

Pantheon Report

Generated at 2018-09-06 11:20:30 (UTC).
Data path: AWS California 2 on `ens5` (*local*) → Mexico on `em1` (*remote*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

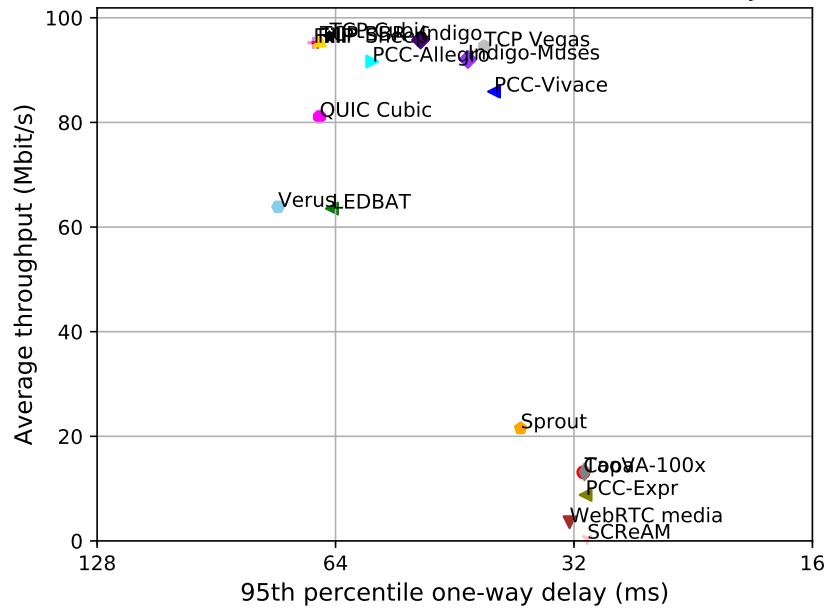
System info:

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

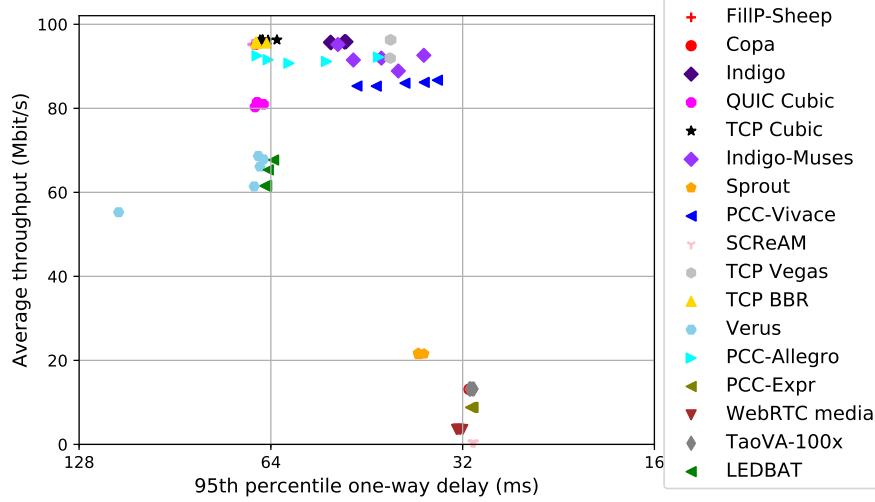
Git summary:

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

test from AWS California 2 to Mexico, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS California 2 to Mexico, 5 runs of 30s each per scheme
 3 flows with 10s interval between flows



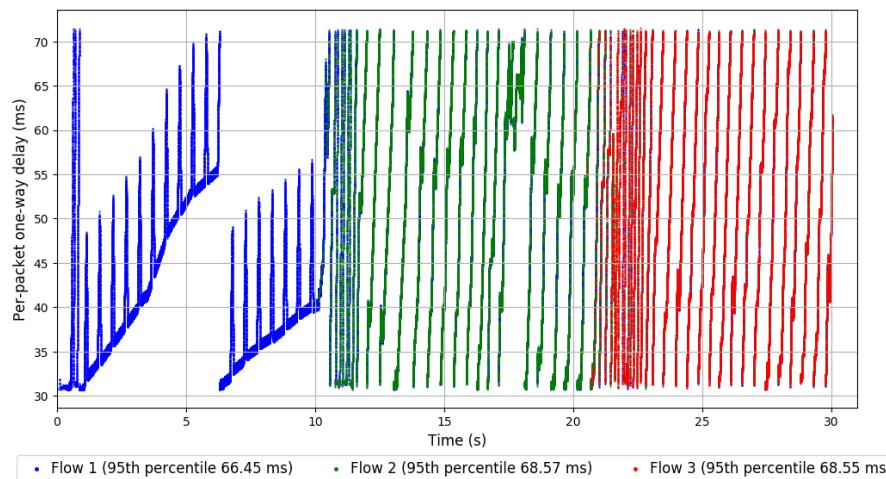
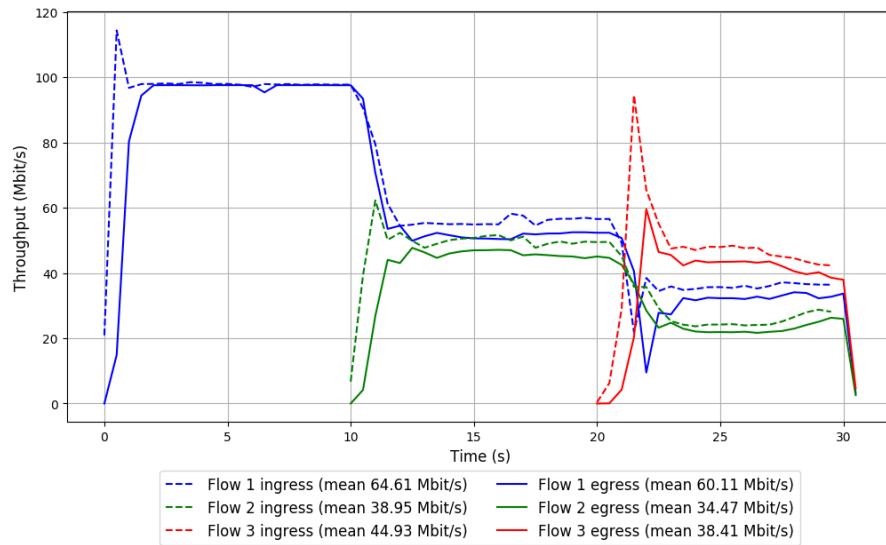
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	60.14	37.79	31.02	65.77	68.02	68.42	6.38	10.73	12.58
Copa	5	9.73	4.57	1.20	31.20	31.00	31.04	69.86	76.28	92.11
TCP Cubic	5	76.97	16.77	24.49	64.52	65.99	66.17	0.97	0.56	0.68
FillP	5	62.77	34.99	27.81	67.90	68.71	68.88	23.01	31.07	38.24
FillP-Sheep	5	56.62	41.61	32.97	65.79	68.52	68.57	13.61	24.80	30.36
Indigo	5	64.82	31.90	29.95	46.64	52.33	56.81	0.07	0.05	0.51
LEDBAT	5	39.86	25.94	20.12	64.80	65.56	54.65	0.19	0.23	0.05
Indigo-Muses	5	55.63	40.11	29.54	41.80	45.86	46.32	0.90	0.97	1.35
PCC-Allegro	5	82.15	10.80	6.97	57.06	60.29	59.52	2.49	2.76	1.39
PCC-Expr	5	0.03	9.95	6.62	30.82	30.94	30.96	85.71	45.33	38.11
QUIC Cubic	5	62.59	22.37	11.09	66.92	67.27	67.35	2.76	0.94	0.81
SCReAM	5	0.21	0.21	0.22	30.78	30.76	30.75	0.00	0.00	0.00
Sprout	5	10.88	10.82	10.47	37.46	37.15	37.35	0.00	0.00	0.00
TaoVA-100x	5	7.52	6.47	4.96	31.93	31.66	30.85	84.74	60.29	77.57
TCP Vegas	5	75.71	19.35	17.93	41.93	39.44	38.54	0.34	0.01	0.02
Verus	5	39.06	31.26	17.11	75.76	67.17	70.65	38.61	43.38	37.99
PCC-Vivace	5	66.39	22.56	13.60	39.86	42.80	43.75	0.00	0.00	0.00
WebRTC media	5	1.93	1.23	0.42	31.95	32.92	33.00	0.02	0.00	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-06 09:16:05
End at: 2018-09-06 09:16:35
Local clock offset: 0.043 ms
Remote clock offset: -0.763 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 67.542 ms
Loss rate: 9.07%
-- Flow 1:
Average throughput: 60.11 Mbit/s
95th percentile per-packet one-way delay: 66.453 ms
Loss rate: 6.87%
-- Flow 2:
Average throughput: 34.47 Mbit/s
95th percentile per-packet one-way delay: 68.570 ms
Loss rate: 11.41%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 68.553 ms
Loss rate: 14.53%
```

Run 1: Report of TCP BBR — Data Link

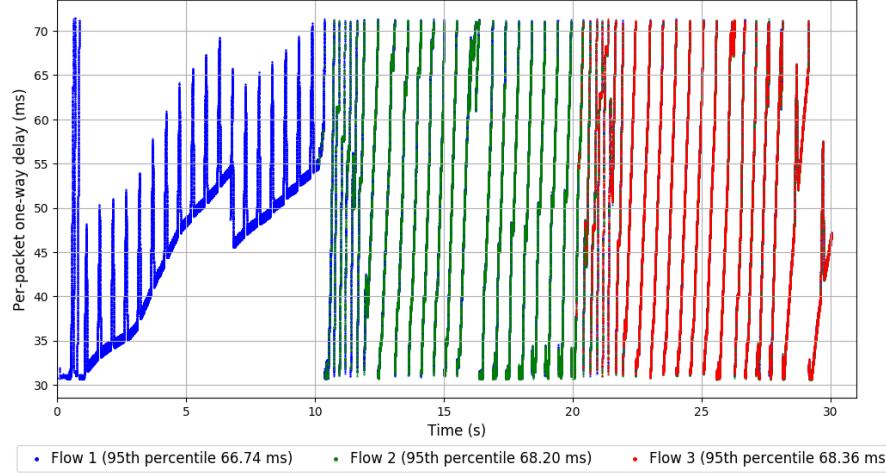
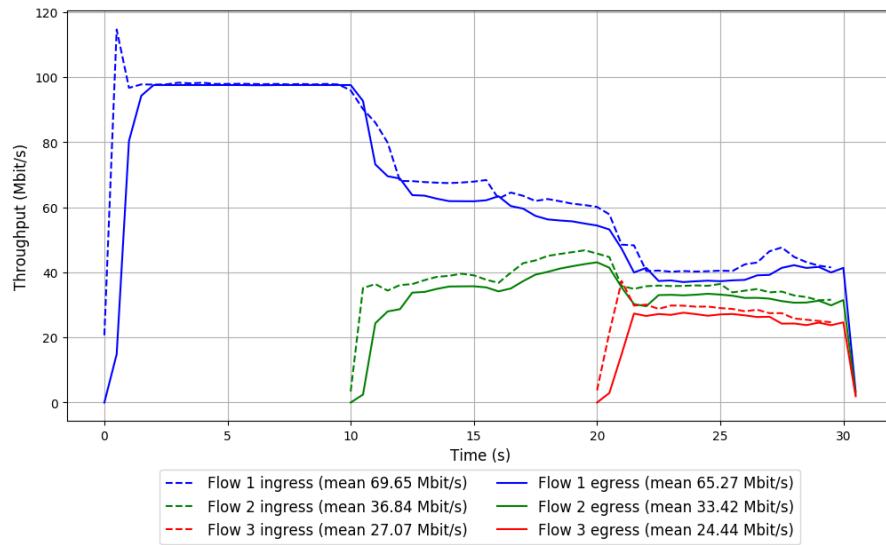


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-06 09:40:33
End at: 2018-09-06 09:41:03
Local clock offset: 0.401 ms
Remote clock offset: 0.75 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 67.478 ms
Loss rate: 7.26%
-- Flow 1:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 66.736 ms
Loss rate: 6.23%
-- Flow 2:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 68.205 ms
Loss rate: 9.31%
-- Flow 3:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 68.355 ms
Loss rate: 9.58%
```

Run 2: Report of TCP BBR — Data Link

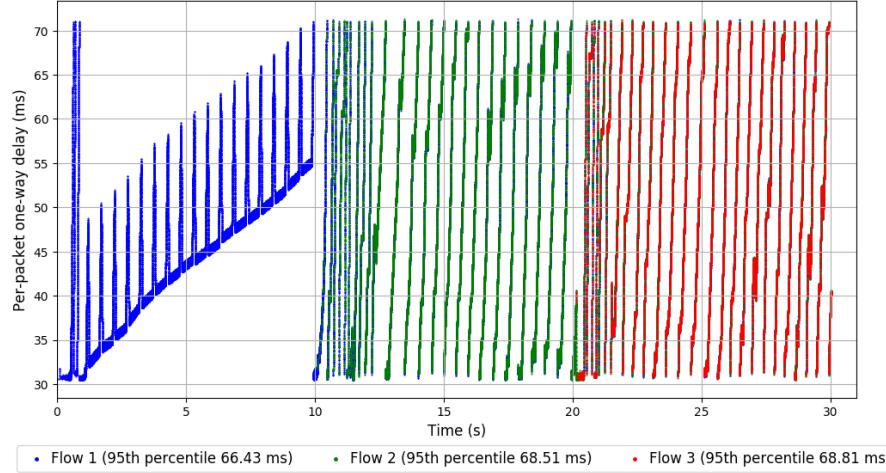
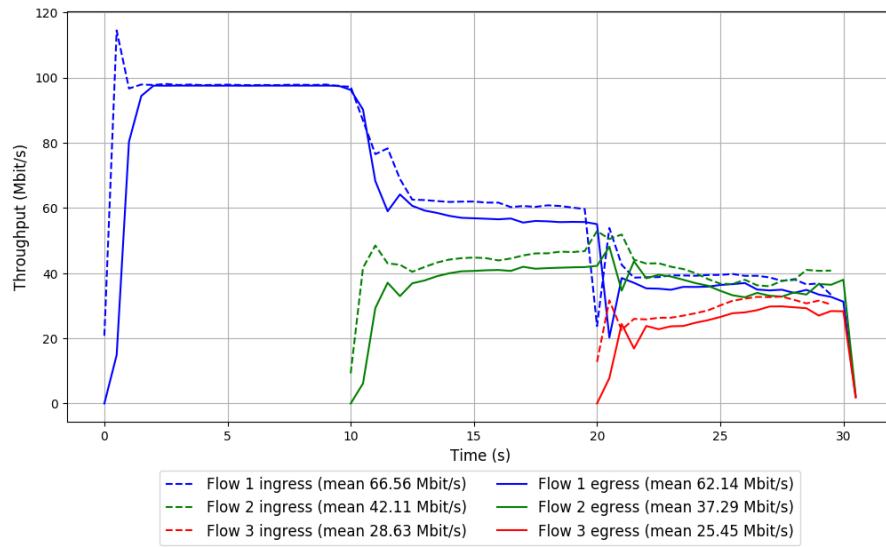


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-06 10:04:55
End at: 2018-09-06 10:05:25
Local clock offset: 0.414 ms
Remote clock offset: 2.012 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 67.387 ms
Loss rate: 8.31%
-- Flow 1:
Average throughput: 62.14 Mbit/s
95th percentile per-packet one-way delay: 66.432 ms
Loss rate: 6.61%
-- Flow 2:
Average throughput: 37.29 Mbit/s
95th percentile per-packet one-way delay: 68.507 ms
Loss rate: 11.41%
-- Flow 3:
Average throughput: 25.45 Mbit/s
95th percentile per-packet one-way delay: 68.812 ms
Loss rate: 11.01%
```

Run 3: Report of TCP BBR — Data Link

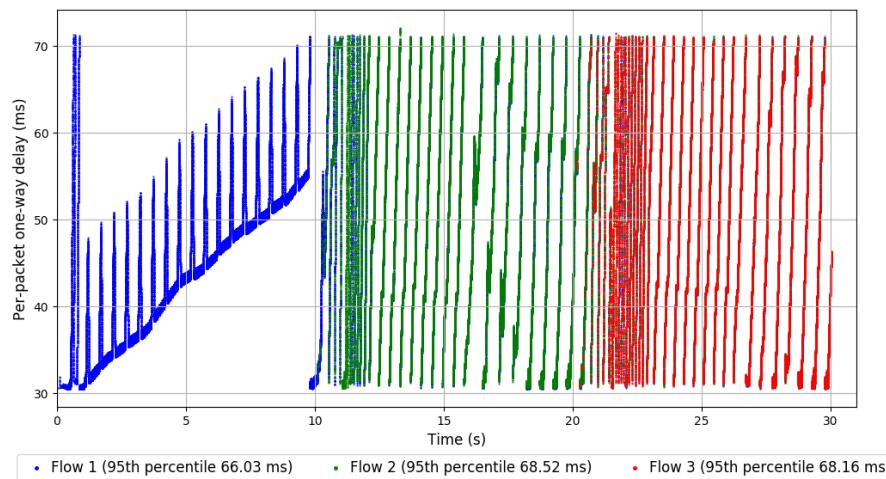
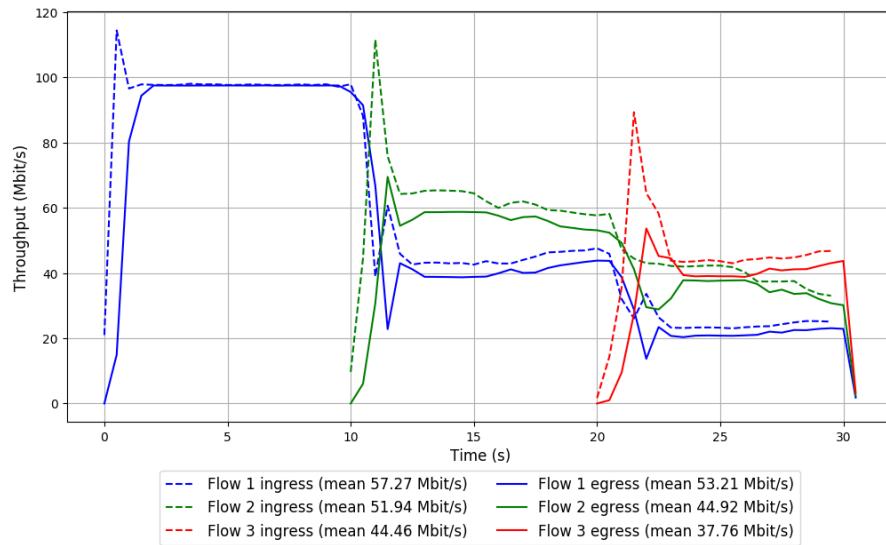


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-06 10:29:21
End at: 2018-09-06 10:29:51
Local clock offset: 0.343 ms
Remote clock offset: 3.095 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 67.445 ms
Loss rate: 10.24%
-- Flow 1:
Average throughput: 53.21 Mbit/s
95th percentile per-packet one-way delay: 66.032 ms
Loss rate: 7.03%
-- Flow 2:
Average throughput: 44.92 Mbit/s
95th percentile per-packet one-way delay: 68.516 ms
Loss rate: 13.44%
-- Flow 3:
Average throughput: 37.76 Mbit/s
95th percentile per-packet one-way delay: 68.155 ms
Loss rate: 15.14%
```

Run 4: Report of TCP BBR — Data Link

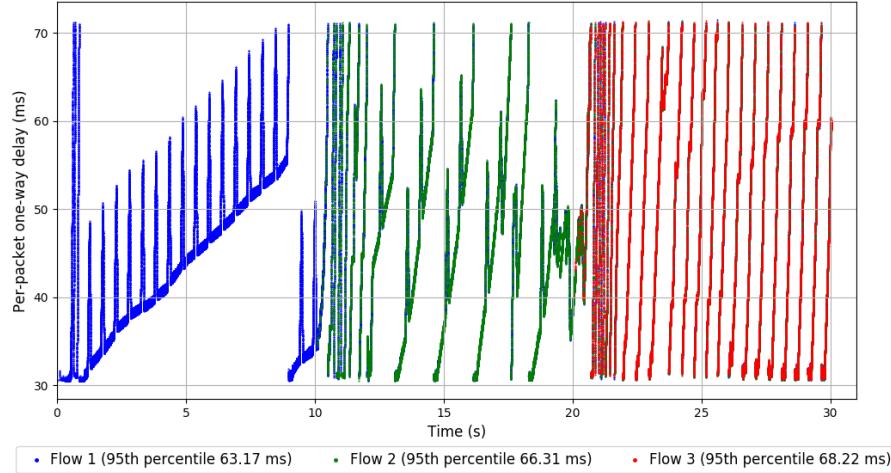
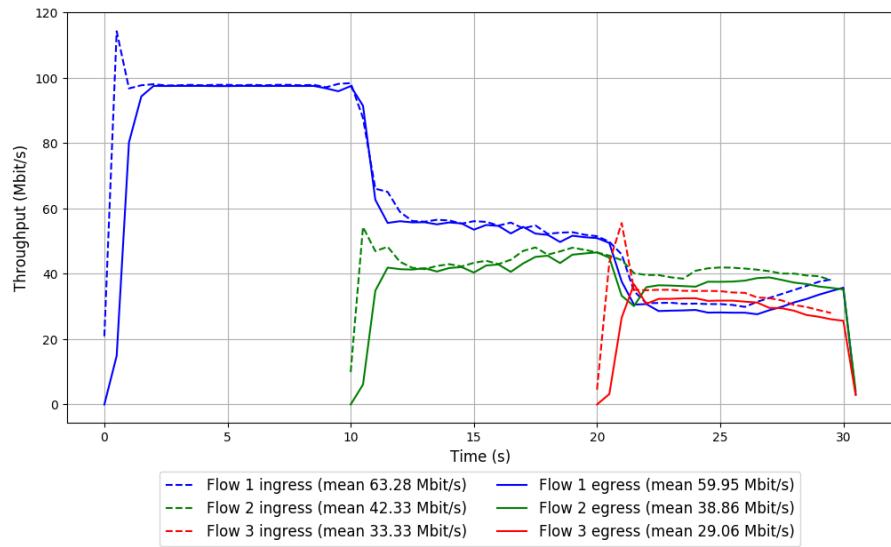


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-06 10:53:50
End at: 2018-09-06 10:54:20
Local clock offset: 2.77 ms
Remote clock offset: 2.897 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.55 Mbit/s
95th percentile per-packet one-way delay: 64.996 ms
Loss rate: 6.78%
-- Flow 1:
Average throughput: 59.95 Mbit/s
95th percentile per-packet one-way delay: 63.173 ms
Loss rate: 5.17%
-- Flow 2:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 66.310 ms
Loss rate: 8.09%
-- Flow 3:
Average throughput: 29.06 Mbit/s
95th percentile per-packet one-way delay: 68.216 ms
Loss rate: 12.64%
```

Run 5: Report of TCP BBR — Data Link

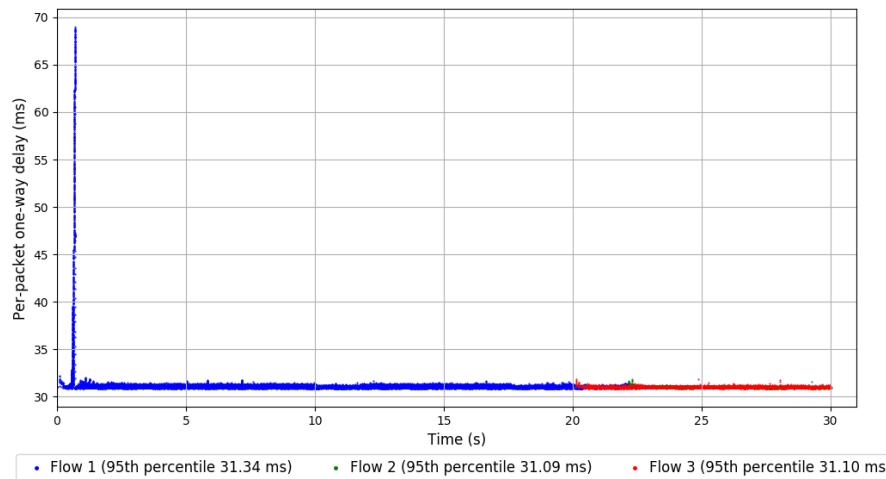
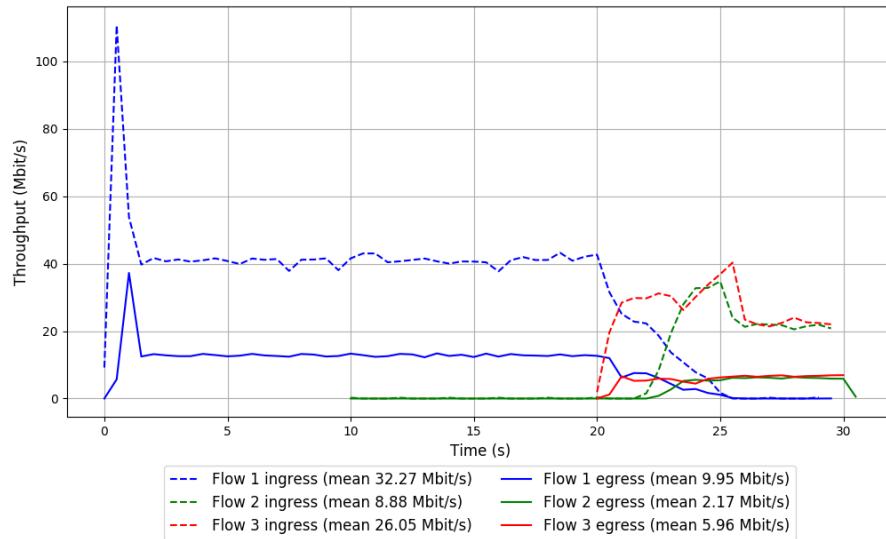


Run 1: Statistics of Copa

```
Start at: 2018-09-06 09:27:04
End at: 2018-09-06 09:27:34
Local clock offset: 0.236 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 31.284 ms
Loss rate: 71.54%
-- Flow 1:
Average throughput: 9.95 Mbit/s
95th percentile per-packet one-way delay: 31.336 ms
Loss rate: 69.24%
-- Flow 2:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 31.086 ms
Loss rate: 75.61%
-- Flow 3:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 31.104 ms
Loss rate: 77.13%
```

Run 1: Report of Copa — Data Link

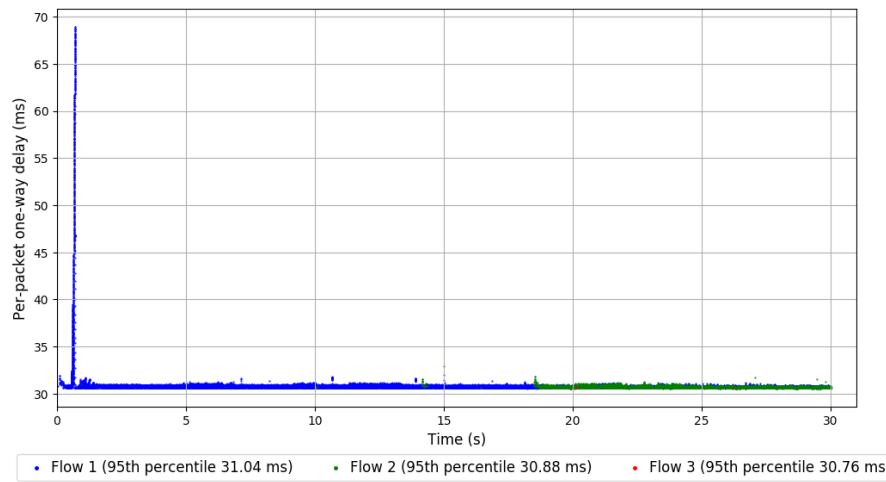
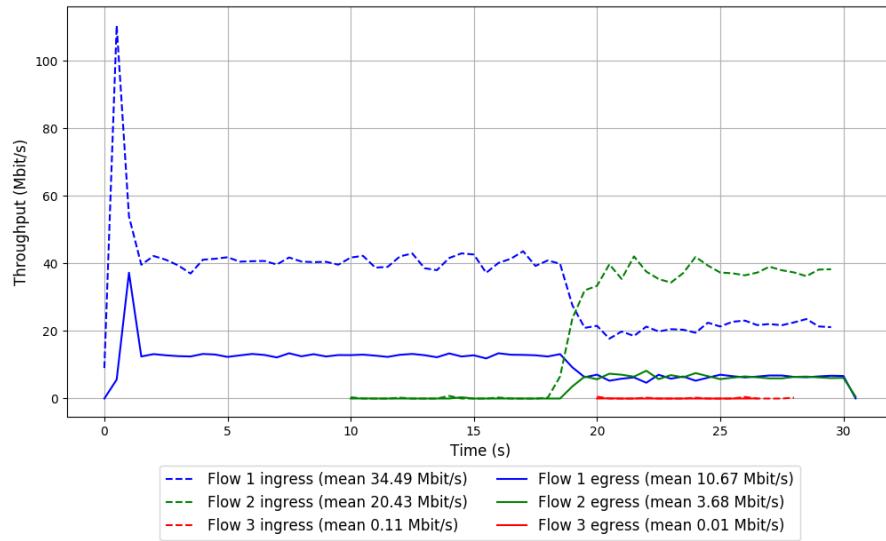


Run 2: Statistics of Copa

```
Start at: 2018-09-06 09:51:27
End at: 2018-09-06 09:51:57
Local clock offset: 0.424 ms
Remote clock offset: 1.715 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 31.007 ms
Loss rate: 72.74%
-- Flow 1:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 31.043 ms
Loss rate: 69.07%
-- Flow 2:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 30.881 ms
Loss rate: 81.98%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 30.756 ms
Loss rate: 95.66%
```

Run 2: Report of Copa — Data Link

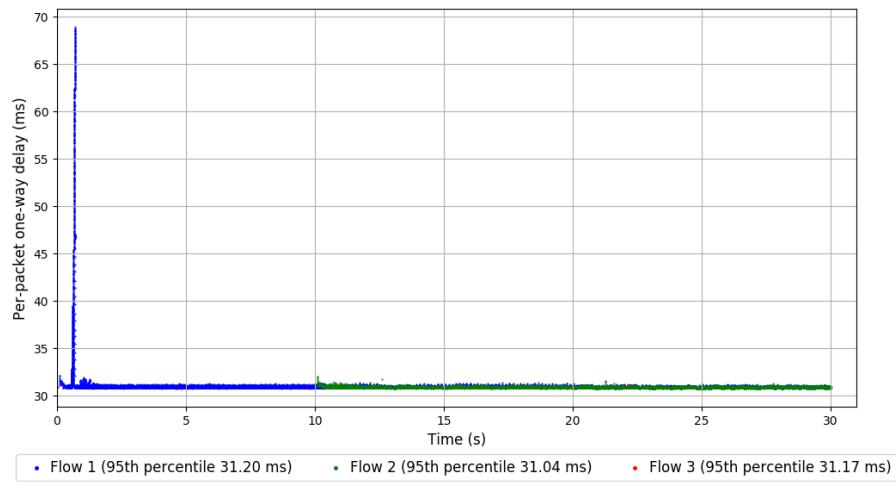
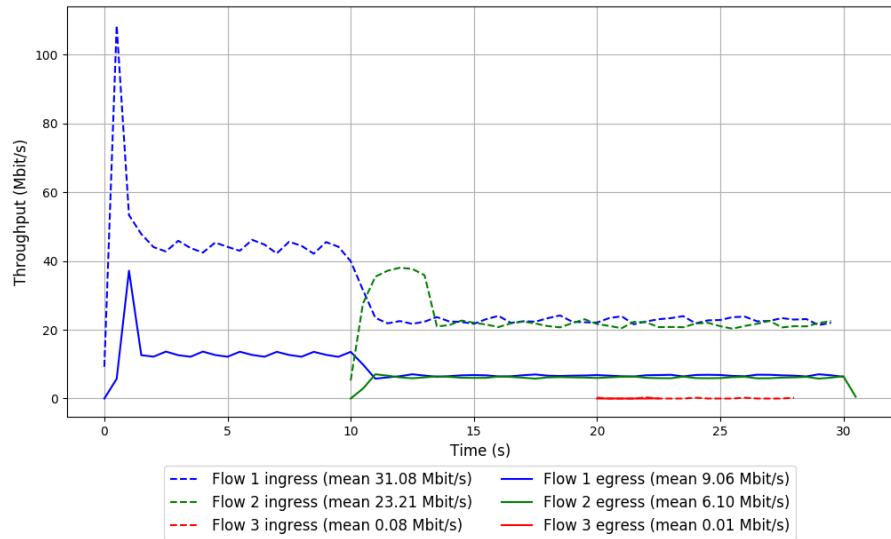


Run 3: Statistics of Copa

```
Start at: 2018-09-06 10:15:51
End at: 2018-09-06 10:16:21
Local clock offset: 0.333 ms
Remote clock offset: 2.68 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 31.108 ms
Loss rate: 71.81%
-- Flow 1:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 31.200 ms
Loss rate: 70.84%
-- Flow 2:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 31.039 ms
Loss rate: 73.73%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 31.172 ms
Loss rate: 96.08%
```

Run 3: Report of Copa — Data Link

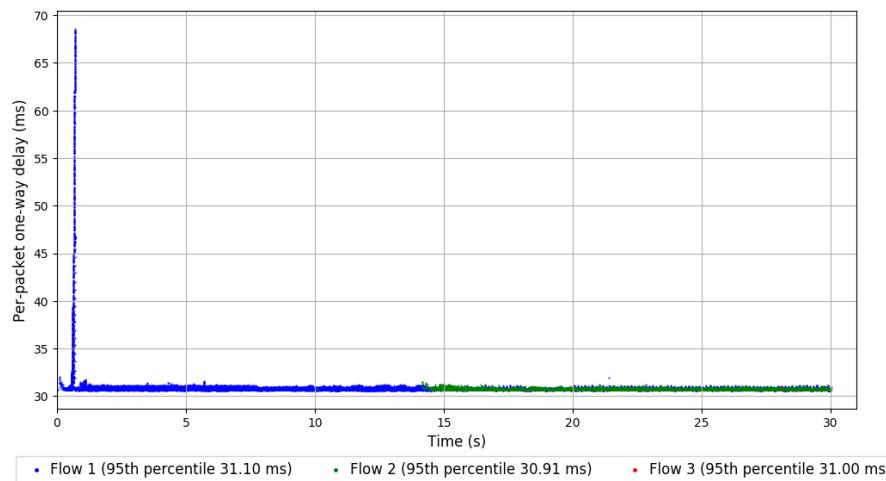
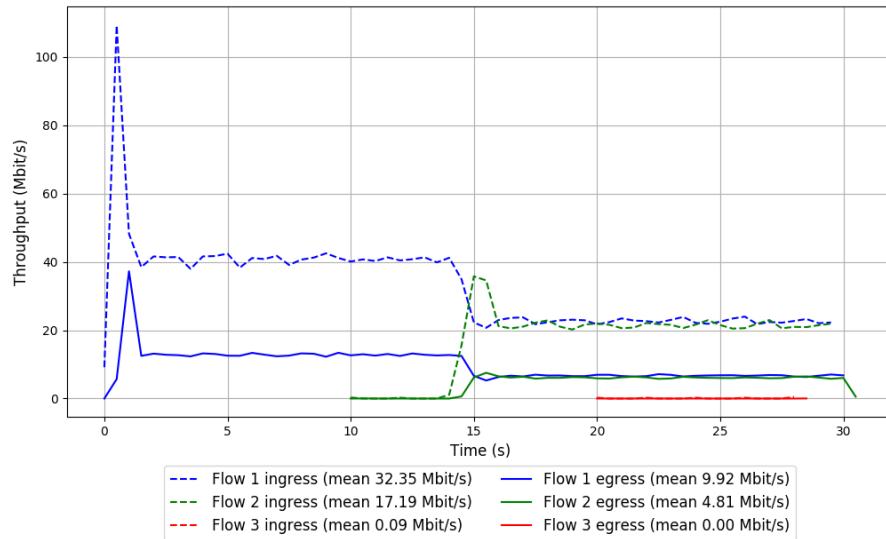


Run 4: Statistics of Copa

```
Start at: 2018-09-06 10:40:20
End at: 2018-09-06 10:40:50
Local clock offset: 0.299 ms
Remote clock offset: 3.115 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 31.056 ms
Loss rate: 70.06%
-- Flow 1:
Average throughput: 9.92 Mbit/s
95th percentile per-packet one-way delay: 31.102 ms
Loss rate: 69.34%
-- Flow 2:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 30.909 ms
Loss rate: 72.04%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 31.004 ms
Loss rate: 98.17%
```

Run 4: Report of Copa — Data Link

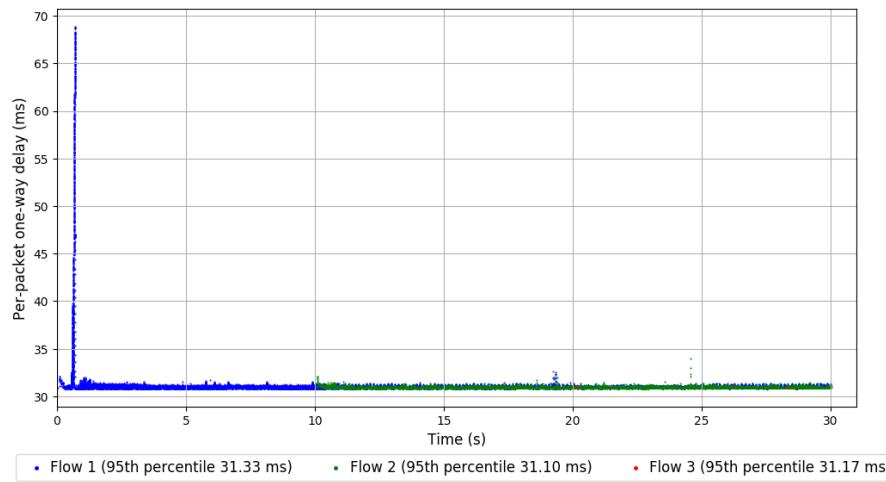
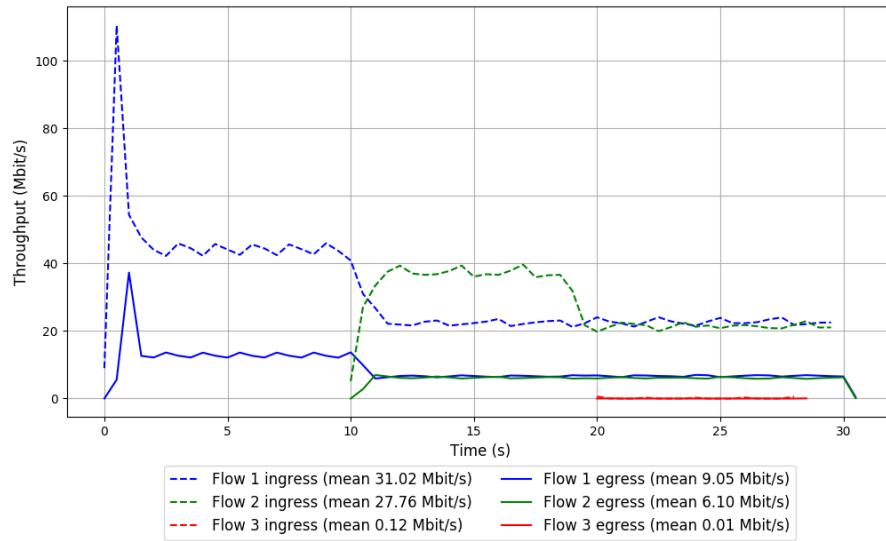


Run 5: Statistics of Copa

