# Pantheon Report

Generated at 2018-11-15 06:40:18 (UTC).

Data path: AWS India 1 on `ens5` (*local*) →India on `em1` (*remote*).

Repeated the test of 18 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.
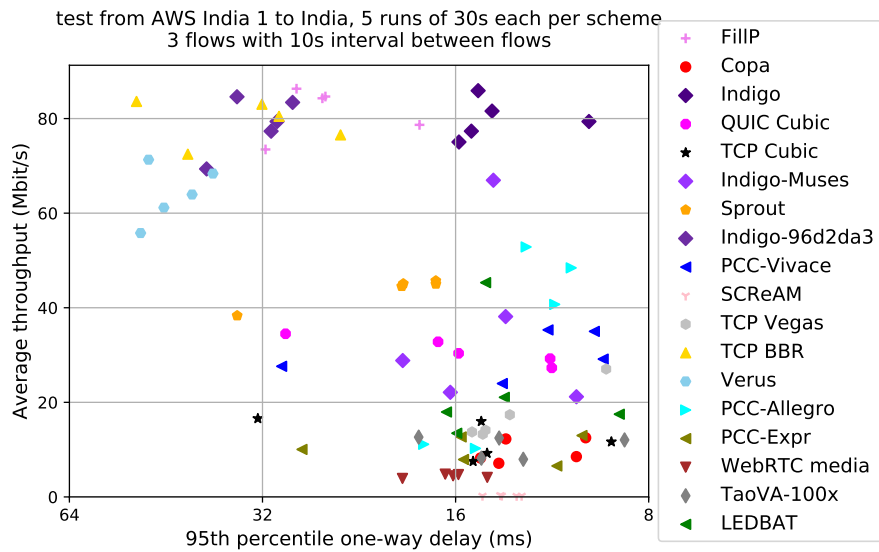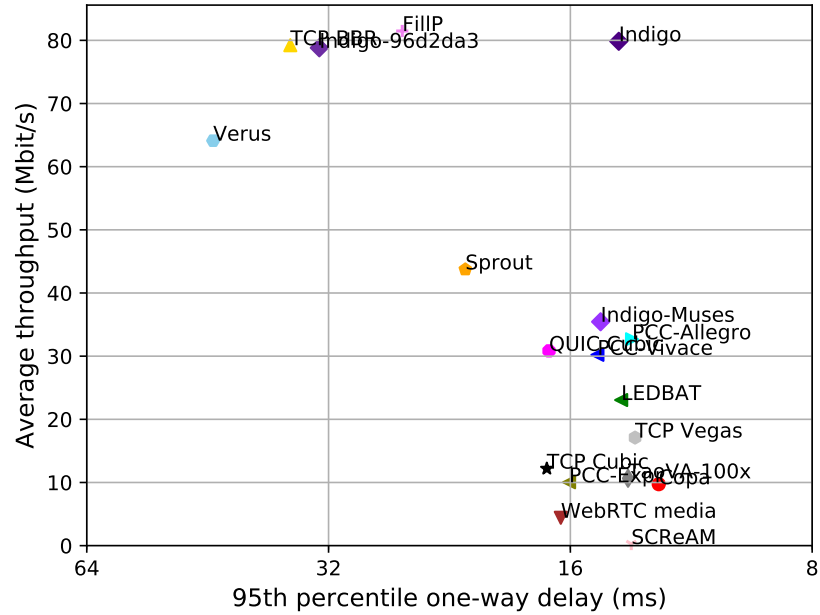
```
System info:
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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 1 to India, 5 runs of 30s each per scheme
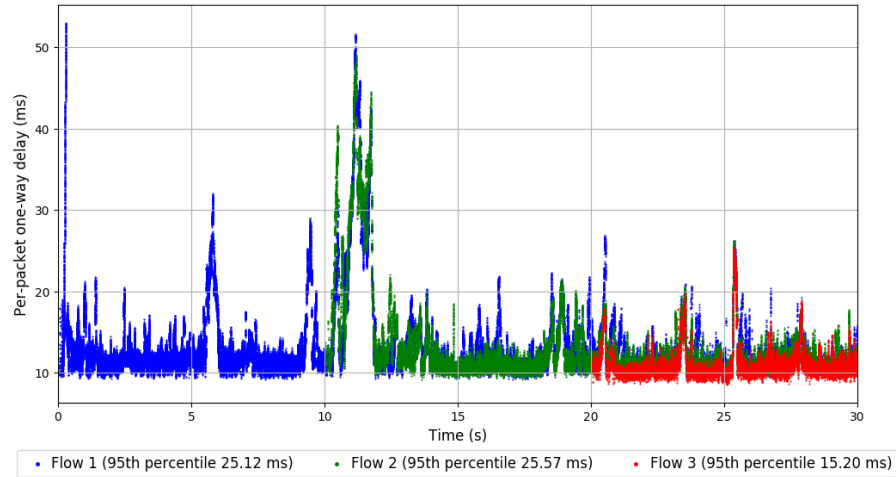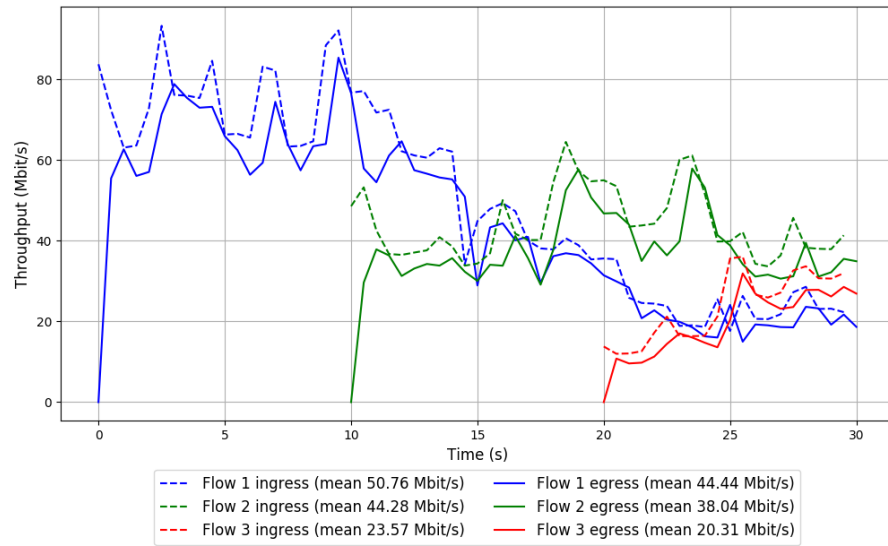3 flows with 10s interval between flows (mean of all runs by scheme)



test from AWS India 1 to India, 5 runs of 30s each per scheme
3 flows with 10s interval between flows

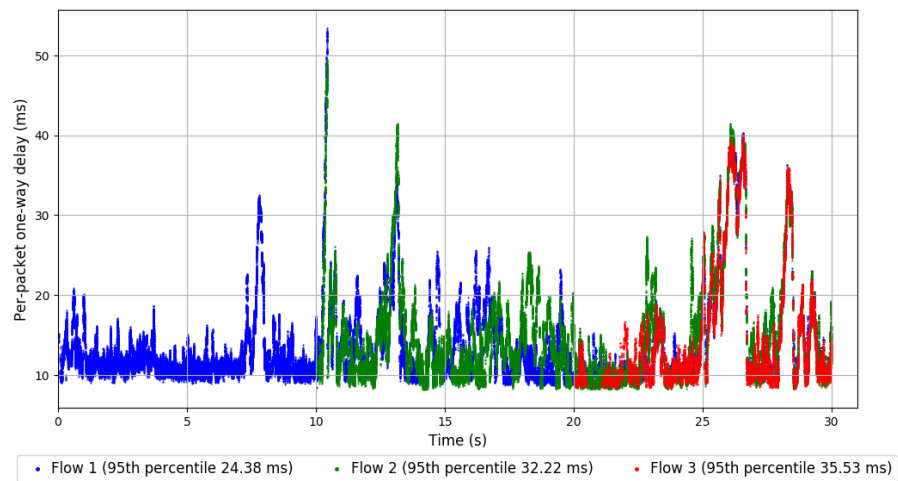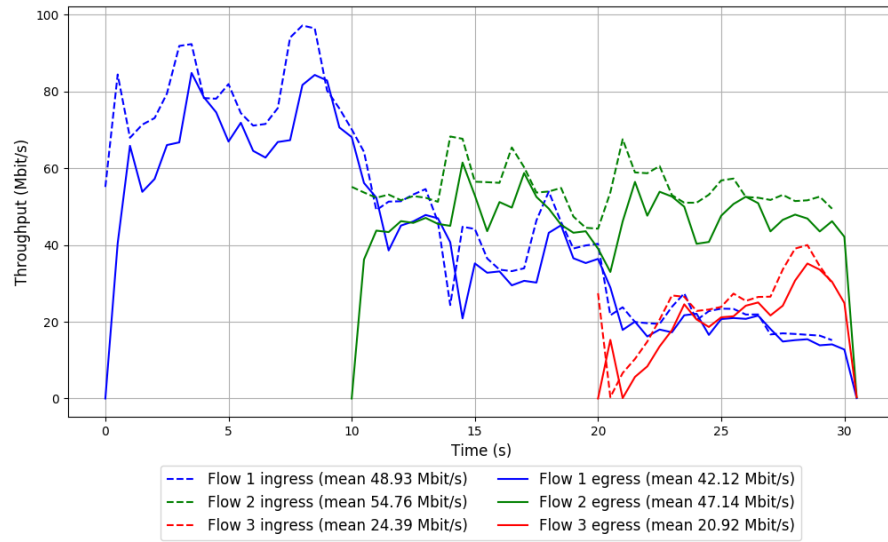| scheme | # runs | mean avg tput (Mbit/s) | | | mean 95th-%ile delay (ms) | | | mean loss rate (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 | flow 1 | flow 2 | flow 3 |
| TCP BBR | 5 | 45.39 | 38.84 | 23.96 | 32.56 | 37.97 | 33.90 | 13.20 | 14.22 | 13.89 |
| Copa | 5 | 3.69 | 7.53 | 3.18 | 12.80 | 13.50 | 10.74 | 76.09 | 45.77 | 67.42 |
| TCP Cubic | 5 | 6.53 | 5.58 | 5.95 | 16.65 | 17.54 | 13.19 | 2.10 | 2.21 | 1.72 |
| FillP | 5 | 47.15 | 37.93 | 27.52 | 23.73 | 30.06 | 21.05 | 27.26 | 36.72 | 43.59 |
| Indigo | 5 | 44.93 | 36.52 | 32.77 | 13.24 | 14.03 | 16.64 | 9.70 | 11.86 | 12.69 |
| Indigo-96d2da3 | 5 | 44.30 | 37.73 | 31.83 | 33.97 | 30.59 | 29.82 | 41.78 | 46.72 | 48.78 |
| LEDBAT | 5 | 12.99 | 10.04 | 10.43 | 13.91 | 14.34 | 11.01 | 1.12 | 1.55 | 1.98 |
| Indigo-Muses | 5 | 20.06 | 13.32 | 20.23 | 14.21 | 14.75 | 16.05 | 4.47 | 5.39 | 5.07 |
| PCC-Allegro | 5 | 18.06 | 17.57 | 8.65 | 14.06 | 13.33 | 10.95 | 5.38 | 6.06 | 6.49 |
| PCC-Expr | 5 | 4.61 | 6.03 | 4.39 | 14.66 | 16.41 | 14.69 | 55.49 | 23.70 | 24.45 |
| QUIC Cubic | 5 | 16.80 | 14.29 | 13.81 | 13.14 | 16.46 | 21.95 | 2.29 | 2.54 | 3.74 |
| SCReAM | 5 | 0.12 | 0.11 | 0.20 | 13.07 | 12.96 | 14.62 | 1.24 | 1.16 | 0.43 |
| Sprout | 5 | 21.86 | 22.38 | 21.18 | 21.66 | 18.72 | 22.46 | 3.87 | 4.50 | 5.85 |
| TaoVA-100x | 5 | 6.31 | 5.14 | 7.74 | 12.59 | 15.25 | 12.20 | 86.18 | 65.50 | 70.93 |
| TCP Vegas | 5 | 8.71 | 8.06 | 9.11 | 14.60 | 13.20 | 13.31 | 1.60 | 0.81 | 0.85 |
| Verus | 5 | 42.88 | 21.63 | 21.82 | 43.88 | 43.57 | 44.97 | 47.72 | 40.16 | 46.74 |
| PCC-Vivace | 5 | 22.73 | 8.24 | 6.05 | 10.93 | 11.86 | 16.78 | 4.82 | 4.50 | 3.31 |
| WebRTC media | 5 | 2.25 | 1.69 | 0.47 | 15.72 | 17.35 | 16.10 | 2.63 | 2.71 | 1.92 |

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```
Run 1: Statistics of TCP BBR

Start at: 2018-11-15 05:07:40
End at: 2018-11-15 05:08:10
Local clock offset: -0.105 ms
Remote clock offset: -0.417 ms


# Below is generated by plot.py at 2018-11-15 06:35:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.55 Mbit/s
95th percentile per-packet one-way delay: 24.181 ms
Loss rate: 13.12%
-- Flow 1:
Average throughput: 44.44 Mbit/s
95th percentile per-packet one-way delay: 25.124 ms
Loss rate: 12.44%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 25.566 ms
Loss rate: 14.10%
-- Flow 3:
Average throughput: 20.31 Mbit/s
95th percentile per-packet one-way delay: 15.200 ms
Loss rate: 13.84%
```
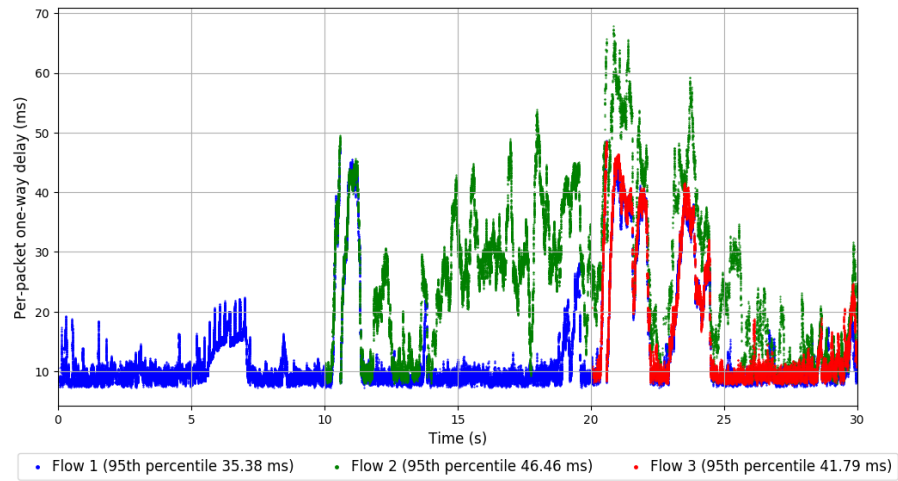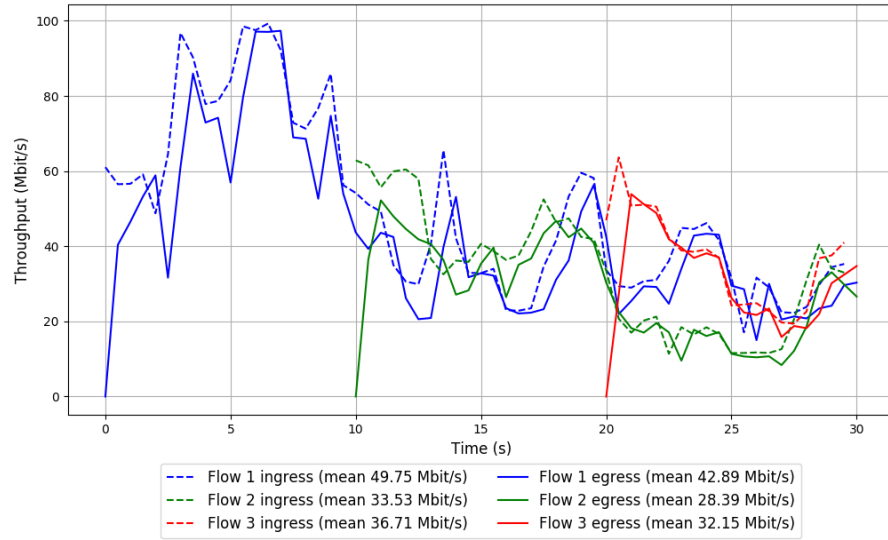
Run 1: Report of TCP BBR — Data Link



Flow 1 ingress (mean 50.76 Mbit/s) — — — Flow 1 egress (mean 44.44 Mbit/s)
Flow 2 ingress (mean 44.28 Mbit/s) — — — Flow 2 egress (mean 38.04 Mbit/s)
Flow 3 ingress (mean 23.57 Mbit/s) — — — Flow 3 egress (mean 20.31 Mbit/s)



• Flow 1 (95th percentile 25.12 ms)   • Flow 2 (95th percentile 25.57 ms)   • Flow 3 (95th percentile 15.20 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2018-11-15 05:28:48
End at: 2018-11-15 05:29:18
Local clock offset: -0.478 ms
Remote clock offset: -0.654 ms


# Below is generated by plot.py at 2018-11-15 06:35:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.48 Mbit/s
95th percentile per-packet one-way delay: 30.157 ms
Loss rate: 13.95%
-- Flow 1:
Average throughput: 42.12 Mbit/s
95th percentile per-packet one-way delay: 24.383 ms
Loss rate: 13.93%
-- Flow 2:
Average throughput: 47.14 Mbit/s
95th percentile per-packet one-way delay: 32.216 ms
Loss rate: 13.92%
-- Flow 3:
Average throughput: 20.92 Mbit/s
95th percentile per-packet one-way delay: 35.532 ms
Loss rate: 14.19%
```
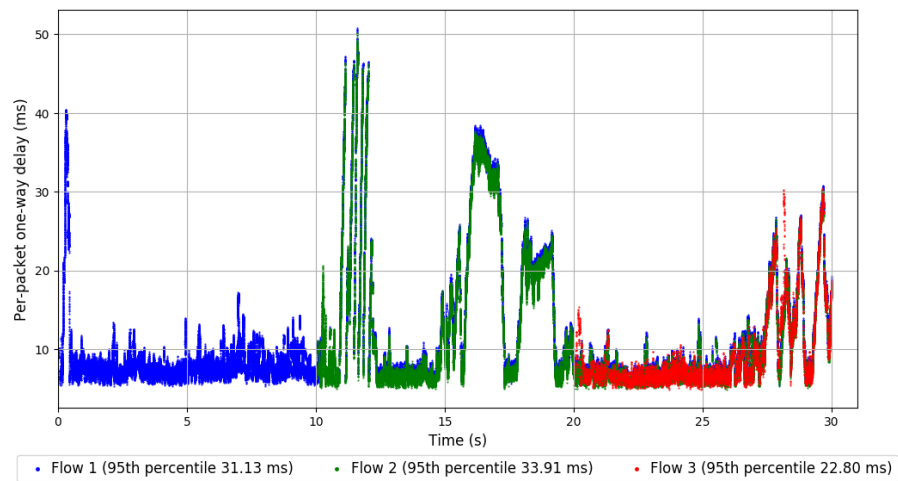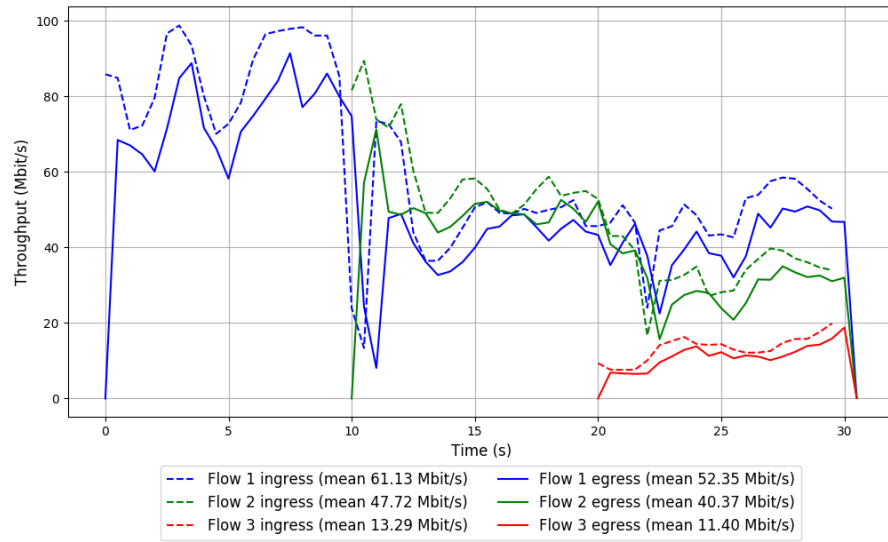
Run 2: Report of TCP BBR — Data Link



Legend:
- Flow 1 ingress (mean 48.93 Mbit/s)
- Flow 1 egress (mean 42.12 Mbit/s)
- Flow 2 ingress (mean 54.76 Mbit/s)
- Flow 2 egress (mean 47.14 Mbit/s)
- Flow 3 ingress (mean 24.39 Mbit/s)
- Flow 3 egress (mean 20.92 Mbit/s)



Legend:
- Flow 1 (95th percentile 24.38 ms)
- Flow 2 (95th percentile 32.22 ms)
- Flow 3 (95th percentile 35.53 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2018-11-15 05:50:16
End at: 2018-11-15 05:50:46
Local clock offset: 2.02 ms
Remote clock offset: -0.977 ms


# Below is generated by plot.py at 2018-11-15 06:35:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.48 Mbit/s
95th percentile per-packet one-way delay: 41.841 ms
Loss rate: 14.02%
-- Flow 1:
Average throughput: 42.89 Mbit/s
95th percentile per-packet one-way delay: 35.385 ms
Loss rate: 13.80%
-- Flow 2:
Average throughput: 28.39 Mbit/s
95th percentile per-packet one-way delay: 46.462 ms
Loss rate: 15.34%
-- Flow 3:
Average throughput: 32.15 Mbit/s
95th percentile per-packet one-way delay: 41.791 ms
Loss rate: 12.52%
```
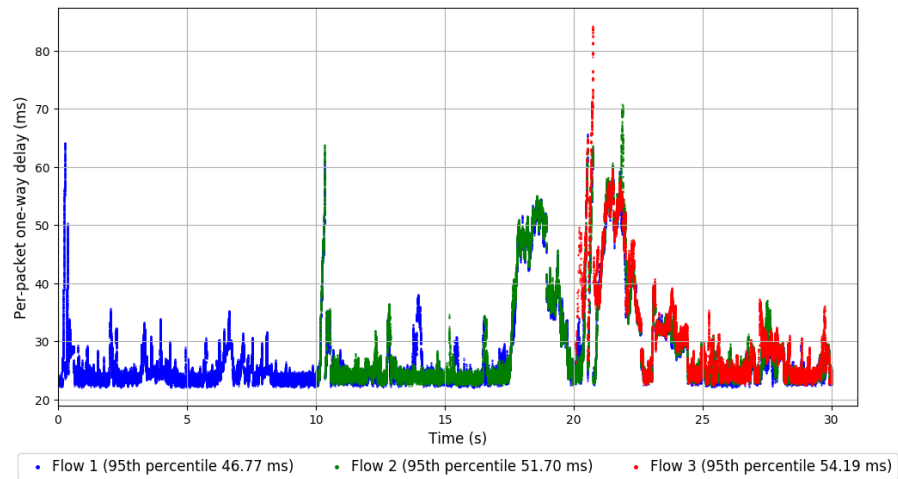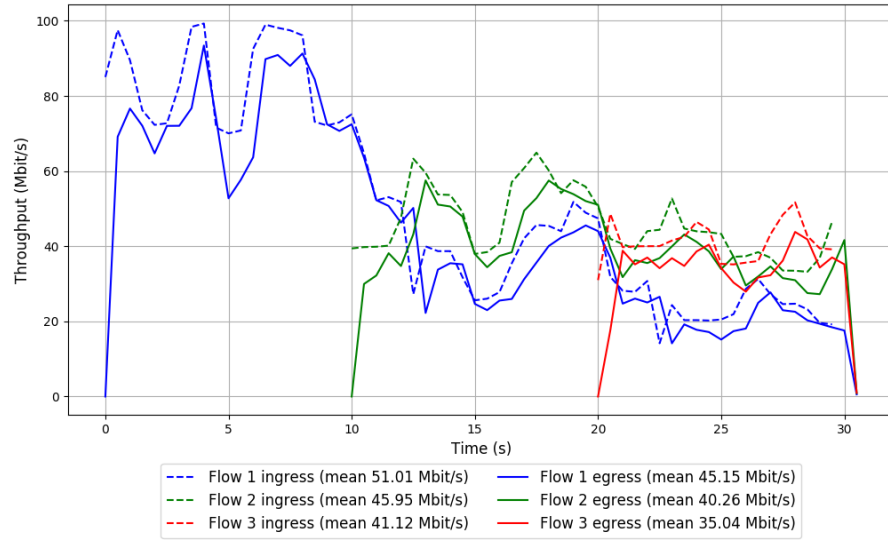
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-11-15 06:11:29
End at: 2018-11-15 06:11:59
Local clock offset: 3.454 ms
Remote clock offset: -1.285 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 32.063 ms
Loss rate: 14.66%
-- Flow 1:
Average throughput: 52.35 Mbit/s
95th percentile per-packet one-way delay: 31.129 ms
Loss rate: 14.34%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 33.907 ms
Loss rate: 15.35%
-- Flow 3:
Average throughput: 11.40 Mbit/s
95th percentile per-packet one-way delay: 22.796 ms
Loss rate: 14.06%
```
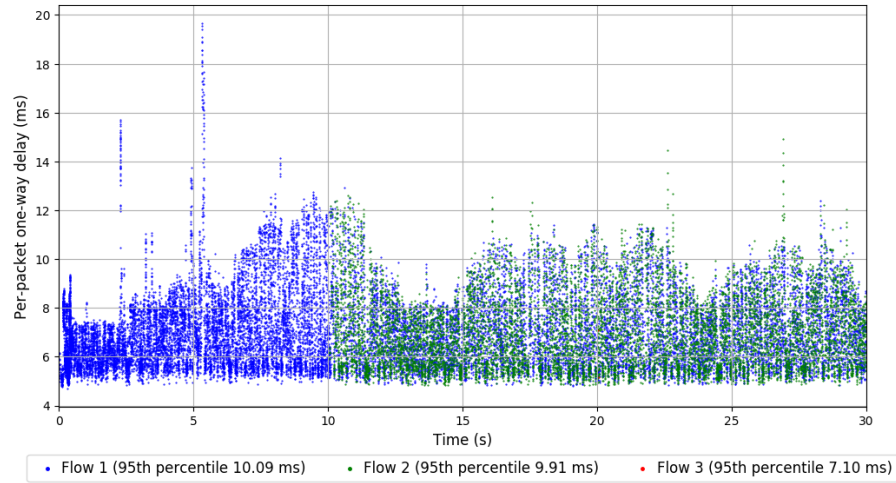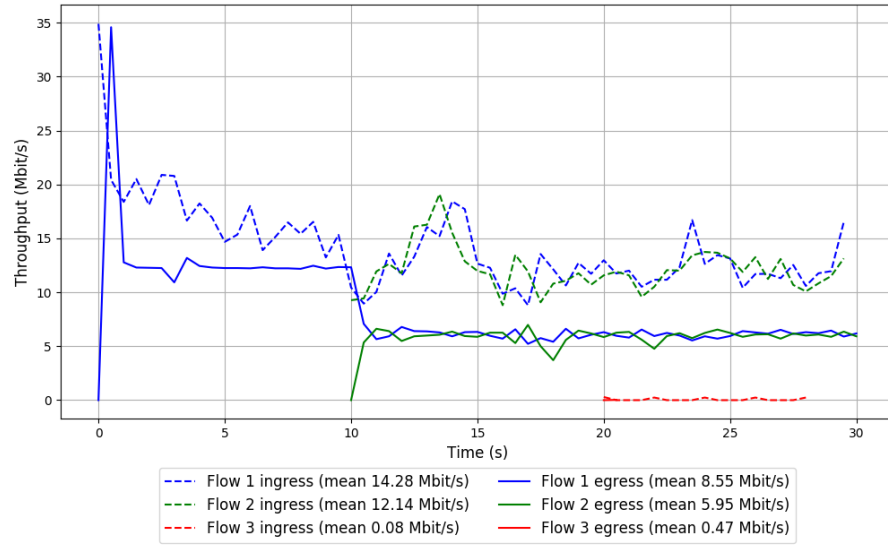
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-11-15 06:32:26
End at: 2018-11-15 06:32:56
Local clock offset: 2.363 ms
Remote clock offset: 14.236 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.62 Mbit/s
95th percentile per-packet one-way delay: 50.298 ms
Loss rate: 12.25%
-- Flow 1:
Average throughput: 45.15 Mbit/s
95th percentile per-packet one-way delay: 46.772 ms
Loss rate: 11.47%
-- Flow 2:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 51.698 ms
Loss rate: 12.39%
-- Flow 3:
Average throughput: 35.04 Mbit/s
95th percentile per-packet one-way delay: 54.193 ms
Loss rate: 14.85%
```

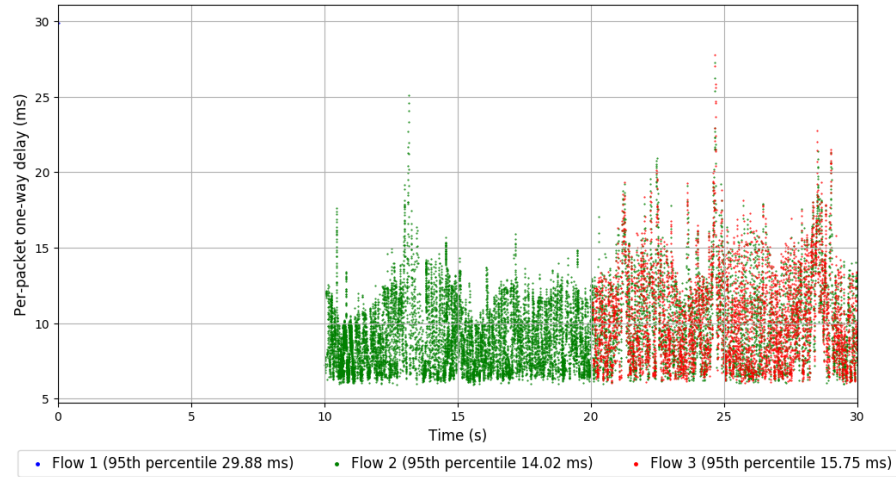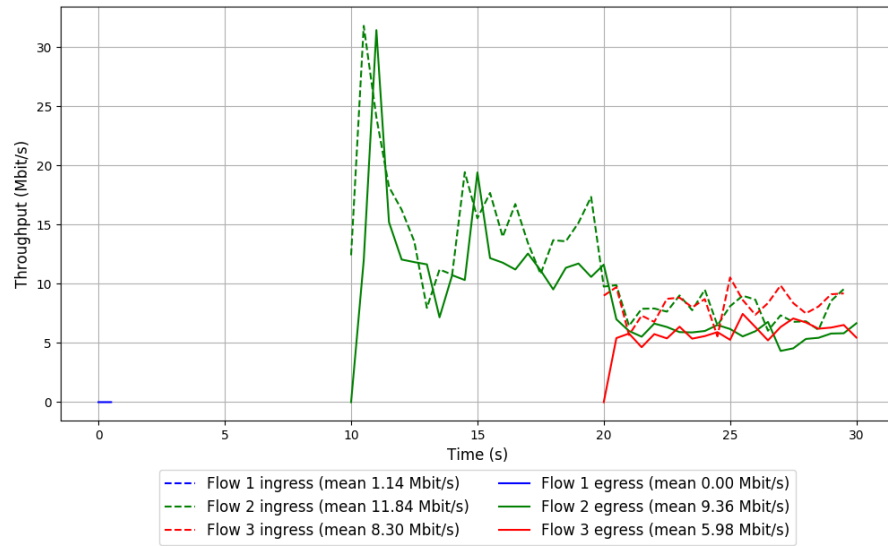Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-11-15 04:53:40
End at: 2018-11-15 04:54:10
Local clock offset: 1.889 ms
Remote clock offset: -2.652 ms

# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 10.031 ms
Loss rate: 44.12%
-- Flow 1:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 10.089 ms
Loss rate: 40.14%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 9.915 ms
Loss rate: 51.02%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 7.100 ms
Loss rate: 97.92%
```
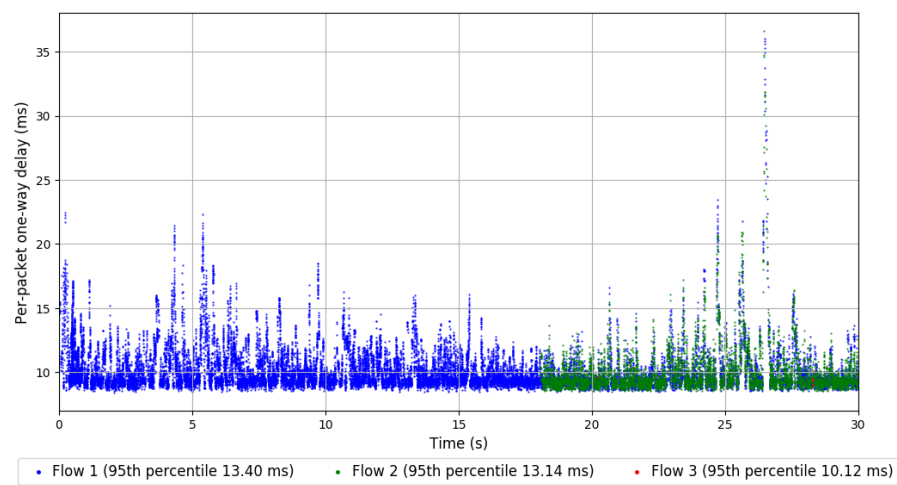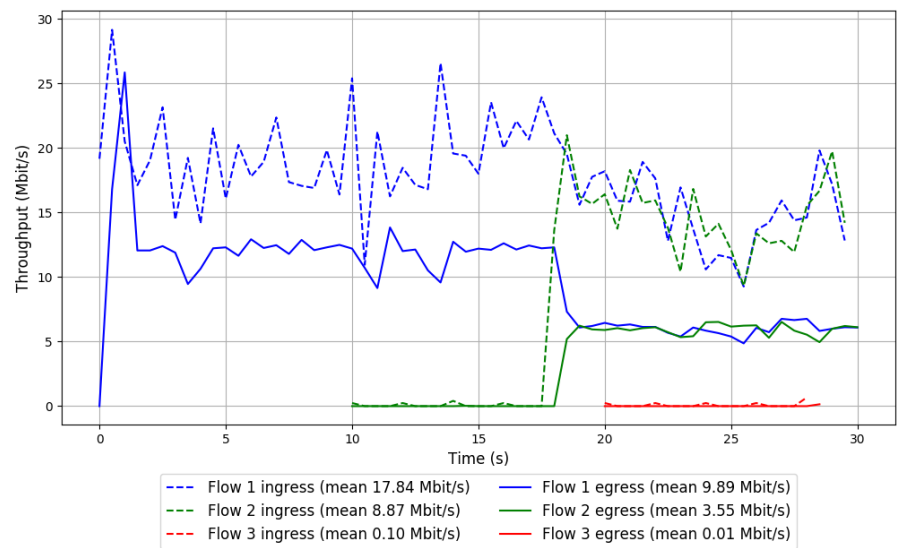
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-11-15 05:14:43
End at: 2018-11-15 05:15:13
Local clock offset: 1.959 ms
Remote clock offset: -1.401 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 14.631 ms
Loss rate: 22.80%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 29.876 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 9.36 Mbit/s
95th percentile per-packet one-way delay: 14.020 ms
Loss rate: 20.98%
-- Flow 3:
Average throughput: 5.98 Mbit/s
95th percentile per-packet one-way delay: 15.746 ms
Loss rate: 27.94%
```
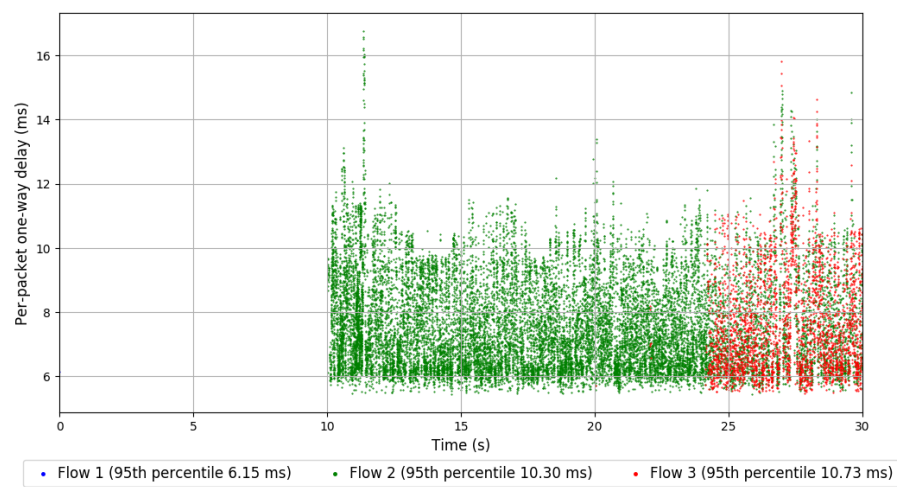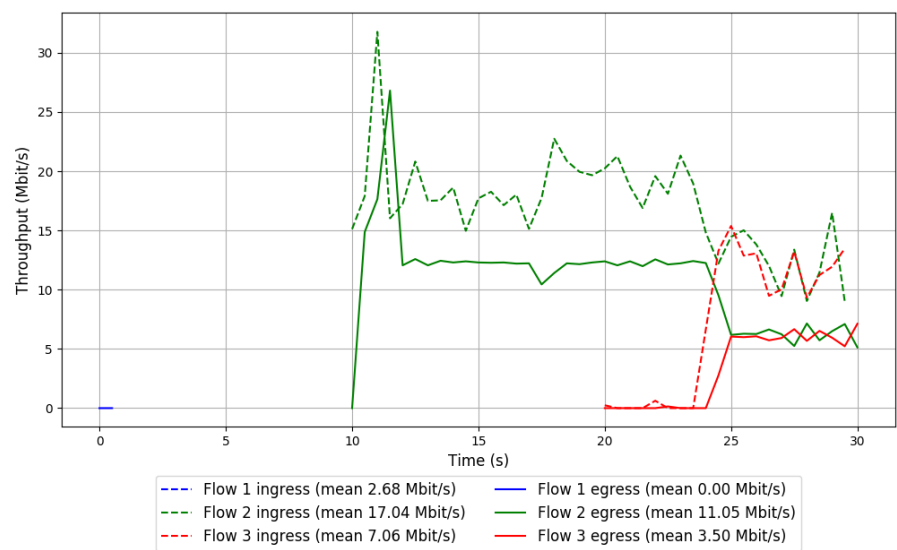
Run 2: Report of Copa — Data Link



Flow 1 ingress (mean 1.14 Mbit/s)        Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 11.84 Mbit/s)       Flow 2 egress (mean 9.36 Mbit/s)
Flow 3 ingress (mean 8.30 Mbit/s)        Flow 3 egress (mean 5.98 Mbit/s)



