

## Pantheon Report

Generated at 2019-02-20 00:19:44 (UTC).  
Data path: AWS Brazil 2 on `ens5 (local)` → Colombia cellular on `ppp0 (remote)`.  
Repeated the test of 21 congestion control schemes 3 times.  
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.  
NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

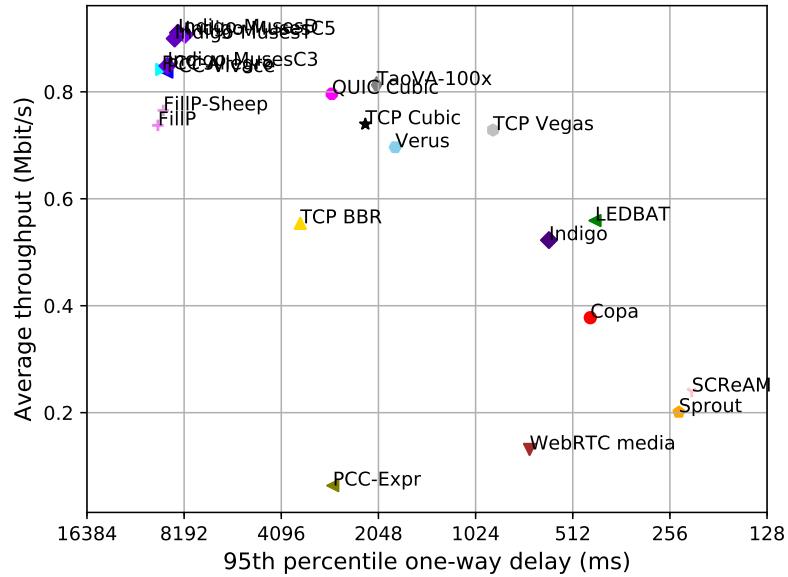
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

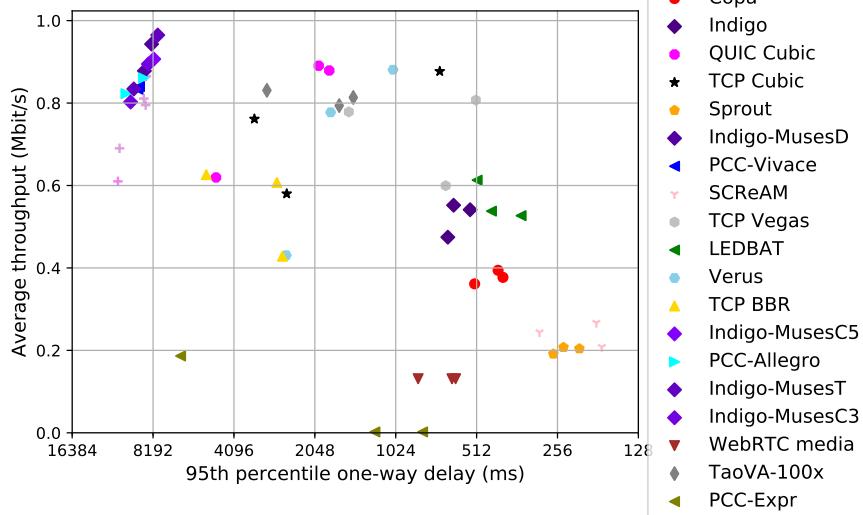
```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fce56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
```

```
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



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



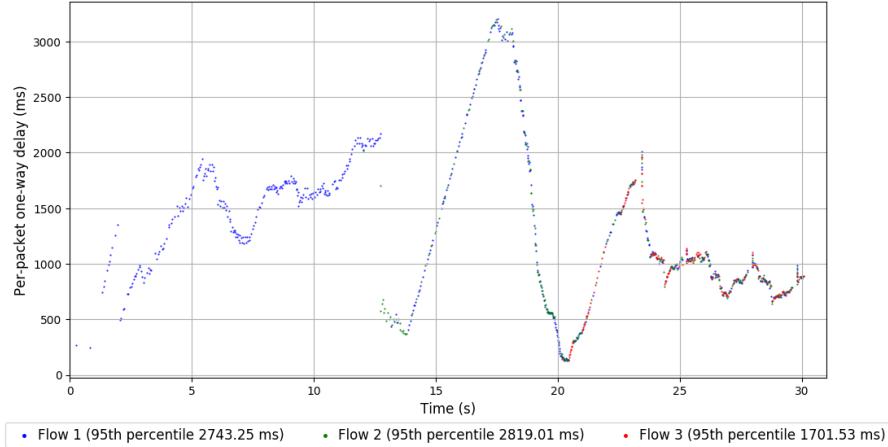
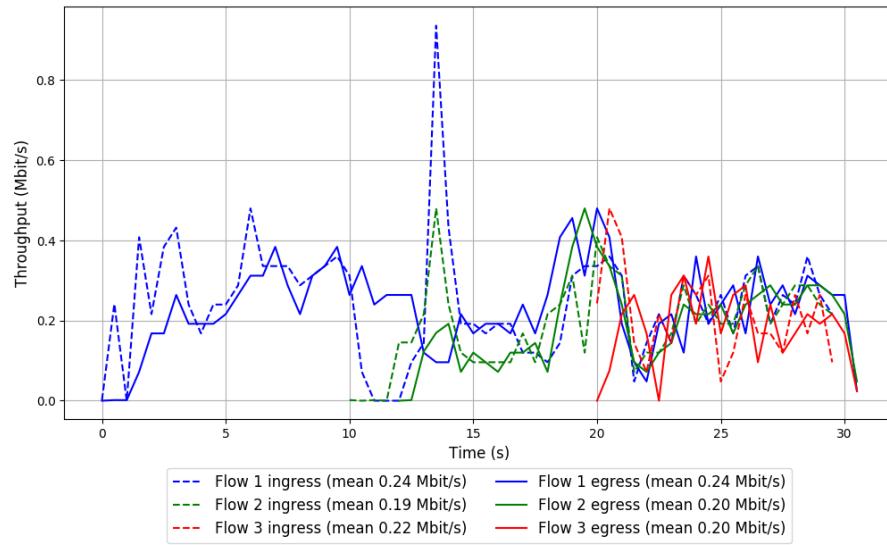
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	3	0.36	0.26	0.09	3327.72	3690.85	2674.92	4.58	11.07	35.21
Copa	3	0.01	0.45	0.29	282.33	445.95	464.54	93.27	2.51	3.67
TCP Cubic	3	0.48	0.34	0.13	2214.06	2274.91	2463.19	7.05	9.76	35.06
FillP	2	0.60	0.24	0.01	9844.43	8048.68	7355.71	27.81	32.57	77.44
FillP-Sheep	3	0.46	0.48	0.01	9325.72	9509.19	7233.76	20.33	38.43	75.77
Indigo	3	0.25	0.26	0.32	653.39	602.16	510.89	0.75	1.42	1.14
Indigo-MusesC3	2	0.78	0.16	0.00	9224.41	8677.05	8517.70	77.48	97.92	99.85
Indigo-MusesC5	1	0.57	0.47	0.00	8121.60	8180.90	8255.51	36.84	49.14	99.92
Indigo-MusesD	2	0.82	0.21	0.00	8561.23	8423.74	8366.11	63.33	98.56	99.73
Indigo-MusesT	2	0.78	0.27	0.00	8809.08	8067.49	7936.02	78.56	98.00	99.88
LEDBAT	3	0.37	0.19	0.19	423.33	443.37	452.27	0.98	1.63	3.53
PCC-Allegro	2	0.84	0.00	0.00	9603.42	9584.62	8848.56	94.93	14.00	74.80
PCC-Expr	3	0.01	0.01	0.20	275.53	941.91	2814.78	60.00	1.82	31.40
QUIC Cubic	3	0.58	0.28	0.13	2831.25	2870.67	2882.61	6.30	17.53	44.40
SCReAM	3	0.08	0.16	0.16	193.18	218.39	240.45	1.02	0.48	1.28
Sprout	3	0.10	0.10	0.11	248.56	223.91	257.40	1.14	2.01	1.29
TaoVA-100x	3	0.50	0.35	0.27	1887.67	2135.47	2427.50	4.31	6.02	15.49
TCP Vegas	3	0.33	0.34	0.54	514.11	696.71	998.00	1.03	0.86	2.41
Verus	3	0.68	0.02	0.02	1818.76	1653.03	1637.40	3.47	3.60	6.67
PCC-Vivace	2	0.83	0.00	0.01	9264.89	9202.00	9215.05	36.05	7.56	79.66
WebRTC media	3	0.04	0.04	0.04	562.10	624.53	767.31	1.66	0.39	0.31

Run 1: Statistics of TCP BBR

```
Start at: 2019-02-19 23:05:28
End at: 2019-02-19 23:05:58
Local clock offset: -13.724 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2702.518 ms
Loss rate: 3.80%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 2743.248 ms
Loss rate: 2.62%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 2819.011 ms
Loss rate: 4.73%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 1701.528 ms
Loss rate: 6.18%
```

## Run 1: Report of TCP BBR — Data Link

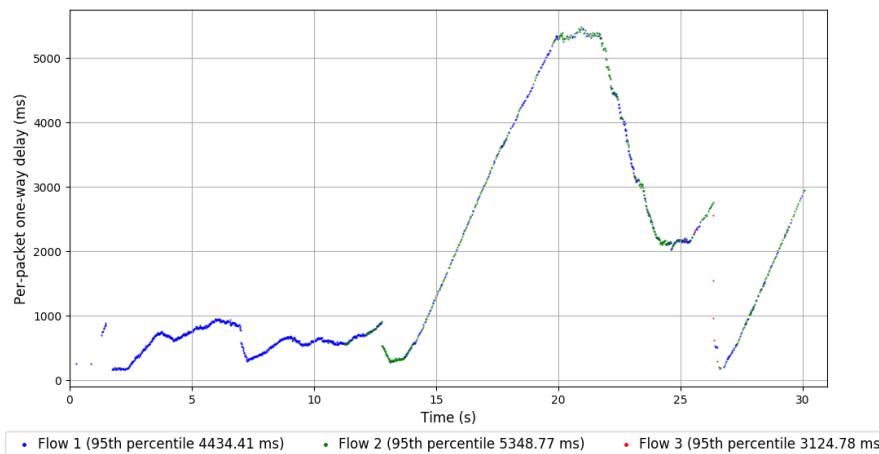
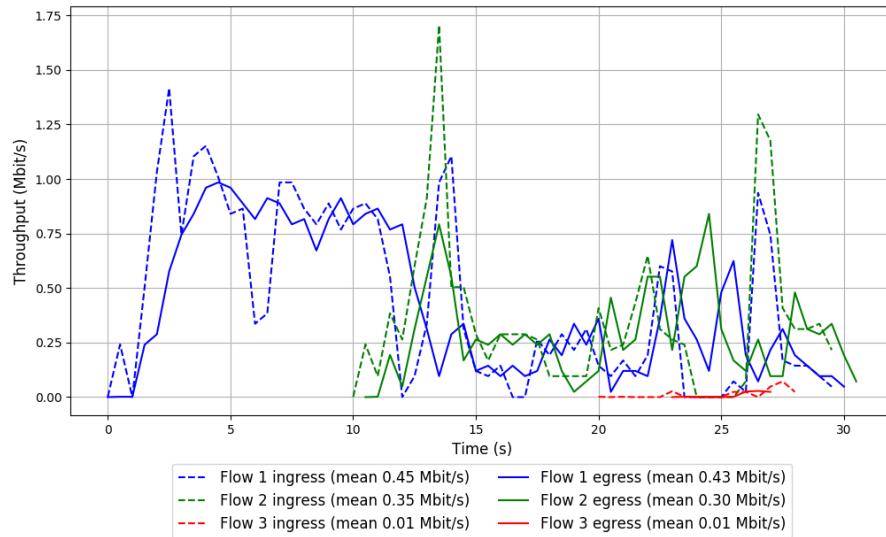


Run 2: Statistics of TCP BBR

```
Start at: 2019-02-19 23:31:19
End at: 2019-02-19 23:31:49
Local clock offset: -13.577 ms
Remote clock offset: -3.648 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 5191.016 ms
Loss rate: 9.01%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 4434.412 ms
Loss rate: 4.76%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 5348.767 ms
Loss rate: 16.21%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 3124.781 ms
Loss rate: 63.65%
```

## Run 2: Report of TCP BBR — Data Link

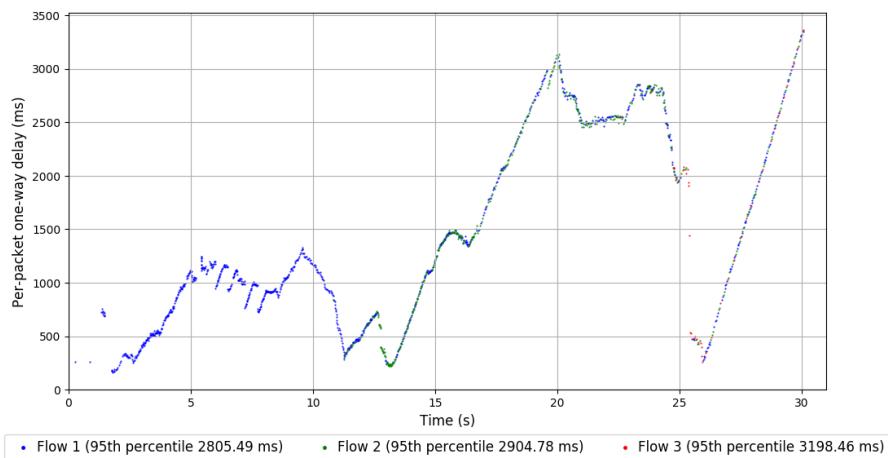
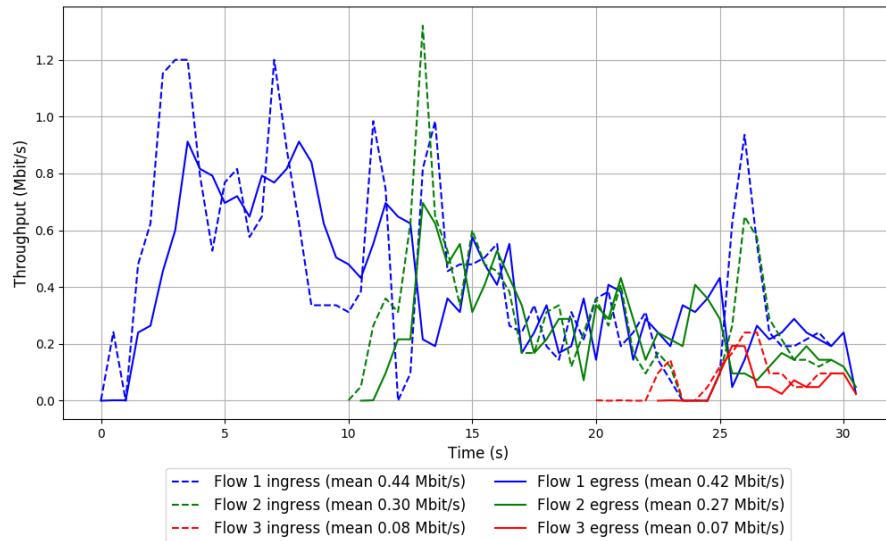


Run 3: Statistics of TCP BBR

```
Start at: 2019-02-19 23:57:18
End at: 2019-02-19 23:57:48
Local clock offset: -13.319 ms
Remote clock offset: 1.646 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 2835.602 ms
Loss rate: 9.26%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 2805.493 ms
Loss rate: 6.36%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 2904.784 ms
Loss rate: 12.27%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3198.462 ms
Loss rate: 35.80%
```

### Run 3: Report of TCP BBR — Data Link

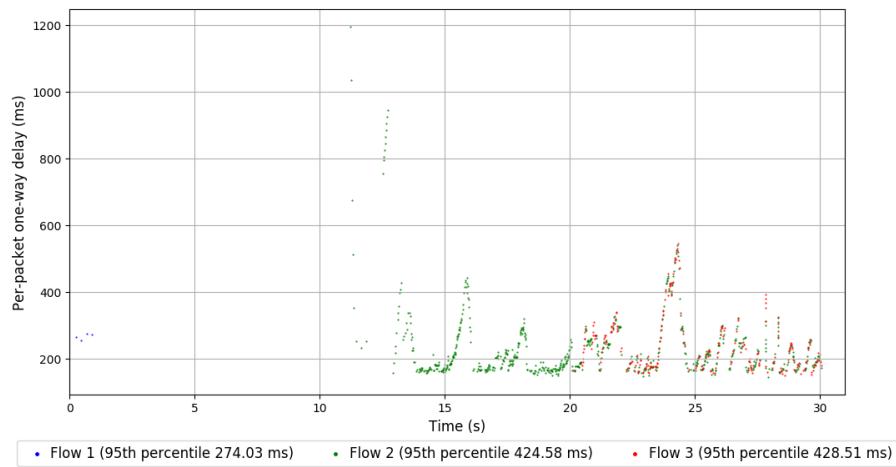
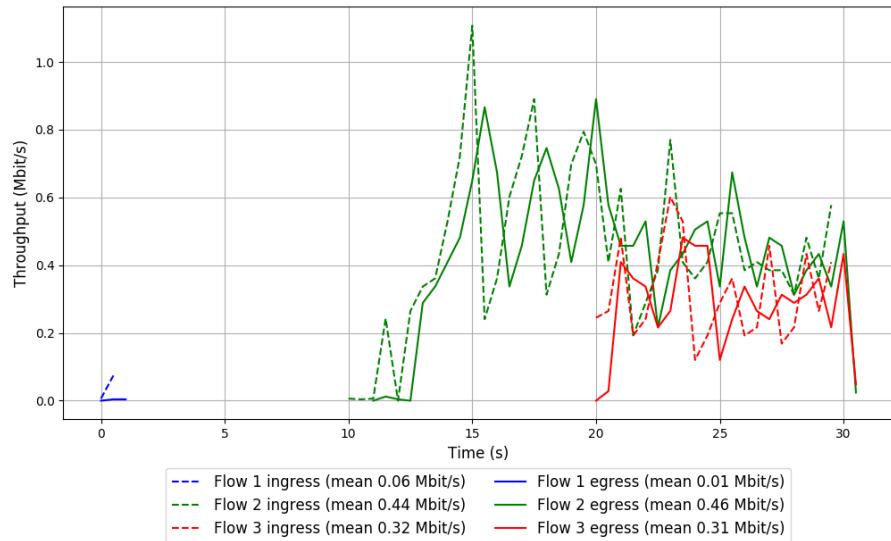


Run 1: Statistics of Copa

```
Start at: 2019-02-19 23:17:48
End at: 2019-02-19 23:18:18
Local clock offset: -13.479 ms
Remote clock offset: 0.307 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 425.941 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 274.027 ms
Loss rate: 89.81%
-- Flow 2:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 424.583 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 428.507 ms
Loss rate: 1.53%
```

## Run 1: Report of Copa — Data Link

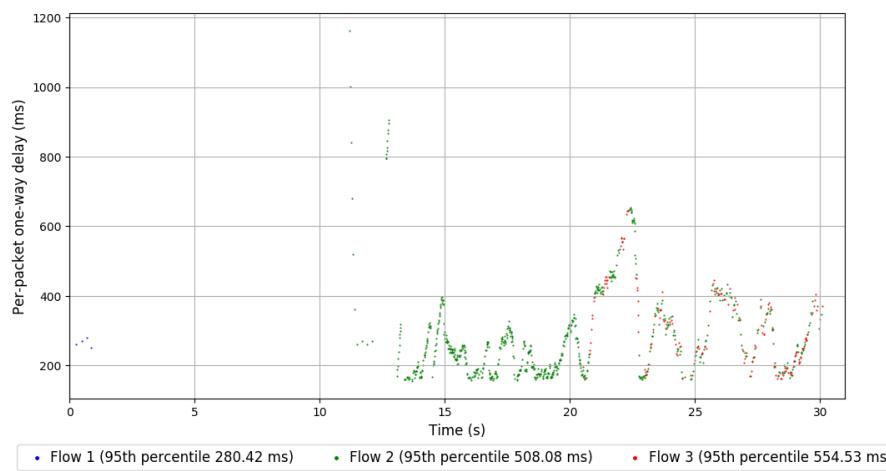
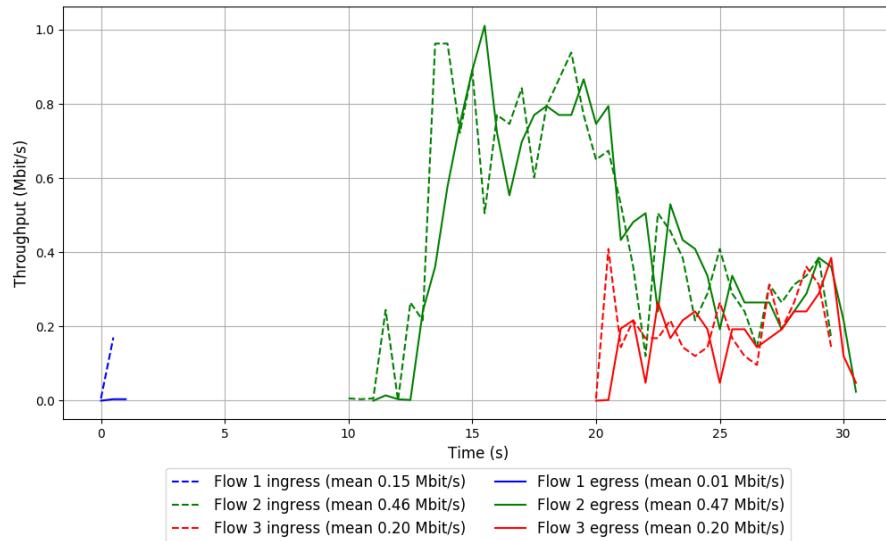


Run 2: Statistics of Copa

```
Start at: 2019-02-19 23:43:37
End at: 2019-02-19 23:44:07
Local clock offset: -13.358 ms
Remote clock offset: -2.909 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 520.676 ms
Loss rate: 3.46%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 280.418 ms
Loss rate: 95.36%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 508.076 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 554.530 ms
Loss rate: 4.29%
```

## Run 2: Report of Copa — Data Link

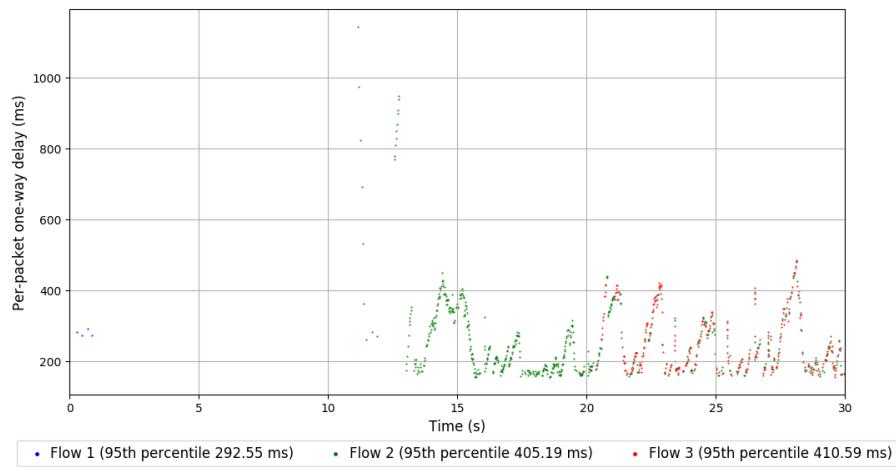
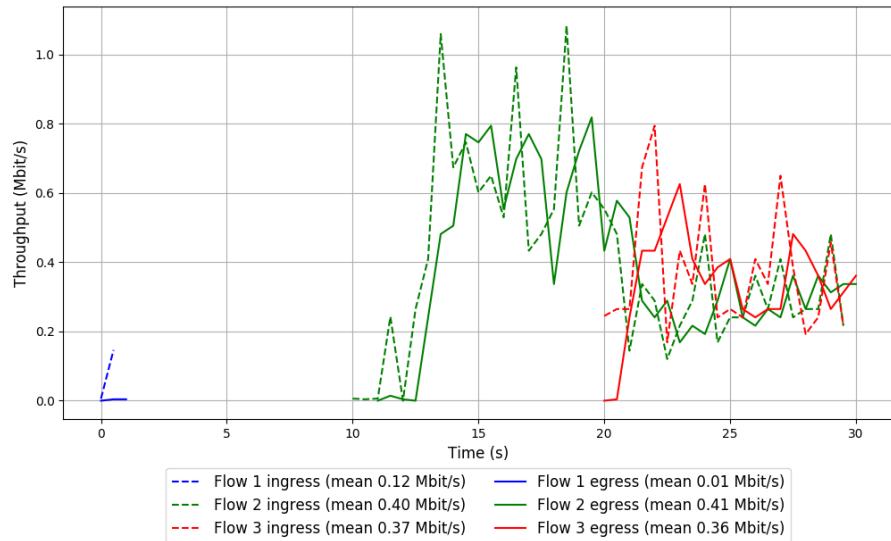


Run 3: Statistics of Copa

```
Start at: 2019-02-20 00:09:40
End at: 2019-02-20 00:10:10
Local clock offset: -13.326 ms
Remote clock offset: -1.882 ms

