Pantheon Report

Generated at 2018-12-11 15:42:35 (UTC).

Data path: AWS India 2 on `ens5` (*local*) →Saudi Arabia on `enp2s0` (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.
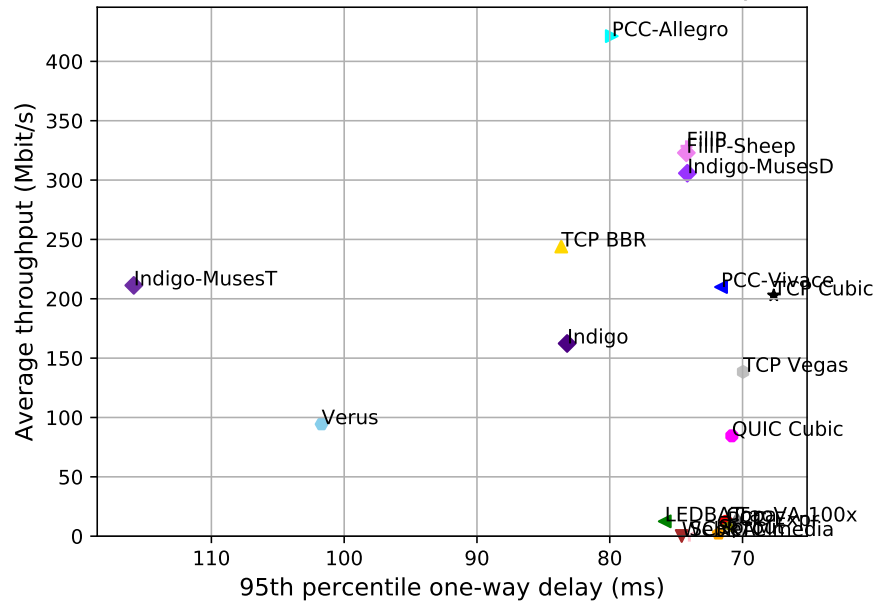
```
System info:
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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
```
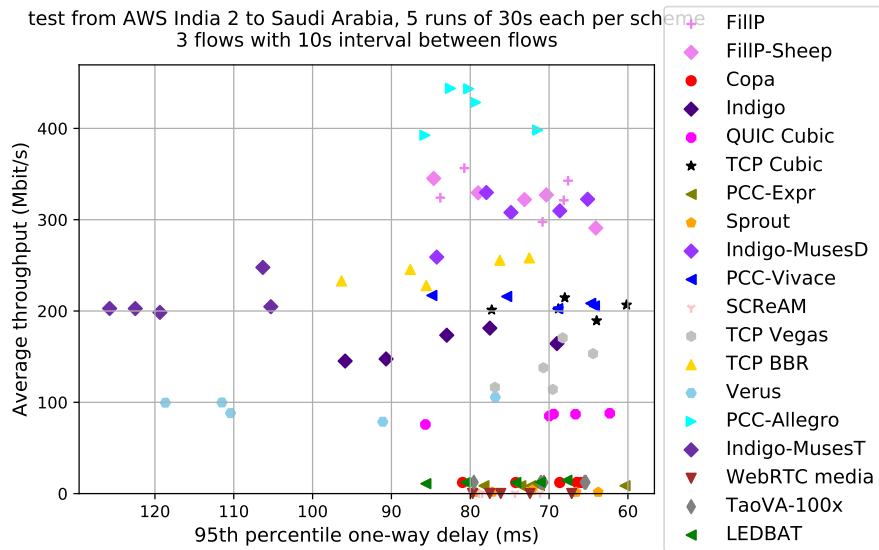
```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
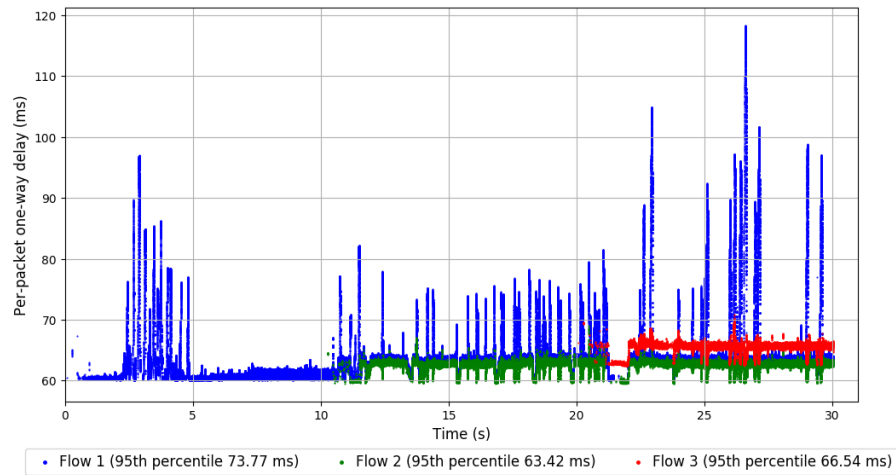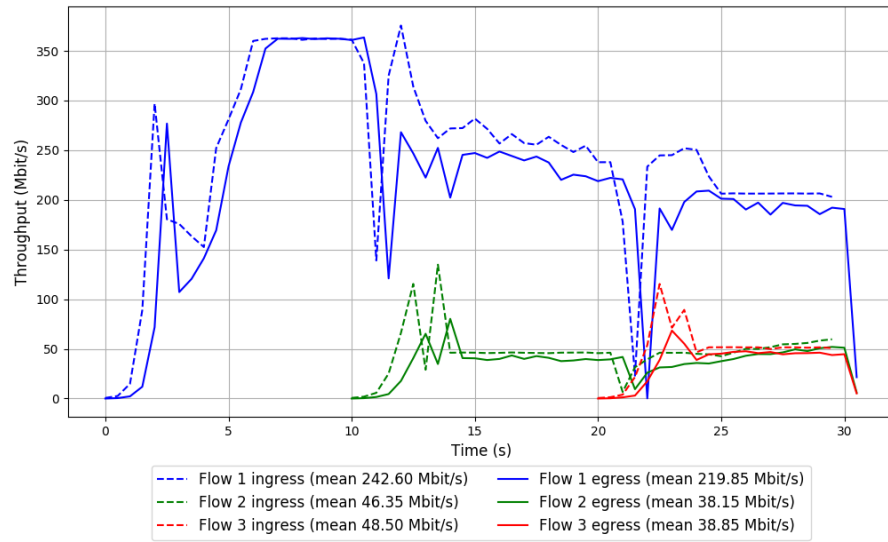3 flows with 10s interval between flows

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	5	208.27	35.82	37.50	84.06	78.92	77.79	10.45	17.48	20.53
Copa	5	8.76	4.91	0.50	71.50	70.58	73.37	65.71	73.47	82.30
TCP Cubic	5	107.28	103.87	79.34	68.18	66.61	67.26	1.70	1.67	1.85
FillP	5	236.80	86.78	102.37	72.64	73.56	71.53	21.88	20.43	25.56
FillP-Sheep	5	229.57	96.50	88.10	74.18	74.36	75.95	14.10	12.31	13.88
Indigo	5	81.70	93.30	59.80	83.29	86.31	79.55	15.15	25.24	26.21
Indigo-MusesD	5	254.64	60.21	36.28	74.22	73.40	74.70	28.73	40.29	48.68
Indigo-MusesT	5	173.52	44.40	28.24	118.74	80.41	75.98	31.04	16.57	21.07
LEDBAT	5	7.94	5.56	2.68	76.29	74.57	74.21	0.01	0.00	0.00
PCC-Allegro	5	386.27	38.68	28.24	79.60	79.56	80.49	6.24	3.02	4.09
PCC-Expr	5	0.01	11.67	2.65	72.18	71.15	71.19	81.14	36.72	58.75
QUIC Cubic	5	49.31	41.11	24.39	69.39	71.03	72.72	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	72.87	72.24	73.77	0.00	0.00	0.00
Sprout	5	1.13	1.01	0.81	70.73	68.87	67.35	0.02	0.00	0.00
TaoVA-100x	5	7.49	4.46	5.99	72.55	67.73	67.29	30.31	39.39	67.14
TCP Vegas	5	73.10	56.21	83.94	69.22	68.36	74.42	1.76	2.19	2.87
Verus	5	67.90	43.65	21.50	104.15	82.74	78.41	60.00	32.82	36.94
PCC-Vivace	5	182.82	34.47	12.60	71.47	72.09	71.16	1.41	0.85	0.74
WebRTC media	5	0.05	0.05	0.05	74.44	74.27	74.75	0.00	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2018-12-11 12:26:19
End at: 2018-12-11 12:26:49
Local clock offset: -9.396 ms
Remote clock offset: -48.497 ms


# Below is generated by plot.py at 2018-12-11 15:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.19 Mbit/s
95th percentile per-packet one-way delay: 72.504 ms
Loss rate: 10.84%
-- Flow 1:
Average throughput: 219.85 Mbit/s
95th percentile per-packet one-way delay: 73.774 ms
Loss rate: 9.36%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 63.416 ms
Loss rate: 17.68%
-- Flow 3:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 66.542 ms
Loss rate: 19.90%
```
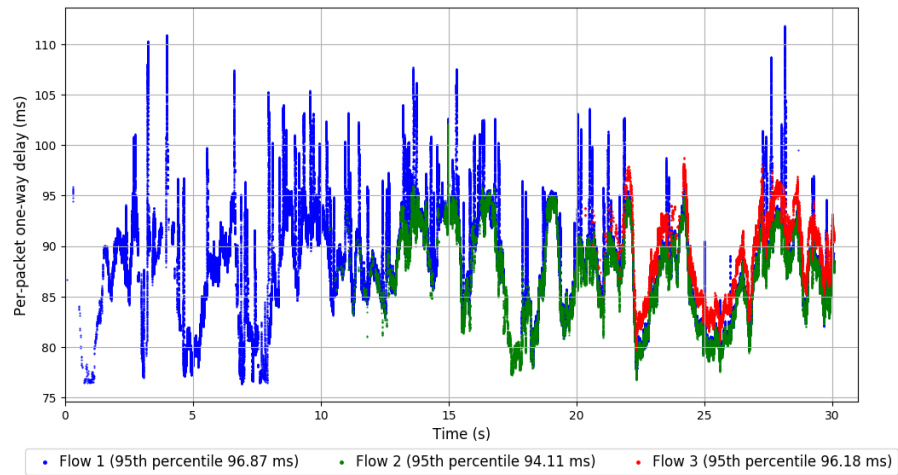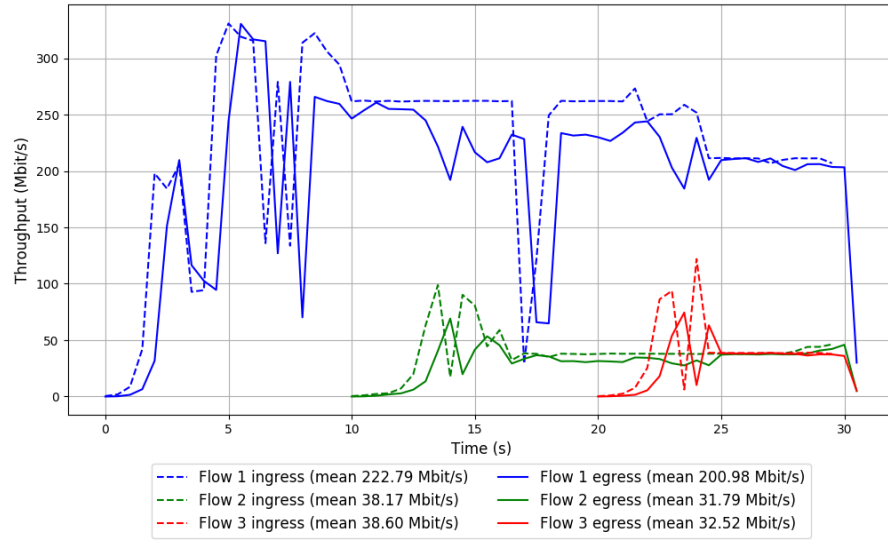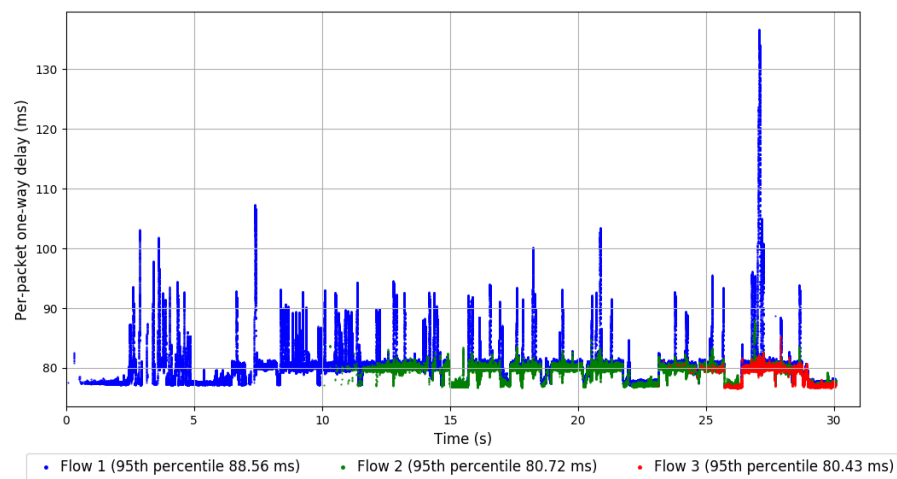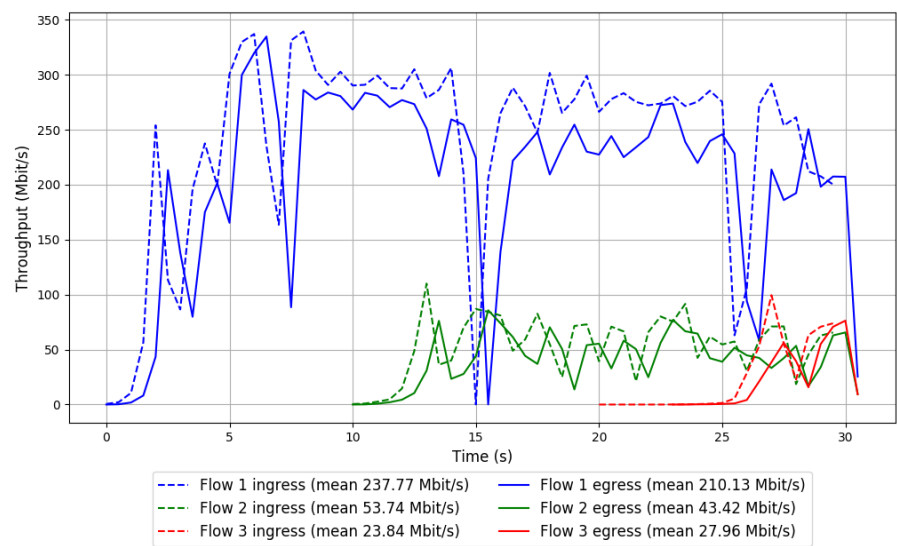
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-12-11 12:59:50
End at: 2018-12-11 13:00:20
Local clock offset: -9.427 ms
Remote clock offset: -38.261 ms


# Below is generated by plot.py at 2018-12-11 15:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.96 Mbit/s
95th percentile per-packet one-way delay: 96.331 ms
Loss rate: 10.77%
-- Flow 1:
Average throughput: 200.98 Mbit/s
95th percentile per-packet one-way delay: 96.866 ms
Loss rate: 9.80%
-- Flow 2:
Average throughput: 31.79 Mbit/s
95th percentile per-packet one-way delay: 94.109 ms
Loss rate: 16.75%
-- Flow 3:
Average throughput: 32.52 Mbit/s
95th percentile per-packet one-way delay: 96.176 ms
Loss rate: 15.84%
```
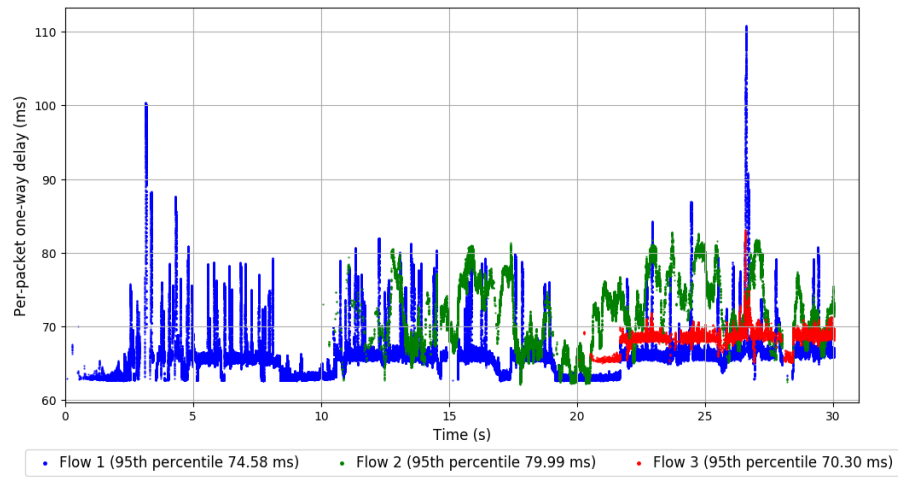
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-12-11 13:33:21
End at: 2018-12-11 13:33:51
Local clock offset: -9.994 ms
Remote clock offset: -38.477 ms


# Below is generated by plot.py at 2018-12-11 15:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.54 Mbit/s
95th percentile per-packet one-way delay: 87.602 ms
Loss rate: 12.77%
-- Flow 1:
Average throughput: 210.13 Mbit/s
95th percentile per-packet one-way delay: 88.559 ms
Loss rate: 11.62%
-- Flow 2:
Average throughput: 43.42 Mbit/s
95th percentile per-packet one-way delay: 80.715 ms
Loss rate: 19.19%
-- Flow 3:
Average throughput: 27.96 Mbit/s
95th percentile per-packet one-way delay: 80.432 ms
Loss rate: 18.24%
```
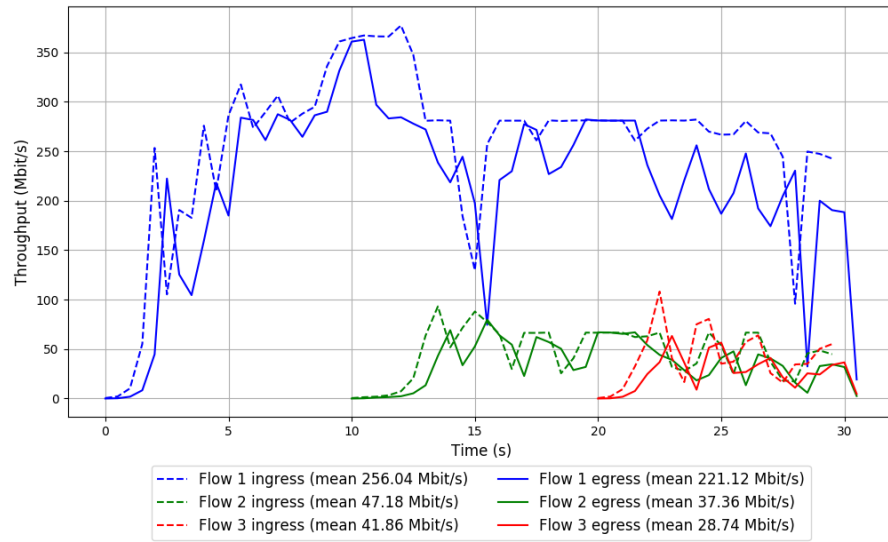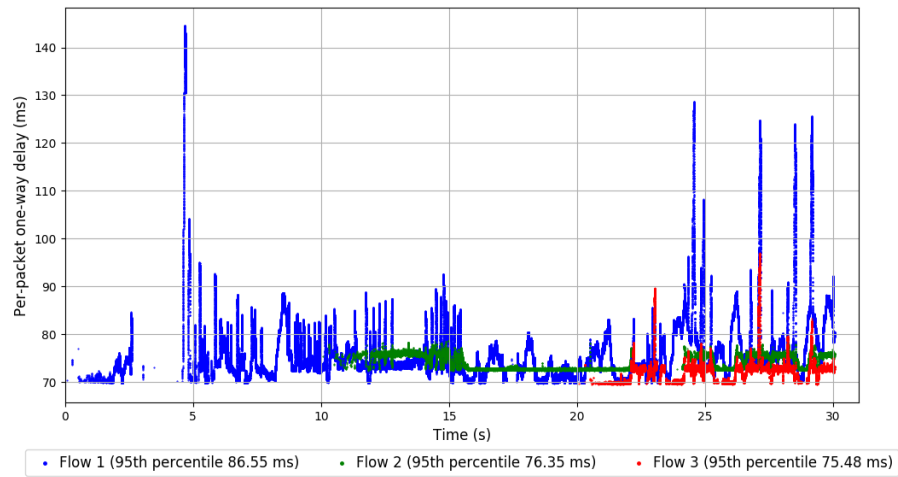
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-12-11 14:12:41
End at: 2018-12-11 14:13:11
Local clock offset: 1.366 ms
Remote clock offset: -42.905 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.54 Mbit/s
95th percentile per-packet one-way delay: 76.246 ms
Loss rate: 15.20%
-- Flow 1:
Average throughput: 221.12 Mbit/s
95th percentile per-packet one-way delay: 74.575 ms
Loss rate: 13.63%
-- Flow 2:
Average throughput: 37.36 Mbit/s
95th percentile per-packet one-way delay: 79.990 ms
Loss rate: 20.84%
-- Flow 3:
Average throughput: 28.74 Mbit/s
95th percentile per-packet one-way delay: 70.299 ms
Loss rate: 31.33%
```

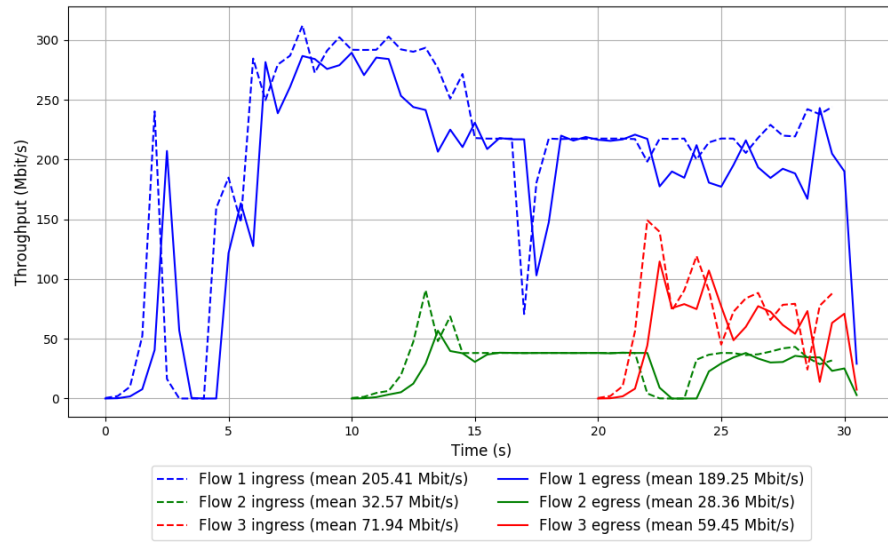Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-12-11 14:56:00
End at: 2018-12-11 14:56:30
Local clock offset: 0.45 ms
Remote clock offset: -37.565 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.91 Mbit/s
95th percentile per-packet one-way delay: 85.573 ms
Loss rate: 9.19%
-- Flow 1:
Average throughput: 189.25 Mbit/s
95th percentile per-packet one-way delay: 86.550 ms
Loss rate: 7.85%
-- Flow 2:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 76.349 ms
Loss rate: 12.94%
-- Flow 3:
Average throughput: 59.45 Mbit/s
95th percentile per-packet one-way delay: 75.477 ms
Loss rate: 17.32%
```

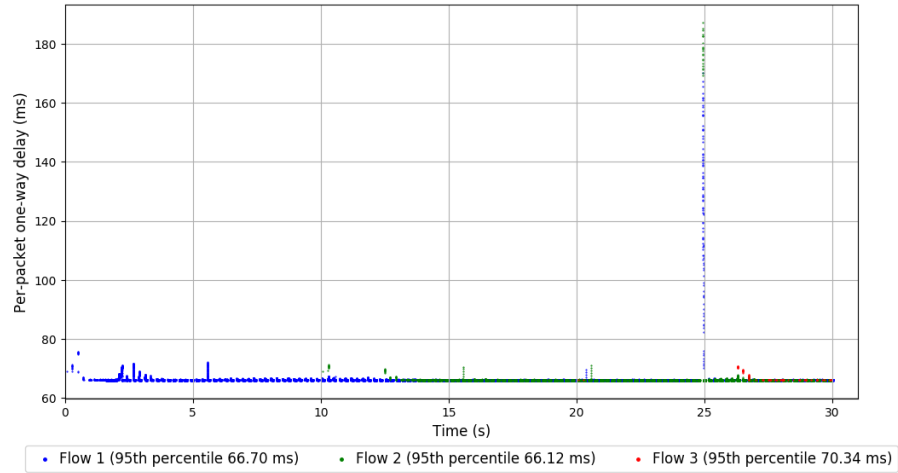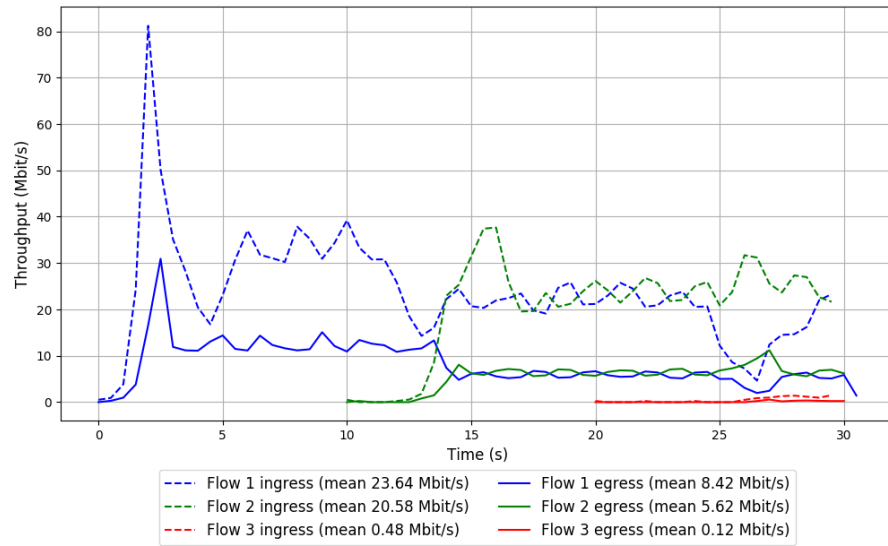Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-12-11 12:52:06
End at: 2018-12-11 12:52:36
Local clock offset: -8.532 ms
Remote clock offset: -47.806 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.19 Mbit/s
95th percentile per-packet one-way delay: 66.471 ms
Loss rate: 67.45%
-- Flow 1:
Average throughput: 8.42 Mbit/s
95th percentile per-packet one-way delay: 66.696 ms
Loss rate: 64.38%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 66.125 ms
Loss rate: 72.69%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 70.340 ms
Loss rate: 74.39%
```
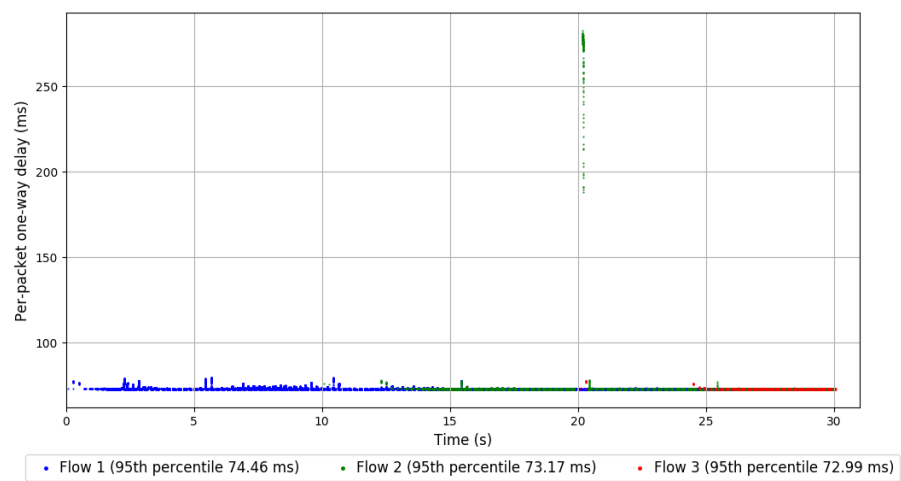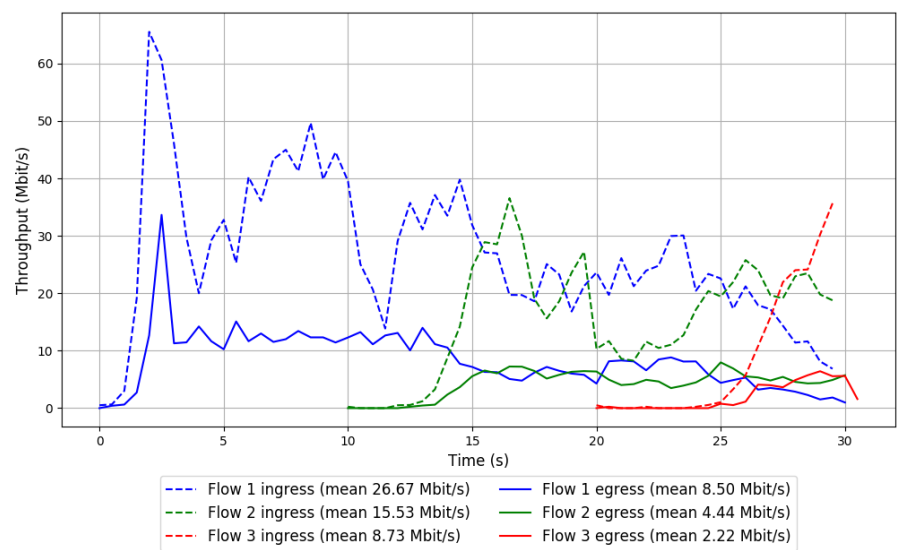
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-12-11 13:20:09
End at: 2018-12-11 13:20:39
Local clock offset: -11.755 ms
Remote clock offset: -44.221 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.15 Mbit/s
95th percentile per-packet one-way delay: 74.231 ms
Loss rate: 69.54%
-- Flow 1:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 74.458 ms
Loss rate: 68.26%
-- Flow 2:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 73.168 ms
Loss rate: 71.43%
-- Flow 3:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 72.991 ms
Loss rate: 74.63%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-12-11 13:59:28
End at: 2018-12-11 13:59:58
Local clock offset: -11.648 ms
Remote clock offset: -38.196 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.19 Mbit/s
95th percentile per-packet one-way delay: 80.975 ms
Loss rate: 65.58%
-- Flow 1:
Average throughput: 10.23 Mbit/s
95th percentile per-packet one-way delay: 81.063 ms
Loss rate: 61.65%
-- Flow 2:
Average throughput: 2.97 Mbit/s
95th percentile per-packet one-way delay: 80.411 ms
Loss rate: 77.46%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 85.447 ms
Loss rate: 81.33%
```
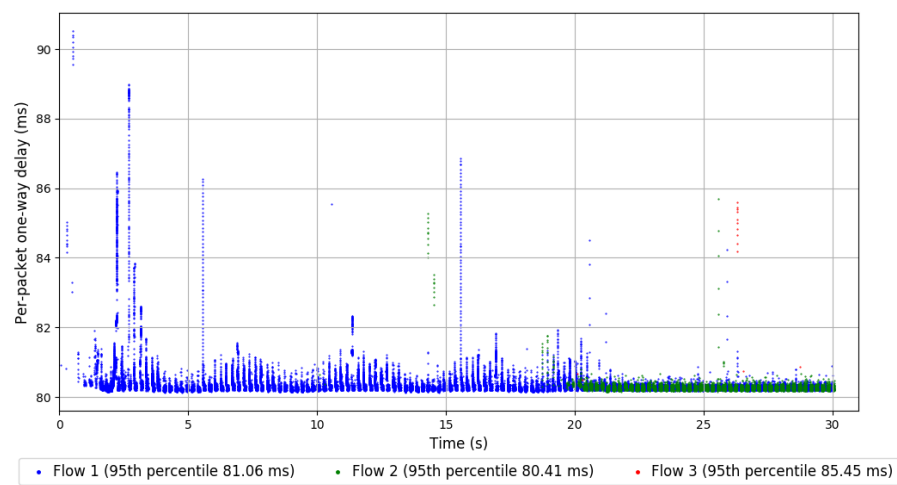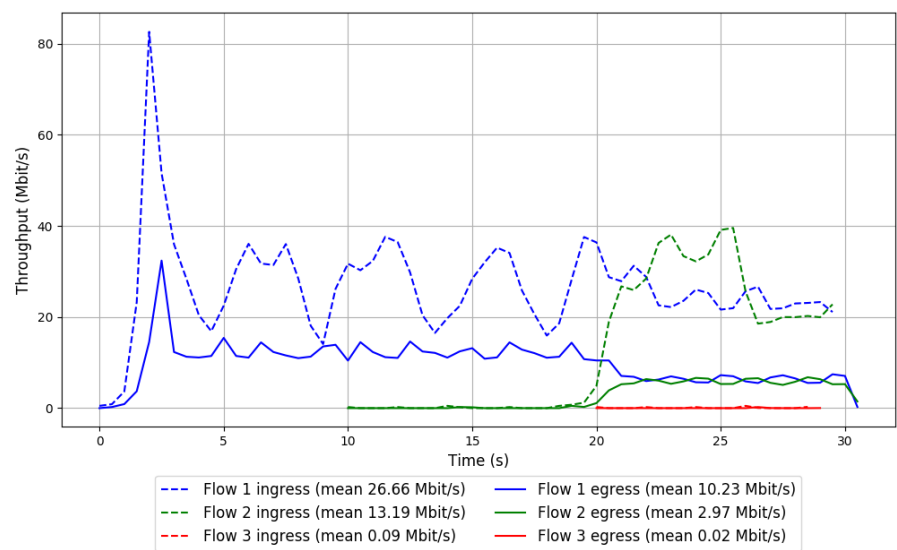
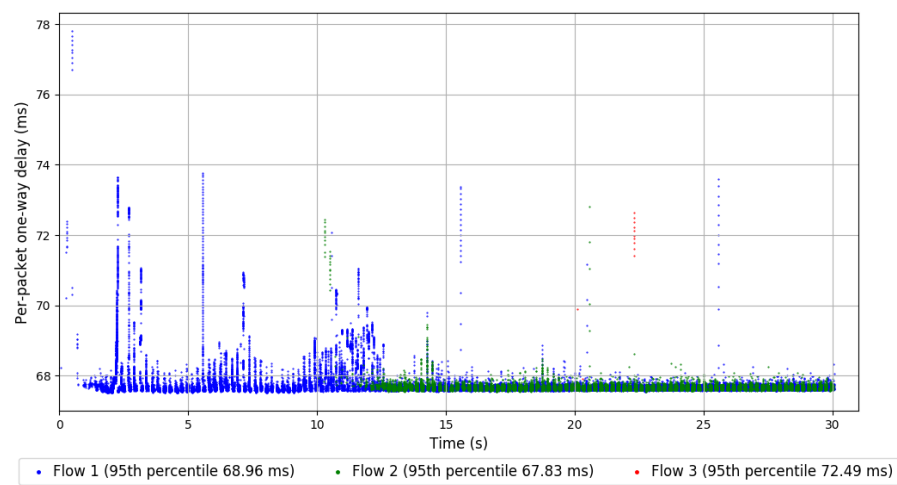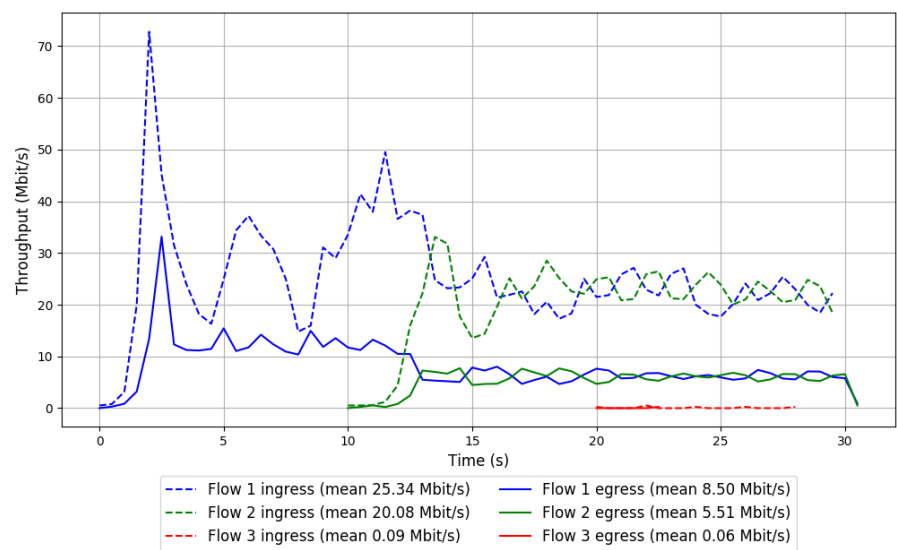Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-12-11 14:48:37
End at: 2018-12-11 14:49:07
Local clock offset: 2.481 ms
Remote clock offset: -37.57 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 68.649 ms
Loss rate: 68.57%
-- Flow 1:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 68.958 ms
Loss rate: 66.46%
-- Flow 2:
Average throughput: 5.51 Mbit/s
95th percentile per-packet one-way delay: 67.829 ms
Loss rate: 72.54%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 72.492 ms
Loss rate: 83.37%
```
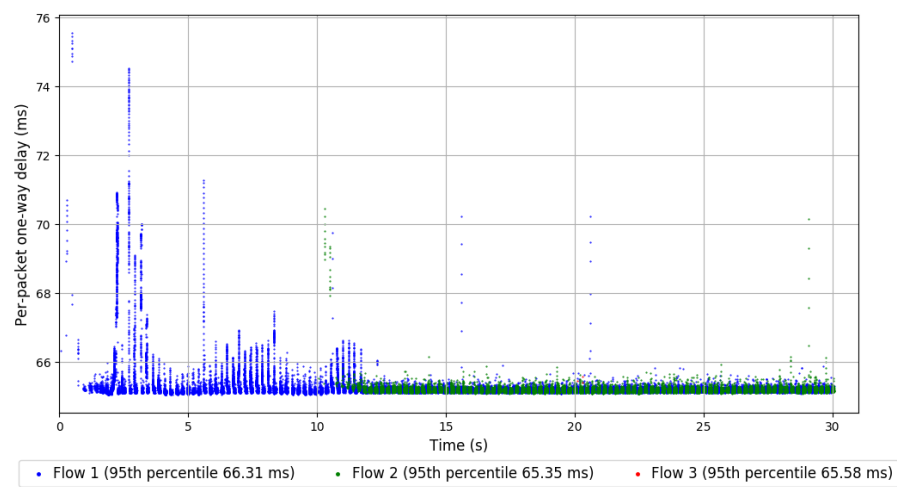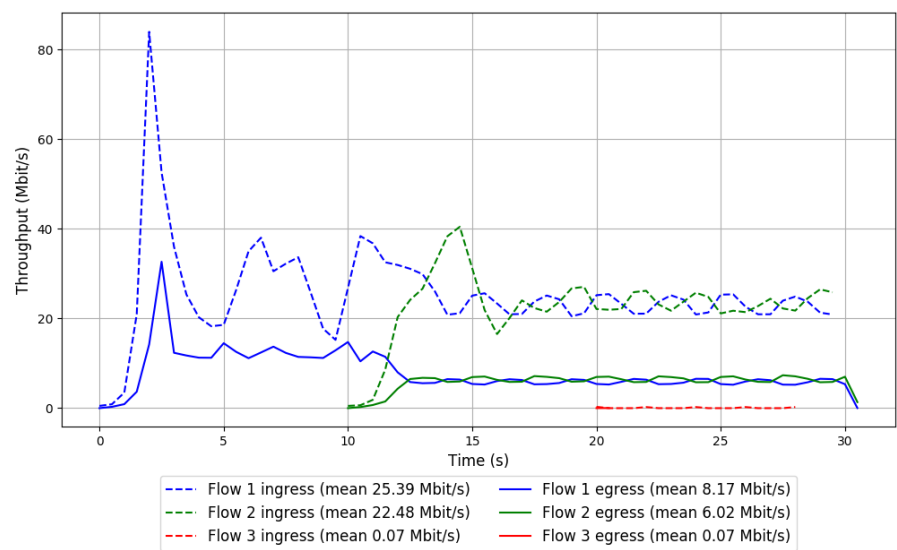
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-12-11 15:16:37
End at: 2018-12-11 15:17:07
Local clock offset: 1.832 ms
Remote clock offset: -41.709 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.18 Mbit/s
95th percentile per-packet one-way delay: 65.905 ms
Loss rate: 69.83%
-- Flow 1:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 66.314 ms
Loss rate: 67.82%
-- Flow 2:
Average throughput: 6.02 Mbit/s
95th percentile per-packet one-way delay: 65.348 ms
Loss rate: 73.22%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 65.585 ms
Loss rate: 97.76%
```
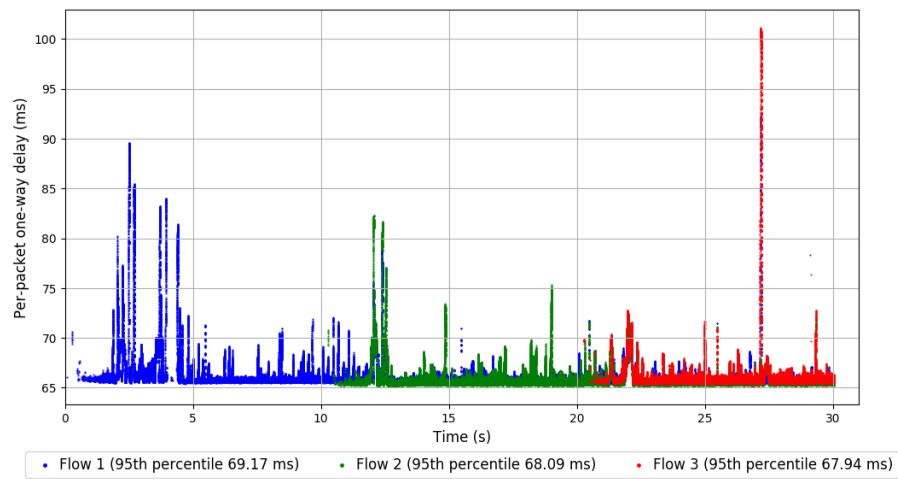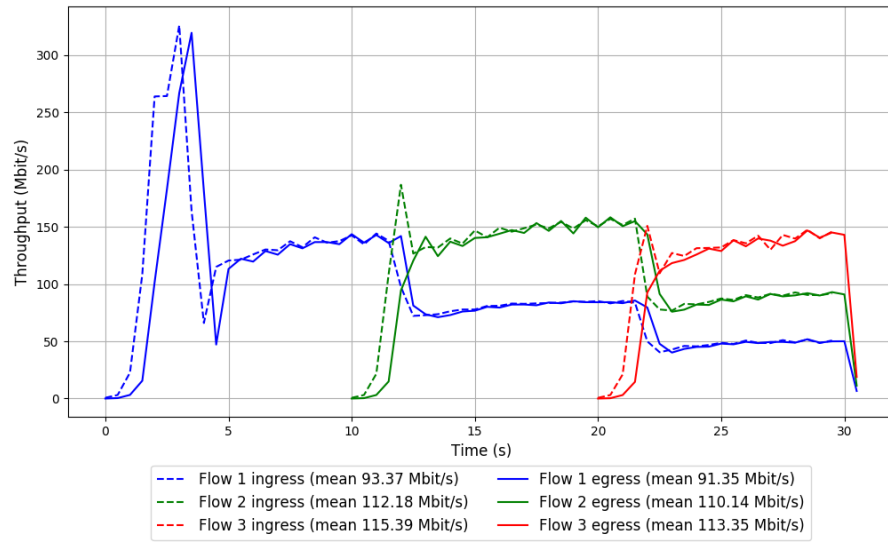
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-12-11 12:39:19
End at: 2018-12-11 12:39:49
Local clock offset: -10.097 ms
Remote clock offset: -43.329 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.41 Mbit/s
95th percentile per-packet one-way delay: 68.823 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 69.172 ms
Loss rate: 2.16%
-- Flow 2:
Average throughput: 110.14 Mbit/s
95th percentile per-packet one-way delay: 68.087 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 113.35 Mbit/s
95th percentile per-packet one-way delay: 67.945 ms
Loss rate: 1.77%
```

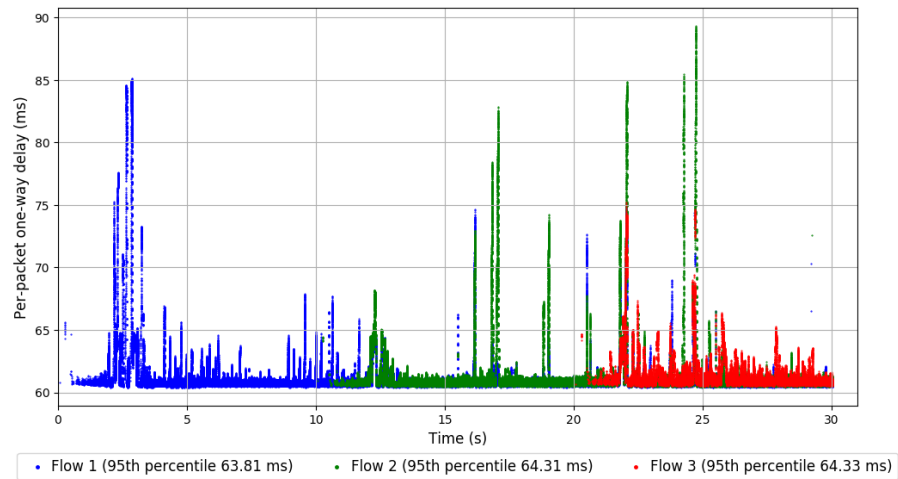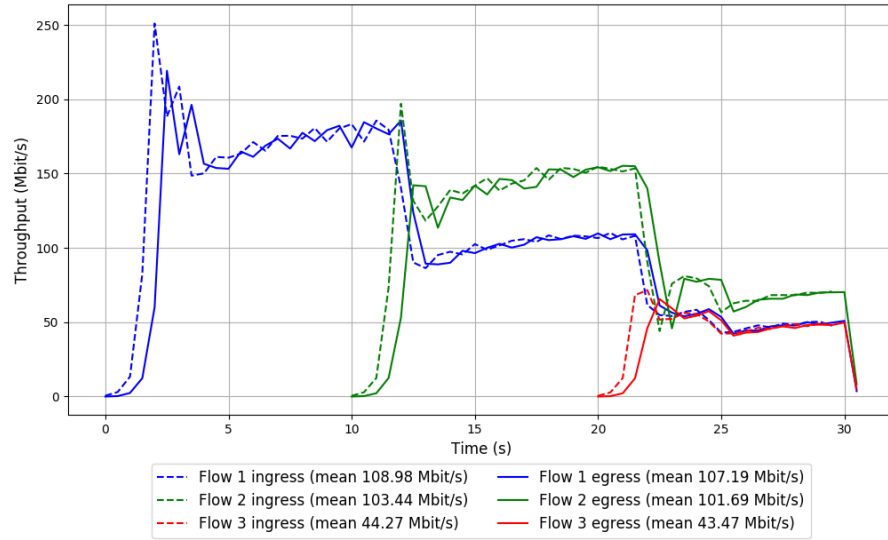Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 93.37 Mbit/s)
Flow 1 egress (mean 91.35 Mbit/s)
Flow 2 ingress (mean 112.18 Mbit/s)
Flow 2 egress (mean 110.14 Mbit/s)
Flow 3 ingress (mean 115.39 Mbit/s)
Flow 3 egress (mean 113.35 Mbit/s)

Flow 1 (95th percentile 69.17 ms)
Flow 2 (95th percentile 68.09 ms)
Flow 3 (95th percentile 67.94 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-12-11 13:12:57
End at: 2018-12-11 13:13:27
Local clock offset: -1.409 ms
Remote clock offset: -45.846 ms

# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.39 Mbit/s
95th percentile per-packet one-way delay: 63.970 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 107.19 Mbit/s
95th percentile per-packet one-way delay: 63.815 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 101.69 Mbit/s
95th percentile per-packet one-way delay: 64.313 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 43.47 Mbit/s
95th percentile per-packet one-way delay: 64.329 ms
Loss rate: 1.81%
```
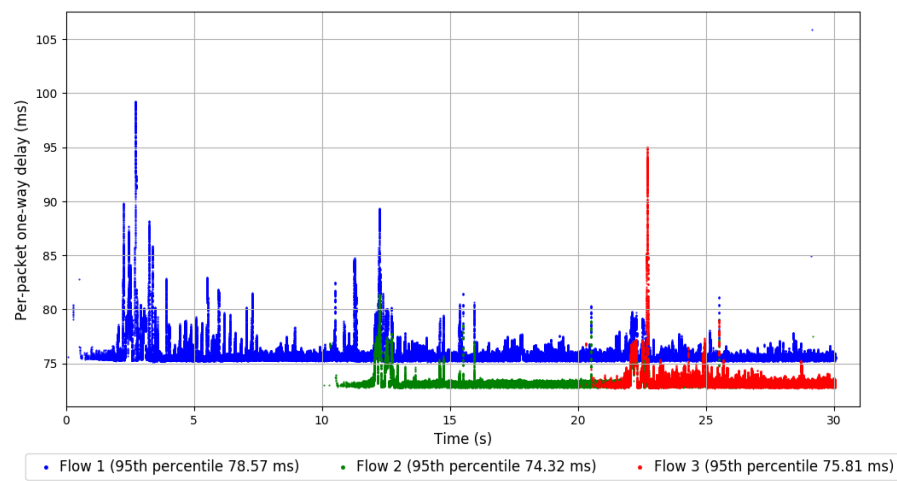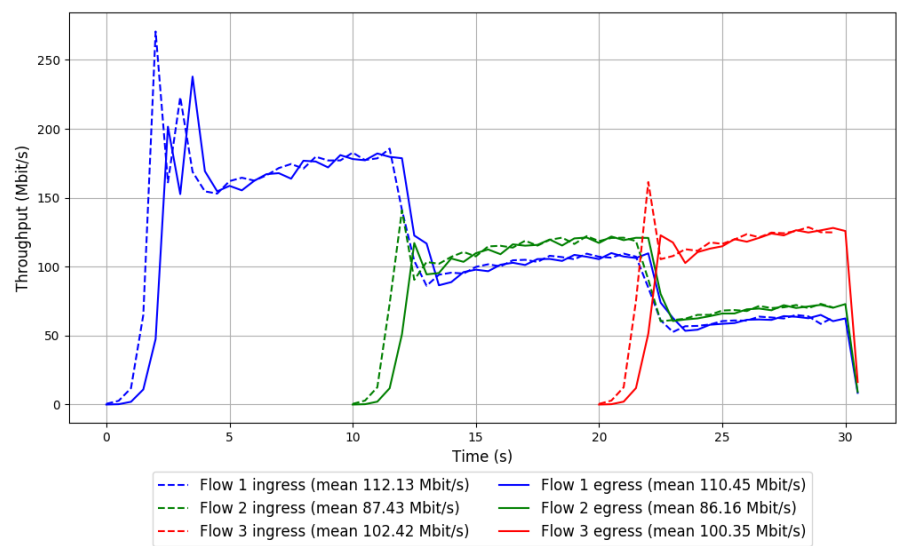
Run 2: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 108.98 Mbit/s) —— Flow 1 egress (mean 107.19 Mbit/s)
- - - Flow 2 ingress (mean 103.44 Mbit/s) —— Flow 2 egress (mean 101.69 Mbit/s)
- - - Flow 3 ingress (mean 44.27 Mbit/s) —— Flow 3 egress (mean 43.47 Mbit/s)

