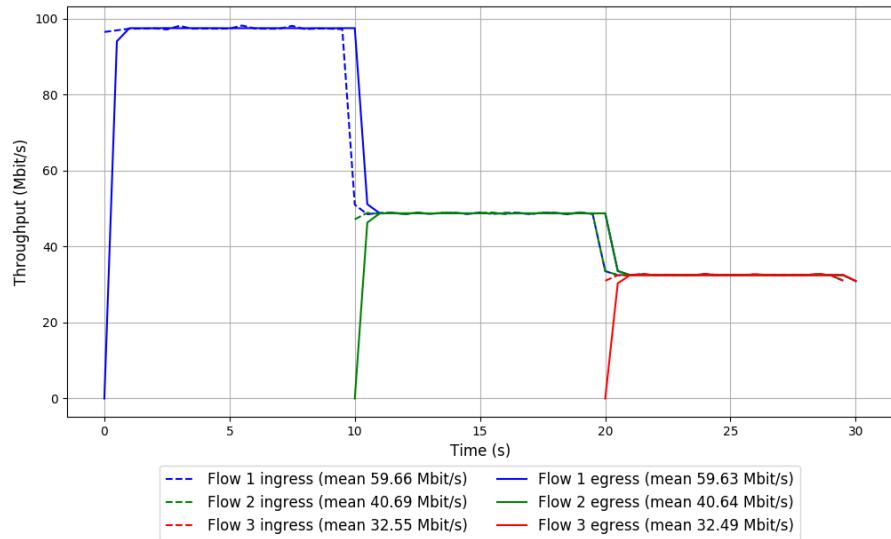


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-02 18:05:39
End at: 2018-10-02 18:06:09
Local clock offset: -3.047 ms
Remote clock offset: -0.759 ms

# Below is generated by plot.py at 2018-10-02 18:22:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 10.301 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.63 Mbit/s
95th percentile per-packet one-way delay: 10.304 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.249 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 10.546 ms
Loss rate: 0.24%
```

Run 5: Report of TCP Cubic — Data Link

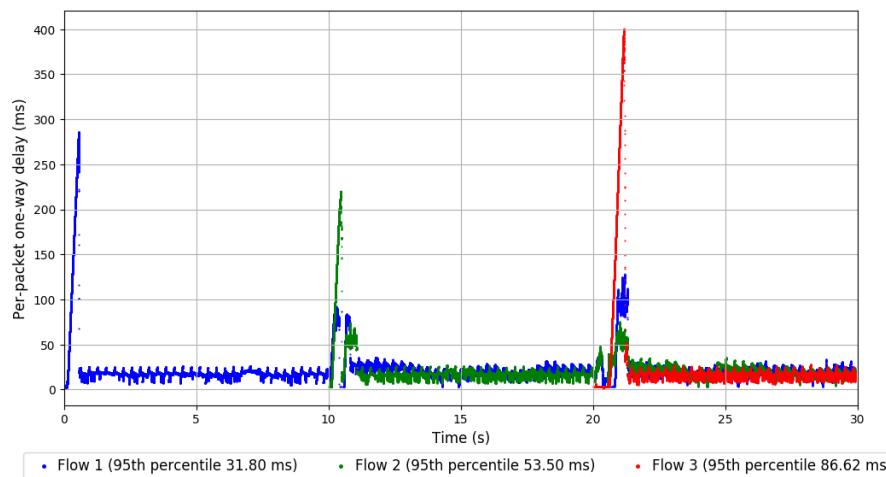
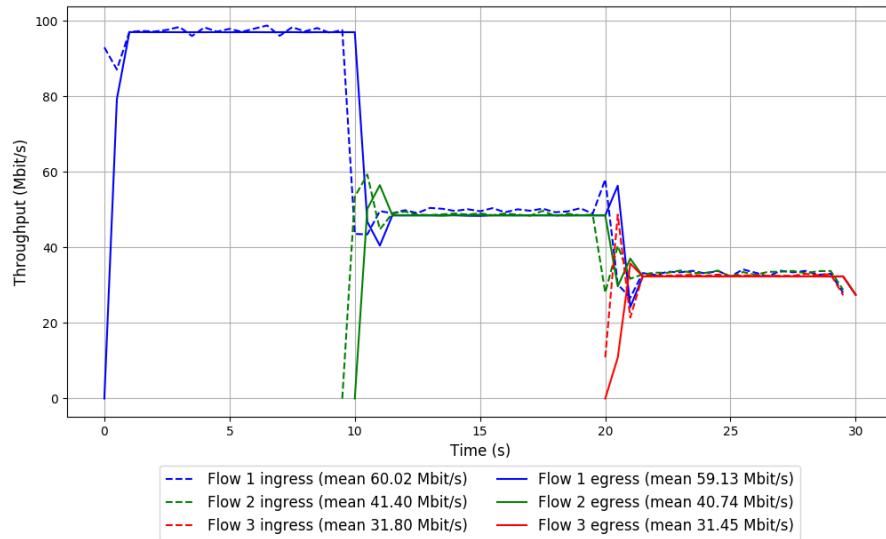


```
Run 1: Statistics of FillP
```

```
Start at: 2018-10-02 16:44:41
End at: 2018-10-02 16:45:11
Local clock offset: -2.513 ms
Remote clock offset: -1.008 ms

# Below is generated by plot.py at 2018-10-02 18:23:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.67 Mbit/s
95th percentile per-packet one-way delay: 47.245 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 31.802 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 40.74 Mbit/s
95th percentile per-packet one-way delay: 53.496 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 86.617 ms
Loss rate: 1.08%
```

Run 1: Report of FillP — Data Link

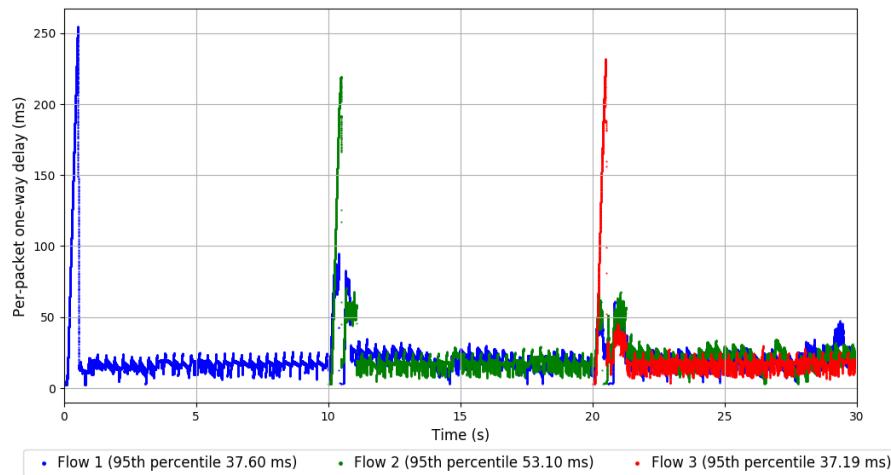
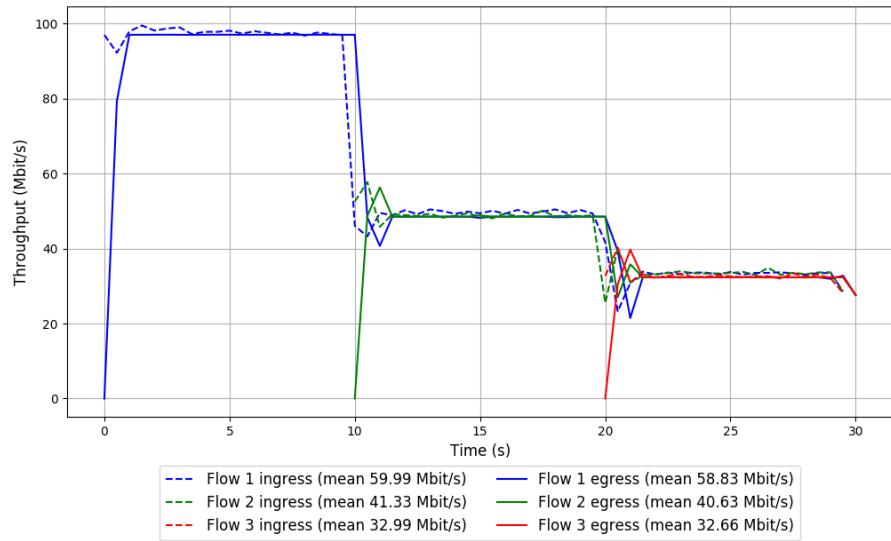


Run 2: Statistics of FillP

```
Start at: 2018-10-02 17:05:30
End at: 2018-10-02 17:06:00
Local clock offset: -1.832 ms
Remote clock offset: -0.892 ms

# Below is generated by plot.py at 2018-10-02 18:23:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.67 Mbit/s
95th percentile per-packet one-way delay: 44.966 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 37.600 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 40.63 Mbit/s
95th percentile per-packet one-way delay: 53.096 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 32.66 Mbit/s
95th percentile per-packet one-way delay: 37.189 ms
Loss rate: 1.00%
```

Run 2: Report of FillP — Data Link

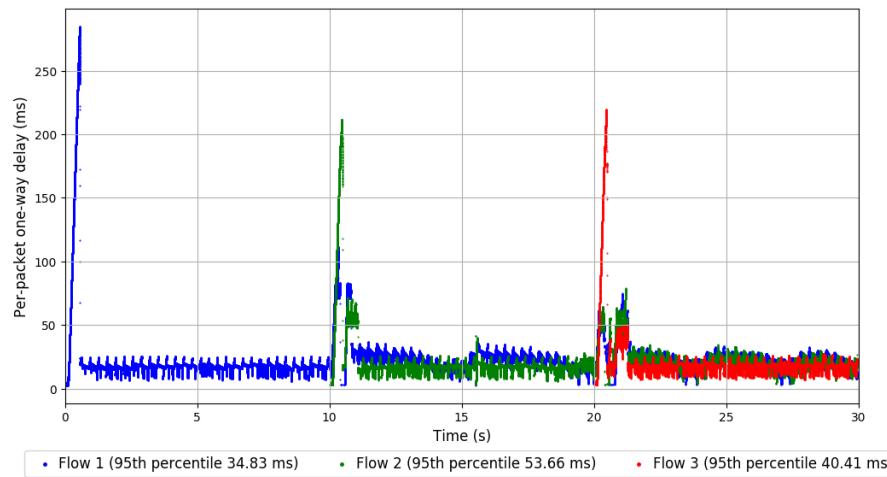
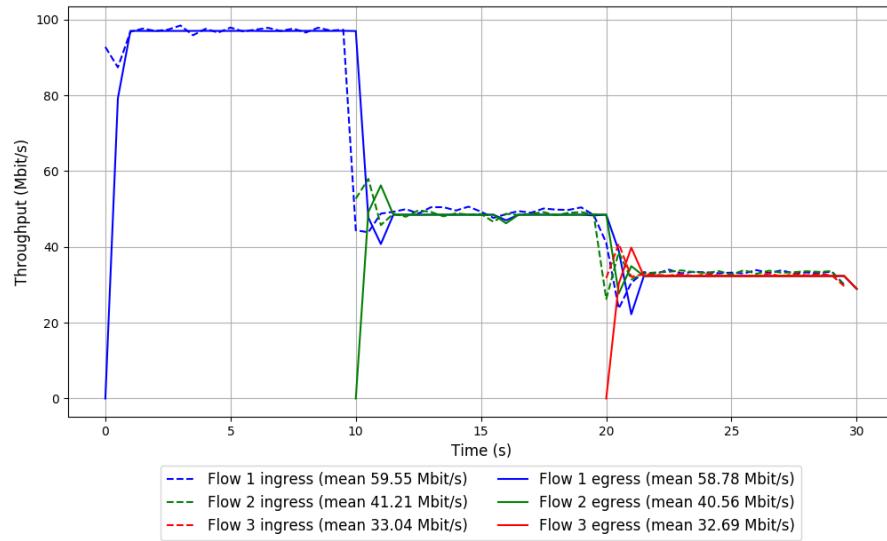


Run 3: Statistics of FillP

```
Start at: 2018-10-02 17:26:20
End at: 2018-10-02 17:26:50
Local clock offset: -5.326 ms
Remote clock offset: -0.84 ms

# Below is generated by plot.py at 2018-10-02 18:23:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.60 Mbit/s
95th percentile per-packet one-way delay: 47.910 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 34.826 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 40.56 Mbit/s
95th percentile per-packet one-way delay: 53.658 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 40.408 ms
Loss rate: 1.09%
```

Run 3: Report of FillP — Data Link

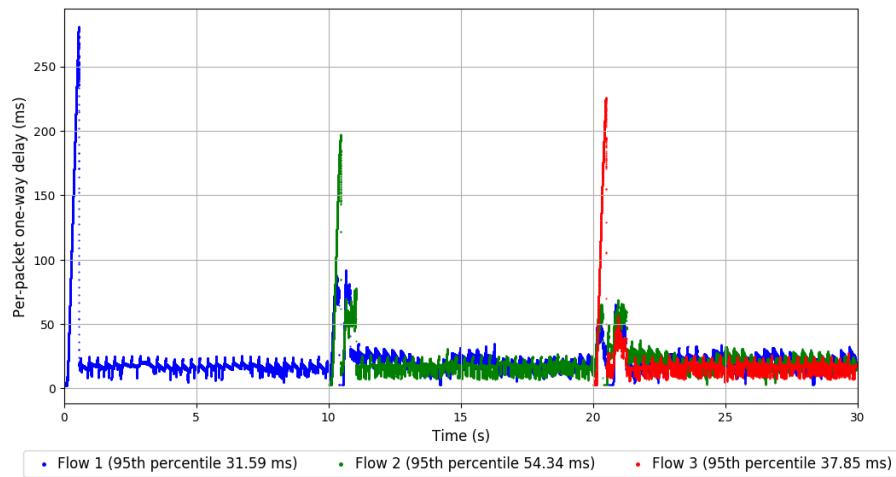
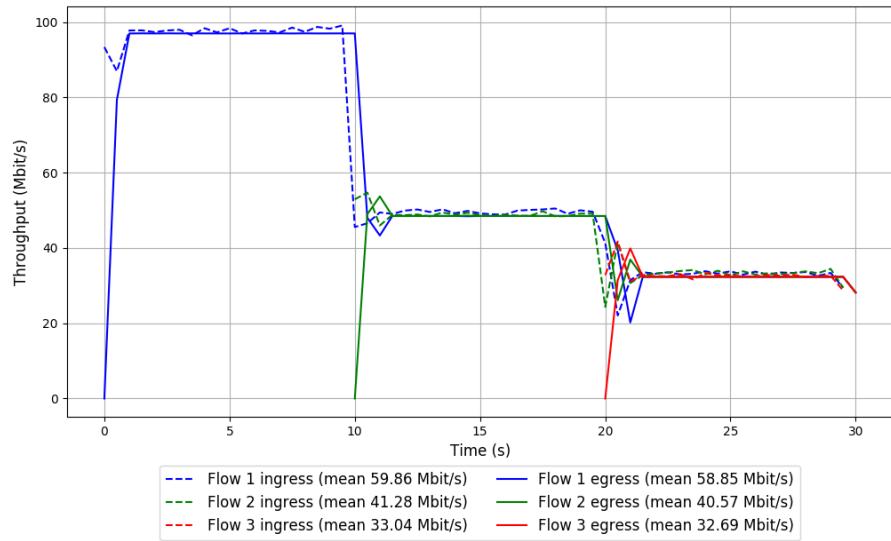


Run 4: Statistics of FillP

```
Start at: 2018-10-02 17:47:09
End at: 2018-10-02 17:47:39
Local clock offset: -6.553 ms
Remote clock offset: -0.848 ms

# Below is generated by plot.py at 2018-10-02 18:23:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.68 Mbit/s
95th percentile per-packet one-way delay: 43.917 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 58.85 Mbit/s
95th percentile per-packet one-way delay: 31.590 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 54.336 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 37.855 ms
Loss rate: 1.10%
```

Run 4: Report of FillP — Data Link

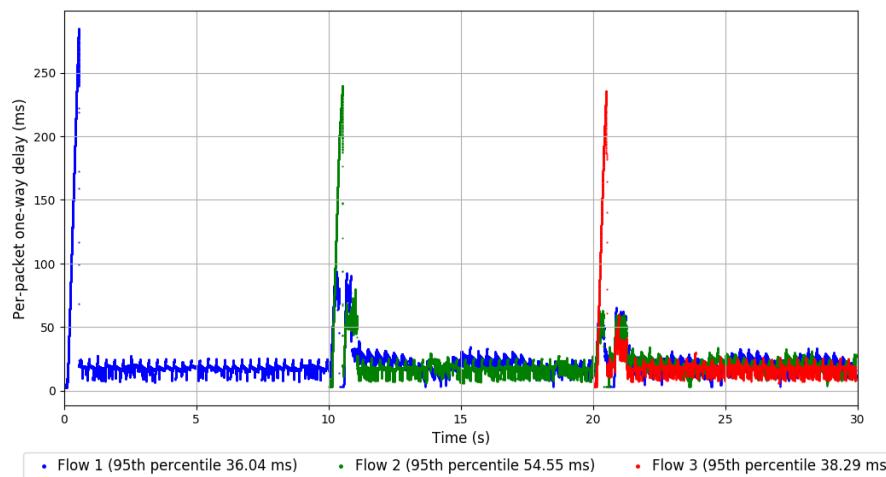
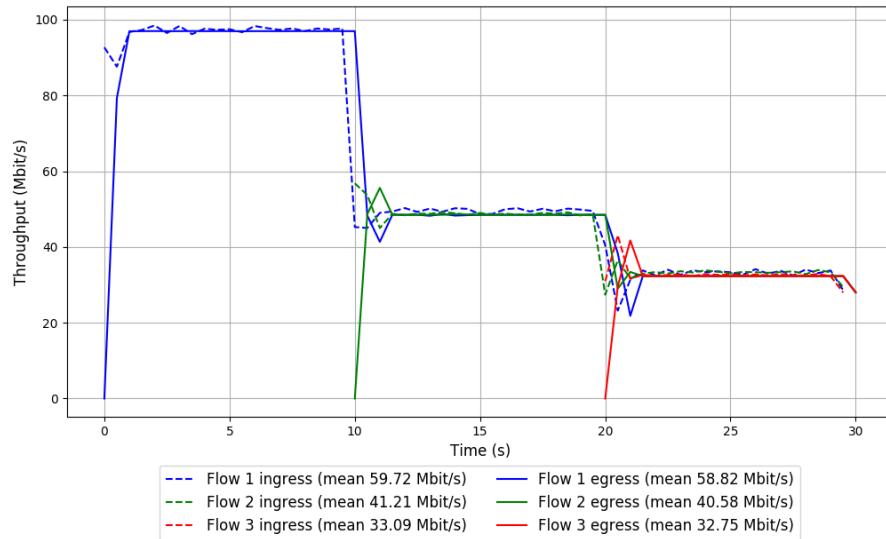


```
Run 5: Statistics of FillP
```

```
Start at: 2018-10-02 18:07:58
End at: 2018-10-02 18:08:28
Local clock offset: -2.863 ms
Remote clock offset: -0.764 ms

# Below is generated by plot.py at 2018-10-02 18:24:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.68 Mbit/s
95th percentile per-packet one-way delay: 47.547 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 58.82 Mbit/s
95th percentile per-packet one-way delay: 36.043 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 54.551 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 32.75 Mbit/s
95th percentile per-packet one-way delay: 38.287 ms
Loss rate: 1.02%
```

Run 5: Report of FillP — Data Link

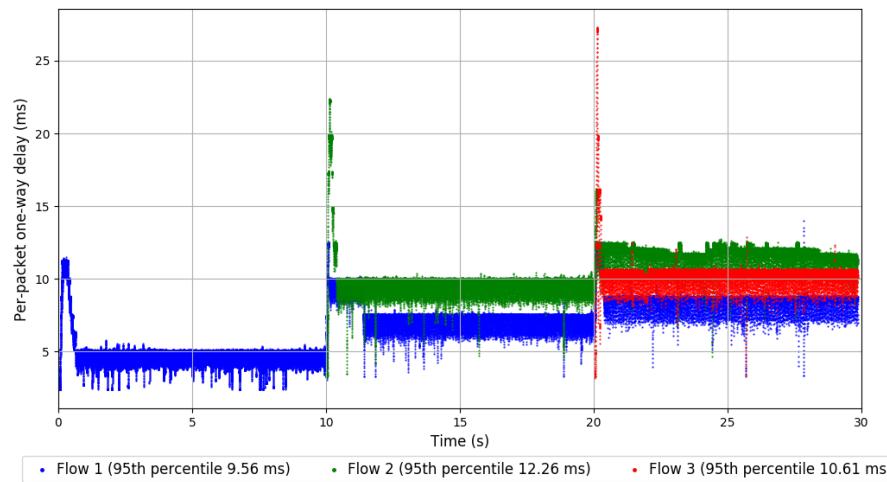
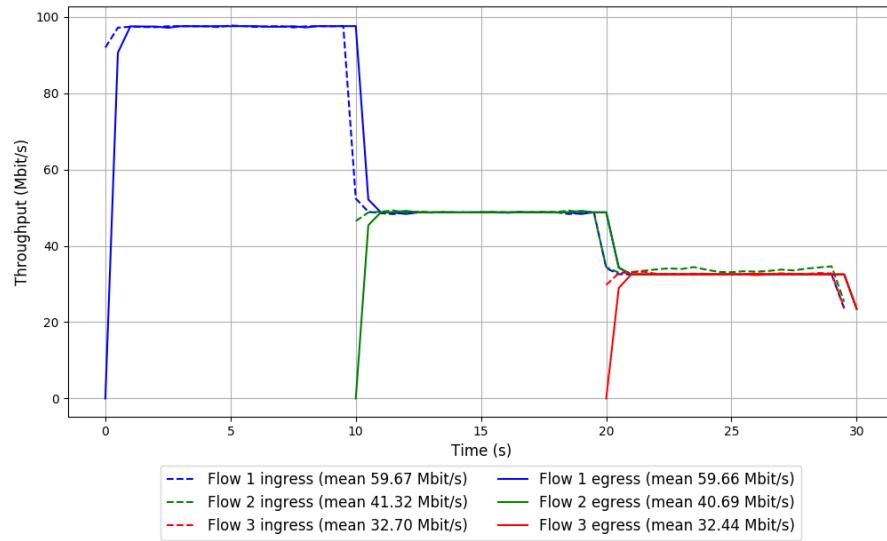


Run 1: Statistics of Indigo

```
Start at: 2018-10-02 16:49:13
End at: 2018-10-02 16:49:43
Local clock offset: -2.307 ms
Remote clock offset: -1.002 ms

# Below is generated by plot.py at 2018-10-02 18:24:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 11.877 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 59.66 Mbit/s
95th percentile per-packet one-way delay: 9.560 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 12.257 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 10.611 ms
Loss rate: 0.84%
```

Run 1: Report of Indigo — Data Link

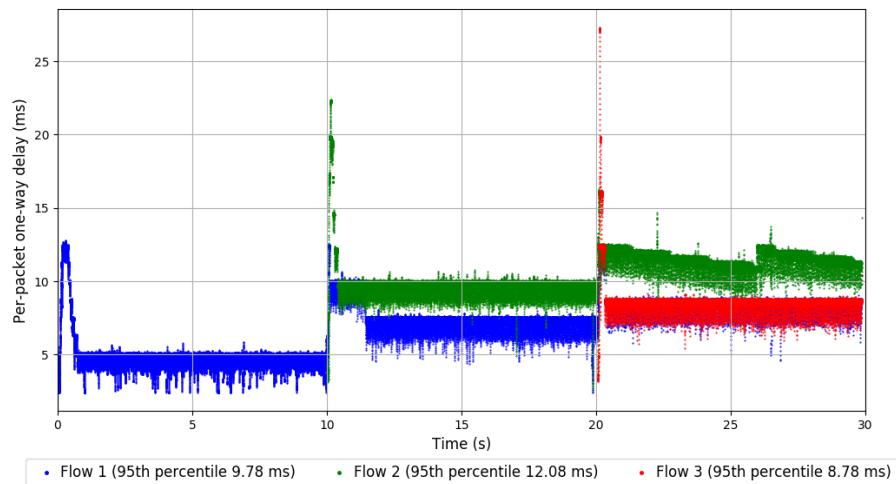
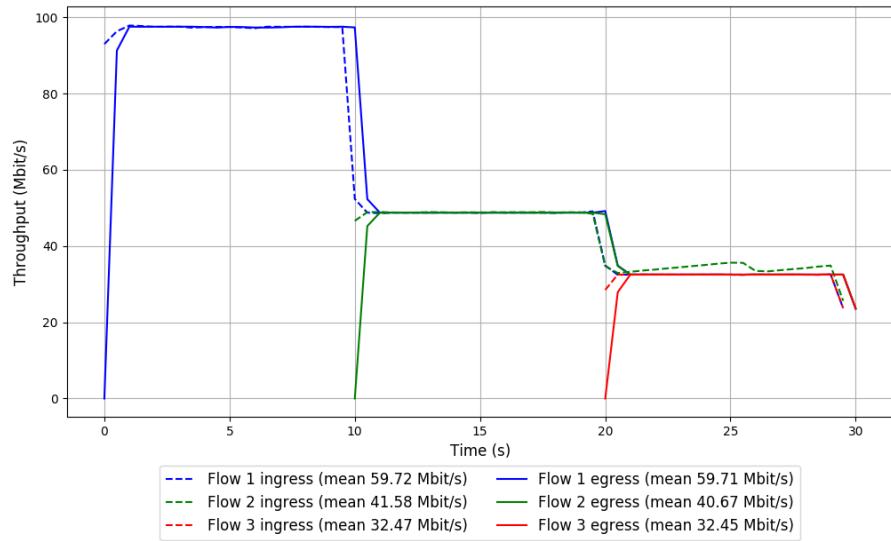


Run 2: Statistics of Indigo

```
Start at: 2018-10-02 17:10:03
End at: 2018-10-02 17:10:33
Local clock offset: -1.59 ms
Remote clock offset: -0.878 ms

# Below is generated by plot.py at 2018-10-02 18:24:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 11.715 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 59.71 Mbit/s
95th percentile per-packet one-way delay: 9.777 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 12.076 ms
Loss rate: 2.23%
-- Flow 3:
Average throughput: 32.45 Mbit/s
95th percentile per-packet one-way delay: 8.781 ms
Loss rate: 0.11%
```

Run 2: Report of Indigo — Data Link

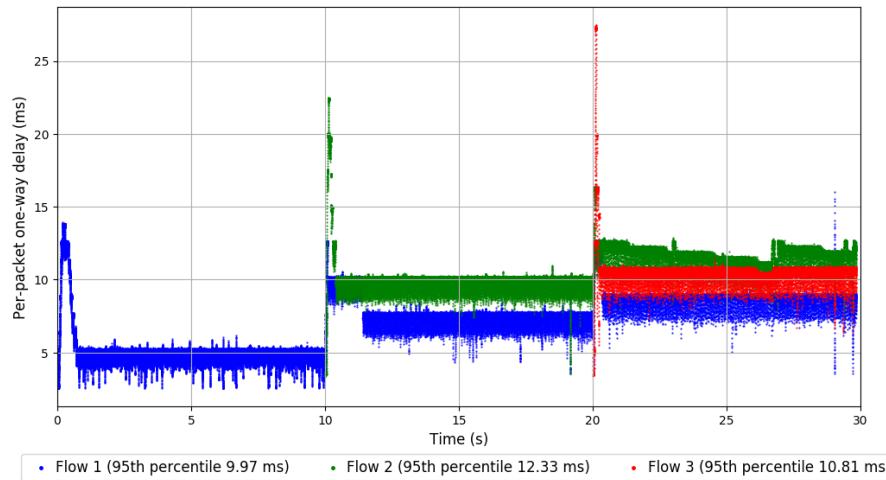
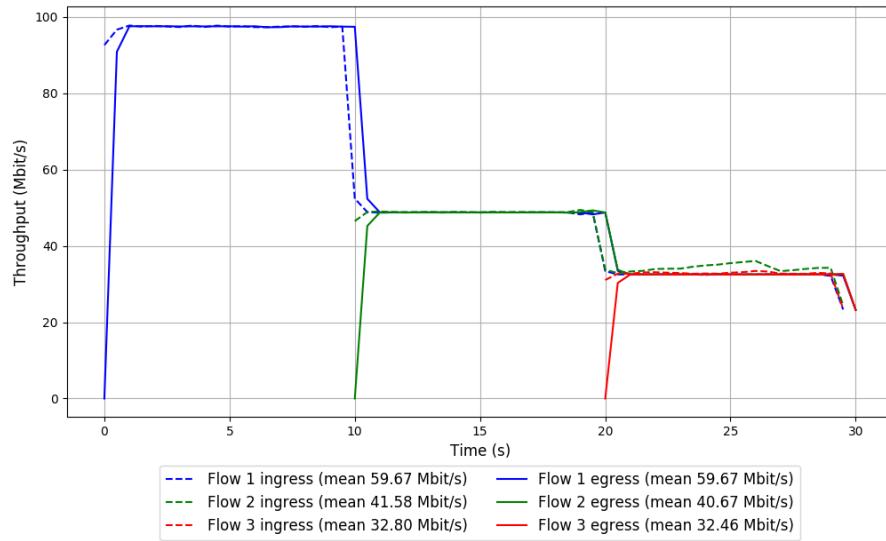


Run 3: Statistics of Indigo

```
Start at: 2018-10-02 17:30:52
End at: 2018-10-02 17:31:22
Local clock offset: -6.133 ms
Remote clock offset: -0.955 ms

# Below is generated by plot.py at 2018-10-02 18:24:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 11.981 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 59.67 Mbit/s
95th percentile per-packet one-way delay: 9.967 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 12.329 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 10.812 ms
Loss rate: 1.22%
```

Run 3: Report of Indigo — Data Link

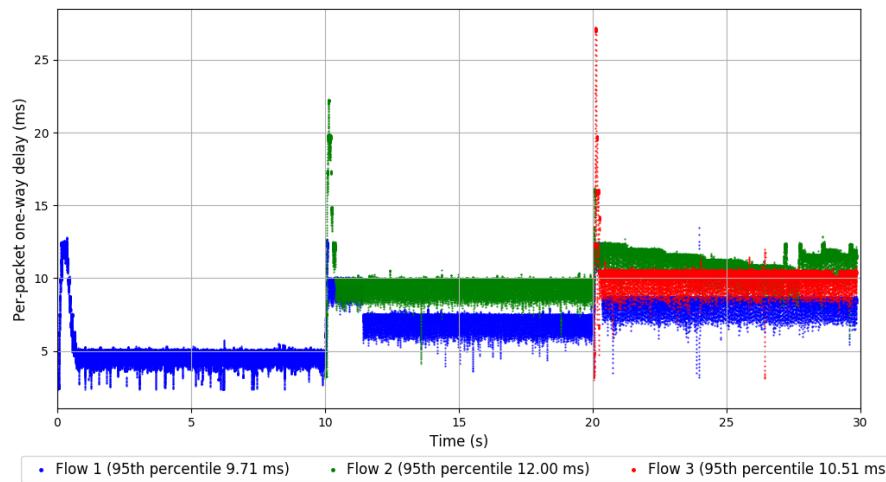
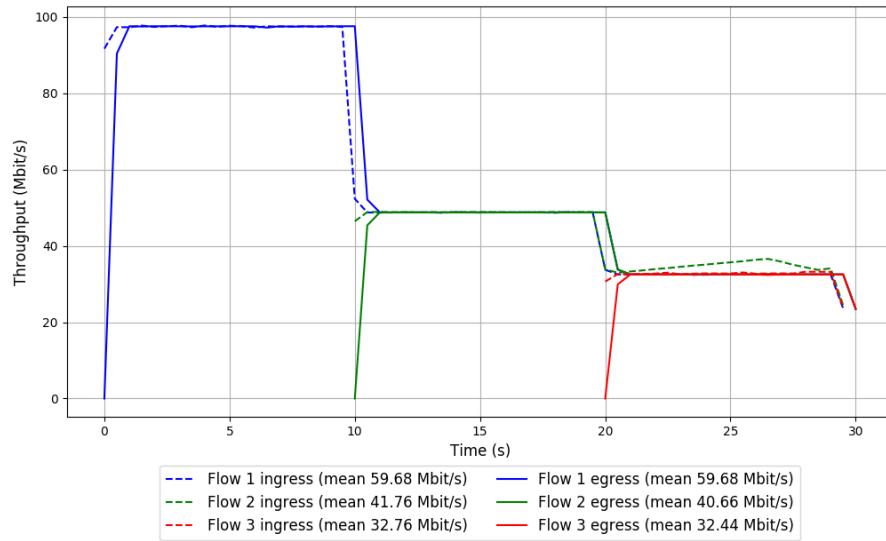


Run 4: Statistics of Indigo

