

Pantheon Report

Generated at 2018-04-10 08:58:17 (UTC).

Data path: Colombia ppp0 (*remote*) → AWS Brazil 2 Ethernet (*local*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

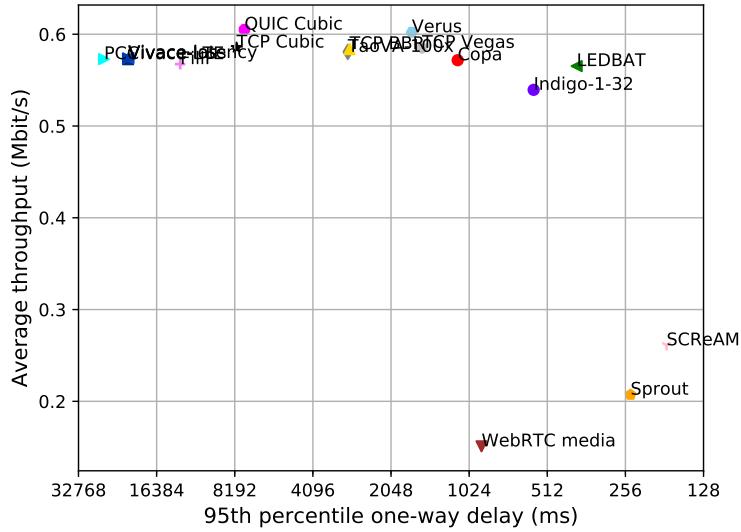
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

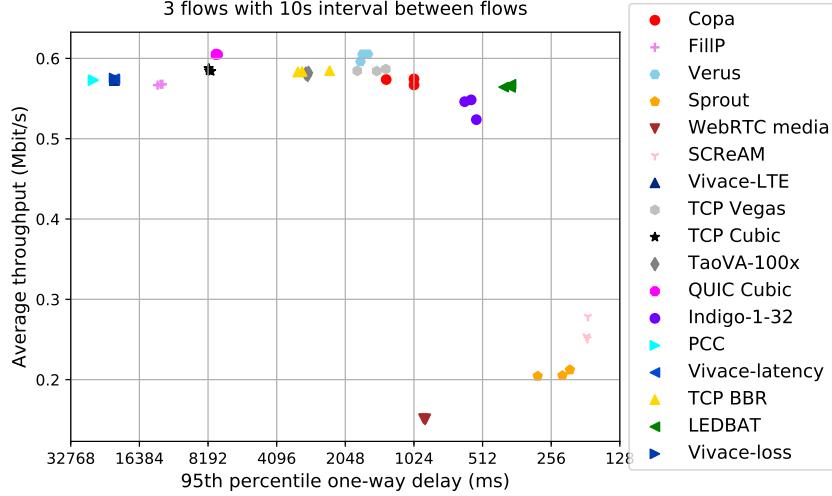
Git summary:

```
branch: master @ eb420b5be9bafcc22cf68b99ff5a2000462fc59
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ 11f8c46a2bf1dc797253db7e8ca04076272b2a44
third_party/genericCC @ 9249eea3238475c4d8cca1443d28df70bfff6c4a2
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179aab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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 @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ f271183af822eee5d0031620f4bebf38aedc5581
```

test from Colombia ppp0 to AWS Brazil 2 Ethernet, 3 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from Colombia ppp0 to AWS Brazil 2 Ethernet, 3 runs of 30s each per scheme
3 flows with 10s interval between flows



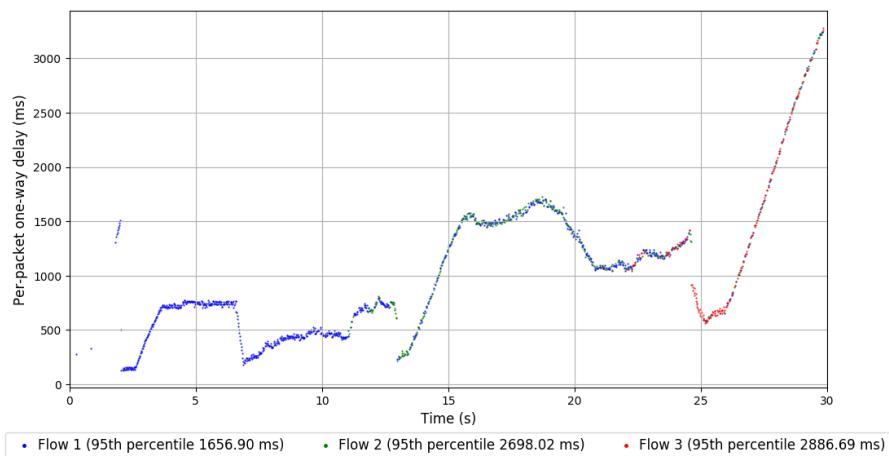
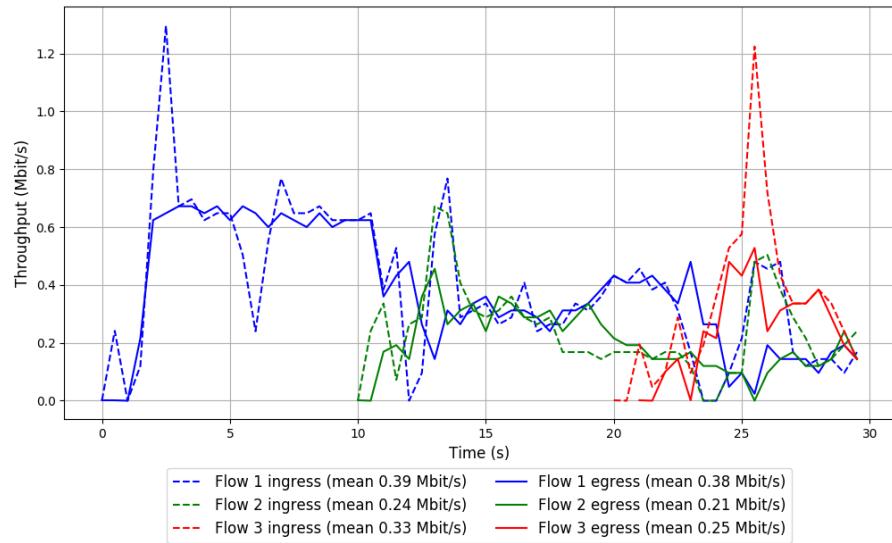
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.37	0.27	0.12	2701.42	3065.11	2841.26	2.99	9.20	32.77
TCP Cubic	3	0.57	0.03	0.00	8066.43	6403.19	8418.26	30.85	46.55	90.93
LEDBAT	3	0.26	0.36	0.25	334.56	401.47	407.71	0.16	0.78	8.04
PCC	3	0.57	0.00	N/A	26114.51	N/A	N/A	98.55	N/A	N/A
QUIC Cubic	3	0.57	0.05	0.00	7488.23	7689.45	7556.64	29.03	33.97	33.33
SCReAM	3	0.08	0.18	0.16	165.67	176.67	184.80	0.83	0.87	2.09
WebRTC media	3	0.05	0.05	0.05	896.56	862.09	950.46	0.07	0.18	0.07
Sprout	3	0.10	0.10	0.11	405.04	199.20	236.69	1.29	1.75	2.84
TaoVA-100x	3	0.35	0.27	0.21	2583.42	3156.02	3160.16	4.21	8.19	25.60
TCP Vegas	3	0.41	0.20	0.16	1535.56	1595.34	1592.45	2.71	6.09	17.50
Verus	3	0.59	0.01	0.01	1702.94	1658.38	1713.32	4.33	5.80	12.42
Copa	3	0.37	0.22	0.16	1059.84	1154.69	1157.53	4.35	9.70	23.17
FillP	3	0.57	0.00	0.00	13280.26	13436.67	N/A	37.07	56.75	N/A
Indigo-1-32	3	0.28	0.29	0.21	516.04	545.26	738.33	1.28	1.98	5.30
Vivace-latency	3	0.57	0.00	N/A	21041.79	N/A	N/A	70.63	N/A	N/A
Vivace-loss	3	0.57	0.00	N/A	21110.26	N/A	N/A	89.25	N/A	N/A
Vivace-LTE	3	0.57	0.00	N/A	21101.04	N/A	N/A	70.60	N/A	N/A

Run 1: Statistics of TCP BBR

```
Start at: 2018-04-10 06:42:25
End at: 2018-04-10 06:42:55
Local clock offset: -10.036 ms
Remote clock offset: 6.941 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 2399.170 ms
Loss rate: 12.50%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 1656.904 ms
Loss rate: 5.22%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 2698.017 ms
Loss rate: 16.33%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 2886.686 ms
Loss rate: 33.06%
```

Run 1: Report of TCP BBR — Data Link

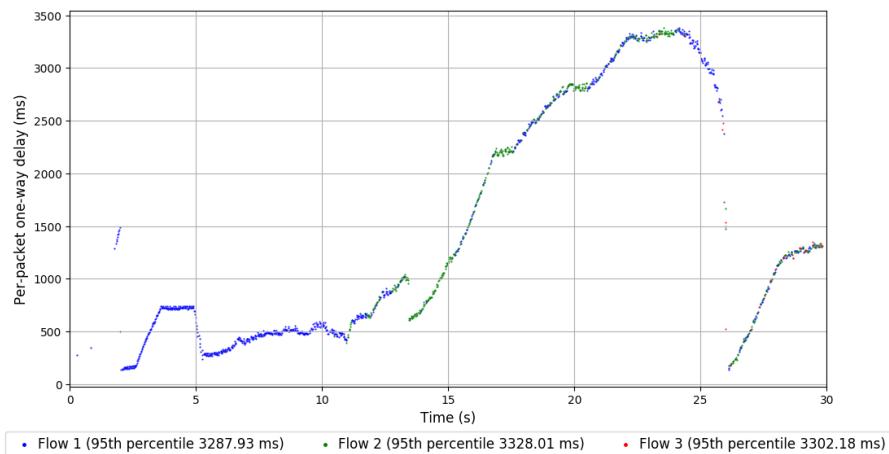
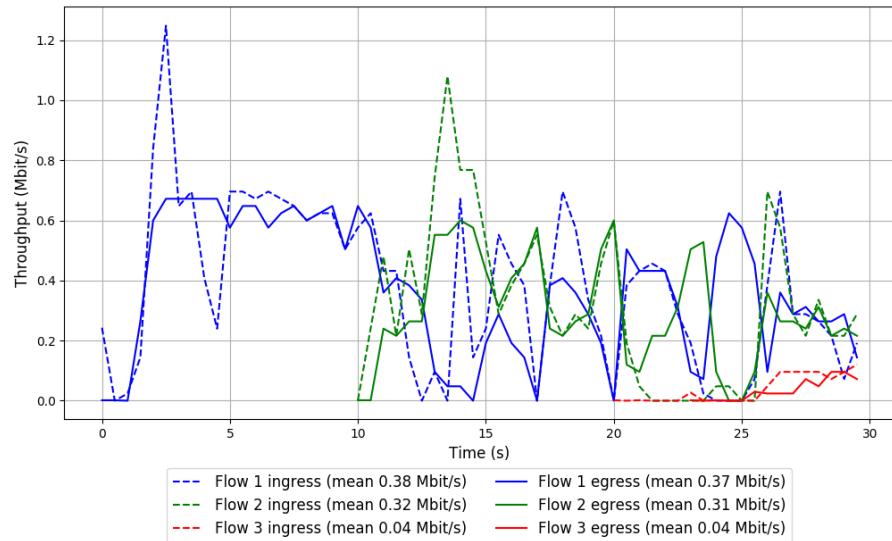


Run 2: Statistics of TCP BBR

```
Start at: 2018-04-10 07:05:01
End at: 2018-04-10 07:05:31
Local clock offset: -7.87 ms
Remote clock offset: 3.47 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3308.099 ms
Loss rate: 4.01%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 3287.930 ms
Loss rate: 2.02%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 3328.012 ms
Loss rate: 5.72%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 3302.179 ms
Loss rate: 35.07%
```

Run 2: Report of TCP BBR — Data Link

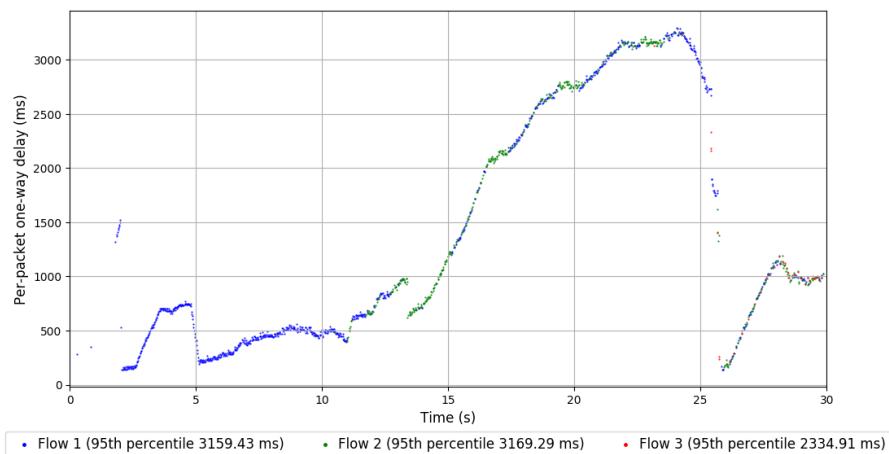
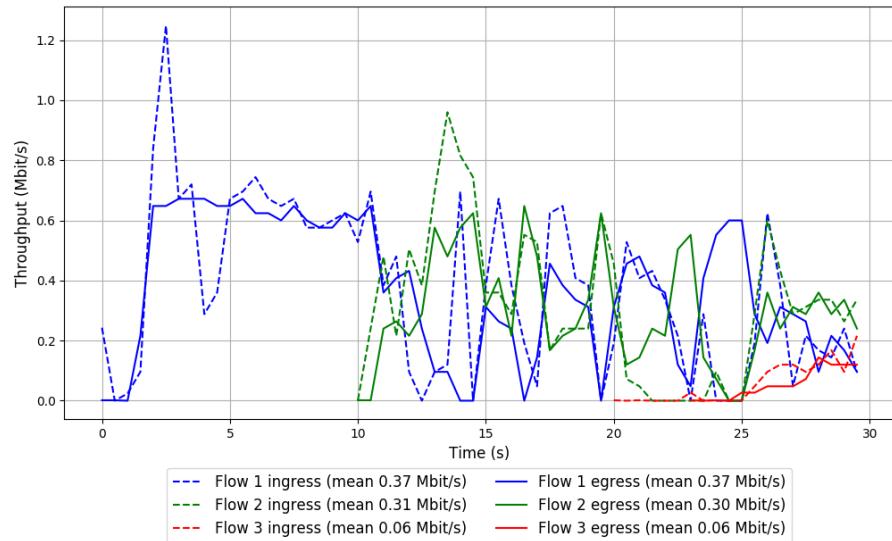


Run 3: Statistics of TCP BBR

```
Start at: 2018-04-10 07:27:37
End at: 2018-04-10 07:28:07
Local clock offset: -7.185 ms
Remote clock offset: 4.201 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3168.610 ms
Loss rate: 3.94%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 3159.430 ms
Loss rate: 1.72%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 3169.287 ms
Loss rate: 5.56%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 2334.907 ms
Loss rate: 30.19%
```

Run 3: Report of TCP BBR — Data Link

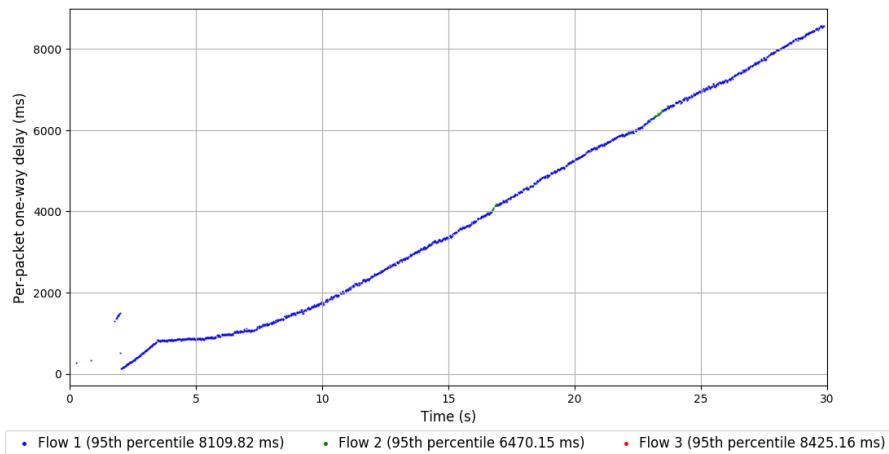
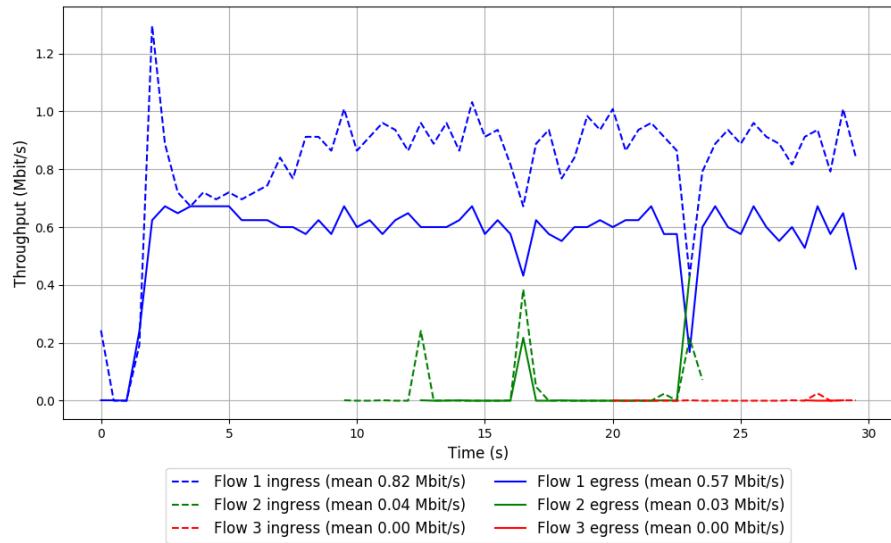


Run 1: Statistics of TCP Cubic

```
Start at: 2018-04-10 06:59:59
End at: 2018-04-10 07:00:29
Local clock offset: -8.683 ms
Remote clock offset: 7.784 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 8109.822 ms
Loss rate: 30.96%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 8109.822 ms
Loss rate: 30.85%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 6470.151 ms
Loss rate: 33.90%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8425.159 ms
Loss rate: 91.06%
```

Run 1: Report of TCP Cubic — Data Link

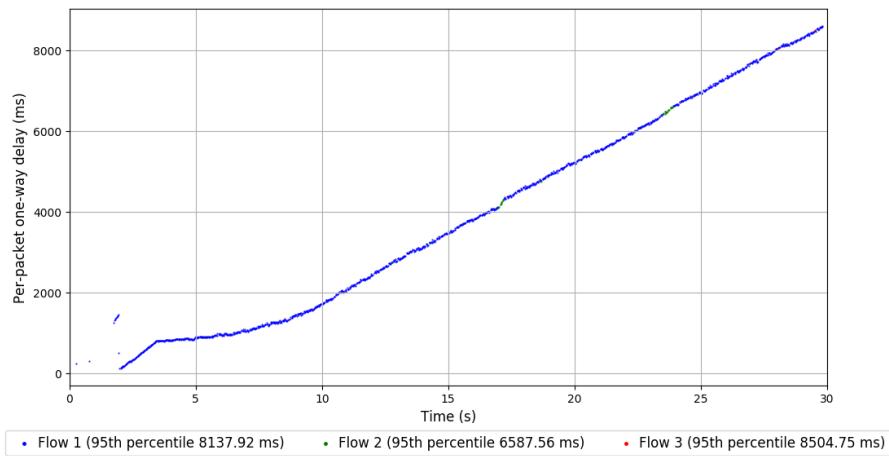
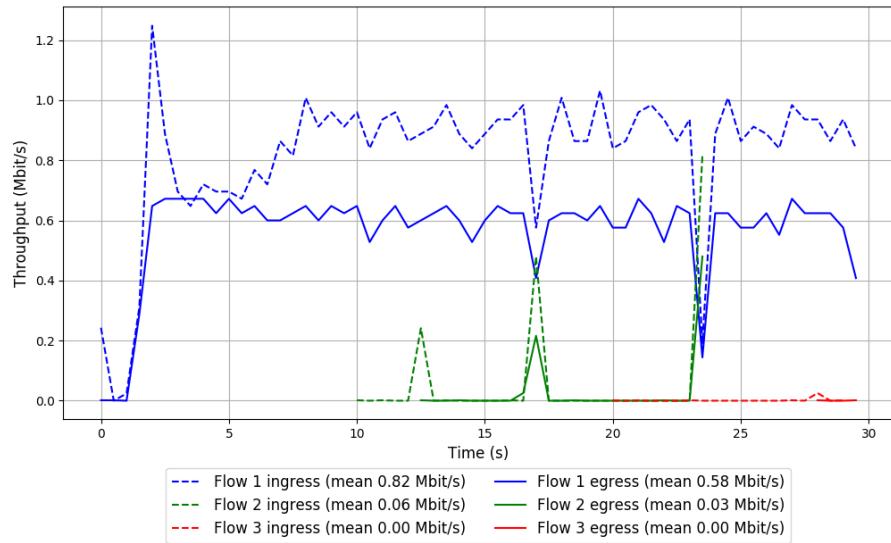