# Below is generated by plot.py at 2019-02-20 00:19:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 408.464 ms
Loss rate: 4.61%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 292.552 ms
Loss rate: 94.63%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 405.193 ms
Loss rate: 3.49%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 410.586 ms
Loss rate: 5.18%
```

### Run 3: Report of Copa — Data Link

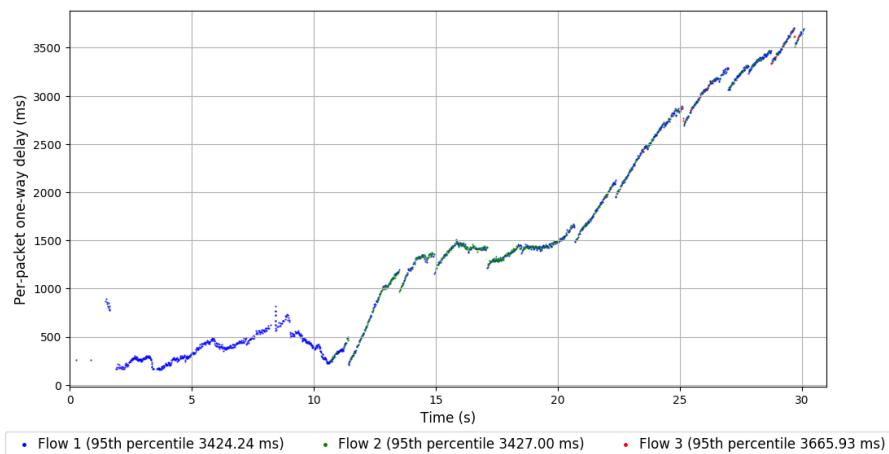
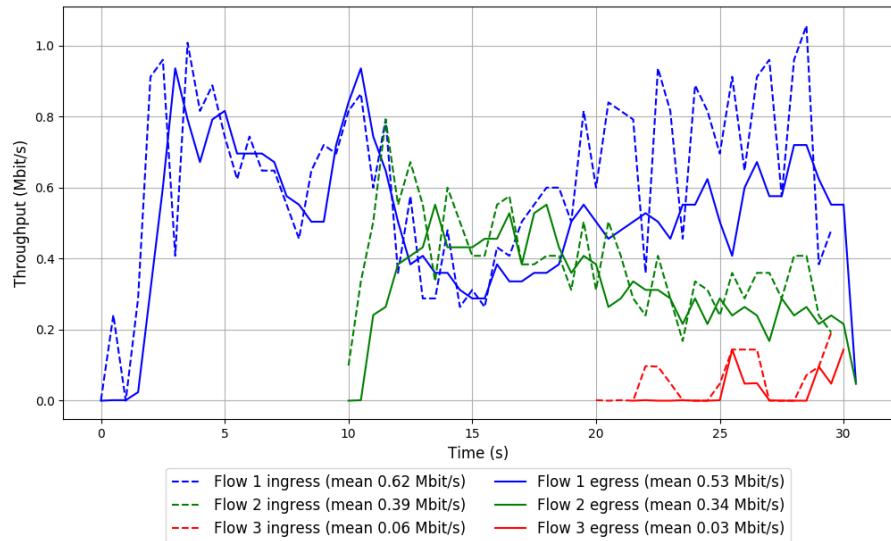


Run 1: Statistics of TCP Cubic

```
Start at: 2019-02-19 23:11:37
End at: 2019-02-19 23:12:07
Local clock offset: -13.559 ms
Remote clock offset: 2.322 ms

# Below is generated by plot.py at 2019-02-20 00:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 3436.772 ms
Loss rate: 15.95%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 3424.240 ms
Loss rate: 15.21%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 3427.002 ms
Loss rate: 15.29%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 3665.925 ms
Loss rate: 50.77%
```

## Run 1: Report of TCP Cubic — Data Link

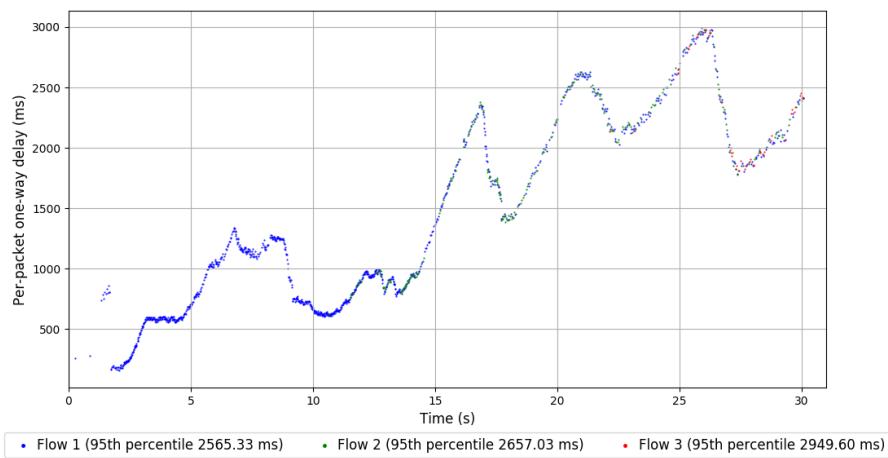
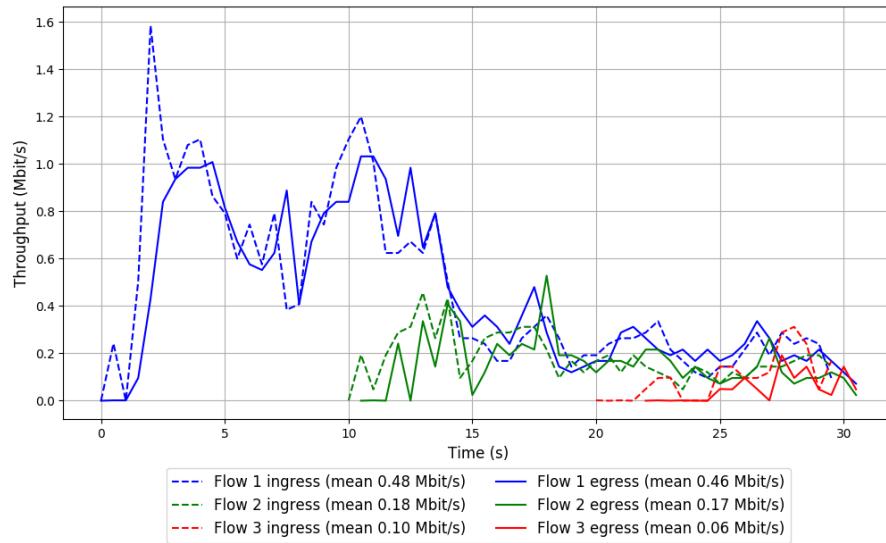


Run 2: Statistics of TCP Cubic

```
Start at: 2019-02-19 23:37:28
End at: 2019-02-19 23:37:58
Local clock offset: -13.354 ms
Remote clock offset: 3.464 ms

# Below is generated by plot.py at 2019-02-20 00:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 2606.822 ms
Loss rate: 7.93%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 2565.327 ms
Loss rate: 4.06%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 2657.026 ms
Loss rate: 11.88%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 2949.596 ms
Loss rate: 50.44%
```

## Run 2: Report of TCP Cubic — Data Link

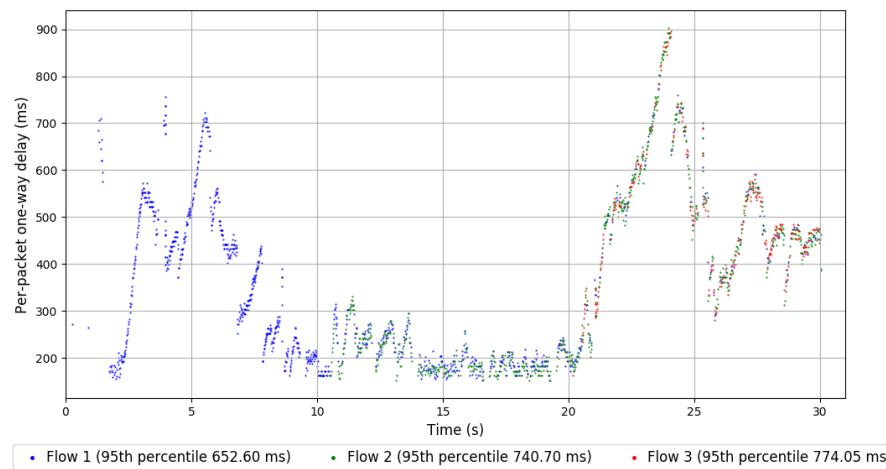
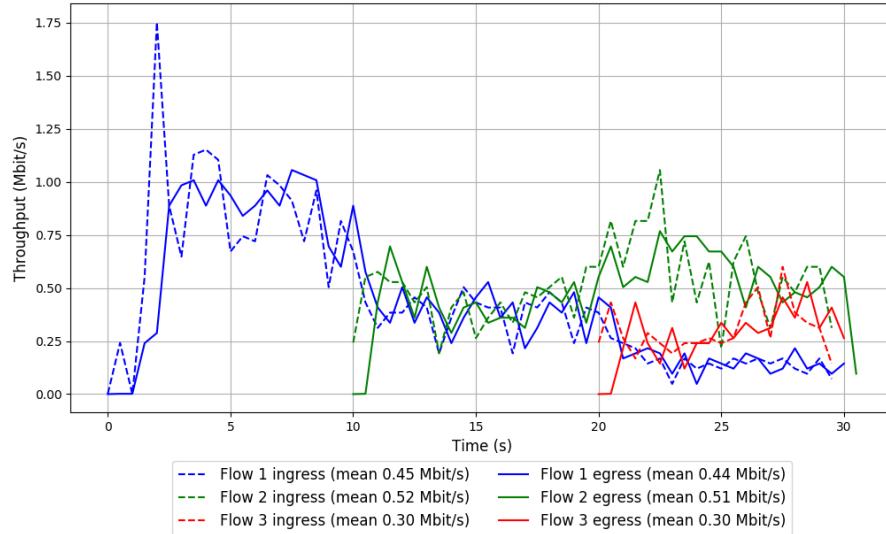


Run 3: Statistics of TCP Cubic

```
Start at: 2019-02-20 00:03:27
End at: 2019-02-20 00:03:57
Local clock offset: -13.305 ms
Remote clock offset: -4.394 ms

# Below is generated by plot.py at 2019-02-20 00:19:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 702.168 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 652.602 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 740.701 ms
Loss rate: 2.10%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 774.048 ms
Loss rate: 3.97%
```

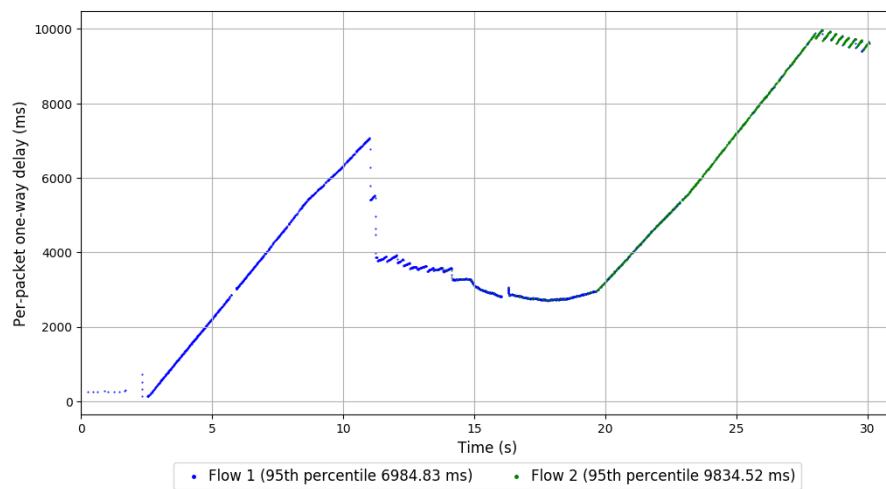
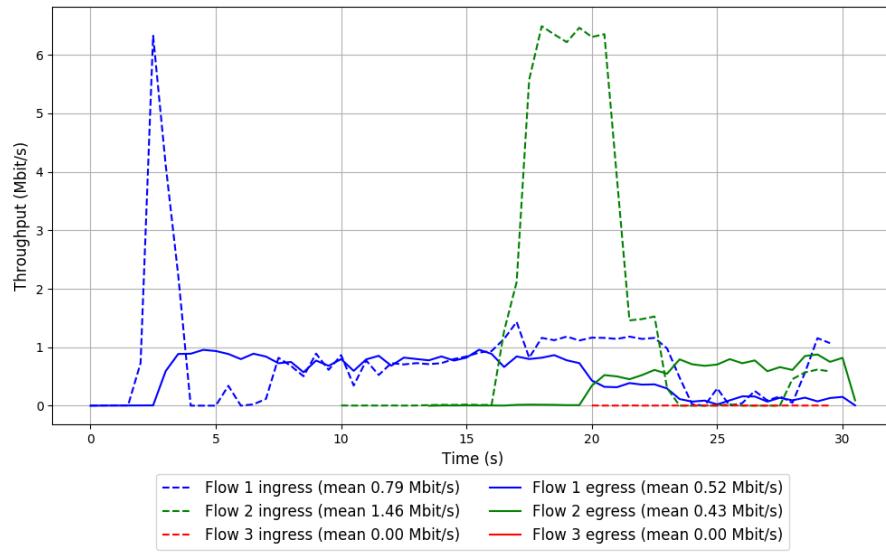
### Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-02-19 23:12:51  
End at: 2019-02-19 23:13:21  
Local clock offset: -13.475 ms  
Remote clock offset: -4.561 ms

Run 1: Report of FillP — Data Link

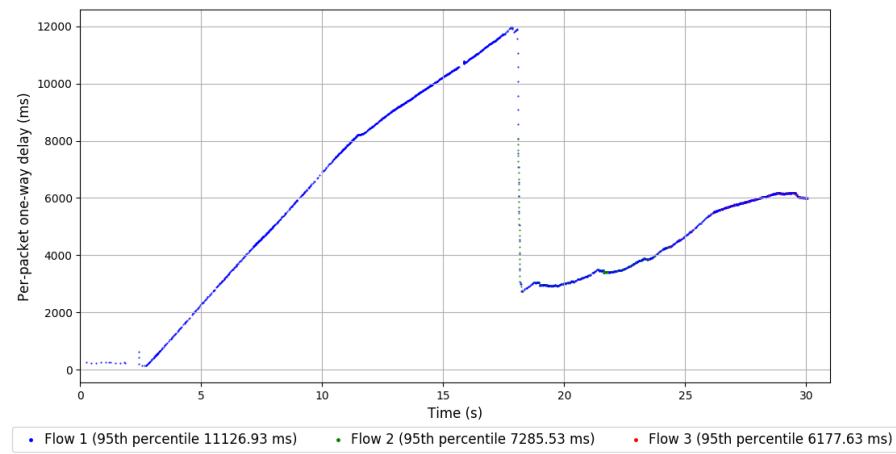
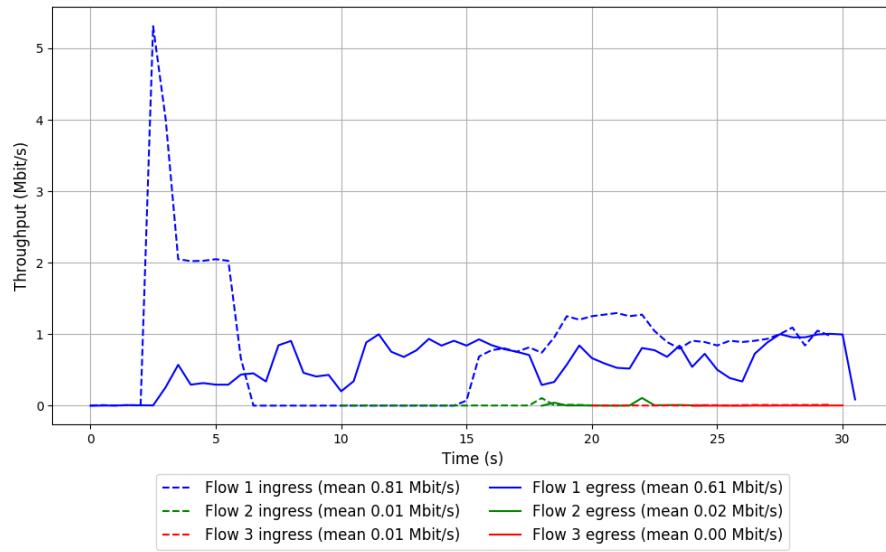


Run 2: Statistics of FillP

```
Start at: 2019-02-19 23:38:42
End at: 2019-02-19 23:39:12
Local clock offset: -13.315 ms
Remote clock offset: 0.849 ms

# Below is generated by plot.py at 2019-02-20 00:19:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 11068.566 ms
Loss rate: 25.76%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 11126.930 ms
Loss rate: 25.71%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 7285.529 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6177.631 ms
Loss rate: 79.01%
```

## Run 2: Report of FillP — Data Link

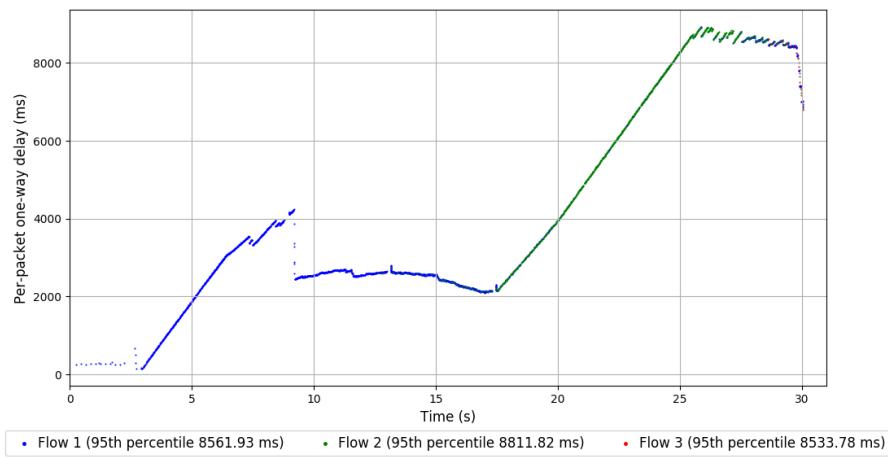
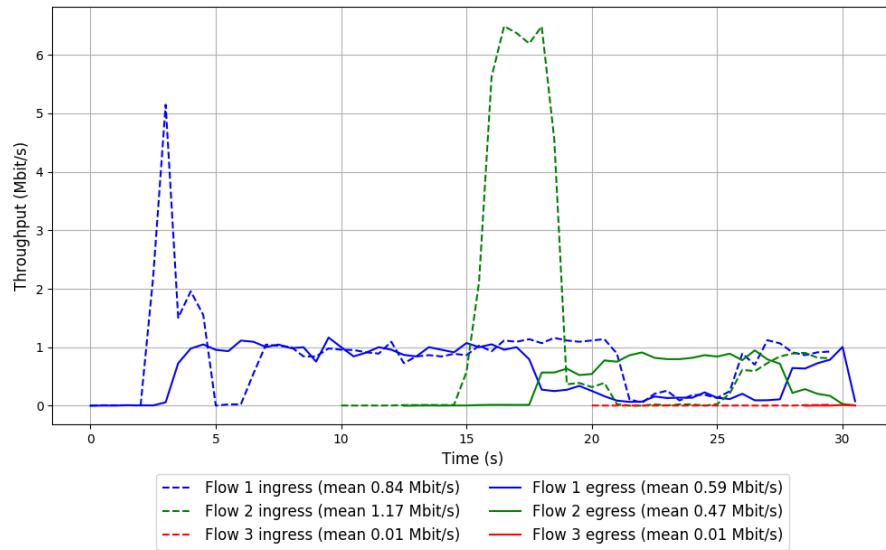


```
Run 3: Statistics of FillP
```

```
Start at: 2019-02-20 00:04:41
End at: 2019-02-20 00:05:11
Local clock offset: -13.371 ms
Remote clock offset: -1.763 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 8687.852 ms
Loss rate: 46.87%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 8561.935 ms
Loss rate: 29.91%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 8811.821 ms
Loss rate: 65.14%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 8533.781 ms
Loss rate: 75.88%
```

### Run 3: Report of FillP — Data Link

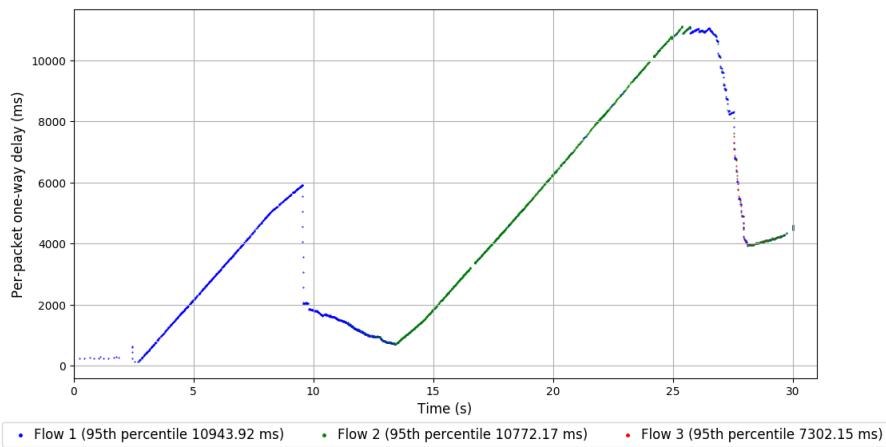
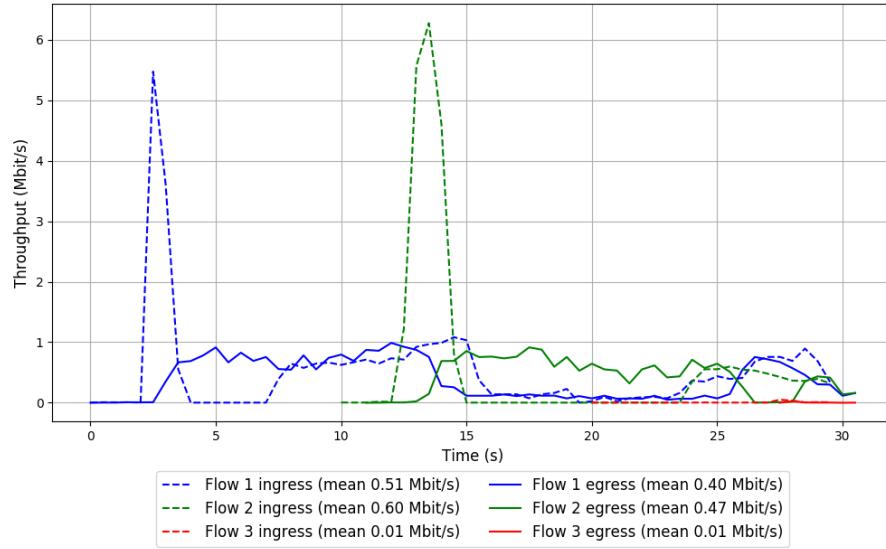


Run 1: Statistics of FillP-Sheep

```
Start at: 2019-02-19 23:06:42
End at: 2019-02-19 23:07:12
Local clock offset: -13.727 ms
Remote clock offset: 0.277 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 10917.923 ms
Loss rate: 24.89%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 10943.915 ms
Loss rate: 22.58%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 10772.170 ms
Loss rate: 27.48%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 7302.149 ms
Loss rate: 75.80%
```

## Run 1: Report of FillP-Sheep — Data Link

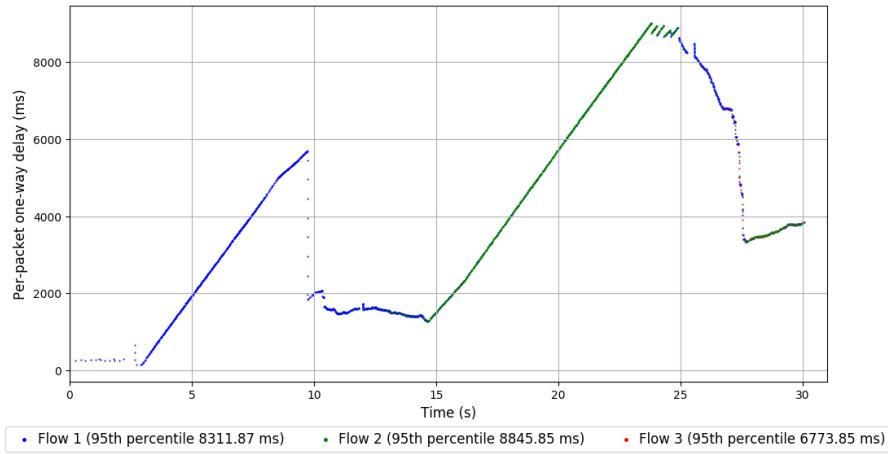
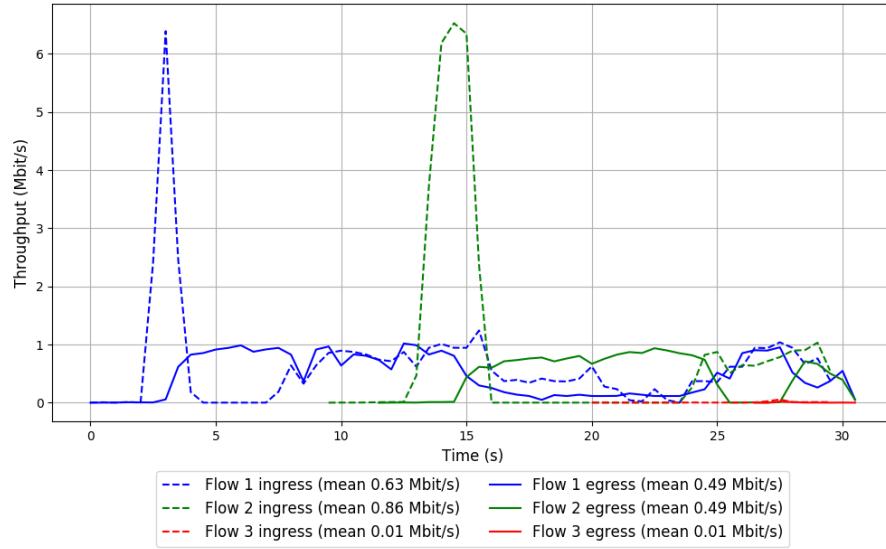


Run 2: Statistics of FillP-Sheep

