

Pantheon Report

Generated at 2018-04-03 04:17:17 (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).

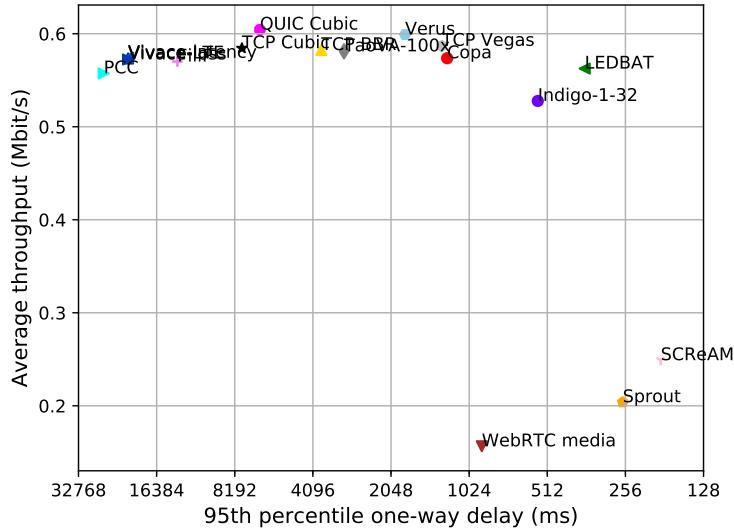
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

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

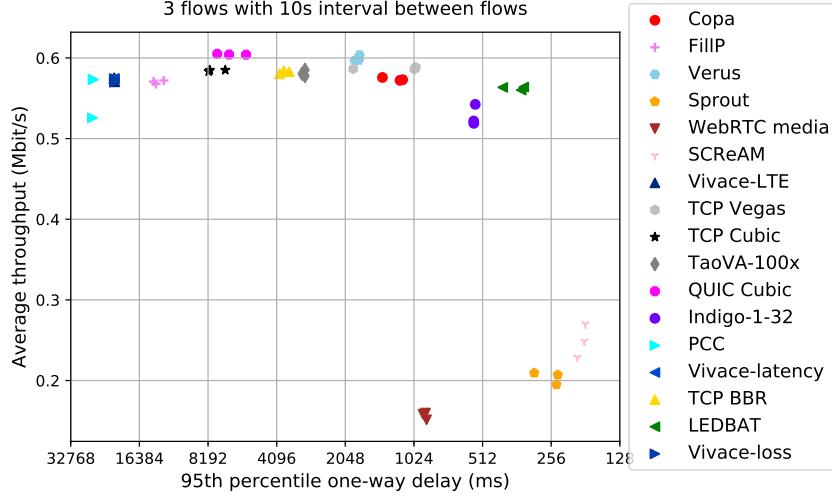
Git summary:

```
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 @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
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



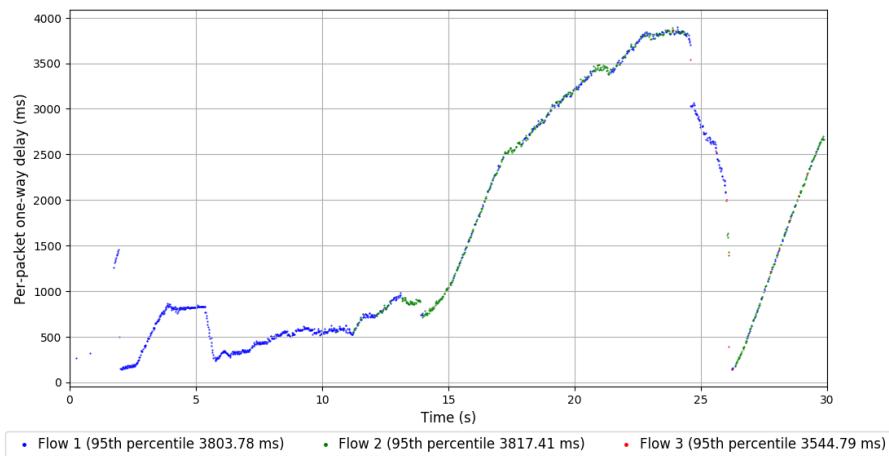
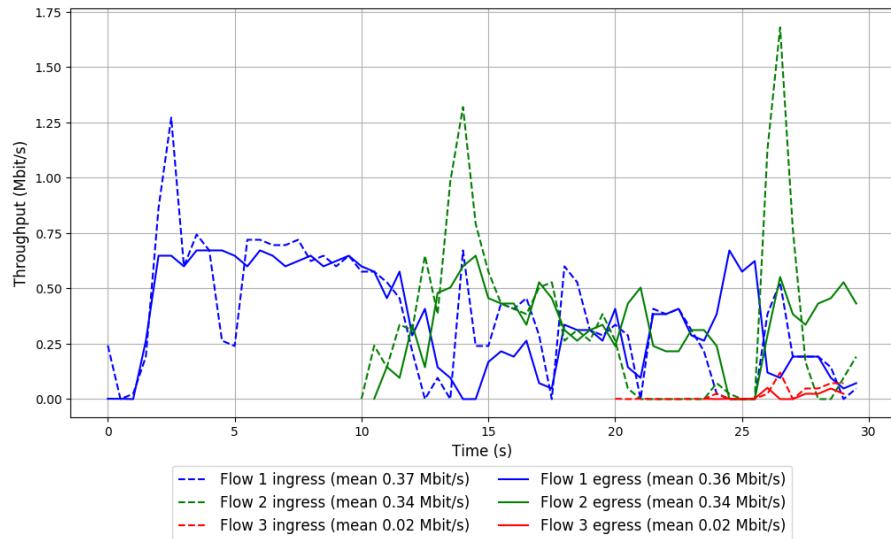
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.36	0.33	0.02	3784.27	3816.68	3551.95	3.17	4.95	52.80
TCP Cubic	3	0.57	0.03	0.00	7693.72	6384.25	7868.64	30.00	45.63	90.92
LEDBAT	3	0.24	0.36	0.27	343.76	374.62	370.79	0.06	0.93	6.81
PCC	3	0.56	0.00	N/A	26197.03	N/A	N/A	98.56	N/A	N/A
QUIC Cubic	3	0.56	0.07	0.00	6512.74	6765.13	6645.73	24.44	31.86	22.22
SCReAM	3	0.08	0.17	0.15	176.20	179.40	239.68	0.74	0.75	1.42
WebRTC media	3	0.05	0.05	0.05	937.73	885.65	928.91	0.00	0.04	0.27
Sprout	3	0.10	0.11	0.11	455.14	211.84	243.27	1.32	1.55	3.88
TaoVA-100x	3	0.36	0.27	0.21	2288.26	3325.46	3144.02	4.39	21.30	23.11
TCP Vegas	3	0.32	0.30	0.22	1391.57	1166.27	1054.24	1.50	3.37	13.83
Verus	3	0.59	0.01	0.01	1810.63	1780.54	1804.67	4.84	6.36	12.73
Copa	3	0.36	0.26	0.12	1165.23	1257.88	1360.99	4.93	10.21	28.56
FillP	3	0.57	0.00	0.00	13613.74	13747.81	N/A	38.38	58.50	N/A
Indigo-1-32	3	0.28	0.27	0.22	498.52	482.56	682.29	1.19	2.69	5.89
Vivace-latency	3	0.57	0.00	N/A	21122.38	N/A	N/A	70.48	N/A	N/A
Vivace-loss	3	0.57	0.00	N/A	21098.76	N/A	N/A	89.25	N/A	N/A
Vivace-LTE	3	0.57	0.00	N/A	21106.23	N/A	N/A	70.84	N/A	N/A

Run 1: Statistics of TCP BBR

```
Start at: 2018-04-03 02:03:24
End at: 2018-04-03 02:03:54
Local clock offset: -3.585 ms
Remote clock offset: 5.469 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3813.124 ms
Loss rate: 4.57%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 3803.785 ms
Loss rate: 3.14%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 3817.414 ms
Loss rate: 5.27%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 3544.787 ms
Loss rate: 57.58%
```

Run 1: Report of TCP BBR — Data Link

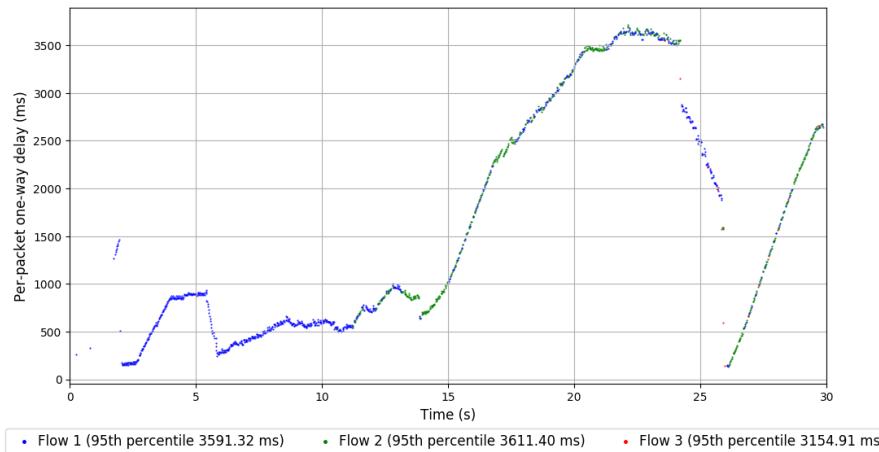
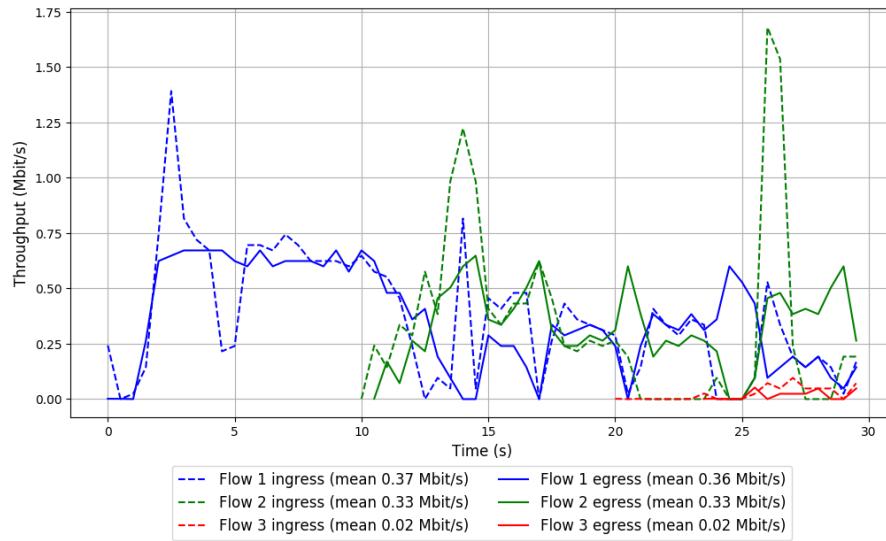


Run 2: Statistics of TCP BBR

```
Start at: 2018-04-03 02:26:06
End at: 2018-04-03 02:26:36
Local clock offset: -3.146 ms
Remote clock offset: 6.087 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3610.983 ms
Loss rate: 4.13%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 3591.325 ms
Loss rate: 3.46%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 3611.404 ms
Loss rate: 3.43%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 3154.909 ms
Loss rate: 54.01%
```

Run 2: Report of TCP BBR — Data Link

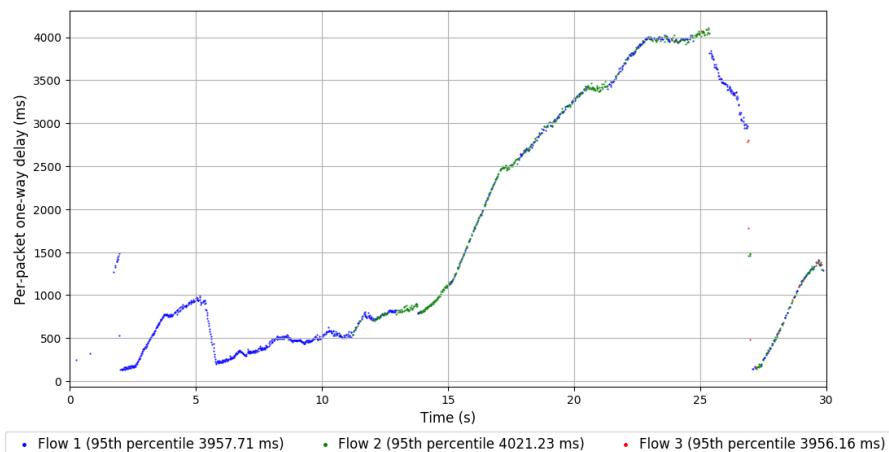
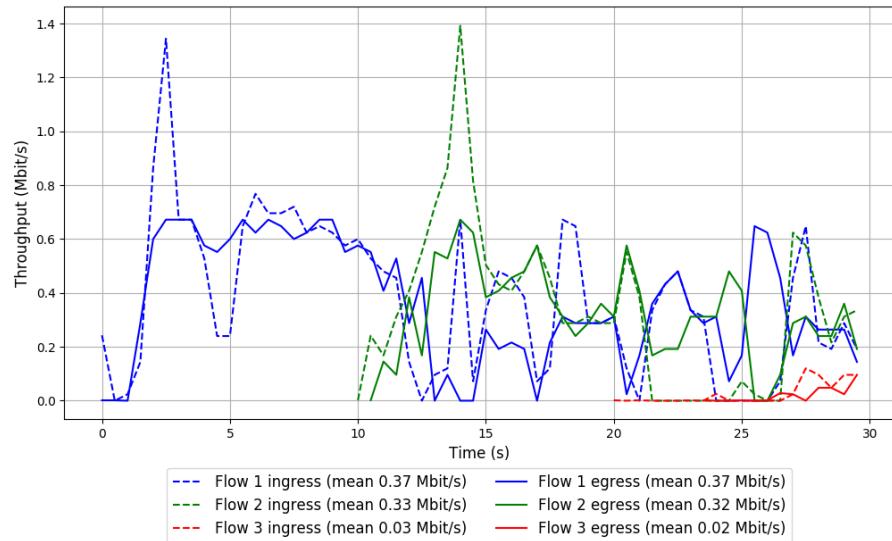


Run 3: Statistics of TCP BBR

```
Start at: 2018-04-03 02:48:46
End at: 2018-04-03 02:49:16
Local clock offset: -7.261 ms
Remote clock offset: 9.695 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3981.204 ms
Loss rate: 4.73%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 3957.710 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 4021.229 ms
Loss rate: 6.15%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 3956.163 ms
Loss rate: 46.80%
```

Run 3: Report of TCP BBR — Data Link

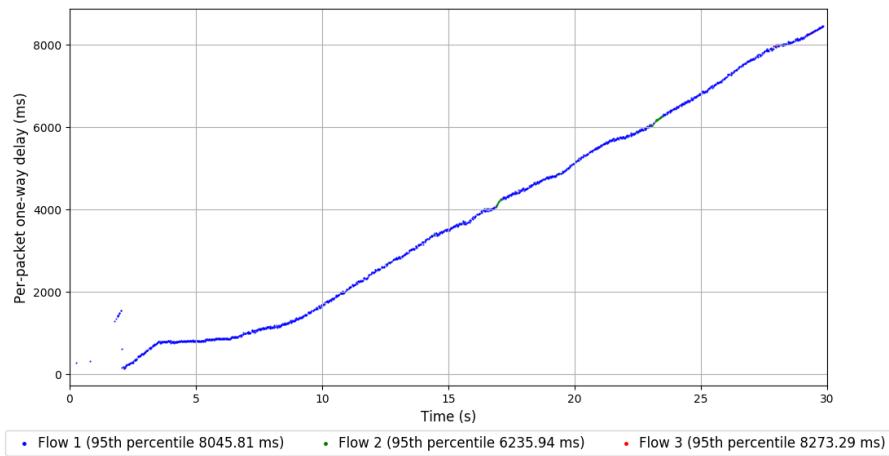
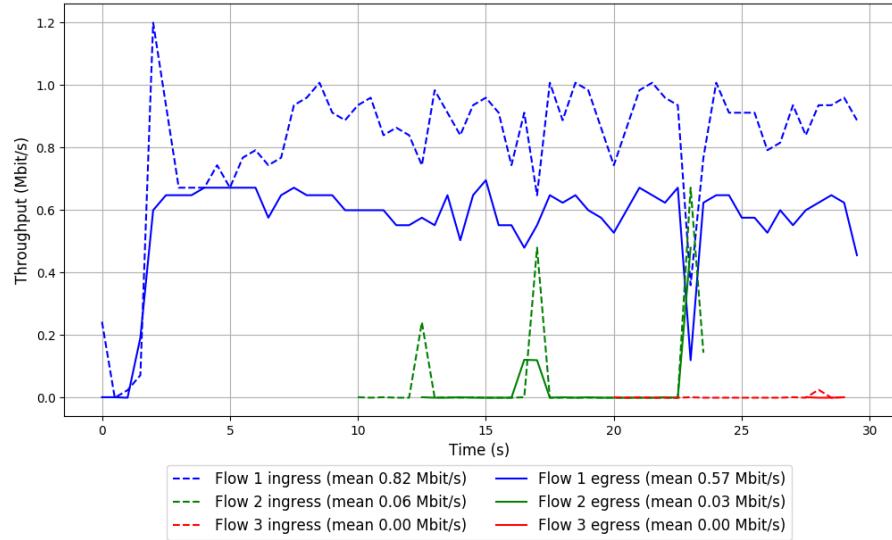


Run 1: Statistics of TCP Cubic

```
Start at: 2018-04-03 02:22:18
End at: 2018-04-03 02:22:48
Local clock offset: -3.016 ms
Remote clock offset: 10.883 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 8045.812 ms
Loss rate: 31.51%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 8045.812 ms
Loss rate: 30.80%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 6235.943 ms
Loss rate: 52.83%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8273.289 ms
Loss rate: 90.68%
```

Run 1: Report of TCP Cubic — Data Link

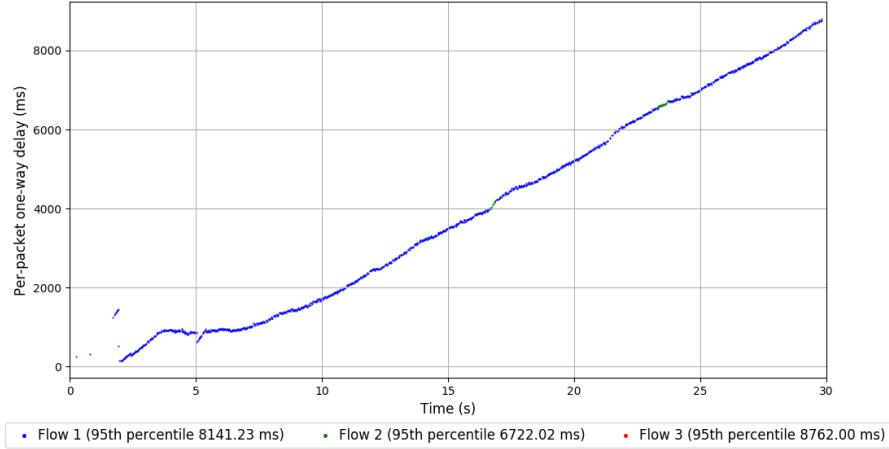
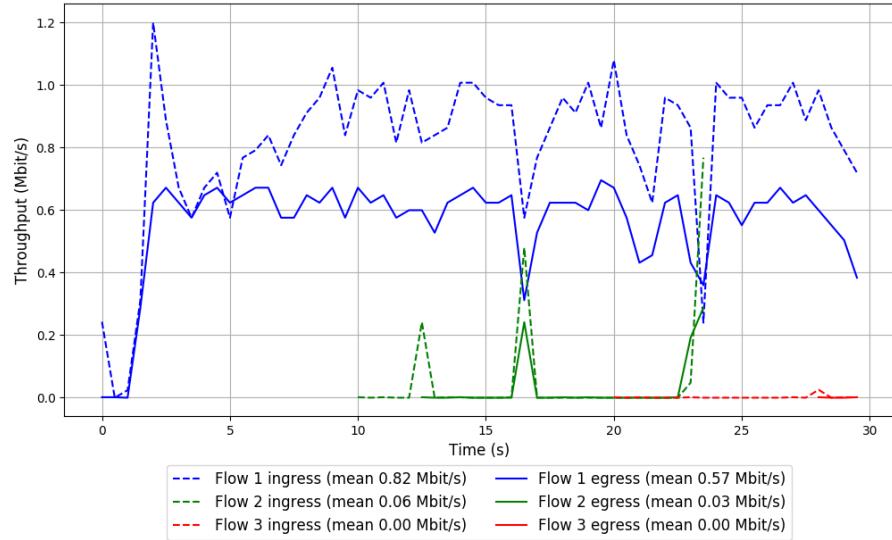


Run 2: Statistics of TCP Cubic

