

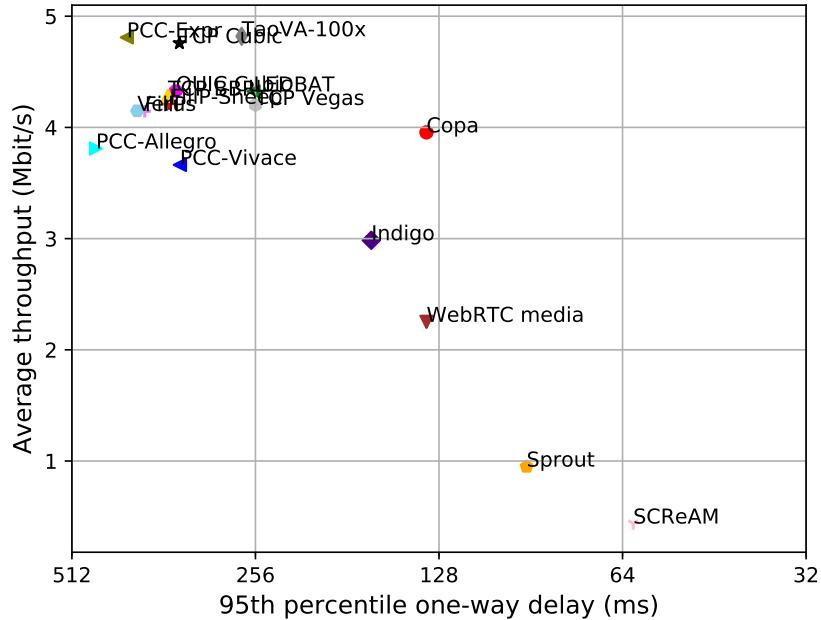
Pantheon Report

Generated at 2018-08-01 23:43:57 (UTC).
Data path: India ppp0 ppp0 (*remote*) → AWS India 1 Ethernet (*local*).
Repeated the test of 17 congestion control schemes 3 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

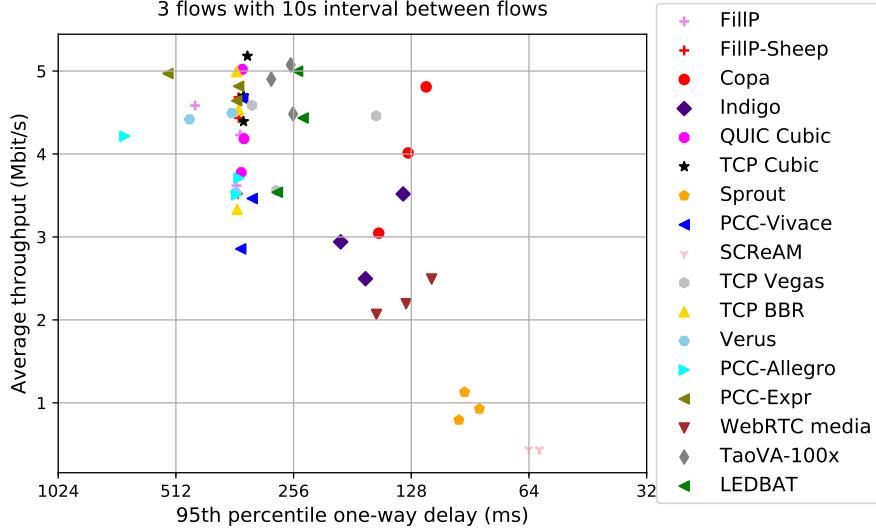
Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows (mean of all runs by scheme)



test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme
 3 flows with 10s interval between flows



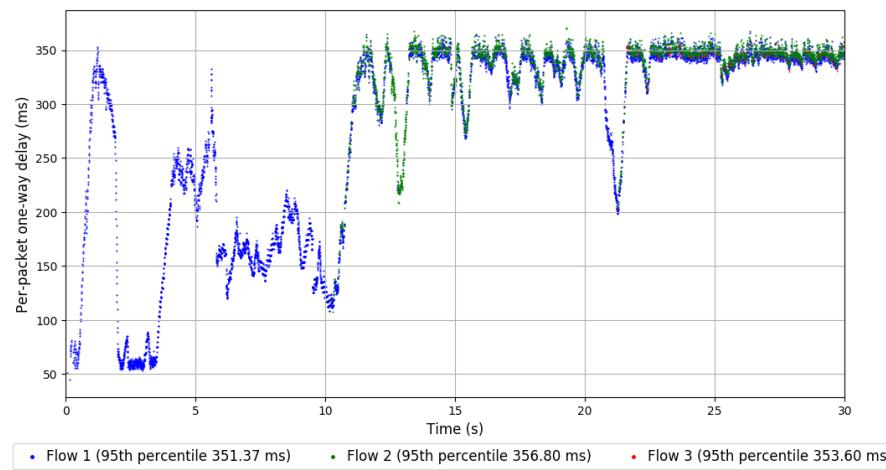
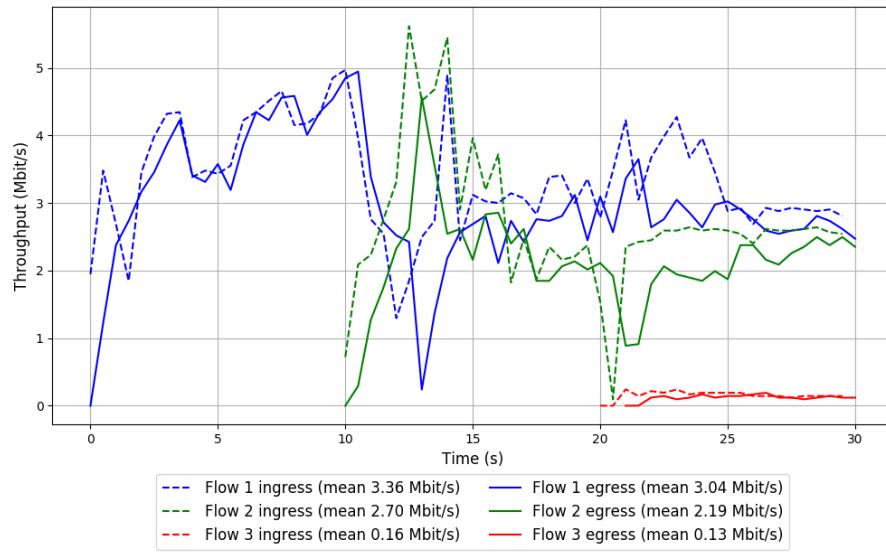
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	2.51	2.28	0.83	353.21	358.74	357.29	8.82	19.27	20.37
Copa		2.36	1.65	1.50	136.49	132.37	133.80	0.28	0.40	1.10
TCP Cubic		3.50	1.32	1.18	339.37	342.95	343.24	1.41	3.17	6.03
FillP		2.48	1.97	1.20	366.89	453.53	351.87	32.54	34.54	31.73
FillP-Sheep		2.36	1.91	1.84	350.87	354.70	357.27	21.89	43.45	50.92
Indigo		1.45	1.53	1.60	156.83	154.60	192.35	3.27	0.87	1.76
LEDBAT		3.05	1.45	0.99	249.23	270.98	286.94	0.20	1.47	2.87
PCC-Allegro		1.82	2.17	1.69	352.73	475.36	643.92	16.98	25.61	50.60
PCC-Expr		2.55	2.35	2.21	357.65	472.49	358.97	36.41	50.50	65.13
QUIC Cubic		3.26	1.13	0.97	345.60	346.08	347.57	4.99	7.49	10.40
SCReAM		0.22	0.22	0.22	61.22	61.56	59.40	0.26	0.39	0.70
Sprout		0.43	0.51	0.53	94.48	92.65	90.64	0.07	0.31	0.85
TaoVA-100x		2.76	2.17	1.87	238.80	276.50	316.57	1.59	1.98	4.35
TCP Vegas		1.73	2.81	1.84	237.09	262.35	214.79	1.30	1.78	1.06
Verus		3.75	0.54	0.13	399.92	402.22	401.41	39.32	47.57	45.48
PCC-Vivace		2.09	1.70	1.46	306.35	347.93	345.85	9.18	25.48	10.81
WebRTC media		1.39	0.58	0.29	125.61	140.47	141.35	0.42	0.19	0.94

Run 1: Statistics of TCP BBR

```
Start at: 2018-08-01 22:50:02
End at: 2018-08-01 22:50:32
Local clock offset: 1.267 ms
Remote clock offset: -13.515 ms

# Below is generated by plot.py at 2018-08-01 23:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 353.897 ms
Loss rate: 13.30%
-- Flow 1:
Average throughput: 3.04 Mbit/s
95th percentile per-packet one-way delay: 351.370 ms
Loss rate: 9.73%
-- Flow 2:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 356.800 ms
Loss rate: 19.56%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 353.602 ms
Loss rate: 27.14%
```

Run 1: Report of TCP BBR — Data Link

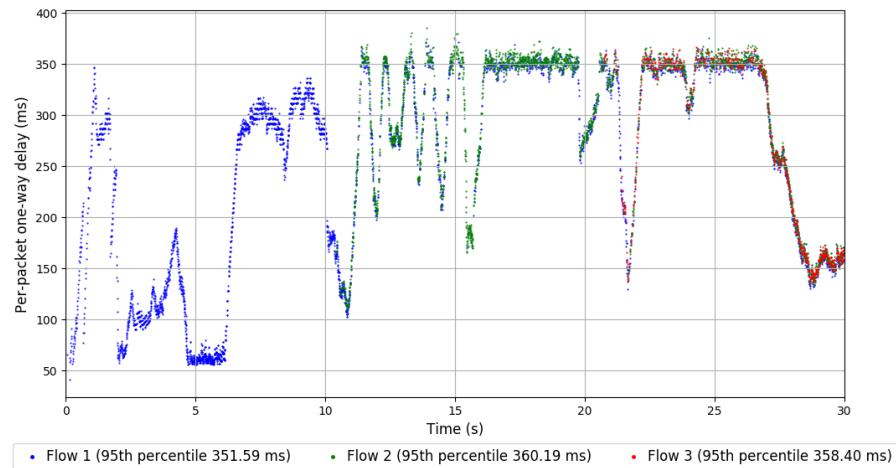
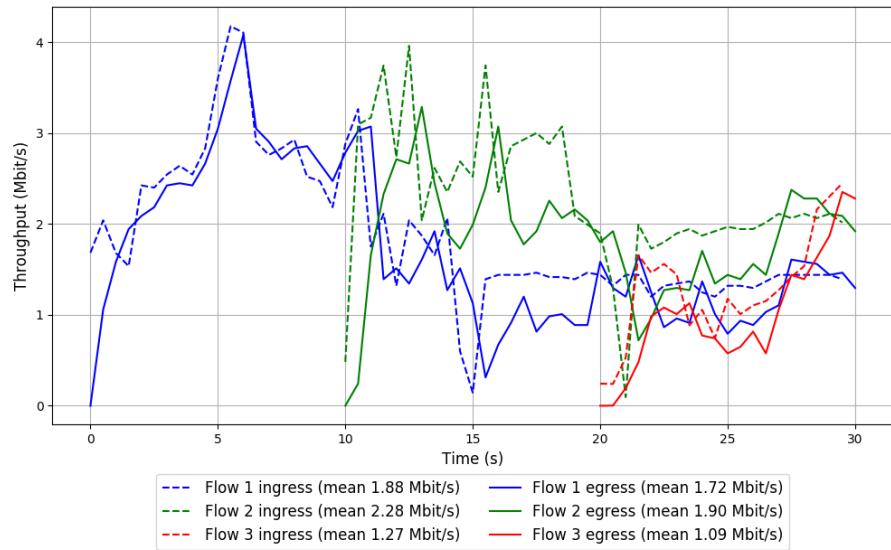


Run 2: Statistics of TCP BBR

```
Start at: 2018-08-01 23:09:07
End at: 2018-08-01 23:09:37
Local clock offset: -0.089 ms
Remote clock offset: -17.401 ms

# Below is generated by plot.py at 2018-08-01 23:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 356.841 ms
Loss rate: 13.00%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 351.587 ms
Loss rate: 8.46%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 360.190 ms
Loss rate: 17.44%
-- Flow 3:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 358.405 ms
Loss rate: 17.20%
```

Run 2: Report of TCP BBR — Data Link

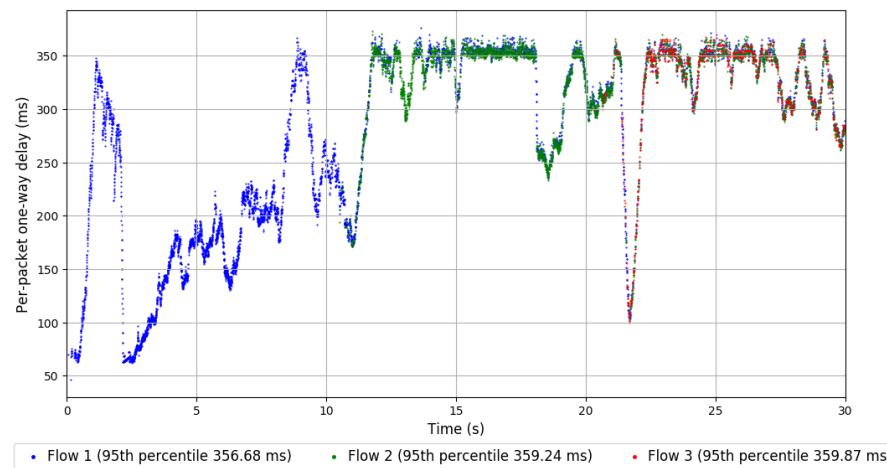
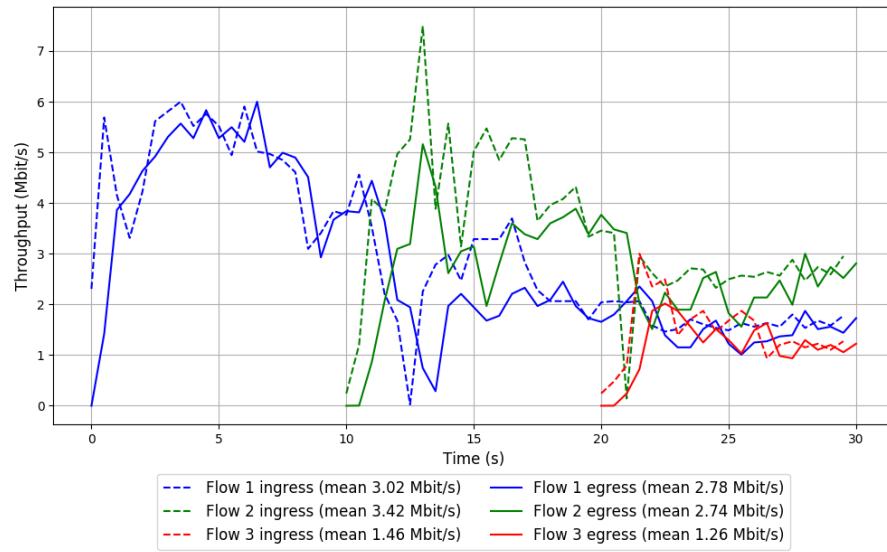


Run 3: Statistics of TCP BBR

```
Start at: 2018-08-01 23:27:58
End at: 2018-08-01 23:28:28
Local clock offset: 2.357 ms
Remote clock offset: -8.365 ms

# Below is generated by plot.py at 2018-08-01 23:43:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.99 Mbit/s
95th percentile per-packet one-way delay: 358.022 ms
Loss rate: 13.92%
-- Flow 1:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 356.678 ms
Loss rate: 8.26%
-- Flow 2:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 359.238 ms
Loss rate: 20.82%
-- Flow 3:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 359.866 ms
Loss rate: 16.77%
```

Run 3: Report of TCP BBR — Data Link

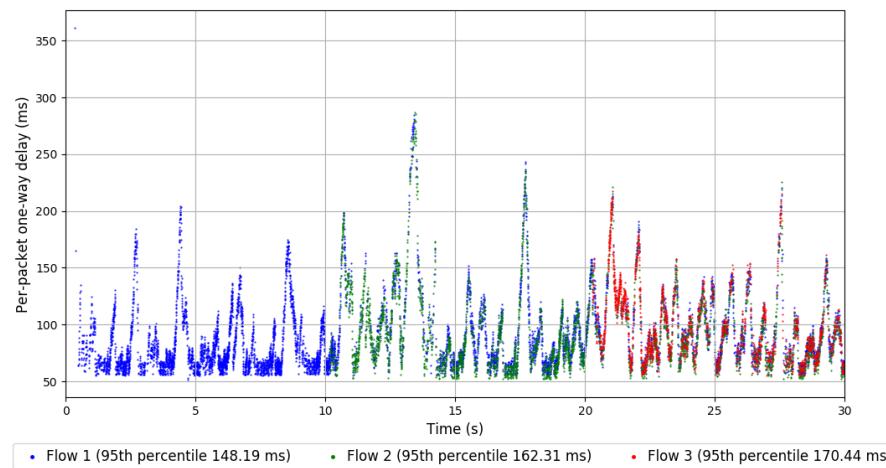
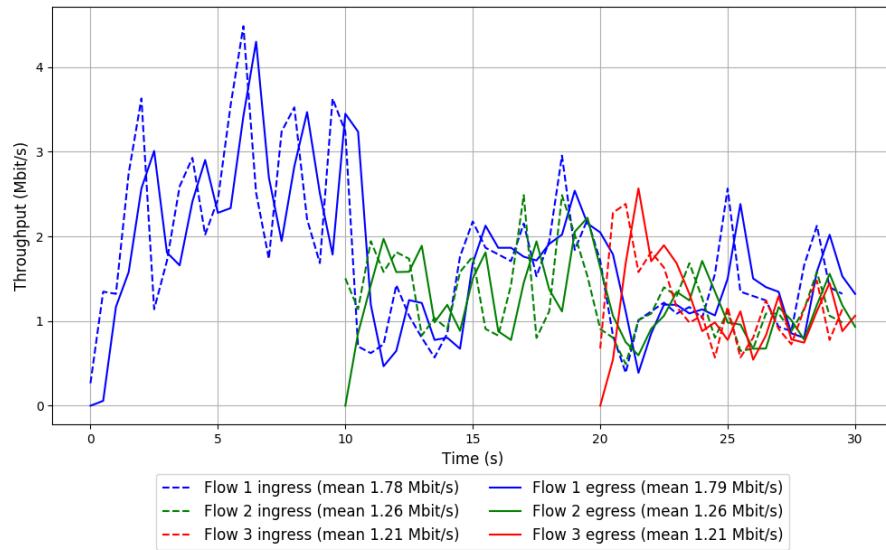


Run 1: Statistics of Copa

```
Start at: 2018-08-01 23:01:25
End at: 2018-08-01 23:01:55
Local clock offset: 2.652 ms
Remote clock offset: -17.625 ms

# Below is generated by plot.py at 2018-08-01 23:43:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 155.042 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 148.195 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 1.26 Mbit/s
95th percentile per-packet one-way delay: 162.309 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 170.443 ms
Loss rate: 0.97%
```

Run 1: Report of Copa — Data Link

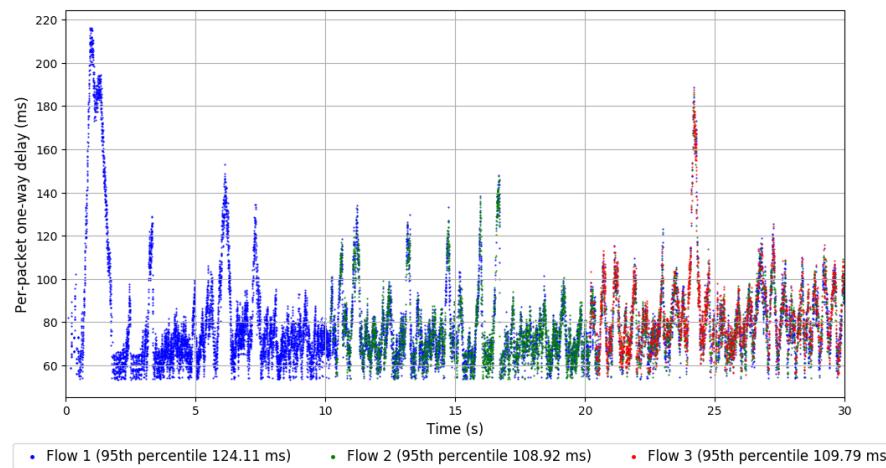
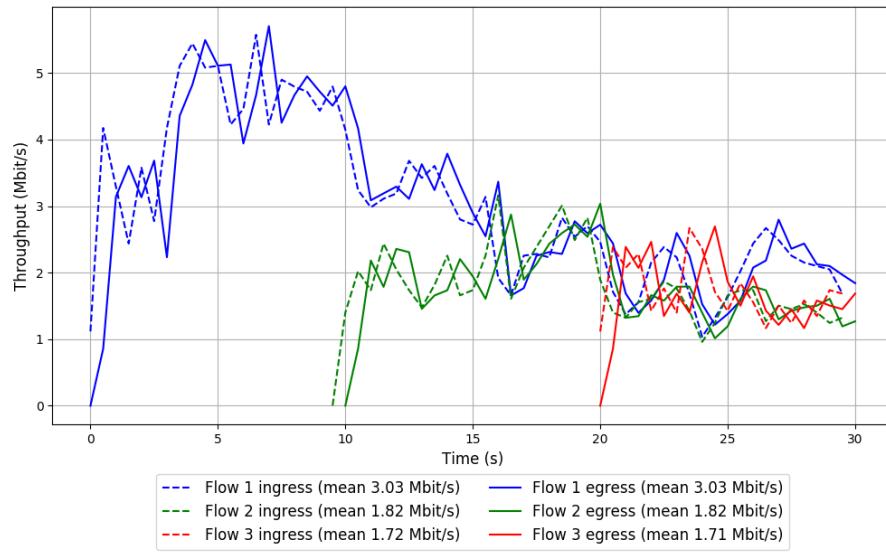


