

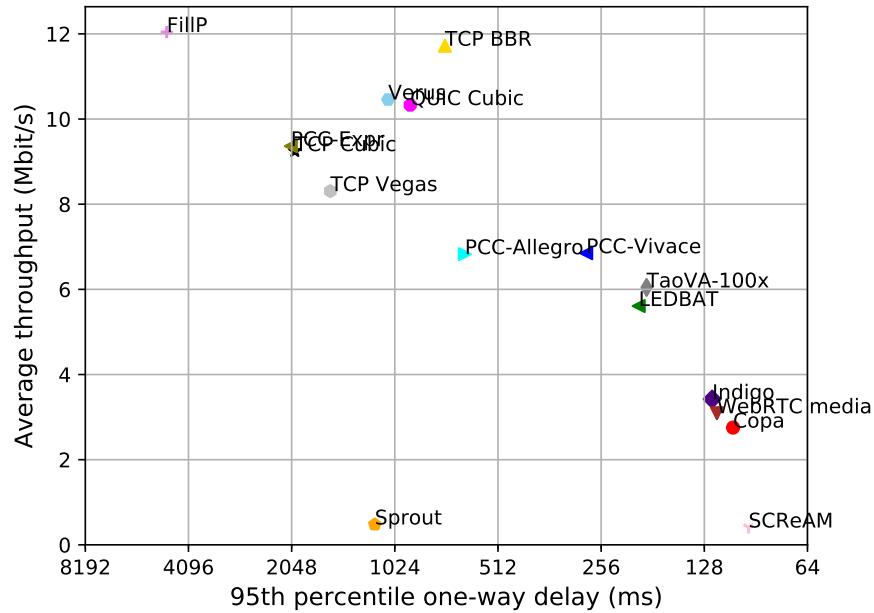
Pantheon Report

Generated at 2018-05-30 15:27:28 (UTC).
Data path: AWS Korea Ethernet (*local*) → China ppp0 ppp0 (*remote*).
Repeated the test of 16 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 `ntp.nict.jp` and have been applied to correct the timestamps in logs.

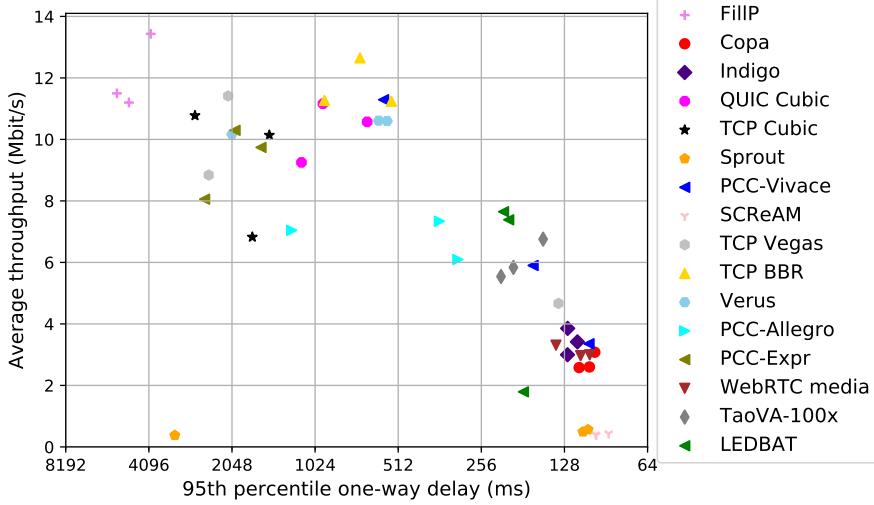
Git summary:

```
branch: master @ 227fdf9a3757f17b88537cceed5743a33037a3d2
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eab4a906ce6bb7cf3cf
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 @ c838669682f0c19f6baf92afc9a596a406d48c1f
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



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



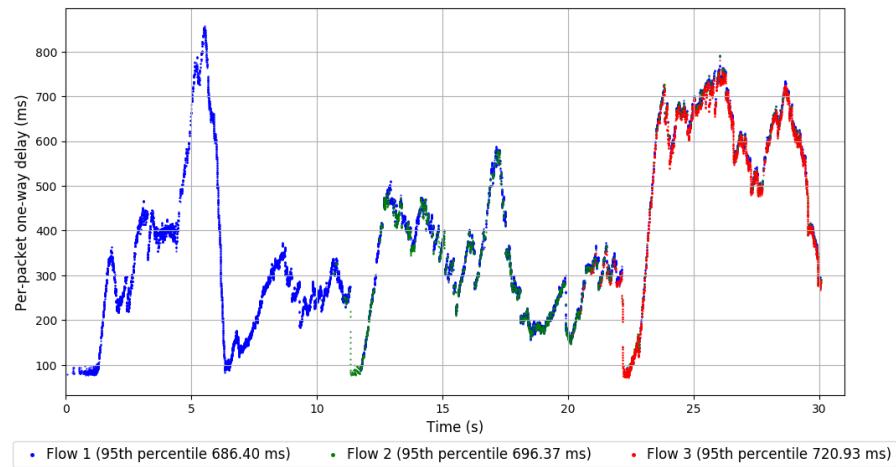
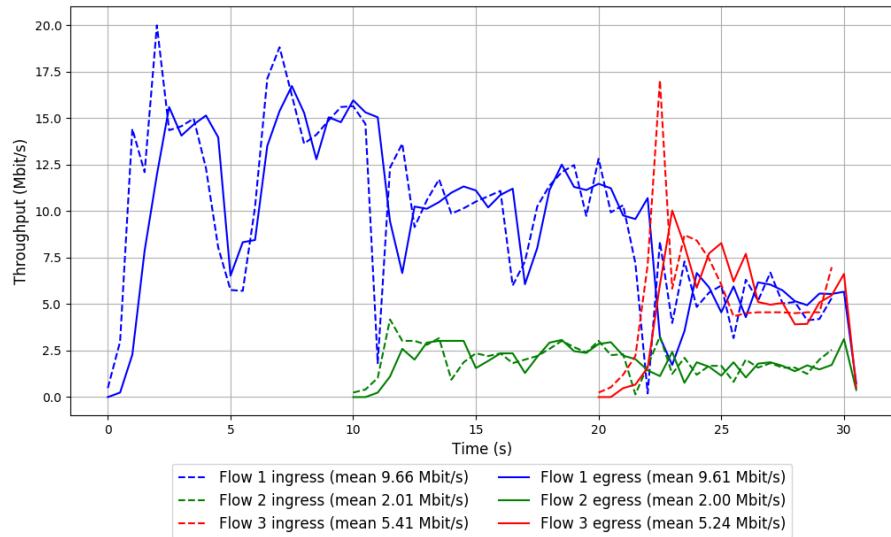
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	8.89	2.02	4.59	606.30	750.38	792.76	0.42	1.13	2.99
Copa		1.46	1.20	1.51	100.85	106.60	108.33	0.10	0.24	0.36
TCP Cubic		6.63	3.79	0.37	1784.41	3595.77	1716.42	2.88	19.29	26.13
FillP		11.53	0.97	0.00	4740.54	4282.38	4247.59	43.40	67.39	96.26
Indigo		1.63	1.91	1.67	115.86	121.88	140.25	0.05	0.46	0.03
LEDBAT		3.40	2.85	0.97	155.98	201.71	752.77	0.22	0.67	1.33
PCC-Allegro		2.78	4.29	3.62	457.67	671.25	490.38	0.09	1.12	2.21
PCC-Expr		5.11	4.26	4.44	1993.23	2023.88	2245.81	7.92	9.02	23.70
QUIC Cubic		8.18	2.70	1.19	905.06	945.58	984.61	2.36	4.35	11.98
SCReAM		0.19	0.22	0.22	91.90	91.57	99.13	0.14	0.06	0.30
Sprout		0.20	0.28	0.29	870.95	1129.27	1493.91	0.01	0.30	0.03
TaoVA-100x		3.11	2.86	3.12	161.23	182.70	229.96	0.11	0.15	0.24
TCP Vegas		3.68	6.45	1.19	1241.96	1662.67	1188.42	1.08	3.94	25.37
Verus		6.12	4.52	4.19	749.47	768.47	1332.54	0.76	1.95	20.91
PCC-Vivace		4.88	2.18	1.59	287.51	261.22	275.39	0.19	0.36	0.57
WebRTC media		1.74	1.18	0.19	113.37	117.80	147.72	0.05	0.34	0.29

Run 1: Statistics of TCP BBR

```
Start at: 2018-05-30 14:33:05
End at: 2018-05-30 14:33:35
Local clock offset: 6.025 ms
Remote clock offset: 52.083 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 704.132 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 686.403 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 696.367 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 720.926 ms
Loss rate: 4.14%
```

Run 1: Report of TCP BBR — Data Link

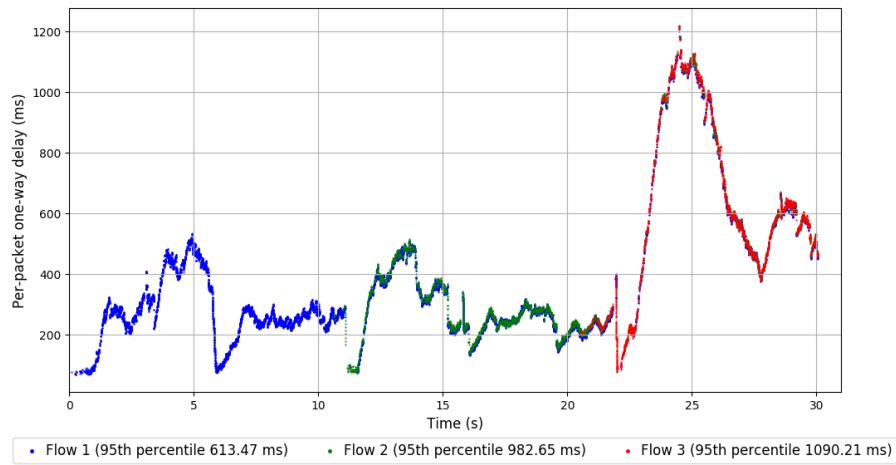
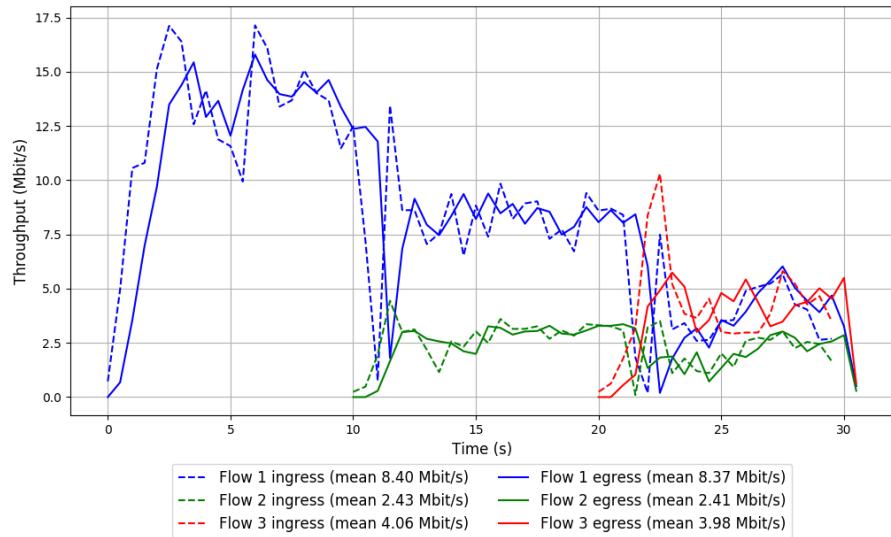


Run 2: Statistics of TCP BBR

```
Start at: 2018-05-30 14:54:02
End at: 2018-05-30 14:54:32
Local clock offset: 6.914 ms
Remote clock offset: 47.015 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 947.264 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 613.470 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 982.652 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 1090.213 ms
Loss rate: 3.50%
```

Run 2: Report of TCP BBR — Data Link

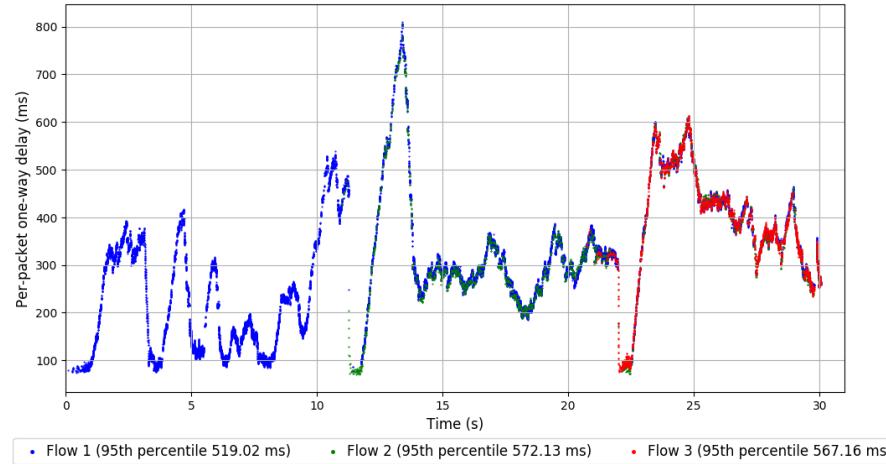
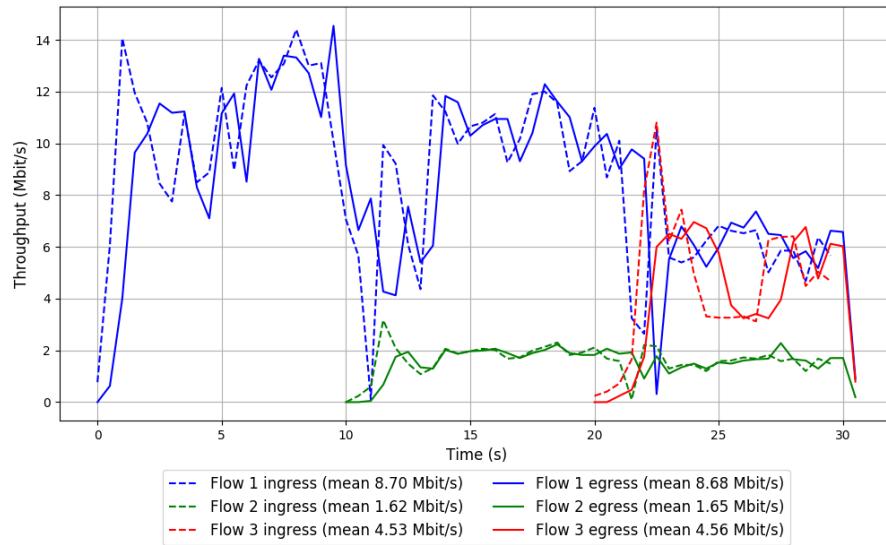


Run 3: Statistics of TCP BBR

```
Start at: 2018-05-30 15:15:04
End at: 2018-05-30 15:15:34
Local clock offset: 7.649 ms
Remote clock offset: 47.875 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 542.021 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 8.68 Mbit/s
95th percentile per-packet one-way delay: 519.017 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 572.126 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 4.56 Mbit/s
95th percentile per-packet one-way delay: 567.156 ms
Loss rate: 1.33%
```

Run 3: Report of TCP BBR — Data Link

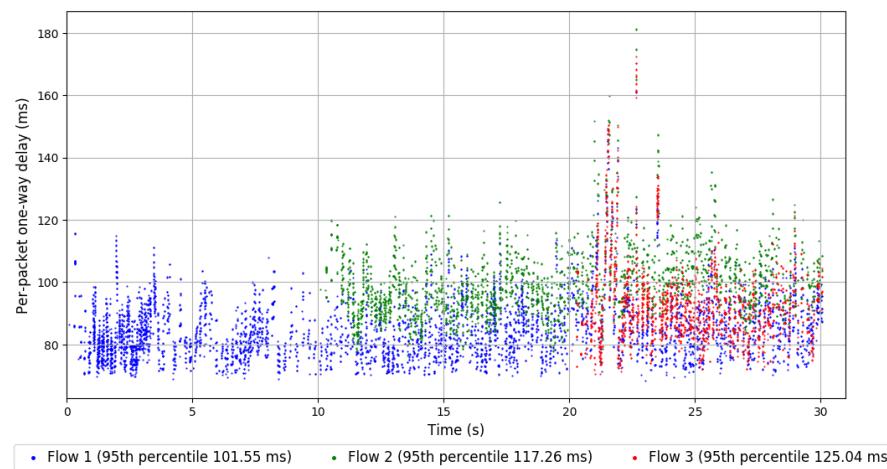
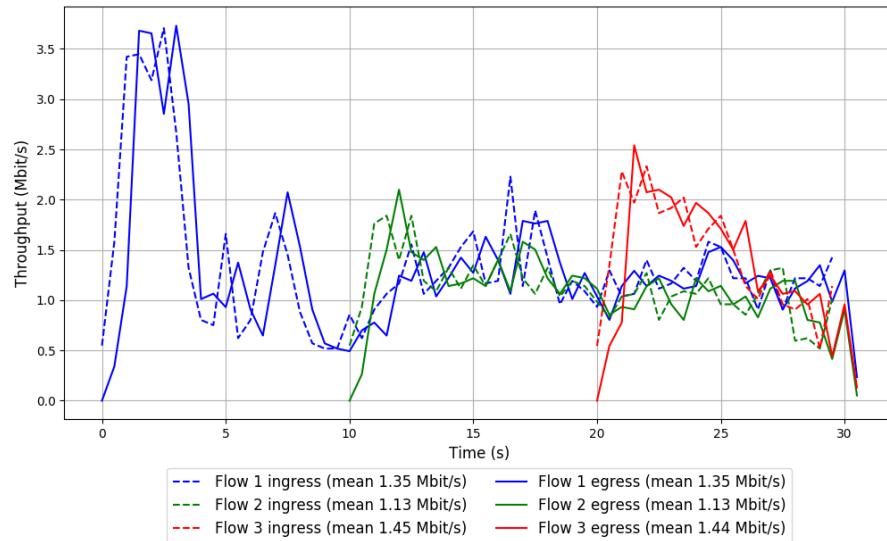


Run 1: Statistics of Copa

```
Start at: 2018-05-30 14:38:19
End at: 2018-05-30 14:38:49
Local clock offset: 5.997 ms
Remote clock offset: 49.295 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 113.227 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 101.553 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 117.261 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 125.043 ms
Loss rate: 0.62%
```

Run 1: Report of Copa — Data Link

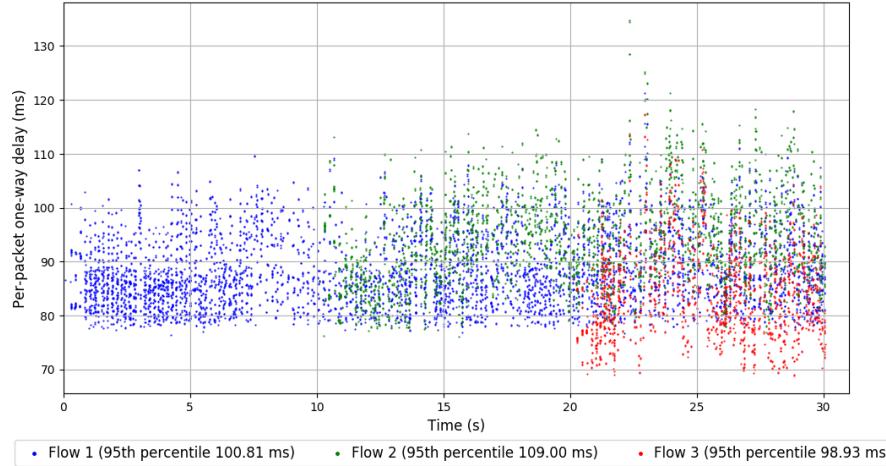
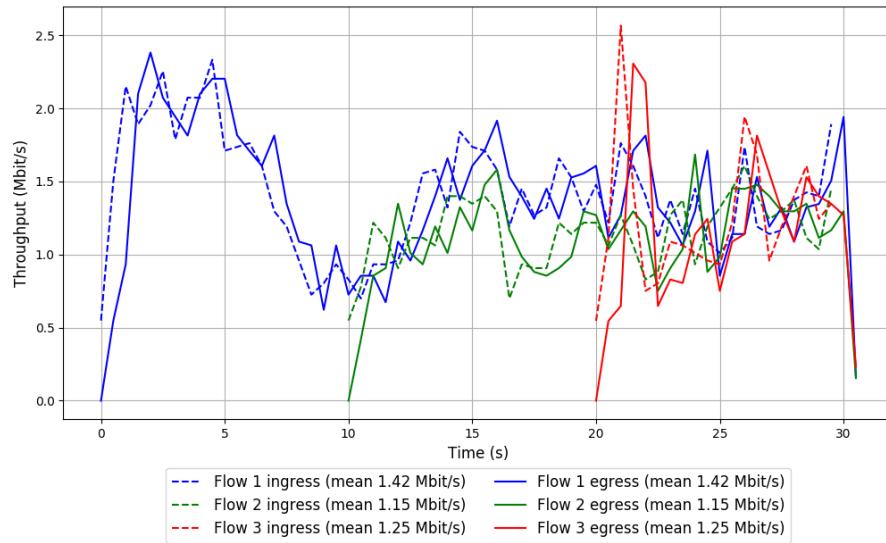


Run 2: Statistics of Copa

