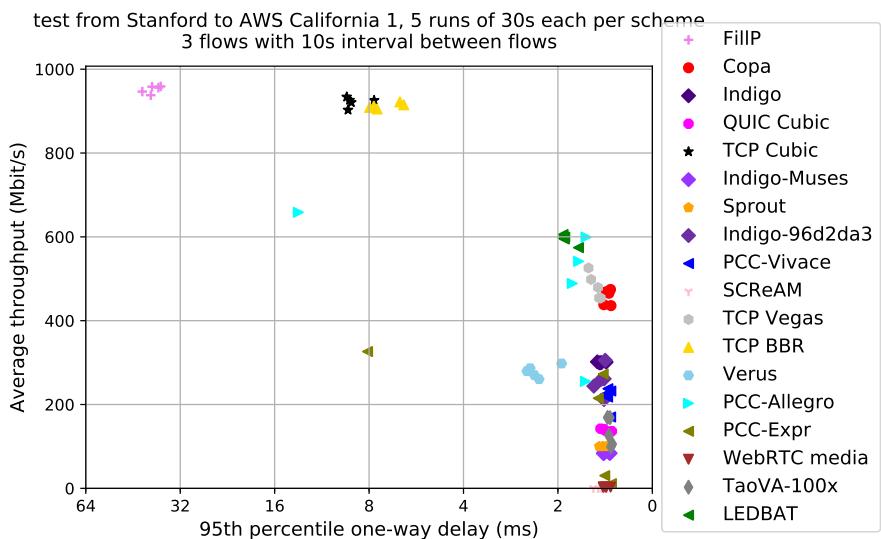
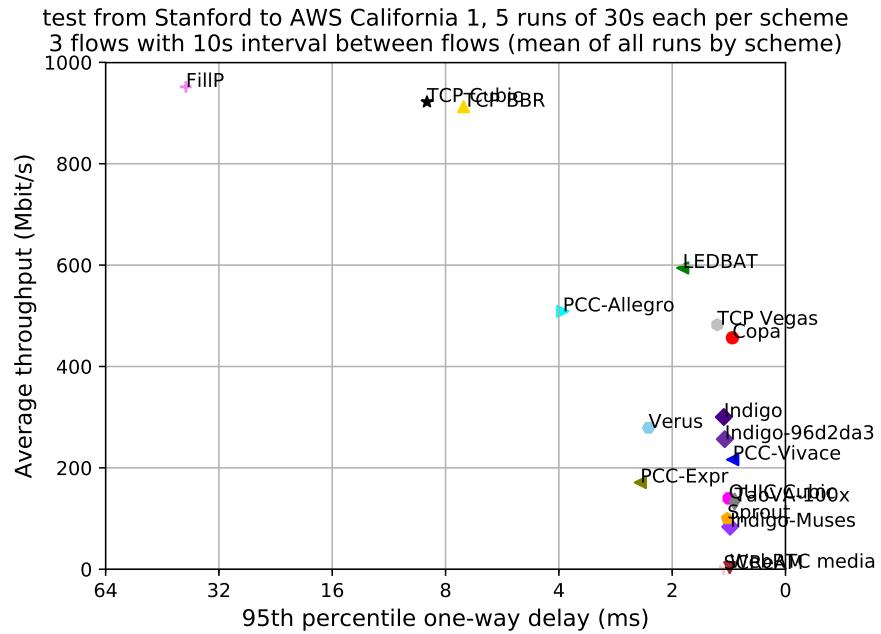


## Pantheon Report

Generated at 2018-10-02 19:52:55 (UTC).  
Data path: Stanford on `eno1` (*remote*) → AWS California 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 `time.stanford.edu` 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



4

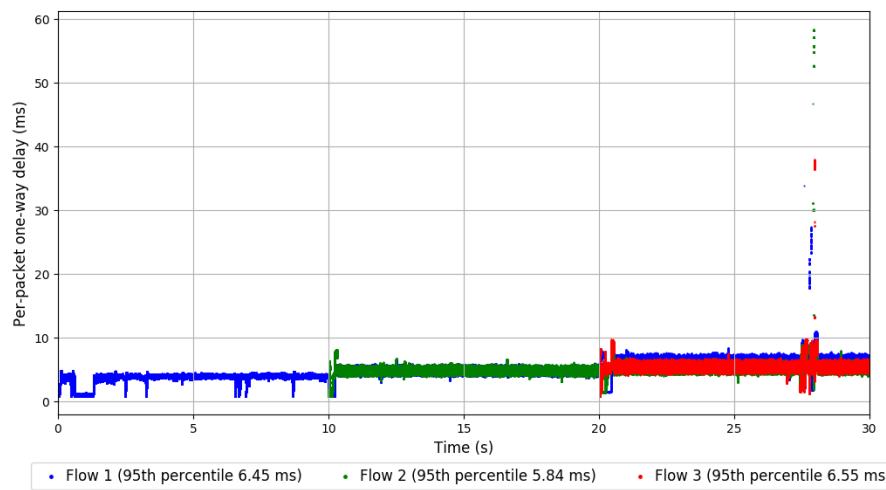
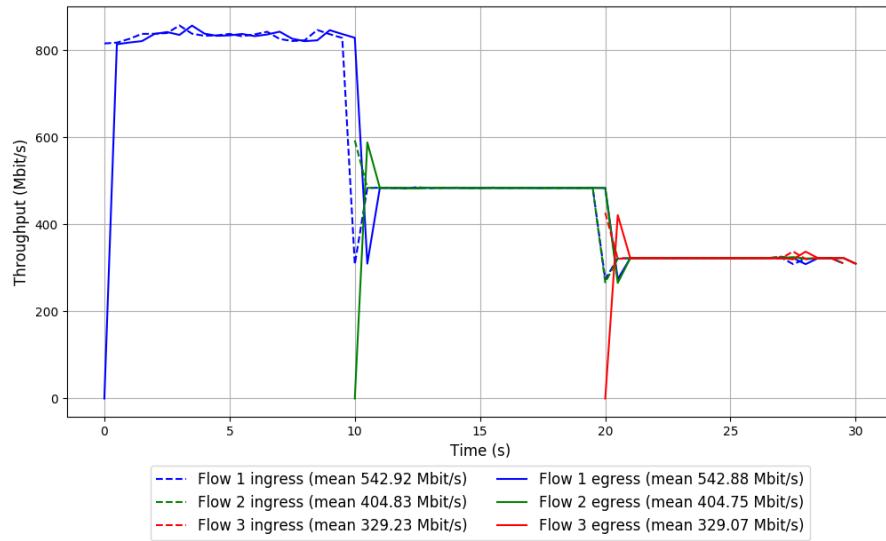
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	533.41	404.94	328.90	7.21	6.30	6.76	0.02	0.03	0.08
Copa	5	267.87	225.13	116.88	0.95	0.92	0.91	0.00	0.01	0.02
TCP Cubic	5	547.32	402.01	321.07	9.34	7.58	7.75	0.02	0.04	0.08
FillP	5	576.27	402.86	323.74	37.44	49.99	38.33	0.78	1.00	1.27
Indigo	5	160.12	147.66	127.71	1.05	1.11	1.19	0.01	0.01	0.02
Indigo-96d2da3	5	120.17	134.26	141.85	1.05	1.08	1.11	0.00	0.01	0.01
LEDBAT	5	367.90	249.11	182.36	1.79	1.88	1.74	0.00	0.00	0.02
Indigo-Muses	5	40.90	41.57	46.28	0.99	0.97	0.94	0.01	0.01	0.01
PCC-Allegro	5	352.75	185.97	98.45	5.90	1.51	1.42	0.00	0.00	0.03
PCC-Expr	5	137.15	31.04	40.39	4.17	1.04	1.06	0.00	0.01	0.01
QUIC Cubic	5	76.46	66.81	56.62	1.00	1.00	1.00	0.01	0.02	0.01
SCReAM	5	0.22	0.22	0.22	1.10	1.08	1.05	0.00	0.00	0.14
Sprout	5	50.25	50.14	49.87	1.03	1.02	1.02	0.00	0.01	0.03
TaoVA-100x	5	90.20	40.84	48.93	0.90	0.89	0.93	0.01	0.01	0.02
TCP Vegas	5	230.86	248.19	259.40	1.17	1.33	1.38	0.01	0.01	0.01
Verus	5	180.61	107.79	80.06	2.47	1.52	1.44	0.00	0.01	0.03
PCC-Vivace	5	138.39	84.36	66.18	0.92	0.98	0.96	0.00	0.01	0.05
WebRTC media	5	1.54	1.01	0.46	0.99	0.98	0.97	0.03	0.00	0.01

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-02 16:40:12
End at: 2018-10-02 16:40:42
Local clock offset: 3.697 ms
Remote clock offset: 3.051 ms

# Below is generated by plot.py at 2018-10-02 19:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 921.79 Mbit/s
95th percentile per-packet one-way delay: 6.382 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 542.88 Mbit/s
95th percentile per-packet one-way delay: 6.452 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 404.75 Mbit/s
95th percentile per-packet one-way delay: 5.843 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 329.07 Mbit/s
95th percentile per-packet one-way delay: 6.548 ms
Loss rate: 0.07%
```

## Run 1: Report of TCP BBR — Data Link

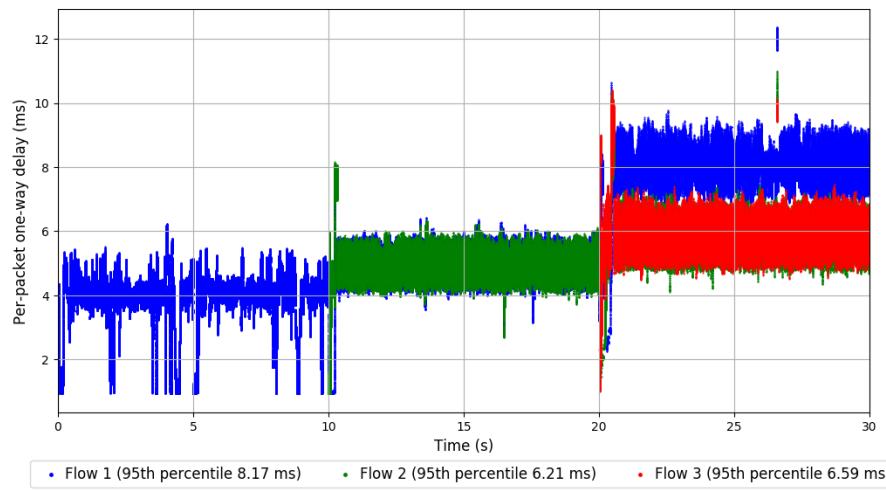
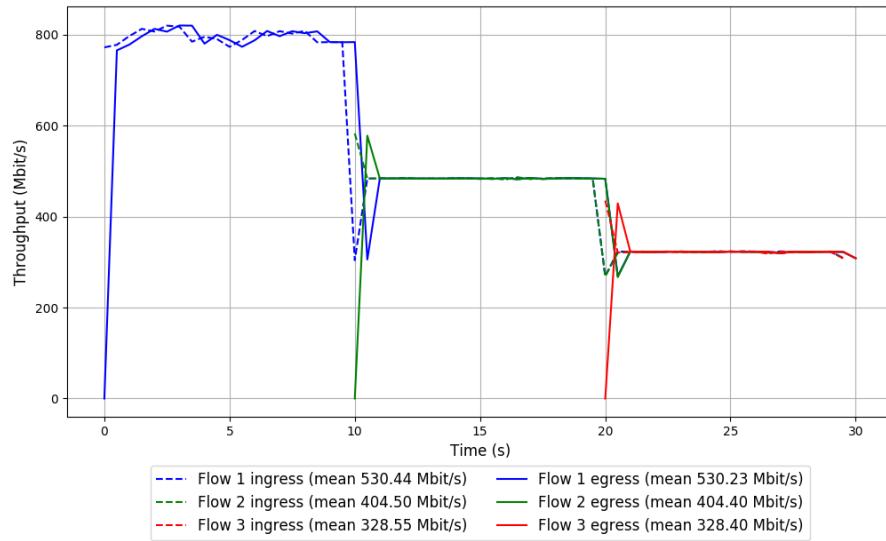


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-02 17:08:05
End at: 2018-10-02 17:08:35
Local clock offset: 4.085 ms
Remote clock offset: 0.319 ms

# Below is generated by plot.py at 2018-10-02 19:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 908.76 Mbit/s
95th percentile per-packet one-way delay: 7.968 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 530.23 Mbit/s
95th percentile per-packet one-way delay: 8.171 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 404.40 Mbit/s
95th percentile per-packet one-way delay: 6.210 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 328.40 Mbit/s
95th percentile per-packet one-way delay: 6.586 ms
Loss rate: 0.07%
```

## Run 2: Report of TCP BBR — Data Link

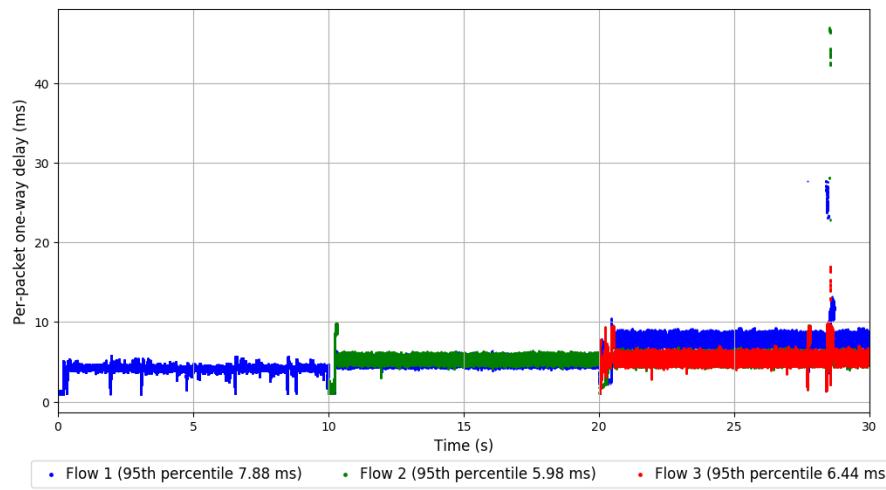
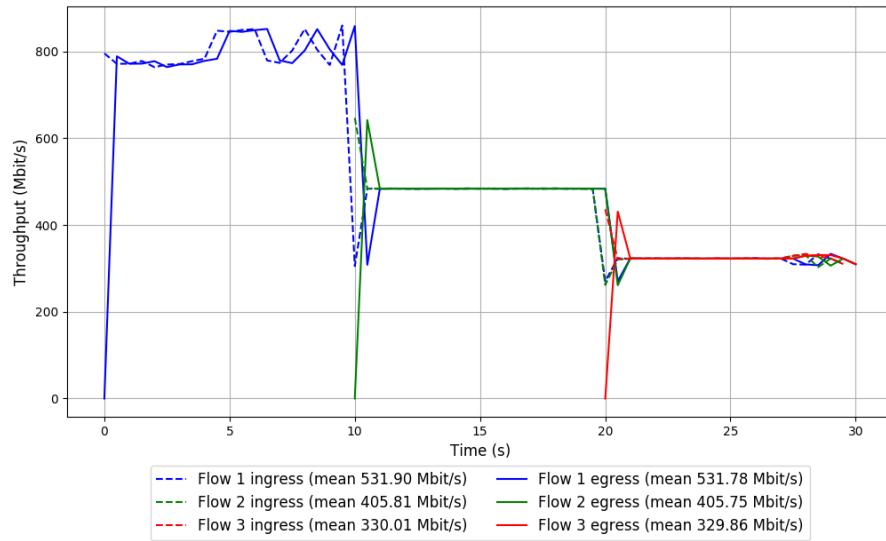


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-02 17:35:47
End at: 2018-10-02 17:36:17
Local clock offset: 4.578 ms
Remote clock offset: 2.476 ms

# Below is generated by plot.py at 2018-10-02 19:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 911.76 Mbit/s
95th percentile per-packet one-way delay: 7.727 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 531.78 Mbit/s
95th percentile per-packet one-way delay: 7.884 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 405.75 Mbit/s
95th percentile per-packet one-way delay: 5.984 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 329.86 Mbit/s
95th percentile per-packet one-way delay: 6.440 ms
Loss rate: 0.06%
```

### Run 3: Report of TCP BBR — Data Link

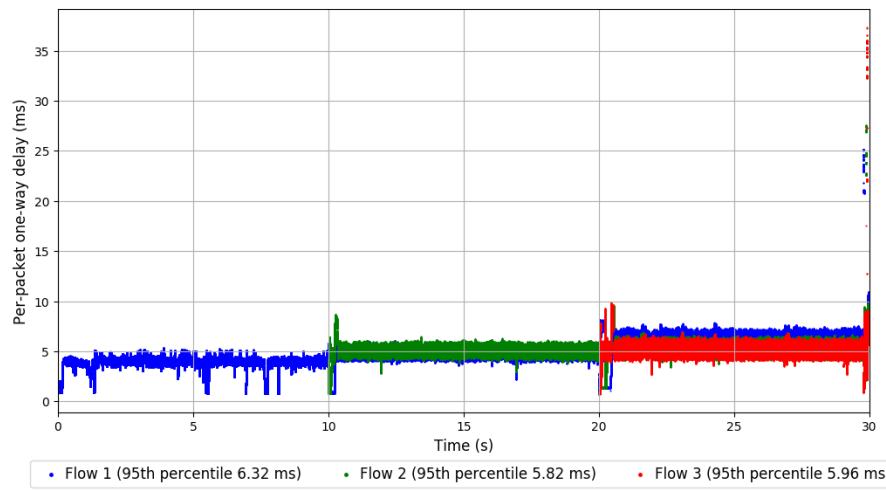
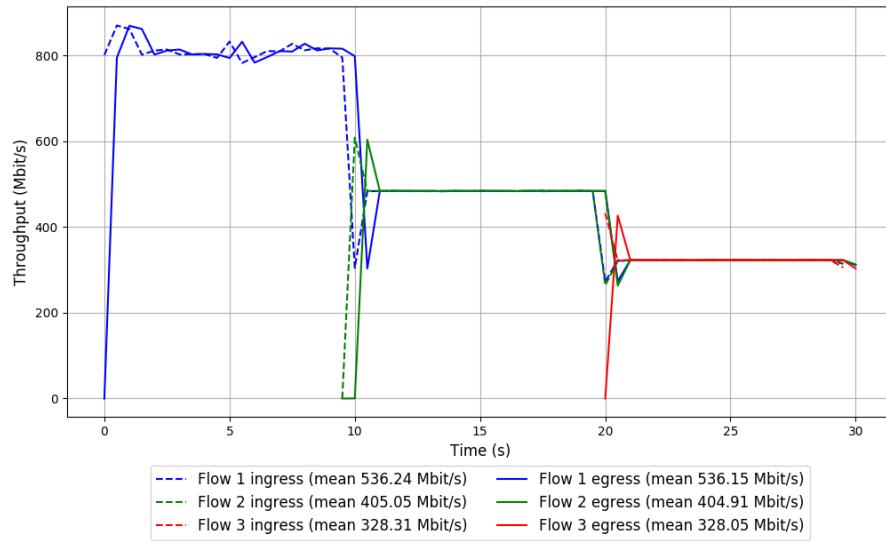


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-02 18:03:30
End at: 2018-10-02 18:04:00
Local clock offset: 6.213 ms
Remote clock offset: 2.539 ms

# Below is generated by plot.py at 2018-10-02 19:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 915.05 Mbit/s
95th percentile per-packet one-way delay: 6.203 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 536.15 Mbit/s
95th percentile per-packet one-way delay: 6.318 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 404.91 Mbit/s
95th percentile per-packet one-way delay: 5.822 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 328.05 Mbit/s
95th percentile per-packet one-way delay: 5.959 ms
Loss rate: 0.09%
```

## Run 4: Report of TCP BBR — Data Link

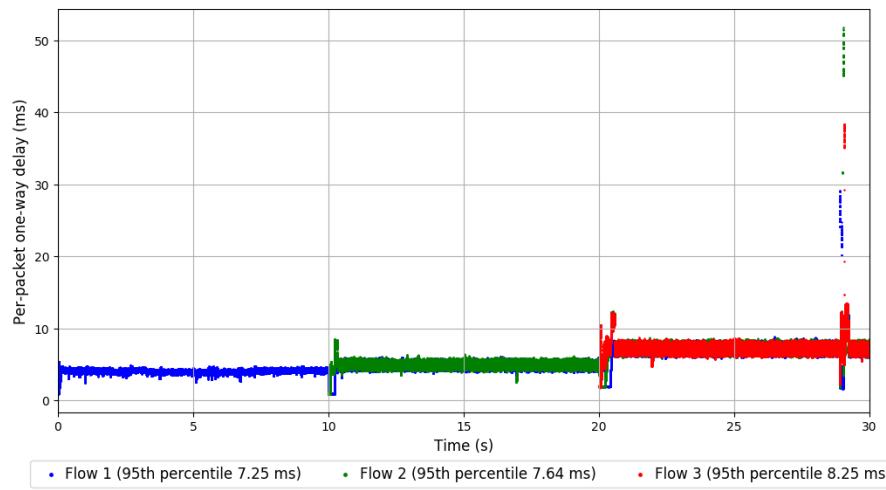
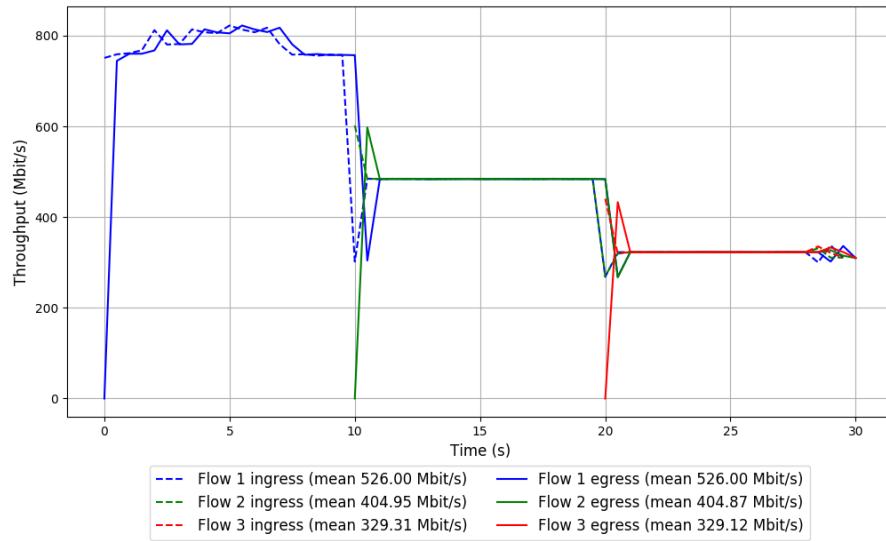


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-02 18:31:11
End at: 2018-10-02 18:31:41
Local clock offset: 7.531 ms
Remote clock offset: -0.152 ms

# Below is generated by plot.py at 2018-10-02 19:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 905.13 Mbit/s
95th percentile per-packet one-way delay: 7.542 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 526.00 Mbit/s
95th percentile per-packet one-way delay: 7.245 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 404.87 Mbit/s
95th percentile per-packet one-way delay: 7.640 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 329.12 Mbit/s
95th percentile per-packet one-way delay: 8.248 ms
Loss rate: 0.09%
```

## Run 5: Report of TCP BBR — Data Link

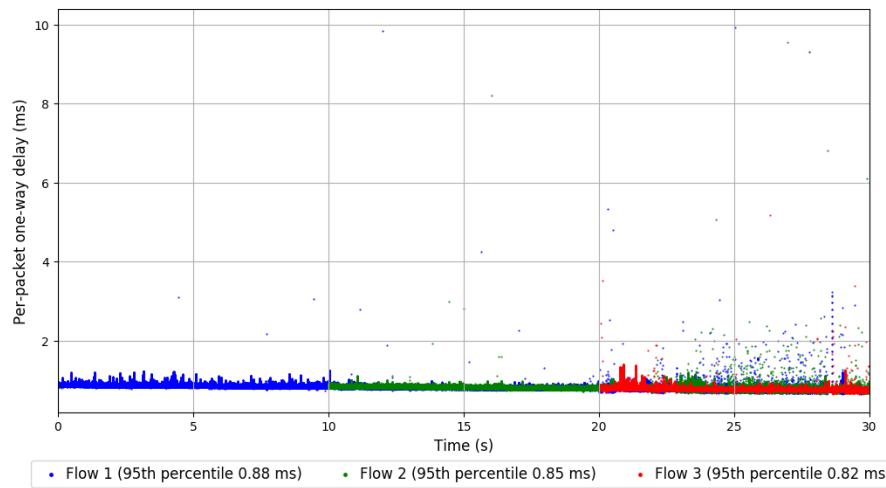
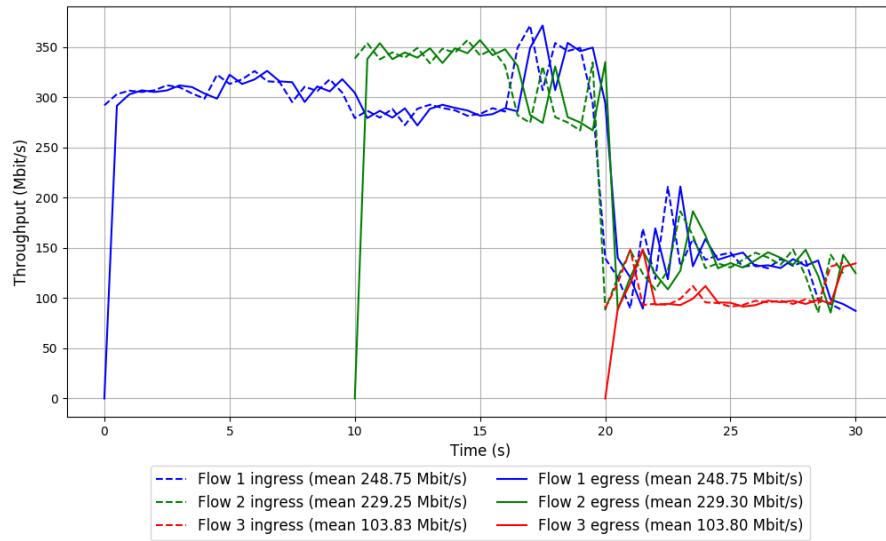


Run 1: Statistics of Copa

```
Start at: 2018-10-02 16:54:10
End at: 2018-10-02 16:54:40
Local clock offset: 3.973 ms
Remote clock offset: 2.265 ms

# Below is generated by plot.py at 2018-10-02 19:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 435.95 Mbit/s
95th percentile per-packet one-way delay: 0.876 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 248.75 Mbit/s
95th percentile per-packet one-way delay: 0.882 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 229.30 Mbit/s
95th percentile per-packet one-way delay: 0.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.80 Mbit/s
95th percentile per-packet one-way delay: 0.821 ms
Loss rate: 0.04%
```

Run 1: Report of Copa — Data Link

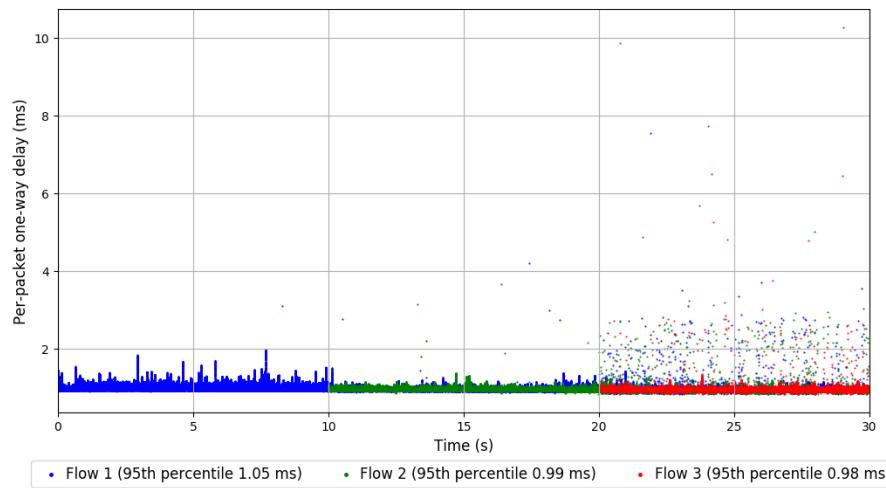
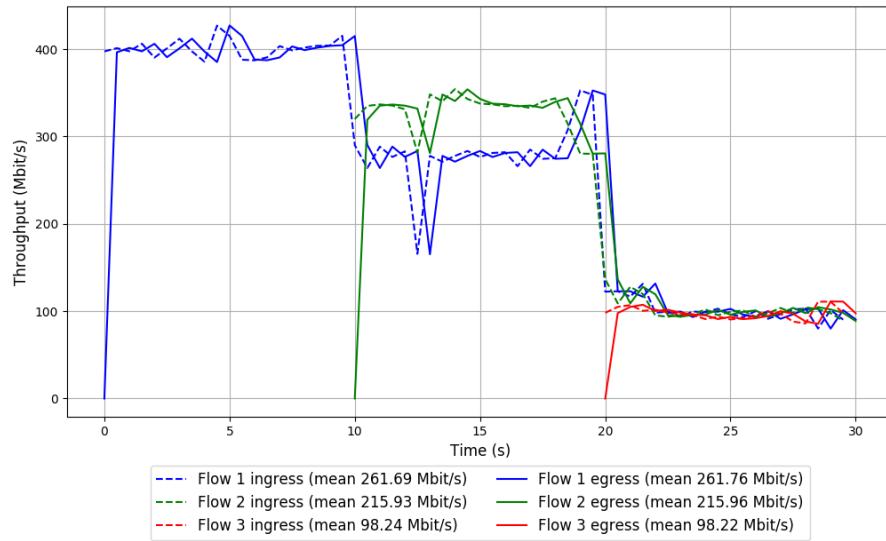


Run 2: Statistics of Copa

```
Start at: 2018-10-02 17:21:56
End at: 2018-10-02 17:22:26
Local clock offset: 4.337 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2018-10-02 19:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.15 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 261.76 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 215.96 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 98.22 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.01%
```

## Run 2: Report of Copa — Data Link

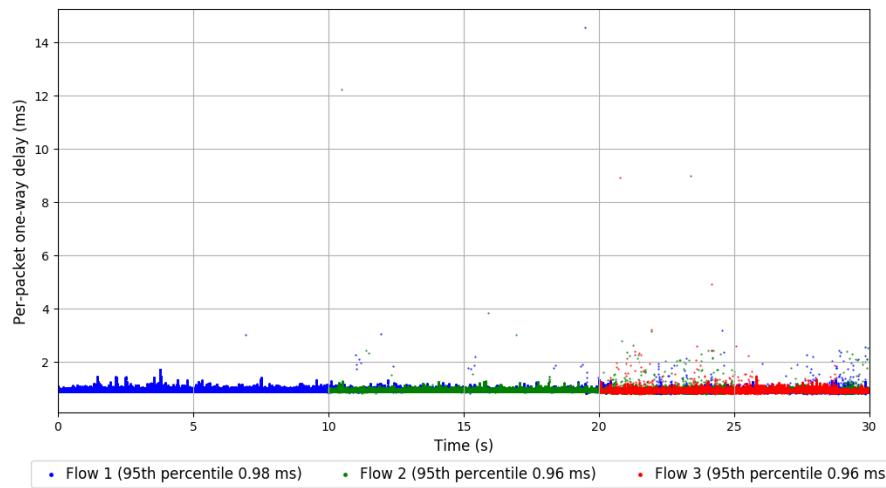
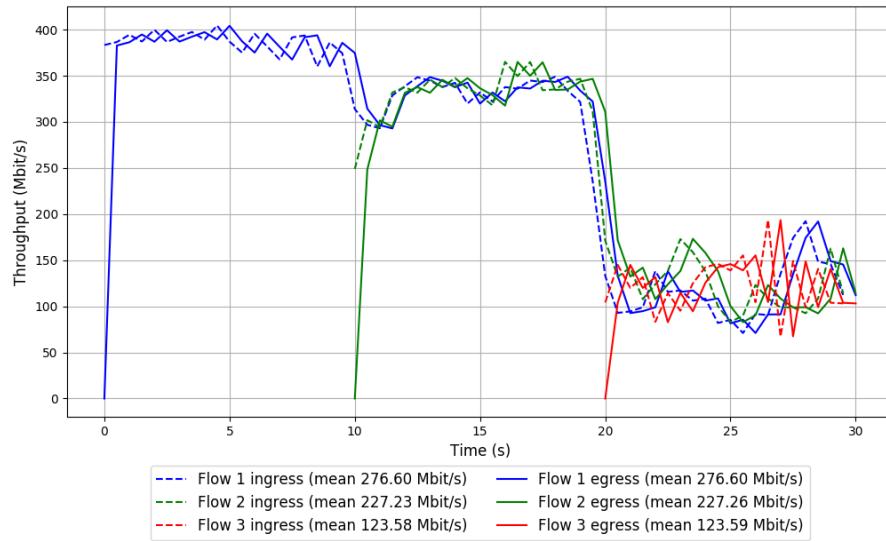


Run 3: Statistics of Copa

```
Start at: 2018-10-02 17:49:49
End at: 2018-10-02 17:50:19
Local clock offset: 5.205 ms
Remote clock offset: 3.822 ms

# Below is generated by plot.py at 2018-10-02 19:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 468.99 Mbit/s
95th percentile per-packet one-way delay: 0.976 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 276.60 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 227.26 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 123.59 Mbit/s
95th percentile per-packet one-way delay: 0.964 ms
Loss rate: 0.02%
```

### Run 3: Report of Copa — Data Link

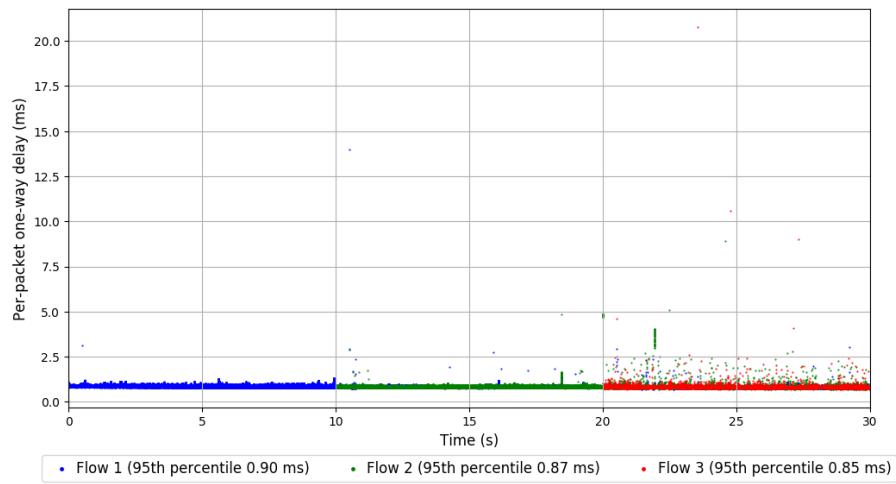
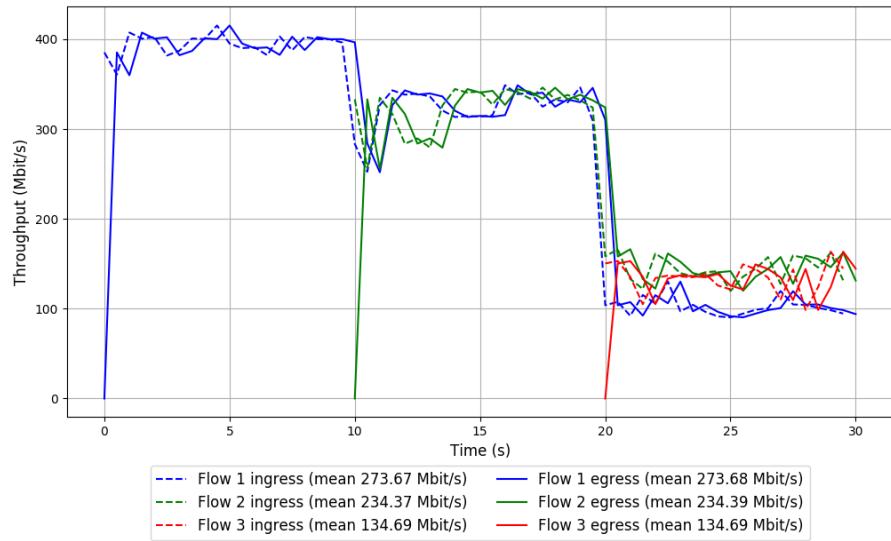


Run 4: Statistics of Copa

```
Start at: 2018-10-02 18:17:28
End at: 2018-10-02 18:17:58
Local clock offset: 6.847 ms
Remote clock offset: 0.49 ms

# Below is generated by plot.py at 2018-10-02 19:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.52 Mbit/s
95th percentile per-packet one-way delay: 0.886 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 273.68 Mbit/s
95th percentile per-packet one-way delay: 0.896 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.39 Mbit/s
95th percentile per-packet one-way delay: 0.873 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 134.69 Mbit/s
95th percentile per-packet one-way delay: 0.850 ms
Loss rate: 0.02%
```

## Run 4: Report of Copa — Data Link

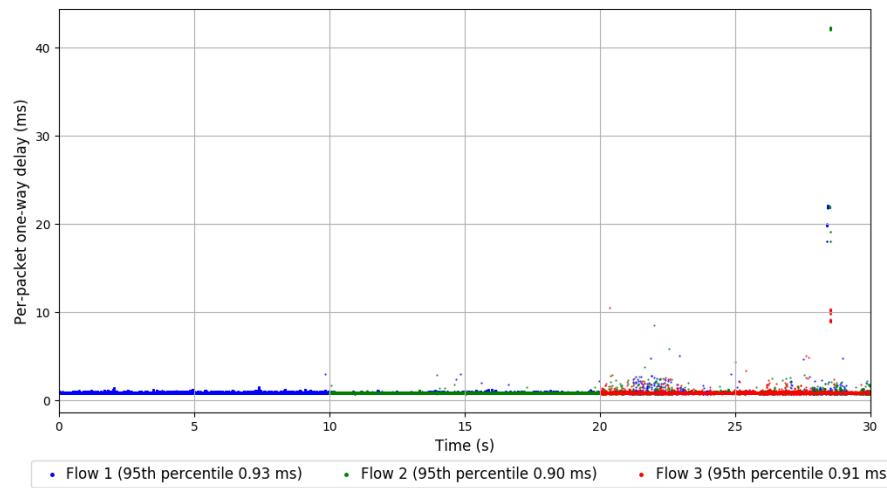
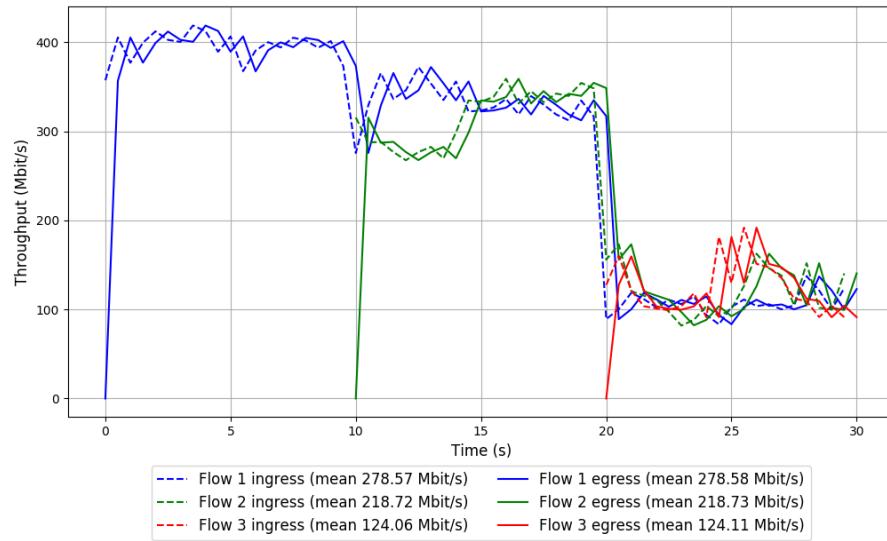


Run 5: Statistics of Copa