Flow 1 (95th percentile 29.88 ms)    Flow 2 (95th percentile 14.02 ms)    Flow 3 (95th percentile 15.75 ms)

```
Run 3: Statistics of Copa

Start at: 2018-11-15 05:36:08
End at: 2018-11-15 05:36:38
Local clock offset: 0.405 ms
Remote clock offset: -0.953 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 13.360 ms
Loss rate: 48.43%
-- Flow 1:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 13.401 ms
Loss rate: 44.56%
-- Flow 2:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 13.137 ms
Loss rate: 59.93%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 10.120 ms
Loss rate: 91.07%
```
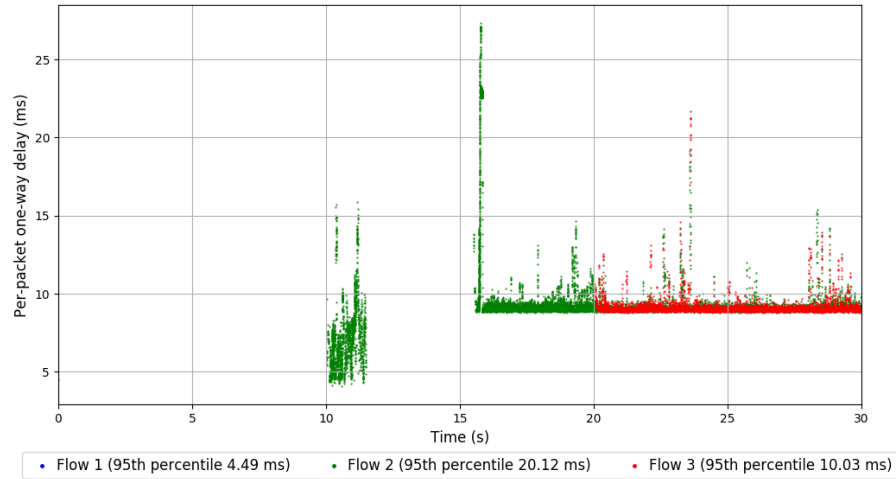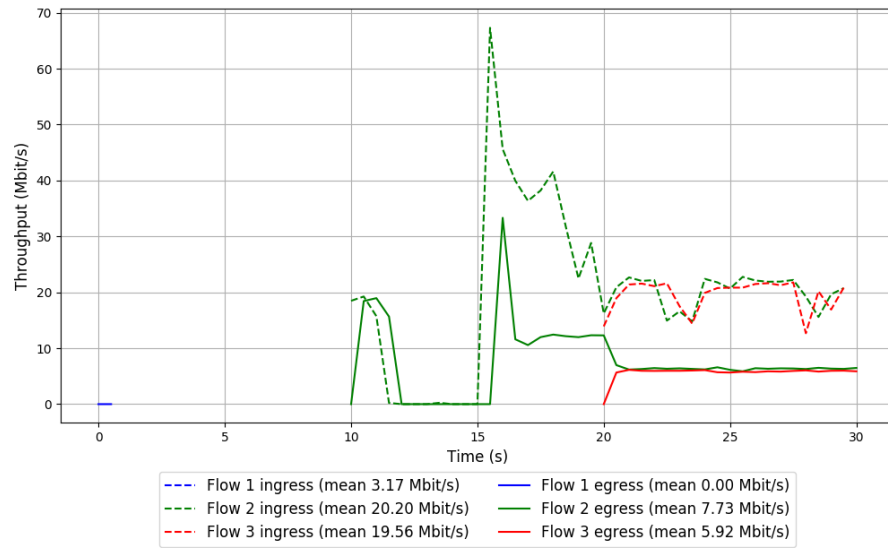
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-11-15 05:57:15
End at: 2018-11-15 05:57:45
Local clock offset: 3.246 ms
Remote clock offset: -2.276 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.52 Mbit/s
95th percentile per-packet one-way delay: 10.371 ms
Loss rate: 37.81%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6.154 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 10.303 ms
Loss rate: 35.19%
-- Flow 3:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 10.727 ms
Loss rate: 50.43%
```
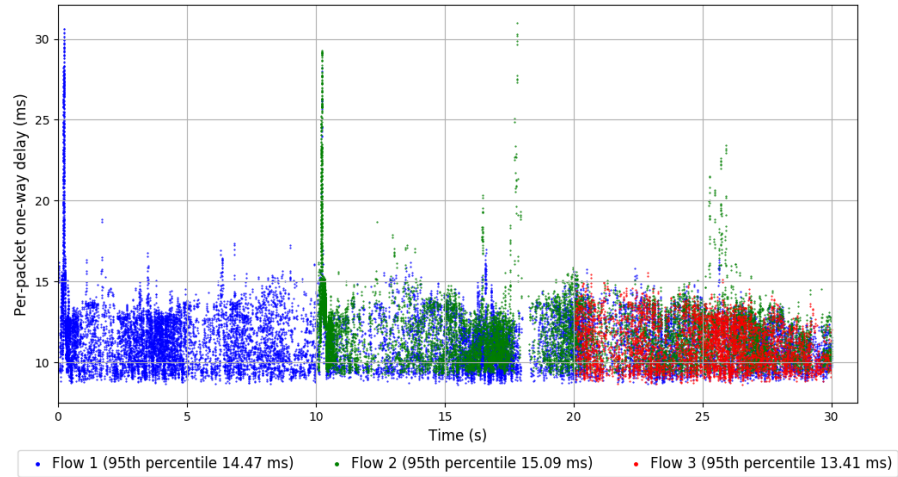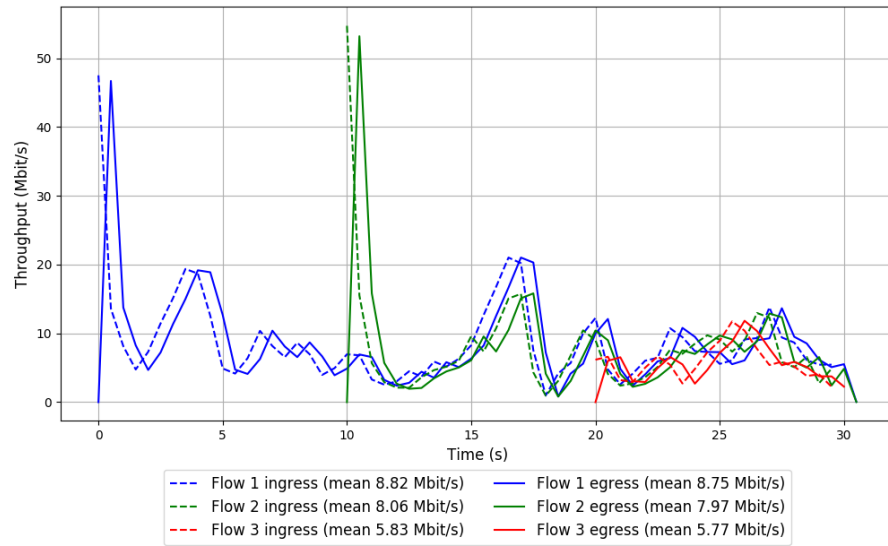
Run 4: Report of Copa — Data Link



Legend:
- Flow 1 ingress (mean 2.68 Mbit/s)
- Flow 2 ingress (mean 17.04 Mbit/s)
- Flow 3 ingress (mean 7.06 Mbit/s)
- Flow 1 egress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 11.05 Mbit/s)
- Flow 3 egress (mean 3.50 Mbit/s)



Legend:
- Flow 1 (95th percentile 6.15 ms)
- Flow 2 (95th percentile 10.30 ms)
- Flow 3 (95th percentile 10.73 ms)

```
Run 5: Statistics of Copa

Start at: 2018-11-15 06:18:32
End at: 2018-11-15 06:19:02
Local clock offset: 3.529 ms
Remote clock offset: -2.3 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.12 Mbit/s
95th percentile per-packet one-way delay: 13.701 ms
Loss rate: 64.34%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.491 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 20.125 ms
Loss rate: 61.74%
-- Flow 3:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 10.025 ms
Loss rate: 69.72%
```
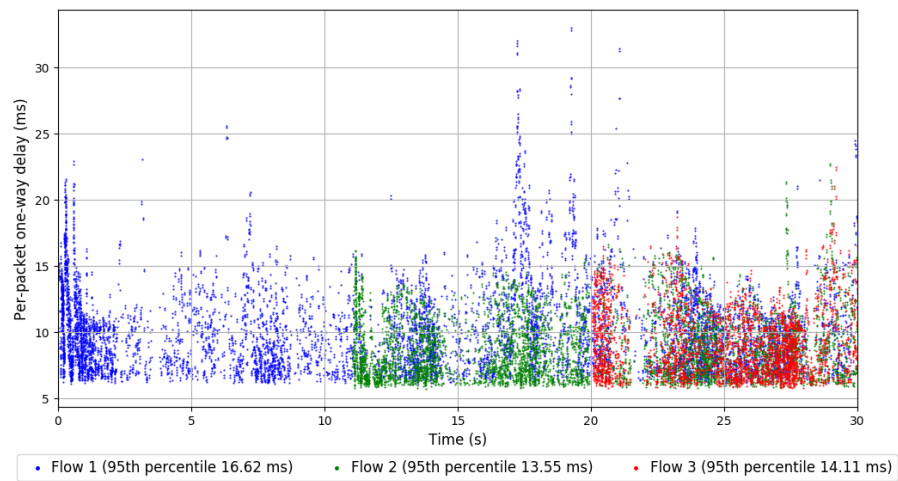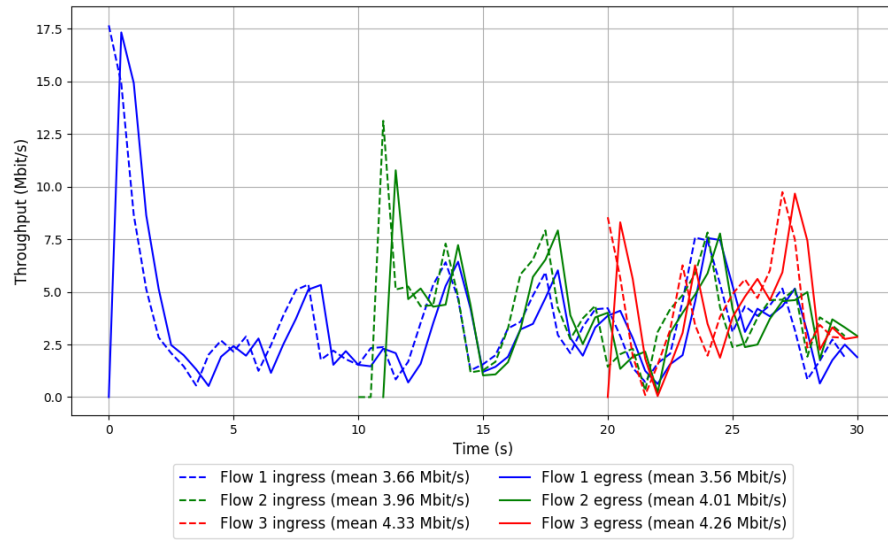
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-11-15 04:52:33
End at: 2018-11-15 04:53:03
Local clock offset: -1.058 ms
Remote clock offset: -1.247 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 14.591 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 8.75 Mbit/s
95th percentile per-packet one-way delay: 14.468 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 15.093 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 13.409 ms
Loss rate: 1.03%
```

Run 1: Report of TCP Cubic — Data Link





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```
Run 2: Statistics of TCP Cubic

Start at: 2018-11-15 05:13:36
End at: 2018-11-15 05:14:06
Local clock offset: 2.102 ms
Remote clock offset: -1.304 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.52 Mbit/s
95th percentile per-packet one-way delay: 15.026 ms
Loss rate: 2.90%
-- Flow 1:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 16.623 ms
Loss rate: 2.69%
-- Flow 2:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 13.555 ms
Loss rate: 3.90%
-- Flow 3:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 14.108 ms
Loss rate: 1.61%
```
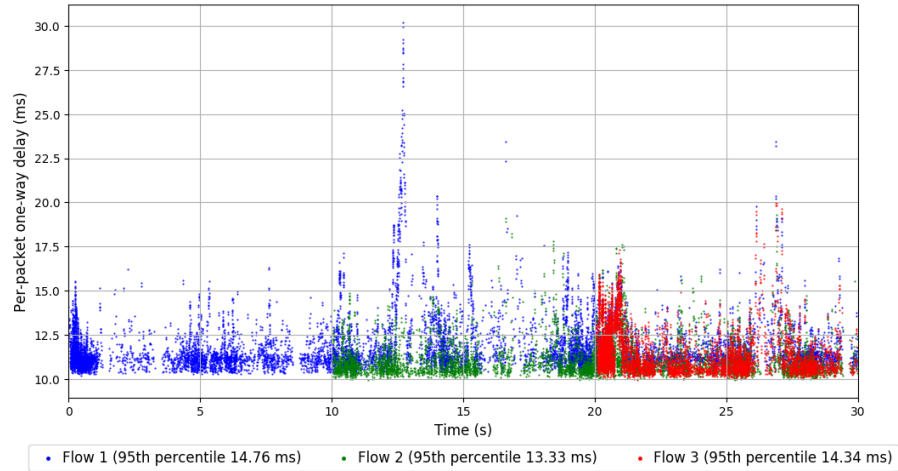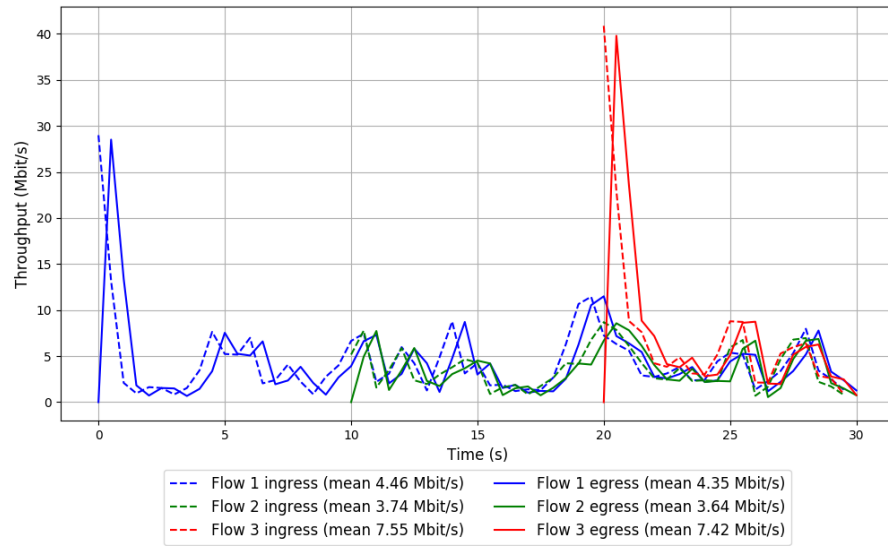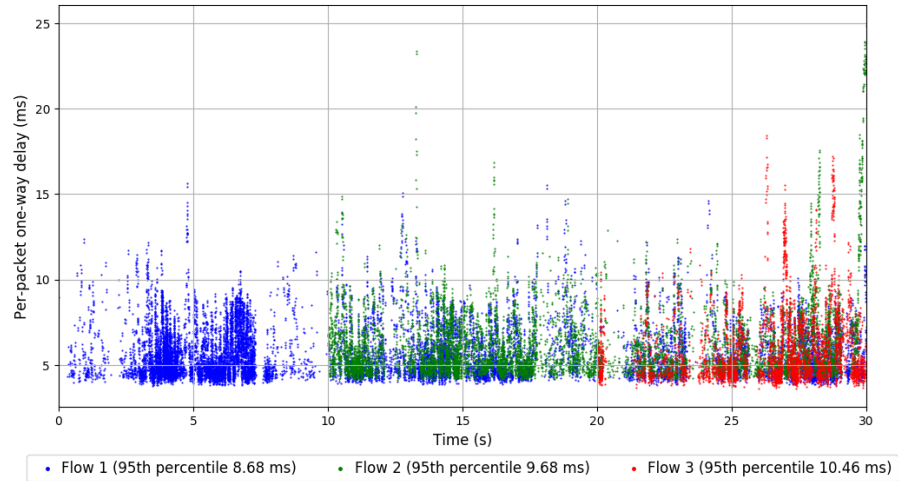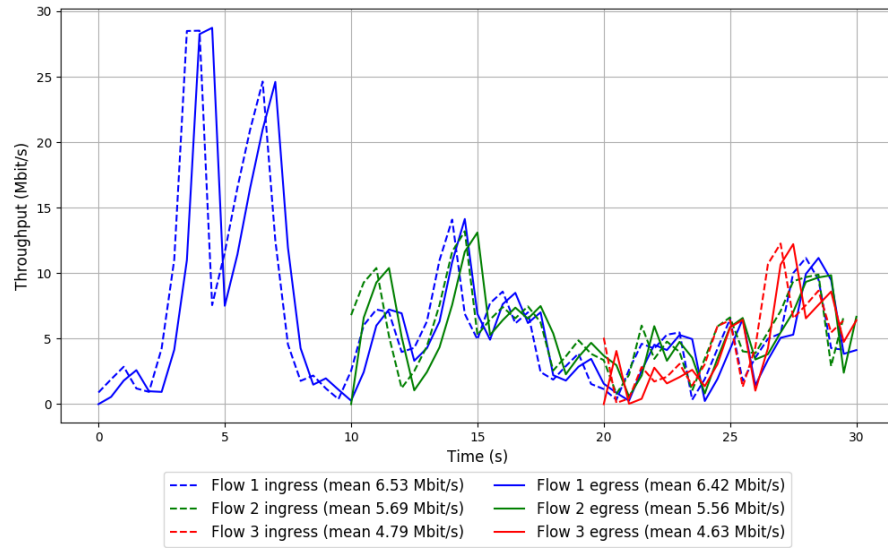
Run 2: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 3.66 Mbit/s)          Flow 1 egress (mean 3.56 Mbit/s)
Flow 2 ingress (mean 3.96 Mbit/s)          Flow 2 egress (mean 4.01 Mbit/s)
Flow 3 ingress (mean 4.33 Mbit/s)          Flow 3 egress (mean 4.26 Mbit/s)



• Flow 1 (95th percentile 16.62 ms)     • Flow 2 (95th percentile 13.55 ms)     • Flow 3 (95th percentile 14.11 ms)

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```
Run 3: Statistics of TCP Cubic

Start at: 2018-11-15 05:34:59
End at: 2018-11-15 05:35:29
Local clock offset: 0.41 ms
Remote clock offset: 0.838 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 14.288 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 14.761 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 13.334 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 14.335 ms
Loss rate: 1.63%
```
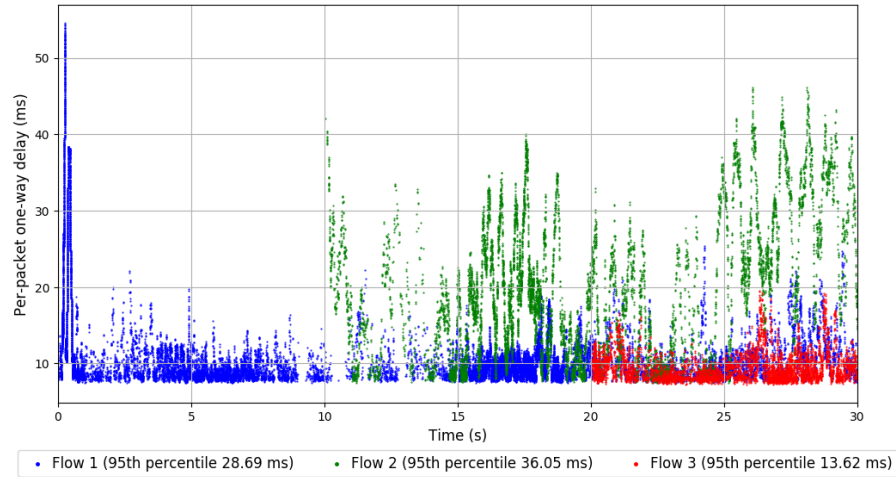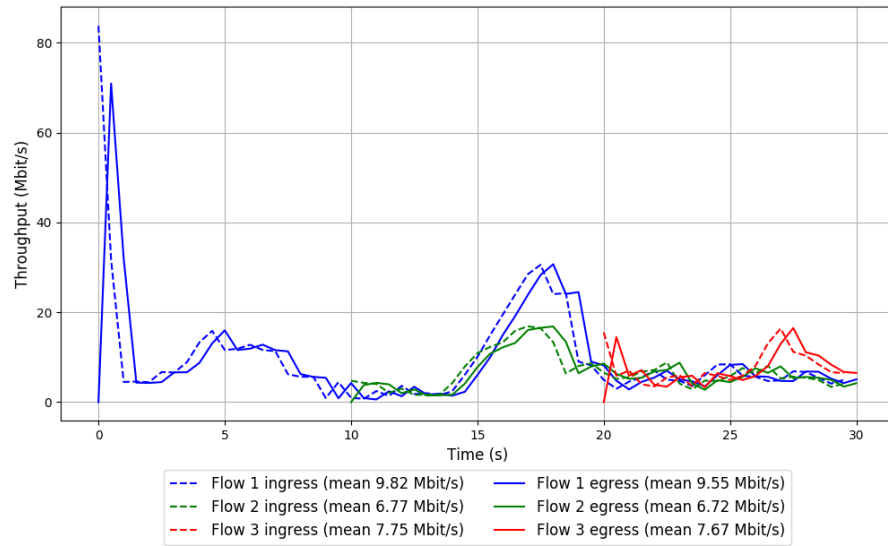
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2018-11-15 05:56:08
End at: 2018-11-15 05:56:38
Local clock offset: 5.211 ms
Remote clock offset: -1.683 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.65 Mbit/s
95th percentile per-packet one-way delay: 9.146 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 8.683 ms
Loss rate: 1.81%
-- Flow 2:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 9.680 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 4.63 Mbit/s
95th percentile per-packet one-way delay: 10.455 ms
Loss rate: 3.27%
```
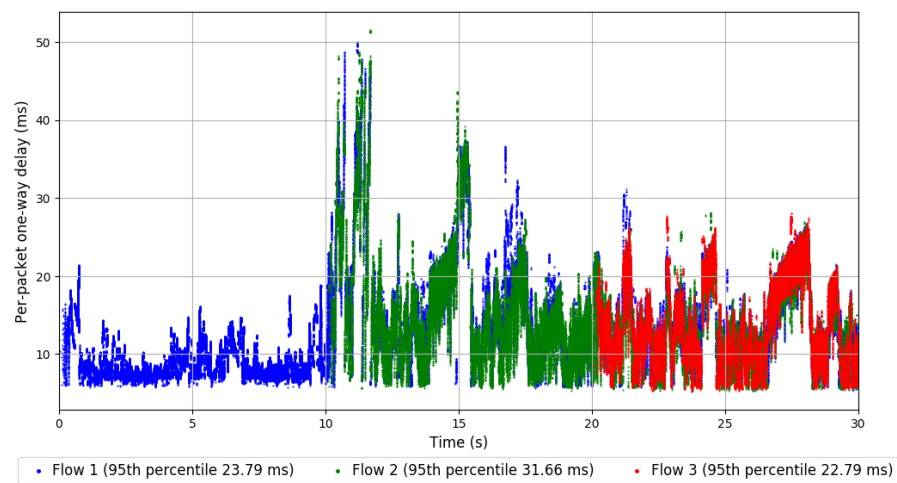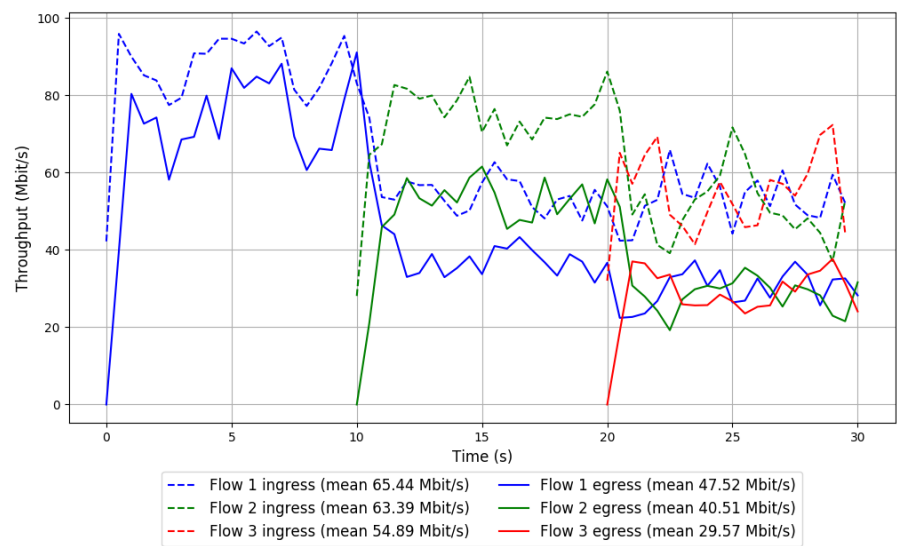
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-11-15 06:17:22
End at: 2018-11-15 06:17:52
Local clock offset: 0.122 ms
Remote clock offset: -2.088 ms


# Below is generated by plot.py at 2018-11-15 06:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.57 Mbit/s
95th percentile per-packet one-way delay: 32.538 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 28.694 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 36.048 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 13.621 ms
Loss rate: 1.04%
```

Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-11-15 05:01:52
End at: 2018-11-15 05:02:22
Local clock offset: 2.612 ms
Remote clock offset: -1.343 ms

# Below is generated by plot.py at 2018-11-15 06:35:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.29 Mbit/s
95th percentile per-packet one-way delay: 25.810 ms
Loss rate: 33.02%
-- Flow 1:
Average throughput: 47.52 Mbit/s
95th percentile per-packet one-way delay: 23.789 ms
Loss rate: 27.39%
-- Flow 2:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 31.661 ms
Loss rate: 36.09%
-- Flow 3:
Average throughput: 29.57 Mbit/s
95th percentile per-packet one-way delay: 22.793 ms
Loss rate: 46.13%
```
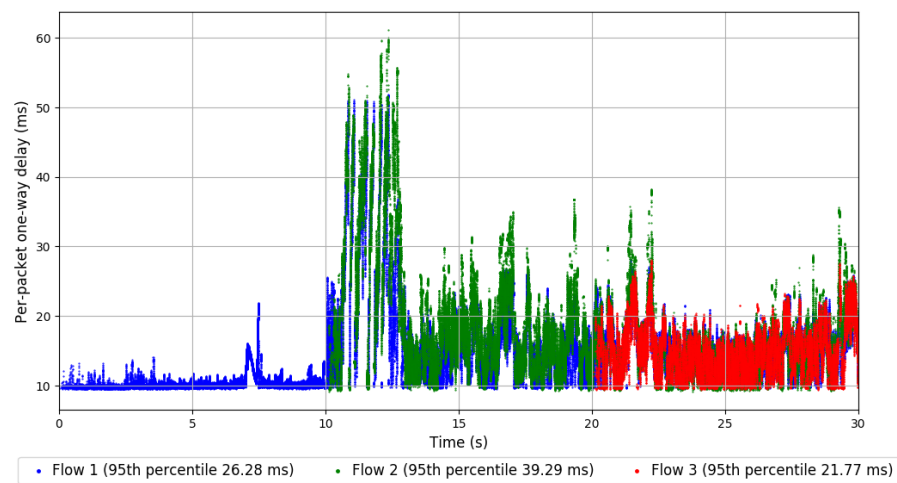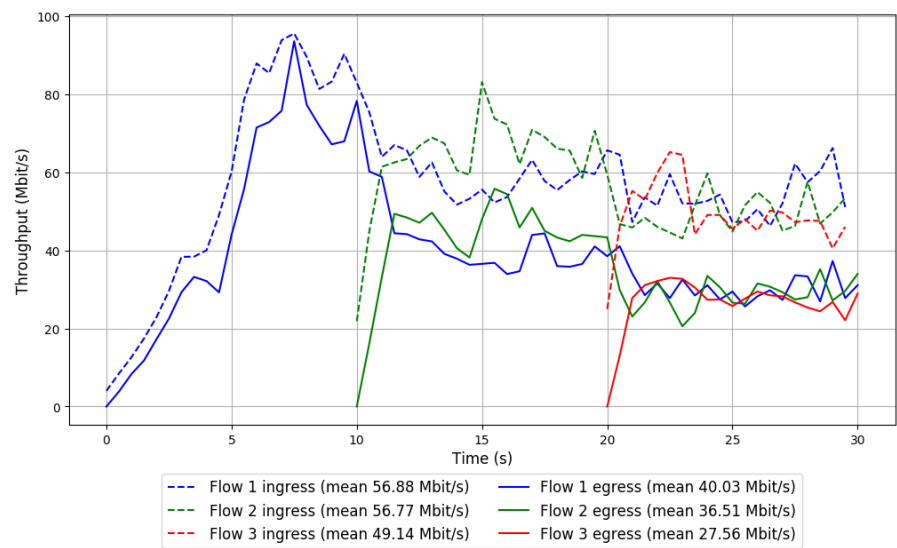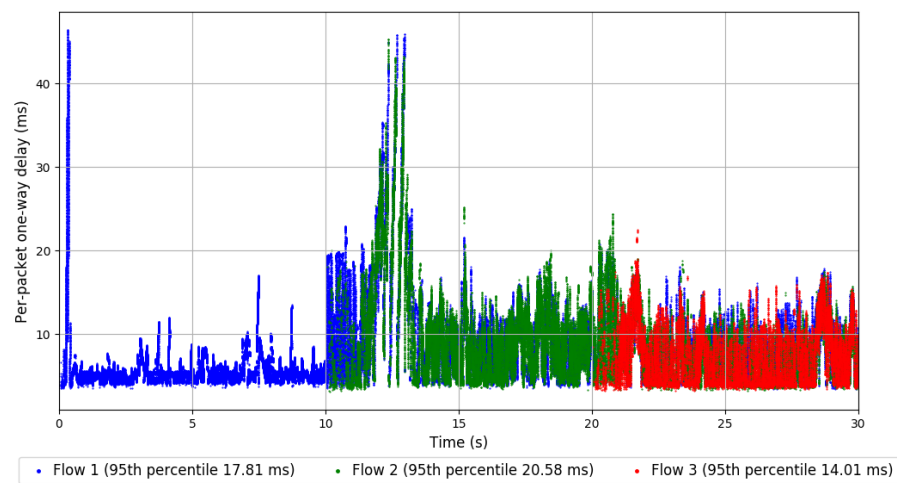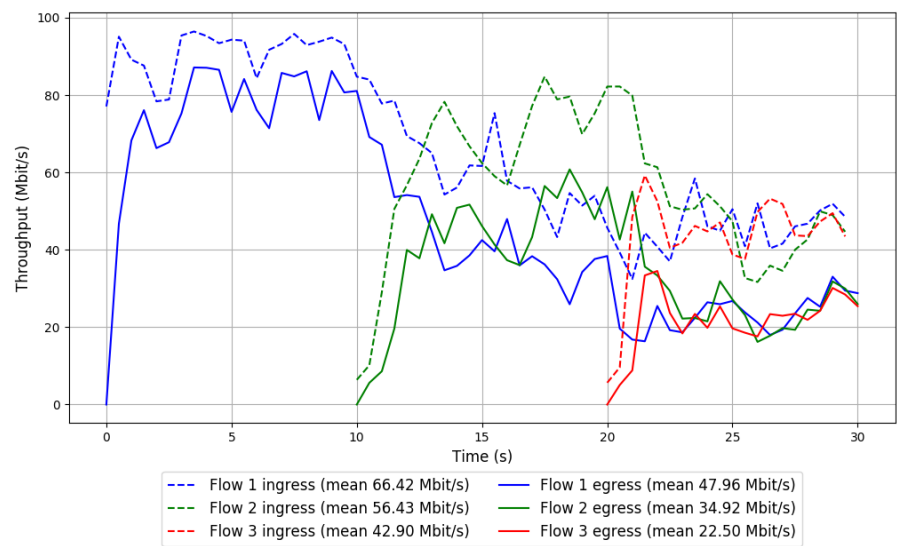
Run 1: Report of FillP — Data Link





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```
Run 2: Statistics of FillP

Start at: 2018-11-15 05:22:58
End at: 2018-11-15 05:23:28
Local clock offset: 0.162 ms
Remote clock offset: 0.861 ms


# Below is generated by plot.py at 2018-11-15 06:35:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.47 Mbit/s
95th percentile per-packet one-way delay: 31.653 ms
Loss rate: 33.79%
-- Flow 1:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 26.284 ms
Loss rate: 29.62%
-- Flow 2:
Average throughput: 36.51 Mbit/s
95th percentile per-packet one-way delay: 39.286 ms
Loss rate: 35.69%
-- Flow 3:
Average throughput: 27.56 Mbit/s
95th percentile per-packet one-way delay: 21.768 ms
Loss rate: 43.91%
```
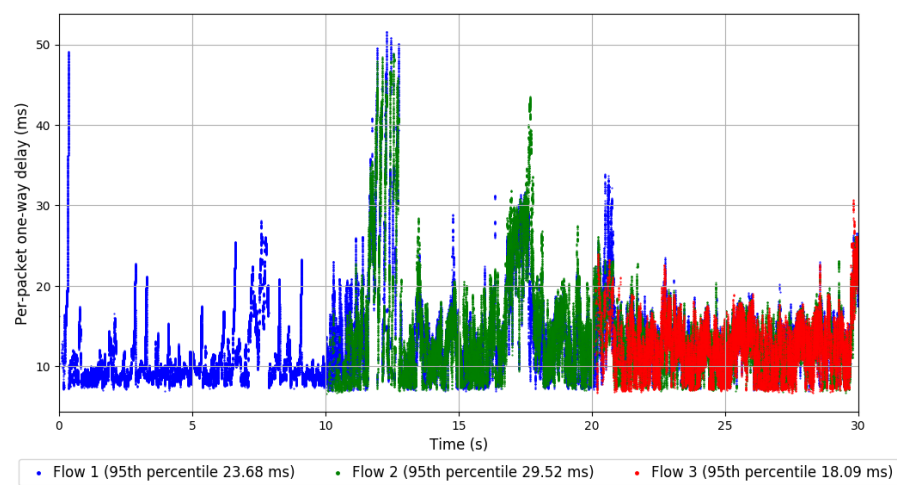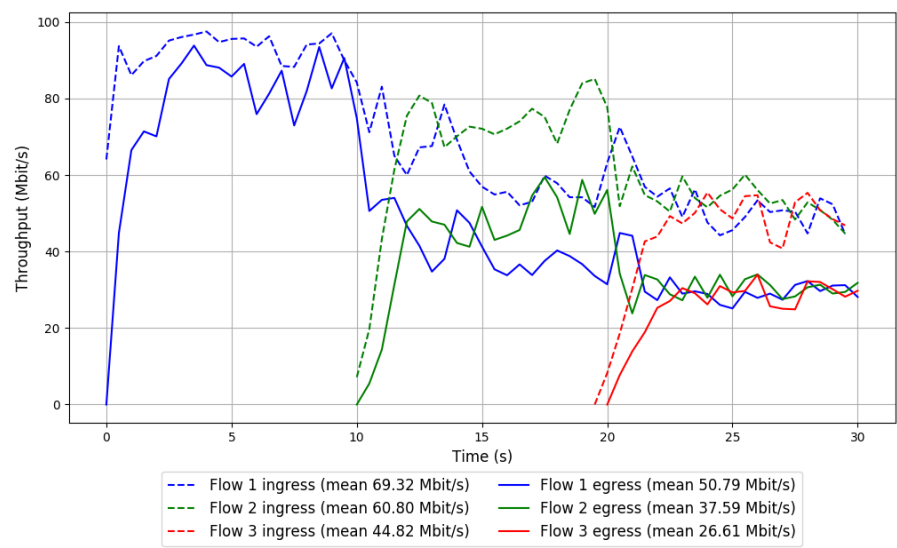
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-11-15 05:44:26
End at: 2018-11-15 05:44:56
Local clock offset: 4.766 ms
Remote clock offset: -2.062 ms


# Below is generated by plot.py at 2018-11-15 06:35:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.67 Mbit/s
95th percentile per-packet one-way delay: 18.212 ms
Loss rate: 33.45%
-- Flow 1:
Average throughput: 47.96 Mbit/s
95th percentile per-packet one-way delay: 17.814 ms
Loss rate: 27.78%
-- Flow 2:
Average throughput: 34.92 Mbit/s
95th percentile per-packet one-way delay: 20.580 ms
Loss rate: 38.13%
-- Flow 3:
Average throughput: 22.50 Mbit/s
95th percentile per-packet one-way delay: 14.013 ms
Loss rate: 47.55%
```
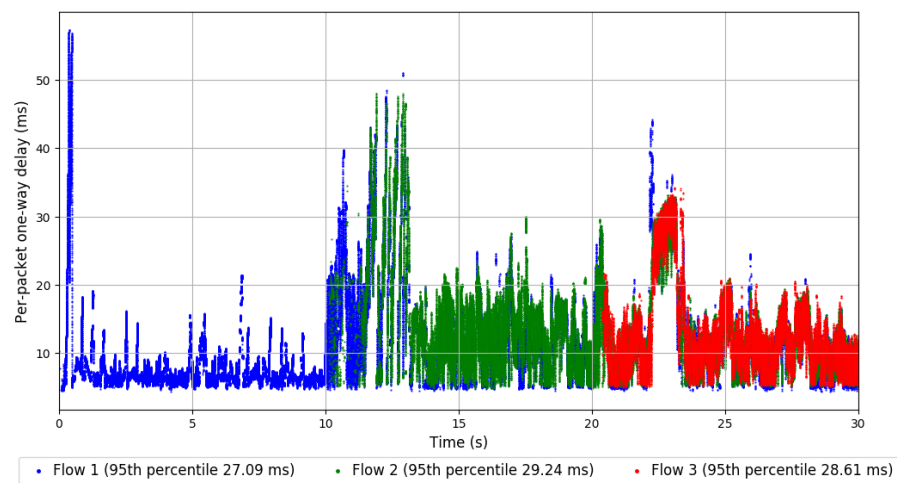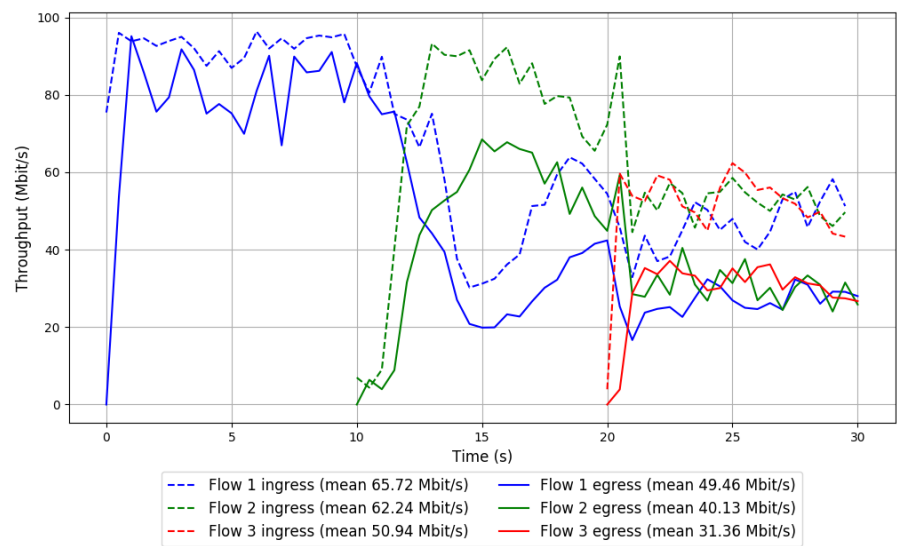
Run 3: Report of FillP — Data Link



Flow 1 ingress (mean 66.42 Mbit/s)   Flow 1 egress (mean 47.96 Mbit/s)
Flow 2 ingress (mean 56.43 Mbit/s)   Flow 2 egress (mean 34.92 Mbit/s)
Flow 3 ingress (mean 42.90 Mbit/s)   Flow 3 egress (mean 22.50 Mbit/s)



Flow 1 (95th percentile 17.81 ms)   Flow 2 (95th percentile 20.58 ms)   Flow 3 (95th percentile 14.01 ms)

```
Run 4: Statistics of FillP

Start at: 2018-11-15 06:05:40
End at: 2018-11-15 06:06:10
Local clock offset: 1.556 ms
Remote clock offset: -1.581 ms


# Below is generated by plot.py at 2018-11-15 06:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.66 Mbit/s
95th percentile per-packet one-way delay: 25.530 ms
Loss rate: 32.08%
-- Flow 1:
Average throughput: 50.79 Mbit/s
95th percentile per-packet one-way delay: 23.684 ms
Loss rate: 26.72%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 29.521 ms
Loss rate: 38.13%
-- Flow 3:
Average throughput: 26.61 Mbit/s
95th percentile per-packet one-way delay: 18.091 ms
Loss rate: 40.55%
```
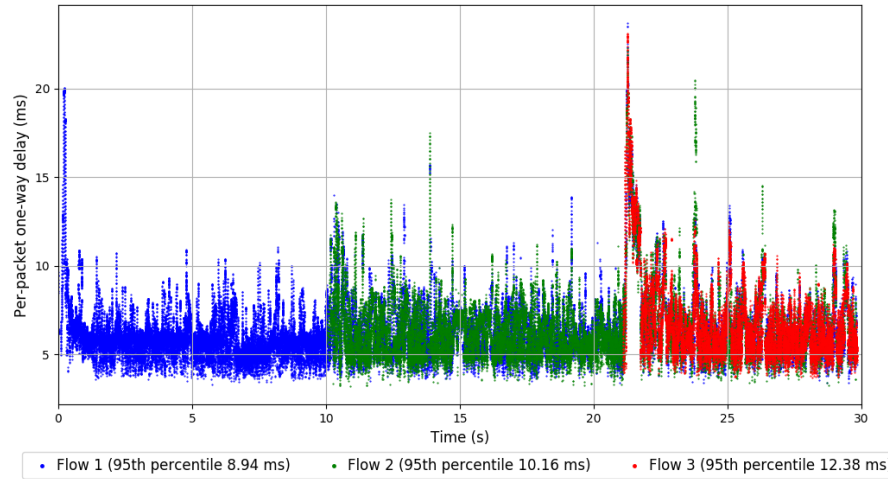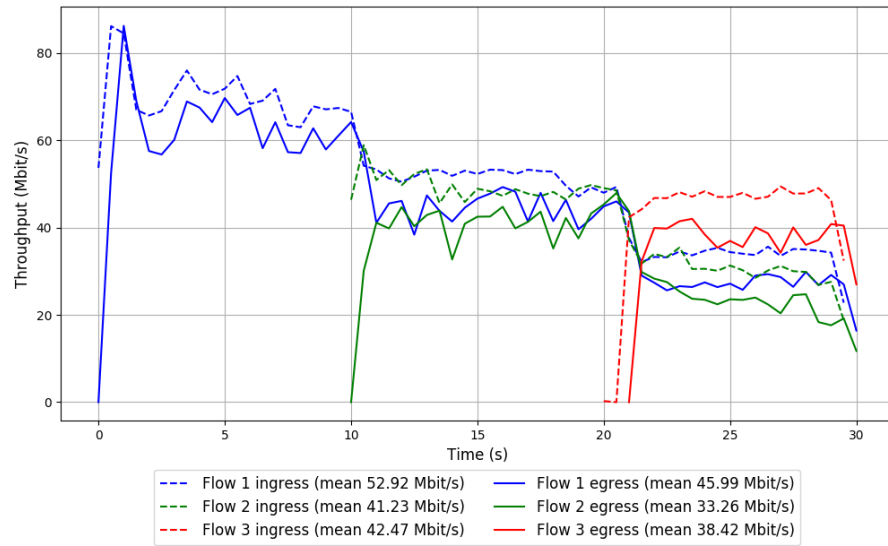
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-11-15 06:26:42
End at: 2018-11-15 06:27:12
Local clock offset: 2.739 ms
Remote clock offset: -2.132 ms


# Below is generated by plot.py at 2018-11-15 06:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.31 Mbit/s
95th percentile per-packet one-way delay: 28.321 ms
Loss rate: 30.41%
-- Flow 1:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 27.095 ms
Loss rate: 24.77%
-- Flow 2:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 29.236 ms
Loss rate: 35.55%
-- Flow 3:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 28.606 ms
Loss rate: 39.79%
```

