

Pantheon Report

Generated at 2018-08-22 18:27:14 (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.
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

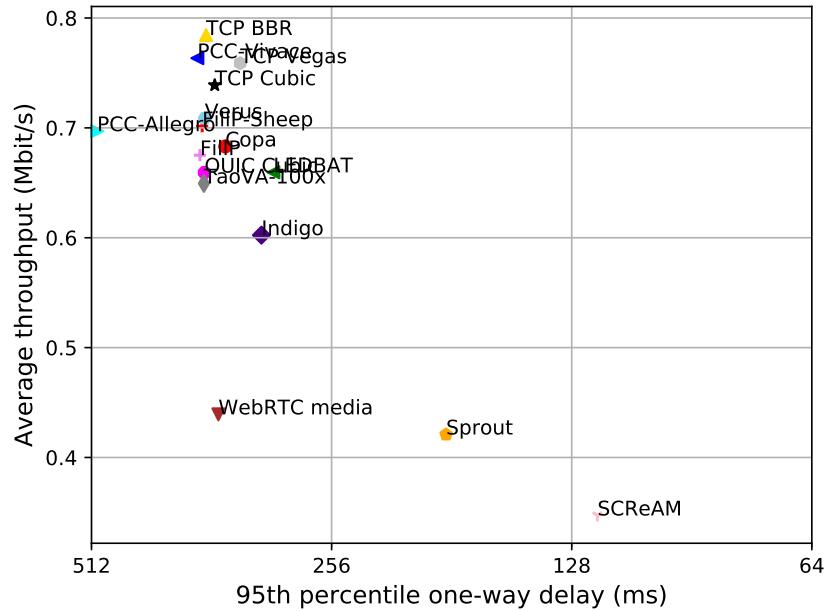
System info:

```
Linux 4.15.0-1017-aws
net.core.default_qdisc = fq_codel
net.core.rmem_default = 16777216
net.core.rmem_max = 33554432
net.core.wmem_default = 212992
net.core.wmem_max = 212992
net.ipv4.tcp_rmem = 4096 87380 6291456
net.ipv4.tcp_wmem = 4096 16384 4194304
```

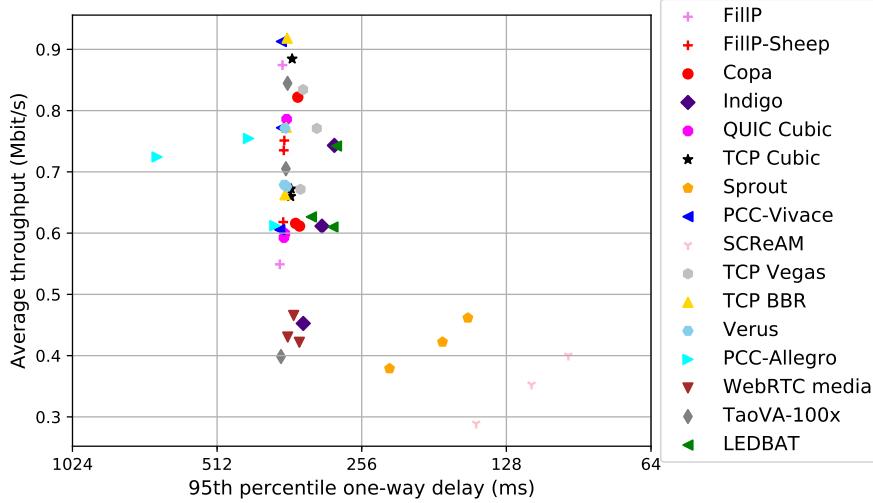
Git summary:

```
branch: master @ 7719b900495aa706f8452ab7d4a94dd562e9296e
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbfe58e562f4
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



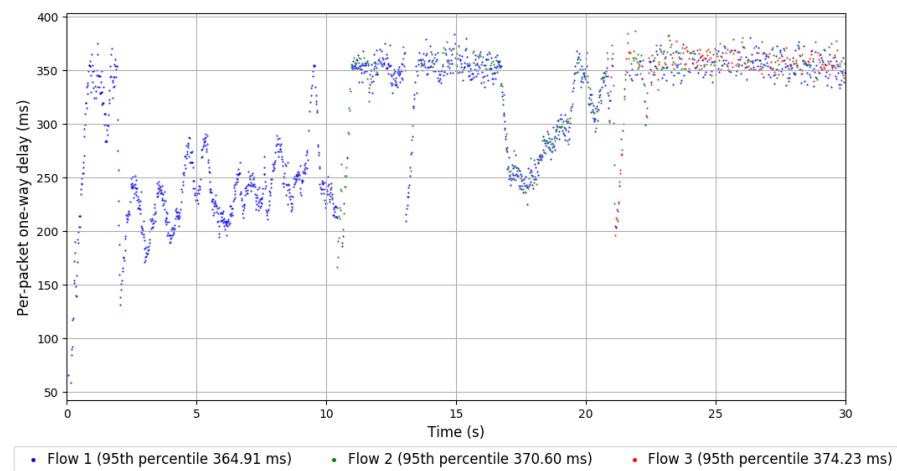
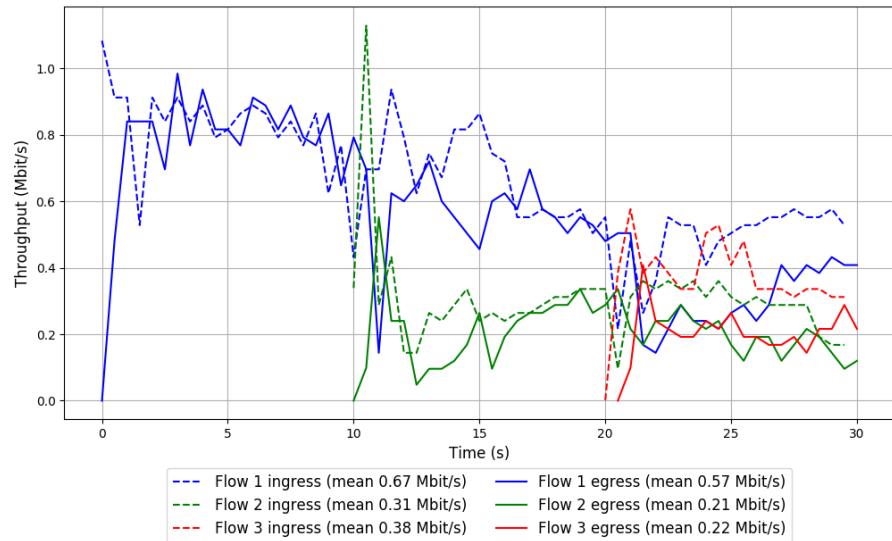
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.52	0.28	0.27	364.72	370.39	372.39	14.91	28.77	34.81
Copa		0.44	0.25	0.27	342.88	351.70	355.79	3.78	8.29	14.33
TCP Cubic		0.49	0.28	0.21	357.18	357.67	362.13	3.80	8.18	12.31
FillP		0.44	0.25	0.24	377.37	371.01	374.59	63.78	51.55	60.54
FillP-Sheep		0.49	0.22	0.20	371.63	373.78	373.86	54.71	77.30	81.99
Indigo		0.31	0.31	0.25	288.60	325.20	327.13	2.98	6.61	15.18
LEDBAT		0.31	0.31	0.48	271.38	311.15	298.44	0.13	1.33	2.82
PCC-Allegro		0.52	0.28	0.00	449.25	600.44	350.59	81.61	90.33	92.31
PCC-Expr		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
QUIC Cubic		0.39	0.30	0.24	366.19	369.44	371.75	18.62	26.45	40.22
SCReAM		0.17	0.17	0.20	113.89	118.49	136.29	0.19	0.48	1.02
Sprout		0.21	0.21	0.20	172.42	190.38	199.85	1.78	2.21	2.90
TaoVA-100x		0.46	0.22	0.21	370.19	386.21	372.42	49.84	71.22	67.53
TCP Vegas		0.41	0.35	0.38	320.03	334.92	342.97	2.09	3.25	5.31
Verus		0.59	0.16	0.06	368.44	369.51	367.47	32.39	56.06	70.55
PCC-Vivace		0.52	0.25	0.28	377.81	370.25	373.61	61.74	72.60	76.19
WebRTC media		0.17	0.16	0.11	353.10	357.52	355.06	10.35	14.72	15.03

Run 1: Statistics of TCP BBR

```
Start at: 2018-08-22 17:39:05
End at: 2018-08-22 17:39:35
Local clock offset: 0.699 ms
Remote clock offset: -64.849 ms

# Below is generated by plot.py at 2018-08-22 18:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 367.606 ms
Loss rate: 22.38%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 364.913 ms
Loss rate: 15.38%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 370.601 ms
Loss rate: 31.62%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 374.231 ms
Loss rate: 44.93%
```

Run 1: Report of TCP BBR — Data Link

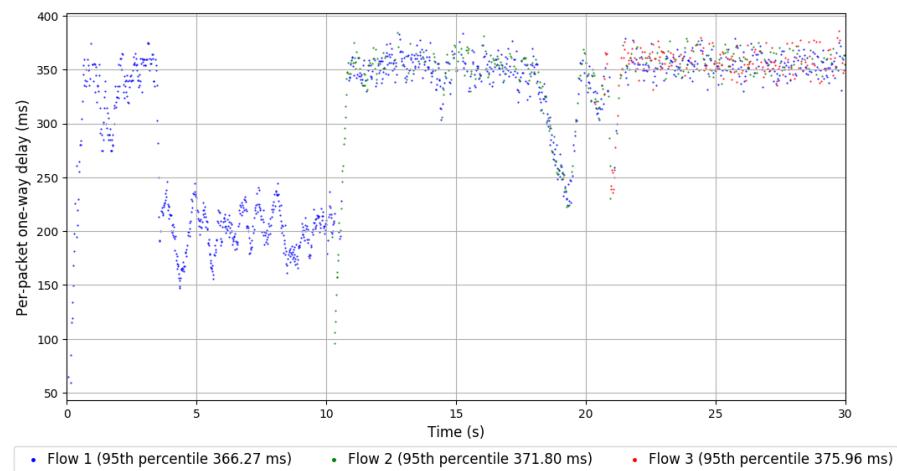
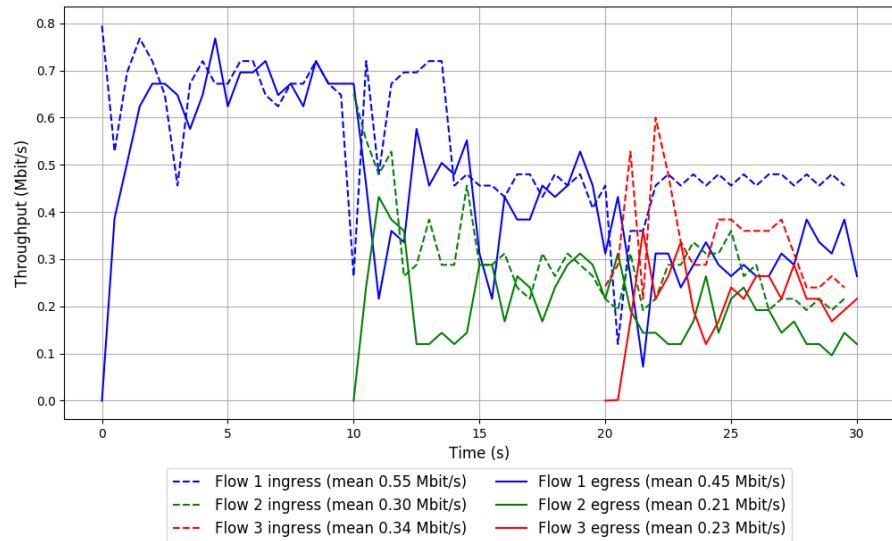


Run 2: Statistics of TCP BBR

```
Start at: 2018-08-22 17:57:35
End at: 2018-08-22 17:58:05
Local clock offset: 2.388 ms
Remote clock offset: -66.14 ms

# Below is generated by plot.py at 2018-08-22 18:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 369.876 ms
Loss rate: 22.99%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 366.269 ms
Loss rate: 17.03%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 371.798 ms
Loss rate: 31.66%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 375.964 ms
Loss rate: 36.38%
```

Run 2: Report of TCP BBR — Data Link

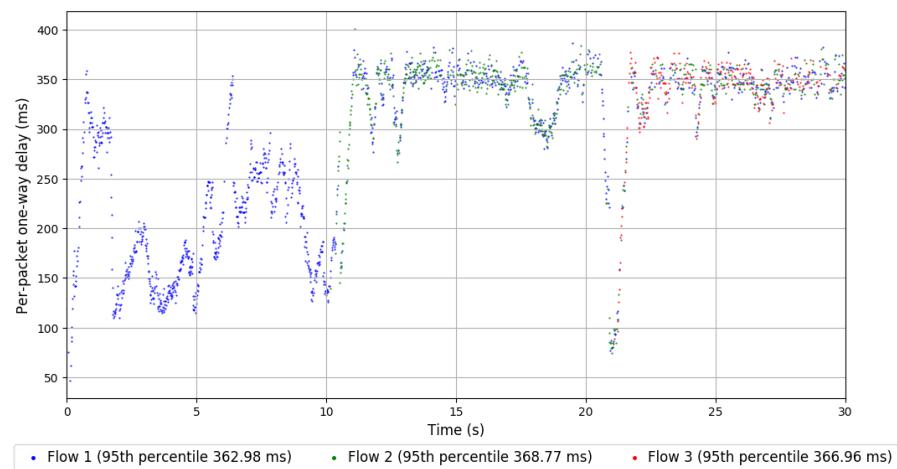
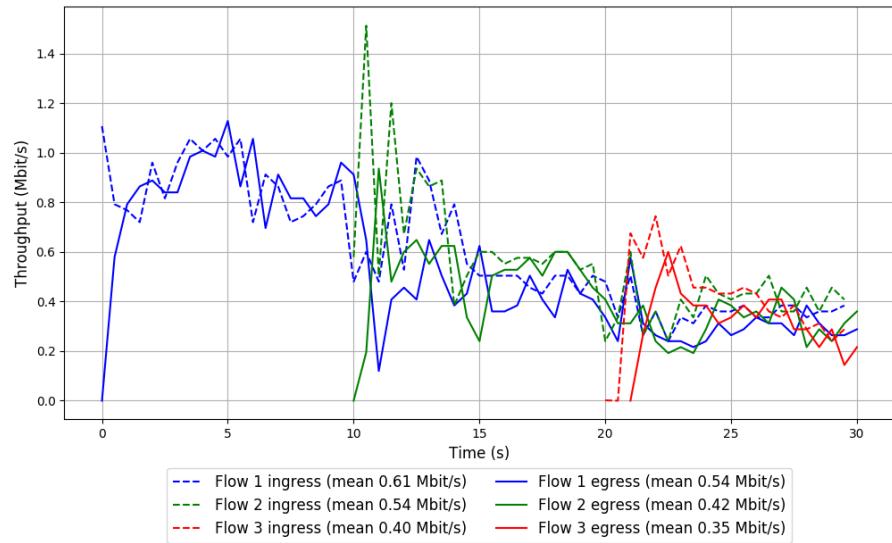


Run 3: Statistics of TCP BBR

```
Start at: 2018-08-22 18:16:11
End at: 2018-08-22 18:16:41
Local clock offset: 2.585 ms
Remote clock offset: -64.234 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 366.001 ms
Loss rate: 17.13%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 362.976 ms
Loss rate: 12.33%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 368.772 ms
Loss rate: 23.03%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 366.964 ms
Loss rate: 23.13%
```

Run 3: Report of TCP BBR — Data Link

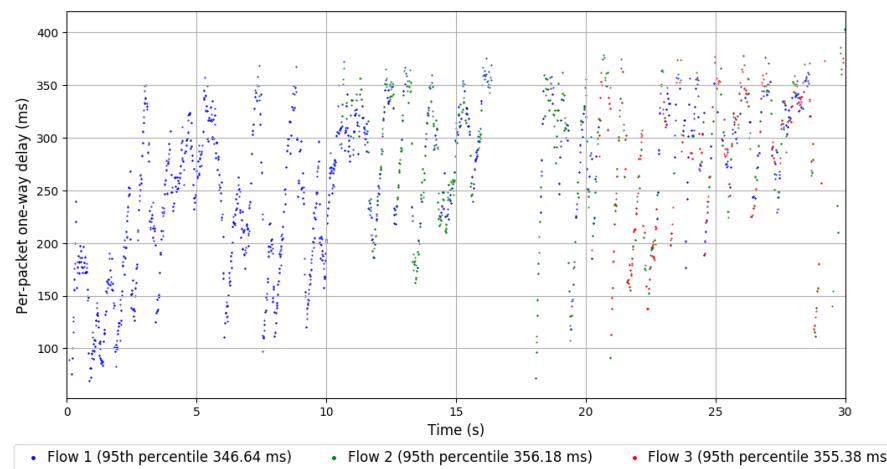
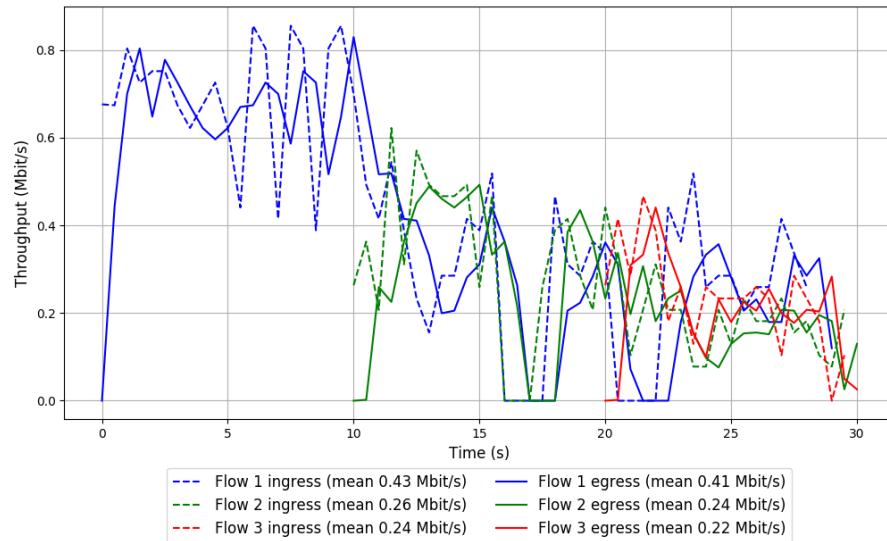


Run 1: Statistics of Copa

```
Start at: 2018-08-22 17:36:55
End at: 2018-08-22 17:37:25
Local clock offset: 2.11 ms
Remote clock offset: -64.105 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 351.452 ms
Loss rate: 6.89%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 346.636 ms
Loss rate: 5.25%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 356.178 ms
Loss rate: 8.41%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 355.379 ms
Loss rate: 12.01%
```

Run 1: Report of Copa — Data Link

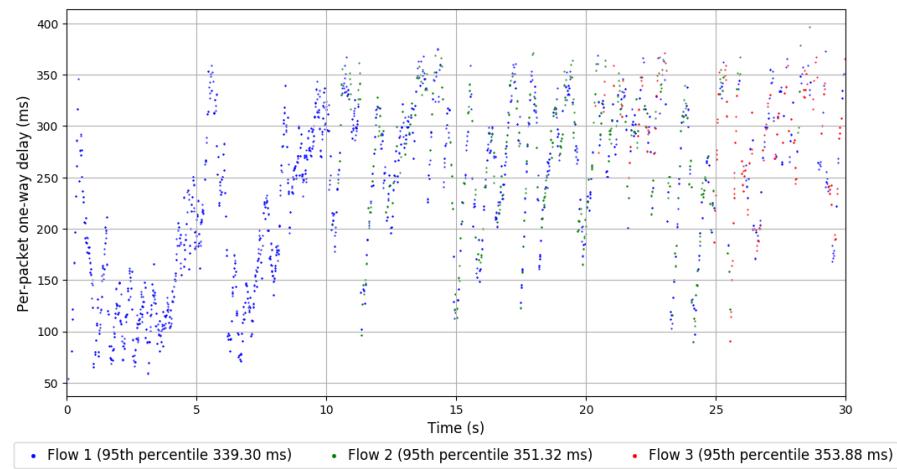
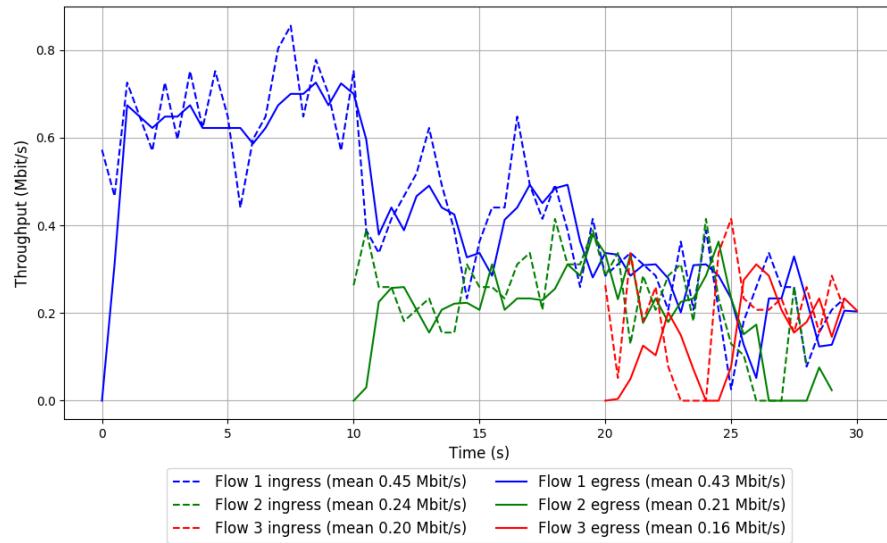


Run 2: Statistics of Copa