```
Start at: 2018-09-06 11:04:48
End at: 2018-09-06 11:05:18
Local clock offset: 4.241 ms
Remote clock offset: 3.383 ms

# Below is generated by plot.py at 2018-09-06 11:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 31.224 ms
Loss rate: 73.52%
-- Flow 1:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 31.328 ms
Loss rate: 70.82%
-- Flow 2:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 31.098 ms
Loss rate: 78.03%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 31.170 ms
Loss rate: 93.49%
```

Run 5: Report of Copa — Data Link

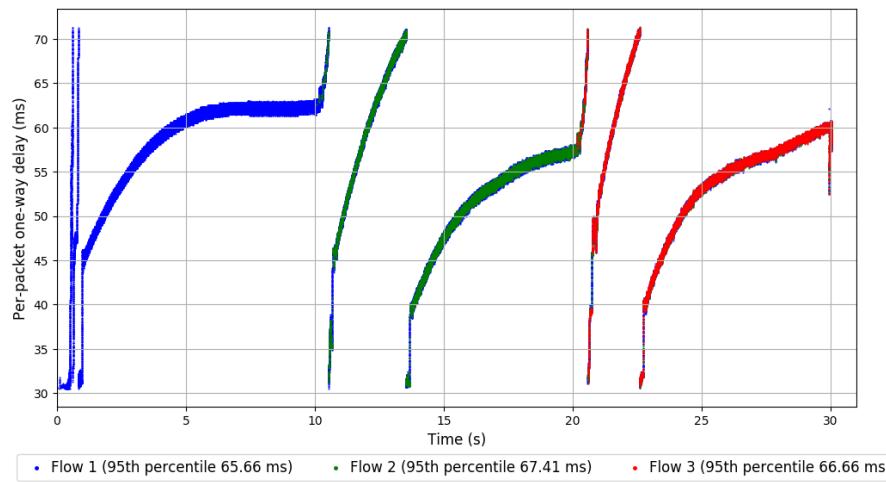
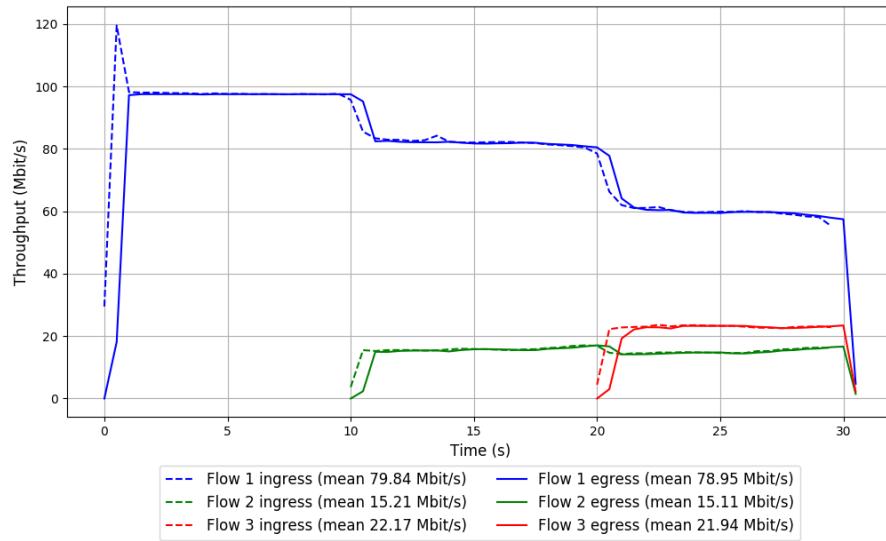


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-06 09:24:19
End at: 2018-09-06 09:24:49
Local clock offset: 0.291 ms
Remote clock offset: -0.484 ms

# Below is generated by plot.py at 2018-09-06 11:12:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 65.963 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 78.95 Mbit/s
95th percentile per-packet one-way delay: 65.664 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 15.11 Mbit/s
95th percentile per-packet one-way delay: 67.409 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 21.94 Mbit/s
95th percentile per-packet one-way delay: 66.655 ms
Loss rate: 0.98%
```

Run 1: Report of TCP Cubic — Data Link

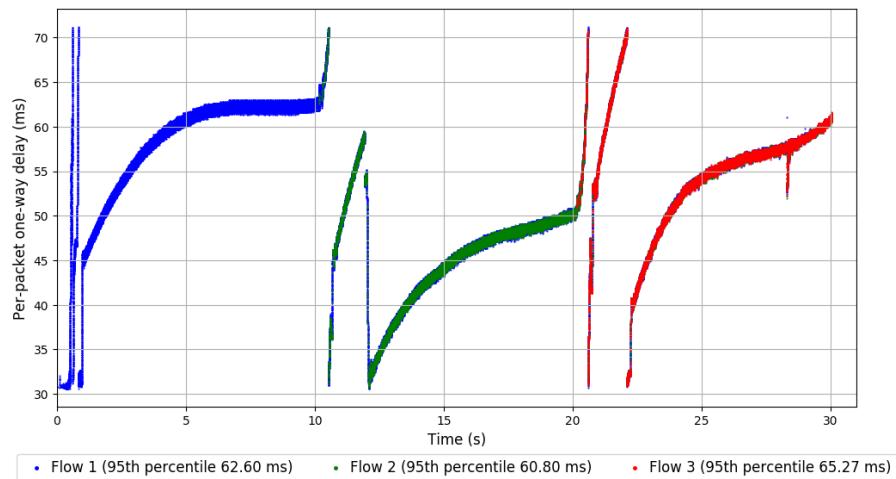
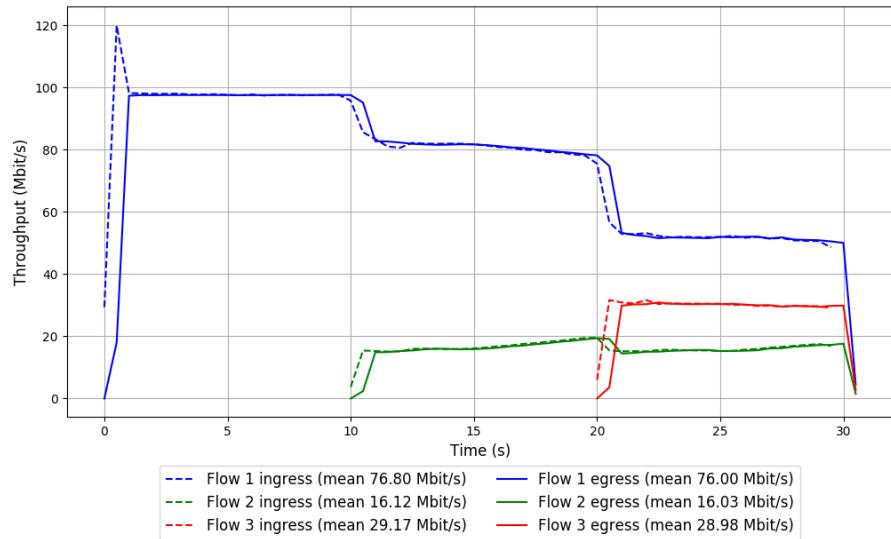


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-06 09:48:43
End at: 2018-09-06 09:49:13
Local clock offset: 0.46 ms
Remote clock offset: 1.504 ms

# Below is generated by plot.py at 2018-09-06 11:12:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 62.608 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 76.00 Mbit/s
95th percentile per-packet one-way delay: 62.600 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 16.03 Mbit/s
95th percentile per-packet one-way delay: 60.795 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 28.98 Mbit/s
95th percentile per-packet one-way delay: 65.267 ms
Loss rate: 0.53%
```

Run 2: Report of TCP Cubic — Data Link

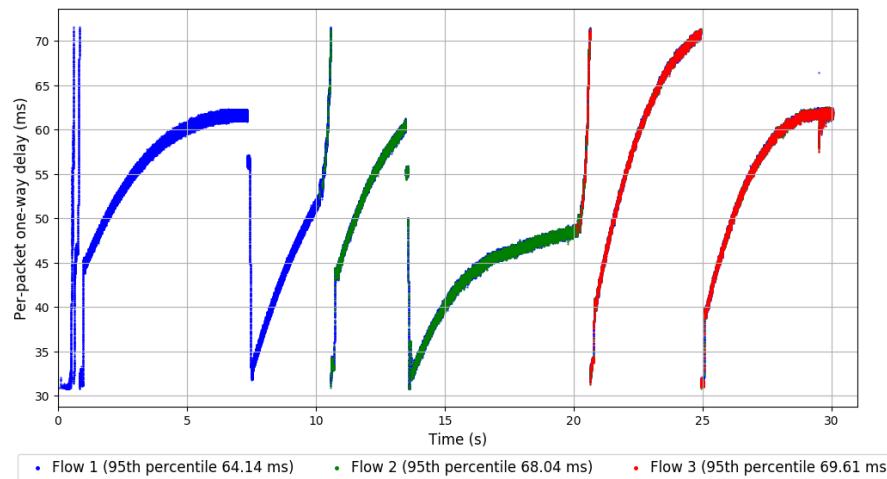
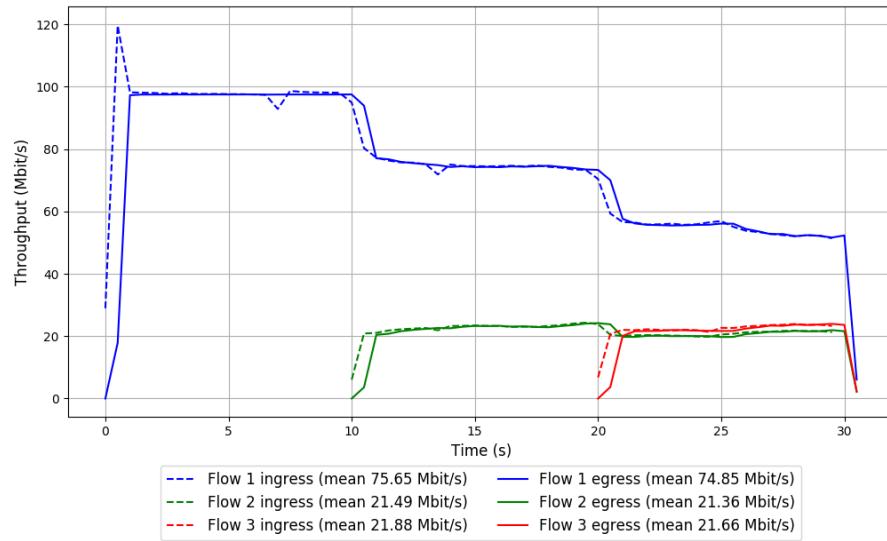


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-06 10:13:06
End at: 2018-09-06 10:13:36
Local clock offset: 0.419 ms
Remote clock offset: 2.63 ms

# Below is generated by plot.py at 2018-09-06 11:12:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.28 Mbit/s
95th percentile per-packet one-way delay: 66.563 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 64.139 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 21.36 Mbit/s
95th percentile per-packet one-way delay: 68.039 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 21.66 Mbit/s
95th percentile per-packet one-way delay: 69.612 ms
Loss rate: 0.87%
```

Run 3: Report of TCP Cubic — Data Link

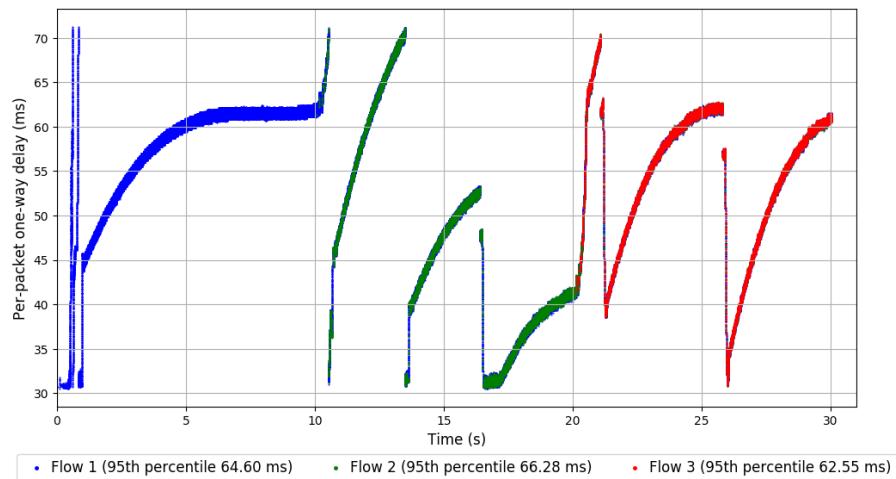
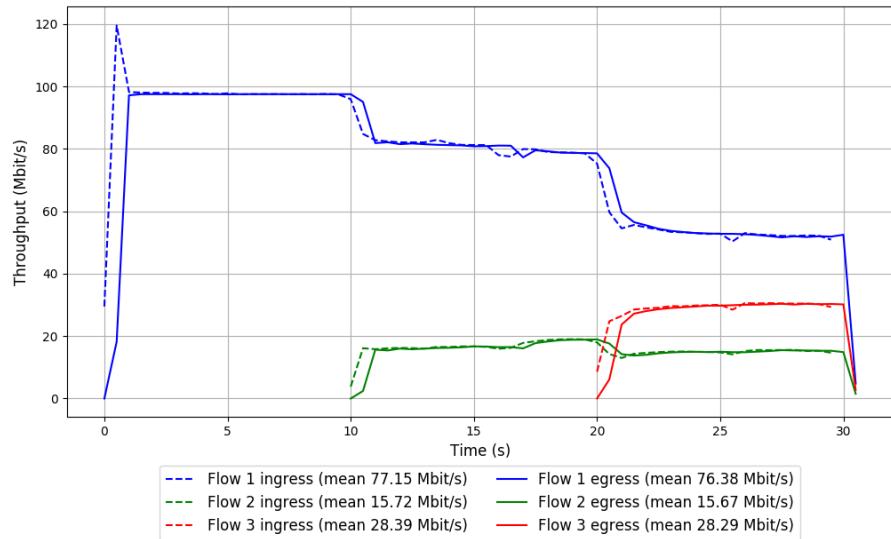


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-06 10:37:35
End at: 2018-09-06 10:38:05
Local clock offset: 0.297 ms
Remote clock offset: 3.138 ms

# Below is generated by plot.py at 2018-09-06 11:12:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.23 Mbit/s
95th percentile per-packet one-way delay: 64.640 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 76.38 Mbit/s
95th percentile per-packet one-way delay: 64.601 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 66.283 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 28.29 Mbit/s
95th percentile per-packet one-way delay: 62.547 ms
Loss rate: 0.13%
```

Run 4: Report of TCP Cubic — Data Link

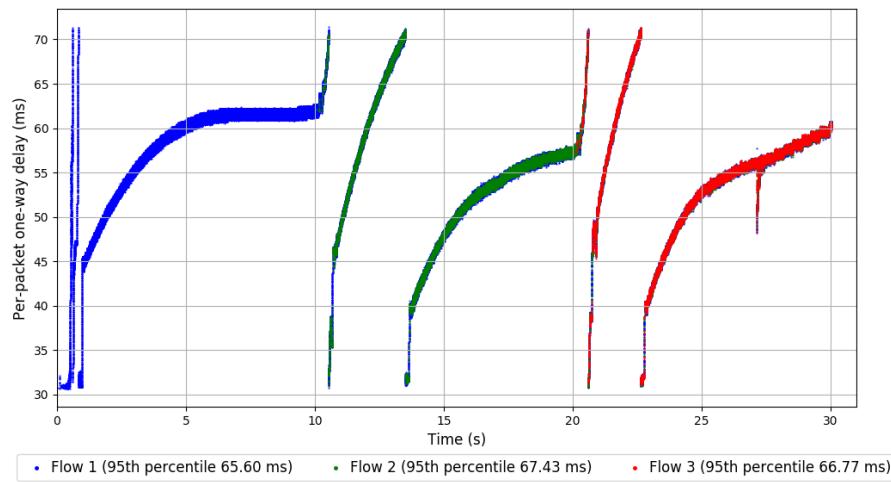
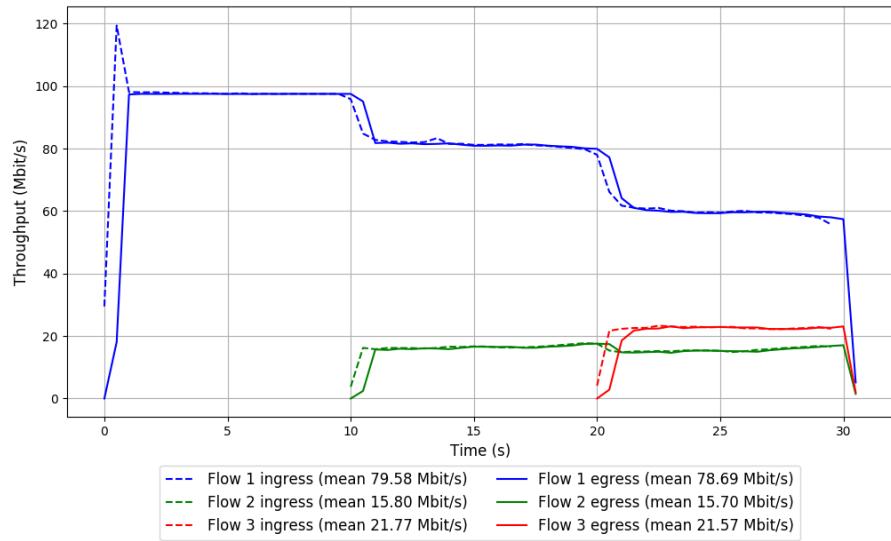


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-06 11:02:03
End at: 2018-09-06 11:02:33
Local clock offset: 3.953 ms
Remote clock offset: 3.163 ms

# Below is generated by plot.py at 2018-09-06 11:13:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 65.937 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 78.69 Mbit/s
95th percentile per-packet one-way delay: 65.602 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 15.70 Mbit/s
95th percentile per-packet one-way delay: 67.429 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 21.57 Mbit/s
95th percentile per-packet one-way delay: 66.770 ms
Loss rate: 0.90%
```

Run 5: Report of TCP Cubic — Data Link

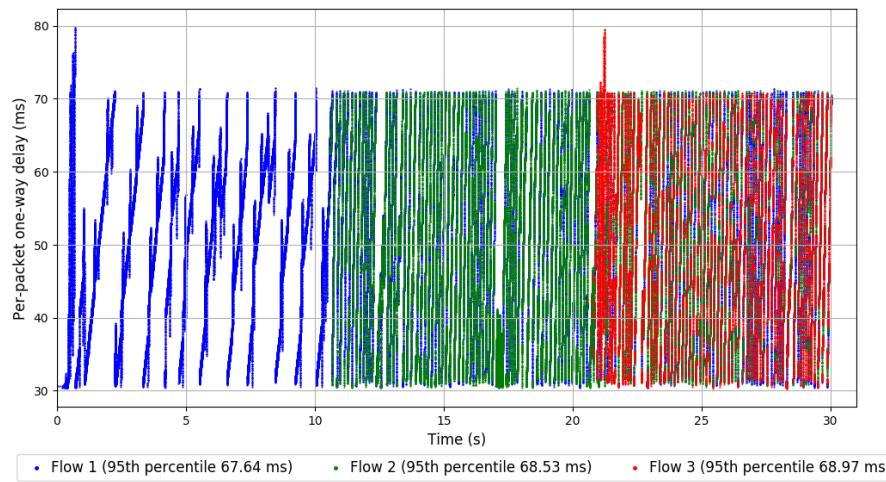
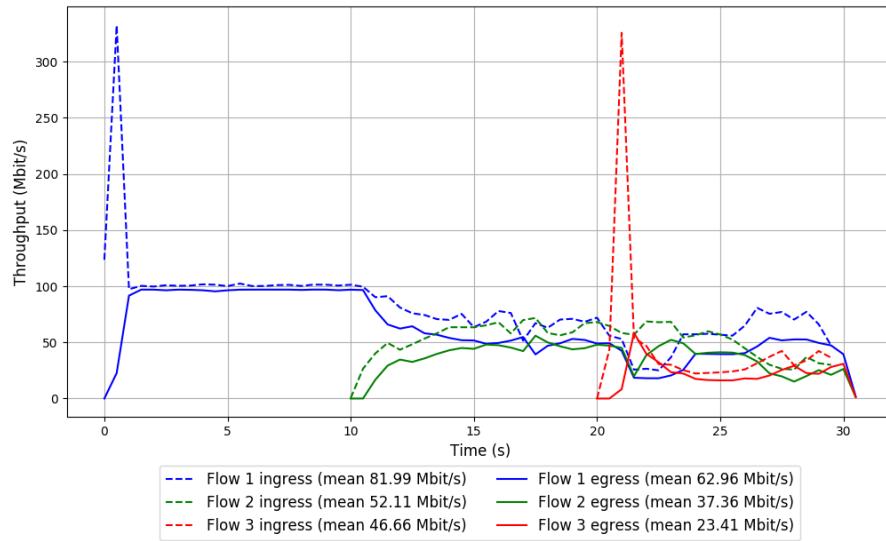


```
Run 1: Statistics of FillP

Start at: 2018-09-06 09:09:15
End at: 2018-09-06 09:09:45
Local clock offset: 0.018 ms
Remote clock offset: -1.154 ms

# Below is generated by plot.py at 2018-09-06 11:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 68.038 ms
Loss rate: 27.75%
-- Flow 1:
Average throughput: 62.96 Mbit/s
95th percentile per-packet one-way delay: 67.636 ms
Loss rate: 23.11%
-- Flow 2:
Average throughput: 37.36 Mbit/s
95th percentile per-packet one-way delay: 68.528 ms
Loss rate: 28.91%
-- Flow 3:
Average throughput: 23.41 Mbit/s
95th percentile per-packet one-way delay: 68.967 ms
Loss rate: 49.73%
```

Run 1: Report of FillP — Data Link

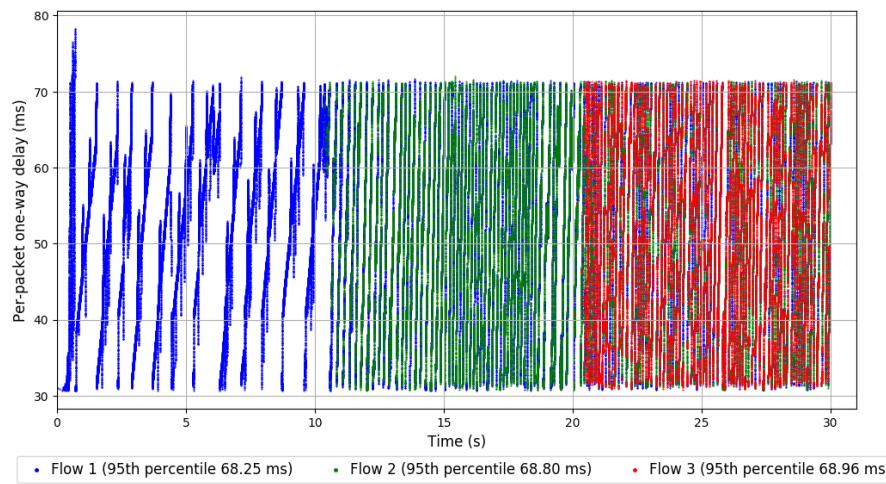
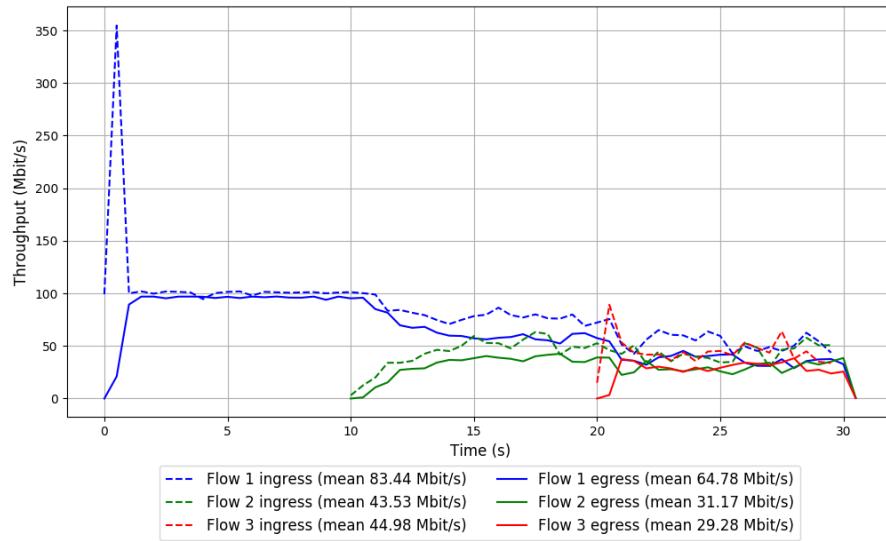


Run 2: Statistics of FillP

```
Start at: 2018-09-06 09:33:44
End at: 2018-09-06 09:34:14
Local clock offset: 0.382 ms
Remote clock offset: 0.374 ms

# Below is generated by plot.py at 2018-09-06 11:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.21 Mbit/s
95th percentile per-packet one-way delay: 68.482 ms
Loss rate: 25.15%
-- Flow 1:
Average throughput: 64.78 Mbit/s
95th percentile per-packet one-way delay: 68.254 ms
Loss rate: 22.31%
-- Flow 2:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 68.799 ms
Loss rate: 28.40%
-- Flow 3:
Average throughput: 29.28 Mbit/s
95th percentile per-packet one-way delay: 68.956 ms
Loss rate: 34.80%
```

Run 2: Report of FillP — Data Link

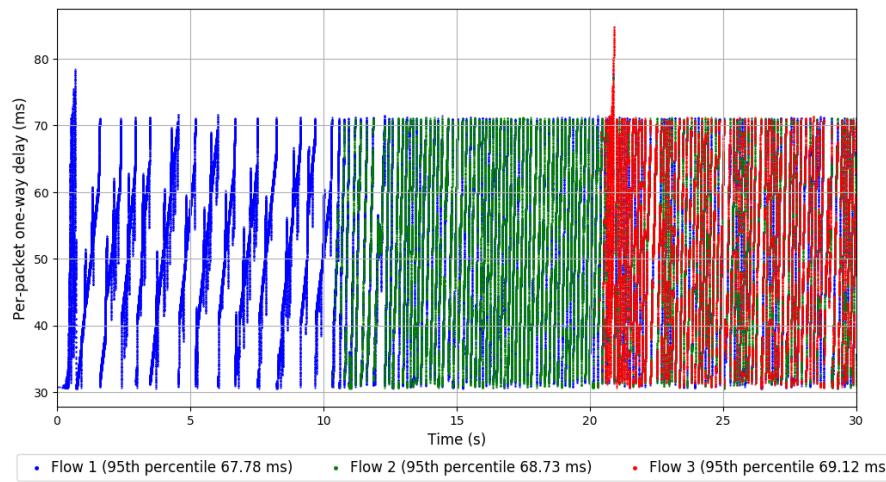
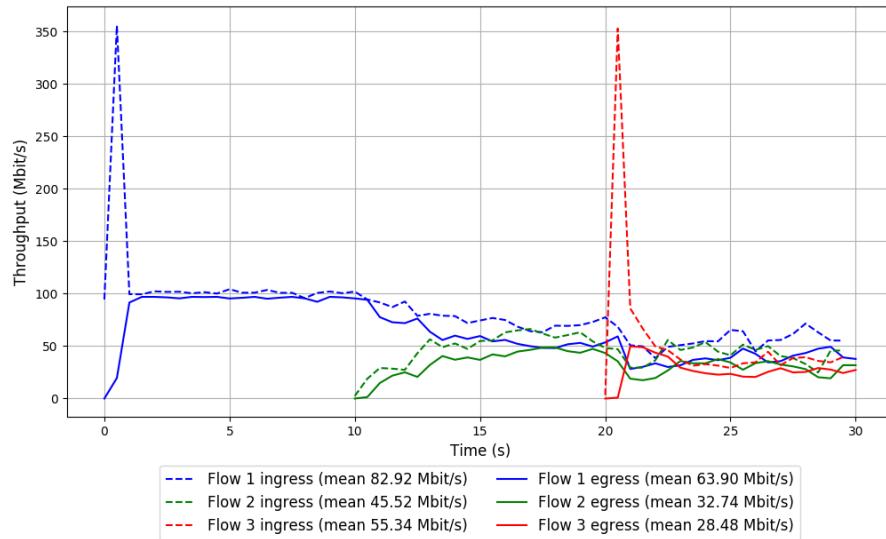


Run 3: Statistics of FillP

```
Start at: 2018-09-06 09:58:06
End at: 2018-09-06 09:58:36
Local clock offset: 0.314 ms
Remote clock offset: 1.99 ms

# Below is generated by plot.py at 2018-09-06 11:13:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.08 Mbit/s
95th percentile per-packet one-way delay: 68.229 ms
Loss rate: 27.72%
-- Flow 1:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 67.776 ms
Loss rate: 22.93%
-- Flow 2:
Average throughput: 32.74 Mbit/s
95th percentile per-packet one-way delay: 68.735 ms
Loss rate: 28.14%
-- Flow 3:
Average throughput: 28.48 Mbit/s
95th percentile per-packet one-way delay: 69.121 ms
Loss rate: 48.69%
```

Run 3: Report of FillP — Data Link

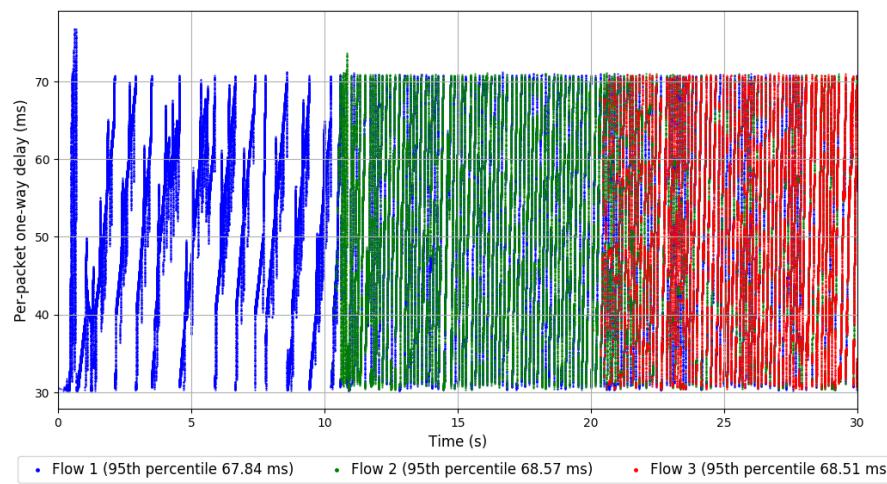
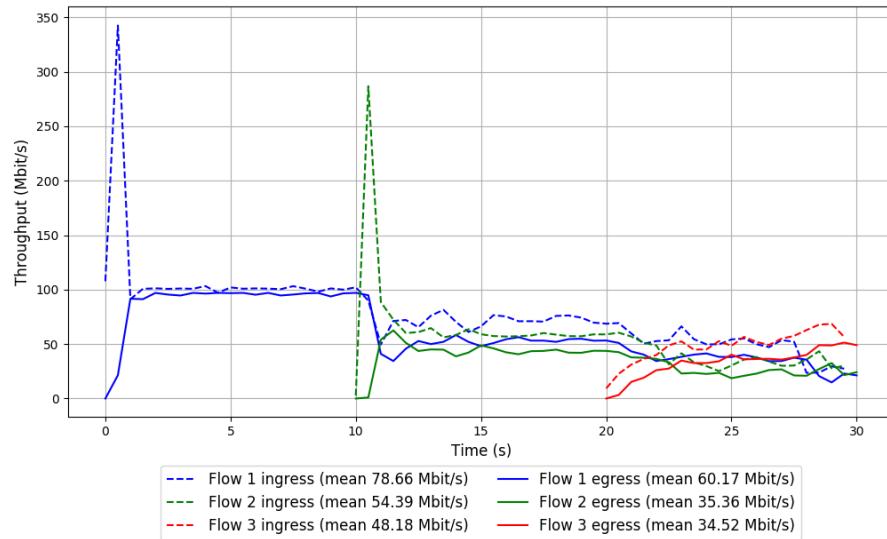


```
Run 4: Statistics of FillP
```

```
Start at: 2018-09-06 10:22:32
End at: 2018-09-06 10:23:02
Local clock offset: 0.375 ms
Remote clock offset: 2.721 ms

# Below is generated by plot.py at 2018-09-06 11:13:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.12 Mbit/s
95th percentile per-packet one-way delay: 68.137 ms
Loss rate: 27.30%
-- Flow 1:
Average throughput: 60.17 Mbit/s
95th percentile per-packet one-way delay: 67.836 ms
Loss rate: 23.50%
-- Flow 2:
Average throughput: 35.36 Mbit/s
95th percentile per-packet one-way delay: 68.566 ms
Loss rate: 35.06%
-- Flow 3:
Average throughput: 34.52 Mbit/s
95th percentile per-packet one-way delay: 68.506 ms
Loss rate: 28.38%
```

Run 4: Report of FillP — Data Link

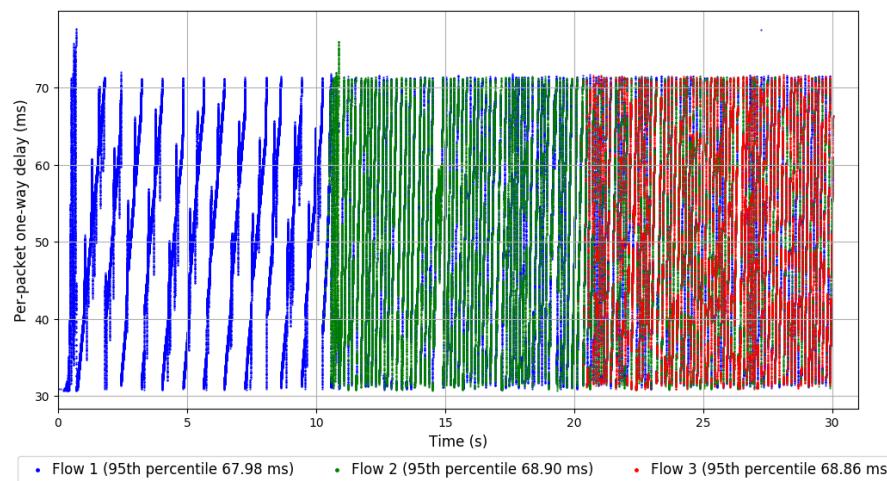
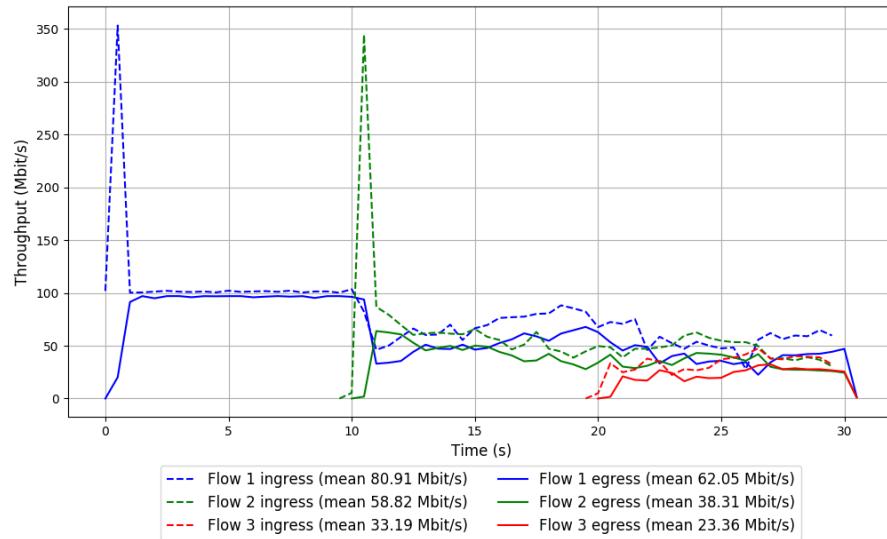


Run 5: Statistics of FillP

```
Start at: 2018-09-06 10:47:01
End at: 2018-09-06 10:47:31
Local clock offset: 0.88 ms
Remote clock offset: 3.13 ms

# Below is generated by plot.py at 2018-09-06 11:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 68.334 ms
Loss rate: 27.22%
-- Flow 1:
Average throughput: 62.05 Mbit/s
95th percentile per-packet one-way delay: 67.979 ms
Loss rate: 23.21%
-- Flow 2:
Average throughput: 38.31 Mbit/s
95th percentile per-packet one-way delay: 68.900 ms
Loss rate: 34.83%
-- Flow 3:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 68.865 ms
Loss rate: 29.59%
```

Run 5: Report of FillP — Data Link

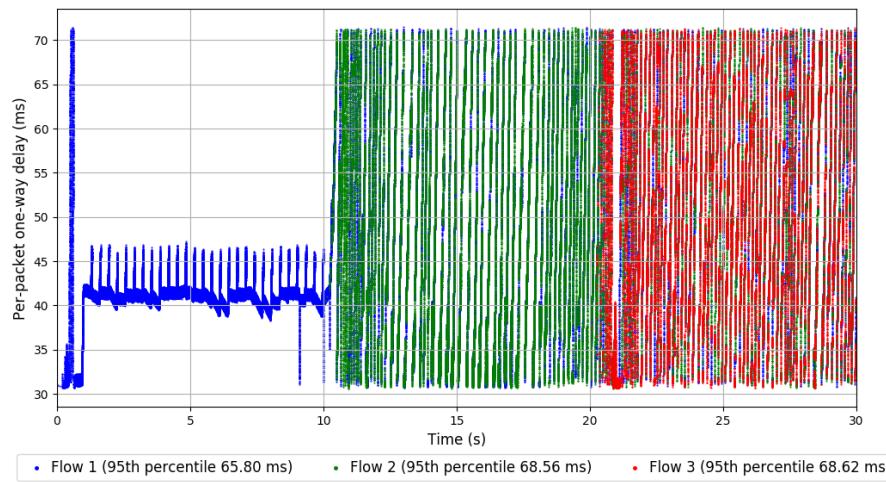
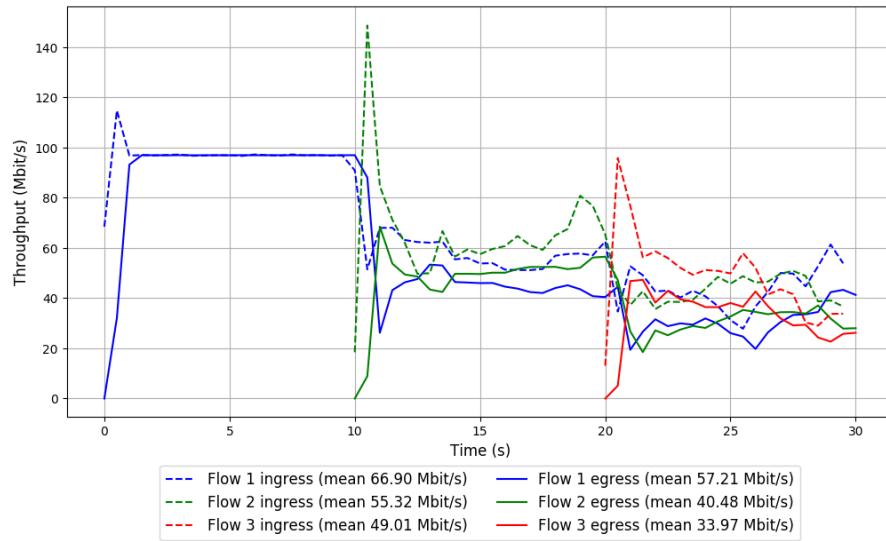


