

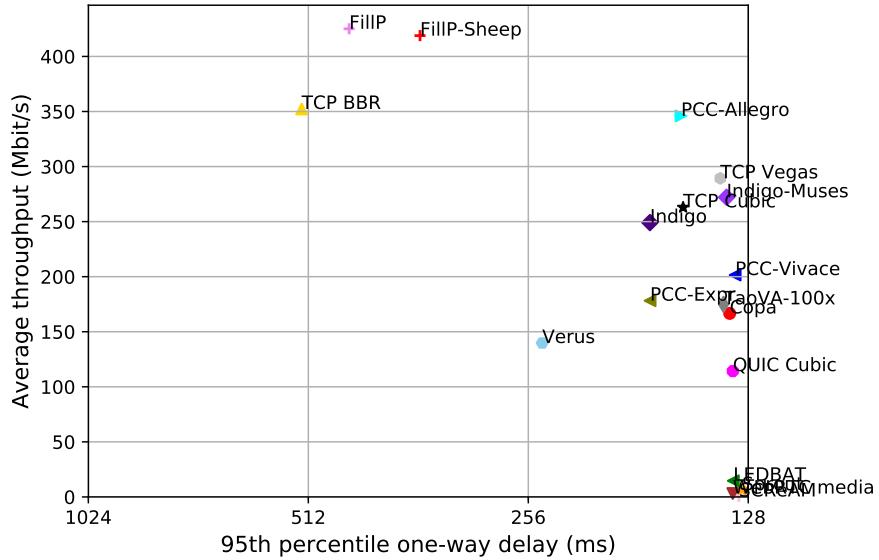
Pantheon Report

Generated at 2018-09-08 04:21:23 (UTC).
Data path: Saudi Arabia on `enp2s0` (*remote*) → AWS India 2 on `ens5` (*local*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

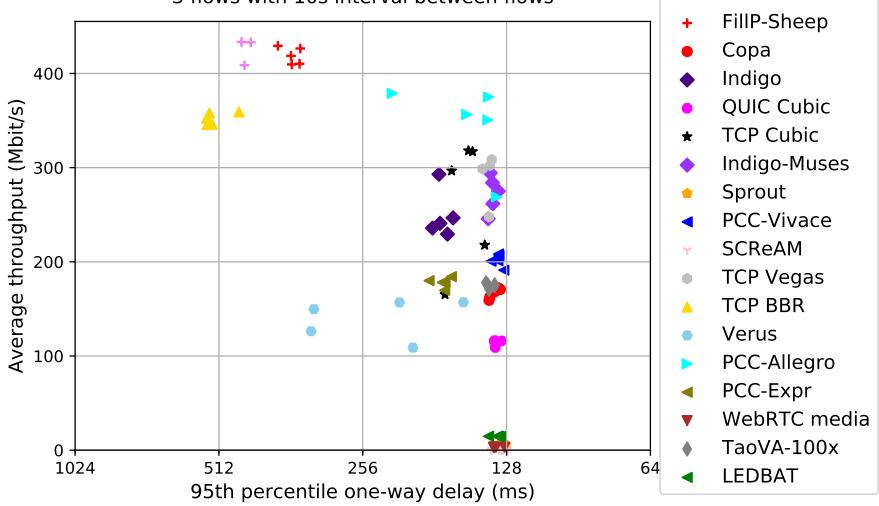
```
System info:  
Linux 4.15.0-1020-aws  
net.core.default_qdisc = fq  
net.core.rmem_default = 16777216  
net.core.rmem_max = 536870912  
net.core.wmem_default = 16777216  
net.core.wmem_max = 536870912  
net.ipv4.tcp_rmem = 4096 16777216 536870912  
net.ipv4.tcp_wmem = 4096 16777216 536870912  
net.ipv4.tcp_mem = 536870912 536870912 536870912  
  
Git summary:  
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c  
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834  
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe  
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4  
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d  
third_party/libutp @ b3465b942e2826f2b179eab4a906ce6bb7cf3cf  
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3  
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  
M src/examples/cellsim.cc  
M src/examples/sproutbt2.cc  
M src/network/sproutconn.cc  
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494  
M src/verus.hpp
```

```
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



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



4

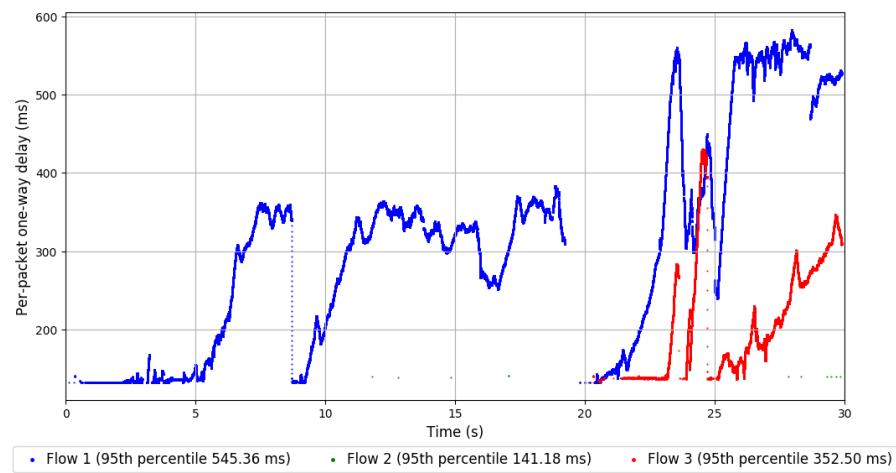
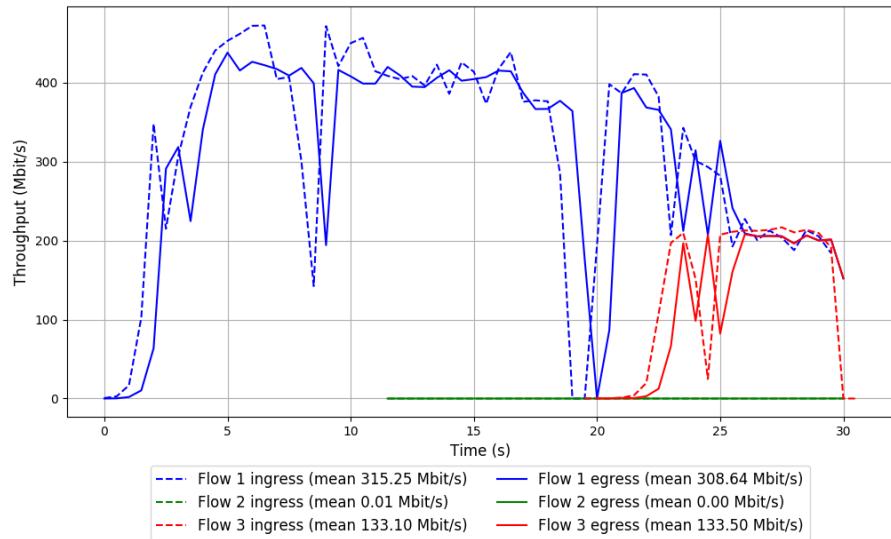
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	259.78	109.18	67.91	549.02	404.59	341.48	3.55	10.62	8.40
Copa	5	119.60	57.63	26.87	135.88	135.17	135.70	0.44	1.07	3.75
TCP Cubic	5	143.96	132.03	95.61	145.87	156.14	198.17	0.68	1.24	3.06
FillP	3	202.76	244.84	193.41	406.94	460.35	389.50	2.41	8.41	19.87
FillP-Sheep	5	267.67	166.53	133.44	345.40	358.07	375.32	2.78	11.58	17.48
Indigo	5	125.92	133.29	107.97	163.53	175.10	187.86	0.78	1.01	2.60
LEDBAT	5	9.49	6.31	3.03	133.85	133.56	133.68	1.29	1.96	3.97
Indigo-Muses	5	197.57	74.13	77.78	136.97	136.27	138.89	0.44	1.34	3.19
PCC-Allegro	5	306.36	56.66	6.40	158.64	137.33	137.55	2.18	1.22	3.80
PCC-Expr	5	162.46	19.54	8.54	187.99	137.03	136.97	0.53	1.32	3.86
QUIC Cubic	5	60.19	56.41	50.94	134.09	133.69	134.67	0.49	0.82	2.02
SCReAM	5	0.22	0.22	0.22	131.52	131.83	131.37	0.64	1.00	1.84
Sprout	5	3.33	3.13	2.11	130.42	129.72	130.50	0.84	1.40	3.77
TaoVA-100x	5	107.90	77.27	48.52	137.80	138.31	139.98	0.45	0.77	1.86
TCP Vegas	4	168.53	142.40	79.81	139.48	139.86	155.19	0.39	1.07	2.19
Verus	5	91.27	41.72	65.18	254.88	225.48	224.72	0.88	5.13	1.90
PCC-Vivace	5	172.34	38.72	10.73	133.32	134.14	133.29	0.51	1.49	6.16
WebRTC media	5	1.68	1.02	0.39	133.19	133.79	134.48	0.55	1.26	3.02

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-08 00:32:42
End at: 2018-09-08 00:33:12
Local clock offset: -0.012 ms
Remote clock offset: -38.358 ms

# Below is generated by plot.py at 2018-09-08 03:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.48 Mbit/s
95th percentile per-packet one-way delay: 542.964 ms
Loss rate: 3.33%
-- Flow 1:
Average throughput: 308.64 Mbit/s
95th percentile per-packet one-way delay: 545.358 ms
Loss rate: 2.74%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 141.179 ms
Loss rate: 35.55%
-- Flow 3:
Average throughput: 133.50 Mbit/s
95th percentile per-packet one-way delay: 352.497 ms
Loss rate: 7.31%
```

Run 1: Report of TCP BBR — Data Link

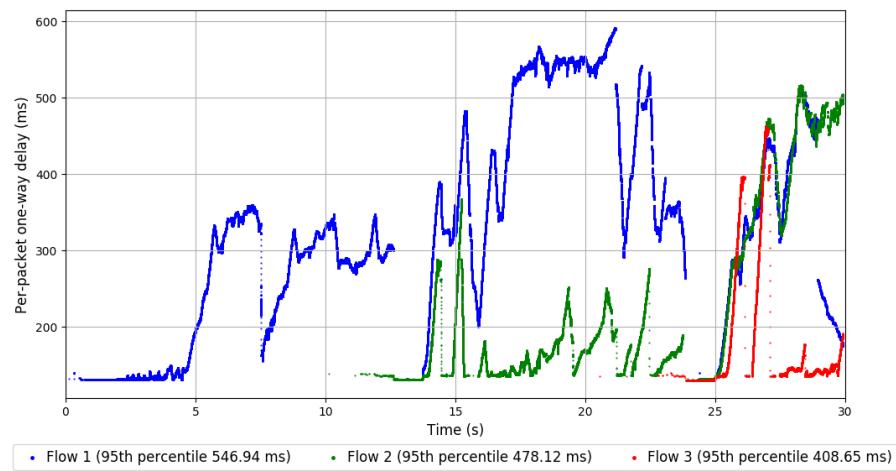
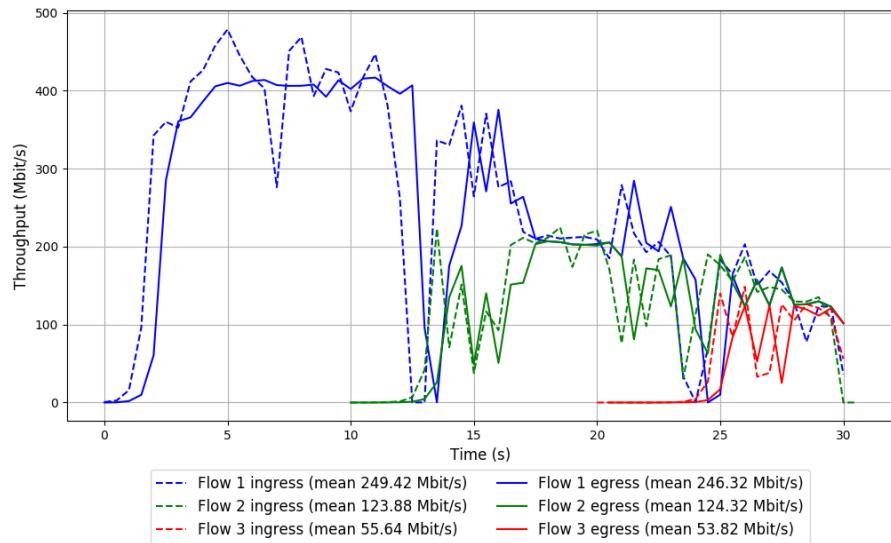


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-08 01:05:07
End at: 2018-09-08 01:05:37
Local clock offset: -0.474 ms
Remote clock offset: -32.941 ms

# Below is generated by plot.py at 2018-09-08 03:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.78 Mbit/s
95th percentile per-packet one-way delay: 541.858 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 246.32 Mbit/s
95th percentile per-packet one-way delay: 546.938 ms
Loss rate: 3.10%
-- Flow 2:
Average throughput: 124.32 Mbit/s
95th percentile per-packet one-way delay: 478.120 ms
Loss rate: 3.48%
-- Flow 3:
Average throughput: 53.82 Mbit/s
95th percentile per-packet one-way delay: 408.649 ms
Loss rate: 10.07%
```

Run 2: Report of TCP BBR — Data Link

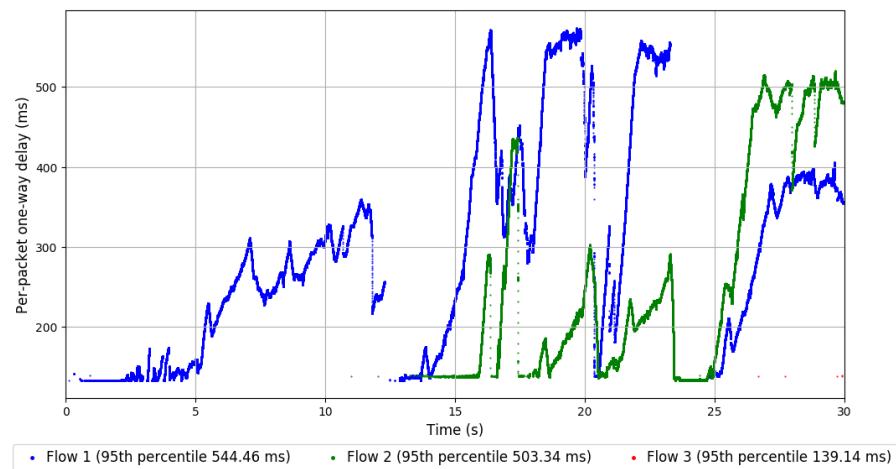
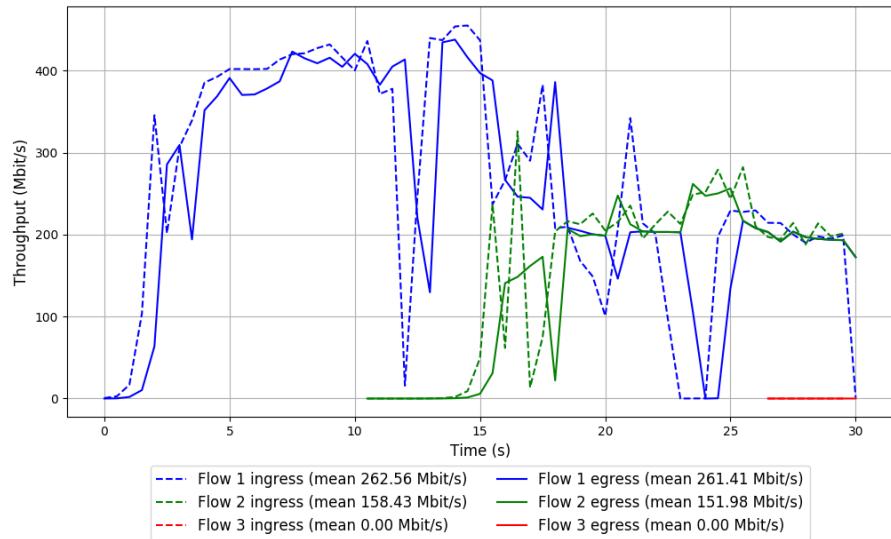


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-08 01:49:21
End at: 2018-09-08 01:49:51
Local clock offset: 1.369 ms
Remote clock offset: -34.478 ms

# Below is generated by plot.py at 2018-09-08 03:55:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.99 Mbit/s
95th percentile per-packet one-way delay: 535.975 ms
Loss rate: 3.28%
-- Flow 1:
Average throughput: 261.41 Mbit/s
95th percentile per-packet one-way delay: 544.457 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 151.98 Mbit/s
95th percentile per-packet one-way delay: 503.344 ms
Loss rate: 5.08%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 139.142 ms
Loss rate: 0.00%
```

Run 3: Report of TCP BBR — Data Link

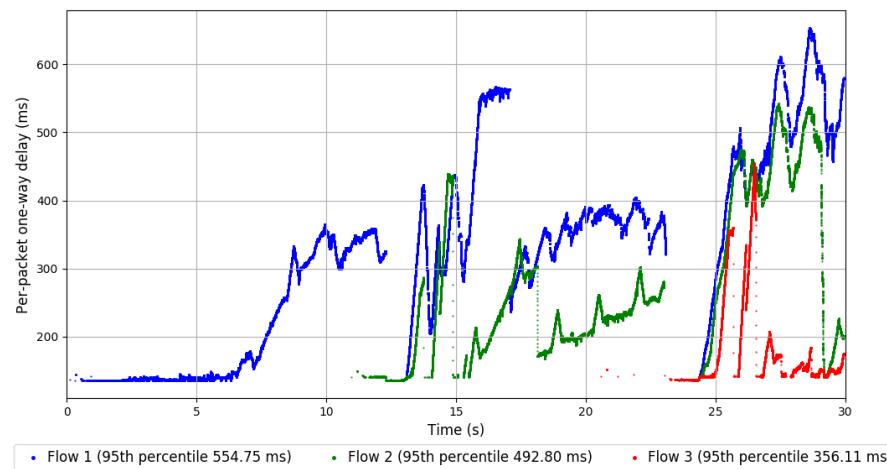
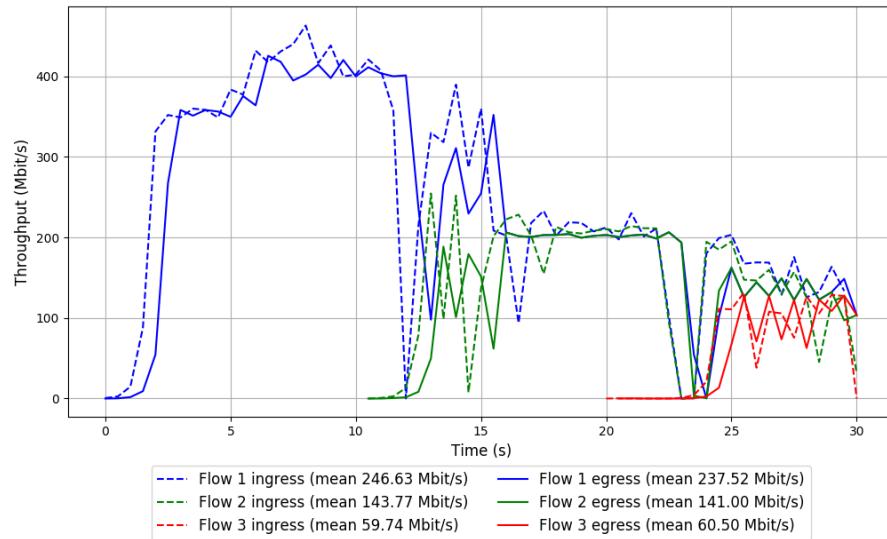


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-08 02:16:17
End at: 2018-09-08 02:16:47
Local clock offset: 2.57 ms
Remote clock offset: -31.71 ms

# Below is generated by plot.py at 2018-09-08 03:55:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.15 Mbit/s
95th percentile per-packet one-way delay: 528.930 ms
Loss rate: 4.47%
-- Flow 1:
Average throughput: 237.52 Mbit/s
95th percentile per-packet one-way delay: 554.750 ms
Loss rate: 4.34%
-- Flow 2:
Average throughput: 141.00 Mbit/s
95th percentile per-packet one-way delay: 492.797 ms
Loss rate: 4.61%
-- Flow 3:
Average throughput: 60.50 Mbit/s
95th percentile per-packet one-way delay: 356.106 ms
Loss rate: 5.50%
```

Run 4: Report of TCP BBR — Data Link

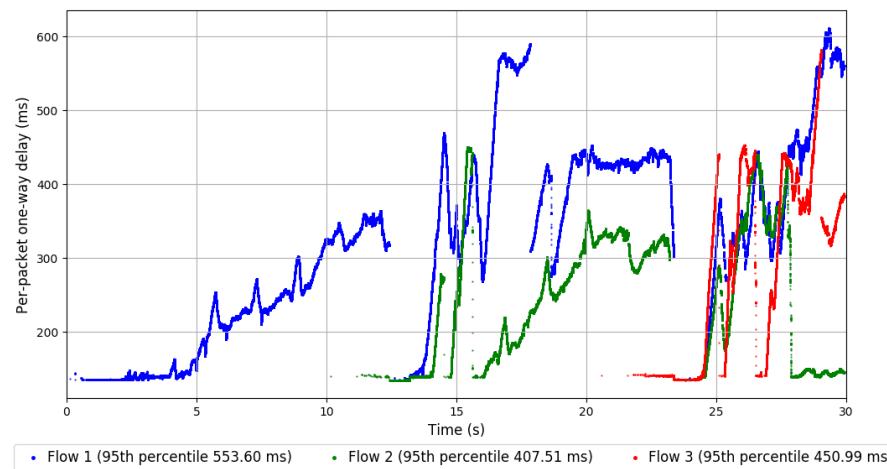
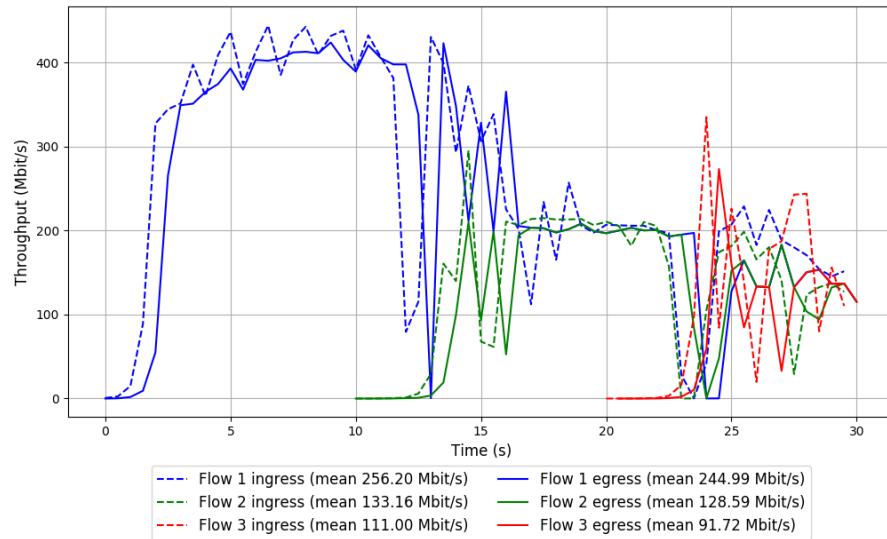


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-08 02:58:55
End at: 2018-09-08 02:59:25
Local clock offset: 2.747 ms
Remote clock offset: -28.502 ms

# Below is generated by plot.py at 2018-09-08 03:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.11 Mbit/s
95th percentile per-packet one-way delay: 464.807 ms
Loss rate: 6.17%
-- Flow 1:
Average throughput: 244.99 Mbit/s
95th percentile per-packet one-way delay: 553.601 ms
Loss rate: 5.00%
-- Flow 2:
Average throughput: 128.59 Mbit/s
95th percentile per-packet one-way delay: 407.511 ms
Loss rate: 4.40%
-- Flow 3:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 450.985 ms
Loss rate: 19.11%
```

Run 5: Report of TCP BBR — Data Link

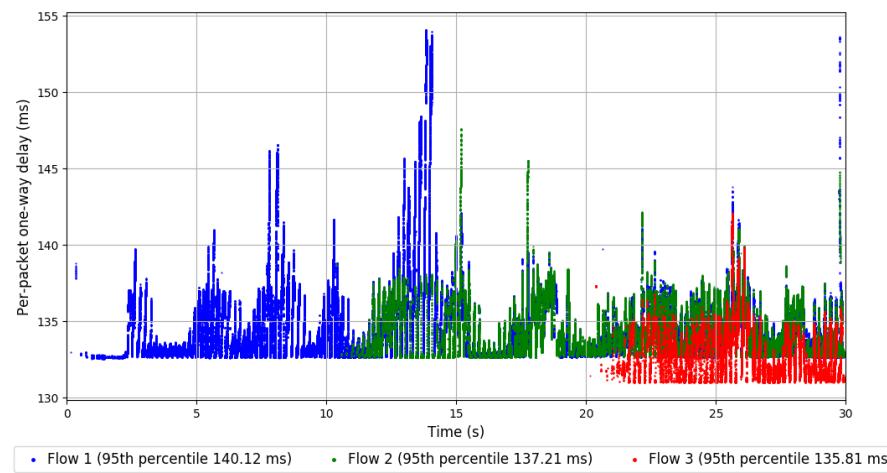
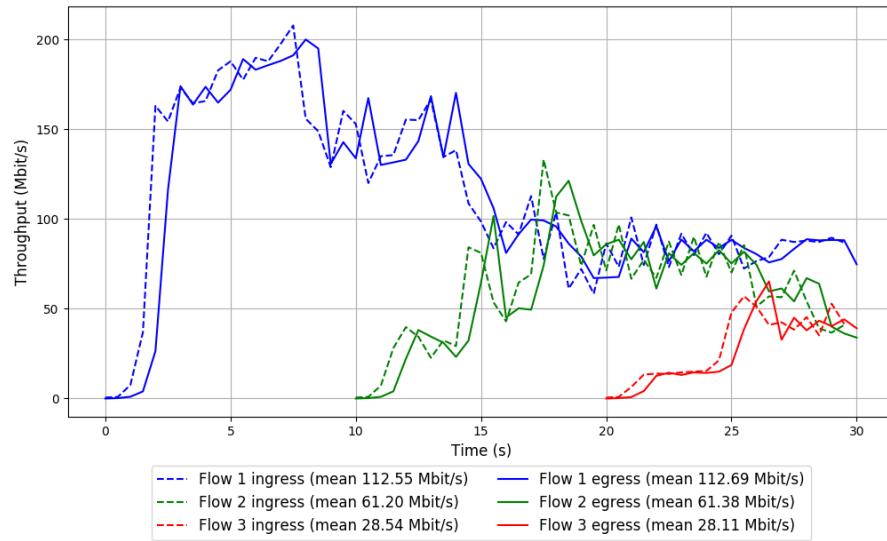


Run 1: Statistics of Copa

```
Start at: 2018-09-08 00:29:35
End at: 2018-09-08 00:30:05
Local clock offset: 2.279 ms
Remote clock offset: -34.594 ms

# Below is generated by plot.py at 2018-09-08 03:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.64 Mbit/s
95th percentile per-packet one-way delay: 138.787 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 112.69 Mbit/s
95th percentile per-packet one-way delay: 140.117 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 61.38 Mbit/s
95th percentile per-packet one-way delay: 137.210 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 135.815 ms
Loss rate: 3.37%
```

Run 1: Report of Copa — Data Link

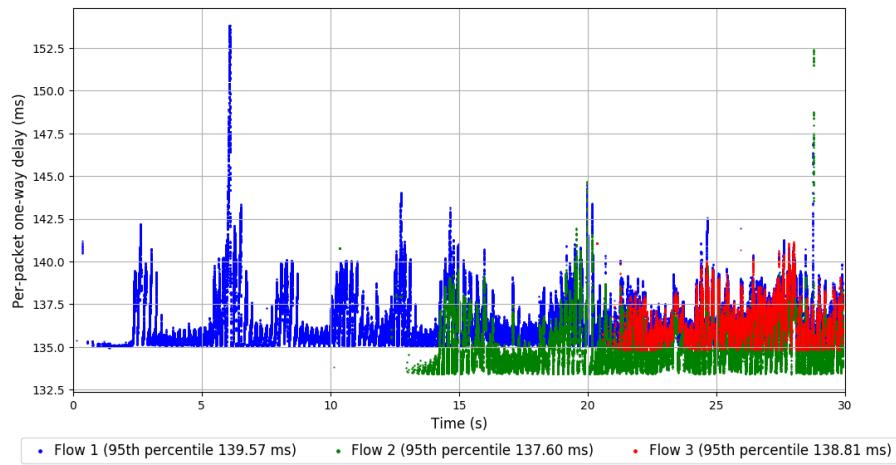
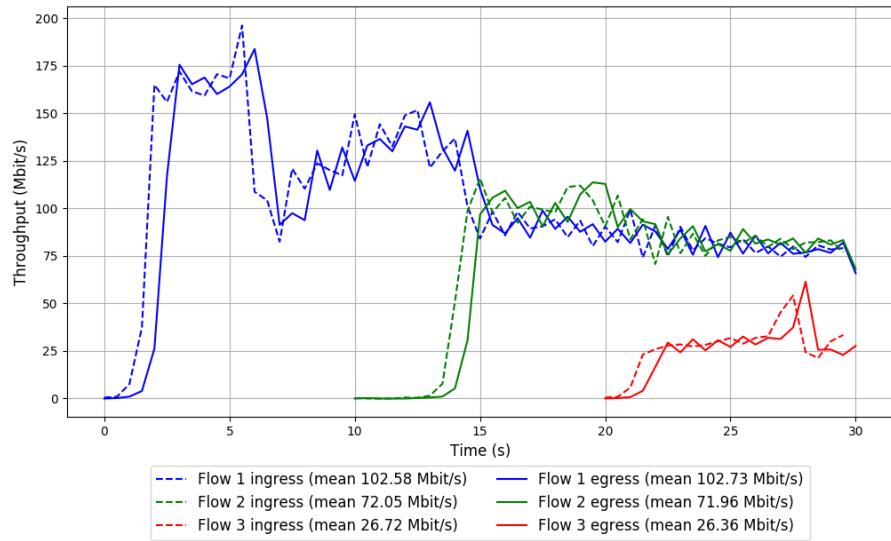


Run 2: Statistics of Copa

```
Start at: 2018-09-08 01:01:59
End at: 2018-09-08 01:02:29
Local clock offset: -0.226 ms
Remote clock offset: -36.94 ms

# Below is generated by plot.py at 2018-09-08 03:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 159.15 Mbit/s
95th percentile per-packet one-way delay: 139.294 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 102.73 Mbit/s
95th percentile per-packet one-way delay: 139.575 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 71.96 Mbit/s
95th percentile per-packet one-way delay: 137.597 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 138.811 ms
Loss rate: 3.29%
```

Run 2: Report of Copa — Data Link

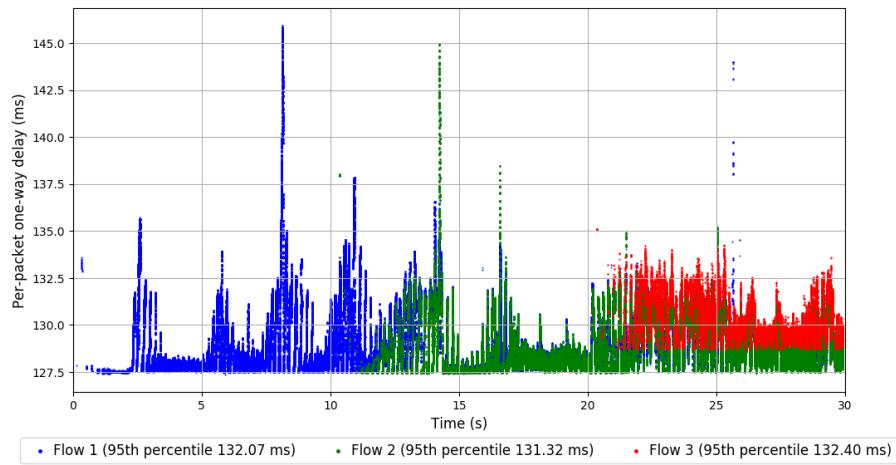
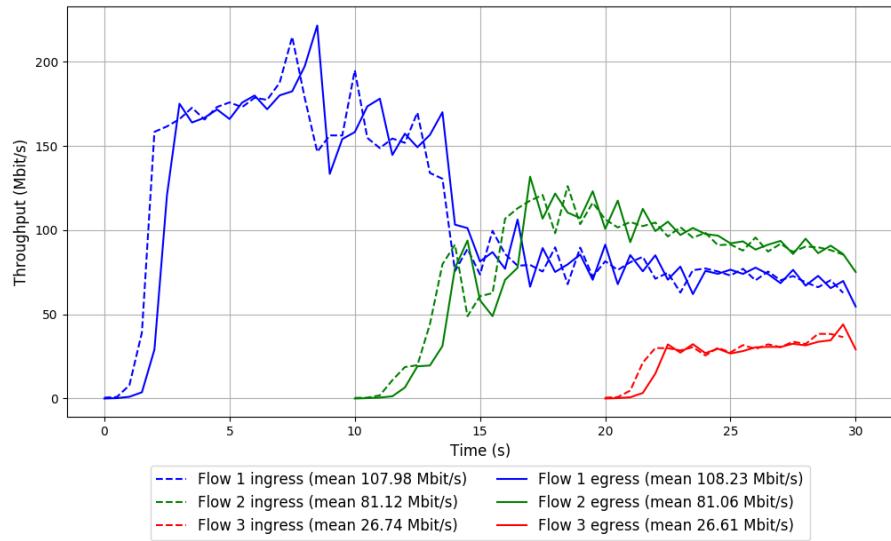


Run 3: Statistics of Copa

```
Start at: 2018-09-08 01:46:04
End at: 2018-09-08 01:46:34
Local clock offset: 0.923 ms
Remote clock offset: -29.4 ms

# Below is generated by plot.py at 2018-09-08 03:55:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 170.75 Mbit/s
95th percentile per-packet one-way delay: 131.894 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 108.23 Mbit/s
95th percentile per-packet one-way delay: 132.074 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 81.06 Mbit/s
95th percentile per-packet one-way delay: 131.316 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 26.61 Mbit/s
95th percentile per-packet one-way delay: 132.399 ms
Loss rate: 2.46%
```

Run 3: Report of Copa — Data Link

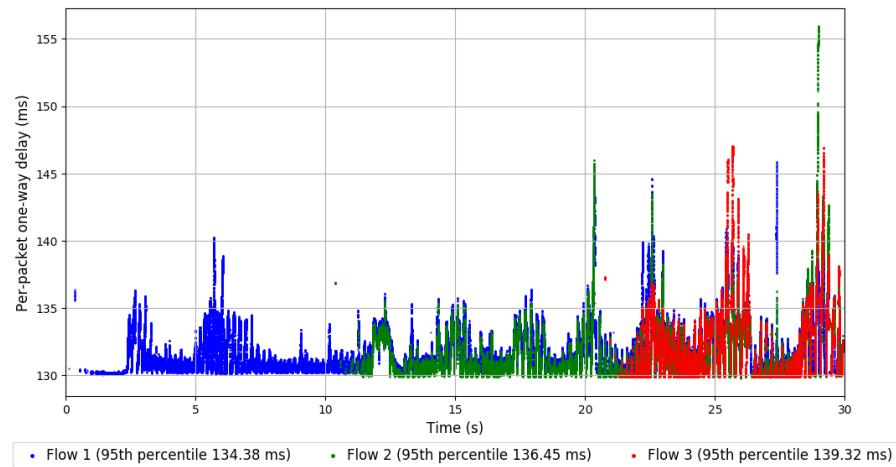
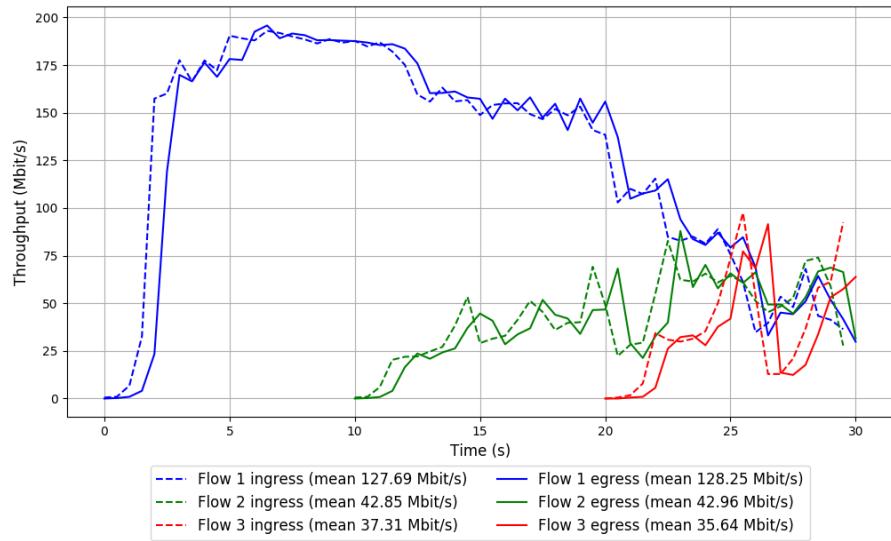


Run 4: Statistics of Copa

```
Start at: 2018-09-08 02:13:10
End at: 2018-09-08 02:13:40
Local clock offset: 1.497 ms
Remote clock offset: -26.922 ms

# Below is generated by plot.py at 2018-09-08 03:58:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.31 Mbit/s
95th percentile per-packet one-way delay: 135.307 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 128.25 Mbit/s
95th percentile per-packet one-way delay: 134.380 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 42.96 Mbit/s
95th percentile per-packet one-way delay: 136.450 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 35.64 Mbit/s
95th percentile per-packet one-way delay: 139.322 ms
Loss rate: 6.39%
```

