# Pantheon Report

Generated at 2019-03-19 16:26:39 (UTC).

Data path: Brazil on `p4p1` (*remote*) →AWS Brazil 1 on `ens5` (*local*).

Repeated the test of 21 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 `gps.ntp.br` and have been applied to correct the timestamps in logs.
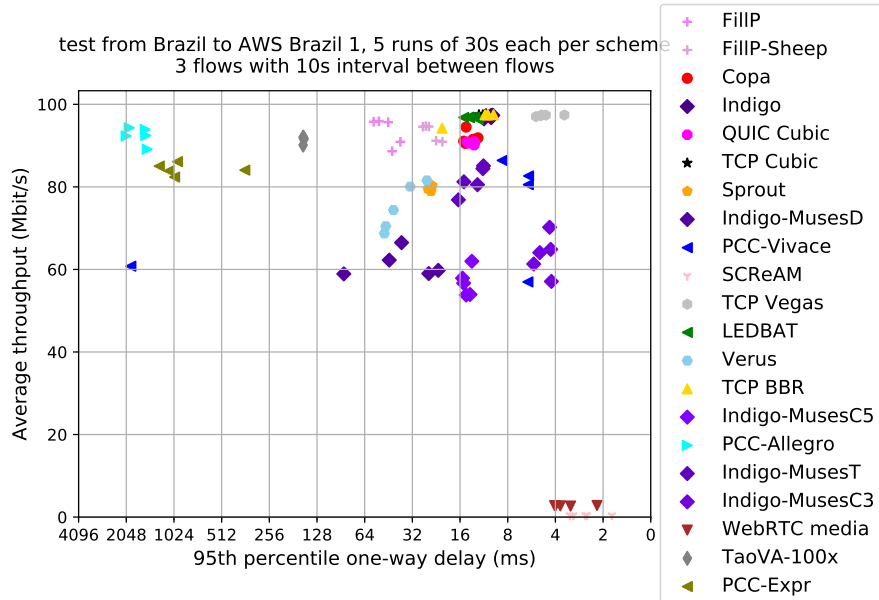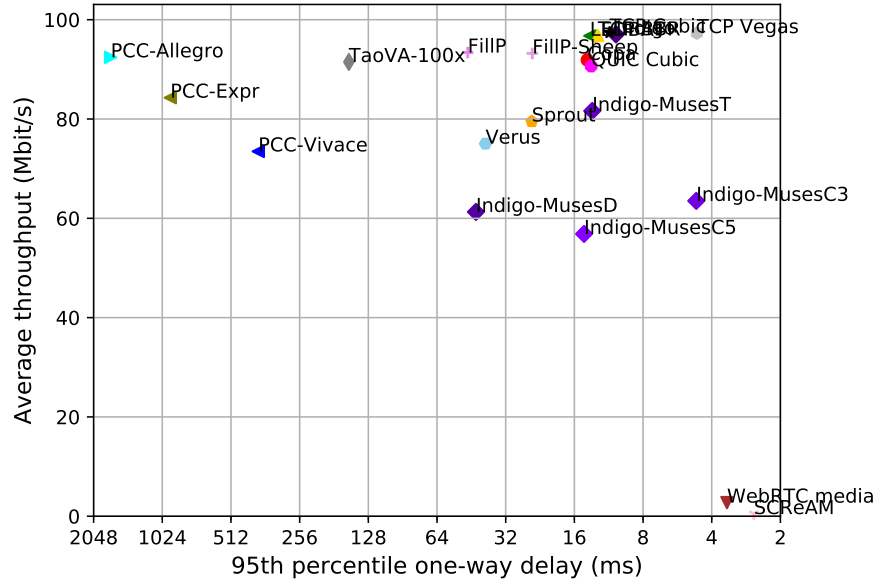
```
System info:
Linux 4.15.0-1033-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
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 Brazil to AWS Brazil 1, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



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

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| 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 | 59.03 | 40.61 | 32.39 | 12.28 | 11.48 | 12.45 | 0.45 | 0.72 | 1.10 |
| Copa | 5 | 55.00 | 39.66 | 31.57 | 13.72 | 13.23 | 16.54 | 0.05 | 0.09 | 0.19 |
| TCP Cubic | 5 | 59.63 | 40.55 | 32.46 | 11.21 | 11.15 | 11.31 | 0.08 | 0.15 | 0.23 |
| FillP | 5 | 54.70 | 44.16 | 27.96 | 29.56 | 52.05 | 45.82 | 0.10 | 1.90 | 1.67 |
| FillP-Sheep | 5 | 58.22 | 37.00 | 31.23 | 22.54 | 25.24 | 28.81 | 0.04 | 0.05 | 0.12 |
| Indigo | 5 | 59.34 | 40.76 | 32.28 | 9.89 | 10.77 | 9.57 | 0.03 | 0.19 | 0.66 |
| Indigo-MusesC3 | 5 | 42.40 | 25.95 | 17.74 | 4.47 | 4.59 | 5.24 | 0.01 | 0.03 | 0.17 |
| Indigo-MusesC5 | 5 | 29.84 | 28.99 | 32.80 | 12.11 | 13.53 | 18.07 | 0.07 | 0.06 | 0.19 |
| Indigo-MusesD | 5 | 33.42 | 26.16 | 41.88 | 15.41 | 12.79 | 54.42 | 0.08 | 0.06 | 2.69 |
| Indigo-MusesT | 5 | 52.42 | 37.81 | 20.43 | 11.77 | 15.93 | 11.29 | 0.04 | 0.07 | 0.08 |
| LEDBAT | 5 | 59.07 | 40.41 | 32.42 | 13.43 | 13.79 | 13.73 | 0.14 | 0.24 | 0.38 |
| PCC-Allegro | 5 | 62.76 | 31.82 | 25.91 | 1892.55 | 906.51 | 32.96 | 13.56 | 10.69 | 0.16 |
| PCC-Expr | 5 | 50.29 | 36.50 | 29.47 | 796.45 | 402.27 | 307.03 | 5.04 | 2.24 | 3.00 |
| QUIC Cubic | 5 | 53.69 | 40.12 | 31.10 | 13.26 | 13.41 | 14.06 | 0.17 | 0.33 | 0.50 |
| SCReAM | 5 | 0.22 | 0.22 | 0.22 | 2.61 | 2.61 | 2.61 | 0.00 | 0.04 | 0.14 |
| Sprout | 5 | 42.71 | 39.34 | 32.19 | 22.73 | 24.85 | 26.22 | 0.06 | 0.17 | 0.40 |
| TaoVA-100x | 5 | 54.56 | 39.57 | 31.81 | 154.74 | 155.83 | 156.65 | 0.55 | 1.11 | 2.62 |
| TCP Vegas | 5 | 48.78 | 54.53 | 36.71 | 3.75 | 4.58 | 4.95 | 0.01 | 0.01 | 0.06 |
| Verus | 5 | 40.03 | 35.51 | 34.20 | 36.33 | 28.13 | 119.47 | 0.04 | 0.04 | 0.12 |
| PCC-Vivace | 5 | 43.89 | 34.29 | 20.54 | 81.07 | 408.90 | 9.07 | 0.12 | 2.65 | 0.09 |
| WebRTC media | 5 | 1.51 | 0.81 | 0.43 | 3.34 | 3.40 | 3.69 | 0.00 | 0.00 | 0.00 |

```
Run 1: Statistics of TCP BBR

Start at: 2019-03-19 14:23:38
End at: 2019-03-19 14:24:08
Local clock offset: -5.549 ms
Remote clock offset: 0.285 ms


# Below is generated by plot.py at 2019-03-19 16:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 11.117 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 10.767 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 40.96 Mbit/s
95th percentile per-packet one-way delay: 12.330 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 11.327 ms
Loss rate: 1.60%
```
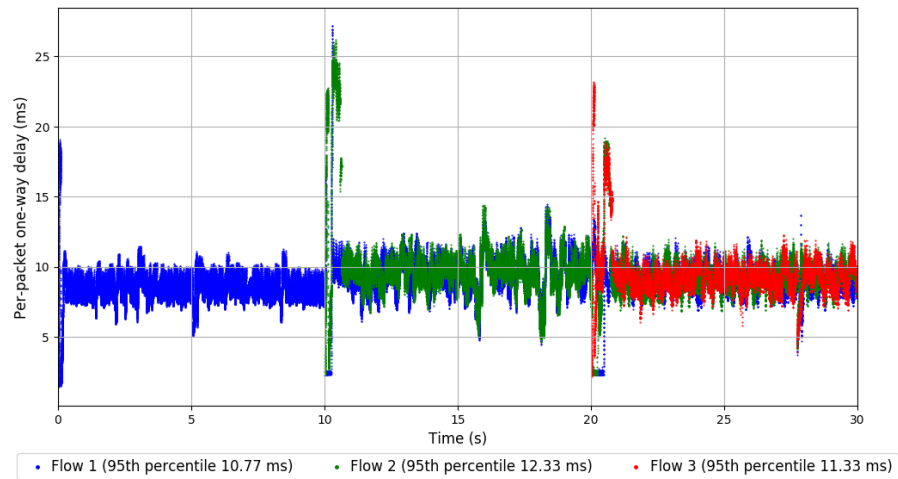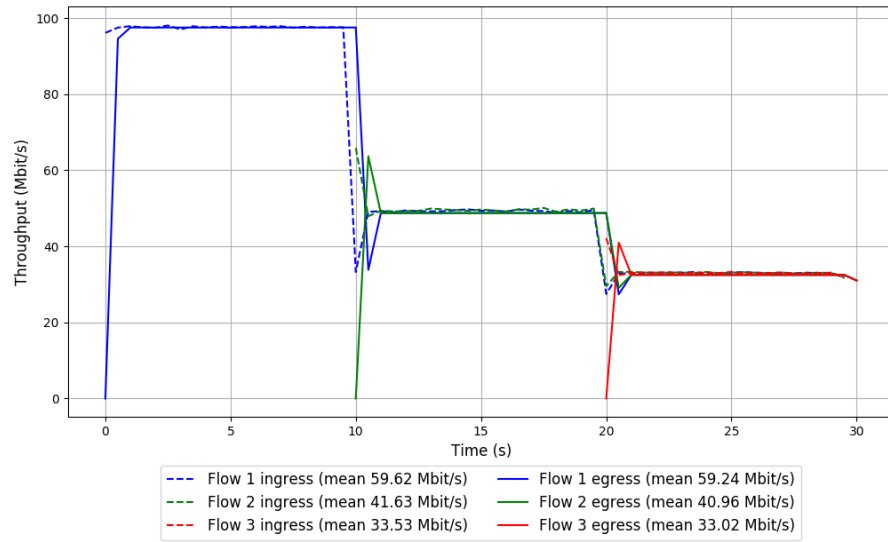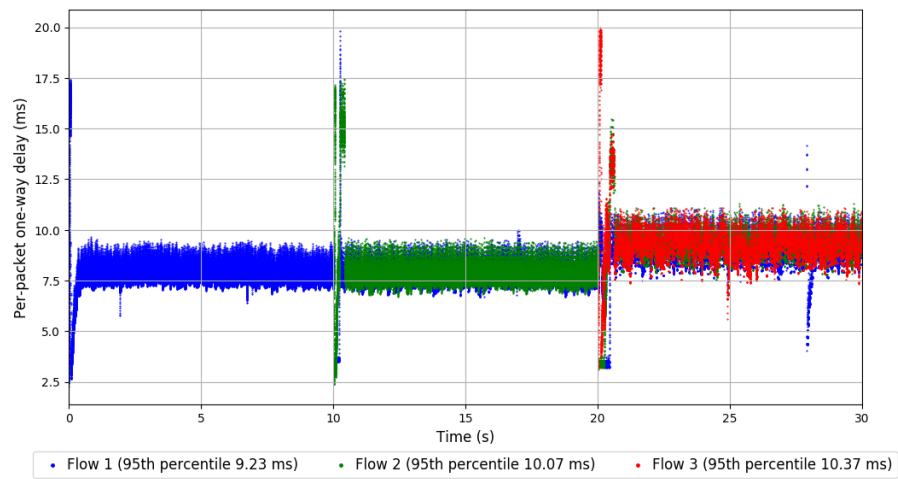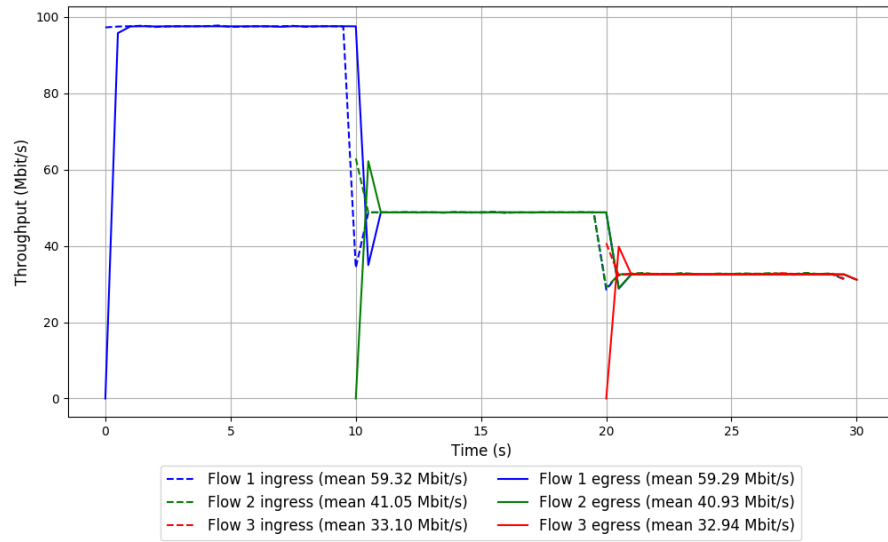
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-03-19 14:47:49
End at: 2019-03-19 14:48:19
Local clock offset: -2.061 ms
Remote clock offset: 0.424 ms


# Below is generated by plot.py at 2019-03-19 16:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 9.834 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 9.231 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.93 Mbit/s
95th percentile per-packet one-way delay: 10.067 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 10.371 ms
Loss rate: 0.51%
```
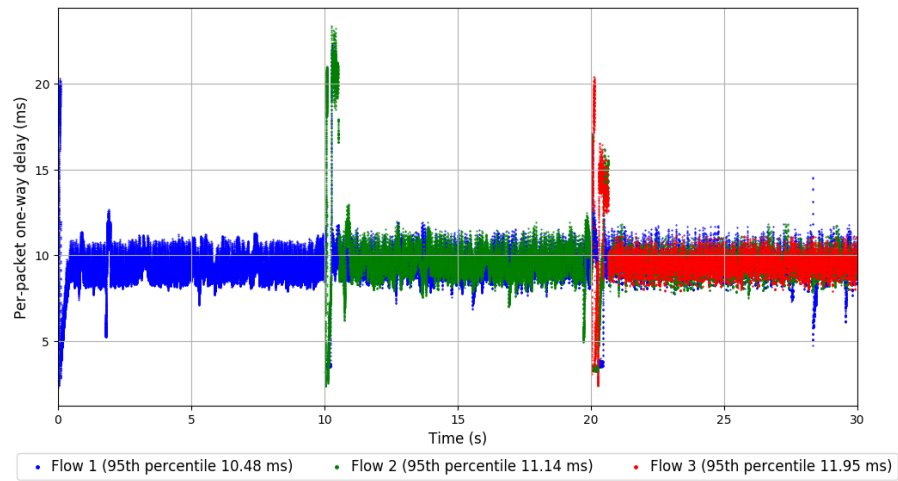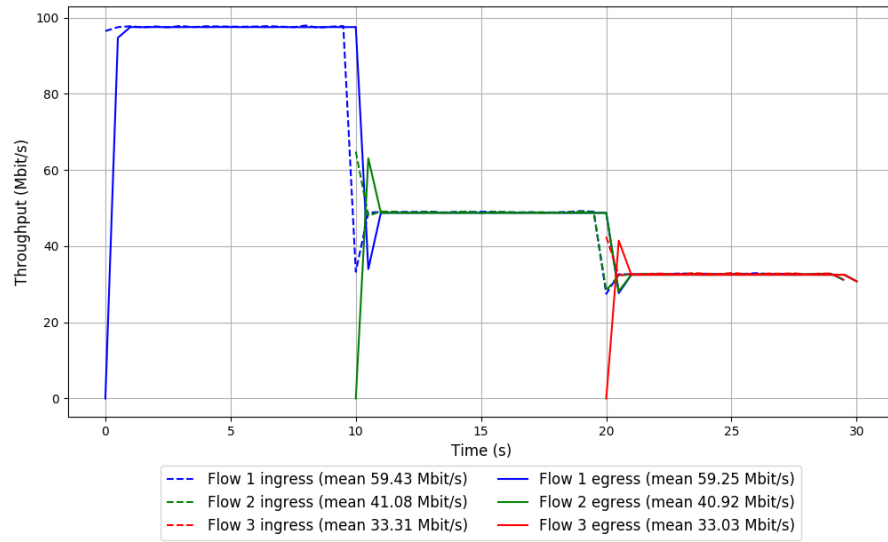
# Run 2: Report of TCP BBR — Data Link



Flow 1 ingress (mean 59.32 Mbit/s)  ---- Flow 1 egress (mean 59.29 Mbit/s)
Flow 2 ingress (mean 41.05 Mbit/s)  ---- Flow 2 egress (mean 40.93 Mbit/s)
Flow 3 ingress (mean 33.10 Mbit/s)  ---- Flow 3 egress (mean 32.94 Mbit/s)



Flow 1 (95th percentile 9.23 ms)    Flow 2 (95th percentile 10.07 ms)    Flow 3 (95th percentile 10.37 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2019-03-19 15:12:00
End at: 2019-03-19 15:12:30
Local clock offset: 0.317 ms
Remote clock offset: 1.118 ms


# Below is generated by plot.py at 2019-03-19 16:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.672 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 10.482 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 11.137 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 11.951 ms
Loss rate: 0.88%
```
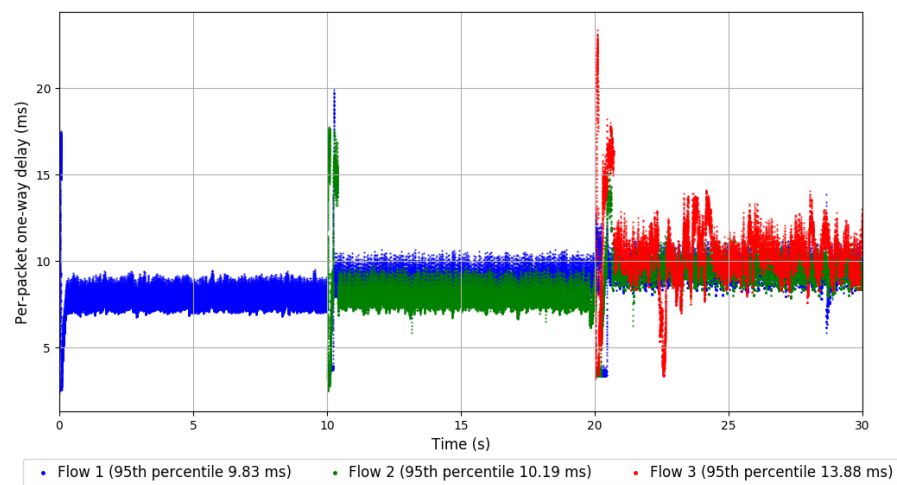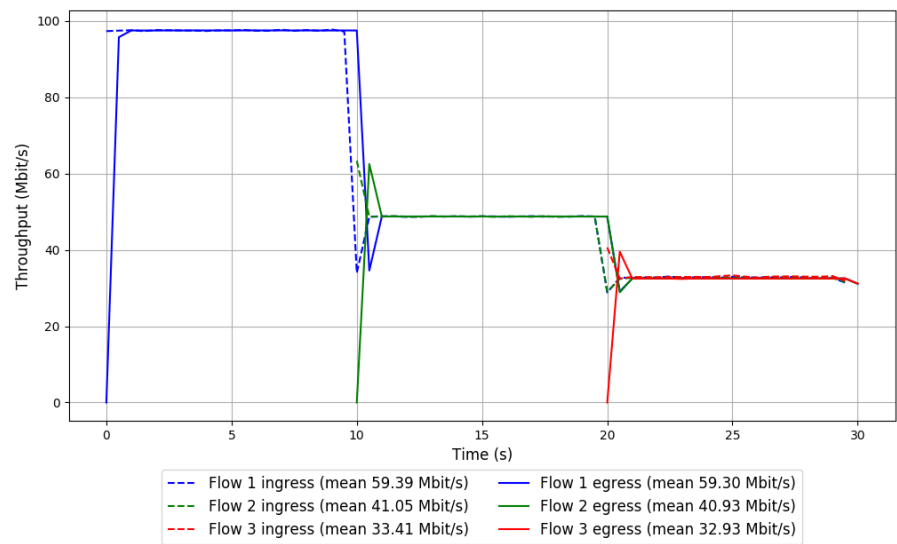
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-03-19 15:36:12
End at: 2019-03-19 15:36:42
Local clock offset: -0.596 ms
Remote clock offset: 1.678 ms


# Below is generated by plot.py at 2019-03-19 16:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 10.697 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 9.827 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.93 Mbit/s
95th percentile per-packet one-way delay: 10.186 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 13.884 ms
Loss rate: 1.50%
```
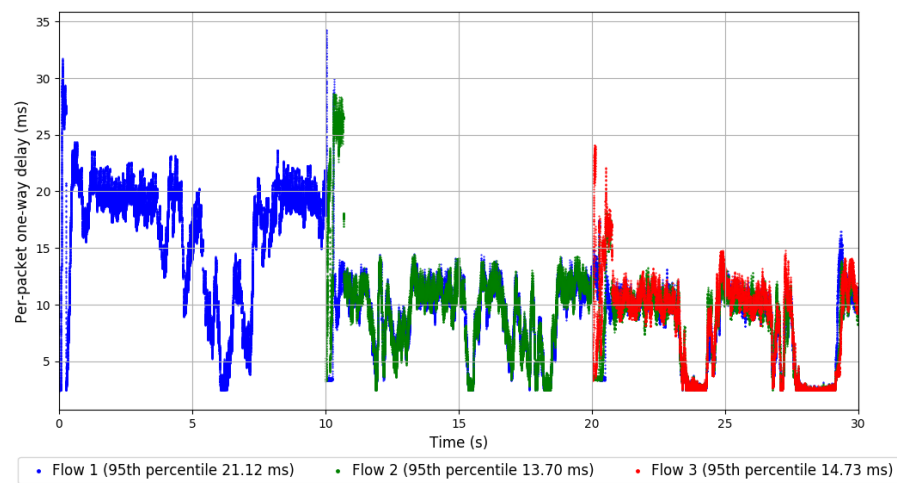
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-03-19 16:00:23
End at: 2019-03-19 16:00:53
Local clock offset: -2.391 ms
Remote clock offset: 1.764 ms


# Below is generated by plot.py at 2019-03-19 16:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.24 Mbit/s
95th percentile per-packet one-way delay: 20.774 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 58.08 Mbit/s
95th percentile per-packet one-way delay: 21.116 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 39.32 Mbit/s
95th percentile per-packet one-way delay: 13.698 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 30.01 Mbit/s
95th percentile per-packet one-way delay: 14.728 ms
Loss rate: 1.01%
```
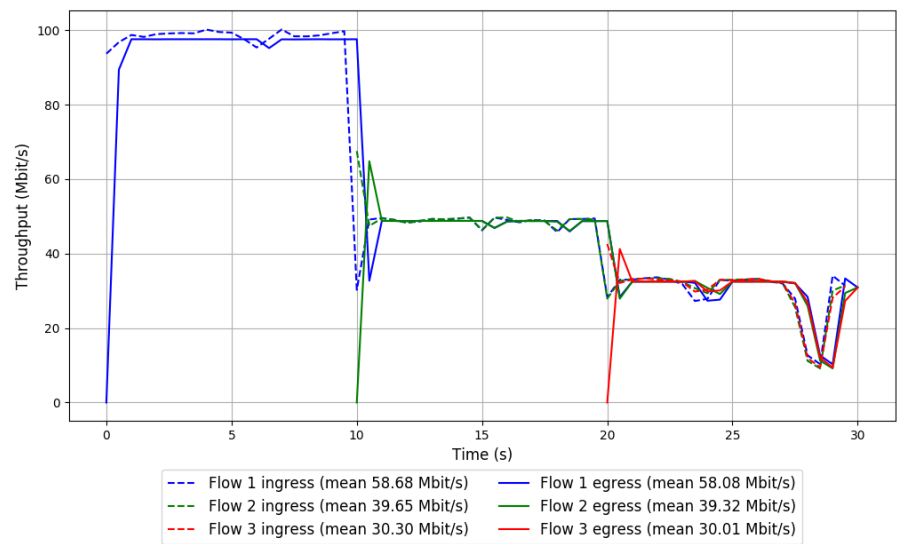
Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-03-19 14:29:20
End at: 2019-03-19 14:29:50
Local clock offset: -3.769 ms
Remote clock offset: 0.307 ms


# Below is generated by plot.py at 2019-03-19 16:14:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.52 Mbit/s
95th percentile per-packet one-way delay: 13.251 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 55.18 Mbit/s
95th percentile per-packet one-way delay: 12.705 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 13.304 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 30.43 Mbit/s
95th percentile per-packet one-way delay: 15.159 ms
Loss rate: 0.18%
```
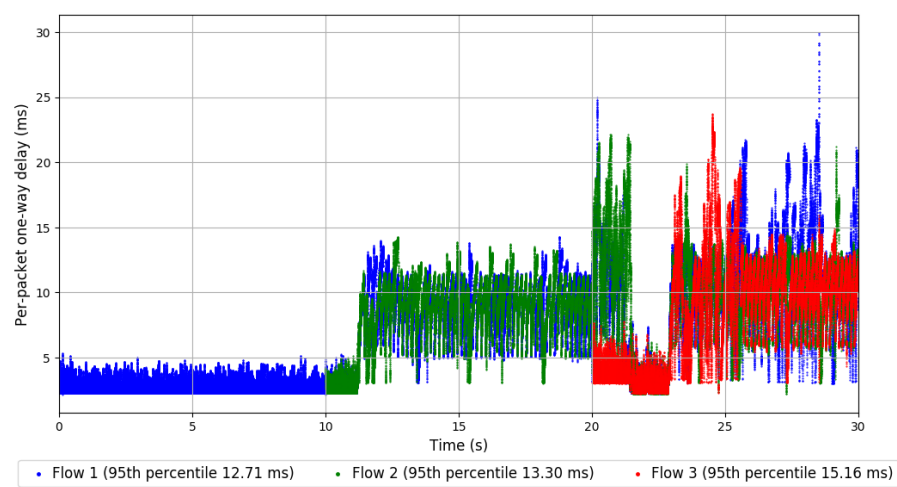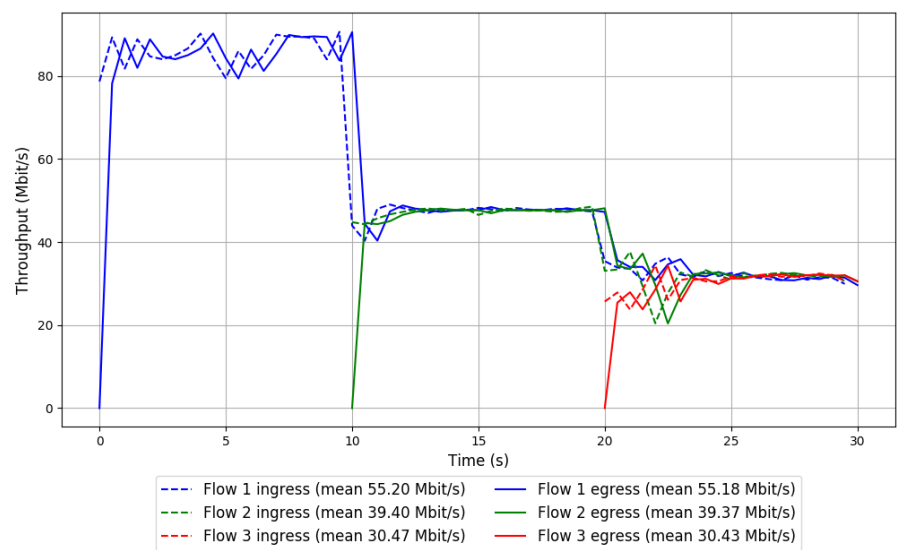
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-03-19 14:53:30
End at: 2019-03-19 14:54:00
Local clock offset: -1.983 ms
Remote clock offset: 0.469 ms


# Below is generated by plot.py at 2019-03-19 16:14:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.88 Mbit/s
95th percentile per-packet one-way delay: 12.337 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 55.11 Mbit/s
95th percentile per-packet one-way delay: 11.321 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.68 Mbit/s
95th percentile per-packet one-way delay: 11.914 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 31.15 Mbit/s
95th percentile per-packet one-way delay: 15.760 ms
Loss rate: 0.21%
```
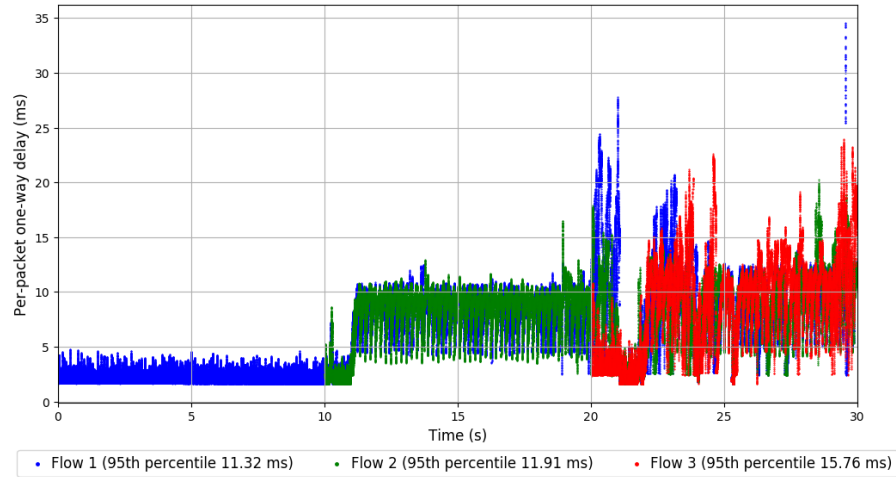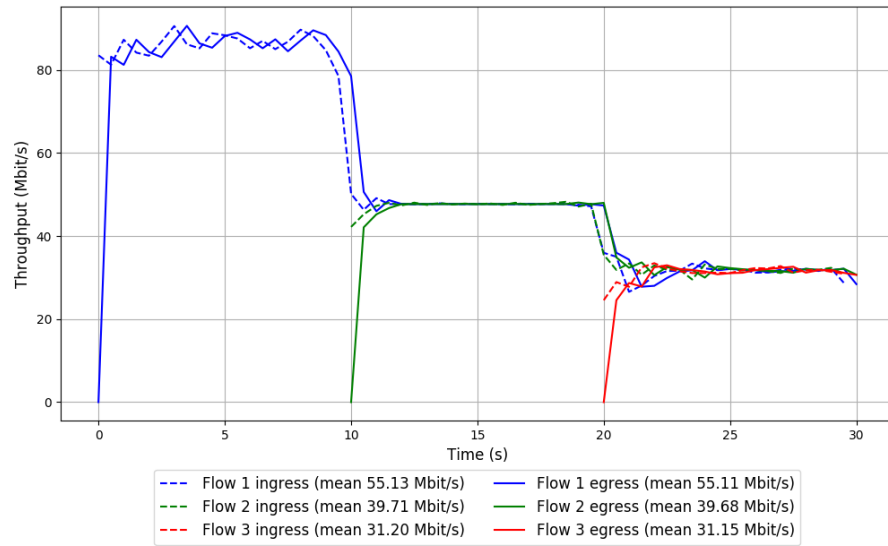
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-03-19 15:17:42
End at: 2019-03-19 15:18:12
Local clock offset: 1.012 ms
Remote clock offset: 1.337 ms


# Below is generated by plot.py at 2019-03-19 16:14:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.06 Mbit/s
95th percentile per-packet one-way delay: 15.170 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 54.05 Mbit/s
95th percentile per-packet one-way delay: 15.242 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 13.844 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 18.497 ms
Loss rate: 0.15%
```
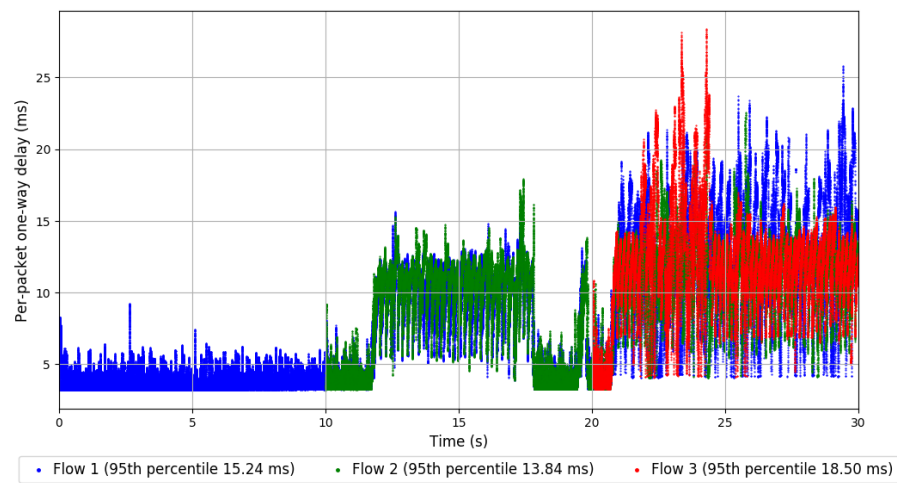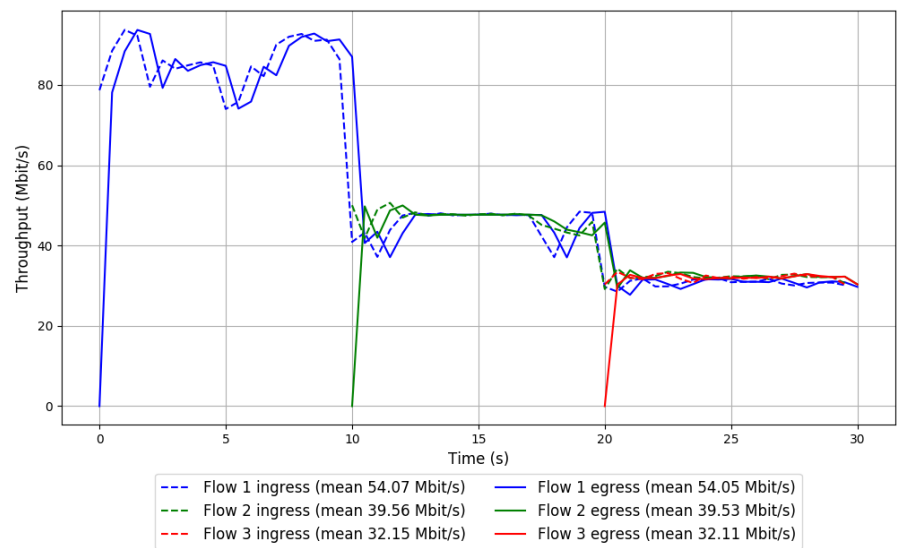
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-03-19 15:41:54
End at: 2019-03-19 15:42:24
Local clock offset: 0.21 ms
Remote clock offset: 1.693 ms


# Below is generated by plot.py at 2019-03-19 16:15:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.54 Mbit/s
95th percentile per-packet one-way delay: 14.797 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 53.03 Mbit/s
95th percentile per-packet one-way delay: 15.356 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 13.969 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 32.96 Mbit/s
95th percentile per-packet one-way delay: 15.160 ms
Loss rate: 0.24%
```
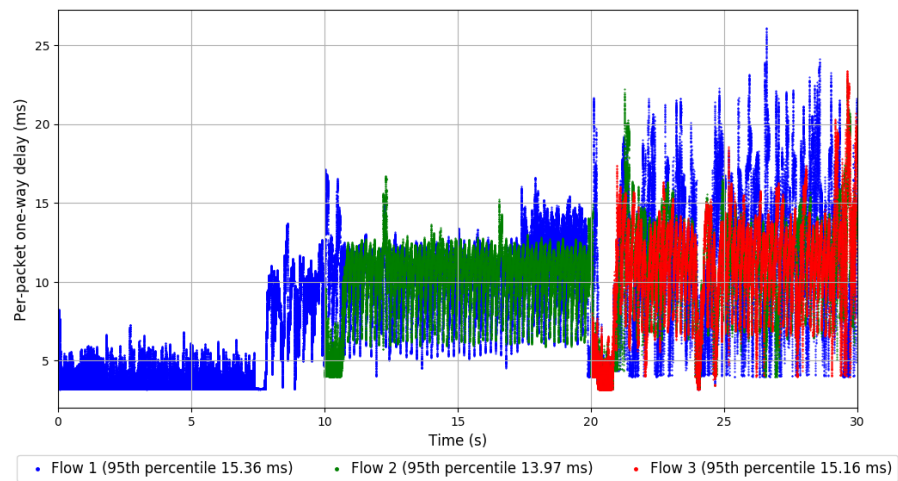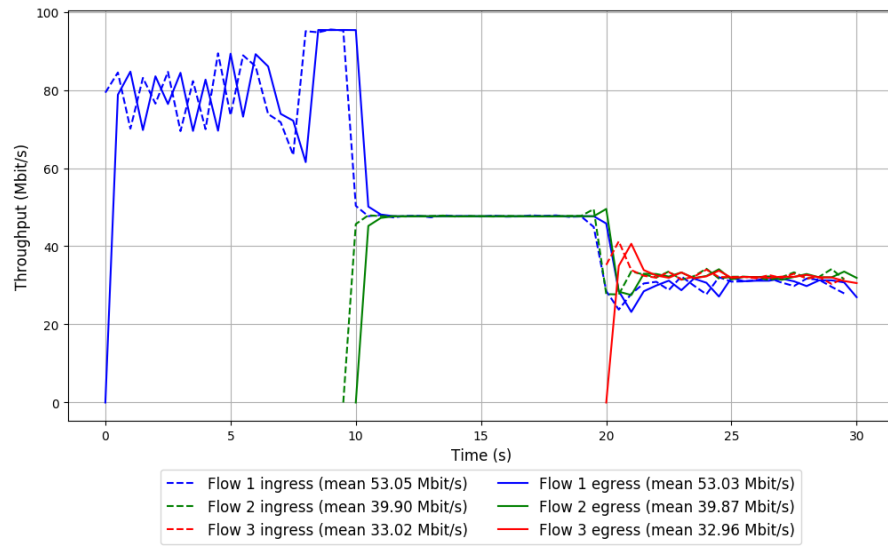
Run 4: Report of Copa — Data Link



Flow 1 ingress (mean 53.05 Mbit/s) --- Flow 1 egress (mean 53.03 Mbit/s)
Flow 2 ingress (mean 39.90 Mbit/s) --- Flow 2 egress (mean 39.87 Mbit/s)
Flow 3 ingress (mean 33.02 Mbit/s) --- Flow 3 egress (mean 32.96 Mbit/s)



Flow 1 (95th percentile 15.36 ms)   Flow 2 (95th percentile 13.97 ms)   Flow 3 (95th percentile 15.16 ms)

```
Run 5: Statistics of Copa

Start at: 2019-03-19 16:06:06
End at: 2019-03-19 16:06:36
Local clock offset: -2.664 ms
Remote clock offset: 1.822 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.49 Mbit/s
95th percentile per-packet one-way delay: 14.653 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 13.991 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 39.84 Mbit/s
95th percentile per-packet one-way delay: 13.135 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 18.113 ms
Loss rate: 0.16%
```
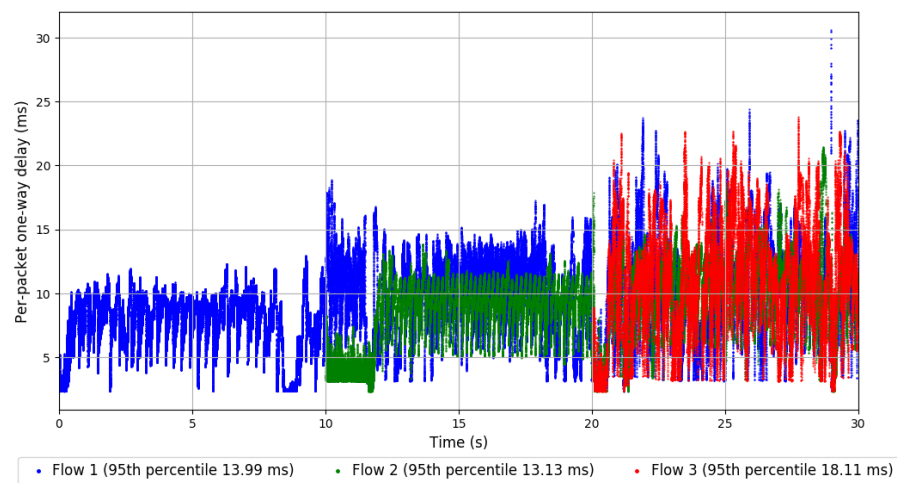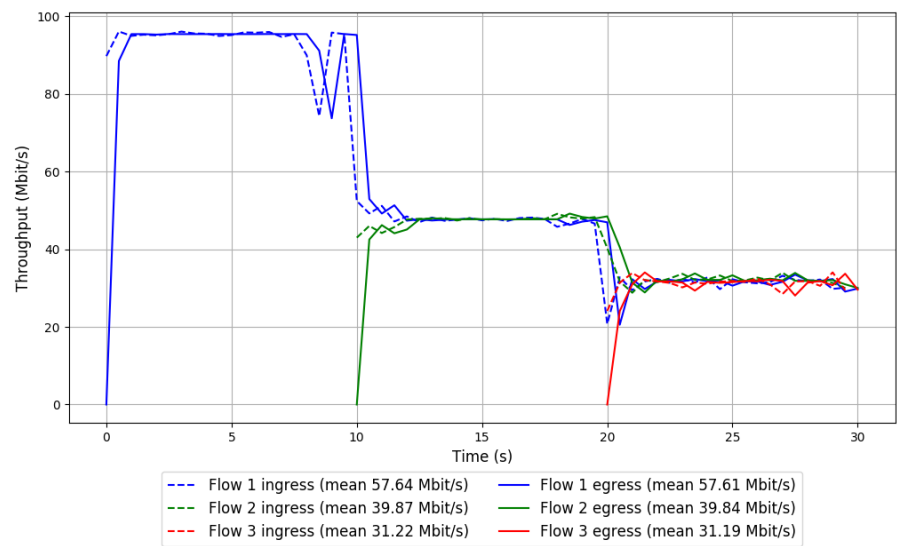
Run 5: Report of Copa — Data Link



Flow 1 ingress (mean 57.64 Mbit/s) ---- Flow 1 egress (mean 57.61 Mbit/s)
Flow 2 ingress (mean 39.87 Mbit/s) ---- Flow 2 egress (mean 39.84 Mbit/s)
Flow 3 ingress (mean 31.22 Mbit/s) ---- Flow 3 egress (mean 31.19 Mbit/s)



• Flow 1 (95th percentile 13.99 ms)    • Flow 2 (95th percentile 13.13 ms)    • Flow 3 (95th percentile 18.11 ms)

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```
Run 1: Statistics of TCP Cubic

Start at: 2019-03-19 14:12:06
End at: 2019-03-19 14:12:36
Local clock offset: -7.42 ms
Remote clock offset: 0.115 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 10.661 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 10.544 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.631 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.839 ms
Loss rate: 0.24%
```
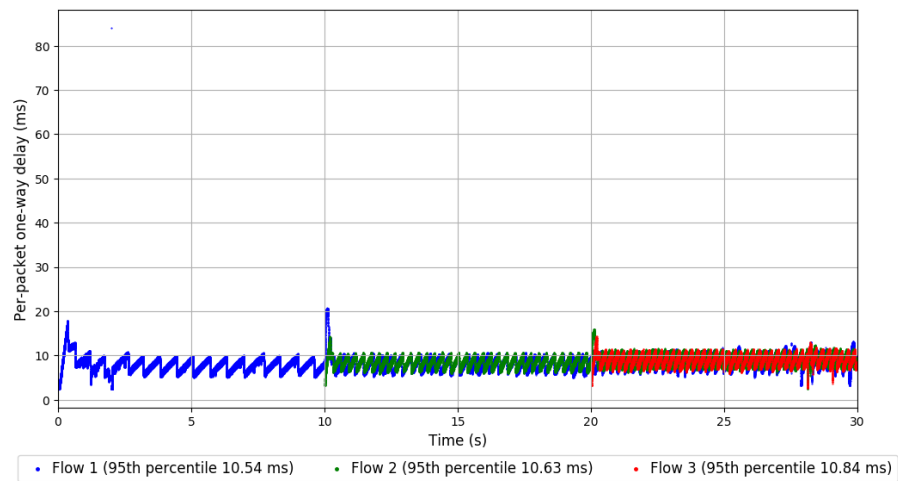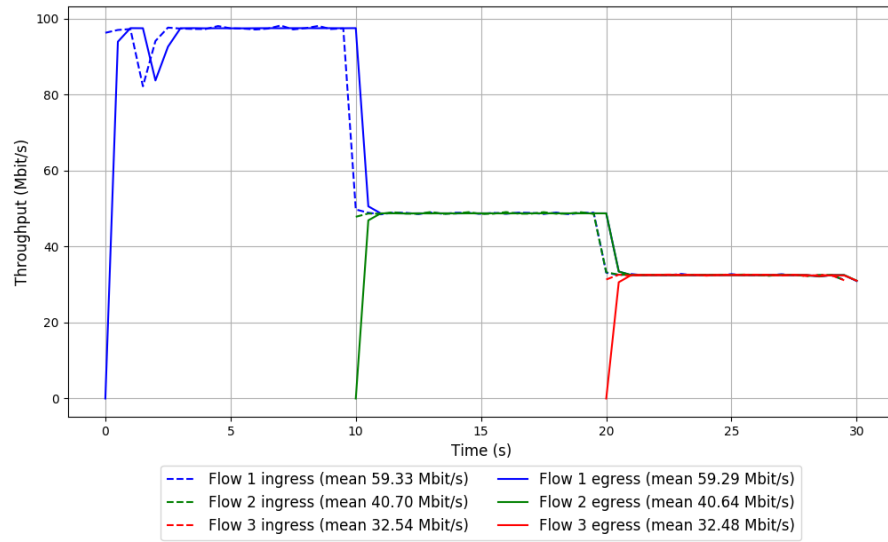
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-03-19 14:36:18
End at: 2019-03-19 14:36:48
Local clock offset: -2.22 ms
Remote clock offset: 0.45 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 11.184 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 59.62 Mbit/s
95th percentile per-packet one-way delay: 11.122 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 11.193 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 11.230 ms
Loss rate: 0.22%
```
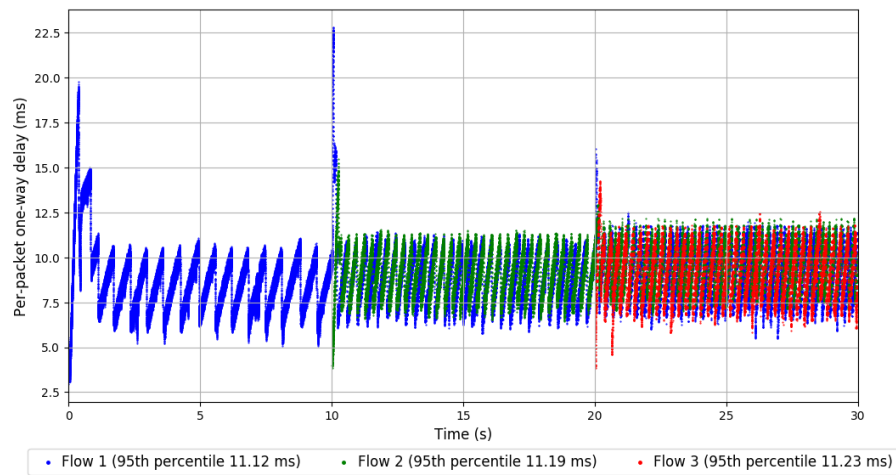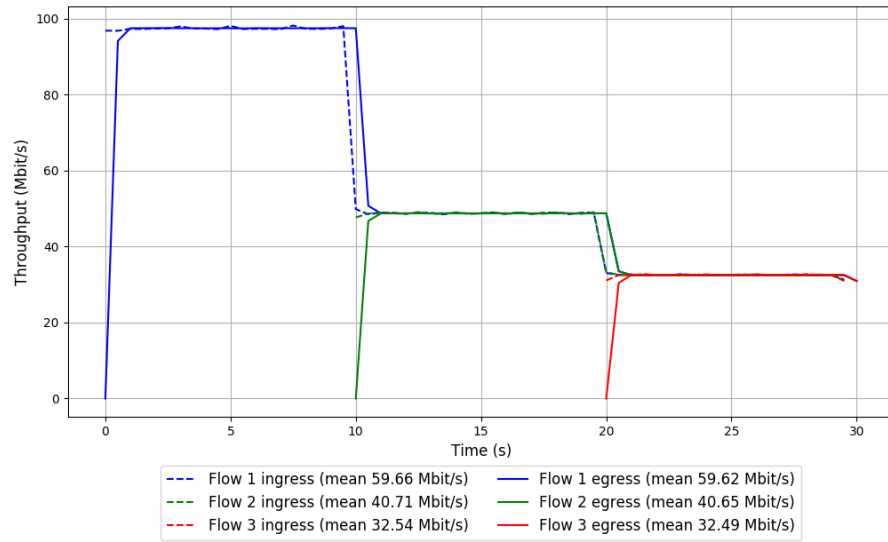
Run 2: Report of TCP Cubic — Data Link



- - - - Flow 1 ingress (mean 59.66 Mbit/s) ——— Flow 1 egress (mean 59.62 Mbit/s)
- - - - Flow 2 ingress (mean 40.71 Mbit/s) ——— Flow 2 egress (mean 40.65 Mbit/s)
- - - - Flow 3 ingress (mean 32.54 Mbit/s) ——— Flow 3 egress (mean 32.49 Mbit/s)



- Flow 1 (95th percentile 11.12 ms)  • Flow 2 (95th percentile 11.19 ms)  • Flow 3 (95th percentile 11.23 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-03-19 15:00:29
End at: 2019-03-19 15:00:59
Local clock offset: -0.438 ms
Remote clock offset: 0.757 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.557 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 10.717 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.277 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.578 ms
Loss rate: 0.22%
```
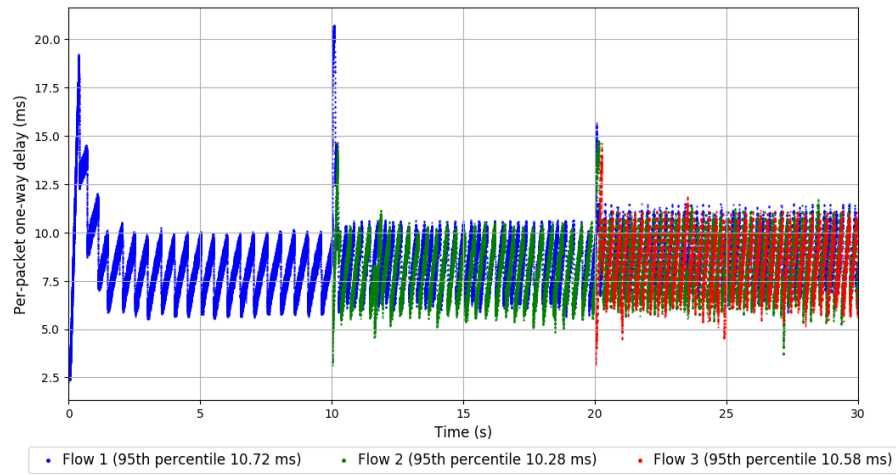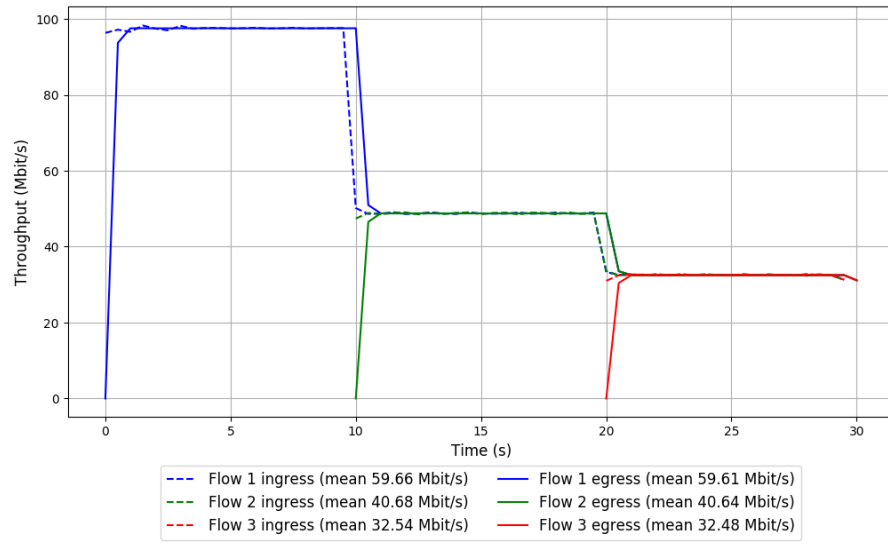
Run 3: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 59.66 Mbit/s) — Flow 1 egress (mean 59.61 Mbit/s)
Flow 2 ingress (mean 40.68 Mbit/s) — Flow 2 egress (mean 40.64 Mbit/s)
Flow 3 ingress (mean 32.54 Mbit/s) — Flow 3 egress (mean 32.48 Mbit/s)