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-09-06 09:12:02
End at: 2018-09-06 09:12:32
Local clock offset: -0.082 ms
Remote clock offset: -0.909 ms

# Below is generated by plot.py at 2018-09-06 11:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.41 Mbit/s
95th percentile per-packet one-way delay: 67.403 ms
Loss rate: 20.46%
-- Flow 1:
Average throughput: 57.21 Mbit/s
95th percentile per-packet one-way delay: 65.802 ms
Loss rate: 14.46%
-- Flow 2:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 68.560 ms
Loss rate: 26.84%
-- Flow 3:
Average throughput: 33.97 Mbit/s
95th percentile per-packet one-way delay: 68.623 ms
Loss rate: 30.68%
```

Run 1: Report of FillP-Sheep — Data Link

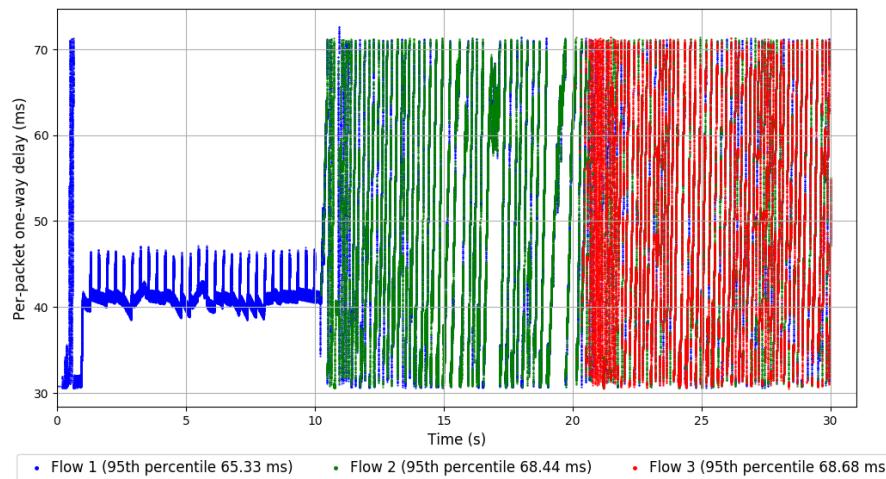
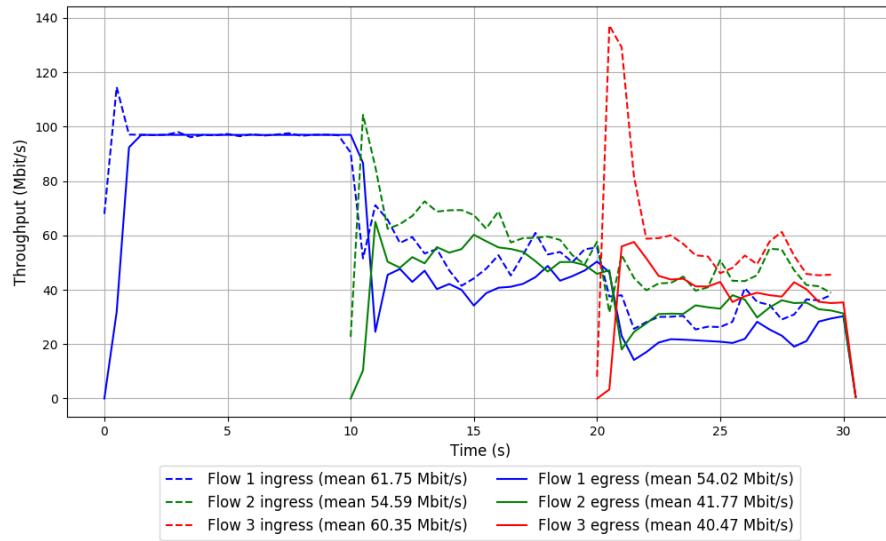


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-06 09:36:31
End at: 2018-09-06 09:37:01
Local clock offset: 0.384 ms
Remote clock offset: 0.45 ms

# Below is generated by plot.py at 2018-09-06 11:14:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 67.353 ms
Loss rate: 19.31%
-- Flow 1:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 65.332 ms
Loss rate: 12.44%
-- Flow 2:
Average throughput: 41.77 Mbit/s
95th percentile per-packet one-way delay: 68.438 ms
Loss rate: 23.43%
-- Flow 3:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 68.677 ms
Loss rate: 33.01%
```

Run 2: Report of FillP-Sheep — Data Link

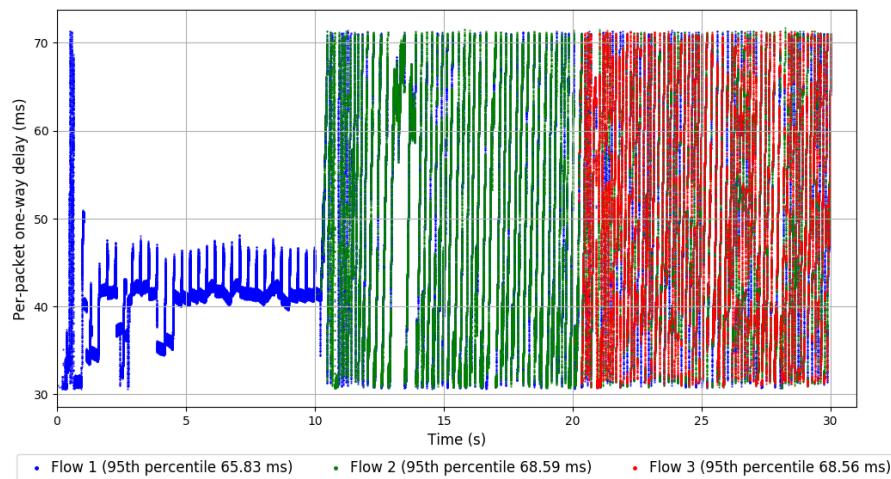
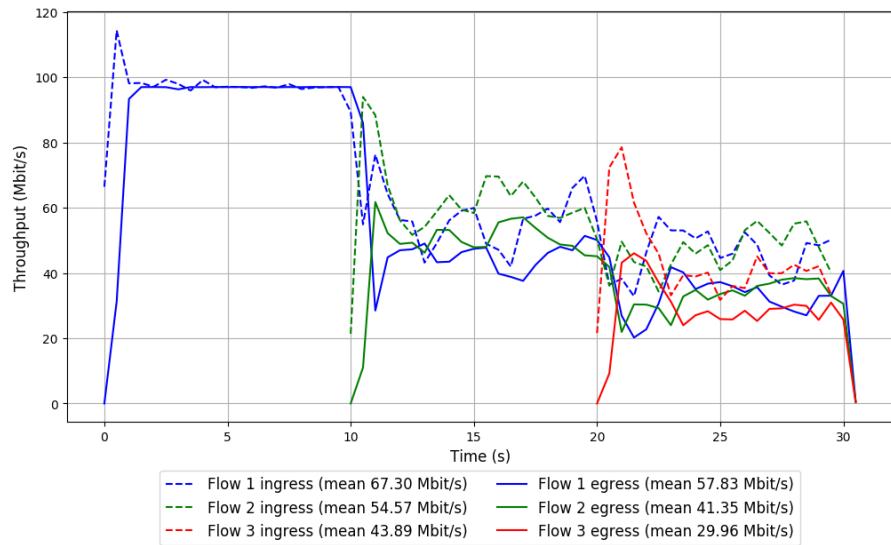


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-06 10:00:52
End at: 2018-09-06 10:01:22
Local clock offset: 0.286 ms
Remote clock offset: 2.086 ms

# Below is generated by plot.py at 2018-09-06 11:14:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.30 Mbit/s
95th percentile per-packet one-way delay: 67.461 ms
Loss rate: 19.25%
-- Flow 1:
Average throughput: 57.83 Mbit/s
95th percentile per-packet one-way delay: 65.830 ms
Loss rate: 13.97%
-- Flow 2:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 68.595 ms
Loss rate: 24.13%
-- Flow 3:
Average throughput: 29.96 Mbit/s
95th percentile per-packet one-way delay: 68.562 ms
Loss rate: 31.51%
```

Run 3: Report of FillP-Sheep — Data Link

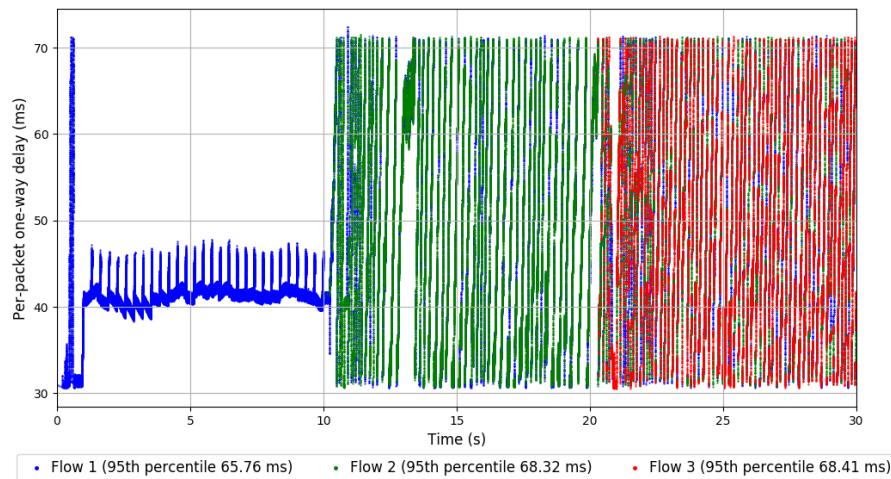
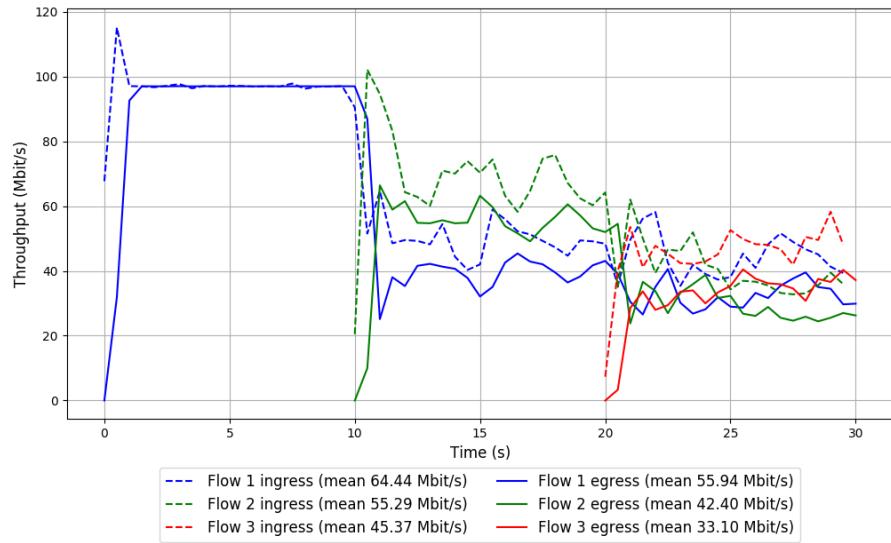


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-06 10:25:19
End at: 2018-09-06 10:25:49
Local clock offset: 0.366 ms
Remote clock offset: 3.158 ms

# Below is generated by plot.py at 2018-09-06 11:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.12 Mbit/s
95th percentile per-packet one-way delay: 67.240 ms
Loss rate: 18.20%
-- Flow 1:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 65.762 ms
Loss rate: 13.17%
-- Flow 2:
Average throughput: 42.40 Mbit/s
95th percentile per-packet one-way delay: 68.319 ms
Loss rate: 23.33%
-- Flow 3:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 68.414 ms
Loss rate: 27.19%
```

Run 4: Report of FillP-Sheep — Data Link

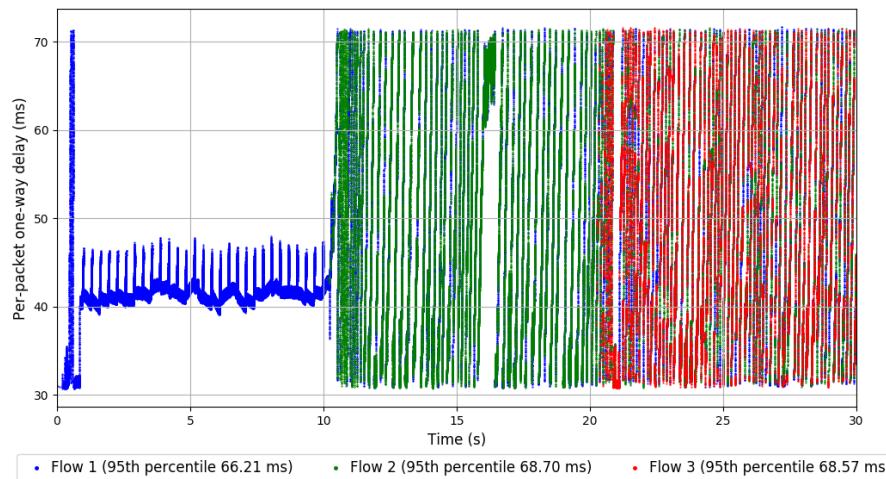
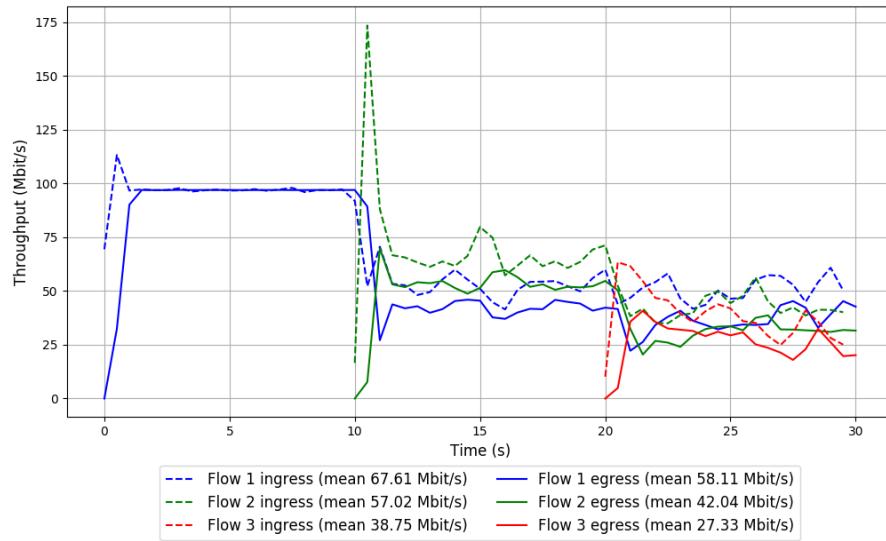


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-06 10:49:48
End at: 2018-09-06 10:50:18
Local clock offset: 1.823 ms
Remote clock offset: 3.161 ms

# Below is generated by plot.py at 2018-09-06 11:14:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 67.655 ms
Loss rate: 19.62%
-- Flow 1:
Average throughput: 58.11 Mbit/s
95th percentile per-packet one-way delay: 66.211 ms
Loss rate: 14.02%
-- Flow 2:
Average throughput: 42.04 Mbit/s
95th percentile per-packet one-way delay: 68.700 ms
Loss rate: 26.27%
-- Flow 3:
Average throughput: 27.33 Mbit/s
95th percentile per-packet one-way delay: 68.573 ms
Loss rate: 29.42%
```

Run 5: Report of FillP-Sheep — Data Link

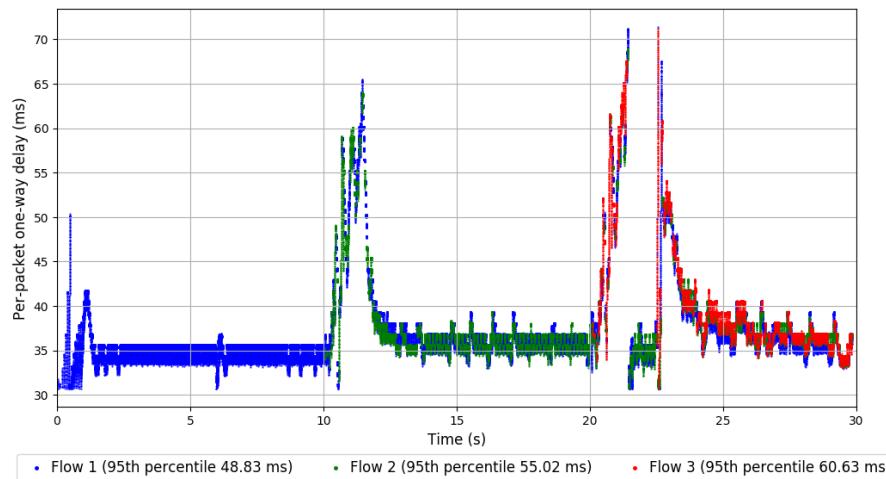
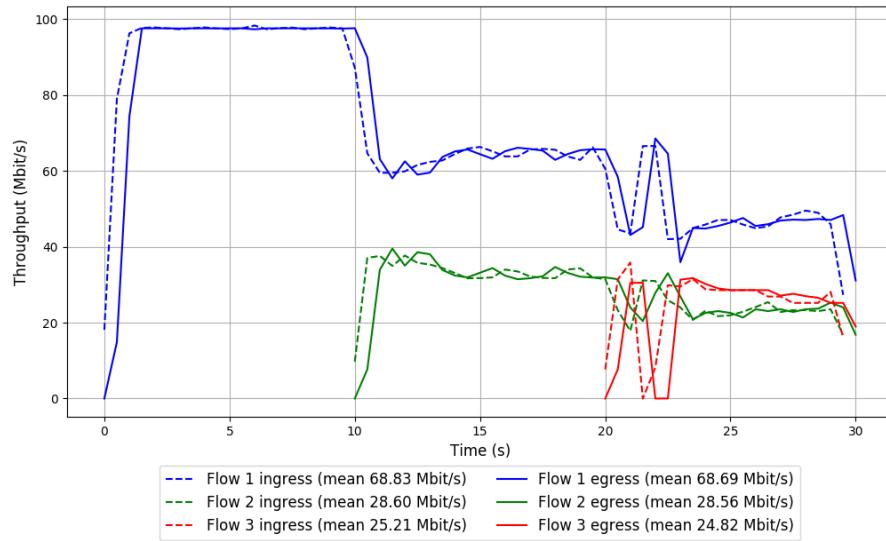


Run 1: Statistics of Indigo

```
Start at: 2018-09-06 09:10:38
End at: 2018-09-06 09:11:08
Local clock offset: 0.006 ms
Remote clock offset: -0.944 ms

# Below is generated by plot.py at 2018-09-06 11:14:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 51.579 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 68.69 Mbit/s
95th percentile per-packet one-way delay: 48.829 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 28.56 Mbit/s
95th percentile per-packet one-way delay: 55.015 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.82 Mbit/s
95th percentile per-packet one-way delay: 60.628 ms
Loss rate: 1.56%
```

Run 1: Report of Indigo — Data Link

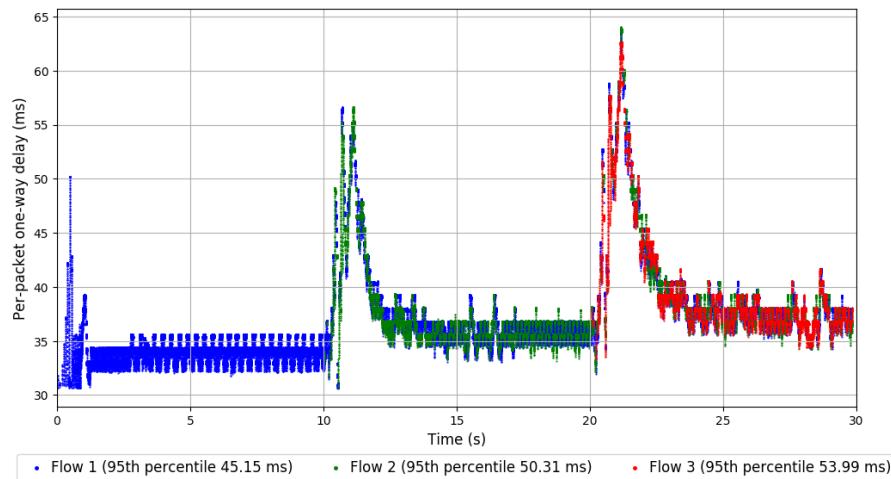
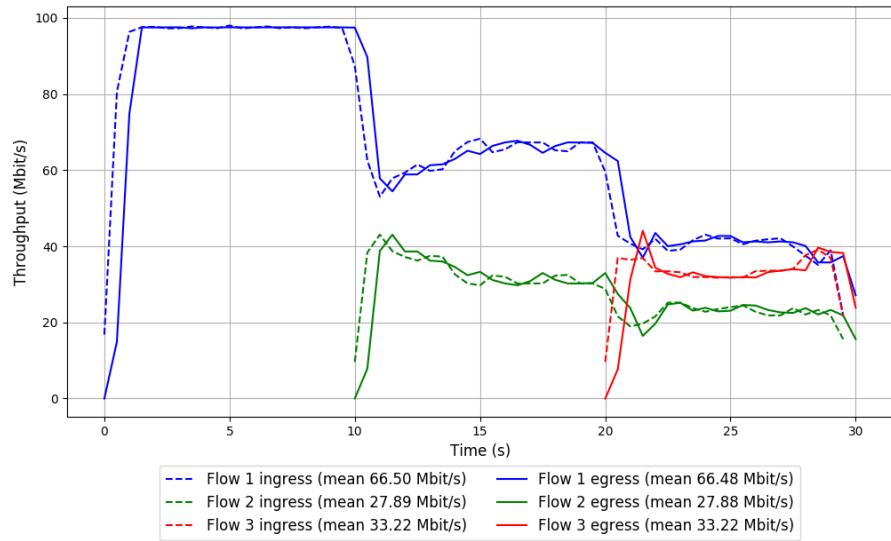


Run 2: Statistics of Indigo

```
Start at: 2018-09-06 09:35:07
End at: 2018-09-06 09:35:37
Local clock offset: 0.385 ms
Remote clock offset: 0.31 ms

# Below is generated by plot.py at 2018-09-06 11:14:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.84 Mbit/s
95th percentile per-packet one-way delay: 48.776 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.48 Mbit/s
95th percentile per-packet one-way delay: 45.145 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.88 Mbit/s
95th percentile per-packet one-way delay: 50.310 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.22 Mbit/s
95th percentile per-packet one-way delay: 53.993 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link

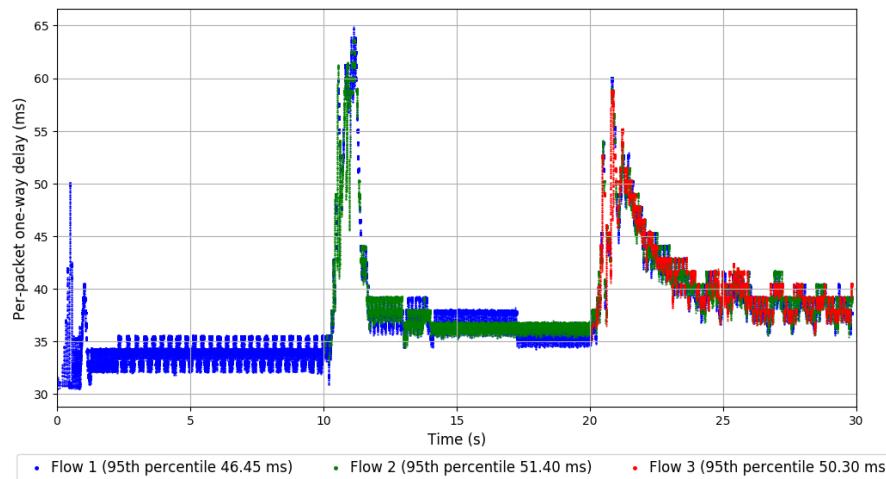
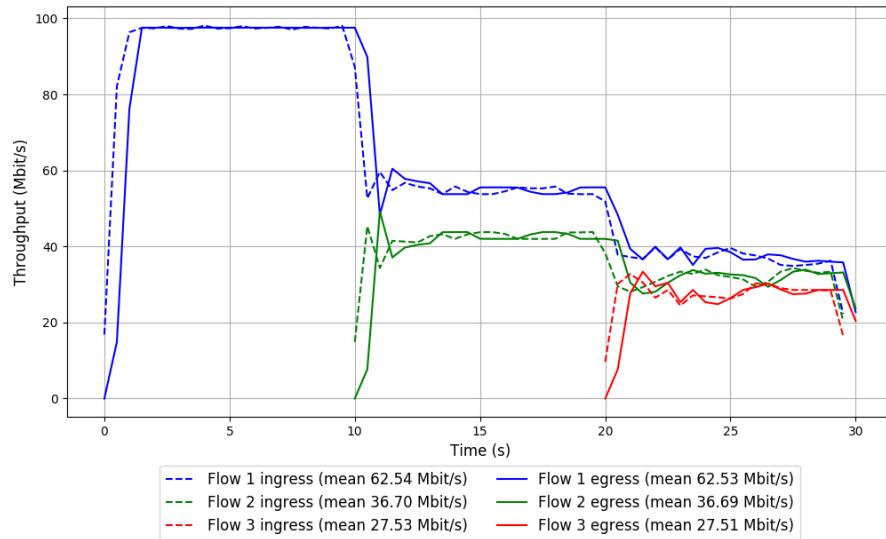


Run 3: Statistics of Indigo

```
Start at: 2018-09-06 09:59:28
End at: 2018-09-06 09:59:58
Local clock offset: 0.396 ms
Remote clock offset: 1.969 ms

# Below is generated by plot.py at 2018-09-06 11:15:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.88 Mbit/s
95th percentile per-packet one-way delay: 49.002 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.53 Mbit/s
95th percentile per-packet one-way delay: 46.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.69 Mbit/s
95th percentile per-packet one-way delay: 51.404 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.51 Mbit/s
95th percentile per-packet one-way delay: 50.305 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

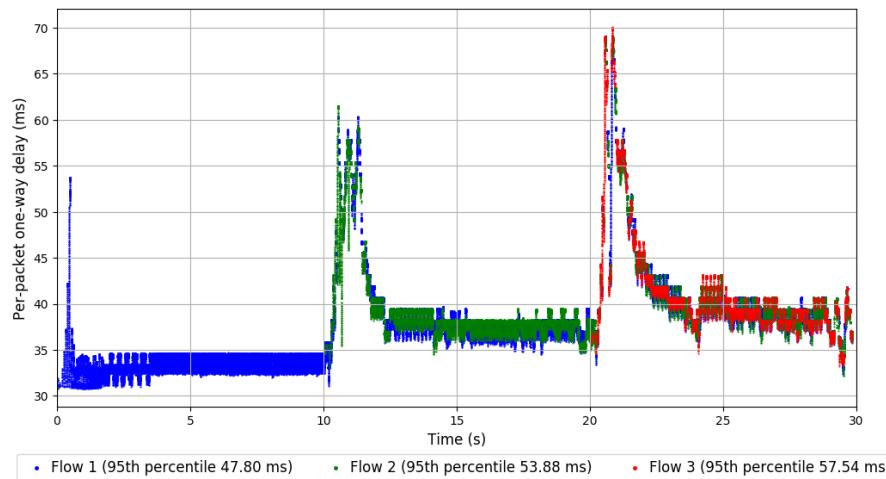
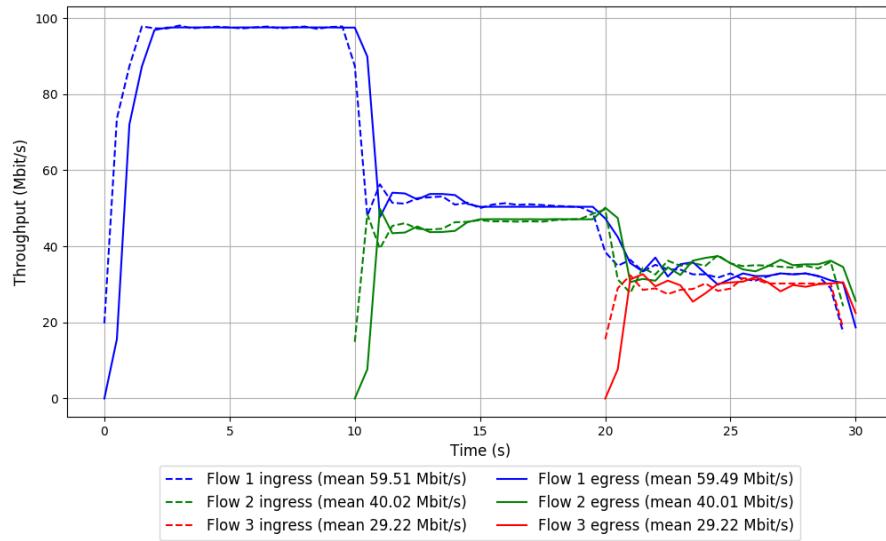


Run 4: Statistics of Indigo

```
Start at: 2018-09-06 10:23:55
End at: 2018-09-06 10:24:25
Local clock offset: 0.283 ms
Remote clock offset: 3.089 ms

# Below is generated by plot.py at 2018-09-06 11:15:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 51.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.49 Mbit/s
95th percentile per-packet one-way delay: 47.797 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 53.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.22 Mbit/s
95th percentile per-packet one-way delay: 57.542 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

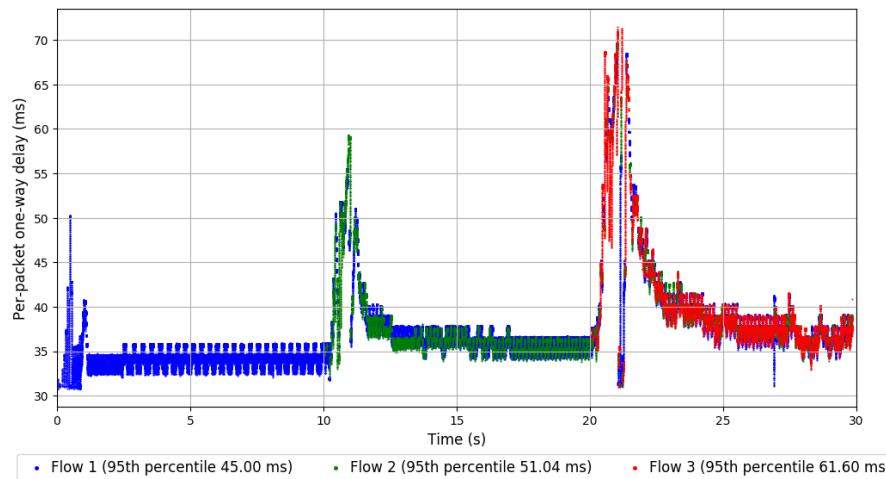
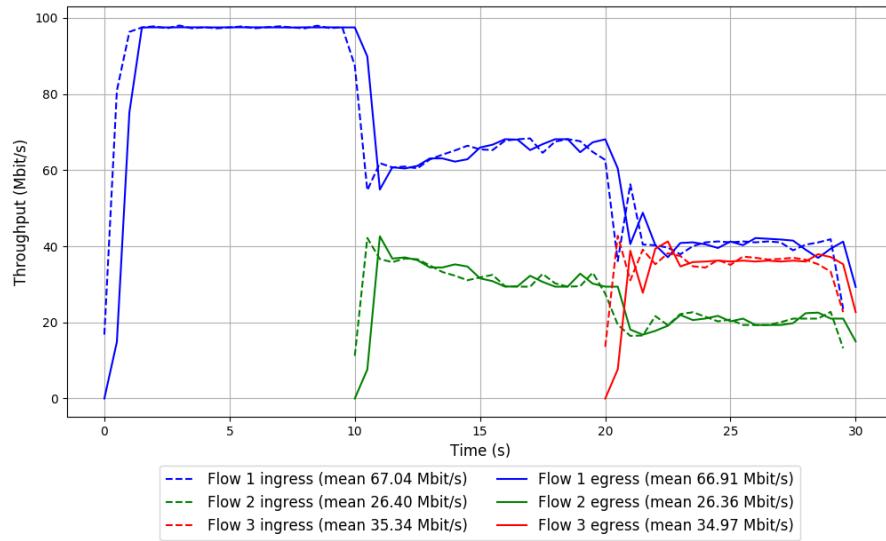


Run 5: Statistics of Indigo

```
Start at: 2018-09-06 10:48:24
End at: 2018-09-06 10:48:54
Local clock offset: 1.345 ms
Remote clock offset: 3.131 ms

# Below is generated by plot.py at 2018-09-06 11:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 49.051 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 66.91 Mbit/s
95th percentile per-packet one-way delay: 44.996 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 51.037 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 34.97 Mbit/s
95th percentile per-packet one-way delay: 61.600 ms
Loss rate: 0.99%
```

Run 5: Report of Indigo — Data Link

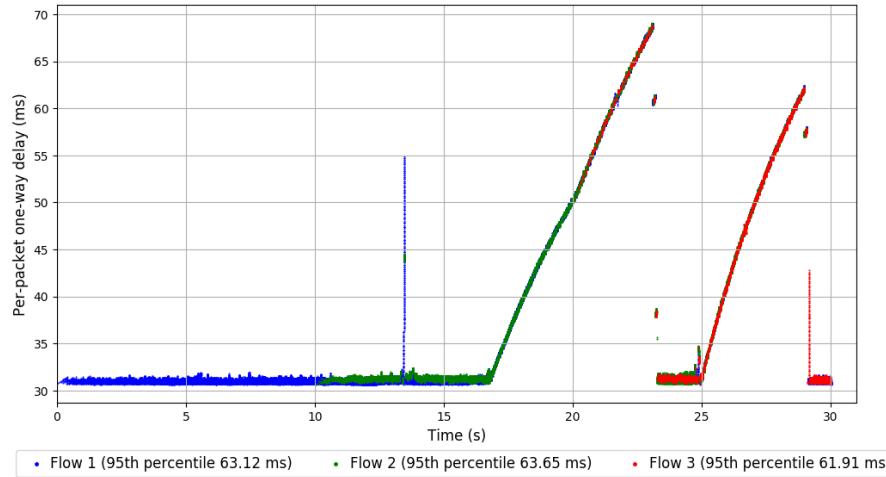
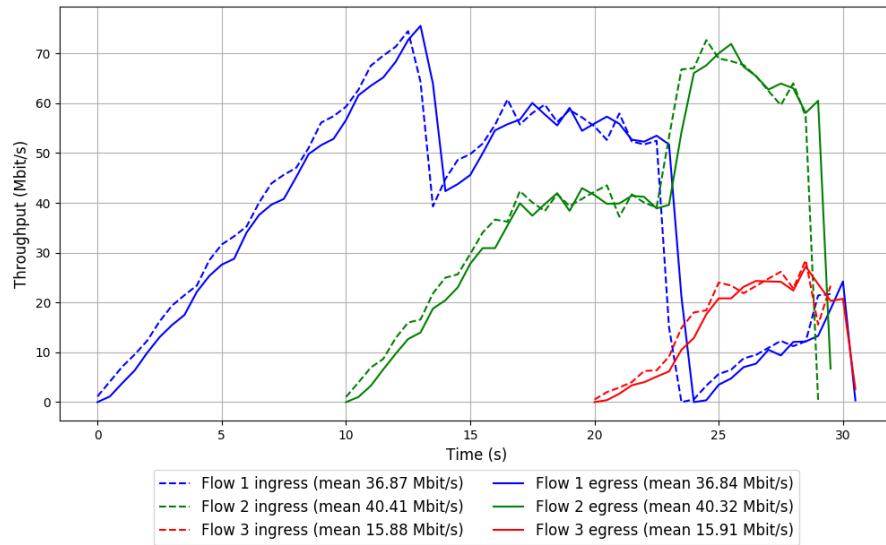


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-09-06 09:17:28
End at: 2018-09-06 09:17:58
Local clock offset: 0.101 ms
Remote clock offset: -0.674 ms

# Below is generated by plot.py at 2018-09-06 11:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 63.372 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 36.84 Mbit/s
95th percentile per-packet one-way delay: 63.117 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.32 Mbit/s
95th percentile per-packet one-way delay: 63.651 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 15.91 Mbit/s
95th percentile per-packet one-way delay: 61.910 ms
Loss rate: 0.01%
```

Run 1: Report of LEDBAT — Data Link

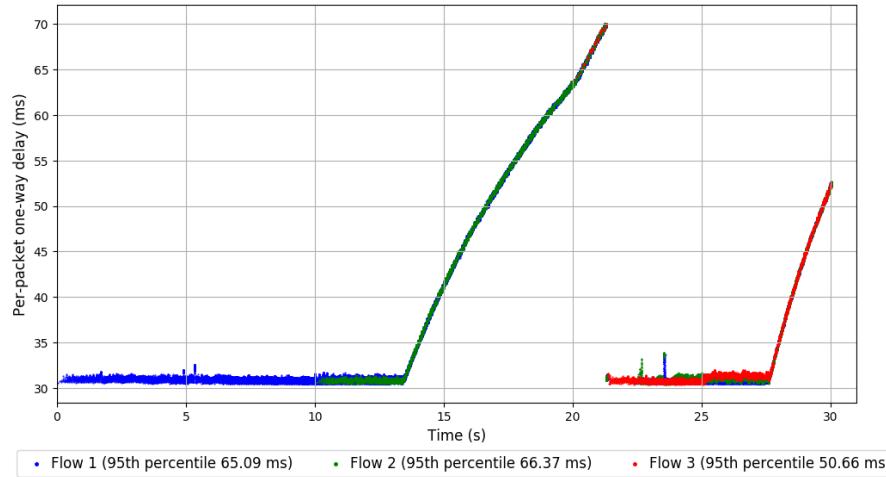
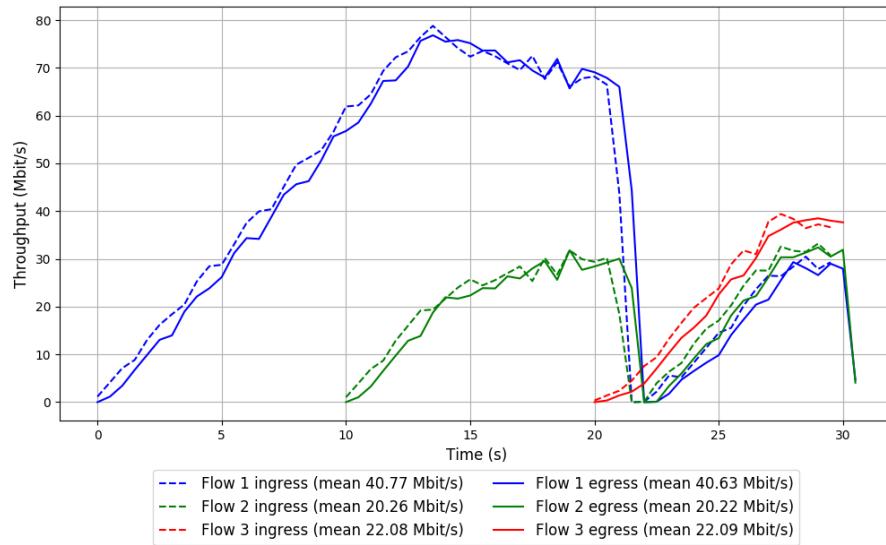


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-06 09:41:56
End at: 2018-09-06 09:42:26
Local clock offset: 0.494 ms
Remote clock offset: 0.75 ms

# Below is generated by plot.py at 2018-09-06 11:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.40 Mbit/s
95th percentile per-packet one-way delay: 65.042 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 40.63 Mbit/s
95th percentile per-packet one-way delay: 65.089 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 20.22 Mbit/s
95th percentile per-packet one-way delay: 66.367 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 22.09 Mbit/s
95th percentile per-packet one-way delay: 50.664 ms
Loss rate: 0.05%
```