Run 4: Report of Copa — Data Link

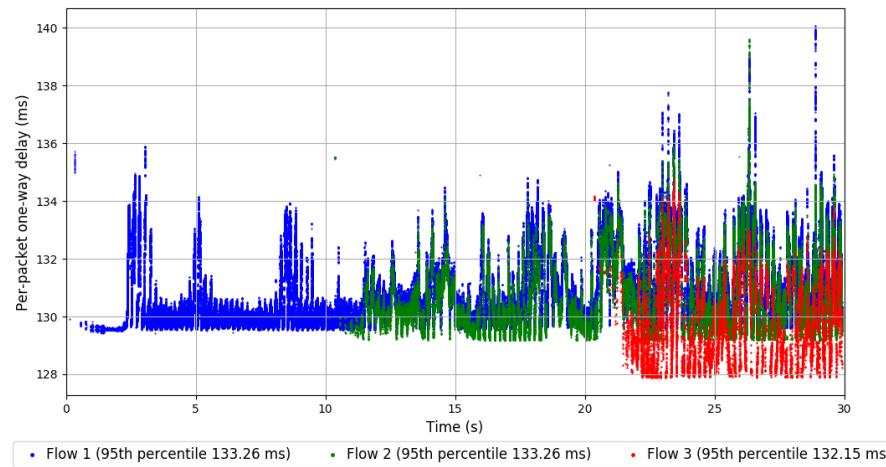
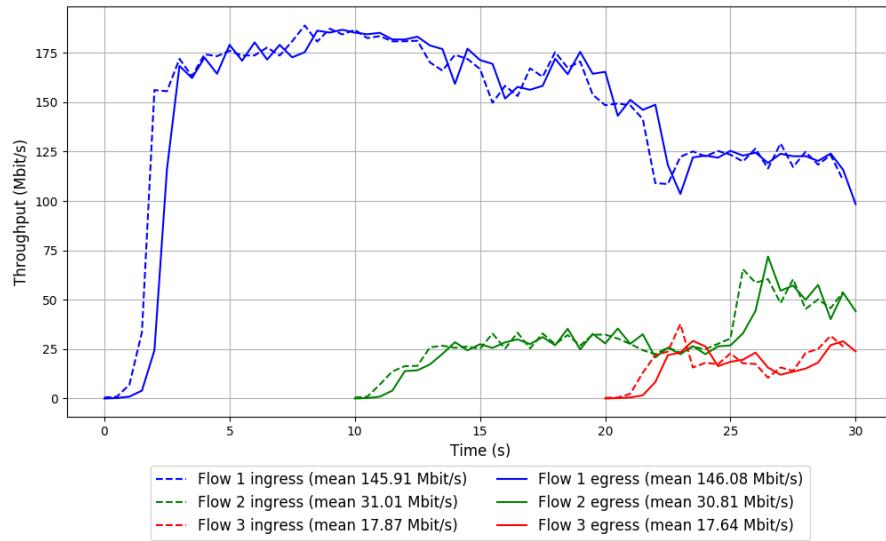


Run 5: Statistics of Copa

```
Start at: 2018-09-08 02:55:46
End at: 2018-09-08 02:56:16
Local clock offset: 1.198 ms
Remote clock offset: -24.3 ms

# Below is generated by plot.py at 2018-09-08 03:58:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.31 Mbit/s
95th percentile per-packet one-way delay: 133.253 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 146.08 Mbit/s
95th percentile per-packet one-way delay: 133.264 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 133.265 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 17.64 Mbit/s
95th percentile per-packet one-way delay: 132.151 ms
Loss rate: 3.26%
```

Run 5: Report of Copa — Data Link

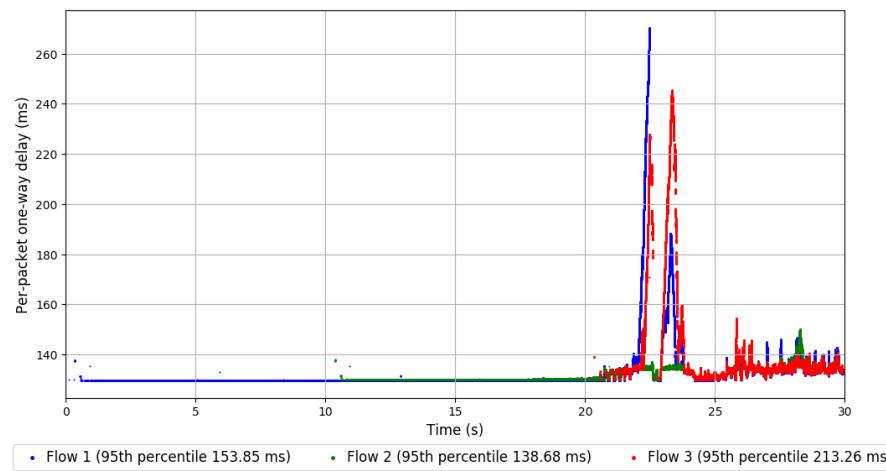
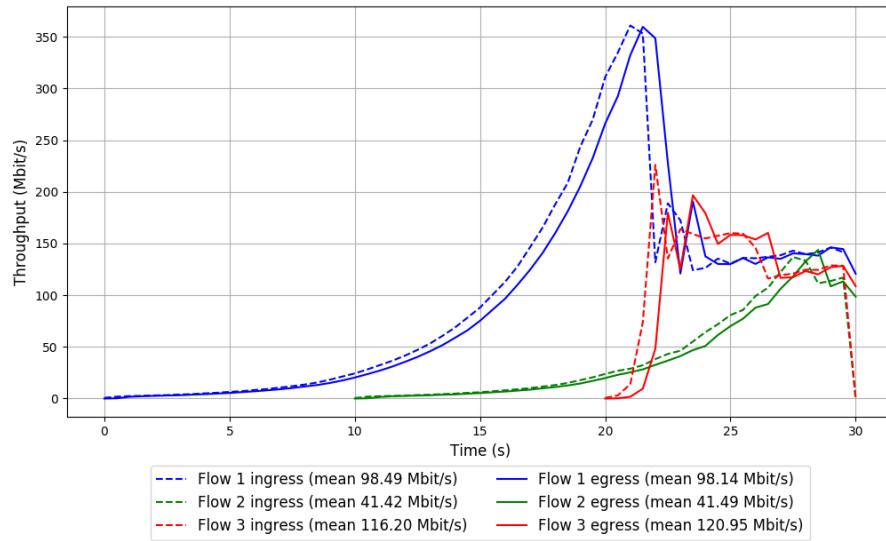


```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-08 00:28:08
End at: 2018-09-08 00:28:38
Local clock offset: 0.896 ms
Remote clock offset: -33.417 ms

# Below is generated by plot.py at 2018-09-08 03:58:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.30 Mbit/s
95th percentile per-packet one-way delay: 172.240 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 98.14 Mbit/s
95th percentile per-packet one-way delay: 153.850 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 138.683 ms
Loss rate: 2.97%
-- Flow 3:
Average throughput: 120.95 Mbit/s
95th percentile per-packet one-way delay: 213.264 ms
Loss rate: 2.26%
```

Run 1: Report of TCP Cubic — Data Link

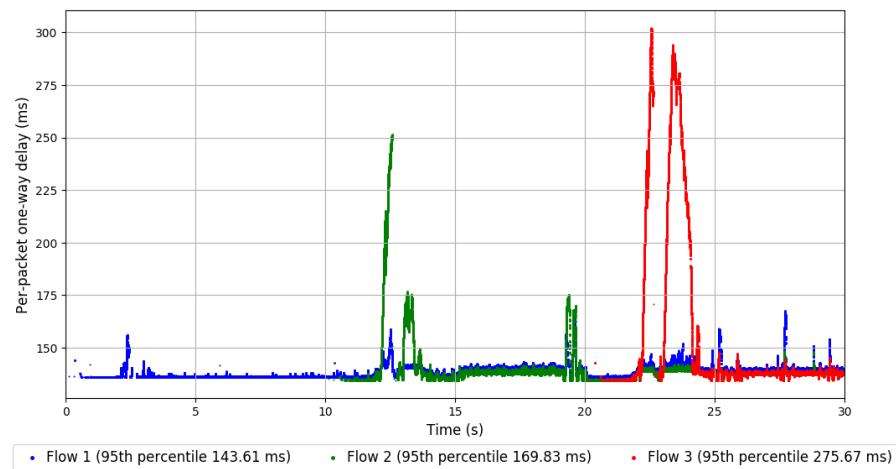
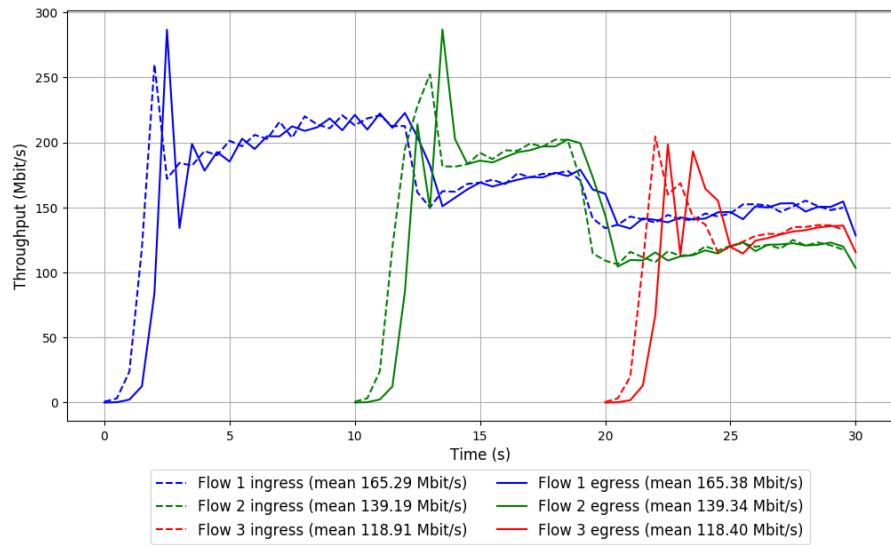


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-08 01:00:27
End at: 2018-09-08 01:00:57
Local clock offset: 2.295 ms
Remote clock offset: -35.47 ms

# Below is generated by plot.py at 2018-09-08 03:58:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 296.65 Mbit/s
95th percentile per-packet one-way delay: 166.779 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 165.38 Mbit/s
95th percentile per-packet one-way delay: 143.606 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 139.34 Mbit/s
95th percentile per-packet one-way delay: 169.834 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 118.40 Mbit/s
95th percentile per-packet one-way delay: 275.666 ms
Loss rate: 2.39%
```

Run 2: Report of TCP Cubic — Data Link

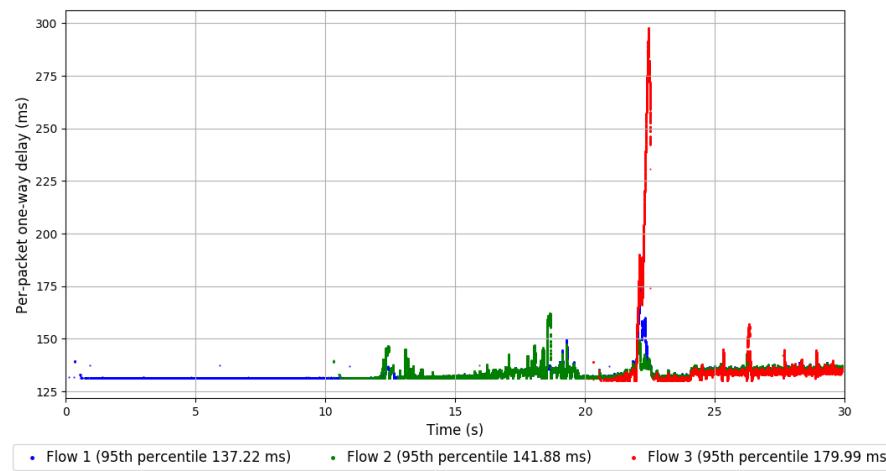
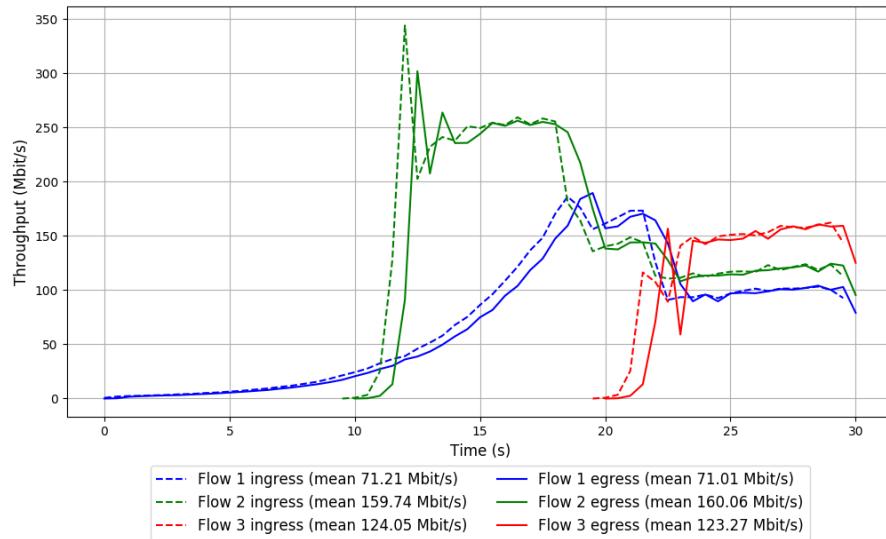


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-08 01:39:02
End at: 2018-09-08 01:39:32
Local clock offset: 2.695 ms
Remote clock offset: -30.51 ms

# Below is generated by plot.py at 2018-09-08 03:58:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.79 Mbit/s
95th percentile per-packet one-way delay: 142.234 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 71.01 Mbit/s
95th percentile per-packet one-way delay: 137.216 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 160.06 Mbit/s
95th percentile per-packet one-way delay: 141.884 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 123.27 Mbit/s
95th percentile per-packet one-way delay: 179.985 ms
Loss rate: 2.59%
```

Run 3: Report of TCP Cubic — Data Link

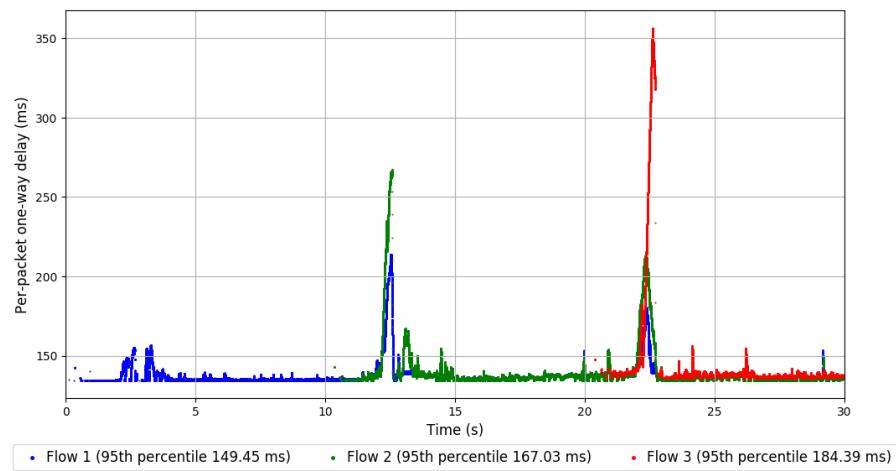
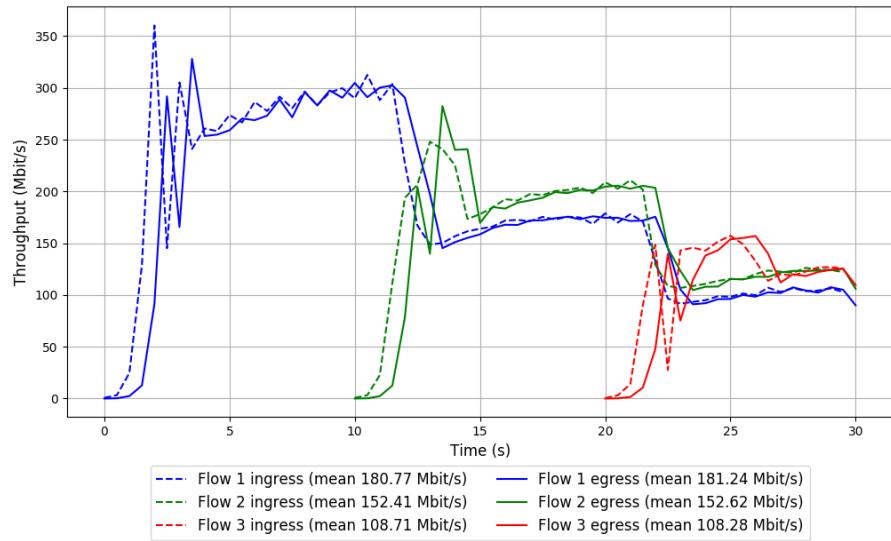


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-08 02:11:36
End at: 2018-09-08 02:12:06
Local clock offset: -1.933 ms
Remote clock offset: -36.347 ms

# Below is generated by plot.py at 2018-09-08 03:59:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.98 Mbit/s
95th percentile per-packet one-way delay: 153.809 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 181.24 Mbit/s
95th percentile per-packet one-way delay: 149.449 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 152.62 Mbit/s
95th percentile per-packet one-way delay: 167.033 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 108.28 Mbit/s
95th percentile per-packet one-way delay: 184.388 ms
Loss rate: 2.38%
```

Run 4: Report of TCP Cubic — Data Link

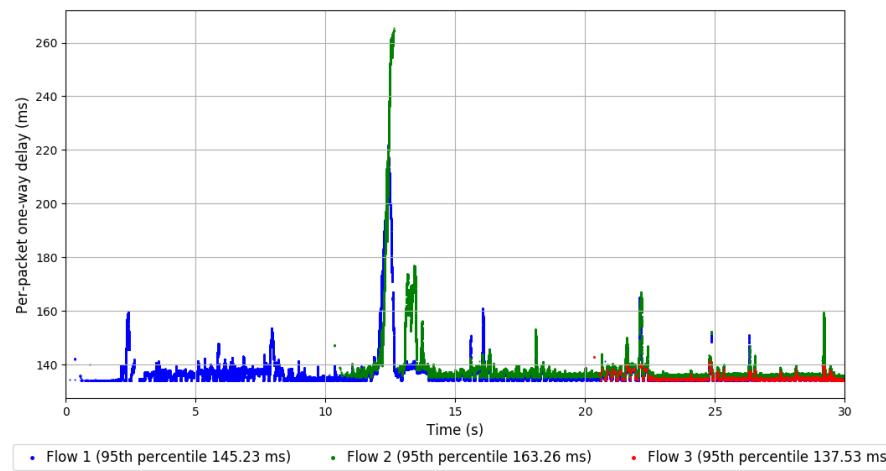
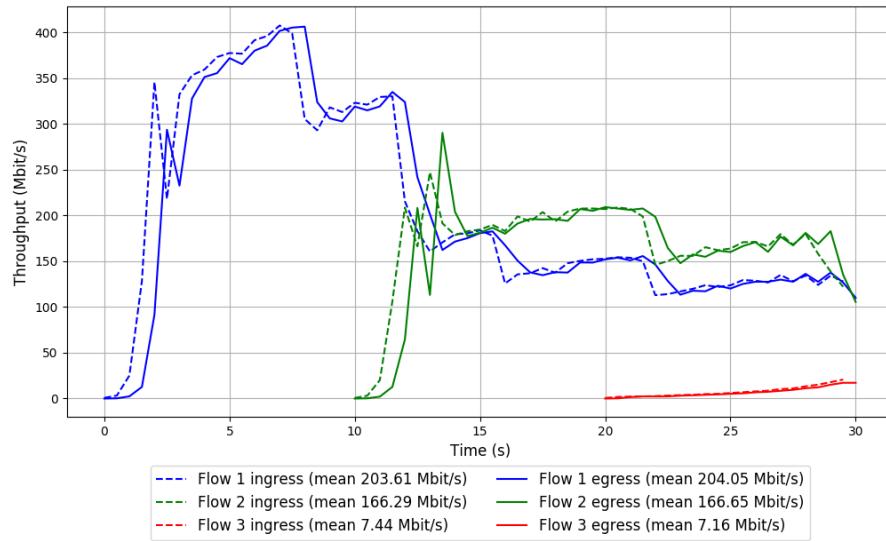


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-08 02:44:30
End at: 2018-09-08 02:45:00
Local clock offset: 2.659 ms
Remote clock offset: -30.172 ms

# Below is generated by plot.py at 2018-09-08 03:59:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.06 Mbit/s
95th percentile per-packet one-way delay: 150.810 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 204.05 Mbit/s
95th percentile per-packet one-way delay: 145.234 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 166.65 Mbit/s
95th percentile per-packet one-way delay: 163.260 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 7.16 Mbit/s
95th percentile per-packet one-way delay: 137.525 ms
Loss rate: 5.69%
```

Run 5: Report of TCP Cubic — Data Link

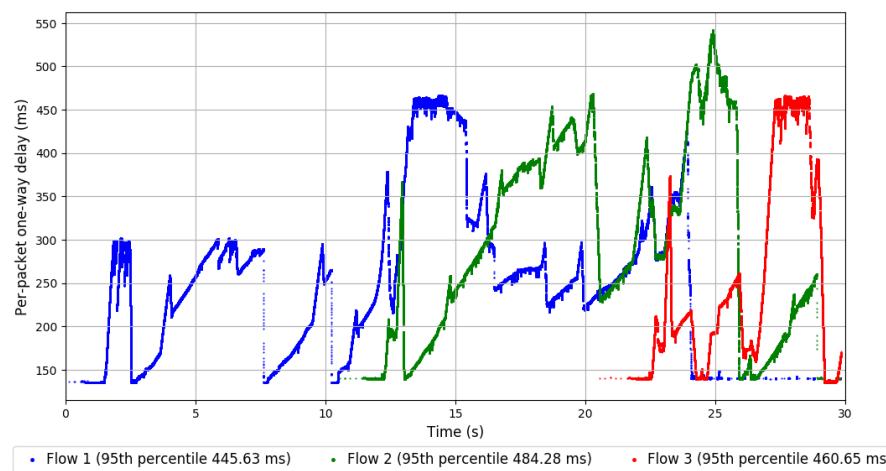
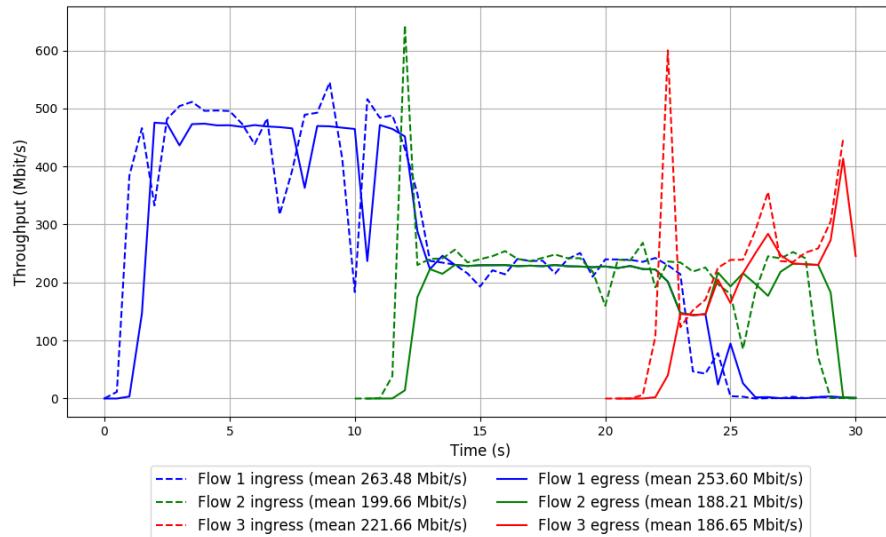


```
Run 1: Statistics of FillP
```

```
Start at: 2018-09-08 00:43:04
End at: 2018-09-08 00:43:34
Local clock offset: 1.085 ms
Remote clock offset: -37.631 ms

# Below is generated by plot.py at 2018-09-08 04:01:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.40 Mbit/s
95th percentile per-packet one-way delay: 459.118 ms
Loss rate: 7.80%
-- Flow 1:
Average throughput: 253.60 Mbit/s
95th percentile per-packet one-way delay: 445.627 ms
Loss rate: 4.03%
-- Flow 2:
Average throughput: 188.21 Mbit/s
95th percentile per-packet one-way delay: 484.279 ms
Loss rate: 9.67%
-- Flow 3:
Average throughput: 186.65 Mbit/s
95th percentile per-packet one-way delay: 460.649 ms
Loss rate: 18.21%
```

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-08 01:21:07
End at: 2018-09-08 01:21:37
Local clock offset: 0.22 ms
Remote clock offset: -33.165 ms

Run 2: Report of FillP — Data Link

Figure is missing

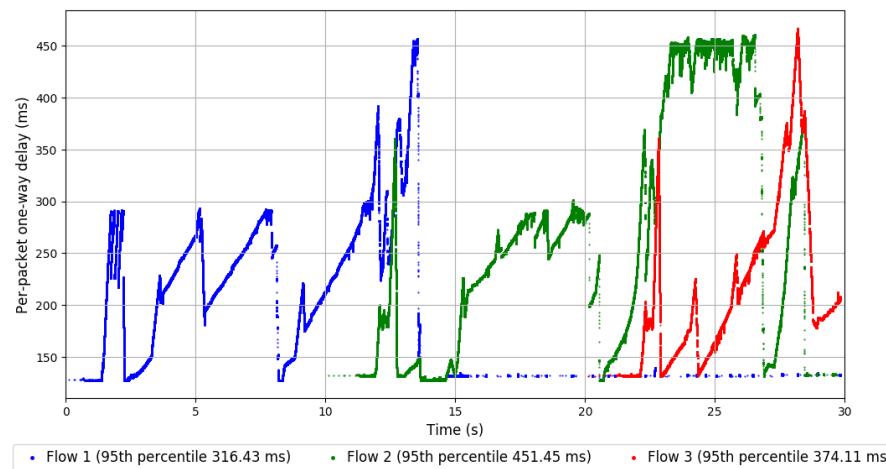
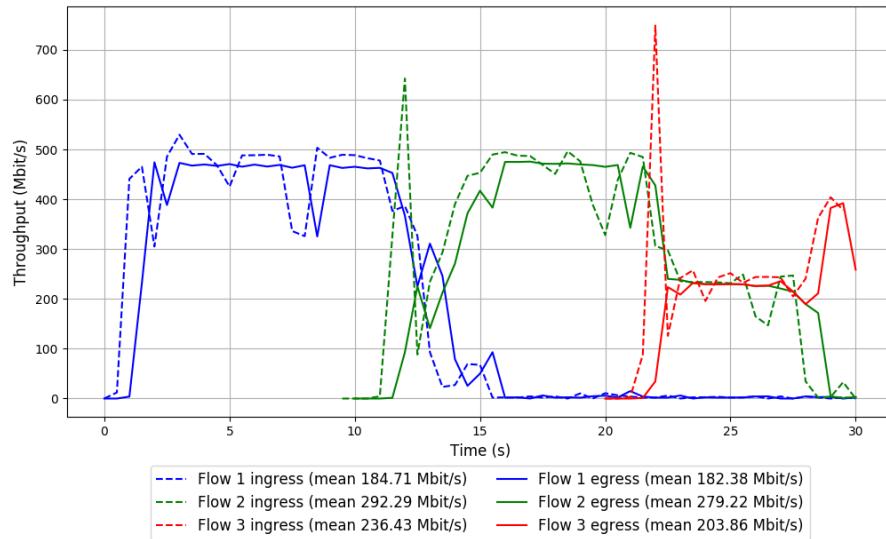
Figure is missing

Run 3: Statistics of FillP

```
Start at: 2018-09-08 01:59:47
End at: 2018-09-08 02:00:17
Local clock offset: -0.141 ms
Remote clock offset: -28.774 ms

# Below is generated by plot.py at 2018-09-08 04:03:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.10 Mbit/s
95th percentile per-packet one-way delay: 439.105 ms
Loss rate: 6.69%
-- Flow 1:
Average throughput: 182.38 Mbit/s
95th percentile per-packet one-way delay: 316.430 ms
Loss rate: 2.51%
-- Flow 2:
Average throughput: 279.22 Mbit/s
95th percentile per-packet one-way delay: 451.453 ms
Loss rate: 6.89%
-- Flow 3:
Average throughput: 203.86 Mbit/s
95th percentile per-packet one-way delay: 374.108 ms
Loss rate: 16.05%
```

Run 3: Report of FillP — Data Link

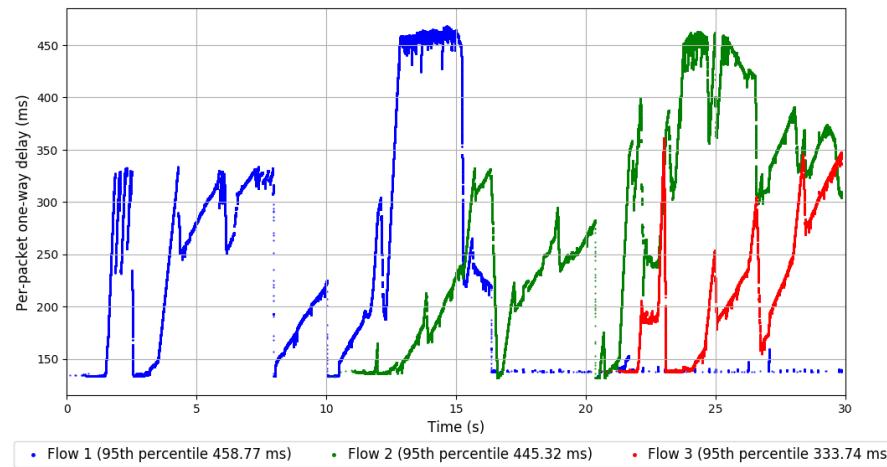
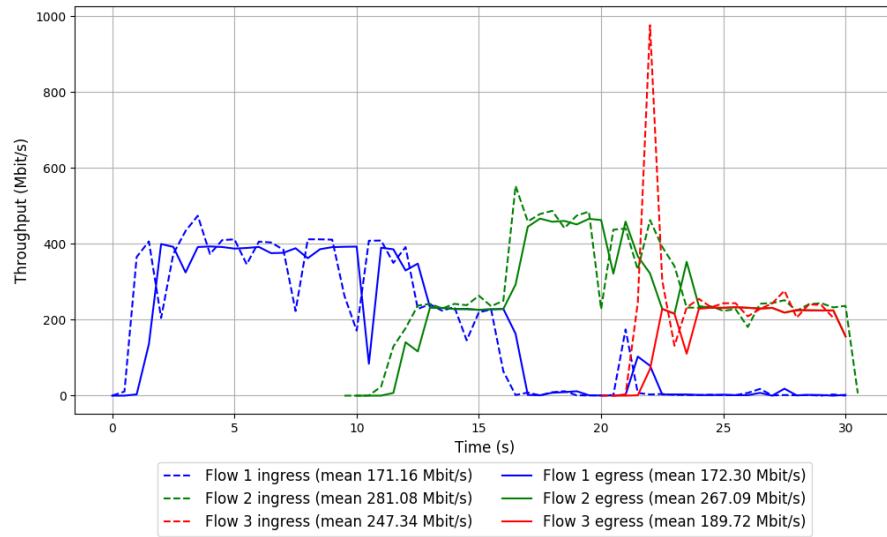


Run 4: Statistics of FillP

```
Start at: 2018-09-08 02:26:49
End at: 2018-09-08 02:27:19
Local clock offset: 0.617 ms
Remote clock offset: -31.408 ms

# Below is generated by plot.py at 2018-09-08 04:03:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.75 Mbit/s
95th percentile per-packet one-way delay: 452.481 ms
Loss rate: 8.53%
-- Flow 1:
Average throughput: 172.30 Mbit/s
95th percentile per-packet one-way delay: 458.771 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 267.09 Mbit/s
95th percentile per-packet one-way delay: 445.317 ms
Loss rate: 8.67%
-- Flow 3:
Average throughput: 189.72 Mbit/s
95th percentile per-packet one-way delay: 333.735 ms
Loss rate: 25.35%
```

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-08 03:35:56
End at: 2018-09-08 03:36:26
Local clock offset: -0.431 ms
Remote clock offset: -22.798 ms

Run 5: Report of FillP — Data Link

Figure is missing

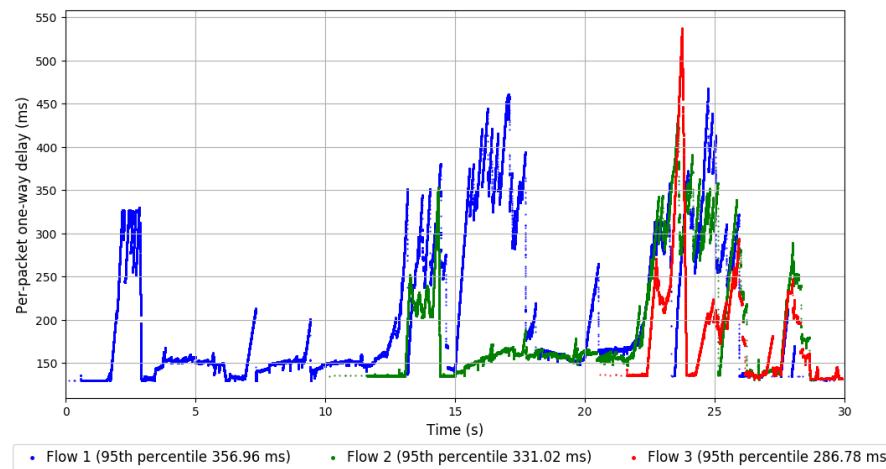
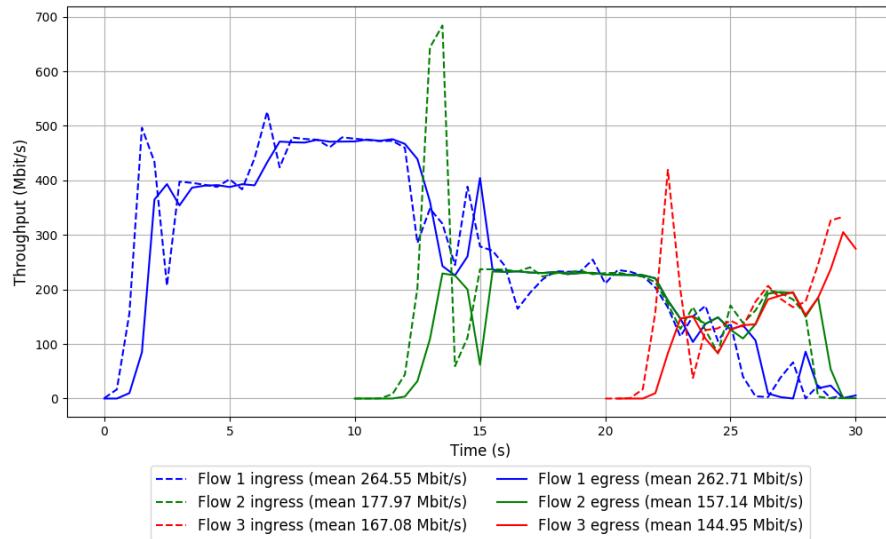
Figure is missing

Run 1: Statistics of FillP-Sheep

```
Start at: 2018-09-08 00:49:02
End at: 2018-09-08 00:49:32
Local clock offset: 1.155 ms
Remote clock offset: -32.978 ms

# Below is generated by plot.py at 2018-09-08 04:04:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.32 Mbit/s
95th percentile per-packet one-way delay: 347.120 ms
Loss rate: 6.43%
-- Flow 1:
Average throughput: 262.71 Mbit/s
95th percentile per-packet one-way delay: 356.962 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 157.14 Mbit/s
95th percentile per-packet one-way delay: 331.019 ms
Loss rate: 12.86%
-- Flow 3:
Average throughput: 144.95 Mbit/s
95th percentile per-packet one-way delay: 286.780 ms
Loss rate: 15.07%
```

Run 1: Report of FillP-Sheep — Data Link

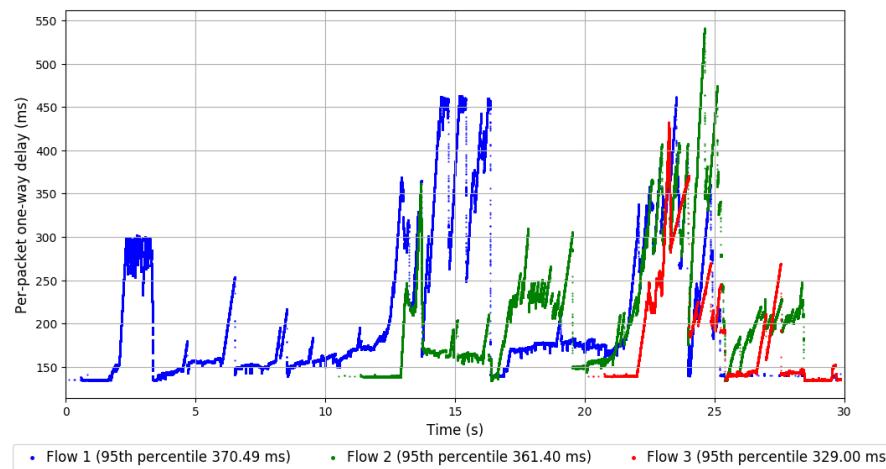
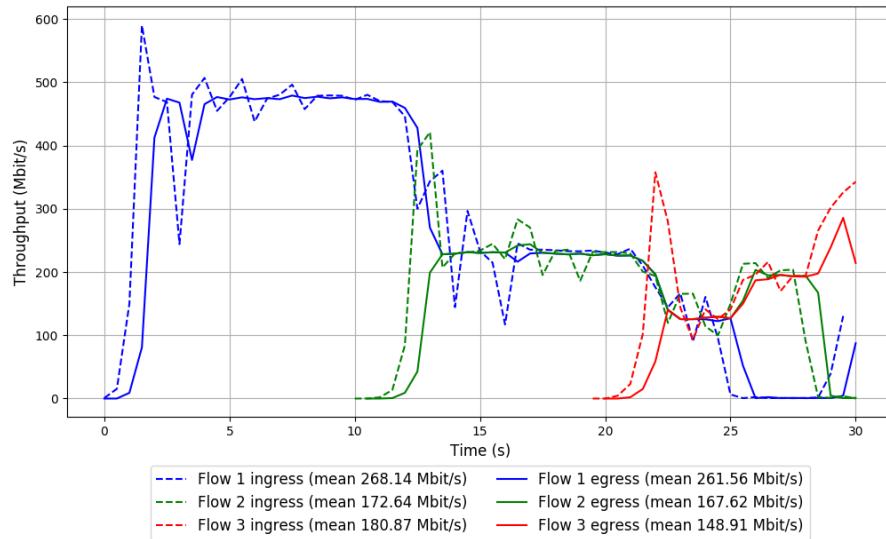