```
Start at: 2018-04-03 02:44:59
End at: 2018-04-03 02:45:29
Local clock offset: -6.956 ms
Remote clock offset: 10.779 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 8131.432 ms
Loss rate: 31.72%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 8141.227 ms
Loss rate: 31.01%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 6722.017 ms
Loss rate: 52.83%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8761.998 ms
Loss rate: 91.06%
```

Run 2: Report of TCP Cubic — Data Link

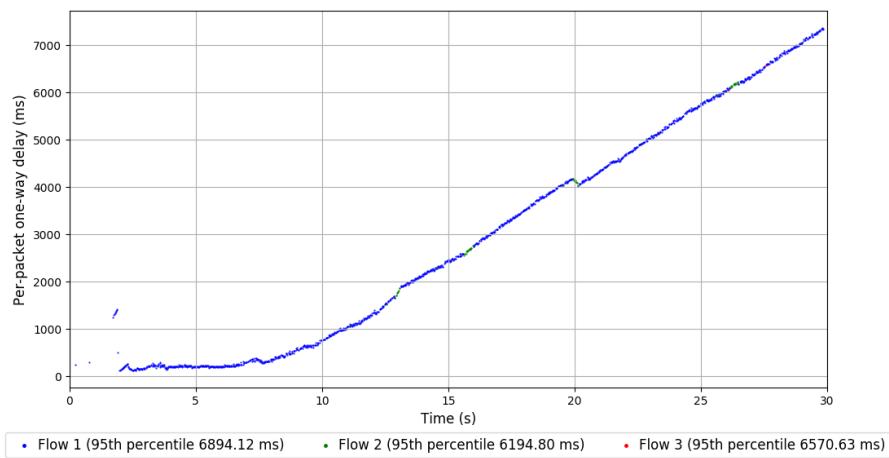
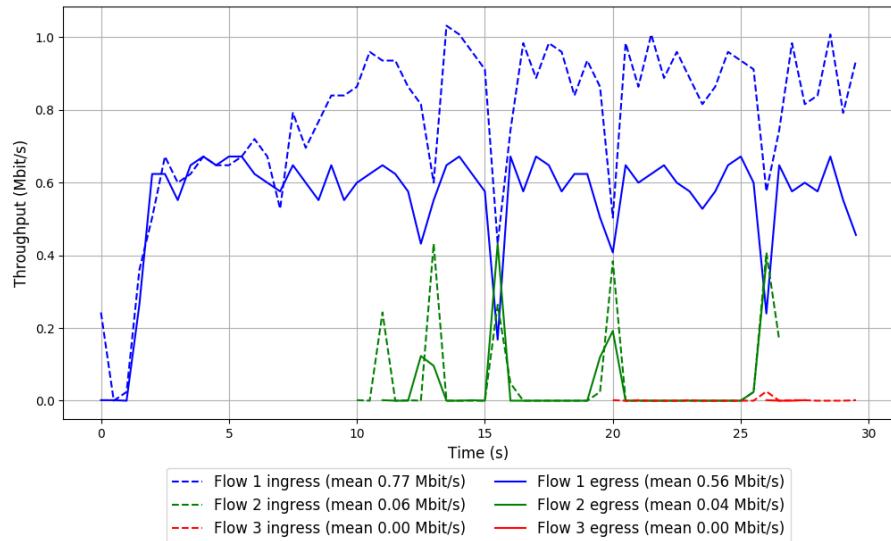


Run 3: Statistics of TCP Cubic

```
Start at: 2018-04-03 03:07:39
End at: 2018-04-03 03:08:09
Local clock offset: -5.258 ms
Remote clock offset: 11.798 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 6884.173 ms
Loss rate: 28.36%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 6894.123 ms
Loss rate: 28.18%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 6194.798 ms
Loss rate: 31.23%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6570.631 ms
Loss rate: 91.03%
```

Run 3: Report of TCP Cubic — Data Link

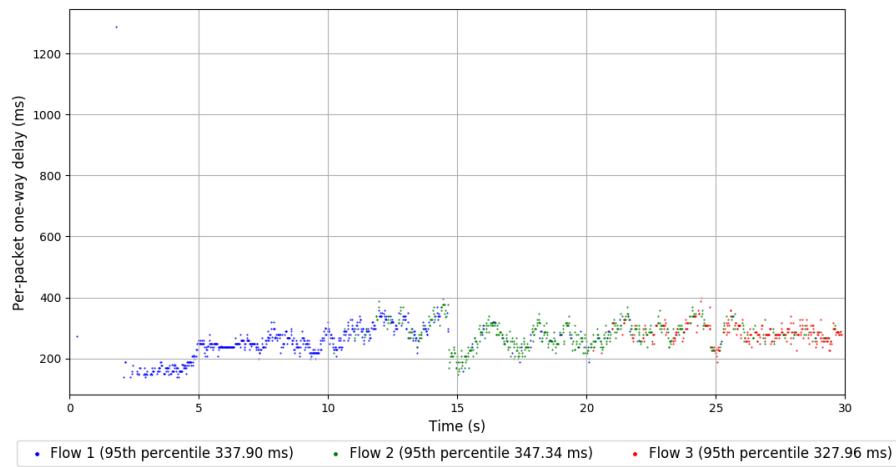
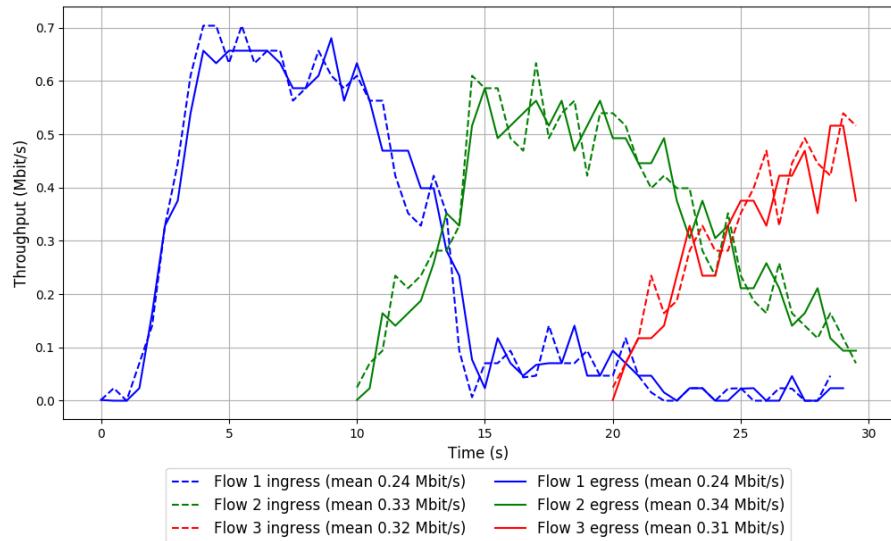


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-04-03 02:07:12
End at: 2018-04-03 02:07:42
Local clock offset: -3.416 ms
Remote clock offset: 5.501 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 337.898 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 337.898 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 347.337 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 327.957 ms
Loss rate: 6.62%
```

Run 1: Report of LEDBAT — Data Link

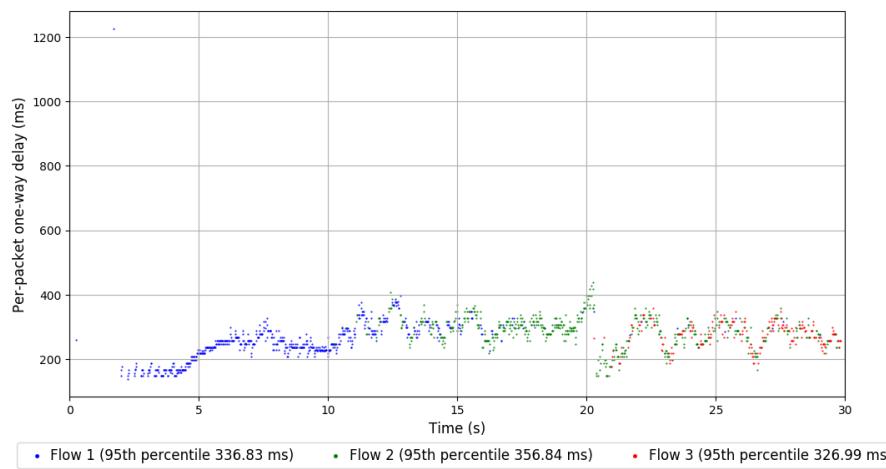
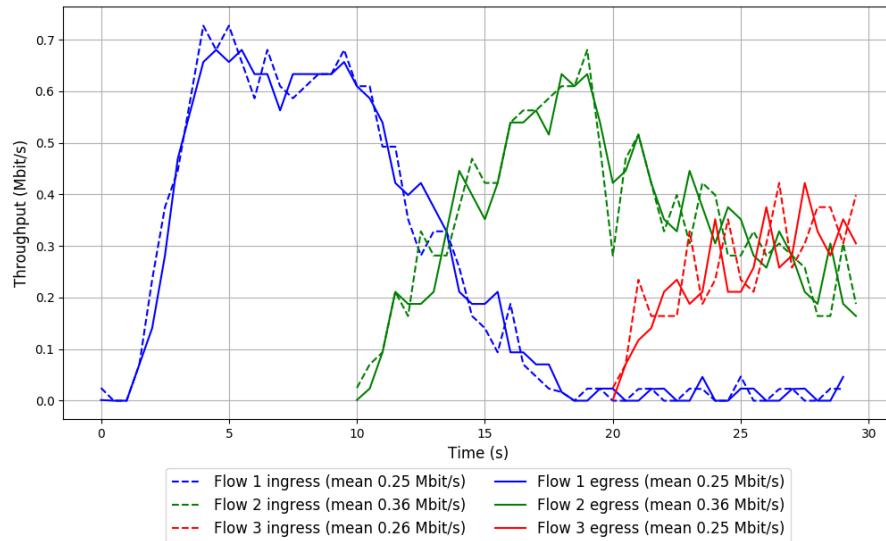


Run 2: Statistics of LEDBAT

```
Start at: 2018-04-03 02:29:53
End at: 2018-04-03 02:30:23
Local clock offset: -4.589 ms
Remote clock offset: 4.881 ms

# Below is generated by plot.py at 2018-04-03 04:16:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 346.736 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 336.828 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 356.841 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 326.991 ms
Loss rate: 5.96%
```

Run 2: Report of LEDBAT — Data Link

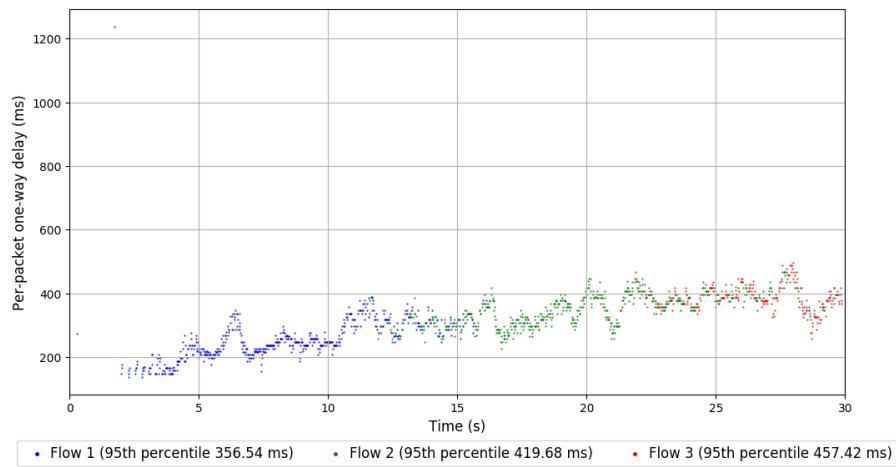
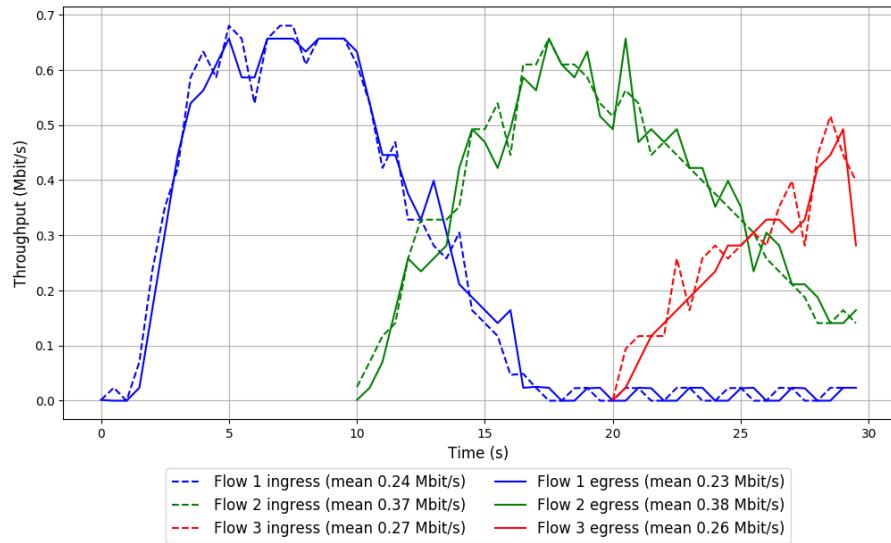


Run 3: Statistics of LEDBAT

```
Start at: 2018-04-03 02:52:34
End at: 2018-04-03 02:53:04
Local clock offset: -7.53 ms
Remote clock offset: 4.329 ms

# Below is generated by plot.py at 2018-04-03 04:16:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 417.833 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 356.541 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 419.679 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 457.424 ms
Loss rate: 7.86%
```

Run 3: Report of LEDBAT — Data Link

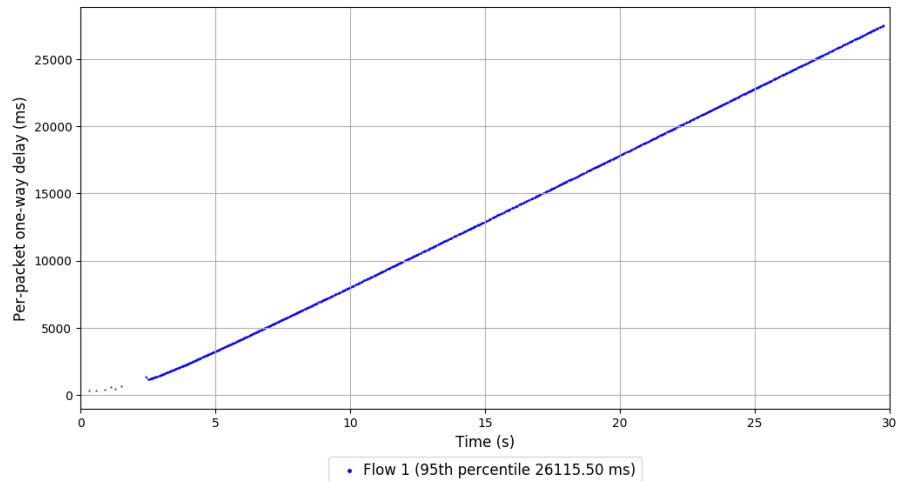
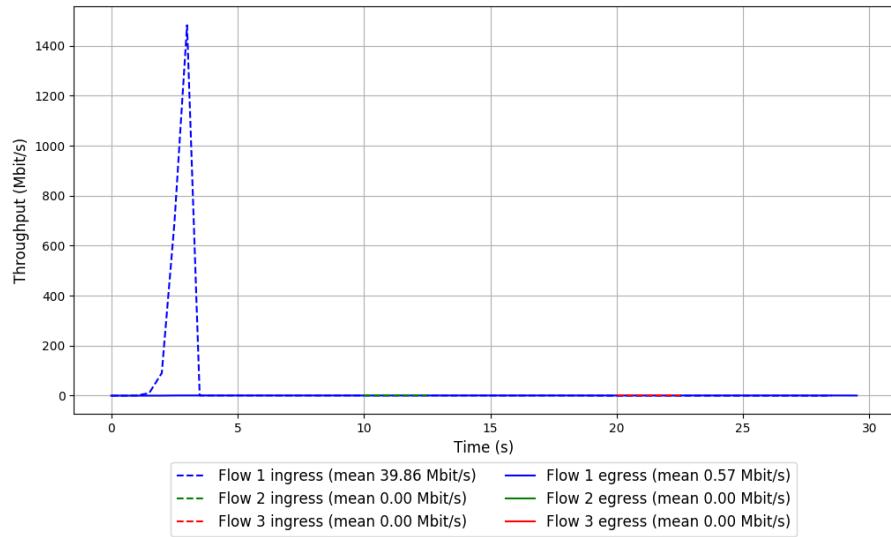


```
Run 1: Statistics of PCC
```

```
Start at: 2018-04-03 02:04:40
End at: 2018-04-03 02:05:10
Local clock offset: -3.54 ms
Remote clock offset: 6.441 ms

# Below is generated by plot.py at 2018-04-03 04:17:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26115.501 ms
Loss rate: 98.53%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26115.501 ms
Loss rate: 98.53%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of PCC — Data Link

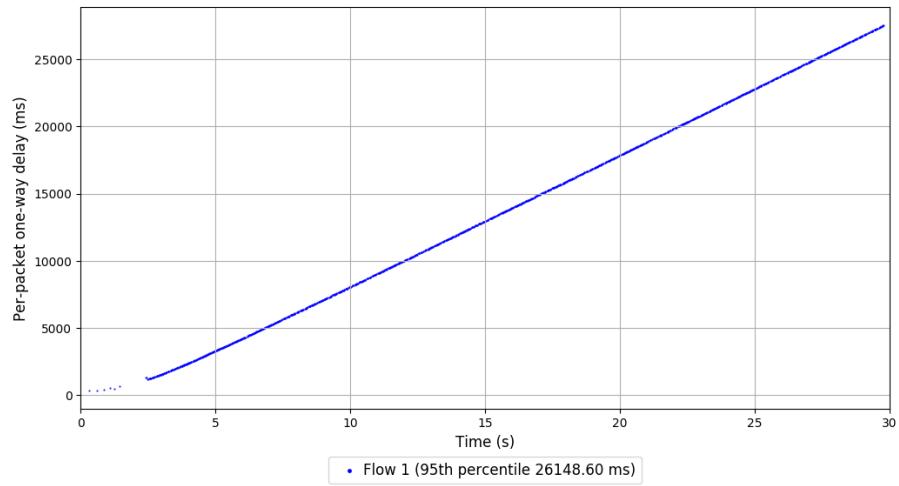
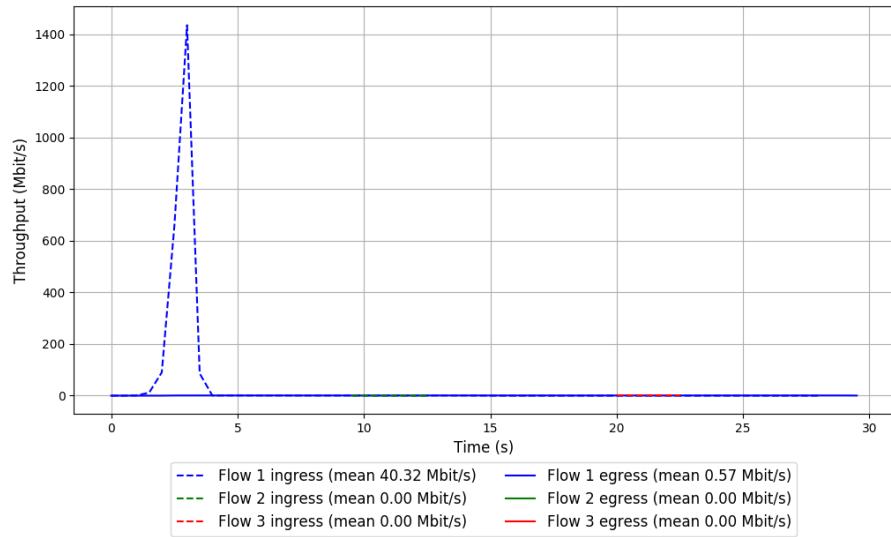


Run 2: Statistics of PCC

```
Start at: 2018-04-03 02:27:21
End at: 2018-04-03 02:27:51
Local clock offset: -3.687 ms
Remote clock offset: 5.084 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26148.596 ms
Loss rate: 98.53%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26148.596 ms
Loss rate: 98.53%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of PCC — Data Link