• Flow 1 (95th percentile 63.81 ms)   • Flow 2 (95th percentile 64.31 ms)   • Flow 3 (95th percentile 64.33 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-12-11 13:52:19
End at: 2018-12-11 13:52:49
Local clock offset: -8.812 ms
Remote clock offset: -42.674 ms


# Below is generated by plot.py at 2018-12-11 15:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 201.21 Mbit/s
95th percentile per-packet one-way delay: 77.283 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 110.45 Mbit/s
95th percentile per-packet one-way delay: 78.573 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 86.16 Mbit/s
95th percentile per-packet one-way delay: 74.321 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 100.35 Mbit/s
95th percentile per-packet one-way delay: 75.813 ms
Loss rate: 2.01%
```

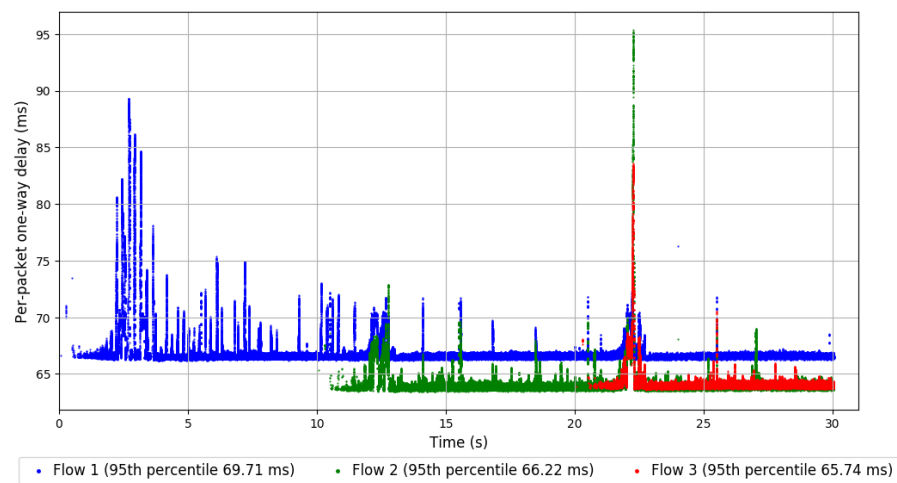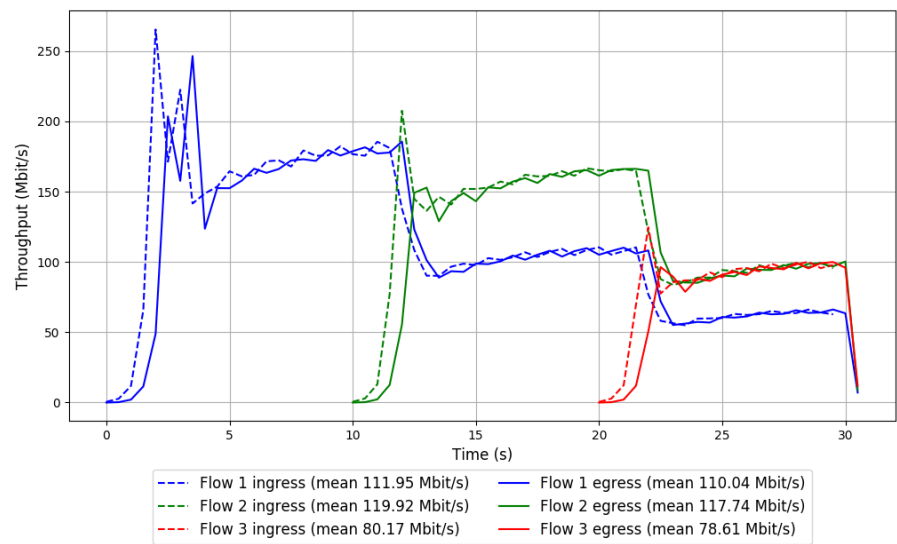Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2018-12-11 14:41:27
End at: 2018-12-11 14:41:57
Local clock offset: 0.914 ms
Remote clock offset: -42.483 ms


# Below is generated by plot.py at 2018-12-11 15:26:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.61 Mbit/s
95th percentile per-packet one-way delay: 68.003 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 110.04 Mbit/s
95th percentile per-packet one-way delay: 69.708 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 117.74 Mbit/s
95th percentile per-packet one-way delay: 66.224 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 78.61 Mbit/s
95th percentile per-packet one-way delay: 65.742 ms
Loss rate: 1.94%
```
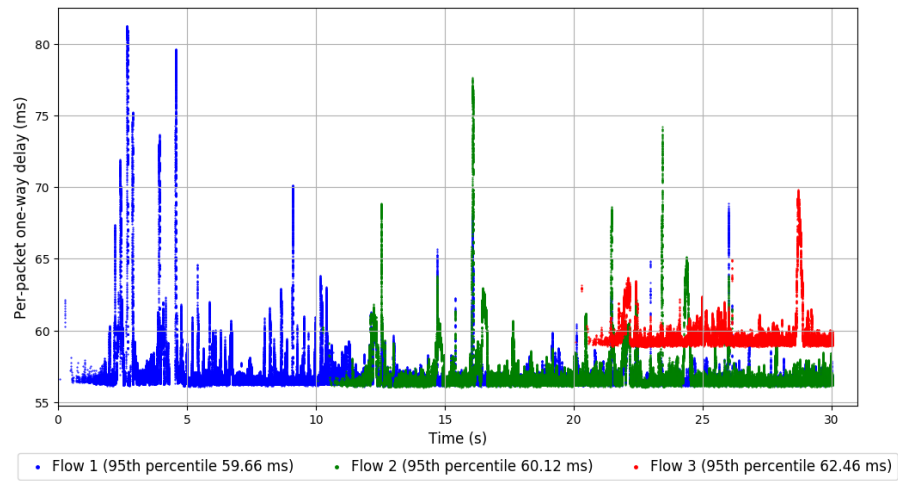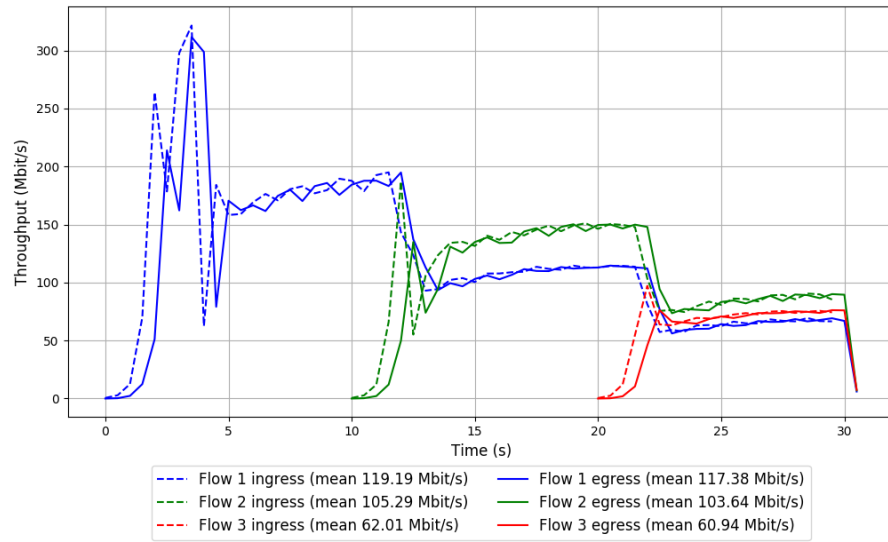
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-12-11 15:09:25
End at: 2018-12-11 15:09:55
Local clock offset: 3.2 ms
Remote clock offset: -48.915 ms


# Below is generated by plot.py at 2018-12-11 15:26:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.68 Mbit/s
95th percentile per-packet one-way delay: 60.170 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 117.38 Mbit/s
95th percentile per-packet one-way delay: 59.655 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 103.64 Mbit/s
95th percentile per-packet one-way delay: 60.122 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 60.94 Mbit/s
95th percentile per-packet one-way delay: 62.463 ms
Loss rate: 1.73%
```

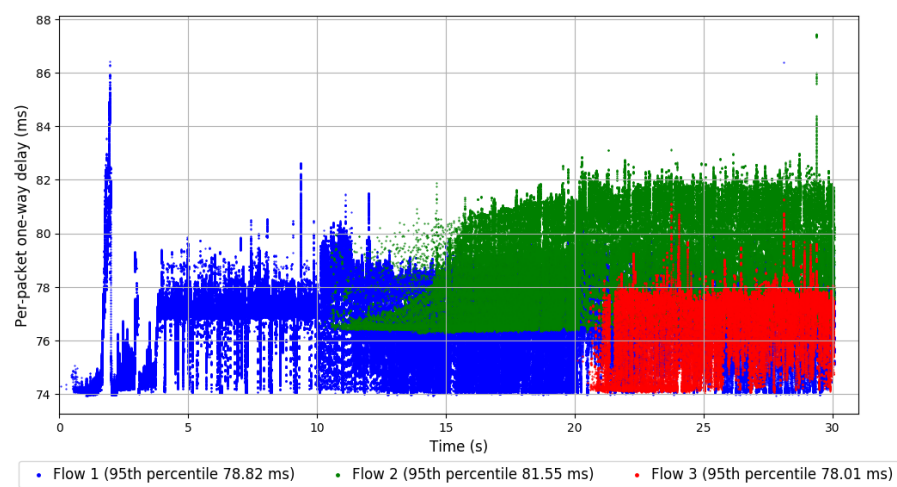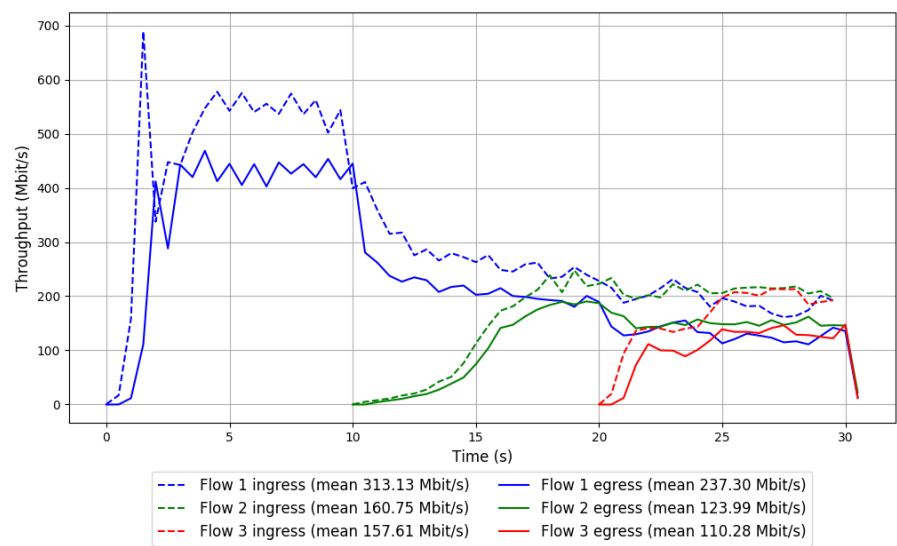Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-12-11 12:24:43
End at: 2018-12-11 12:25:13
Local clock offset: -8.779 ms
Remote clock offset: -33.794 ms


# Below is generated by plot.py at 2018-12-11 15:28:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.48 Mbit/s
95th percentile per-packet one-way delay: 80.754 ms
Loss rate: 24.54%
-- Flow 1:
Average throughput: 237.30 Mbit/s
95th percentile per-packet one-way delay: 78.821 ms
Loss rate: 24.21%
-- Flow 2:
Average throughput: 123.99 Mbit/s
95th percentile per-packet one-way delay: 81.552 ms
Loss rate: 22.85%
-- Flow 3:
Average throughput: 110.28 Mbit/s
95th percentile per-packet one-way delay: 78.006 ms
Loss rate: 30.01%
```

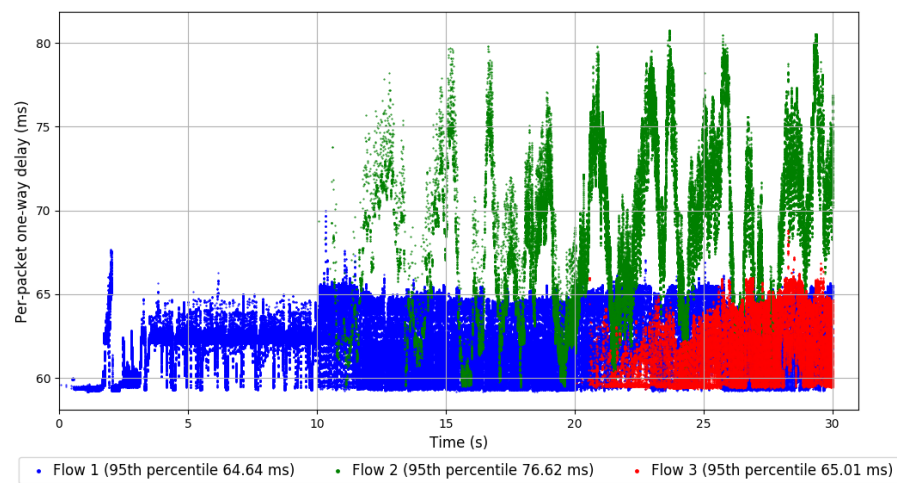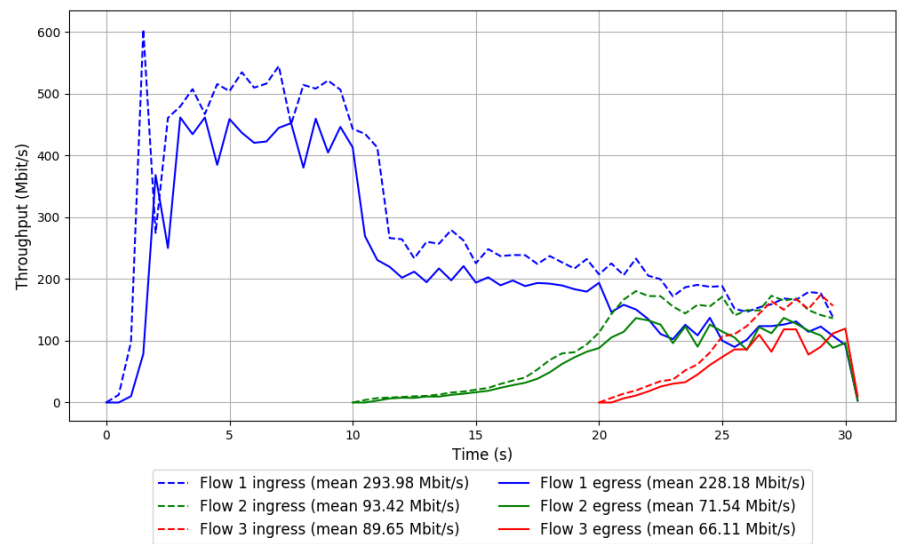Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-12-11 12:58:15
End at: 2018-12-11 12:58:45
Local clock offset: 0.669 ms
Remote clock offset: -44.699 ms

# Below is generated by plot.py at 2018-12-11 15:28:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.62 Mbit/s
95th percentile per-packet one-way delay: 70.829 ms
Loss rate: 22.86%
-- Flow 1:
Average throughput: 228.18 Mbit/s
95th percentile per-packet one-way delay: 64.636 ms
Loss rate: 22.37%
-- Flow 2:
Average throughput: 71.54 Mbit/s
95th percentile per-packet one-way delay: 76.617 ms
Loss rate: 23.53%
-- Flow 3:
Average throughput: 66.11 Mbit/s
95th percentile per-packet one-way delay: 65.006 ms
Loss rate: 26.26%
```

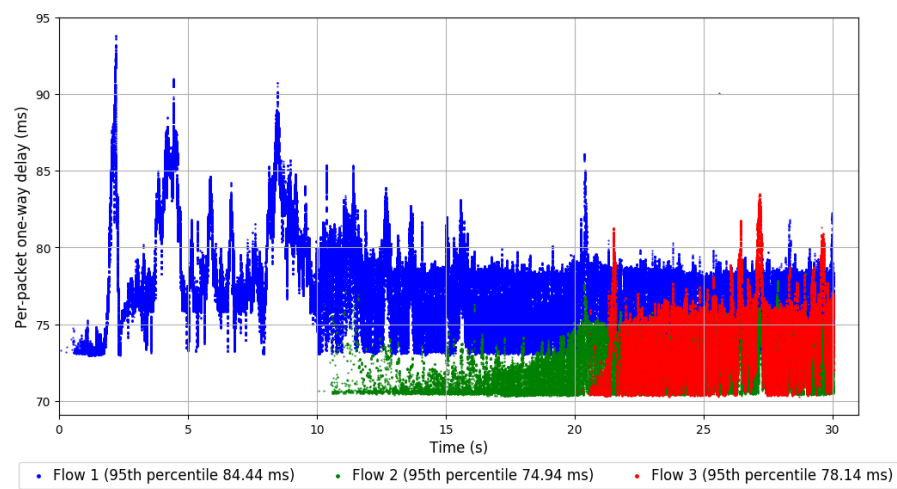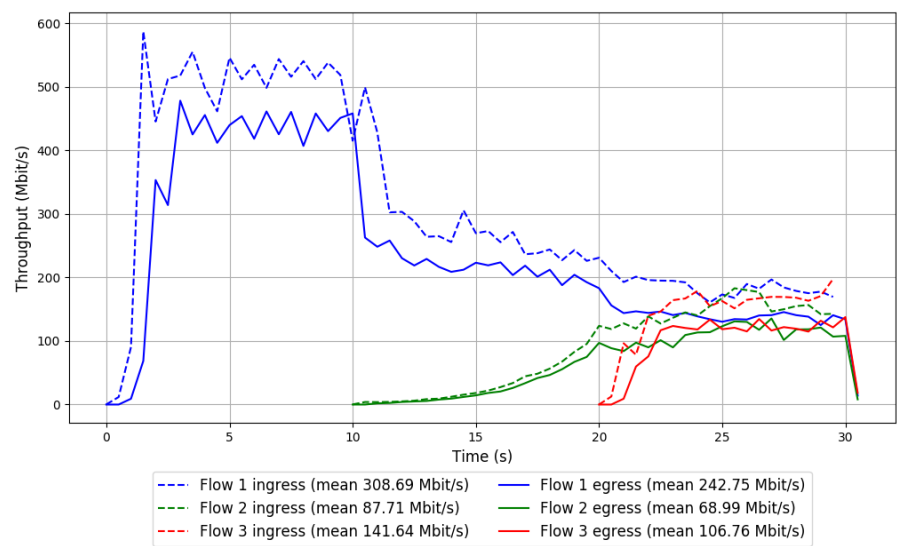Run 2: Report of FillP — Data Link

38

```
Run 3: Statistics of FillP

Start at: 2018-12-11 13:31:46
End at: 2018-12-11 13:32:16
Local clock offset: -9.663 ms
Remote clock offset: -44.501 ms

# Below is generated by plot.py at 2018-12-11 15:28:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.13 Mbit/s
95th percentile per-packet one-way delay: 83.797 ms
Loss rate: 21.72%
-- Flow 1:
Average throughput: 242.75 Mbit/s
95th percentile per-packet one-way delay: 84.438 ms
Loss rate: 21.35%
-- Flow 2:
Average throughput: 68.99 Mbit/s
95th percentile per-packet one-way delay: 74.943 ms
Loss rate: 21.35%
-- Flow 3:
Average throughput: 106.76 Mbit/s
95th percentile per-packet one-way delay: 78.143 ms
Loss rate: 24.61%
```

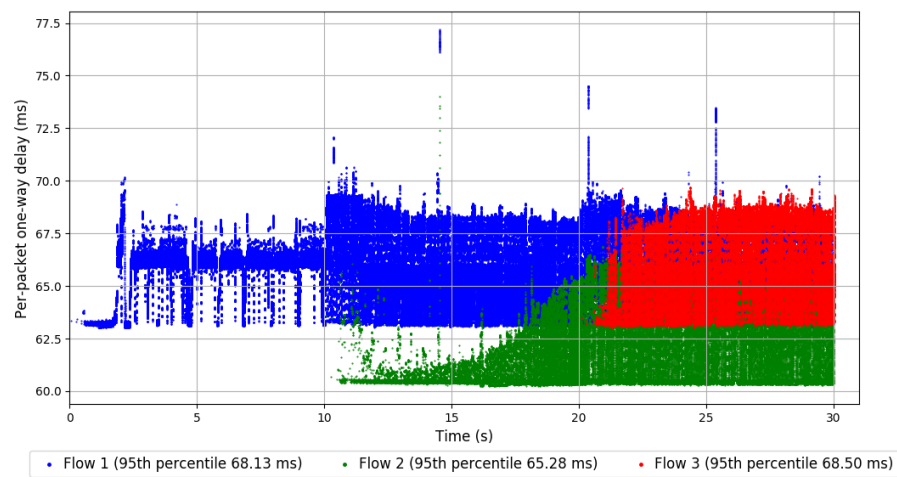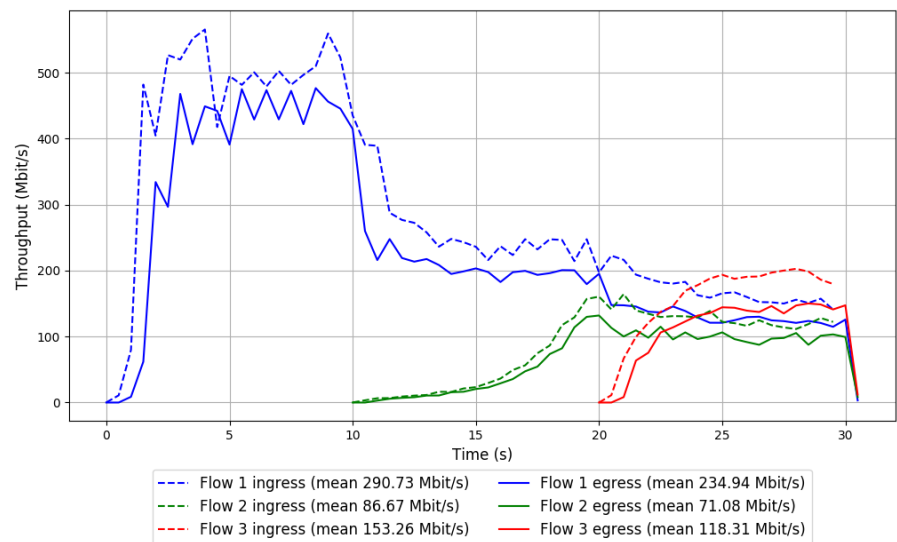Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-12-11 14:11:05
End at: 2018-12-11 14:11:35
Local clock offset: 2.142 ms
Remote clock offset: -44.11 ms

# Below is generated by plot.py at 2018-12-11 15:28:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.28 Mbit/s
95th percentile per-packet one-way delay: 68.138 ms
Loss rate: 19.47%
-- Flow 1:
Average throughput: 234.94 Mbit/s
95th percentile per-packet one-way delay: 68.131 ms
Loss rate: 19.18%
-- Flow 2:
Average throughput: 71.08 Mbit/s
95th percentile per-packet one-way delay: 65.280 ms
Loss rate: 17.99%
-- Flow 3:
Average throughput: 118.31 Mbit/s
95th percentile per-packet one-way delay: 68.500 ms
Loss rate: 22.80%
```

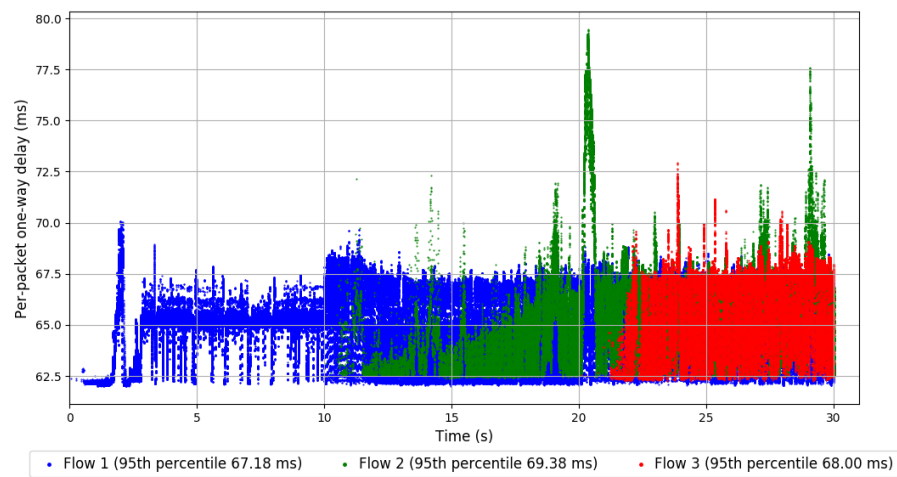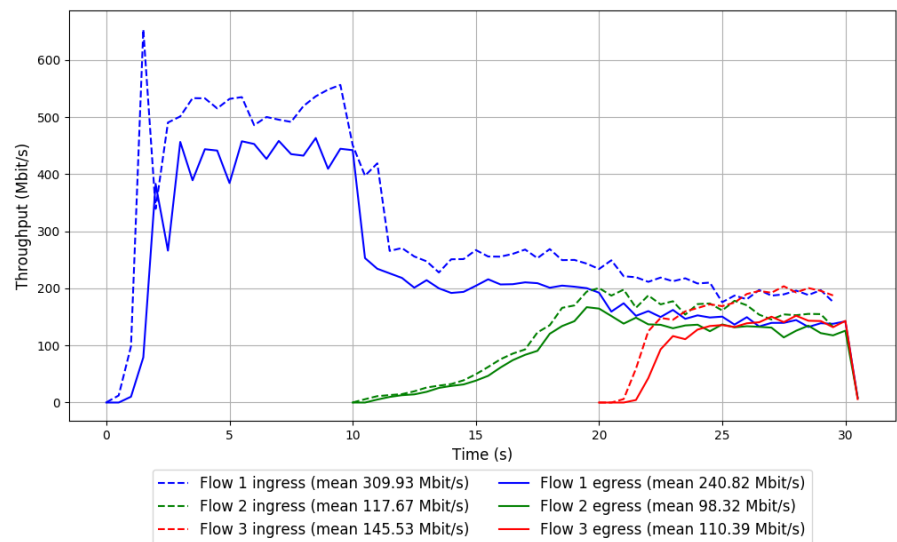## Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-12-11 14:54:24
End at: 2018-12-11 14:54:54
Local clock offset: 2.944 ms
Remote clock offset: -42.581 ms


# Below is generated by plot.py at 2018-12-11 15:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.71 Mbit/s
95th percentile per-packet one-way delay: 67.592 ms
Loss rate: 21.45%
-- Flow 1:
Average throughput: 240.82 Mbit/s
95th percentile per-packet one-way delay: 67.178 ms
Loss rate: 22.30%
-- Flow 2:
Average throughput: 98.32 Mbit/s
95th percentile per-packet one-way delay: 69.384 ms
Loss rate: 16.45%
-- Flow 3:
Average throughput: 110.39 Mbit/s
95th percentile per-packet one-way delay: 67.996 ms
Loss rate: 24.13%
```

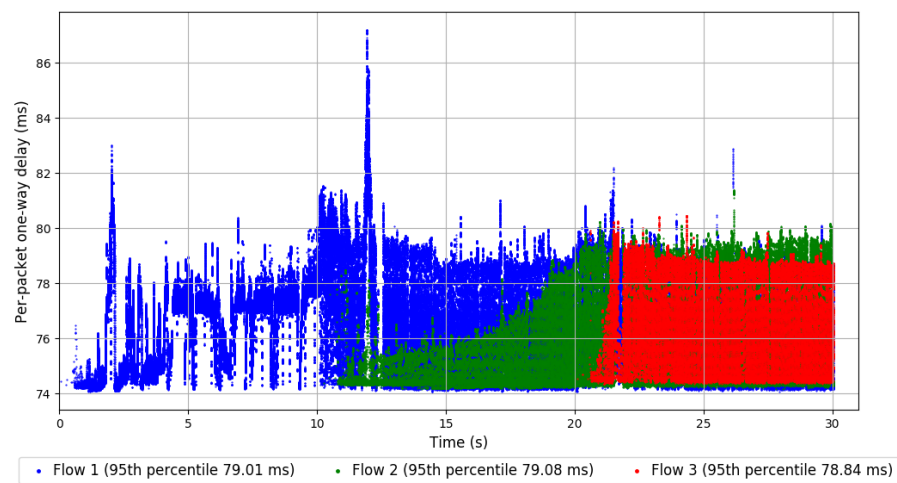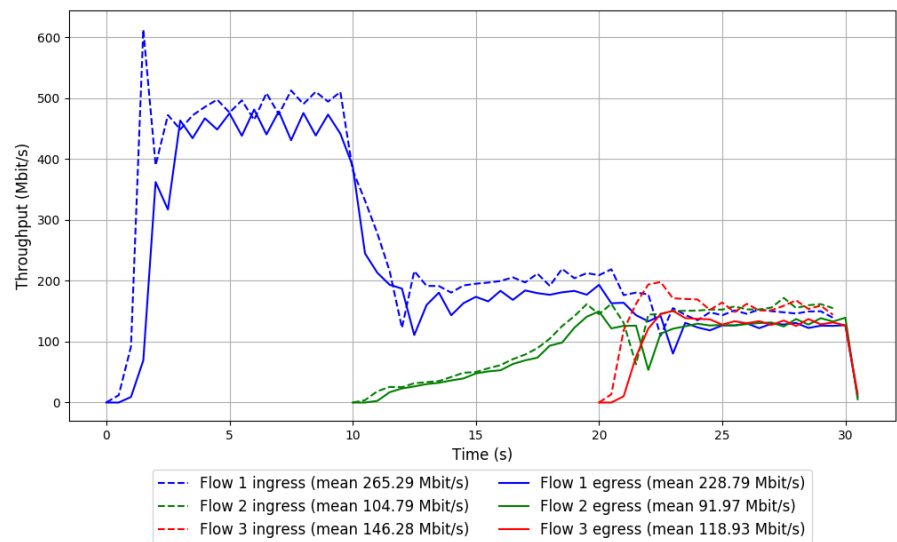Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-12-11 12:53:27
End at: 2018-12-11 12:53:57
Local clock offset: -11.175 ms
Remote clock offset: -41.983 ms


# Below is generated by plot.py at 2018-12-11 15:29:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.44 Mbit/s
95th percentile per-packet one-way delay: 79.000 ms
Loss rate: 14.11%
-- Flow 1:
Average throughput: 228.79 Mbit/s
95th percentile per-packet one-way delay: 79.010 ms
Loss rate: 13.76%
-- Flow 2:
Average throughput: 91.97 Mbit/s
95th percentile per-packet one-way delay: 79.079 ms
Loss rate: 12.25%
-- Flow 3:
Average throughput: 118.93 Mbit/s
95th percentile per-packet one-way delay: 78.841 ms
Loss rate: 18.69%
```
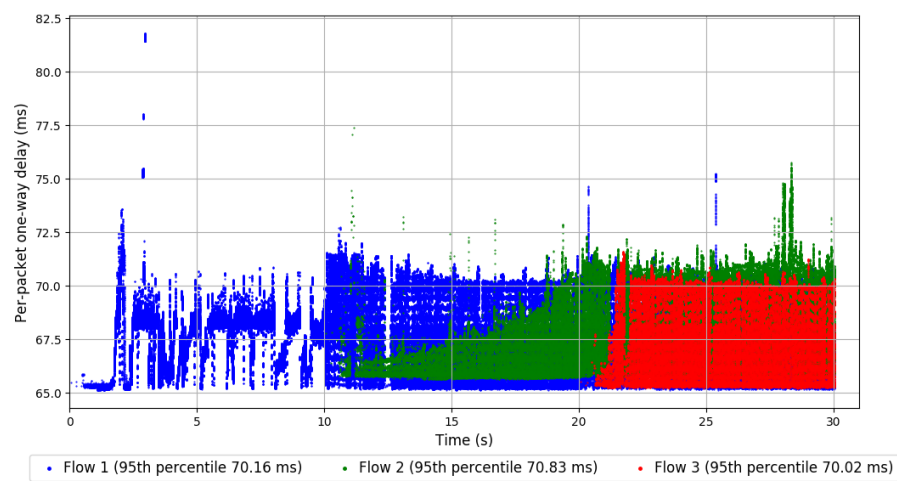
Run 1: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 265.29 Mbit/s) ——— Flow 1 egress (mean 228.79 Mbit/s)
- - - - Flow 2 ingress (mean 104.79 Mbit/s) ——— Flow 2 egress (mean 91.97 Mbit/s)
- - - - Flow 3 ingress (mean 146.28 Mbit/s) ——— Flow 3 egress (mean 118.93 Mbit/s)

• Flow 1 (95th percentile 79.01 ms) • Flow 2 (95th percentile 79.08 ms) • Flow 3 (95th percentile 78.84 ms)
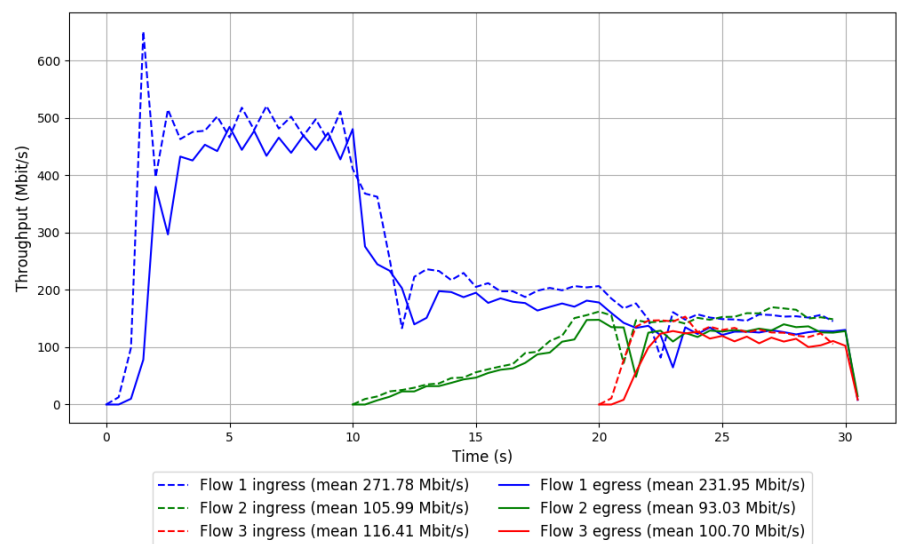
46

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-12-11 13:27:18
End at: 2018-12-11 13:27:48
Local clock offset: 0.778 ms
Remote clock offset: -38.985 ms