Run 2: Statistics of Copa

```
Start at: 2018-08-01 23:20:15
End at: 2018-08-01 23:20:45
Local clock offset: 1.827 ms
Remote clock offset: -11.094 ms

# Below is generated by plot.py at 2018-08-01 23:43:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 117.252 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 124.113 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 108.922 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 109.793 ms
Loss rate: 1.20%
```

Run 2: Report of Copa — Data Link

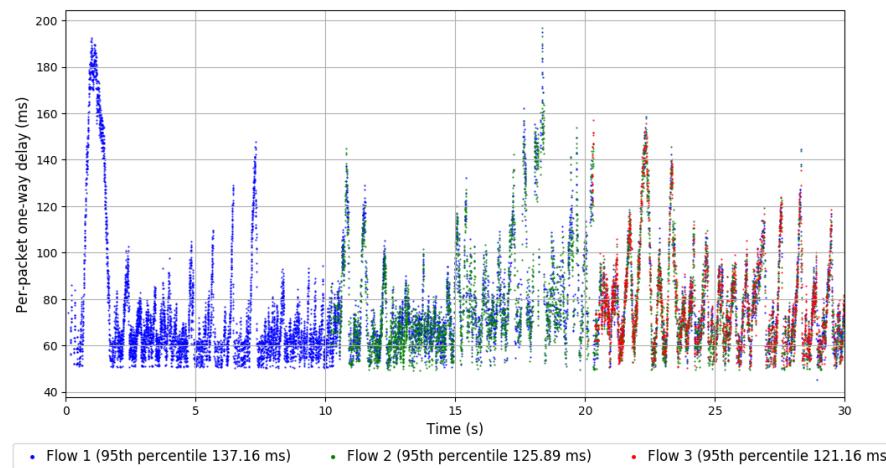
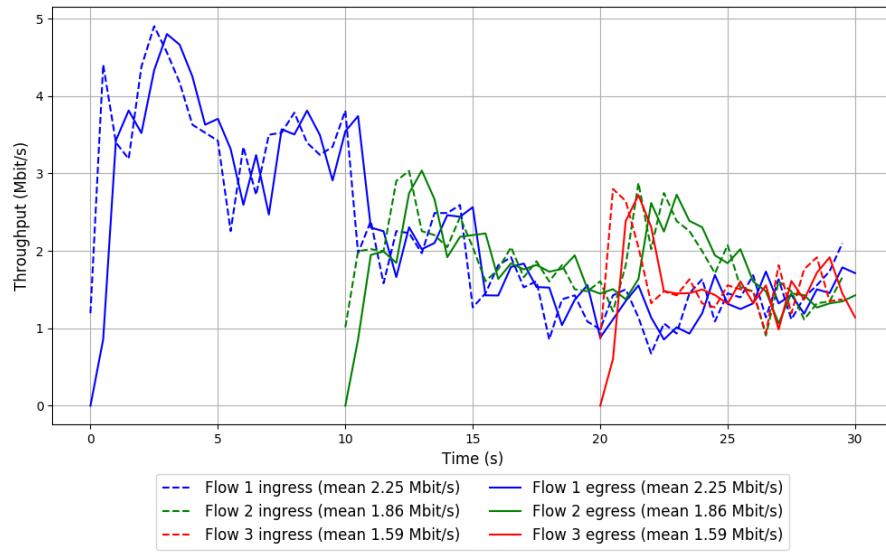


Run 3: Statistics of Copa

```
Start at: 2018-08-01 23:39:05
End at: 2018-08-01 23:39:35
Local clock offset: -1.979 ms
Remote clock offset: -5.77 ms

# Below is generated by plot.py at 2018-08-01 23:43:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 130.353 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 137.156 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 125.892 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 121.157 ms
Loss rate: 1.13%
```

Run 3: Report of Copa — Data Link

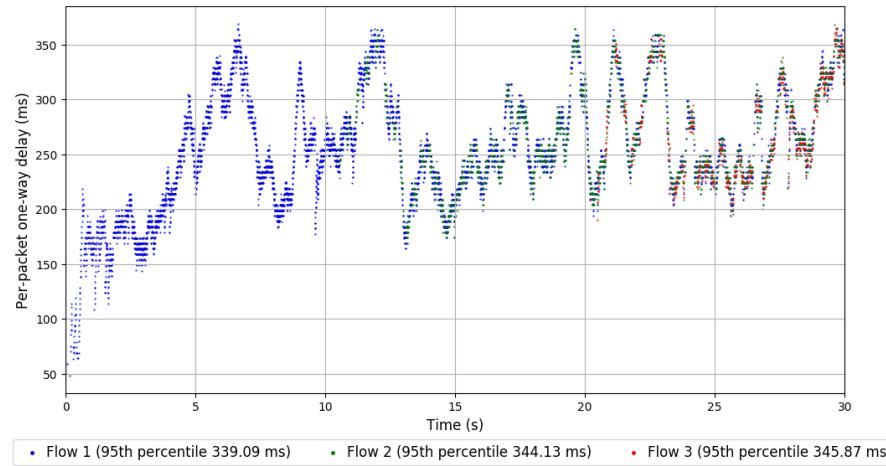
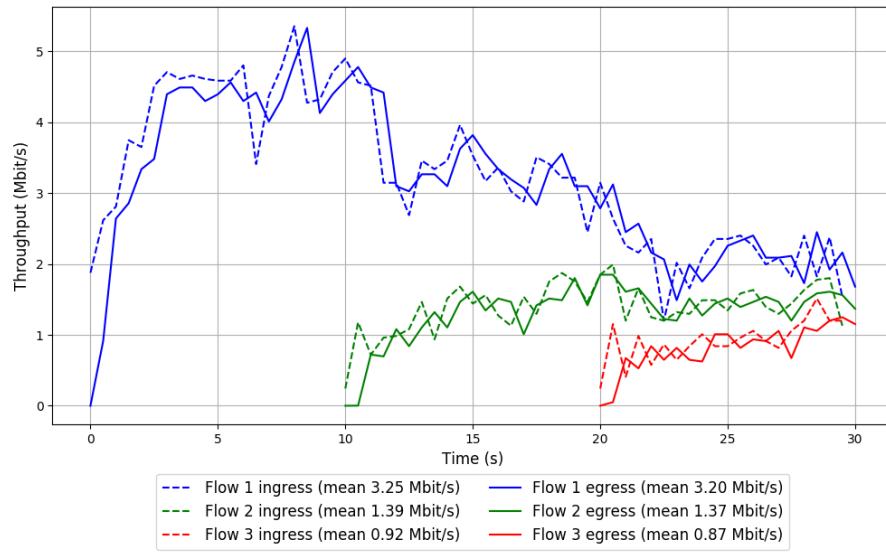


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-08-01 22:56:46
End at: 2018-08-01 22:57:16
Local clock offset: 2.362 ms
Remote clock offset: -15.163 ms

# Below is generated by plot.py at 2018-08-01 23:43:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 343.773 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 339.089 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 344.129 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 345.867 ms
Loss rate: 7.21%
```

Run 1: Report of TCP Cubic — Data Link

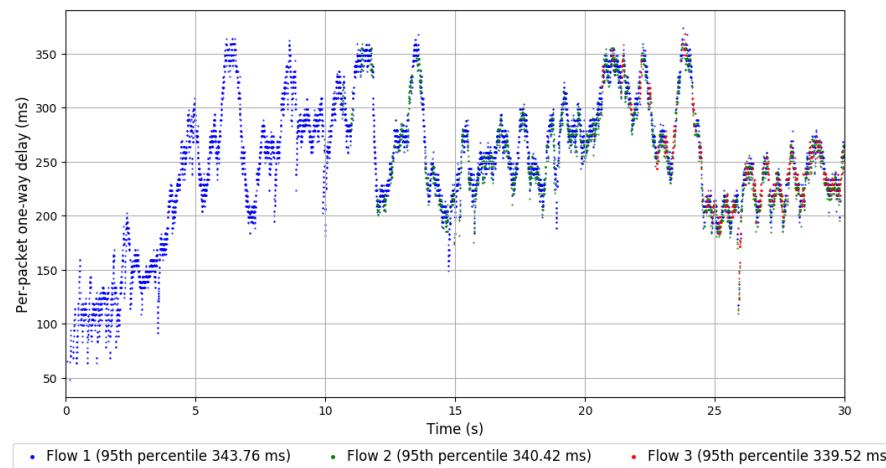
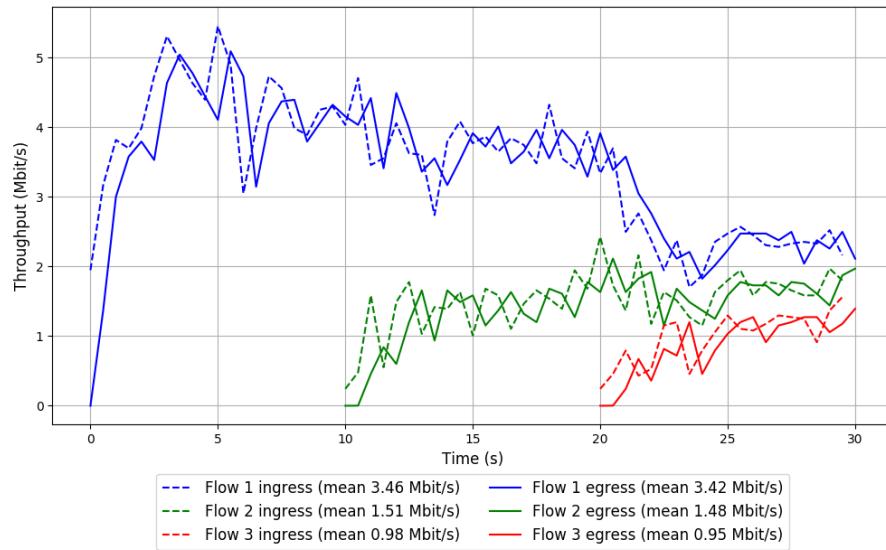


Run 2: Statistics of TCP Cubic

```
Start at: 2018-08-01 23:15:49
End at: 2018-08-01 23:16:19
Local clock offset: 3.228 ms
Remote clock offset: -10.121 ms

# Below is generated by plot.py at 2018-08-01 23:43:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 343.672 ms
Loss rate: 2.11%
-- Flow 1:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 343.762 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 340.423 ms
Loss rate: 3.07%
-- Flow 3:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 339.525 ms
Loss rate: 6.30%
```

Run 2: Report of TCP Cubic — Data Link

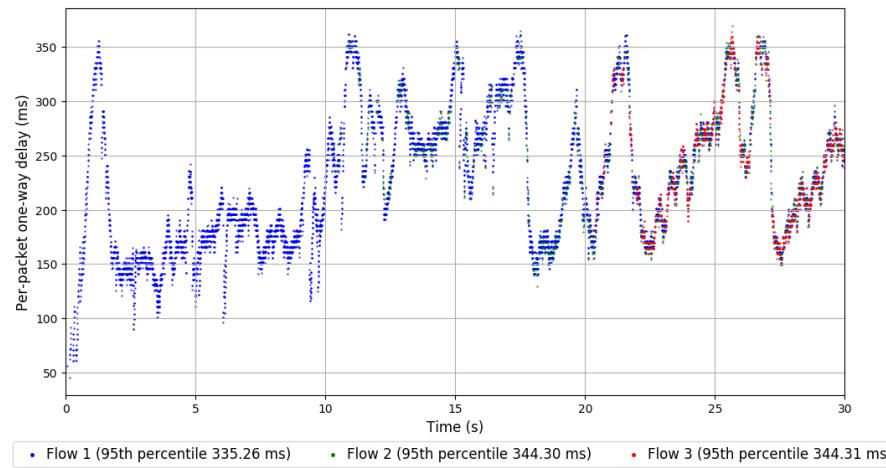
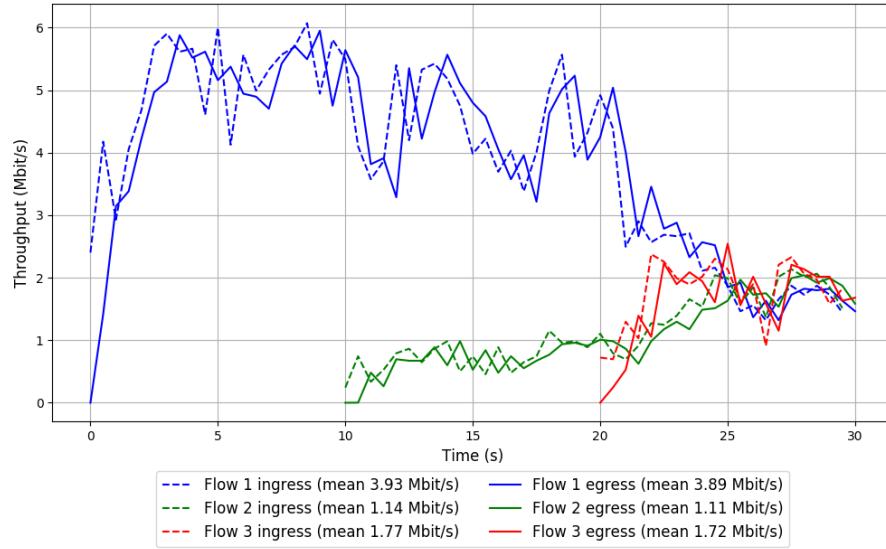


Run 3: Statistics of TCP Cubic

```
Start at: 2018-08-01 23:34:35
End at: 2018-08-01 23:35:05
Local clock offset: 0.311 ms
Remote clock offset: -5.514 ms

# Below is generated by plot.py at 2018-08-01 23:43:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.18 Mbit/s
95th percentile per-packet one-way delay: 335.911 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 335.259 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 344.295 ms
Loss rate: 3.75%
-- Flow 3:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 344.315 ms
Loss rate: 4.58%
```

Run 3: Report of TCP Cubic — Data Link

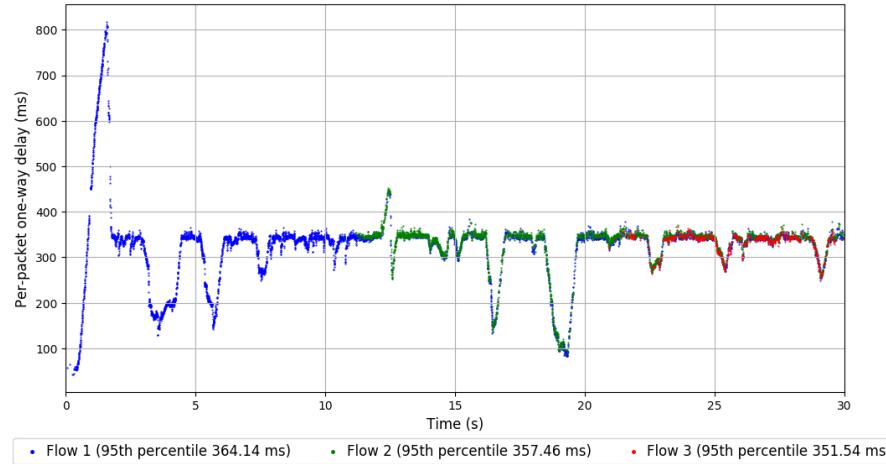
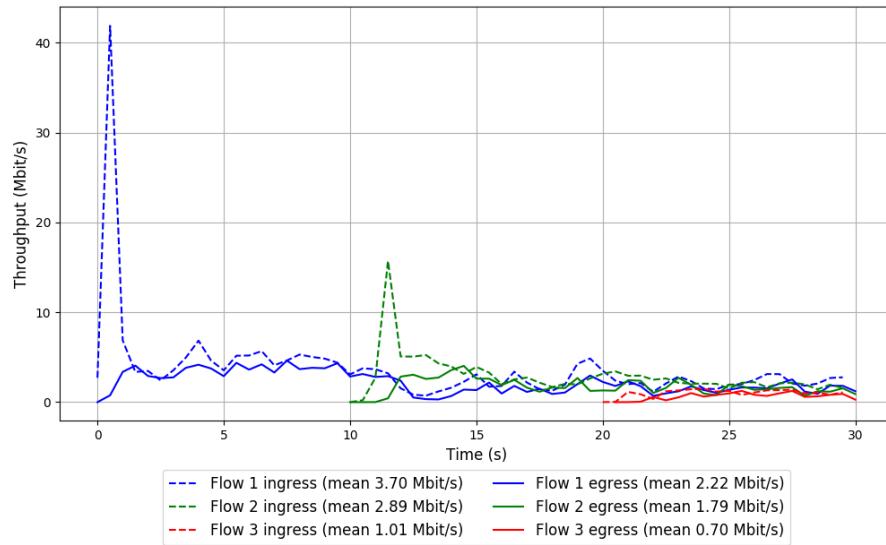


```
Run 1: Statistics of FillP

Start at: 2018-08-01 23:03:37
End at: 2018-08-01 23:04:07
Local clock offset: 2.41 ms
Remote clock offset: -17.013 ms

# Below is generated by plot.py at 2018-08-01 23:43:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 358.299 ms
Loss rate: 39.42%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 364.143 ms
Loss rate: 40.10%
-- Flow 2:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 357.464 ms
Loss rate: 38.83%
-- Flow 3:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 351.540 ms
Loss rate: 35.38%
```

Run 1: Report of FillP — Data Link

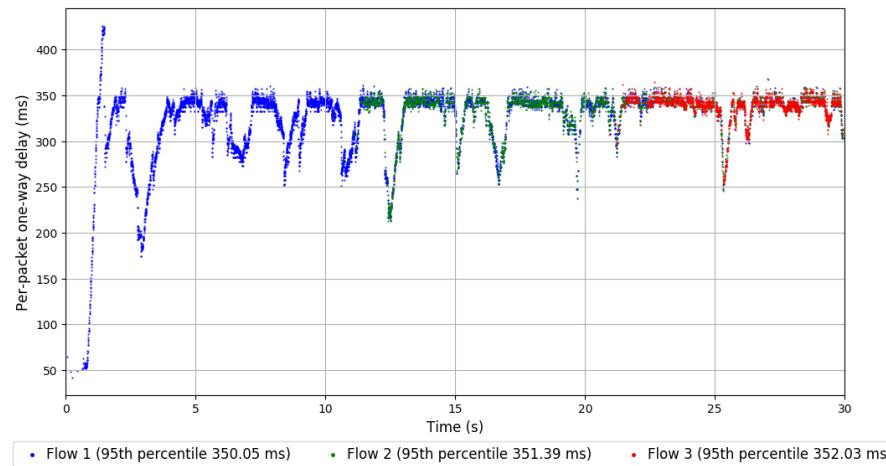
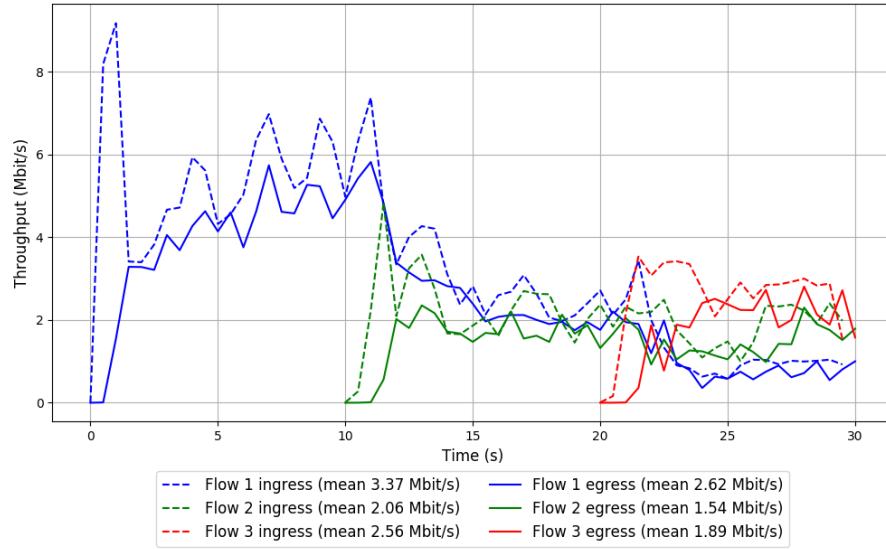


Run 2: Statistics of FillP

```
Start at: 2018-08-01 23:22:28
End at: 2018-08-01 23:22:58
Local clock offset: 0.088 ms
Remote clock offset: -7.966 ms