Flow 1 (95th percentile 10.72 ms)   Flow 2 (95th percentile 10.28 ms)   Flow 3 (95th percentile 10.58 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-03-19 15:24:41
End at: 2019-03-19 15:25:11
Local clock offset: 0.38 ms
Remote clock offset: 1.48 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 11.495 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 11.574 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 11.418 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 32.47 Mbit/s
95th percentile per-packet one-way delay: 11.534 ms
Loss rate: 0.22%
```
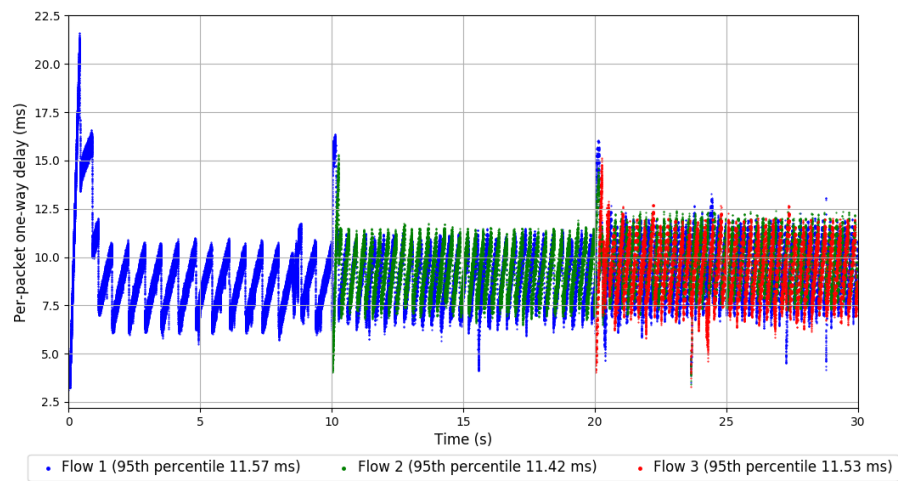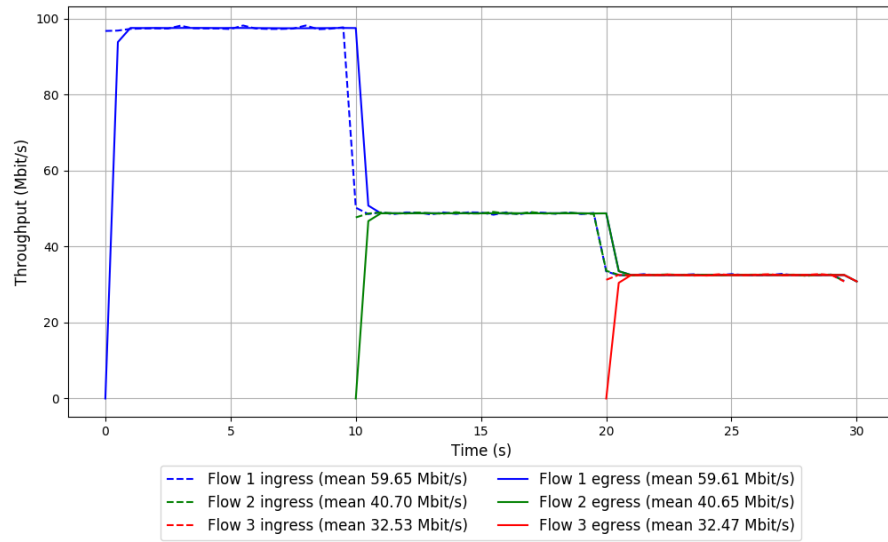
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-03-19 15:48:51
End at: 2019-03-19 15:49:21
Local clock offset: -0.335 ms
Remote clock offset: 1.637 ms


# Below is generated by plot.py at 2019-03-19 16:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 12.158 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 12.115 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 12.208 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 12.347 ms
Loss rate: 0.25%
```
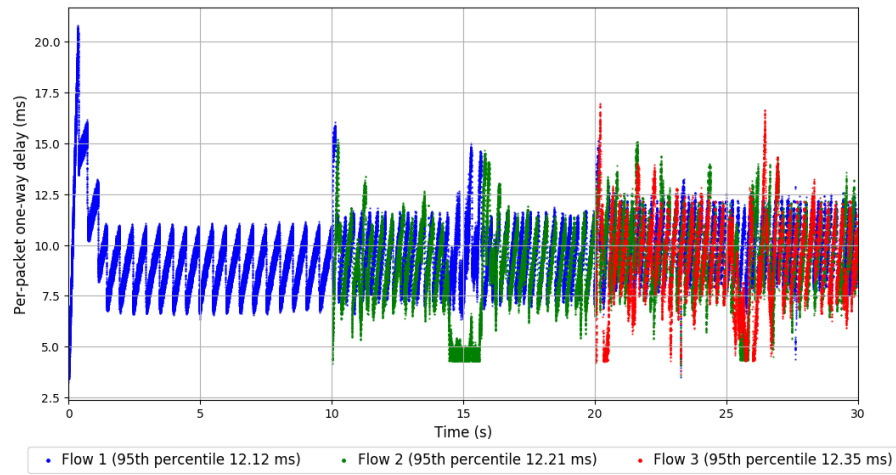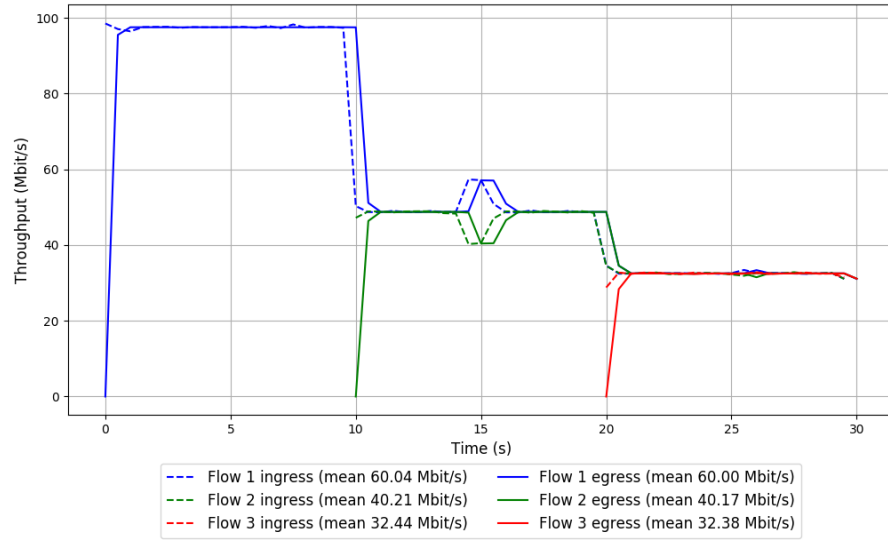
Run 5: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 60.04 Mbit/s) --- Flow 1 egress (mean 60.00 Mbit/s)
Flow 2 ingress (mean 40.21 Mbit/s) --- Flow 2 egress (mean 40.17 Mbit/s)
Flow 3 ingress (mean 32.44 Mbit/s) --- Flow 3 egress (mean 32.38 Mbit/s)



Flow 1 (95th percentile 12.12 ms)   Flow 2 (95th percentile 12.21 ms)   Flow 3 (95th percentile 12.35 ms)

34

```
Run 1: Statistics of FillP

Start at: 2019-03-19 14:25:55
End at: 2019-03-19 14:26:25
Local clock offset: -4.275 ms
Remote clock offset: 0.251 ms


# Below is generated by plot.py at 2019-03-19 16:15:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 56.180 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 34.359 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 48.08 Mbit/s
95th percentile per-packet one-way delay: 63.513 ms
Loss rate: 3.88%
-- Flow 3:
Average throughput: 13.97 Mbit/s
95th percentile per-packet one-way delay: 40.416 ms
Loss rate: 0.02%
```
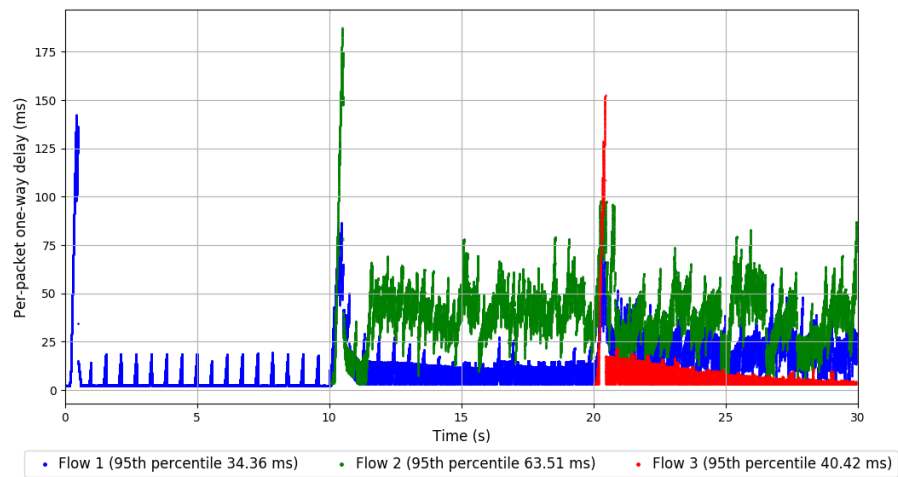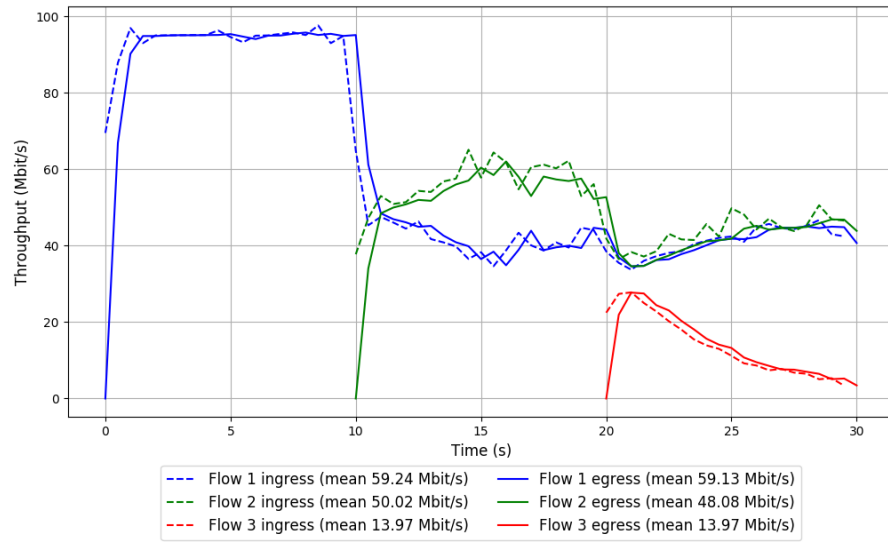
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-03-19 14:50:06
End at: 2019-03-19 14:50:36
Local clock offset: -2.478 ms
Remote clock offset: 0.505 ms


# Below is generated by plot.py at 2019-03-19 16:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 42.964 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 49.02 Mbit/s
95th percentile per-packet one-way delay: 26.796 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 43.45 Mbit/s
95th percentile per-packet one-way delay: 38.533 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 32.29 Mbit/s
95th percentile per-packet one-way delay: 53.839 ms
Loss rate: 3.86%
```
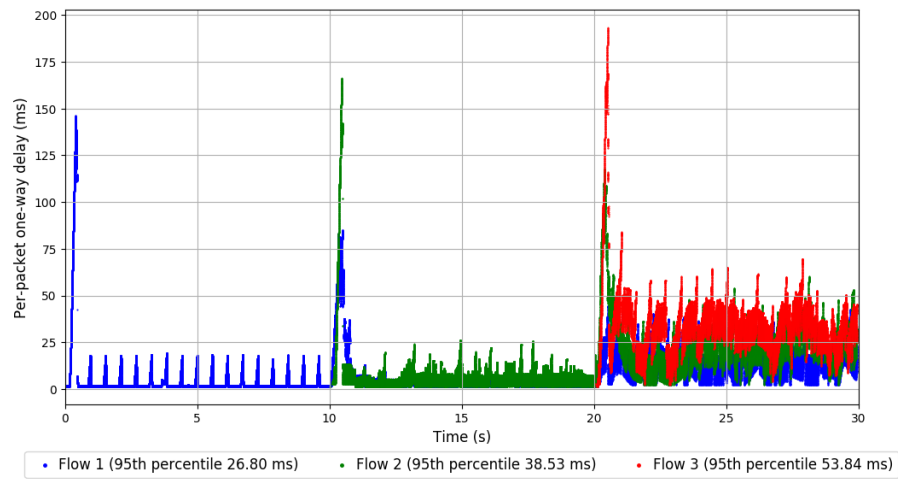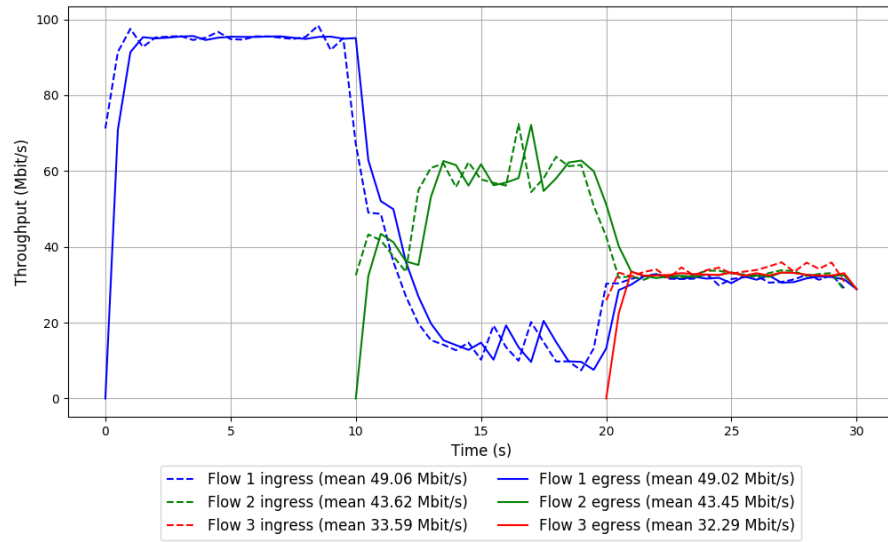
# Run 2: Report of FillP — Data Link



Flow 1 ingress (mean 49.06 Mbit/s) — Flow 1 egress (mean 49.02 Mbit/s)
Flow 2 ingress (mean 43.62 Mbit/s) — Flow 2 egress (mean 43.45 Mbit/s)
Flow 3 ingress (mean 33.59 Mbit/s) — Flow 3 egress (mean 32.29 Mbit/s)



Flow 1 (95th percentile 26.80 ms)    Flow 2 (95th percentile 38.53 ms)    Flow 3 (95th percentile 53.84 ms)

```
Run 3: Statistics of FillP

Start at: 2019-03-19 15:14:17
End at: 2019-03-19 15:14:47
Local clock offset: 0.442 ms
Remote clock offset: 1.223 ms


# Below is generated by plot.py at 2019-03-19 16:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 52.037 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 57.40 Mbit/s
95th percentile per-packet one-way delay: 30.642 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 61.229 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 45.216 ms
Loss rate: 1.59%
```
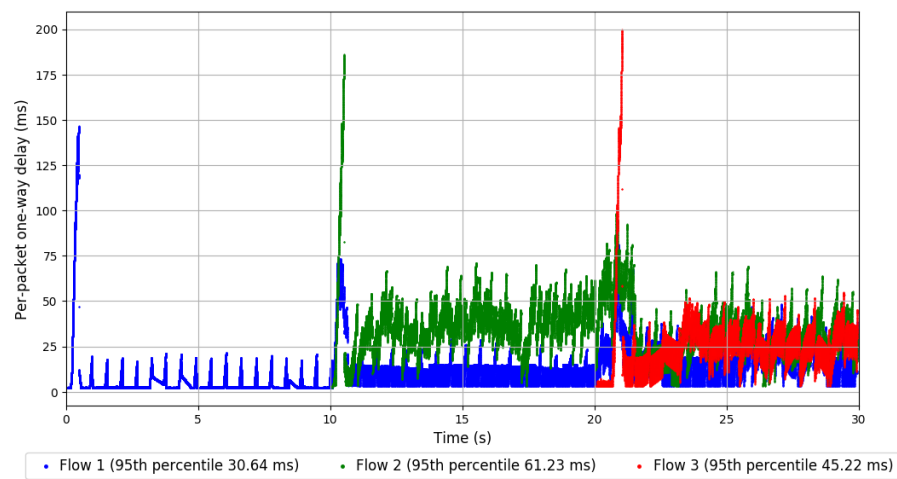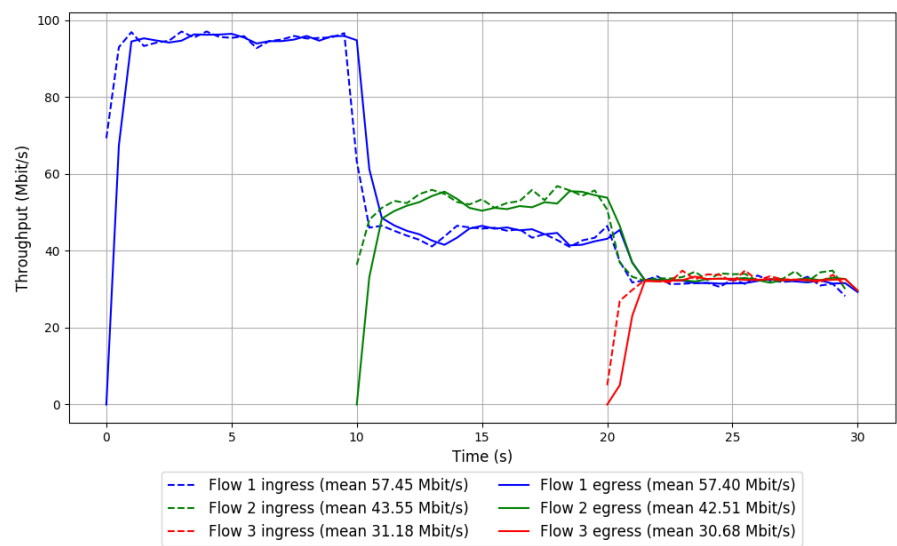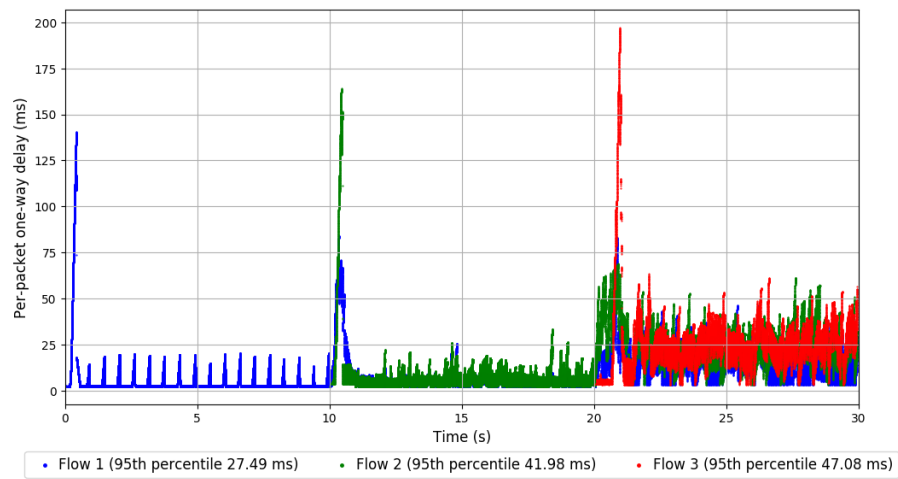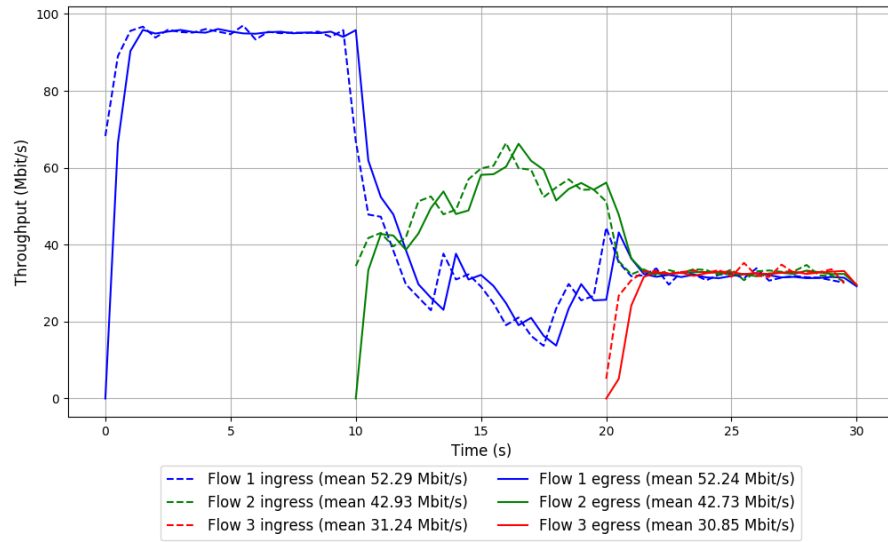
# Run 3: Report of FillP — Data Link



Flow 1 ingress (mean 57.45 Mbit/s) --- Flow 1 egress (mean 57.40 Mbit/s)
Flow 2 ingress (mean 43.55 Mbit/s) --- Flow 2 egress (mean 42.51 Mbit/s)
Flow 3 ingress (mean 31.18 Mbit/s) --- Flow 3 egress (mean 30.68 Mbit/s)



Flow 1 (95th percentile 30.64 ms) · Flow 2 (95th percentile 61.23 ms) · Flow 3 (95th percentile 45.22 ms)

```
Run 4: Statistics of FillP

Start at: 2019-03-19 15:38:29
End at: 2019-03-19 15:38:59
Local clock offset: -0.593 ms
Remote clock offset: 1.663 ms


# Below is generated by plot.py at 2019-03-19 16:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 38.103 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 27.489 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 42.73 Mbit/s
95th percentile per-packet one-way delay: 41.975 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 30.85 Mbit/s
95th percentile per-packet one-way delay: 47.080 ms
Loss rate: 1.27%
```
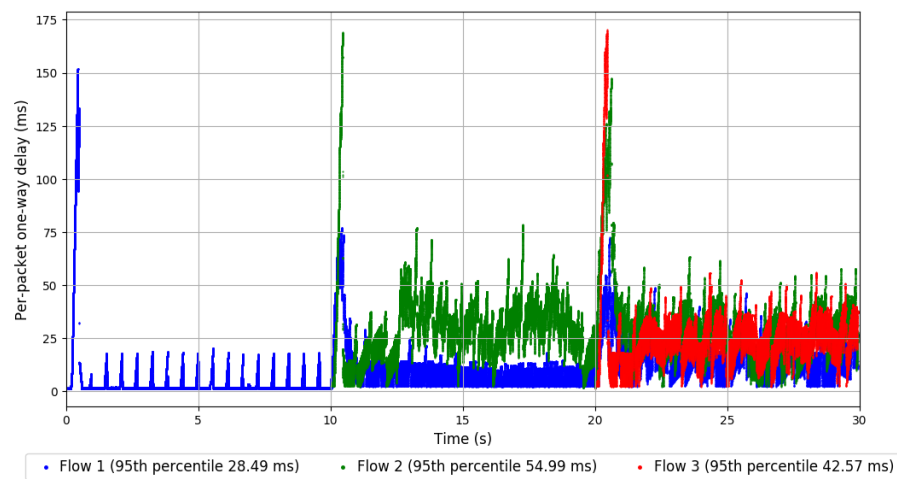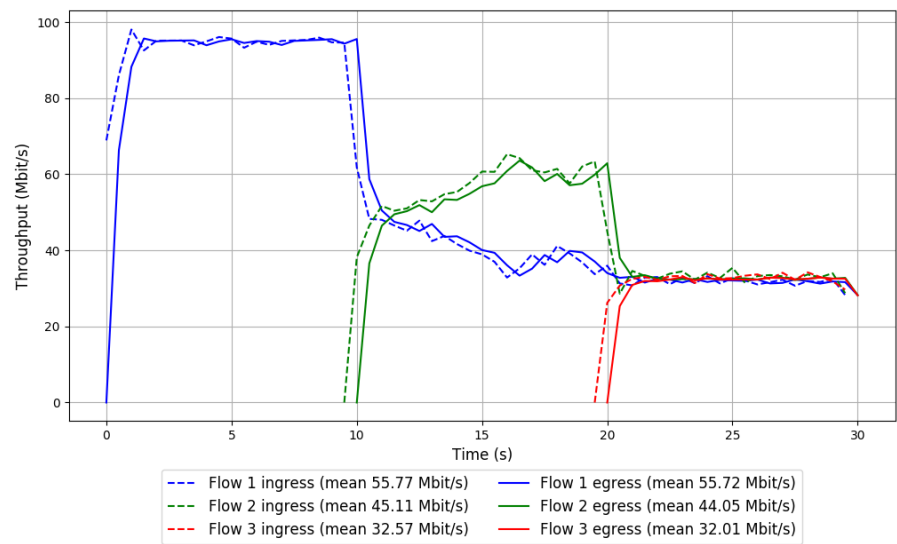
Run 4: Report of FillP — Data Link



Flow 1 ingress (mean 52.29 Mbit/s) --- Flow 1 egress (mean 52.24 Mbit/s)
Flow 2 ingress (mean 42.93 Mbit/s) --- Flow 2 egress (mean 42.73 Mbit/s)
Flow 3 ingress (mean 31.24 Mbit/s) --- Flow 3 egress (mean 30.85 Mbit/s)



Flow 1 (95th percentile 27.49 ms)   Flow 2 (95th percentile 41.98 ms)   Flow 3 (95th percentile 47.08 ms)

```
Run 5: Statistics of FillP

Start at: 2019-03-19 16:02:41
End at: 2019-03-19 16:03:11
Local clock offset: -3.331 ms
Remote clock offset: 1.814 ms


# Below is generated by plot.py at 2019-03-19 16:16:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 45.446 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 28.491 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 44.05 Mbit/s
95th percentile per-packet one-way delay: 54.992 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 42.568 ms
Loss rate: 1.59%
```
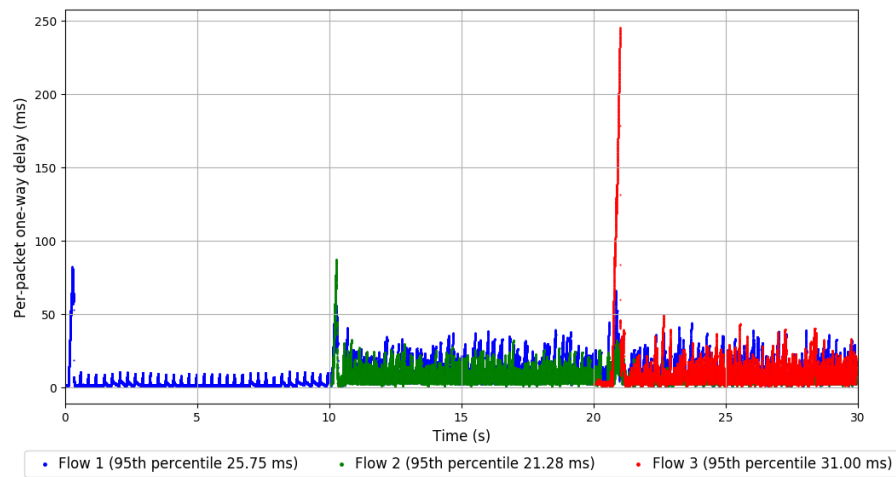
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-19 14:16:40
End at: 2019-03-19 14:17:10
Local clock offset: -8.194 ms
Remote clock offset: 0.065 ms


# Below is generated by plot.py at 2019-03-19 16:16:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.61 Mbit/s
95th percentile per-packet one-way delay: 25.198 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 61.90 Mbit/s
95th percentile per-packet one-way delay: 25.751 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 21.281 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 31.005 ms
Loss rate: 0.22%
```
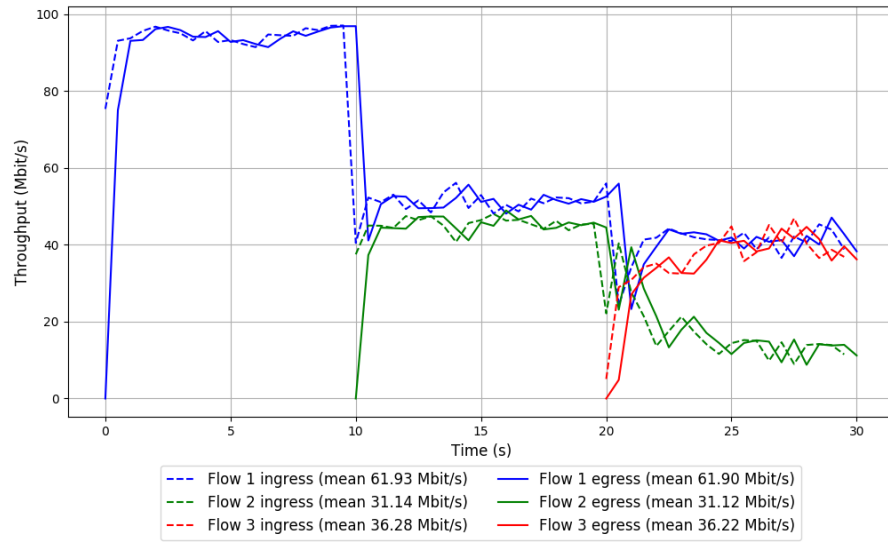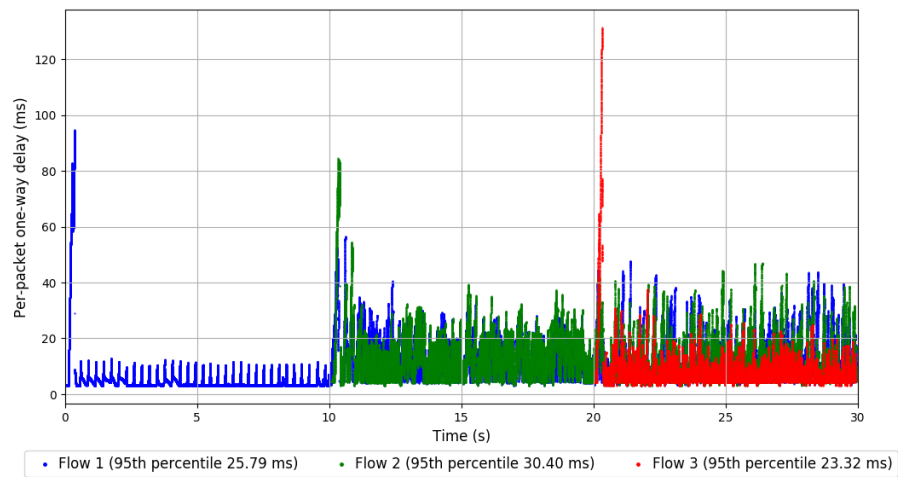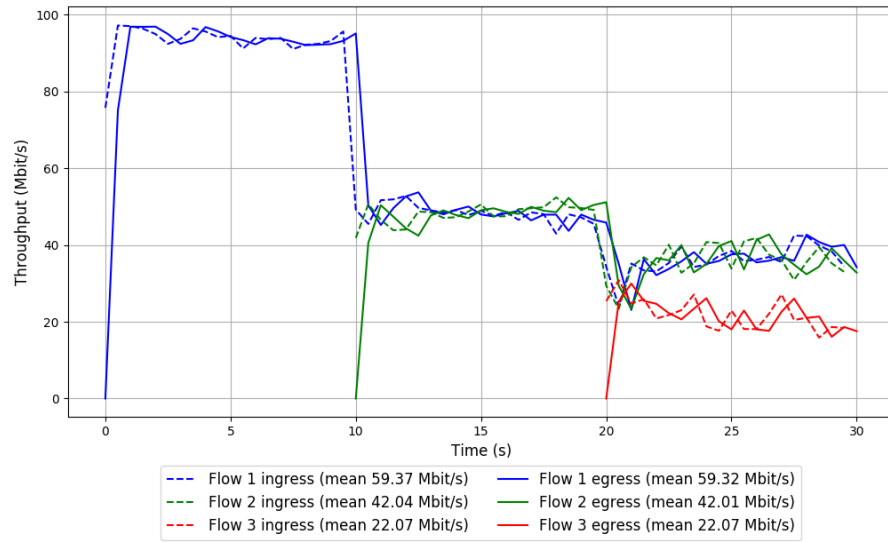
Run 1: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 61.93 Mbit/s) --- Flow 1 egress (mean 61.90 Mbit/s)
Flow 2 ingress (mean 31.14 Mbit/s) --- Flow 2 egress (mean 31.12 Mbit/s)
Flow 3 ingress (mean 36.28 Mbit/s) --- Flow 3 egress (mean 36.22 Mbit/s)



Flow 1 (95th percentile 25.75 ms)    Flow 2 (95th percentile 21.28 ms)    Flow 3 (95th percentile 31.00 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-19 14:40:52
End at: 2019-03-19 14:41:22
Local clock offset: -1.917 ms
Remote clock offset: 0.373 ms


# Below is generated by plot.py at 2019-03-19 16:16:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.58 Mbit/s
95th percentile per-packet one-way delay: 27.445 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 59.32 Mbit/s
95th percentile per-packet one-way delay: 25.788 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 42.01 Mbit/s
95th percentile per-packet one-way delay: 30.399 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 22.07 Mbit/s
95th percentile per-packet one-way delay: 23.322 ms
Loss rate: 0.20%
```
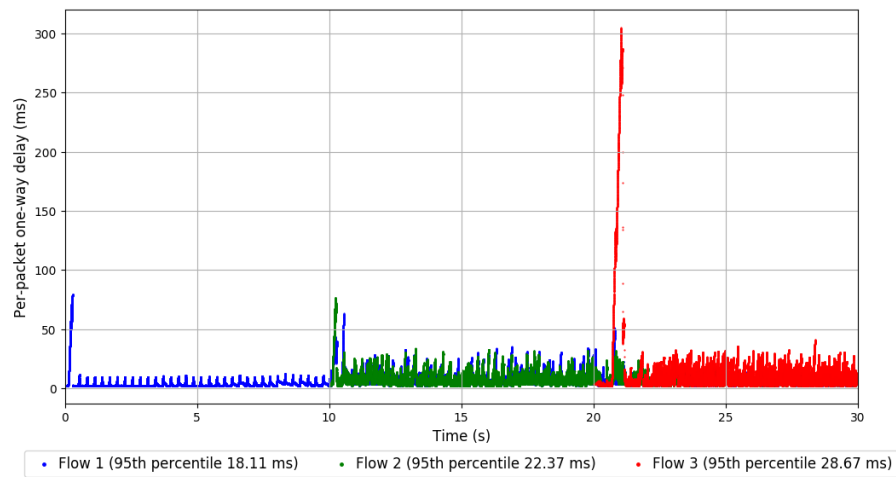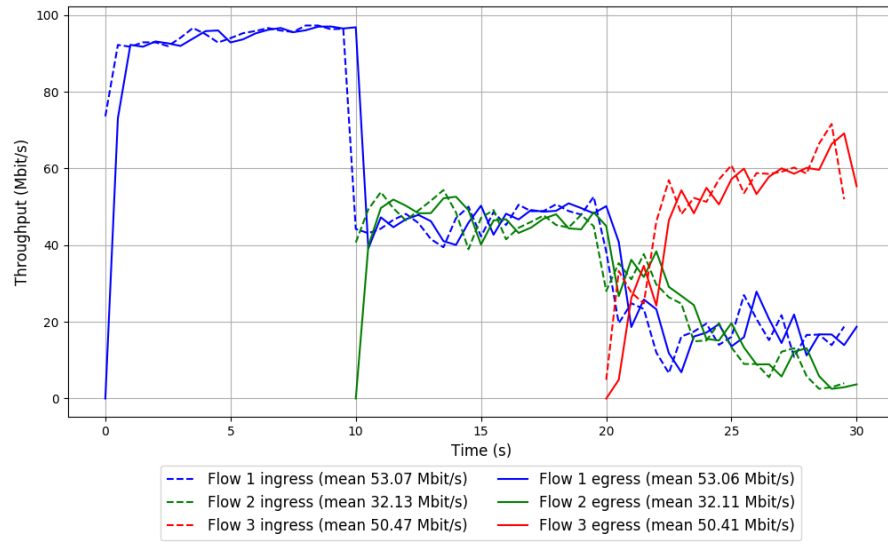
Run 2: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 59.37 Mbit/s)    Flow 1 egress (mean 59.32 Mbit/s)
Flow 2 ingress (mean 42.04 Mbit/s)    Flow 2 egress (mean 42.01 Mbit/s)
Flow 3 ingress (mean 22.07 Mbit/s)    Flow 3 egress (mean 22.07 Mbit/s)



Flow 1 (95th percentile 25.79 ms)    Flow 2 (95th percentile 30.40 ms)    Flow 3 (95th percentile 23.32 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-19 15:05:03
End at: 2019-03-19 15:05:33
Local clock offset: -0.102 ms
Remote clock offset: 0.965 ms

# Below is generated by plot.py at 2019-03-19 16:16:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.18 Mbit/s
95th percentile per-packet one-way delay: 22.661 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.06 Mbit/s
95th percentile per-packet one-way delay: 18.112 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 22.372 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 50.41 Mbit/s
95th percentile per-packet one-way delay: 28.673 ms
Loss rate: 0.01%
```
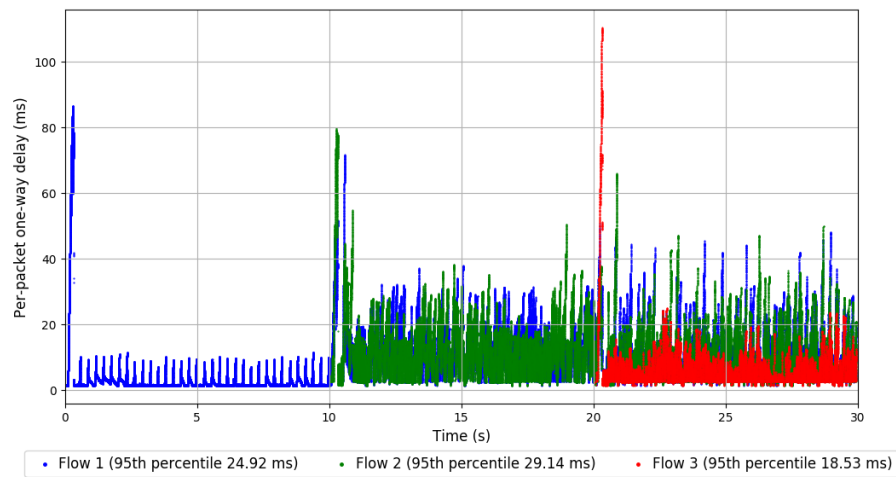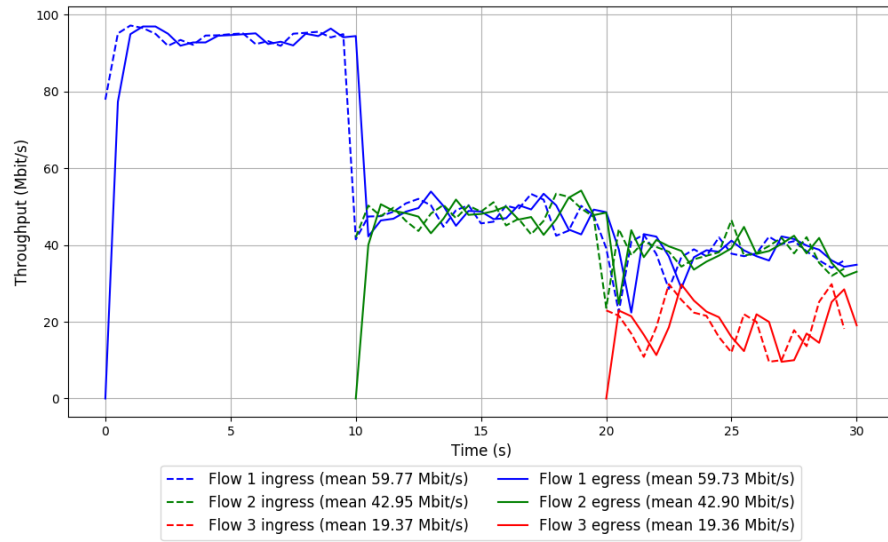
Run 3: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 53.07 Mbit/s) --- Flow 1 egress (mean 53.06 Mbit/s) ———
Flow 2 ingress (mean 32.13 Mbit/s) --- Flow 2 egress (mean 32.11 Mbit/s) ———
Flow 3 ingress (mean 50.47 Mbit/s) --- Flow 3 egress (mean 50.41 Mbit/s) ———



Flow 1 (95th percentile 18.11 ms) • Flow 2 (95th percentile 22.37 ms) • Flow 3 (95th percentile 28.67 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-19 15:29:15
End at: 2019-03-19 15:29:45
Local clock offset: -1.39 ms
Remote clock offset: 1.644 ms