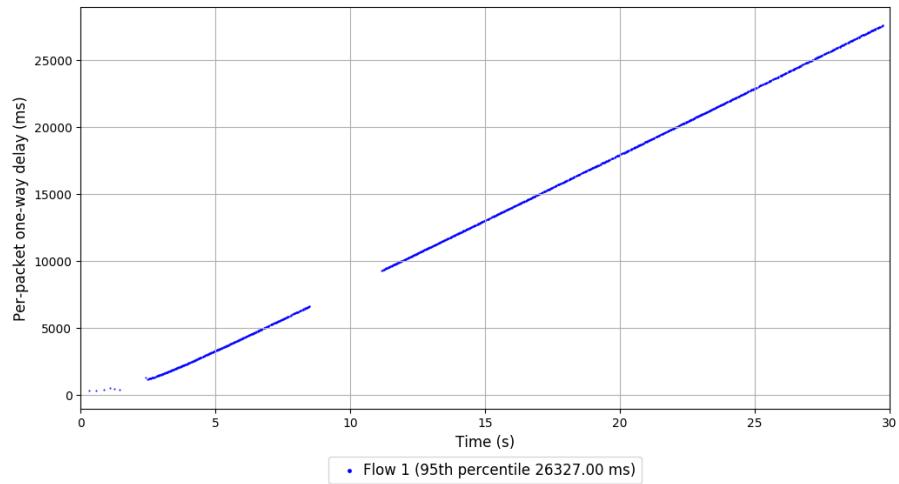
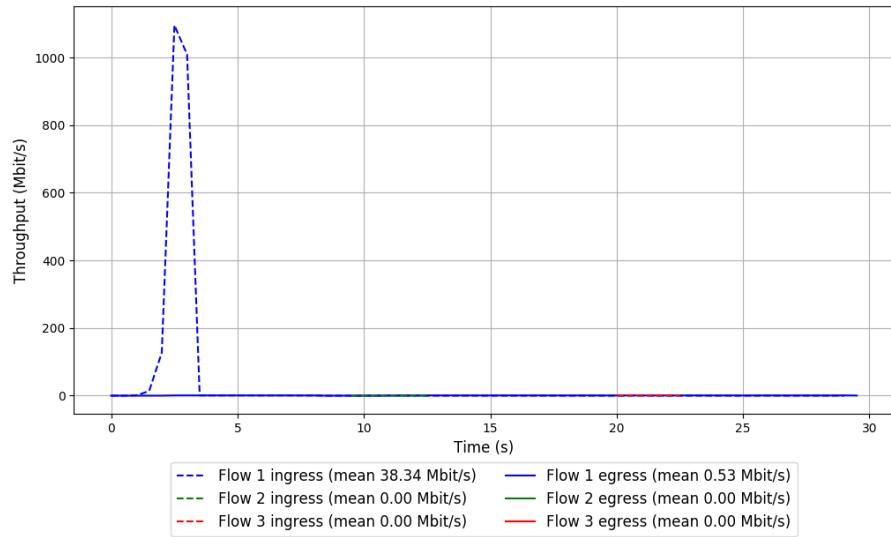


Run 3: Statistics of PCC

```
Start at: 2018-04-03 02:50:02
End at: 2018-04-03 02:50:32
Local clock offset: -7.344 ms
Remote clock offset: 11.663 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 26326.998 ms
Loss rate: 98.63%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 26326.998 ms
Loss rate: 98.63%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of PCC — Data Link

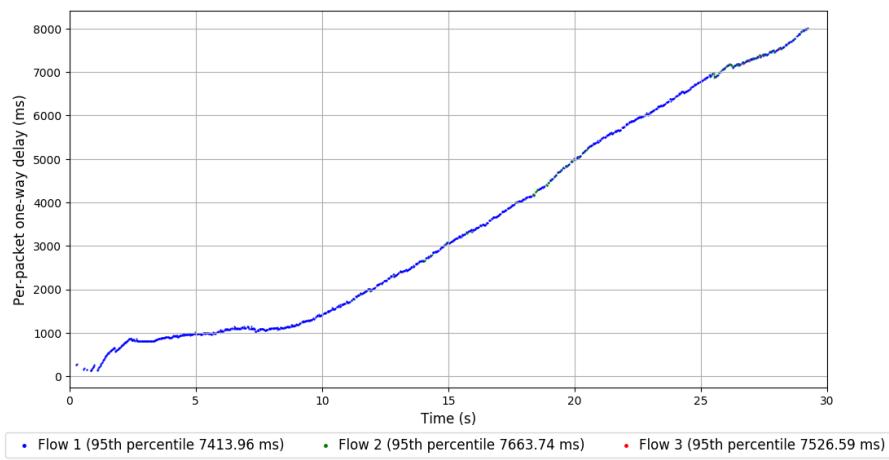
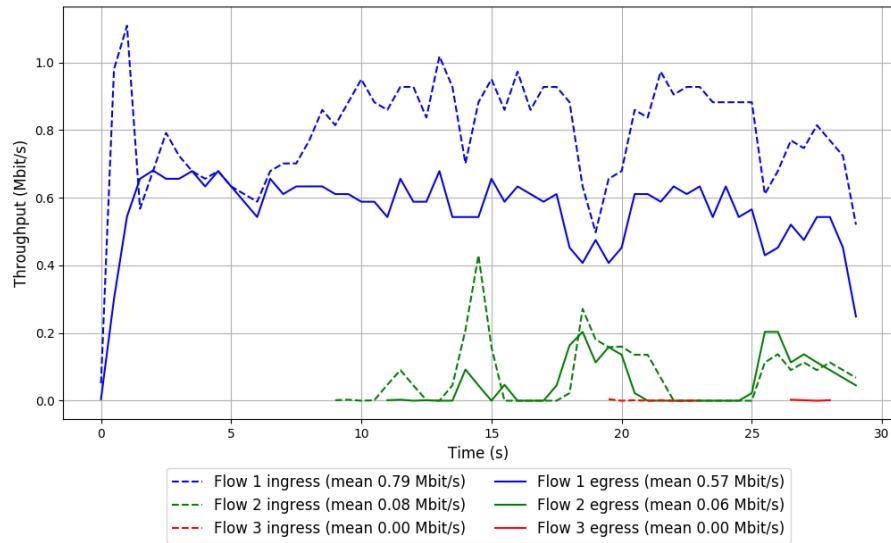


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-04-03 02:16:01
End at: 2018-04-03 02:16:31
Local clock offset: -3.11 ms
Remote clock offset: 5.5 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 7464.834 ms
Loss rate: 29.17%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 7413.960 ms
Loss rate: 28.99%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 7663.737 ms
Loss rate: 31.92%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7526.585 ms
Loss rate: 33.33%
```

Run 1: Report of QUIC Cubic — Data Link

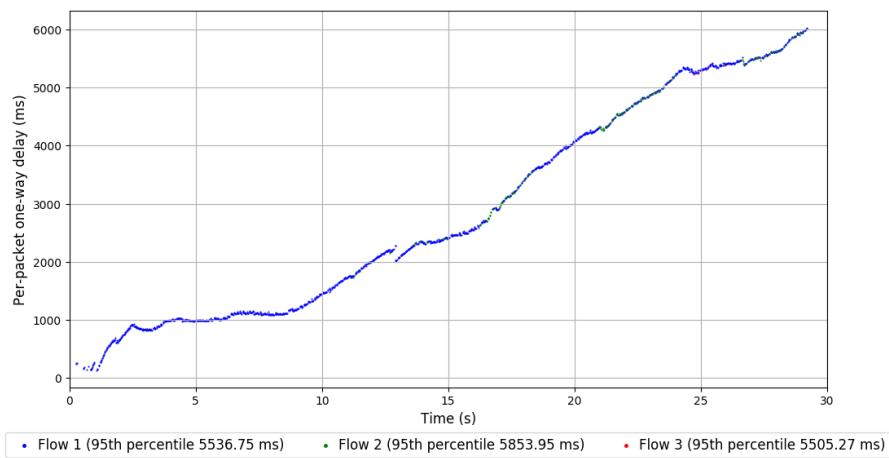
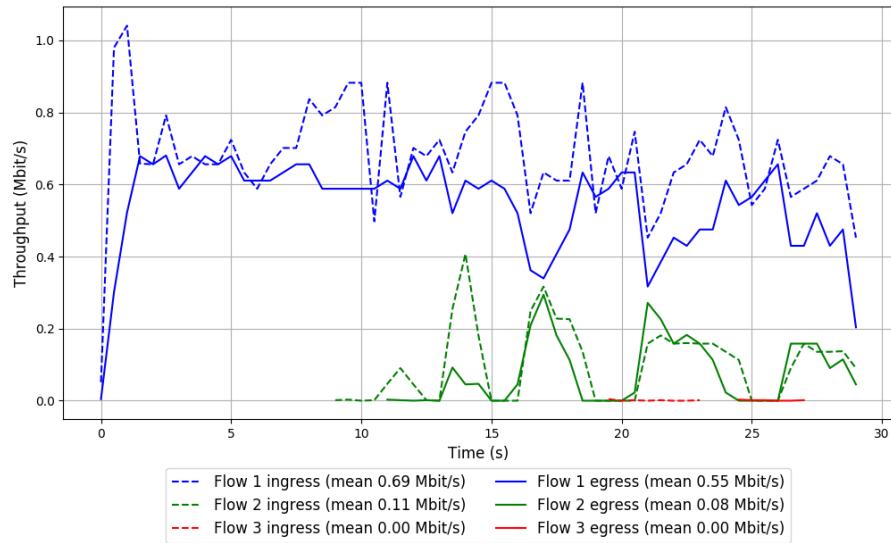


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-04-03 02:38:41
End at: 2018-04-03 02:39:11
Local clock offset: -6.259 ms
Remote clock offset: 5.61 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 5580.171 ms
Loss rate: 21.21%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 5536.754 ms
Loss rate: 20.31%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 5853.953 ms
Loss rate: 29.95%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5505.271 ms
Loss rate: 16.67%
```

Run 2: Report of QUIC Cubic — Data Link

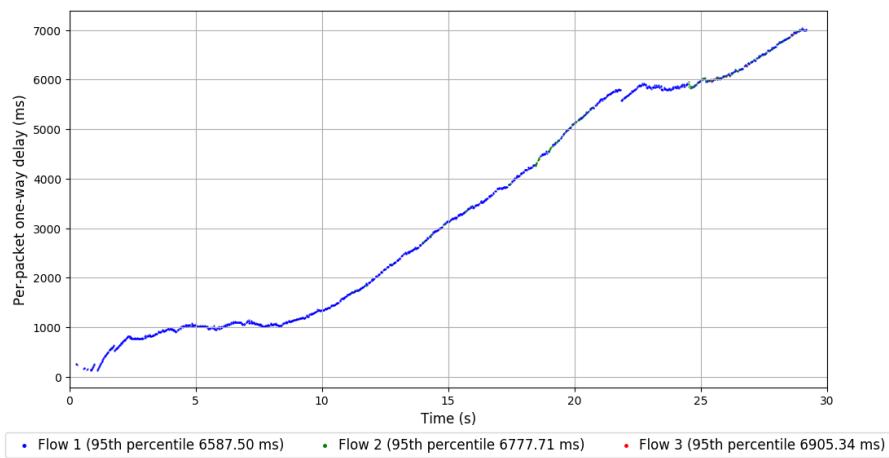
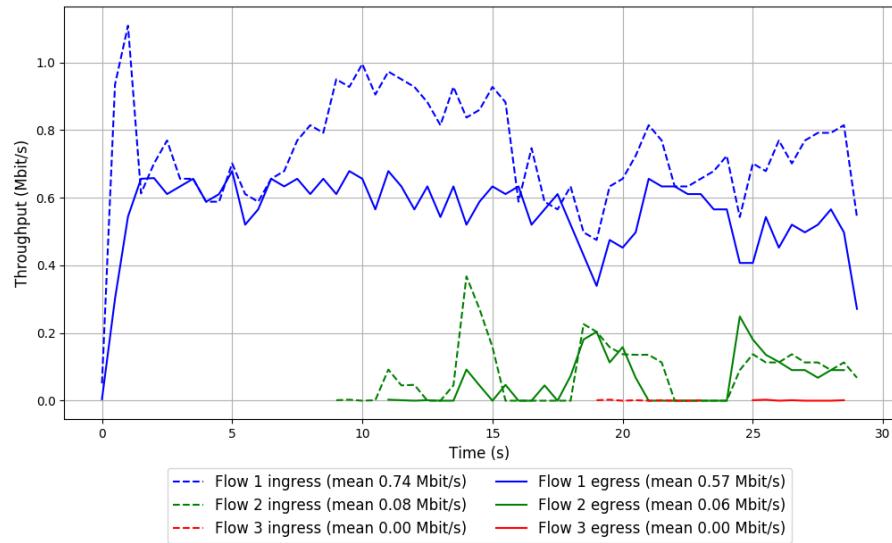


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-04-03 03:01:22
End at: 2018-04-03 03:01:52
Local clock offset: -7.126 ms
Remote clock offset: 5.996 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 6623.533 ms
Loss rate: 24.68%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 6587.496 ms
Loss rate: 24.01%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 6777.713 ms
Loss rate: 33.70%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6905.335 ms
Loss rate: 16.67%
```

Run 3: Report of QUIC Cubic — Data Link

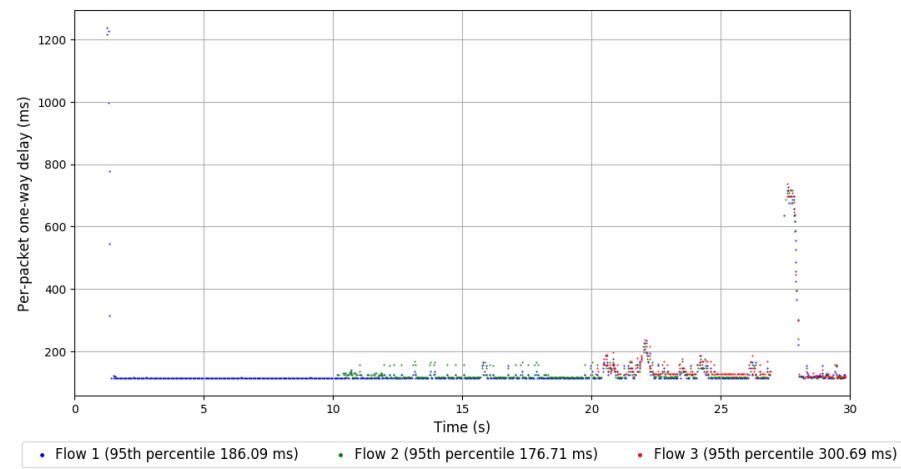
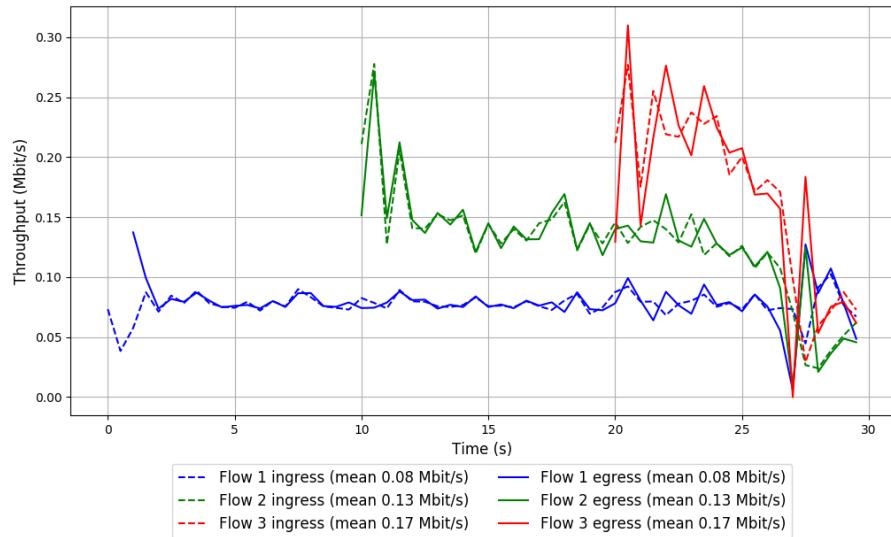


```
Run 1: Statistics of SCReAM

Start at: 2018-04-03 02:19:48
End at: 2018-04-03 02:20:18
Local clock offset: -3.023 ms
Remote clock offset: 11.844 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 196.700 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 186.093 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 176.713 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 300.689 ms
Loss rate: 1.06%
```

Run 1: Report of SCReAM — Data Link

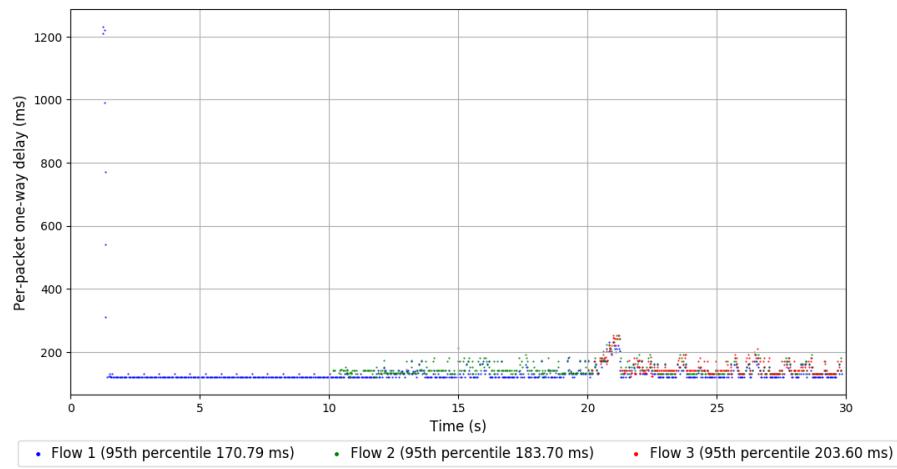
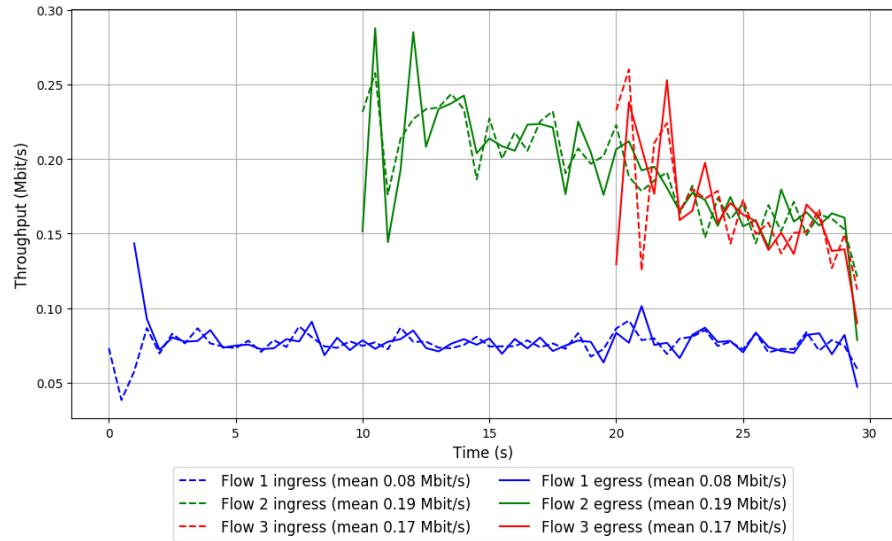


Run 2: Statistics of SCReAM

```
Start at: 2018-04-03 02:42:28
End at: 2018-04-03 02:42:58
Local clock offset: -6.699 ms
Remote clock offset: 4.423 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 181.504 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 170.786 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 183.704 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 203.601 ms
Loss rate: 1.98%
```

Run 2: Report of SCReAM — Data Link

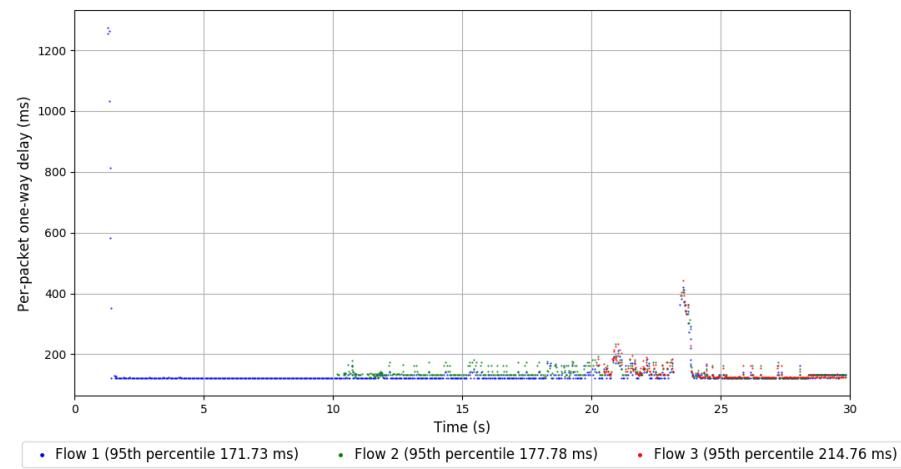
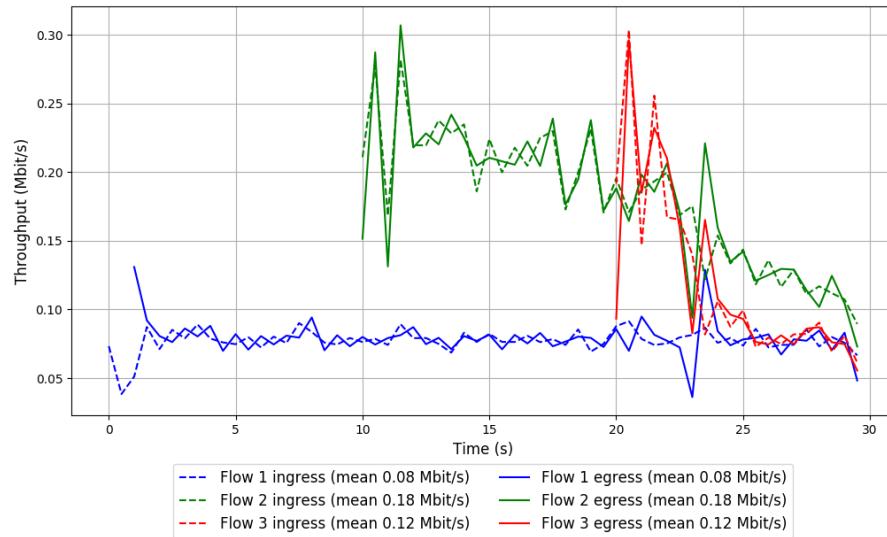


```
Run 3: Statistics of SCReAM

Start at: 2018-04-03 03:05:09
End at: 2018-04-03 03:05:39
Local clock offset: -5.855 ms
Remote clock offset: 5.269 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 183.222 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 171.726 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 177.778 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 214.759 ms
Loss rate: 1.23%
```

