Pantheon Report

Generated at 2018-09-26 10:24:38 (UTC).

Data path: GCE London on **ens4** (*local*) →GCE Iowa on **ens4** (*remote*).

Repeated the test of 19 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

```
System info:
Linux 4.15.0-1019-gcp
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
net.ipv4.tcp_mem = 190986 254651 381972
```
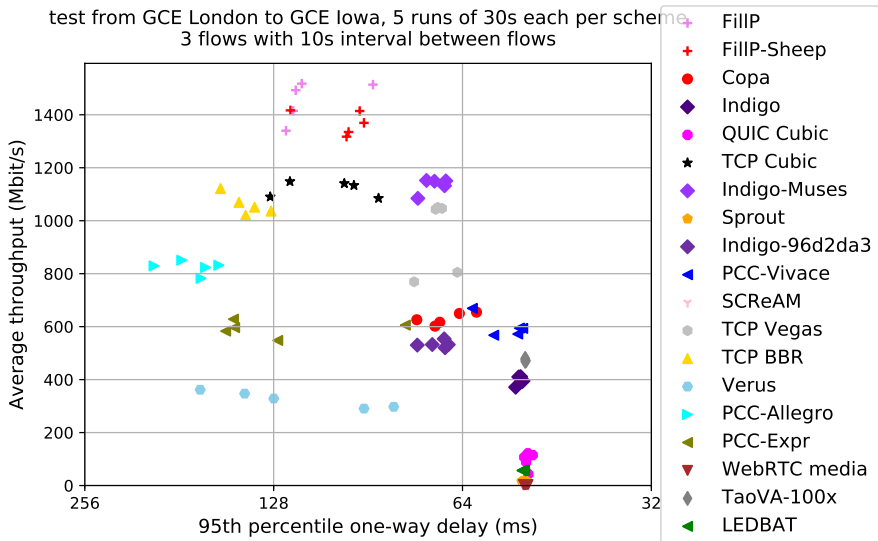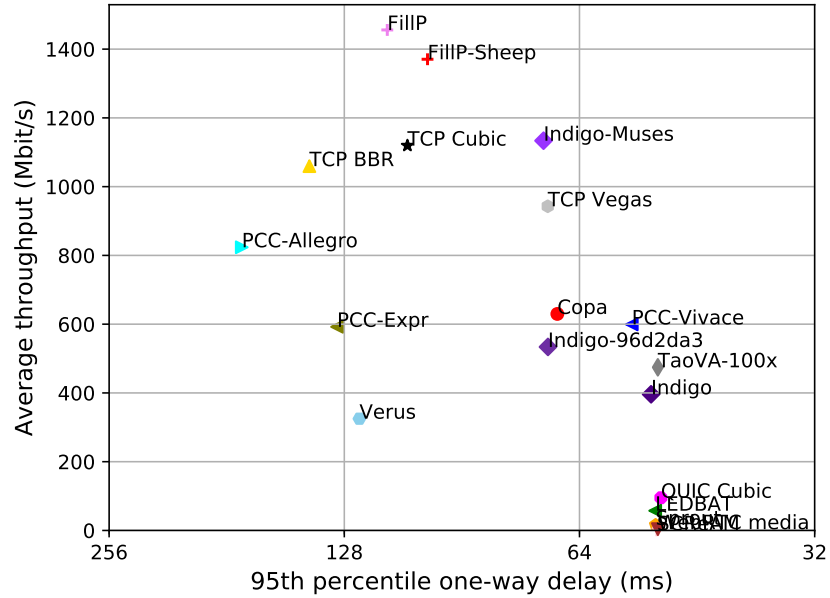
```
Git summary:
branch: muses @ 90192f6b64ce1a1191dcca0e9ff9ee24950674d7
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
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 GCE London to GCE Iowa, 5 runs of 30s each per scheme
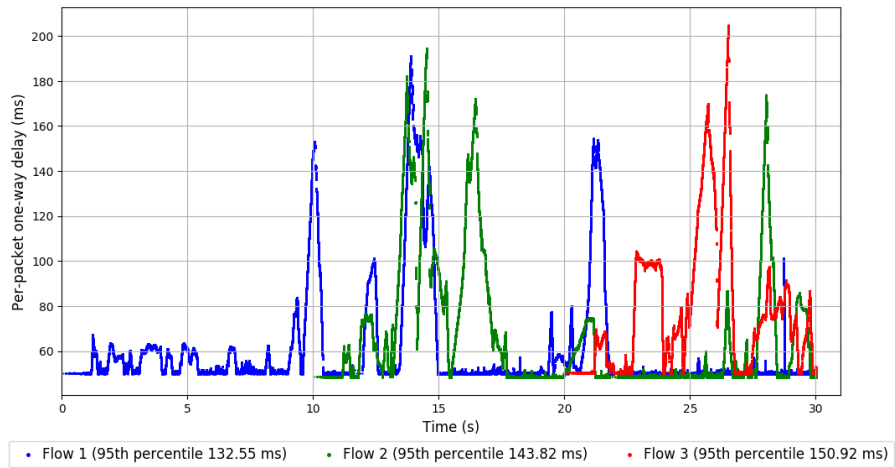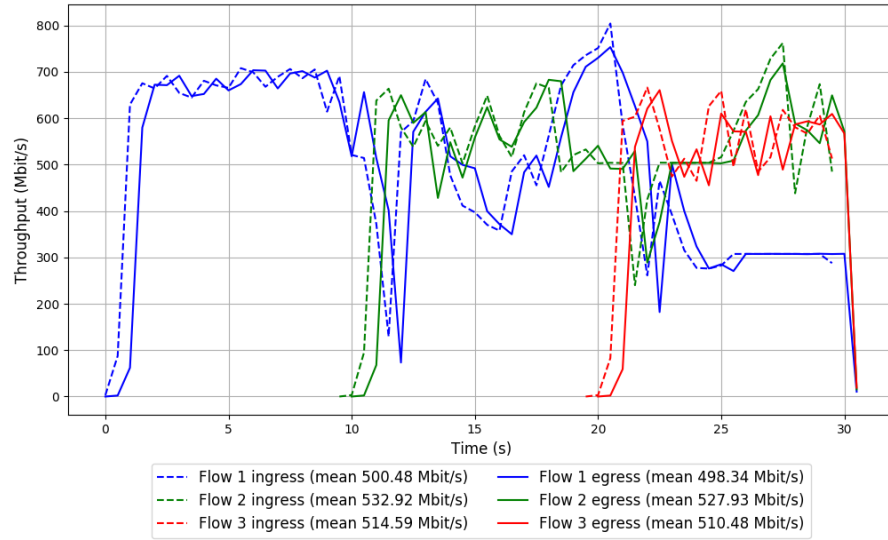3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE London to GCE Iowa, 5 runs of 30s each per scheme
3 flows with 10s interval between flows

3

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	548.66	516.51	502.59	141.99	133.15	140.83	0.46	0.67	0.85
Copa	5	325.52	313.26	288.26	65.11	64.67	79.25	0.00	0.00	0.01
TCP Cubic	5	595.69	537.95	498.01	107.59	93.38	96.03	0.09	0.03	0.20
FillP	5	772.21	730.58	593.97	114.58	111.12	69.56	2.21	1.35	0.57
FillP-Sheep	5	746.55	651.76	573.38	103.54	96.96	83.58	0.34	0.17	0.10
Indigo	5	201.46	206.07	178.14	51.41	52.19	51.37	0.00	0.00	0.00
Indigo-96d2da3	5	277.37	268.17	240.41	72.05	70.01	66.83	0.01	0.04	0.05
LEDBAT	5	37.16	24.45	12.26	50.86	51.22	50.48	0.00	0.00	0.00
Indigo-Muses	5	608.24	560.82	470.89	71.61	74.02	65.49	0.02	0.01	0.06
PCC-Allegro	5	459.74	390.98	315.45	171.45	165.91	127.46	3.96	3.79	1.50
PCC-Expr	5	332.24	287.52	209.63	132.23	108.50	97.92	1.79	0.44	0.89
QUIC Cubic	5	50.30	44.64	46.46	50.12	50.22	49.99	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	50.64	49.80	50.63	0.00	0.00	0.00
Sprout	5	8.26	8.18	7.86	50.48	50.46	50.65	0.00	0.00	0.00
TaoVA-100x	5	241.81	239.95	219.66	50.60	50.15	51.03	0.00	0.00	0.01
TCP Vegas	5	464.48	483.95	469.33	59.40	77.58	59.84	0.01	0.04	0.19
Verus	5	168.76	169.17	133.67	120.08	115.56	100.76	0.71	0.24	0.00
PCC-Vivace	5	360.95	308.71	99.43	53.32	53.81	65.71	0.00	0.00	0.01
WebRTC media	5	2.02	1.26	0.50	50.50	50.34	50.57	0.00	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2018-09-26 04:39:35
End at: 2018-09-26 04:40:05
Local clock offset: 0.636 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2018-09-26 07:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1020.03 Mbit/s
95th percentile per-packet one-way delay: 141.881 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 498.34 Mbit/s
95th percentile per-packet one-way delay: 132.546 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 527.93 Mbit/s
95th percentile per-packet one-way delay: 143.821 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 510.48 Mbit/s
95th percentile per-packet one-way delay: 150.917 ms
Loss rate: 0.81%
```
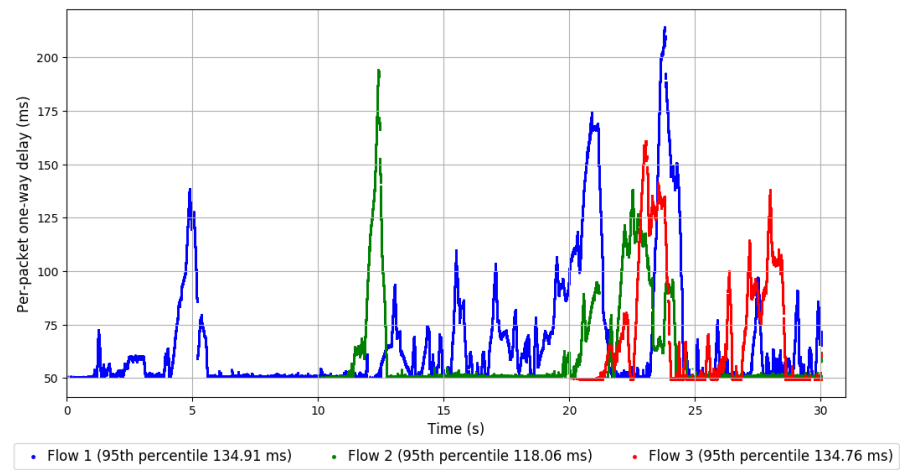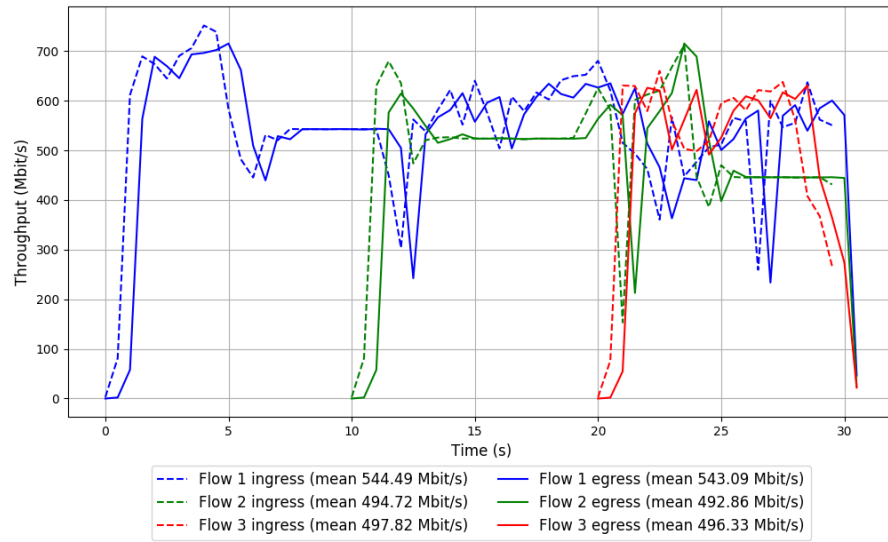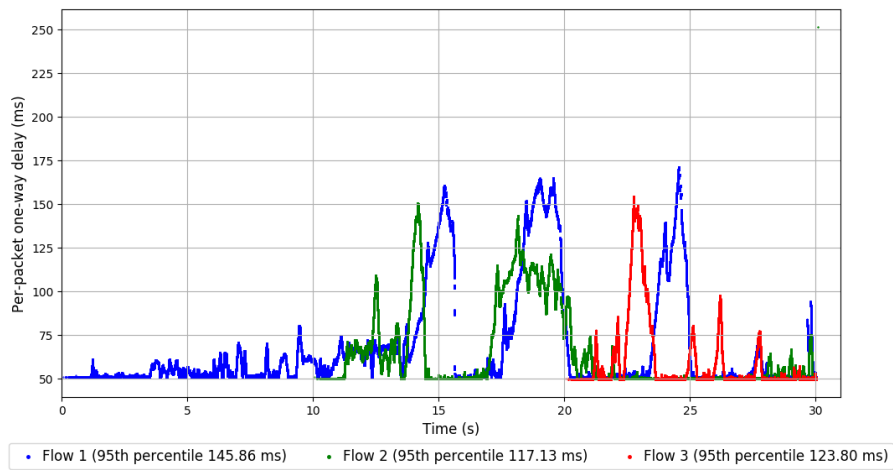
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-09-26 05:13:05
End at: 2018-09-26 05:13:35
Local clock offset: -0.049 ms
Remote clock offset: 0.002 ms


# Below is generated by plot.py at 2018-09-26 07:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1036.37 Mbit/s
95th percentile per-packet one-way delay: 129.227 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 543.09 Mbit/s
95th percentile per-packet one-way delay: 134.905 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 492.86 Mbit/s
95th percentile per-packet one-way delay: 118.059 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 496.33 Mbit/s
95th percentile per-packet one-way delay: 134.758 ms
Loss rate: 0.31%
```
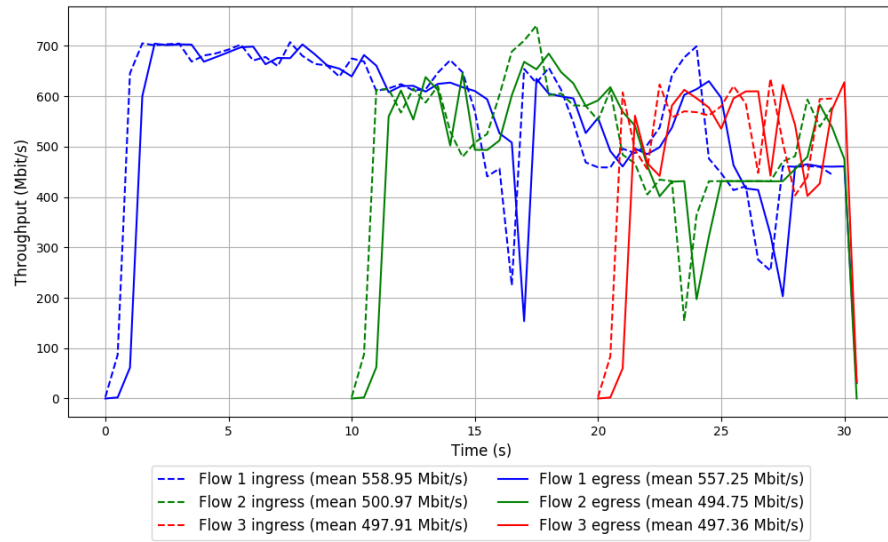
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 544.49 Mbit/s)   Flow 1 egress (mean 543.09 Mbit/s)
Flow 2 ingress (mean 494.72 Mbit/s)   Flow 2 egress (mean 492.86 Mbit/s)
Flow 3 ingress (mean 497.82 Mbit/s)   Flow 3 egress (mean 496.33 Mbit/s)

Flow 1 (95th percentile 134.91 ms)   Flow 2 (95th percentile 118.06 ms)   Flow 3 (95th percentile 134.76 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2018-09-26 05:46:27
End at: 2018-09-26 05:46:57
Local clock offset: -0.139 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2018-09-26 07:59:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1051.21 Mbit/s
95th percentile per-packet one-way delay: 137.295 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 557.25 Mbit/s
95th percentile per-packet one-way delay: 145.858 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 494.75 Mbit/s
95th percentile per-packet one-way delay: 117.129 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 497.36 Mbit/s
95th percentile per-packet one-way delay: 123.797 ms
Loss rate: 0.11%
```
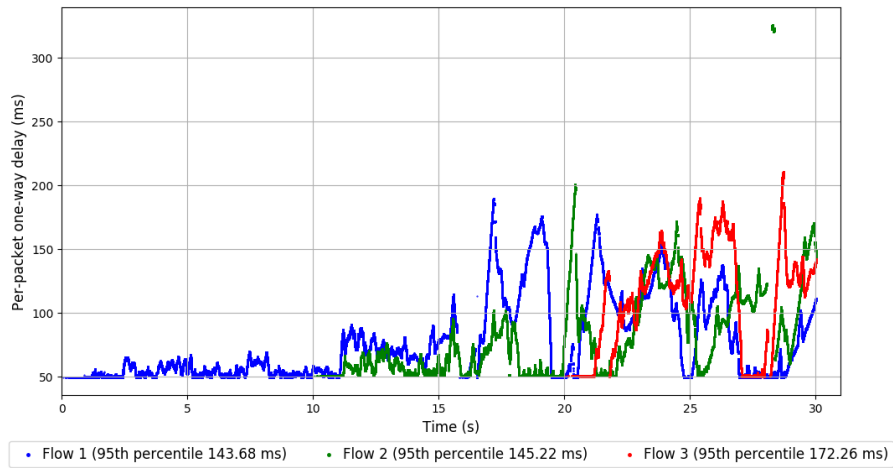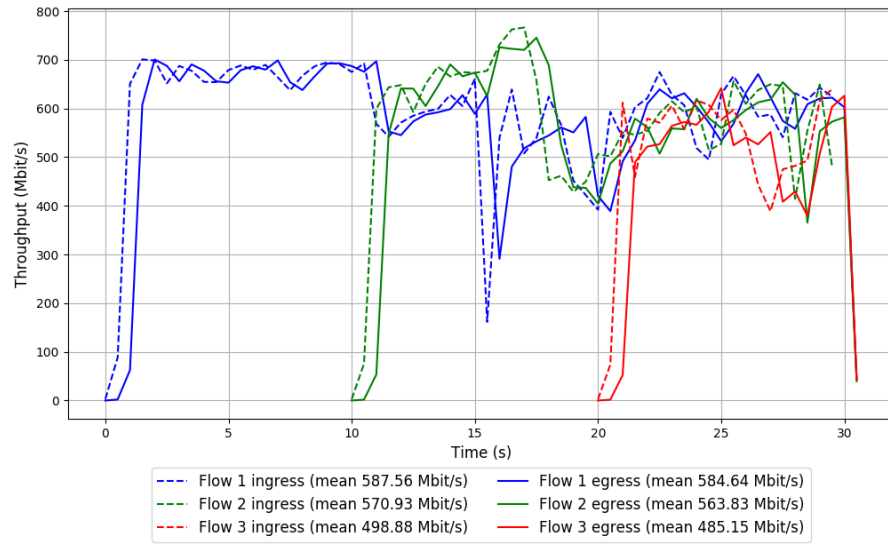
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 558.95 Mbit/s) --- Flow 1 egress (mean 557.25 Mbit/s)
Flow 2 ingress (mean 500.97 Mbit/s) --- Flow 2 egress (mean 494.75 Mbit/s)
Flow 3 ingress (mean 497.91 Mbit/s) --- Flow 3 egress (mean 497.36 Mbit/s)