Run 2: Statistics of TCP Cubic

```
Start at: 2018-04-10 07:22:36
End at: 2018-04-10 07:23:06
Local clock offset: -7.245 ms
Remote clock offset: 9.837 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 8137.861 ms
Loss rate: 31.67%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 8137.917 ms
Loss rate: 30.96%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 6587.556 ms
Loss rate: 52.87%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8504.745 ms
Loss rate: 90.68%
```

Run 2: Report of TCP Cubic — Data Link

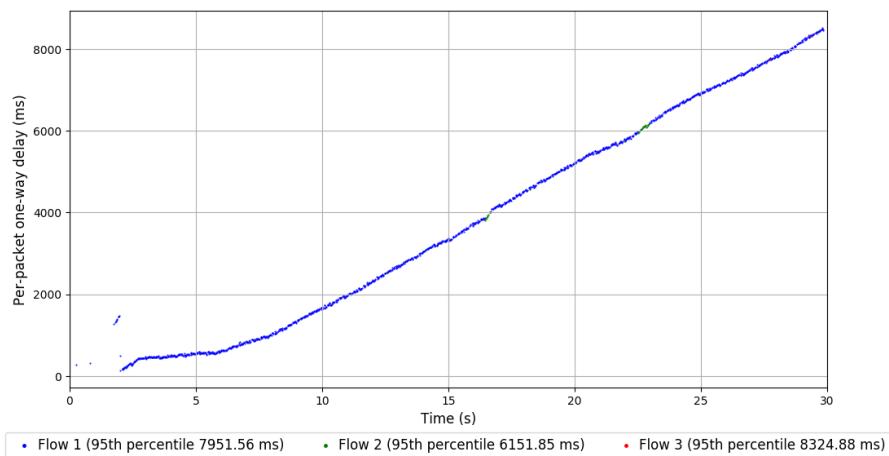
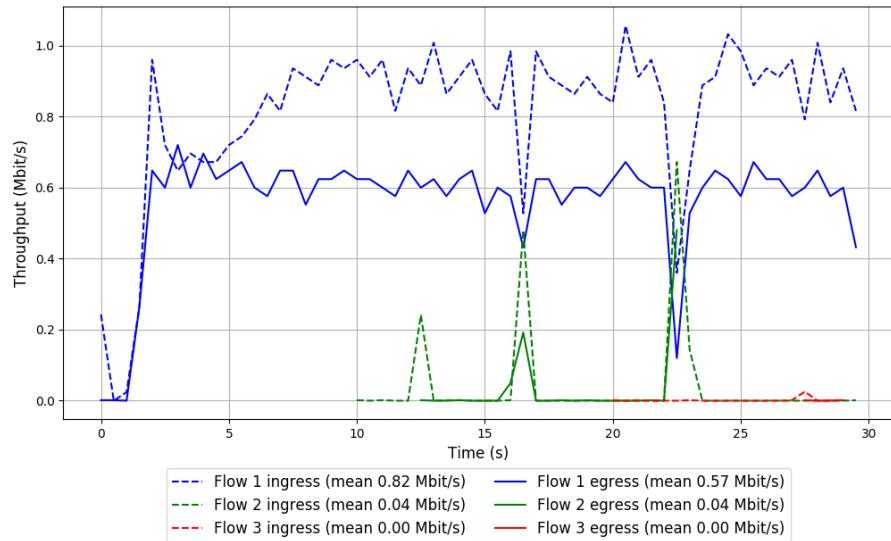


Run 3: Statistics of TCP Cubic

```
Start at: 2018-04-10 07:45:14
End at: 2018-04-10 07:45:44
Local clock offset: -7.144 ms
Remote clock offset: 8.437 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7941.619 ms
Loss rate: 31.45%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 7951.558 ms
Loss rate: 30.73%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 6151.853 ms
Loss rate: 52.87%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8324.878 ms
Loss rate: 91.06%
```

Run 3: Report of TCP Cubic — Data Link

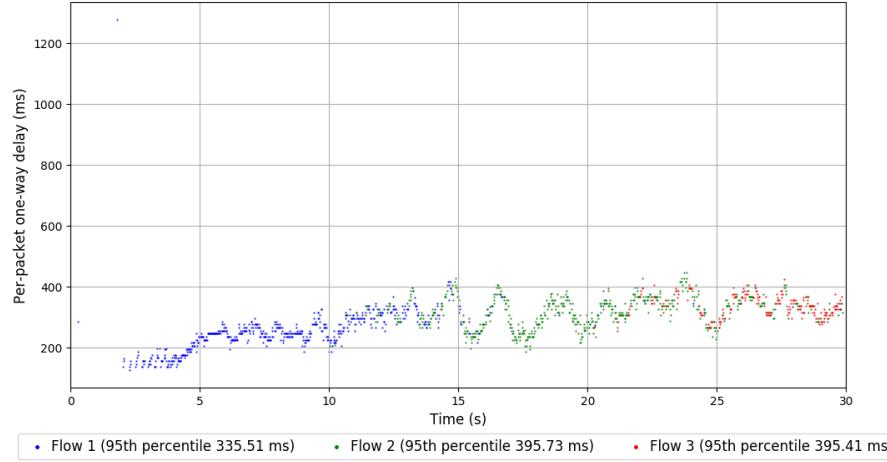
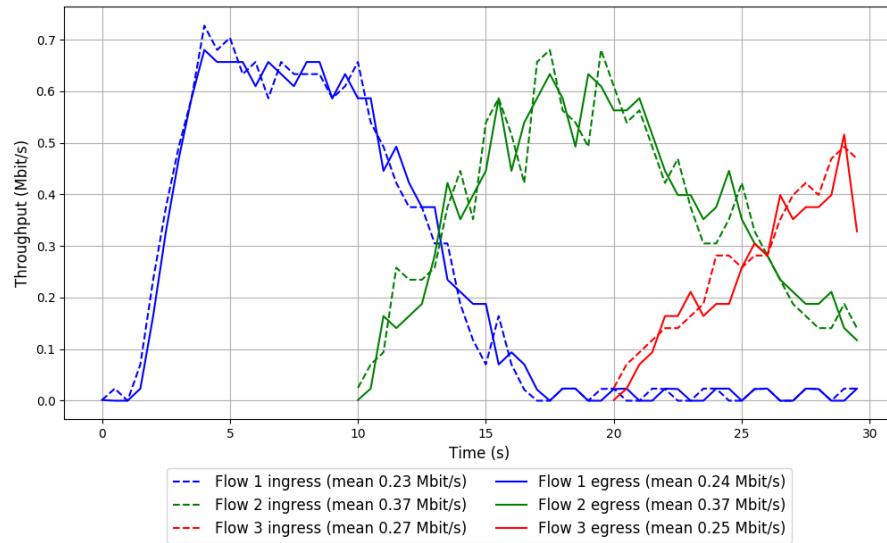


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-04-10 07:01:15
End at: 2018-04-10 07:01:45
Local clock offset: -7.975 ms
Remote clock offset: 8.74 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 385.730 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 335.508 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 395.726 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 395.409 ms
Loss rate: 8.81%
```

Run 1: Report of LEDBAT — Data Link

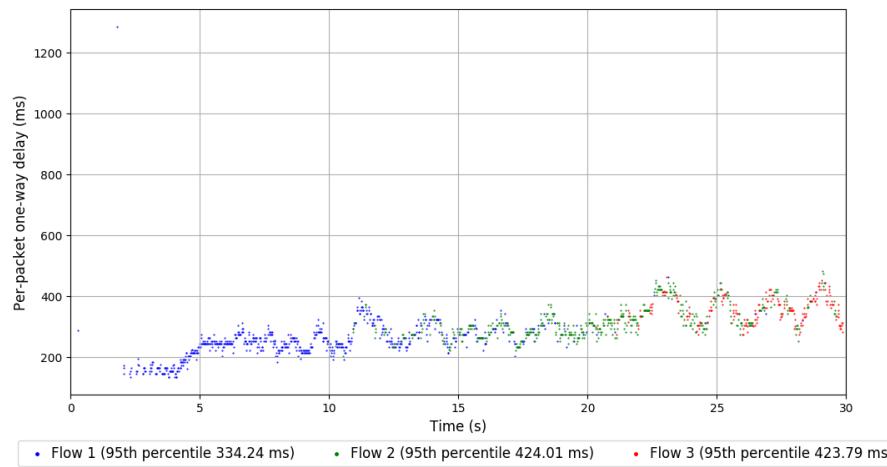
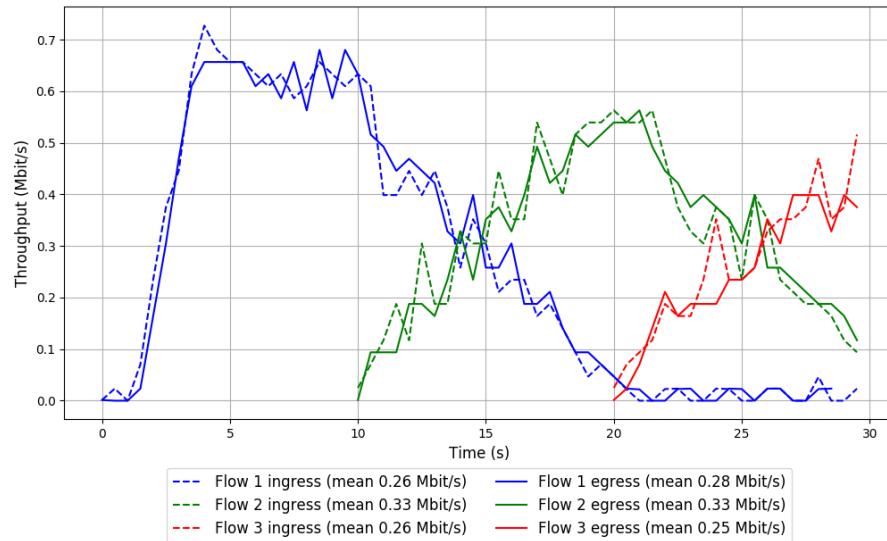


Run 2: Statistics of LEDBAT

```
Start at: 2018-04-10 07:23:51
End at: 2018-04-10 07:24:21
Local clock offset: -8.572 ms
Remote clock offset: 3.384 ms

# Below is generated by plot.py at 2018-04-10 08:57:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 413.953 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 334.237 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 424.014 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 423.786 ms
Loss rate: 7.59%
```

Run 2: Report of LEDBAT — Data Link

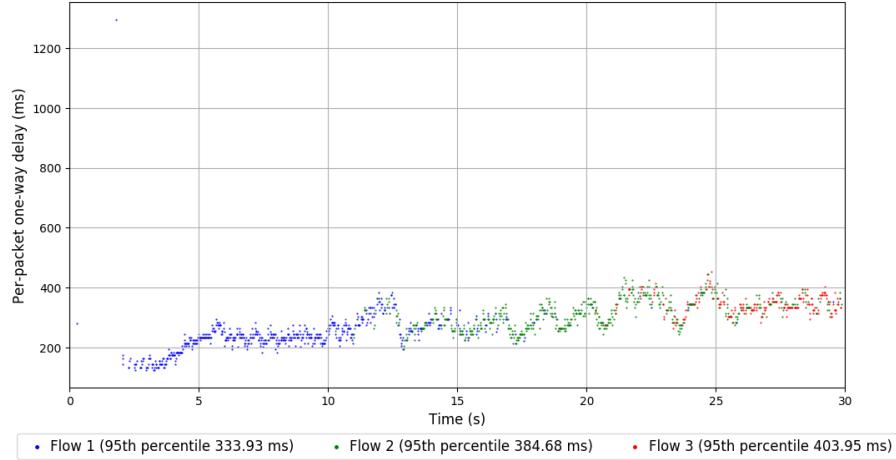
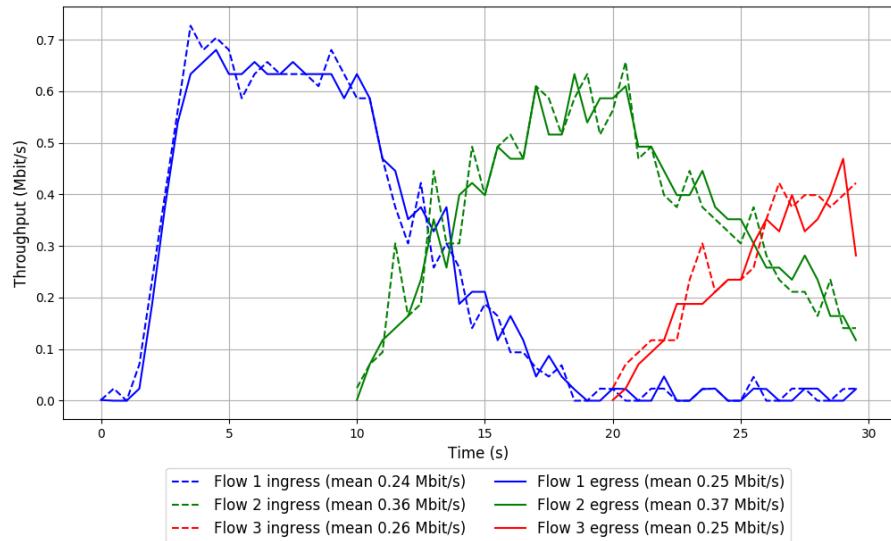


Run 3: Statistics of LEDBAT

```
Start at: 2018-04-10 07:46:29
End at: 2018-04-10 07:46:59
Local clock offset: -6.394 ms
Remote clock offset: 8.461 ms

# Below is generated by plot.py at 2018-04-10 08:57:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 384.149 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 333.930 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 384.684 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 403.947 ms
Loss rate: 7.73%
```

Run 3: Report of LEDBAT — Data Link

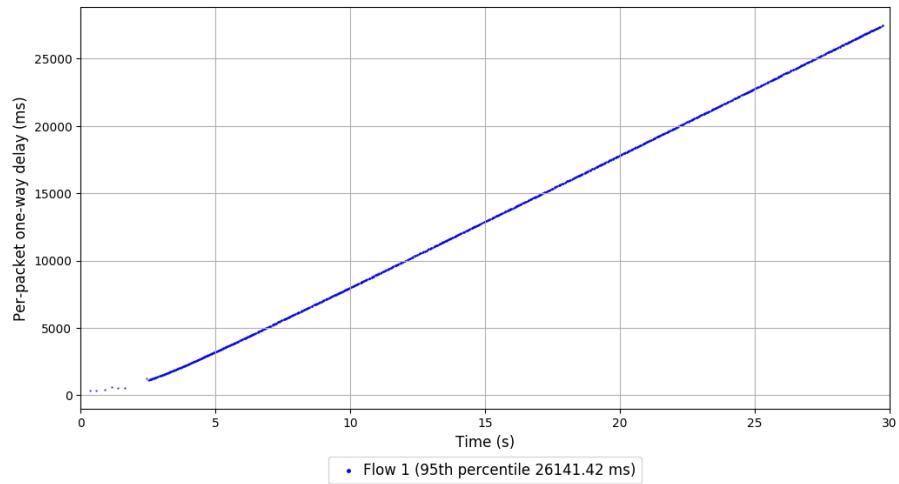
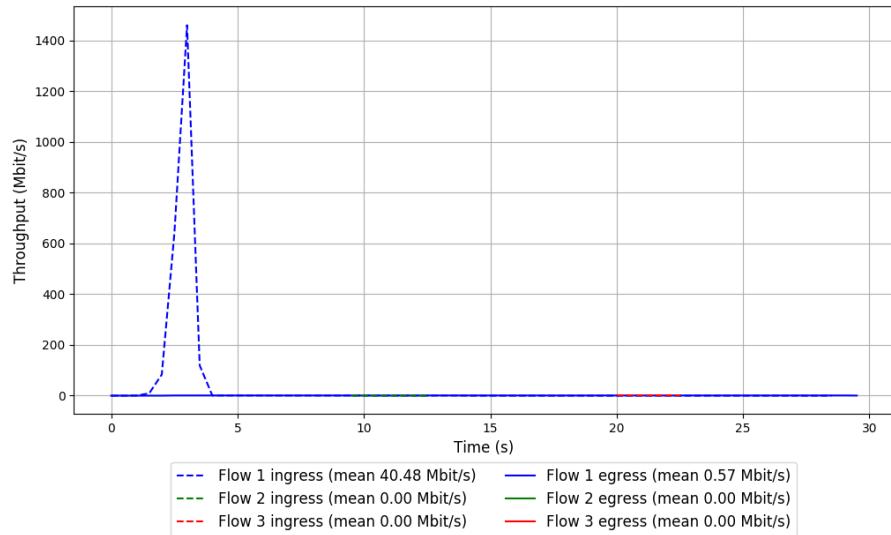


Run 1: Statistics of PCC

```
Start at: 2018-04-10 06:47:25
End at: 2018-04-10 06:47:55
Local clock offset: -10.989 ms
Remote clock offset: 6.085 ms

# Below is generated by plot.py at 2018-04-10 08:58:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26141.418 ms
Loss rate: 98.55%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26141.418 ms
Loss rate: 98.55%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of PCC — Data Link

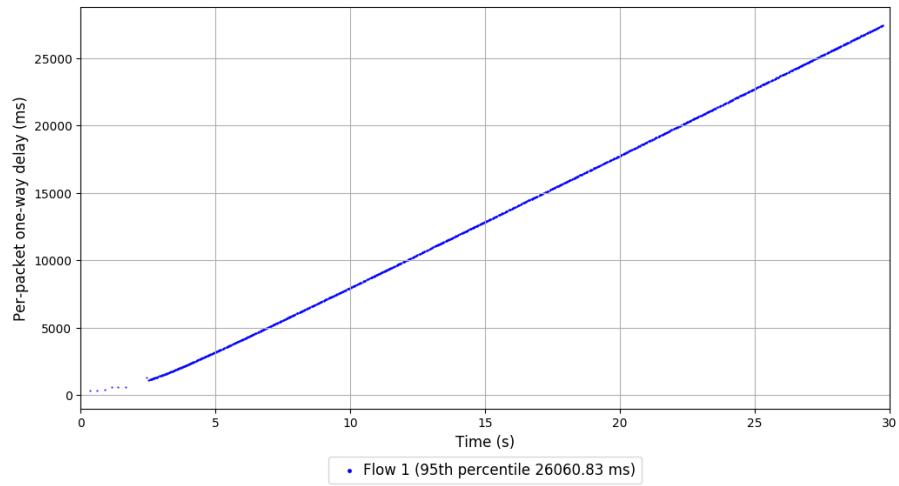
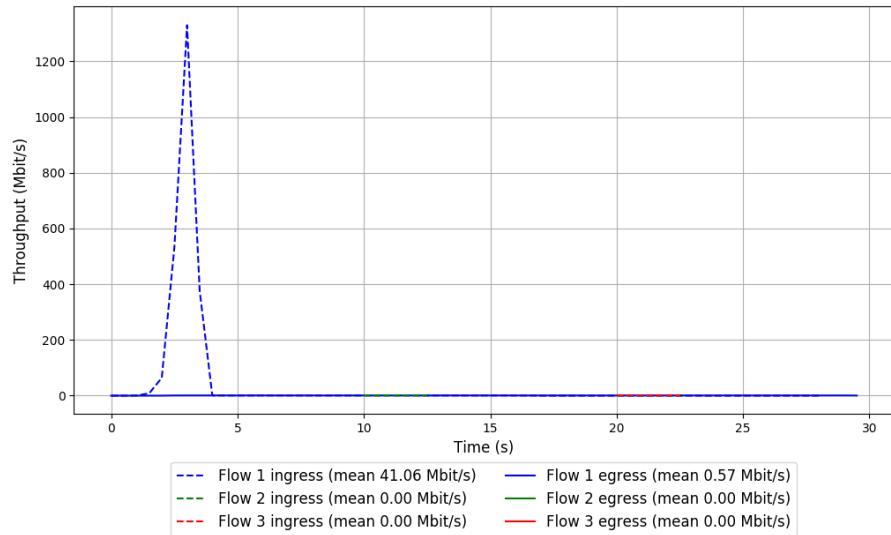