Run 3: Report of SCReAM — Data Link

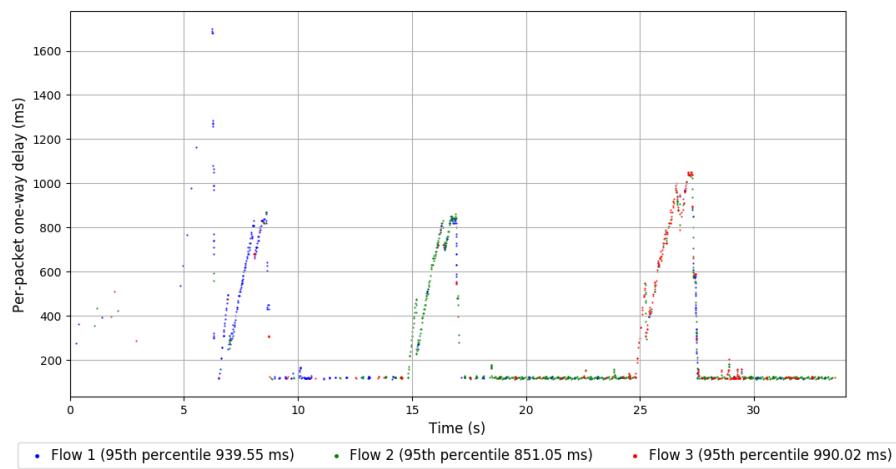
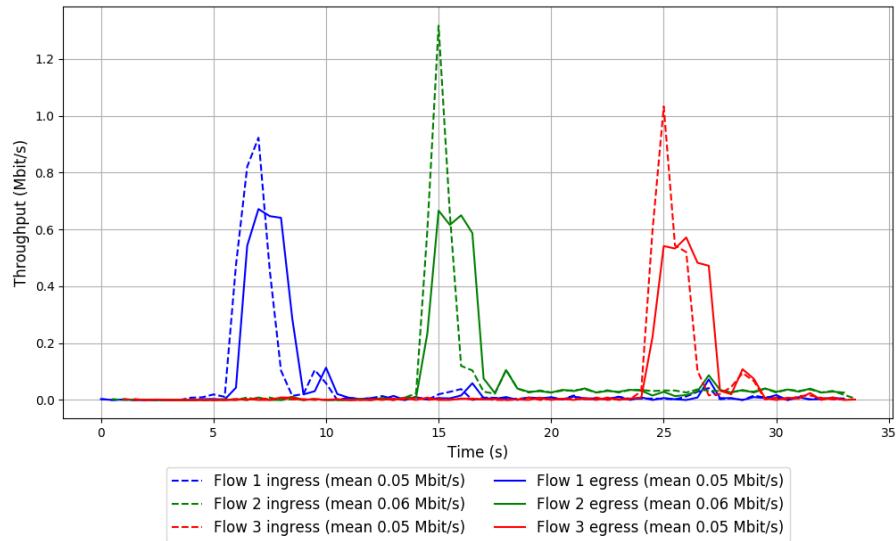


```
Run 1: Statistics of WebRTC media

Start at: 2018-04-03 02:08:28
End at: 2018-04-03 02:08:58
Local clock offset: -3.382 ms
Remote clock offset: 10.814 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 910.565 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 939.551 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 851.047 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 990.018 ms
Loss rate: 0.05%
```

Run 1: Report of WebRTC media — Data Link

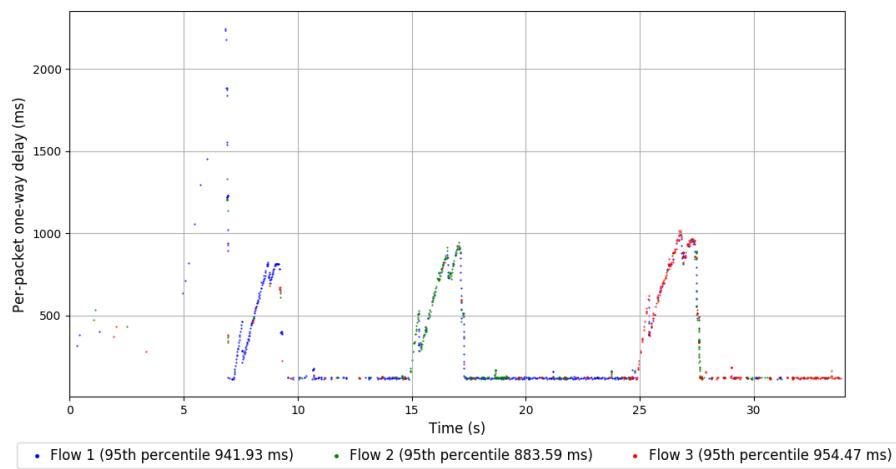
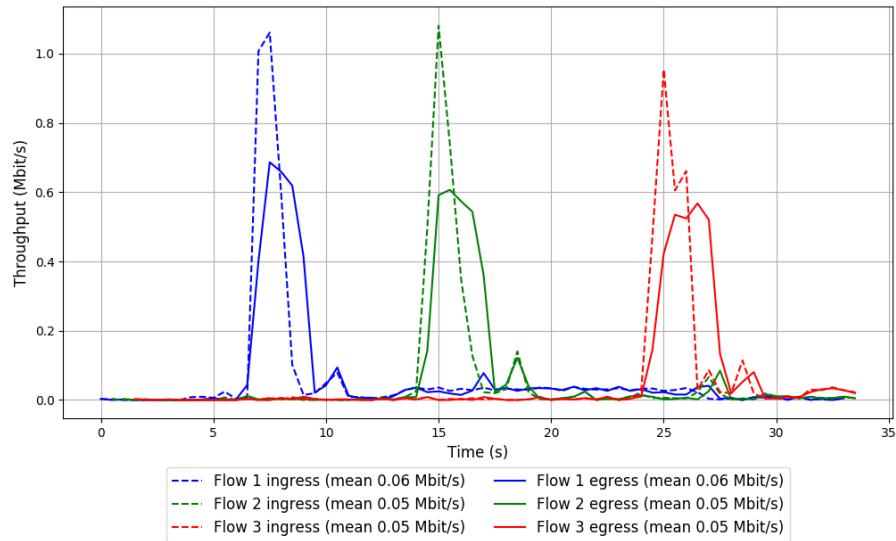


Run 2: Statistics of WebRTC media

```
Start at: 2018-04-03 02:31:09
End at: 2018-04-03 02:31:39
Local clock offset: -4.884 ms
Remote clock offset: 11.167 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 934.497 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 941.929 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 883.591 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 954.469 ms
Loss rate: 0.32%
```

Run 2: Report of WebRTC media — Data Link

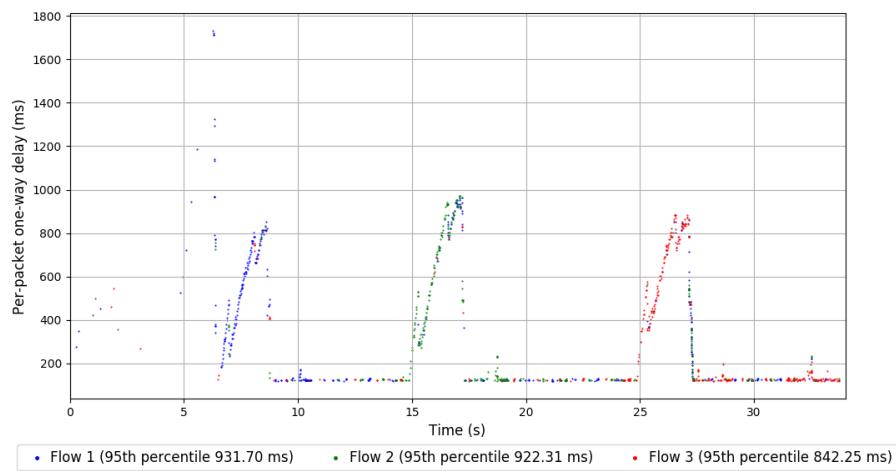
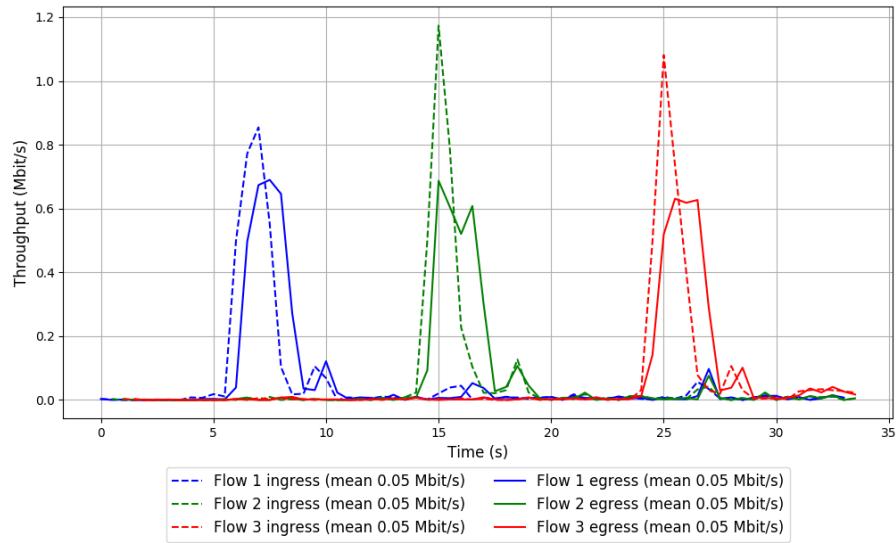


```
Run 3: Statistics of WebRTC media

Start at: 2018-04-03 02:53:50
End at: 2018-04-03 02:54:20
Local clock offset: -7.686 ms
Remote clock offset: 5.291 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 901.609 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 931.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 922.309 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 842.251 ms
Loss rate: 0.44%
```

Run 3: Report of WebRTC media — Data Link

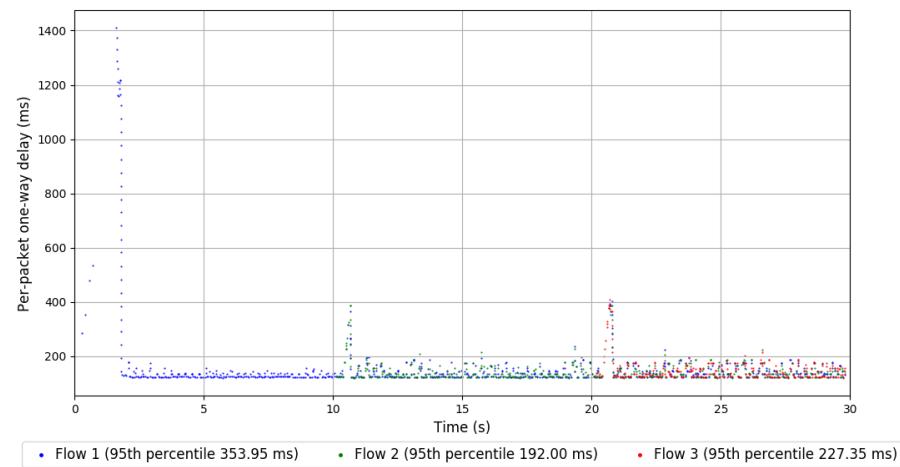
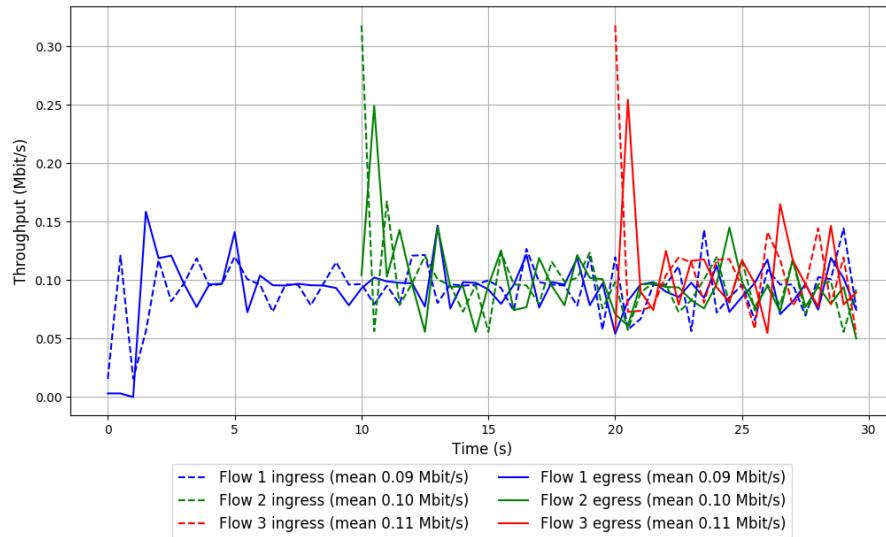


Run 1: Statistics of Sprout

```
Start at: 2018-04-03 02:17:16
End at: 2018-04-03 02:17:46
Local clock offset: -3.162 ms
Remote clock offset: 5.582 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 242.929 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 353.947 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 191.999 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 227.347 ms
Loss rate: 2.26%
```

Run 1: Report of Sprout — Data Link

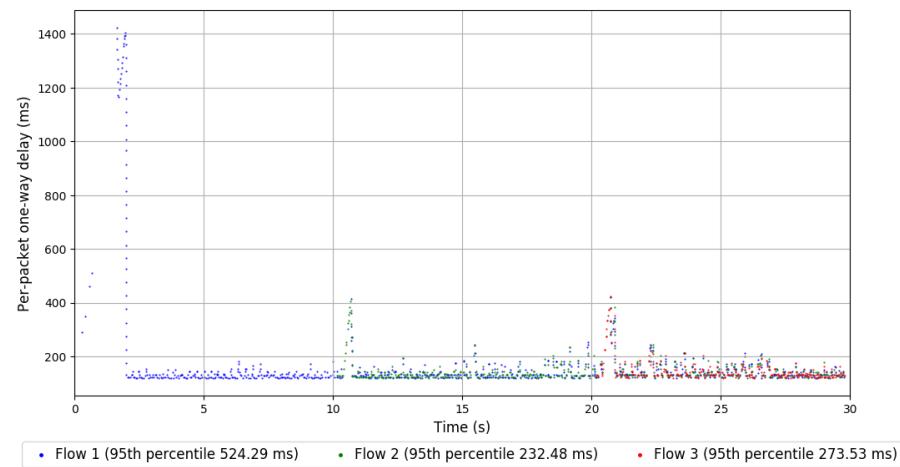
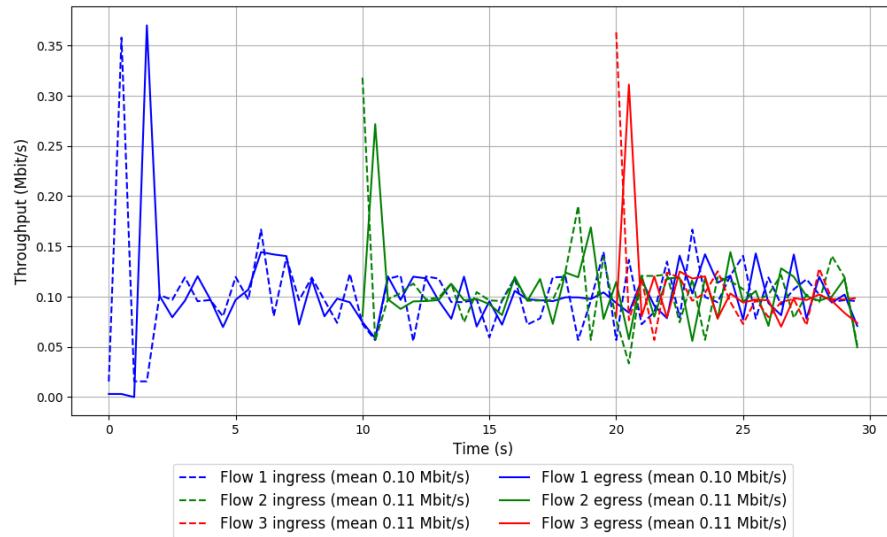


Run 2: Statistics of Sprout

```
Start at: 2018-04-03 02:39:57
End at: 2018-04-03 02:40:27
Local clock offset: -6.407 ms
Remote clock offset: 4.584 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 303.769 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 524.294 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 232.480 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 273.534 ms
Loss rate: 3.93%
```

Run 2: Report of Sprout — Data Link

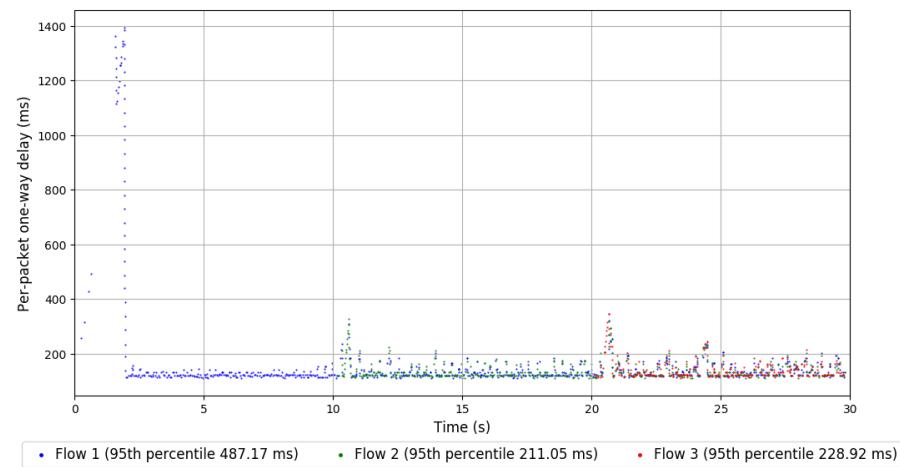
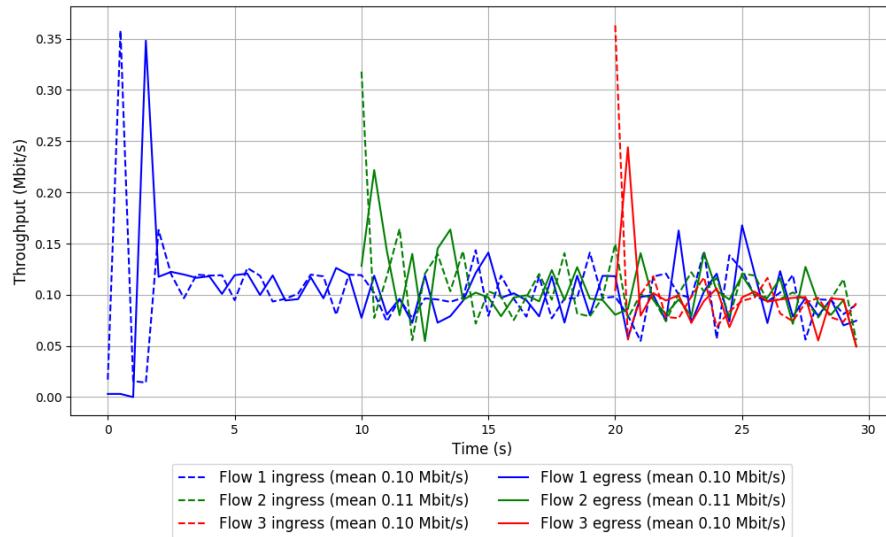


Run 3: Statistics of Sprout

```
Start at: 2018-04-03 03:02:38
End at: 2018-04-03 03:03:08
Local clock offset: -6.668 ms
Remote clock offset: 10.542 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 239.649 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 487.167 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 211.049 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 228.917 ms
Loss rate: 5.45%
```

Run 3: Report of Sprout — Data Link

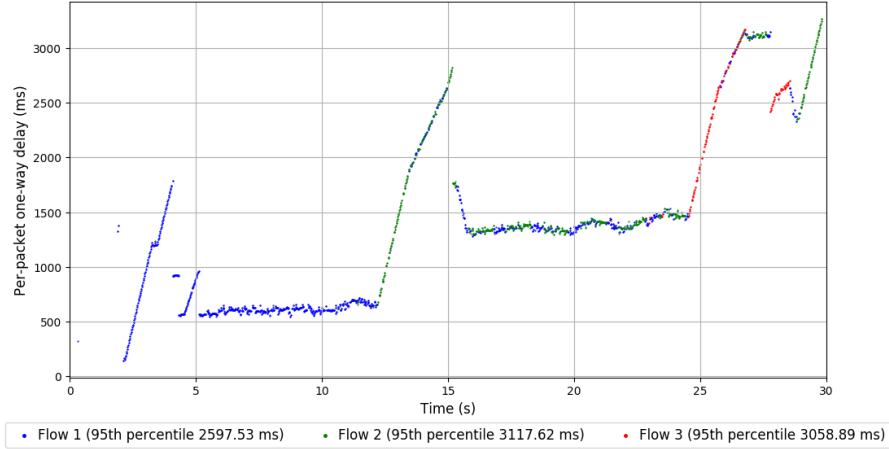
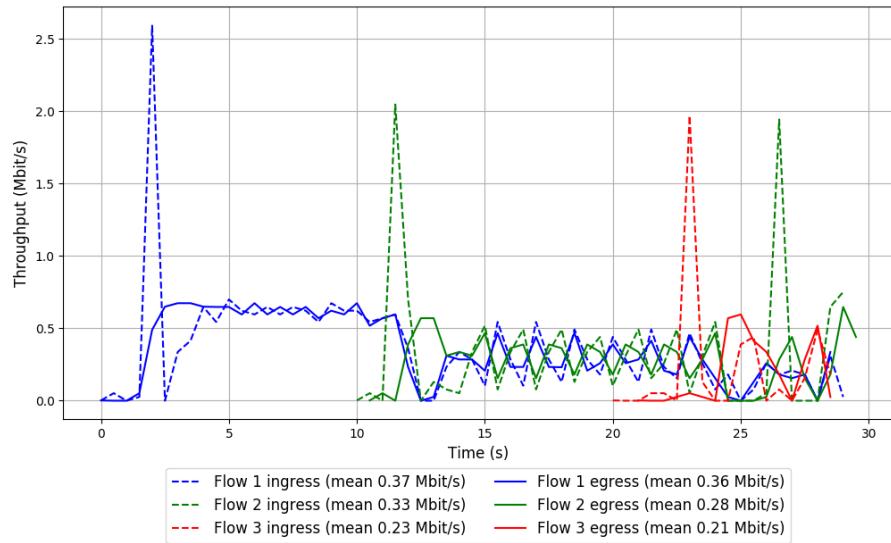