```
Start at: 2018-05-30 14:59:20
End at: 2018-05-30 14:59:50
Local clock offset: 7.475 ms
Remote clock offset: 46.935 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 103.942 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 100.812 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 109.000 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 98.928 ms
Loss rate: 0.11%
```

Run 2: Report of Copa — Data Link

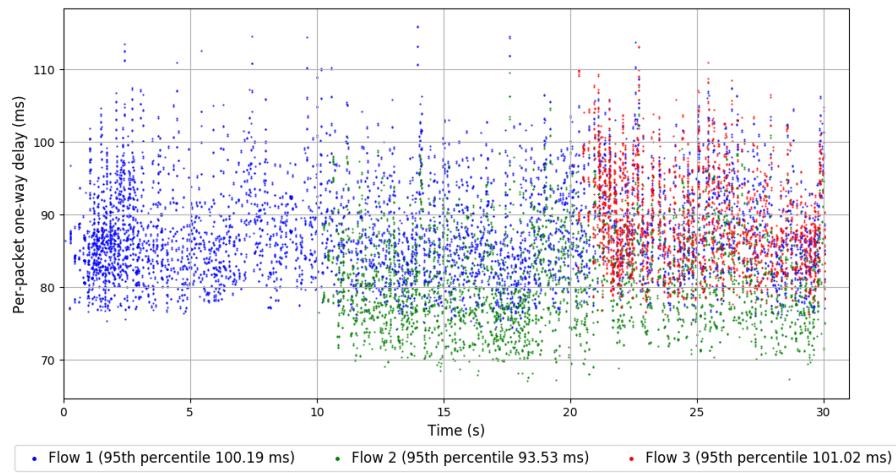
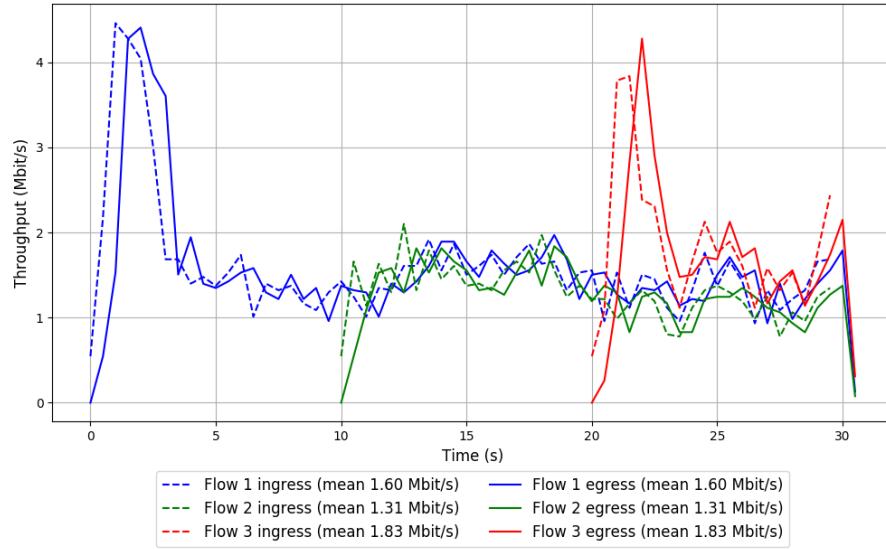


Run 3: Statistics of Copa

```
Start at: 2018-05-30 15:20:18
End at: 2018-05-30 15:20:48
Local clock offset: 7.663 ms
Remote clock offset: 48.145 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 99.387 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 100.188 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 93.526 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 101.017 ms
Loss rate: 0.35%
```

Run 3: Report of Copa — Data Link

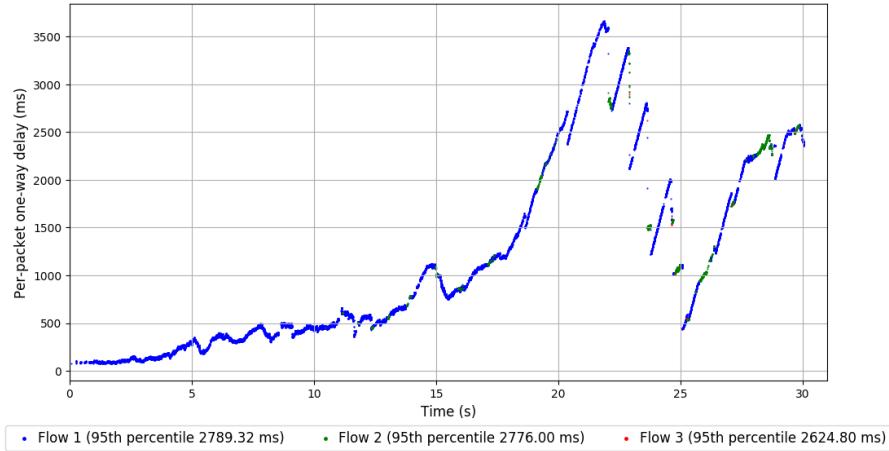
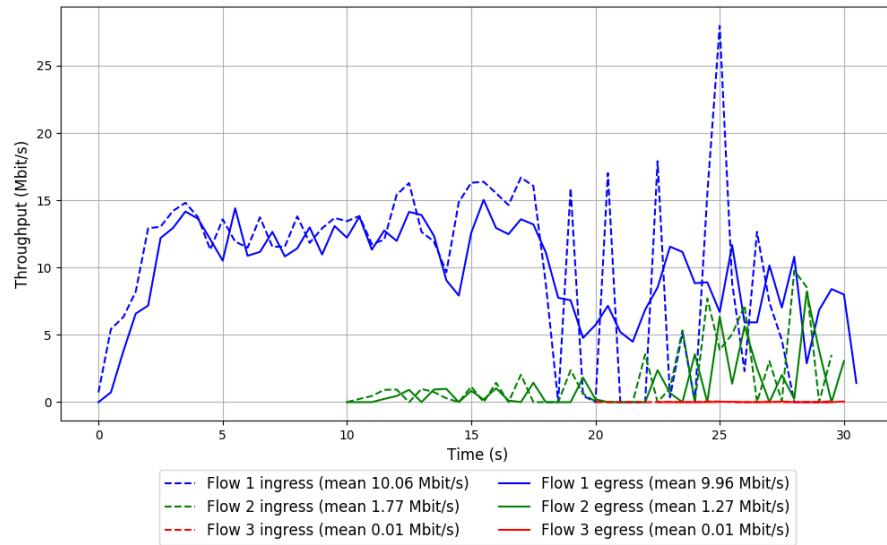


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-05-30 14:40:56
End at: 2018-05-30 14:41:26
Local clock offset: 6.011 ms
Remote clock offset: 48.439 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 2788.644 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 2789.315 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 2775.997 ms
Loss rate: 30.87%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2624.800 ms
Loss rate: 38.58%
```

Run 1: Report of TCP Cubic — Data Link

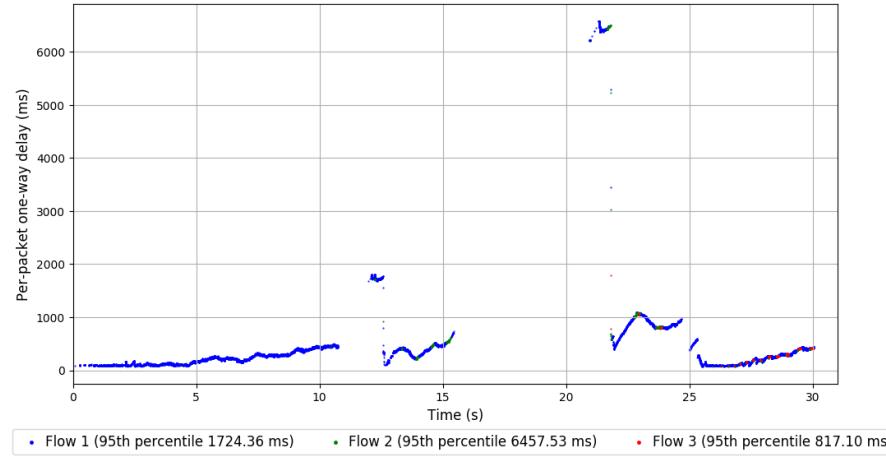
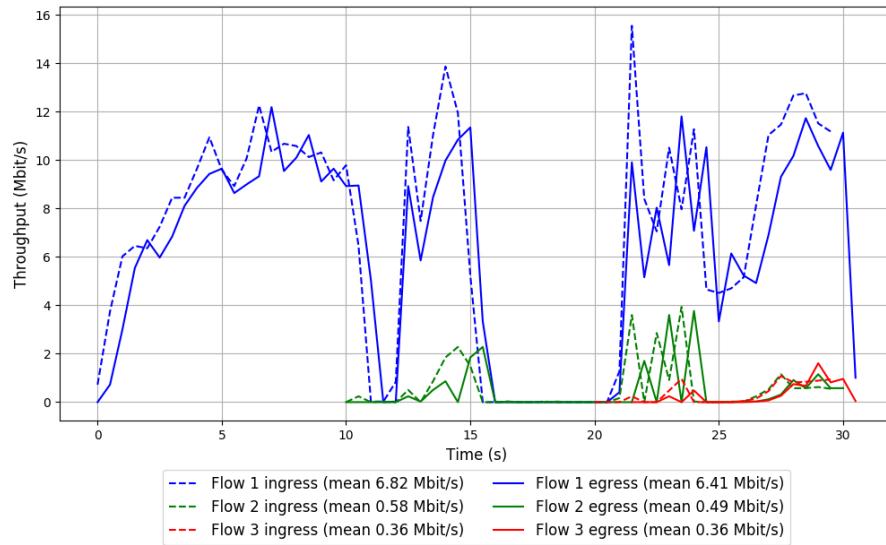


Run 2: Statistics of TCP Cubic

```
Start at: 2018-05-30 15:01:57
End at: 2018-05-30 15:02:27
Local clock offset: 7.375 ms
Remote clock offset: 46.859 ms

# Below is generated by plot.py at 2018-05-30 15:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 1728.117 ms
Loss rate: 6.67%
-- Flow 1:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 1724.356 ms
Loss rate: 5.95%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 6457.528 ms
Loss rate: 17.25%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 817.095 ms
Loss rate: 13.93%
```

Run 2: Report of TCP Cubic — Data Link

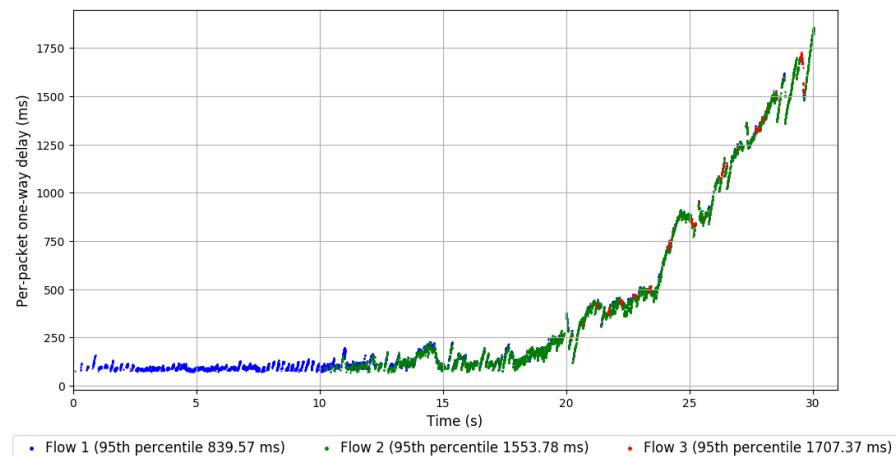
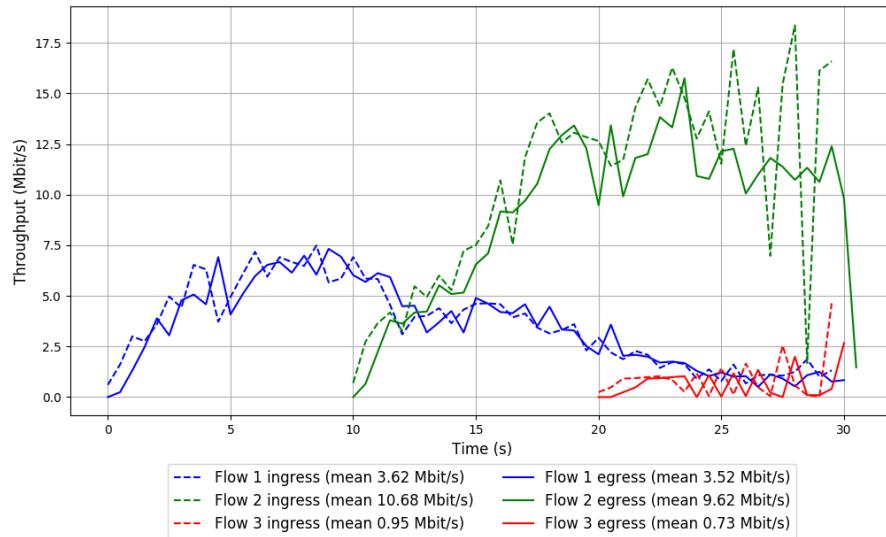


Run 3: Statistics of TCP Cubic

```
Start at: 2018-05-30 15:22:55
End at: 2018-05-30 15:23:25
Local clock offset: 7.792 ms
Remote clock offset: 48.295 ms

# Below is generated by plot.py at 2018-05-30 15:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 1499.551 ms
Loss rate: 7.77%
-- Flow 1:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 839.568 ms
Loss rate: 2.30%
-- Flow 2:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 1553.776 ms
Loss rate: 9.75%
-- Flow 3:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 1707.367 ms
Loss rate: 25.89%
```

Run 3: Report of TCP Cubic — Data Link

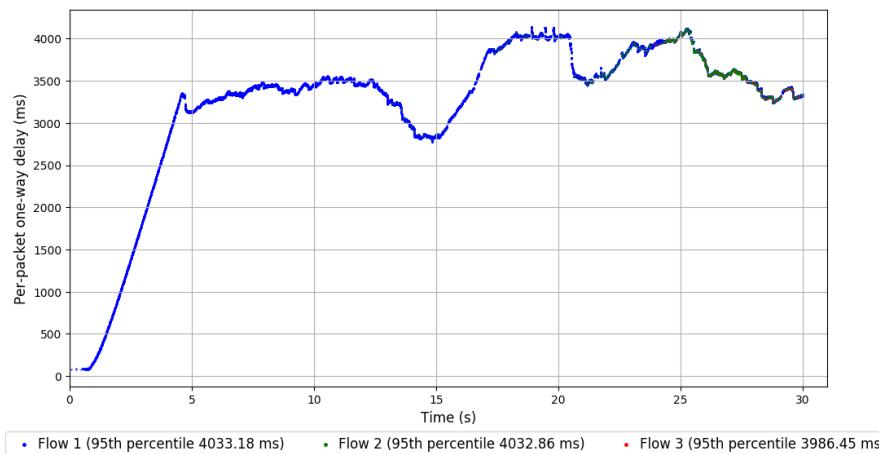
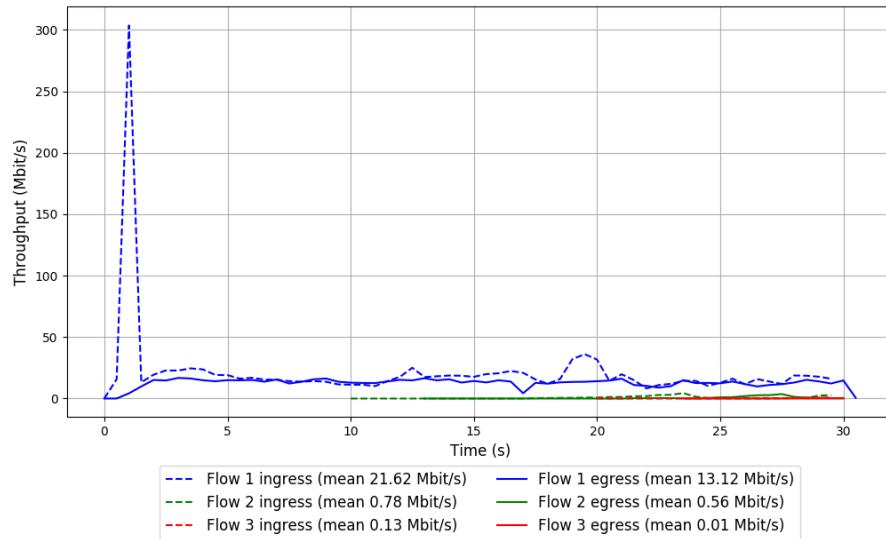


```
Run 1: Statistics of FillP

Start at: 2018-05-30 14:25:12
End at: 2018-05-30 14:25:42
Local clock offset: 6.264 ms
Remote clock offset: 53.31 ms

# Below is generated by plot.py at 2018-05-30 15:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 4033.144 ms
Loss rate: 39.49%
-- Flow 1:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 4033.178 ms
Loss rate: 39.39%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 4032.857 ms
Loss rate: 39.01%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3986.450 ms
Loss rate: 96.37%
```

Run 1: Report of FillP — Data Link

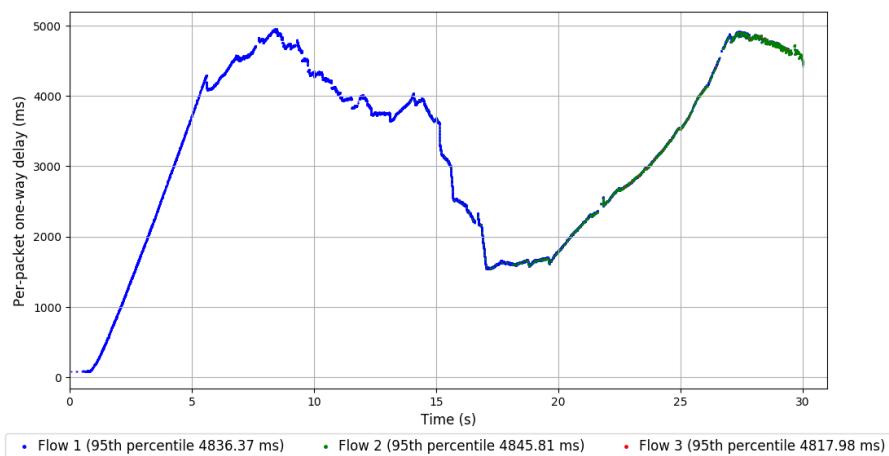
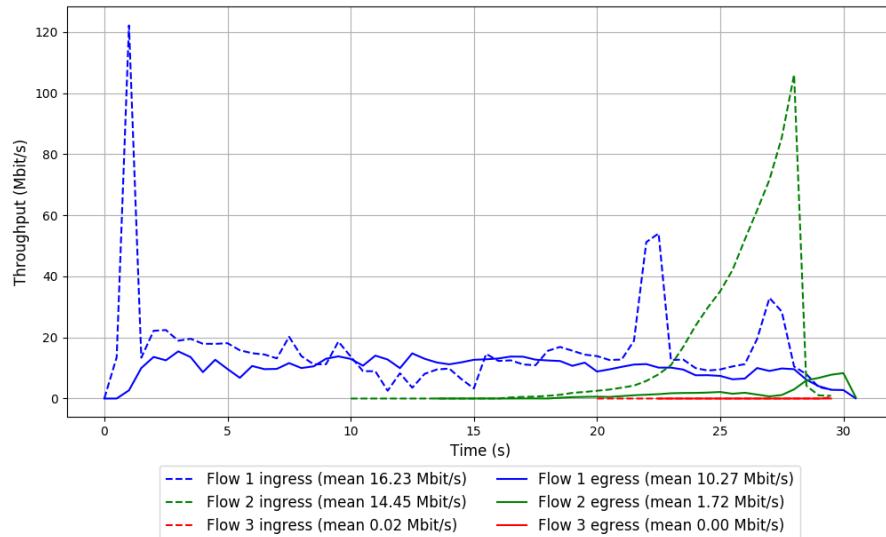