# Below is generated by plot.py at 2019-03-19 16:17:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.71 Mbit/s
95th percentile per-packet one-way delay: 26.327 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 59.73 Mbit/s
95th percentile per-packet one-way delay: 24.922 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 42.90 Mbit/s
95th percentile per-packet one-way delay: 29.136 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 19.36 Mbit/s
95th percentile per-packet one-way delay: 18.529 ms
Loss rate: 0.14%
```
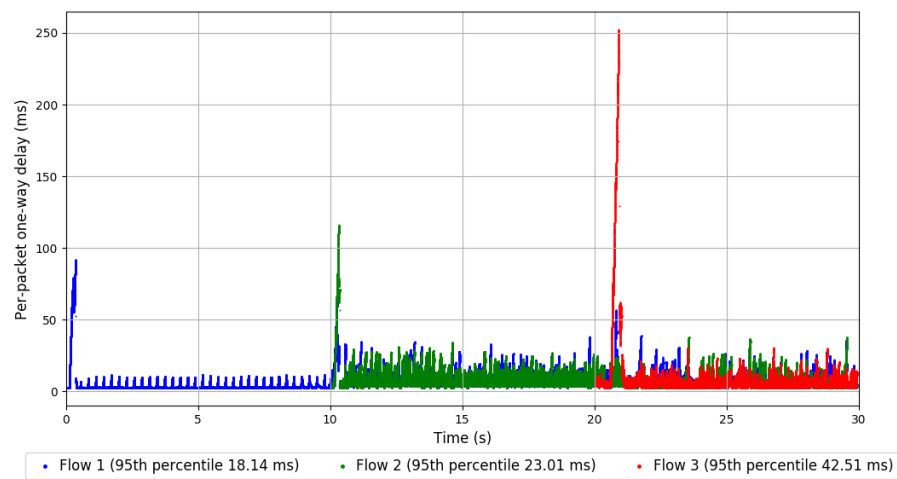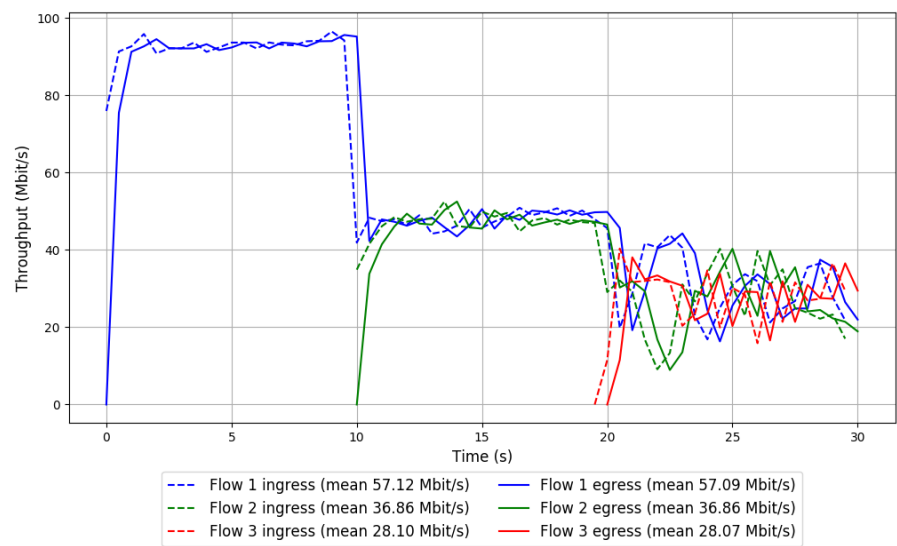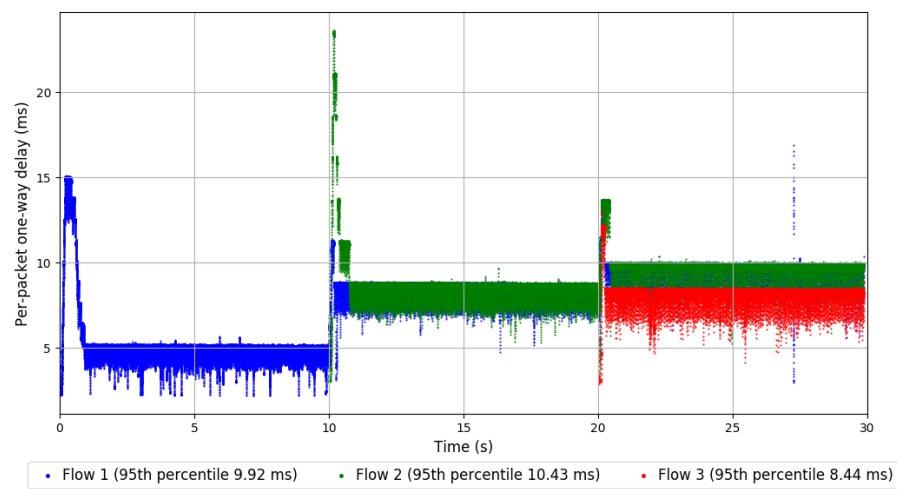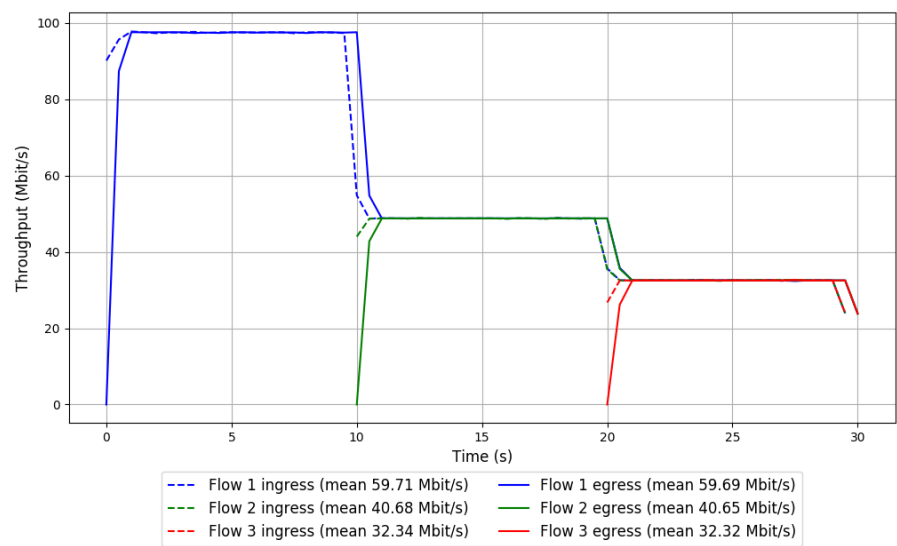
Run 4: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 59.77 Mbit/s) — Flow 1 egress (mean 59.73 Mbit/s)
Flow 2 ingress (mean 42.95 Mbit/s) — Flow 2 egress (mean 42.90 Mbit/s)
Flow 3 ingress (mean 19.37 Mbit/s) — Flow 3 egress (mean 19.36 Mbit/s)



Flow 1 (95th percentile 24.92 ms)   Flow 2 (95th percentile 29.14 ms)   Flow 3 (95th percentile 18.53 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-19 15:53:25
End at: 2019-03-19 15:53:55
Local clock offset: -1.83 ms
Remote clock offset: 1.687 ms


# Below is generated by plot.py at 2019-03-19 16:17:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 20.676 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 57.09 Mbit/s
95th percentile per-packet one-way delay: 18.140 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 36.86 Mbit/s
95th percentile per-packet one-way delay: 23.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.07 Mbit/s
95th percentile per-packet one-way delay: 42.505 ms
Loss rate: 0.02%
```
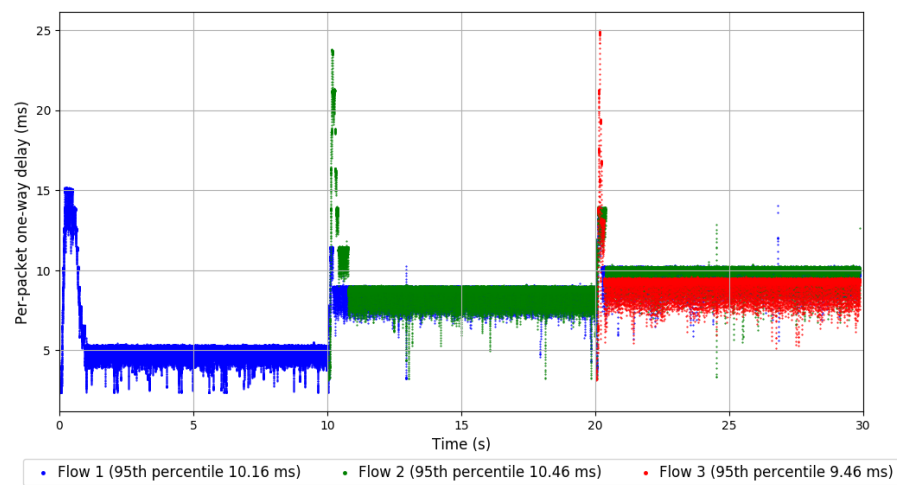
# Run 5: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 57.12 Mbit/s)     Flow 1 egress (mean 57.09 Mbit/s)
Flow 2 ingress (mean 36.86 Mbit/s)     Flow 2 egress (mean 36.86 Mbit/s)
Flow 3 ingress (mean 28.10 Mbit/s)     Flow 3 egress (mean 28.07 Mbit/s)



Flow 1 (95th percentile 18.14 ms)     Flow 2 (95th percentile 23.01 ms)     Flow 3 (95th percentile 42.51 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-03-19 14:19:01
End at: 2019-03-19 14:19:31
Local clock offset: -6.267 ms
Remote clock offset: 0.182 ms


# Below is generated by plot.py at 2019-03-19 16:17:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 9.935 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 59.69 Mbit/s
95th percentile per-packet one-way delay: 9.916 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 10.430 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 8.441 ms
Loss rate: 0.10%
```
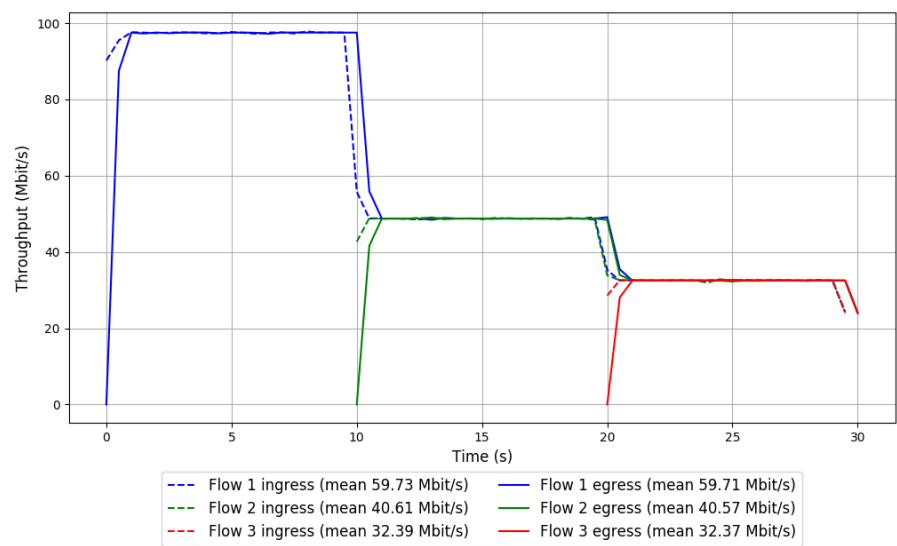
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-03-19 14:43:13
End at: 2019-03-19 14:43:43
Local clock offset: -2.568 ms
Remote clock offset: 0.522 ms

# Below is generated by plot.py at 2019-03-19 16:17:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 10.175 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 59.71 Mbit/s
95th percentile per-packet one-way delay: 10.158 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 10.465 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 9.464 ms
Loss rate: 0.11%
```
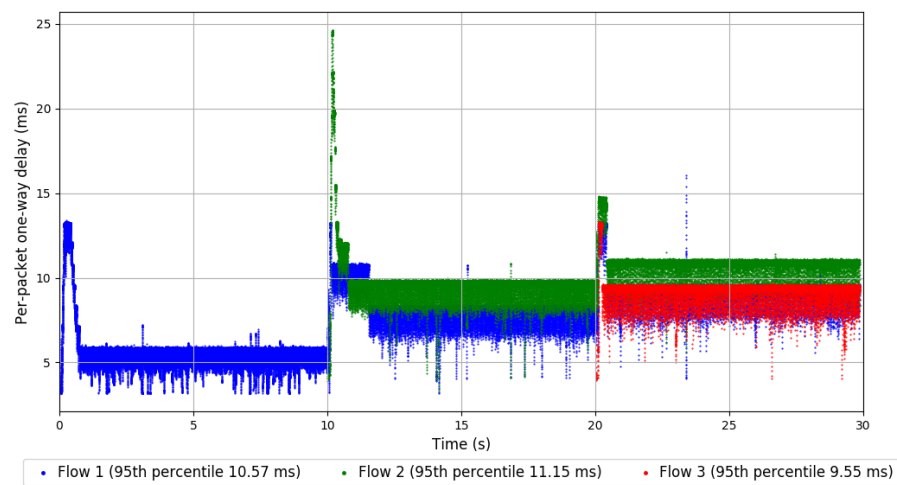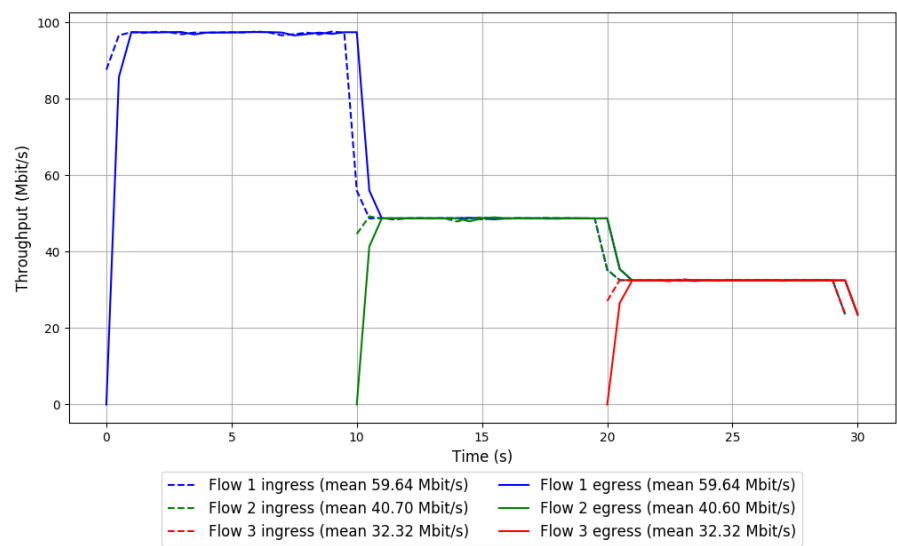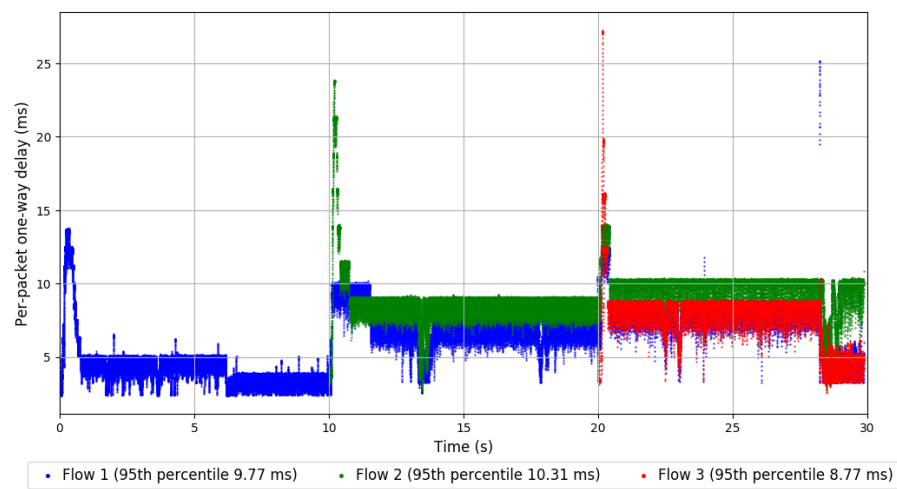
# Run 2: Report of Indigo — Data Link



- - - - Flow 1 ingress (mean 59.73 Mbit/s)    —— Flow 1 egress (mean 59.71 Mbit/s)
- - - - Flow 2 ingress (mean 40.61 Mbit/s)    —— Flow 2 egress (mean 40.57 Mbit/s)
- - - - Flow 3 ingress (mean 32.39 Mbit/s)    —— Flow 3 egress (mean 32.37 Mbit/s)



• Flow 1 (95th percentile 10.16 ms)    • Flow 2 (95th percentile 10.46 ms)    • Flow 3 (95th percentile 9.46 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-03-19 15:07:23
End at: 2019-03-19 15:07:53
Local clock offset: 0.809 ms
Remote clock offset: 0.942 ms


# Below is generated by plot.py at 2019-03-19 16:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.26 Mbit/s
95th percentile per-packet one-way delay: 10.982 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 59.64 Mbit/s
95th percentile per-packet one-way delay: 10.570 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 11.149 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 9.546 ms
Loss rate: 0.12%
```
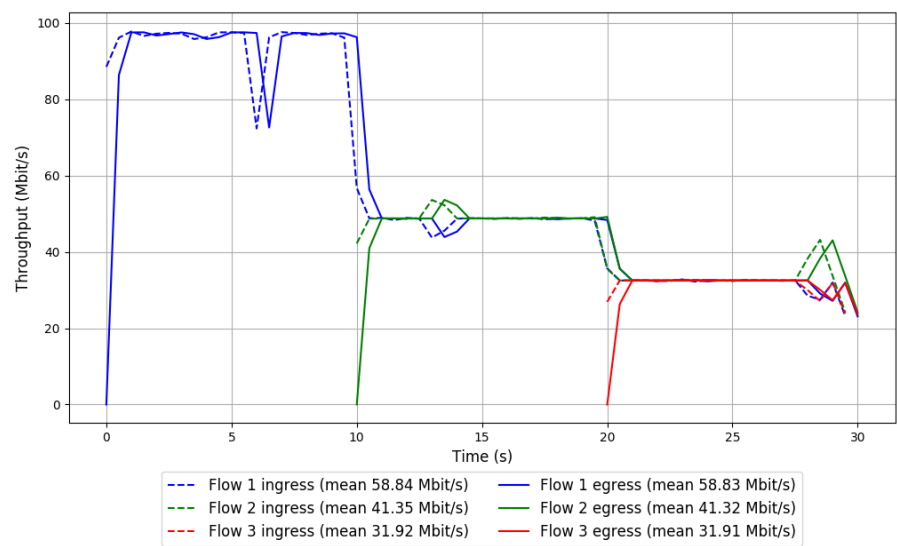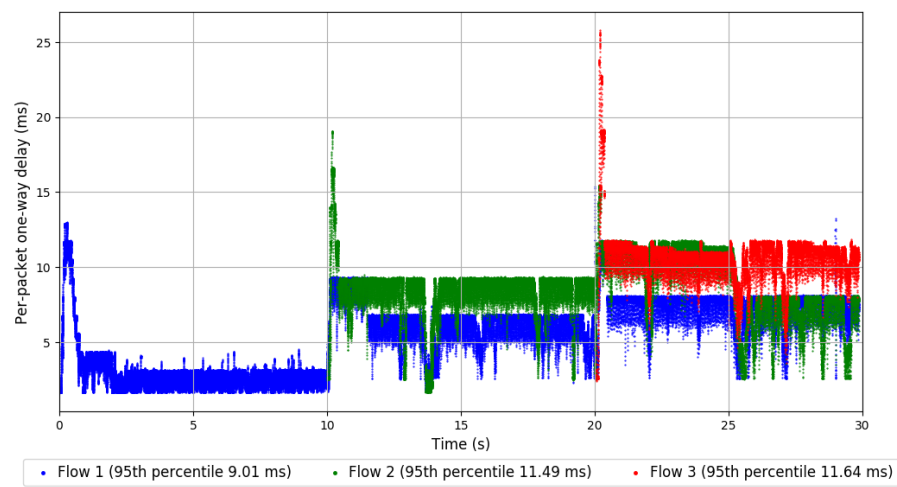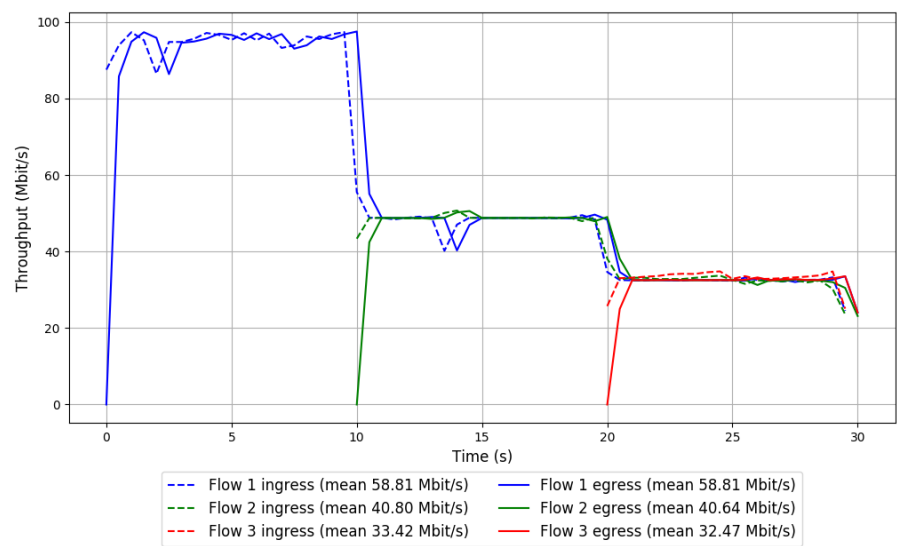
Run 3: Report of Indigo — Data Link



Flow 1 ingress (mean 59.64 Mbit/s)          Flow 1 egress (mean 59.64 Mbit/s)
Flow 2 ingress (mean 40.70 Mbit/s)          Flow 2 egress (mean 40.60 Mbit/s)
Flow 3 ingress (mean 32.32 Mbit/s)          Flow 3 egress (mean 32.32 Mbit/s)



Flow 1 (95th percentile 10.57 ms)     Flow 2 (95th percentile 11.15 ms)     Flow 3 (95th percentile 9.55 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-03-19 15:31:36
End at: 2019-03-19 15:32:06
Local clock offset: -0.609 ms
Remote clock offset: 1.665 ms


# Below is generated by plot.py at 2019-03-19 16:17:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 10.189 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 9.772 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 41.32 Mbit/s
95th percentile per-packet one-way delay: 10.315 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.91 Mbit/s
95th percentile per-packet one-way delay: 8.771 ms
Loss rate: 0.08%
```
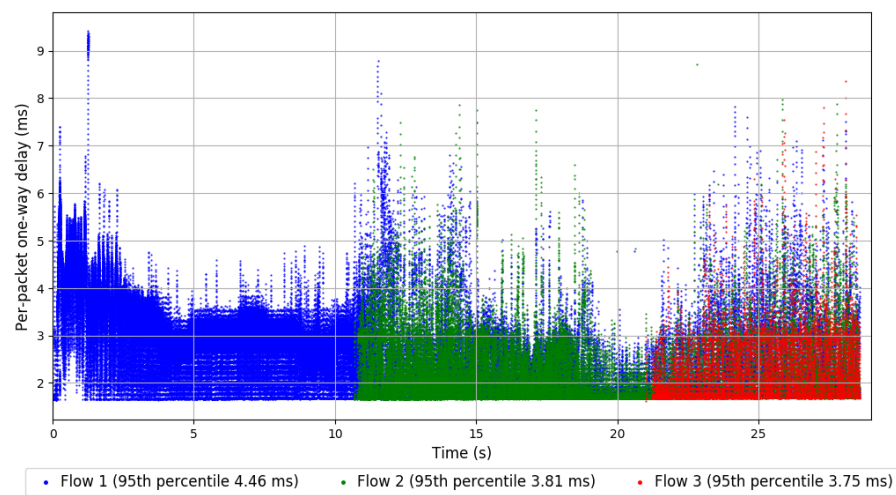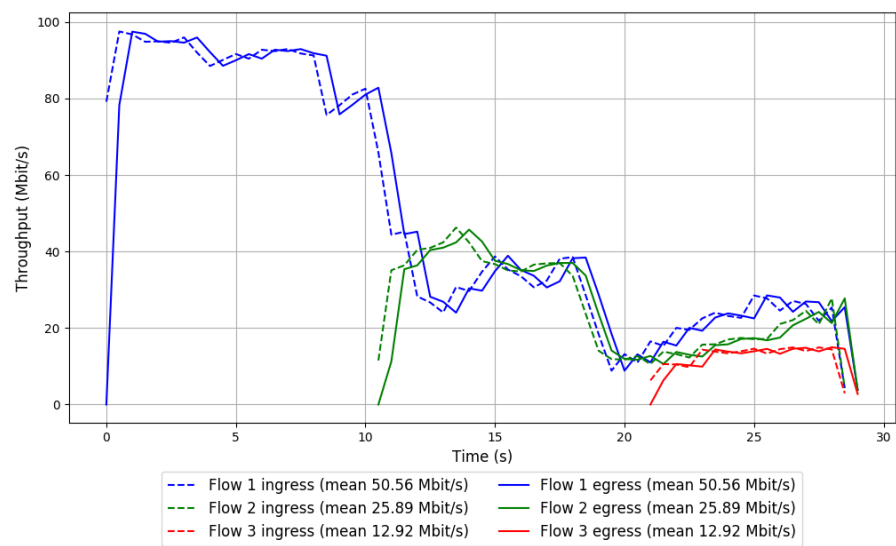
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-03-19 15:55:46
End at: 2019-03-19 15:56:16
Local clock offset: -2.807 ms
Remote clock offset: 1.813 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 11.293 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 58.81 Mbit/s
95th percentile per-packet one-way delay: 9.013 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 11.495 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 32.47 Mbit/s
95th percentile per-packet one-way delay: 11.643 ms
Loss rate: 2.89%
```

# Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-19 14:13:15
End at: 2019-03-19 14:13:45
Local clock offset: -8.336 ms
Remote clock offset: 0.053 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 4.352 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 4.457 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 25.89 Mbit/s
95th percentile per-packet one-way delay: 3.810 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 3.755 ms
Loss rate: 0.10%
```
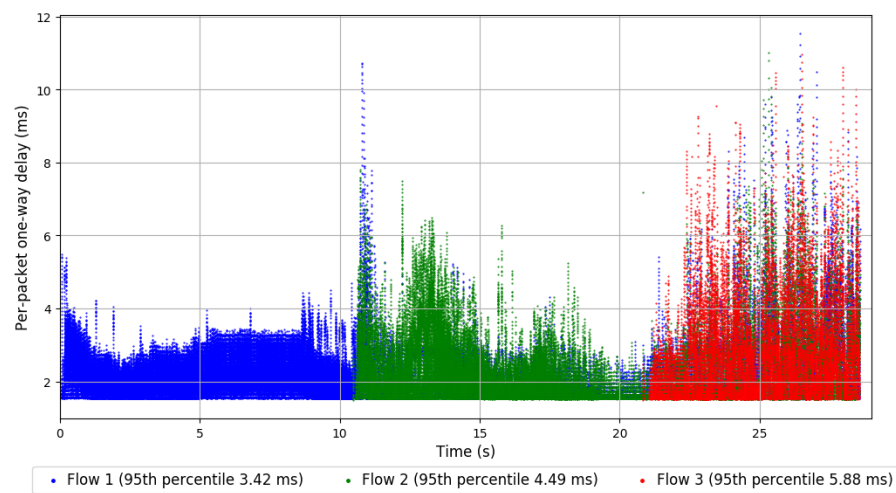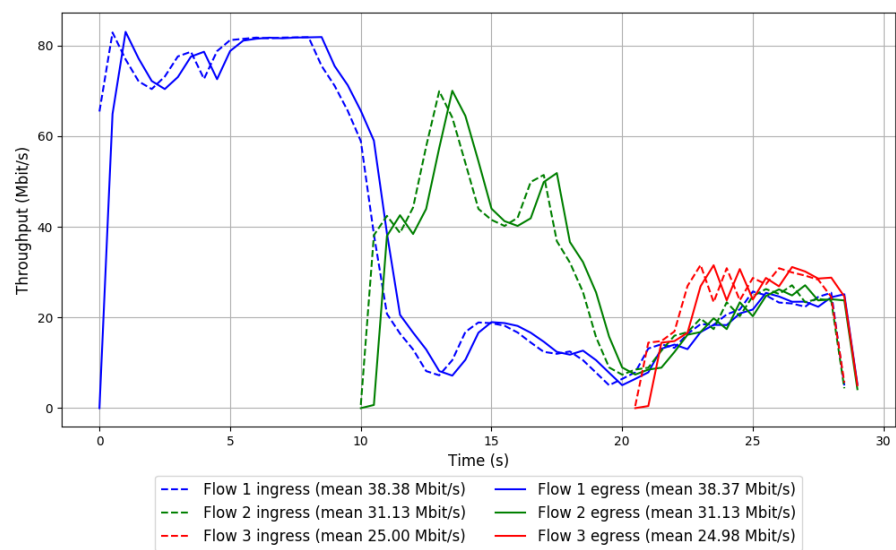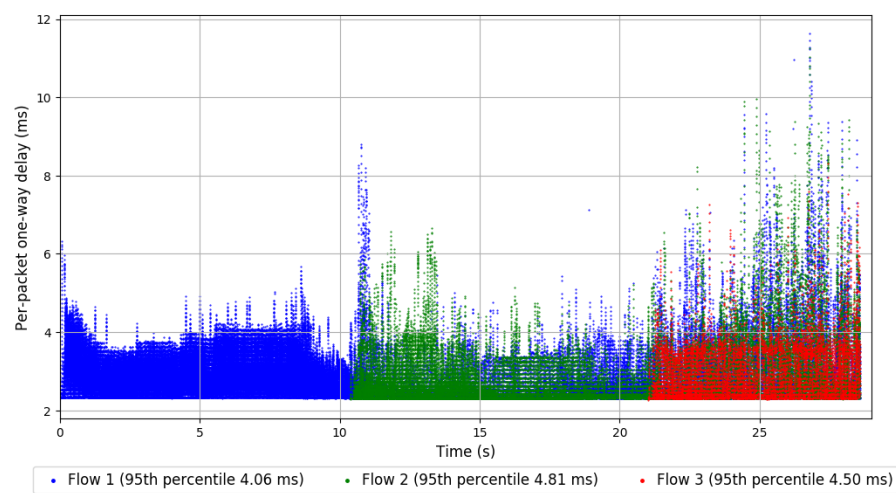
# Run 1: Report of Indigo-MusesC3 — Data Link



- - - - Flow 1 ingress (mean 50.56 Mbit/s)      —— Flow 1 egress (mean 50.56 Mbit/s)
- - - - Flow 2 ingress (mean 25.89 Mbit/s)      —— Flow 2 egress (mean 25.89 Mbit/s)
- - - - Flow 3 ingress (mean 12.92 Mbit/s)      —— Flow 3 egress (mean 12.92 Mbit/s)



• Flow 1 (95th percentile 4.46 ms)    • Flow 2 (95th percentile 3.81 ms)    • Flow 3 (95th percentile 3.75 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-19 14:37:27
End at: 2019-03-19 14:37:57
Local clock offset: -3.723 ms
Remote clock offset: 0.415 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.86 Mbit/s
95th percentile per-packet one-way delay: 4.284 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 38.37 Mbit/s
95th percentile per-packet one-way delay: 3.423 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 31.13 Mbit/s
95th percentile per-packet one-way delay: 4.491 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 24.98 Mbit/s
95th percentile per-packet one-way delay: 5.878 ms
Loss rate: 0.19%
```
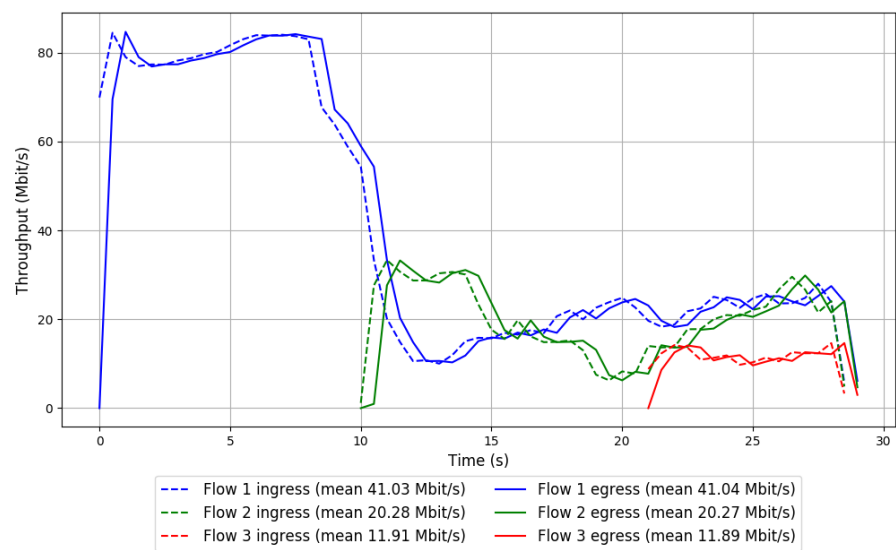
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-19 15:01:38
End at: 2019-03-19 15:02:08
Local clock offset: -0.371 ms
Remote clock offset: 0.847 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.09 Mbit/s
95th percentile per-packet one-way delay: 4.240 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 41.04 Mbit/s
95th percentile per-packet one-way delay: 4.060 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.27 Mbit/s
95th percentile per-packet one-way delay: 4.806 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 4.500 ms
Loss rate: 0.30%
```
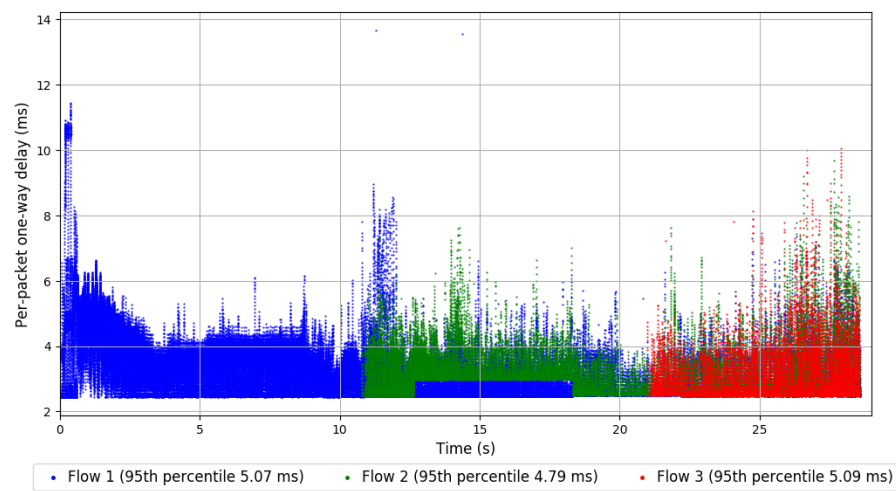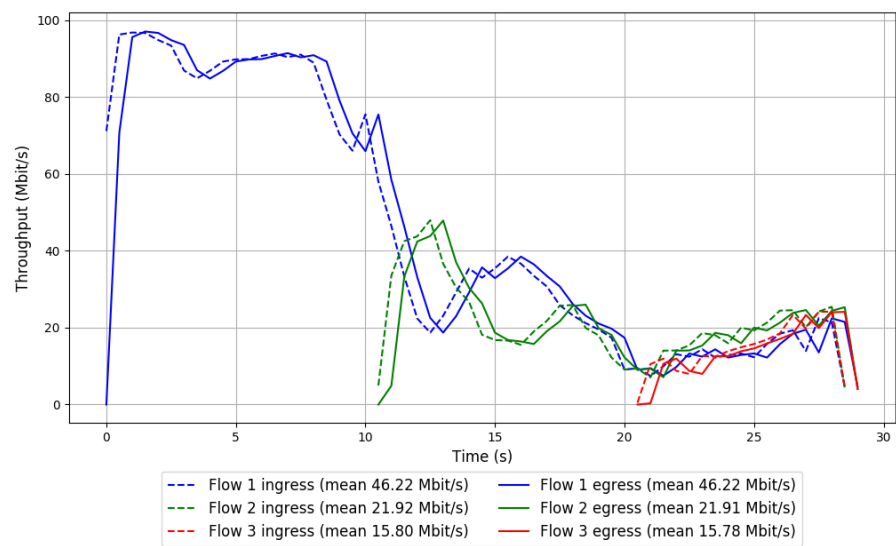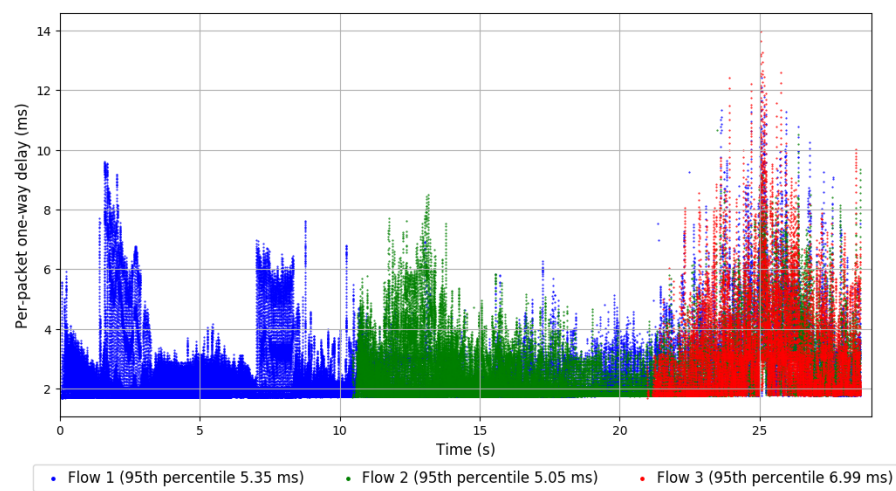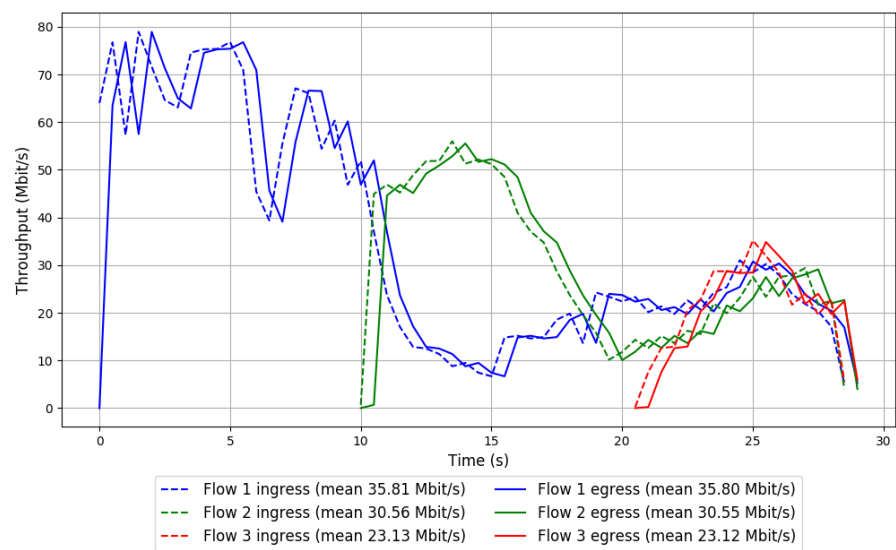
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-19 15:25:50
End at: 2019-03-19 15:26:20
Local clock offset: -0.446 ms
Remote clock offset: 1.529 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.07 Mbit/s
95th percentile per-packet one-way delay: 5.022 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 46.22 Mbit/s
95th percentile per-packet one-way delay: 5.065 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 21.91 Mbit/s
95th percentile per-packet one-way delay: 4.793 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 15.78 Mbit/s
95th percentile per-packet one-way delay: 5.094 ms
Loss rate: 0.25%
```

Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-19 15:50:00
End at: 2019-03-19 15:50:30
Local clock offset: -2.19 ms
Remote clock offset: 1.684 ms


# Below is generated by plot.py at 2019-03-19 16:17:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.32 Mbit/s
95th percentile per-packet one-way delay: 5.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 5.348 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 5.049 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.12 Mbit/s
95th percentile per-packet one-way delay: 6.990 ms
Loss rate: 0.02%
```
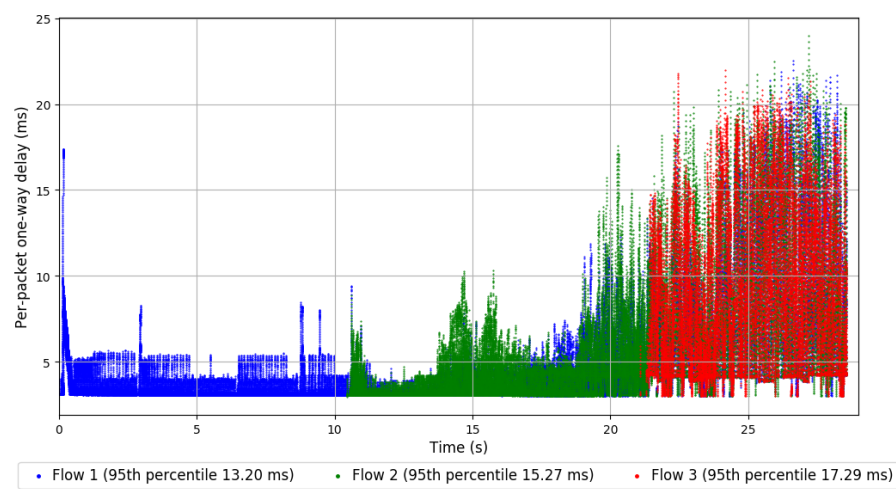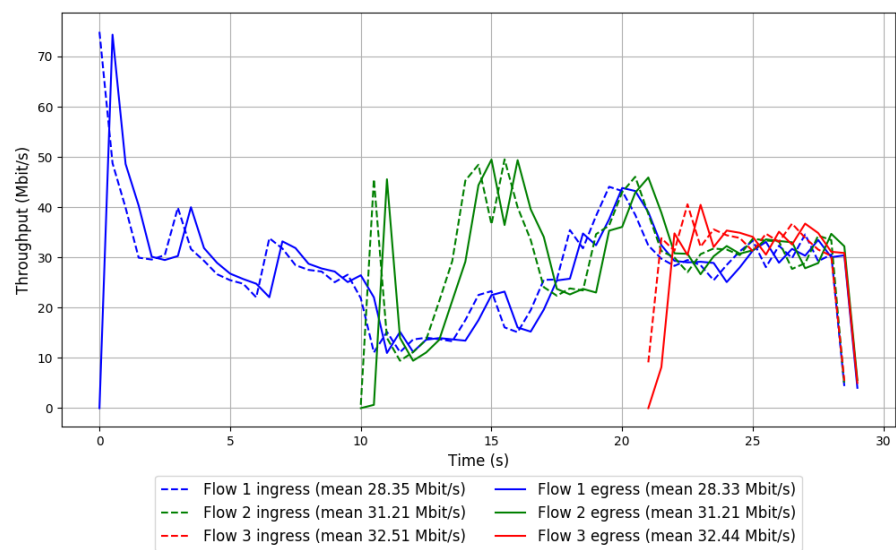
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-19 14:24:48
End at: 2019-03-19 14:25:18
Local clock offset: -3.713 ms
Remote clock offset: 0.274 ms


# Below is generated by plot.py at 2019-03-19 16:18:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.67 Mbit/s
95th percentile per-packet one-way delay: 15.187 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 28.33 Mbit/s
95th percentile per-packet one-way delay: 13.199 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 31.21 Mbit/s
95th percentile per-packet one-way delay: 15.266 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 17.285 ms
Loss rate: 0.14%
```
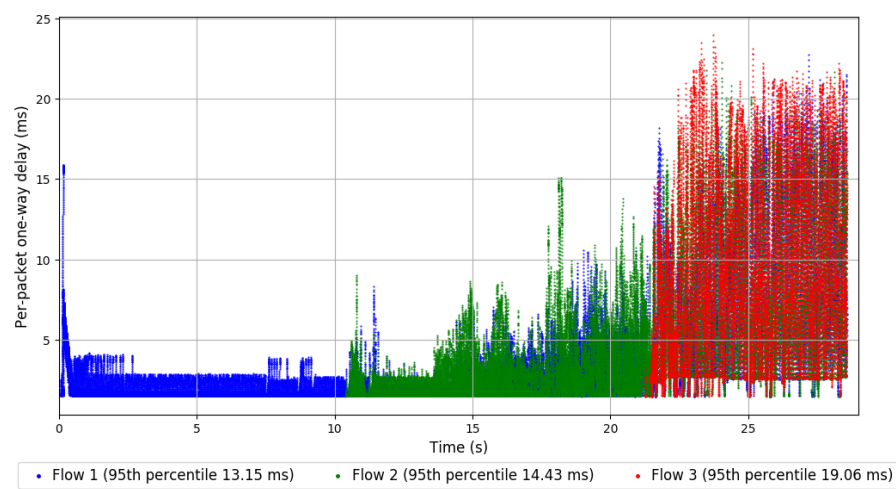
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-19 14:48:58
End at: 2019-03-19 14:49:28
Local clock offset: -2.595 ms
Remote clock offset: 0.576 ms

# Below is generated by plot.py at 2019-03-19 16:18:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.89 Mbit/s
95th percentile per-packet one-way delay: 15.431 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 28.40 Mbit/s
95th percentile per-packet one-way delay: 13.152 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 33.40 Mbit/s
95th percentile per-packet one-way delay: 14.431 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 19.062 ms
Loss rate: 0.31%
```
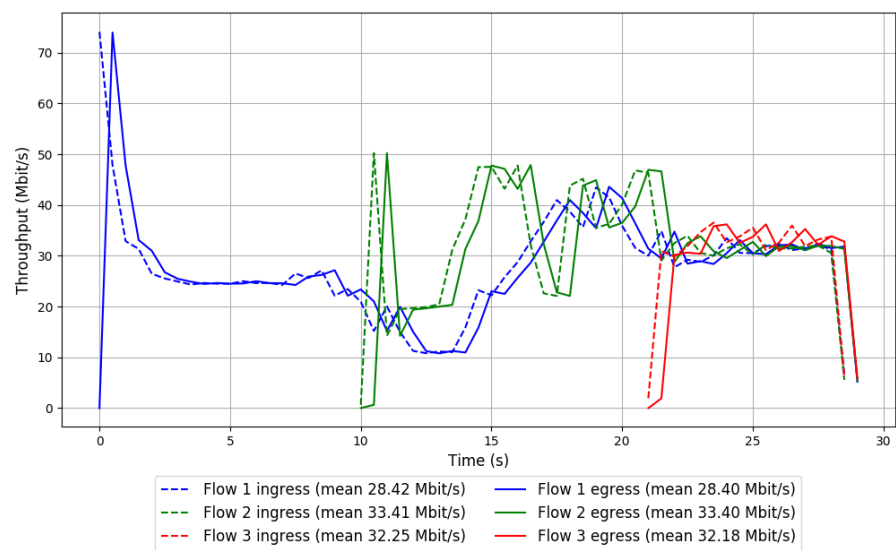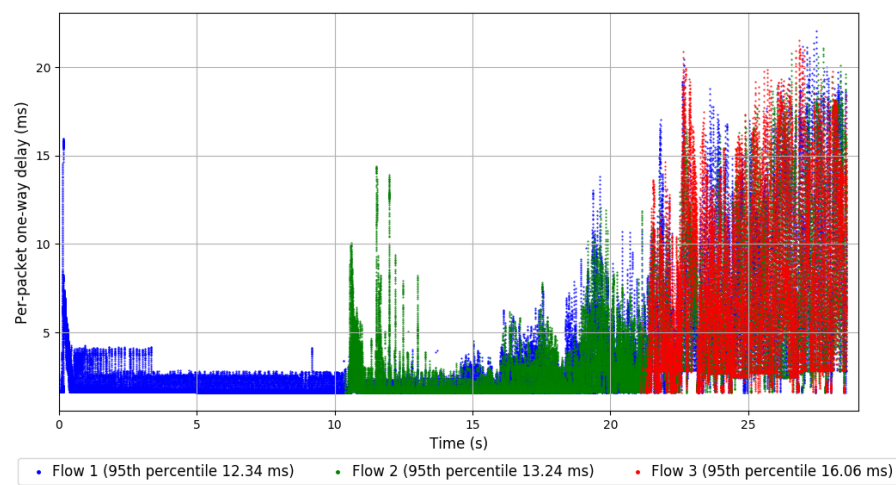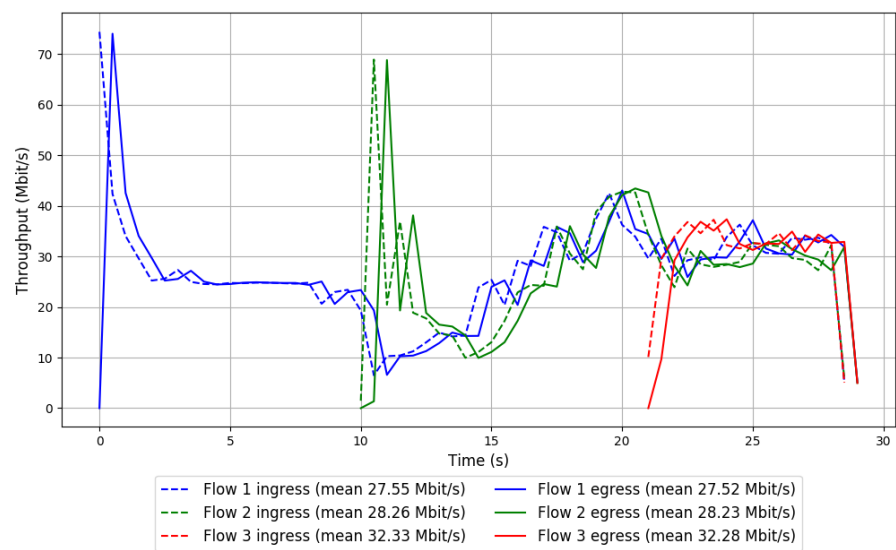
Run 2: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 28.42 Mbit/s)      Flow 1 egress (mean 28.40 Mbit/s)
Flow 2 ingress (mean 33.41 Mbit/s)      Flow 2 egress (mean 33.40 Mbit/s)
Flow 3 ingress (mean 32.25 Mbit/s)      Flow 3 egress (mean 32.18 Mbit/s)



• Flow 1 (95th percentile 13.15 ms)      • Flow 2 (95th percentile 14.43 ms)      • Flow 3 (95th percentile 19.06 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-19 15:13:10
End at: 2019-03-19 15:13:40
Local clock offset: -0.383 ms
Remote clock offset: 1.231 ms