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-04-03 02:13:30
End at: 2018-04-03 02:14:00
Local clock offset: -3.279 ms
Remote clock offset: 6.499 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3077.902 ms
Loss rate: 10.48%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 2597.533 ms
Loss rate: 4.48%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 3117.625 ms
Loss rate: 16.66%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 3058.889 ms
Loss rate: 23.01%
```

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

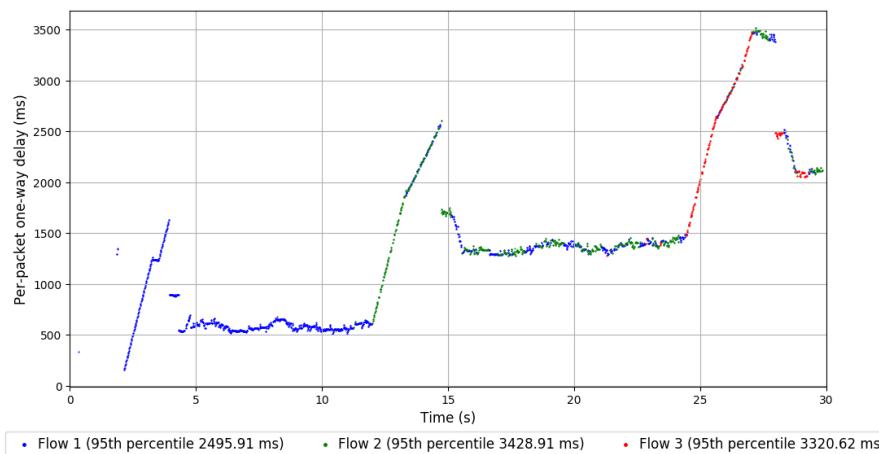
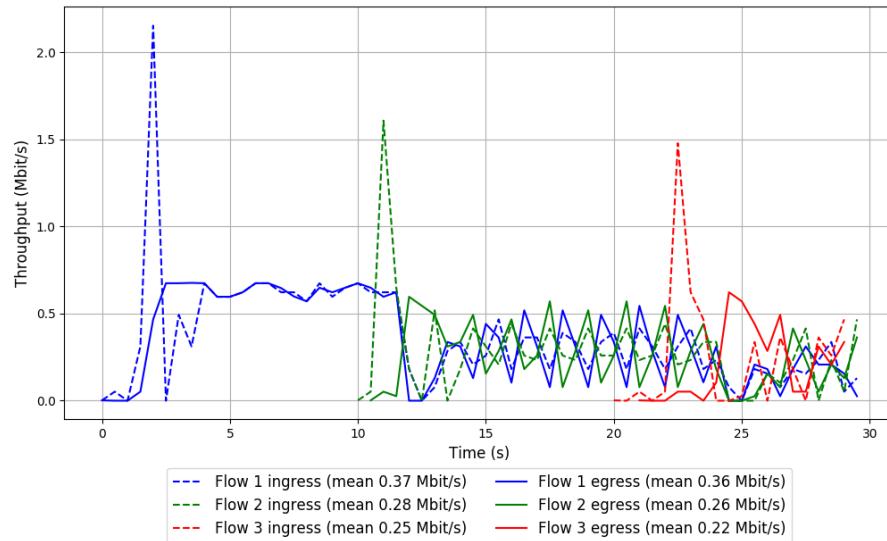


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-04-03 02:36:10
End at: 2018-04-03 02:36:40
Local clock offset: -5.895 ms
Remote clock offset: 11.074 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 3076.016 ms
Loss rate: 7.88%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 2495.912 ms
Loss rate: 4.40%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 3428.907 ms
Loss rate: 8.23%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3320.625 ms
Loss rate: 23.32%
```

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

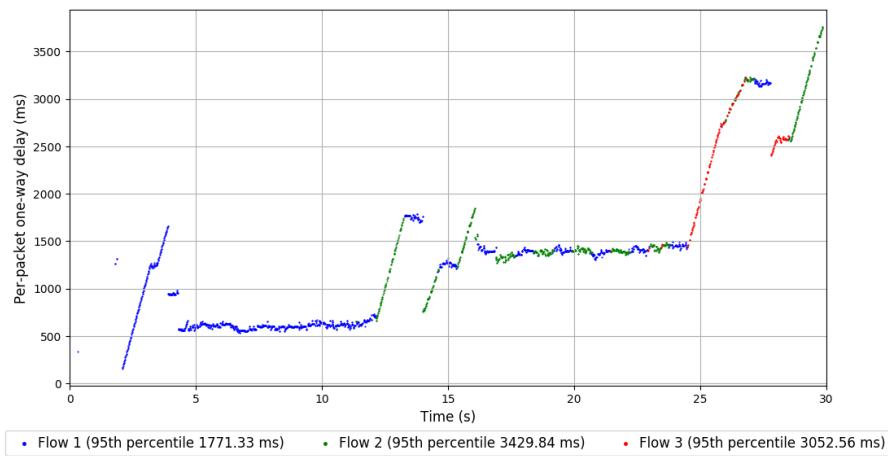
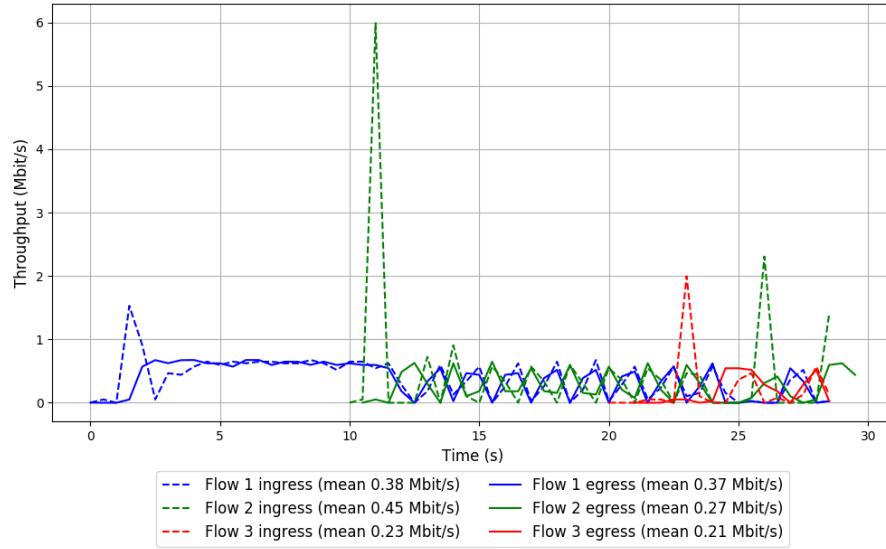


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-04-03 02:58:52
End at: 2018-04-03 02:59:22
Local clock offset: -7.923 ms
Remote clock offset: 5.712 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 3168.480 ms
Loss rate: 19.82%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 1771.331 ms
Loss rate: 4.29%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 3429.842 ms
Loss rate: 39.01%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 3052.557 ms
Loss rate: 23.01%
```

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

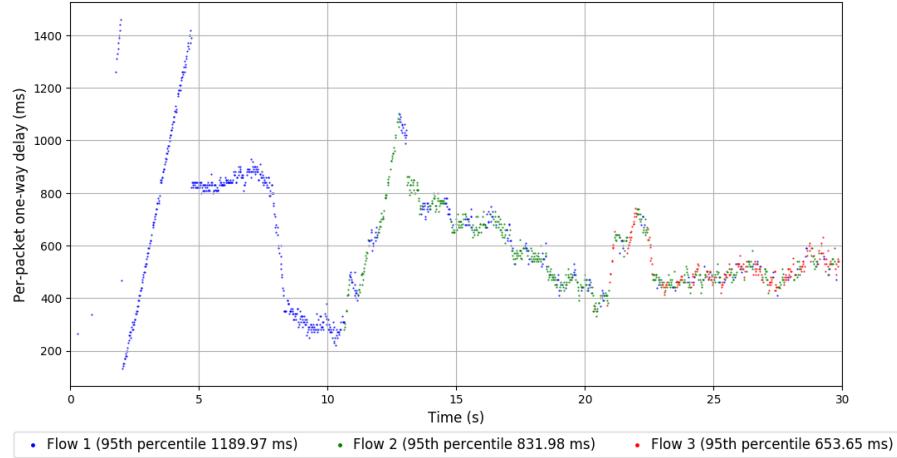
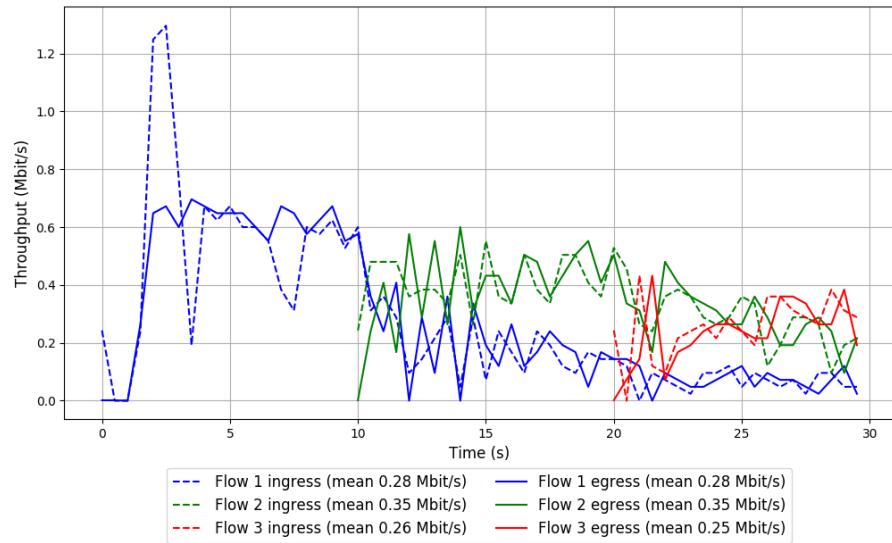


Run 1: Statistics of TCP Vegas

```
Start at: 2018-04-03 02:12:14
End at: 2018-04-03 02:12:44
Local clock offset: -3.313 ms
Remote clock offset: 5.465 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1019.975 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 1189.974 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 831.982 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 653.650 ms
Loss rate: 8.45%
```

Run 1: Report of TCP Vegas — Data Link

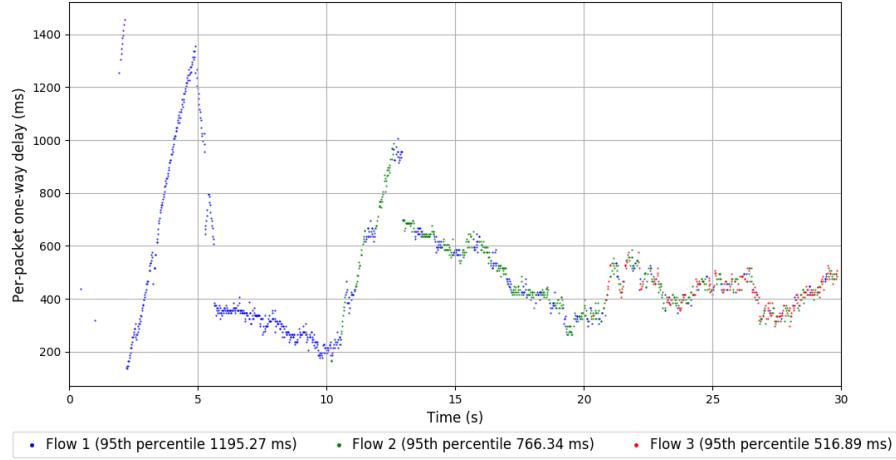
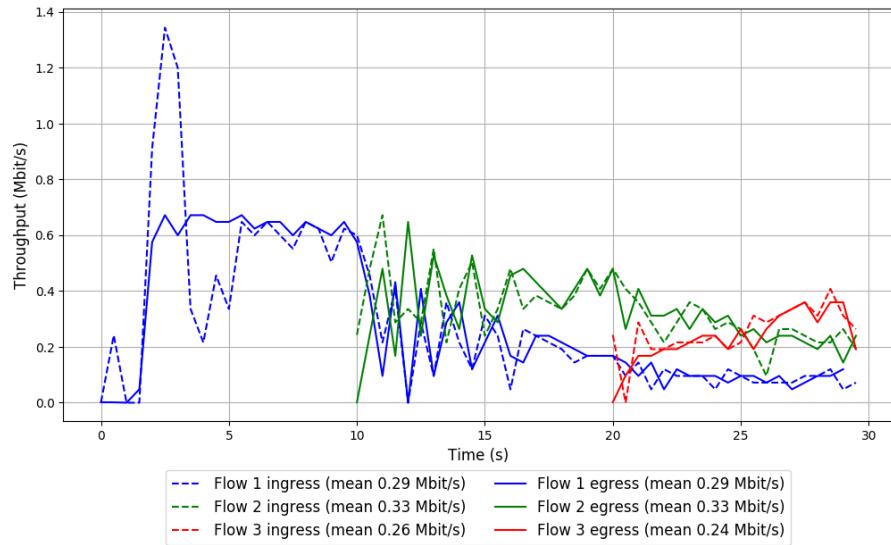


Run 2: Statistics of TCP Vegas

```
Start at: 2018-04-03 02:34:55
End at: 2018-04-03 02:35:25
Local clock offset: -5.642 ms
Remote clock offset: 11.007 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1005.358 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 1195.266 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 766.337 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 516.887 ms
Loss rate: 9.38%
```

Run 2: Report of TCP Vegas — Data Link

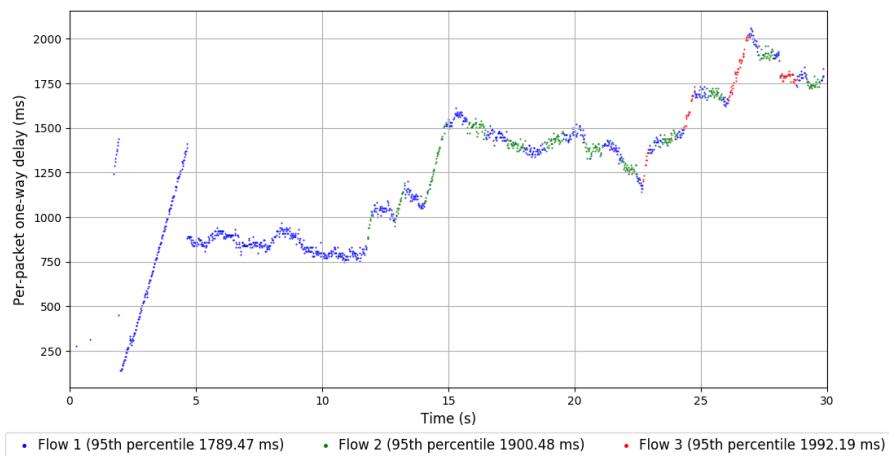
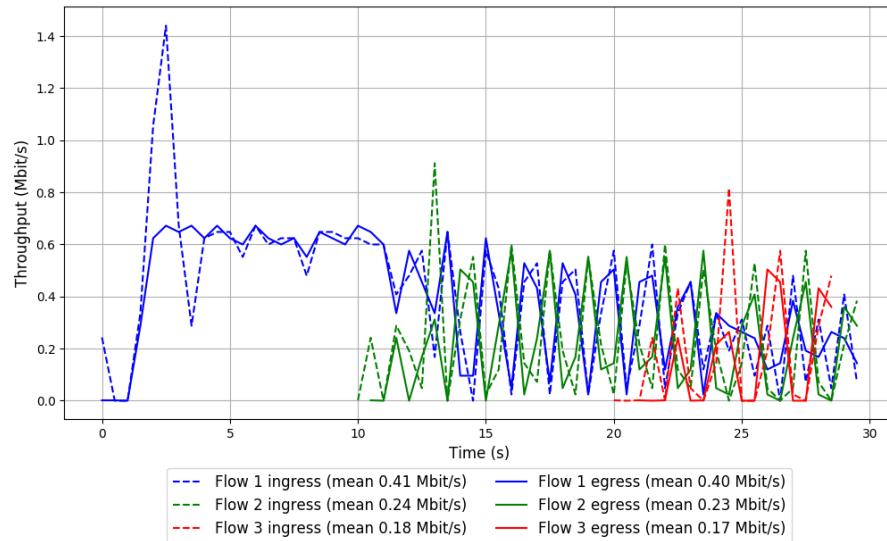


Run 3: Statistics of TCP Vegas

```
Start at: 2018-04-03 02:57:36
End at: 2018-04-03 02:58:06
Local clock offset: -7.836 ms
Remote clock offset: 10.916 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1889.443 ms
Loss rate: 5.86%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 1789.468 ms
Loss rate: 3.07%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 1900.480 ms
Loss rate: 6.92%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1992.195 ms
Loss rate: 23.66%
```

Run 3: Report of TCP Vegas — Data Link

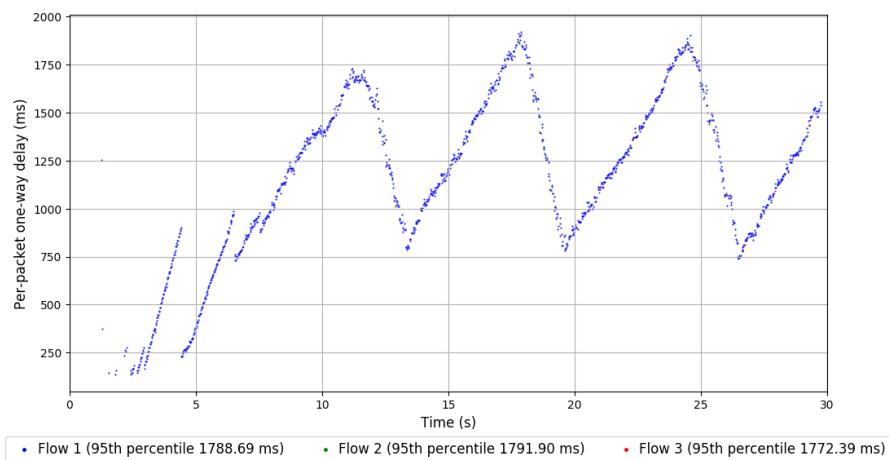
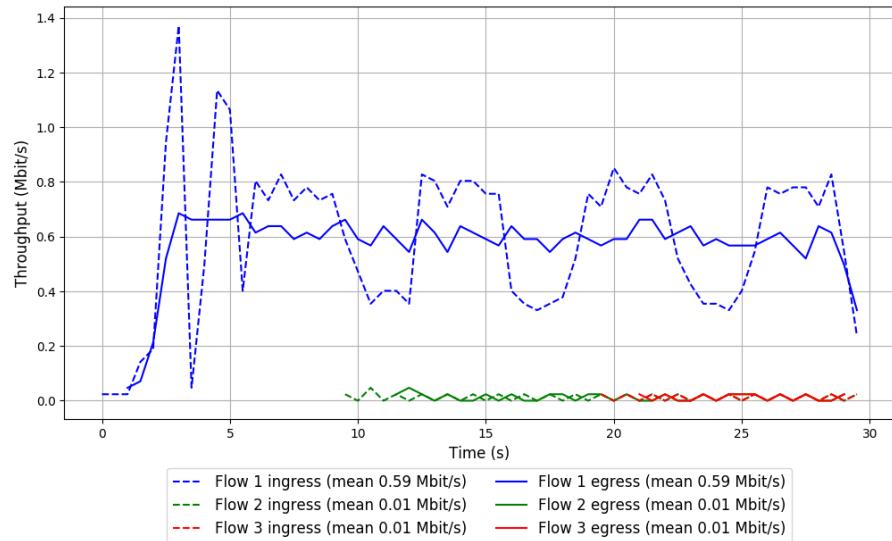


Run 1: Statistics of Verus