Run 2: Statistics of FillP

```
Start at: 2018-05-30 14:46:10
End at: 2018-05-30 14:46:40
Local clock offset: 6.333 ms
Remote clock offset: 47.441 ms

# Below is generated by plot.py at 2018-05-30 15:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 4838.738 ms
Loss rate: 56.73%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 4836.369 ms
Loss rate: 36.76%
-- Flow 2:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 4845.806 ms
Loss rate: 90.38%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4817.979 ms
Loss rate: 94.56%
```

Run 2: Report of FillP — Data Link

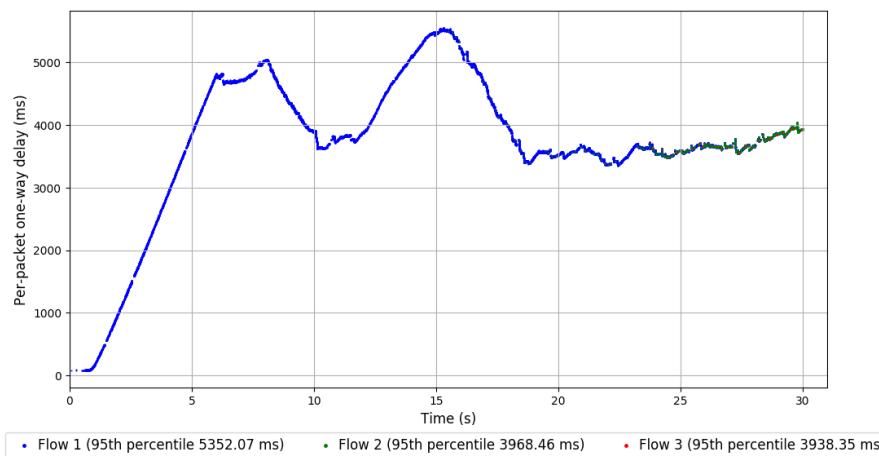
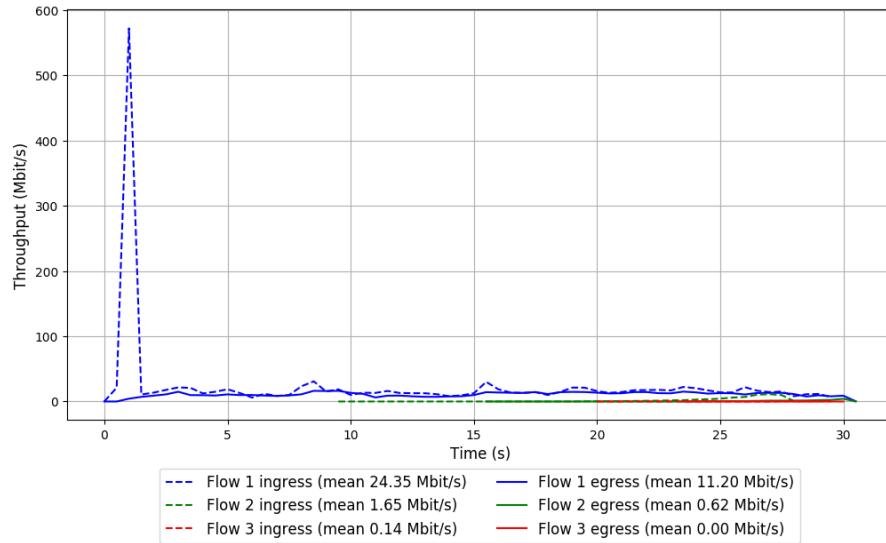


Run 3: Statistics of FillP

```
Start at: 2018-05-30 15:07:11
End at: 2018-05-30 15:07:41
Local clock offset: 7.68 ms
Remote clock offset: 47.185 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 5346.264 ms
Loss rate: 54.92%
-- Flow 1:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 5352.071 ms
Loss rate: 54.04%
-- Flow 2:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 3968.462 ms
Loss rate: 72.78%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3938.353 ms
Loss rate: 97.85%
```

Run 3: Report of FillP — Data Link

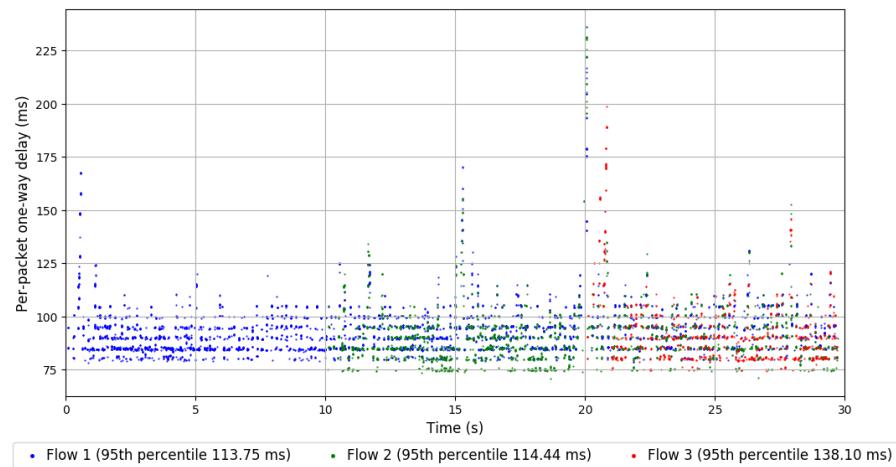
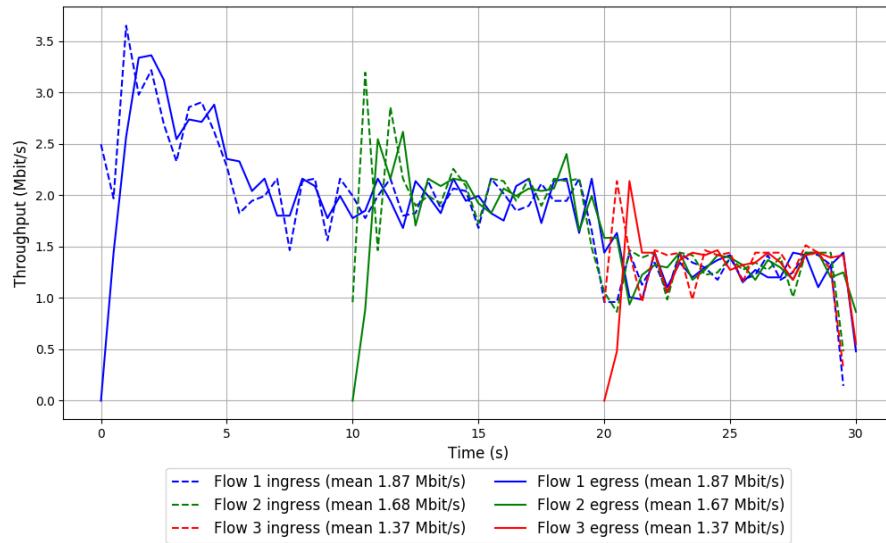


Run 1: Statistics of Indigo

```
Start at: 2018-05-30 14:34:23
End at: 2018-05-30 14:34:53
Local clock offset: 5.823 ms
Remote clock offset: 51.296 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.42 Mbit/s
95th percentile per-packet one-way delay: 114.896 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 113.755 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 114.445 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 138.102 ms
Loss rate: 0.09%
```

Run 1: Report of Indigo — Data Link

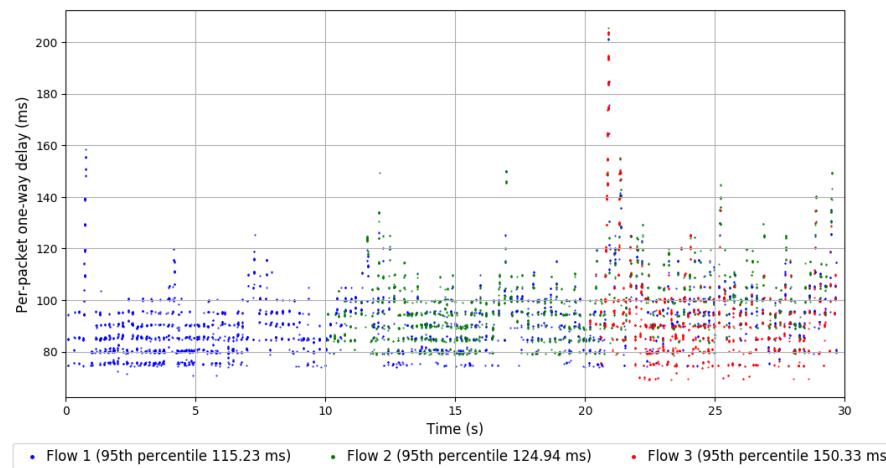
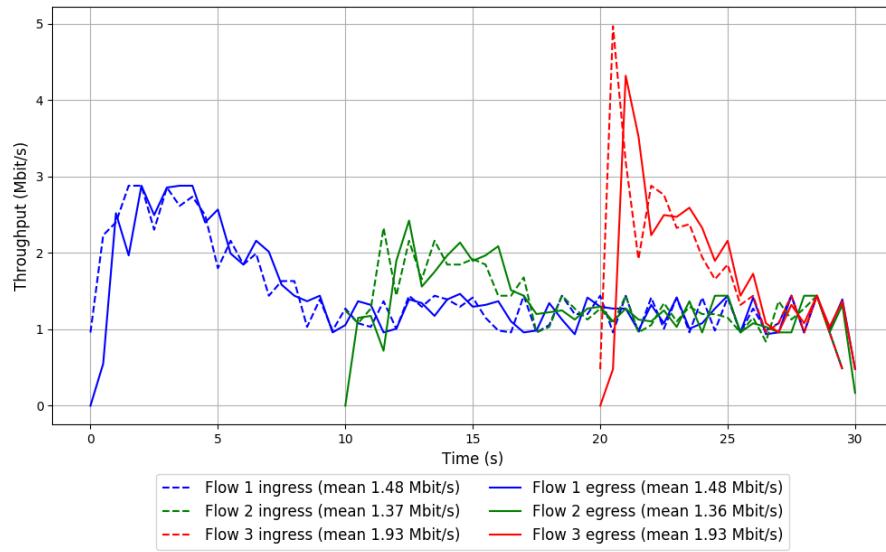


Run 2: Statistics of Indigo

```
Start at: 2018-05-30 14:55:20
End at: 2018-05-30 14:55:50
Local clock offset: 7.1 ms
Remote clock offset: 46.915 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 124.767 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 115.226 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 124.942 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 150.329 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link

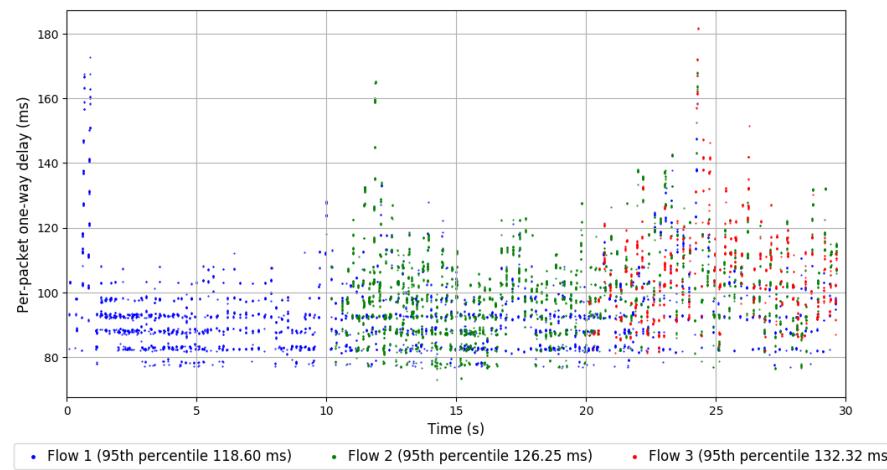
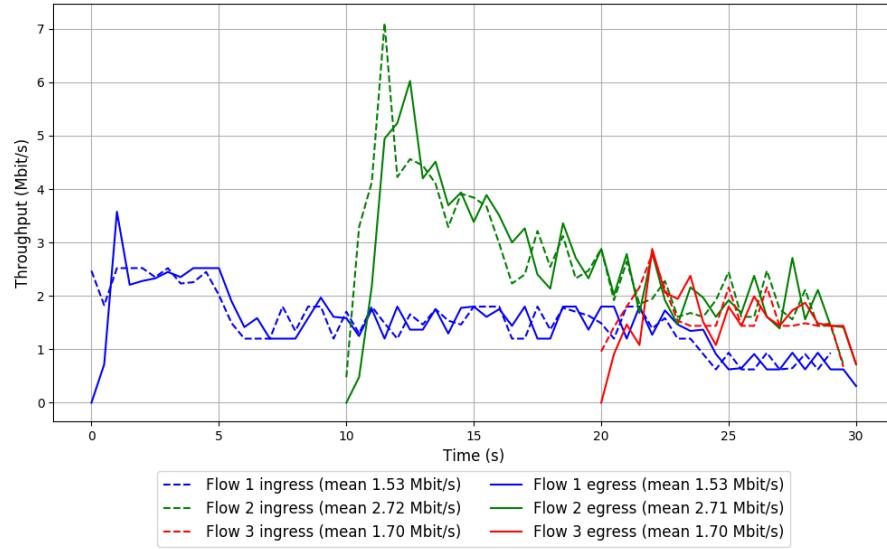


Run 3: Statistics of Indigo

```
Start at: 2018-05-30 15:16:23
End at: 2018-05-30 15:16:53
Local clock offset: 7.707 ms
Remote clock offset: 47.995 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 124.626 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 118.596 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 126.255 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 132.322 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

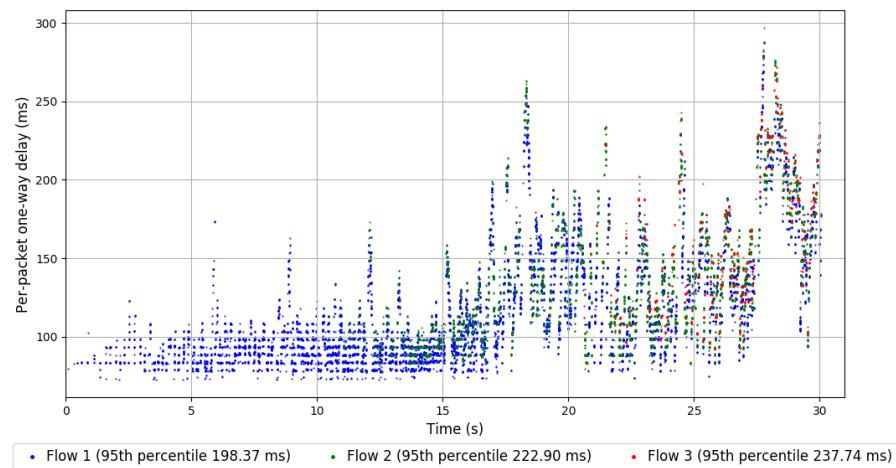
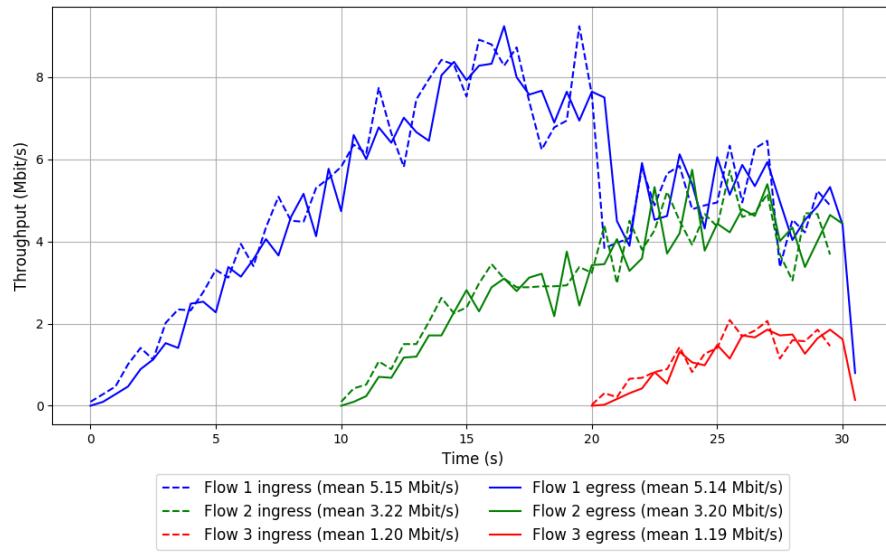


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-05-30 14:42:14
End at: 2018-05-30 14:42:44
Local clock offset: 5.683 ms
Remote clock offset: 48.199 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 212.765 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 5.14 Mbit/s
95th percentile per-packet one-way delay: 198.370 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 222.900 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 237.740 ms
Loss rate: 1.48%
```

Run 1: Report of LEDBAT — Data Link

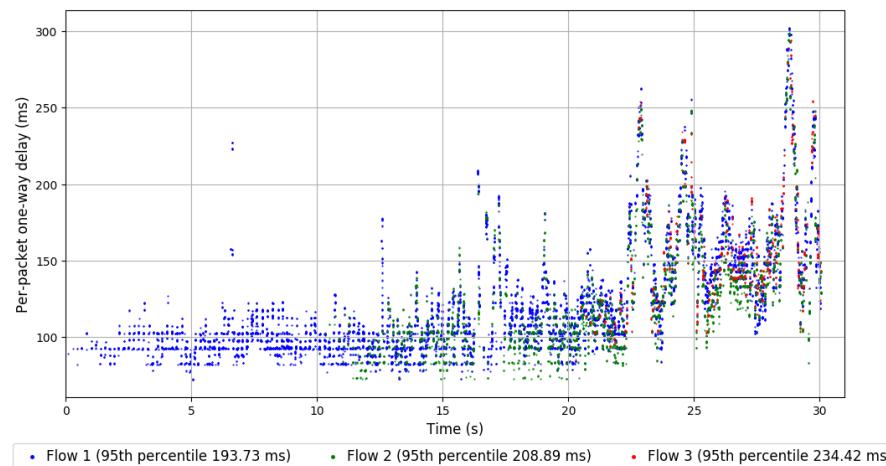
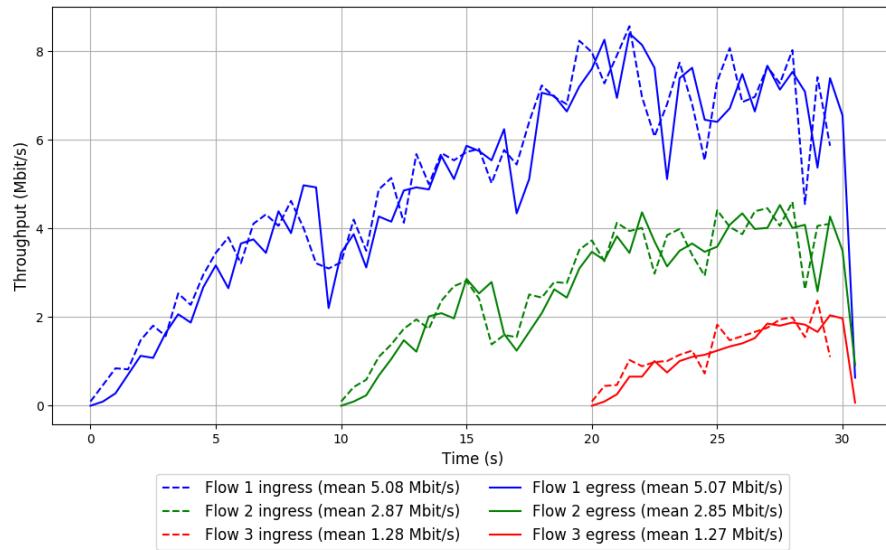


Run 2: Statistics of LEDBAT