```
Start at: 2018-10-02 17:51:42
End at: 2018-10-02 17:52:12
Local clock offset: -5.005 ms
Remote clock offset: -0.887 ms

# Below is generated by plot.py at 2018-10-02 18:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 11.524 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 59.68 Mbit/s
95th percentile per-packet one-way delay: 9.709 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 11.999 ms
Loss rate: 2.64%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 10.514 ms
Loss rate: 1.05%
```

Run 4: Report of Indigo — Data Link

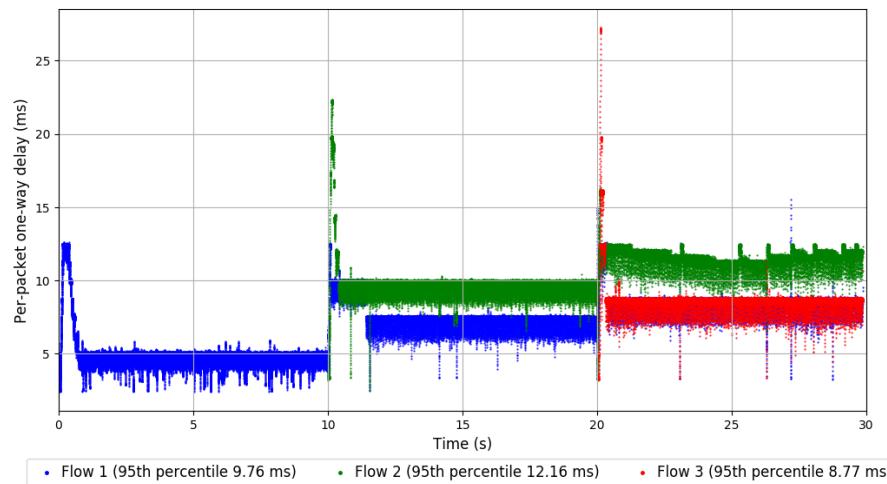
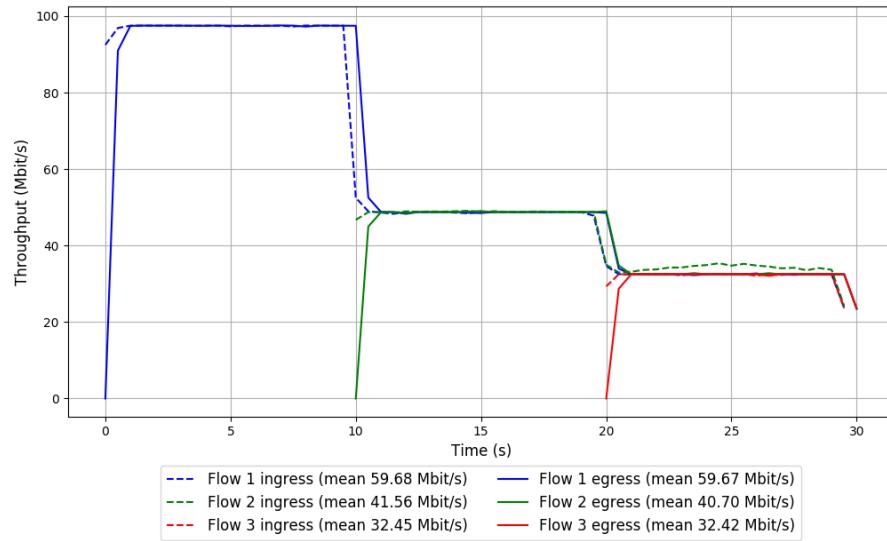


Run 5: Statistics of Indigo

```
Start at: 2018-10-02 18:12:31
End at: 2018-10-02 18:13:01
Local clock offset: -2.618 ms
Remote clock offset: -0.74 ms

# Below is generated by plot.py at 2018-10-02 18:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 11.696 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 59.67 Mbit/s
95th percentile per-packet one-way delay: 9.760 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.70 Mbit/s
95th percentile per-packet one-way delay: 12.158 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 8.766 ms
Loss rate: 0.11%
```

Run 5: Report of Indigo — Data Link

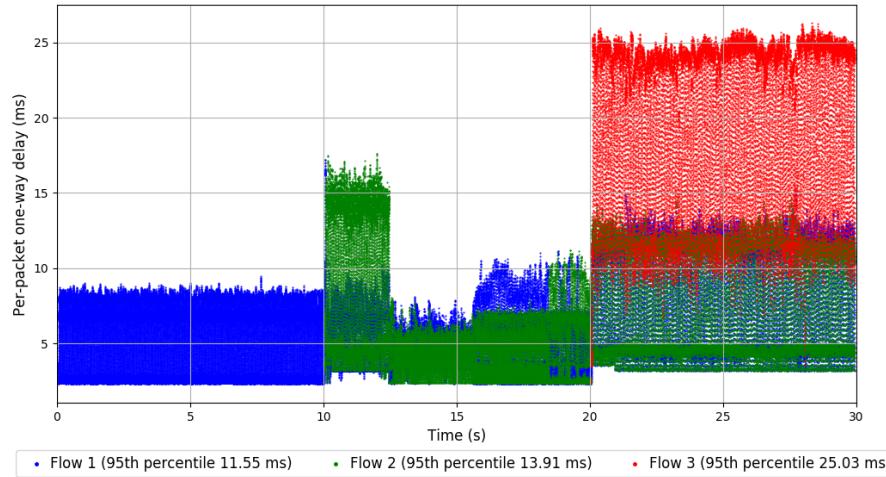
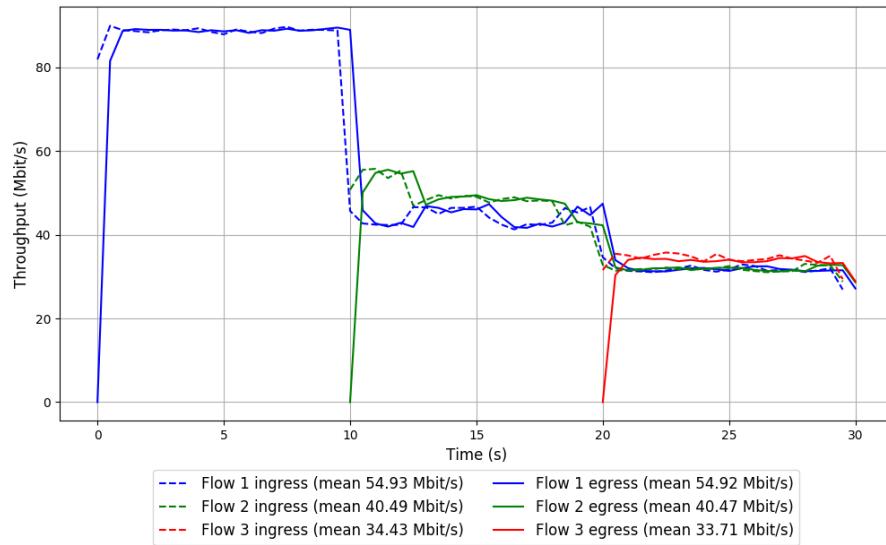


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-02 16:48:04
End at: 2018-10-02 16:48:34
Local clock offset: -2.399 ms
Remote clock offset: -0.996 ms

# Below is generated by plot.py at 2018-10-02 18:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.02 Mbit/s
95th percentile per-packet one-way delay: 22.608 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 54.92 Mbit/s
95th percentile per-packet one-way delay: 11.548 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 13.908 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 25.030 ms
Loss rate: 2.07%
```

Run 1: Report of Indigo-96d2da3 — Data Link

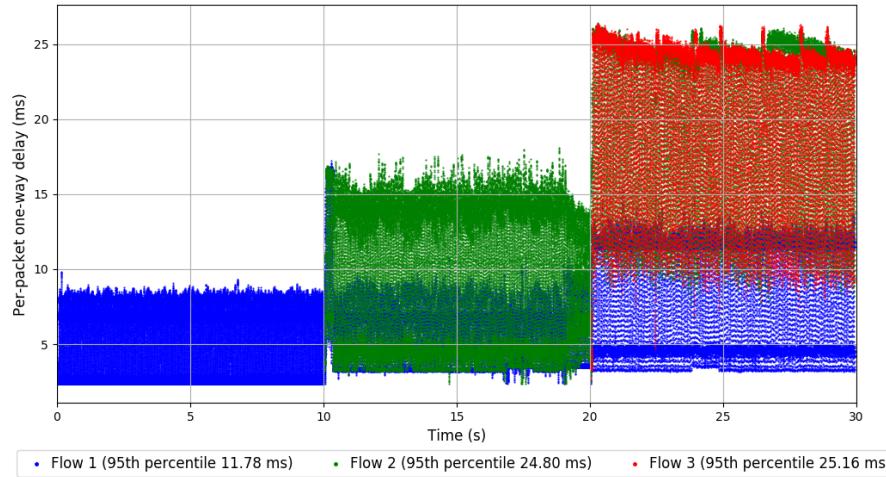
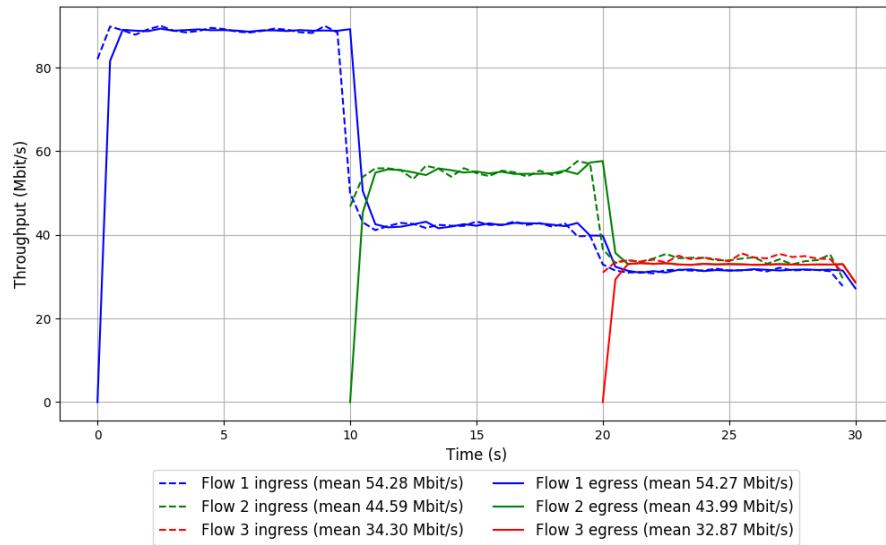


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 17:08:53
End at: 2018-10-02 17:09:23
Local clock offset: -1.64 ms
Remote clock offset: -0.842 ms

# Below is generated by plot.py at 2018-10-02 18:24:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.44 Mbit/s
95th percentile per-packet one-way delay: 24.341 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 54.27 Mbit/s
95th percentile per-packet one-way delay: 11.777 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 43.99 Mbit/s
95th percentile per-packet one-way delay: 24.798 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 32.87 Mbit/s
95th percentile per-packet one-way delay: 25.160 ms
Loss rate: 4.21%
```

Run 2: Report of Indigo-96d2da3 — Data Link

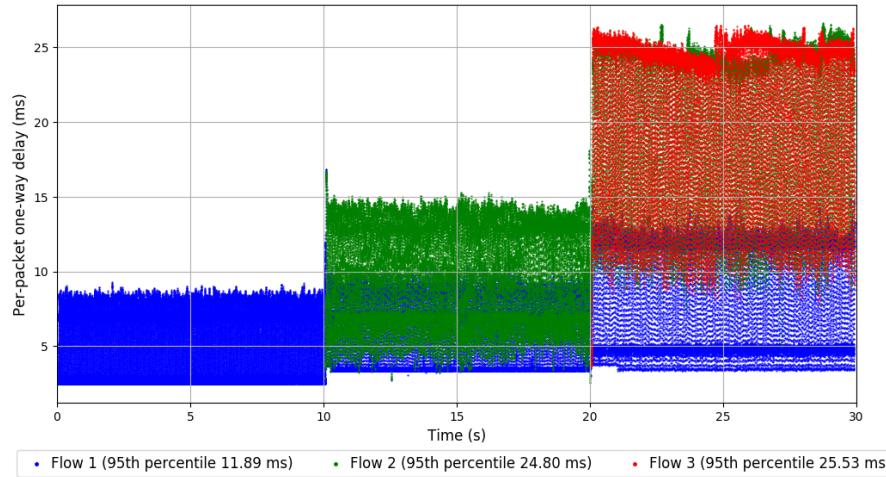
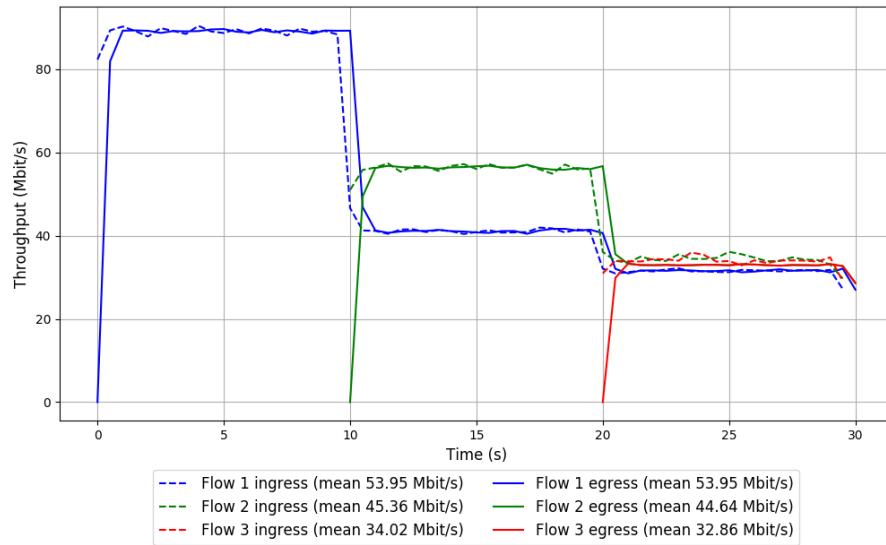


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 17:29:43
End at: 2018-10-02 17:30:13
Local clock offset: -5.91 ms
Remote clock offset: -0.826 ms

# Below is generated by plot.py at 2018-10-02 18:25:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.53 Mbit/s
95th percentile per-packet one-way delay: 24.608 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 53.95 Mbit/s
95th percentile per-packet one-way delay: 11.893 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.64 Mbit/s
95th percentile per-packet one-way delay: 24.804 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 32.86 Mbit/s
95th percentile per-packet one-way delay: 25.531 ms
Loss rate: 3.35%
```

Run 3: Report of Indigo-96d2da3 — Data Link

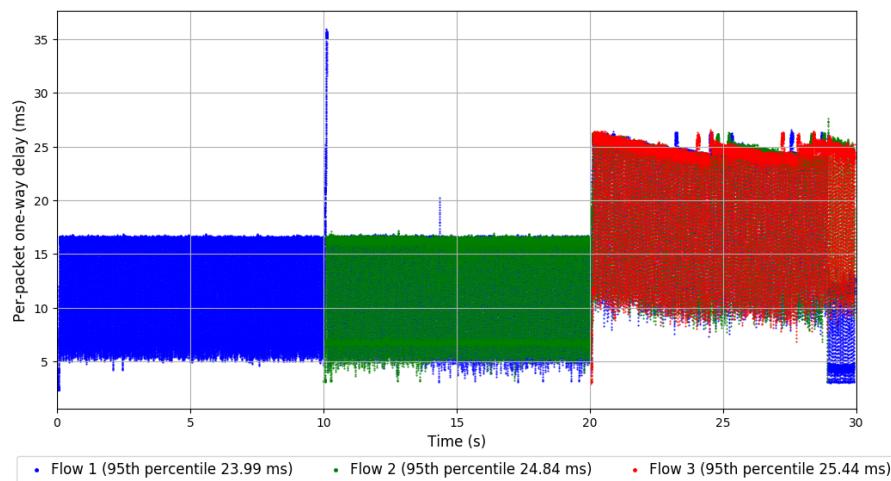
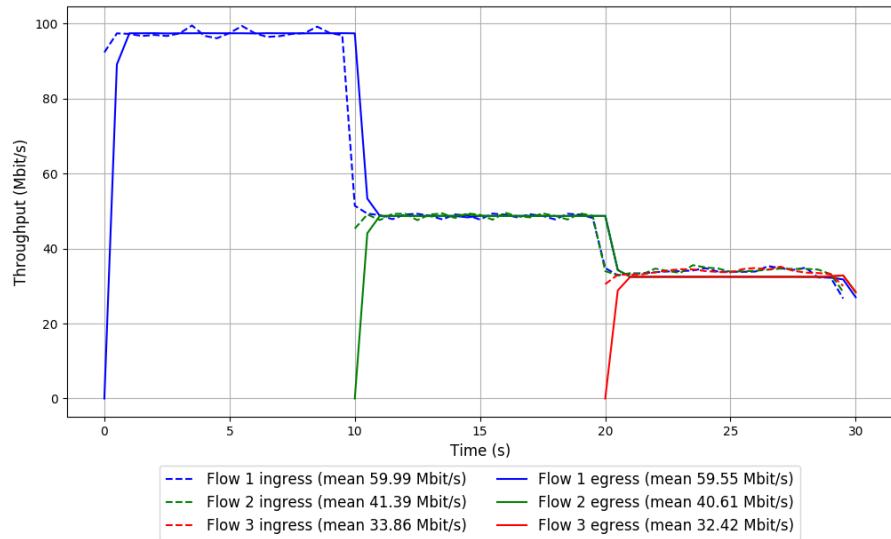


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 17:50:32
End at: 2018-10-02 17:51:03
Local clock offset: -5.339 ms
Remote clock offset: -0.863 ms

# Below is generated by plot.py at 2018-10-02 18:25:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.31 Mbit/s
95th percentile per-packet one-way delay: 24.702 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 59.55 Mbit/s
95th percentile per-packet one-way delay: 23.986 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 24.843 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 25.437 ms
Loss rate: 4.31%
```

Run 4: Report of Indigo-96d2da3 — Data Link

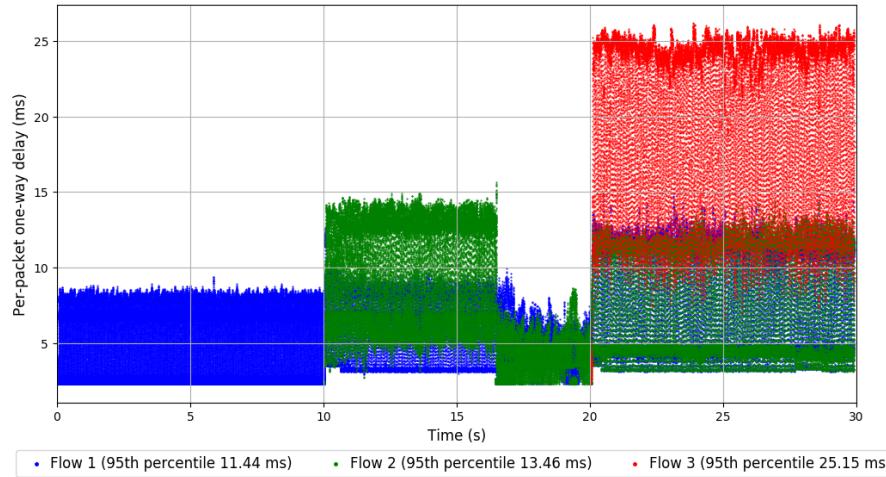
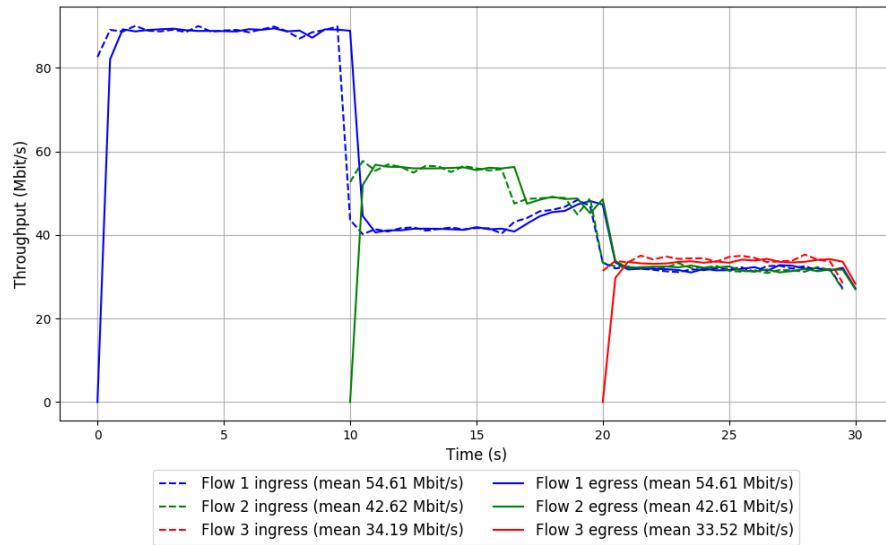


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 18:11:22
End at: 2018-10-02 18:11:52
Local clock offset: -2.681 ms
Remote clock offset: -0.692 ms

# Below is generated by plot.py at 2018-10-02 18:25:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.05 Mbit/s
95th percentile per-packet one-way delay: 22.836 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 54.61 Mbit/s
95th percentile per-packet one-way delay: 11.439 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 13.457 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 33.52 Mbit/s
95th percentile per-packet one-way delay: 25.148 ms
Loss rate: 1.90%
```

Run 5: Report of Indigo-96d2da3 — Data Link

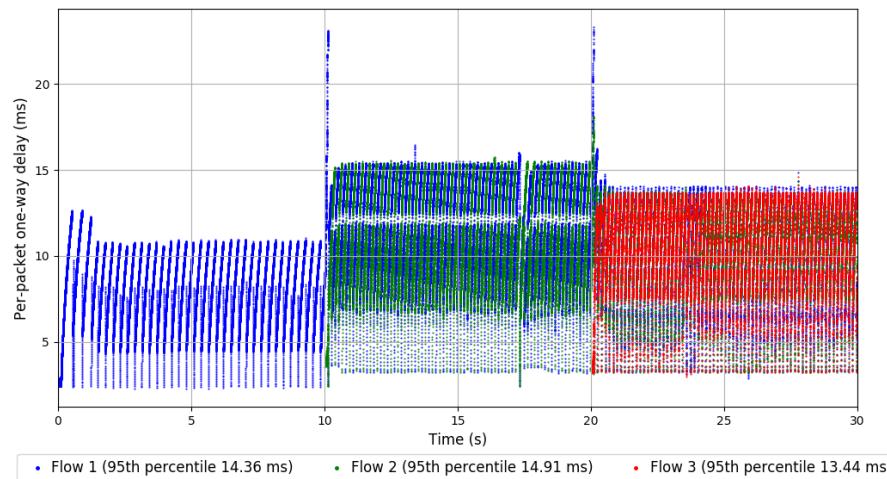
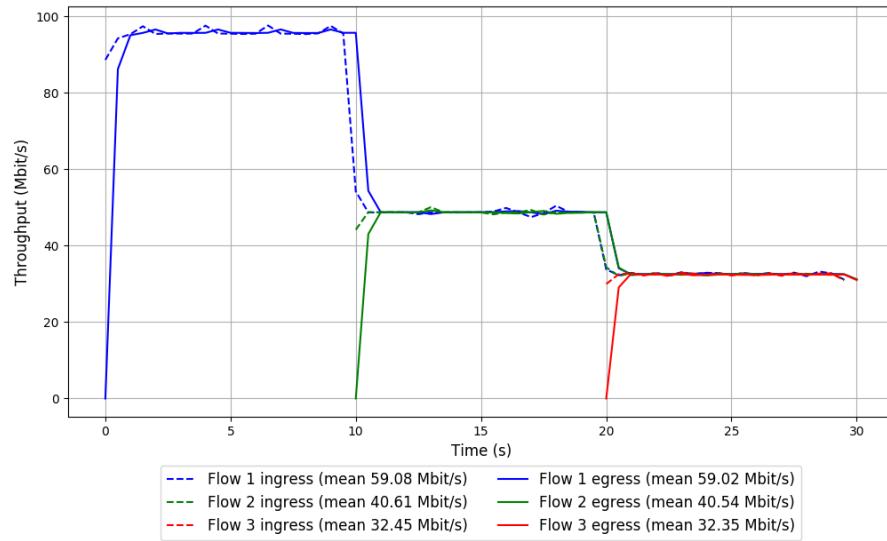


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 16:41:09
End at: 2018-10-02 16:41:39
Local clock offset: -2.674 ms
Remote clock offset: -1.0 ms

# Below is generated by plot.py at 2018-10-02 18:25:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 14.579 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 59.02 Mbit/s
95th percentile per-packet one-way delay: 14.360 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.54 Mbit/s
95th percentile per-packet one-way delay: 14.913 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 13.438 ms
Loss rate: 0.36%
```

Run 1: Report of LEDBAT — Data Link

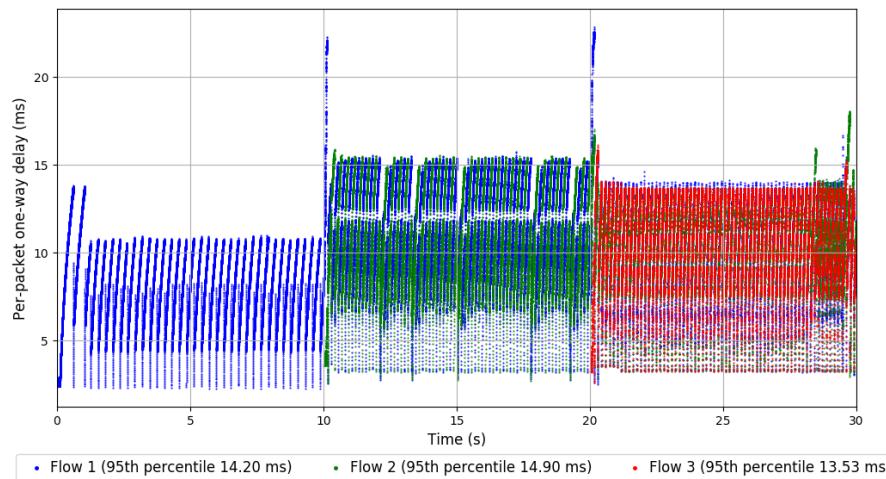
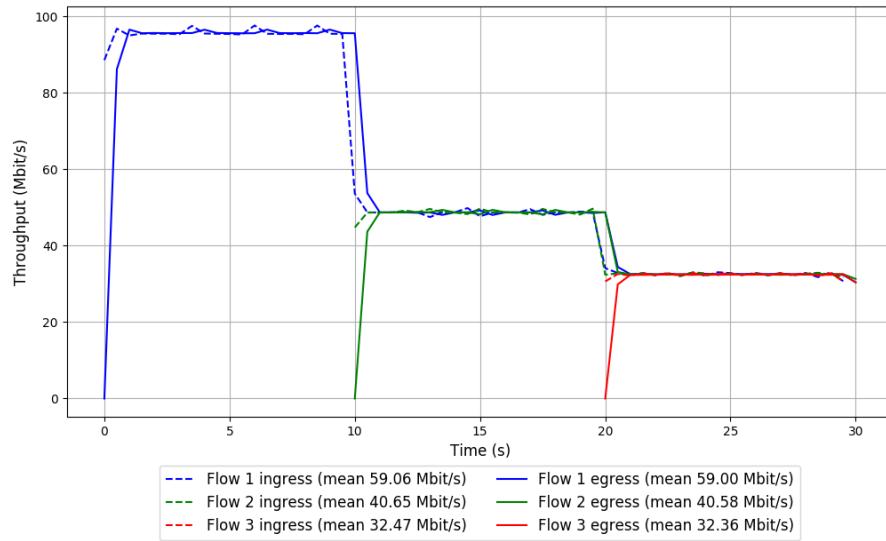


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-02 17:02:00
End at: 2018-10-02 17:02:30
Local clock offset: -1.908 ms
Remote clock offset: -0.922 ms

# Below is generated by plot.py at 2018-10-02 18:25:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 14.482 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 14.195 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 14.901 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 32.36 Mbit/s
95th percentile per-packet one-way delay: 13.526 ms
Loss rate: 0.38%
```

Run 2: Report of LEDBAT — Data Link

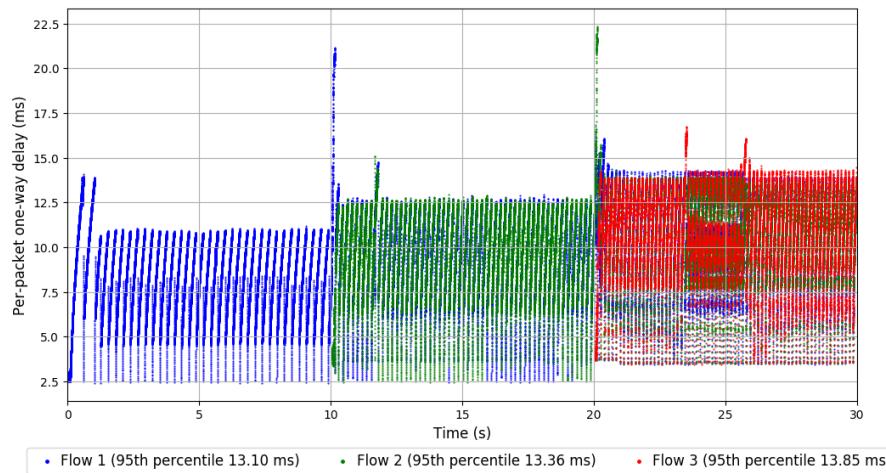
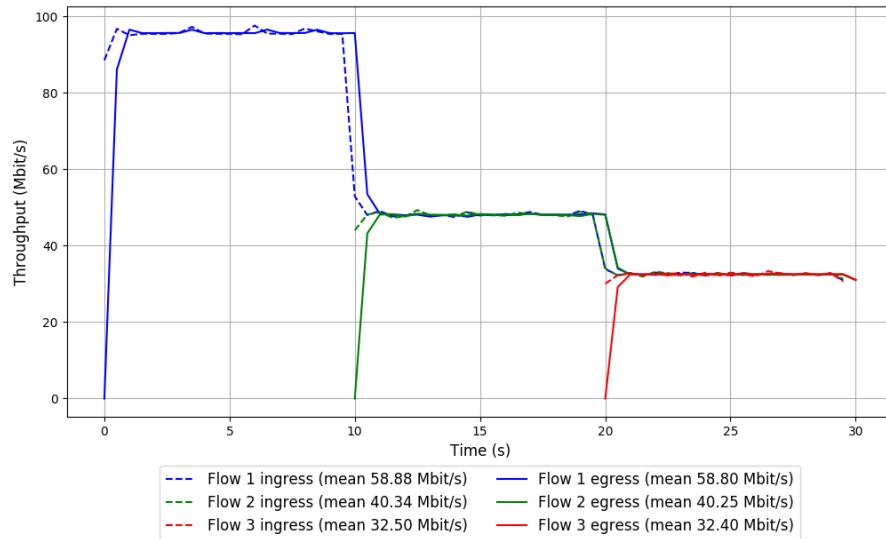


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-02 17:22:49
End at: 2018-10-02 17:23:19
Local clock offset: -4.473 ms
Remote clock offset: -0.792 ms