```
Start at: 2018-04-03 02:10:59
End at: 2018-04-03 02:11:29
Local clock offset: -3.275 ms
Remote clock offset: 11.797 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1788.687 ms
Loss rate: 5.89%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1788.687 ms
Loss rate: 5.75%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1791.898 ms
Loss rate: 9.09%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1772.387 ms
Loss rate: 18.18%
```

Run 1: Report of Verus — Data Link

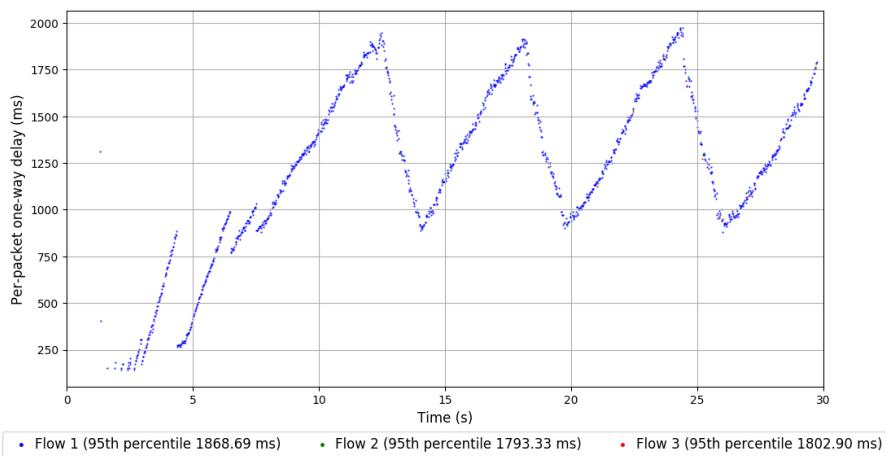
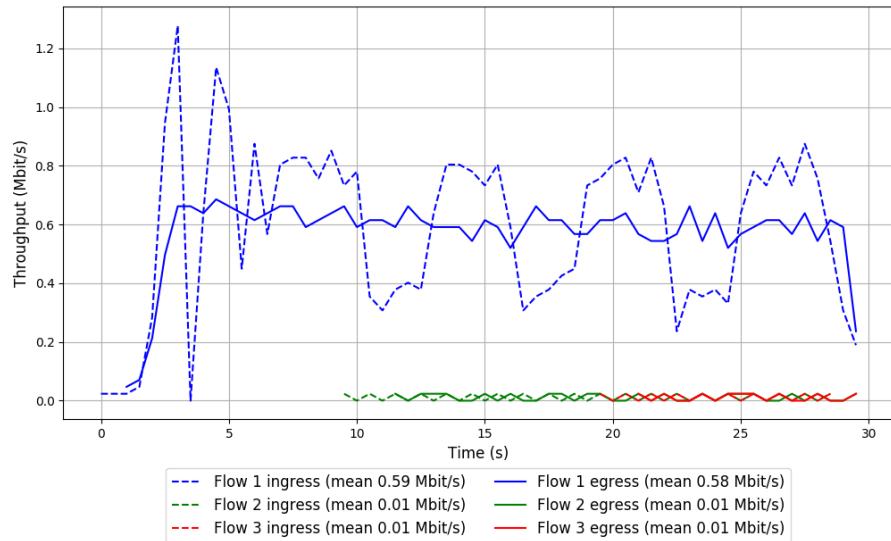


Run 2: Statistics of Verus

```
Start at: 2018-04-03 02:33:40
End at: 2018-04-03 02:34:10
Local clock offset: -5.444 ms
Remote clock offset: 5.686 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1862.334 ms
Loss rate: 5.41%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1868.691 ms
Loss rate: 5.38%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1793.326 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1802.898 ms
Loss rate: 10.00%
```

Run 2: Report of Verus — Data Link

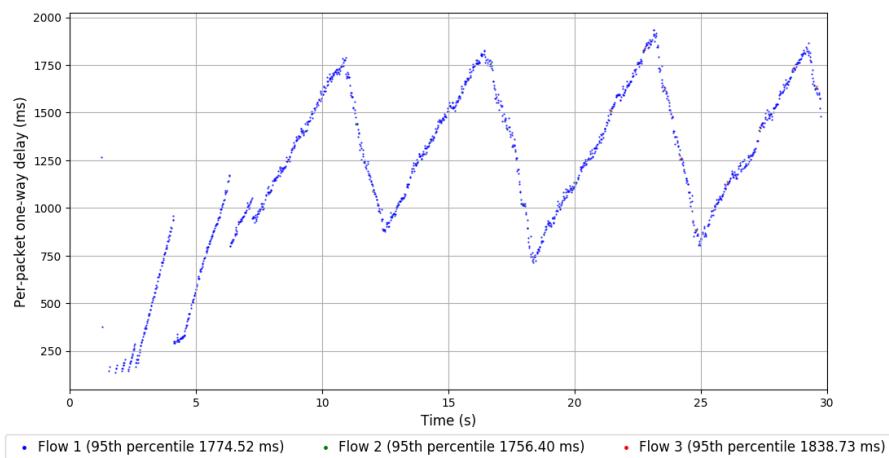
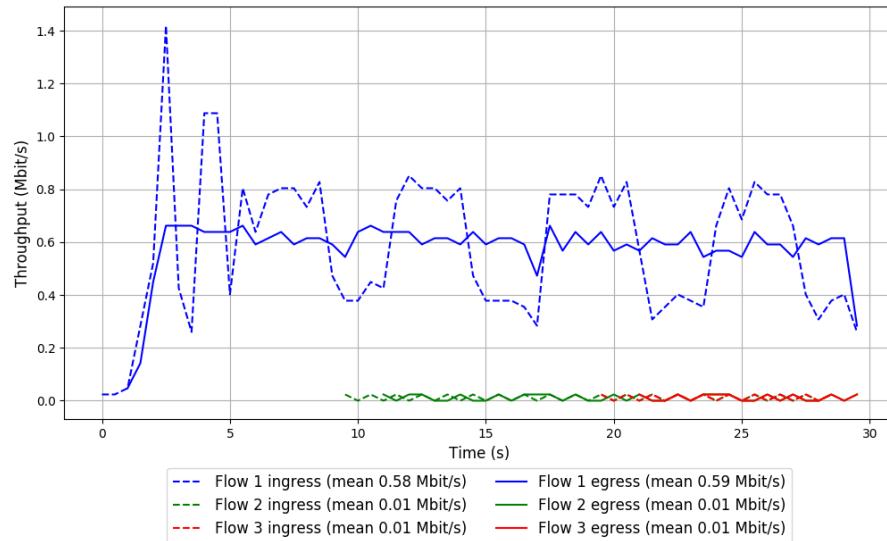


Run 3: Statistics of Verus

```
Start at: 2018-04-03 02:56:21
End at: 2018-04-03 02:56:51
Local clock offset: -7.786 ms
Remote clock offset: 5.339 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1774.519 ms
Loss rate: 3.45%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1774.519 ms
Loss rate: 3.39%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1756.404 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1838.732 ms
Loss rate: 10.00%
```

Run 3: Report of Verus — Data Link

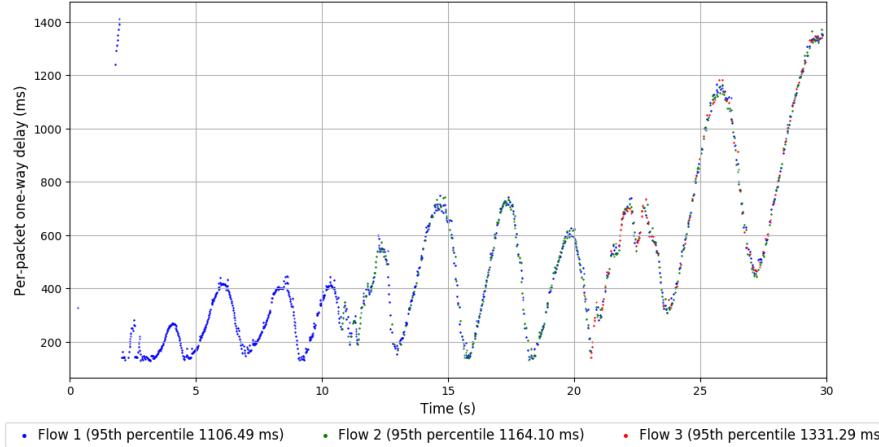
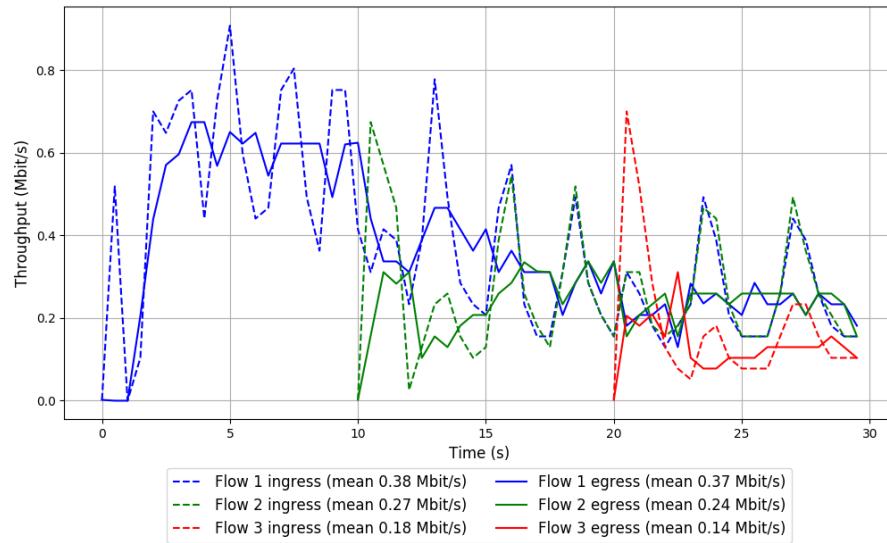


Run 1: Statistics of Copa

```
Start at: 2018-04-03 02:02:08
End at: 2018-04-03 02:02:38
Local clock offset: -3.721 ms
Remote clock offset: 6.346 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1147.349 ms
Loss rate: 8.43%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 1106.494 ms
Loss rate: 4.90%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 1164.102 ms
Loss rate: 10.76%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 1331.290 ms
Loss rate: 24.25%
```

Run 1: Report of Copa — Data Link

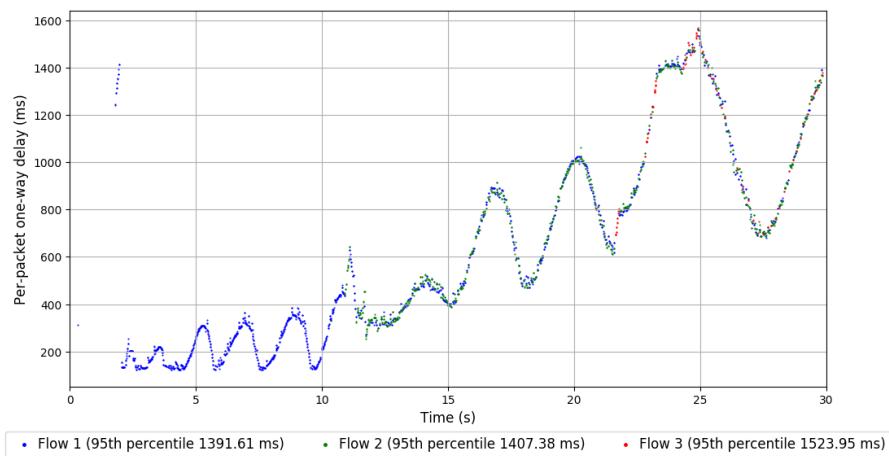
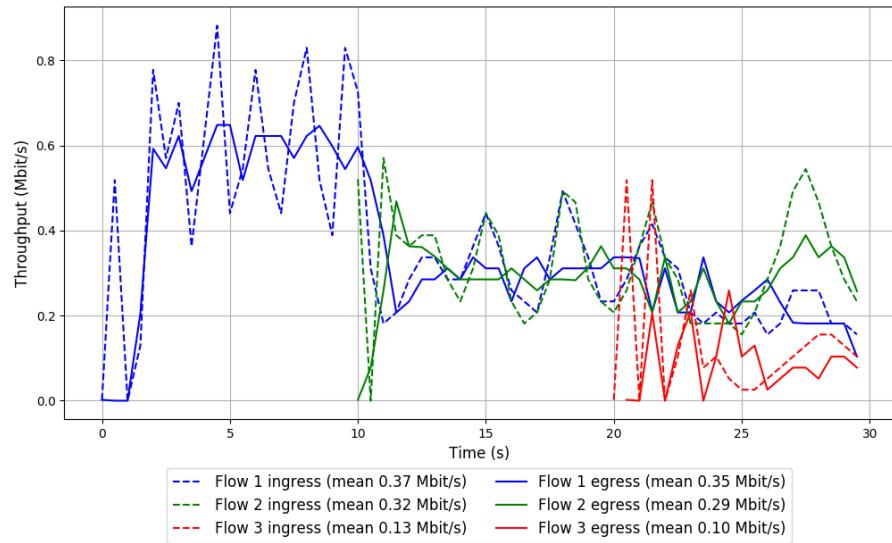


Run 2: Statistics of Copa

```
Start at: 2018-04-03 02:24:50
End at: 2018-04-03 02:25:20
Local clock offset: -2.877 ms
Remote clock offset: 12.521 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1407.829 ms
Loss rate: 8.70%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 1391.606 ms
Loss rate: 4.73%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 1407.375 ms
Loss rate: 10.41%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 1523.954 ms
Loss rate: 33.97%
```

Run 2: Report of Copa — Data Link

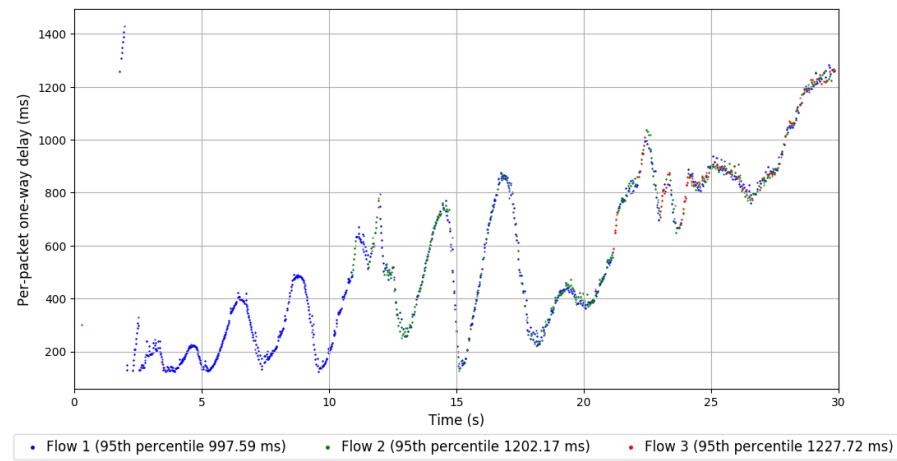
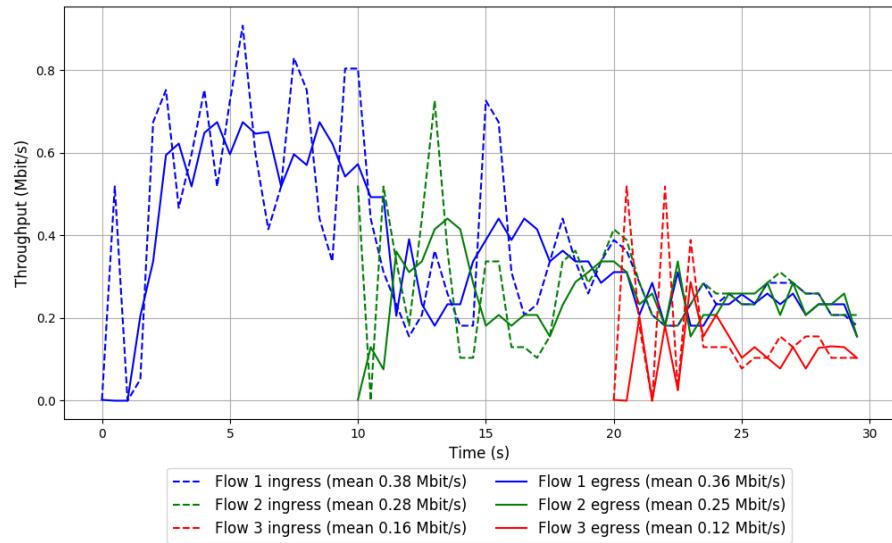


Run 3: Statistics of Copa

```
Start at: 2018-04-03 02:47:30
End at: 2018-04-03 02:48:00
Local clock offset: -7.229 ms
Remote clock offset: 10.77 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1178.860 ms
Loss rate: 8.38%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 997.590 ms
Loss rate: 5.15%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 1202.172 ms
Loss rate: 9.47%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 1227.718 ms
Loss rate: 27.46%
```

Run 3: Report of Copa — Data Link

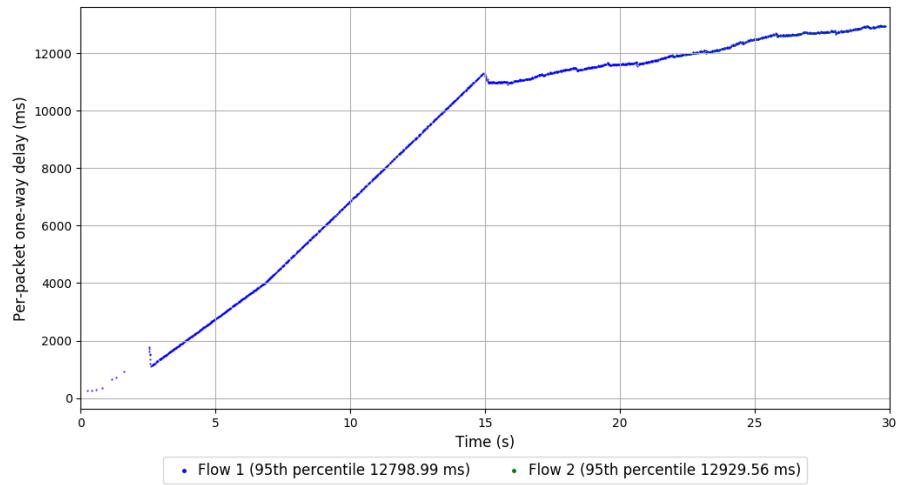
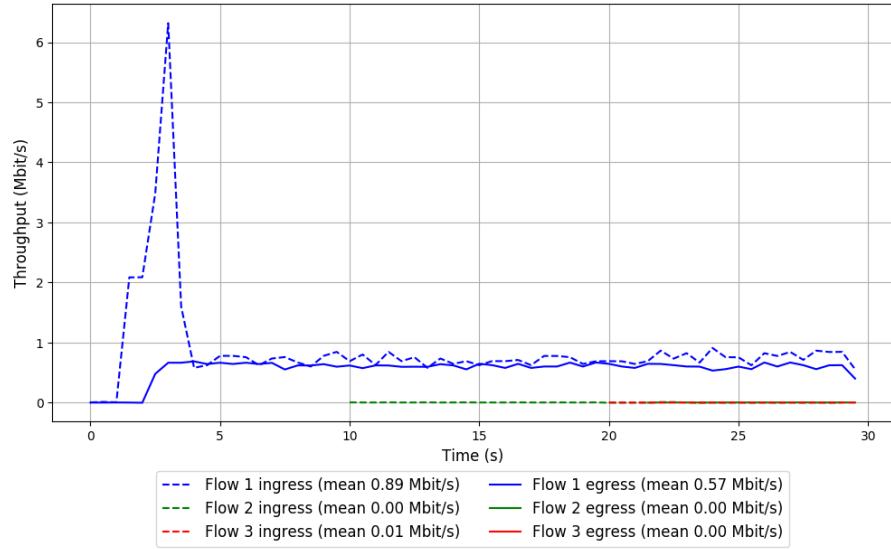


```
Run 1: Statistics of FillP
```

```
Start at: 2018-04-03 02:00:53
End at: 2018-04-03 02:01:23
Local clock offset: -3.731 ms
Remote clock offset: 12.904 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 12809.925 ms
Loss rate: 36.93%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 12798.993 ms
Loss rate: 36.76%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12929.561 ms
Loss rate: 53.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of FillP — Data Link