# Below is generated by plot.py at 2019-03-19 16:18:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.94 Mbit/s
95th percentile per-packet one-way delay: 13.834 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 27.52 Mbit/s
95th percentile per-packet one-way delay: 12.343 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 28.23 Mbit/s
95th percentile per-packet one-way delay: 13.244 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.28 Mbit/s
95th percentile per-packet one-way delay: 16.061 ms
Loss rate: 0.11%
```
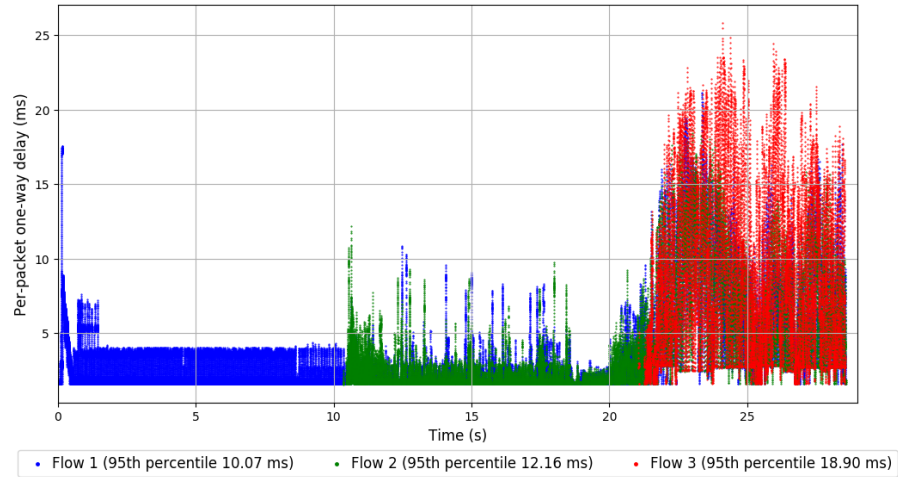
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-19 15:37:22
End at: 2019-03-19 15:37:52
Local clock offset: -1.443 ms
Remote clock offset: 1.704 ms


# Below is generated by plot.py at 2019-03-19 16:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.98 Mbit/s
95th percentile per-packet one-way delay: 13.476 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 36.61 Mbit/s
95th percentile per-packet one-way delay: 10.073 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 26.22 Mbit/s
95th percentile per-packet one-way delay: 12.164 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.98 Mbit/s
95th percentile per-packet one-way delay: 18.902 ms
Loss rate: 0.10%
```
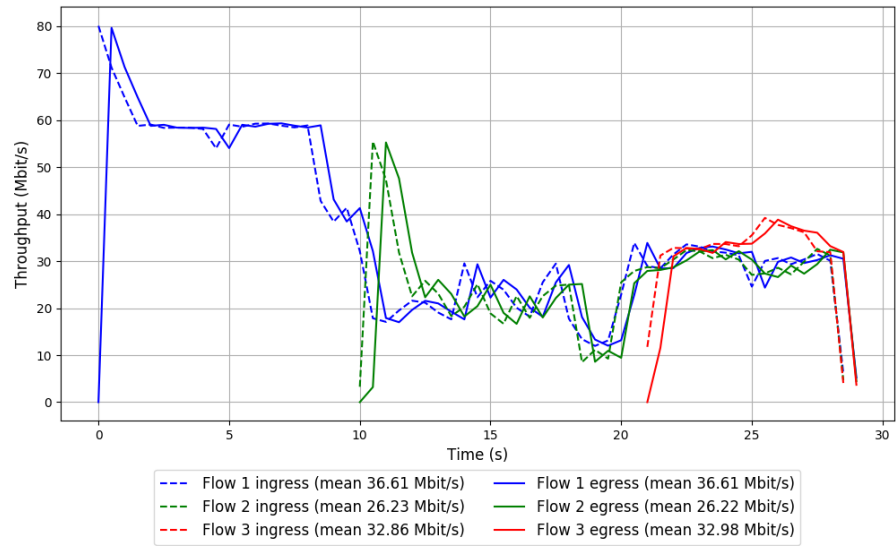
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-19 16:01:33
End at: 2019-03-19 16:02:03
Local clock offset: -2.515 ms
Remote clock offset: 1.75 ms


# Below is generated by plot.py at 2019-03-19 16:18:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 14.637 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 28.35 Mbit/s
95th percentile per-packet one-way delay: 11.787 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 25.87 Mbit/s
95th percentile per-packet one-way delay: 12.522 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 34.11 Mbit/s
95th percentile per-packet one-way delay: 19.023 ms
Loss rate: 0.28%
```
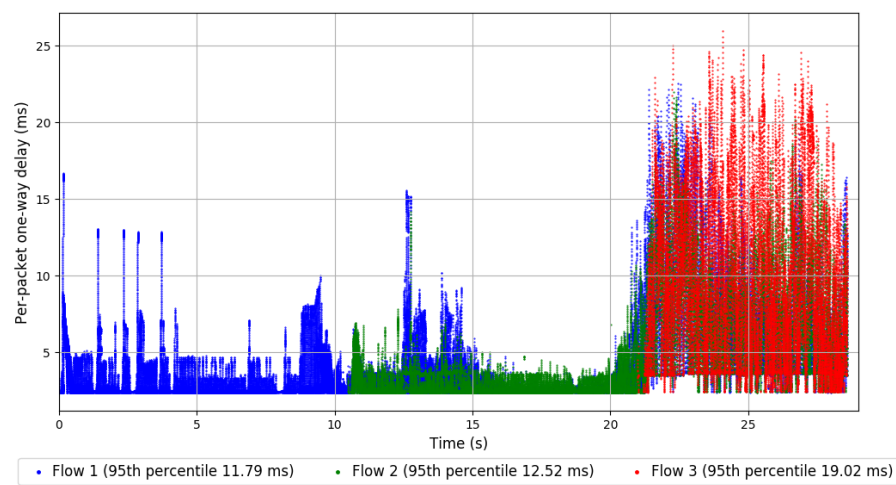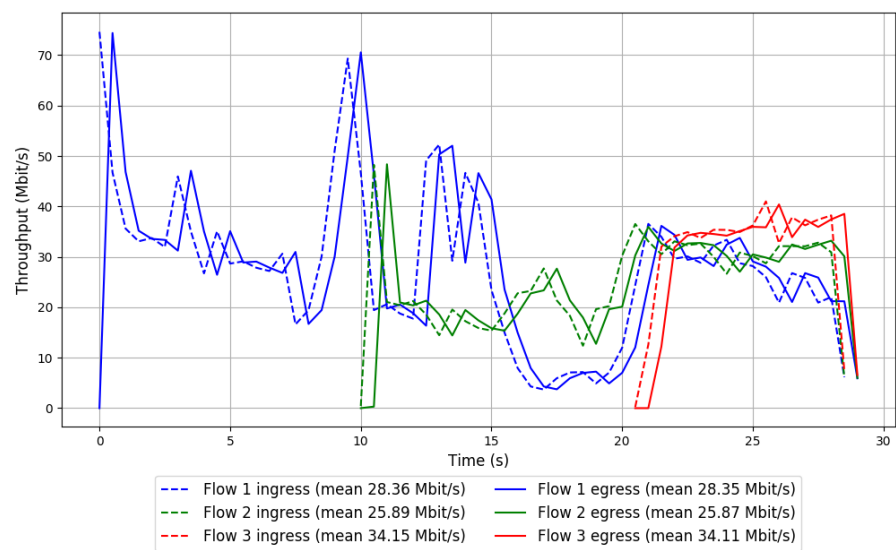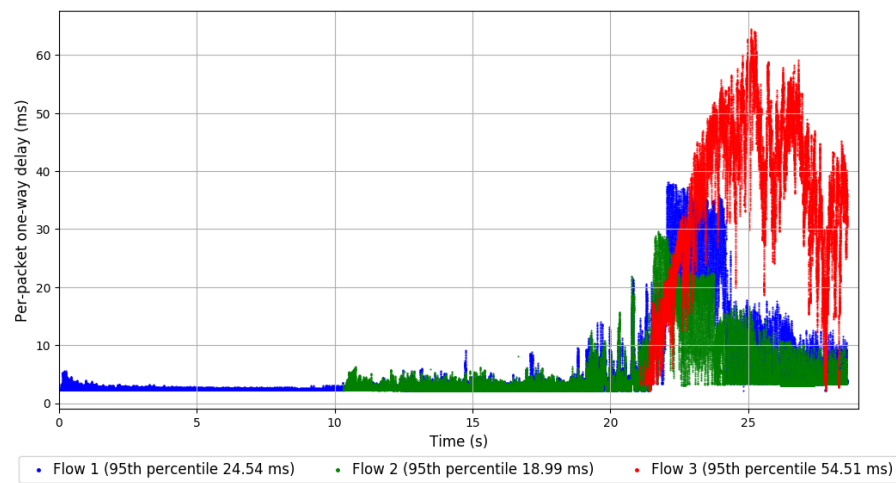
Run 5: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 28.36 Mbit/s)      Flow 1 egress (mean 28.35 Mbit/s)
Flow 2 ingress (mean 25.89 Mbit/s)      Flow 2 egress (mean 25.87 Mbit/s)
Flow 3 ingress (mean 34.15 Mbit/s)      Flow 3 egress (mean 34.11 Mbit/s)



Flow 1 (95th percentile 11.79 ms)      Flow 2 (95th percentile 12.52 ms)      Flow 3 (95th percentile 19.02 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-19 14:20:11
End at: 2019-03-19 14:20:41
Local clock offset: -5.779 ms
Remote clock offset: 0.178 ms


# Below is generated by plot.py at 2019-03-19 16:18:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 44.785 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 24.542 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 29.81 Mbit/s
95th percentile per-packet one-way delay: 18.988 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 41.22 Mbit/s
95th percentile per-packet one-way delay: 54.506 ms
Loss rate: 4.17%
```
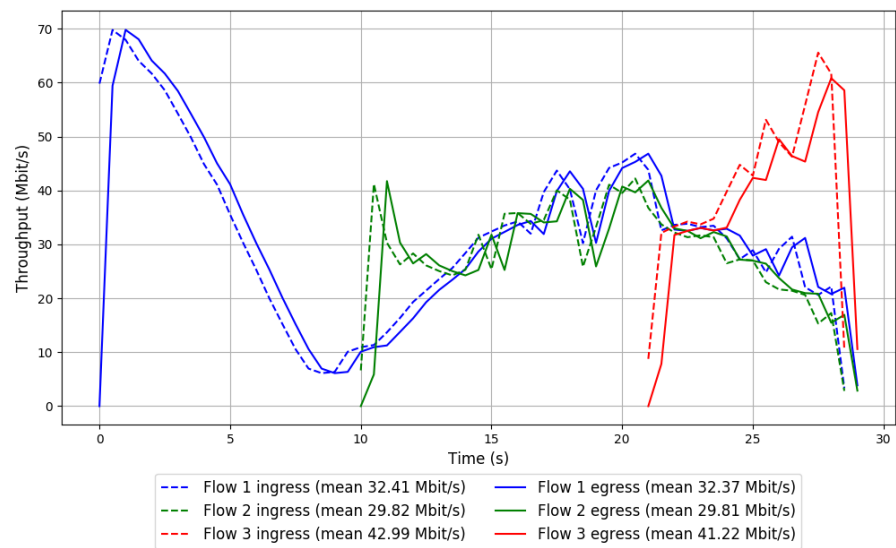
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-19 14:44:23
End at: 2019-03-19 14:44:53
Local clock offset: -2.5 ms
Remote clock offset: 0.514 ms


# Below is generated by plot.py at 2019-03-19 16:18:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.77 Mbit/s
95th percentile per-packet one-way delay: 21.962 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 30.87 Mbit/s
95th percentile per-packet one-way delay: 17.156 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 30.23 Mbit/s
95th percentile per-packet one-way delay: 12.817 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 35.74 Mbit/s
95th percentile per-packet one-way delay: 29.012 ms
Loss rate: 0.94%
```
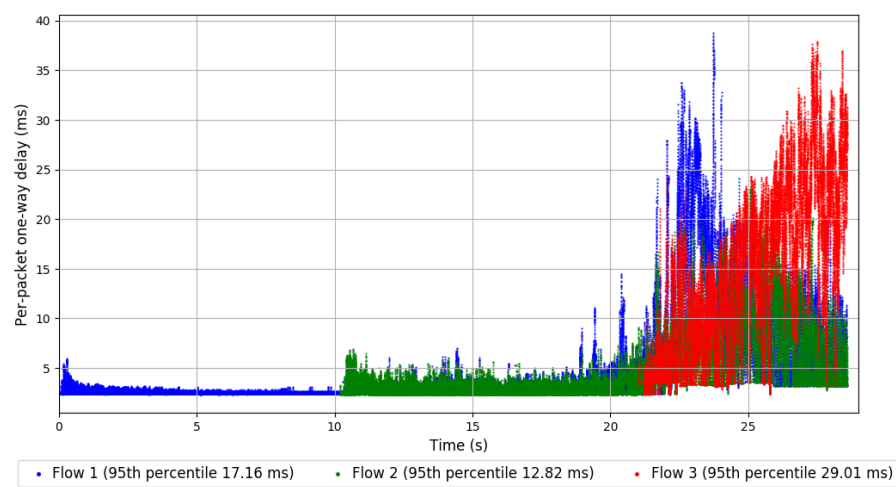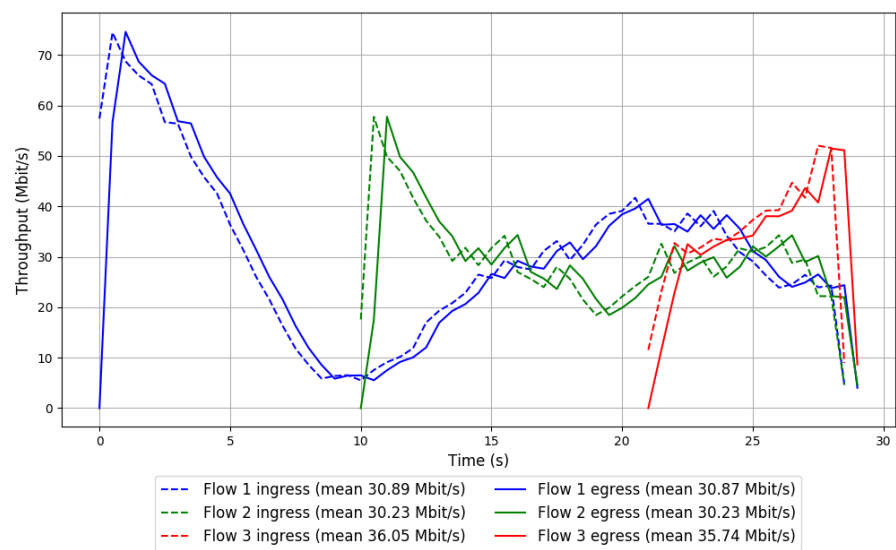
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-19 15:08:34
End at: 2019-03-19 15:09:04
Local clock offset: -0.654 ms
Remote clock offset: 0.997 ms


# Below is generated by plot.py at 2019-03-19 16:18:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.49 Mbit/s
95th percentile per-packet one-way delay: 37.436 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 42.10 Mbit/s
95th percentile per-packet one-way delay: 13.792 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 20.79 Mbit/s
95th percentile per-packet one-way delay: 12.336 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 59.072 ms
Loss rate: 1.92%
```
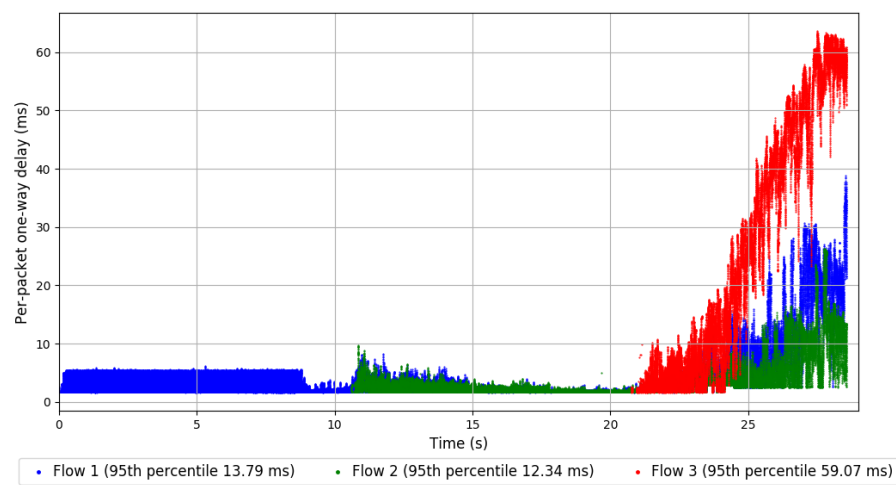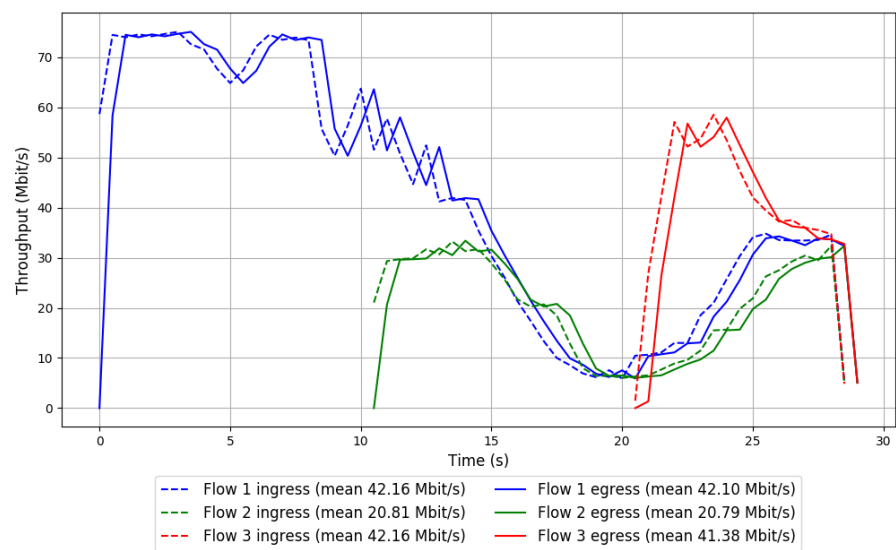
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-19 15:32:46
End at: 2019-03-19 15:33:16
Local clock offset: 0.161 ms
Remote clock offset: 1.687 ms


# Below is generated by plot.py at 2019-03-19 16:19:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.92 Mbit/s
95th percentile per-packet one-way delay: 86.681 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 31.35 Mbit/s
95th percentile per-packet one-way delay: 12.156 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 26.64 Mbit/s
95th percentile per-packet one-way delay: 14.348 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 99.032 ms
Loss rate: 5.85%
```
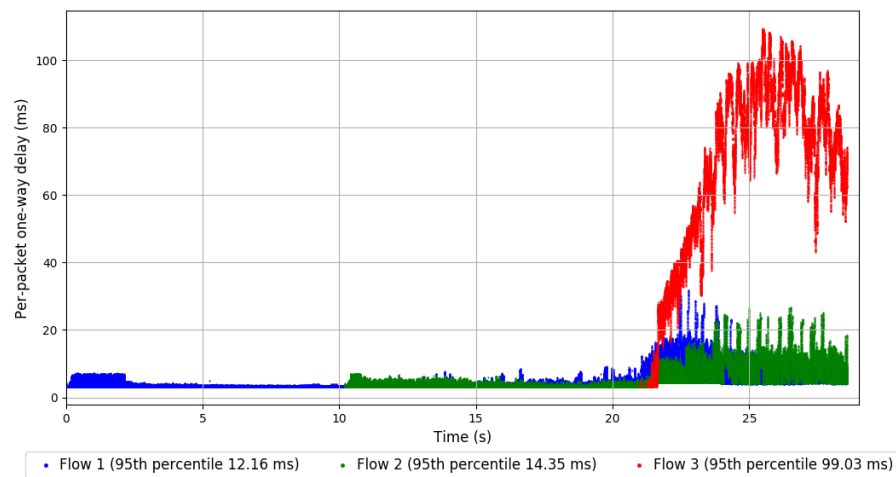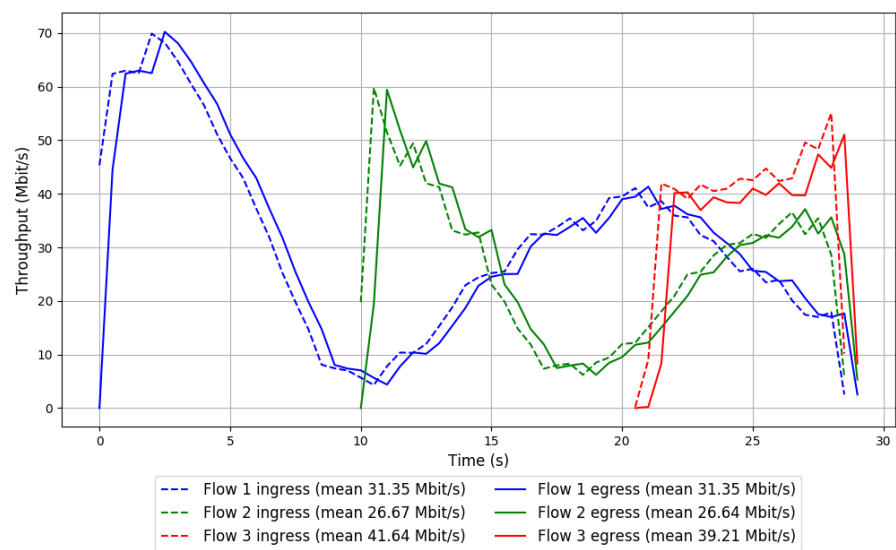
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-19 15:56:57
End at: 2019-03-19 15:57:27
Local clock offset: -2.151 ms
Remote clock offset: 1.759 ms


# Below is generated by plot.py at 2019-03-19 16:19:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 25.215 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 30.41 Mbit/s
95th percentile per-packet one-way delay: 9.404 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 23.31 Mbit/s
95th percentile per-packet one-way delay: 5.483 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 51.83 Mbit/s
95th percentile per-packet one-way delay: 30.472 ms
Loss rate: 0.56%
```
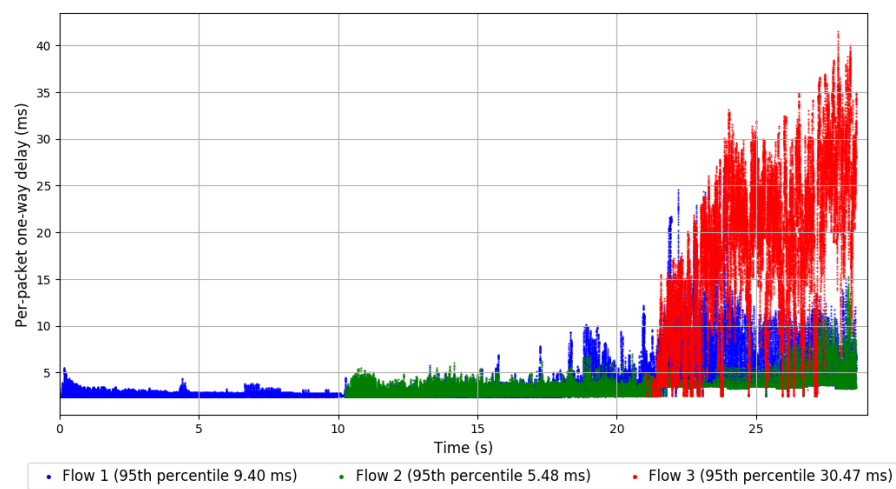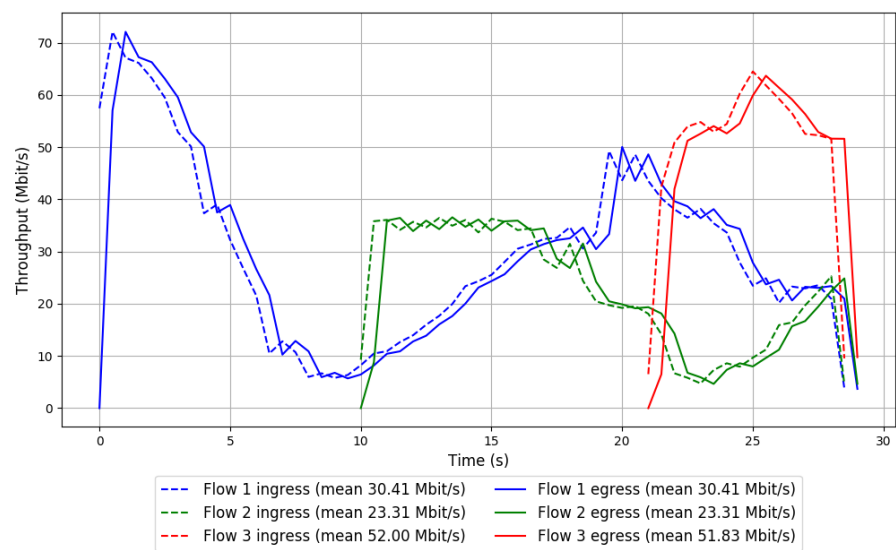
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-19 14:31:43
End at: 2019-03-19 14:32:13
Local clock offset: -4.246 ms
Remote clock offset: 0.318 ms


# Below is generated by plot.py at 2019-03-19 16:19:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.09 Mbit/s
95th percentile per-packet one-way delay: 11.383 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 54.92 Mbit/s
95th percentile per-packet one-way delay: 10.450 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 12.910 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 10.484 ms
Loss rate: 0.18%
```
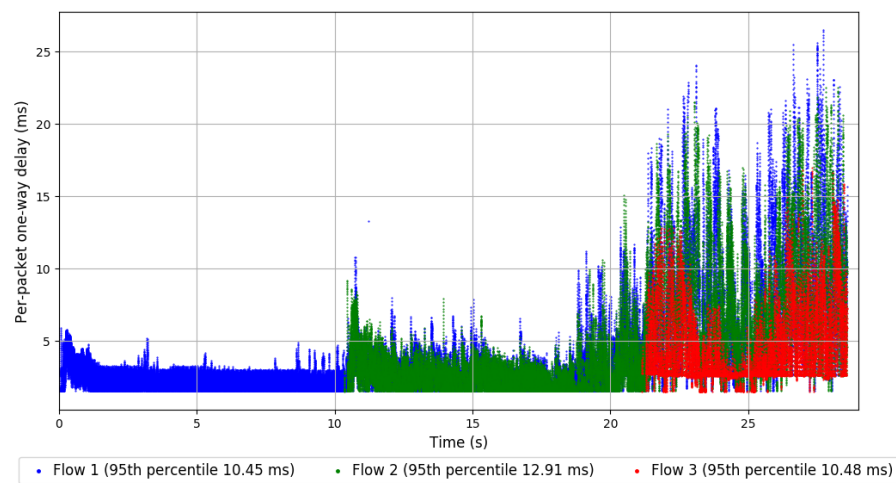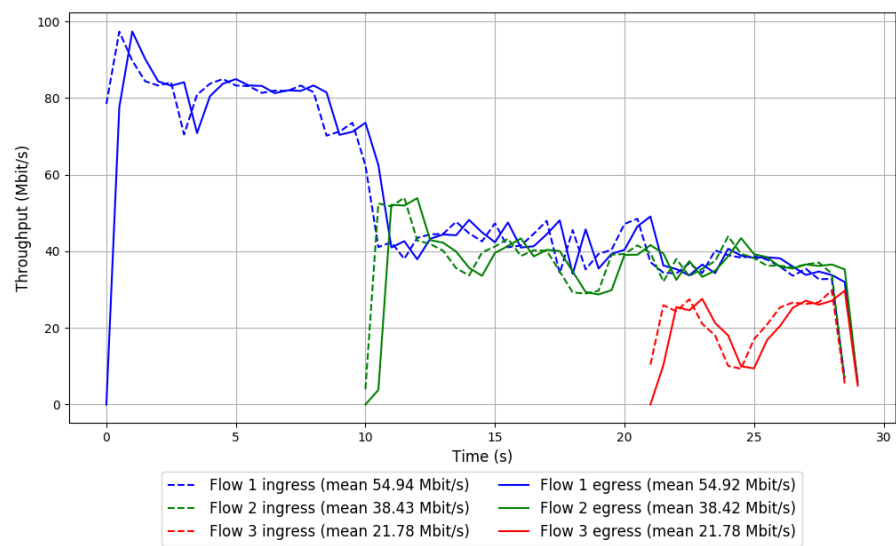
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-19 14:55:53
End at: 2019-03-19 14:56:23
Local clock offset: -1.699 ms
Remote clock offset: 0.638 ms

# Below is generated by plot.py at 2019-03-19 16:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.23 Mbit/s
95th percentile per-packet one-way delay: 15.129 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 51.77 Mbit/s
95th percentile per-packet one-way delay: 12.883 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 19.149 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 12.647 ms
Loss rate: 0.15%
```
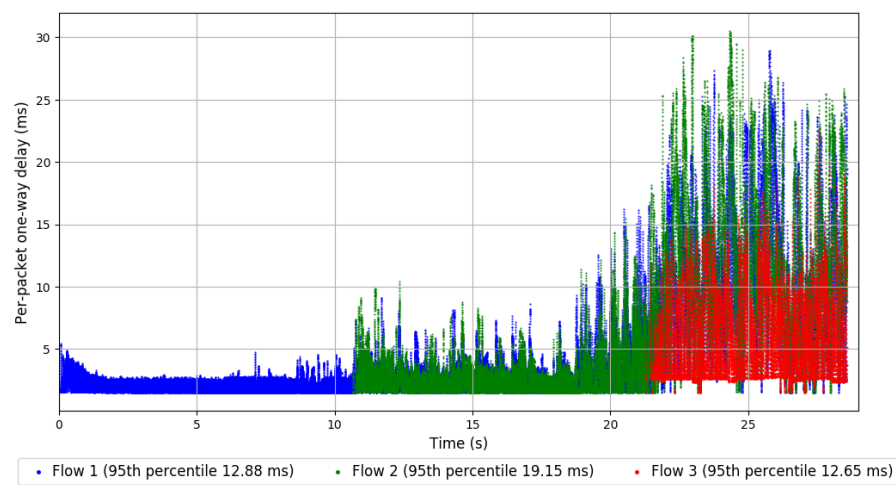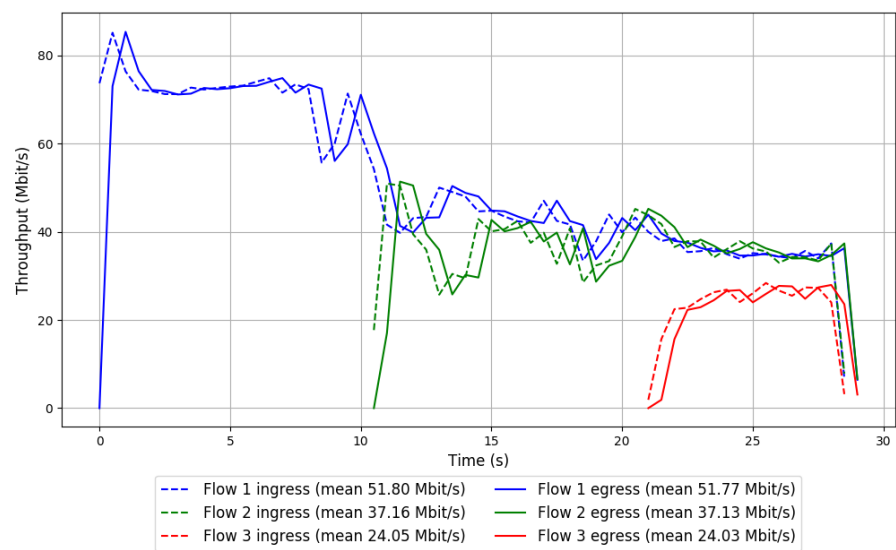
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-19 15:20:05
End at: 2019-03-19 15:20:35
Local clock offset: 0.714 ms
Remote clock offset: 1.395 ms


# Below is generated by plot.py at 2019-03-19 16:19:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.42 Mbit/s
95th percentile per-packet one-way delay: 11.475 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 10.157 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 14.032 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 15.70 Mbit/s
95th percentile per-packet one-way delay: 8.289 ms
Loss rate: 0.00%
```
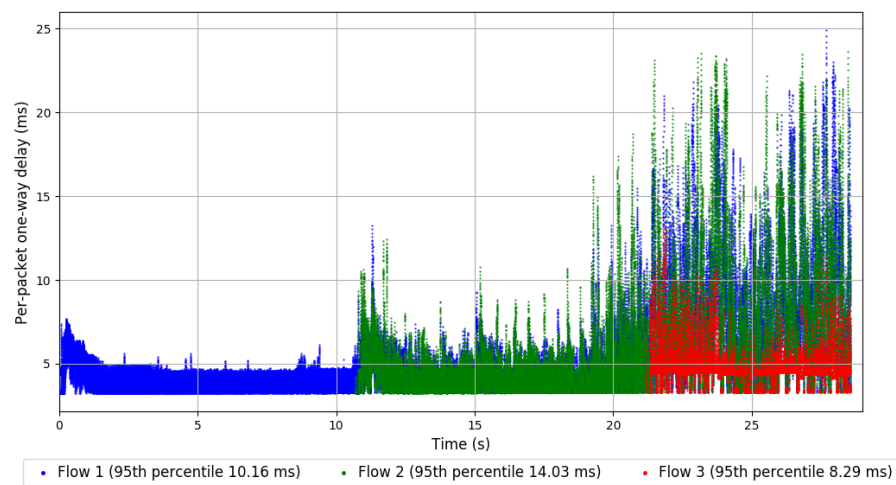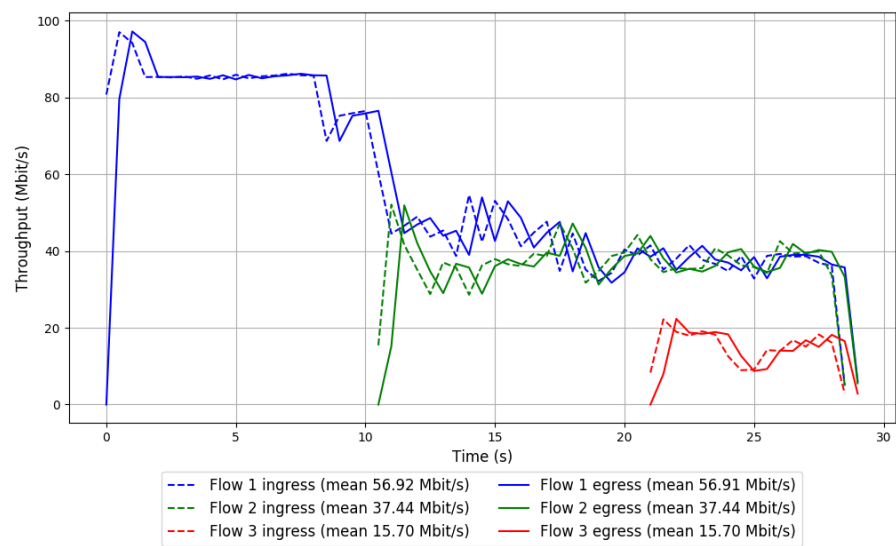
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-19 15:44:16
End at: 2019-03-19 15:44:46
Local clock offset: -0.507 ms
Remote clock offset: 1.734 ms


# Below is generated by plot.py at 2019-03-19 16:19:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.53 Mbit/s
95th percentile per-packet one-way delay: 12.419 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 51.74 Mbit/s
95th percentile per-packet one-way delay: 11.530 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 39.23 Mbit/s
95th percentile per-packet one-way delay: 14.102 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 14.34 Mbit/s
95th percentile per-packet one-way delay: 9.693 ms
Loss rate: 0.03%
```
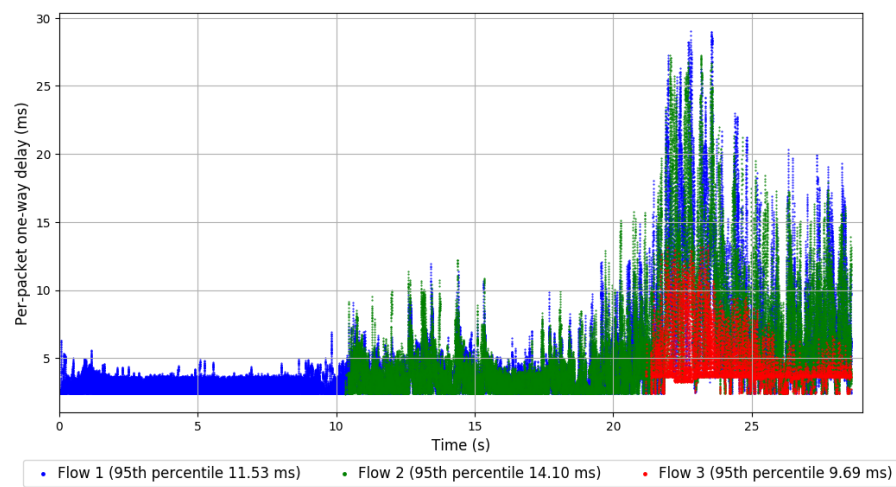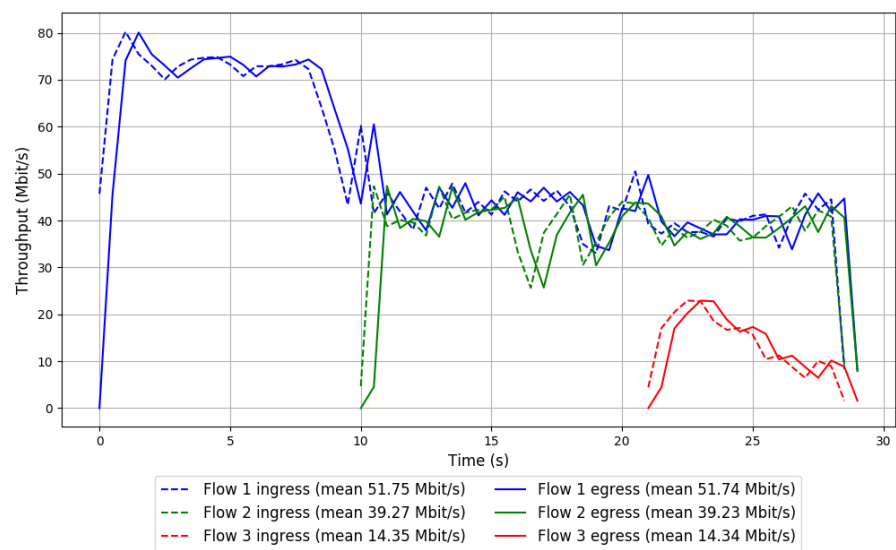
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-19 16:08:27
End at: 2019-03-19 16:08:57
Local clock offset: -2.702 ms
Remote clock offset: 1.773 ms


# Below is generated by plot.py at 2019-03-19 16:19:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.86 Mbit/s
95th percentile per-packet one-way delay: 16.394 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 13.808 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.84 Mbit/s
95th percentile per-packet one-way delay: 19.459 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 26.29 Mbit/s
95th percentile per-packet one-way delay: 15.360 ms
Loss rate: 0.04%
```
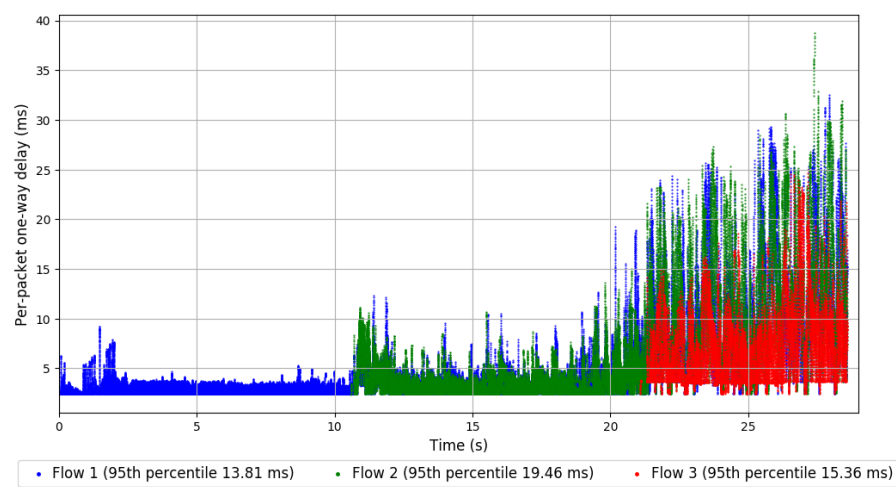
Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-03-19 14:27:04
End at: 2019-03-19 14:27:34
Local clock offset: -4.895 ms
Remote clock offset: 0.215 ms


# Below is generated by plot.py at 2019-03-19 16:19:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.89 Mbit/s
95th percentile per-packet one-way delay: 12.940 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 59.10 Mbit/s
95th percentile per-packet one-way delay: 12.416 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 13.042 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 32.52 Mbit/s
95th percentile per-packet one-way delay: 13.193 ms
Loss rate: 0.41%
```
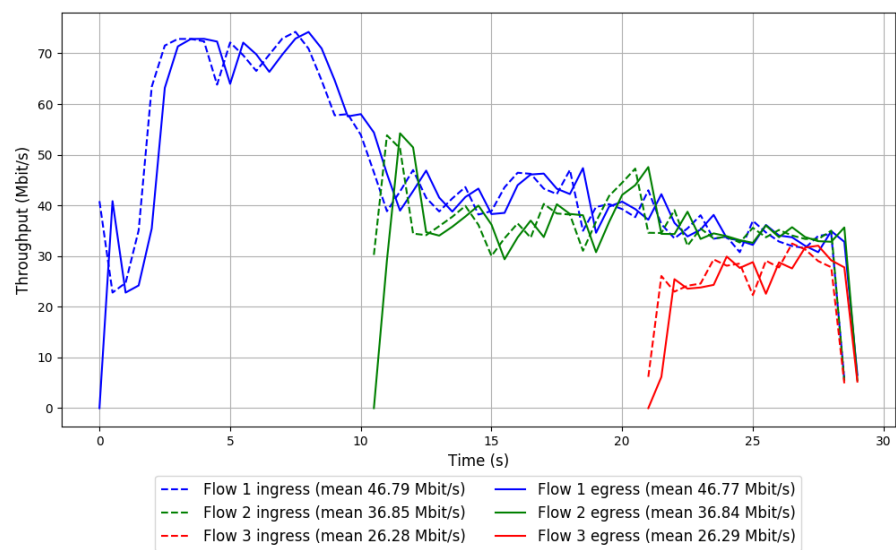
## Run 1: Report of LEDBAT — Data Link



Flow 1 ingress (mean 59.18 Mbit/s)  —— Flow 1 egress (mean 59.10 Mbit/s)
Flow 2 ingress (mean 40.65 Mbit/s)  —— Flow 2 egress (mean 40.55 Mbit/s)
Flow 3 ingress (mean 32.64 Mbit/s)  —— Flow 3 egress (mean 32.52 Mbit/s)



• Flow 1 (95th percentile 12.42 ms)   • Flow 2 (95th percentile 13.04 ms)   • Flow 3 (95th percentile 13.19 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-03-19 14:51:14
End at: 2019-03-19 14:51:44
Local clock offset: -2.317 ms
Remote clock offset: 0.553 ms


# Below is generated by plot.py at 2019-03-19 16:20:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.34 Mbit/s
95th percentile per-packet one-way delay: 12.273 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 11.861 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 40.27 Mbit/s
95th percentile per-packet one-way delay: 12.304 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 32.41 Mbit/s
95th percentile per-packet one-way delay: 12.901 ms
Loss rate: 0.35%
```
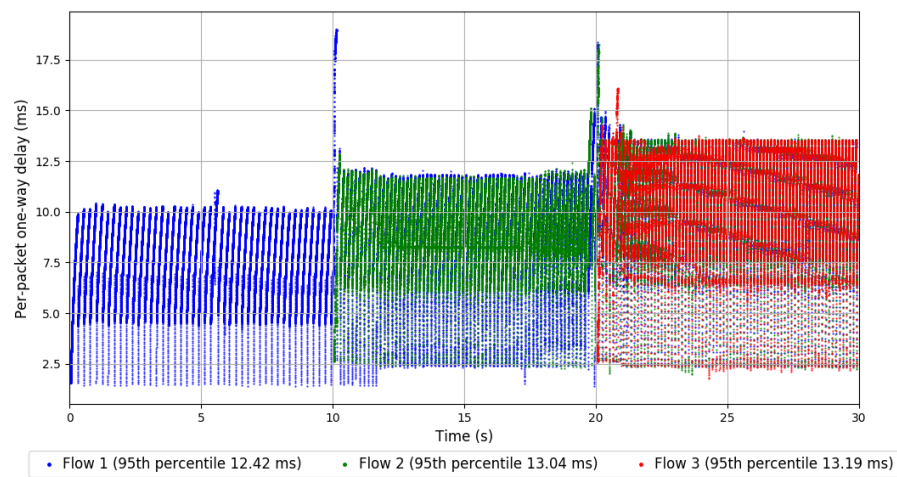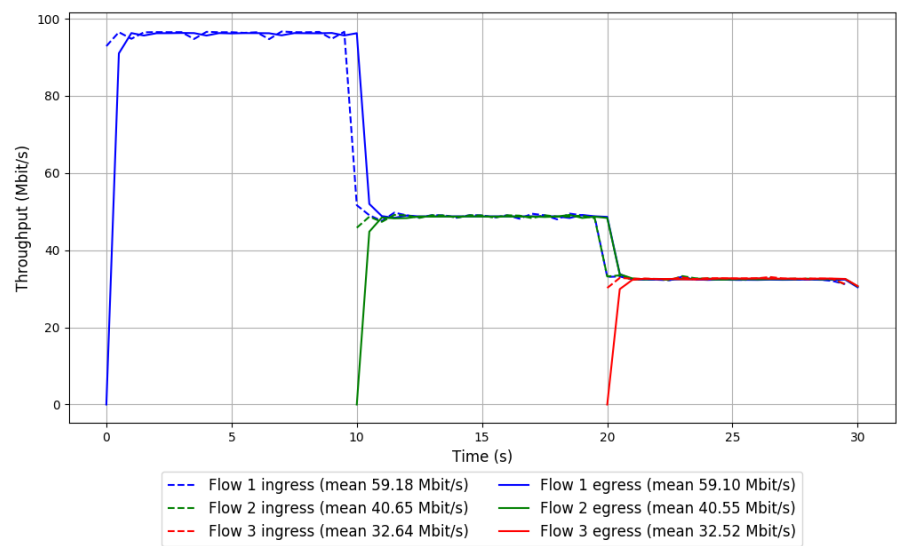
## Run 2: Report of LEDBAT — Data Link



- - - - Flow 1 ingress (mean 58.82 Mbit/s)    ——— Flow 1 egress (mean 58.75 Mbit/s)
- - - - Flow 2 ingress (mean 40.35 Mbit/s)    ——— Flow 2 egress (mean 40.27 Mbit/s)
- - - - Flow 3 ingress (mean 32.51 Mbit/s)    ——— Flow 3 egress (mean 32.41 Mbit/s)



- Flow 1 (95th percentile 11.86 ms)     • Flow 2 (95th percentile 12.30 ms)     • Flow 3 (95th percentile 12.90 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-03-19 15:15:26
End at: 2019-03-19 15:15:56
Local clock offset: 0.411 ms
Remote clock offset: 1.294 ms


# Below is generated by plot.py at 2019-03-19 16:20:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.89 Mbit/s
95th percentile per-packet one-way delay: 14.113 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 59.12 Mbit/s
95th percentile per-packet one-way delay: 13.932 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 14.438 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 14.133 ms
Loss rate: 0.42%
```
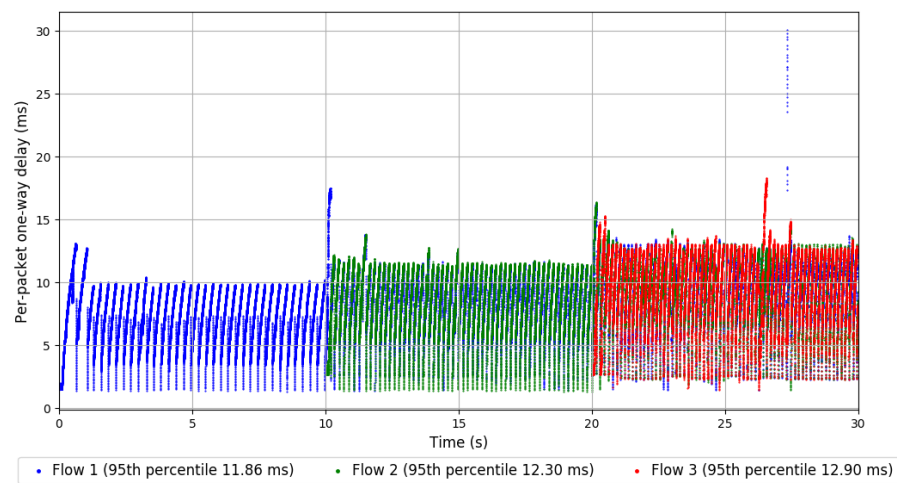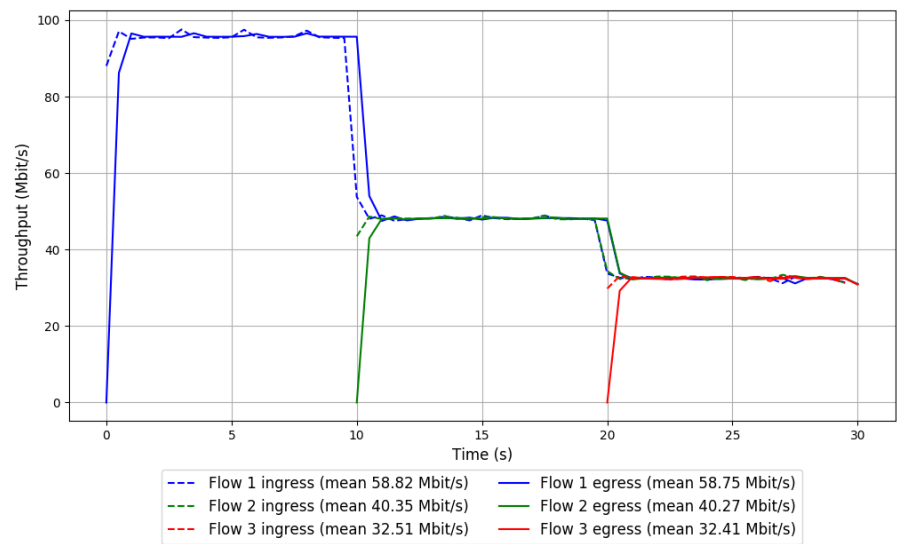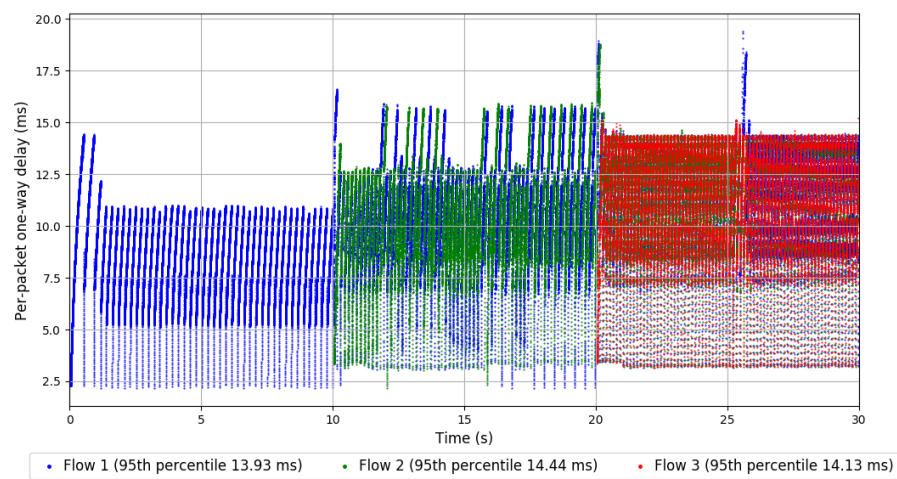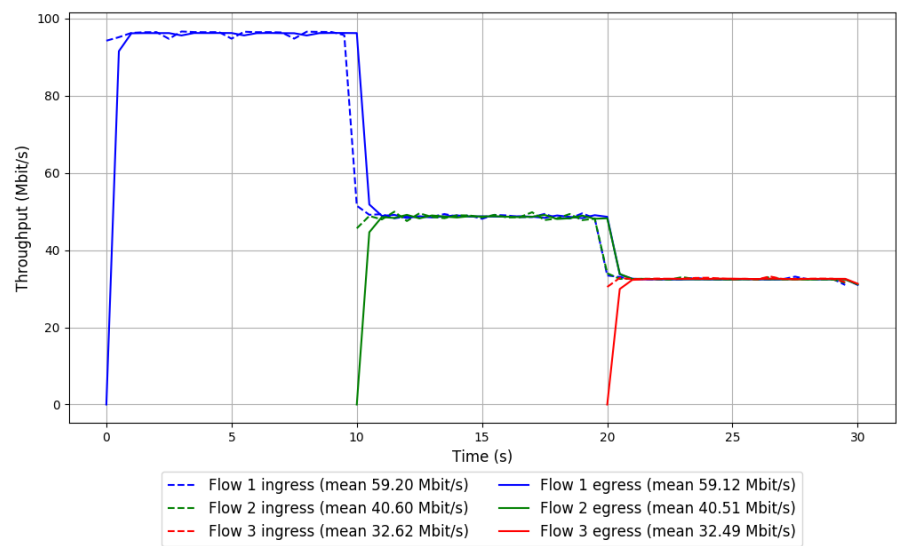
# Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-03-19 15:39:38
End at: 2019-03-19 15:40:08
Local clock offset: 0.192 ms
Remote clock offset: 1.737 ms