```
Start at: 2018-10-02 18:45:08
End at: 2018-10-02 18:45:38
Local clock offset: 8.088 ms
Remote clock offset: 0.177 ms

# Below is generated by plot.py at 2018-10-02 19:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 465.49 Mbit/s
95th percentile per-packet one-way delay: 0.920 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 278.58 Mbit/s
95th percentile per-packet one-way delay: 0.928 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 218.73 Mbit/s
95th percentile per-packet one-way delay: 0.899 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 124.11 Mbit/s
95th percentile per-packet one-way delay: 0.914 ms
Loss rate: 0.00%
```

Run 5: Report of Copa — Data Link

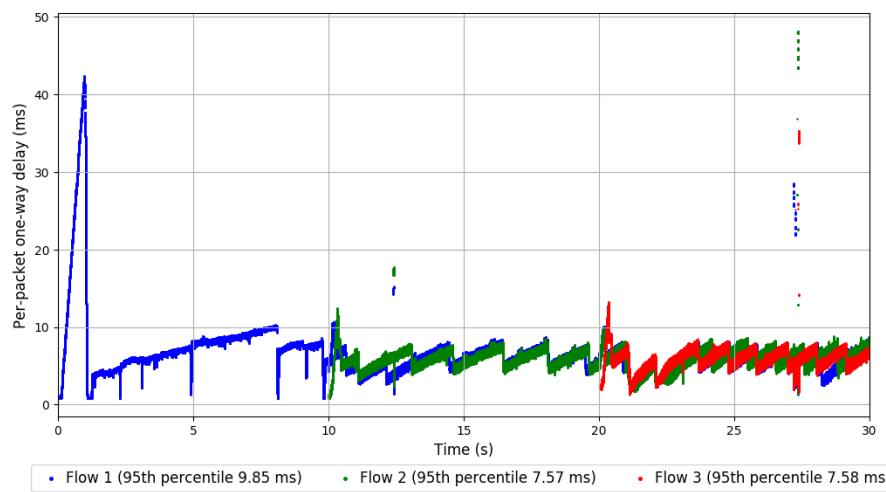
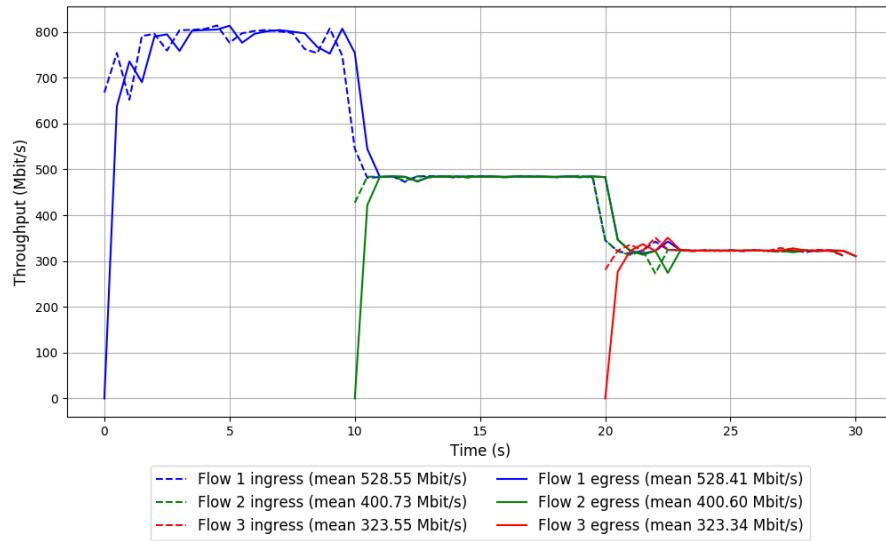


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-02 17:00:26
End at: 2018-10-02 17:00:56
Local clock offset: 4.048 ms
Remote clock offset: 1.12 ms

# Below is generated by plot.py at 2018-10-02 19:19:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 902.82 Mbit/s
95th percentile per-packet one-way delay: 9.337 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 528.41 Mbit/s
95th percentile per-packet one-way delay: 9.845 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 400.60 Mbit/s
95th percentile per-packet one-way delay: 7.574 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 323.34 Mbit/s
95th percentile per-packet one-way delay: 7.576 ms
Loss rate: 0.09%
```

Run 1: Report of TCP Cubic — Data Link

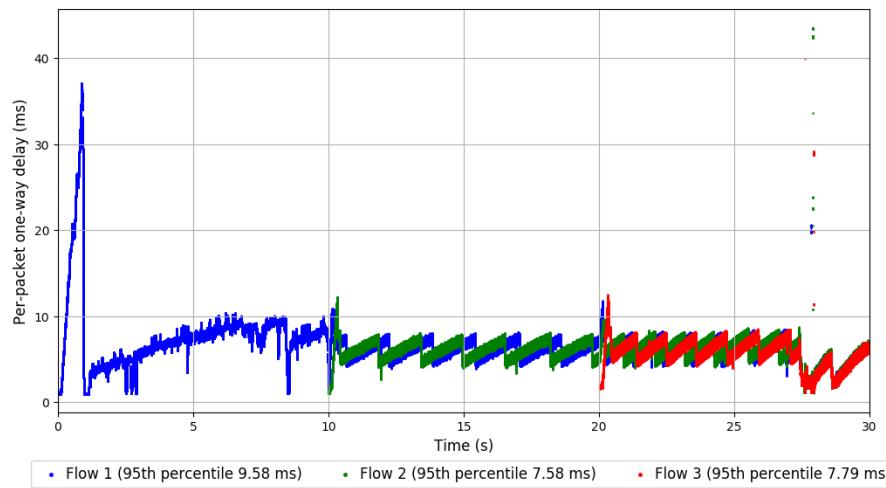
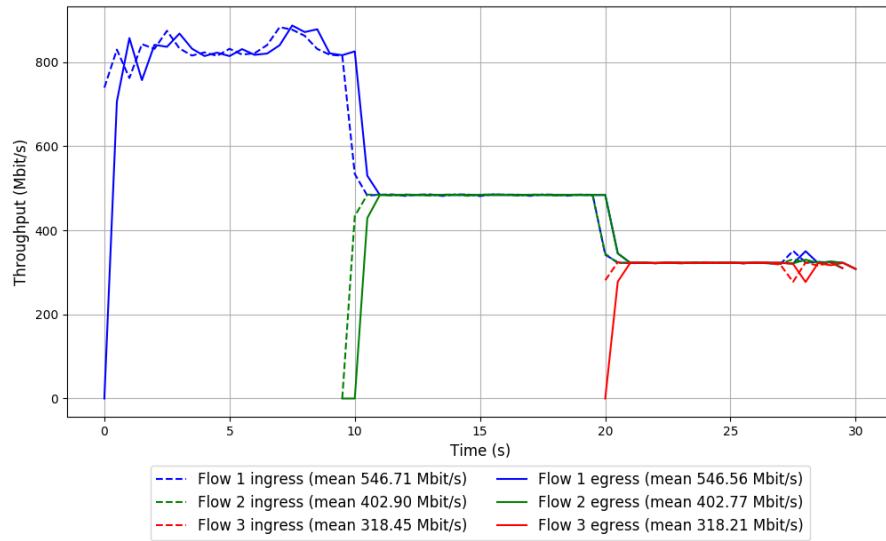


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-02 17:28:14
End at: 2018-10-02 17:28:44
Local clock offset: 4.472 ms
Remote clock offset: 0.963 ms

# Below is generated by plot.py at 2018-10-02 19:20:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 920.73 Mbit/s
95th percentile per-packet one-way delay: 9.116 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 546.56 Mbit/s
95th percentile per-packet one-way delay: 9.578 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 402.77 Mbit/s
95th percentile per-packet one-way delay: 7.575 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 318.21 Mbit/s
95th percentile per-packet one-way delay: 7.792 ms
Loss rate: 0.10%
```

## Run 2: Report of TCP Cubic — Data Link

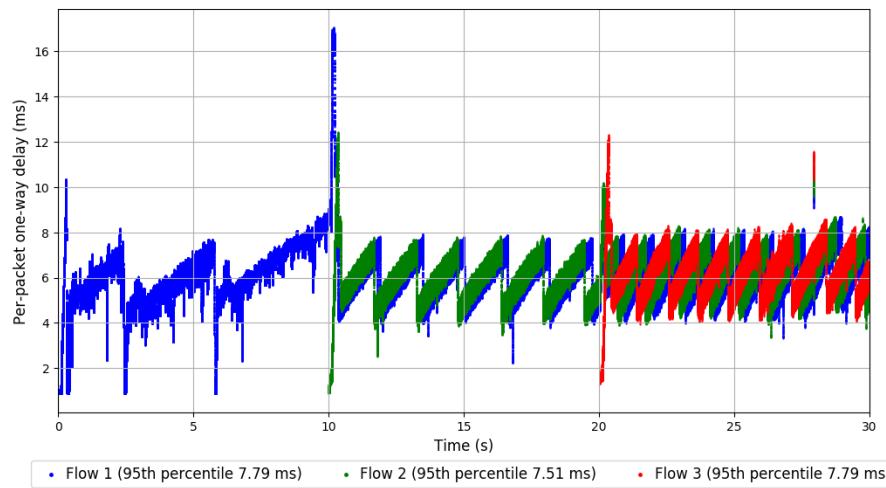
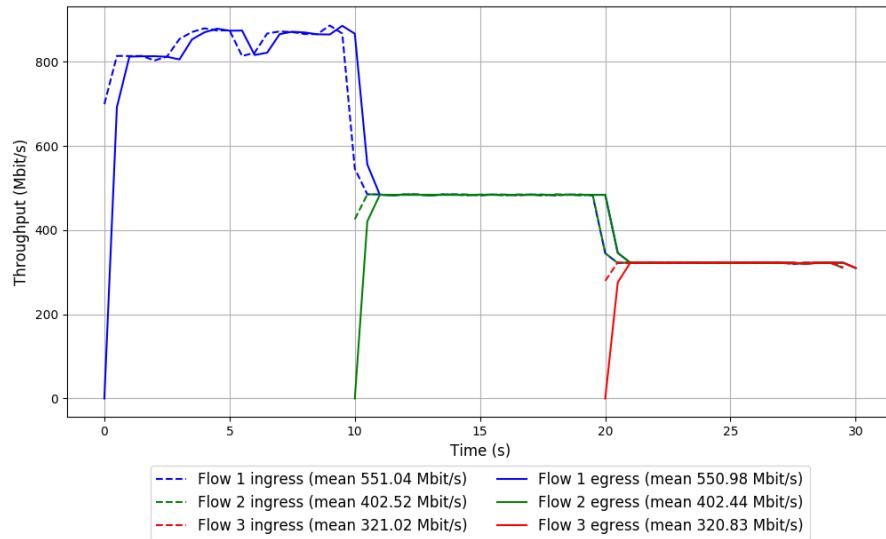


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-02 17:56:09
End at: 2018-10-02 17:56:39
Local clock offset: 5.791 ms
Remote clock offset: 4.214 ms

# Below is generated by plot.py at 2018-10-02 19:20:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 925.71 Mbit/s
95th percentile per-packet one-way delay: 7.710 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 550.98 Mbit/s
95th percentile per-packet one-way delay: 7.794 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 402.44 Mbit/s
95th percentile per-packet one-way delay: 7.512 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 320.83 Mbit/s
95th percentile per-packet one-way delay: 7.790 ms
Loss rate: 0.08%
```

### Run 3: Report of TCP Cubic — Data Link

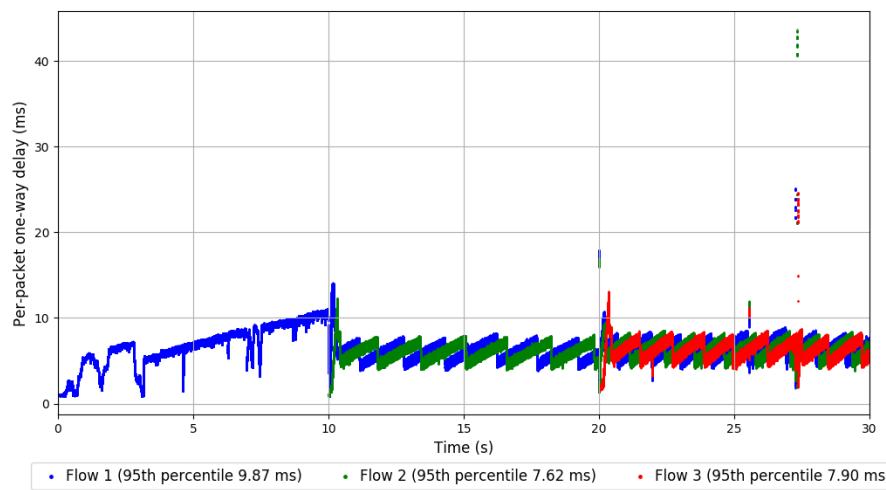
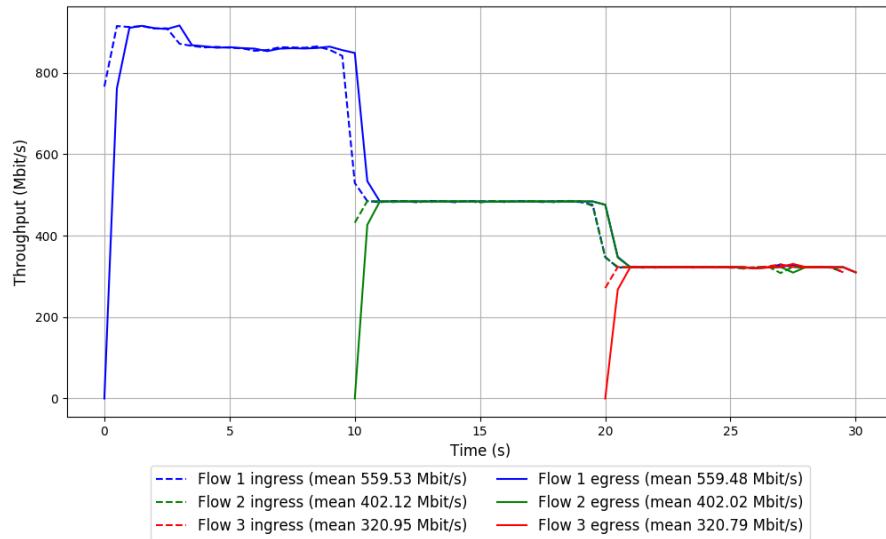


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-02 18:23:49
End at: 2018-10-02 18:24:19
Local clock offset: 7.192 ms
Remote clock offset: 0.083 ms

# Below is generated by plot.py at 2018-10-02 19:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 933.90 Mbit/s
95th percentile per-packet one-way delay: 9.426 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 559.48 Mbit/s
95th percentile per-packet one-way delay: 9.872 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 402.02 Mbit/s
95th percentile per-packet one-way delay: 7.615 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 320.79 Mbit/s
95th percentile per-packet one-way delay: 7.899 ms
Loss rate: 0.07%
```

Run 4: Report of TCP Cubic — Data Link

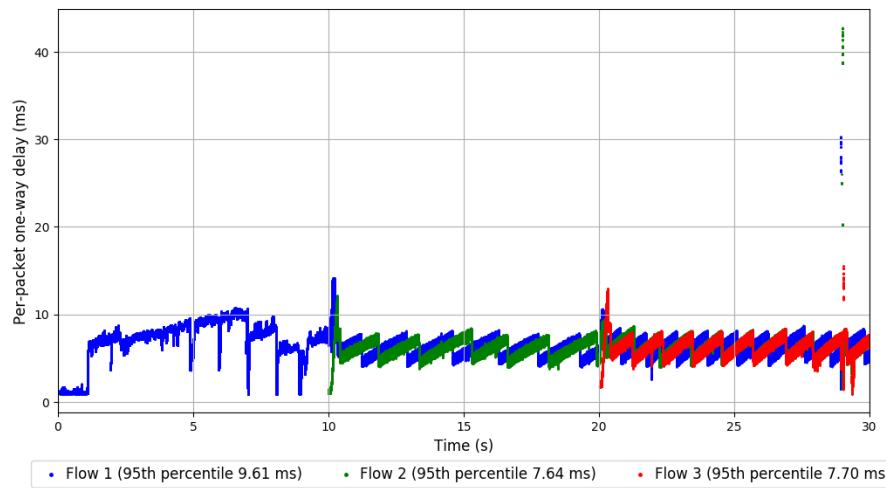
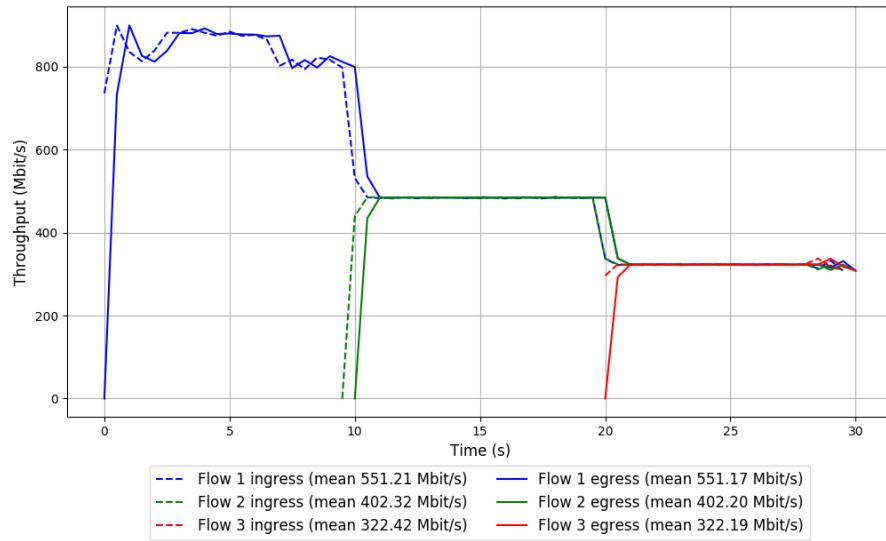


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-02 18:51:24
End at: 2018-10-02 18:51:54
Local clock offset: 8.338 ms
Remote clock offset: 0.159 ms

# Below is generated by plot.py at 2018-10-02 19:20:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.23 Mbit/s
95th percentile per-packet one-way delay: 9.228 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 551.17 Mbit/s
95th percentile per-packet one-way delay: 9.614 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 402.20 Mbit/s
95th percentile per-packet one-way delay: 7.643 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 322.19 Mbit/s
95th percentile per-packet one-way delay: 7.696 ms
Loss rate: 0.08%
```

Run 5: Report of TCP Cubic — Data Link

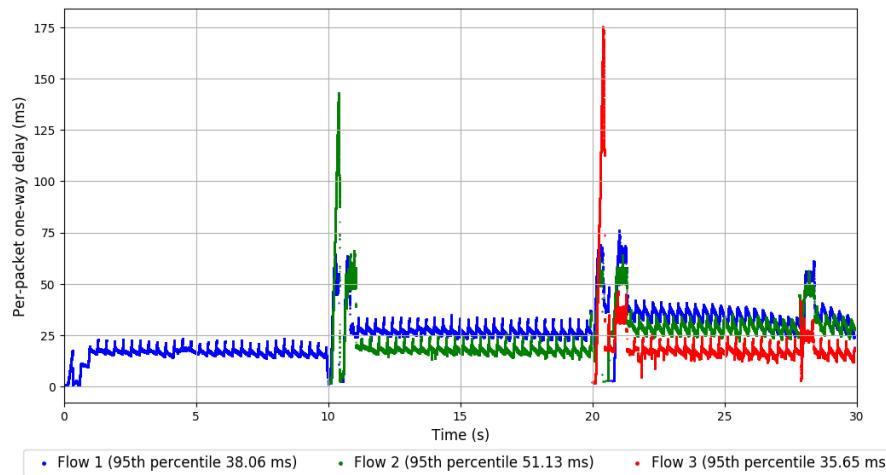
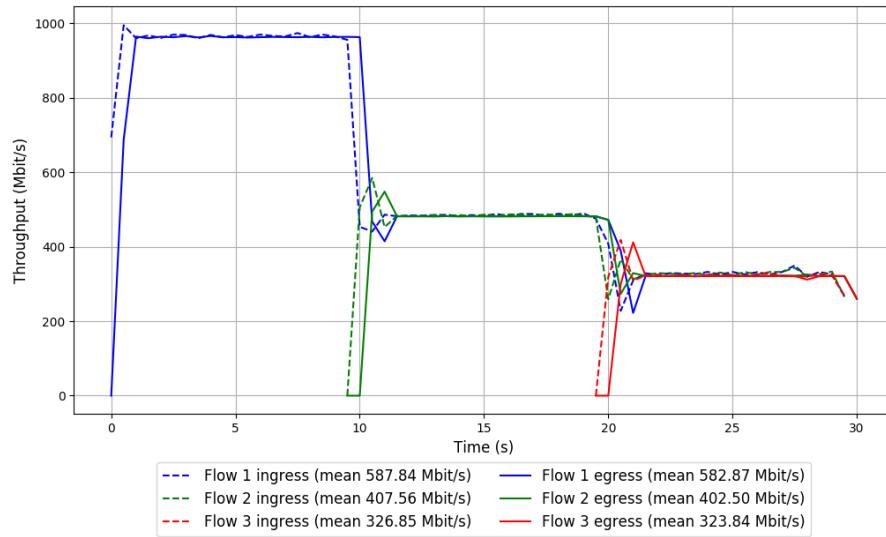


```
Run 1: Statistics of FillP

Start at: 2018-10-02 16:48:13
End at: 2018-10-02 16:48:43
Local clock offset: 3.815 ms
Remote clock offset: 3.272 ms

# Below is generated by plot.py at 2018-10-02 19:23:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 958.23 Mbit/s
95th percentile per-packet one-way delay: 39.345 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 582.87 Mbit/s
95th percentile per-packet one-way delay: 38.063 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 402.50 Mbit/s
95th percentile per-packet one-way delay: 51.134 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 323.84 Mbit/s
95th percentile per-packet one-way delay: 35.650 ms
Loss rate: 0.94%
```

## Run 1: Report of FillP — Data Link

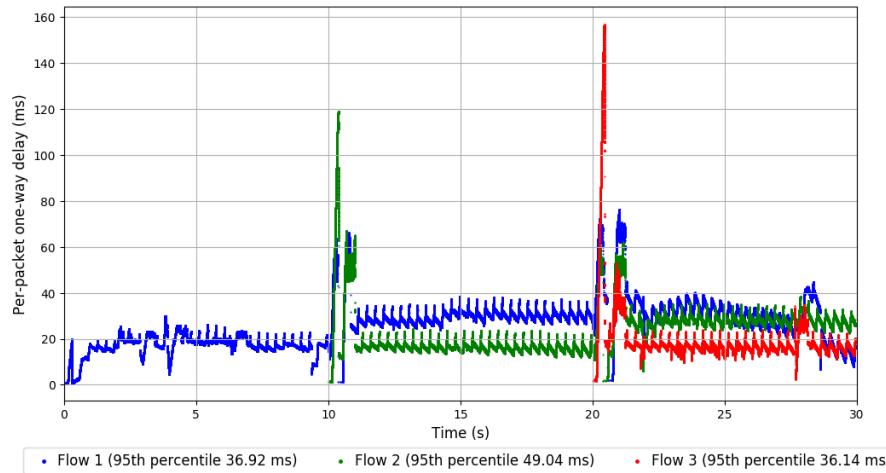
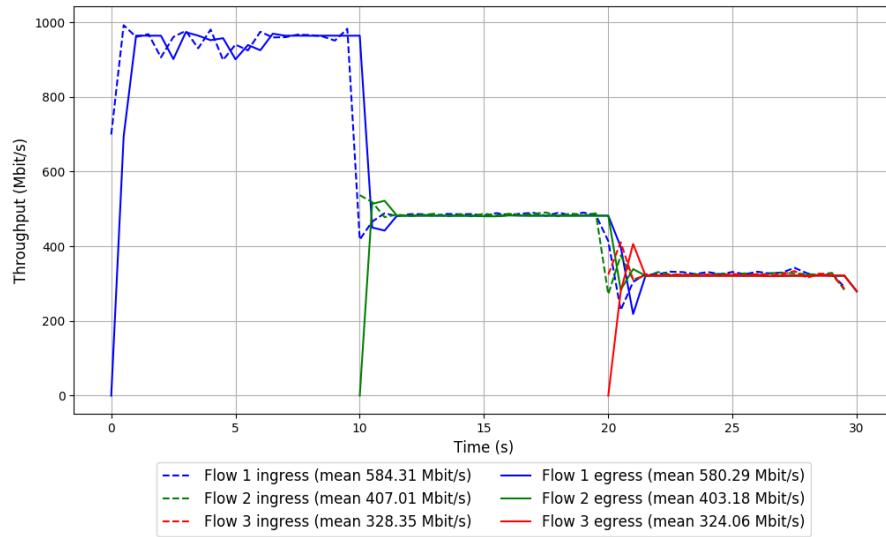


Run 2: Statistics of FillP

```
Start at: 2018-10-02 17:15:59
End at: 2018-10-02 17:16:29
Local clock offset: 4.122 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2018-10-02 19:32:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 956.01 Mbit/s
95th percentile per-packet one-way delay: 37.570 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 580.29 Mbit/s
95th percentile per-packet one-way delay: 36.923 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 403.18 Mbit/s
95th percentile per-packet one-way delay: 49.041 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 324.06 Mbit/s
95th percentile per-packet one-way delay: 36.136 ms
Loss rate: 1.33%
```

## Run 2: Report of FillP — Data Link

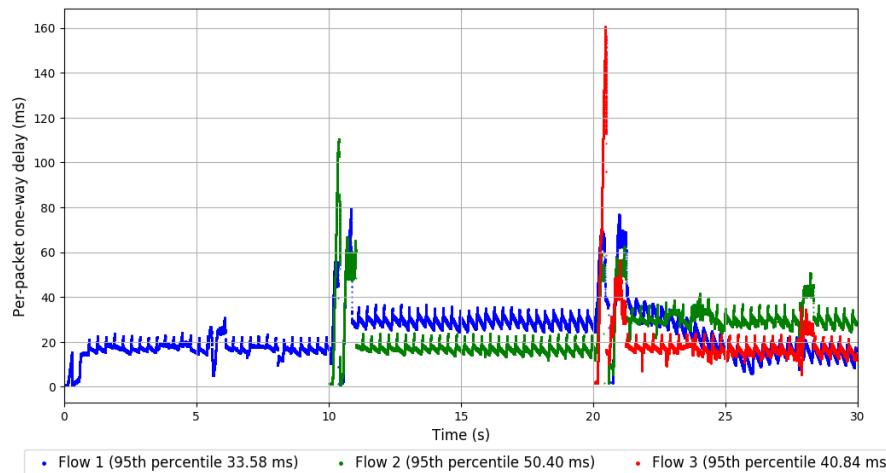
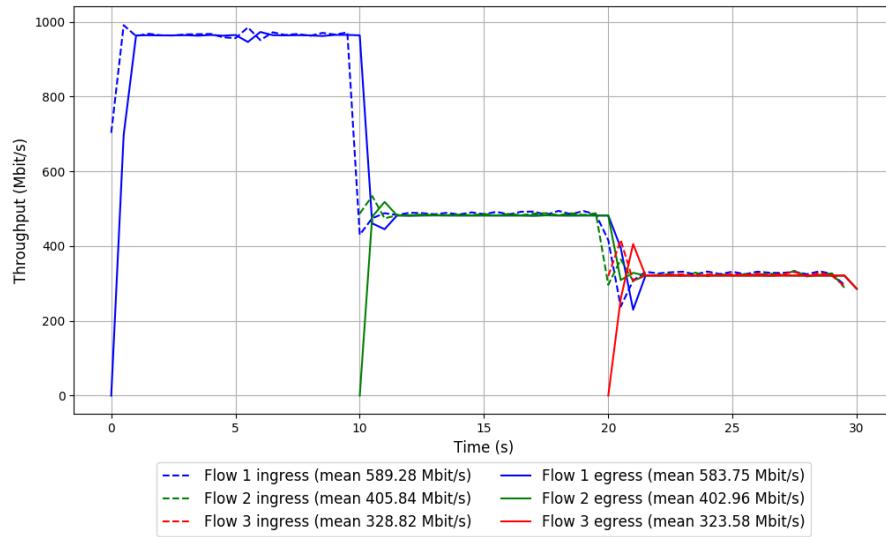


Run 3: Statistics of FillP

```
Start at: 2018-10-02 17:43:51
End at: 2018-10-02 17:44:21
Local clock offset: 4.636 ms
Remote clock offset: 3.385 ms

# Below is generated by plot.py at 2018-10-02 19:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 958.91 Mbit/s
95th percentile per-packet one-way delay: 36.931 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 583.75 Mbit/s
95th percentile per-packet one-way delay: 33.577 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 402.96 Mbit/s
95th percentile per-packet one-way delay: 50.396 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 323.58 Mbit/s
95th percentile per-packet one-way delay: 40.836 ms
Loss rate: 1.60%
```

### Run 3: Report of FillP — Data Link

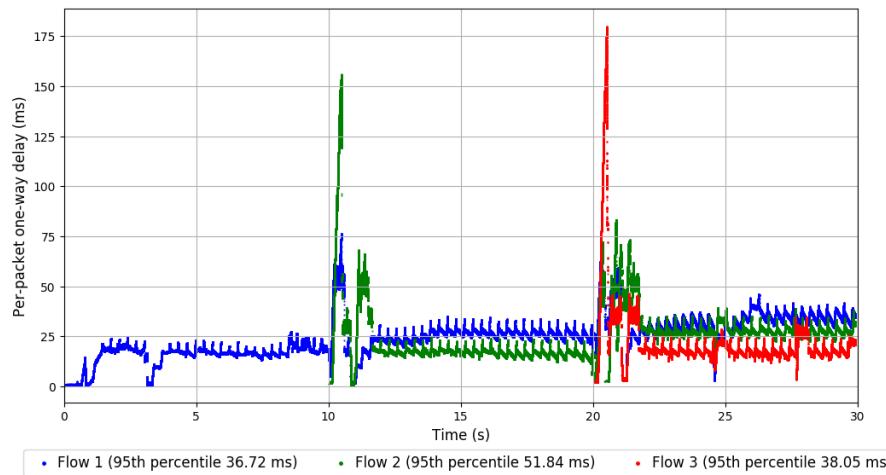
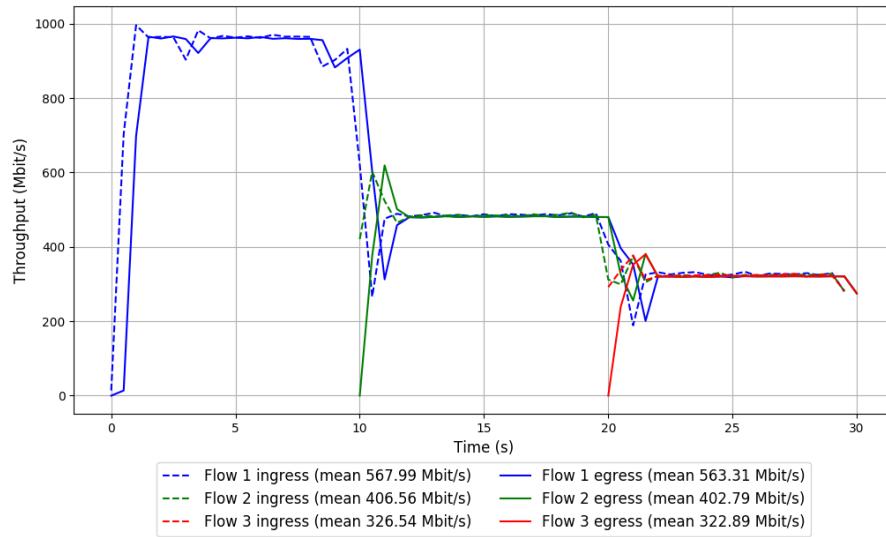


Run 4: Statistics of FillP

```
Start at: 2018-10-02 18:11:35
End at: 2018-10-02 18:12:05
Local clock offset: 6.58 ms
Remote clock offset: 0.951 ms

# Below is generated by plot.py at 2018-10-02 19:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 937.94 Mbit/s
95th percentile per-packet one-way delay: 39.719 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 563.31 Mbit/s
95th percentile per-packet one-way delay: 36.724 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 402.79 Mbit/s
95th percentile per-packet one-way delay: 51.845 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 322.89 Mbit/s
95th percentile per-packet one-way delay: 38.053 ms
Loss rate: 1.15%
```

## Run 4: Report of FillP — Data Link

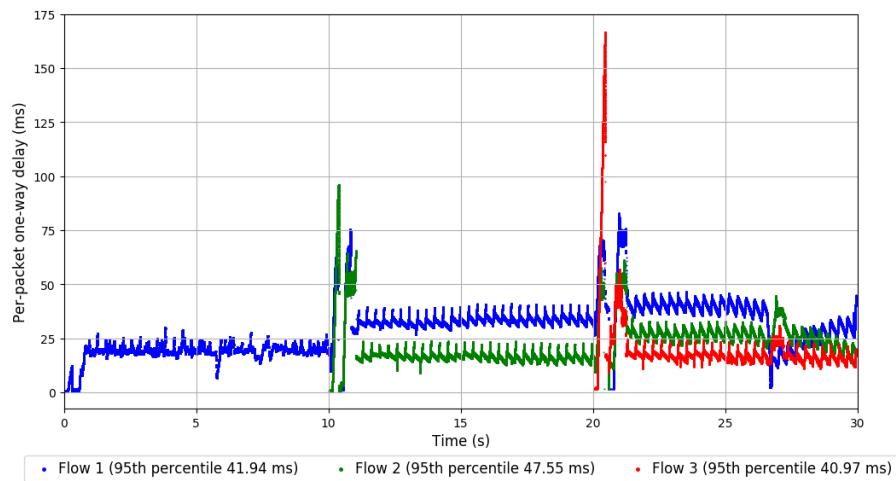
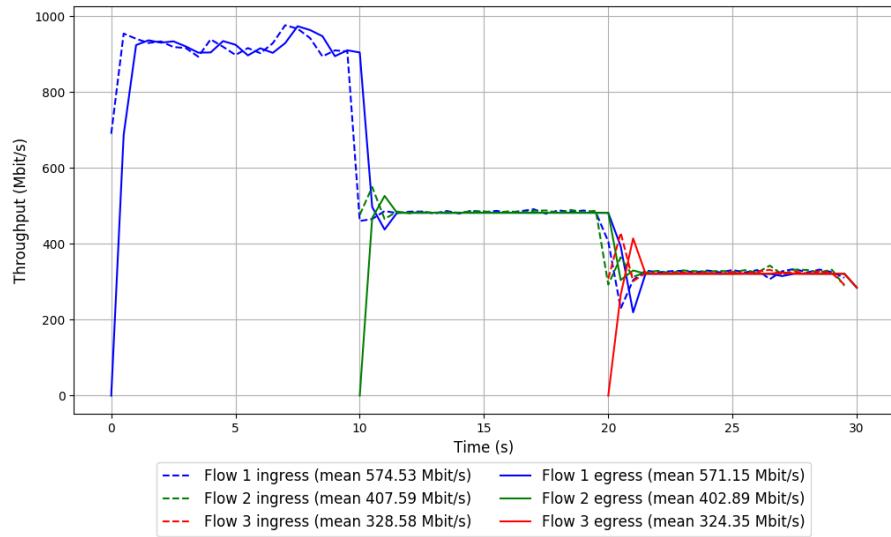


Run 5: Statistics of FillP

```
Start at: 2018-10-02 18:39:12
End at: 2018-10-02 18:39:42
Local clock offset: 7.863 ms
Remote clock offset: 0.073 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 946.62 Mbit/s
95th percentile per-packet one-way delay: 42.267 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 571.15 Mbit/s
95th percentile per-packet one-way delay: 41.935 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 402.89 Mbit/s
95th percentile per-packet one-way delay: 47.545 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 324.35 Mbit/s
95th percentile per-packet one-way delay: 40.971 ms
Loss rate: 1.31%
```