Run 2: Statistics of PCC

```
Start at: 2018-04-10 07:10:01
End at: 2018-04-10 07:10:31
Local clock offset: -8.021 ms
Remote clock offset: 7.783 ms

# Below is generated by plot.py at 2018-04-10 08:58:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26060.825 ms
Loss rate: 98.55%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26060.825 ms
Loss rate: 98.55%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of PCC — Data Link

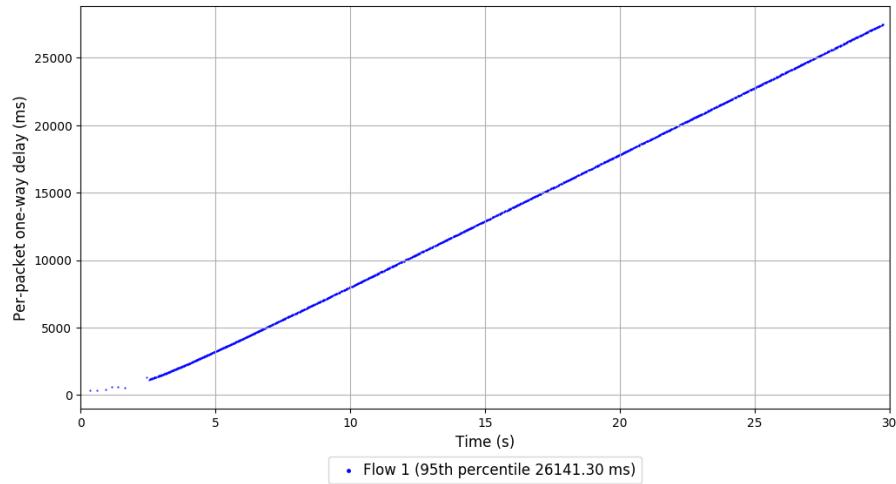
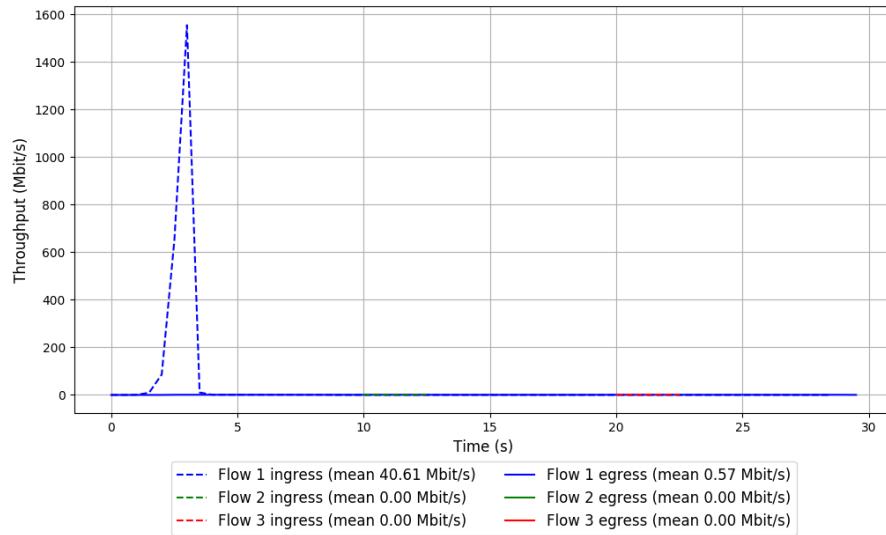


```
Run 3: Statistics of PCC
```

```
Start at: 2018-04-10 07:32:38
End at: 2018-04-10 07:33:09
Local clock offset: -6.707 ms
Remote clock offset: 3.251 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26141.300 ms
Loss rate: 98.55%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26141.300 ms
Loss rate: 98.55%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of PCC — Data Link

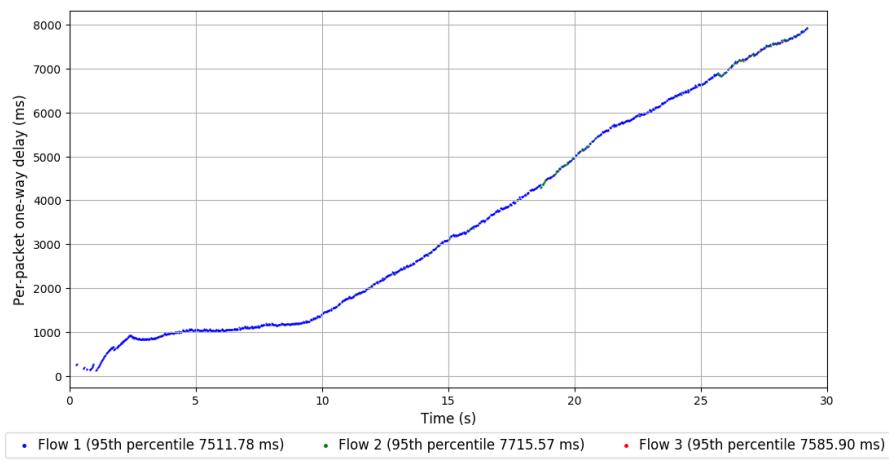
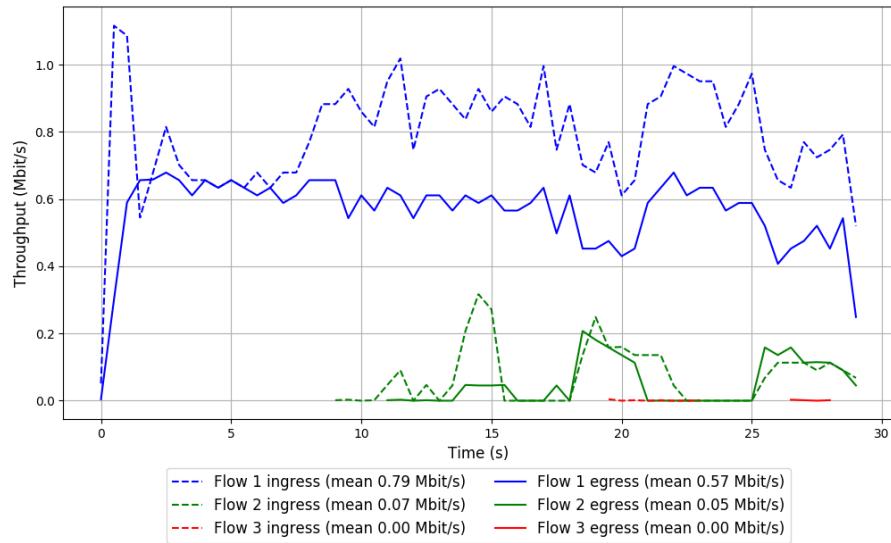


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-04-10 06:46:10
End at: 2018-04-10 06:46:40
Local clock offset: -11.152 ms
Remote clock offset: 2.11 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 7555.890 ms
Loss rate: 29.29%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 7511.779 ms
Loss rate: 29.01%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7715.567 ms
Loss rate: 33.68%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7585.900 ms
Loss rate: 33.33%
```

Run 1: Report of QUIC Cubic — Data Link

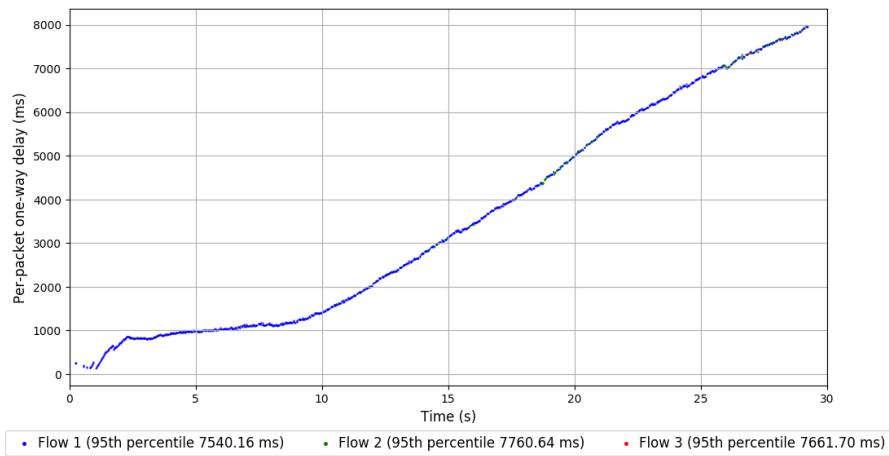
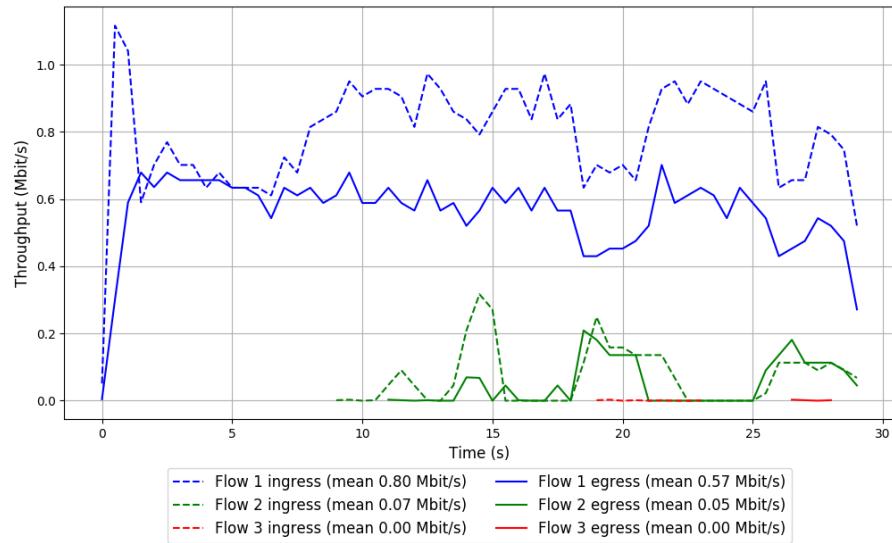


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-04-10 07:08:46
End at: 2018-04-10 07:09:16
Local clock offset: -7.133 ms
Remote clock offset: 2.853 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7580.256 ms
Loss rate: 29.41%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 7540.159 ms
Loss rate: 29.11%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7760.642 ms
Loss rate: 34.24%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7661.704 ms
Loss rate: 33.33%
```

Run 2: Report of QUIC Cubic — Data Link

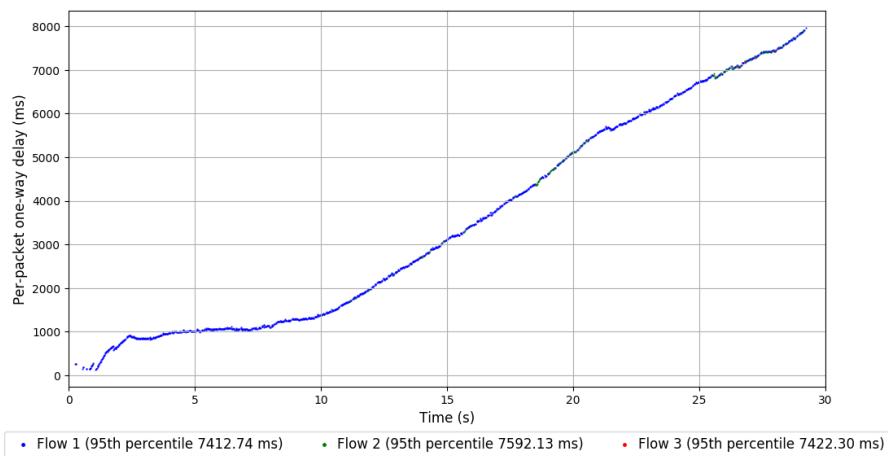
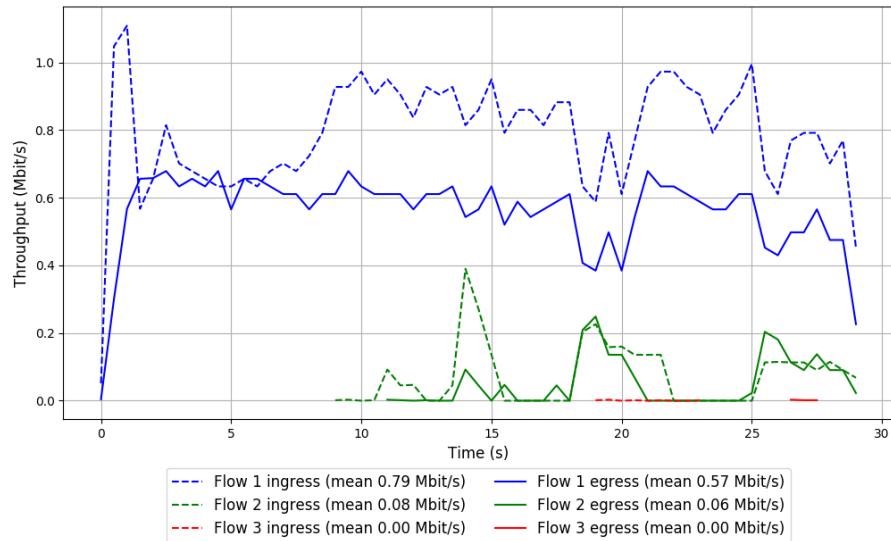


```
Run 3: Statistics of QUIC Cubic
```

```
Start at: 2018-04-10 07:31:23
End at: 2018-04-10 07:31:53
Local clock offset: -6.053 ms
Remote clock offset: 3.288 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7421.431 ms
Loss rate: 29.28%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 7412.742 ms
Loss rate: 28.98%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 7592.131 ms
Loss rate: 33.98%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7422.304 ms
Loss rate: 33.33%
```

Run 3: Report of QUIC Cubic — Data Link

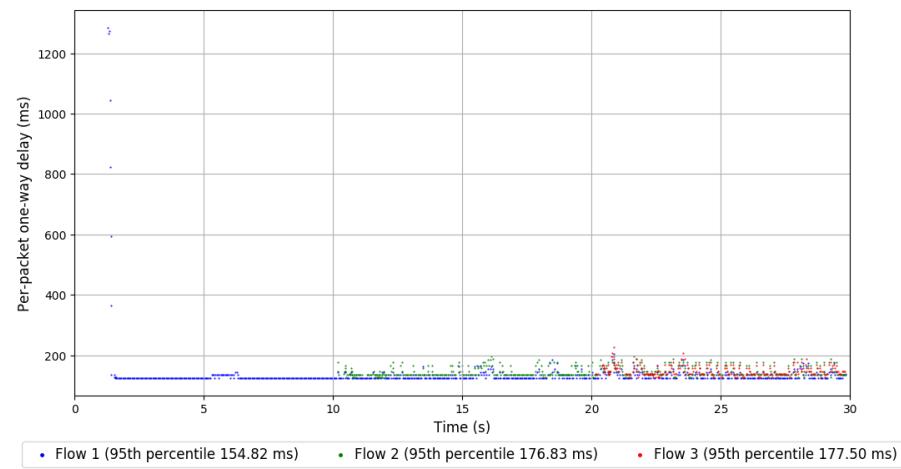
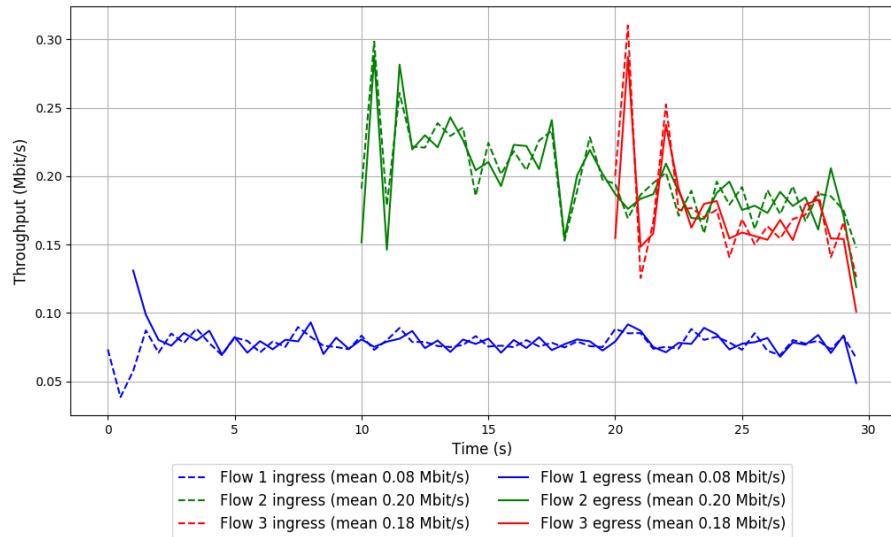


```
Run 1: Statistics of SCReAM

Start at: 2018-04-10 06:54:59
End at: 2018-04-10 06:55:29
Local clock offset: -9.115 ms
Remote clock offset: 1.127 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 176.696 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 154.824 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 176.828 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 177.497 ms
Loss rate: 2.14%
```

Run 1: Report of SCReAM — Data Link

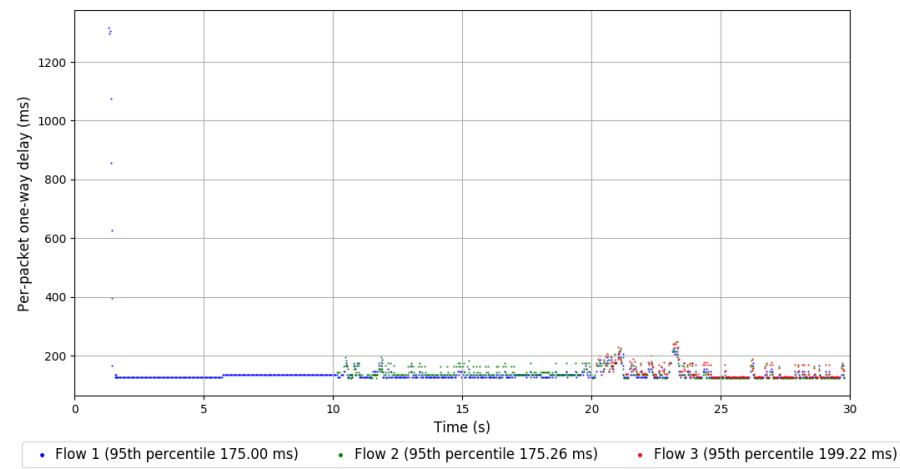
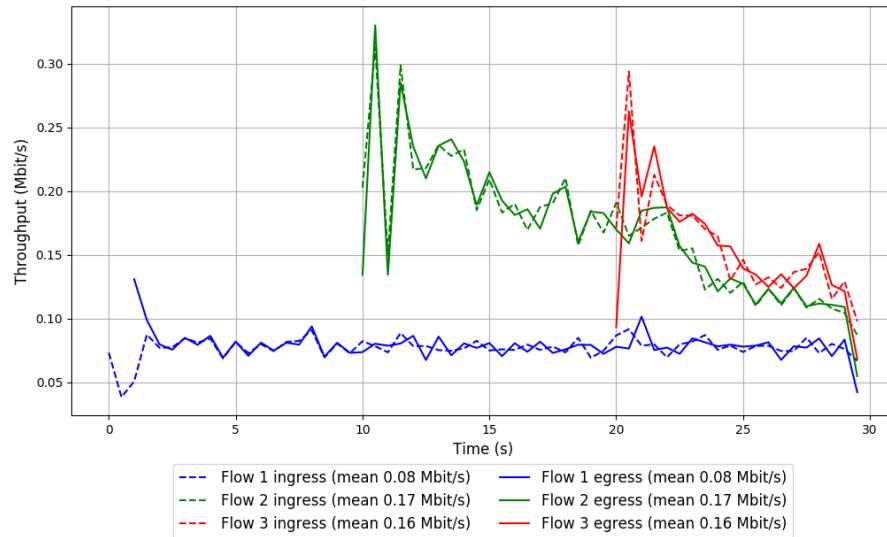


Run 2: Statistics of SCReAM

```
Start at: 2018-04-10 07:17:35
End at: 2018-04-10 07:18:05
Local clock offset: -8.999 ms
Remote clock offset: 3.243 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 179.135 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 175.000 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 175.260 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 199.215 ms
Loss rate: 2.16%
```

Run 2: Report of SCReAM — Data Link

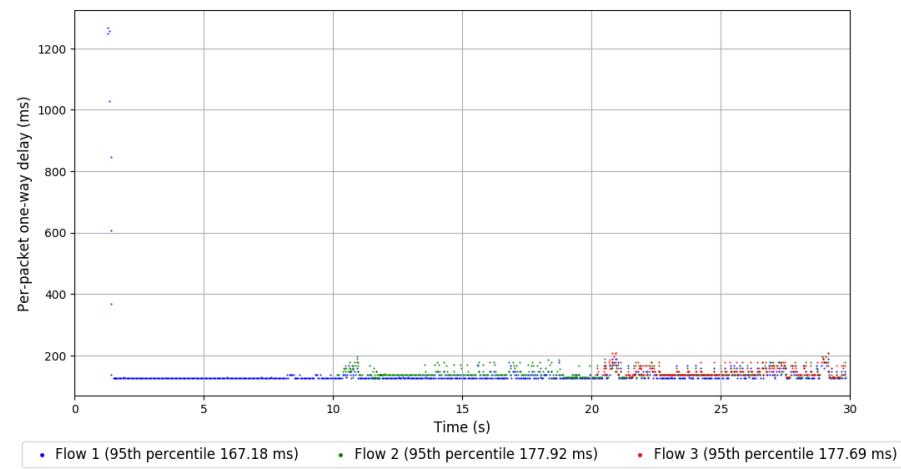
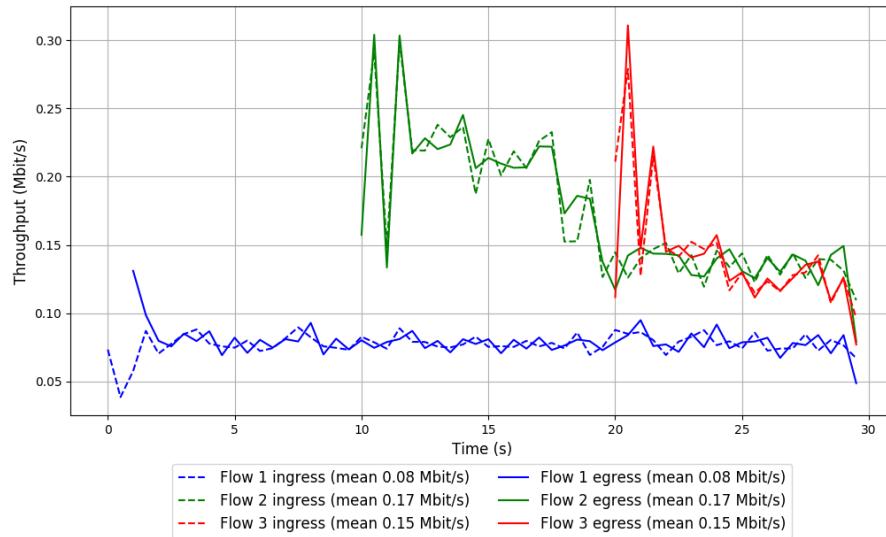