- Flow 1 (95th percentile 145.86 ms)   - Flow 2 (95th percentile 117.13 ms)   - Flow 3 (95th percentile 123.80 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-09-26 06:20:16
End at: 2018-09-26 06:20:46
Local clock offset: -0.079 ms
Remote clock offset: -0.09 ms


# Below is generated by plot.py at 2018-09-26 08:00:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1121.36 Mbit/s
95th percentile per-packet one-way delay: 155.570 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 584.64 Mbit/s
95th percentile per-packet one-way delay: 143.675 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 563.83 Mbit/s
95th percentile per-packet one-way delay: 145.220 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 485.15 Mbit/s
95th percentile per-packet one-way delay: 172.260 ms
Loss rate: 2.77%
```
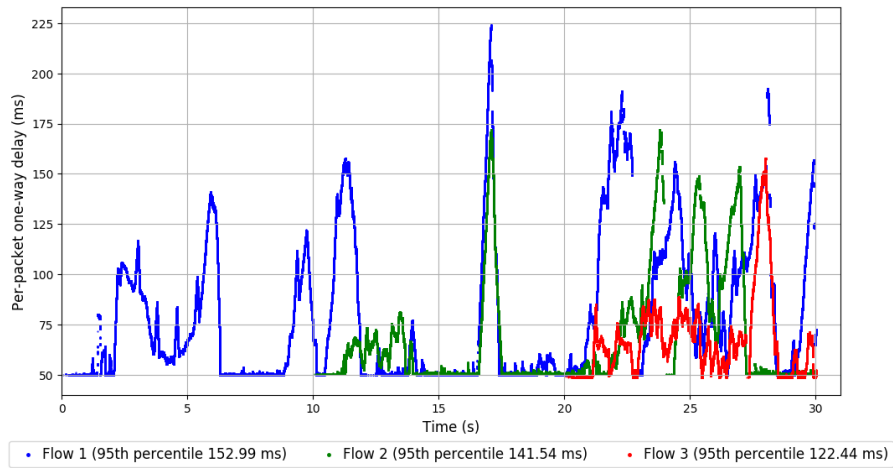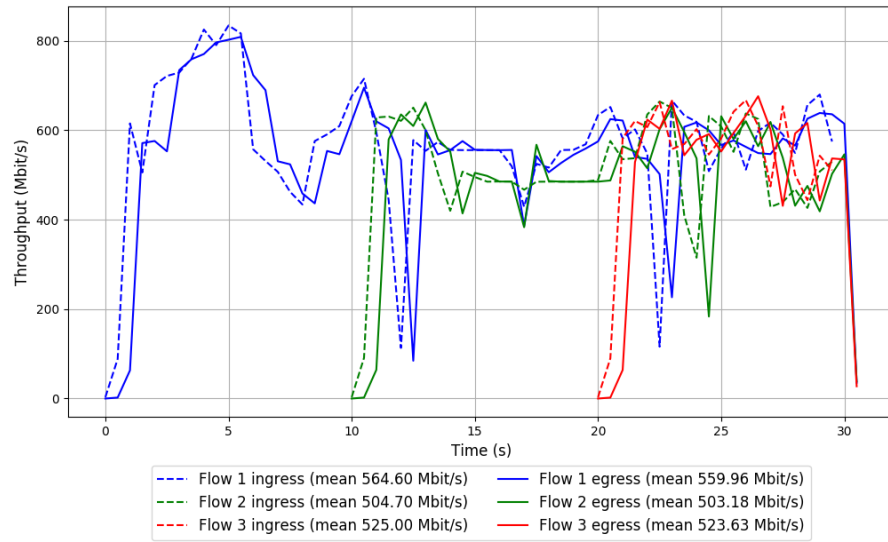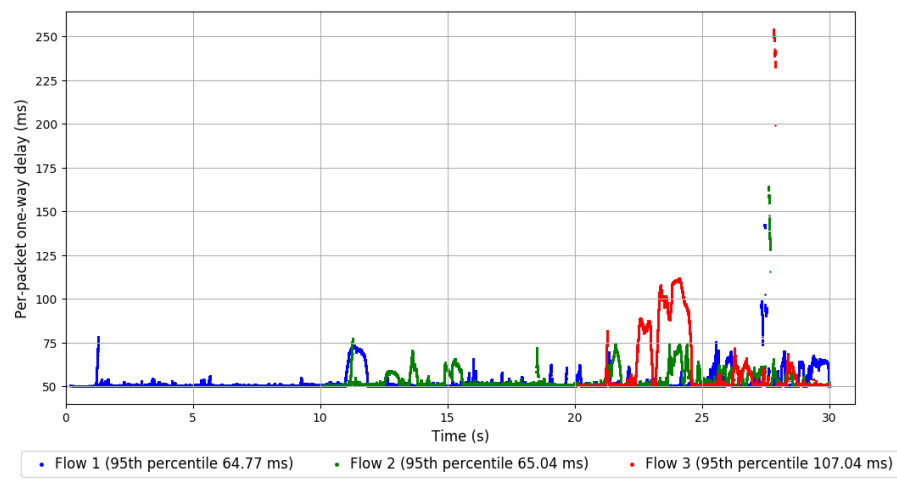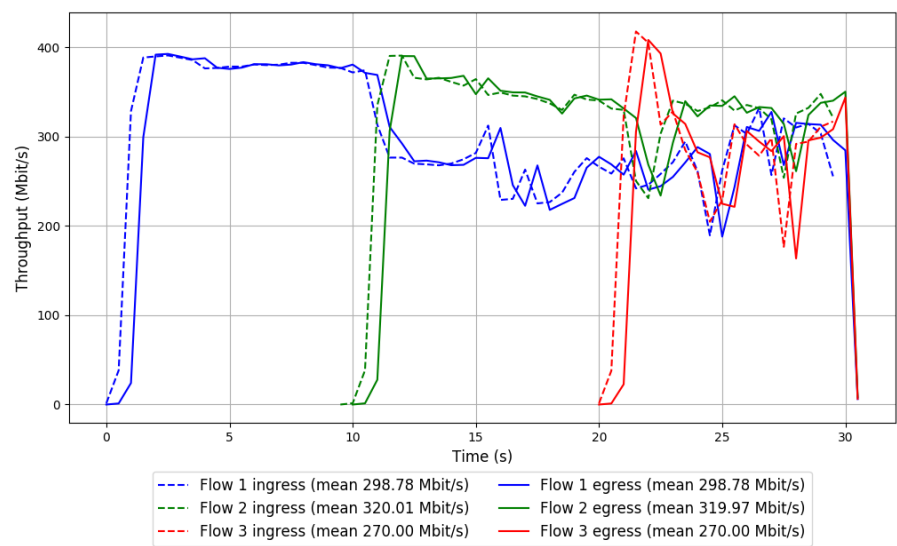
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 587.56 Mbit/s) — — — Flow 1 egress (mean 584.64 Mbit/s)
Flow 2 ingress (mean 570.93 Mbit/s) — — — Flow 2 egress (mean 563.83 Mbit/s)
Flow 3 ingress (mean 498.88 Mbit/s) — — — Flow 3 egress (mean 485.15 Mbit/s)

Flow 1 (95th percentile 143.68 ms)   Flow 2 (95th percentile 145.22 ms)   Flow 3 (95th percentile 172.26 ms)
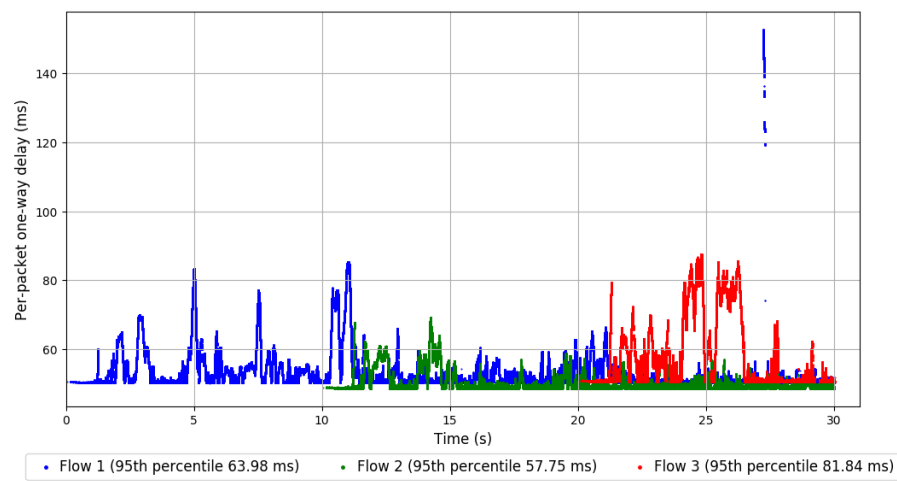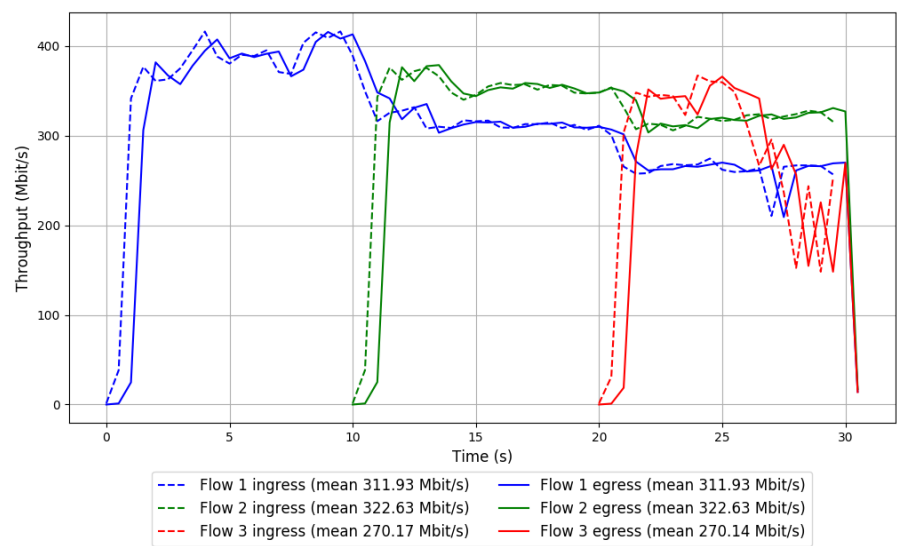
```
Run 5: Statistics of TCP BBR

Start at: 2018-09-26 06:54:03
End at: 2018-09-26 06:54:33
Local clock offset: -0.023 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2018-09-26 08:00:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1069.39 Mbit/s
95th percentile per-packet one-way delay: 145.371 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 559.96 Mbit/s
95th percentile per-packet one-way delay: 152.986 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 503.18 Mbit/s
95th percentile per-packet one-way delay: 141.543 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 523.63 Mbit/s
95th percentile per-packet one-way delay: 122.435 ms
Loss rate: 0.25%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 564.60 Mbit/s) — — —   Flow 1 egress (mean 559.96 Mbit/s)
Flow 2 ingress (mean 504.70 Mbit/s) — — —   Flow 2 egress (mean 503.18 Mbit/s)
Flow 3 ingress (mean 525.00 Mbit/s) — — —   Flow 3 egress (mean 523.63 Mbit/s)

Flow 1 (95th percentile 152.99 ms)   Flow 2 (95th percentile 141.54 ms)   Flow 3 (95th percentile 122.44 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-09-26 04:45:00
End at: 2018-09-26 04:45:30
Local clock offset: 0.167 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2018-09-26 08:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 601.81 Mbit/s
95th percentile per-packet one-way delay: 70.800 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 298.78 Mbit/s
95th percentile per-packet one-way delay: 64.767 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 319.97 Mbit/s
95th percentile per-packet one-way delay: 65.038 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 270.00 Mbit/s
95th percentile per-packet one-way delay: 107.036 ms
Loss rate: 0.01%
```
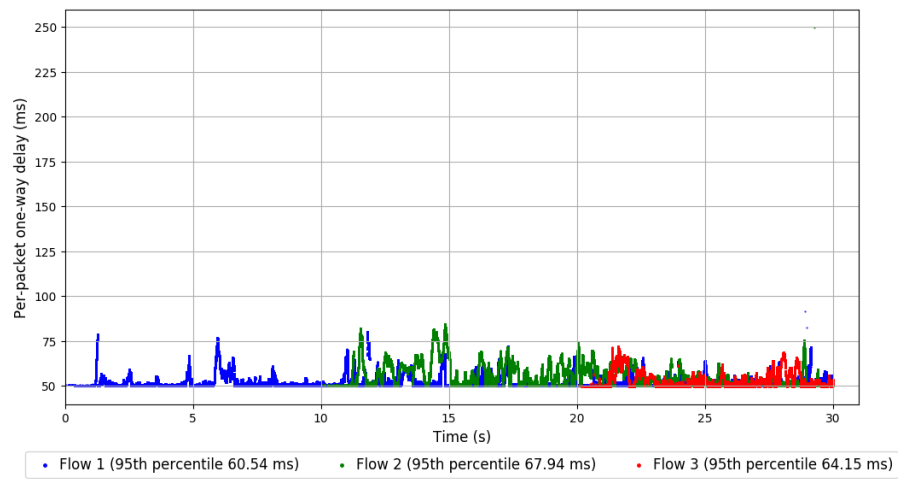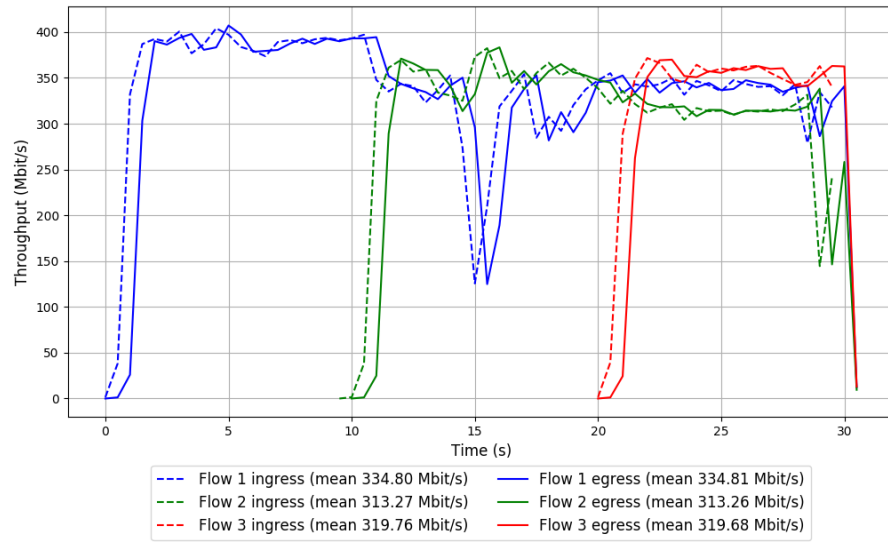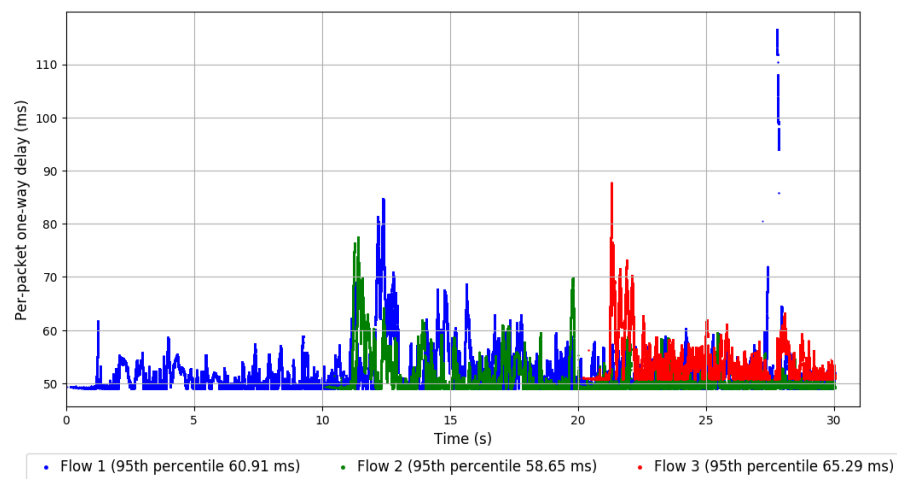
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-09-26 05:18:30
End at: 2018-09-26 05:19:00
Local clock offset: -0.054 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2018-09-26 08:01:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 616.56 Mbit/s
95th percentile per-packet one-way delay: 69.573 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 311.93 Mbit/s
95th percentile per-packet one-way delay: 63.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 322.63 Mbit/s
95th percentile per-packet one-way delay: 57.748 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 270.14 Mbit/s
95th percentile per-packet one-way delay: 81.839 ms
Loss rate: 0.00%
```
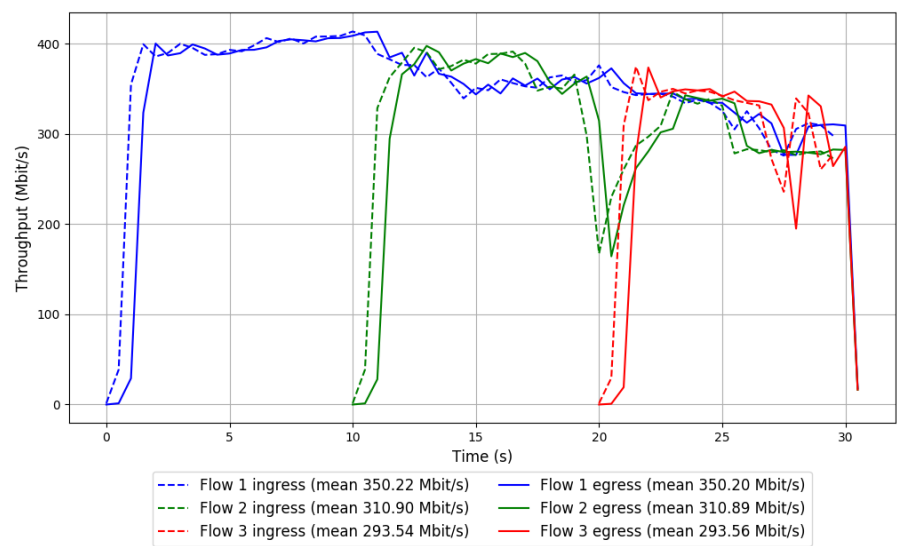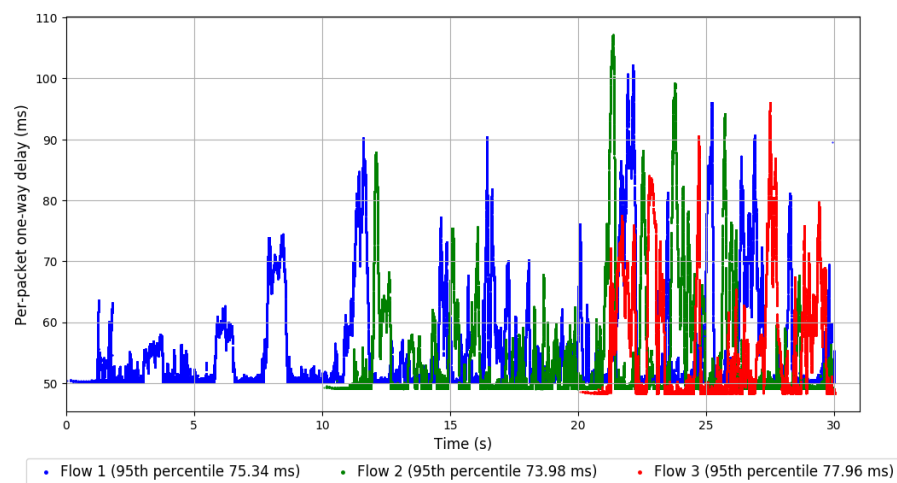
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 311.93 Mbit/s) --- Flow 1 egress (mean 311.93 Mbit/s)
Flow 2 ingress (mean 322.63 Mbit/s) --- Flow 2 egress (mean 322.63 Mbit/s)
Flow 3 ingress (mean 270.17 Mbit/s) --- Flow 3 egress (mean 270.14 Mbit/s)