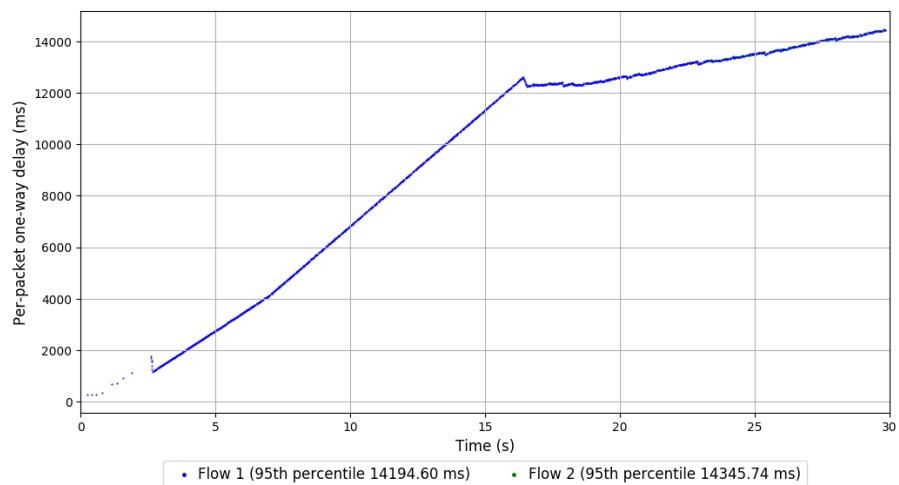
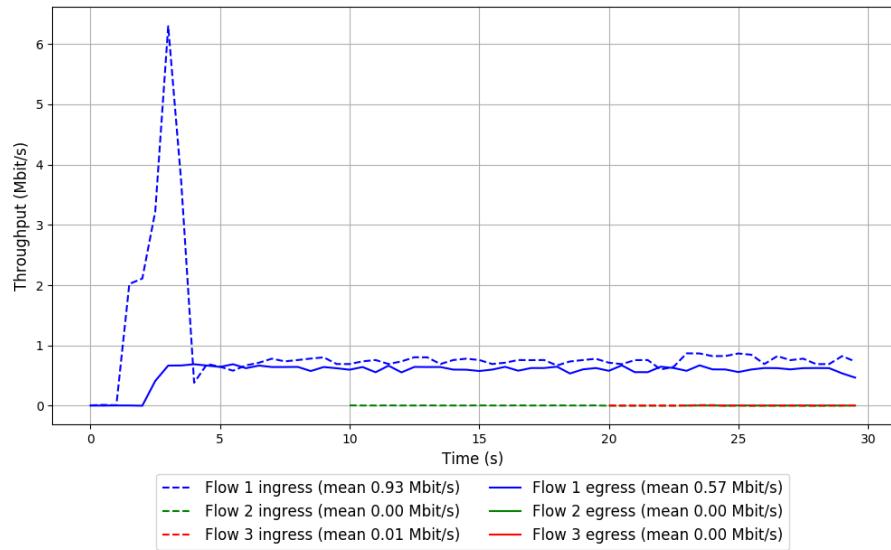


Run 2: Statistics of FillP

```
Start at: 2018-04-03 02:23:34
End at: 2018-04-03 02:24:04
Local clock offset: -2.911 ms
Remote clock offset: 12.724 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 14195.177 ms
Loss rate: 39.71%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 14194.600 ms
Loss rate: 39.54%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 14345.742 ms
Loss rate: 62.30%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of FillP — Data Link

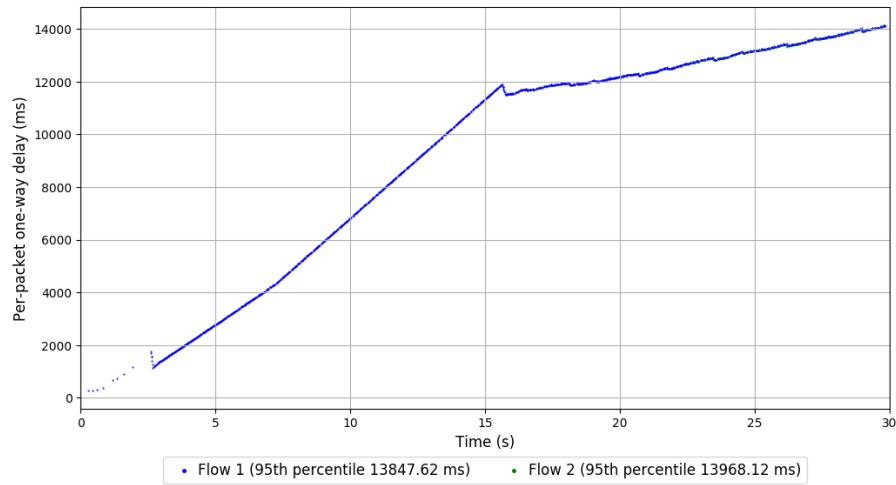
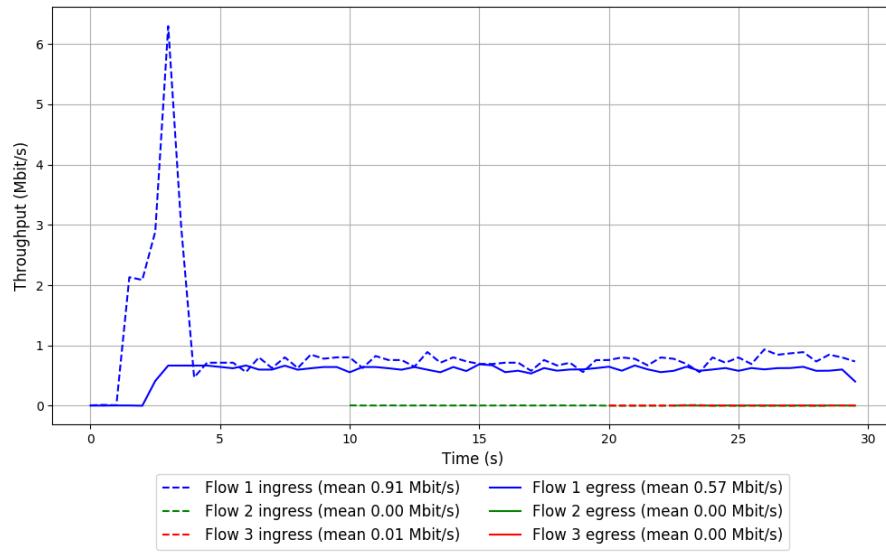


Run 3: Statistics of FillP

```
Start at: 2018-04-03 02:46:15
End at: 2018-04-03 02:46:45
Local clock offset: -7.027 ms
Remote clock offset: 4.42 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13867.772 ms
Loss rate: 39.01%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 13847.624 ms
Loss rate: 38.84%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 13968.124 ms
Loss rate: 60.21%
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of FillP — Data Link

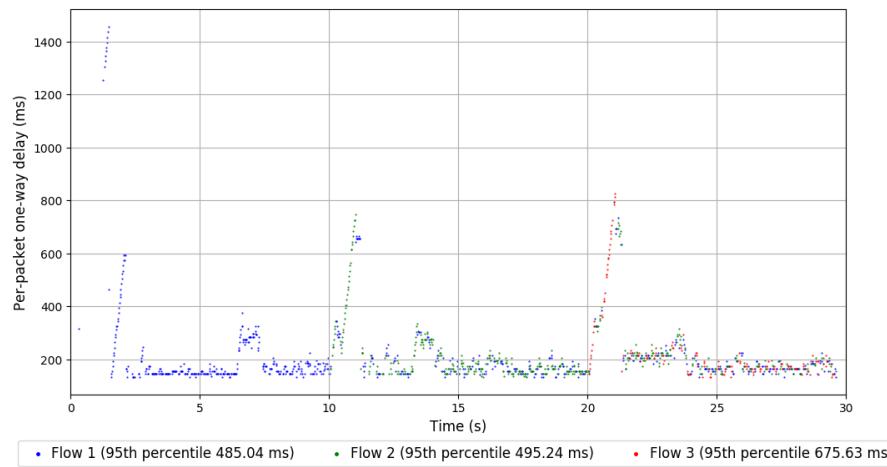
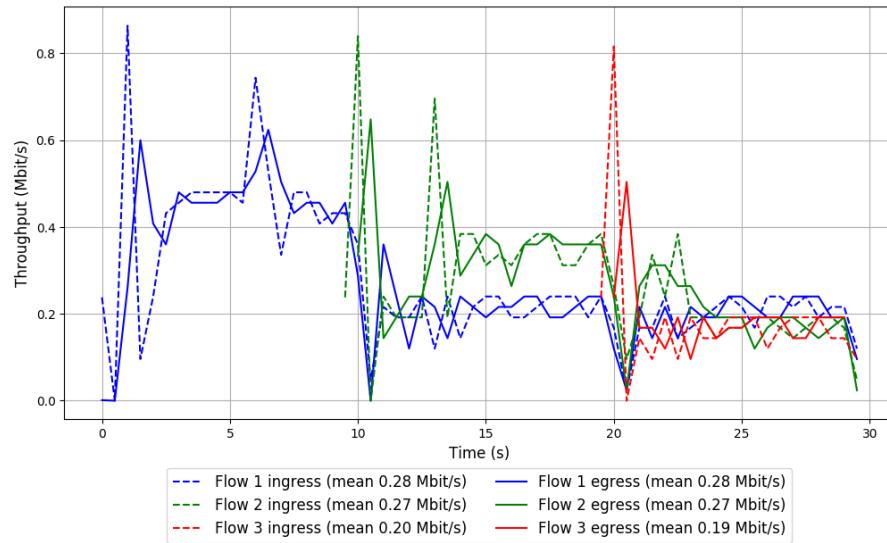


Run 1: Statistics of Indigo-1-32

```
Start at: 2018-04-03 02:05:57
End at: 2018-04-03 02:06:27
Local clock offset: -3.469 ms
Remote clock offset: 5.402 ms

# Below is generated by plot.py at 2018-04-03 04:17:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 560.257 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 485.037 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 495.238 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 675.629 ms
Loss rate: 7.41%
```

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

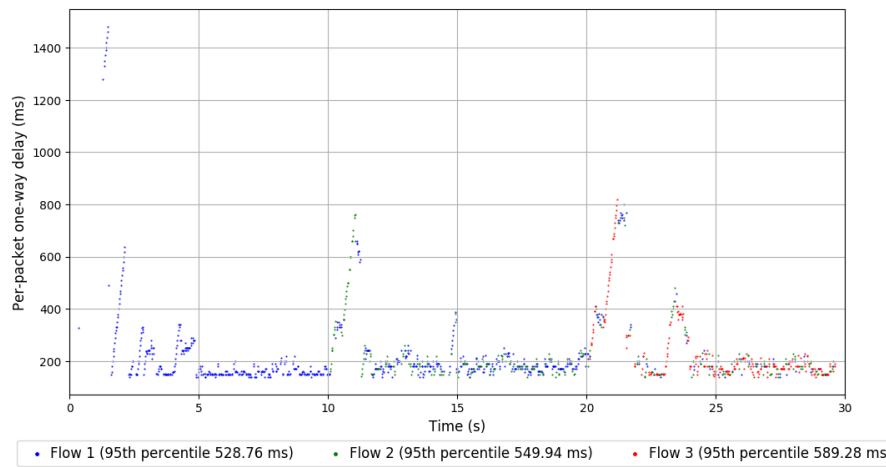
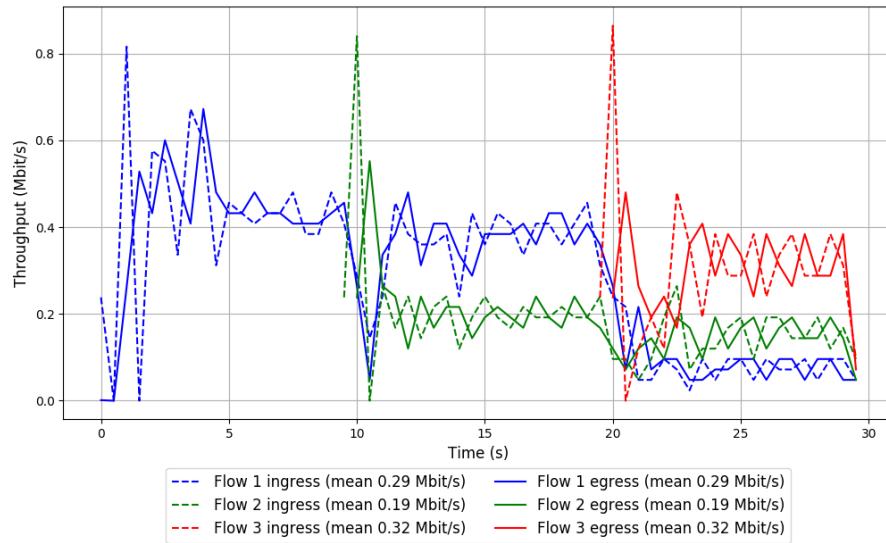


Run 2: Statistics of Indigo-1-32

```
Start at: 2018-04-03 02:28:38
End at: 2018-04-03 02:29:08
Local clock offset: -4.218 ms
Remote clock offset: 5.031 ms

# Below is generated by plot.py at 2018-04-03 04:17:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 559.386 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 528.761 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 549.936 ms
Loss rate: 4.15%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 589.284 ms
Loss rate: 4.23%
```

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

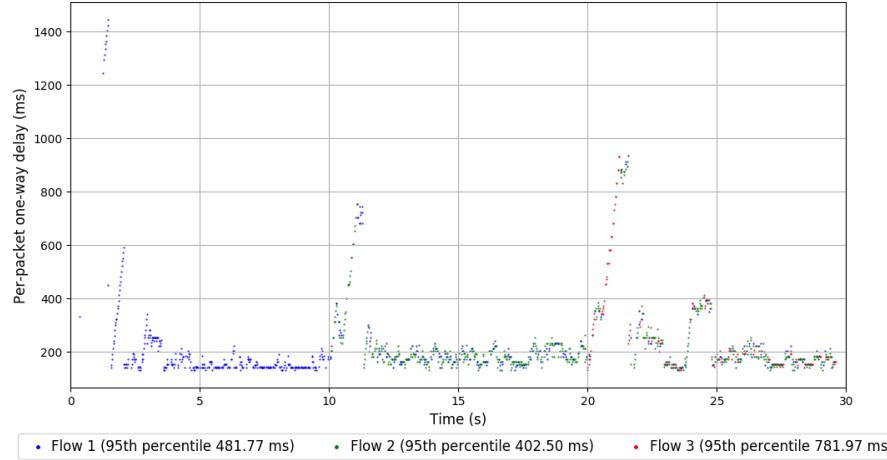
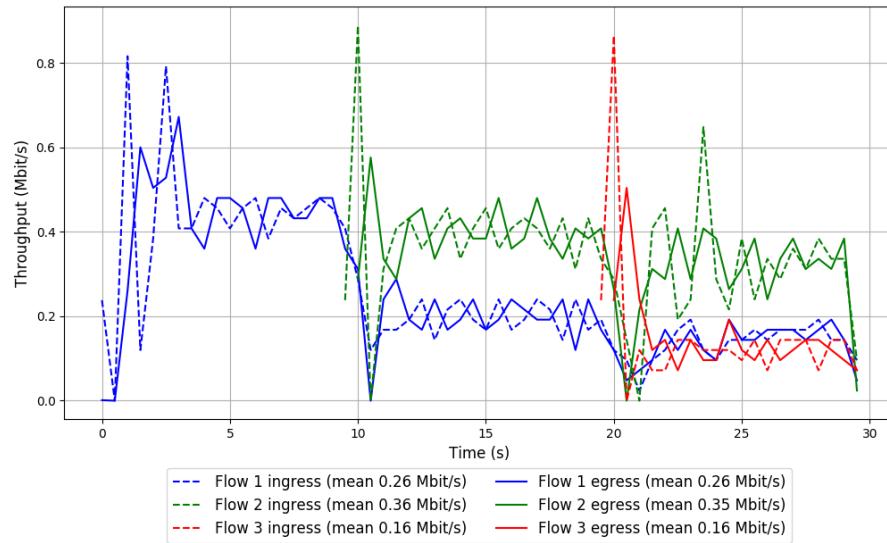


Run 3: Statistics of Indigo-1-32

```
Start at: 2018-04-03 02:51:19
End at: 2018-04-03 02:51:49
Local clock offset: -7.443 ms
Remote clock offset: 10.645 ms

# Below is generated by plot.py at 2018-04-03 04:17:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 551.291 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 481.770 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 402.500 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 781.968 ms
Loss rate: 6.02%
```

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

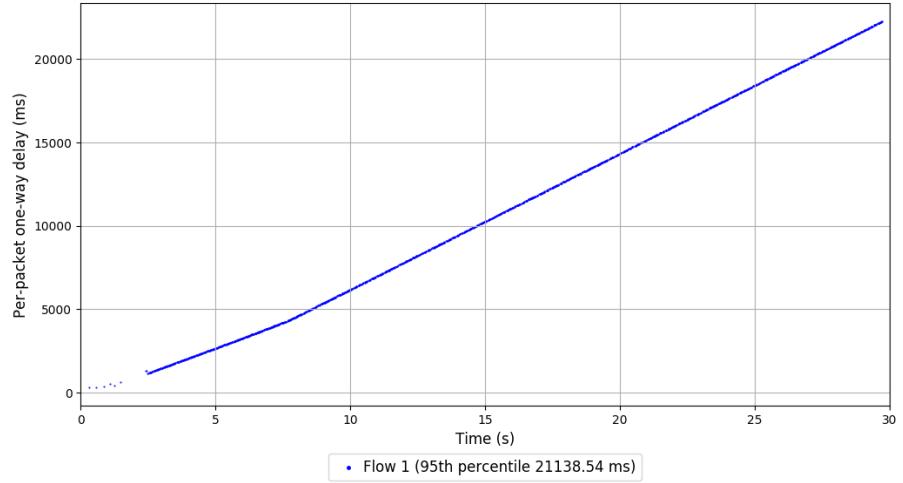
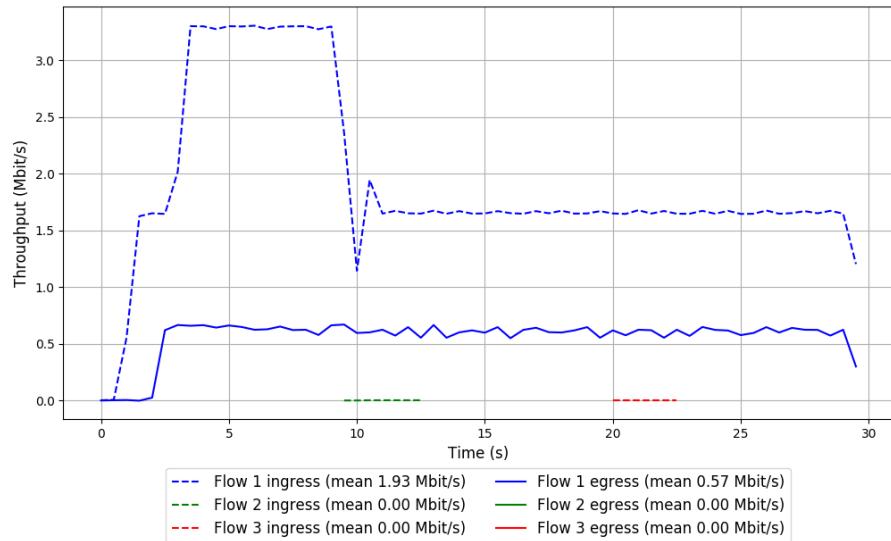


```
Run 1: Statistics of Vivace-latency
```

```
Start at: 2018-04-03 02:21:03
End at: 2018-04-03 02:21:33
Local clock offset: -2.972 ms
Remote clock offset: 12.868 ms

# Below is generated by plot.py at 2018-04-03 04:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21138.541 ms
Loss rate: 70.70%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21138.541 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

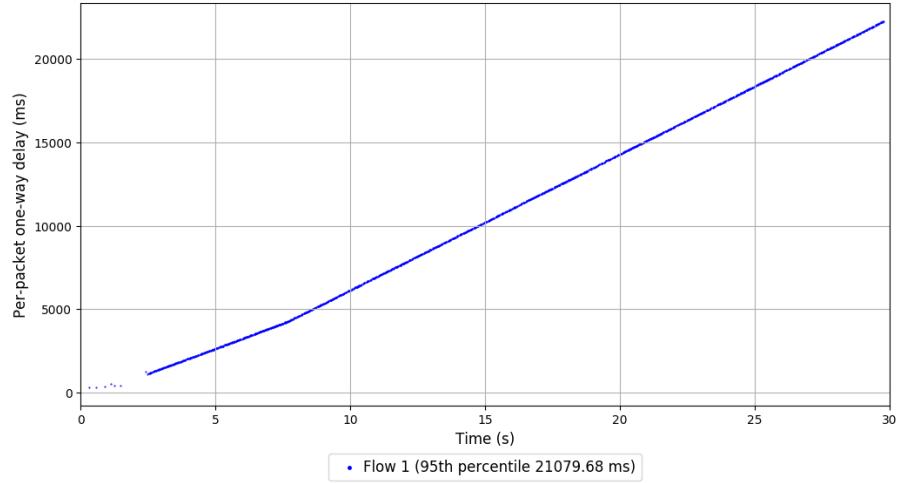
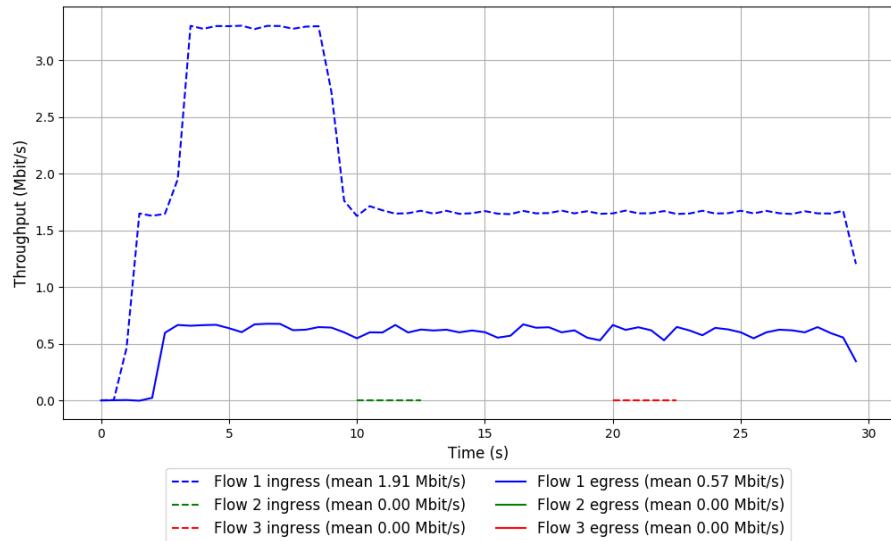


Run 2: Statistics of Vivace-latency