Run 3: Statistics of SCReAM

```
Start at: 2018-04-10 07:40:13
End at: 2018-04-10 07:40:43
Local clock offset: -5.642 ms
Remote clock offset: 3.755 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 177.568 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 167.176 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 177.917 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 177.686 ms
Loss rate: 1.97%
```

Run 3: Report of SCReAM — Data Link

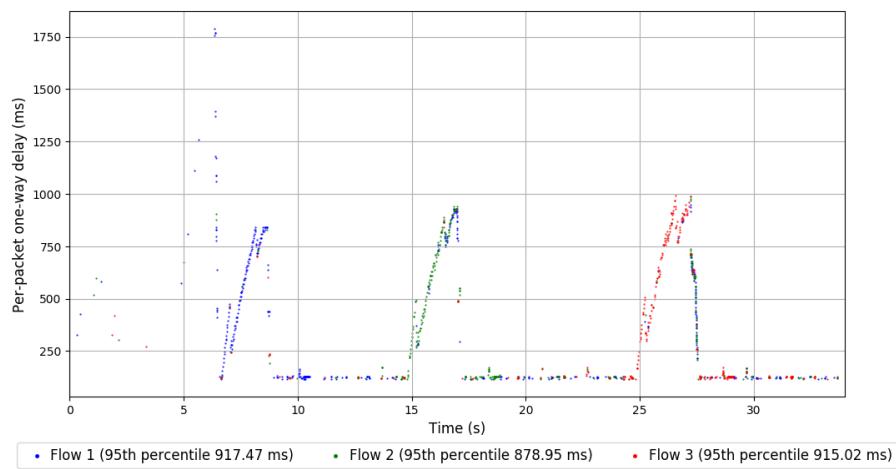
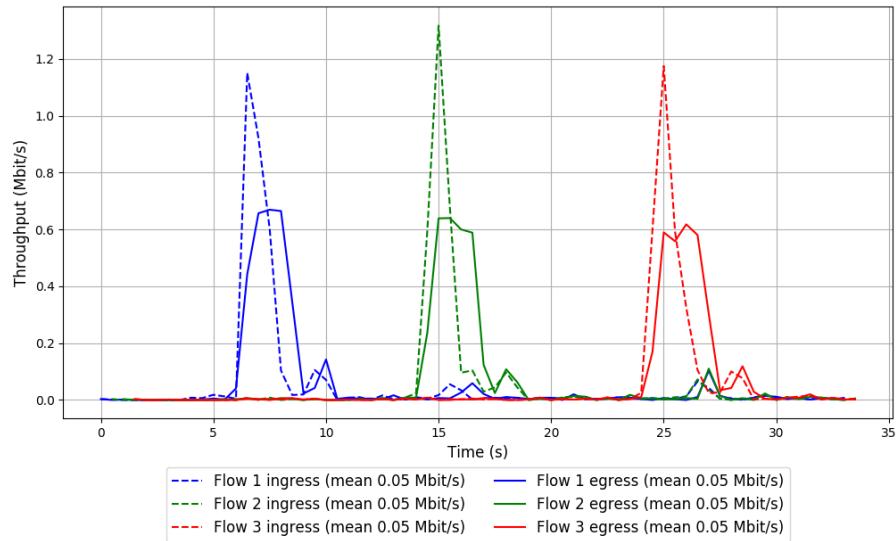


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2018-04-10 06:48:42
End at: 2018-04-10 06:49:12
Local clock offset: -10.521 ms
Remote clock offset: 1.125 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 908.788 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 917.466 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 878.948 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 915.025 ms
Loss rate: 0.08%
```

Run 1: Report of WebRTC media — Data Link

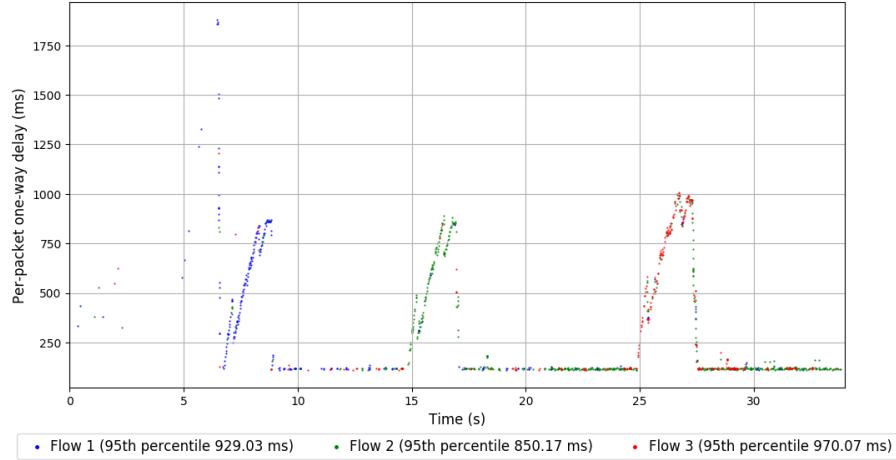
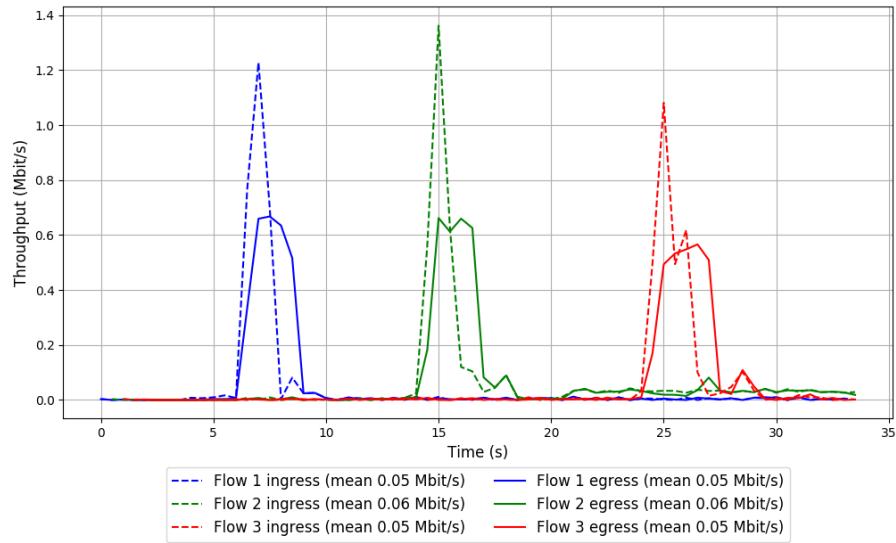


Run 2: Statistics of WebRTC media

```
Start at: 2018-04-10 07:11:18
End at: 2018-04-10 07:11:48
Local clock offset: -8.759 ms
Remote clock offset: 9.549 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 929.854 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 929.028 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 850.175 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 970.067 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

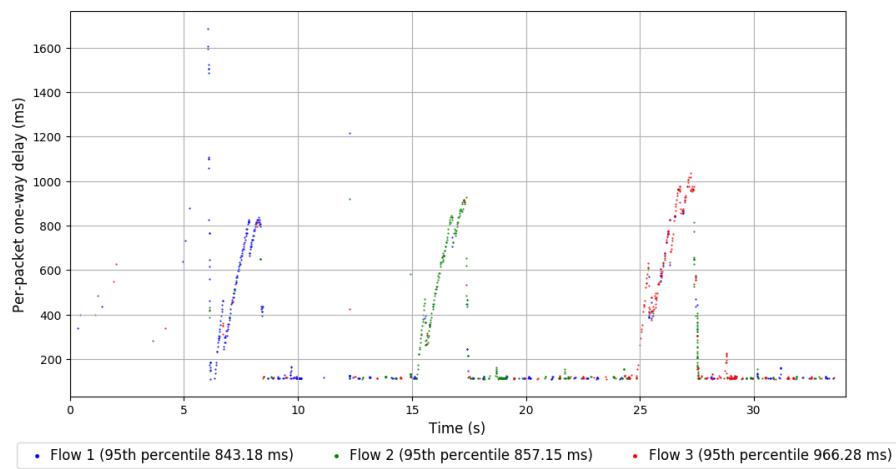
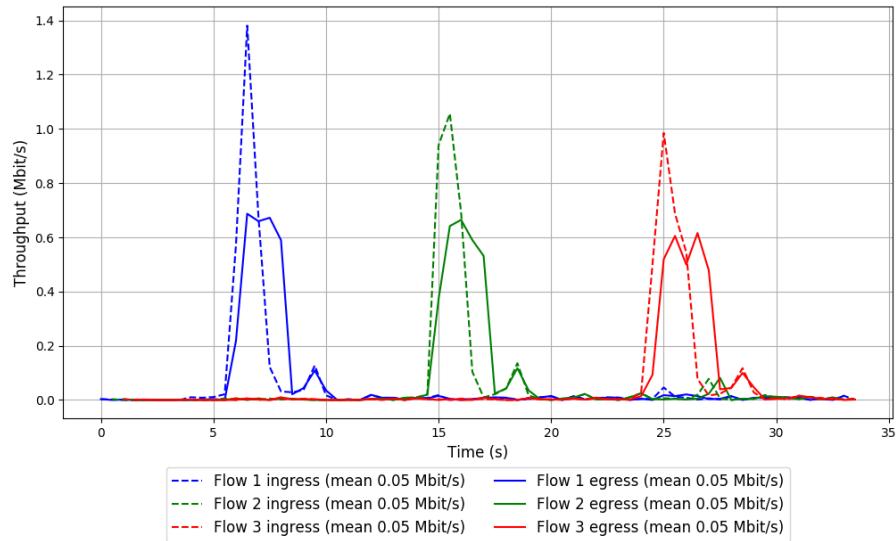


```
Run 3: Statistics of WebRTC media

Start at: 2018-04-10 07:33:56
End at: 2018-04-10 07:34:26
Local clock offset: -7.411 ms
Remote clock offset: 9.617 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 914.600 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 843.183 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 857.146 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 966.278 ms
Loss rate: 0.14%
```

Run 3: Report of WebRTC media — Data Link

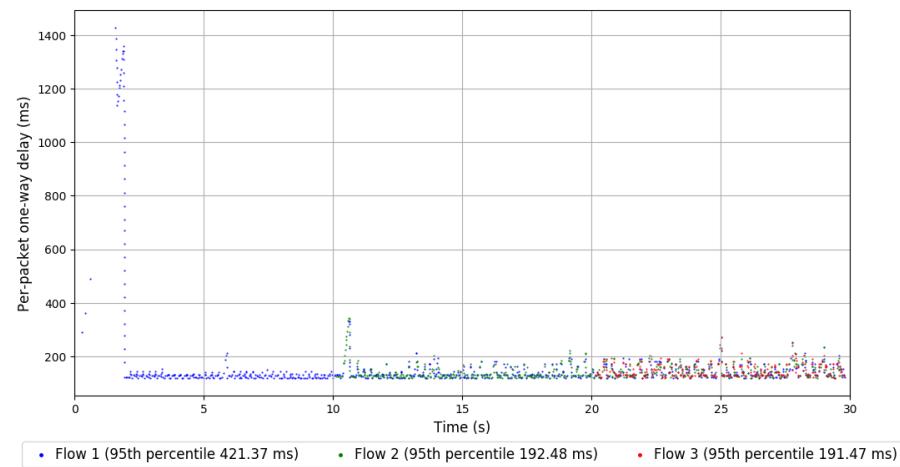
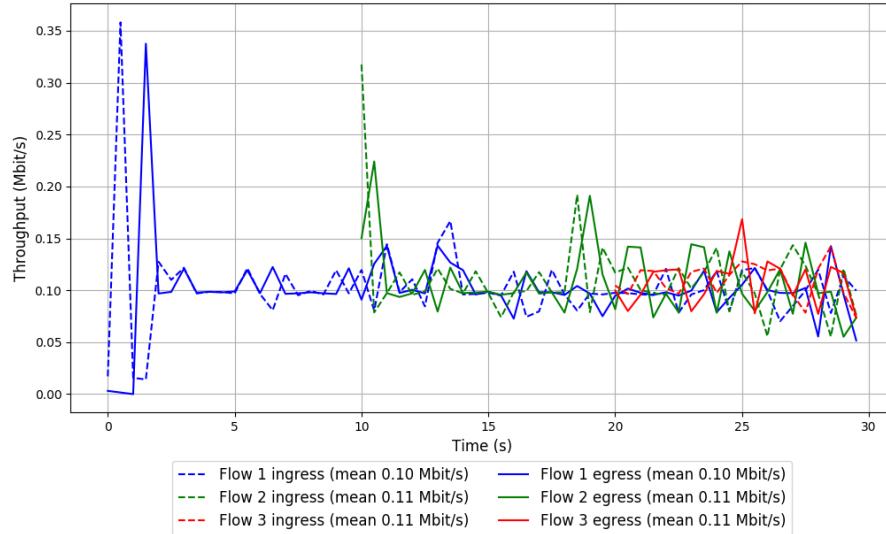


Run 1: Statistics of Sprout

```
Start at: 2018-04-10 07:03:45
End at: 2018-04-10 07:04:15
Local clock offset: -7.825 ms
Remote clock offset: 2.573 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 211.936 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 421.372 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 192.484 ms
Loss rate: 2.03%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 191.465 ms
Loss rate: 2.14%
```

Run 1: Report of Sprout — Data Link

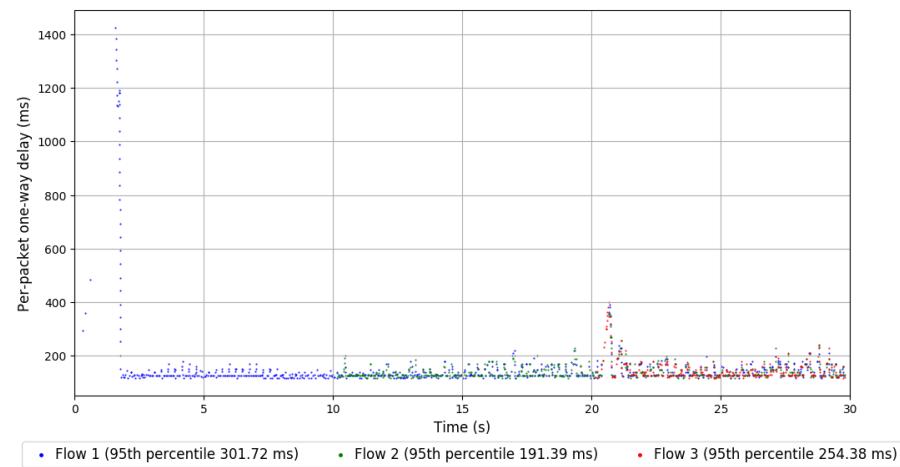
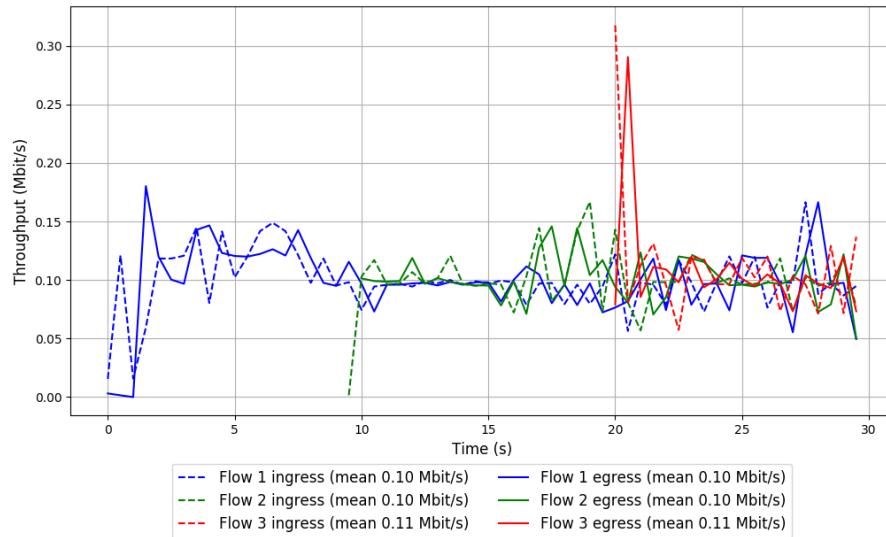


Run 2: Statistics of Sprout

```
Start at: 2018-04-10 07:26:22
End at: 2018-04-10 07:26:52
Local clock offset: -7.323 ms
Remote clock offset: 3.402 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 228.640 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 301.721 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 191.389 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 254.375 ms
Loss rate: 3.91%
```

Run 2: Report of Sprout — Data Link

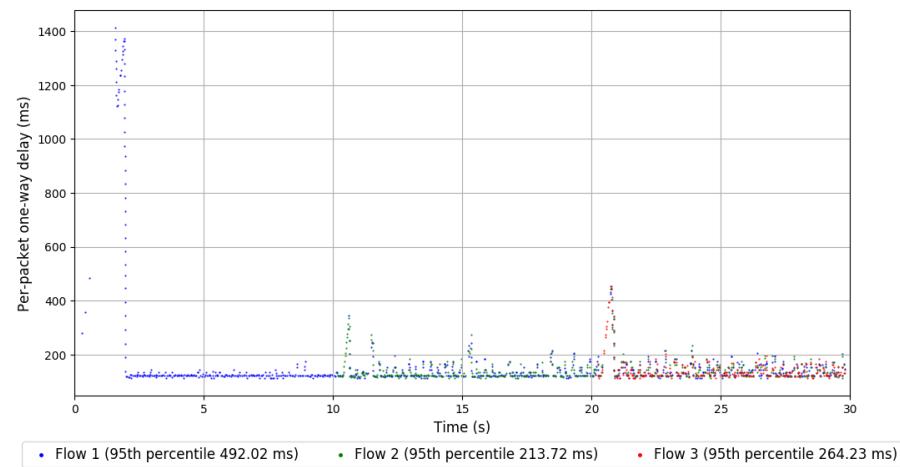
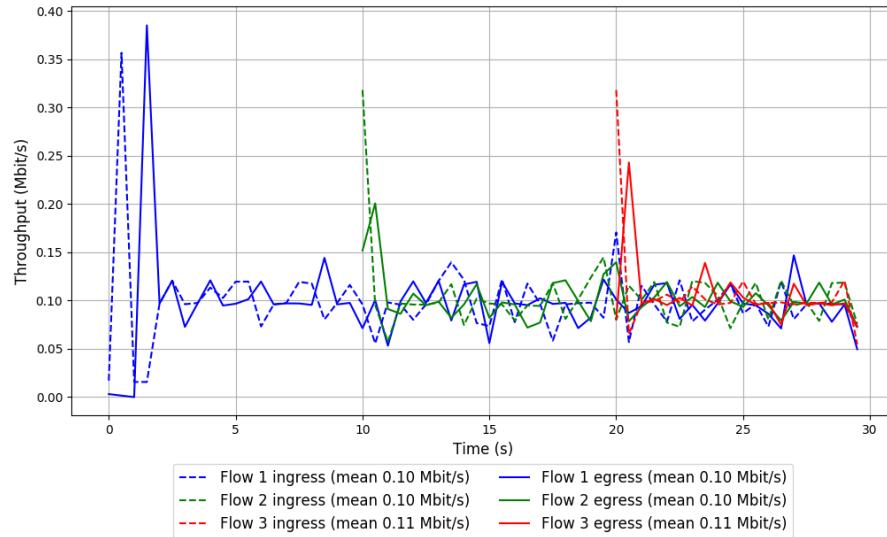


Run 3: Statistics of Sprout

```
Start at: 2018-04-10 07:48:59
End at: 2018-04-10 07:49:29
Local clock offset: -6.287 ms
Remote clock offset: 8.416 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 293.430 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 492.023 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 213.720 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 264.230 ms
Loss rate: 2.48%
```

Run 3: Report of Sprout — Data Link

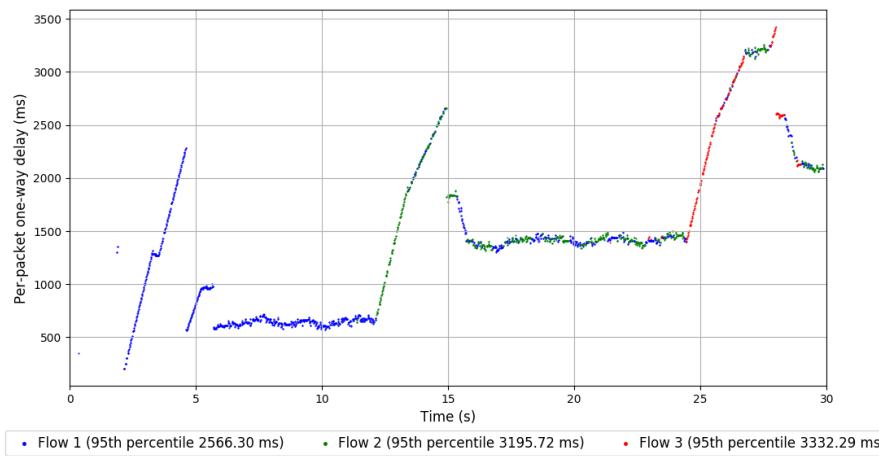
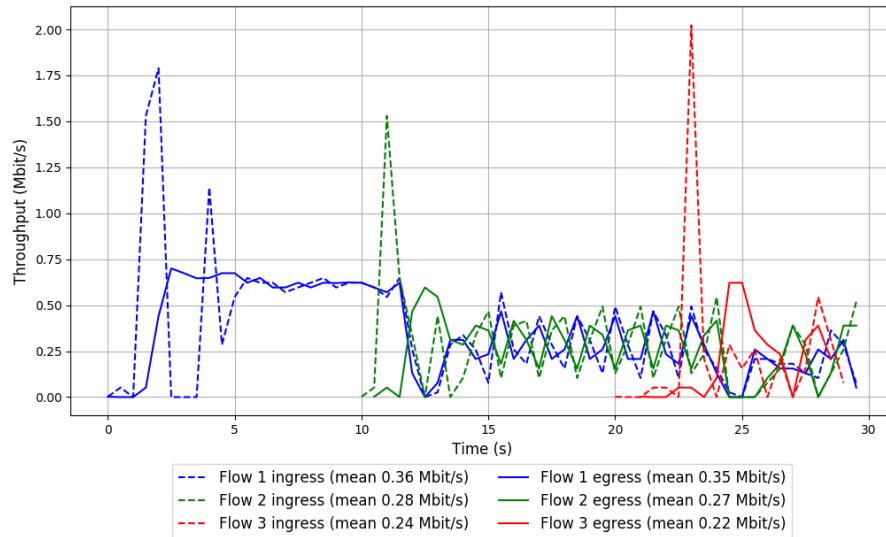