```
Start at: 2019-02-19 23:32:33
End at: 2019-02-19 23:33:03
Local clock offset: -13.564 ms
Remote clock offset: -3.385 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 8727.860 ms
Loss rate: 34.23%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 8311.873 ms
Loss rate: 22.47%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 8845.848 ms
Loss rate: 46.88%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 6773.850 ms
Loss rate: 74.38%
```

Run 2: Report of FillP-Sheep — Data Link

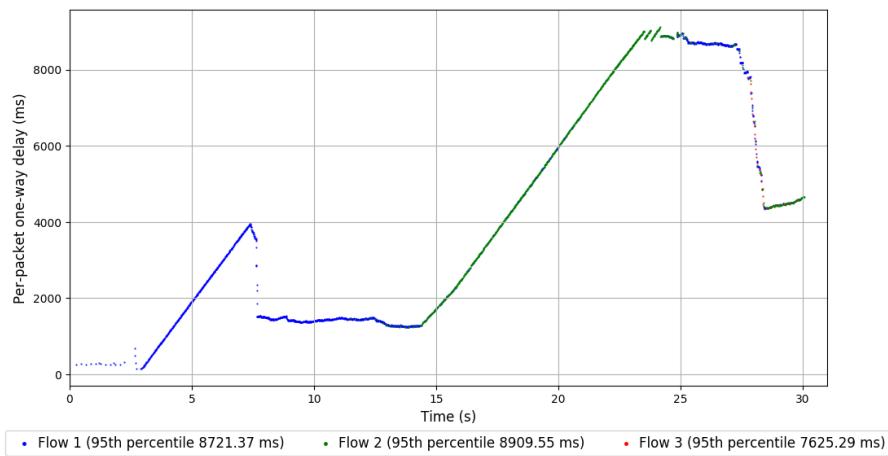
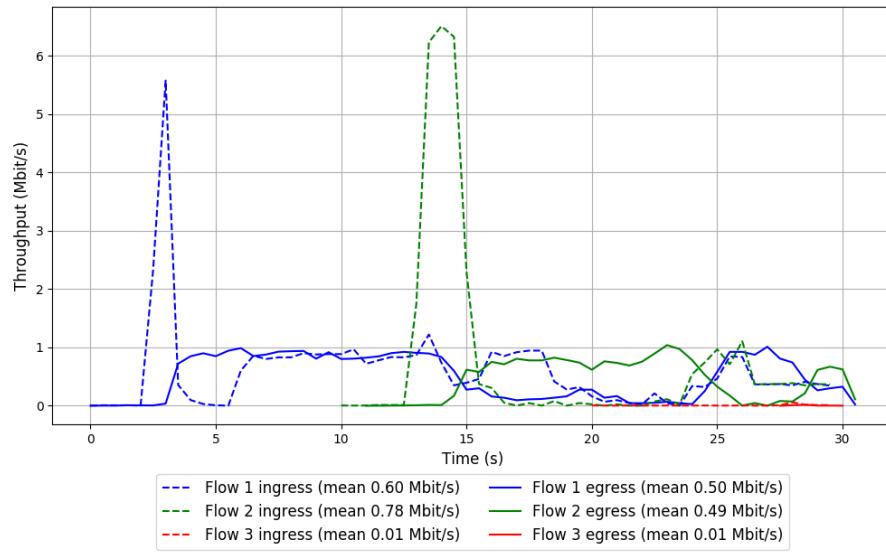


Run 3: Statistics of FillP-Sheep

```
Start at: 2019-02-19 23:58:32
End at: 2019-02-19 23:59:02
Local clock offset: -13.35 ms
Remote clock offset: 2.42 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 8867.264 ms
Loss rate: 27.67%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 8721.373 ms
Loss rate: 15.93%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 8909.547 ms
Loss rate: 40.94%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 7625.292 ms
Loss rate: 77.14%
```

### Run 3: Report of FillP-Sheep — Data Link

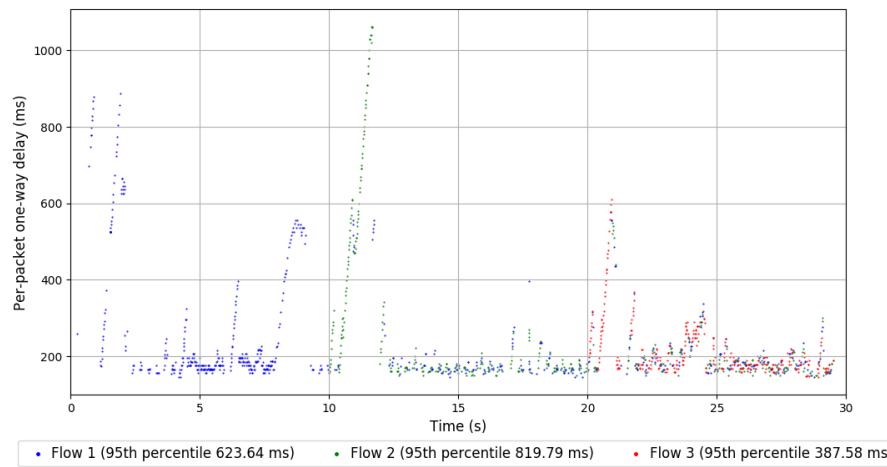
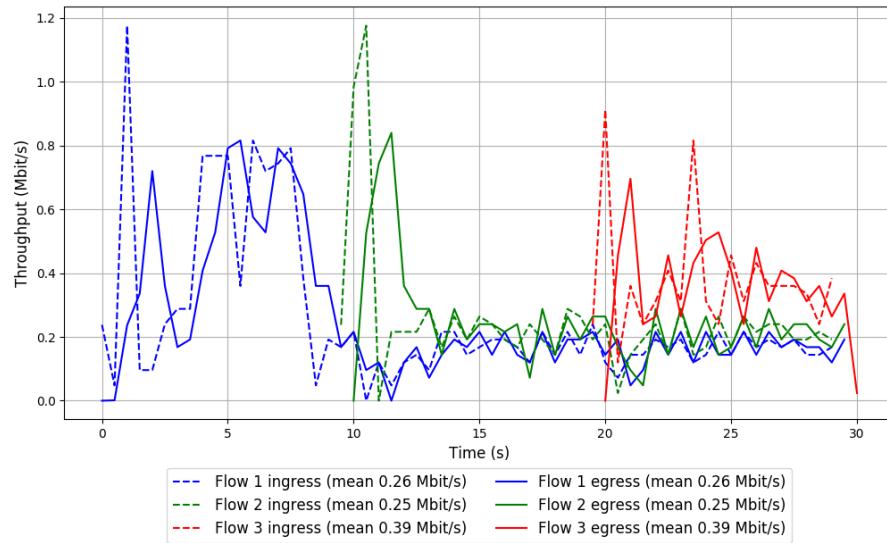


Run 1: Statistics of Indigo

```
Start at: 2019-02-19 23:23:57
End at: 2019-02-19 23:24:27
Local clock offset: -13.553 ms
Remote clock offset: -3.85 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 623.645 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 623.645 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 819.792 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 387.582 ms
Loss rate: 1.92%
```

Run 1: Report of Indigo — Data Link

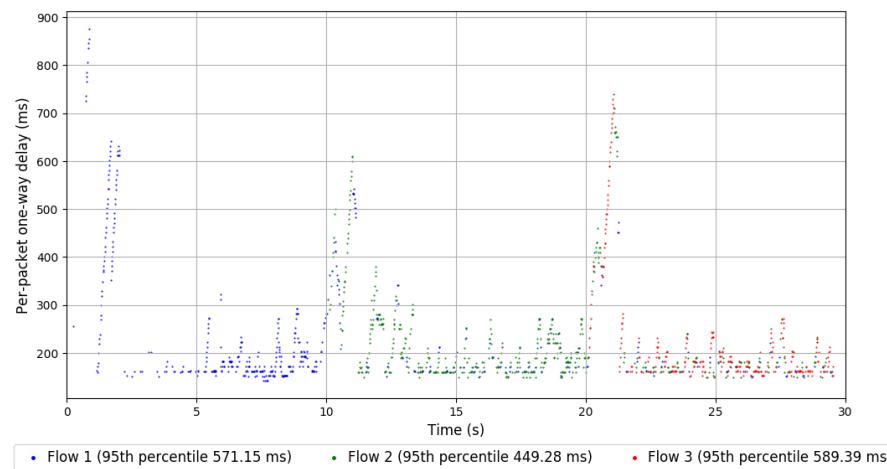
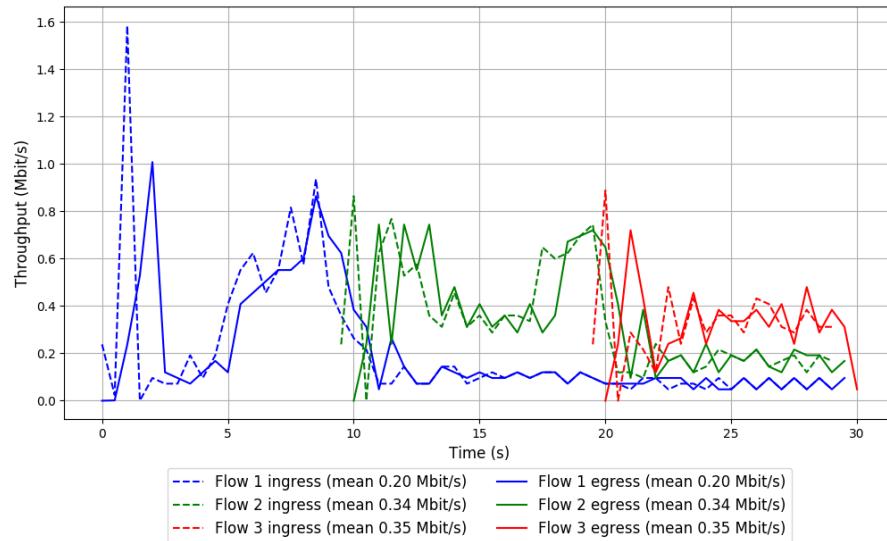


Run 2: Statistics of Indigo

```
Start at: 2019-02-19 23:49:51
End at: 2019-02-19 23:50:21
Local clock offset: -13.293 ms
Remote clock offset: -3.717 ms

# Below is generated by plot.py at 2019-02-20 00:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 541.271 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 571.146 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 449.281 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 589.391 ms
Loss rate: 0.36%
```

Run 2: Report of Indigo — Data Link

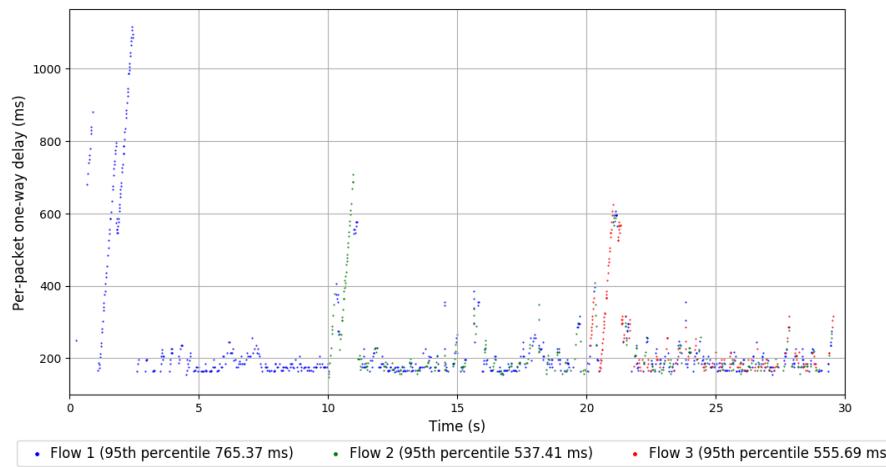
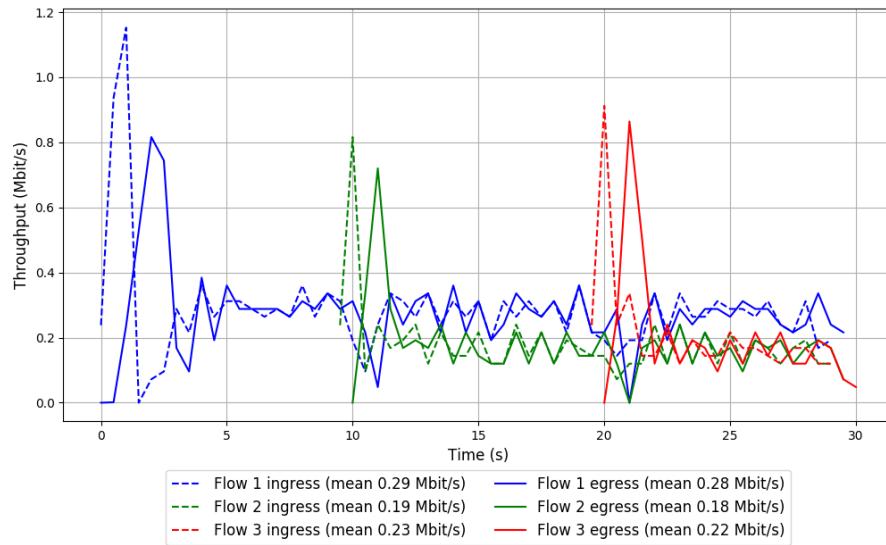


Run 3: Statistics of Indigo

```
Start at: 2019-02-20 00:15:49
End at: 2019-02-20 00:16:19
Local clock offset: -13.309 ms
Remote clock offset: -3.245 ms

# Below is generated by plot.py at 2019-02-20 00:19:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 655.208 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 765.367 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 537.414 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 555.687 ms
Loss rate: 1.14%
```

### Run 3: Report of Indigo — Data Link

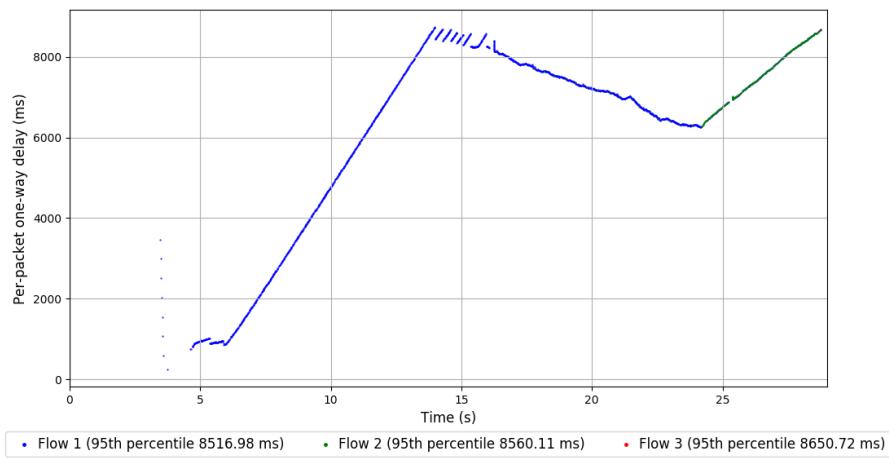
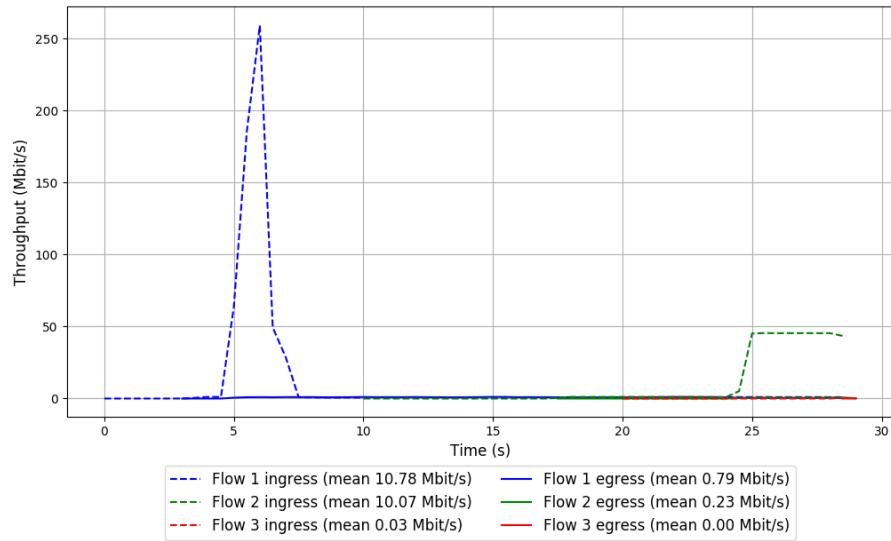


Run 1: Statistics of Indigo-MusesC3

```
Start at: 2019-02-19 23:20:15
End at: 2019-02-19 23:20:45
Local clock offset: -13.491 ms
Remote clock offset: -0.461 ms

# Below is generated by plot.py at 2019-02-20 00:19:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 8526.775 ms
Loss rate: 95.50%
-- Flow 1:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 8516.978 ms
Loss rate: 93.57%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 8560.108 ms
Loss rate: 98.66%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8650.719 ms
Loss rate: 99.79%
```

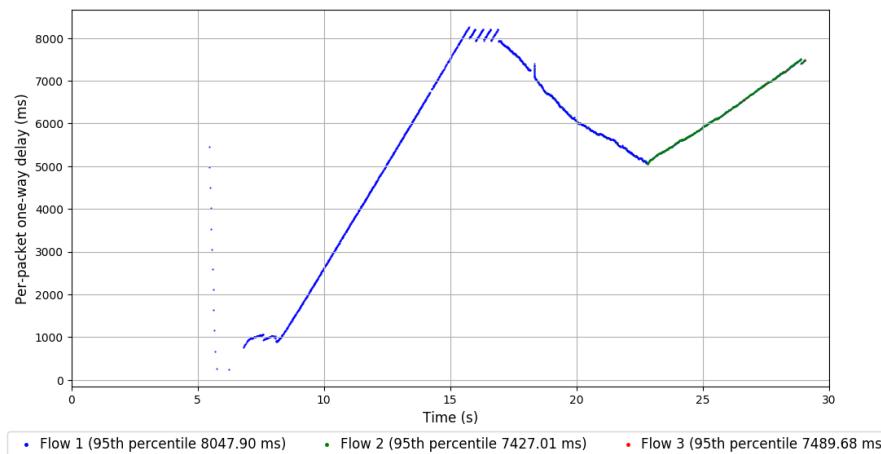
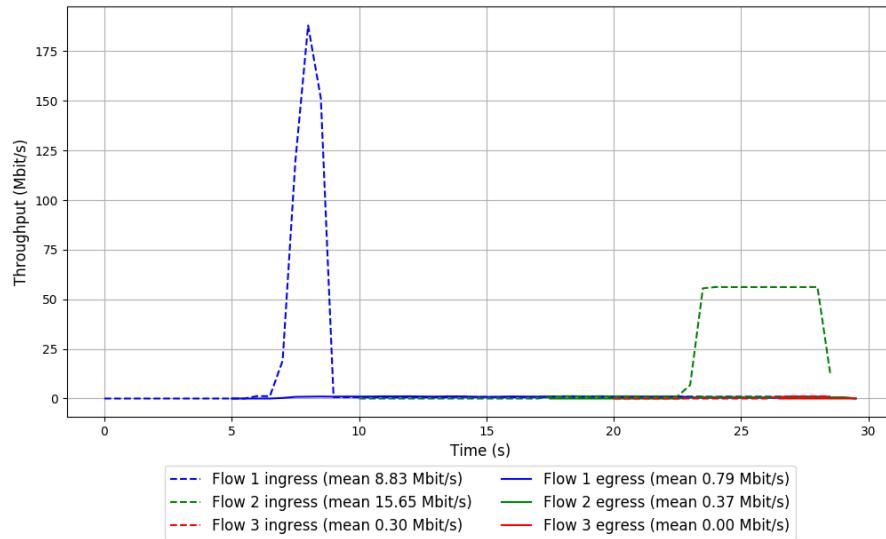
## Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-19 23:46:04  
End at: 2019-02-19 23:46:34  
Local clock offset: -13.268 ms  
Remote clock offset: 0.536 ms

## Run 2: Report of Indigo-MusesC3 — Data Link

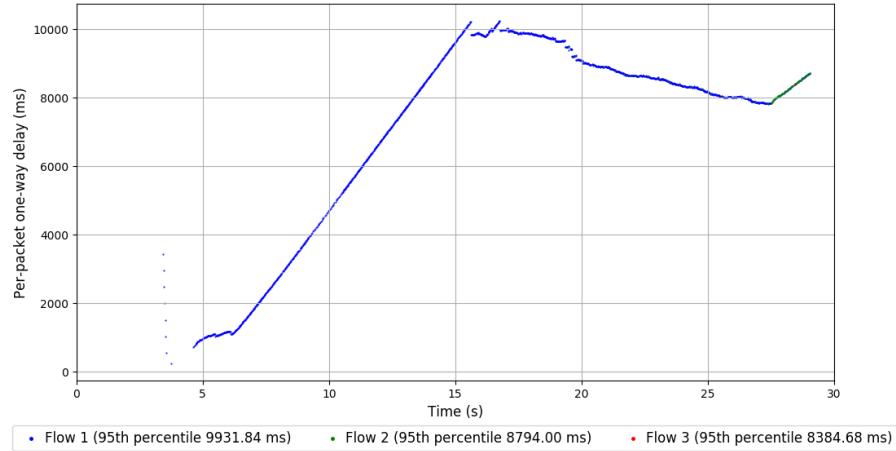
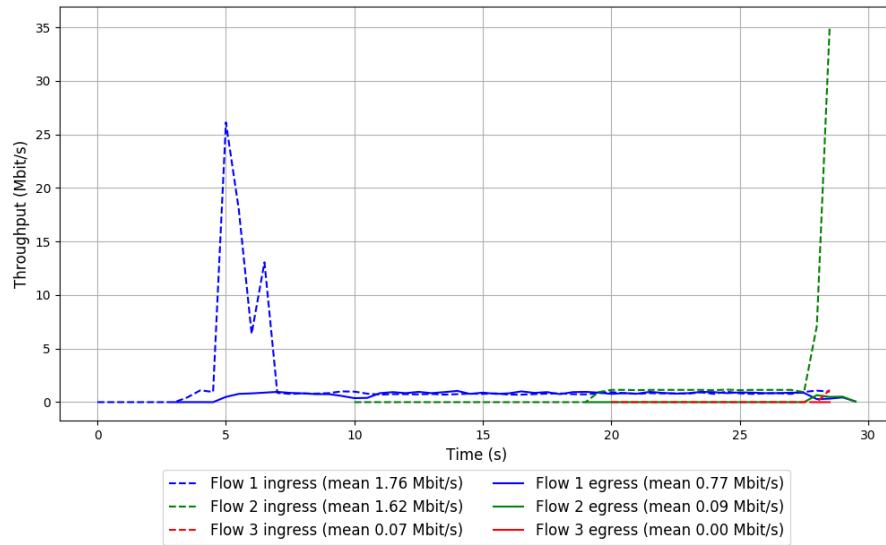


Run 3: Statistics of Indigo-MusesC3

```
Start at: 2019-02-20 00:12:08
End at: 2019-02-20 00:12:38
Local clock offset: -13.311 ms
Remote clock offset: -5.628 ms