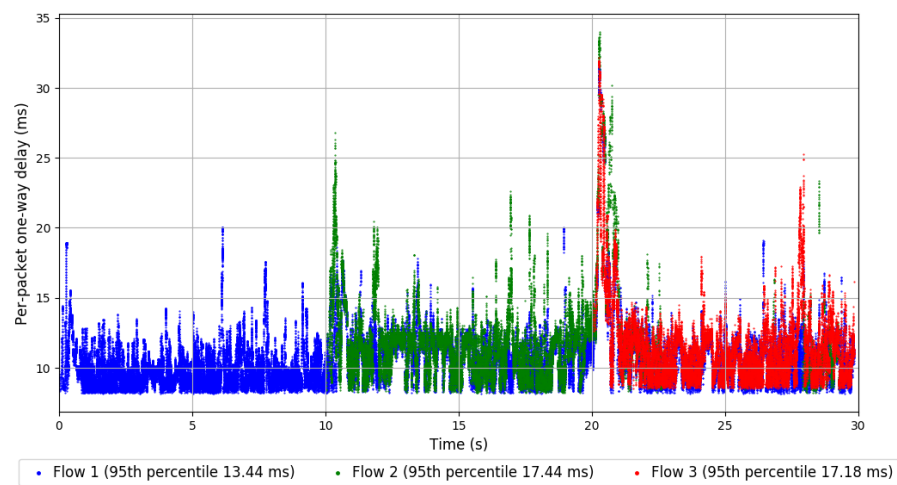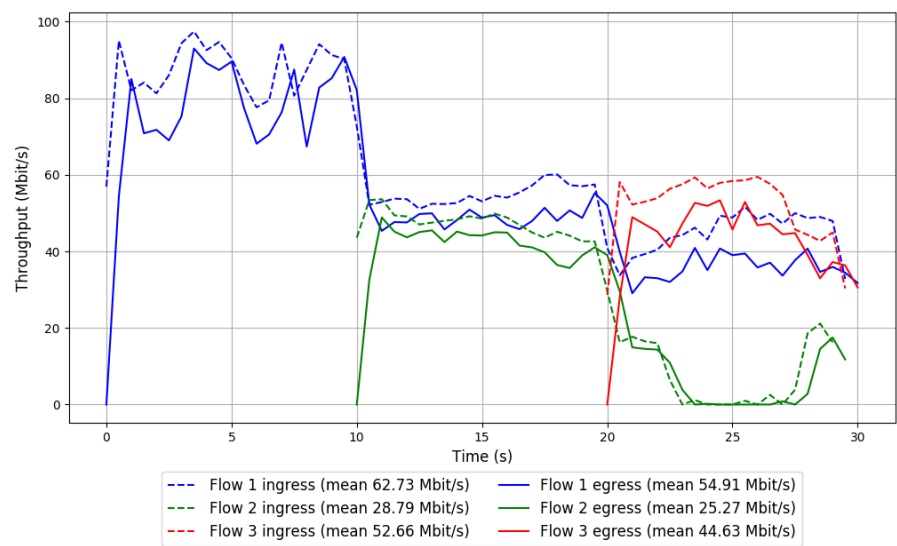## Run 5: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-11-15 04:59:30
End at: 2018-11-15 05:00:00
Local clock offset: 3.969 ms
Remote clock offset: -1.913 ms

# Below is generated by plot.py at 2018-11-15 06:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.38 Mbit/s
95th percentile per-packet one-way delay: 9.913 ms
Loss rate: 15.76%
-- Flow 1:
Average throughput: 45.99 Mbit/s
95th percentile per-packet one-way delay: 8.940 ms
Loss rate: 13.11%
-- Flow 2:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 10.161 ms
Loss rate: 19.35%
-- Flow 3:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 12.380 ms
Loss rate: 18.77%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-11-15 05:20:35
End at: 2018-11-15 05:21:05
Local clock offset: -0.167 ms
Remote clock offset: -0.703 ms


# Below is generated by plot.py at 2018-11-15 06:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 14.756 ms
Loss rate: 12.93%
-- Flow 1:
Average throughput: 54.91 Mbit/s
95th percentile per-packet one-way delay: 13.437 ms
Loss rate: 12.47%
-- Flow 2:
Average throughput: 25.27 Mbit/s
95th percentile per-packet one-way delay: 17.441 ms
Loss rate: 12.36%
-- Flow 3:
Average throughput: 44.63 Mbit/s
95th percentile per-packet one-way delay: 17.180 ms
Loss rate: 15.22%
```
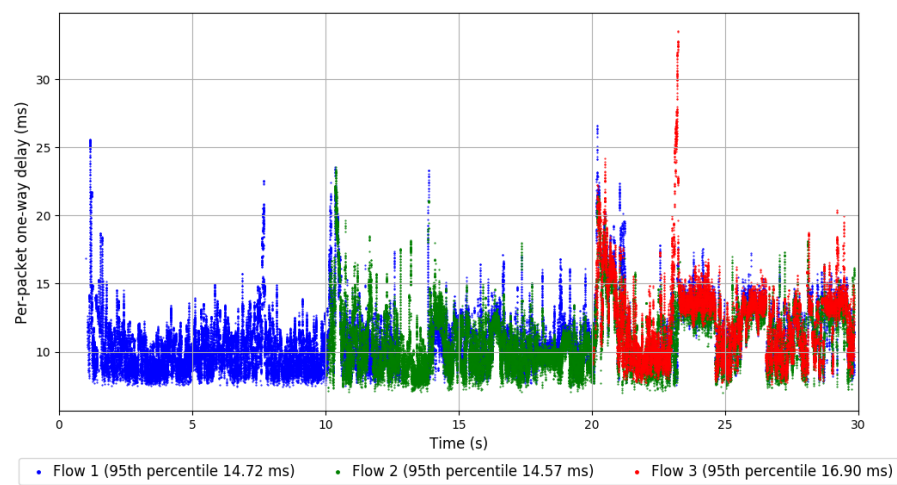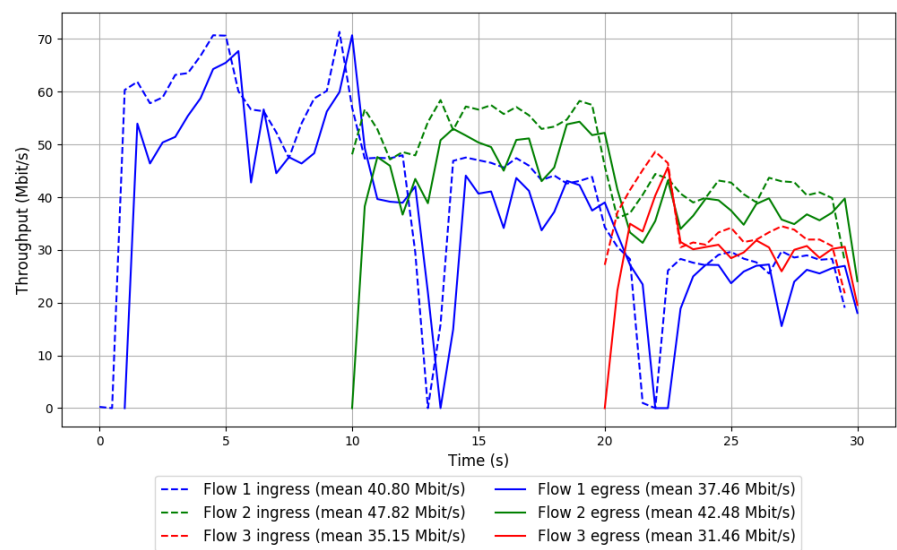
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-11-15 05:41:58
End at: 2018-11-15 05:42:28
Local clock offset: 2.243 ms
Remote clock offset: -0.54 ms

# Below is generated by plot.py at 2018-11-15 06:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 15.119 ms
Loss rate: 11.12%
-- Flow 1:
Average throughput: 37.46 Mbit/s
95th percentile per-packet one-way delay: 14.722 ms
Loss rate: 11.28%
-- Flow 2:
Average throughput: 42.48 Mbit/s
95th percentile per-packet one-way delay: 14.566 ms
Loss rate: 11.14%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 16.902 ms
Loss rate: 10.48%
```

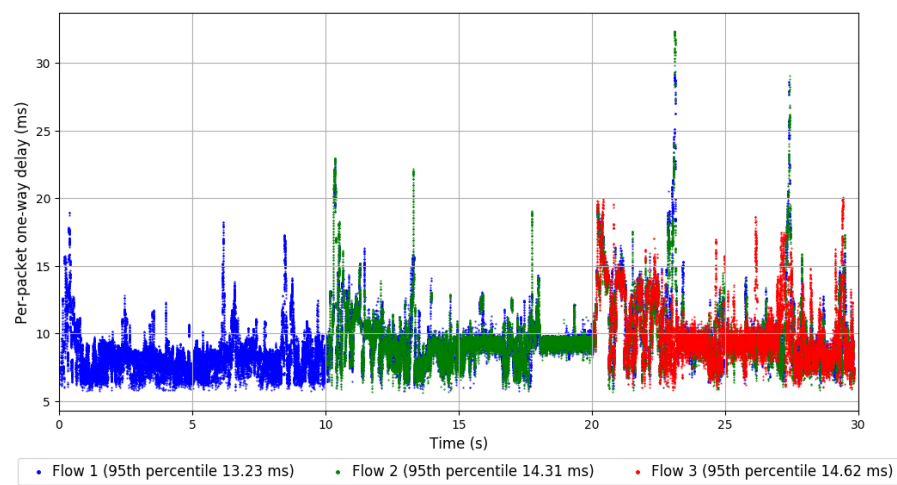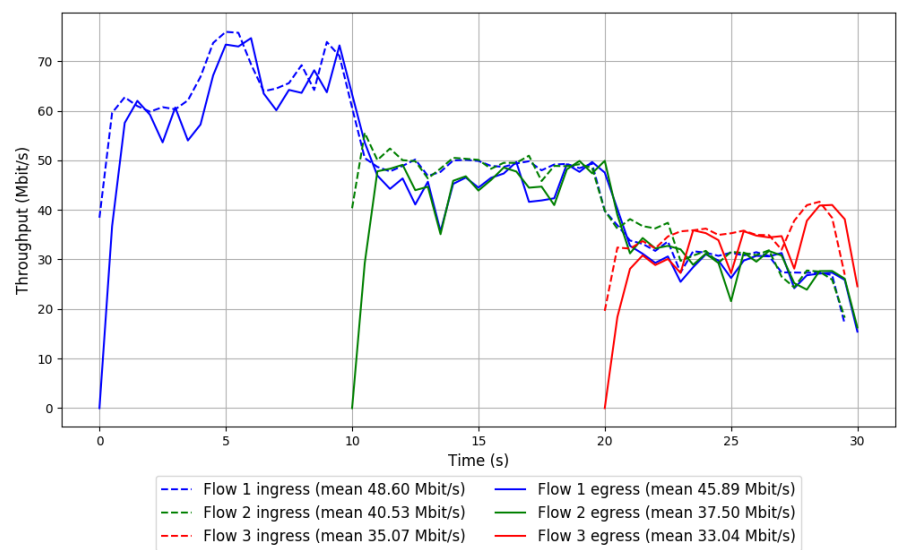Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-11-15 06:03:14
End at: 2018-11-15 06:03:44
Local clock offset: 2.278 ms
Remote clock offset: -2.056 ms

# Below is generated by plot.py at 2018-11-15 06:36:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.58 Mbit/s
95th percentile per-packet one-way delay: 14.037 ms
Loss rate: 6.20%
-- Flow 1:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 13.235 ms
Loss rate: 5.58%
-- Flow 2:
Average throughput: 37.50 Mbit/s
95th percentile per-packet one-way delay: 14.309 ms
Loss rate: 7.47%
-- Flow 3:
Average throughput: 33.04 Mbit/s
95th percentile per-packet one-way delay: 14.621 ms
Loss rate: 5.84%
```
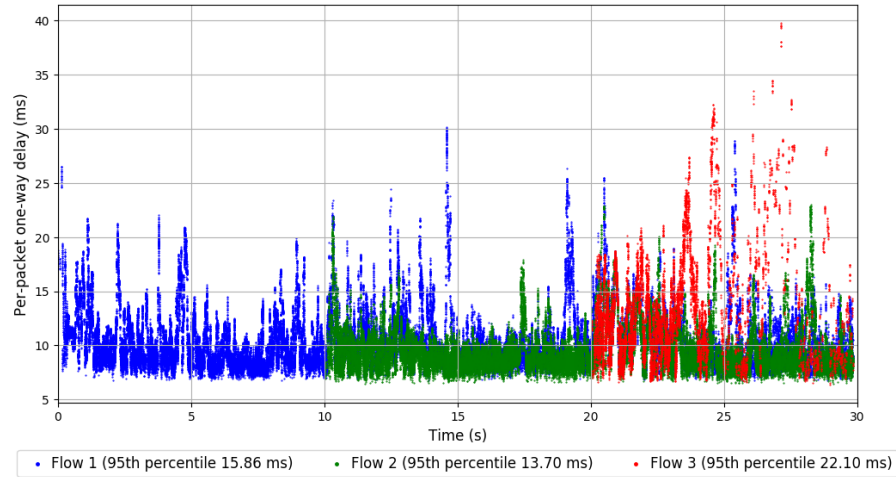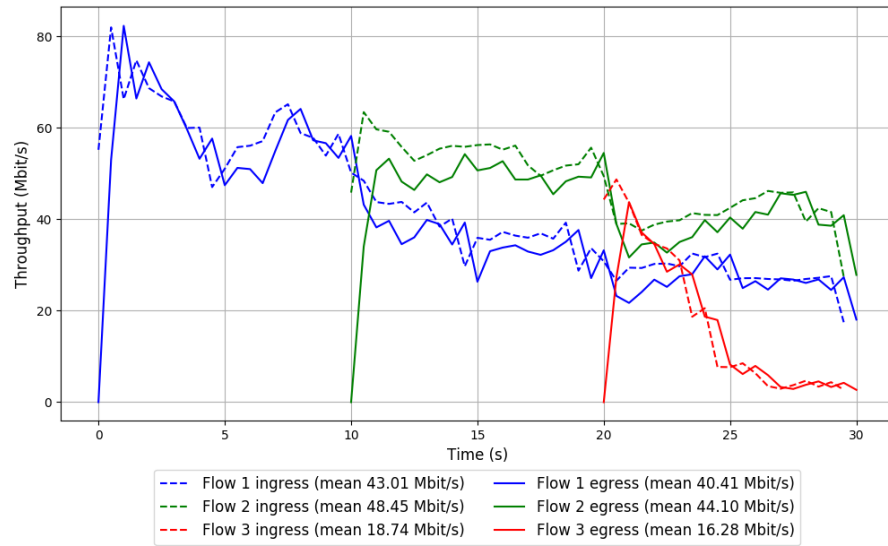
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-11-15 06:24:20
End at: 2018-11-15 06:24:50
Local clock offset: 1.833 ms
Remote clock offset: -1.183 ms


# Below is generated by plot.py at 2018-11-15 06:36:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.04 Mbit/s
95th percentile per-packet one-way delay: 15.808 ms
Loss rate: 7.76%
-- Flow 1:
Average throughput: 40.41 Mbit/s
95th percentile per-packet one-way delay: 15.858 ms
Loss rate: 6.08%
-- Flow 2:
Average throughput: 44.10 Mbit/s
95th percentile per-packet one-way delay: 13.696 ms
Loss rate: 8.99%
-- Flow 3:
Average throughput: 16.28 Mbit/s
95th percentile per-packet one-way delay: 22.099 ms
Loss rate: 13.15%
```
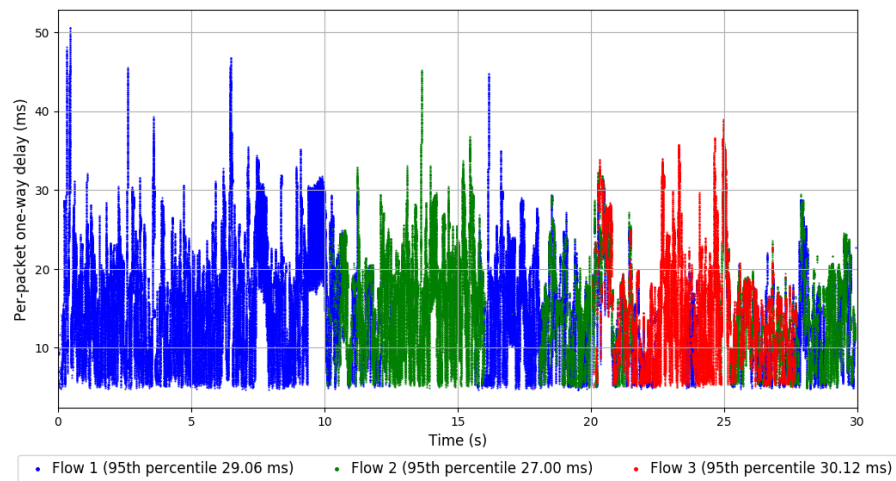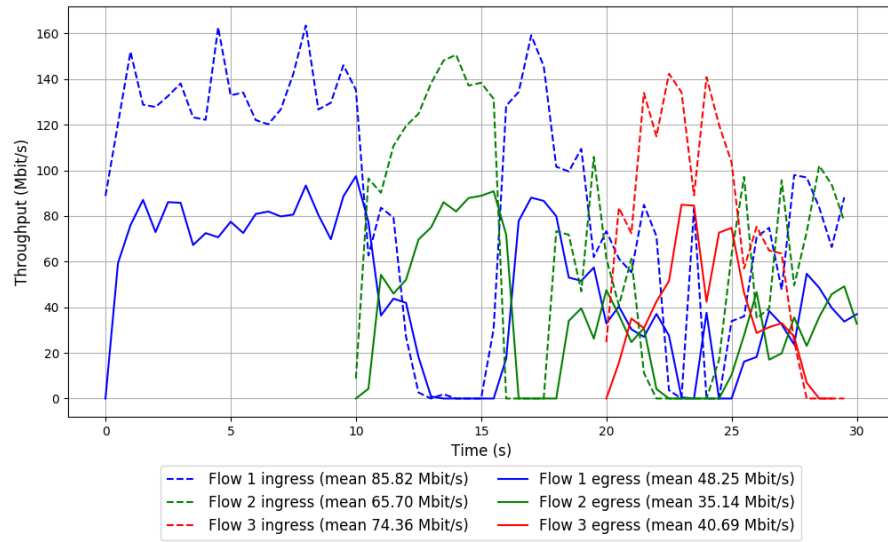
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-15 04:47:56
End at: 2018-11-15 04:48:26
Local clock offset: 2.189 ms
Remote clock offset: -2.167 ms


# Below is generated by plot.py at 2018-11-15 06:37:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.42 Mbit/s
95th percentile per-packet one-way delay: 28.721 ms
Loss rate: 45.67%
-- Flow 1:
Average throughput: 48.25 Mbit/s
95th percentile per-packet one-way delay: 29.056 ms
Loss rate: 43.75%
-- Flow 2:
Average throughput: 35.14 Mbit/s
95th percentile per-packet one-way delay: 26.996 ms
Loss rate: 46.51%
-- Flow 3:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 30.119 ms
Loss rate: 50.98%
```
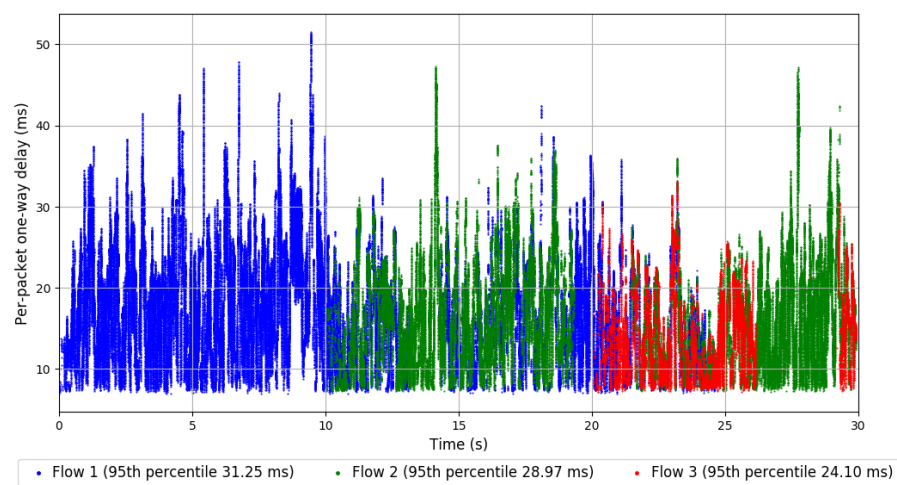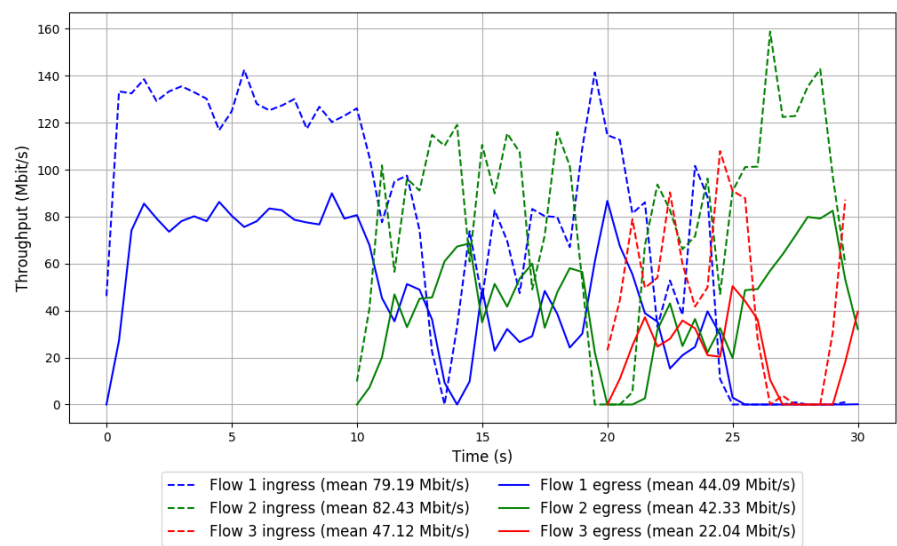
Run 1: Report of Indigo-96d2da3 — Data Link



- - - Flow 1 ingress (mean 85.82 Mbit/s) —— Flow 1 egress (mean 48.25 Mbit/s)
- - - Flow 2 ingress (mean 65.70 Mbit/s) —— Flow 2 egress (mean 35.14 Mbit/s)
- - - Flow 3 ingress (mean 74.36 Mbit/s) —— Flow 3 egress (mean 40.69 Mbit/s)



• Flow 1 (95th percentile 29.06 ms)   • Flow 2 (95th percentile 27.00 ms)   • Flow 3 (95th percentile 30.12 ms)

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```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-15 05:08:57
End at: 2018-11-15 05:09:27
Local clock offset: 2.84 ms
Remote clock offset: 0.599 ms

# Below is generated by plot.py at 2018-11-15 06:37:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.38 Mbit/s
95th percentile per-packet one-way delay: 30.371 ms
Loss rate: 46.85%
-- Flow 1:
Average throughput: 44.09 Mbit/s
95th percentile per-packet one-way delay: 31.251 ms
Loss rate: 44.38%
-- Flow 2:
Average throughput: 42.33 Mbit/s
95th percentile per-packet one-way delay: 28.970 ms
Loss rate: 48.63%
-- Flow 3:
Average throughput: 22.04 Mbit/s
95th percentile per-packet one-way delay: 24.102 ms
Loss rate: 53.20%
```

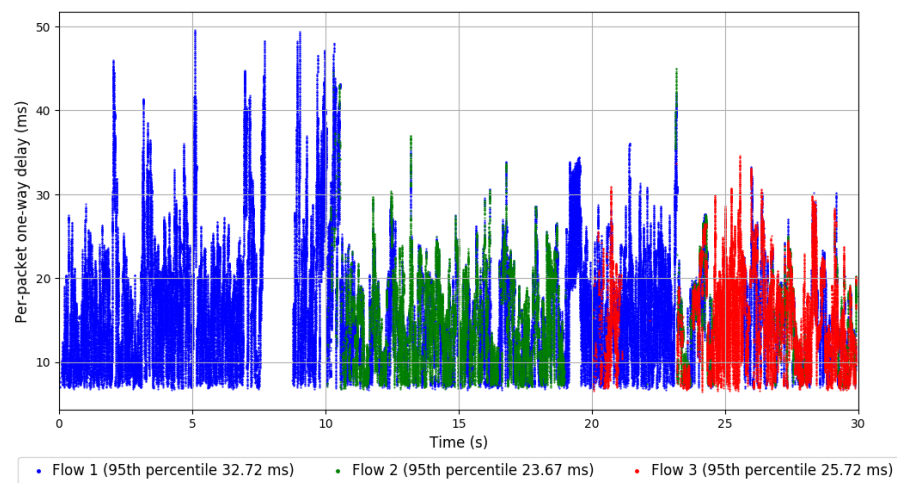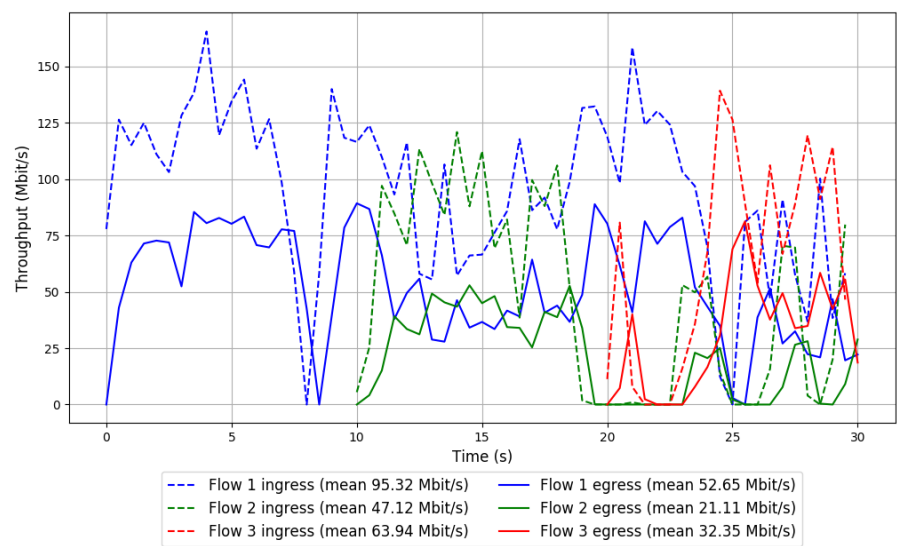Run 2: Report of Indigo-96d2da3 — Data Link



Flow 1 ingress (mean 79.19 Mbit/s)   Flow 1 egress (mean 44.09 Mbit/s)
Flow 2 ingress (mean 82.43 Mbit/s)   Flow 2 egress (mean 42.33 Mbit/s)
Flow 3 ingress (mean 47.12 Mbit/s)   Flow 3 egress (mean 22.04 Mbit/s)



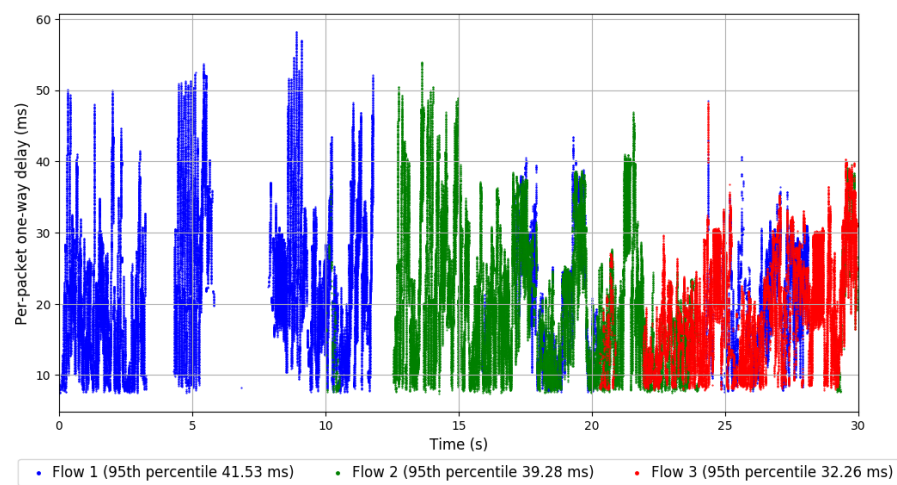Flow 1 (95th percentile 31.25 ms)   Flow 2 (95th percentile 28.97 ms)   Flow 3 (95th percentile 24.10 ms)

```
Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-15 05:30:22
End at: 2018-11-15 05:30:52
Local clock offset: 2.353 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2018-11-15 06:37:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.33 Mbit/s
95th percentile per-packet one-way delay: 31.026 ms
Loss rate: 47.63%
-- Flow 1:
Average throughput: 52.65 Mbit/s
95th percentile per-packet one-way delay: 32.722 ms
Loss rate: 44.75%
-- Flow 2:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 23.671 ms
Loss rate: 55.19%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 25.724 ms
Loss rate: 49.39%
```

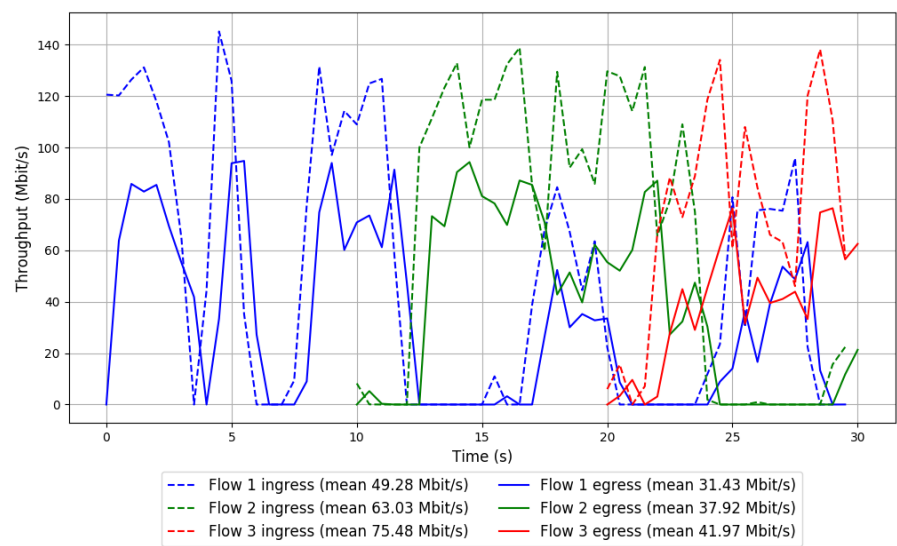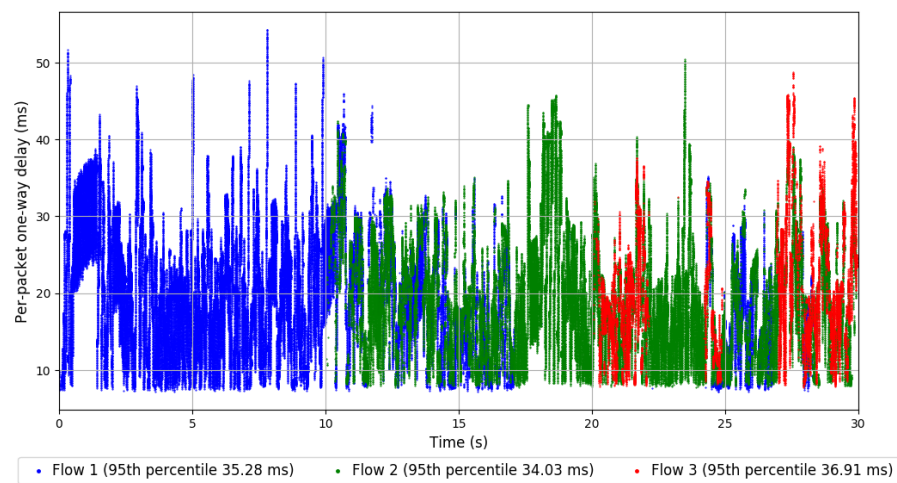Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-15 05:51:33
End at: 2018-11-15 05:52:03
Local clock offset: 1.136 ms
Remote clock offset: -1.807 ms


# Below is generated by plot.py at 2018-11-15 06:37:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.35 Mbit/s
95th percentile per-packet one-way delay: 39.114 ms
Loss rate: 39.27%
-- Flow 1:
Average throughput: 31.43 Mbit/s
95th percentile per-packet one-way delay: 41.527 ms
Loss rate: 36.24%
-- Flow 2:
Average throughput: 37.92 Mbit/s
95th percentile per-packet one-way delay: 39.279 ms
Loss rate: 39.84%
-- Flow 3:
Average throughput: 41.97 Mbit/s
95th percentile per-packet one-way delay: 32.263 ms
Loss rate: 44.30%
```

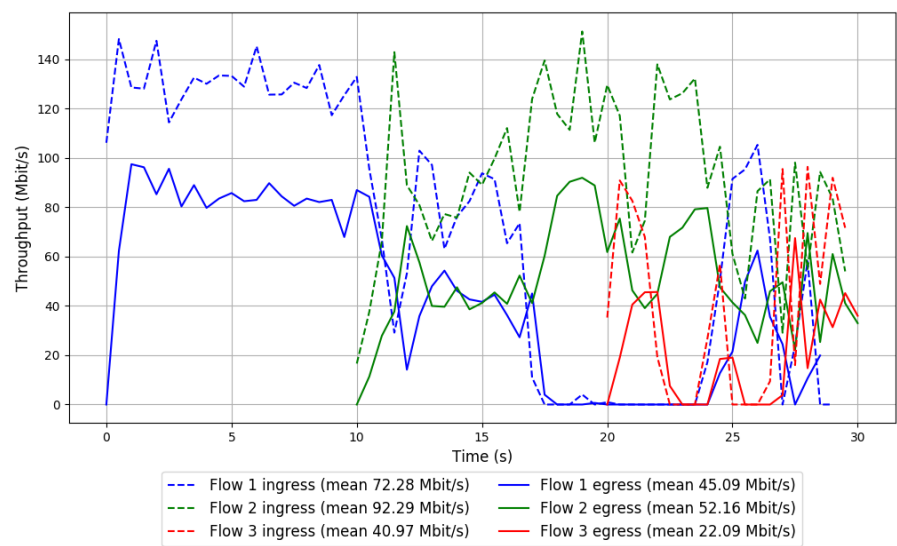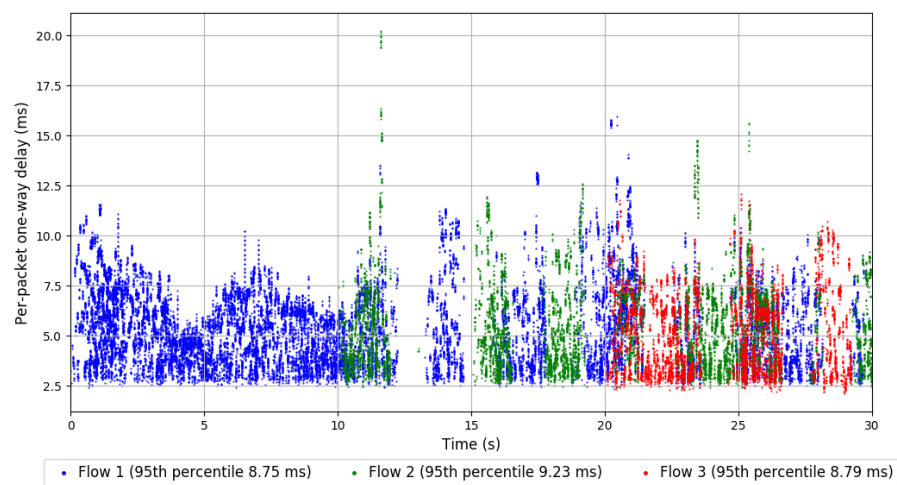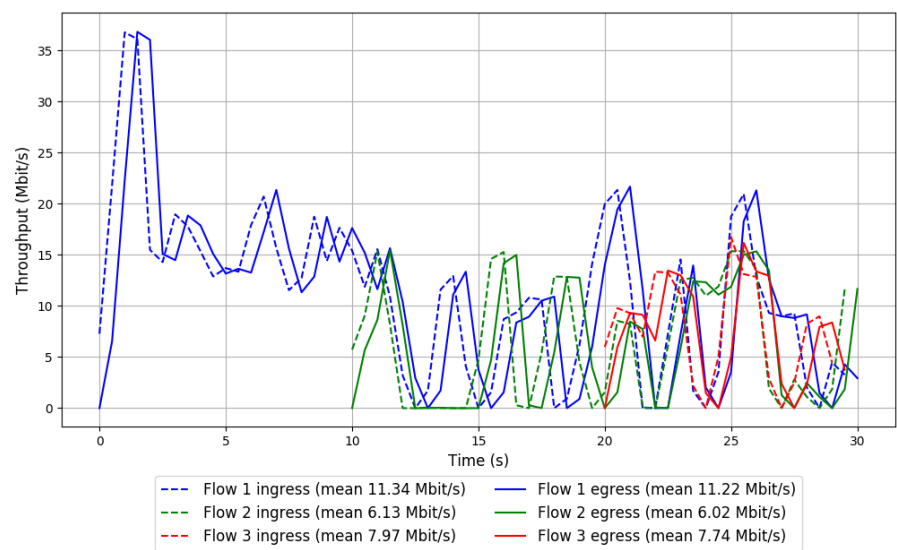Run 4: Report of Indigo-96d2da3 — Data Link



Flow 1 ingress (mean 49.28 Mbit/s) — Flow 1 egress (mean 31.43 Mbit/s)
Flow 2 ingress (mean 63.03 Mbit/s) — Flow 2 egress (mean 37.92 Mbit/s)
Flow 3 ingress (mean 75.48 Mbit/s) — Flow 3 egress (mean 41.97 Mbit/s)



Flow 1 (95th percentile 41.53 ms)   Flow 2 (95th percentile 39.28 ms)   Flow 3 (95th percentile 32.26 ms)

```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-15 06:12:46
End at: 2018-11-15 06:13:16
Local clock offset: 0.964 ms
Remote clock offset: -1.354 ms


# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.61 Mbit/s
95th percentile per-packet one-way delay: 35.066 ms
Loss rate: 41.91%
-- Flow 1:
Average throughput: 45.09 Mbit/s
95th percentile per-packet one-way delay: 35.279 ms
Loss rate: 39.80%
-- Flow 2:
Average throughput: 52.16 Mbit/s
95th percentile per-packet one-way delay: 34.029 ms
Loss rate: 43.45%
-- Flow 3:
Average throughput: 22.09 Mbit/s
95th percentile per-packet one-way delay: 36.912 ms
Loss rate: 46.04%
```
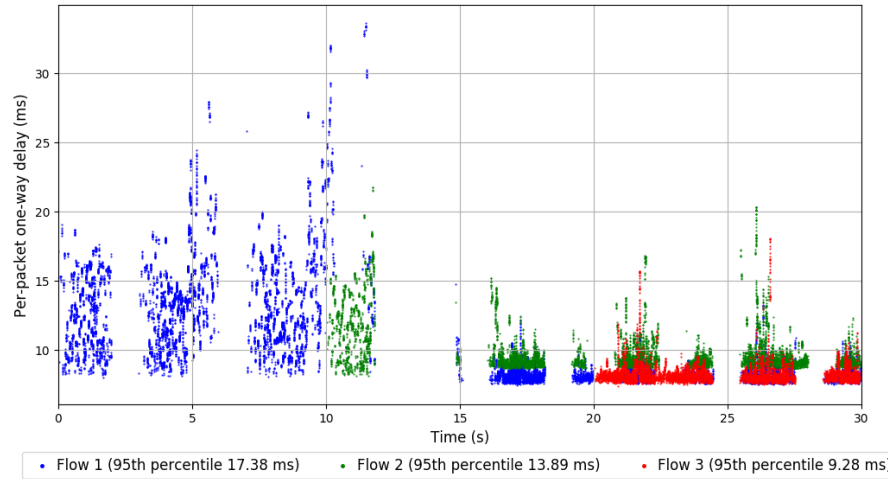
Run 5: Report of Indigo-96d2da3 — Data Link



Flow 1 ingress (mean 72.28 Mbit/s)  Flow 1 egress (mean 45.09 Mbit/s)
Flow 2 ingress (mean 92.29 Mbit/s)  Flow 2 egress (mean 52.16 Mbit/s)
Flow 3 ingress (mean 40.97 Mbit/s)  Flow 3 egress (mean 22.09 Mbit/s)



Flow 1 (95th percentile 35.28 ms)    Flow 2 (95th percentile 34.03 ms)    Flow 3 (95th percentile 36.91 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2018-11-15 04:54:48
End at: 2018-11-15 04:55:18
Local clock offset: 4.246 ms
Remote clock offset: -2.533 ms

# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.49 Mbit/s
95th percentile per-packet one-way delay: 8.892 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.22 Mbit/s
95th percentile per-packet one-way delay: 8.747 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 6.02 Mbit/s
95th percentile per-packet one-way delay: 9.229 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 7.74 Mbit/s
95th percentile per-packet one-way delay: 8.785 ms
Loss rate: 3.10%
```
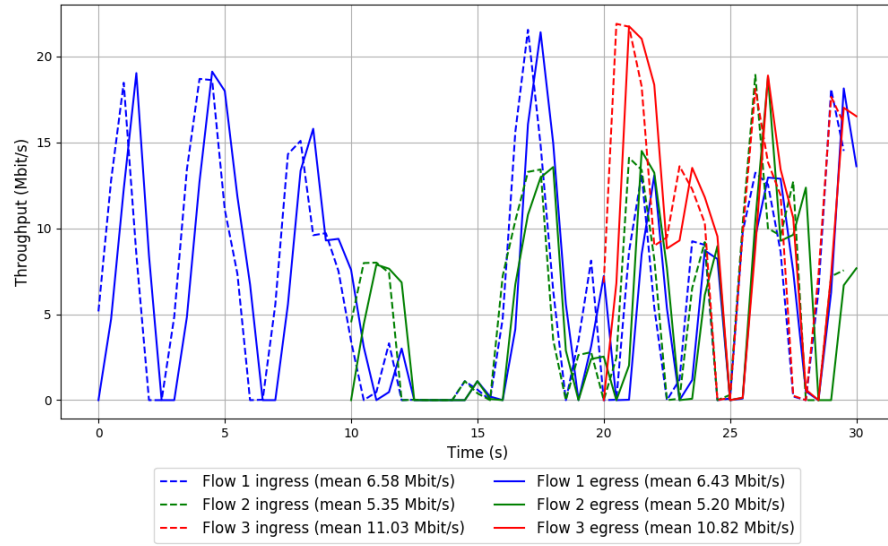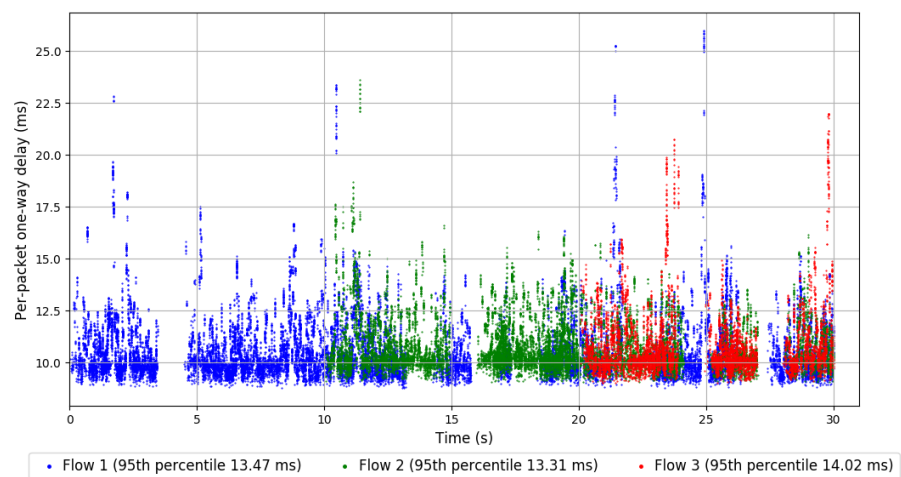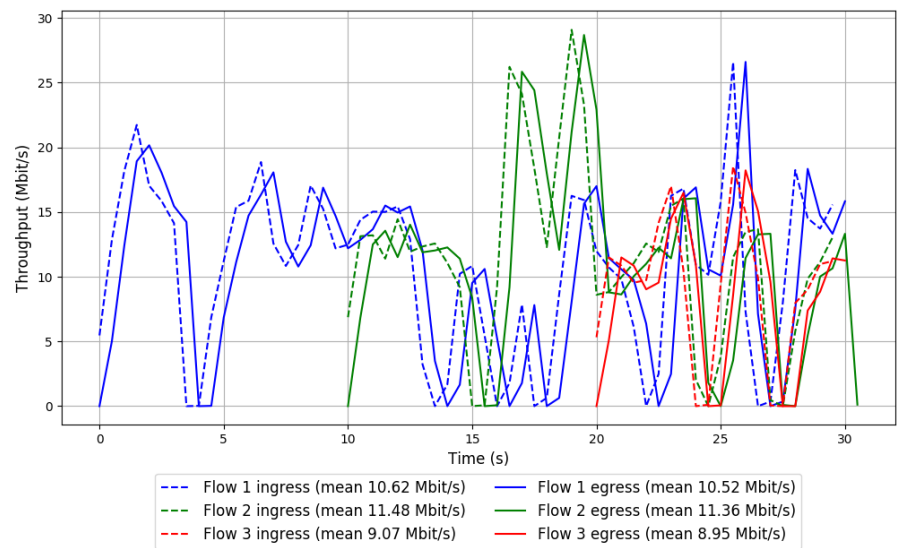
Run 1: Report of LEDBAT — Data Link



Flow 1 ingress (mean 11.34 Mbit/s)    Flow 1 egress (mean 11.22 Mbit/s)
Flow 2 ingress (mean 6.13 Mbit/s)     Flow 2 egress (mean 6.02 Mbit/s)
Flow 3 ingress (mean 7.97 Mbit/s)     Flow 3 egress (mean 7.74 Mbit/s)



Flow 1 (95th percentile 8.75 ms)    Flow 2 (95th percentile 9.23 ms)    Flow 3 (95th percentile 8.79 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2018-11-15 05:15:55
End at: 2018-11-15 05:16:25
Local clock offset: 1.3 ms
Remote clock offset: 0.215 ms


# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.46 Mbit/s
95th percentile per-packet one-way delay: 15.934 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 17.379 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 13.893 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 10.82 Mbit/s
95th percentile per-packet one-way delay: 9.275 ms
Loss rate: 1.90%
```
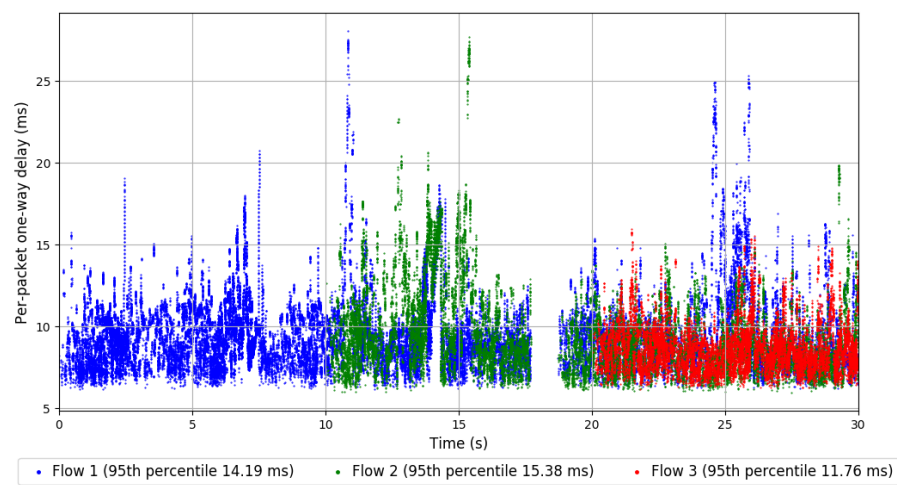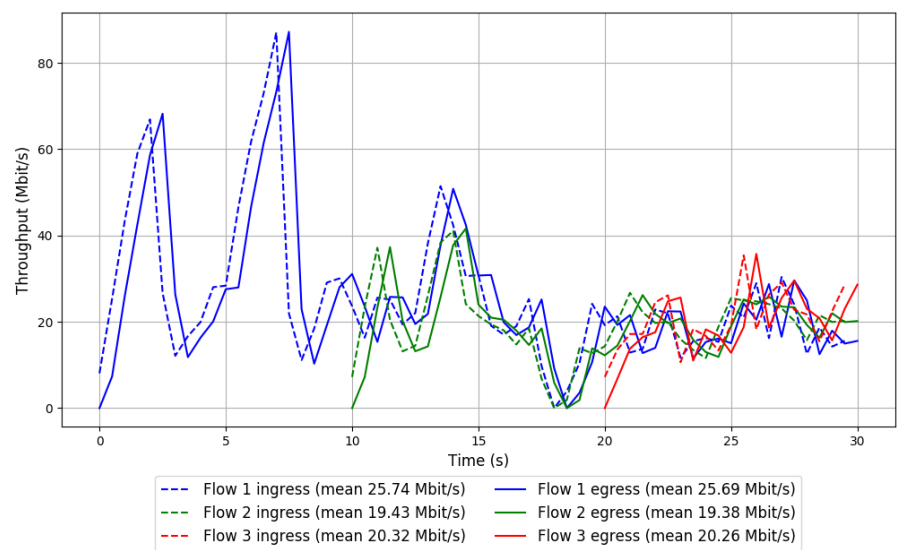
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-11-15 05:37:17
End at: 2018-11-15 05:37:47
Local clock offset: 0.112 ms
Remote clock offset: -0.775 ms

# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.06 Mbit/s
95th percentile per-packet one-way delay: 13.435 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 13.469 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 13.315 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 8.95 Mbit/s
95th percentile per-packet one-way delay: 14.017 ms
Loss rate: 1.30%
```
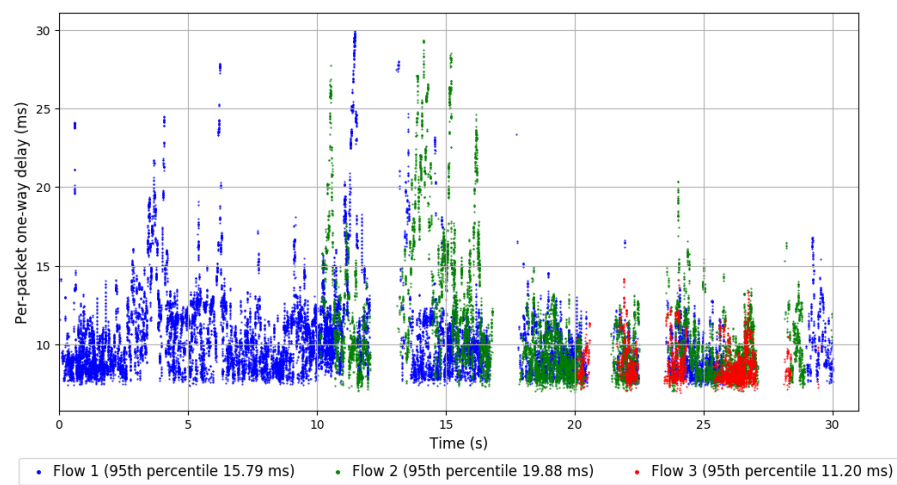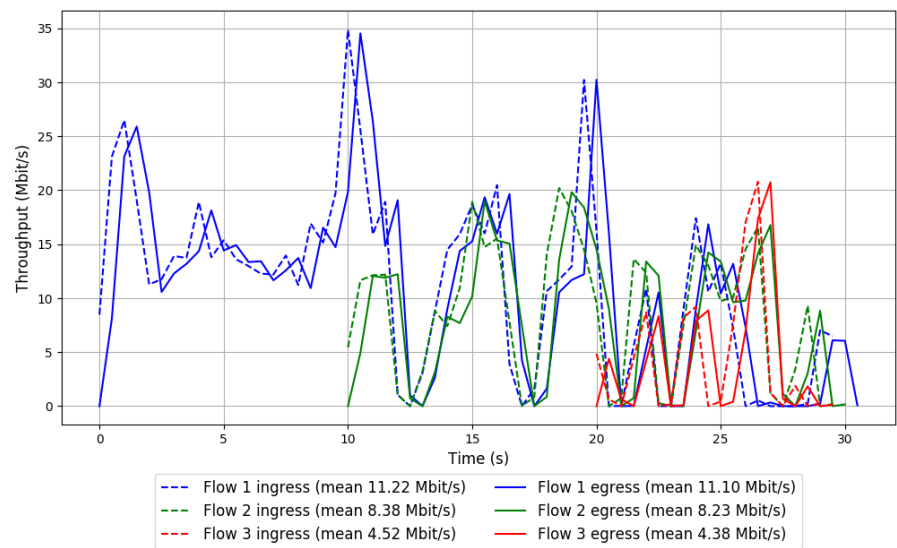
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-11-15 05:58:22
End at: 2018-11-15 05:58:52
Local clock offset: 2.622 ms
Remote clock offset: -2.159 ms


# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.31 Mbit/s
95th percentile per-packet one-way delay: 14.367 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 25.69 Mbit/s
95th percentile per-packet one-way delay: 14.194 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 19.38 Mbit/s
95th percentile per-packet one-way delay: 15.383 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 20.26 Mbit/s
95th percentile per-packet one-way delay: 11.760 ms
Loss rate: 0.21%
```
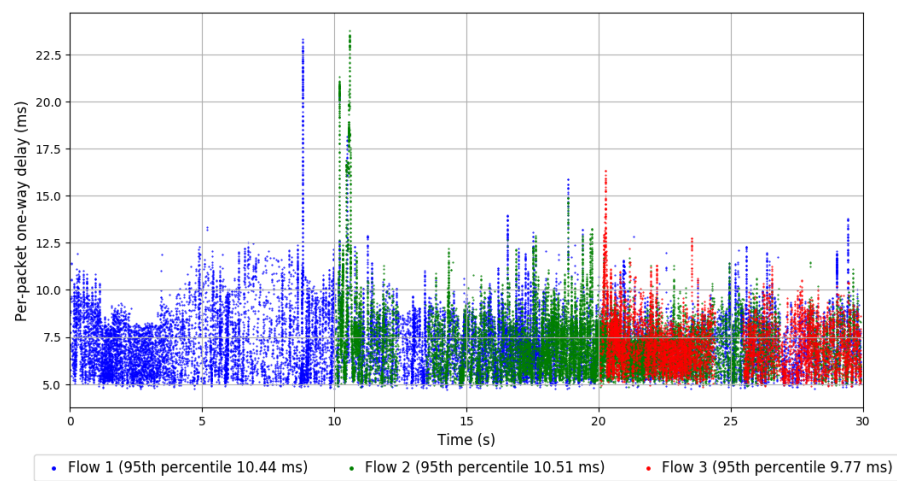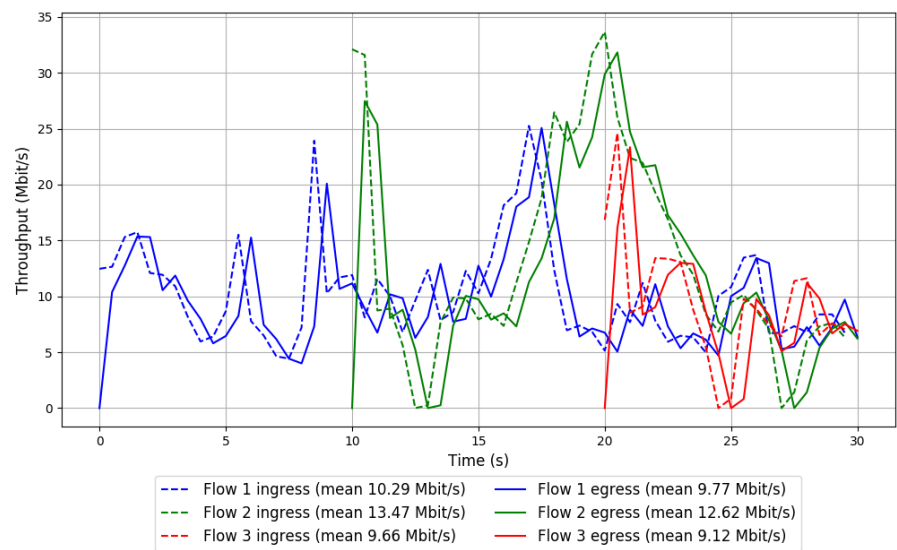
Run 4: Report of LEDBAT — Data Link



- - - Flow 1 ingress (mean 25.74 Mbit/s) ——— Flow 1 egress (mean 25.69 Mbit/s)
- - - Flow 2 ingress (mean 19.43 Mbit/s) ——— Flow 2 egress (mean 19.38 Mbit/s)
- - - Flow 3 ingress (mean 20.32 Mbit/s) ——— Flow 3 egress (mean 20.26 Mbit/s)



• Flow 1 (95th percentile 14.19 ms)  • Flow 2 (95th percentile 15.38 ms)  • Flow 3 (95th percentile 11.76 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-11-15 06:19:39
End at: 2018-11-15 06:20:09
Local clock offset: 0.041 ms
Remote clock offset: -2.29 ms

# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.95 Mbit/s
95th percentile per-packet one-way delay: 16.533 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 15.785 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 19.881 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 11.203 ms
Loss rate: 3.40%
```
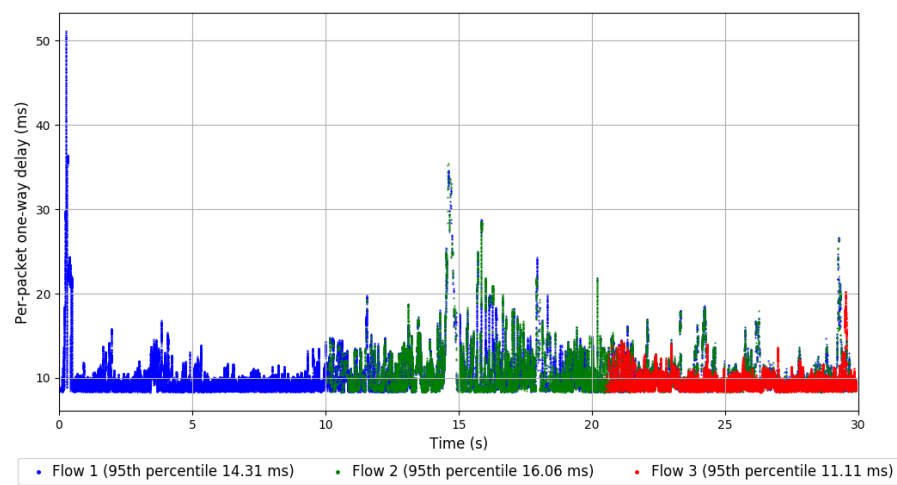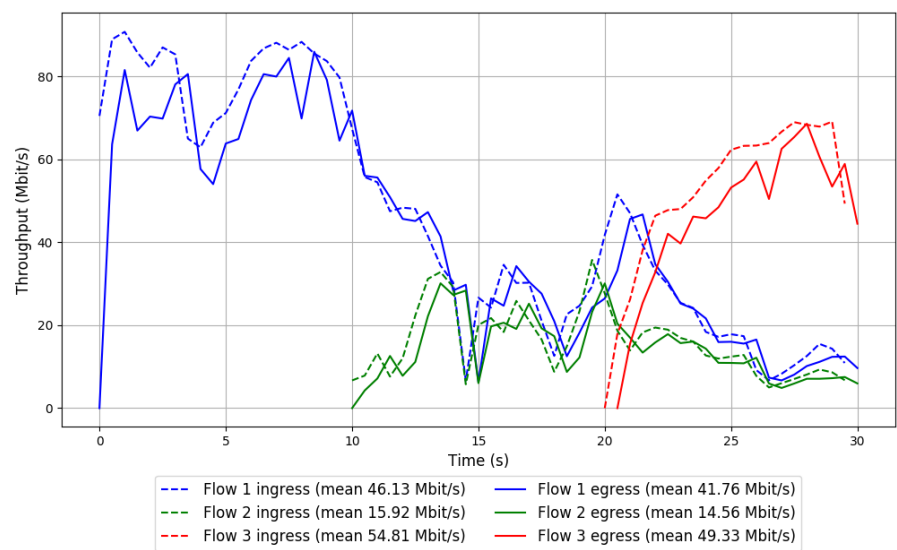
## Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-15 05:05:24
End at: 2018-11-15 05:05:54
Local clock offset: 2.616 ms
Remote clock offset: -1.528 ms


# Below is generated by plot.py at 2018-11-15 06:37:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 10.369 ms
Loss rate: 5.63%
-- Flow 1:
Average throughput: 9.77 Mbit/s
95th percentile per-packet one-way delay: 10.443 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 10.513 ms
Loss rate: 6.26%
-- Flow 3:
Average throughput: 9.12 Mbit/s
95th percentile per-packet one-way delay: 9.772 ms
Loss rate: 5.61%
```
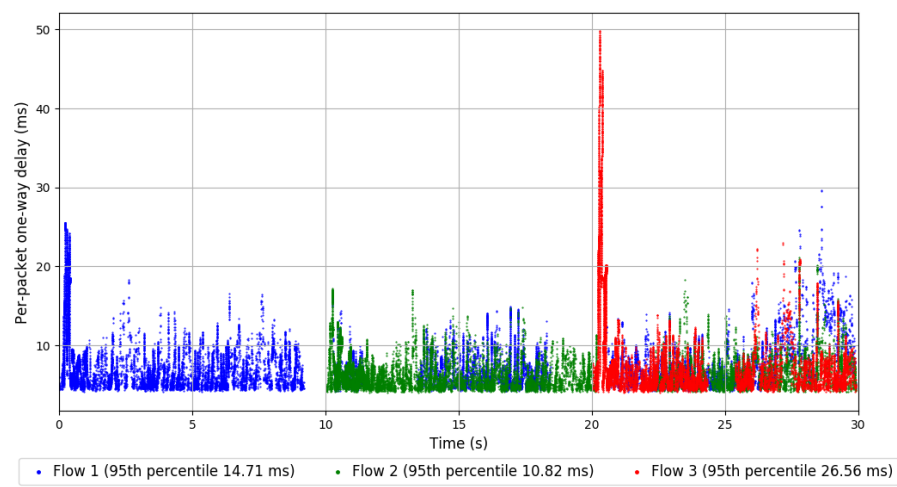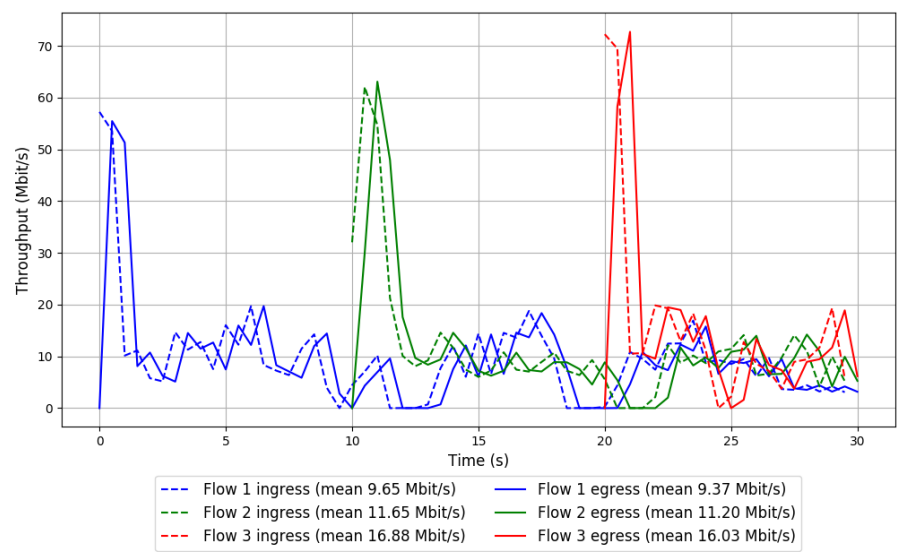
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-11-15 05:26:27
End at: 2018-11-15 05:26:57
Local clock offset: 0.809 ms
Remote clock offset: 0.563 ms

# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.96 Mbit/s
95th percentile per-packet one-way delay: 13.971 ms
Loss rate: 9.46%
-- Flow 1:
Average throughput: 41.76 Mbit/s
95th percentile per-packet one-way delay: 14.311 ms
Loss rate: 9.47%
-- Flow 2:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 16.058 ms
Loss rate: 8.55%
-- Flow 3:
Average throughput: 49.33 Mbit/s
95th percentile per-packet one-way delay: 11.111 ms
Loss rate: 10.01%
```
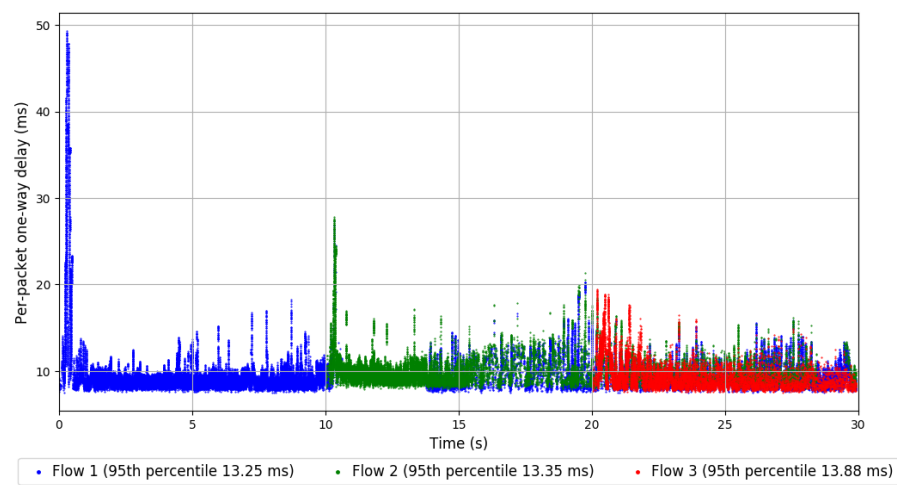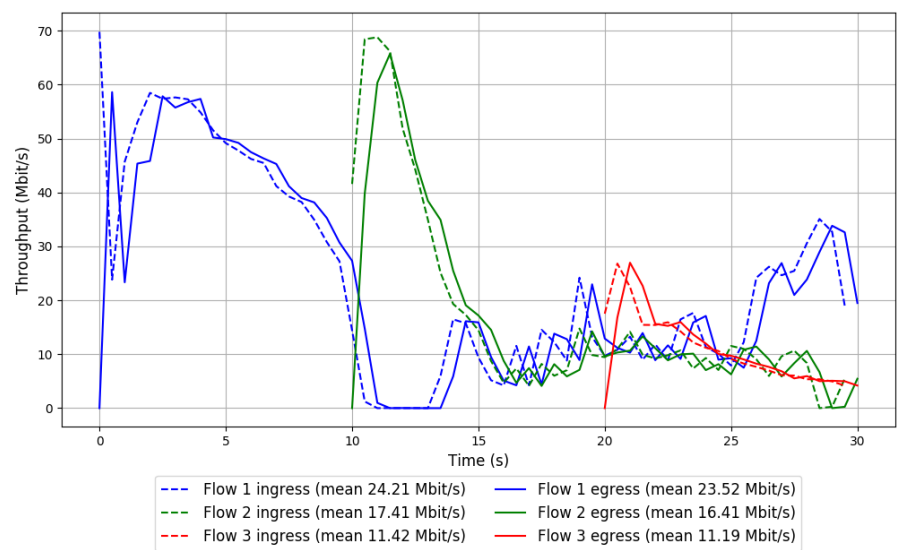
Run 2: Report of Indigo-Muses — Data Link



Flow 1 ingress (mean 46.13 Mbit/s)        Flow 1 egress (mean 41.76 Mbit/s)
Flow 2 ingress (mean 15.92 Mbit/s)        Flow 2 egress (mean 14.56 Mbit/s)
Flow 3 ingress (mean 54.81 Mbit/s)        Flow 3 egress (mean 49.33 Mbit/s)



Flow 1 (95th percentile 14.31 ms)        Flow 2 (95th percentile 16.06 ms)        Flow 3 (95th percentile 11.11 ms)

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-11-15 05:48:00
End at: 2018-11-15 05:48:30
Local clock offset: 4.139 ms
Remote clock offset: -2.077 ms


# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.12 Mbit/s
95th percentile per-packet one-way delay: 16.306 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 9.37 Mbit/s
95th percentile per-packet one-way delay: 14.711 ms
Loss rate: 2.89%
-- Flow 2:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 10.820 ms
Loss rate: 3.91%
-- Flow 3:
Average throughput: 16.03 Mbit/s
95th percentile per-packet one-way delay: 26.559 ms
Loss rate: 5.04%
```
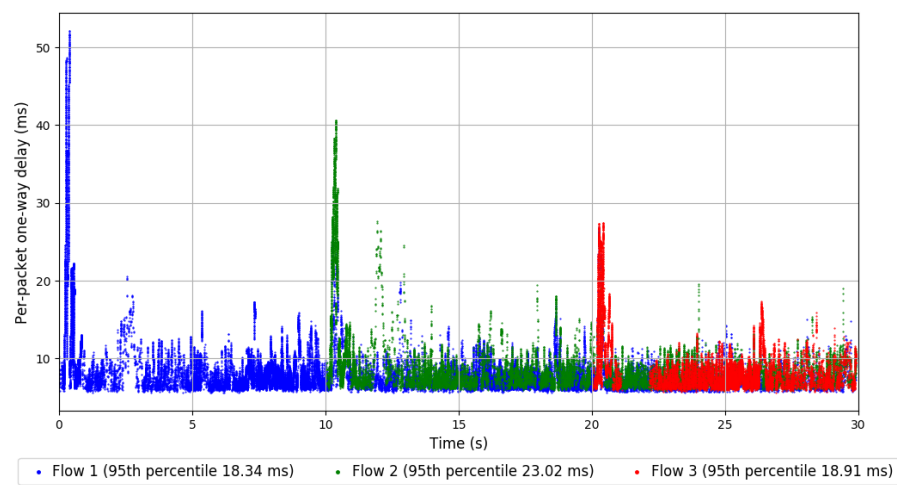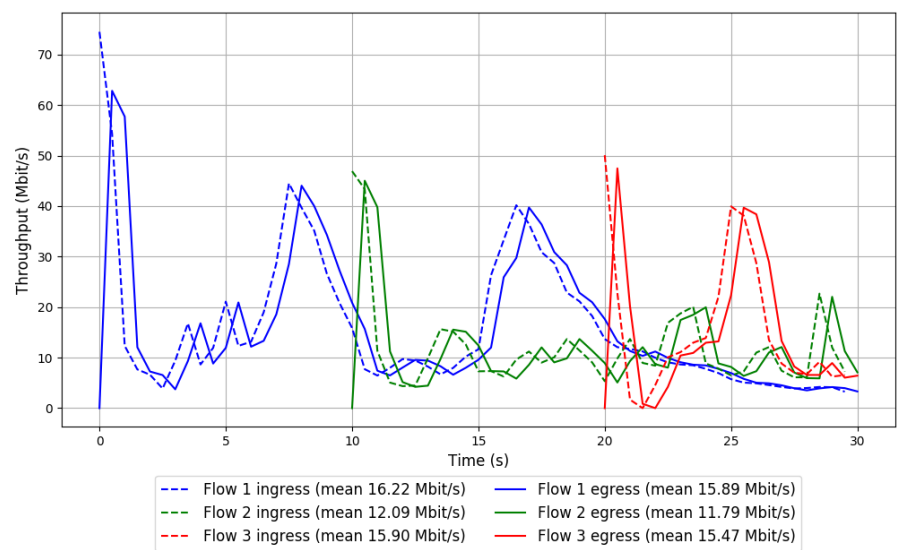
Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-11-15 06:09:13
End at: 2018-11-15 06:09:43
Local clock offset: 0.41 ms
Remote clock offset: -1.803 ms


# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.13 Mbit/s
95th percentile per-packet one-way delay: 13.369 ms
Loss rate: 3.64%
-- Flow 1:
Average throughput: 23.52 Mbit/s
95th percentile per-packet one-way delay: 13.248 ms
Loss rate: 2.87%
-- Flow 2:
Average throughput: 16.41 Mbit/s
95th percentile per-packet one-way delay: 13.351 ms
Loss rate: 5.76%
-- Flow 3:
Average throughput: 11.19 Mbit/s
95th percentile per-packet one-way delay: 13.882 ms
Loss rate: 2.05%
```
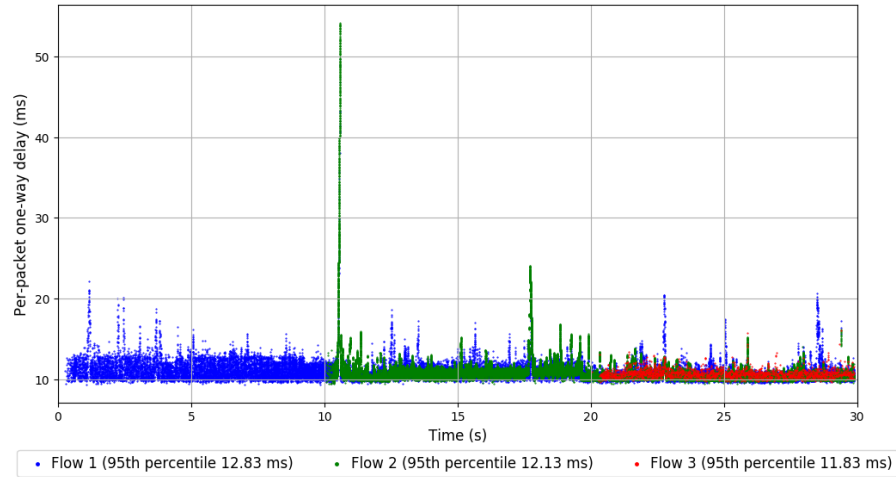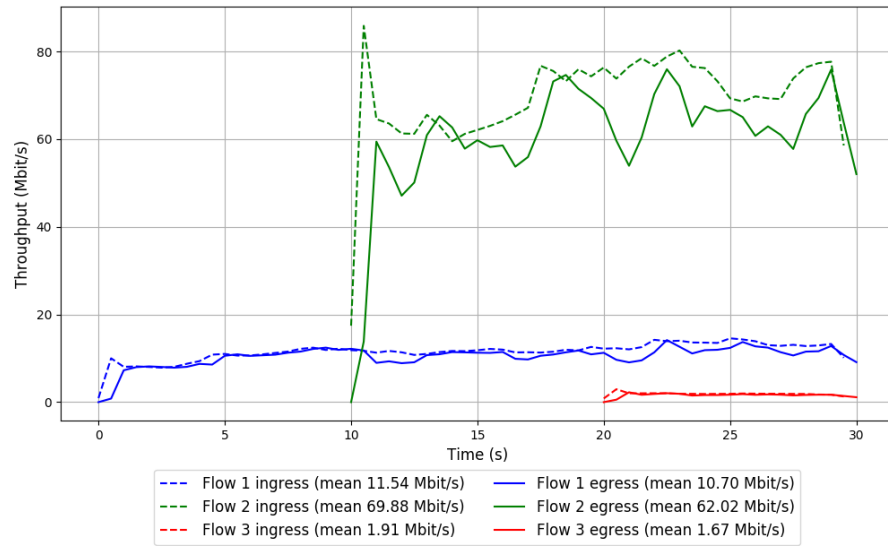
Run 4: Report of Indigo-Muses — Data Link



Flow 1 ingress (mean 24.21 Mbit/s)    Flow 1 egress (mean 23.52 Mbit/s)
Flow 2 ingress (mean 17.41 Mbit/s)    Flow 2 egress (mean 16.41 Mbit/s)
Flow 3 ingress (mean 11.42 Mbit/s)    Flow 3 egress (mean 11.19 Mbit/s)



Flow 1 (95th percentile 13.25 ms)    Flow 2 (95th percentile 13.35 ms)    Flow 3 (95th percentile 13.88 ms)

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-11-15 06:30:11
End at: 2018-11-15 06:30:41
Local clock offset: 2.022 ms
Remote clock offset: -2.083 ms

# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.84 Mbit/s
95th percentile per-packet one-way delay: 19.343 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 15.89 Mbit/s
95th percentile per-packet one-way delay: 18.341 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 23.022 ms
Loss rate: 2.46%
-- Flow 3:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 18.913 ms
Loss rate: 2.65%
```
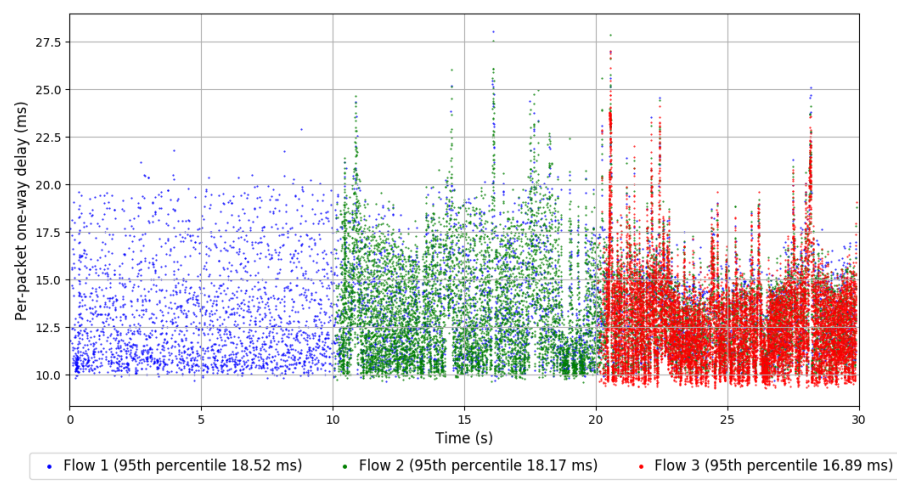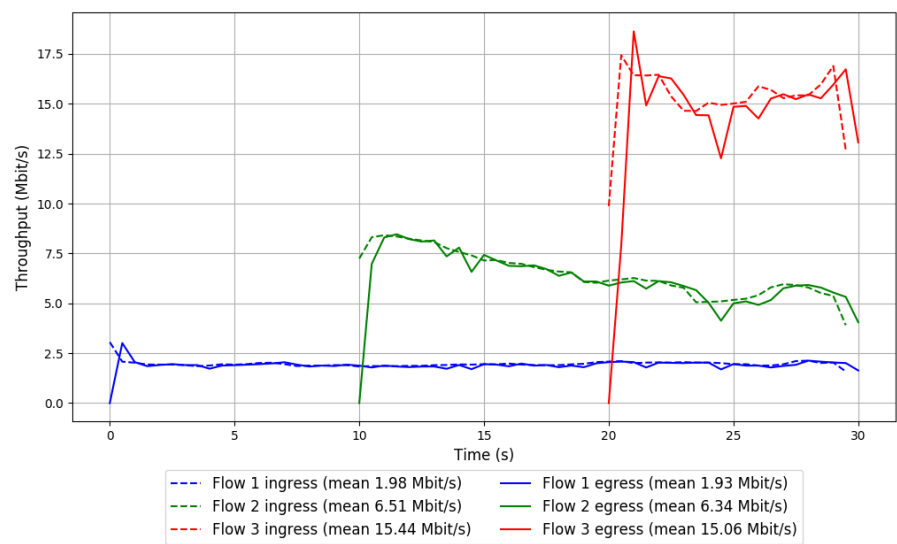
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-15 04:51:20
End at: 2018-11-15 04:51:50
Local clock offset: -0.354 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.86 Mbit/s
95th percentile per-packet one-way delay: 12.419 ms
Loss rate: 10.64%
-- Flow 1:
Average throughput: 10.70 Mbit/s
95th percentile per-packet one-way delay: 12.831 ms
Loss rate: 8.10%
-- Flow 2:
Average throughput: 62.02 Mbit/s
95th percentile per-packet one-way delay: 12.134 ms
Loss rate: 11.25%
-- Flow 3:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 11.830 ms
Loss rate: 12.64%
```

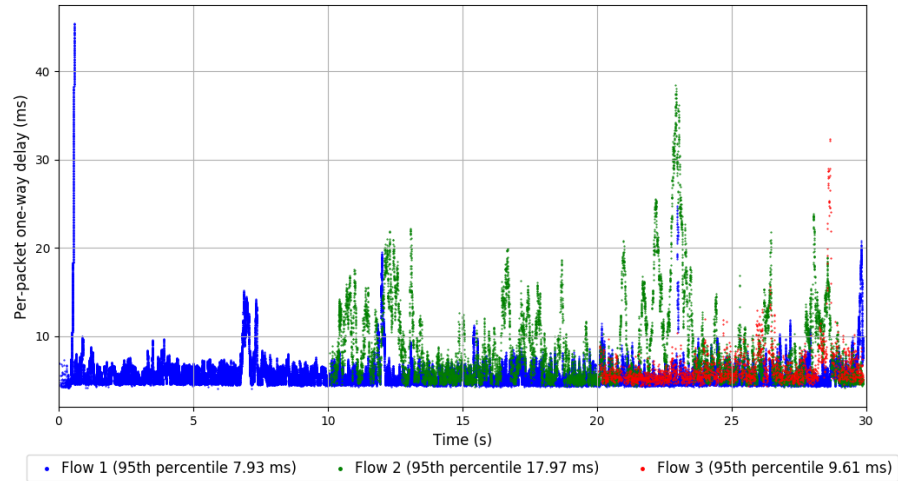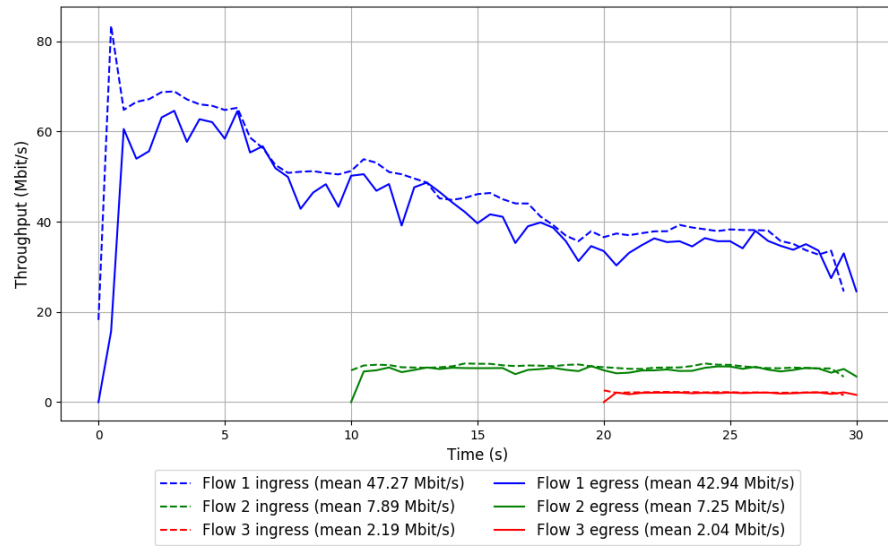Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-11-15 05:12:28
End at: 2018-11-15 05:12:58
Local clock offset: -0.184 ms
Remote clock offset: 0.147 ms