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-08 01:27:31
End at: 2018-09-08 01:28:01
Local clock offset: 0.853 ms
Remote clock offset: -35.61 ms

# Below is generated by plot.py at 2018-09-08 04:04:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.68 Mbit/s
95th percentile per-packet one-way delay: 361.767 ms
Loss rate: 7.24%
-- Flow 1:
Average throughput: 261.56 Mbit/s
95th percentile per-packet one-way delay: 370.487 ms
Loss rate: 3.31%
-- Flow 2:
Average throughput: 167.62 Mbit/s
95th percentile per-packet one-way delay: 361.401 ms
Loss rate: 7.18%
-- Flow 3:
Average throughput: 148.91 Mbit/s
95th percentile per-packet one-way delay: 329.000 ms
Loss rate: 23.91%
```

Run 2: Report of FillP-Sheep — Data Link

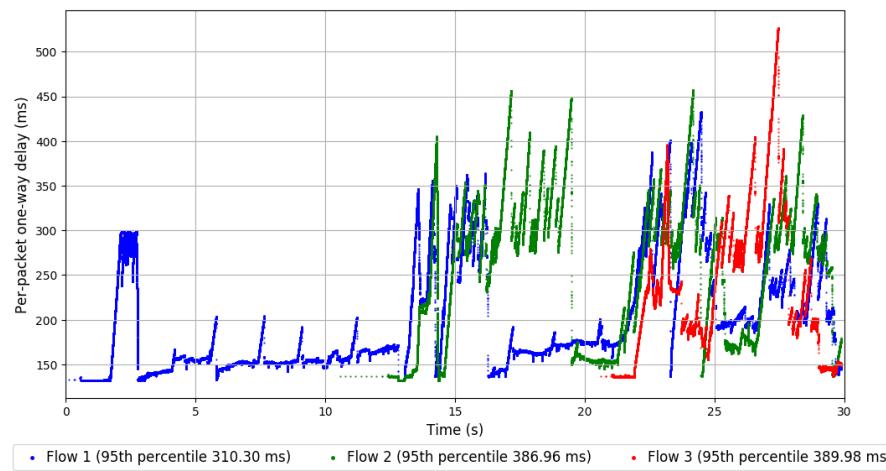
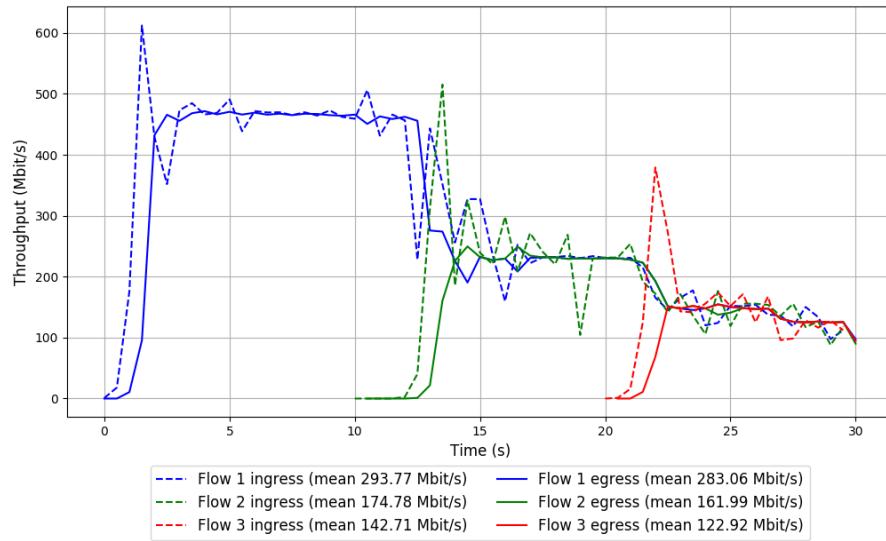


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-08 02:05:35
End at: 2018-09-08 02:06:05
Local clock offset: 0.631 ms
Remote clock offset: -30.611 ms

# Below is generated by plot.py at 2018-09-08 04:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.52 Mbit/s
95th percentile per-packet one-way delay: 345.916 ms
Loss rate: 6.42%
-- Flow 1:
Average throughput: 283.06 Mbit/s
95th percentile per-packet one-way delay: 310.300 ms
Loss rate: 4.28%
-- Flow 2:
Average throughput: 161.99 Mbit/s
95th percentile per-packet one-way delay: 386.961 ms
Loss rate: 8.27%
-- Flow 3:
Average throughput: 122.92 Mbit/s
95th percentile per-packet one-way delay: 389.980 ms
Loss rate: 15.69%
```

Run 3: Report of FillP-Sheep — Data Link

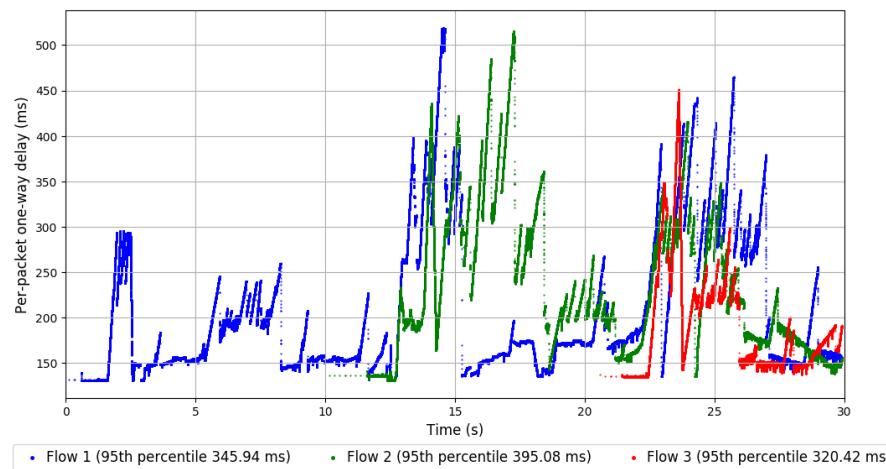
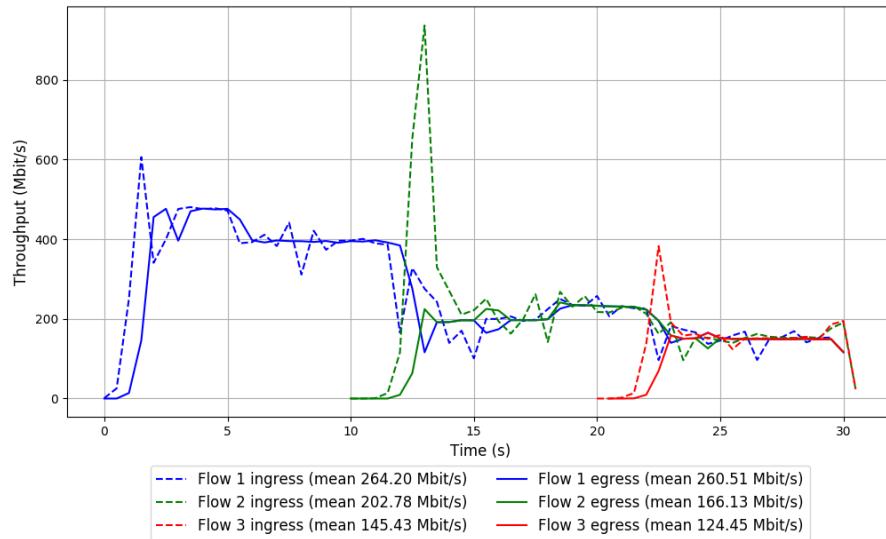


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-08 02:32:56
End at: 2018-09-08 02:33:26
Local clock offset: 0.743 ms
Remote clock offset: -28.569 ms

# Below is generated by plot.py at 2018-09-08 04:05:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.60 Mbit/s
95th percentile per-packet one-way delay: 360.430 ms
Loss rate: 10.12%
-- Flow 1:
Average throughput: 260.51 Mbit/s
95th percentile per-packet one-way delay: 345.938 ms
Loss rate: 2.19%
-- Flow 2:
Average throughput: 166.13 Mbit/s
95th percentile per-packet one-way delay: 395.082 ms
Loss rate: 21.29%
-- Flow 3:
Average throughput: 124.45 Mbit/s
95th percentile per-packet one-way delay: 320.420 ms
Loss rate: 21.26%
```

Run 4: Report of FillP-Sheep — Data Link

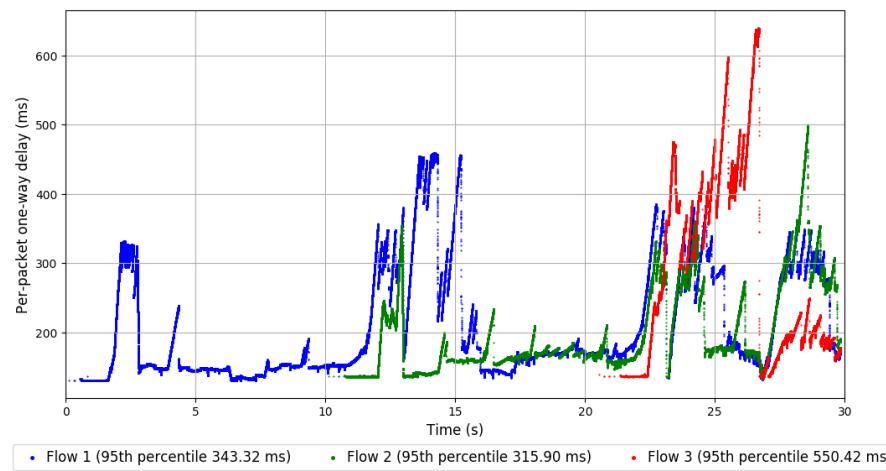
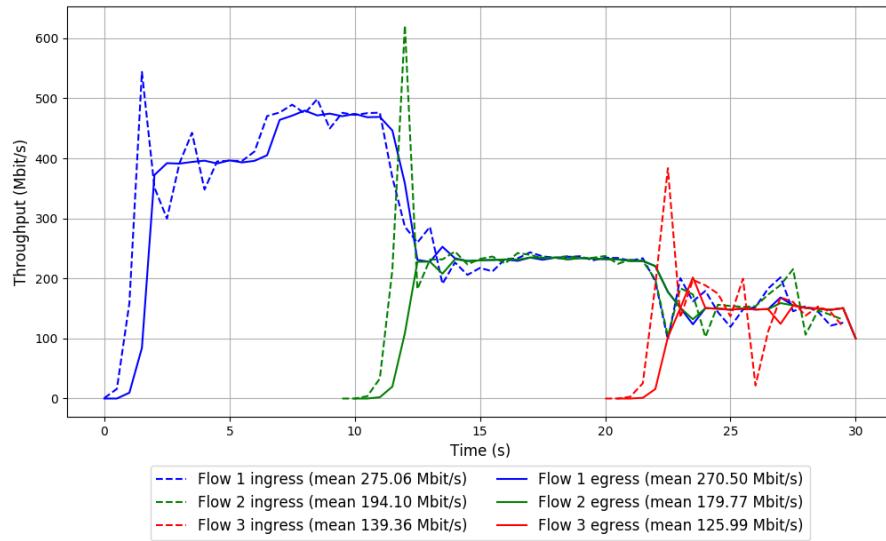


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-08 03:42:17
End at: 2018-09-08 03:42:47
Local clock offset: -2.217 ms
Remote clock offset: -28.026 ms

# Below is generated by plot.py at 2018-09-08 04:05:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 429.33 Mbit/s
95th percentile per-packet one-way delay: 385.295 ms
Loss rate: 4.94%
-- Flow 1:
Average throughput: 270.50 Mbit/s
95th percentile per-packet one-way delay: 343.325 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 179.77 Mbit/s
95th percentile per-packet one-way delay: 315.901 ms
Loss rate: 8.32%
-- Flow 3:
Average throughput: 125.99 Mbit/s
95th percentile per-packet one-way delay: 550.418 ms
Loss rate: 11.48%
```

Run 5: Report of FillP-Sheep — Data Link

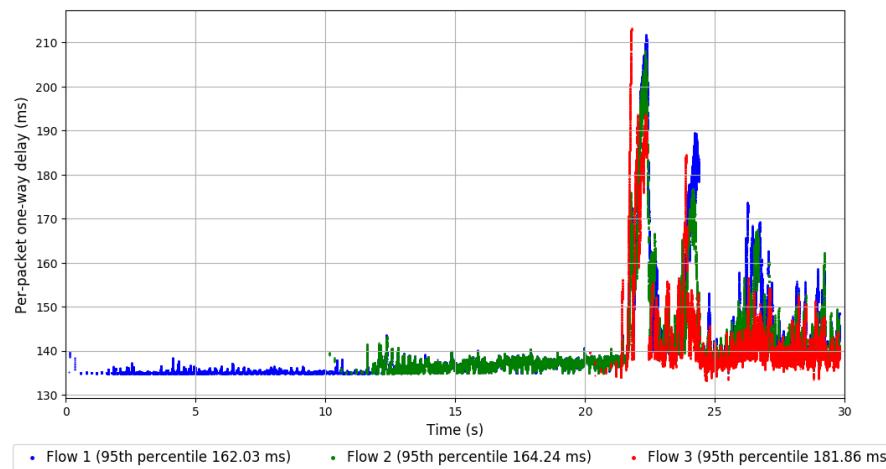
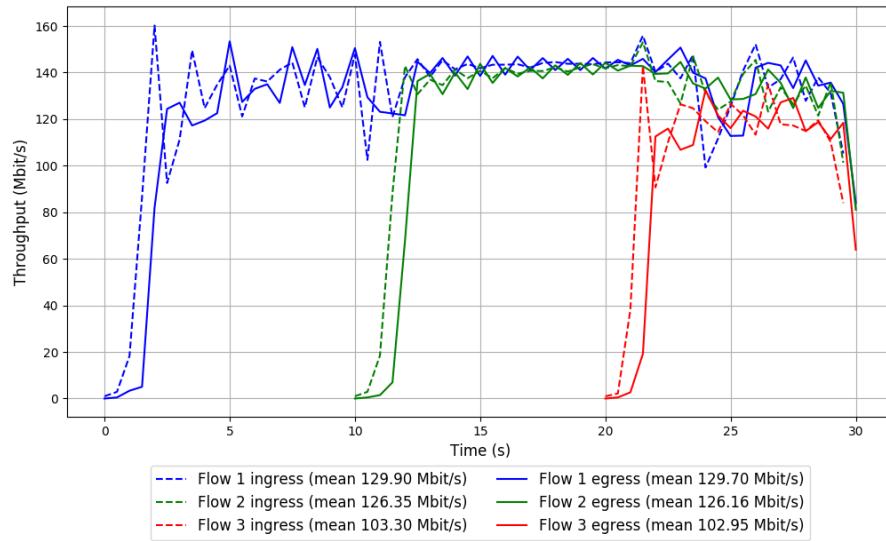


Run 1: Statistics of Indigo

```
Start at: 2018-09-08 00:41:31
End at: 2018-09-08 00:42:01
Local clock offset: 0.616 ms
Remote clock offset: -37.405 ms

# Below is generated by plot.py at 2018-09-08 04:05:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 246.67 Mbit/s
95th percentile per-packet one-way delay: 165.606 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 129.70 Mbit/s
95th percentile per-packet one-way delay: 162.030 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 126.16 Mbit/s
95th percentile per-packet one-way delay: 164.238 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 102.95 Mbit/s
95th percentile per-packet one-way delay: 181.863 ms
Loss rate: 2.39%
```

Run 1: Report of Indigo — Data Link

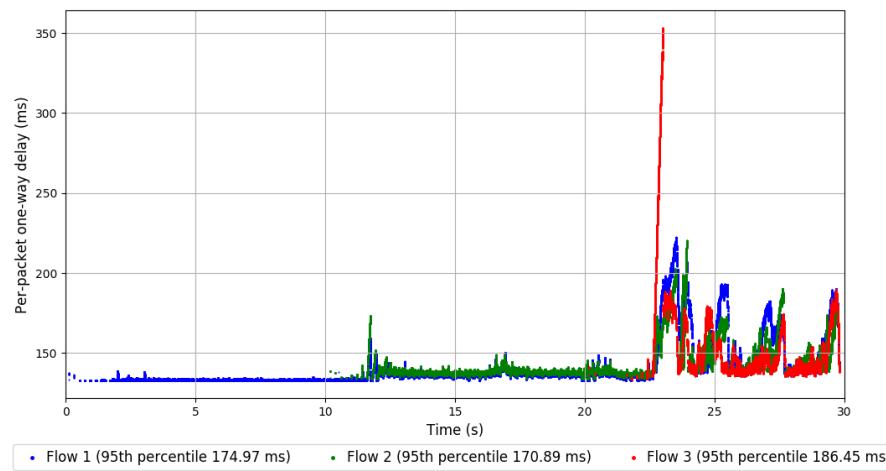
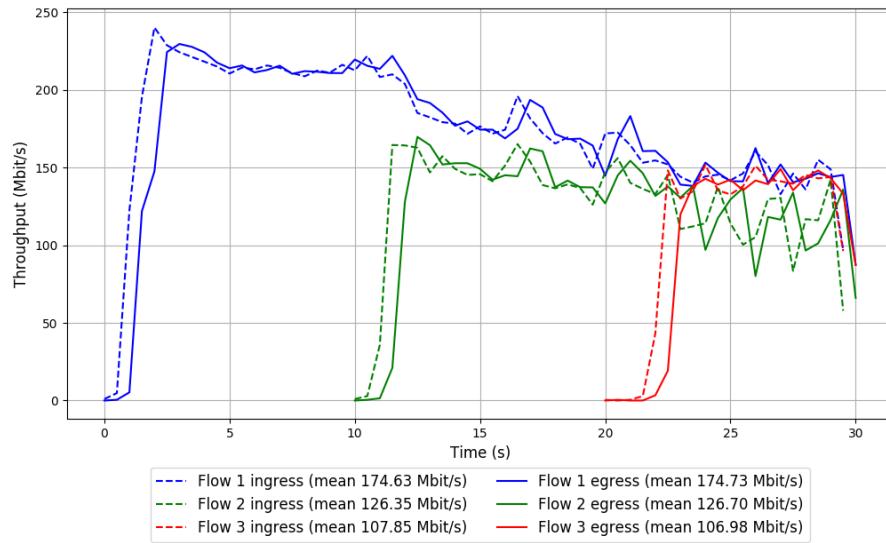


Run 2: Statistics of Indigo

```
Start at: 2018-09-08 01:14:01
End at: 2018-09-08 01:14:31
Local clock offset: -0.807 ms
Remote clock offset: -35.865 ms

# Below is generated by plot.py at 2018-09-08 04:07:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.95 Mbit/s
95th percentile per-packet one-way delay: 177.312 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 174.73 Mbit/s
95th percentile per-packet one-way delay: 174.974 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 126.70 Mbit/s
95th percentile per-packet one-way delay: 170.891 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 106.98 Mbit/s
95th percentile per-packet one-way delay: 186.451 ms
Loss rate: 2.79%
```

Run 2: Report of Indigo — Data Link

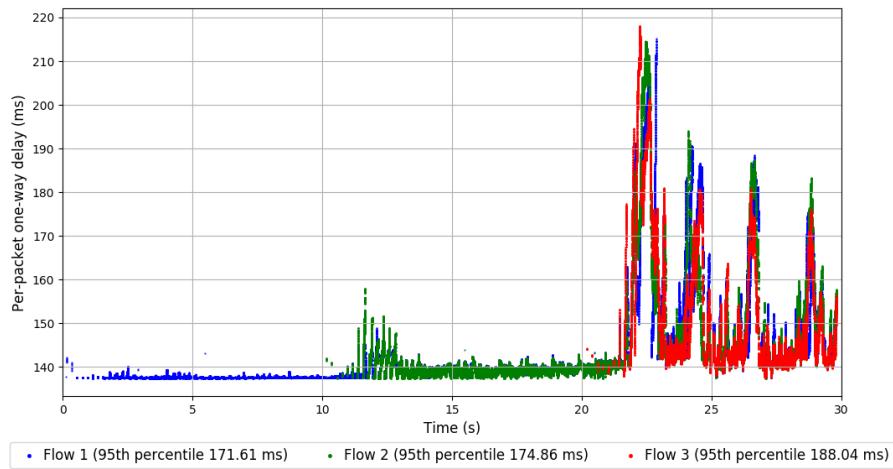
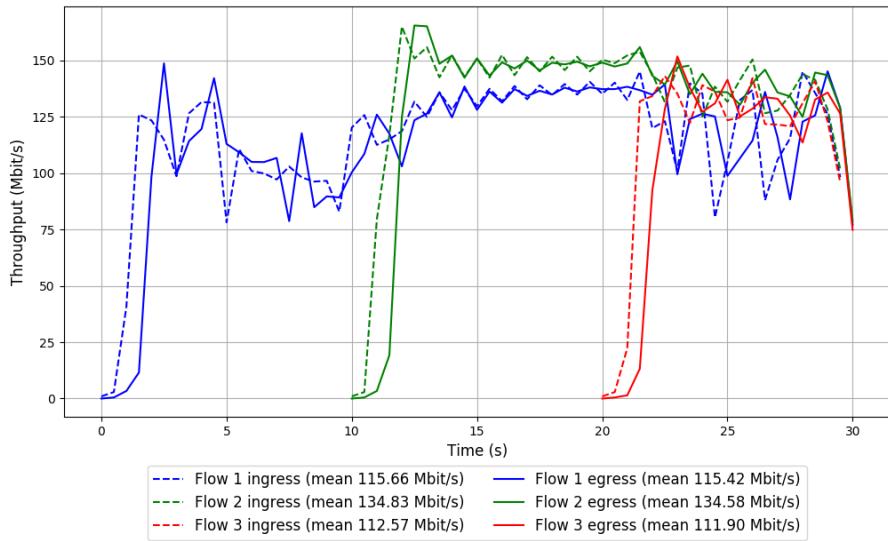


Run 3: Statistics of Indigo

```
Start at: 2018-09-08 01:58:14
End at: 2018-09-08 01:58:44
Local clock offset: 3.19 ms
Remote clock offset: -34.007 ms

# Below is generated by plot.py at 2018-09-08 04:07:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.88 Mbit/s
95th percentile per-packet one-way delay: 176.432 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 115.42 Mbit/s
95th percentile per-packet one-way delay: 171.612 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 134.58 Mbit/s
95th percentile per-packet one-way delay: 174.864 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 111.90 Mbit/s
95th percentile per-packet one-way delay: 188.040 ms
Loss rate: 2.66%
```

Run 3: Report of Indigo — Data Link

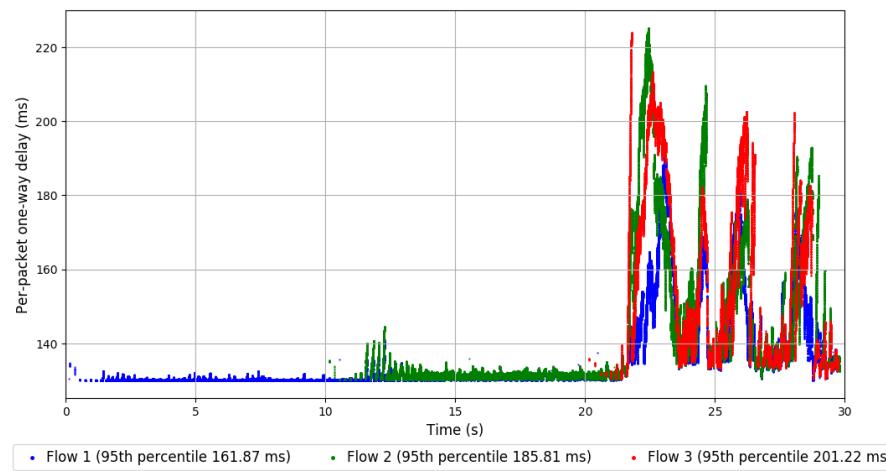
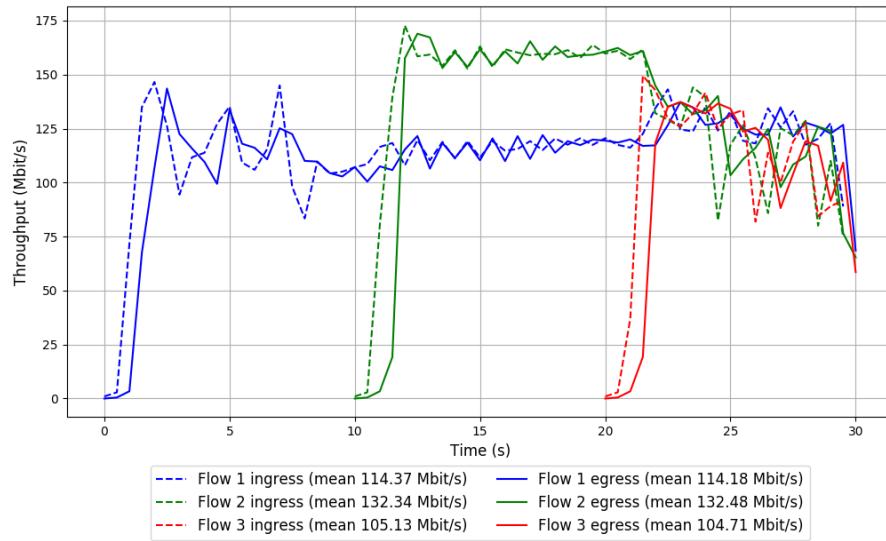


Run 4: Statistics of Indigo

```
Start at: 2018-09-08 02:25:17
End at: 2018-09-08 02:25:47
Local clock offset: 0.625 ms
Remote clock offset: -27.89 ms

# Below is generated by plot.py at 2018-09-08 04:07:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.82 Mbit/s
95th percentile per-packet one-way delay: 182.932 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 114.18 Mbit/s
95th percentile per-packet one-way delay: 161.870 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 132.48 Mbit/s
95th percentile per-packet one-way delay: 185.813 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 104.71 Mbit/s
95th percentile per-packet one-way delay: 201.219 ms
Loss rate: 2.52%
```

Run 4: Report of Indigo — Data Link

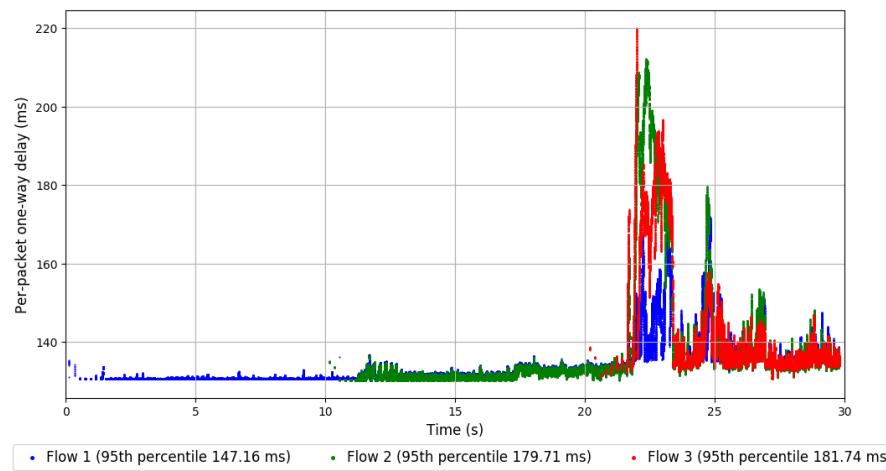
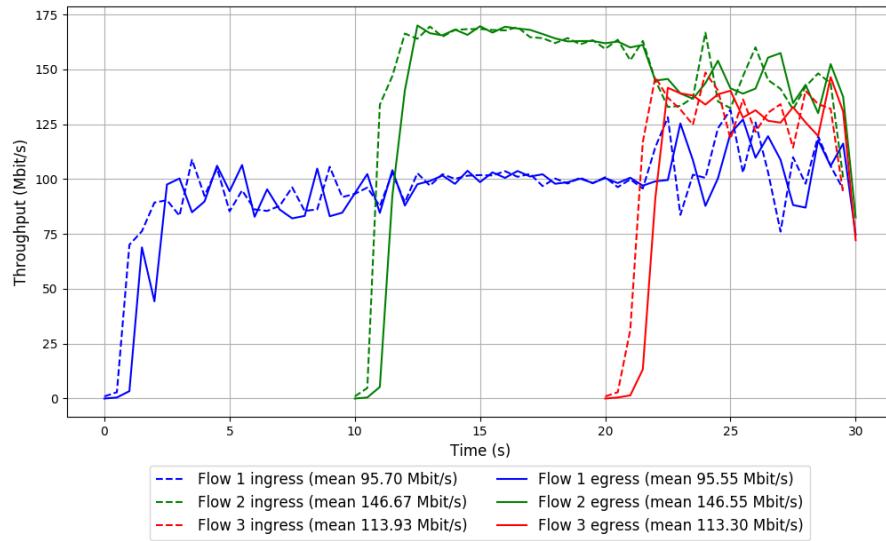


Run 5: Statistics of Indigo

```
Start at: 2018-09-08 03:28:58
End at: 2018-09-08 03:29:28
Local clock offset: 0.085 ms
Remote clock offset: -24.216 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.33 Mbit/s
95th percentile per-packet one-way delay: 170.202 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 95.55 Mbit/s
95th percentile per-packet one-way delay: 147.156 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 146.55 Mbit/s
95th percentile per-packet one-way delay: 179.706 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 113.30 Mbit/s
95th percentile per-packet one-way delay: 181.739 ms
Loss rate: 2.62%
```

Run 5: Report of Indigo — Data Link

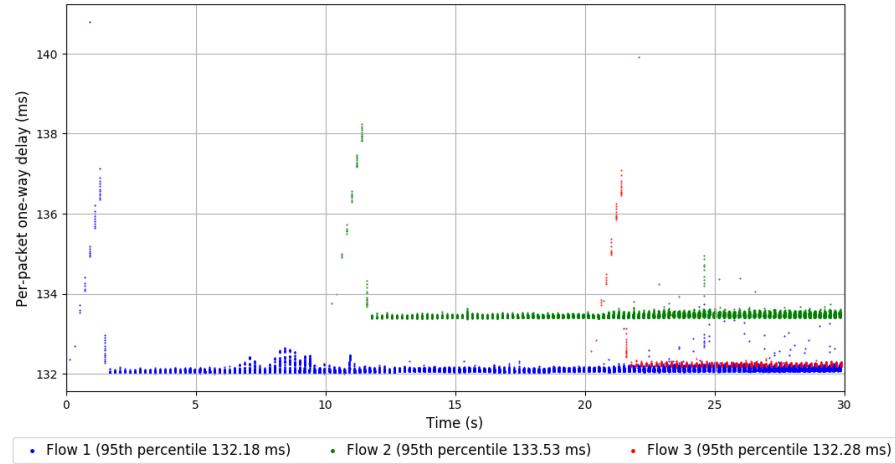
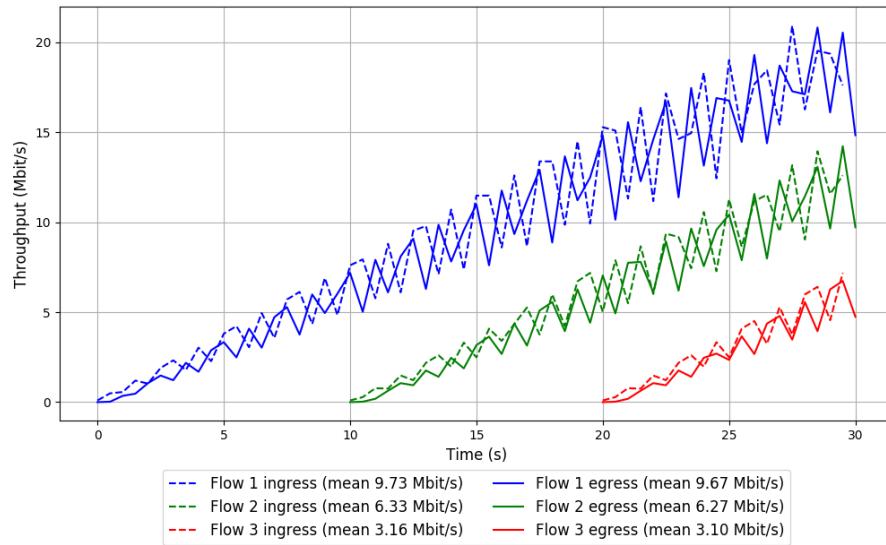


Run 1: Statistics of LEDBAT

```
Start at: 2018-09-08 00:47:43
End at: 2018-09-08 00:48:13
Local clock offset: -0.368 ms
Remote clock offset: -36.662 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.80 Mbit/s
95th percentile per-packet one-way delay: 133.492 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.67 Mbit/s
95th percentile per-packet one-way delay: 132.178 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 133.534 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 132.283 ms
Loss rate: 3.93%
```

Run 1: Report of LEDBAT — Data Link

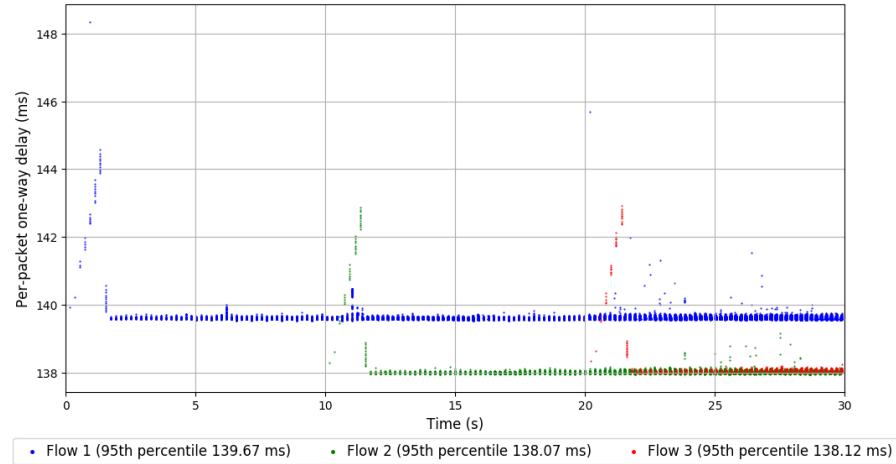
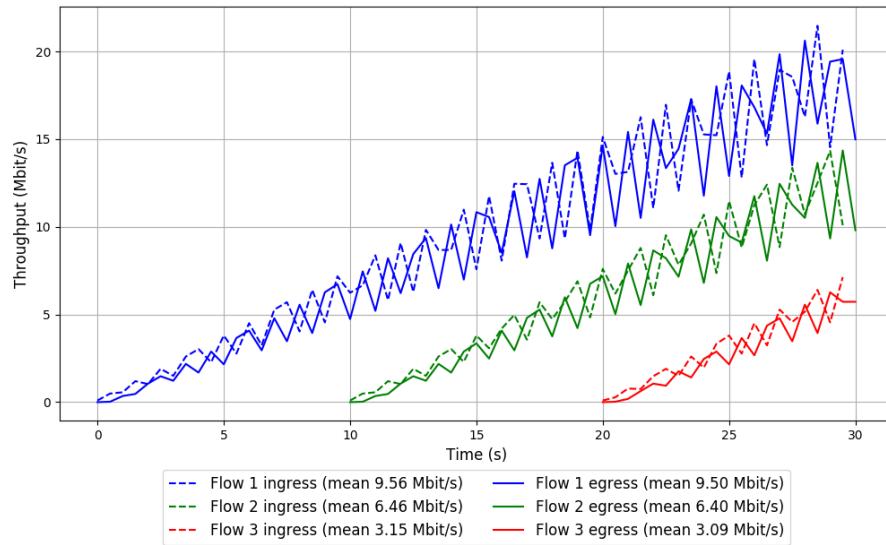