# Below is generated by plot.py at 2018-08-01 23:43:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 350.629 ms
Loss rate: 24.44%
-- Flow 1:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 350.048 ms
Loss rate: 22.56%
-- Flow 2:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 351.386 ms
Loss rate: 26.39%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 352.030 ms
Loss rate: 28.73%
```

Run 2: Report of FillP — Data Link

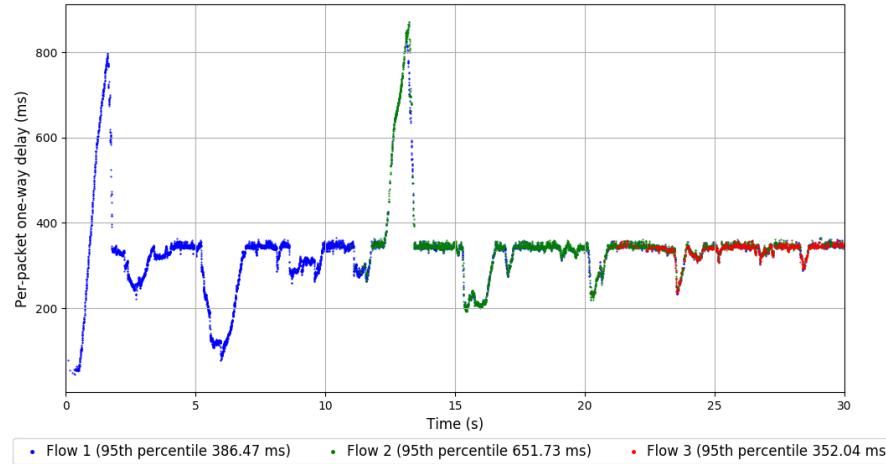
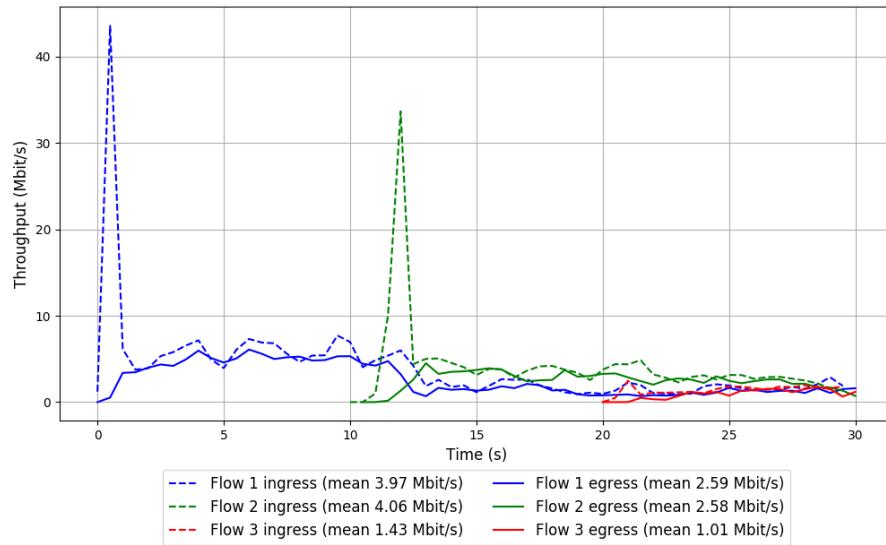


Run 3: Statistics of FillP

```
Start at: 2018-08-01 23:41:18
End at: 2018-08-01 23:41:48
Local clock offset: -0.32 ms
Remote clock offset: -7.968 ms

# Below is generated by plot.py at 2018-08-01 23:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 457.405 ms
Loss rate: 36.00%
-- Flow 1:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 386.466 ms
Loss rate: 34.95%
-- Flow 2:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 651.732 ms
Loss rate: 38.41%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 352.040 ms
Loss rate: 31.09%
```

Run 3: Report of FillP — Data Link

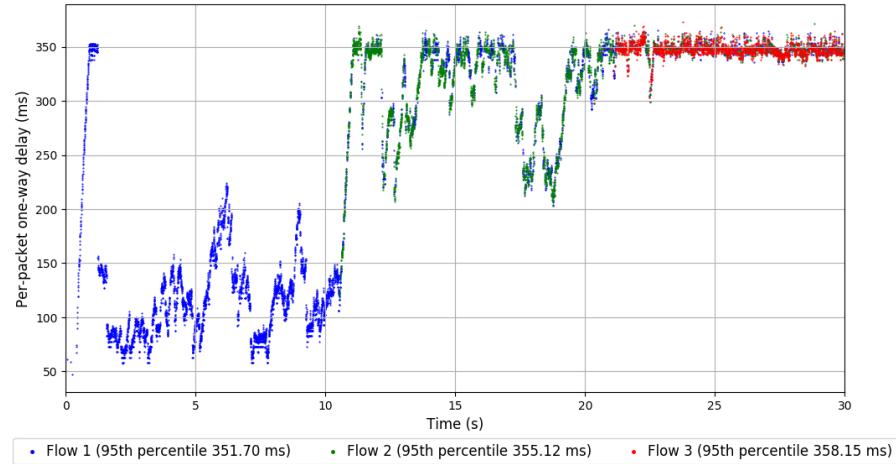
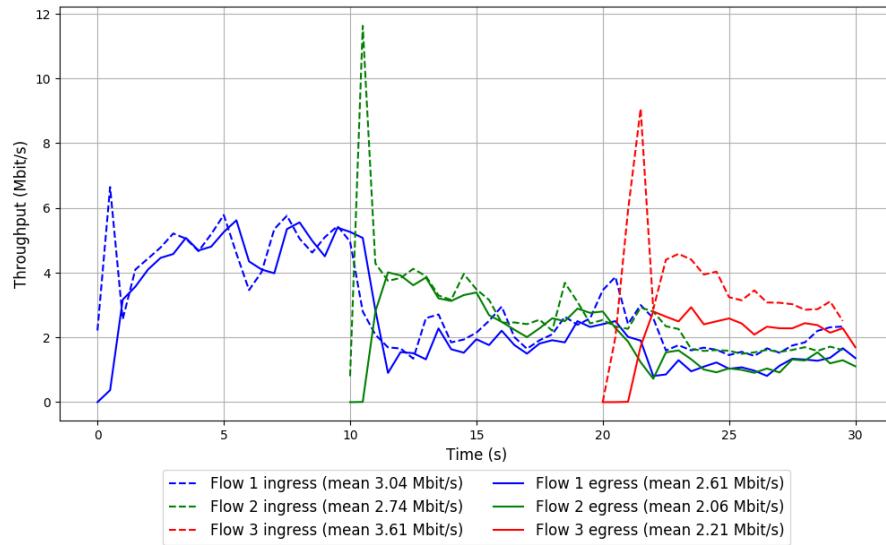


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-08-01 22:46:43
End at: 2018-08-01 22:47:13
Local clock offset: 2.36 ms
Remote clock offset: -16.307 ms

# Below is generated by plot.py at 2018-08-01 23:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 354.180 ms
Loss rate: 22.86%
-- Flow 1:
Average throughput: 2.61 Mbit/s
95th percentile per-packet one-way delay: 351.705 ms
Loss rate: 14.51%
-- Flow 2:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 355.122 ms
Loss rate: 25.10%
-- Flow 3:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 358.154 ms
Loss rate: 40.71%
```

Run 1: Report of FillP-Sheep — Data Link

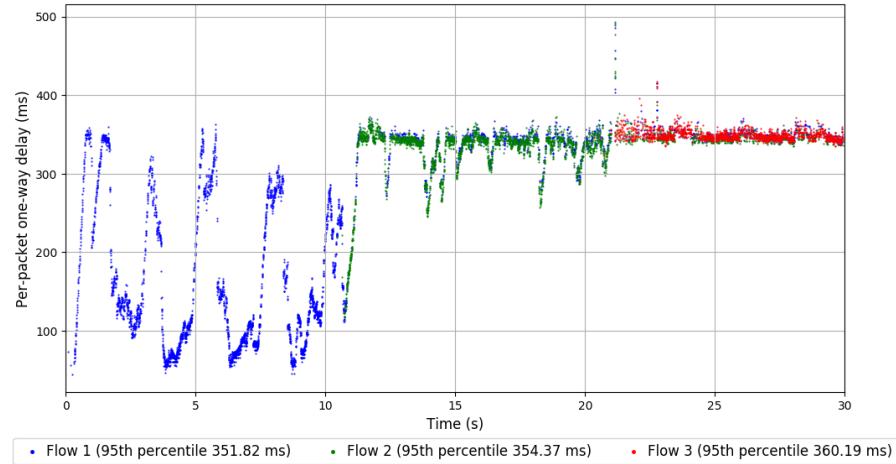
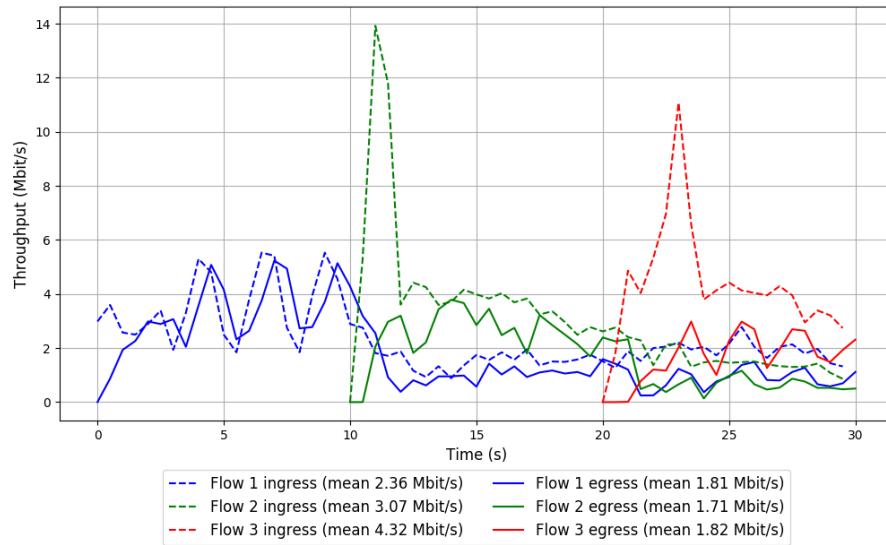


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-08-01 23:05:48
End at: 2018-08-01 23:06:18
Local clock offset: 1.473 ms
Remote clock offset: -16.872 ms

# Below is generated by plot.py at 2018-08-01 23:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 355.402 ms
Loss rate: 39.87%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 351.819 ms
Loss rate: 23.68%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 354.368 ms
Loss rate: 44.96%
-- Flow 3:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 360.193 ms
Loss rate: 59.33%
```

Run 2: Report of FillP-Sheep — Data Link

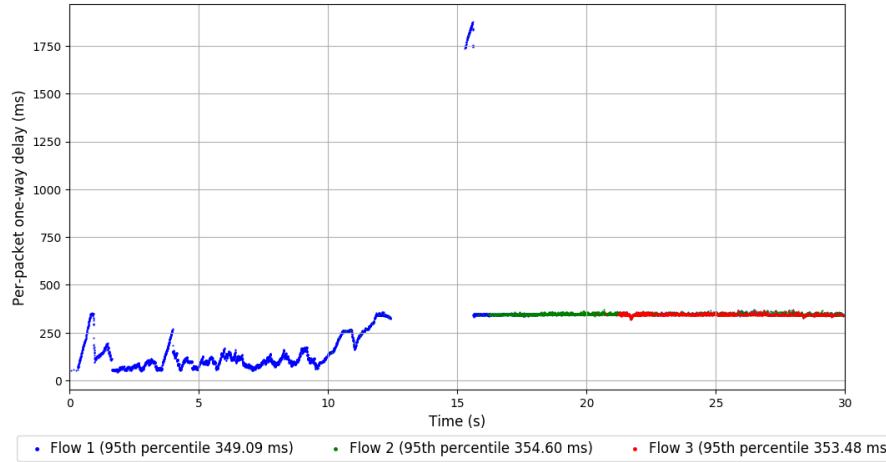
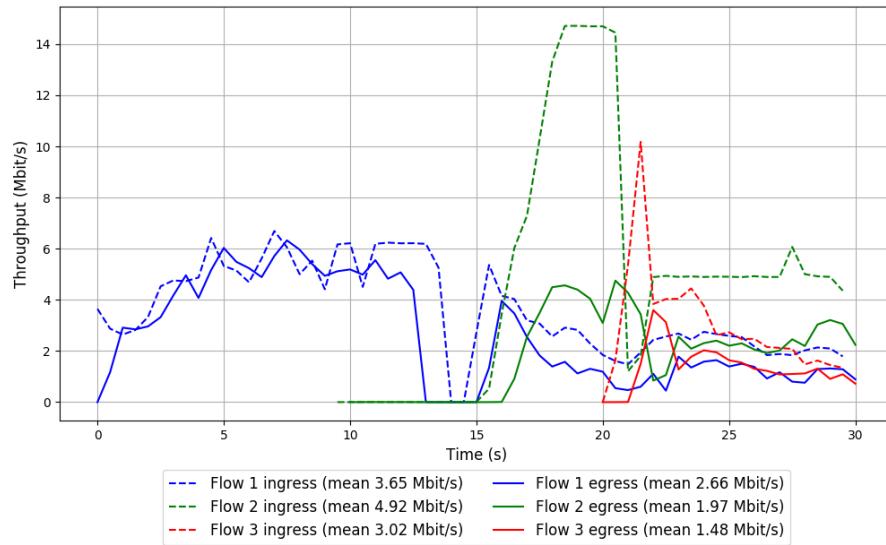


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-08-01 23:24:39
End at: 2018-08-01 23:25:09
Local clock offset: 0.733 ms
Remote clock offset: -7.406 ms

# Below is generated by plot.py at 2018-08-01 23:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 353.223 ms
Loss rate: 44.22%
-- Flow 1:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 349.088 ms
Loss rate: 27.47%
-- Flow 2:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 354.597 ms
Loss rate: 60.28%
-- Flow 3:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 353.477 ms
Loss rate: 52.71%
```

Run 3: Report of FillP-Sheep — Data Link

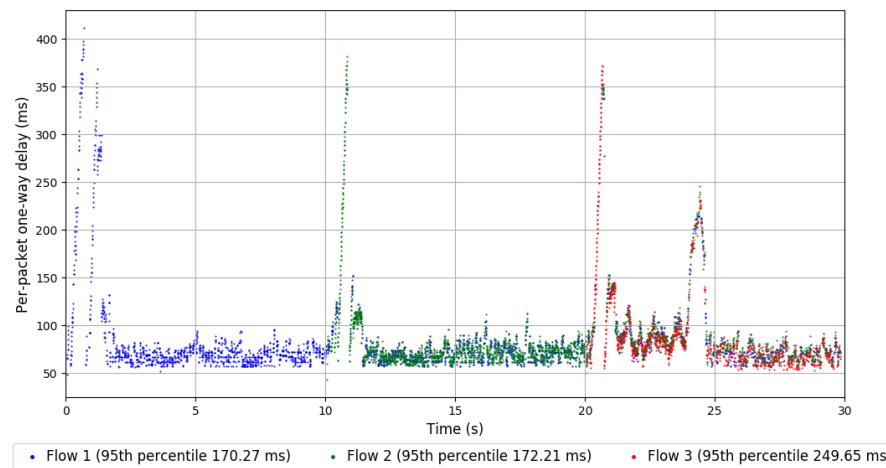
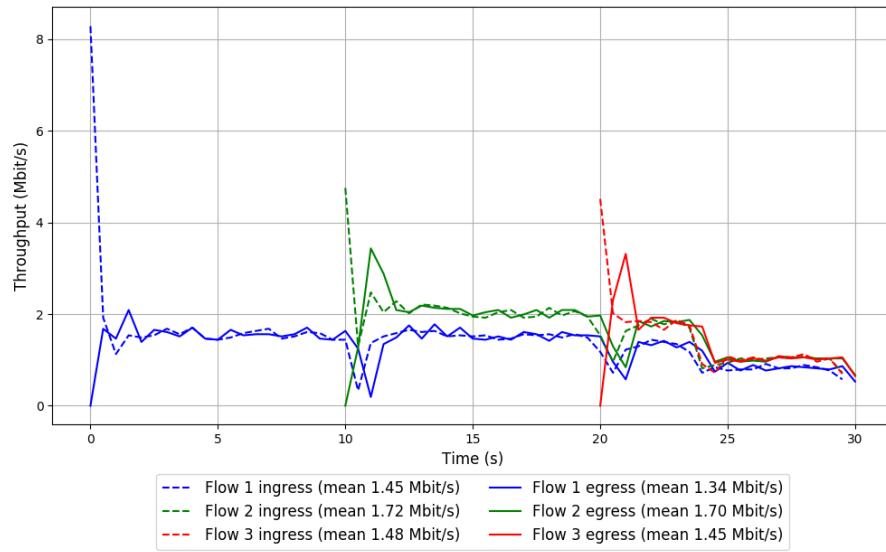


Run 1: Statistics of Indigo

```
Start at: 2018-08-01 22:47:50
End at: 2018-08-01 22:48:20
Local clock offset: 0.623 ms
Remote clock offset: -13.872 ms

# Below is generated by plot.py at 2018-08-01 23:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 194.006 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 170.267 ms
Loss rate: 7.48%
-- Flow 2:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 172.205 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 249.654 ms
Loss rate: 2.73%
```

Run 1: Report of Indigo — Data Link

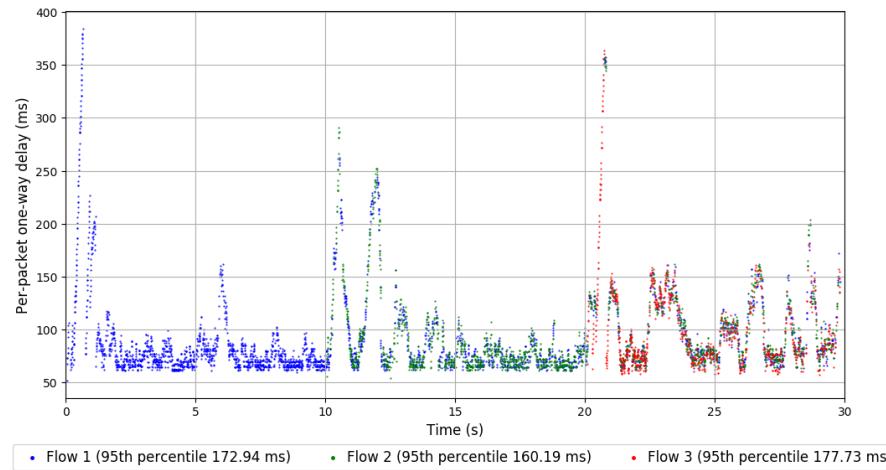
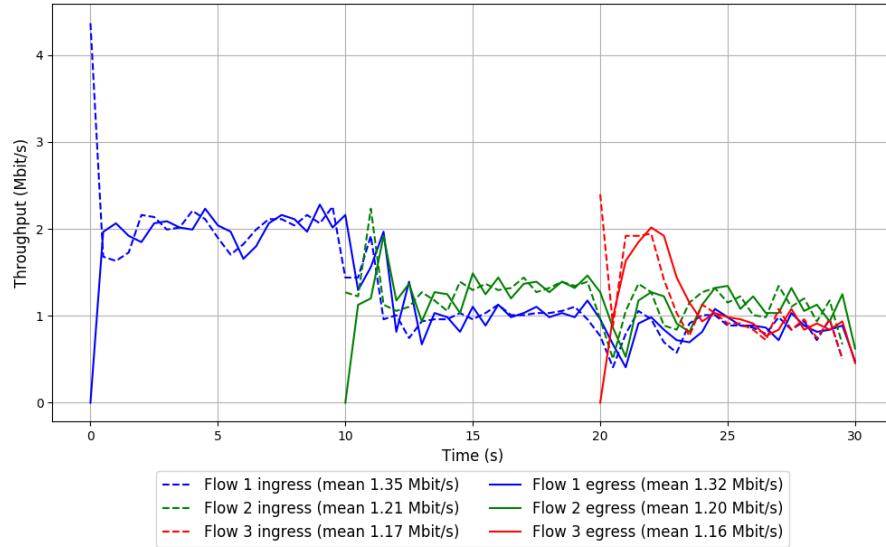


Run 2: Statistics of Indigo

```
Start at: 2018-08-01 23:06:55
End at: 2018-08-01 23:07:25
Local clock offset: 1.929 ms
Remote clock offset: -17.335 ms

# Below is generated by plot.py at 2018-08-01 23:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 167.630 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 172.941 ms
Loss rate: 2.15%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 160.195 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 177.731 ms
Loss rate: 1.88%
```

Run 2: Report of Indigo — Data Link

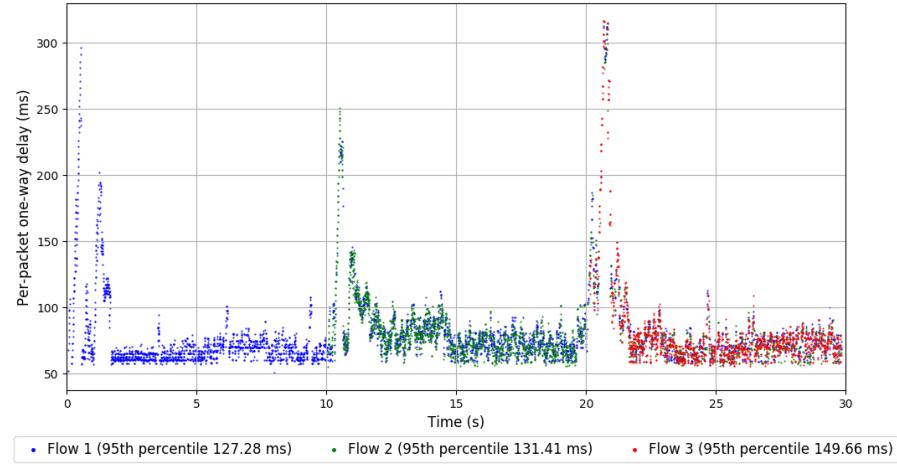
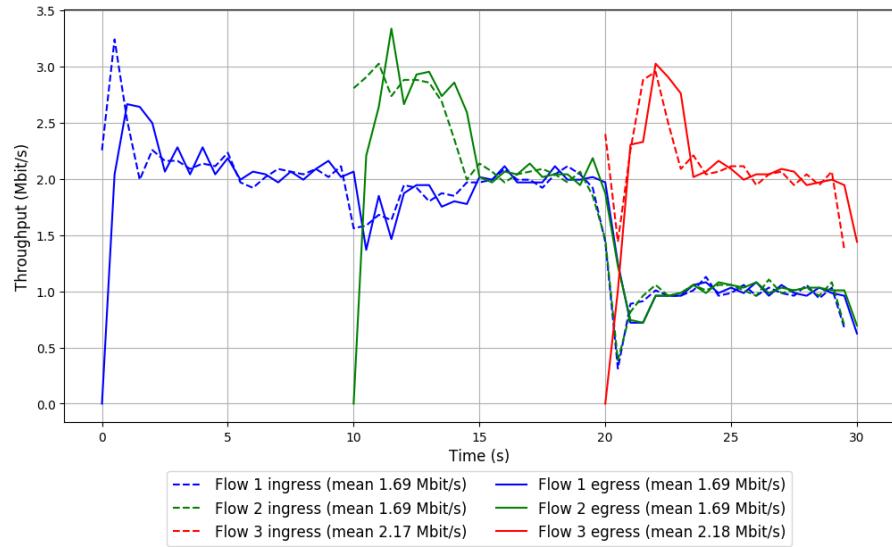