# Below is generated by plot.py at 2018-10-02 18:25:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 13.407 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 58.80 Mbit/s
95th percentile per-packet one-way delay: 13.099 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.25 Mbit/s
95th percentile per-packet one-way delay: 13.364 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 32.40 Mbit/s
95th percentile per-packet one-way delay: 13.854 ms
Loss rate: 0.29%
```

Run 3: Report of LEDBAT — Data Link

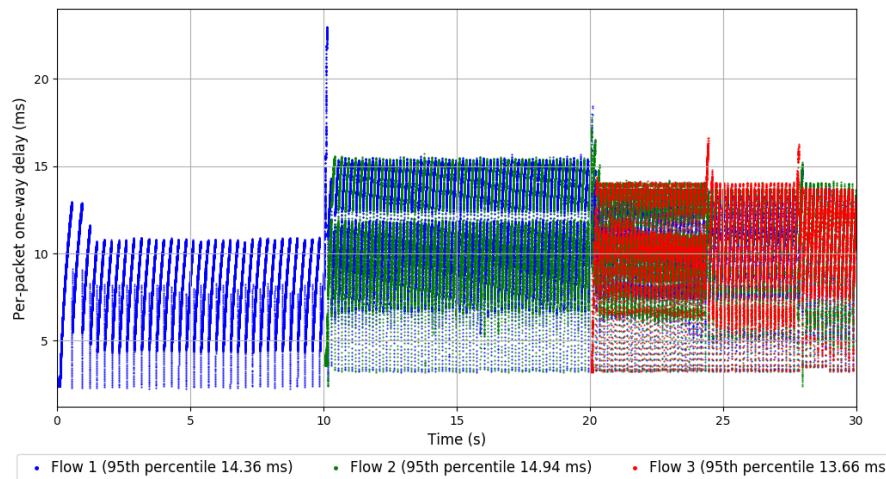
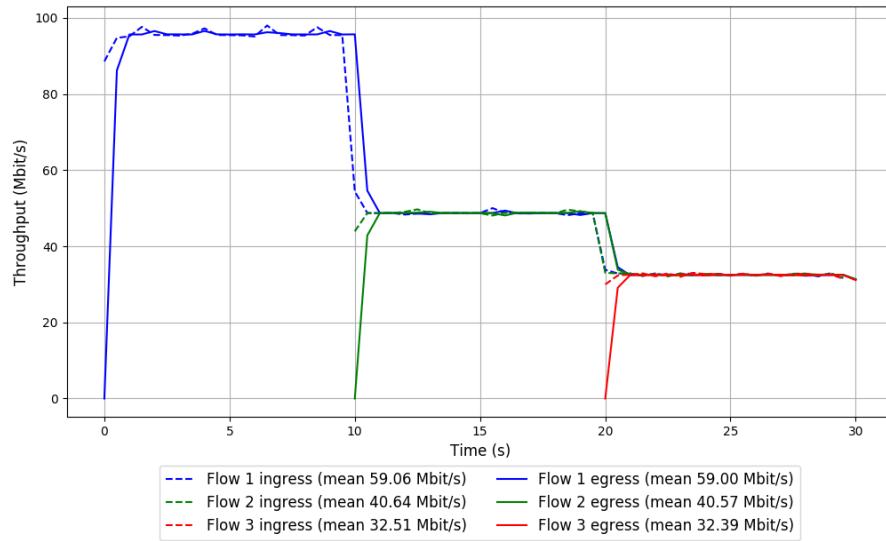


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-02 17:43:39
End at: 2018-10-02 17:44:09
Local clock offset: -7.182 ms
Remote clock offset: -0.805 ms

# Below is generated by plot.py at 2018-10-02 18:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 14.618 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 14.358 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 14.940 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 32.39 Mbit/s
95th percentile per-packet one-way delay: 13.665 ms
Loss rate: 0.39%
```

Run 4: Report of LEDBAT — Data Link

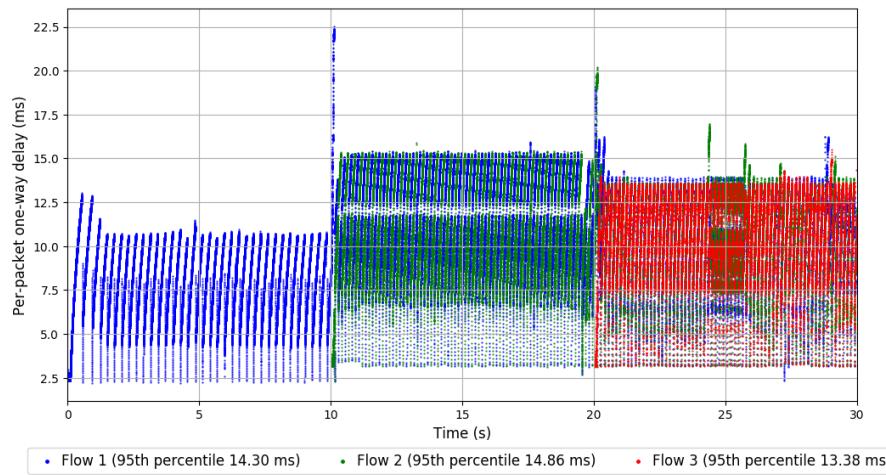
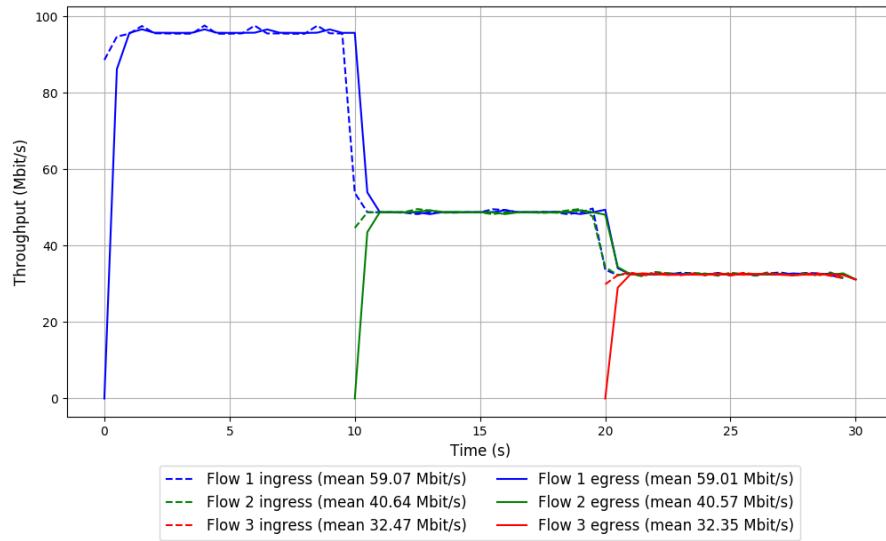


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-02 18:04:28
End at: 2018-10-02 18:04:58
Local clock offset: -3.134 ms
Remote clock offset: -0.728 ms

# Below is generated by plot.py at 2018-10-02 18:25:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 14.527 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.01 Mbit/s
95th percentile per-packet one-way delay: 14.300 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 14.857 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 13.377 ms
Loss rate: 0.39%
```

Run 5: Report of LEDBAT — Data Link

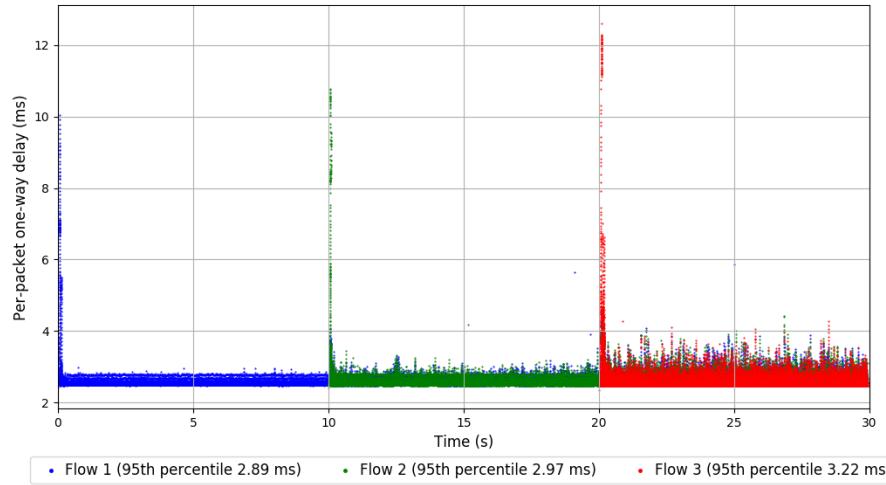
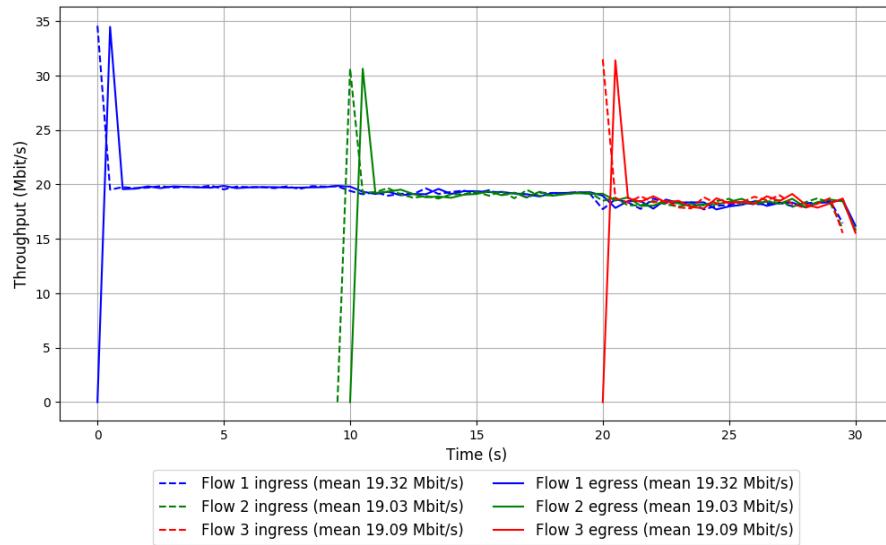


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-02 16:45:49
End at: 2018-10-02 16:46:19
Local clock offset: -2.384 ms
Remote clock offset: -1.075 ms

# Below is generated by plot.py at 2018-10-02 18:25:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.32 Mbit/s
95th percentile per-packet one-way delay: 2.973 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.32 Mbit/s
95th percentile per-packet one-way delay: 2.886 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 19.03 Mbit/s
95th percentile per-packet one-way delay: 2.974 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 3.221 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo-Muses — Data Link

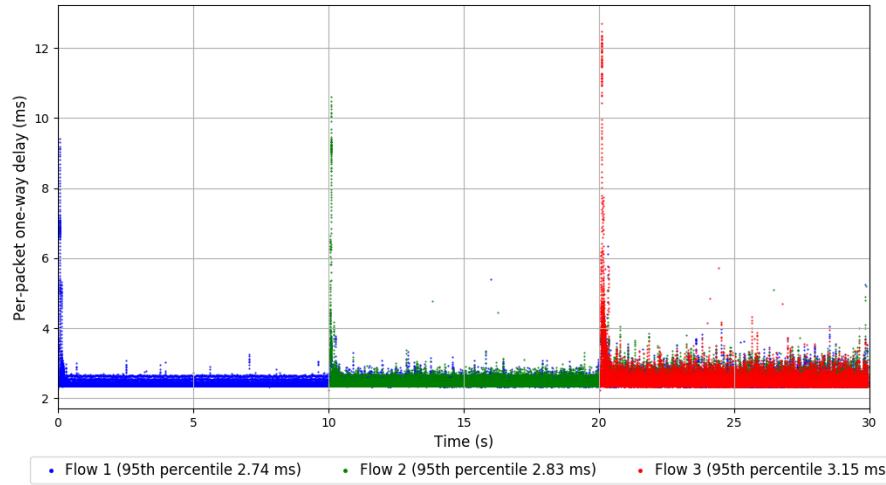
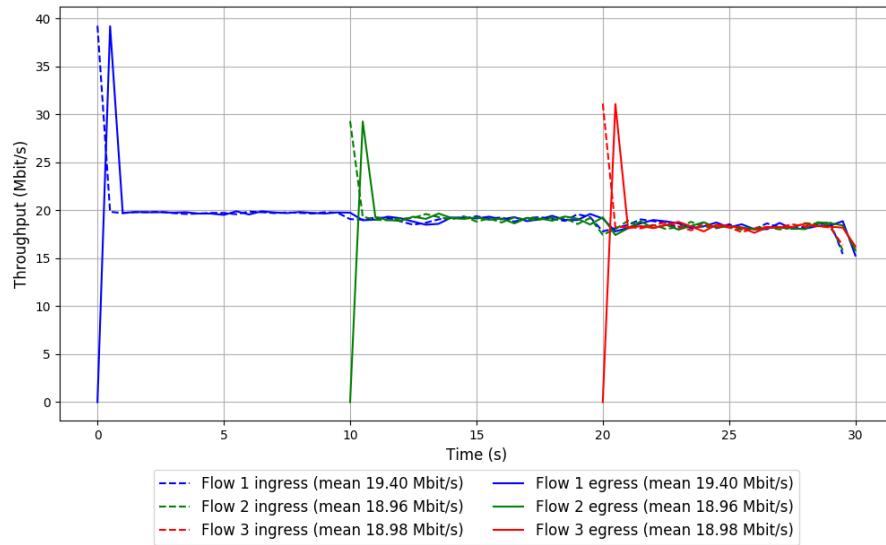


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-02 17:06:39
End at: 2018-10-02 17:07:09
Local clock offset: -1.715 ms
Remote clock offset: -0.832 ms

# Below is generated by plot.py at 2018-10-02 18:25:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.30 Mbit/s
95th percentile per-packet one-way delay: 2.838 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.40 Mbit/s
95th percentile per-packet one-way delay: 2.741 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 18.96 Mbit/s
95th percentile per-packet one-way delay: 2.833 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 18.98 Mbit/s
95th percentile per-packet one-way delay: 3.146 ms
Loss rate: 0.06%
```

Run 2: Report of Indigo-Muses — Data Link

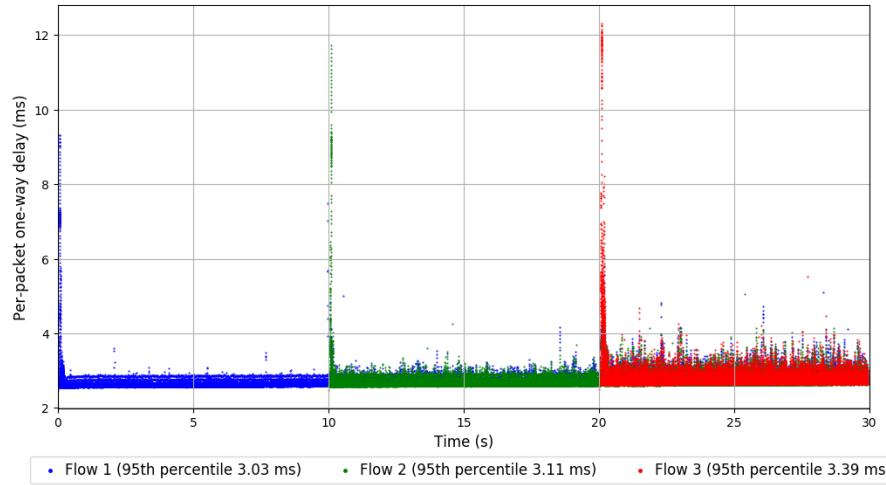
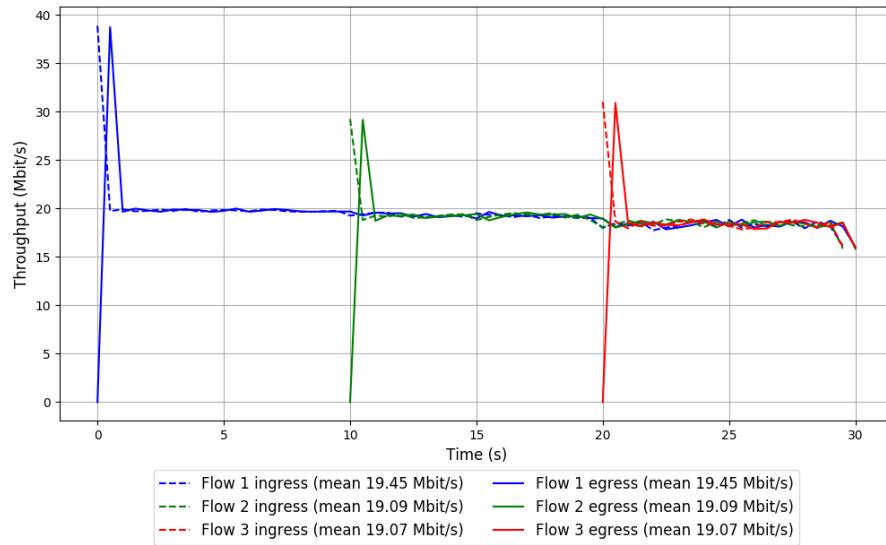


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-02 17:27:28
End at: 2018-10-02 17:27:58
Local clock offset: -5.544 ms
Remote clock offset: -0.889 ms

# Below is generated by plot.py at 2018-10-02 18:25:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.47 Mbit/s
95th percentile per-packet one-way delay: 3.119 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 3.027 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 3.106 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 19.07 Mbit/s
95th percentile per-packet one-way delay: 3.394 ms
Loss rate: 0.06%
```

Run 3: Report of Indigo-Muses — Data Link

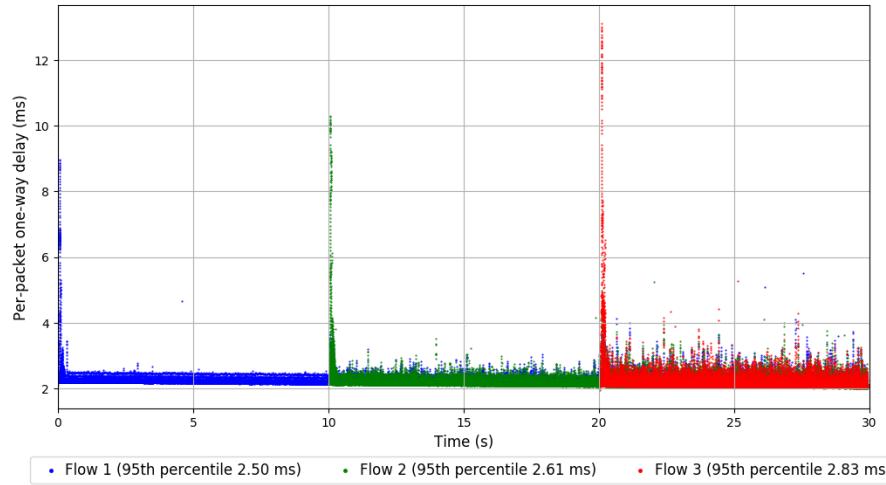
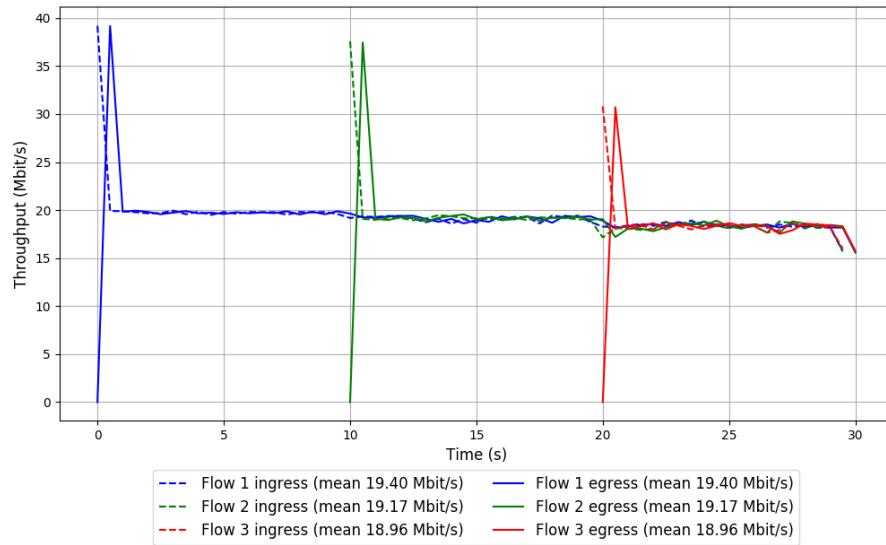


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-02 17:48:18
End at: 2018-10-02 17:48:48
Local clock offset: -6.131 ms
Remote clock offset: -0.777 ms

# Below is generated by plot.py at 2018-10-02 18:26:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.44 Mbit/s
95th percentile per-packet one-way delay: 2.587 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 19.40 Mbit/s
95th percentile per-packet one-way delay: 2.497 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 19.17 Mbit/s
95th percentile per-packet one-way delay: 2.608 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 18.96 Mbit/s
95th percentile per-packet one-way delay: 2.832 ms
Loss rate: 0.06%
```

Run 4: Report of Indigo-Muses — Data Link

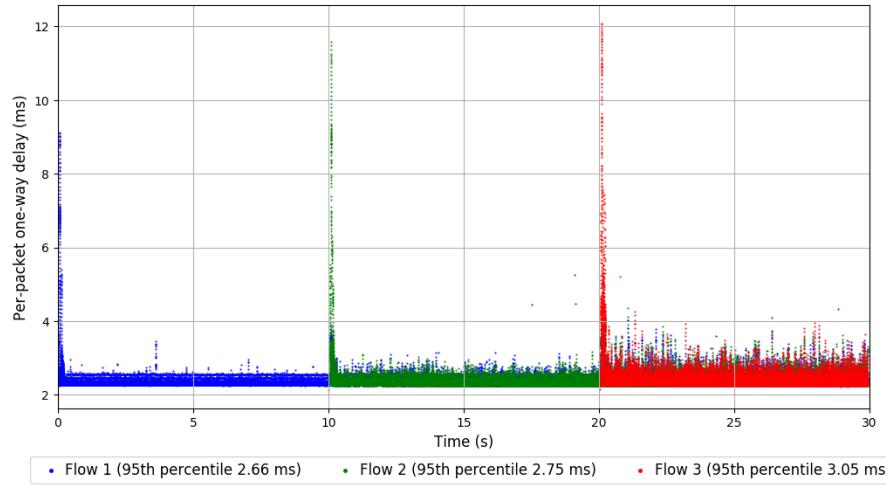
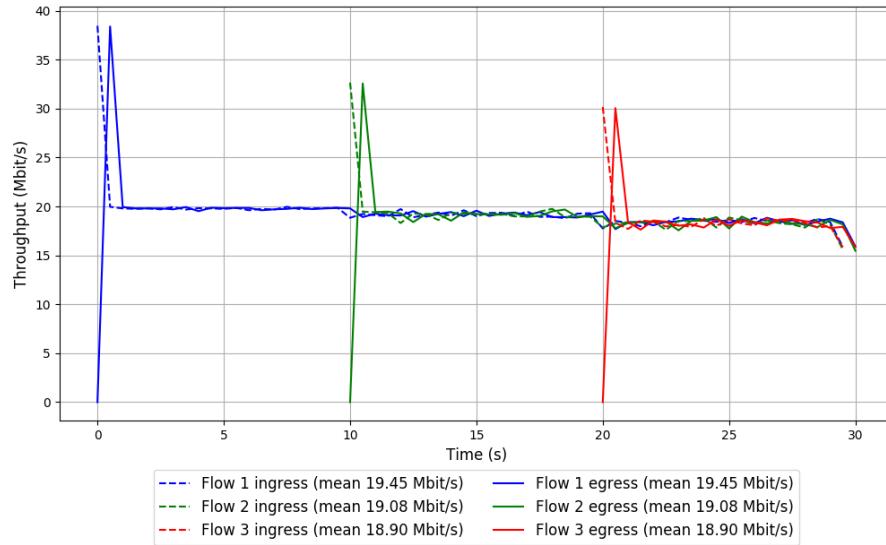


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-02 18:09:07
End at: 2018-10-02 18:09:37
Local clock offset: -2.856 ms
Remote clock offset: -0.69 ms

# Below is generated by plot.py at 2018-10-02 18:26:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 2.755 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 2.662 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.08 Mbit/s
95th percentile per-packet one-way delay: 2.755 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 3.049 ms
Loss rate: 0.04%
```

Run 5: Report of Indigo-Muses — Data Link

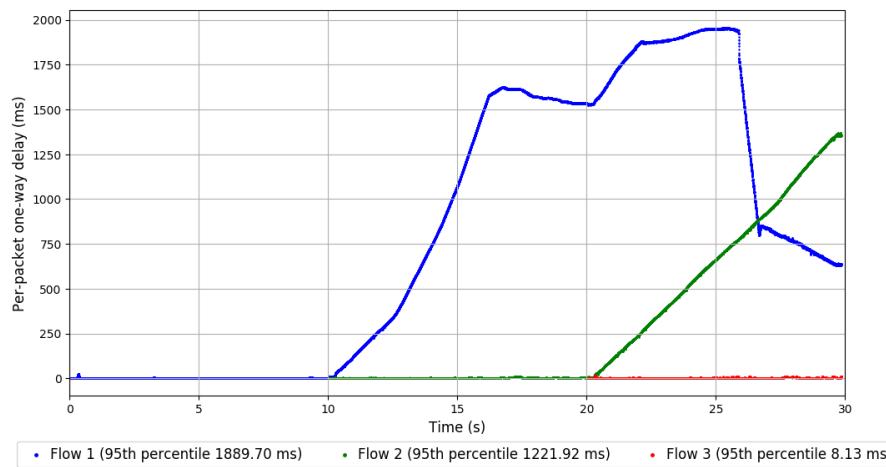
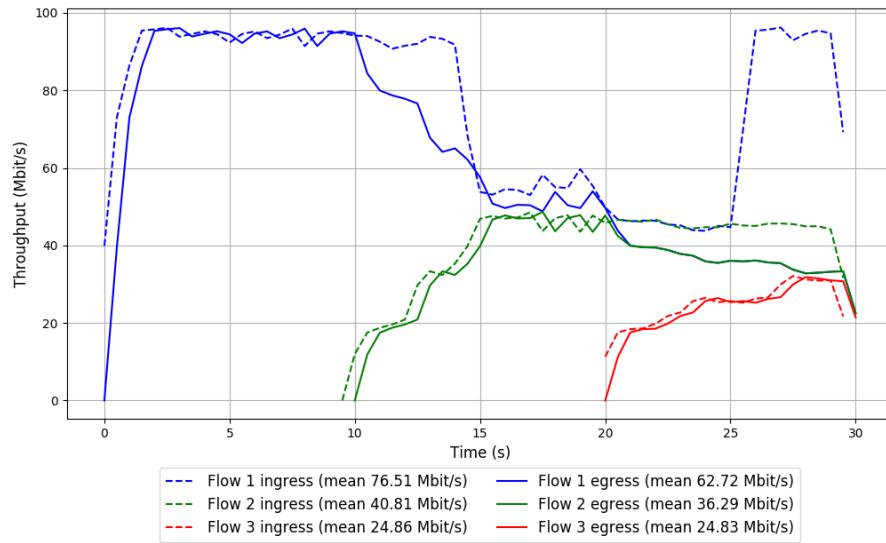


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-02 16:50:23
End at: 2018-10-02 16:50:53
Local clock offset: -2.285 ms
Remote clock offset: -1.03 ms

# Below is generated by plot.py at 2018-10-02 18:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 1858.877 ms
Loss rate: 15.05%
-- Flow 1:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 1889.699 ms
Loss rate: 18.04%
-- Flow 2:
Average throughput: 36.29 Mbit/s
95th percentile per-packet one-way delay: 1221.921 ms
Loss rate: 11.08%
-- Flow 3:
Average throughput: 24.83 Mbit/s
95th percentile per-packet one-way delay: 8.134 ms
Loss rate: 0.14%
```

Run 1: Report of PCC-Allegro — Data Link

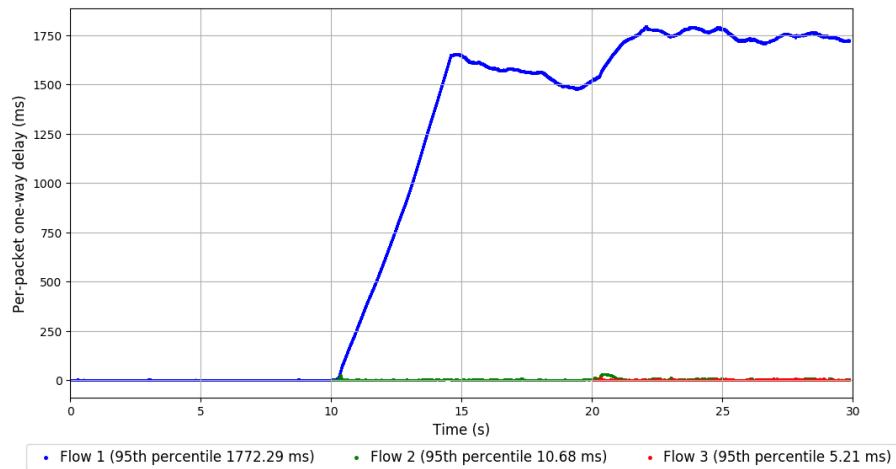
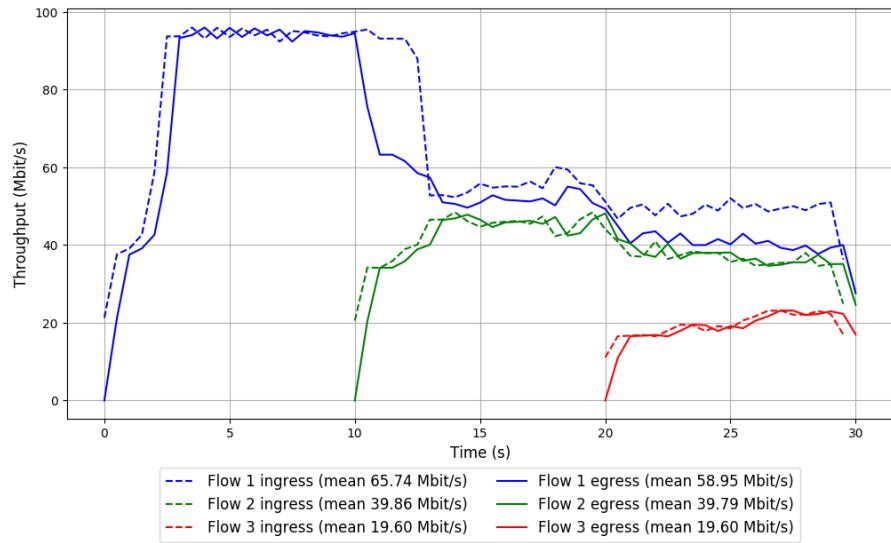


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-02 17:11:13
End at: 2018-10-02 17:11:43
Local clock offset: -1.563 ms
Remote clock offset: -0.828 ms