# Below is generated by plot.py at 2018-12-11 15:30:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.17 Mbit/s
95th percentile per-packet one-way delay: 70.343 ms
Loss rate: 14.09%
-- Flow 1:
Average throughput: 231.95 Mbit/s
95th percentile per-packet one-way delay: 70.159 ms
Loss rate: 14.66%
-- Flow 2:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 70.829 ms
Loss rate: 12.23%
-- Flow 3:
Average throughput: 100.70 Mbit/s
95th percentile per-packet one-way delay: 70.016 ms
Loss rate: 13.49%
```

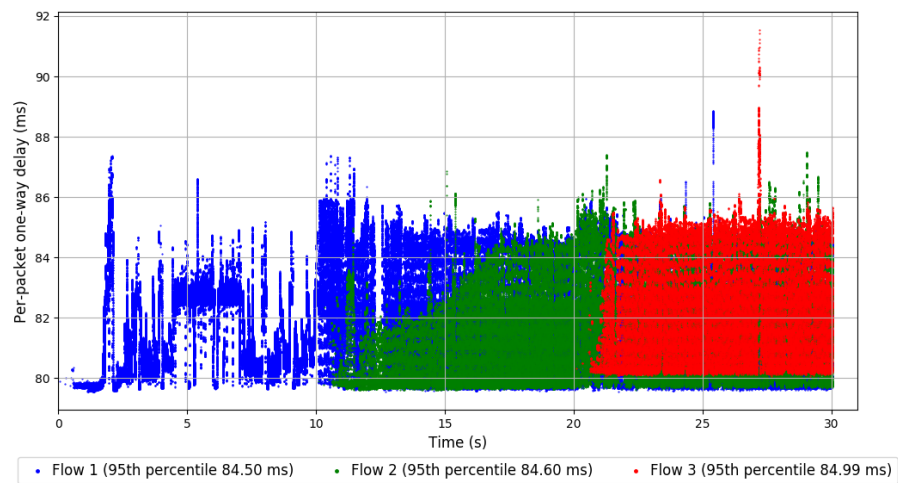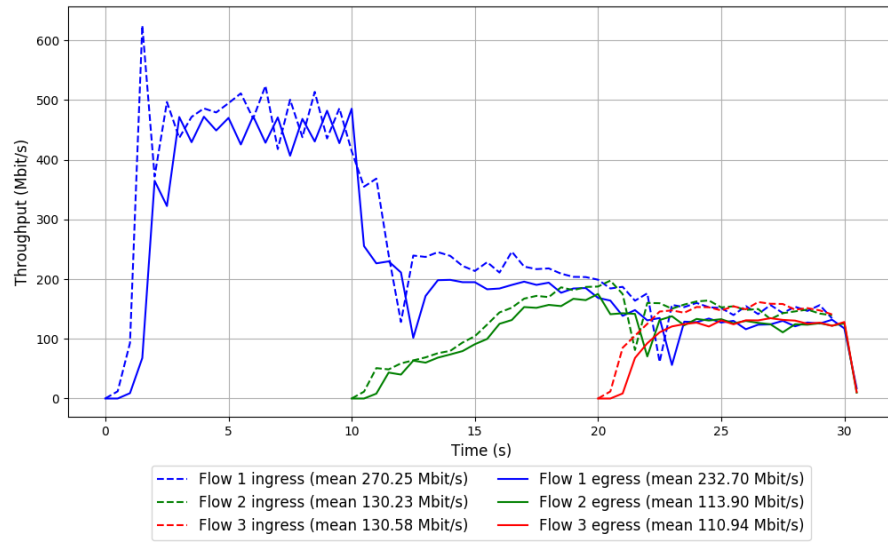# Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 271.78 Mbit/s) — — — Flow 1 egress (mean 231.95 Mbit/s)
Flow 2 ingress (mean 105.99 Mbit/s) — — — Flow 2 egress (mean 93.03 Mbit/s)
Flow 3 ingress (mean 116.41 Mbit/s) — — — Flow 3 egress (mean 100.70 Mbit/s)

Flow 1 (95th percentile 70.16 ms)   Flow 2 (95th percentile 70.83 ms)   Flow 3 (95th percentile 70.02 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-12-11 14:06:28
End at: 2018-12-11 14:06:58
Local clock offset: -10.629 ms
Remote clock offset: -37.524 ms


# Below is generated by plot.py at 2018-12-11 15:30:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.24 Mbit/s
95th percentile per-packet one-way delay: 84.638 ms
Loss rate: 13.72%
-- Flow 1:
Average throughput: 232.70 Mbit/s
95th percentile per-packet one-way delay: 84.505 ms
Loss rate: 13.89%
-- Flow 2:
Average throughput: 113.90 Mbit/s
95th percentile per-packet one-way delay: 84.604 ms
Loss rate: 12.54%
-- Flow 3:
Average throughput: 110.94 Mbit/s
95th percentile per-packet one-way delay: 84.994 ms
Loss rate: 15.03%
```
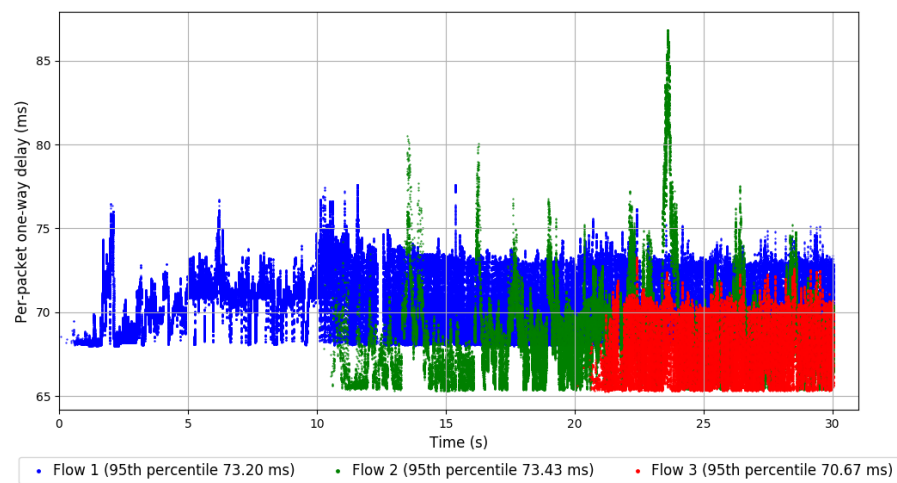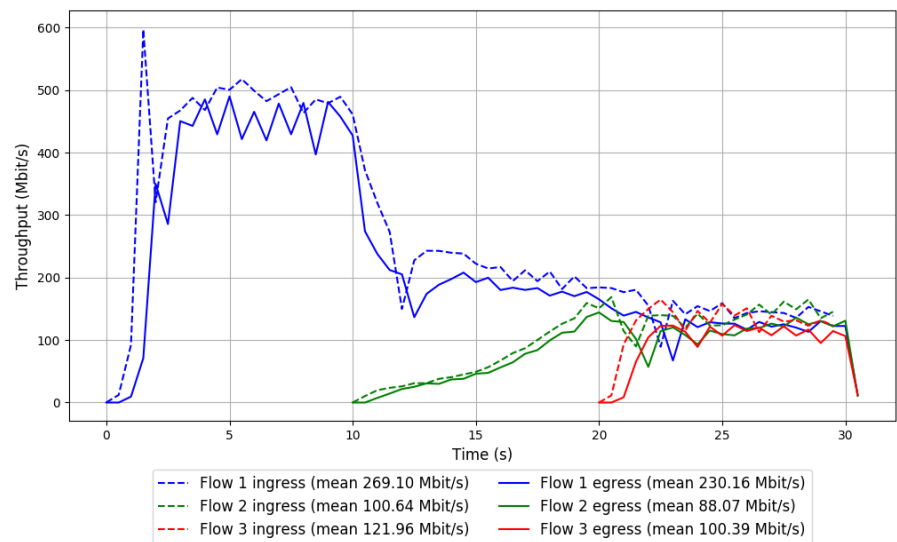
Run 3: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 270.25 Mbit/s) ——— Flow 1 egress (mean 232.70 Mbit/s)
- - - Flow 2 ingress (mean 130.23 Mbit/s) ——— Flow 2 egress (mean 113.90 Mbit/s)
- - - Flow 3 ingress (mean 130.58 Mbit/s) ——— Flow 3 egress (mean 110.94 Mbit/s)

• Flow 1 (95th percentile 84.50 ms)   • Flow 2 (95th percentile 84.60 ms)   • Flow 3 (95th percentile 84.99 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-12-11 14:49:58
End at: 2018-12-11 14:50:28
Local clock offset: 3.195 ms
Remote clock offset: -39.025 ms


# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.02 Mbit/s
95th percentile per-packet one-way delay: 73.118 ms
Loss rate: 14.46%
-- Flow 1:
Average throughput: 230.16 Mbit/s
95th percentile per-packet one-way delay: 73.200 ms
Loss rate: 14.46%
-- Flow 2:
Average throughput: 88.07 Mbit/s
95th percentile per-packet one-way delay: 73.434 ms
Loss rate: 12.50%
-- Flow 3:
Average throughput: 100.39 Mbit/s
95th percentile per-packet one-way delay: 70.670 ms
Loss rate: 17.65%
```
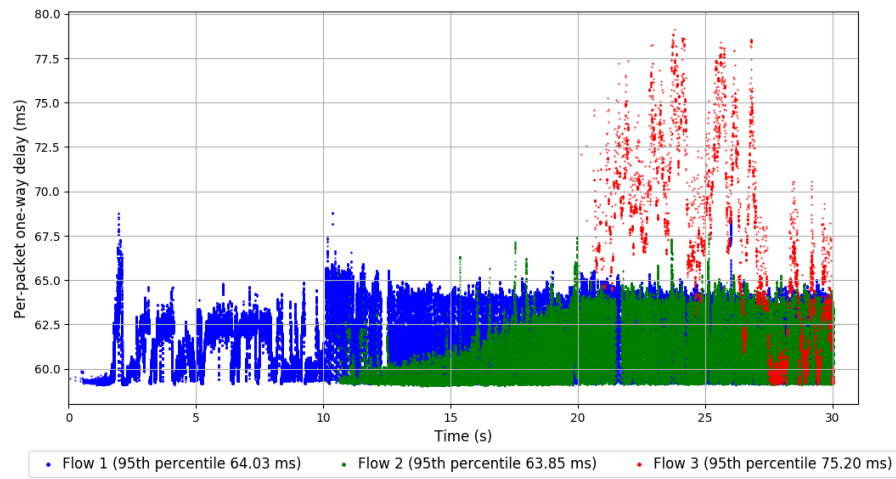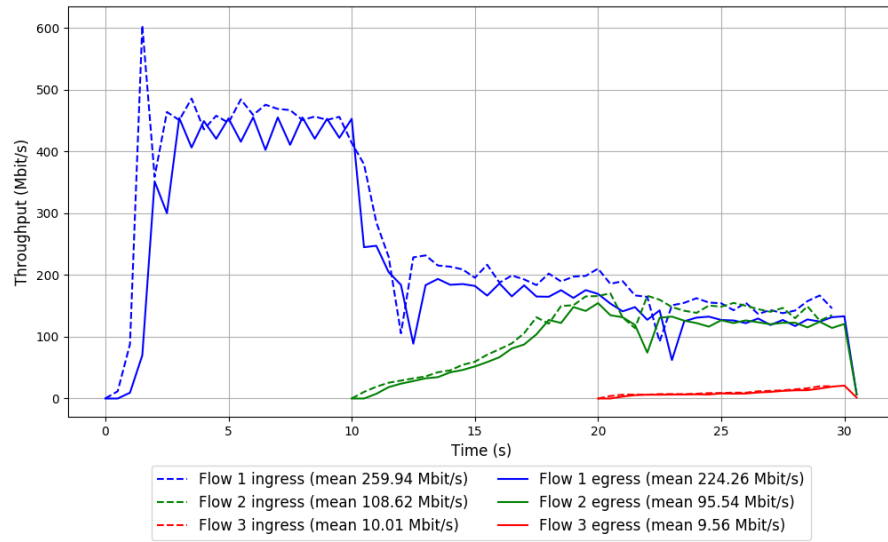
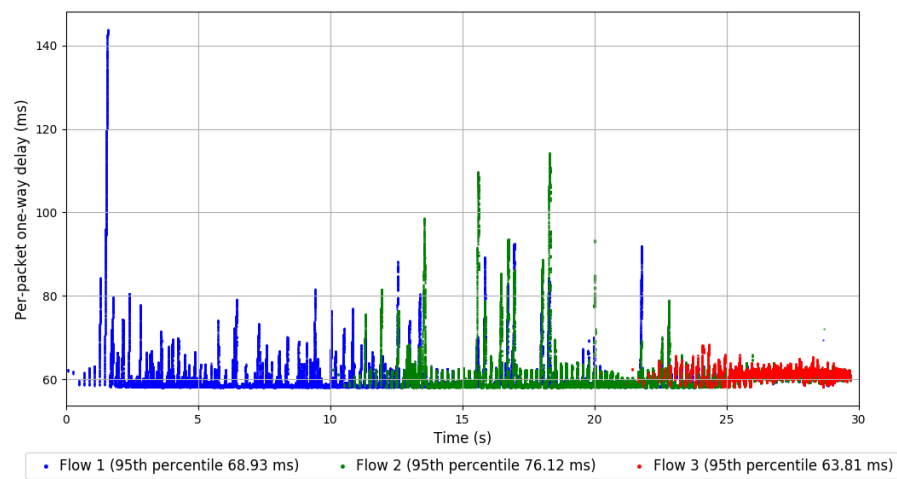Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-12-11 15:17:58
End at: 2018-12-11 15:18:28
Local clock offset: 3.047 ms
Remote clock offset: -46.486 ms


# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.91 Mbit/s
95th percentile per-packet one-way delay: 64.068 ms
Loss rate: 13.27%
-- Flow 1:
Average throughput: 224.26 Mbit/s
95th percentile per-packet one-way delay: 64.033 ms
Loss rate: 13.73%
-- Flow 2:
Average throughput: 95.54 Mbit/s
95th percentile per-packet one-way delay: 63.848 ms
Loss rate: 12.03%
-- Flow 3:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 75.204 ms
Loss rate: 4.55%
```

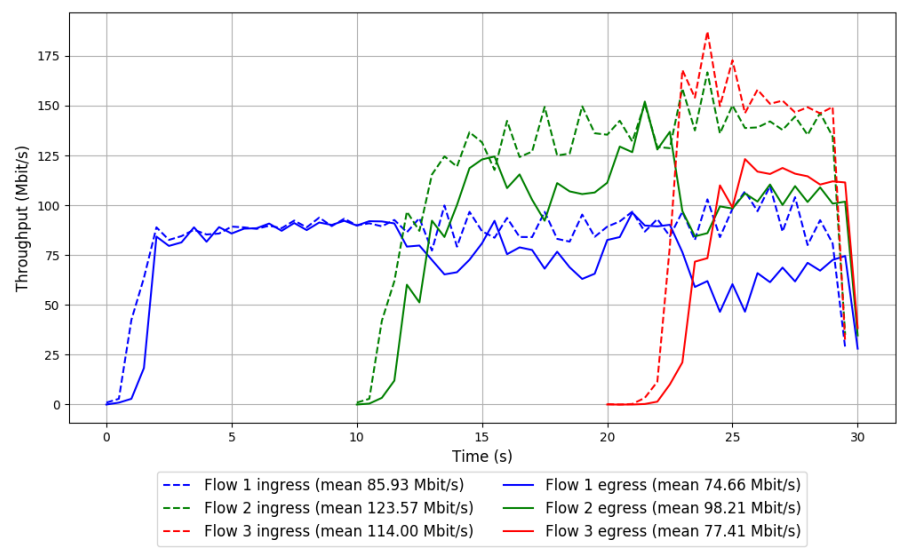# Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 259.94 Mbit/s) --- Flow 1 egress (mean 224.26 Mbit/s)
Flow 2 ingress (mean 108.62 Mbit/s) --- Flow 2 egress (mean 95.54 Mbit/s)
Flow 3 ingress (mean 10.01 Mbit/s) --- Flow 3 egress (mean 9.56 Mbit/s)

Flow 1 (95th percentile 64.03 ms)   Flow 2 (95th percentile 63.85 ms)   Flow 3 (95th percentile 75.20 ms)
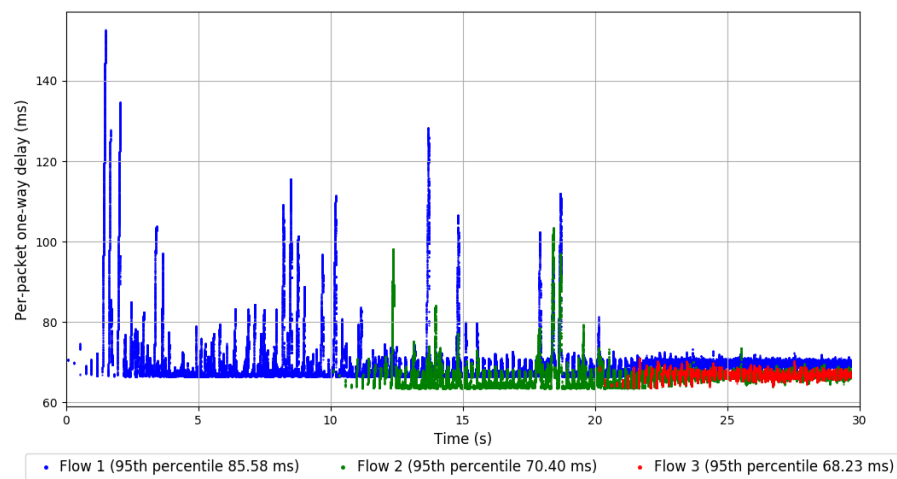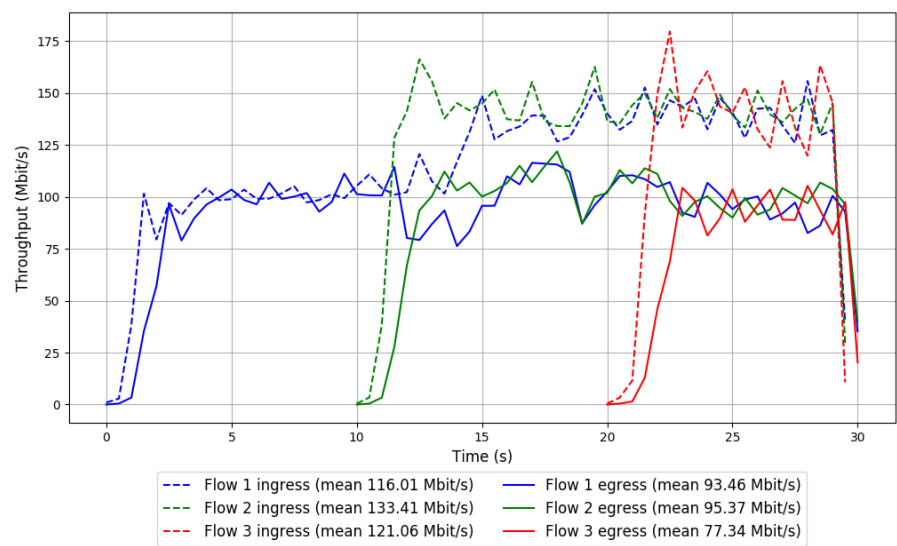
54

```
Run 1: Statistics of Indigo

Start at: 2018-12-11 12:33:41
End at: 2018-12-11 12:34:11
Local clock offset: 1.74 ms
Remote clock offset: -38.898 ms


# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.28 Mbit/s
95th percentile per-packet one-way delay: 69.010 ms
Loss rate: 19.47%
-- Flow 1:
Average throughput: 74.66 Mbit/s
95th percentile per-packet one-way delay: 68.931 ms
Loss rate: 13.11%
-- Flow 2:
Average throughput: 98.21 Mbit/s
95th percentile per-packet one-way delay: 76.119 ms
Loss rate: 20.53%
-- Flow 3:
Average throughput: 77.41 Mbit/s
95th percentile per-packet one-way delay: 63.806 ms
Loss rate: 32.10%
```
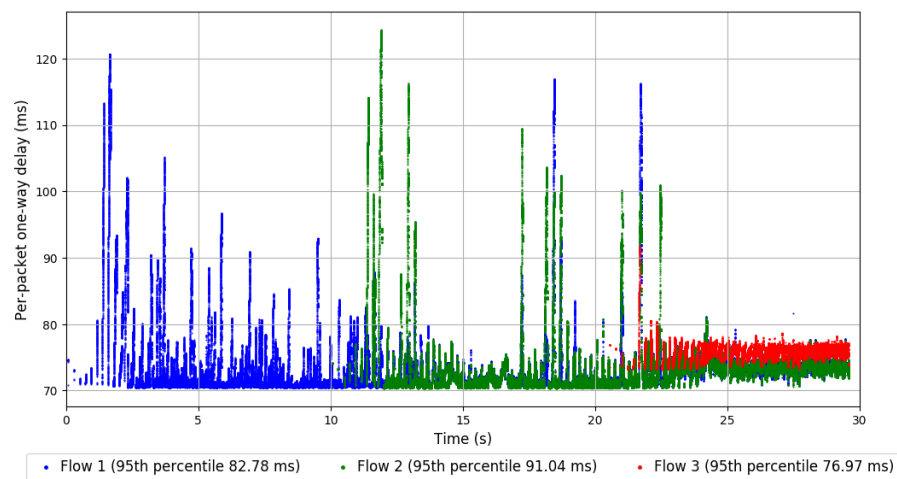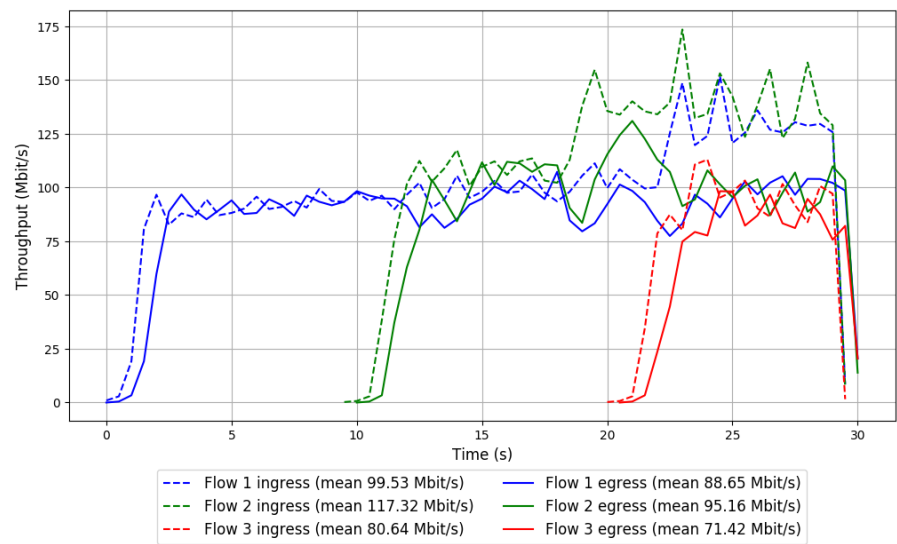
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-12-11 13:07:14
End at: 2018-12-11 13:07:44
Local clock offset: -0.707 ms
Remote clock offset: -41.974 ms

# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 181.24 Mbit/s
95th percentile per-packet one-way delay: 77.516 ms
Loss rate: 25.41%
-- Flow 1:
Average throughput: 93.46 Mbit/s
95th percentile per-packet one-way delay: 85.580 ms
Loss rate: 19.44%
-- Flow 2:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 70.397 ms
Loss rate: 28.54%
-- Flow 3:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 68.229 ms
Loss rate: 36.12%
```
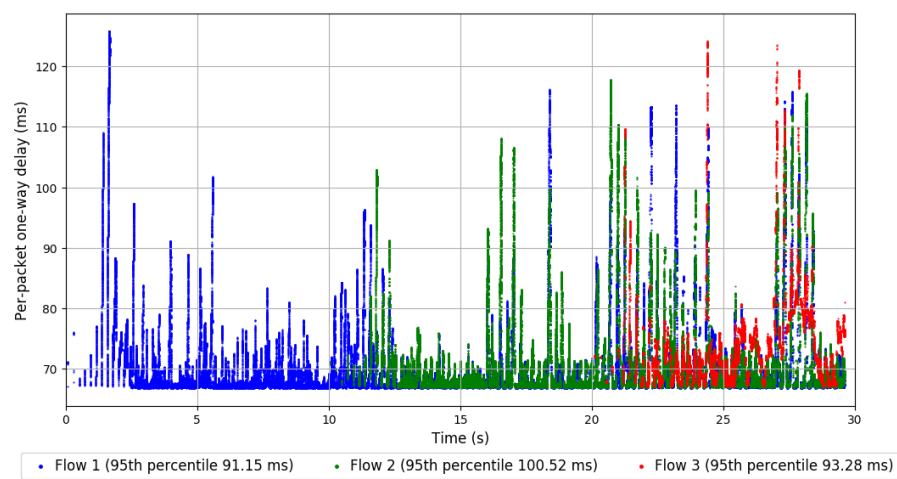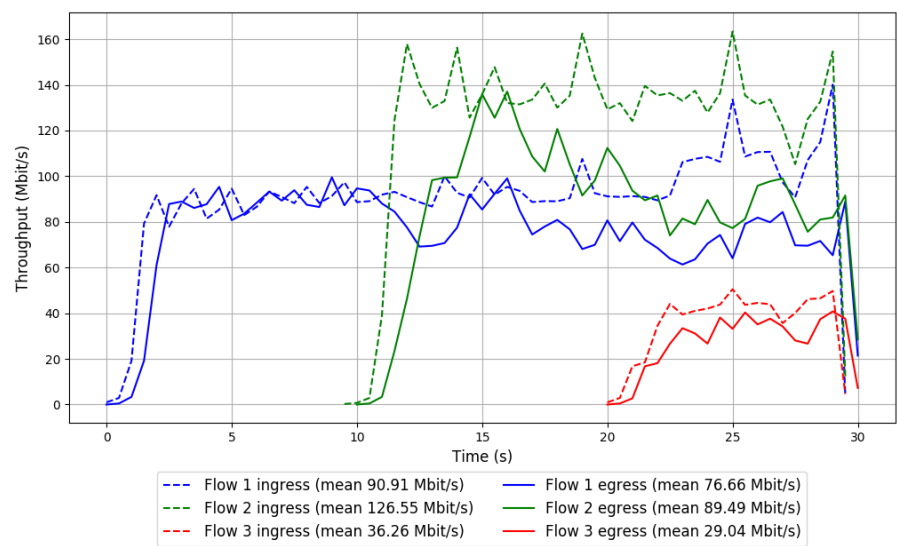
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-12-11 13:46:37
End at: 2018-12-11 13:47:07
Local clock offset: -9.642 ms
Remote clock offset: -45.385 ms


# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.49 Mbit/s
95th percentile per-packet one-way delay: 82.982 ms
Loss rate: 14.05%
-- Flow 1:
Average throughput: 88.65 Mbit/s
95th percentile per-packet one-way delay: 82.777 ms
Loss rate: 10.92%
-- Flow 2:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 91.037 ms
Loss rate: 18.88%
-- Flow 3:
Average throughput: 71.42 Mbit/s
95th percentile per-packet one-way delay: 76.974 ms
Loss rate: 11.43%
```
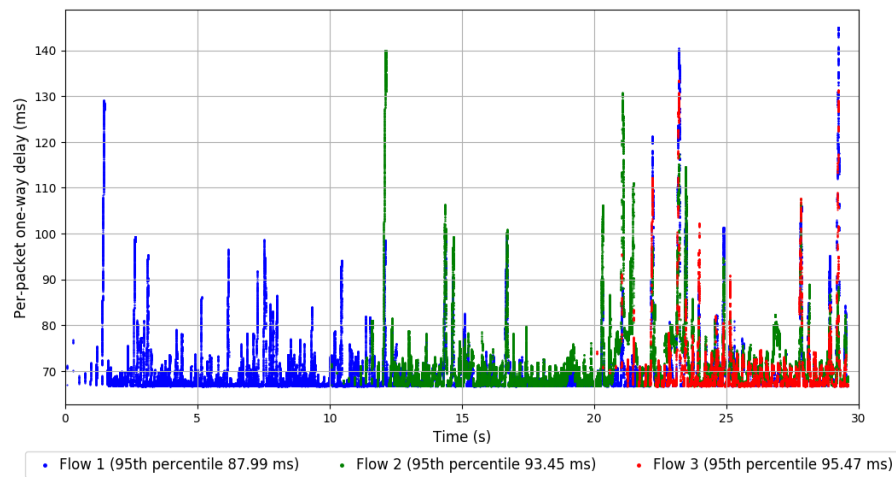
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-12-11 14:35:37
End at: 2018-12-11 14:36:07
Local clock offset: -7.829 ms
Remote clock offset: -47.414 ms


# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 145.20 Mbit/s
95th percentile per-packet one-way delay: 95.869 ms
Loss rate: 22.06%
-- Flow 1:
Average throughput: 76.66 Mbit/s
95th percentile per-packet one-way delay: 91.152 ms
Loss rate: 15.68%
-- Flow 2:
Average throughput: 89.49 Mbit/s
95th percentile per-packet one-way delay: 100.518 ms
Loss rate: 29.29%
-- Flow 3:
Average throughput: 29.04 Mbit/s
95th percentile per-packet one-way delay: 93.284 ms
Loss rate: 19.88%
```
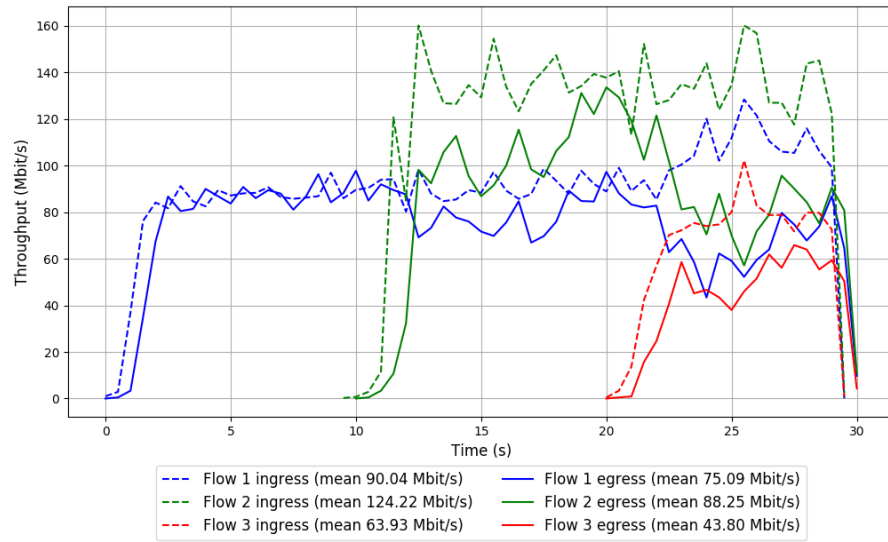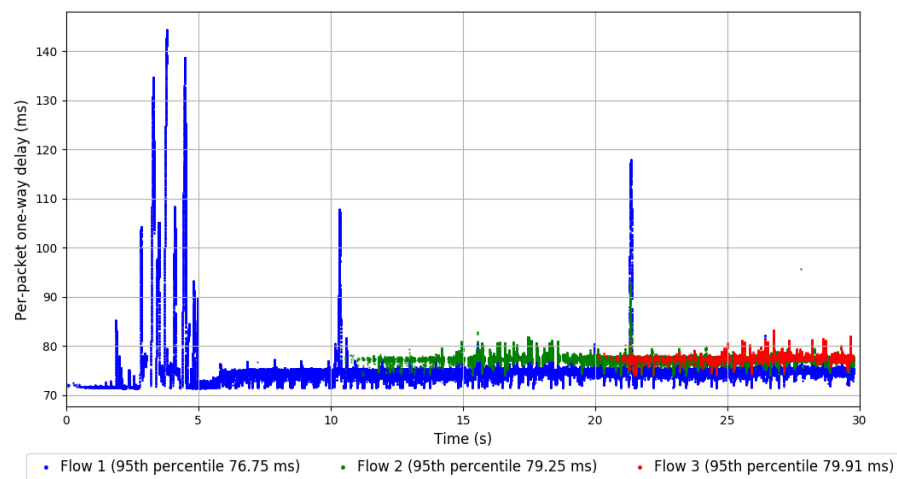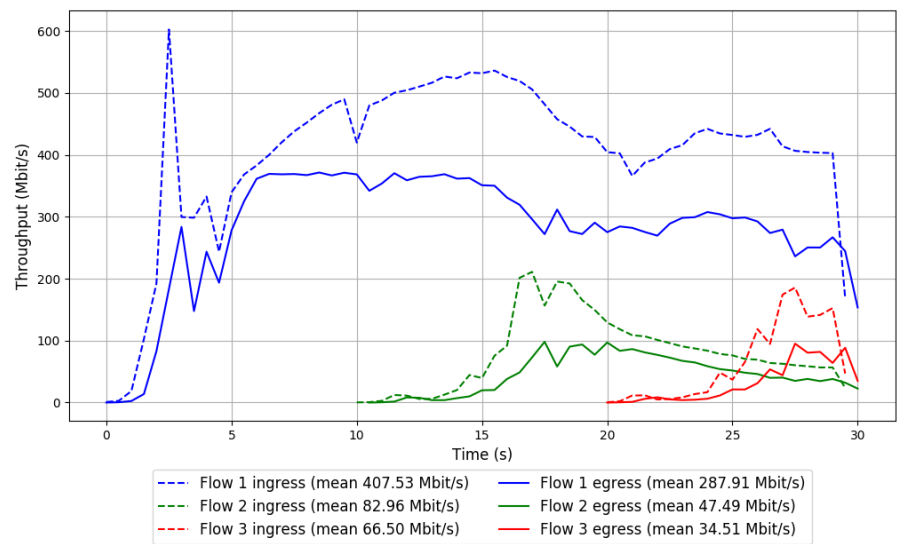
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 90.91 Mbit/s) — Flow 1 egress (mean 76.66 Mbit/s)
Flow 2 ingress (mean 126.55 Mbit/s) — Flow 2 egress (mean 89.49 Mbit/s)
Flow 3 ingress (mean 36.26 Mbit/s) — Flow 3 egress (mean 29.04 Mbit/s)

Flow 1 (95th percentile 91.15 ms) • Flow 2 (95th percentile 100.52 ms) • Flow 3 (95th percentile 93.28 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-12-11 15:03:44
End at: 2018-12-11 15:04:14
Local clock offset: 1.102 ms
Remote clock offset: -40.427 ms

# Below is generated by plot.py at 2018-12-11 15:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.49 Mbit/s
95th percentile per-packet one-way delay: 90.679 ms
Loss rate: 23.46%
-- Flow 1:
Average throughput: 75.09 Mbit/s
95th percentile per-packet one-way delay: 87.993 ms
Loss rate: 16.60%
-- Flow 2:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 93.454 ms
Loss rate: 28.95%
-- Flow 3:
Average throughput: 43.80 Mbit/s
95th percentile per-packet one-way delay: 95.467 ms
Loss rate: 31.54%
```
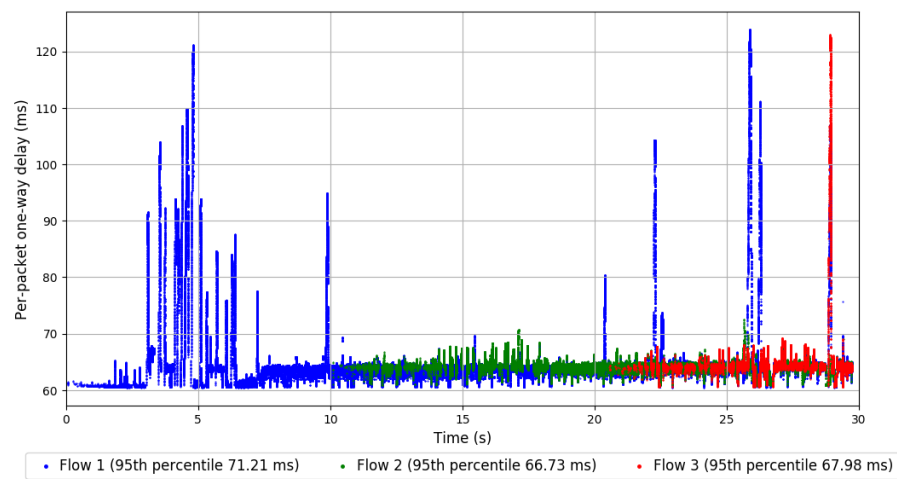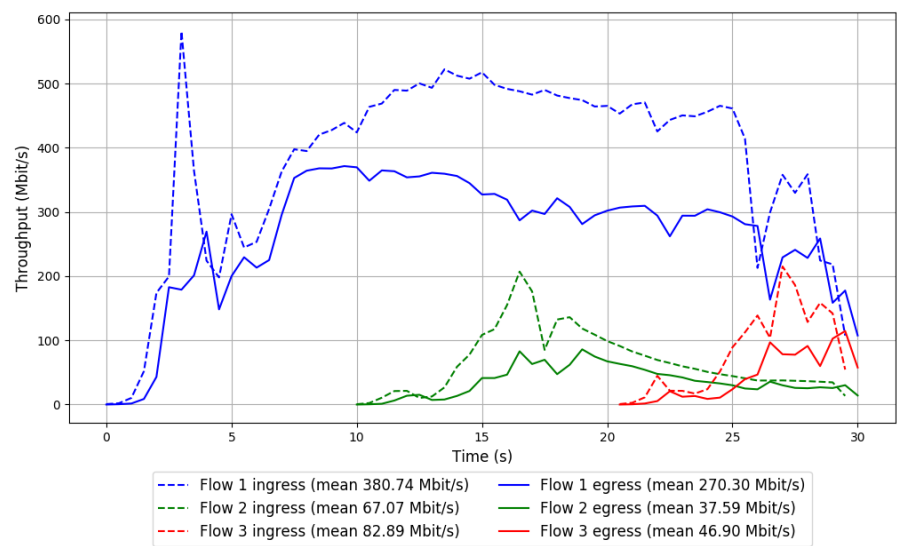
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 90.04 Mbit/s) — — — Flow 1 egress (mean 75.09 Mbit/s) ———
Flow 2 ingress (mean 124.22 Mbit/s) — — — Flow 2 egress (mean 88.25 Mbit/s) ———
Flow 3 ingress (mean 63.93 Mbit/s) — — — Flow 3 egress (mean 43.80 Mbit/s) ———

Flow 1 (95th percentile 87.99 ms)   Flow 2 (95th percentile 93.45 ms)   Flow 3 (95th percentile 95.47 ms)

64

```
Run 1: Statistics of Indigo-MusesD

Start at: 2018-12-11 12:32:04
End at: 2018-12-11 12:32:34
Local clock offset: -10.307 ms
Remote clock offset: -37.741 ms

# Below is generated by plot.py at 2018-12-11 15:34:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.81 Mbit/s
95th percentile per-packet one-way delay: 77.953 ms
Loss rate: 31.67%
-- Flow 1:
Average throughput: 287.91 Mbit/s
95th percentile per-packet one-way delay: 76.754 ms
Loss rate: 29.35%
-- Flow 2:
Average throughput: 47.49 Mbit/s
95th percentile per-packet one-way delay: 79.252 ms
Loss rate: 42.76%
-- Flow 3:
Average throughput: 34.51 Mbit/s
95th percentile per-packet one-way delay: 79.909 ms
Loss rate: 48.11%
```
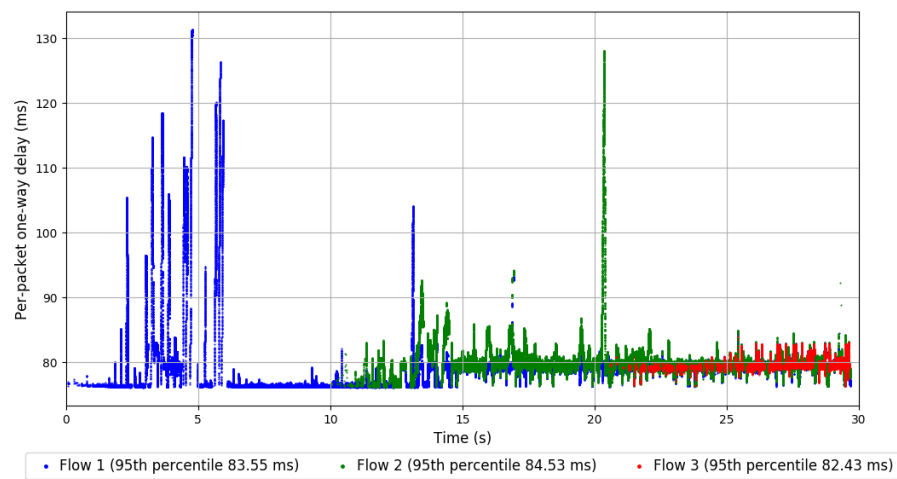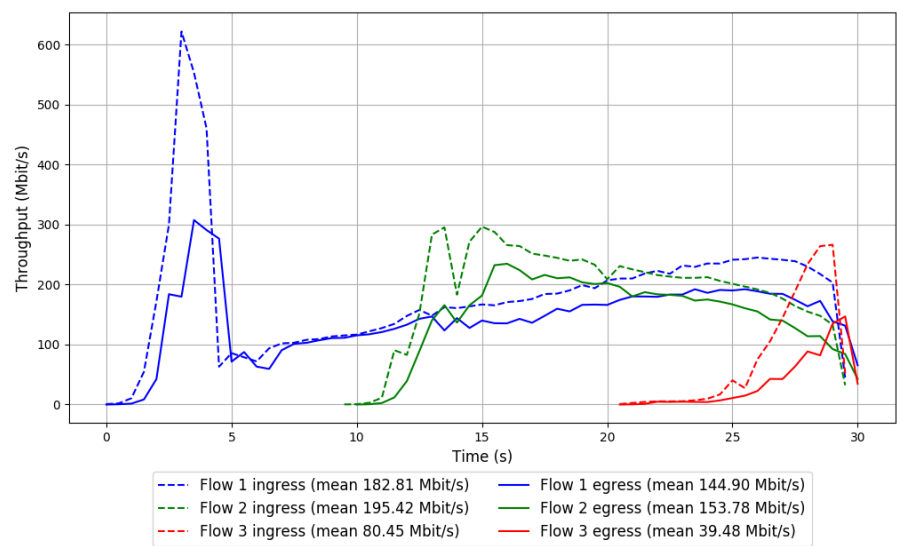
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2018-12-11 13:05:37
End at: 2018-12-11 13:06:07
Local clock offset: -0.939 ms
Remote clock offset: -45.159 ms