Run 3: Statistics of Indigo

```
Start at: 2018-08-01 23:25:46
End at: 2018-08-01 23:26:16
Local clock offset: -0.256 ms
Remote clock offset: -6.757 ms

# Below is generated by plot.py at 2018-08-01 23:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 134.243 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 127.277 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 131.406 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 149.656 ms
Loss rate: 0.68%
```

Run 3: Report of Indigo — Data Link

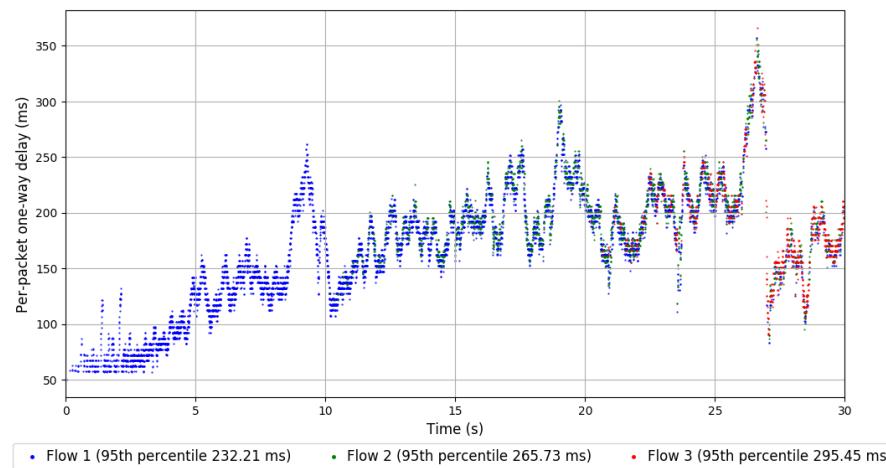
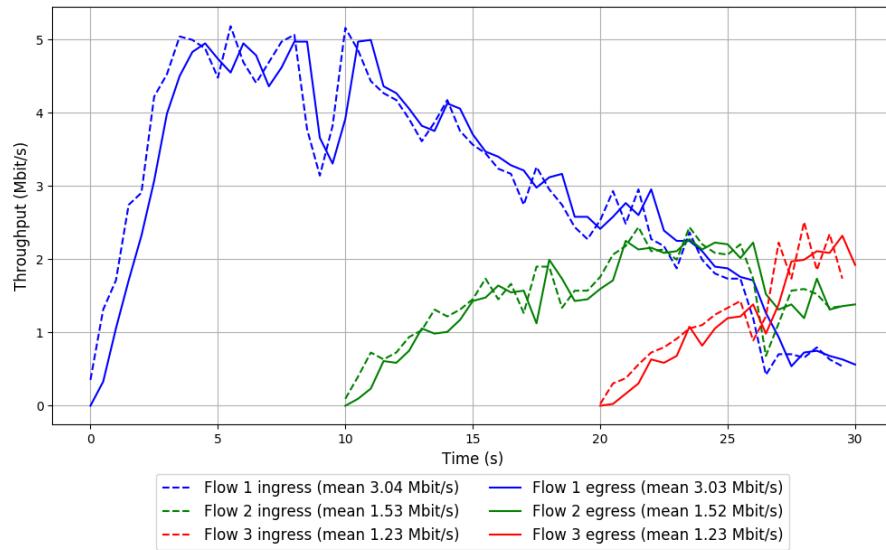


```
Run 1: Statistics of LEDBAT

Start at: 2018-08-01 22:48:56
End at: 2018-08-01 22:49:26
Local clock offset: 0.598 ms
Remote clock offset: -15.61 ms

# Below is generated by plot.py at 2018-08-01 23:43:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 242.043 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 232.208 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 265.725 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 295.449 ms
Loss rate: 1.92%
```

Run 1: Report of LEDBAT — Data Link

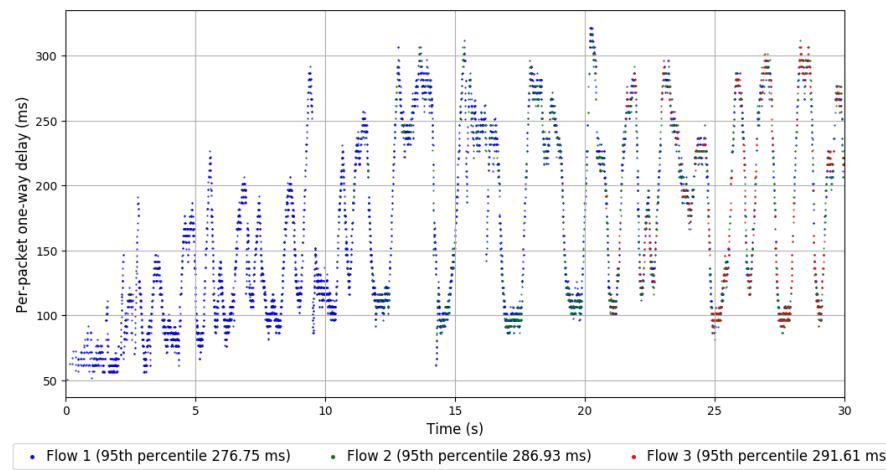
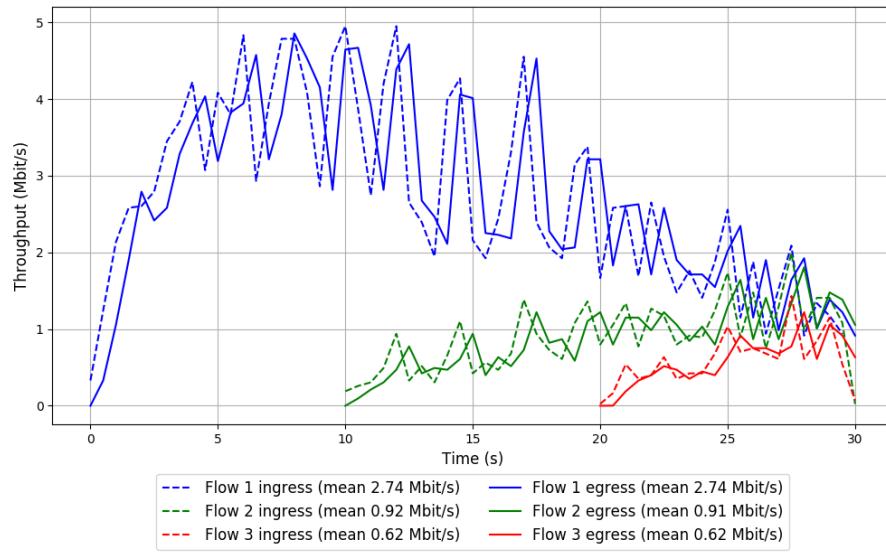


Run 2: Statistics of LEDBAT

```
Start at: 2018-08-01 23:08:00
End at: 2018-08-01 23:08:30
Local clock offset: 1.645 ms
Remote clock offset: -15.963 ms

# Below is generated by plot.py at 2018-08-01 23:43:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 281.614 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 276.747 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 286.930 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 291.606 ms
Loss rate: 3.02%
```

Run 2: Report of LEDBAT — Data Link

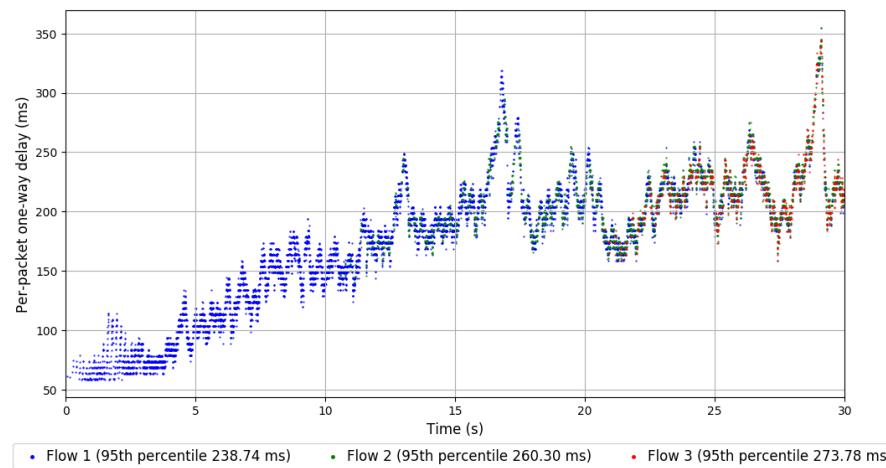
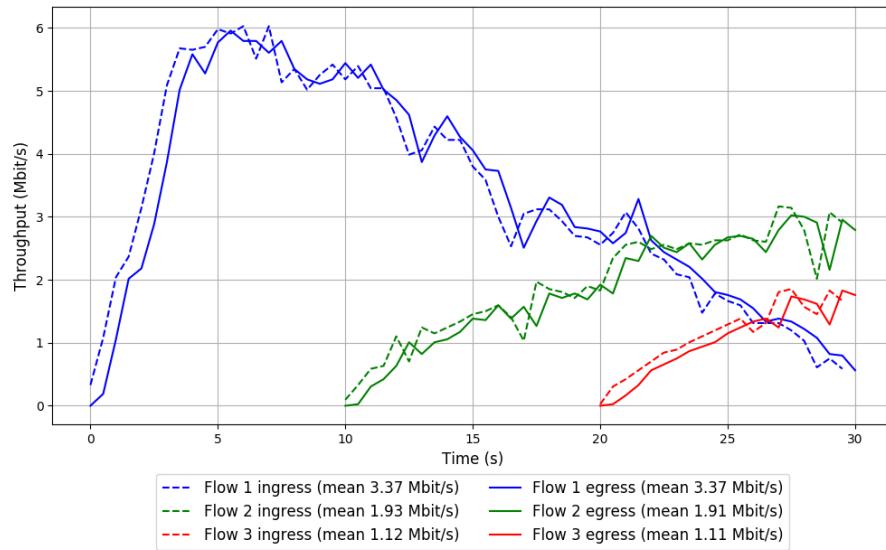


Run 3: Statistics of LEDBAT

```
Start at: 2018-08-01 23:26:52
End at: 2018-08-01 23:27:22
Local clock offset: 1.534 ms
Remote clock offset: -7.788 ms

# Below is generated by plot.py at 2018-08-01 23:43:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 250.069 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 238.735 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 260.297 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 273.776 ms
Loss rate: 3.66%
```

Run 3: Report of LEDBAT — Data Link

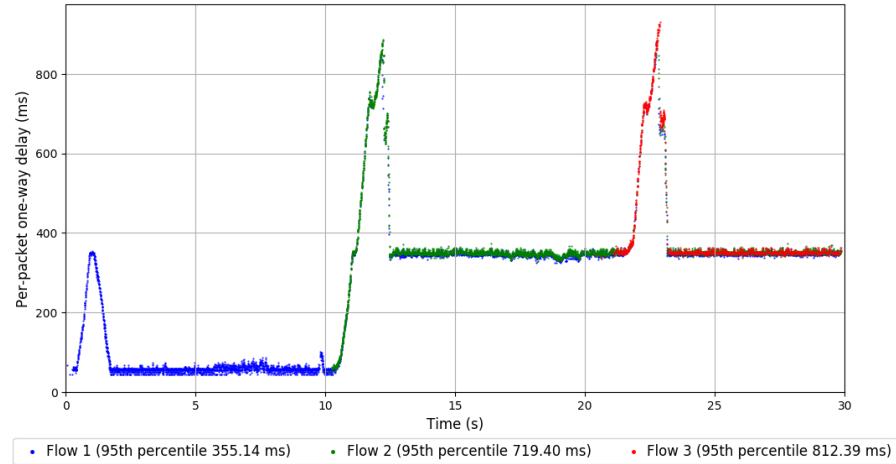
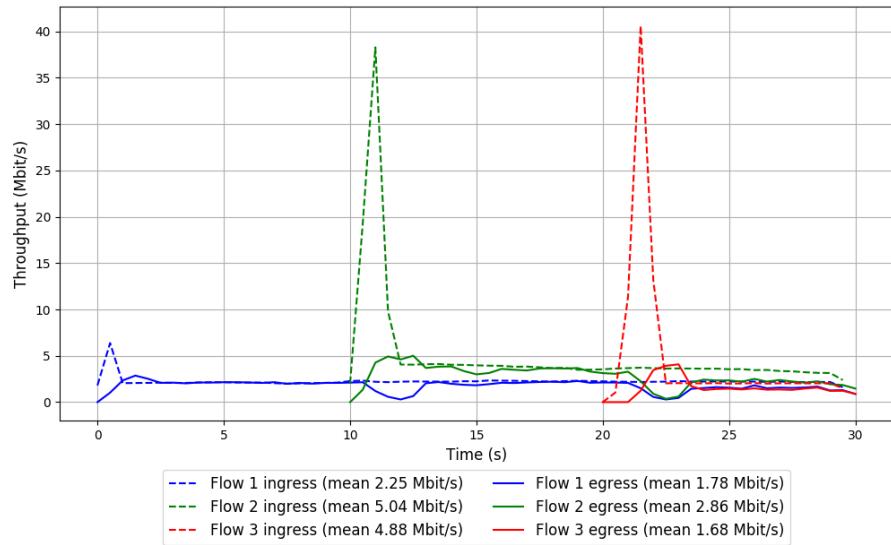


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-08-01 22:52:14
End at: 2018-08-01 22:52:44
Local clock offset: 1.779 ms
Remote clock offset: -14.354 ms

# Below is generated by plot.py at 2018-08-01 23:43:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 691.487 ms
Loss rate: 41.70%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 355.140 ms
Loss rate: 21.19%
-- Flow 2:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 719.400 ms
Loss rate: 43.39%
-- Flow 3:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 812.393 ms
Loss rate: 66.85%
```

Run 1: Report of PCC-Allegro — Data Link

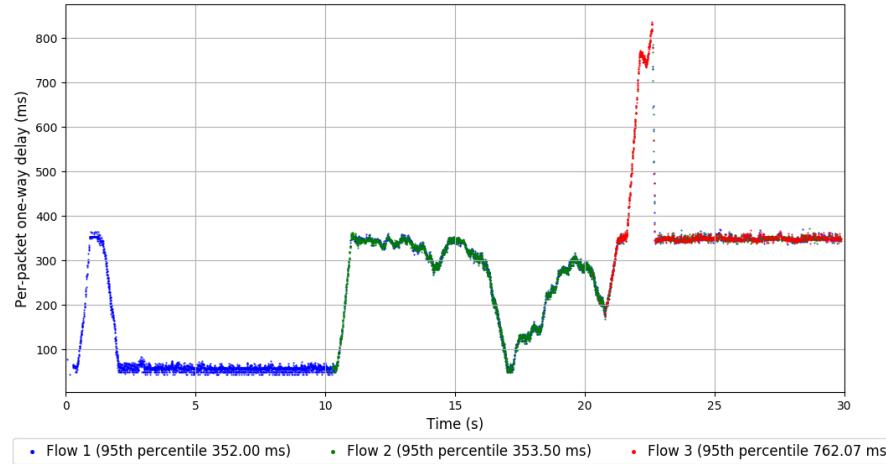
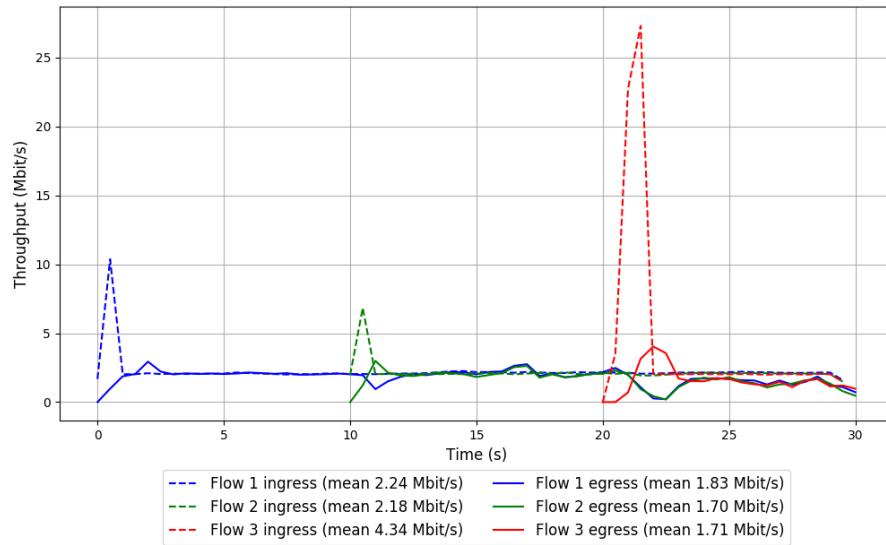


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-08-01 23:11:20
End at: 2018-08-01 23:11:50
Local clock offset: -0.67 ms
Remote clock offset: -14.828 ms

# Below is generated by plot.py at 2018-08-01 23:43:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 357.971 ms
Loss rate: 31.74%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 351.996 ms
Loss rate: 18.69%
-- Flow 2:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 353.498 ms
Loss rate: 22.31%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 762.072 ms
Loss rate: 61.79%
```

Run 2: Report of PCC-Allegro — Data Link

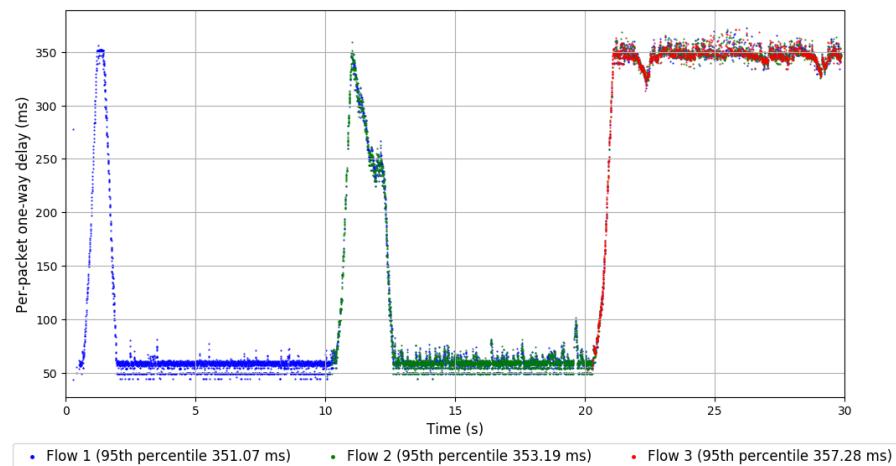
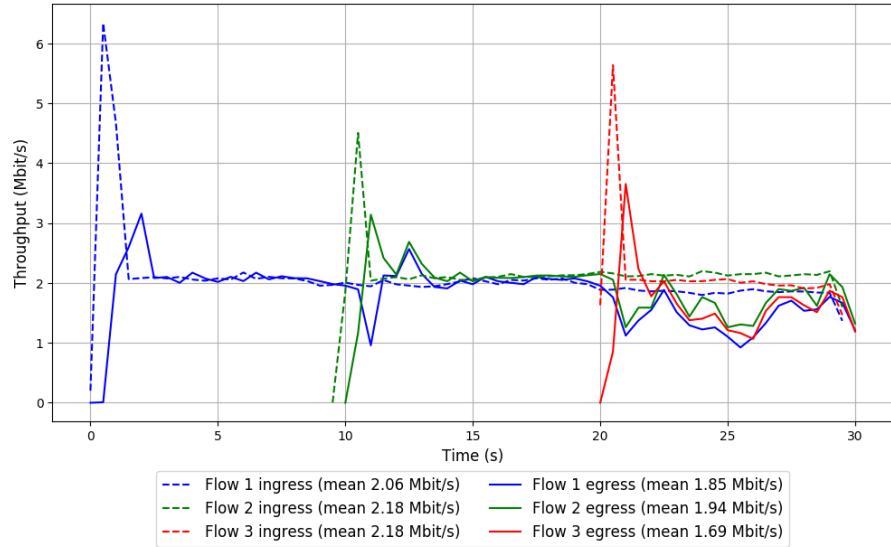


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-08-01 23:30:11
End at: 2018-08-01 23:30:41
Local clock offset: -2.264 ms
Remote clock offset: -6.856 ms