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-08 01:26:11
End at: 2018-09-08 01:26:41
Local clock offset: 1.074 ms
Remote clock offset: -40.034 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.73 Mbit/s
95th percentile per-packet one-way delay: 139.660 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 9.50 Mbit/s
95th percentile per-packet one-way delay: 139.673 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 138.072 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 138.116 ms
Loss rate: 3.89%
```

Run 2: Report of LEDBAT — Data Link

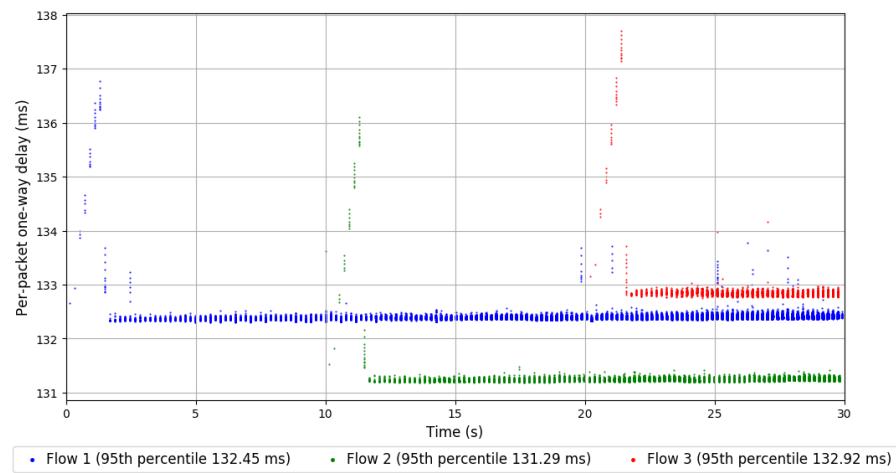
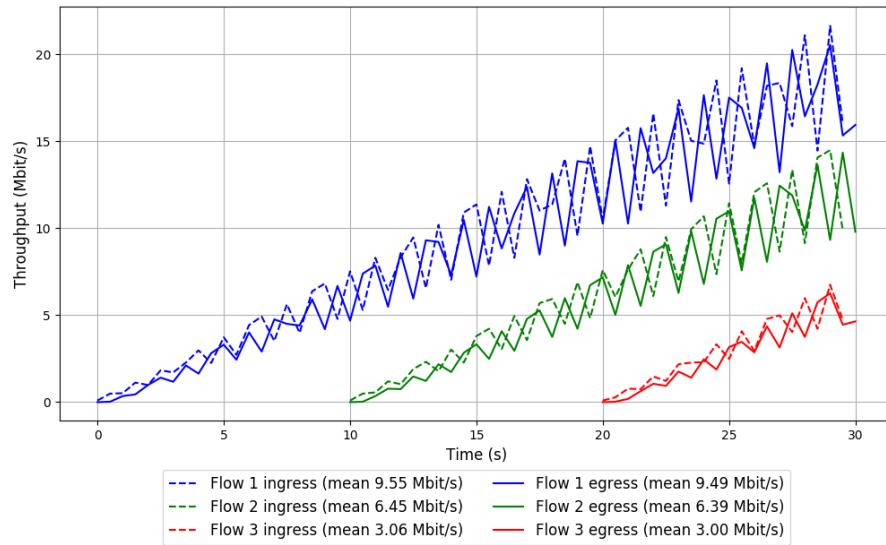


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-08 02:04:15
End at: 2018-09-08 02:04:45
Local clock offset: 0.543 ms
Remote clock offset: -31.254 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.68 Mbit/s
95th percentile per-packet one-way delay: 132.817 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 132.453 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 131.291 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 132.922 ms
Loss rate: 4.01%
```

Run 3: Report of LEDBAT — Data Link

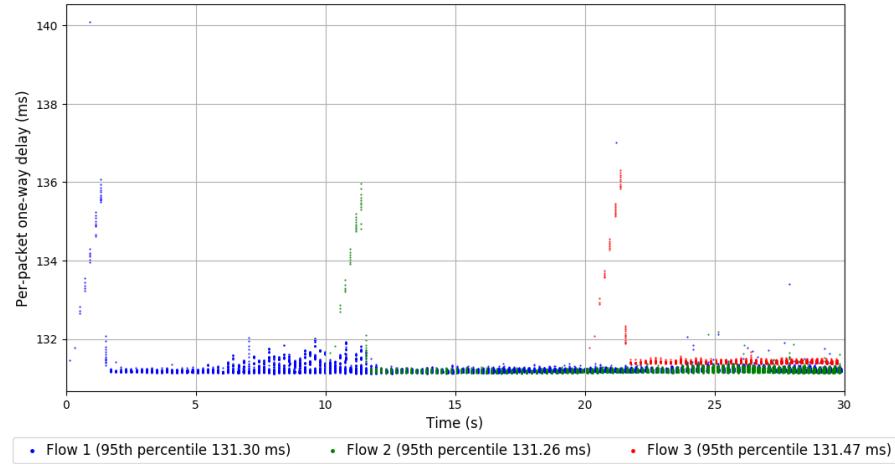
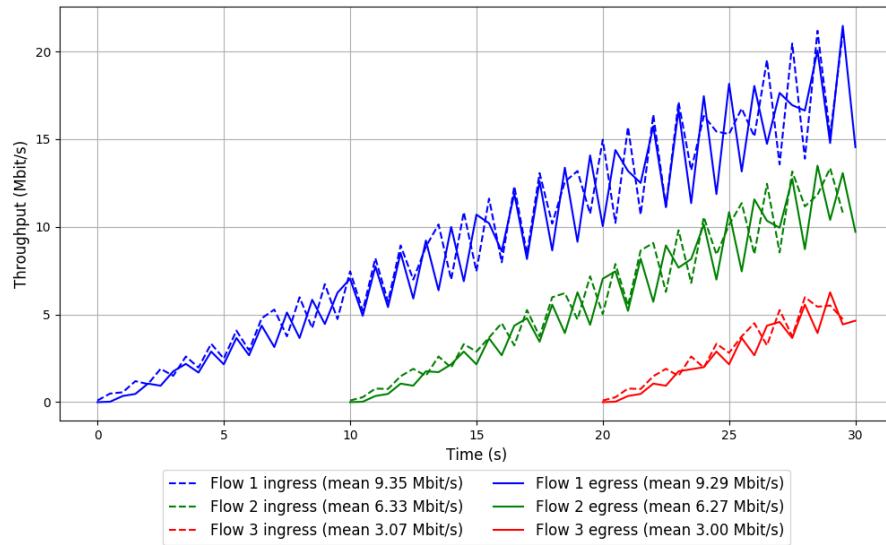


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-08 02:31:37
End at: 2018-09-08 02:32:07
Local clock offset: 1.365 ms
Remote clock offset: -28.077 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.39 Mbit/s
95th percentile per-packet one-way delay: 131.411 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 9.29 Mbit/s
95th percentile per-packet one-way delay: 131.299 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 131.261 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 131.475 ms
Loss rate: 4.01%
```

Run 4: Report of LEDBAT — Data Link

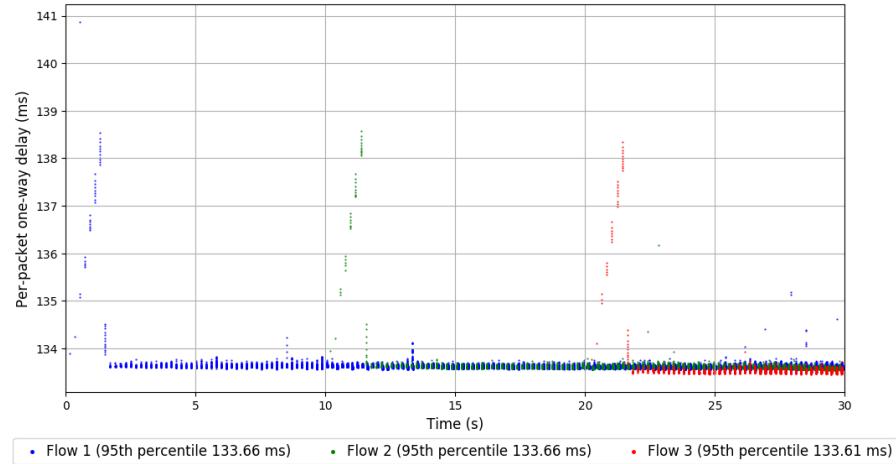
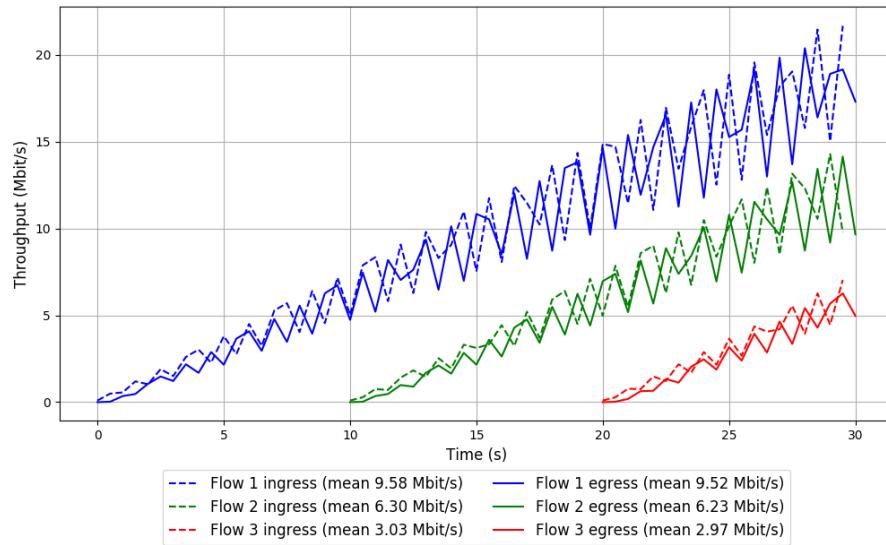


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-08 03:40:57
End at: 2018-09-08 03:41:27
Local clock offset: -0.582 ms
Remote clock offset: -27.245 ms

# Below is generated by plot.py at 2018-09-08 04:07:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.59 Mbit/s
95th percentile per-packet one-way delay: 133.661 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 133.664 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 133.657 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 133.608 ms
Loss rate: 4.01%
```

Run 5: Report of LEDBAT — Data Link

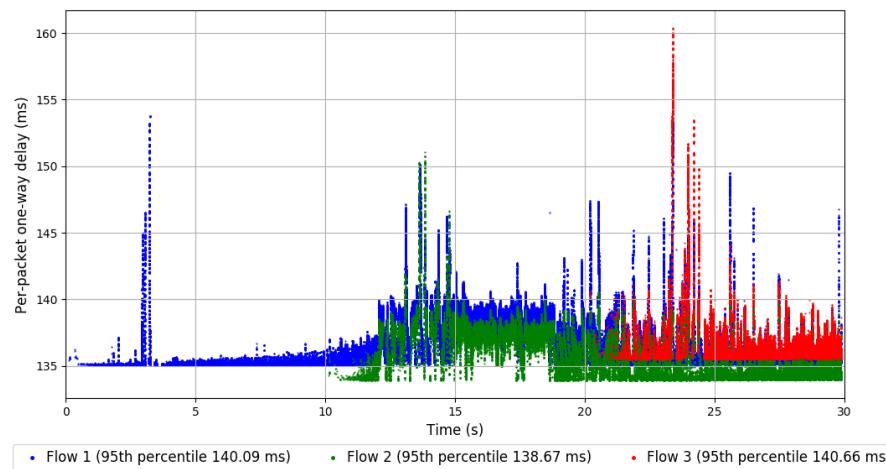
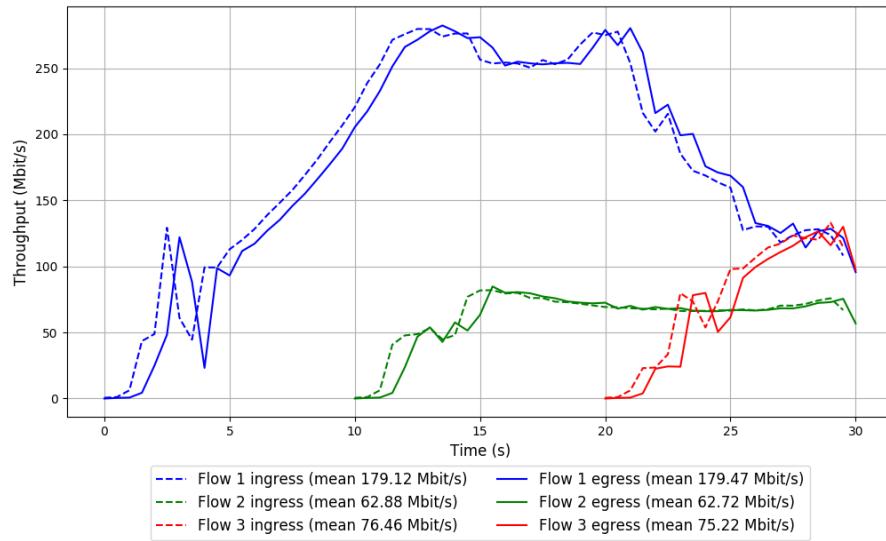


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-08 00:34:18
End at: 2018-09-08 00:34:48
Local clock offset: 1.07 ms
Remote clock offset: -38.229 ms

# Below is generated by plot.py at 2018-09-08 04:08:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.66 Mbit/s
95th percentile per-packet one-way delay: 139.861 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 179.47 Mbit/s
95th percentile per-packet one-way delay: 140.092 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 138.669 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 75.22 Mbit/s
95th percentile per-packet one-way delay: 140.656 ms
Loss rate: 3.60%
```

Run 1: Report of Indigo-Muses — Data Link

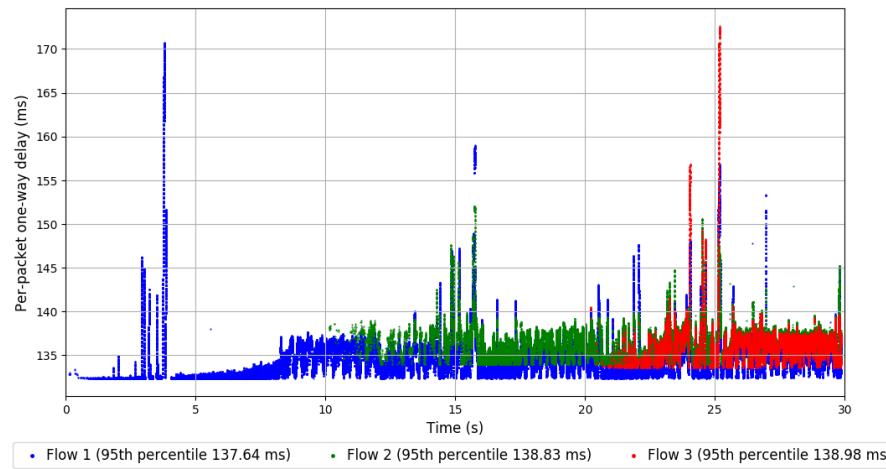
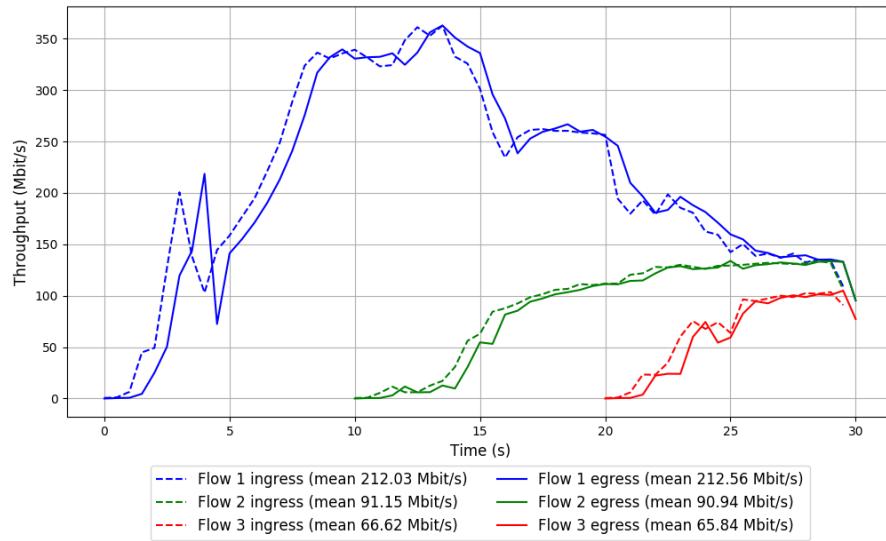


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-08 01:06:43
End at: 2018-09-08 01:07:13
Local clock offset: 1.883 ms
Remote clock offset: -33.375 ms

# Below is generated by plot.py at 2018-09-08 04:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.28 Mbit/s
95th percentile per-packet one-way delay: 138.432 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 212.56 Mbit/s
95th percentile per-packet one-way delay: 137.638 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 138.828 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 65.84 Mbit/s
95th percentile per-packet one-way delay: 138.984 ms
Loss rate: 3.16%
```

Run 2: Report of Indigo-Muses — Data Link

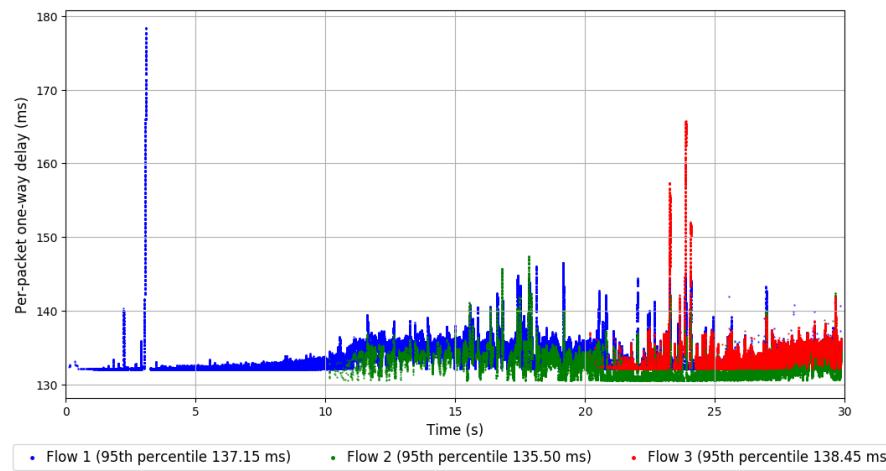
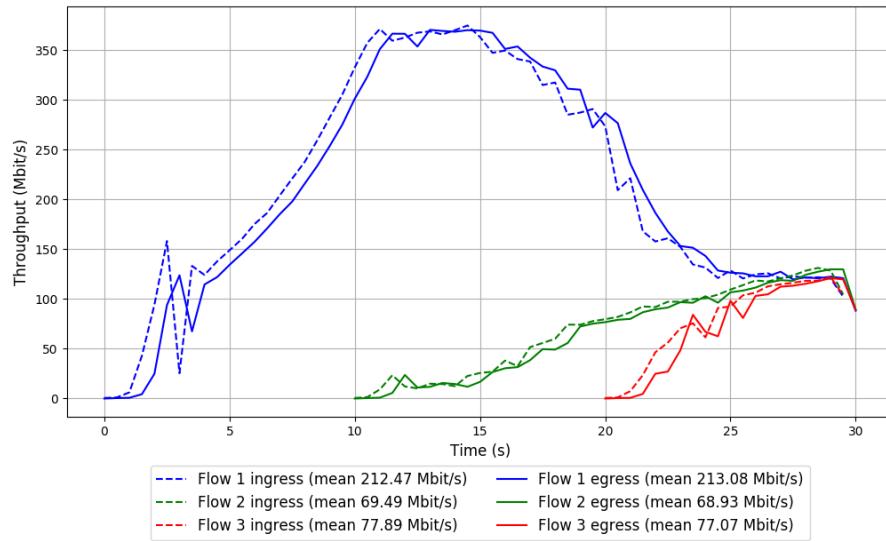


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-08 01:50:58
End at: 2018-09-08 01:51:28
Local clock offset: 3.31 ms
Remote clock offset: -29.497 ms

# Below is generated by plot.py at 2018-09-08 04:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.97 Mbit/s
95th percentile per-packet one-way delay: 137.009 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 213.08 Mbit/s
95th percentile per-packet one-way delay: 137.145 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 68.93 Mbit/s
95th percentile per-packet one-way delay: 135.495 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 77.07 Mbit/s
95th percentile per-packet one-way delay: 138.447 ms
Loss rate: 3.07%
```

Run 3: Report of Indigo-Muses — Data Link

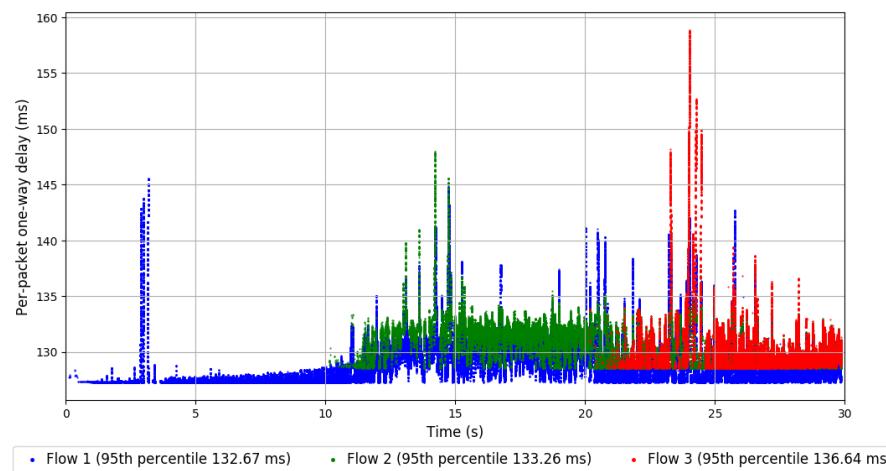
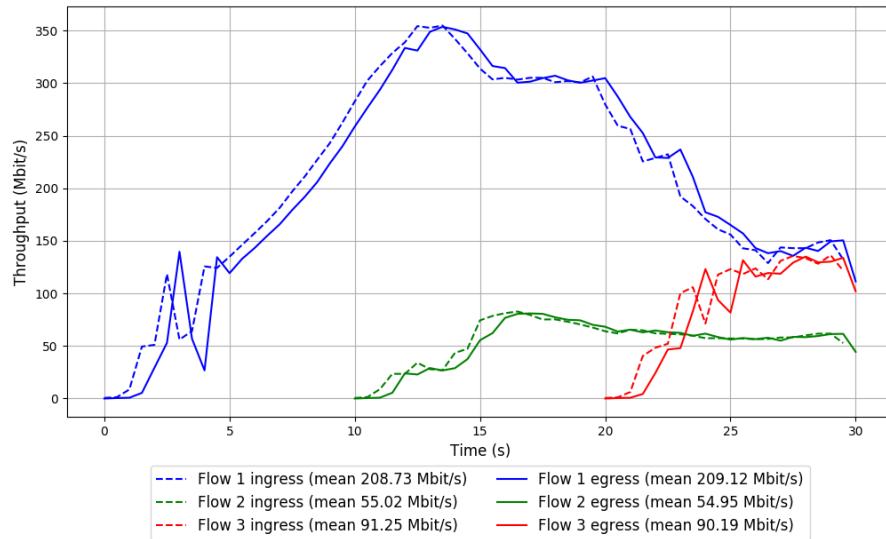


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-08 02:18:04
End at: 2018-09-08 02:18:34
Local clock offset: 0.453 ms
Remote clock offset: -26.813 ms

# Below is generated by plot.py at 2018-09-08 04:08:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 275.01 Mbit/s
95th percentile per-packet one-way delay: 133.197 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 209.12 Mbit/s
95th percentile per-packet one-way delay: 132.672 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 133.265 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 90.19 Mbit/s
95th percentile per-packet one-way delay: 136.641 ms
Loss rate: 3.18%
```

Run 4: Report of Indigo-Muses — Data Link

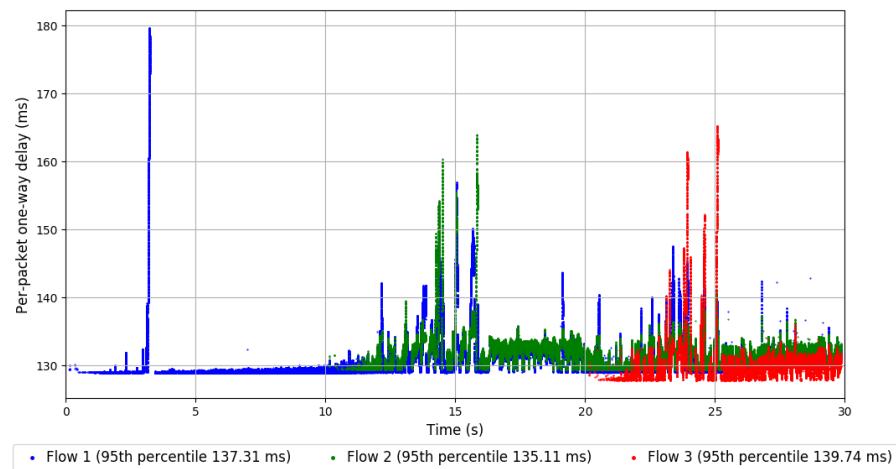
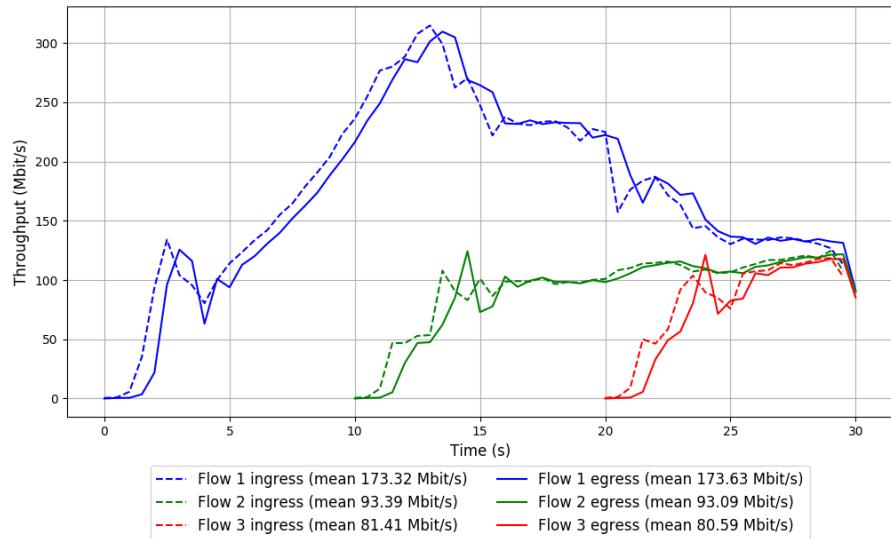


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-08 03:06:11
End at: 2018-09-08 03:06:41
Local clock offset: 2.096 ms
Remote clock offset: -22.64 ms

# Below is generated by plot.py at 2018-09-08 04:09:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.70 Mbit/s
95th percentile per-packet one-way delay: 136.790 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 173.63 Mbit/s
95th percentile per-packet one-way delay: 137.309 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 93.09 Mbit/s
95th percentile per-packet one-way delay: 135.106 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 80.59 Mbit/s
95th percentile per-packet one-way delay: 139.736 ms
Loss rate: 2.93%
```

Run 5: Report of Indigo-Muses — Data Link

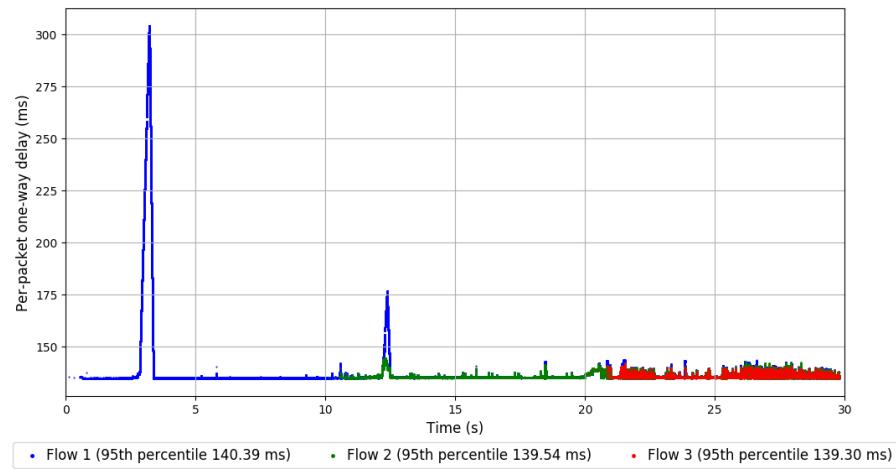
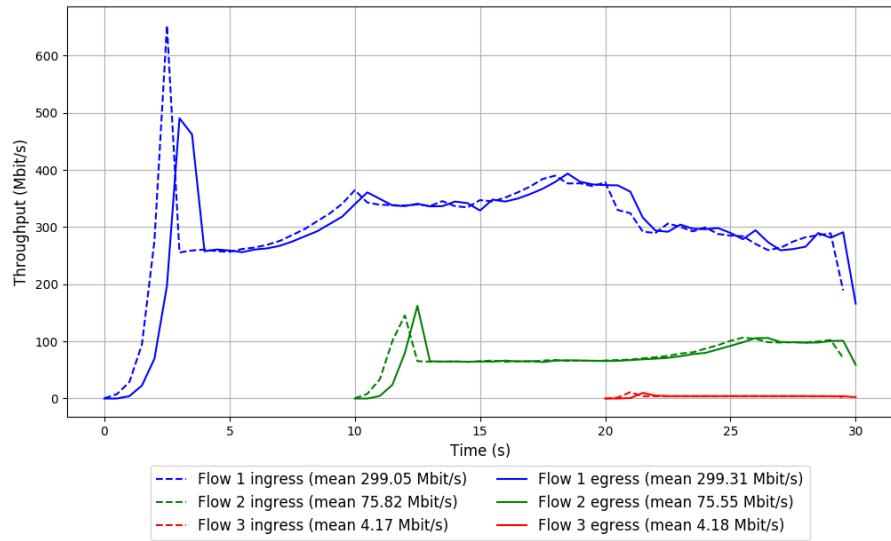


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-08 00:56:06
End at: 2018-09-08 00:56:36
Local clock offset: 0.545 ms
Remote clock offset: -36.192 ms

# Below is generated by plot.py at 2018-09-08 04:11:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 350.69 Mbit/s
95th percentile per-packet one-way delay: 140.106 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 299.31 Mbit/s
95th percentile per-packet one-way delay: 140.392 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 75.55 Mbit/s
95th percentile per-packet one-way delay: 139.536 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 139.301 ms
Loss rate: 1.90%
```

Run 1: Report of PCC-Allegro — Data Link

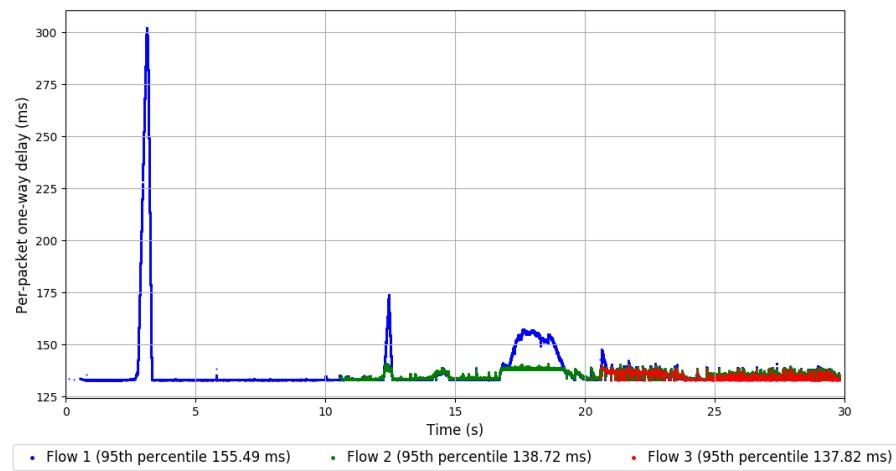
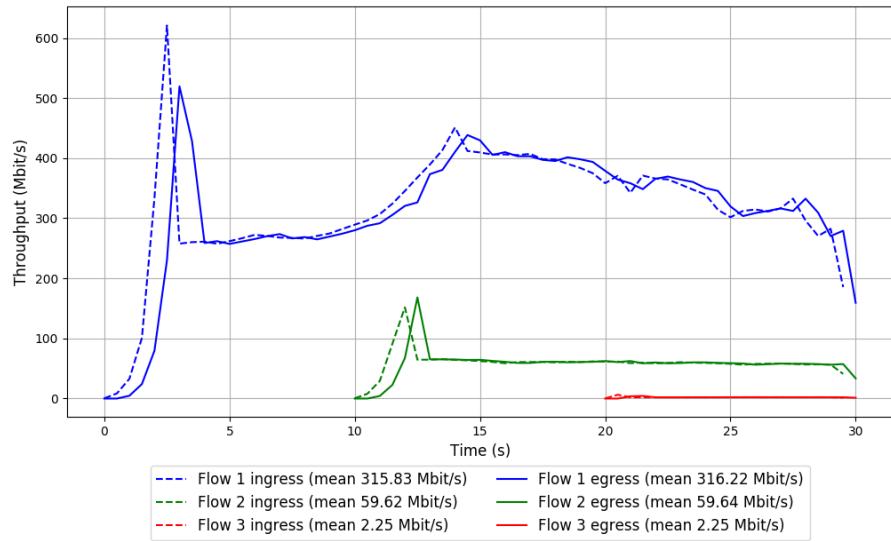


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-08 01:29:08
End at: 2018-09-08 01:29:38
Local clock offset: 2.353 ms
Remote clock offset: -32.49 ms

# Below is generated by plot.py at 2018-09-08 04:11:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.46 Mbit/s
95th percentile per-packet one-way delay: 155.080 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 316.22 Mbit/s
95th percentile per-packet one-way delay: 155.489 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 59.64 Mbit/s
95th percentile per-packet one-way delay: 138.715 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 137.820 ms
Loss rate: 1.95%
```

Run 2: Report of PCC-Allegro — Data Link

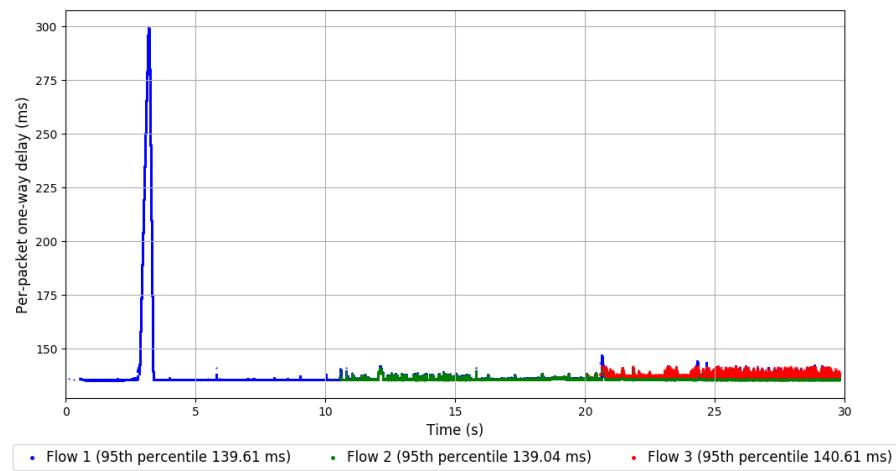
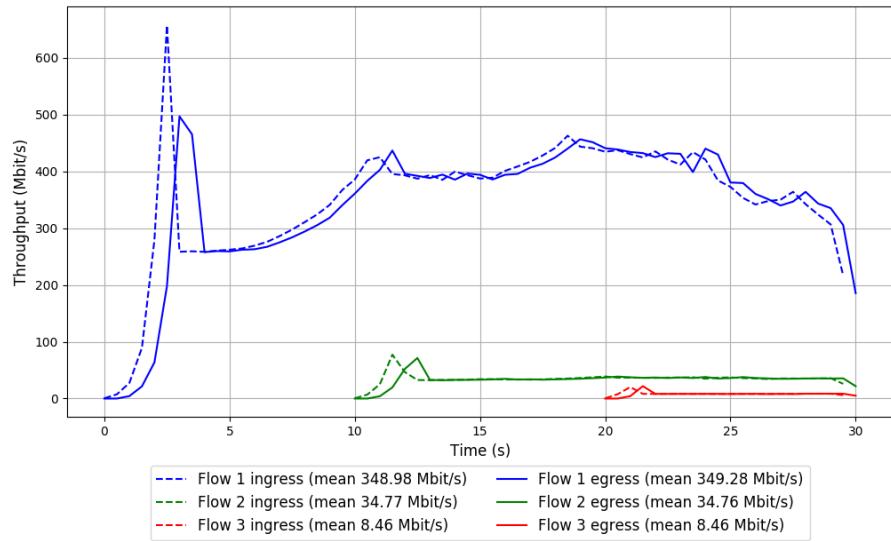


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-08 02:07:11
End at: 2018-09-08 02:07:41
Local clock offset: 0.642 ms
Remote clock offset: -35.103 ms

# Below is generated by plot.py at 2018-09-08 04:11:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.04 Mbit/s
95th percentile per-packet one-way delay: 139.553 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 349.28 Mbit/s
95th percentile per-packet one-way delay: 139.607 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 34.76 Mbit/s
95th percentile per-packet one-way delay: 139.037 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 140.614 ms
Loss rate: 1.99%
```