# Below is generated by plot.py at 2018-11-15 06:38:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.13 Mbit/s
95th percentile per-packet one-way delay: 17.940 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 18.517 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 18.174 ms
Loss rate: 2.47%
-- Flow 3:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 16.893 ms
Loss rate: 2.46%
```
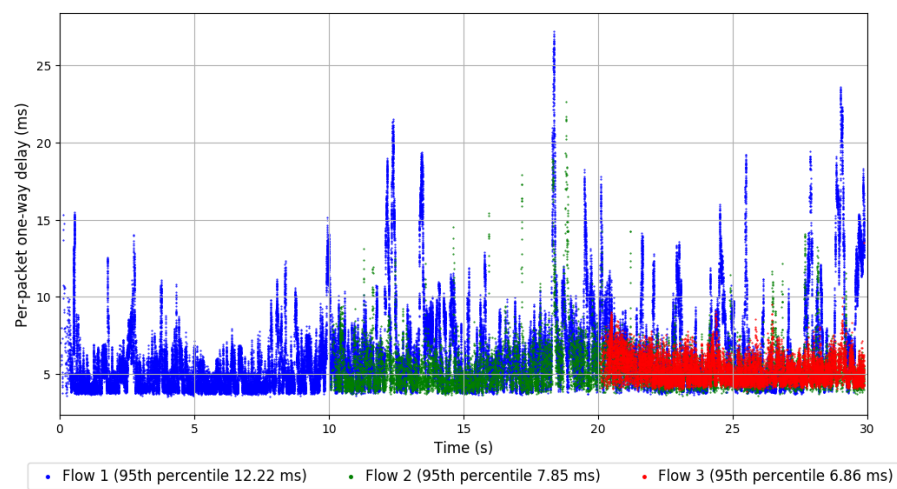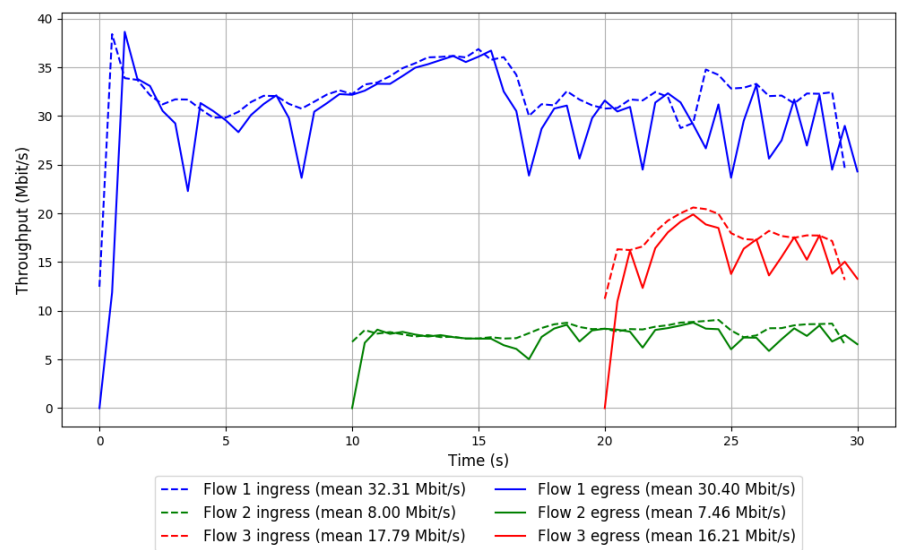
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-11-15 05:33:48
End at: 2018-11-15 05:34:18
Local clock offset: 4.214 ms
Remote clock offset: -0.895 ms


# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.43 Mbit/s
95th percentile per-packet one-way delay: 10.564 ms
Loss rate: 9.02%
-- Flow 1:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 7.931 ms
Loss rate: 9.15%
-- Flow 2:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 17.971 ms
Loss rate: 8.15%
-- Flow 3:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 9.606 ms
Loss rate: 6.82%
```
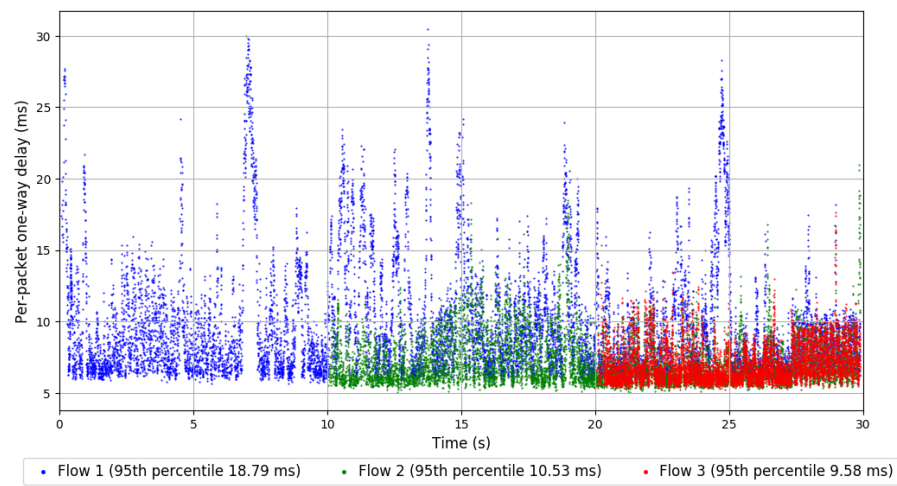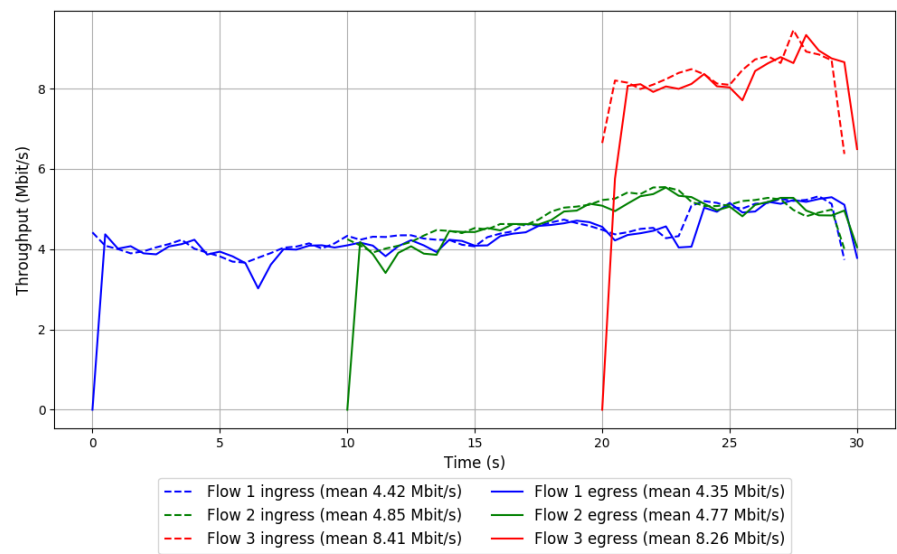
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-11-15 05:54:59
End at: 2018-11-15 05:55:29
Local clock offset: 5.089 ms
Remote clock offset: -1.906 ms


# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.71 Mbit/s
95th percentile per-packet one-way delay: 11.208 ms
Loss rate: 6.40%
-- Flow 1:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 12.221 ms
Loss rate: 5.90%
-- Flow 2:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 7.853 ms
Loss rate: 6.77%
-- Flow 3:
Average throughput: 16.21 Mbit/s
95th percentile per-packet one-way delay: 6.861 ms
Loss rate: 8.80%
```
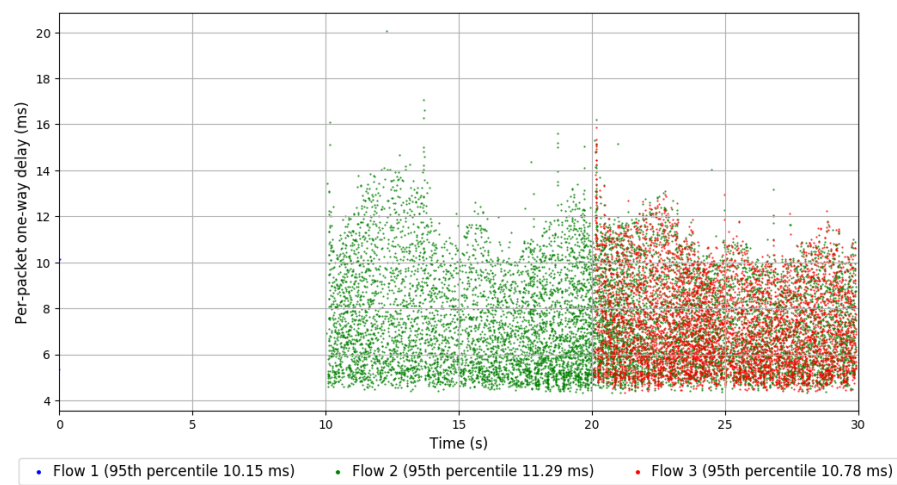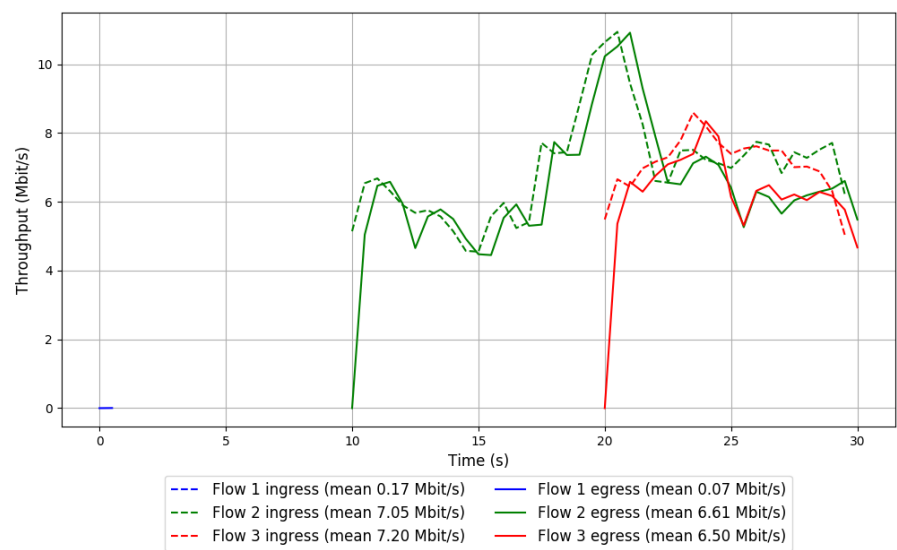
## Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-11-15 06:16:15
End at: 2018-11-15 06:16:45
Local clock offset: 3.106 ms
Remote clock offset: -1.014 ms


# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 14.900 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 18.790 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 10.527 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 8.26 Mbit/s
95th percentile per-packet one-way delay: 9.579 ms
Loss rate: 1.72%
```
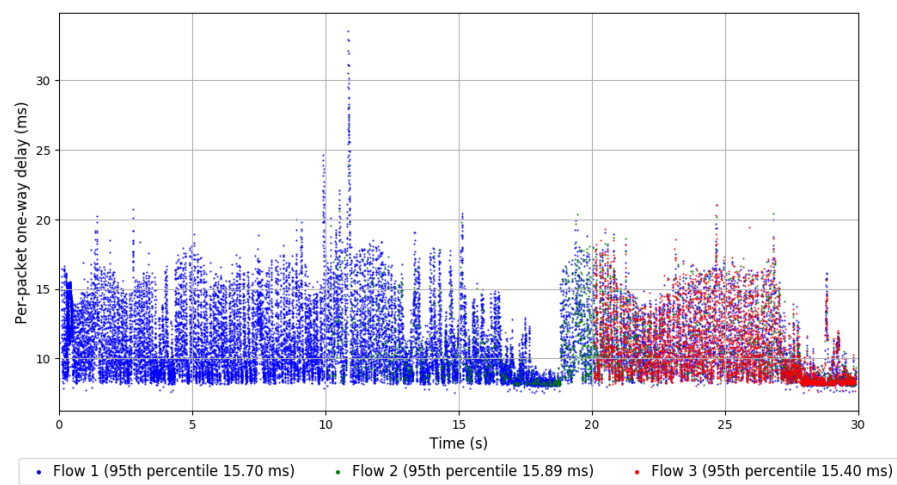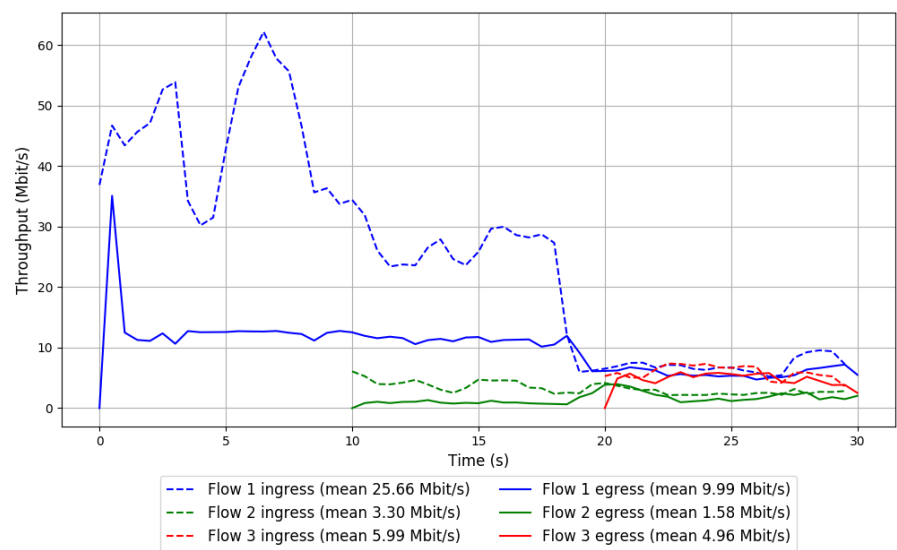
# Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-15 04:49:07
End at: 2018-11-15 04:49:37
Local clock offset: 1.876 ms
Remote clock offset: -3.099 ms

# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 11.125 ms
Loss rate: 7.32%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 10.152 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 11.292 ms
Loss rate: 6.15%
-- Flow 3:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 10.780 ms
Loss rate: 9.63%
```
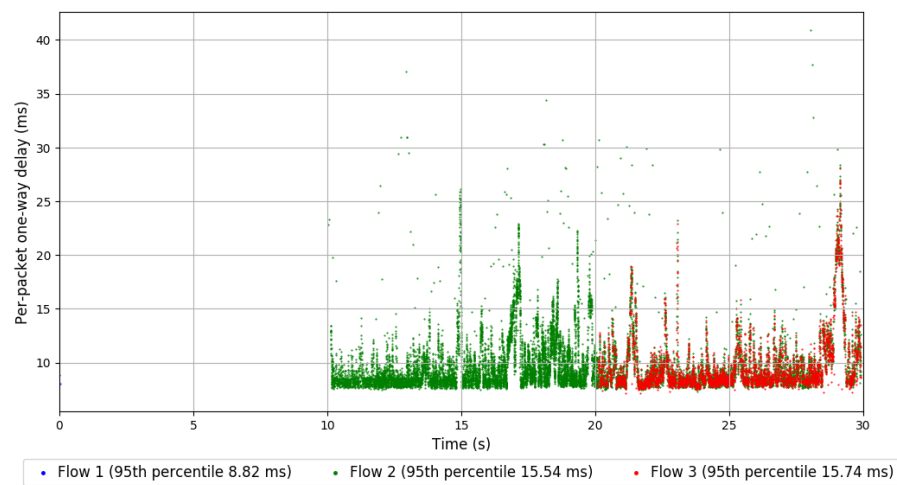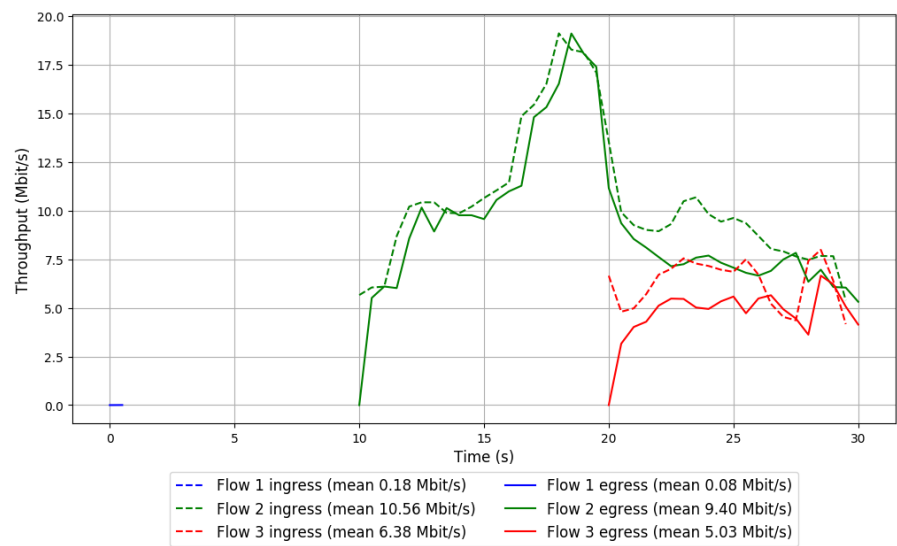
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-11-15 05:10:14
End at: 2018-11-15 05:10:44
Local clock offset: 0.221 ms
Remote clock offset: -1.046 ms

# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 15.685 ms
Loss rate: 57.48%
-- Flow 1:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 15.702 ms
Loss rate: 61.05%
-- Flow 2:
Average throughput: 1.58 Mbit/s
95th percentile per-packet one-way delay: 15.890 ms
Loss rate: 51.95%
-- Flow 3:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 15.405 ms
Loss rate: 17.33%
```
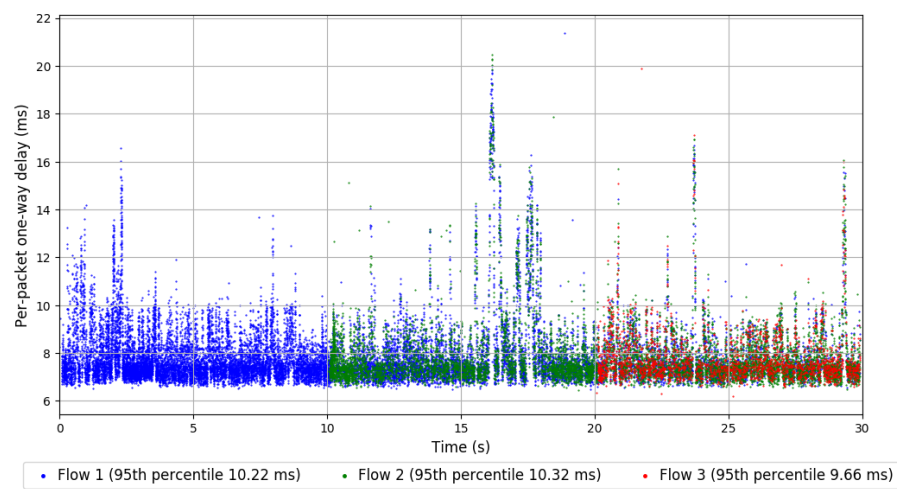
## Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-11-15 05:31:33
End at: 2018-11-15 05:32:03
Local clock offset: 1.592 ms
Remote clock offset: -0.163 ms

# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.91 Mbit/s
95th percentile per-packet one-way delay: 15.552 ms
Loss rate: 13.33%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 8.825 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 15.537 ms
Loss rate: 11.00%
-- Flow 3:
Average throughput: 5.03 Mbit/s
95th percentile per-packet one-way delay: 15.745 ms
Loss rate: 21.11%
```

Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-11-15 05:52:45
End at: 2018-11-15 05:53:15
Local clock offset: 3.172 ms
Remote clock offset: -1.102 ms


# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 10.166 ms
Loss rate: 22.03%
-- Flow 1:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 10.216 ms
Loss rate: 21.62%
-- Flow 2:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 10.324 ms
Loss rate: 23.26%
-- Flow 3:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 9.664 ms
Loss rate: 20.39%
```
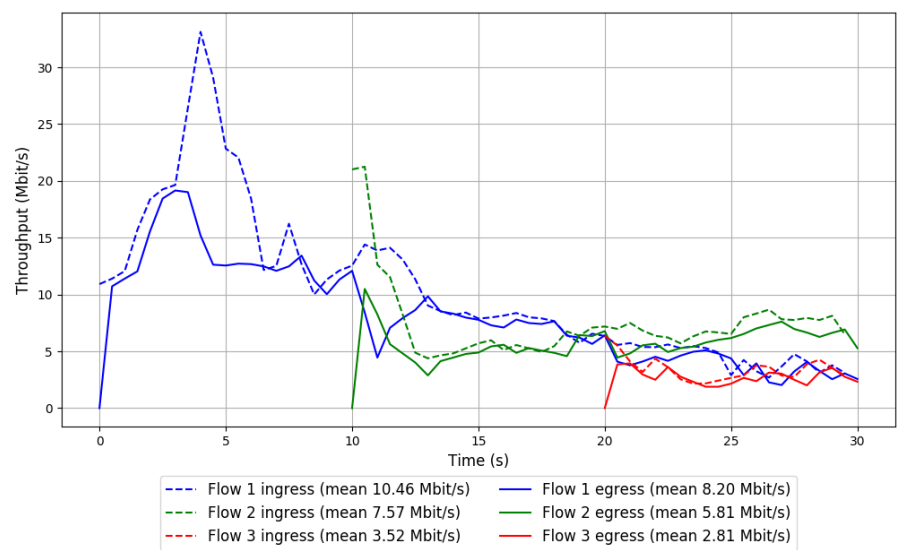
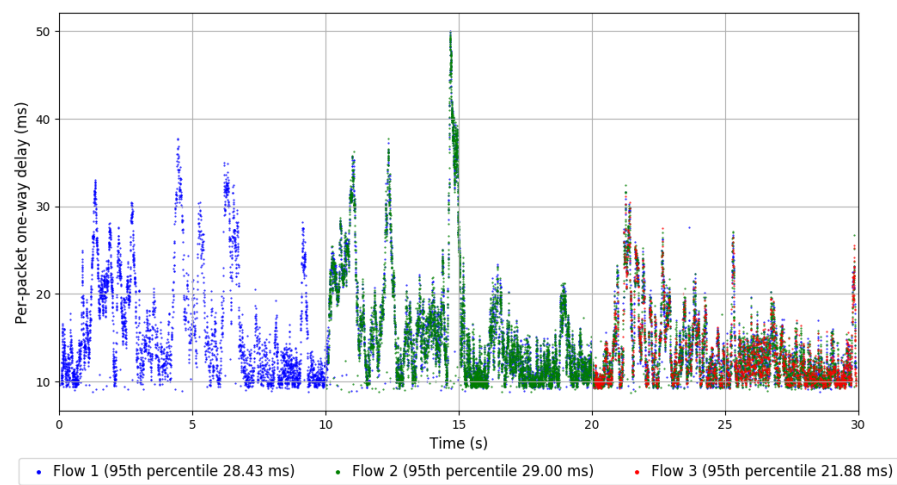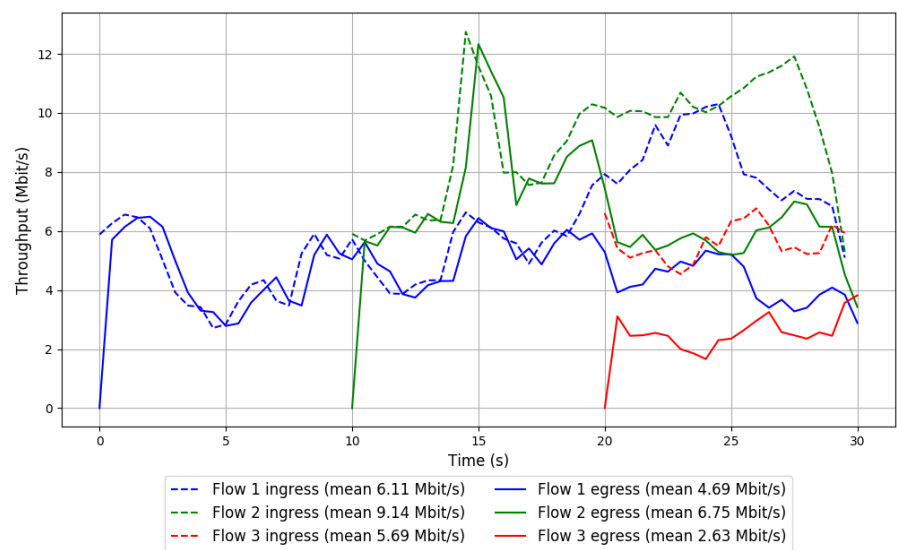Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-11-15 06:14:00
End at: 2018-11-15 06:14:31
Local clock offset: -0.246 ms
Remote clock offset: -1.006 ms


# Below is generated by plot.py at 2018-11-15 06:38:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.04 Mbit/s
95th percentile per-packet one-way delay: 27.774 ms
Loss rate: 28.62%
-- Flow 1:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 28.429 ms
Loss rate: 23.34%
-- Flow 2:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 28.995 ms
Loss rate: 26.13%
-- Flow 3:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 21.879 ms
Loss rate: 53.81%
```
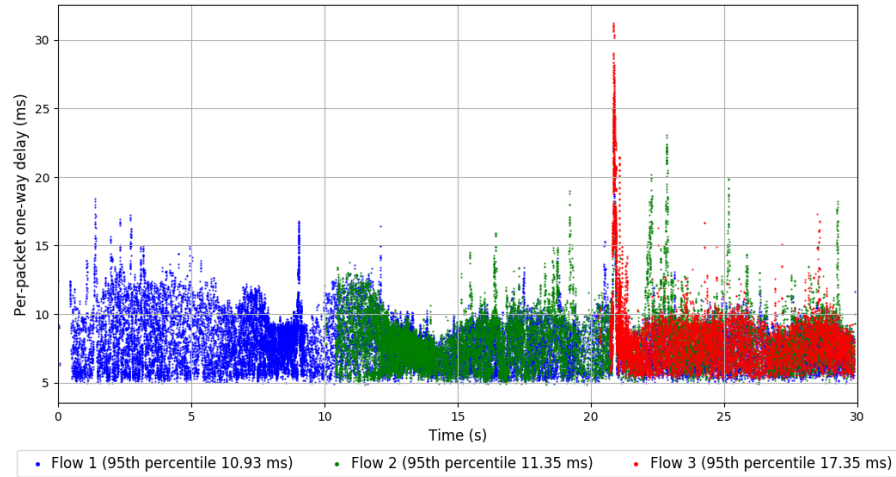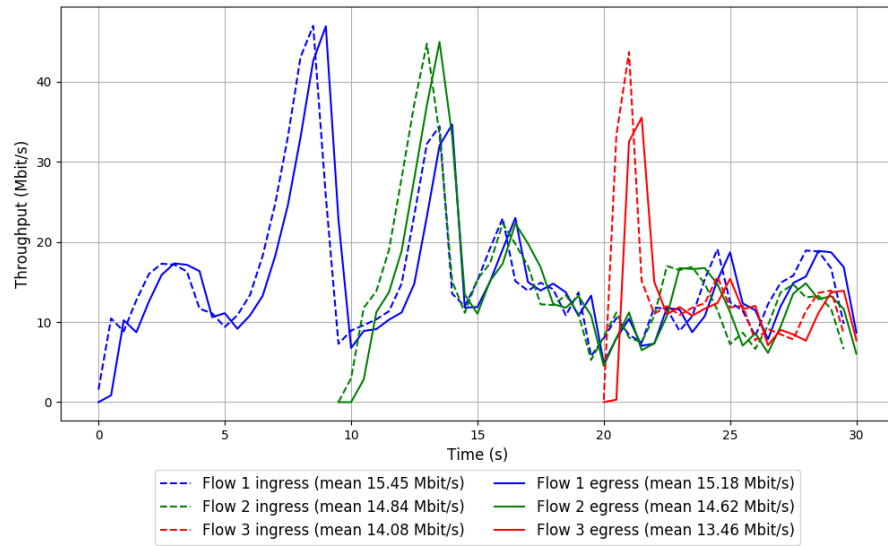
## Run 5: Report of PCC-Expr — Data Link



Flow 1 ingress (mean 6.11 Mbit/s) — Flow 1 egress (mean 4.69 Mbit/s)
Flow 2 ingress (mean 9.14 Mbit/s) — Flow 2 egress (mean 6.75 Mbit/s)
Flow 3 ingress (mean 5.69 Mbit/s) — Flow 3 egress (mean 2.63 Mbit/s)



Flow 1 (95th percentile 28.43 ms)     Flow 2 (95th percentile 29.00 ms)     Flow 3 (95th percentile 21.88 ms)
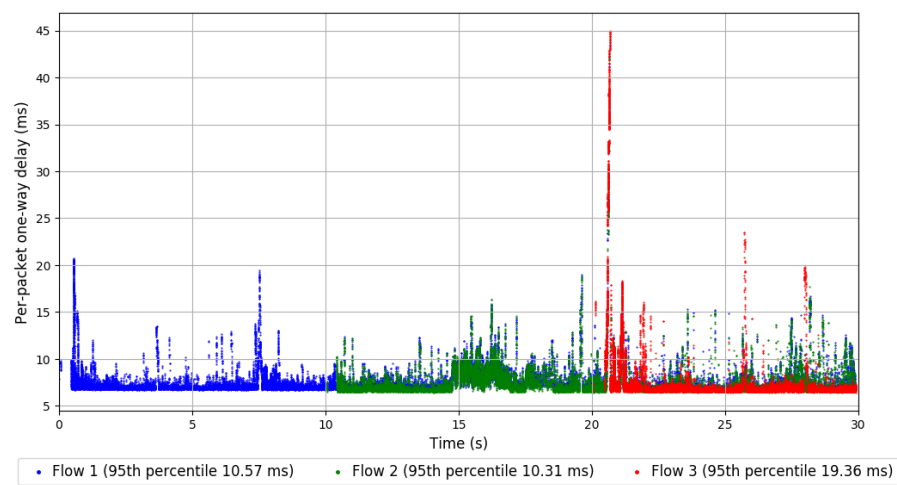
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-11-15 05:04:15
End at: 2018-11-15 05:04:45
Local clock offset: 3.111 ms
Remote clock offset: -0.856 ms

# Below is generated by plot.py at 2018-11-15 06:38:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.24 Mbit/s
95th percentile per-packet one-way delay: 11.396 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 15.18 Mbit/s
95th percentile per-packet one-way delay: 10.930 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 14.62 Mbit/s
95th percentile per-packet one-way delay: 11.354 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 13.46 Mbit/s
95th percentile per-packet one-way delay: 17.351 ms
Loss rate: 4.39%
```

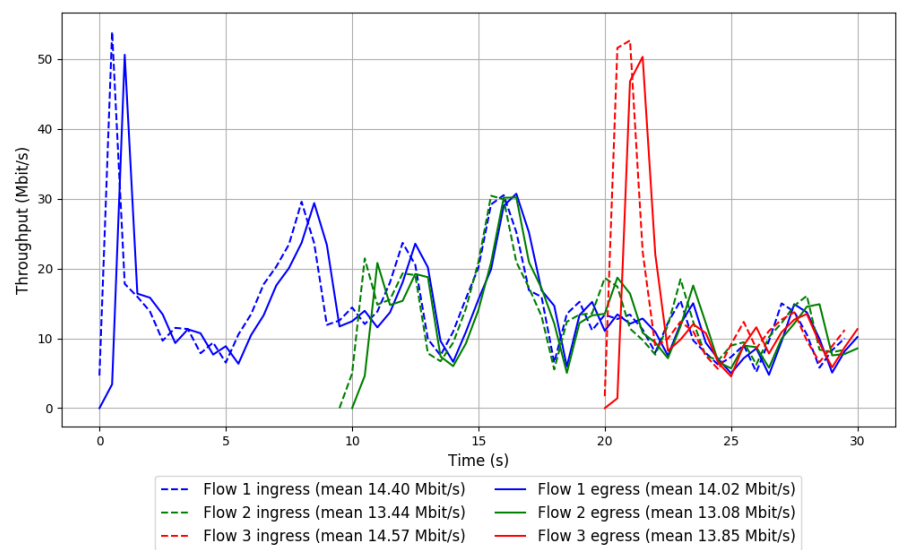Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-11-15 05:25:18
End at: 2018-11-15 05:25:48
Local clock offset: 1.321 ms
Remote clock offset: -0.436 ms


# Below is generated by plot.py at 2018-11-15 06:38:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.29 Mbit/s
95th percentile per-packet one-way delay: 11.328 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 14.02 Mbit/s
95th percentile per-packet one-way delay: 10.572 ms
Loss rate: 2.62%
-- Flow 2:
Average throughput: 13.08 Mbit/s
95th percentile per-packet one-way delay: 10.309 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 13.85 Mbit/s
95th percentile per-packet one-way delay: 19.357 ms
Loss rate: 5.00%
```
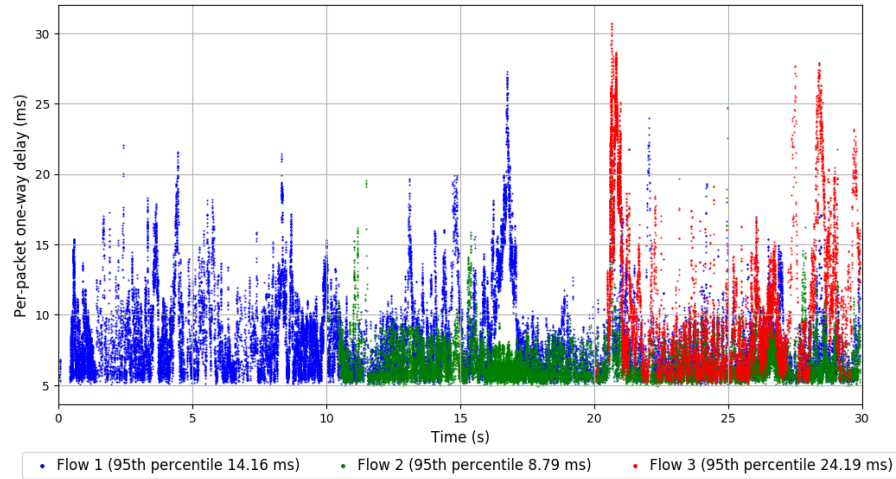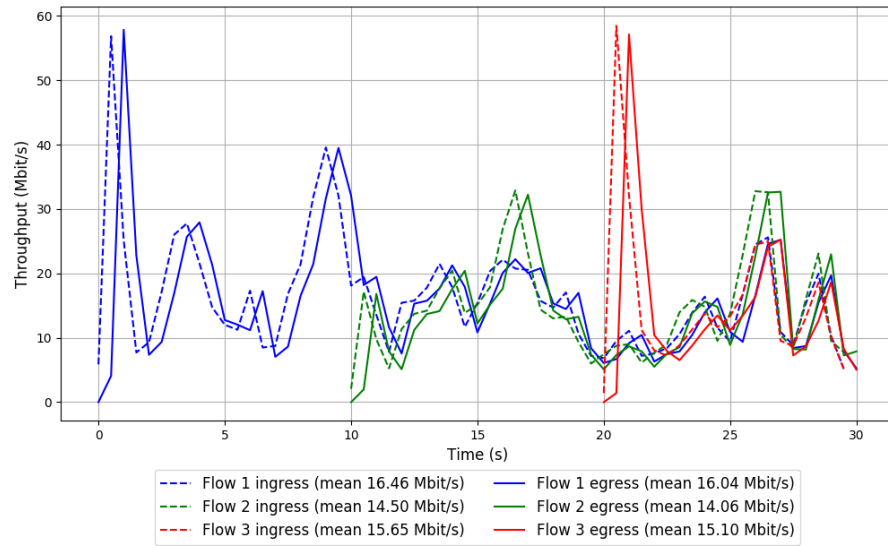
Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 14.40 Mbit/s) ——— Flow 1 egress (mean 14.02 Mbit/s)
- - - Flow 2 ingress (mean 13.44 Mbit/s) ——— Flow 2 egress (mean 13.08 Mbit/s)
- - - Flow 3 ingress (mean 14.57 Mbit/s) ——— Flow 3 egress (mean 13.85 Mbit/s)

• Flow 1 (95th percentile 10.57 ms)    • Flow 2 (95th percentile 10.31 ms)    • Flow 3 (95th percentile 19.36 ms)
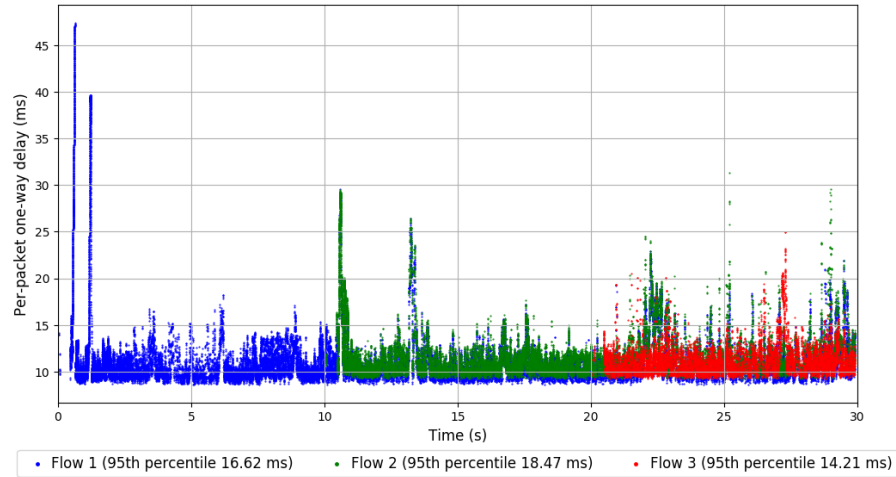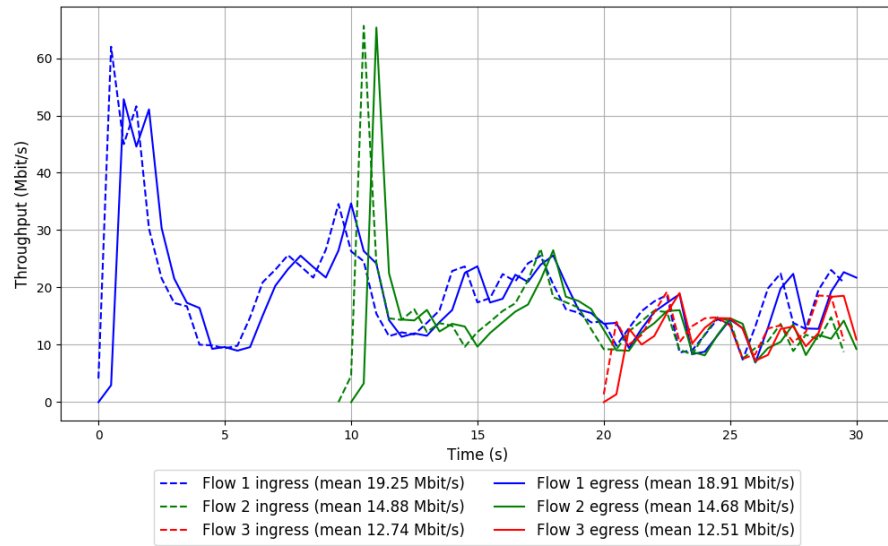
```
Run 3: Statistics of QUIC Cubic

Start at: 2018-11-15 05:46:51
End at: 2018-11-15 05:47:21
Local clock offset: 4.404 ms
Remote clock offset: -0.825 ms


# Below is generated by plot.py at 2018-11-15 06:38:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.36 Mbit/s
95th percentile per-packet one-way delay: 15.828 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 16.04 Mbit/s
95th percentile per-packet one-way delay: 14.163 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 14.06 Mbit/s
95th percentile per-packet one-way delay: 8.787 ms
Loss rate: 3.03%
-- Flow 3:
Average throughput: 15.10 Mbit/s
95th percentile per-packet one-way delay: 24.188 ms
Loss rate: 3.51%
```
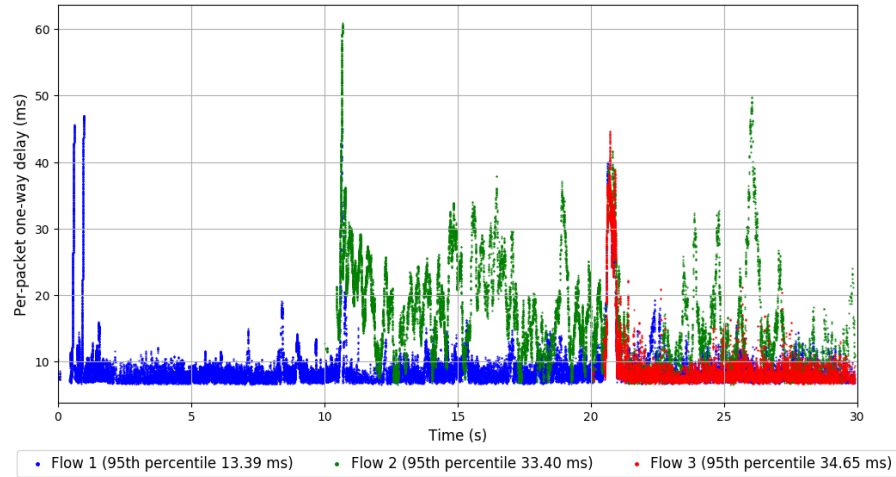
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-11-15 06:08:03
End at: 2018-11-15 06:08:33
Local clock offset: 0.045 ms
Remote clock offset: -0.938 ms


# Below is generated by plot.py at 2018-11-15 06:38:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.80 Mbit/s
95th percentile per-packet one-way delay: 17.039 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 18.91 Mbit/s
95th percentile per-packet one-way delay: 16.622 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 14.68 Mbit/s
95th percentile per-packet one-way delay: 18.466 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 14.215 ms
Loss rate: 1.79%
```