## Run 5: Report of FillP — Data Link

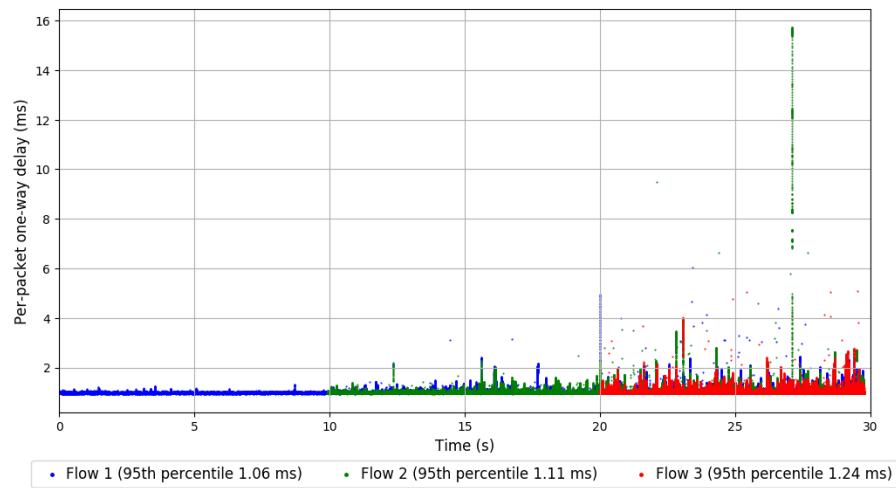
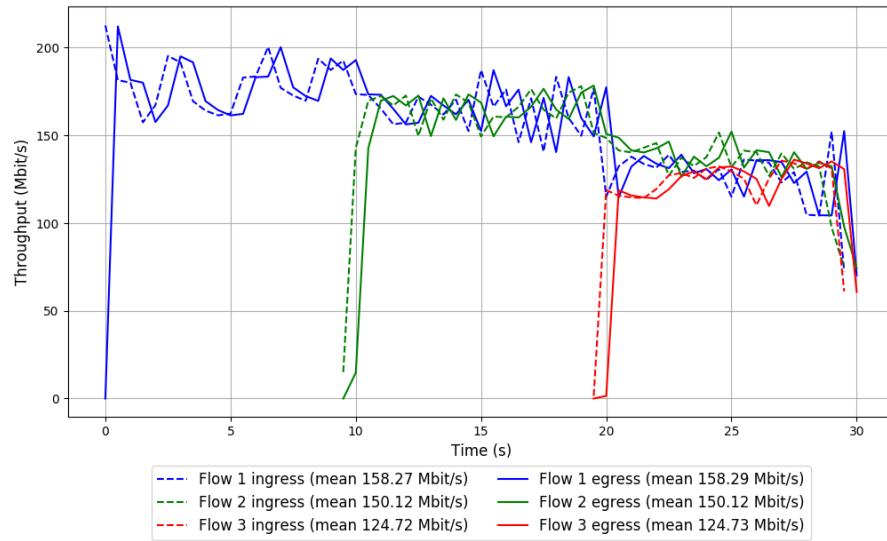


Run 1: Statistics of Indigo

```
Start at: 2018-10-02 16:42:01
End at: 2018-10-02 16:42:31
Local clock offset: 3.728 ms
Remote clock offset: 3.038 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.46 Mbit/s
95th percentile per-packet one-way delay: 1.102 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 158.29 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 150.12 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 124.73 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.03%
```

## Run 1: Report of Indigo — Data Link

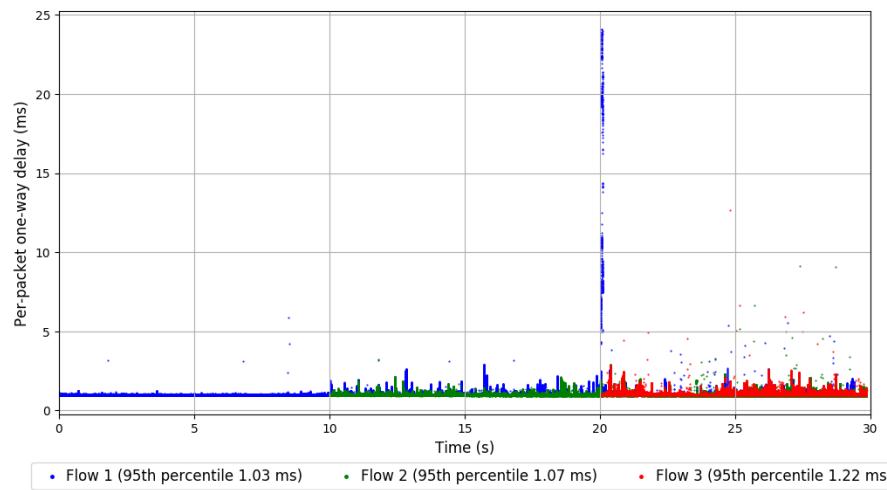
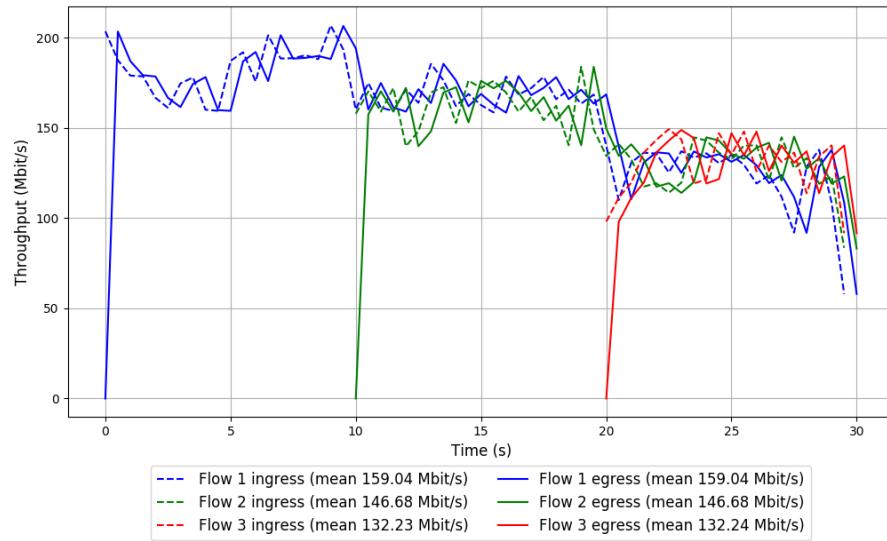


Run 2: Statistics of Indigo

```
Start at: 2018-10-02 17:09:54
End at: 2018-10-02 17:10:24
Local clock offset: 4.093 ms
Remote clock offset: 0.197 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.88 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 159.04 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.68 Mbit/s
95th percentile per-packet one-way delay: 1.072 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 132.24 Mbit/s
95th percentile per-packet one-way delay: 1.221 ms
Loss rate: 0.01%
```

Run 2: Report of Indigo — Data Link

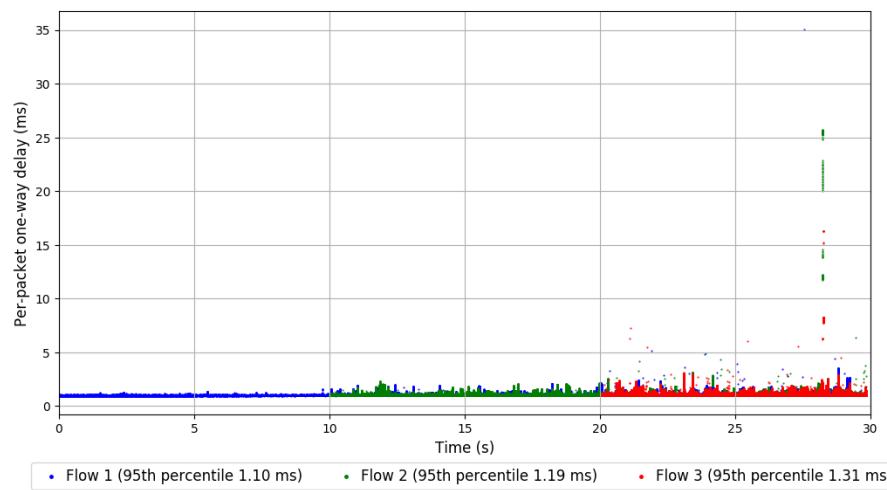
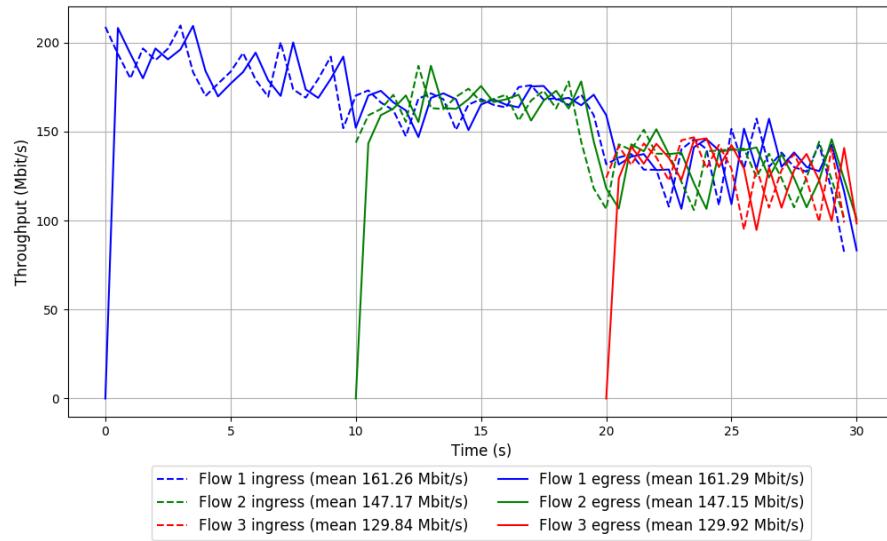


Run 3: Statistics of Indigo

```
Start at: 2018-10-02 17:37:36
End at: 2018-10-02 17:38:06
Local clock offset: 4.589 ms
Remote clock offset: 2.735 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.81 Mbit/s
95th percentile per-packet one-way delay: 1.165 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 161.29 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.15 Mbit/s
95th percentile per-packet one-way delay: 1.193 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 129.92 Mbit/s
95th percentile per-packet one-way delay: 1.306 ms
Loss rate: 0.02%
```

### Run 3: Report of Indigo — Data Link

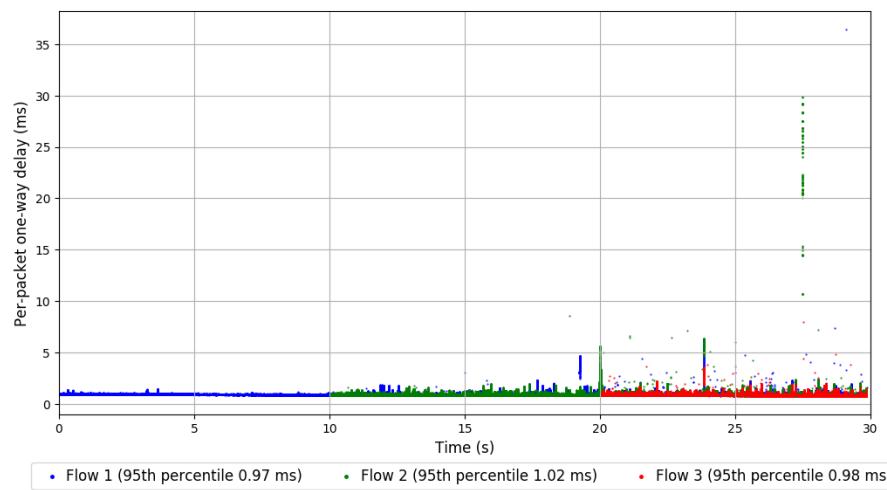
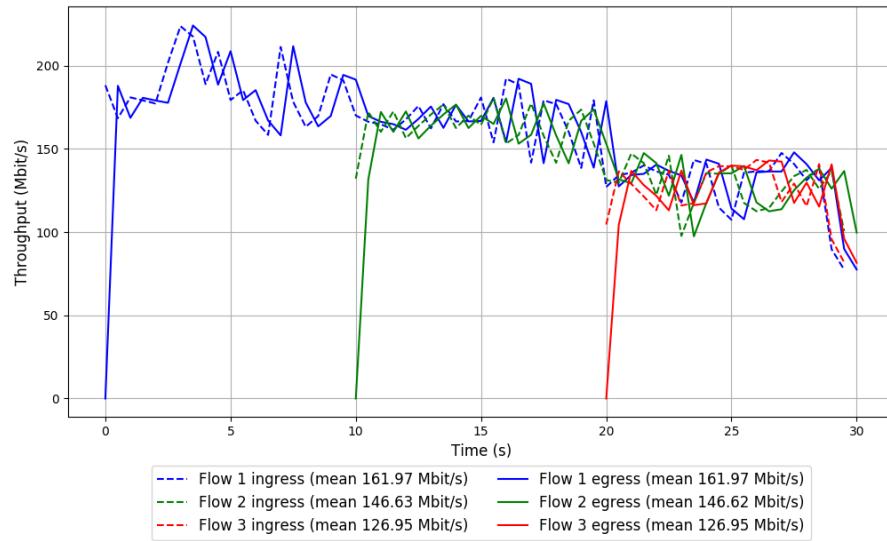


Run 4: Statistics of Indigo

```
Start at: 2018-10-02 18:05:19
End at: 2018-10-02 18:05:49
Local clock offset: 6.312 ms
Remote clock offset: 2.015 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.06 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 161.97 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.62 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 126.95 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 0.02%
```

Run 4: Report of Indigo — Data Link

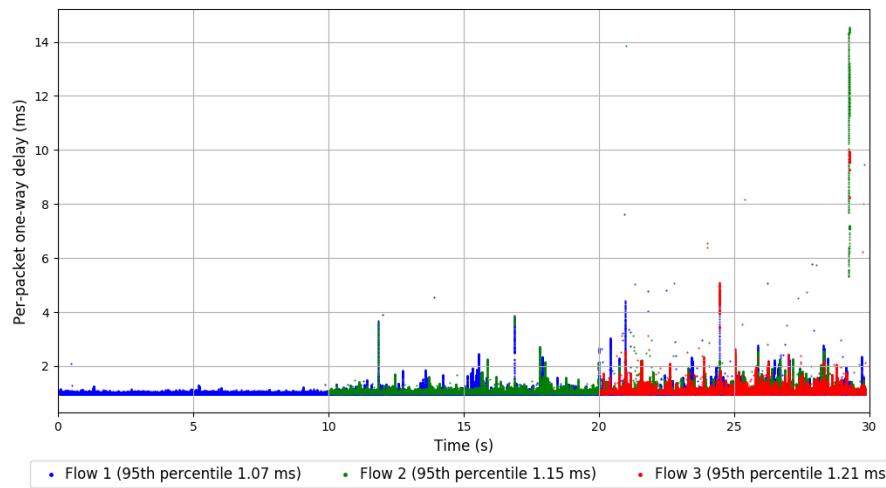
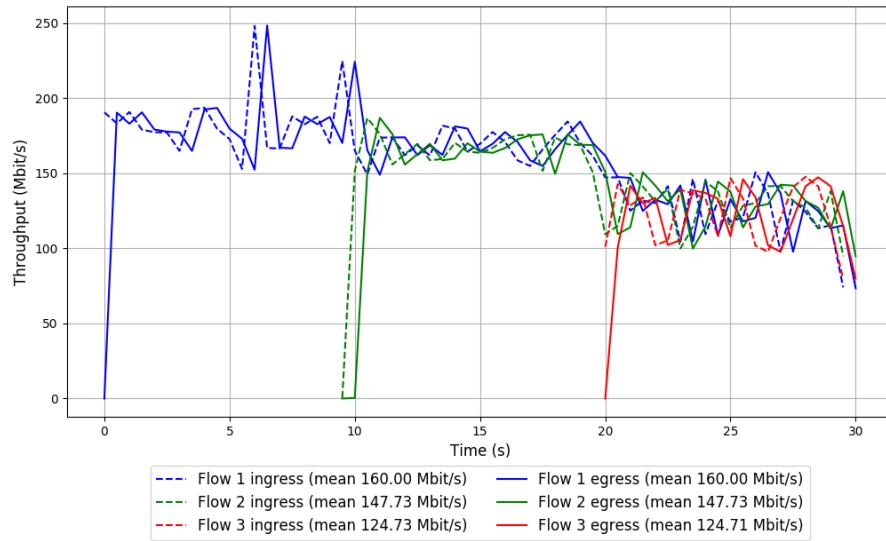


Run 5: Statistics of Indigo

```
Start at: 2018-10-02 18:32:59
End at: 2018-10-02 18:33:29
Local clock offset: 7.613 ms
Remote clock offset: -0.238 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.31 Mbit/s
95th percentile per-packet one-way delay: 1.121 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 160.00 Mbit/s
95th percentile per-packet one-way delay: 1.068 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 147.73 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 124.71 Mbit/s
95th percentile per-packet one-way delay: 1.211 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

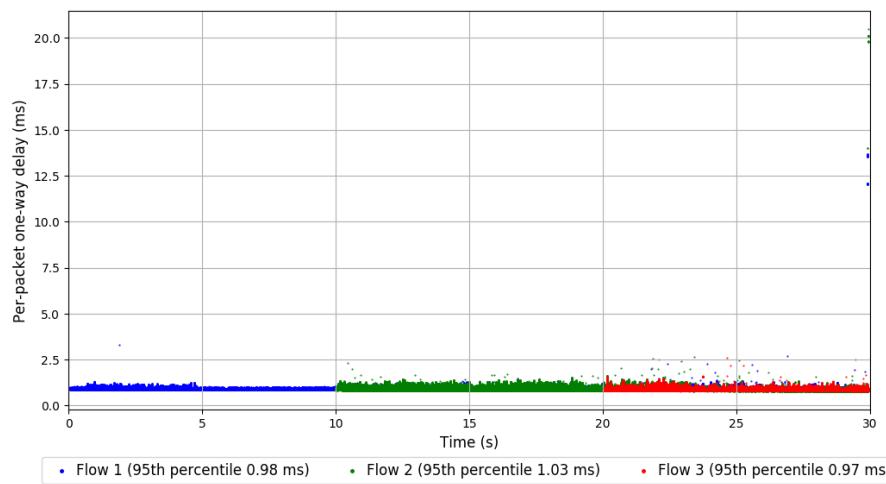
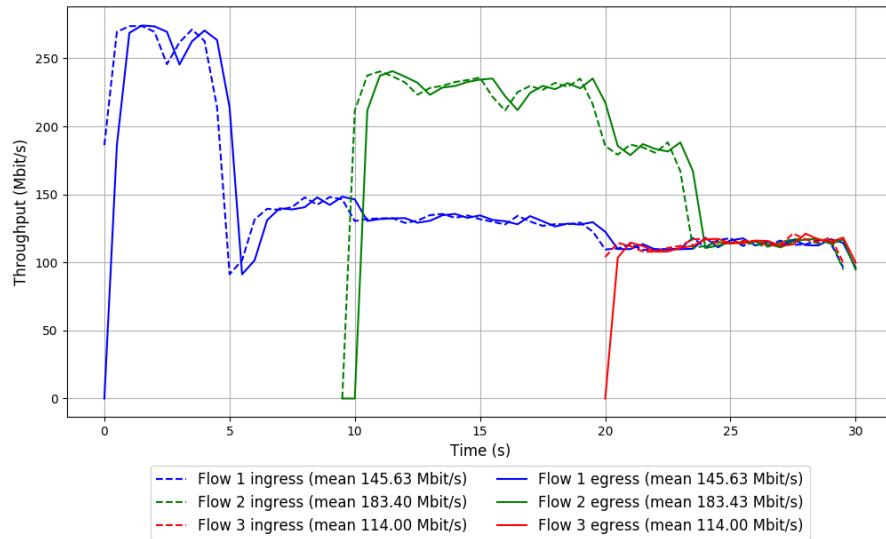


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-02 16:57:23
End at: 2018-10-02 16:57:53
Local clock offset: 4.036 ms
Remote clock offset: 1.601 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 305.53 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 145.63 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 183.43 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.00 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 0.01%
```

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

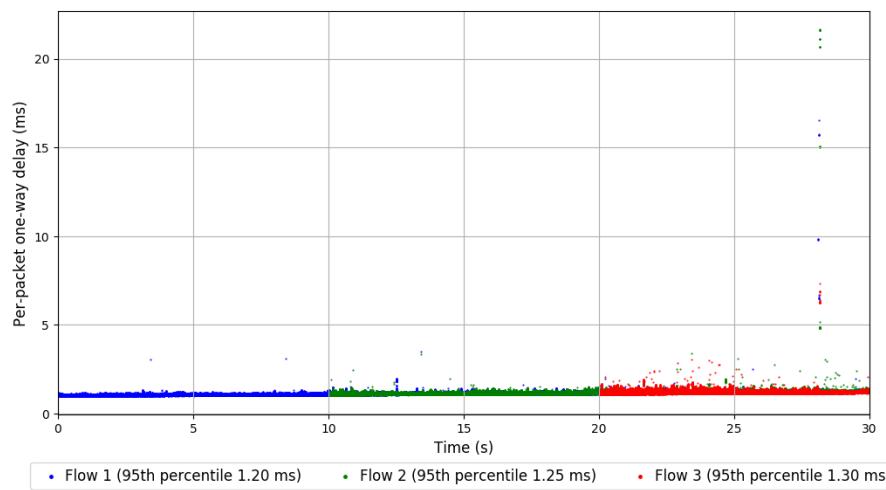
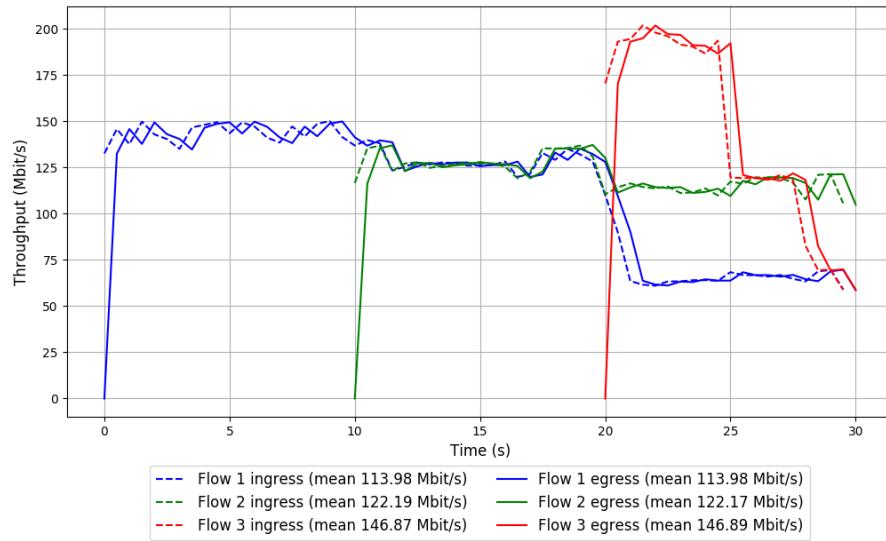


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 17:25:10
End at: 2018-10-02 17:25:40
Local clock offset: 4.417 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.88 Mbit/s
95th percentile per-packet one-way delay: 1.240 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 113.98 Mbit/s
95th percentile per-packet one-way delay: 1.198 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 122.17 Mbit/s
95th percentile per-packet one-way delay: 1.249 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 146.89 Mbit/s
95th percentile per-packet one-way delay: 1.297 ms
Loss rate: 0.01%
```

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

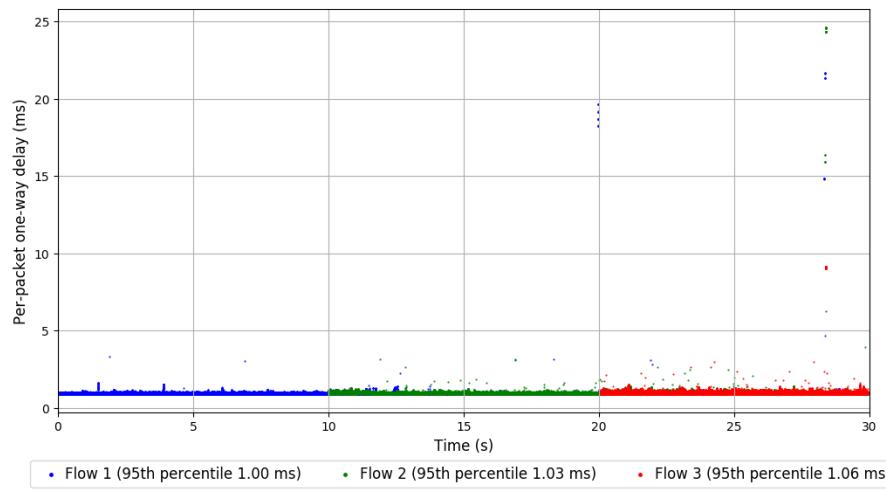
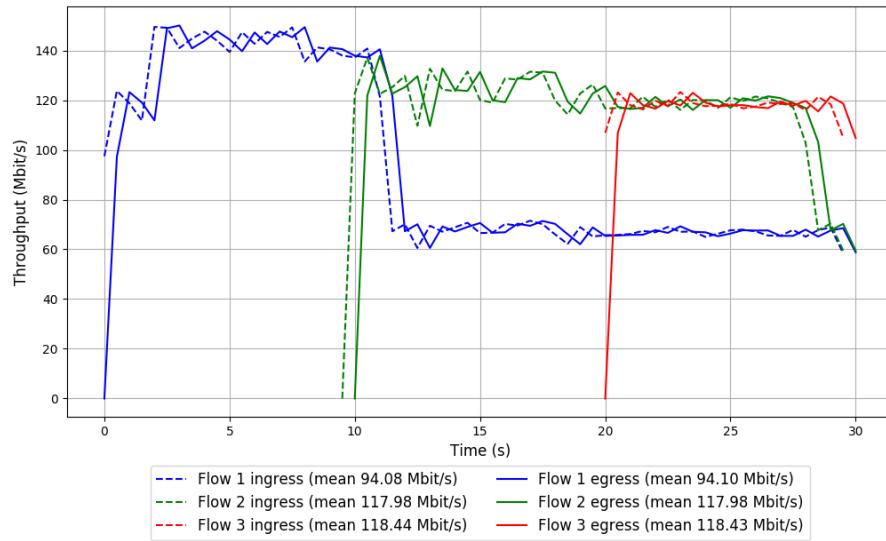


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 17:53:08
End at: 2018-10-02 17:53:38
Local clock offset: 5.548 ms
Remote clock offset: 4.022 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.89 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.10 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 117.98 Mbit/s
95th percentile per-packet one-way delay: 1.031 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 118.43 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.01%
```

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

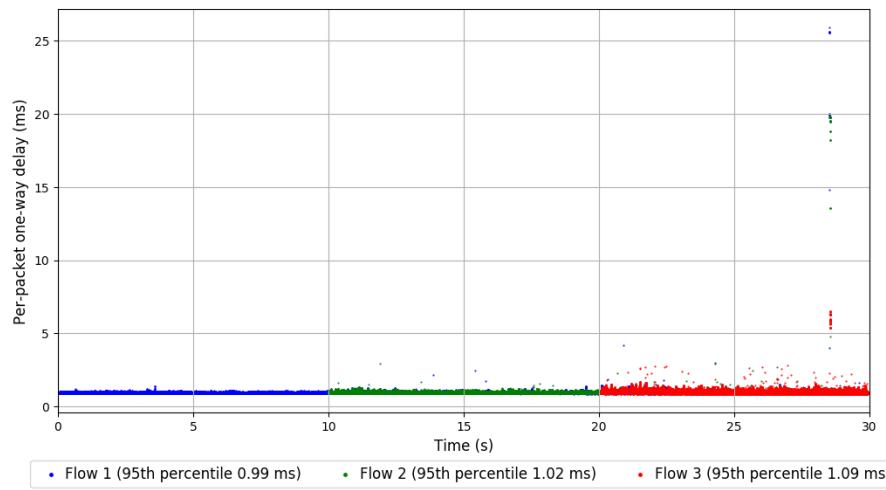
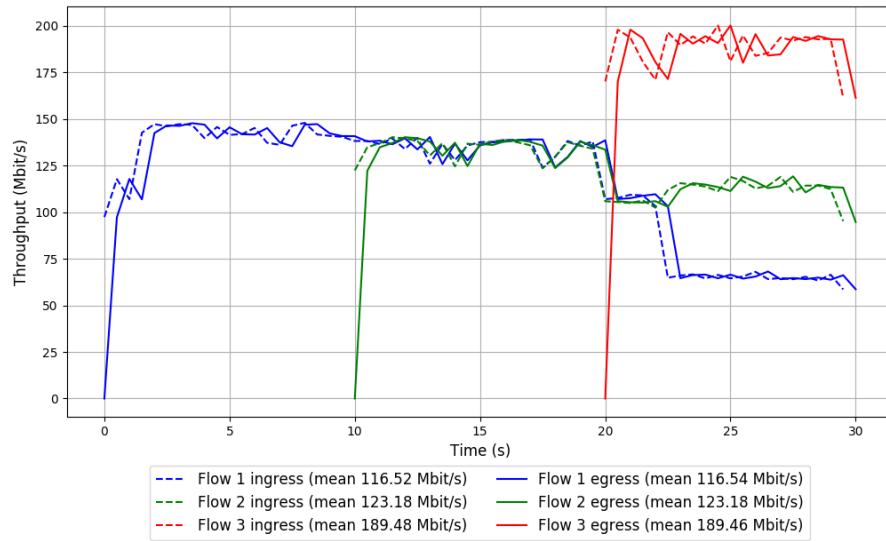


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 18:20:46
End at: 2018-10-02 18:21:16
Local clock offset: 7.04 ms
Remote clock offset: 0.237 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.31 Mbit/s
95th percentile per-packet one-way delay: 1.020 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 116.54 Mbit/s
95th percentile per-packet one-way delay: 0.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 123.18 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 189.46 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 0.02%
```

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

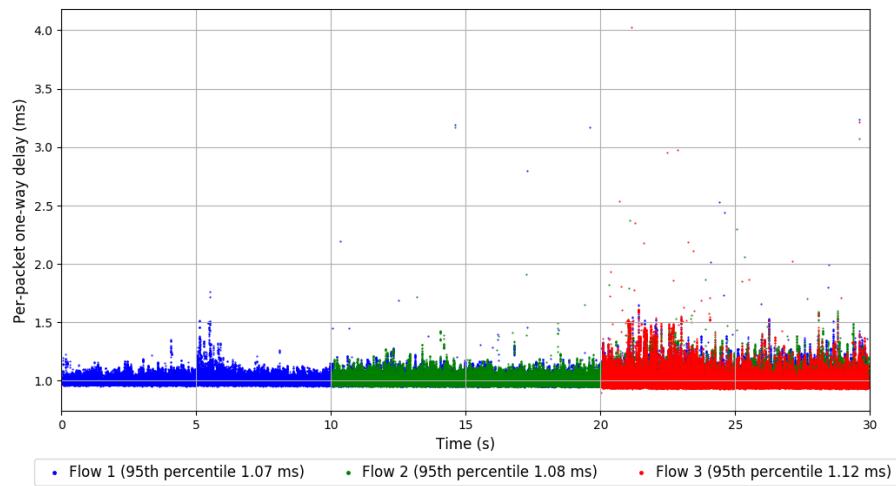
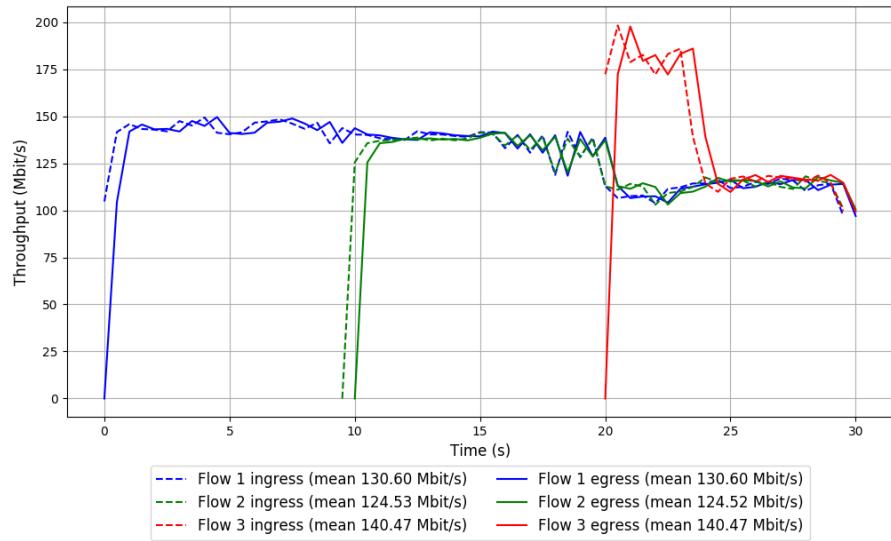


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 18:48:22
End at: 2018-10-02 18:48:52
Local clock offset: 8.21 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2018-10-02 19:33:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.06 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 130.60 Mbit/s
95th percentile per-packet one-way delay: 1.068 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 124.52 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 140.47 Mbit/s
95th percentile per-packet one-way delay: 1.116 ms
Loss rate: 0.01%
```

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

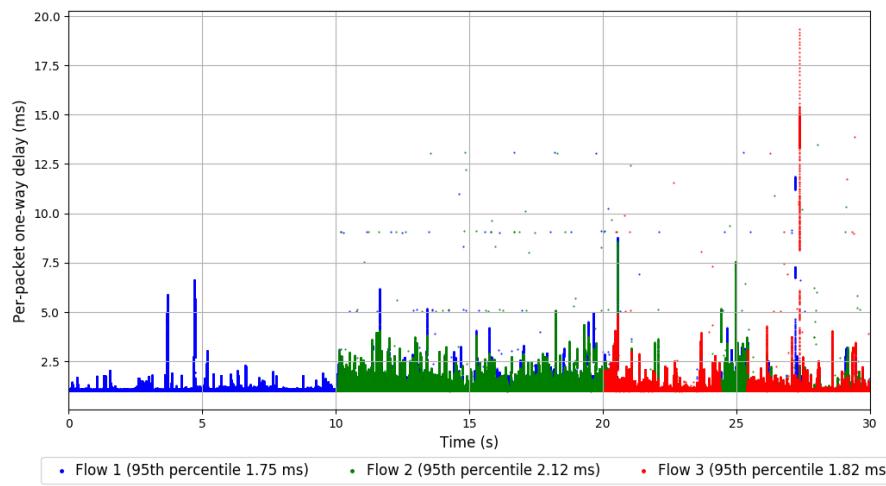
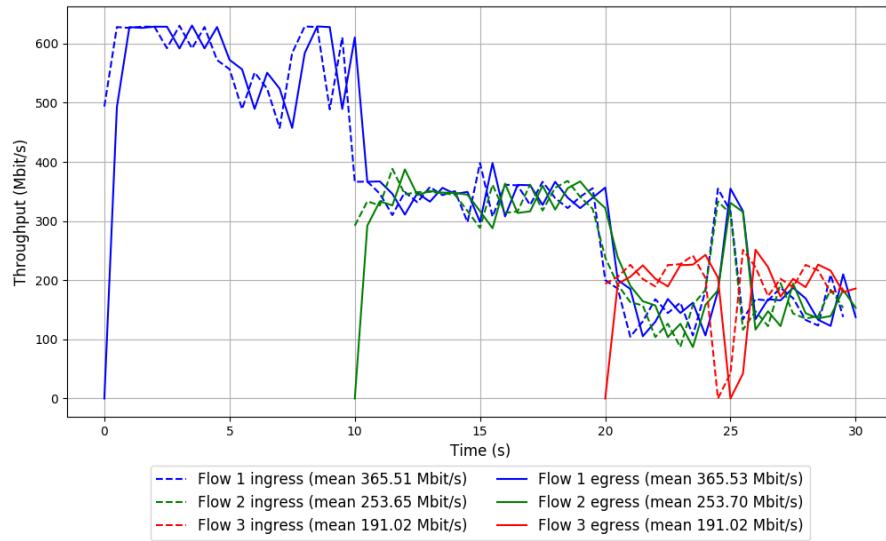


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-02 16:43:33
End at: 2018-10-02 16:44:03
Local clock offset: 3.728 ms
Remote clock offset: 3.049 ms

# Below is generated by plot.py at 2018-10-02 19:34:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.88 Mbit/s
95th percentile per-packet one-way delay: 1.896 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 365.53 Mbit/s
95th percentile per-packet one-way delay: 1.753 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.70 Mbit/s
95th percentile per-packet one-way delay: 2.124 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 191.02 Mbit/s
95th percentile per-packet one-way delay: 1.823 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link

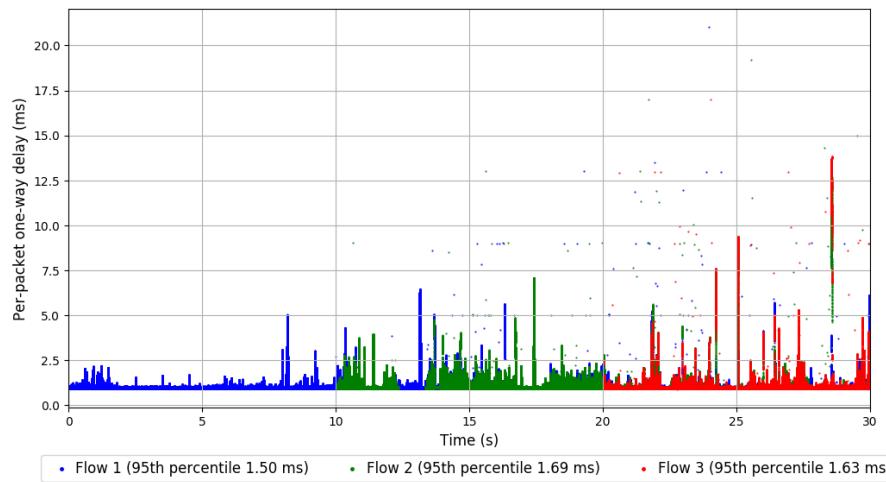
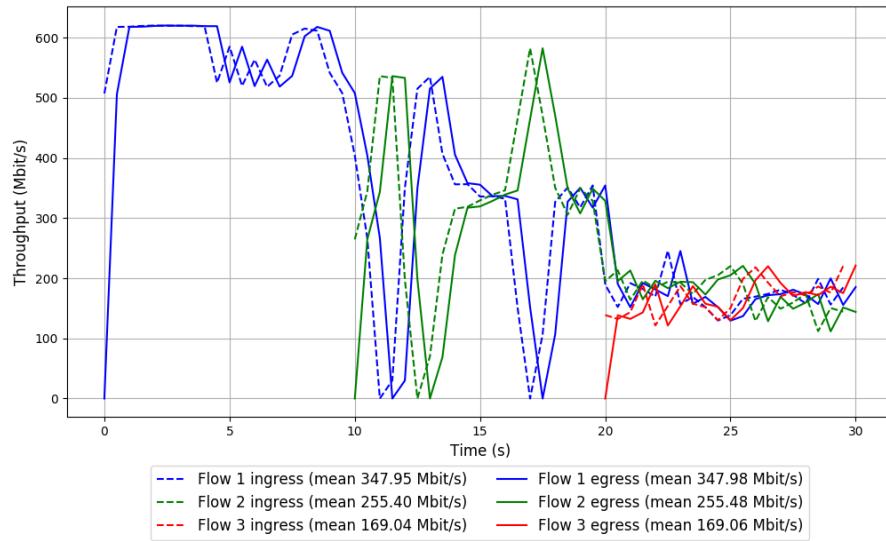