```
Start at: 2018-08-22 17:55:25
End at: 2018-08-22 17:55:55
Local clock offset: -2.54 ms
Remote clock offset: -65.101 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 344.836 ms
Loss rate: 7.49%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 339.301 ms
Loss rate: 4.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 351.323 ms
Loss rate: 11.45%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 353.883 ms
Loss rate: 22.01%
```

Run 2: Report of Copa — Data Link

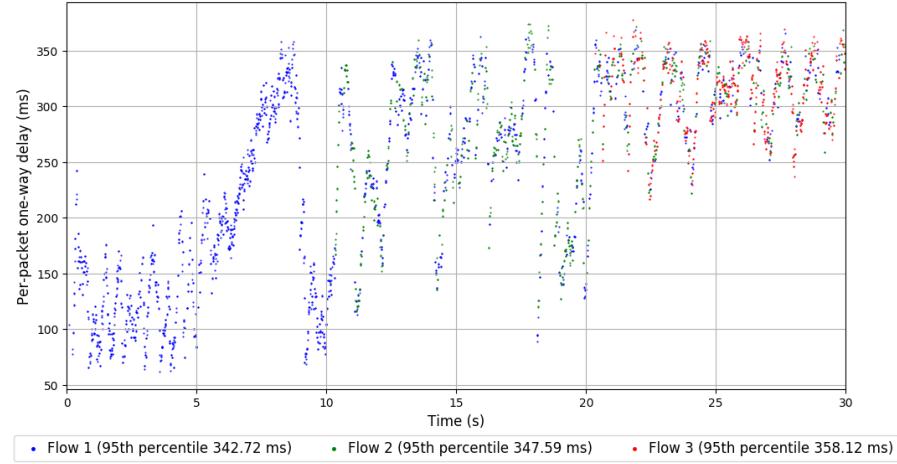
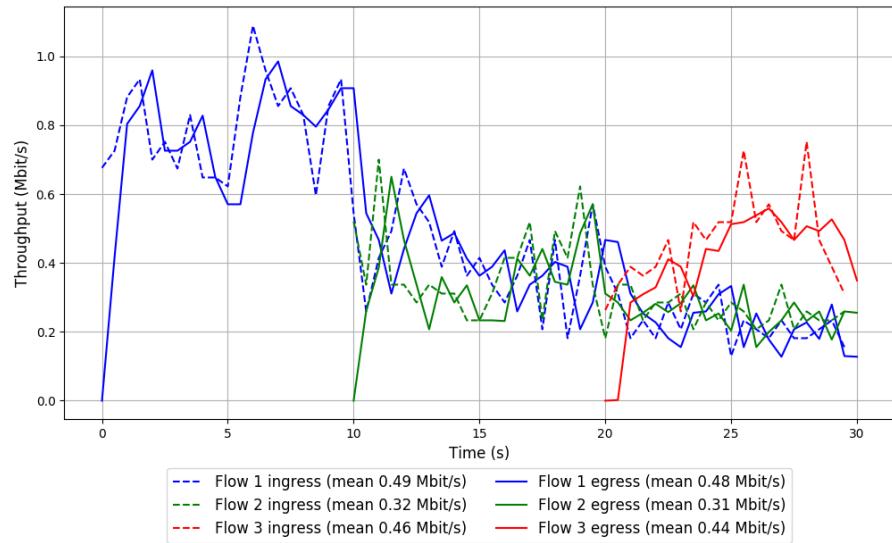


Run 3: Statistics of Copa

```
Start at: 2018-08-22 18:14:01
End at: 2018-08-22 18:14:31
Local clock offset: 3.148 ms
Remote clock offset: -63.699 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 347.792 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 342.717 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 347.588 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 358.117 ms
Loss rate: 8.97%
```

Run 3: Report of Copa — Data Link

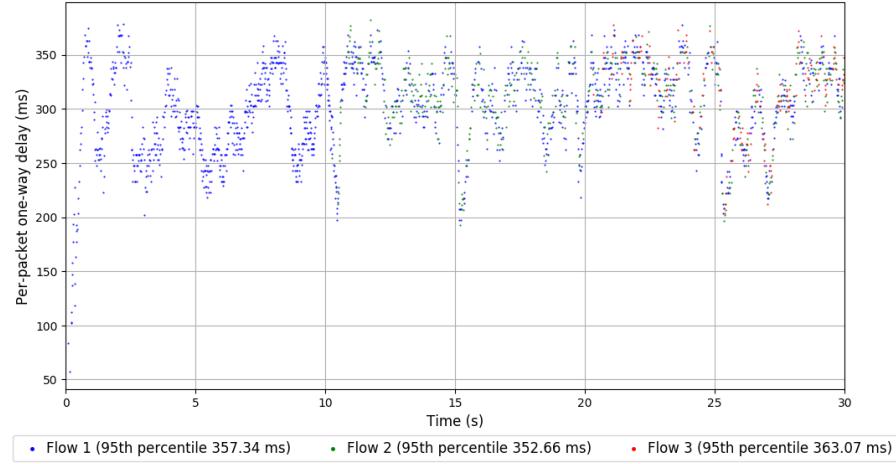
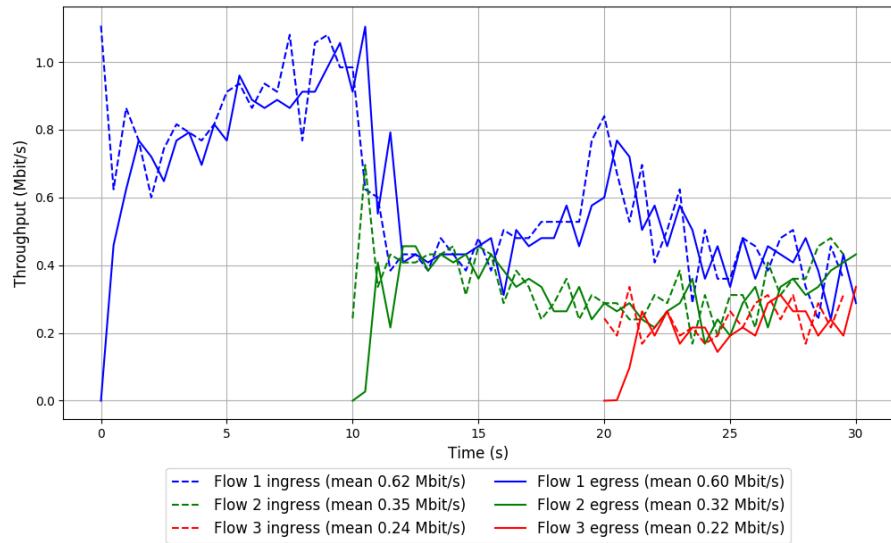


Run 1: Statistics of TCP Cubic

```
Start at: 2018-08-22 17:42:21
End at: 2018-08-22 17:42:51
Local clock offset: 3.686 ms
Remote clock offset: -65.531 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 357.326 ms
Loss rate: 5.41%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 357.340 ms
Loss rate: 3.67%
-- Flow 2:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 352.657 ms
Loss rate: 7.97%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 363.074 ms
Loss rate: 11.49%
```

Run 1: Report of TCP Cubic — Data Link

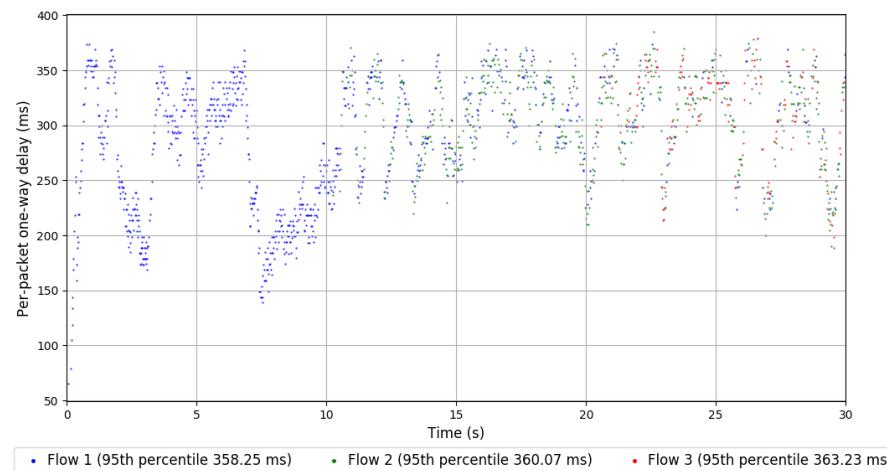
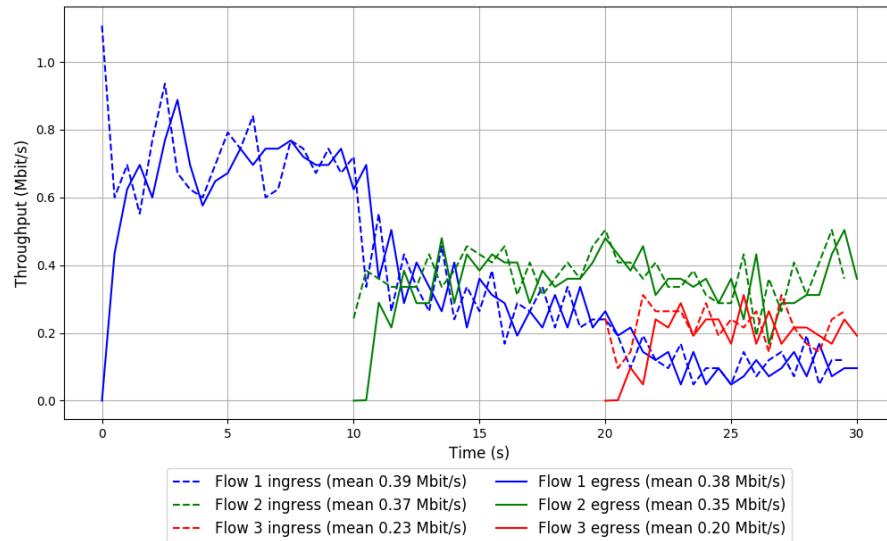


Run 2: Statistics of TCP Cubic

```
Start at: 2018-08-22 18:00:51
End at: 2018-08-22 18:01:21
Local clock offset: 1.913 ms
Remote clock offset: -66.751 ms

# Below is generated by plot.py at 2018-08-22 18:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 359.060 ms
Loss rate: 6.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 358.248 ms
Loss rate: 4.59%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 360.069 ms
Loss rate: 6.01%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 363.227 ms
Loss rate: 13.43%
```

Run 2: Report of TCP Cubic — Data Link

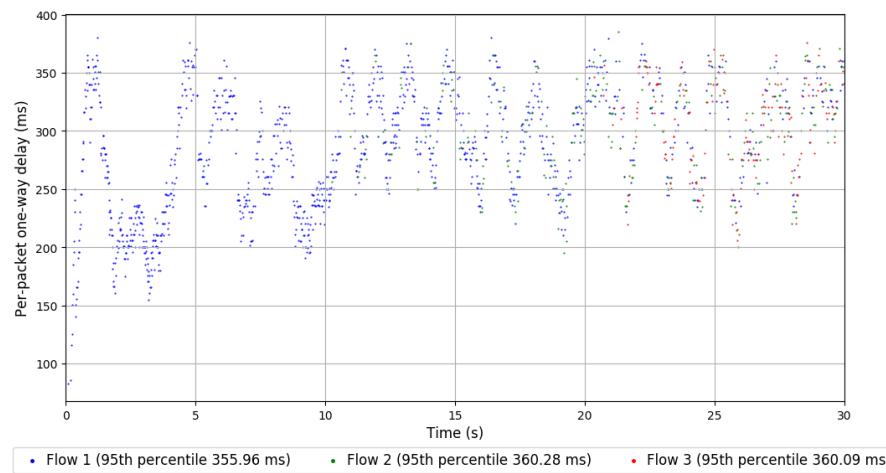
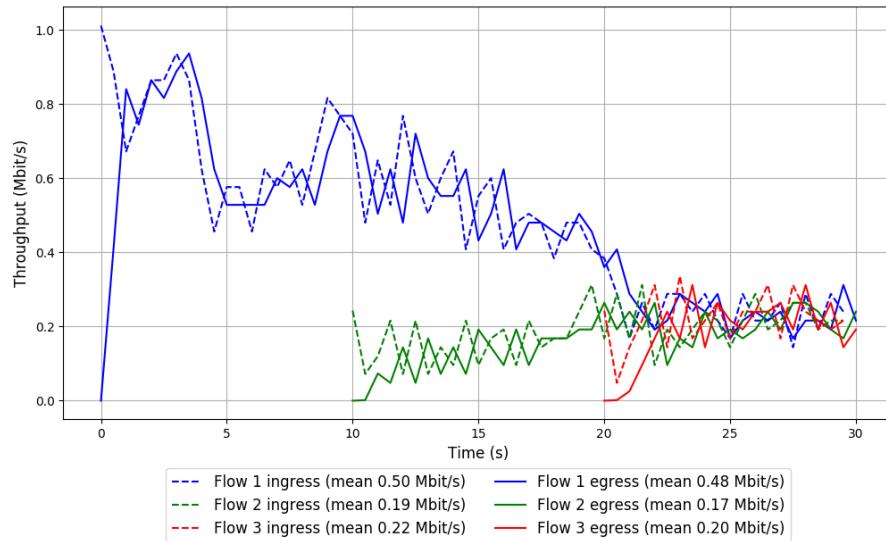


Run 3: Statistics of TCP Cubic

```
Start at: 2018-08-22 18:19:28
End at: 2018-08-22 18:19:58
Local clock offset: 1.544 ms
Remote clock offset: -64.424 ms

# Below is generated by plot.py at 2018-08-22 18:26:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 359.803 ms
Loss rate: 5.41%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 355.962 ms
Loss rate: 3.14%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 360.283 ms
Loss rate: 10.57%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 360.094 ms
Loss rate: 12.01%
```

Run 3: Report of TCP Cubic — Data Link

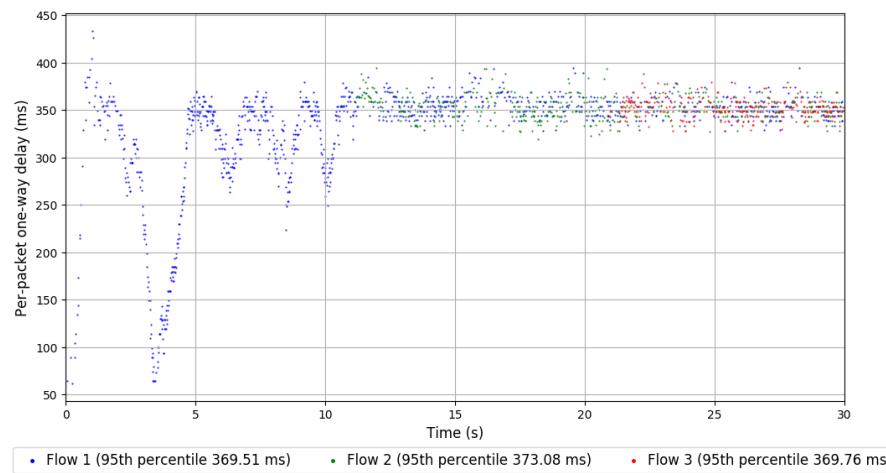
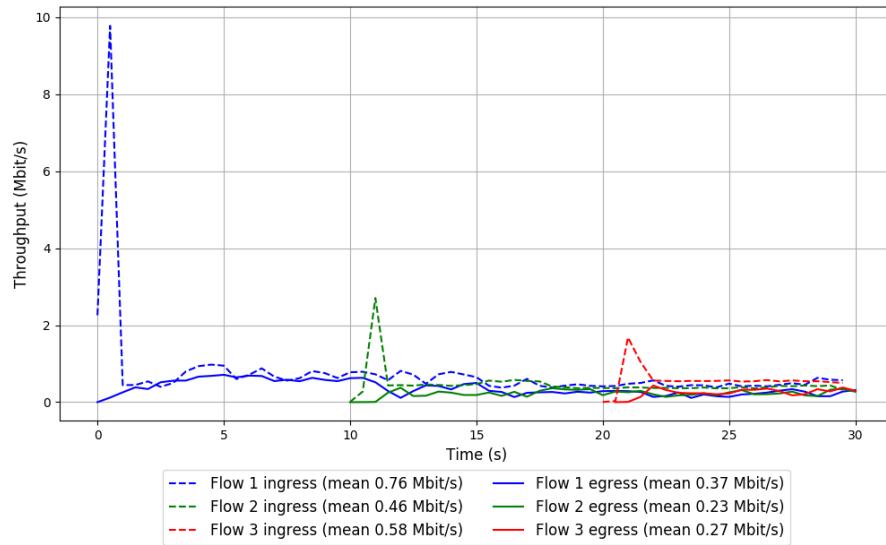


```
Run 1: Statistics of FillP
```

```
Start at: 2018-08-22 17:45:37
End at: 2018-08-22 17:46:07
Local clock offset: 1.475 ms
Remote clock offset: -65.644 ms

# Below is generated by plot.py at 2018-08-22 18:26:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 369.575 ms
Loss rate: 52.21%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 369.506 ms
Loss rate: 51.91%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 373.085 ms
Loss rate: 50.21%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 369.760 ms
Loss rate: 56.61%
```

Run 1: Report of FillP — Data Link

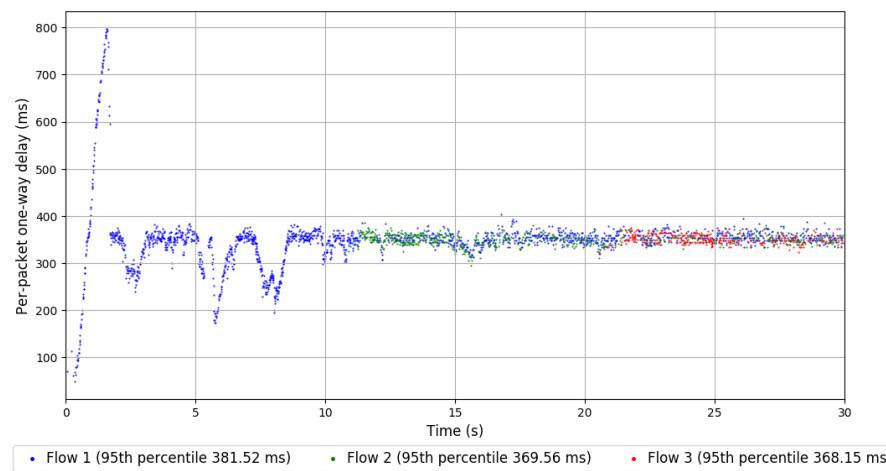
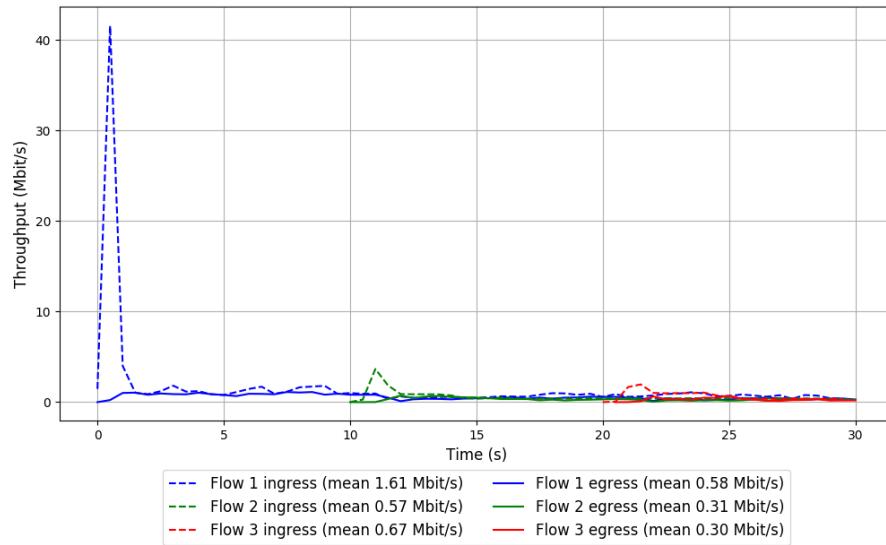


Run 2: Statistics of FillP

```
Start at: 2018-08-22 18:04:07
End at: 2018-08-22 18:04:37
Local clock offset: 3.298 ms
Remote clock offset: -66.524 ms