# Below is generated by plot.py at 2019-02-20 00:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 9931.612 ms
Loss rate: 75.00%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 9931.840 ms
Loss rate: 61.40%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 8793.996 ms
Loss rate: 97.18%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8384.685 ms
Loss rate: 99.91%
```

### Run 3: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

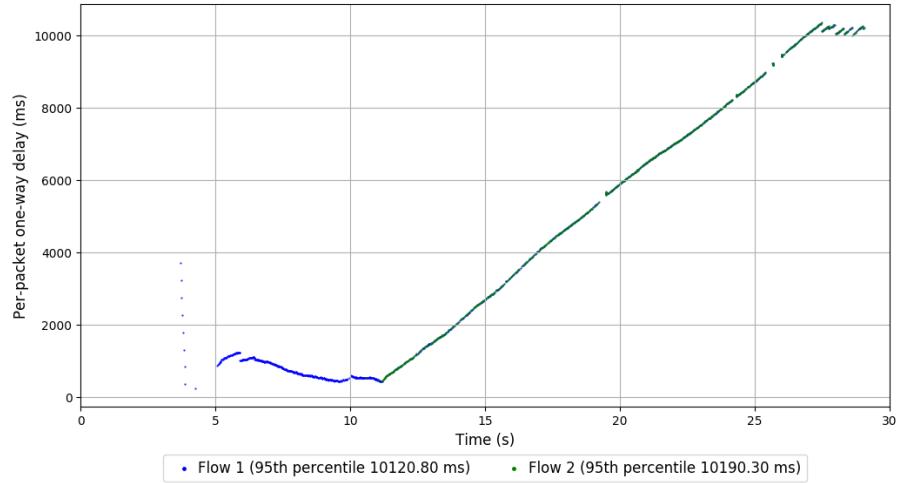
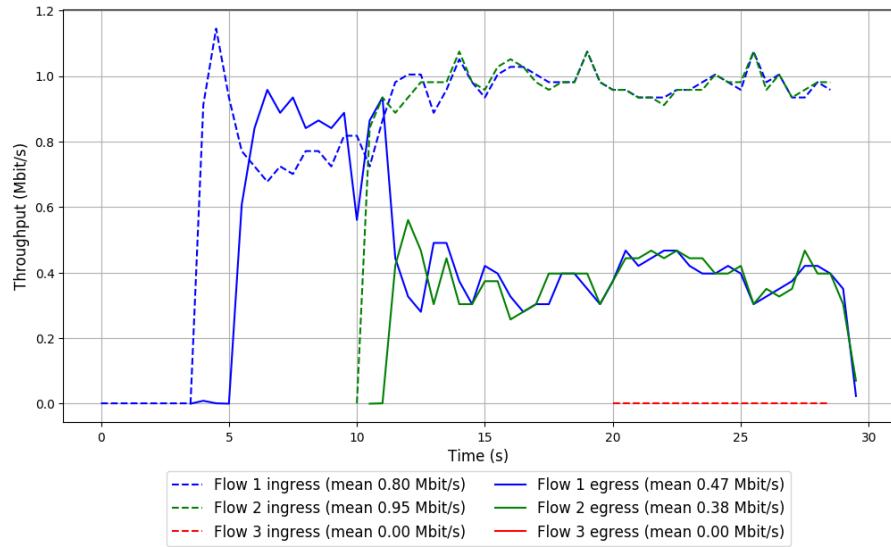
Start at: 2019-02-19 23:10:24

End at: 2019-02-19 23:10:54

Local clock offset: -13.53 ms

Remote clock offset: 1.055 ms

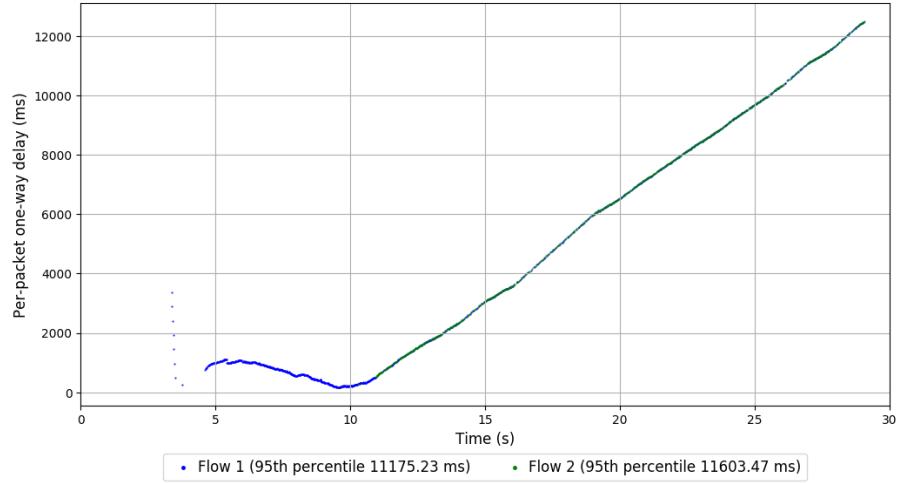
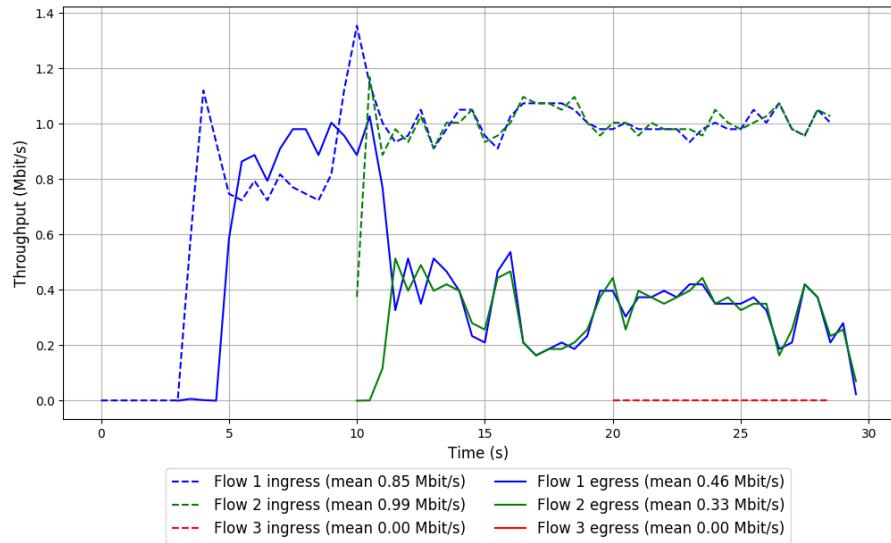
## Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-19 23:36:14  
End at: 2019-02-19 23:36:44  
Local clock offset: -13.375 ms  
Remote clock offset: 1.709 ms

## Run 2: Report of Indigo-MusesC5 — Data Link

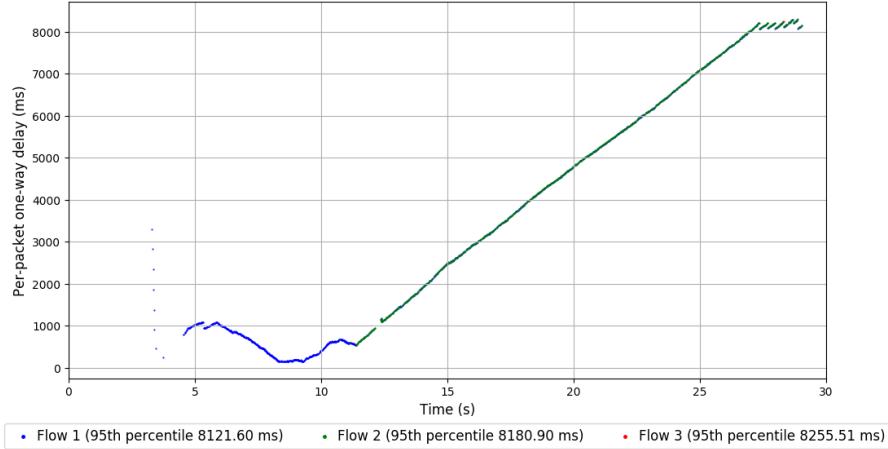
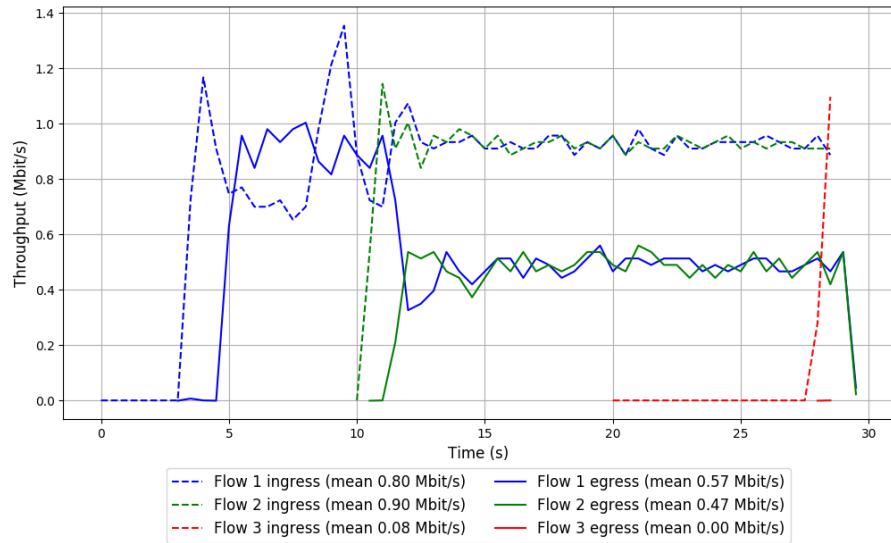


Run 3: Statistics of Indigo-MusesC5

```
Start at: 2019-02-20 00:02:13
End at: 2019-02-20 00:02:43
Local clock offset: -13.328 ms
Remote clock offset: -4.788 ms

# Below is generated by plot.py at 2019-02-20 00:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 8141.690 ms
Loss rate: 43.05%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 8121.599 ms
Loss rate: 36.84%
-- Flow 2:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 8180.900 ms
Loss rate: 49.14%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8255.514 ms
Loss rate: 99.92%
```

### Run 3: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

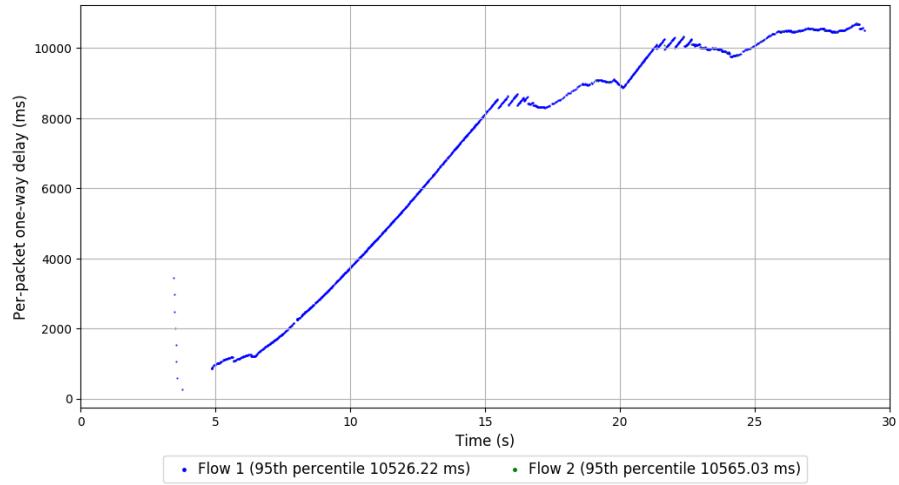
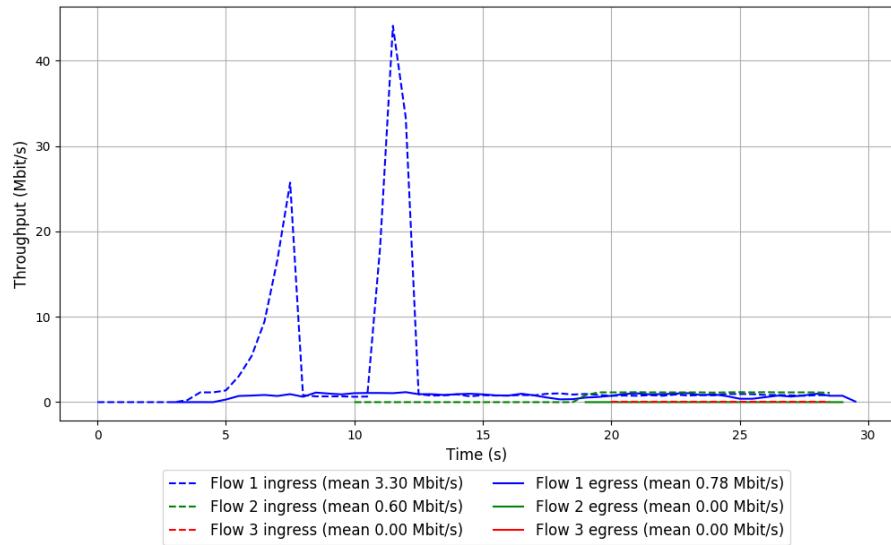
Start at: 2019-02-19 23:26:24

End at: 2019-02-19 23:26:54

Local clock offset: -13.586 ms

Remote clock offset: 0.431 ms

## Run 1: Report of Indigo-MusesD — Data Link

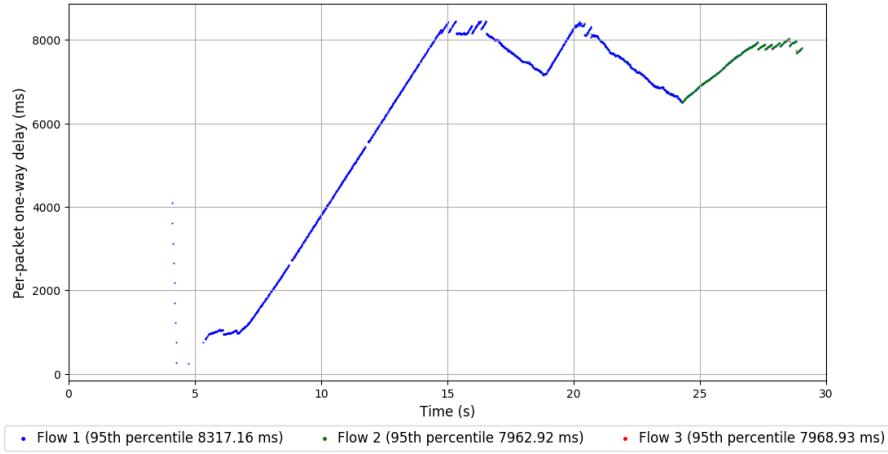
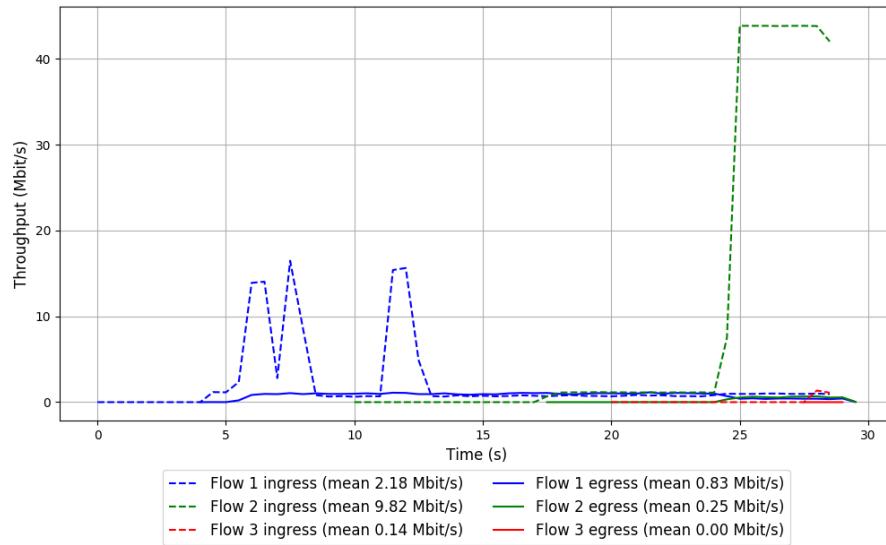


Run 2: Statistics of Indigo-MusesD

```
Start at: 2019-02-19 23:52:23
End at: 2019-02-19 23:52:53
Local clock offset: -13.288 ms
Remote clock offset: -2.819 ms

# Below is generated by plot.py at 2019-02-20 00:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 8296.938 ms
Loss rate: 90.60%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 8317.158 ms
Loss rate: 67.28%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 7962.922 ms
Loss rate: 98.46%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7968.934 ms
Loss rate: 99.87%
```

## Run 2: Report of Indigo-MusesD — Data Link

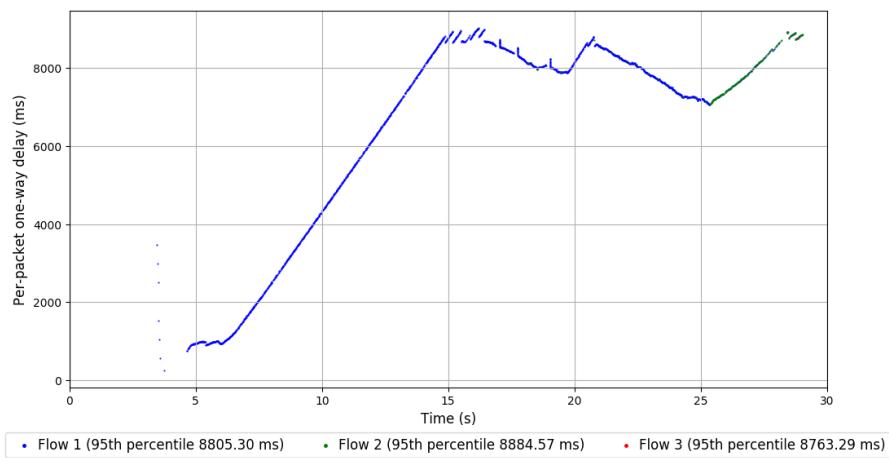
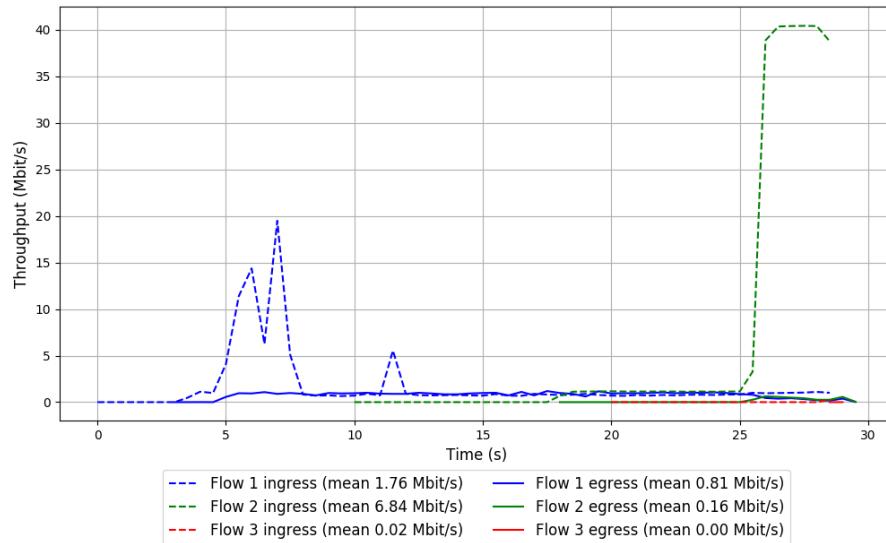


Run 3: Statistics of Indigo-MusesD

```
Start at: 2019-02-20 00:18:17
End at: 2019-02-20 00:18:47
Local clock offset: -13.322 ms
Remote clock offset: -5.908 ms

# Below is generated by plot.py at 2019-02-20 00:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 8823.206 ms
Loss rate: 87.57%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 8805.299 ms
Loss rate: 59.37%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 8884.568 ms
Loss rate: 98.65%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8763.293 ms
Loss rate: 99.60%
```

### Run 3: Report of Indigo-MusesD — Data Link

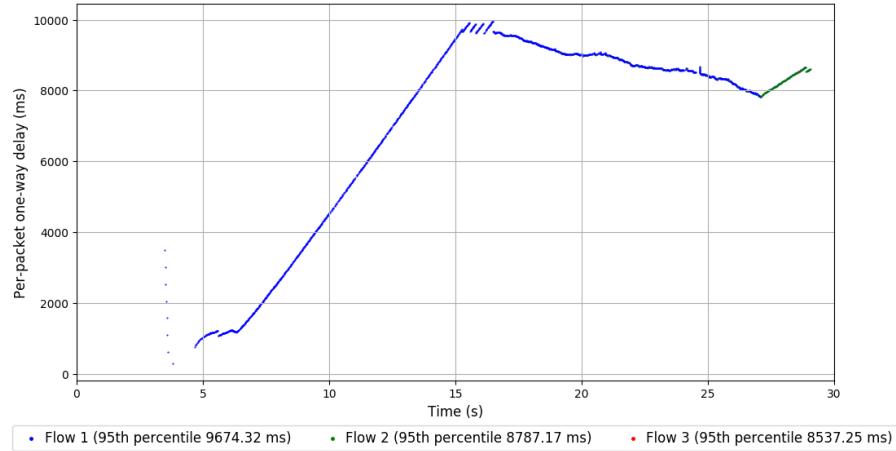
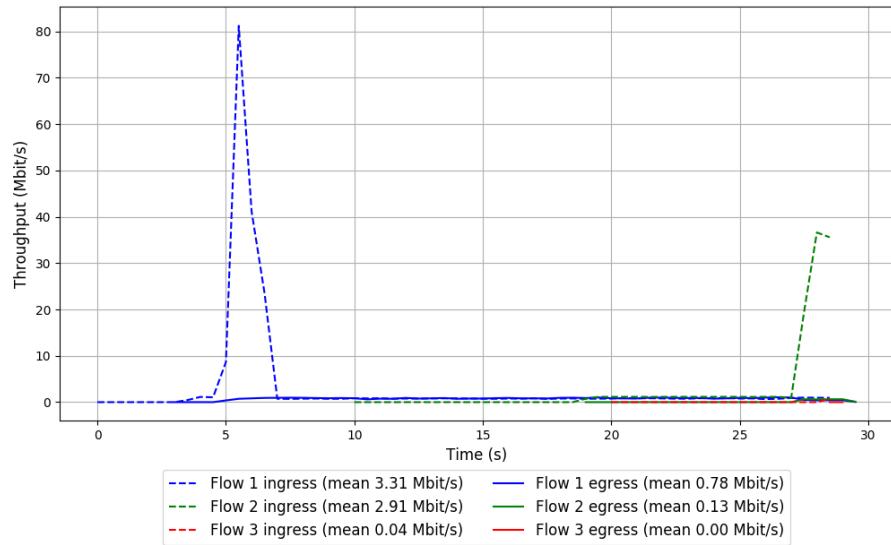


Run 1: Statistics of Indigo-MusesT

```
Start at: 2019-02-19 23:15:21
End at: 2019-02-19 23:15:51
Local clock offset: -13.534 ms
Remote clock offset: -3.959 ms

# Below is generated by plot.py at 2019-02-20 00:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 9660.383 ms
Loss rate: 85.93%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 9674.315 ms
Loss rate: 79.15%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 8787.168 ms
Loss rate: 97.63%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8537.252 ms
Loss rate: 99.85%
```

## Run 1: Report of Indigo-MusesT — Data Link

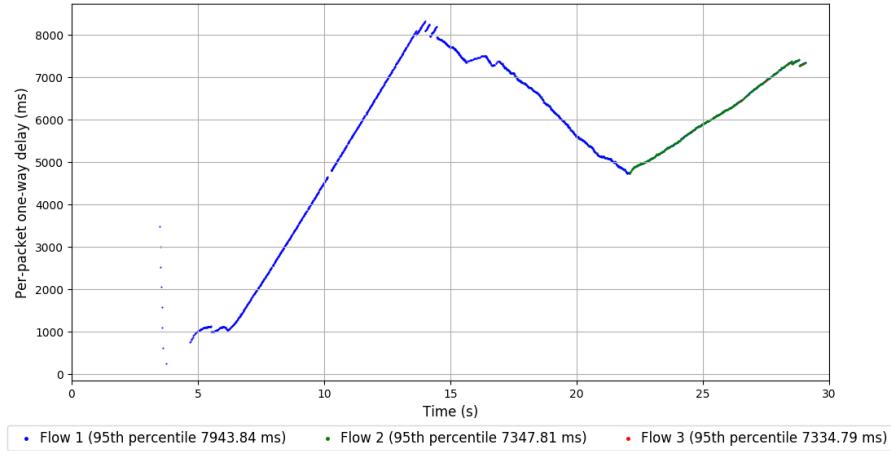
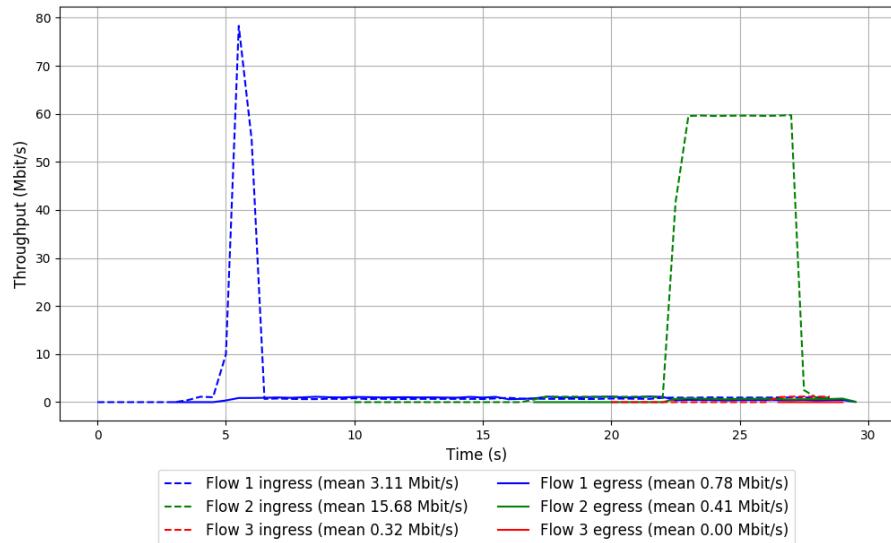


Run 2: Statistics of Indigo-MusesT

```
Start at: 2019-02-19 23:41:09
End at: 2019-02-19 23:41:39
Local clock offset: -13.286 ms
Remote clock offset: 1.124 ms

# Below is generated by plot.py at 2019-02-20 00:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 7869.651 ms
Loss rate: 93.67%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 7943.843 ms
Loss rate: 77.97%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 7347.805 ms
Loss rate: 98.38%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7334.792 ms
Loss rate: 99.92%
```

## Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

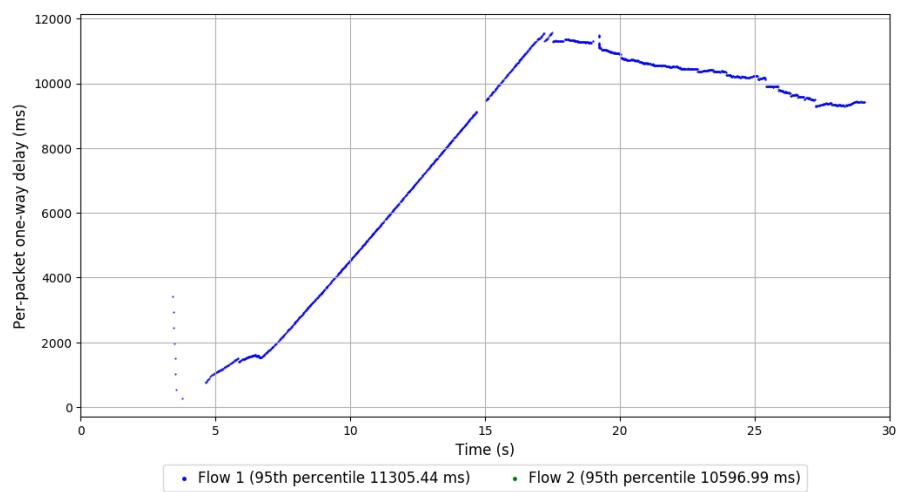
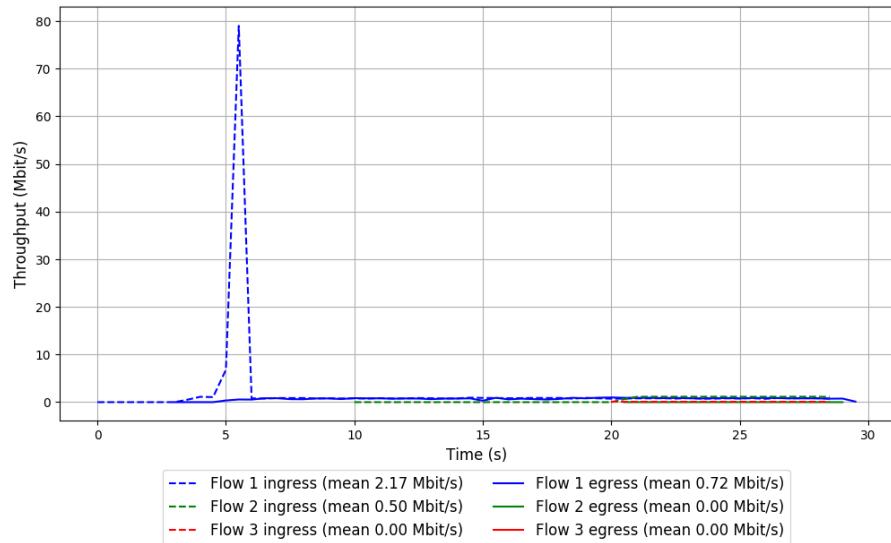
Start at: 2019-02-20 00:07:13

End at: 2019-02-20 00:07:43

Local clock offset: -13.378 ms

Remote clock offset: 1.791 ms

### Run 3: Report of Indigo-MusesT — Data Link

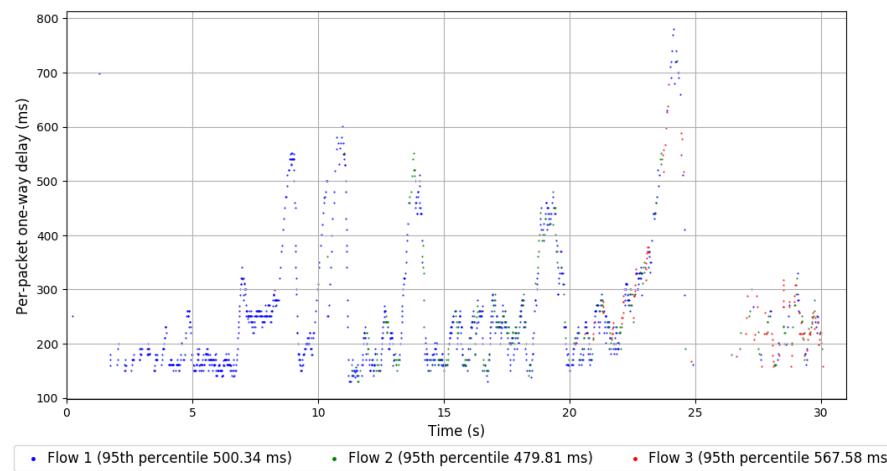
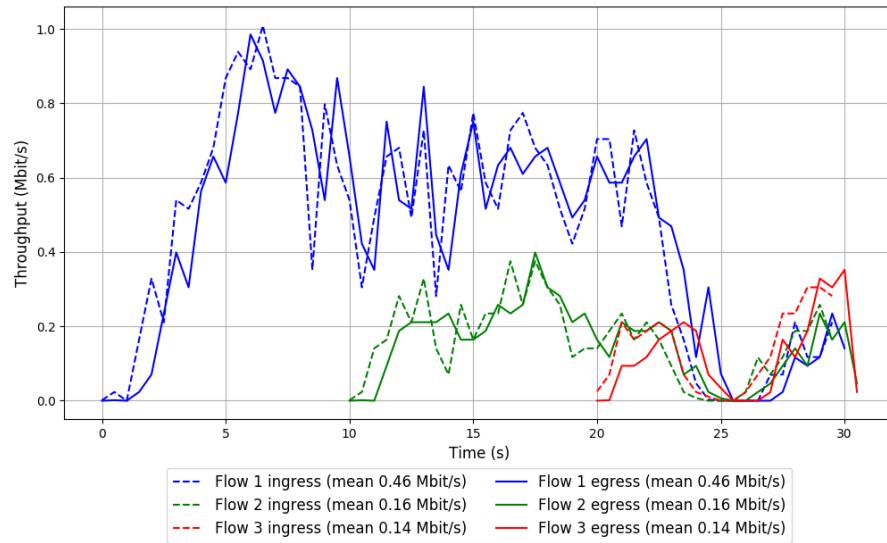


Run 1: Statistics of LEDBAT