```
Start at: 2018-05-30 15:03:16
End at: 2018-05-30 15:03:46
Local clock offset: 7.34 ms
Remote clock offset: 46.917 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 203.838 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 5.07 Mbit/s
95th percentile per-packet one-way delay: 193.731 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 208.894 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 234.424 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

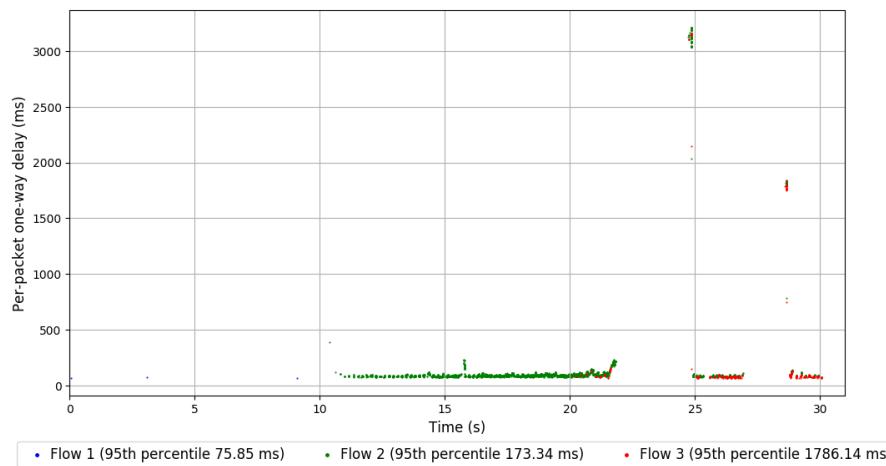
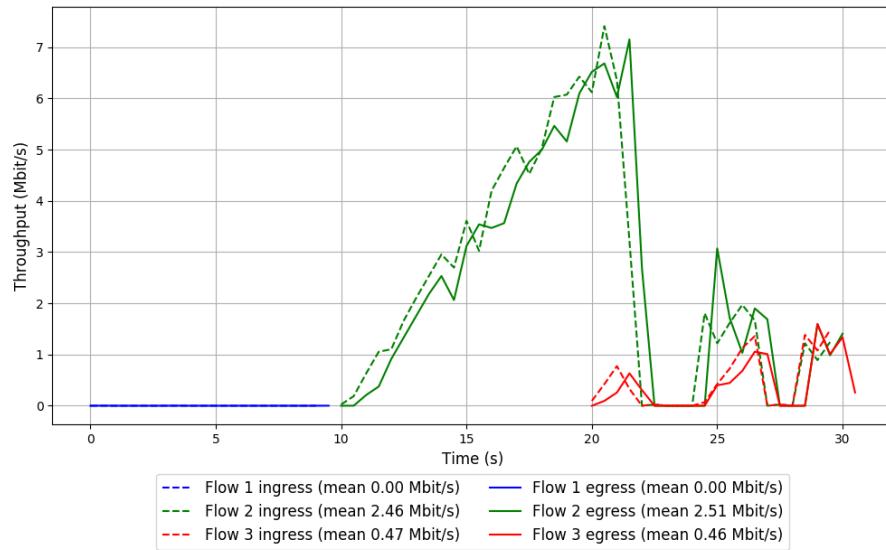


Run 3: Statistics of LEDBAT

```
Start at: 2018-05-30 15:24:14
End at: 2018-05-30 15:24:44
Local clock offset: 7.829 ms
Remote clock offset: 48.375 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 180.237 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 75.851 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 173.343 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1786.137 ms
Loss rate: 2.52%
```

Run 3: Report of LEDBAT — Data Link

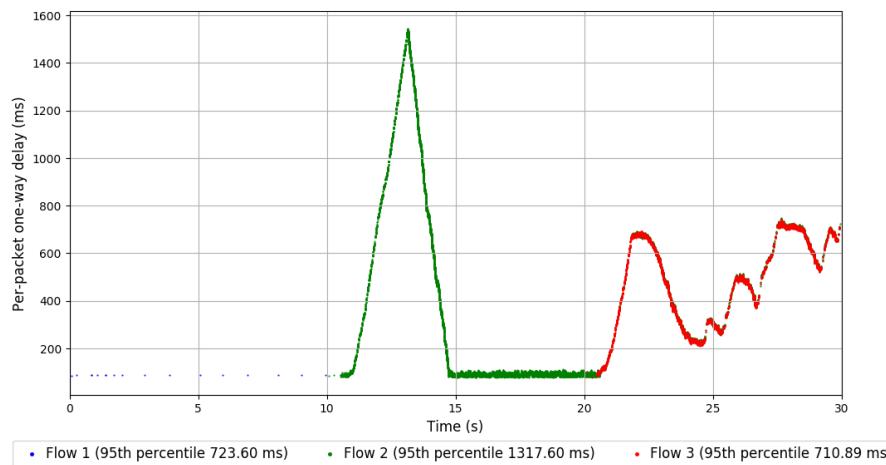
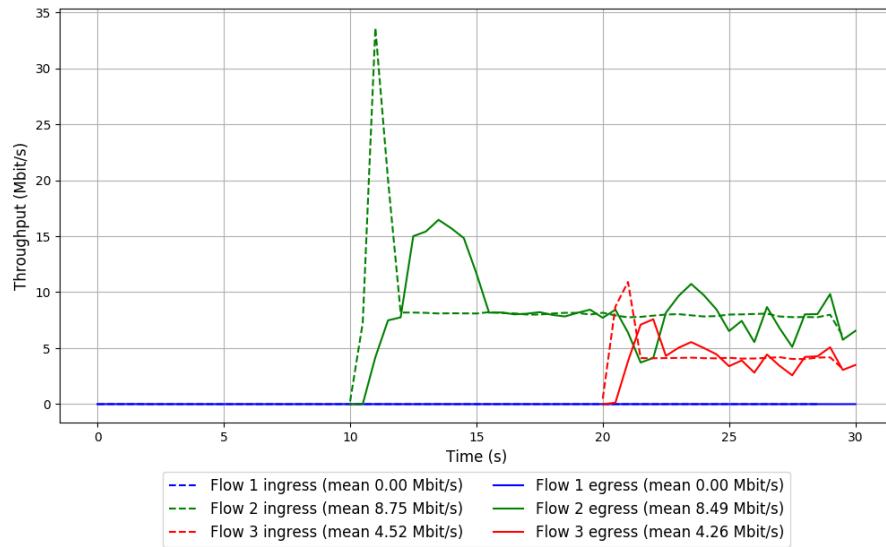


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-05-30 14:30:28
End at: 2018-05-30 14:30:58
Local clock offset: 5.973 ms
Remote clock offset: 54.219 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.04 Mbit/s
95th percentile per-packet one-way delay: 1244.998 ms
Loss rate: 3.65%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 723.601 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 1317.596 ms
Loss rate: 3.03%
-- Flow 3:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 710.889 ms
Loss rate: 6.09%
```

Run 1: Report of PCC-Allegro — Data Link

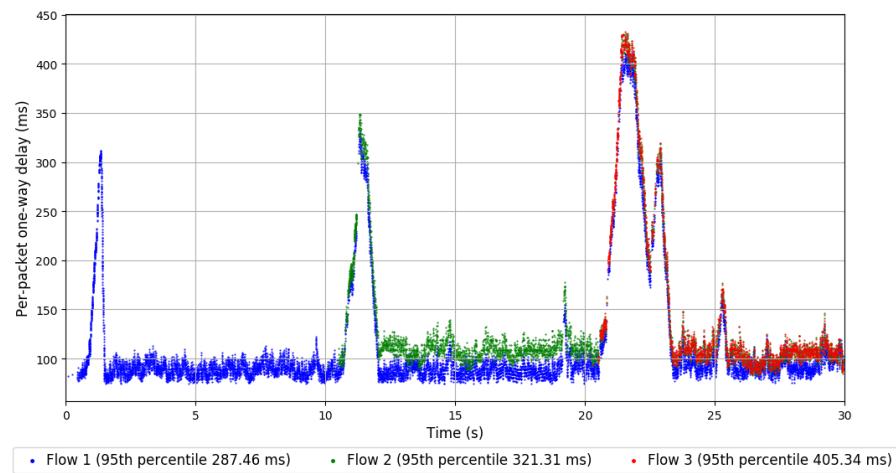
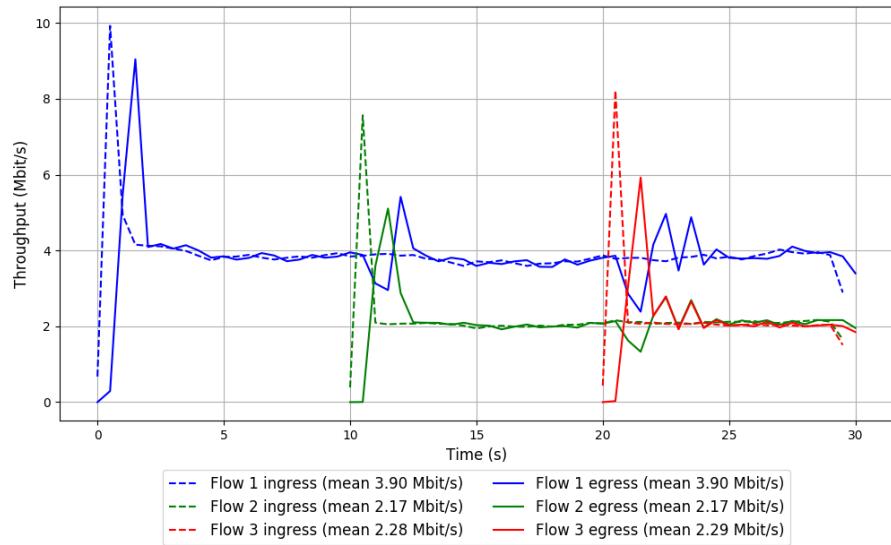


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-05-30 14:51:25
End at: 2018-05-30 14:51:55
Local clock offset: 7.067 ms
Remote clock offset: 47.16 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.09 Mbit/s
95th percentile per-packet one-way delay: 311.318 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 287.460 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 321.305 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 405.341 ms
Loss rate: 0.22%
```

Run 2: Report of PCC-Allegro — Data Link

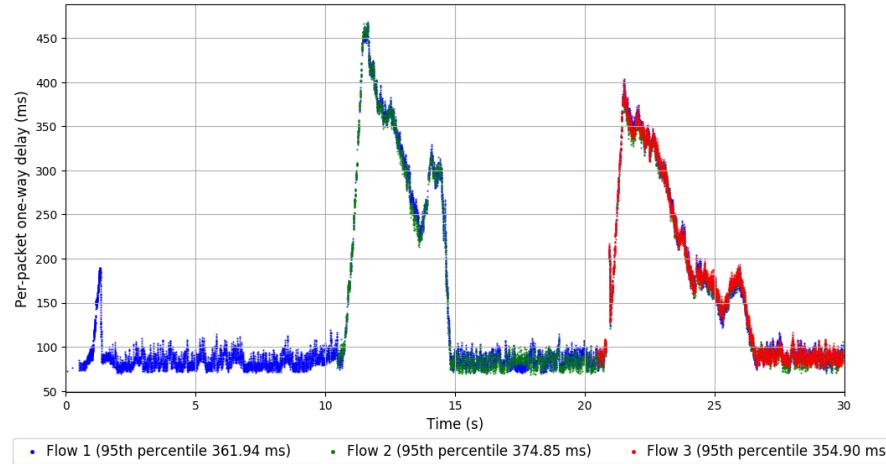
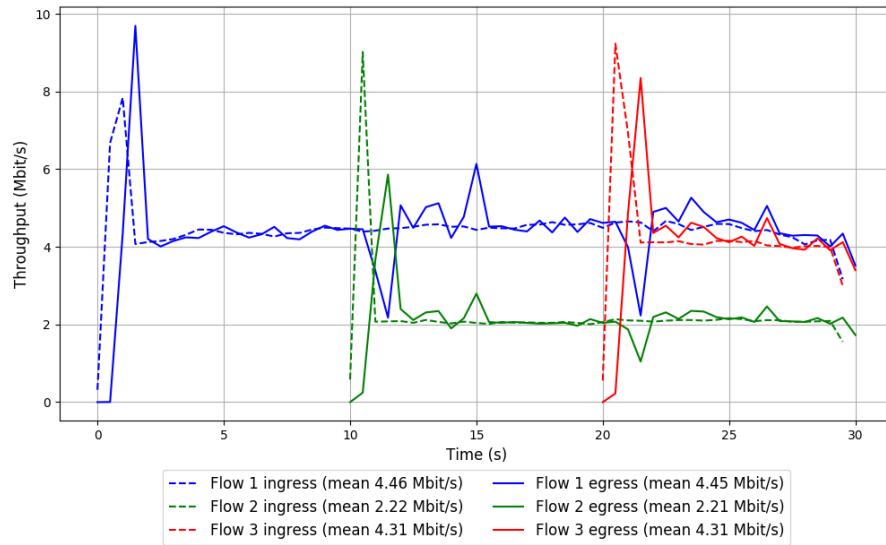


```
Run 3: Statistics of PCC-Allegro
```

```
Start at: 2018-05-30 15:12:26
End at: 2018-05-30 15:12:56
Local clock offset: 7.657 ms
Remote clock offset: 47.651 ms

# Below is generated by plot.py at 2018-05-30 15:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.34 Mbit/s
95th percentile per-packet one-way delay: 363.118 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 361.941 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 374.846 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 354.904 ms
Loss rate: 0.31%
```

Run 3: Report of PCC-Allegro — Data Link

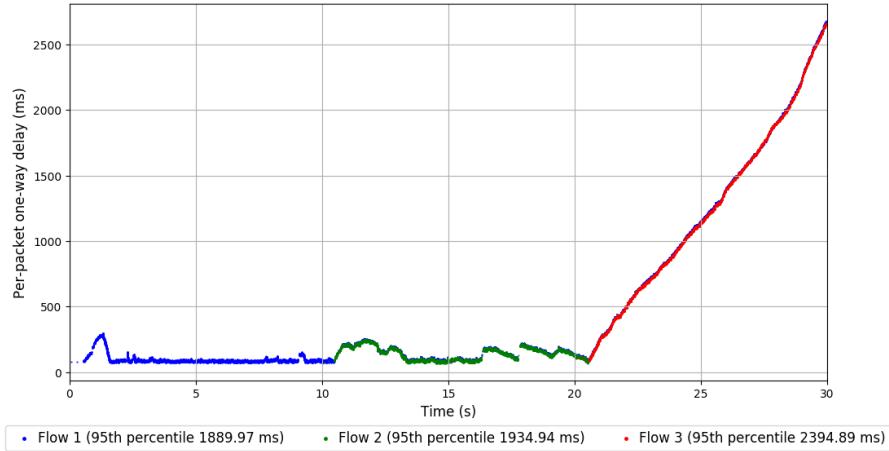
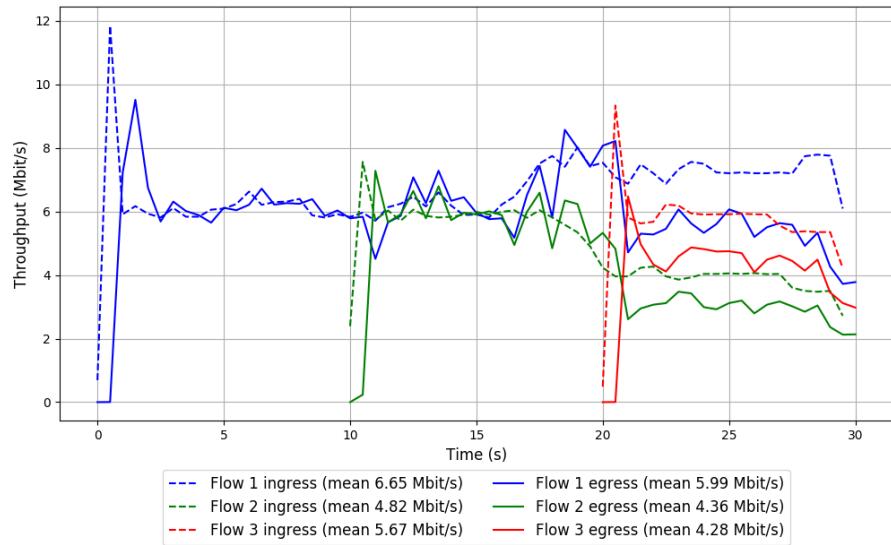


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-05-30 14:26:31
End at: 2018-05-30 14:27:01
Local clock offset: 6.16 ms
Remote clock offset: 53.565 ms

# Below is generated by plot.py at 2018-05-30 15:27:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.30 Mbit/s
95th percentile per-packet one-way delay: 1996.582 ms
Loss rate: 12.26%
-- Flow 1:
Average throughput: 5.99 Mbit/s
95th percentile per-packet one-way delay: 1889.972 ms
Loss rate: 9.98%
-- Flow 2:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 1934.945 ms
Loss rate: 9.62%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 2394.895 ms
Loss rate: 24.85%
```

Run 1: Report of PCC-Expr — Data Link

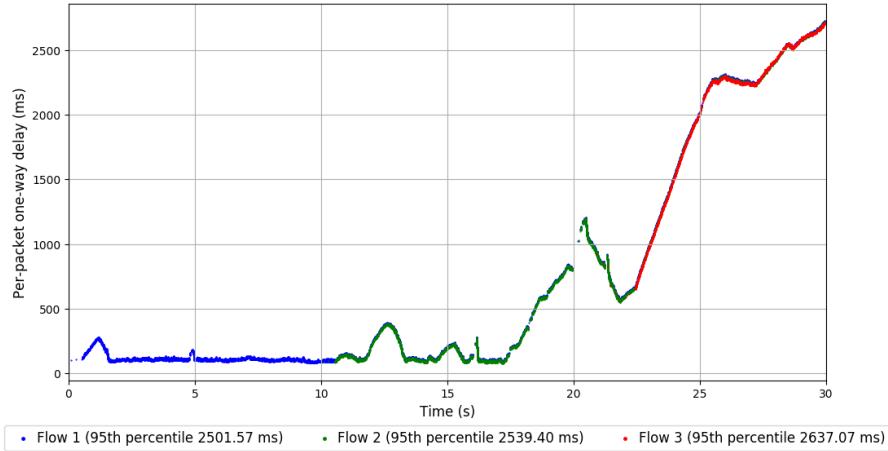
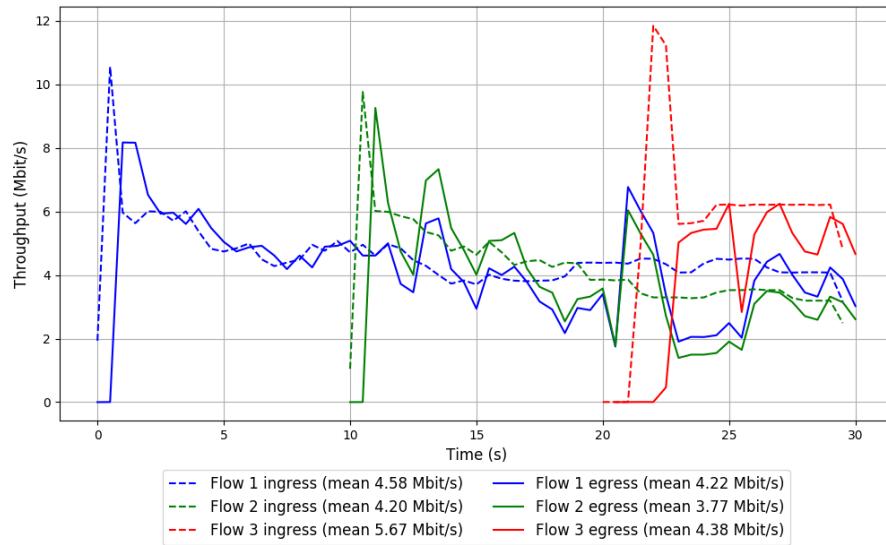


Run 2: Statistics of PCC-Expr