Run 2: Report of LEDBAT — Data Link

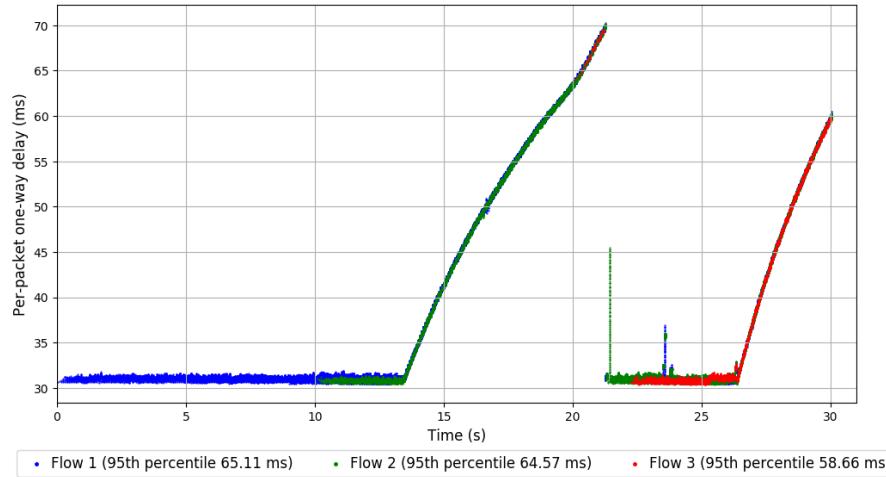
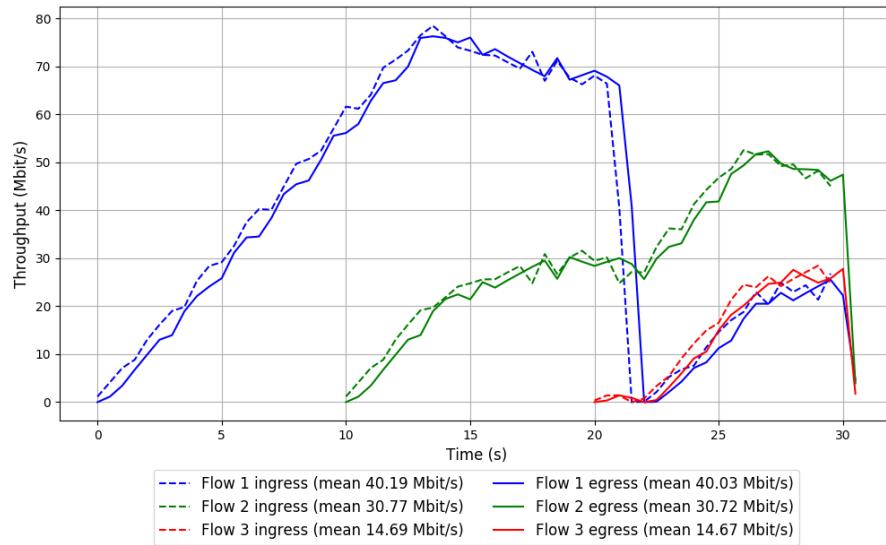


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-06 10:06:18
End at: 2018-09-06 10:06:48
Local clock offset: 0.402 ms
Remote clock offset: 2.003 ms

# Below is generated by plot.py at 2018-09-06 11:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.35 Mbit/s
95th percentile per-packet one-way delay: 64.599 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 65.110 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 30.72 Mbit/s
95th percentile per-packet one-way delay: 64.567 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.67 Mbit/s
95th percentile per-packet one-way delay: 58.665 ms
Loss rate: 0.18%
```

Run 3: Report of LEDBAT — Data Link

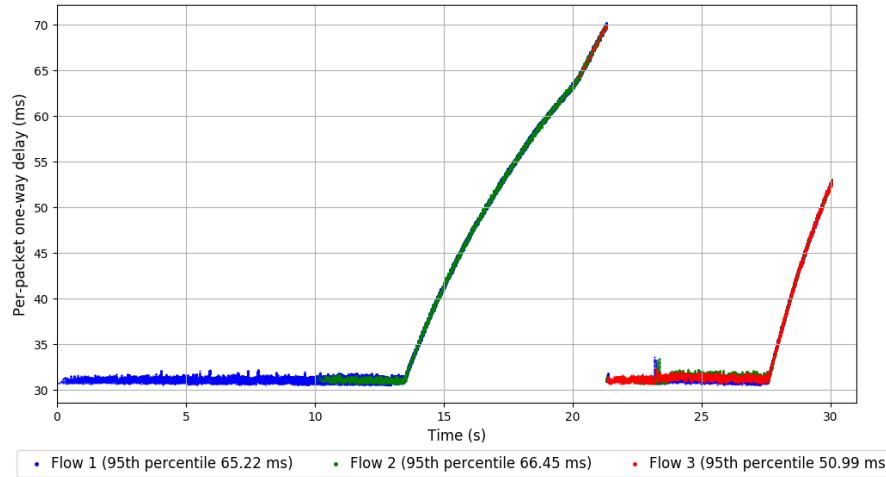
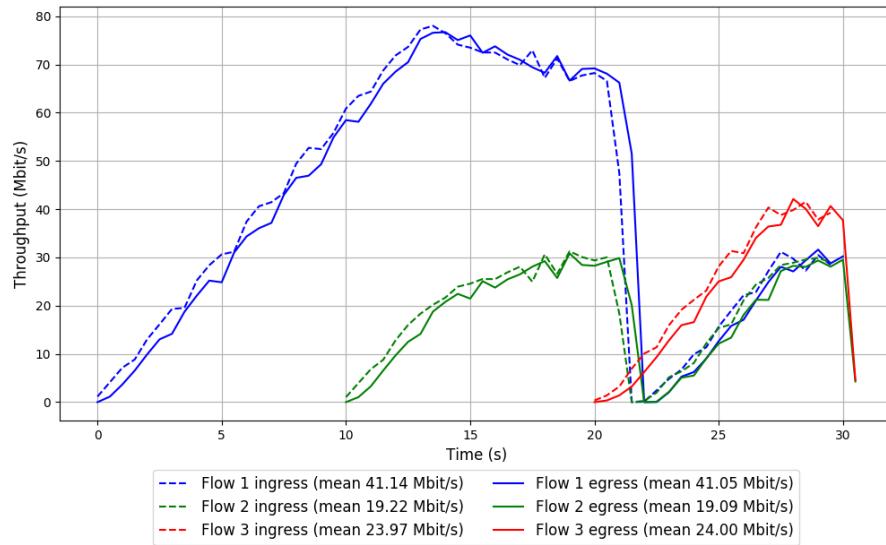


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-06 10:30:45
End at: 2018-09-06 10:31:15
Local clock offset: 0.344 ms
Remote clock offset: 3.14 ms

# Below is generated by plot.py at 2018-09-06 11:15:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.64 Mbit/s
95th percentile per-packet one-way delay: 64.993 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 41.05 Mbit/s
95th percentile per-packet one-way delay: 65.219 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 66.447 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 50.992 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

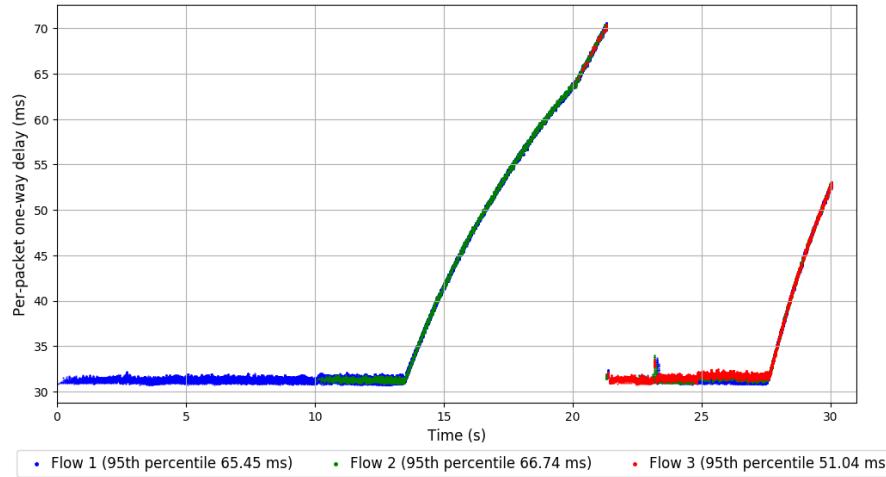
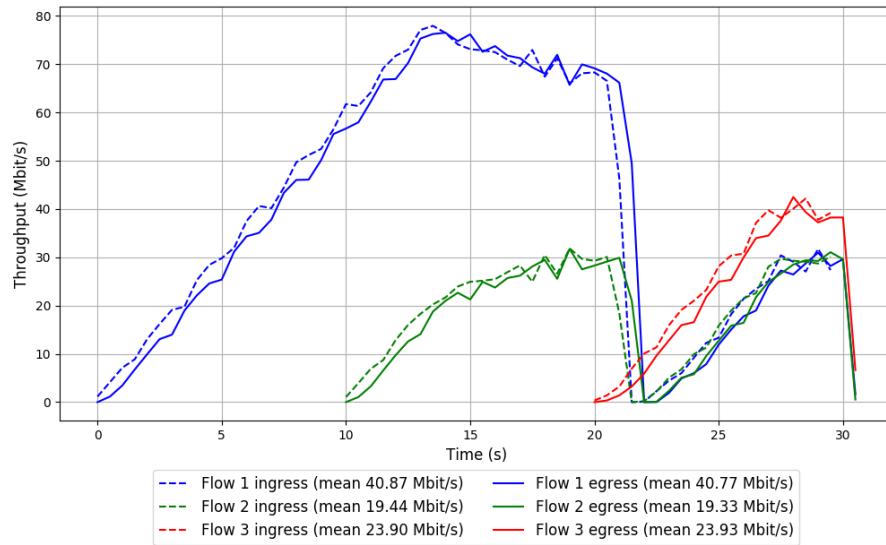


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-06 10:55:13
End at: 2018-09-06 10:55:43
Local clock offset: 3.007 ms
Remote clock offset: 3.179 ms

# Below is generated by plot.py at 2018-09-06 11:15:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.56 Mbit/s
95th percentile per-packet one-way delay: 65.364 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 65.453 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 19.33 Mbit/s
95th percentile per-packet one-way delay: 66.744 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 23.93 Mbit/s
95th percentile per-packet one-way delay: 51.039 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

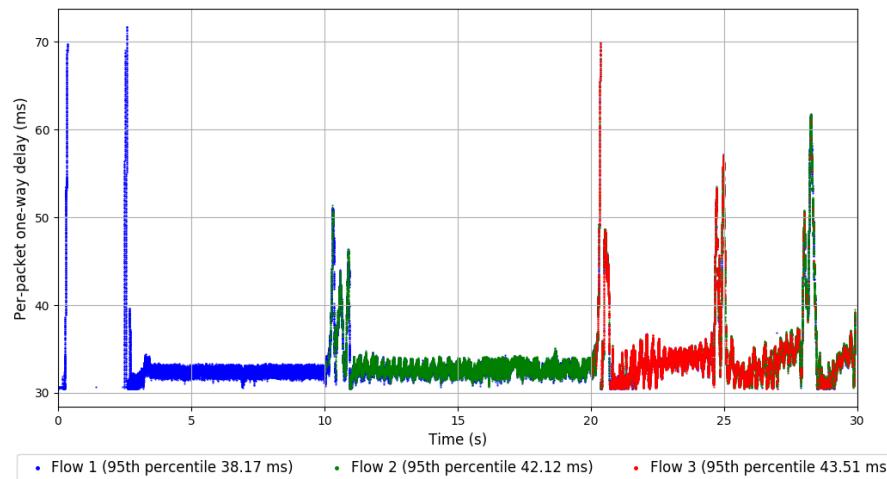
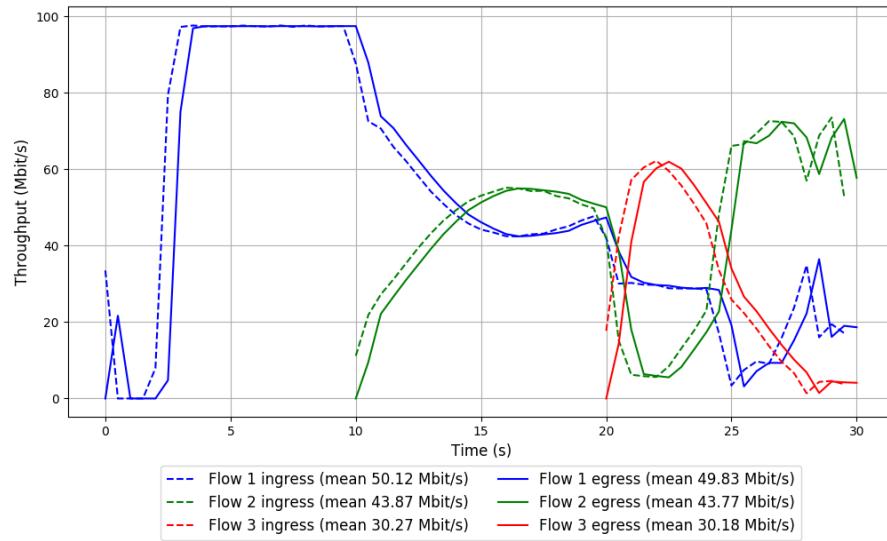


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-06 09:18:50
End at: 2018-09-06 09:19:20
Local clock offset: 0.131 ms
Remote clock offset: -0.81 ms

# Below is generated by plot.py at 2018-09-06 11:16:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.89 Mbit/s
95th percentile per-packet one-way delay: 40.374 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 49.83 Mbit/s
95th percentile per-packet one-way delay: 38.175 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 43.77 Mbit/s
95th percentile per-packet one-way delay: 42.118 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 30.18 Mbit/s
95th percentile per-packet one-way delay: 43.512 ms
Loss rate: 0.24%
```

Run 1: Report of Indigo-Muses — Data Link

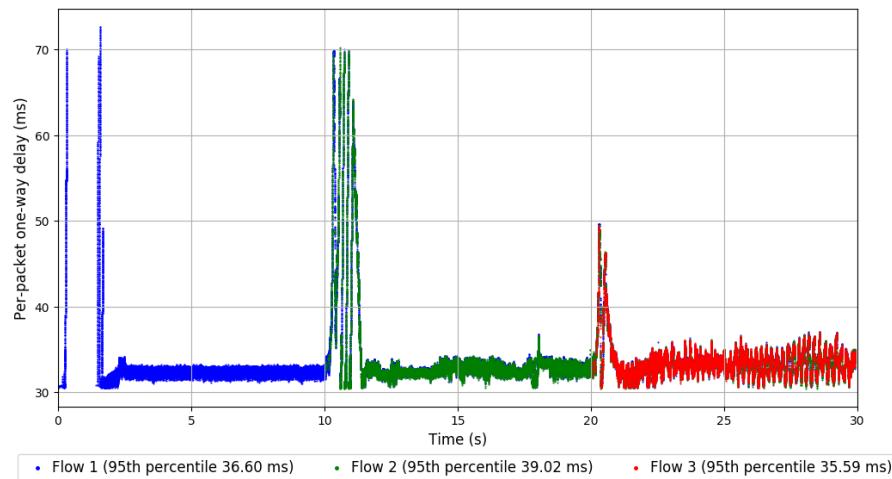
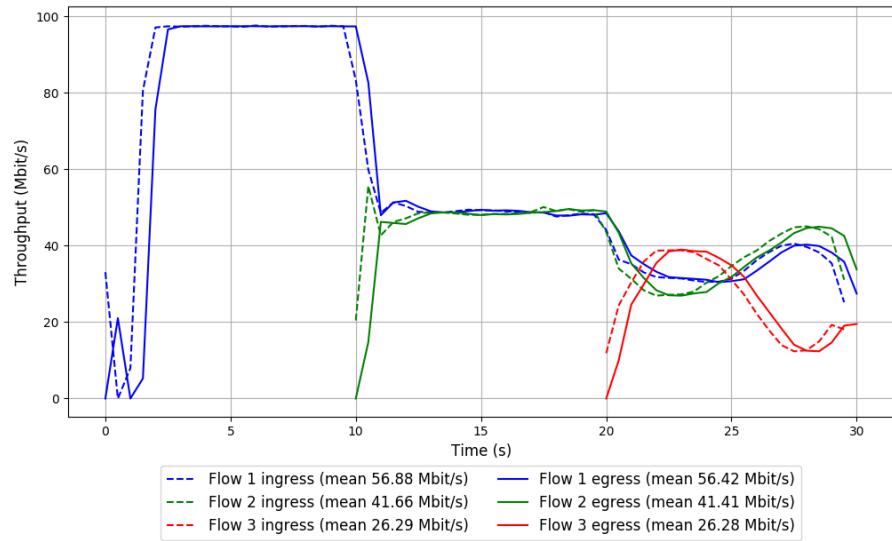


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-06 09:43:17
End at: 2018-09-06 09:43:47
Local clock offset: 0.492 ms
Remote clock offset: 0.903 ms

# Below is generated by plot.py at 2018-09-06 11:16:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 36.819 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 56.42 Mbit/s
95th percentile per-packet one-way delay: 36.601 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 41.41 Mbit/s
95th percentile per-packet one-way delay: 39.020 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 26.28 Mbit/s
95th percentile per-packet one-way delay: 35.588 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-Muses — Data Link

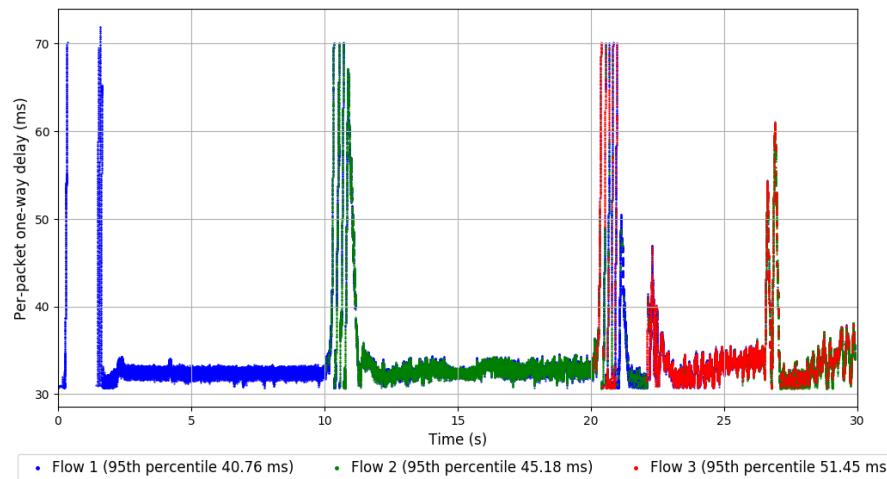
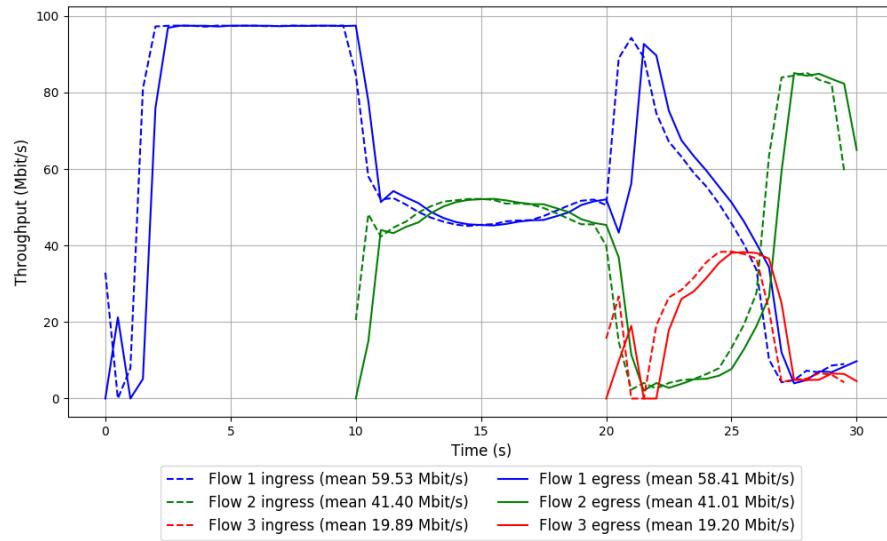


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-06 10:07:39
End at: 2018-09-06 10:08:09
Local clock offset: 0.317 ms
Remote clock offset: 2.236 ms

# Below is generated by plot.py at 2018-09-06 11:16:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.95 Mbit/s
95th percentile per-packet one-way delay: 42.924 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 58.41 Mbit/s
95th percentile per-packet one-way delay: 40.764 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 41.01 Mbit/s
95th percentile per-packet one-way delay: 45.182 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 19.20 Mbit/s
95th percentile per-packet one-way delay: 51.447 ms
Loss rate: 3.46%
```

Run 3: Report of Indigo-Muses — Data Link

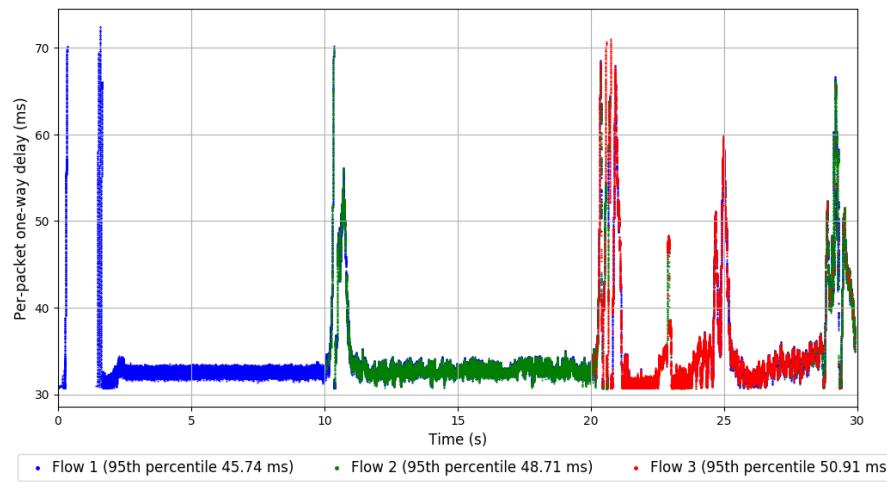
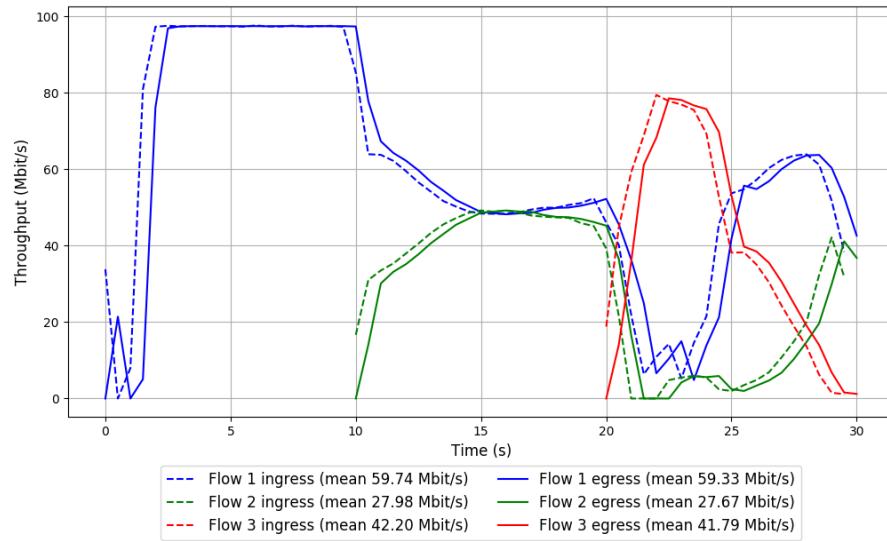


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-06 10:32:06
End at: 2018-09-06 10:32:36
Local clock offset: 0.217 ms
Remote clock offset: 3.09 ms

# Below is generated by plot.py at 2018-09-06 11:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.50 Mbit/s
95th percentile per-packet one-way delay: 47.501 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 59.33 Mbit/s
95th percentile per-packet one-way delay: 45.741 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 27.67 Mbit/s
95th percentile per-packet one-way delay: 48.710 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 41.79 Mbit/s
95th percentile per-packet one-way delay: 50.913 ms
Loss rate: 0.93%
```

Run 4: Report of Indigo-Muses — Data Link

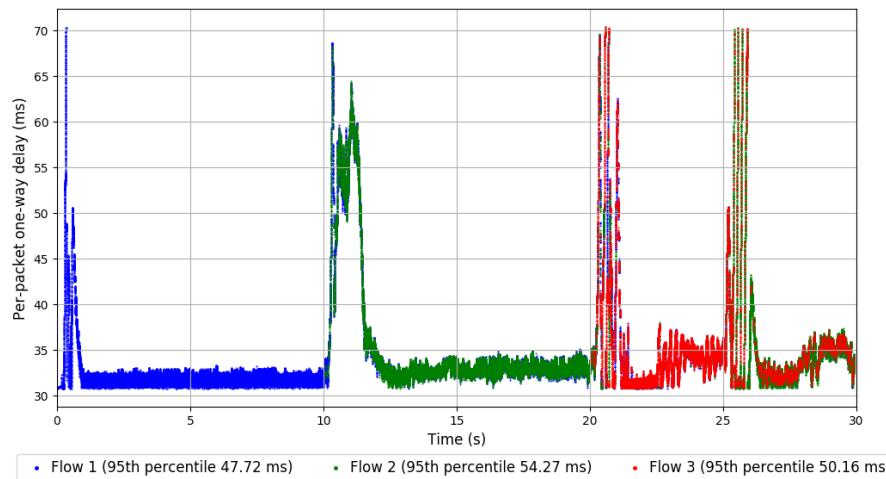
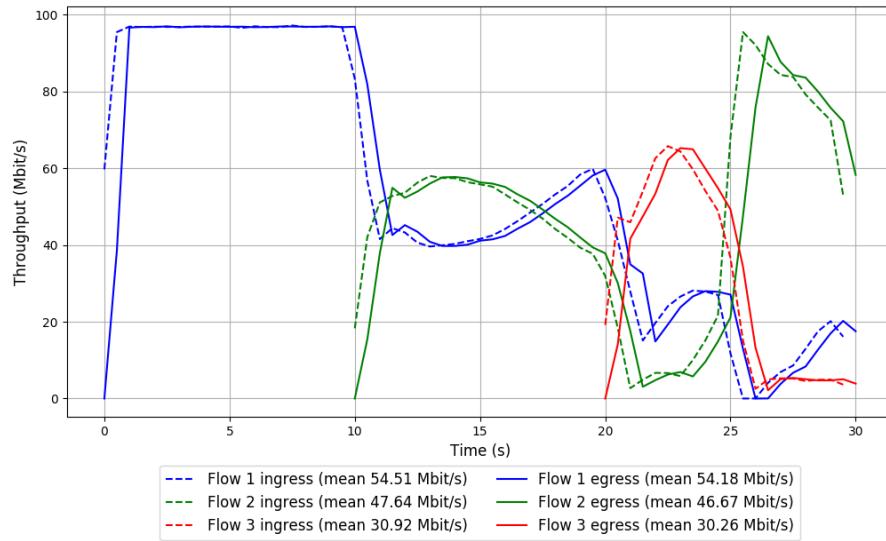


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-06 10:56:34
End at: 2018-09-06 10:57:04
Local clock offset: 3.156 ms
Remote clock offset: 3.193 ms

# Below is generated by plot.py at 2018-09-06 11:16:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 50.230 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 54.18 Mbit/s
95th percentile per-packet one-way delay: 47.715 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 54.270 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 50.155 ms
Loss rate: 2.13%
```

Run 5: Report of Indigo-Muses — Data Link

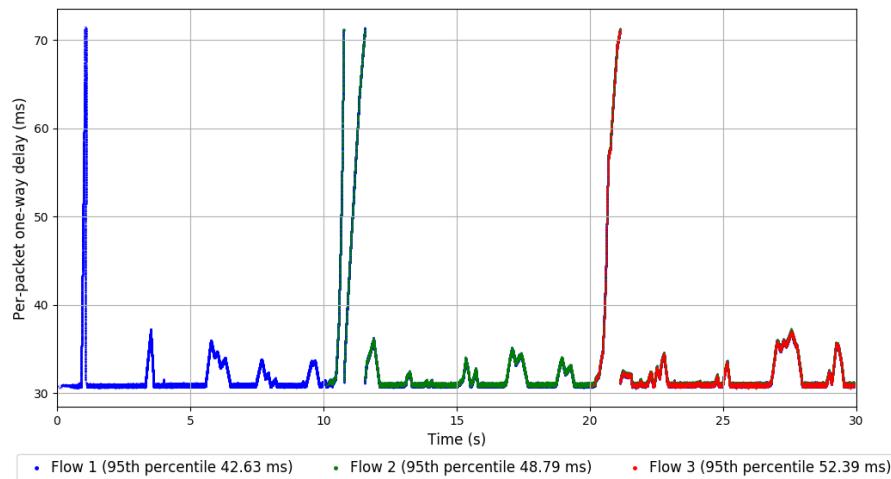
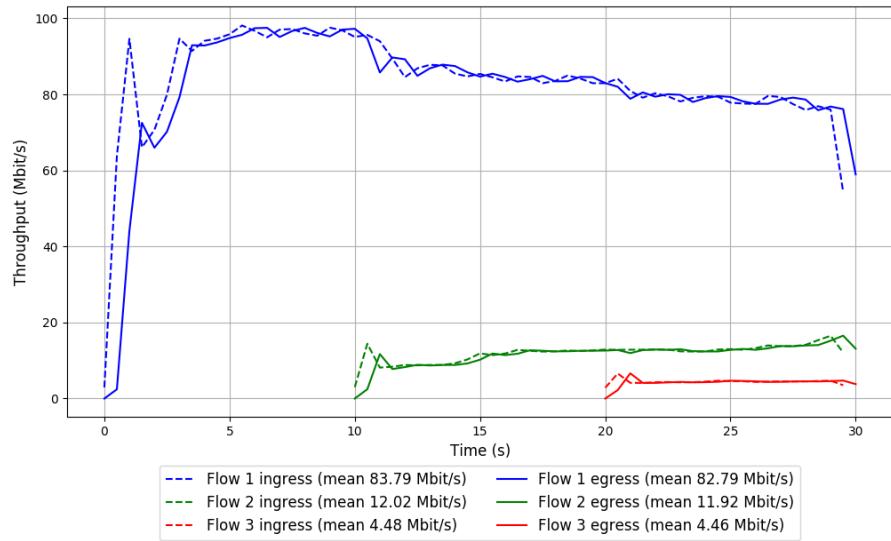


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-06 09:13:25
End at: 2018-09-06 09:13:55
Local clock offset: -0.09 ms
Remote clock offset: -0.972 ms

# Below is generated by plot.py at 2018-09-06 11:16:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 43.367 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 82.79 Mbit/s
95th percentile per-packet one-way delay: 42.628 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 48.790 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 52.390 ms
Loss rate: 0.36%
```

Run 1: Report of PCC-Allegro — Data Link

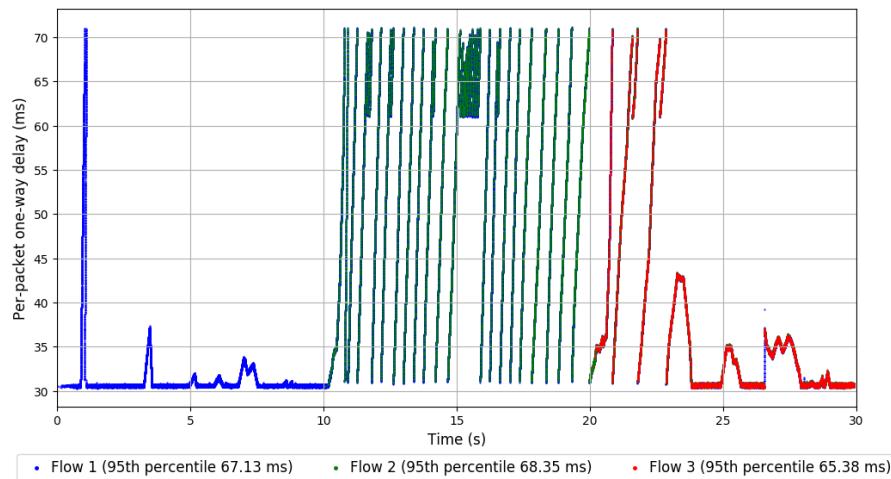
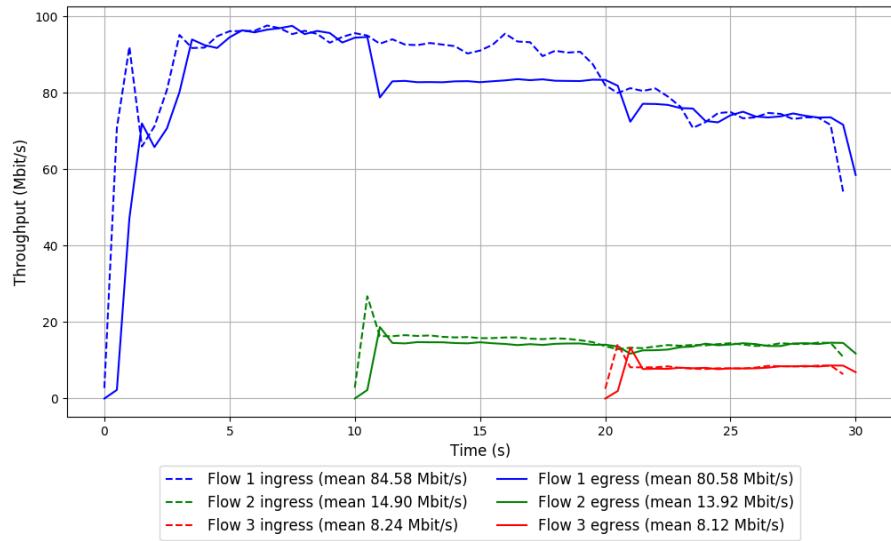


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-06 09:37:54
End at: 2018-09-06 09:38:24
Local clock offset: 0.483 ms
Remote clock offset: 0.386 ms

# Below is generated by plot.py at 2018-09-06 11:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.51 Mbit/s
95th percentile per-packet one-way delay: 67.273 ms
Loss rate: 4.83%
-- Flow 1:
Average throughput: 80.58 Mbit/s
95th percentile per-packet one-way delay: 67.126 ms
Loss rate: 4.73%
-- Flow 2:
Average throughput: 13.92 Mbit/s
95th percentile per-packet one-way delay: 68.354 ms
Loss rate: 6.57%
-- Flow 3:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 65.378 ms
Loss rate: 1.54%
```

Run 2: Report of PCC-Allegro — Data Link

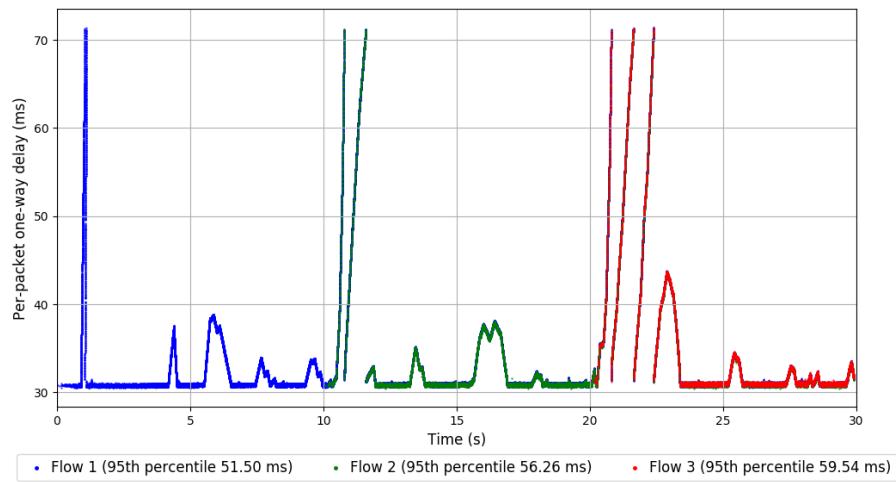
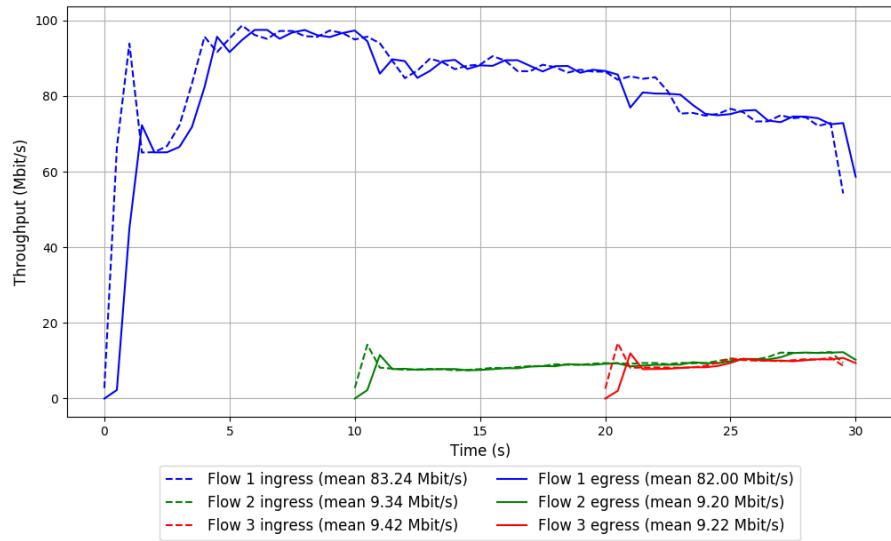