# Below is generated by plot.py at 2018-08-22 18:26:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 374.294 ms
Loss rate: 60.67%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 381.518 ms
Loss rate: 64.22%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 369.561 ms
Loss rate: 46.93%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 368.155 ms
Loss rate: 58.40%
```

Run 2: Report of FillP — Data Link

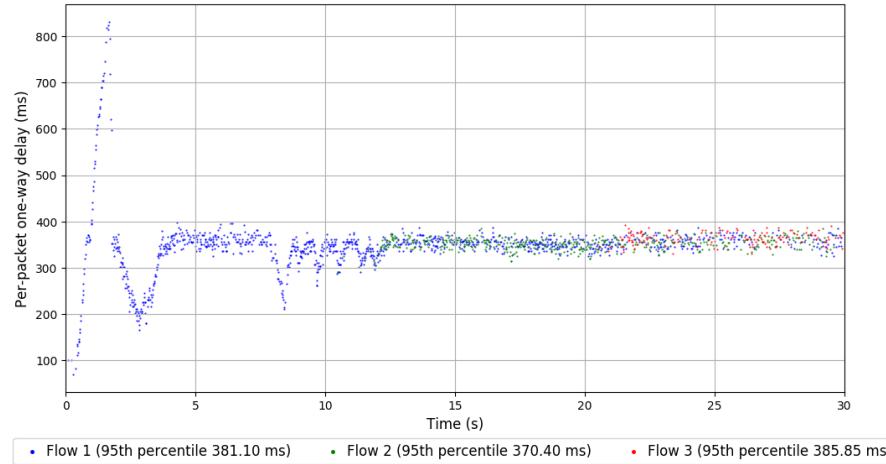
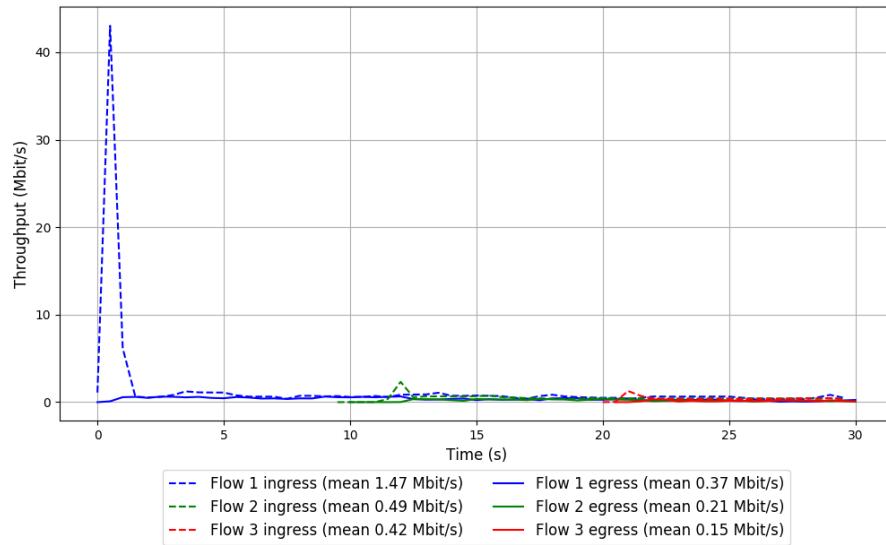


Run 3: Statistics of FillP

```
Start at: 2018-08-22 18:22:44
End at: 2018-08-22 18:23:14
Local clock offset: -1.061 ms
Remote clock offset: -63.732 ms

# Below is generated by plot.py at 2018-08-22 18:26:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 379.131 ms
Loss rate: 71.62%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 381.098 ms
Loss rate: 75.20%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 370.398 ms
Loss rate: 57.51%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 385.849 ms
Loss rate: 66.61%
```

Run 3: Report of FillP — Data Link

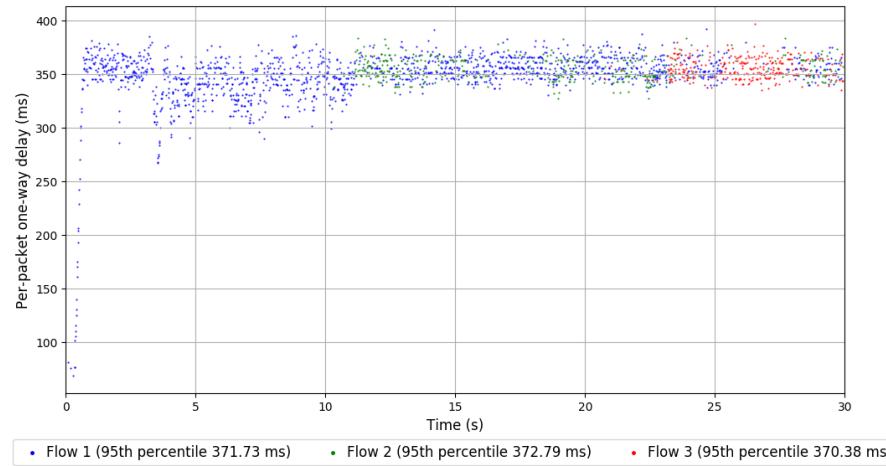
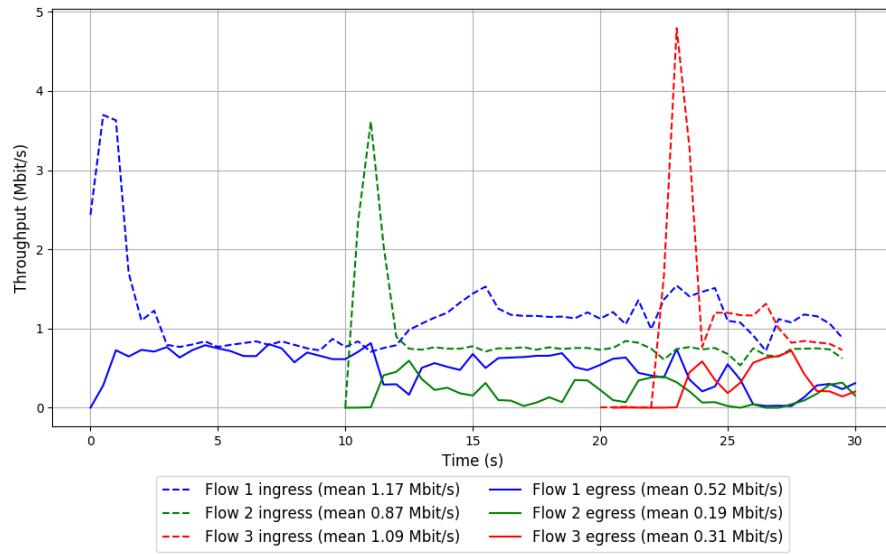


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-08-22 17:43:26
End at: 2018-08-22 17:43:56
Local clock offset: 0.976 ms
Remote clock offset: -65.634 ms

# Below is generated by plot.py at 2018-08-22 18:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 371.934 ms
Loss rate: 65.27%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 371.731 ms
Loss rate: 56.16%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 372.788 ms
Loss rate: 78.44%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 370.382 ms
Loss rate: 73.81%
```

Run 1: Report of FillP-Sheep — Data Link

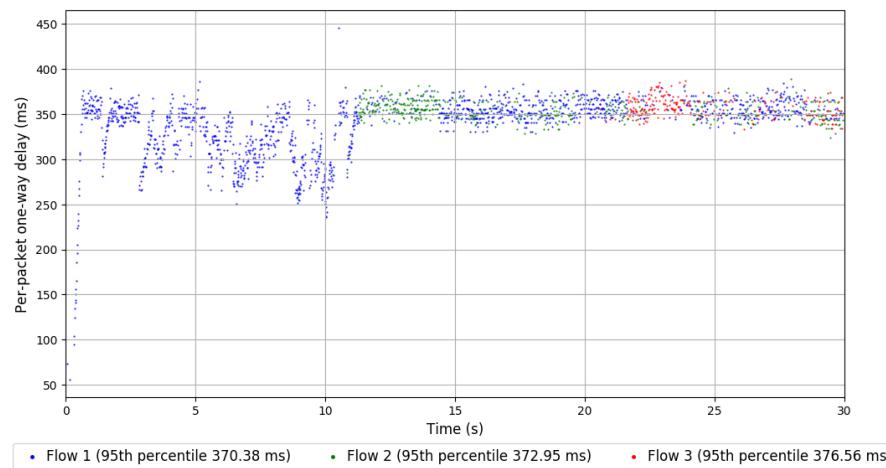
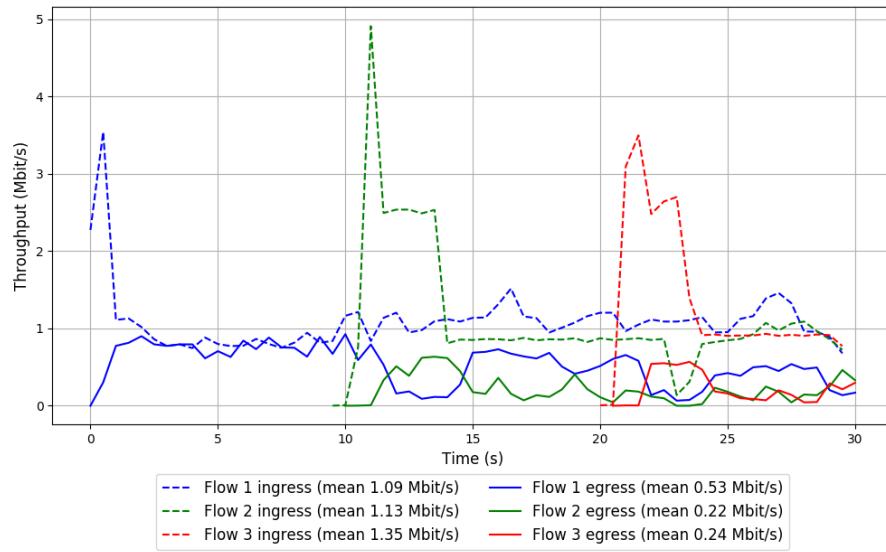


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-08-22 18:01:56
End at: 2018-08-22 18:02:26
Local clock offset: 2.914 ms
Remote clock offset: -66.66 ms

# Below is generated by plot.py at 2018-08-22 18:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 370.988 ms
Loss rate: 67.33%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 370.375 ms
Loss rate: 51.72%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 372.947 ms
Loss rate: 80.66%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 376.557 ms
Loss rate: 83.14%
```

Run 2: Report of FillP-Sheep — Data Link

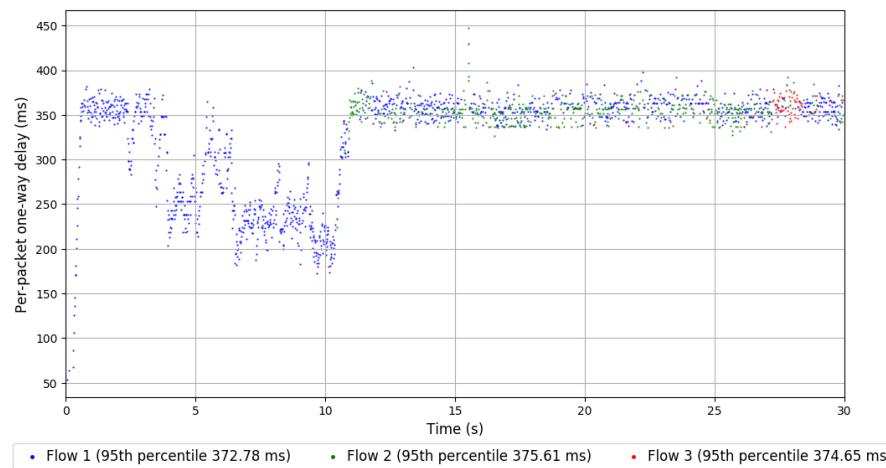
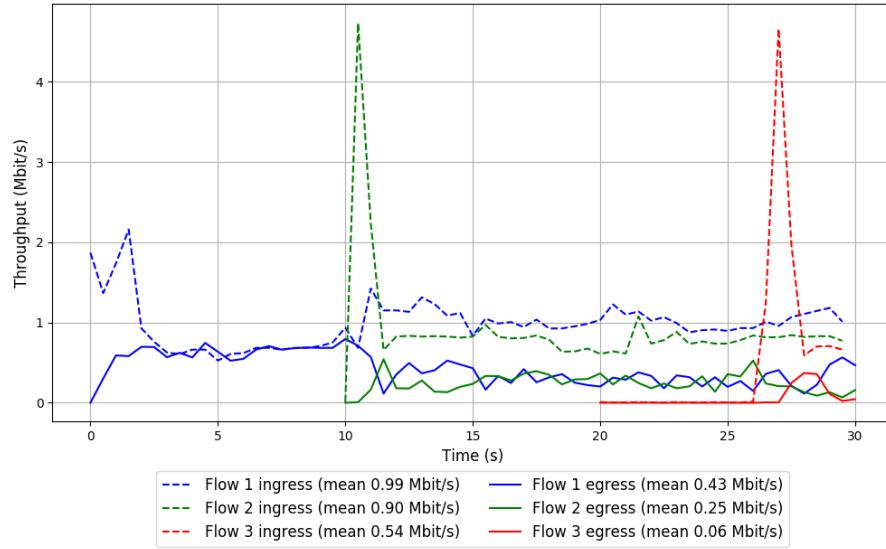


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-08-22 18:20:33
End at: 2018-08-22 18:21:03
Local clock offset: -0.188 ms
Remote clock offset: -64.412 ms

# Below is generated by plot.py at 2018-08-22 18:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 372.924 ms
Loss rate: 65.17%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 372.778 ms
Loss rate: 56.26%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 375.607 ms
Loss rate: 72.80%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 374.654 ms
Loss rate: 89.03%
```

Run 3: Report of FillP-Sheep — Data Link

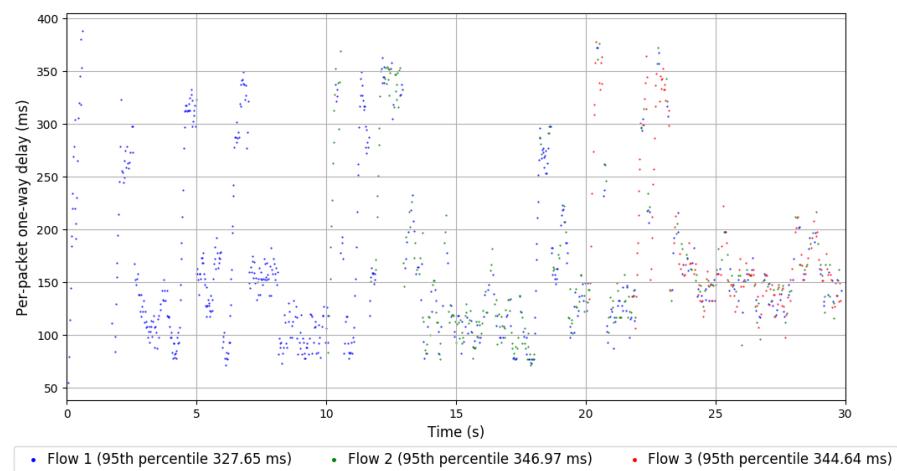
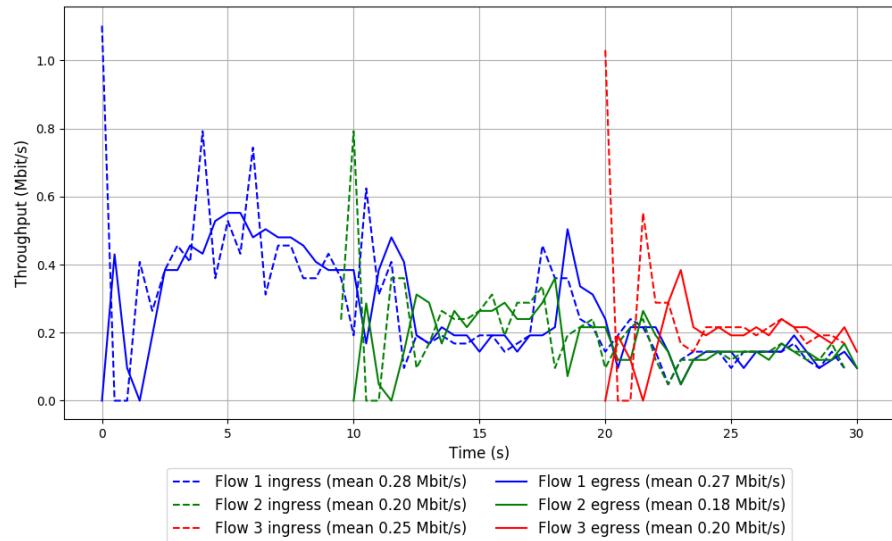


Run 1: Statistics of Indigo

```
Start at: 2018-08-22 17:48:53
End at: 2018-08-22 17:49:23
Local clock offset: 2.53 ms
Remote clock offset: -65.555 ms

# Below is generated by plot.py at 2018-08-22 18:26:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 338.816 ms
Loss rate: 8.25%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 327.651 ms
Loss rate: 3.93%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 346.969 ms
Loss rate: 9.94%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 344.637 ms
Loss rate: 20.00%
```

Run 1: Report of Indigo — Data Link

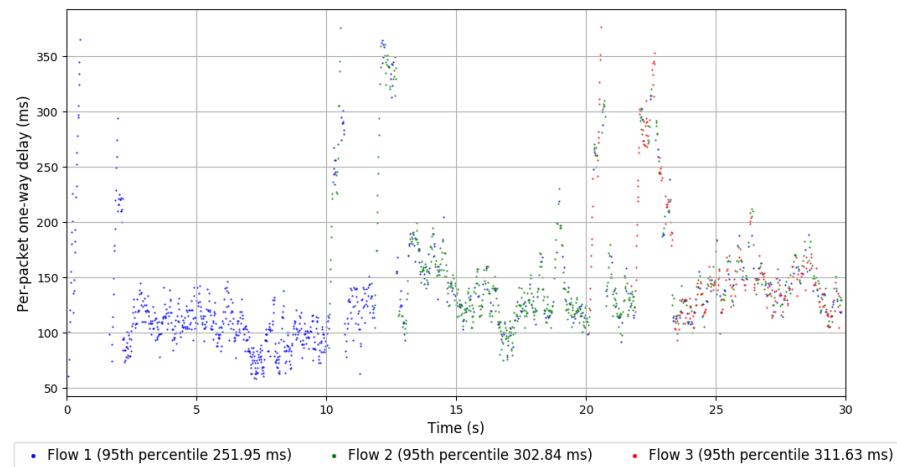
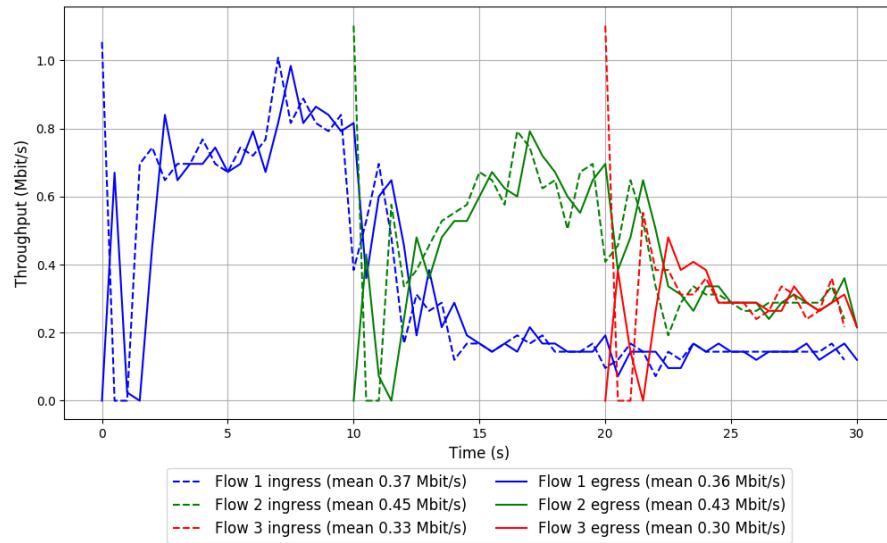


Run 2: Statistics of Indigo

```
Start at: 2018-08-22 18:07:24
End at: 2018-08-22 18:07:54
Local clock offset: 2.317 ms
Remote clock offset: -64.854 ms

# Below is generated by plot.py at 2018-08-22 18:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 291.879 ms
Loss rate: 4.01%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 251.951 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 302.837 ms
Loss rate: 4.06%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 311.629 ms
Loss rate: 10.34%
```

Run 2: Report of Indigo — Data Link

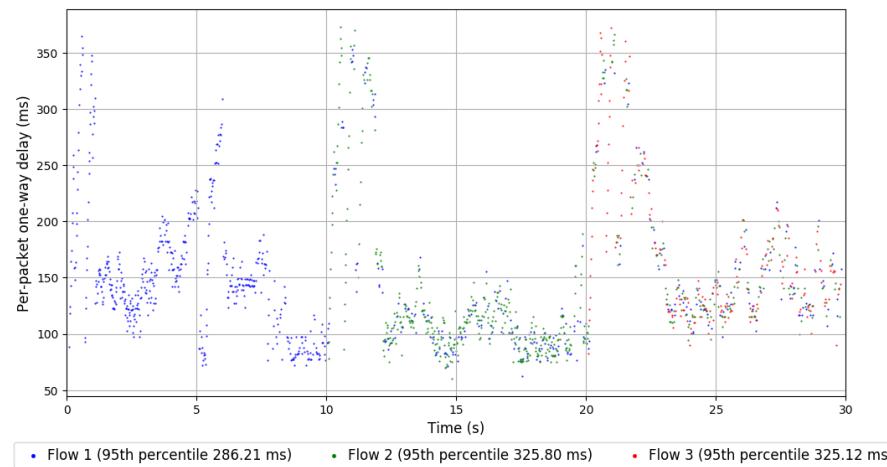
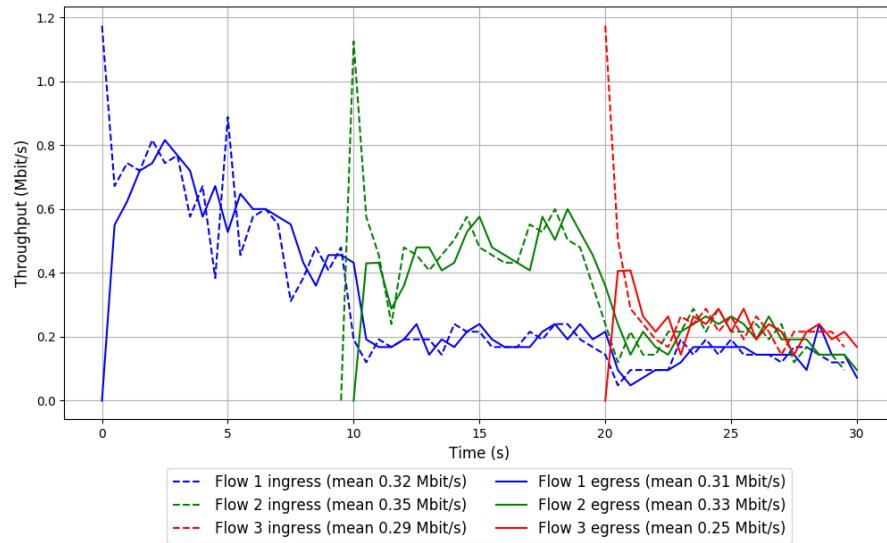