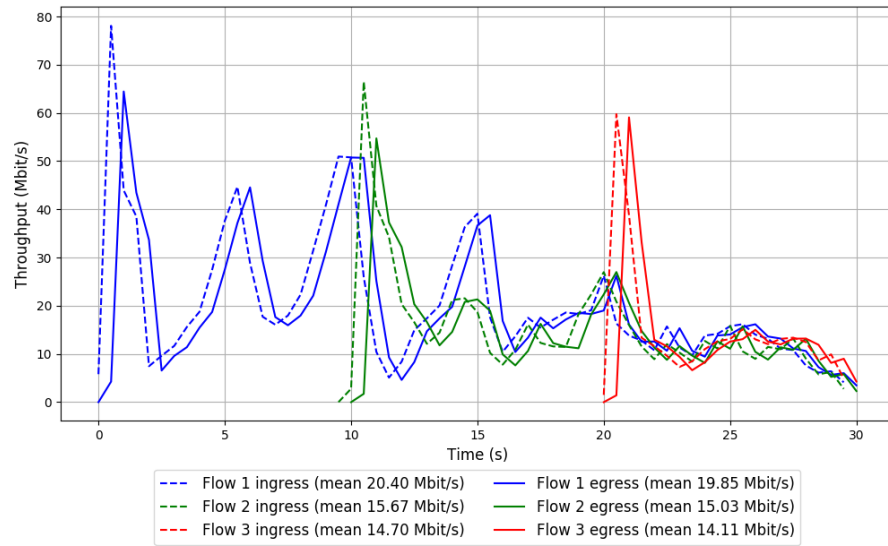Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-11-15 06:29:02
End at: 2018-11-15 06:29:32
Local clock offset: 1.978 ms
Remote clock offset: -1.434 ms


# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.50 Mbit/s
95th percentile per-packet one-way delay: 29.458 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 19.85 Mbit/s
95th percentile per-packet one-way delay: 13.394 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 15.03 Mbit/s
95th percentile per-packet one-way delay: 33.396 ms
Loss rate: 4.09%
-- Flow 3:
Average throughput: 14.11 Mbit/s
95th percentile per-packet one-way delay: 34.652 ms
Loss rate: 4.01%
```
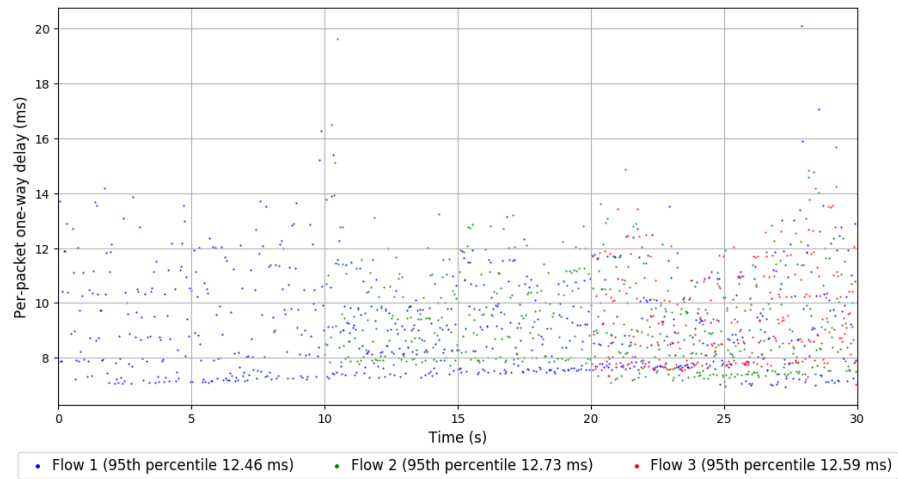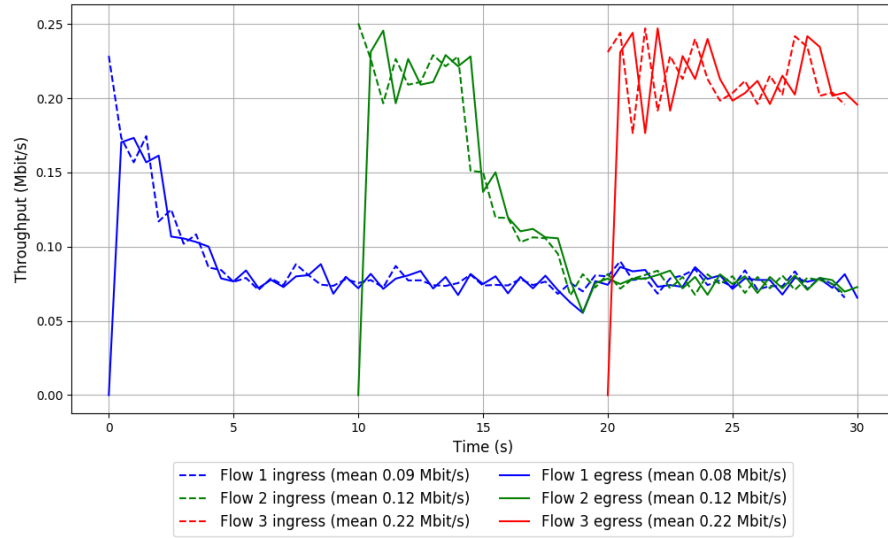
Run 5: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 20.40 Mbit/s)    Flow 1 egress (mean 19.85 Mbit/s)
Flow 2 ingress (mean 15.67 Mbit/s)    Flow 2 egress (mean 15.03 Mbit/s)
Flow 3 ingress (mean 14.70 Mbit/s)    Flow 3 egress (mean 14.11 Mbit/s)



Flow 1 (95th percentile 13.39 ms)    Flow 2 (95th percentile 33.40 ms)    Flow 3 (95th percentile 34.65 ms)
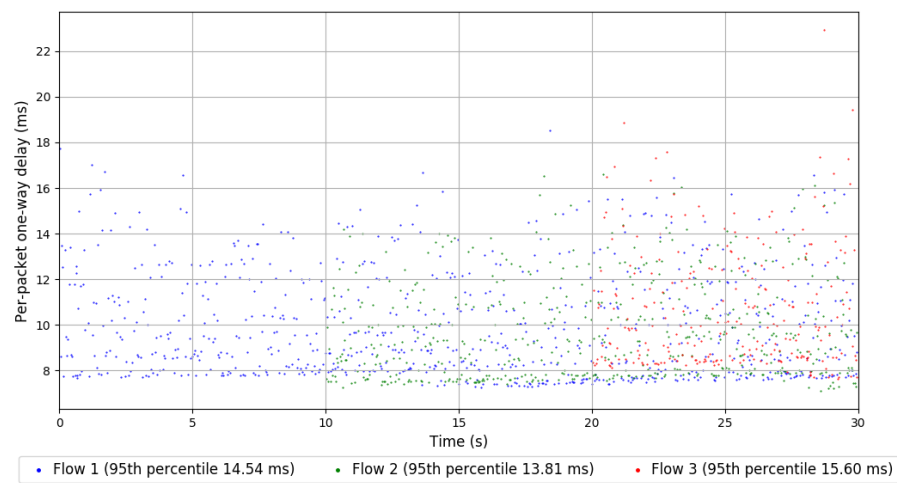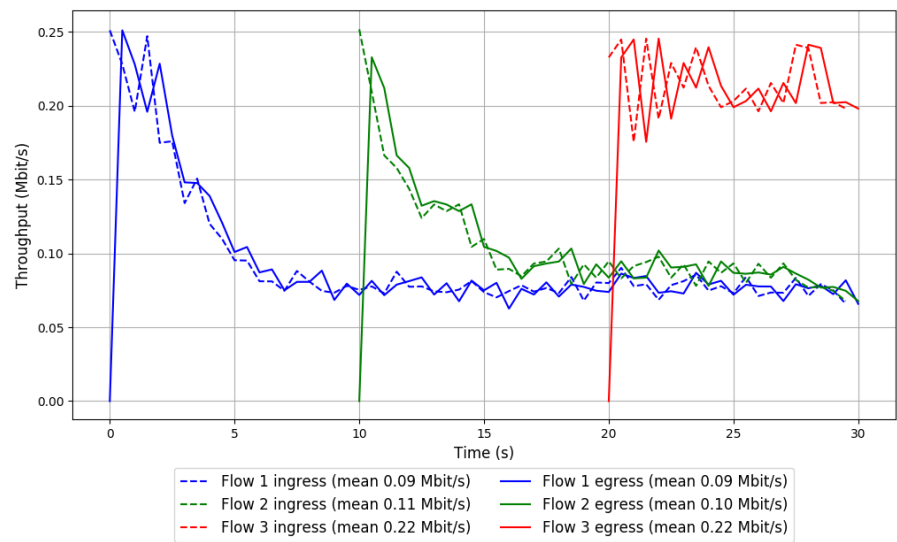
```
Run 1: Statistics of SCReAM

Start at: 2018-11-15 04:50:14
End at: 2018-11-15 04:50:44
Local clock offset: 0.959 ms
Remote clock offset: -1.11 ms

# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 12.623 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 12.458 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 12.726 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 12.586 ms
Loss rate: 0.00%
```
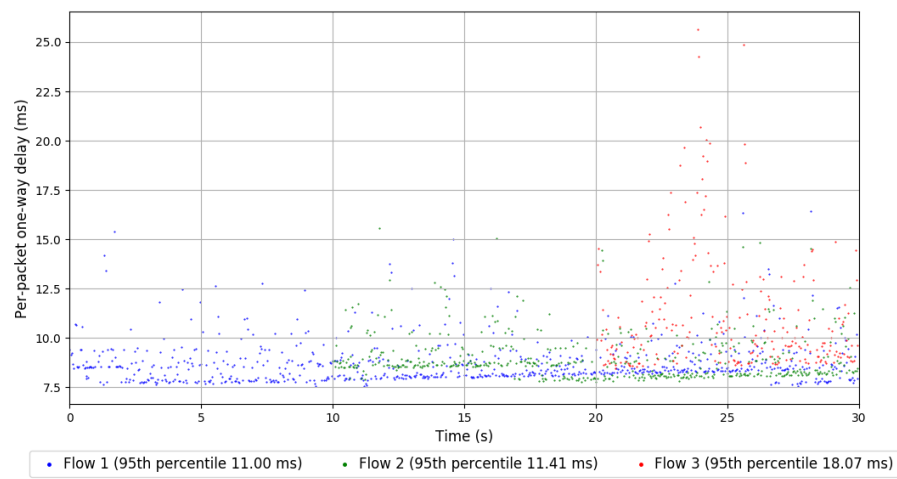
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-11-15 05:11:22
End at: 2018-11-15 05:11:52
Local clock offset: 1.449 ms
Remote clock offset: -0.438 ms


# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 14.528 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 14.538 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 13.815 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 15.602 ms
Loss rate: 0.00%
```
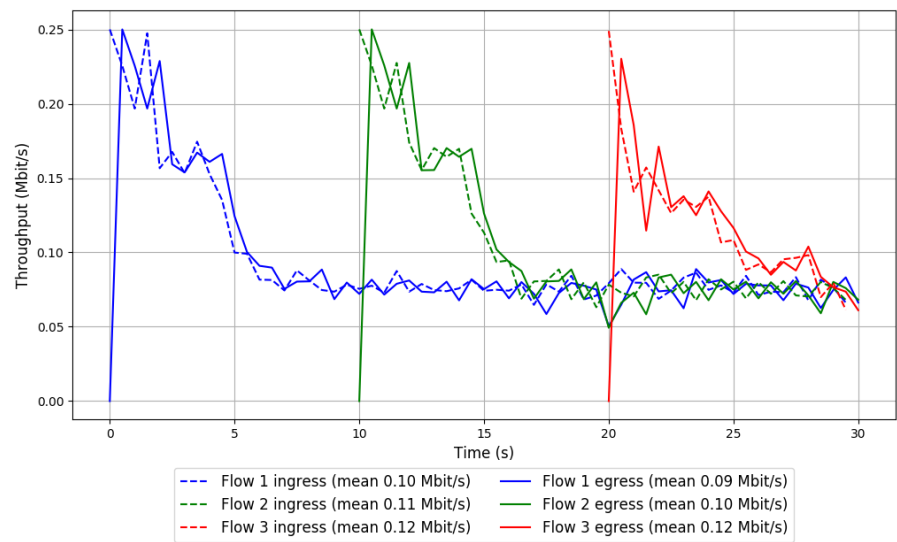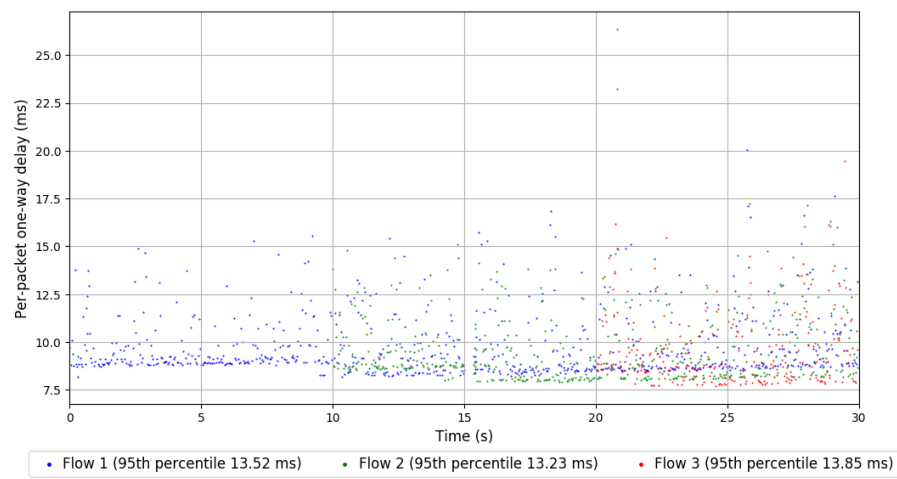
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-11-15 05:32:41
End at: 2018-11-15 05:33:11
Local clock offset: 1.441 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 12.851 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 11.001 ms
Loss rate: 1.72%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 11.412 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 18.065 ms
Loss rate: 1.79%
```
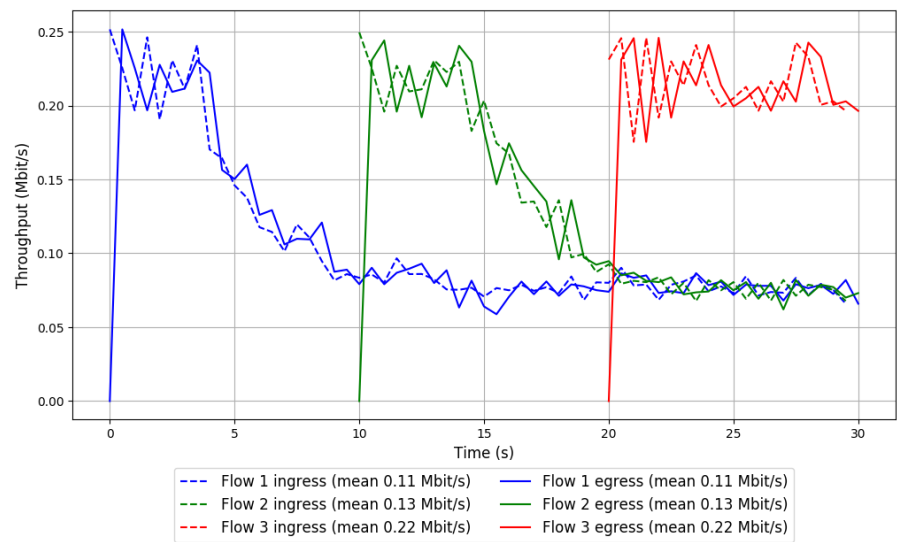
## Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-11-15 05:53:53
End at: 2018-11-15 05:54:23
Local clock offset: 1.293 ms
Remote clock offset: -1.467 ms


# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 13.553 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 13.524 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 13.232 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.852 ms
Loss rate: 0.00%
```
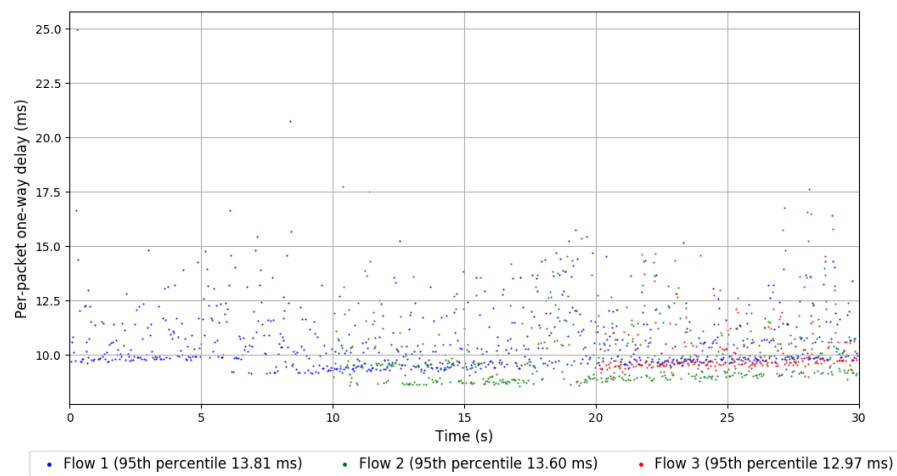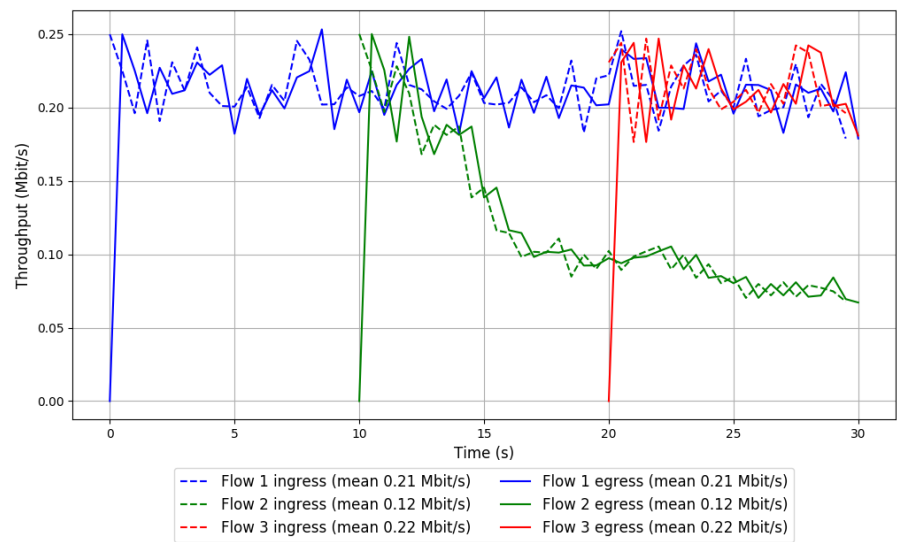
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-11-15 06:15:08
End at: 2018-11-15 06:15:38
Local clock offset: -0.518 ms
Remote clock offset: -1.417 ms

# Below is generated by plot.py at 2018-11-15 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 13.627 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 13.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 13.596 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 12.973 ms
Loss rate: 0.36%
```
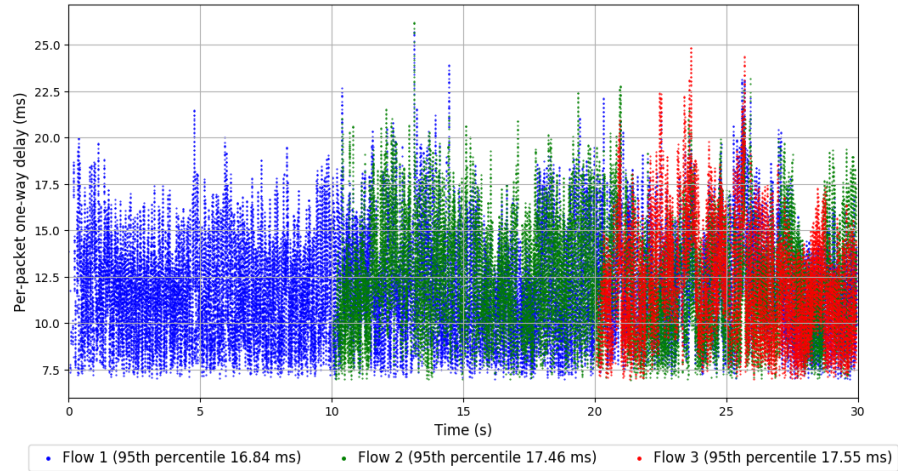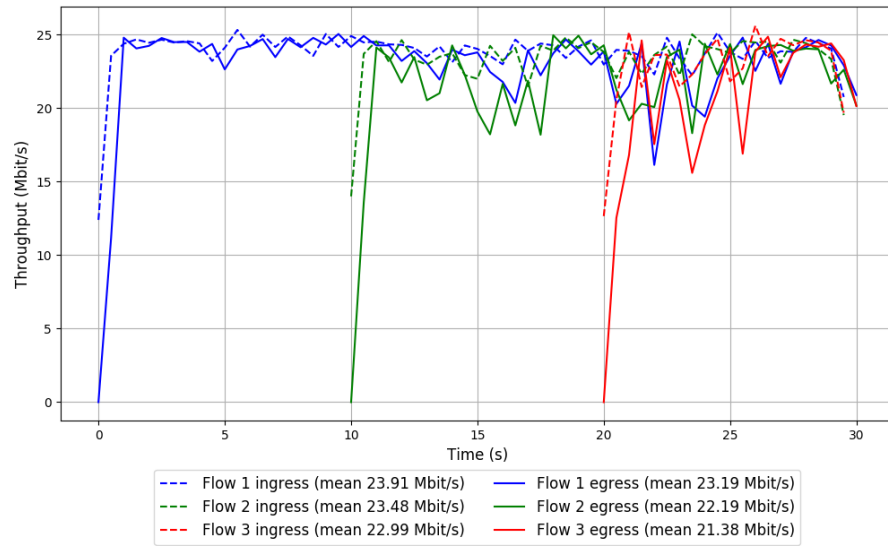
# Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-11-15 04:56:00
End at: 2018-11-15 04:56:30
Local clock offset: 0.429 ms
Remote clock offset: -2.088 ms


# Below is generated by plot.py at 2018-11-15 06:38:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.03 Mbit/s
95th percentile per-packet one-way delay: 17.172 ms
Loss rate: 4.47%
-- Flow 1:
Average throughput: 23.19 Mbit/s
95th percentile per-packet one-way delay: 16.836 ms
Loss rate: 3.01%
-- Flow 2:
Average throughput: 22.19 Mbit/s
95th percentile per-packet one-way delay: 17.456 ms
Loss rate: 5.47%
-- Flow 3:
Average throughput: 21.38 Mbit/s
95th percentile per-packet one-way delay: 17.552 ms
Loss rate: 6.99%
```
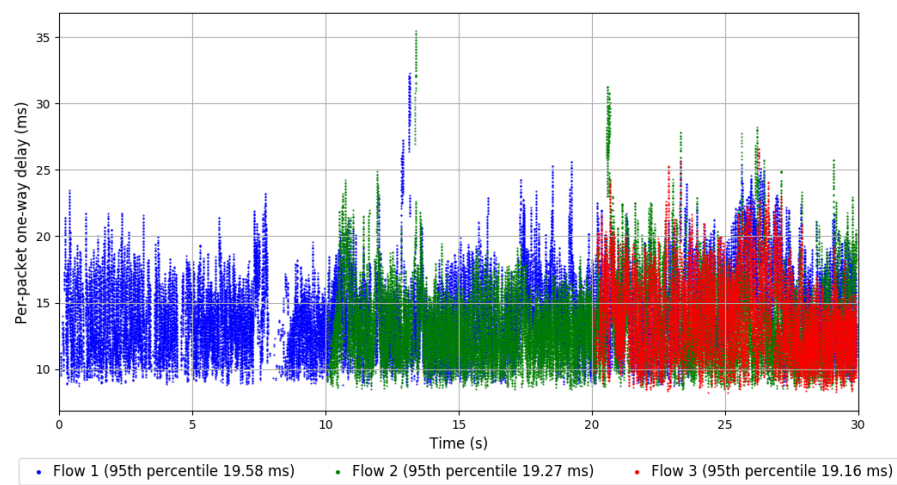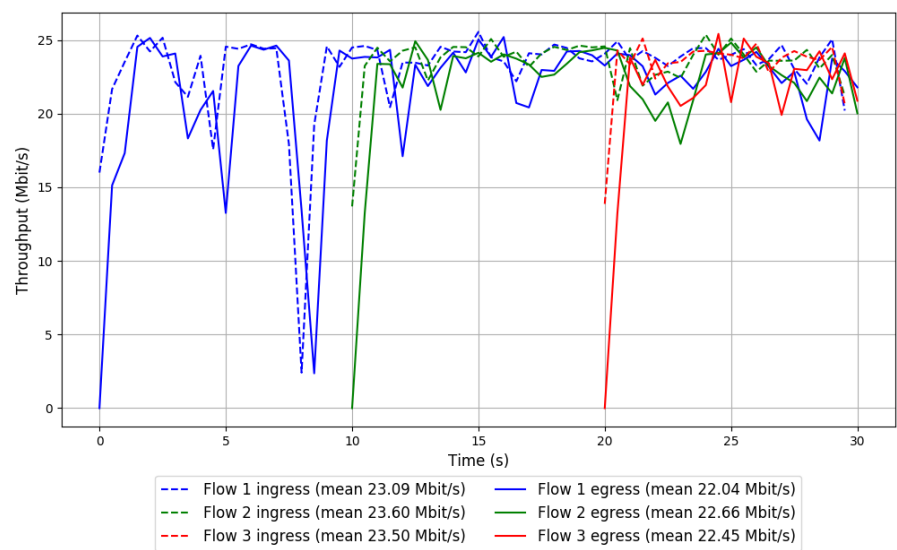
Run 1: Report of Sprout — Data Link



Flow 1 ingress (mean 23.91 Mbit/s)    Flow 1 egress (mean 23.19 Mbit/s)
Flow 2 ingress (mean 23.48 Mbit/s)    Flow 2 egress (mean 22.19 Mbit/s)
Flow 3 ingress (mean 22.99 Mbit/s)    Flow 3 egress (mean 21.38 Mbit/s)



Flow 1 (95th percentile 16.84 ms)    Flow 2 (95th percentile 17.46 ms)    Flow 3 (95th percentile 17.55 ms)

```
Run 2: Statistics of Sprout

Start at: 2018-11-15 05:17:02
End at: 2018-11-15 05:17:32
Local clock offset: -0.627 ms
Remote clock offset: -1.253 ms


# Below is generated by plot.py at 2018-11-15 06:38:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.54 Mbit/s
95th percentile per-packet one-way delay: 19.412 ms
Loss rate: 4.34%
-- Flow 1:
Average throughput: 22.04 Mbit/s
95th percentile per-packet one-way delay: 19.579 ms
Loss rate: 4.57%
-- Flow 2:
Average throughput: 22.66 Mbit/s
95th percentile per-packet one-way delay: 19.273 ms
Loss rate: 3.96%
-- Flow 3:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 19.165 ms
Loss rate: 4.42%
```
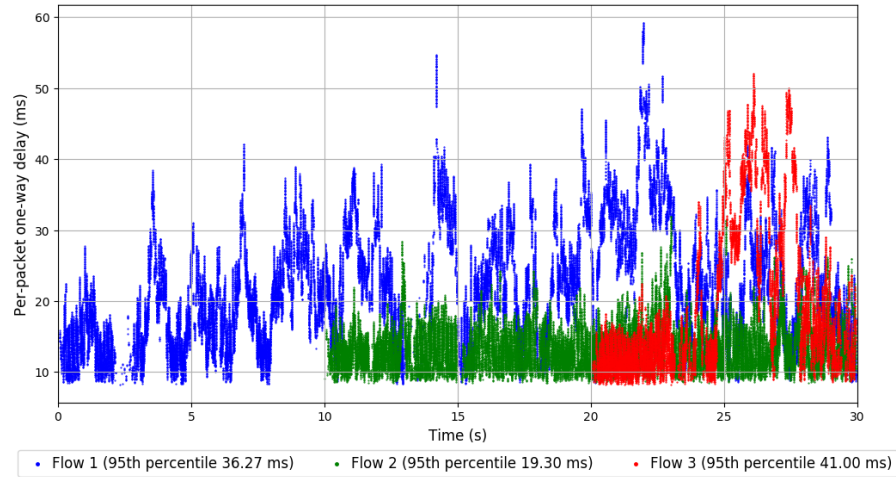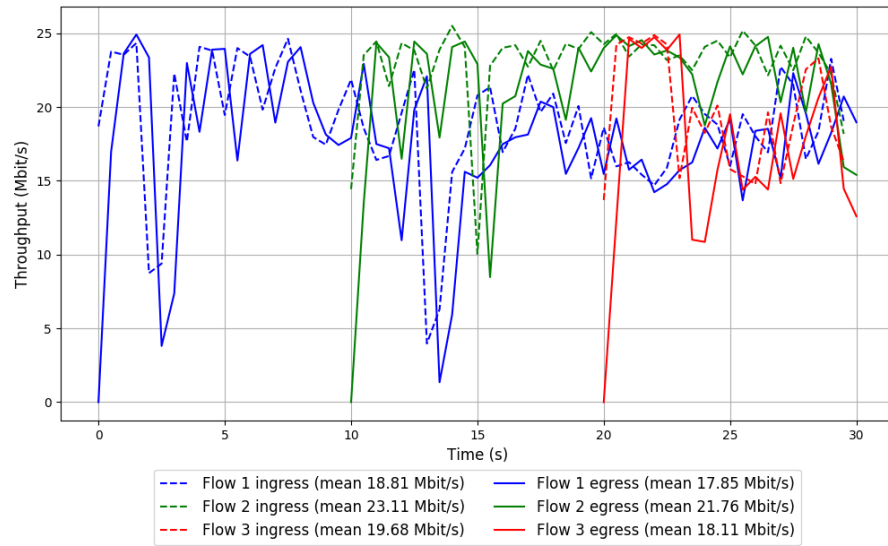
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-11-15 05:38:27
End at: 2018-11-15 05:38:57
Local clock offset: 0.09 ms
Remote clock offset: -1.297 ms


# Below is generated by plot.py at 2018-11-15 06:38:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.33 Mbit/s
95th percentile per-packet one-way delay: 35.045 ms
Loss rate: 5.80%
-- Flow 1:
Average throughput: 17.85 Mbit/s
95th percentile per-packet one-way delay: 36.268 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 21.76 Mbit/s
95th percentile per-packet one-way delay: 19.305 ms
Loss rate: 5.79%
-- Flow 3:
Average throughput: 18.11 Mbit/s
95th percentile per-packet one-way delay: 41.004 ms
Loss rate: 7.87%
```
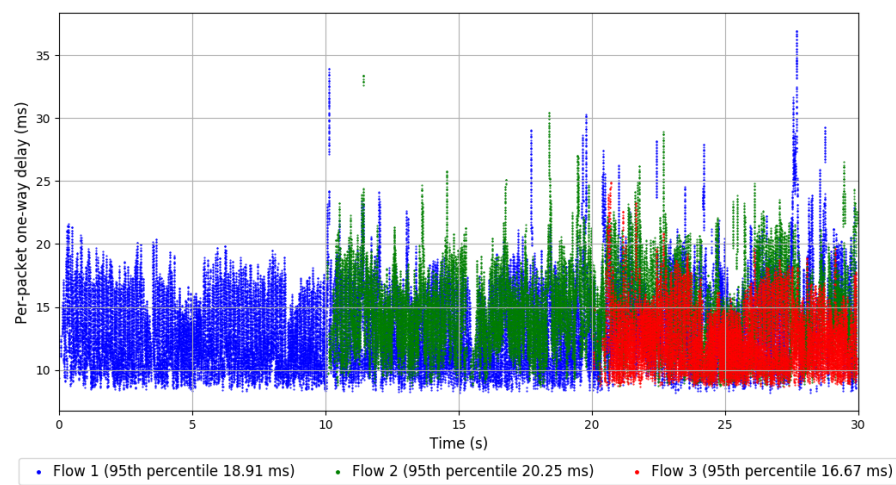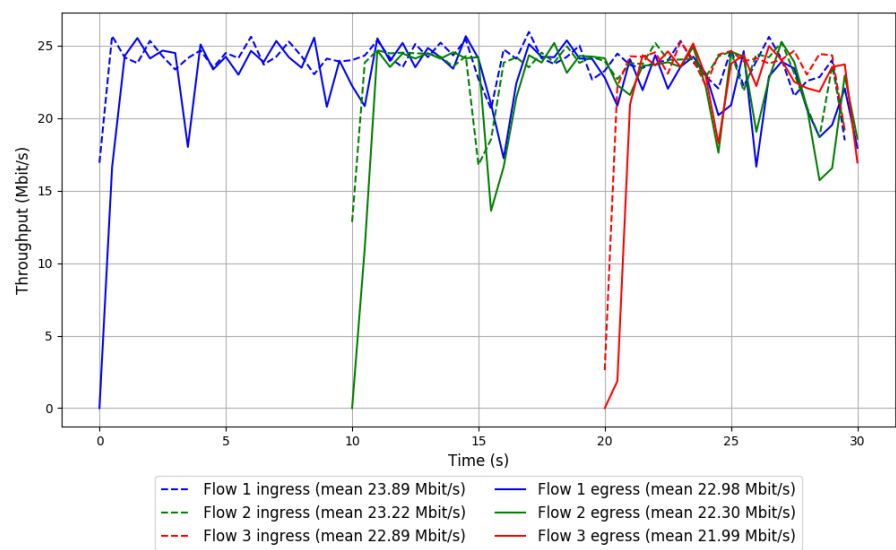
# Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-11-15 05:59:32
End at: 2018-11-15 06:00:02
Local clock offset: 0.215 ms
Remote clock offset: -1.948 ms


# Below is generated by plot.py at 2018-11-15 06:39:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.08 Mbit/s
95th percentile per-packet one-way delay: 19.302 ms
Loss rate: 3.86%
-- Flow 1:
Average throughput: 22.98 Mbit/s
95th percentile per-packet one-way delay: 18.912 ms
Loss rate: 3.79%
-- Flow 2:
Average throughput: 22.30 Mbit/s
95th percentile per-packet one-way delay: 20.247 ms
Loss rate: 3.91%
-- Flow 3:
Average throughput: 21.99 Mbit/s
95th percentile per-packet one-way delay: 16.669 ms
Loss rate: 3.93%
```
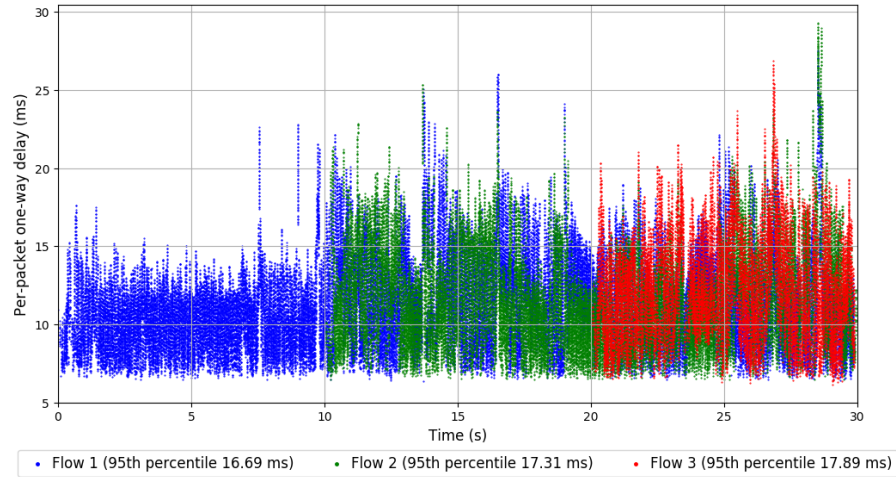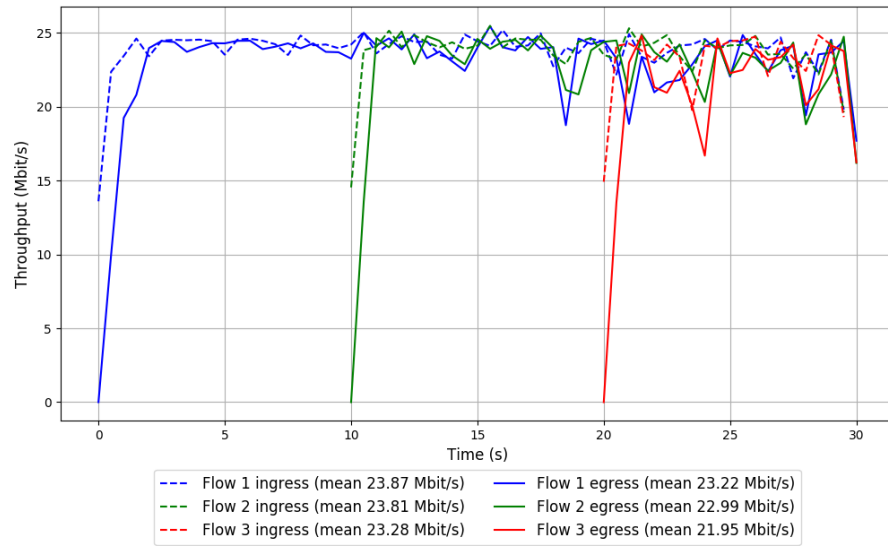
# Run 4: Report of Sprout — Data Link



Flow 1 ingress (mean 23.89 Mbit/s)     Flow 1 egress (mean 22.98 Mbit/s)
Flow 2 ingress (mean 23.22 Mbit/s)     Flow 2 egress (mean 22.30 Mbit/s)
Flow 3 ingress (mean 22.89 Mbit/s)     Flow 3 egress (mean 21.99 Mbit/s)



Flow 1 (95th percentile 18.91 ms)     Flow 2 (95th percentile 20.25 ms)     Flow 3 (95th percentile 16.67 ms)

```
Run 5: Statistics of Sprout

Start at: 2018-11-15 06:20:47
End at: 2018-11-15 06:21:17
Local clock offset: 2.234 ms
Remote clock offset: -1.206 ms


# Below is generated by plot.py at 2018-11-15 06:39:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 17.178 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 23.22 Mbit/s
95th percentile per-packet one-way delay: 16.689 ms
Loss rate: 2.88%
-- Flow 2:
Average throughput: 22.99 Mbit/s
95th percentile per-packet one-way delay: 17.307 ms
Loss rate: 3.39%
-- Flow 3:
Average throughput: 21.95 Mbit/s
95th percentile per-packet one-way delay: 17.886 ms
Loss rate: 6.03%
```
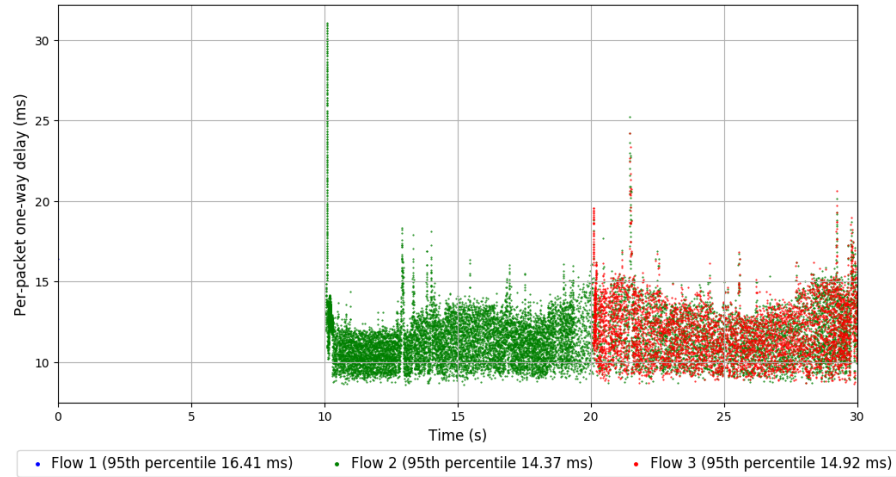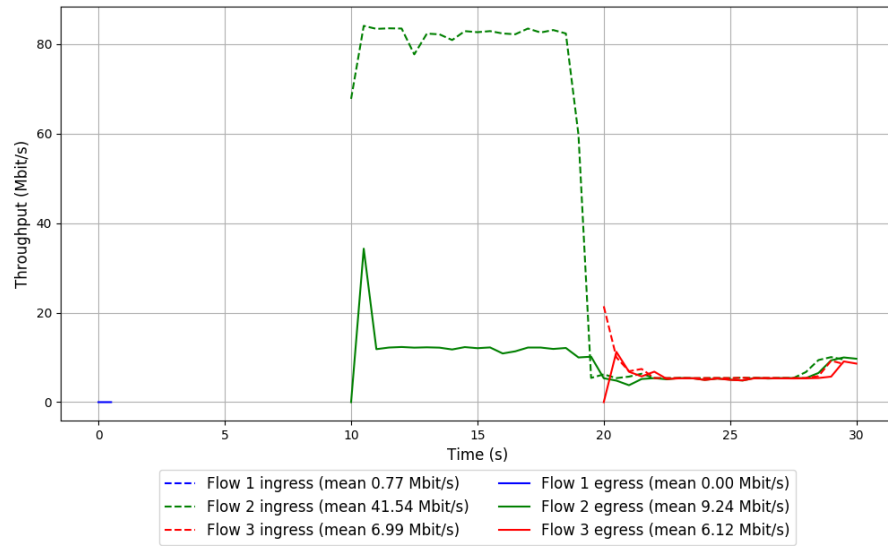
Run 5: Report of Sprout — Data Link