Run 3: Report of PCC-Allegro — Data Link

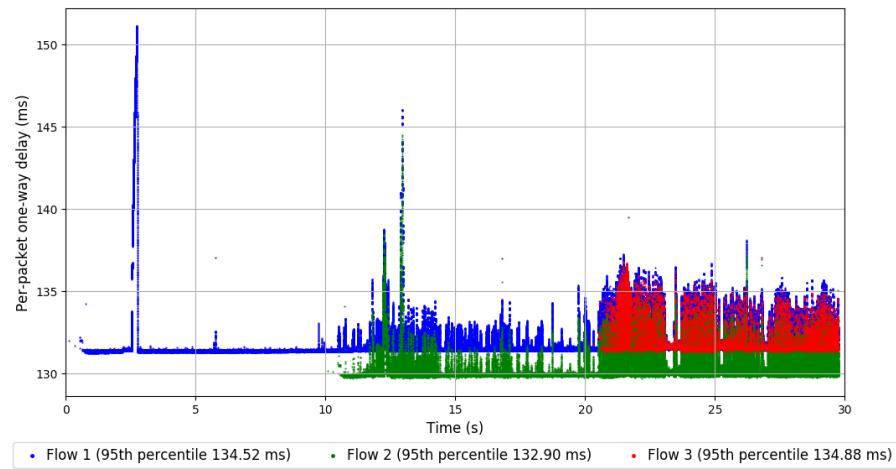
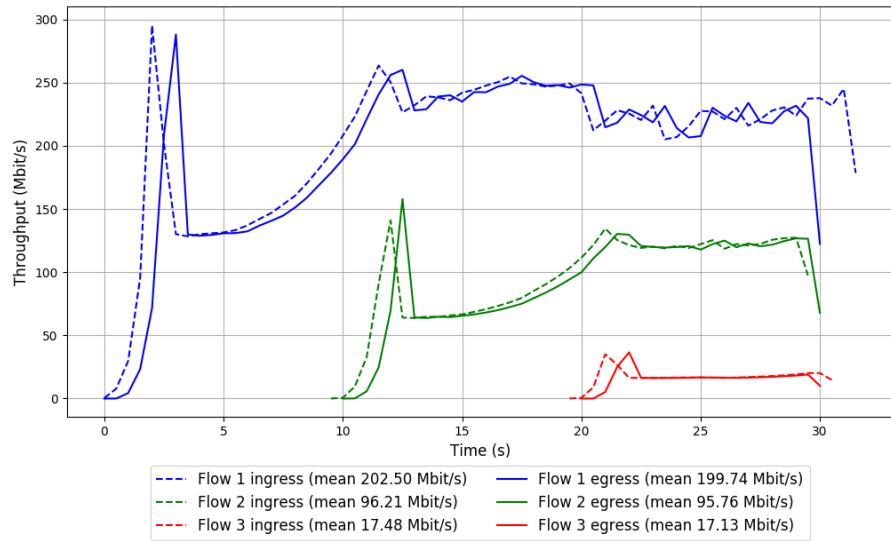


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-08 02:34:42
End at: 2018-09-08 02:35:12
Local clock offset: 1.984 ms
Remote clock offset: -27.361 ms

# Below is generated by plot.py at 2018-09-08 04:11:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.87 Mbit/s
95th percentile per-packet one-way delay: 134.305 ms
Loss rate: 6.92%
-- Flow 1:
Average throughput: 199.74 Mbit/s
95th percentile per-packet one-way delay: 134.516 ms
Loss rate: 8.30%
-- Flow 2:
Average throughput: 95.76 Mbit/s
95th percentile per-packet one-way delay: 132.903 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 17.13 Mbit/s
95th percentile per-packet one-way delay: 134.877 ms
Loss rate: 13.14%
```

Run 4: Report of PCC-Allegro — Data Link

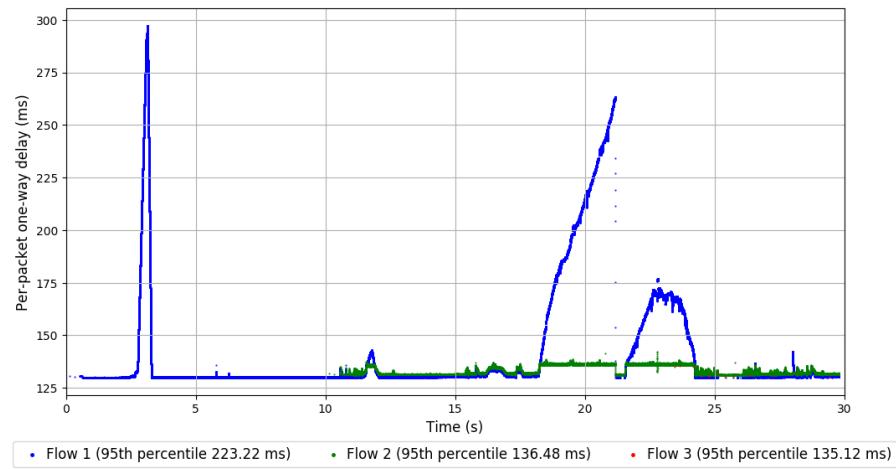
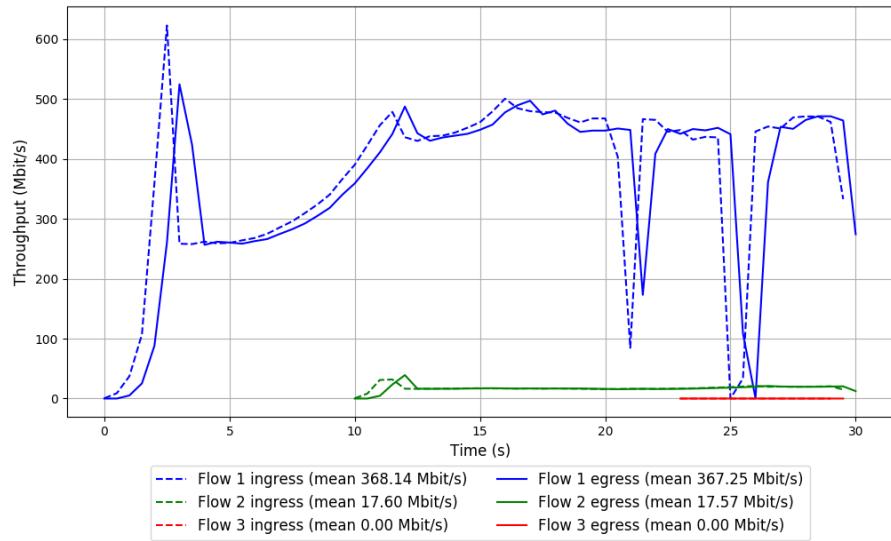


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-08 03:43:53
End at: 2018-09-08 03:44:23
Local clock offset: -2.504 ms
Remote clock offset: -27.484 ms

# Below is generated by plot.py at 2018-09-08 04:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.87 Mbit/s
95th percentile per-packet one-way delay: 222.012 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 367.25 Mbit/s
95th percentile per-packet one-way delay: 223.219 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 17.57 Mbit/s
95th percentile per-packet one-way delay: 136.476 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 135.120 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Allegro — Data Link

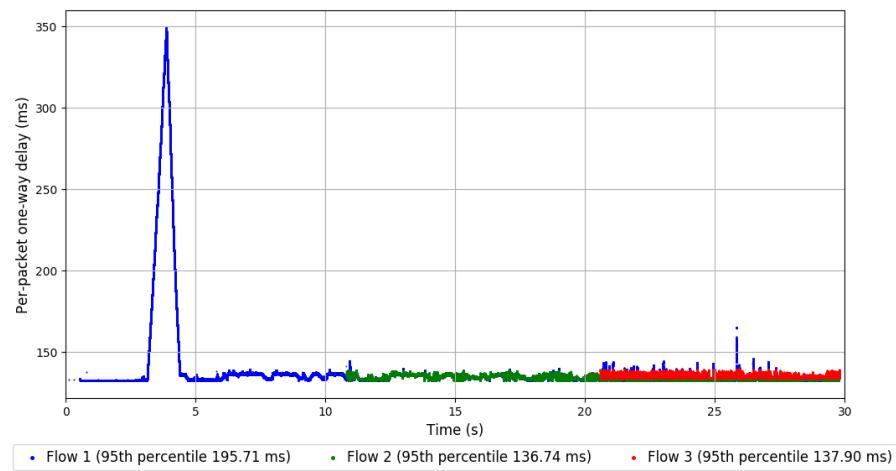
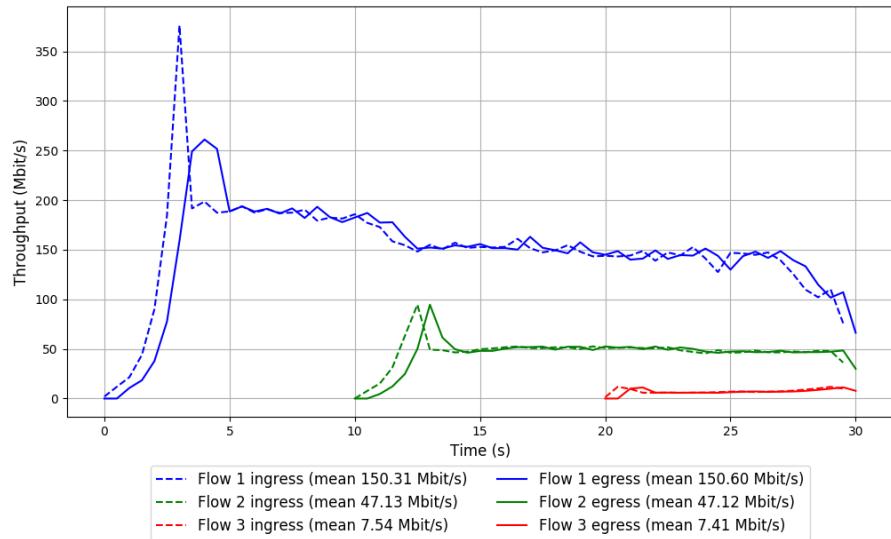


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-08 00:46:09
End at: 2018-09-08 00:46:39
Local clock offset: -0.279 ms
Remote clock offset: -36.998 ms

# Below is generated by plot.py at 2018-09-08 04:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 184.24 Mbit/s
95th percentile per-packet one-way delay: 166.985 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 150.60 Mbit/s
95th percentile per-packet one-way delay: 195.709 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 47.12 Mbit/s
95th percentile per-packet one-way delay: 136.735 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 7.41 Mbit/s
95th percentile per-packet one-way delay: 137.899 ms
Loss rate: 3.72%
```

Run 1: Report of PCC-Expr — Data Link

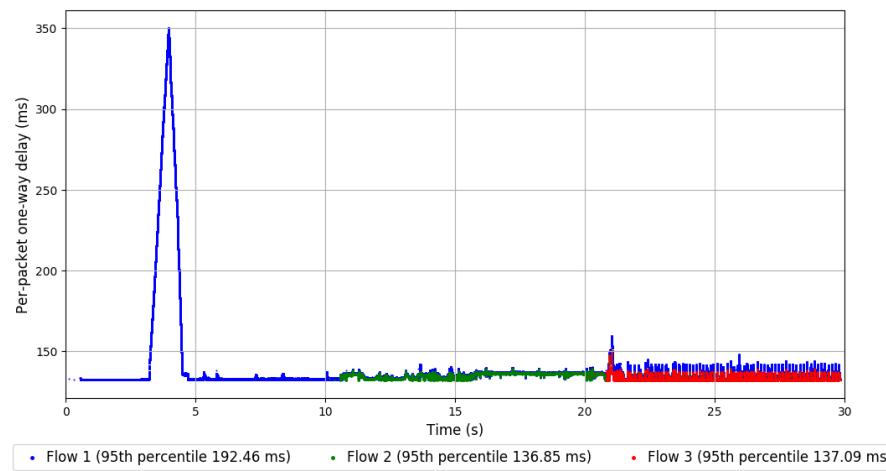
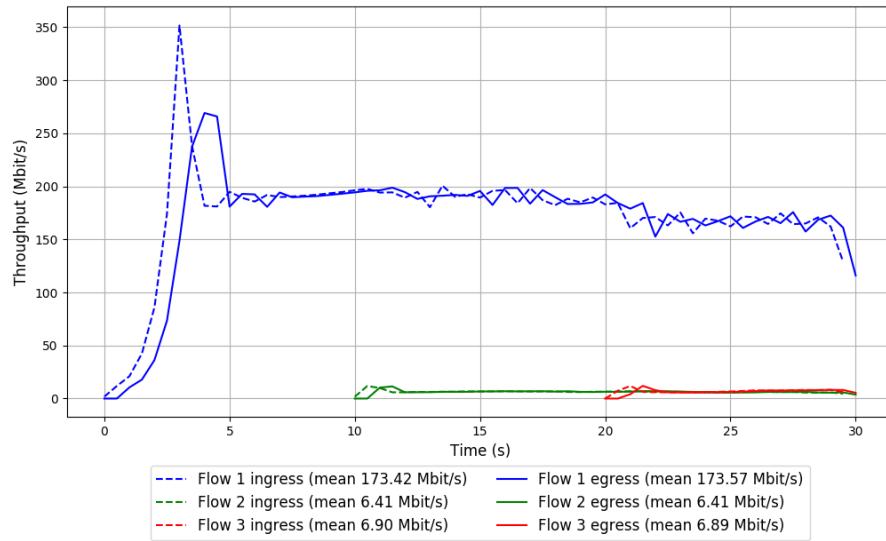


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-08 01:24:37
End at: 2018-09-08 01:25:07
Local clock offset: 1.681 ms
Remote clock offset: -32.312 ms

# Below is generated by plot.py at 2018-09-08 04:13:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.06 Mbit/s
95th percentile per-packet one-way delay: 186.017 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 173.57 Mbit/s
95th percentile per-packet one-way delay: 192.456 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 136.854 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 137.089 ms
Loss rate: 2.16%
```

Run 2: Report of PCC-Expr — Data Link

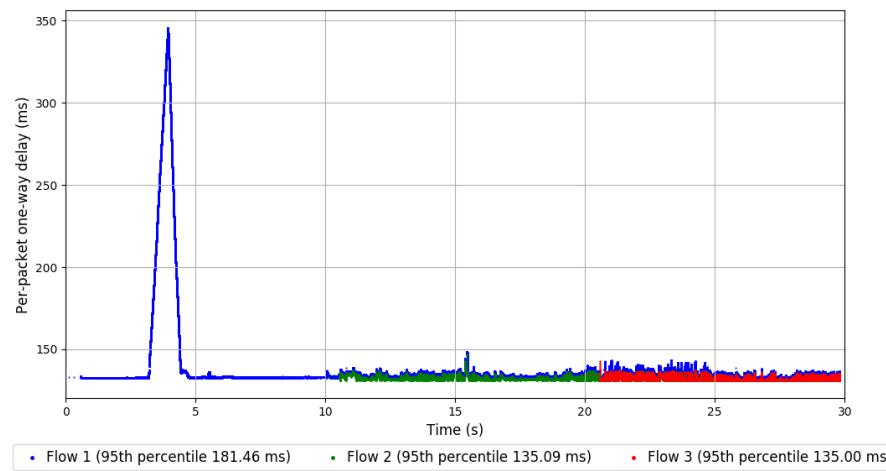
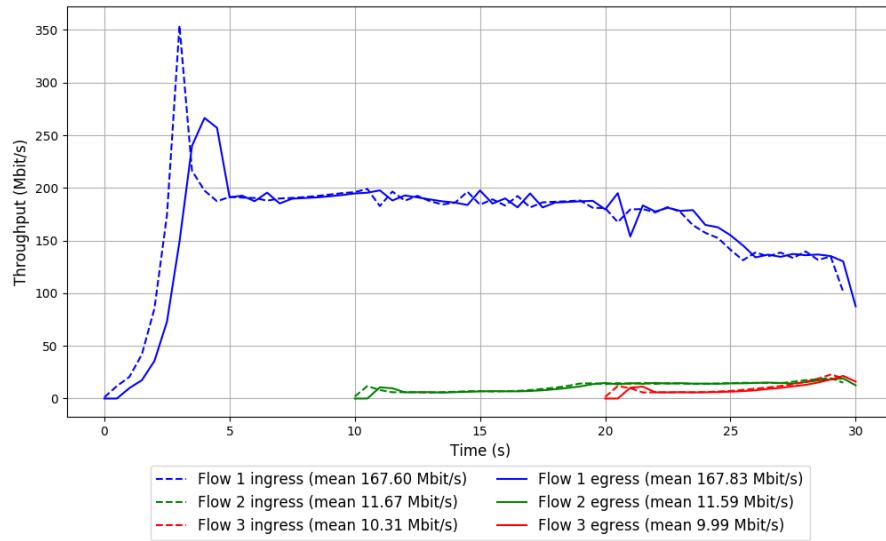


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-08 02:02:41
End at: 2018-09-08 02:03:11
Local clock offset: 0.463 ms
Remote clock offset: -31.386 ms

# Below is generated by plot.py at 2018-09-08 04:14:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.76 Mbit/s
95th percentile per-packet one-way delay: 172.223 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 167.83 Mbit/s
95th percentile per-packet one-way delay: 181.460 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 11.59 Mbit/s
95th percentile per-packet one-way delay: 135.093 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 135.002 ms
Loss rate: 4.98%
```

Run 3: Report of PCC-Expr — Data Link

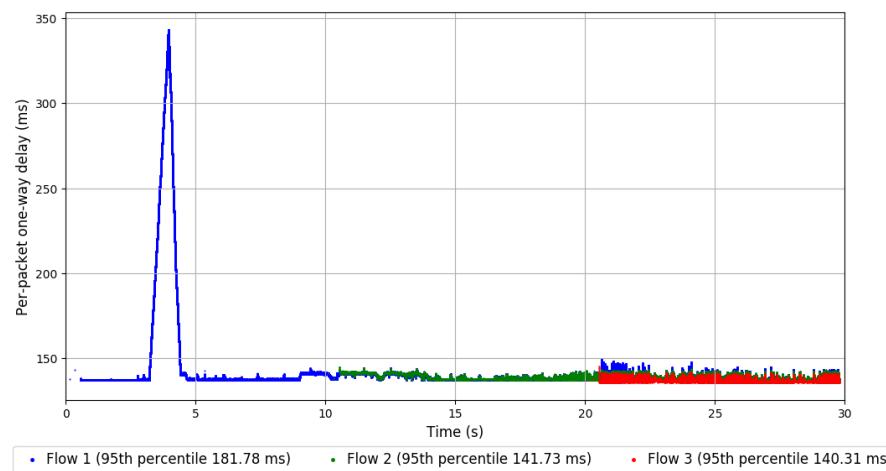
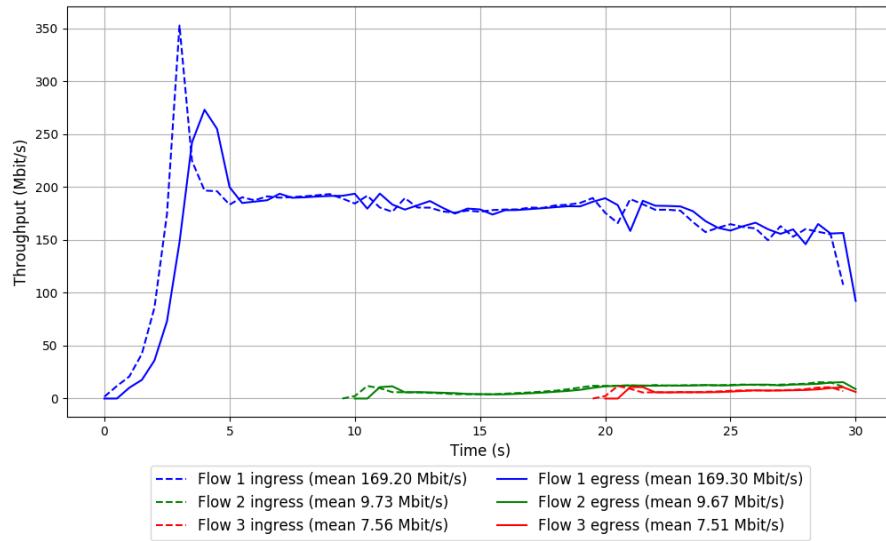


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-08 02:30:04
End at: 2018-09-08 02:30:34
Local clock offset: 2.203 ms
Remote clock offset: -33.298 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.15 Mbit/s
95th percentile per-packet one-way delay: 174.393 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 169.30 Mbit/s
95th percentile per-packet one-way delay: 181.784 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 9.67 Mbit/s
95th percentile per-packet one-way delay: 141.733 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 140.313 ms
Loss rate: 2.54%
```

Run 4: Report of PCC-Expr — Data Link

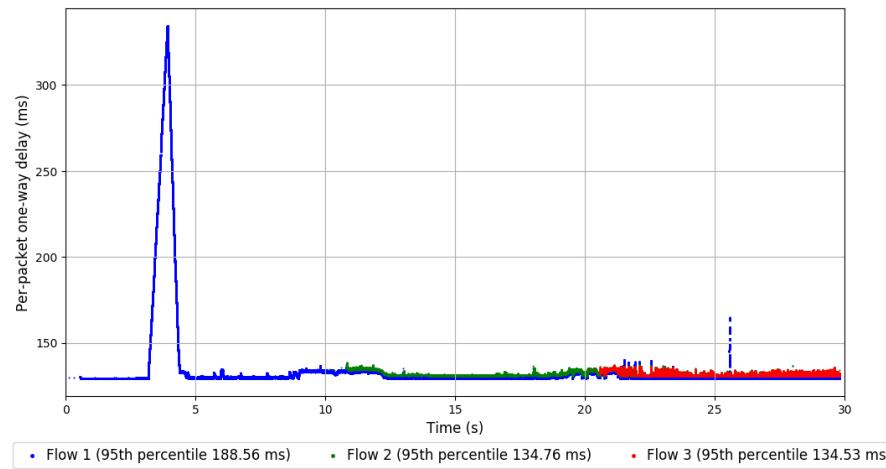
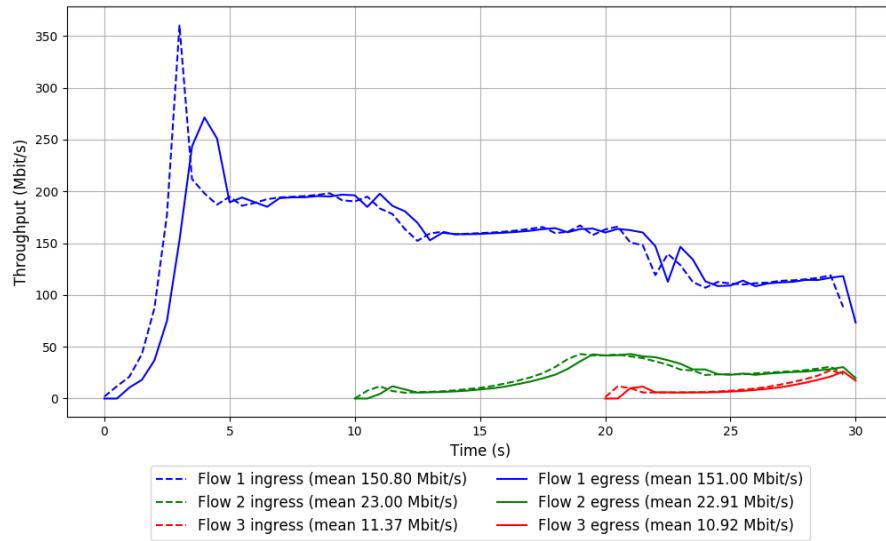


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-08 03:39:24
End at: 2018-09-08 03:39:54
Local clock offset: -1.311 ms
Remote clock offset: -25.26 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 169.72 Mbit/s
95th percentile per-packet one-way delay: 172.592 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 151.00 Mbit/s
95th percentile per-packet one-way delay: 188.561 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 22.91 Mbit/s
95th percentile per-packet one-way delay: 134.756 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 10.92 Mbit/s
95th percentile per-packet one-way delay: 134.531 ms
Loss rate: 5.92%
```

Run 5: Report of PCC-Expr — Data Link

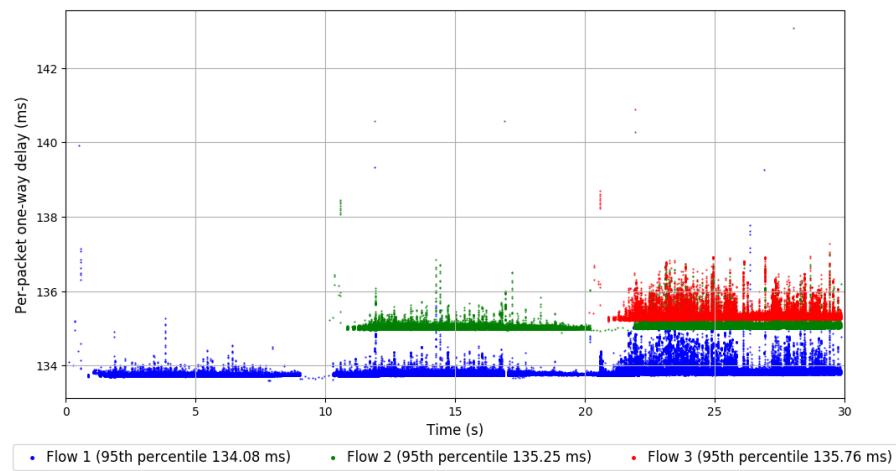
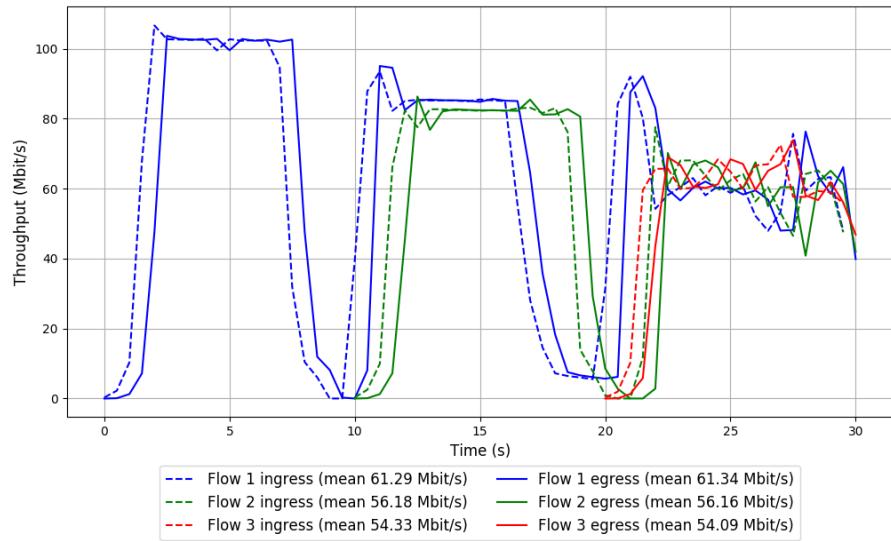


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-09-08 00:35:48
End at: 2018-09-08 00:36:18
Local clock offset: 0.869 ms
Remote clock offset: -38.109 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.24 Mbit/s
95th percentile per-packet one-way delay: 135.352 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 61.34 Mbit/s
95th percentile per-packet one-way delay: 134.078 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 56.16 Mbit/s
95th percentile per-packet one-way delay: 135.249 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 54.09 Mbit/s
95th percentile per-packet one-way delay: 135.757 ms
Loss rate: 2.46%
```

Run 1: Report of QUIC Cubic — Data Link

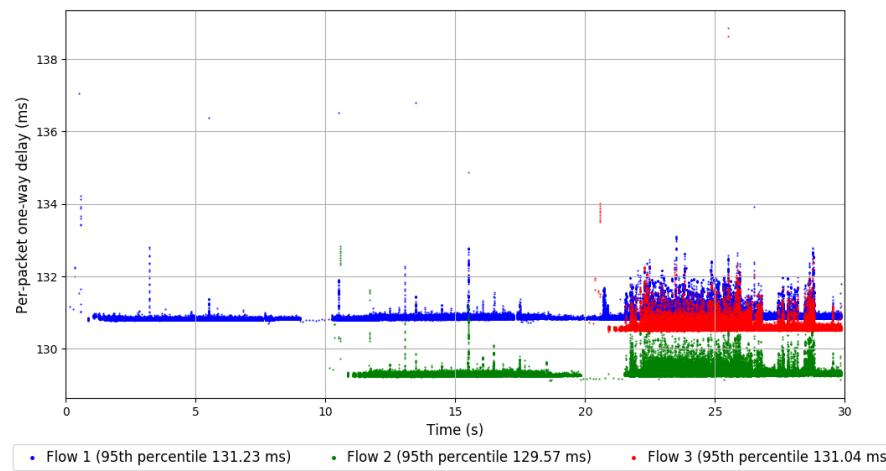
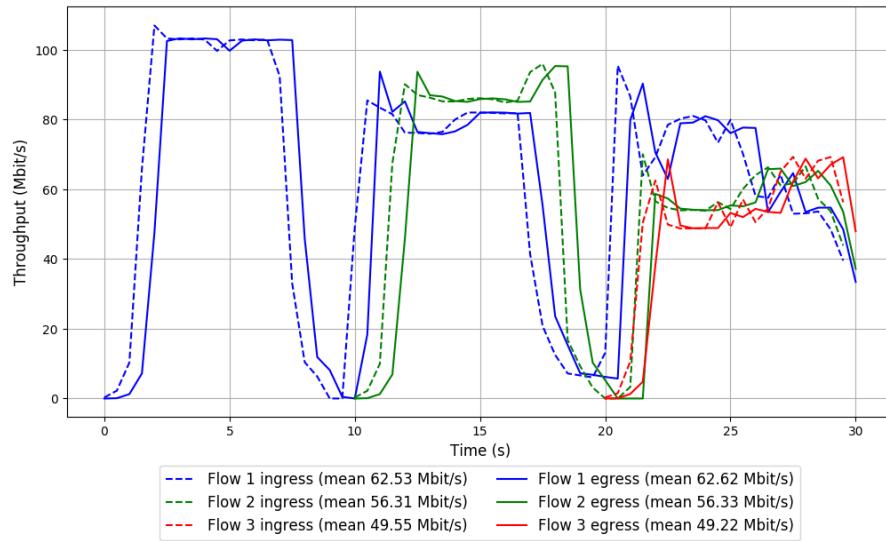


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-08 01:08:16
End at: 2018-09-08 01:08:46
Local clock offset: -0.089 ms
Remote clock offset: -32.131 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.04 Mbit/s
95th percentile per-packet one-way delay: 131.119 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 62.62 Mbit/s
95th percentile per-packet one-way delay: 131.227 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 129.572 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 49.22 Mbit/s
95th percentile per-packet one-way delay: 131.043 ms
Loss rate: 2.70%
```

Run 2: Report of QUIC Cubic — Data Link

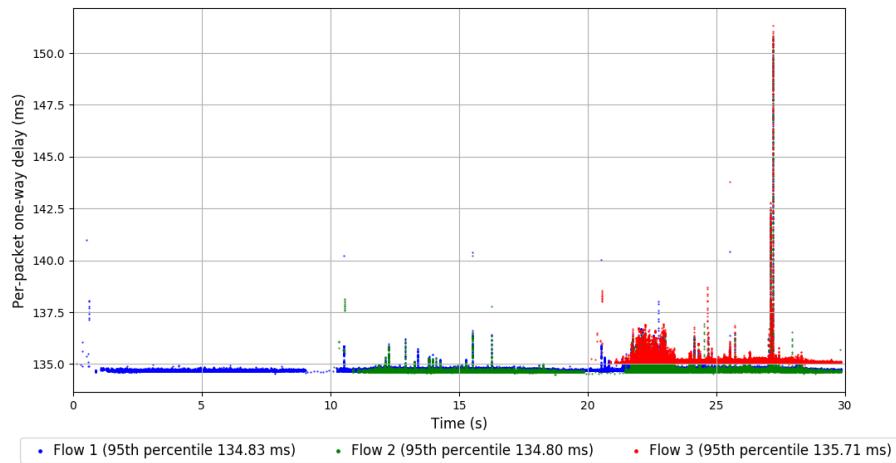
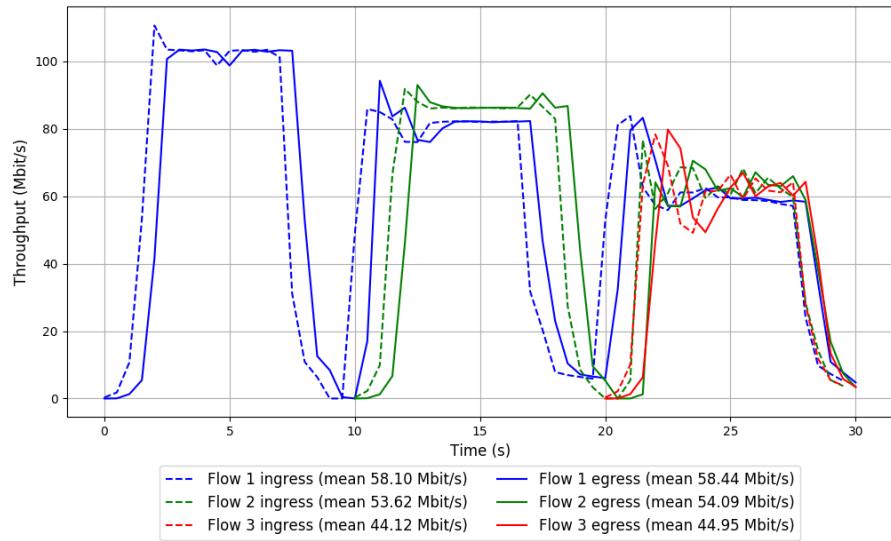


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-08 01:52:30
End at: 2018-09-08 01:53:00
Local clock offset: 1.066 ms
Remote clock offset: -34.436 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.99 Mbit/s
95th percentile per-packet one-way delay: 135.188 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 134.827 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 54.09 Mbit/s
95th percentile per-packet one-way delay: 134.800 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 44.95 Mbit/s
95th percentile per-packet one-way delay: 135.714 ms
Loss rate: 0.20%
```

Run 3: Report of QUIC Cubic — Data Link

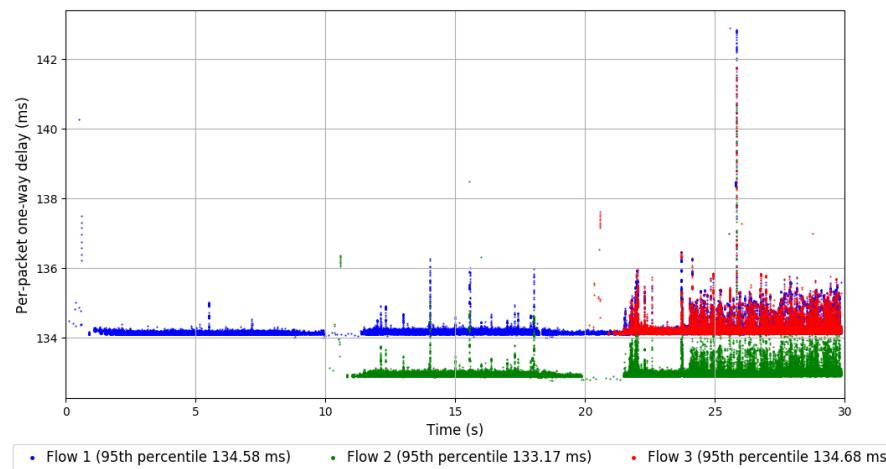
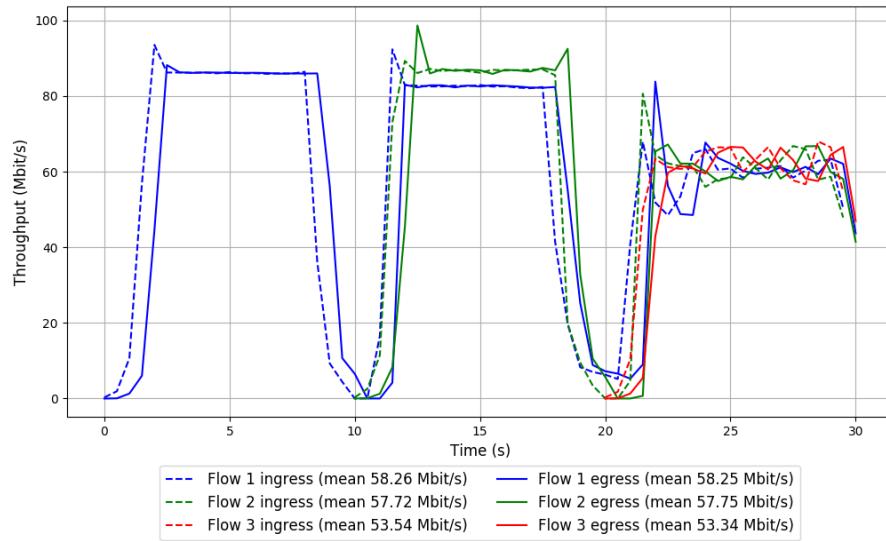


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-08 02:19:36
End at: 2018-09-08 02:20:06
Local clock offset: 0.971 ms
Remote clock offset: -31.837 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.97 Mbit/s
95th percentile per-packet one-way delay: 134.452 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 134.576 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 57.75 Mbit/s
95th percentile per-packet one-way delay: 133.171 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 53.34 Mbit/s
95th percentile per-packet one-way delay: 134.675 ms
Loss rate: 2.42%
```