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-04-10 06:44:55
End at: 2018-04-10 06:45:25
Local clock offset: -11.082 ms
Remote clock offset: 1.254 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3050.841 ms
Loss rate: 8.00%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 2566.304 ms
Loss rate: 4.41%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 3195.717 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3332.291 ms
Loss rate: 25.14%
```

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

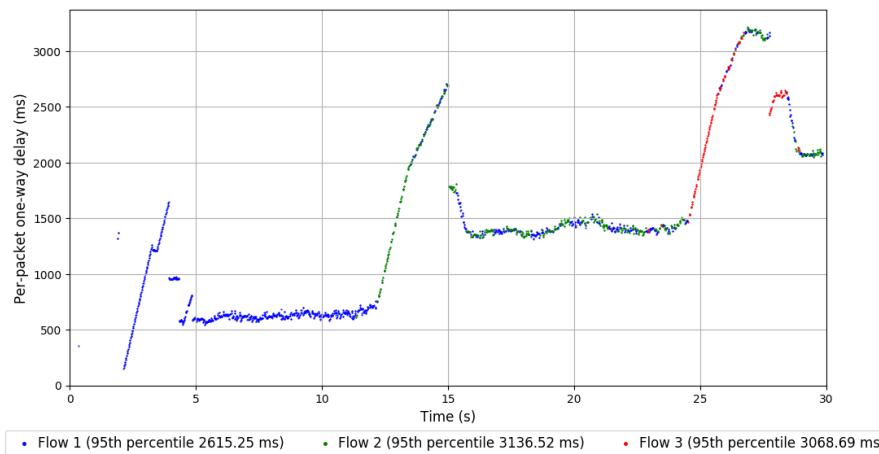
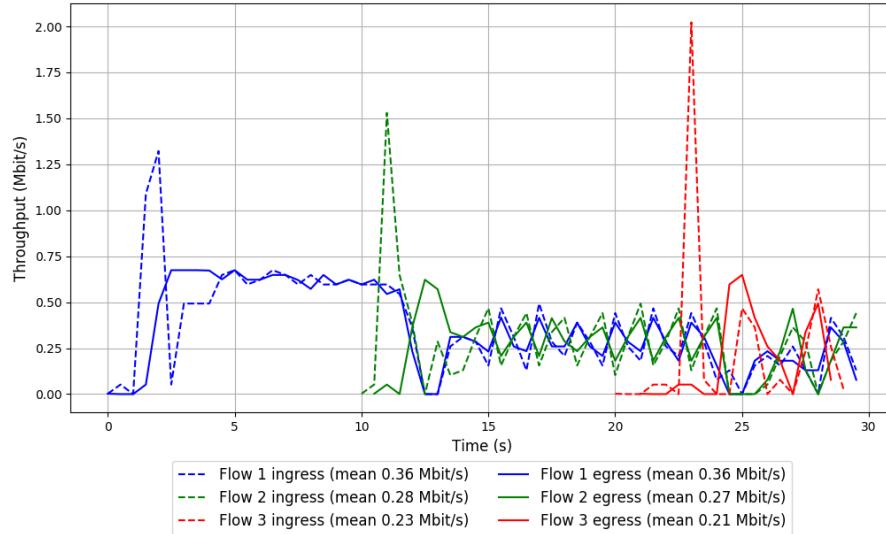


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-04-10 07:07:31
End at: 2018-04-10 07:08:01
Local clock offset: -7.841 ms
Remote clock offset: 2.865 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 2968.239 ms
Loss rate: 7.80%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 2615.251 ms
Loss rate: 4.15%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 3136.517 ms
Loss rate: 8.12%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 3068.689 ms
Loss rate: 25.91%
```

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

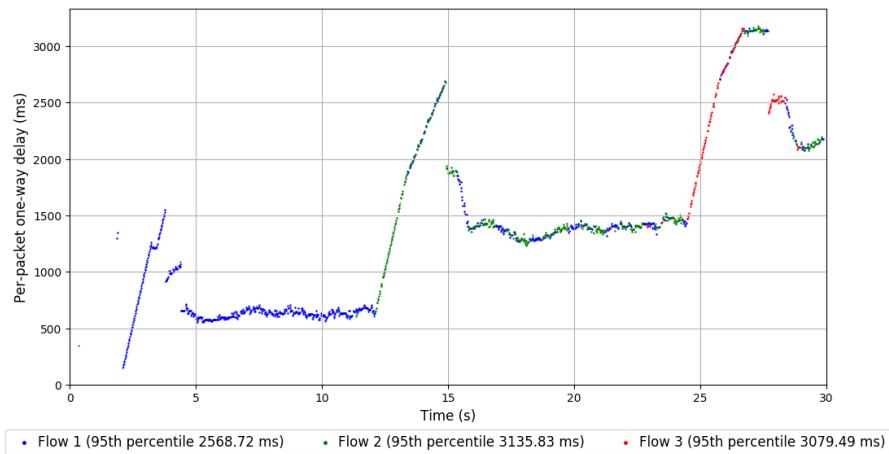
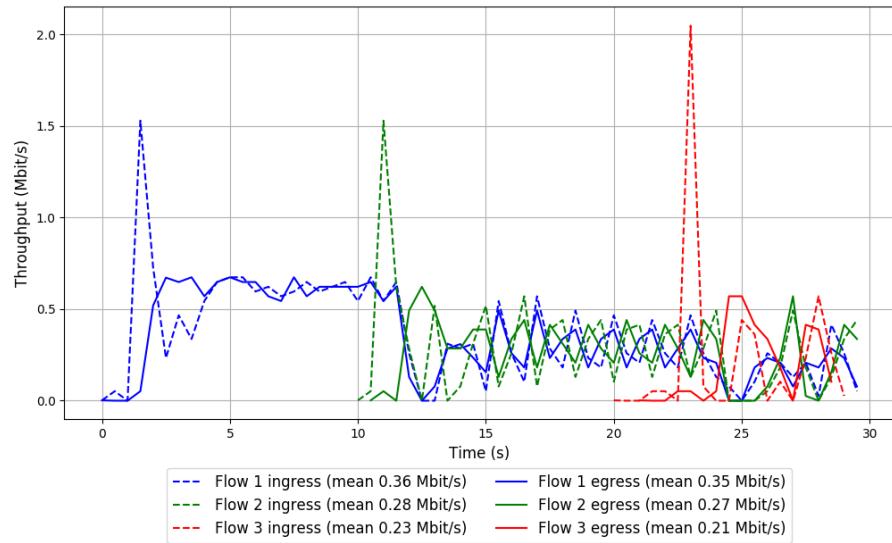


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-04-10 07:30:08
End at: 2018-04-10 07:30:38
Local clock offset: -7.685 ms
Remote clock offset: 3.362 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 2995.723 ms
Loss rate: 7.76%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 2568.716 ms
Loss rate: 4.07%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 3135.826 ms
Loss rate: 8.12%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 3079.487 ms
Loss rate: 25.75%
```

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

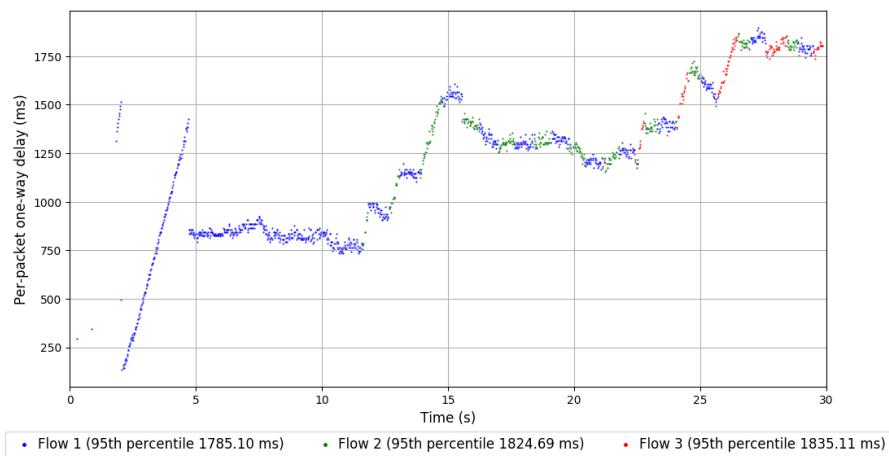
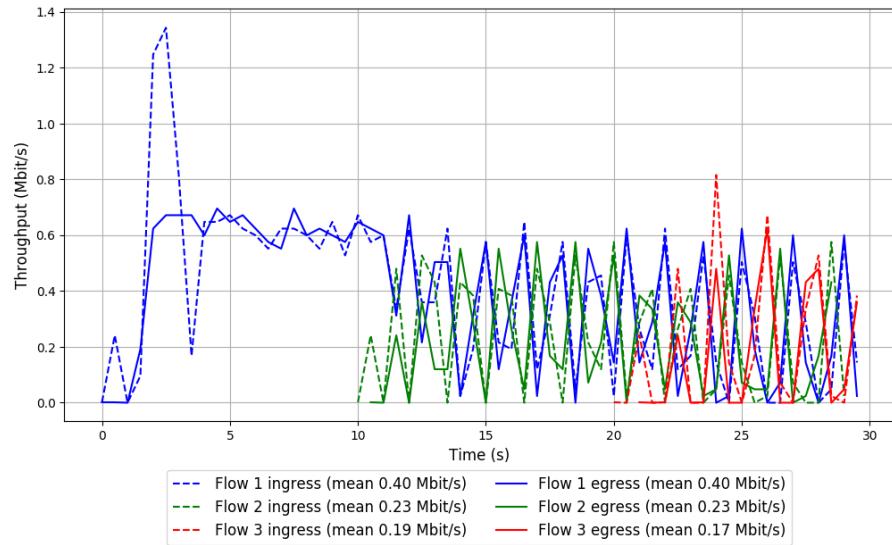


Run 1: Statistics of TCP Vegas

```
Start at: 2018-04-10 06:53:44
End at: 2018-04-10 06:54:14
Local clock offset: -8.523 ms
Remote clock offset: 1.111 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1815.154 ms
Loss rate: 6.07%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 1785.103 ms
Loss rate: 3.18%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 1824.693 ms
Loss rate: 6.85%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1835.108 ms
Loss rate: 22.33%
```

Run 1: Report of TCP Vegas — Data Link

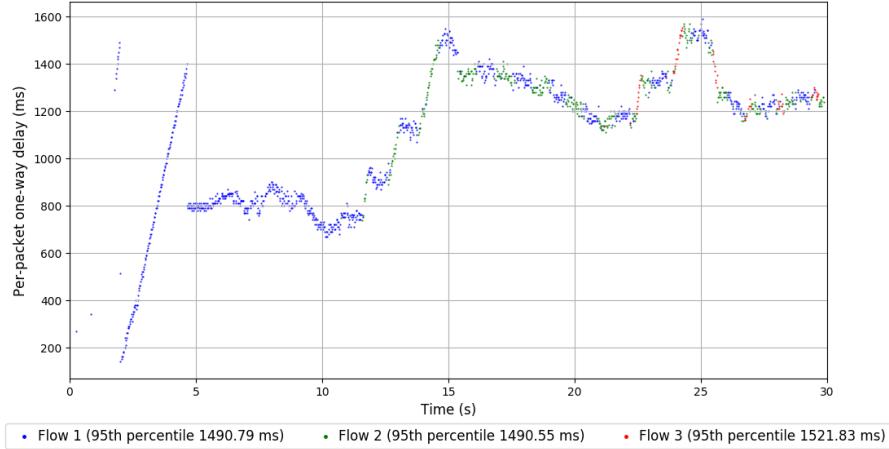
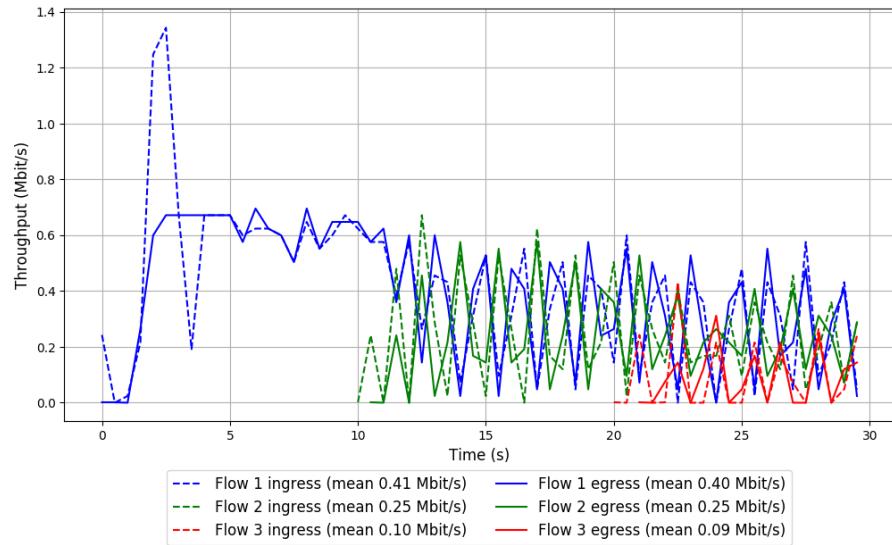


Run 2: Statistics of TCP Vegas

```
Start at: 2018-04-10 07:16:20
End at: 2018-04-10 07:16:50
Local clock offset: -7.442 ms
Remote clock offset: 3.204 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1491.137 ms
Loss rate: 4.32%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 1490.788 ms
Loss rate: 2.86%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 1490.551 ms
Loss rate: 5.57%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1521.825 ms
Loss rate: 16.40%
```

Run 2: Report of TCP Vegas — Data Link

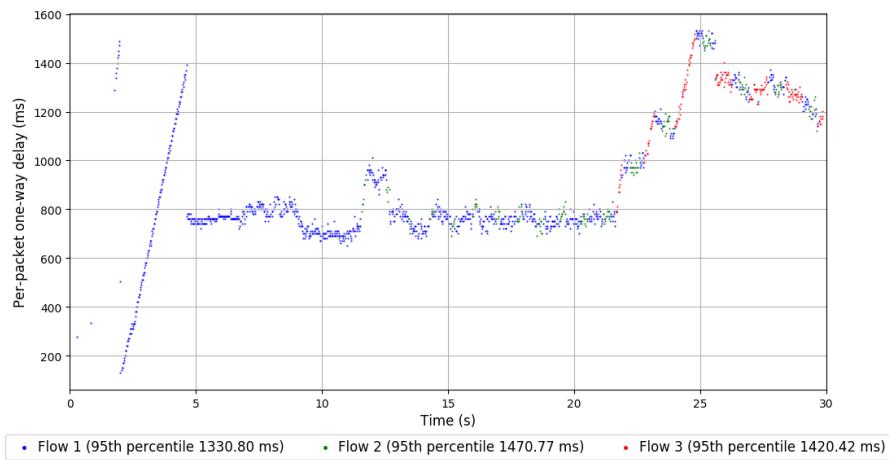
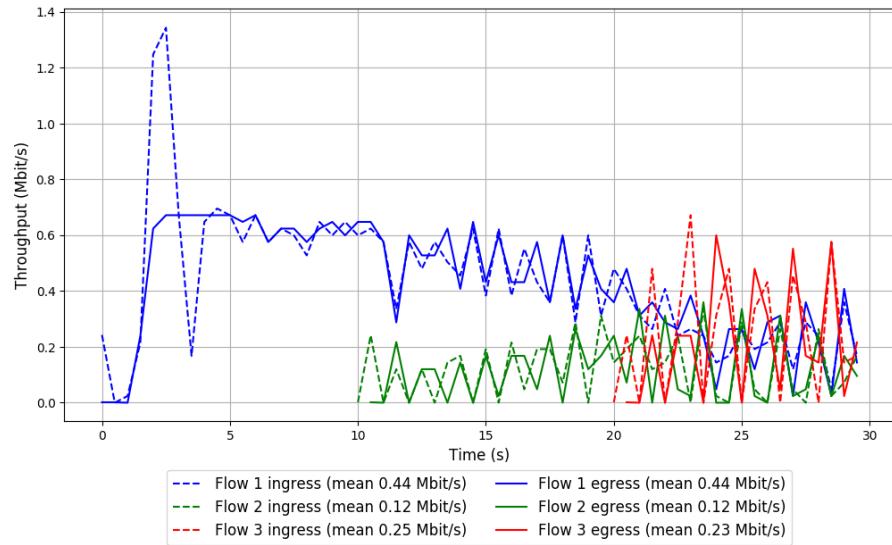


Run 3: Statistics of TCP Vegas

```
Start at: 2018-04-10 07:38:58
End at: 2018-04-10 07:39:28
Local clock offset: -7.231 ms
Remote clock offset: 8.572 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1359.958 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1330.795 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 1470.773 ms
Loss rate: 5.85%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 1420.419 ms
Loss rate: 13.78%
```

Run 3: Report of TCP Vegas — Data Link

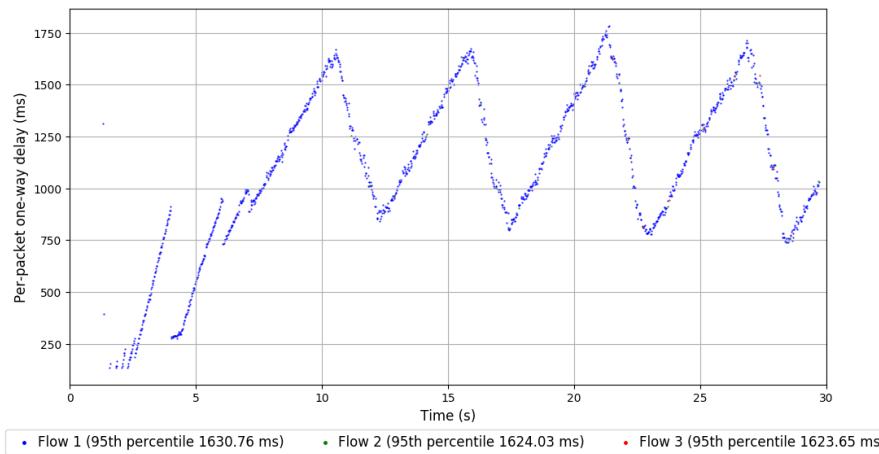
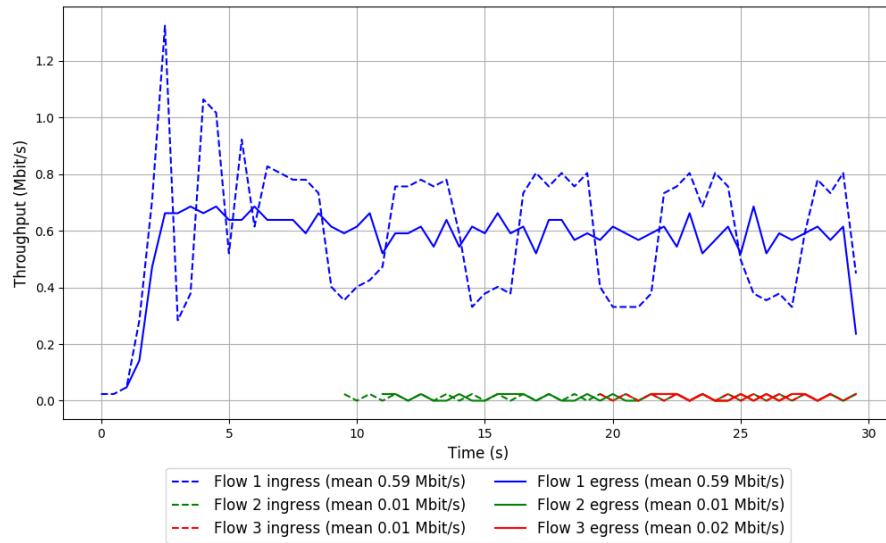


Run 1: Statistics of Verus