```
Run 3: Statistics of PCC-Allegro
```

```
Start at: 2018-09-06 10:02:15
End at: 2018-09-06 10:02:45
Local clock offset: 0.398 ms
Remote clock offset: 2.104 ms

# Below is generated by plot.py at 2018-09-06 11:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.16 Mbit/s
95th percentile per-packet one-way delay: 52.330 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 82.00 Mbit/s
95th percentile per-packet one-way delay: 51.504 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 56.259 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 59.537 ms
Loss rate: 2.08%
```

Run 3: Report of PCC-Allegro — Data Link

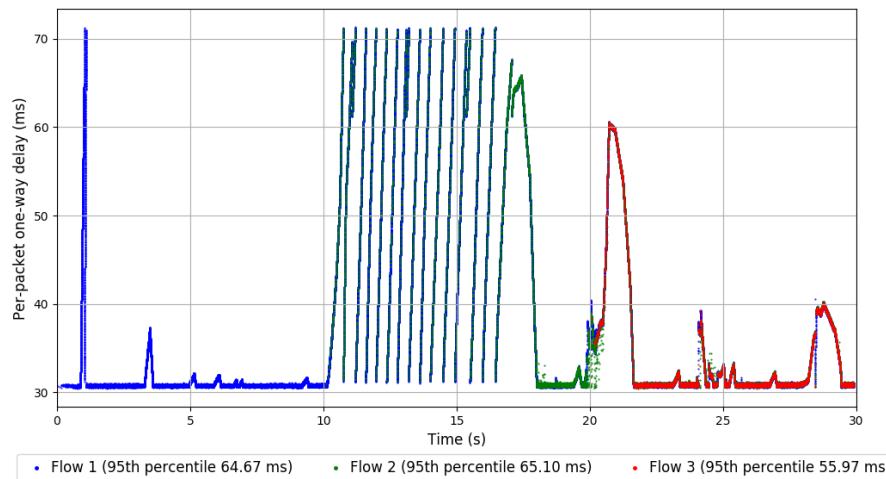
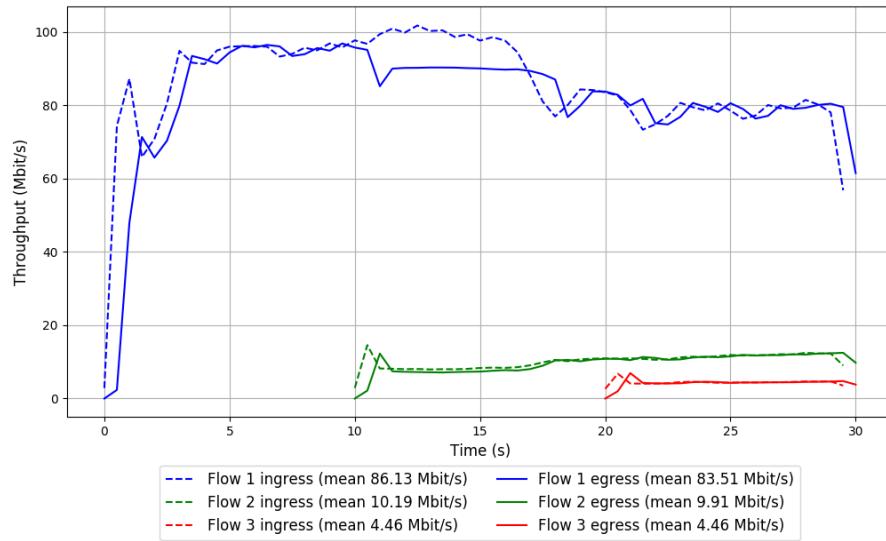


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-06 10:26:41
End at: 2018-09-06 10:27:11
Local clock offset: 0.331 ms
Remote clock offset: 3.051 ms

# Below is generated by plot.py at 2018-09-06 11:17:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.57 Mbit/s
95th percentile per-packet one-way delay: 64.633 ms
Loss rate: 2.97%
-- Flow 1:
Average throughput: 83.51 Mbit/s
95th percentile per-packet one-way delay: 64.669 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 65.099 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 55.968 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Allegro — Data Link

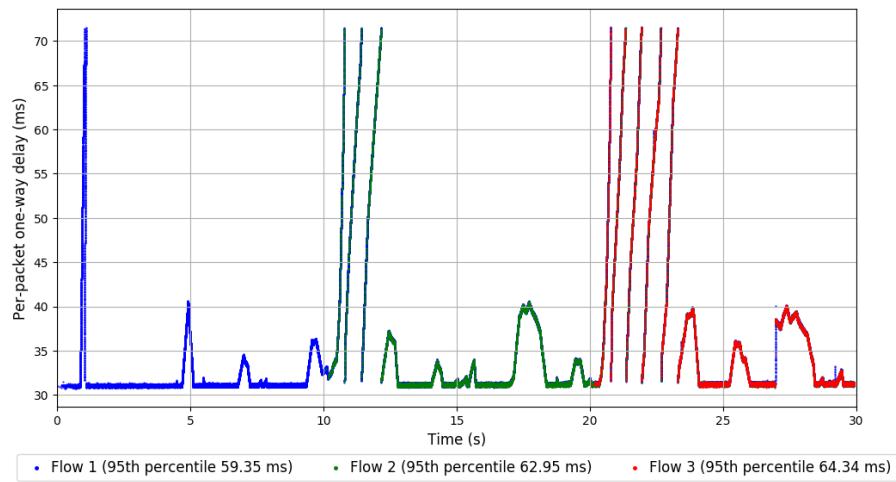
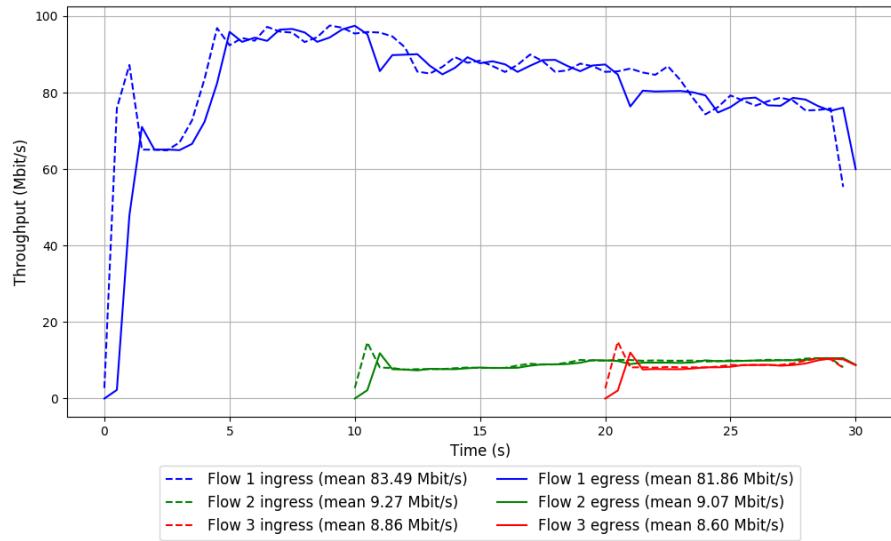


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-06 10:51:10
End at: 2018-09-06 10:51:40
Local clock offset: 2.137 ms
Remote clock offset: 3.14 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.73 Mbit/s
95th percentile per-packet one-way delay: 59.954 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 81.86 Mbit/s
95th percentile per-packet one-way delay: 59.349 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 62.950 ms
Loss rate: 2.13%
-- Flow 3:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 64.336 ms
Loss rate: 2.97%
```

Run 5: Report of PCC-Allegro — Data Link

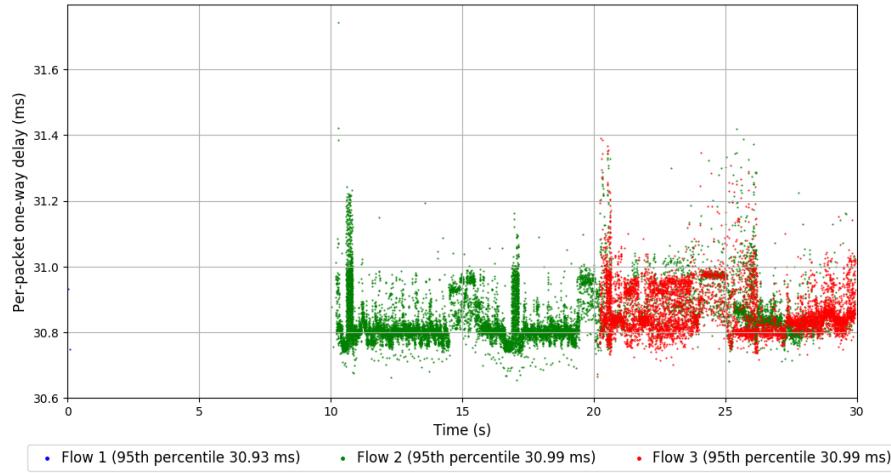
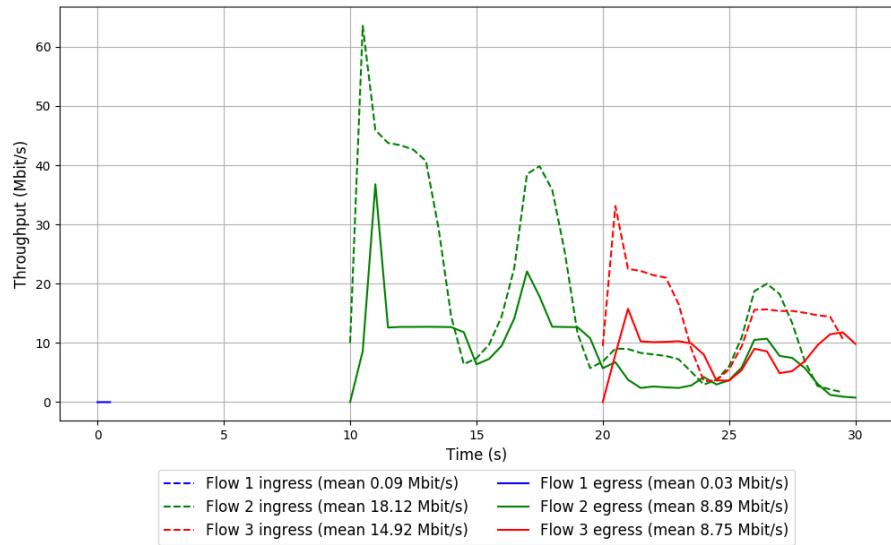


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-06 09:21:35
End at: 2018-09-06 09:22:05
Local clock offset: 0.209 ms
Remote clock offset: -0.439 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 30.988 ms
Loss rate: 48.15%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.933 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 30.988 ms
Loss rate: 50.92%
-- Flow 3:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 30.989 ms
Loss rate: 41.34%
```

Run 1: Report of PCC-Expr — Data Link

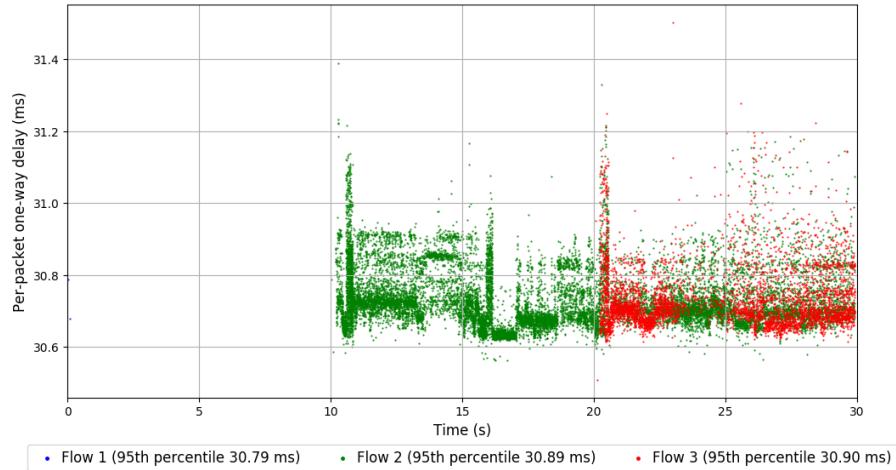
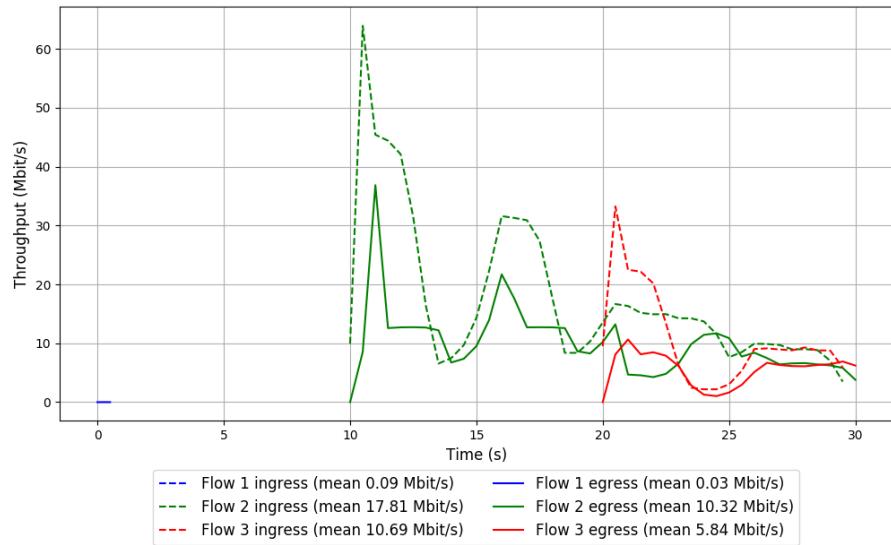


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-06 09:46:01
End at: 2018-09-06 09:46:31
Local clock offset: 0.413 ms
Remote clock offset: 1.231 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 30.896 ms
Loss rate: 42.82%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.787 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 30.895 ms
Loss rate: 42.06%
-- Flow 3:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 30.904 ms
Loss rate: 45.35%
```

Run 2: Report of PCC-Expr — Data Link

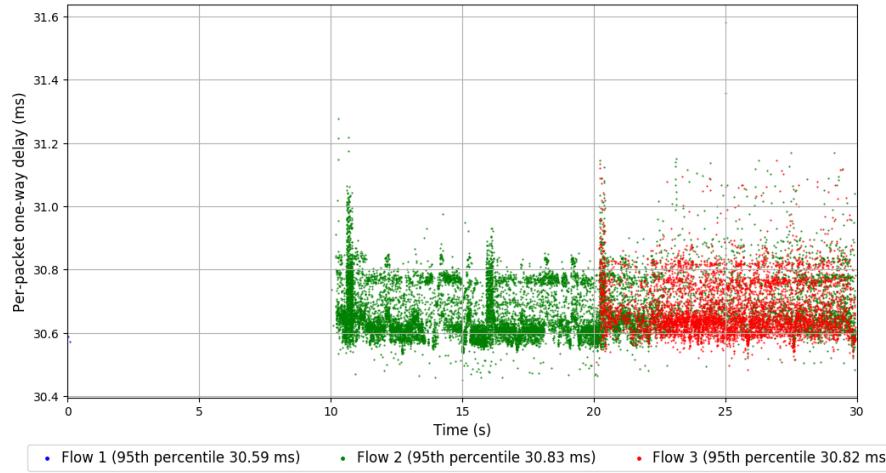
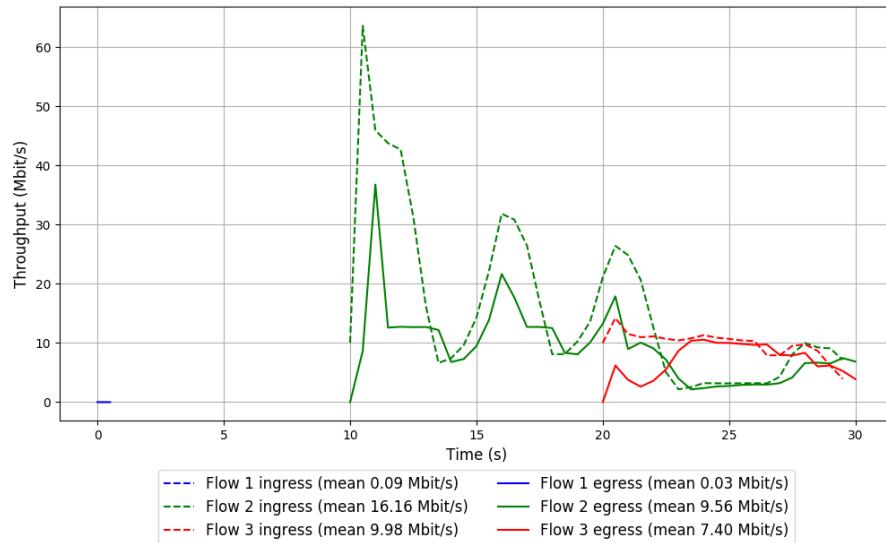


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-06 10:10:24
End at: 2018-09-06 10:10:54
Local clock offset: 0.408 ms
Remote clock offset: 2.314 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 30.825 ms
Loss rate: 37.32%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.588 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 30.826 ms
Loss rate: 40.82%
-- Flow 3:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 30.824 ms
Loss rate: 25.90%
```

Run 3: Report of PCC-Expr — Data Link

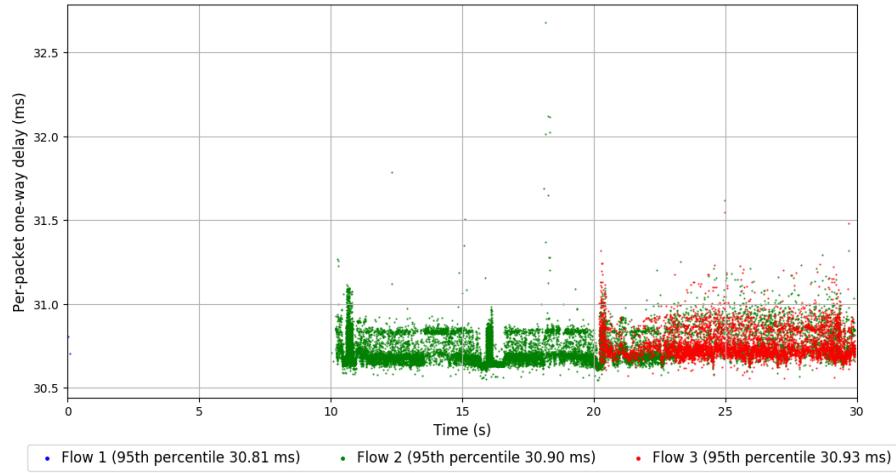
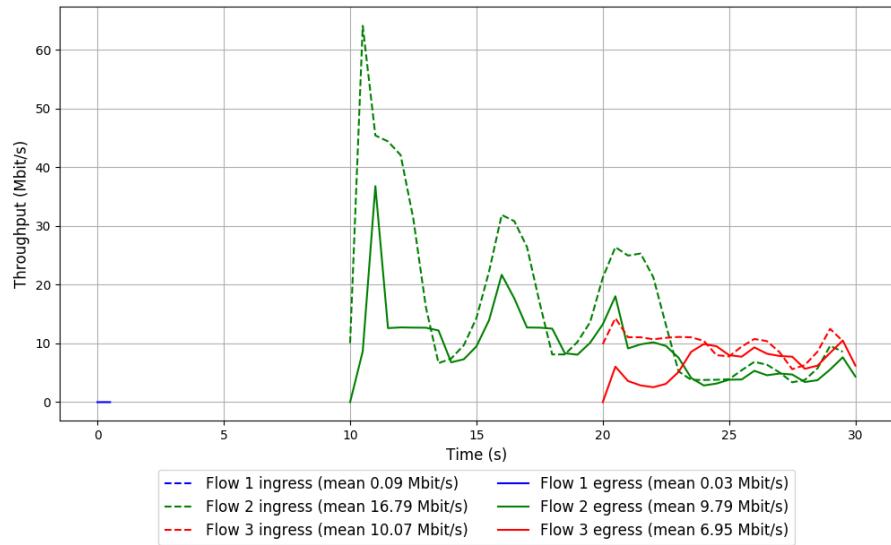


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-06 10:34:52
End at: 2018-09-06 10:35:22
Local clock offset: 0.337 ms
Remote clock offset: 3.183 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 30.910 ms
Loss rate: 39.24%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.806 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 30.898 ms
Loss rate: 41.69%
-- Flow 3:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 30.925 ms
Loss rate: 31.00%
```

Run 4: Report of PCC-Expr — Data Link

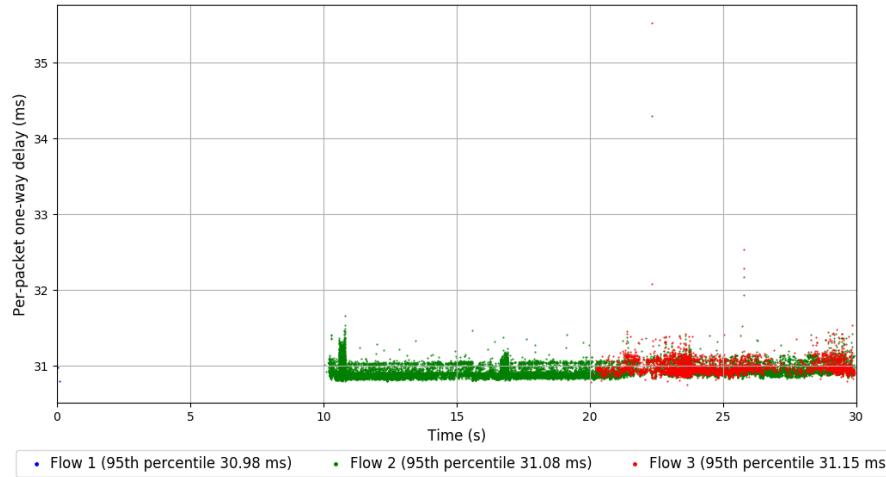
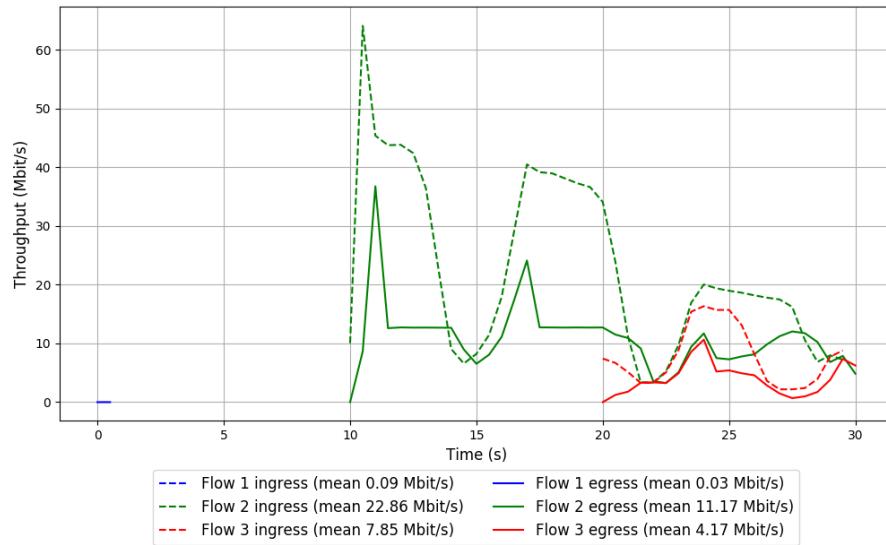


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-06 10:59:20
End at: 2018-09-06 10:59:50
Local clock offset: 3.546 ms
Remote clock offset: 3.21 ms

# Below is generated by plot.py at 2018-09-06 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 31.098 ms
Loss rate: 50.53%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 30.981 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.17 Mbit/s
95th percentile per-packet one-way delay: 31.077 ms
Loss rate: 51.14%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 31.148 ms
Loss rate: 46.94%
```

Run 5: Report of PCC-Expr — Data Link

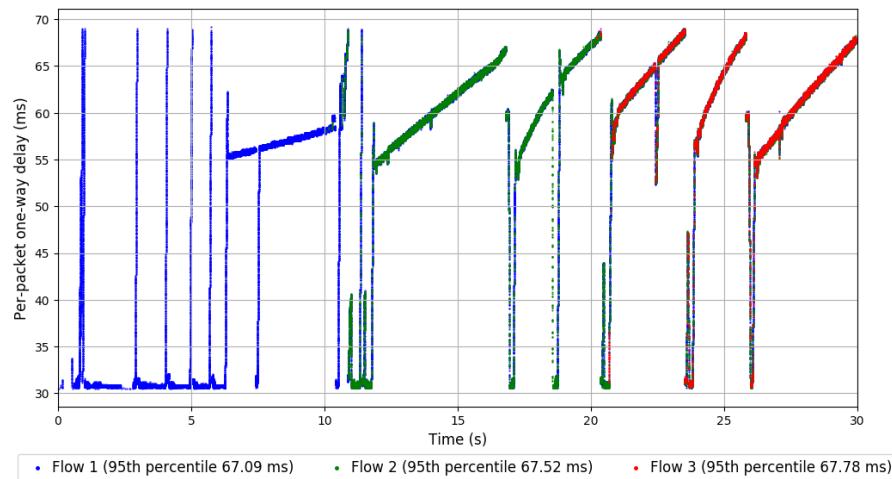
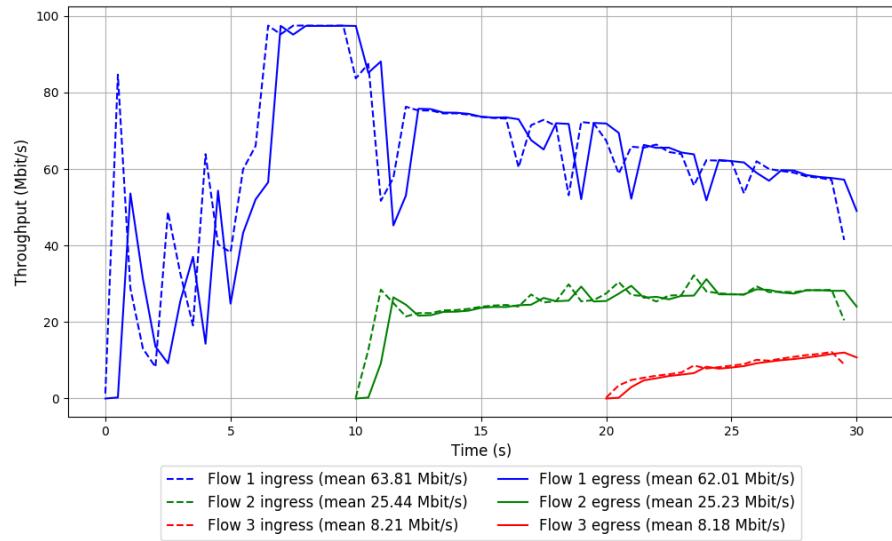


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-06 09:25:42
End at: 2018-09-06 09:26:12
Local clock offset: 0.319 ms
Remote clock offset: -0.277 ms

# Below is generated by plot.py at 2018-09-06 11:18:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.43 Mbit/s
95th percentile per-packet one-way delay: 67.280 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 62.01 Mbit/s
95th percentile per-packet one-way delay: 67.091 ms
Loss rate: 2.70%
-- Flow 2:
Average throughput: 25.23 Mbit/s
95th percentile per-packet one-way delay: 67.516 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 8.18 Mbit/s
95th percentile per-packet one-way delay: 67.779 ms
Loss rate: 0.45%
```

Run 1: Report of QUIC Cubic — Data Link

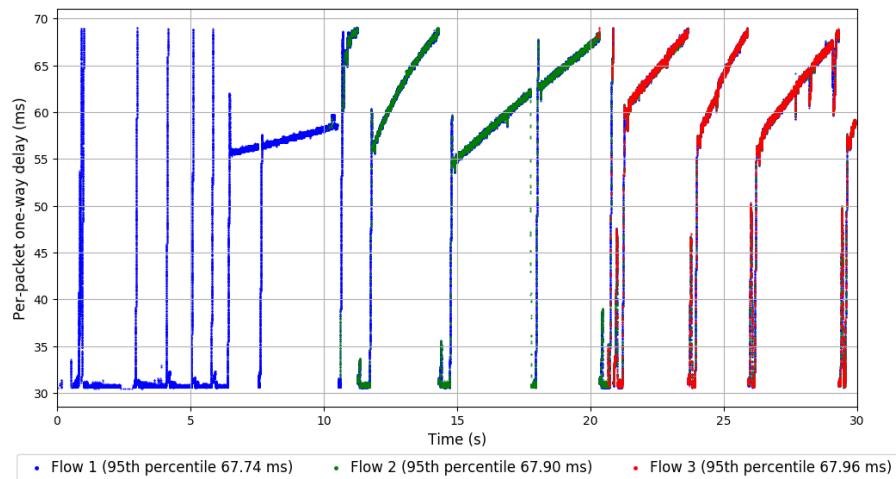
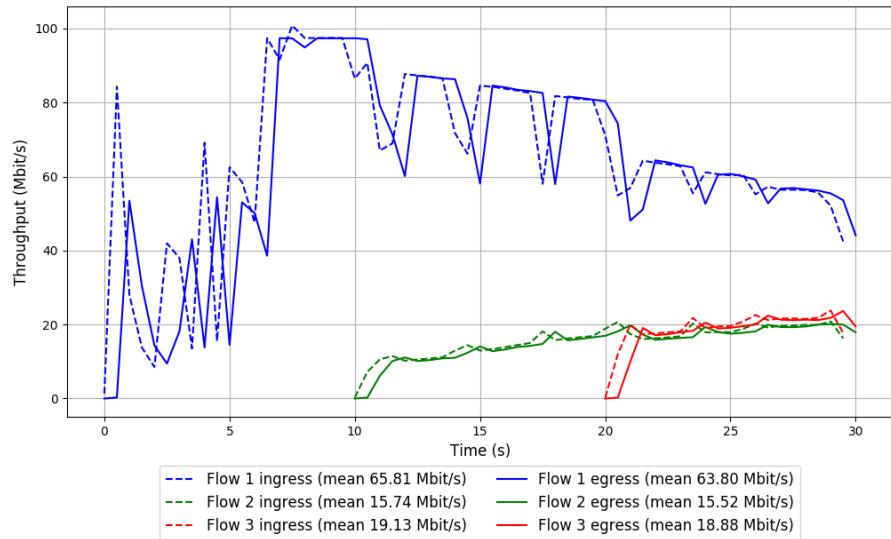


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-06 09:50:05
End at: 2018-09-06 09:50:35
Local clock offset: 0.33 ms
Remote clock offset: 1.564 ms

# Below is generated by plot.py at 2018-09-06 11:18:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.30 Mbit/s
95th percentile per-packet one-way delay: 67.767 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 63.80 Mbit/s
95th percentile per-packet one-way delay: 67.743 ms
Loss rate: 2.96%
-- Flow 2:
Average throughput: 15.52 Mbit/s
95th percentile per-packet one-way delay: 67.896 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 18.88 Mbit/s
95th percentile per-packet one-way delay: 67.964 ms
Loss rate: 1.40%
```

Run 2: Report of QUIC Cubic — Data Link

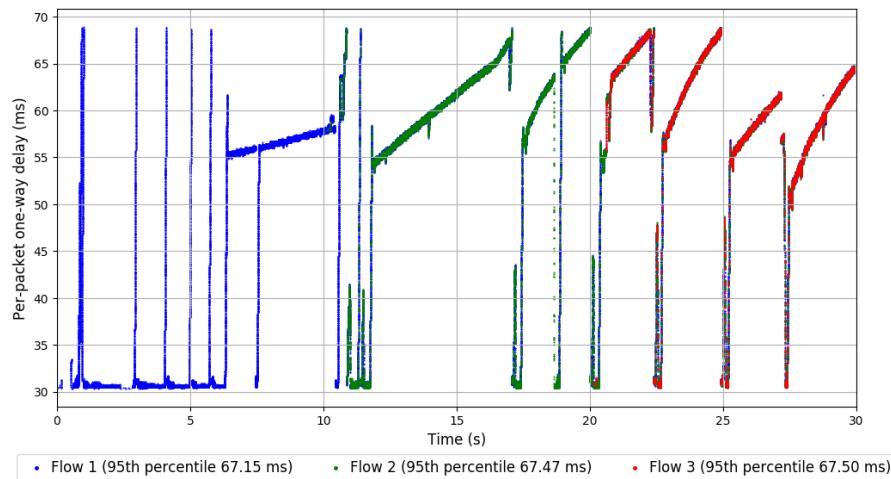
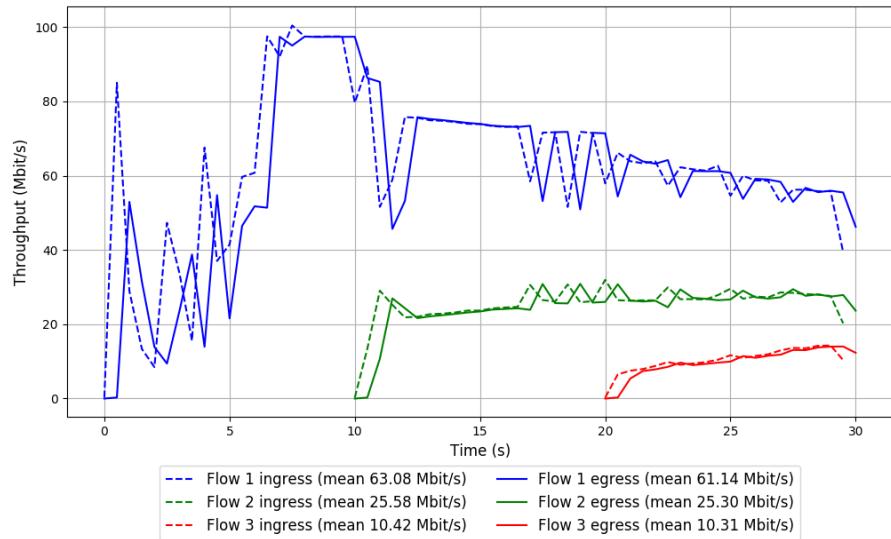


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-06 10:14:29
End at: 2018-09-06 10:14:59
Local clock offset: 0.413 ms
Remote clock offset: 2.373 ms

# Below is generated by plot.py at 2018-09-06 11:18:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.34 Mbit/s
95th percentile per-packet one-way delay: 67.248 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 61.14 Mbit/s
95th percentile per-packet one-way delay: 67.152 ms
Loss rate: 2.97%
-- Flow 2:
Average throughput: 25.30 Mbit/s
95th percentile per-packet one-way delay: 67.471 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 67.503 ms
Loss rate: 0.77%
```

Run 3: Report of QUIC Cubic — Data Link

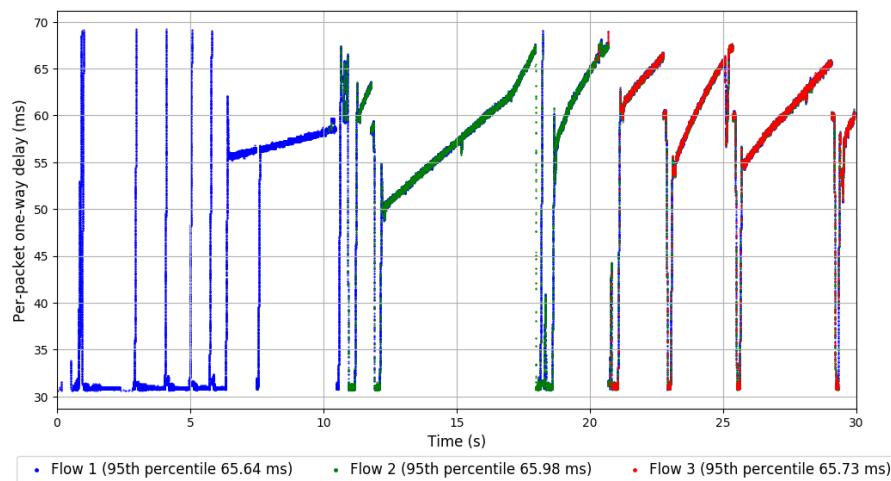
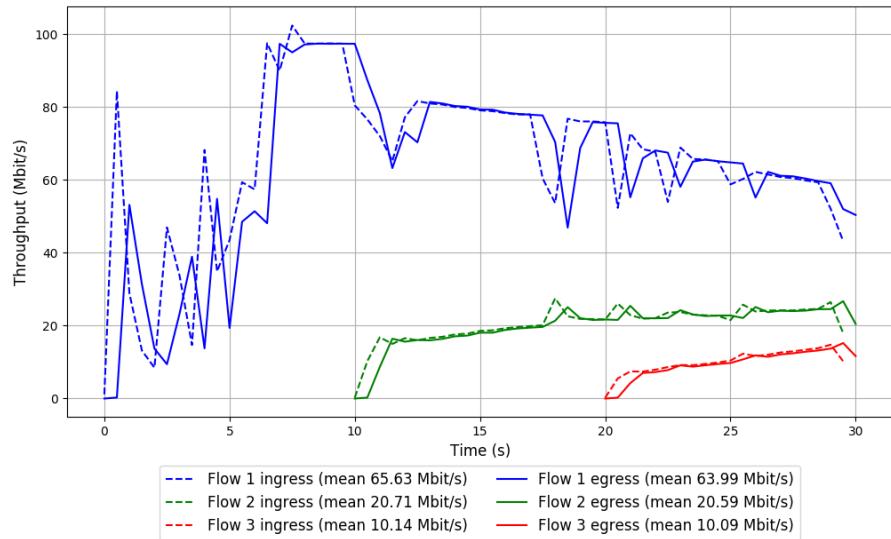


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-06 10:38:57
End at: 2018-09-06 10:39:27
Local clock offset: 0.207 ms
Remote clock offset: 3.194 ms