# Below is generated by plot.py at 2018-10-02 18:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 1757.572 ms
Loss rate: 6.94%
-- Flow 1:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 1772.288 ms
Loss rate: 10.32%
-- Flow 2:
Average throughput: 39.79 Mbit/s
95th percentile per-packet one-way delay: 10.682 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 19.60 Mbit/s
95th percentile per-packet one-way delay: 5.211 ms
Loss rate: 0.06%
```

Run 2: Report of PCC-Allegro — Data Link

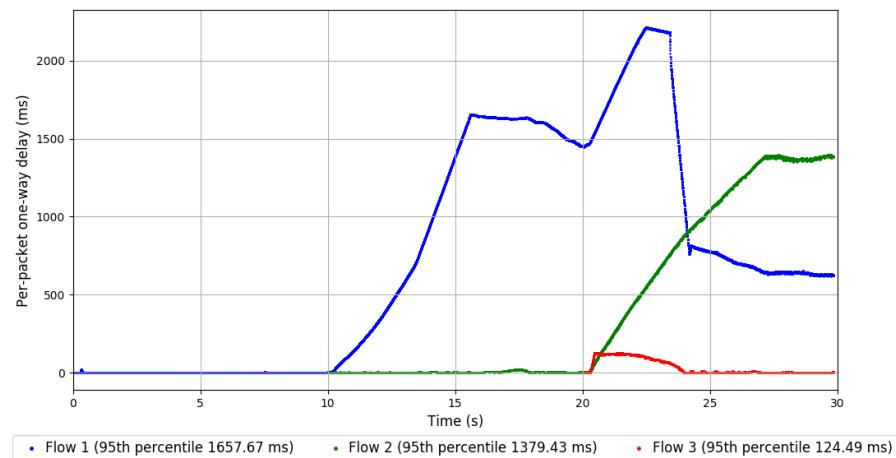
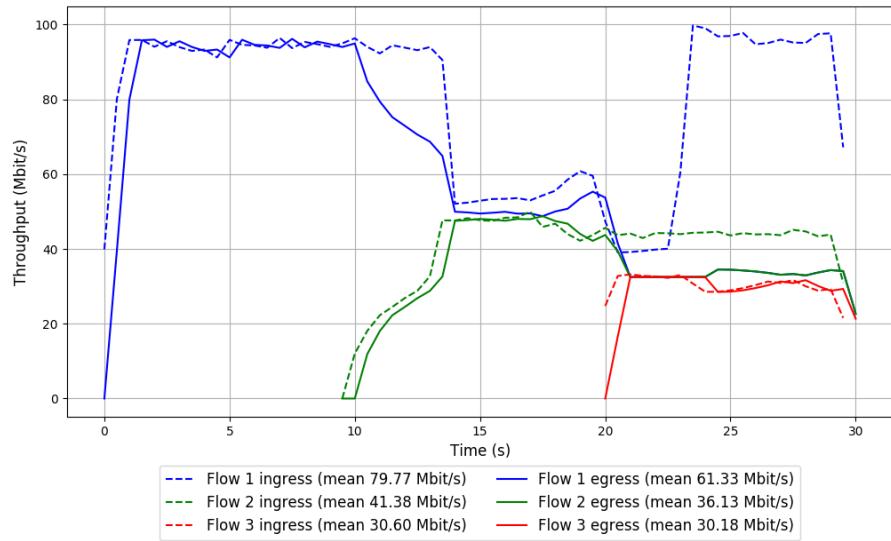


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-02 17:32:02
End at: 2018-10-02 17:32:32
Local clock offset: -6.238 ms
Remote clock offset: -0.793 ms

# Below is generated by plot.py at 2018-10-02 18:26:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 1636.043 ms
Loss rate: 18.83%
-- Flow 1:
Average throughput: 61.33 Mbit/s
95th percentile per-packet one-way delay: 1657.670 ms
Loss rate: 23.15%
-- Flow 2:
Average throughput: 36.13 Mbit/s
95th percentile per-packet one-way delay: 1379.435 ms
Loss rate: 12.68%
-- Flow 3:
Average throughput: 30.18 Mbit/s
95th percentile per-packet one-way delay: 124.486 ms
Loss rate: 1.41%
```

Run 3: Report of PCC-Allegro — Data Link

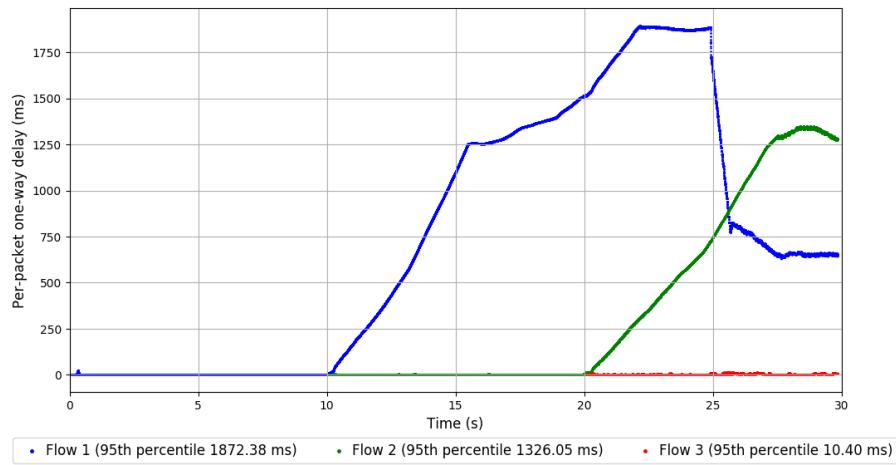
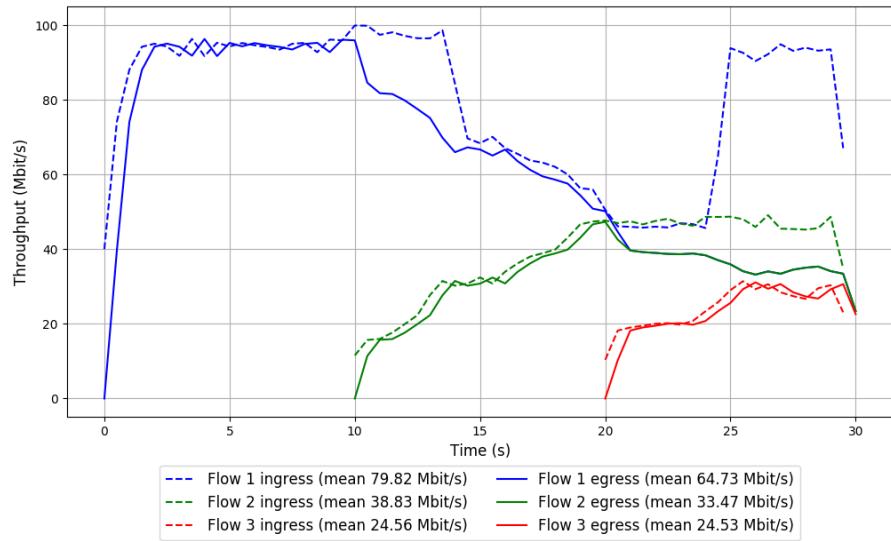


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-02 17:52:52
End at: 2018-10-02 17:53:22
Local clock offset: -4.725 ms
Remote clock offset: -0.767 ms

# Below is generated by plot.py at 2018-10-02 18:27:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 1719.432 ms
Loss rate: 16.42%
-- Flow 1:
Average throughput: 64.73 Mbit/s
95th percentile per-packet one-way delay: 1872.380 ms
Loss rate: 18.91%
-- Flow 2:
Average throughput: 33.47 Mbit/s
95th percentile per-packet one-way delay: 1326.050 ms
Loss rate: 13.85%
-- Flow 3:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 10.399 ms
Loss rate: 0.14%
```

Run 4: Report of PCC-Allegro — Data Link

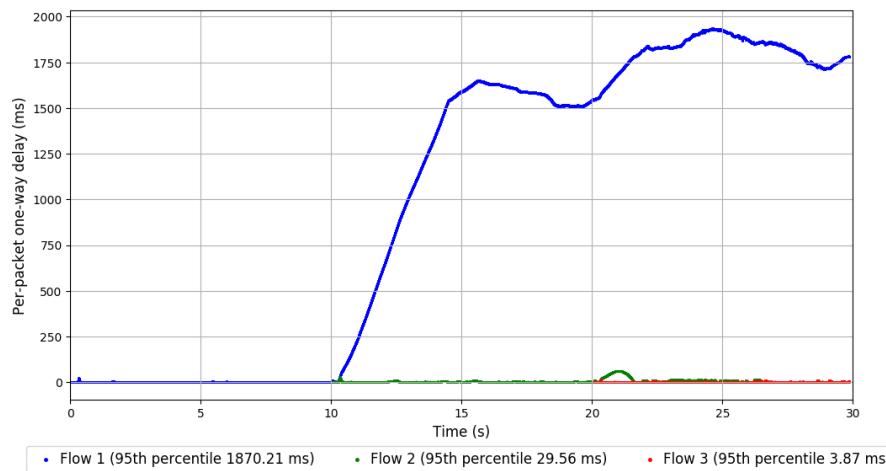
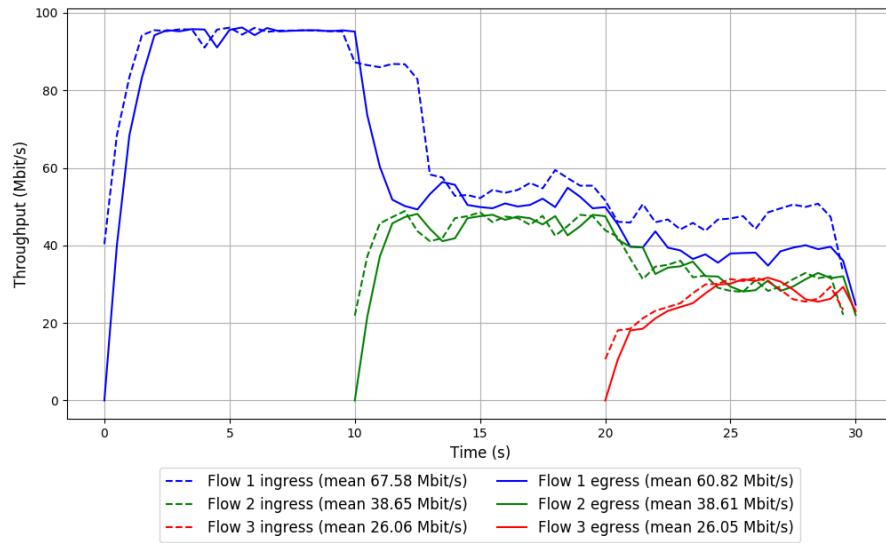


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-02 18:13:41
End at: 2018-10-02 18:14:11
Local clock offset: -2.565 ms
Remote clock offset: -0.7 ms

# Below is generated by plot.py at 2018-10-02 18:27:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 1843.761 ms
Loss rate: 6.68%
-- Flow 1:
Average throughput: 60.82 Mbit/s
95th percentile per-packet one-way delay: 1870.207 ms
Loss rate: 10.01%
-- Flow 2:
Average throughput: 38.61 Mbit/s
95th percentile per-packet one-way delay: 29.564 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 26.05 Mbit/s
95th percentile per-packet one-way delay: 3.869 ms
Loss rate: 0.10%
```

Run 5: Report of PCC-Allegro — Data Link

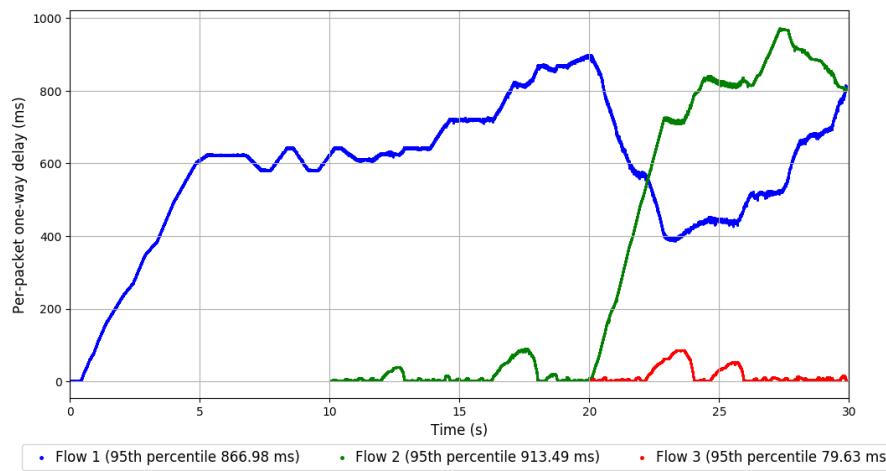
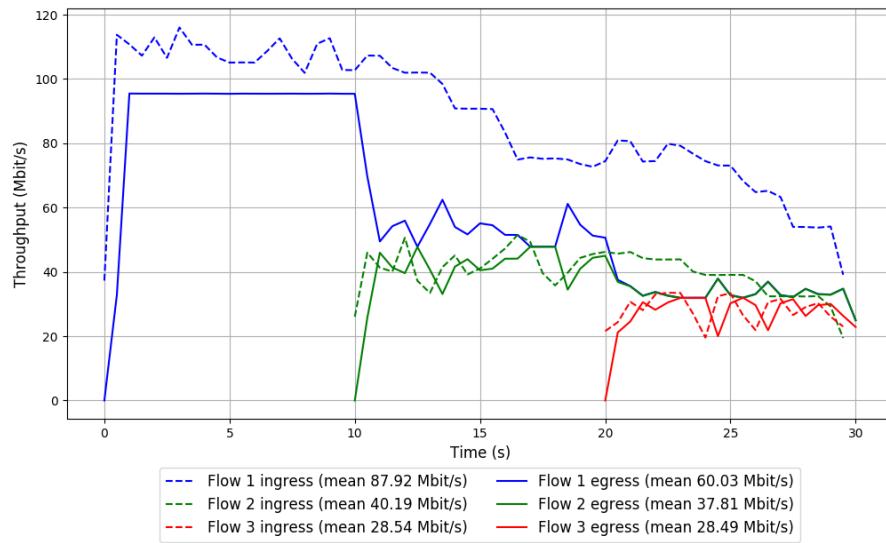


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-10-02 16:53:51
End at: 2018-10-02 16:54:21
Local clock offset: -2.166 ms
Remote clock offset: -0.983 ms

# Below is generated by plot.py at 2018-10-02 18:28:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.57 Mbit/s
95th percentile per-packet one-way delay: 870.018 ms
Loss rate: 23.80%
-- Flow 1:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 866.976 ms
Loss rate: 31.75%
-- Flow 2:
Average throughput: 37.81 Mbit/s
95th percentile per-packet one-way delay: 913.490 ms
Loss rate: 5.95%
-- Flow 3:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 79.631 ms
Loss rate: 0.25%
```

Run 1: Report of PCC-Expr — Data Link

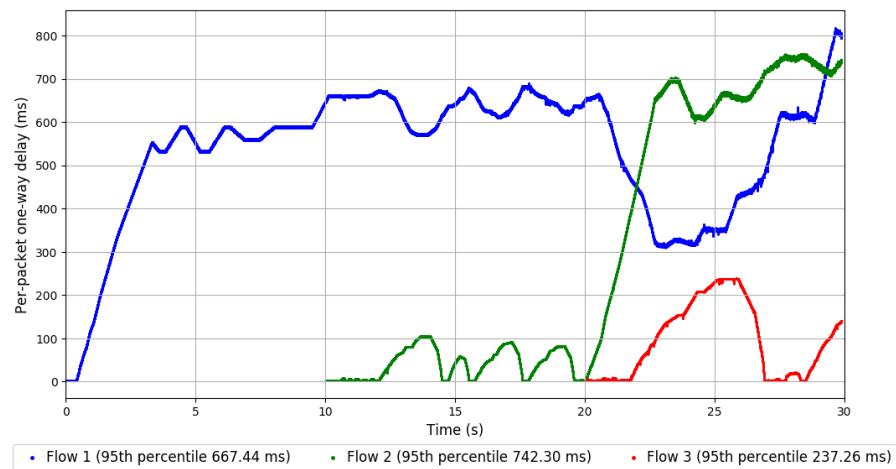
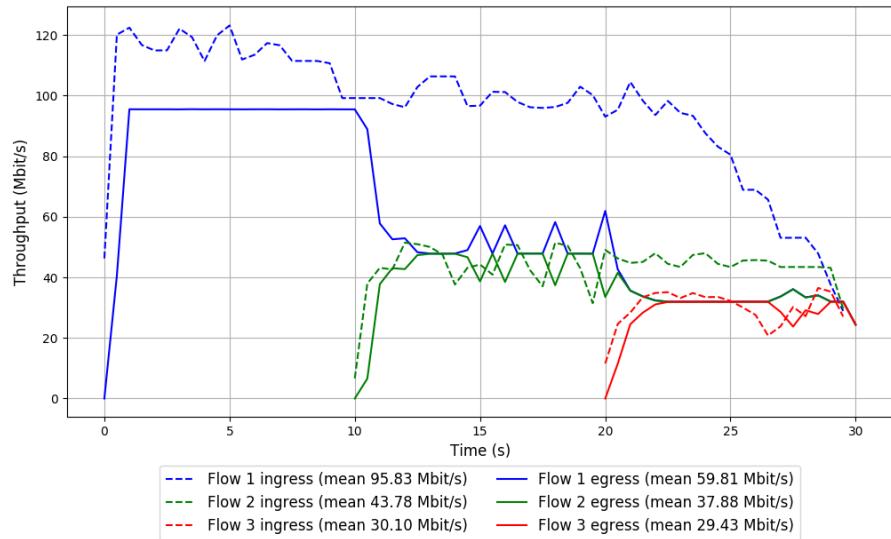


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-02 17:14:40
End at: 2018-10-02 17:15:10
Local clock offset: -1.426 ms
Remote clock offset: -0.927 ms

# Below is generated by plot.py at 2018-10-02 18:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.71 Mbit/s
95th percentile per-packet one-way delay: 683.126 ms
Loss rate: 29.79%
-- Flow 1:
Average throughput: 59.81 Mbit/s
95th percentile per-packet one-way delay: 667.438 ms
Loss rate: 37.59%
-- Flow 2:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 742.303 ms
Loss rate: 13.49%
-- Flow 3:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 237.259 ms
Loss rate: 2.28%
```

Run 2: Report of PCC-Expr — Data Link

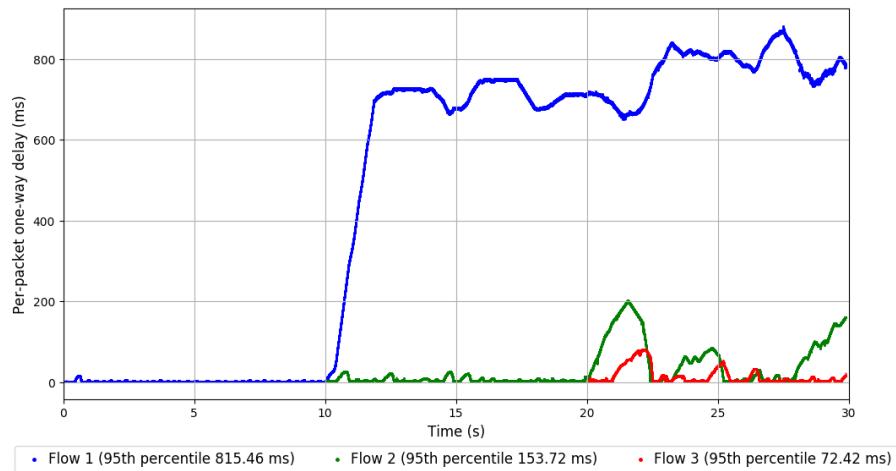
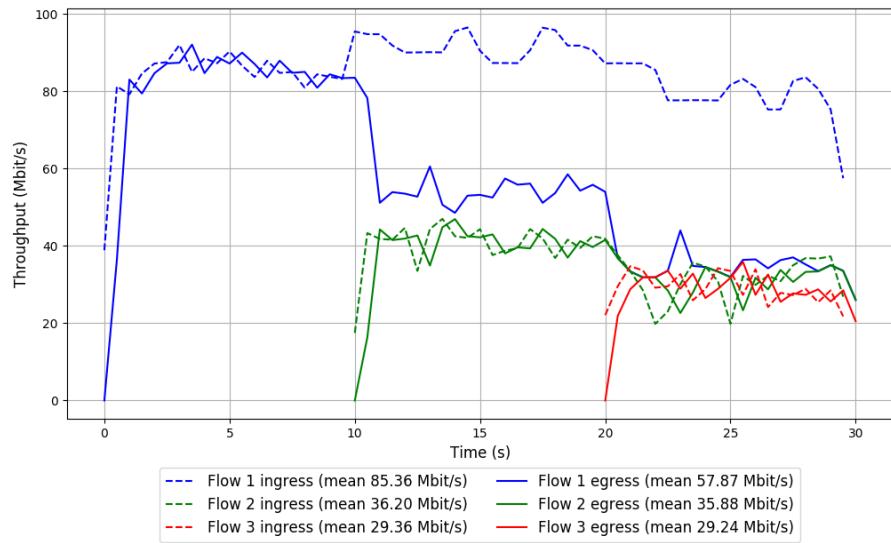


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-02 17:35:30
End at: 2018-10-02 17:36:00
Local clock offset: -6.621 ms
Remote clock offset: -0.856 ms

# Below is generated by plot.py at 2018-10-02 18:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.38 Mbit/s
95th percentile per-packet one-way delay: 799.239 ms
Loss rate: 23.30%
-- Flow 1:
Average throughput: 57.87 Mbit/s
95th percentile per-packet one-way delay: 815.456 ms
Loss rate: 32.22%
-- Flow 2:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 153.719 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 29.24 Mbit/s
95th percentile per-packet one-way delay: 72.419 ms
Loss rate: 0.44%
```

Run 3: Report of PCC-Expr — Data Link

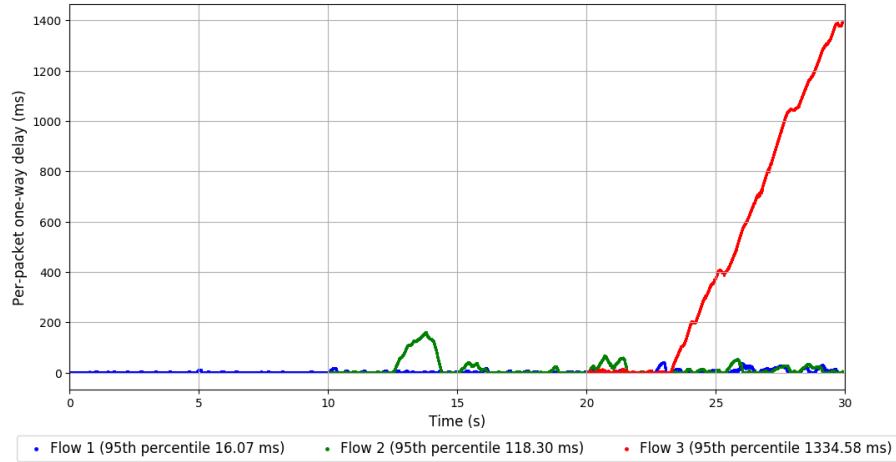
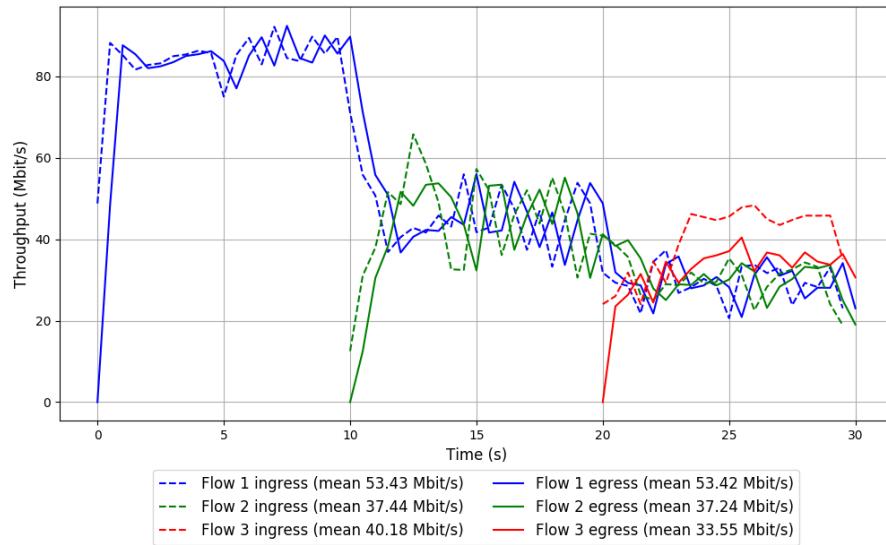


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-02 17:56:20
End at: 2018-10-02 17:56:50
Local clock offset: -4.058 ms
Remote clock offset: -0.774 ms

# Below is generated by plot.py at 2018-10-02 18:28:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.25 Mbit/s
95th percentile per-packet one-way delay: 581.123 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 53.42 Mbit/s
95th percentile per-packet one-way delay: 16.073 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 37.24 Mbit/s
95th percentile per-packet one-way delay: 118.304 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 33.55 Mbit/s
95th percentile per-packet one-way delay: 1334.580 ms
Loss rate: 16.54%
```

Run 4: Report of PCC-Expr — Data Link

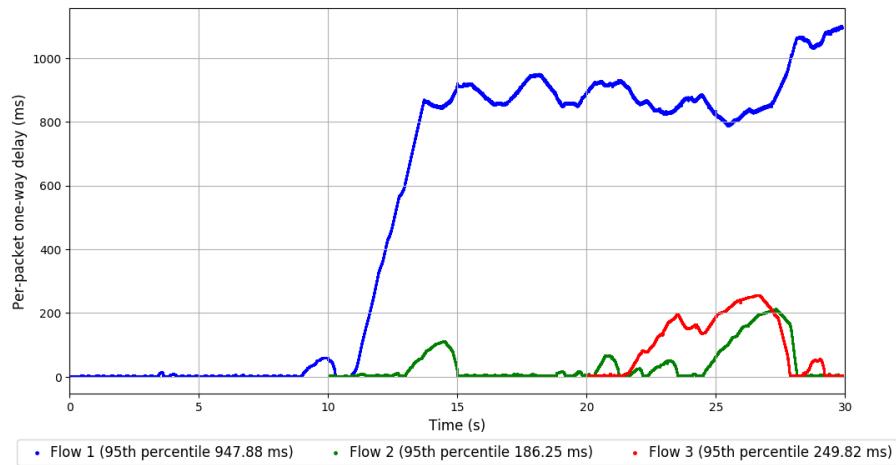
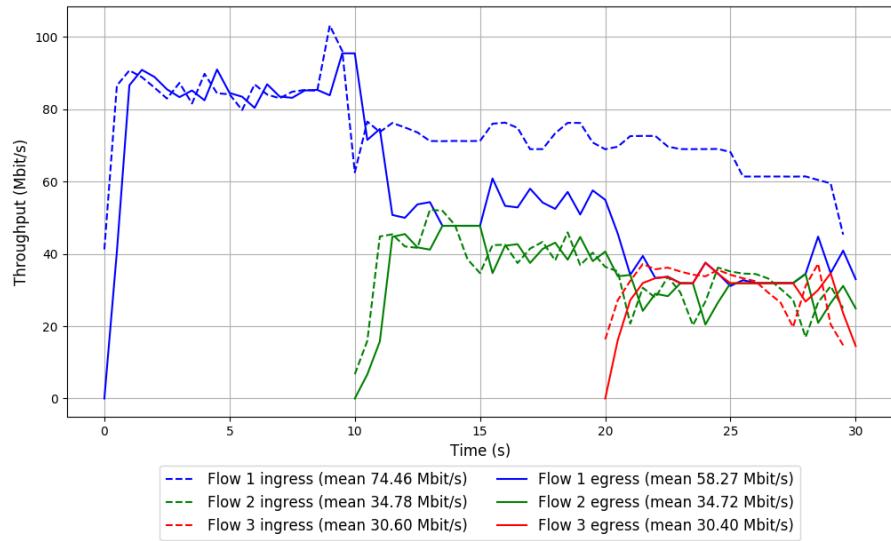


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-02 18:17:08
End at: 2018-10-02 18:17:38
Local clock offset: -2.36 ms
Remote clock offset: -0.775 ms

# Below is generated by plot.py at 2018-10-02 18:29:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.37 Mbit/s
95th percentile per-packet one-way delay: 925.179 ms
Loss rate: 15.17%
-- Flow 1:
Average throughput: 58.27 Mbit/s
95th percentile per-packet one-way delay: 947.884 ms
Loss rate: 21.78%
-- Flow 2:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 186.248 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 249.820 ms
Loss rate: 0.70%
```

Run 5: Report of PCC-Expr — Data Link

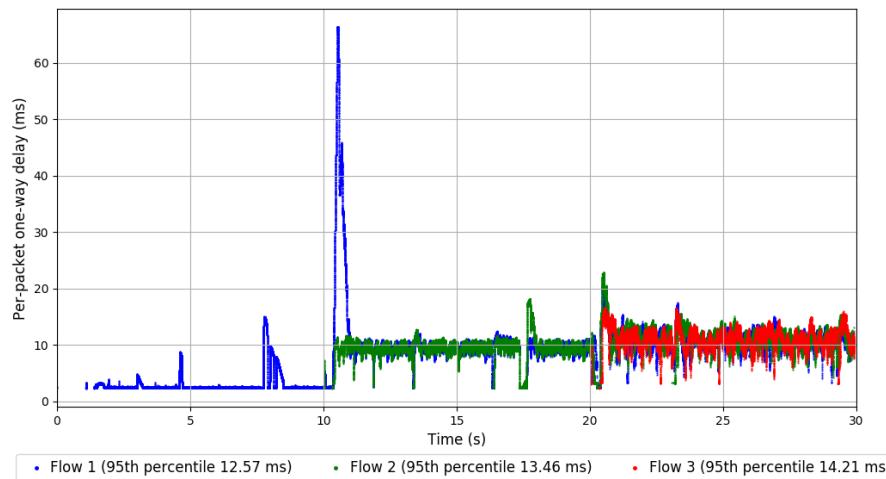
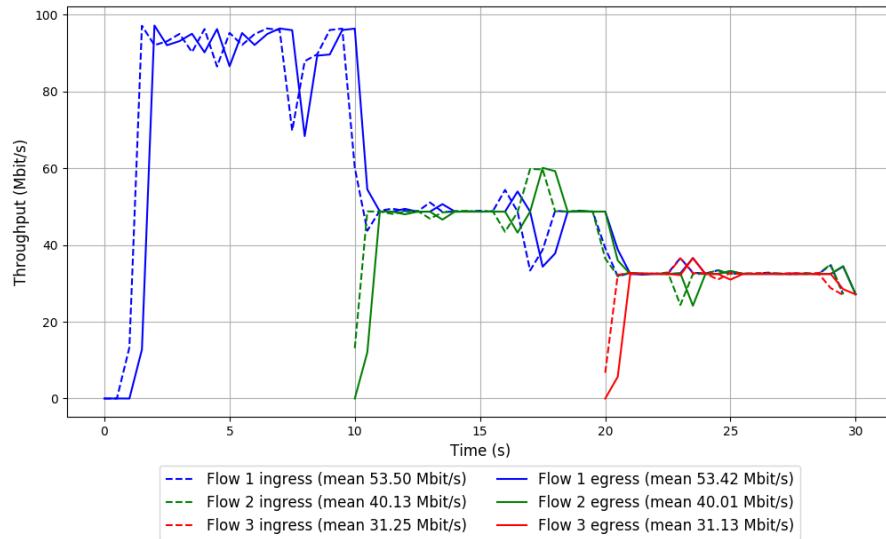


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-10-02 16:38:51
End at: 2018-10-02 16:39:21
Local clock offset: -2.855 ms
Remote clock offset: -0.994 ms

# Below is generated by plot.py at 2018-10-02 18:29:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 13.257 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 53.42 Mbit/s
95th percentile per-packet one-way delay: 12.574 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 13.462 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.13 Mbit/s
95th percentile per-packet one-way delay: 14.207 ms
Loss rate: 0.45%
```