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-02 17:11:26
End at: 2018-10-02 17:11:56
Local clock offset: 4.095 ms
Remote clock offset: 0.131 ms

# Below is generated by plot.py at 2018-10-02 19:35:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 574.28 Mbit/s
95th percentile per-packet one-way delay: 1.565 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 347.98 Mbit/s
95th percentile per-packet one-way delay: 1.501 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 255.48 Mbit/s
95th percentile per-packet one-way delay: 1.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 169.06 Mbit/s
95th percentile per-packet one-way delay: 1.626 ms
Loss rate: 0.01%
```

Run 2: Report of LEDBAT — Data Link

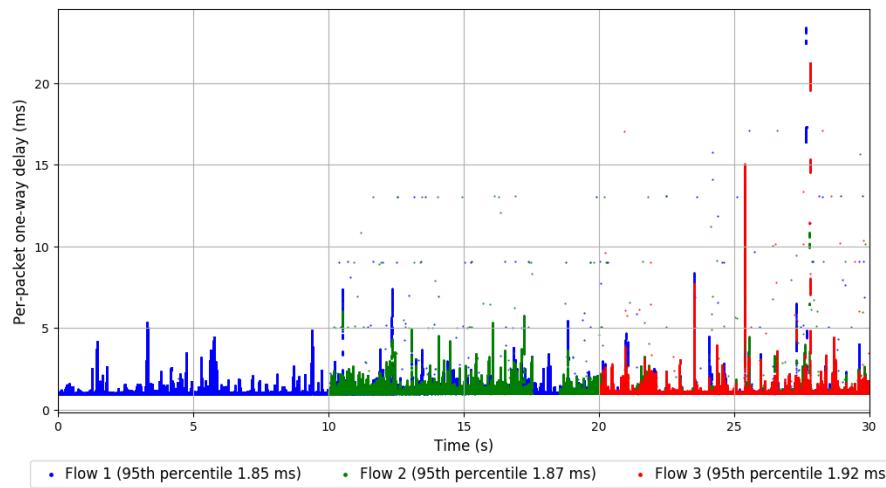
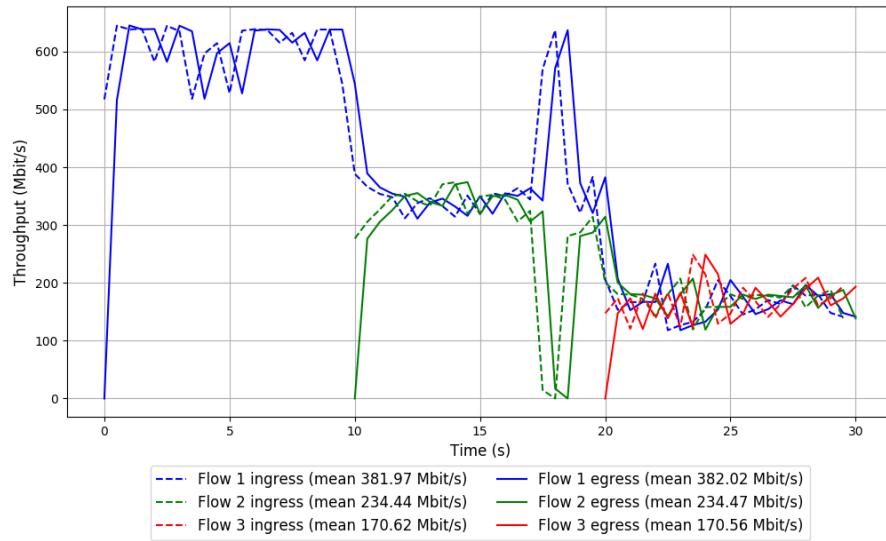


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-02 17:39:09
End at: 2018-10-02 17:39:39
Local clock offset: 4.604 ms
Remote clock offset: 2.916 ms

# Below is generated by plot.py at 2018-10-02 19:36:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 594.88 Mbit/s
95th percentile per-packet one-way delay: 1.865 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 382.02 Mbit/s
95th percentile per-packet one-way delay: 1.850 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.47 Mbit/s
95th percentile per-packet one-way delay: 1.873 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 170.56 Mbit/s
95th percentile per-packet one-way delay: 1.922 ms
Loss rate: 0.05%
```

Run 3: Report of LEDBAT — Data Link

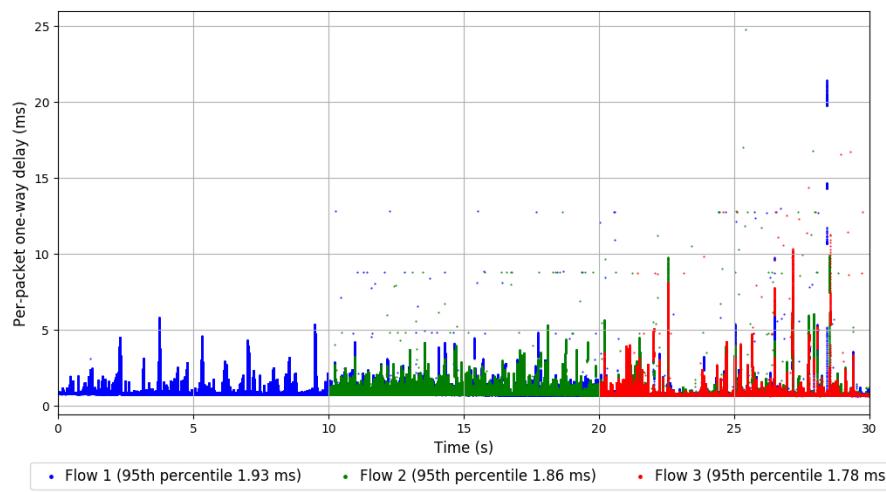
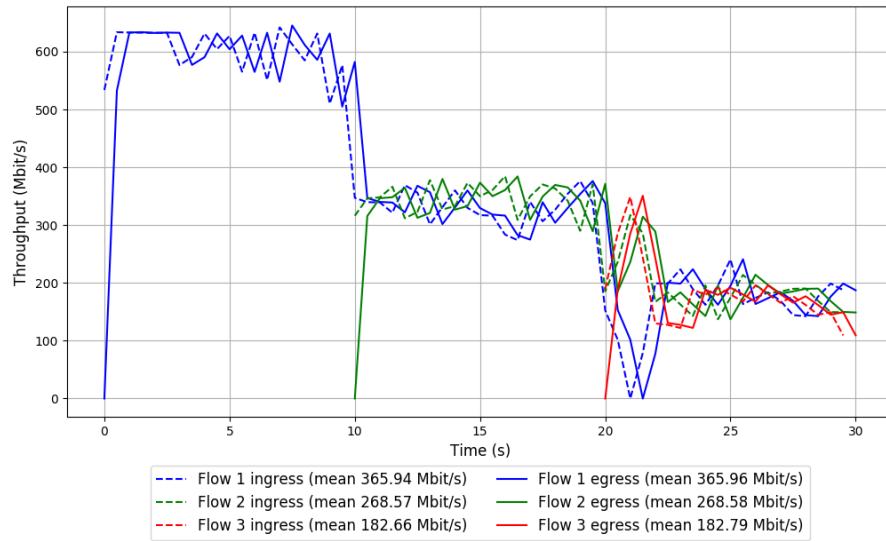


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-02 18:06:52
End at: 2018-10-02 18:07:22
Local clock offset: 6.381 ms
Remote clock offset: 1.789 ms

# Below is generated by plot.py at 2018-10-02 19:36:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.48 Mbit/s
95th percentile per-packet one-way delay: 1.891 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 365.96 Mbit/s
95th percentile per-packet one-way delay: 1.926 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 268.58 Mbit/s
95th percentile per-packet one-way delay: 1.858 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 182.79 Mbit/s
95th percentile per-packet one-way delay: 1.785 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

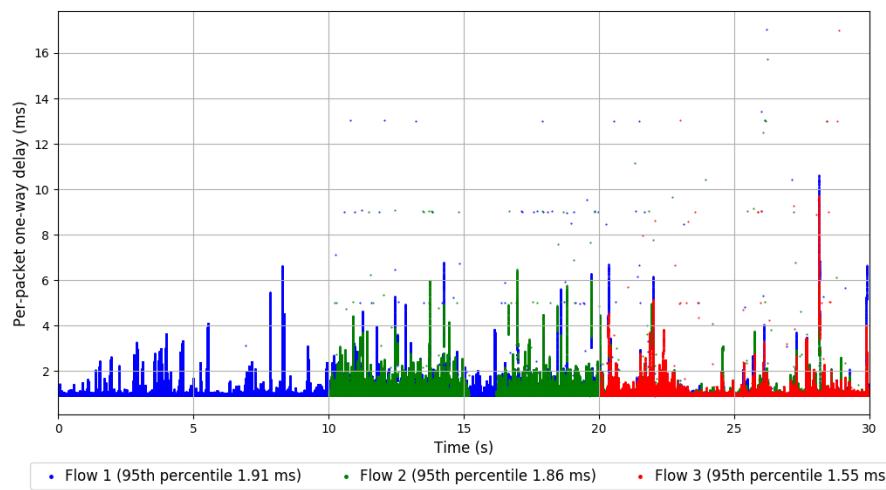
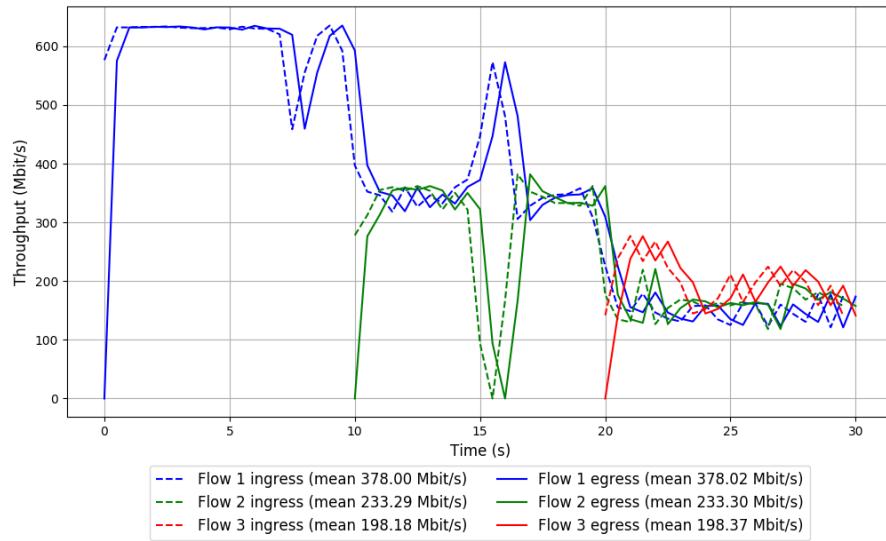


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-02 18:34:31
End at: 2018-10-02 18:35:01
Local clock offset: 7.663 ms
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 599.24 Mbit/s
95th percentile per-packet one-way delay: 1.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 378.02 Mbit/s
95th percentile per-packet one-way delay: 1.905 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 233.30 Mbit/s
95th percentile per-packet one-way delay: 1.856 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 198.37 Mbit/s
95th percentile per-packet one-way delay: 1.546 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

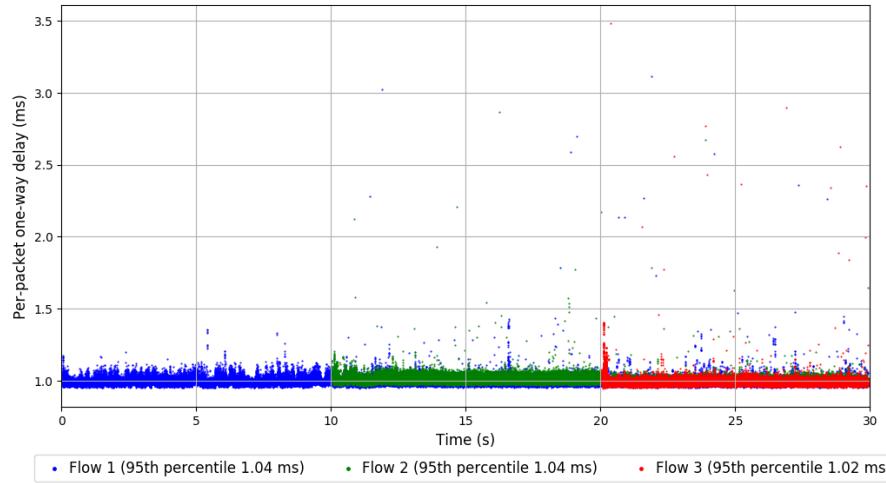
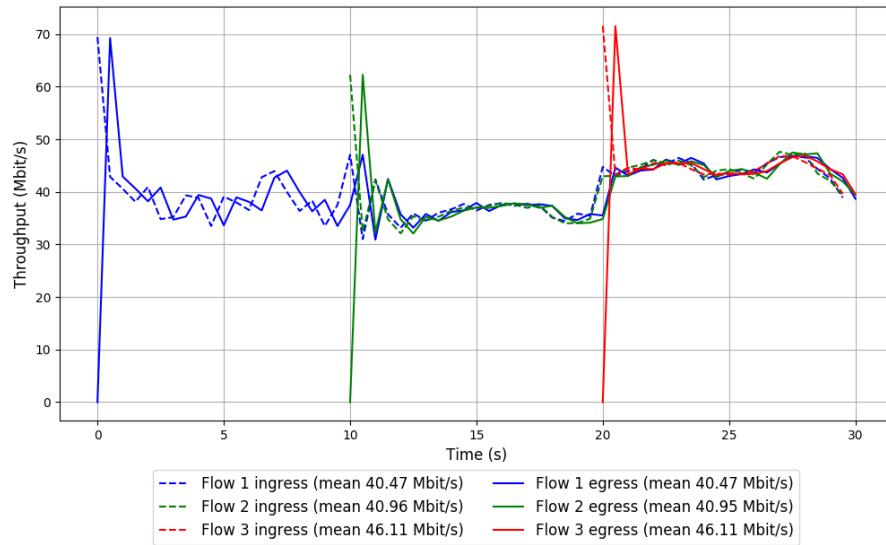


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-02 16:49:59
End at: 2018-10-02 16:50:29
Local clock offset: 3.878 ms
Remote clock offset: 3.251 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 1.037 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 1.036 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 40.95 Mbit/s
95th percentile per-packet one-way delay: 1.042 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.11 Mbit/s
95th percentile per-packet one-way delay: 1.022 ms
Loss rate: 0.01%
```

## Run 1: Report of Indigo-Muses — Data Link

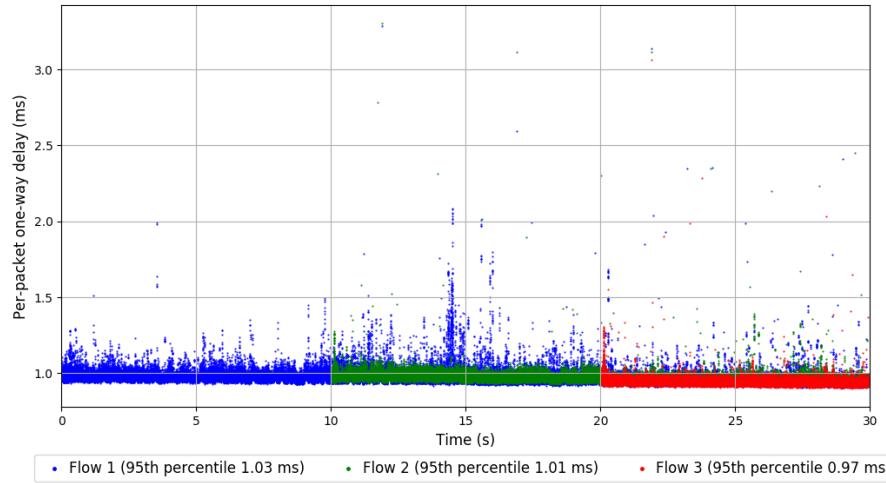
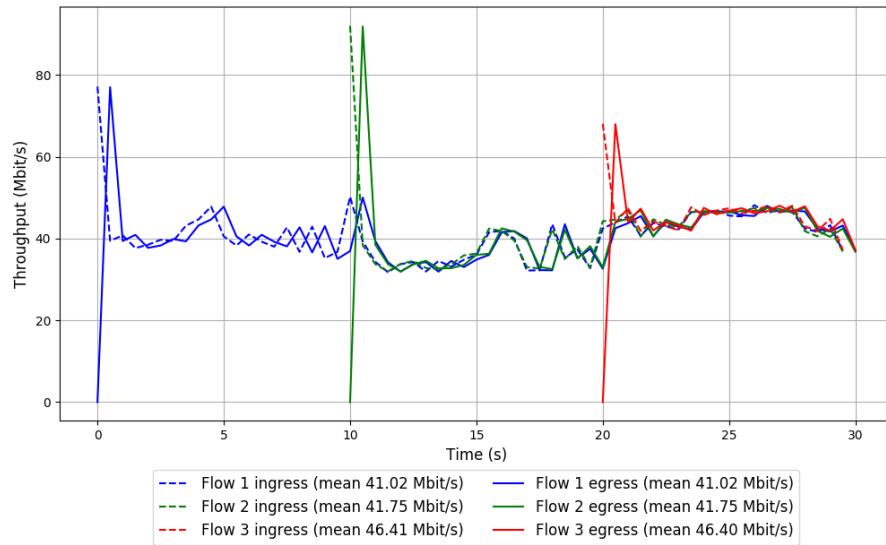


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-02 17:17:45
End at: 2018-10-02 17:18:15
Local clock offset: 4.214 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.19 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 41.02 Mbit/s
95th percentile per-packet one-way delay: 1.033 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.75 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.40 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.02%
```

## Run 2: Report of Indigo-Muses — Data Link

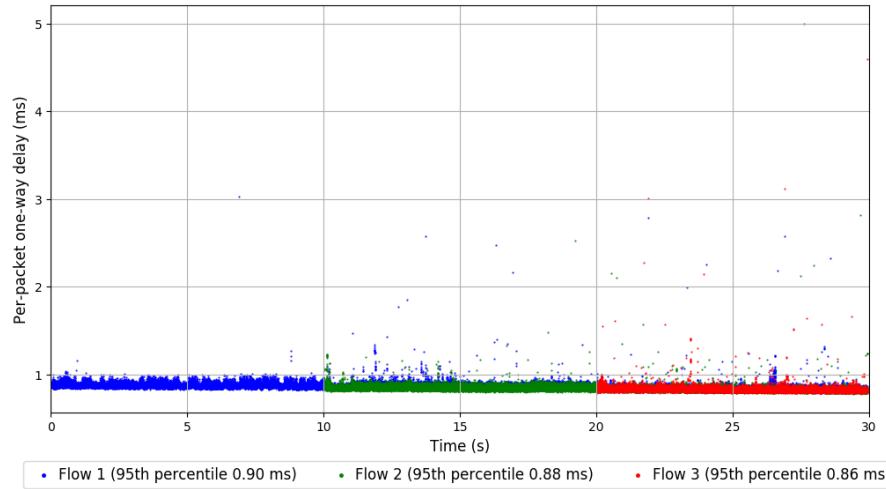
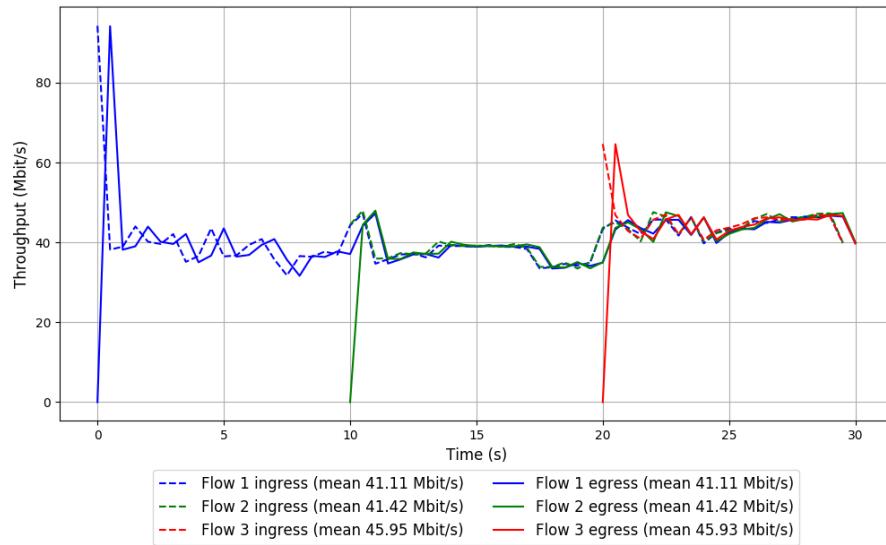


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-02 17:45:37
End at: 2018-10-02 17:46:07
Local clock offset: 4.654 ms
Remote clock offset: 3.599 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.88 Mbit/s
95th percentile per-packet one-way delay: 0.893 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 41.11 Mbit/s
95th percentile per-packet one-way delay: 0.904 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 41.42 Mbit/s
95th percentile per-packet one-way delay: 0.875 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 0.857 ms
Loss rate: 0.01%
```

### Run 3: Report of Indigo-Muses — Data Link

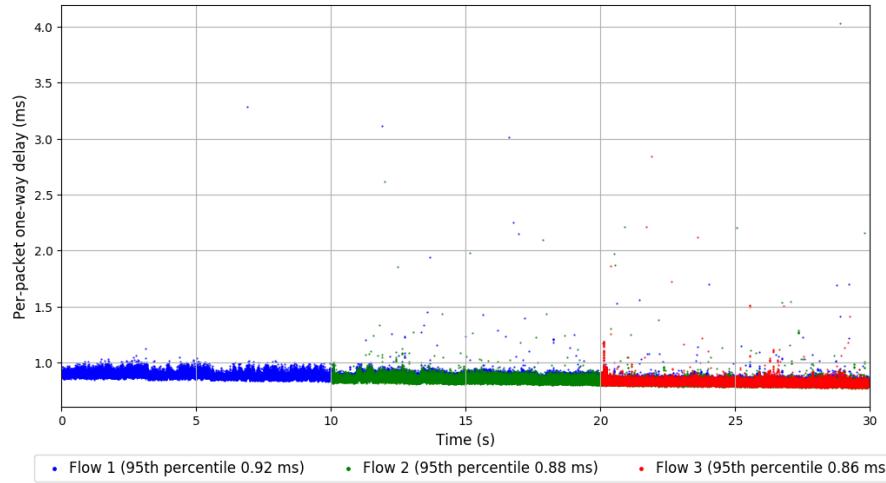
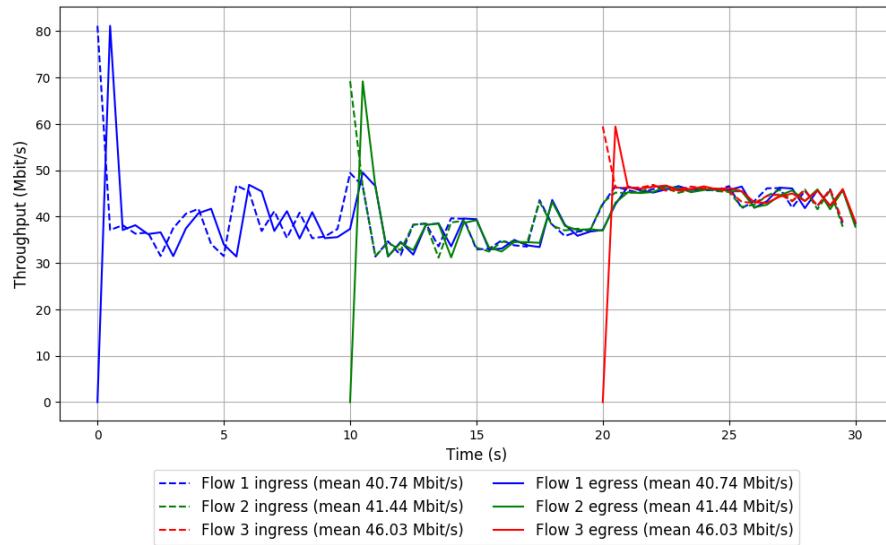


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-02 18:13:21
End at: 2018-10-02 18:13:51
Local clock offset: 6.628 ms
Remote clock offset: 0.806 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.57 Mbit/s
95th percentile per-packet one-way delay: 0.907 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.74 Mbit/s
95th percentile per-packet one-way delay: 0.920 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 41.44 Mbit/s
95th percentile per-packet one-way delay: 0.883 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.03 Mbit/s
95th percentile per-packet one-way delay: 0.856 ms
Loss rate: 0.01%
```

## Run 4: Report of Indigo-Muses — Data Link

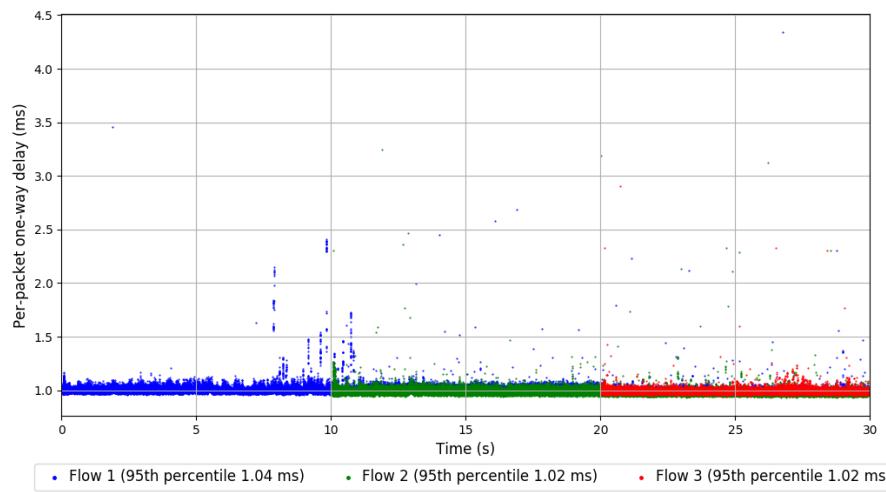
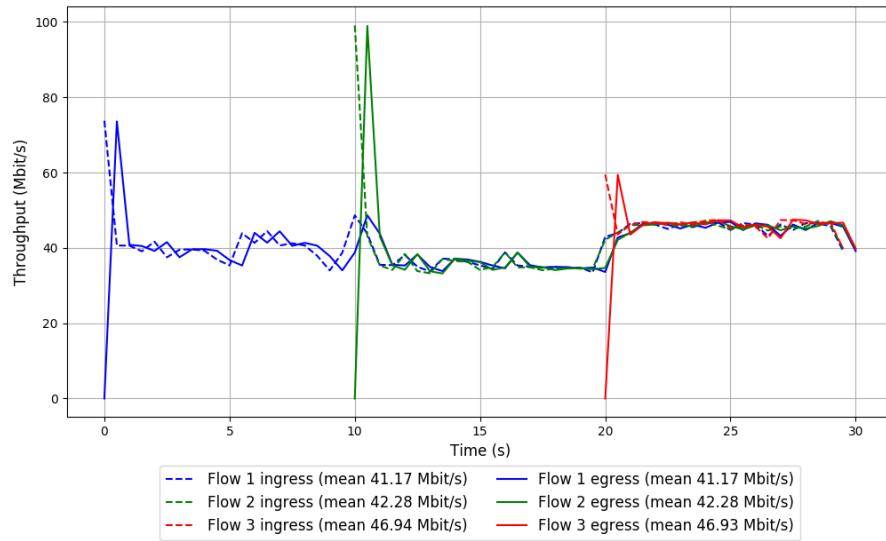


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-02 18:40:58
End at: 2018-10-02 18:41:28
Local clock offset: 7.94 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2018-10-02 19:39:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 41.17 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.28 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.93 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.01%
```

## Run 5: Report of Indigo-Muses — Data Link

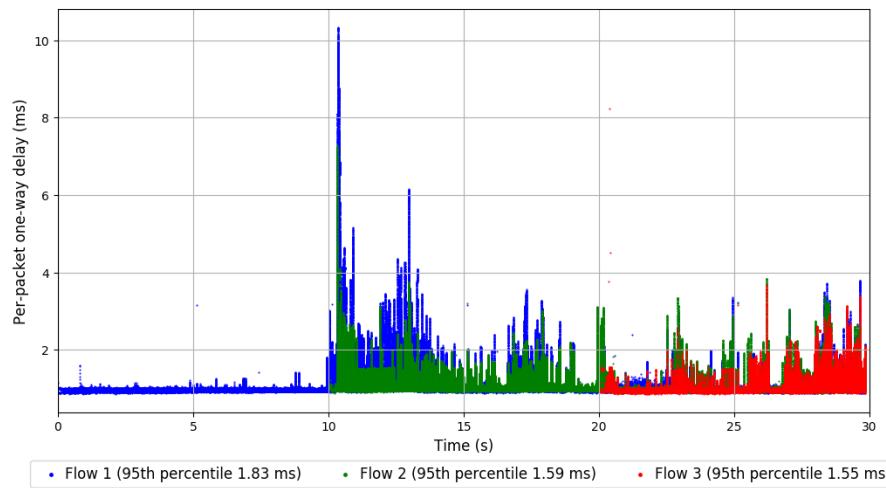
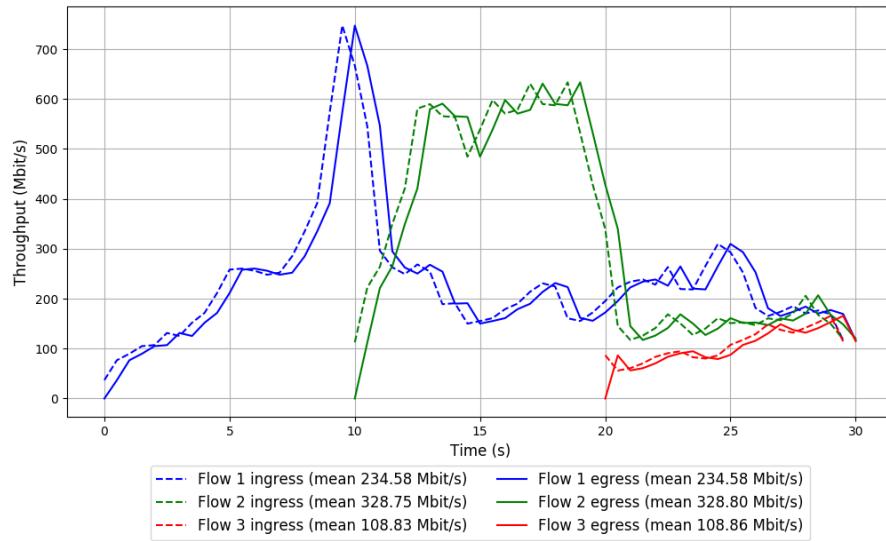


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-02 16:45:18
End at: 2018-10-02 16:45:48
Local clock offset: 3.706 ms
Remote clock offset: 3.127 ms

# Below is generated by plot.py at 2018-10-02 19:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 488.77 Mbit/s
95th percentile per-packet one-way delay: 1.696 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 234.58 Mbit/s
95th percentile per-packet one-way delay: 1.835 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 328.80 Mbit/s
95th percentile per-packet one-way delay: 1.593 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 108.86 Mbit/s
95th percentile per-packet one-way delay: 1.553 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link

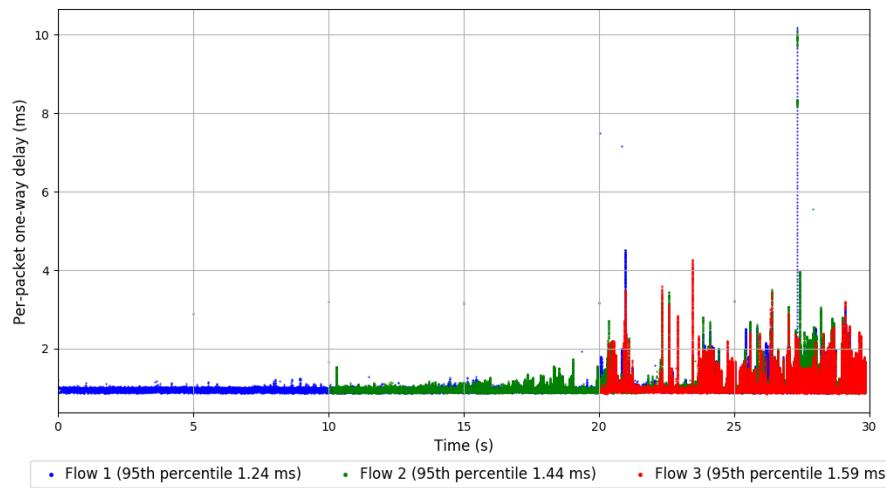
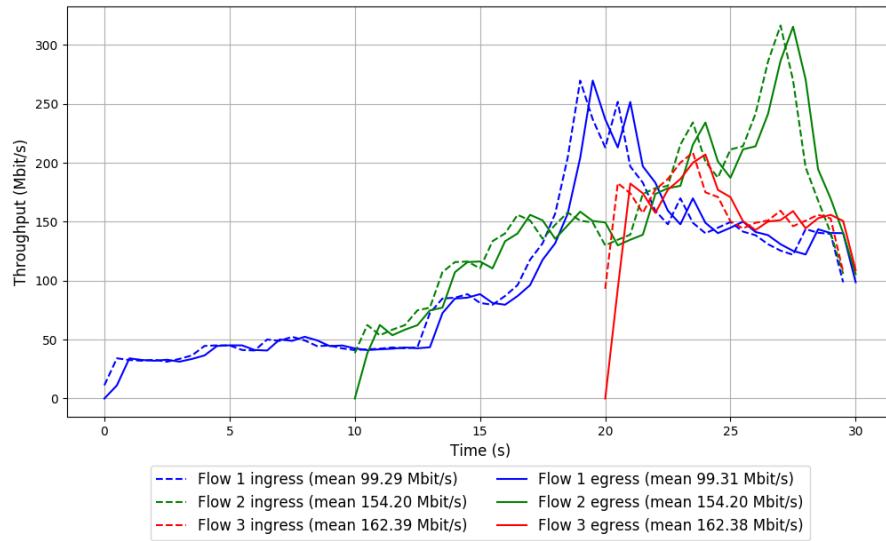


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-02 17:13:10
End at: 2018-10-02 17:13:40
Local clock offset: 4.095 ms
Remote clock offset: 0.066 ms

# Below is generated by plot.py at 2018-10-02 19:39:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.29 Mbit/s
95th percentile per-packet one-way delay: 1.417 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 99.31 Mbit/s
95th percentile per-packet one-way delay: 1.240 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 154.20 Mbit/s
95th percentile per-packet one-way delay: 1.437 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 162.38 Mbit/s
95th percentile per-packet one-way delay: 1.593 ms
Loss rate: 0.02%
```

## Run 2: Report of PCC-Allegro — Data Link

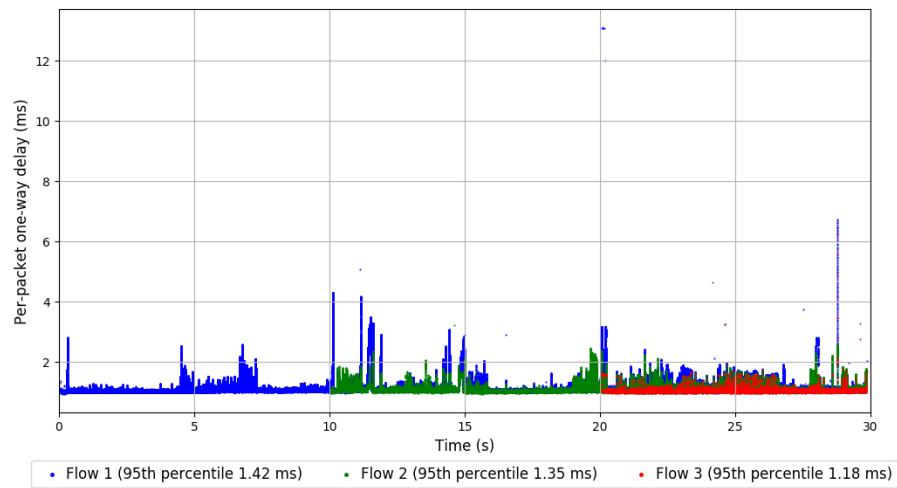
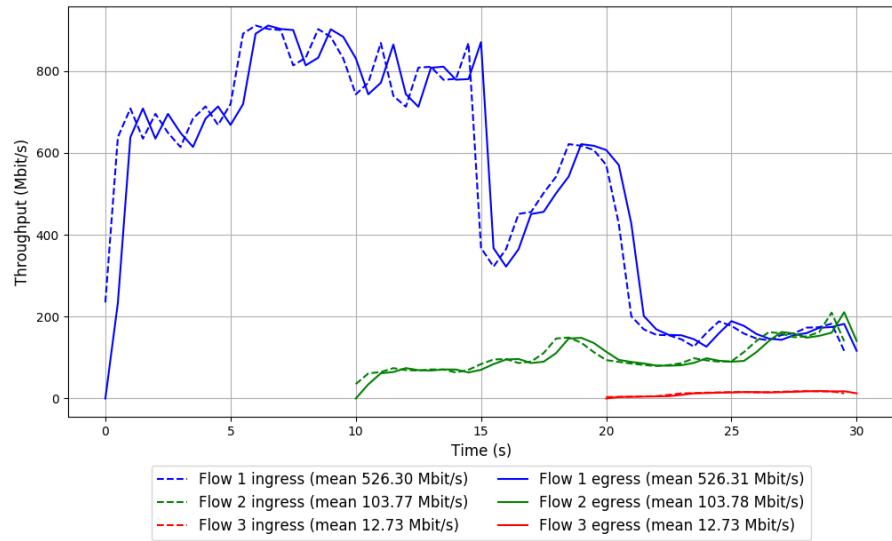


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-02 17:40:54
End at: 2018-10-02 17:41:24
Local clock offset: 4.62 ms
Remote clock offset: 3.078 ms