```
Start at: 2019-02-19 23:16:34
End at: 2019-02-19 23:17:04
Local clock offset: -13.477 ms
Remote clock offset: -5.072 ms

# Below is generated by plot.py at 2019-02-20 00:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 509.808 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 500.344 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 479.814 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 567.579 ms
Loss rate: 2.58%
```

## Run 1: Report of LEDBAT — Data Link

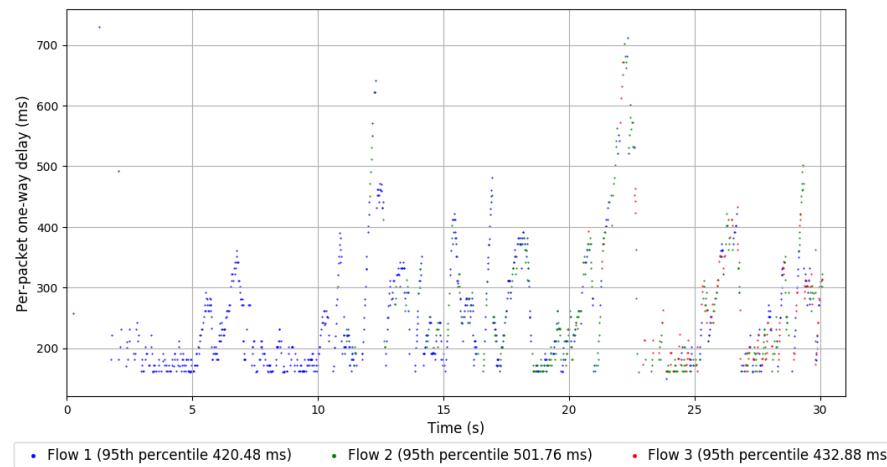
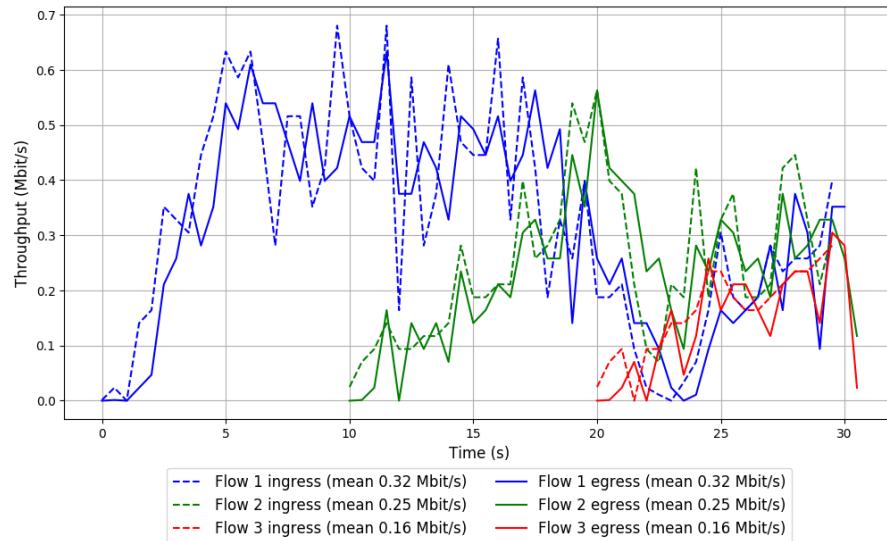


Run 2: Statistics of LEDBAT

```
Start at: 2019-02-19 23:42:23
End at: 2019-02-19 23:42:53
Local clock offset: -13.298 ms
Remote clock offset: 1.749 ms

# Below is generated by plot.py at 2019-02-20 00:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 450.978 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 420.482 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 501.759 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 432.879 ms
Loss rate: 4.38%
```

## Run 2: Report of LEDBAT — Data Link

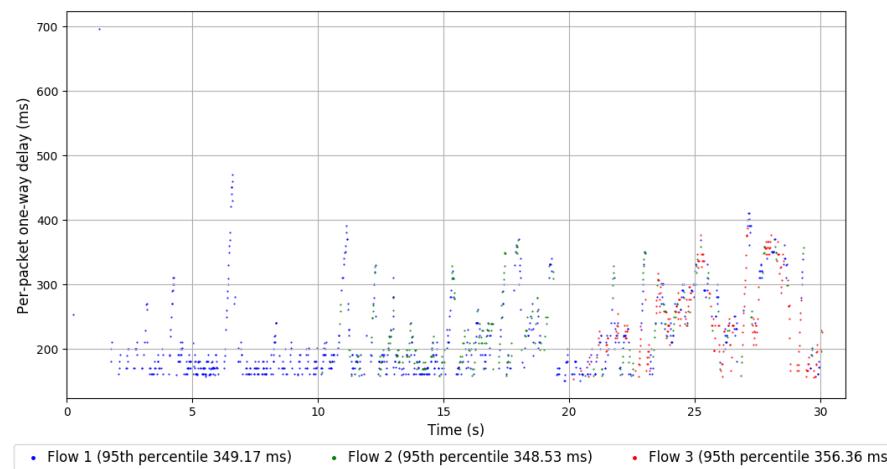
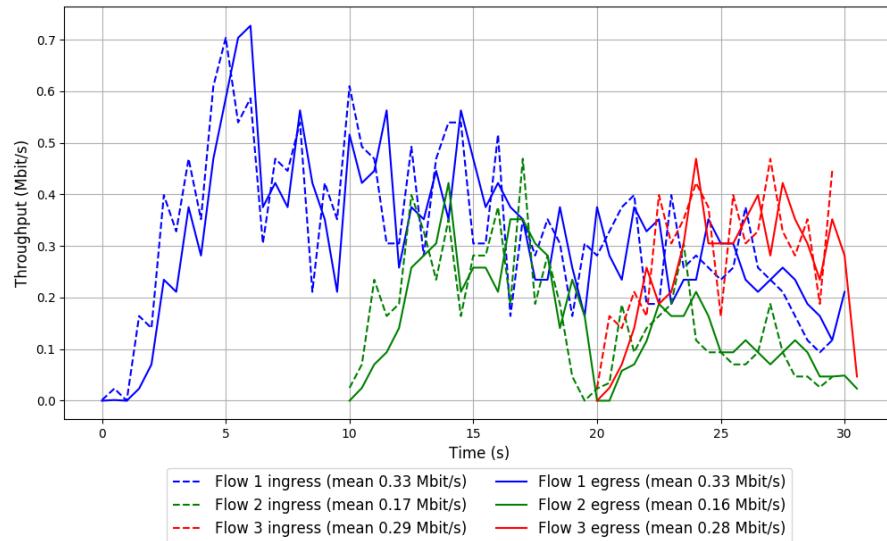


Run 3: Statistics of LEDBAT

```
Start at: 2019-02-20 00:08:26
End at: 2019-02-20 00:08:57
Local clock offset: -13.307 ms
Remote clock offset: -3.871 ms

# Below is generated by plot.py at 2019-02-20 00:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 349.733 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 349.169 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 348.530 ms
Loss rate: 2.14%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 356.360 ms
Loss rate: 3.63%
```

### Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

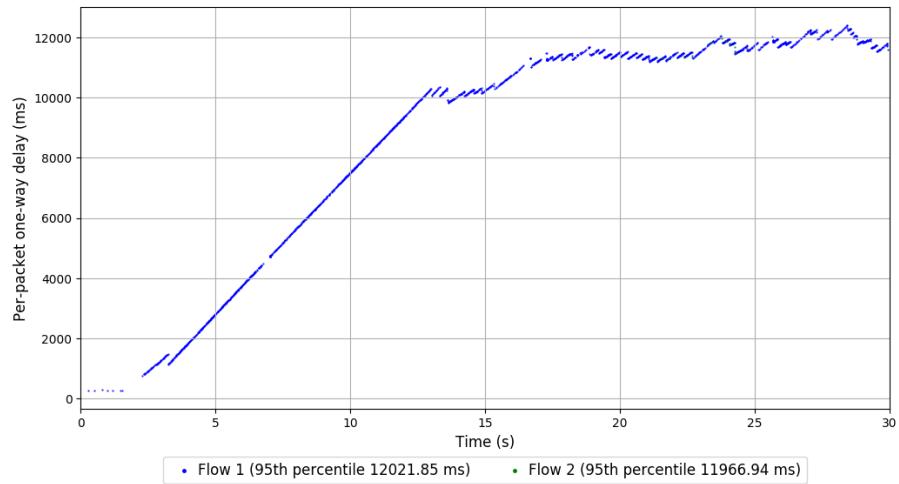
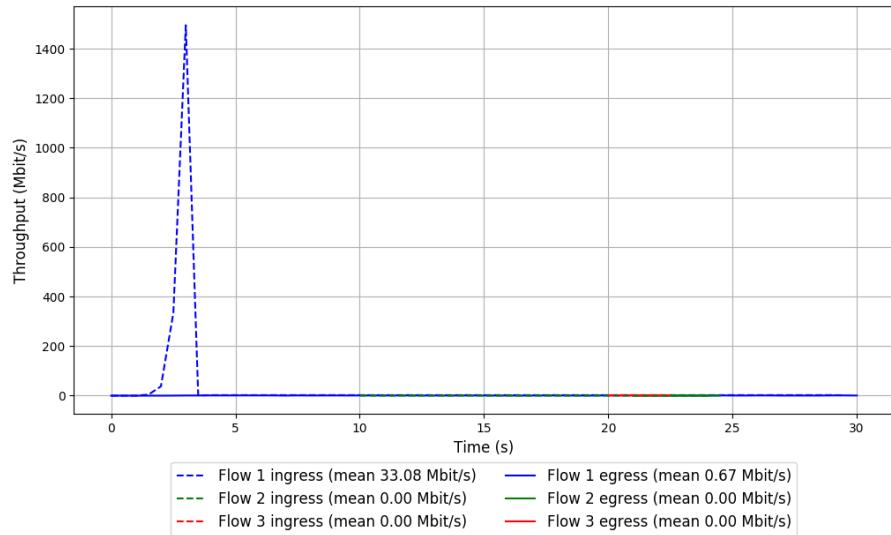
Start at: 2019-02-19 23:21:29

End at: 2019-02-19 23:21:59

Local clock offset: -13.515 ms

Remote clock offset: -1.196 ms

## Run 1: Report of PCC-Allegro — Data Link

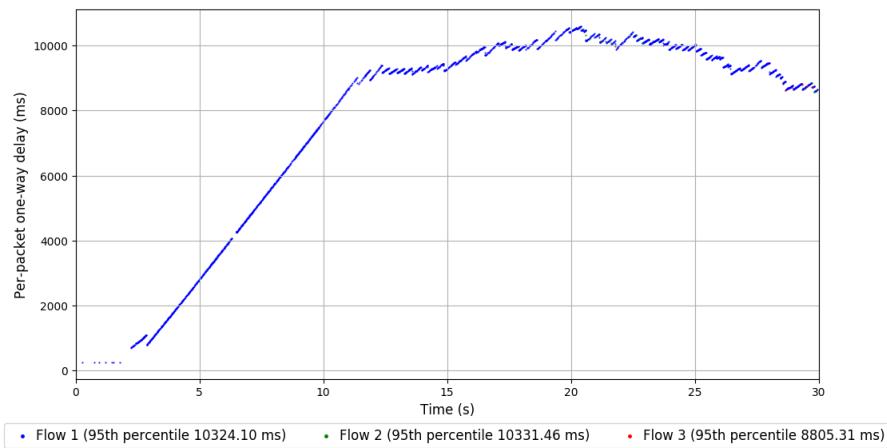
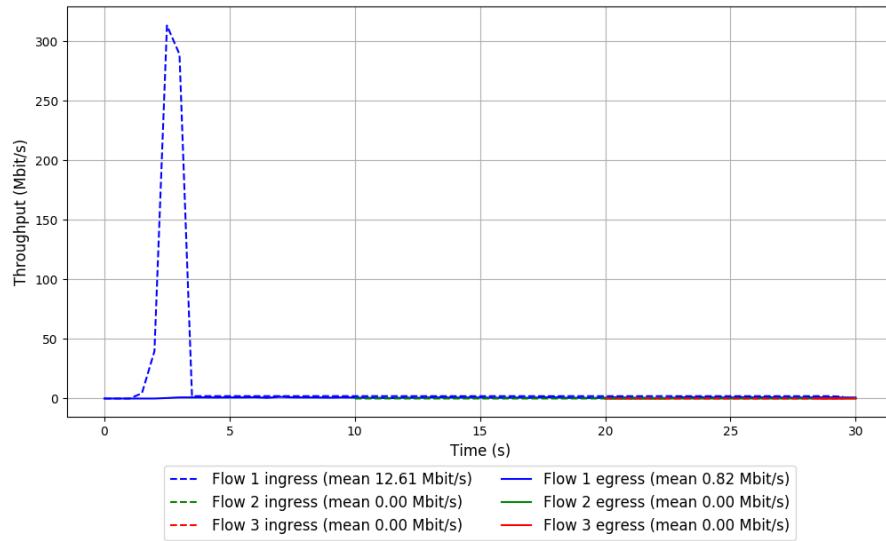


Run 2: Statistics of PCC-Allegro

```
Start at: 2019-02-19 23:47:18
End at: 2019-02-19 23:47:48
Local clock offset: -13.273 ms
Remote clock offset: -4.137 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 10329.192 ms
Loss rate: 93.52%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 10324.102 ms
Loss rate: 93.52%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10331.458 ms
Loss rate: 22.41%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8805.306 ms
Loss rate: 70.37%
```

## Run 2: Report of PCC-Allegro — Data Link

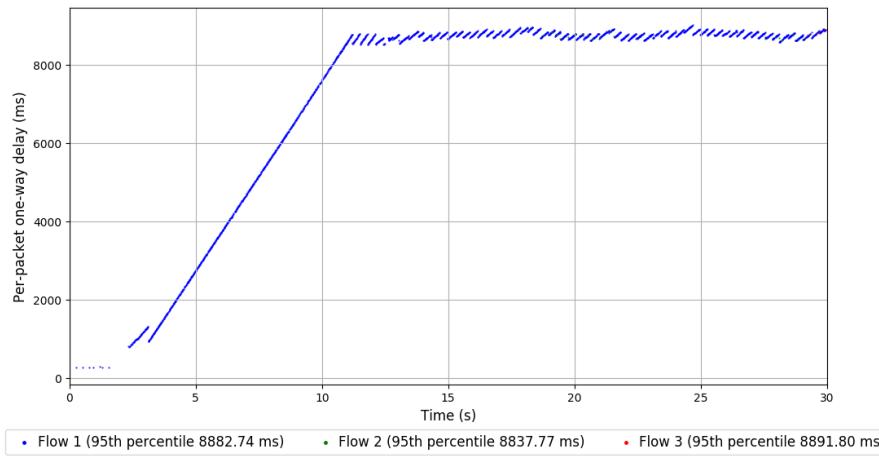
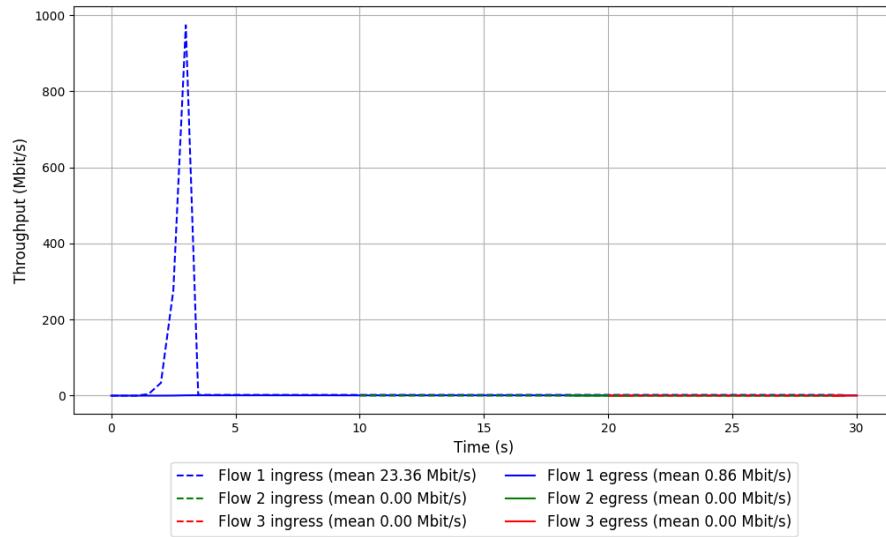


Run 3: Statistics of PCC-Allegro

```
Start at: 2019-02-20 00:13:21
End at: 2019-02-20 00:13:51
Local clock offset: -13.311 ms
Remote clock offset: 0.759 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 8882.739 ms
Loss rate: 96.34%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 8882.739 ms
Loss rate: 96.34%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8837.773 ms
Loss rate: 5.60%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8891.804 ms
Loss rate: 79.22%
```

### Run 3: Report of PCC-Allegro — Data Link

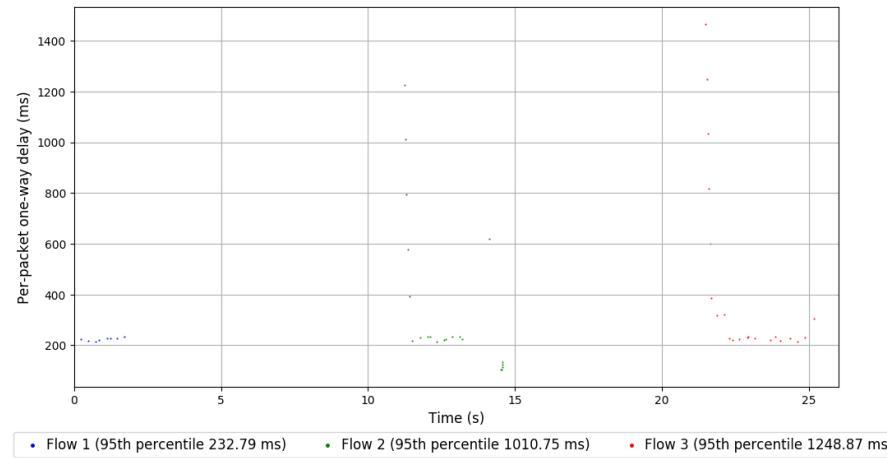
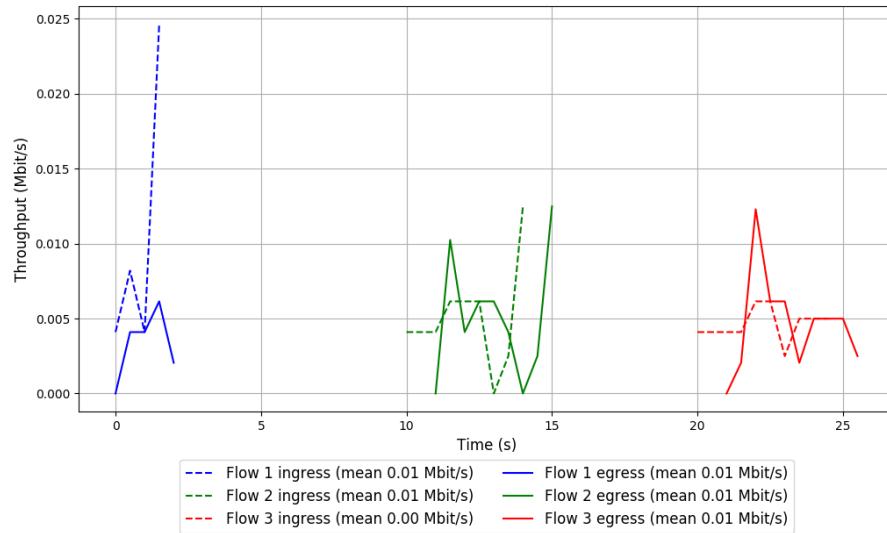


Run 1: Statistics of PCC-Expr

```
Start at: 2019-02-19 23:03:01
End at: 2019-02-19 23:03:31
Local clock offset: -13.899 ms
Remote clock offset: -3.938 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1223.948 ms
Loss rate: 18.51%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 232.791 ms
Loss rate: 60.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1010.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1248.873 ms
Loss rate: 0.00%
```

## Run 1: Report of PCC-Expr — Data Link

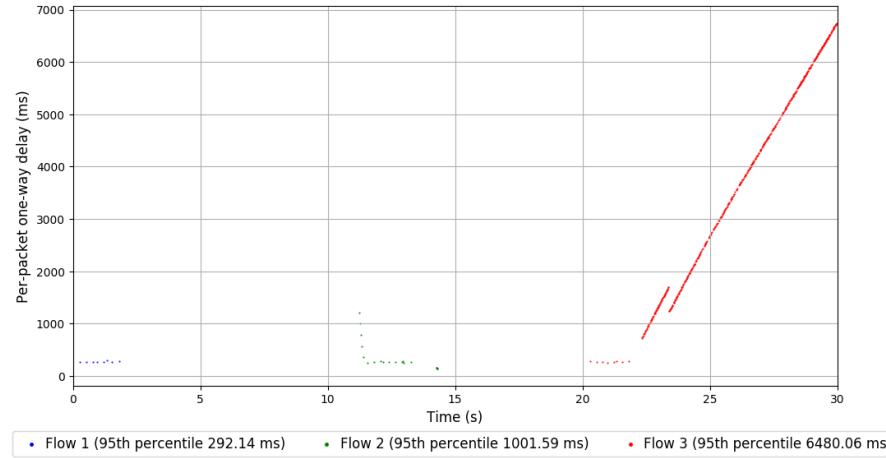
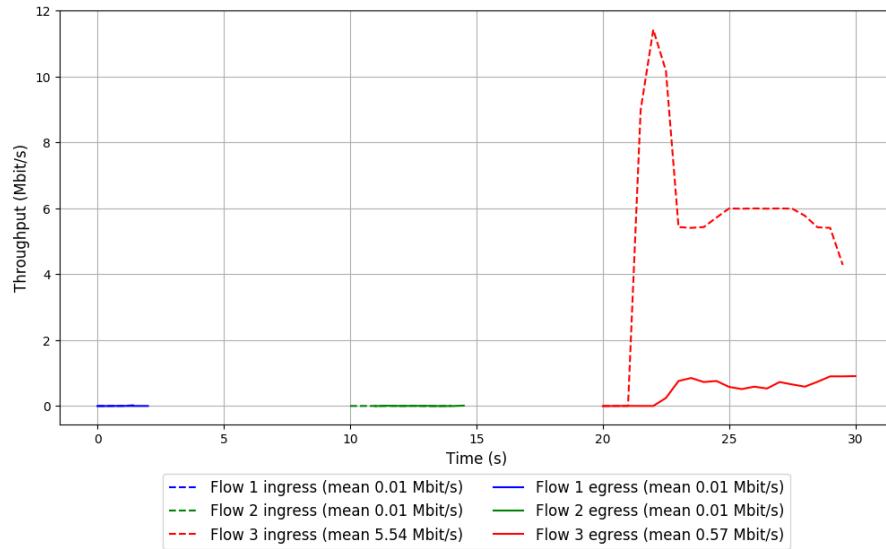


Run 2: Statistics of PCC-Expr