Run 1: Report of QUIC Cubic — Data Link

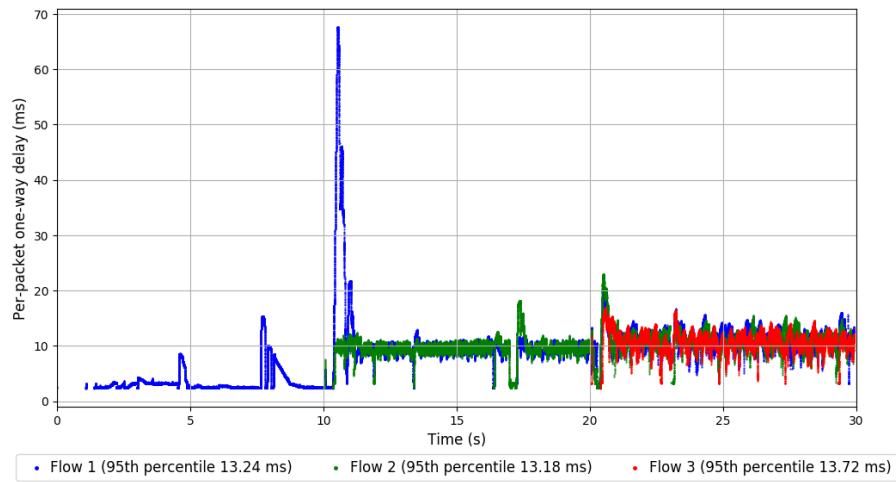
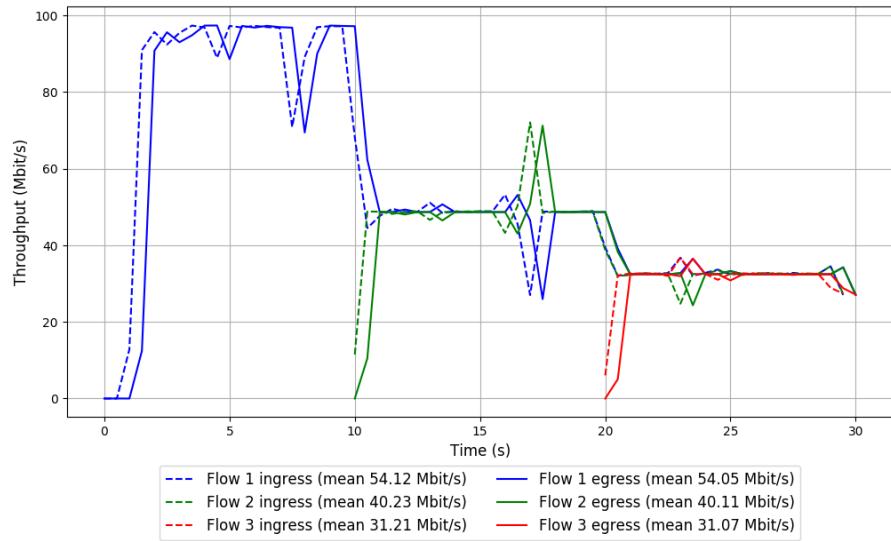


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-02 16:59:41
End at: 2018-10-02 17:00:11
Local clock offset: -1.973 ms
Remote clock offset: -0.983 ms

# Below is generated by plot.py at 2018-10-02 18:29:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 13.325 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 54.05 Mbit/s
95th percentile per-packet one-way delay: 13.243 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.11 Mbit/s
95th percentile per-packet one-way delay: 13.182 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 13.721 ms
Loss rate: 0.48%
```

Run 2: Report of QUIC Cubic — Data Link

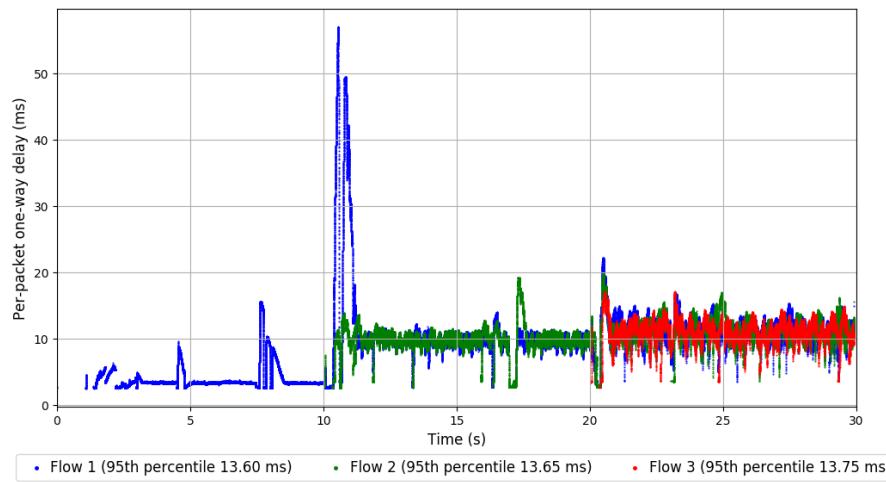
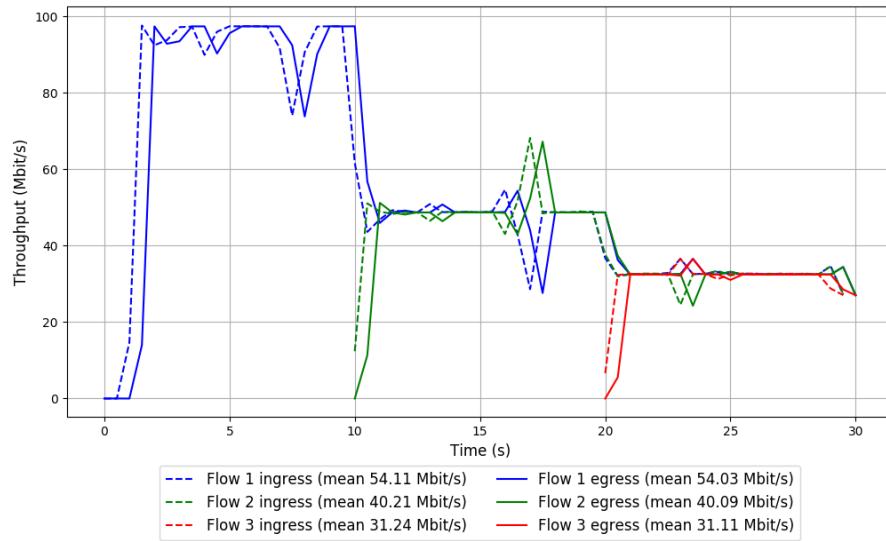


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-02 17:20:31
End at: 2018-10-02 17:21:01
Local clock offset: -3.729 ms
Remote clock offset: -0.851 ms

# Below is generated by plot.py at 2018-10-02 18:29:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 13.652 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 54.03 Mbit/s
95th percentile per-packet one-way delay: 13.599 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 13.649 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 31.11 Mbit/s
95th percentile per-packet one-way delay: 13.750 ms
Loss rate: 0.47%
```

Run 3: Report of QUIC Cubic — Data Link

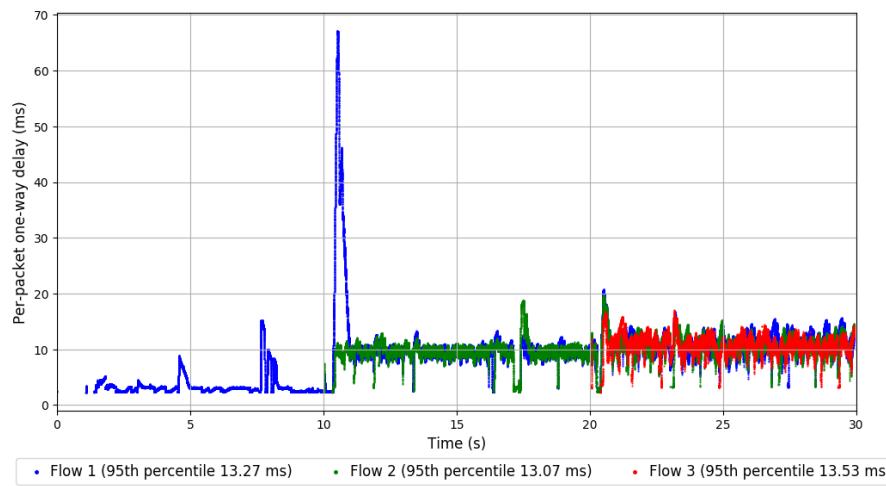
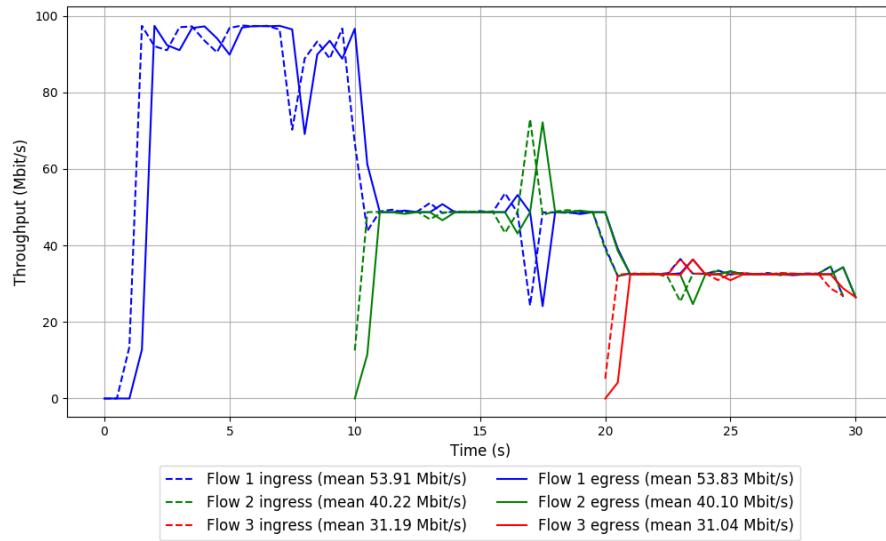


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-02 17:41:20
End at: 2018-10-02 17:41:50
Local clock offset: -7.054 ms
Remote clock offset: -0.806 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 13.254 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 53.83 Mbit/s
95th percentile per-packet one-way delay: 13.266 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.10 Mbit/s
95th percentile per-packet one-way delay: 13.071 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 31.04 Mbit/s
95th percentile per-packet one-way delay: 13.534 ms
Loss rate: 0.52%
```

Run 4: Report of QUIC Cubic — Data Link

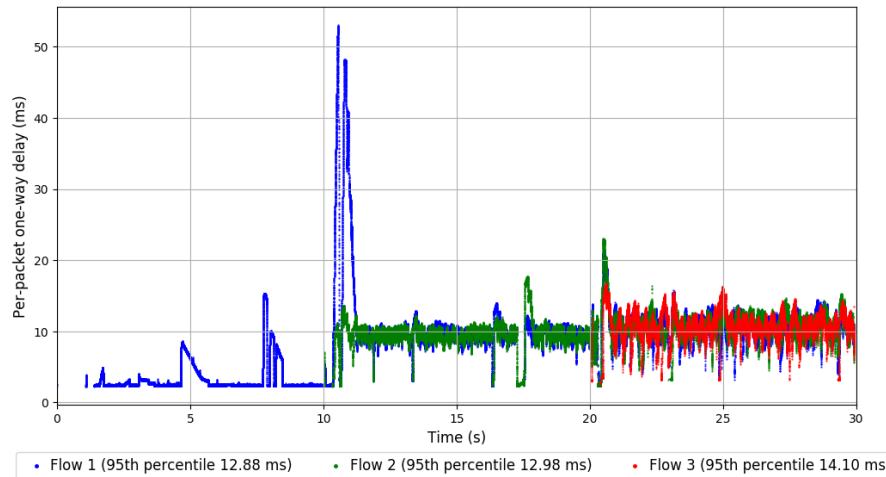
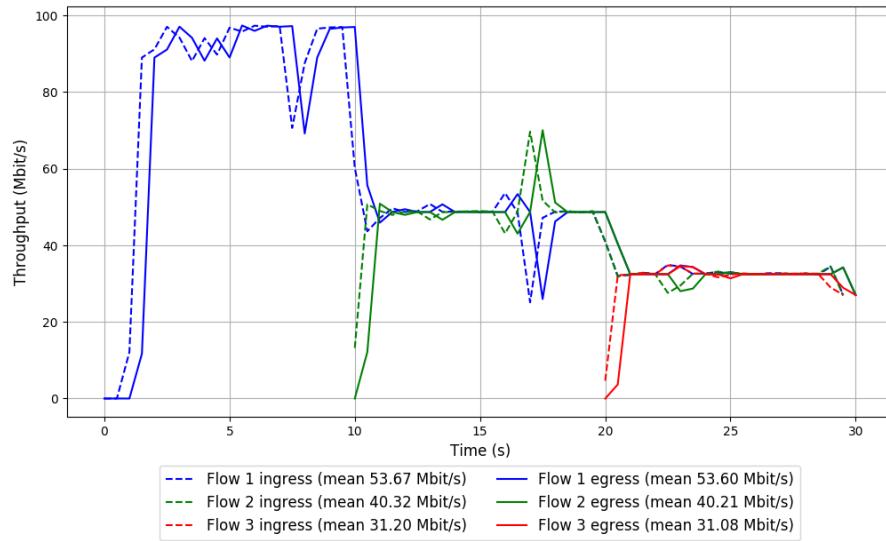


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-02 18:02:09
End at: 2018-10-02 18:02:39
Local clock offset: -3.329 ms
Remote clock offset: -0.8 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.61 Mbit/s
95th percentile per-packet one-way delay: 13.163 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 53.60 Mbit/s
95th percentile per-packet one-way delay: 12.882 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.21 Mbit/s
95th percentile per-packet one-way delay: 12.983 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 14.103 ms
Loss rate: 0.46%
```

Run 5: Report of QUIC Cubic — Data Link

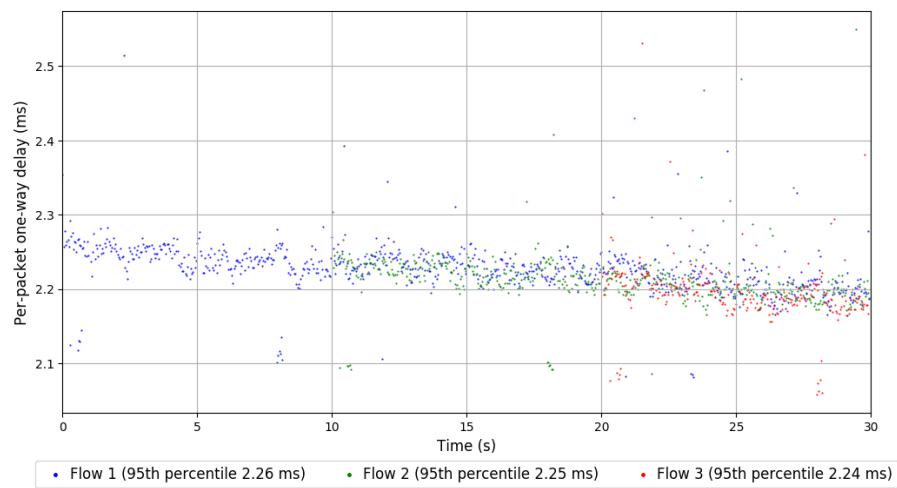
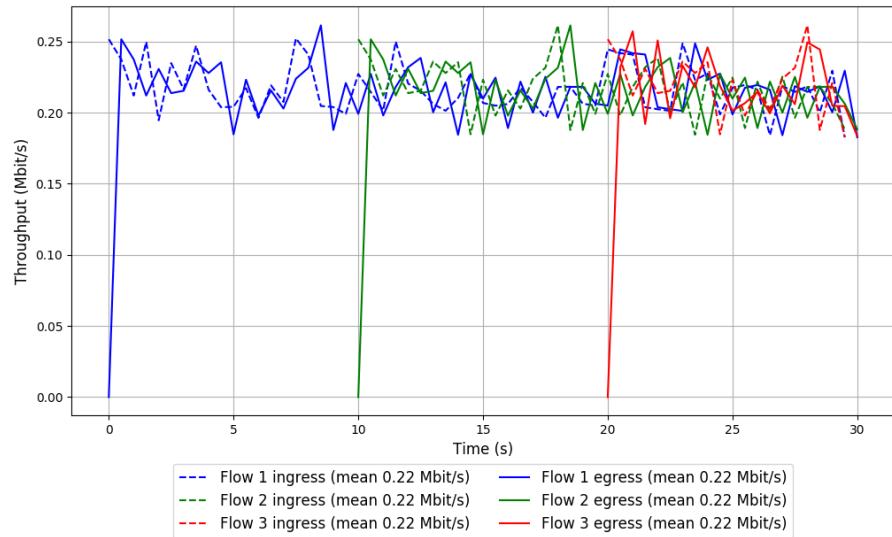


Run 1: Statistics of SCReAM

```
Start at: 2018-10-02 16:34:14
End at: 2018-10-02 16:34:44
Local clock offset: -3.342 ms
Remote clock offset: -0.833 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.260 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.243 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link

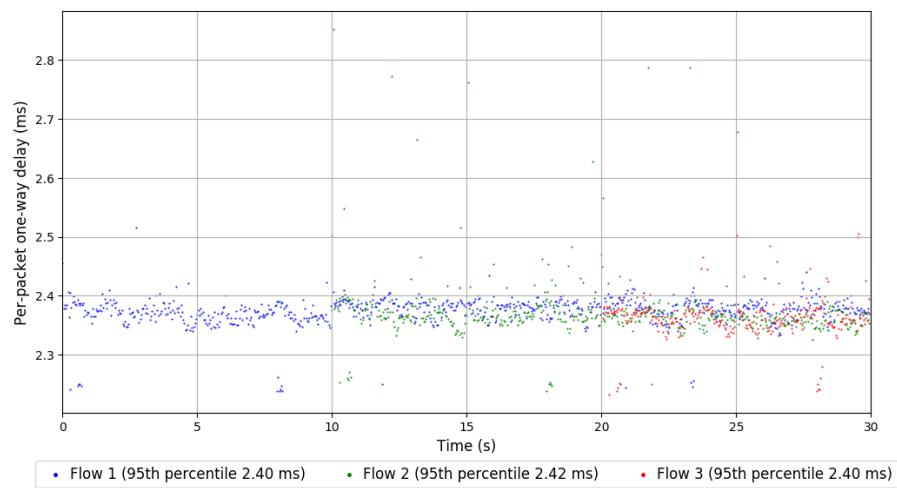
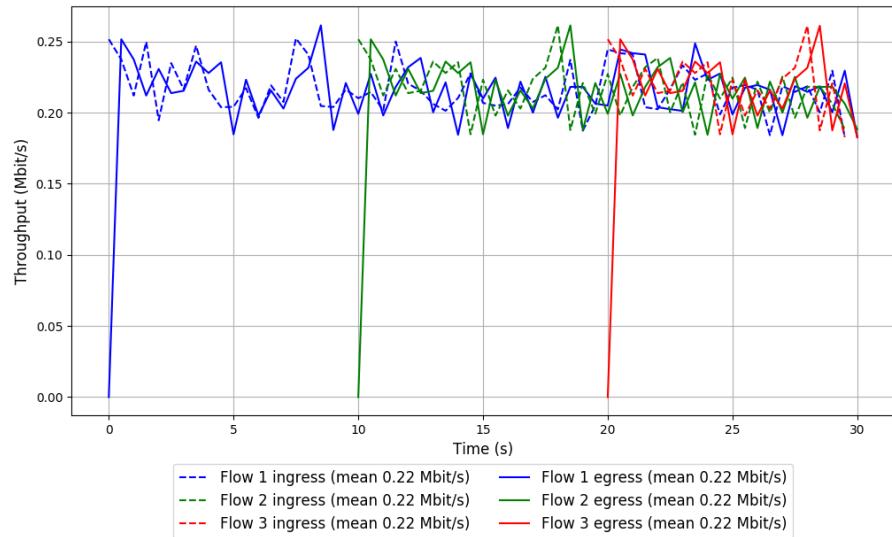


Run 2: Statistics of SCReAM

```
Start at: 2018-10-02 16:55:04
End at: 2018-10-02 16:55:34
Local clock offset: -2.206 ms
Remote clock offset: -1.022 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.422 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.402 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

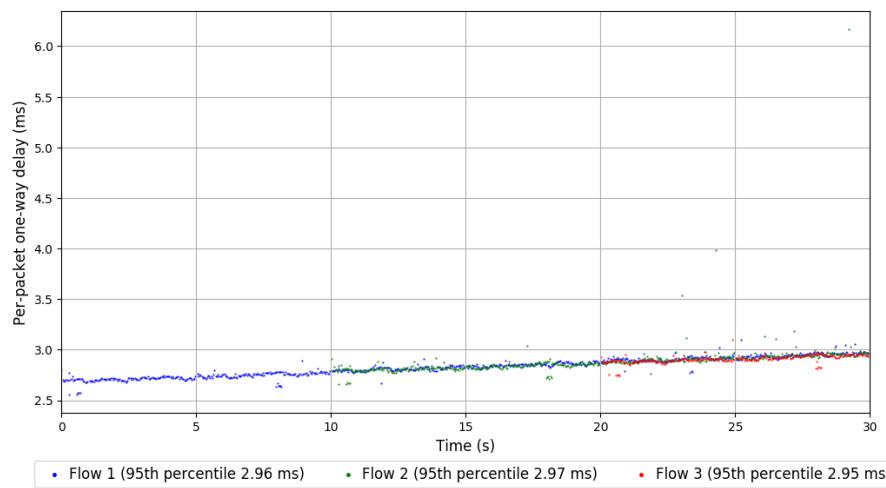
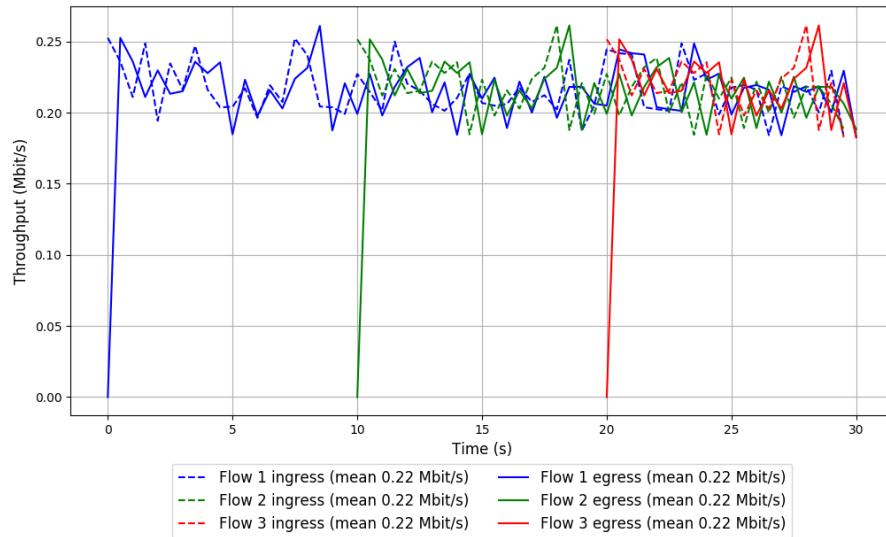


Run 3: Statistics of SCReAM

```
Start at: 2018-10-02 17:15:54
End at: 2018-10-02 17:16:24
Local clock offset: -1.538 ms
Remote clock offset: -0.885 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.962 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.961 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.967 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.954 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

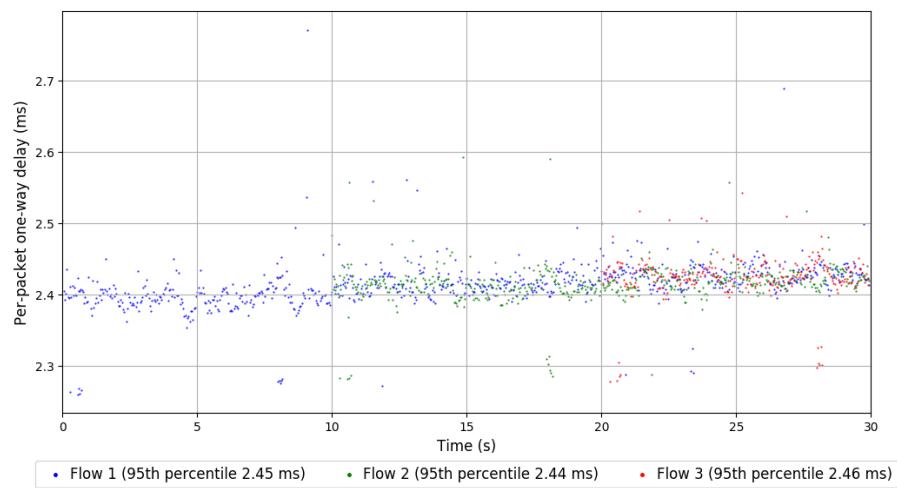
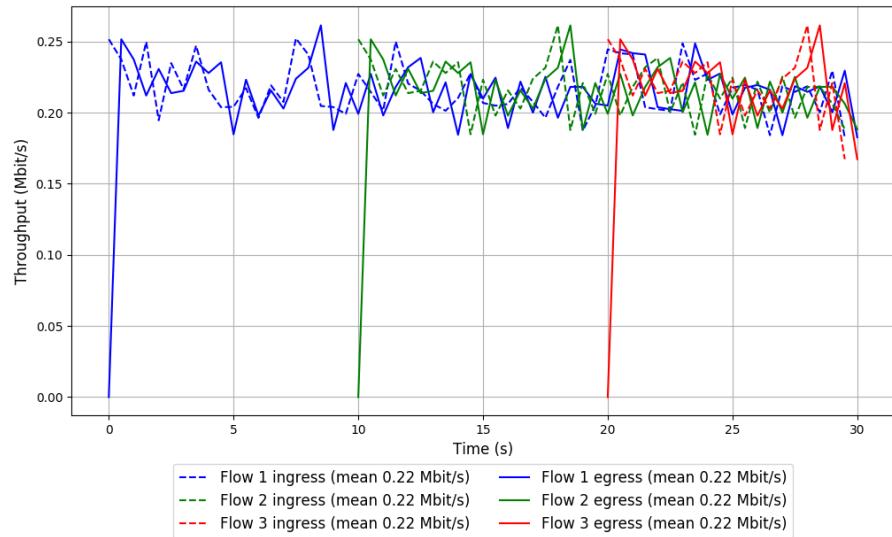


Run 4: Statistics of SCReAM

```
Start at: 2018-10-02 17:36:44
End at: 2018-10-02 17:37:14
Local clock offset: -6.719 ms
Remote clock offset: -0.798 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.450 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.448 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.456 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

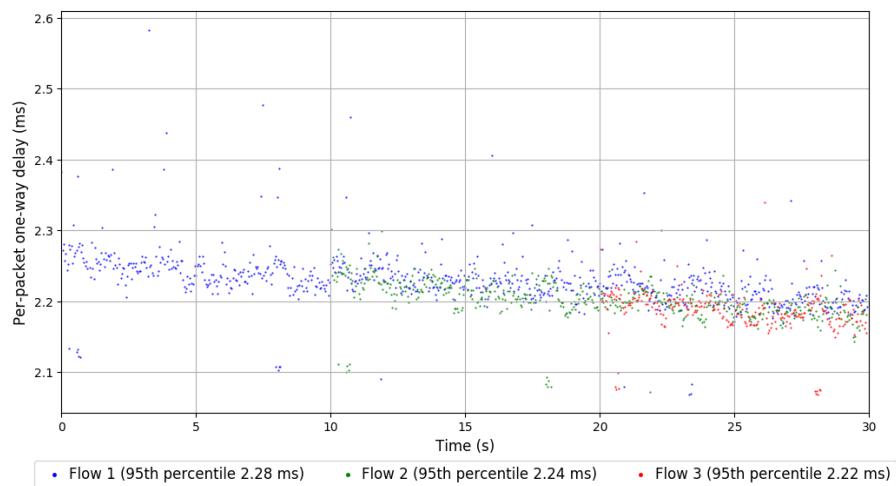
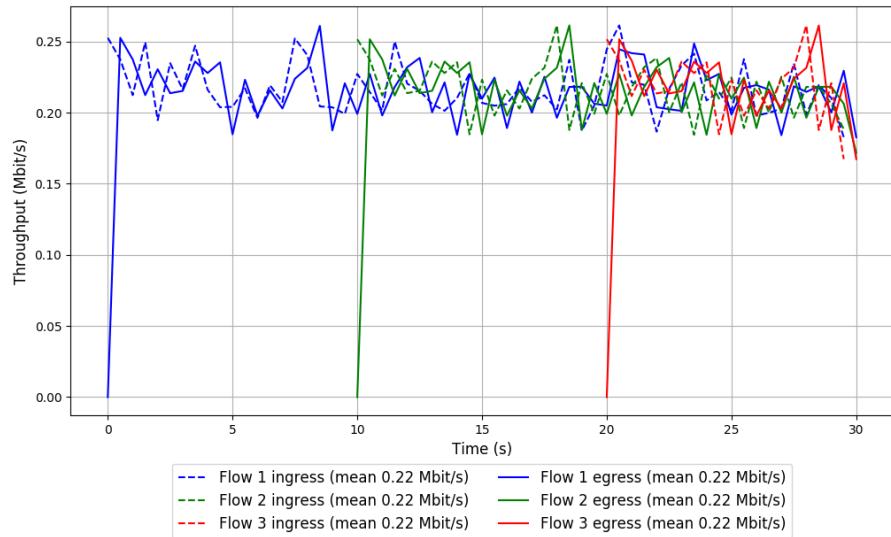


Run 5: Statistics of SCReAM

```
Start at: 2018-10-02 17:57:32
End at: 2018-10-02 17:58:02
Local clock offset: -3.922 ms
Remote clock offset: -0.749 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.264 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.277 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.240 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.216 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

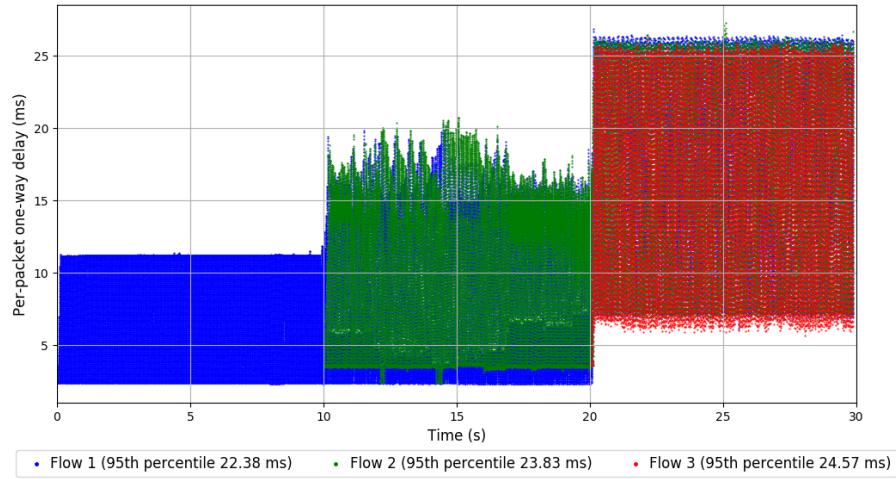
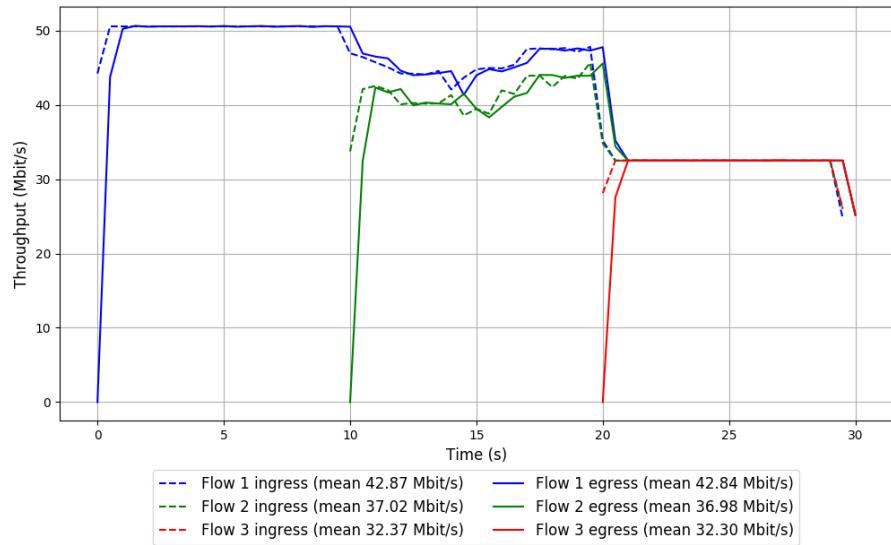


Run 1: Statistics of Sprout