Run 4: Report of QUIC Cubic — Data Link

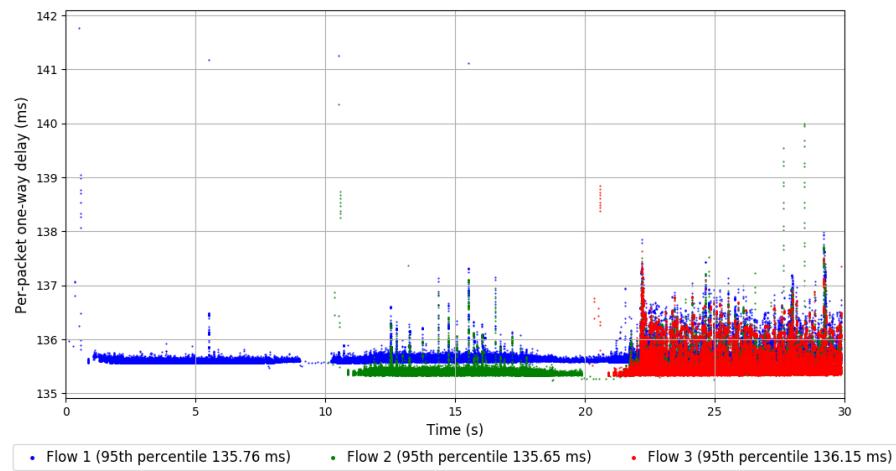
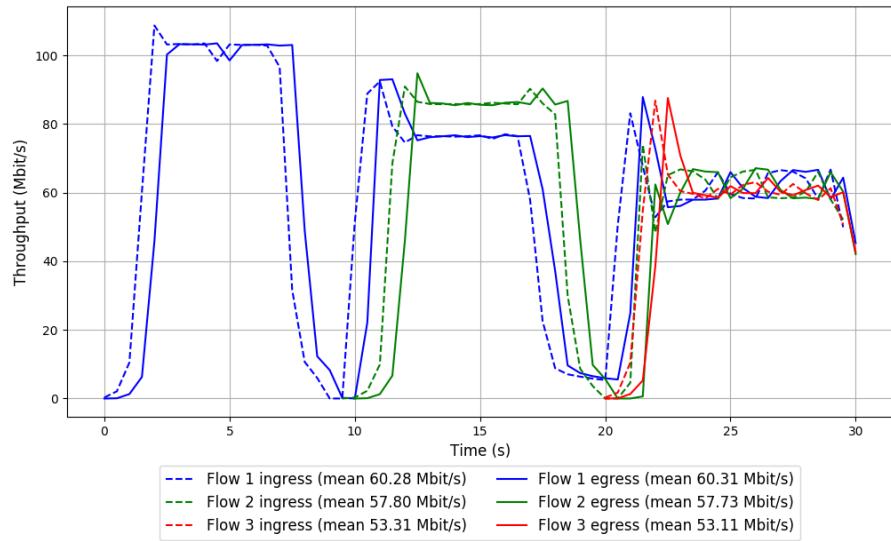


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-08 03:07:47
End at: 2018-09-08 03:08:17
Local clock offset: 2.388 ms
Remote clock offset: -28.558 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.96 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 60.31 Mbit/s
95th percentile per-packet one-way delay: 135.759 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 135.654 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 53.11 Mbit/s
95th percentile per-packet one-way delay: 136.149 ms
Loss rate: 2.32%
```

Run 5: Report of QUIC Cubic — Data Link

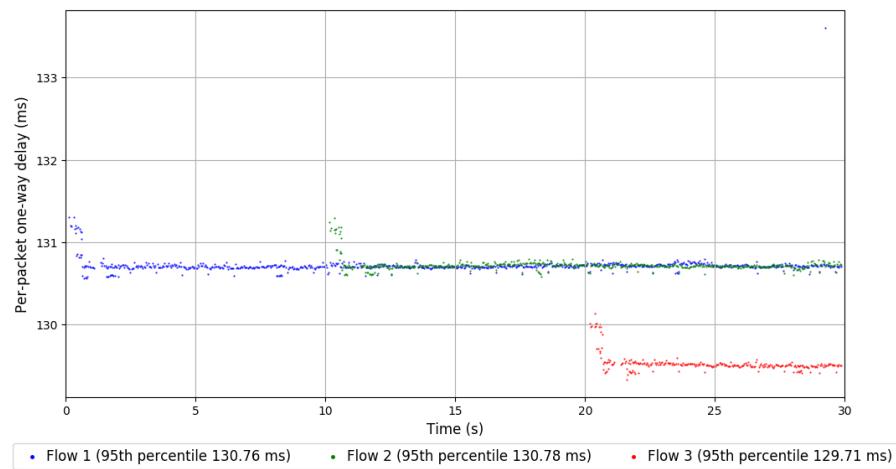
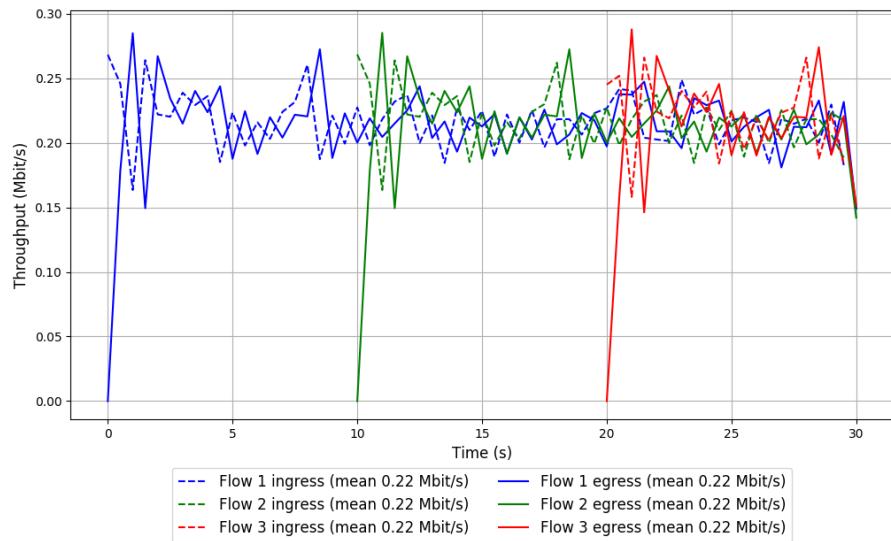


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-09-08 00:59:11
End at: 2018-09-08 00:59:41
Local clock offset: -0.47 ms
Remote clock offset: -33.189 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 130.761 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.756 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.783 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.712 ms
Loss rate: 1.86%
```

Run 1: Report of SCReAM — Data Link

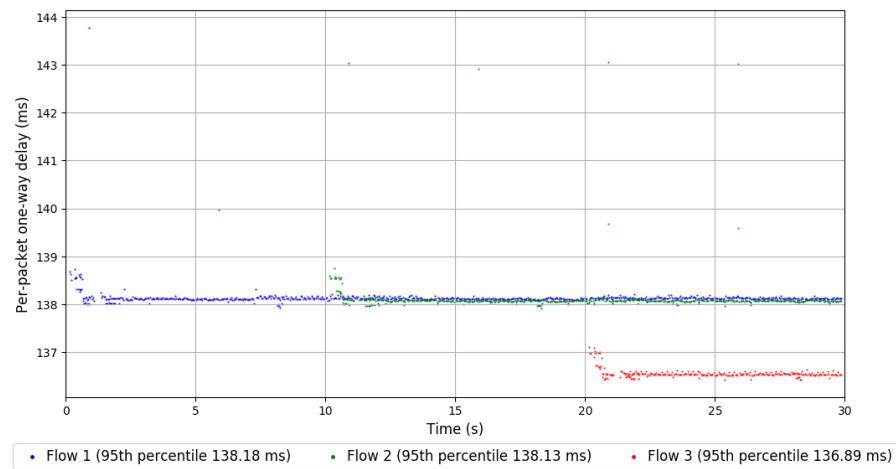
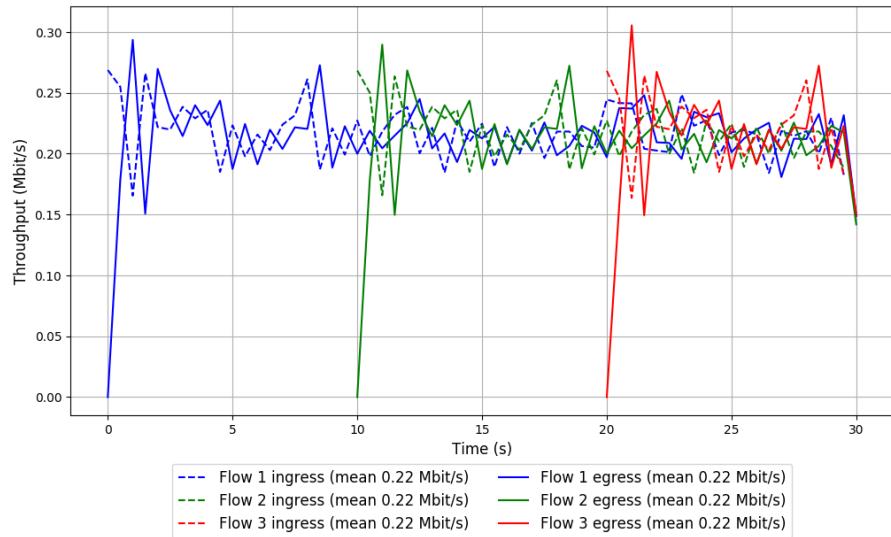


Run 2: Statistics of SCReAM

```
Start at: 2018-09-08 01:37:46
End at: 2018-09-08 01:38:16
Local clock offset: 3.148 ms
Remote clock offset: -36.387 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 138.174 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.181 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.132 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.894 ms
Loss rate: 1.83%
```

Run 2: Report of SCReAM — Data Link

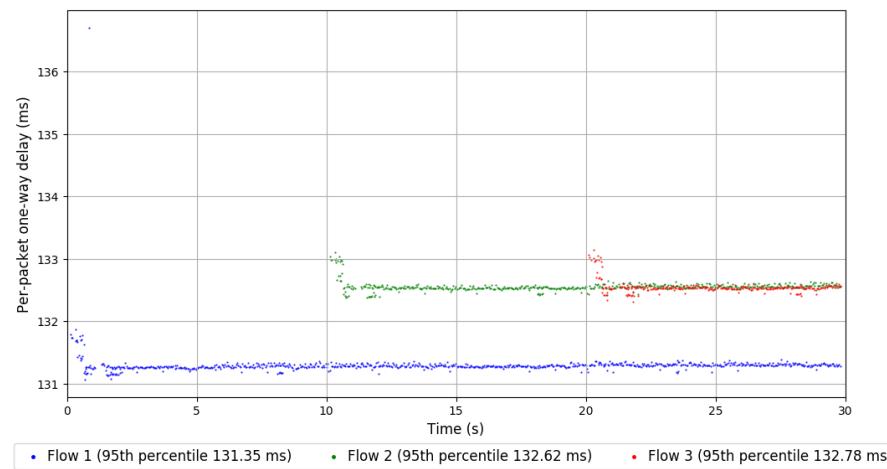
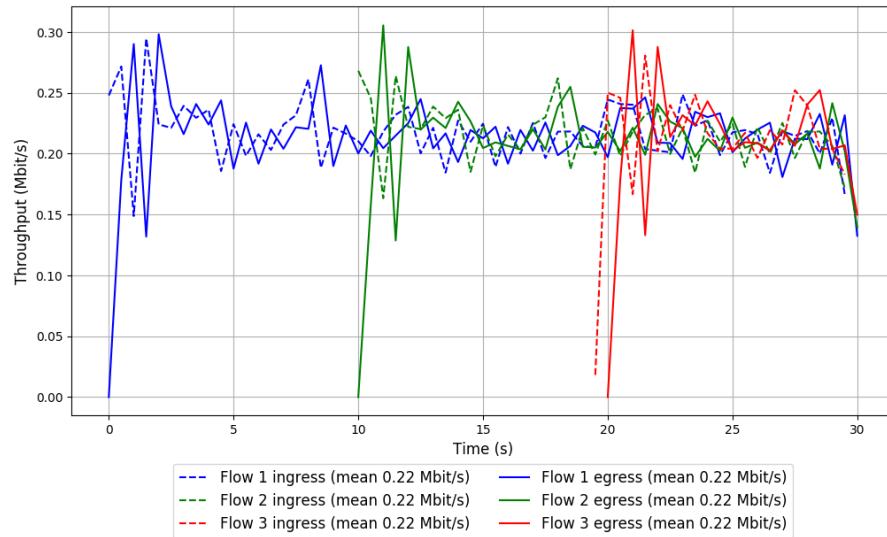


Run 3: Statistics of SCReAM

```
Start at: 2018-09-08 02:10:15
End at: 2018-09-08 02:10:45
Local clock offset: 2.875 ms
Remote clock offset: -28.447 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 132.600 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.346 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 132.621 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 132.777 ms
Loss rate: 1.83%
```

Run 3: Report of SCReAM — Data Link

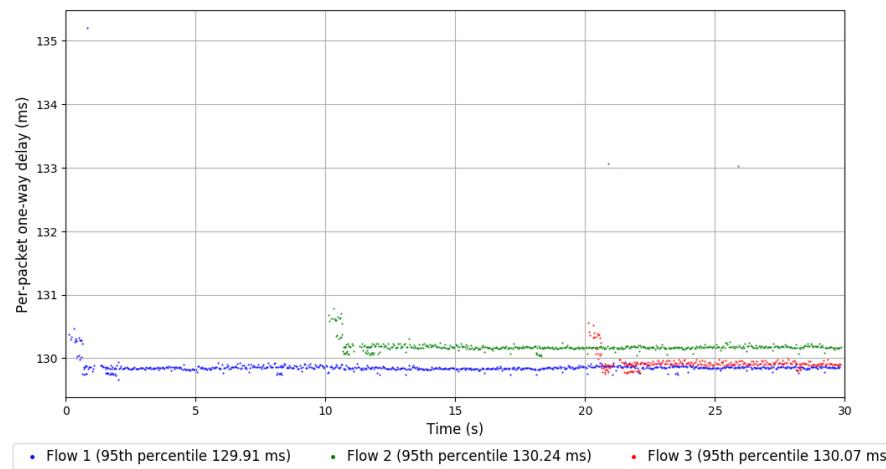
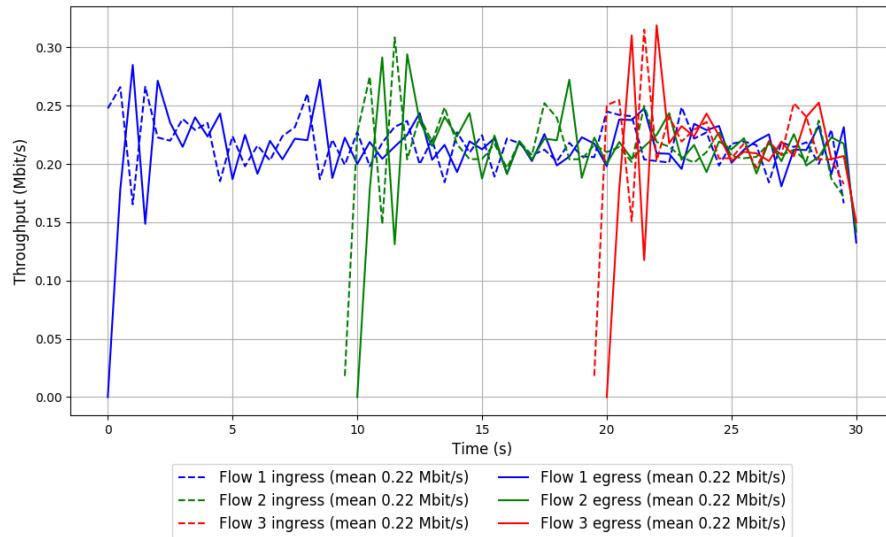


Run 4: Statistics of SCReAM

```
Start at: 2018-09-08 02:43:14
End at: 2018-09-08 02:43:44
Local clock offset: 2.658 ms
Remote clock offset: -24.587 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 130.220 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.912 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.240 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 130.075 ms
Loss rate: 1.82%
```

Run 4: Report of SCReAM — Data Link

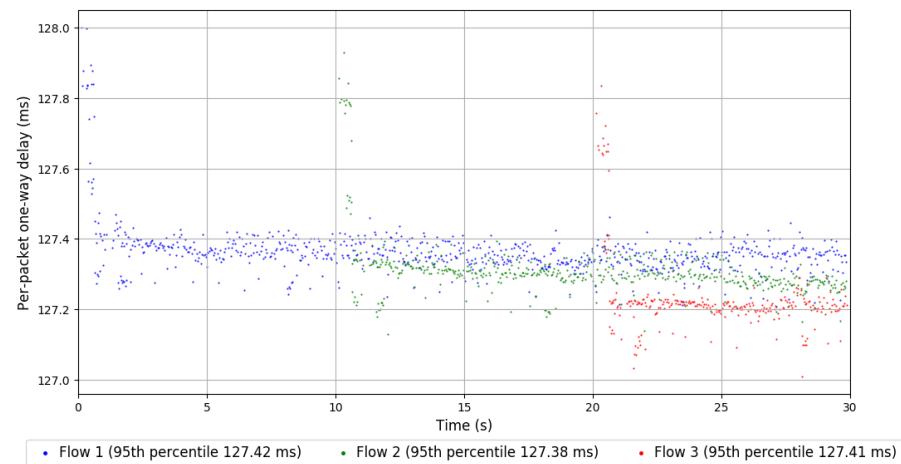
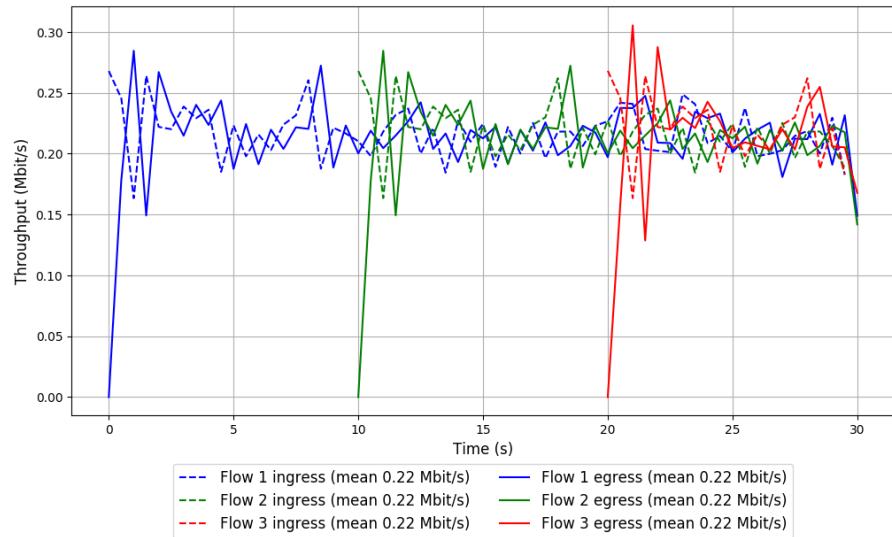


Run 5: Statistics of SCReAM

```
Start at: 2018-09-08 03:46:56
End at: 2018-09-08 03:47:26
Local clock offset: 0.739 ms
Remote clock offset: -21.993 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 127.420 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 127.422 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 127.375 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 127.414 ms
Loss rate: 1.84%
```

Run 5: Report of SCReAM — Data Link

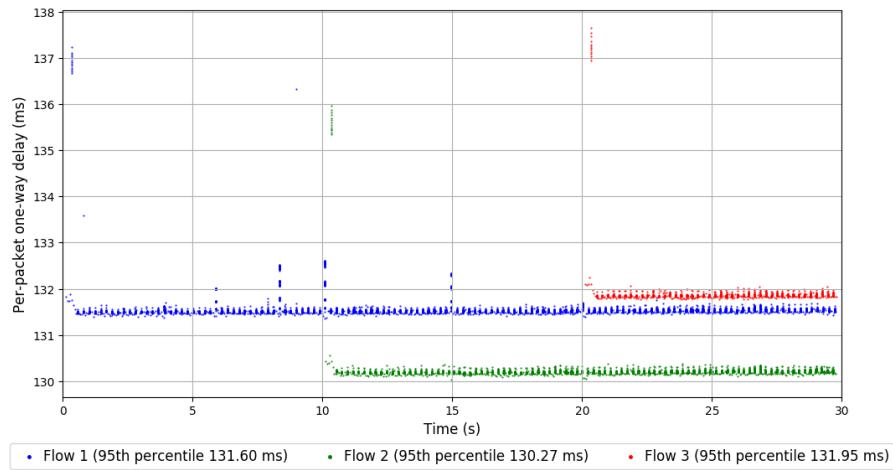
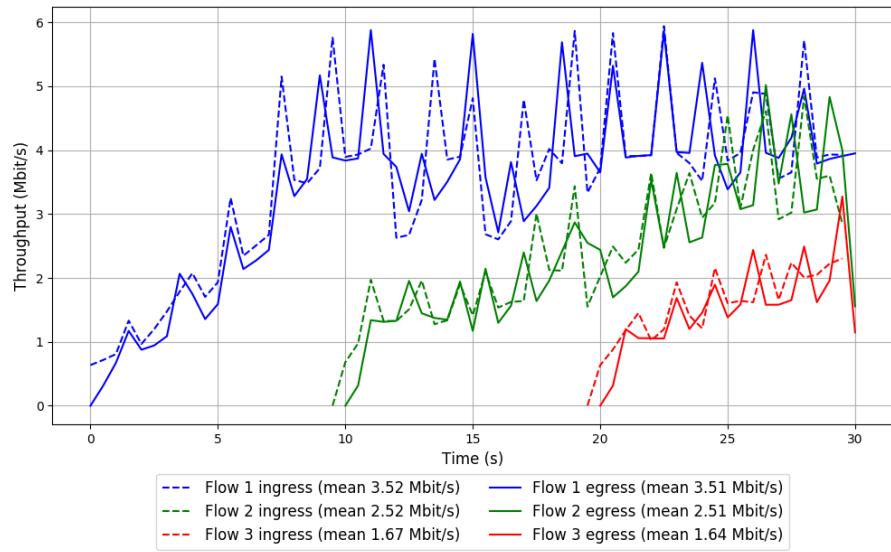


Run 1: Statistics of Sprout

```
Start at: 2018-09-08 00:44:51
End at: 2018-09-08 00:45:21
Local clock offset: 0.066 ms
Remote clock offset: -34.6 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 131.863 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 131.604 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 130.268 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 131.951 ms
Loss rate: 3.54%
```

Run 1: Report of Sprout — Data Link

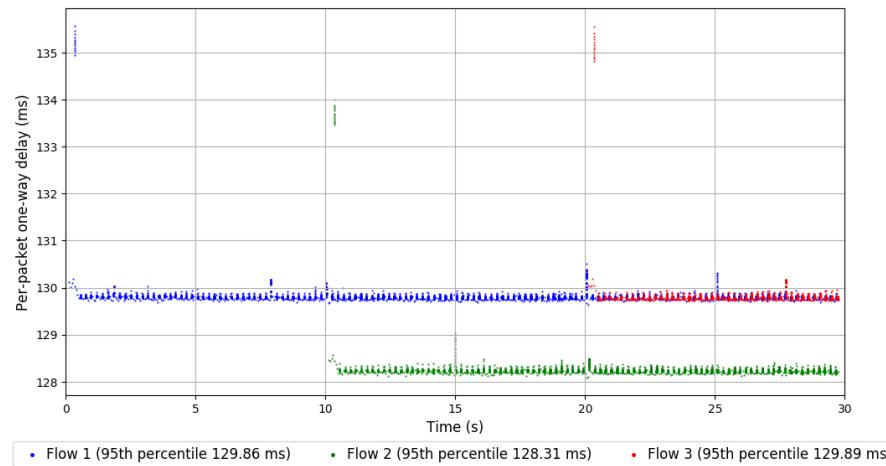
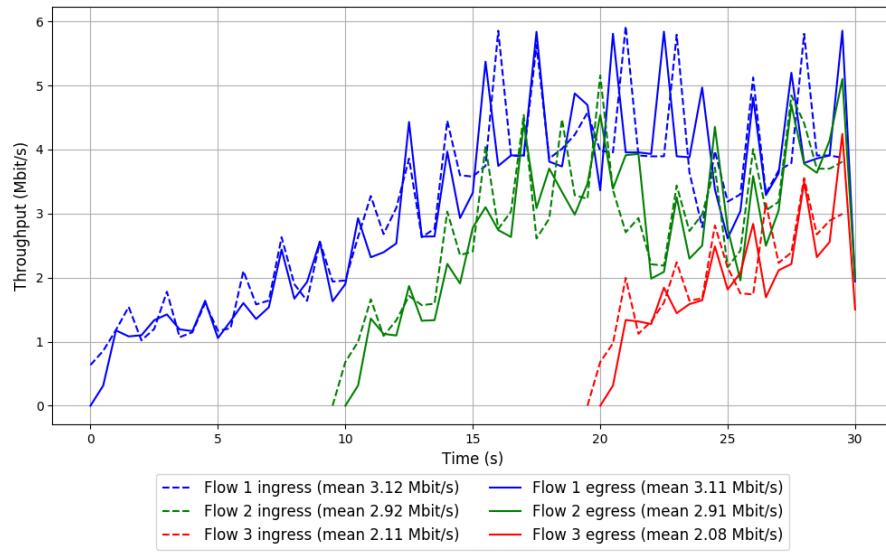


Run 2: Statistics of Sprout

```
Start at: 2018-09-08 01:23:20
End at: 2018-09-08 01:23:50
Local clock offset: 0.527 ms
Remote clock offset: -30.717 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 129.839 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 129.860 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 128.306 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 129.888 ms
Loss rate: 3.59%
```

Run 2: Report of Sprout — Data Link

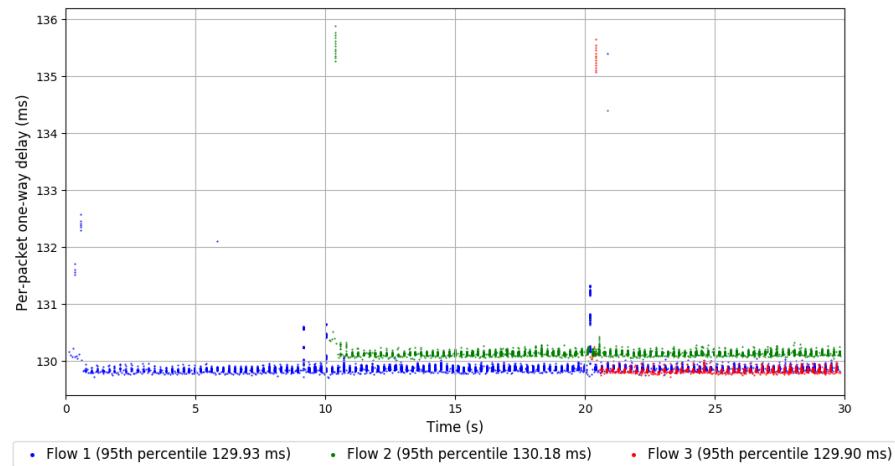
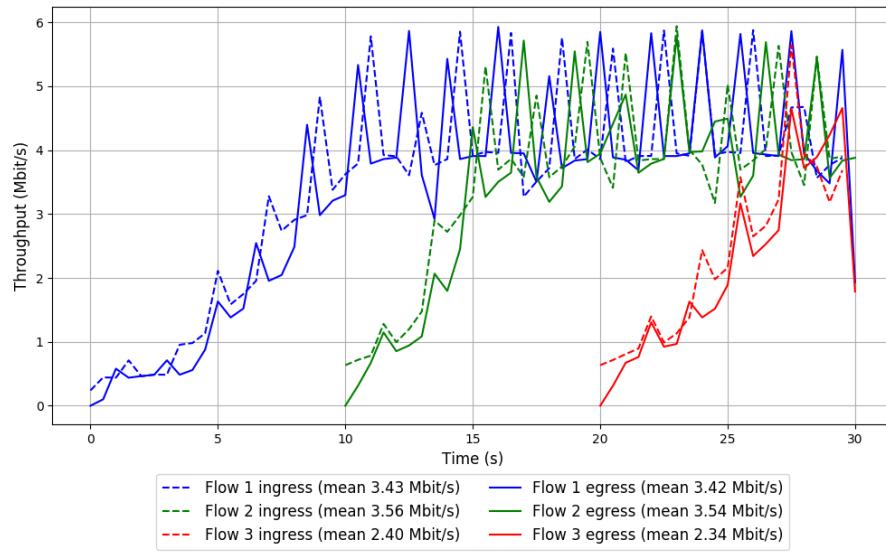


Run 3: Statistics of Sprout

```
Start at: 2018-09-08 02:01:24
End at: 2018-09-08 02:01:54
Local clock offset: 1.996 ms
Remote clock offset: -27.467 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 130.161 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 129.925 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 130.179 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 129.897 ms
Loss rate: 4.05%
```

Run 3: Report of Sprout — Data Link

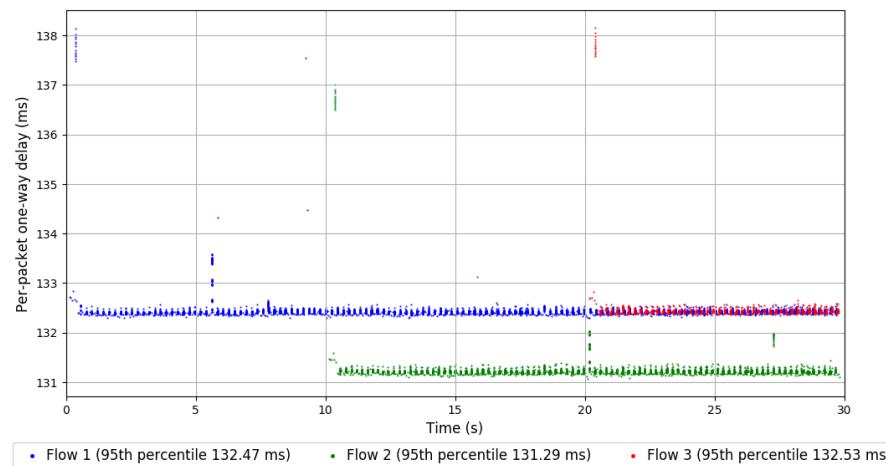
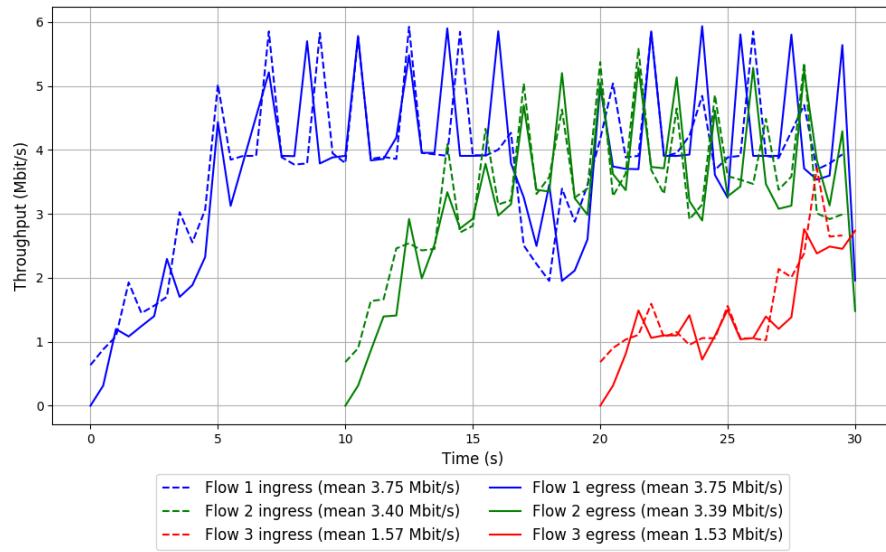


Run 4: Statistics of Sprout

```
Start at: 2018-09-08 02:28:46
End at: 2018-09-08 02:29:16
Local clock offset: 2.666 ms
Remote clock offset: -28.189 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 132.459 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 132.467 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 131.287 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 132.529 ms
Loss rate: 4.35%
```

Run 4: Report of Sprout — Data Link

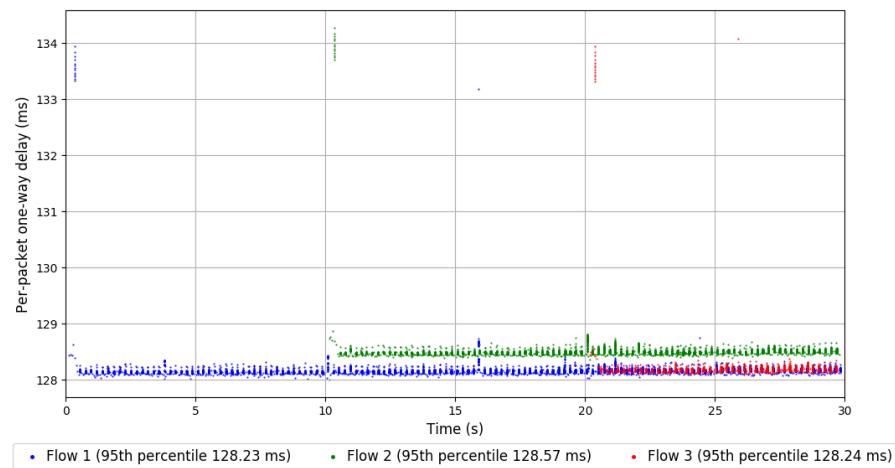
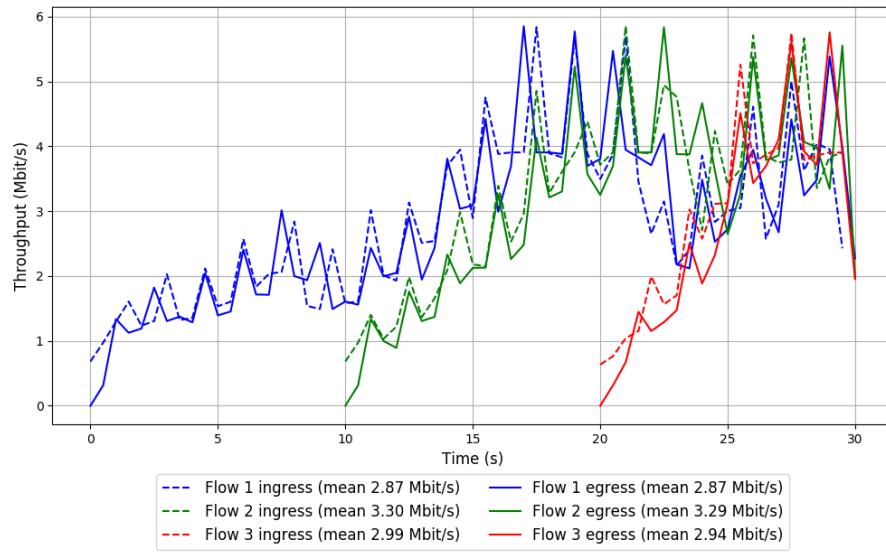


Run 5: Statistics of Sprout

```
Start at: 2018-09-08 03:38:06
End at: 2018-09-08 03:38:36
Local clock offset: -2.636 ms
Remote clock offset: -24.198 ms

# Below is generated by plot.py at 2018-09-08 04:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 128.530 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 128.233 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 128.573 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 128.240 ms
Loss rate: 3.32%
```

Run 5: Report of Sprout — Data Link

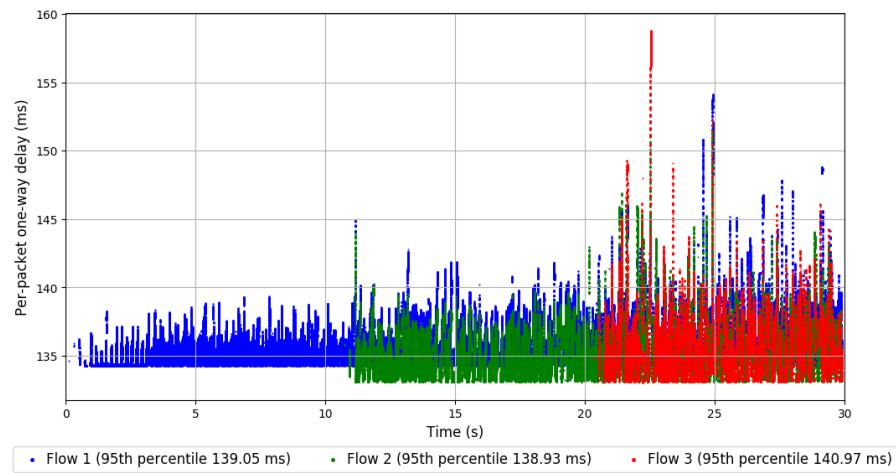
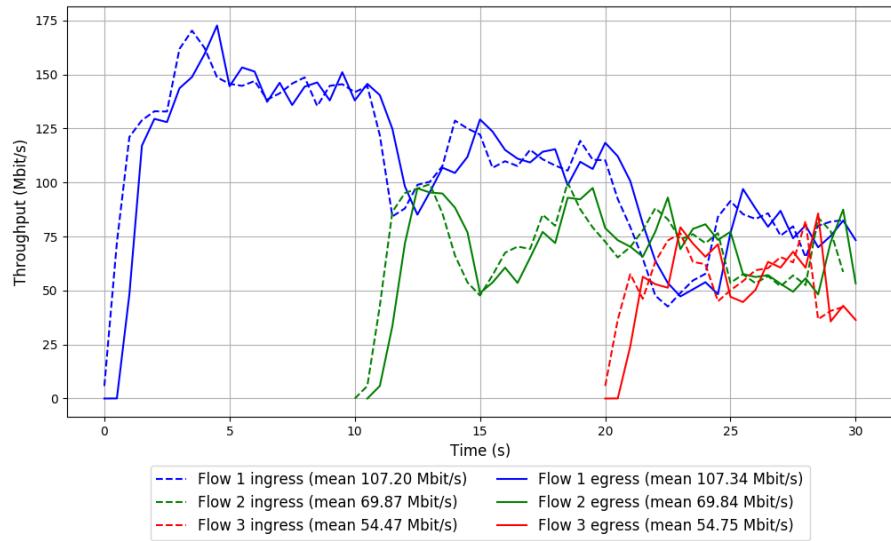


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-08 00:31:08
End at: 2018-09-08 00:31:38
Local clock offset: 0.915 ms
Remote clock offset: -37.862 ms