Run 3: Statistics of Indigo

```
Start at: 2018-08-22 18:26:01
End at: 2018-08-22 18:26:31
Local clock offset: 2.28 ms
Remote clock offset: -64.104 ms

# Below is generated by plot.py at 2018-08-22 18:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 309.744 ms
Loss rate: 5.78%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 286.211 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 325.802 ms
Loss rate: 5.84%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 325.121 ms
Loss rate: 15.19%
```

Run 3: Report of Indigo — Data Link

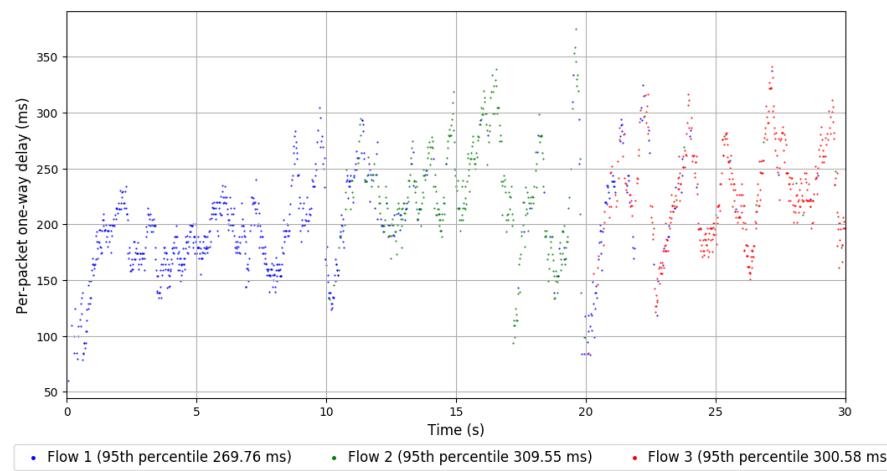
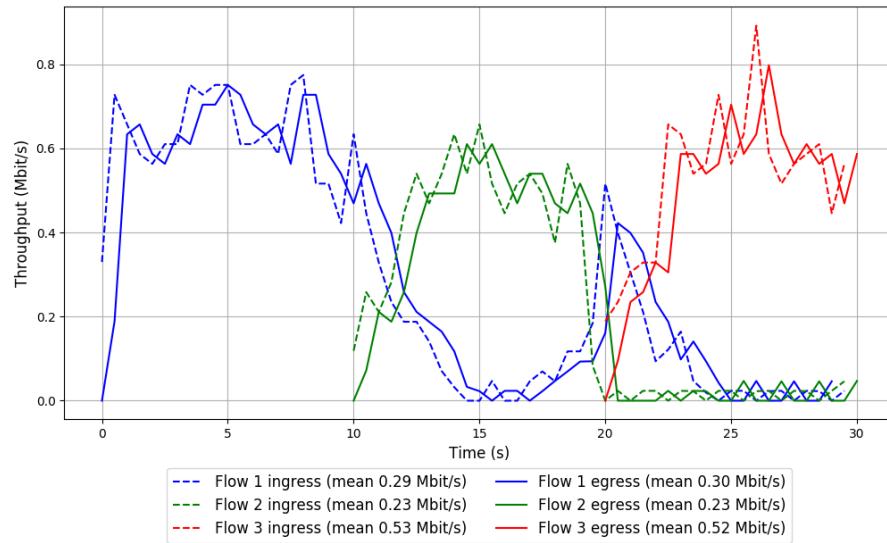


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-08-22 17:38:00
End at: 2018-08-22 17:38:30
Local clock offset: 0.327 ms
Remote clock offset: -64.825 ms

# Below is generated by plot.py at 2018-08-22 18:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 293.848 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 269.758 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 309.545 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 300.576 ms
Loss rate: 2.24%
```

Run 1: Report of LEDBAT — Data Link

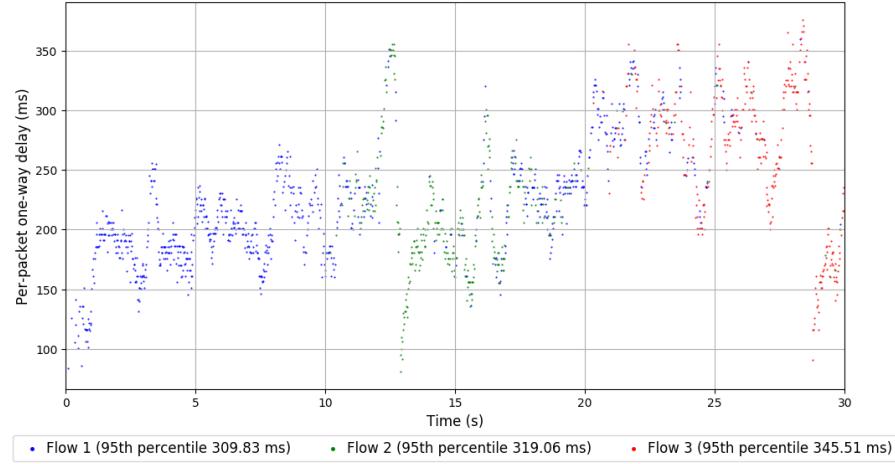
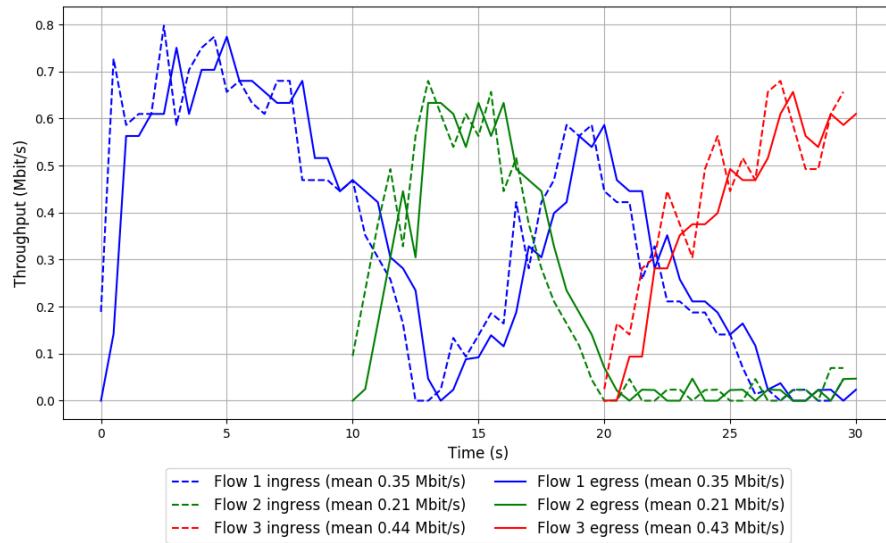


Run 2: Statistics of LEDBAT

```
Start at: 2018-08-22 17:56:30
End at: 2018-08-22 17:57:00
Local clock offset: 1.86 ms
Remote clock offset: -66.244 ms

# Below is generated by plot.py at 2018-08-22 18:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 325.867 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 309.826 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 319.058 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 345.511 ms
Loss rate: 3.77%
```

Run 2: Report of LEDBAT — Data Link

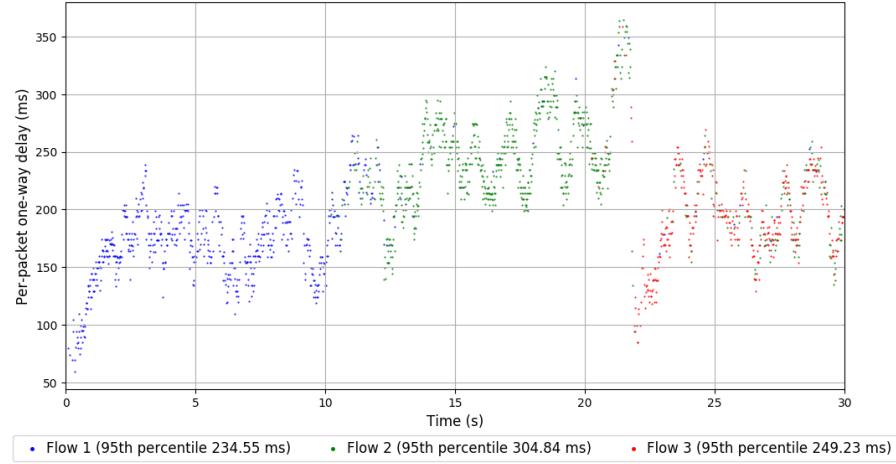
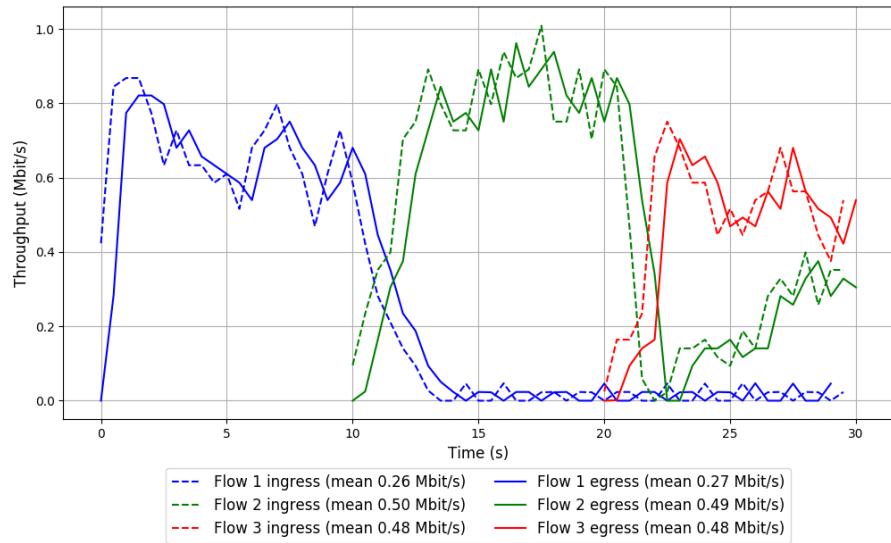


Run 3: Statistics of LEDBAT

```
Start at: 2018-08-22 18:15:06
End at: 2018-08-22 18:15:36
Local clock offset: 0.607 ms
Remote clock offset: -63.571 ms

# Below is generated by plot.py at 2018-08-22 18:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 288.935 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 234.546 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 304.841 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 249.231 ms
Loss rate: 2.46%
```

Run 3: Report of LEDBAT — Data Link

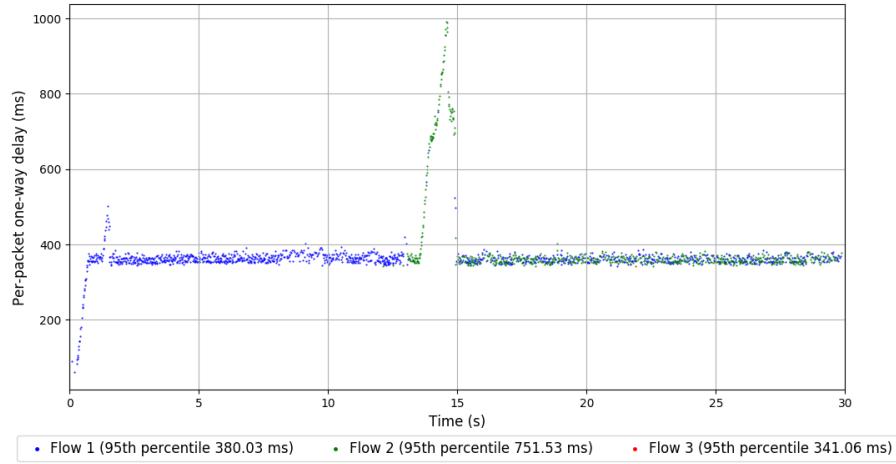
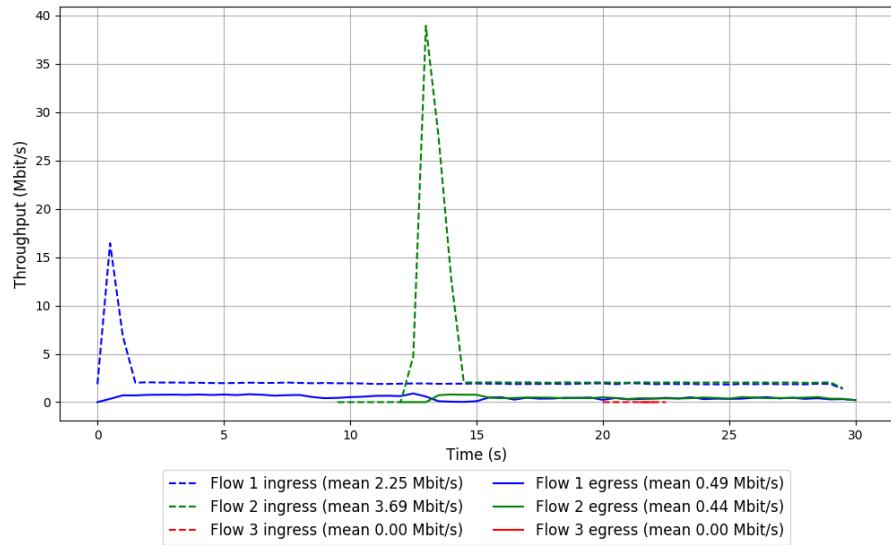


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-08-22 17:44:32
End at: 2018-08-22 17:45:02
Local clock offset: 0.719 ms
Remote clock offset: -65.688 ms

# Below is generated by plot.py at 2018-08-22 18:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 440.327 ms
Loss rate: 84.00%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 380.030 ms
Loss rate: 78.25%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 751.534 ms
Loss rate: 89.28%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 341.056 ms
Loss rate: 92.31%
```

Run 1: Report of PCC-Allegro — Data Link

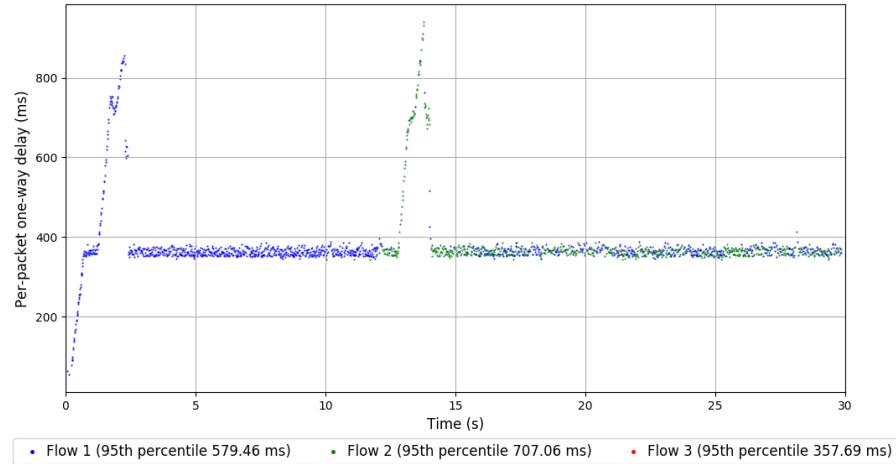
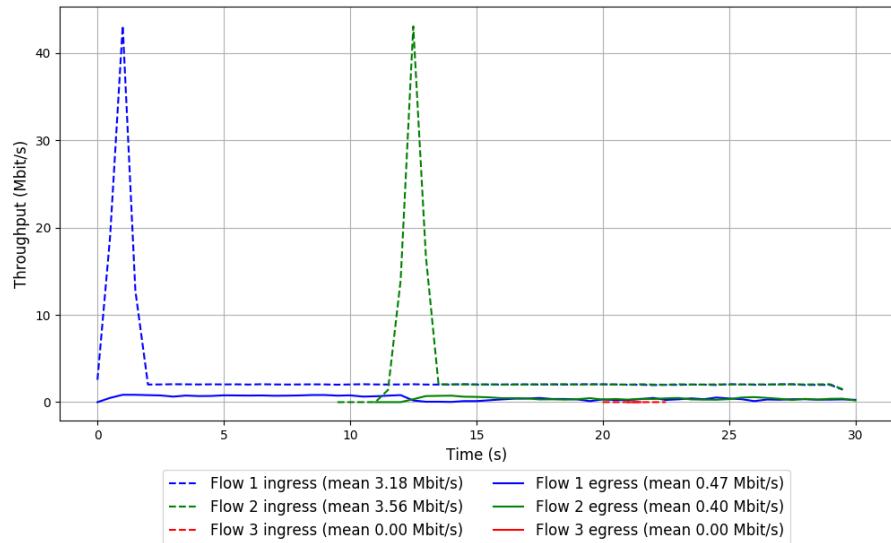


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-08-22 18:03:01
End at: 2018-08-22 18:03:31
Local clock offset: 3.32 ms
Remote clock offset: -65.926 ms

# Below is generated by plot.py at 2018-08-22 18:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 682.754 ms
Loss rate: 86.98%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 579.455 ms
Loss rate: 85.18%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 707.062 ms
Loss rate: 89.39%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 357.687 ms
Loss rate: 92.31%
```

Run 2: Report of PCC-Allegro — Data Link

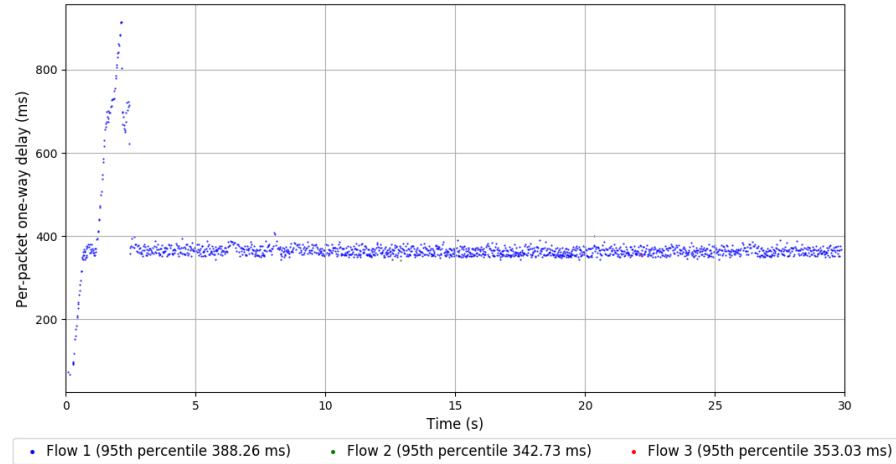
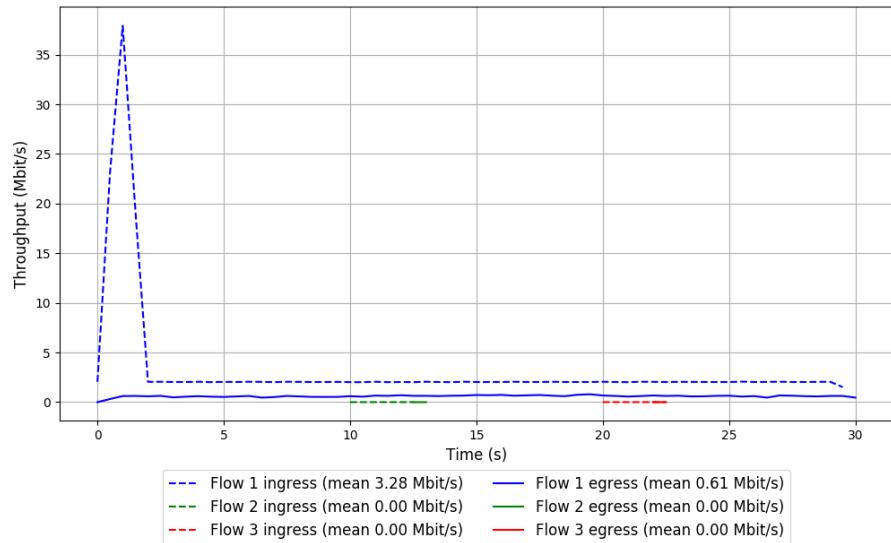


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-08-22 18:21:39
End at: 2018-08-22 18:22:09
Local clock offset: -0.3 ms
Remote clock offset: -64.608 ms

# Below is generated by plot.py at 2018-08-22 18:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 388.260 ms
Loss rate: 81.40%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 388.260 ms
Loss rate: 81.39%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 342.725 ms
Loss rate: 92.31%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 353.030 ms
Loss rate: 92.31%
```