Flow 1 (95th percentile 63.98 ms) • Flow 2 (95th percentile 57.75 ms) • Flow 3 (95th percentile 81.84 ms)

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```
Run 3: Statistics of Copa

Start at: 2018-09-26 05:51:51
End at: 2018-09-26 05:52:21
Local clock offset: 0.26 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2018-09-26 08:02:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 649.80 Mbit/s
95th percentile per-packet one-way delay: 64.738 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 334.81 Mbit/s
95th percentile per-packet one-way delay: 60.541 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 313.26 Mbit/s
95th percentile per-packet one-way delay: 67.935 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 319.68 Mbit/s
95th percentile per-packet one-way delay: 64.152 ms
Loss rate: 0.02%
```
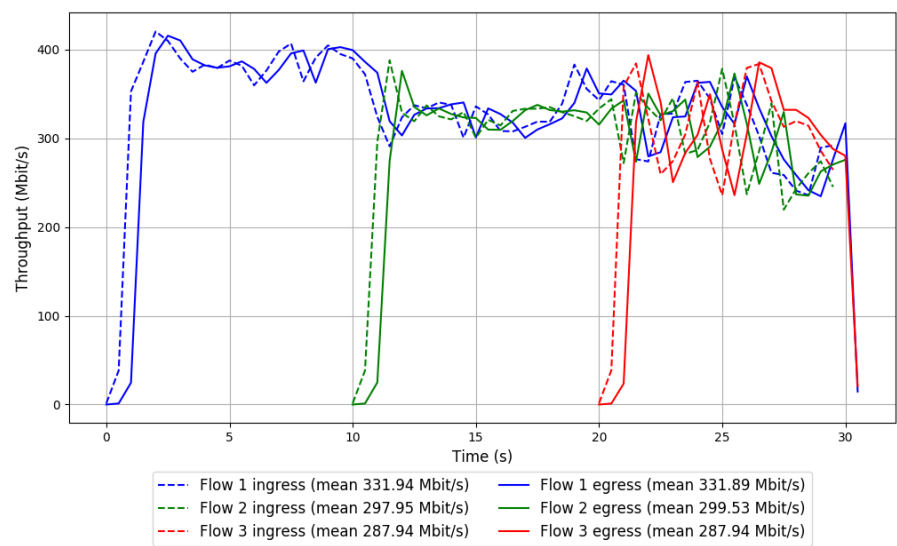
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 334.80 Mbit/s) --- Flow 1 egress (mean 334.81 Mbit/s)
Flow 2 ingress (mean 313.27 Mbit/s) --- Flow 2 egress (mean 313.26 Mbit/s)
Flow 3 ingress (mean 319.76 Mbit/s) --- Flow 3 egress (mean 319.68 Mbit/s)

Flow 1 (95th percentile 60.54 ms)   Flow 2 (95th percentile 67.94 ms)   Flow 3 (95th percentile 64.15 ms)

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```
Run 4: Statistics of Copa

Start at: 2018-09-26 06:25:46
End at: 2018-09-26 06:26:16
Local clock offset: -0.397 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2018-09-26 08:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.66 Mbit/s
95th percentile per-packet one-way delay: 60.794 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 350.20 Mbit/s
95th percentile per-packet one-way delay: 60.915 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 310.89 Mbit/s
95th percentile per-packet one-way delay: 58.648 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 293.56 Mbit/s
95th percentile per-packet one-way delay: 65.286 ms
Loss rate: 0.02%
```
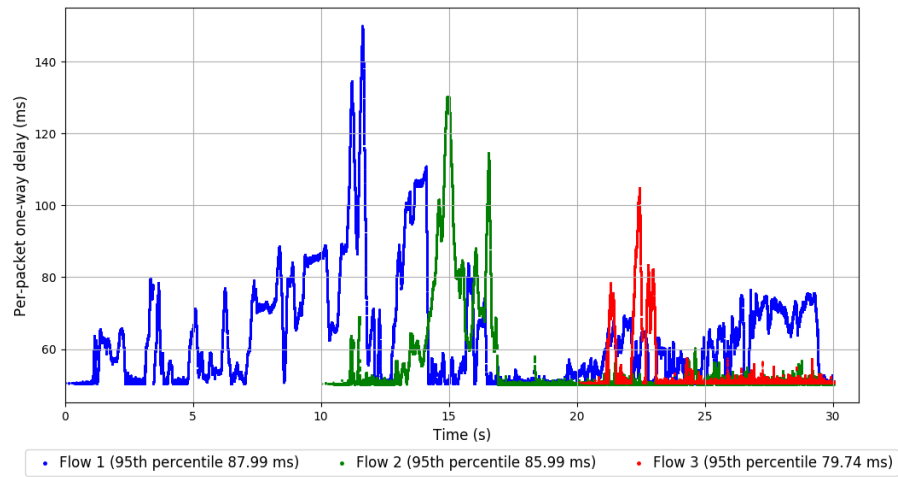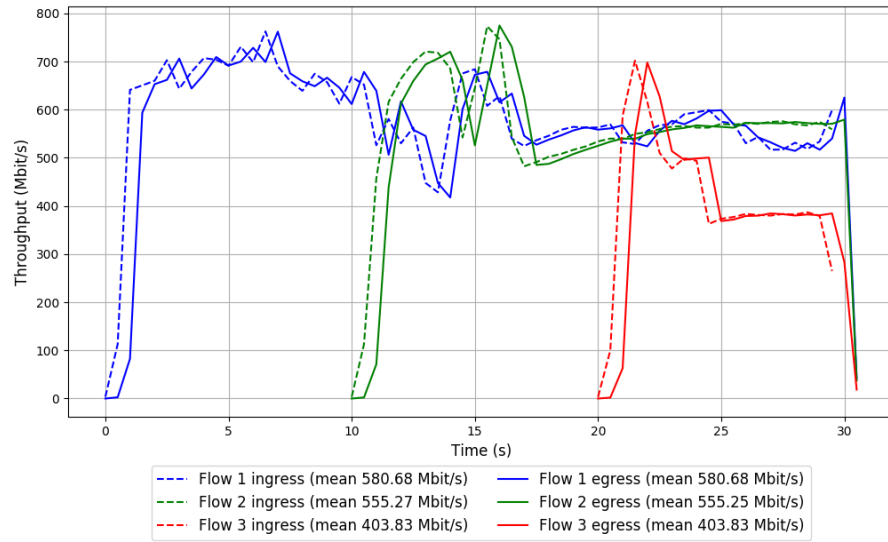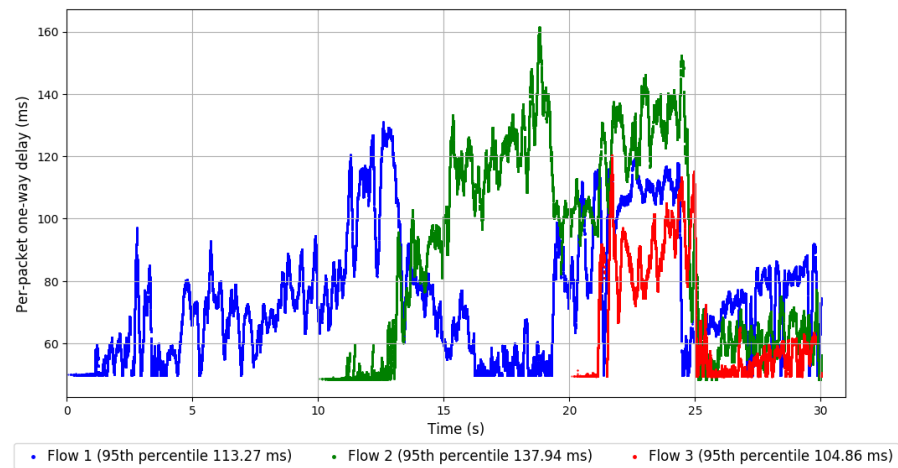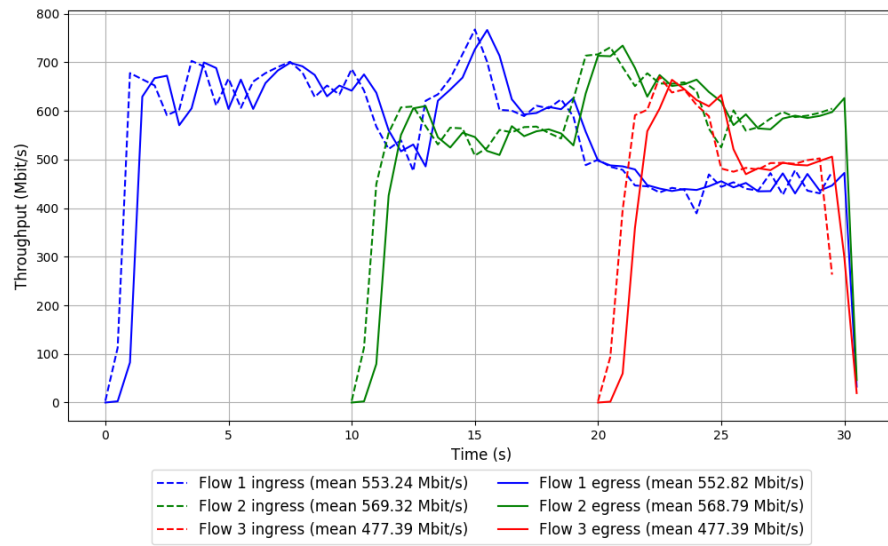
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 350.22 Mbit/s) — — — Flow 1 egress (mean 350.20 Mbit/s)
Flow 2 ingress (mean 310.90 Mbit/s) — — — Flow 2 egress (mean 310.89 Mbit/s)
Flow 3 ingress (mean 293.54 Mbit/s) — — — Flow 3 egress (mean 293.56 Mbit/s)

Flow 1 (95th percentile 60.91 ms)   Flow 2 (95th percentile 58.65 ms)   Flow 3 (95th percentile 65.29 ms)

```
Run 5: Statistics of Copa

Start at: 2018-09-26 06:59:33
End at: 2018-09-26 07:00:03
Local clock offset: 0.385 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2018-09-26 08:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 626.05 Mbit/s
95th percentile per-packet one-way delay: 75.689 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 331.89 Mbit/s
95th percentile per-packet one-way delay: 75.340 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 299.53 Mbit/s
95th percentile per-packet one-way delay: 73.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 287.94 Mbit/s
95th percentile per-packet one-way delay: 77.959 ms
Loss rate: 0.00%
```
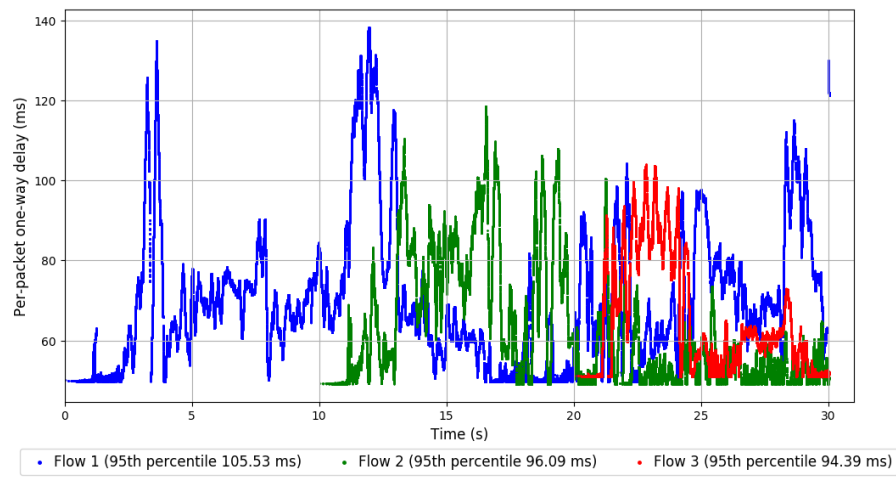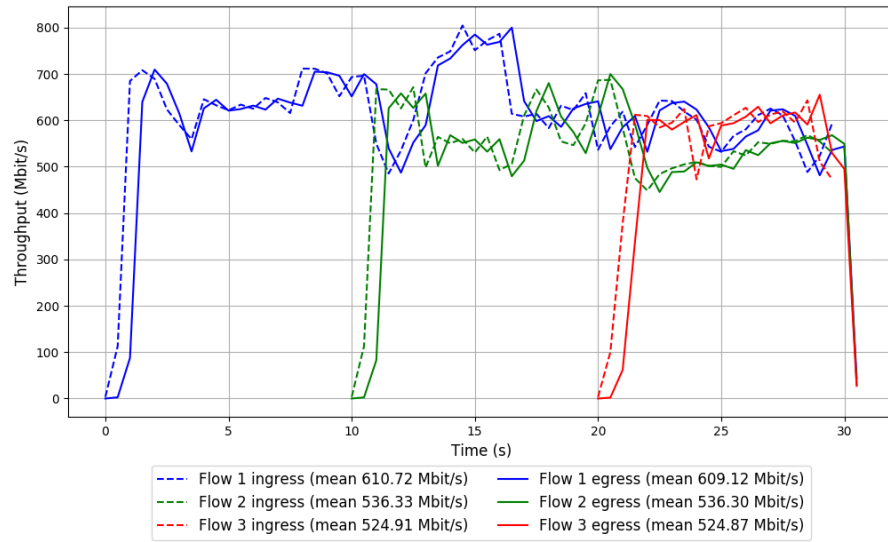
Run 5: Report of Copa — Data Link

- - - Flow 1 ingress (mean 331.94 Mbit/s)   —— Flow 1 egress (mean 331.89 Mbit/s)
- - - Flow 2 ingress (mean 297.95 Mbit/s)   —— Flow 2 egress (mean 299.53 Mbit/s)
- - - Flow 3 ingress (mean 287.94 Mbit/s)   —— Flow 3 egress (mean 287.94 Mbit/s)

• Flow 1 (95th percentile 75.34 ms)   • Flow 2 (95th percentile 73.98 ms)   • Flow 3 (95th percentile 77.96 ms)

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```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-26 05:00:42
End at: 2018-09-26 05:01:12
Local clock offset: -0.02 ms
Remote clock offset: 0.029 ms