# Below is generated by plot.py at 2018-09-06 11:18:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.97 Mbit/s
95th percentile per-packet one-way delay: 65.722 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 65.638 ms
Loss rate: 2.40%
-- Flow 2:
Average throughput: 20.59 Mbit/s
95th percentile per-packet one-way delay: 65.982 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 65.730 ms
Loss rate: 0.60%
```

Run 4: Report of QUIC Cubic — Data Link

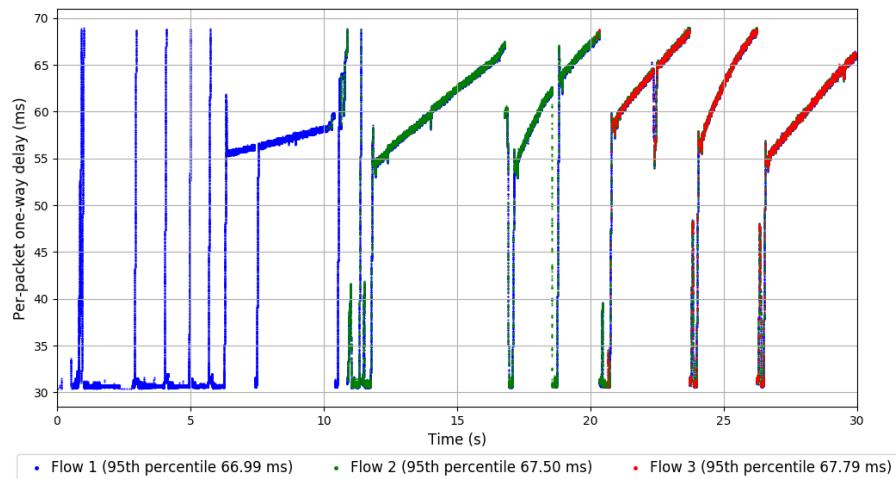
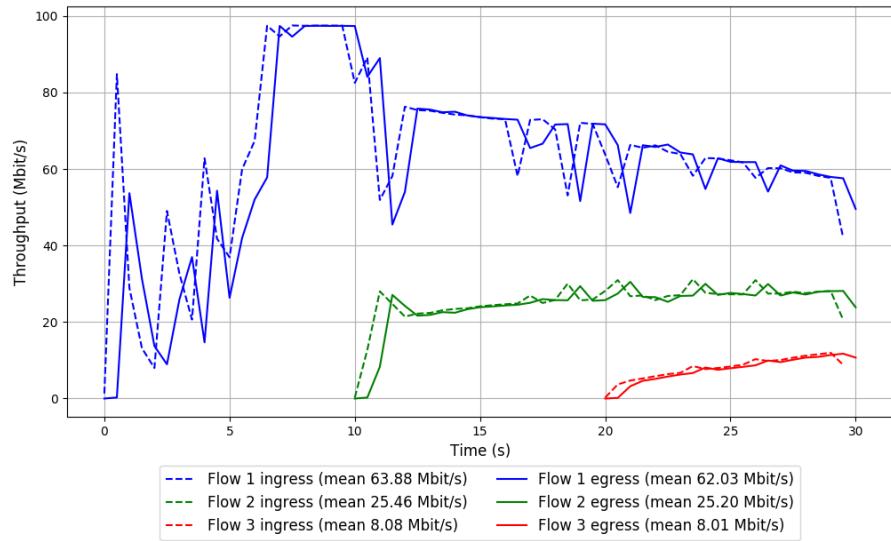


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-06 11:03:25
End at: 2018-09-06 11:03:55
Local clock offset: 4.053 ms
Remote clock offset: 3.01 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.38 Mbit/s
95th percentile per-packet one-way delay: 67.202 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 62.03 Mbit/s
95th percentile per-packet one-way delay: 66.993 ms
Loss rate: 2.79%
-- Flow 2:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 67.498 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 67.794 ms
Loss rate: 0.81%
```

Run 5: Report of QUIC Cubic — Data Link

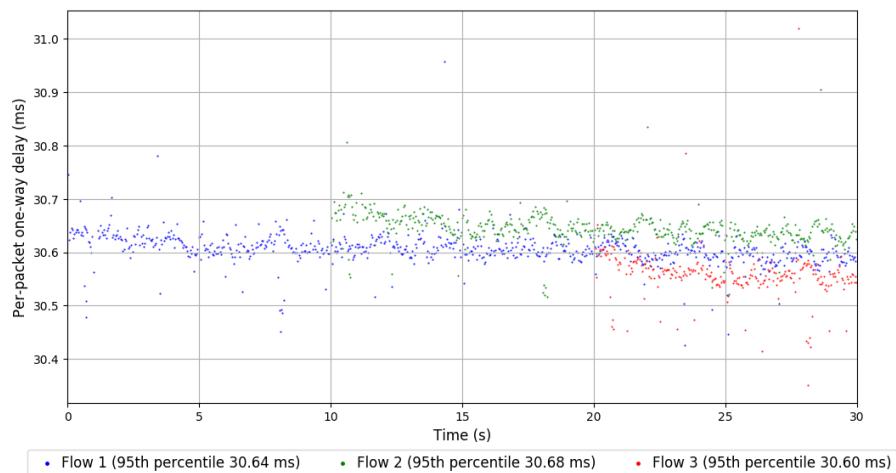
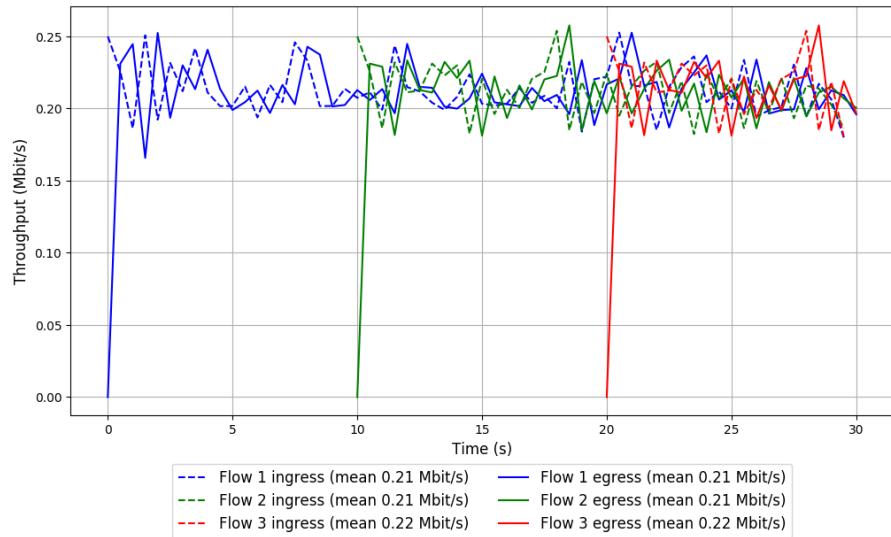


Run 1: Statistics of SCReAM

```
Start at: 2018-09-06 09:28:24
End at: 2018-09-06 09:28:54
Local clock offset: 0.388 ms
Remote clock offset: -0.264 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.669 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.642 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.604 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

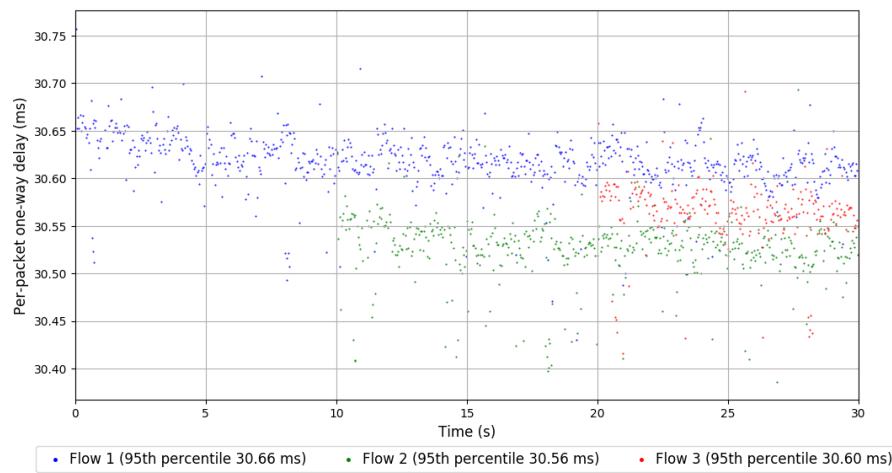
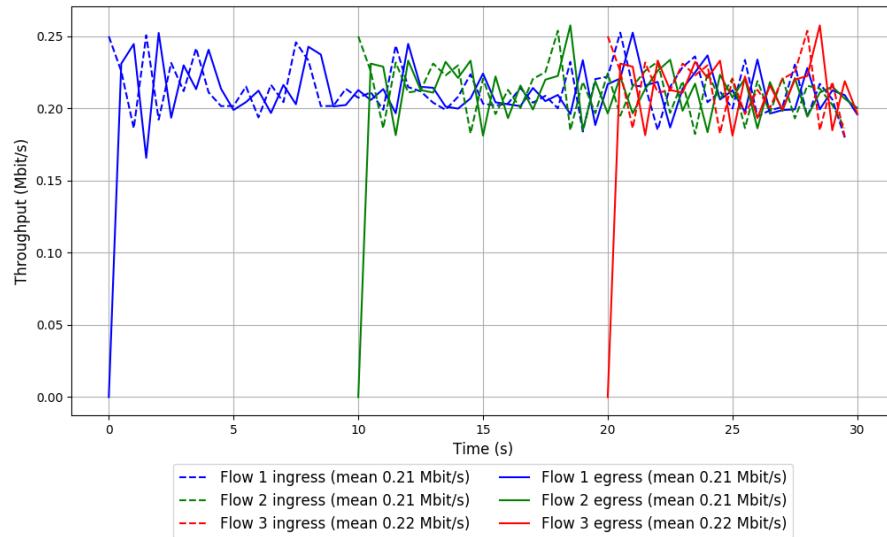


Run 2: Statistics of SCReAM

```
Start at: 2018-09-06 09:52:46
End at: 2018-09-06 09:53:16
Local clock offset: 0.395 ms
Remote clock offset: 1.634 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.648 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.655 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.563 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.596 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

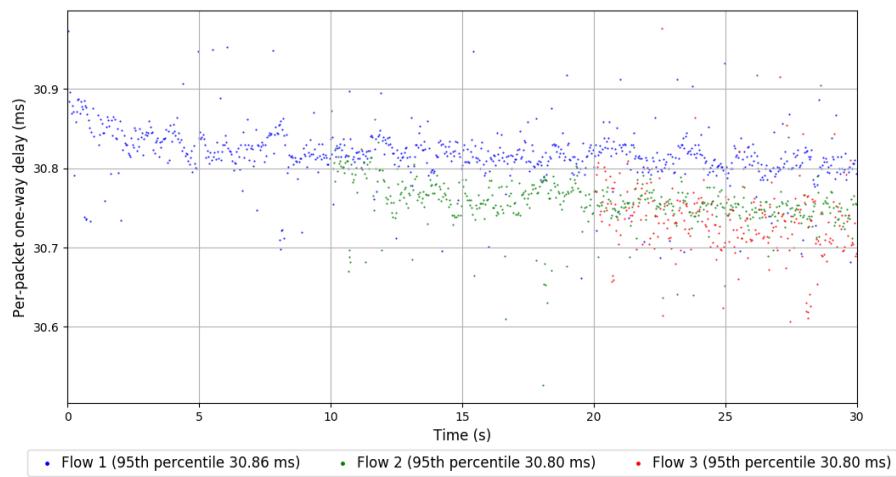
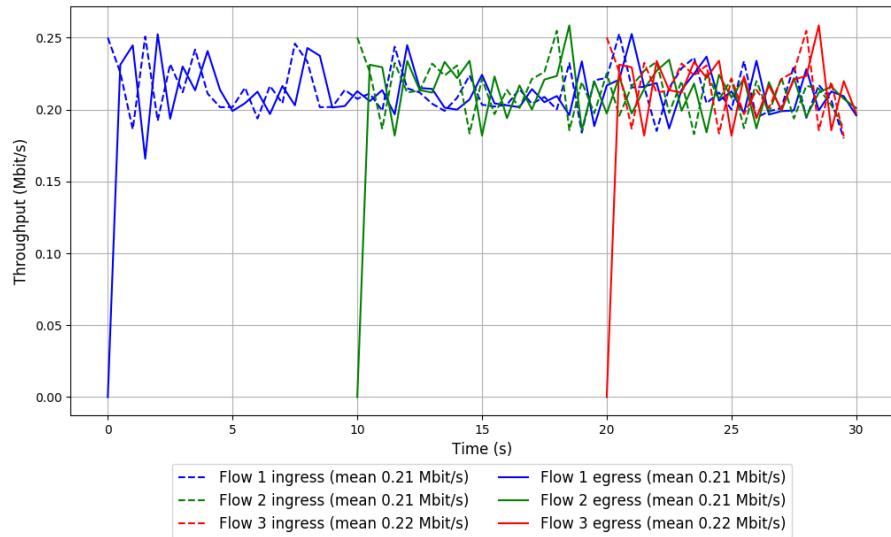


```
Run 3: Statistics of SCReAM

Start at: 2018-09-06 10:17:10
End at: 2018-09-06 10:17:40
Local clock offset: 0.394 ms
Remote clock offset: 2.661 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.852 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.865 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.803 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.800 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

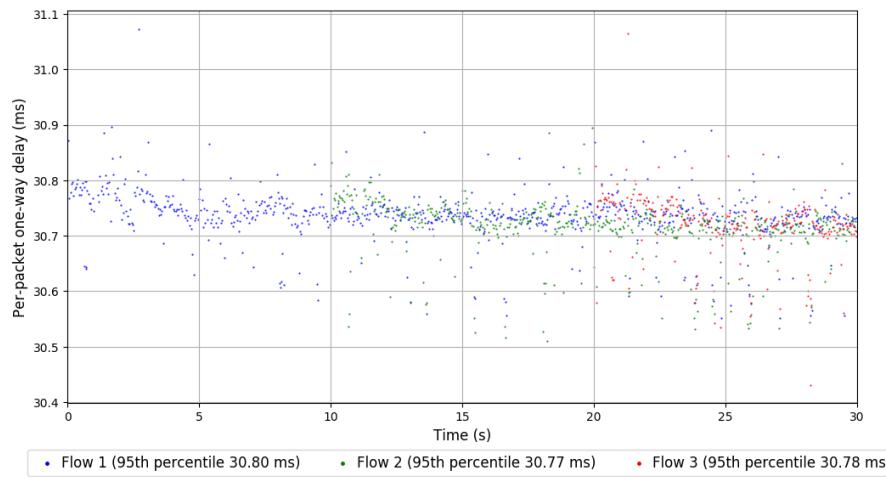
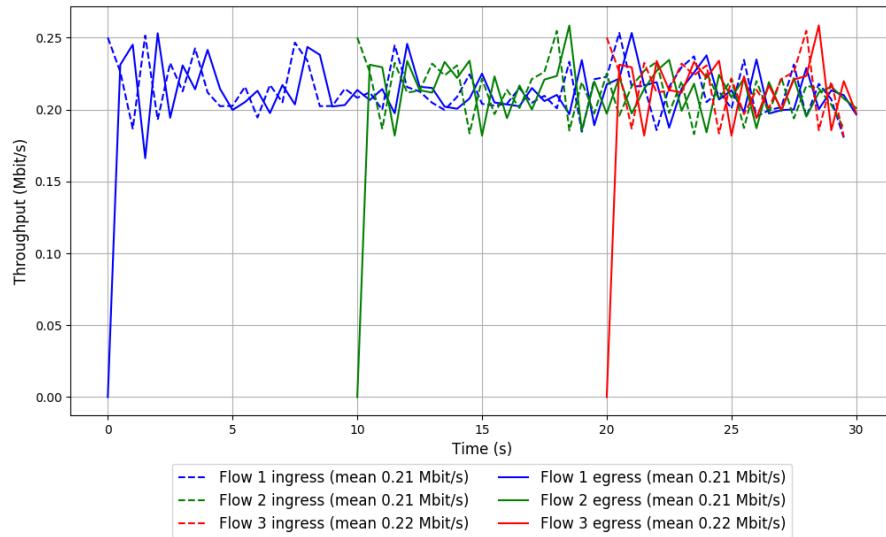


Run 4: Statistics of SCReAM

```
Start at: 2018-09-06 10:41:39
End at: 2018-09-06 10:42:09
Local clock offset: 0.211 ms
Remote clock offset: 2.935 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.788 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.799 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.773 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.776 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

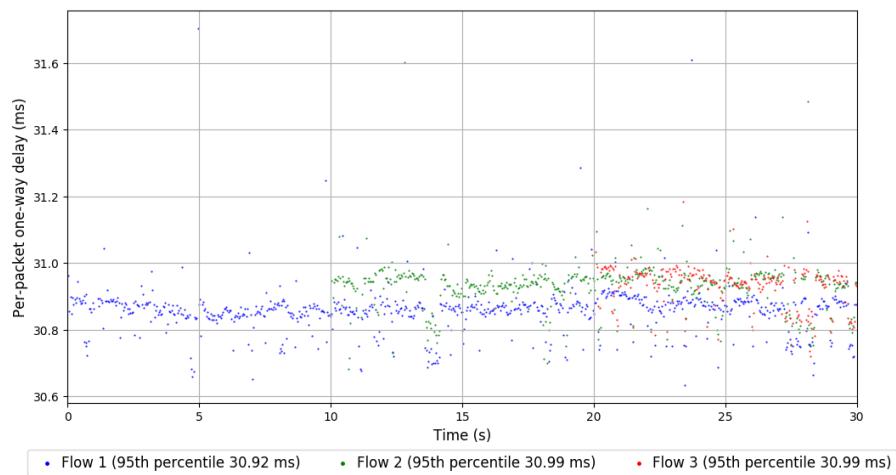
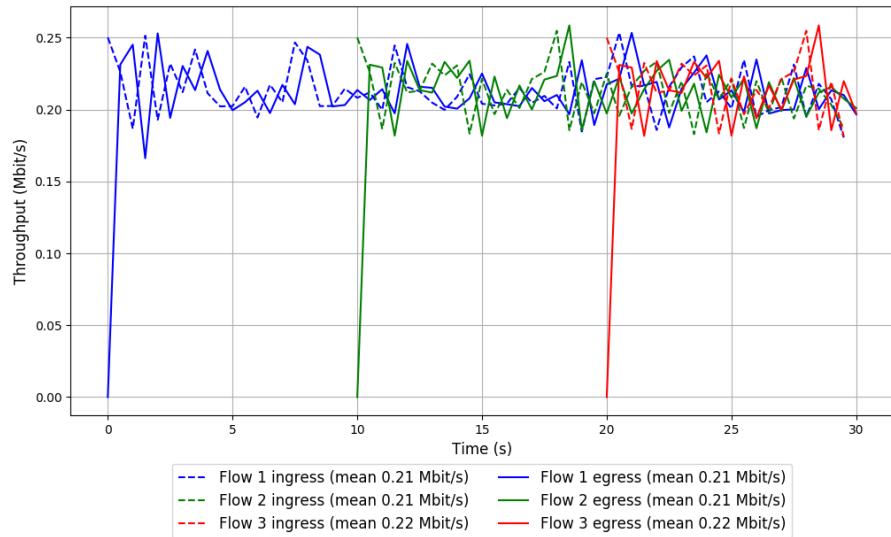


Run 5: Statistics of SCReAM

```
Start at: 2018-09-06 11:06:07
End at: 2018-09-06 11:06:37
Local clock offset: 4.303 ms
Remote clock offset: 3.271 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 30.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.919 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.993 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.991 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

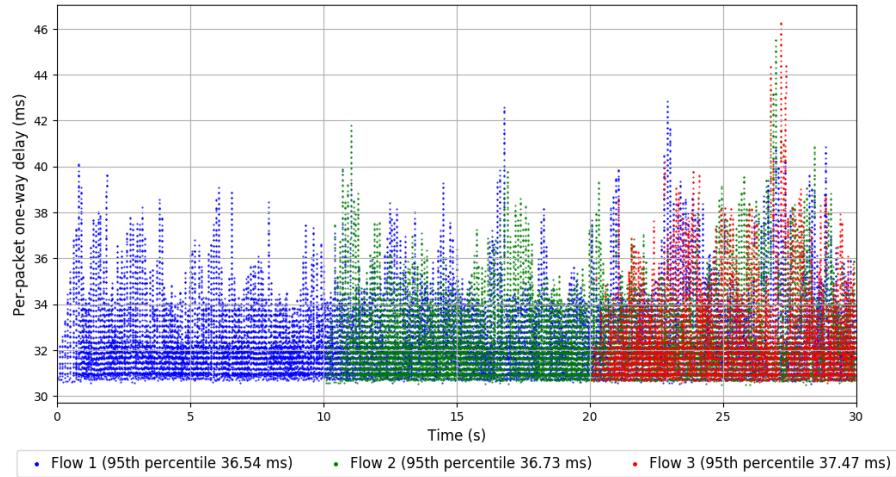
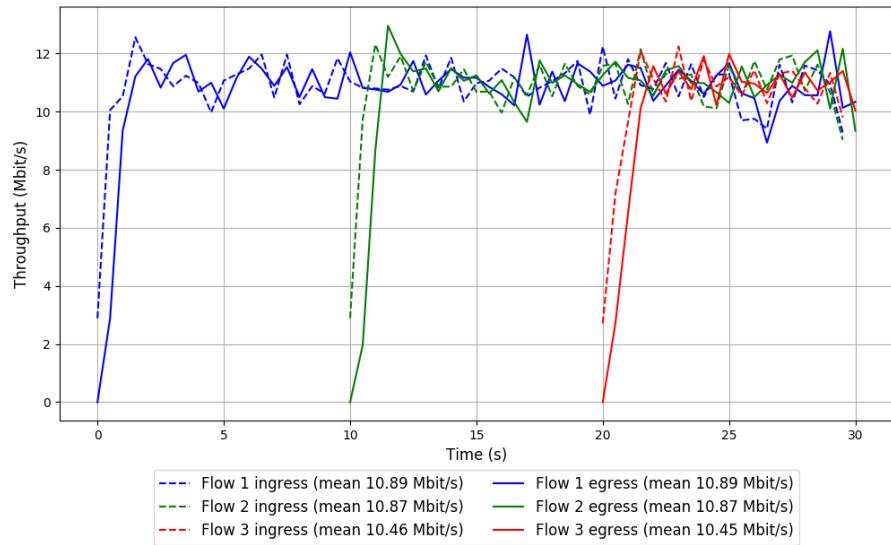


Run 1: Statistics of Sprout

```
Start at: 2018-09-06 09:31:02
End at: 2018-09-06 09:31:32
Local clock offset: 0.439 ms
Remote clock offset: 0.115 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.57 Mbit/s
95th percentile per-packet one-way delay: 36.791 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 36.544 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 36.735 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.45 Mbit/s
95th percentile per-packet one-way delay: 37.466 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

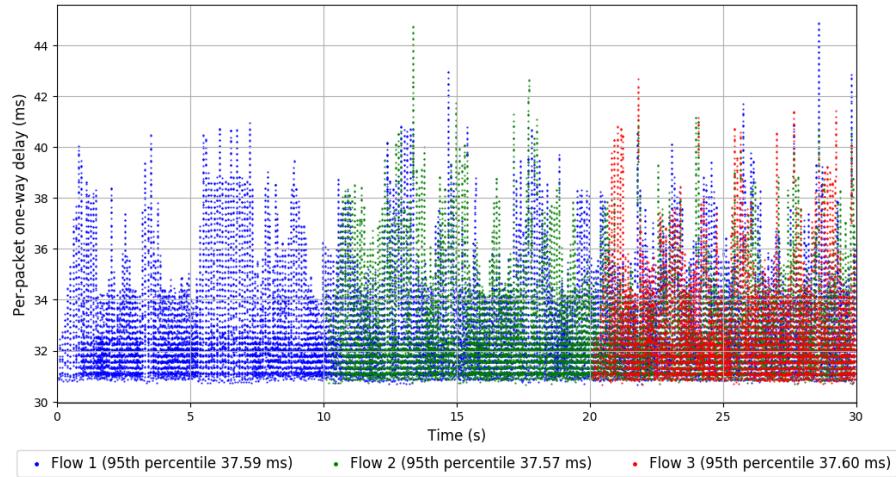
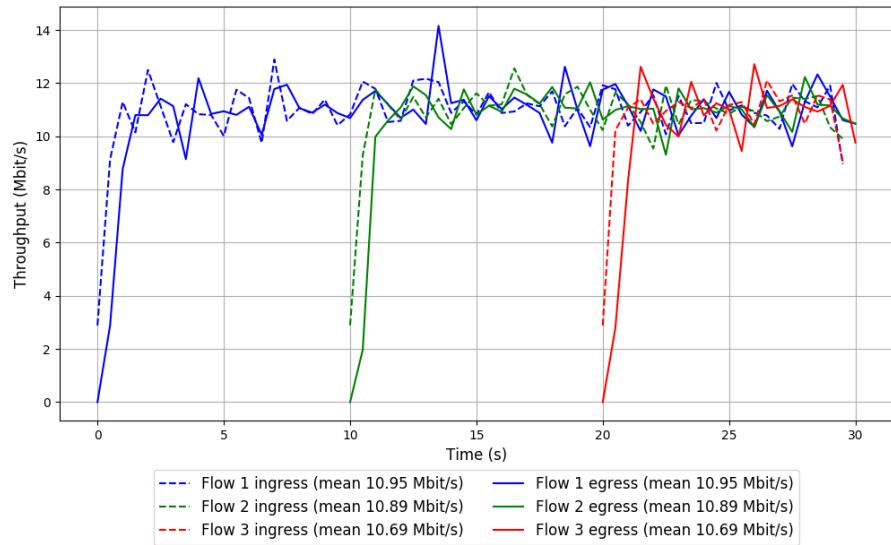


Run 2: Statistics of Sprout

```
Start at: 2018-09-06 09:55:23
End at: 2018-09-06 09:55:54
Local clock offset: 0.313 ms
Remote clock offset: 2.014 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.72 Mbit/s
95th percentile per-packet one-way delay: 37.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.95 Mbit/s
95th percentile per-packet one-way delay: 37.595 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 37.572 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.69 Mbit/s
95th percentile per-packet one-way delay: 37.605 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

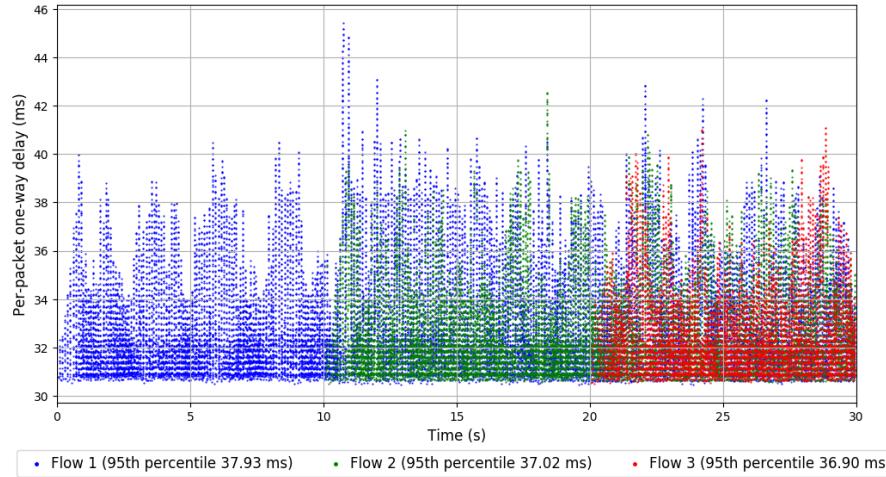
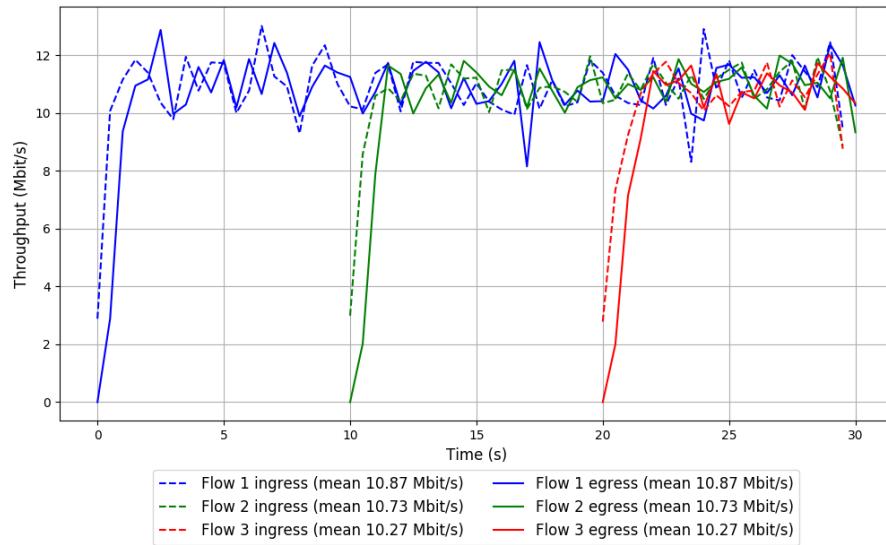


Run 3: Statistics of Sprout

```
Start at: 2018-09-06 10:19:49
End at: 2018-09-06 10:20:19
Local clock offset: 0.3 ms
Remote clock offset: 2.738 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.41 Mbit/s
95th percentile per-packet one-way delay: 37.554 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.87 Mbit/s
95th percentile per-packet one-way delay: 37.928 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.73 Mbit/s
95th percentile per-packet one-way delay: 37.018 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 36.896 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

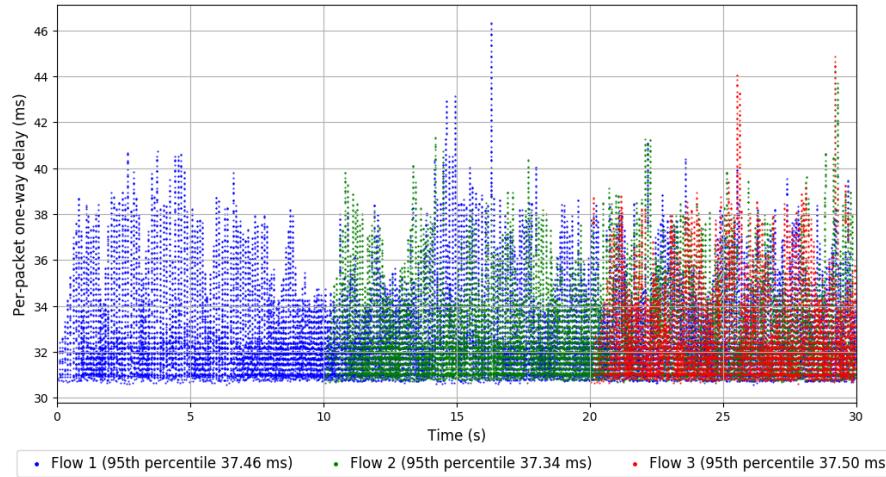
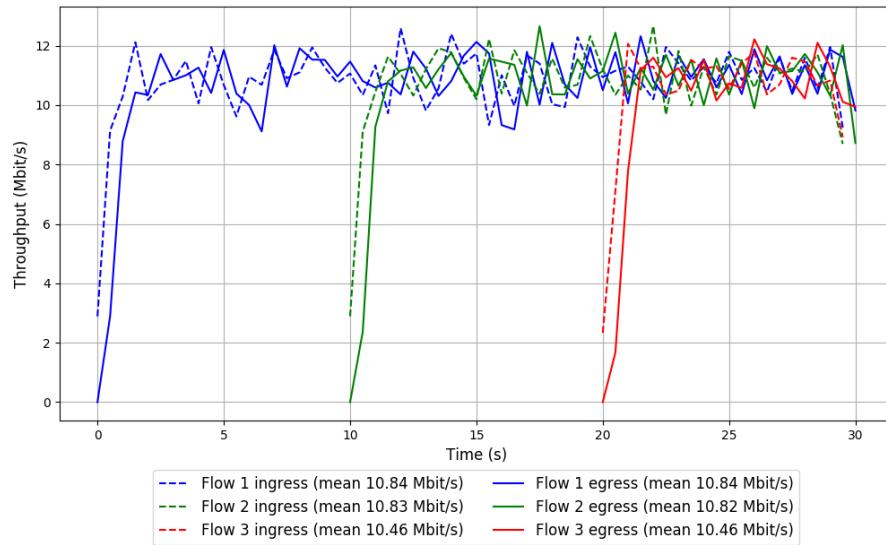


Run 4: Statistics of Sprout

```
Start at: 2018-09-06 10:44:18
End at: 2018-09-06 10:44:48
Local clock offset: 0.227 ms
Remote clock offset: 3.205 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.50 Mbit/s
95th percentile per-packet one-way delay: 37.428 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.84 Mbit/s
95th percentile per-packet one-way delay: 37.460 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.82 Mbit/s
95th percentile per-packet one-way delay: 37.343 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.46 Mbit/s
95th percentile per-packet one-way delay: 37.500 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

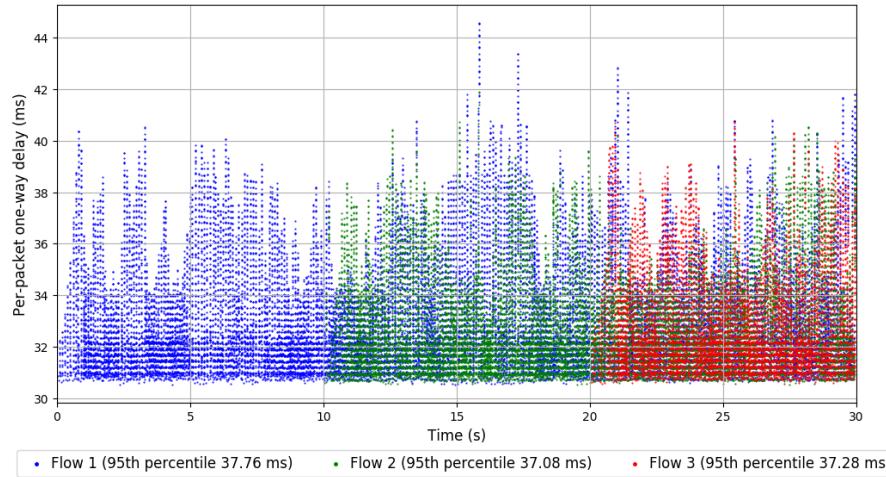
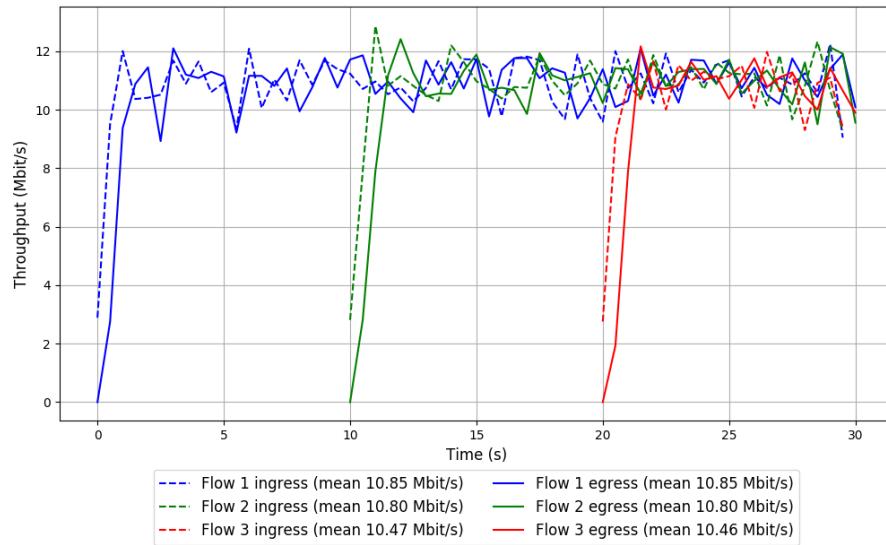


Run 5: Statistics of Sprout

```
Start at: 2018-09-06 11:08:46
End at: 2018-09-06 11:09:16
Local clock offset: 4.639 ms
Remote clock offset: 3.38 ms

# Below is generated by plot.py at 2018-09-06 11:18:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 37.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.85 Mbit/s
95th percentile per-packet one-way delay: 37.758 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.80 Mbit/s
95th percentile per-packet one-way delay: 37.075 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.46 Mbit/s
95th percentile per-packet one-way delay: 37.285 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

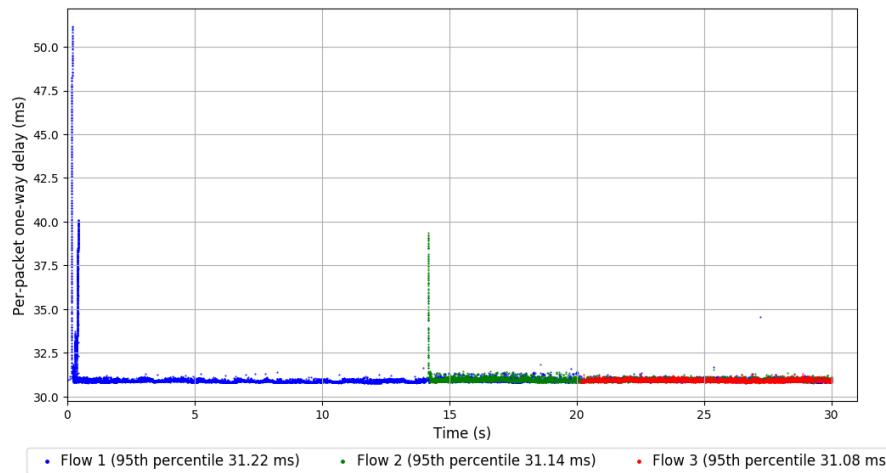
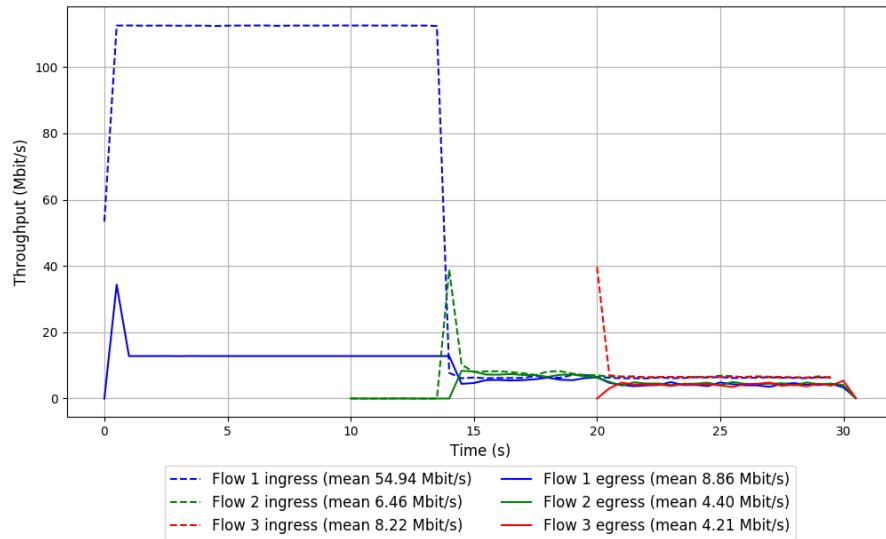


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-06 09:29:42
End at: 2018-09-06 09:30:12
Local clock offset: 0.317 ms
Remote clock offset: 0.058 ms