# Below is generated by plot.py at 2018-12-11 15:34:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.70 Mbit/s
95th percentile per-packet one-way delay: 68.637 ms
Loss rate: 31.29%
-- Flow 1:
Average throughput: 270.30 Mbit/s
95th percentile per-packet one-way delay: 71.212 ms
Loss rate: 29.00%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 66.733 ms
Loss rate: 43.94%
-- Flow 3:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 67.980 ms
Loss rate: 43.42%
```
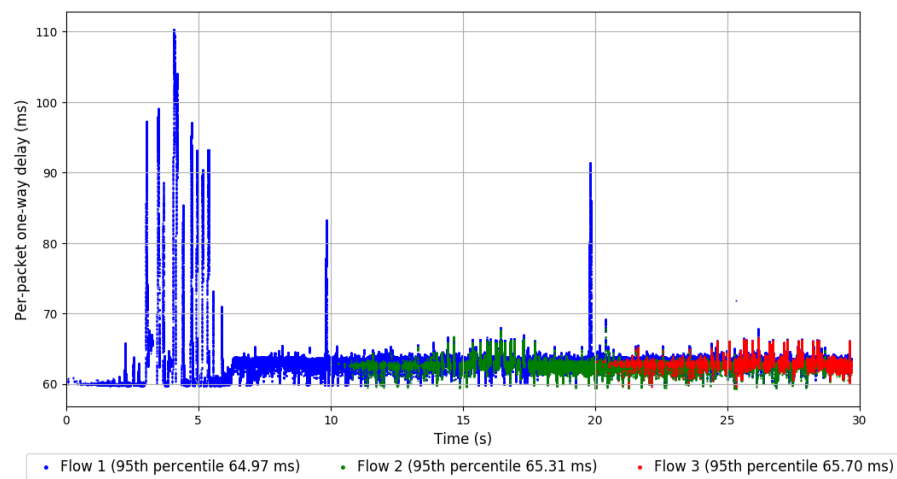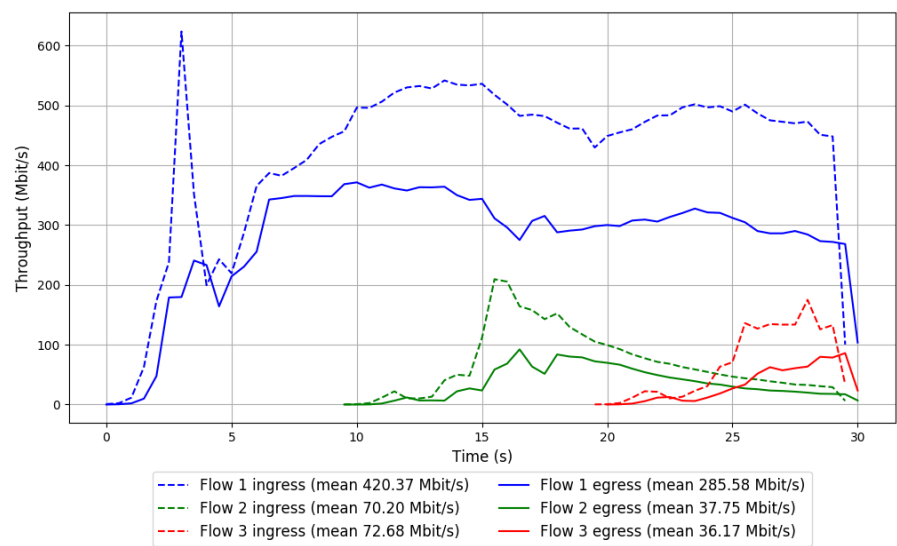
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2018-12-11 13:45:03
End at: 2018-12-11 13:45:33
Local clock offset: -8.441 ms
Remote clock offset: -38.624 ms


# Below is generated by plot.py at 2018-12-11 15:34:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 259.06 Mbit/s
95th percentile per-packet one-way delay: 84.253 ms
Loss rate: 23.16%
-- Flow 1:
Average throughput: 144.90 Mbit/s
95th percentile per-packet one-way delay: 83.550 ms
Loss rate: 20.74%
-- Flow 2:
Average throughput: 153.78 Mbit/s
95th percentile per-packet one-way delay: 84.531 ms
Loss rate: 21.31%
-- Flow 3:
Average throughput: 39.48 Mbit/s
95th percentile per-packet one-way delay: 82.430 ms
Loss rate: 50.93%
```
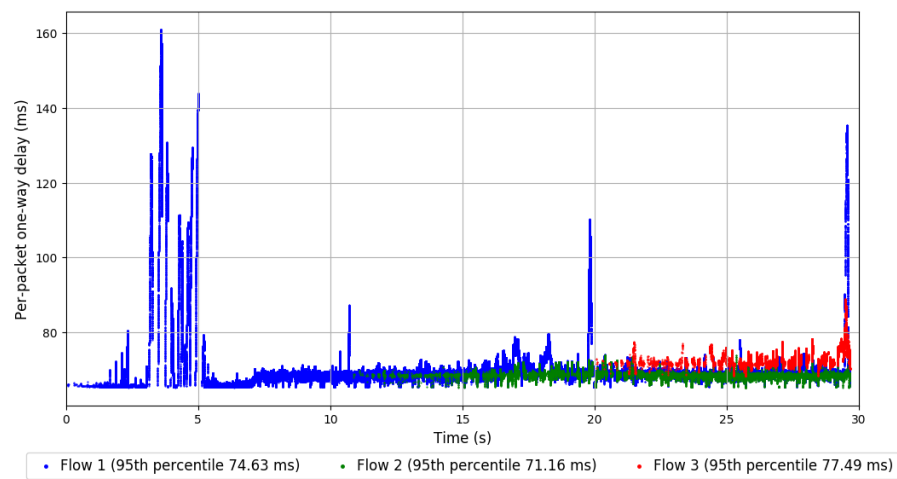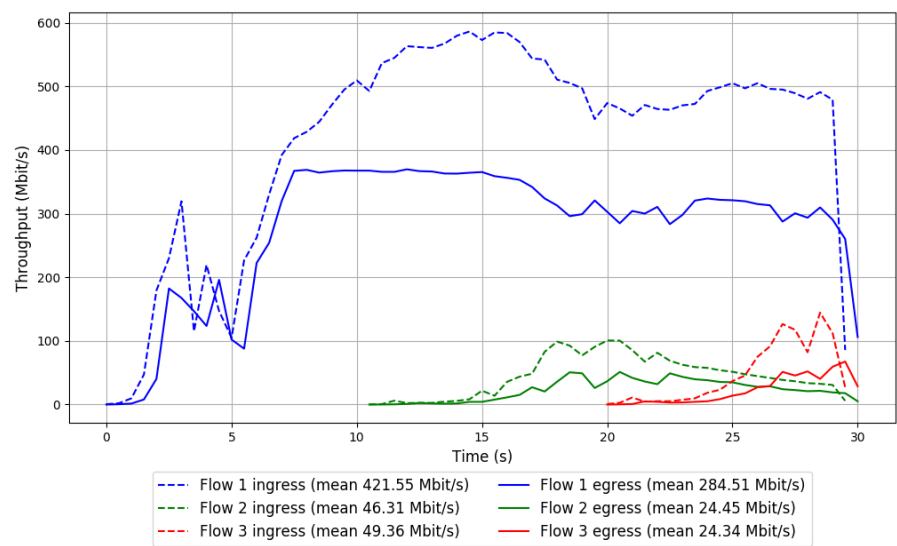
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2018-12-11 14:24:17
End at: 2018-12-11 14:24:47
Local clock offset: -0.412 ms
Remote clock offset: -47.3 ms


# Below is generated by plot.py at 2018-12-11 15:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.44 Mbit/s
95th percentile per-packet one-way delay: 65.112 ms
Loss rate: 34.28%
-- Flow 1:
Average throughput: 285.58 Mbit/s
95th percentile per-packet one-way delay: 64.970 ms
Loss rate: 32.06%
-- Flow 2:
Average throughput: 37.75 Mbit/s
95th percentile per-packet one-way delay: 65.315 ms
Loss rate: 46.22%
-- Flow 3:
Average throughput: 36.17 Mbit/s
95th percentile per-packet one-way delay: 65.701 ms
Loss rate: 50.22%
```
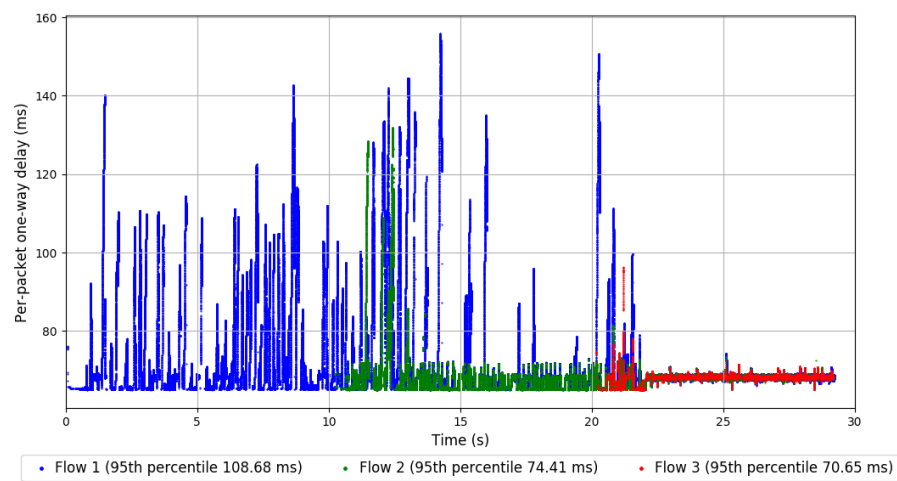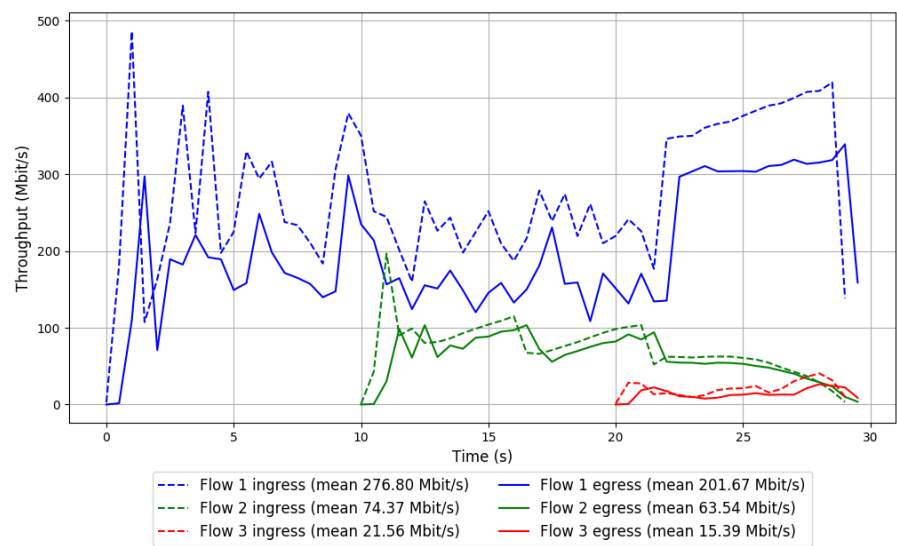
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2018-12-11 15:02:07
End at: 2018-12-11 15:02:37
Local clock offset: 2.096 ms
Remote clock offset: -40.692 ms


# Below is generated by plot.py at 2018-12-11 15:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.89 Mbit/s
95th percentile per-packet one-way delay: 74.837 ms
Loss rate: 34.05%
-- Flow 1:
Average throughput: 284.51 Mbit/s
95th percentile per-packet one-way delay: 74.631 ms
Loss rate: 32.50%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 71.160 ms
Loss rate: 47.21%
-- Flow 3:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 77.489 ms
Loss rate: 50.70%
```
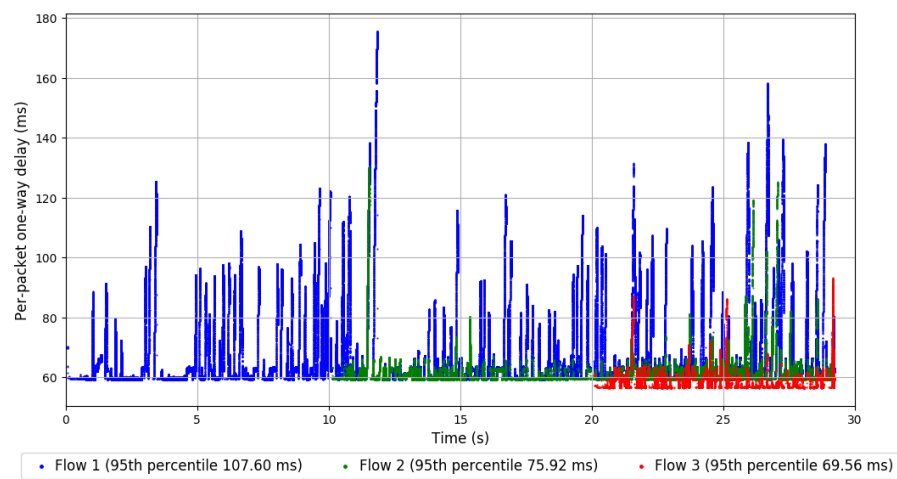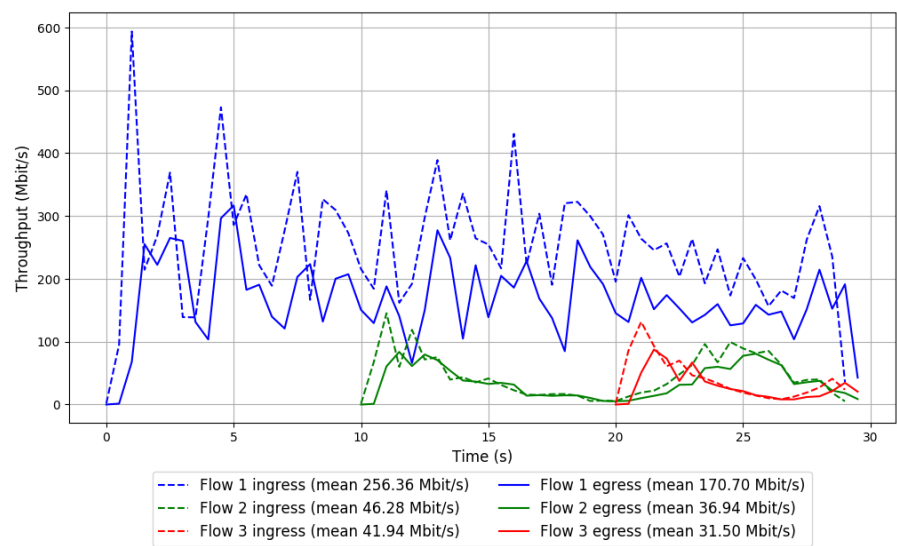
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2018-12-11 12:23:09
End at: 2018-12-11 12:23:39
Local clock offset: -8.316 ms
Remote clock offset: -42.205 ms

# Below is generated by plot.py at 2018-12-11 15:34:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.74 Mbit/s
95th percentile per-packet one-way delay: 106.311 ms
Loss rate: 25.34%
-- Flow 1:
Average throughput: 201.67 Mbit/s
95th percentile per-packet one-way delay: 108.683 ms
Loss rate: 27.15%
-- Flow 2:
Average throughput: 63.54 Mbit/s
95th percentile per-packet one-way delay: 74.407 ms
Loss rate: 14.57%
-- Flow 3:
Average throughput: 15.39 Mbit/s
95th percentile per-packet one-way delay: 70.653 ms
Loss rate: 28.65%
```
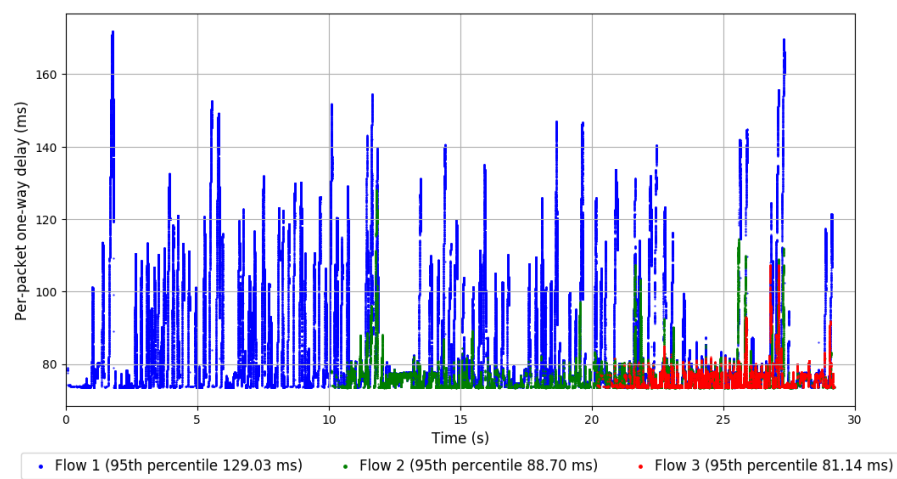
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2018-12-11 12:56:44
End at: 2018-12-11 12:57:14
Local clock offset: 0.248 ms
Remote clock offset: -48.292 ms


# Below is generated by plot.py at 2018-12-11 15:35:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 204.75 Mbit/s
95th percentile per-packet one-way delay: 105.299 ms
Loss rate: 31.71%
-- Flow 1:
Average throughput: 170.70 Mbit/s
95th percentile per-packet one-way delay: 107.596 ms
Loss rate: 33.42%
-- Flow 2:
Average throughput: 36.94 Mbit/s
95th percentile per-packet one-way delay: 75.920 ms
Loss rate: 20.18%
-- Flow 3:
Average throughput: 31.50 Mbit/s
95th percentile per-packet one-way delay: 69.565 ms
Loss rate: 24.91%
```
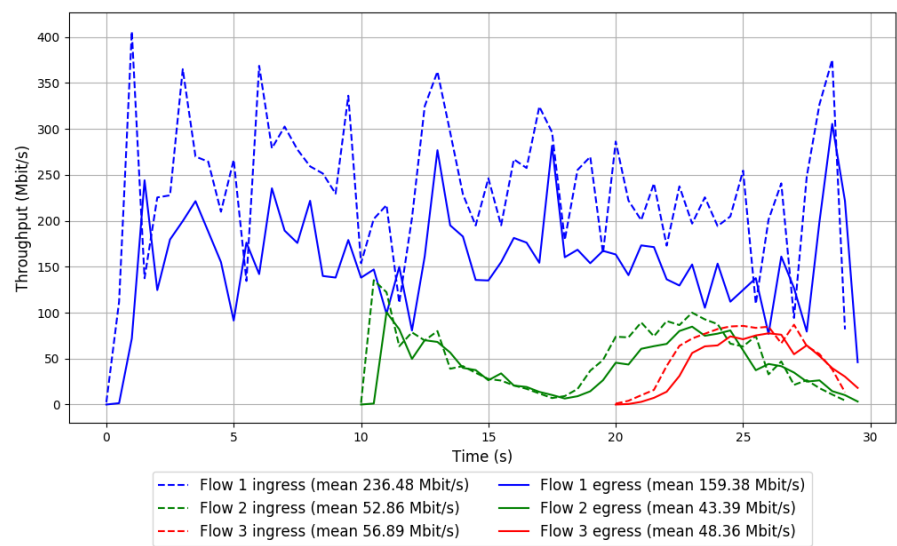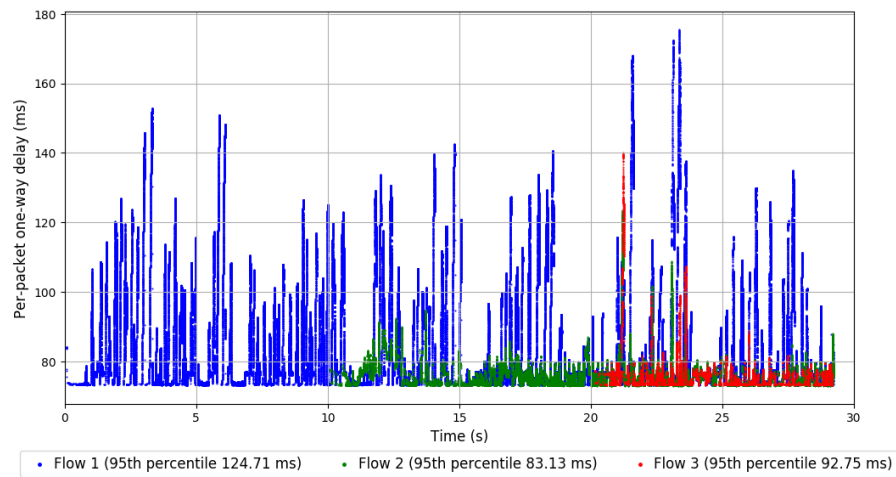
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2018-12-11 13:30:15
End at: 2018-12-11 13:30:45
Local clock offset: -0.336 ms
Remote clock offset: -32.053 ms


# Below is generated by plot.py at 2018-12-11 15:35:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.76 Mbit/s
95th percentile per-packet one-way delay: 125.749 ms
Loss rate: 29.79%
-- Flow 1:
Average throughput: 159.38 Mbit/s
95th percentile per-packet one-way delay: 129.026 ms
Loss rate: 32.61%
-- Flow 2:
Average throughput: 43.39 Mbit/s
95th percentile per-packet one-way delay: 88.704 ms
Loss rate: 17.93%
-- Flow 3:
Average throughput: 48.36 Mbit/s
95th percentile per-packet one-way delay: 81.136 ms
Loss rate: 15.21%
```
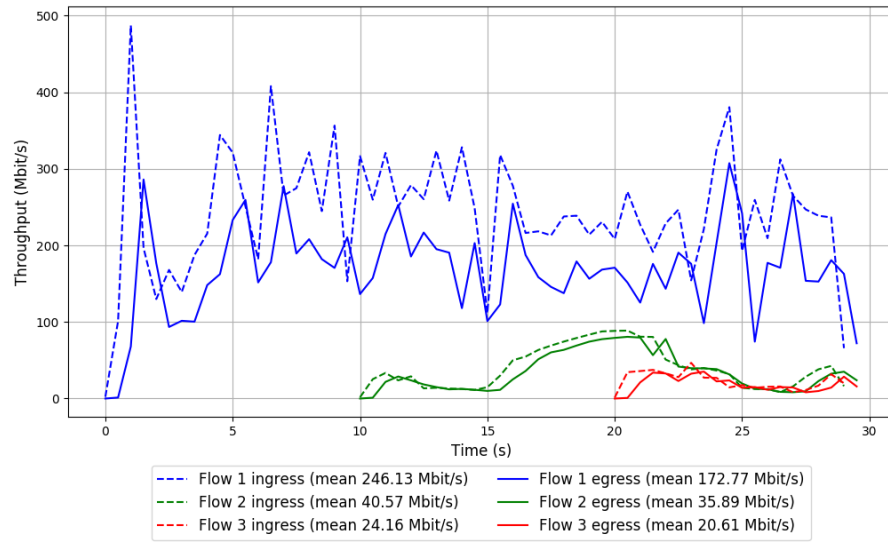
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 236.48 Mbit/s) --- Flow 1 egress (mean 159.38 Mbit/s)
Flow 2 ingress (mean 52.86 Mbit/s) --- Flow 2 egress (mean 43.39 Mbit/s)
Flow 3 ingress (mean 56.89 Mbit/s) --- Flow 3 egress (mean 48.36 Mbit/s)

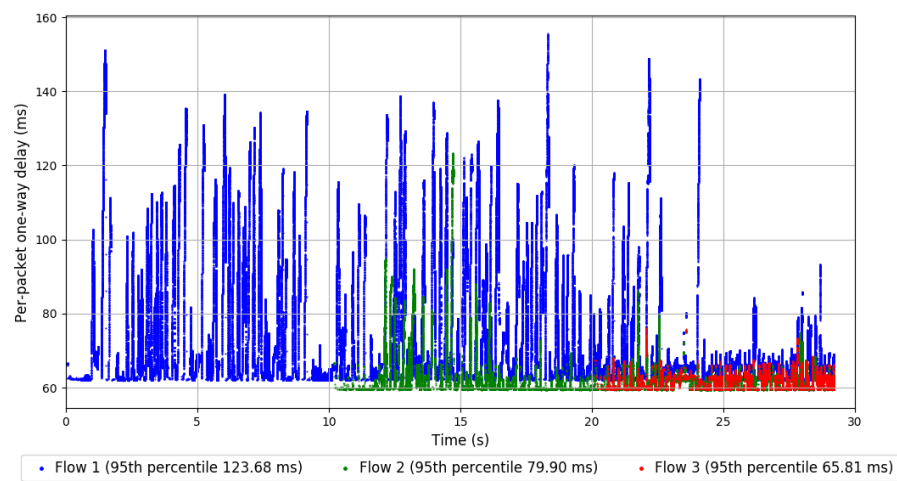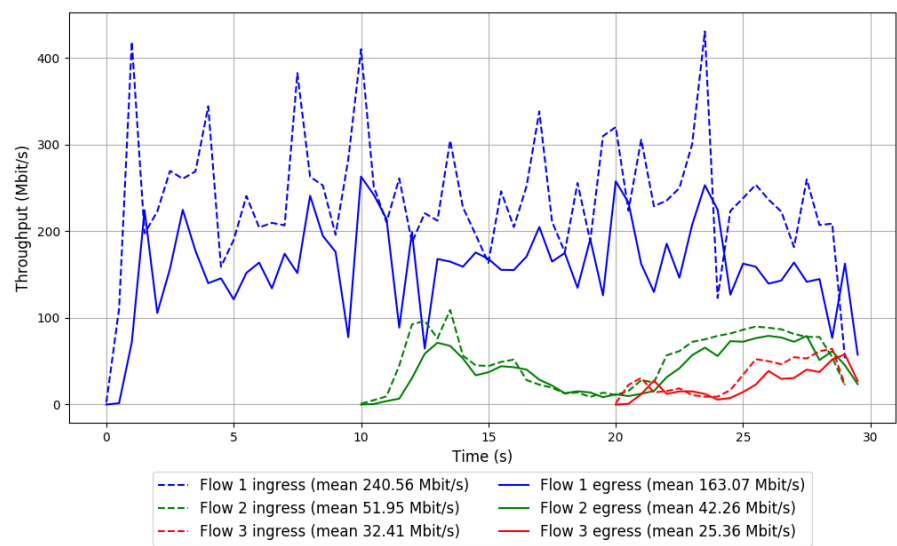Flow 1 (95th percentile 129.03 ms) • Flow 2 (95th percentile 88.70 ms) • Flow 3 (95th percentile 81.14 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2018-12-11 14:09:33
End at: 2018-12-11 14:10:03
Local clock offset: -10.135 ms
Remote clock offset: -43.74 ms


# Below is generated by plot.py at 2018-12-11 15:36:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.68 Mbit/s
95th percentile per-packet one-way delay: 122.494 ms
Loss rate: 27.66%
-- Flow 1:
Average throughput: 172.77 Mbit/s
95th percentile per-packet one-way delay: 124.710 ms
Loss rate: 29.80%
-- Flow 2:
Average throughput: 35.89 Mbit/s
95th percentile per-packet one-way delay: 83.132 ms
Loss rate: 11.52%
-- Flow 3:
Average throughput: 20.61 Mbit/s
95th percentile per-packet one-way delay: 92.745 ms
Loss rate: 14.75%
```
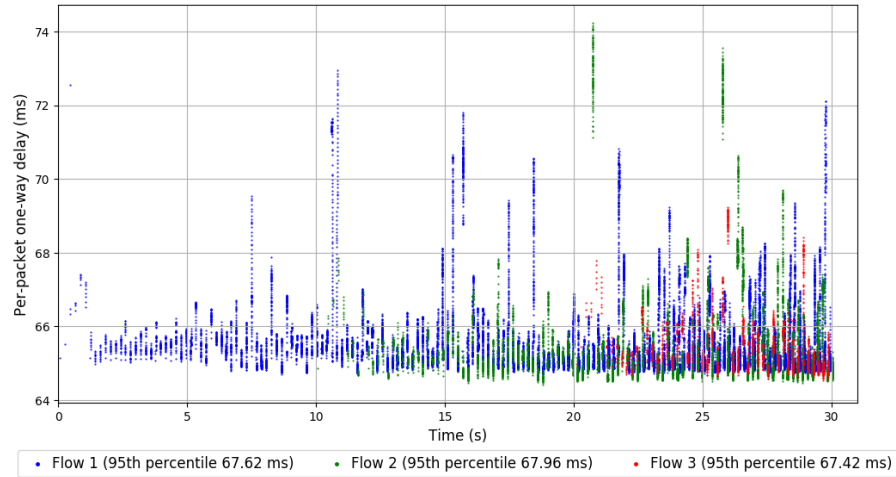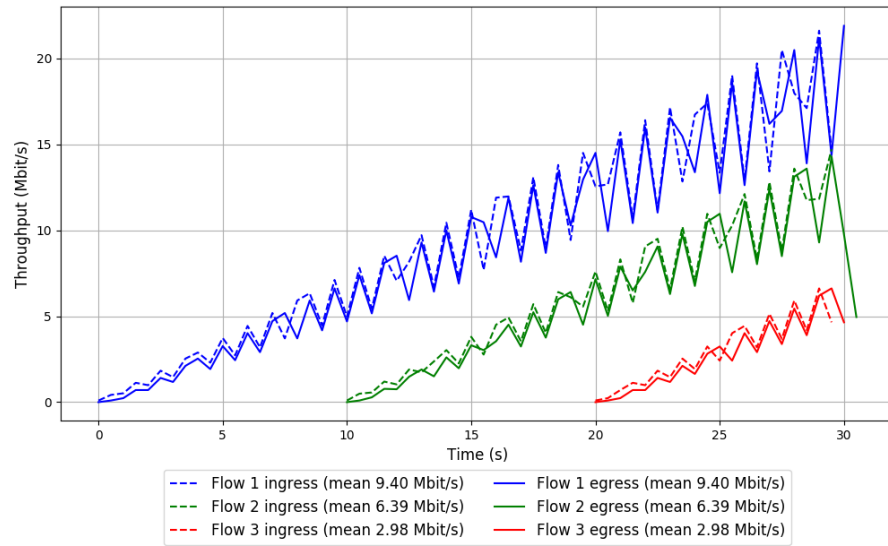
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2018-12-11 14:52:53
End at: 2018-12-11 14:53:23
Local clock offset: 3.133 ms
Remote clock offset: -45.412 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.49 Mbit/s
95th percentile per-packet one-way delay: 119.370 ms
Loss rate: 30.24%
-- Flow 1:
Average throughput: 163.07 Mbit/s
95th percentile per-packet one-way delay: 123.679 ms
Loss rate: 32.22%
-- Flow 2:
Average throughput: 42.26 Mbit/s
95th percentile per-packet one-way delay: 79.896 ms
Loss rate: 18.67%
-- Flow 3:
Average throughput: 25.36 Mbit/s
95th percentile per-packet one-way delay: 65.809 ms
Loss rate: 21.83%
```

Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 240.56 Mbit/s) --- Flow 1 egress (mean 163.07 Mbit/s)
Flow 2 ingress (mean 51.95 Mbit/s) --- Flow 2 egress (mean 42.26 Mbit/s)
Flow 3 ingress (mean 32.41 Mbit/s) --- Flow 3 egress (mean 25.36 Mbit/s)

Flow 1 (95th percentile 123.68 ms)   Flow 2 (95th percentile 79.90 ms)   Flow 3 (95th percentile 65.81 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2018-12-11 12:21:45
End at: 2018-12-11 12:22:15
Local clock offset: -11.19 ms
Remote clock offset: -45.337 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.60 Mbit/s
95th percentile per-packet one-way delay: 67.740 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 67.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 67.962 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 67.421 ms
Loss rate: 0.00%
```
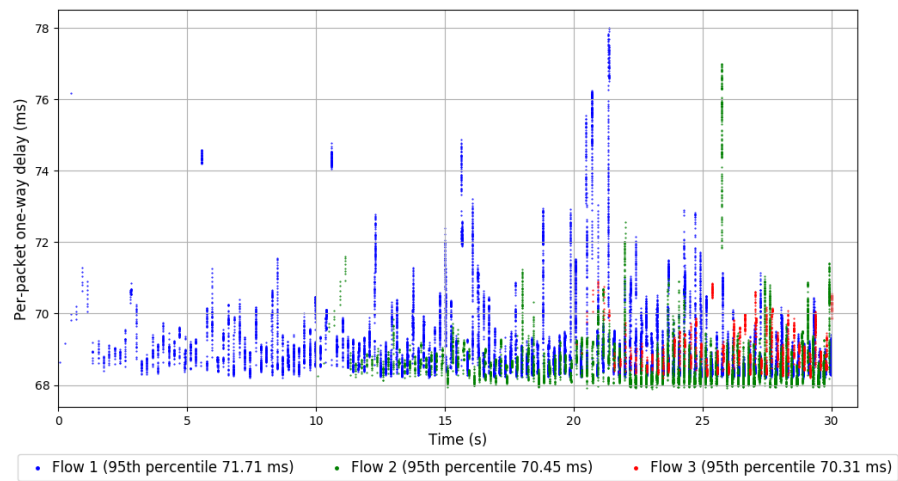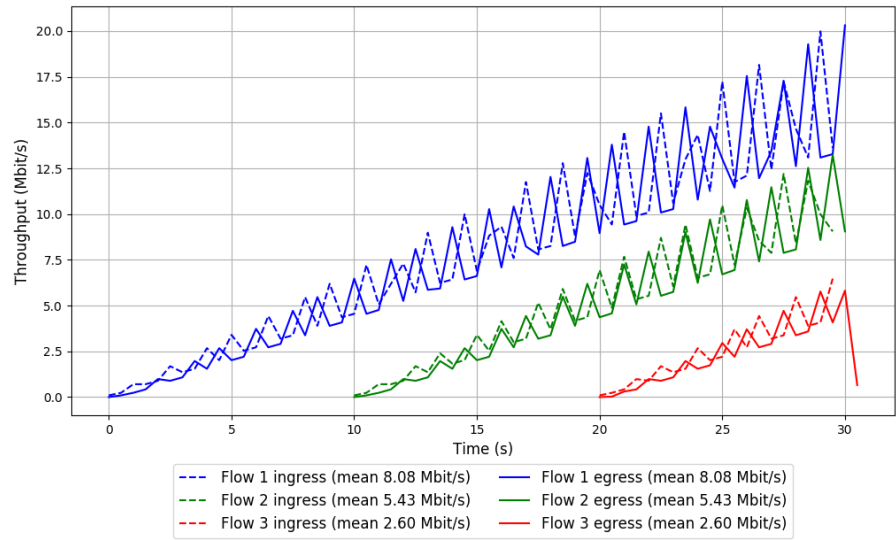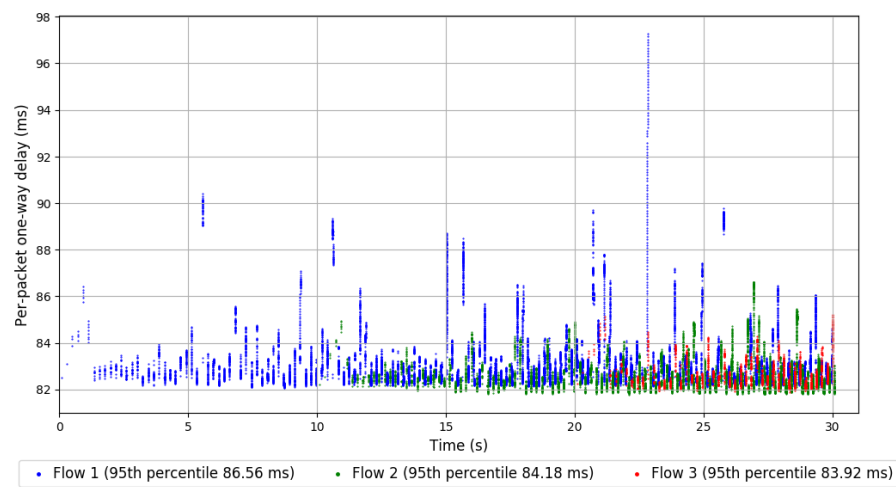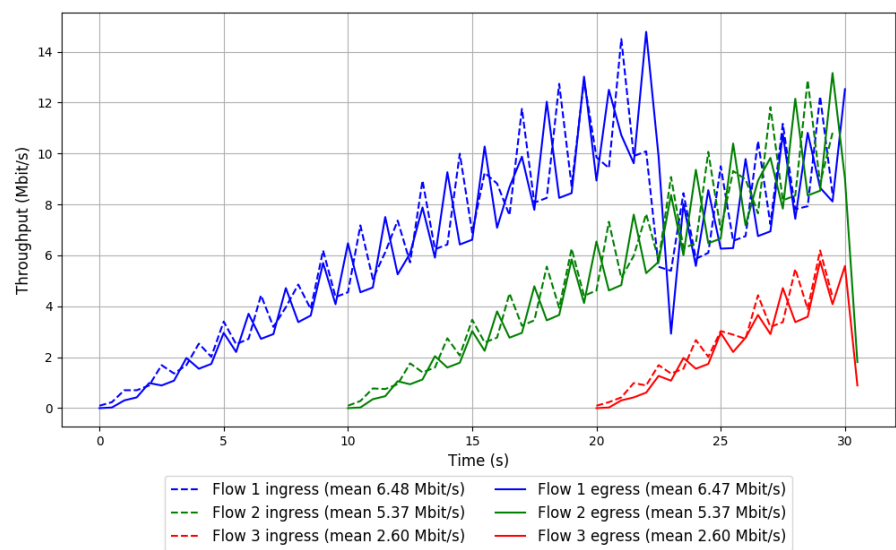
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-12-11 12:55:02
End at: 2018-12-11 12:55:32
Local clock offset: -2.317 ms
Remote clock offset: -39.5 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 71.127 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.08 Mbit/s
95th percentile per-packet one-way delay: 71.713 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.43 Mbit/s
95th percentile per-packet one-way delay: 70.449 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 70.305 ms
Loss rate: 0.00%
```
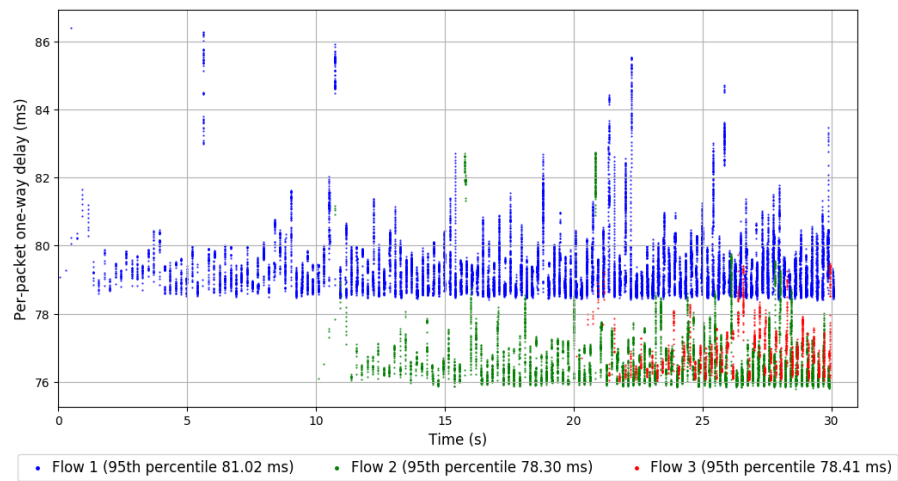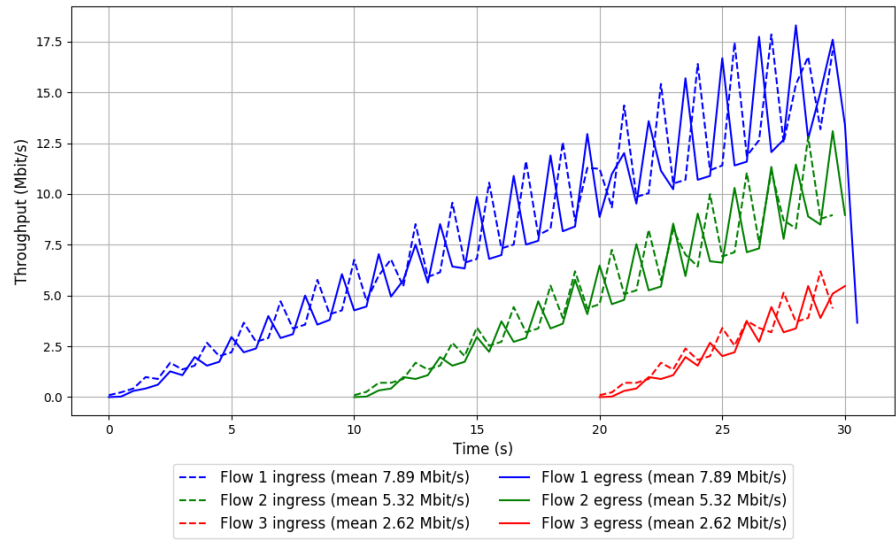
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-12-11 13:28:54
End at: 2018-12-11 13:29:24
Local clock offset: -13.012 ms
Remote clock offset: -36.477 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 85.632 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 86.555 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 84.180 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 83.918 ms
Loss rate: 0.00%
```
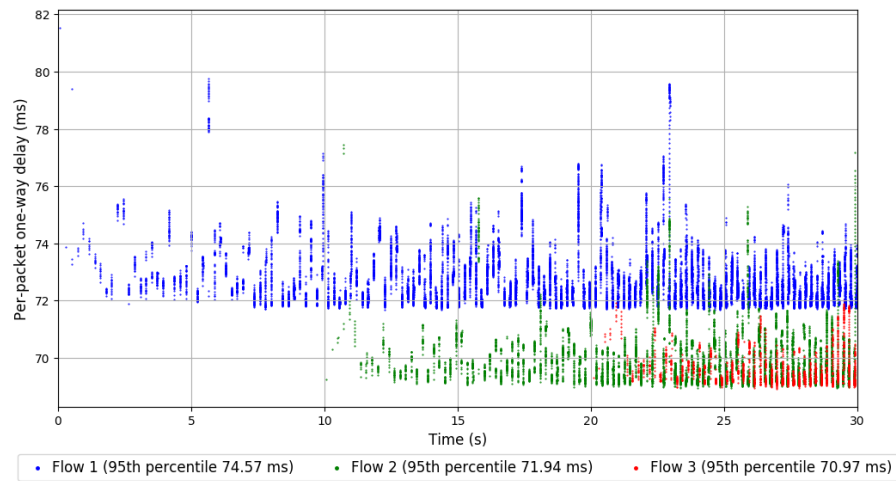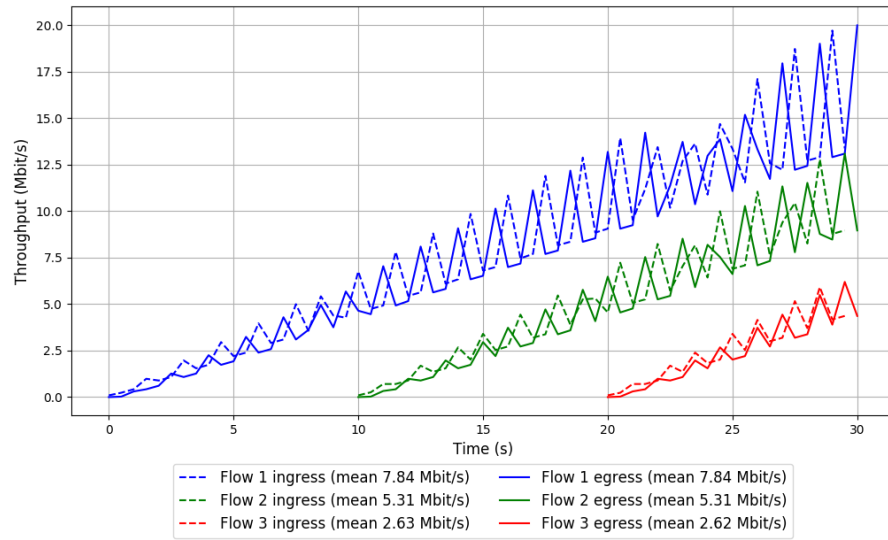
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-12-11 14:08:13
End at: 2018-12-11 14:08:43
Local clock offset: -10.908 ms
Remote clock offset: -42.024 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 80.576 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 81.018 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.32 Mbit/s
95th percentile per-packet one-way delay: 78.298 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 78.414 ms
Loss rate: 0.00%
```
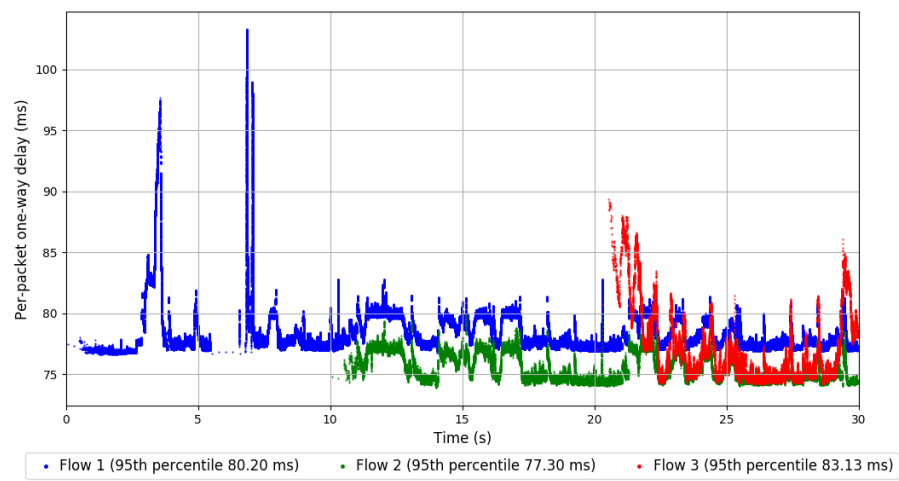
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-12-11 14:51:33
End at: 2018-12-11 14:52:03
Local clock offset: 2.443 ms
Remote clock offset: -36.306 ms


# Below is generated by plot.py at 2018-12-11 15:36:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 74.224 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 74.571 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 71.941 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 70.971 ms
Loss rate: 0.00%
```
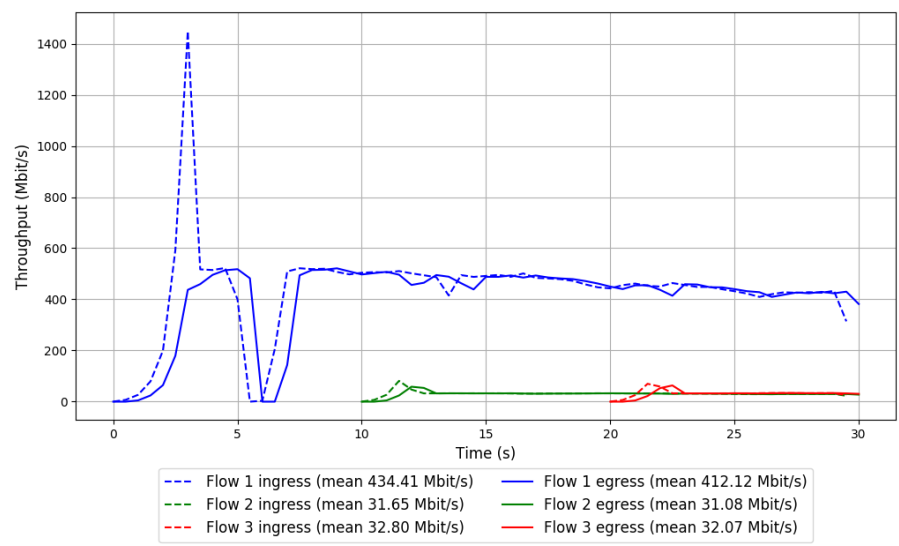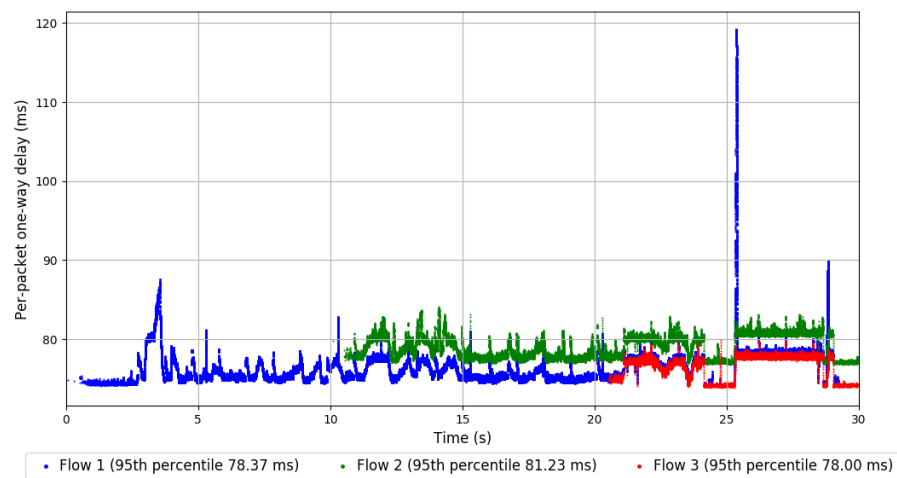
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-12-11 12:47:42
End at: 2018-12-11 12:48:12
Local clock offset: -9.302 ms
Remote clock offset: -40.37 ms