# Below is generated by plot.py at 2018-09-26 08:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1084.66 Mbit/s
95th percentile per-packet one-way delay: 87.103 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 580.68 Mbit/s
95th percentile per-packet one-way delay: 87.990 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 555.25 Mbit/s
95th percentile per-packet one-way delay: 85.990 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 403.83 Mbit/s
95th percentile per-packet one-way delay: 79.737 ms
Loss rate: 0.01%
```
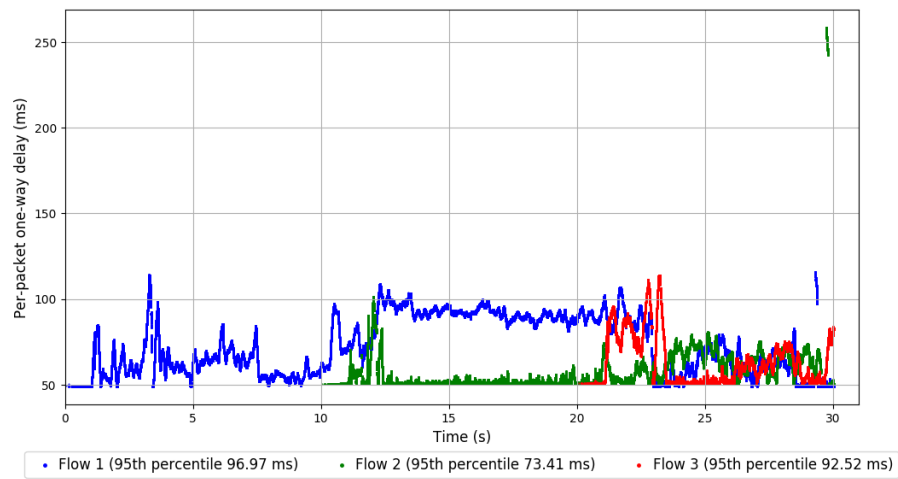
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-09-26 05:34:07
End at: 2018-09-26 05:34:37
Local clock offset: 0.277 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2018-09-26 08:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1090.11 Mbit/s
95th percentile per-packet one-way delay: 129.606 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 552.82 Mbit/s
95th percentile per-packet one-way delay: 113.273 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 568.79 Mbit/s
95th percentile per-packet one-way delay: 137.942 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 477.39 Mbit/s
95th percentile per-packet one-way delay: 104.855 ms
Loss rate: 0.00%
```
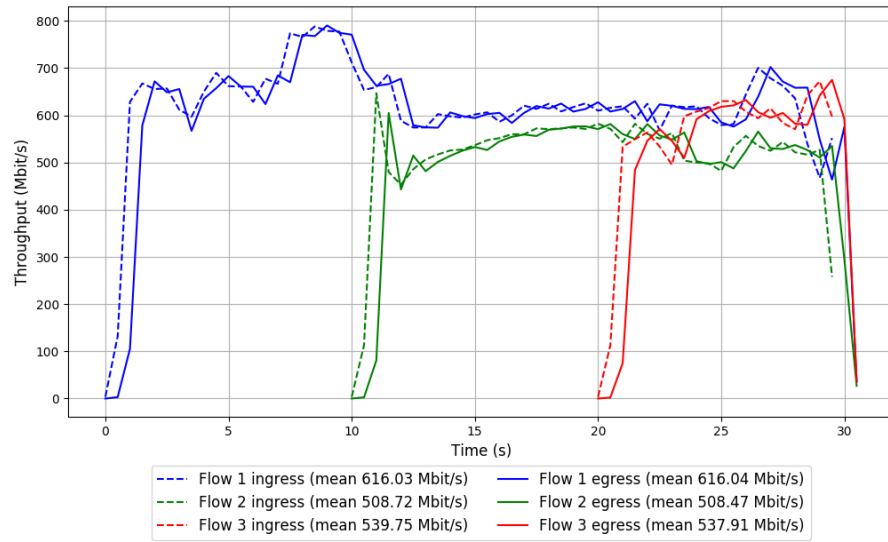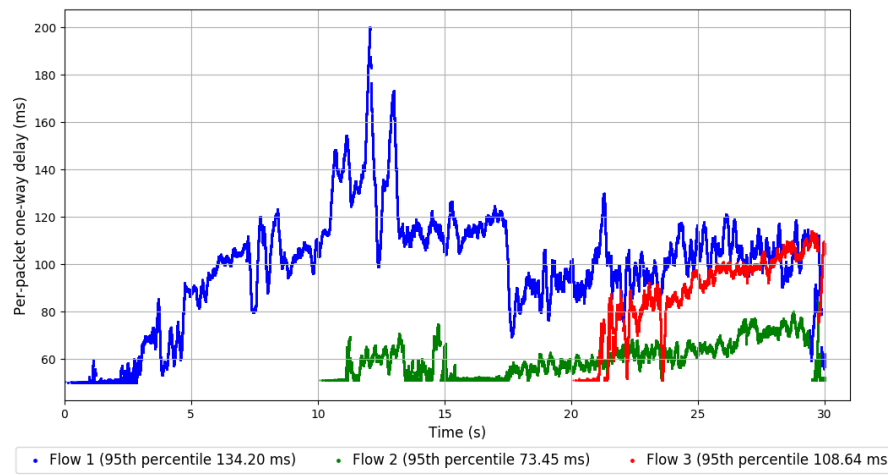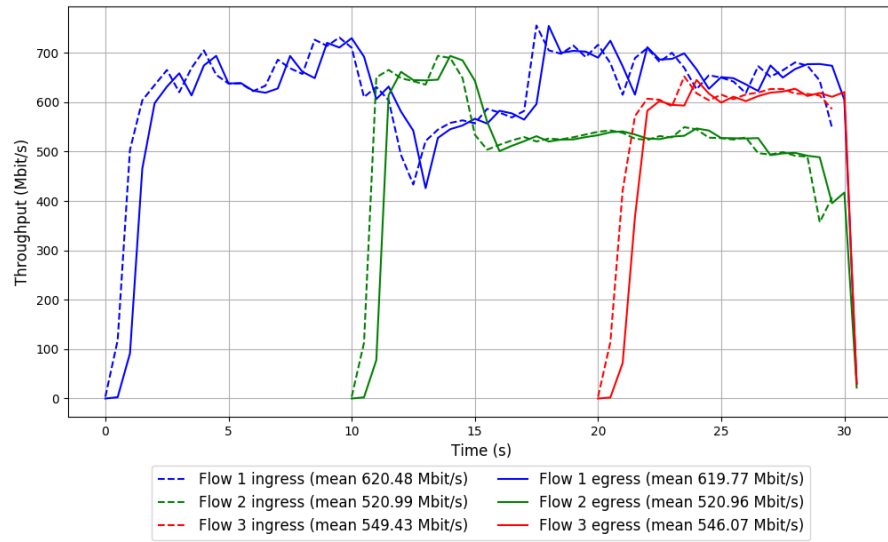
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 553.24 Mbit/s) --- Flow 1 egress (mean 552.82 Mbit/s)
Flow 2 ingress (mean 569.32 Mbit/s) --- Flow 2 egress (mean 568.79 Mbit/s)
Flow 3 ingress (mean 477.39 Mbit/s) --- Flow 3 egress (mean 477.39 Mbit/s)

Flow 1 (95th percentile 113.27 ms)   Flow 2 (95th percentile 137.94 ms)   Flow 3 (95th percentile 104.86 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-09-26 06:07:53
End at: 2018-09-26 06:08:23
Local clock offset: -0.416 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2018-09-26 08:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1140.63 Mbit/s
95th percentile per-packet one-way delay: 98.747 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 609.12 Mbit/s
95th percentile per-packet one-way delay: 105.526 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 536.30 Mbit/s
95th percentile per-packet one-way delay: 96.093 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 524.87 Mbit/s
95th percentile per-packet one-way delay: 94.385 ms
Loss rate: 0.00%
```
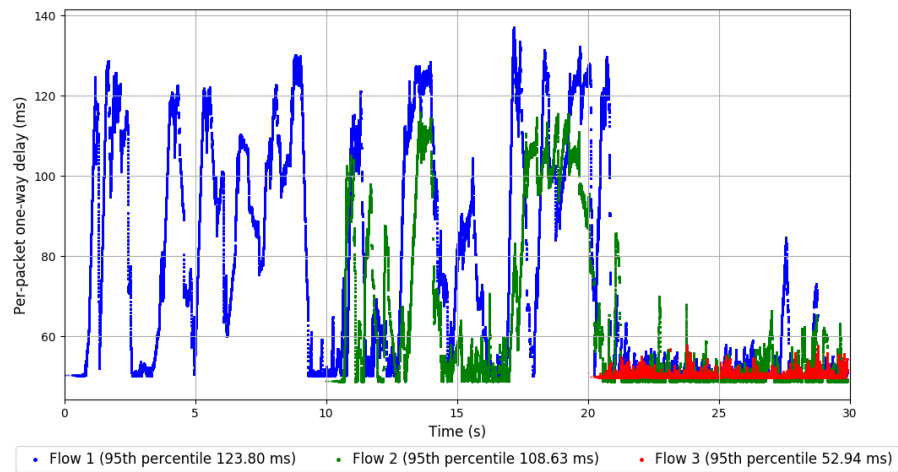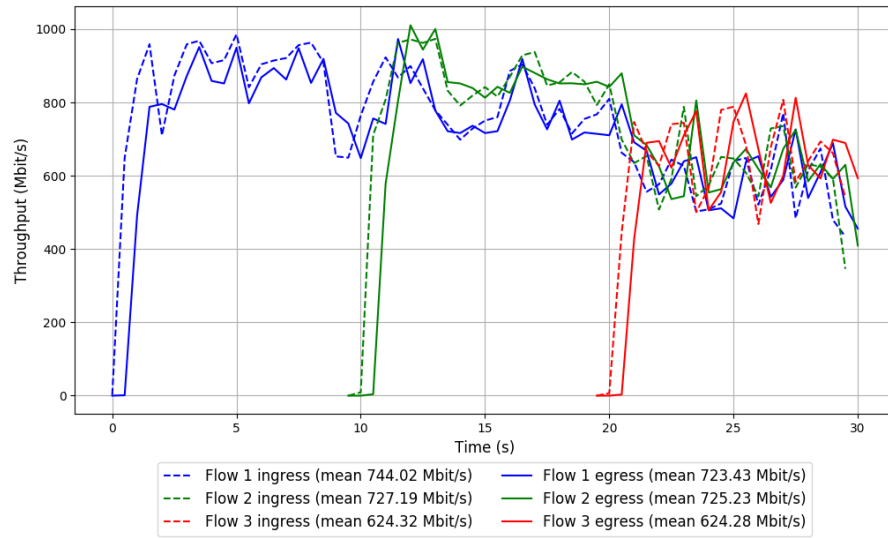
Run 3: Report of TCP Cubic — Data Link
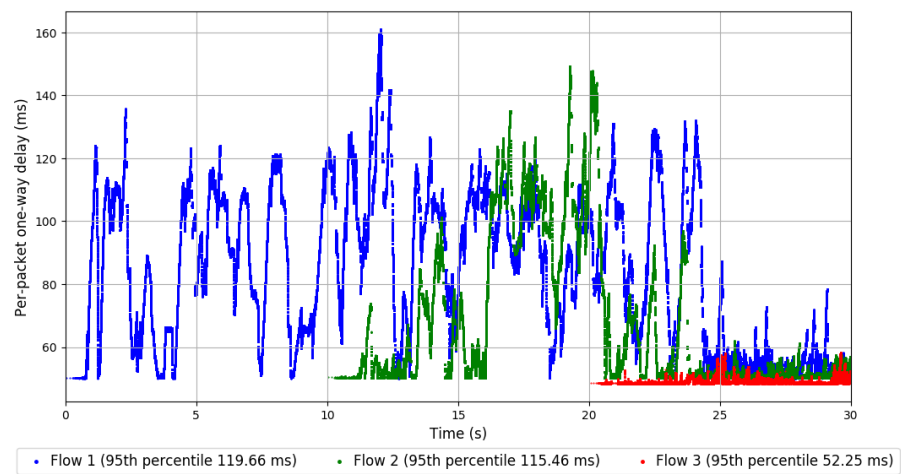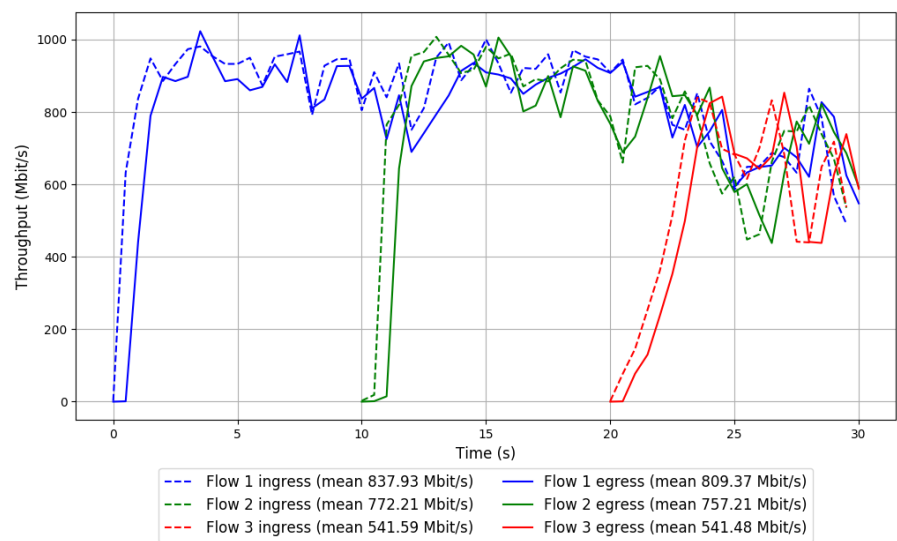
```
Run 4: Statistics of TCP Cubic

Start at: 2018-09-26 06:41:41
End at: 2018-09-26 06:42:12
Local clock offset: -0.037 ms
Remote clock offset: -0.0 ms


# Below is generated by plot.py at 2018-09-26 08:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1133.43 Mbit/s
95th percentile per-packet one-way delay: 95.337 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 616.04 Mbit/s
95th percentile per-packet one-way delay: 96.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 508.47 Mbit/s
95th percentile per-packet one-way delay: 73.406 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 537.91 Mbit/s
95th percentile per-packet one-way delay: 92.515 ms
Loss rate: 0.34%
```

Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-09-26 07:15:07
End at: 2018-09-26 07:15:37
Local clock offset: -0.311 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2018-09-26 08:20:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1148.01 Mbit/s
95th percentile per-packet one-way delay: 120.572 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 619.77 Mbit/s
95th percentile per-packet one-way delay: 134.196 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 520.96 Mbit/s
95th percentile per-packet one-way delay: 73.449 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 546.07 Mbit/s
95th percentile per-packet one-way delay: 108.636 ms
Loss rate: 0.63%
```