# Below is generated by plot.py at 2018-10-02 19:41:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 599.43 Mbit/s
95th percentile per-packet one-way delay: 1.404 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 526.31 Mbit/s
95th percentile per-packet one-way delay: 1.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 103.78 Mbit/s
95th percentile per-packet one-way delay: 1.352 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 0.02%
```

Run 3: Report of PCC-Allegro — Data Link

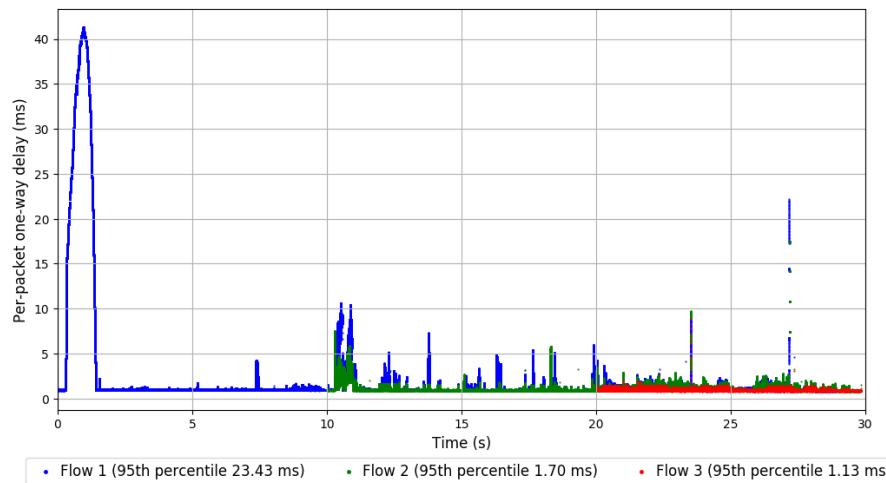
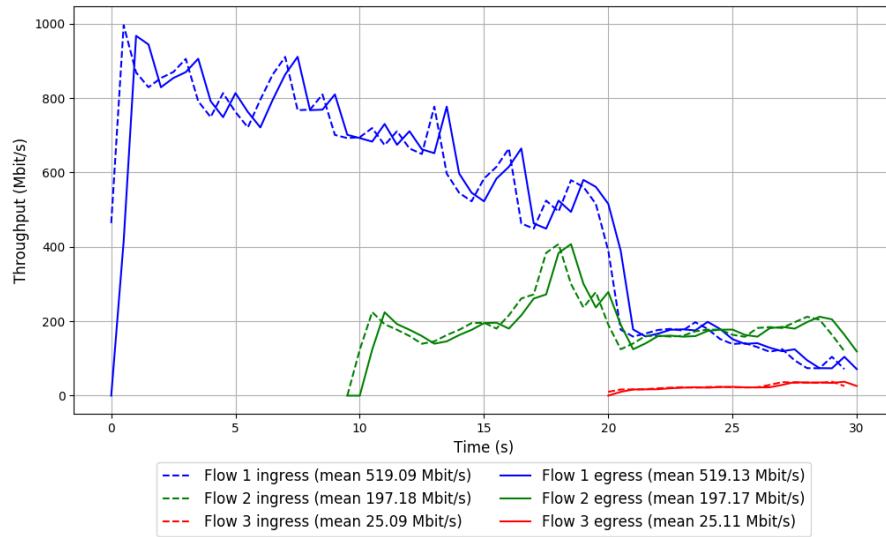


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-02 18:08:37
End at: 2018-10-02 18:09:07
Local clock offset: 6.451 ms
Remote clock offset: 1.349 ms

# Below is generated by plot.py at 2018-10-02 19:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 658.54 Mbit/s
95th percentile per-packet one-way delay: 13.448 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 519.13 Mbit/s
95th percentile per-packet one-way delay: 23.430 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.17 Mbit/s
95th percentile per-packet one-way delay: 1.696 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 25.11 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.03%
```

## Run 4: Report of PCC-Allegro — Data Link

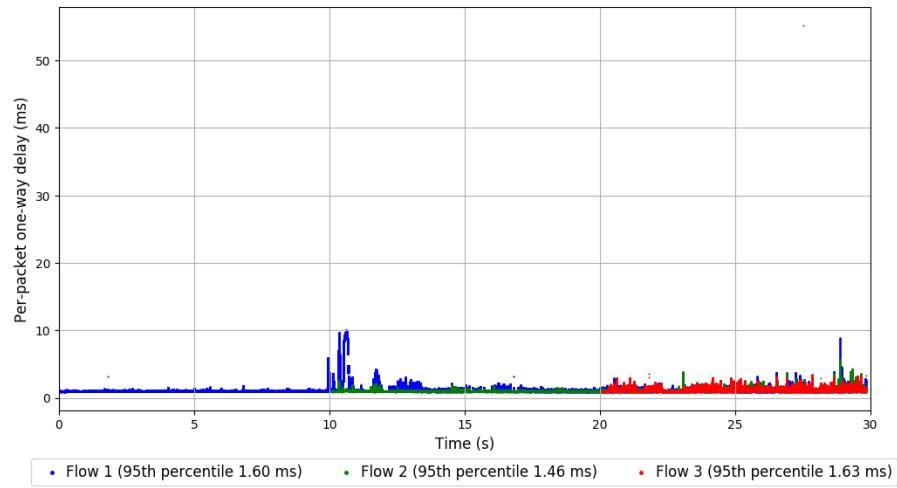
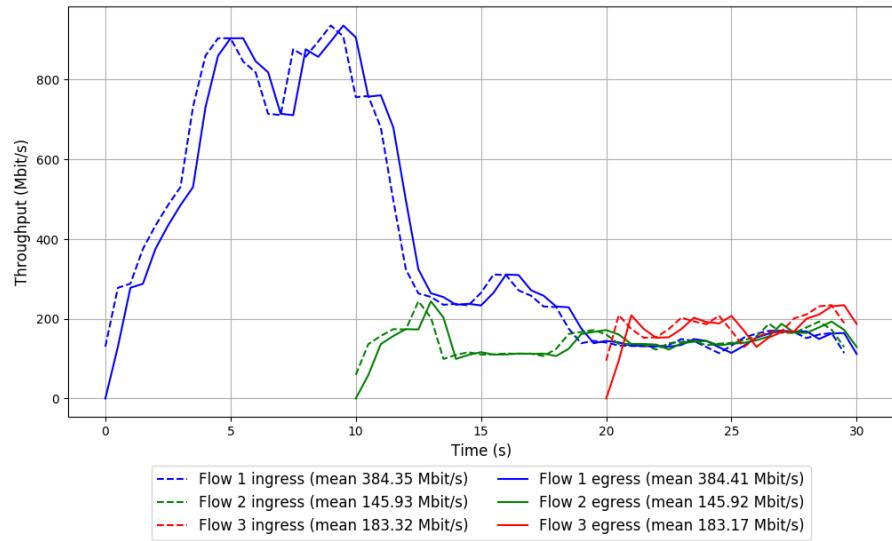


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-02 18:36:16
End at: 2018-10-02 18:36:46
Local clock offset: 7.745 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2018-10-02 19:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 541.53 Mbit/s
95th percentile per-packet one-way delay: 1.562 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 384.41 Mbit/s
95th percentile per-packet one-way delay: 1.596 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 145.92 Mbit/s
95th percentile per-packet one-way delay: 1.458 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 183.17 Mbit/s
95th percentile per-packet one-way delay: 1.634 ms
Loss rate: 0.07%
```

Run 5: Report of PCC-Allegro — Data Link

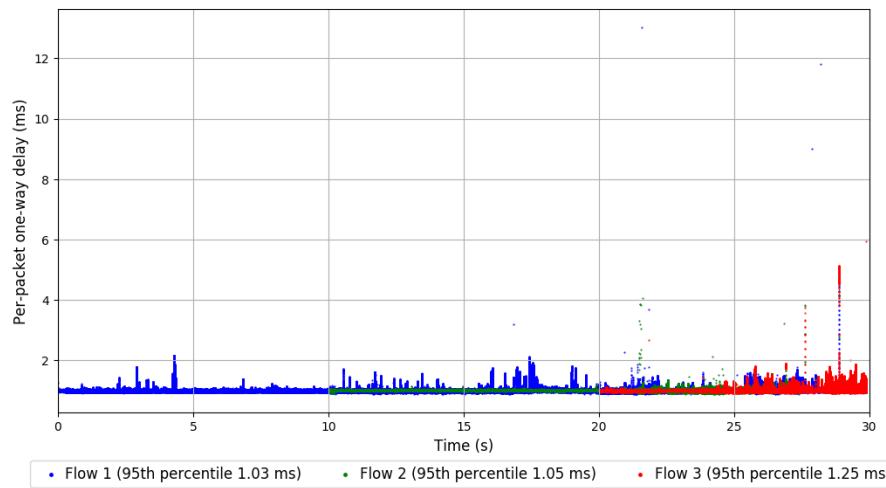
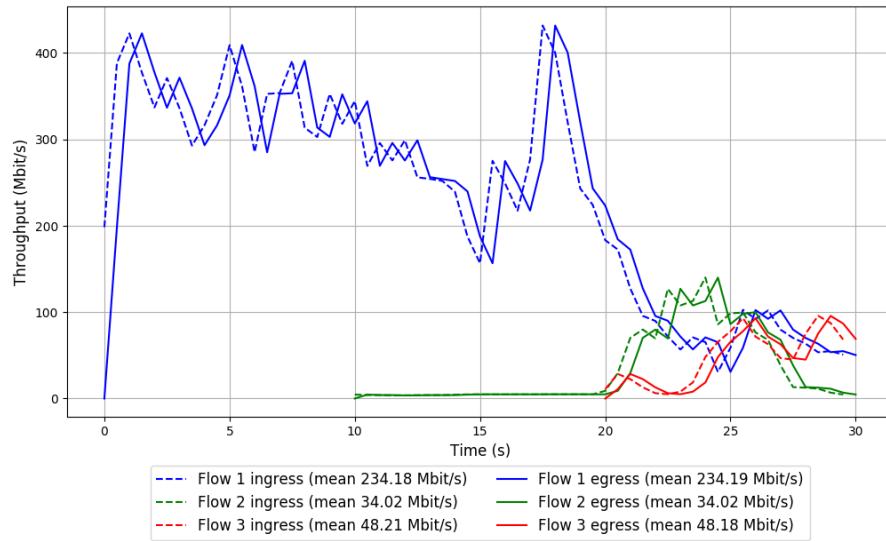


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-10-02 16:38:36
End at: 2018-10-02 16:39:06
Local clock offset: 3.751 ms
Remote clock offset: 2.98 ms

# Below is generated by plot.py at 2018-10-02 19:42:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.65 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 234.19 Mbit/s
95th percentile per-packet one-way delay: 1.030 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.02 Mbit/s
95th percentile per-packet one-way delay: 1.049 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 1.249 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Expr — Data Link

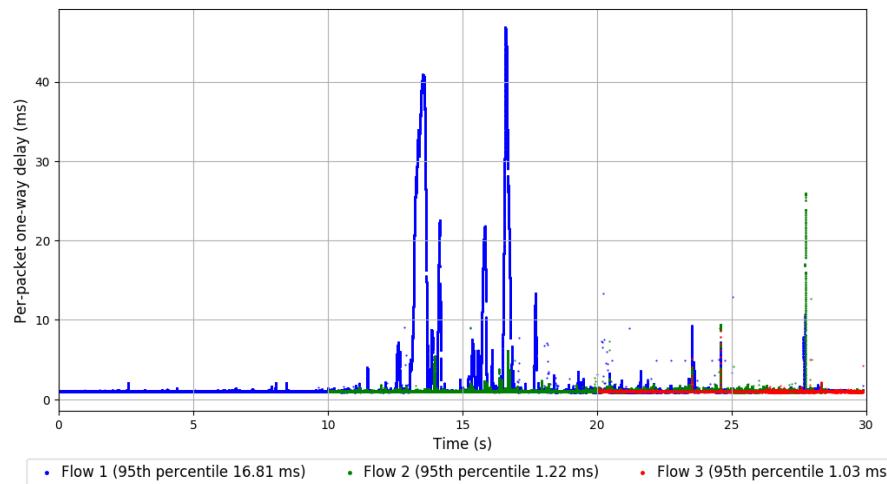
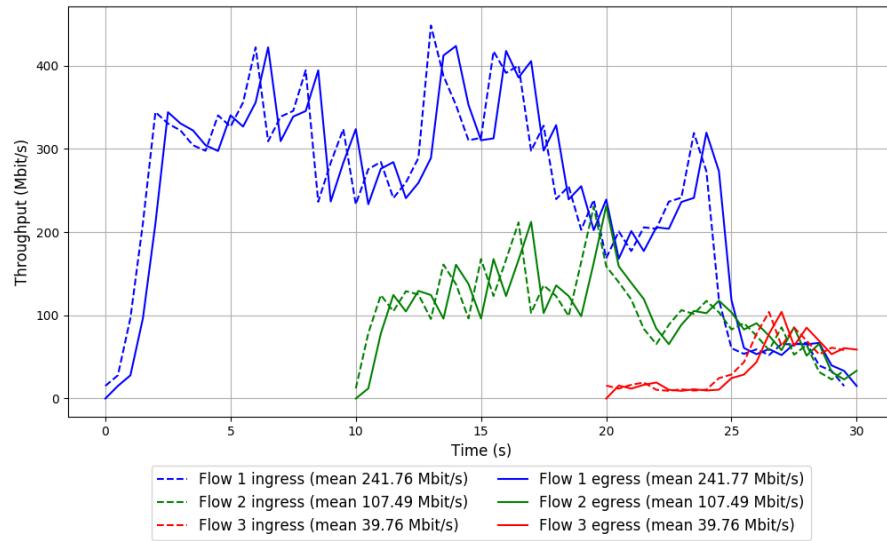


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-02 17:06:26
End at: 2018-10-02 17:06:56
Local clock offset: 4.097 ms
Remote clock offset: 0.41 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.35 Mbit/s
95th percentile per-packet one-way delay: 8.091 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 241.77 Mbit/s
95th percentile per-packet one-way delay: 16.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 107.49 Mbit/s
95th percentile per-packet one-way delay: 1.218 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 1.026 ms
Loss rate: 0.01%
```

Run 2: Report of PCC-Expr — Data Link

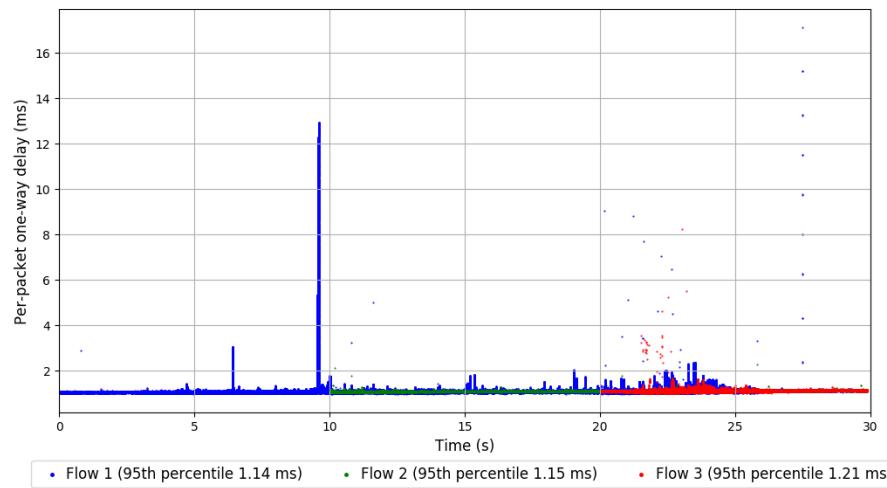
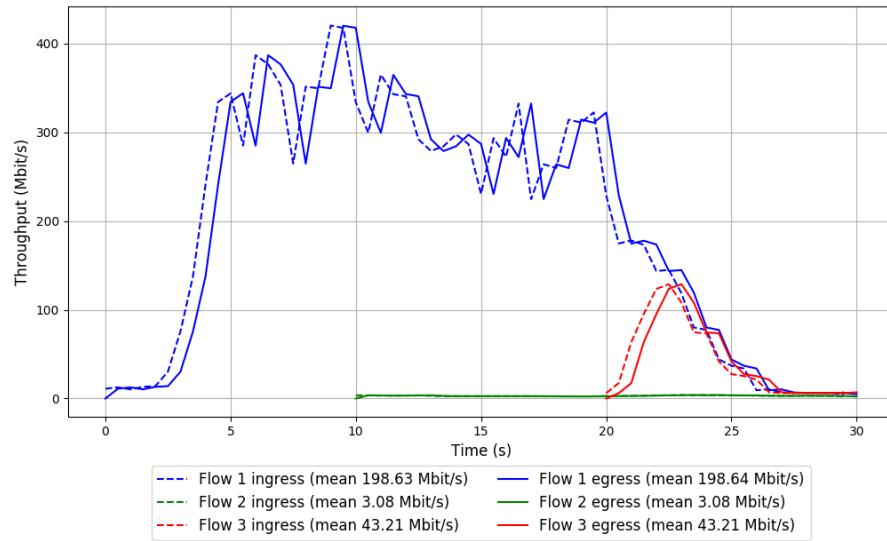


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-02 17:34:16
End at: 2018-10-02 17:34:46
Local clock offset: 4.557 ms
Remote clock offset: 2.202 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.95 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 198.64 Mbit/s
95th percentile per-packet one-way delay: 1.138 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.21 Mbit/s
95th percentile per-packet one-way delay: 1.207 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Expr — Data Link

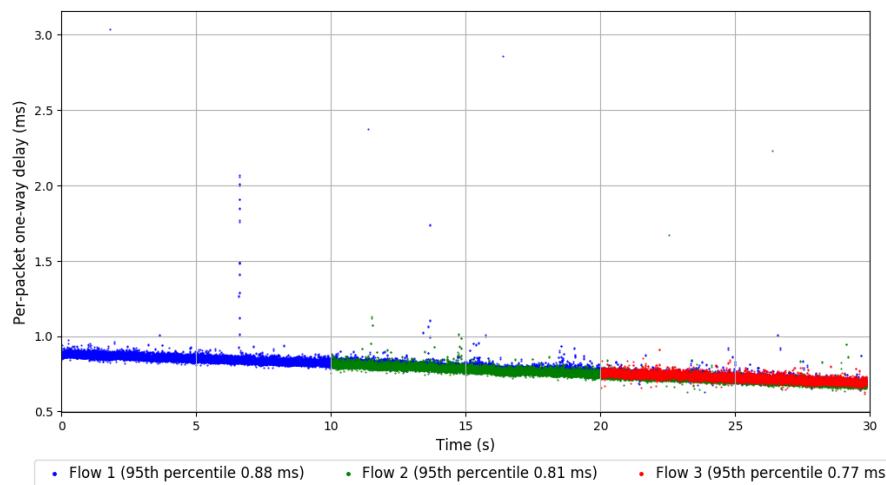
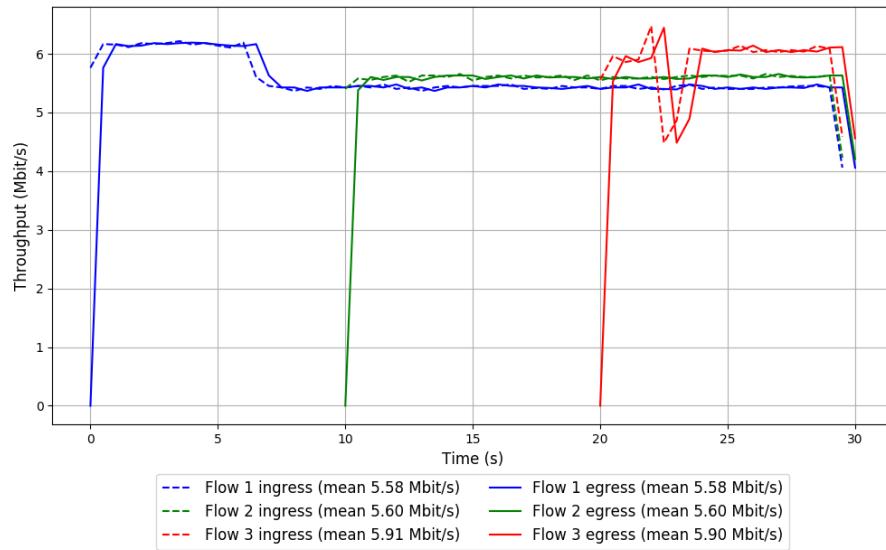


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-02 18:02:11
End at: 2018-10-02 18:02:41
Local clock offset: 6.175 ms
Remote clock offset: 3.05 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.26 Mbit/s
95th percentile per-packet one-way delay: 0.867 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 0.879 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 0.815 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 5.90 Mbit/s
95th percentile per-packet one-way delay: 0.767 ms
Loss rate: 0.02%
```

## Run 4: Report of PCC-Expr — Data Link

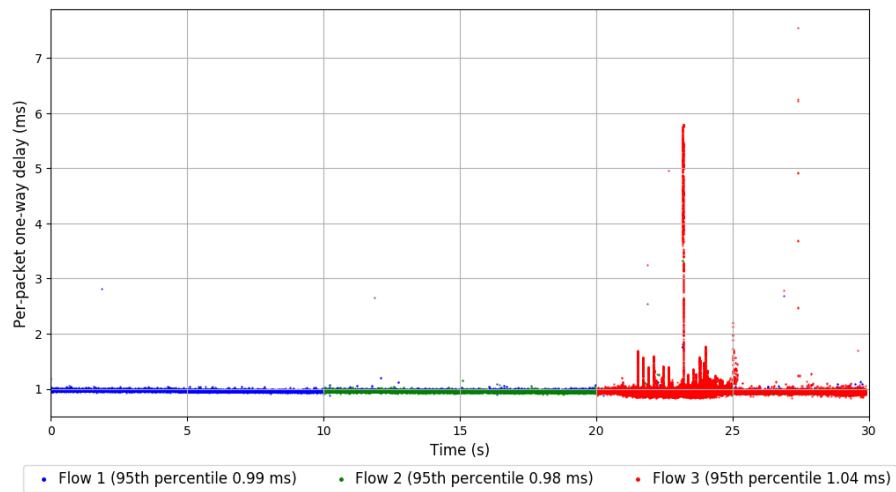
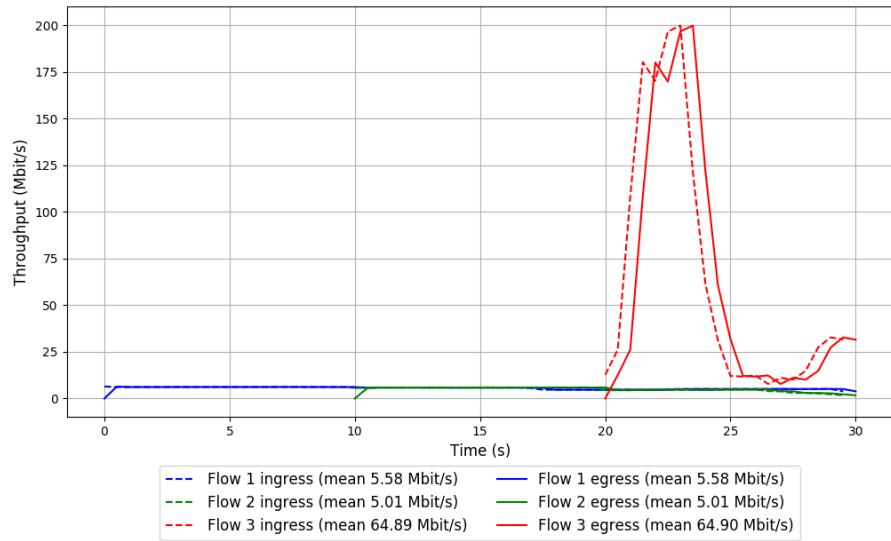


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-02 18:29:50
End at: 2018-10-02 18:30:20
Local clock offset: 7.471 ms
Remote clock offset: -0.133 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.33 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.01 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 64.90 Mbit/s
95th percentile per-packet one-way delay: 1.038 ms
Loss rate: 0.01%
```

Run 5: Report of PCC-Expr — Data Link

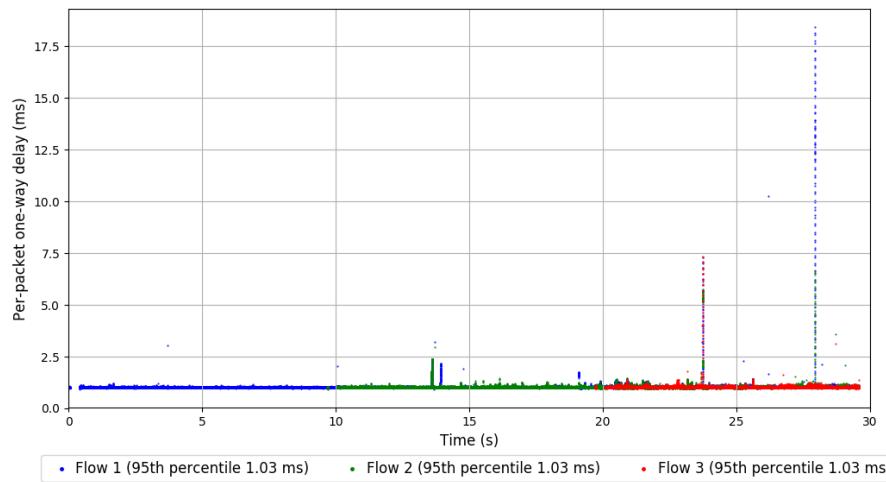
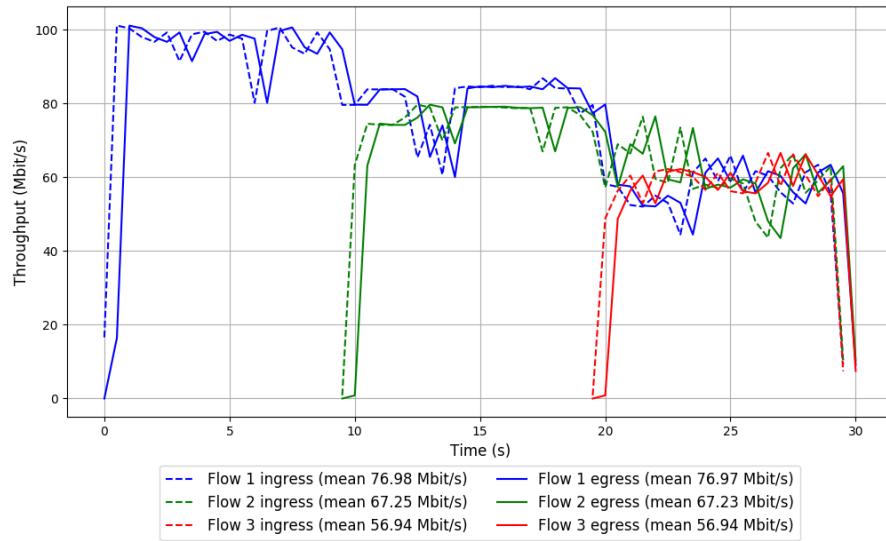


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-10-02 16:46:49
End at: 2018-10-02 16:47:19
Local clock offset: 3.76 ms
Remote clock offset: 3.139 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.24 Mbit/s
95th percentile per-packet one-way delay: 1.030 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 76.97 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 67.23 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 56.94 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.00%
```

## Run 1: Report of QUIC Cubic — Data Link

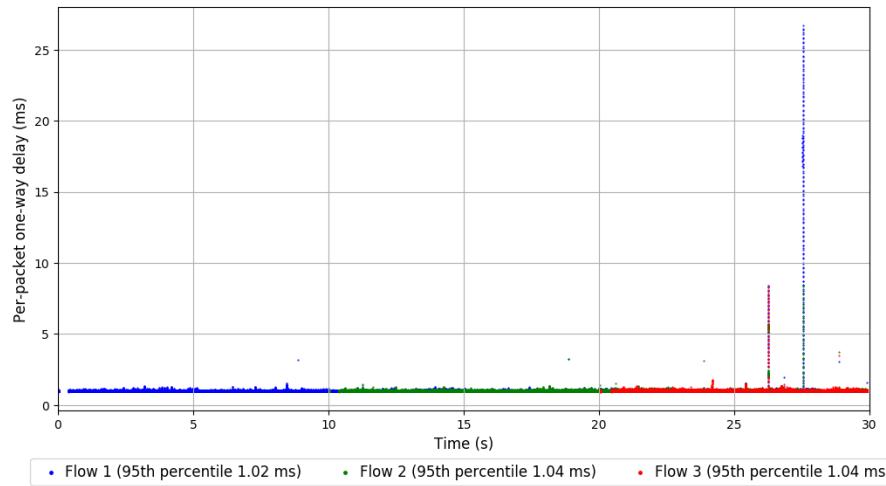
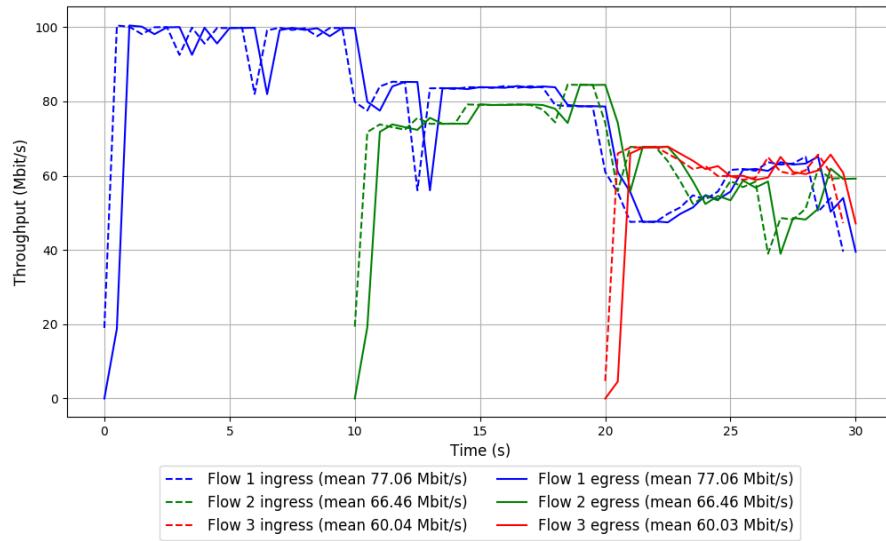


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-02 17:14:35
End at: 2018-10-02 17:15:05
Local clock offset: 4.113 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.13 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 77.06 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.46 Mbit/s
95th percentile per-packet one-way delay: 1.037 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.02%
```

## Run 2: Report of QUIC Cubic — Data Link

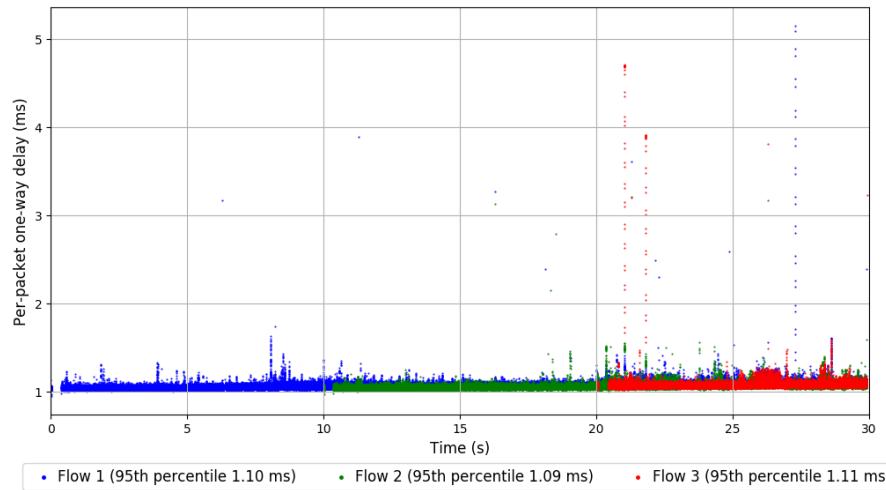
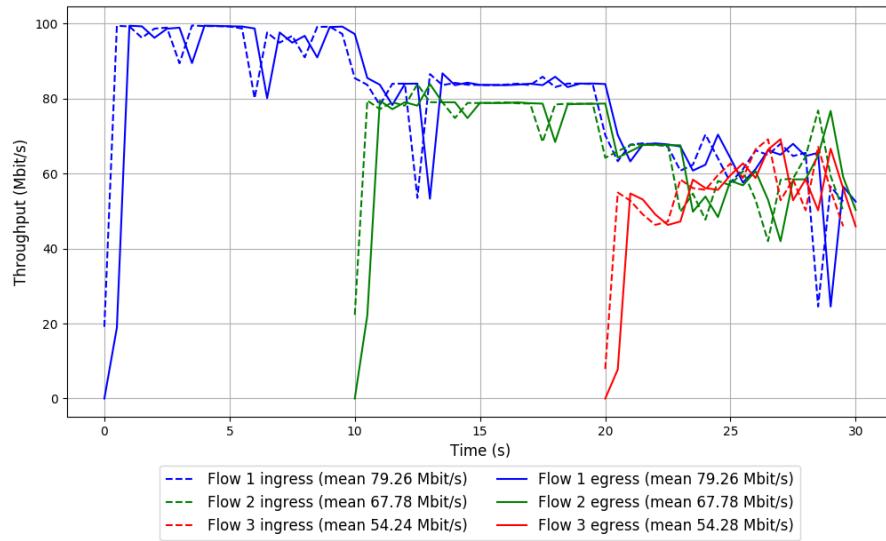


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-02 17:42:27
End at: 2018-10-02 17:42:57
Local clock offset: 4.637 ms
Remote clock offset: 3.224 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.34 Mbit/s
95th percentile per-packet one-way delay: 1.099 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 79.26 Mbit/s
95th percentile per-packet one-way delay: 1.099 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.78 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 54.28 Mbit/s
95th percentile per-packet one-way delay: 1.111 ms
Loss rate: 0.02%
```

Run 3: Report of QUIC Cubic — Data Link

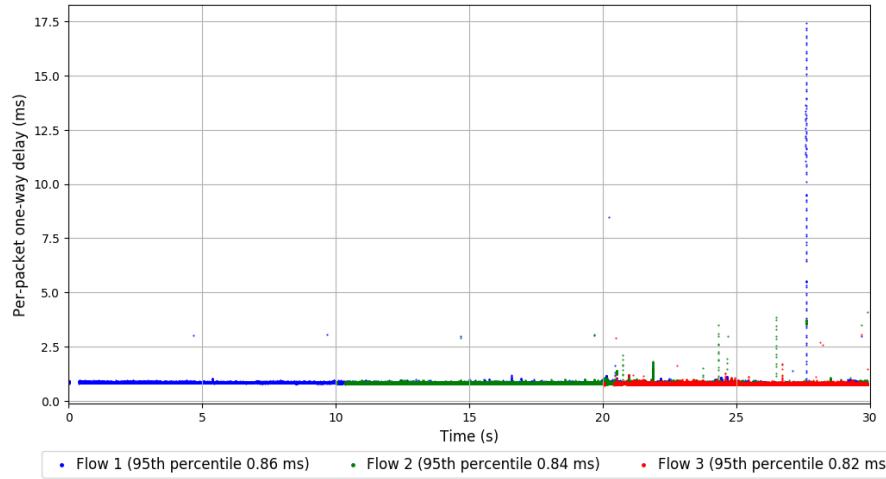
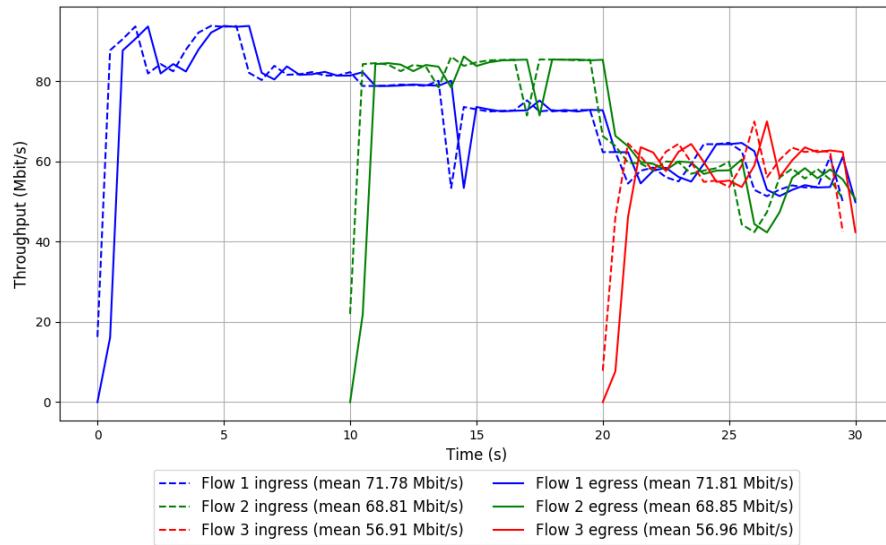


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-02 18:10:12
End at: 2018-10-02 18:10:42
Local clock offset: 6.508 ms
Remote clock offset: 1.21 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.43 Mbit/s
95th percentile per-packet one-way delay: 0.858 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 71.81 Mbit/s
95th percentile per-packet one-way delay: 0.863 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 68.85 Mbit/s
95th percentile per-packet one-way delay: 0.844 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 0.818 ms
Loss rate: 0.02%
```

Run 4: Report of QUIC Cubic — Data Link

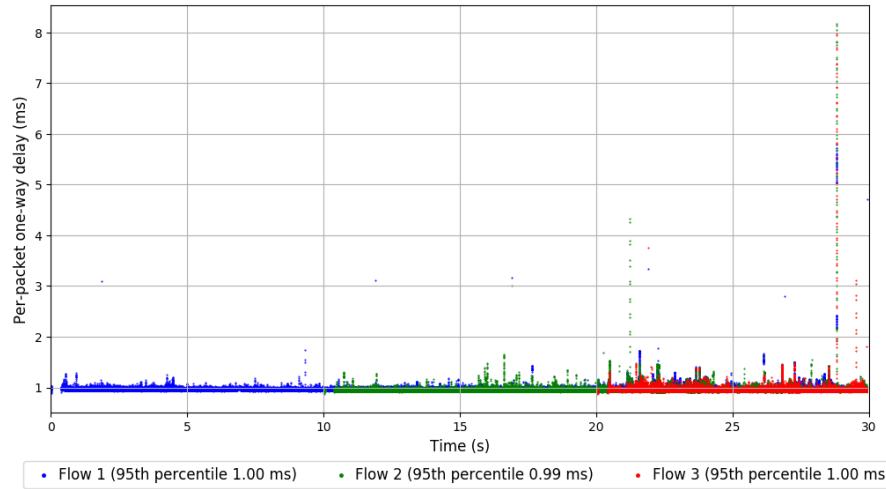
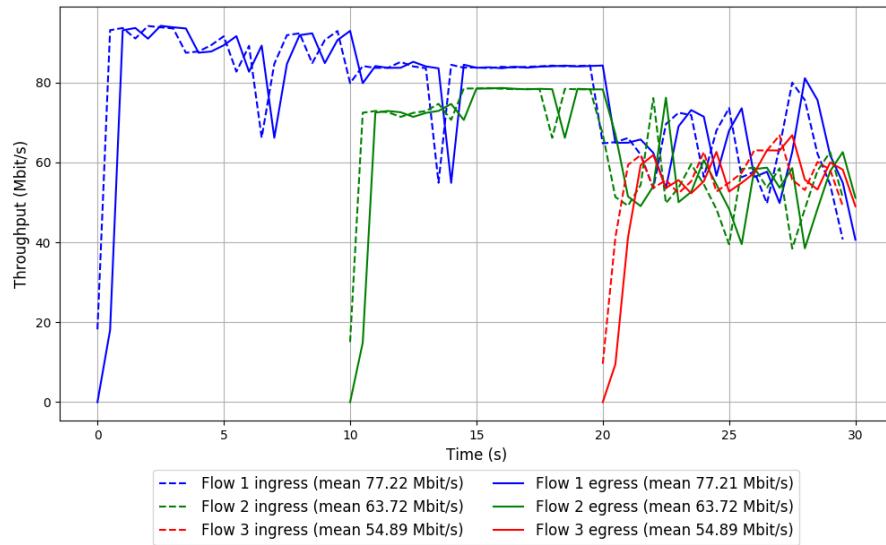