# Below is generated by plot.py at 2018-12-11 15:39:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 443.36 Mbit/s
95th percentile per-packet one-way delay: 80.193 ms
Loss rate: 4.92%
-- Flow 1:
Average throughput: 412.12 Mbit/s
95th percentile per-packet one-way delay: 80.196 ms
Loss rate: 5.13%
-- Flow 2:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 77.298 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 32.07 Mbit/s
95th percentile per-packet one-way delay: 83.131 ms
Loss rate: 2.20%
```

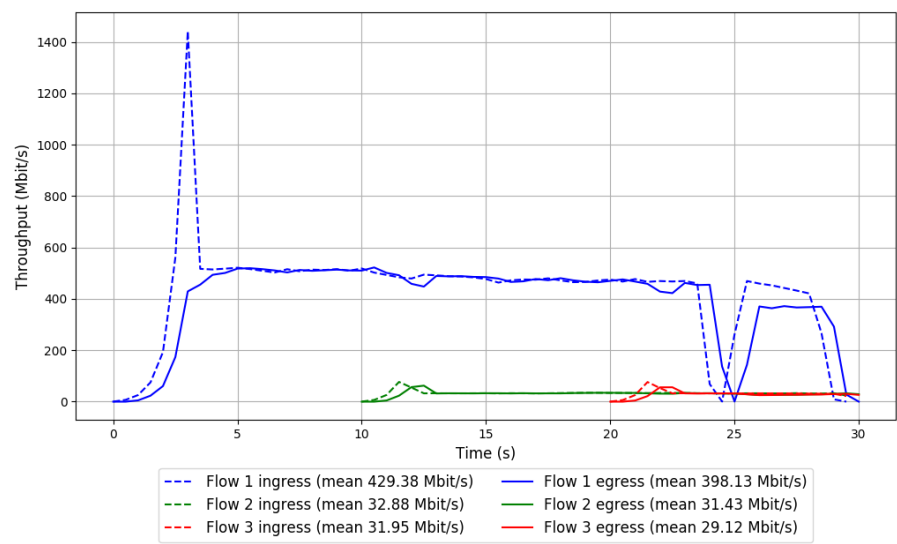Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-12-11 13:15:47
End at: 2018-12-11 13:16:17
Local clock offset: -10.72 ms
Remote clock offset: -41.693 ms


# Below is generated by plot.py at 2018-12-11 15:39:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.45 Mbit/s
95th percentile per-packet one-way delay: 79.325 ms
Loss rate: 7.18%
-- Flow 1:
Average throughput: 398.13 Mbit/s
95th percentile per-packet one-way delay: 78.372 ms
Loss rate: 7.28%
-- Flow 2:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 81.226 ms
Loss rate: 4.43%
-- Flow 3:
Average throughput: 29.12 Mbit/s
95th percentile per-packet one-way delay: 78.000 ms
Loss rate: 8.90%
```

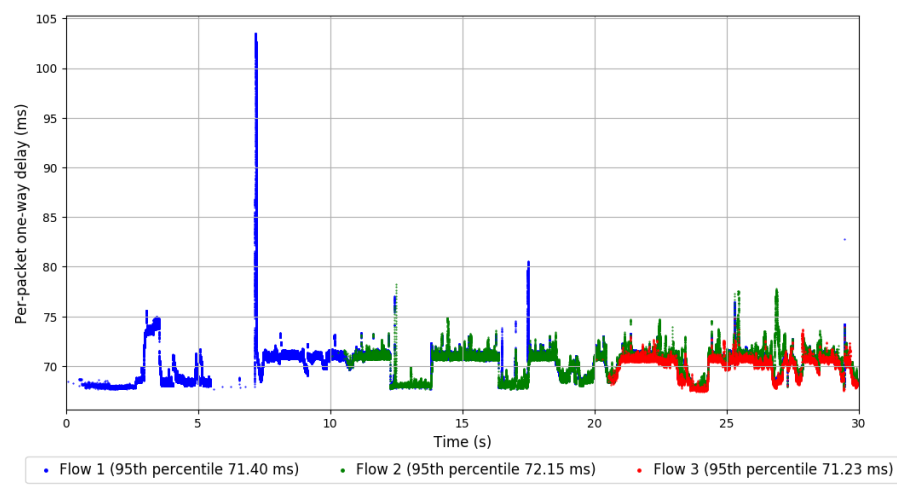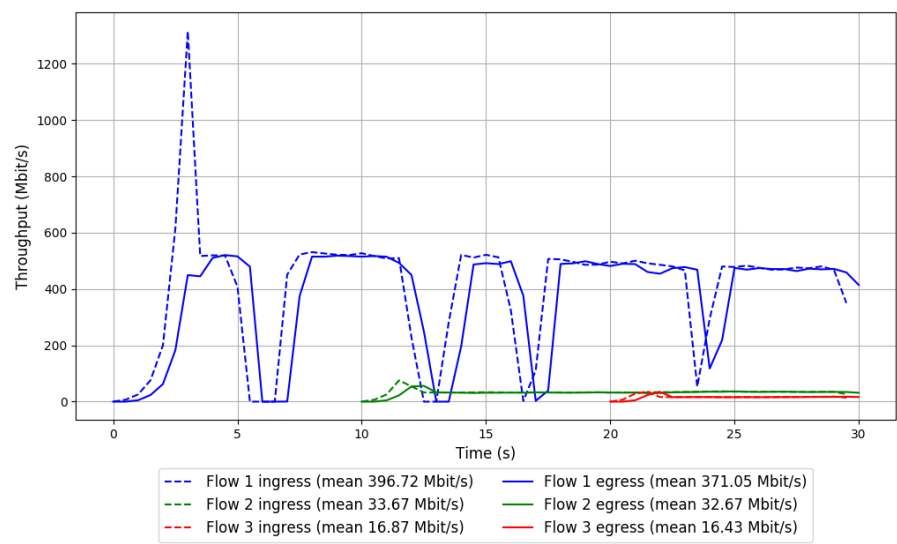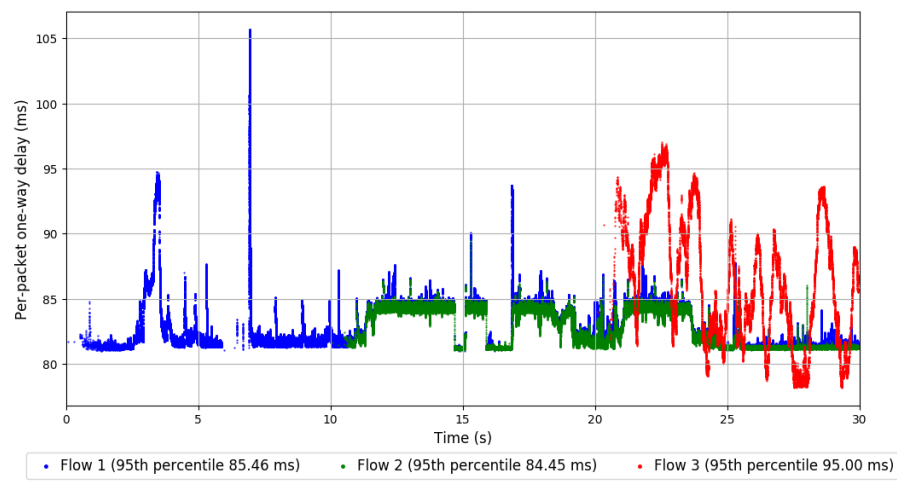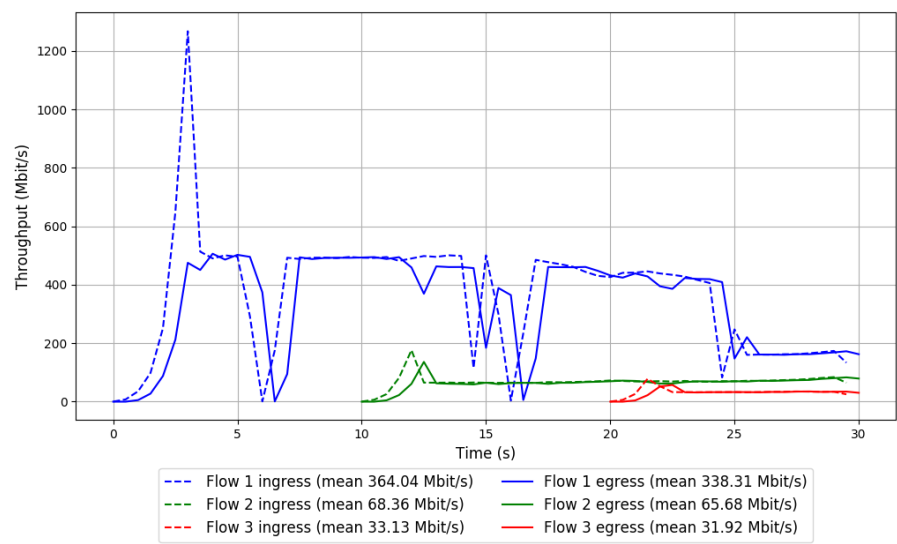Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 429.38 Mbit/s) —— Flow 1 egress (mean 398.13 Mbit/s)
Flow 2 ingress (mean 32.88 Mbit/s) —— Flow 2 egress (mean 31.43 Mbit/s)
Flow 3 ingress (mean 31.95 Mbit/s) —— Flow 3 egress (mean 29.12 Mbit/s)

• Flow 1 (95th percentile 78.37 ms)   • Flow 2 (95th percentile 81.23 ms)   • Flow 3 (95th percentile 78.00 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-12-11 13:55:07
End at: 2018-12-11 13:55:37
Local clock offset: -8.369 ms
Remote clock offset: -47.174 ms


# Below is generated by plot.py at 2018-12-11 15:39:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 398.19 Mbit/s
95th percentile per-packet one-way delay: 71.443 ms
Loss rate: 6.24%
-- Flow 1:
Average throughput: 371.05 Mbit/s
95th percentile per-packet one-way delay: 71.404 ms
Loss rate: 6.47%
-- Flow 2:
Average throughput: 32.67 Mbit/s
95th percentile per-packet one-way delay: 72.147 ms
Loss rate: 2.99%
-- Flow 3:
Average throughput: 16.43 Mbit/s
95th percentile per-packet one-way delay: 71.233 ms
Loss rate: 2.63%
```

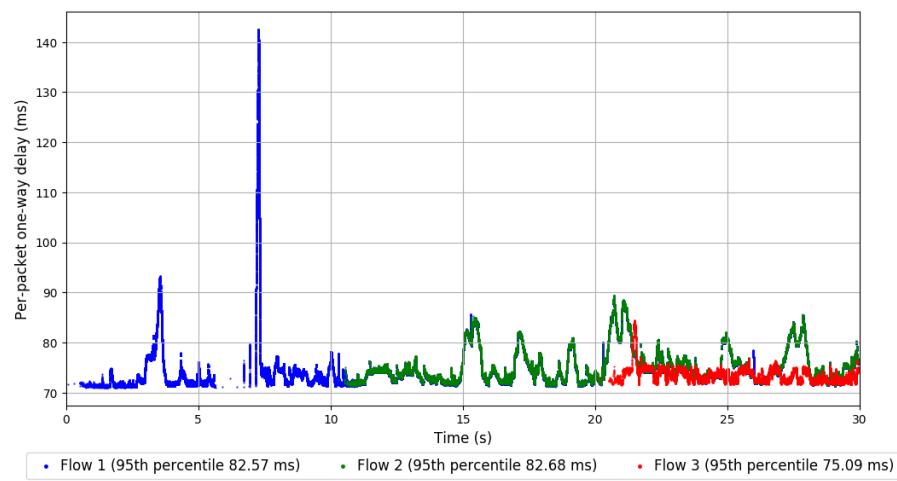# Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 396.72 Mbit/s) — Flow 1 egress (mean 371.05 Mbit/s)
Flow 2 ingress (mean 33.67 Mbit/s) — Flow 2 egress (mean 32.67 Mbit/s)
Flow 3 ingress (mean 16.87 Mbit/s) — Flow 3 egress (mean 16.43 Mbit/s)

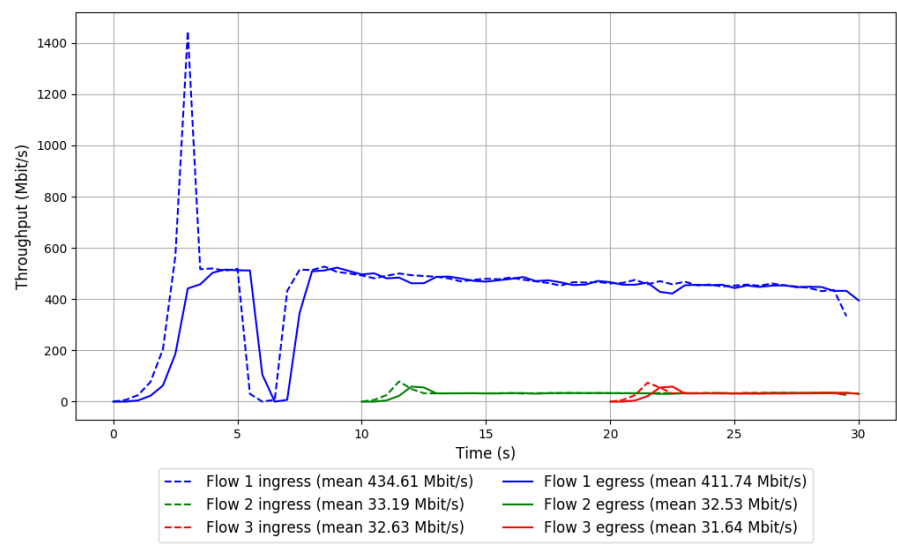Flow 1 (95th percentile 71.40 ms) • Flow 2 (95th percentile 72.15 ms) • Flow 3 (95th percentile 71.23 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-12-11 14:44:18
End at: 2018-12-11 14:44:48
Local clock offset: -9.97 ms
Remote clock offset: -38.877 ms


# Below is generated by plot.py at 2018-12-11 15:39:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.50 Mbit/s
95th percentile per-packet one-way delay: 85.753 ms
Loss rate: 6.64%
-- Flow 1:
Average throughput: 338.31 Mbit/s
95th percentile per-packet one-way delay: 85.463 ms
Loss rate: 7.07%
-- Flow 2:
Average throughput: 65.68 Mbit/s
95th percentile per-packet one-way delay: 84.451 ms
Loss rate: 3.93%
-- Flow 3:
Average throughput: 31.92 Mbit/s
95th percentile per-packet one-way delay: 95.001 ms
Loss rate: 3.69%
```

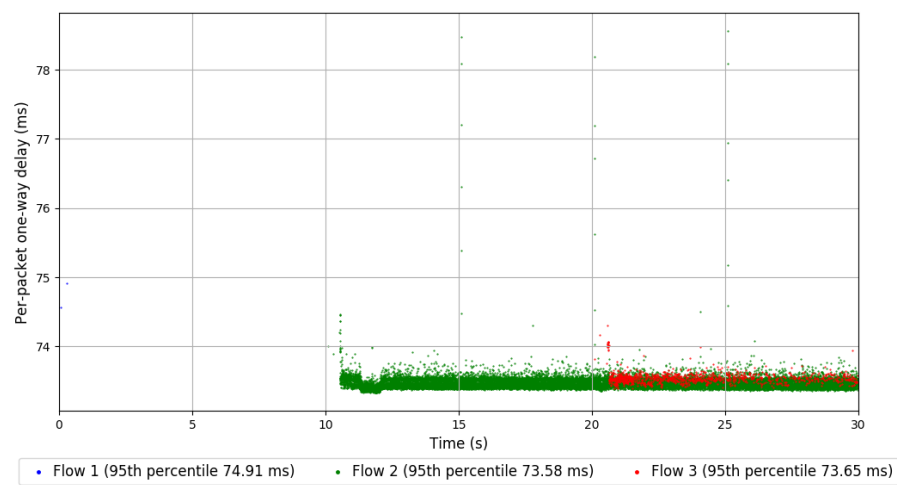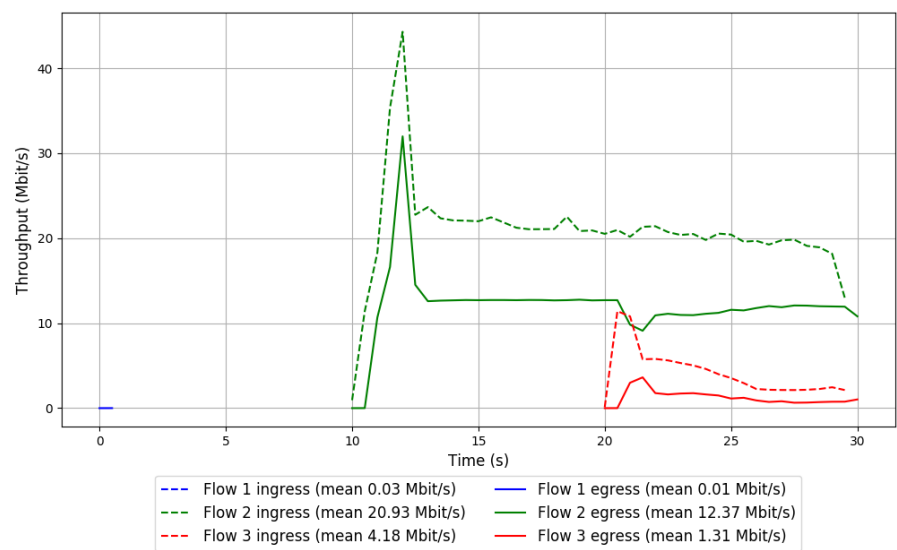## Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 364.04 Mbit/s)   Flow 1 egress (mean 338.31 Mbit/s)
Flow 2 ingress (mean 68.36 Mbit/s)   Flow 2 egress (mean 65.68 Mbit/s)
Flow 3 ingress (mean 33.13 Mbit/s)   Flow 3 egress (mean 31.92 Mbit/s)

Flow 1 (95th percentile 85.46 ms)   Flow 2 (95th percentile 84.45 ms)   Flow 3 (95th percentile 95.00 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-12-11 15:12:16
End at: 2018-12-11 15:12:46
Local clock offset: 0.861 ms
Remote clock offset: -36.352 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 443.82 Mbit/s
95th percentile per-packet one-way delay: 82.517 ms
Loss rate: 5.04%
-- Flow 1:
Average throughput: 411.74 Mbit/s
95th percentile per-packet one-way delay: 82.567 ms
Loss rate: 5.25%
-- Flow 2:
Average throughput: 32.53 Mbit/s
95th percentile per-packet one-way delay: 82.677 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 75.091 ms
Loss rate: 3.01%
```
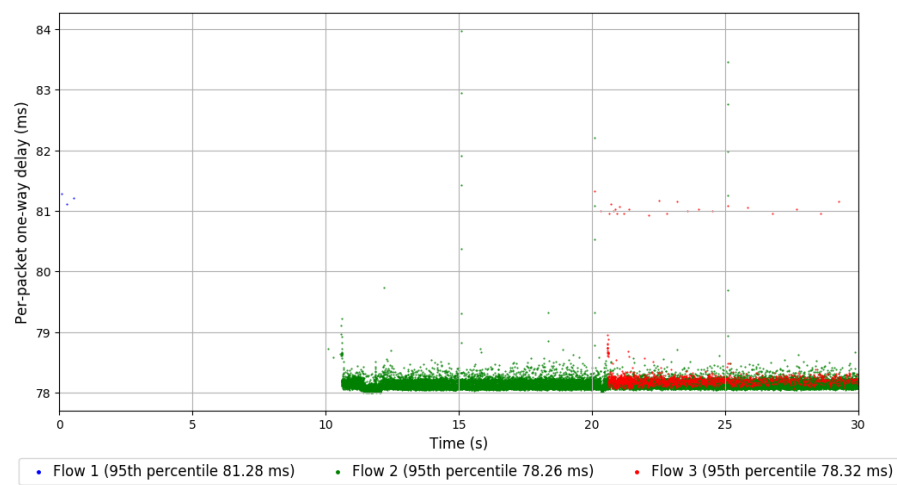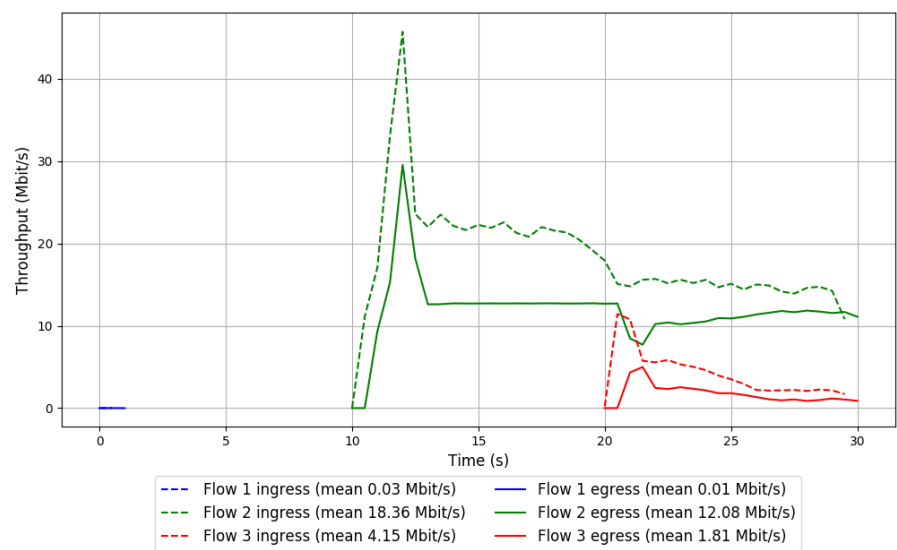
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-12-11 12:46:20
End at: 2018-12-11 12:46:50
Local clock offset: -8.168 ms
Remote clock offset: -40.023 ms

# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 73.590 ms
Loss rate: 43.41%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 74.906 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 73.582 ms
Loss rate: 40.91%
-- Flow 3:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 73.647 ms
Loss rate: 68.61%
```
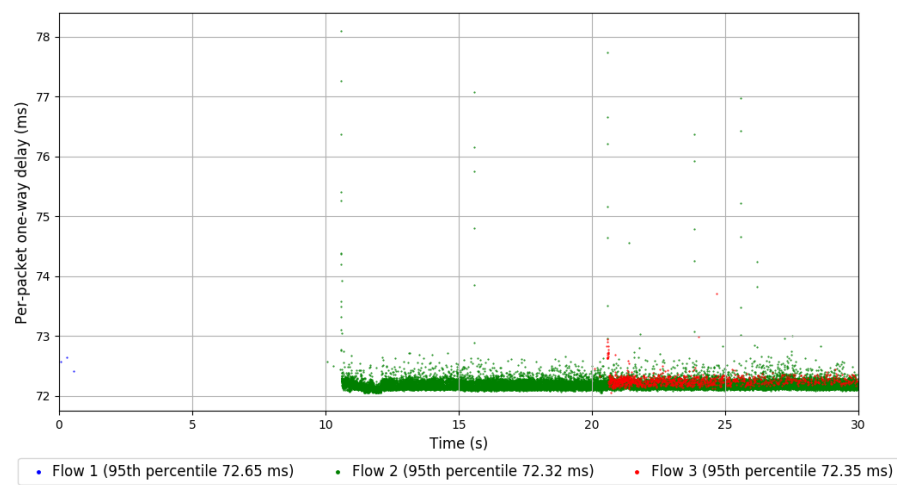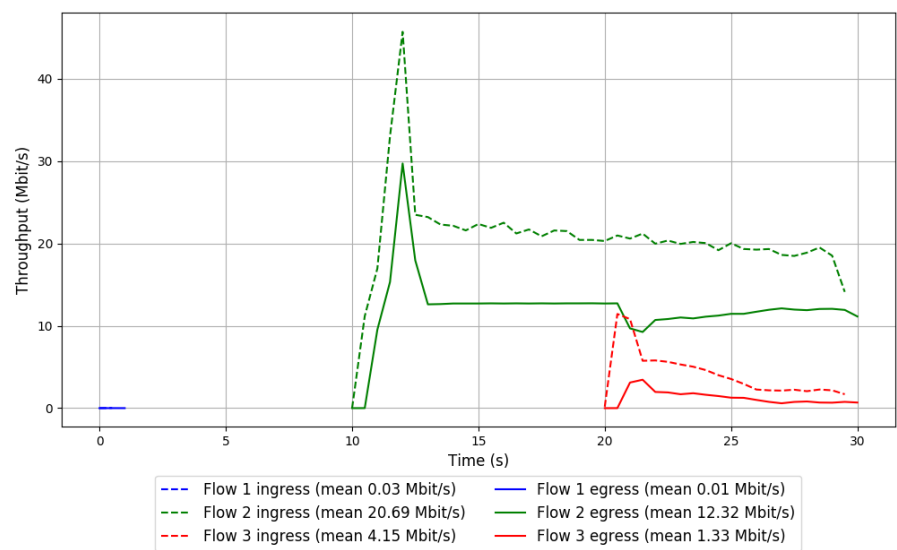
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 13:14:27
End at: 2018-12-11 13:14:57
Local clock offset: -14.888 ms
Remote clock offset: -41.931 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 78.270 ms
Loss rate: 36.42%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 81.285 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 78.262 ms
Loss rate: 34.19%
-- Flow 3:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 78.322 ms
Loss rate: 56.25%
```
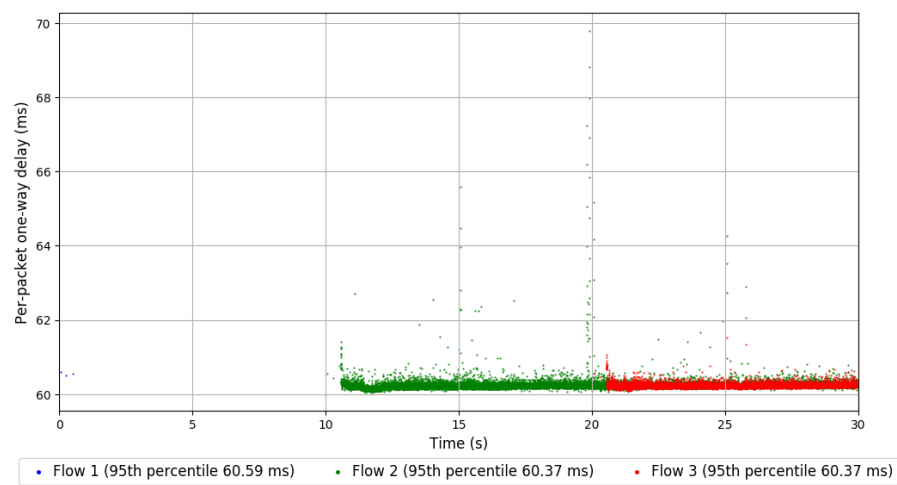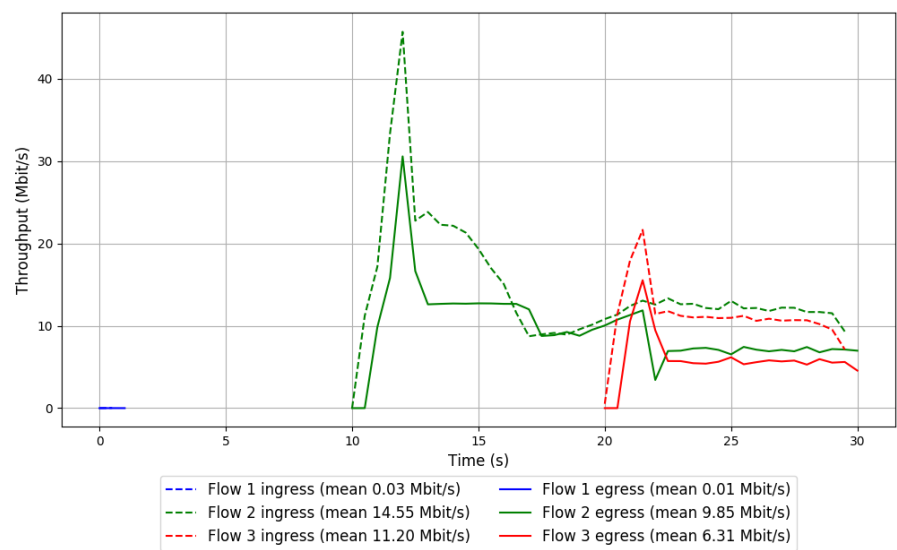
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 13:53:48
End at: 2018-12-11 13:54:18
Local clock offset: -7.998 ms
Remote clock offset: -42.509 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 72.325 ms
Loss rate: 42.92%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 72.647 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 12.32 Mbit/s
95th percentile per-packet one-way delay: 72.318 ms
Loss rate: 40.42%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 72.352 ms
Loss rate: 67.97%
```
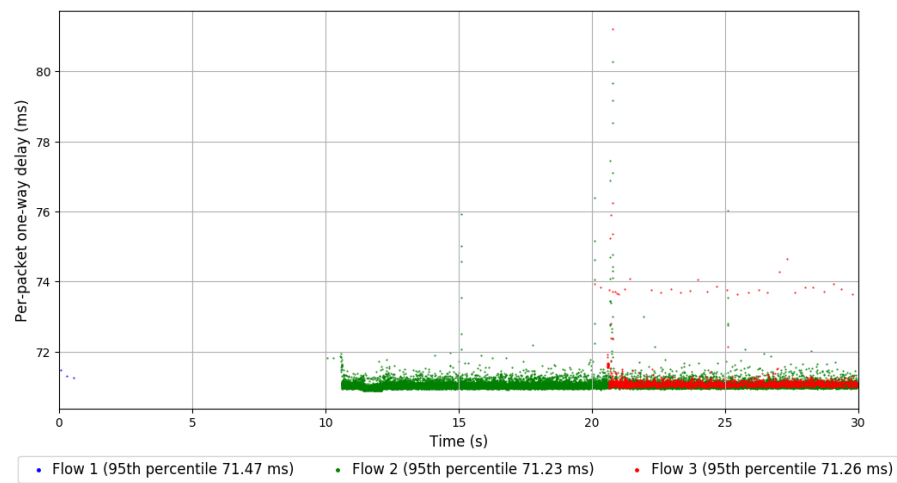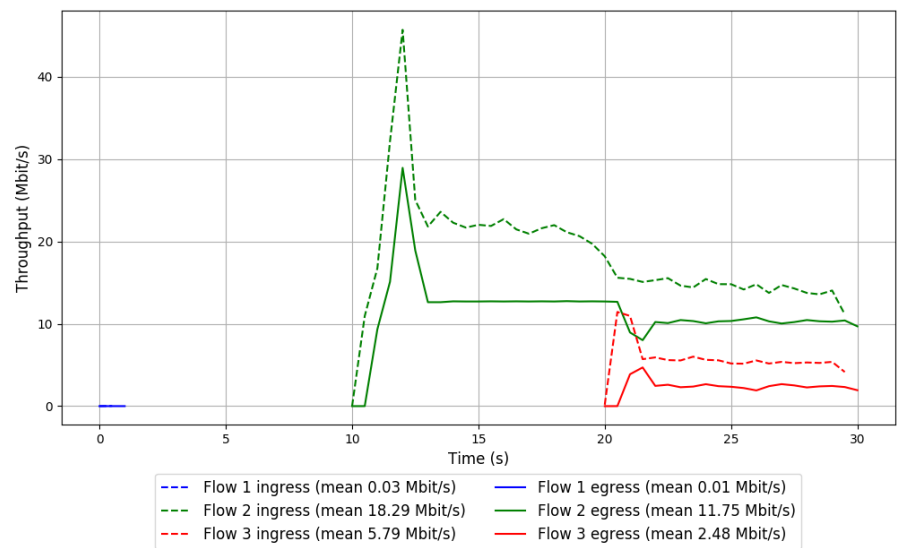
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.03 Mbit/s) Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 20.69 Mbit/s) Flow 2 egress (mean 12.32 Mbit/s)
Flow 3 ingress (mean 4.15 Mbit/s) Flow 3 egress (mean 1.33 Mbit/s)

Flow 1 (95th percentile 72.65 ms) Flow 2 (95th percentile 72.32 ms) Flow 3 (95th percentile 72.35 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 14:42:58
End at: 2018-12-11 14:43:28
Local clock offset: 1.869 ms
Remote clock offset: -45.219 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 60.371 ms
Loss rate: 35.46%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 60.591 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 60.372 ms
Loss rate: 32.31%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 60.370 ms
Loss rate: 43.67%
```
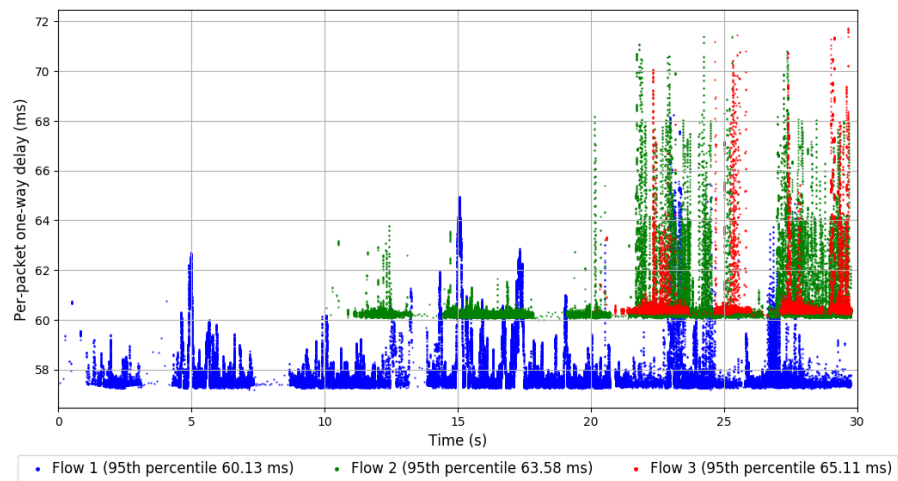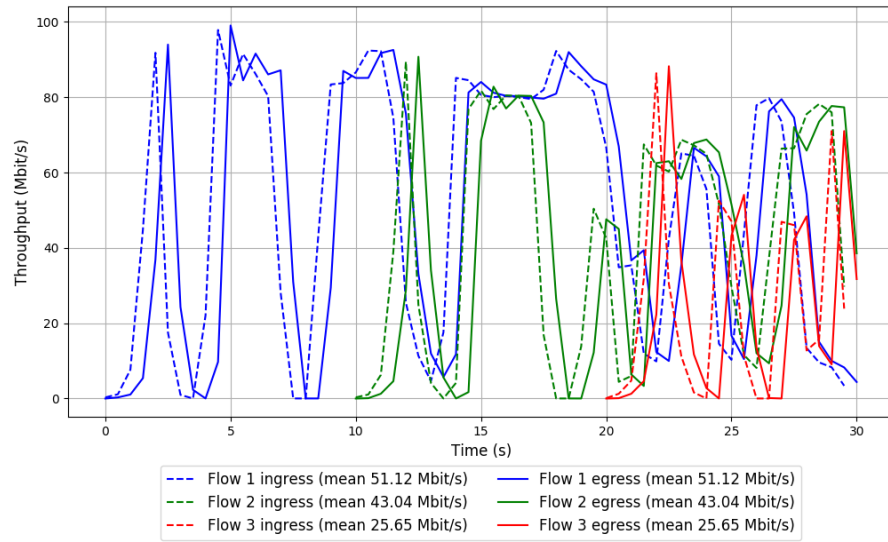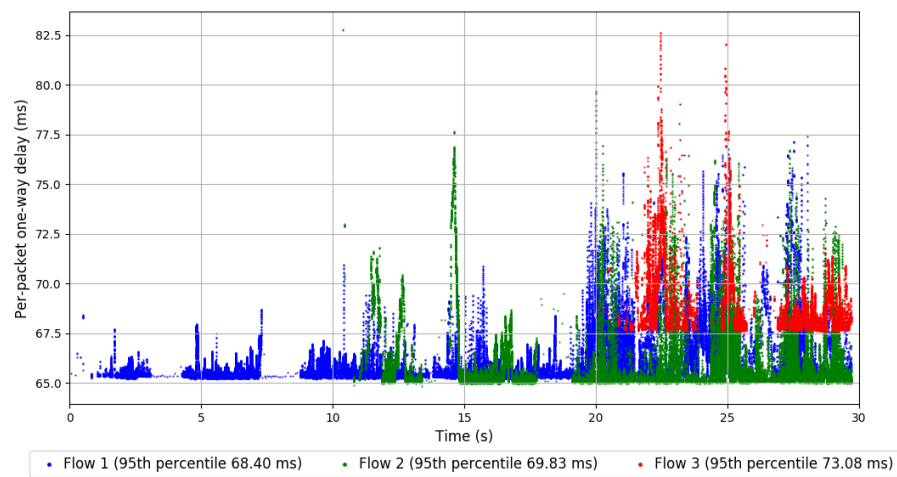
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-12-11 15:10:56
End at: 2018-12-11 15:11:26
Local clock offset: 1.069 ms
Remote clock offset: -36.435 ms

# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.63 Mbit/s
95th percentile per-packet one-way delay: 71.229 ms
Loss rate: 38.69%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 71.473 ms
Loss rate: 80.00%
-- Flow 2:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 71.226 ms
Loss rate: 35.77%
-- Flow 3:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 71.256 ms
Loss rate: 57.24%
```

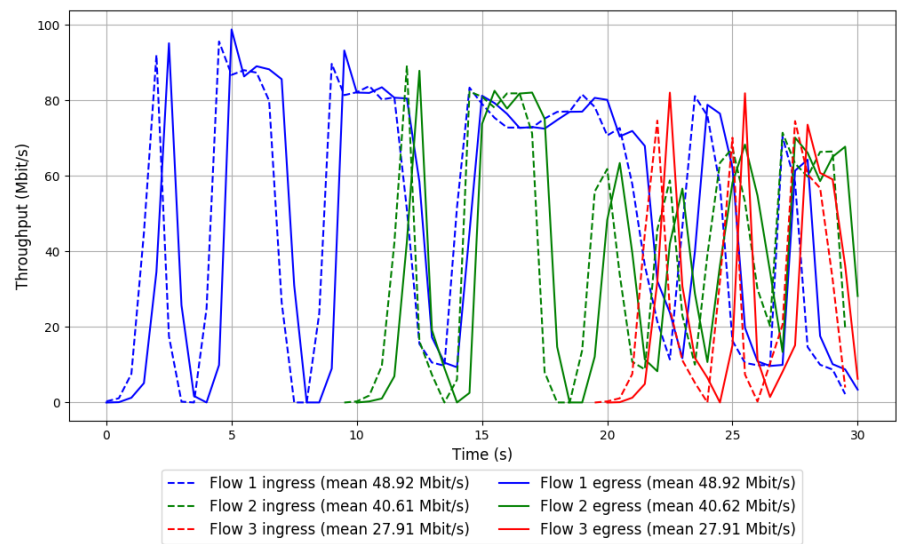## Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 12:50:41
End at: 2018-12-11 12:51:11
Local clock offset: -0.615 ms
Remote clock offset: -48.356 ms

# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 62.301 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.12 Mbit/s
95th percentile per-packet one-way delay: 60.126 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.04 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 65.111 ms
Loss rate: 0.00%
```
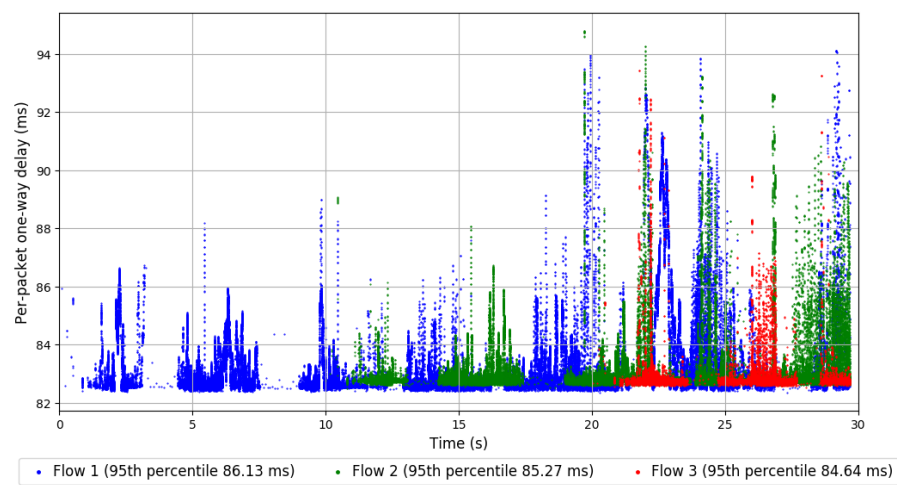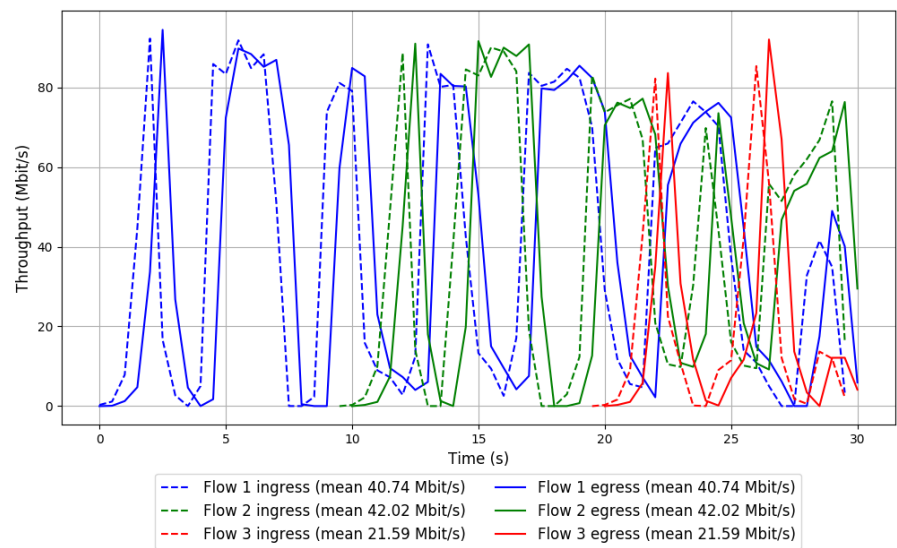
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-12-11 13:18:45
End at: 2018-12-11 13:19:15
Local clock offset: 1.012 ms
Remote clock offset: -39.139 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.99 Mbit/s
95th percentile per-packet one-way delay: 69.969 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.92 Mbit/s
95th percentile per-packet one-way delay: 68.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 69.834 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.91 Mbit/s
95th percentile per-packet one-way delay: 73.077 ms
Loss rate: 0.00%
```
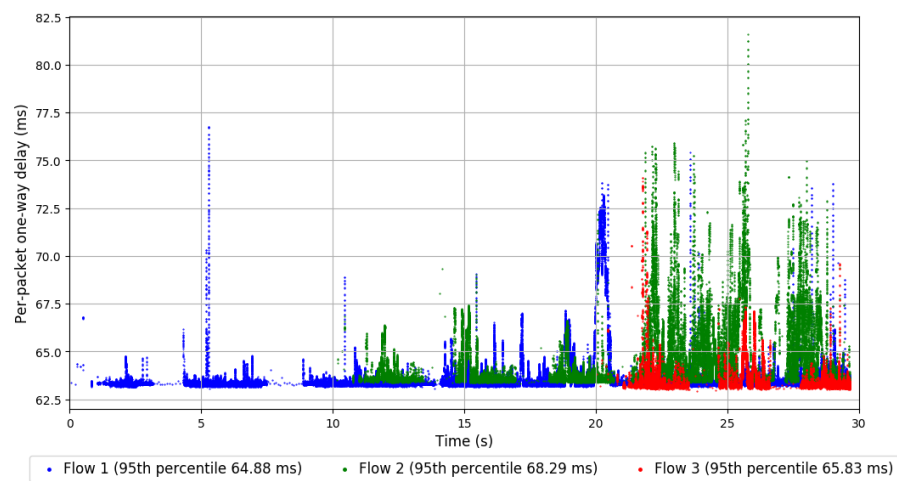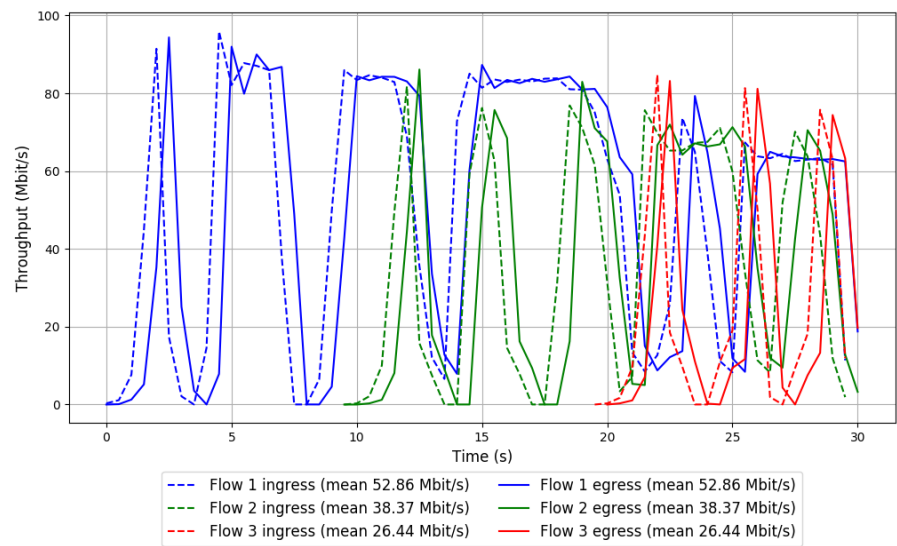
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-12-11 13:58:03
End at: 2018-12-11 13:58:33
Local clock offset: -8.998 ms
Remote clock offset: -33.102 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.70 Mbit/s
95th percentile per-packet one-way delay: 85.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.74 Mbit/s
95th percentile per-packet one-way delay: 86.131 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 85.267 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.59 Mbit/s
95th percentile per-packet one-way delay: 84.638 ms
Loss rate: 0.00%
```
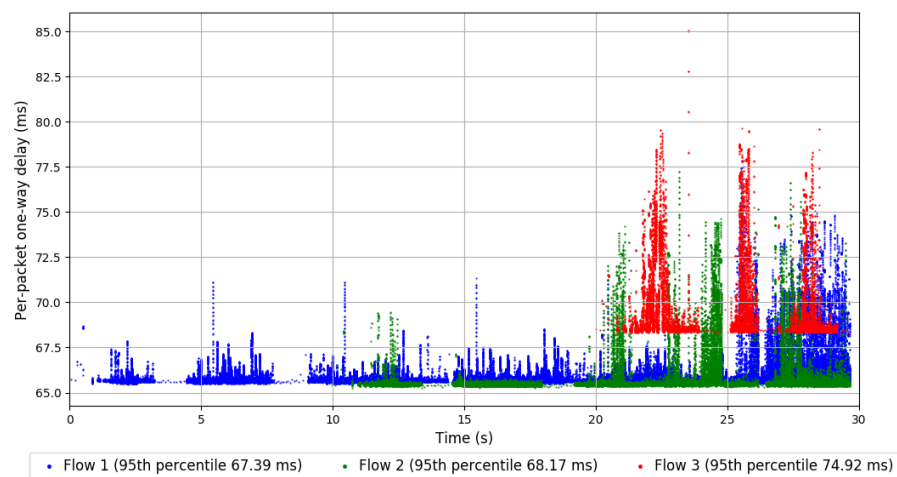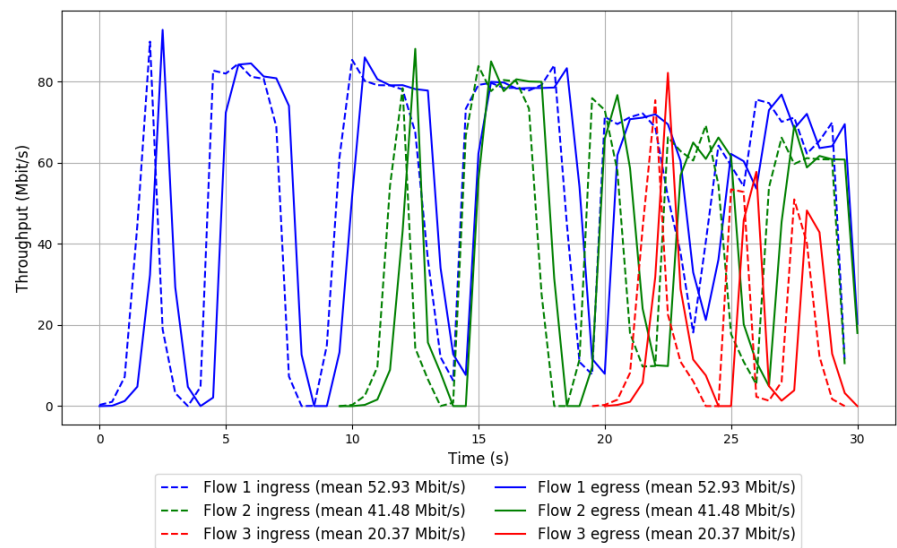
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-12-11 14:47:12
End at: 2018-12-11 14:47:42
Local clock offset: 2.198 ms
Remote clock offset: -41.981 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.97 Mbit/s
95th percentile per-packet one-way delay: 66.645 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.86 Mbit/s
95th percentile per-packet one-way delay: 64.876 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 68.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.44 Mbit/s
95th percentile per-packet one-way delay: 65.832 ms
Loss rate: 0.00%
```
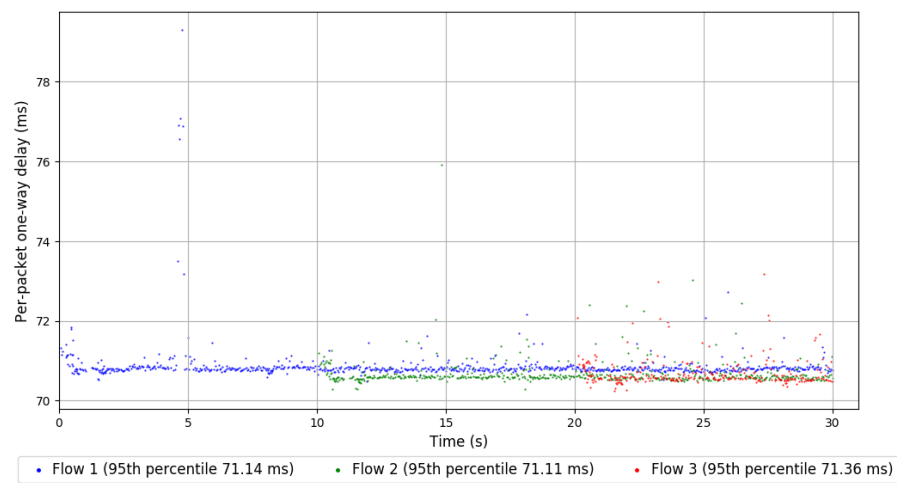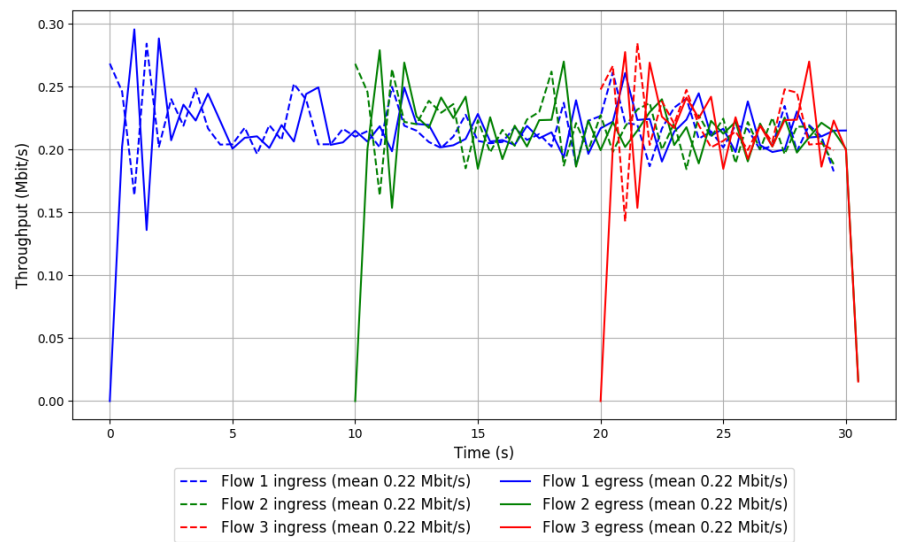
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-12-11 15:15:12
End at: 2018-12-11 15:15:42
Local clock offset: 0.997 ms
Remote clock offset: -42.005 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.14 Mbit/s
95th percentile per-packet one-way delay: 69.437 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.93 Mbit/s
95th percentile per-packet one-way delay: 67.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.48 Mbit/s
95th percentile per-packet one-way delay: 68.165 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.37 Mbit/s
95th percentile per-packet one-way delay: 74.920 ms
Loss rate: 0.00%
```
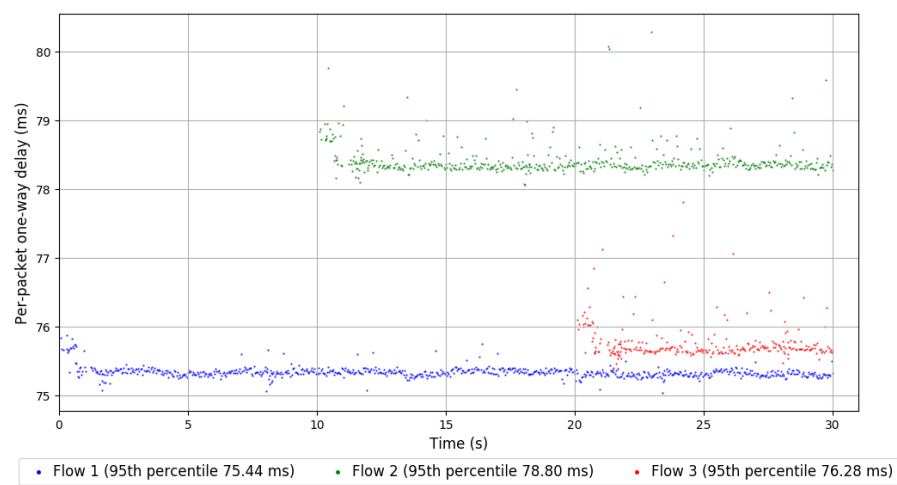
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-12-11 12:30:48
End at: 2018-12-11 12:31:18
Local clock offset: -9.938 ms
Remote clock offset: -38.384 ms

# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 71.147 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 71.359 ms
Loss rate: 0.00%
```
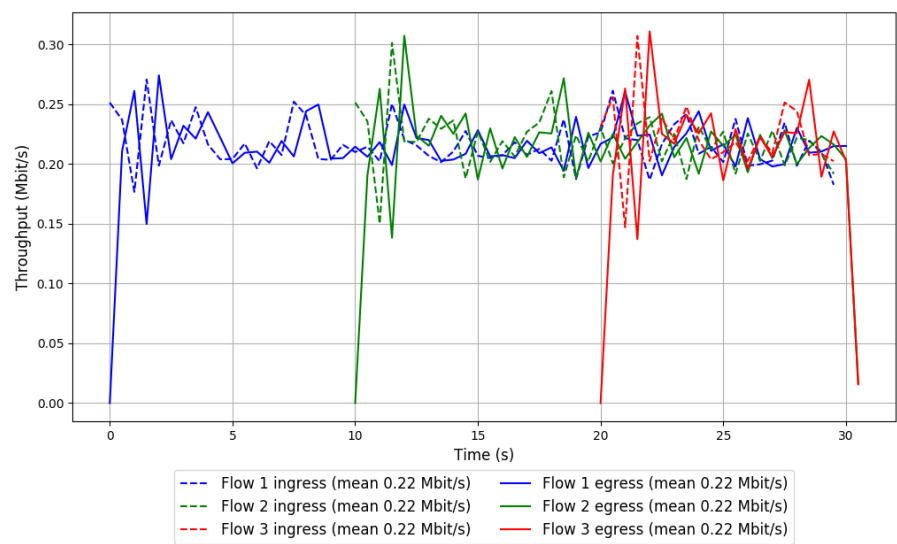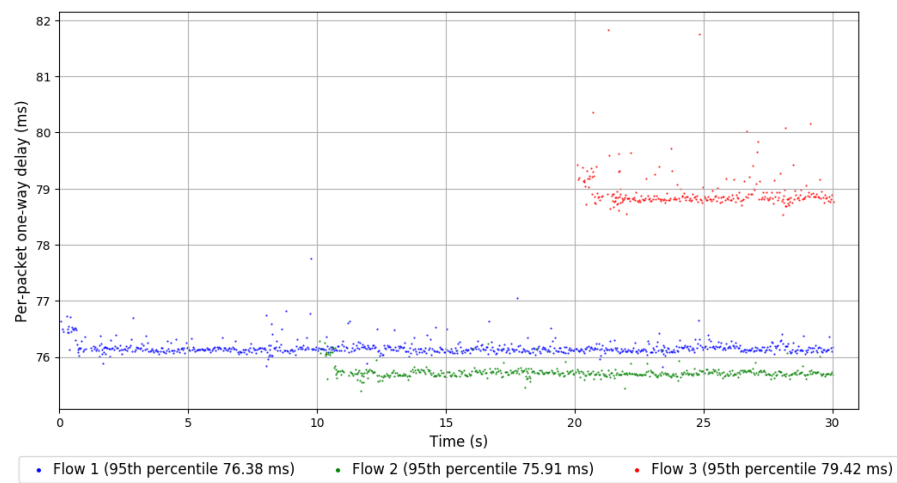
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-12-11 13:04:20
End at: 2018-12-11 13:04:50
Local clock offset: -12.272 ms
Remote clock offset: -41.841 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 78.494 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 75.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 78.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.275 ms
Loss rate: 0.00%
```
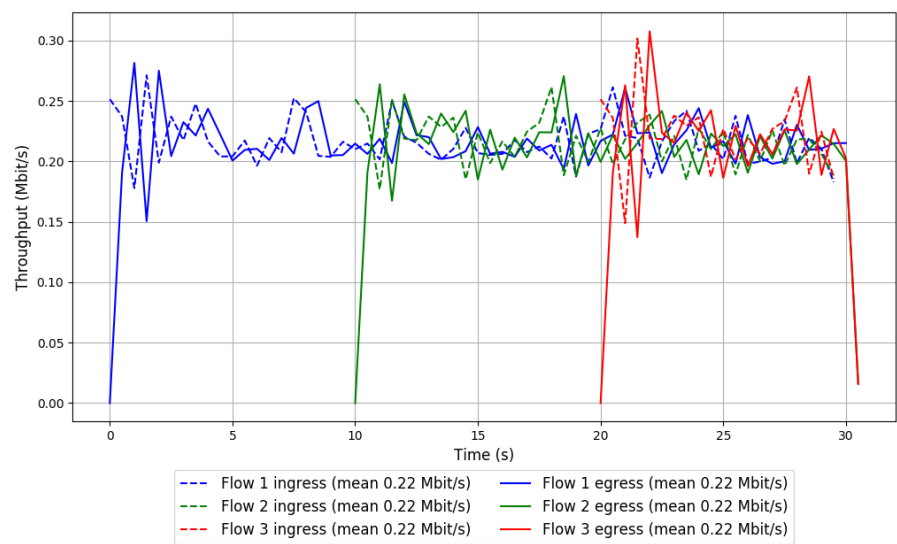
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-12-11 13:43:46
End at: 2018-12-11 13:44:16
Local clock offset: -11.715 ms
Remote clock offset: -41.916 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 78.903 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 75.914 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.417 ms
Loss rate: 0.00%
```
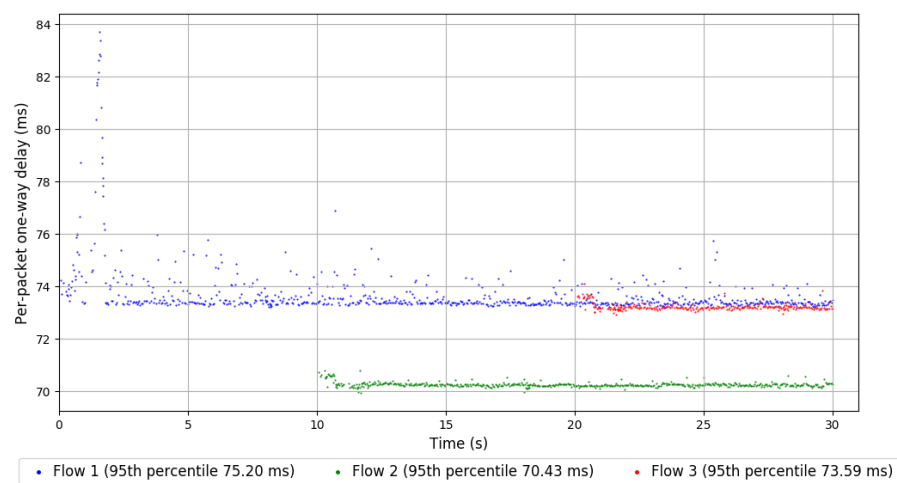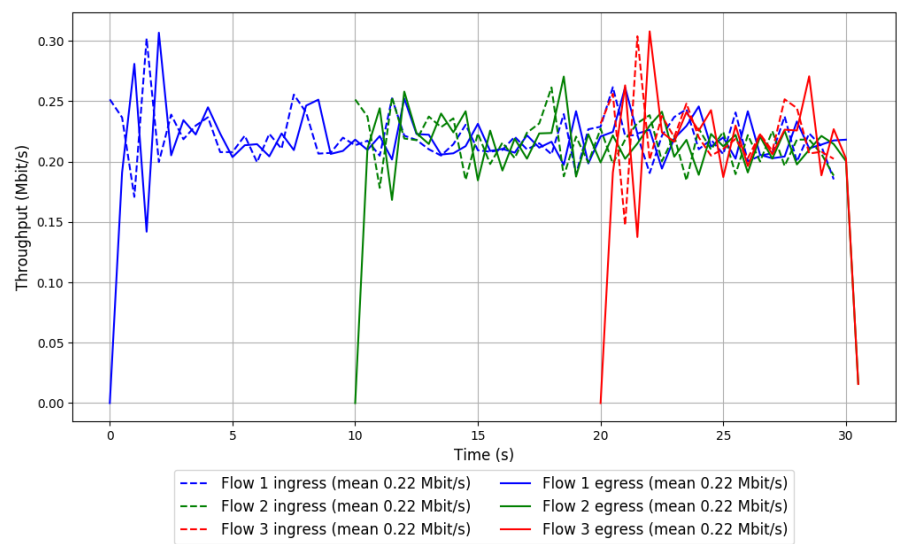
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-12-11 14:23:00
End at: 2018-12-11 14:23:30
Local clock offset: -8.666 ms
Remote clock offset: -44.805 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 74.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 75.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 70.431 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 73.591 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-12-11 15:00:50
End at: 2018-12-11 15:01:20
Local clock offset: 0.038 ms
Remote clock offset: -44.339 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 67.175 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 66.181 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.959 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.185 ms
Loss rate: 0.00%
```
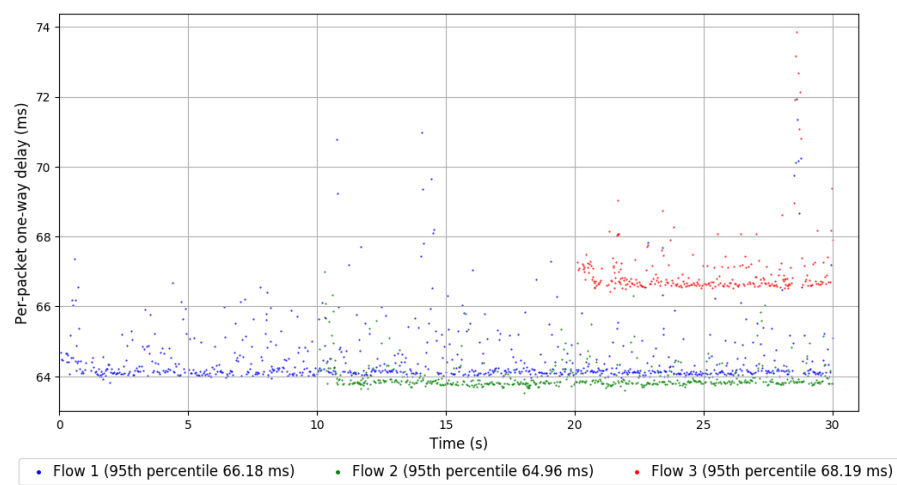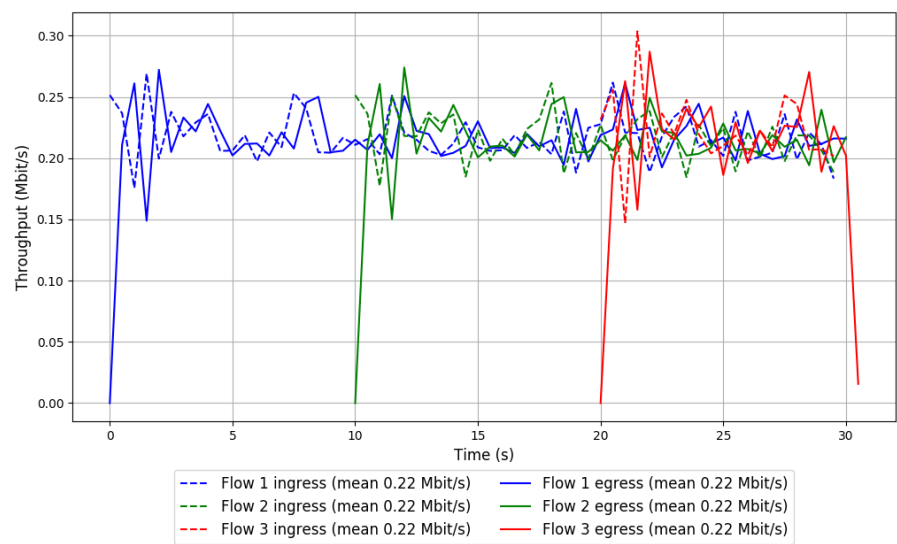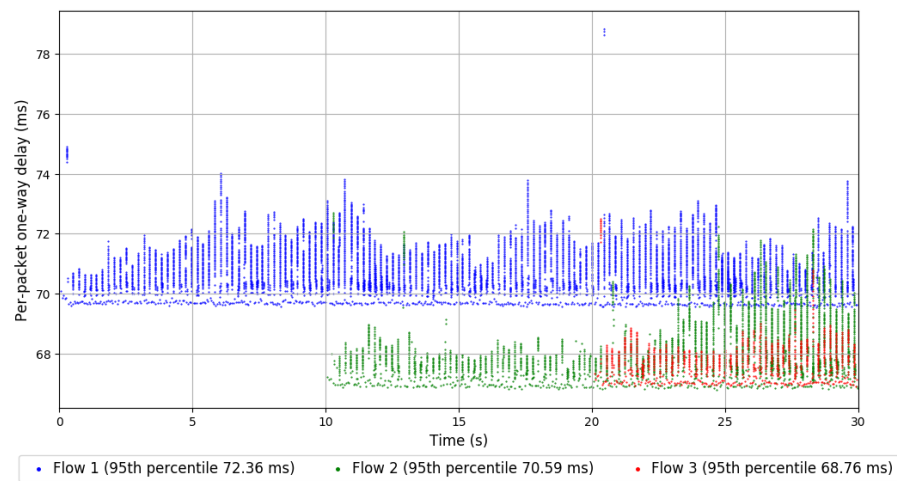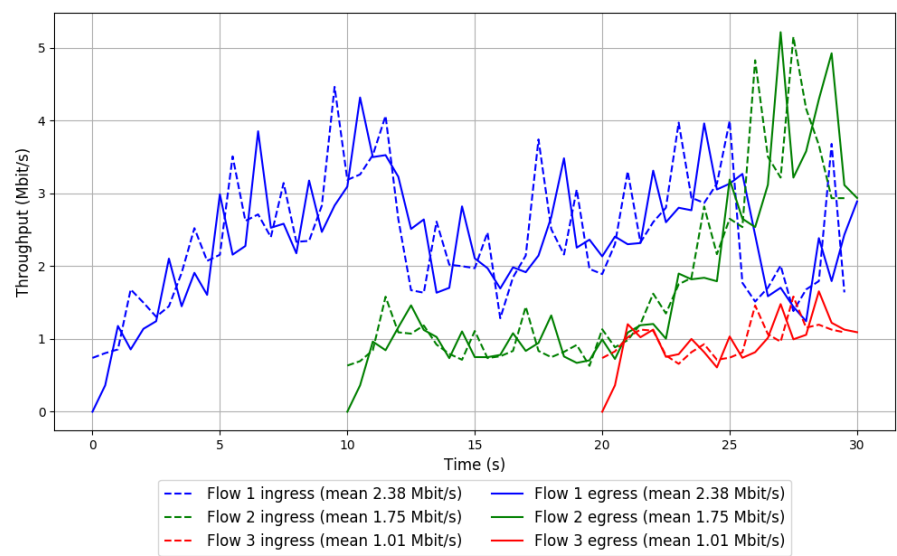
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-12-11 12:38:01
End at: 2018-12-11 12:38:31
Local clock offset: -9.717 ms
Remote clock offset: -41.381 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 72.129 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 72.364 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 70.590 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 68.759 ms
Loss rate: 0.00%
```
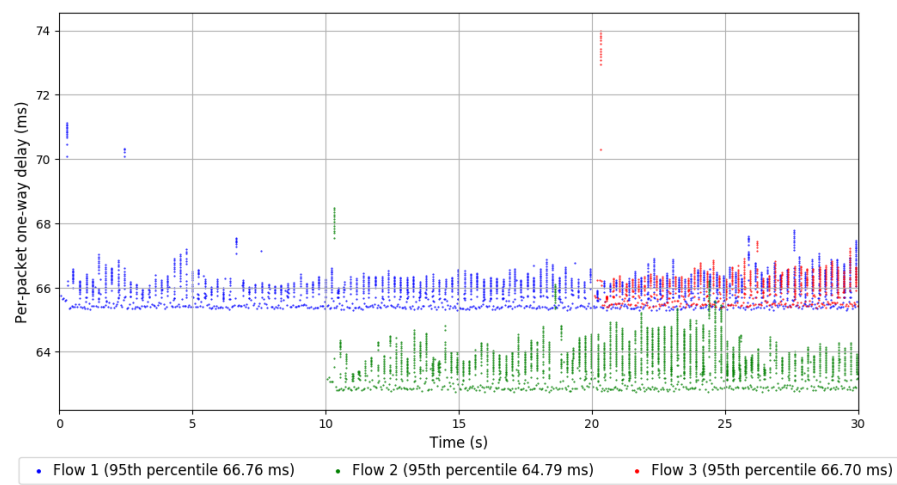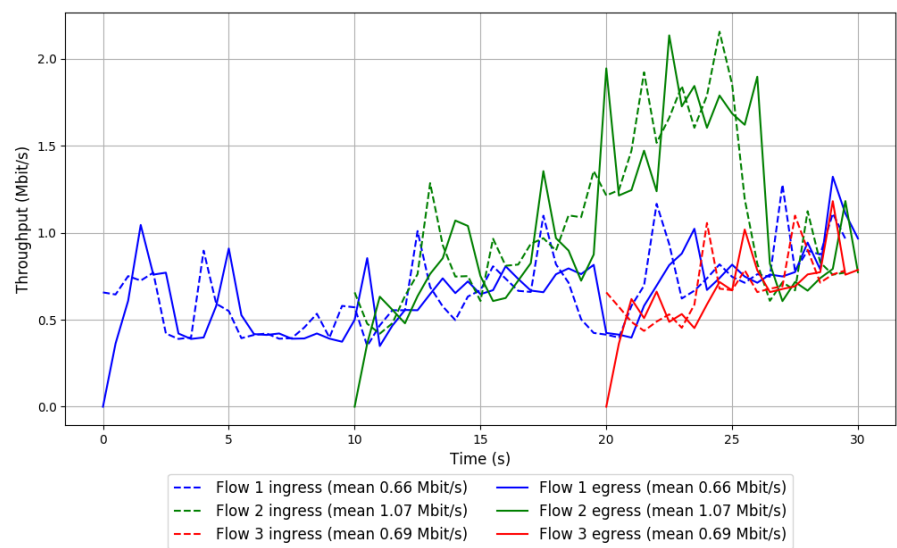
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-12-11 13:11:39
End at: 2018-12-11 13:12:09
Local clock offset: -0.625 ms
Remote clock offset: -42.803 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 66.586 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 66.760 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 64.790 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 66.702 ms
Loss rate: 0.00%
```
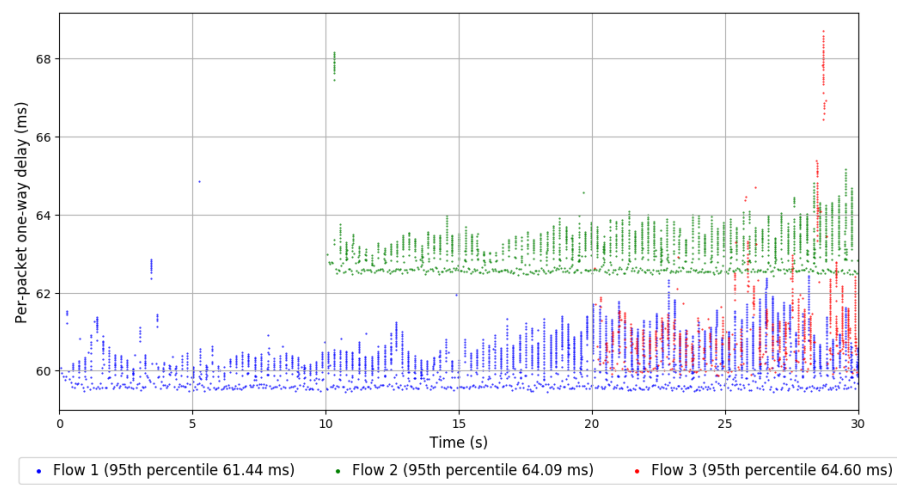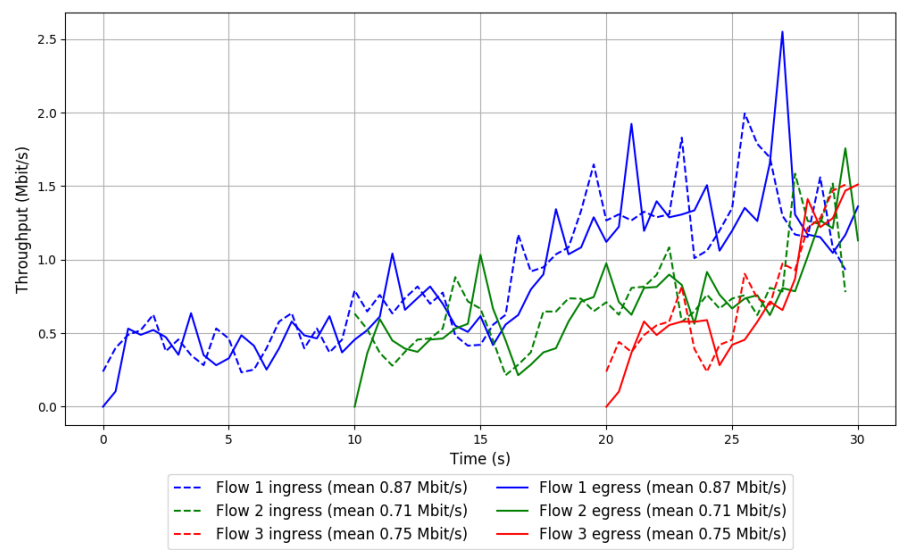
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-12-11 13:51:00
End at: 2018-12-11 13:51:30
Local clock offset: 2.75 ms
Remote clock offset: -43.847 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 63.768 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 61.436 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 64.094 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 64.602 ms
Loss rate: 0.00%
```
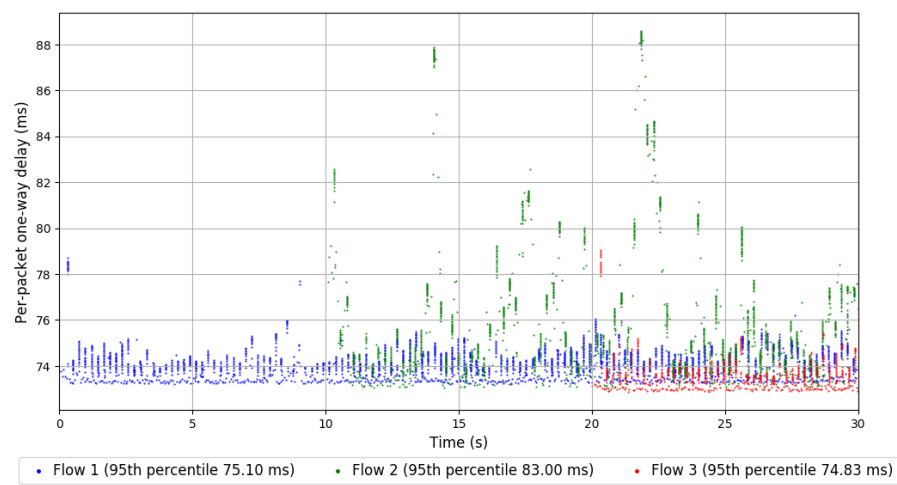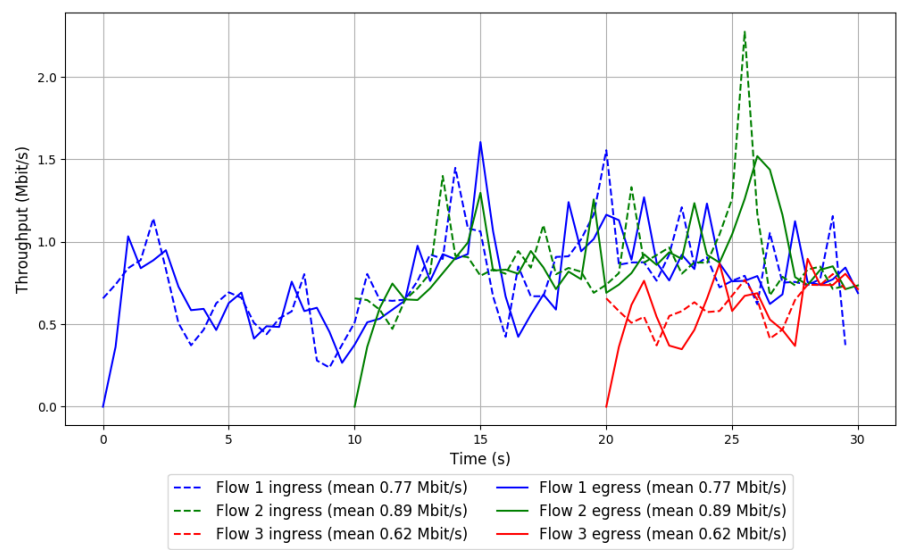
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-12-11 14:40:08
End at: 2018-12-11 14:40:38
Local clock offset: -0.471 ms
Remote clock offset: -34.268 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 79.369 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 75.103 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 83.005 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 74.833 ms
Loss rate: 0.00%
```
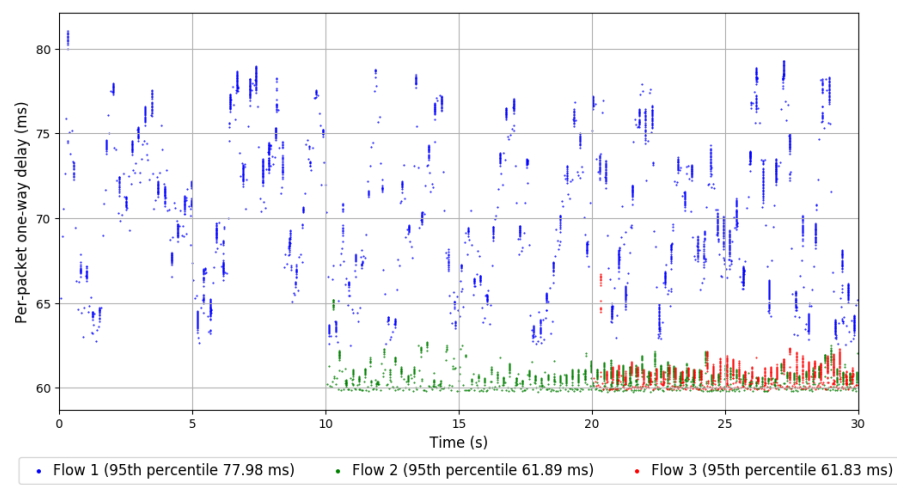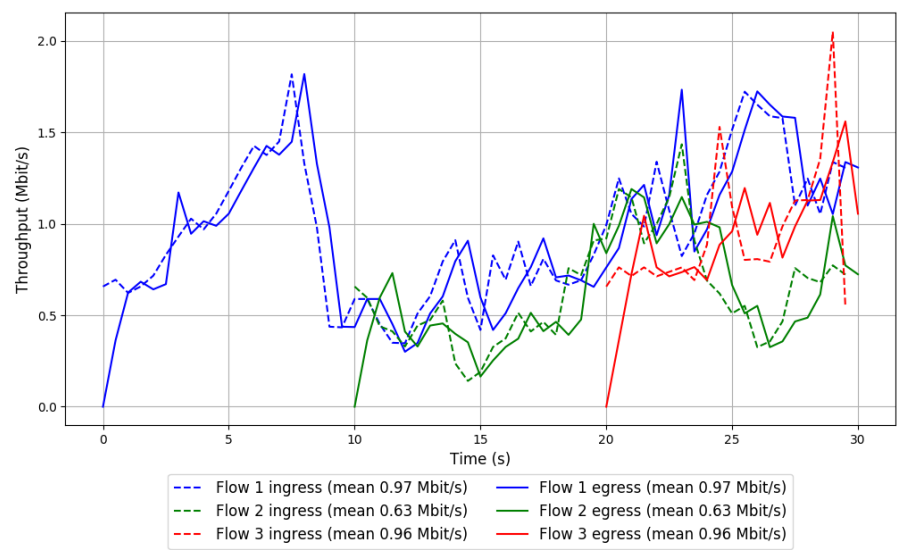
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-12-11 15:08:06
End at: 2018-12-11 15:08:36
Local clock offset: 0.513 ms
Remote clock offset: -47.789 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 77.209 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 77.984 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 61.894 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 61.830 ms
Loss rate: 0.00%
```