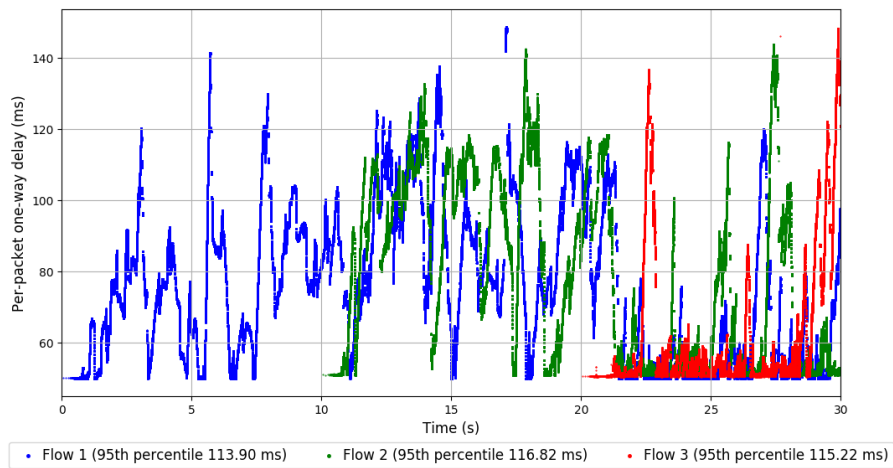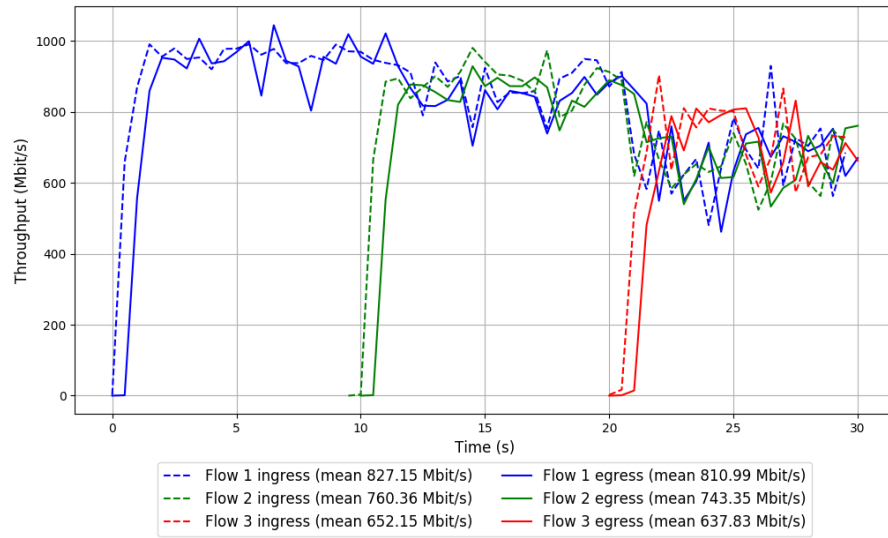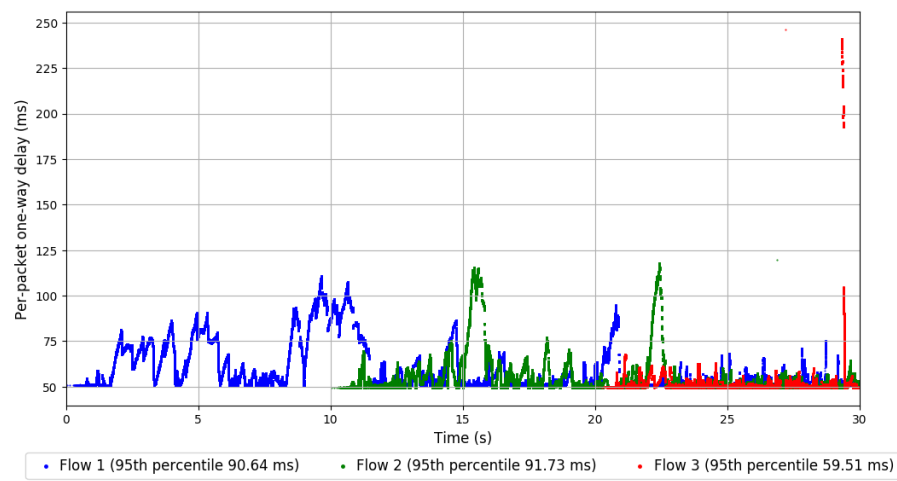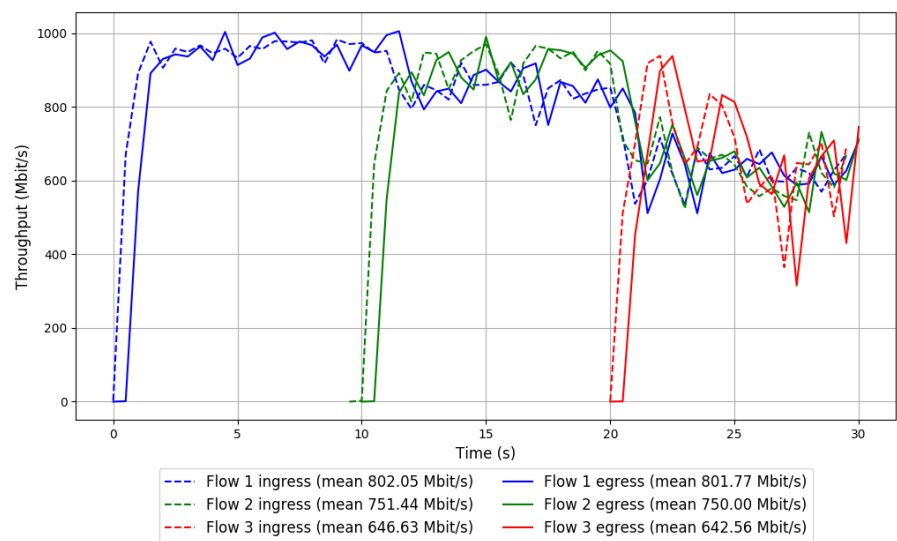Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-09-26 04:48:49
End at: 2018-09-26 04:49:19
Local clock offset: 0.118 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2018-09-26 08:28:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1414.70 Mbit/s
95th percentile per-packet one-way delay: 119.117 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 723.43 Mbit/s
95th percentile per-packet one-way delay: 123.801 ms
Loss rate: 2.77%
-- Flow 2:
Average throughput: 725.23 Mbit/s
95th percentile per-packet one-way delay: 108.632 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 624.28 Mbit/s
95th percentile per-packet one-way delay: 52.943 ms
Loss rate: 0.00%
```

Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 744.02 Mbit/s)   Flow 1 egress (mean 723.43 Mbit/s)
Flow 2 ingress (mean 727.19 Mbit/s)   Flow 2 egress (mean 725.23 Mbit/s)
Flow 3 ingress (mean 624.32 Mbit/s)   Flow 3 egress (mean 624.28 Mbit/s)

Flow 1 (95th percentile 123.80 ms)   Flow 2 (95th percentile 108.63 ms)   Flow 3 (95th percentile 52.94 ms)
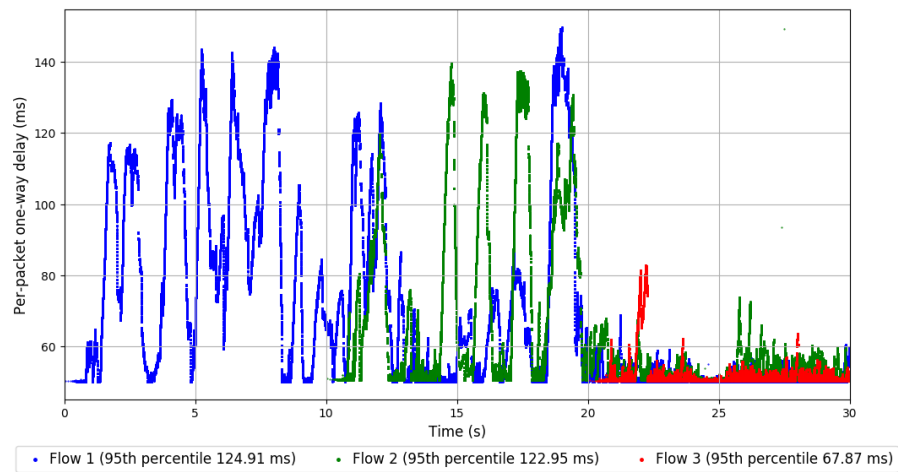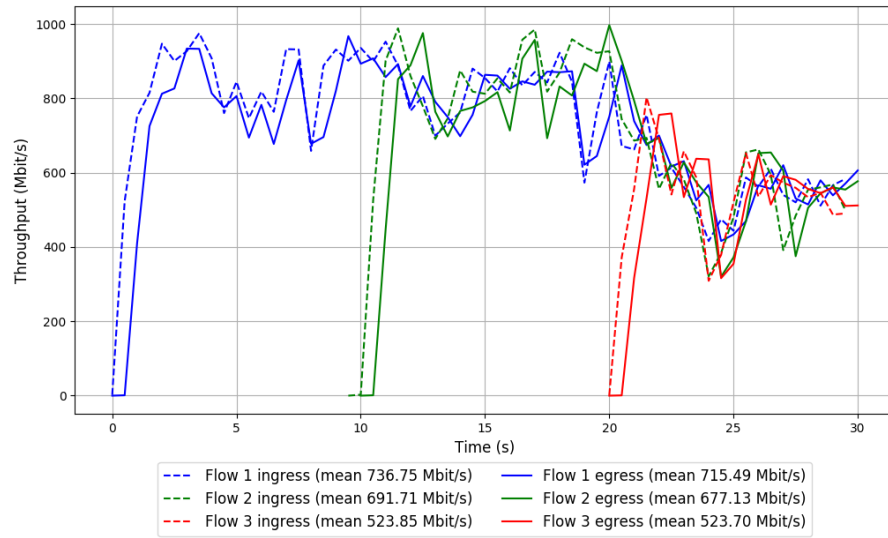
```
Run 2: Statistics of FillP

Start at: 2018-09-26 05:22:22
End at: 2018-09-26 05:22:52
Local clock offset: 0.3 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-09-26 08:47:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1492.87 Mbit/s
95th percentile per-packet one-way delay: 118.038 ms
Loss rate: 2.53%
-- Flow 1:
Average throughput: 809.37 Mbit/s
95th percentile per-packet one-way delay: 119.663 ms
Loss rate: 3.41%
-- Flow 2:
Average throughput: 757.21 Mbit/s
95th percentile per-packet one-way delay: 115.464 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 541.48 Mbit/s
95th percentile per-packet one-way delay: 52.247 ms
Loss rate: 0.02%
```

Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 837.93 Mbit/s)   Flow 1 egress (mean 809.37 Mbit/s)
Flow 2 ingress (mean 772.21 Mbit/s)   Flow 2 egress (mean 757.21 Mbit/s)
Flow 3 ingress (mean 541.59 Mbit/s)   Flow 3 egress (mean 541.48 Mbit/s)

Flow 1 (95th percentile 119.66 ms)   Flow 2 (95th percentile 115.46 ms)   Flow 3 (95th percentile 52.25 ms)
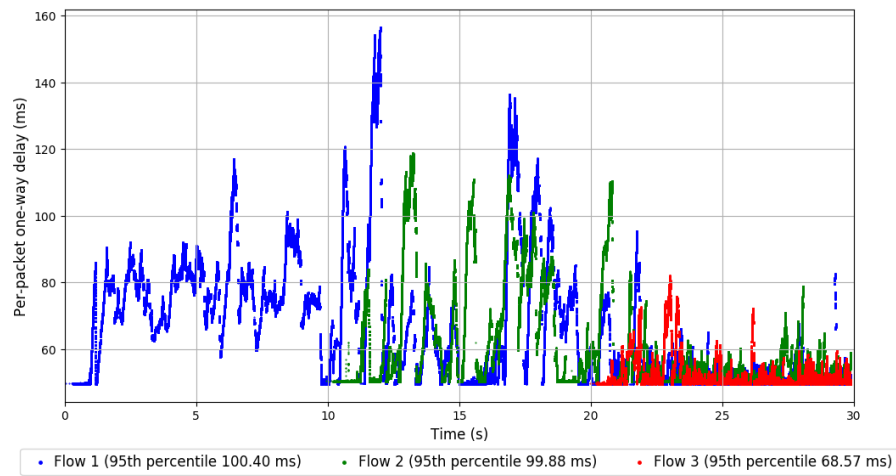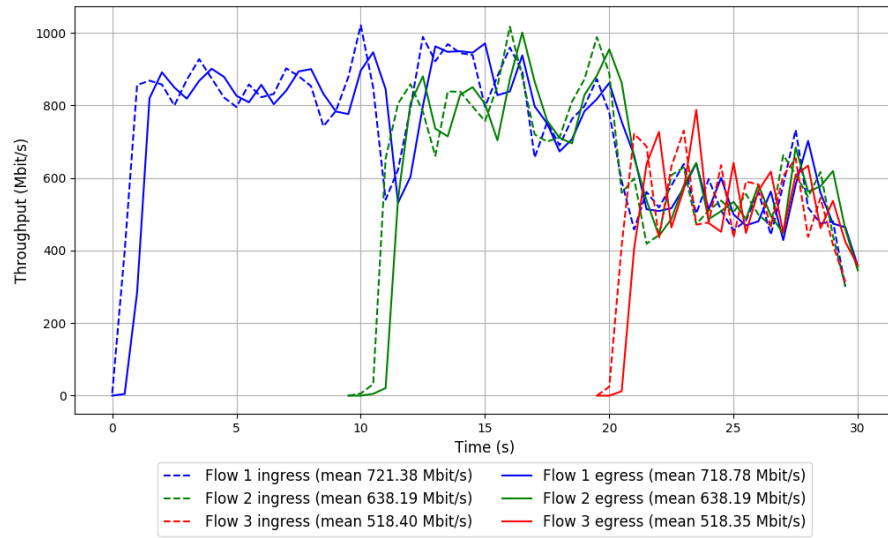
38

```
Run 3: Statistics of FillP

Start at: 2018-09-26 05:55:47
End at: 2018-09-26 05:56:17
Local clock offset: -0.442 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2018-09-26 08:48:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1517.60 Mbit/s
95th percentile per-packet one-way delay: 115.438 ms
Loss rate: 2.08%
-- Flow 1:
Average throughput: 810.99 Mbit/s
95th percentile per-packet one-way delay: 113.896 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 743.35 Mbit/s
95th percentile per-packet one-way delay: 116.824 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 637.83 Mbit/s
95th percentile per-packet one-way delay: 115.221 ms
Loss rate: 2.19%
```

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 827.15 Mbit/s)   Flow 1 egress (mean 810.99 Mbit/s)
Flow 2 ingress (mean 760.36 Mbit/s)   Flow 2 egress (mean 743.35 Mbit/s)
Flow 3 ingress (mean 652.15 Mbit/s)   Flow 3 egress (mean 637.83 Mbit/s)

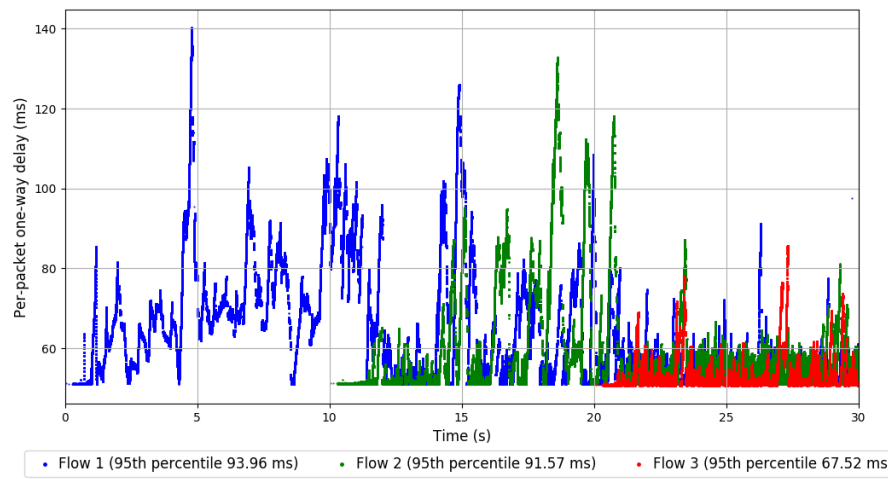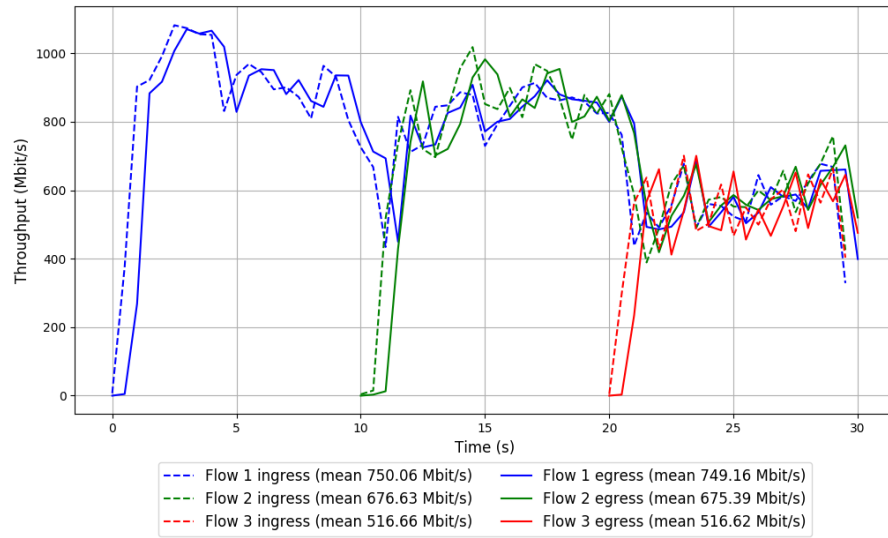Flow 1 (95th percentile 113.90 ms)   Flow 2 (95th percentile 116.82 ms)   Flow 3 (95th percentile 115.22 ms)