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

Start at: 2018-11-15 05:03:07
End at: 2018-11-15 05:03:37
Local clock offset: -0.027 ms
Remote clock offset: -0.848 ms

# Below is generated by plot.py at 2018-11-15 06:39:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 14.585 ms
Loss rate: 72.69%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 16.406 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 14.369 ms
Loss rate: 77.75%
-- Flow 3:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 14.922 ms
Loss rate: 12.49%
```
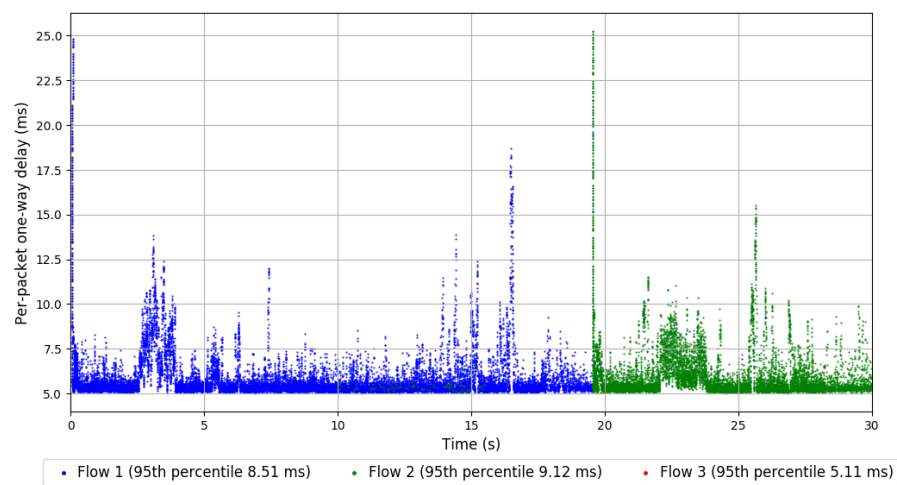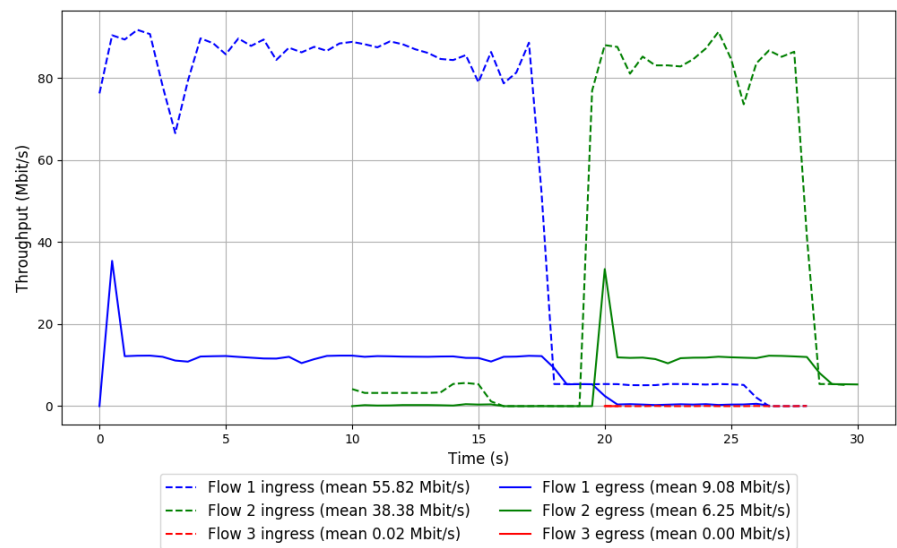
Run 1: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 0.77 Mbit/s)    Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 41.54 Mbit/s)    Flow 2 egress (mean 9.24 Mbit/s)
Flow 3 ingress (mean 6.99 Mbit/s)    Flow 3 egress (mean 6.12 Mbit/s)



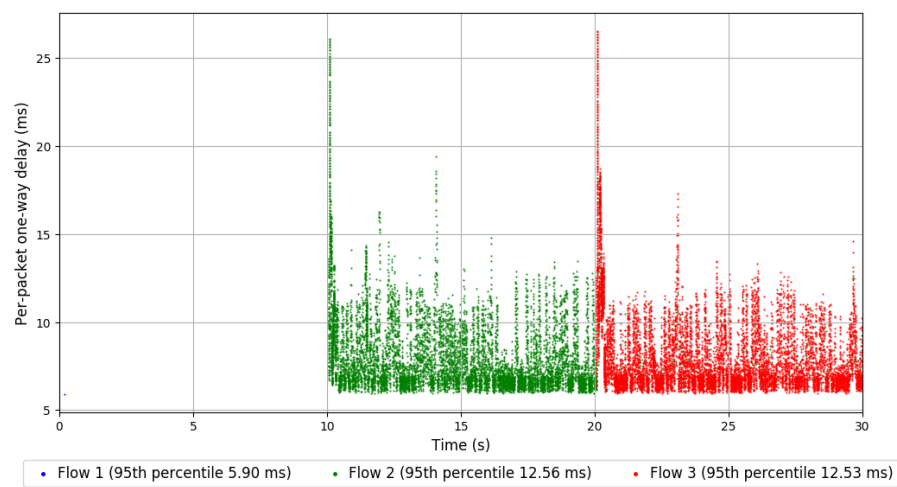Flow 1 (95th percentile 16.41 ms)    Flow 2 (95th percentile 14.37 ms)    Flow 3 (95th percentile 14.92 ms)

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

Start at: 2018-11-15 05:24:10
End at: 2018-11-15 05:24:40
Local clock offset: 3.593 ms
Remote clock offset: -0.16 ms

# Below is generated by plot.py at 2018-11-15 06:39:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 8.724 ms
Loss rate: 84.52%
-- Flow 1:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 8.505 ms
Loss rate: 84.91%
-- Flow 2:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 9.119 ms
Loss rate: 83.73%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5.105 ms
Loss rate: 99.16%
```

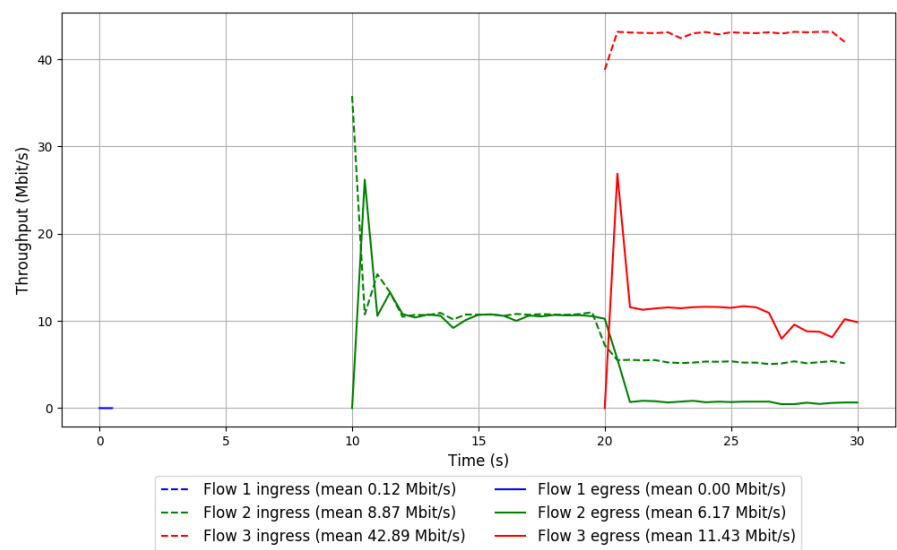Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-15 05:45:42
End at: 2018-11-15 05:46:12
Local clock offset: 3.388 ms
Remote clock offset: -1.077 ms

# Below is generated by plot.py at 2018-11-15 06:39:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 12.548 ms
Loss rate: 60.79%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5.900 ms
Loss rate: 96.08%
-- Flow 2:
Average throughput: 6.17 Mbit/s
95th percentile per-packet one-way delay: 12.564 ms
Loss rate: 30.48%
-- Flow 3:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 12.529 ms
Loss rate: 73.35%
```
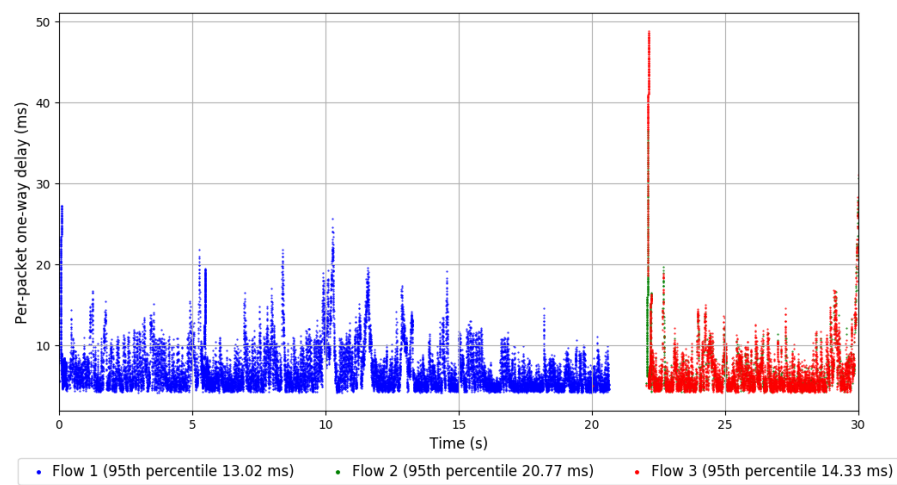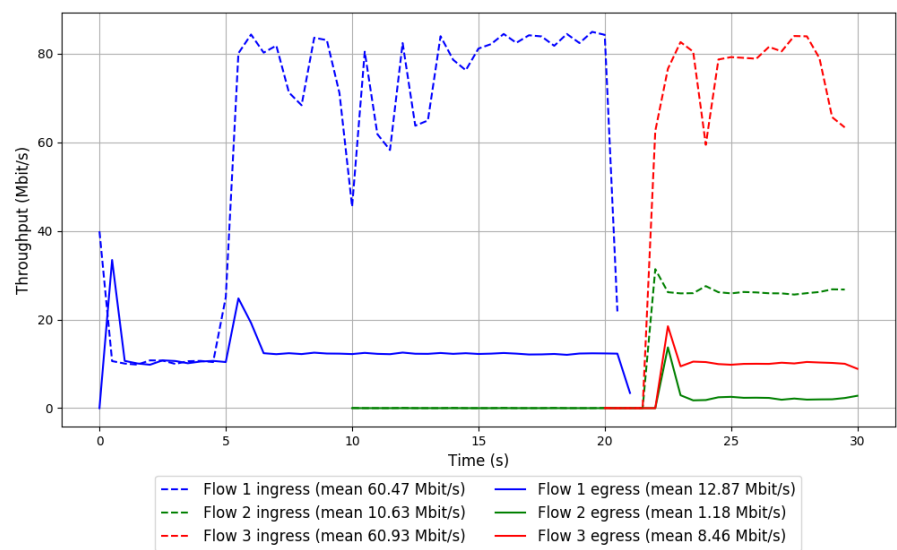
# Run 3: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 0.12 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 8.87 Mbit/s) --- Flow 2 egress (mean 6.17 Mbit/s)
Flow 3 ingress (mean 42.89 Mbit/s) --- Flow 3 egress (mean 11.43 Mbit/s)



• Flow 1 (95th percentile 5.90 ms)   • Flow 2 (95th percentile 12.56 ms)   • Flow 3 (95th percentile 12.53 ms)
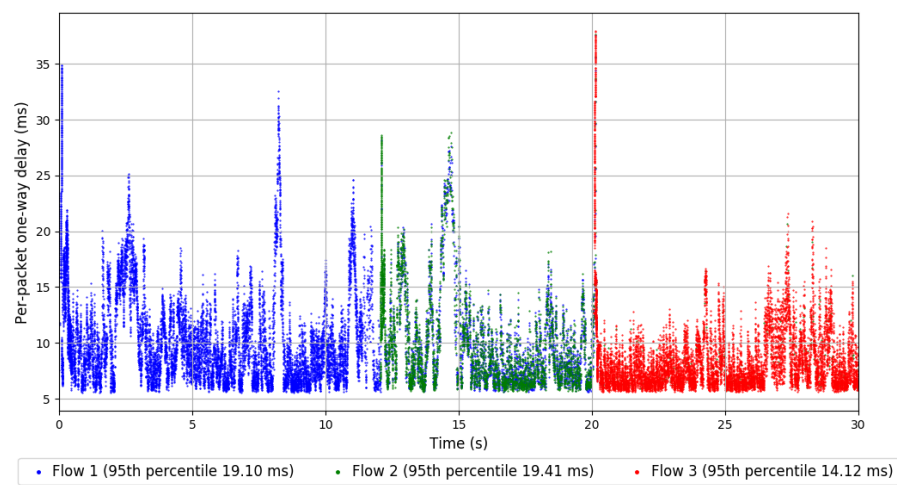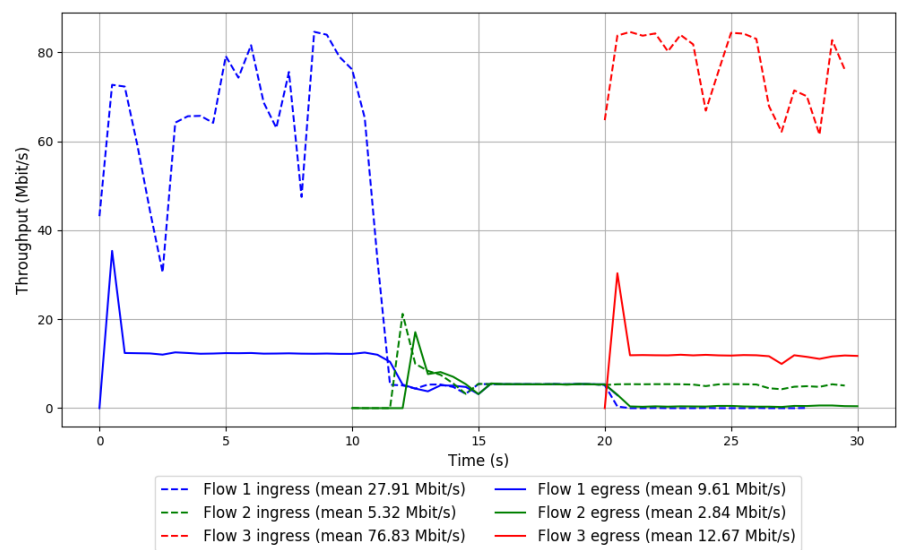
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-11-15 06:06:54
End at: 2018-11-15 06:07:24
Local clock offset: 4.064 ms
Remote clock offset: -1.989 ms


# Below is generated by plot.py at 2018-11-15 06:39:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 13.684 ms
Loss rate: 81.93%
-- Flow 1:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 13.016 ms
Loss rate: 78.72%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 20.775 ms
Loss rate: 88.87%
-- Flow 3:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 14.329 ms
Loss rate: 86.12%
```
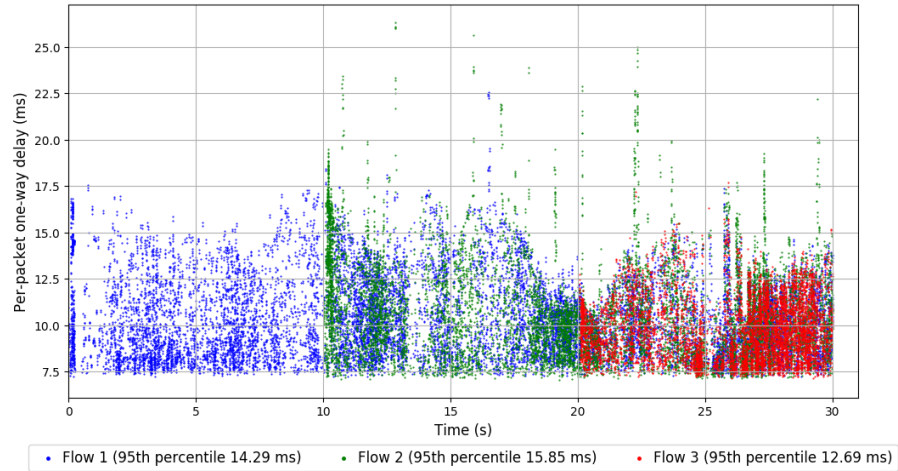
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-15 06:27:54
End at: 2018-11-15 06:28:24
Local clock offset: 1.963 ms
Remote clock offset: -2.242 ms


# Below is generated by plot.py at 2018-11-15 06:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.64 Mbit/s
95th percentile per-packet one-way delay: 18.267 ms
Loss rate: 77.25%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 19.099 ms
Loss rate: 75.28%
-- Flow 2:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 19.414 ms
Loss rate: 46.66%
-- Flow 3:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 14.125 ms
Loss rate: 83.52%
```

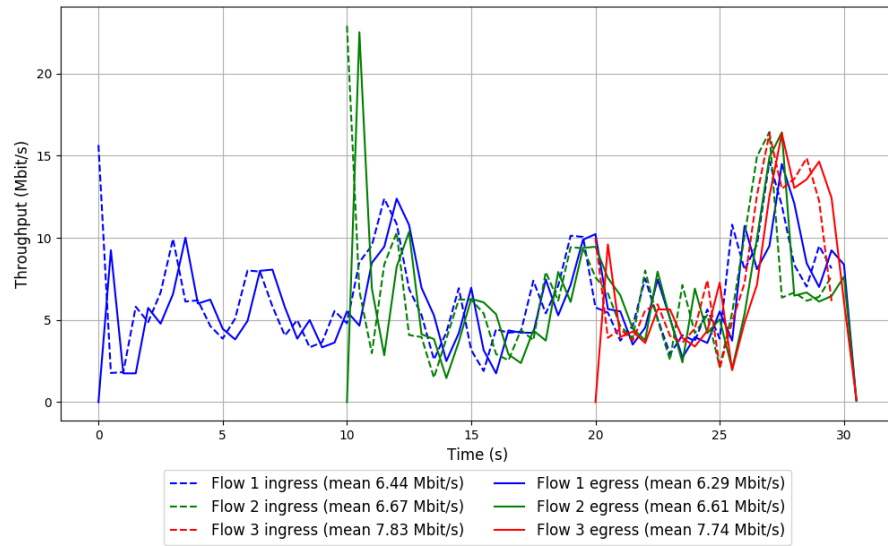Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-11-15 04:57:09
End at: 2018-11-15 04:57:39
Local clock offset: -0.215 ms
Remote clock offset: -2.449 ms


# Below is generated by plot.py at 2018-11-15 06:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.26 Mbit/s
95th percentile per-packet one-way delay: 14.512 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 14.292 ms
Loss rate: 2.39%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 15.849 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 7.74 Mbit/s
95th percentile per-packet one-way delay: 12.692 ms
Loss rate: 1.12%
```

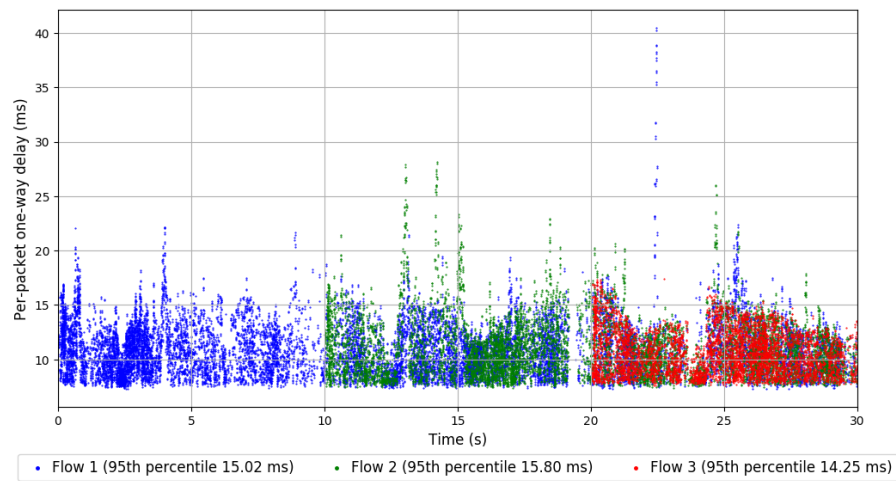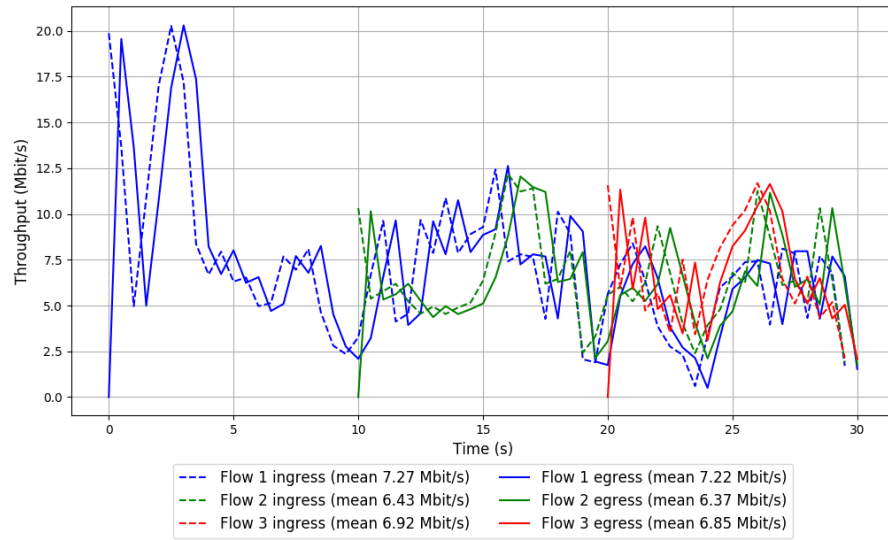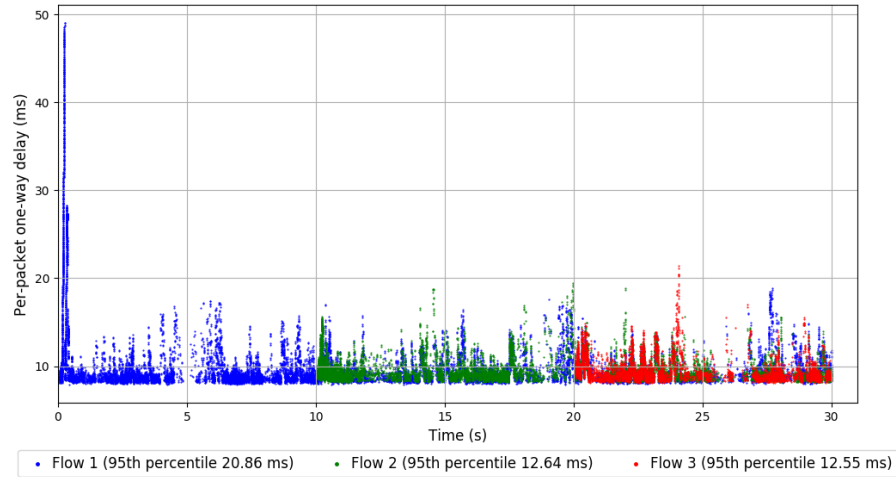Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-11-15 05:18:12
End at: 2018-11-15 05:18:42
Local clock offset: 1.031 ms
Remote clock offset: -0.397 ms


# Below is generated by plot.py at 2018-11-15 06:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.74 Mbit/s
95th percentile per-packet one-way delay: 15.084 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 15.021 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 15.800 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 14.253 ms
Loss rate: 1.01%
```
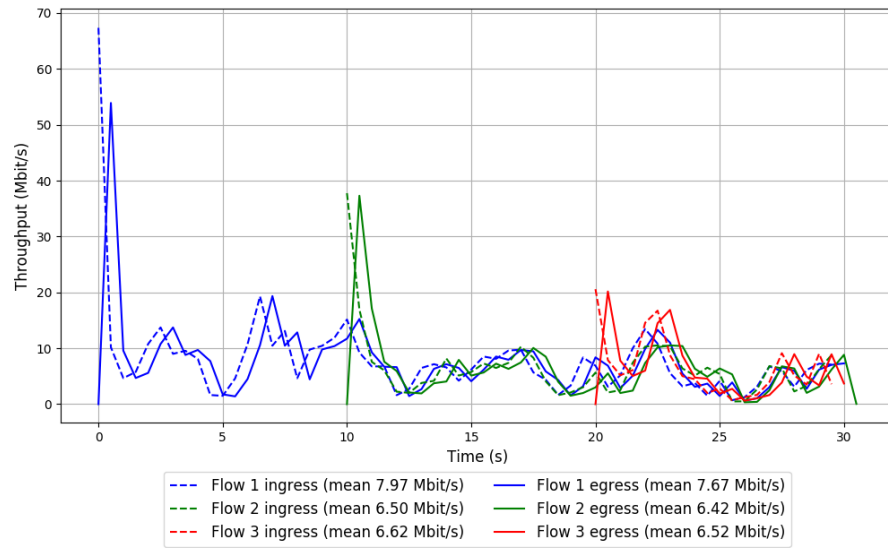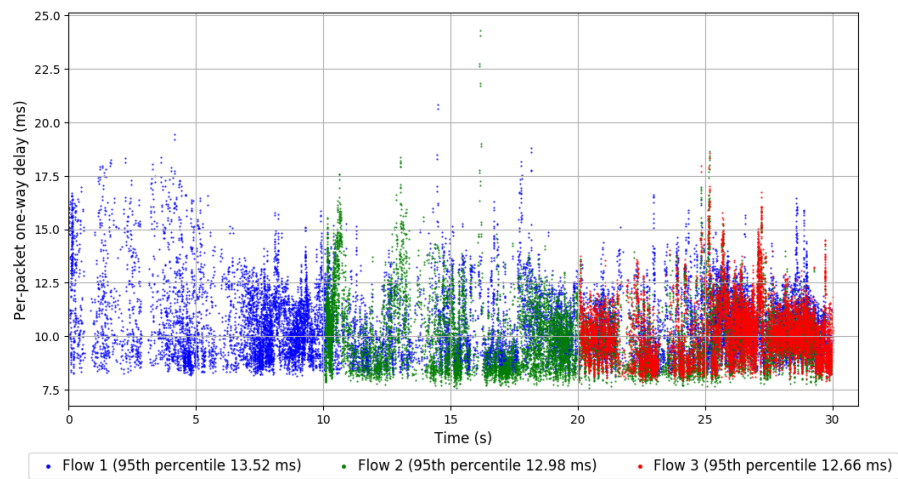
## Run 2: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 7.27 Mbit/s)    Flow 1 egress (mean 7.22 Mbit/s)
Flow 2 ingress (mean 6.43 Mbit/s)    Flow 2 egress (mean 6.37 Mbit/s)
Flow 3 ingress (mean 6.92 Mbit/s)    Flow 3 egress (mean 6.85 Mbit/s)



Flow 1 (95th percentile 15.02 ms)    Flow 2 (95th percentile 15.80 ms)    Flow 3 (95th percentile 14.25 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2018-11-15 05:39:35
End at: 2018-11-15 05:40:05
Local clock offset: 0.277 ms
Remote clock offset: -1.701 ms


# Below is generated by plot.py at 2018-11-15 06:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.11 Mbit/s
95th percentile per-packet one-way delay: 14.373 ms
Loss rate: 2.71%
-- Flow 1:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 20.860 ms
Loss rate: 3.83%
-- Flow 2:
Average throughput: 6.42 Mbit/s
95th percentile per-packet one-way delay: 12.642 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 12.550 ms
Loss rate: 1.49%
```

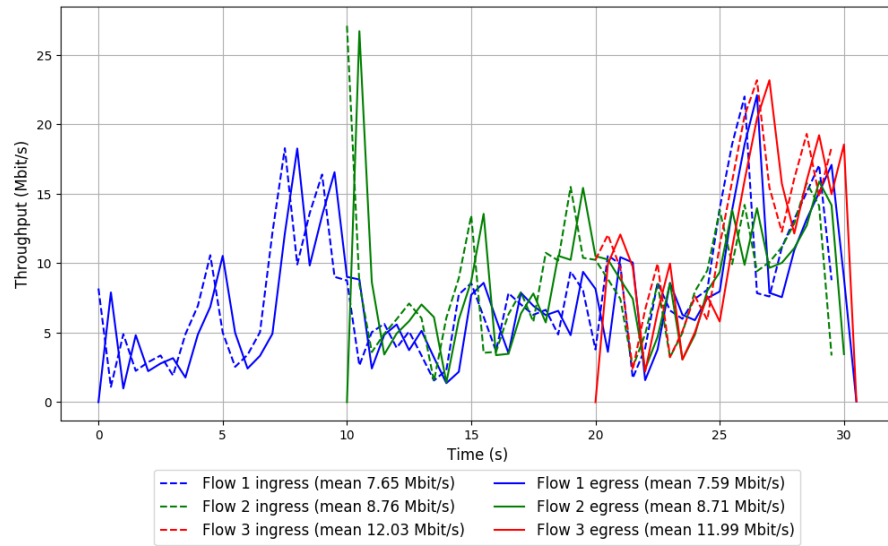# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-11-15 06:00:40
End at: 2018-11-15 06:01:11
Local clock offset: 1.766 ms
Remote clock offset: -0.845 ms


# Below is generated by plot.py at 2018-11-15 06:39:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.38 Mbit/s
95th percentile per-packet one-way delay: 13.169 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 13.520 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 12.982 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 12.665 ms
Loss rate: 0.34%
```

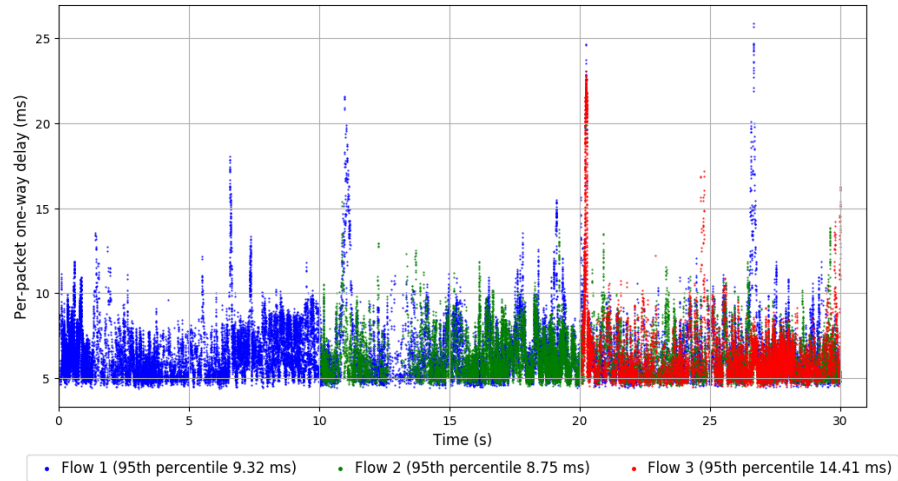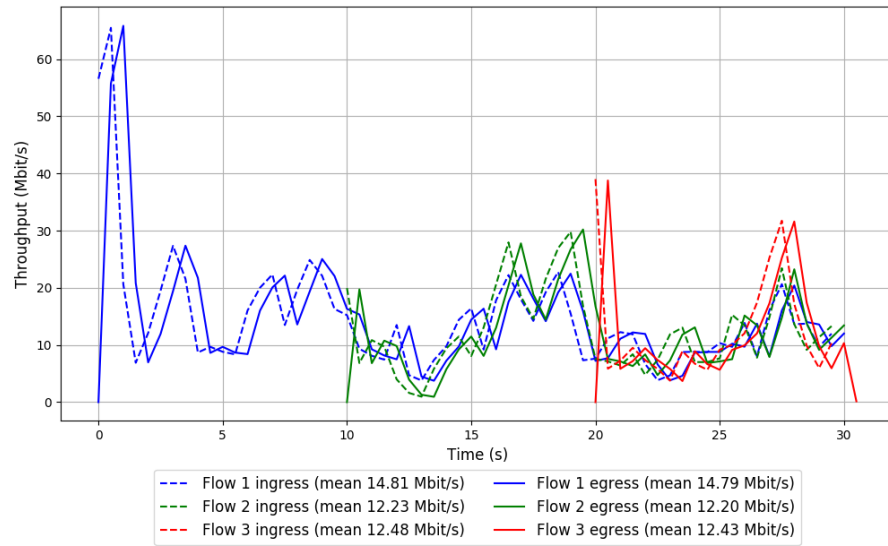Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-11-15 06:21:57
End at: 2018-11-15 06:22:27
Local clock offset: 3.552 ms
Remote clock offset: -1.552 ms


# Below is generated by plot.py at 2018-11-15 06:39:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.04 Mbit/s
95th percentile per-packet one-way delay: 9.319 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 9.325 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 8.750 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 14.410 ms
Loss rate: 0.30%
```

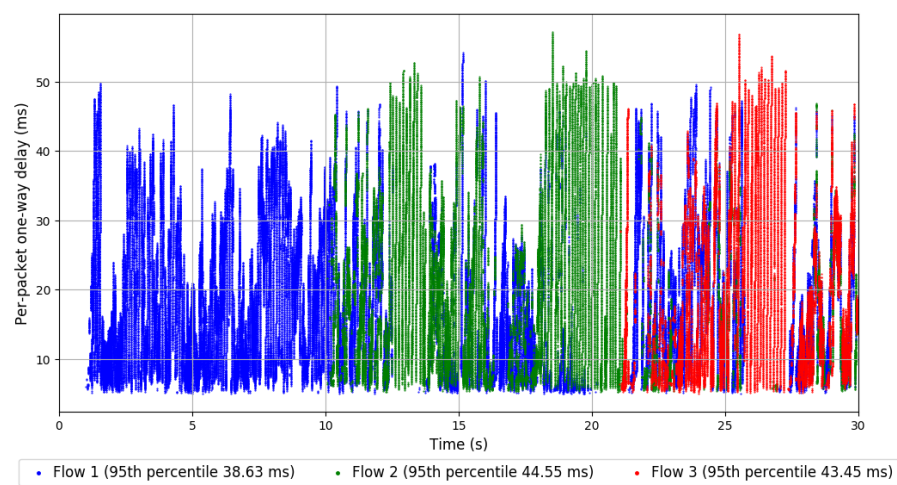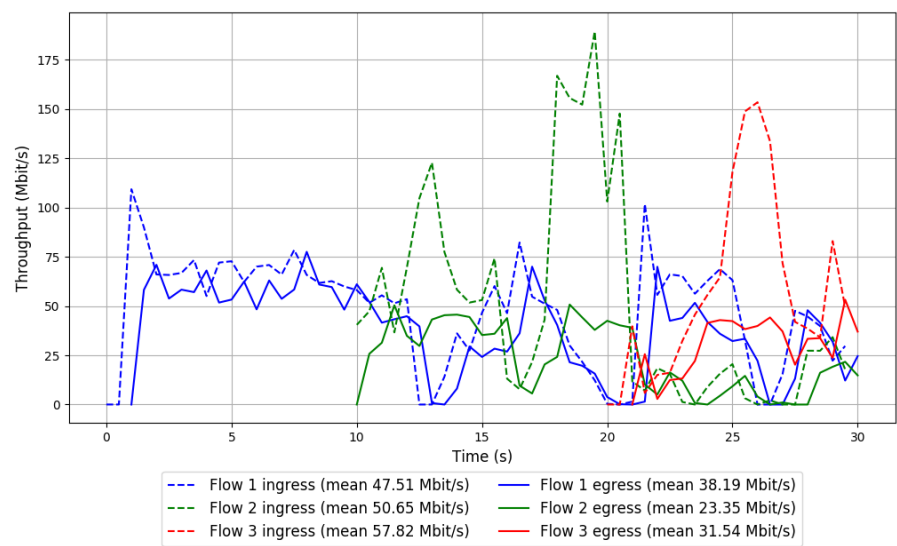## Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-11-15 04:58:17
End at: 2018-11-15 04:58:47
Local clock offset: 1.818 ms
Remote clock offset: -2.357 ms


# Below is generated by plot.py at 2018-11-15 06:39:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.94 Mbit/s
95th percentile per-packet one-way delay: 41.199 ms
Loss rate: 38.36%
-- Flow 1:
Average throughput: 38.19 Mbit/s
95th percentile per-packet one-way delay: 38.628 ms
Loss rate: 22.27%
-- Flow 2:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 44.548 ms
Loss rate: 53.91%
-- Flow 3:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 43.453 ms
Loss rate: 50.89%
```

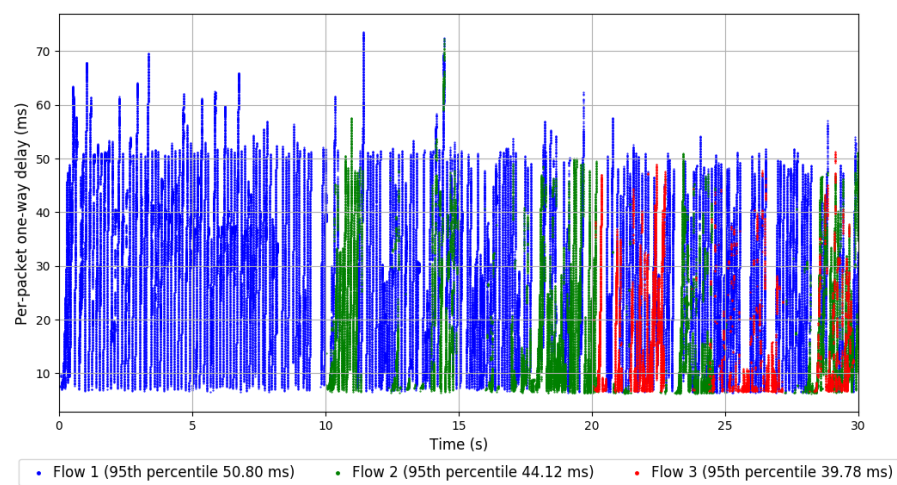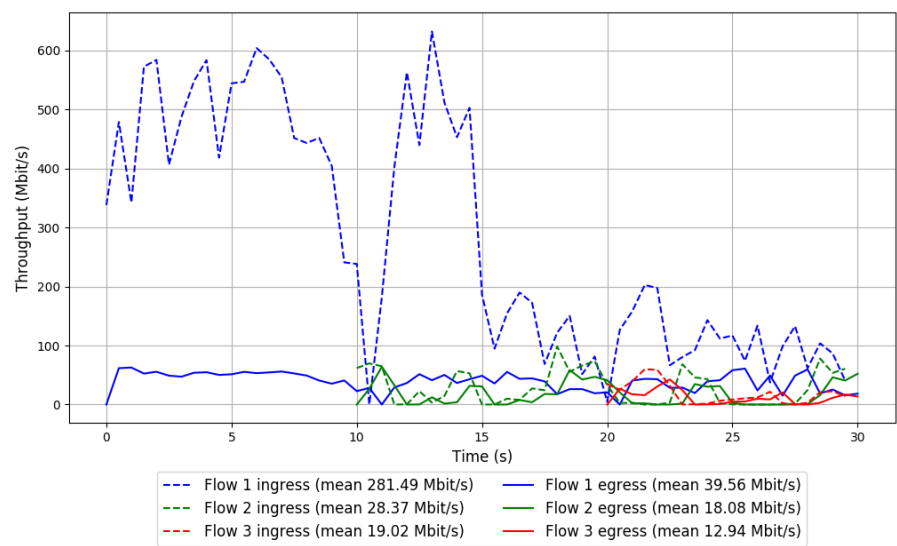Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-11-15 05:19:20
End at: 2018-11-15 05:19:50
Local clock offset: 1.299 ms
Remote clock offset: -0.954 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.79 Mbit/s
95th percentile per-packet one-way delay: 49.563 ms
Loss rate: 81.78%
-- Flow 1:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 50.796 ms
Loss rate: 85.94%
-- Flow 2:
Average throughput: 18.08 Mbit/s
95th percentile per-packet one-way delay: 44.125 ms
Loss rate: 36.17%
-- Flow 3:
Average throughput: 12.94 Mbit/s
95th percentile per-packet one-way delay: 39.776 ms
Loss rate: 32.14%
```