```
Start at: 2019-02-19 23:28:52
End at: 2019-02-19 23:29:22
Local clock offset: -13.637 ms
Remote clock offset: -2.553 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 6472.149 ms
Loss rate: 89.89%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 292.142 ms
Loss rate: 60.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1001.587 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 6480.058 ms
Loss rate: 89.94%
```

## Run 2: Report of PCC-Expr — Data Link

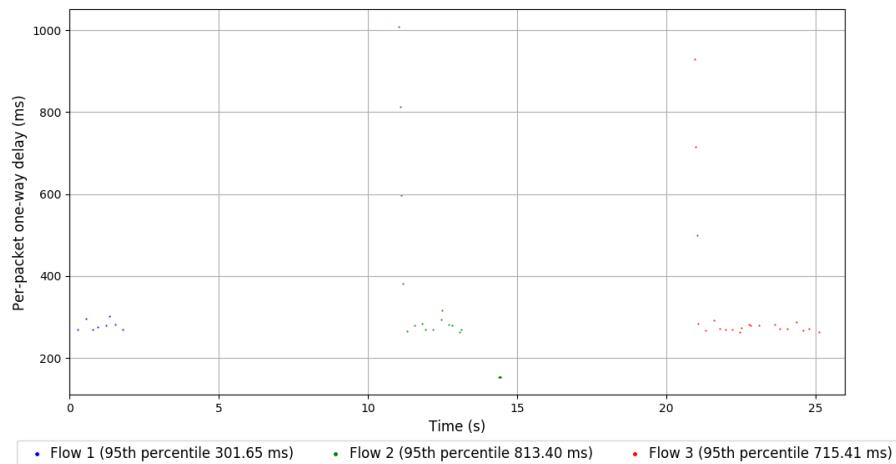
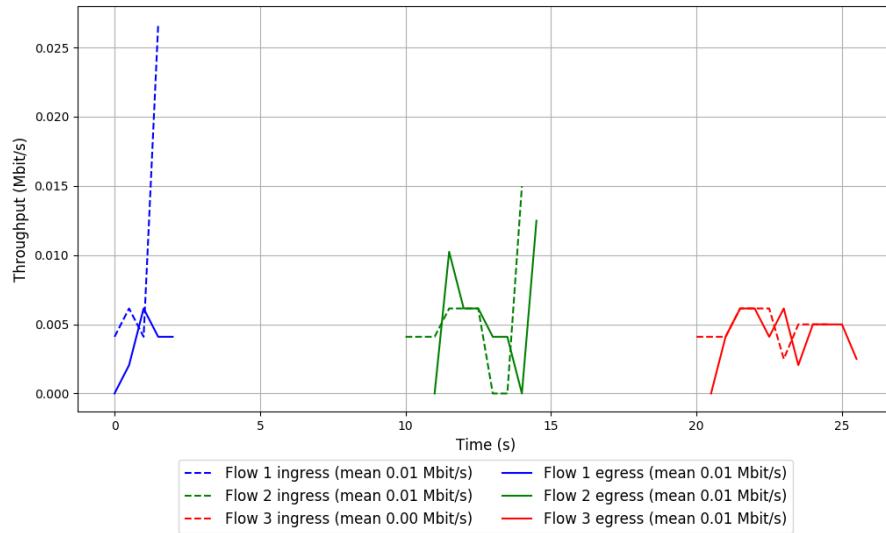


Run 3: Statistics of PCC-Expr

```
Start at: 2019-02-19 23:54:51
End at: 2019-02-19 23:55:21
Local clock offset: -13.384 ms
Remote clock offset: 1.747 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 813.405 ms
Loss rate: 21.59%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 301.649 ms
Loss rate: 60.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 813.405 ms
Loss rate: 5.46%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 715.408 ms
Loss rate: 4.25%
```

Run 3: Report of PCC-Expr — Data Link

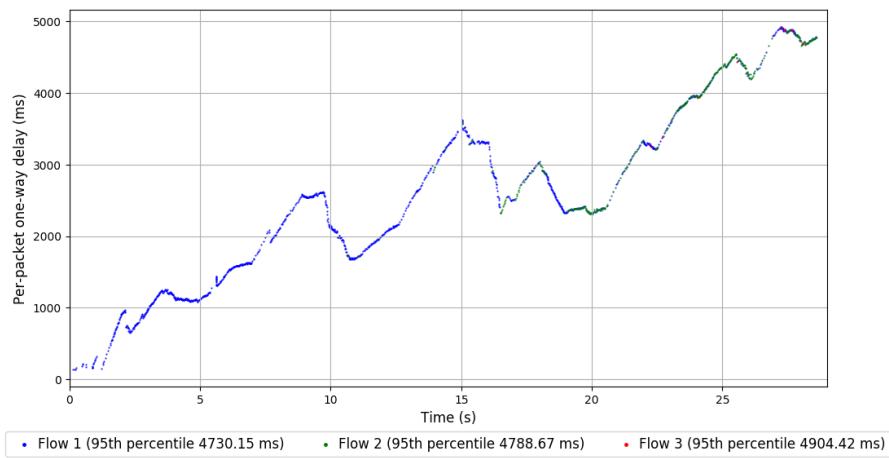
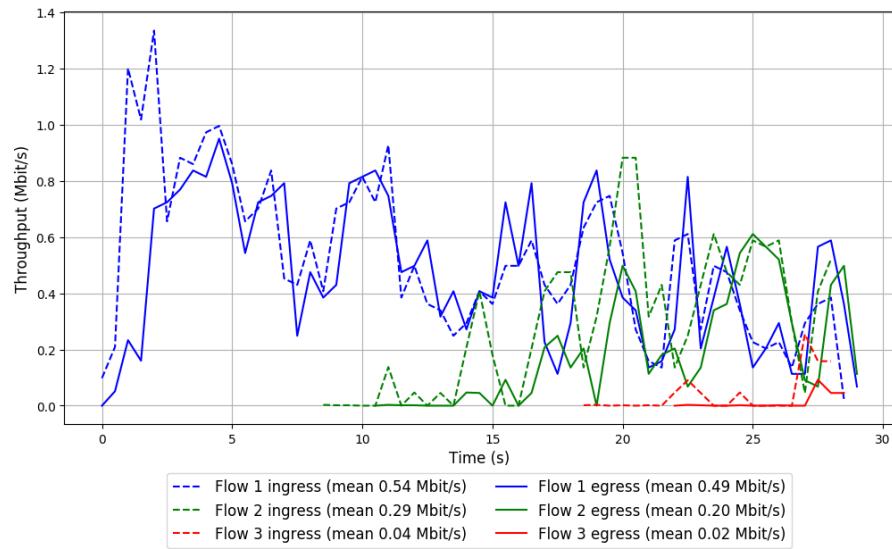


Run 1: Statistics of QUIC Cubic

```
Start at: 2019-02-19 23:22:43
End at: 2019-02-19 23:23:13
Local clock offset: -13.532 ms
Remote clock offset: -5.088 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 4775.476 ms
Loss rate: 17.75%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 4730.154 ms
Loss rate: 9.46%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 4788.674 ms
Loss rate: 35.73%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 4904.416 ms
Loss rate: 76.48%
```

## Run 1: Report of QUIC Cubic — Data Link

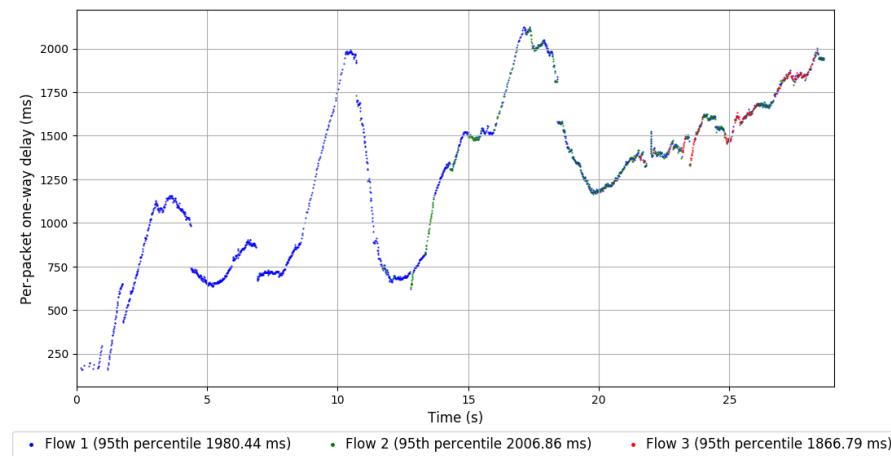
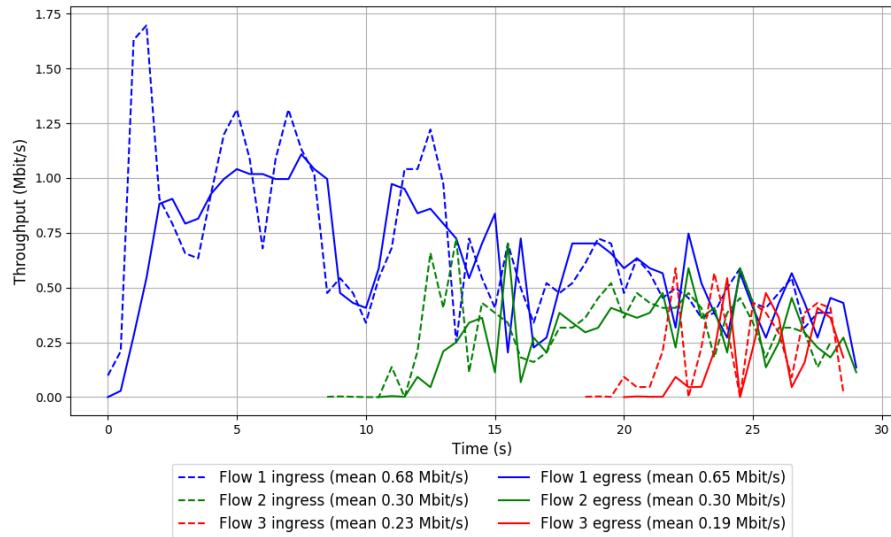


Run 2: Statistics of QUIC Cubic

```
Start at: 2019-02-19 23:48:37
End at: 2019-02-19 23:49:07
Local clock offset: -13.271 ms
Remote clock offset: 1.109 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 1980.666 ms
Loss rate: 7.63%
-- Flow 1:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 1980.444 ms
Loss rate: 4.69%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 2006.856 ms
Loss rate: 8.48%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 1866.794 ms
Loss rate: 30.40%
```

## Run 2: Report of QUIC Cubic — Data Link

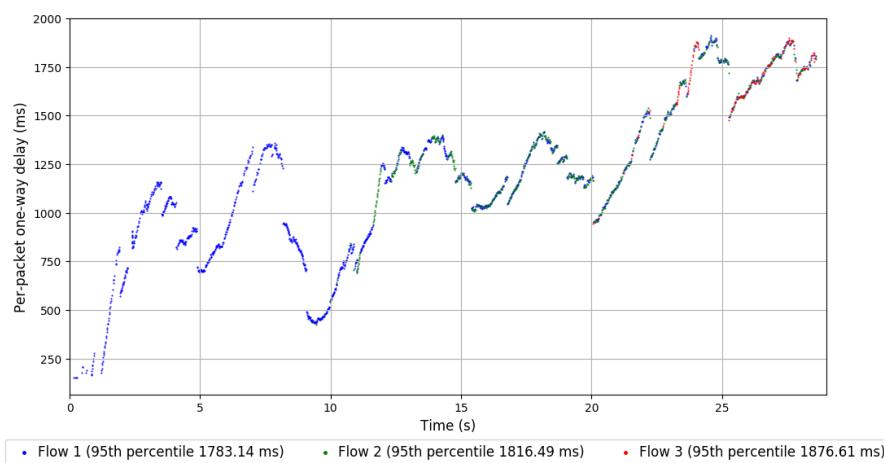
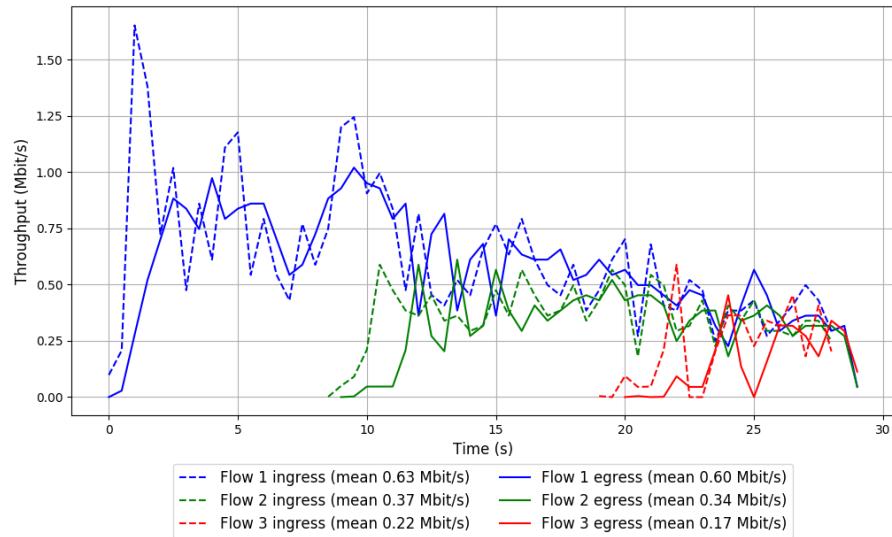


Run 3: Statistics of QUIC Cubic

```
Start at: 2019-02-20 00:14:36
End at: 2019-02-20 00:15:06
Local clock offset: -13.372 ms
Remote clock offset: 0.496 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 1809.541 ms
Loss rate: 7.34%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1783.141 ms
Loss rate: 4.76%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 1816.492 ms
Loss rate: 8.38%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1876.606 ms
Loss rate: 26.33%
```

### Run 3: Report of QUIC Cubic — Data Link

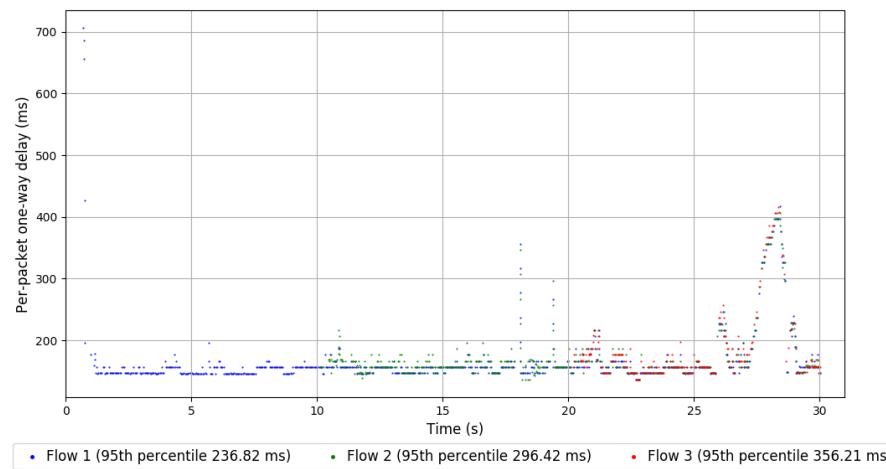
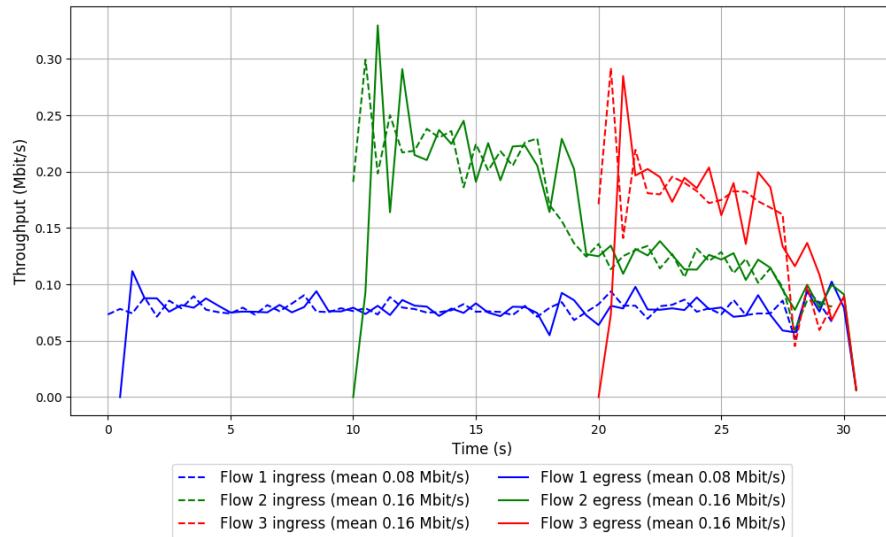


Run 1: Statistics of SCReAM

```
Start at: 2019-02-19 23:14:05
End at: 2019-02-19 23:14:35
Local clock offset: -13.472 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 298.570 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 236.823 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 296.421 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 356.215 ms
Loss rate: 0.36%
```

Run 1: Report of SCReAM — Data Link

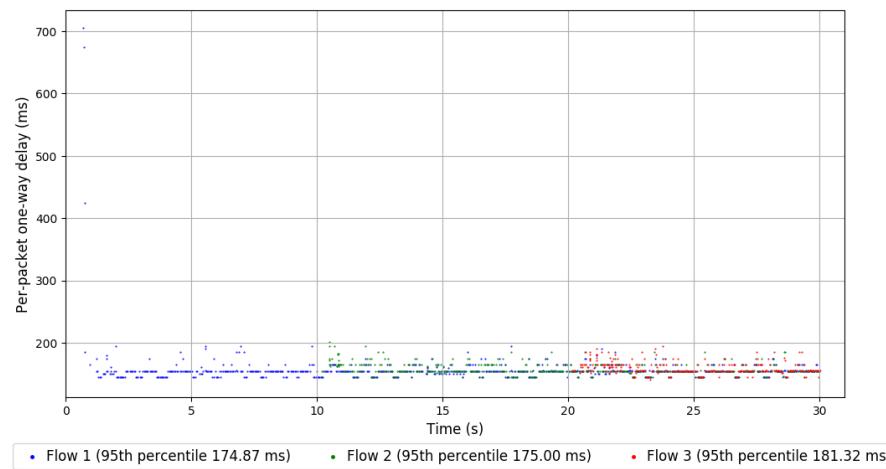
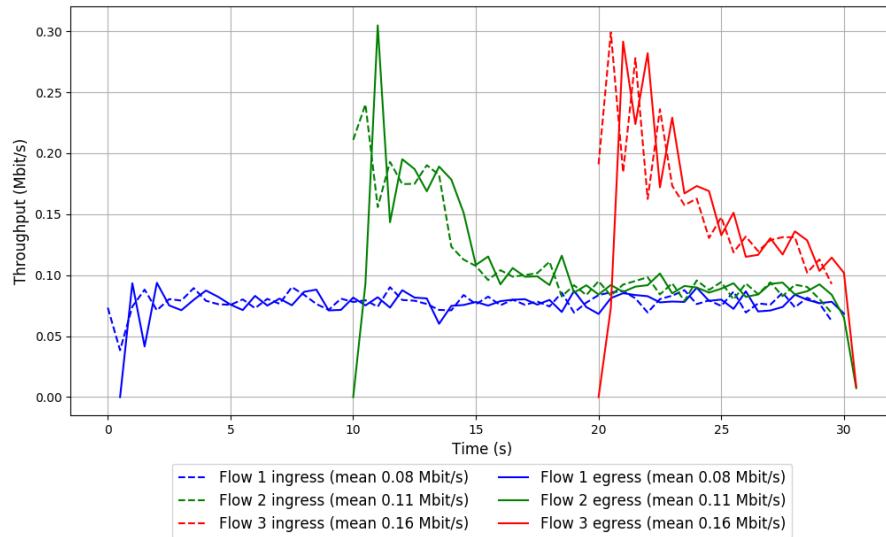


Run 2: Statistics of SCReAM

```
Start at: 2019-02-19 23:39:56
End at: 2019-02-19 23:40:26
Local clock offset: -13.313 ms
Remote clock offset: -0.606 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 175.053 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 174.868 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 174.999 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 181.325 ms
Loss rate: 1.70%
```

Run 2: Report of SCReAM — Data Link

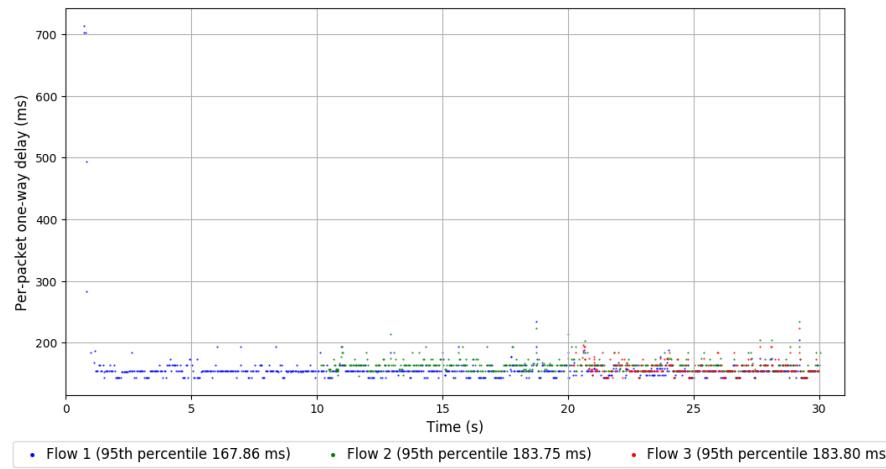
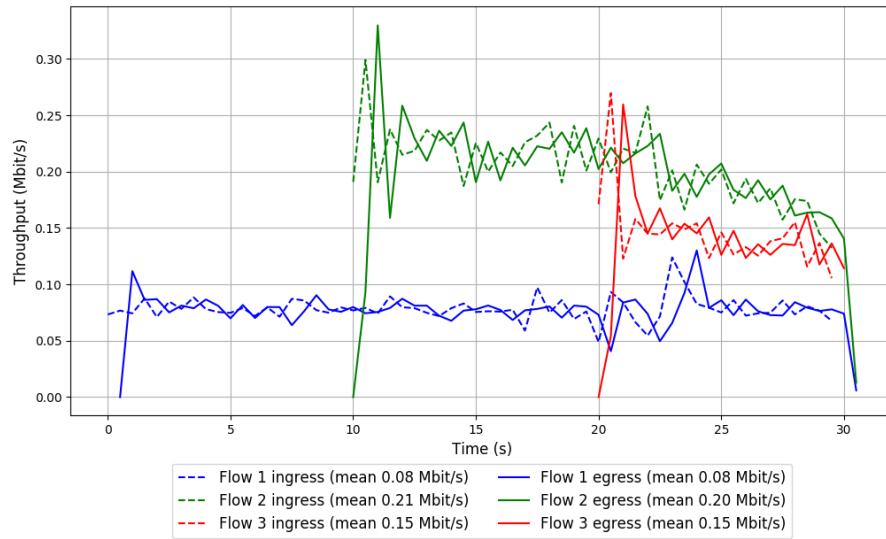


Run 3: Statistics of SCReAM

```
Start at: 2019-02-20 00:05:59
End at: 2019-02-20 00:06:29
Local clock offset: -13.383 ms
Remote clock offset: -2.731 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 183.486 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 167.857 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 183.750 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 183.799 ms
Loss rate: 1.78%
```

Run 3: Report of SCReAM — Data Link

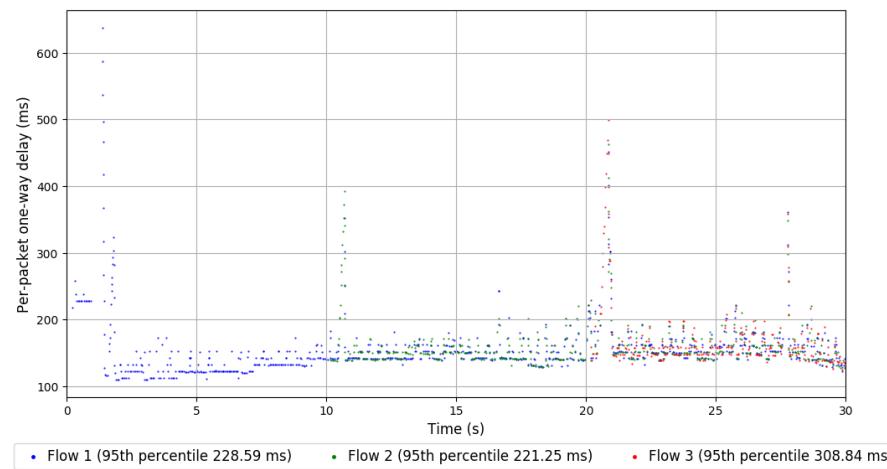
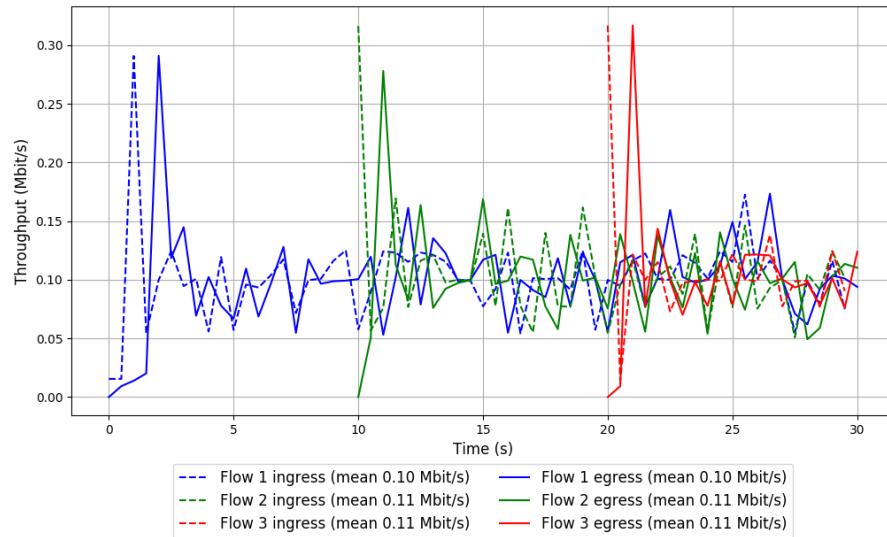


Run 1: Statistics of Sprout