```
Start at: 2018-05-30 14:47:29
End at: 2018-05-30 14:47:59
Local clock offset: 6.649 ms
Remote clock offset: 47.482 ms

# Below is generated by plot.py at 2018-05-30 15:27:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.06 Mbit/s
95th percentile per-packet one-way delay: 2573.809 ms
Loss rate: 12.97%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 2501.567 ms
Loss rate: 7.91%
-- Flow 2:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 2539.403 ms
Loss rate: 10.30%
-- Flow 3:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 2637.065 ms
Loss rate: 29.34%
```

Run 2: Report of PCC-Expr — Data Link

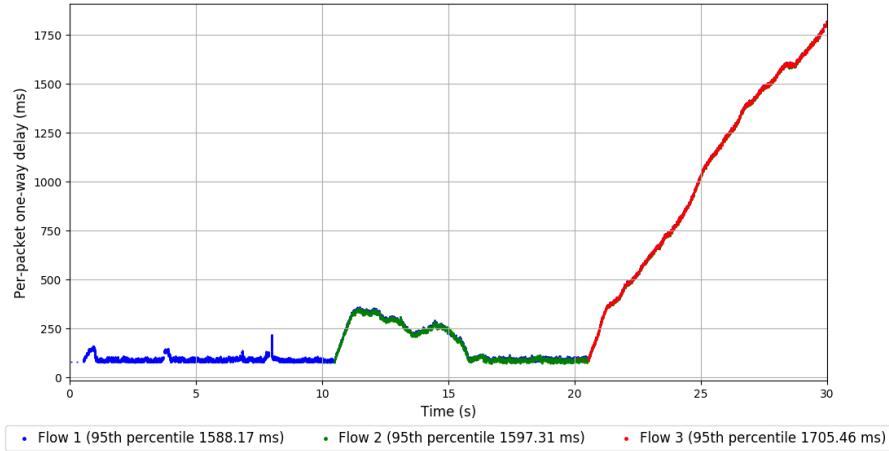
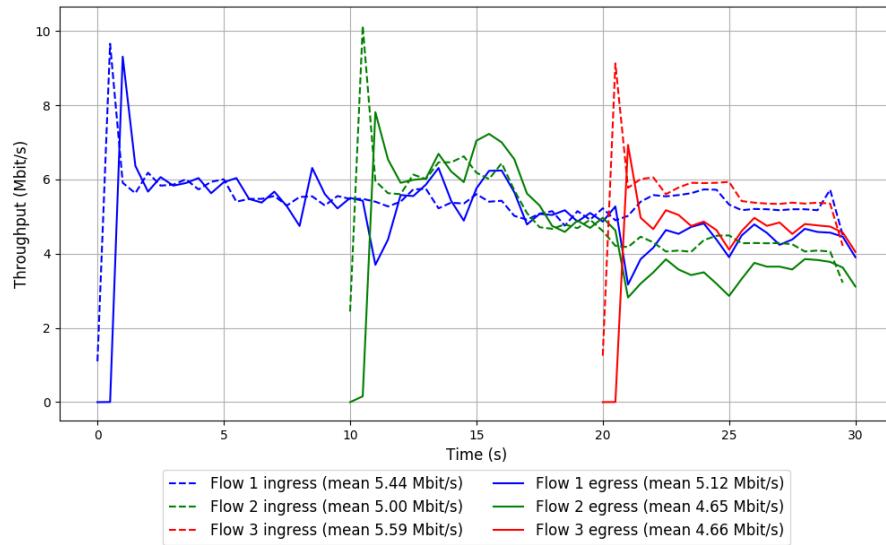


Run 3: Statistics of PCC-Expr

```
Start at: 2018-05-30 15:08:30
End at: 2018-05-30 15:09:00
Local clock offset: 7.406 ms
Remote clock offset: 47.292 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.74 Mbit/s
95th percentile per-packet one-way delay: 1608.272 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 5.12 Mbit/s
95th percentile per-packet one-way delay: 1588.166 ms
Loss rate: 5.86%
-- Flow 2:
Average throughput: 4.65 Mbit/s
95th percentile per-packet one-way delay: 1597.305 ms
Loss rate: 7.14%
-- Flow 3:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 1705.465 ms
Loss rate: 16.91%
```

Run 3: Report of PCC-Expr — Data Link

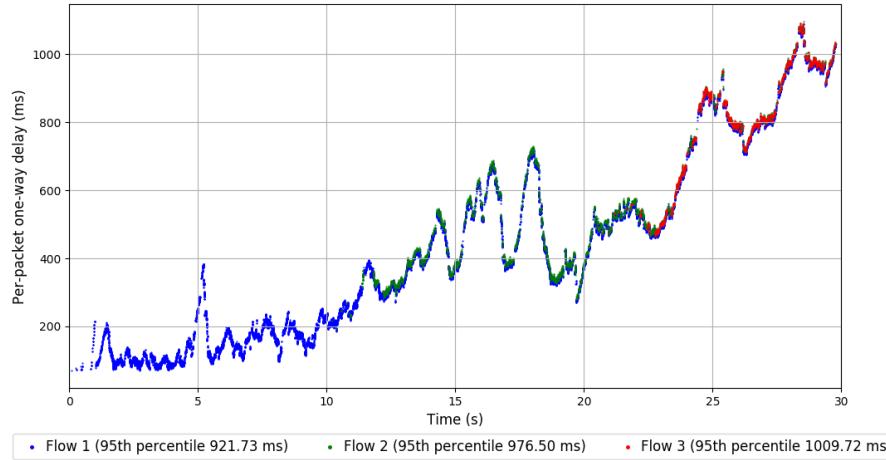
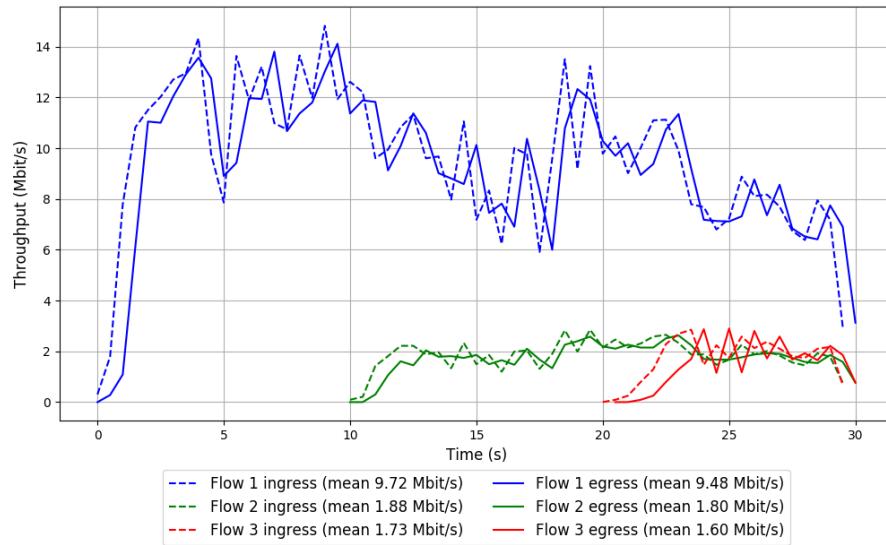


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-05-30 14:39:37
End at: 2018-05-30 14:40:07
Local clock offset: 6.006 ms
Remote clock offset: 48.798 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 959.241 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 921.729 ms
Loss rate: 2.44%
-- Flow 2:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 976.503 ms
Loss rate: 4.74%
-- Flow 3:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 1009.722 ms
Loss rate: 11.92%
```

Run 1: Report of QUIC Cubic — Data Link

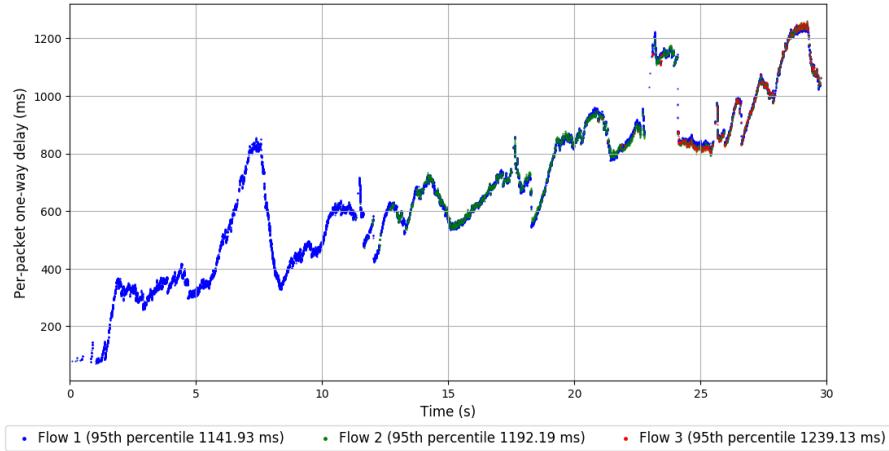
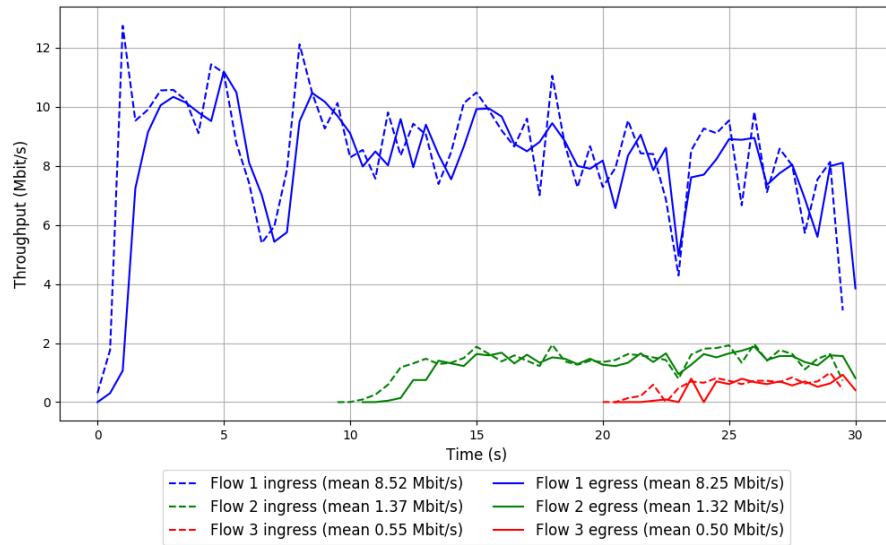


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-05-30 15:00:39
End at: 2018-05-30 15:01:09
Local clock offset: 7.228 ms
Remote clock offset: 46.938 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 1147.329 ms
Loss rate: 3.77%
-- Flow 1:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 1141.926 ms
Loss rate: 3.23%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 1192.189 ms
Loss rate: 6.11%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 1239.127 ms
Loss rate: 17.44%
```

Run 2: Report of QUIC Cubic — Data Link

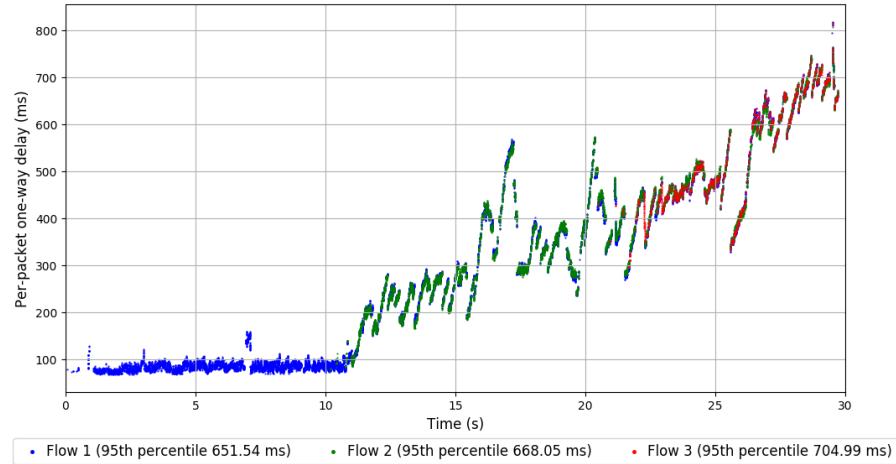
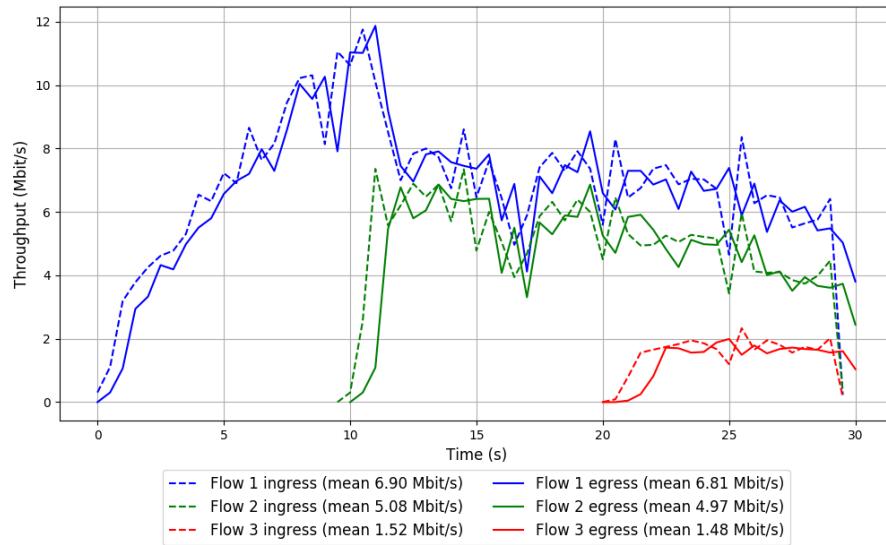


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-05-30 15:21:36
End at: 2018-05-30 15:22:06
Local clock offset: 7.683 ms
Remote clock offset: 48.224 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.57 Mbit/s
95th percentile per-packet one-way delay: 663.395 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 6.81 Mbit/s
95th percentile per-packet one-way delay: 651.539 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 668.054 ms
Loss rate: 2.21%
-- Flow 3:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 704.987 ms
Loss rate: 6.59%
```

Run 3: Report of QUIC Cubic — Data Link

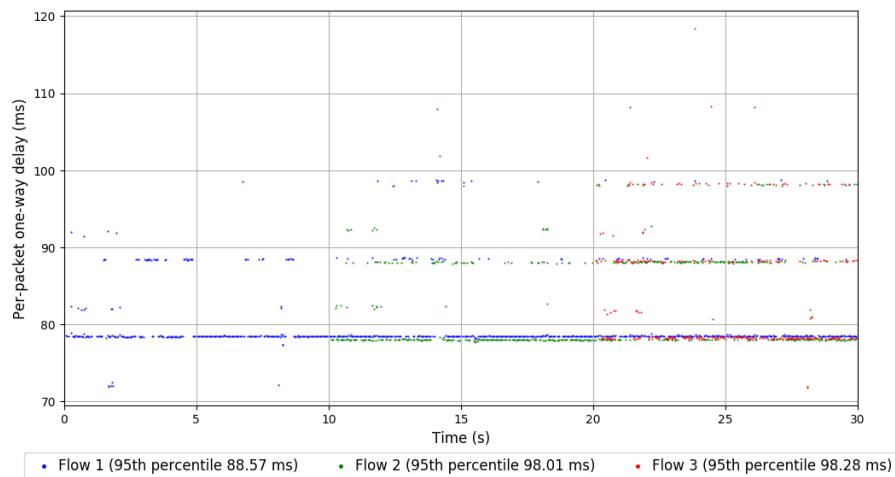
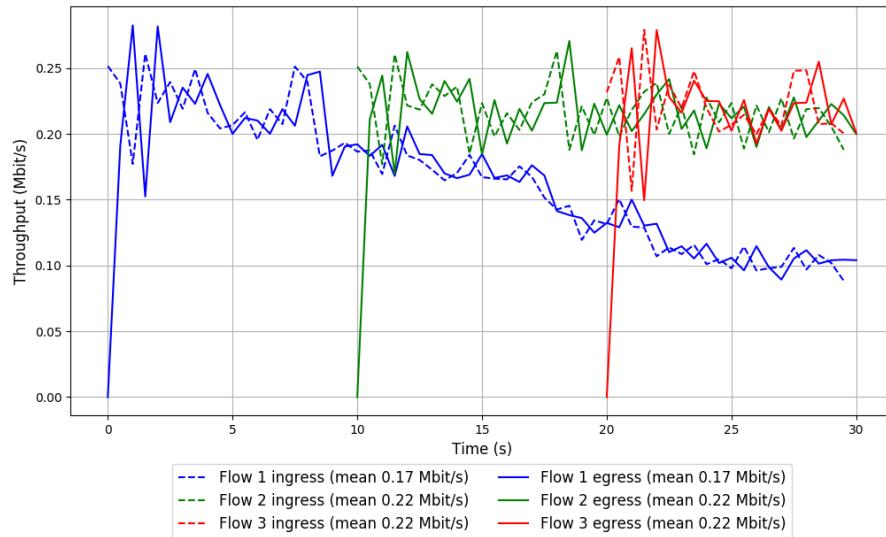


```
Run 1: Statistics of SCReAM

Start at: 2018-05-30 14:27:50
End at: 2018-05-30 14:28:20
Local clock offset: 6.319 ms
Remote clock offset: 53.773 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 98.102 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 88.574 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.007 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 98.275 ms
Loss rate: 0.35%
```

Run 1: Report of SCReAM — Data Link

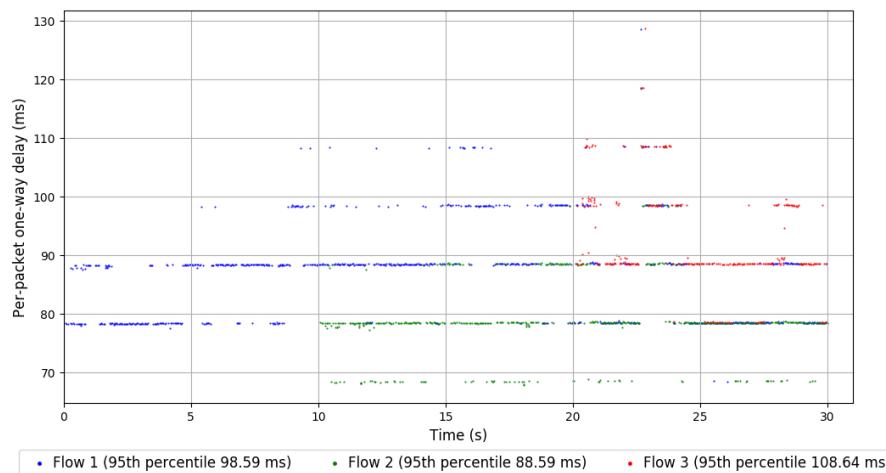
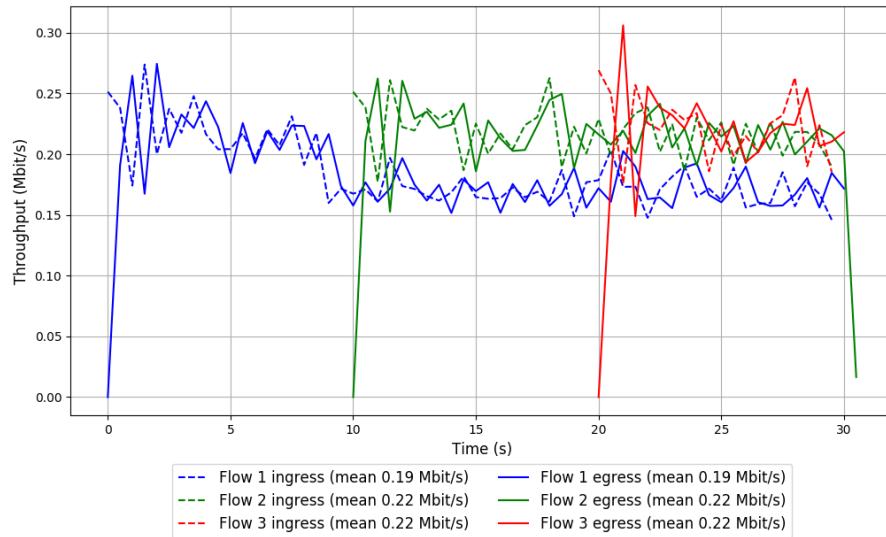