```
Run 4: Statistics of FillP

Start at: 2018-09-26 06:29:42
End at: 2018-09-26 06:30:12
Local clock offset: -0.073 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2018-09-26 08:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1513.88 Mbit/s
95th percentile per-packet one-way delay: 88.901 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 801.77 Mbit/s
95th percentile per-packet one-way delay: 90.636 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 750.00 Mbit/s
95th percentile per-packet one-way delay: 91.730 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 642.56 Mbit/s
95th percentile per-packet one-way delay: 59.509 ms
Loss rate: 0.63%
```
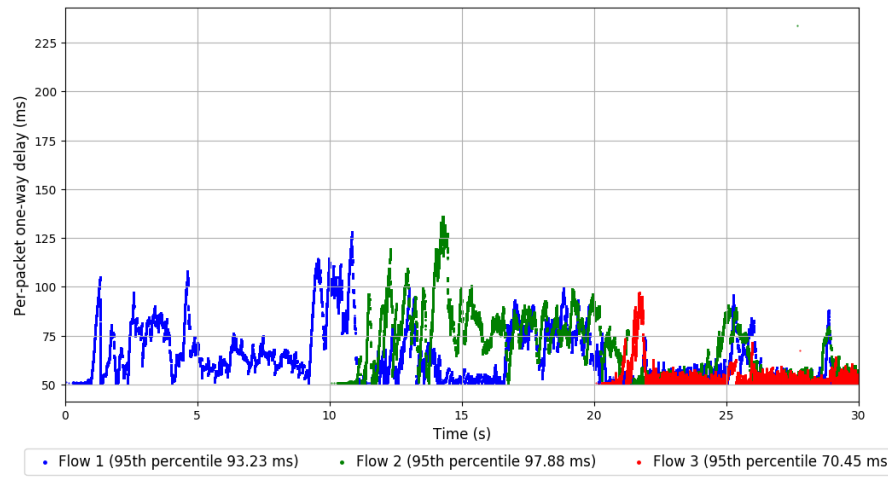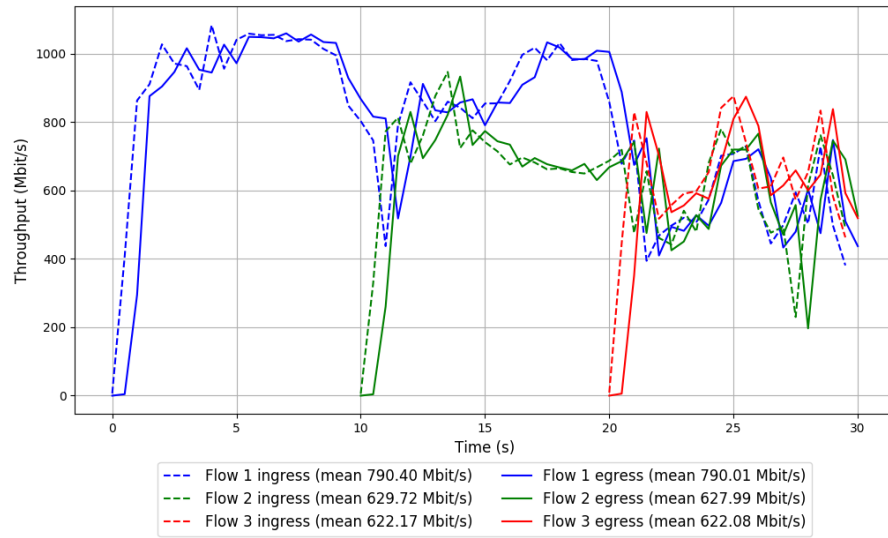
Run 4: Report of FillP — Data Link

- - - Flow 1 ingress (mean 802.05 Mbit/s)   —— Flow 1 egress (mean 801.77 Mbit/s)
- - - Flow 2 ingress (mean 751.44 Mbit/s)   —— Flow 2 egress (mean 750.00 Mbit/s)
- - - Flow 3 ingress (mean 646.63 Mbit/s)   —— Flow 3 egress (mean 642.56 Mbit/s)

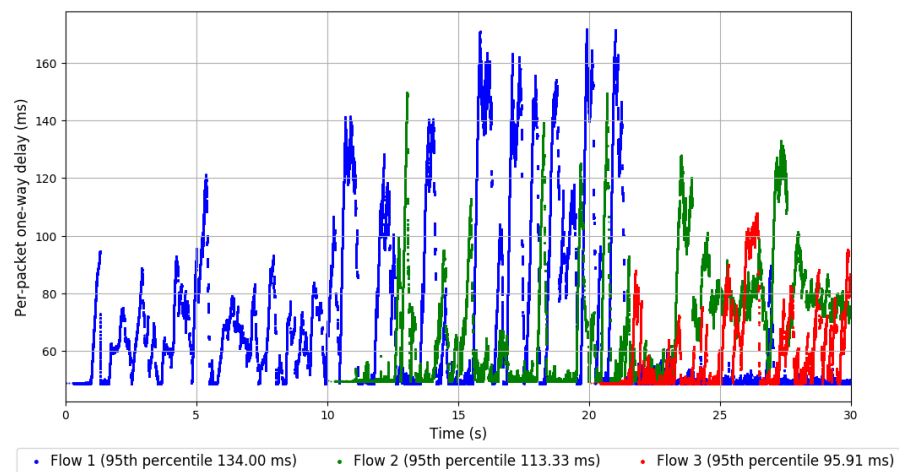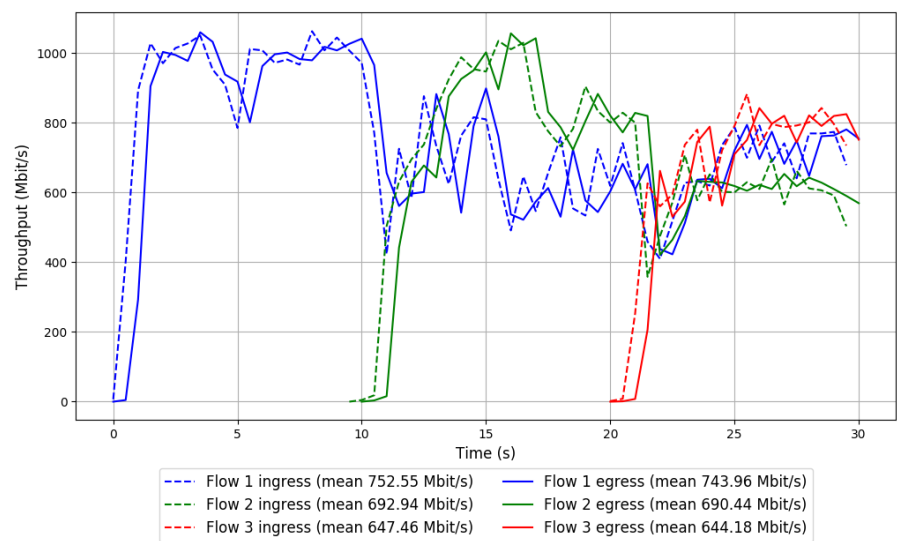• Flow 1 (95th percentile 90.64 ms)   • Flow 2 (95th percentile 91.73 ms)   • Flow 3 (95th percentile 59.51 ms)

```
Run 5: Statistics of FillP

Start at: 2018-09-26 07:03:26
End at: 2018-09-26 07:03:56
Local clock offset: 0.028 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2018-09-26 08:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1339.85 Mbit/s
95th percentile per-packet one-way delay: 122.343 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 715.49 Mbit/s
95th percentile per-packet one-way delay: 124.909 ms
Loss rate: 2.88%
-- Flow 2:
Average throughput: 677.13 Mbit/s
95th percentile per-packet one-way delay: 122.949 ms
Loss rate: 2.10%
-- Flow 3:
Average throughput: 523.70 Mbit/s
95th percentile per-packet one-way delay: 67.871 ms
Loss rate: 0.01%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 736.75 Mbit/s) ---- Flow 1 egress (mean 715.49 Mbit/s)
Flow 2 ingress (mean 691.71 Mbit/s) ---- Flow 2 egress (mean 677.13 Mbit/s)
Flow 3 ingress (mean 523.85 Mbit/s) ---- Flow 3 egress (mean 523.70 Mbit/s)

Flow 1 (95th percentile 124.91 ms) • Flow 2 (95th percentile 122.95 ms) • Flow 3 (95th percentile 67.87 ms)
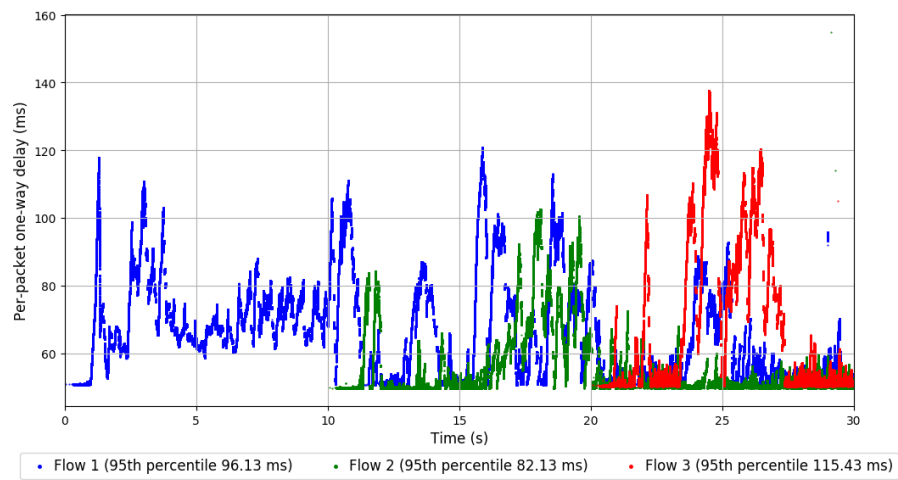
44

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-09-26 04:52:56
End at: 2018-09-26 04:53:26
Local clock offset: 0.065 ms
Remote clock offset: -0.043 ms


# Below is generated by plot.py at 2018-09-26 08:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1317.43 Mbit/s
95th percentile per-packet one-way delay: 97.961 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 718.78 Mbit/s
95th percentile per-packet one-way delay: 100.399 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 638.19 Mbit/s
95th percentile per-packet one-way delay: 99.879 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 518.35 Mbit/s
95th percentile per-packet one-way delay: 68.572 ms
Loss rate: 0.00%
```

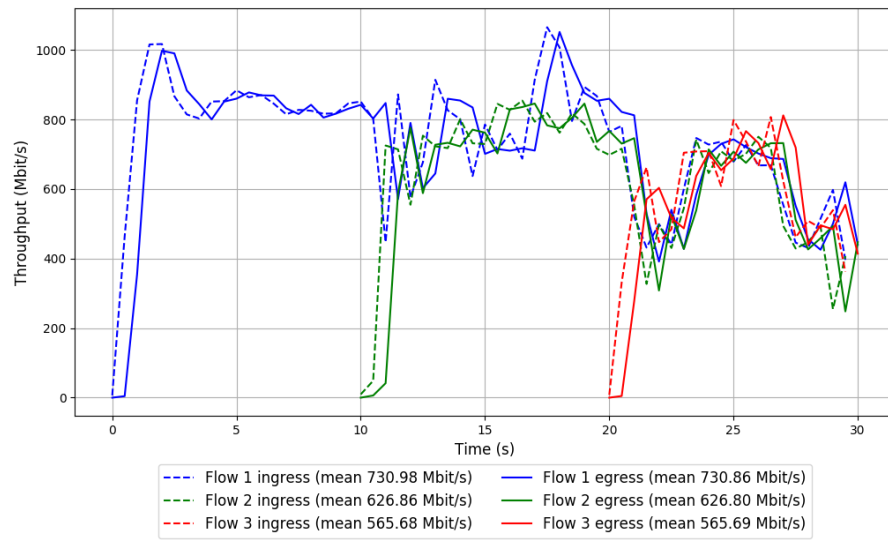Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-09-26 05:26:21
End at: 2018-09-26 05:26:51
Local clock offset: -0.448 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2018-09-26 08:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1369.47 Mbit/s
95th percentile per-packet one-way delay: 91.891 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 749.16 Mbit/s
95th percentile per-packet one-way delay: 93.962 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 675.39 Mbit/s
95th percentile per-packet one-way delay: 91.567 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 516.62 Mbit/s
95th percentile per-packet one-way delay: 67.520 ms
Loss rate: 0.00%
```

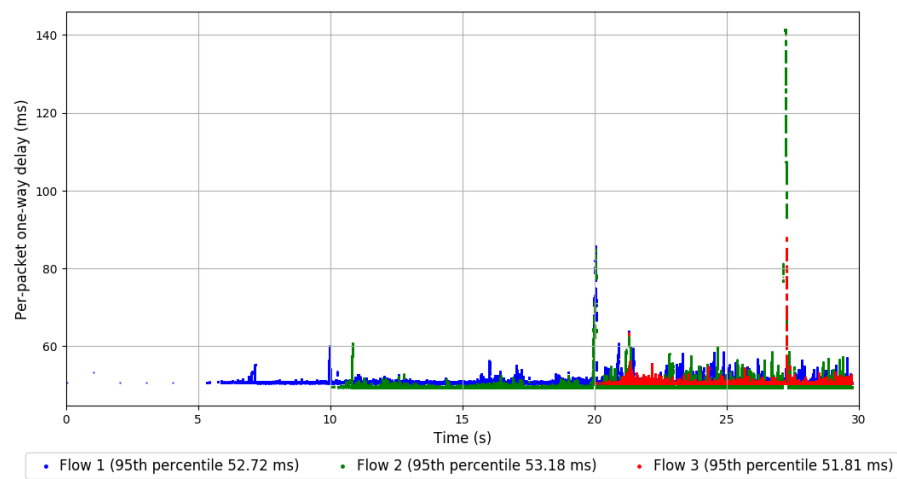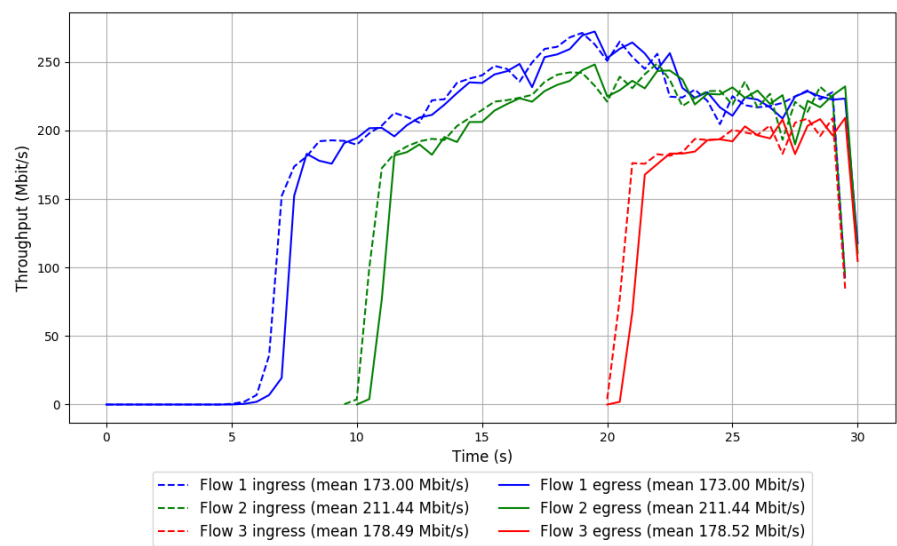Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 750.06 Mbit/s)   Flow 1 egress (mean 749.16 Mbit/s)
Flow 2 ingress (mean 676.63 Mbit/s)   Flow 2 egress (mean 675.39 Mbit/s)
Flow 3 ingress (mean 516.66 Mbit/s)   Flow 3 egress (mean 516.62 Mbit/s)

Flow 1 (95th percentile 93.96 ms)   Flow 2 (95th percentile 91.57 ms)   Flow 3 (95th percentile 67.52 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-09-26 06:00:00
End at: 2018-09-26 06:00:30
Local clock offset: -0.434 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2018-09-26 08:48:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1414.20 Mbit/s
95th percentile per-packet one-way delay: 93.337 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 790.01 Mbit/s
95th percentile per-packet one-way delay: 93.235 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 627.99 Mbit/s
95th percentile per-packet one-way delay: 97.877 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 622.08 Mbit/s
95th percentile per-packet one-way delay: 70.446 ms
Loss rate: 0.01%
```

Run 3: Report of FillP-Sheep — Data Link
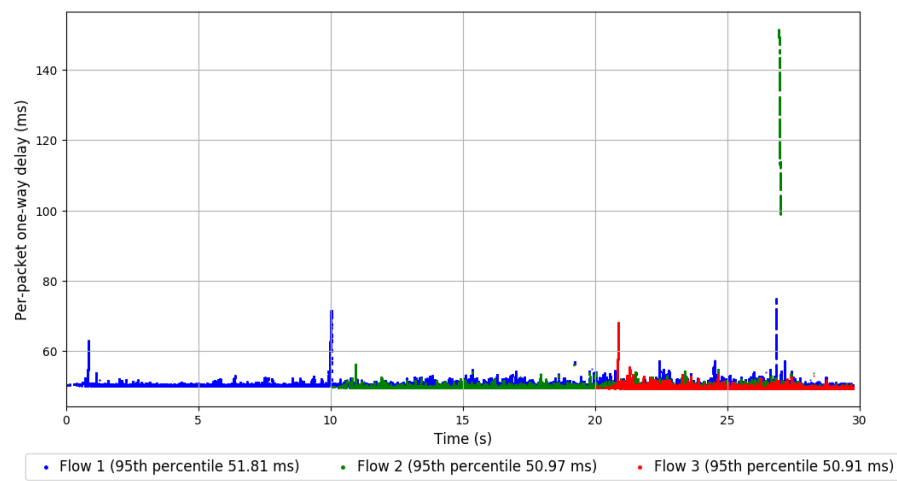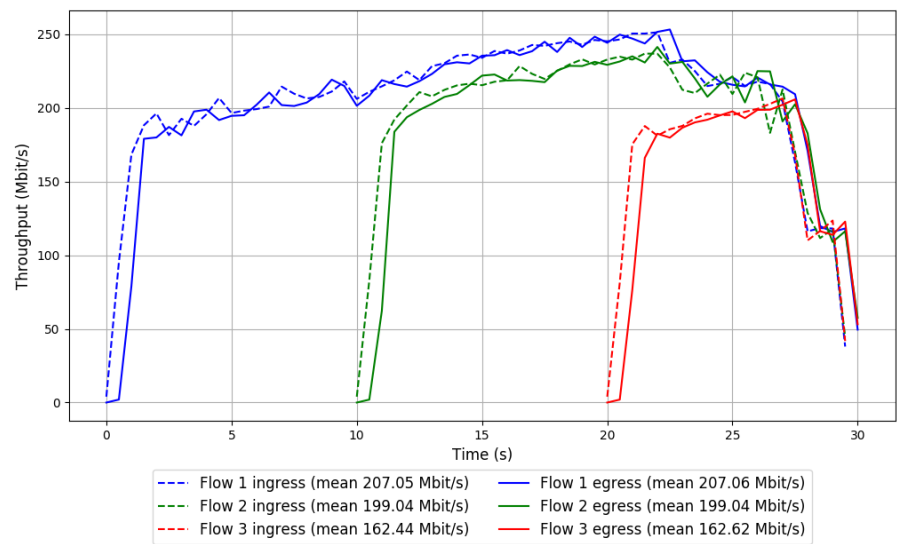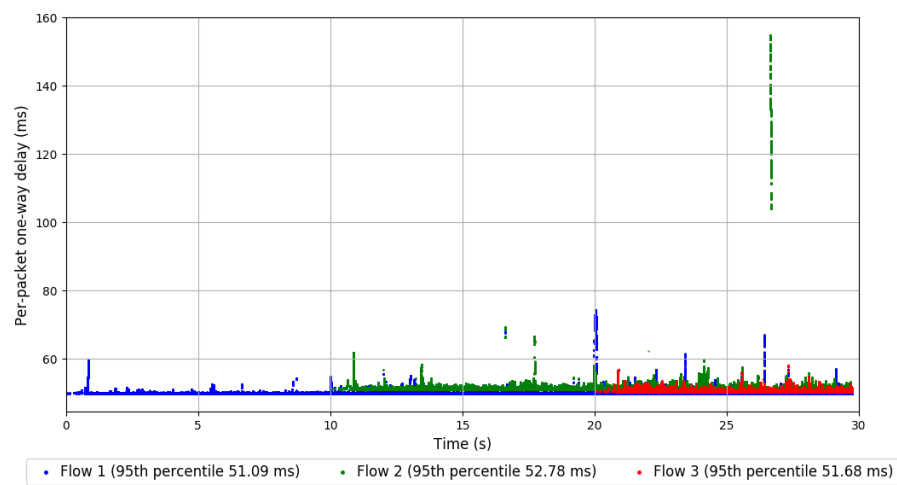

- - - Flow 1 ingress (mean 790.40 Mbit/s) ——— Flow 1 egress (mean 790.01 Mbit/s)
- - - Flow 2 ingress (mean 629.72 Mbit/s) ——— Flow 2 egress (mean 627.99 Mbit/s)
- - - Flow 3 ingress (mean 622.17 Mbit/s) ——— Flow 3 egress (mean 622.08 Mbit/s)

• Flow 1 (95th percentile 93.23 ms)   • Flow 2 (95th percentile 97.88 ms)   • Flow 3 (95th percentile 70.45 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-09-26 06:33:55
End at: 2018-09-26 06:34:25
Local clock offset: -0.029 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2018-09-26 09:01:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1416.60 Mbit/s
95th percentile per-packet one-way delay: 120.363 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 743.96 Mbit/s
95th percentile per-packet one-way delay: 133.995 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 690.44 Mbit/s
95th percentile per-packet one-way delay: 113.330 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 644.18 Mbit/s
95th percentile per-packet one-way delay: 95.908 ms
Loss rate: 0.50%
```