```
Start at: 2018-04-10 07:02:30
End at: 2018-04-10 07:03:00
Local clock offset: -7.108 ms
Remote clock offset: 8.89 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 1630.575 ms
Loss rate: 4.91%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1630.756 ms
Loss rate: 4.81%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1624.031 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1623.649 ms
Loss rate: 18.18%
```

Run 1: Report of Verus — Data Link

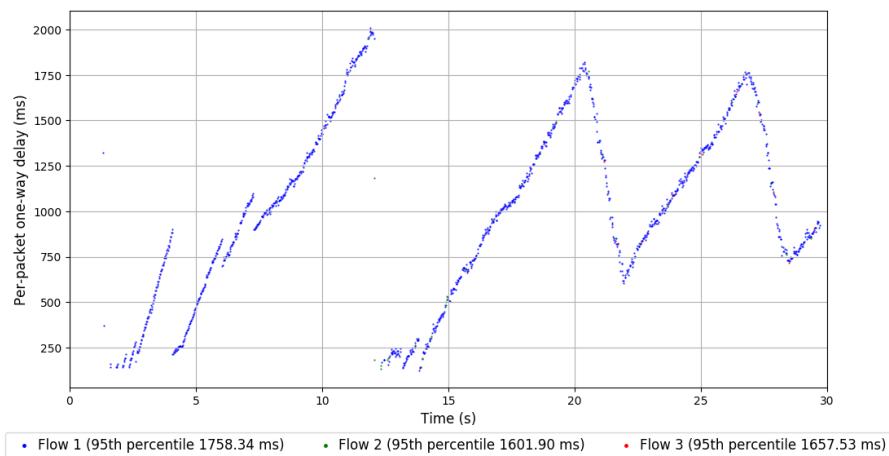
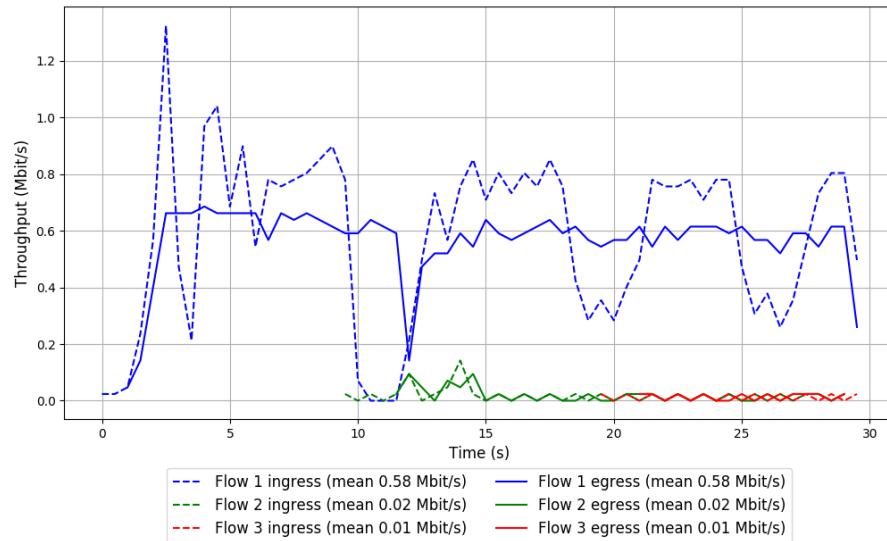


Run 2: Statistics of Verus

```
Start at: 2018-04-10 07:25:06
End at: 2018-04-10 07:25:36
Local clock offset: -7.565 ms
Remote clock offset: 9.883 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1756.909 ms
Loss rate: 4.85%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1758.337 ms
Loss rate: 4.86%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 1601.902 ms
Loss rate: 3.12%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1657.527 ms
Loss rate: 9.09%
```

Run 2: Report of Verus — Data Link

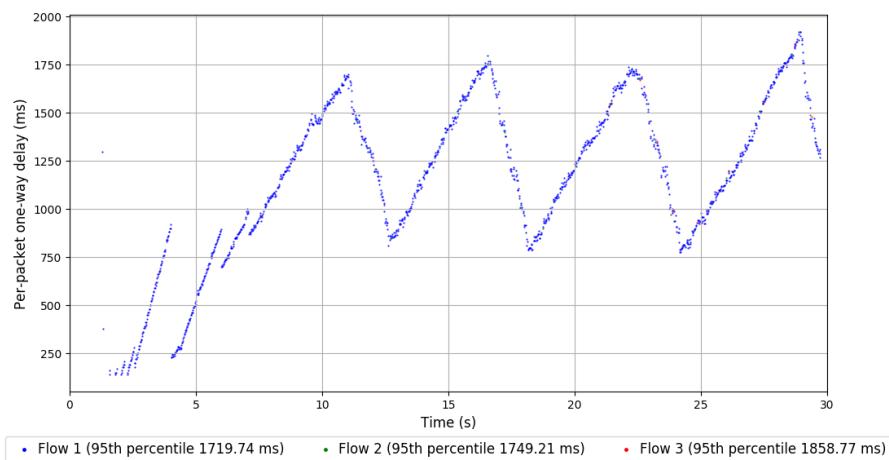
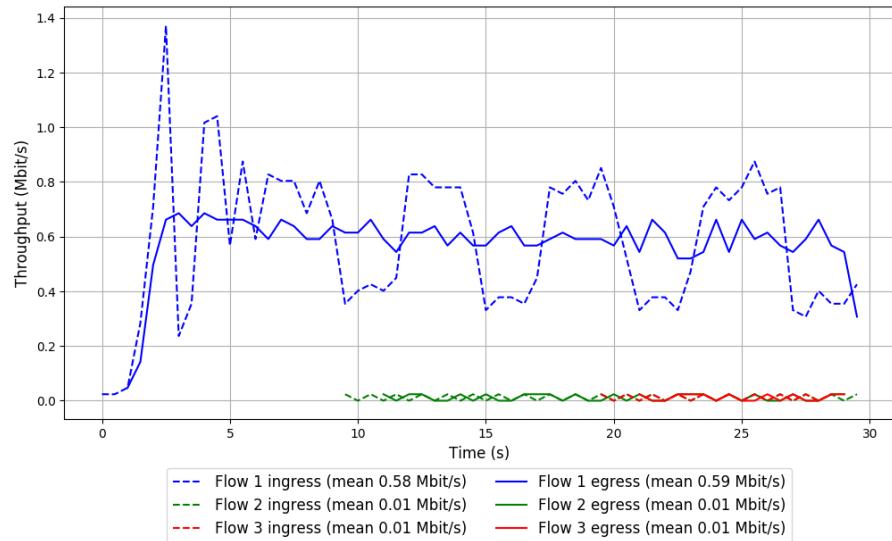


Run 3: Statistics of Verus

```
Start at: 2018-04-10 07:47:44
End at: 2018-04-10 07:48:14
Local clock offset: -6.404 ms
Remote clock offset: 7.542 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 1720.234 ms
Loss rate: 3.45%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1719.738 ms
Loss rate: 3.32%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1749.209 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1858.772 ms
Loss rate: 10.00%
```

Run 3: Report of Verus — Data Link

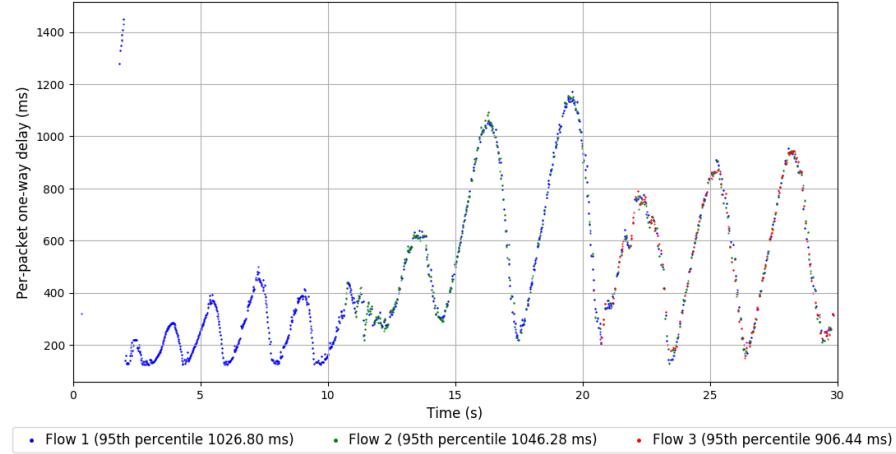
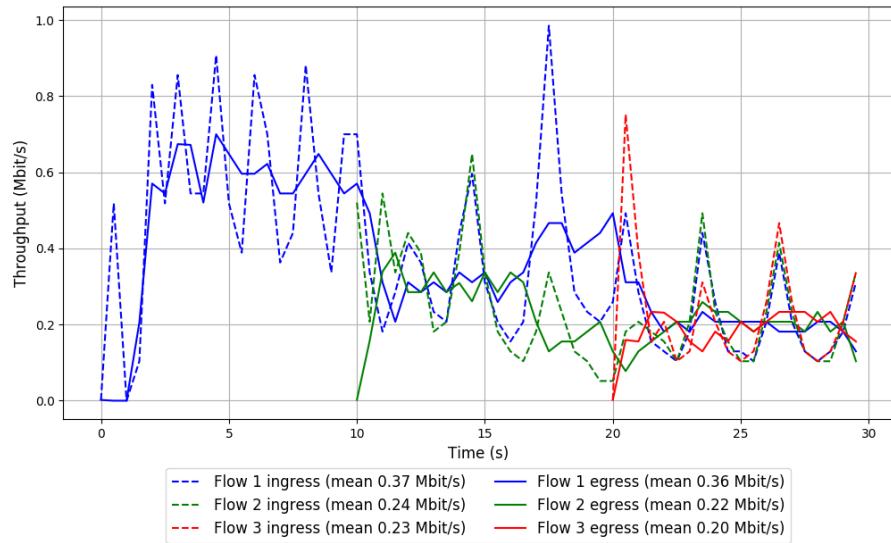


Run 1: Statistics of Copa

```
Start at: 2018-04-10 06:51:13
End at: 2018-04-10 06:51:43
Local clock offset: -9.049 ms
Remote clock offset: 6.818 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1023.384 ms
Loss rate: 6.83%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 1026.802 ms
Loss rate: 3.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1046.281 ms
Loss rate: 9.42%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 906.439 ms
Loss rate: 18.34%
```

Run 1: Report of Copa — Data Link

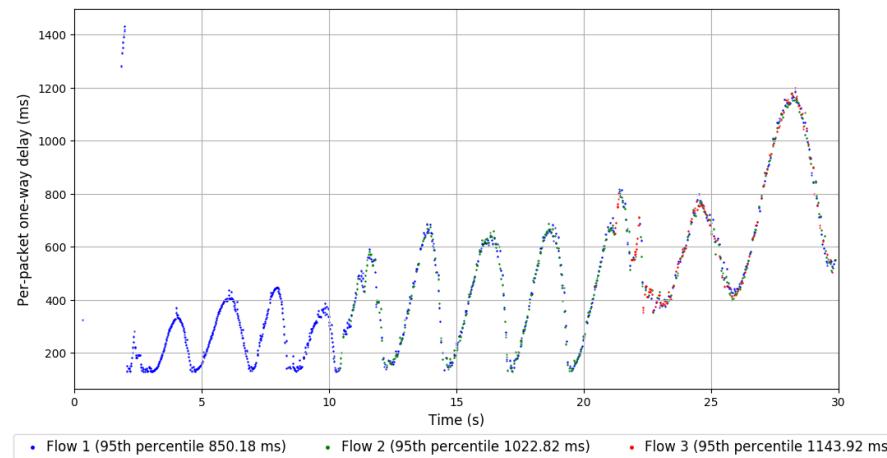
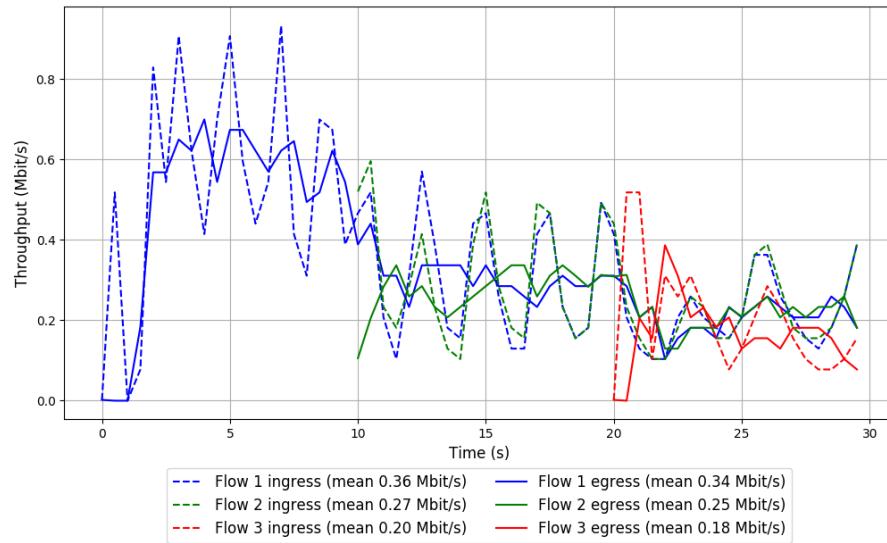


Run 2: Statistics of Copa

```
Start at: 2018-04-10 07:13:49
End at: 2018-04-10 07:14:19
Local clock offset: -8.101 ms
Remote clock offset: 3.124 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1022.822 ms
Loss rate: 7.34%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 850.182 ms
Loss rate: 4.63%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 1022.822 ms
Loss rate: 9.13%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 1143.920 ms
Loss rate: 16.86%
```

Run 2: Report of Copa — Data Link

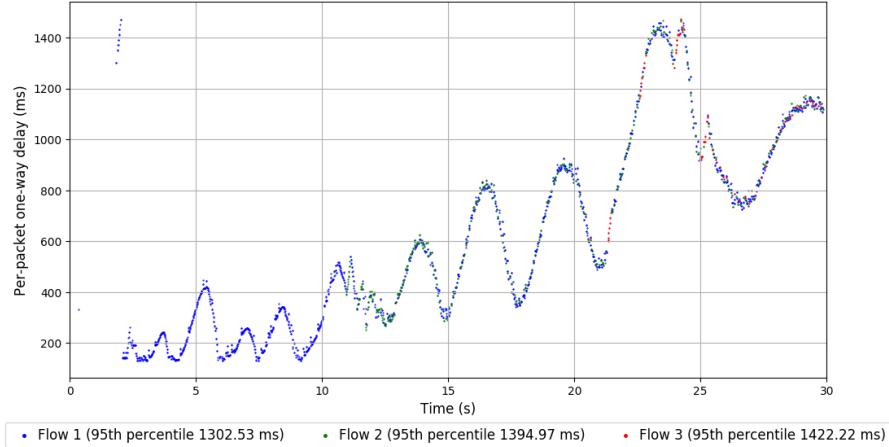
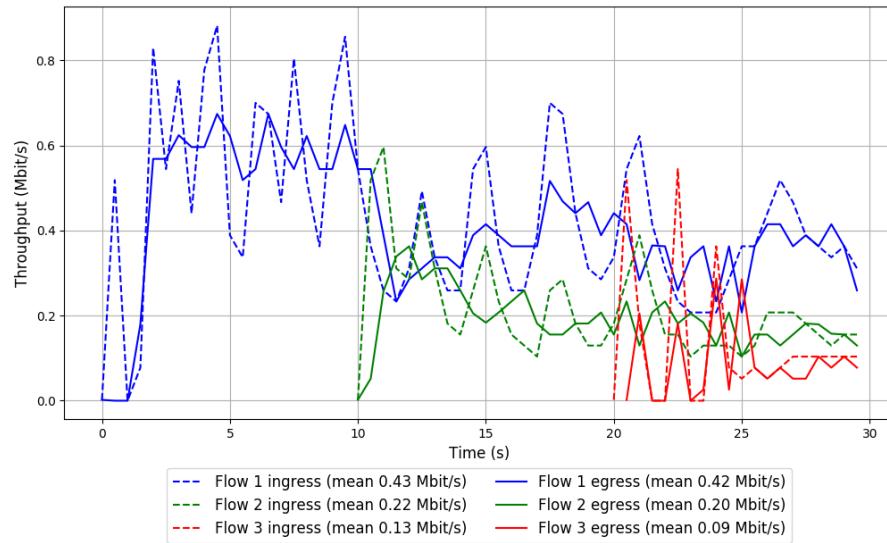


Run 3: Statistics of Copa

```
Start at: 2018-04-10 07:36:26
End at: 2018-04-10 07:36:57
Local clock offset: -5.772 ms
Remote clock offset: 2.97 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1355.140 ms
Loss rate: 8.35%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 1302.532 ms
Loss rate: 5.04%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 1394.972 ms
Loss rate: 10.54%
-- Flow 3:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1422.223 ms
Loss rate: 34.32%
```

Run 3: Report of Copa — Data Link

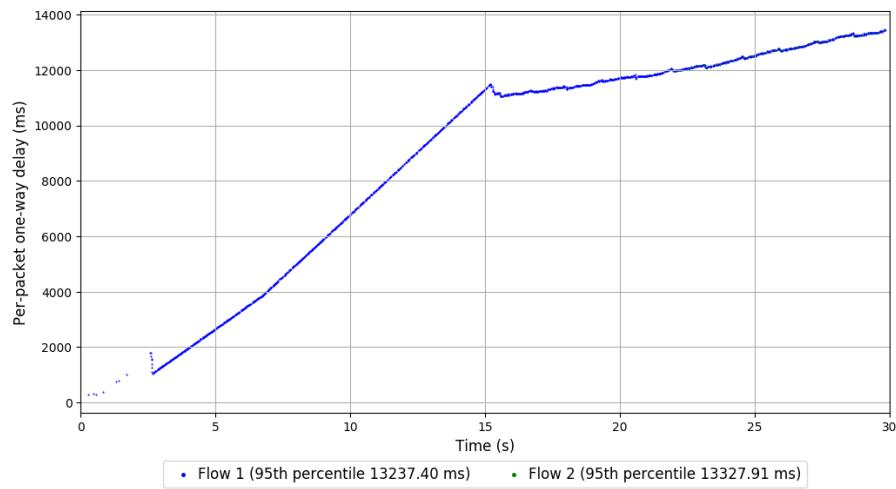
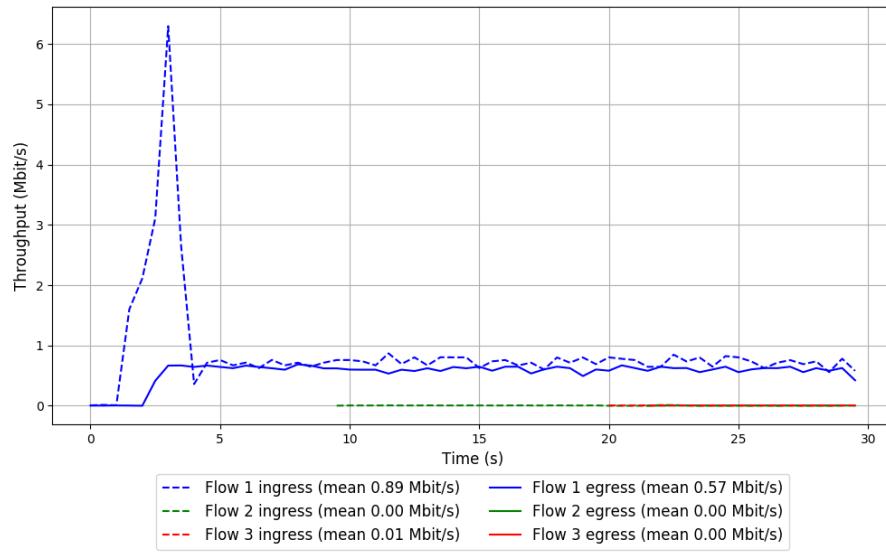


```
Run 1: Statistics of FillP
```

```
Start at: 2018-04-10 06:57:29
End at: 2018-04-10 06:57:59
Local clock offset: -8.859 ms
Remote clock offset: 1.755 ms

# Below is generated by plot.py at 2018-04-10 08:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13246.526 ms
Loss rate: 37.08%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13237.397 ms
Loss rate: 36.91%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 13327.912 ms
Loss rate: 56.07%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of FillP — Data Link

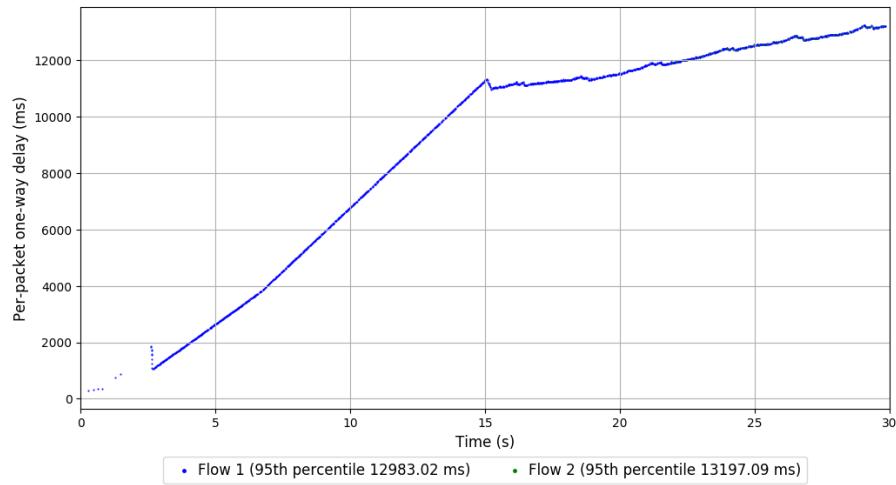
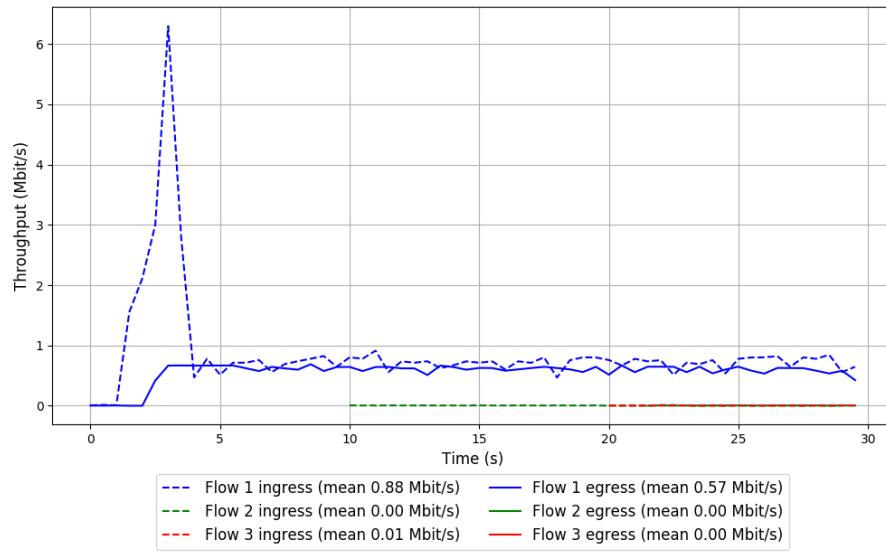