Run 2: Statistics of SCReAM

```
Start at: 2018-05-30 14:48:48
End at: 2018-05-30 14:49:18
Local clock offset: 6.724 ms
Remote clock offset: 47.214 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 98.660 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 98.595 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.588 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 108.642 ms
Loss rate: 0.35%
```

Run 2: Report of SCReAM — Data Link

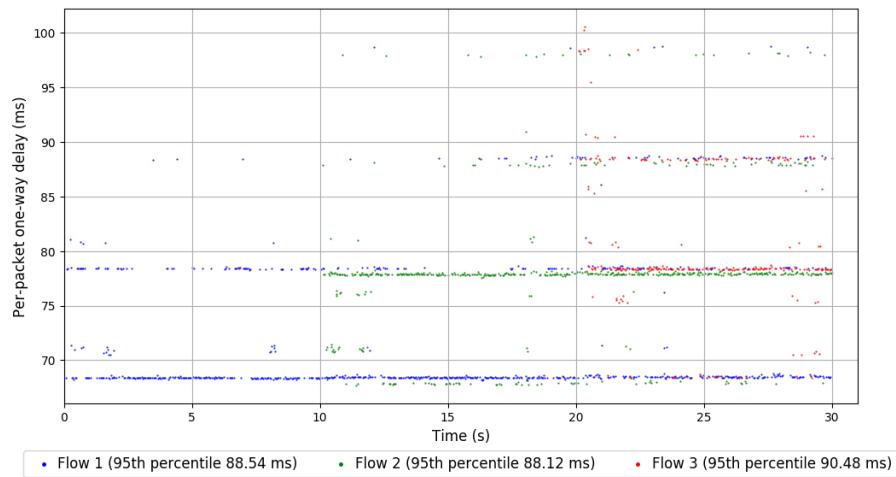
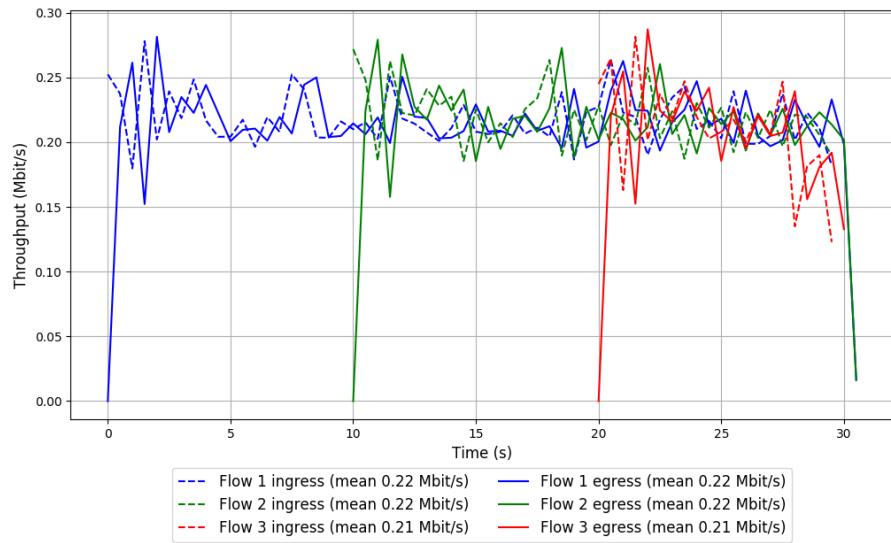


Run 3: Statistics of SCReAM

```
Start at: 2018-05-30 15:09:49
End at: 2018-05-30 15:10:19
Local clock offset: 7.547 ms
Remote clock offset: 47.535 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 88.564 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.541 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.118 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 90.482 ms
Loss rate: 0.21%
```

Run 3: Report of SCReAM — Data Link

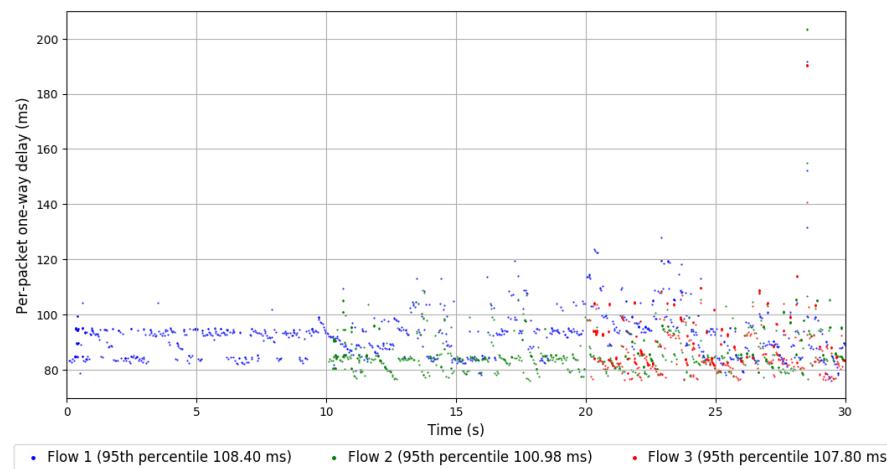
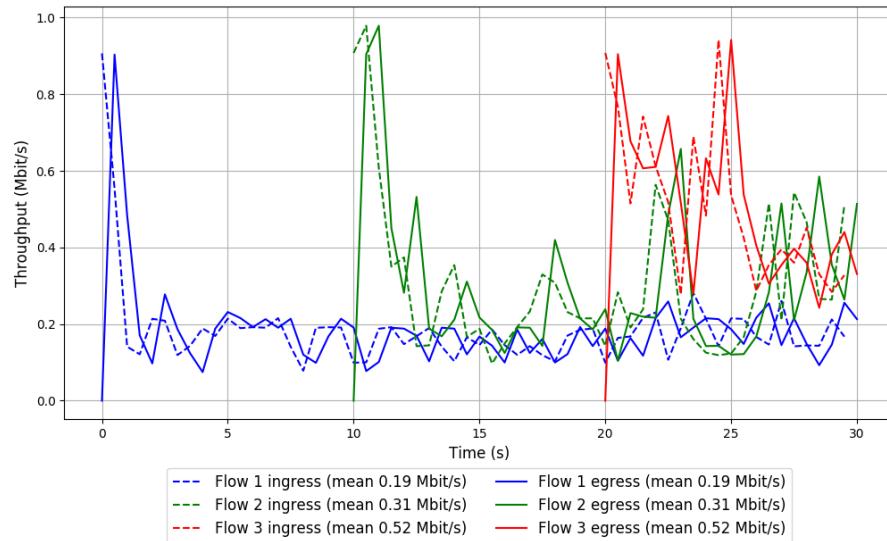


Run 1: Statistics of Sprout

```
Start at: 2018-05-30 14:37:01
End at: 2018-05-30 14:37:31
Local clock offset: 5.948 ms
Remote clock offset: 49.729 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 105.116 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 108.402 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 100.985 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 107.797 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

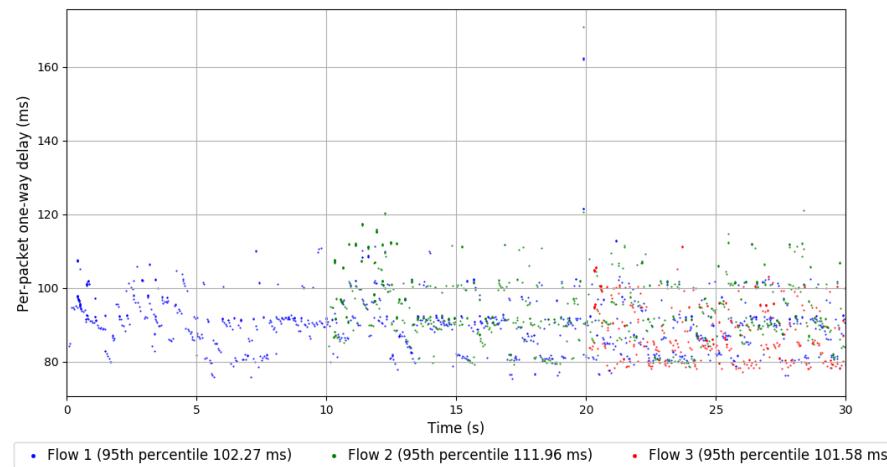
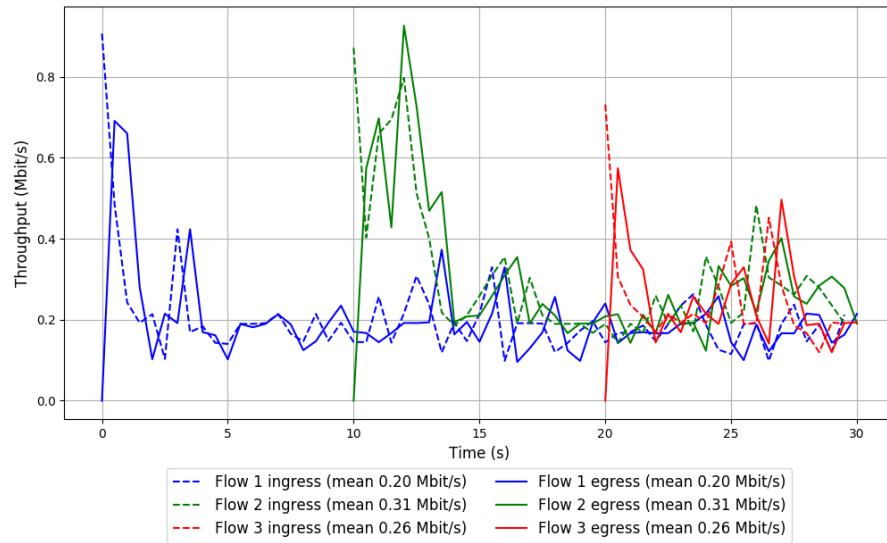


Run 2: Statistics of Sprout

```
Start at: 2018-05-30 14:57:57
End at: 2018-05-30 14:58:27
Local clock offset: 7.228 ms
Remote clock offset: 46.894 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 109.749 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 102.270 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 111.960 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 101.578 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

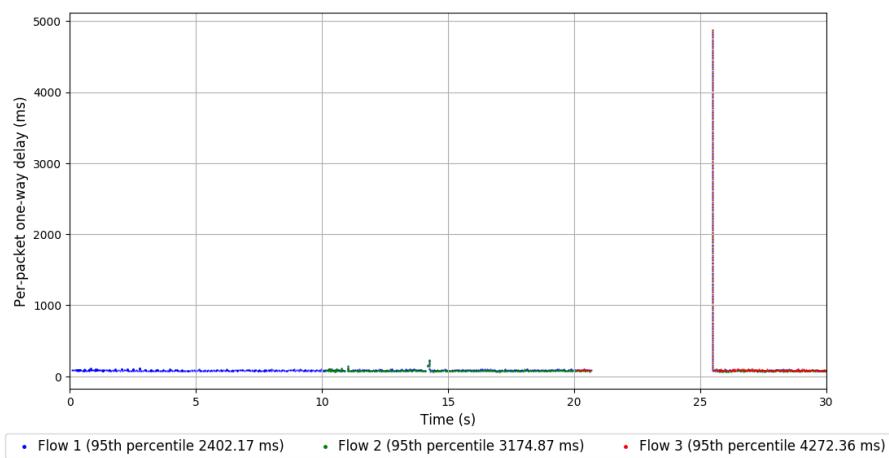
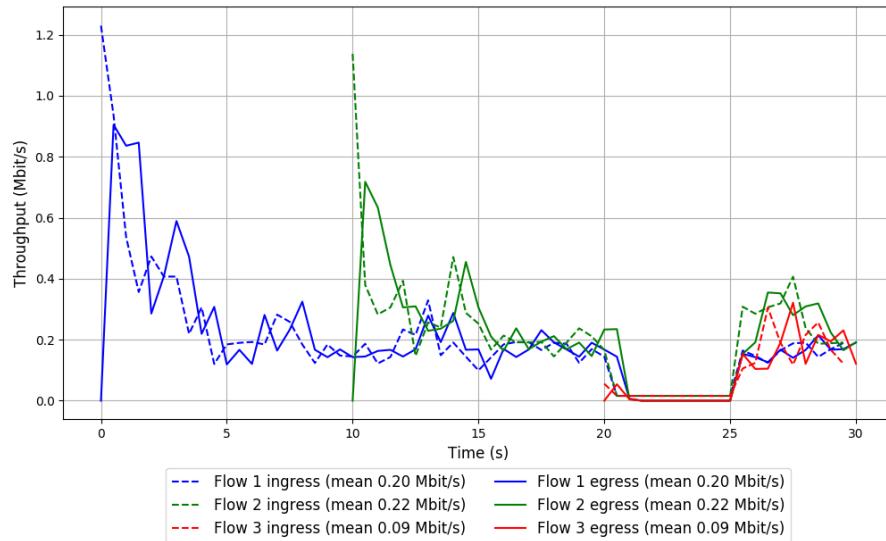


Run 3: Statistics of Sprout

```
Start at: 2018-05-30 15:18:59
End at: 2018-05-30 15:19:29
Local clock offset: 7.693 ms
Remote clock offset: 48.02 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 3298.936 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 2402.166 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3174.869 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 4272.361 ms
Loss rate: 0.09%
```

Run 3: Report of Sprout — Data Link

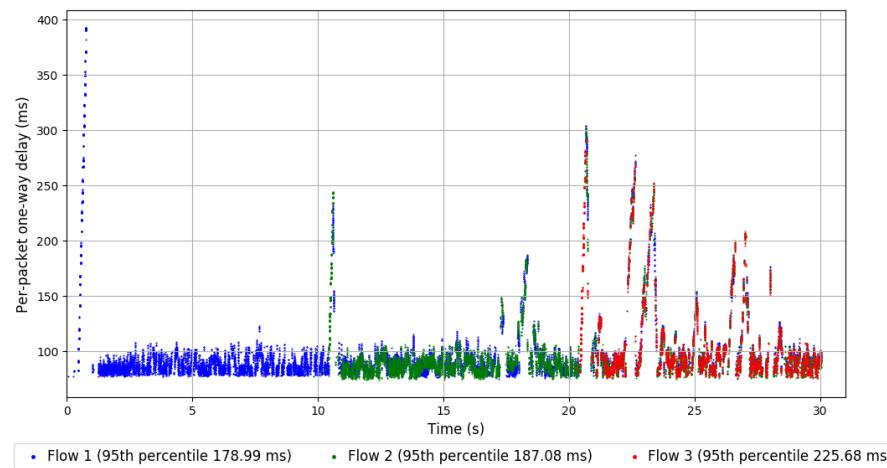
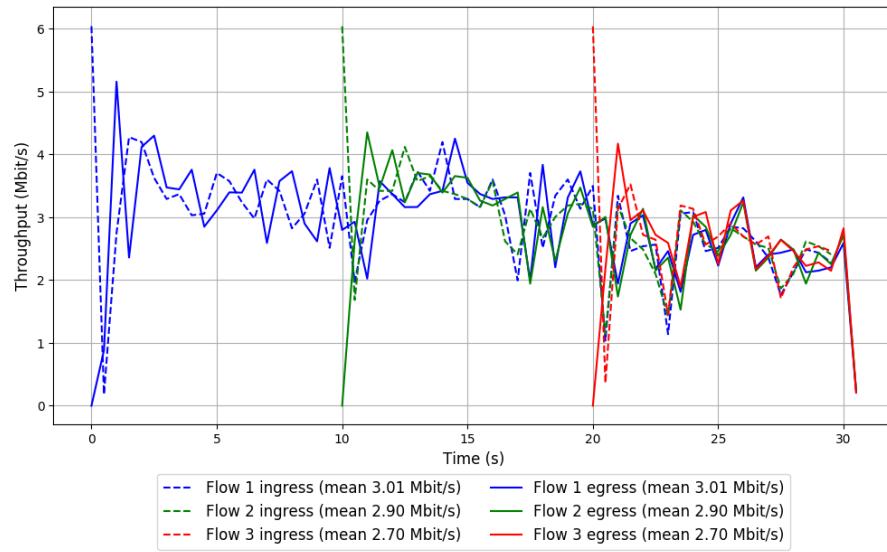


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-05-30 14:29:08
End at: 2018-05-30 14:29:38
Local clock offset: 5.975 ms
Remote clock offset: 53.981 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 195.898 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 178.990 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 187.077 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 225.684 ms
Loss rate: 0.05%
```

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

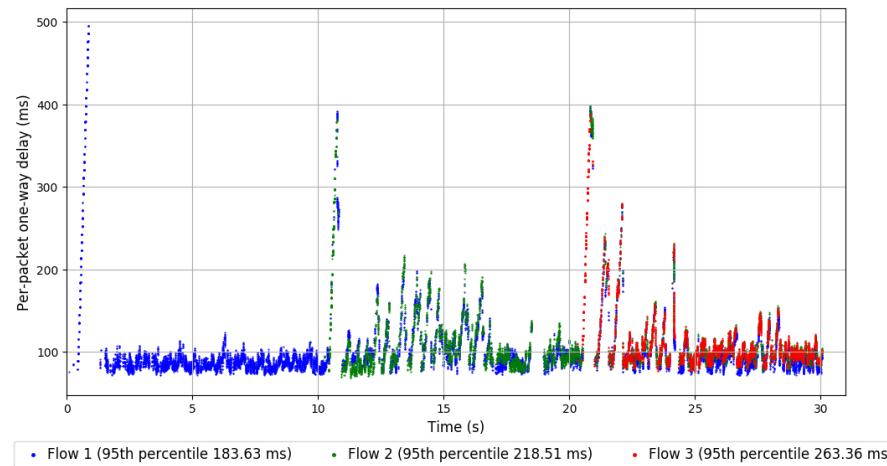
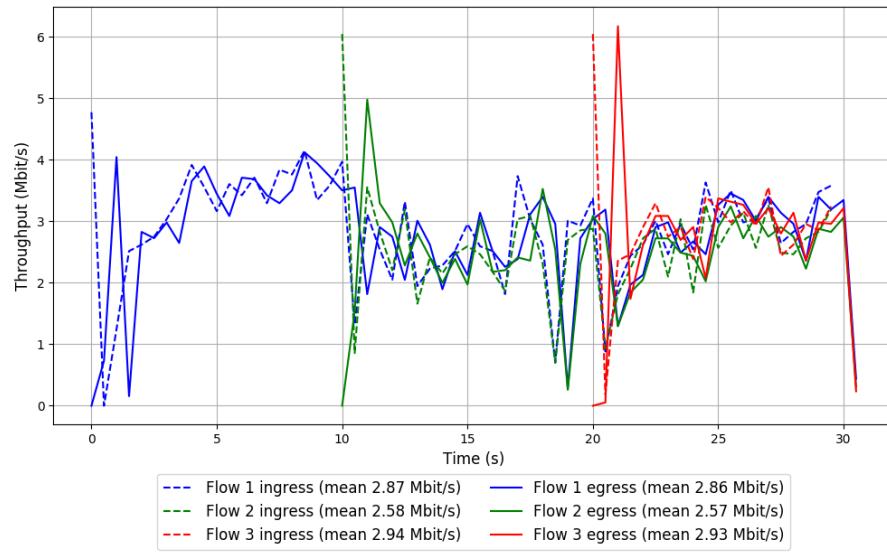


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-05-30 14:50:06
End at: 2018-05-30 14:50:36
Local clock offset: 6.709 ms
Remote clock offset: 47.158 ms

# Below is generated by plot.py at 2018-05-30 15:27:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 217.214 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 183.630 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 218.507 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 263.362 ms
Loss rate: 0.66%
```