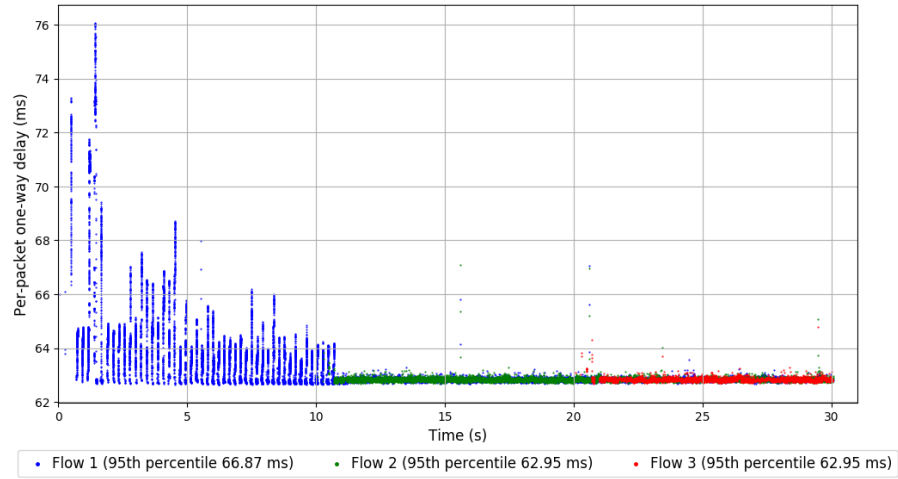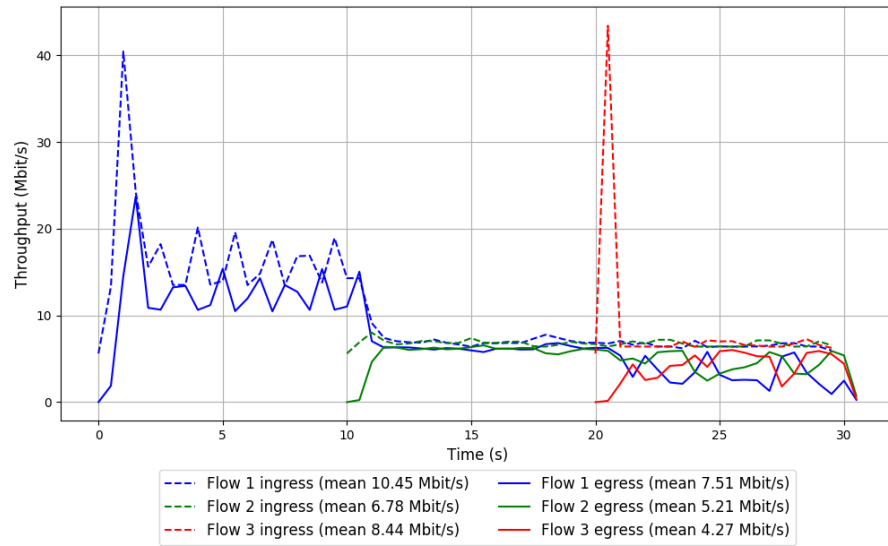Run 5: Report of Sprout — Data Link

144

```
Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 12:49:21
End at: 2018-12-11 12:49:51
Local clock offset: 0.485 ms
Remote clock offset: -42.028 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 65.507 ms
Loss rate: 30.22%
-- Flow 1:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 66.871 ms
Loss rate: 28.11%
-- Flow 2:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 62.945 ms
Loss rate: 23.14%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 62.949 ms
Loss rate: 49.48%
```

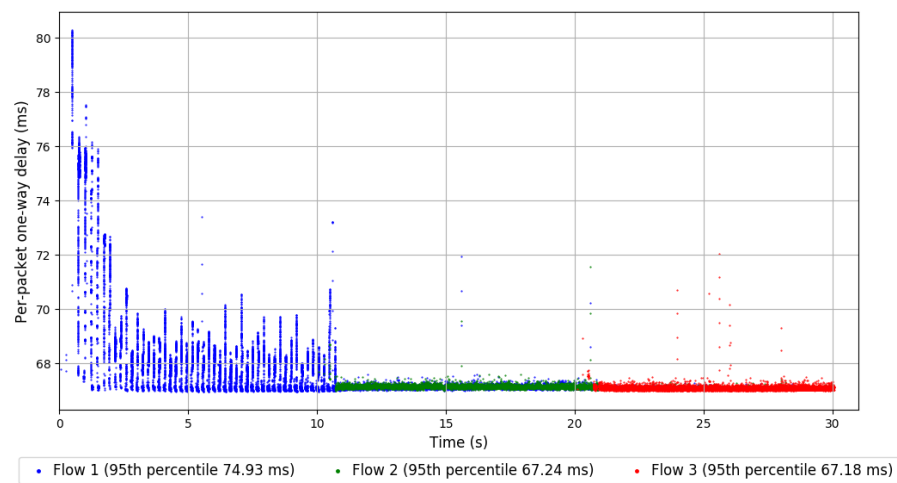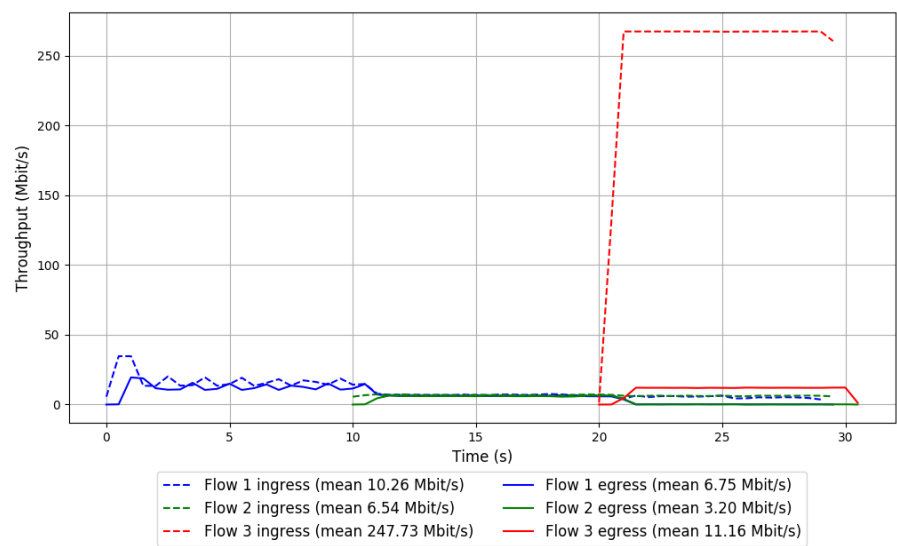Run 1: Report of TaoVA-100x — Data Link

```
Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 13:17:23
End at: 2018-12-11 13:17:53
Local clock offset: -2.409 ms
Remote clock offset: -40.635 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 70.668 ms
Loss rate: 87.21%
-- Flow 1:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 74.926 ms
Loss rate: 34.78%
-- Flow 2:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 67.242 ms
Loss rate: 51.13%
-- Flow 3:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 67.177 ms
Loss rate: 95.50%
```

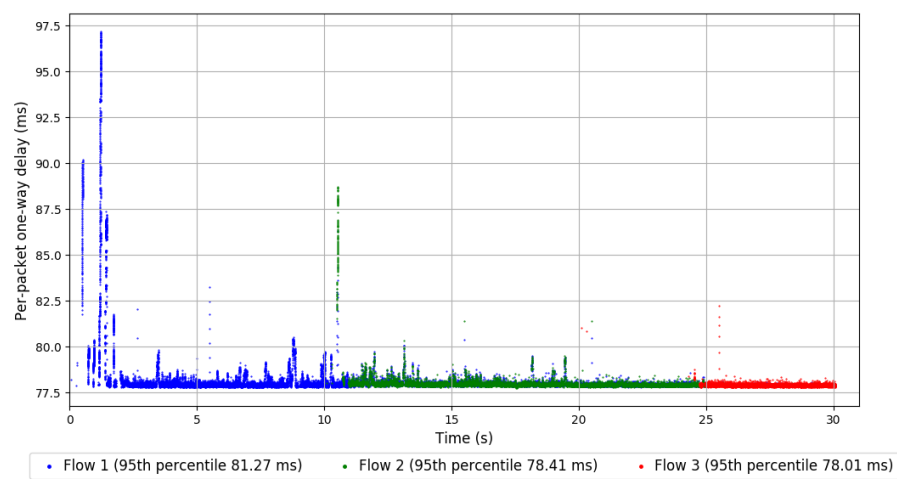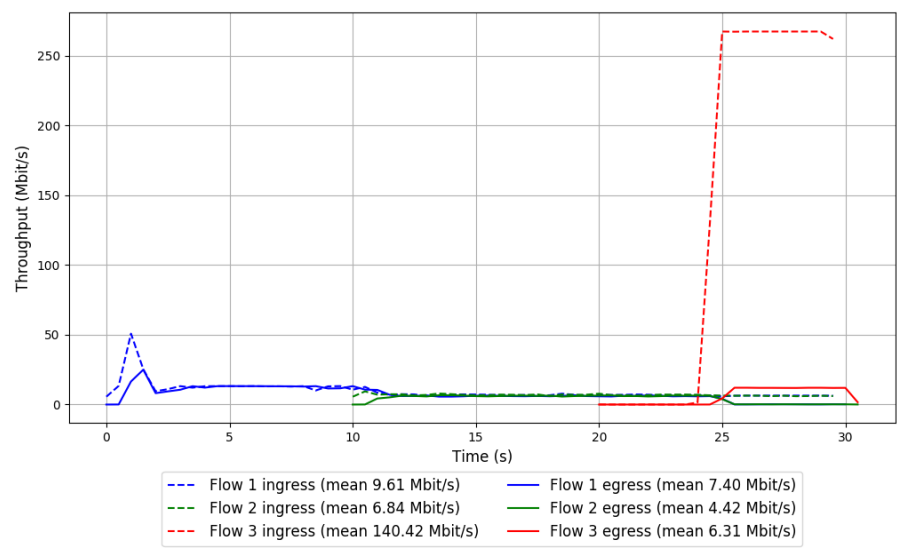Run 2: Report of TaoVA-100x — Data Link

```
Run 3: Statistics of TaoVA-100x

Start at: 2018-12-11 13:56:42
End at: 2018-12-11 13:57:12
Local clock offset: -9.468 ms
Remote clock offset: -38.353 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 79.537 ms
Loss rate: 79.59%
-- Flow 1:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 81.268 ms
Loss rate: 23.24%
-- Flow 2:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 78.413 ms
Loss rate: 35.30%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 78.012 ms
Loss rate: 95.51%
```

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

Flow 1 ingress (mean 9.61 Mbit/s) --- Flow 1 egress (mean 7.40 Mbit/s)
Flow 2 ingress (mean 6.84 Mbit/s) --- Flow 2 egress (mean 4.42 Mbit/s)
Flow 3 ingress (mean 140.42 Mbit/s) --- Flow 3 egress (mean 6.31 Mbit/s)

Flow 1 (95th percentile 81.27 ms) · Flow 2 (95th percentile 78.41 ms) · Flow 3 (95th percentile 78.01 ms)
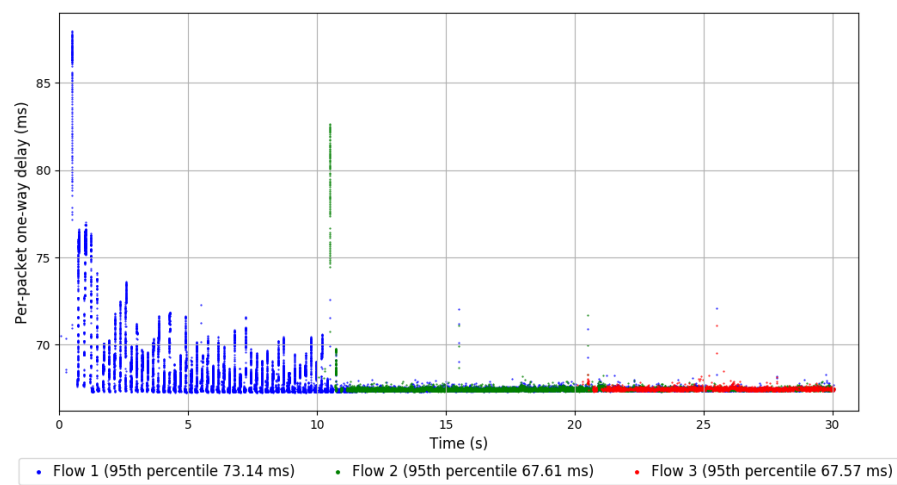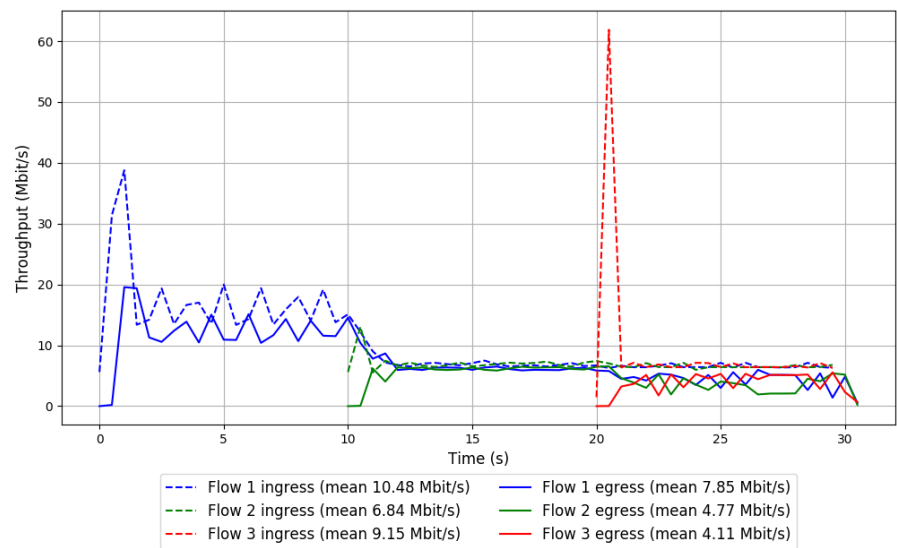
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-12-11 14:45:52
End at: 2018-12-11 14:46:22
Local clock offset: 1.778 ms
Remote clock offset: -38.385 ms

# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 71.041 ms
Loss rate: 31.49%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 73.141 ms
Loss rate: 25.18%
-- Flow 2:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 67.611 ms
Loss rate: 30.25%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 67.572 ms
Loss rate: 55.14%
```

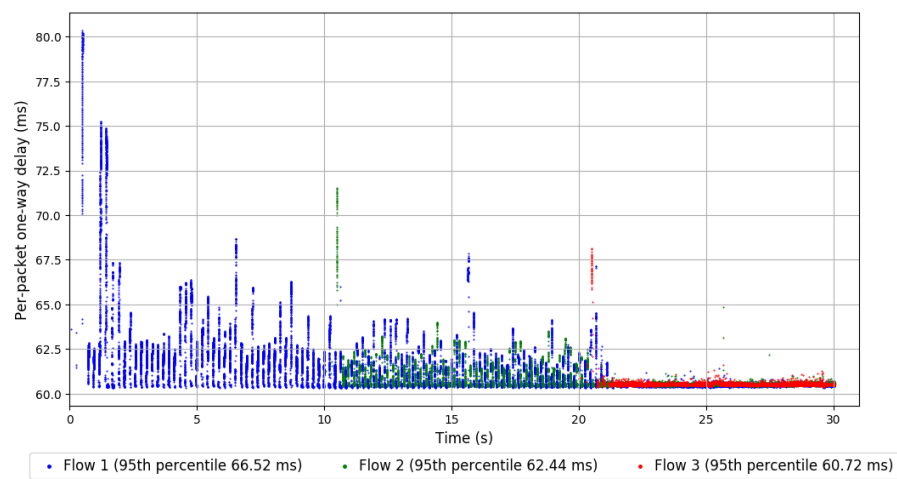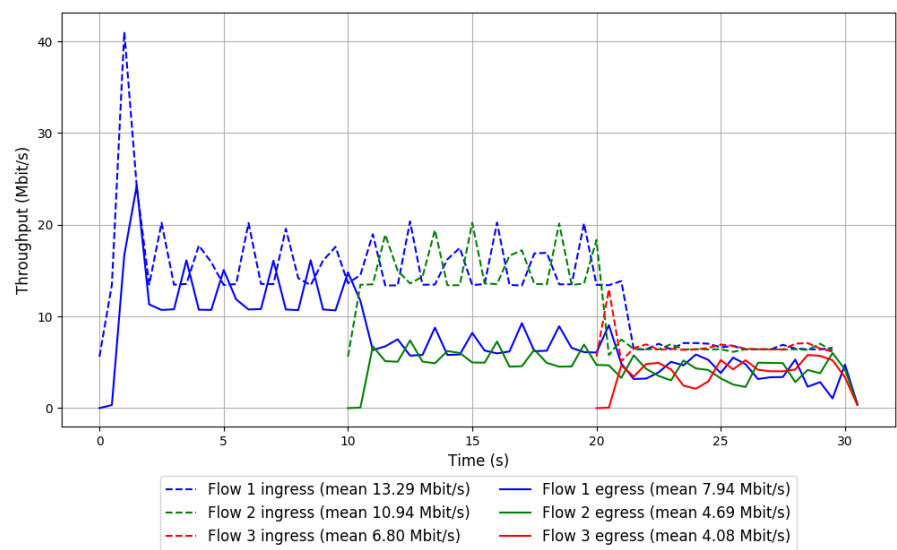# Run 4: Report of TaoVA-100x — Data Link

```
Run 5: Statistics of TaoVA-100x

Start at: 2018-12-11 15:13:52
End at: 2018-12-11 15:14:22
Local clock offset: 0.605 ms
Remote clock offset: -47.577 ms


# Below is generated by plot.py at 2018-12-11 15:39:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 65.343 ms
Loss rate: 45.62%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 66.524 ms
Loss rate: 40.26%
-- Flow 2:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 62.440 ms
Loss rate: 57.11%
-- Flow 3:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 60.715 ms
Loss rate: 40.09%
```

Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 13.29 Mbit/s)   Flow 1 egress (mean 7.94 Mbit/s)
Flow 2 ingress (mean 10.94 Mbit/s)   Flow 2 egress (mean 4.69 Mbit/s)
Flow 3 ingress (mean 6.80 Mbit/s)   Flow 3 egress (mean 4.08 Mbit/s)

Flow 1 (95th percentile 66.52 ms)   Flow 2 (95th percentile 62.44 ms)   Flow 3 (95th percentile 60.72 ms)
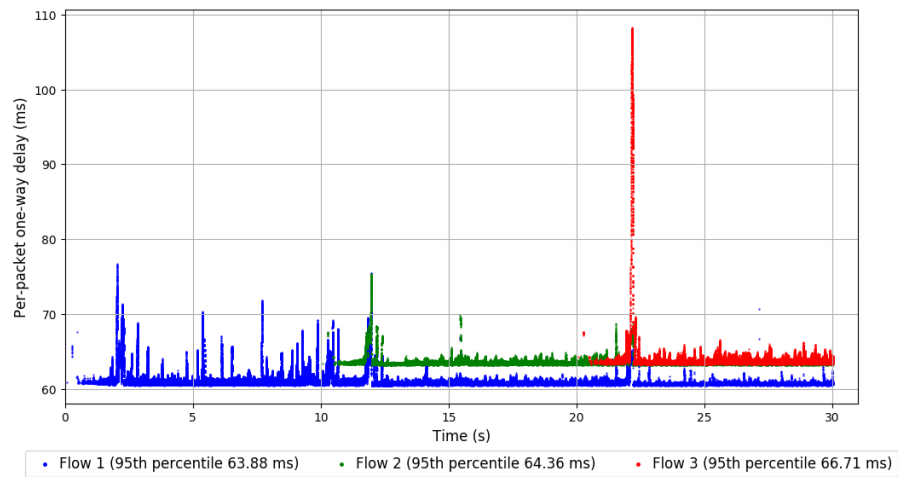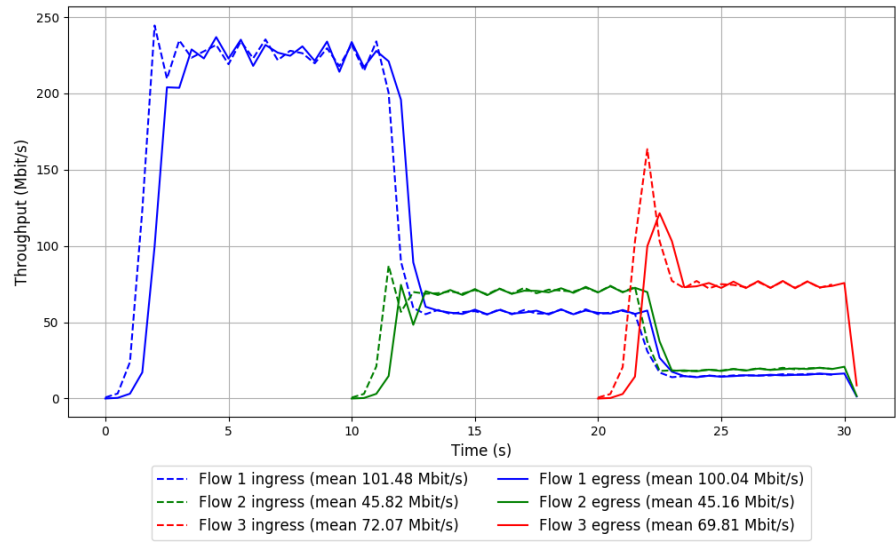
```
Run 1: Statistics of TCP Vegas

Start at: 2018-12-11 12:27:54
End at: 2018-12-11 12:28:24
Local clock offset: -0.453 ms
Remote clock offset: -38.781 ms


# Below is generated by plot.py at 2018-12-11 15:40:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 153.33 Mbit/s
95th percentile per-packet one-way delay: 64.417 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 100.04 Mbit/s
95th percentile per-packet one-way delay: 63.880 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 45.16 Mbit/s
95th percentile per-packet one-way delay: 64.365 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 69.81 Mbit/s
95th percentile per-packet one-way delay: 66.709 ms
Loss rate: 3.13%
```

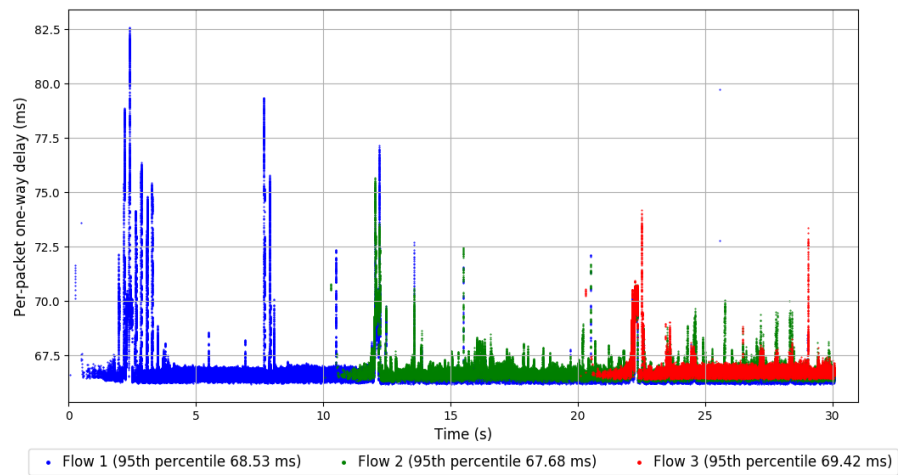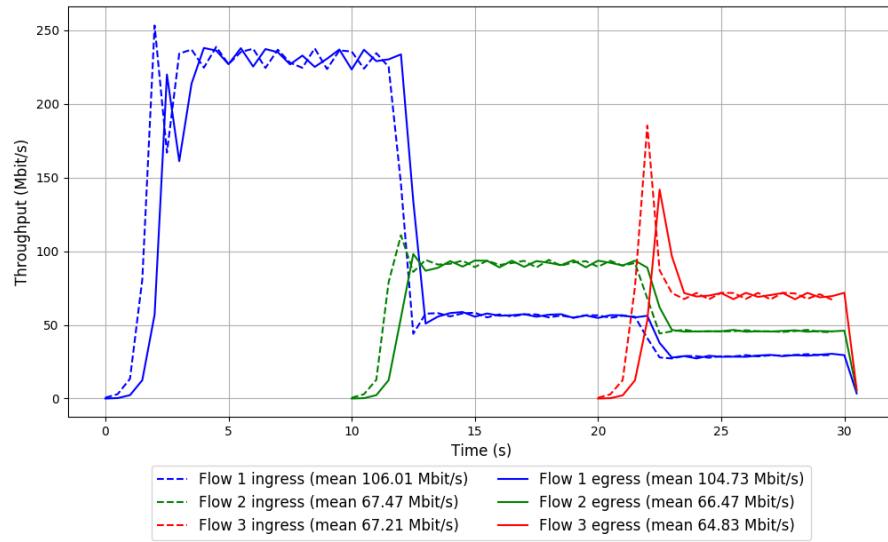# Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-12-11 13:01:25
End at: 2018-12-11 13:01:55
Local clock offset: -9.783 ms
Remote clock offset: -48.471 ms


# Below is generated by plot.py at 2018-12-11 15:40:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 170.56 Mbit/s
95th percentile per-packet one-way delay: 68.278 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 104.73 Mbit/s
95th percentile per-packet one-way delay: 68.526 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 66.47 Mbit/s
95th percentile per-packet one-way delay: 67.680 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 64.83 Mbit/s
95th percentile per-packet one-way delay: 69.419 ms
Loss rate: 3.54%
```

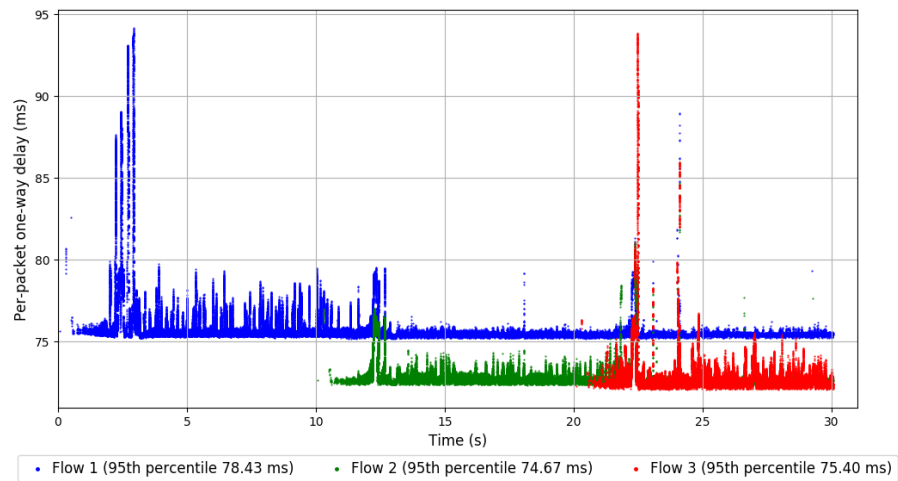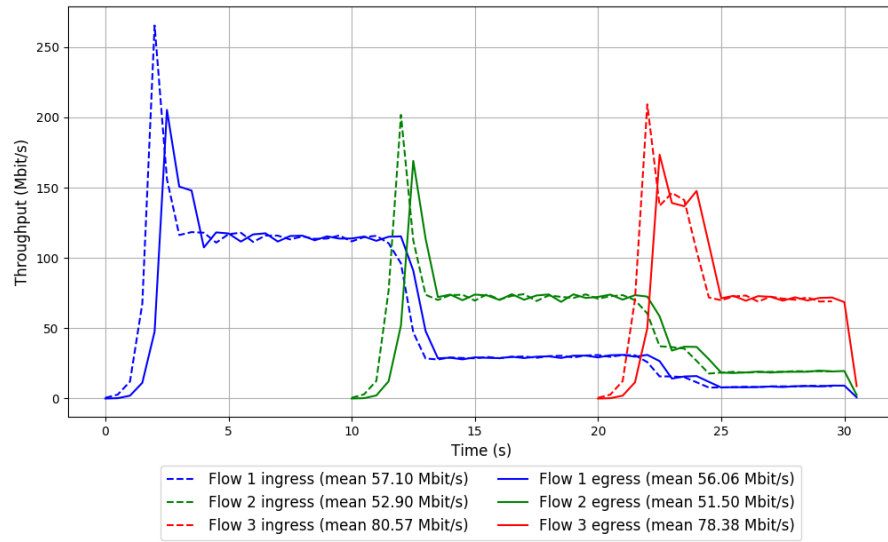Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-12-11 13:34:57
End at: 2018-12-11 13:35:27
Local clock offset: -9.728 ms
Remote clock offset: -42.464 ms


# Below is generated by plot.py at 2018-12-11 15:40:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.42 Mbit/s
95th percentile per-packet one-way delay: 76.876 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 56.06 Mbit/s
95th percentile per-packet one-way delay: 78.427 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 51.50 Mbit/s
95th percentile per-packet one-way delay: 74.673 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 78.38 Mbit/s
95th percentile per-packet one-way delay: 75.397 ms
Loss rate: 2.72%
```

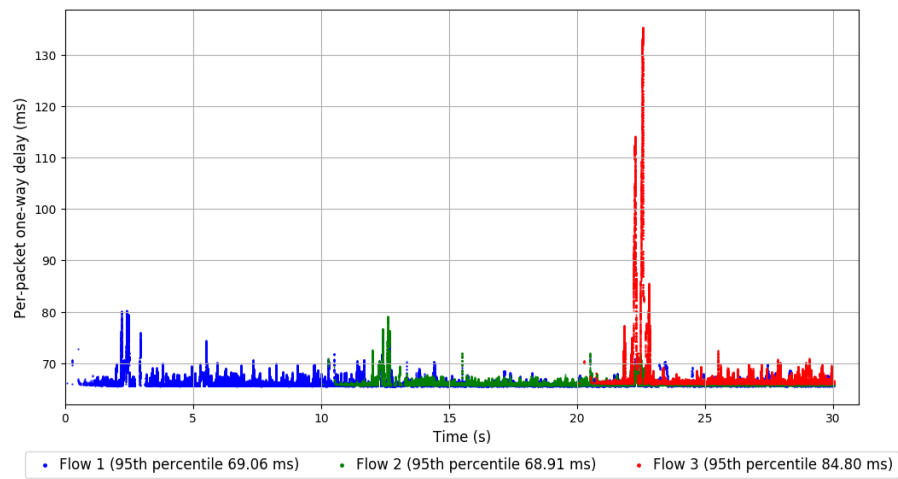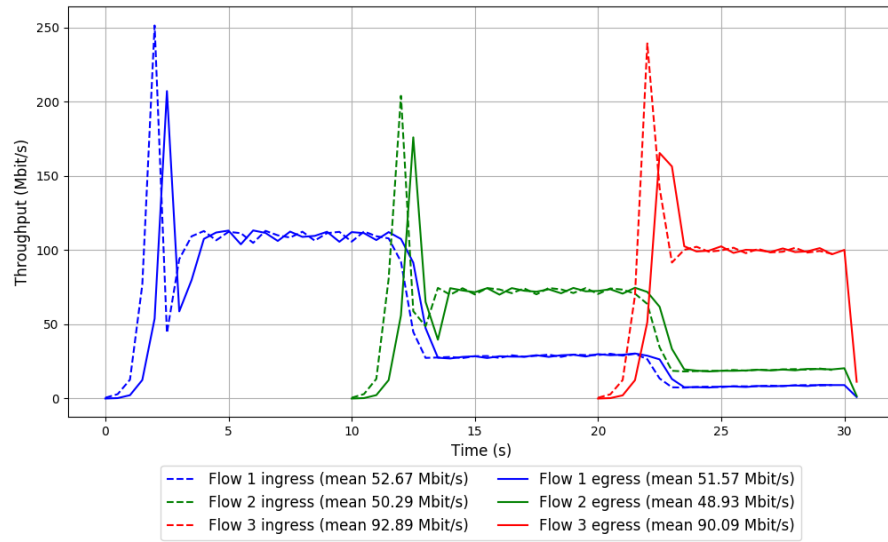# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-12-11 14:14:17
End at: 2018-12-11 14:14:47
Local clock offset: 1.615 ms
Remote clock offset: -39.135 ms


# Below is generated by plot.py at 2018-12-11 15:40:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.15 Mbit/s
95th percentile per-packet one-way delay: 69.527 ms
Loss rate: 2.51%
-- Flow 1:
Average throughput: 51.57 Mbit/s
95th percentile per-packet one-way delay: 69.056 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 48.93 Mbit/s
95th percentile per-packet one-way delay: 68.906 ms
Loss rate: 2.69%
-- Flow 3:
Average throughput: 90.09 Mbit/s
95th percentile per-packet one-way delay: 84.803 ms
Loss rate: 3.01%
```
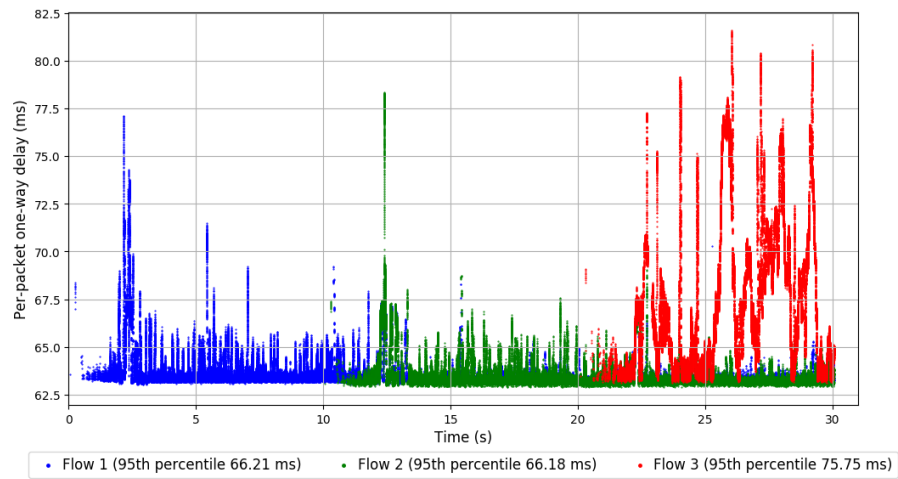
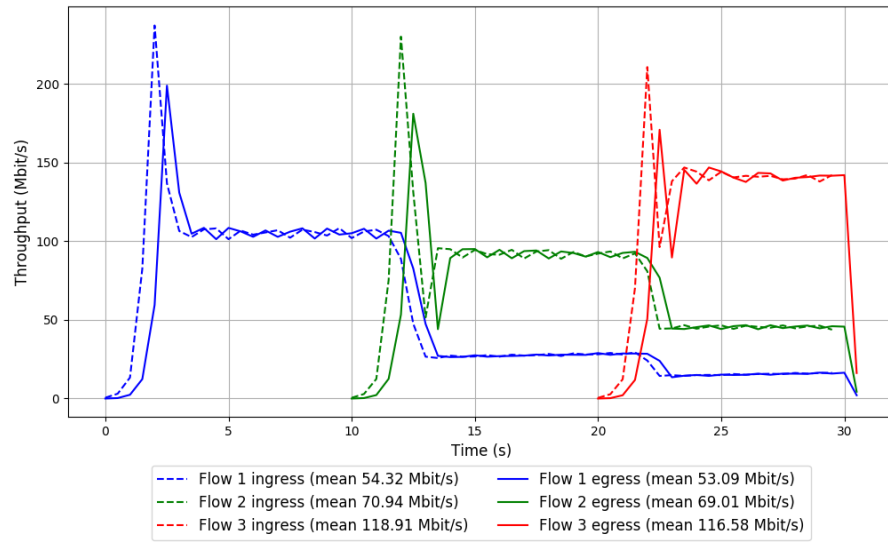Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-12-11 14:57:55
End at: 2018-12-11 14:58:25
Local clock offset: 3.736 ms
Remote clock offset: -41.127 ms


# Below is generated by plot.py at 2018-12-11 15:40:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.82 Mbit/s
95th percentile per-packet one-way delay: 70.717 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 53.09 Mbit/s
95th percentile per-packet one-way delay: 66.210 ms
Loss rate: 2.26%
-- Flow 2:
Average throughput: 69.01 Mbit/s
95th percentile per-packet one-way delay: 66.179 ms
Loss rate: 2.71%
-- Flow 3:
Average throughput: 116.58 Mbit/s
95th percentile per-packet one-way delay: 75.749 ms
Loss rate: 1.95%
```

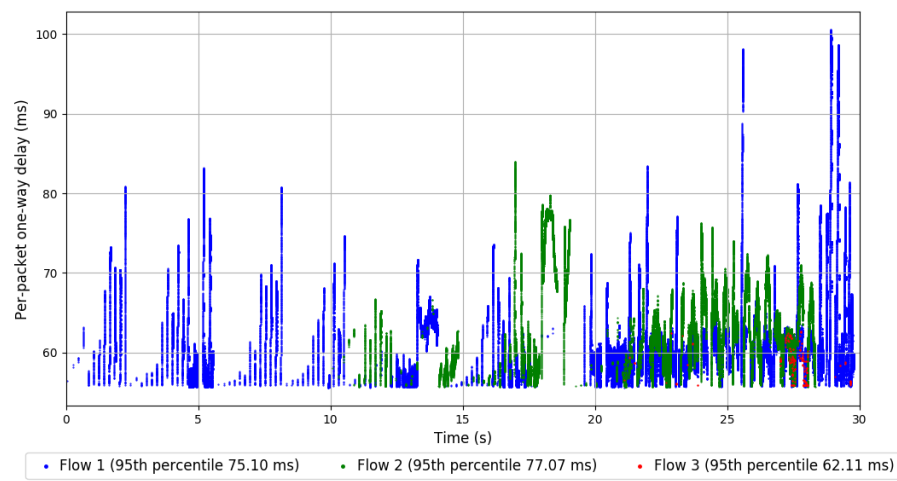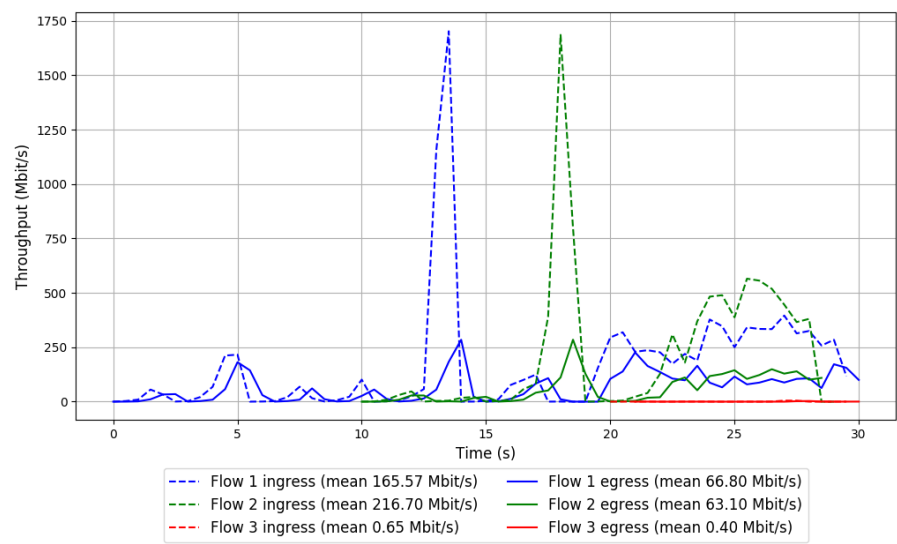Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-12-11 12:29:20
End at: 2018-12-11 12:29:50
Local clock offset: 0.212 ms
Remote clock offset: -42.945 ms

# Below is generated by plot.py at 2018-12-11 15:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.60 Mbit/s
95th percentile per-packet one-way delay: 76.822 ms
Loss rate: 65.62%
-- Flow 1:
Average throughput: 66.80 Mbit/s
95th percentile per-packet one-way delay: 75.103 ms
Loss rate: 59.65%
-- Flow 2:
Average throughput: 63.10 Mbit/s
95th percentile per-packet one-way delay: 77.070 ms
Loss rate: 72.64%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 62.113 ms
Loss rate: 44.44%
```
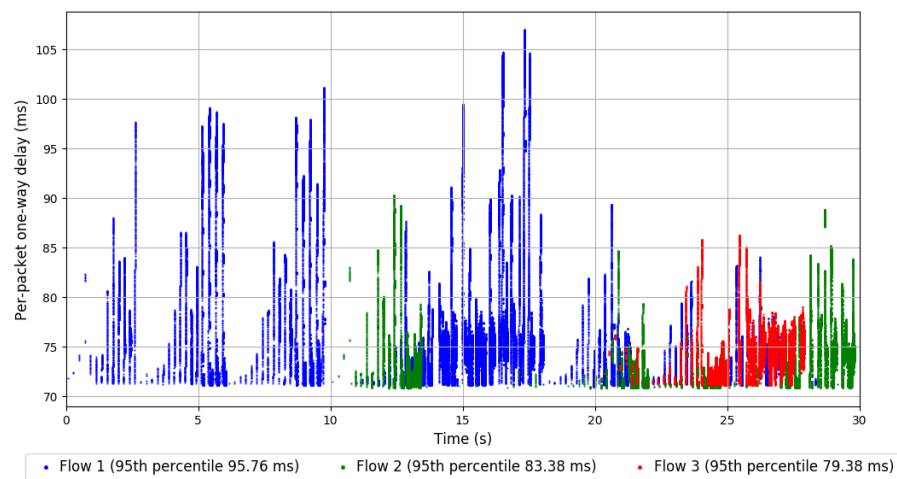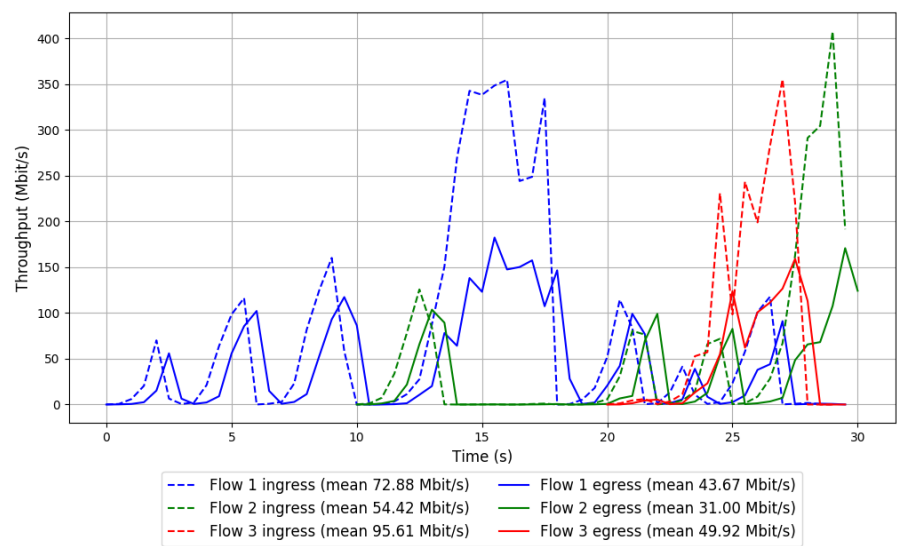
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-12-11 13:02:53
End at: 2018-12-11 13:03:23
Local clock offset: -9.121 ms
Remote clock offset: -42.862 ms