```
Start at: 2018-04-03 02:43:43
End at: 2018-04-03 02:44:13
Local clock offset: -6.815 ms
Remote clock offset: 4.503 ms

# Below is generated by plot.py at 2018-04-03 04:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21079.683 ms
Loss rate: 70.37%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21079.683 ms
Loss rate: 70.36%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of Vivace-latency — Data Link

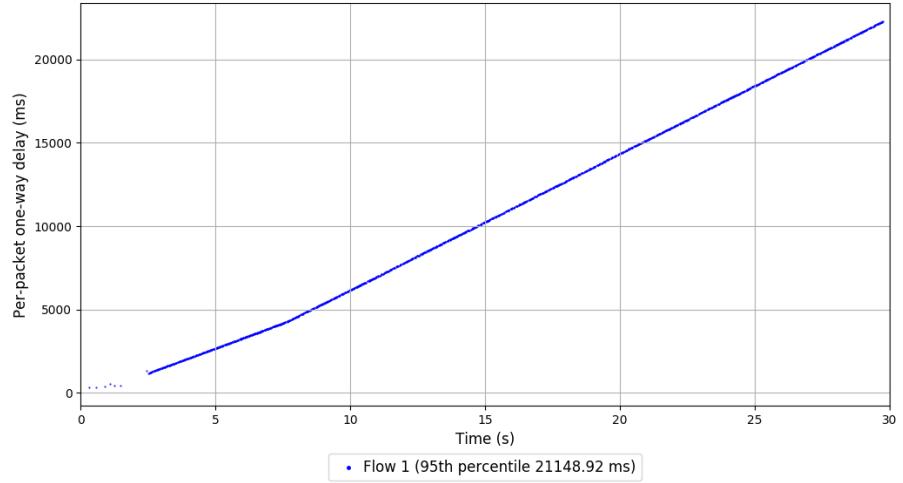
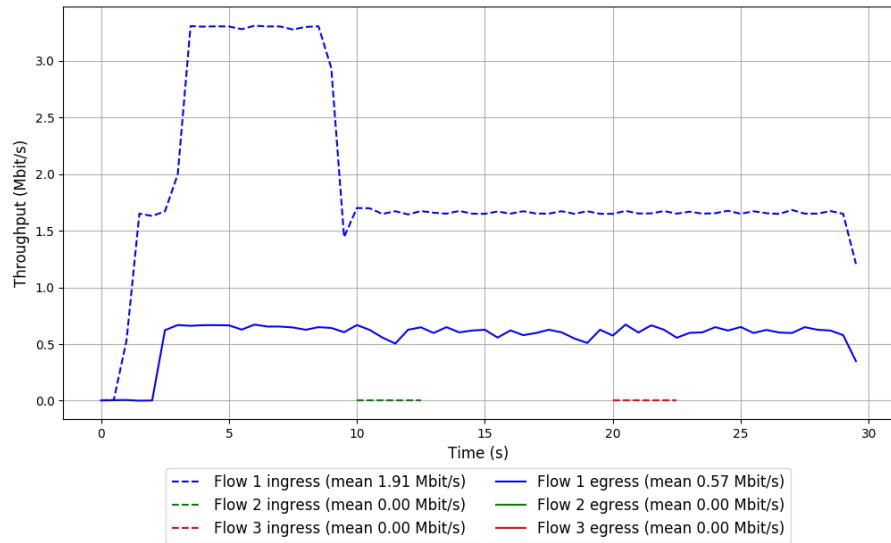


Run 3: Statistics of Vivace-latency

```
Start at: 2018-04-03 03:06:24
End at: 2018-04-03 03:06:54
Local clock offset: -5.594 ms
Remote clock offset: 6.388 ms

# Below is generated by plot.py at 2018-04-03 04:17:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21148.918 ms
Loss rate: 70.42%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21148.918 ms
Loss rate: 70.41%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of Vivace-latency — Data Link

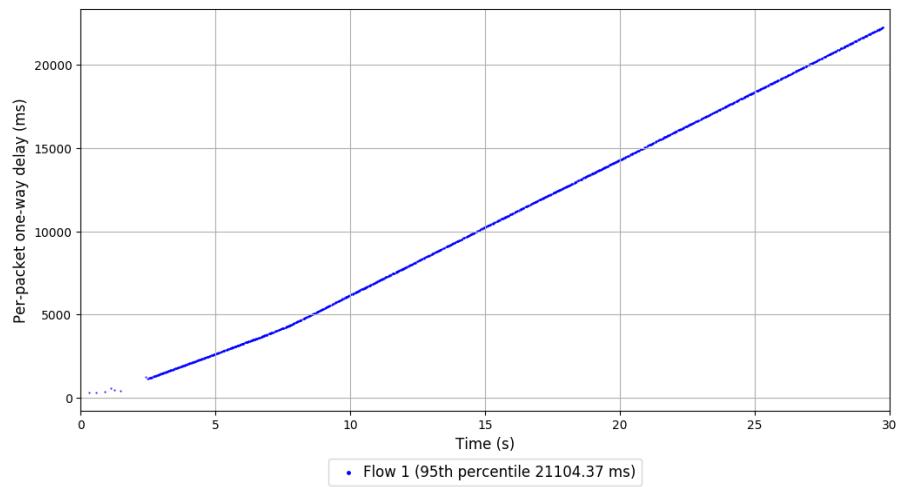
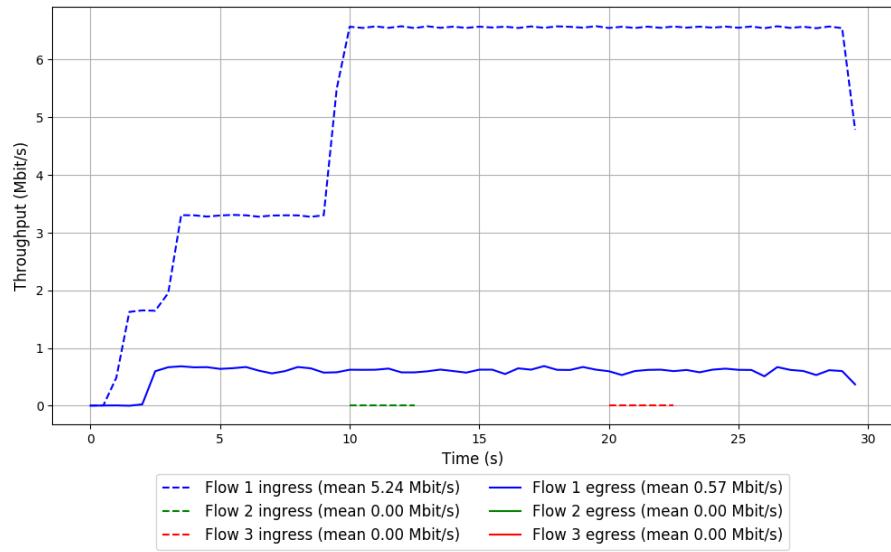


```
Run 1: Statistics of Vivace-loss
```

```
Start at: 2018-04-03 02:09:43
End at: 2018-04-03 02:10:13
Local clock offset: -3.408 ms
Remote clock offset: 11.844 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21104.369 ms
Loss rate: 89.23%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21104.369 ms
Loss rate: 89.23%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of Vivace-loss — Data Link

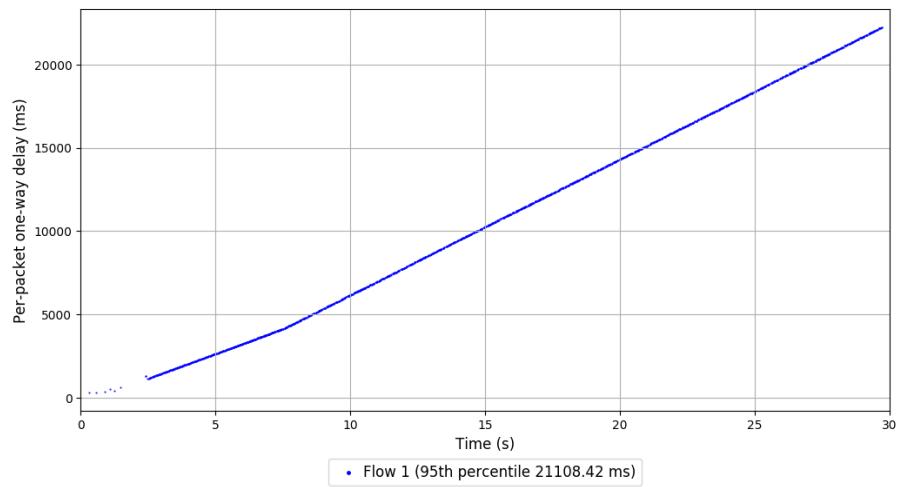
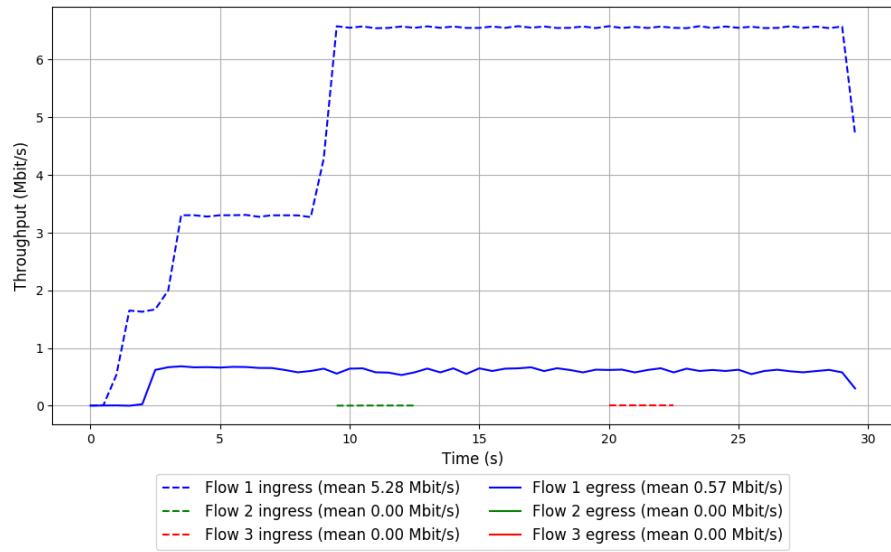


Run 2: Statistics of Vivace-loss

```
Start at: 2018-04-03 02:32:24
End at: 2018-04-03 02:32:54
Local clock offset: -5.1 ms
Remote clock offset: 5.775 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21108.415 ms
Loss rate: 89.29%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21108.415 ms
Loss rate: 89.29%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 2: Report of Vivace-loss — Data Link

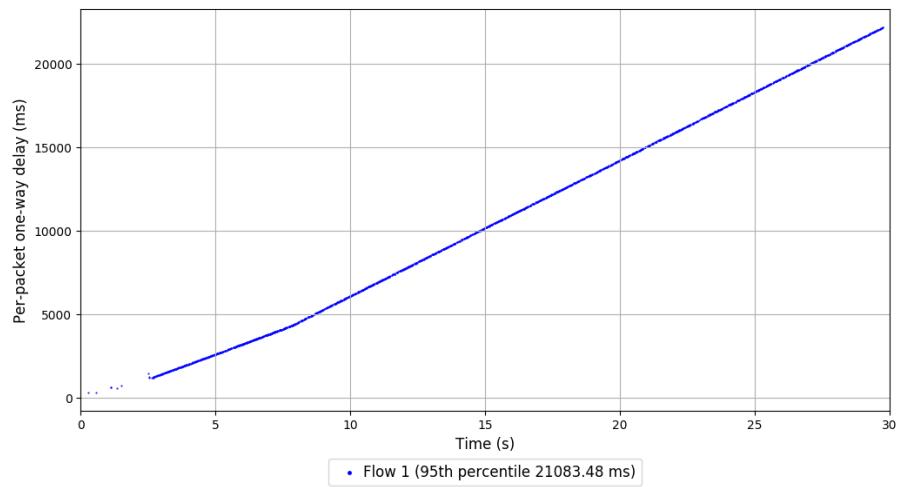
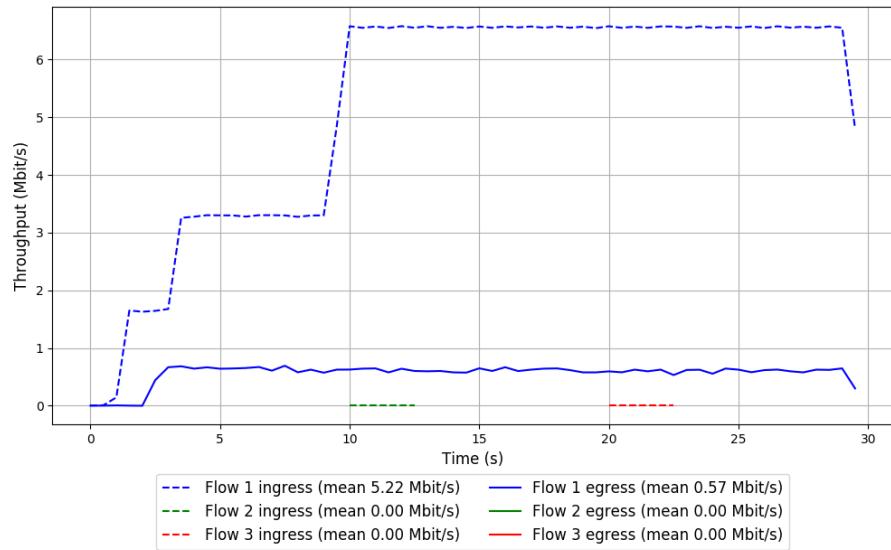


```
Run 3: Statistics of Vivace-loss
```

```
Start at: 2018-04-03 02:55:05
End at: 2018-04-03 02:55:35
Local clock offset: -7.746 ms
Remote clock offset: 9.739 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21083.481 ms
Loss rate: 89.24%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21083.481 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

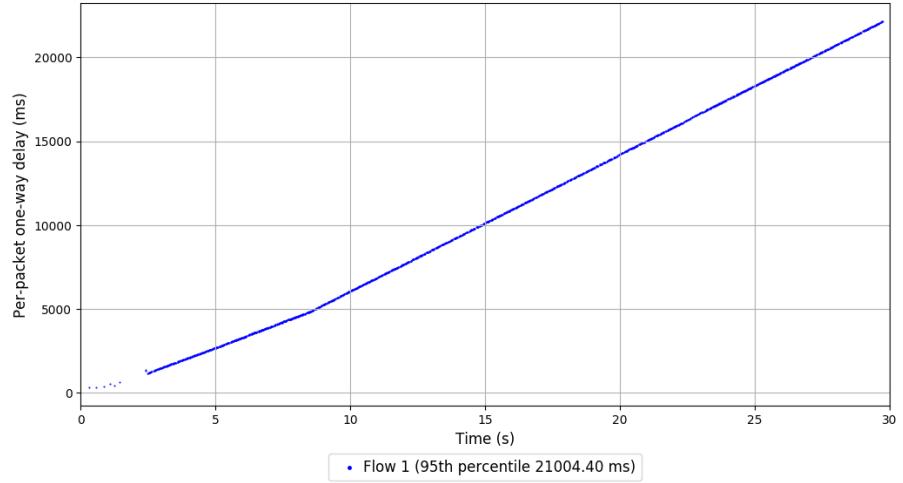
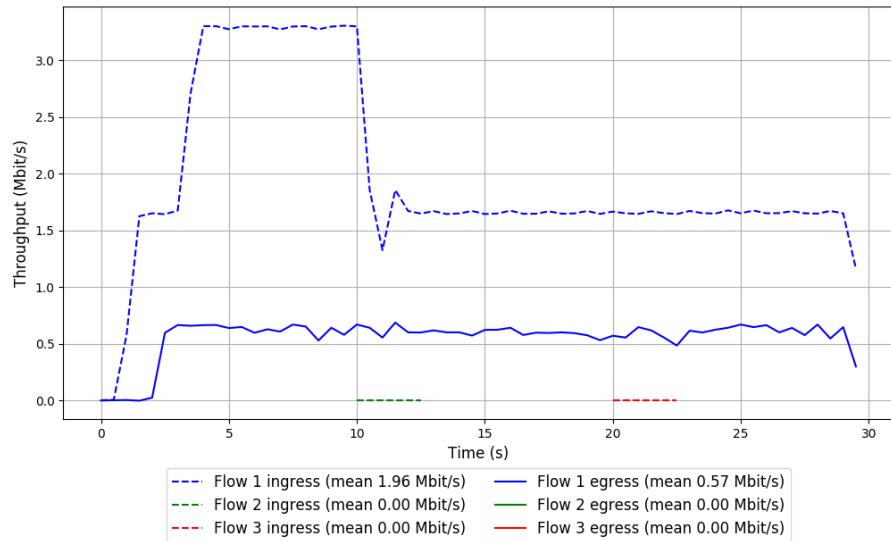


Run 1: Statistics of Vivace-LTE

```
Start at: 2018-04-03 02:18:31
End at: 2018-04-03 02:19:01
Local clock offset: -3.121 ms
Remote clock offset: 11.833 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21004.403 ms
Loss rate: 71.33%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21004.403 ms
Loss rate: 71.31%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 1: Report of Vivace-LTE — Data Link

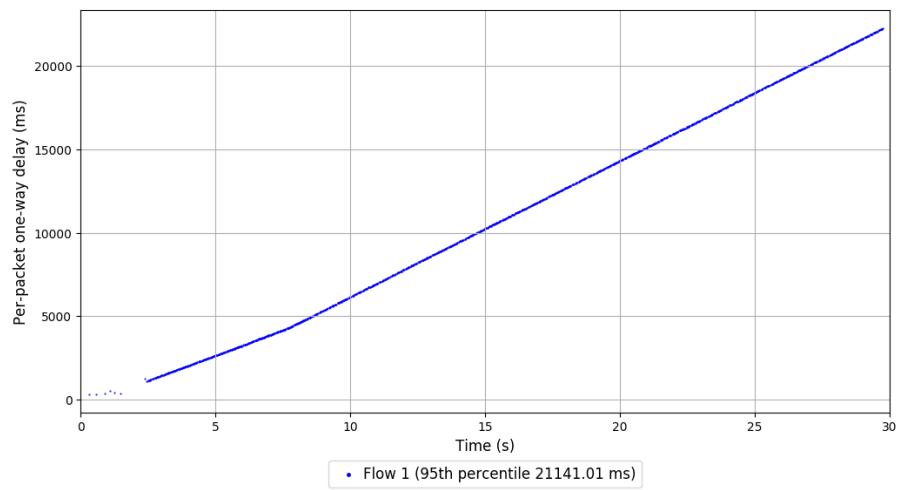
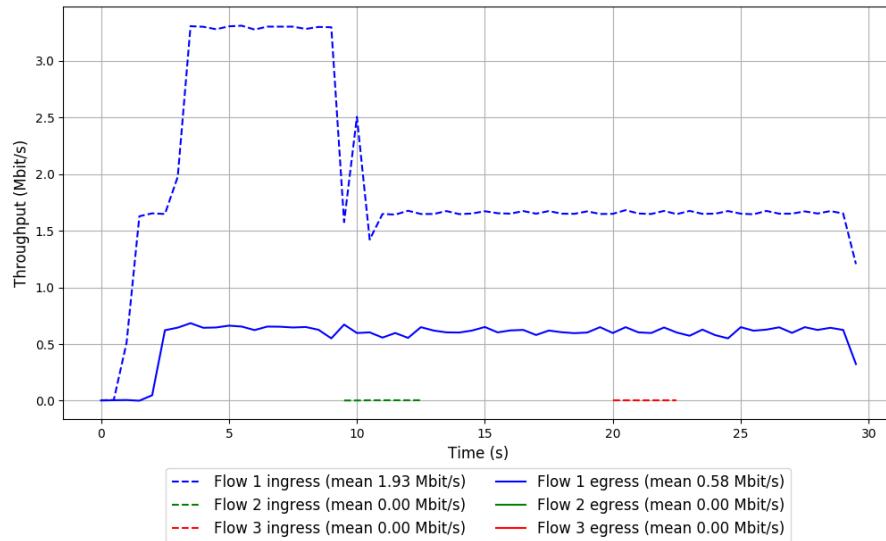


Run 2: Statistics of Vivace-LTE

```
Start at: 2018-04-03 02:41:12
End at: 2018-04-03 02:41:42
Local clock offset: -6.567 ms
Remote clock offset: 4.503 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 21141.009 ms
Loss rate: 70.57%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 21141.009 ms
Loss rate: 70.56%
-- 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: 2018-04-03 03:03:53
End at: 2018-04-03 03:04:23
Local clock offset: -6.186 ms
Remote clock offset: 12.579 ms

# Below is generated by plot.py at 2018-04-03 04:17:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21173.265 ms
Loss rate: 70.65%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21173.265 ms
Loss rate: 70.64%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
```

Run 3: Report of Vivace-LTE — Data Link