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-02 18:37:48
End at: 2018-10-02 18:38:18
Local clock offset: 7.801 ms
Remote clock offset: -0.047 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.74 Mbit/s
95th percentile per-packet one-way delay: 0.995 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 77.21 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.72 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 54.89 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.01%
```

Run 5: Report of QUIC Cubic — Data Link

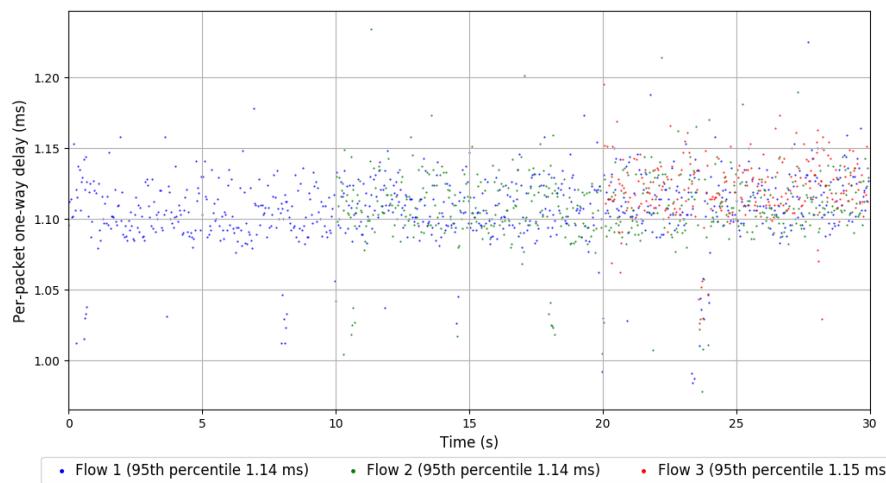
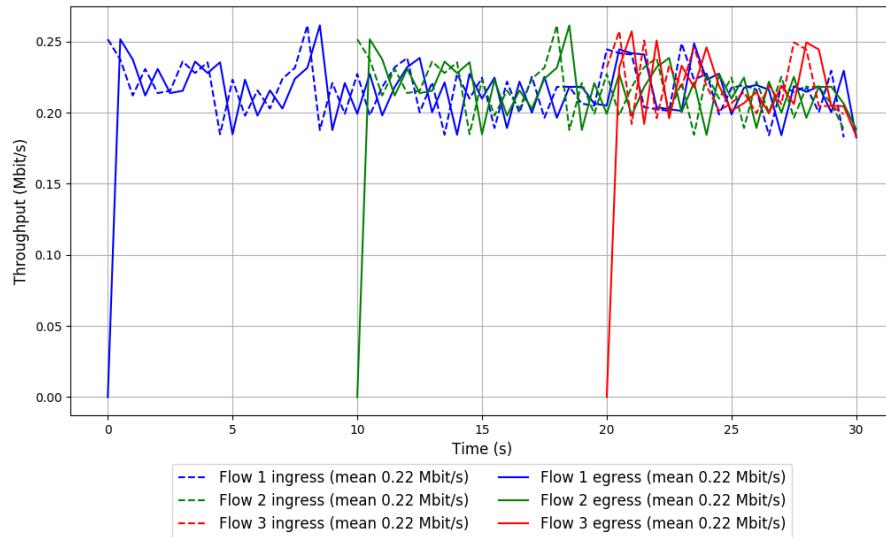


Run 1: Statistics of SCReAM

```
Start at: 2018-10-02 16:35:45
End at: 2018-10-02 16:36:15
Local clock offset: 3.756 ms
Remote clock offset: 2.909 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.144 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.141 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.153 ms
Loss rate: 0.35%
```

## Run 1: Report of SCReAM — Data Link

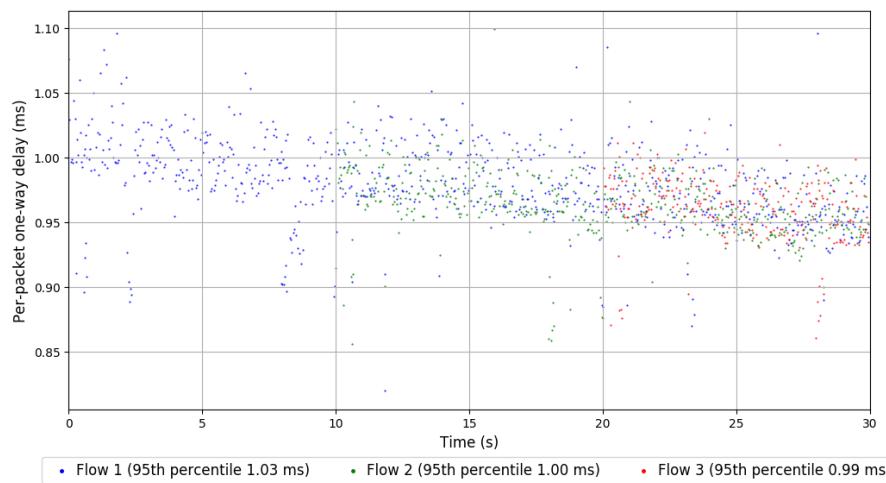
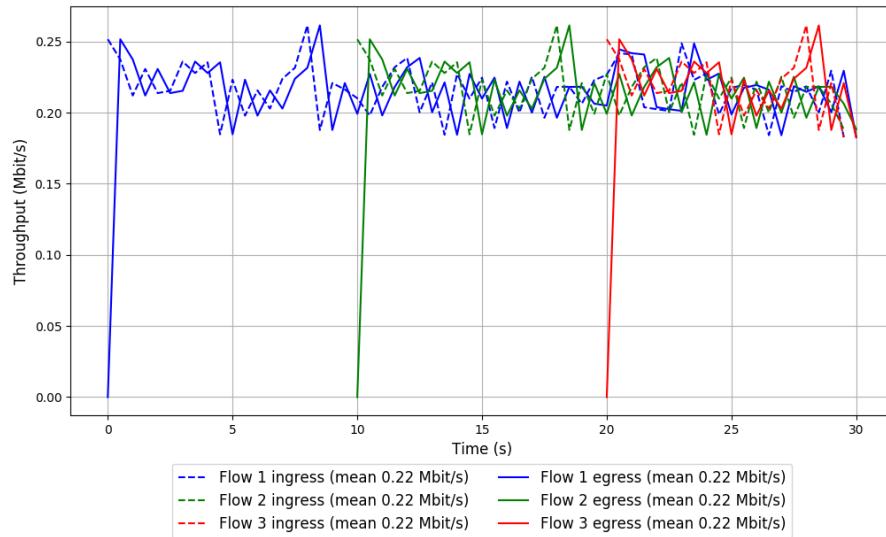


Run 2: Statistics of SCReAM

```
Start at: 2018-10-02 17:03:36
End at: 2018-10-02 17:04:06
Local clock offset: 4.061 ms
Remote clock offset: 0.745 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.027 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.003 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

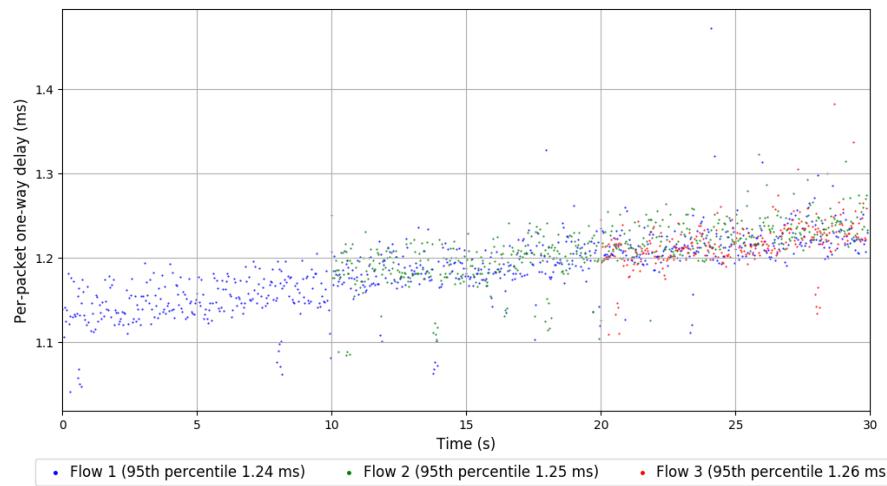
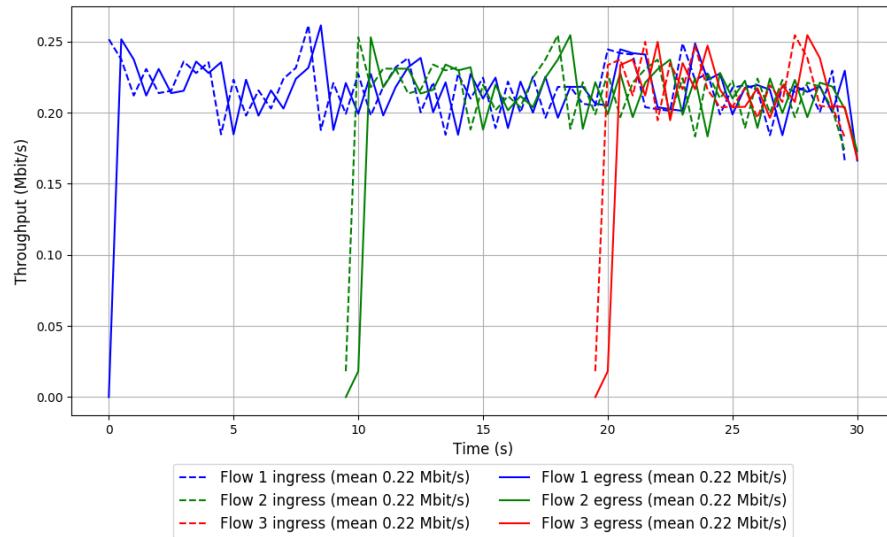


Run 3: Statistics of SCReAM

```
Start at: 2018-10-02 17:31:25
End at: 2018-10-02 17:31:55
Local clock offset: 4.512 ms
Remote clock offset: 1.711 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.236 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.252 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.256 ms
Loss rate: 0.35%
```

Run 3: Report of SCReAM — Data Link

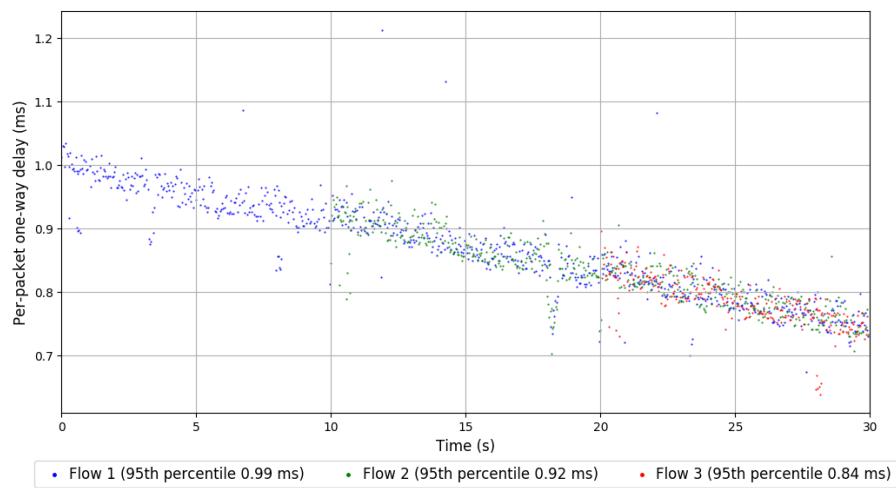
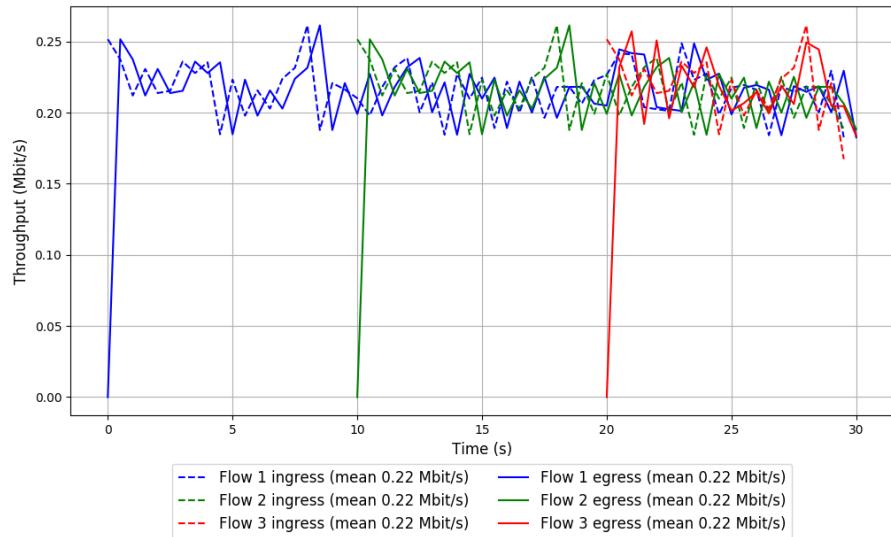


Run 4: Statistics of SCReAM

```
Start at: 2018-10-02 17:59:20
End at: 2018-10-02 17:59:50
Local clock offset: 5.985 ms
Remote clock offset: 4.153 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.990 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.924 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.844 ms
Loss rate: 0.00%
```

## Run 4: Report of SCReAM — Data Link

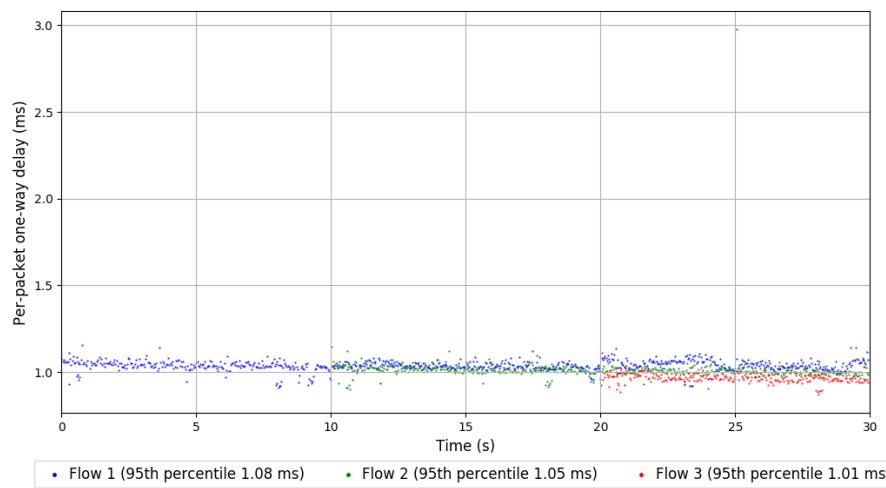
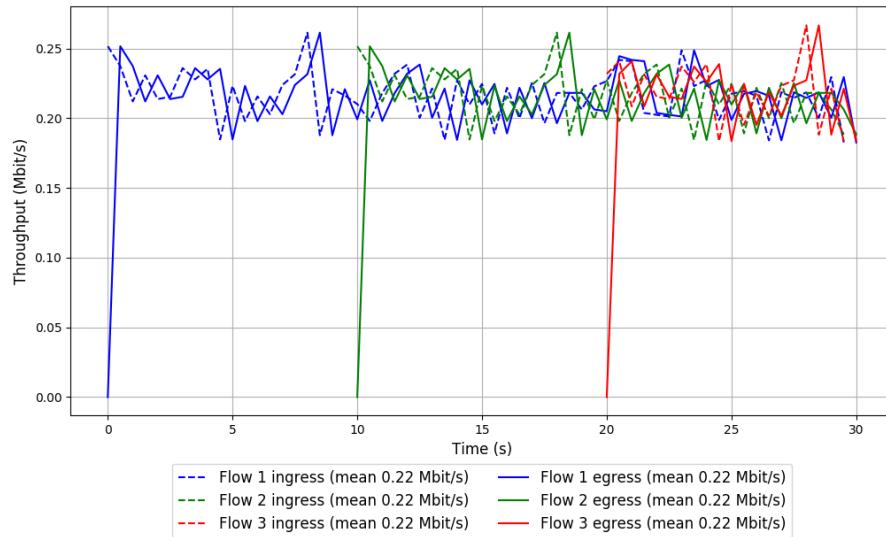


Run 5: Statistics of SCReAM

```
Start at: 2018-10-02 18:26:59
End at: 2018-10-02 18:27:29
Local clock offset: 7.347 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.074 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.082 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

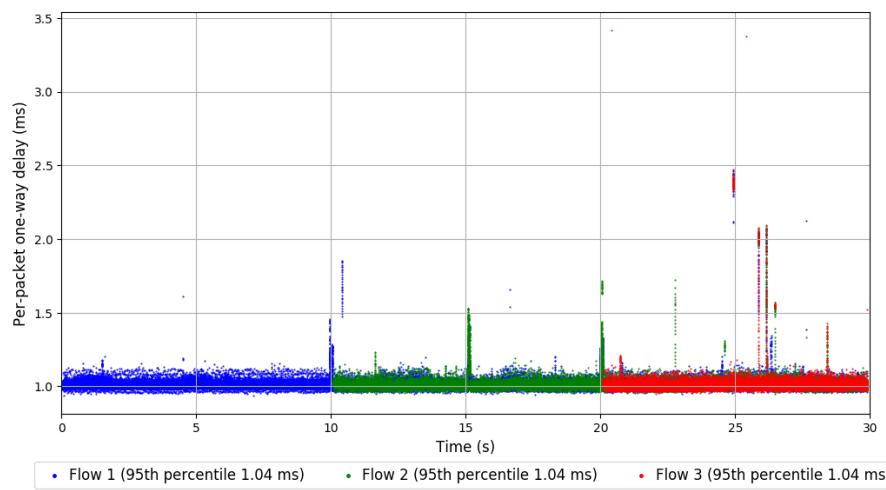
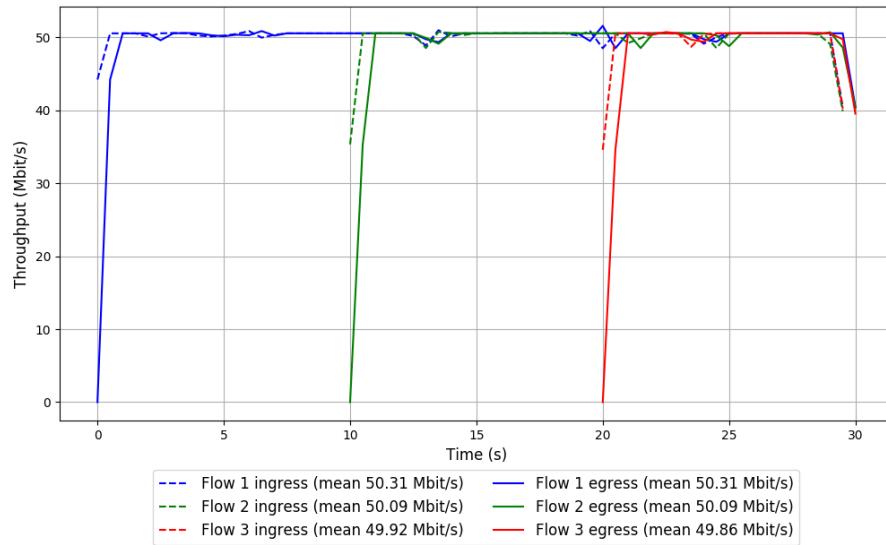


Run 1: Statistics of Sprout

```
Start at: 2018-10-02 16:34:23
End at: 2018-10-02 16:34:54
Local clock offset: 3.752 ms
Remote clock offset: 2.901 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.97 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.09 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.15%
```

## Run 1: Report of Sprout — Data Link

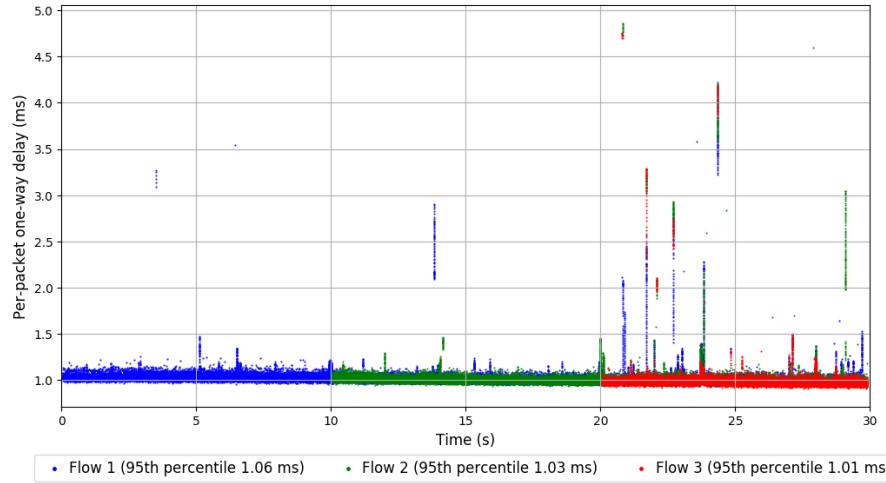
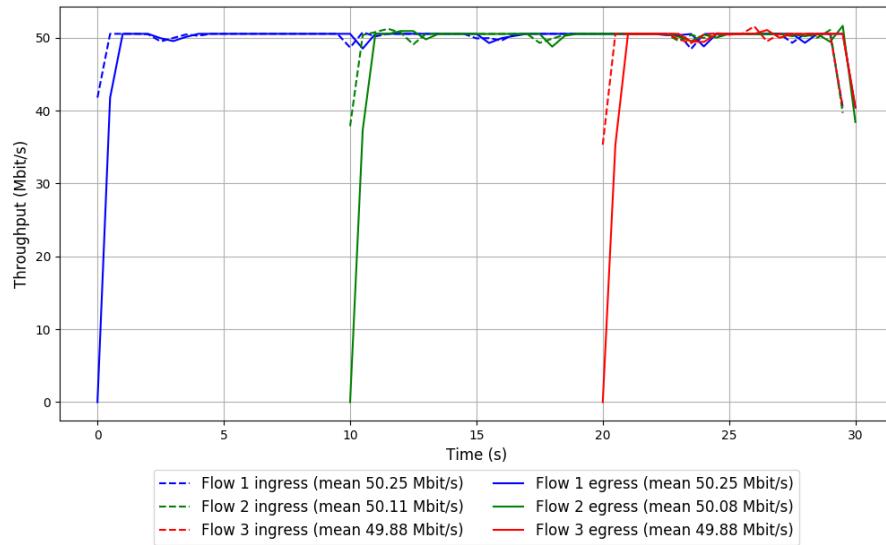


Run 2: Statistics of Sprout

```
Start at: 2018-10-02 17:02:15
End at: 2018-10-02 17:02:45
Local clock offset: 4.085 ms
Remote clock offset: 0.82 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.01 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.25 Mbit/s
95th percentile per-packet one-way delay: 1.059 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 49.88 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.00%
```

## Run 2: Report of Sprout — Data Link

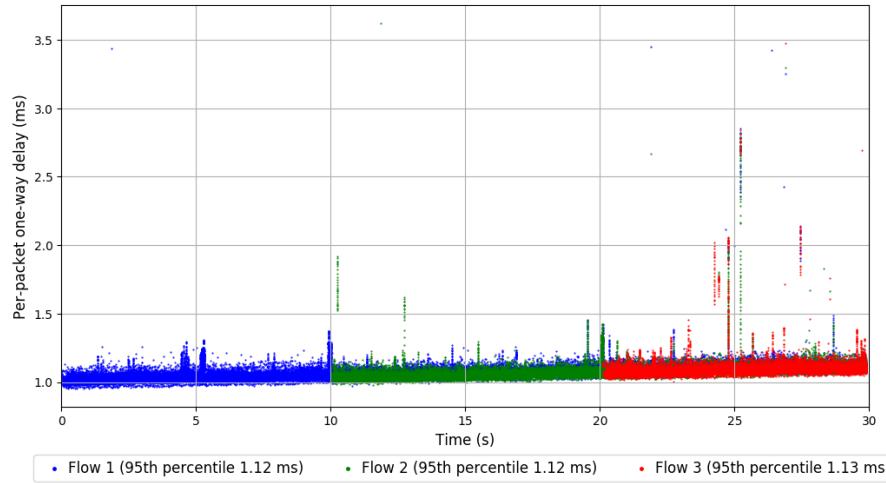
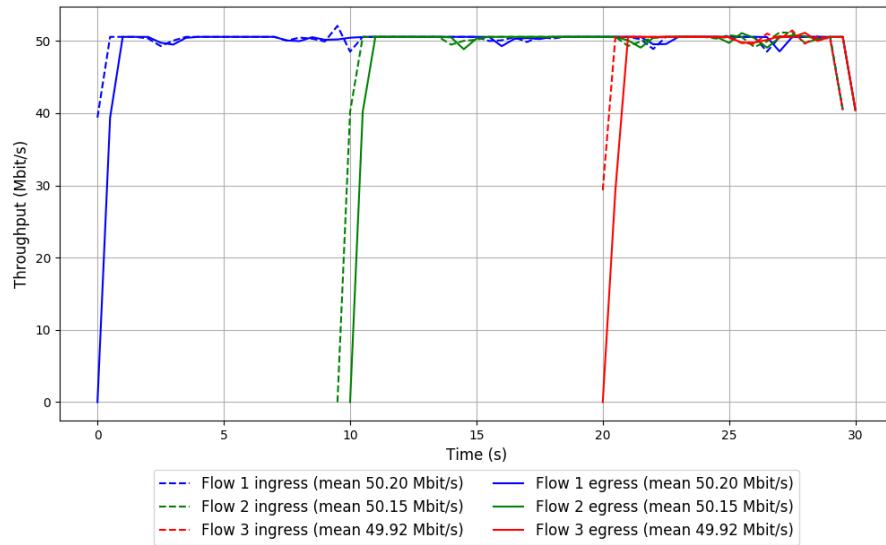


Run 3: Statistics of Sprout

```
Start at: 2018-10-02 17:30:03
End at: 2018-10-02 17:30:33
Local clock offset: 4.5 ms
Remote clock offset: 1.461 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.93 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 1.120 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.92 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.00%
```

### Run 3: Report of Sprout — Data Link

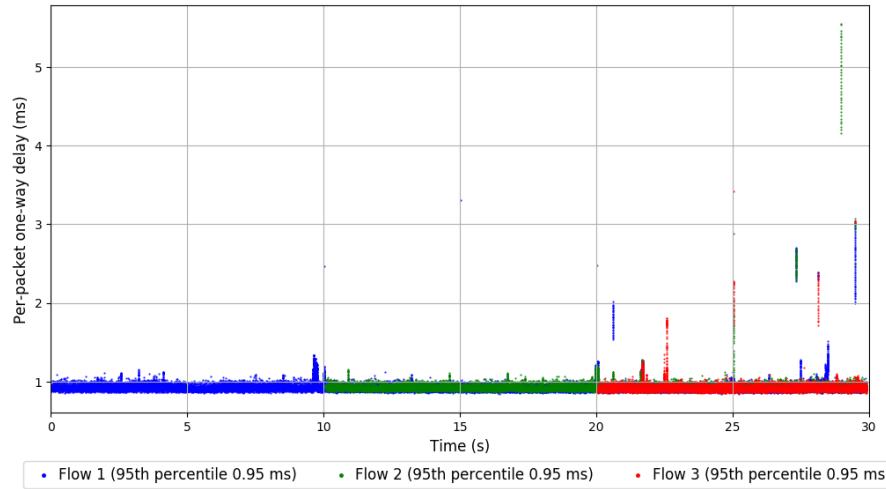
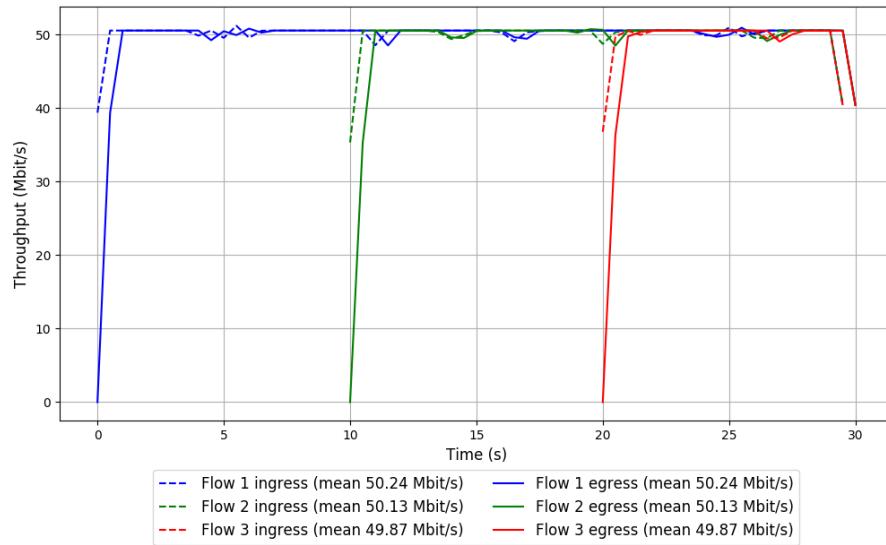


Run 4: Statistics of Sprout

```
Start at: 2018-10-02 17:57:59
End at: 2018-10-02 17:58:29
Local clock offset: 5.929 ms
Remote clock offset: 4.363 ms

# Below is generated by plot.py at 2018-10-02 19:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.98 Mbit/s
95th percentile per-packet one-way delay: 0.953 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 0.955 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.13 Mbit/s
95th percentile per-packet one-way delay: 0.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.00%
```

## Run 4: Report of Sprout — Data Link

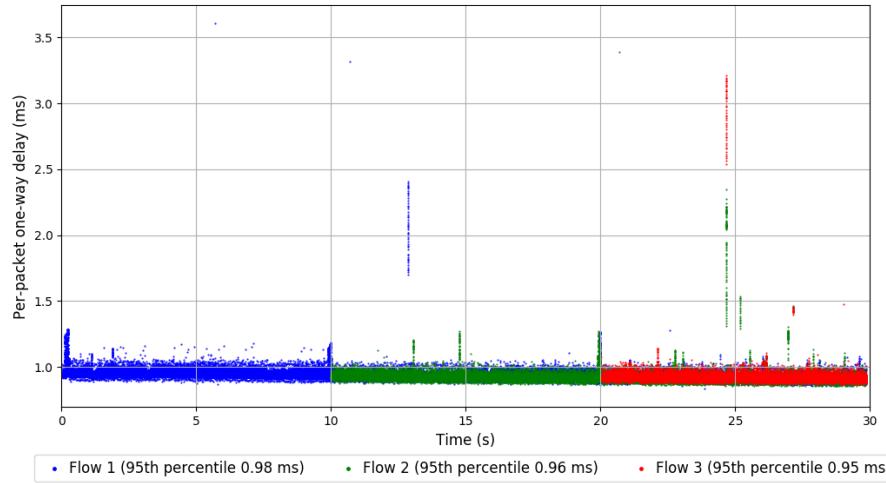
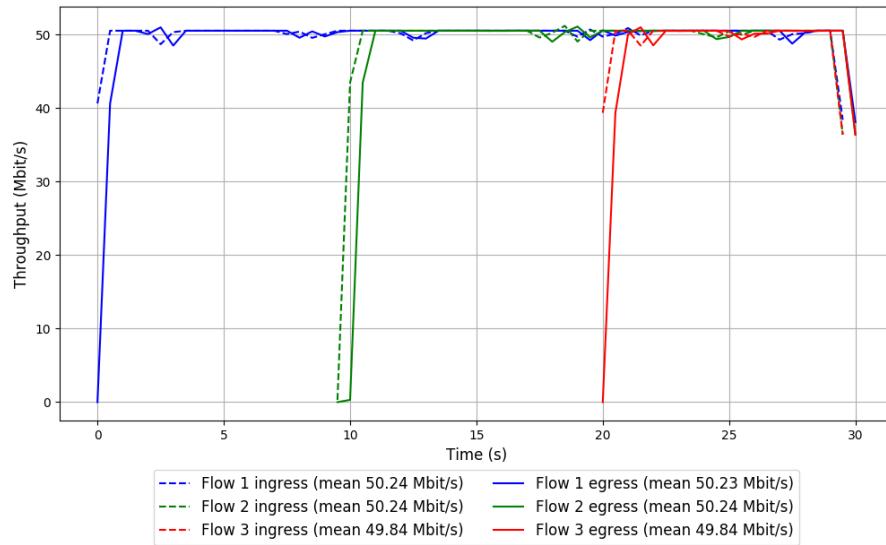


Run 5: Statistics of Sprout

```
Start at: 2018-10-02 18:25:38
End at: 2018-10-02 18:26:08
Local clock offset: 7.29 ms
Remote clock offset: 0.045 ms

# Below is generated by plot.py at 2018-10-02 19:44:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.10 Mbit/s
95th percentile per-packet one-way delay: 0.973 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.23 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 0.956 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 0.955 ms
Loss rate: 0.00%
```

## Run 5: Report of Sprout — Data Link

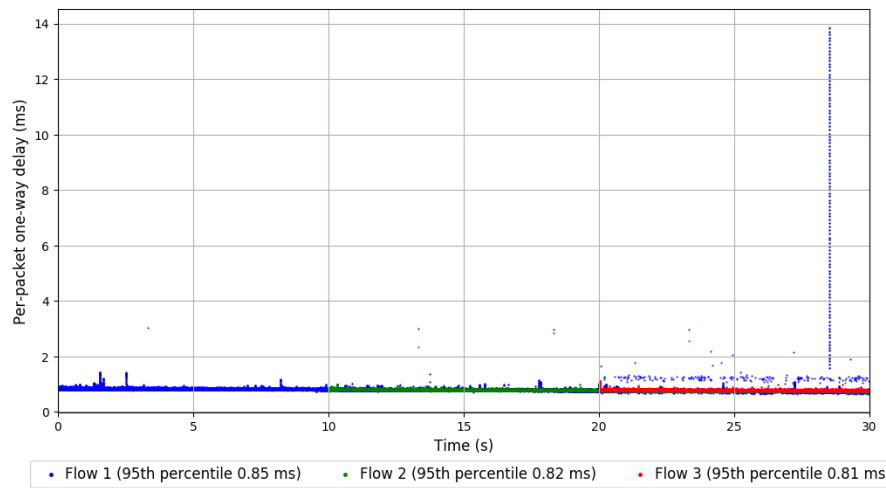
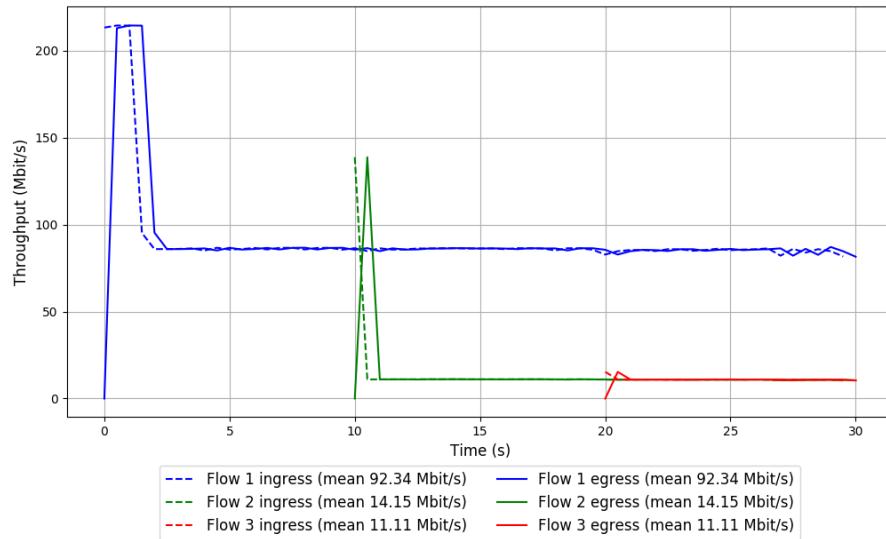


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-02 16:55:57
End at: 2018-10-02 16:56:27
Local clock offset: 3.999 ms
Remote clock offset: 1.897 ms

# Below is generated by plot.py at 2018-10-02 19:45:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.45 Mbit/s
95th percentile per-packet one-way delay: 0.848 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 92.34 Mbit/s
95th percentile per-packet one-way delay: 0.850 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 14.15 Mbit/s
95th percentile per-packet one-way delay: 0.819 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.11 Mbit/s
95th percentile per-packet one-way delay: 0.813 ms
Loss rate: 0.02%
```