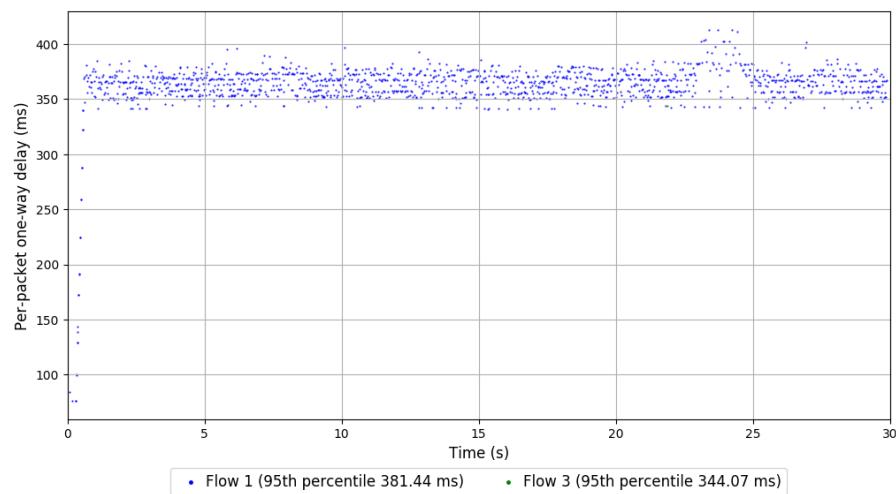
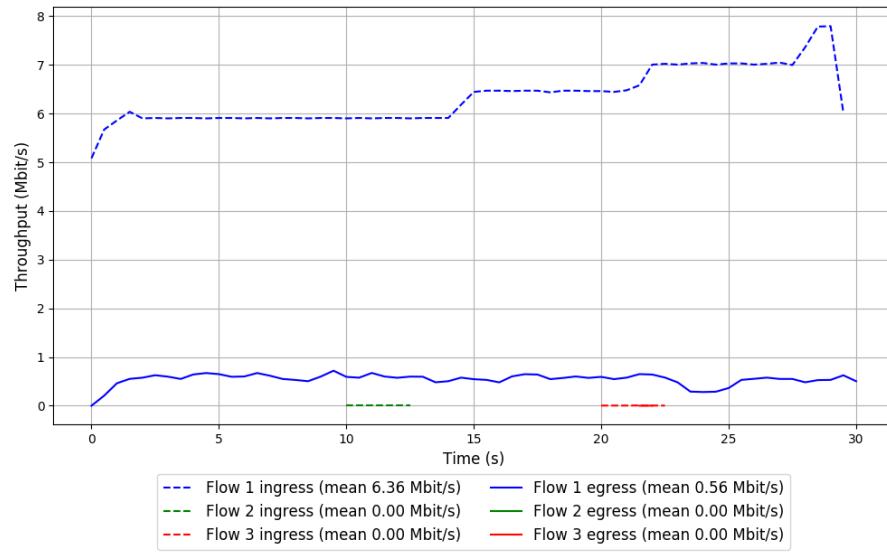
Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-08-22 17:33:38
End at: 2018-08-22 17:34:08
Local clock offset: -0.735 ms
Remote clock offset: -64.653 ms

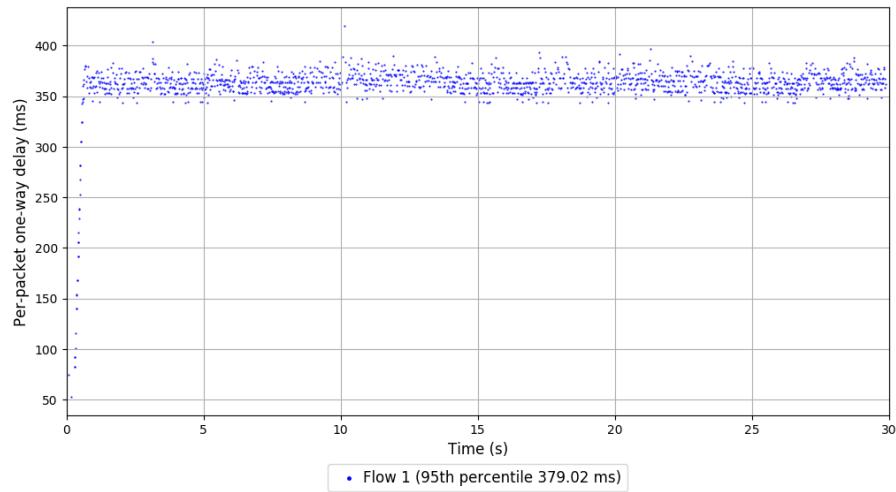
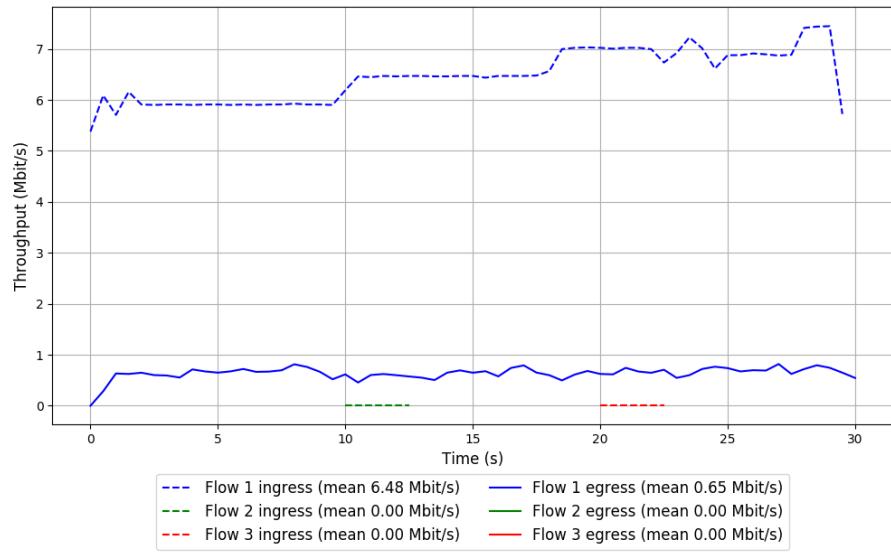
Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-08-22 17:52:08
End at: 2018-08-22 17:52:38
Local clock offset: 3.444 ms
Remote clock offset: -65.258 ms

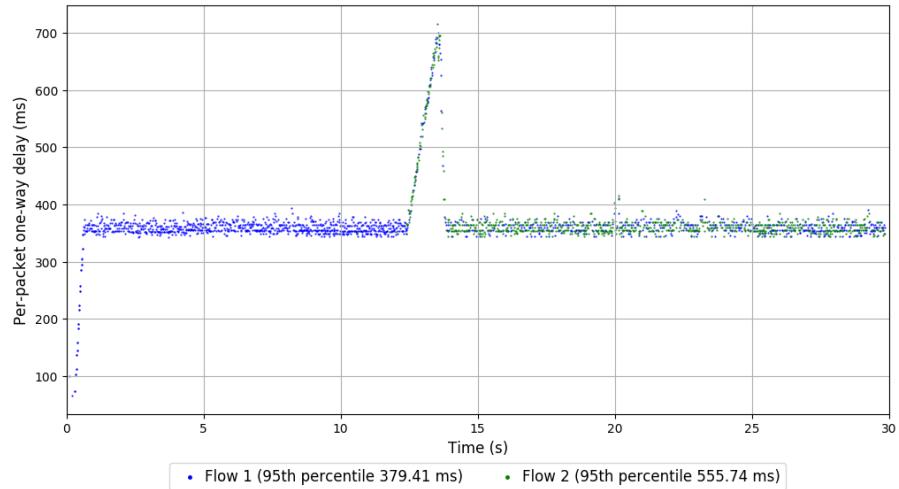
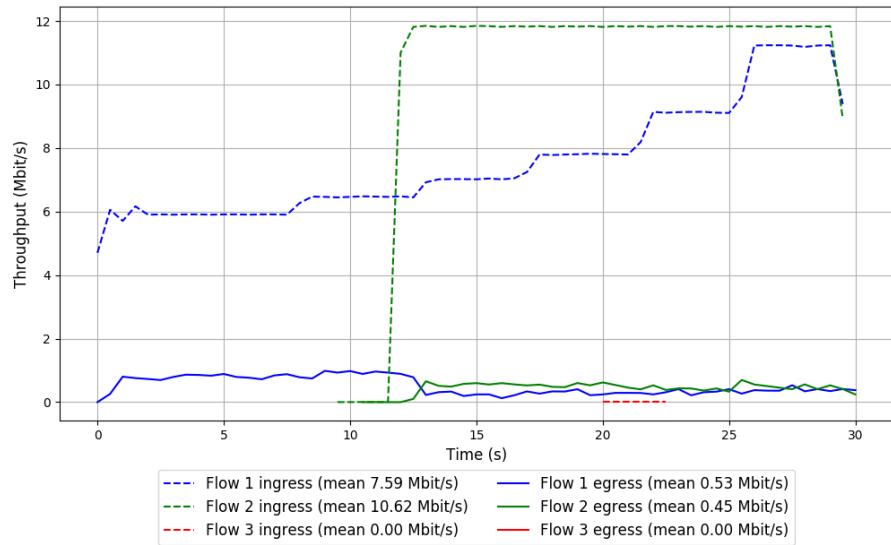
Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-08-22 18:10:40
End at: 2018-08-22 18:11:10
Local clock offset: 1.0 ms
Remote clock offset: -64.128 ms

Run 3: Report of PCC-Expr — Data Link

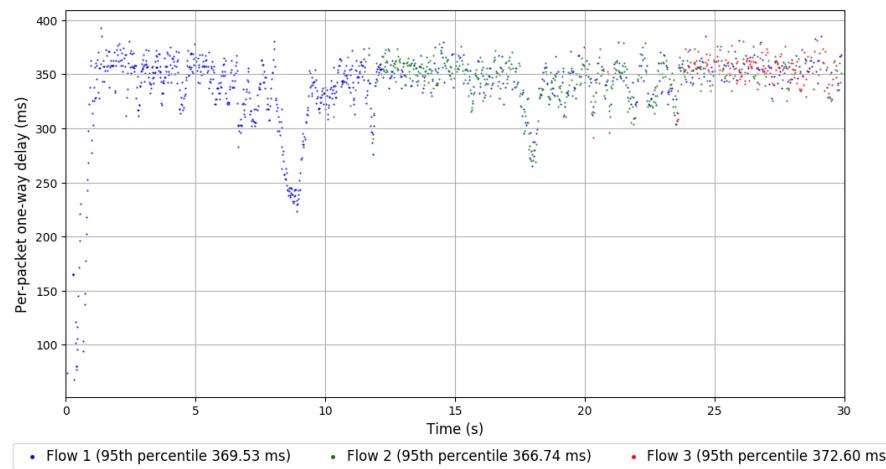
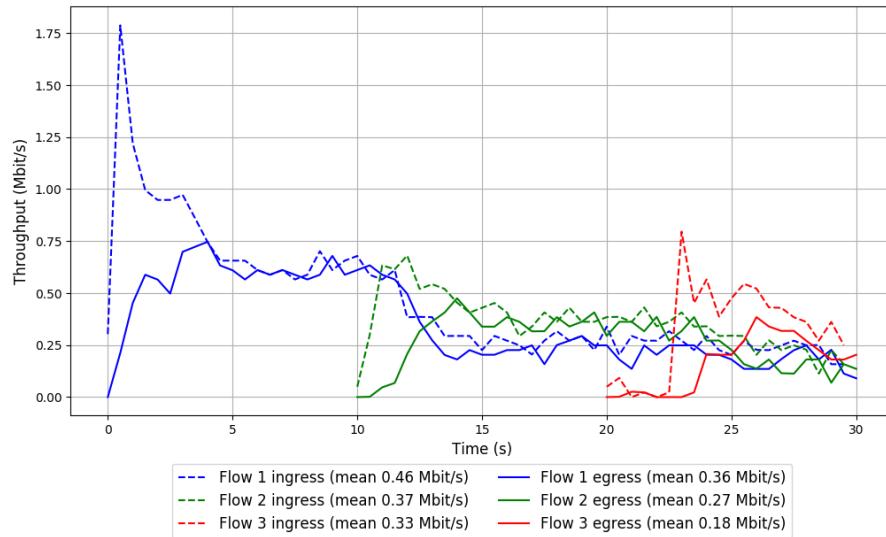


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-08-22 17:32:32
End at: 2018-08-22 17:33:03
Local clock offset: 0.864 ms
Remote clock offset: -63.576 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 369.983 ms
Loss rate: 26.57%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 369.527 ms
Loss rate: 22.15%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 366.744 ms
Loss rate: 25.85%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 372.597 ms
Loss rate: 47.33%
```

Run 1: Report of QUIC Cubic — Data Link

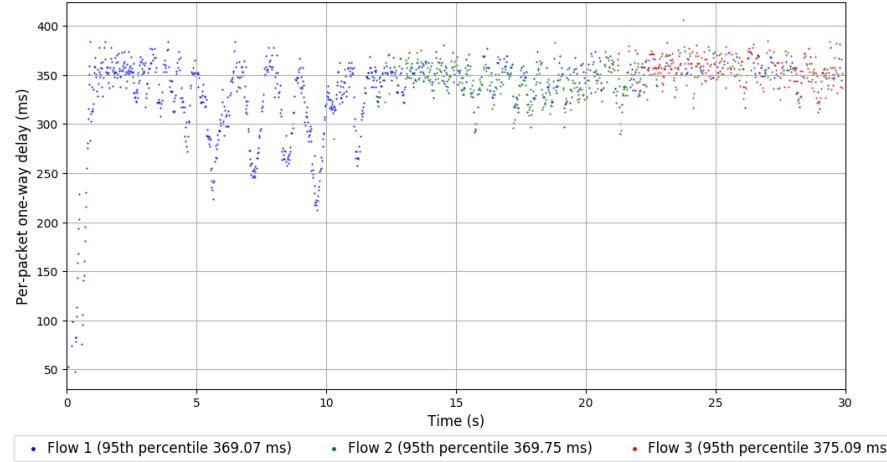
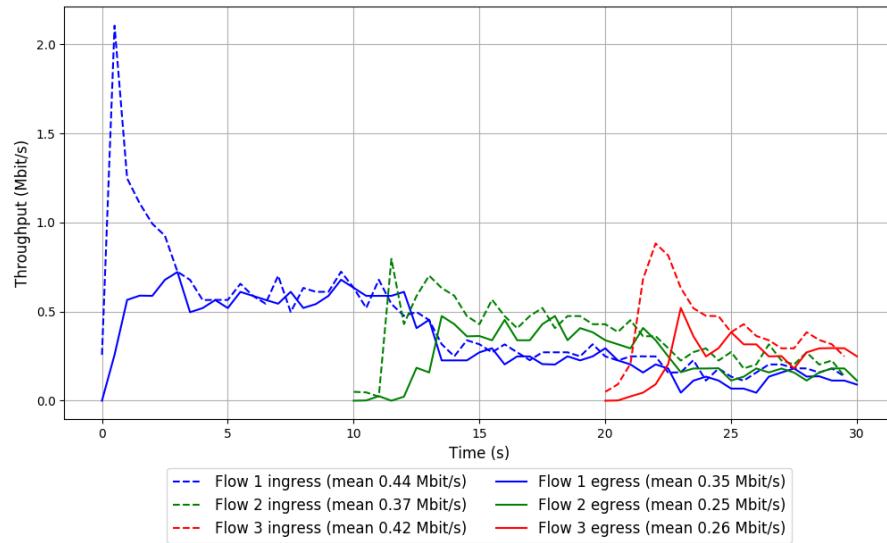


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-08-22 17:51:03
End at: 2018-08-22 17:51:33
Local clock offset: 2.168 ms
Remote clock offset: -65.394 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 371.650 ms
Loss rate: 28.22%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 369.067 ms
Loss rate: 22.21%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 369.749 ms
Loss rate: 32.23%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 375.088 ms
Loss rate: 40.51%
```

Run 2: Report of QUIC Cubic — Data Link

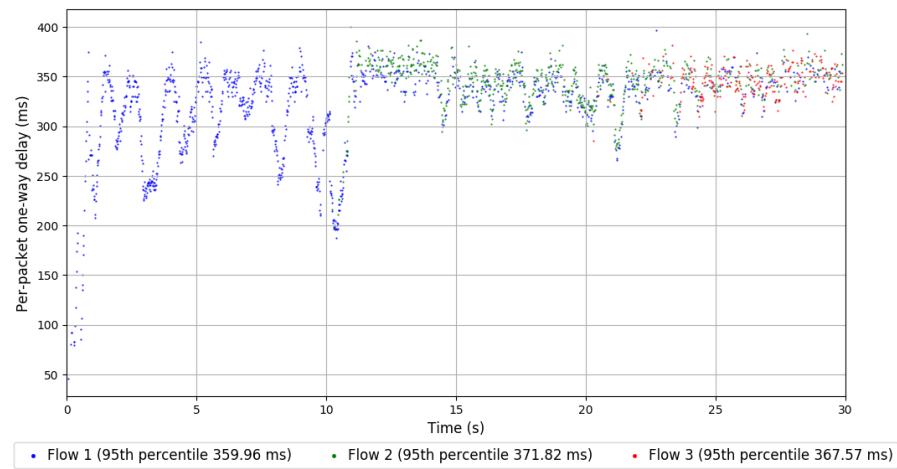
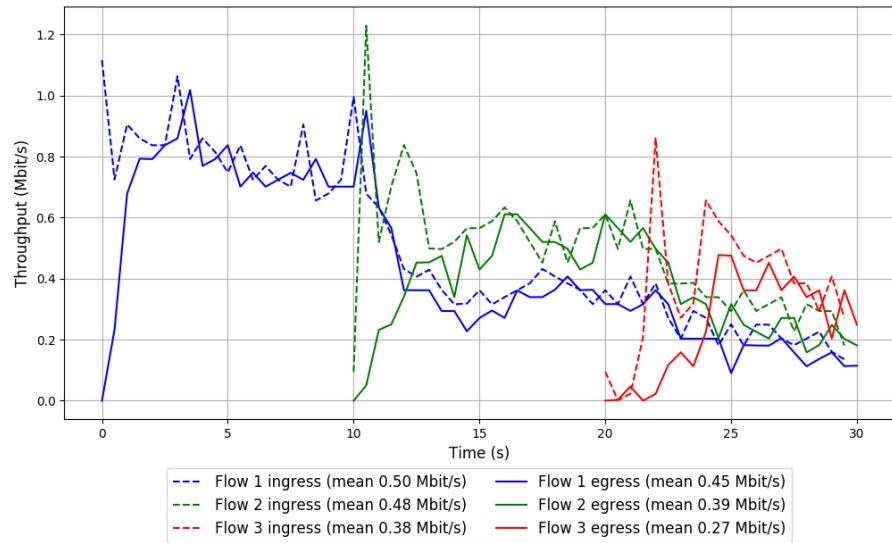


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-08-22 18:09:35
End at: 2018-08-22 18:10:05
Local clock offset: 1.742 ms
Remote clock offset: -65.306 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 366.908 ms
Loss rate: 17.64%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 359.962 ms
Loss rate: 11.50%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 371.824 ms
Loss rate: 21.27%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 367.567 ms
Loss rate: 32.81%
```

Run 3: Report of QUIC Cubic — Data Link

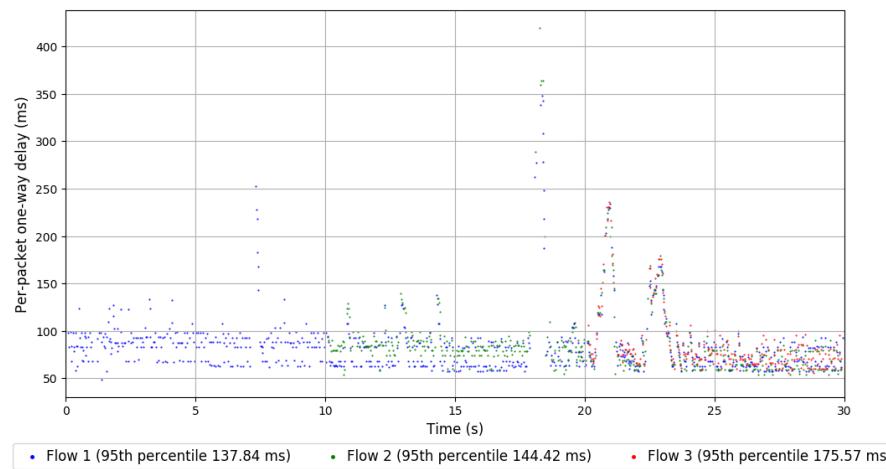
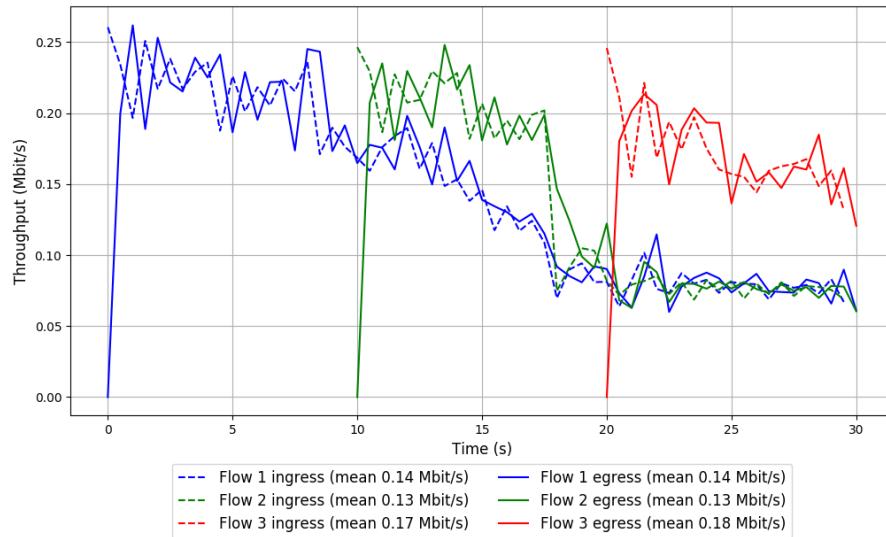


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-08-22 17:34:44
End at: 2018-08-22 17:35:14
Local clock offset: 1.984 ms
Remote clock offset: -63.976 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 147.930 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 137.845 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 144.424 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 175.567 ms
Loss rate: 1.00%
```