Run 4: Report of FillP-Sheep — Data Link
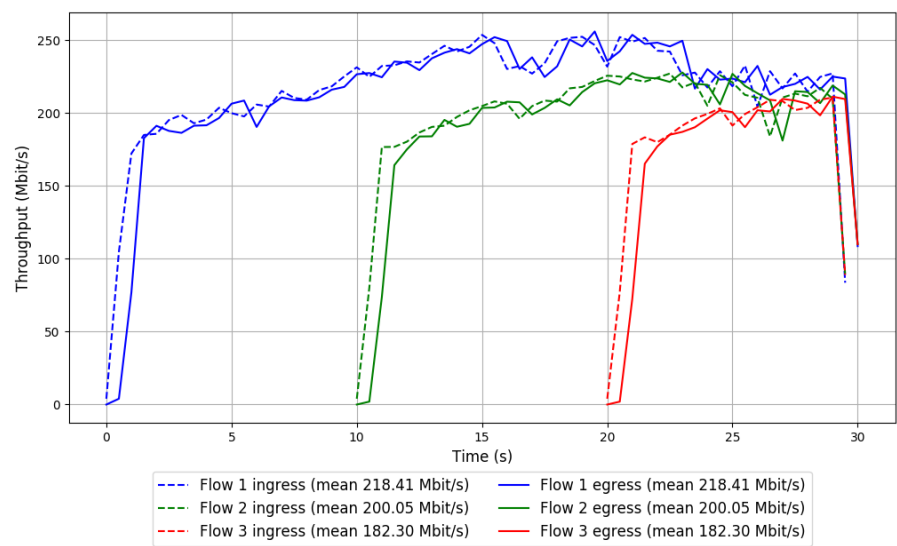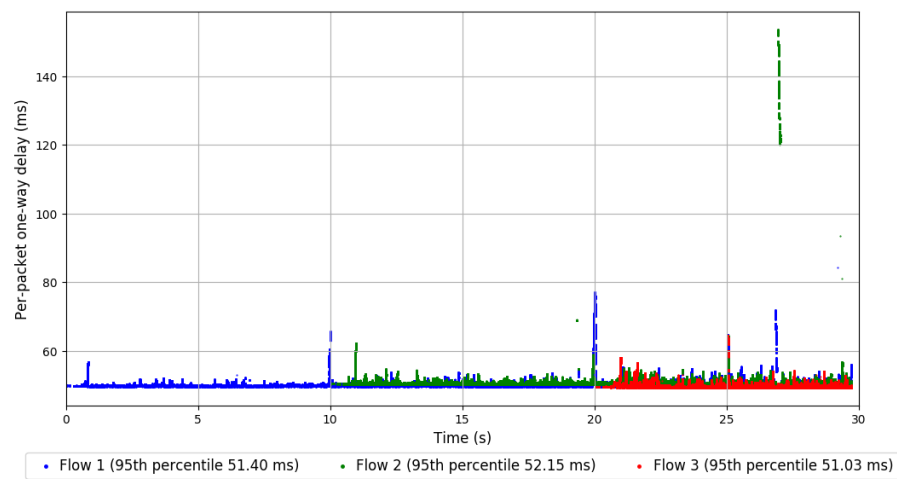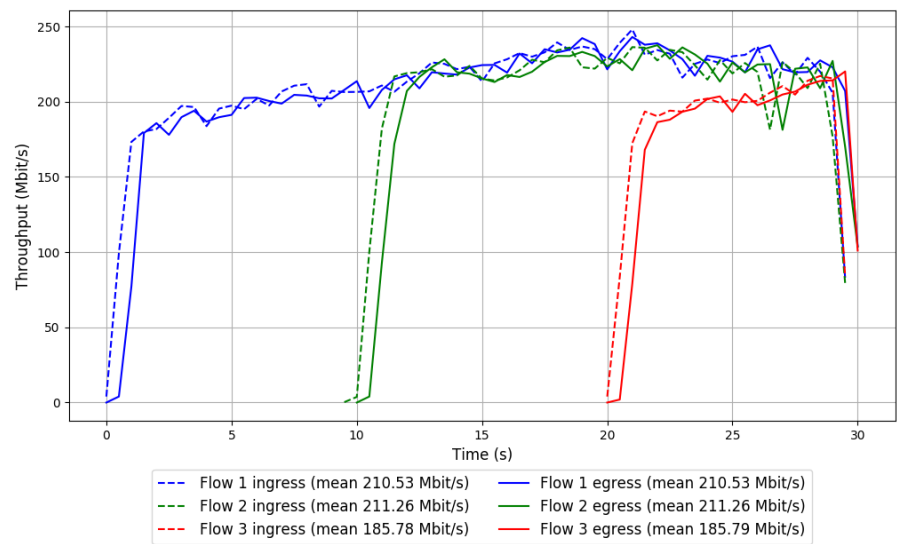
```
Run 5: Statistics of FillP-Sheep

Start at: 2018-09-26 07:07:20
End at: 2018-09-26 07:07:50
Local clock offset: 0.028 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1335.05 Mbit/s
95th percentile per-packet one-way delay: 97.235 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 730.86 Mbit/s
95th percentile per-packet one-way delay: 96.128 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 626.80 Mbit/s
95th percentile per-packet one-way delay: 82.131 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 565.69 Mbit/s
95th percentile per-packet one-way delay: 115.432 ms
Loss rate: 0.00%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 730.98 Mbit/s)   Flow 1 egress (mean 730.86 Mbit/s)
Flow 2 ingress (mean 626.86 Mbit/s)   Flow 2 egress (mean 626.80 Mbit/s)
Flow 3 ingress (mean 565.68 Mbit/s)   Flow 3 egress (mean 565.69 Mbit/s)

Flow 1 (95th percentile 96.13 ms)   Flow 2 (95th percentile 82.13 ms)   Flow 3 (95th percentile 115.43 ms)
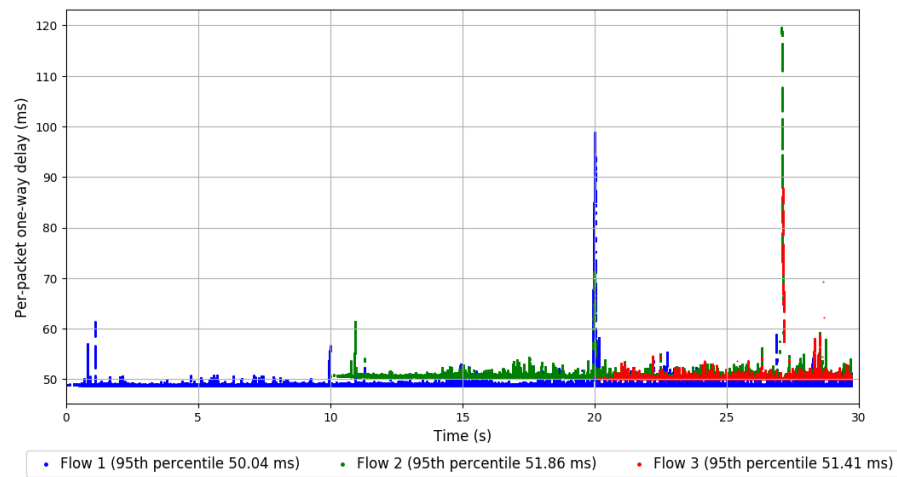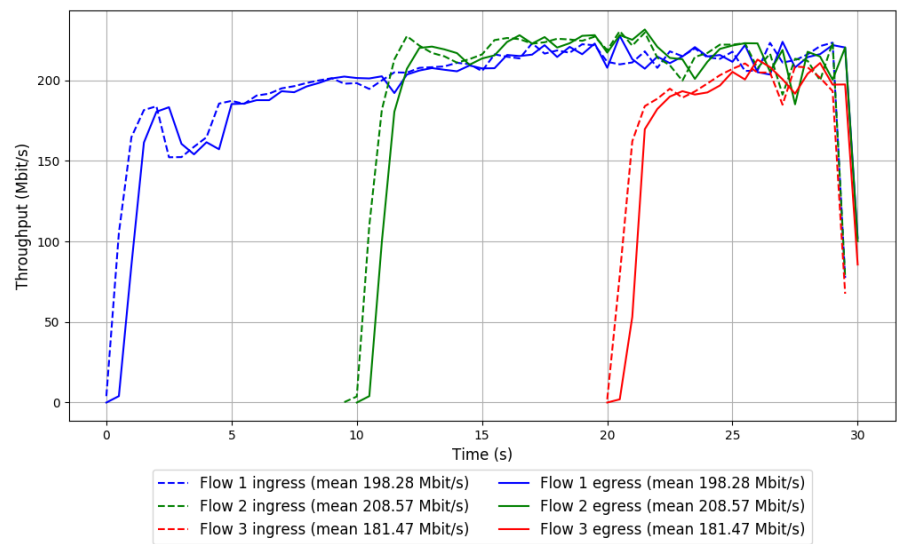
```
Run 1: Statistics of Indigo

Start at: 2018-09-26 04:47:05
End at: 2018-09-26 04:47:35
Local clock offset: 0.137 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.33 Mbit/s
95th percentile per-packet one-way delay: 52.655 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 173.00 Mbit/s
95th percentile per-packet one-way delay: 52.718 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 211.44 Mbit/s
95th percentile per-packet one-way delay: 53.179 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 178.52 Mbit/s
95th percentile per-packet one-way delay: 51.806 ms
Loss rate: 0.01%
```
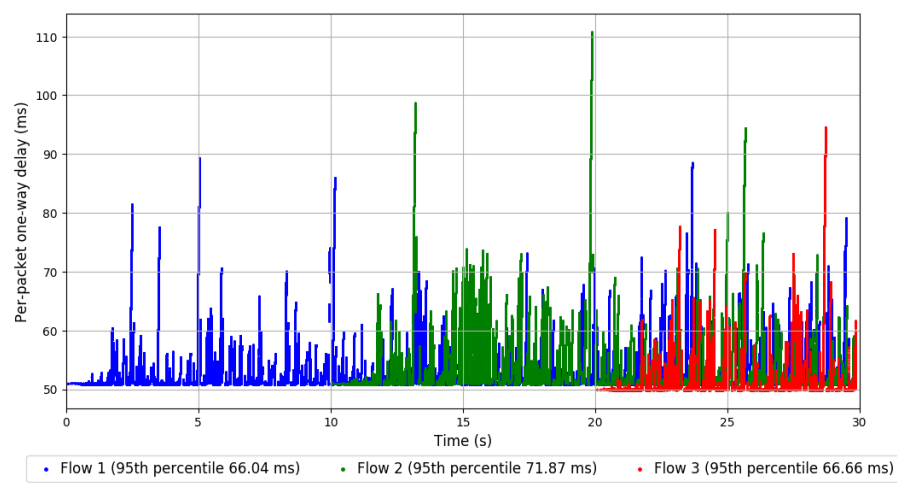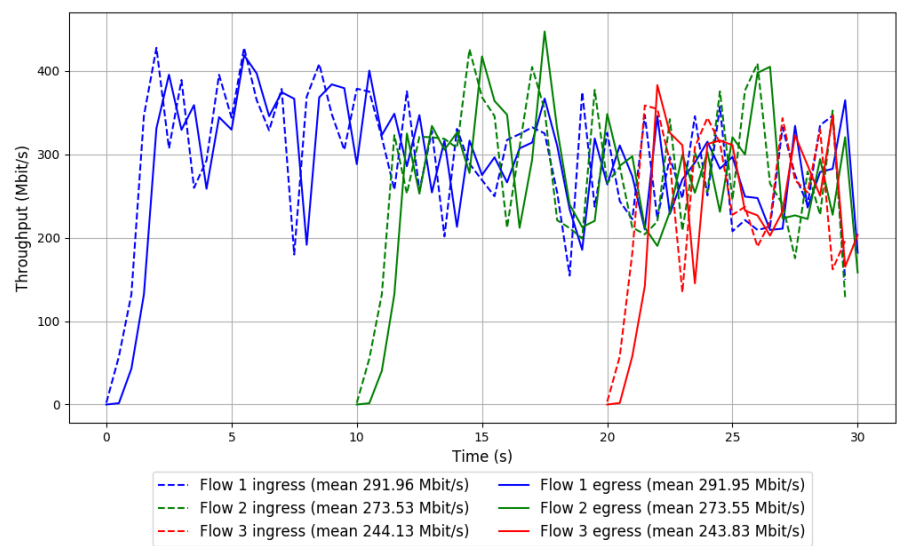
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-09-26 05:20:36
End at: 2018-09-26 05:21:06
Local clock offset: -0.066 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.00 Mbit/s
95th percentile per-packet one-way delay: 51.462 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.06 Mbit/s
95th percentile per-packet one-way delay: 51.808 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 199.04 Mbit/s
95th percentile per-packet one-way delay: 50.966 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 162.62 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.00%
```
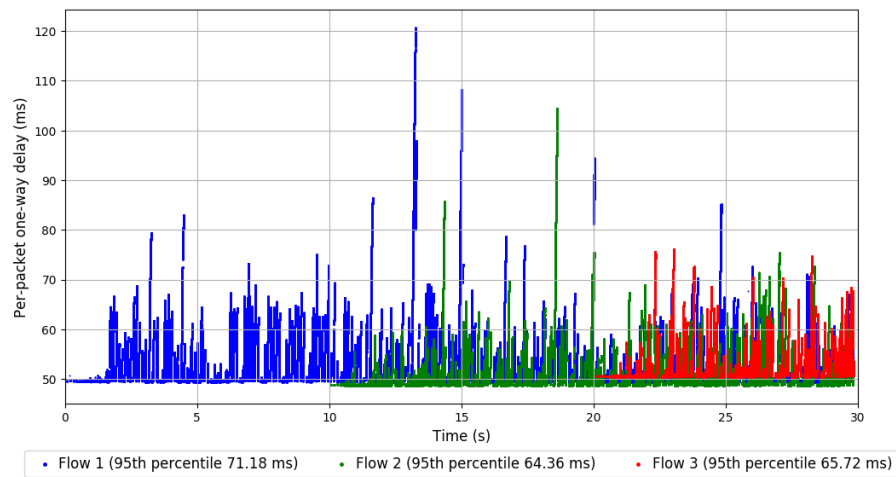
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-09-26 05:54:00
End at: 2018-09-26 05:54:30
Local clock offset: -0.463 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.24 Mbit/s
95th percentile per-packet one-way delay: 52.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 218.41 Mbit/s
95th percentile per-packet one-way delay: 51.088 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.05 Mbit/s
95th percentile per-packet one-way delay: 52.783 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 182.30 Mbit/s
95th percentile per-packet one-way delay: 51.684 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-09-26 06:27:55
End at: 2018-09-26 06:28:25
Local clock offset: -0.072 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.13 Mbit/s
95th percentile per-packet one-way delay: 51.699 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 210.53 Mbit/s
95th percentile per-packet one-way delay: 51.395 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 211.26 Mbit/s
95th percentile per-packet one-way delay: 52.148 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 185.79 Mbit/s
95th percentile per-packet one-way delay: 51.034 ms
Loss rate: 0.00%
```
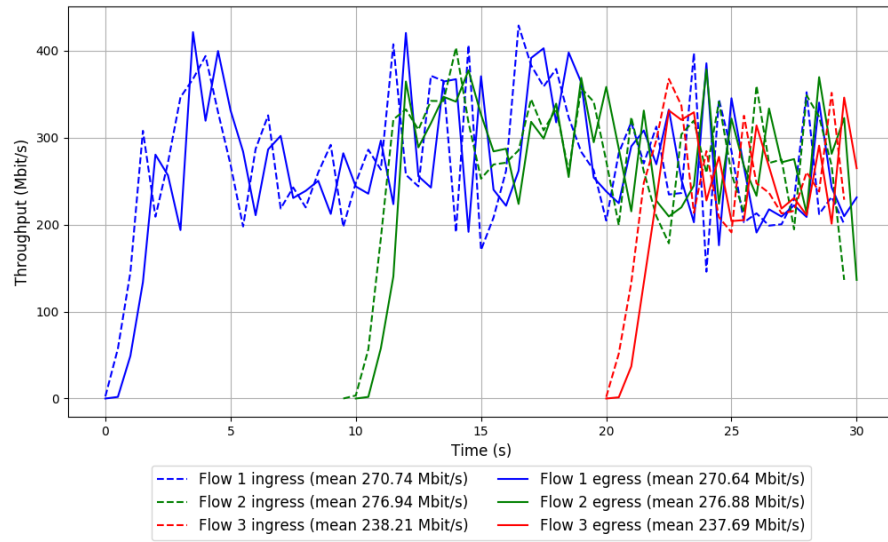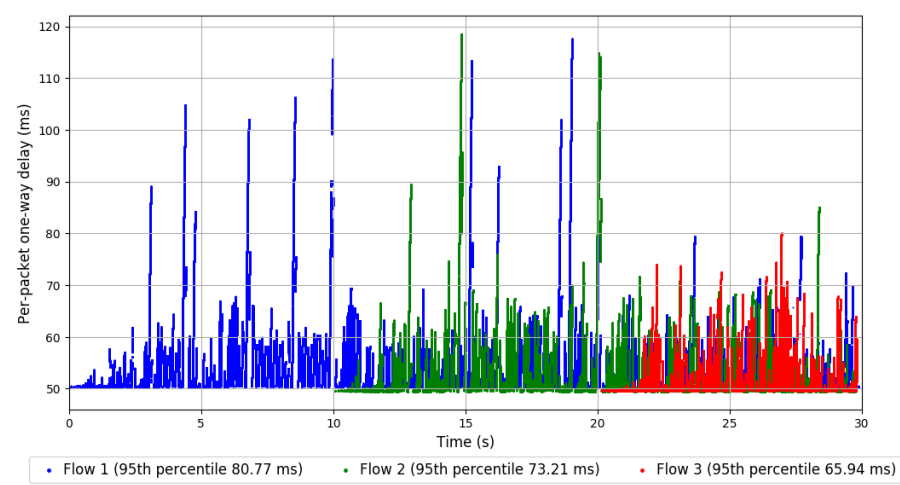
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-09-26 07:01:40
End at: 2018-09-26 07:02:10
Local clock offset: 0.034 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.47 Mbit/s
95th percentile per-packet one-way delay: 51.249 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 198.28 Mbit/s
95th percentile per-packet one-way delay: 50.036 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 208.57 Mbit/s
95th percentile per-packet one-way delay: 51.861 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 181.47 Mbit/s
95th percentile per-packet one-way delay: 51.414 ms
Loss rate: 0.00%
```
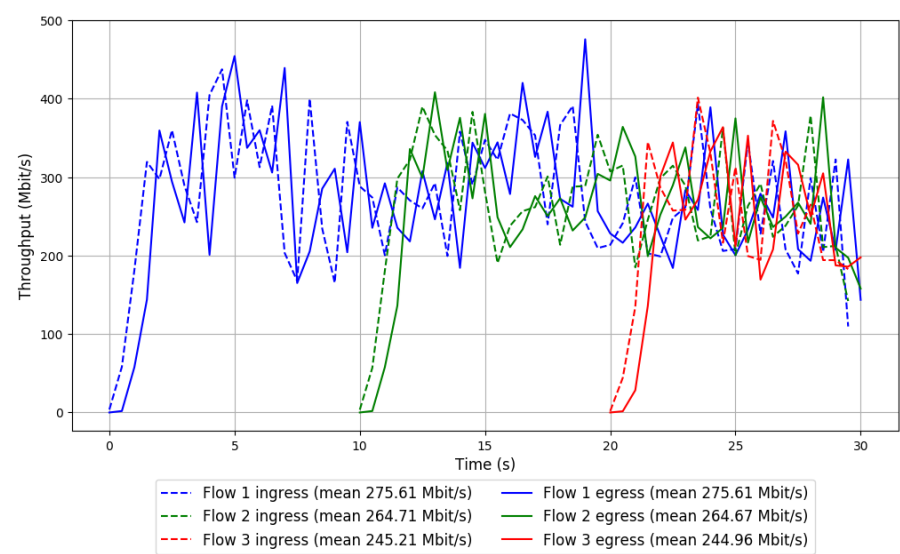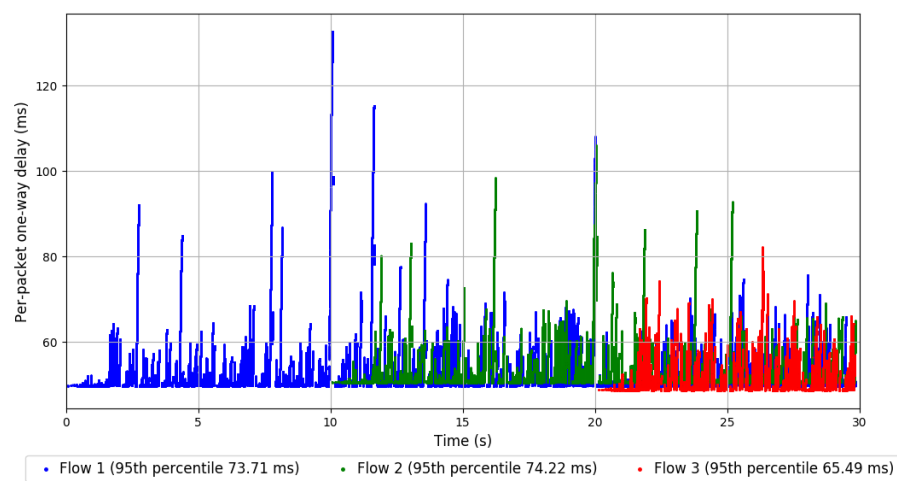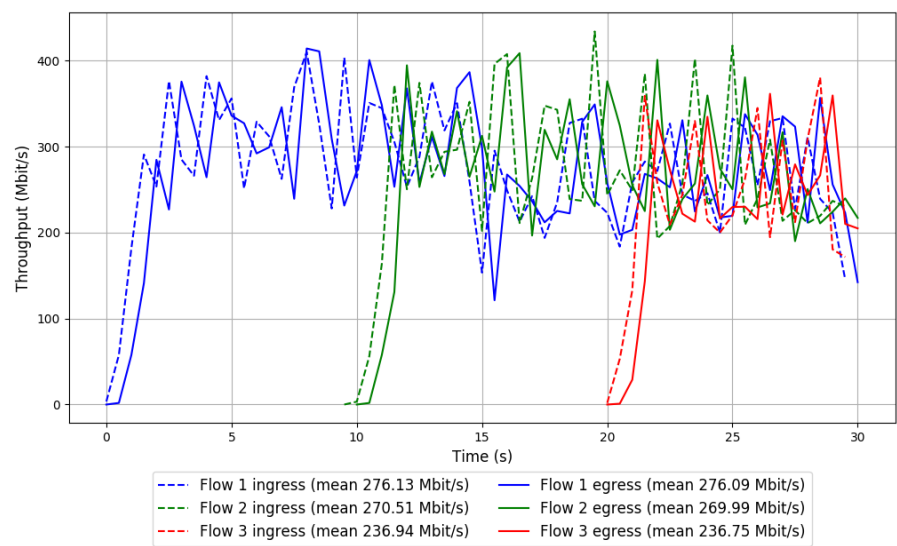
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 198.28 Mbit/s) --- Flow 1 egress (mean 198.28 Mbit/s)
Flow 2 ingress (mean 208.57 Mbit/s) --- Flow 2 egress (mean 208.57 Mbit/s)
Flow 3 ingress (mean 181.47 Mbit/s) --- Flow 3 egress (mean 181.47 Mbit/s)