# Below is generated by plot.py at 2018-09-08 04:17:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 170.68 Mbit/s
95th percentile per-packet one-way delay: 139.231 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 107.34 Mbit/s
95th percentile per-packet one-way delay: 139.052 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 69.84 Mbit/s
95th percentile per-packet one-way delay: 138.926 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 54.75 Mbit/s
95th percentile per-packet one-way delay: 140.971 ms
Loss rate: 1.48%
```

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

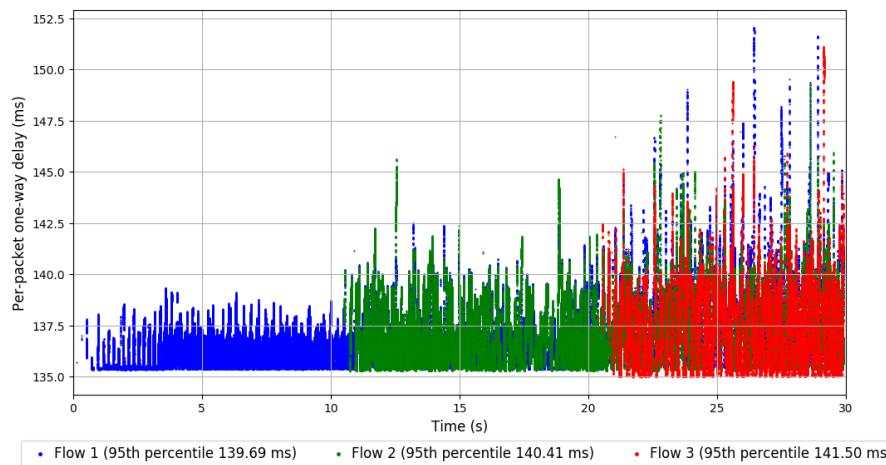
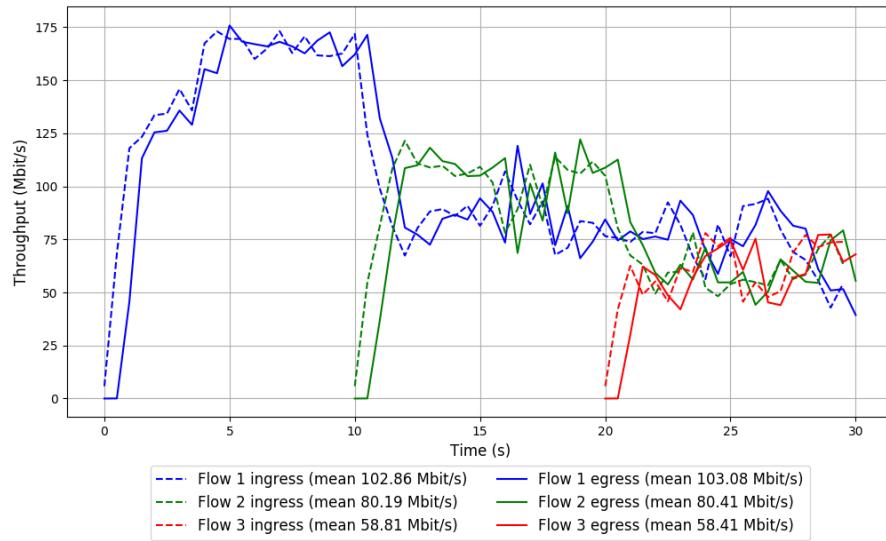


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-08 01:03:32
End at: 2018-09-08 01:04:02
Local clock offset: 0.224 ms
Remote clock offset: -36.694 ms

# Below is generated by plot.py at 2018-09-08 04:17:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.59 Mbit/s
95th percentile per-packet one-way delay: 140.148 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 103.08 Mbit/s
95th percentile per-packet one-way delay: 139.693 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 80.41 Mbit/s
95th percentile per-packet one-way delay: 140.414 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 58.41 Mbit/s
95th percentile per-packet one-way delay: 141.497 ms
Loss rate: 2.69%
```

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

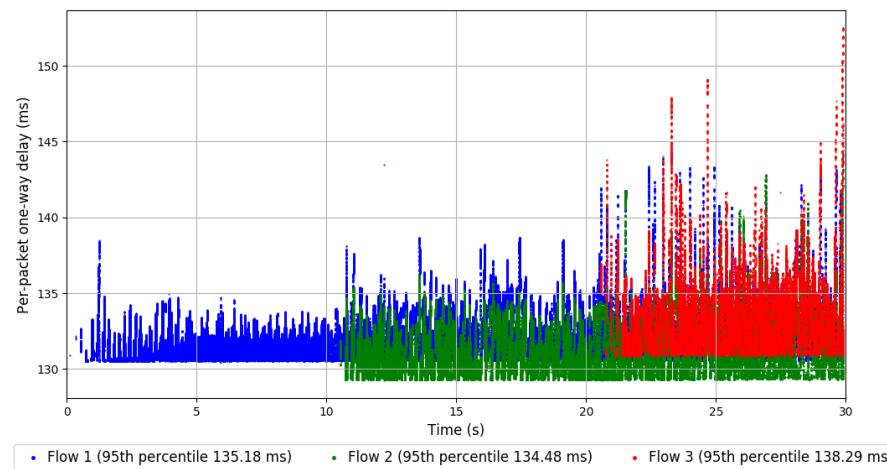
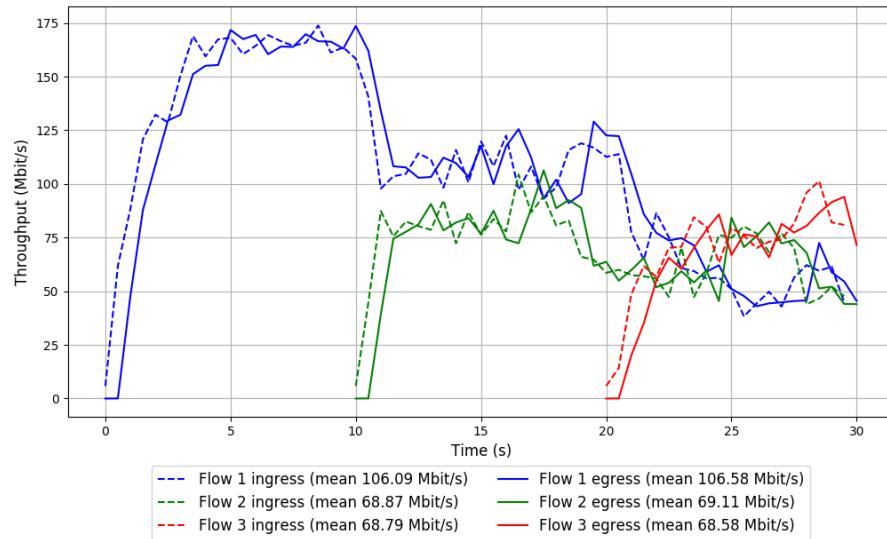


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-08 01:47:47
End at: 2018-09-08 01:48:17
Local clock offset: 2.819 ms
Remote clock offset: -29.057 ms

# Below is generated by plot.py at 2018-09-08 04:18:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.76 Mbit/s
95th percentile per-packet one-way delay: 135.561 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 106.58 Mbit/s
95th percentile per-packet one-way delay: 135.178 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 69.11 Mbit/s
95th percentile per-packet one-way delay: 134.477 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 68.58 Mbit/s
95th percentile per-packet one-way delay: 138.290 ms
Loss rate: 2.31%
```

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

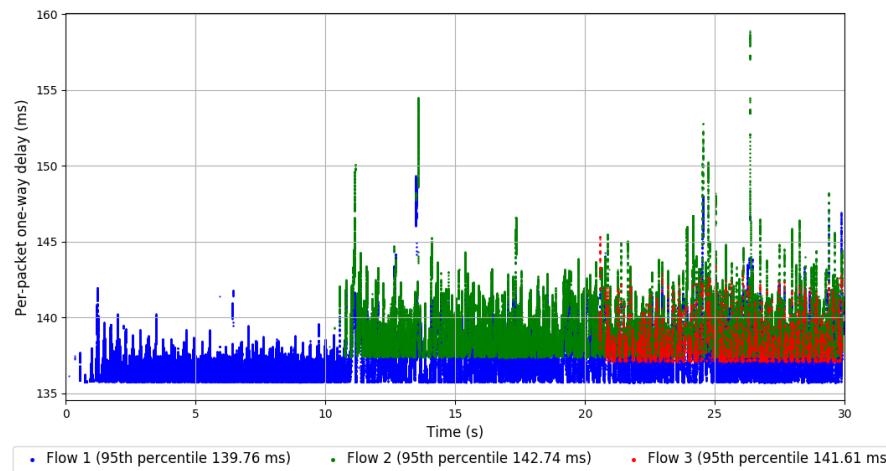
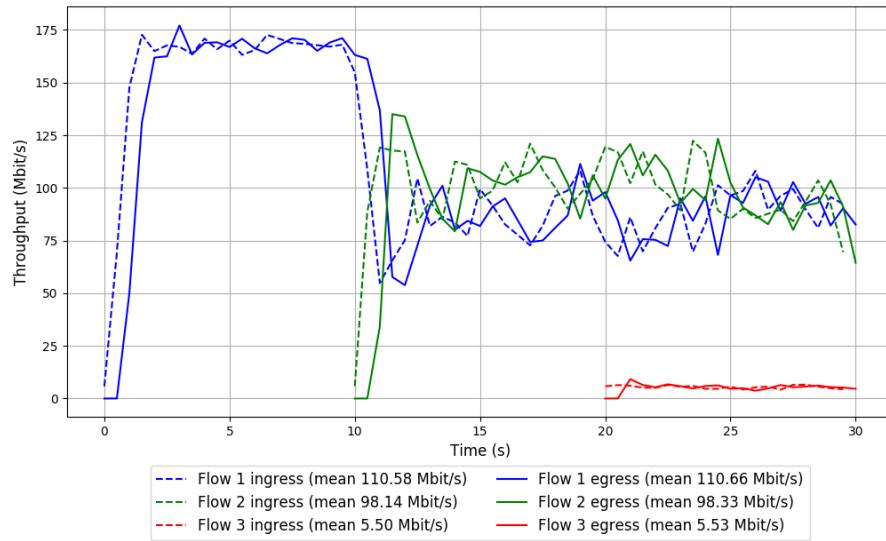


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-08 02:14:43
End at: 2018-09-08 02:15:13
Local clock offset: 2.588 ms
Remote clock offset: -33.029 ms

# Below is generated by plot.py at 2018-09-08 04:18:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.73 Mbit/s
95th percentile per-packet one-way delay: 141.397 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 110.66 Mbit/s
95th percentile per-packet one-way delay: 139.760 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 98.33 Mbit/s
95th percentile per-packet one-way delay: 142.735 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 141.606 ms
Loss rate: 1.28%
```

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

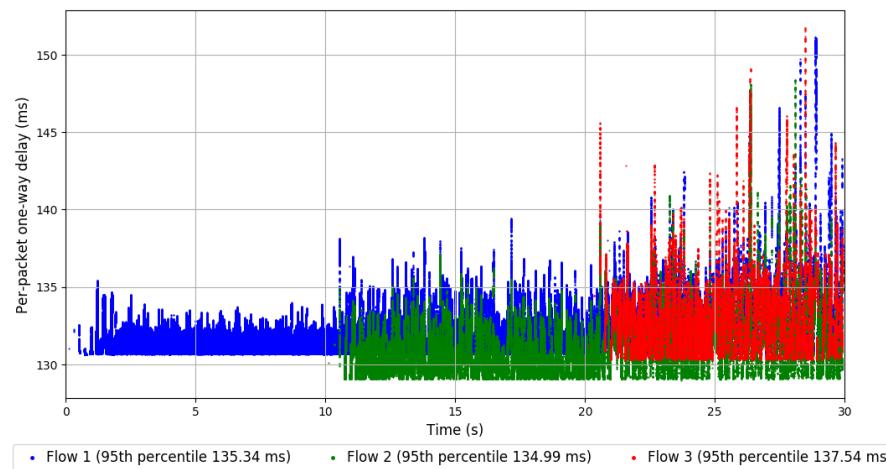
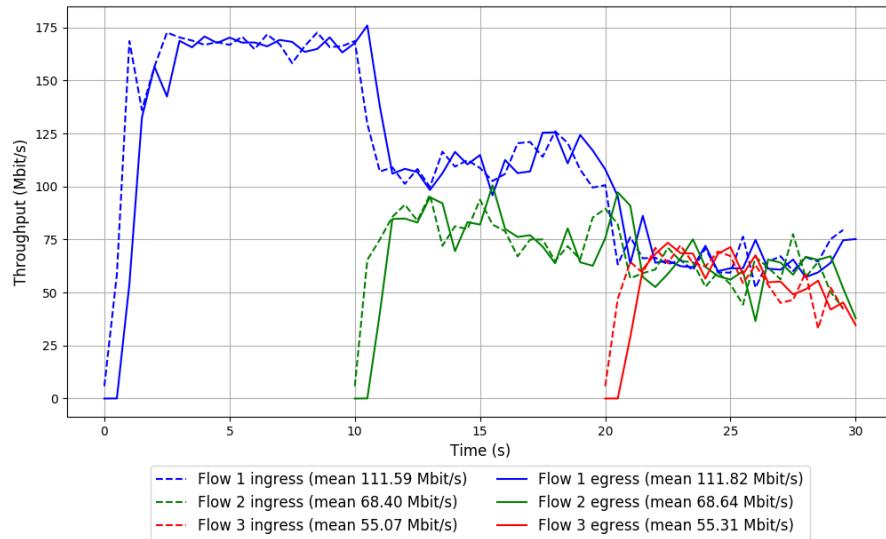


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-08 02:57:21
End at: 2018-09-08 02:57:51
Local clock offset: 1.126 ms
Remote clock offset: -25.364 ms

# Below is generated by plot.py at 2018-09-08 04:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.53 Mbit/s
95th percentile per-packet one-way delay: 135.572 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 111.82 Mbit/s
95th percentile per-packet one-way delay: 135.336 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 68.64 Mbit/s
95th percentile per-packet one-way delay: 134.989 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 55.31 Mbit/s
95th percentile per-packet one-way delay: 137.539 ms
Loss rate: 1.53%
```

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

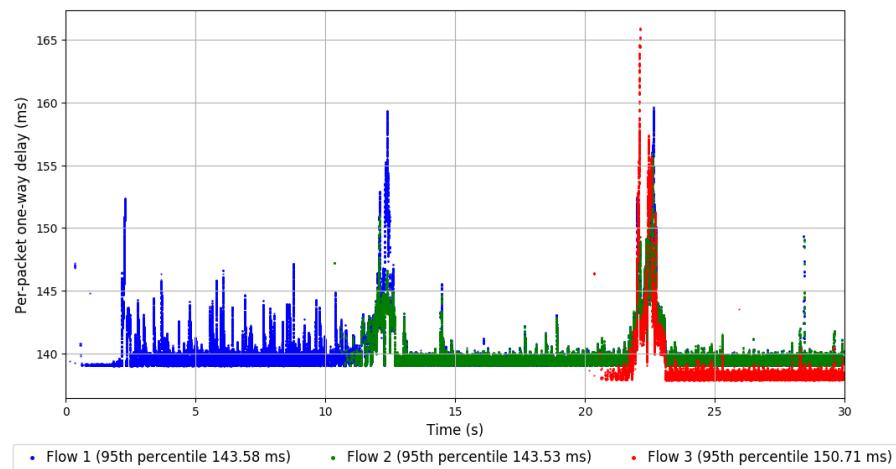
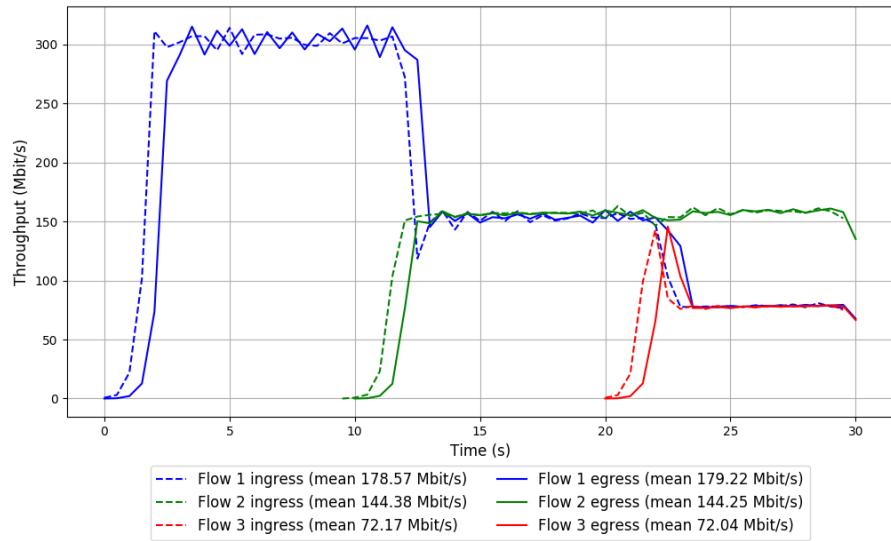


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-08 00:37:13
End at: 2018-09-08 00:37:43
Local clock offset: 1.066 ms
Remote clock offset: -41.932 ms

# Below is generated by plot.py at 2018-09-08 04:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.66 Mbit/s
95th percentile per-packet one-way delay: 143.714 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 179.22 Mbit/s
95th percentile per-packet one-way delay: 143.577 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 144.25 Mbit/s
95th percentile per-packet one-way delay: 143.527 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 72.04 Mbit/s
95th percentile per-packet one-way delay: 150.707 ms
Loss rate: 2.10%
```

Run 1: Report of TCP Vegas — Data Link

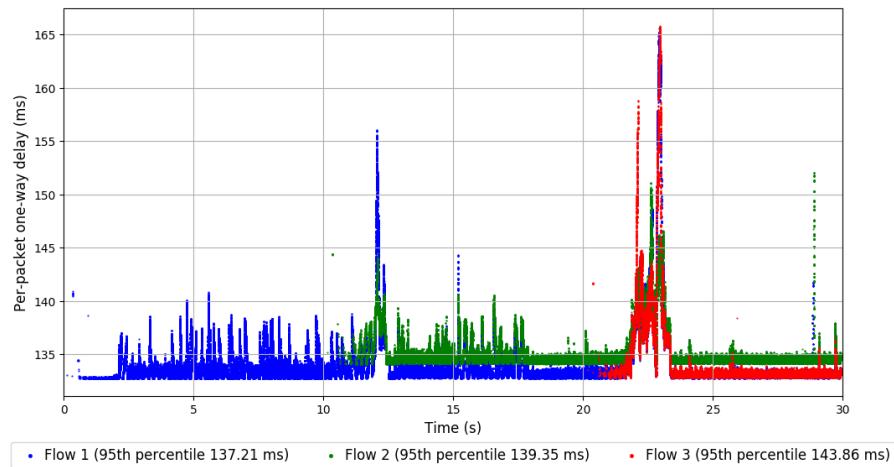
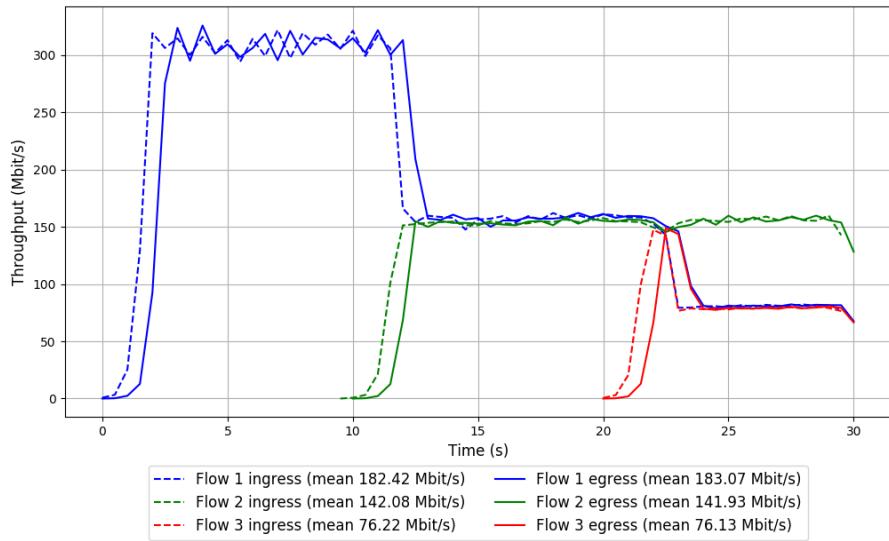


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-08 01:09:41
End at: 2018-09-08 01:10:11
Local clock offset: -0.386 ms
Remote clock offset: -35.933 ms

# Below is generated by plot.py at 2018-09-08 04:18:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.24 Mbit/s
95th percentile per-packet one-way delay: 138.584 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 183.07 Mbit/s
95th percentile per-packet one-way delay: 137.207 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 141.93 Mbit/s
95th percentile per-packet one-way delay: 139.354 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 76.13 Mbit/s
95th percentile per-packet one-way delay: 143.856 ms
Loss rate: 2.04%
```

Run 2: Report of TCP Vegas — Data Link

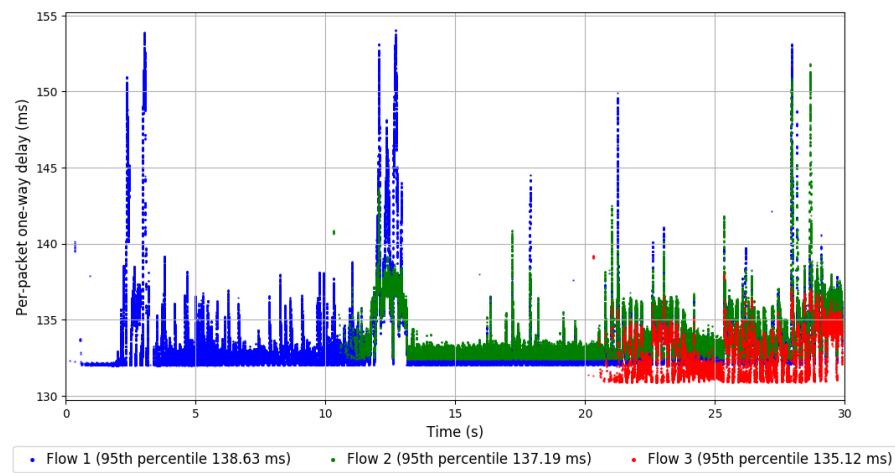
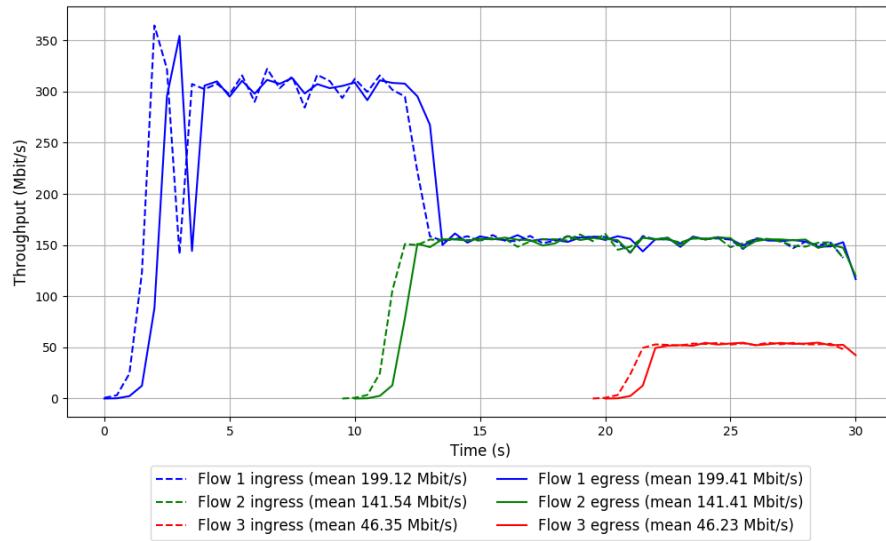


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-08 01:53:54
End at: 2018-09-08 01:54:24
Local clock offset: 1.435 ms
Remote clock offset: -31.307 ms

# Below is generated by plot.py at 2018-09-08 04:18:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.59 Mbit/s
95th percentile per-packet one-way delay: 137.471 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 199.41 Mbit/s
95th percentile per-packet one-way delay: 138.634 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 141.41 Mbit/s
95th percentile per-packet one-way delay: 137.189 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 46.23 Mbit/s
95th percentile per-packet one-way delay: 135.123 ms
Loss rate: 2.23%
```

Run 3: Report of TCP Vegas — Data Link

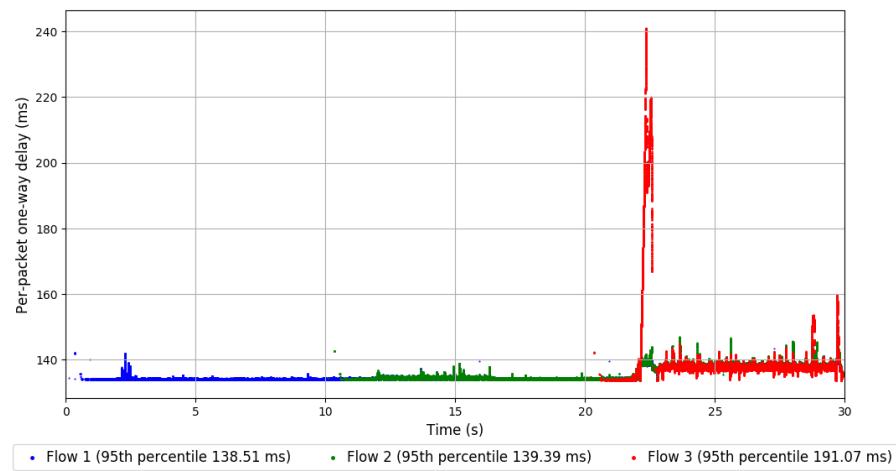
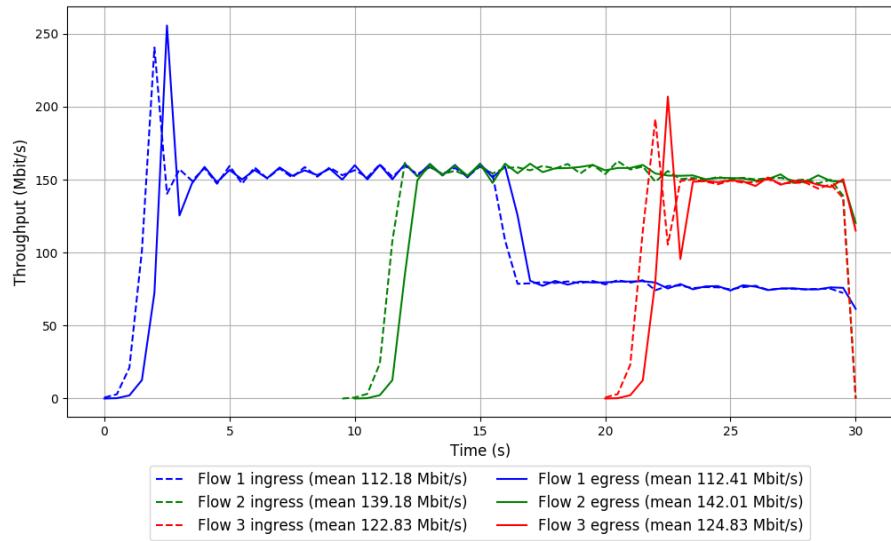


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-08 02:21:00
End at: 2018-09-08 02:21:30
Local clock offset: 0.757 ms
Remote clock offset: -31.543 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.71 Mbit/s
95th percentile per-packet one-way delay: 139.413 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 112.41 Mbit/s
95th percentile per-packet one-way delay: 138.511 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 142.01 Mbit/s
95th percentile per-packet one-way delay: 139.387 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 124.83 Mbit/s
95th percentile per-packet one-way delay: 191.067 ms
Loss rate: 2.40%
```

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-08 03:09:12
End at: 2018-09-08 03:09:42
Local clock offset: 2.475 ms
Remote clock offset: -27.394 ms

Run 5: Report of TCP Vegas — Data Link

Figure is missing

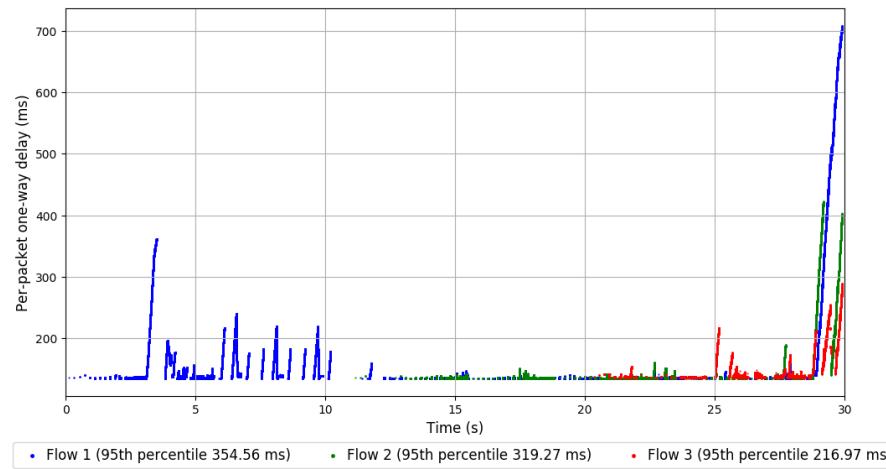
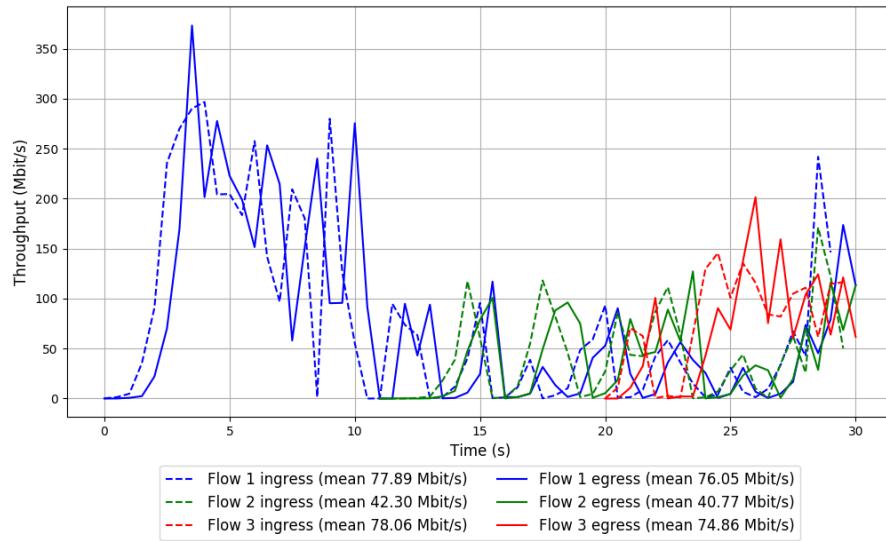
Figure is missing

Run 1: Statistics of Verus

```
Start at: 2018-09-08 00:40:04
End at: 2018-09-08 00:40:34
Local clock offset: 2.089 ms
Remote clock offset: -38.005 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.27 Mbit/s
95th percentile per-packet one-way delay: 328.405 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 76.05 Mbit/s
95th percentile per-packet one-way delay: 354.560 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 319.272 ms
Loss rate: 3.15%
-- Flow 3:
Average throughput: 74.86 Mbit/s
95th percentile per-packet one-way delay: 216.965 ms
Loss rate: 3.63%
```

Run 1: Report of Verus — Data Link

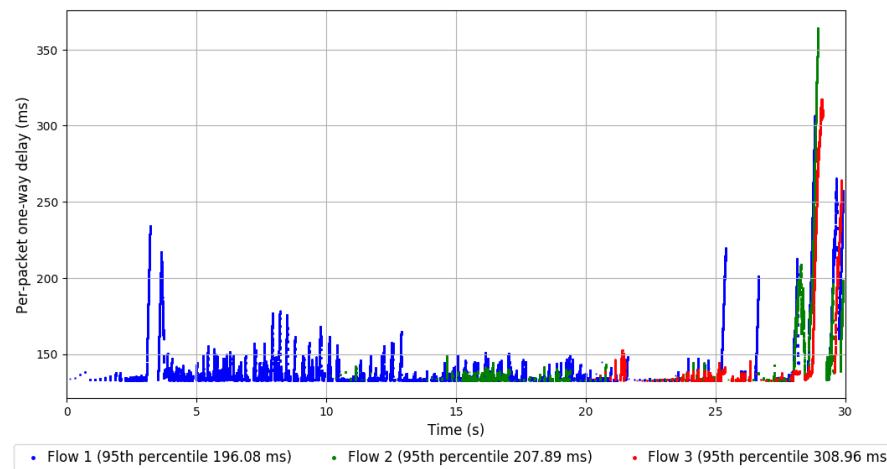
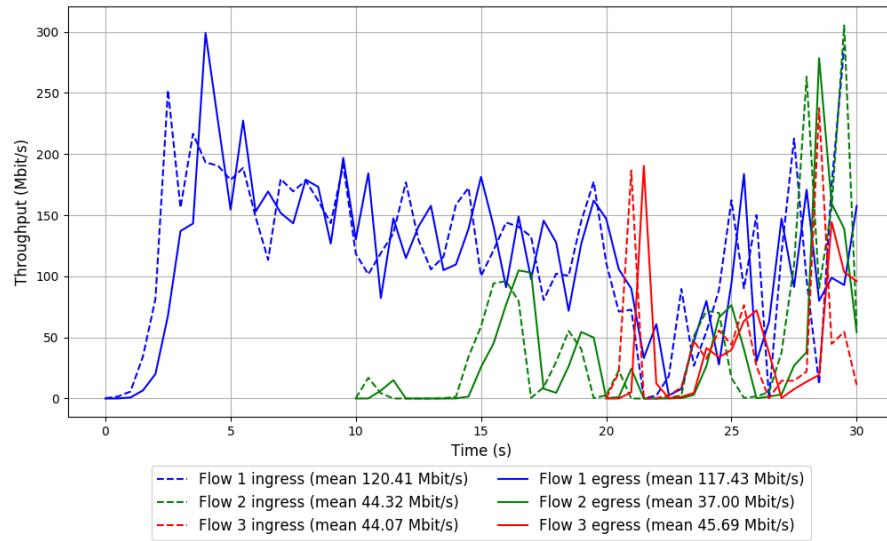


Run 2: Statistics of Verus

```
Start at: 2018-09-08 01:12:32
End at: 2018-09-08 01:13:02
Local clock offset: -0.341 ms
Remote clock offset: -35.674 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 156.87 Mbit/s
95th percentile per-packet one-way delay: 214.424 ms
Loss rate: 5.59%
-- Flow 1:
Average throughput: 117.43 Mbit/s
95th percentile per-packet one-way delay: 196.078 ms
Loss rate: 2.94%
-- Flow 2:
Average throughput: 37.00 Mbit/s
95th percentile per-packet one-way delay: 207.894 ms
Loss rate: 18.26%
-- Flow 3:
Average throughput: 45.69 Mbit/s
95th percentile per-packet one-way delay: 308.956 ms
Loss rate: 1.60%
```

Run 2: Report of Verus — Data Link

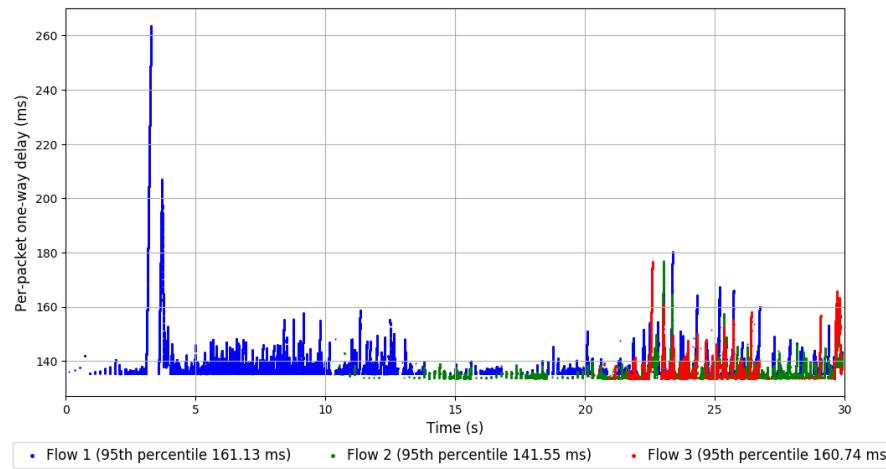
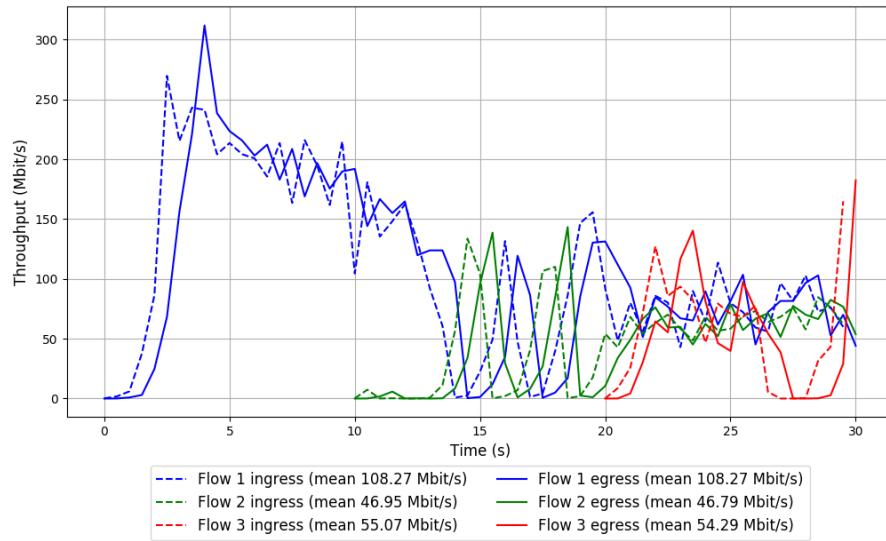


Run 3: Statistics of Verus