Run 1: Report of SCReAM — Data Link

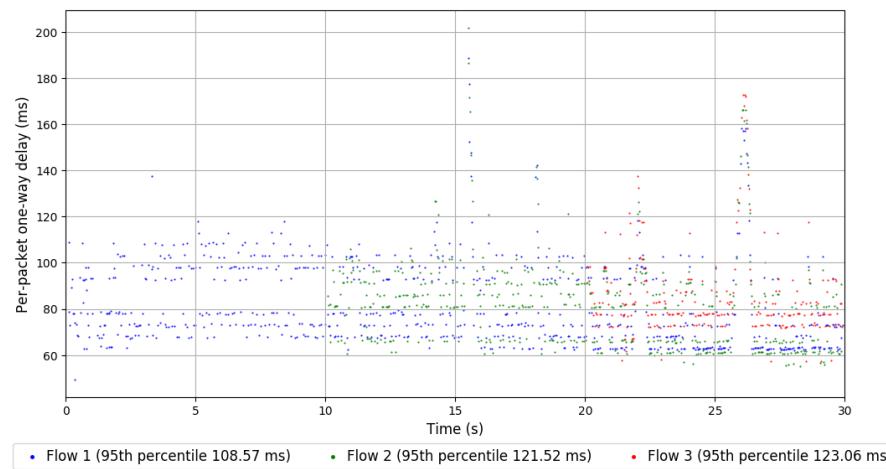
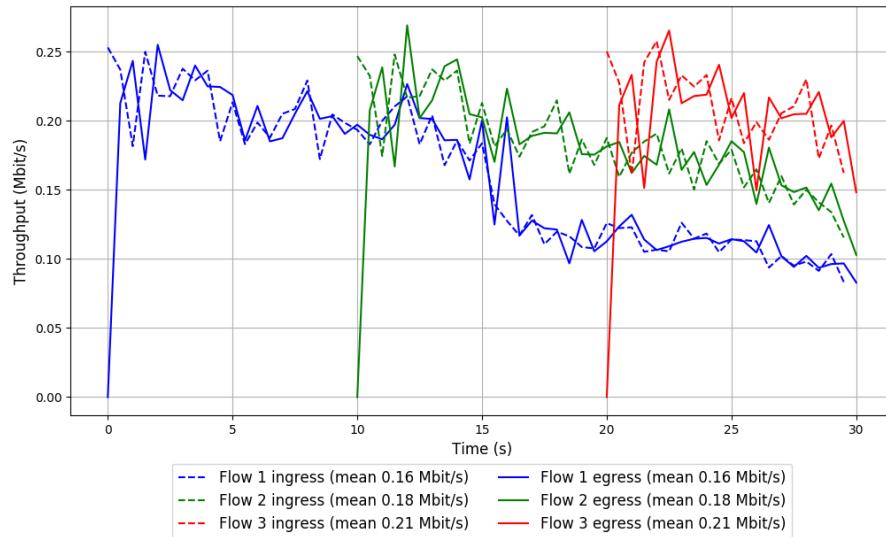


Run 2: Statistics of SCReAM

```
Start at: 2018-08-22 17:53:14
End at: 2018-08-22 17:53:44
Local clock offset: 3.221 ms
Remote clock offset: -65.3 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 113.449 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 108.566 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 121.520 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 123.057 ms
Loss rate: 1.01%
```

Run 2: Report of SCReAM — Data Link

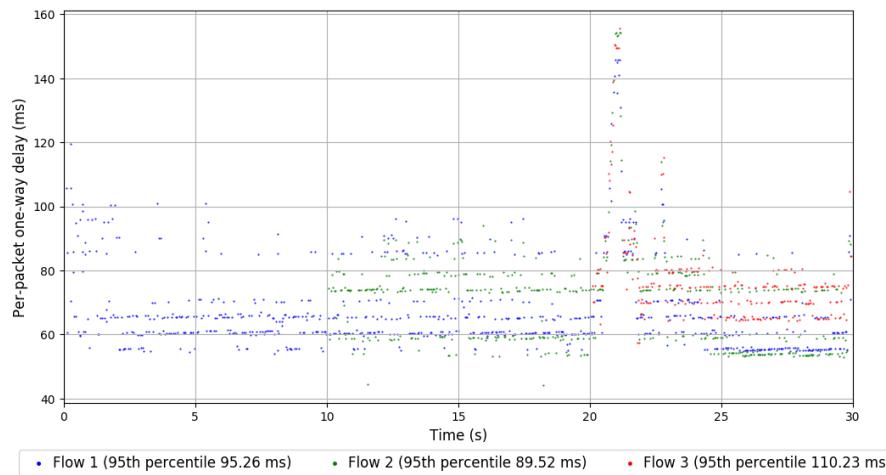
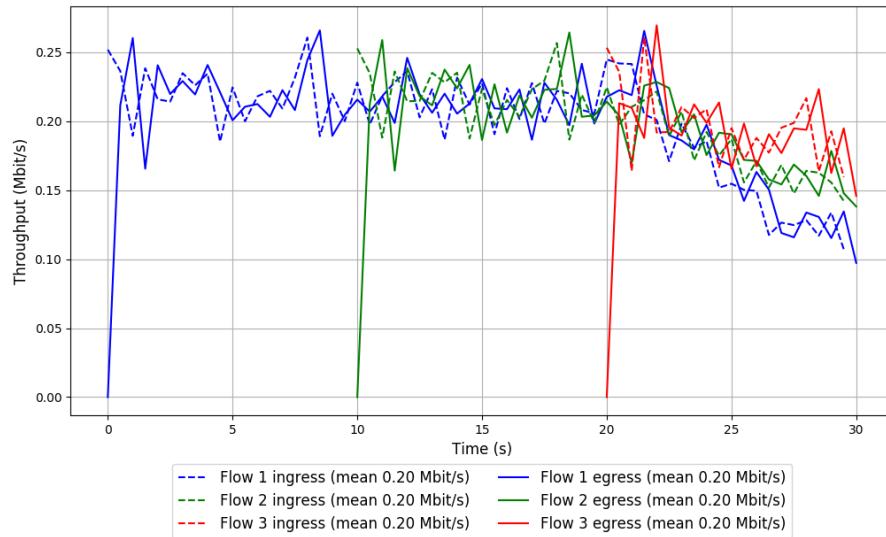


Run 3: Statistics of SCReAM

```
Start at: 2018-08-22 18:11:46
End at: 2018-08-22 18:12:16
Local clock offset: 0.004 ms
Remote clock offset: -64.222 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 95.133 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 95.259 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 89.518 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 110.233 ms
Loss rate: 1.05%
```

Run 3: Report of SCReAM — Data Link

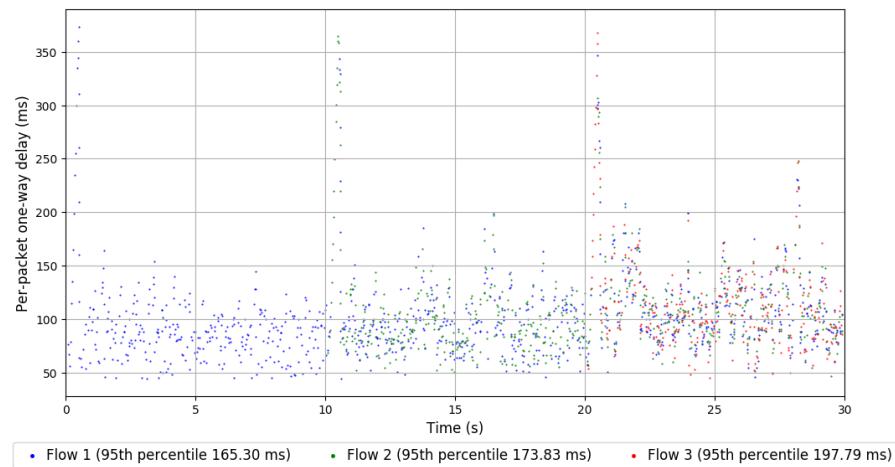
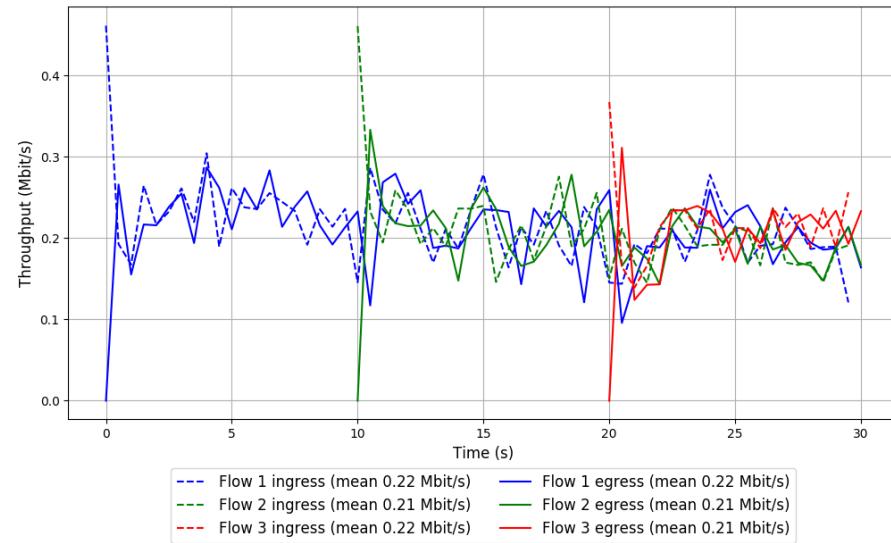


Run 1: Statistics of Sprout

```
Start at: 2018-08-22 17:31:27
End at: 2018-08-22 17:31:57
Local clock offset: 2.655 ms
Remote clock offset: -64.06 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 173.827 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 165.304 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 173.827 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 197.793 ms
Loss rate: 2.71%
```

Run 1: Report of Sprout — Data Link

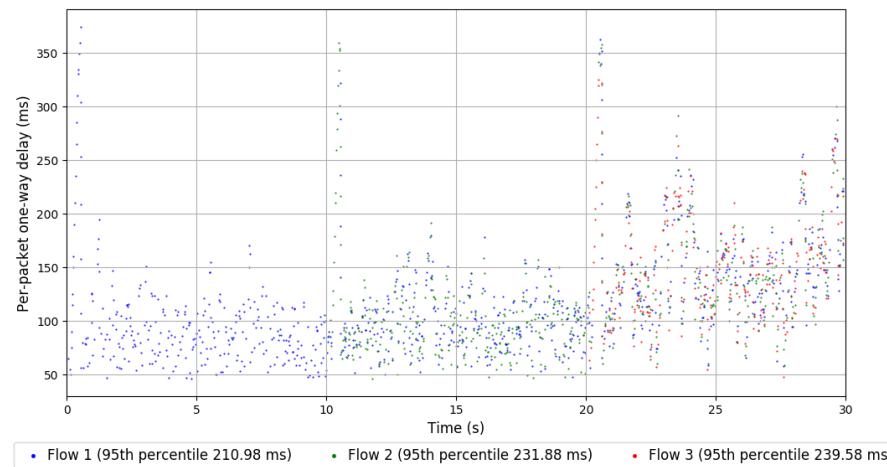
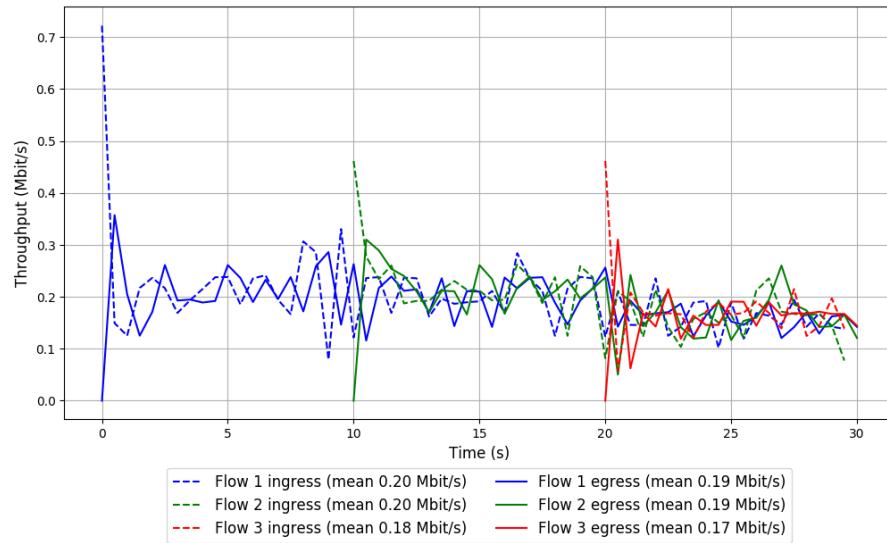


Run 2: Statistics of Sprout

```
Start at: 2018-08-22 17:49:58
End at: 2018-08-22 17:50:28
Local clock offset: 3.544 ms
Remote clock offset: -65.574 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 224.051 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 210.981 ms
Loss rate: 3.51%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 231.882 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 239.579 ms
Loss rate: 5.44%
```

Run 2: Report of Sprout — Data Link

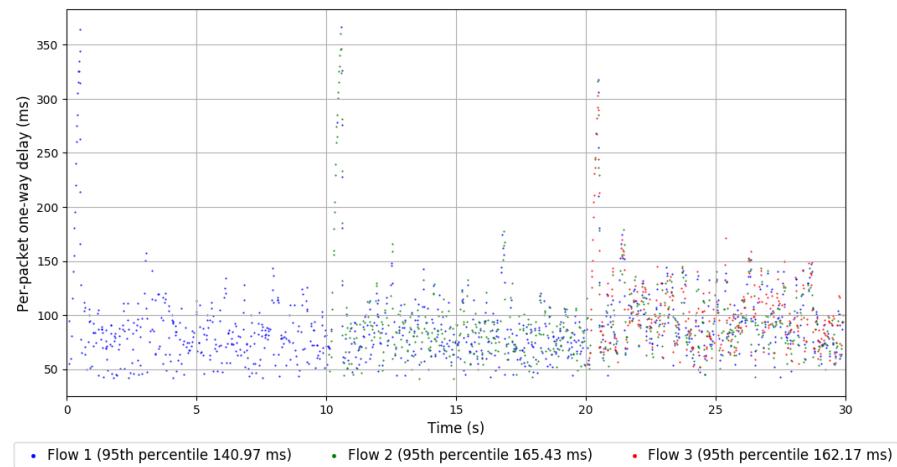
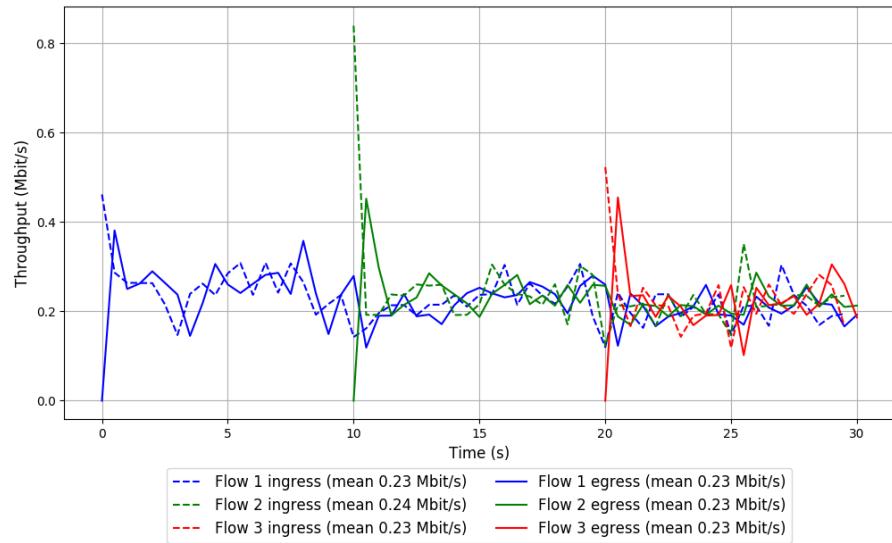


Run 3: Statistics of Sprout

```
Start at: 2018-08-22 18:08:29
End at: 2018-08-22 18:08:59
Local clock offset: 1.653 ms
Remote clock offset: -65.378 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 153.941 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 140.974 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 165.426 ms
Loss rate: 3.41%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 162.170 ms
Loss rate: 0.55%
```

Run 3: Report of Sprout — Data Link

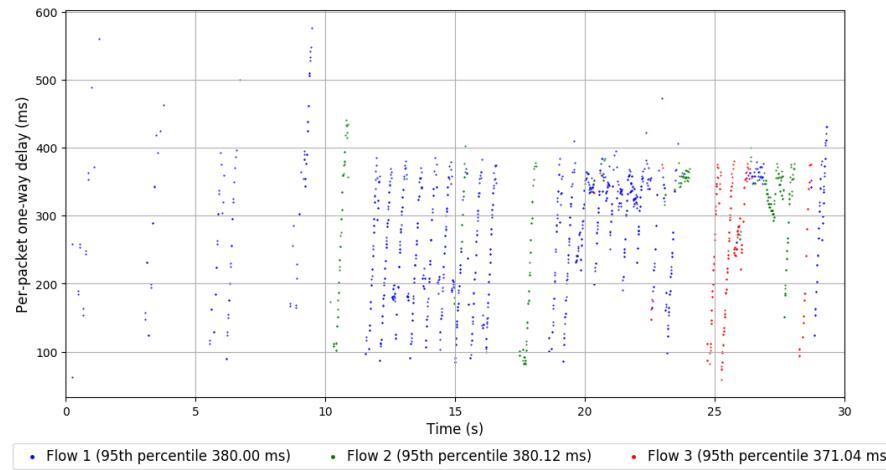
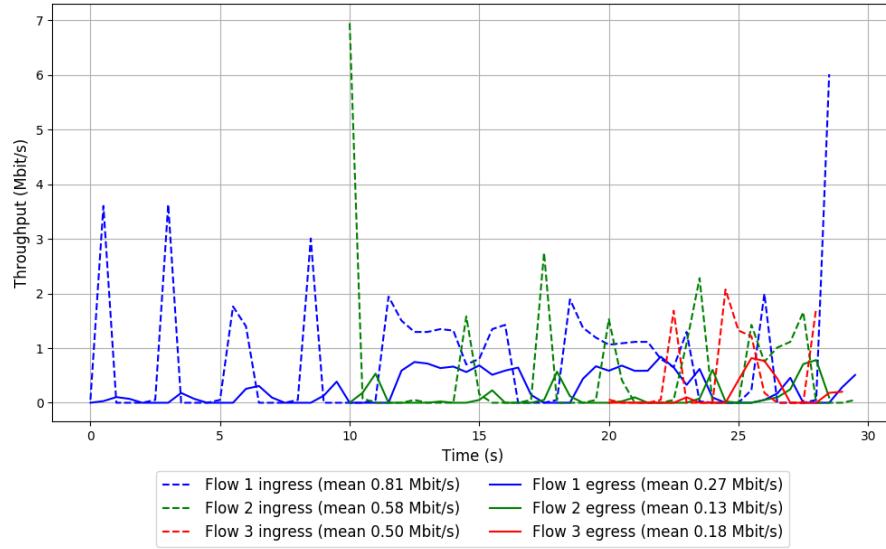