# Below is generated by plot.py at 2018-08-01 23:43:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 353.026 ms
Loss rate: 13.14%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 351.069 ms
Loss rate: 11.07%
-- Flow 2:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 353.192 ms
Loss rate: 11.13%
-- Flow 3:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 357.284 ms
Loss rate: 23.16%
```

Run 3: Report of PCC-Allegro — Data Link

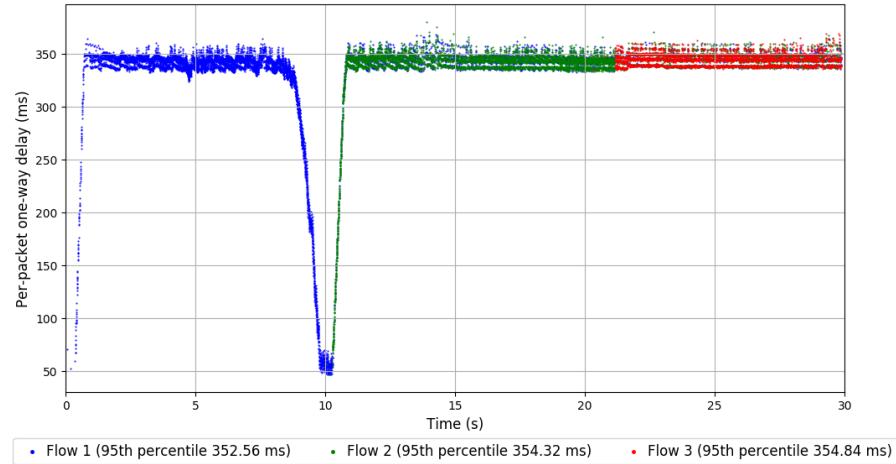
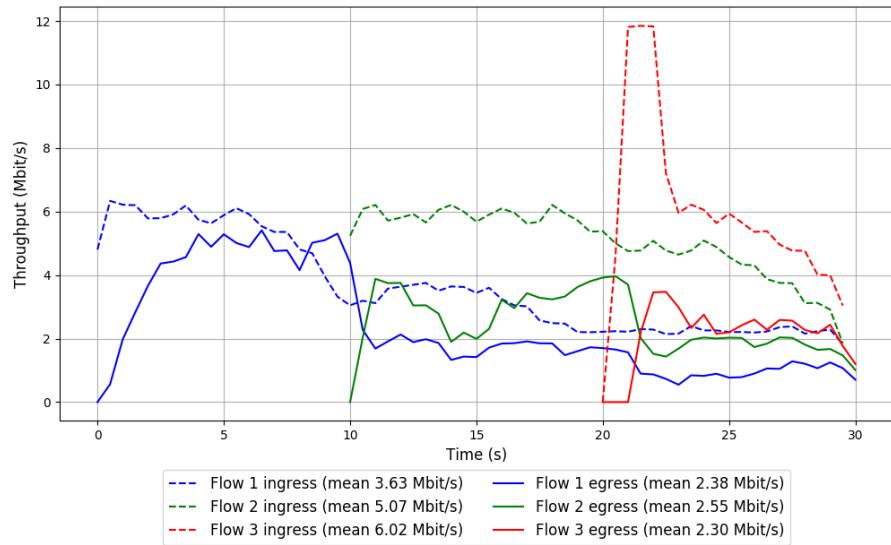


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-08-01 22:55:37
End at: 2018-08-01 22:56:07
Local clock offset: -0.514 ms
Remote clock offset: -14.794 ms

# Below is generated by plot.py at 2018-08-01 23:43:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 353.860 ms
Loss rate: 46.63%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 352.558 ms
Loss rate: 34.55%
-- Flow 2:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 354.320 ms
Loss rate: 49.88%
-- Flow 3:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 354.844 ms
Loss rate: 63.16%
```

Run 1: Report of PCC-Expr — Data Link

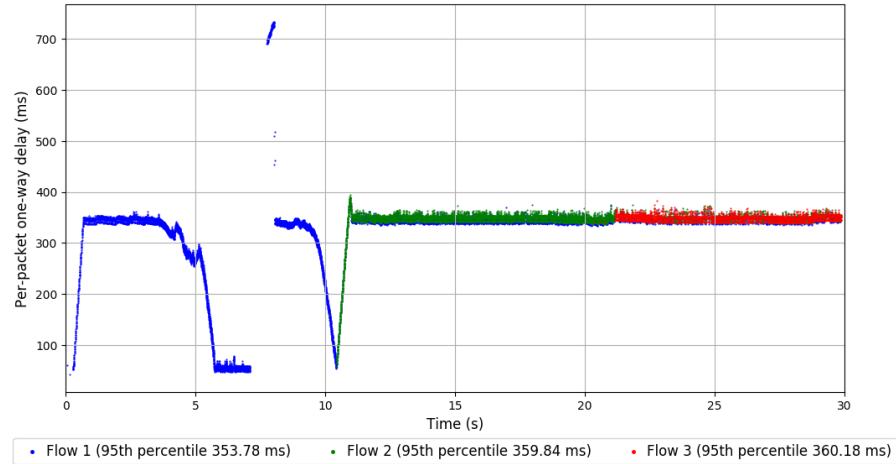
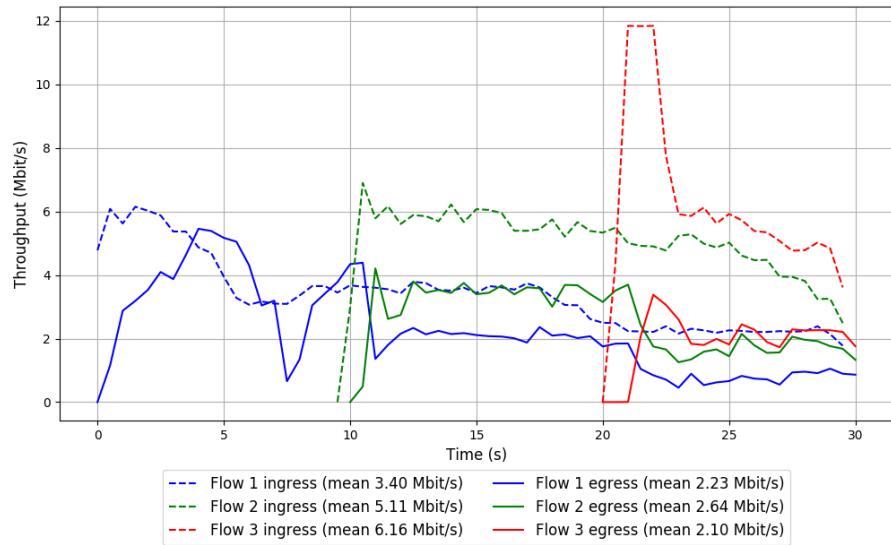


Run 2: Statistics of PCC-Expr

```
Start at: 2018-08-01 23:14:43
End at: 2018-08-01 23:15:13
Local clock offset: 1.569 ms
Remote clock offset: -9.959 ms

# Below is generated by plot.py at 2018-08-01 23:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 357.967 ms
Loss rate: 47.55%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 353.783 ms
Loss rate: 34.65%
-- Flow 2:
Average throughput: 2.64 Mbit/s
95th percentile per-packet one-way delay: 359.838 ms
Loss rate: 48.72%
-- Flow 3:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 360.179 ms
Loss rate: 67.15%
```

Run 2: Report of PCC-Expr — Data Link

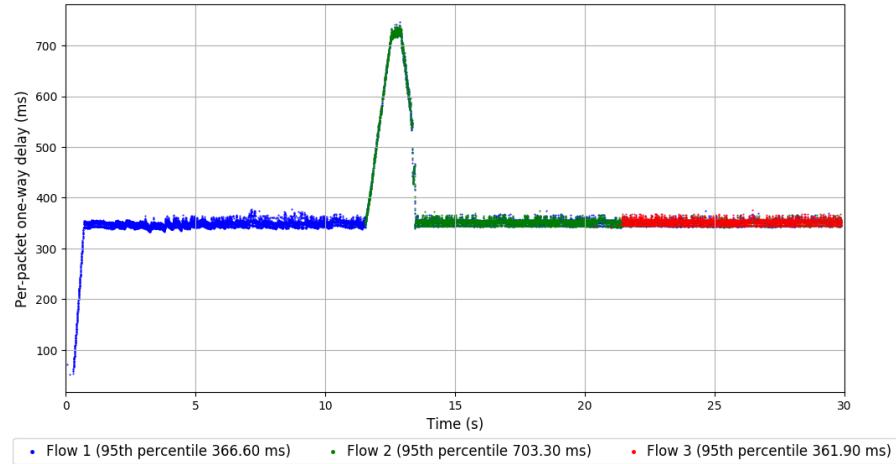
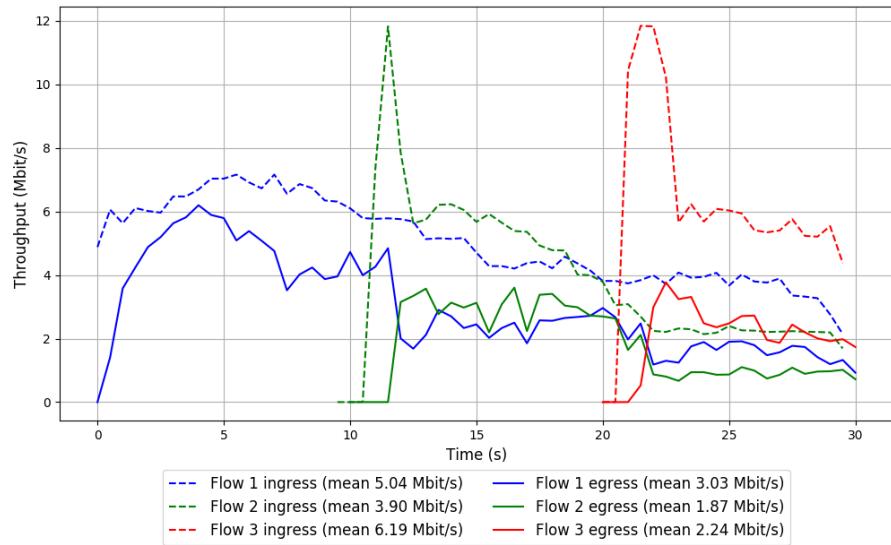


Run 3: Statistics of PCC-Expr

```
Start at: 2018-08-01 23:33:28
End at: 2018-08-01 23:33:58
Local clock offset: 1.356 ms
Remote clock offset: -6.566 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 536.517 ms
Loss rate: 48.78%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 366.600 ms
Loss rate: 40.03%
-- Flow 2:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 703.302 ms
Loss rate: 52.91%
-- Flow 3:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 361.898 ms
Loss rate: 65.07%
```

Run 3: Report of PCC-Expr — Data Link

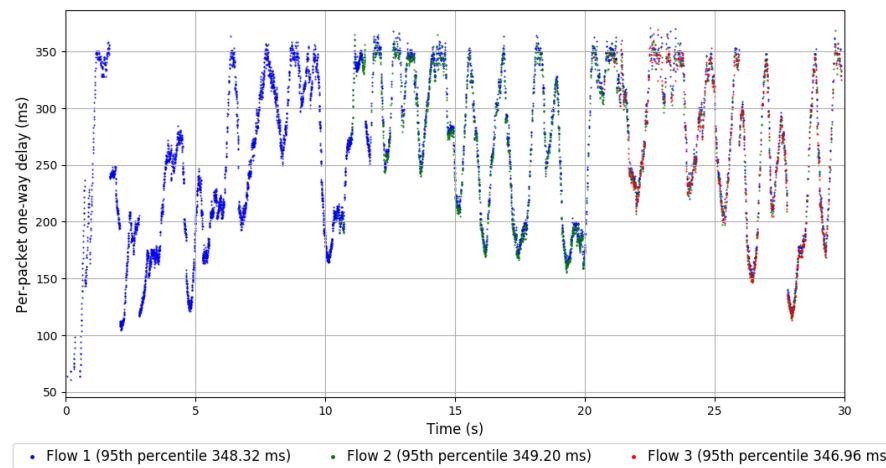
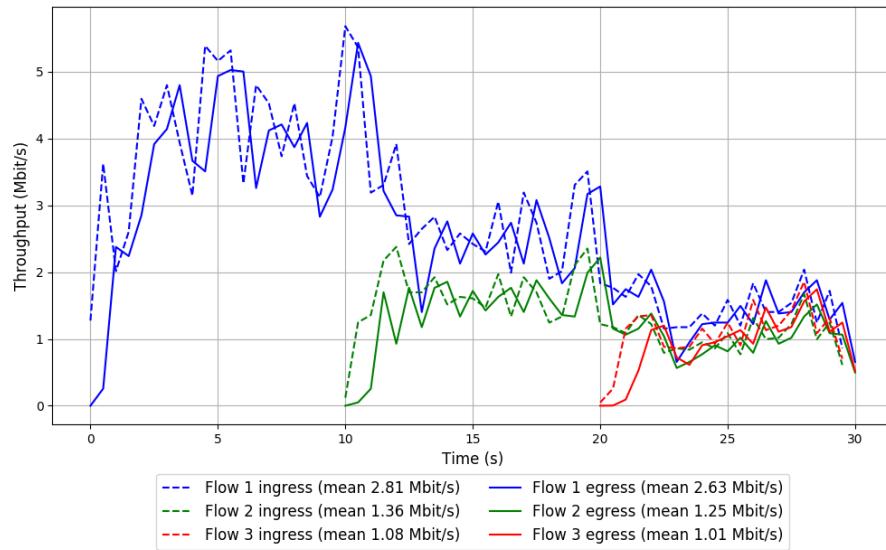


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-08-01 22:58:59
End at: 2018-08-01 22:59:29
Local clock offset: 1.3 ms
Remote clock offset: -17.773 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 348.453 ms
Loss rate: 7.51%
-- Flow 1:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 348.320 ms
Loss rate: 6.70%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 349.205 ms
Loss rate: 9.04%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 346.961 ms
Loss rate: 9.99%
```

Run 1: Report of QUIC Cubic — Data Link

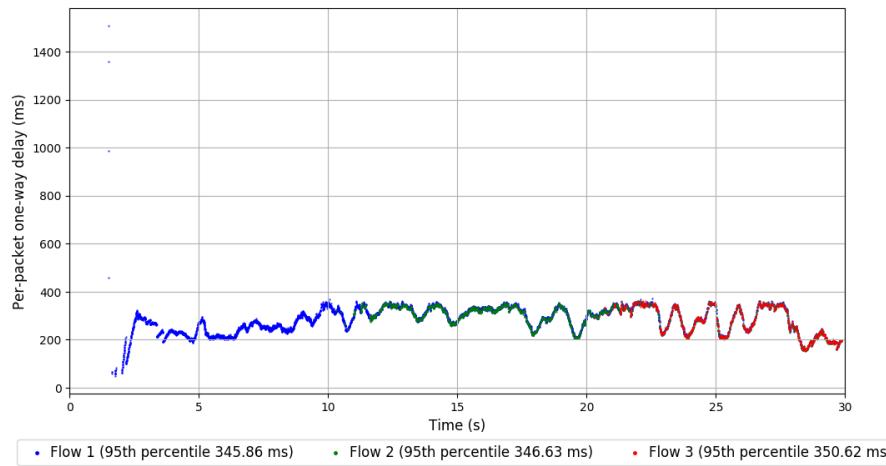
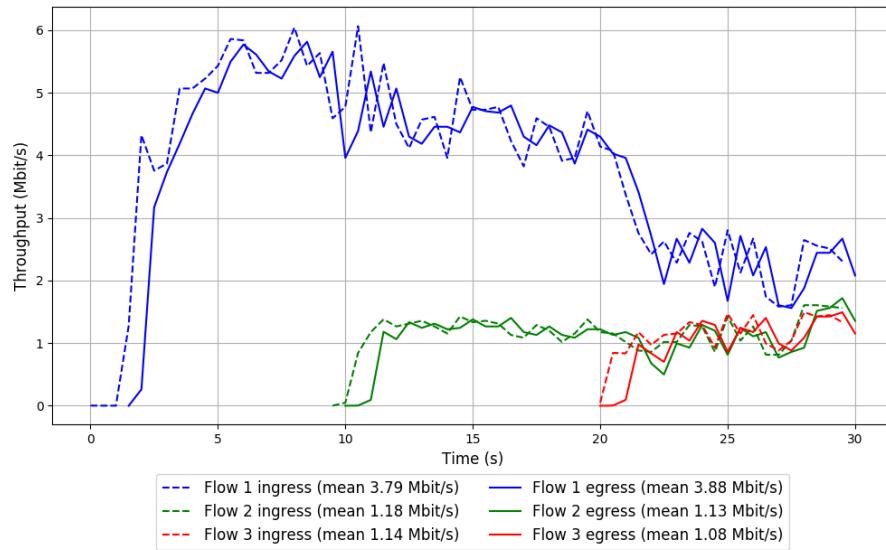


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-08-01 23:18:03
End at: 2018-08-01 23:18:33
Local clock offset: -3.064 ms
Remote clock offset: -15.315 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 346.144 ms
Loss rate: 3.79%
-- Flow 1:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 345.863 ms
Loss rate: 3.04%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 346.626 ms
Loss rate: 5.37%
-- Flow 3:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 350.615 ms
Loss rate: 7.98%
```

Run 2: Report of QUIC Cubic — Data Link

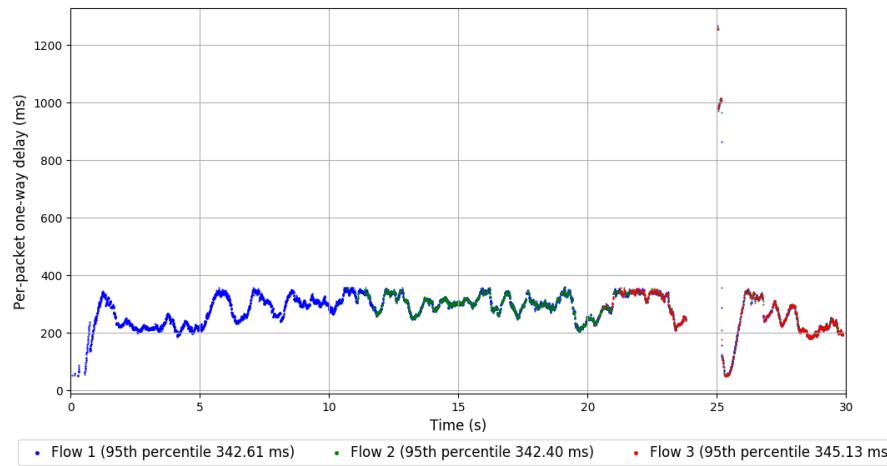
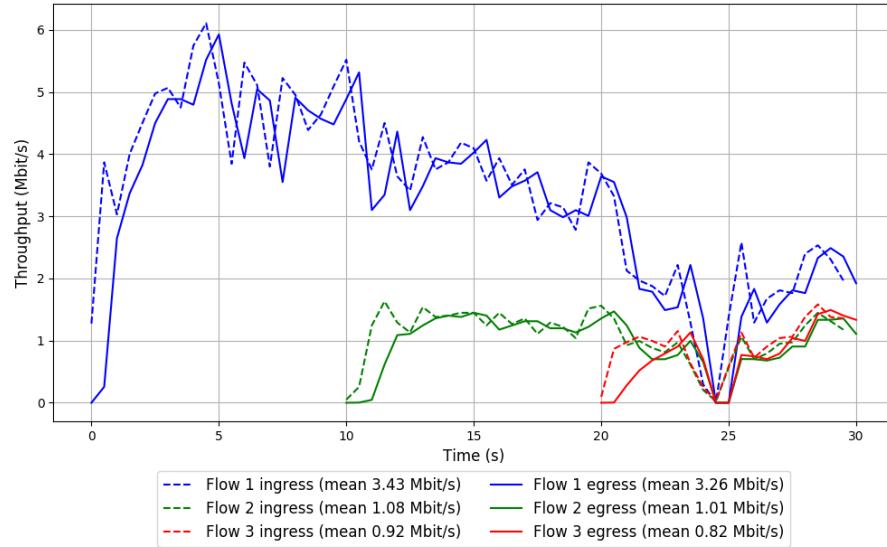


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-08-01 23:36:48
End at: 2018-08-01 23:37:18
Local clock offset: -0.982 ms
Remote clock offset: -4.653 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 342.876 ms
Loss rate: 6.23%
-- Flow 1:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 342.613 ms
Loss rate: 5.23%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 342.402 ms
Loss rate: 8.07%
-- Flow 3:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 345.129 ms
Loss rate: 13.24%
```

Run 3: Report of QUIC Cubic — Data Link

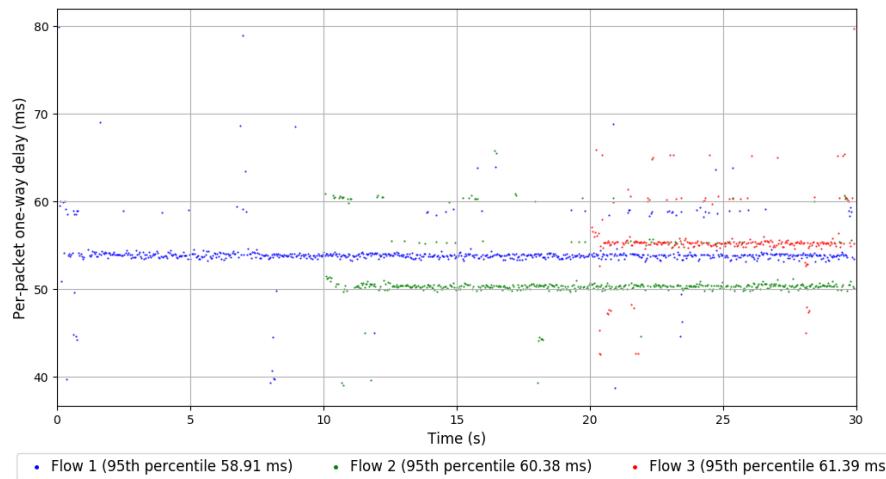
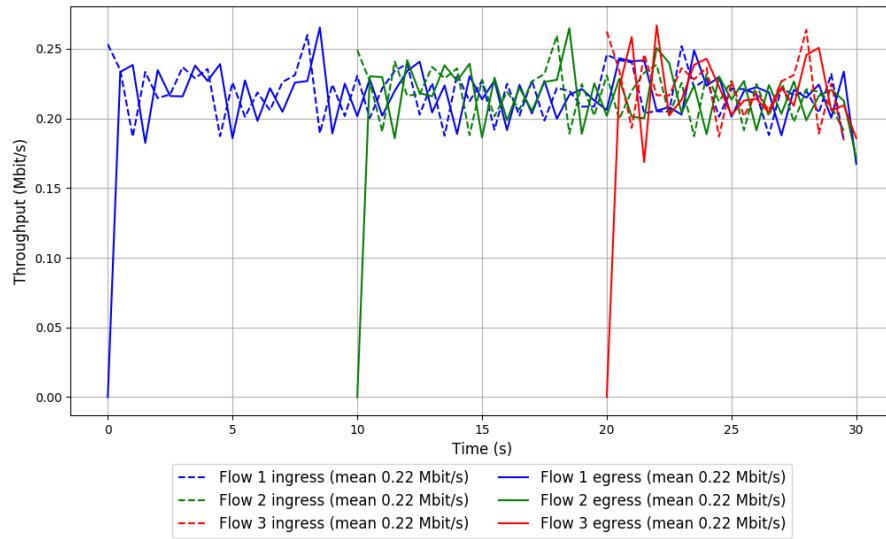