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

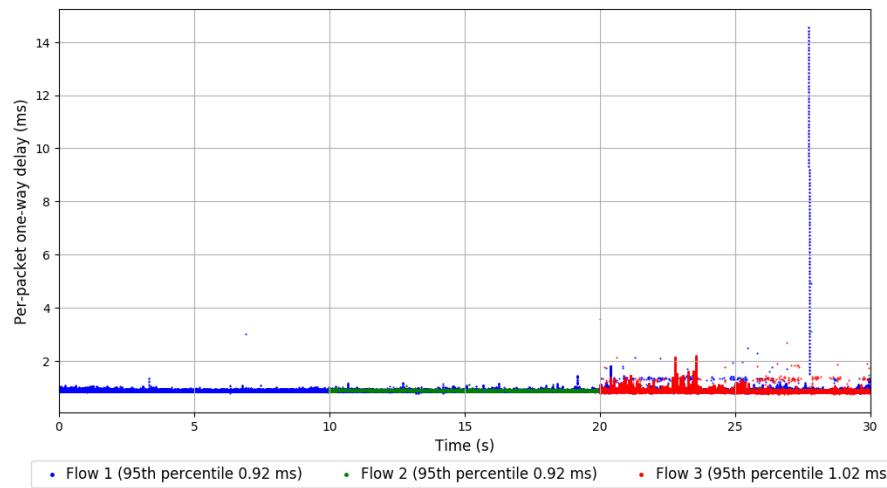
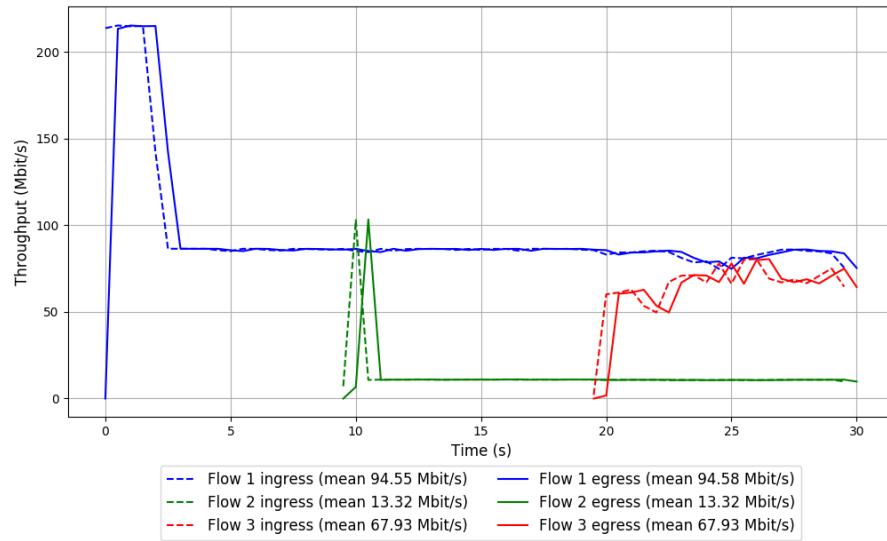


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-02 17:23:43
End at: 2018-10-02 17:24:13
Local clock offset: 4.385 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2018-10-02 19:46:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.03 Mbit/s
95th percentile per-packet one-way delay: 0.921 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 94.58 Mbit/s
95th percentile per-packet one-way delay: 0.918 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 0.916 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 67.93 Mbit/s
95th percentile per-packet one-way delay: 1.017 ms
Loss rate: 0.03%
```

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

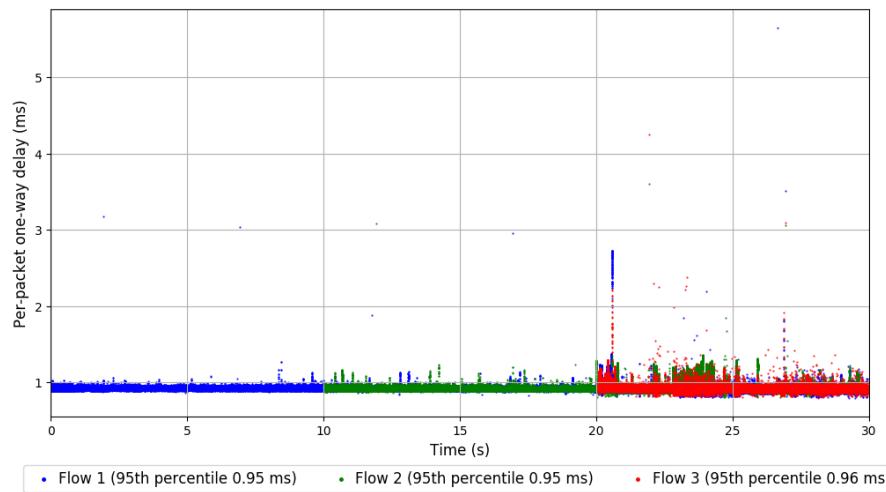
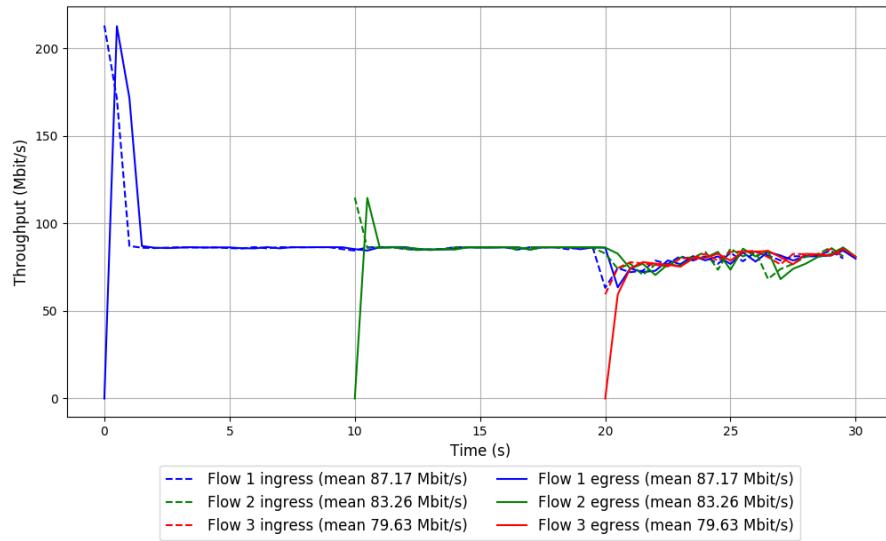


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-02 17:51:38
End at: 2018-10-02 17:52:08
Local clock offset: 5.418 ms
Remote clock offset: 3.951 ms

# Below is generated by plot.py at 2018-10-02 19:46:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 169.07 Mbit/s
95th percentile per-packet one-way delay: 0.949 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.17 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 83.26 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 79.63 Mbit/s
95th percentile per-packet one-way delay: 0.960 ms
Loss rate: 0.02%
```

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

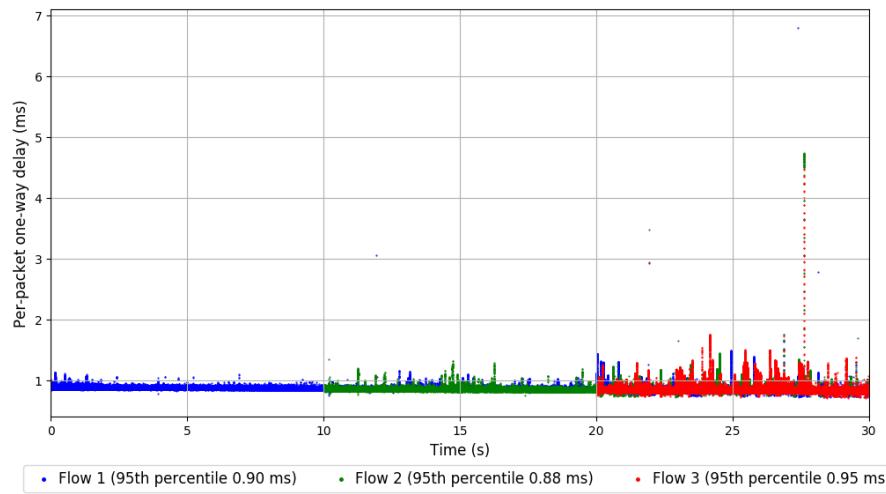
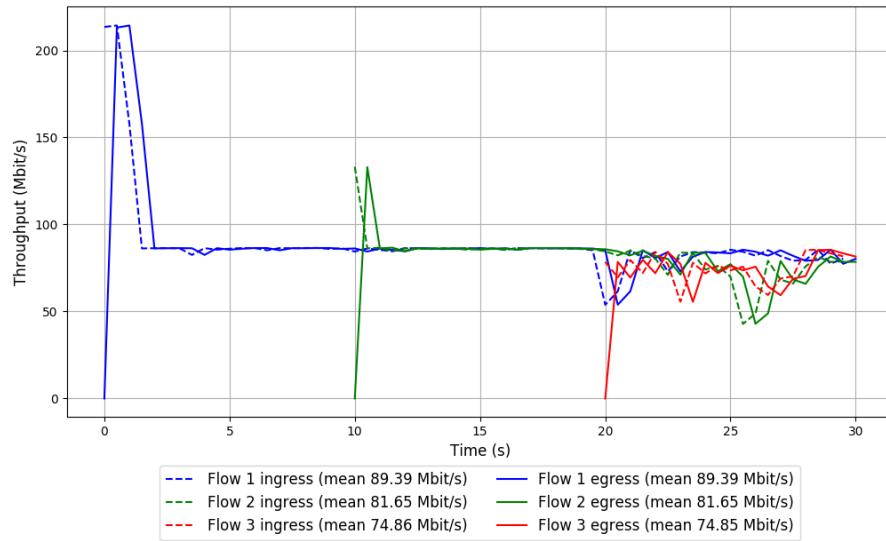


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-02 18:19:17
End at: 2018-10-02 18:19:47
Local clock offset: 6.938 ms
Remote clock offset: 0.347 ms

# Below is generated by plot.py at 2018-10-02 19:47:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.65 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 89.39 Mbit/s
95th percentile per-packet one-way delay: 0.900 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 81.65 Mbit/s
95th percentile per-packet one-way delay: 0.878 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 0.946 ms
Loss rate: 0.02%
```

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

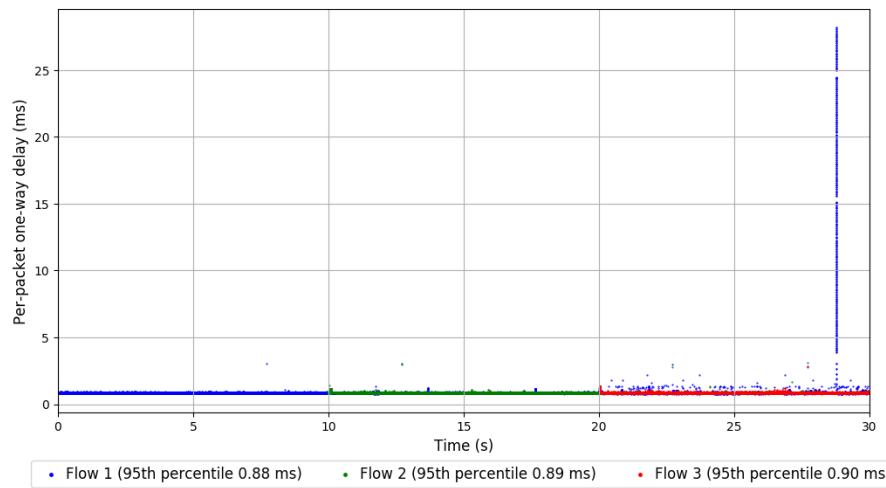
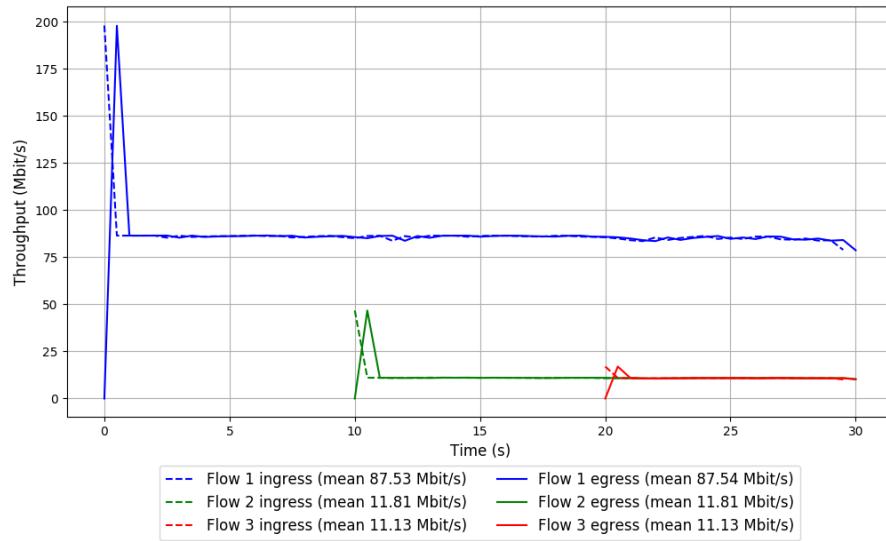


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-02 18:46:57
End at: 2018-10-02 18:47:27
Local clock offset: 8.156 ms
Remote clock offset: 0.208 ms

# Below is generated by plot.py at 2018-10-02 19:47:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.10 Mbit/s
95th percentile per-packet one-way delay: 0.878 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.54 Mbit/s
95th percentile per-packet one-way delay: 0.876 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.13 Mbit/s
95th percentile per-packet one-way delay: 0.900 ms
Loss rate: 0.01%
```

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

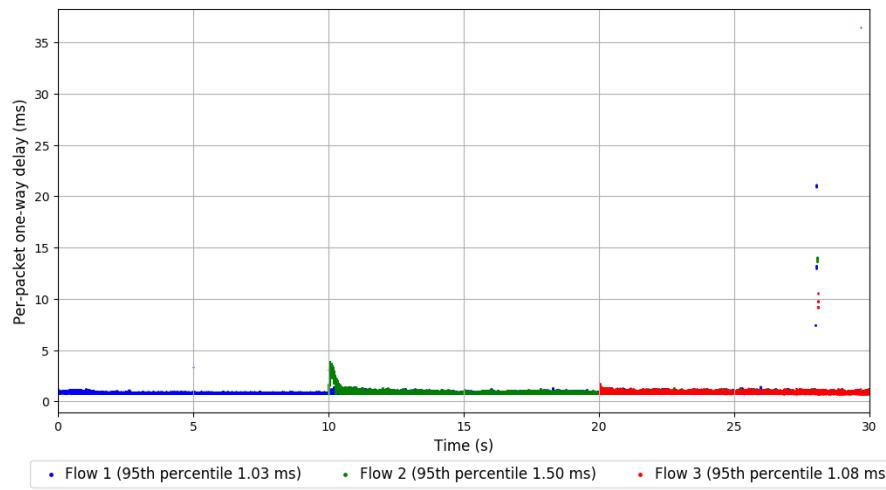
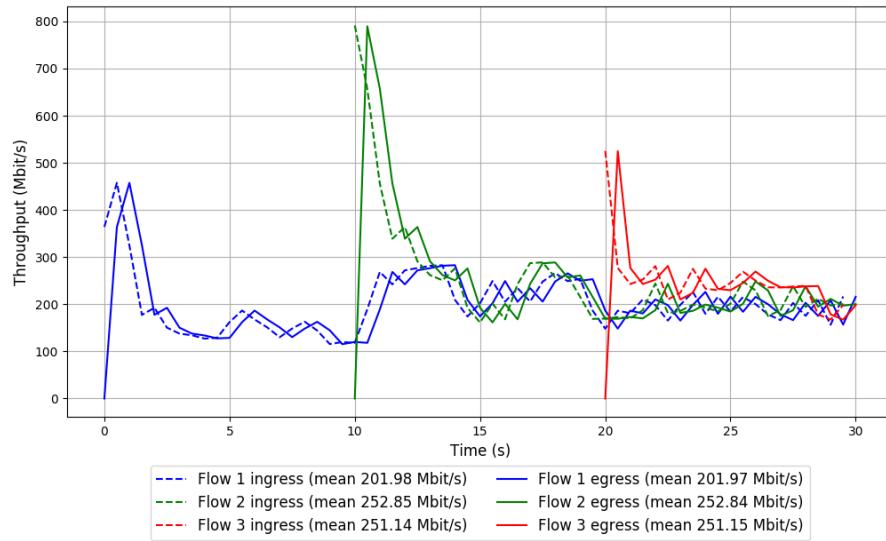


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-02 16:58:52
End at: 2018-10-02 16:59:22
Local clock offset: 4.047 ms
Remote clock offset: 1.387 ms

# Below is generated by plot.py at 2018-10-02 19:48:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 453.93 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 201.97 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 252.84 Mbit/s
95th percentile per-packet one-way delay: 1.504 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 251.15 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.01%
```

## Run 1: Report of TCP Vegas — Data Link

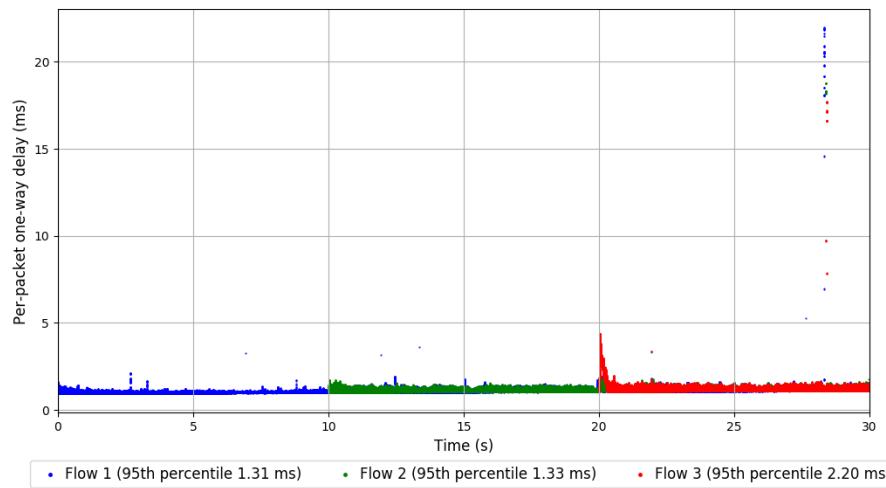
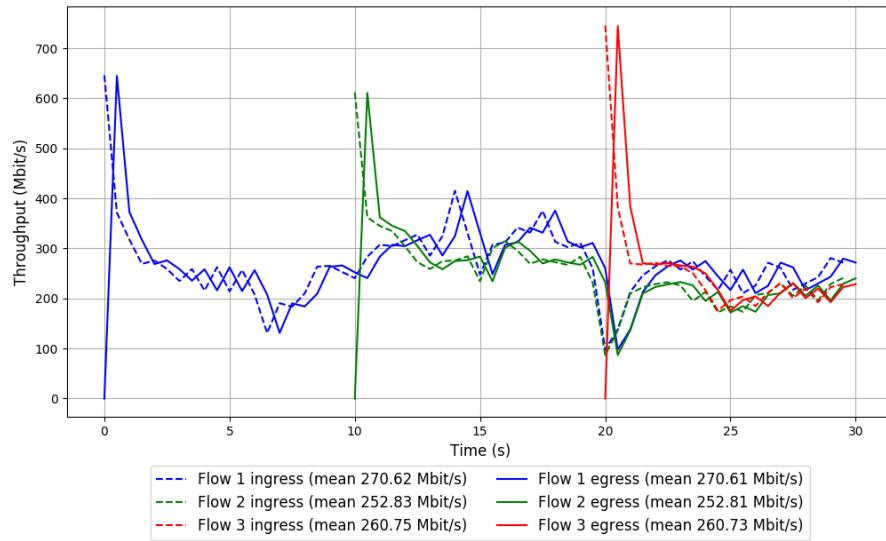


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-02 17:26:38
End at: 2018-10-02 17:27:08
Local clock offset: 4.449 ms
Remote clock offset: 0.487 ms

# Below is generated by plot.py at 2018-10-02 19:50:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.76 Mbit/s
95th percentile per-packet one-way delay: 1.352 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 270.61 Mbit/s
95th percentile per-packet one-way delay: 1.307 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 252.81 Mbit/s
95th percentile per-packet one-way delay: 1.331 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 260.73 Mbit/s
95th percentile per-packet one-way delay: 2.203 ms
Loss rate: 0.02%
```

Run 2: Report of TCP Vegas — Data Link

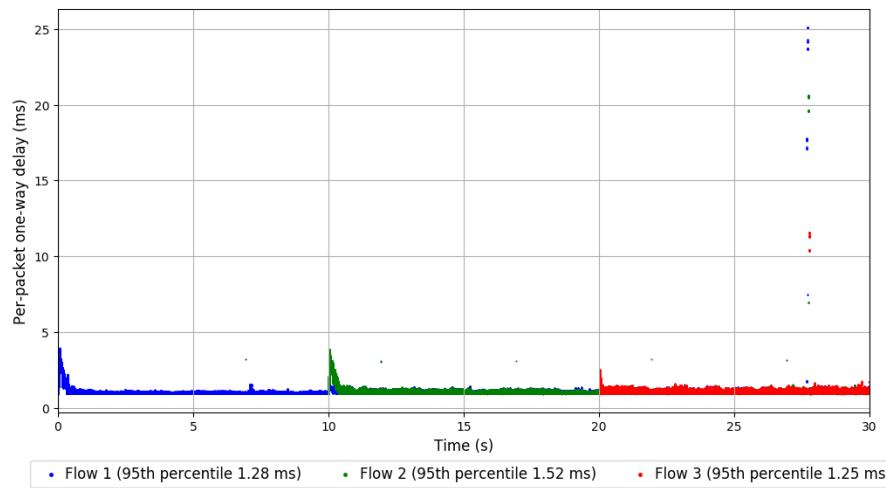
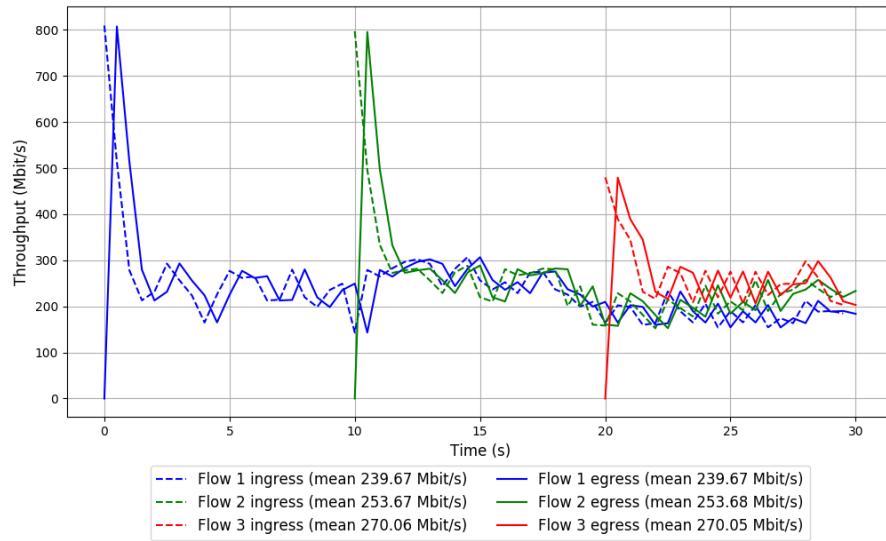


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-02 17:54:34
End at: 2018-10-02 17:55:04
Local clock offset: 5.69 ms
Remote clock offset: 4.106 ms

# Below is generated by plot.py at 2018-10-02 19:50:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 498.38 Mbit/s
95th percentile per-packet one-way delay: 1.298 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 239.67 Mbit/s
95th percentile per-packet one-way delay: 1.285 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 253.68 Mbit/s
95th percentile per-packet one-way delay: 1.524 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 270.05 Mbit/s
95th percentile per-packet one-way delay: 1.254 ms
Loss rate: 0.02%
```

### Run 3: Report of TCP Vegas — Data Link

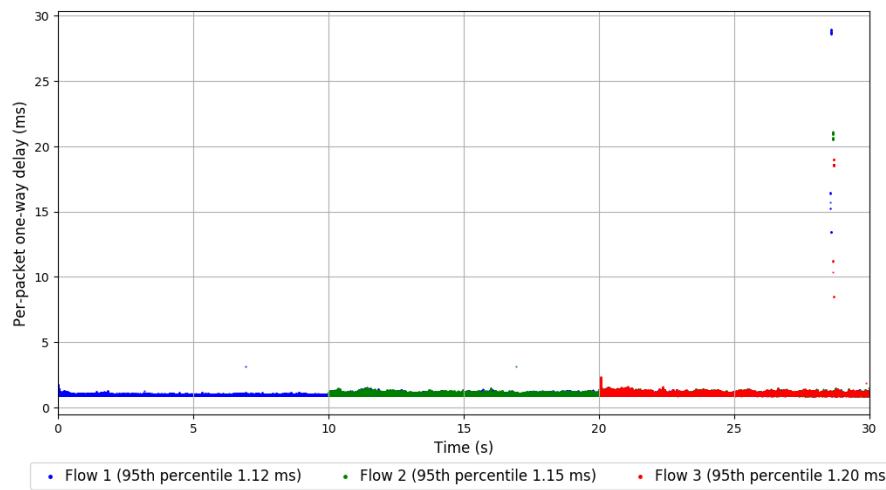
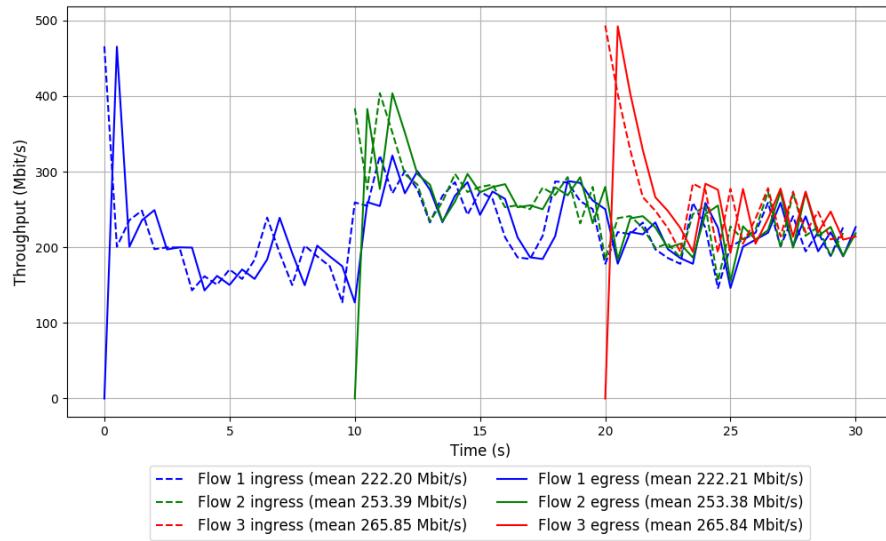


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-02 18:22:14
End at: 2018-10-02 18:22:44
Local clock offset: 7.145 ms
Remote clock offset: 0.174 ms

# Below is generated by plot.py at 2018-10-02 19:51:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 479.17 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 222.21 Mbit/s
95th percentile per-packet one-way delay: 1.123 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 253.38 Mbit/s
95th percentile per-packet one-way delay: 1.153 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 265.84 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.01%
```

### Run 4: Report of TCP Vegas — Data Link

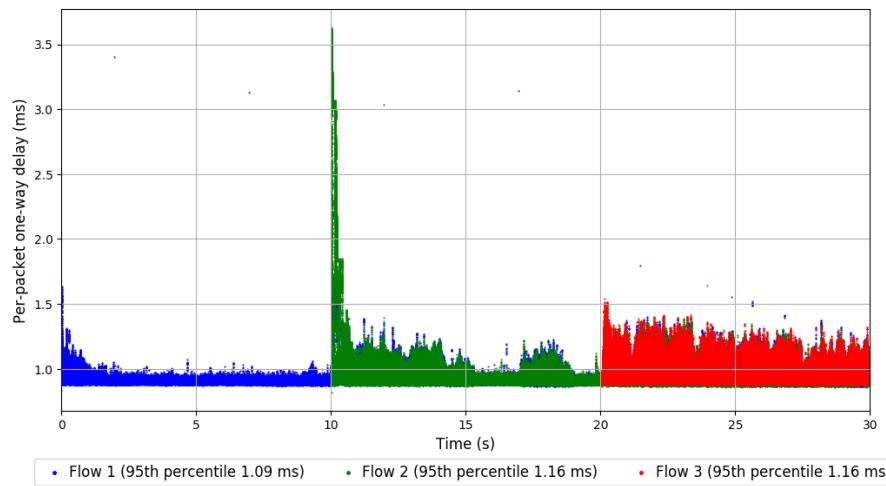
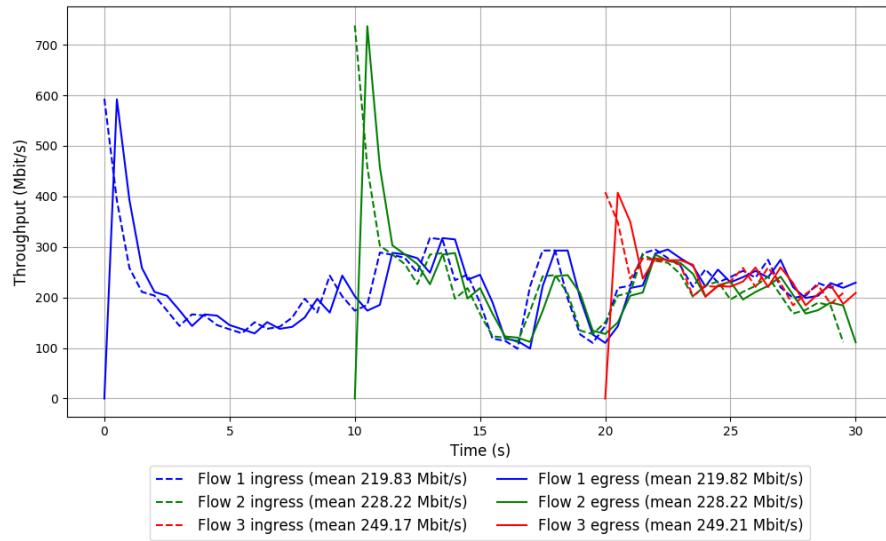


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-02 18:49:50
End at: 2018-10-02 18:50:20
Local clock offset: 8.276 ms
Remote clock offset: 0.198 ms

# Below is generated by plot.py at 2018-10-02 19:51:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 454.26 Mbit/s
95th percentile per-packet one-way delay: 1.128 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 219.82 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 228.22 Mbit/s
95th percentile per-packet one-way delay: 1.157 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 249.21 Mbit/s
95th percentile per-packet one-way delay: 1.159 ms
Loss rate: 0.01%
```

Run 5: Report of TCP Vegas — Data Link

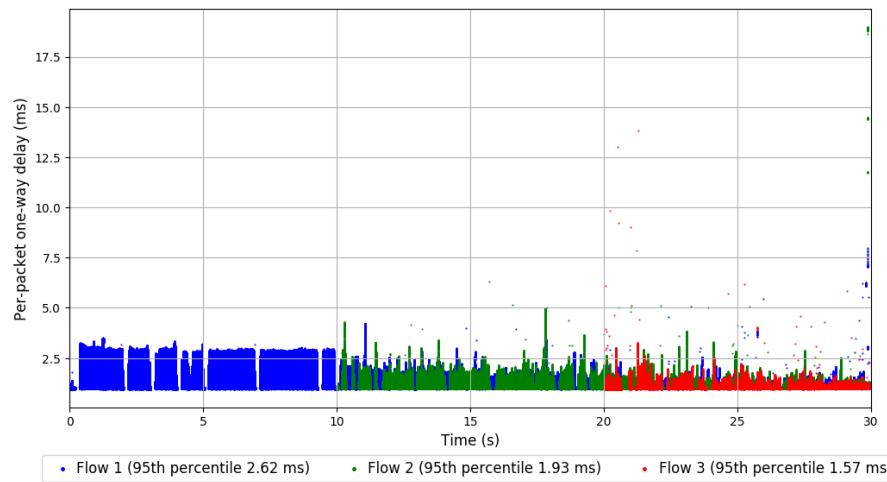
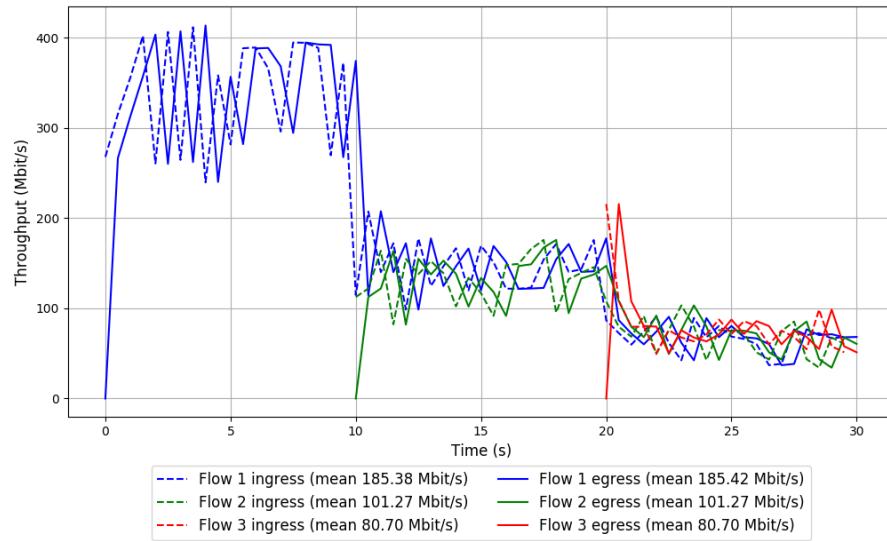


Run 1: Statistics of Verus

```
Start at: 2018-10-02 16:37:04
End at: 2018-10-02 16:37:34
Local clock offset: 3.739 ms
Remote clock offset: 2.926 ms

# Below is generated by plot.py at 2018-10-02 19:51:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.60 Mbit/s
95th percentile per-packet one-way delay: 2.511 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 185.42 Mbit/s
95th percentile per-packet one-way delay: 2.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 101.27 Mbit/s
95th percentile per-packet one-way delay: 1.934 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.70 Mbit/s
95th percentile per-packet one-way delay: 1.568 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link

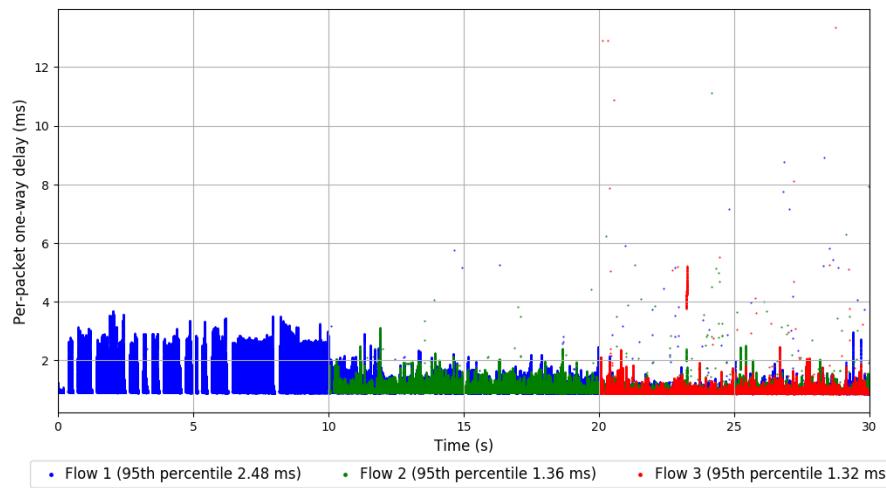
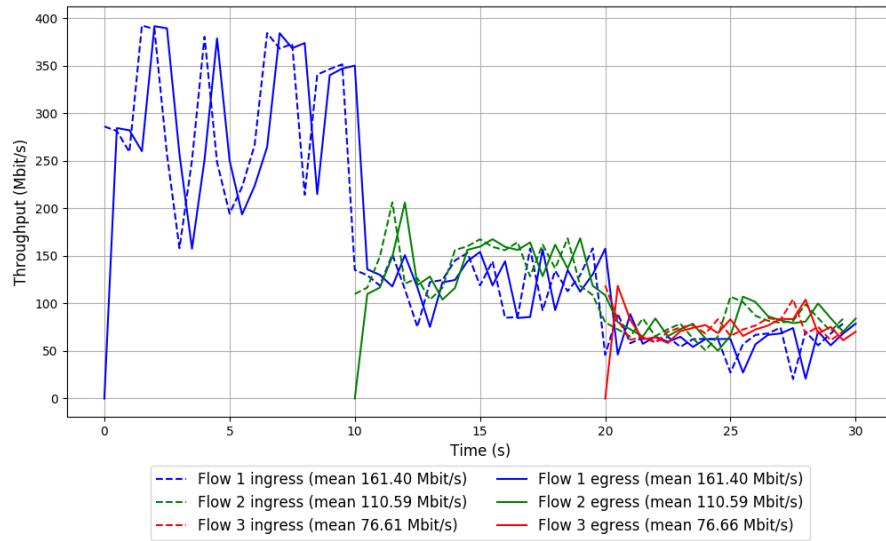


Run 2: Statistics of Verus

```
Start at: 2018-10-02 17:04:55
End at: 2018-10-02 17:05:25
Local clock offset: 4.07 ms
Remote clock offset: 0.588 ms

# Below is generated by plot.py at 2018-10-02 19:51:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.41 Mbit/s
95th percentile per-packet one-way delay: 2.297 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 2.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 110.59 Mbit/s
95th percentile per-packet one-way delay: 1.364 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 76.66 Mbit/s
95th percentile per-packet one-way delay: 1.317 ms
Loss rate: 0.00%
```

Run 2: Report of Verus — Data Link

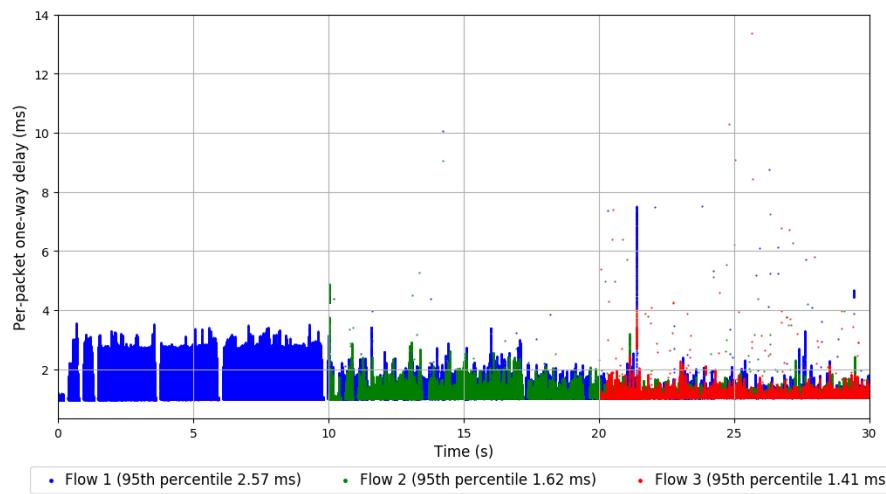
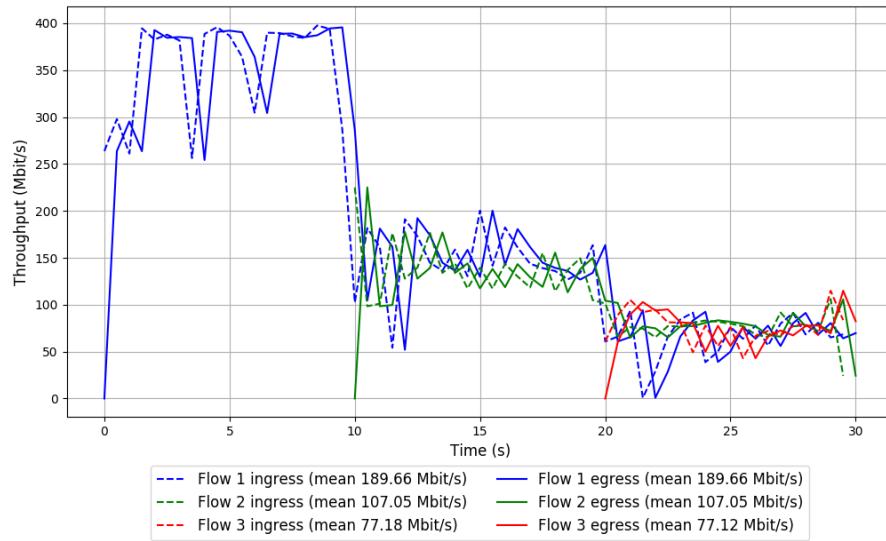