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-08-22 17:35:49
End at: 2018-08-22 17:36:19
Local clock offset: 2.424 ms
Remote clock offset: -64.085 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 376.958 ms
Loss rate: 70.31%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 379.995 ms
Loss rate: 66.40%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 380.120 ms
Loss rate: 80.17%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 371.043 ms
Loss rate: 64.83%
```

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

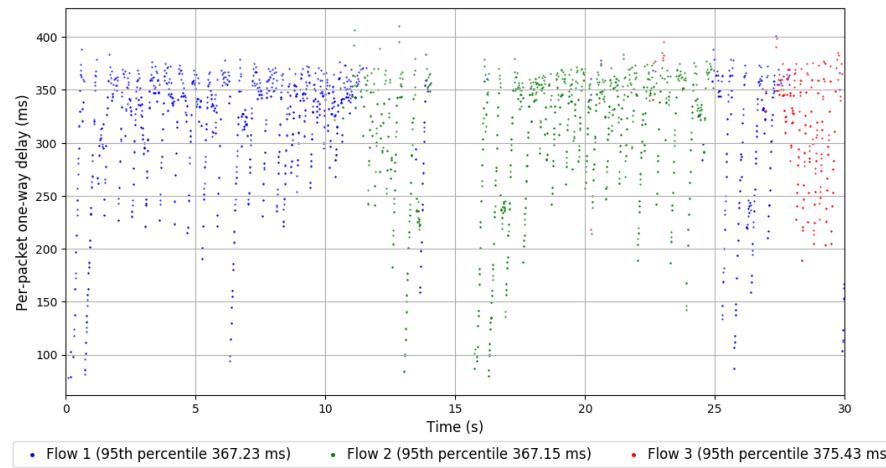
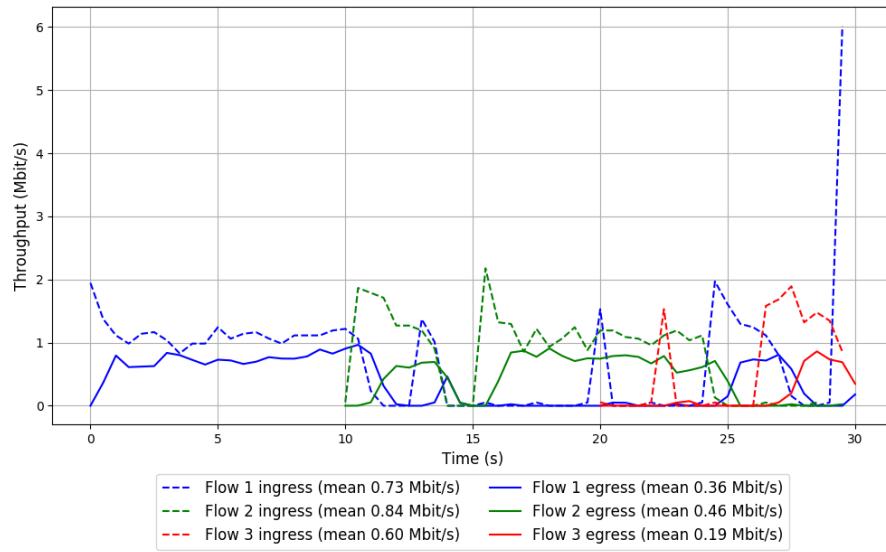


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-08-22 17:54:20
End at: 2018-08-22 17:54:50
Local clock offset: 2.347 ms
Remote clock offset: -69.01 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 368.180 ms
Loss rate: 51.43%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 367.229 ms
Loss rate: 51.04%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 367.154 ms
Loss rate: 45.45%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 375.427 ms
Loss rate: 68.58%
```

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

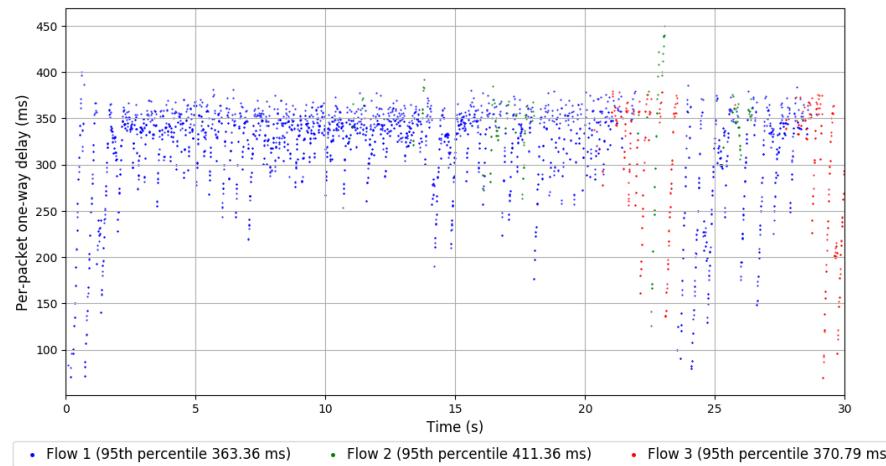
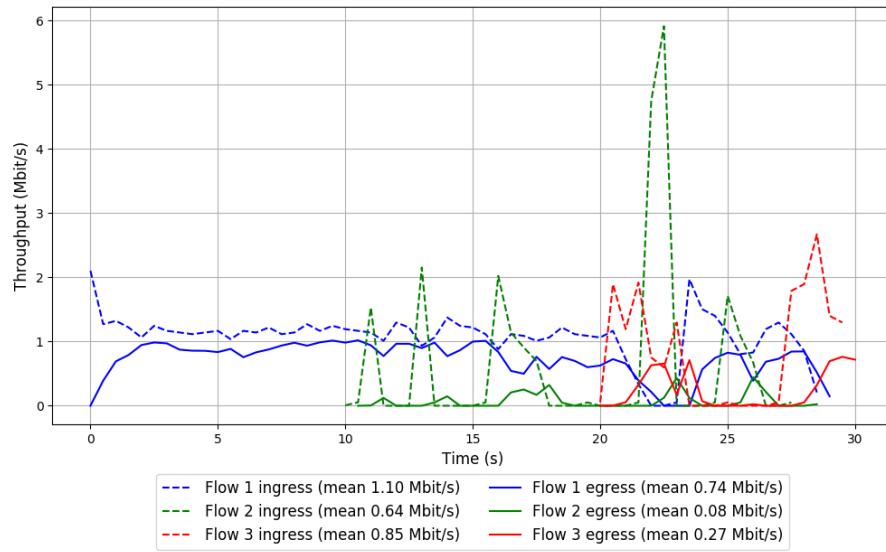


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-08-22 18:12:51
End at: 2018-08-22 18:13:21
Local clock offset: 2.134 ms
Remote clock offset: -65.022 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 365.267 ms
Loss rate: 50.69%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 363.357 ms
Loss rate: 32.07%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 411.360 ms
Loss rate: 88.04%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 370.792 ms
Loss rate: 69.19%
```

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

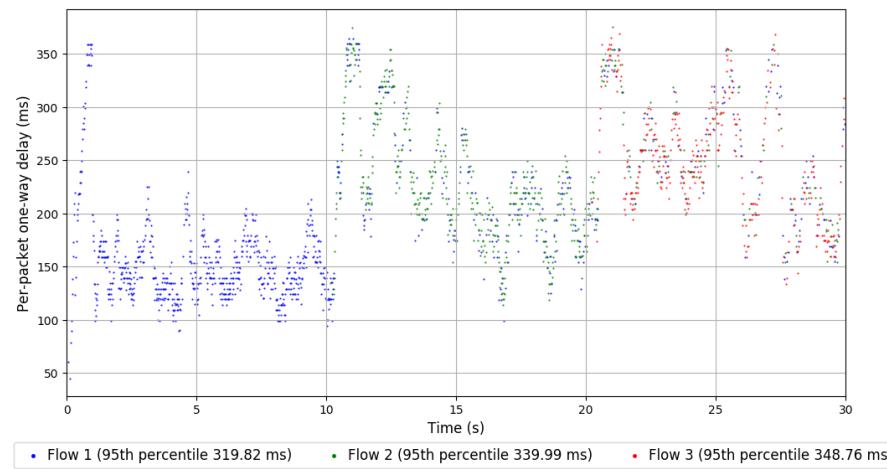
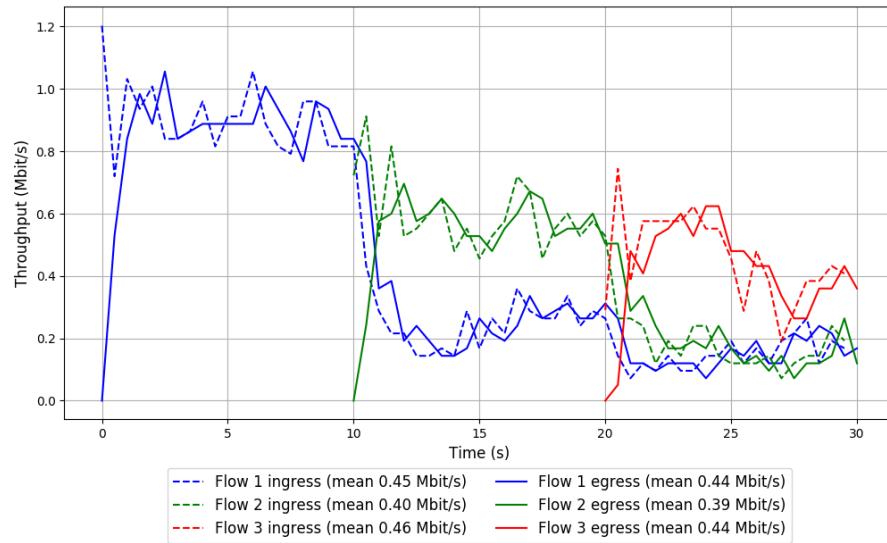


Run 1: Statistics of TCP Vegas

```
Start at: 2018-08-22 17:40:10
End at: 2018-08-22 17:40:40
Local clock offset: 0.276 ms
Remote clock offset: -65.006 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 339.018 ms
Loss rate: 3.48%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 319.818 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 339.993 ms
Loss rate: 4.41%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 348.762 ms
Loss rate: 6.03%
```

Run 1: Report of TCP Vegas — Data Link

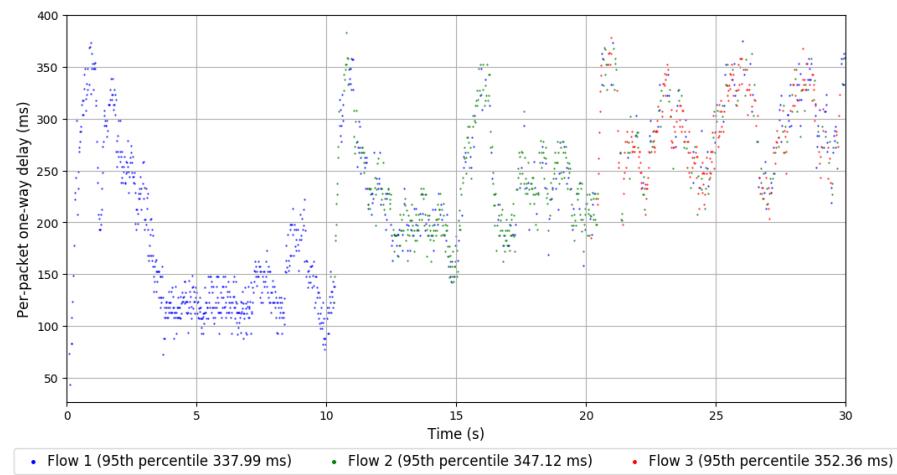
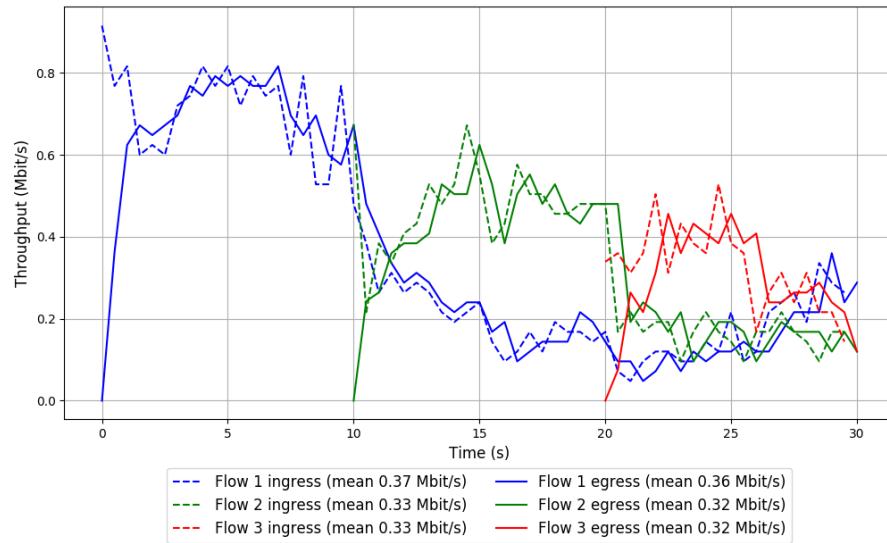


Run 2: Statistics of TCP Vegas

```
Start at: 2018-08-22 17:58:40
End at: 2018-08-22 17:59:10
Local clock offset: 1.024 ms
Remote clock offset: -66.005 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 343.326 ms
Loss rate: 3.91%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 337.993 ms
Loss rate: 3.35%
-- Flow 2:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 347.117 ms
Loss rate: 3.12%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 352.358 ms
Loss rate: 7.38%
```

Run 2: Report of TCP Vegas — Data Link

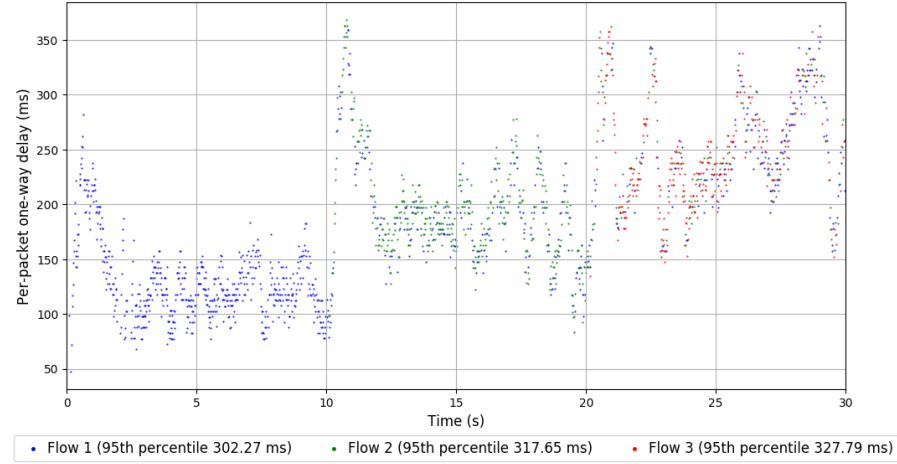
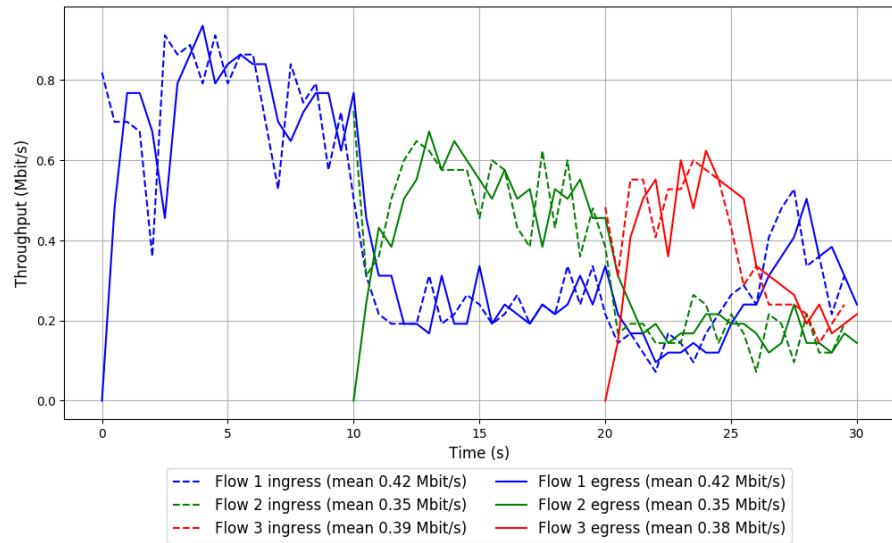


Run 3: Statistics of TCP Vegas

```
Start at: 2018-08-22 18:17:17
End at: 2018-08-22 18:17:47
Local clock offset: 0.843 ms
Remote clock offset: -63.671 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 317.466 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 302.271 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 317.654 ms
Loss rate: 2.22%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 327.787 ms
Loss rate: 2.51%
```

Run 3: Report of TCP Vegas — Data Link

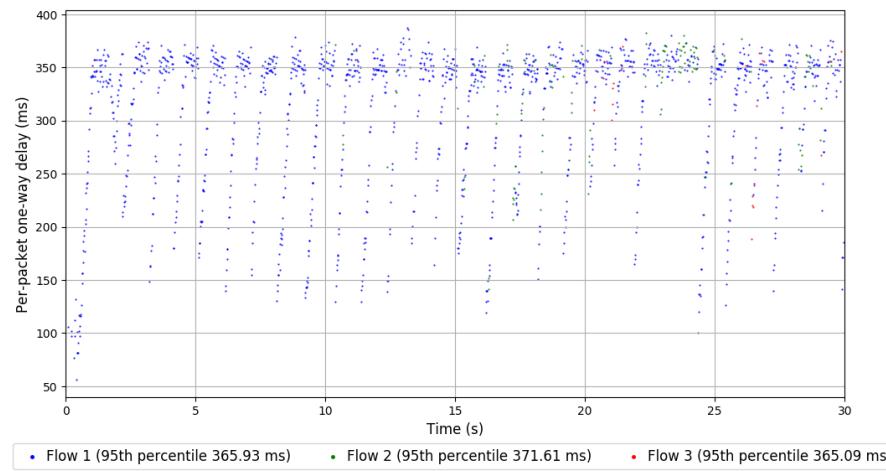
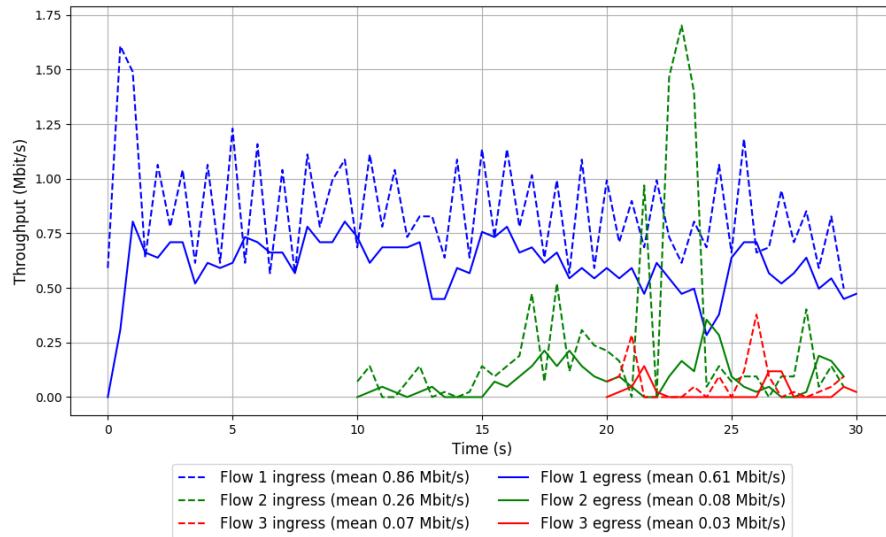


```
Run 1: Statistics of Verus
```

```
Start at: 2018-08-22 17:46:42
End at: 2018-08-22 17:47:12
Local clock offset: 0.095 ms
Remote clock offset: -64.458 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 366.732 ms
Loss rate: 35.79%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 365.927 ms
Loss rate: 29.02%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 371.606 ms
Loss rate: 67.46%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 365.088 ms
Loss rate: 60.34%
```

Run 1: Report of Verus — Data Link

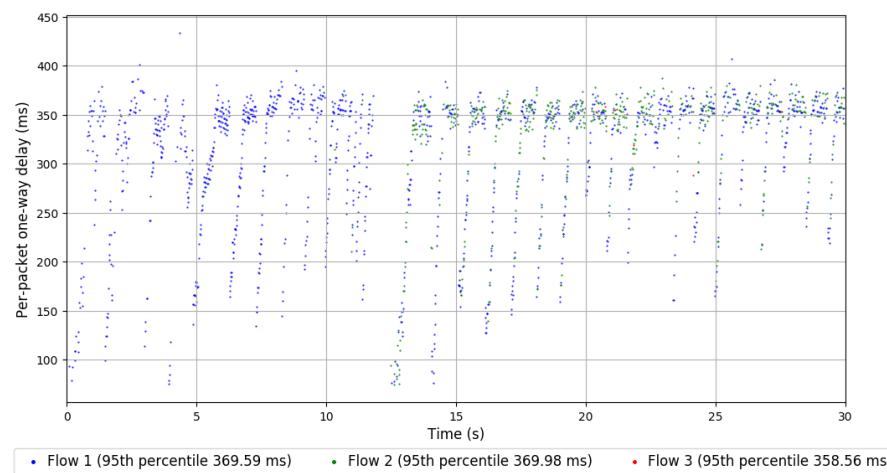
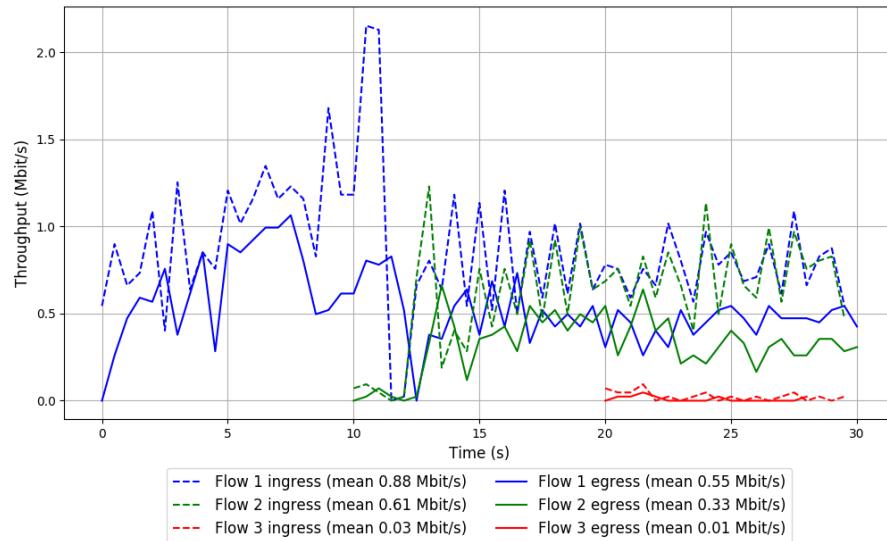


Run 2: Statistics of Verus