Run 2: Statistics of FillP

```
Start at: 2018-04-10 07:20:05
End at: 2018-04-10 07:20:35
Local clock offset: -8.357 ms
Remote clock offset: 4.159 ms

# Below is generated by plot.py at 2018-04-10 08:58:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 12992.841 ms
Loss rate: 36.73%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 12983.022 ms
Loss rate: 36.55%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 13197.091 ms
Loss rate: 55.04%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of FillP — Data Link

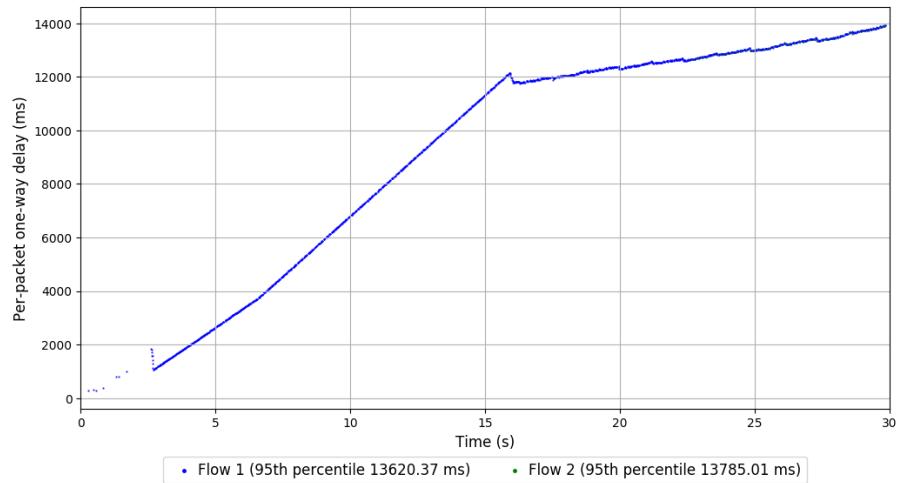
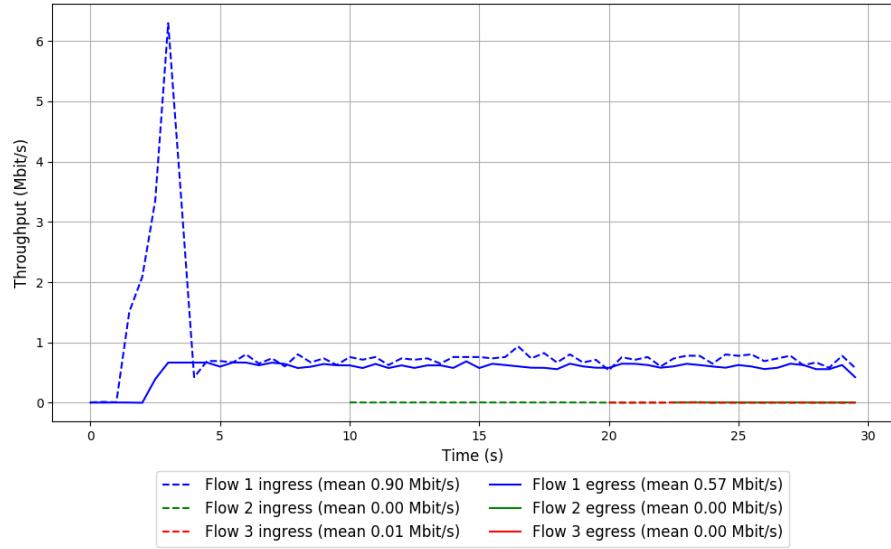


Run 3: Statistics of FillP

```
Start at: 2018-04-10 07:42:43
End at: 2018-04-10 07:43:13
Local clock offset: -6.363 ms
Remote clock offset: 9.394 ms

# Below is generated by plot.py at 2018-04-10 08:58:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13641.822 ms
Loss rate: 37.93%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13620.367 ms
Loss rate: 37.75%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 13785.009 ms
Loss rate: 59.13%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of FillP — Data Link

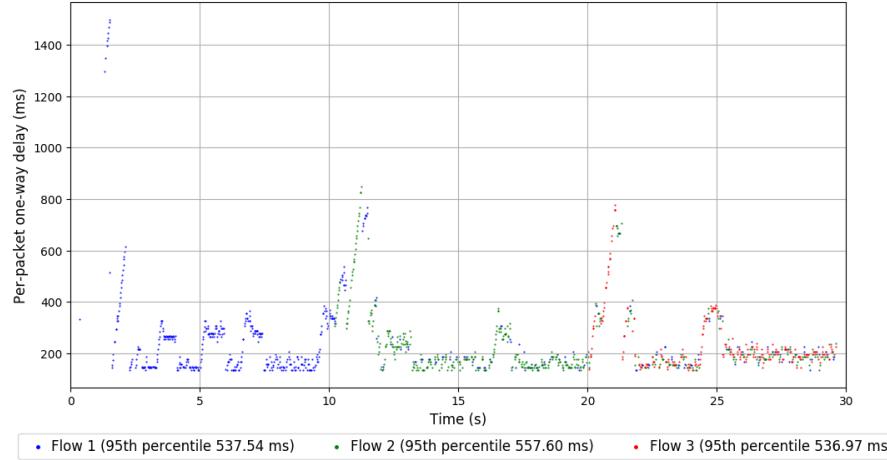
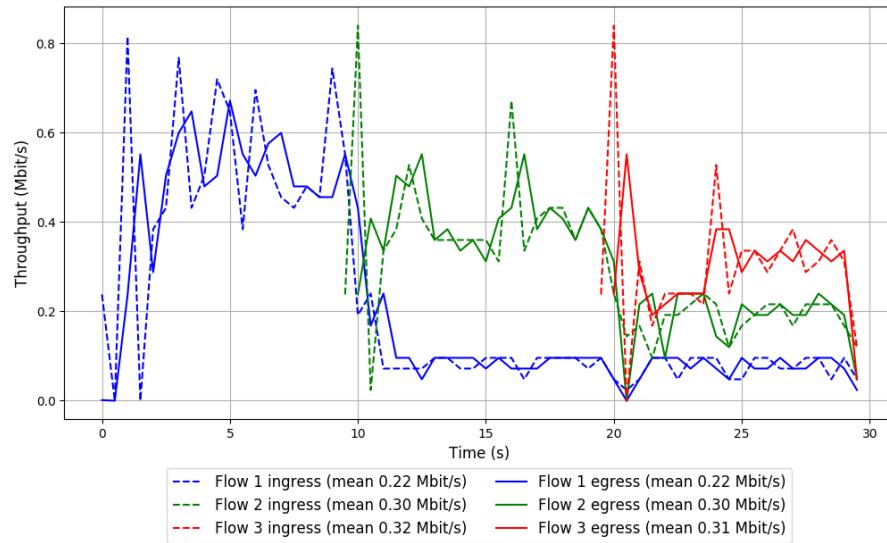


Run 1: Statistics of Indigo-1-32

```
Start at: 2018-04-10 06:43:40
End at: 2018-04-10 06:44:10
Local clock offset: -10.125 ms
Remote clock offset: 1.24 ms

# Below is generated by plot.py at 2018-04-10 08:58:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 545.277 ms
Loss rate: 2.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 537.538 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 557.596 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 536.972 ms
Loss rate: 6.06%
```

Run 1: Report of Indigo-1-32 — Data Link

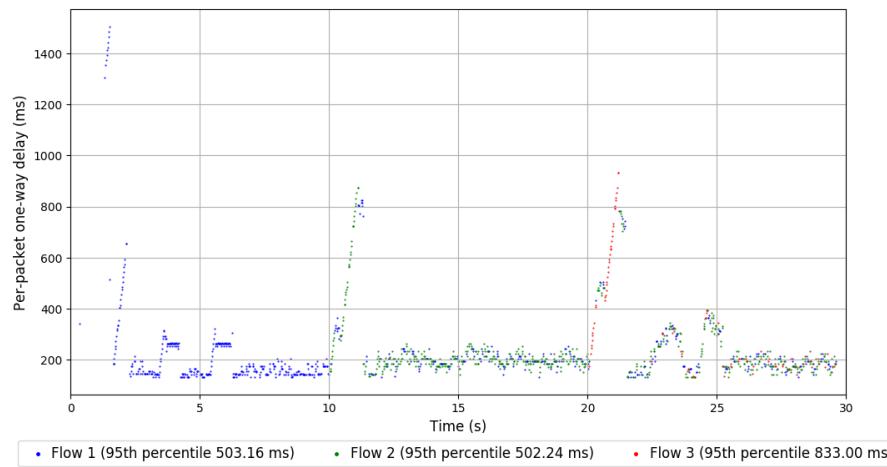
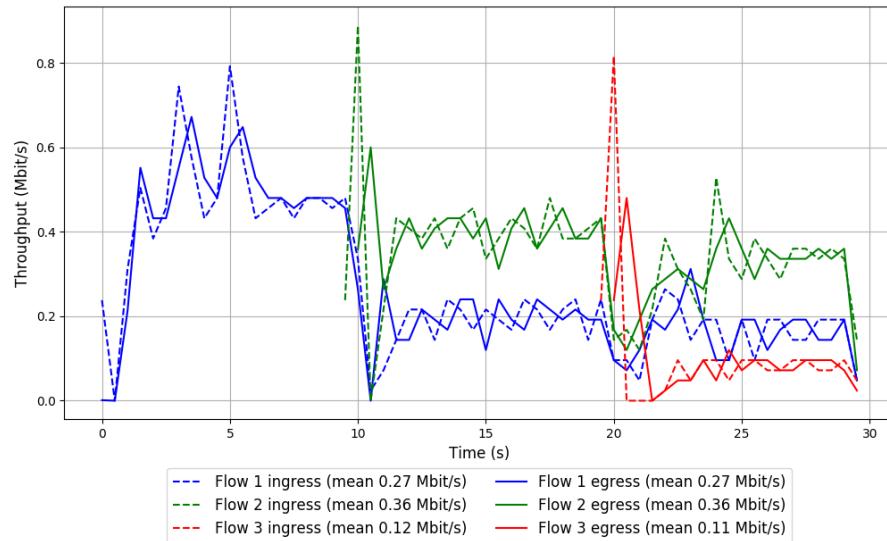


Run 2: Statistics of Indigo-1-32

```
Start at: 2018-04-10 07:06:16
End at: 2018-04-10 07:06:46
Local clock offset: -8.674 ms
Remote clock offset: 2.747 ms

# Below is generated by plot.py at 2018-04-10 08:58:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 613.507 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 503.158 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 502.238 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 833.004 ms
Loss rate: 7.37%
```

Run 2: Report of Indigo-1-32 — Data Link

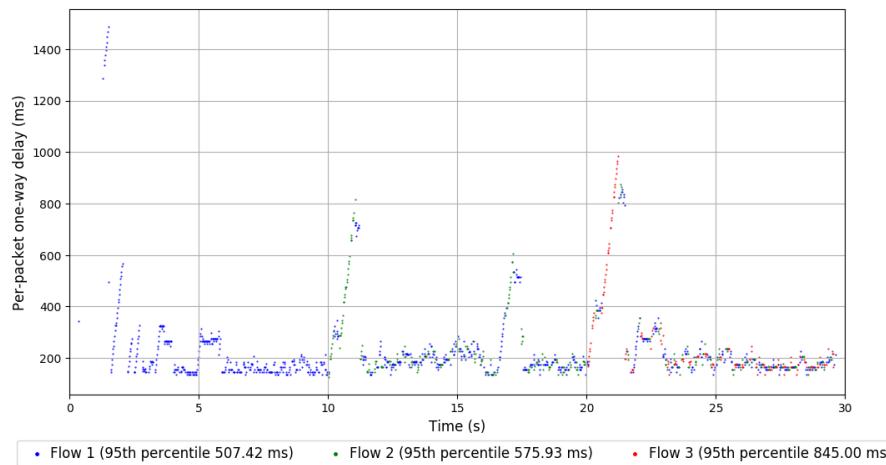
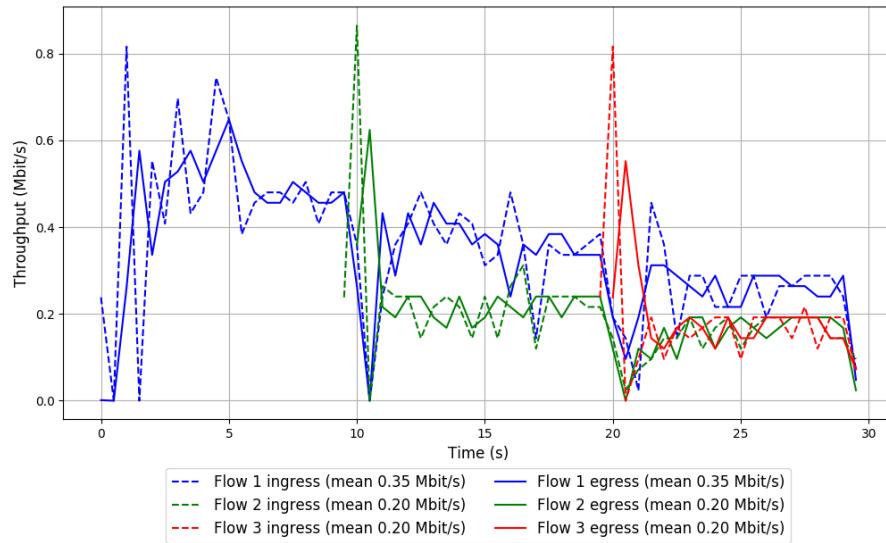


Run 3: Statistics of Indigo-1-32

```
Start at: 2018-04-10 07:28:52
End at: 2018-04-10 07:29:22
Local clock offset: -7.0 ms
Remote clock offset: 4.253 ms

# Below is generated by plot.py at 2018-04-10 08:58:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 574.677 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 507.422 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 575.933 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 845.000 ms
Loss rate: 2.46%
```

Run 3: Report of Indigo-1-32 — Data Link

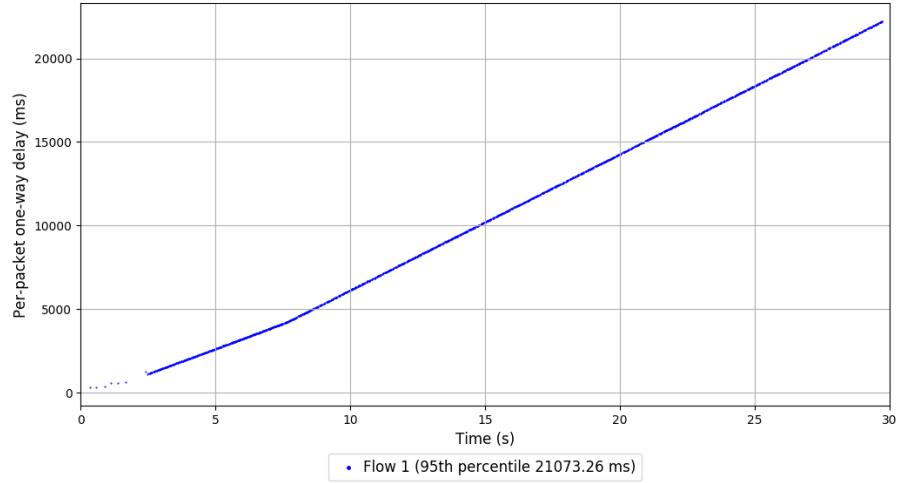
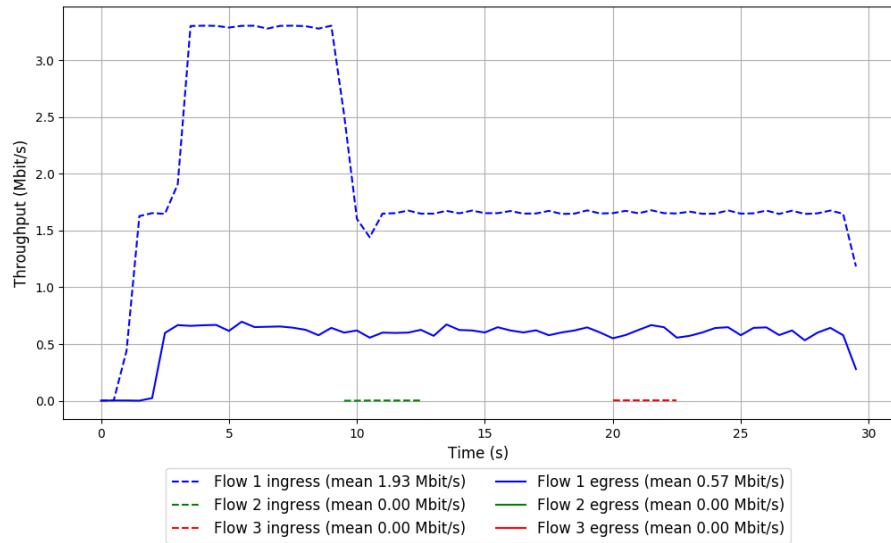


```
Run 1: Statistics of Vivace-latency
```

```
Start at: 2018-04-10 06:49:57
End at: 2018-04-10 06:50:27
Local clock offset: -9.389 ms
Remote clock offset: 6.81 ms

# Below is generated by plot.py at 2018-04-10 08:58:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21073.264 ms
Loss rate: 70.69%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21073.264 ms
Loss rate: 70.68%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of Vivace-latency — Data Link

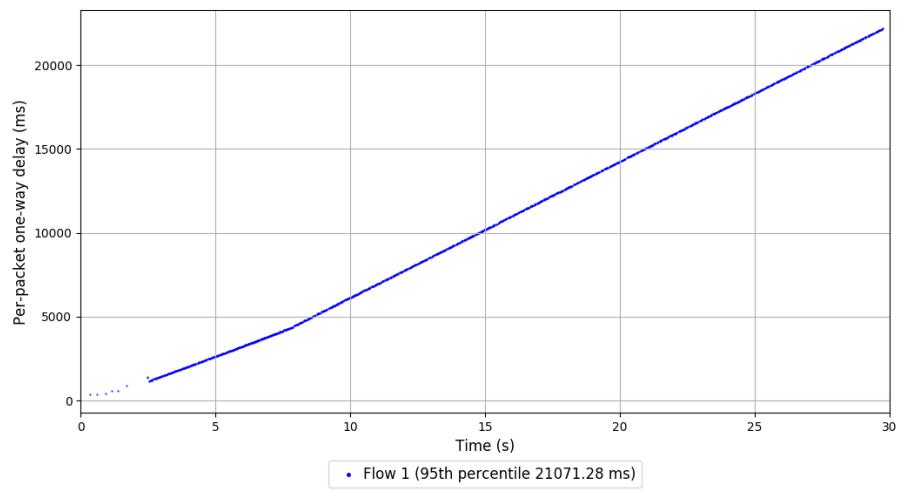
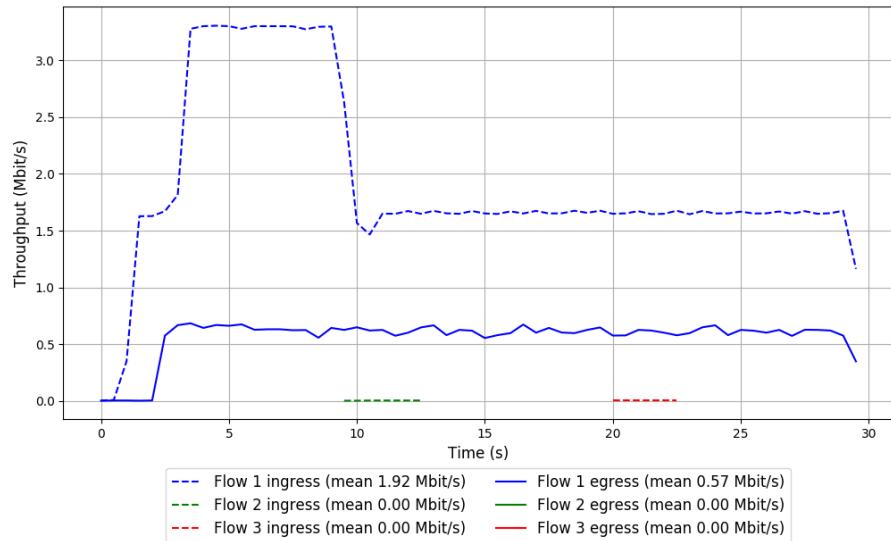


Run 2: Statistics of Vivace-latency