```
Start at: 2018-10-02 16:46:56
End at: 2018-10-02 16:47:26
Local clock offset: -2.359 ms
Remote clock offset: -0.948 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.10 Mbit/s
95th percentile per-packet one-way delay: 23.591 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 22.377 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.98 Mbit/s
95th percentile per-packet one-way delay: 23.830 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 32.30 Mbit/s
95th percentile per-packet one-way delay: 24.571 ms
Loss rate: 0.21%
```

Run 1: Report of Sprout — Data Link

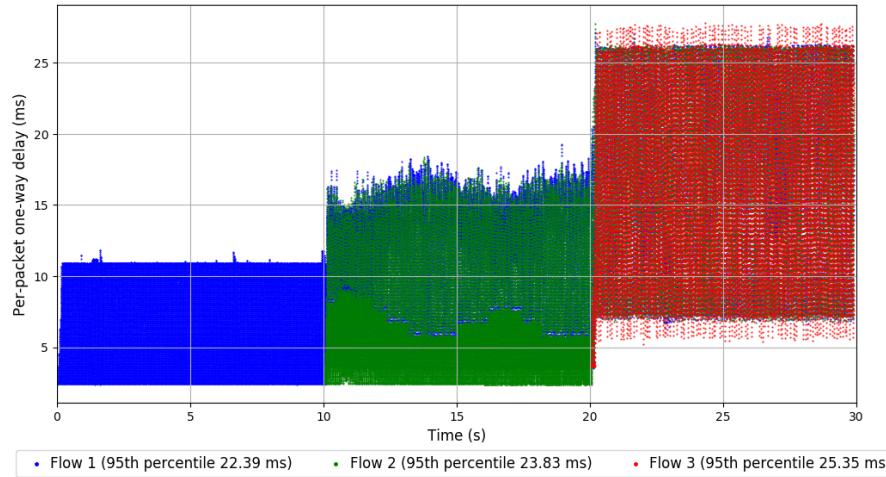
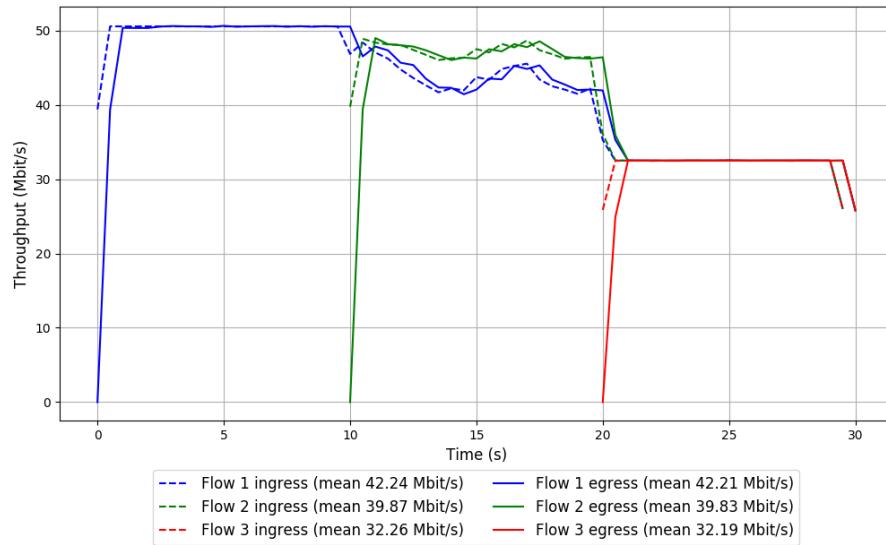


Run 2: Statistics of Sprout

```
Start at: 2018-10-02 17:07:46
End at: 2018-10-02 17:08:16
Local clock offset: -1.703 ms
Remote clock offset: -0.89 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.32 Mbit/s
95th percentile per-packet one-way delay: 23.835 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 42.21 Mbit/s
95th percentile per-packet one-way delay: 22.388 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 39.83 Mbit/s
95th percentile per-packet one-way delay: 23.827 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 25.350 ms
Loss rate: 0.18%
```

Run 2: Report of Sprout — Data Link

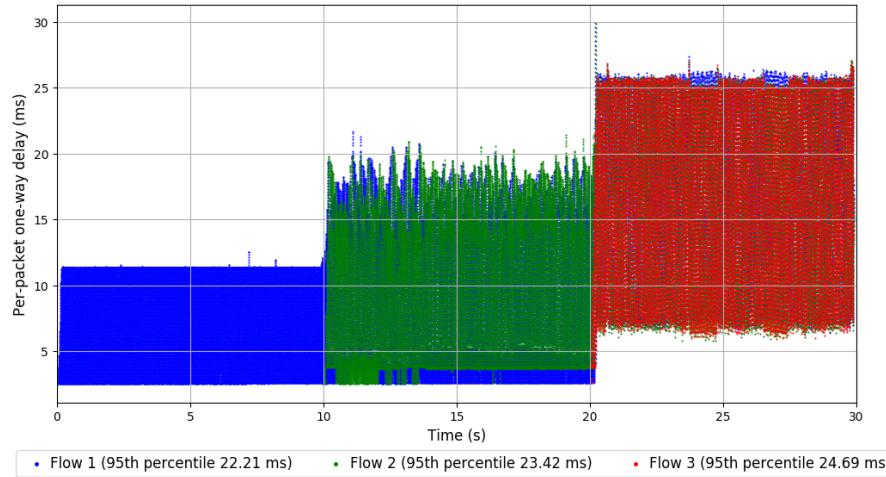
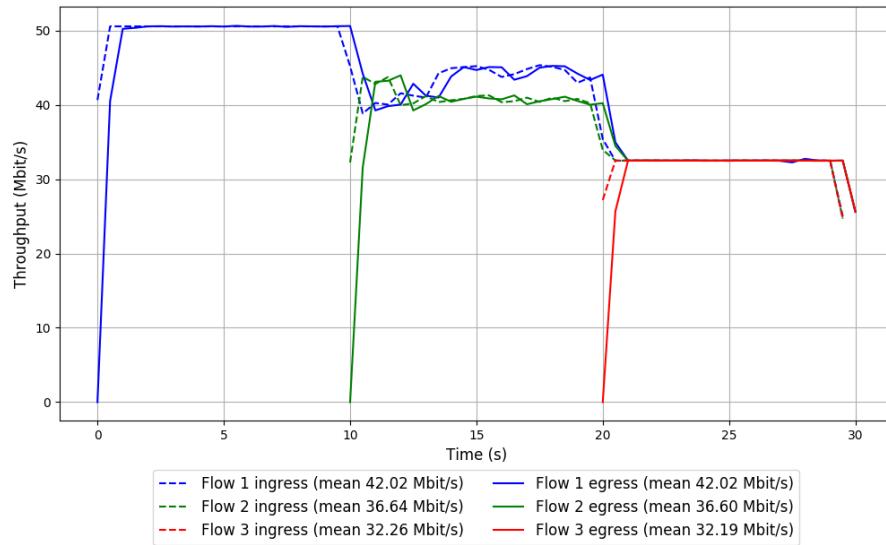


Run 3: Statistics of Sprout

```
Start at: 2018-10-02 17:28:35
End at: 2018-10-02 17:29:05
Local clock offset: -5.787 ms
Remote clock offset: -0.886 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.01 Mbit/s
95th percentile per-packet one-way delay: 23.438 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 22.209 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 36.60 Mbit/s
95th percentile per-packet one-way delay: 23.419 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 24.693 ms
Loss rate: 0.09%
```

Run 3: Report of Sprout — Data Link

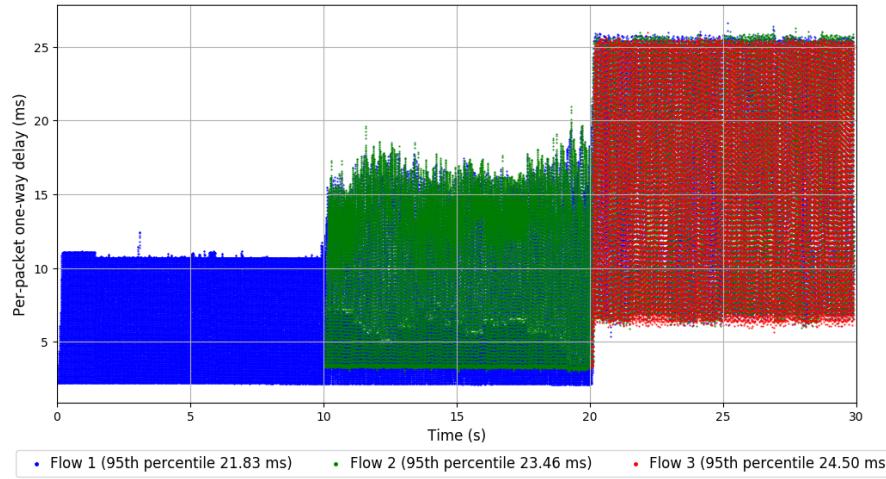
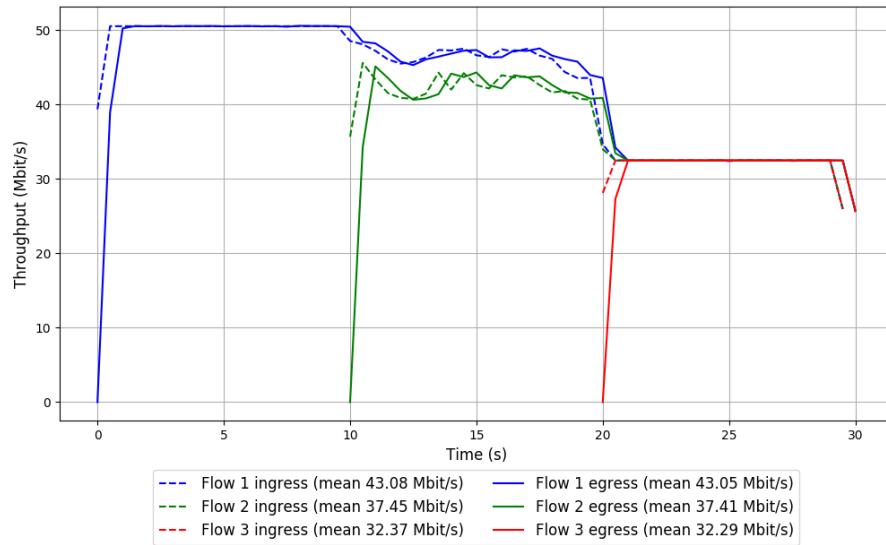


Run 4: Statistics of Sprout

```
Start at: 2018-10-02 17:49:25
End at: 2018-10-02 17:49:55
Local clock offset: -5.804 ms
Remote clock offset: -0.856 ms

# Below is generated by plot.py at 2018-10-02 18:29:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.60 Mbit/s
95th percentile per-packet one-way delay: 23.278 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 43.05 Mbit/s
95th percentile per-packet one-way delay: 21.831 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.41 Mbit/s
95th percentile per-packet one-way delay: 23.462 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 32.29 Mbit/s
95th percentile per-packet one-way delay: 24.502 ms
Loss rate: 0.17%
```

Run 4: Report of Sprout — Data Link

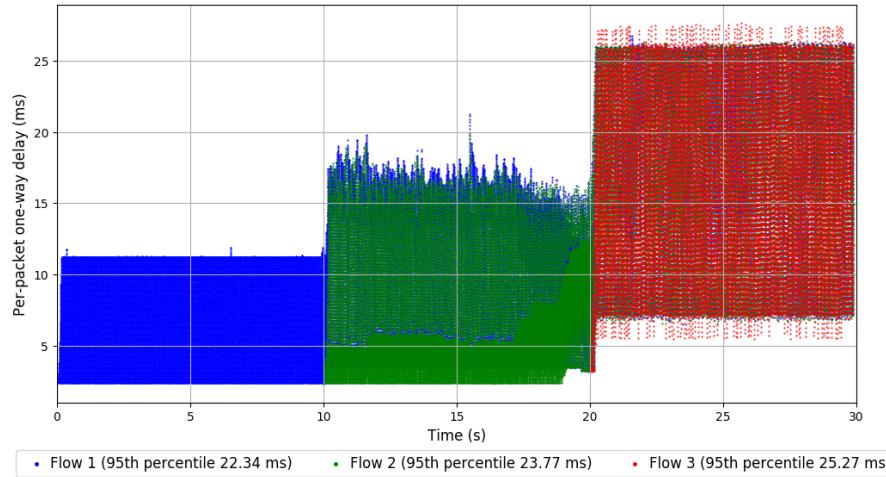
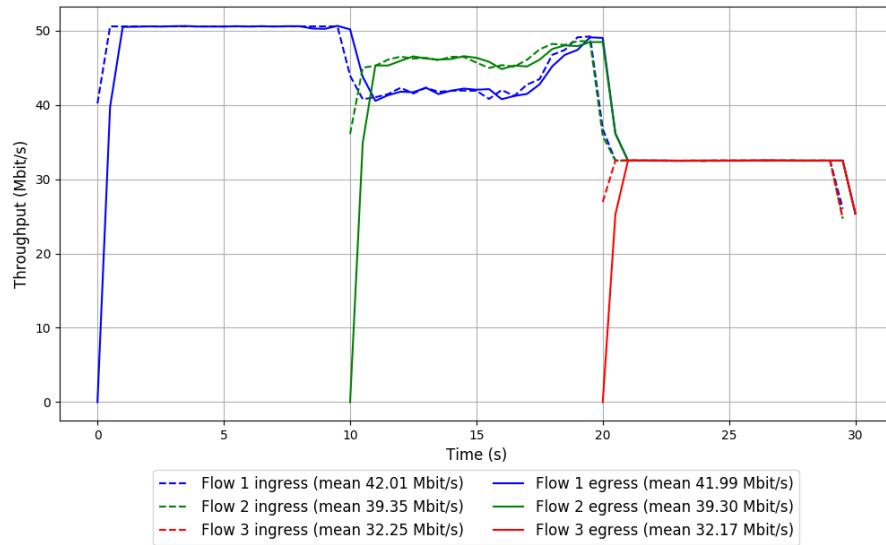


Run 5: Statistics of Sprout

```
Start at: 2018-10-02 18:10:14
End at: 2018-10-02 18:10:44
Local clock offset: -2.716 ms
Remote clock offset: -0.684 ms

# Below is generated by plot.py at 2018-10-02 18:29:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.76 Mbit/s
95th percentile per-packet one-way delay: 23.774 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 41.99 Mbit/s
95th percentile per-packet one-way delay: 22.337 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 39.30 Mbit/s
95th percentile per-packet one-way delay: 23.769 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 25.275 ms
Loss rate: 0.16%
```

Run 5: Report of Sprout — Data Link

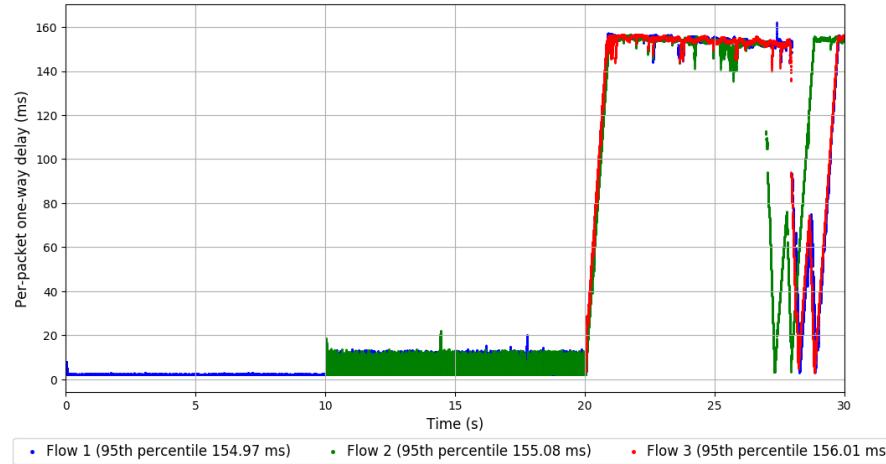
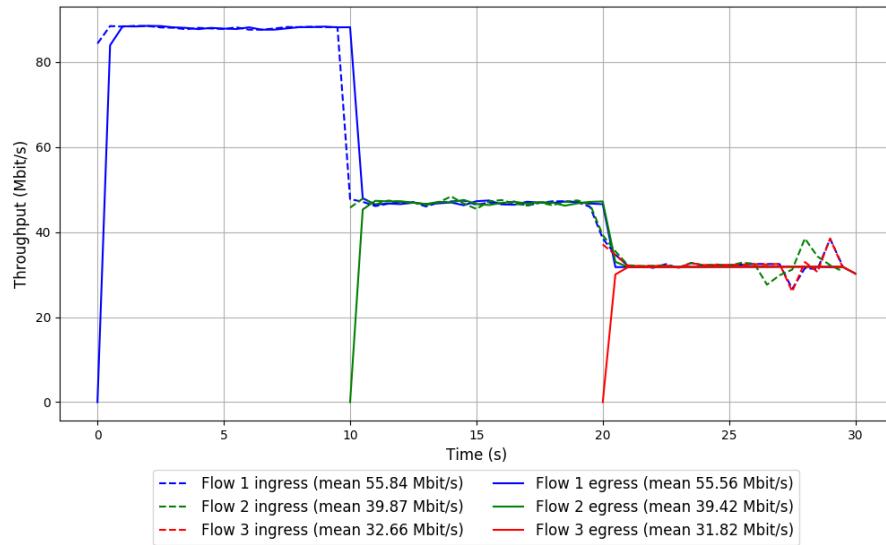


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-02 16:52:38
End at: 2018-10-02 16:53:08
Local clock offset: -2.213 ms
Remote clock offset: -0.963 ms

# Below is generated by plot.py at 2018-10-02 18:31:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.37 Mbit/s
95th percentile per-packet one-way delay: 155.285 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 55.56 Mbit/s
95th percentile per-packet one-way delay: 154.967 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 39.42 Mbit/s
95th percentile per-packet one-way delay: 155.078 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 156.007 ms
Loss rate: 2.66%
```

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

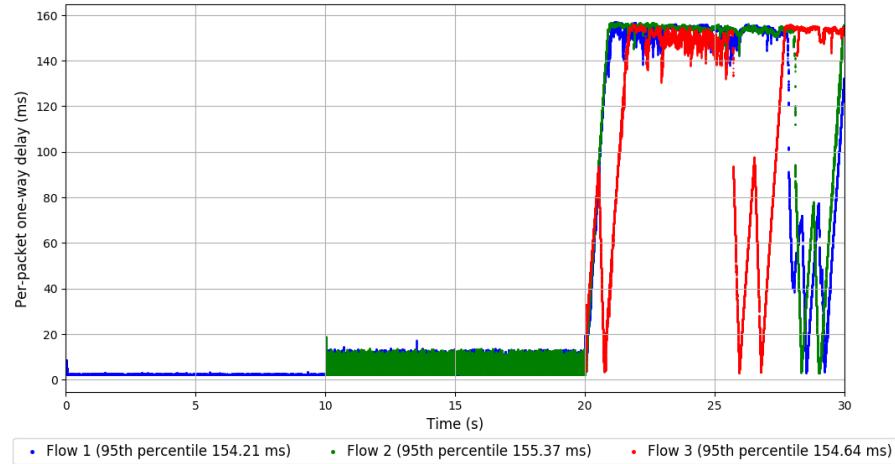
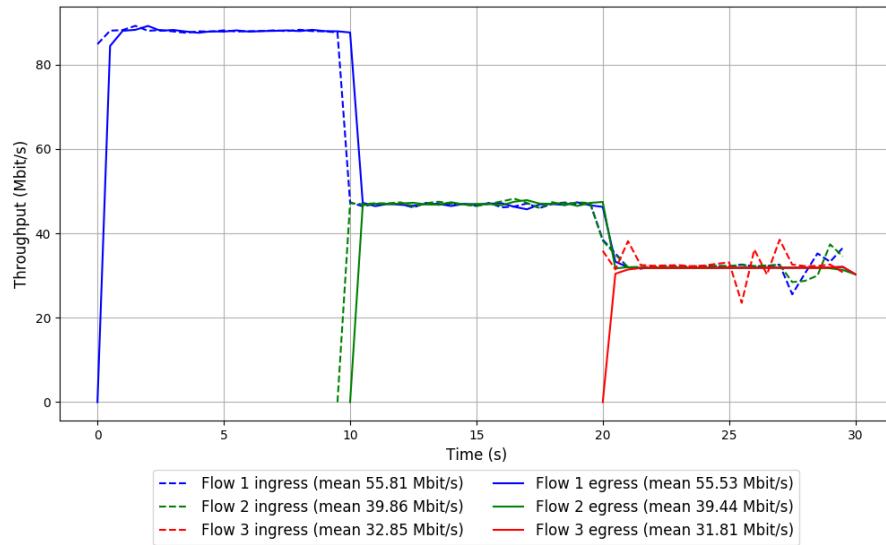


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-02 17:13:27
End at: 2018-10-02 17:13:57
Local clock offset: -1.459 ms
Remote clock offset: -0.826 ms

# Below is generated by plot.py at 2018-10-02 18:31:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.39 Mbit/s
95th percentile per-packet one-way delay: 154.750 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 55.53 Mbit/s
95th percentile per-packet one-way delay: 154.211 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 39.44 Mbit/s
95th percentile per-packet one-way delay: 155.371 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 31.81 Mbit/s
95th percentile per-packet one-way delay: 154.643 ms
Loss rate: 3.21%
```

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

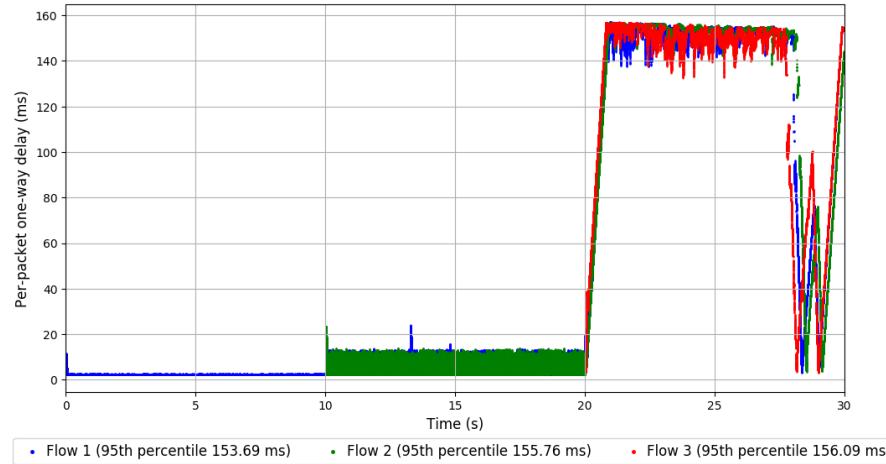
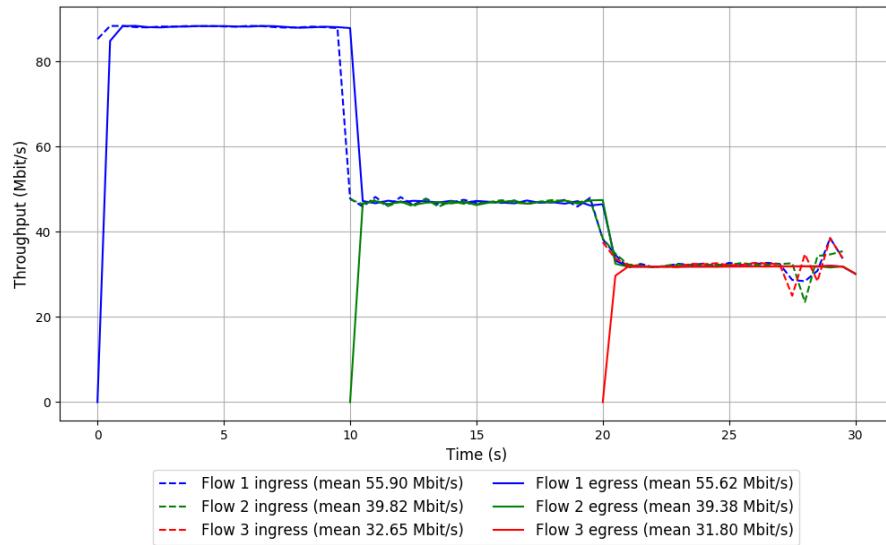


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-02 17:34:18
End at: 2018-10-02 17:34:48
Local clock offset: -6.543 ms
Remote clock offset: -0.865 ms

# Below is generated by plot.py at 2018-10-02 18:31:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.41 Mbit/s
95th percentile per-packet one-way delay: 155.064 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 55.62 Mbit/s
95th percentile per-packet one-way delay: 153.689 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 155.761 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 31.80 Mbit/s
95th percentile per-packet one-way delay: 156.090 ms
Loss rate: 2.66%
```

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

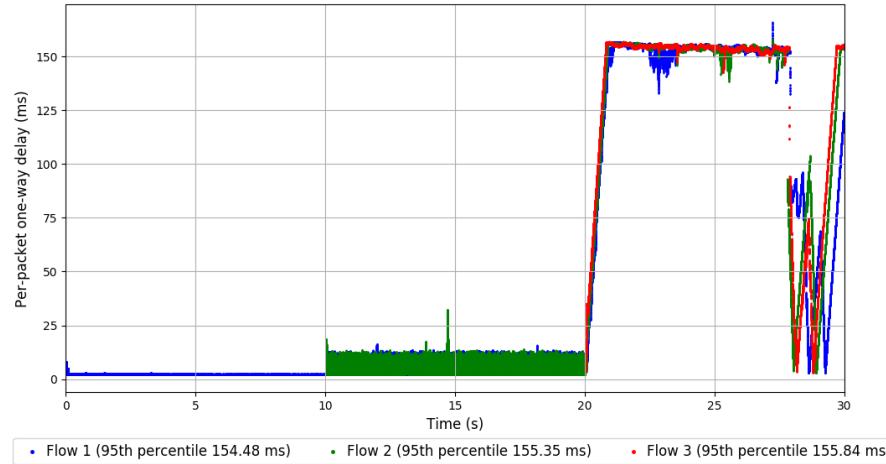
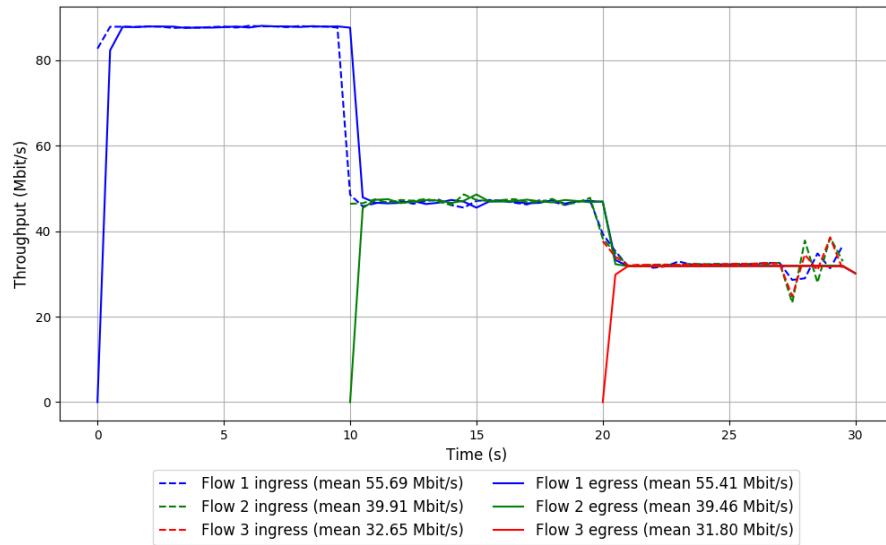


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-02 17:55:07
End at: 2018-10-02 17:55:37
Local clock offset: -4.277 ms
Remote clock offset: -0.814 ms

# Below is generated by plot.py at 2018-10-02 18:31:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.24 Mbit/s
95th percentile per-packet one-way delay: 155.145 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 55.41 Mbit/s
95th percentile per-packet one-way delay: 154.484 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 39.46 Mbit/s
95th percentile per-packet one-way delay: 155.348 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 31.80 Mbit/s
95th percentile per-packet one-way delay: 155.839 ms
Loss rate: 2.67%
```

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

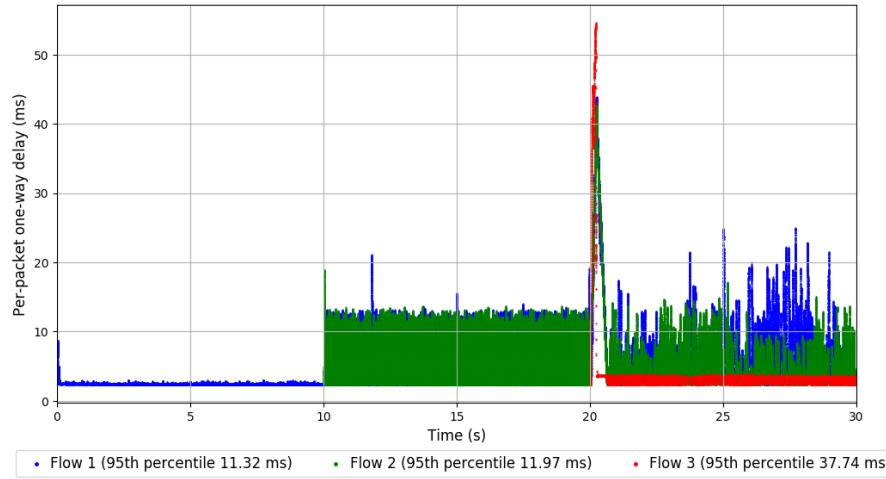
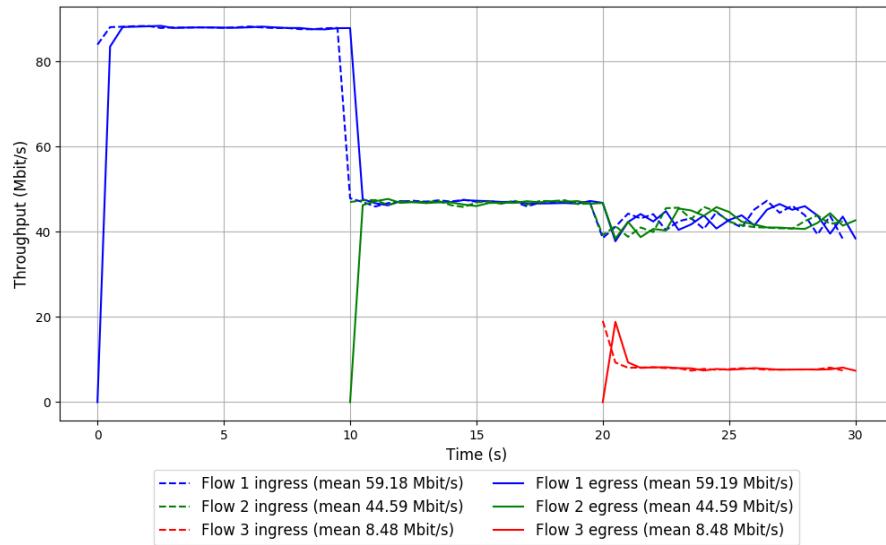


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-02 18:15:56
End at: 2018-10-02 18:16:26
Local clock offset: -2.453 ms
Remote clock offset: -0.768 ms

# Below is generated by plot.py at 2018-10-02 18:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.71 Mbit/s
95th percentile per-packet one-way delay: 11.647 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 11.324 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.59 Mbit/s
95th percentile per-packet one-way delay: 11.966 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 37.745 ms
Loss rate: 0.14%
```