```
Start at: 2018-09-08 01:56:45
End at: 2018-09-08 01:57:15
Local clock offset: 1.303 ms
Remote clock offset: -33.954 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.08 Mbit/s
95th percentile per-packet one-way delay: 157.603 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 108.27 Mbit/s
95th percentile per-packet one-way delay: 161.133 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 46.79 Mbit/s
95th percentile per-packet one-way delay: 141.547 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 54.29 Mbit/s
95th percentile per-packet one-way delay: 160.735 ms
Loss rate: 2.39%
```

Run 3: Report of Verus — Data Link

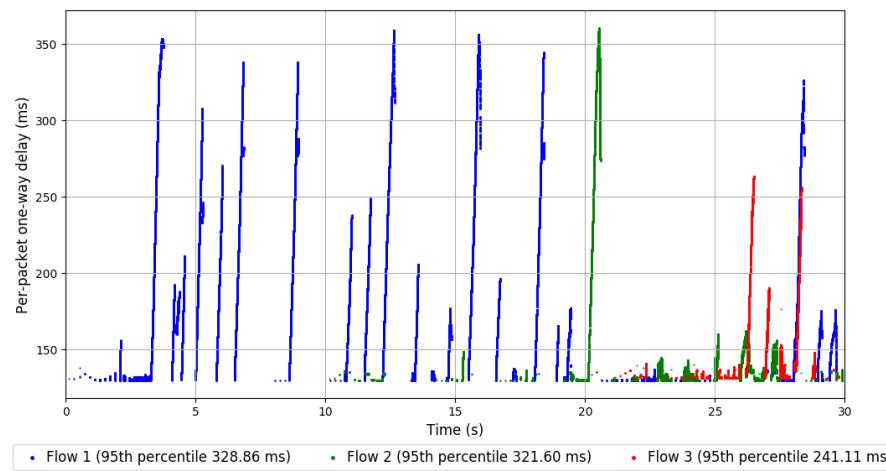
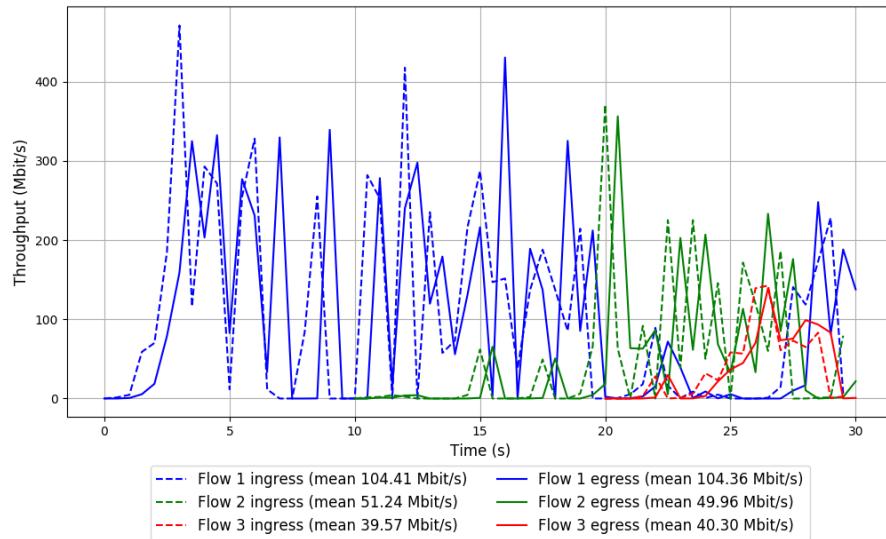


Run 4: Statistics of Verus

```
Start at: 2018-09-08 02:23:49
End at: 2018-09-08 02:24:19
Local clock offset: 0.622 ms
Remote clock offset: -29.051 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.69 Mbit/s
95th percentile per-packet one-way delay: 323.962 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 104.36 Mbit/s
95th percentile per-packet one-way delay: 328.863 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 49.96 Mbit/s
95th percentile per-packet one-way delay: 321.596 ms
Loss rate: 2.84%
-- Flow 3:
Average throughput: 40.30 Mbit/s
95th percentile per-packet one-way delay: 241.106 ms
Loss rate: 0.29%
```

Run 4: Report of Verus — Data Link

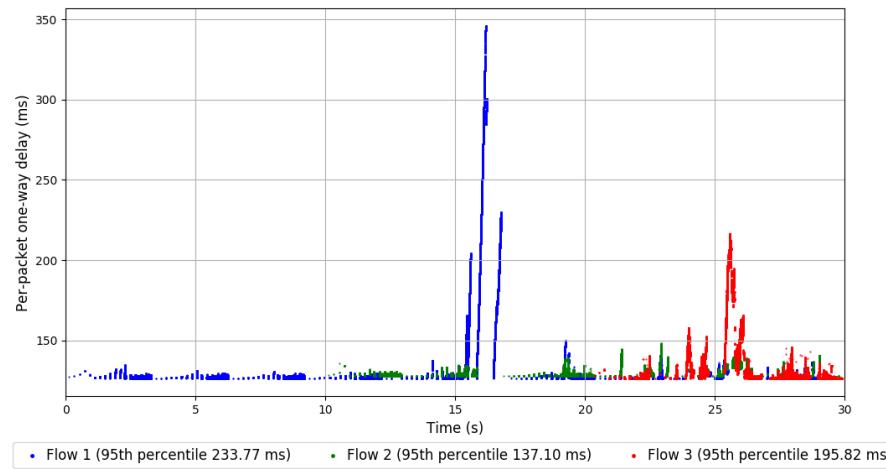
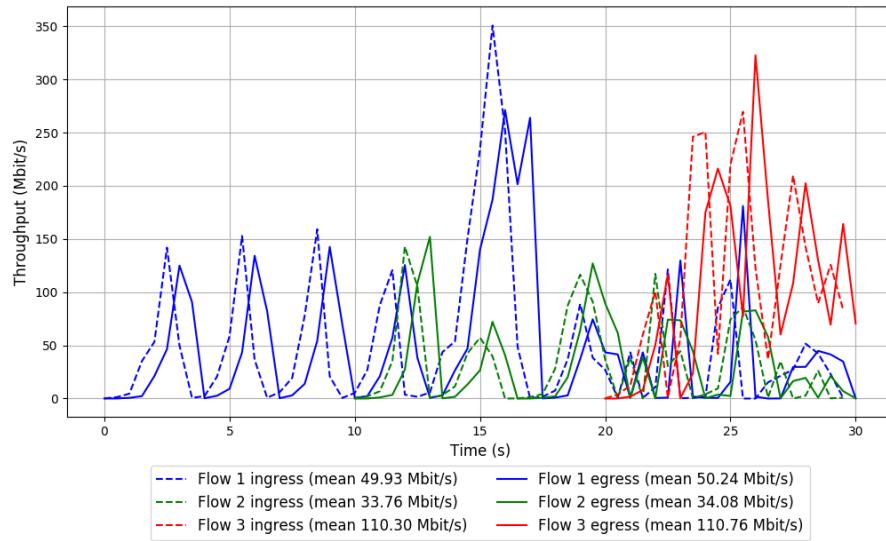


Run 5: Statistics of Verus

```
Start at: 2018-09-08 03:27:33
End at: 2018-09-08 03:28:03
Local clock offset: -0.015 ms
Remote clock offset: -21.695 ms

# Below is generated by plot.py at 2018-09-08 04:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.92 Mbit/s
95th percentile per-packet one-way delay: 200.976 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 233.769 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.08 Mbit/s
95th percentile per-packet one-way delay: 137.099 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 110.76 Mbit/s
95th percentile per-packet one-way delay: 195.821 ms
Loss rate: 1.57%
```

Run 5: Report of Verus — Data Link

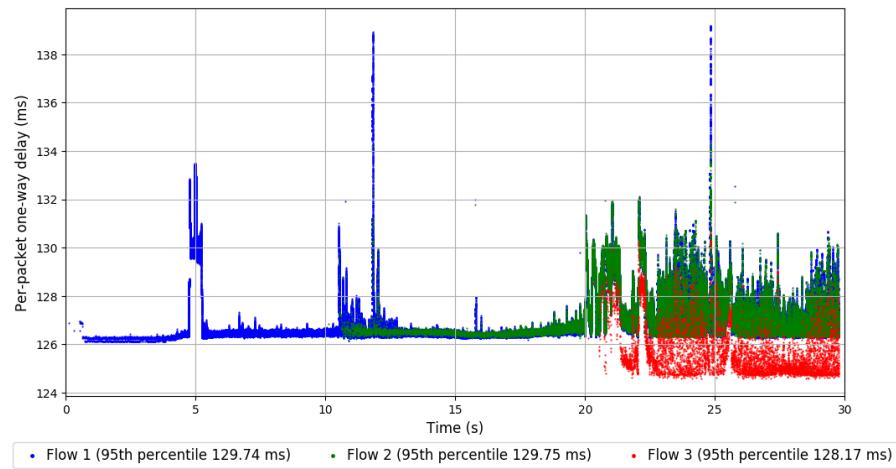
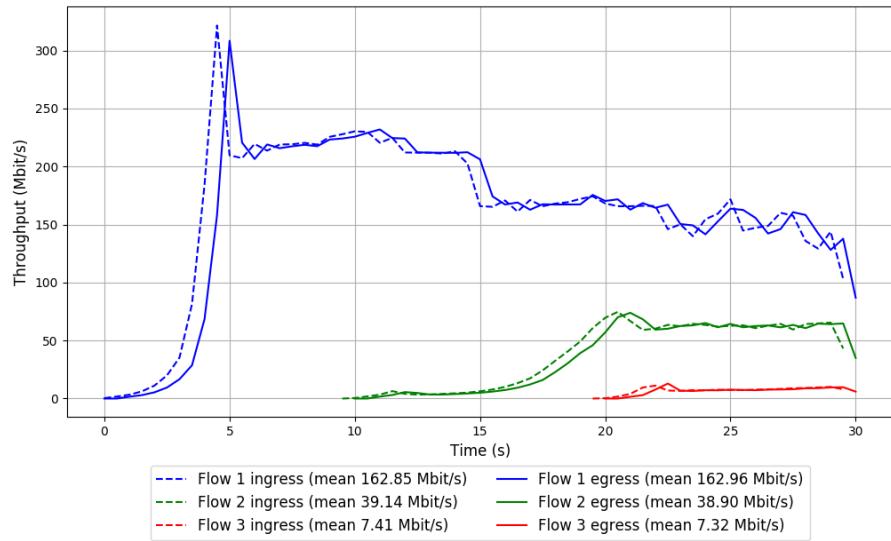


```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-08 00:57:39
End at: 2018-09-08 00:58:09
Local clock offset: -7.37 ms
Remote clock offset: -35.571 ms

# Below is generated by plot.py at 2018-09-08 04:20:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.15 Mbit/s
95th percentile per-packet one-way delay: 129.738 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 162.96 Mbit/s
95th percentile per-packet one-way delay: 129.743 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 38.90 Mbit/s
95th percentile per-packet one-way delay: 129.753 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 128.173 ms
Loss rate: 3.23%
```

Run 1: Report of PCC-Vivace — Data Link

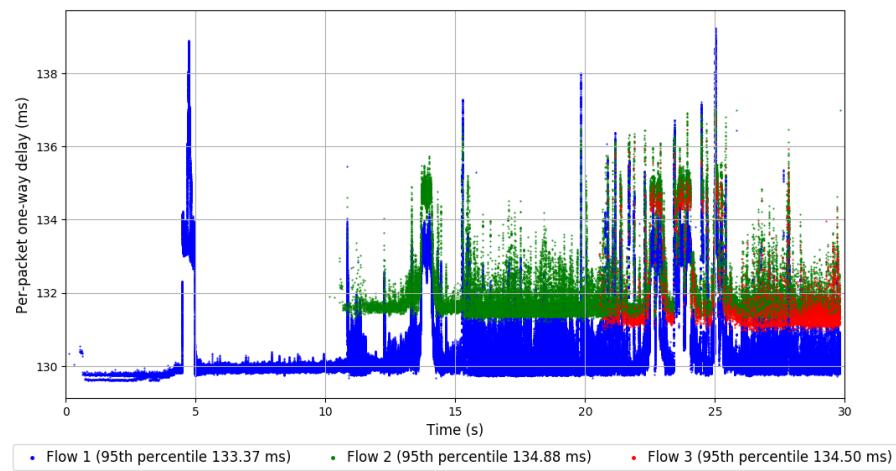
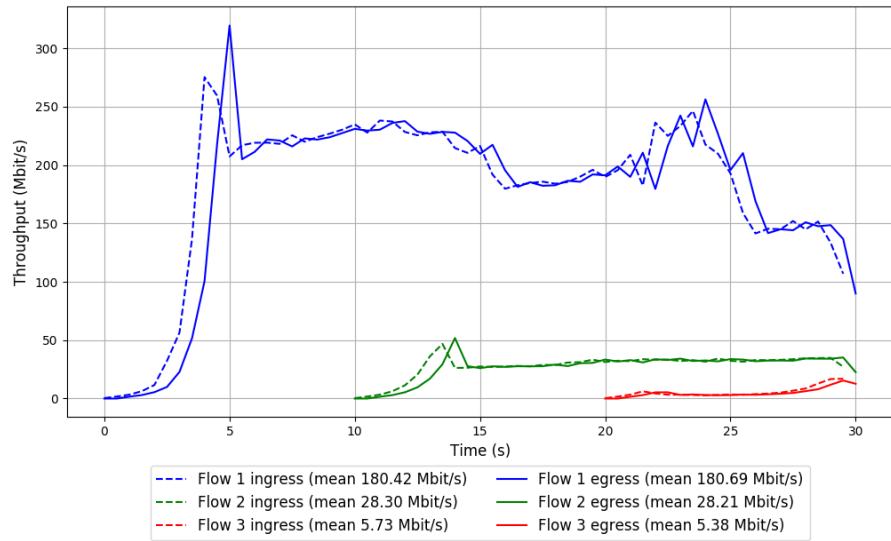


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-08 01:36:07
End at: 2018-09-08 01:36:37
Local clock offset: 1.35 ms
Remote clock offset: -31.595 ms

# Below is generated by plot.py at 2018-09-08 04:21:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 201.11 Mbit/s
95th percentile per-packet one-way delay: 133.475 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 180.69 Mbit/s
95th percentile per-packet one-way delay: 133.371 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 28.21 Mbit/s
95th percentile per-packet one-way delay: 134.877 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 134.505 ms
Loss rate: 8.05%
```

Run 2: Report of PCC-Vivace — Data Link

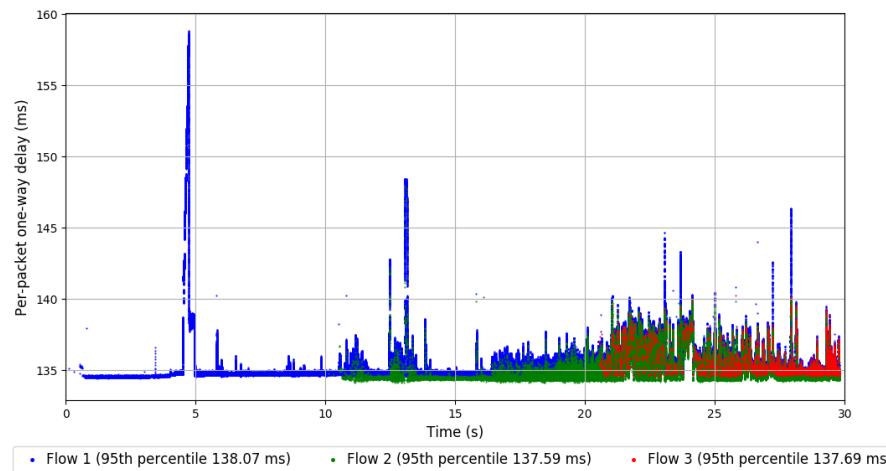
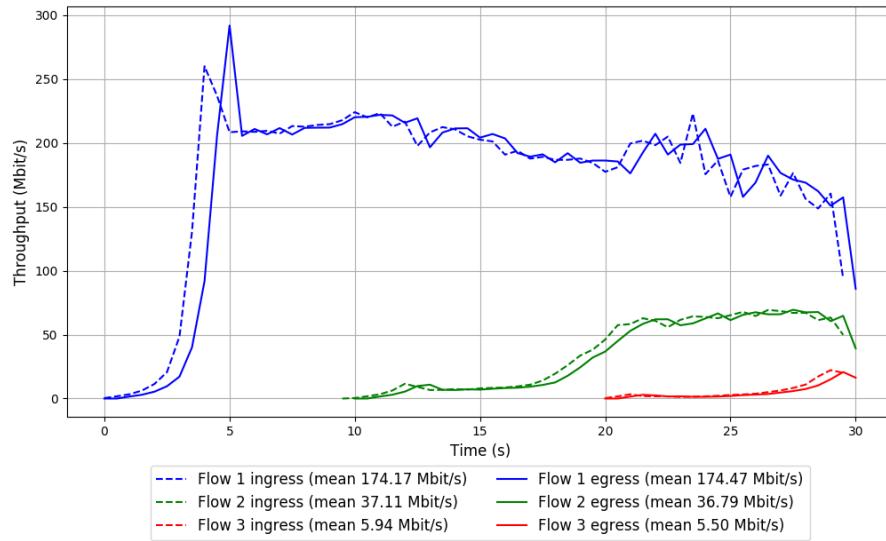


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-08 02:08:43
End at: 2018-09-08 02:09:13
Local clock offset: 0.618 ms
Remote clock offset: -32.64 ms

# Below is generated by plot.py at 2018-09-08 04:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.64 Mbit/s
95th percentile per-packet one-way delay: 137.963 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 174.47 Mbit/s
95th percentile per-packet one-way delay: 138.073 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 36.79 Mbit/s
95th percentile per-packet one-way delay: 137.586 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 5.50 Mbit/s
95th percentile per-packet one-way delay: 137.685 ms
Loss rate: 9.32%
```

Run 3: Report of PCC-Vivace — Data Link

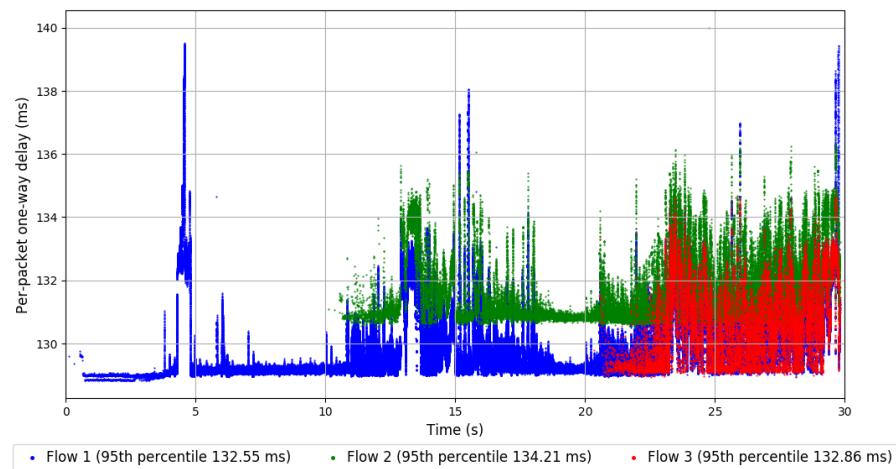
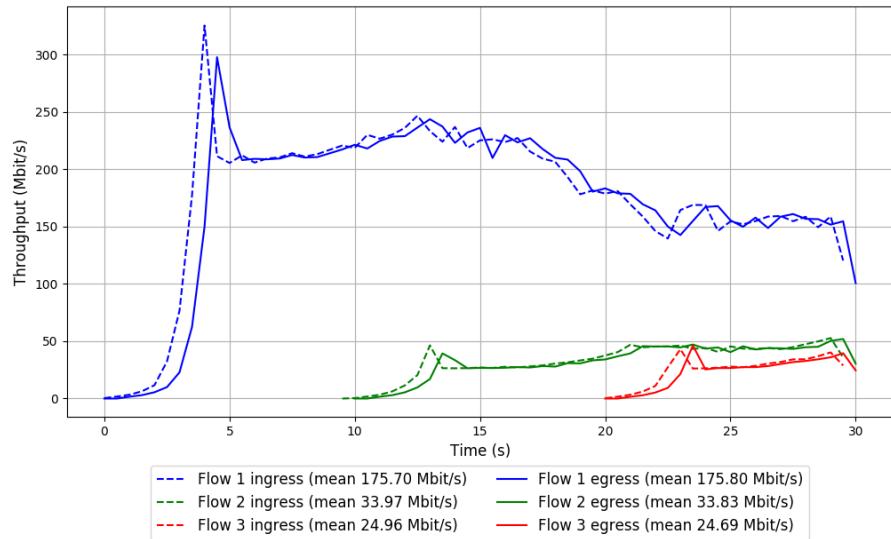


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-08 02:41:42
End at: 2018-09-08 02:42:12
Local clock offset: 1.662 ms
Remote clock offset: -26.249 ms

# Below is generated by plot.py at 2018-09-08 04:21:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.27 Mbit/s
95th percentile per-packet one-way delay: 132.840 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 175.80 Mbit/s
95th percentile per-packet one-way delay: 132.553 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 134.208 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 24.69 Mbit/s
95th percentile per-packet one-way delay: 132.856 ms
Loss rate: 3.12%
```

Run 4: Report of PCC-Vivace — Data Link

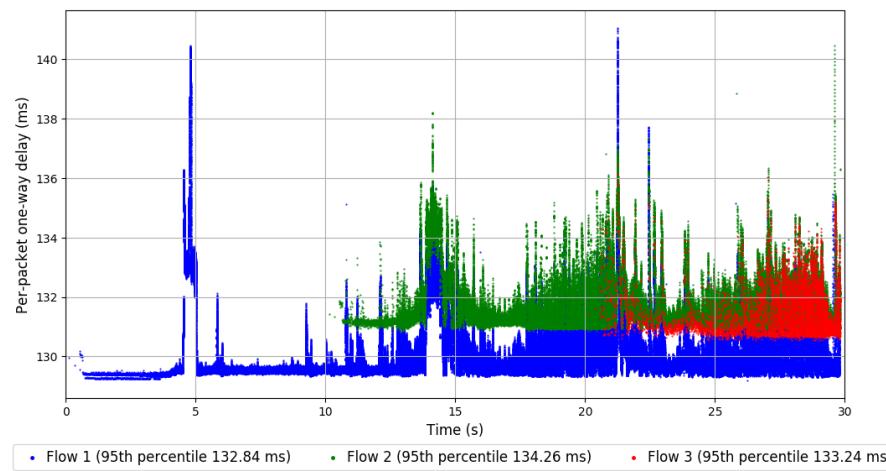
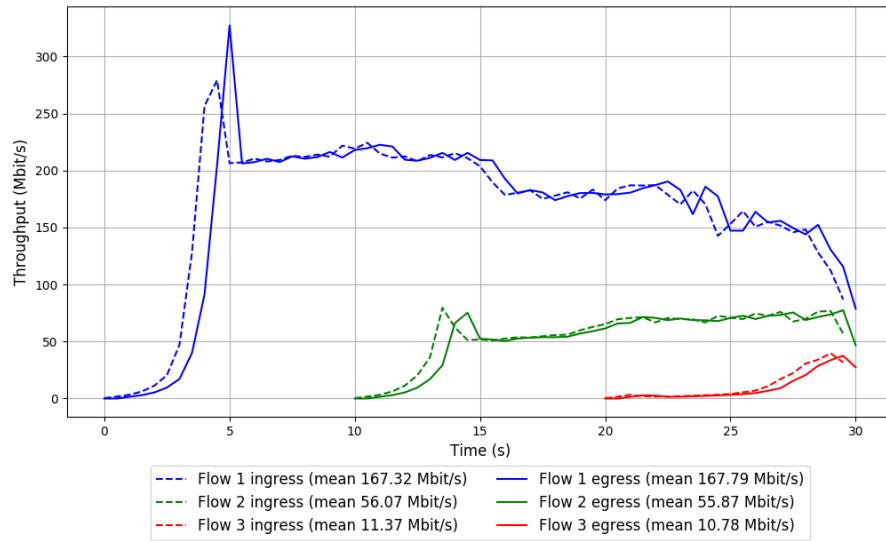


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-08 03:45:24
End at: 2018-09-08 03:45:54
Local clock offset: 1.052 ms
Remote clock offset: -23.627 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.27 Mbit/s
95th percentile per-packet one-way delay: 133.073 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 167.79 Mbit/s
95th percentile per-packet one-way delay: 132.840 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 55.87 Mbit/s
95th percentile per-packet one-way delay: 134.260 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 133.240 ms
Loss rate: 7.07%
```

Run 5: Report of PCC-Vivace — Data Link

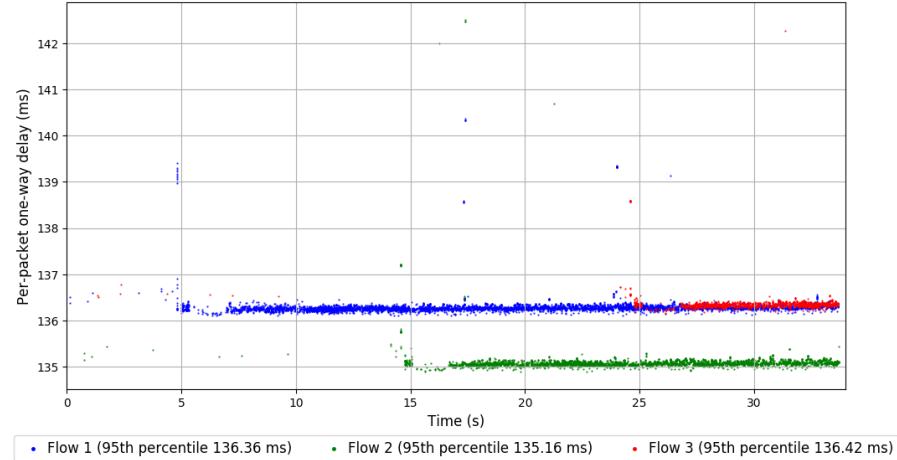
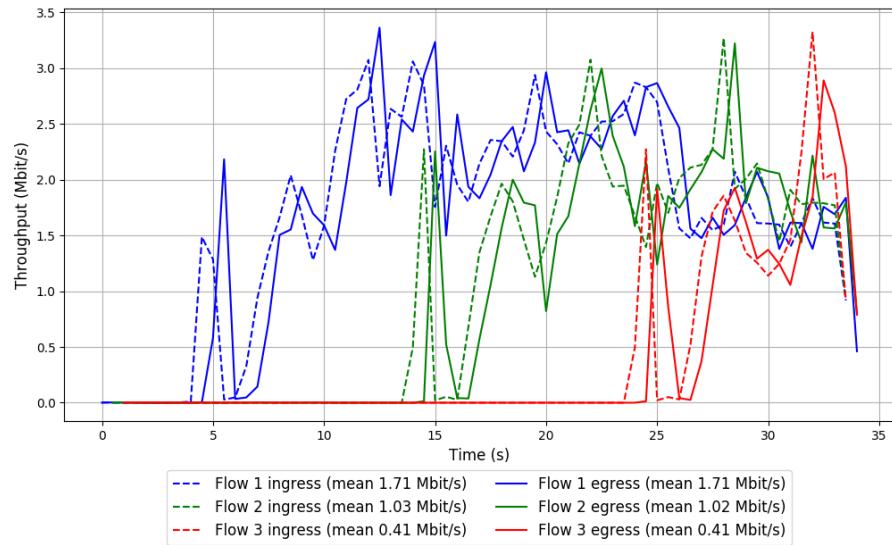


Run 1: Statistics of WebRTC media

```
Start at: 2018-09-08 00:38:47
End at: 2018-09-08 00:39:17
Local clock offset: 2.106 ms
Remote clock offset: -37.92 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 136.367 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 136.357 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 135.158 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.423 ms
Loss rate: 2.44%
```

Run 1: Report of WebRTC media — Data Link

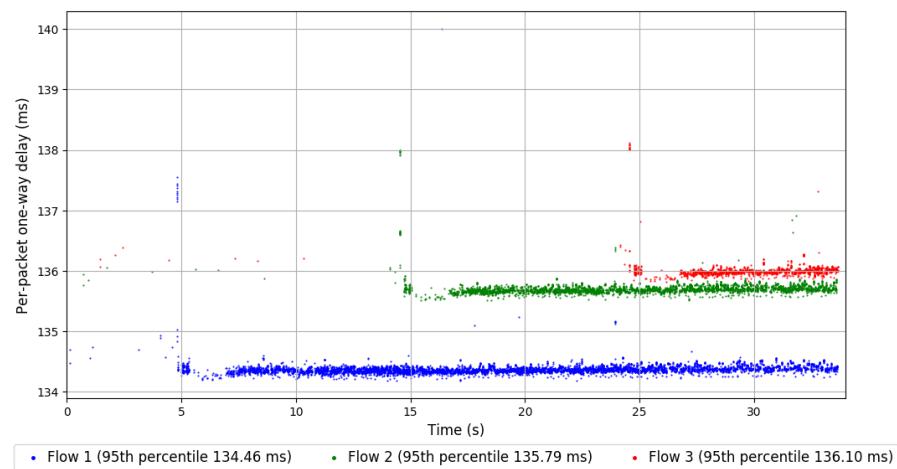
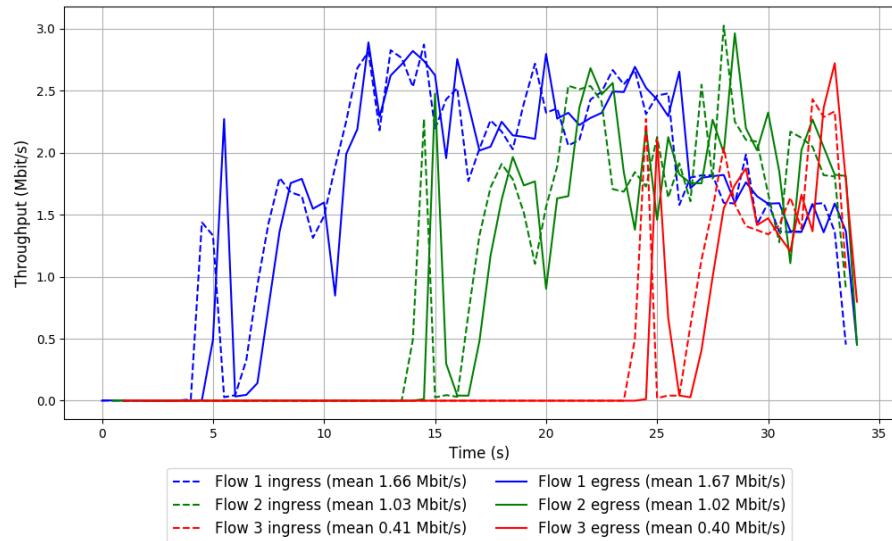


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-08 01:11:15
End at: 2018-09-08 01:11:45
Local clock offset: 1.325 ms
Remote clock offset: -35.641 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 136.005 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 134.460 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 135.792 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 136.100 ms
Loss rate: 3.48%
```

Run 2: Report of WebRTC media — Data Link

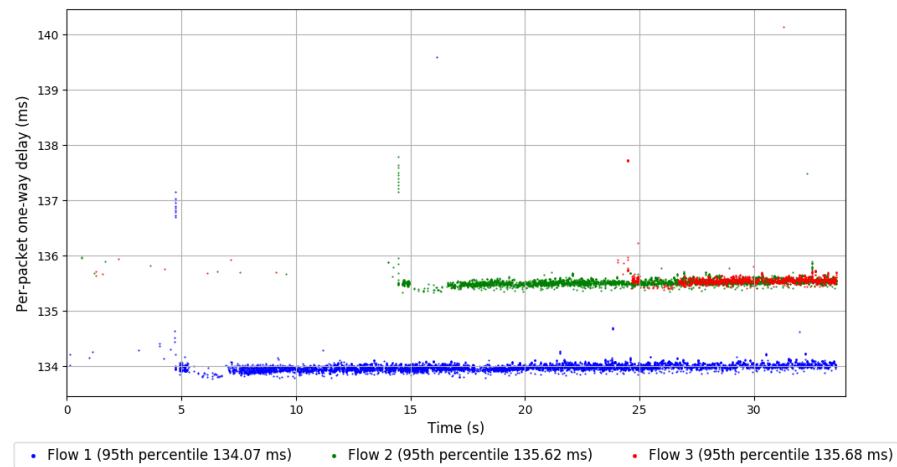
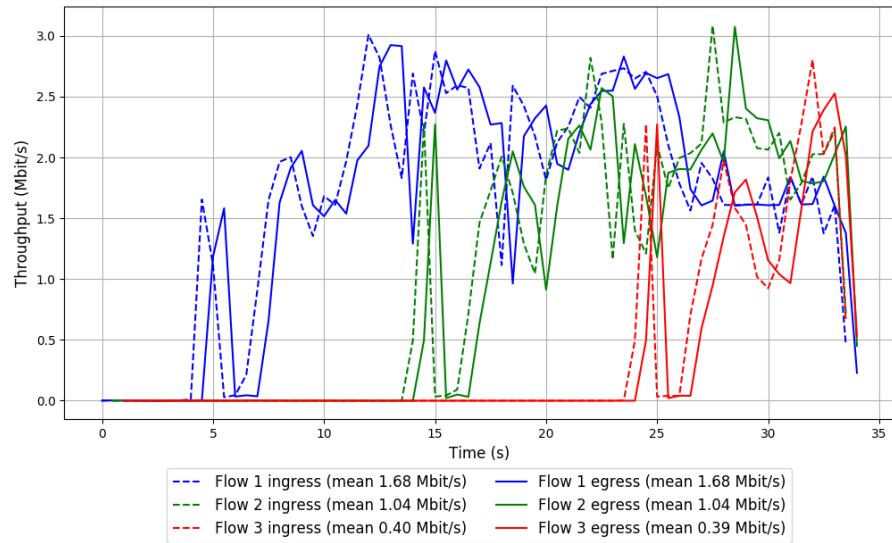


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-08 01:55:27
End at: 2018-09-08 01:55:57
Local clock offset: 1.484 ms
Remote clock offset: -34.15 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 135.600 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 134.074 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 135.616 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 135.682 ms
Loss rate: 3.49%
```

Run 3: Report of WebRTC media — Data Link

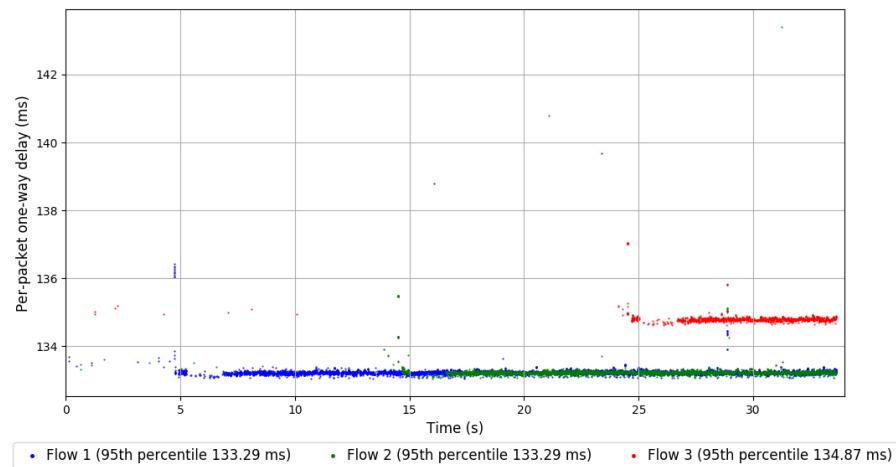
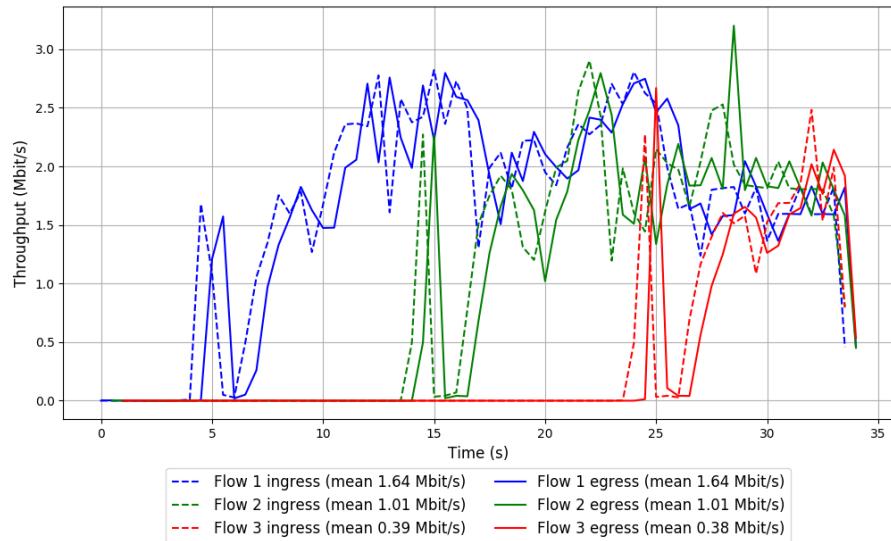


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-08 02:22:31
End at: 2018-09-08 02:23:01
Local clock offset: 0.919 ms
Remote clock offset: -32.156 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 134.791 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 133.290 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 133.295 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 134.866 ms
Loss rate: 3.12%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-08 03:26:16
End at: 2018-09-08 03:26:46
Local clock offset: -5.628 ms
Remote clock offset: -28.776 ms

# Below is generated by plot.py at 2018-09-08 04:21:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 129.245 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 127.790 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 129.083 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 129.320 ms
Loss rate: 2.56%
```

Run 5: Report of WebRTC media — Data Link