```
Start at: 2018-04-10 07:12:33
End at: 2018-04-10 07:13:03
Local clock offset: -8.781 ms
Remote clock offset: 8.729 ms

# Below is generated by plot.py at 2018-04-10 08:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21071.283 ms
Loss rate: 70.59%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21071.283 ms
Loss rate: 70.57%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of Vivace-latency — Data Link

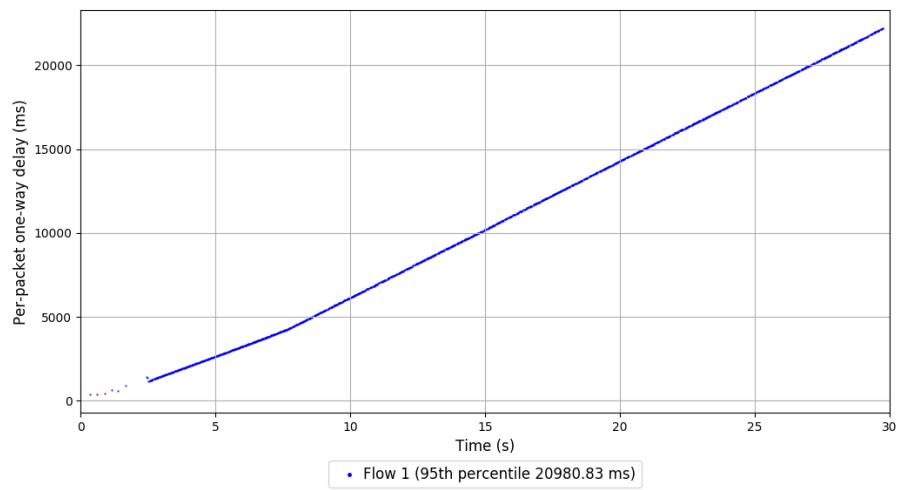
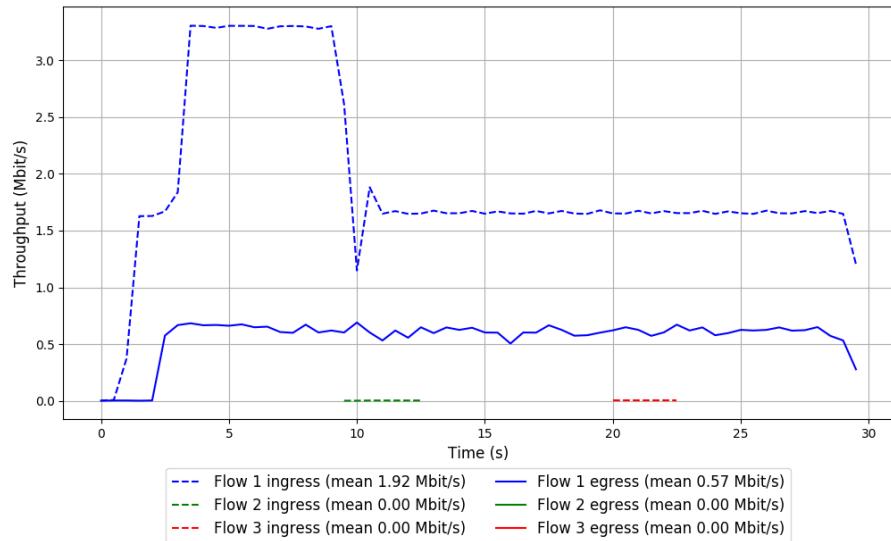


Run 3: Statistics of Vivace-latency

```
Start at: 2018-04-10 07:35:11
End at: 2018-04-10 07:35:41
Local clock offset: -7.377 ms
Remote clock offset: 8.73 ms

# Below is generated by plot.py at 2018-04-10 08:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 20980.828 ms
Loss rate: 70.66%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 20980.828 ms
Loss rate: 70.65%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of Vivace-latency — Data Link

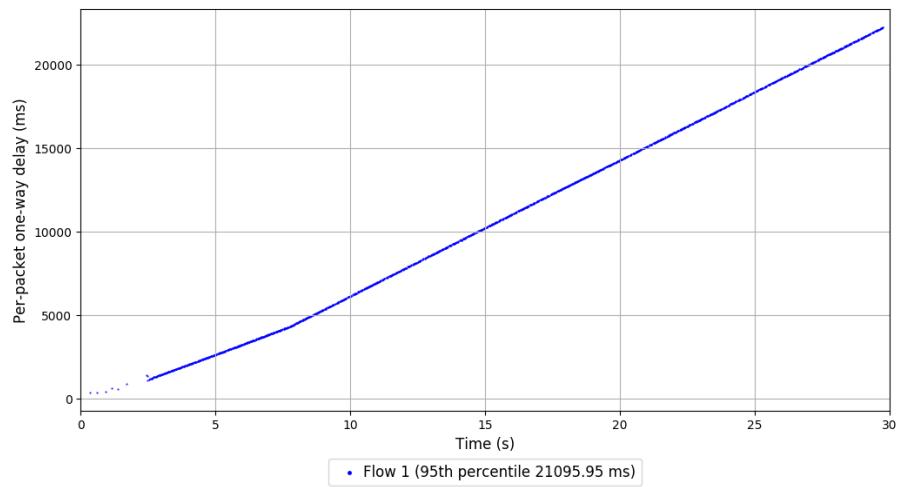
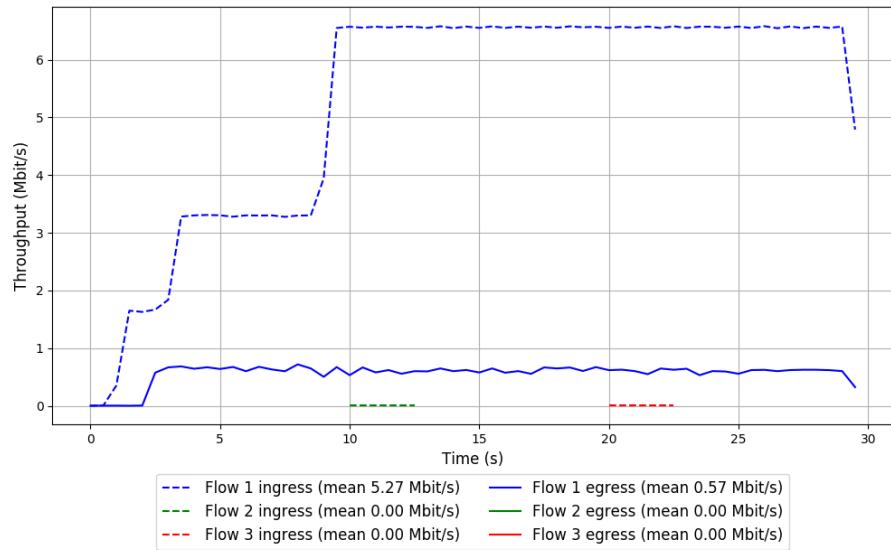


```
Run 1: Statistics of Vivace-loss
```

```
Start at: 2018-04-10 06:52:28
End at: 2018-04-10 06:52:58
Local clock offset: -9.481 ms
Remote clock offset: 6.769 ms

# Below is generated by plot.py at 2018-04-10 08:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21095.953 ms
Loss rate: 89.28%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21095.953 ms
Loss rate: 89.28%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of Vivace-loss — Data Link

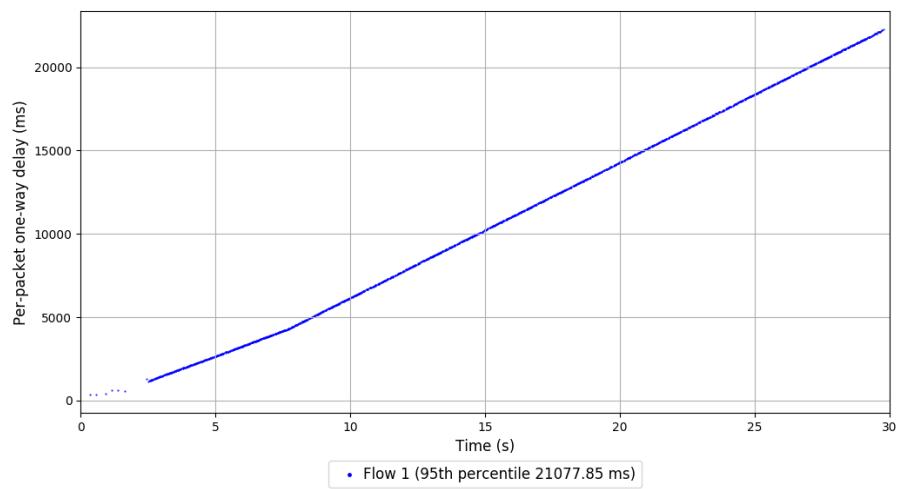
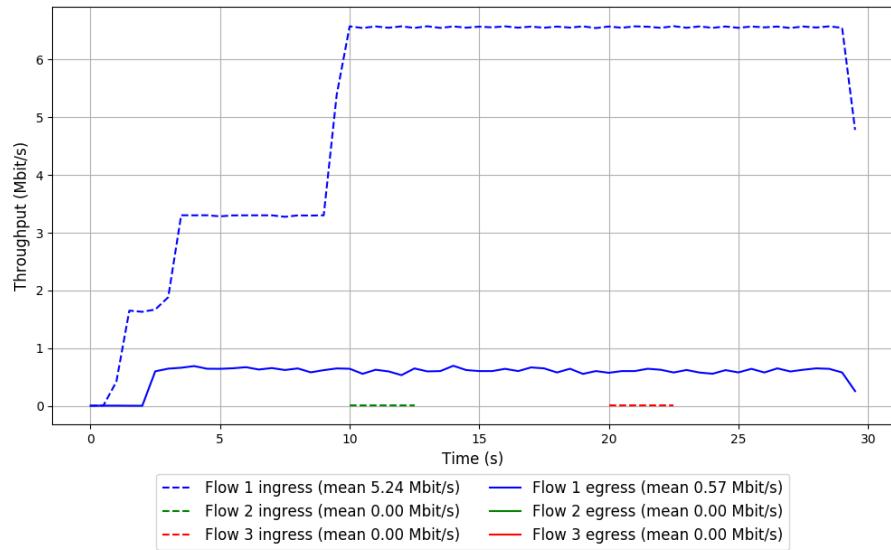


```
Run 2: Statistics of Vivace-loss
```

```
Start at: 2018-04-10 07:15:04
End at: 2018-04-10 07:15:34
Local clock offset: -7.385 ms
Remote clock offset: 8.893 ms

# Below is generated by plot.py at 2018-04-10 08:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21077.850 ms
Loss rate: 89.24%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21077.850 ms
Loss rate: 89.24%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of Vivace-loss — Data Link

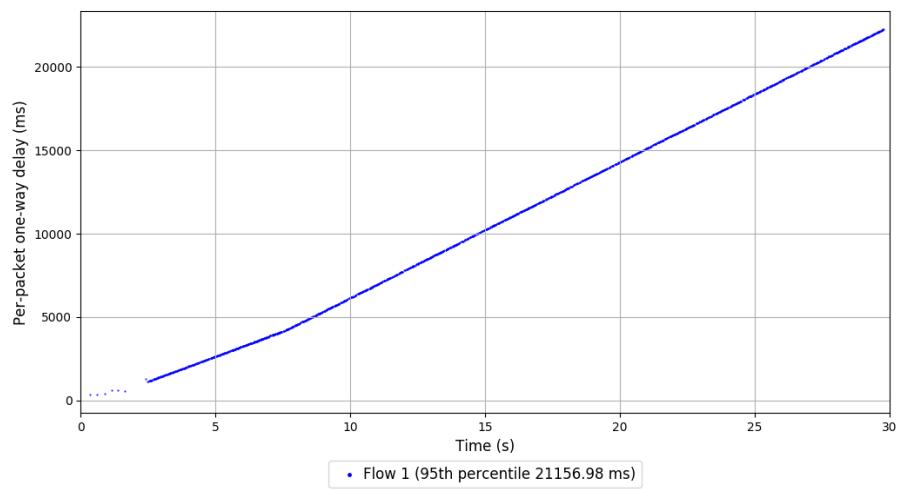
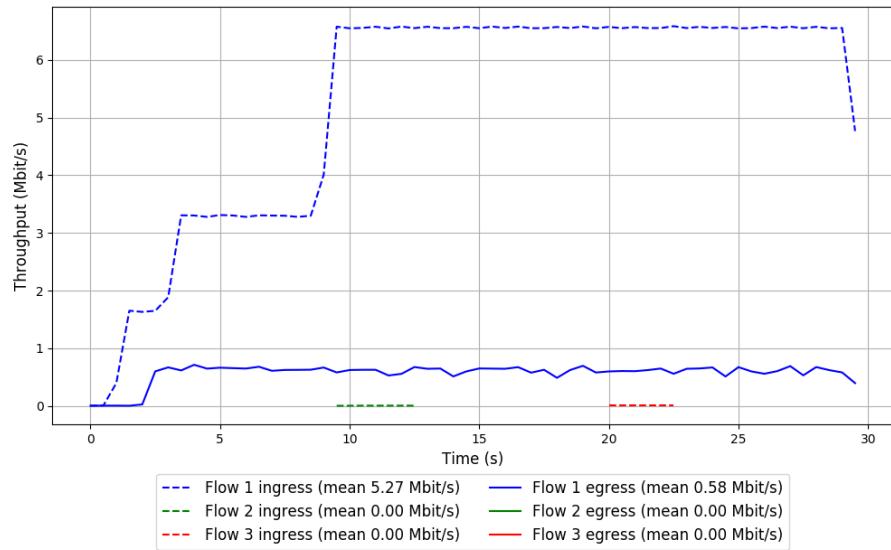


```
Run 3: Statistics of Vivace-loss
```

```
Start at: 2018-04-10 07:37:42
End at: 2018-04-10 07:38:12
Local clock offset: -7.227 ms
Remote clock offset: 2.966 ms

# Below is generated by plot.py at 2018-04-10 08:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 21156.976 ms
Loss rate: 89.24%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 21156.976 ms
Loss rate: 89.24%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of Vivace-loss — Data Link

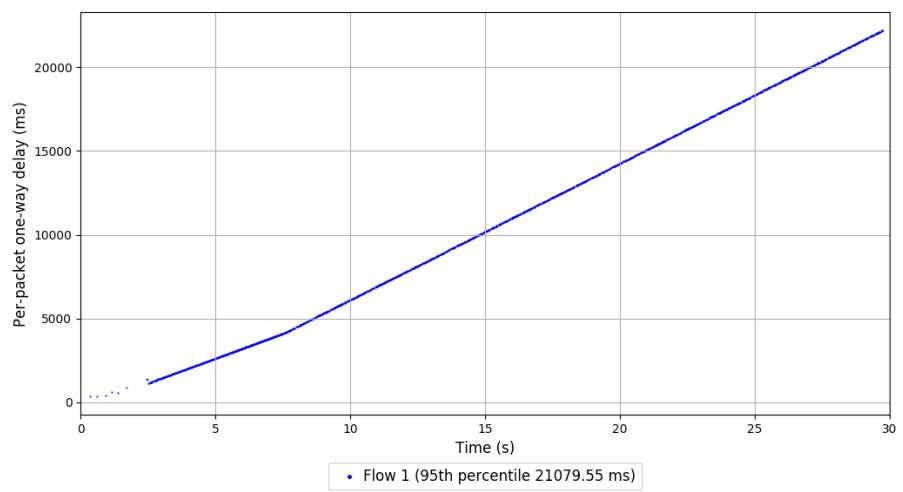
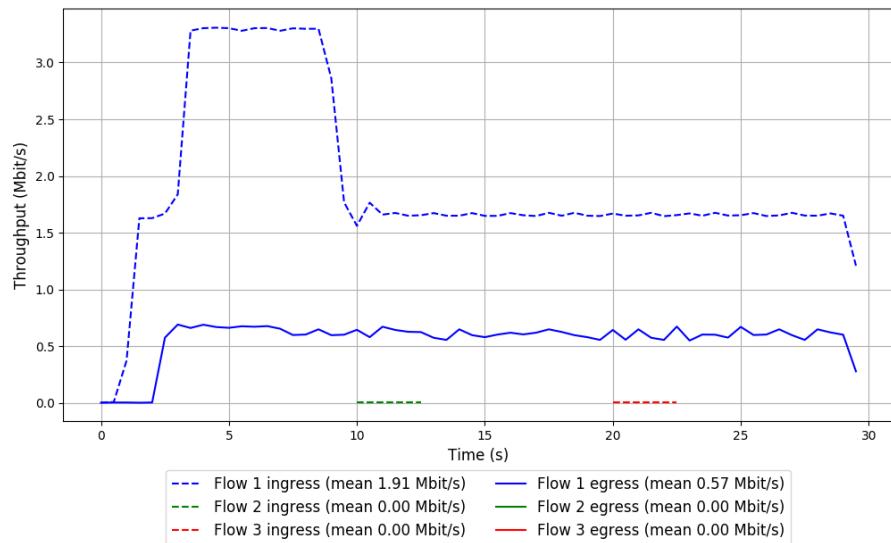


Run 1: Statistics of Vivace-LTE

```
Start at: 2018-04-10 06:58:44
End at: 2018-04-10 06:59:14
Local clock offset: -7.25 ms
Remote clock offset: 7.54 ms

# Below is generated by plot.py at 2018-04-10 08:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21079.552 ms
Loss rate: 70.44%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21079.552 ms
Loss rate: 70.43%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of Vivace-LTE — Data Link

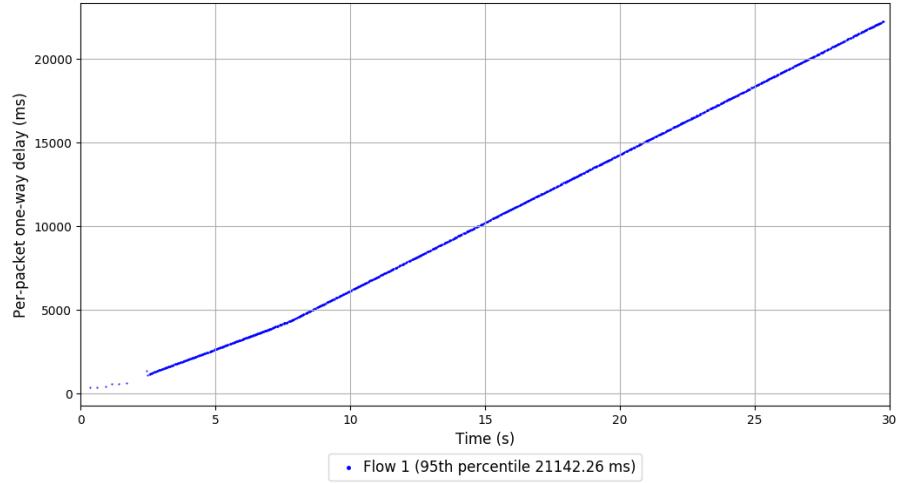
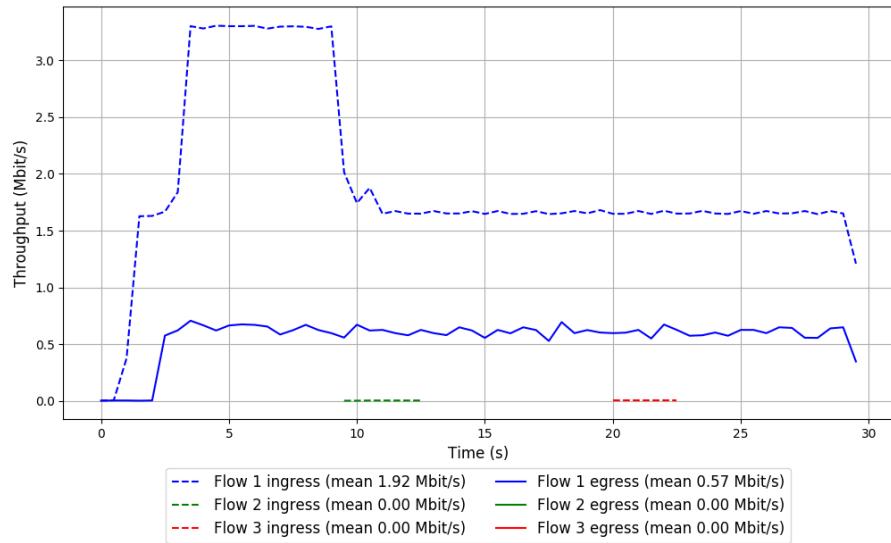


Run 2: Statistics of Vivace-LTE

```
Start at: 2018-04-10 07:21:21
End at: 2018-04-10 07:21:51
Local clock offset: -8.333 ms
Remote clock offset: 4.143 ms

# Below is generated by plot.py at 2018-04-10 08:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21142.260 ms
Loss rate: 70.70%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21142.260 ms
Loss rate: 70.69%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of Vivace-LTE — Data Link



Run 3: Statistics of Vivace-LTE

```
Start at: 2018-04-10 07:43:59
End at: 2018-04-10 07:44:29
Local clock offset: -6.332 ms
Remote clock offset: 9.263 ms

# Below is generated by plot.py at 2018-04-10 08:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21081.311 ms
Loss rate: 70.70%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21081.311 ms
Loss rate: 70.68%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of Vivace-LTE — Data Link