```
Start at: 2019-02-19 23:09:10
End at: 2019-02-19 23:09:40
Local clock offset: -13.545 ms
Remote clock offset: -3.636 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 243.195 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 228.590 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 221.250 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 308.840 ms
Loss rate: 1.90%
```

## Run 1: Report of Sprout — Data Link

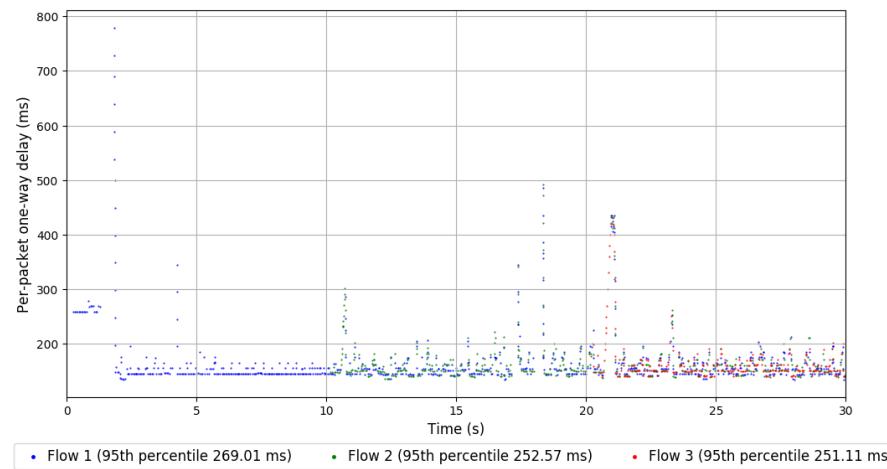
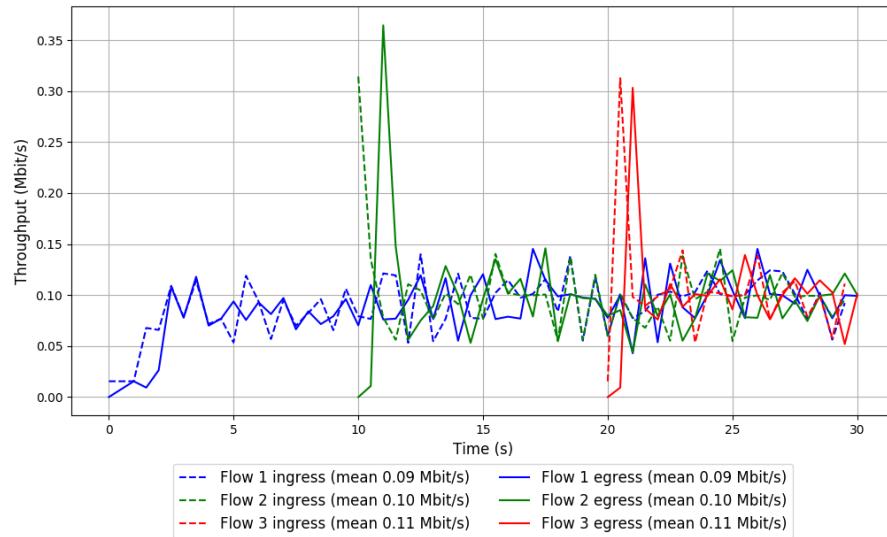


Run 2: Statistics of Sprout

```
Start at: 2019-02-19 23:35:00
End at: 2019-02-19 23:35:30
Local clock offset: -13.409 ms
Remote clock offset: -3.354 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 265.190 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 269.009 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 252.573 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 251.114 ms
Loss rate: 1.00%
```

## Run 2: Report of Sprout — Data Link

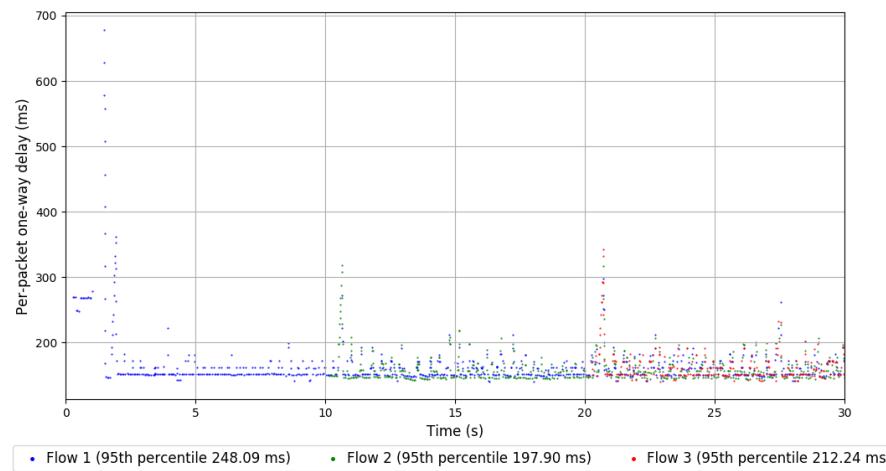
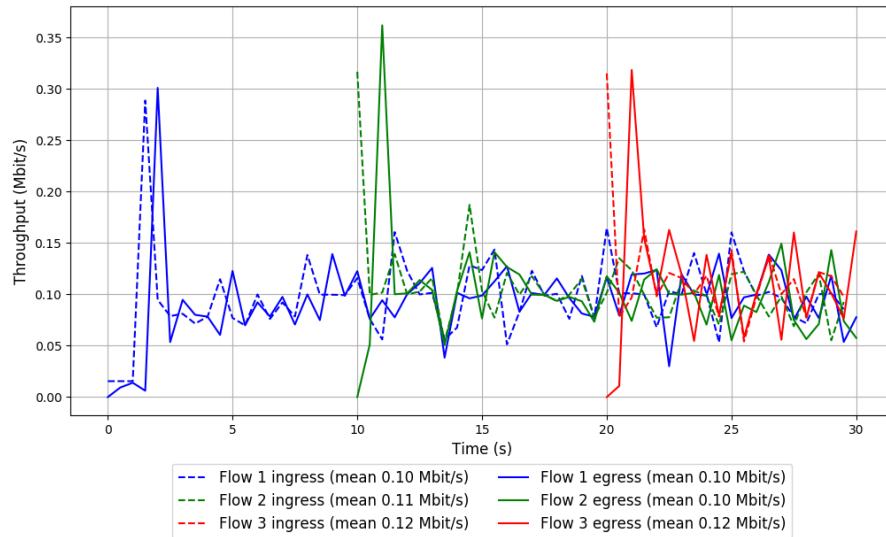


Run 3: Statistics of Sprout

```
Start at: 2019-02-20 00:01:00
End at: 2019-02-20 00:01:30
Local clock offset: -13.355 ms
Remote clock offset: -3.61 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 212.242 ms
Loss rate: 2.53%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 248.087 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 197.901 ms
Loss rate: 3.31%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 212.242 ms
Loss rate: 0.96%
```

### Run 3: Report of Sprout — Data Link

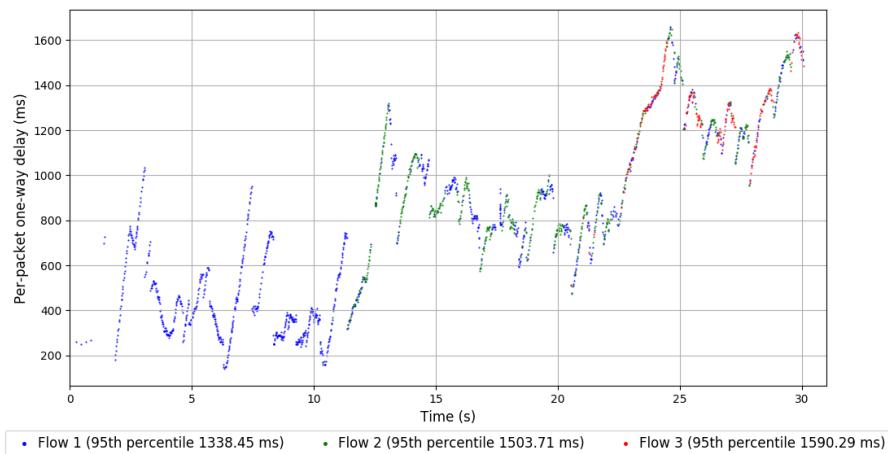
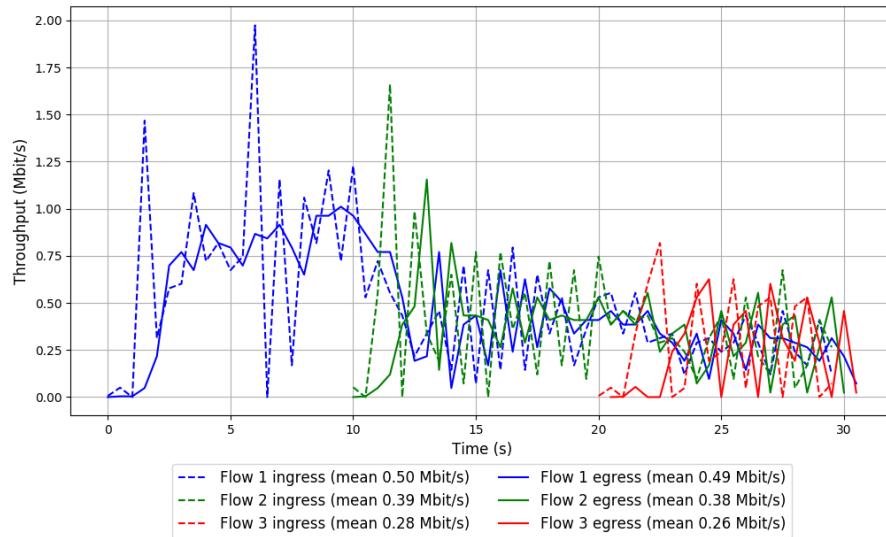


Run 1: Statistics of TaoVA-100x

```
Start at: 2019-02-19 23:19:02
End at: 2019-02-19 23:19:32
Local clock offset: -13.49 ms
Remote clock offset: -4.899 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 1472.744 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 1338.447 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 1503.713 ms
Loss rate: 5.95%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 1590.288 ms
Loss rate: 11.05%
```

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

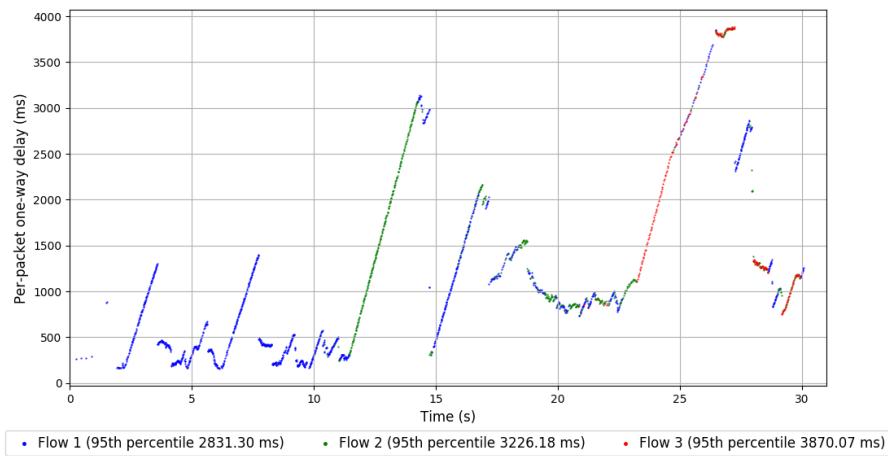
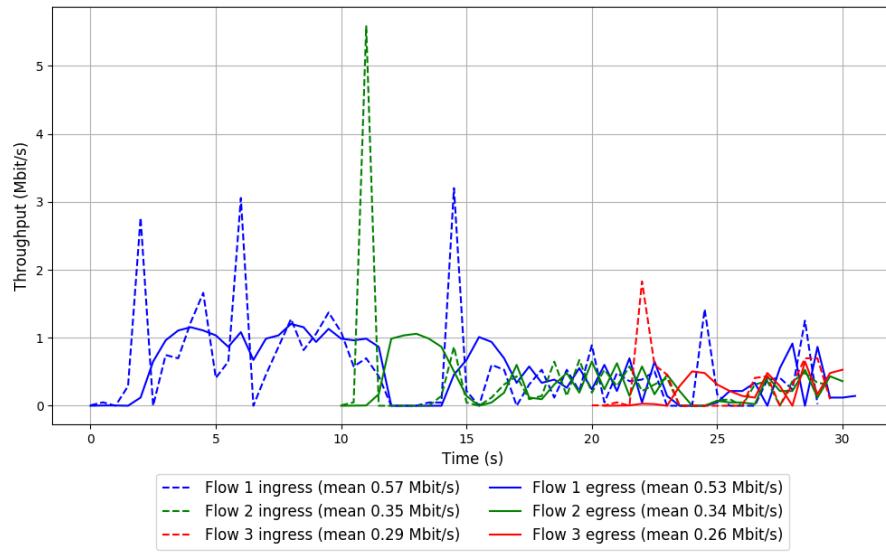


Run 2: Statistics of TaoVA-100x

```
Start at: 2019-02-19 23:44:50
End at: 2019-02-19 23:45:20
Local clock offset: -13.315 ms
Remote clock offset: 0.619 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 3088.123 ms
Loss rate: 6.33%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 2831.295 ms
Loss rate: 5.23%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 3226.176 ms
Loss rate: 5.28%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 3870.071 ms
Loss rate: 15.48%
```

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

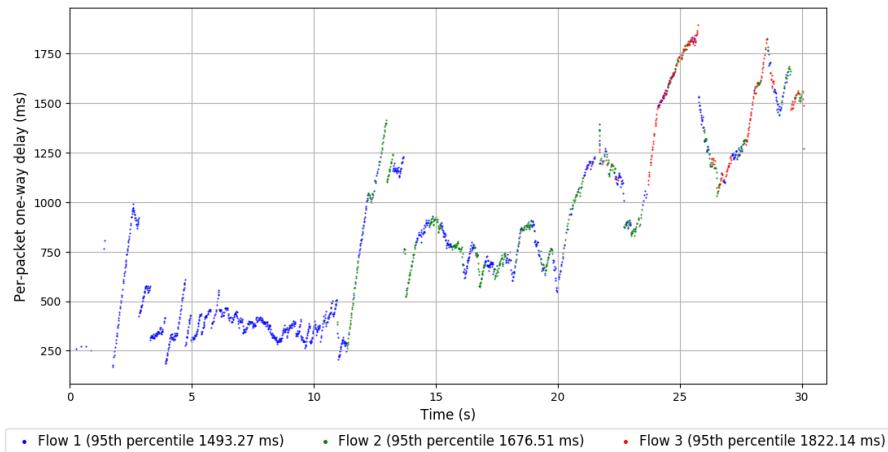
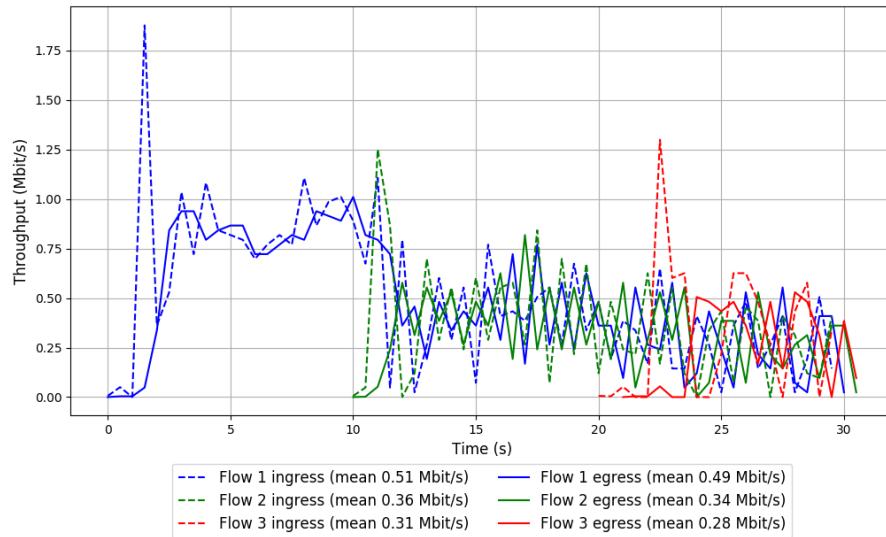


Run 3: Statistics of TaoVA-100x

```
Start at: 2019-02-20 00:10:54
End at: 2019-02-20 00:11:24
Local clock offset: -13.31 ms
Remote clock offset: -3.542 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.79 Mbit/s
95th percentile per-packet one-way delay: 1661.925 ms
Loss rate: 7.39%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 1493.274 ms
Loss rate: 5.12%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 1676.511 ms
Loss rate: 6.84%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 1822.136 ms
Loss rate: 19.95%
```

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

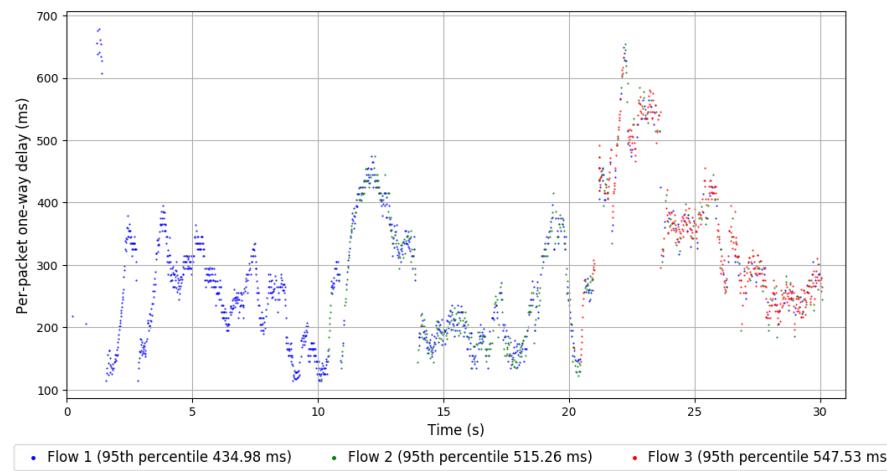
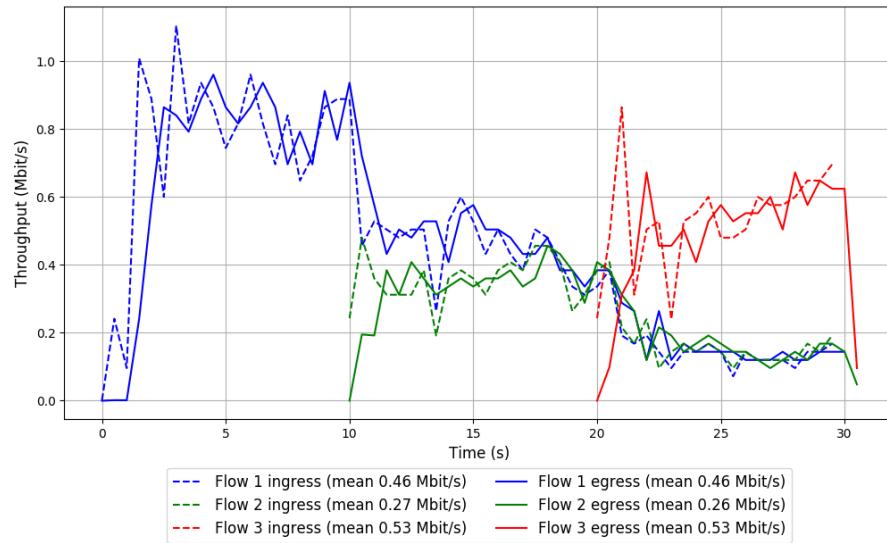


Run 1: Statistics of TCP Vegas

```
Start at: 2019-02-19 23:07:57
End at: 2019-02-19 23:08:27
Local clock offset: -13.606 ms
Remote clock offset: 1.11 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 515.265 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 434.982 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 515.265 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 547.534 ms
Loss rate: 2.70%
```

## Run 1: Report of TCP Vegas — Data Link

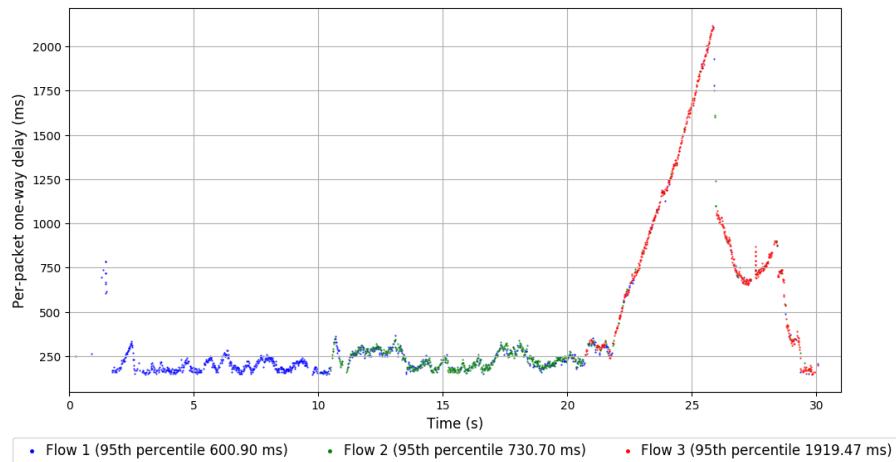
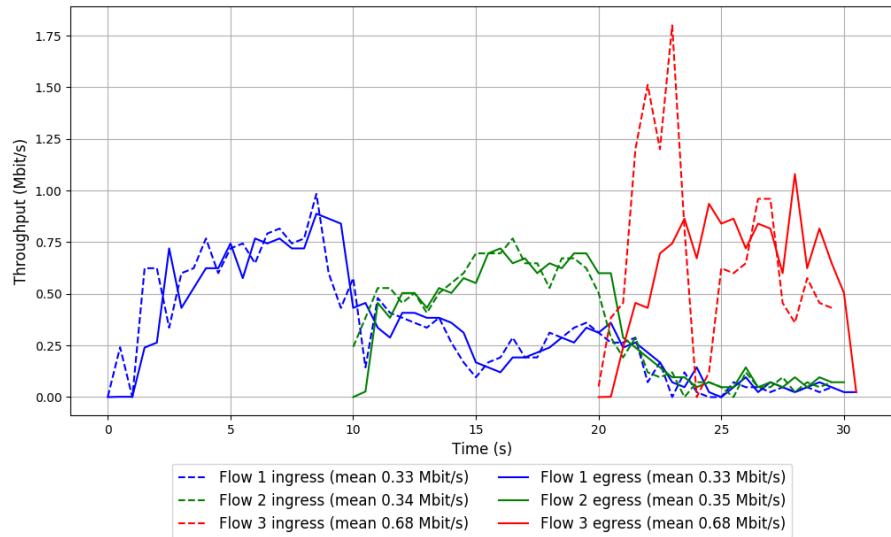


Run 2: Statistics of TCP Vegas

```
Start at: 2019-02-19 23:33:47
End at: 2019-02-19 23:34:17
Local clock offset: -13.443 ms
Remote clock offset: -4.441 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 1530.624 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 600.900 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 730.696 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 1919.466 ms
Loss rate: 1.41%
```

## Run 2: Report of TCP Vegas — Data Link

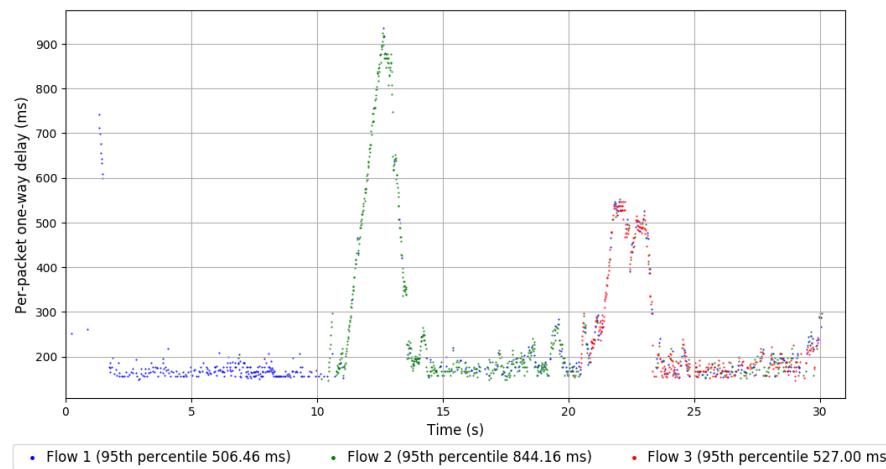
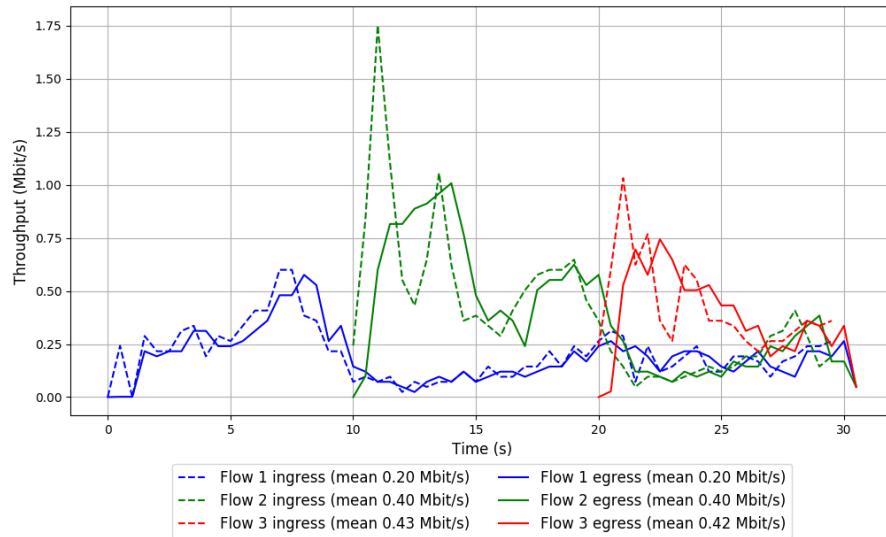


Run 3: Statistics of TCP Vegas