```
Run 1: Statistics of SCReAM

Start at: 2018-08-01 22:54:31
End at: 2018-08-01 22:55:01
Local clock offset: 0.69 ms
Remote clock offset: -16.633 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.089 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.908 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.378 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.393 ms
Loss rate: 0.70%
```

Run 1: Report of SCReAM — Data Link

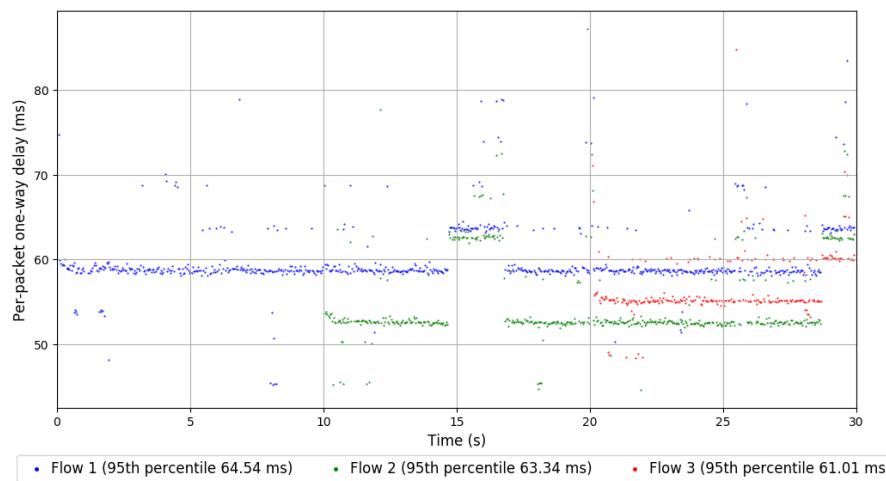
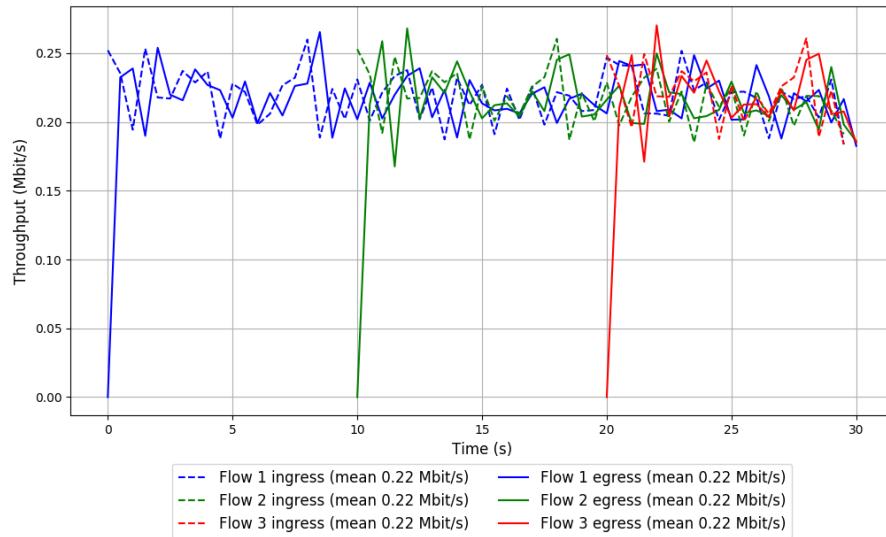


Run 2: Statistics of SCReAM

```
Start at: 2018-08-01 23:13:36
End at: 2018-08-01 23:14:06
Local clock offset: 1.228 ms
Remote clock offset: -14.215 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.544 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.339 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.005 ms
Loss rate: 0.70%
```

Run 2: Report of SCReAM — Data Link

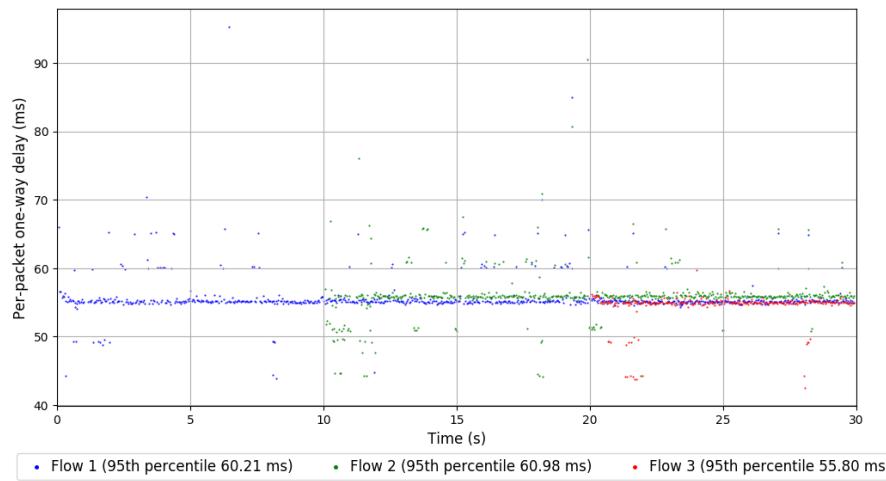
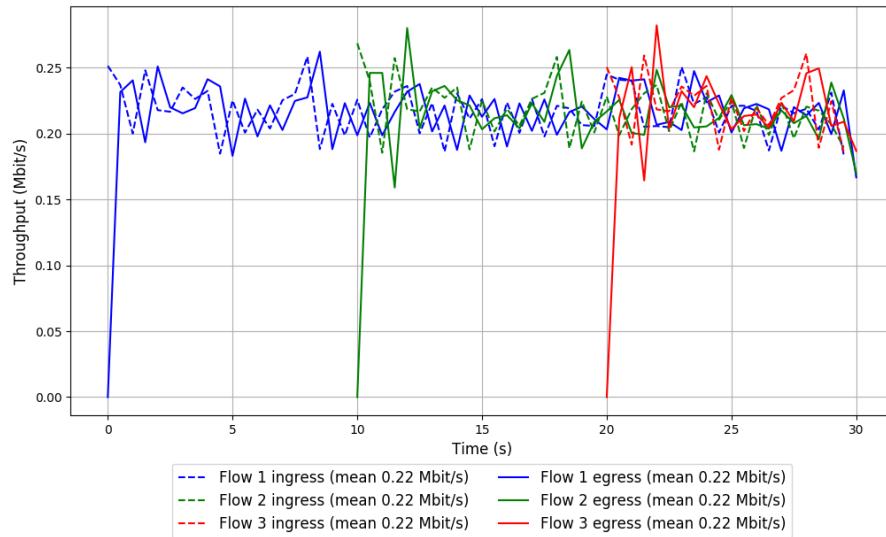


Run 3: Statistics of SCReAM

```
Start at: 2018-08-01 23:32:22
End at: 2018-08-01 23:32:52
Local clock offset: -2.206 ms
Remote clock offset: -7.798 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.270 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.206 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.976 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.800 ms
Loss rate: 0.71%
```

Run 3: Report of SCReAM — Data Link

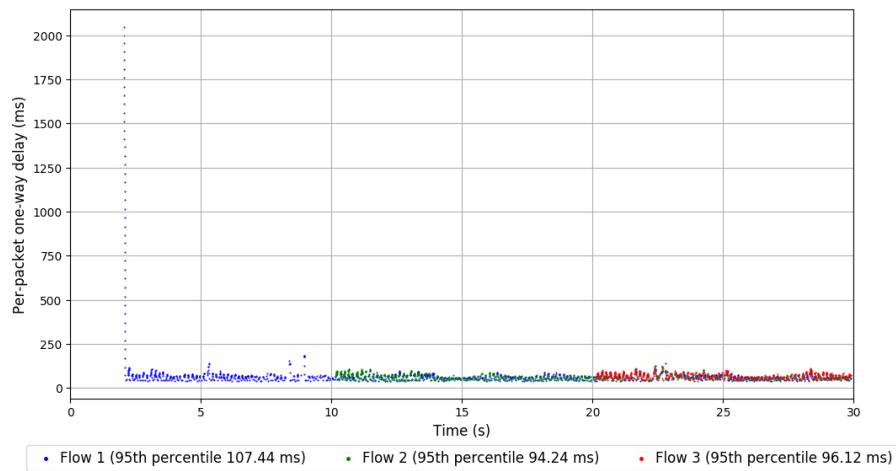
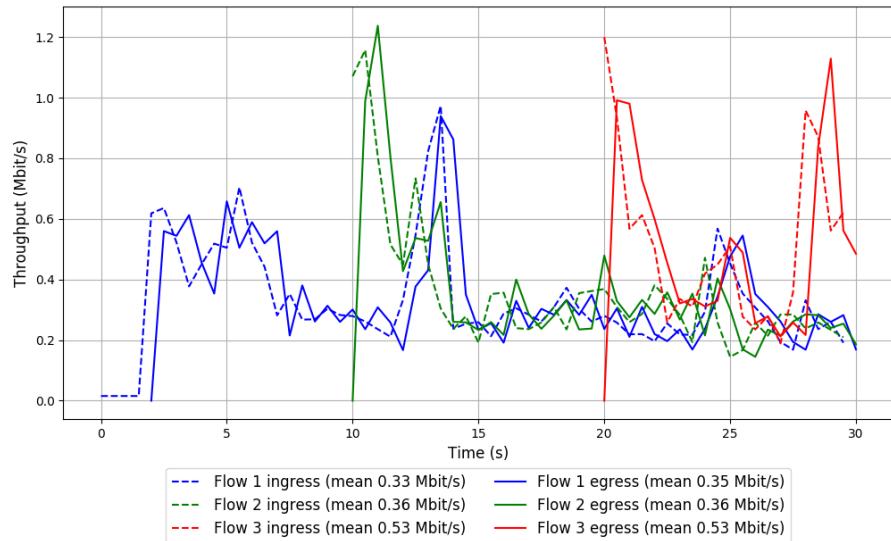


Run 1: Statistics of Sprout

```
Start at: 2018-08-01 23:04:43
End at: 2018-08-01 23:05:13
Local clock offset: 2.111 ms
Remote clock offset: -17.909 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 96.662 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 107.438 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 94.236 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 96.124 ms
Loss rate: 1.31%
```

Run 1: Report of Sprout — Data Link

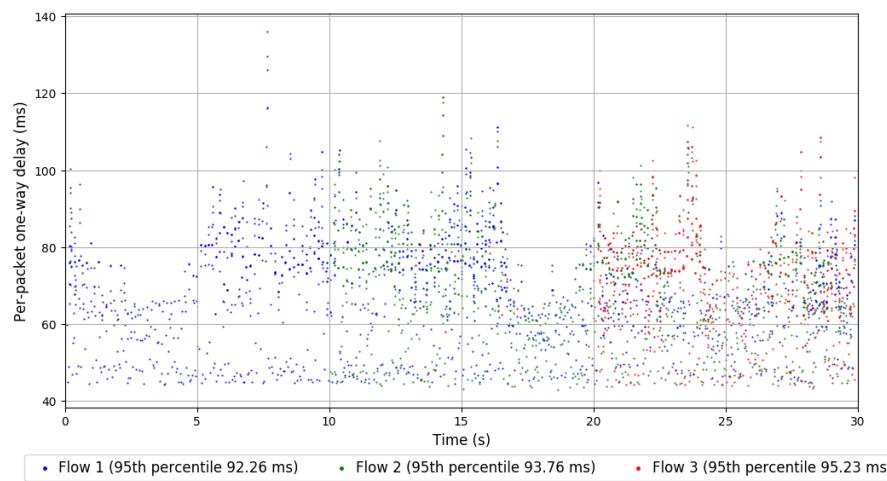
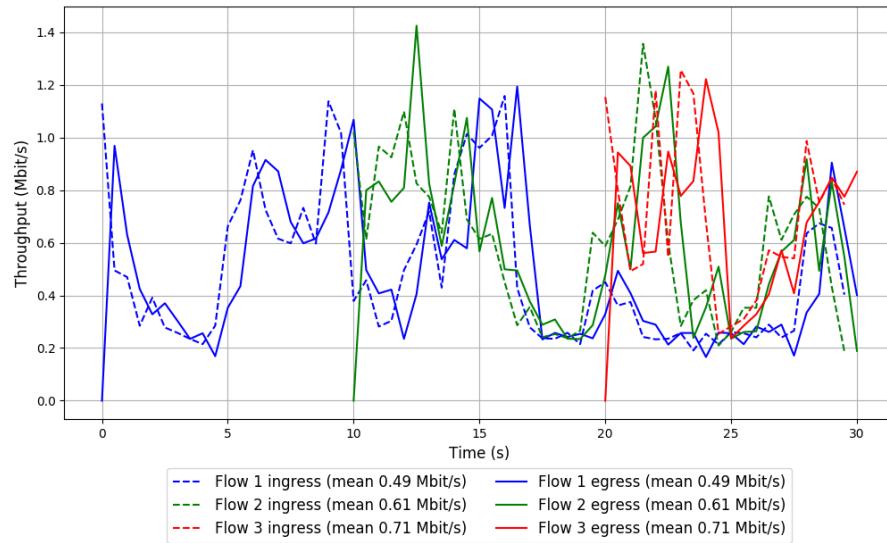


Run 2: Statistics of Sprout

```
Start at: 2018-08-01 23:23:34
End at: 2018-08-01 23:24:04
Local clock offset: 2.687 ms
Remote clock offset: -8.907 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 93.503 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 92.261 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 93.764 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 95.234 ms
Loss rate: 0.62%
```

Run 2: Report of Sprout — Data Link

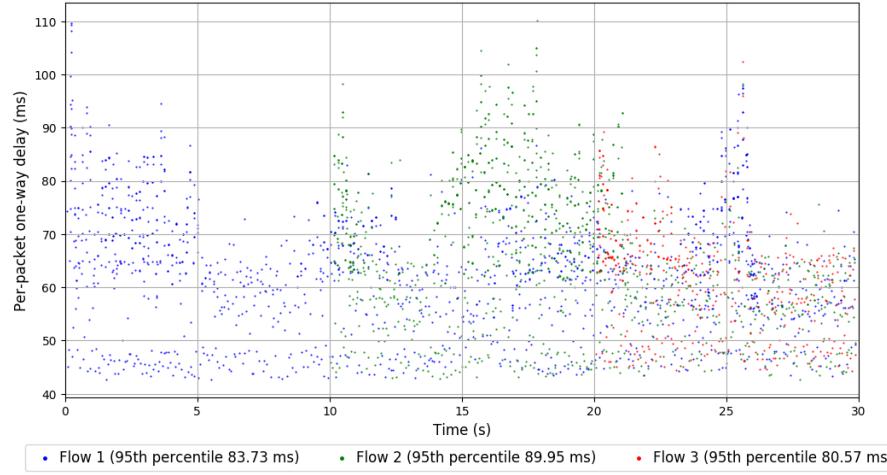
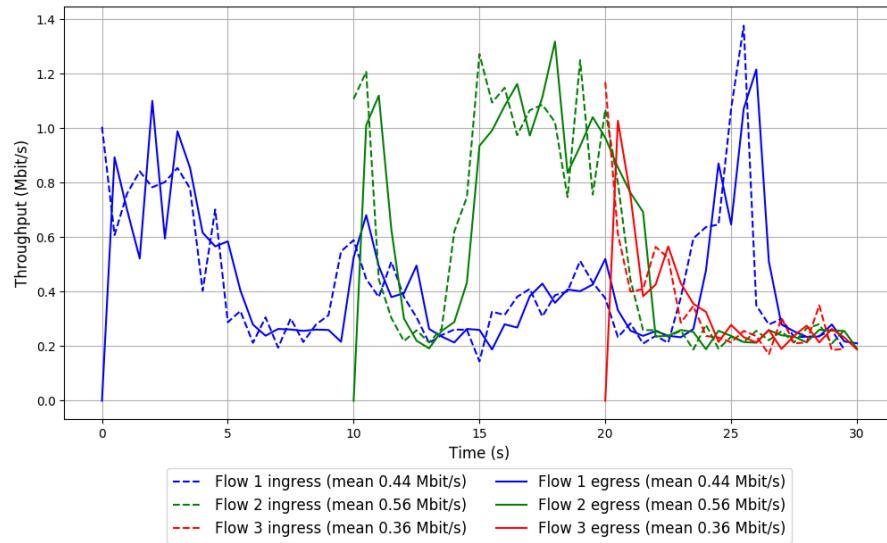


Run 3: Statistics of Sprout

```
Start at: 2018-08-01 23:42:24
End at: 2018-08-01 23:42:54
Local clock offset: -0.019 ms
Remote clock offset: -7.716 ms

# Below is generated by plot.py at 2018-08-01 23:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 85.671 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 83.730 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 89.948 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 80.571 ms
Loss rate: 0.63%
```

Run 3: Report of Sprout — Data Link

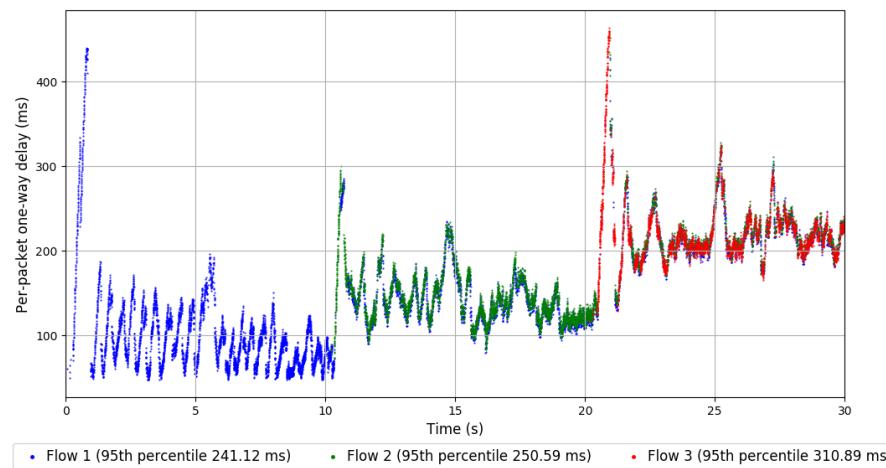
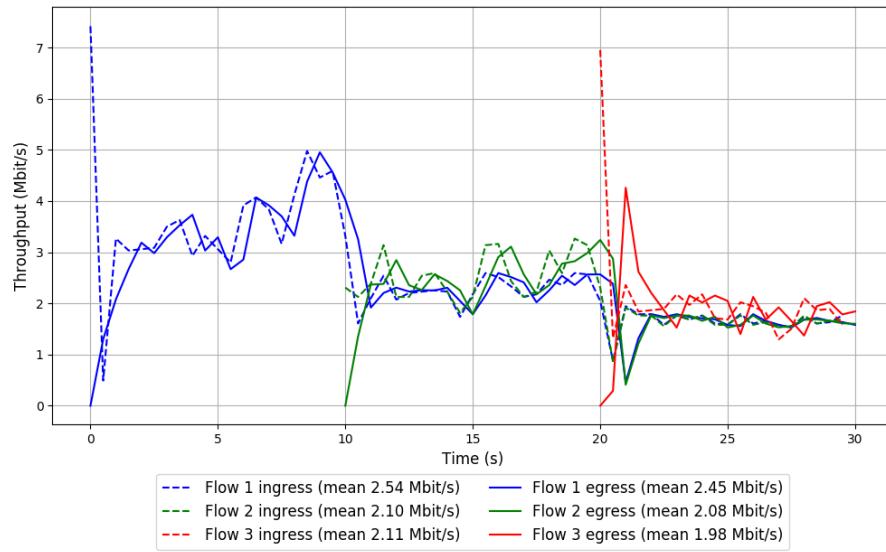


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-08-01 22:51:08
End at: 2018-08-01 22:51:38
Local clock offset: 1.448 ms
Remote clock offset: -13.988 ms

# Below is generated by plot.py at 2018-08-01 23:43:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 256.796 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 241.115 ms
Loss rate: 3.67%
-- Flow 2:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 250.586 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 310.888 ms
Loss rate: 7.32%
```