# Below is generated by plot.py at 2018-09-06 11:18:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 31.137 ms
Loss rate: 78.72%
-- Flow 1:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 31.217 ms
Loss rate: 83.88%
-- Flow 2:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 31.141 ms
Loss rate: 31.81%
-- Flow 3:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 31.081 ms
Loss rate: 48.84%
```

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

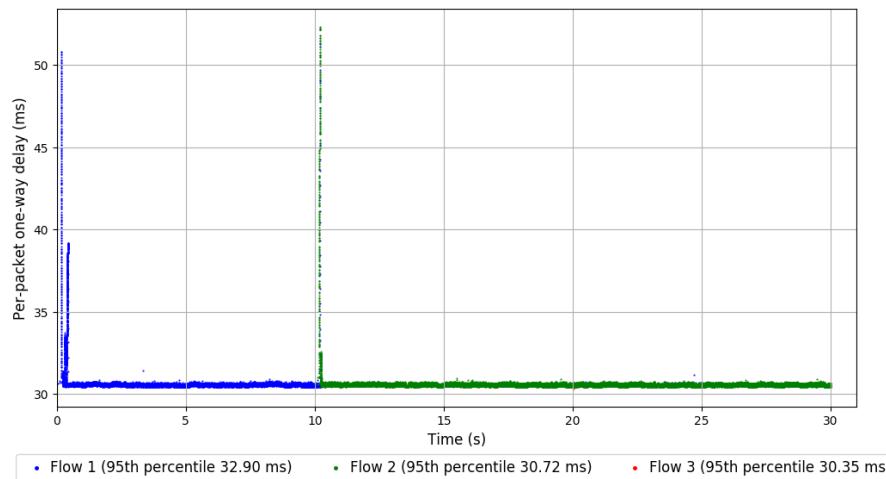
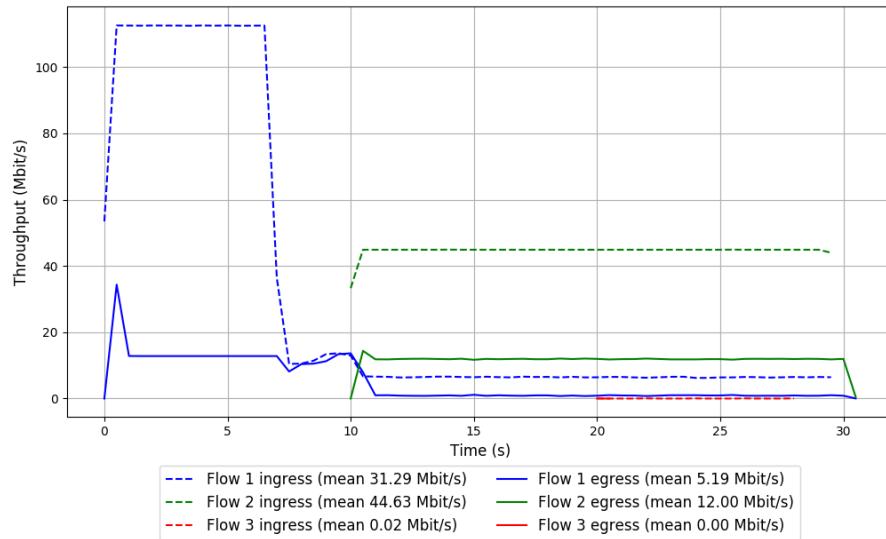


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-06 09:54:04
End at: 2018-09-06 09:54:34
Local clock offset: 0.4 ms
Remote clock offset: 1.703 ms

# Below is generated by plot.py at 2018-09-06 11:18:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 30.736 ms
Loss rate: 78.39%
-- Flow 1:
Average throughput: 5.19 Mbit/s
95th percentile per-packet one-way delay: 32.901 ms
Loss rate: 83.41%
-- Flow 2:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 30.719 ms
Loss rate: 73.11%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 30.348 ms
Loss rate: 99.19%
```

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

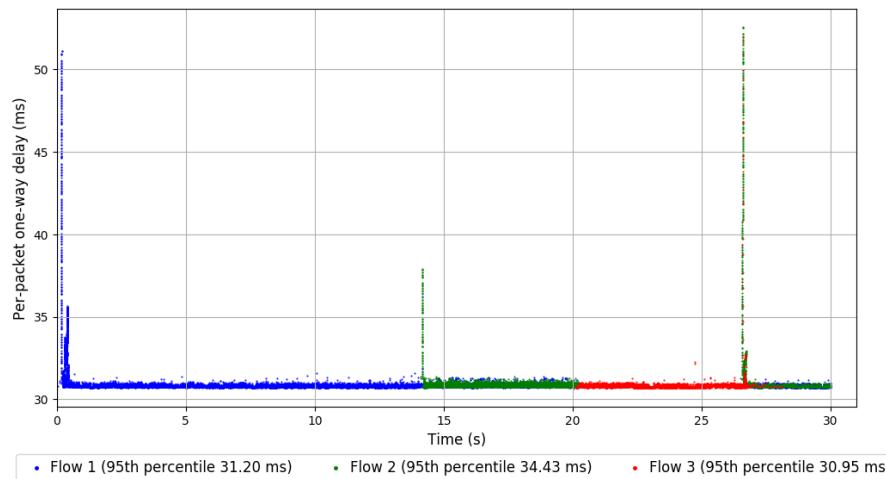
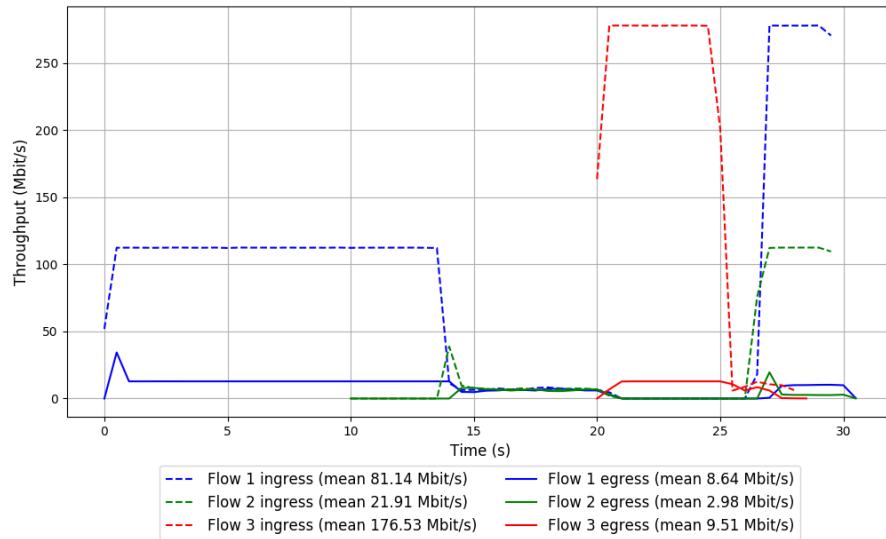


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-06 10:18:28
End at: 2018-09-06 10:18:58
Local clock offset: 0.311 ms
Remote clock offset: 2.739 ms

# Below is generated by plot.py at 2018-09-06 11:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 31.229 ms
Loss rate: 90.87%
-- Flow 1:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 31.203 ms
Loss rate: 89.36%
-- Flow 2:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 34.429 ms
Loss rate: 86.40%
-- Flow 3:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 30.951 ms
Loss rate: 94.74%
```

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

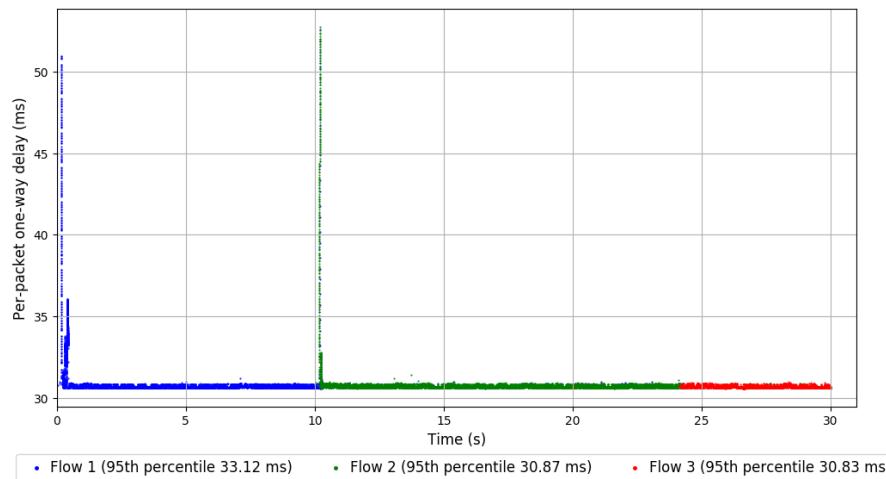
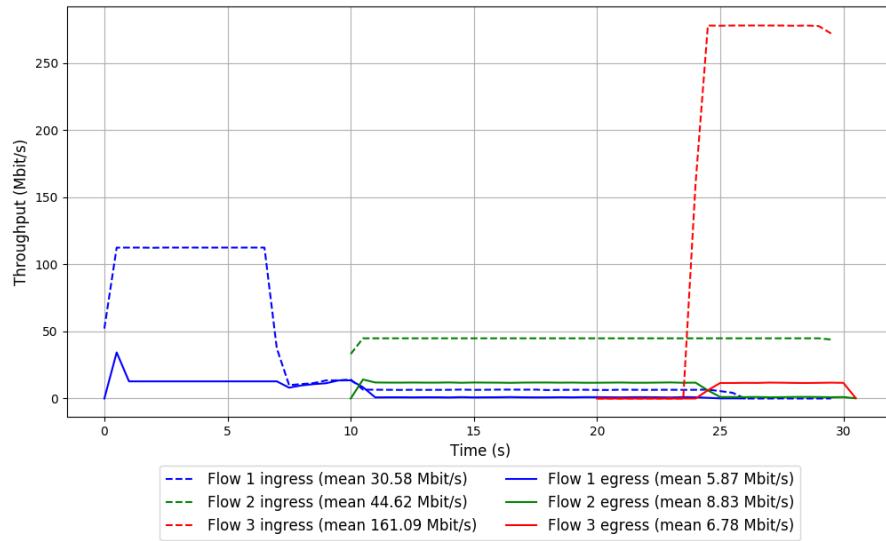


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-06 10:42:58
End at: 2018-09-06 10:43:28
Local clock offset: 0.315 ms
Remote clock offset: 3.152 ms

# Below is generated by plot.py at 2018-09-06 11:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 30.907 ms
Loss rate: 88.40%
-- Flow 1:
Average throughput: 5.87 Mbit/s
95th percentile per-packet one-way delay: 33.124 ms
Loss rate: 83.41%
-- Flow 2:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 30.866 ms
Loss rate: 80.21%
-- Flow 3:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 30.832 ms
Loss rate: 95.79%
```

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

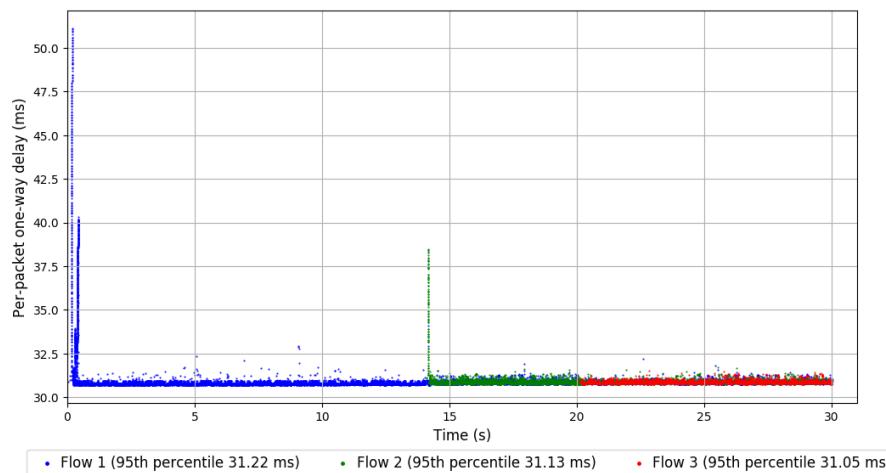
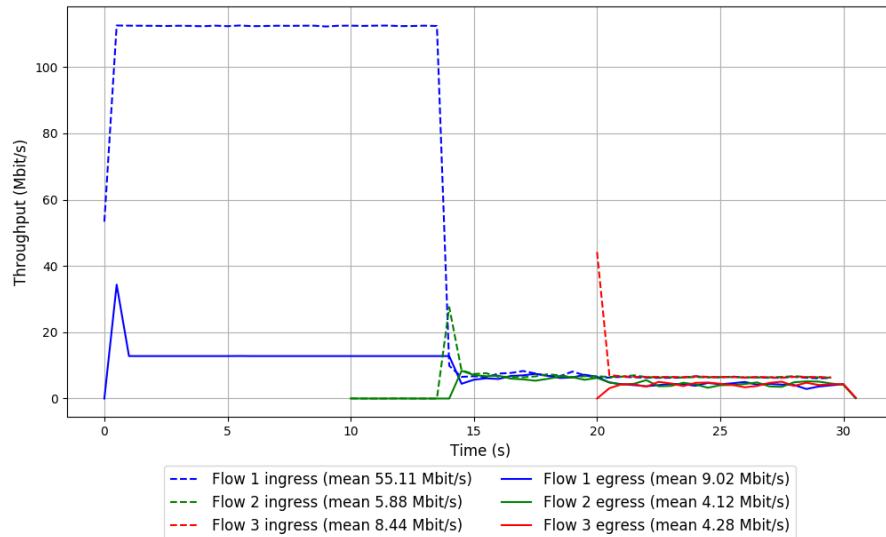


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-06 11:07:26
End at: 2018-09-06 11:07:56
Local clock offset: 4.522 ms
Remote clock offset: 3.368 ms

# Below is generated by plot.py at 2018-09-06 11:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 31.152 ms
Loss rate: 78.67%
-- Flow 1:
Average throughput: 9.02 Mbit/s
95th percentile per-packet one-way delay: 31.219 ms
Loss rate: 83.63%
-- Flow 2:
Average throughput: 4.12 Mbit/s
95th percentile per-packet one-way delay: 31.132 ms
Loss rate: 29.93%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 31.047 ms
Loss rate: 49.29%
```

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

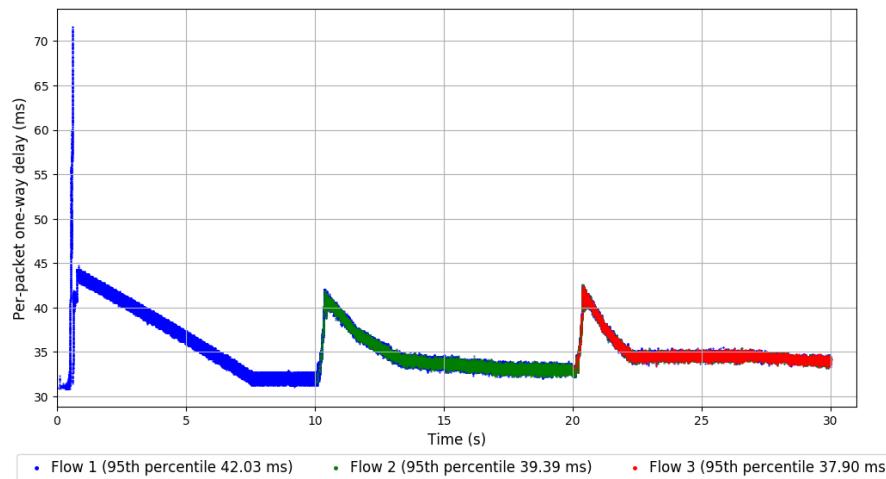
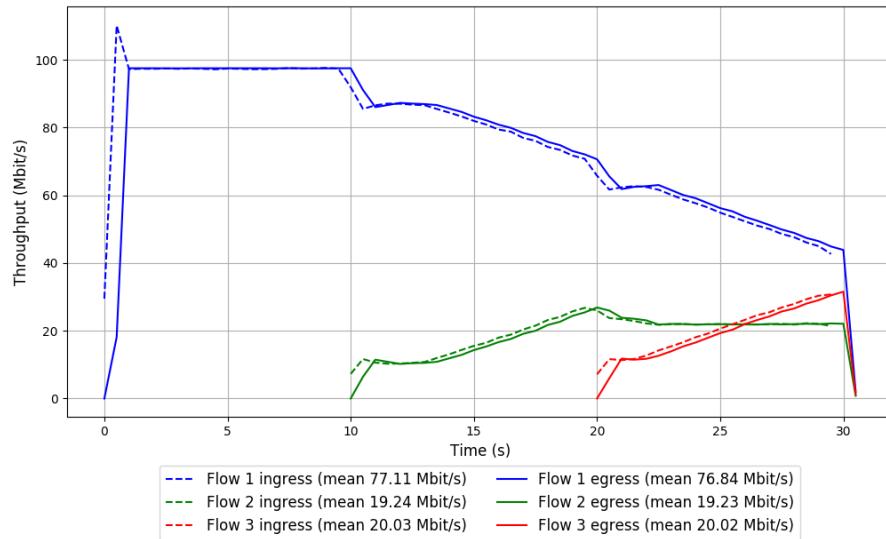


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-06 09:20:13
End at: 2018-09-06 09:20:43
Local clock offset: 0.074 ms
Remote clock offset: -0.485 ms

# Below is generated by plot.py at 2018-09-06 11:19:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 41.577 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 76.84 Mbit/s
95th percentile per-packet one-way delay: 42.027 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 39.390 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.02 Mbit/s
95th percentile per-packet one-way delay: 37.898 ms
Loss rate: 0.01%
```

Run 1: Report of TCP Vegas — Data Link

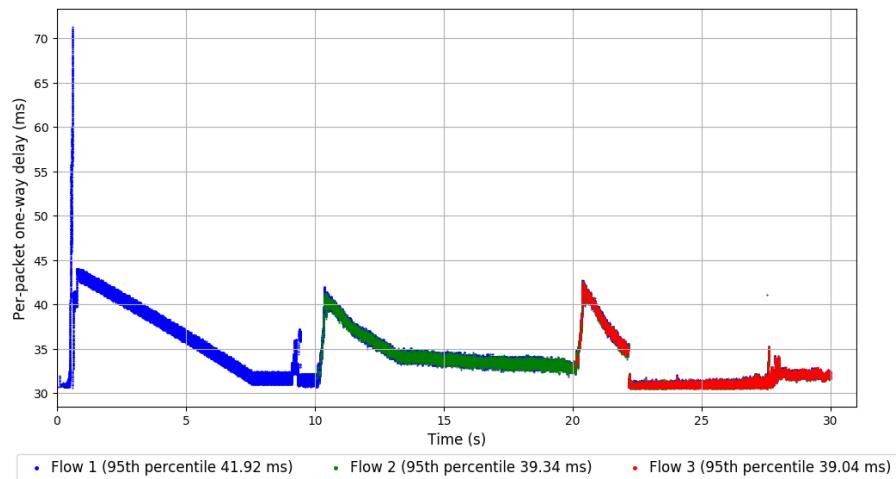
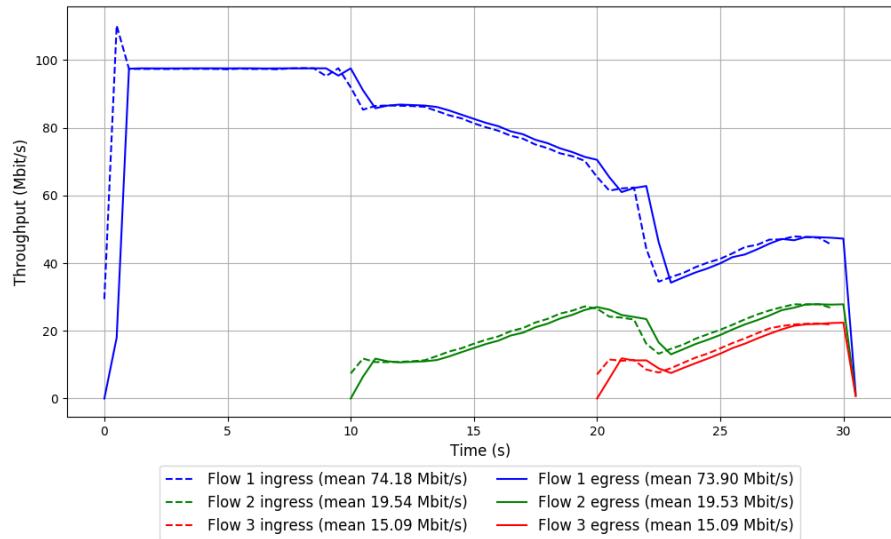


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-06 09:44:39
End at: 2018-09-06 09:45:09
Local clock offset: 0.5 ms
Remote clock offset: 1.106 ms

# Below is generated by plot.py at 2018-09-06 11:19:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 41.477 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 73.90 Mbit/s
95th percentile per-packet one-way delay: 41.922 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 39.338 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 15.09 Mbit/s
95th percentile per-packet one-way delay: 39.041 ms
Loss rate: 0.03%
```

Run 2: Report of TCP Vegas — Data Link

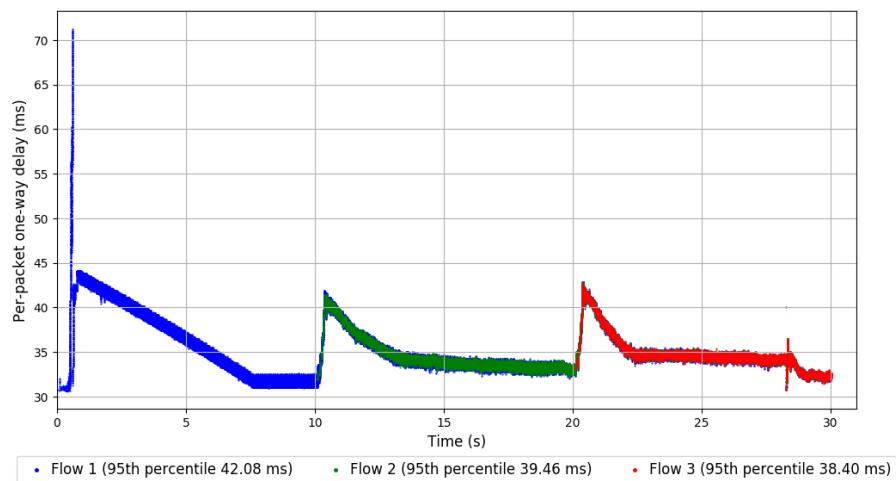
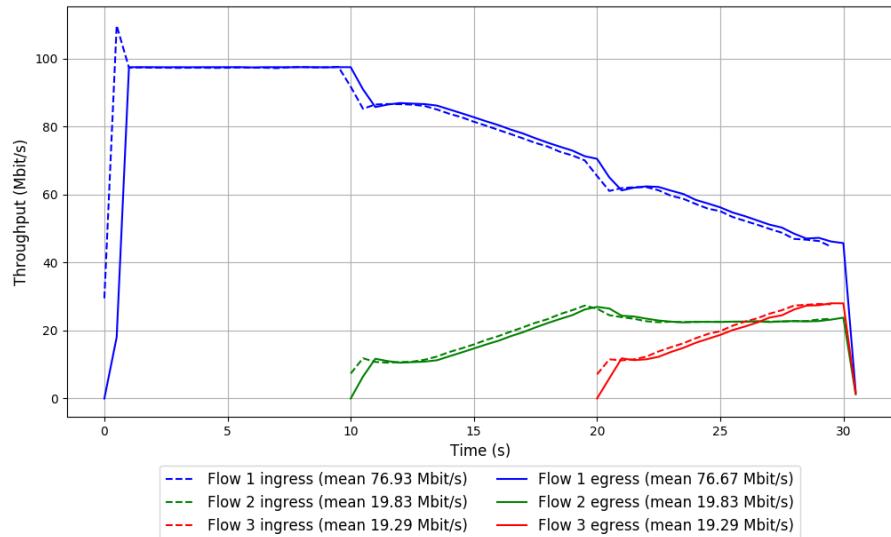


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-06 10:09:02
End at: 2018-09-06 10:09:32
Local clock offset: 0.324 ms
Remote clock offset: 2.303 ms

# Below is generated by plot.py at 2018-09-06 11:19:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 41.630 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 76.67 Mbit/s
95th percentile per-packet one-way delay: 42.082 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 19.83 Mbit/s
95th percentile per-packet one-way delay: 39.463 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.29 Mbit/s
95th percentile per-packet one-way delay: 38.402 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link

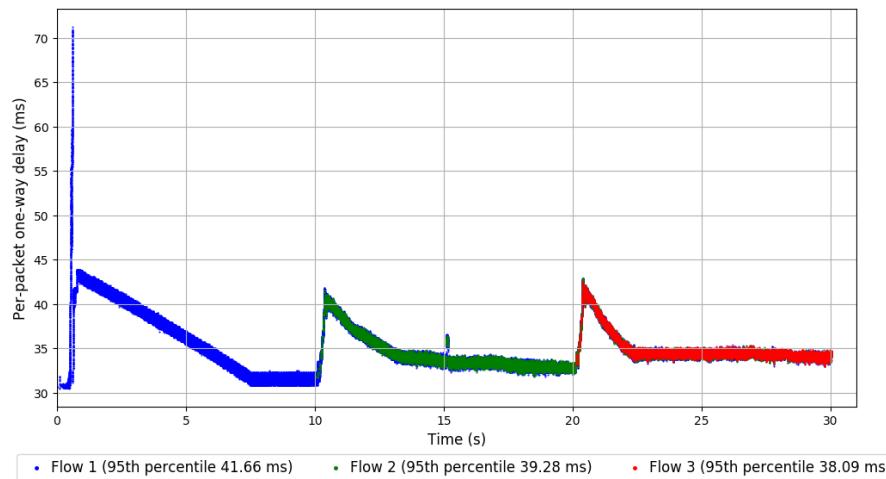
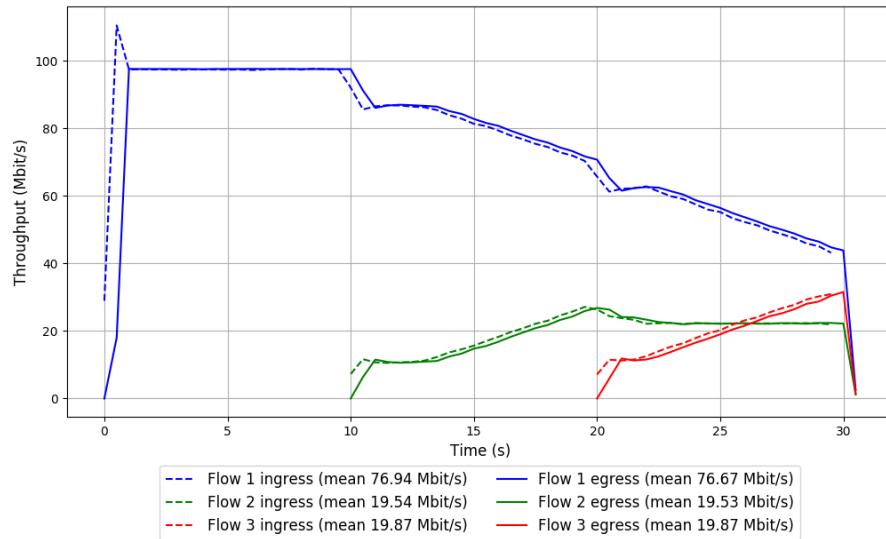


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-06 10:33:29
End at: 2018-09-06 10:33:59
Local clock offset: 0.31 ms
Remote clock offset: 3.045 ms

# Below is generated by plot.py at 2018-09-06 11:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 41.391 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 76.67 Mbit/s
95th percentile per-packet one-way delay: 41.661 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 39.276 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 38.090 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link

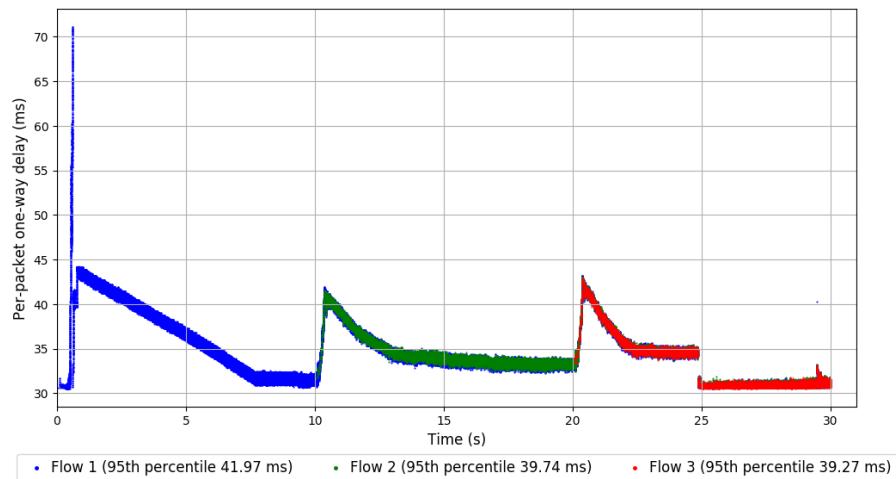
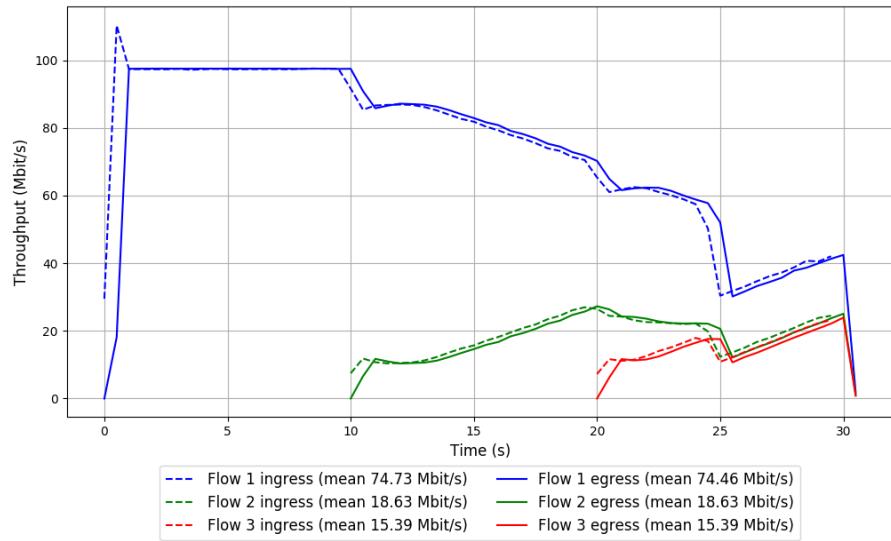


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-06 10:57:57
End at: 2018-09-06 10:58:27
Local clock offset: 3.423 ms
Remote clock offset: 2.995 ms

# Below is generated by plot.py at 2018-09-06 11:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 41.690 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 74.46 Mbit/s
95th percentile per-packet one-way delay: 41.965 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 39.742 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 15.39 Mbit/s
95th percentile per-packet one-way delay: 39.274 ms
Loss rate: 0.04%
```

Run 5: Report of TCP Vegas — Data Link

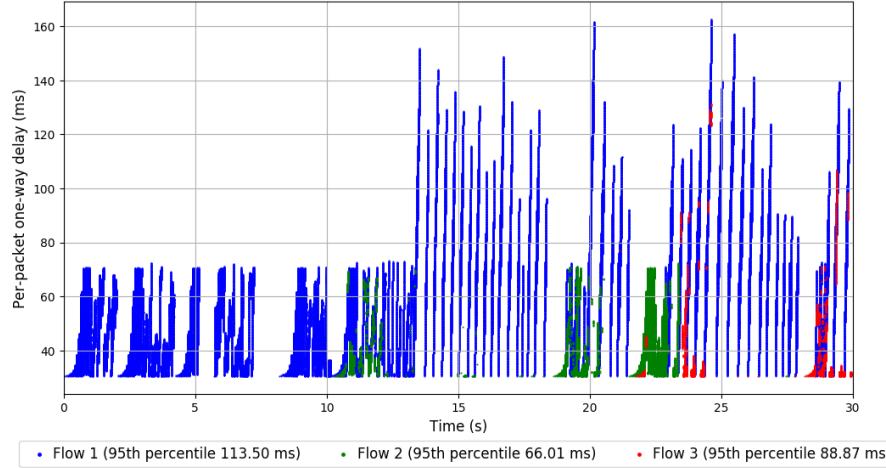
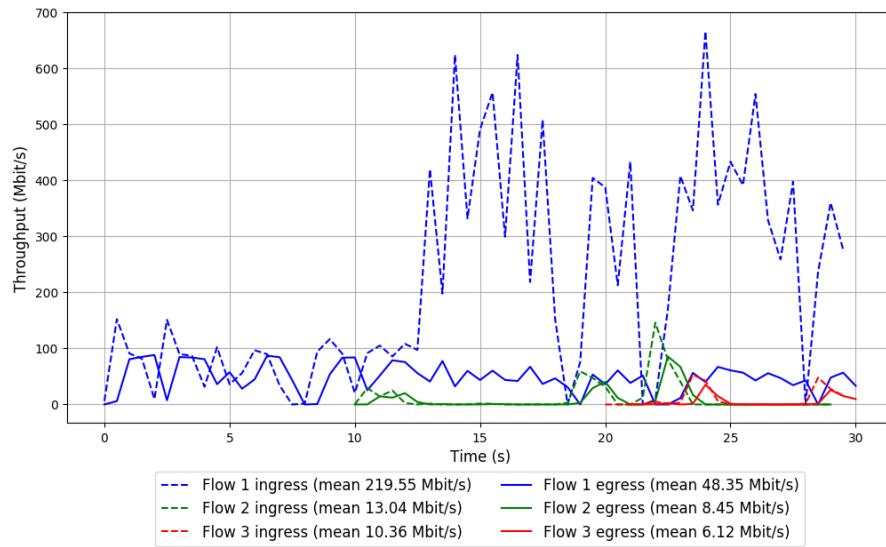


Run 1: Statistics of Verus

```
Start at: 2018-09-06 09:07:51
End at: 2018-09-06 09:08:21
Local clock offset: -0.058 ms
Remote clock offset: -1.142 ms

# Below is generated by plot.py at 2018-09-06 11:19:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.27 Mbit/s
95th percentile per-packet one-way delay: 110.940 ms
Loss rate: 75.97%
-- Flow 1:
Average throughput: 48.35 Mbit/s
95th percentile per-packet one-way delay: 113.497 ms
Loss rate: 77.91%
-- Flow 2:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 66.006 ms
Loss rate: 36.82%
-- Flow 3:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 88.874 ms
Loss rate: 47.22%
```

Run 1: Report of Verus — Data Link

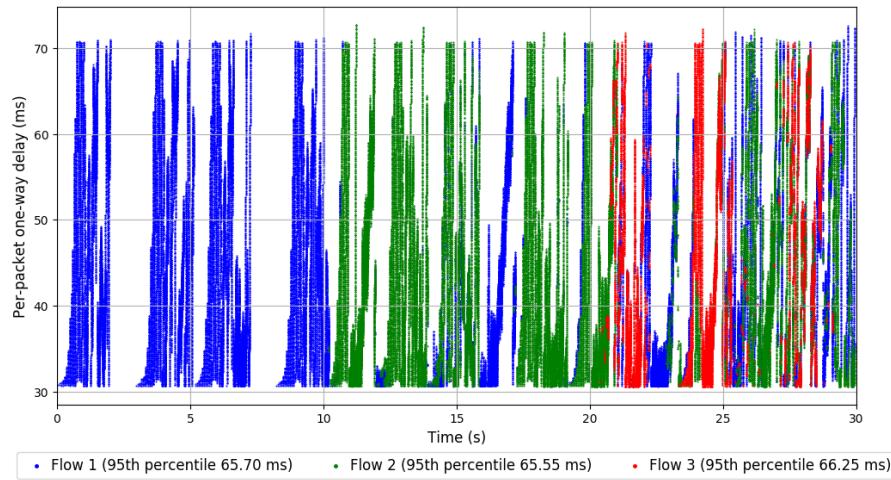
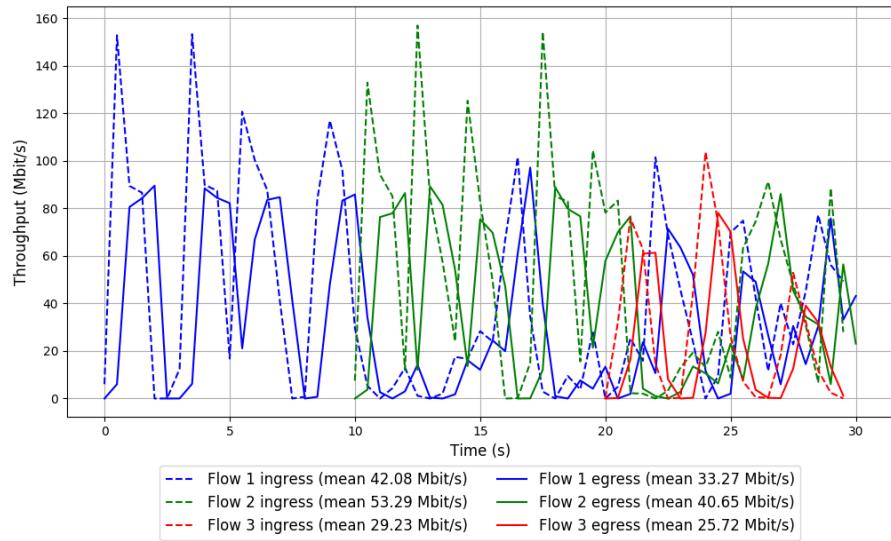


Run 2: Statistics of Verus

```
Start at: 2018-09-06 09:32:21
End at: 2018-09-06 09:32:51
Local clock offset: 0.451 ms
Remote clock offset: 0.167 ms

# Below is generated by plot.py at 2018-09-06 11:19:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.85 Mbit/s
95th percentile per-packet one-way delay: 65.729 ms
Loss rate: 21.90%
-- Flow 1:
Average throughput: 33.27 Mbit/s
95th percentile per-packet one-way delay: 65.700 ms
Loss rate: 20.93%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 65.551 ms
Loss rate: 23.69%
-- Flow 3:
Average throughput: 25.72 Mbit/s
95th percentile per-packet one-way delay: 66.246 ms
Loss rate: 19.45%
```

Run 2: Report of Verus — Data Link

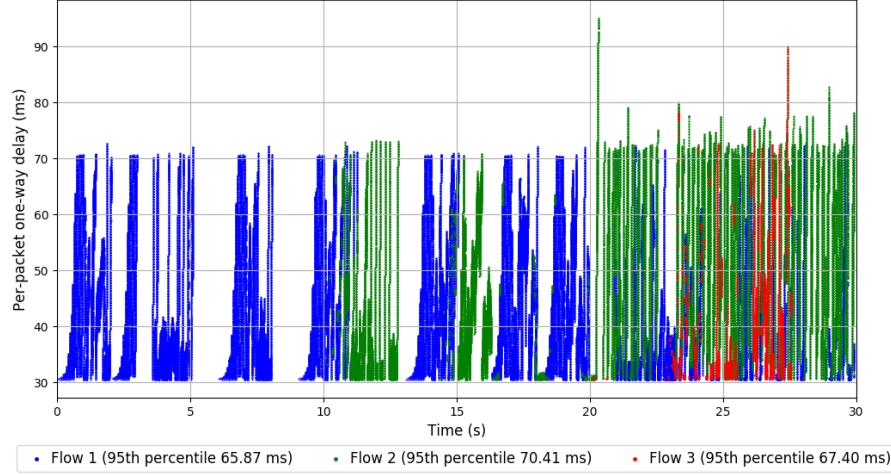
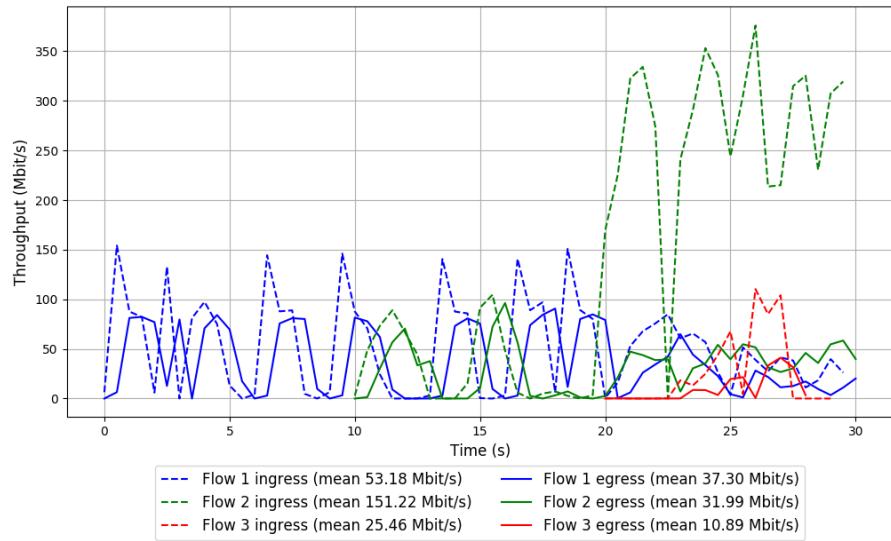