# Below is generated by plot.py at 2019-03-19 16:20:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 15.188 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 15.370 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 40.27 Mbit/s
95th percentile per-packet one-way delay: 15.228 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 14.107 ms
Loss rate: 0.32%
```

Run 4: Report of LEDBAT — Data Link



Flow 1 ingress (mean 59.38 Mbit/s) --- Flow 1 egress (mean 59.31 Mbit/s)
Flow 2 ingress (mean 40.35 Mbit/s) --- Flow 2 egress (mean 40.27 Mbit/s)
Flow 3 ingress (mean 32.25 Mbit/s) --- Flow 3 egress (mean 32.16 Mbit/s)



Flow 1 (95th percentile 15.37 ms)   Flow 2 (95th percentile 15.23 ms)   Flow 3 (95th percentile 14.11 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-03-19 16:03:49
End at: 2019-03-19 16:04:19
Local clock offset: -2.556 ms
Remote clock offset: 1.708 ms

# Below is generated by plot.py at 2019-03-19 16:20:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 13.935 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 59.06 Mbit/s
95th percentile per-packet one-way delay: 13.550 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 40.46 Mbit/s
95th percentile per-packet one-way delay: 13.929 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 14.329 ms
Loss rate: 0.40%
```
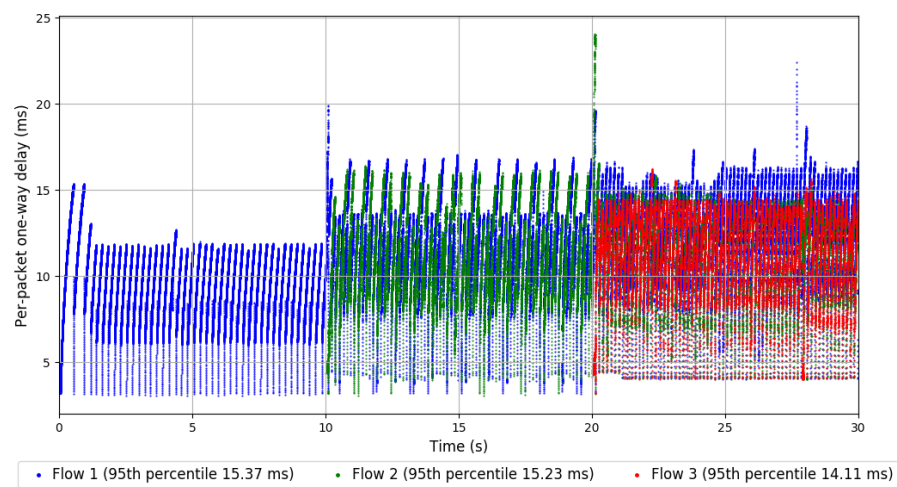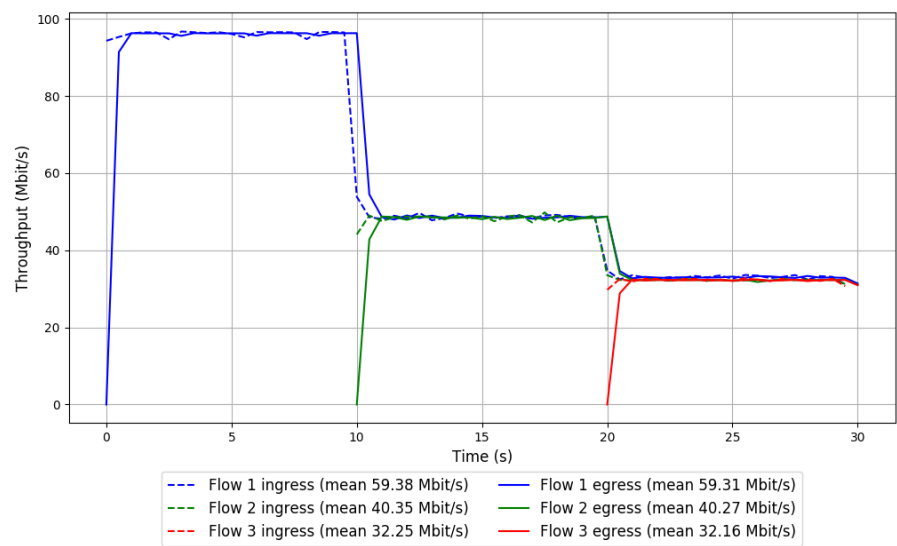
## Run 5: Report of LEDBAT — Data Link



Flow 1 ingress (mean 59.14 Mbit/s) --- Flow 1 egress (mean 59.06 Mbit/s)
Flow 2 ingress (mean 40.56 Mbit/s) --- Flow 2 egress (mean 40.46 Mbit/s)
Flow 3 ingress (mean 32.66 Mbit/s) --- Flow 3 egress (mean 32.54 Mbit/s)



Flow 1 (95th percentile 13.55 ms) • Flow 2 (95th percentile 13.93 ms) • Flow 3 (95th percentile 14.33 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-19 14:21:19
End at: 2019-03-19 14:21:49
Local clock offset: -4.634 ms
Remote clock offset: 0.156 ms


# Below is generated by plot.py at 2019-03-19 16:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.90 Mbit/s
95th percentile per-packet one-way delay: 1554.522 ms
Loss rate: 17.32%
-- Flow 1:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 1733.534 ms
Loss rate: 20.44%
-- Flow 2:
Average throughput: 34.23 Mbit/s
95th percentile per-packet one-way delay: 1343.787 ms
Loss rate: 13.89%
-- Flow 3:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 8.033 ms
Loss rate: 0.07%
```
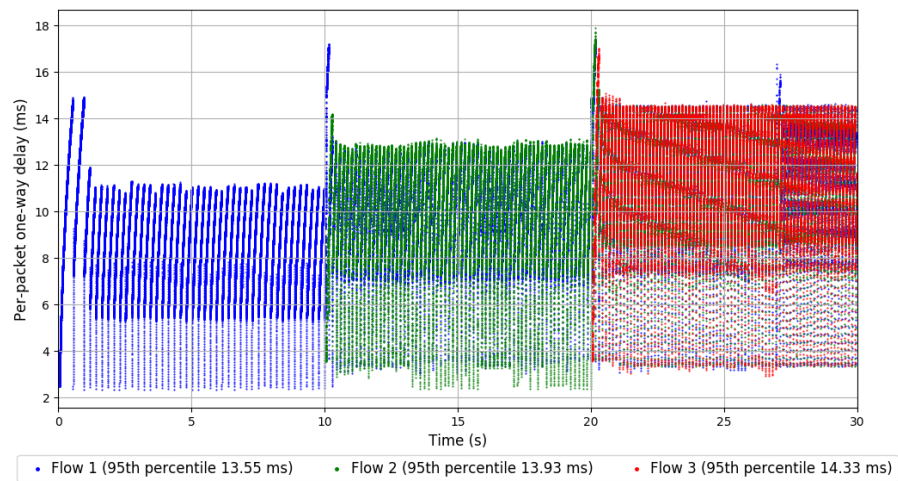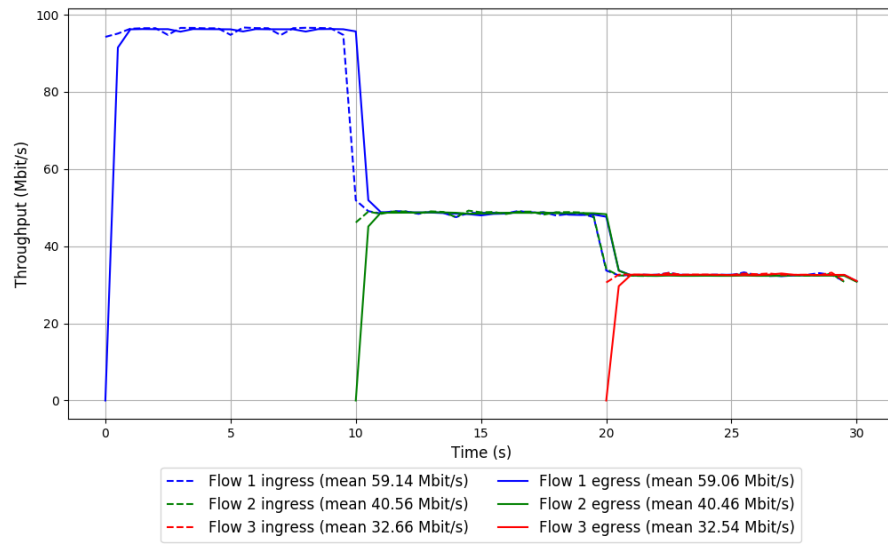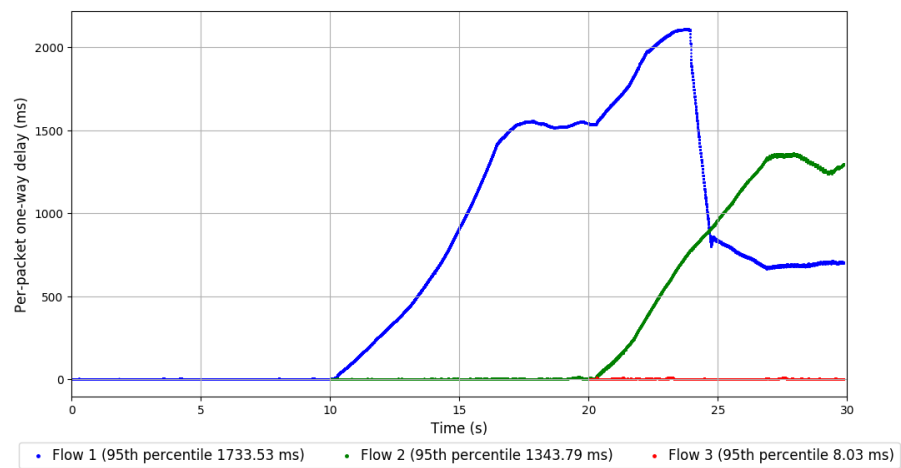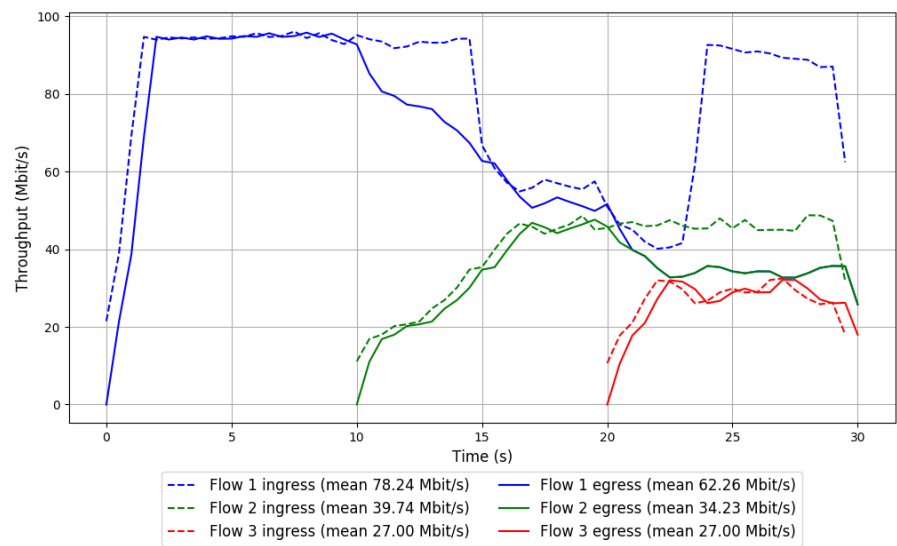
## Run 1: Report of PCC-Allegro — Data Link



- - - - Flow 1 ingress (mean 78.24 Mbit/s)    —— Flow 1 egress (mean 62.26 Mbit/s)
- - - - Flow 2 ingress (mean 39.74 Mbit/s)    —— Flow 2 egress (mean 34.23 Mbit/s)
- - - - Flow 3 ingress (mean 27.00 Mbit/s)    —— Flow 3 egress (mean 27.00 Mbit/s)



• Flow 1 (95th percentile 1733.53 ms)    • Flow 2 (95th percentile 1343.79 ms)    • Flow 3 (95th percentile 8.03 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-19 14:45:31
End at: 2019-03-19 14:46:01
Local clock offset: -3.237 ms
Remote clock offset: 0.529 ms


# Below is generated by plot.py at 2019-03-19 16:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.34 Mbit/s
95th percentile per-packet one-way delay: 2050.610 ms
Loss rate: 5.28%
-- Flow 1:
Average throughput: 68.72 Mbit/s
95th percentile per-packet one-way delay: 2137.276 ms
Loss rate: 5.35%
-- Flow 2:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 580.318 ms
Loss rate: 7.11%
-- Flow 3:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 8.675 ms
Loss rate: 0.07%
```
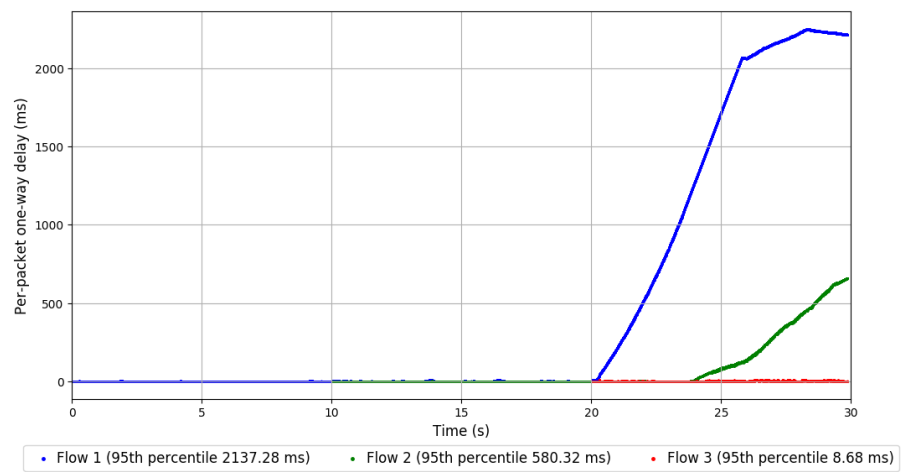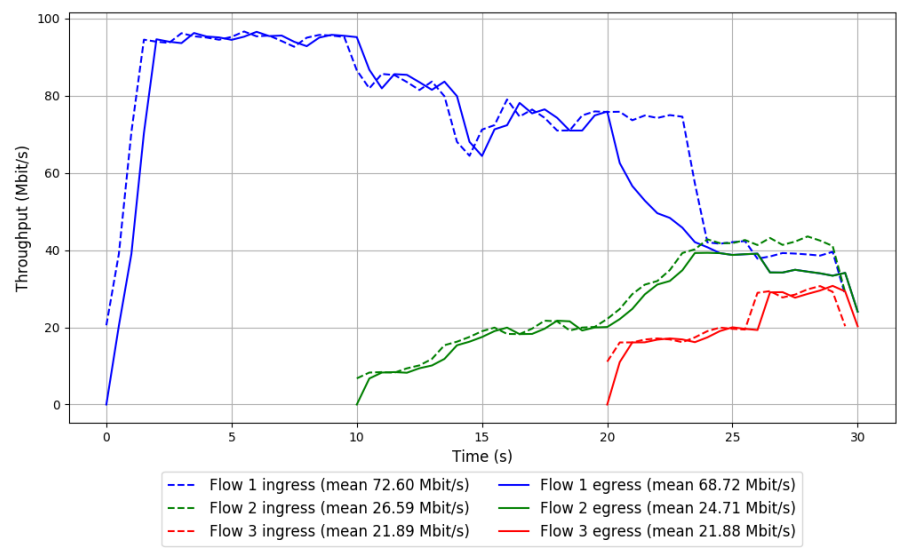
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-19 15:09:42
End at: 2019-03-19 15:10:12
Local clock offset: 0.943 ms
Remote clock offset: 1.029 ms


# Below is generated by plot.py at 2019-03-19 16:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.11 Mbit/s
95th percentile per-packet one-way delay: 1509.660 ms
Loss rate: 10.57%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 1838.926 ms
Loss rate: 12.12%
-- Flow 2:
Average throughput: 32.79 Mbit/s
95th percentile per-packet one-way delay: 1068.097 ms
Loss rate: 10.19%
-- Flow 3:
Average throughput: 27.84 Mbit/s
95th percentile per-packet one-way delay: 123.632 ms
Loss rate: 0.46%
```
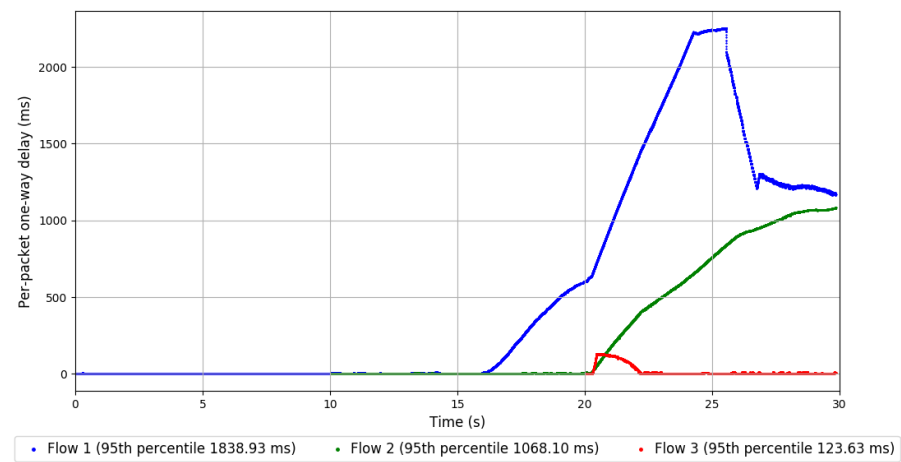
## Run 3: Report of PCC-Allegro — Data Link



- - - - Flow 1 ingress (mean 66.19 Mbit/s) ——— Flow 1 egress (mean 58.18 Mbit/s)
- - - - Flow 2 ingress (mean 36.49 Mbit/s) ——— Flow 2 egress (mean 32.79 Mbit/s)
- - - - Flow 3 ingress (mean 27.95 Mbit/s) ——— Flow 3 egress (mean 27.84 Mbit/s)



- Flow 1 (95th percentile 1838.93 ms) • Flow 2 (95th percentile 1068.10 ms) • Flow 3 (95th percentile 123.63 ms)

120

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-19 15:33:54
End at: 2019-03-19 15:34:24
Local clock offset: -0.603 ms
Remote clock offset: 1.777 ms


# Below is generated by plot.py at 2019-03-19 16:21:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.32 Mbit/s
95th percentile per-packet one-way delay: 1961.957 ms
Loss rate: 8.15%
-- Flow 1:
Average throughput: 62.31 Mbit/s
95th percentile per-packet one-way delay: 1969.242 ms
Loss rate: 9.03%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 162.597 ms
Loss rate: 8.27%
-- Flow 3:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 7.098 ms
Loss rate: 0.08%
```
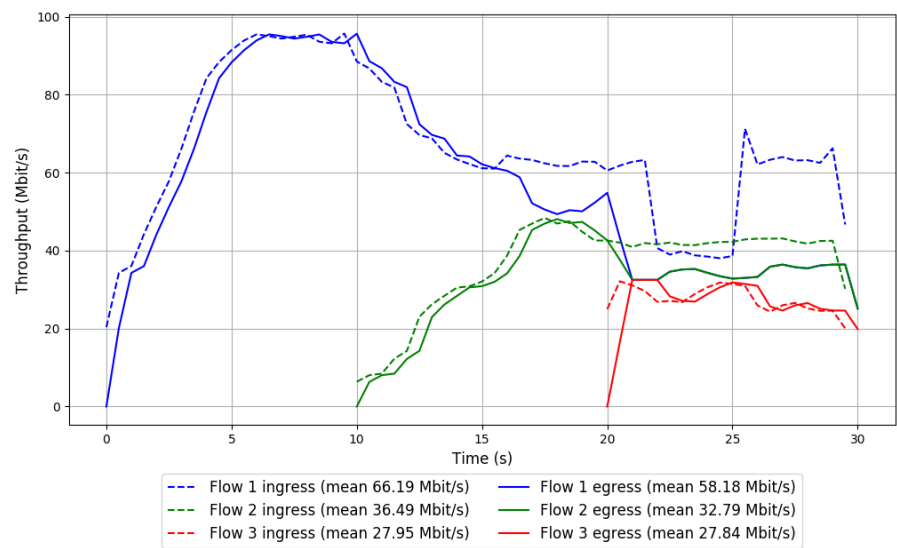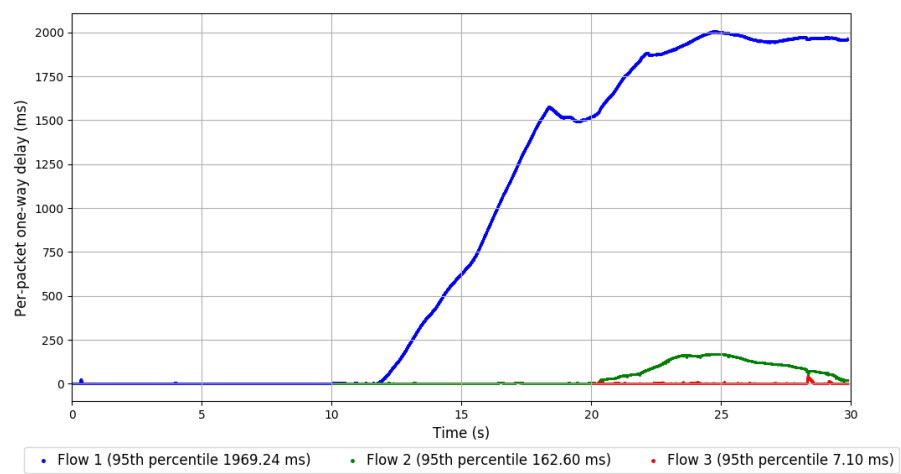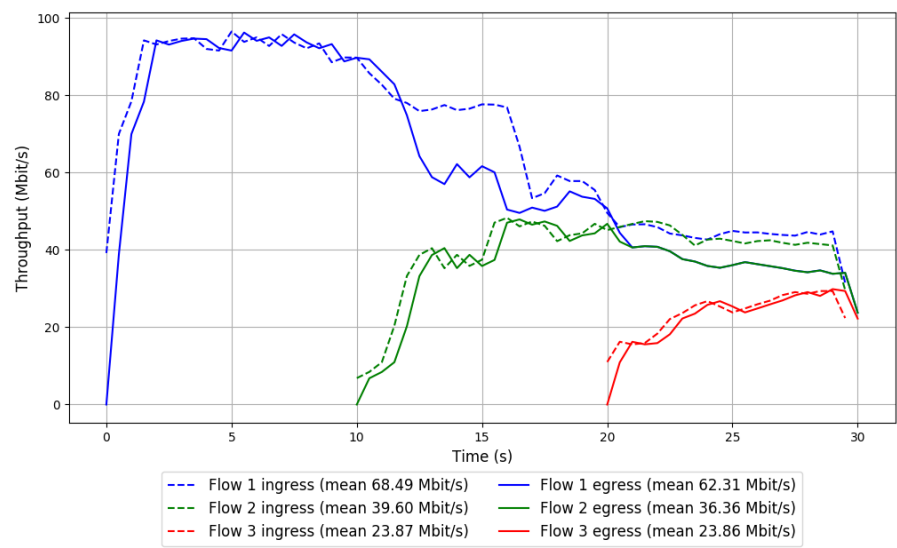
Run 4: Report of PCC-Allegro — Data Link



- - - Flow 1 ingress (mean 68.49 Mbit/s)      —— Flow 1 egress (mean 62.31 Mbit/s)
- - - Flow 2 ingress (mean 39.60 Mbit/s)      —— Flow 2 egress (mean 36.36 Mbit/s)
- - - Flow 3 ingress (mean 23.87 Mbit/s)      —— Flow 3 egress (mean 23.86 Mbit/s)



• Flow 1 (95th percentile 1969.24 ms)      • Flow 2 (95th percentile 162.60 ms)      • Flow 3 (95th percentile 7.10 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-19 15:58:04
End at: 2019-03-19 15:58:34
Local clock offset: -3.002 ms
Remote clock offset: 1.8 ms


# Below is generated by plot.py at 2019-03-19 16:21:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.45 Mbit/s
95th percentile per-packet one-way delay: 1540.809 ms
Loss rate: 17.63%
-- Flow 1:
Average throughput: 62.32 Mbit/s
95th percentile per-packet one-way delay: 1783.776 ms
Loss rate: 20.87%
-- Flow 2:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 1377.734 ms
Loss rate: 13.97%
-- Flow 3:
Average throughput: 28.95 Mbit/s
95th percentile per-packet one-way delay: 17.350 ms
Loss rate: 0.13%
```
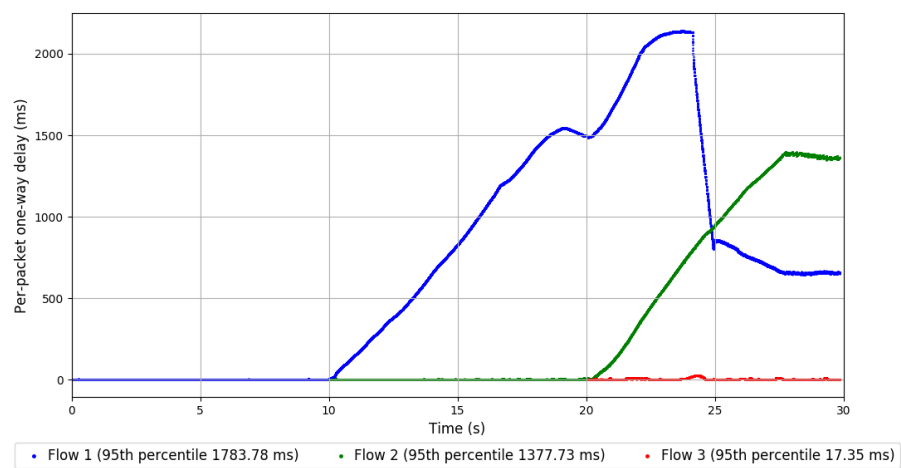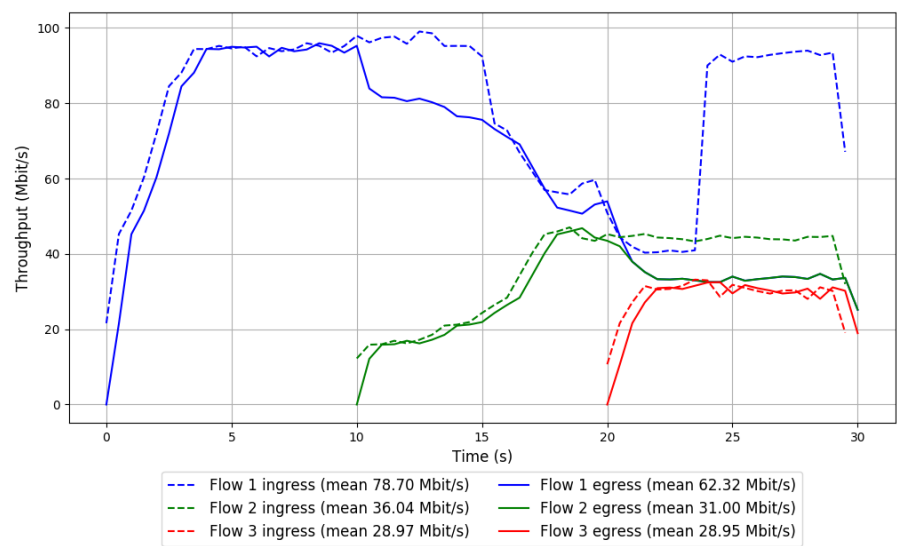
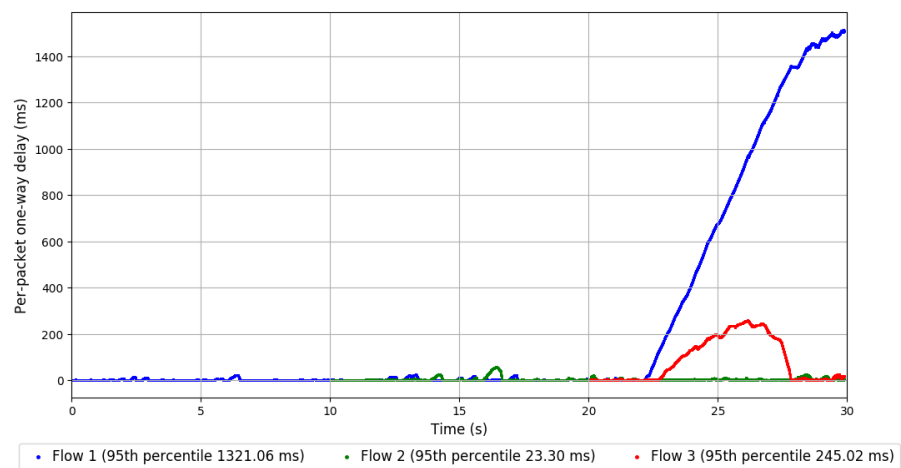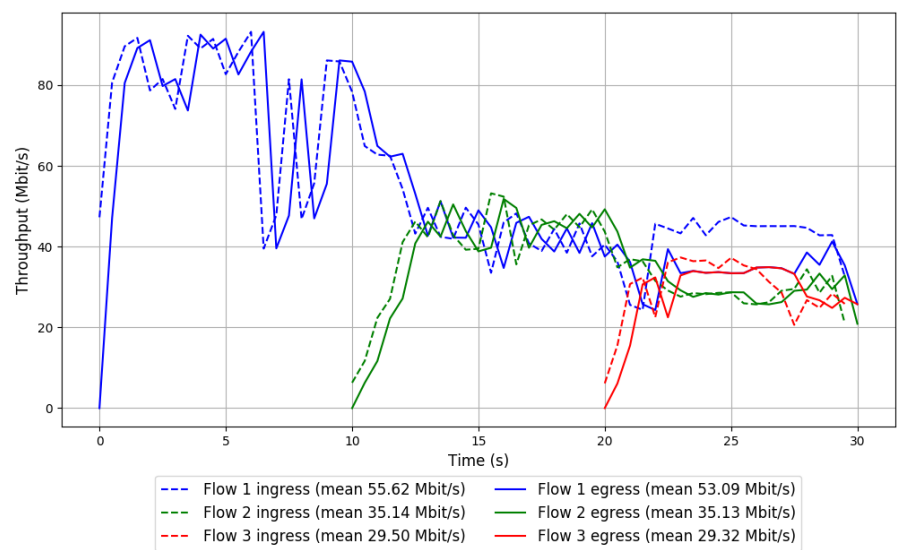# Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-19 14:09:44
End at: 2019-03-19 14:10:14
Local clock offset: -7.956 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-03-19 16:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.12 Mbit/s
95th percentile per-packet one-way delay: 972.802 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 53.09 Mbit/s
95th percentile per-packet one-way delay: 1321.060 ms
Loss rate: 4.53%
-- Flow 2:
Average throughput: 35.13 Mbit/s
95th percentile per-packet one-way delay: 23.305 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 245.018 ms
Loss rate: 0.66%
```

Run 1: Report of PCC-Expr — Data Link



Flow 1 ingress (mean 55.62 Mbit/s)  Flow 1 egress (mean 53.09 Mbit/s)
Flow 2 ingress (mean 35.14 Mbit/s)  Flow 2 egress (mean 35.13 Mbit/s)
Flow 3 ingress (mean 29.50 Mbit/s)  Flow 3 egress (mean 29.32 Mbit/s)



Flow 1 (95th percentile 1321.06 ms)   Flow 2 (95th percentile 23.30 ms)   Flow 3 (95th percentile 245.02 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-03-19 14:33:57
End at: 2019-03-19 14:34:27
Local clock offset: -2.417 ms
Remote clock offset: 0.315 ms


# Below is generated by plot.py at 2019-03-19 16:22:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.05 Mbit/s
95th percentile per-packet one-way delay: 365.743 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 114.734 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 39.91 Mbit/s
95th percentile per-packet one-way delay: 371.864 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 487.173 ms
Loss rate: 0.44%
```
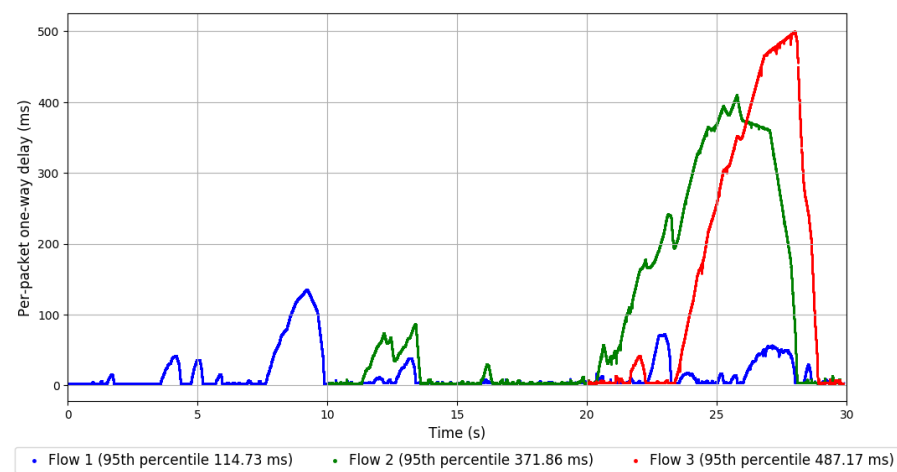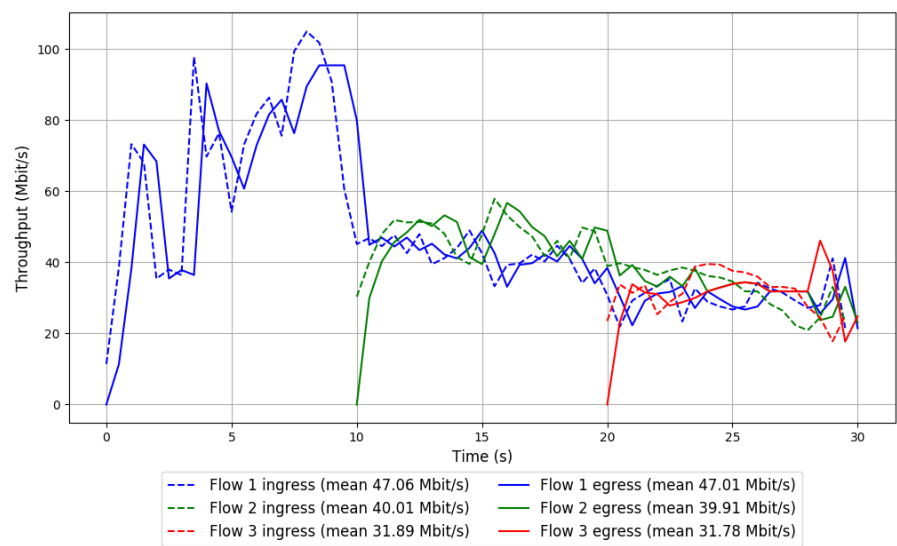
Run 2: Report of PCC-Expr — Data Link



- Flow 1 ingress (mean 47.06 Mbit/s)
- Flow 1 egress (mean 47.01 Mbit/s)
- Flow 2 ingress (mean 40.01 Mbit/s)
- Flow 2 egress (mean 39.91 Mbit/s)
- Flow 3 ingress (mean 31.89 Mbit/s)
- Flow 3 egress (mean 31.78 Mbit/s)



- Flow 1 (95th percentile 114.73 ms)
- Flow 2 (95th percentile 371.86 ms)
- Flow 3 (95th percentile 487.17 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-03-19 14:58:07
End at: 2019-03-19 14:58:37
Local clock offset: -1.427 ms
Remote clock offset: 0.755 ms


# Below is generated by plot.py at 2019-03-19 16:22:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.38 Mbit/s
95th percentile per-packet one-way delay: 1014.603 ms
Loss rate: 7.57%
-- Flow 1:
Average throughput: 49.80 Mbit/s
95th percentile per-packet one-way delay: 1101.894 ms
Loss rate: 10.57%
-- Flow 2:
Average throughput: 33.94 Mbit/s
95th percentile per-packet one-way delay: 91.185 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 30.31 Mbit/s
95th percentile per-packet one-way delay: 511.749 ms
Loss rate: 7.52%
```
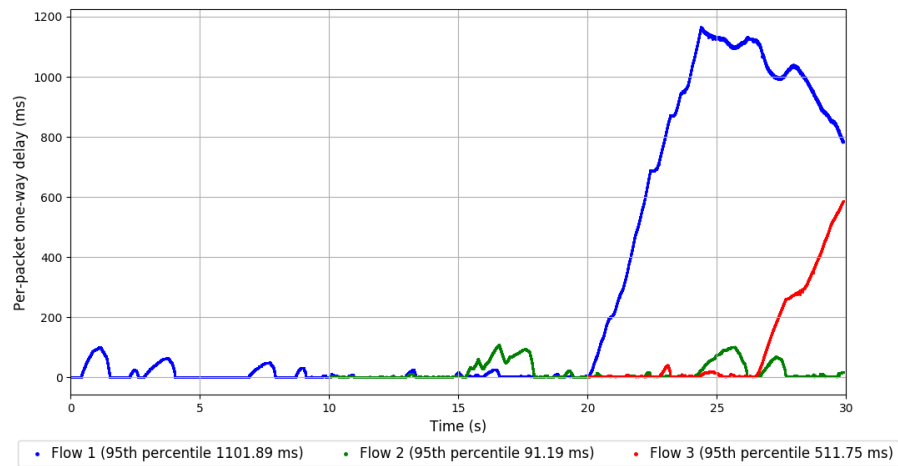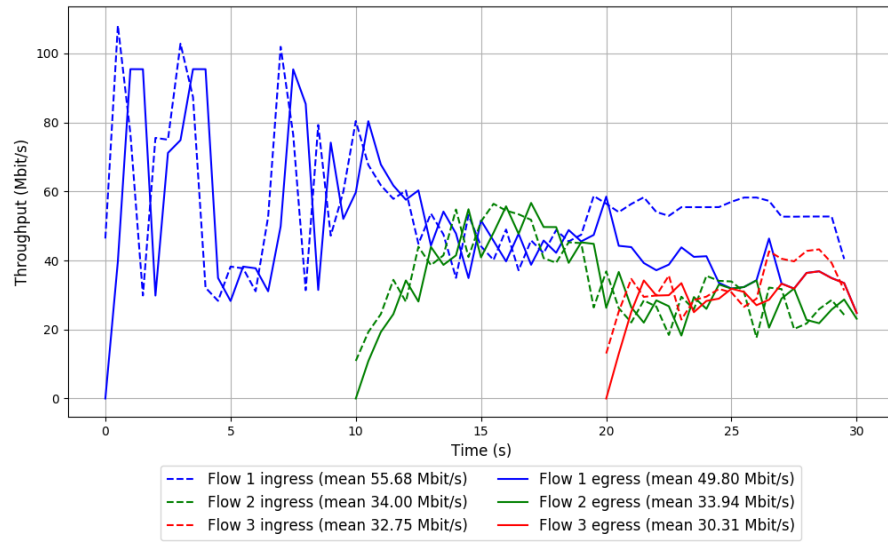
# Run 3: Report of PCC-Expr — Data Link



Flow 1 ingress (mean 55.68 Mbit/s)  Flow 1 egress (mean 49.80 Mbit/s)
Flow 2 ingress (mean 34.00 Mbit/s)  Flow 2 egress (mean 33.94 Mbit/s)
Flow 3 ingress (mean 32.75 Mbit/s)  Flow 3 egress (mean 30.31 Mbit/s)



Flow 1 (95th percentile 1101.89 ms)   Flow 2 (95th percentile 91.19 ms)   Flow 3 (95th percentile 511.75 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-03-19 15:22:19
End at: 2019-03-19 15:22:49
Local clock offset: -1.062 ms
Remote clock offset: 1.423 ms