Run 3: Statistics of Verus

```
Start at: 2018-10-02 17:32:44
End at: 2018-10-02 17:33:14
Local clock offset: 4.513 ms
Remote clock offset: 1.976 ms

# Below is generated by plot.py at 2018-10-02 19:51:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.51 Mbit/s
95th percentile per-packet one-way delay: 2.452 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 189.66 Mbit/s
95th percentile per-packet one-way delay: 2.573 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 107.05 Mbit/s
95th percentile per-packet one-way delay: 1.624 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 77.12 Mbit/s
95th percentile per-packet one-way delay: 1.412 ms
Loss rate: 0.07%
```

Run 3: Report of Verus — Data Link

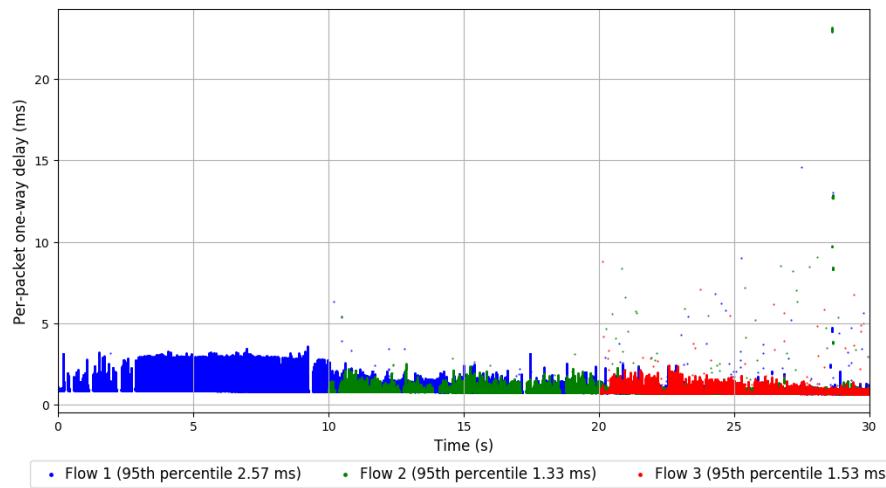
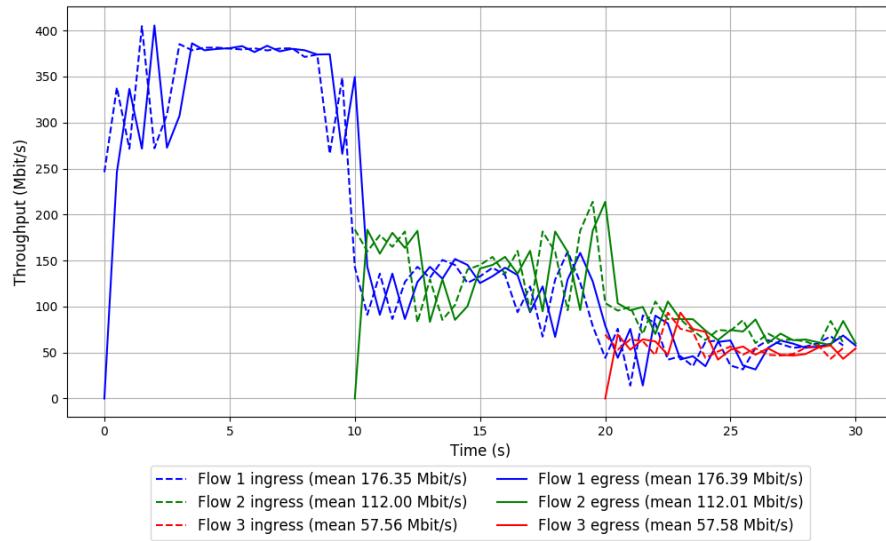


Run 4: Statistics of Verus

```
Start at: 2018-10-02 18:00:39
End at: 2018-10-02 18:01:09
Local clock offset: 6.087 ms
Remote clock offset: 3.566 ms

# Below is generated by plot.py at 2018-10-02 19:52:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.05 Mbit/s
95th percentile per-packet one-way delay: 2.376 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 176.39 Mbit/s
95th percentile per-packet one-way delay: 2.570 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 112.01 Mbit/s
95th percentile per-packet one-way delay: 1.328 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 1.530 ms
Loss rate: 0.04%
```

## Run 4: Report of Verus — Data Link

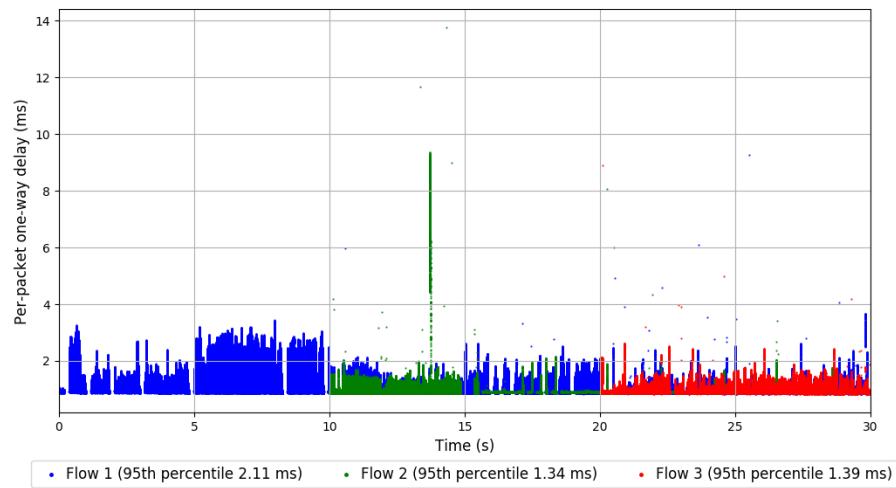
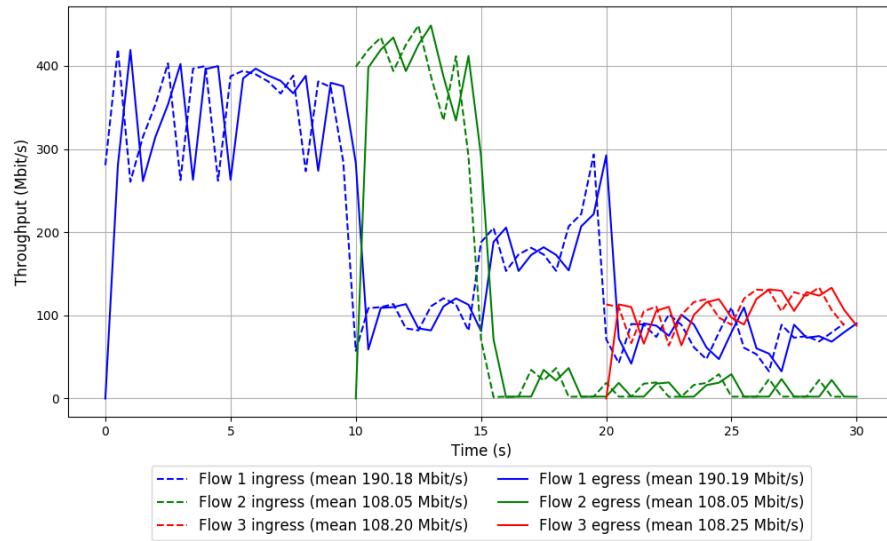


Run 5: Statistics of Verus

```
Start at: 2018-10-02 18:28:18
End at: 2018-10-02 18:28:48
Local clock offset: 7.408 ms
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-10-02 19:52:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.87 Mbit/s
95th percentile per-packet one-way delay: 1.921 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 190.19 Mbit/s
95th percentile per-packet one-way delay: 2.110 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 108.05 Mbit/s
95th percentile per-packet one-way delay: 1.336 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 108.25 Mbit/s
95th percentile per-packet one-way delay: 1.390 ms
Loss rate: 0.02%
```

Run 5: Report of Verus — Data Link

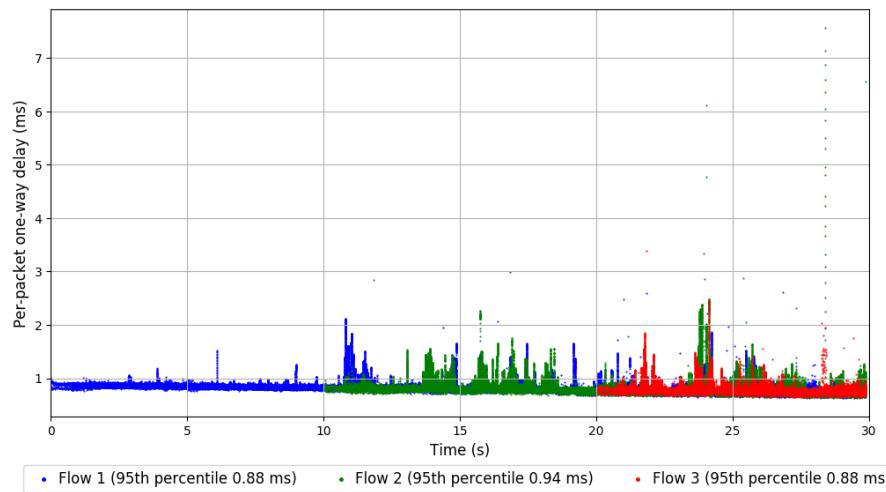
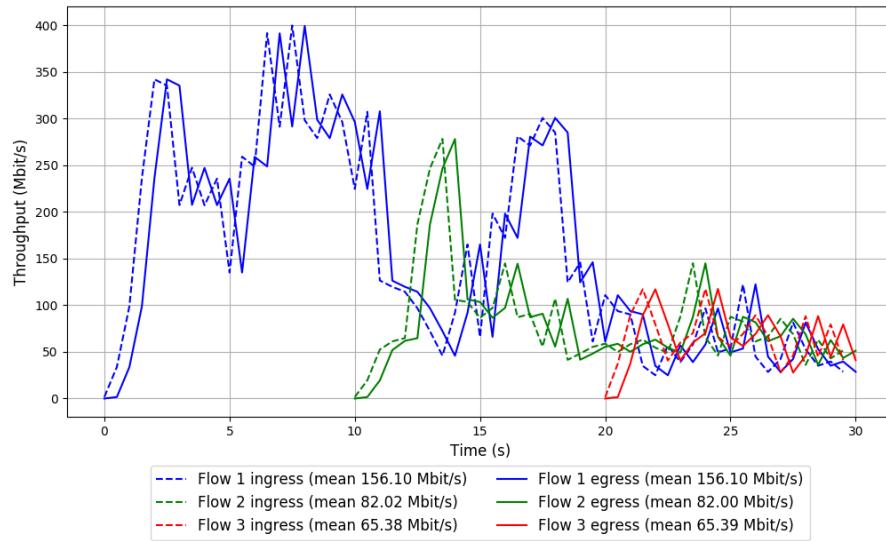


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-02 16:52:40
End at: 2018-10-02 16:53:10
Local clock offset: 3.923 ms
Remote clock offset: 2.655 ms

# Below is generated by plot.py at 2018-10-02 19:52:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.15 Mbit/s
95th percentile per-packet one-way delay: 0.880 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.10 Mbit/s
95th percentile per-packet one-way delay: 0.877 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 82.00 Mbit/s
95th percentile per-packet one-way delay: 0.944 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 65.39 Mbit/s
95th percentile per-packet one-way delay: 0.876 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Vivace — Data Link

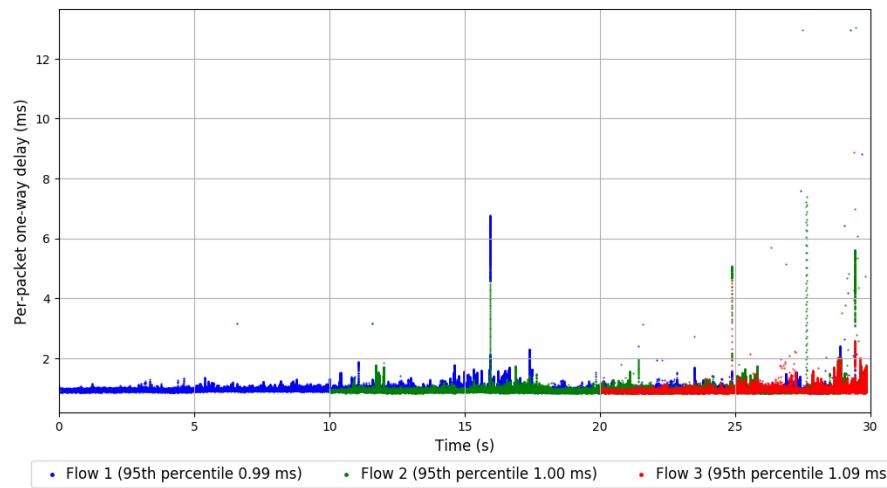
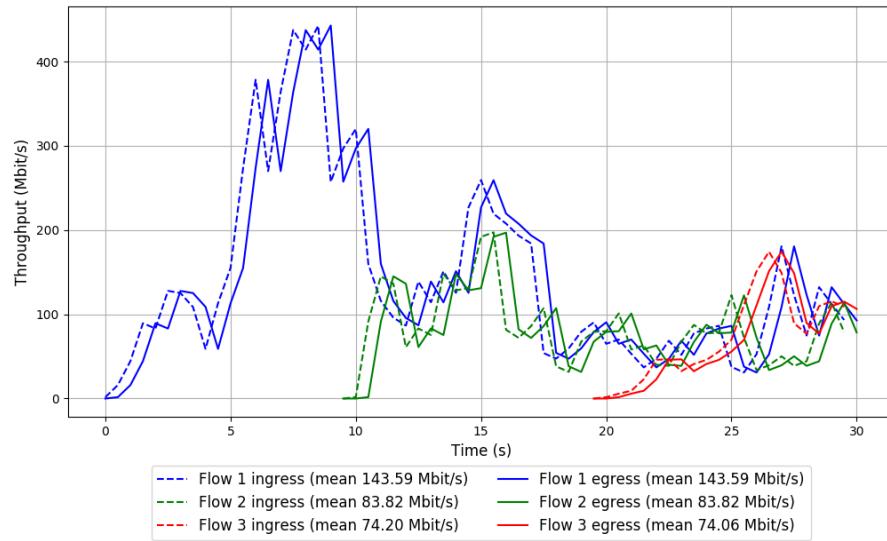


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-02 17:20:26
End at: 2018-10-02 17:20:56
Local clock offset: 4.287 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2018-10-02 19:52:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.81 Mbit/s
95th percentile per-packet one-way delay: 1.004 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 143.59 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 83.82 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 74.06 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.21%
```

Run 2: Report of PCC-Vivace — Data Link

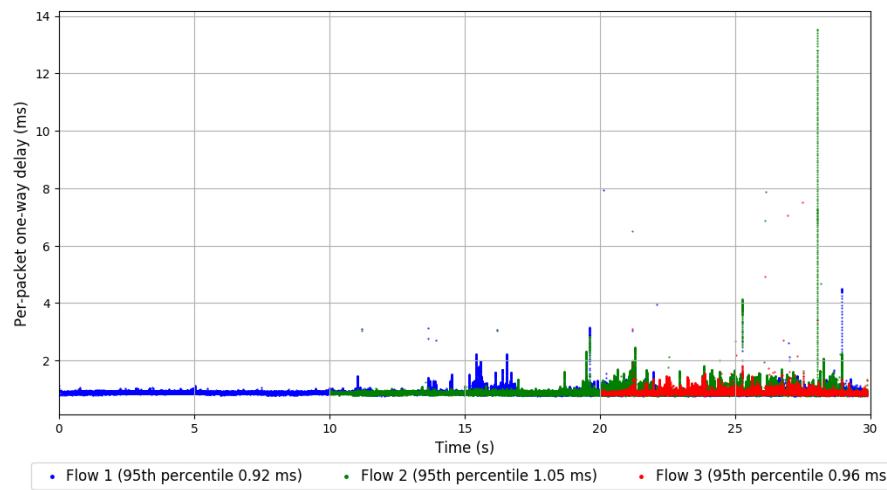
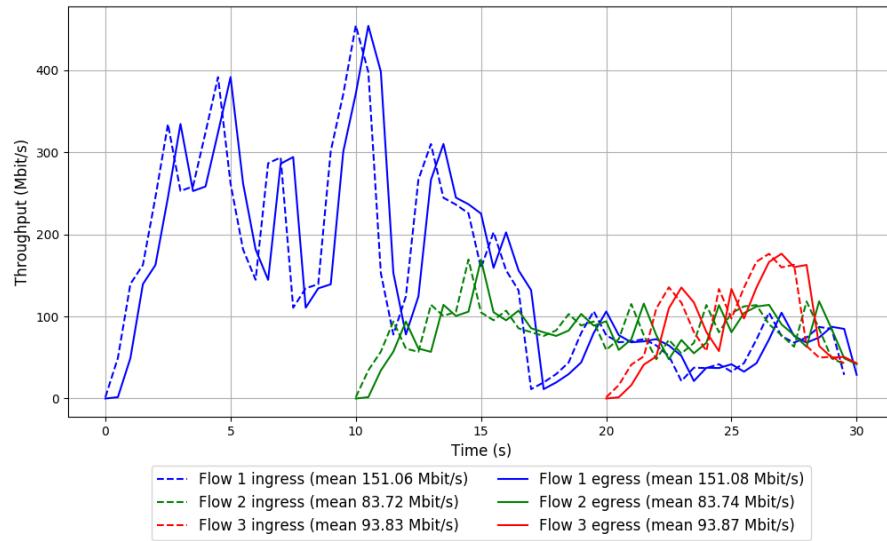


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-02 17:48:19
End at: 2018-10-02 17:48:49
Local clock offset: 5.007 ms
Remote clock offset: 3.716 ms

# Below is generated by plot.py at 2018-10-02 19:52:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.73 Mbit/s
95th percentile per-packet one-way delay: 0.942 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.08 Mbit/s
95th percentile per-packet one-way delay: 0.920 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 83.74 Mbit/s
95th percentile per-packet one-way delay: 1.051 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.01%
```

Run 3: Report of PCC-Vivace — Data Link

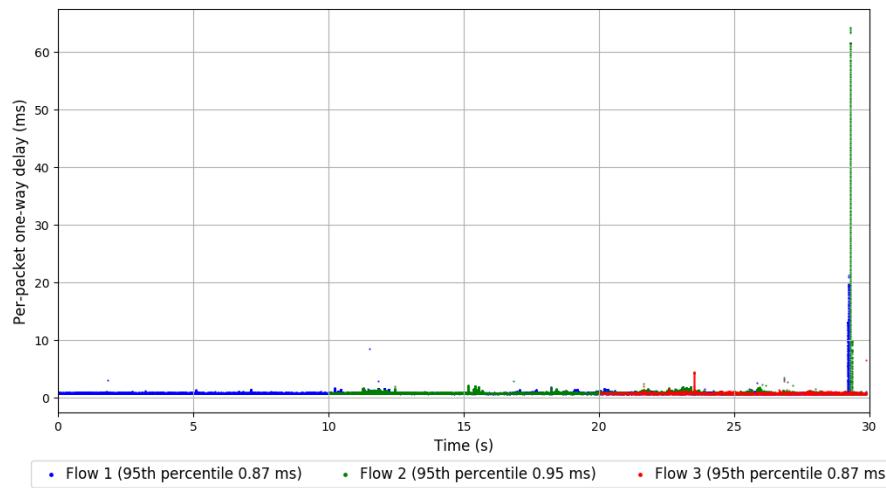
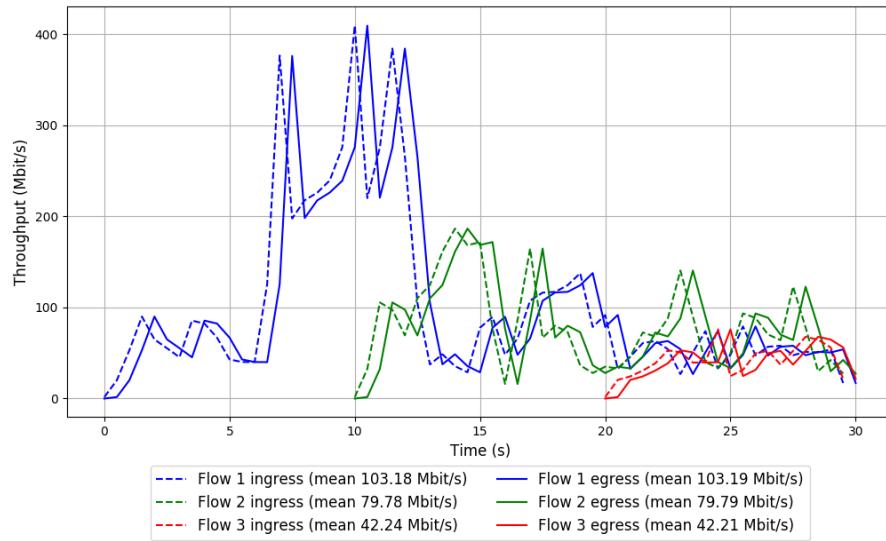


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-02 18:16:01
End at: 2018-10-02 18:16:31
Local clock offset: 6.743 ms
Remote clock offset: 0.57 ms

# Below is generated by plot.py at 2018-10-02 19:52:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 170.17 Mbit/s
95th percentile per-packet one-way delay: 0.884 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 103.19 Mbit/s
95th percentile per-packet one-way delay: 0.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 79.79 Mbit/s
95th percentile per-packet one-way delay: 0.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.21 Mbit/s
95th percentile per-packet one-way delay: 0.866 ms
Loss rate: 0.01%
```

Run 4: Report of PCC-Vivace — Data Link

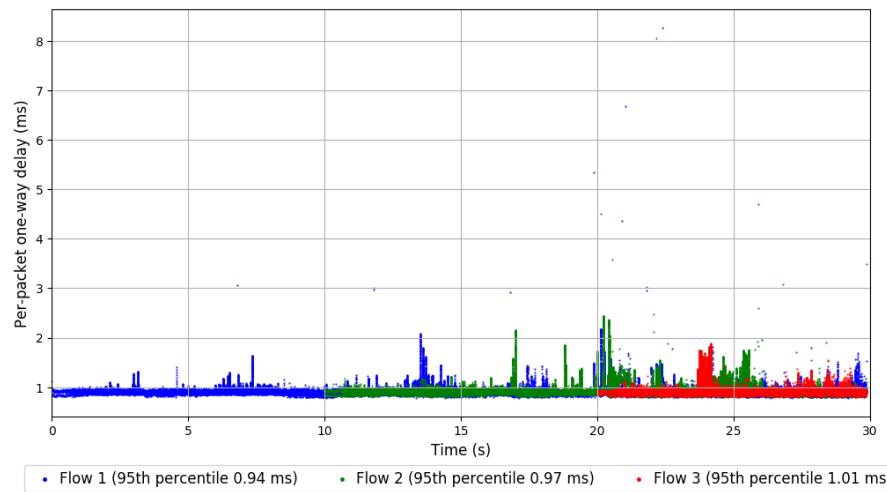
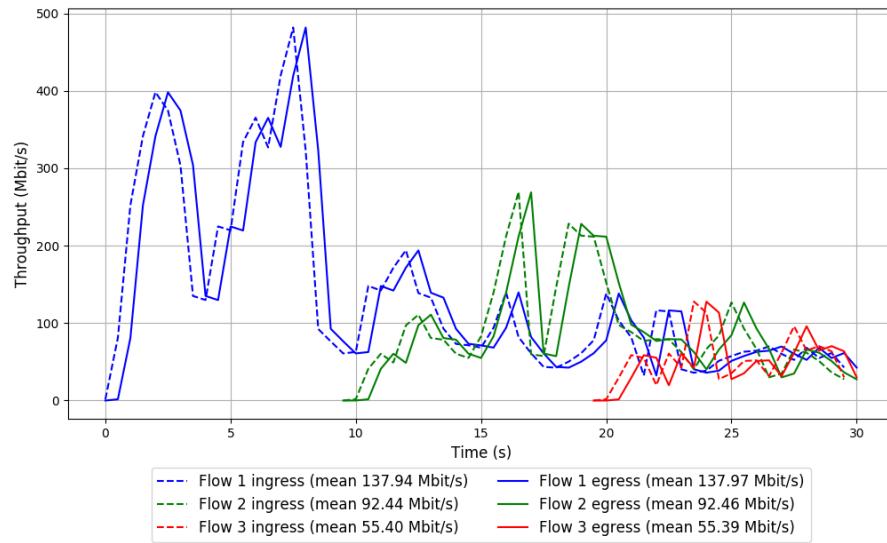


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-02 18:43:39
End at: 2018-10-02 18:44:09
Local clock offset: 8.035 ms
Remote clock offset: 0.122 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.79 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 137.97 Mbit/s
95th percentile per-packet one-way delay: 0.937 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 92.46 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.39 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.01%
```

Run 5: Report of PCC-Vivace — Data Link

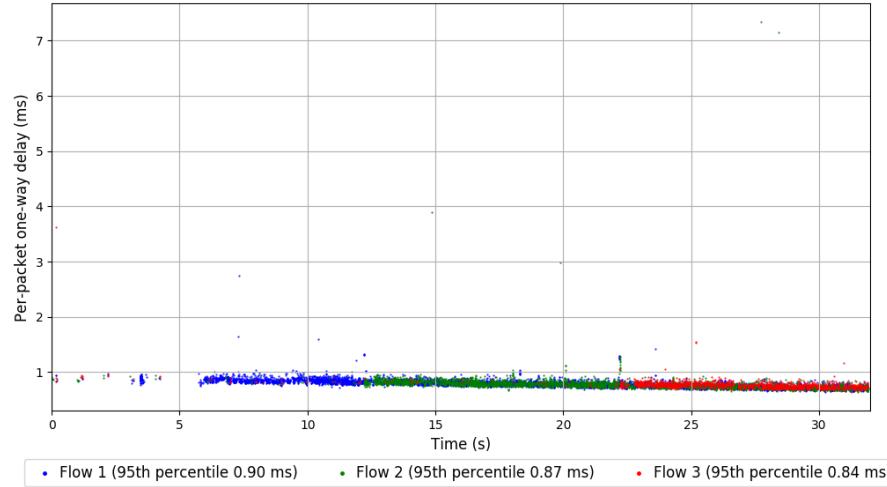
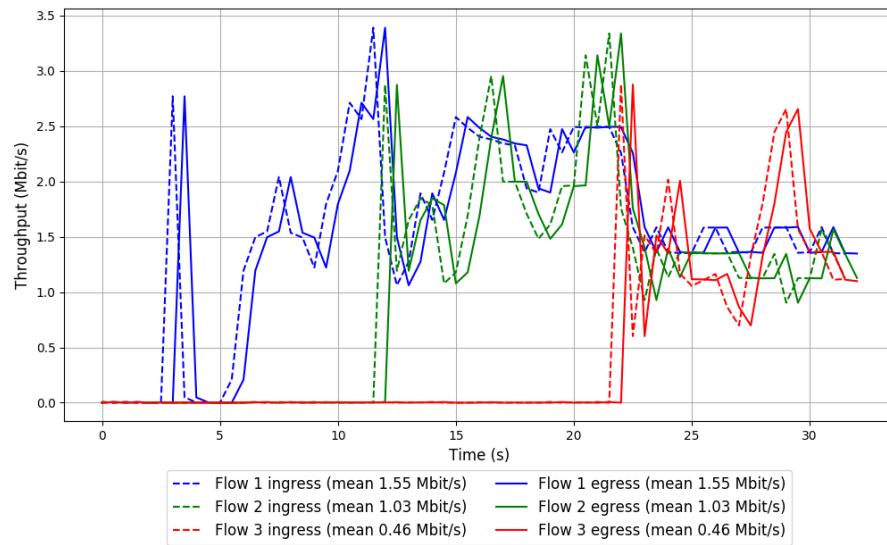


Run 1: Statistics of WebRTC media

```
Start at: 2018-10-02 16:51:21
End at: 2018-10-02 16:51:51
Local clock offset: 3.906 ms
Remote clock offset: 3.104 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 0.867 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 0.838 ms
Loss rate: 0.07%
```

Run 1: Report of WebRTC media — Data Link

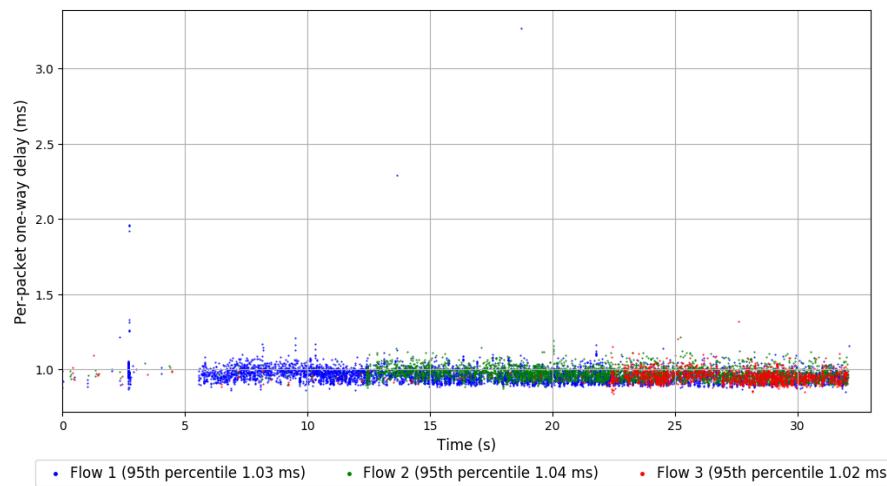
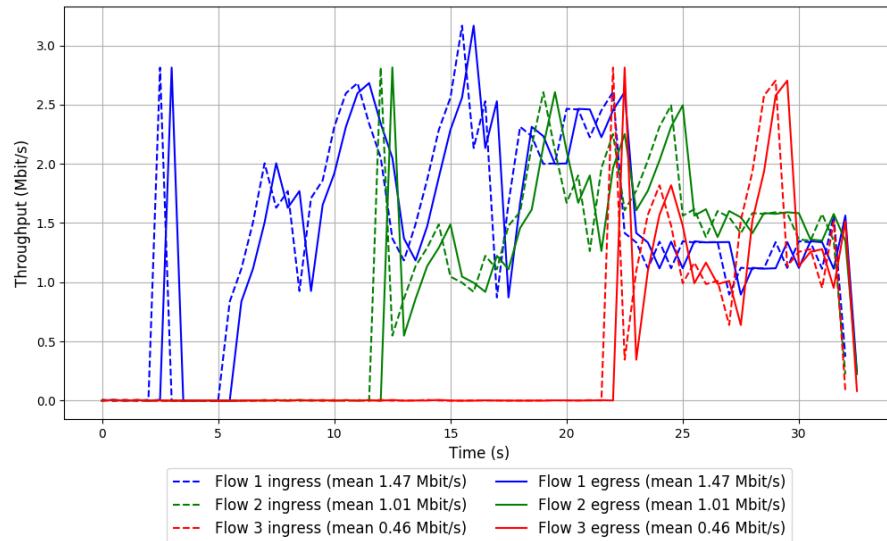


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-02 17:19:07
End at: 2018-10-02 17:19:37
Local clock offset: 4.256 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 1.036 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

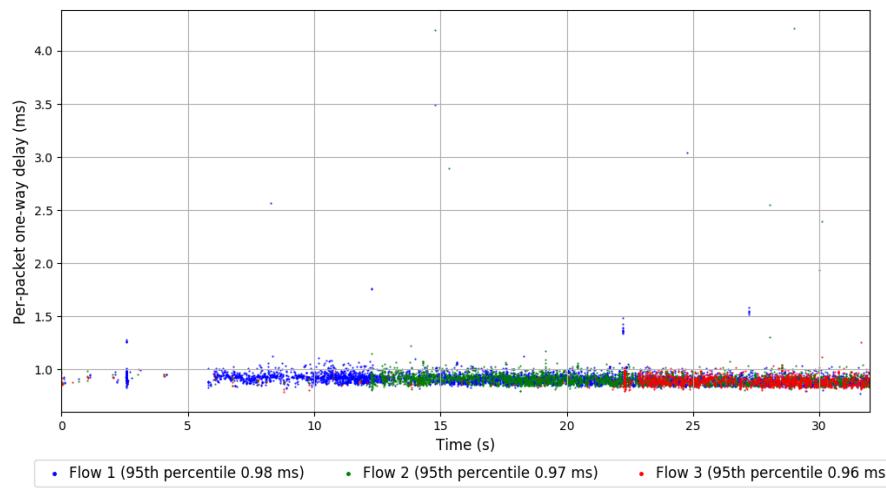
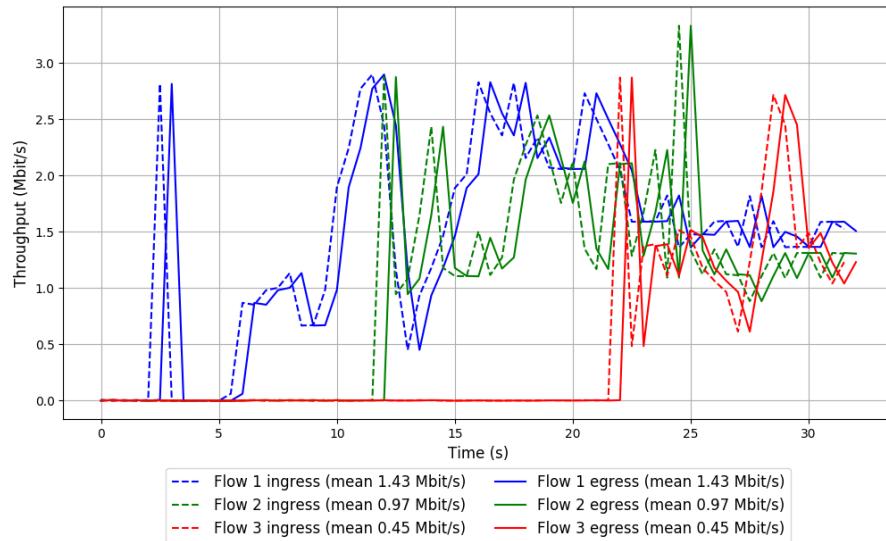


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-02 17:47:00
End at: 2018-10-02 17:47:30
Local clock offset: 4.822 ms
Remote clock offset: 3.619 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 0.978 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 0.984 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

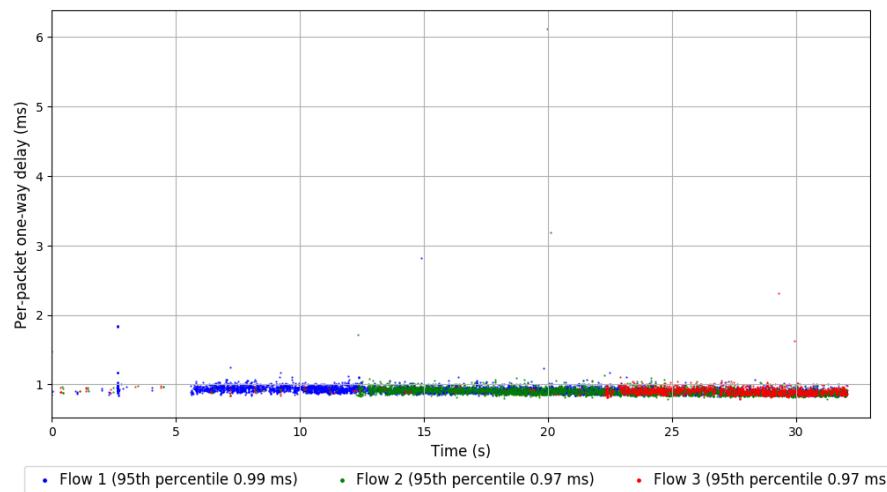
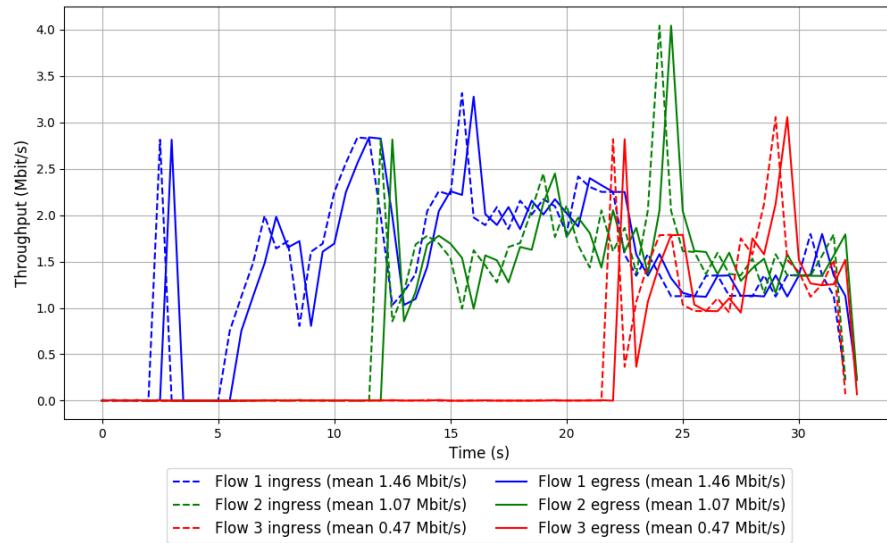


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-02 18:14:42
End at: 2018-10-02 18:15:12
Local clock offset: 6.694 ms
Remote clock offset: 0.646 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 0.991 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 0.972 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 0.974 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-02 18:42:20
End at: 2018-10-02 18:42:50
Local clock offset: 7.983 ms
Remote clock offset: 0.045 ms

# Below is generated by plot.py at 2018-10-02 19:52:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 1.030 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