Run 3: Statistics of Verus

```
Start at: 2018-09-06 09:56:43
End at: 2018-09-06 09:57:13
Local clock offset: 0.386 ms
Remote clock offset: 1.896 ms

# Below is generated by plot.py at 2018-09-06 11:19:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.41 Mbit/s
95th percentile per-packet one-way delay: 67.981 ms
Loss rate: 61.95%
-- Flow 1:
Average throughput: 37.30 Mbit/s
95th percentile per-packet one-way delay: 65.867 ms
Loss rate: 29.85%
-- Flow 2:
Average throughput: 31.99 Mbit/s
95th percentile per-packet one-way delay: 70.409 ms
Loss rate: 78.84%
-- Flow 3:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 67.402 ms
Loss rate: 63.60%
```

Run 3: Report of Verus — Data Link

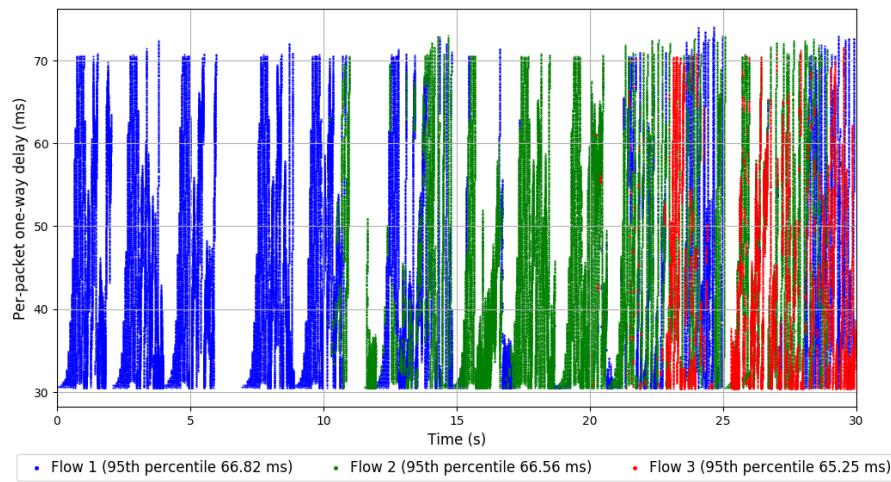
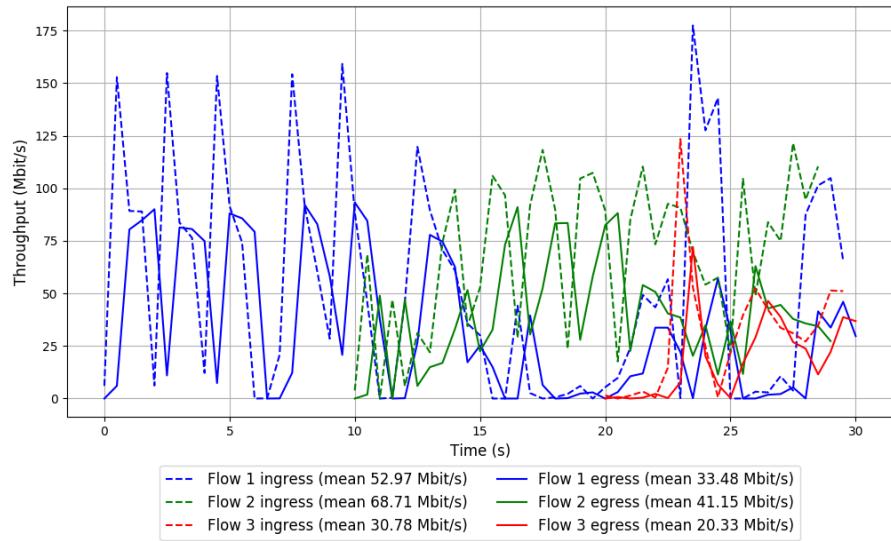


Run 4: Statistics of Verus

```
Start at: 2018-09-06 10:21:09
End at: 2018-09-06 10:21:39
Local clock offset: 0.371 ms
Remote clock offset: 2.702 ms

# Below is generated by plot.py at 2018-09-06 11:20:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.14 Mbit/s
95th percentile per-packet one-way delay: 66.587 ms
Loss rate: 38.01%
-- Flow 1:
Average throughput: 33.48 Mbit/s
95th percentile per-packet one-way delay: 66.821 ms
Loss rate: 36.78%
-- Flow 2:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 66.563 ms
Loss rate: 40.44%
-- Flow 3:
Average throughput: 20.33 Mbit/s
95th percentile per-packet one-way delay: 65.255 ms
Loss rate: 33.94%
```

Run 4: Report of Verus — Data Link

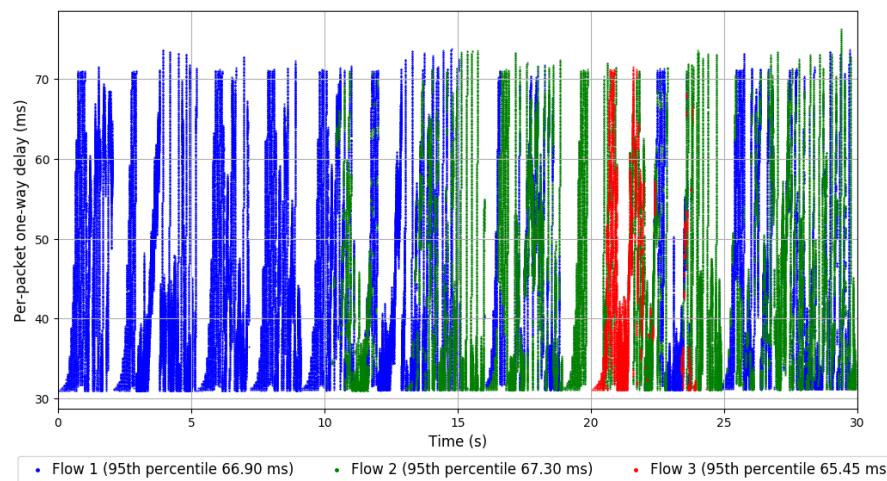
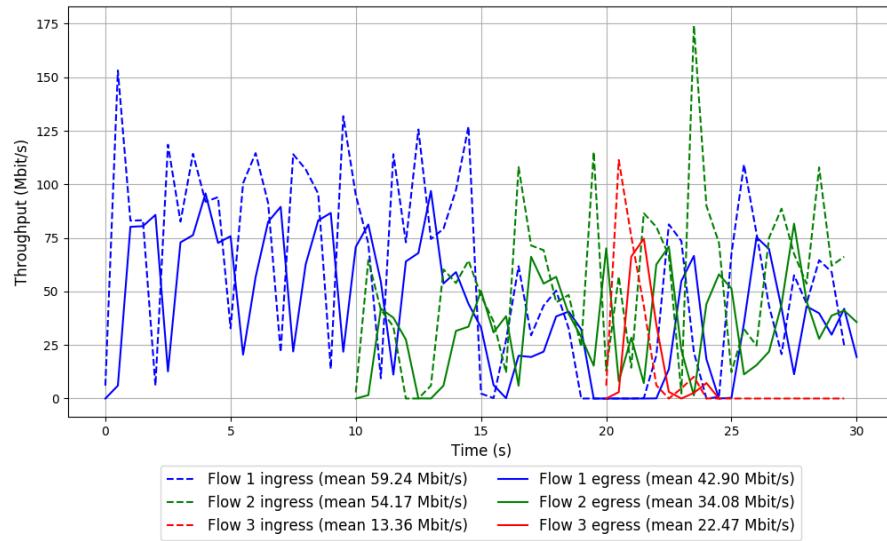


Run 5: Statistics of Verus

```
Start at: 2018-09-06 10:45:38
End at: 2018-09-06 10:46:08
Local clock offset: 0.217 ms
Remote clock offset: 3.184 ms

# Below is generated by plot.py at 2018-09-06 11:20:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.65 Mbit/s
95th percentile per-packet one-way delay: 66.978 ms
Loss rate: 30.94%
-- Flow 1:
Average throughput: 42.90 Mbit/s
95th percentile per-packet one-way delay: 66.898 ms
Loss rate: 27.58%
-- Flow 2:
Average throughput: 34.08 Mbit/s
95th percentile per-packet one-way delay: 67.302 ms
Loss rate: 37.09%
-- Flow 3:
Average throughput: 22.47 Mbit/s
95th percentile per-packet one-way delay: 65.455 ms
Loss rate: 25.72%
```

Run 5: Report of Verus — Data Link

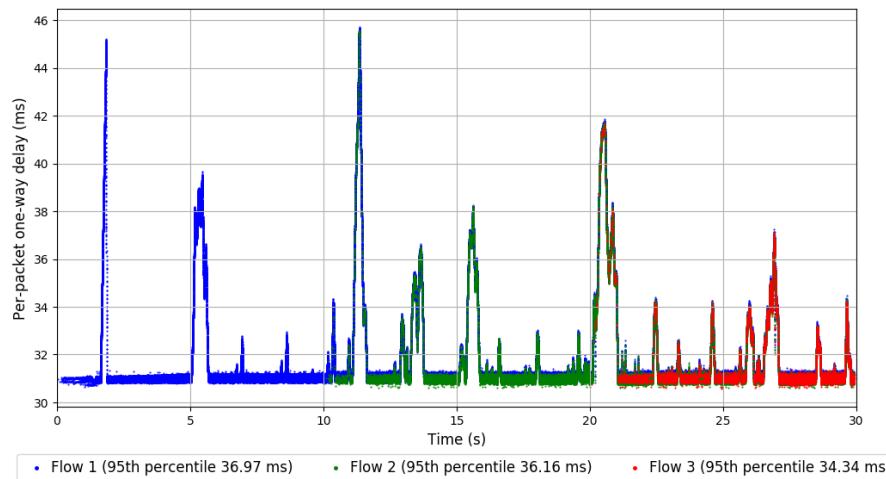
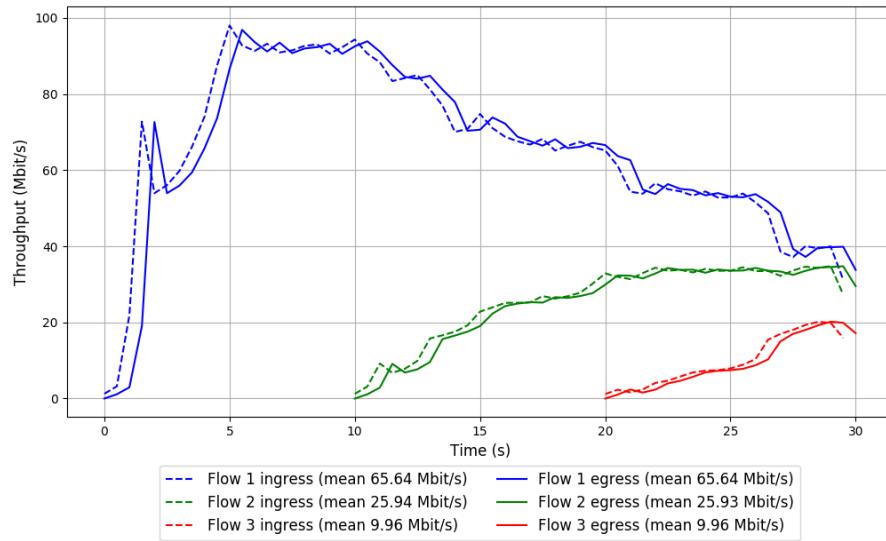


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-09-06 09:22:55
End at: 2018-09-06 09:23:25
Local clock offset: 0.248 ms
Remote clock offset: -0.344 ms

# Below is generated by plot.py at 2018-09-06 11:20:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 36.768 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.64 Mbit/s
95th percentile per-packet one-way delay: 36.972 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.93 Mbit/s
95th percentile per-packet one-way delay: 36.165 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 34.341 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

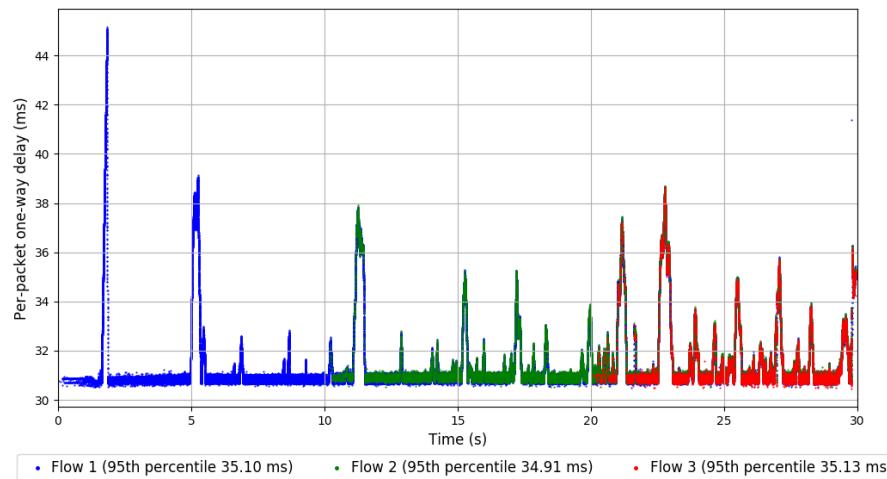
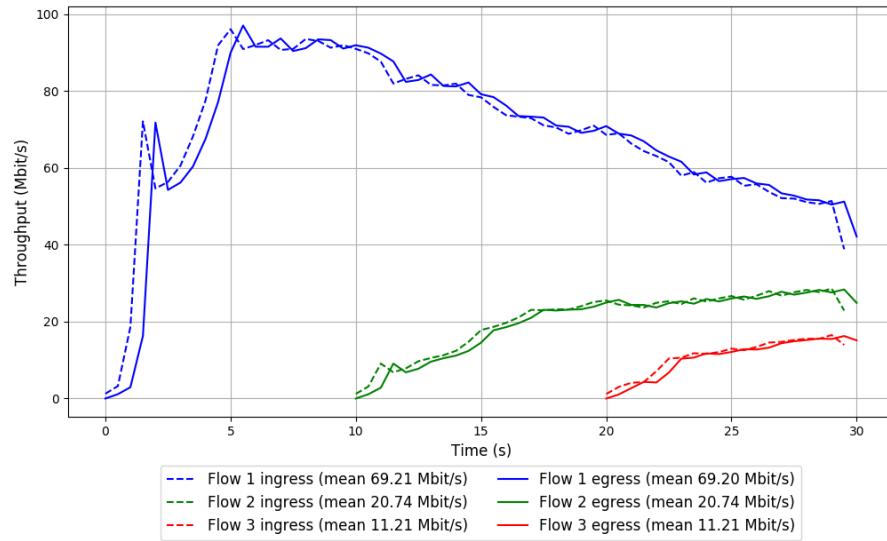


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-06 09:47:19
End at: 2018-09-06 09:47:49
Local clock offset: 0.478 ms
Remote clock offset: 1.464 ms

# Below is generated by plot.py at 2018-09-06 11:20:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 35.056 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.20 Mbit/s
95th percentile per-packet one-way delay: 35.101 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.74 Mbit/s
95th percentile per-packet one-way delay: 34.915 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.21 Mbit/s
95th percentile per-packet one-way delay: 35.131 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

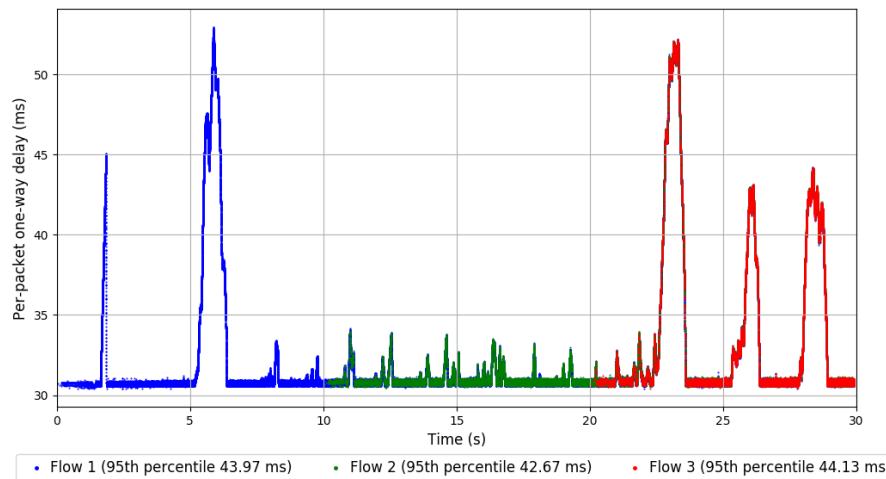
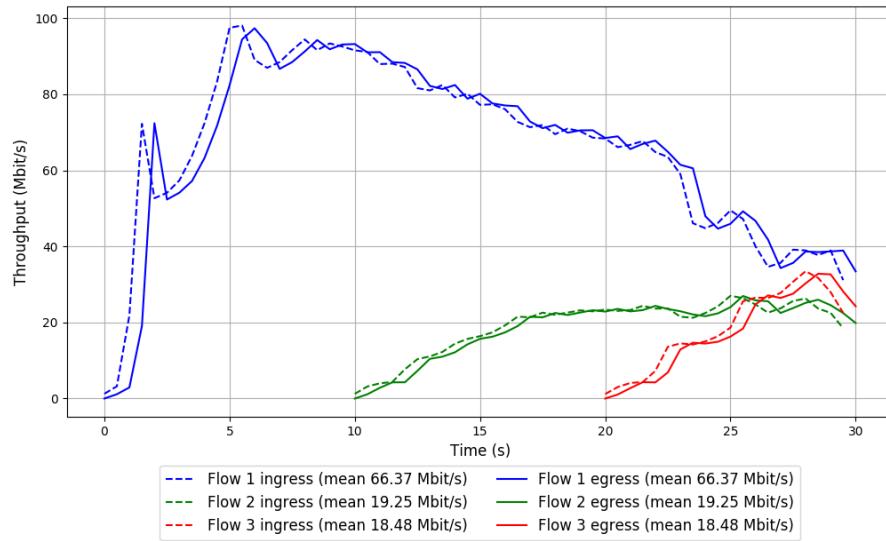


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-06 10:11:43
End at: 2018-09-06 10:12:13
Local clock offset: 0.426 ms
Remote clock offset: 2.401 ms

# Below is generated by plot.py at 2018-09-06 11:20:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.27 Mbit/s
95th percentile per-packet one-way delay: 43.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.37 Mbit/s
95th percentile per-packet one-way delay: 43.974 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.25 Mbit/s
95th percentile per-packet one-way delay: 42.669 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.48 Mbit/s
95th percentile per-packet one-way delay: 44.134 ms
Loss rate: 0.01%
```

Run 3: Report of PCC-Vivace — Data Link

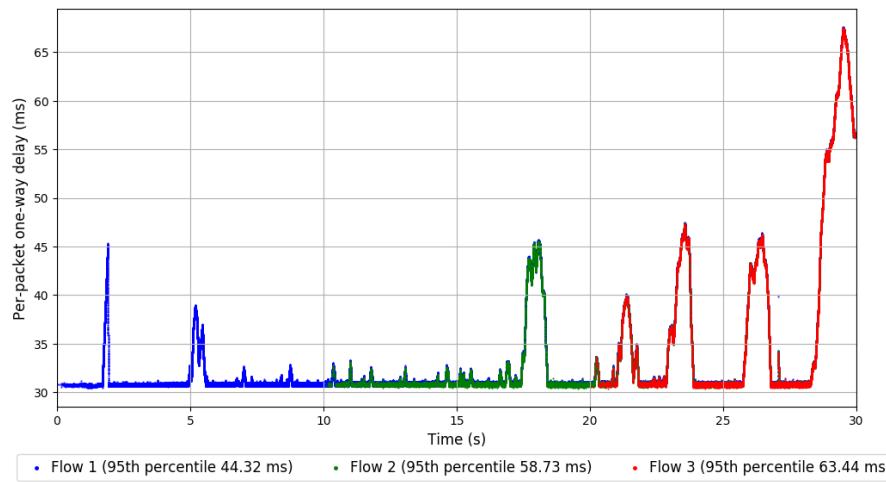
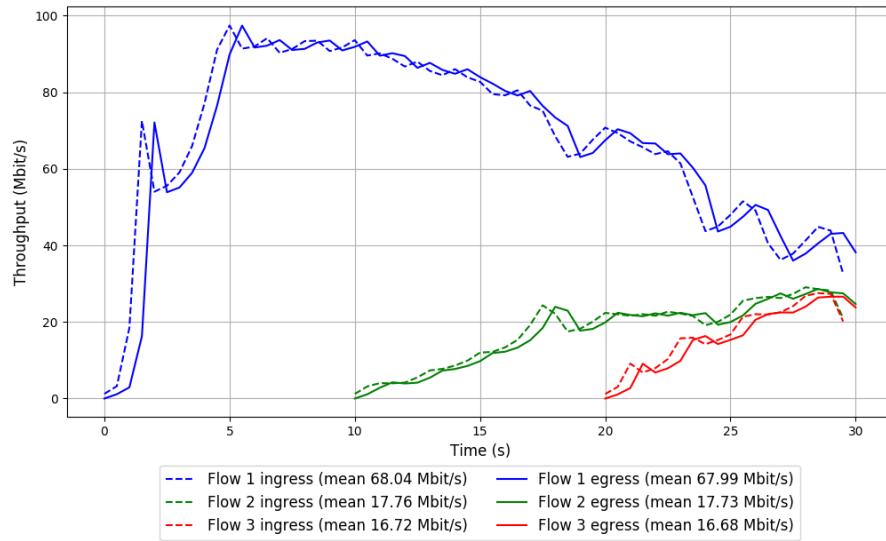


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-06 10:36:11
End at: 2018-09-06 10:36:41
Local clock offset: 0.3 ms
Remote clock offset: 3.105 ms

# Below is generated by plot.py at 2018-09-06 11:20:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.30 Mbit/s
95th percentile per-packet one-way delay: 46.892 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.99 Mbit/s
95th percentile per-packet one-way delay: 44.324 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.73 Mbit/s
95th percentile per-packet one-way delay: 58.725 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.68 Mbit/s
95th percentile per-packet one-way delay: 63.442 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

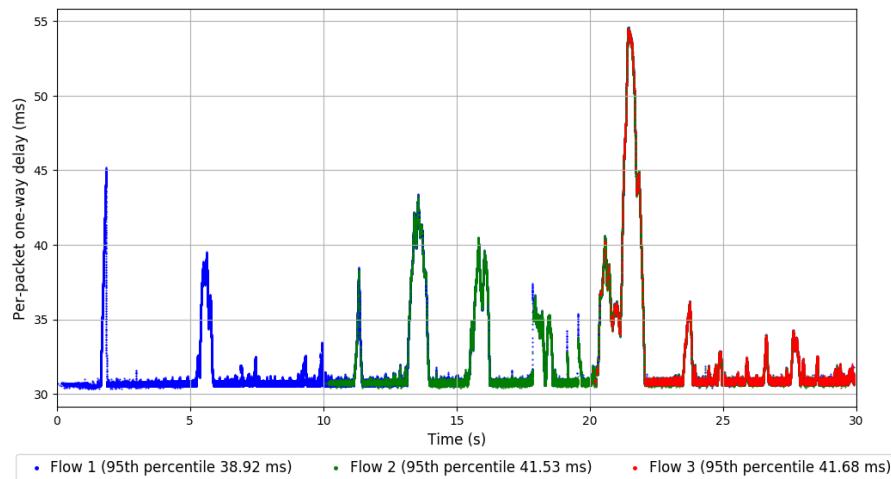
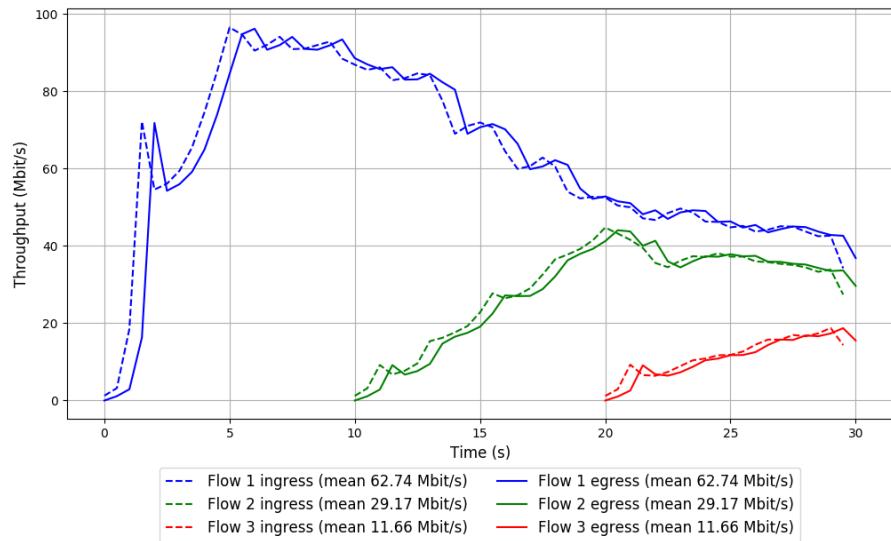


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-06 11:00:39
End at: 2018-09-06 11:01:09
Local clock offset: 3.807 ms
Remote clock offset: 3.051 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.99 Mbit/s
95th percentile per-packet one-way delay: 39.425 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.74 Mbit/s
95th percentile per-packet one-way delay: 38.925 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.17 Mbit/s
95th percentile per-packet one-way delay: 41.530 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 41.682 ms
Loss rate: 0.01%
```

Run 5: Report of PCC-Vivace — Data Link

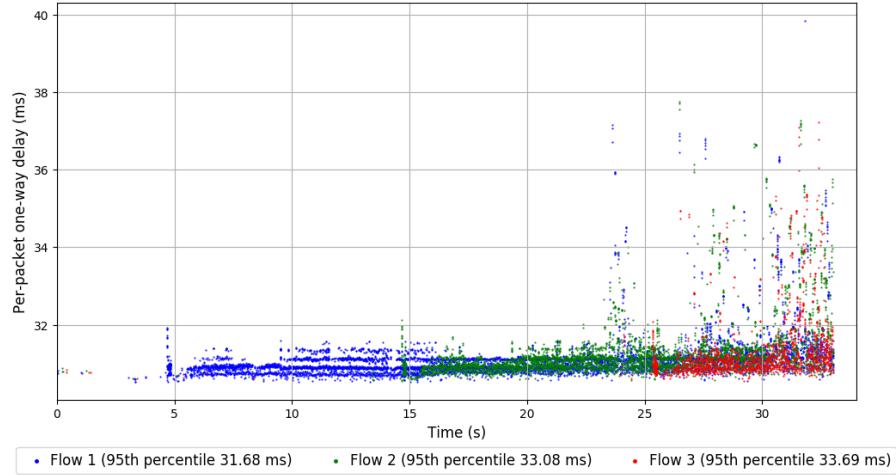
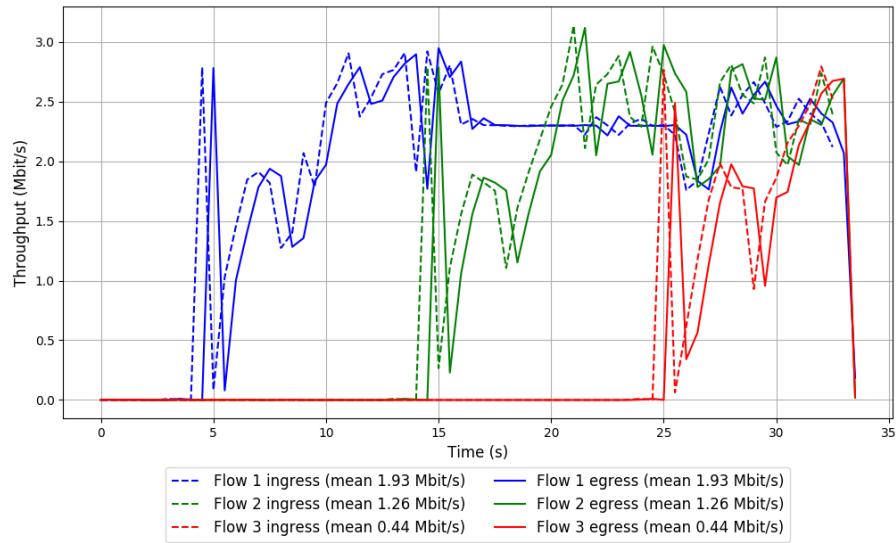


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 09:14:46
End at: 2018-09-06 09:15:16
Local clock offset: 0.031 ms
Remote clock offset: -0.787 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 32.435 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.681 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 33.078 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 33.687 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

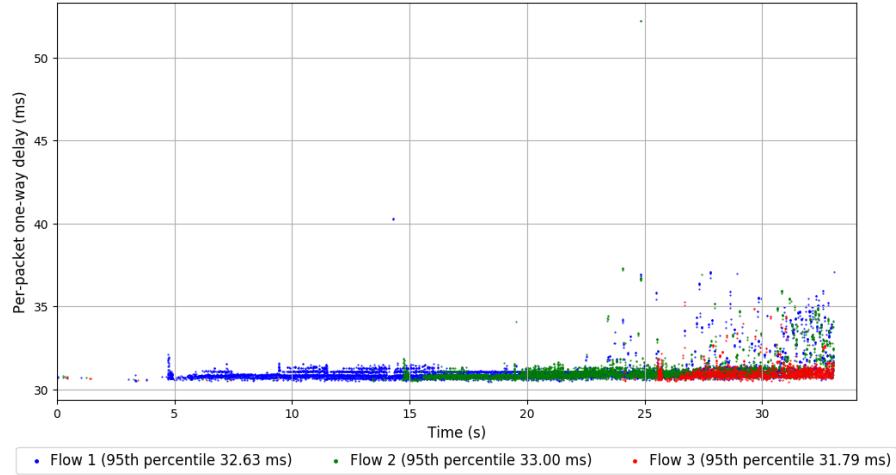
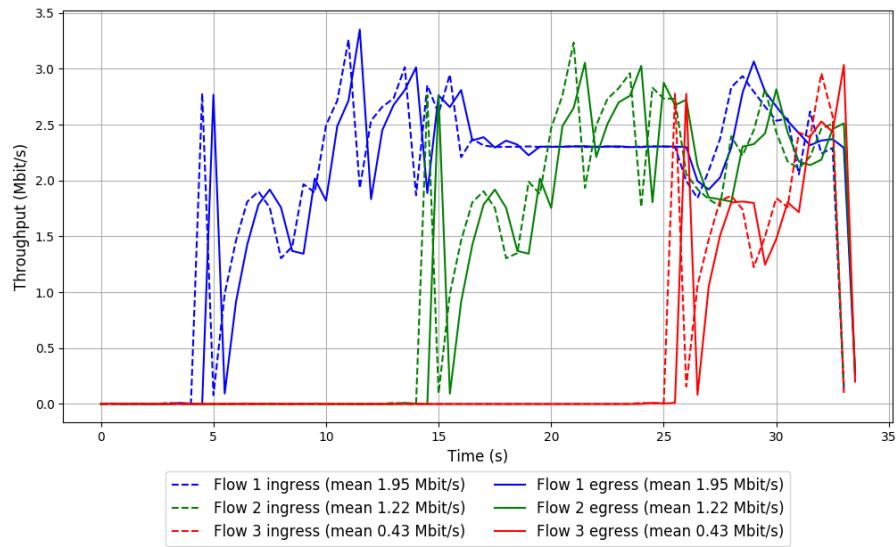


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-06 09:39:15
End at: 2018-09-06 09:39:45
Local clock offset: 0.491 ms
Remote clock offset: 0.711 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 32.658 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 32.633 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 32.996 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 31.793 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

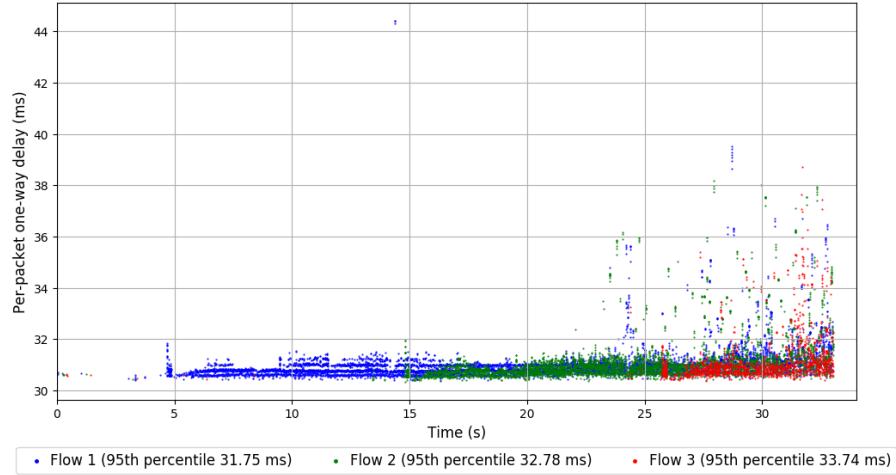
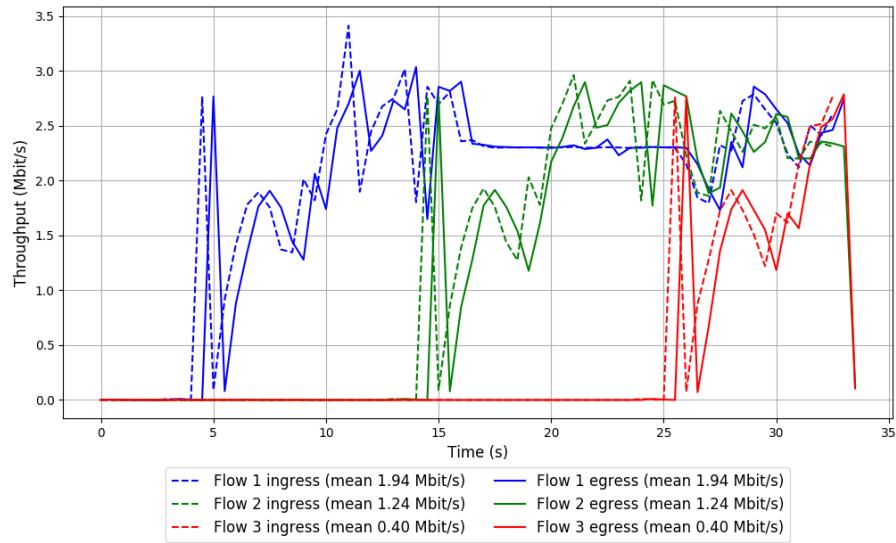


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-06 10:03:36
End at: 2018-09-06 10:04:06
Local clock offset: 0.31 ms
Remote clock offset: 1.922 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 32.288 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 31.751 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 32.784 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 33.740 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

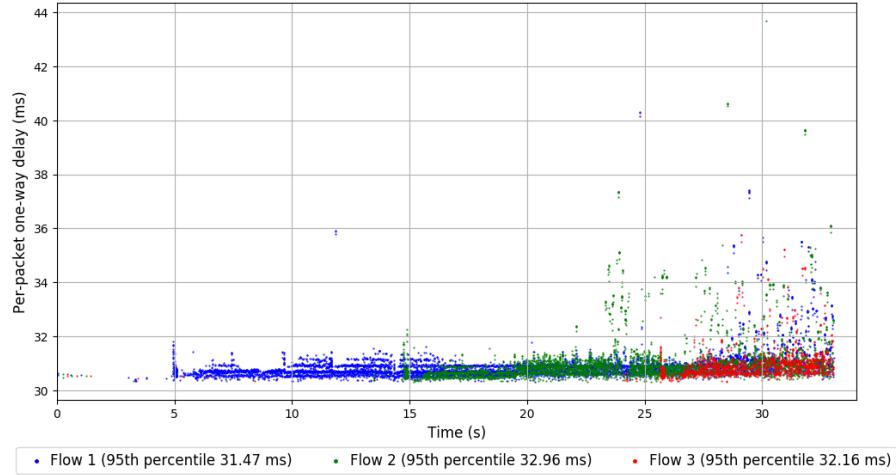
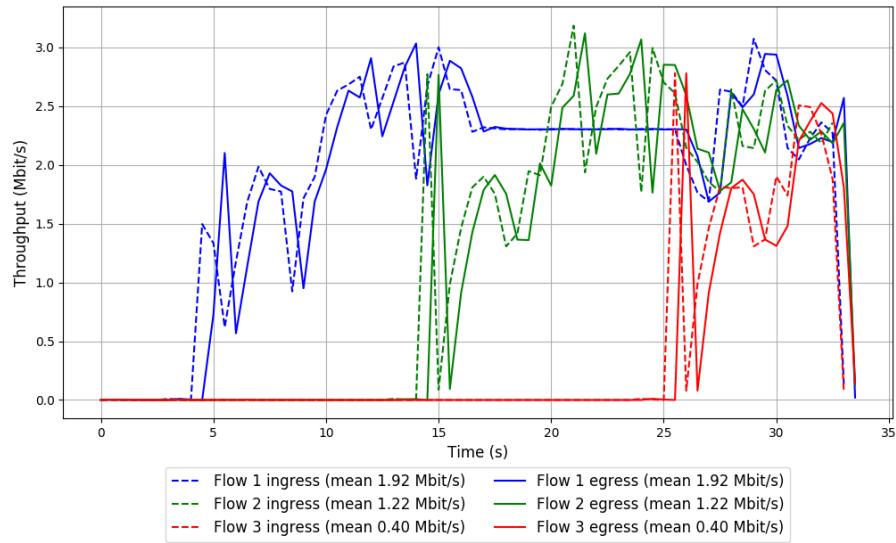


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-06 10:28:03
End at: 2018-09-06 10:28:33
Local clock offset: 0.348 ms
Remote clock offset: 2.971 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 31.989 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 31.466 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 32.958 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 32.156 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-06 10:52:31
End at: 2018-09-06 10:53:01
Local clock offset: 2.379 ms
Remote clock offset: 3.226 ms

# Below is generated by plot.py at 2018-09-06 11:20:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 32.704 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 32.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 32.805 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.602 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