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

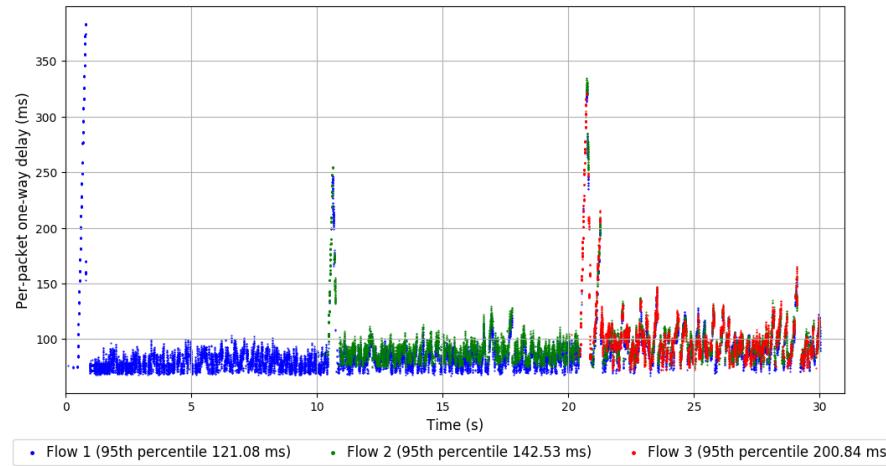
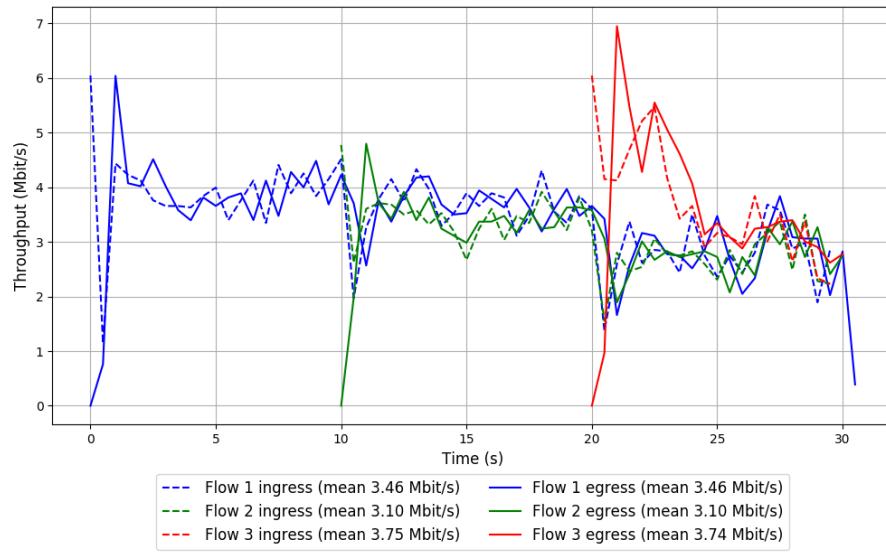


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-05-30 15:11:08
End at: 2018-05-30 15:11:38
Local clock offset: 7.746 ms
Remote clock offset: 47.503 ms

# Below is generated by plot.py at 2018-05-30 15:27:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 152.914 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 121.082 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 142.528 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 200.843 ms
Loss rate: 0.01%
```

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

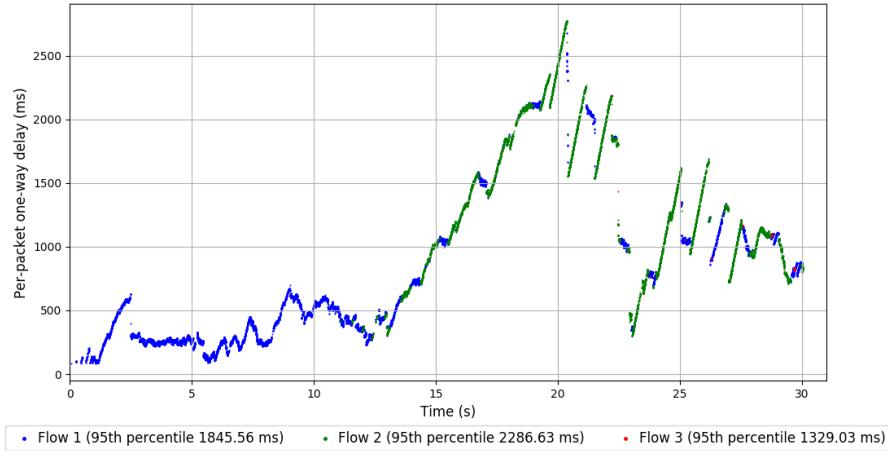
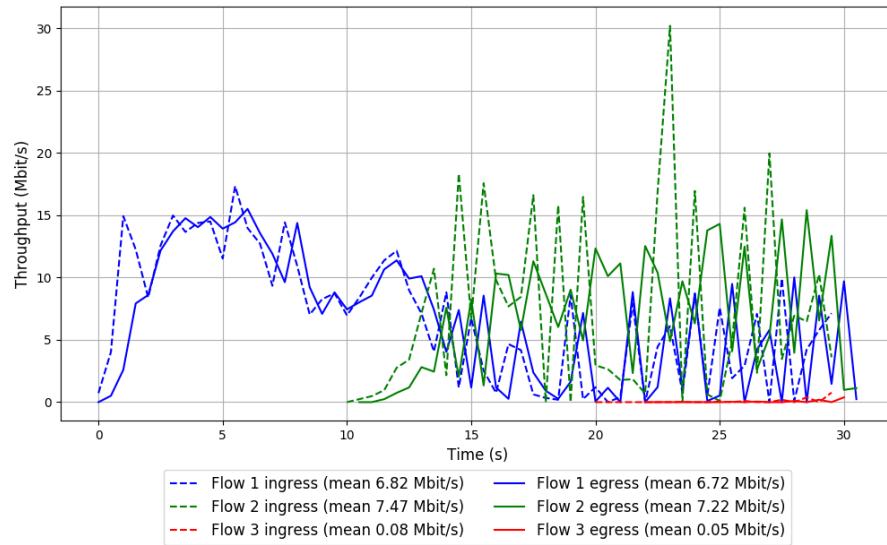


Run 1: Statistics of TCP Vegas

```
Start at: 2018-05-30 14:35:42
End at: 2018-05-30 14:36:12
Local clock offset: 6.116 ms
Remote clock offset: 50.448 ms

# Below is generated by plot.py at 2018-05-30 15:27:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 2114.466 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 1845.559 ms
Loss rate: 1.76%
-- Flow 2:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 2286.627 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1329.031 ms
Loss rate: 50.50%
```

Run 1: Report of TCP Vegas — Data Link

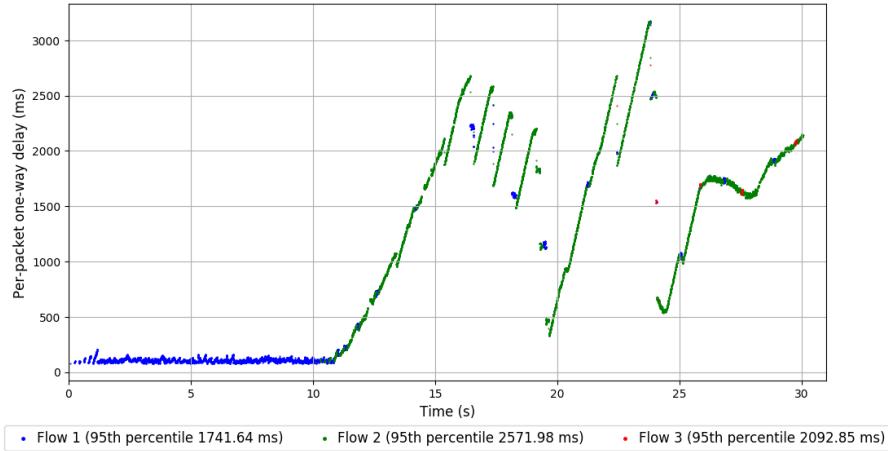
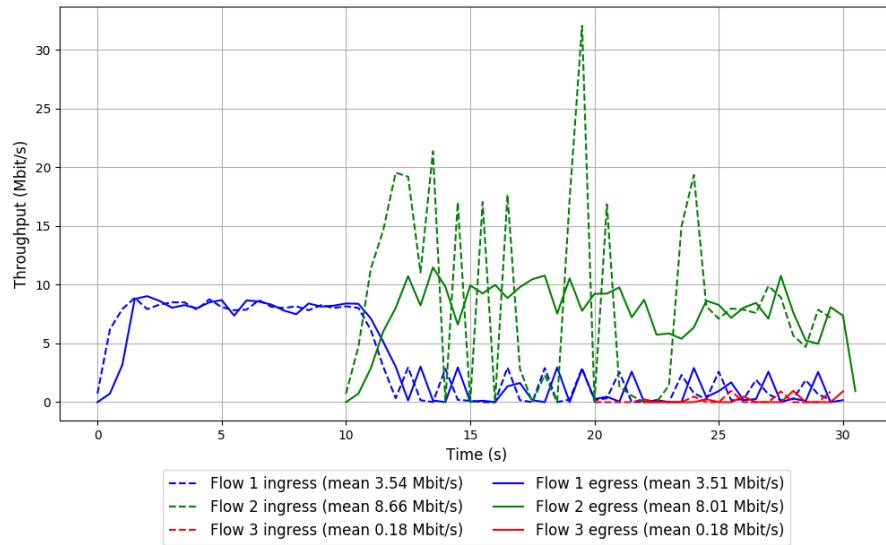


Run 2: Statistics of TCP Vegas

```
Start at: 2018-05-30 14:56:39
End at: 2018-05-30 14:57:09
Local clock offset: 7.04 ms
Remote clock offset: 46.999 ms

# Below is generated by plot.py at 2018-05-30 15:27:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 2486.861 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 1741.640 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 2571.977 ms
Loss rate: 7.66%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 2092.846 ms
Loss rate: 25.48%
```

Run 2: Report of TCP Vegas — Data Link

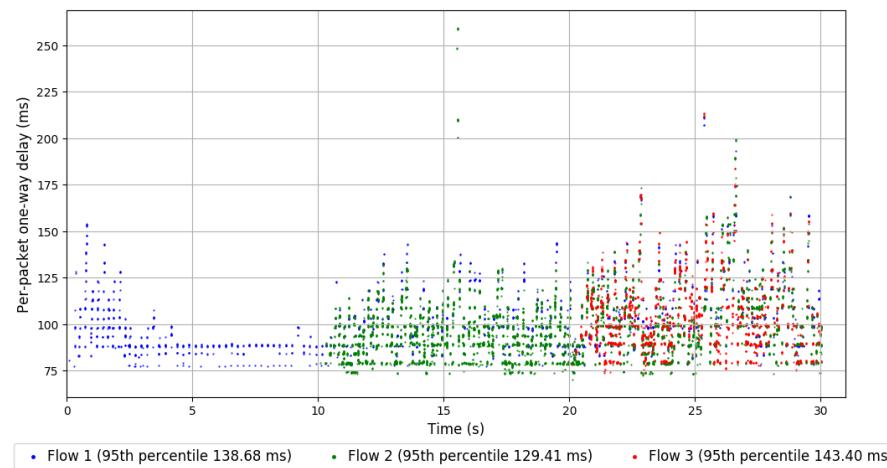
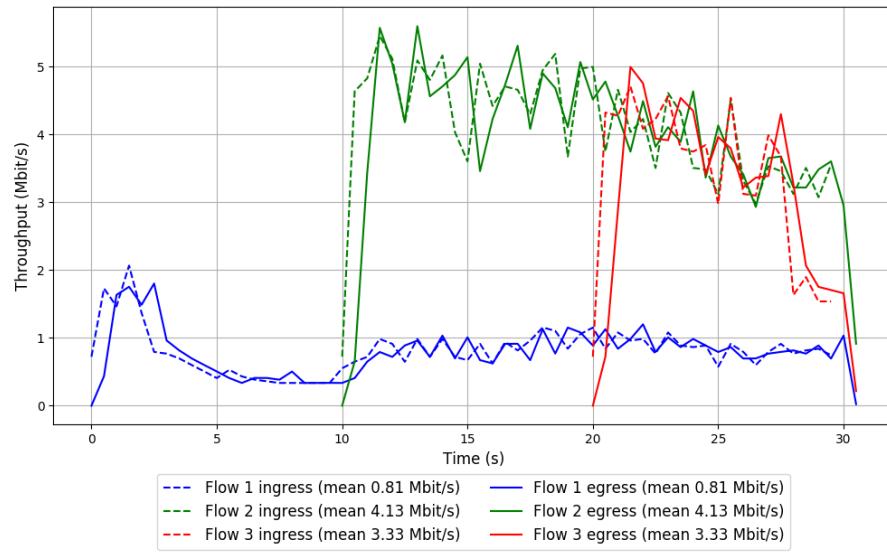


Run 3: Statistics of TCP Vegas

```
Start at: 2018-05-30 15:17:41
End at: 2018-05-30 15:18:11
Local clock offset: 7.534 ms
Remote clock offset: 48.071 ms

# Below is generated by plot.py at 2018-05-30 15:27:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 134.545 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 138.676 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 129.414 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 143.397 ms
Loss rate: 0.14%
```

Run 3: Report of TCP Vegas — Data Link

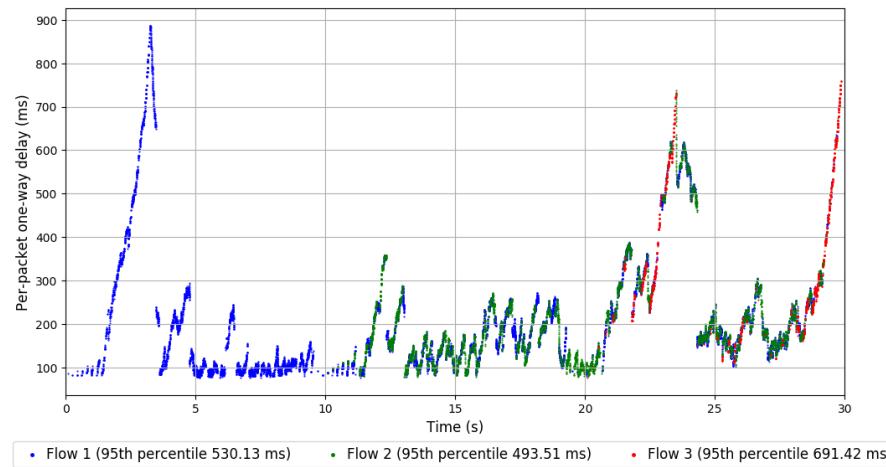
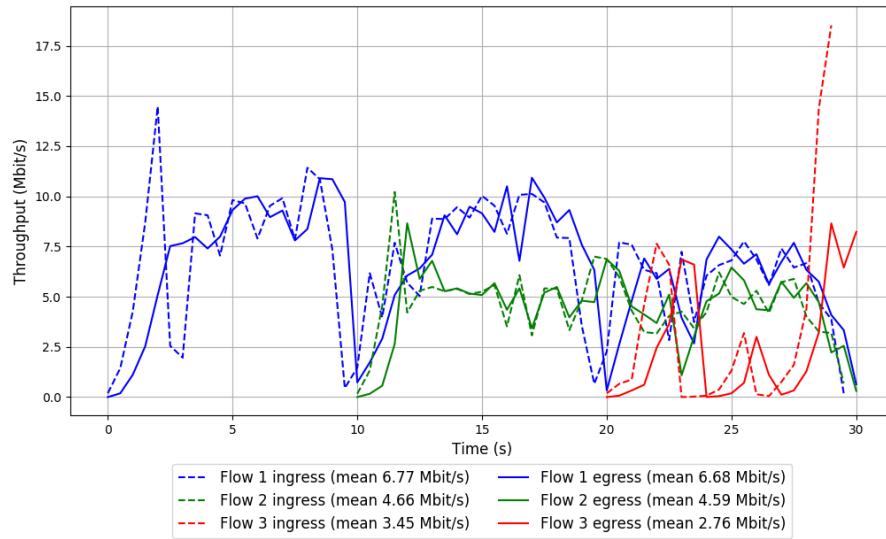


Run 1: Statistics of Verus

```
Start at: 2018-05-30 14:43:33
End at: 2018-05-30 14:44:03
Local clock offset: 6.118 ms
Remote clock offset: 47.915 ms

# Below is generated by plot.py at 2018-05-30 15:27:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.60 Mbit/s
95th percentile per-packet one-way delay: 561.422 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 6.68 Mbit/s
95th percentile per-packet one-way delay: 530.135 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 493.507 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 691.424 ms
Loss rate: 17.51%
```

Run 1: Report of Verus — Data Link

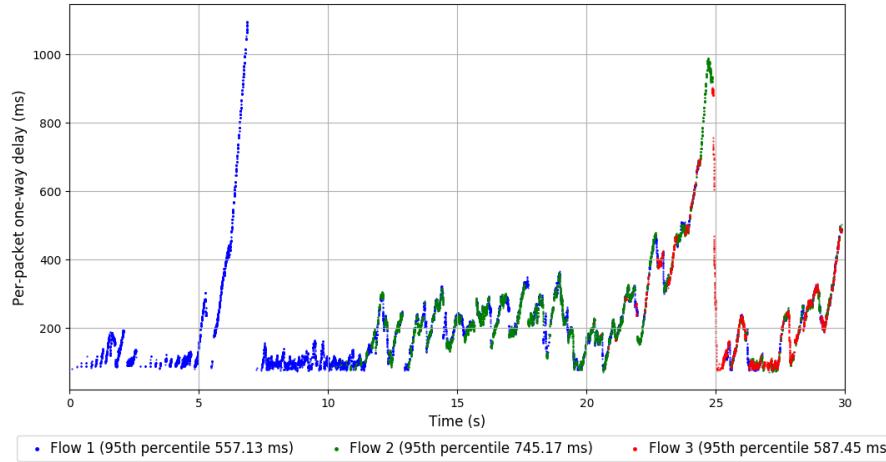
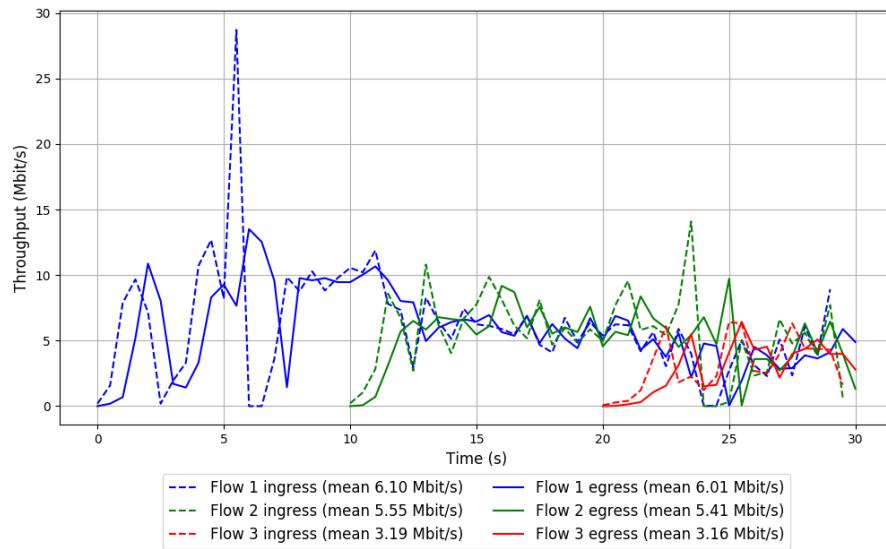


Run 2: Statistics of Verus

```
Start at: 2018-05-30 15:04:34
End at: 2018-05-30 15:05:04
Local clock offset: 7.455 ms
Remote clock offset: 46.91 ms