# Below is generated by plot.py at 2018-12-11 15:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.69 Mbit/s
95th percentile per-packet one-way delay: 91.101 ms
Loss rate: 42.78%
-- Flow 1:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 95.764 ms
Loss rate: 40.08%
-- Flow 2:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 83.376 ms
Loss rate: 43.04%
-- Flow 3:
Average throughput: 49.92 Mbit/s
95th percentile per-packet one-way delay: 79.375 ms
Loss rate: 48.98%
```
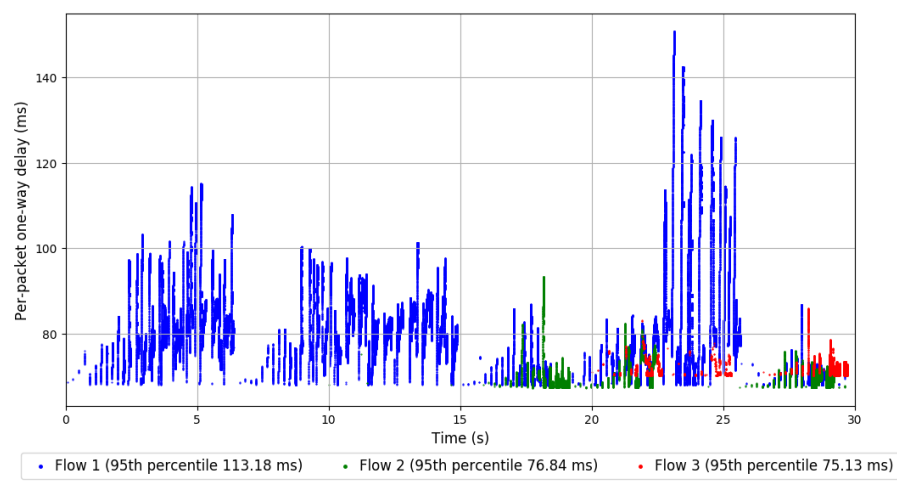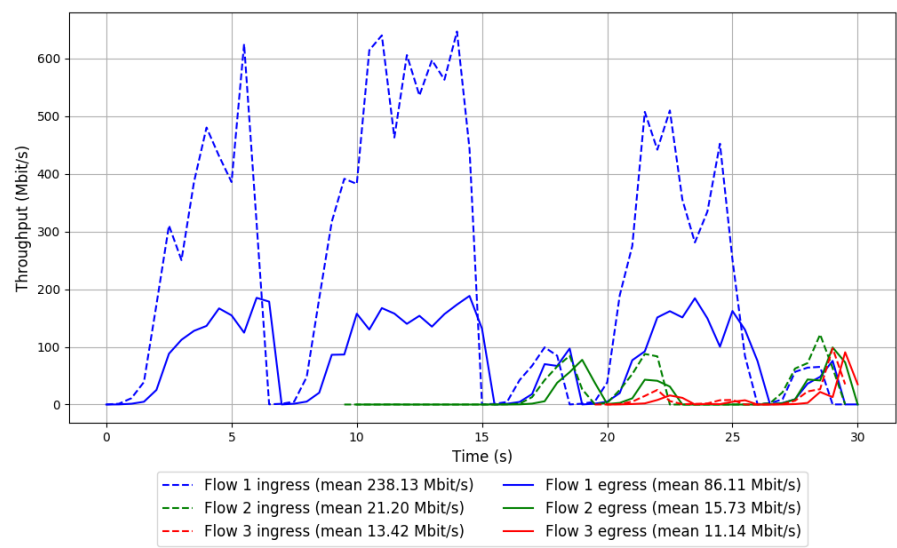
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-12-11 13:42:17
End at: 2018-12-11 13:42:47
Local clock offset: 0.159 ms
Remote clock offset: -38.299 ms


# Below is generated by plot.py at 2018-12-11 15:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.82 Mbit/s
95th percentile per-packet one-way delay: 111.503 ms
Loss rate: 60.95%
-- Flow 1:
Average throughput: 86.11 Mbit/s
95th percentile per-packet one-way delay: 113.184 ms
Loss rate: 63.84%
-- Flow 2:
Average throughput: 15.73 Mbit/s
95th percentile per-packet one-way delay: 76.840 ms
Loss rate: 25.79%
-- Flow 3:
Average throughput: 11.14 Mbit/s
95th percentile per-packet one-way delay: 75.134 ms
Loss rate: 16.96%
```

Run 3: Report of Verus — Data Link

- - - - Flow 1 ingress (mean 238.13 Mbit/s) ——— Flow 1 egress (mean 86.11 Mbit/s)
- - - - Flow 2 ingress (mean 21.20 Mbit/s) ——— Flow 2 egress (mean 15.73 Mbit/s)
- - - - Flow 3 ingress (mean 13.42 Mbit/s) ——— Flow 3 egress (mean 11.14 Mbit/s)

- Flow 1 (95th percentile 113.18 ms)   · Flow 2 (95th percentile 76.84 ms)   · Flow 3 (95th percentile 75.13 ms)
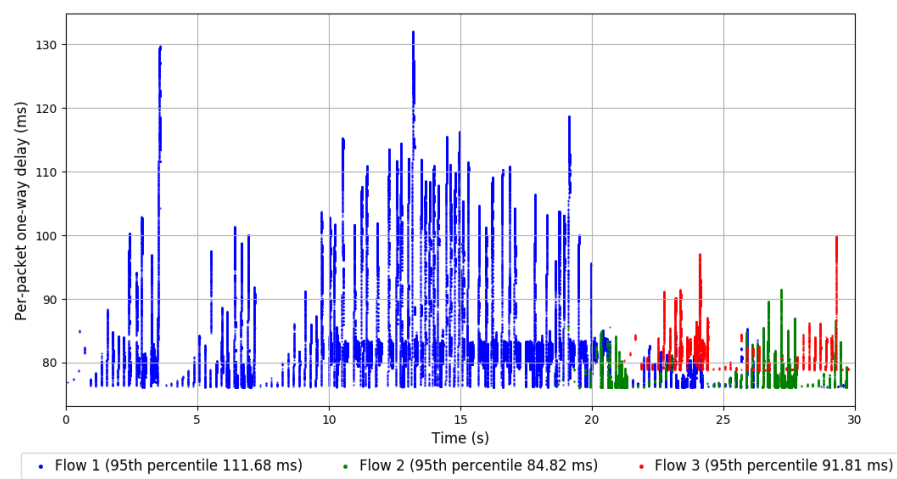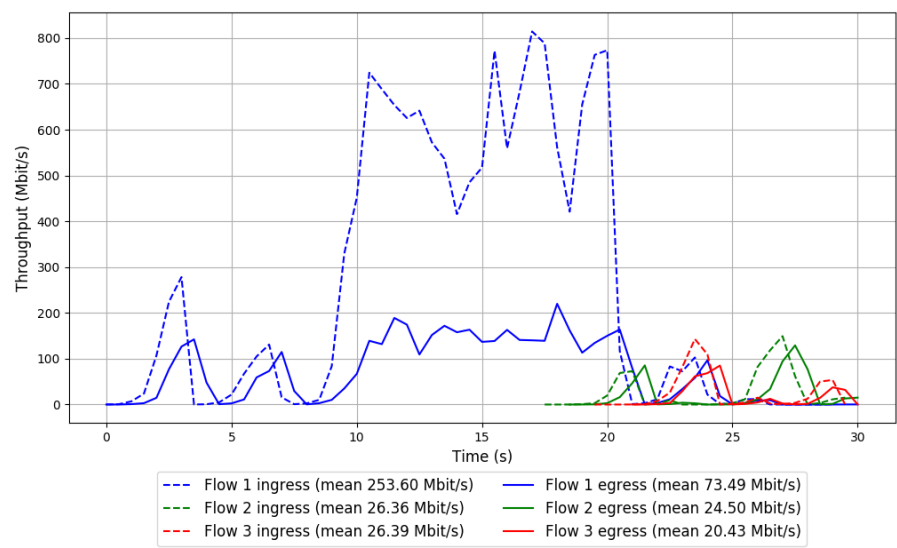
```
Run 4: Statistics of Verus

Start at: 2018-12-11 14:21:23
End at: 2018-12-11 14:21:53
Local clock offset: -8.511 ms
Remote clock offset: -39.176 ms

# Below is generated by plot.py at 2018-12-11 15:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.17 Mbit/s
95th percentile per-packet one-way delay: 110.411 ms
Loss rate: 67.52%
-- Flow 1:
Average throughput: 73.49 Mbit/s
95th percentile per-packet one-way delay: 111.680 ms
Loss rate: 71.02%
-- Flow 2:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 84.818 ms
Loss rate: 14.80%
-- Flow 3:
Average throughput: 20.43 Mbit/s
95th percentile per-packet one-way delay: 91.809 ms
Loss rate: 30.56%
```
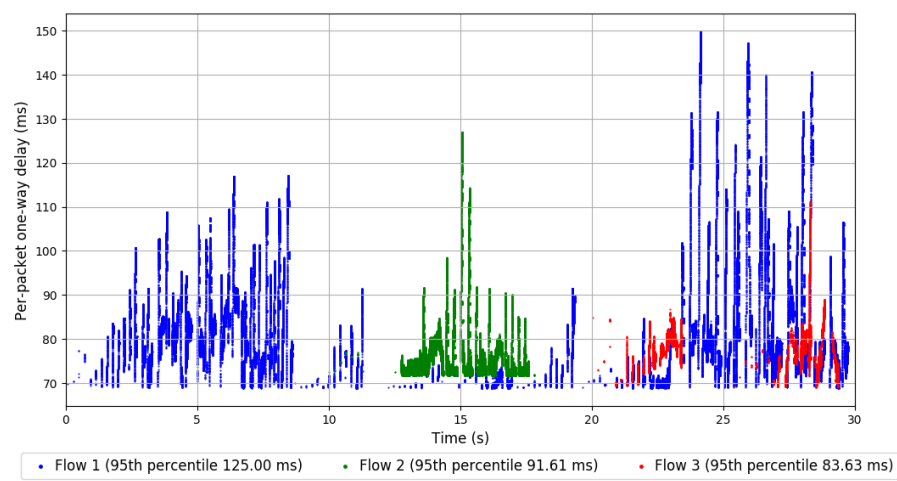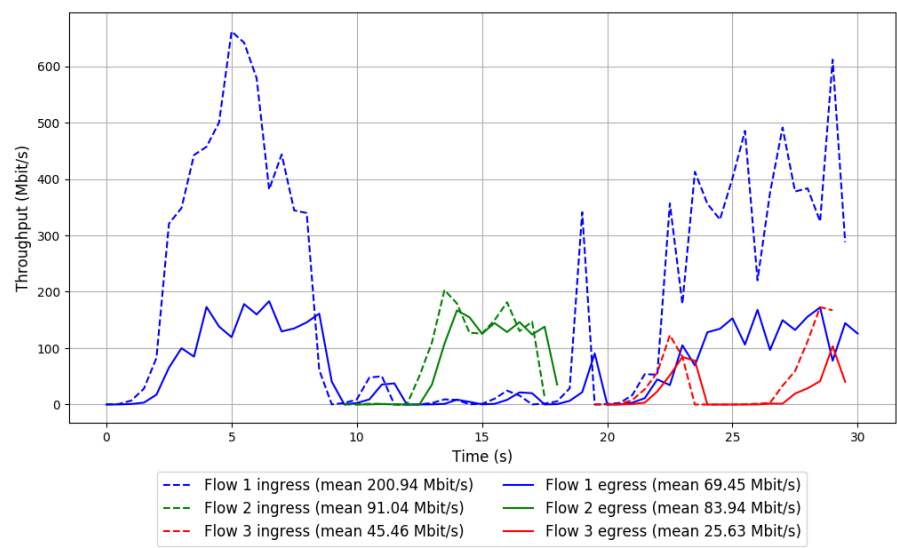
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-12-11 14:59:21
End at: 2018-12-11 14:59:51
Local clock offset: 4.008 ms
Remote clock offset: -35.023 ms

# Below is generated by plot.py at 2018-12-11 15:41:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.57 Mbit/s
95th percentile per-packet one-way delay: 118.675 ms
Loss rate: 58.36%
-- Flow 1:
Average throughput: 69.45 Mbit/s
95th percentile per-packet one-way delay: 124.997 ms
Loss rate: 65.43%
-- Flow 2:
Average throughput: 83.94 Mbit/s
95th percentile per-packet one-way delay: 91.609 ms
Loss rate: 7.81%
-- Flow 3:
Average throughput: 25.63 Mbit/s
95th percentile per-packet one-way delay: 83.634 ms
Loss rate: 43.75%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 200.94 Mbit/s) — — — Flow 1 egress (mean 69.45 Mbit/s)
Flow 2 ingress (mean 91.04 Mbit/s) — — — Flow 2 egress (mean 83.94 Mbit/s)
Flow 3 ingress (mean 45.46 Mbit/s) — — — Flow 3 egress (mean 25.63 Mbit/s)

Flow 1 (95th percentile 125.00 ms) ● Flow 2 (95th percentile 91.61 ms) ● Flow 3 (95th percentile 83.63 ms)
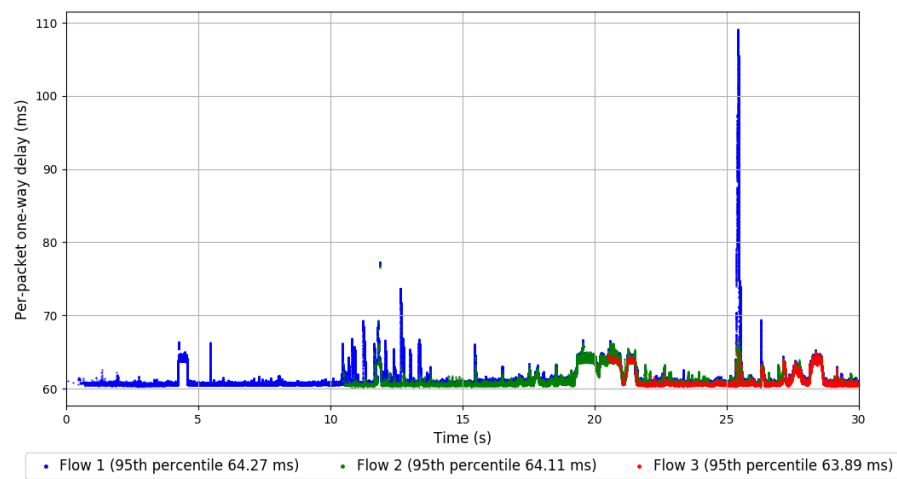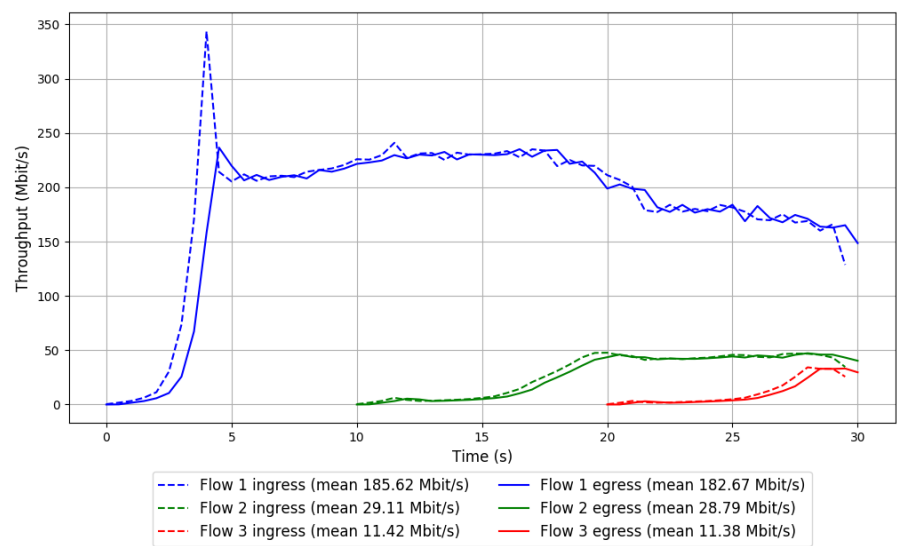
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-12-11 12:35:11
End at: 2018-12-11 12:35:41
Local clock offset: -8.977 ms
Remote clock offset: -47.373 ms


# Below is generated by plot.py at 2018-12-11 15:42:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.58 Mbit/s
95th percentile per-packet one-way delay: 64.249 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 182.67 Mbit/s
95th percentile per-packet one-way delay: 64.266 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 28.79 Mbit/s
95th percentile per-packet one-way delay: 64.114 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 11.38 Mbit/s
95th percentile per-packet one-way delay: 63.888 ms
Loss rate: 0.37%
```

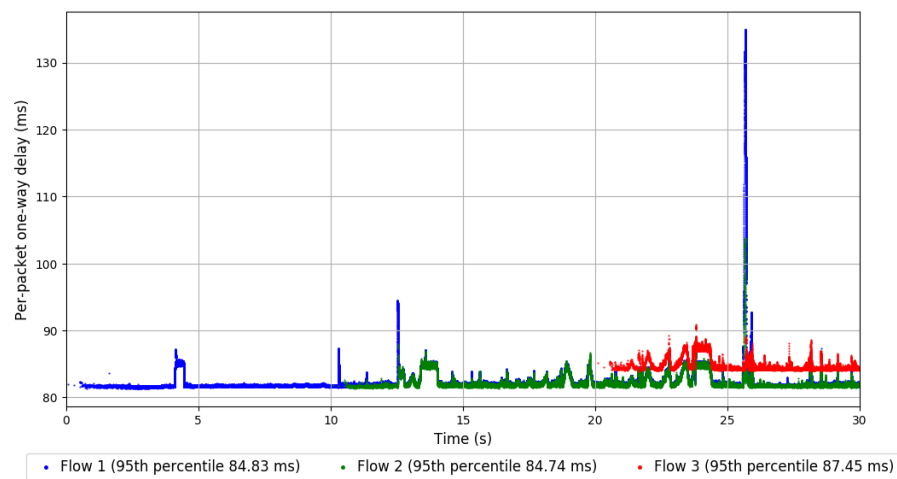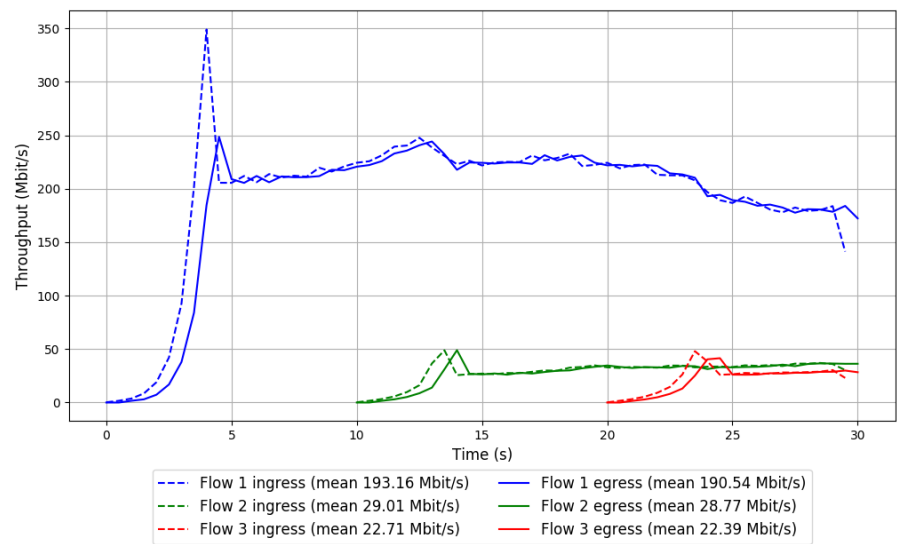## Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-12-11 13:08:47
End at: 2018-12-11 13:09:17
Local clock offset: -12.619 ms
Remote clock offset: -36.131 ms


# Below is generated by plot.py at 2018-12-11 15:42:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.05 Mbit/s
95th percentile per-packet one-way delay: 84.871 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 190.54 Mbit/s
95th percentile per-packet one-way delay: 84.826 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 84.739 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 22.39 Mbit/s
95th percentile per-packet one-way delay: 87.455 ms
Loss rate: 1.43%
```

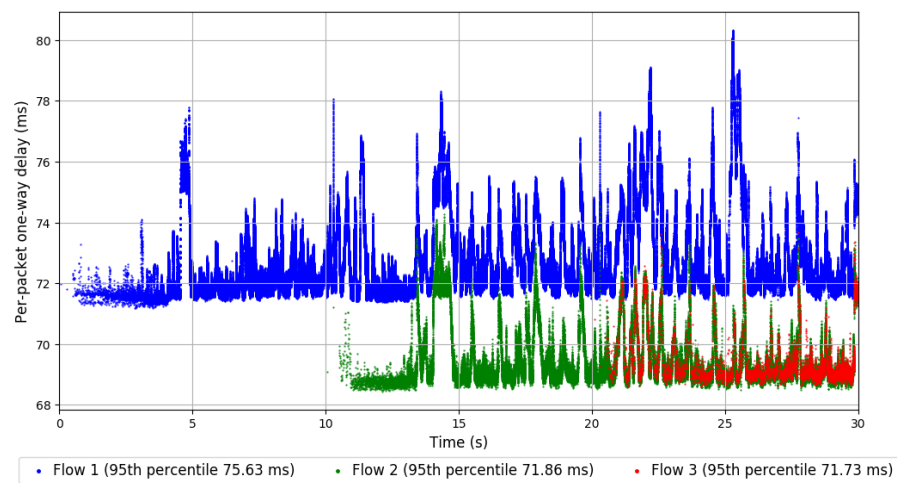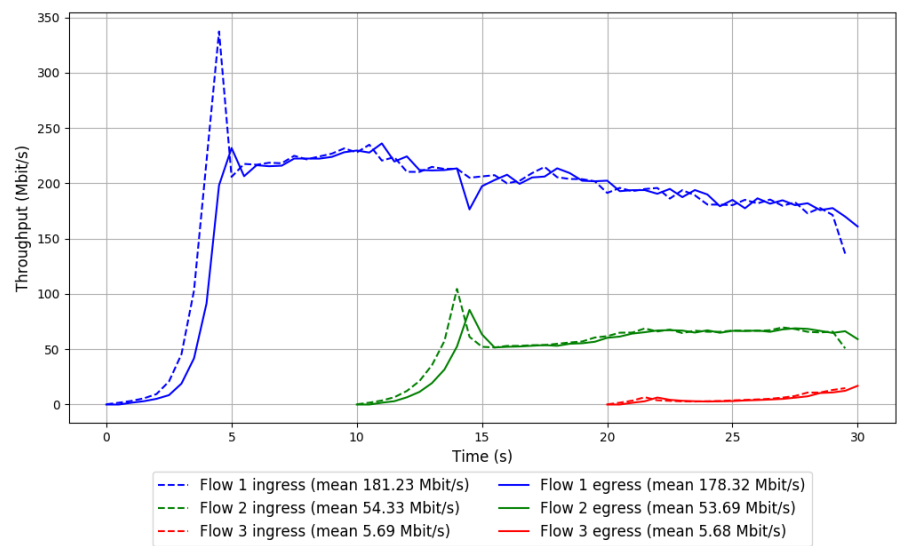Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-12-11 13:48:09
End at: 2018-12-11 13:48:39
Local clock offset: -9.178 ms
Remote clock offset: -46.862 ms


# Below is generated by plot.py at 2018-12-11 15:42:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.90 Mbit/s
95th percentile per-packet one-way delay: 75.378 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 178.32 Mbit/s
95th percentile per-packet one-way delay: 75.630 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 53.69 Mbit/s
95th percentile per-packet one-way delay: 71.858 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 71.732 ms
Loss rate: 0.23%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 181.23 Mbit/s) --- Flow 1 egress (mean 178.32 Mbit/s)
Flow 2 ingress (mean 54.33 Mbit/s) --- Flow 2 egress (mean 53.69 Mbit/s)
Flow 3 ingress (mean 5.69 Mbit/s) --- Flow 3 egress (mean 5.68 Mbit/s)

Flow 1 (95th percentile 75.63 ms) • Flow 2 (95th percentile 71.86 ms) • Flow 3 (95th percentile 71.73 ms)
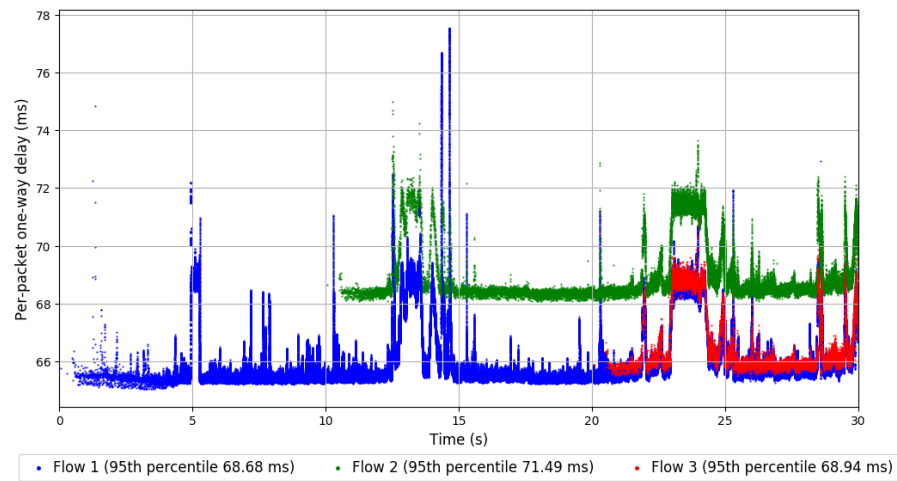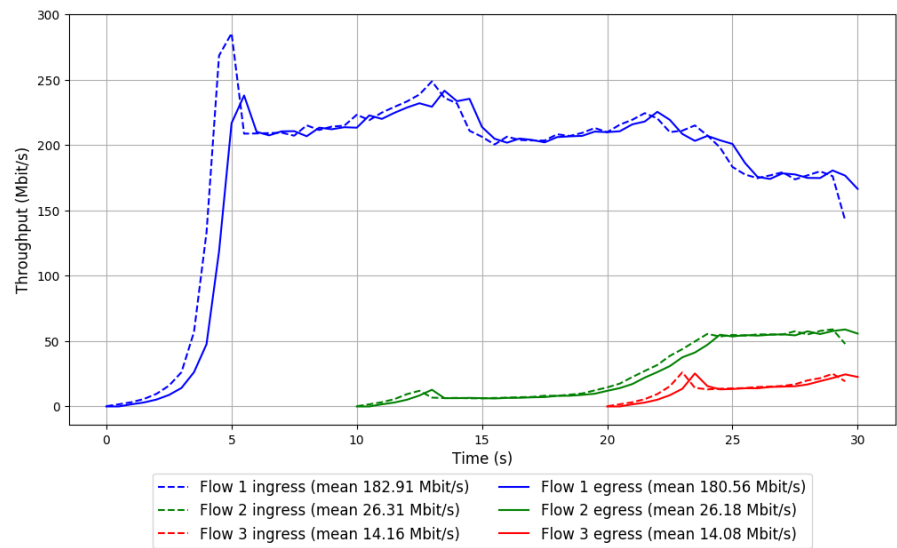
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-12-11 14:37:17
End at: 2018-12-11 14:37:47
Local clock offset: -0.623 ms
Remote clock offset: -41.778 ms


# Below is generated by plot.py at 2018-12-11 15:42:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 202.61 Mbit/s
95th percentile per-packet one-way delay: 68.898 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 180.56 Mbit/s
95th percentile per-packet one-way delay: 68.676 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 26.18 Mbit/s
95th percentile per-packet one-way delay: 71.486 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 14.08 Mbit/s
95th percentile per-packet one-way delay: 68.941 ms
Loss rate: 0.55%
```

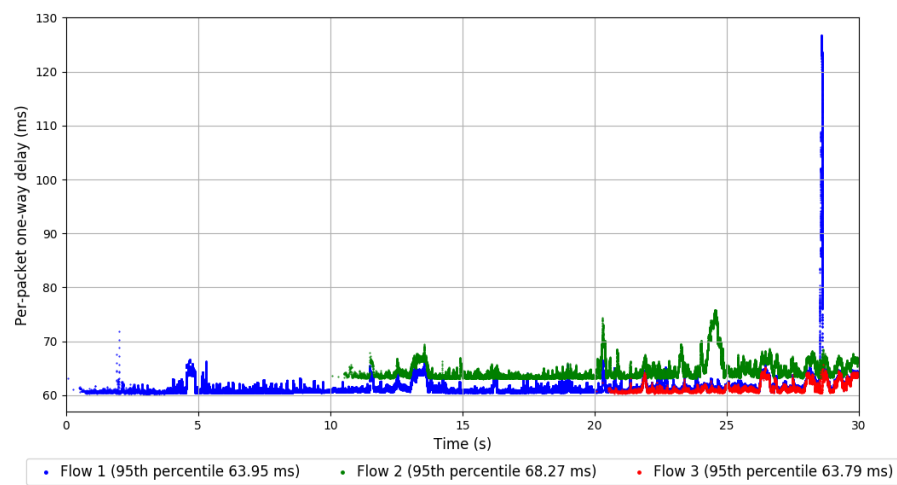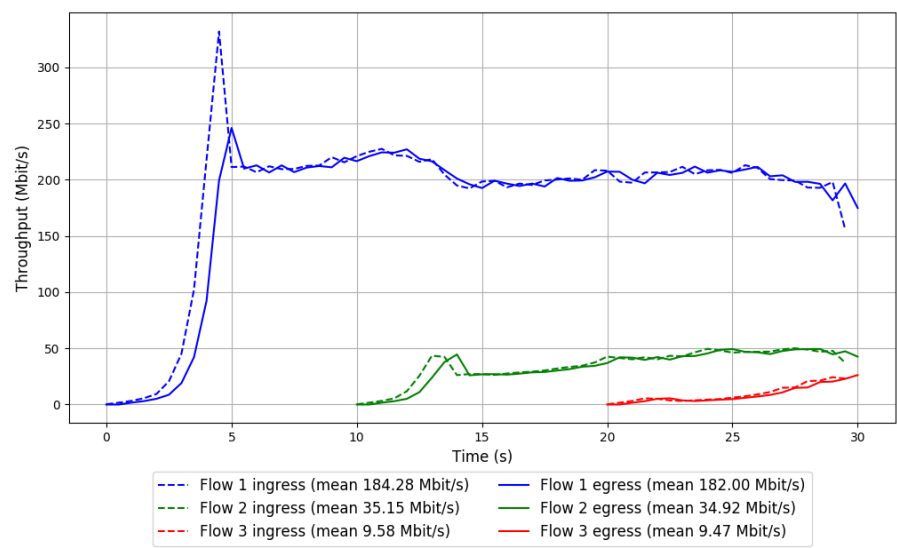Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-12-11 15:05:15
End at: 2018-12-11 15:05:45
Local clock offset: 0.117 ms
Remote clock offset: -47.65 ms


# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.34 Mbit/s
95th percentile per-packet one-way delay: 64.715 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 182.00 Mbit/s
95th percentile per-packet one-way delay: 63.948 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 34.92 Mbit/s
95th percentile per-packet one-way delay: 68.265 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 63.793 ms
Loss rate: 1.12%
```

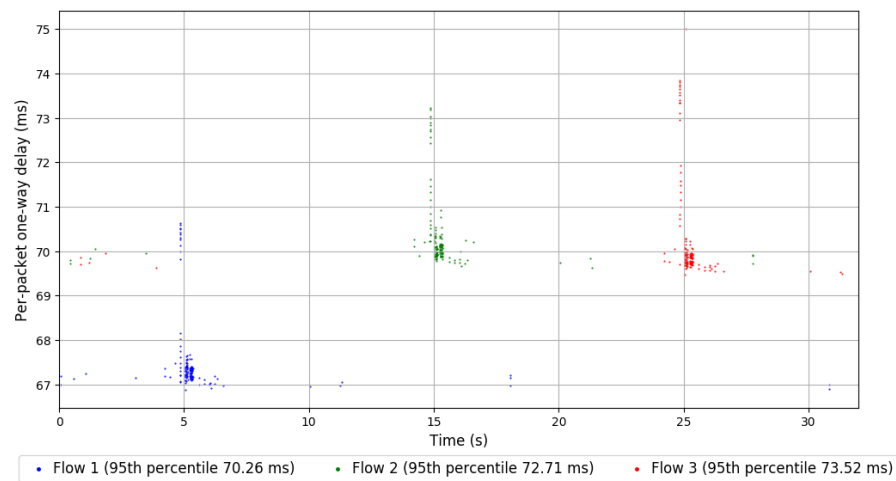Run 5: Report of PCC-Vivace — Data Link
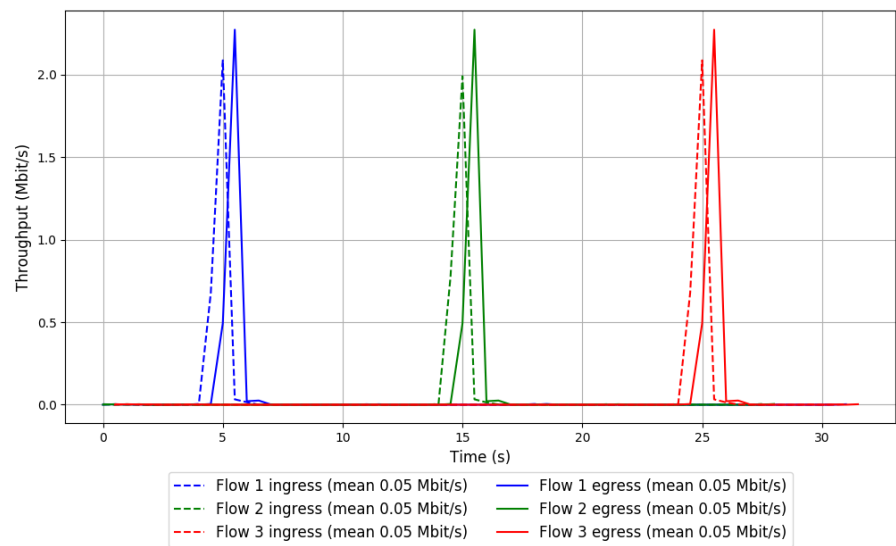

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```
Run 1: Statistics of WebRTC media

Start at: 2018-12-11 12:36:44
End at: 2018-12-11 12:37:14
Local clock offset: -9.048 ms
Remote clock offset: -40.963 ms

# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 72.423 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 70.259 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 72.706 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 73.524 ms
Loss rate: 0.00%
```

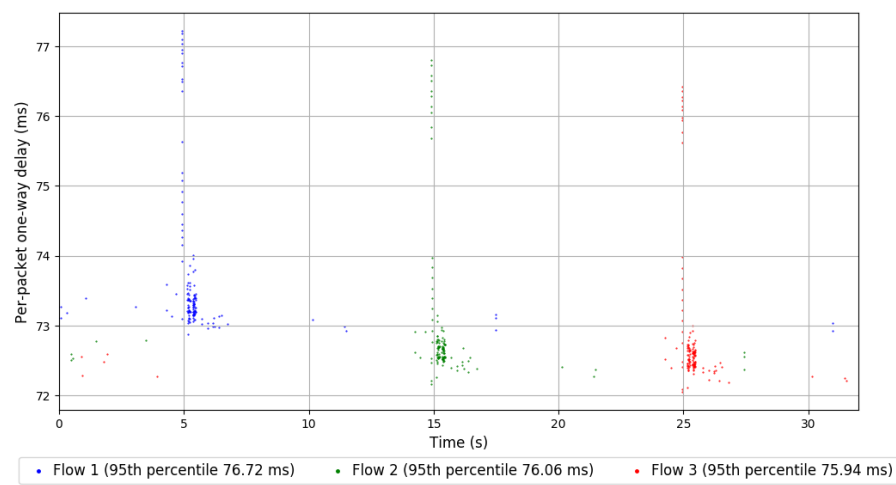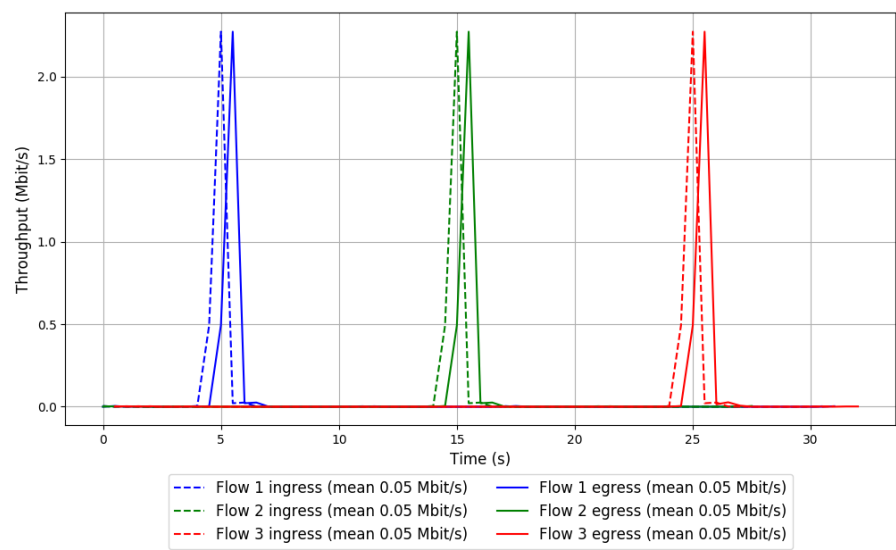Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-12-11 13:10:22
End at: 2018-12-11 13:10:52
Local clock offset: -10.607 ms
Remote clock offset: -43.051 ms


# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 76.134 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 76.716 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 76.055 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 75.935 ms
Loss rate: 0.00%
```

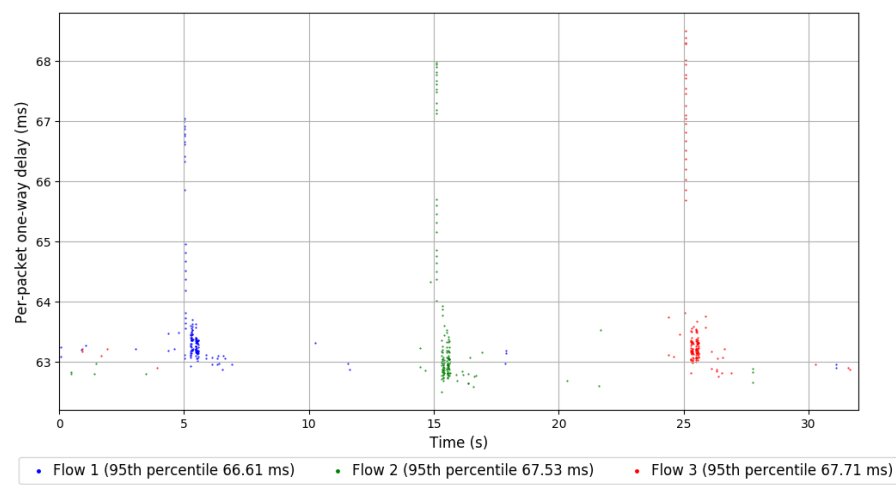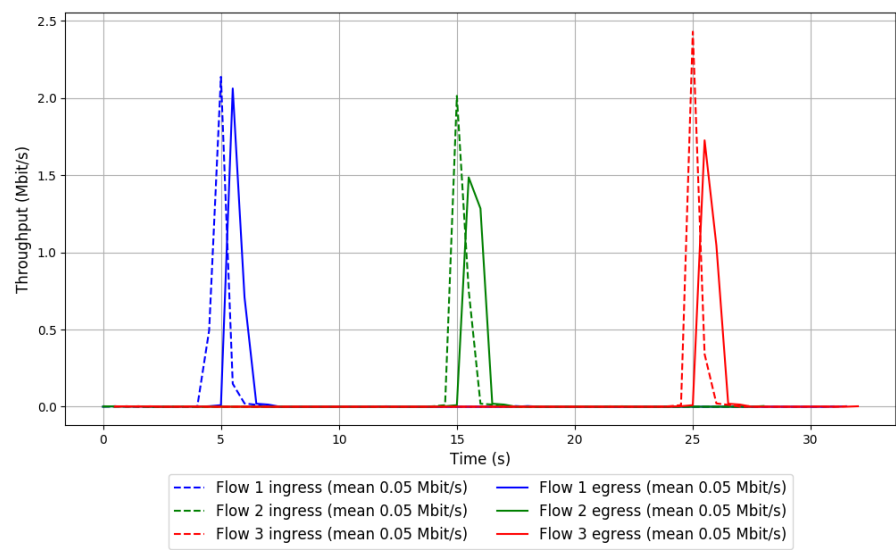Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-12-11 13:49:43
End at: 2018-12-11 13:50:13
Local clock offset: 2.254 ms
Remote clock offset: -41.494 ms


# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 67.133 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 67.526 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 67.711 ms
Loss rate: 0.00%
```

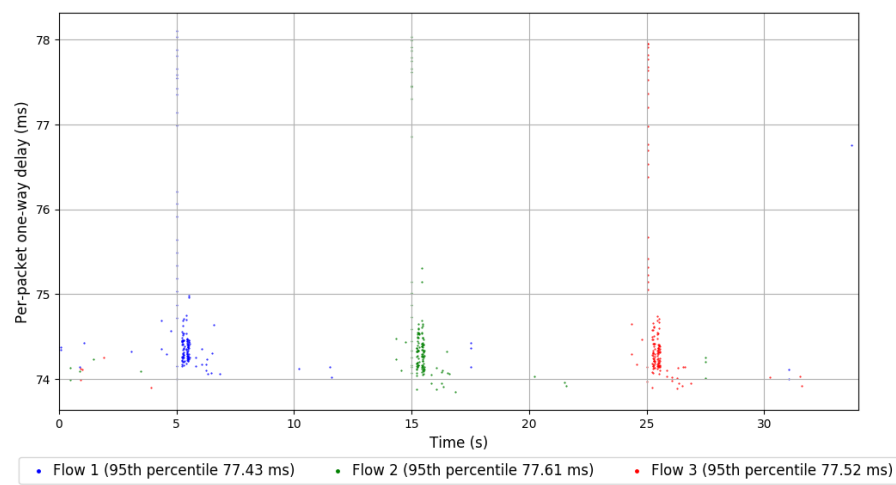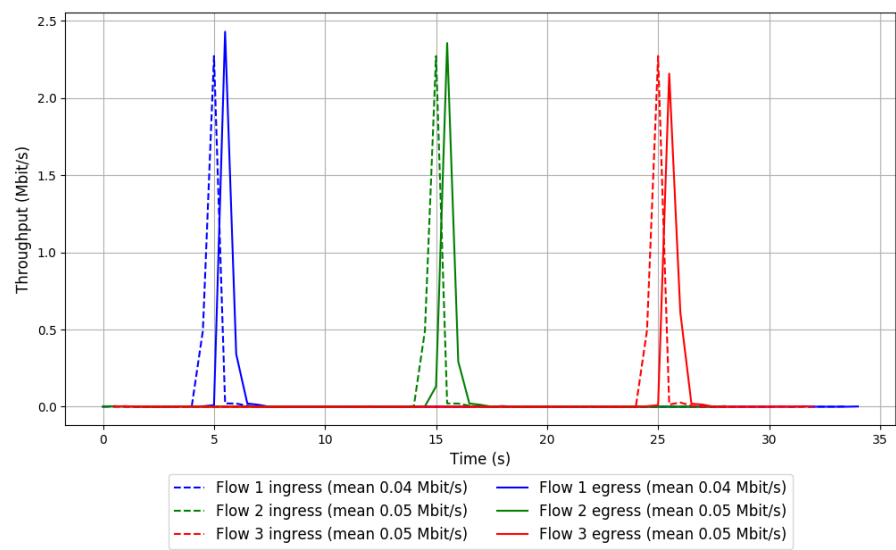Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-12-11 14:38:51
End at: 2018-12-11 14:39:21
Local clock offset: -8.055 ms
Remote clock offset: -41.053 ms


# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 77.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 77.430 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.614 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.522 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-12-11 15:06:49
End at: 2018-12-11 15:07:19
Local clock offset: 2.245 ms
Remote clock offset: -32.682 ms


# Below is generated by plot.py at 2018-12-11 15:42:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 79.707 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 81.207 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 79.041 ms
Loss rate: 0.05%
```

Run 5: Report of WebRTC media — Data Link