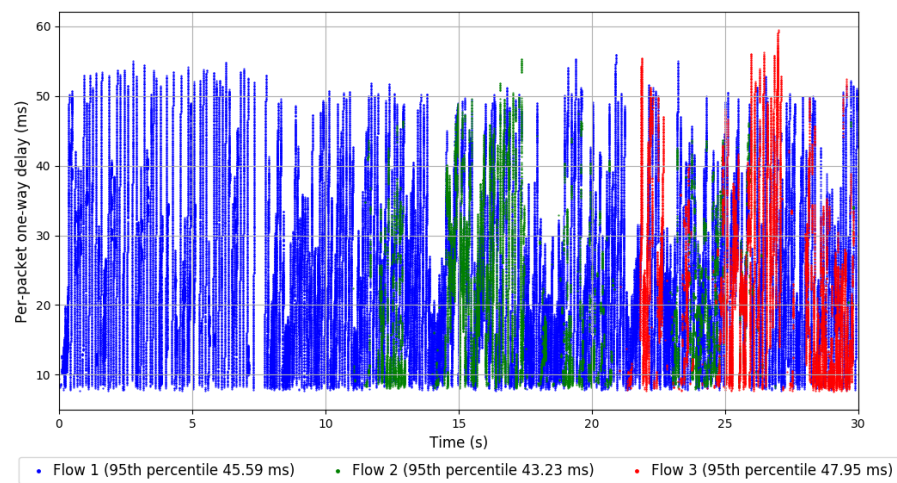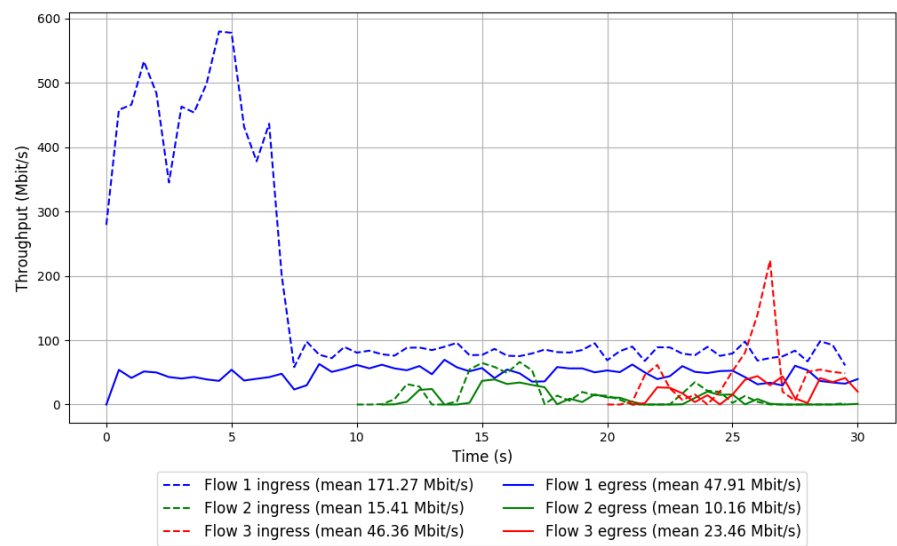Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-11-15 05:40:43
End at: 2018-11-15 05:41:13
Local clock offset: 0.693 ms
Remote clock offset: -1.323 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.17 Mbit/s
95th percentile per-packet one-way delay: 45.590 ms
Loss rate: 68.88%
-- Flow 1:
Average throughput: 47.91 Mbit/s
95th percentile per-packet one-way delay: 45.585 ms
Loss rate: 72.01%
-- Flow 2:
Average throughput: 10.16 Mbit/s
95th percentile per-packet one-way delay: 43.228 ms
Loss rate: 37.53%
-- Flow 3:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 47.953 ms
Loss rate: 54.55%
```
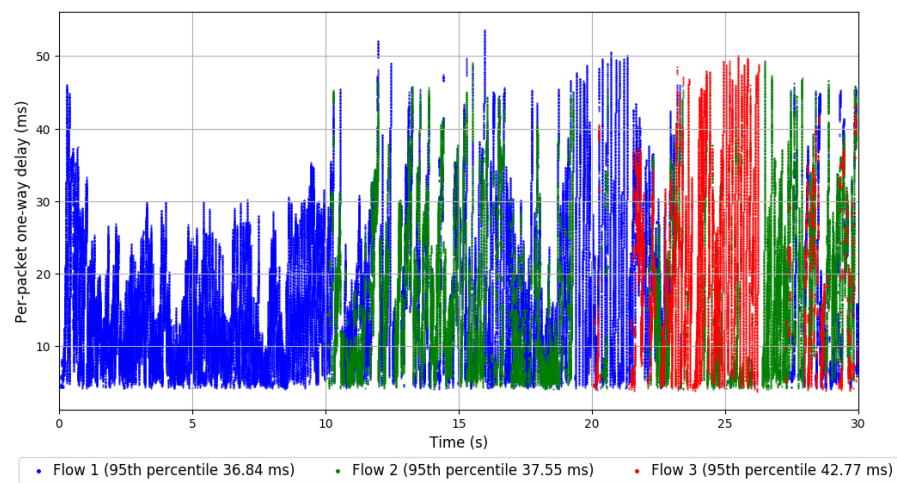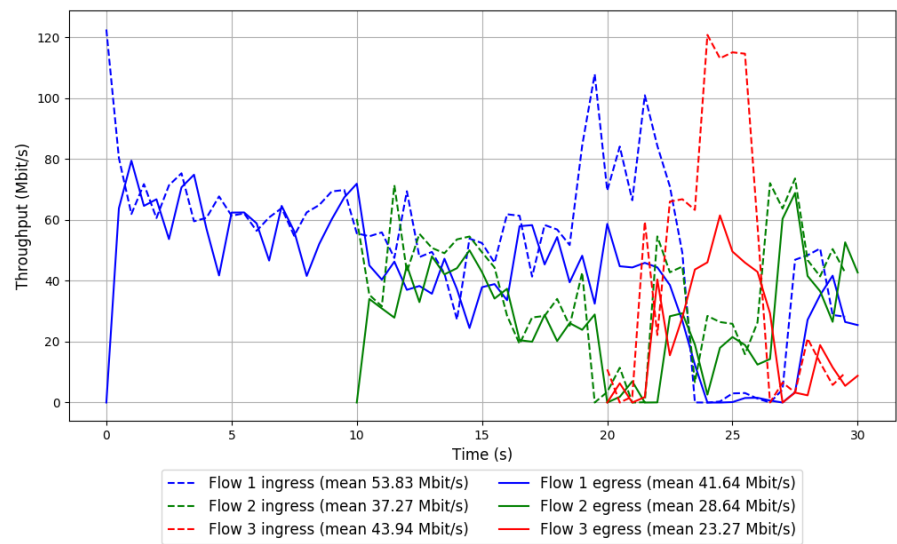
Run 3: Report of Verus — Data Link



Flow 1 ingress (mean 171.27 Mbit/s)   Flow 1 egress (mean 47.91 Mbit/s)
Flow 2 ingress (mean 15.41 Mbit/s)    Flow 2 egress (mean 10.16 Mbit/s)
Flow 3 ingress (mean 46.36 Mbit/s)    Flow 3 egress (mean 23.46 Mbit/s)



Flow 1 (95th percentile 45.59 ms)   Flow 2 (95th percentile 43.23 ms)   Flow 3 (95th percentile 47.95 ms)

```
Run 4: Statistics of Verus

Start at: 2018-11-15 06:01:49
End at: 2018-11-15 06:02:19
Local clock offset: 4.576 ms
Remote clock offset: -1.991 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.37 Mbit/s
95th percentile per-packet one-way delay: 38.228 ms
Loss rate: 26.57%
-- Flow 1:
Average throughput: 41.64 Mbit/s
95th percentile per-packet one-way delay: 36.845 ms
Loss rate: 22.63%
-- Flow 2:
Average throughput: 28.64 Mbit/s
95th percentile per-packet one-way delay: 37.546 ms
Loss rate: 23.08%
-- Flow 3:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 42.768 ms
Loss rate: 47.07%
```

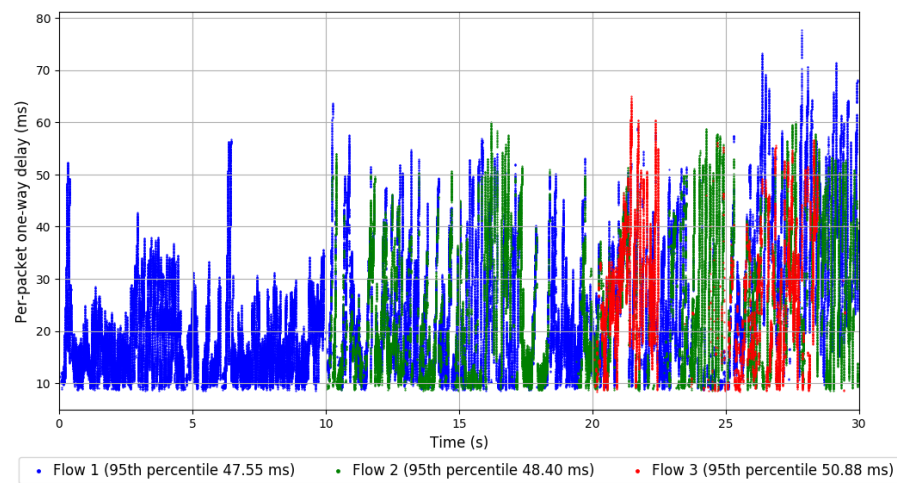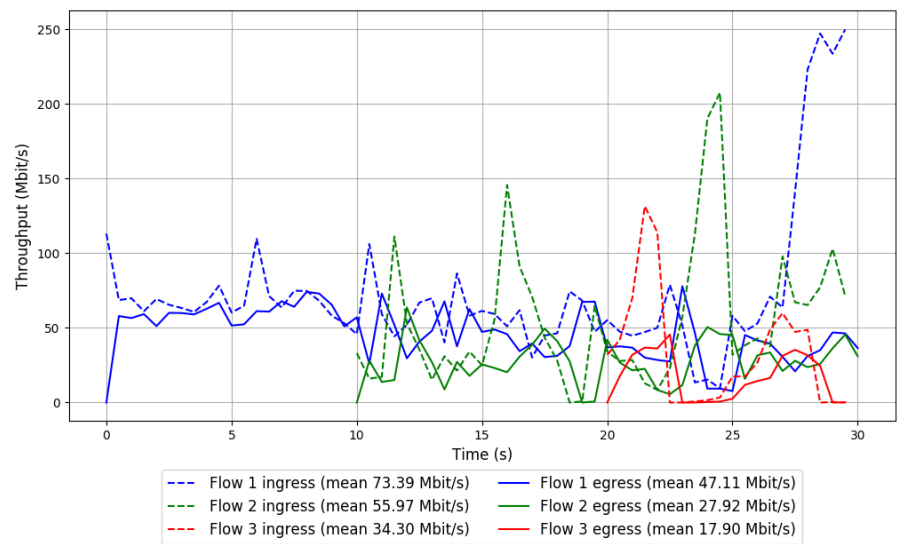Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-11-15 06:23:06
End at: 2018-11-15 06:23:36
Local clock offset: -0.801 ms
Remote clock offset: -1.818 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.30 Mbit/s
95th percentile per-packet one-way delay: 48.163 ms
Loss rate: 41.35%
-- Flow 1:
Average throughput: 47.11 Mbit/s
95th percentile per-packet one-way delay: 47.551 ms
Loss rate: 35.75%
-- Flow 2:
Average throughput: 27.92 Mbit/s
95th percentile per-packet one-way delay: 48.396 ms
Loss rate: 50.12%
-- Flow 3:
Average throughput: 17.90 Mbit/s
95th percentile per-packet one-way delay: 50.876 ms
Loss rate: 49.03%
```

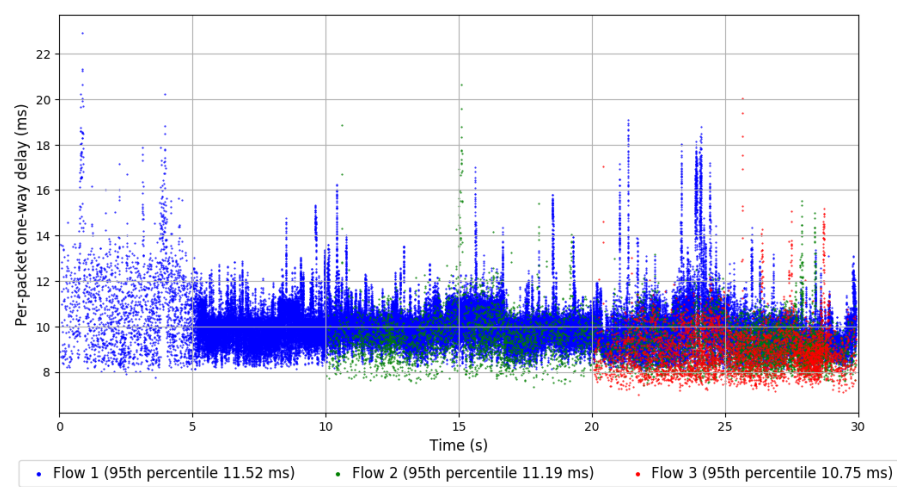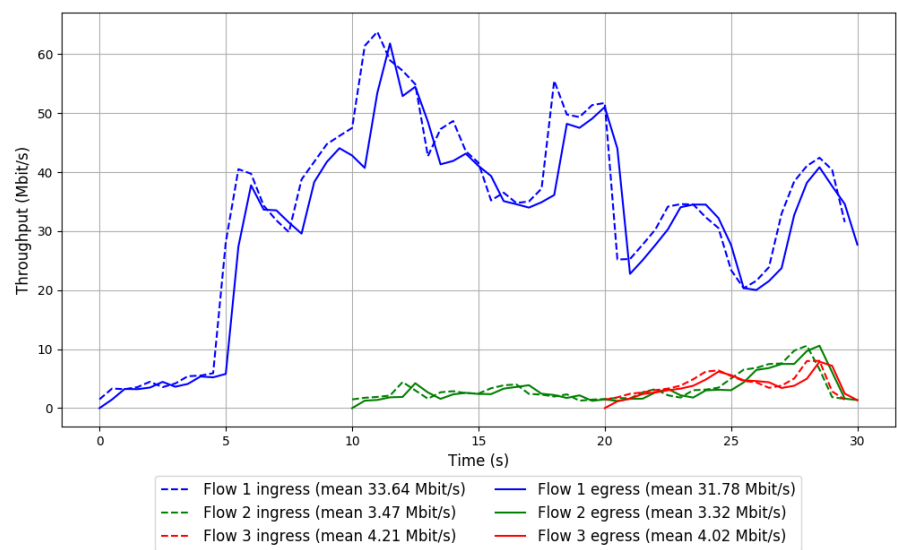Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-11-15 05:00:43
End at: 2018-11-15 05:01:13
Local clock offset: 1.459 ms
Remote clock offset: -0.172 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.31 Mbit/s
95th percentile per-packet one-way delay: 11.484 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 11.523 ms
Loss rate: 5.54%
-- Flow 2:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 11.192 ms
Loss rate: 4.40%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 10.750 ms
Loss rate: 4.46%
```

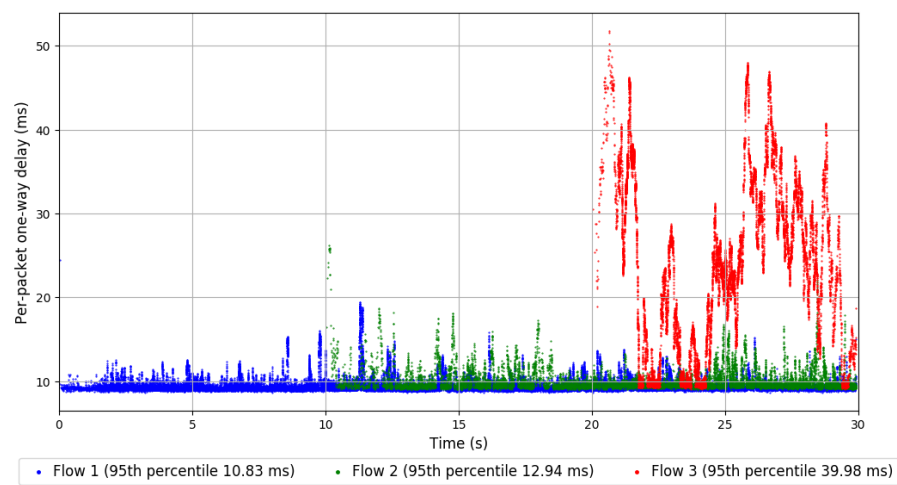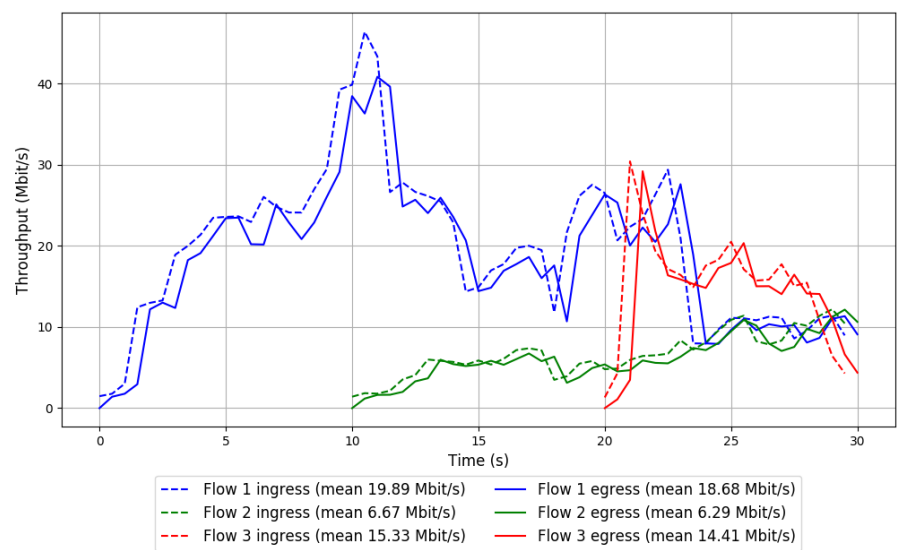Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-11-15 05:21:49
End at: 2018-11-15 05:22:19
Local clock offset: -0.301 ms
Remote clock offset: -0.085 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.62 Mbit/s
95th percentile per-packet one-way delay: 29.877 ms
Loss rate: 6.05%
-- Flow 1:
Average throughput: 18.68 Mbit/s
95th percentile per-packet one-way delay: 10.832 ms
Loss rate: 6.10%
-- Flow 2:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 12.936 ms
Loss rate: 5.77%
-- Flow 3:
Average throughput: 14.41 Mbit/s
95th percentile per-packet one-way delay: 39.976 ms
Loss rate: 6.12%
```

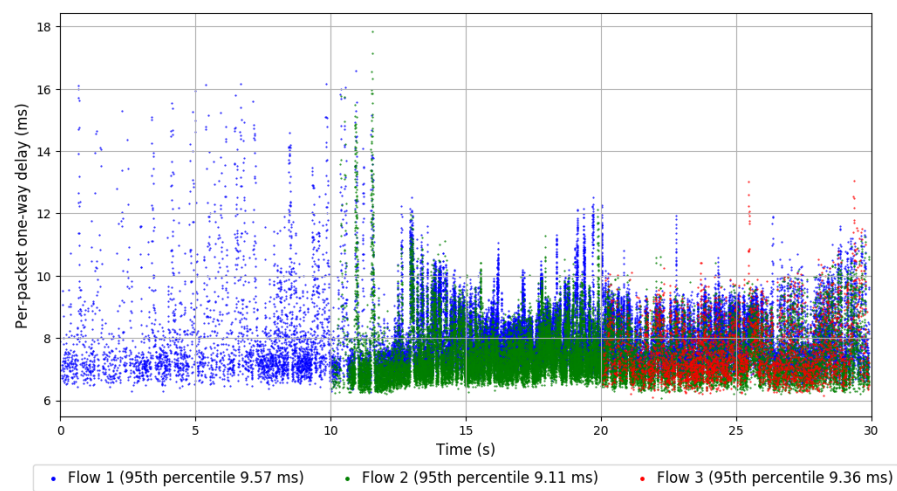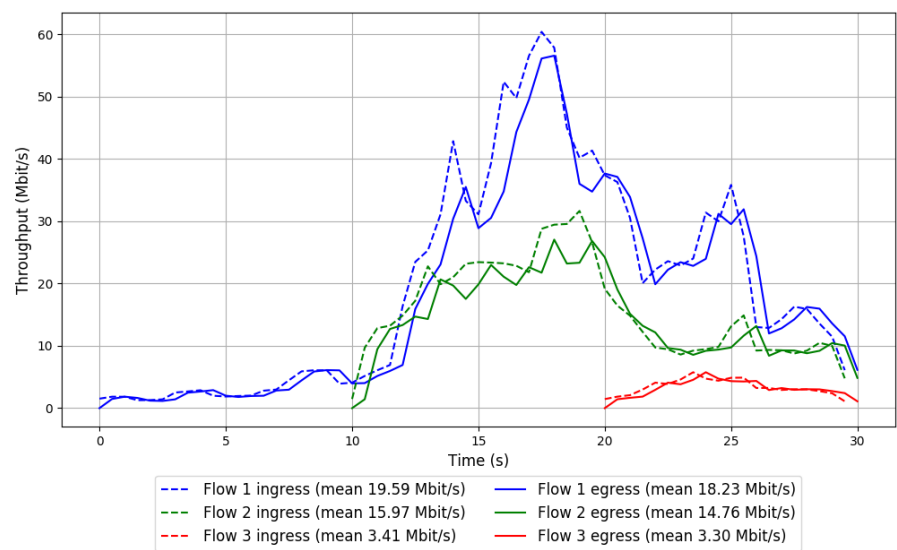Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-11-15 05:43:13
End at: 2018-11-15 05:43:43
Local clock offset: 3.042 ms
Remote clock offset: -0.799 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 9.421 ms
Loss rate: 6.99%
-- Flow 1:
Average throughput: 18.23 Mbit/s
95th percentile per-packet one-way delay: 9.572 ms
Loss rate: 6.92%
-- Flow 2:
Average throughput: 14.76 Mbit/s
95th percentile per-packet one-way delay: 9.108 ms
Loss rate: 7.55%
-- Flow 3:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 9.363 ms
Loss rate: 3.10%
```
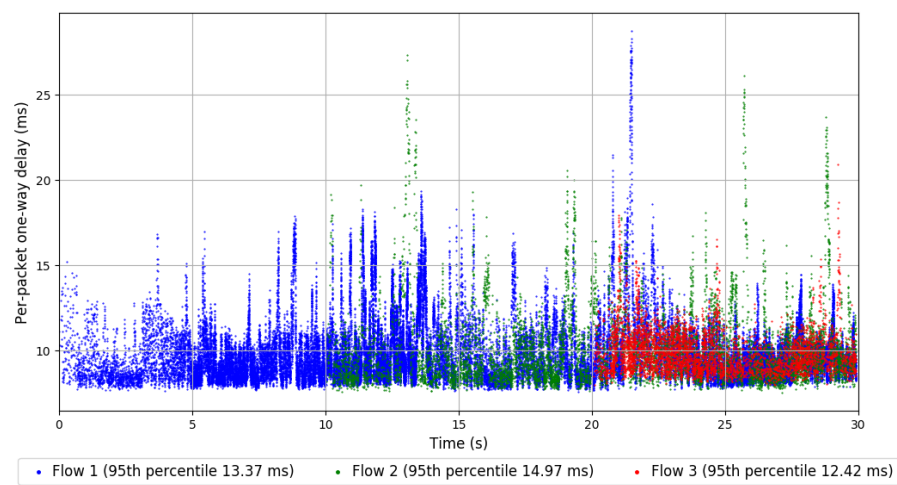
## Run 3: Report of PCC-Vivace — Data Link



Flow 1 ingress (mean 19.59 Mbit/s)    Flow 1 egress (mean 18.23 Mbit/s)
Flow 2 ingress (mean 15.97 Mbit/s)    Flow 2 egress (mean 14.76 Mbit/s)
Flow 3 ingress (mean 3.41 Mbit/s)    Flow 3 egress (mean 3.30 Mbit/s)



Flow 1 (95th percentile 9.57 ms)    Flow 2 (95th percentile 9.11 ms)    Flow 3 (95th percentile 9.36 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-11-15 06:04:30
End at: 2018-11-15 06:05:00
Local clock offset: 1.615 ms
Remote clock offset: -0.69 ms

# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.98 Mbit/s
95th percentile per-packet one-way delay: 13.531 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 19.88 Mbit/s
95th percentile per-packet one-way delay: 13.366 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 14.966 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 12.421 ms
Loss rate: 1.44%
```
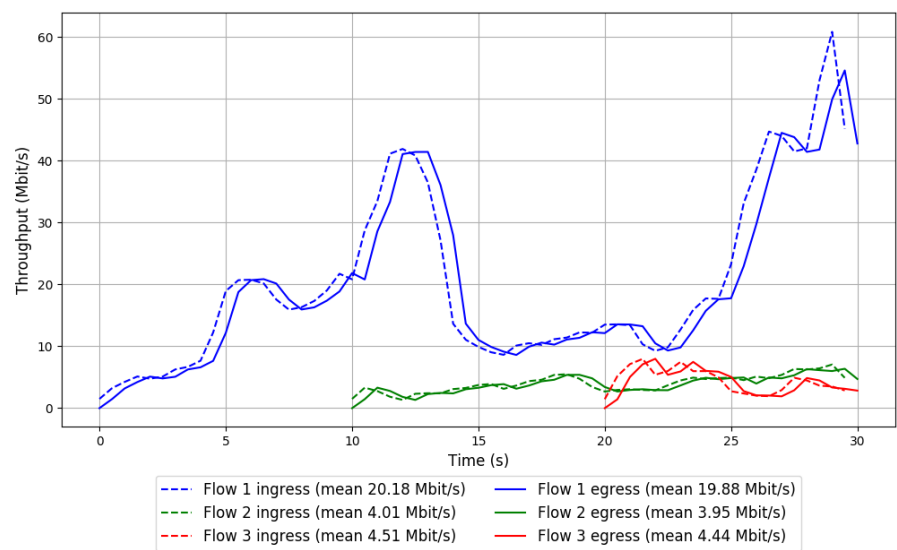
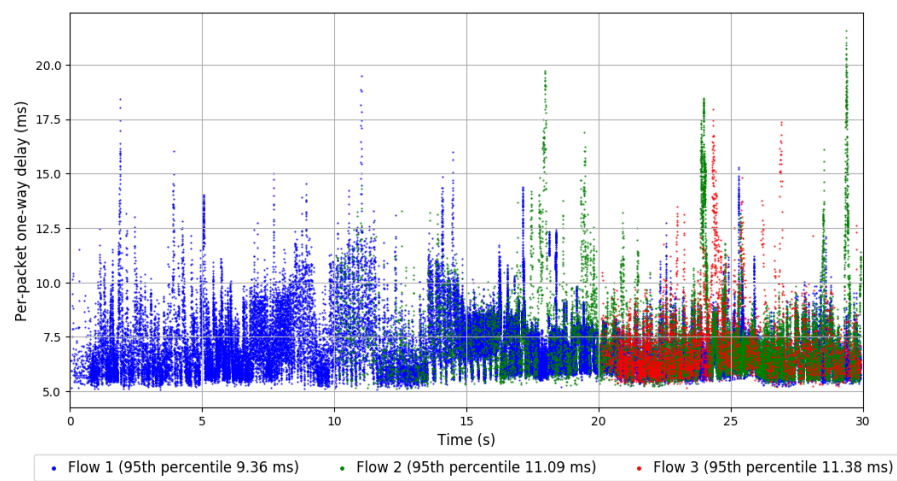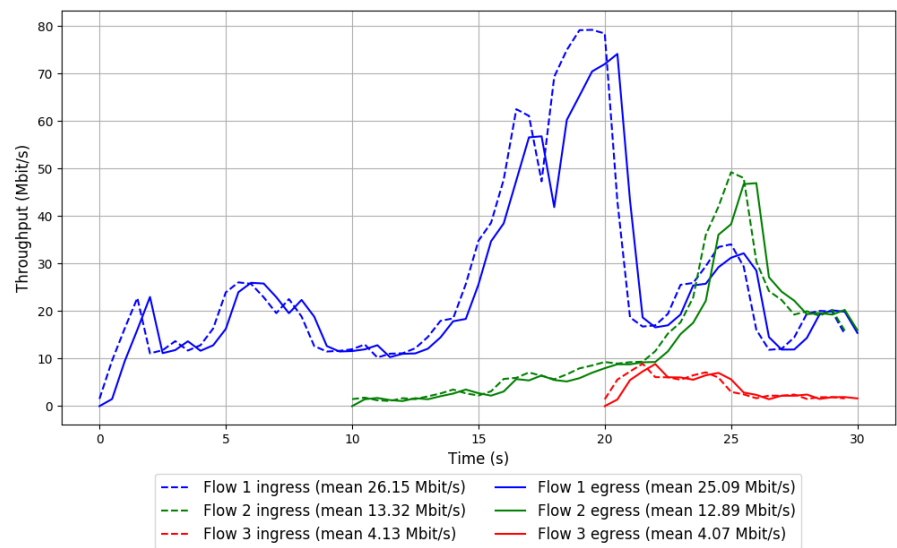# Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-11-15 06:25:33
End at: 2018-11-15 06:26:03
Local clock offset: 2.731 ms
Remote clock offset: -1.352 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.00 Mbit/s
95th percentile per-packet one-way delay: 9.724 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 25.09 Mbit/s
95th percentile per-packet one-way delay: 9.356 ms
Loss rate: 4.05%
-- Flow 2:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 11.094 ms
Loss rate: 3.28%
-- Flow 3:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 11.376 ms
Loss rate: 1.45%
```

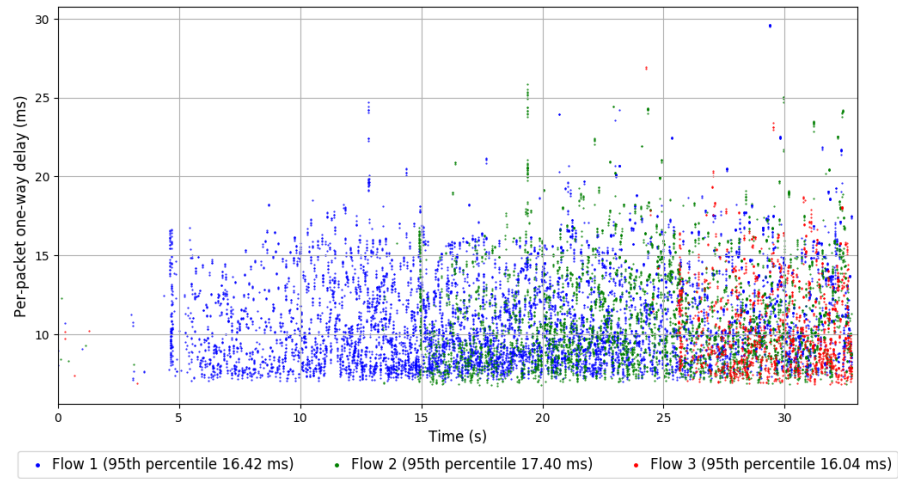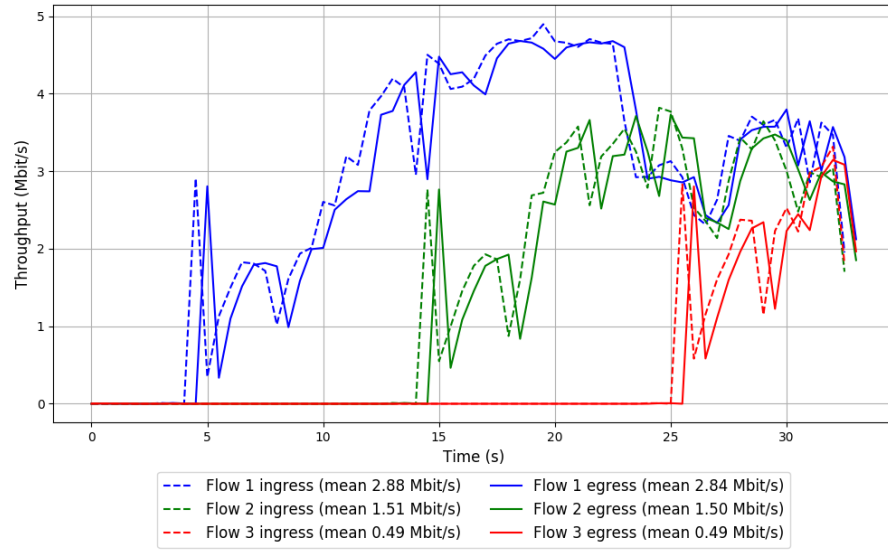Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-11-15 05:06:33
End at: 2018-11-15 05:07:03
Local clock offset: 0.204 ms
Remote clock offset: -1.882 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 16.605 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 16.424 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 17.400 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 16.043 ms
Loss rate: 0.57%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-11-15 05:27:40
End at: 2018-11-15 05:28:10
Local clock offset: 2.922 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 14.280 ms
Loss rate: 4.01%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 14.077 ms
Loss rate: 2.27%
-- Flow 2:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 14.180 ms
Loss rate: 4.37%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 14.881 ms
Loss rate: 8.12%
```
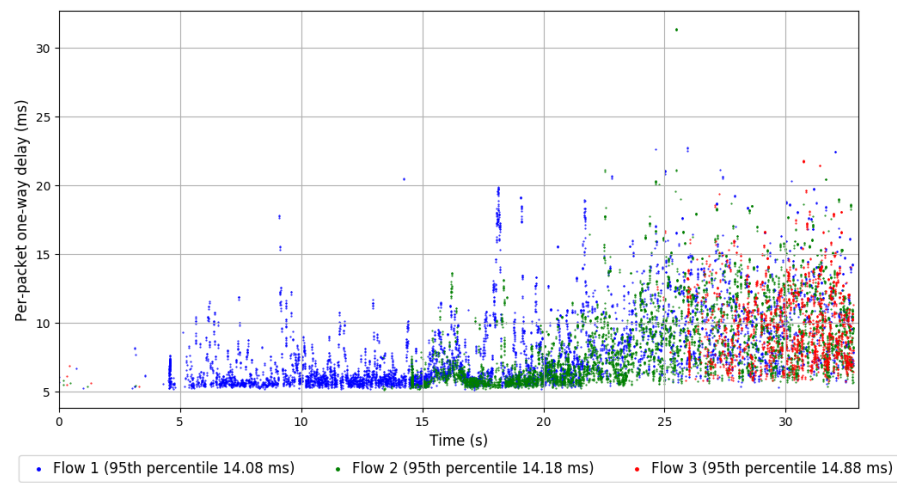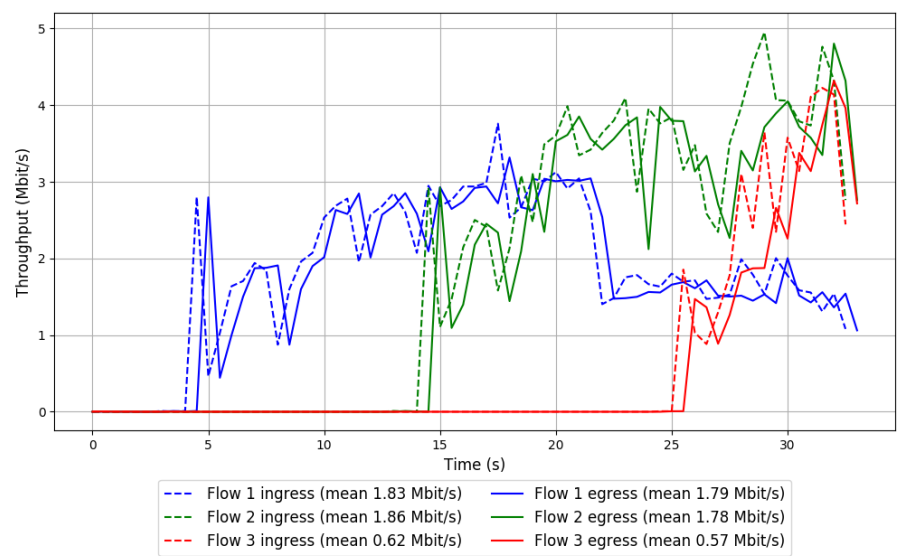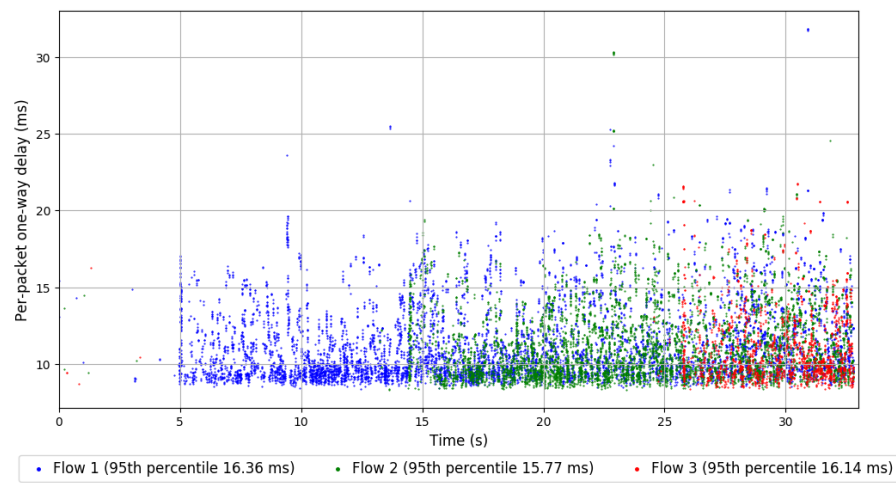
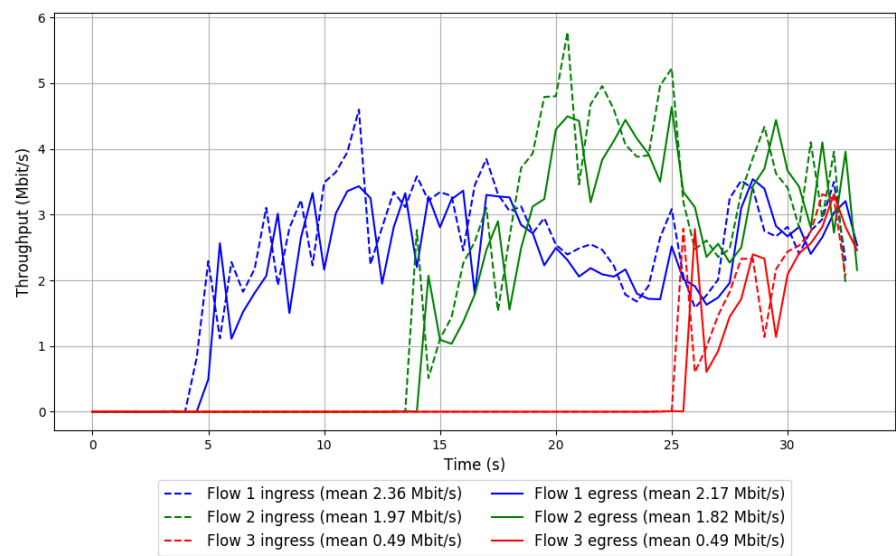Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-11-15 05:49:09
End at: 2018-11-15 05:49:39
Local clock offset: 0.865 ms
Remote clock offset: -0.997 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 16.143 ms
Loss rate: 7.04%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 16.364 ms
Loss rate: 8.13%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 15.765 ms
Loss rate: 7.37%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 16.143 ms
Loss rate: 0.49%
```

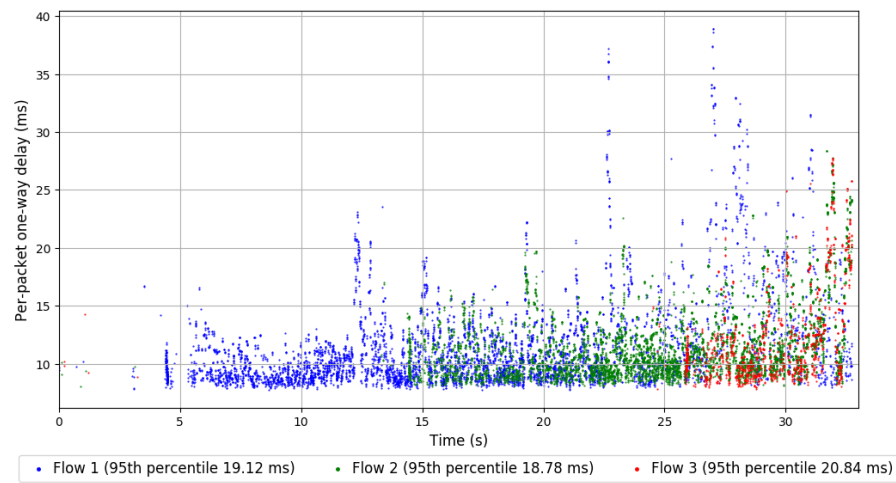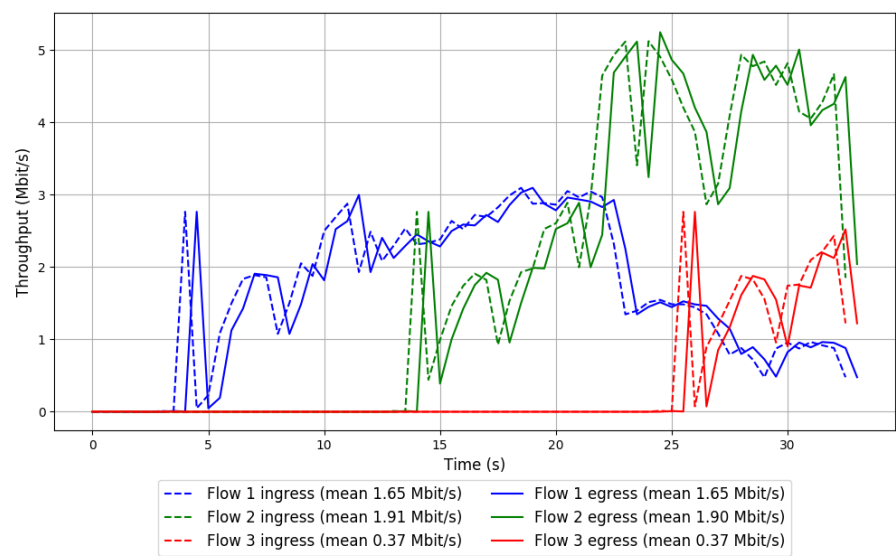Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-11-15 06:10:22
End at: 2018-11-15 06:10:52
Local clock offset: -0.248 ms
Remote clock offset: -2.325 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 19.361 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 19.117 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 18.780 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 20.841 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-11-15 06:31:19
End at: 2018-11-15 06:31:49
Local clock offset: 1.72 ms
Remote clock offset: -1.948 ms


# Below is generated by plot.py at 2018-11-15 06:40:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.73 Mbit/s
95th percentile per-packet one-way delay: 15.838 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 12.641 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 20.628 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 12.585 ms
Loss rate: 0.40%
```

Run 5: Report of WebRTC media — Data Link