# Below is generated by plot.py at 2018-05-30 15:27:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.61 Mbit/s
95th percentile per-packet one-way delay: 602.878 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 557.134 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 745.166 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 587.446 ms
Loss rate: 2.62%
```

Run 2: Report of Verus — Data Link

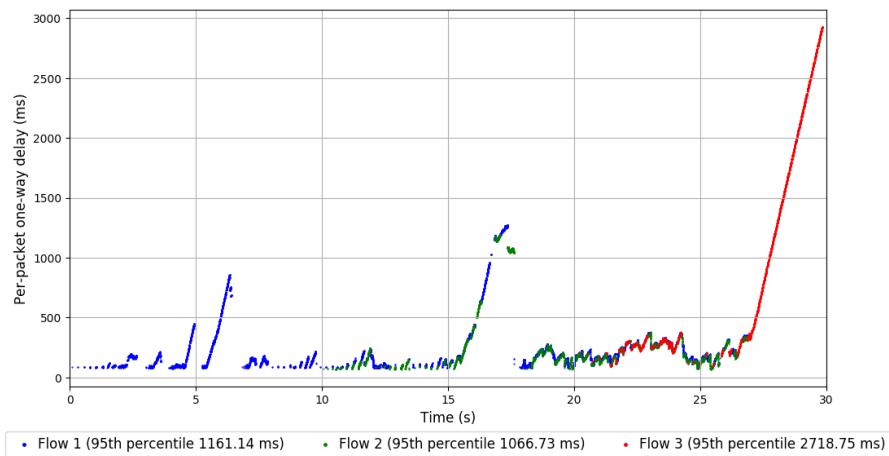
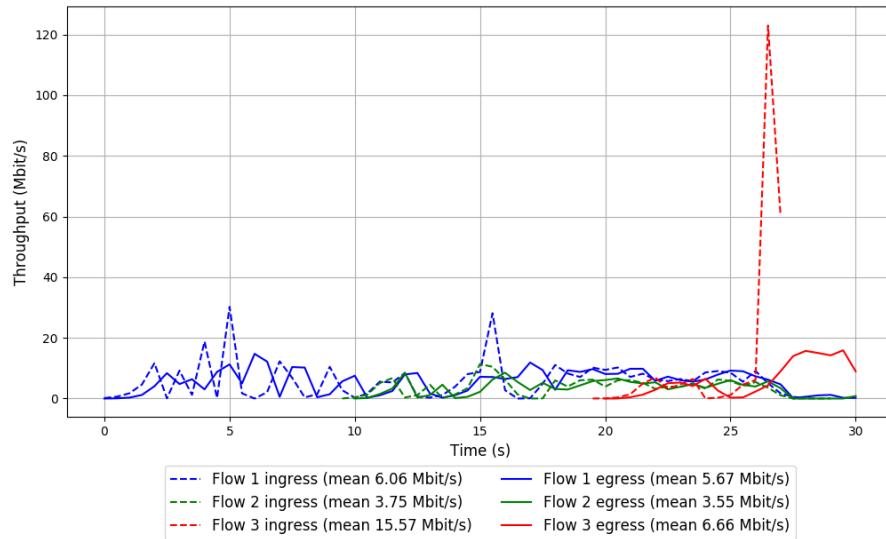


Run 3: Statistics of Verus

```
Start at: 2018-05-30 15:25:32
End at: 2018-05-30 15:26:02
Local clock offset: 7.808 ms
Remote clock offset: 48.482 ms

# Below is generated by plot.py at 2018-05-30 15:27:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.17 Mbit/s
95th percentile per-packet one-way delay: 2049.188 ms
Loss rate: 14.41%
-- Flow 1:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 1161.141 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 1066.735 ms
Loss rate: 2.12%
-- Flow 3:
Average throughput: 6.66 Mbit/s
95th percentile per-packet one-way delay: 2718.748 ms
Loss rate: 42.61%
```

Run 3: Report of Verus — Data Link

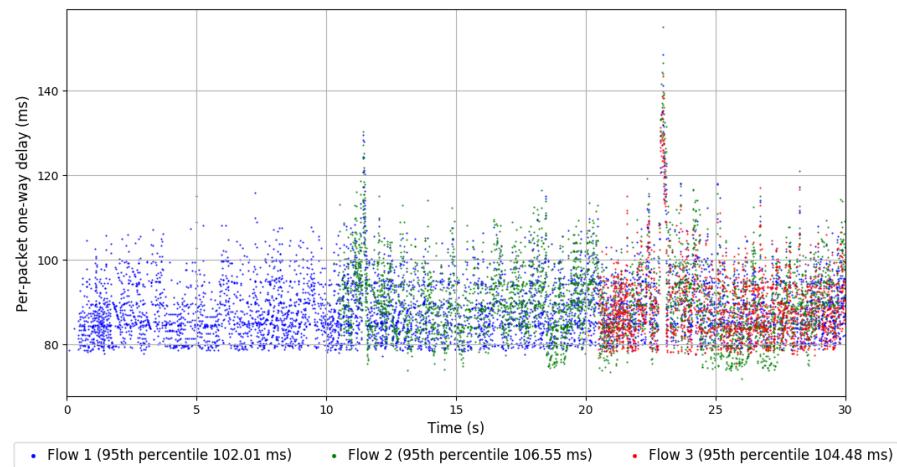
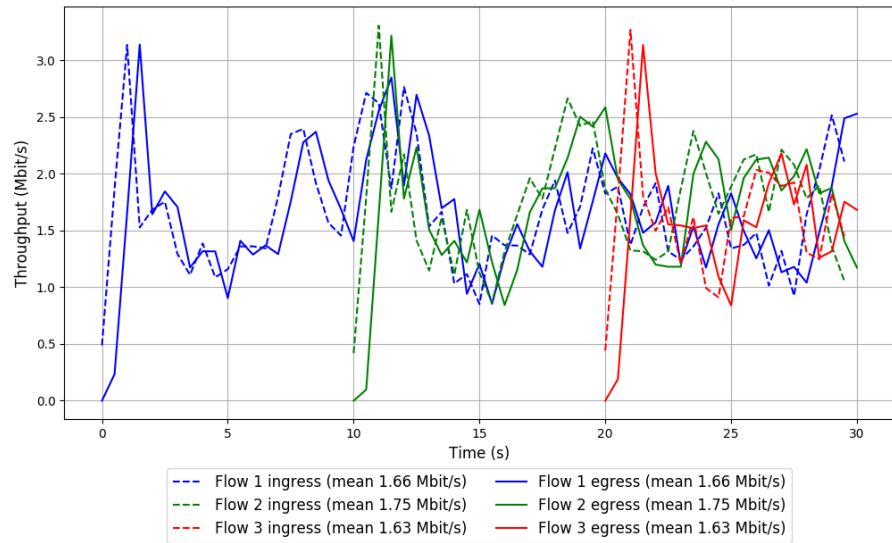


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-05-30 14:31:46
End at: 2018-05-30 14:32:16
Local clock offset: 5.994 ms
Remote clock offset: 52.845 ms

# Below is generated by plot.py at 2018-05-30 15:27:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 104.317 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 102.012 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 106.552 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 104.477 ms
Loss rate: 0.22%
```

Run 1: Report of PCC-Vivace — Data Link

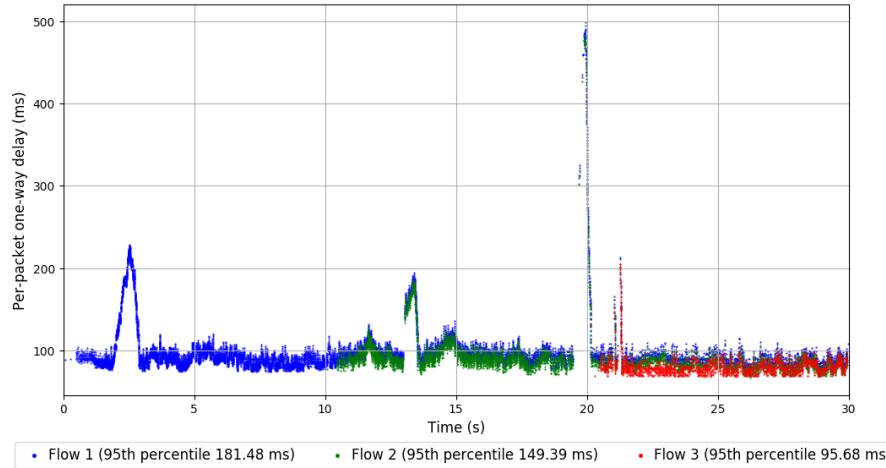
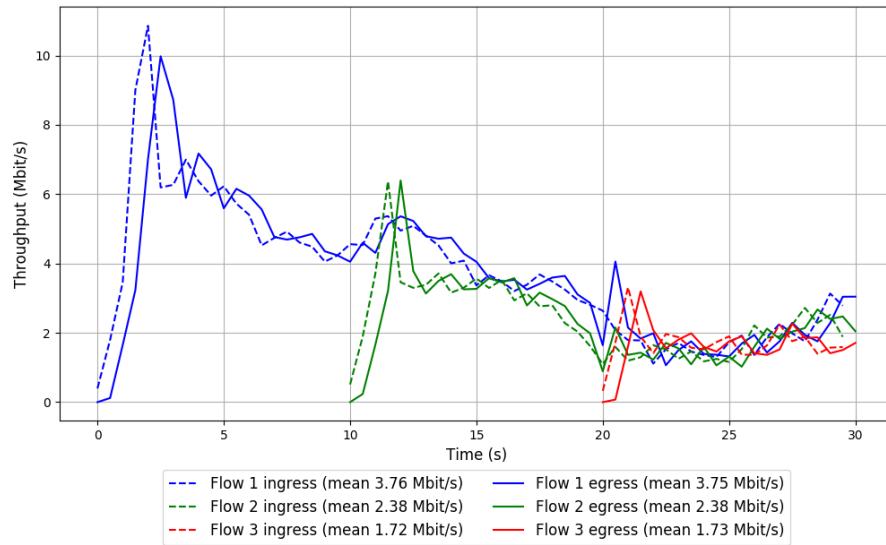


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-05-30 14:52:43
End at: 2018-05-30 14:53:13
Local clock offset: 7.054 ms
Remote clock offset: 47.042 ms

# Below is generated by plot.py at 2018-05-30 15:27:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.90 Mbit/s
95th percentile per-packet one-way delay: 166.301 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 181.484 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 149.392 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 95.678 ms
Loss rate: 0.42%
```

Run 2: Report of PCC-Vivace — Data Link

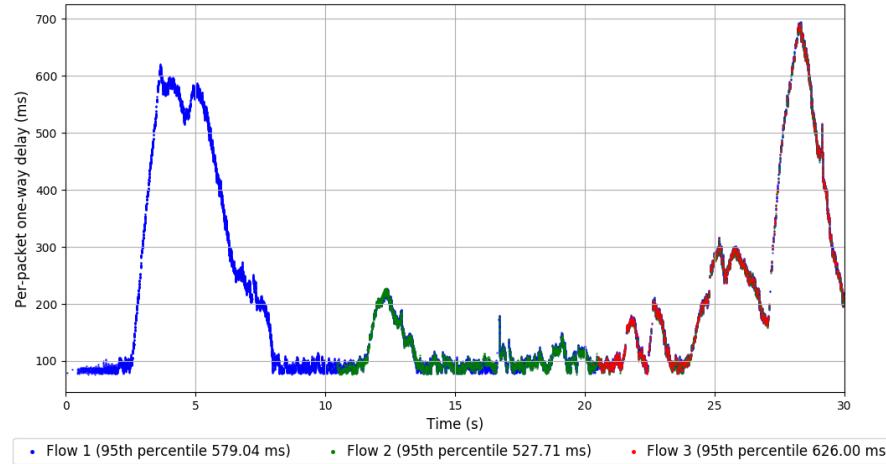
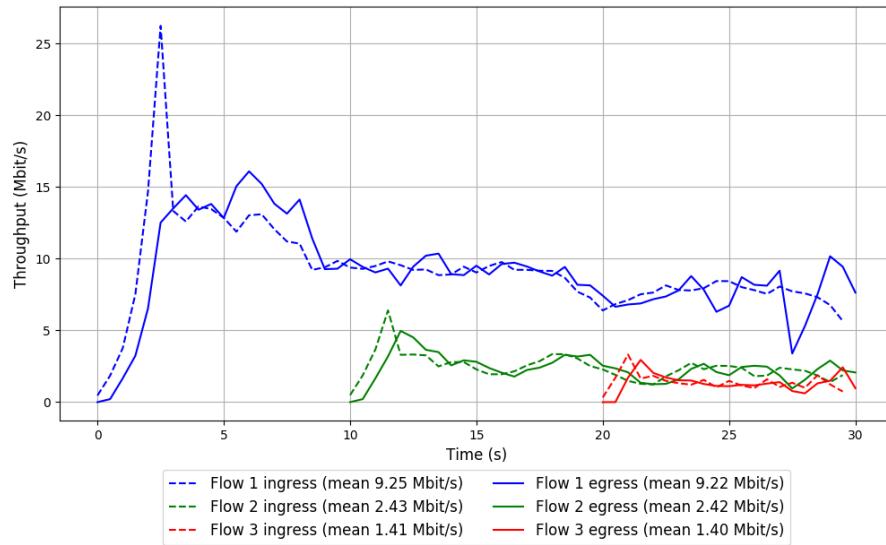


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-05-30 15:13:45
End at: 2018-05-30 15:14:15
Local clock offset: 7.684 ms
Remote clock offset: 47.799 ms

# Below is generated by plot.py at 2018-05-30 15:27:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 578.621 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 579.036 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 527.713 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 626.004 ms
Loss rate: 1.08%
```

Run 3: Report of PCC-Vivace — Data Link

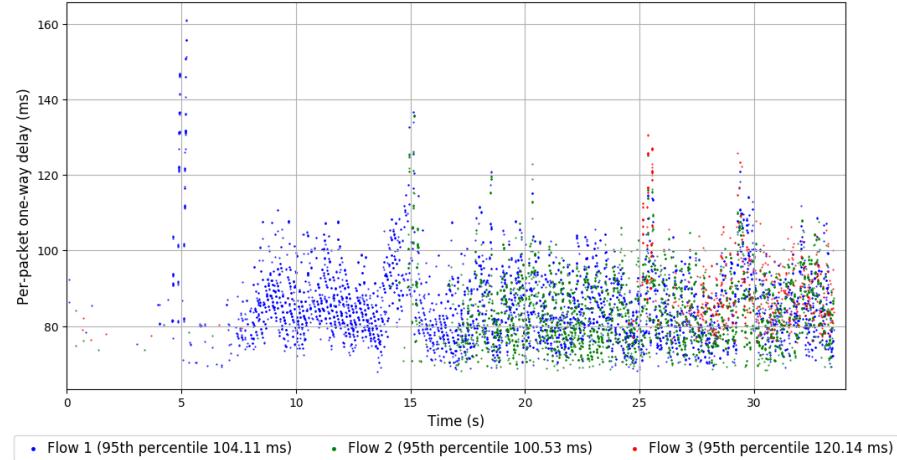
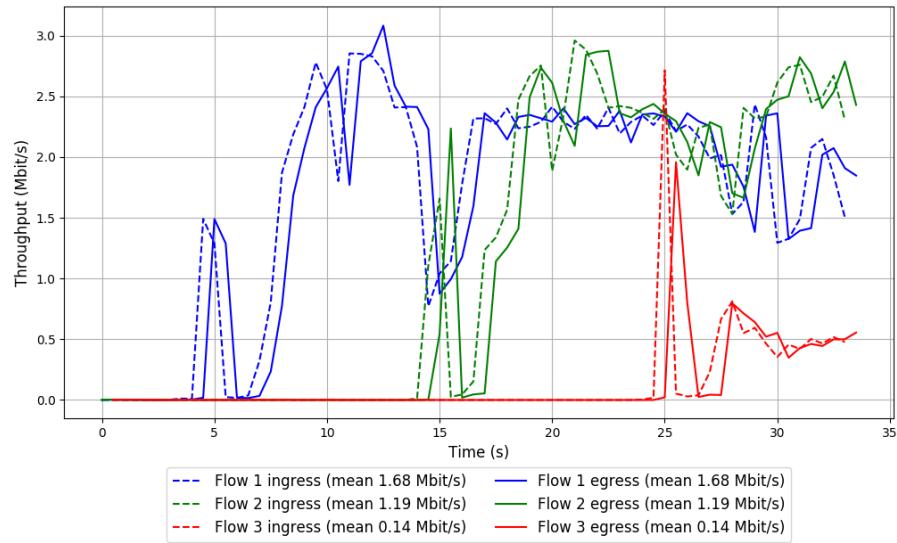


```
Run 1: Statistics of WebRTC media

Start at: 2018-05-30 14:23:54
End at: 2018-05-30 14:24:24
Local clock offset: 6.29 ms
Remote clock offset: 53.096 ms

# Below is generated by plot.py at 2018-05-30 15:27:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 103.689 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 104.111 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 100.534 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 120.141 ms
Loss rate: 0.15%
```

Run 1: Report of WebRTC media — Data Link

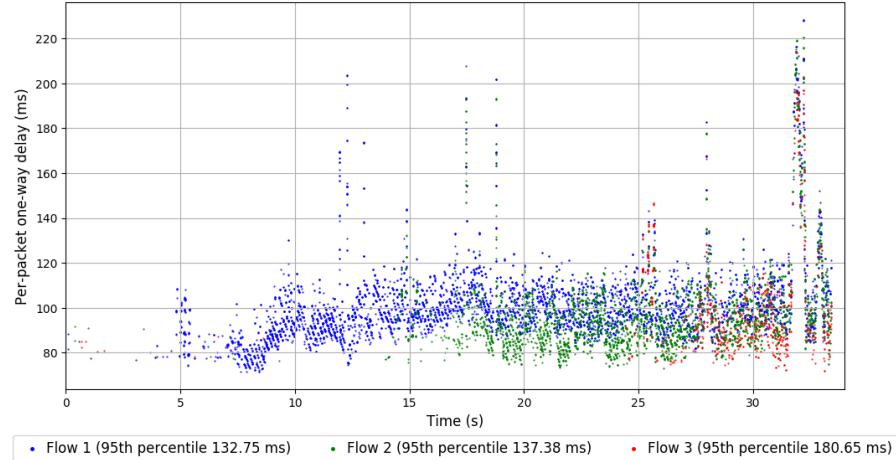
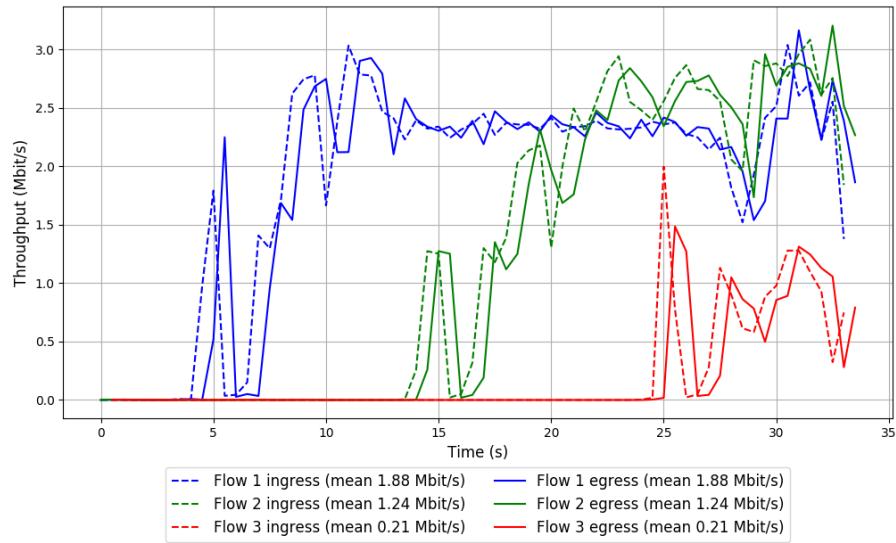


Run 2: Statistics of WebRTC media

```
Start at: 2018-05-30 14:44:52
End at: 2018-05-30 14:45:22
Local clock offset: 6.193 ms
Remote clock offset: 47.716 ms

# Below is generated by plot.py at 2018-05-30 15:27:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 137.381 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 132.755 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 137.383 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 180.648 ms
Loss rate: 0.49%
```

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

```
Start at: 2018-05-30 15:05:53
End at: 2018-05-30 15:06:23
Local clock offset: 7.597 ms
Remote clock offset: 47.156 ms

# Below is generated by plot.py at 2018-05-30 15:27:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 111.851 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 103.234 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 115.494 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 142.381 ms
Loss rate: 0.24%
```

Run 3: Report of WebRTC media — Data Link