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

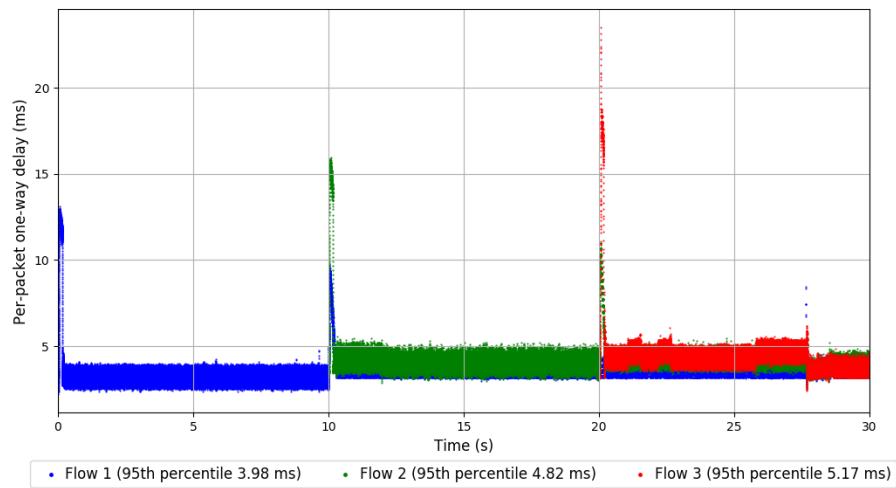
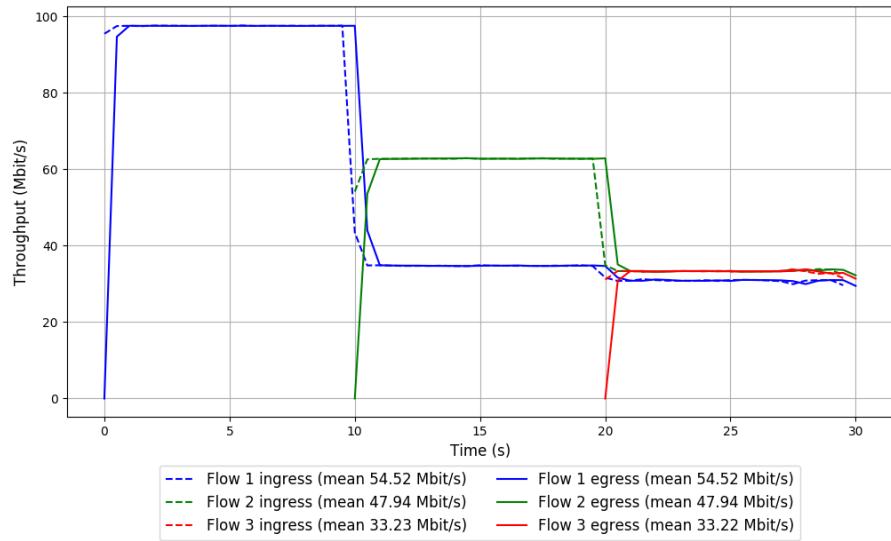


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-02 16:40:00
End at: 2018-10-02 16:40:30
Local clock offset: -2.755 ms
Remote clock offset: -0.907 ms

# Below is generated by plot.py at 2018-10-02 18:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 4.804 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 54.52 Mbit/s
95th percentile per-packet one-way delay: 3.976 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.94 Mbit/s
95th percentile per-packet one-way delay: 4.824 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 33.22 Mbit/s
95th percentile per-packet one-way delay: 5.165 ms
Loss rate: 0.06%
```

Run 1: Report of TCP Vegas — Data Link

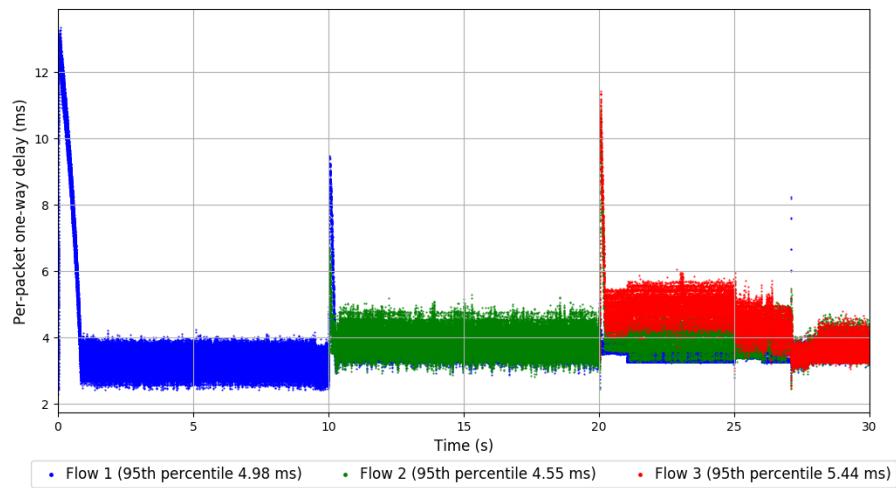
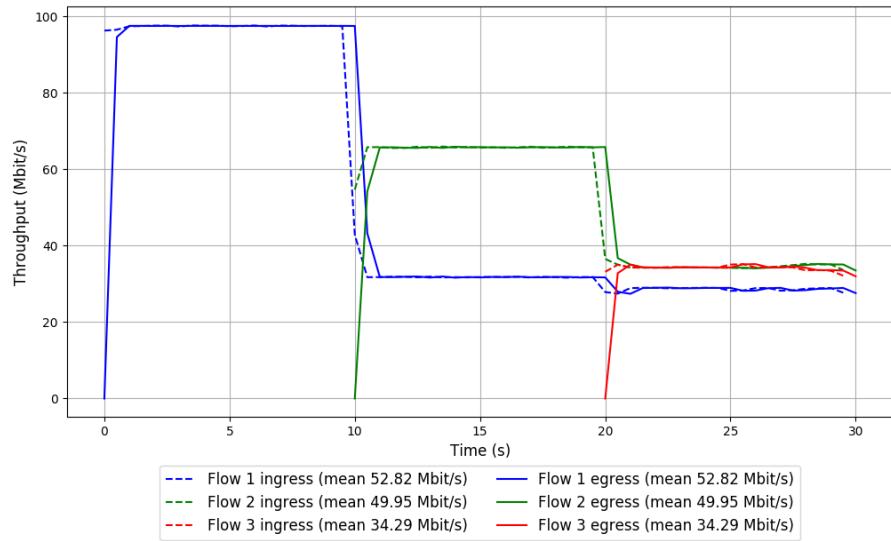


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-02 17:00:50
End at: 2018-10-02 17:01:20
Local clock offset: -1.944 ms
Remote clock offset: -0.95 ms

# Below is generated by plot.py at 2018-10-02 18:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 5.097 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 52.82 Mbit/s
95th percentile per-packet one-way delay: 4.981 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 49.95 Mbit/s
95th percentile per-packet one-way delay: 4.548 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.29 Mbit/s
95th percentile per-packet one-way delay: 5.438 ms
Loss rate: 0.06%
```

Run 2: Report of TCP Vegas — Data Link

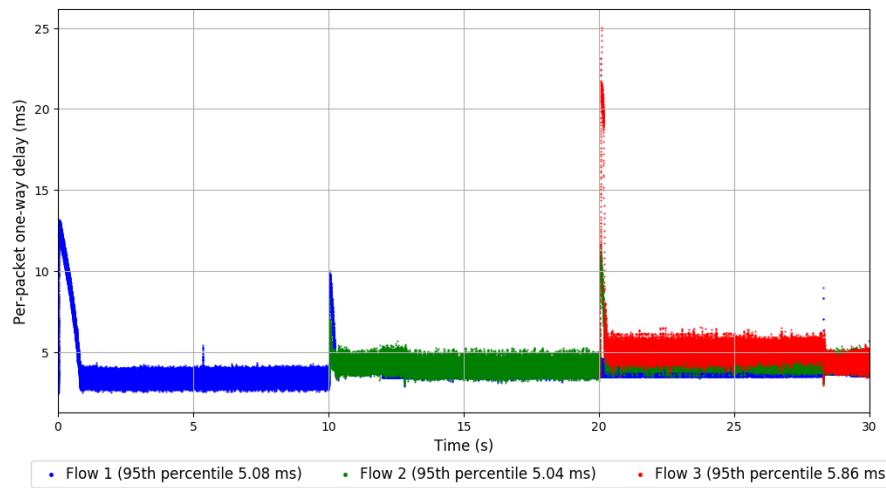
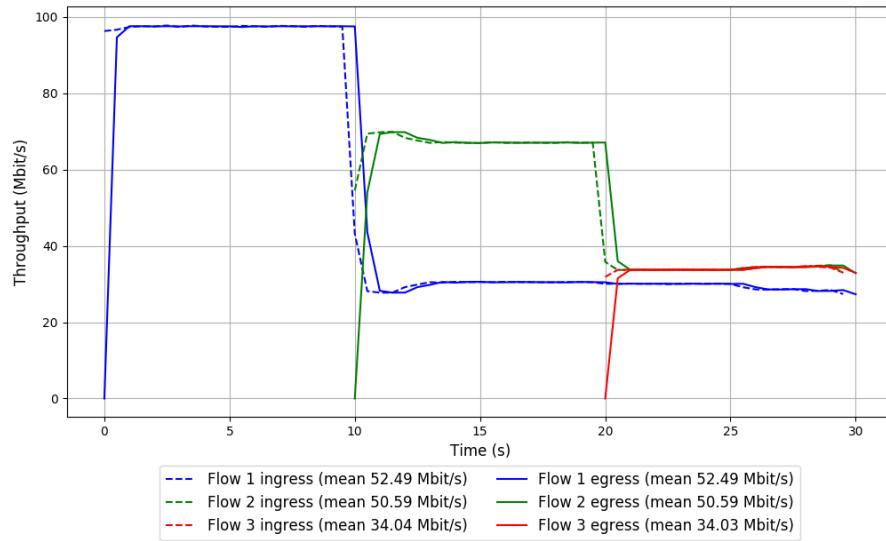


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-02 17:21:40
End at: 2018-10-02 17:22:10
Local clock offset: -4.169 ms
Remote clock offset: -0.838 ms

# Below is generated by plot.py at 2018-10-02 18:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 5.467 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 52.49 Mbit/s
95th percentile per-packet one-way delay: 5.081 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 5.044 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.03 Mbit/s
95th percentile per-packet one-way delay: 5.858 ms
Loss rate: 0.07%
```

Run 3: Report of TCP Vegas — Data Link

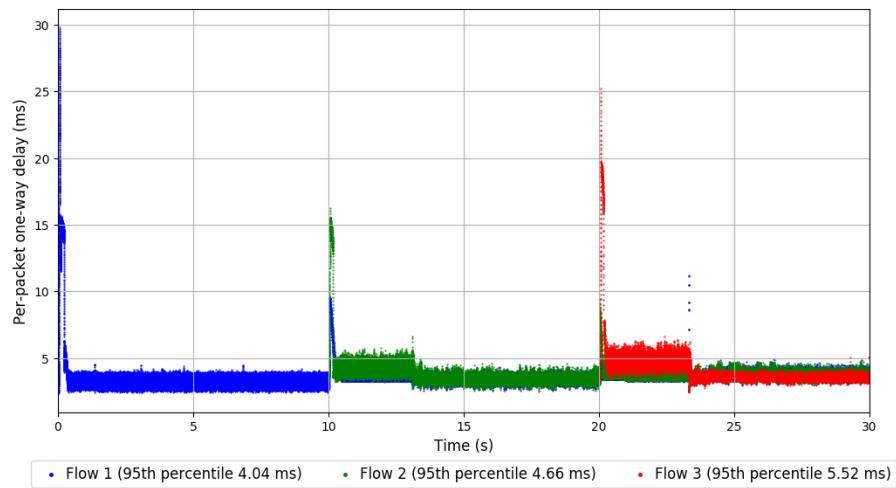
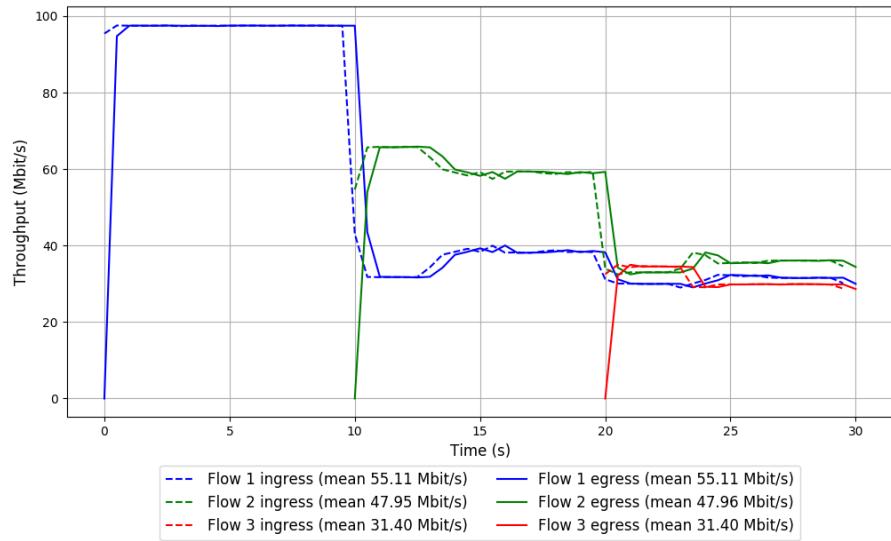


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-02 17:42:30
End at: 2018-10-02 17:43:00
Local clock offset: -7.121 ms
Remote clock offset: -0.856 ms

# Below is generated by plot.py at 2018-10-02 18:31:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 4.754 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 55.11 Mbit/s
95th percentile per-packet one-way delay: 4.036 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.96 Mbit/s
95th percentile per-packet one-way delay: 4.663 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 31.40 Mbit/s
95th percentile per-packet one-way delay: 5.524 ms
Loss rate: 0.06%
```

Run 4: Report of TCP Vegas — Data Link

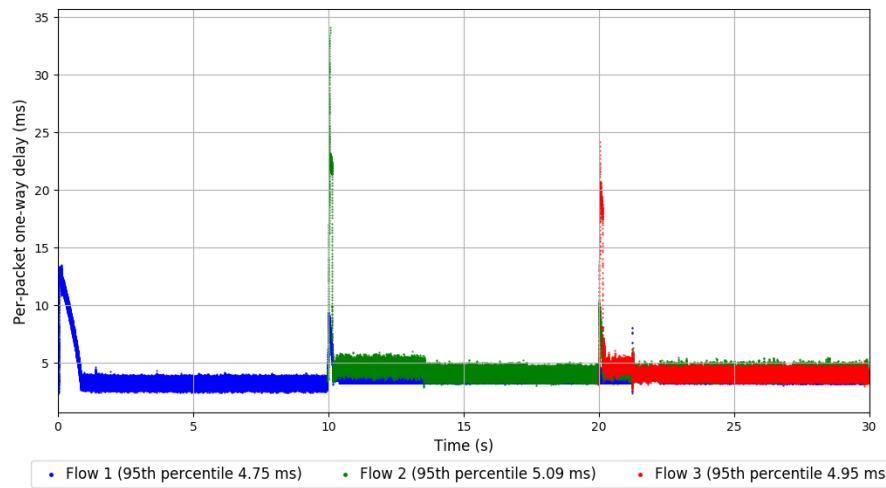
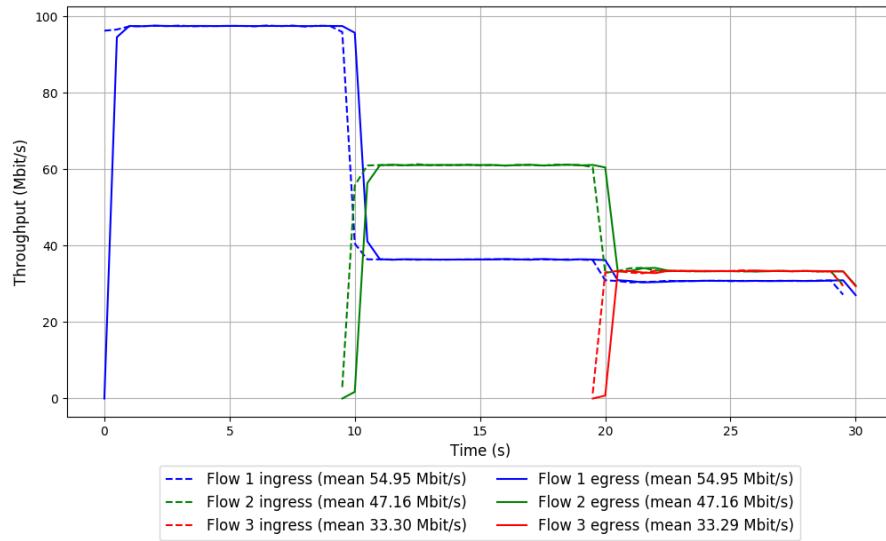


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-02 18:03:19
End at: 2018-10-02 18:03:49
Local clock offset: -3.211 ms
Remote clock offset: -0.793 ms

# Below is generated by plot.py at 2018-10-02 18:31:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 5.049 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 4.749 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.16 Mbit/s
95th percentile per-packet one-way delay: 5.091 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 33.29 Mbit/s
95th percentile per-packet one-way delay: 4.945 ms
Loss rate: 0.06%
```

Run 5: Report of TCP Vegas — Data Link

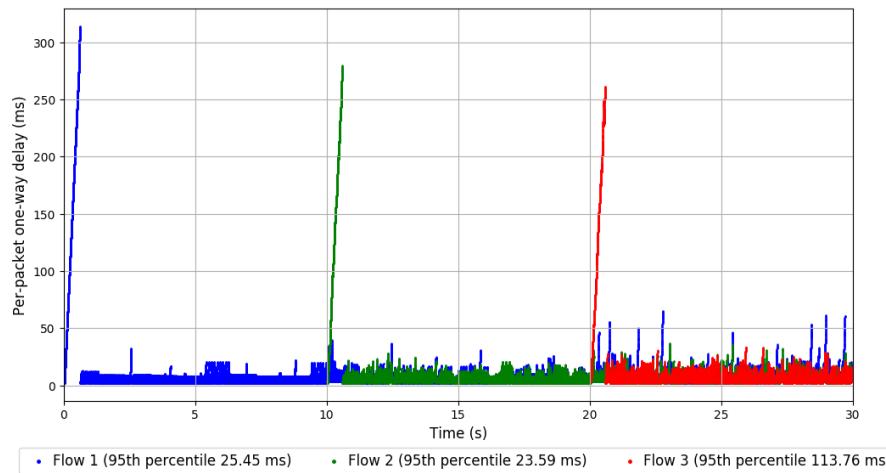
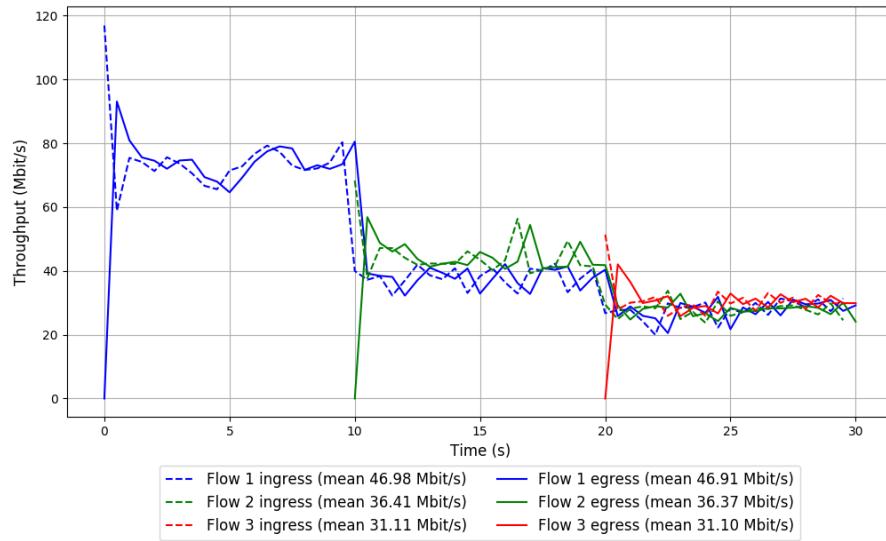


Run 1: Statistics of Verus

```
Start at: 2018-10-02 16:37:41
End at: 2018-10-02 16:38:11
Local clock offset: -2.958 ms
Remote clock offset: -0.881 ms

# Below is generated by plot.py at 2018-10-02 18:32:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.44 Mbit/s
95th percentile per-packet one-way delay: 28.185 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 25.447 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 23.588 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 31.10 Mbit/s
95th percentile per-packet one-way delay: 113.759 ms
Loss rate: 0.05%
```

Run 1: Report of Verus — Data Link

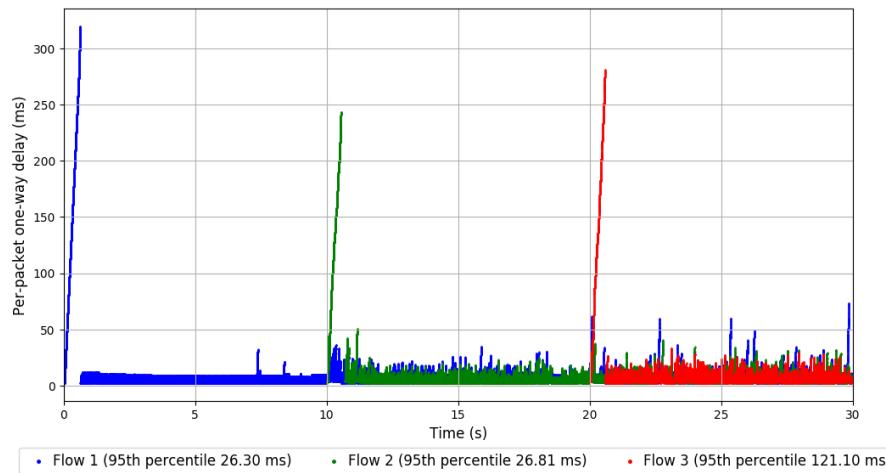
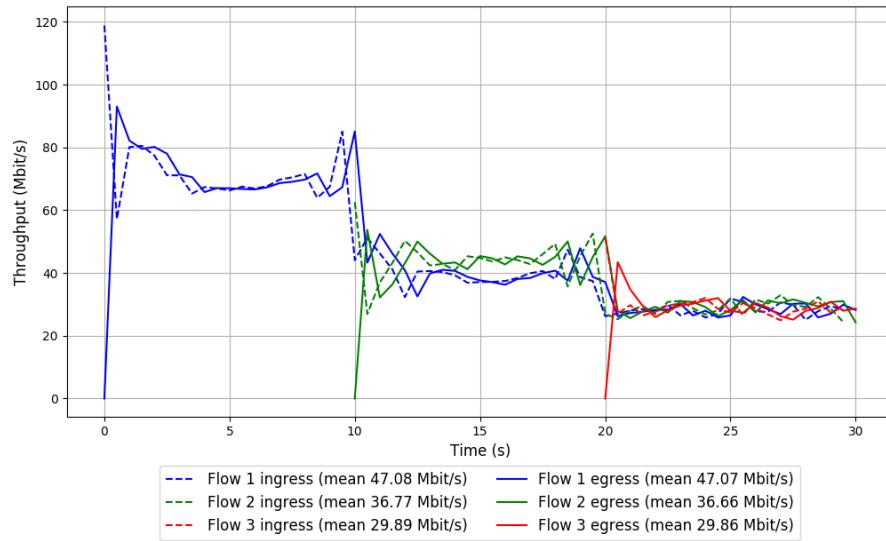


Run 2: Statistics of Verus

```
Start at: 2018-10-02 16:58:32
End at: 2018-10-02 16:59:02
Local clock offset: -2.031 ms
Remote clock offset: -0.939 ms

# Below is generated by plot.py at 2018-10-02 18:32:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.41 Mbit/s
95th percentile per-packet one-way delay: 29.056 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 47.07 Mbit/s
95th percentile per-packet one-way delay: 26.297 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 36.66 Mbit/s
95th percentile per-packet one-way delay: 26.807 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 29.86 Mbit/s
95th percentile per-packet one-way delay: 121.100 ms
Loss rate: 0.12%
```

Run 2: Report of Verus — Data Link

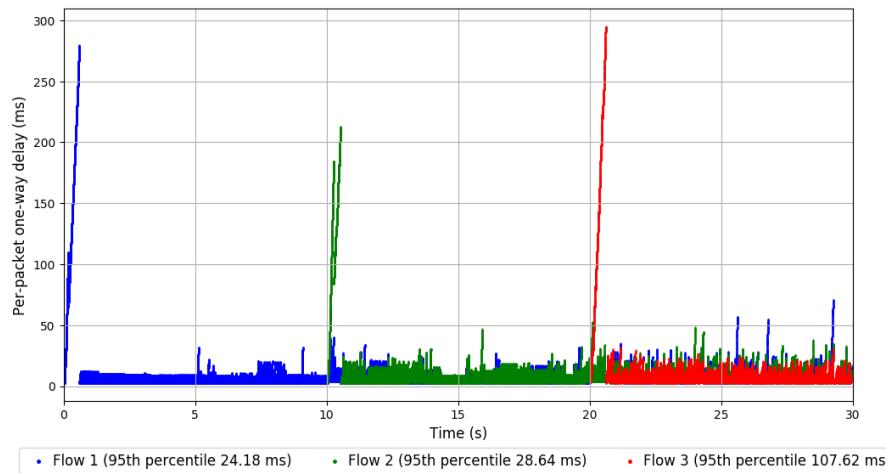
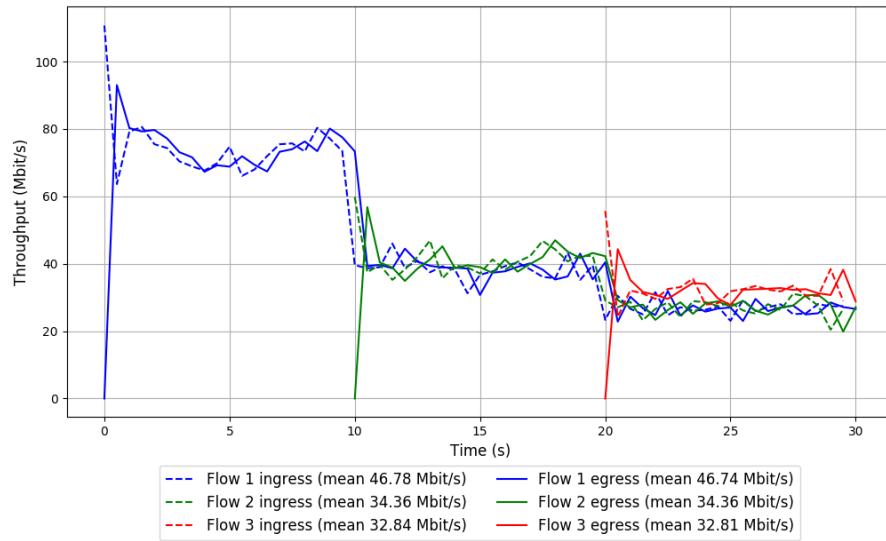


Run 3: Statistics of Verus

```
Start at: 2018-10-02 17:19:21
End at: 2018-10-02 17:19:51
Local clock offset: -3.289 ms
Remote clock offset: -0.8 ms

# Below is generated by plot.py at 2018-10-02 18:32:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.50 Mbit/s
95th percentile per-packet one-way delay: 28.215 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 46.74 Mbit/s
95th percentile per-packet one-way delay: 24.176 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 34.36 Mbit/s
95th percentile per-packet one-way delay: 28.638 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 107.623 ms
Loss rate: 0.12%
```

Run 3: Report of Verus — Data Link

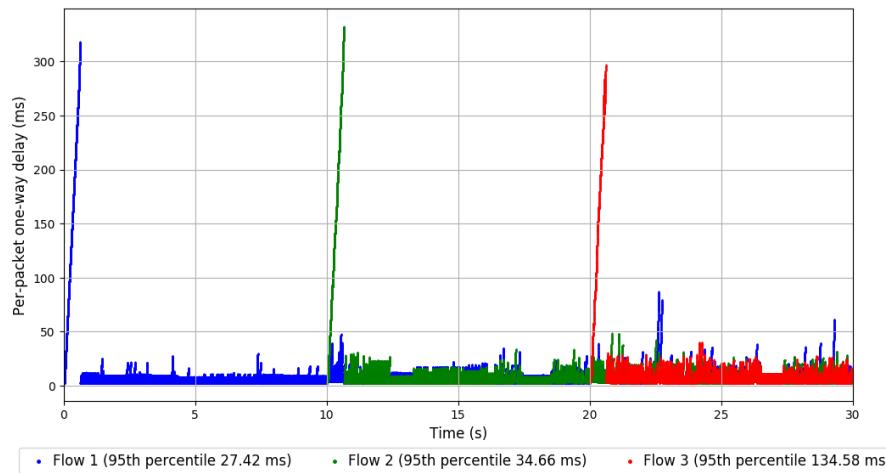
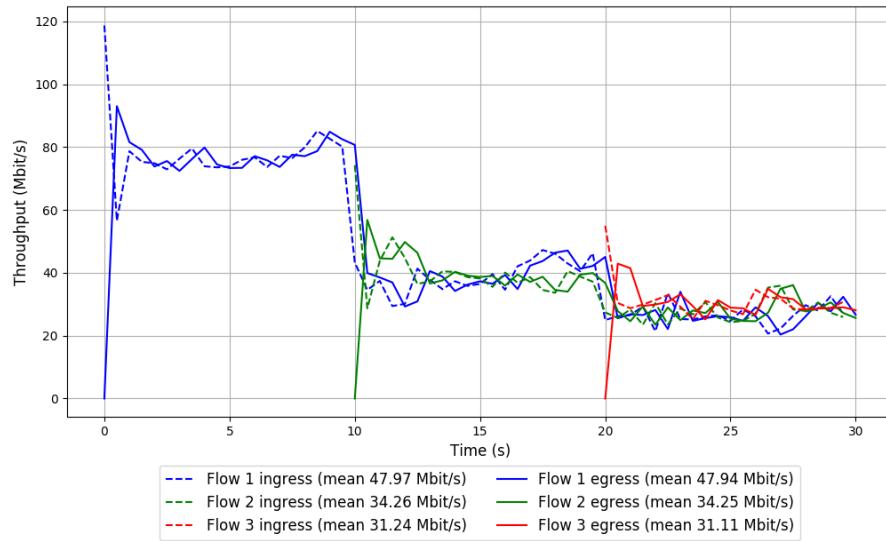


Run 4: Statistics of Verus

```
Start at: 2018-10-02 17:40:11
End at: 2018-10-02 17:40:41
Local clock offset: -7.05 ms
Remote clock offset: -0.783 ms

# Below is generated by plot.py at 2018-10-02 18:32:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.08 Mbit/s
95th percentile per-packet one-way delay: 33.581 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 47.94 Mbit/s
95th percentile per-packet one-way delay: 27.421 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 34.662 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 31.11 Mbit/s
95th percentile per-packet one-way delay: 134.582 ms
Loss rate: 0.47%
```

Run 4: Report of Verus — Data Link

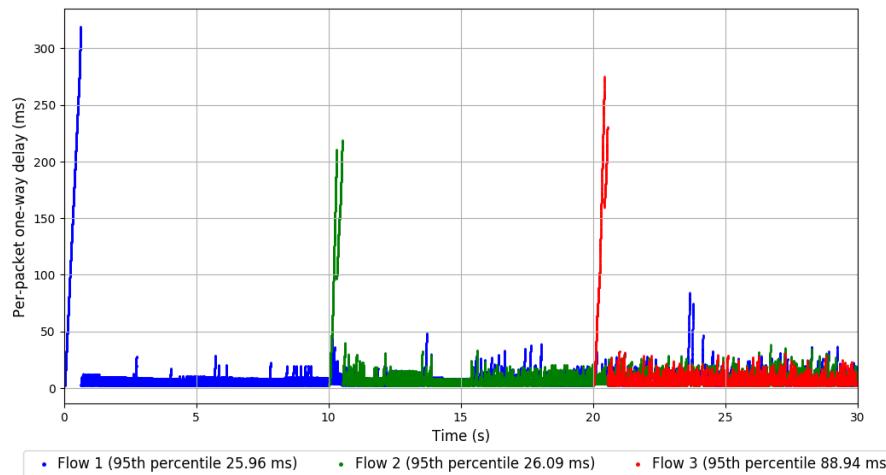
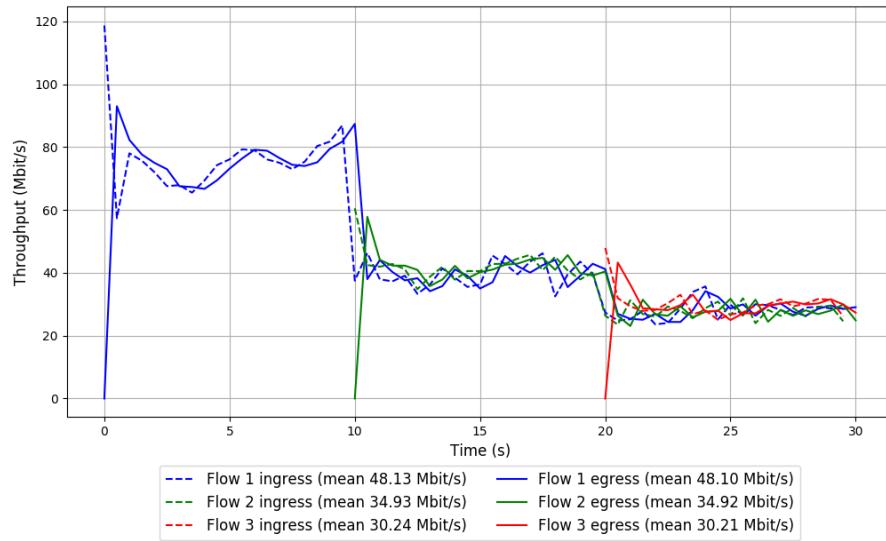


Run 5: Statistics of Verus