# Below is generated by plot.py at 2019-03-19 16:22:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.88 Mbit/s
95th percentile per-packet one-way delay: 1101.193 ms
Loss rate: 3.66%
-- Flow 1:
Average throughput: 47.92 Mbit/s
95th percentile per-packet one-way delay: 139.889 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 1403.022 ms
Loss rate: 10.36%
-- Flow 3:
Average throughput: 29.88 Mbit/s
95th percentile per-packet one-way delay: 89.097 ms
Loss rate: 1.23%
```
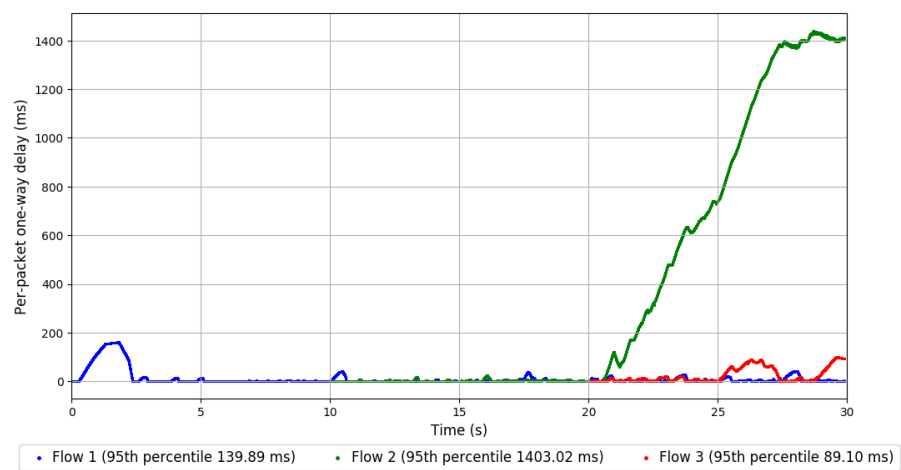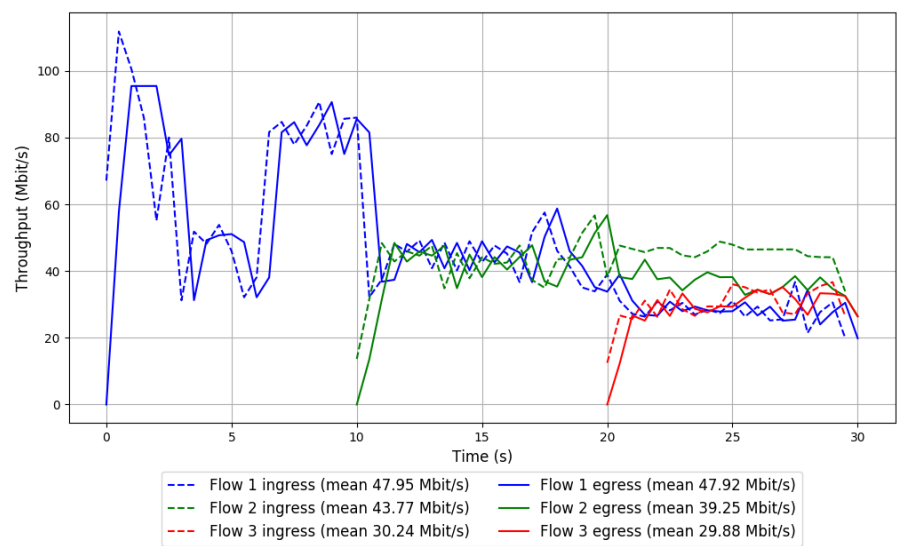
Run 4: Report of PCC-Expr — Data Link



Flow 1 ingress (mean 47.95 Mbit/s)      Flow 1 egress (mean 47.92 Mbit/s)
Flow 2 ingress (mean 43.77 Mbit/s)      Flow 2 egress (mean 39.25 Mbit/s)
Flow 3 ingress (mean 30.24 Mbit/s)      Flow 3 egress (mean 29.88 Mbit/s)



• Flow 1 (95th percentile 139.89 ms)    • Flow 2 (95th percentile 1403.02 ms)    • Flow 3 (95th percentile 89.10 ms)

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```
Run 5: Statistics of PCC-Expr

Start at: 2019-03-19 15:46:30
End at: 2019-03-19 15:47:00
Local clock offset: 0.175 ms
Remote clock offset: 1.814 ms


# Below is generated by plot.py at 2019-03-19 16:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.03 Mbit/s
95th percentile per-packet one-way delay: 1268.105 ms
Loss rate: 7.03%
-- Flow 1:
Average throughput: 53.63 Mbit/s
95th percentile per-packet one-way delay: 1304.692 ms
Loss rate: 9.92%
-- Flow 2:
Average throughput: 34.29 Mbit/s
95th percentile per-packet one-way delay: 121.993 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 202.115 ms
Loss rate: 5.13%
```
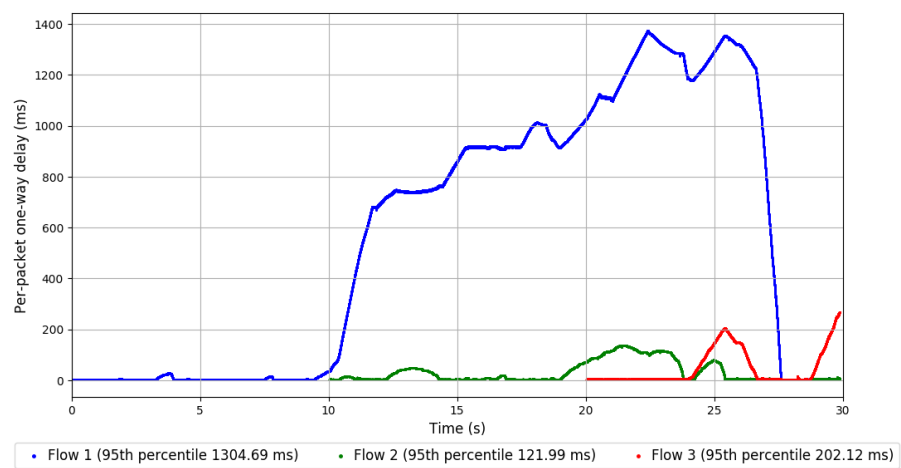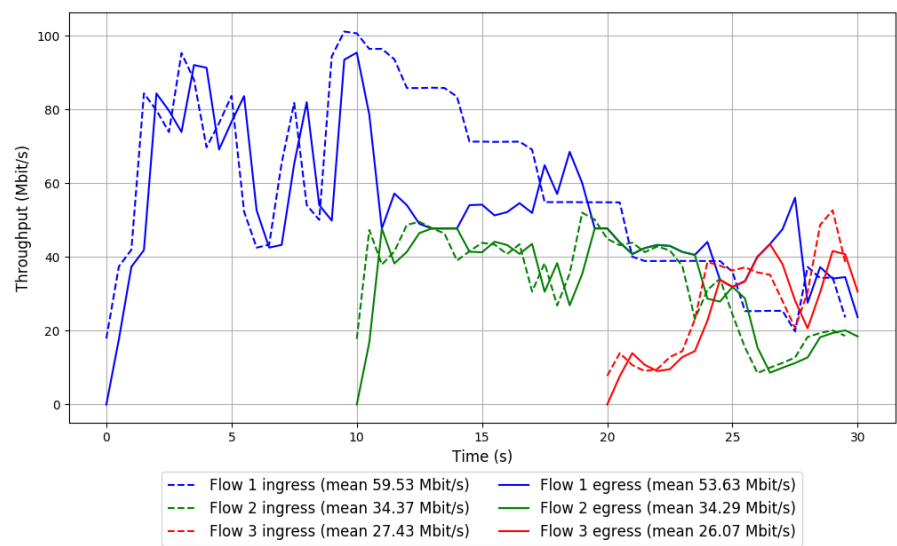
# Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-19 14:14:23
End at: 2019-03-19 14:14:53
Local clock offset: -6.829 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2019-03-19 16:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 14.446 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 53.96 Mbit/s
95th percentile per-packet one-way delay: 14.330 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 40.12 Mbit/s
95th percentile per-packet one-way delay: 14.282 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 14.786 ms
Loss rate: 0.52%
```
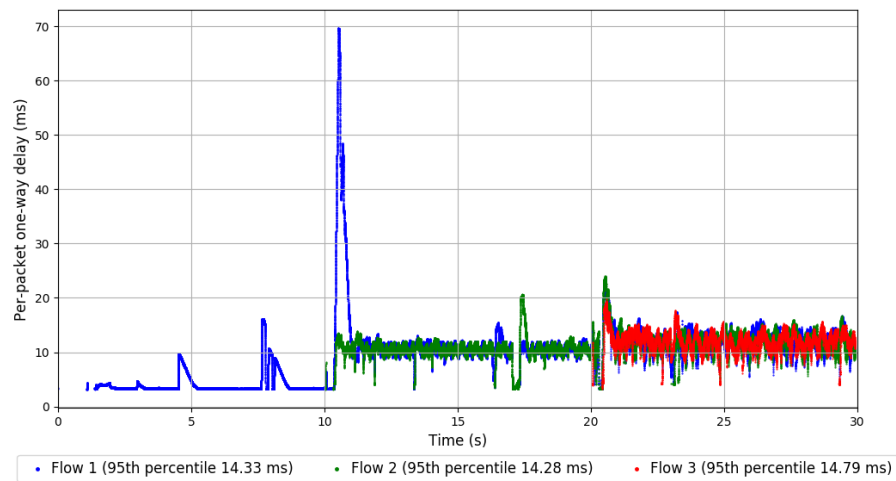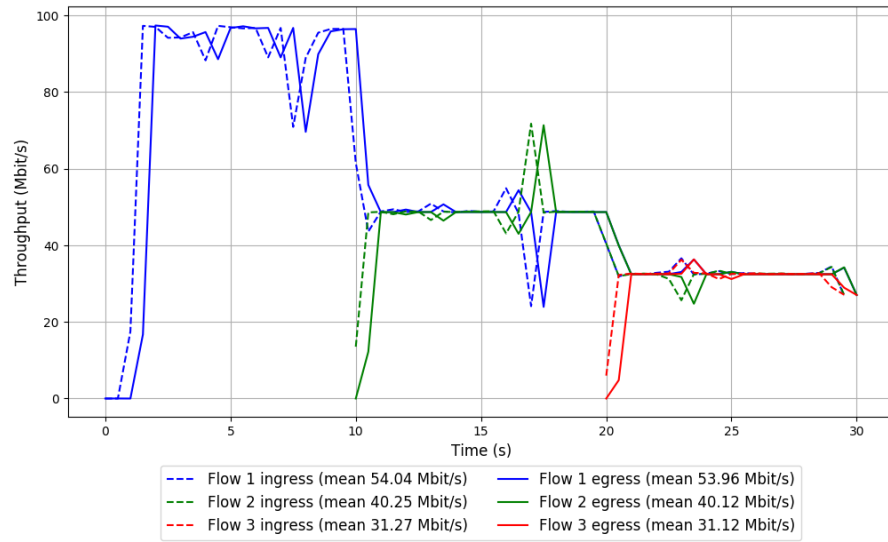
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-19 14:38:35
End at: 2019-03-19 14:39:05
Local clock offset: -3.593 ms
Remote clock offset: 0.36 ms


# Below is generated by plot.py at 2019-03-19 16:22:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.70 Mbit/s
95th percentile per-packet one-way delay: 12.909 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 13.029 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 40.01 Mbit/s
95th percentile per-packet one-way delay: 12.581 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 31.18 Mbit/s
95th percentile per-packet one-way delay: 13.256 ms
Loss rate: 0.52%
```
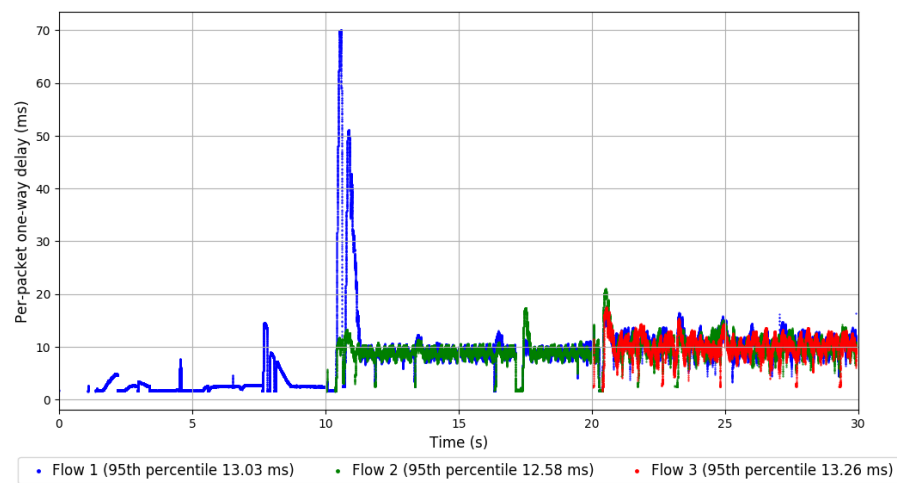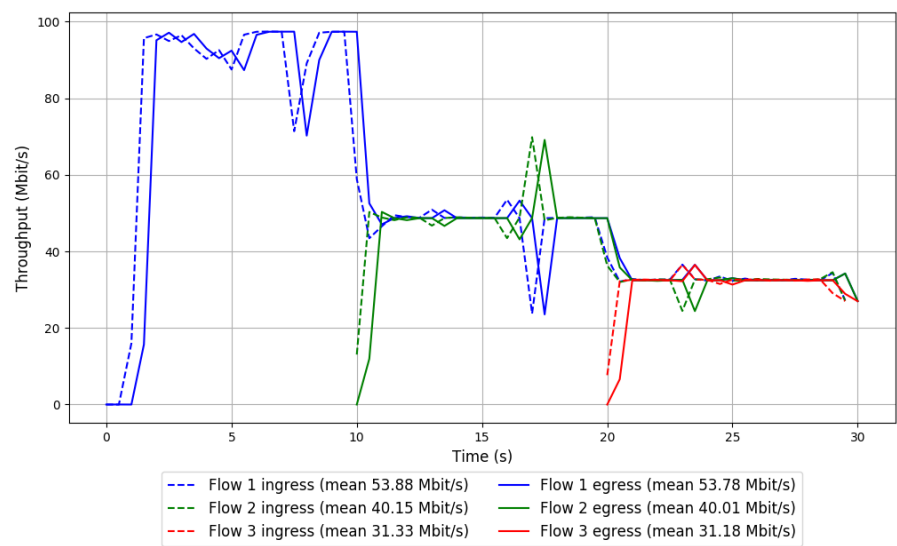
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-19 15:02:46
End at: 2019-03-19 15:03:16
Local clock offset: 0.509 ms
Remote clock offset: 0.893 ms


# Below is generated by plot.py at 2019-03-19 16:22:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 14.098 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 53.61 Mbit/s
95th percentile per-packet one-way delay: 13.617 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 14.200 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.11 Mbit/s
95th percentile per-packet one-way delay: 14.738 ms
Loss rate: 0.47%
```
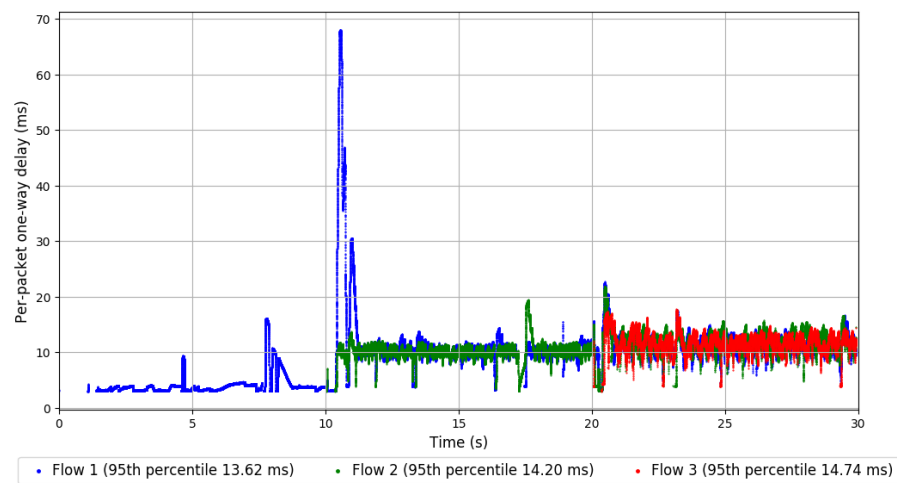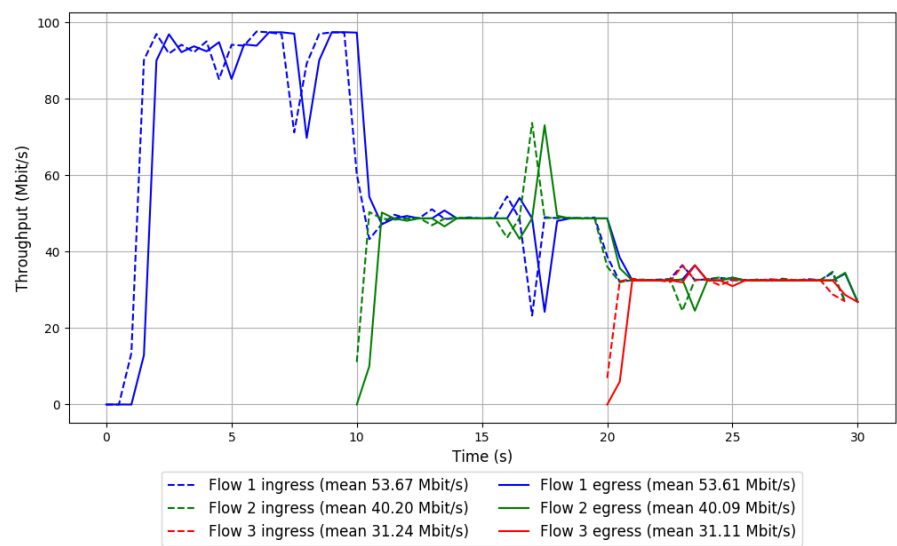
Run 3: Report of QUIC Cubic — Data Link



- - - Flow 1 ingress (mean 53.67 Mbit/s) —— Flow 1 egress (mean 53.61 Mbit/s)
- - - Flow 2 ingress (mean 40.20 Mbit/s) —— Flow 2 egress (mean 40.09 Mbit/s)
- - - Flow 3 ingress (mean 31.24 Mbit/s) —— Flow 3 egress (mean 31.11 Mbit/s)



• Flow 1 (95th percentile 13.62 ms)   • Flow 2 (95th percentile 14.20 ms)   • Flow 3 (95th percentile 14.74 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-19 15:26:58
End at: 2019-03-19 15:27:28
Local clock offset: -1.335 ms
Remote clock offset: 1.601 ms


# Below is generated by plot.py at 2019-03-19 16:23:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.11 Mbit/s
95th percentile per-packet one-way delay: 13.029 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 53.10 Mbit/s
95th percentile per-packet one-way delay: 12.449 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 13.147 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 30.96 Mbit/s
95th percentile per-packet one-way delay: 13.593 ms
Loss rate: 0.46%
```
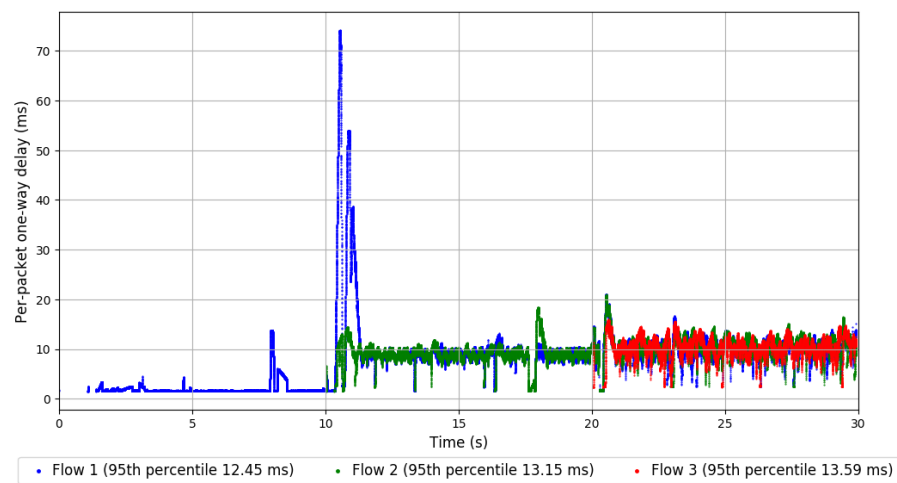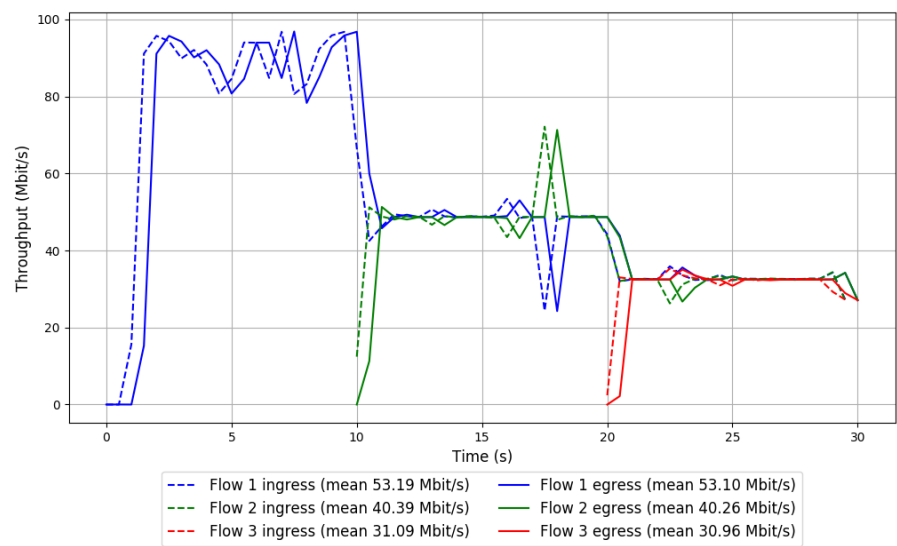
Run 4: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 53.19 Mbit/s) --- Flow 1 egress (mean 53.10 Mbit/s)
Flow 2 ingress (mean 40.39 Mbit/s) --- Flow 2 egress (mean 40.26 Mbit/s)
Flow 3 ingress (mean 31.09 Mbit/s) --- Flow 3 egress (mean 30.96 Mbit/s)



Flow 1 (95th percentile 12.45 ms) • Flow 2 (95th percentile 13.15 ms) • Flow 3 (95th percentile 13.59 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-19 15:51:08
End at: 2019-03-19 15:51:38
Local clock offset: -2.306 ms
Remote clock offset: 1.772 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.99 Mbit/s
95th percentile per-packet one-way delay: 13.044 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 53.99 Mbit/s
95th percentile per-packet one-way delay: 12.869 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 12.817 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 31.11 Mbit/s
95th percentile per-packet one-way delay: 13.908 ms
Loss rate: 0.52%
```
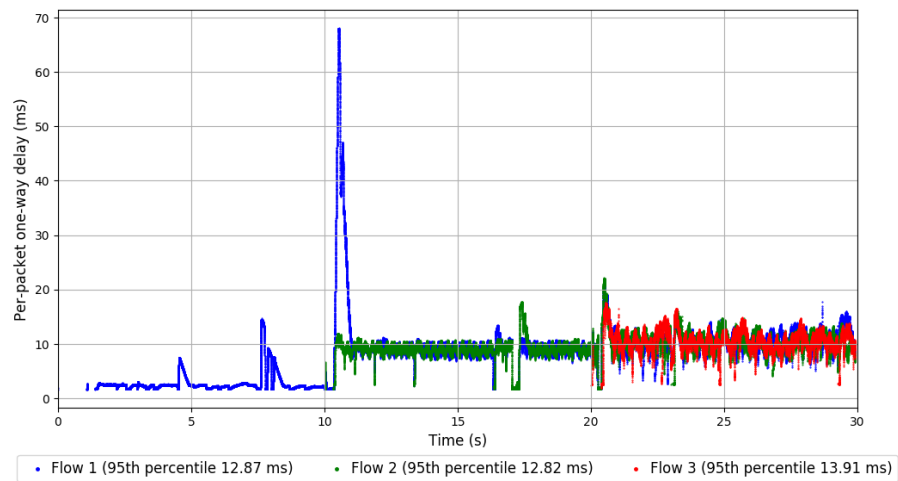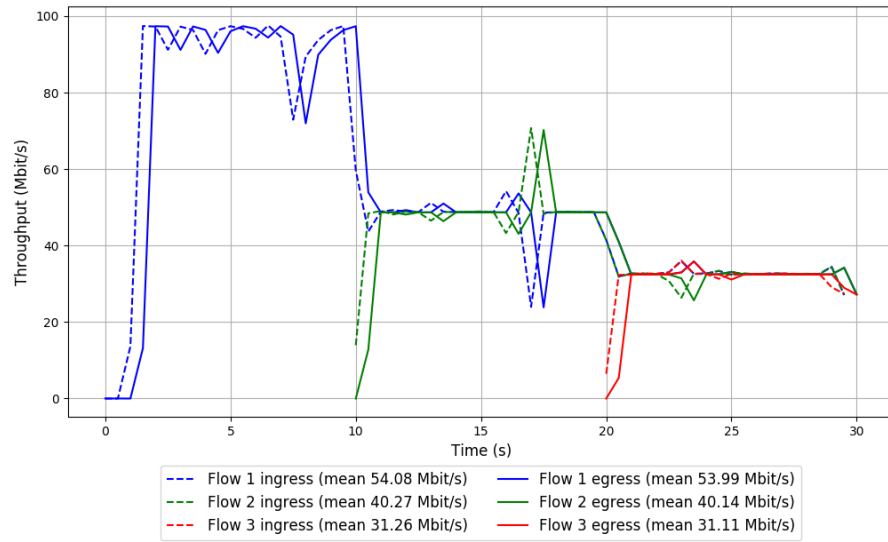
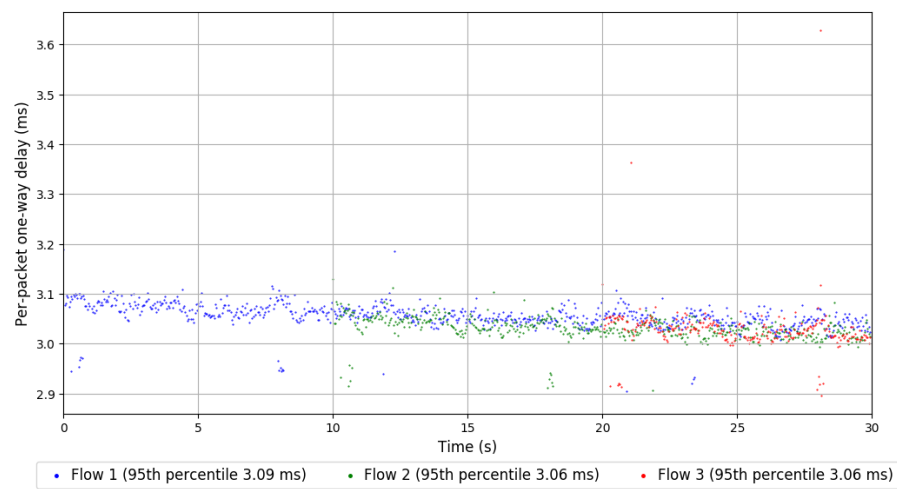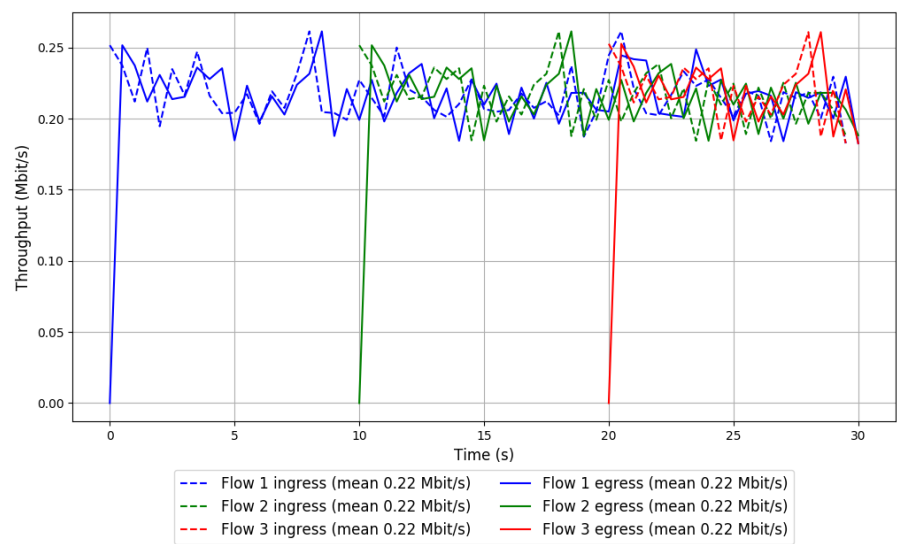Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-03-19 14:32:51
End at: 2019-03-19 14:33:21
Local clock offset: -2.535 ms
Remote clock offset: 0.396 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 3.085 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.092 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.064 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.057 ms
Loss rate: 0.00%
```
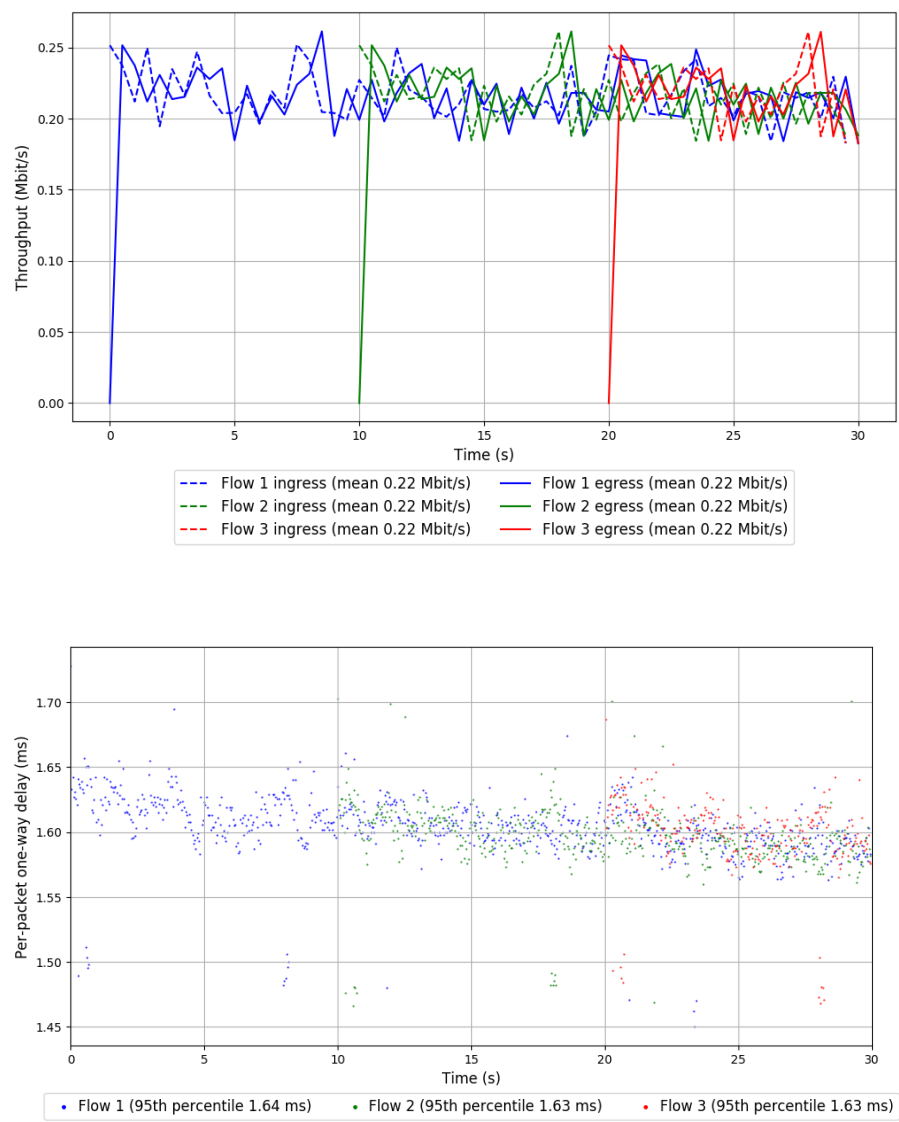
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-03-19 14:57:01
End at: 2019-03-19 14:57:31
Local clock offset: -1.546 ms
Remote clock offset: 0.637 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.634 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.635 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.626 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.634 ms
Loss rate: 0.00%
```

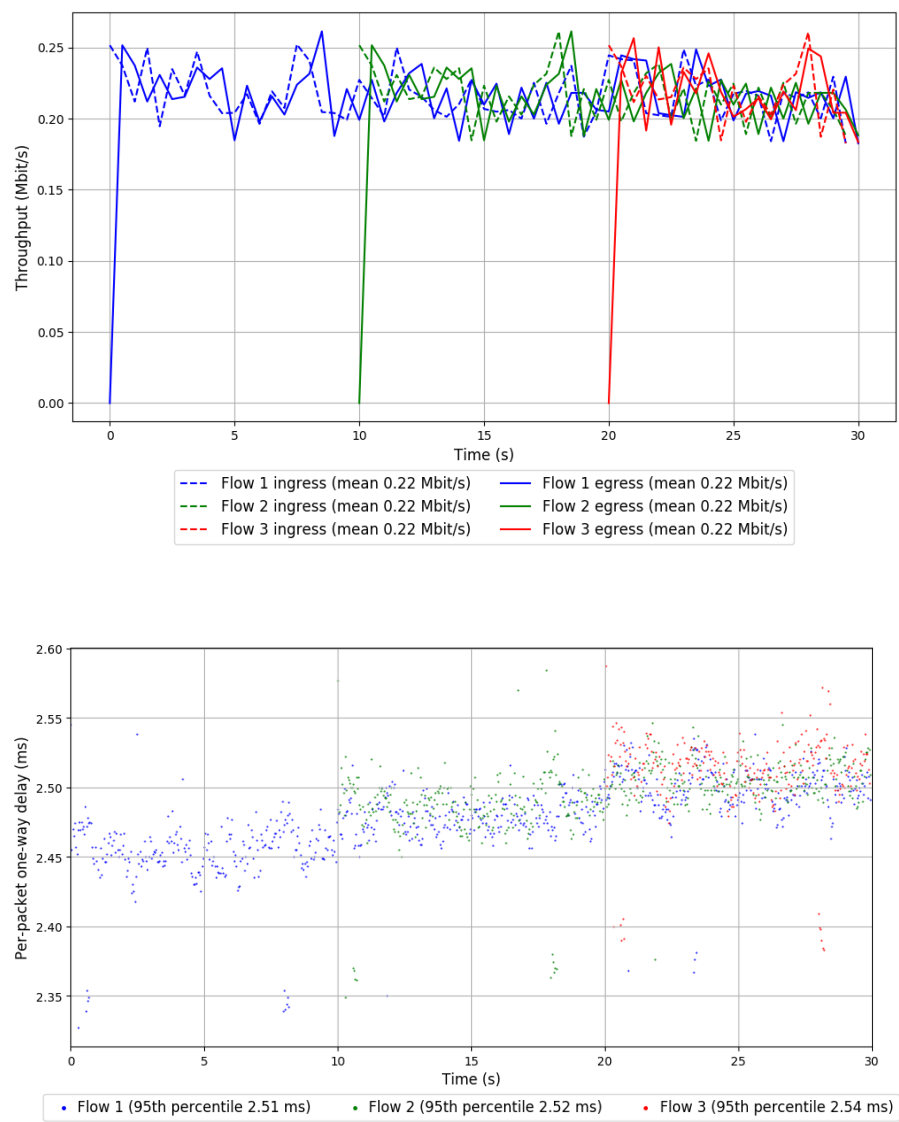# Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-03-19 15:21:13
End at: 2019-03-19 15:21:43
Local clock offset: -0.136 ms
Remote clock offset: 1.437 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.528 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.514 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.525 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.539 ms
Loss rate: 0.35%
```

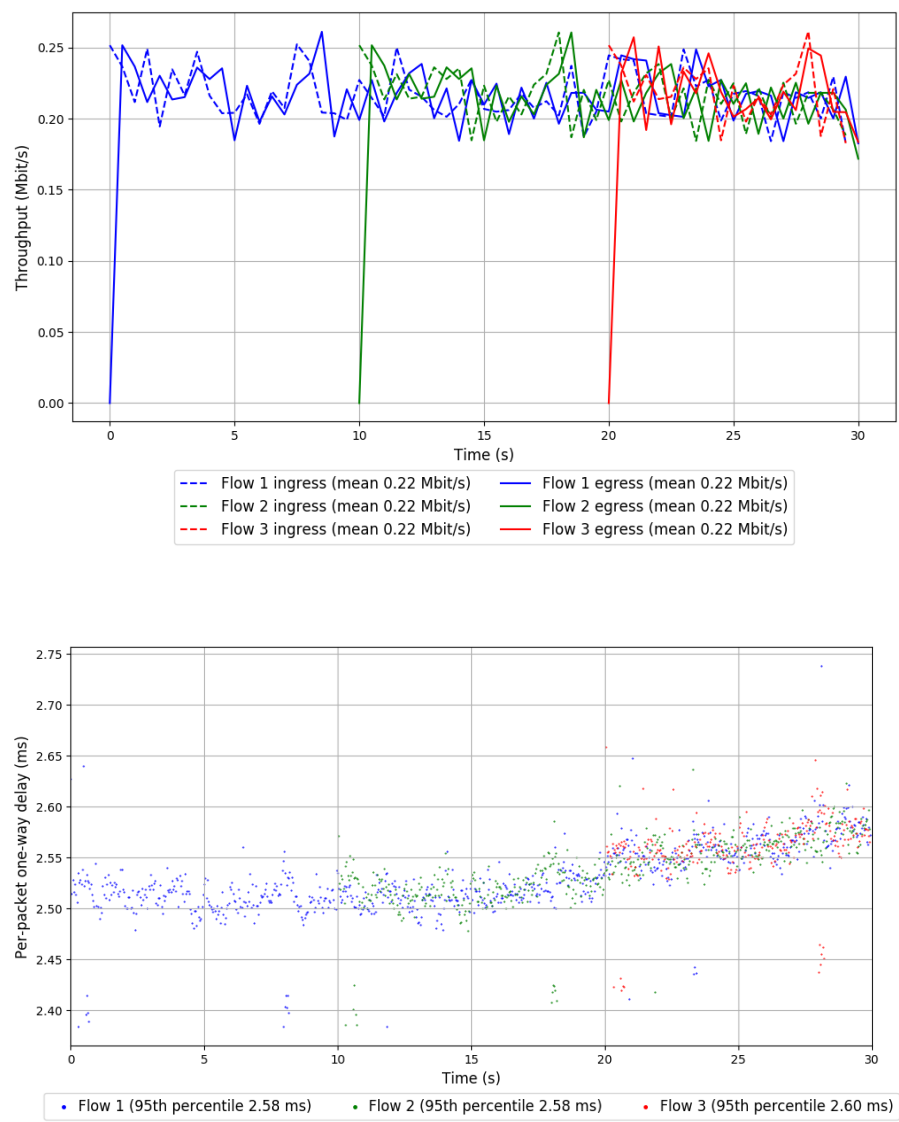# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-03-19 15:45:24
End at: 2019-03-19 15:45:54
Local clock offset: -0.485 ms
Remote clock offset: 1.648 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.585 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.580 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.584 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.595 ms
Loss rate: 0.35%
```

Run 4: Report of SCReAM — Data Link



Flow 1 ingress (mean 0.22 Mbit/s) — Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s) — Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) — Flow 3 egress (mean 0.22 Mbit/s)



Flow 1 (95th percentile 2.58 ms)    Flow 2 (95th percentile 2.58 ms)    Flow 3 (95th percentile 2.60 ms)

```
Run 5: Statistics of SCReAM

Start at: 2019-03-19 16:09:35
End at: 2019-03-19 16:10:05
Local clock offset: -1.969 ms
Remote clock offset: 1.73 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 3.243 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.237 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.249 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.244 ms
Loss rate: 0.00%
```
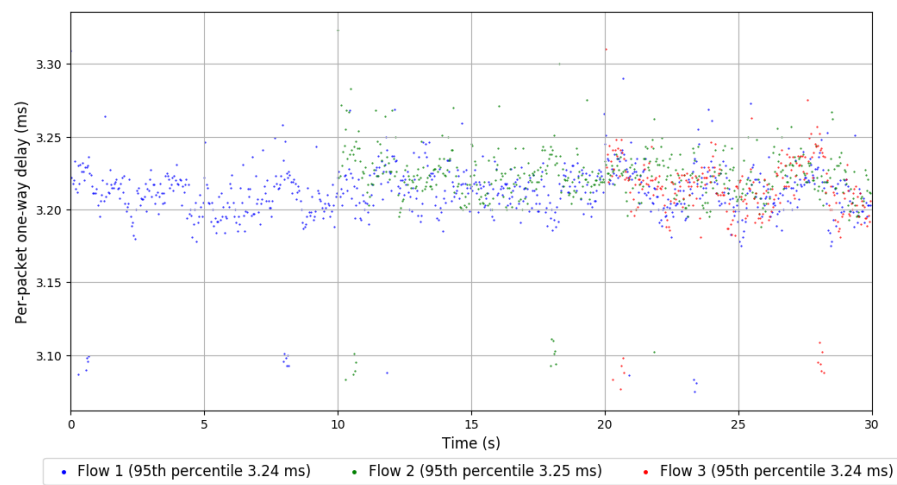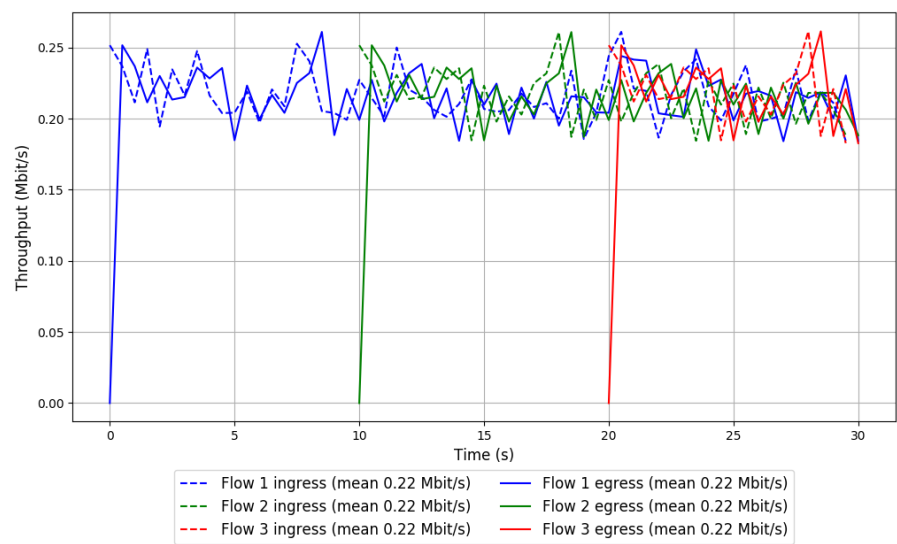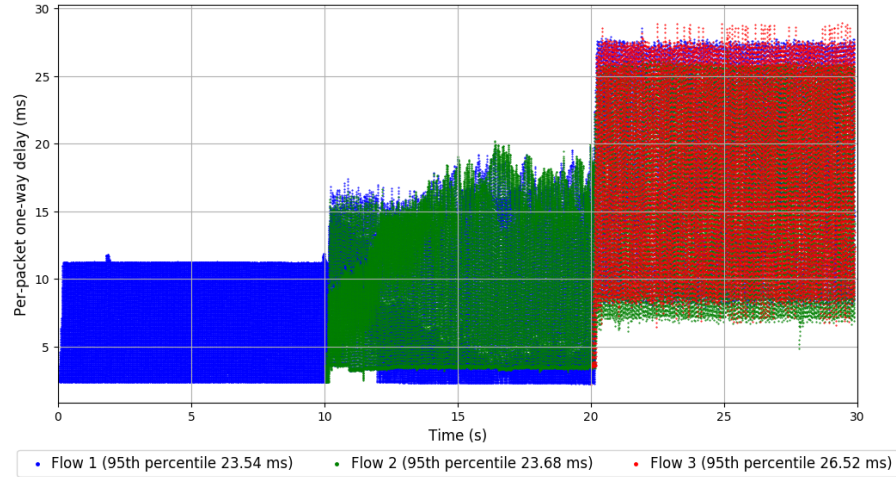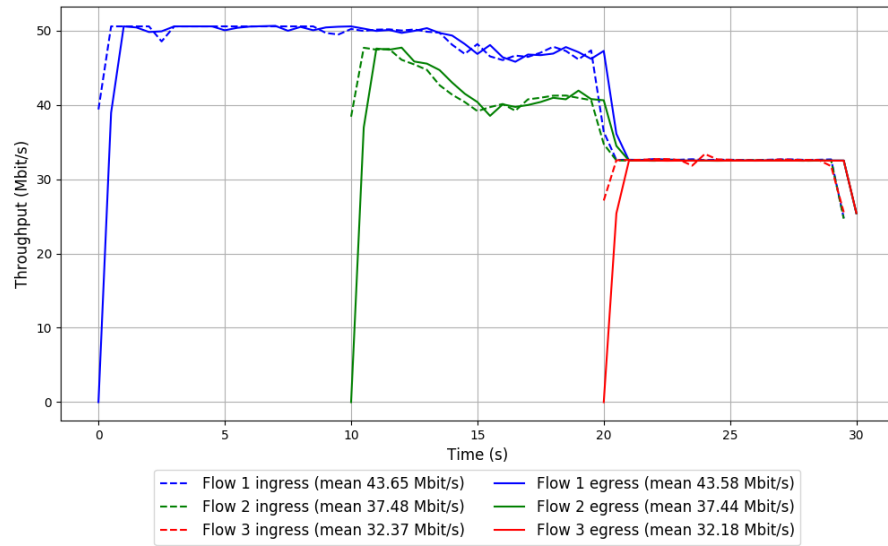
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-03-19 14:15:32
End at: 2019-03-19 14:16:02
Local clock offset: -7.681 ms
Remote clock offset: 0.163 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.12 Mbit/s
95th percentile per-packet one-way delay: 24.565 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 43.58 Mbit/s
95th percentile per-packet one-way delay: 23.544 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 23.683 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 26.517 ms
Loss rate: 0.46%
```

Run 1: Report of Sprout — Data Link



Flow 1 ingress (mean 43.65 Mbit/s) ---- Flow 1 egress (mean 43.58 Mbit/s)
Flow 2 ingress (mean 37.48 Mbit/s) ---- Flow 2 egress (mean 37.44 Mbit/s)
Flow 3 ingress (mean 32.37 Mbit/s) ---- Flow 3 egress (mean 32.18 Mbit/s)



Flow 1 (95th percentile 23.54 ms)    Flow 2 (95th percentile 23.68 ms)    Flow 3 (95th percentile 26.52 ms)

```
Run 2: Statistics of Sprout

Start at: 2019-03-19 14:39:44
End at: 2019-03-19 14:40:14
Local clock offset: -1.996 ms
Remote clock offset: 0.402 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.55 Mbit/s
95th percentile per-packet one-way delay: 25.571 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 42.74 Mbit/s
95th percentile per-packet one-way delay: 23.243 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 26.018 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 27.476 ms
Loss rate: 0.63%
```
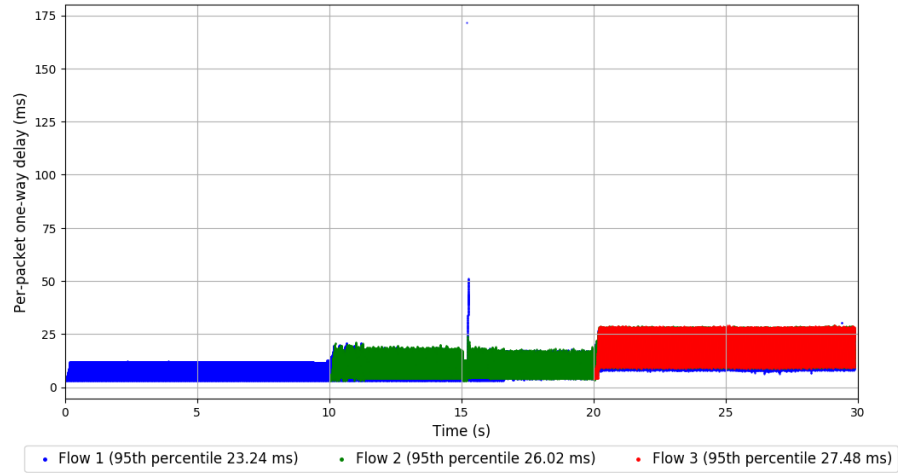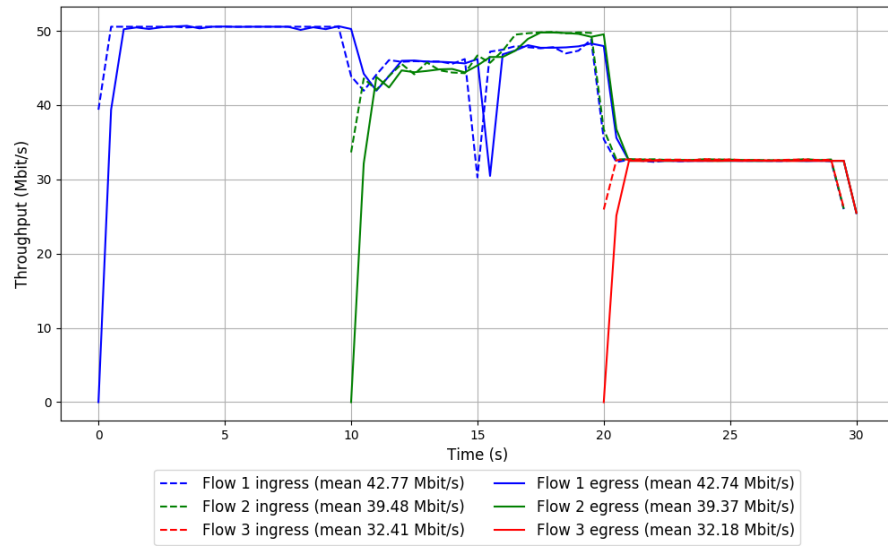
## Run 2: Report of Sprout — Data Link



Flow 1 ingress (mean 42.77 Mbit/s) --- Flow 1 egress (mean 42.74 Mbit/s)
Flow 2 ingress (mean 39.48 Mbit/s) --- Flow 2 egress (mean 39.37 Mbit/s)
Flow 3 ingress (mean 32.41 Mbit/s) --- Flow 3 egress (mean 32.18 Mbit/s)