```
Start at: 2018-08-22 18:05:13
End at: 2018-08-22 18:05:43
Local clock offset: 4.231 ms
Remote clock offset: -65.326 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 369.865 ms
Loss rate: 40.75%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 369.592 ms
Loss rate: 37.88%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 369.982 ms
Loss rate: 46.37%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 358.560 ms
Loss rate: 68.18%
```

Run 2: Report of Verus — Data Link

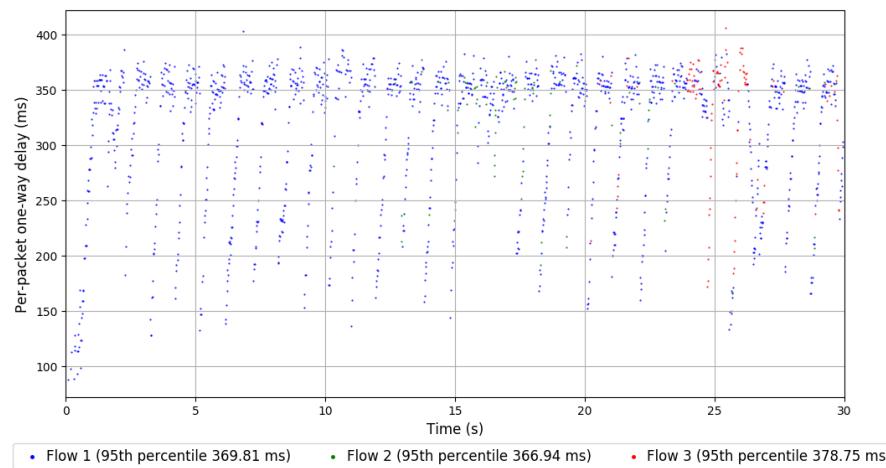
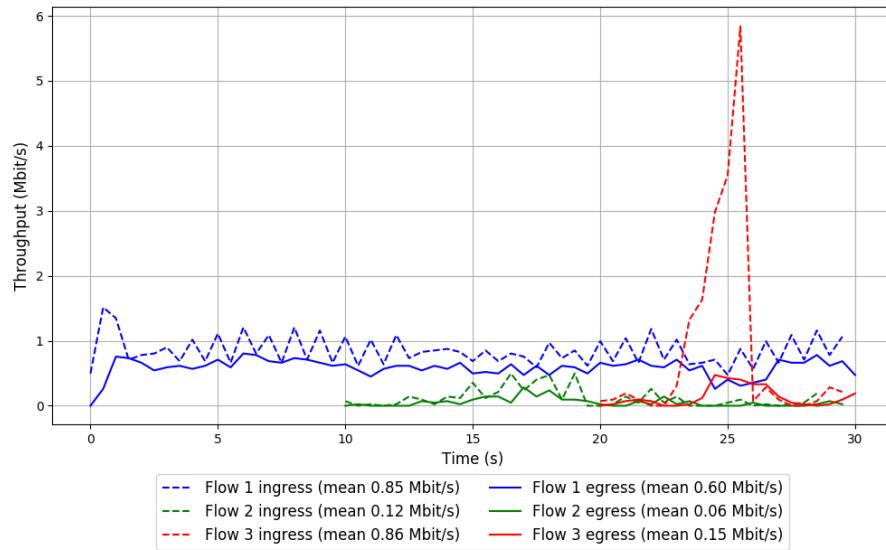


Run 3: Statistics of Verus

```
Start at: 2018-08-22 18:23:50
End at: 2018-08-22 18:24:20
Local clock offset: 0.447 ms
Remote clock offset: -64.164 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 371.112 ms
Loss rate: 44.22%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 369.805 ms
Loss rate: 30.26%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 366.945 ms
Loss rate: 54.36%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 378.755 ms
Loss rate: 83.13%
```

Run 3: Report of Verus — Data Link

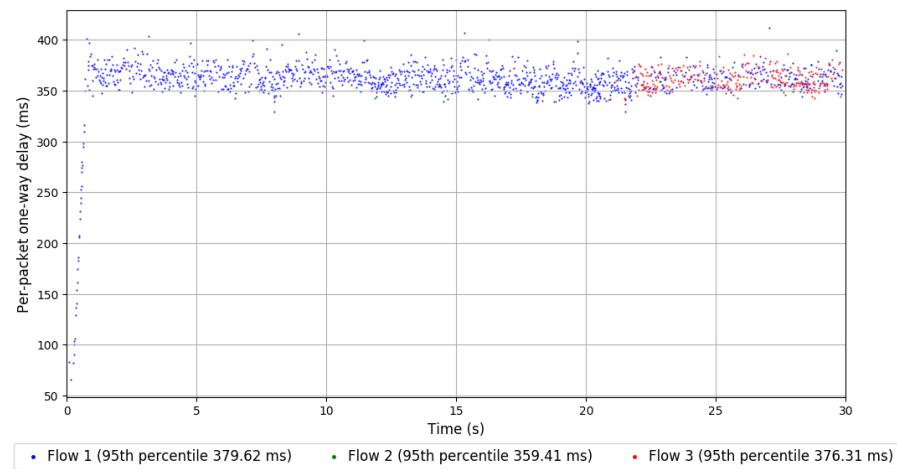
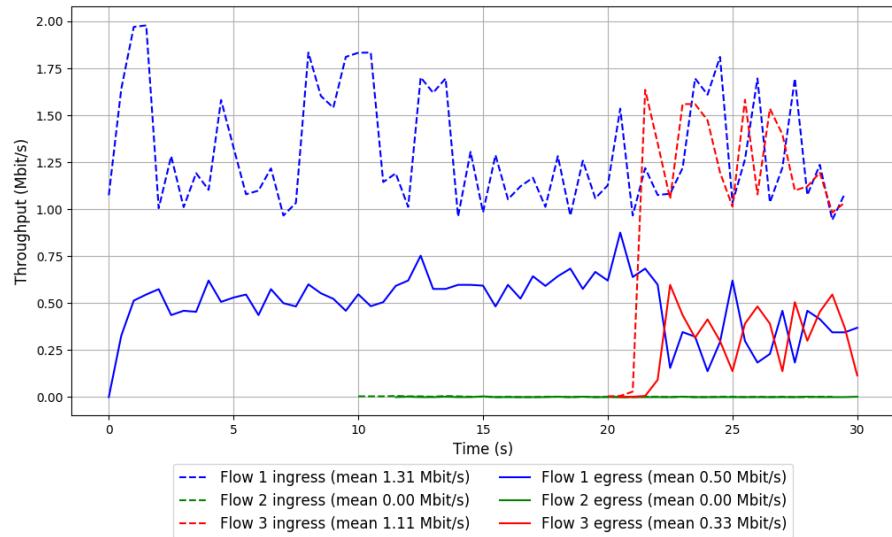


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-08-22 17:47:48
End at: 2018-08-22 17:48:18
Local clock offset: 3.278 ms
Remote clock offset: -65.615 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 379.253 ms
Loss rate: 64.08%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 379.619 ms
Loss rate: 61.68%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 359.406 ms
Loss rate: 74.38%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 376.308 ms
Loss rate: 72.66%
```

Run 1: Report of PCC-Vivace — Data Link

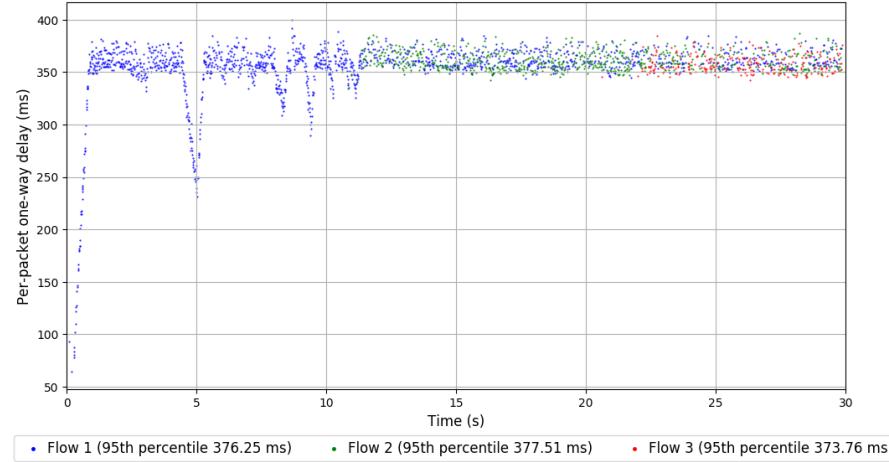
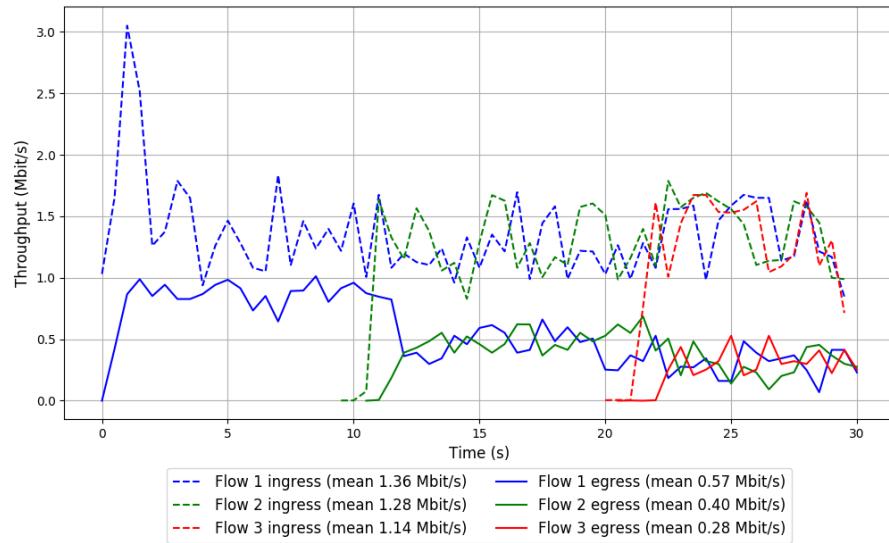


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-08-22 18:06:19
End at: 2018-08-22 18:06:49
Local clock offset: 3.775 ms
Remote clock offset: -65.4 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 376.248 ms
Loss rate: 64.90%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 376.248 ms
Loss rate: 58.47%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 377.515 ms
Loss rate: 69.84%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 373.758 ms
Loss rate: 76.89%
```

Run 2: Report of PCC-Vivace — Data Link

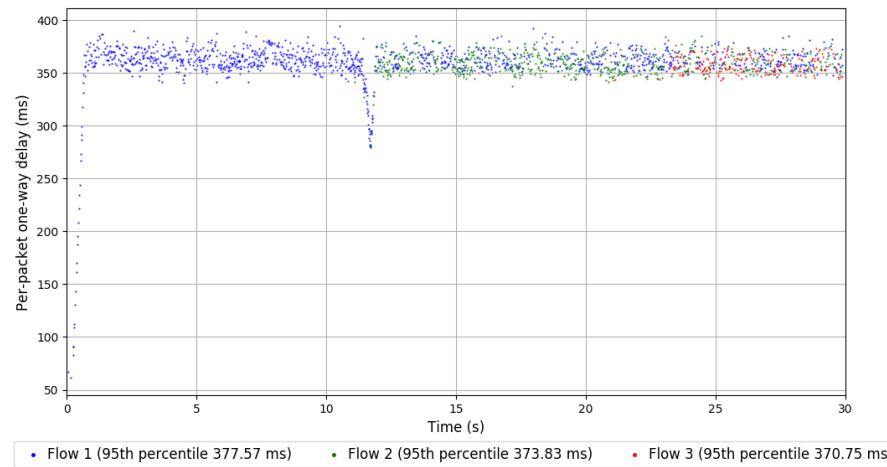
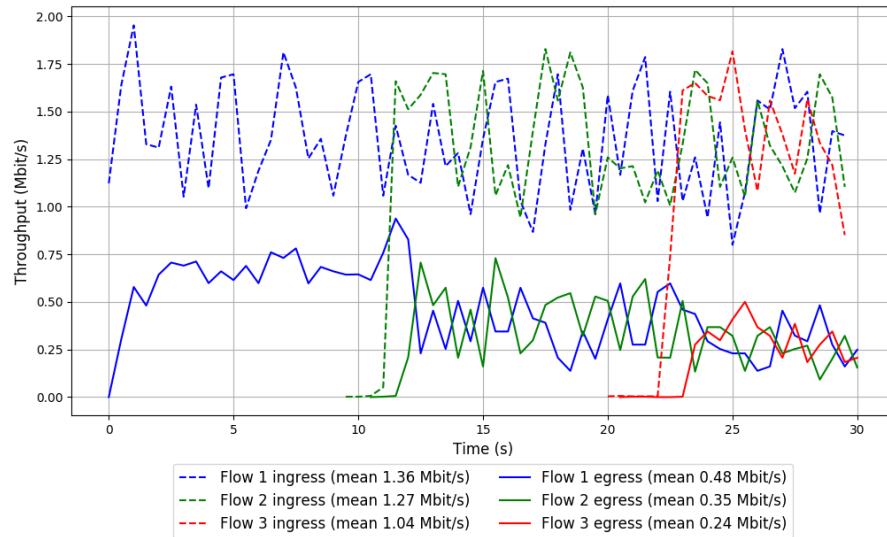


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-08-22 18:24:56
End at: 2018-08-22 18:25:26
Local clock offset: -1.101 ms
Remote clock offset: -64.114 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 376.104 ms
Loss rate: 69.79%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 377.574 ms
Loss rate: 65.08%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 373.834 ms
Loss rate: 73.59%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 370.750 ms
Loss rate: 79.03%
```

Run 3: Report of PCC-Vivace — Data Link

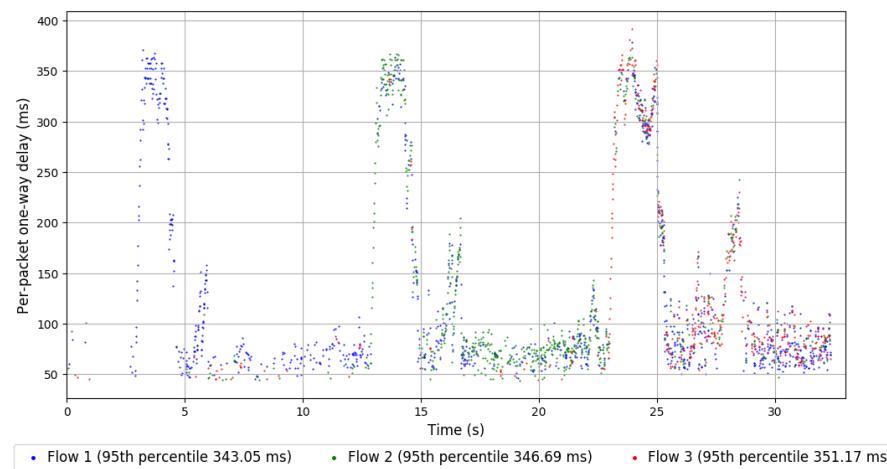
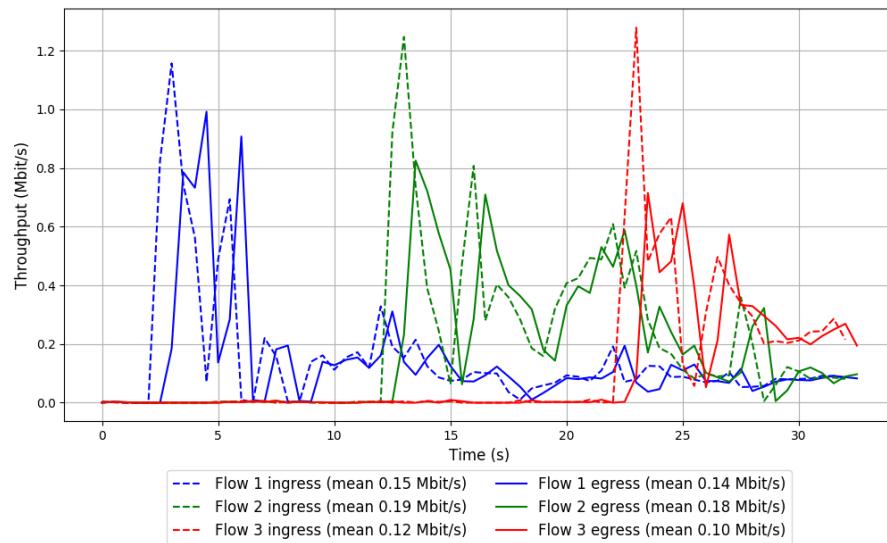


Run 1: Statistics of WebRTC media

```
Start at: 2018-08-22 17:41:16
End at: 2018-08-22 17:41:46
Local clock offset: 3.183 ms
Remote clock offset: -64.845 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 345.142 ms
Loss rate: 8.84%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 343.046 ms
Loss rate: 6.85%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 346.690 ms
Loss rate: 7.68%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 351.168 ms
Loss rate: 13.35%
```

Run 1: Report of WebRTC media — Data Link

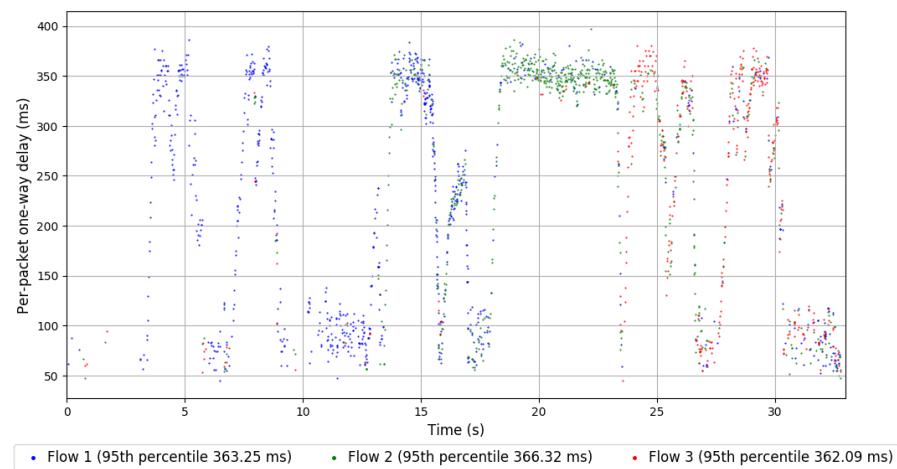
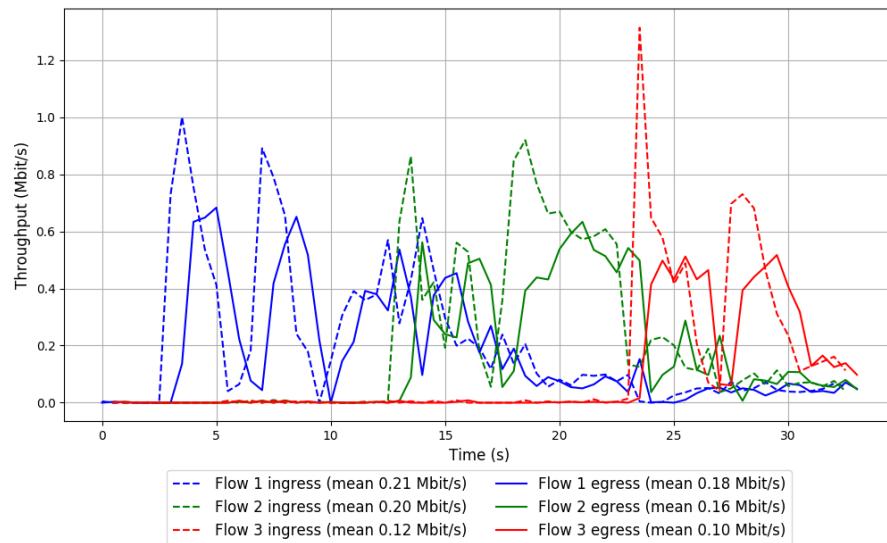


Run 2: Statistics of WebRTC media

```
Start at: 2018-08-22 17:59:45
End at: 2018-08-22 18:00:15
Local clock offset: 3.723 ms
Remote clock offset: -65.996 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 365.035 ms
Loss rate: 18.05%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 363.252 ms
Loss rate: 14.82%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 366.319 ms
Loss rate: 20.68%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 362.089 ms
Loss rate: 19.30%
```

Run 2: Report of WebRTC media — Data Link



```
Run 3: Statistics of WebRTC media

Start at: 2018-08-22 18:18:22
End at: 2018-08-22 18:18:52
Local clock offset: 0.633 ms
Remote clock offset: -64.151 ms

# Below is generated by plot.py at 2018-08-22 18:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 354.752 ms
Loss rate: 12.35%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 353.013 ms
Loss rate: 9.39%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 359.545 ms
Loss rate: 15.79%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 351.935 ms
Loss rate: 12.44%
```

Run 3: Report of WebRTC media — Data Link