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

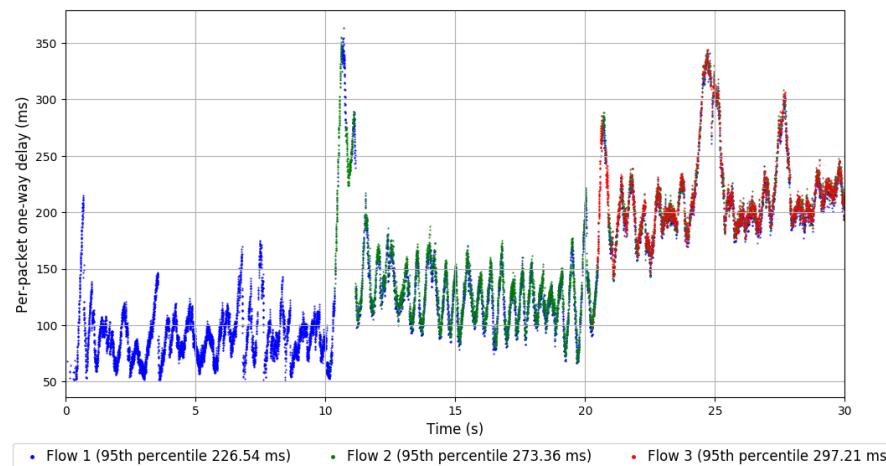
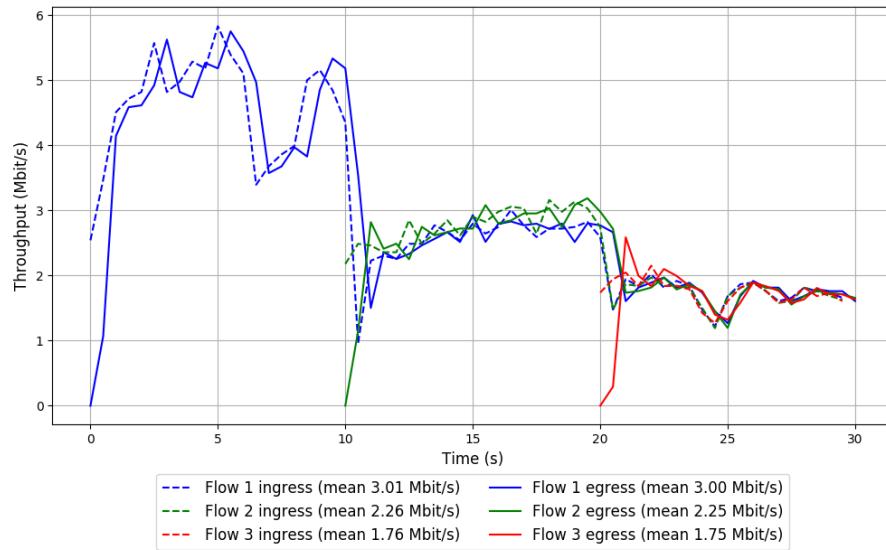


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-08-01 23:10:14
End at: 2018-08-01 23:10:44
Local clock offset: 1.497 ms
Remote clock offset: -16.922 ms

# Below is generated by plot.py at 2018-08-01 23:43:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 260.385 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 226.543 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 273.357 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 297.214 ms
Loss rate: 2.07%
```

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

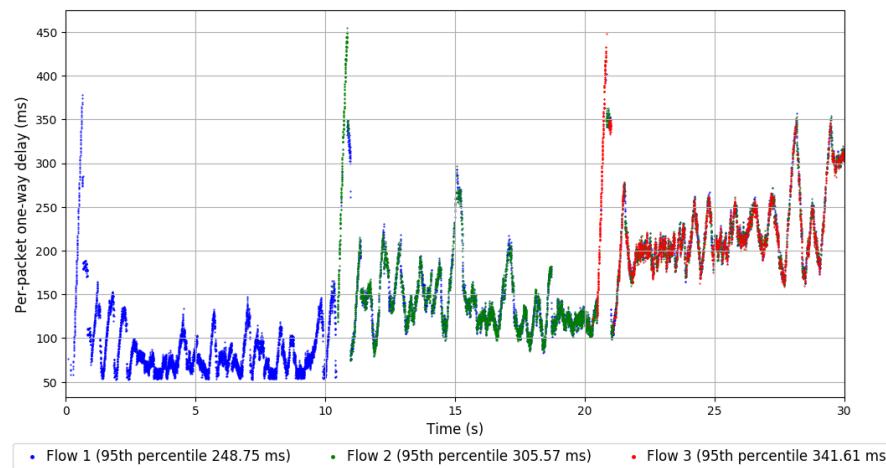
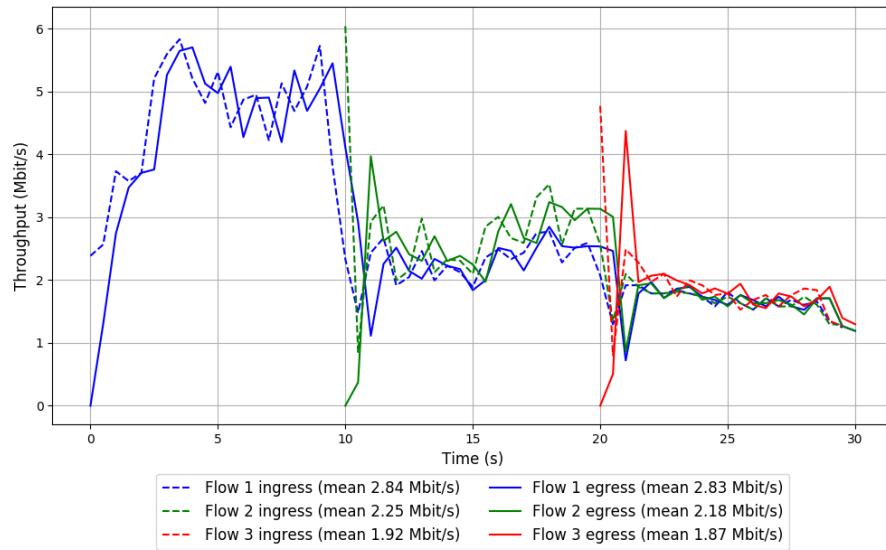


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-08-01 23:29:04
End at: 2018-08-01 23:29:34
Local clock offset: 1.652 ms
Remote clock offset: -6.306 ms

# Below is generated by plot.py at 2018-08-01 23:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 291.962 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 248.753 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 305.572 ms
Loss rate: 3.52%
-- Flow 3:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 341.611 ms
Loss rate: 3.66%
```

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

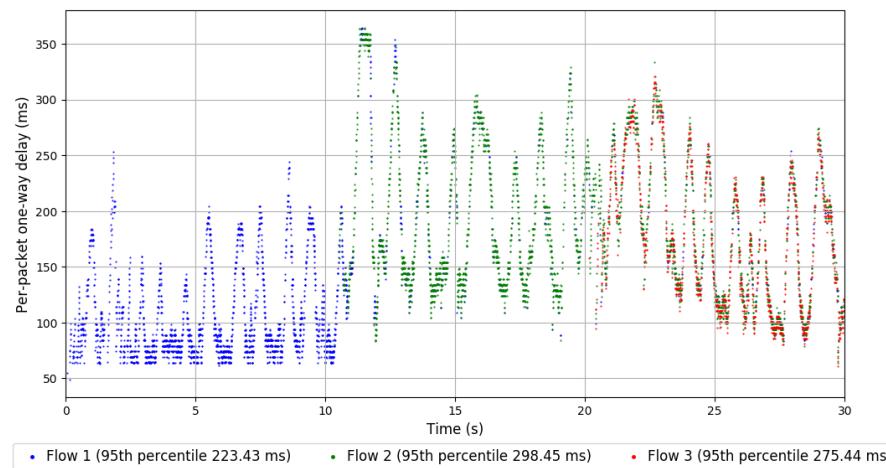
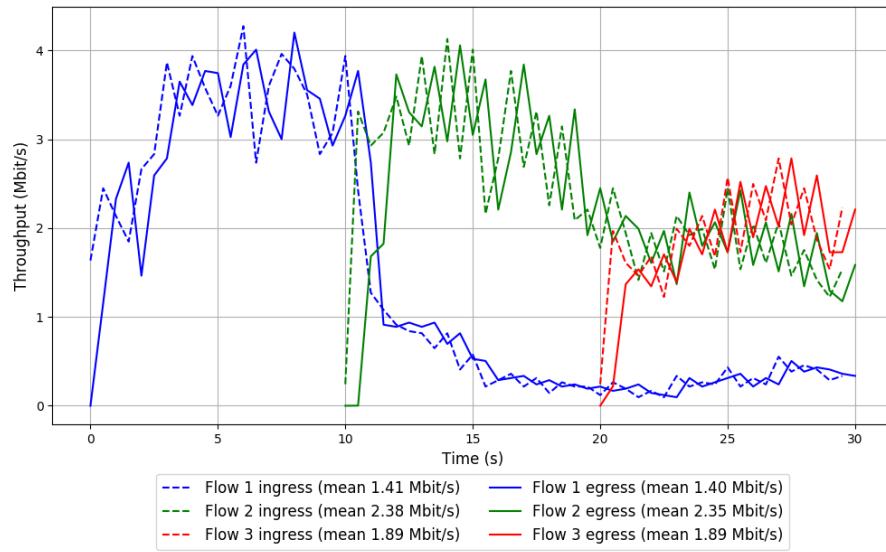


Run 1: Statistics of TCP Vegas

```
Start at: 2018-08-01 23:00:18
End at: 2018-08-01 23:00:48
Local clock offset: 2.378 ms
Remote clock offset: -16.241 ms

# Below is generated by plot.py at 2018-08-01 23:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 283.424 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 223.433 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 298.454 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 275.442 ms
Loss rate: 1.40%
```

Run 1: Report of TCP Vegas — Data Link

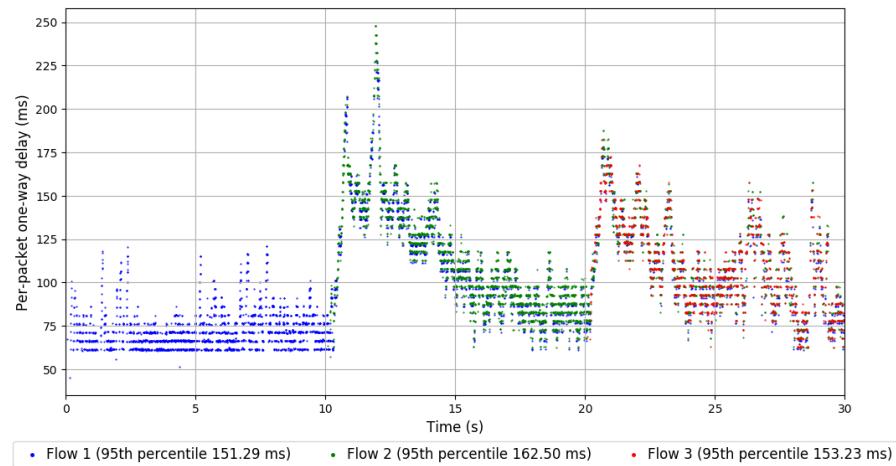
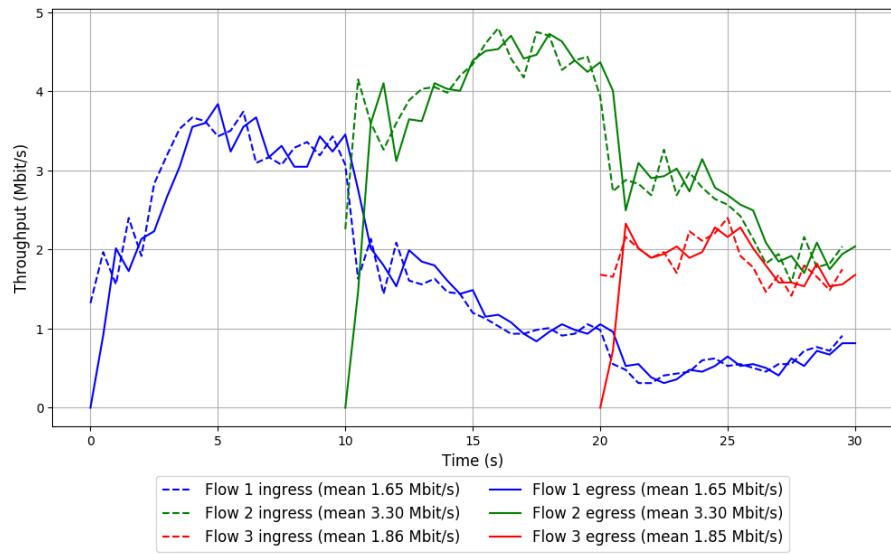


Run 2: Statistics of TCP Vegas

```
Start at: 2018-08-01 23:19:09
End at: 2018-08-01 23:19:39
Local clock offset: 0.675 ms
Remote clock offset: -11.256 ms

# Below is generated by plot.py at 2018-08-01 23:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 157.486 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 151.291 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 162.501 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 153.231 ms
Loss rate: 0.91%
```

Run 2: Report of TCP Vegas — Data Link

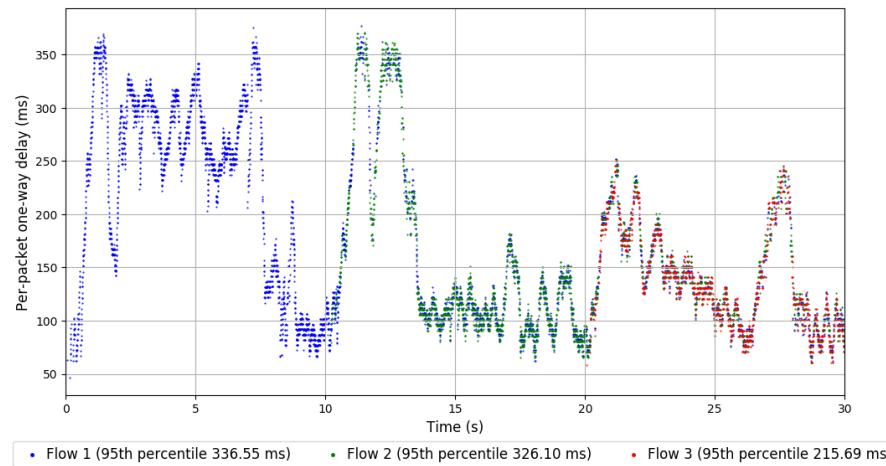
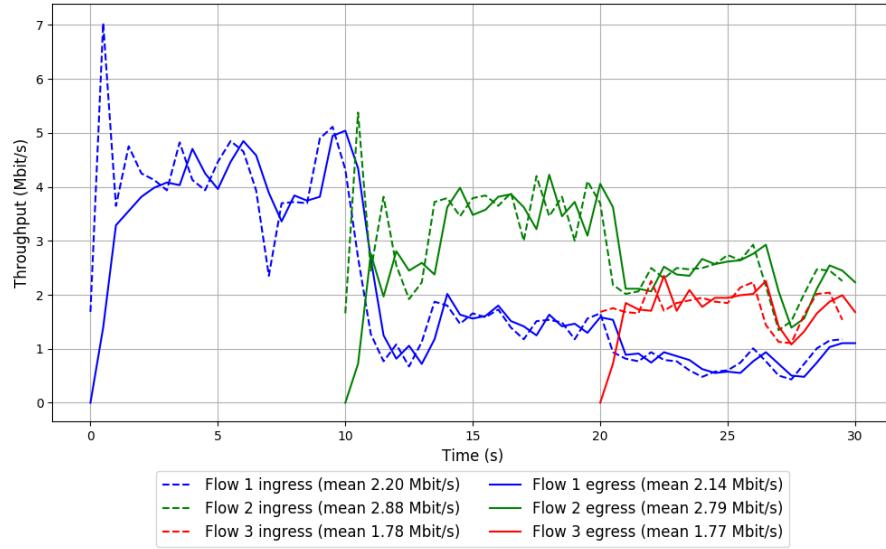


Run 3: Statistics of TCP Vegas

```
Start at: 2018-08-01 23:37:54
End at: 2018-08-01 23:38:24
Local clock offset: 0.084 ms
Remote clock offset: -7.234 ms

# Below is generated by plot.py at 2018-08-01 23:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 326.929 ms
Loss rate: 2.86%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 336.545 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 326.099 ms
Loss rate: 3.40%
-- Flow 3:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 215.688 ms
Loss rate: 0.88%
```

Run 3: Report of TCP Vegas — Data Link

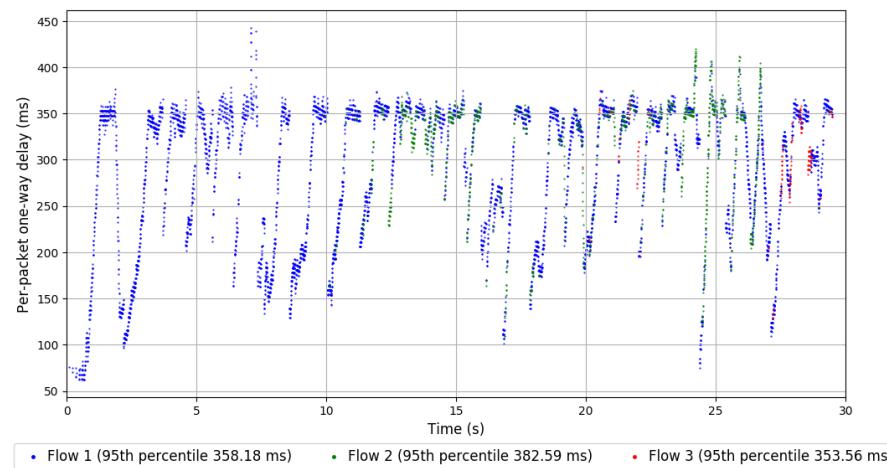
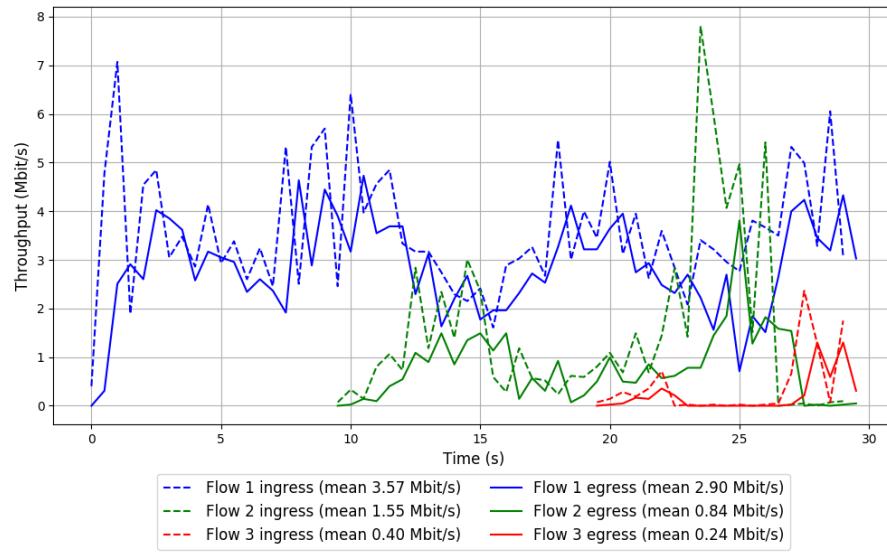


Run 1: Statistics of Verus

```
Start at: 2018-08-01 23:02:31
End at: 2018-08-01 23:03:01
Local clock offset: 1.48 ms
Remote clock offset: -16.242 ms

# Below is generated by plot.py at 2018-08-01 23:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.54 Mbit/s
95th percentile per-packet one-way delay: 359.479 ms
Loss rate: 25.70%
-- Flow 1:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 358.181 ms
Loss rate: 18.99%
-- Flow 2:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 382.589 ms
Loss rate: 46.68%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 353.556 ms
Loss rate: 41.59%
```

Run 1: Report of Verus — Data Link

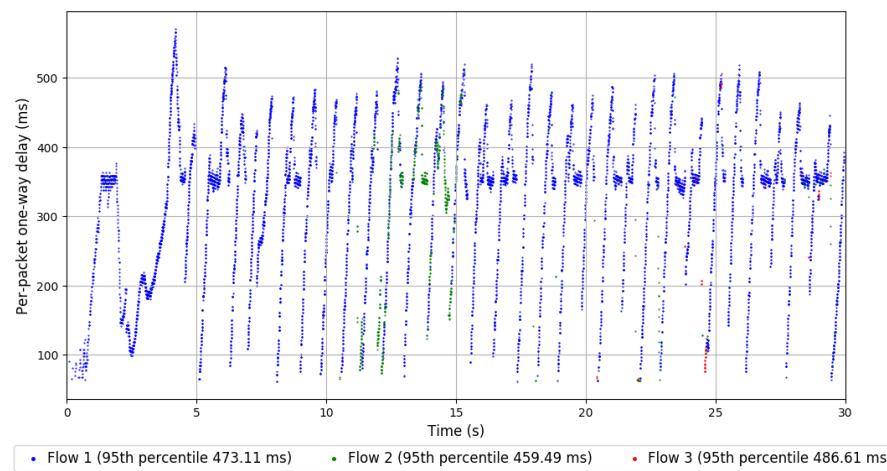
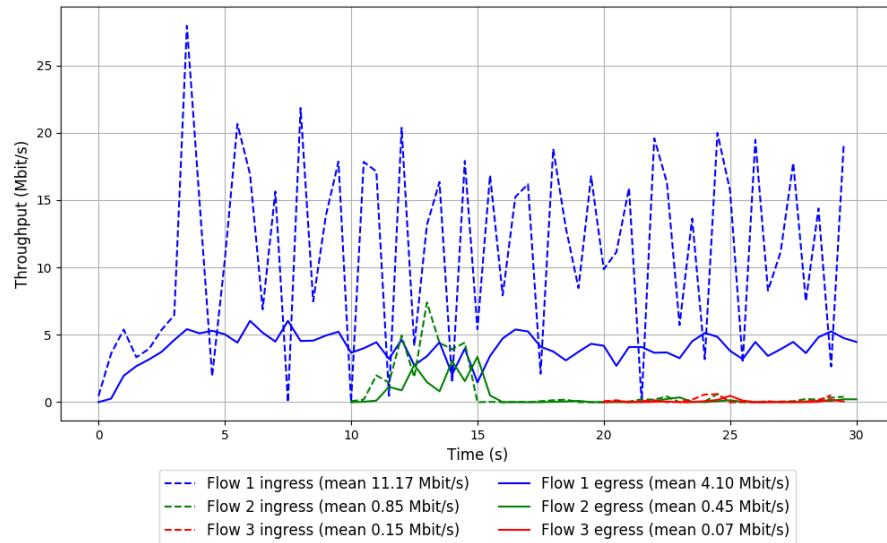