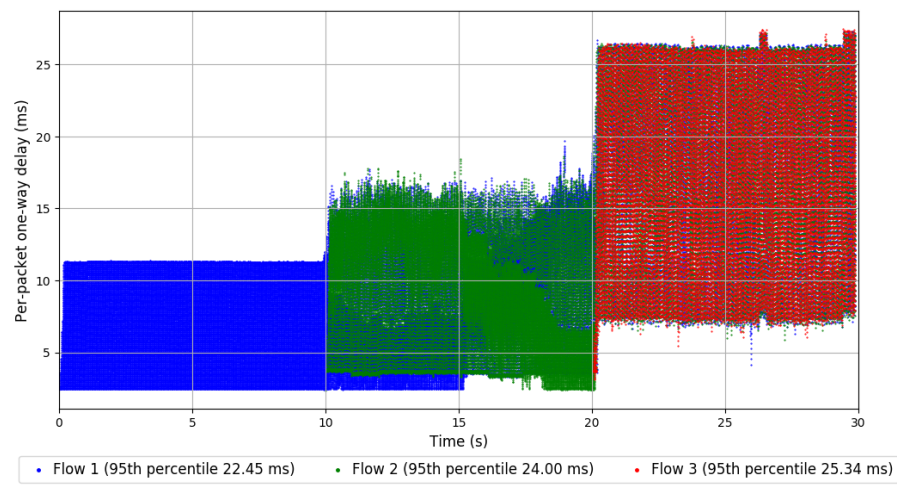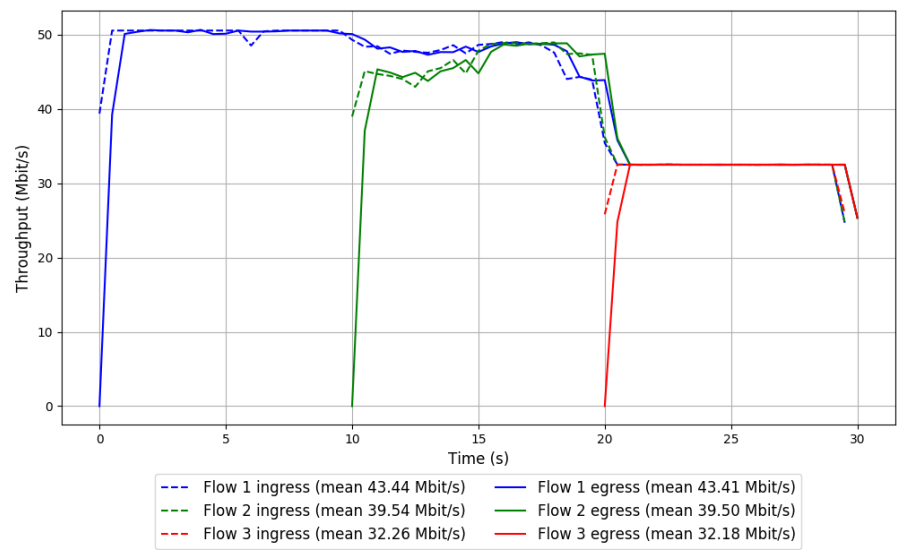Flow 1 (95th percentile 23.24 ms) • Flow 2 (95th percentile 26.02 ms) • Flow 3 (95th percentile 27.48 ms)

```
Run 3: Statistics of Sprout

Start at: 2019-03-19 15:03:55
End at: 2019-03-19 15:04:25
Local clock offset: -0.186 ms
Remote clock offset: 0.837 ms


# Below is generated by plot.py at 2019-03-19 16:23:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.30 Mbit/s
95th percentile per-packet one-way delay: 23.925 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 43.41 Mbit/s
95th percentile per-packet one-way delay: 22.449 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 39.50 Mbit/s
95th percentile per-packet one-way delay: 24.000 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 25.336 ms
Loss rate: 0.26%
```
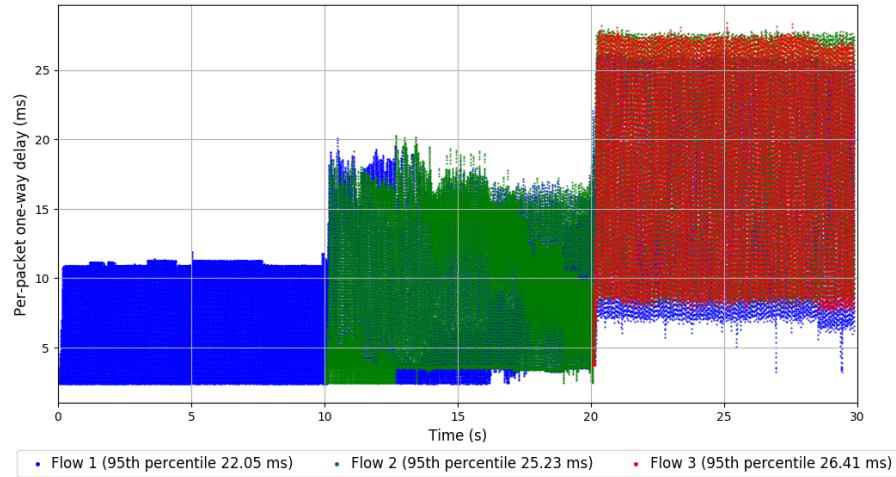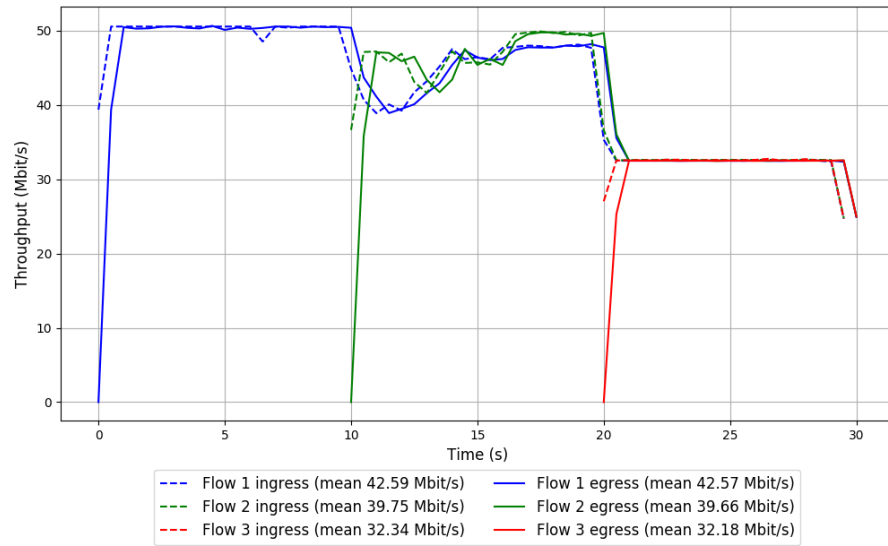
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-03-19 15:28:07
End at: 2019-03-19 15:28:37
Local clock offset: -0.539 ms
Remote clock offset: 1.646 ms


# Below is generated by plot.py at 2019-03-19 16:23:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.58 Mbit/s
95th percentile per-packet one-way delay: 24.551 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 42.57 Mbit/s
95th percentile per-packet one-way delay: 22.049 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 25.232 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 26.407 ms
Loss rate: 0.47%
```
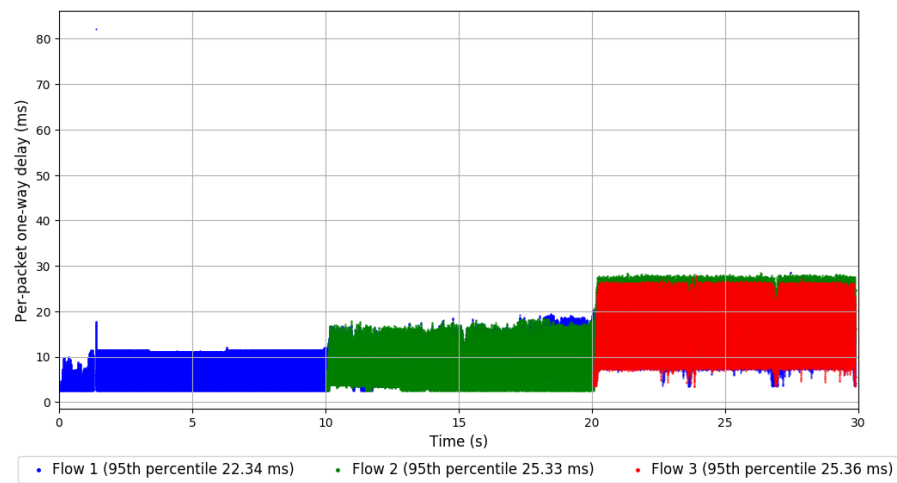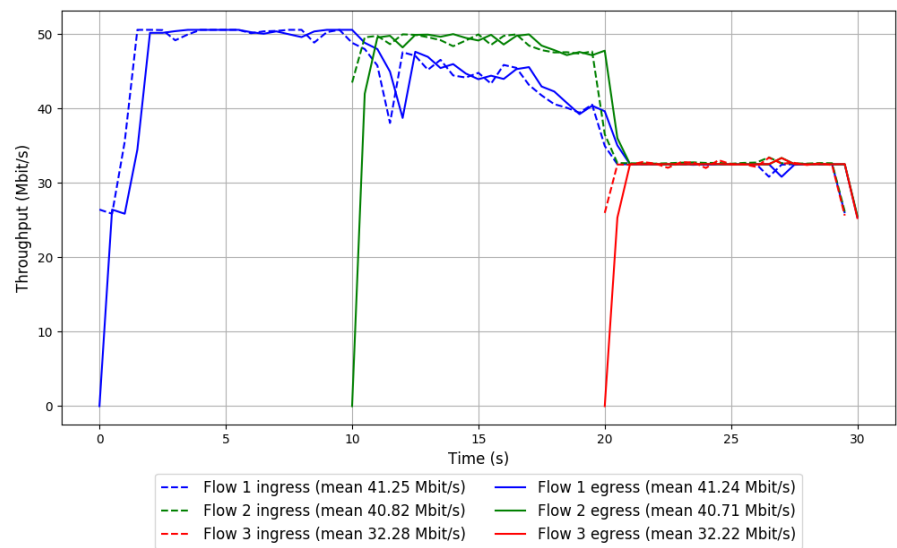
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-03-19 15:52:18
End at: 2019-03-19 15:52:48
Local clock offset: -1.667 ms
Remote clock offset: 1.729 ms


# Below is generated by plot.py at 2019-03-19 16:23:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.96 Mbit/s
95th percentile per-packet one-way delay: 24.362 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 41.24 Mbit/s
95th percentile per-packet one-way delay: 22.343 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.71 Mbit/s
95th percentile per-packet one-way delay: 25.327 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 32.22 Mbit/s
95th percentile per-packet one-way delay: 25.360 ms
Loss rate: 0.18%
```

# Run 5: Report of Sprout — Data Link



Legend:
- Flow 1 ingress (mean 41.25 Mbit/s)
- Flow 1 egress (mean 41.24 Mbit/s)
- Flow 2 ingress (mean 40.82 Mbit/s)
- Flow 2 egress (mean 40.71 Mbit/s)
- Flow 3 ingress (mean 32.28 Mbit/s)
- Flow 3 egress (mean 32.22 Mbit/s)



Legend:
- Flow 1 (95th percentile 22.34 ms)
- Flow 2 (95th percentile 25.33 ms)
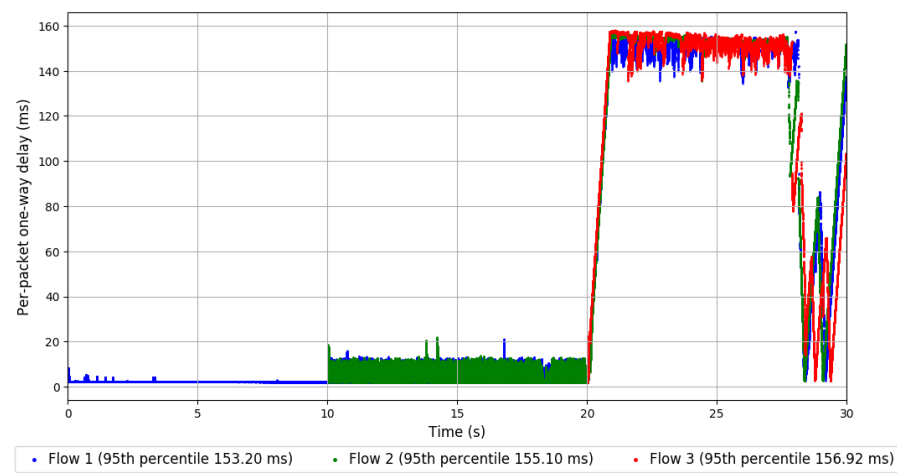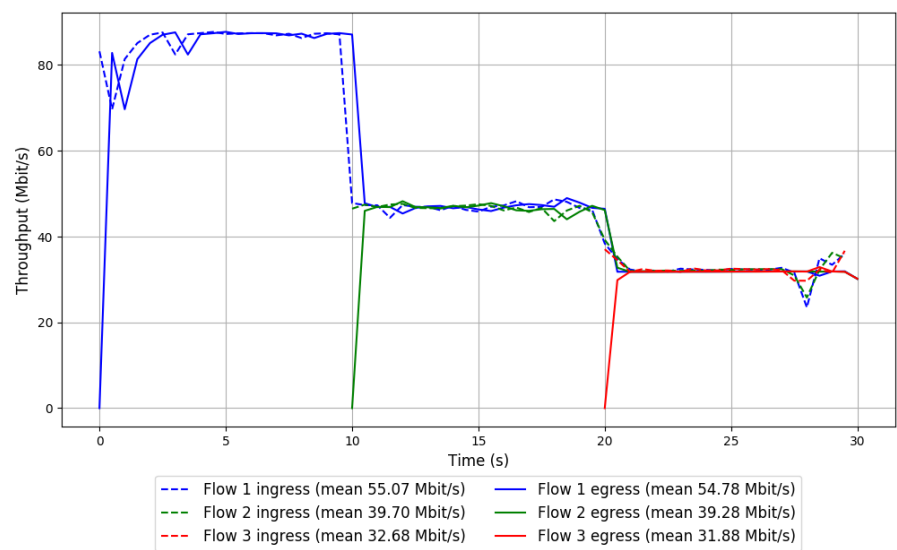- Flow 3 (95th percentile 25.36 ms)

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

Start at: 2019-03-19 14:17:48
End at: 2019-03-19 14:18:18
Local clock offset: -6.911 ms
Remote clock offset: 0.126 ms


# Below is generated by plot.py at 2019-03-19 16:24:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.52 Mbit/s
95th percentile per-packet one-way delay: 154.926 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 54.78 Mbit/s
95th percentile per-packet one-way delay: 153.197 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 155.100 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 31.88 Mbit/s
95th percentile per-packet one-way delay: 156.922 ms
Loss rate: 2.52%
```

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



- - - Flow 1 ingress (mean 55.07 Mbit/s) ——— Flow 1 egress (mean 54.78 Mbit/s)
- - - Flow 2 ingress (mean 39.70 Mbit/s) ——— Flow 2 egress (mean 39.28 Mbit/s)
- - - Flow 3 ingress (mean 32.68 Mbit/s) ——— Flow 3 egress (mean 31.88 Mbit/s)



• Flow 1 (95th percentile 153.20 ms)    • Flow 2 (95th percentile 155.10 ms)    • Flow 3 (95th percentile 156.92 ms)

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

Start at: 2019-03-19 14:42:00
End at: 2019-03-19 14:42:30
Local clock offset: -2.623 ms
Remote clock offset: 0.47 ms


# Below is generated by plot.py at 2019-03-19 16:25:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 155.894 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 55.36 Mbit/s
95th percentile per-packet one-way delay: 155.975 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 39.14 Mbit/s
95th percentile per-packet one-way delay: 155.589 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 31.79 Mbit/s
95th percentile per-packet one-way delay: 156.179 ms
Loss rate: 2.42%
```
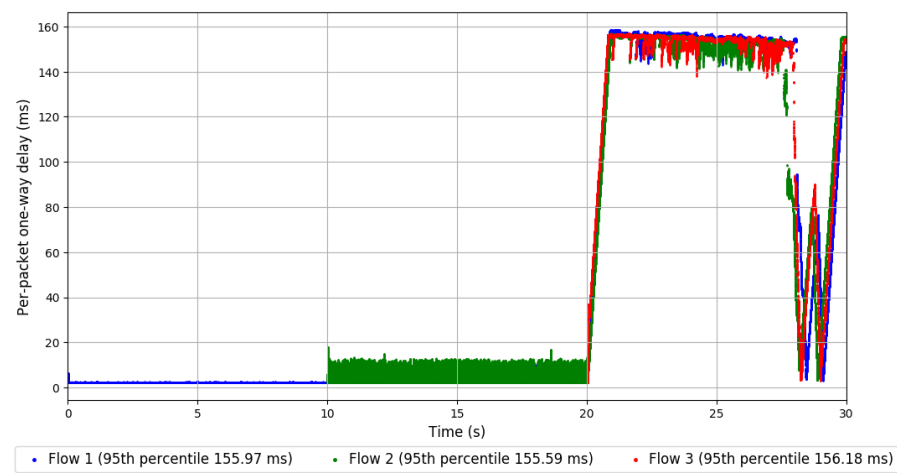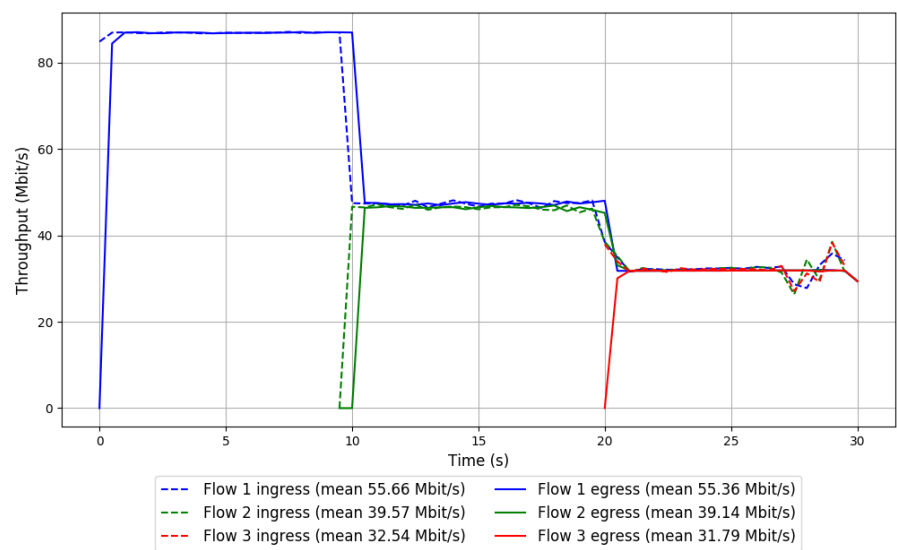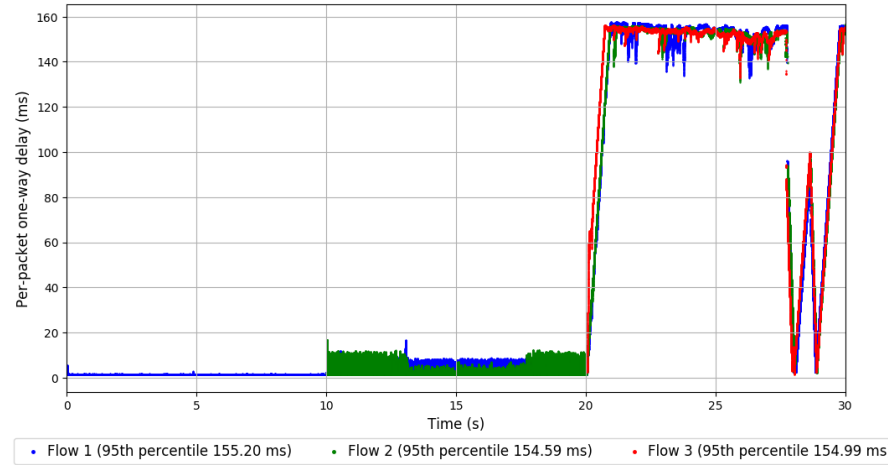
# Run 2: Report of TaoVA-100x — Data Link



- - - Flow 1 ingress (mean 55.66 Mbit/s) —— Flow 1 egress (mean 55.36 Mbit/s)
- - - Flow 2 ingress (mean 39.57 Mbit/s) —— Flow 2 egress (mean 39.14 Mbit/s)
- - - Flow 3 ingress (mean 32.54 Mbit/s) —— Flow 3 egress (mean 31.79 Mbit/s)



• Flow 1 (95th percentile 155.97 ms)　　• Flow 2 (95th percentile 155.59 ms)　　• Flow 3 (95th percentile 156.18 ms)

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

Start at: 2019-03-19 15:06:11
End at: 2019-03-19 15:06:41
Local clock offset: -0.855 ms
Remote clock offset: 0.921 ms


# Below is generated by plot.py at 2019-03-19 16:25:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.75 Mbit/s
95th percentile per-packet one-way delay: 154.964 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 56.05 Mbit/s
95th percentile per-packet one-way delay: 155.198 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 154.586 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 31.81 Mbit/s
95th percentile per-packet one-way delay: 154.992 ms
Loss rate: 2.86%
```
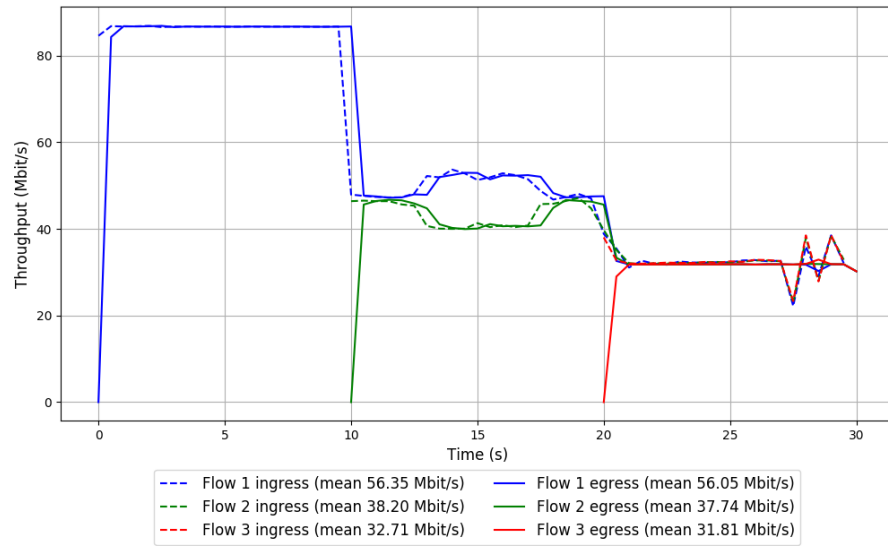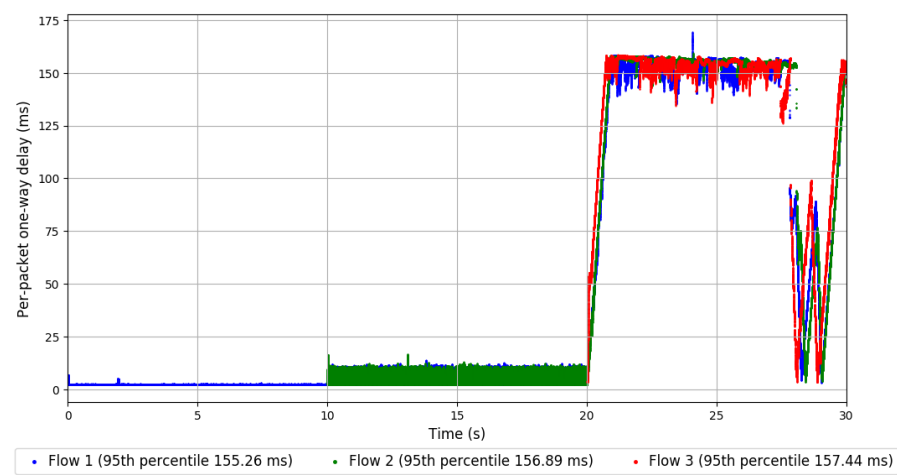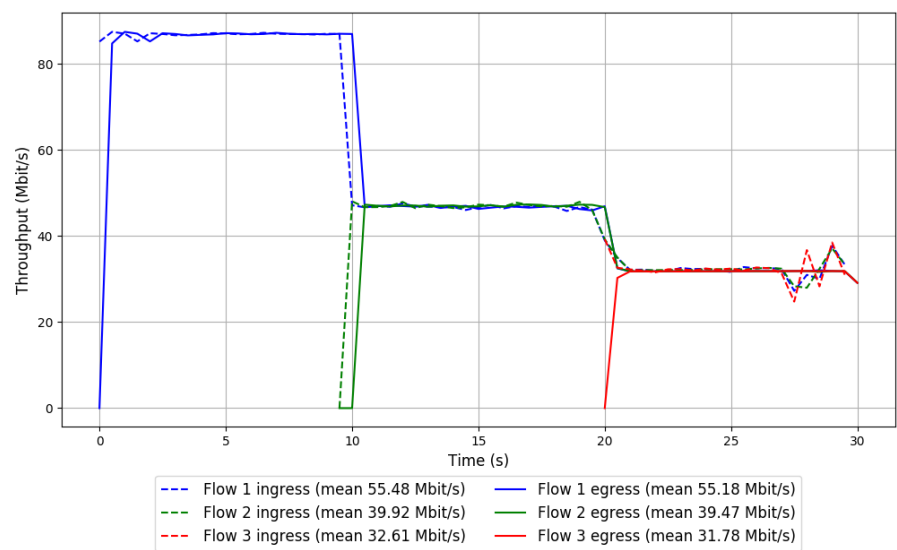
## Run 3: Report of TaoVA-100x — Data Link



- - - - Flow 1 ingress (mean 56.35 Mbit/s)     —— Flow 1 egress (mean 56.05 Mbit/s)
- - - - Flow 2 ingress (mean 38.20 Mbit/s)     —— Flow 2 egress (mean 37.74 Mbit/s)
- - - - Flow 3 ingress (mean 32.71 Mbit/s)     —— Flow 3 egress (mean 31.81 Mbit/s)



- Flow 1 (95th percentile 155.20 ms)    • Flow 2 (95th percentile 154.59 ms)    • Flow 3 (95th percentile 154.99 ms)

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```
Run 4: Statistics of TaoVA-100x

Start at: 2019-03-19 15:30:23
End at: 2019-03-19 15:30:53
Local clock offset: -0.657 ms
Remote clock offset: 1.551 ms


# Below is generated by plot.py at 2019-03-19 16:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 156.535 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 55.18 Mbit/s
95th percentile per-packet one-way delay: 155.259 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 39.47 Mbit/s
95th percentile per-packet one-way delay: 156.890 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 157.444 ms
Loss rate: 2.60%
```
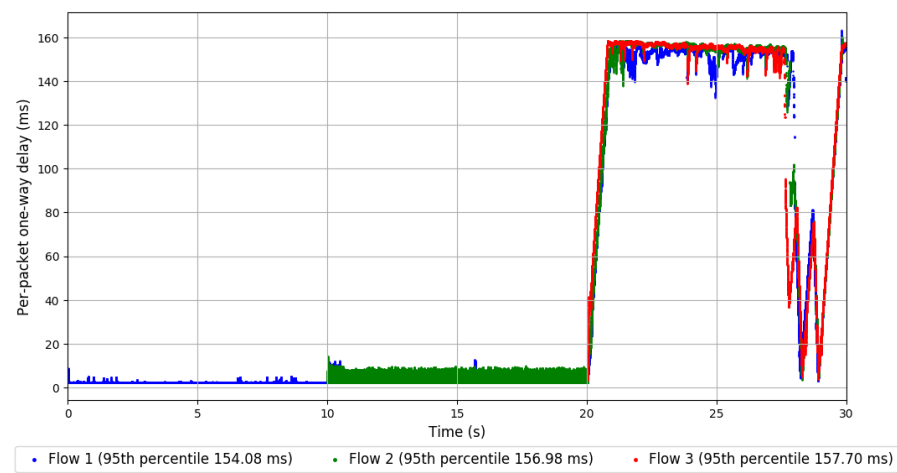
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-03-19 15:54:34
End at: 2019-03-19 15:55:04
Local clock offset: -2.011 ms
Remote clock offset: 1.752 ms


# Below is generated by plot.py at 2019-03-19 16:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.12 Mbit/s
95th percentile per-packet one-way delay: 156.619 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 51.42 Mbit/s
95th percentile per-packet one-way delay: 154.077 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 42.23 Mbit/s
95th percentile per-packet one-way delay: 156.984 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 31.81 Mbit/s
95th percentile per-packet one-way delay: 157.698 ms
Loss rate: 2.68%
```
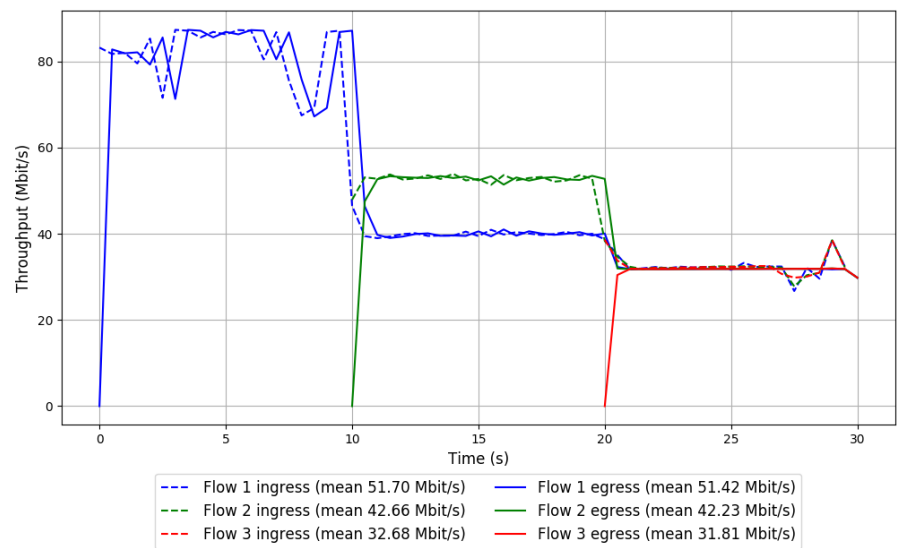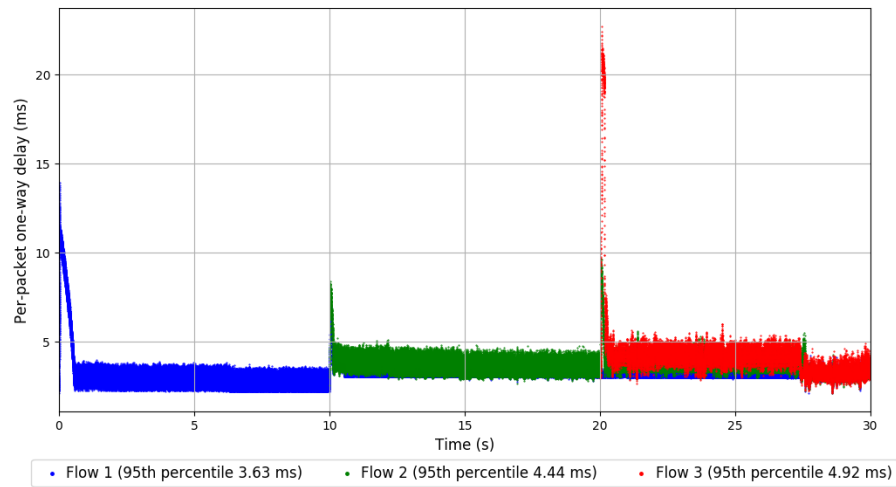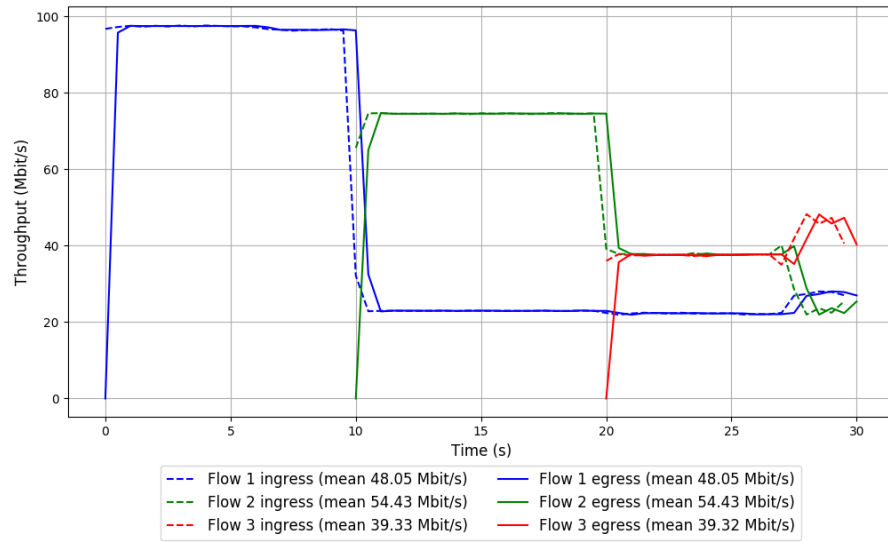
# Run 5: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 51.70 Mbit/s) ---- Flow 1 egress (mean 51.42 Mbit/s)
Flow 2 ingress (mean 42.66 Mbit/s) ---- Flow 2 egress (mean 42.23 Mbit/s)
Flow 3 ingress (mean 32.68 Mbit/s) ---- Flow 3 egress (mean 31.81 Mbit/s)



Flow 1 (95th percentile 154.08 ms)   Flow 2 (95th percentile 156.98 ms)   Flow 3 (95th percentile 157.70 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-03-19 14:22:29
End at: 2019-03-19 14:22:59
Local clock offset: -5.102 ms
Remote clock offset: 0.255 ms


# Below is generated by plot.py at 2019-03-19 16:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 4.595 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 48.05 Mbit/s
95th percentile per-packet one-way delay: 3.630 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 54.43 Mbit/s
95th percentile per-packet one-way delay: 4.438 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 39.32 Mbit/s
95th percentile per-packet one-way delay: 4.920 ms
Loss rate: 0.07%
```
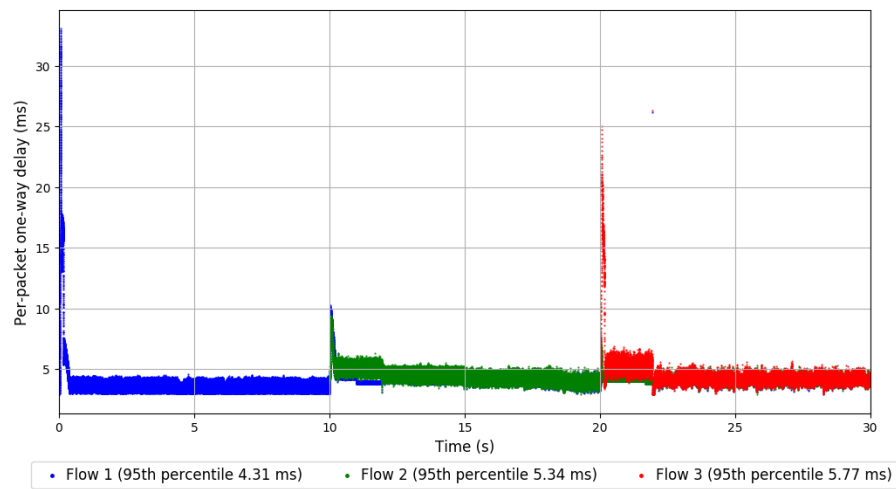
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-03-19 14:46:40
End at: 2019-03-19 14:47:10
Local clock offset: -1.559 ms
Remote clock offset: 0.575 ms


# Below is generated by plot.py at 2019-03-19 16:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.03 Mbit/s
95th percentile per-packet one-way delay: 5.301 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 48.73 Mbit/s
95th percentile per-packet one-way delay: 4.310 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 51.30 Mbit/s
95th percentile per-packet one-way delay: 5.344 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 42.57 Mbit/s
95th percentile per-packet one-way delay: 5.768 ms
Loss rate: 0.05%
```
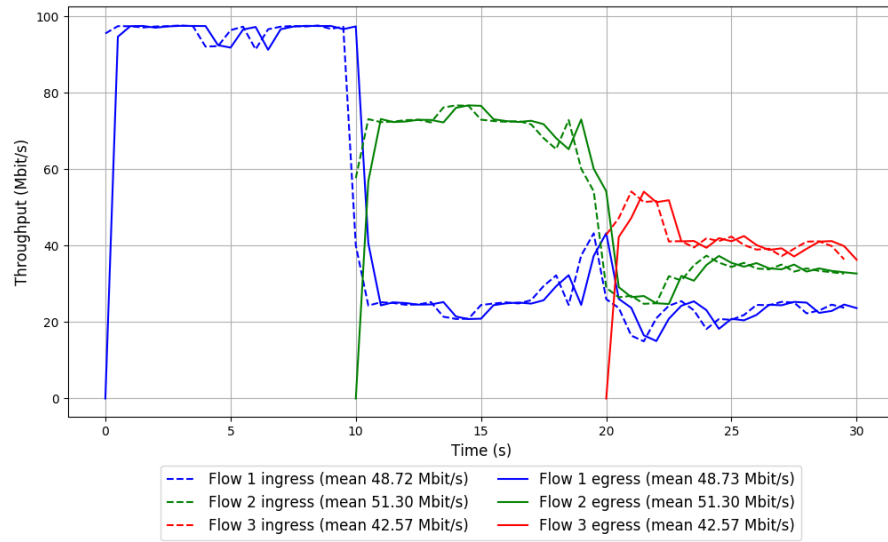
## Run 2: Report of TCP Vegas — Data Link





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```
Run 3: Statistics of TCP Vegas

Start at: 2019-03-19 15:10:51
End at: 2019-03-19 15:11:21
Local clock offset: 0.256 ms
Remote clock offset: 1.097 ms


# Below is generated by plot.py at 2019-03-19 16:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.42 Mbit/s
95th percentile per-packet one-way delay: 4.883 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 47.84 Mbit/s
95th percentile per-packet one-way delay: 3.718 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 55.42 Mbit/s
95th percentile per-packet one-way delay: 4.928 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 38.14 Mbit/s
95th percentile per-packet one-way delay: 4.966 ms
Loss rate: 0.05%
```
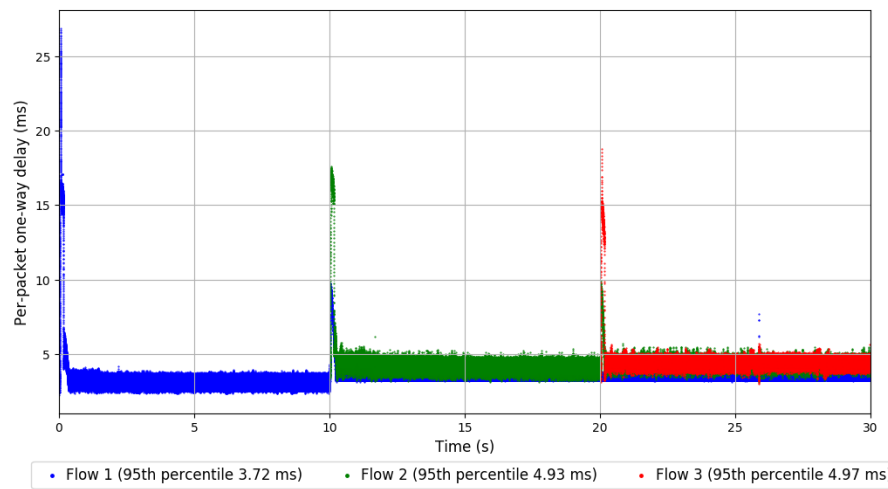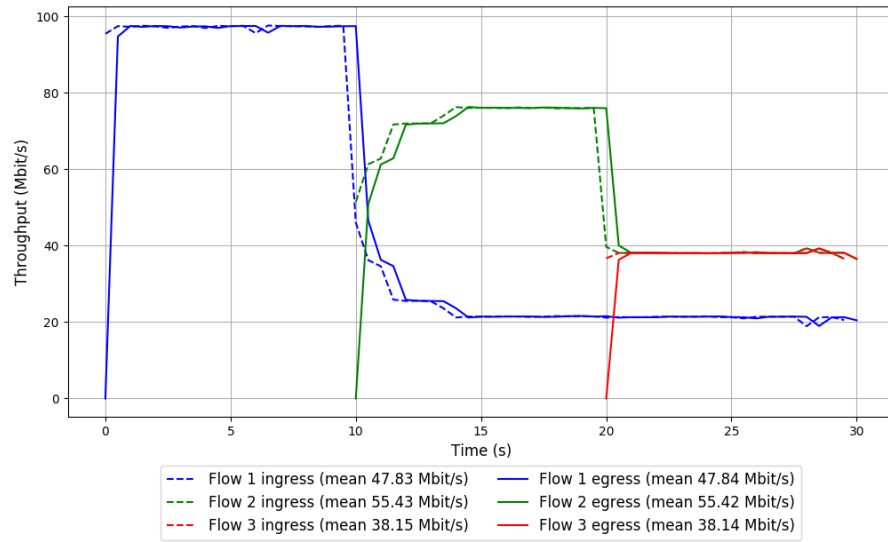
## Run 3: Report of TCP Vegas — Data Link



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```
Run 4: Statistics of TCP Vegas

Start at: 2019-03-19 15:35:03
End at: 2019-03-19 15:35:33
Local clock offset: -1.433 ms
Remote clock offset: 1.721 ms


# Below is generated by plot.py at 2019-03-19 16:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 3.509 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.09 Mbit/s
95th percentile per-packet one-way delay: 3.123 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 55.68 Mbit/s
95th percentile per-packet one-way delay: 3.522 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 30.80 Mbit/s
95th percentile per-packet one-way delay: 3.682 ms
Loss rate: 0.05%
```
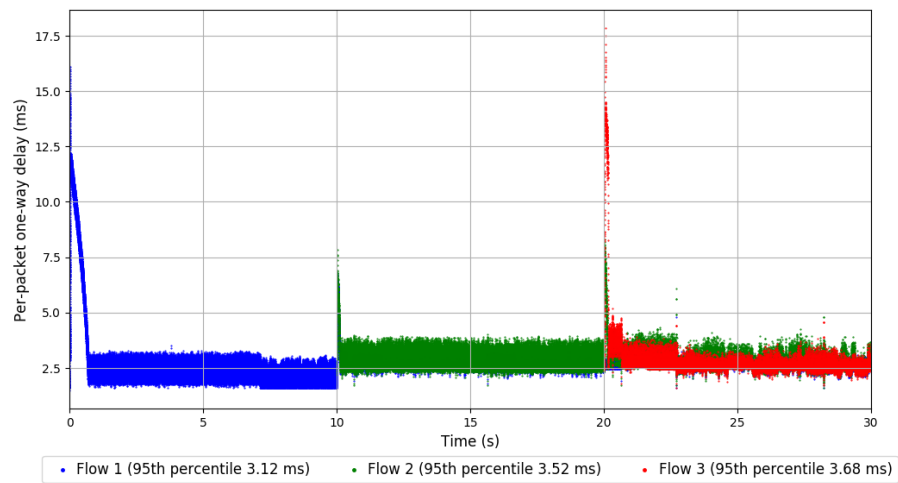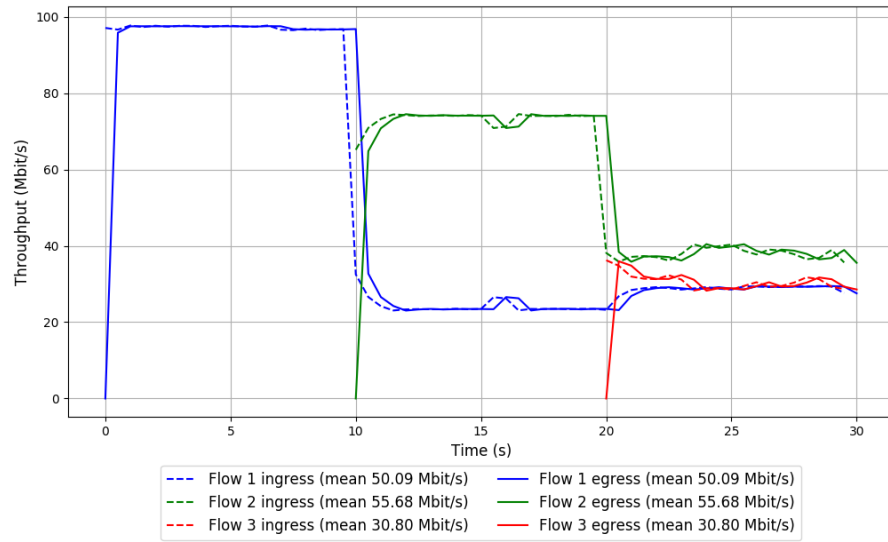
# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-03-19 15:59:14
End at: 2019-03-19 15:59:44
Local clock offset: -2.328 ms
Remote clock offset: 1.769 ms


# Below is generated by plot.py at 2019-03-19 16:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.27 Mbit/s
95th percentile per-packet one-way delay: 4.936 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.20 Mbit/s
95th percentile per-packet one-way delay: 3.958 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 55.83 Mbit/s
95th percentile per-packet one-way delay: 4.646 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 32.72 Mbit/s
95th percentile per-packet one-way delay: 5.392 ms
Loss rate: 0.08%
```
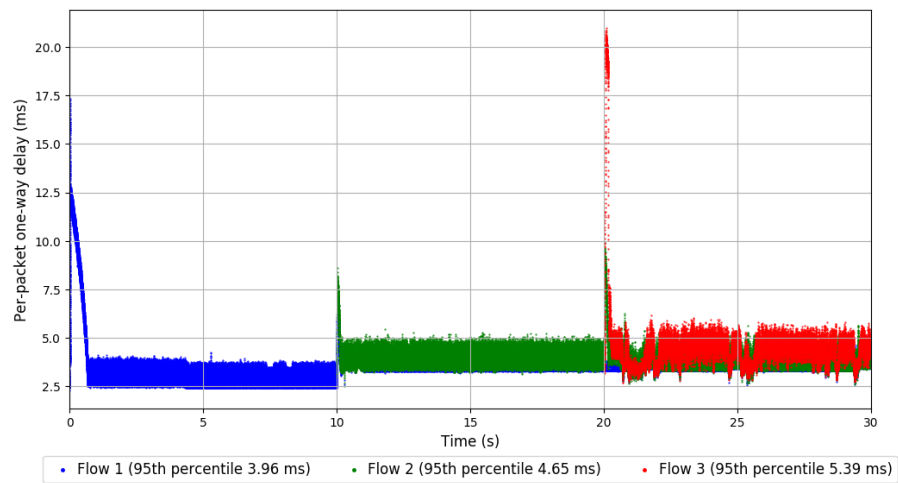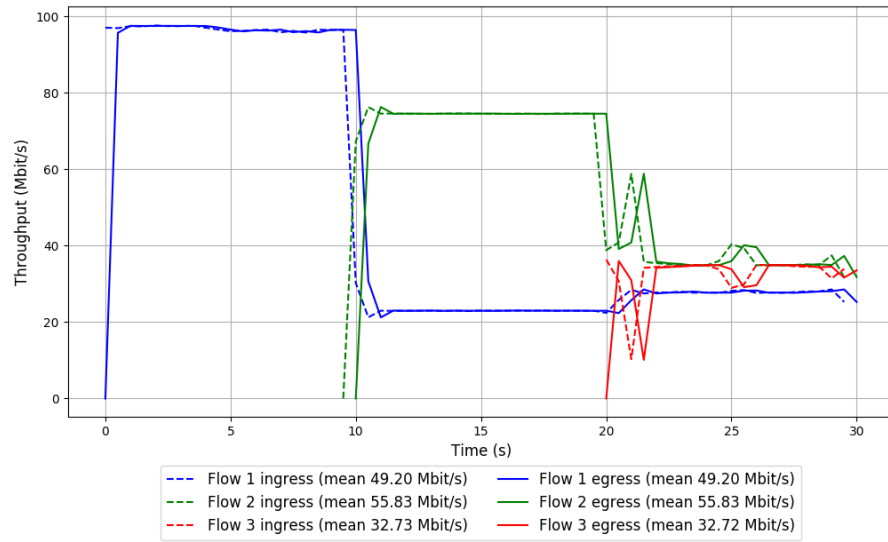
## Run 5: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 49.20 Mbit/s) --- Flow 1 egress (mean 49.20 Mbit/s)
Flow 2 ingress (mean 55.83 Mbit/s) --- Flow 2 egress (mean 55.83 Mbit/s)
Flow 3 ingress (mean 32.73 Mbit/s) --- Flow 3 egress (mean 32.72 Mbit/s)



Flow 1 (95th percentile 3.96 ms)    Flow 2 (95th percentile 4.65 ms)    Flow 3 (95th percentile 5.39 ms)

```
Run 1: Statistics of Verus

Start at: 2019-03-19 14:10:57
End at: 2019-03-19 14:11:27
Local clock offset: -7.318 ms
Remote clock offset: 0.108 ms

# Below is generated by plot.py at 2019-03-19 16:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.72 Mbit/s
95th percentile per-packet one-way delay: 48.092 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 34.75 Mbit/s
95th percentile per-packet one-way delay: 43.416 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 32.68 Mbit/s
95th percentile per-packet one-way delay: 29.566 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 118.237 ms
Loss rate: 0.11%
```
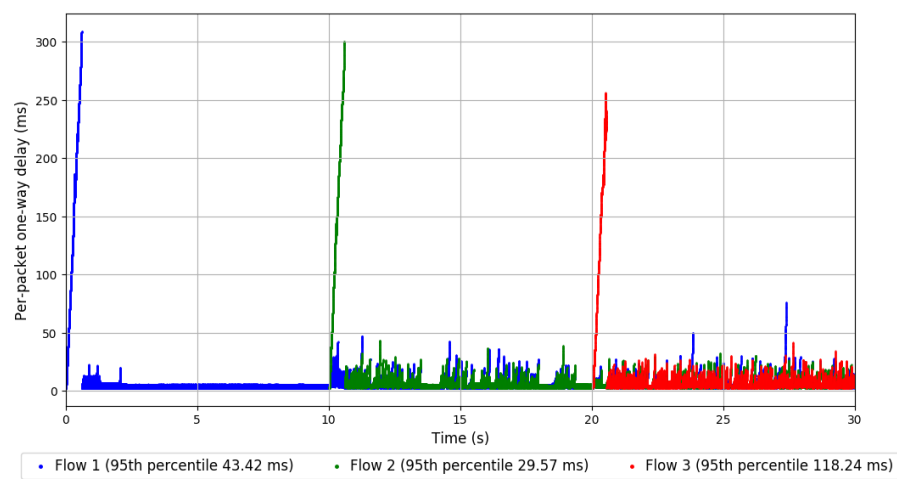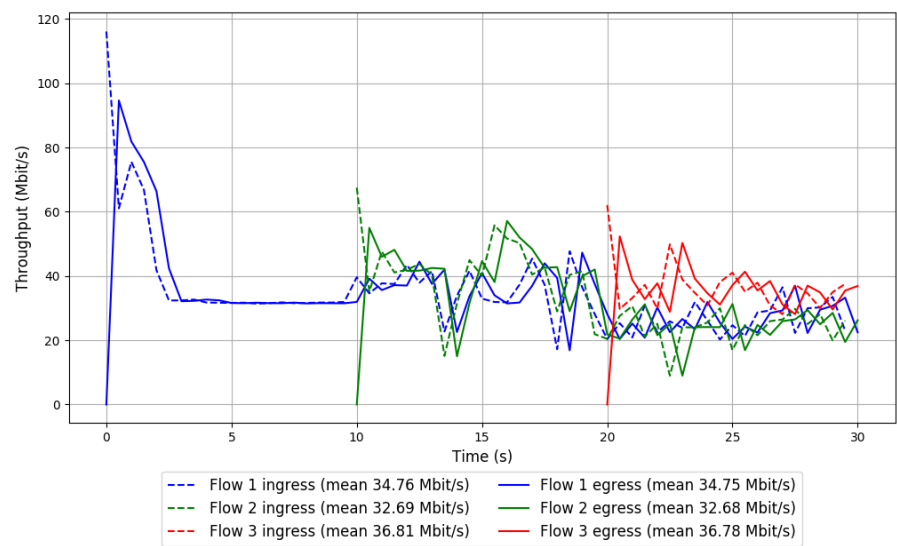
Run 1: Report of Verus — Data Link