```
Start at: 2019-02-19 23:59:46
End at: 2019-02-20 00:00:16
Local clock offset: -13.359 ms
Remote clock offset: -4.536 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 667.263 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 506.456 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 844.157 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 526.997 ms
Loss rate: 3.11%
```

Run 3: Report of TCP Vegas — Data Link

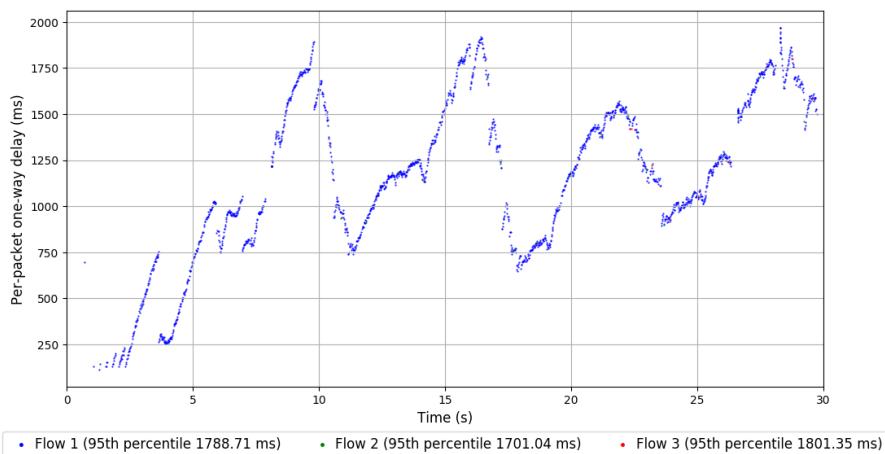
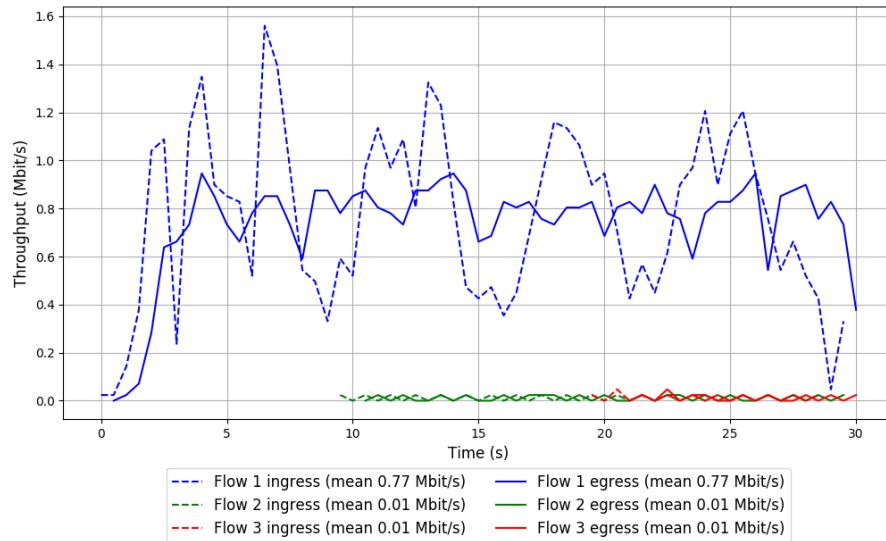


Run 1: Statistics of Verus

```
Start at: 2019-02-19 23:04:14
End at: 2019-02-19 23:04:44
Local clock offset: -13.799 ms
Remote clock offset: 0.884 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 1788.706 ms
Loss rate: 2.45%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 1788.706 ms
Loss rate: 2.39%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1701.041 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 1801.349 ms
Loss rate: 9.09%
```

Run 1: Report of Verus — Data Link

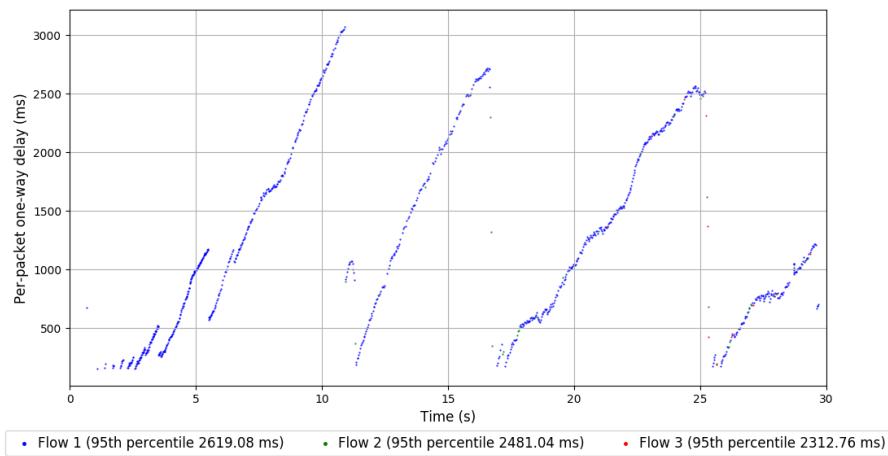
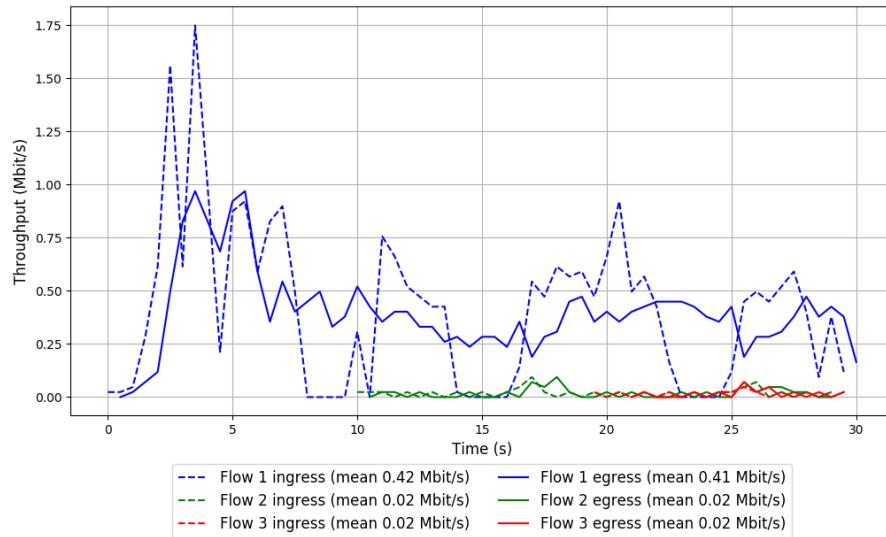


Run 2: Statistics of Verus

```
Start at: 2019-02-19 23:30:06
End at: 2019-02-19 23:30:36
Local clock offset: -13.658 ms
Remote clock offset: -4.78 ms

# Below is generated by plot.py at 2019-02-20 00:19:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2614.896 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 2619.082 ms
Loss rate: 2.40%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 2481.042 ms
Loss rate: 3.23%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 2312.762 ms
Loss rate: 7.69%
```

## Run 2: Report of Verus — Data Link

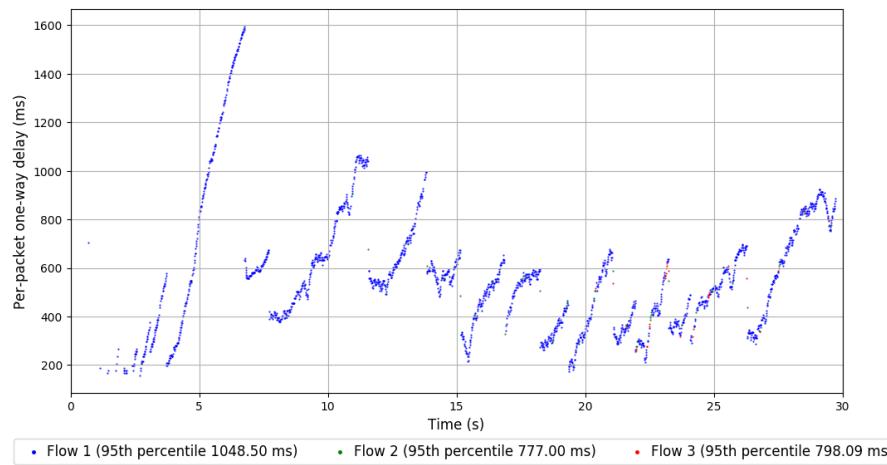
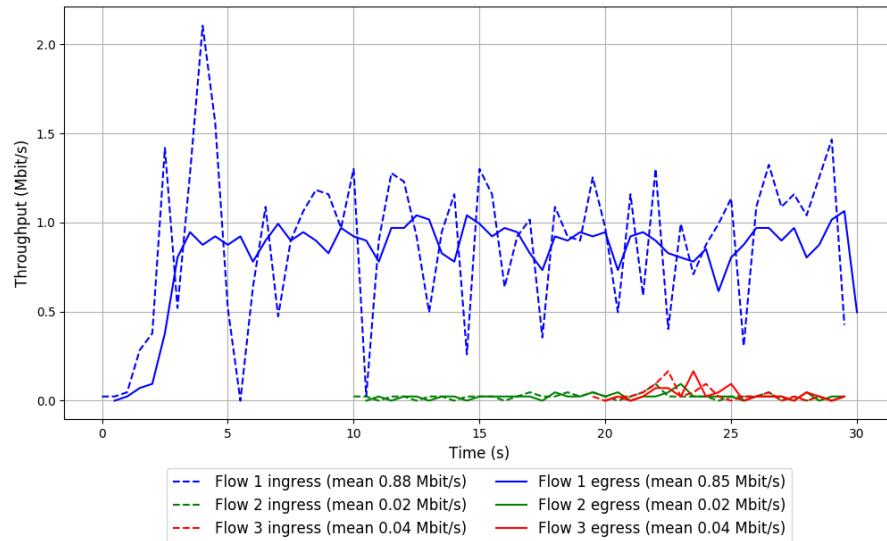


Run 3: Statistics of Verus

```
Start at: 2019-02-19 23:56:05
End at: 2019-02-19 23:56:35
Local clock offset: -13.329 ms
Remote clock offset: 0.611 ms

# Below is generated by plot.py at 2019-02-20 00:19:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 1047.651 ms
Loss rate: 5.55%
-- Flow 1:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 1048.497 ms
Loss rate: 5.63%
-- Flow 2:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 777.003 ms
Loss rate: 2.56%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 798.085 ms
Loss rate: 3.23%
```

### Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

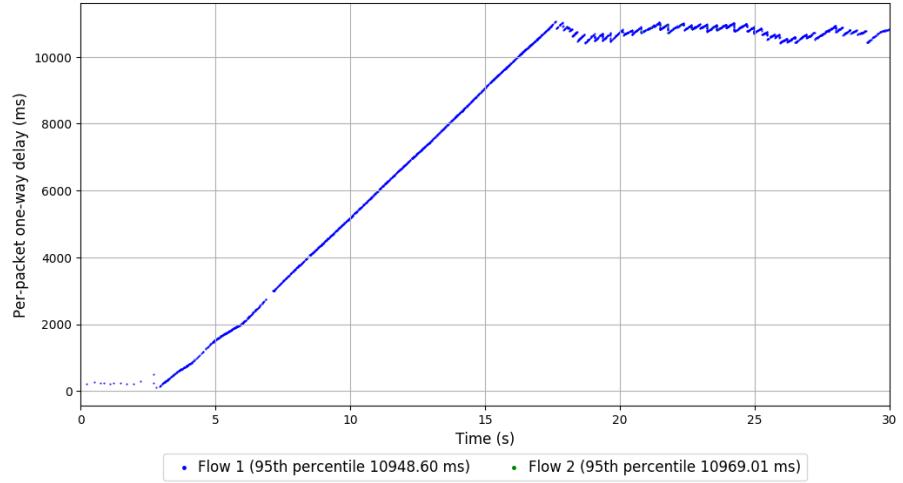
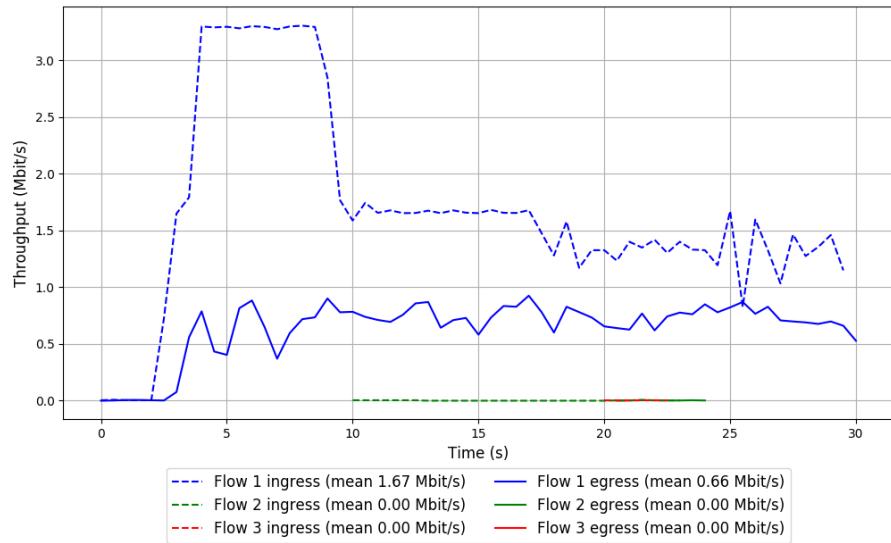
Start at: 2019-02-19 23:01:47

End at: 2019-02-19 23:02:17

Local clock offset: -13.994 ms

Remote clock offset: -1.614 ms

## Run 1: Report of PCC-Vivace — Data Link

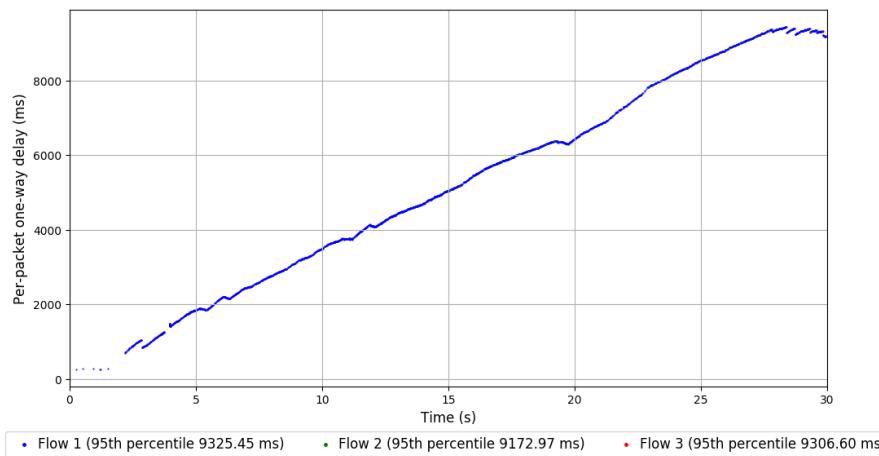
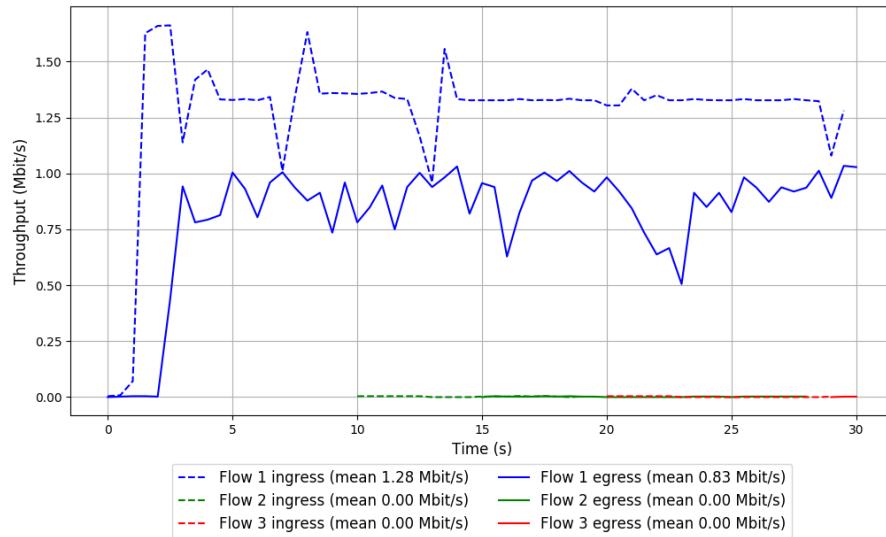


Run 2: Statistics of PCC-Vivace

```
Start at: 2019-02-19 23:27:38
End at: 2019-02-19 23:28:08
Local clock offset: -13.603 ms
Remote clock offset: -3.58 ms

# Below is generated by plot.py at 2019-02-20 00:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 9325.449 ms
Loss rate: 35.29%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 9325.449 ms
Loss rate: 35.29%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9172.966 ms
Loss rate: 5.04%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9306.602 ms
Loss rate: 84.87%
```

Run 2: Report of PCC-Vivace — Data Link

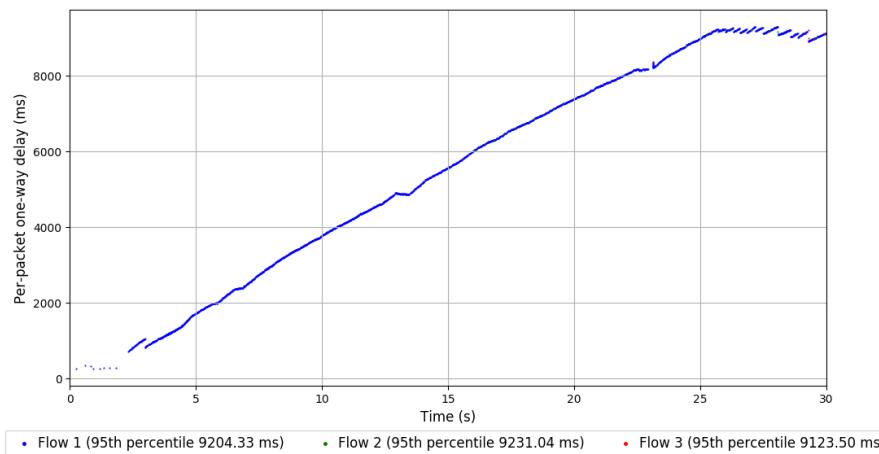
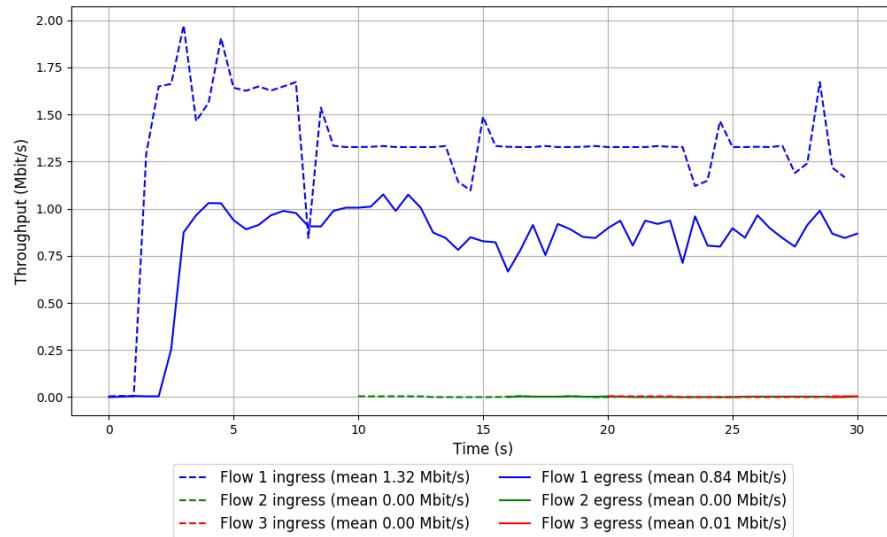


Run 3: Statistics of PCC-Vivace

```
Start at: 2019-02-19 23:53:37
End at: 2019-02-19 23:54:07
Local clock offset: -13.365 ms
Remote clock offset: -2.699 ms

# Below is generated by plot.py at 2019-02-20 00:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 9205.331 ms
Loss rate: 36.82%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 9204.325 ms
Loss rate: 36.82%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9231.037 ms
Loss rate: 10.08%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 9123.505 ms
Loss rate: 74.45%
```

Run 3: Report of PCC-Vivace — Data Link

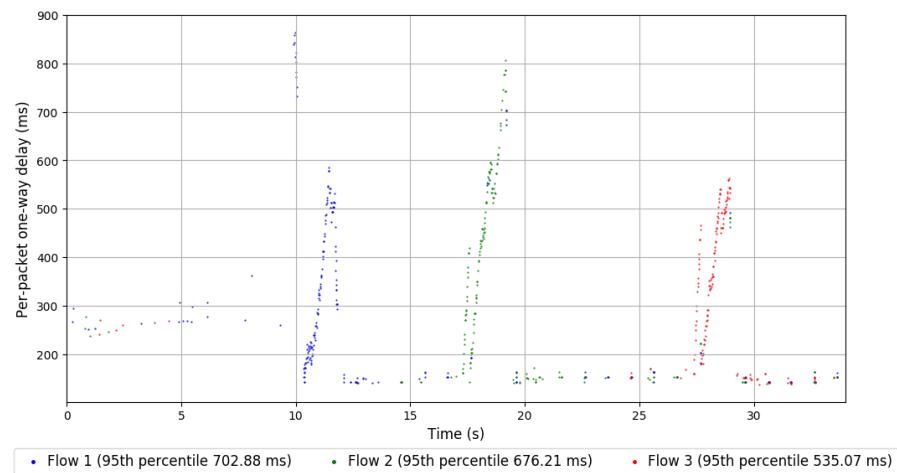
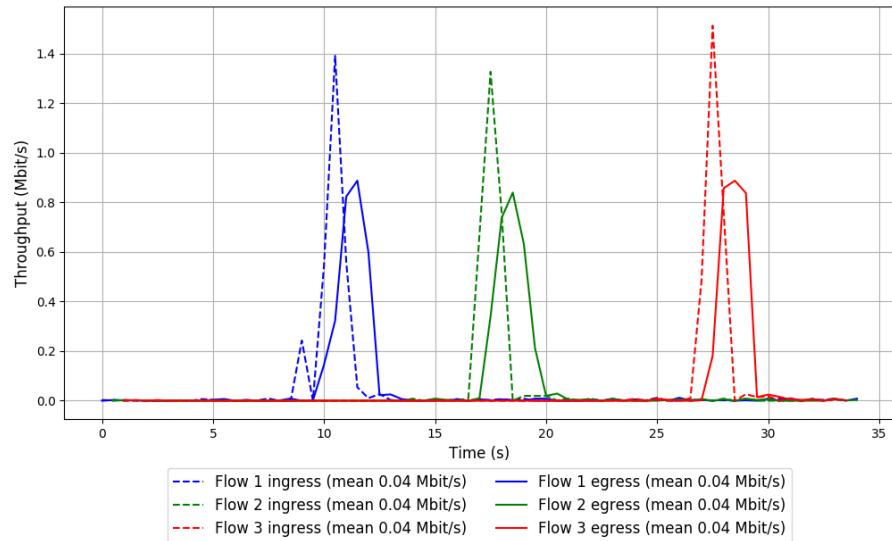


Run 1: Statistics of WebRTC media

```
Start at: 2019-02-19 23:25:11
End at: 2019-02-19 23:25:41
Local clock offset: -13.581 ms
Remote clock offset: 0.119 ms

# Below is generated by plot.py at 2019-02-20 00:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 613.030 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 702.885 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 676.205 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 535.073 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

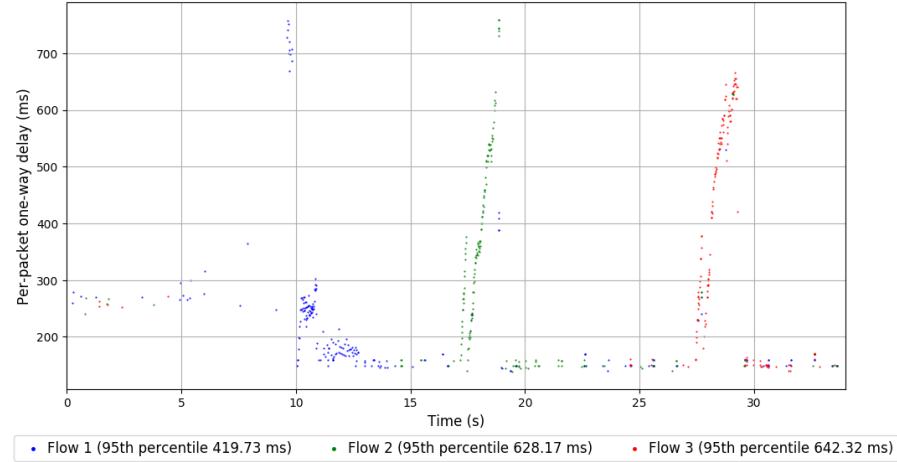
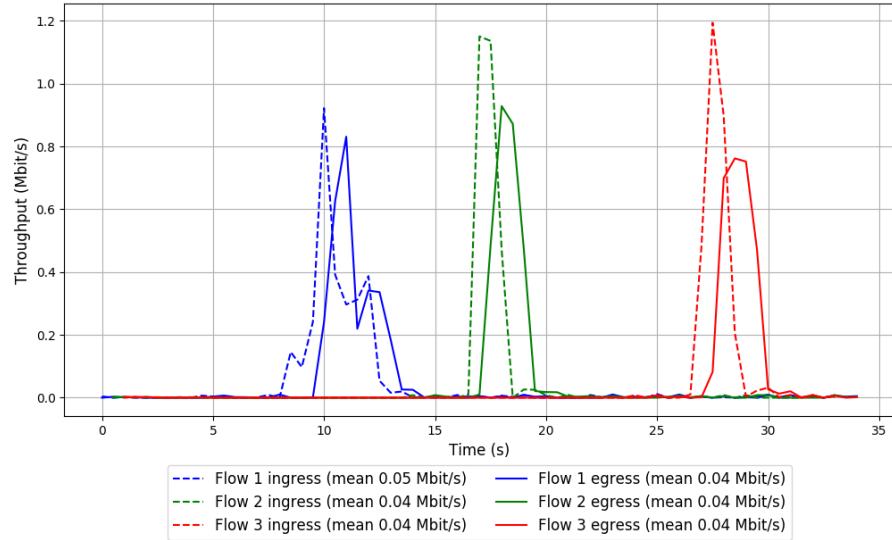


```
Run 2: Statistics of WebRTC media

Start at: 2019-02-19 23:51:05
End at: 2019-02-19 23:51:35
Local clock offset: -13.273 ms
Remote clock offset: 0.584 ms

# Below is generated by plot.py at 2019-02-20 00:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 632.331 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 419.729 ms
Loss rate: 1.68%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 628.166 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 642.320 ms
Loss rate: 0.83%
```

## Run 2: Report of WebRTC media — Data Link



```
Run 3: Statistics of WebRTC media

Start at: 2019-02-20 00:17:03
End at: 2019-02-20 00:17:33
Local clock offset: -13.393 ms
Remote clock offset: 1.678 ms

# Below is generated by plot.py at 2019-02-20 00:19:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 844.876 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 563.673 ms
Loss rate: 3.31%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 569.208 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1124.533 ms
Loss rate: 0.10%
```

### Run 3: Report of WebRTC media — Data Link