```
Start at: 2018-10-02 18:01:00
End at: 2018-10-02 18:01:30
Local clock offset: -3.446 ms
Remote clock offset: -0.793 ms

# Below is generated by plot.py at 2018-10-02 18:32:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.40 Mbit/s
95th percentile per-packet one-way delay: 27.551 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 48.10 Mbit/s
95th percentile per-packet one-way delay: 25.960 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.92 Mbit/s
95th percentile per-packet one-way delay: 26.090 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 30.21 Mbit/s
95th percentile per-packet one-way delay: 88.939 ms
Loss rate: 0.13%
```

Run 5: Report of Verus — Data Link

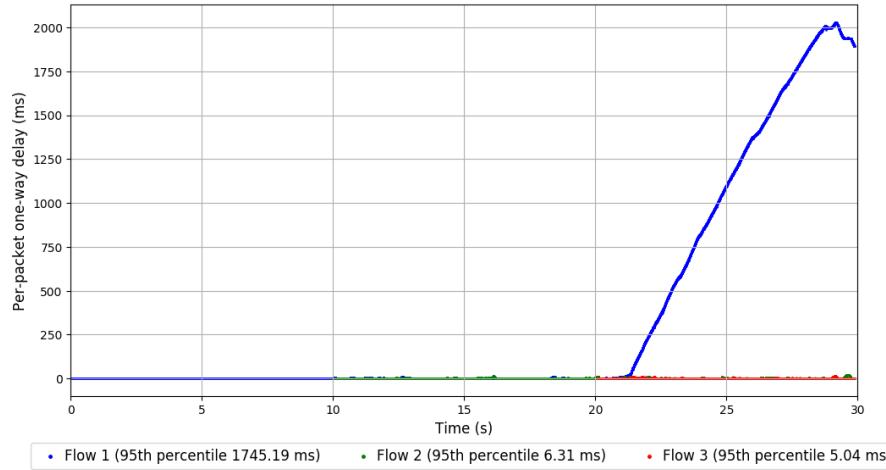
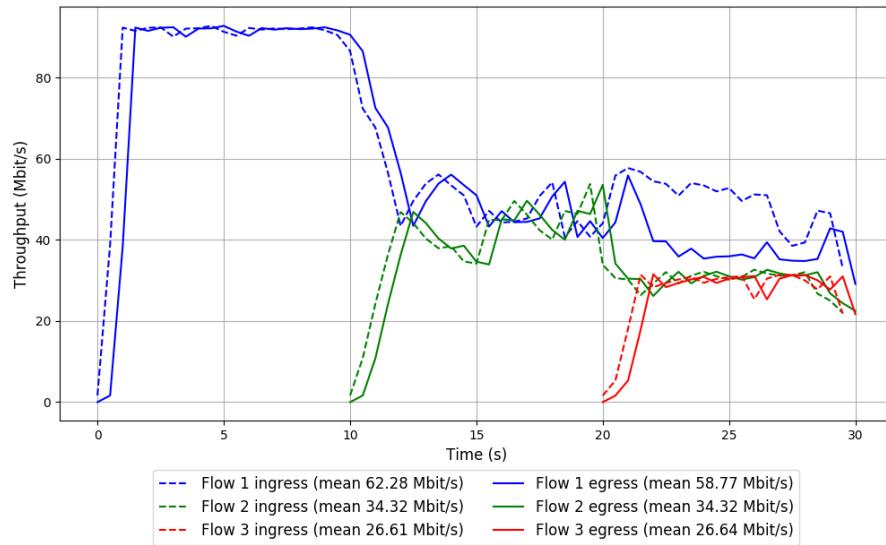


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-10-02 16:43:29
End at: 2018-10-02 16:43:59
Local clock offset: -2.527 ms
Remote clock offset: -0.925 ms

# Below is generated by plot.py at 2018-10-02 18:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.40 Mbit/s
95th percentile per-packet one-way delay: 1401.706 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 1745.188 ms
Loss rate: 5.65%
-- Flow 2:
Average throughput: 34.32 Mbit/s
95th percentile per-packet one-way delay: 6.308 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 26.64 Mbit/s
95th percentile per-packet one-way delay: 5.039 ms
Loss rate: 0.06%
```

Run 1: Report of PCC-Vivace — Data Link

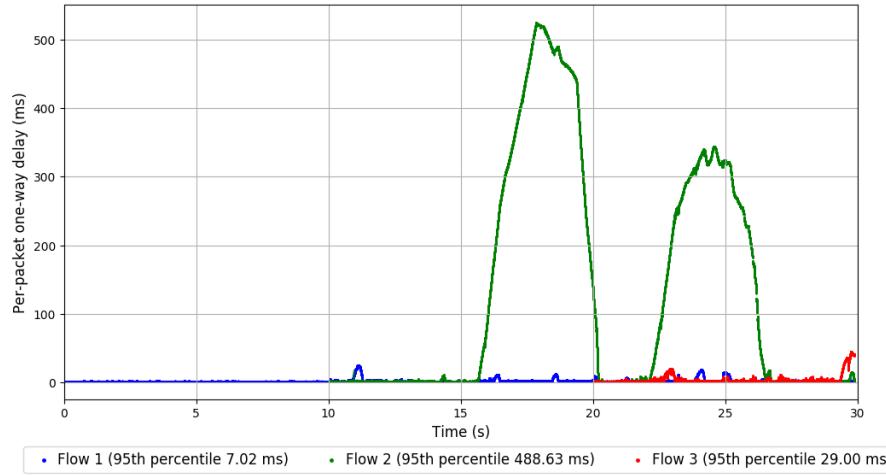
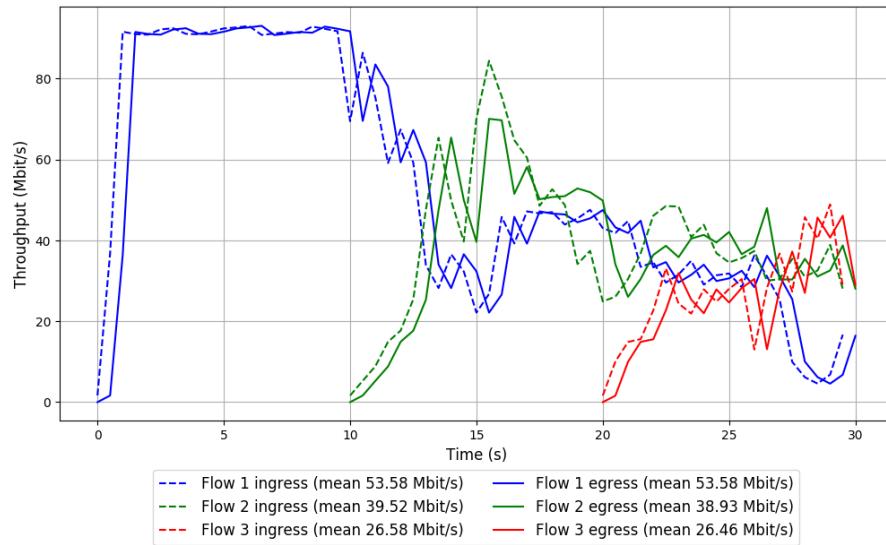


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-02 17:04:20
End at: 2018-10-02 17:04:50
Local clock offset: -1.883 ms
Remote clock offset: -0.845 ms

# Below is generated by plot.py at 2018-10-02 18:32:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.21 Mbit/s
95th percentile per-packet one-way delay: 343.656 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 53.58 Mbit/s
95th percentile per-packet one-way delay: 7.022 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 488.635 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 26.46 Mbit/s
95th percentile per-packet one-way delay: 28.998 ms
Loss rate: 0.51%
```

Run 2: Report of PCC-Vivace — Data Link

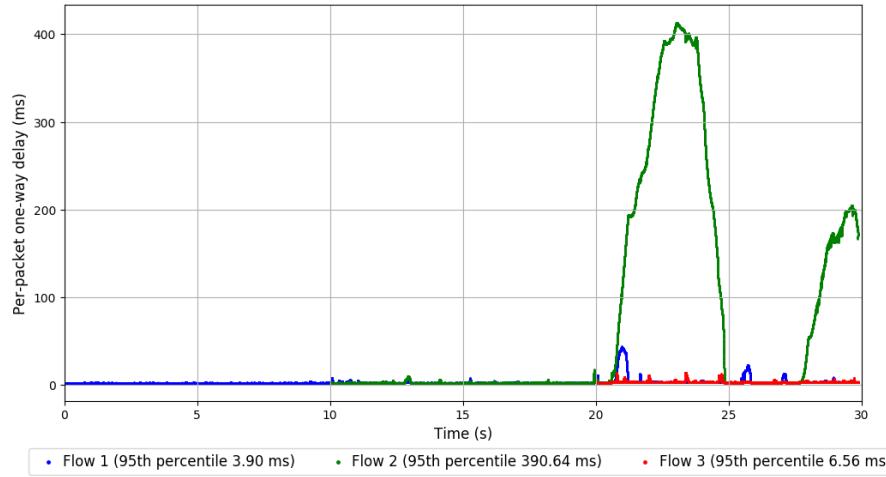
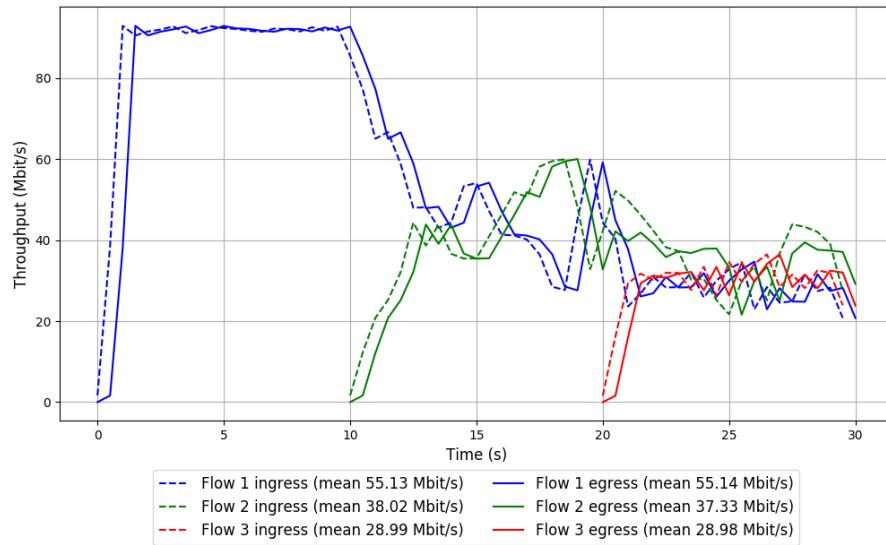


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-02 17:25:09
End at: 2018-10-02 17:25:39
Local clock offset: -5.06 ms
Remote clock offset: -0.784 ms

# Below is generated by plot.py at 2018-10-02 18:32:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.51 Mbit/s
95th percentile per-packet one-way delay: 192.845 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 55.14 Mbit/s
95th percentile per-packet one-way delay: 3.905 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 37.33 Mbit/s
95th percentile per-packet one-way delay: 390.643 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 28.98 Mbit/s
95th percentile per-packet one-way delay: 6.563 ms
Loss rate: 0.06%
```

Run 3: Report of PCC-Vivace — Data Link

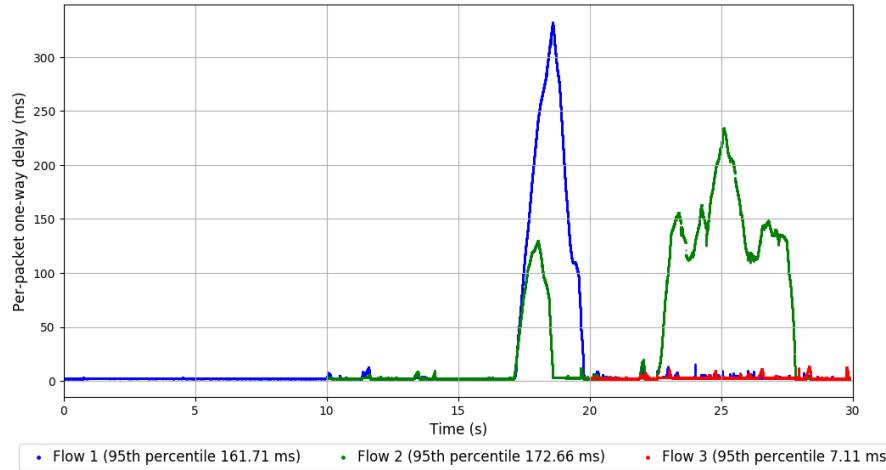
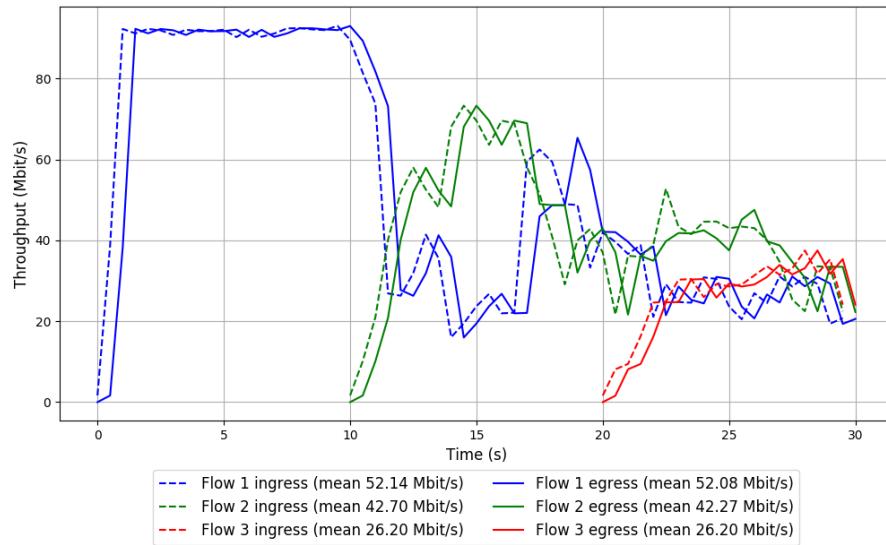


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-02 17:45:59
End at: 2018-10-02 17:46:29
Local clock offset: -7.101 ms
Remote clock offset: -0.804 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.84 Mbit/s
95th percentile per-packet one-way delay: 156.301 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 52.08 Mbit/s
95th percentile per-packet one-way delay: 161.710 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 42.27 Mbit/s
95th percentile per-packet one-way delay: 172.656 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 26.20 Mbit/s
95th percentile per-packet one-way delay: 7.112 ms
Loss rate: 0.03%
```

Run 4: Report of PCC-Vivace — Data Link

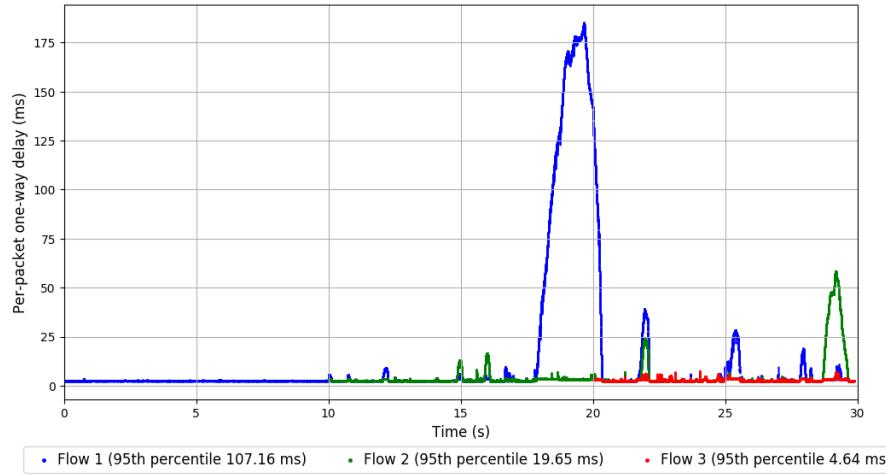
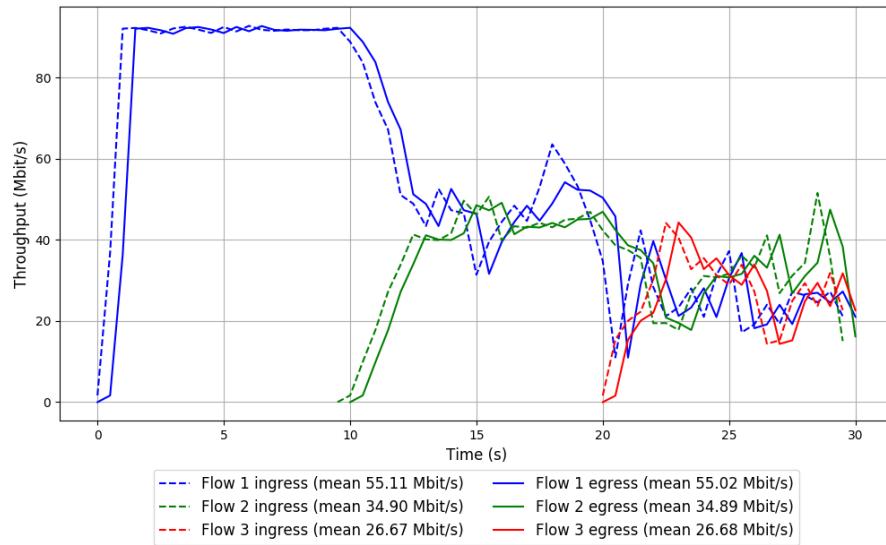


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-02 18:06:48
End at: 2018-10-02 18:07:18
Local clock offset: -2.954 ms
Remote clock offset: -0.845 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 41.658 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 107.155 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 34.89 Mbit/s
95th percentile per-packet one-way delay: 19.646 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 26.68 Mbit/s
95th percentile per-packet one-way delay: 4.639 ms
Loss rate: 0.05%
```

Run 5: Report of PCC-Vivace — Data Link

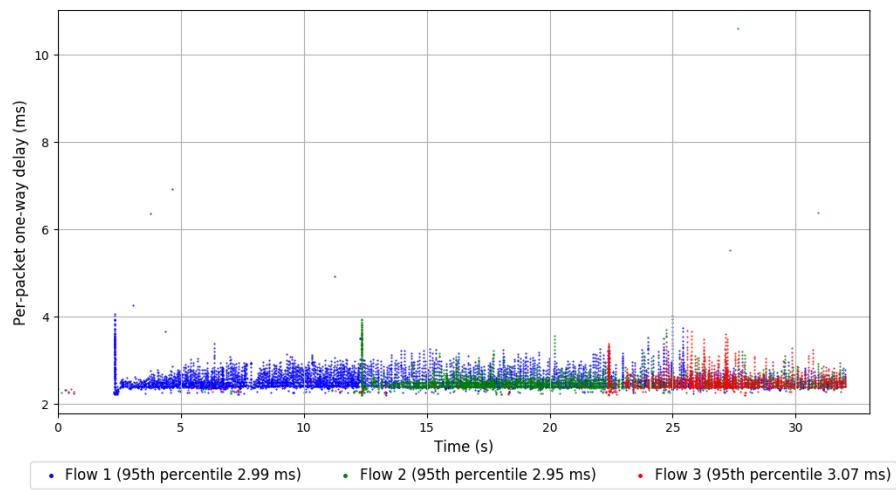
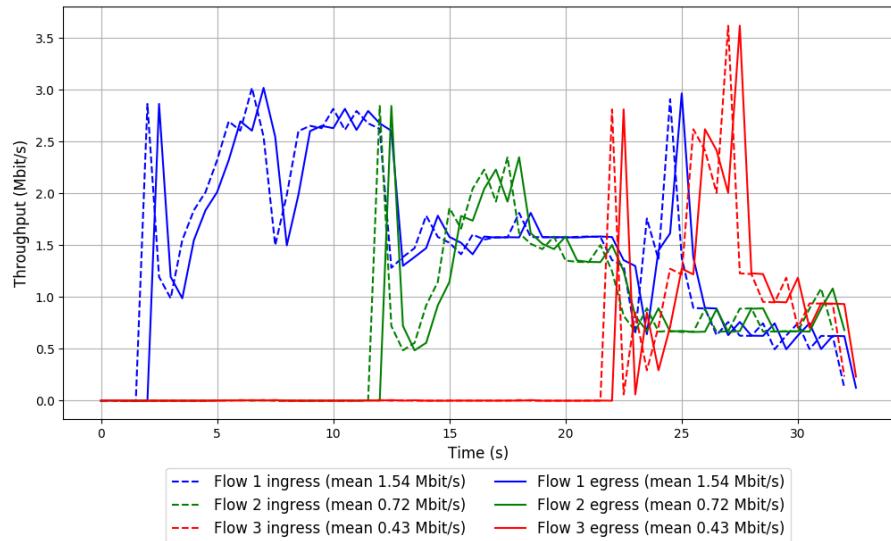


Run 1: Statistics of WebRTC media

```
Start at: 2018-10-02 16:51:33
End at: 2018-10-02 16:52:03
Local clock offset: -2.258 ms
Remote clock offset: -0.993 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.67 Mbit/s
95th percentile per-packet one-way delay: 3.001 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 2.991 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 2.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 3.074 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

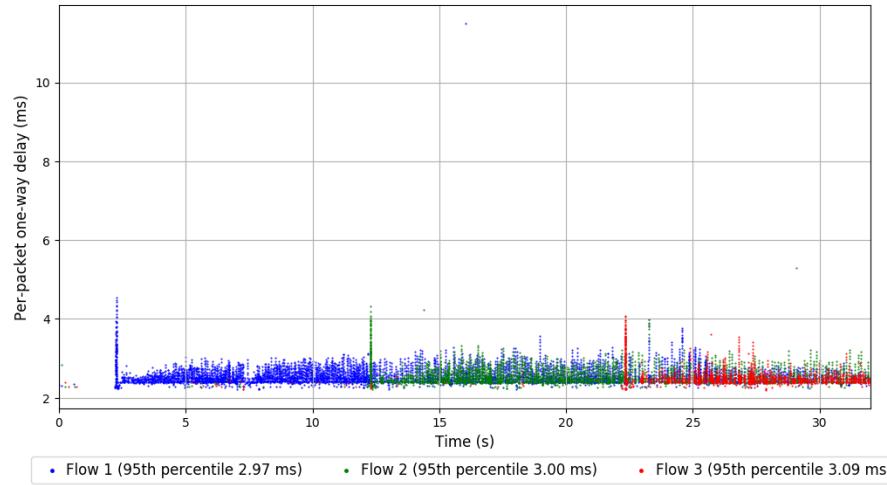
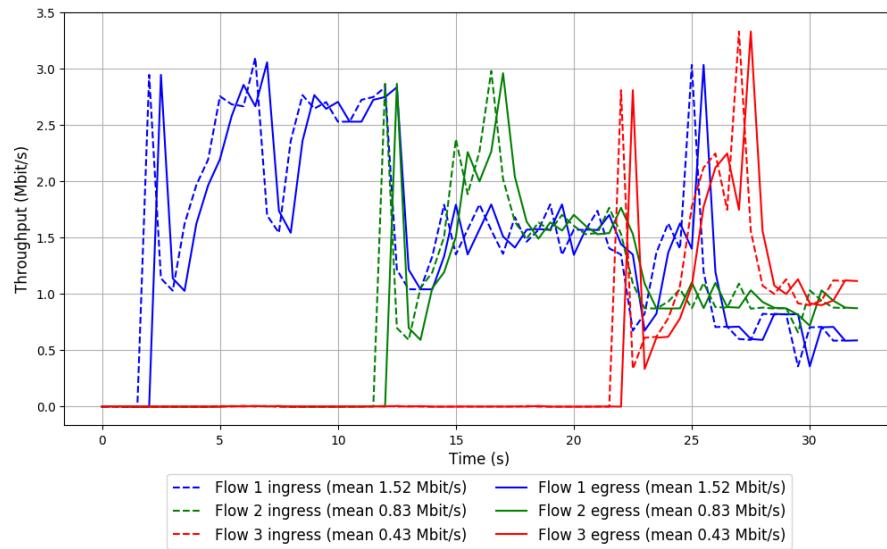


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-02 17:12:22
End at: 2018-10-02 17:12:52
Local clock offset: -1.481 ms
Remote clock offset: -0.829 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 2.990 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 2.974 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 3.005 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 3.089 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

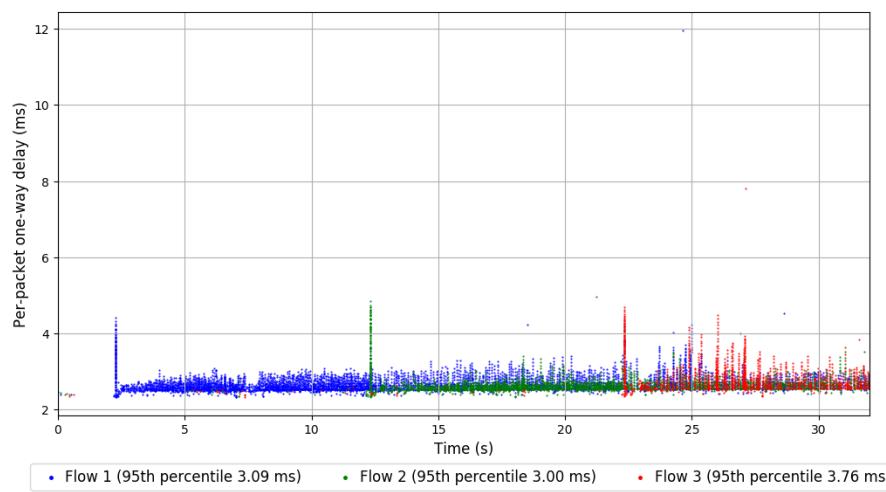
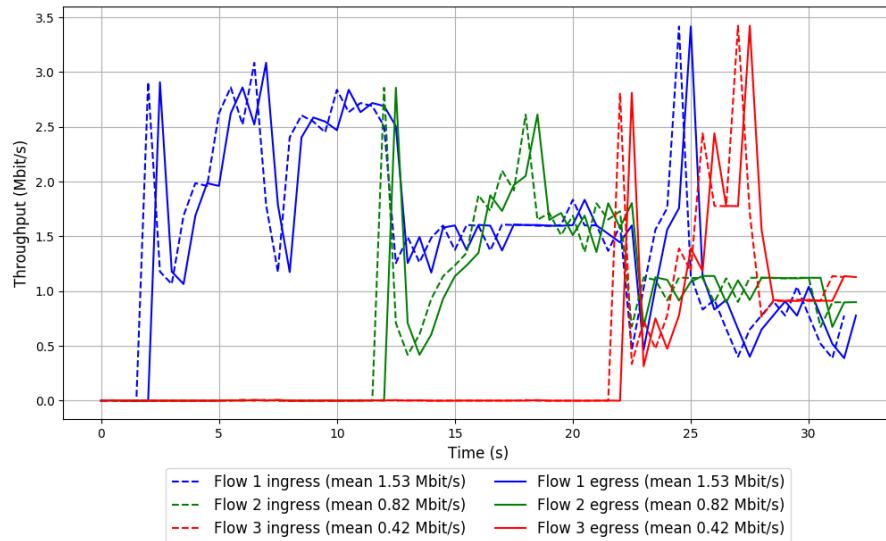


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-02 17:33:12
End at: 2018-10-02 17:33:42
Local clock offset: -6.366 ms
Remote clock offset: -0.858 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 3.203 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 3.089 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 2.997 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 3.756 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

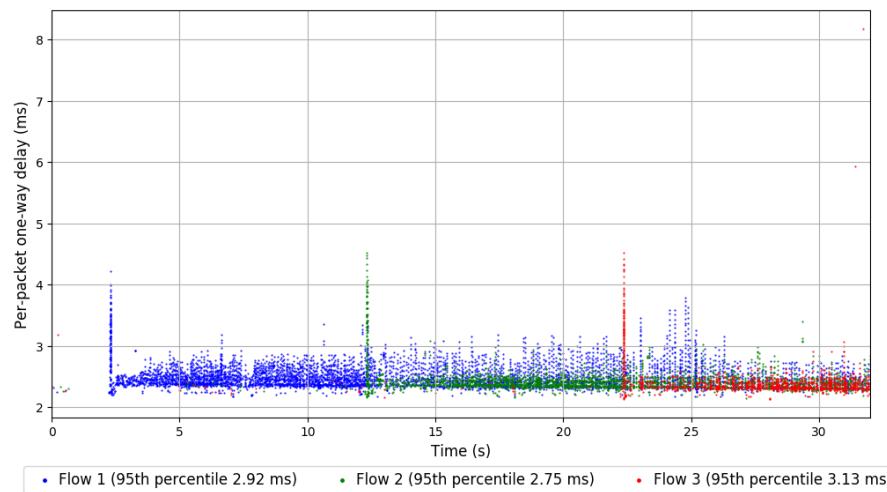
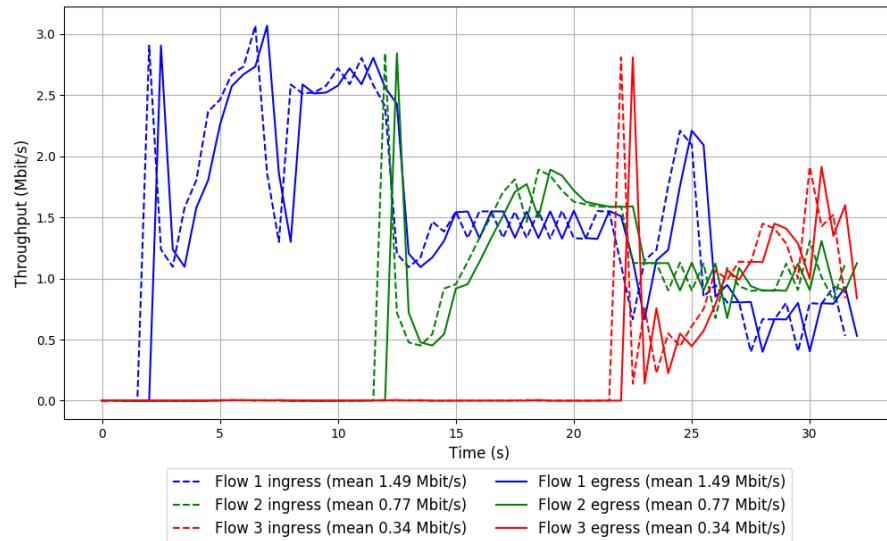


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-02 17:54:02
End at: 2018-10-02 17:54:32
Local clock offset: -4.493 ms
Remote clock offset: -0.871 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 2.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 2.916 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 2.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 3.130 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-02 18:14:50
End at: 2018-10-02 18:15:20
Local clock offset: -2.583 ms
Remote clock offset: -0.775 ms

# Below is generated by plot.py at 2018-10-02 18:32:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 3.068 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 3.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 3.151 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 2.717 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