- - - Flow 1 ingress (mean 34.76 Mbit/s) —— Flow 1 egress (mean 34.75 Mbit/s)
- - - Flow 2 ingress (mean 32.69 Mbit/s) —— Flow 2 egress (mean 32.68 Mbit/s)
- - - Flow 3 ingress (mean 36.81 Mbit/s) —— Flow 3 egress (mean 36.78 Mbit/s)



• Flow 1 (95th percentile 43.42 ms)　　• Flow 2 (95th percentile 29.57 ms)　　• Flow 3 (95th percentile 118.24 ms)

```
Run 2: Statistics of Verus

Start at: 2019-03-19 14:35:08
End at: 2019-03-19 14:35:38
Local clock offset: -3.088 ms
Remote clock offset: 0.307 ms


# Below is generated by plot.py at 2019-03-19 16:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.47 Mbit/s
95th percentile per-packet one-way delay: 47.070 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 34.26 Mbit/s
95th percentile per-packet one-way delay: 48.941 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 34.71 Mbit/s
95th percentile per-packet one-way delay: 25.726 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 39.42 Mbit/s
95th percentile per-packet one-way delay: 112.670 ms
Loss rate: 0.05%
```
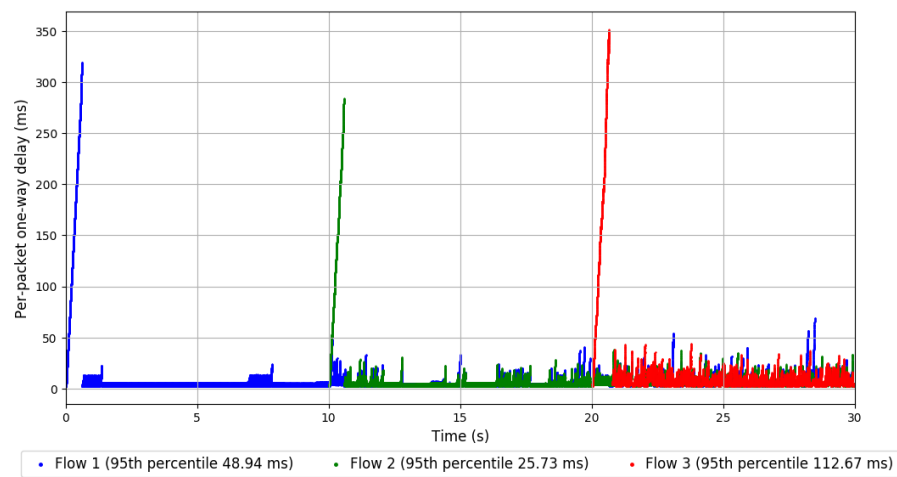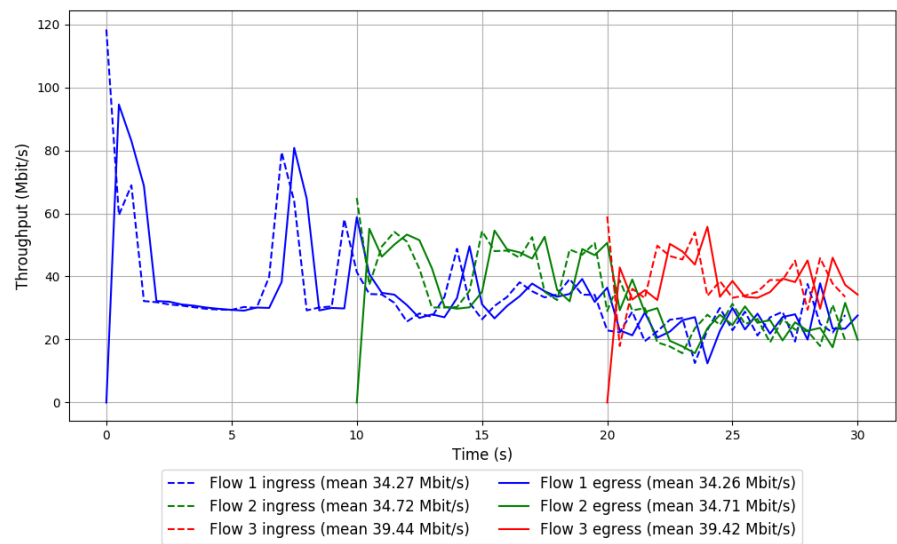
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-03-19 14:59:19
End at: 2019-03-19 14:59:49
Local clock offset: -1.379 ms
Remote clock offset: 0.721 ms


# Below is generated by plot.py at 2019-03-19 16:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.56 Mbit/s
95th percentile per-packet one-way delay: 25.898 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 47.89 Mbit/s
95th percentile per-packet one-way delay: 20.597 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 29.912 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 31.39 Mbit/s
95th percentile per-packet one-way delay: 121.564 ms
Loss rate: 0.10%
```
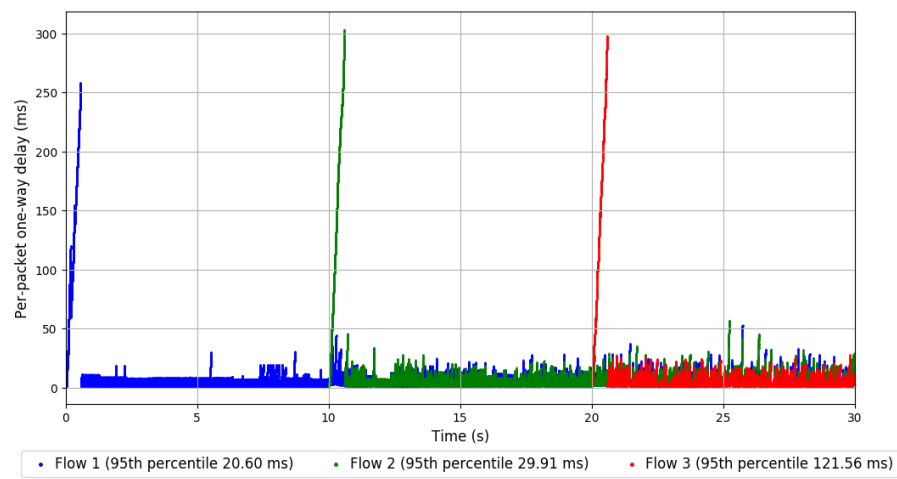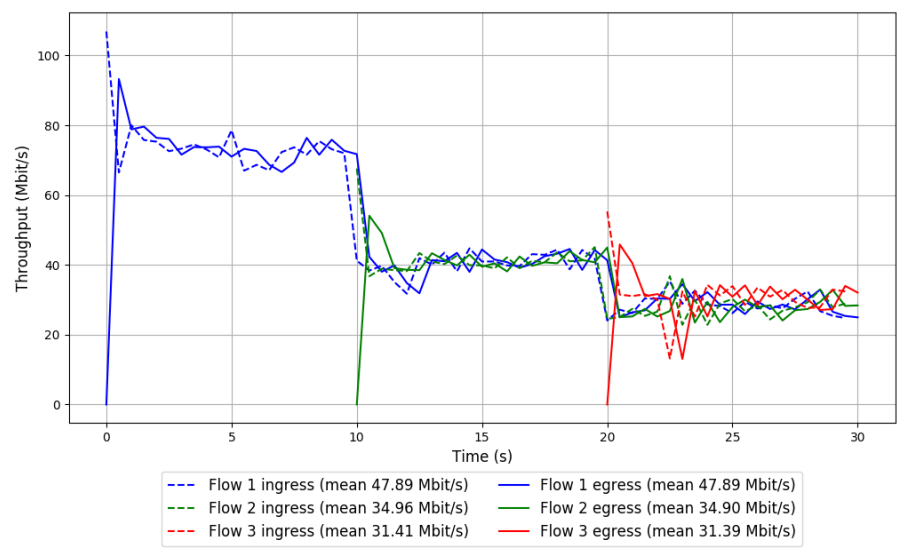
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-03-19 15:23:31
End at: 2019-03-19 15:24:01
Local clock offset: -0.321 ms
Remote clock offset: 1.496 ms


# Below is generated by plot.py at 2019-03-19 16:26:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.06 Mbit/s
95th percentile per-packet one-way delay: 33.012 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 46.29 Mbit/s
95th percentile per-packet one-way delay: 31.627 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 35.40 Mbit/s
95th percentile per-packet one-way delay: 21.548 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 146.458 ms
Loss rate: 0.15%
```
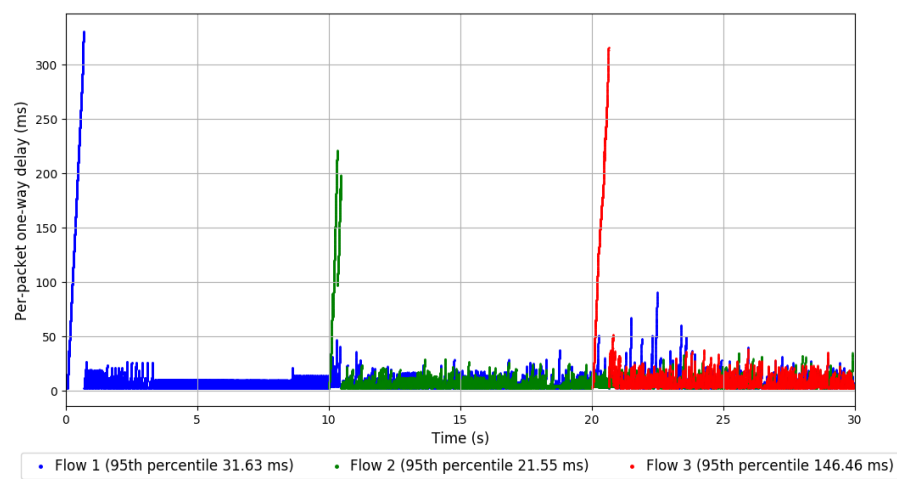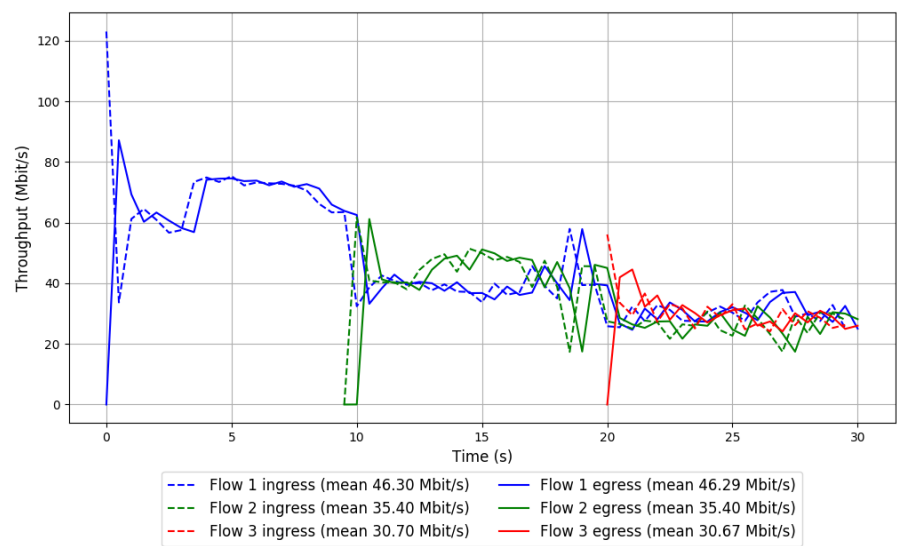
## Run 4: Report of Verus — Data Link



Flow 1 ingress (mean 46.30 Mbit/s) — Flow 1 egress (mean 46.29 Mbit/s)
Flow 2 ingress (mean 35.40 Mbit/s) — Flow 2 egress (mean 35.40 Mbit/s)
Flow 3 ingress (mean 30.70 Mbit/s) — Flow 3 egress (mean 30.67 Mbit/s)



Flow 1 (95th percentile 31.63 ms)   Flow 2 (95th percentile 21.55 ms)   Flow 3 (95th percentile 146.46 ms)

```
Run 5: Statistics of Verus

Start at: 2019-03-19 15:47:42
End at: 2019-03-19 15:48:12
Local clock offset: -0.93 ms
Remote clock offset: 1.806 ms


# Below is generated by plot.py at 2019-03-19 16:26:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.38 Mbit/s
95th percentile per-packet one-way delay: 42.124 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 36.97 Mbit/s
95th percentile per-packet one-way delay: 37.051 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 33.896 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.72 Mbit/s
95th percentile per-packet one-way delay: 98.446 ms
Loss rate: 0.18%
```
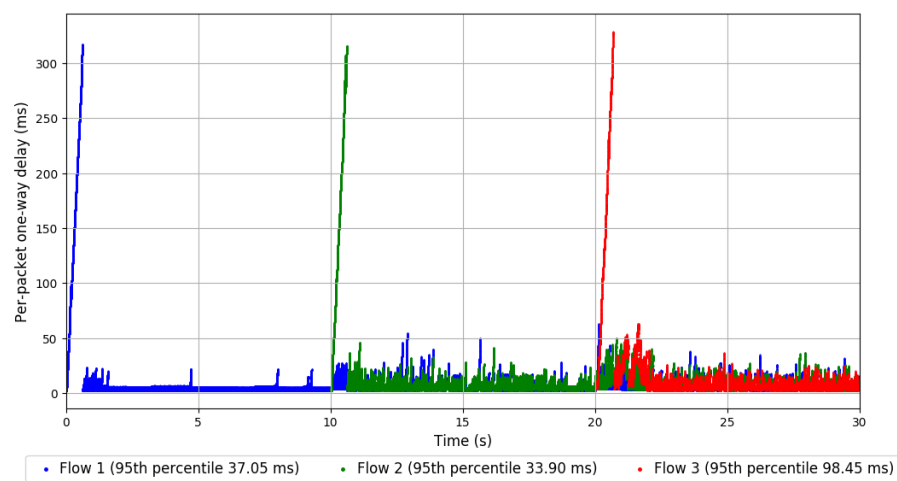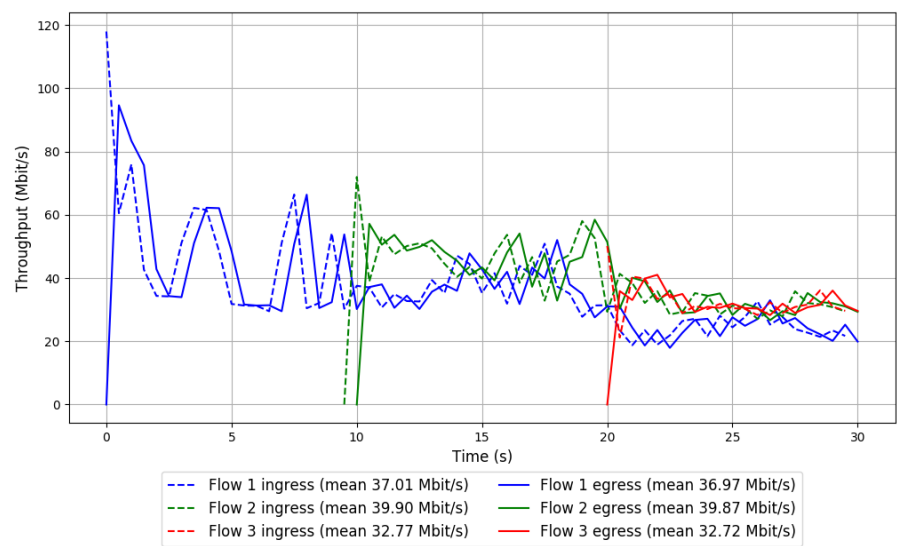
Run 5: Report of Verus — Data Link



Flow 1 ingress (mean 37.01 Mbit/s) --- Flow 1 egress (mean 36.97 Mbit/s) ---
Flow 2 ingress (mean 39.90 Mbit/s) --- Flow 2 egress (mean 39.87 Mbit/s) ---
Flow 3 ingress (mean 32.77 Mbit/s) --- Flow 3 egress (mean 32.72 Mbit/s) ---



Flow 1 (95th percentile 37.05 ms) · Flow 2 (95th percentile 33.90 ms) · Flow 3 (95th percentile 98.45 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-19 14:30:33
End at: 2019-03-19 14:31:03
Local clock offset: -3.544 ms
Remote clock offset: 0.322 ms


# Below is generated by plot.py at 2019-03-19 16:26:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.65 Mbit/s
95th percentile per-packet one-way delay: 5.913 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 48.02 Mbit/s
95th percentile per-packet one-way delay: 3.408 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 13.156 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 22.48 Mbit/s
95th percentile per-packet one-way delay: 6.588 ms
Loss rate: 0.03%
```
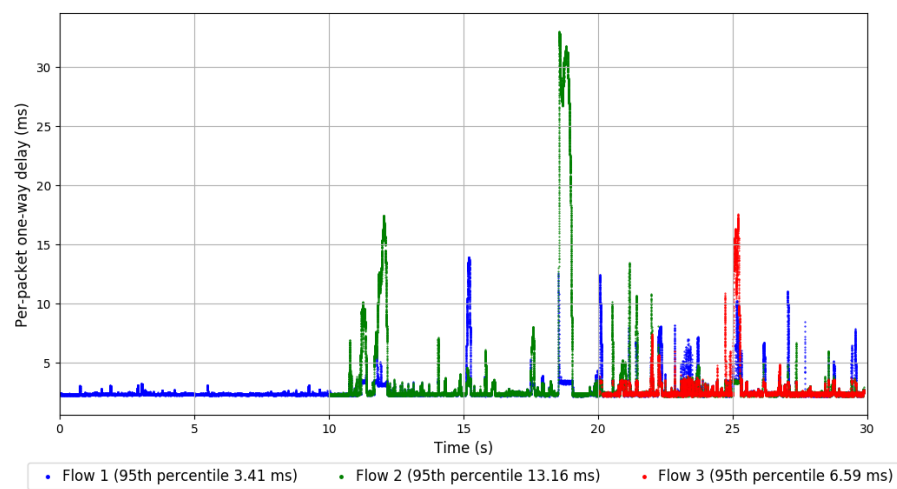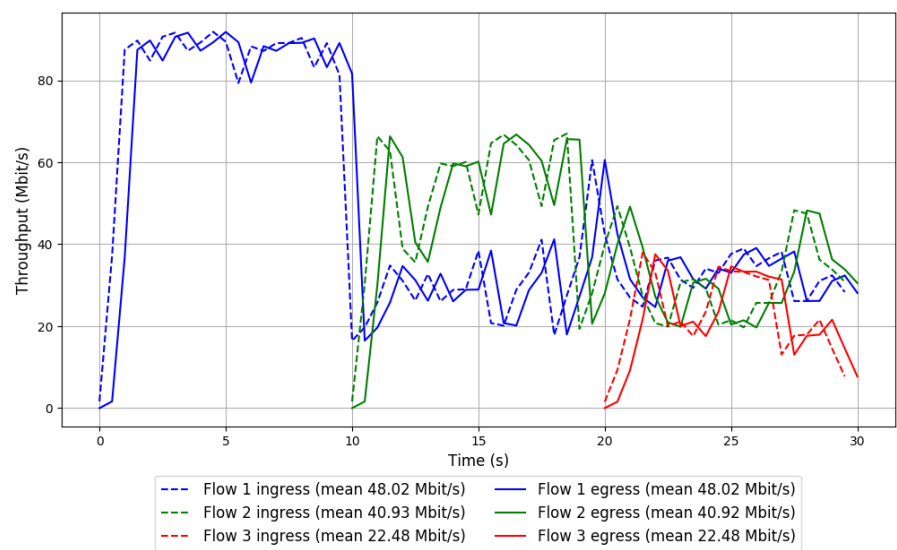
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-19 14:54:43
End at: 2019-03-19 14:55:13
Local clock offset: -0.243 ms
Remote clock offset: 0.587 ms


# Below is generated by plot.py at 2019-03-19 16:26:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.55 Mbit/s
95th percentile per-packet one-way delay: 5.934 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 4.381 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.50 Mbit/s
95th percentile per-packet one-way delay: 9.906 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 13.452 ms
Loss rate: 0.07%
```
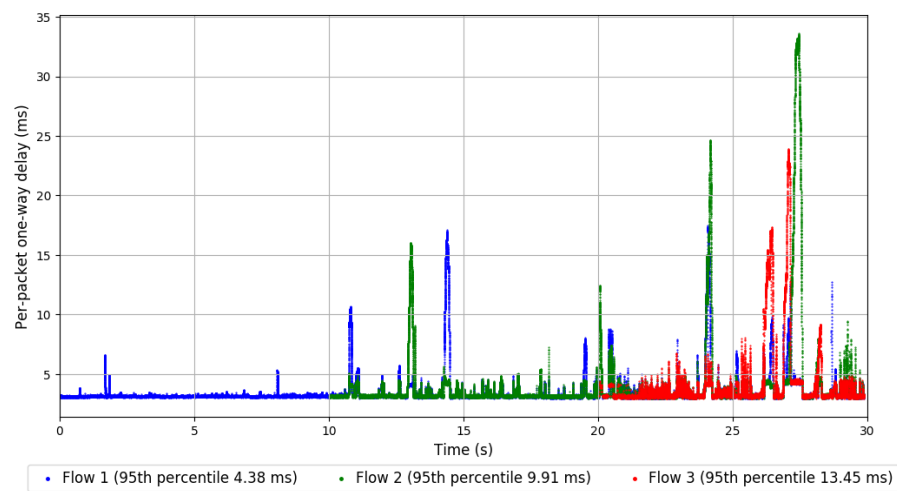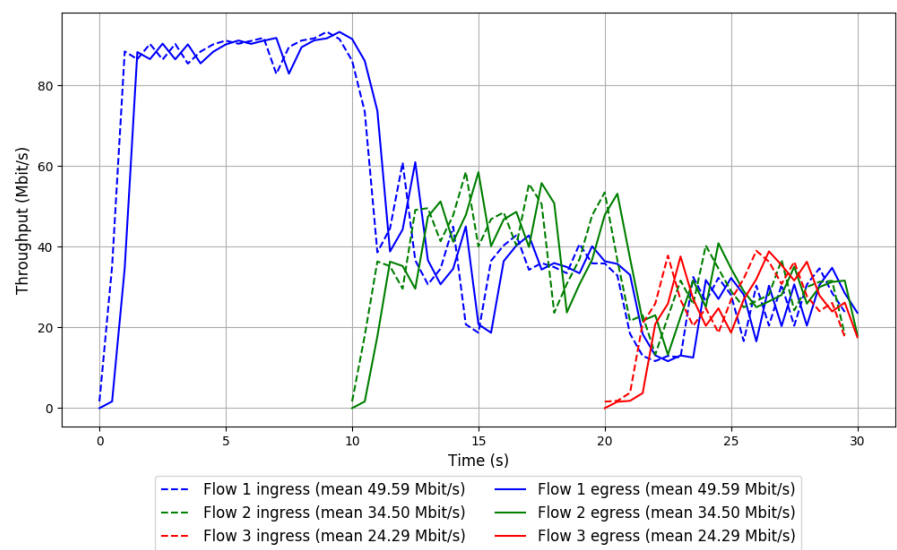
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-19 15:18:54
End at: 2019-03-19 15:19:24
Local clock offset: 0.058 ms
Remote clock offset: 1.333 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.41 Mbit/s
95th percentile per-packet one-way delay: 8.675 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 57.98 Mbit/s
95th percentile per-packet one-way delay: 8.212 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 32.71 Mbit/s
95th percentile per-packet one-way delay: 13.054 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 20.25 Mbit/s
95th percentile per-packet one-way delay: 6.105 ms
Loss rate: 0.23%
```
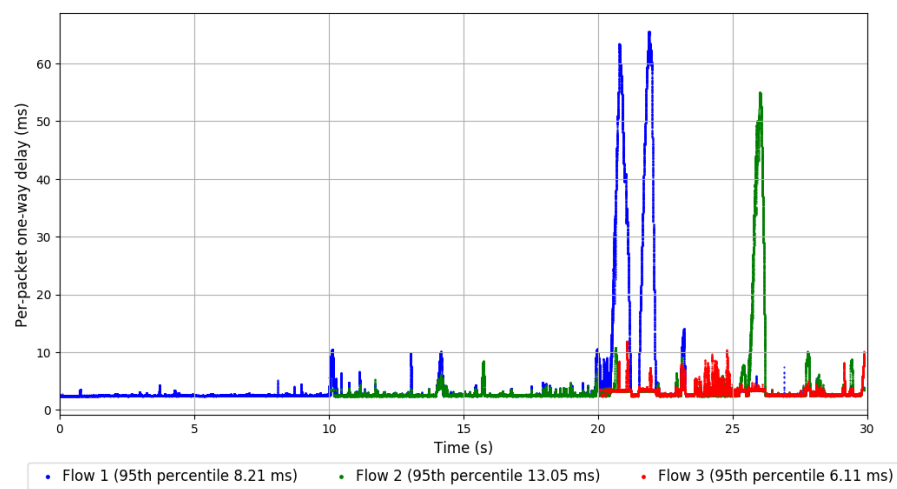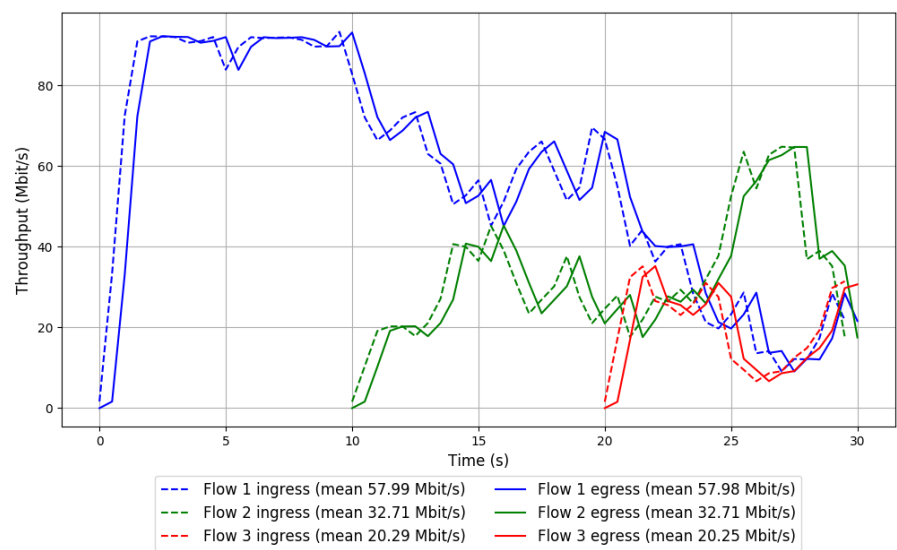
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-19 15:43:06
End at: 2019-03-19 15:43:36
Local clock offset: 0.237 ms
Remote clock offset: 1.768 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.78 Mbit/s
95th percentile per-packet one-way delay: 1917.084 ms
Loss rate: 6.01%
-- Flow 1:
Average throughput: 27.10 Mbit/s
95th percentile per-packet one-way delay: 384.137 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 37.41 Mbit/s
95th percentile per-packet one-way delay: 1999.117 ms
Loss rate: 13.05%
-- Flow 3:
Average throughput: 26.66 Mbit/s
95th percentile per-packet one-way delay: 13.237 ms
Loss rate: 0.10%
```
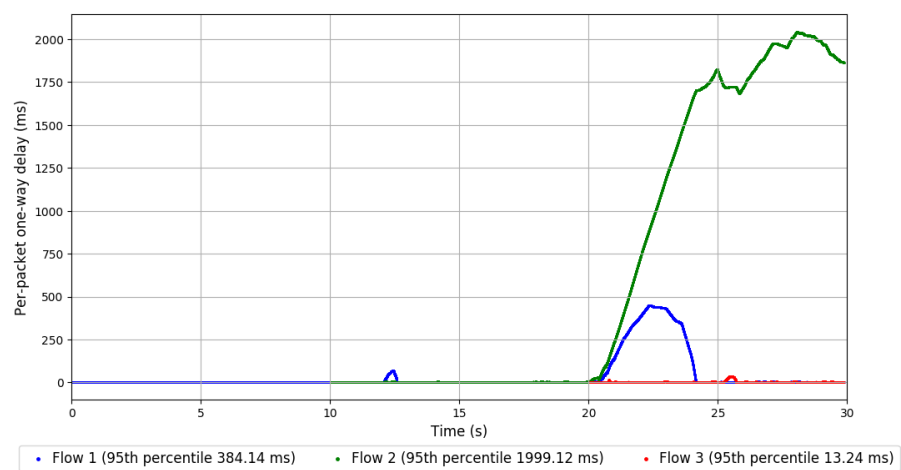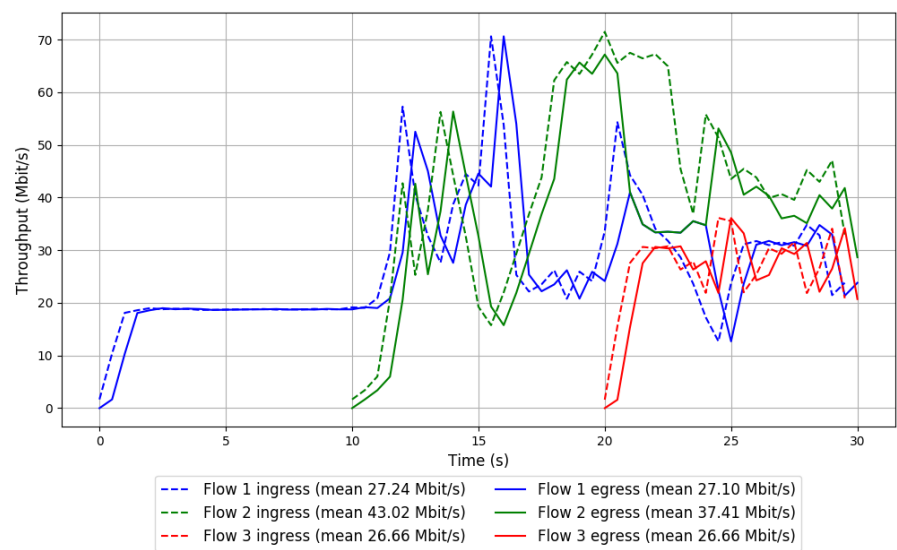
## Run 4: Report of PCC-Vivace — Data Link



Flow 1 ingress (mean 27.24 Mbit/s)  Flow 1 egress (mean 27.10 Mbit/s)
Flow 2 ingress (mean 43.02 Mbit/s)  Flow 2 egress (mean 37.41 Mbit/s)
Flow 3 ingress (mean 26.66 Mbit/s)  Flow 3 egress (mean 26.66 Mbit/s)



Flow 1 (95th percentile 384.14 ms)   Flow 2 (95th percentile 1999.12 ms)   Flow 3 (95th percentile 13.24 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-19 16:07:18
End at: 2019-03-19 16:07:48
Local clock offset: -2.678 ms
Remote clock offset: 1.723 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.97 Mbit/s
95th percentile per-packet one-way delay: 5.966 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 36.76 Mbit/s
95th percentile per-packet one-way delay: 5.232 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 25.90 Mbit/s
95th percentile per-packet one-way delay: 9.251 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 9.02 Mbit/s
95th percentile per-packet one-way delay: 5.984 ms
Loss rate: 0.01%
```
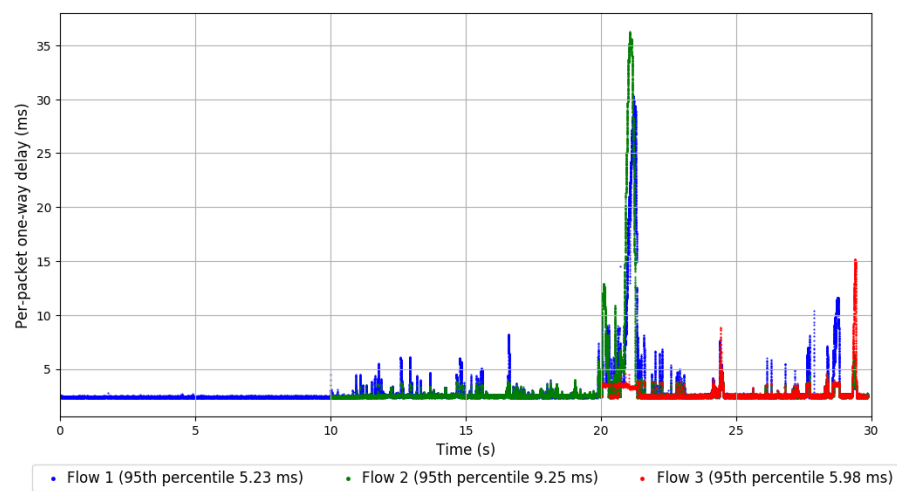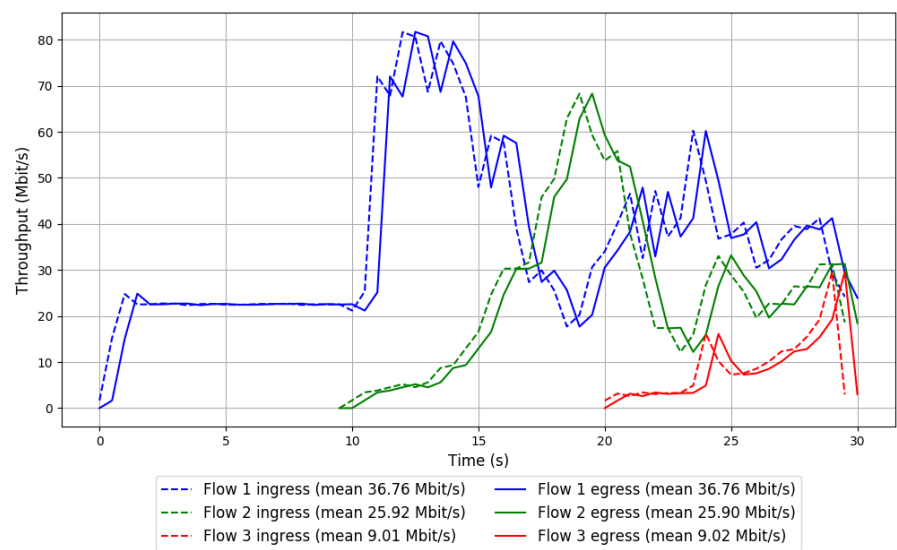
# Run 5: Report of PCC-Vivace — Data Link



- - - - Flow 1 ingress (mean 36.76 Mbit/s) —— Flow 1 egress (mean 36.76 Mbit/s)
- - - - Flow 2 ingress (mean 25.92 Mbit/s) —— Flow 2 egress (mean 25.90 Mbit/s)
- - - - Flow 3 ingress (mean 9.01 Mbit/s) —— Flow 3 egress (mean 9.02 Mbit/s)



- Flow 1 (95th percentile 5.23 ms)　　• Flow 2 (95th percentile 9.25 ms)　　• Flow 3 (95th percentile 5.98 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-03-19 14:28:15
End at: 2019-03-19 14:28:45
Local clock offset: -3.099 ms
Remote clock offset: 0.346 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 3.724 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 3.668 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 3.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 3.775 ms
Loss rate: 0.00%
```
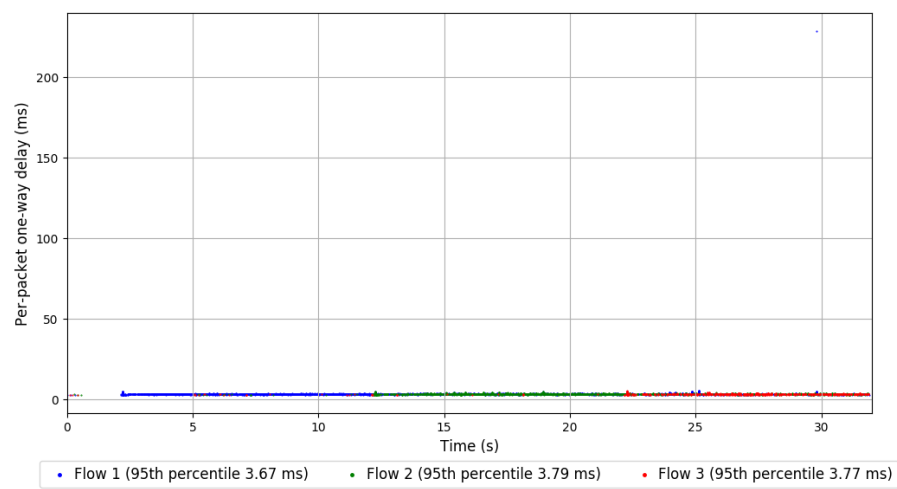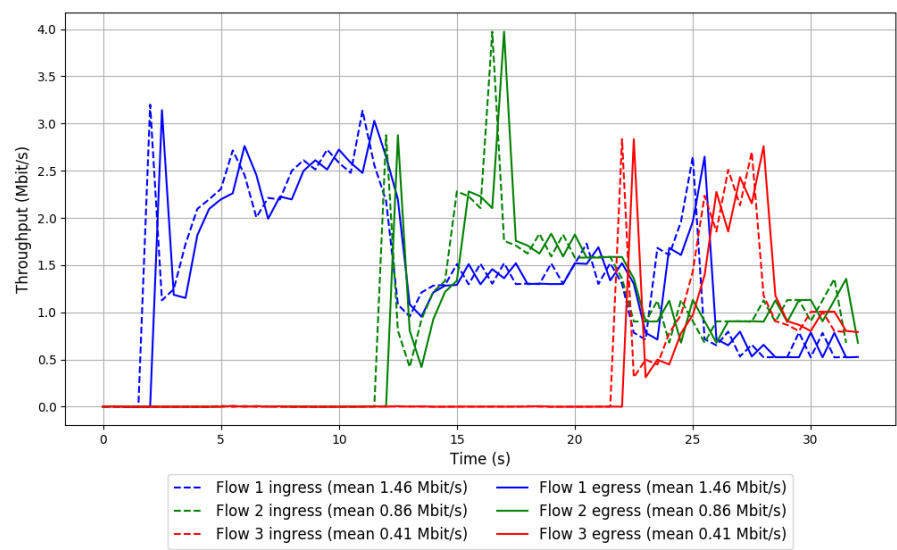
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-03-19 14:52:25
End at: 2019-03-19 14:52:55
Local clock offset: -0.489 ms
Remote clock offset: 0.513 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.72 Mbit/s
95th percentile per-packet one-way delay: 3.995 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 3.895 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 4.026 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 4.297 ms
Loss rate: 0.00%
```
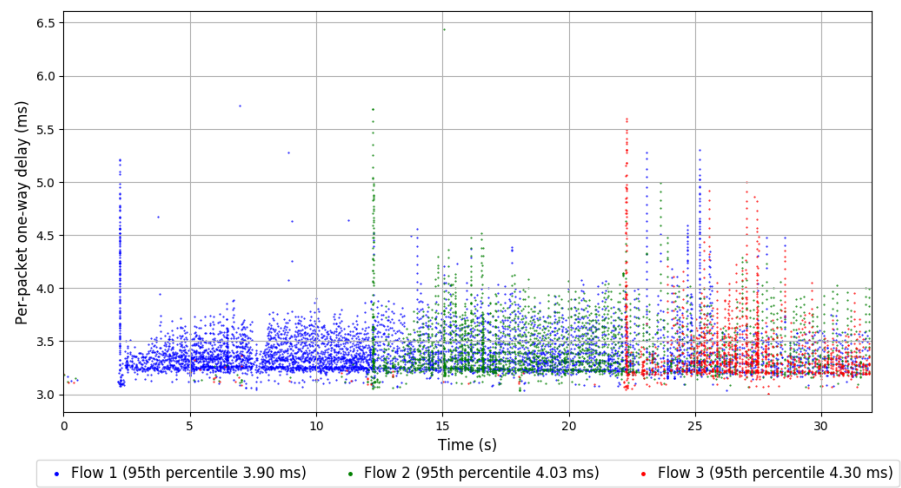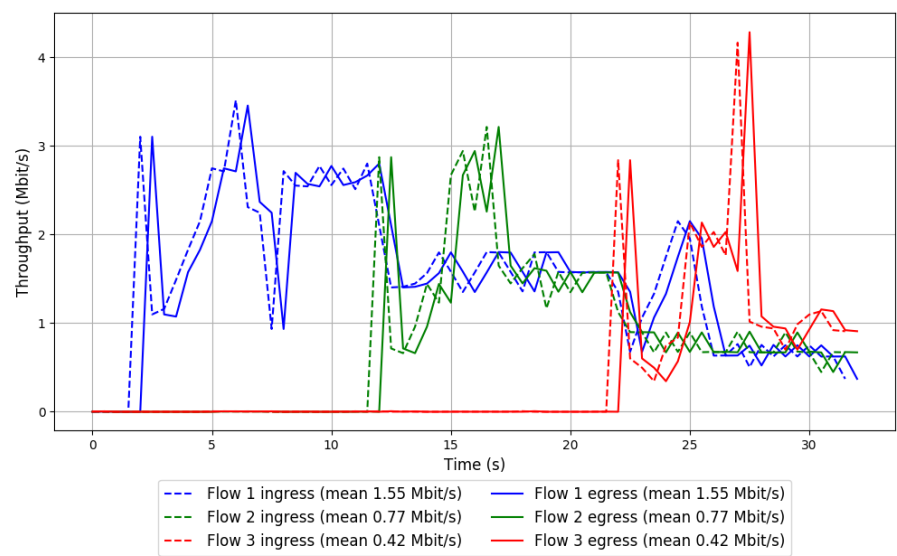
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-03-19 15:16:37
End at: 2019-03-19 15:17:07
Local clock offset: 0.435 ms
Remote clock offset: 1.35 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.67 Mbit/s
95th percentile per-packet one-way delay: 3.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 3.150 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 3.098 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 3.492 ms
Loss rate: 0.00%
```
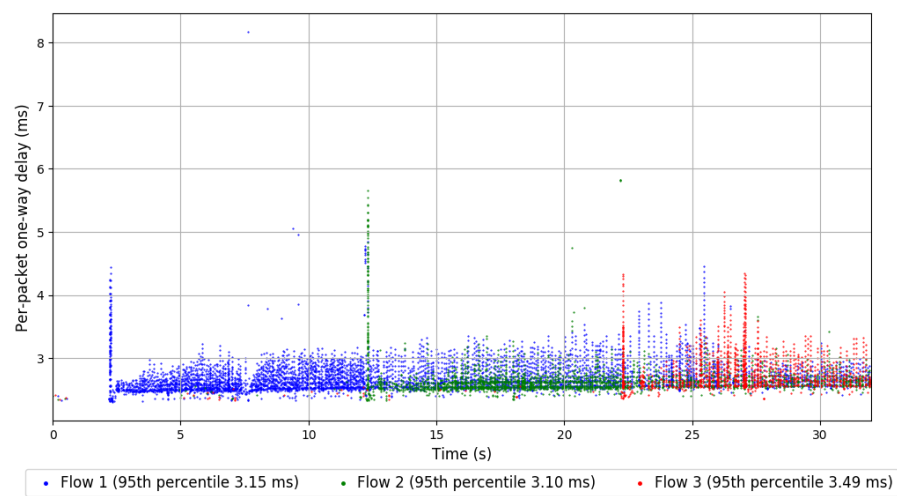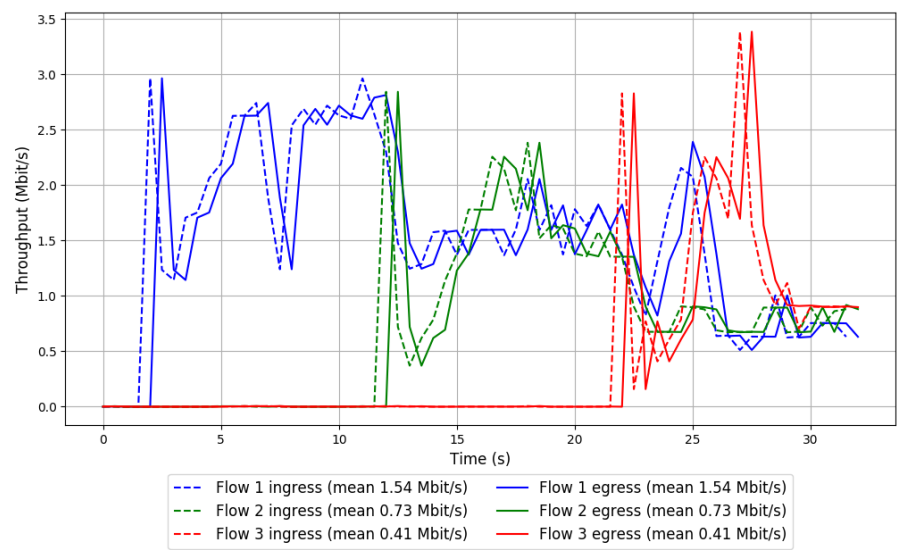
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-03-19 15:40:48
End at: 2019-03-19 15:41:19
Local clock offset: -1.384 ms
Remote clock offset: 1.795 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 2.183 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 2.090 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 2.230 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 2.372 ms
Loss rate: 0.00%
```
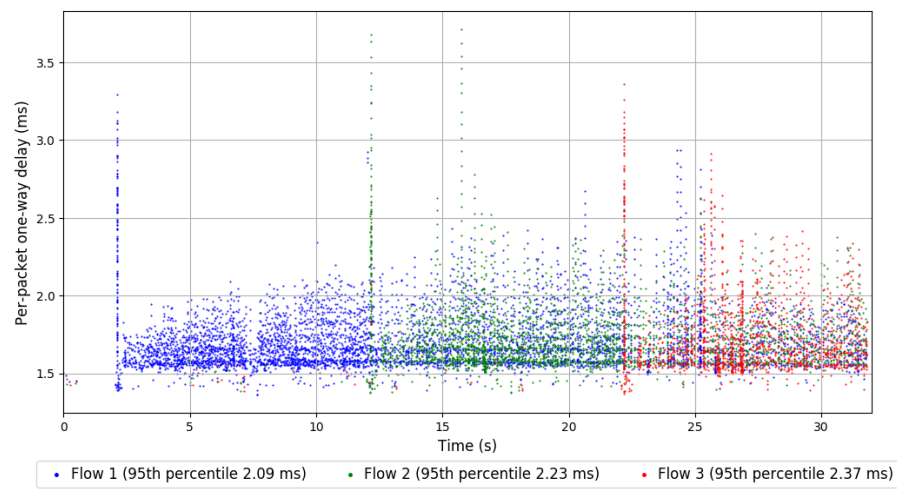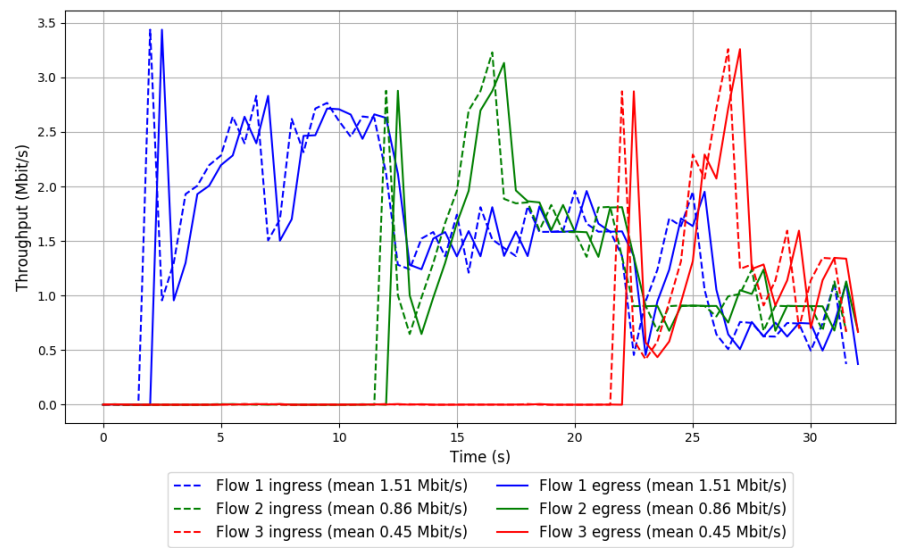
Run 4: Report of WebRTC media — Data Link



Flow 1 ingress (mean 1.51 Mbit/s) — Flow 1 egress (mean 1.51 Mbit/s)
Flow 2 ingress (mean 0.86 Mbit/s) — Flow 2 egress (mean 0.86 Mbit/s)
Flow 3 ingress (mean 0.45 Mbit/s) — Flow 3 egress (mean 0.45 Mbit/s)



Flow 1 (95th percentile 2.09 ms)   Flow 2 (95th percentile 2.23 ms)   Flow 3 (95th percentile 2.37 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2019-03-19 16:05:00
End at: 2019-03-19 16:05:30
Local clock offset: -1.836 ms
Remote clock offset: 1.731 ms


# Below is generated by plot.py at 2019-03-19 16:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 4.045 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 3.902 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 3.831 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 4.489 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link