Run 2: Statistics of Verus

```
Start at: 2018-08-01 23:21:21
End at: 2018-08-01 23:21:51
Local clock offset: 1.653 ms
Remote clock offset: -10.309 ms

# Below is generated by plot.py at 2018-08-01 23:43:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 472.498 ms
Loss rate: 62.60%
-- Flow 1:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 473.110 ms
Loss rate: 63.36%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 459.489 ms
Loss rate: 48.54%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 486.614 ms
Loss rate: 52.25%
```

Run 2: Report of Verus — Data Link

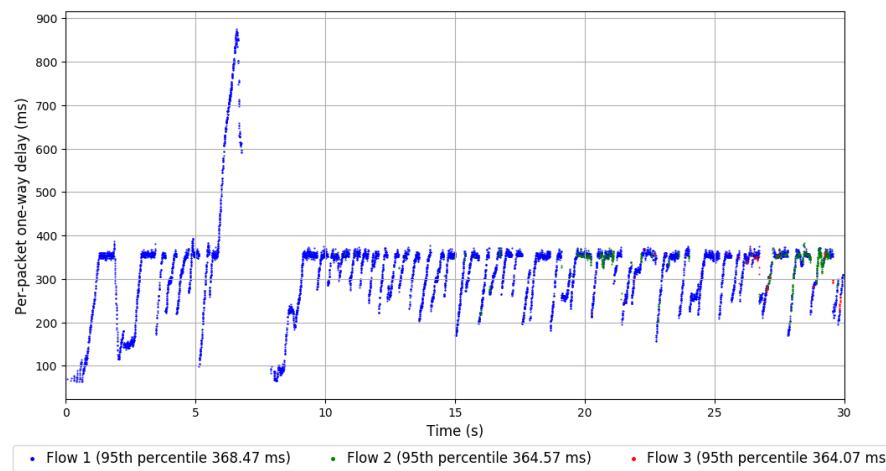
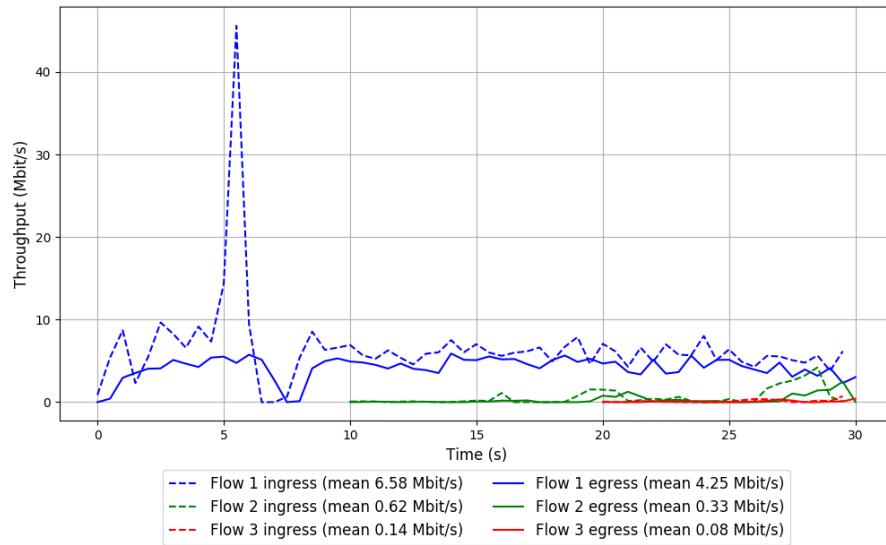


Run 3: Statistics of Verus

```
Start at: 2018-08-01 23:40:11
End at: 2018-08-01 23:40:41
Local clock offset: 1.761 ms
Remote clock offset: -7.717 ms

# Below is generated by plot.py at 2018-08-01 23:43:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 368.147 ms
Loss rate: 36.33%
-- Flow 1:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 368.466 ms
Loss rate: 35.60%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 364.571 ms
Loss rate: 47.48%
-- Flow 3:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 364.074 ms
Loss rate: 42.61%
```

Run 3: Report of Verus — Data Link

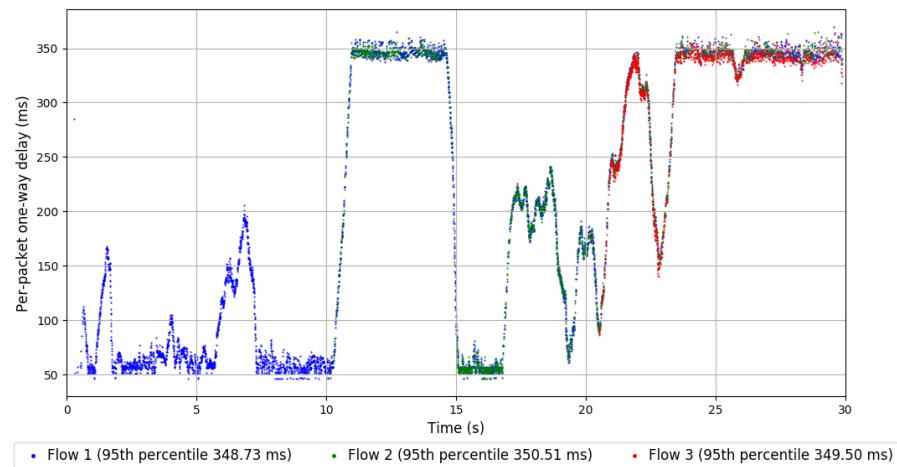
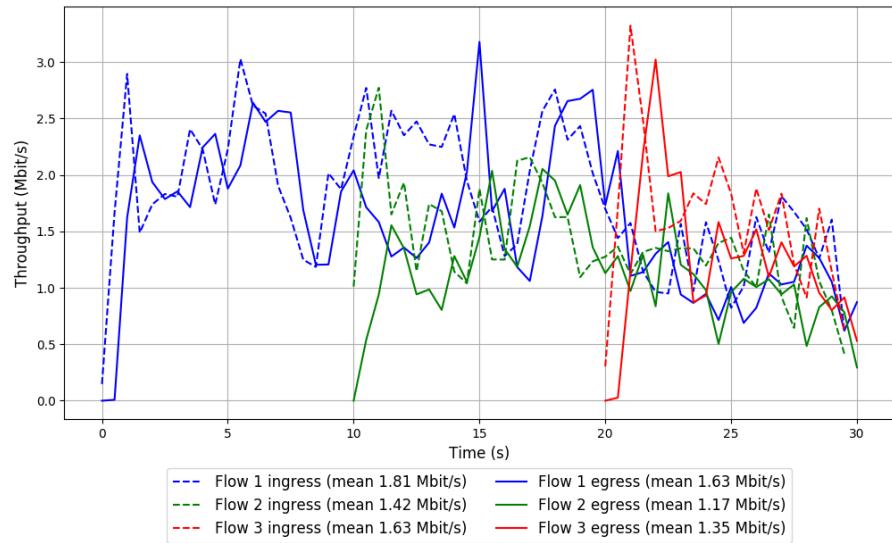


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-08-01 22:57:52
End at: 2018-08-01 22:58:22
Local clock offset: -0.417 ms
Remote clock offset: -16.886 ms

# Below is generated by plot.py at 2018-08-01 23:43:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 349.513 ms
Loss rate: 14.11%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 348.728 ms
Loss rate: 10.82%
-- Flow 2:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 350.508 ms
Loss rate: 17.62%
-- Flow 3:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 349.505 ms
Loss rate: 19.01%
```

Run 1: Report of PCC-Vivace — Data Link

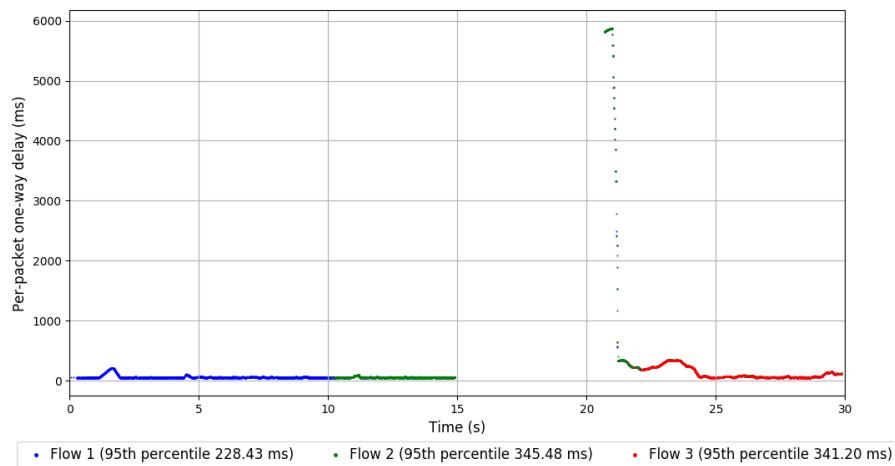
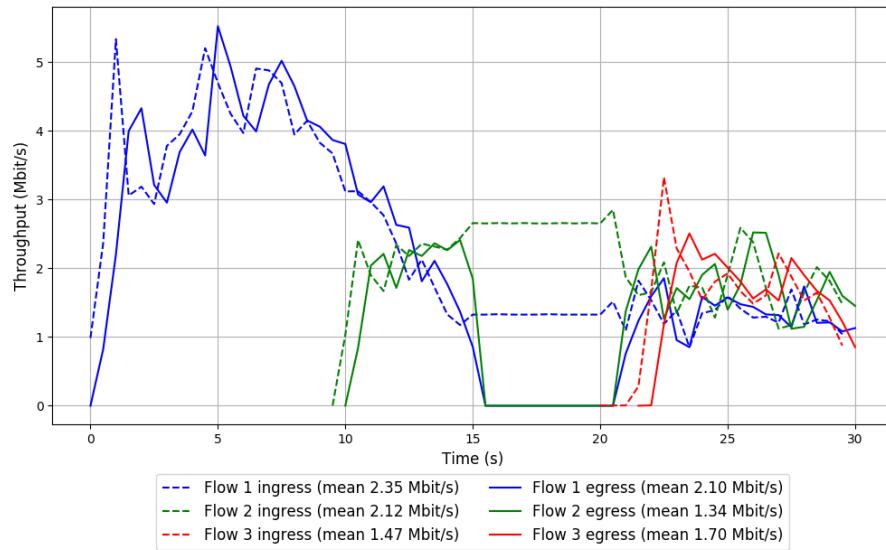


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-08-01 23:16:55
End at: 2018-08-01 23:17:25
Local clock offset: 1.964 ms
Remote clock offset: -9.398 ms

# Below is generated by plot.py at 2018-08-01 23:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 326.678 ms
Loss rate: 18.66%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 228.428 ms
Loss rate: 11.00%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 345.481 ms
Loss rate: 36.75%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 341.197 ms
Loss rate: 3.28%
```

Run 2: Report of PCC-Vivace — Data Link

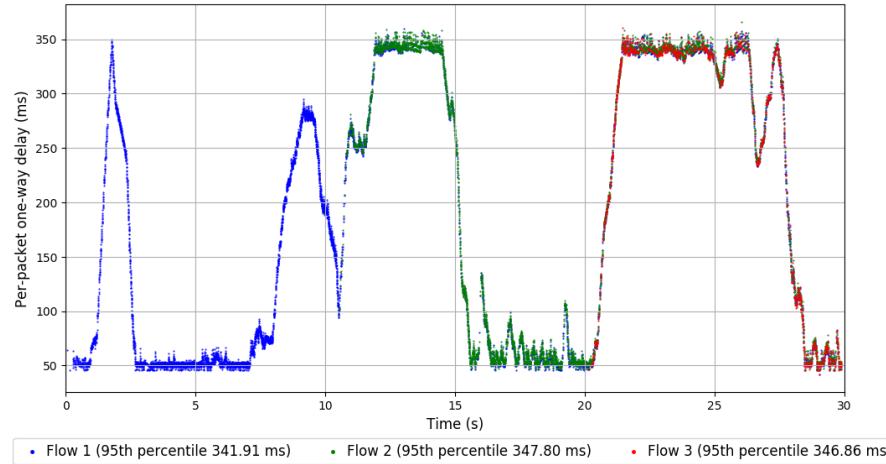
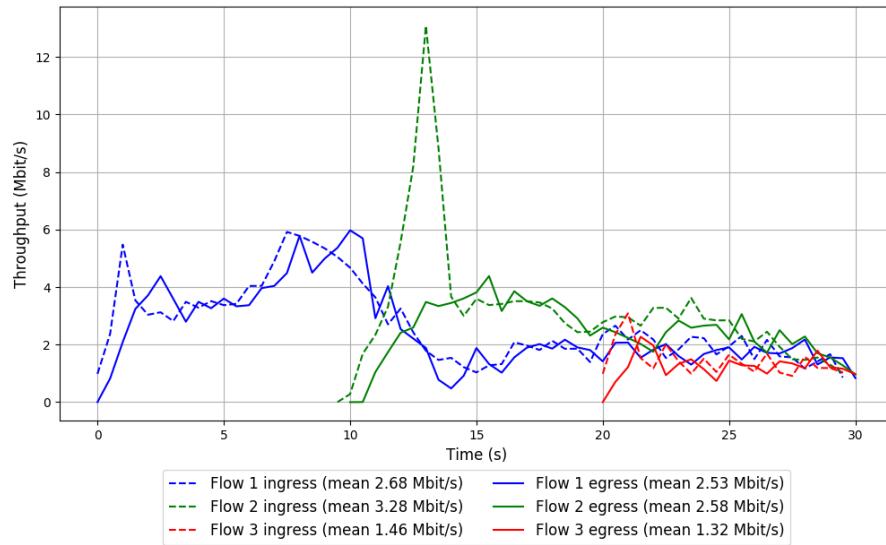


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-08-01 23:35:41
End at: 2018-08-01 23:36:11
Local clock offset: -1.014 ms
Remote clock offset: -4.543 ms

# Below is generated by plot.py at 2018-08-01 23:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 345.445 ms
Loss rate: 12.79%
-- Flow 1:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 341.908 ms
Loss rate: 5.72%
-- Flow 2:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 347.797 ms
Loss rate: 22.08%
-- Flow 3:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 346.857 ms
Loss rate: 10.15%
```

Run 3: Report of PCC-Vivace — Data Link

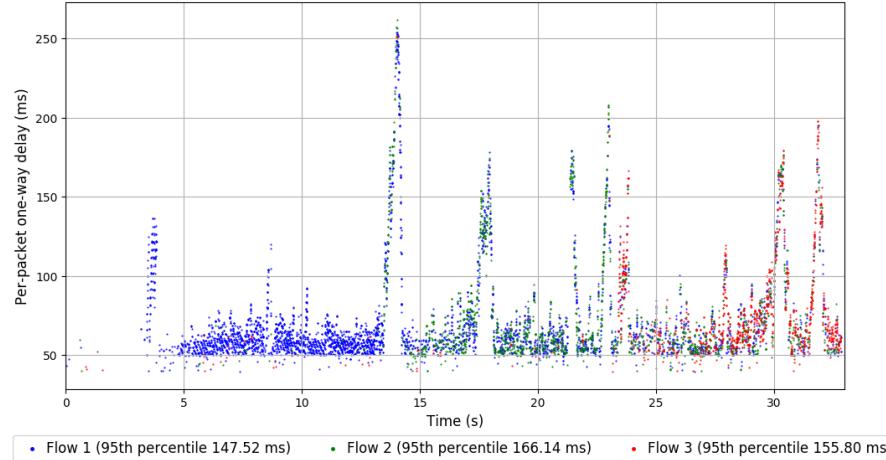
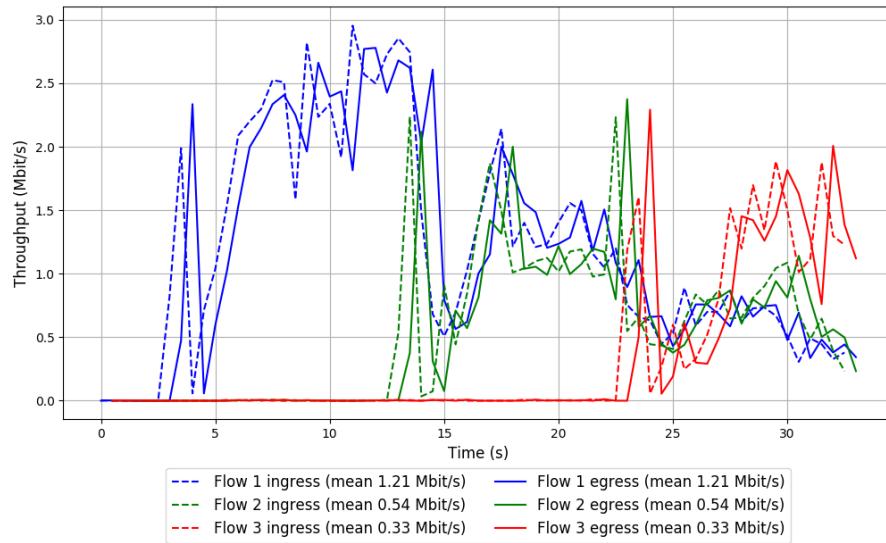


Run 1: Statistics of WebRTC media

```
Start at: 2018-08-01 22:53:22
End at: 2018-08-01 22:53:52
Local clock offset: 3.31 ms
Remote clock offset: -14.156 ms

# Below is generated by plot.py at 2018-08-01 23:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 157.111 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 147.516 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 166.139 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 155.803 ms
Loss rate: 1.13%
```

Run 1: Report of WebRTC media — Data Link

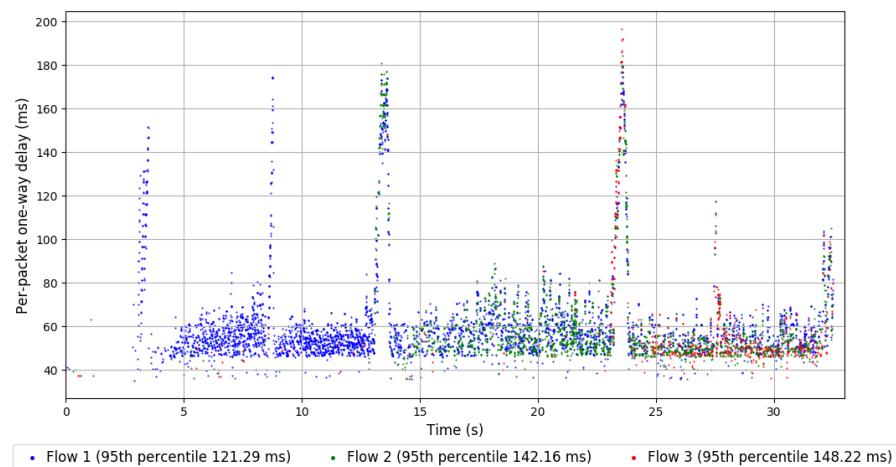
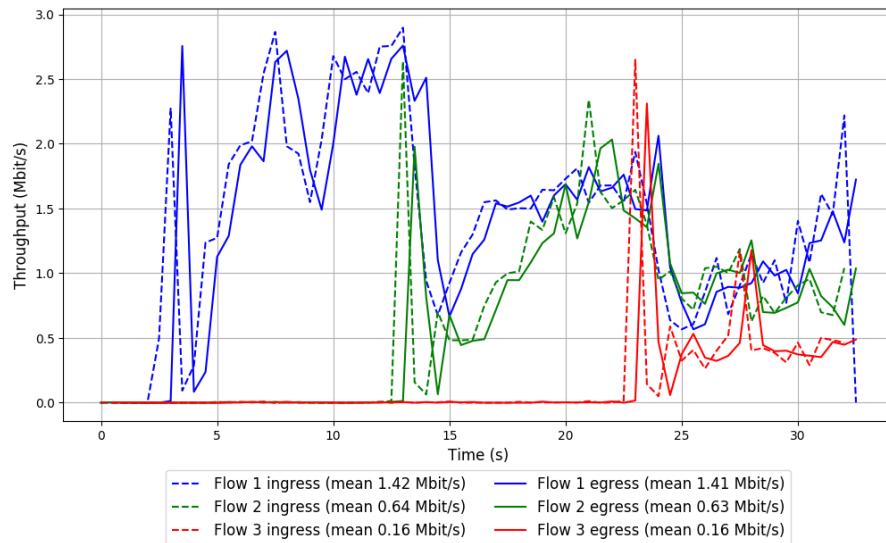


Run 2: Statistics of WebRTC media

```
Start at: 2018-08-01 23:12:30
End at: 2018-08-01 23:13:00
Local clock offset: -1.132 ms
Remote clock offset: -11.995 ms

# Below is generated by plot.py at 2018-08-01 23:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 131.911 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 121.290 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 142.156 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 148.224 ms
Loss rate: 0.79%
```

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

```
Start at: 2018-08-01 23:31:17
End at: 2018-08-01 23:31:47
Local clock offset: -0.474 ms
Remote clock offset: -8.752 ms

# Below is generated by plot.py at 2018-08-01 23:43:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 113.544 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 108.026 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 113.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 120.027 ms
Loss rate: 0.89%
```

Run 3: Report of WebRTC media — Data Link