Flow 1 (95th percentile 50.04 ms)   Flow 2 (95th percentile 51.86 ms)   Flow 3 (95th percentile 51.41 ms)

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

Start at: 2018-09-26 04:54:58
End at: 2018-09-26 04:55:28
Local clock offset: -0.346 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 553.70 Mbit/s
95th percentile per-packet one-way delay: 68.452 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 291.95 Mbit/s
95th percentile per-packet one-way delay: 66.041 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 273.55 Mbit/s
95th percentile per-packet one-way delay: 71.869 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 243.83 Mbit/s
95th percentile per-packet one-way delay: 66.664 ms
Loss rate: 0.00%
```

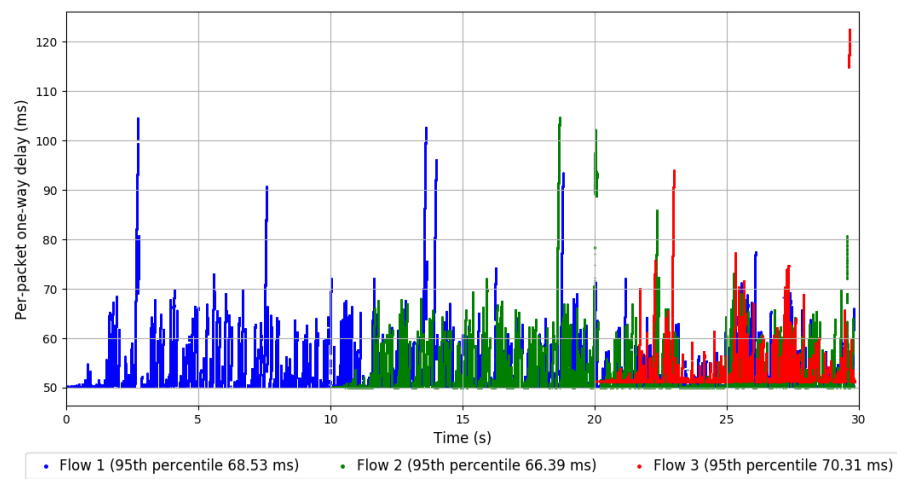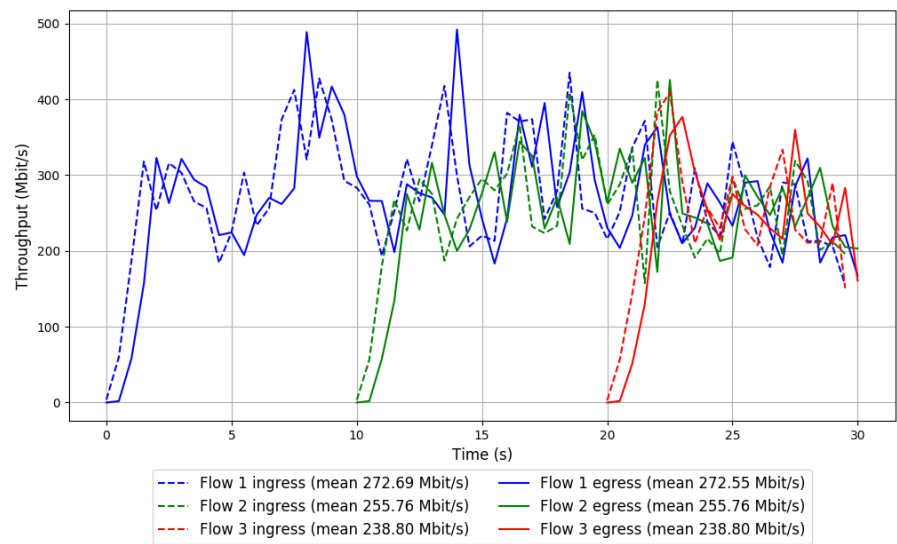Run 1: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-09-26 05:28:26
End at: 2018-09-26 05:28:56
Local clock offset: -0.108 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 532.15 Mbit/s
95th percentile per-packet one-way delay: 67.423 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 270.64 Mbit/s
95th percentile per-packet one-way delay: 71.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 276.88 Mbit/s
95th percentile per-packet one-way delay: 64.364 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 237.69 Mbit/s
95th percentile per-packet one-way delay: 65.723 ms
Loss rate: 0.23%
```

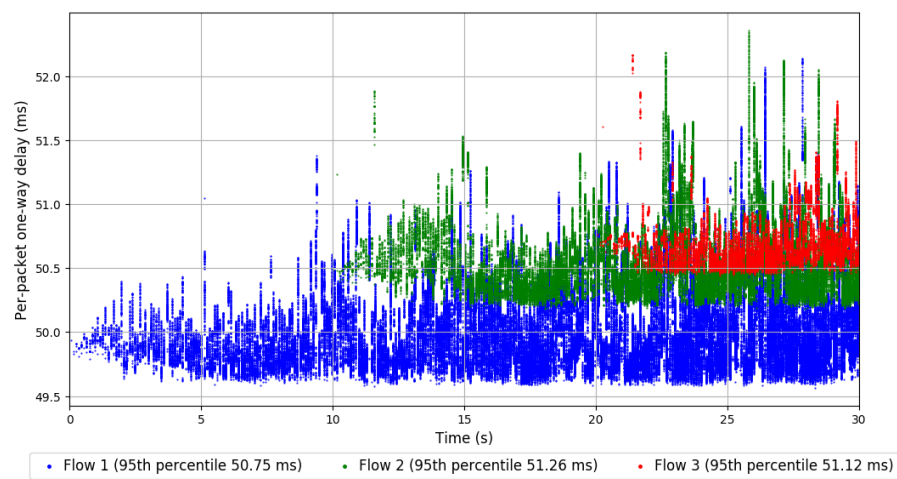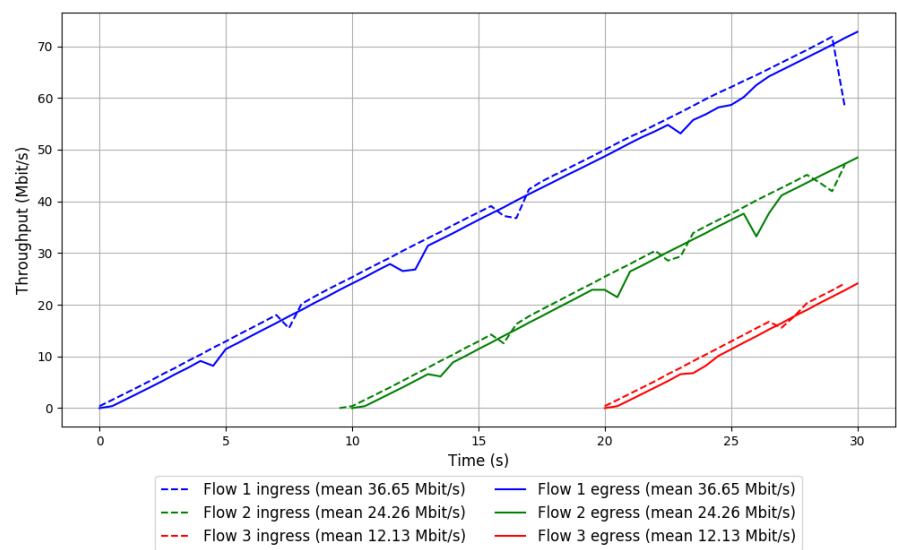Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-09-26 06:02:06
End at: 2018-09-26 06:02:36
Local clock offset: -0.118 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.26 Mbit/s
95th percentile per-packet one-way delay: 75.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 275.61 Mbit/s
95th percentile per-packet one-way delay: 80.774 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 264.67 Mbit/s
95th percentile per-packet one-way delay: 73.213 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 244.96 Mbit/s
95th percentile per-packet one-way delay: 65.945 ms
Loss rate: 0.00%
```

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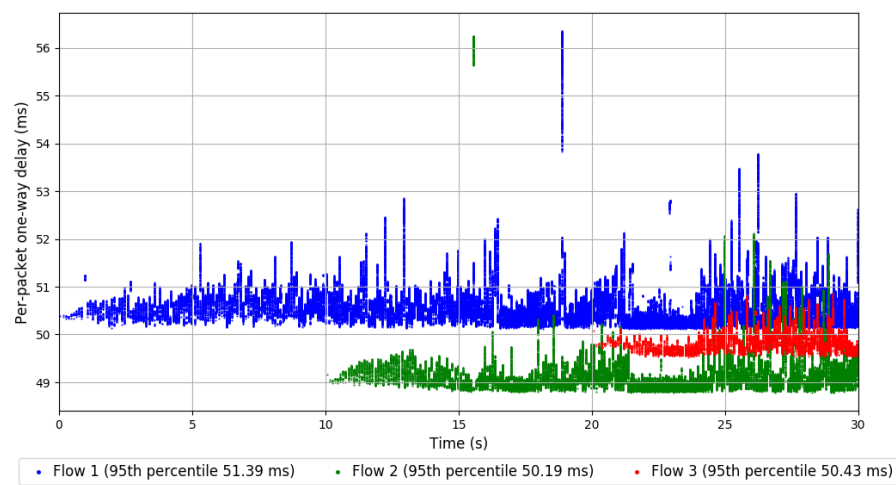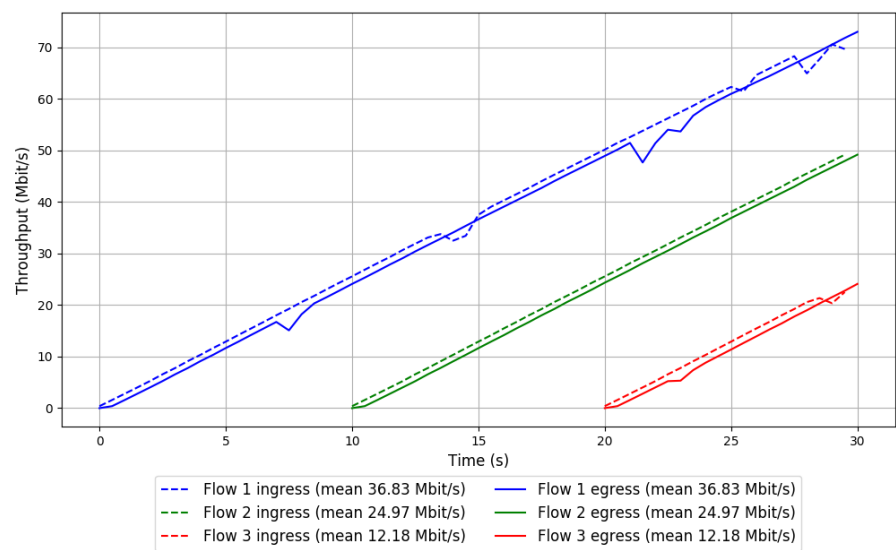

Flow 1 ingress (mean 275.61 Mbit/s) --- Flow 1 egress (mean 275.61 Mbit/s)
Flow 2 ingress (mean 264.71 Mbit/s) --- Flow 2 egress (mean 264.67 Mbit/s)
Flow 3 ingress (mean 245.21 Mbit/s) --- Flow 3 egress (mean 244.96 Mbit/s)

Flow 1 (95th percentile 80.77 ms)   Flow 2 (95th percentile 73.21 ms)   Flow 3 (95th percentile 65.94 ms)

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

Start at: 2018-09-26 06:36:01
End at: 2018-09-26 06:36:31
Local clock offset: -0.018 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 532.44 Mbit/s
95th percentile per-packet one-way delay: 71.506 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 276.09 Mbit/s
95th percentile per-packet one-way delay: 73.708 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 269.99 Mbit/s
95th percentile per-packet one-way delay: 74.224 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 236.75 Mbit/s
95th percentile per-packet one-way delay: 65.489 ms
Loss rate: 0.00%
```

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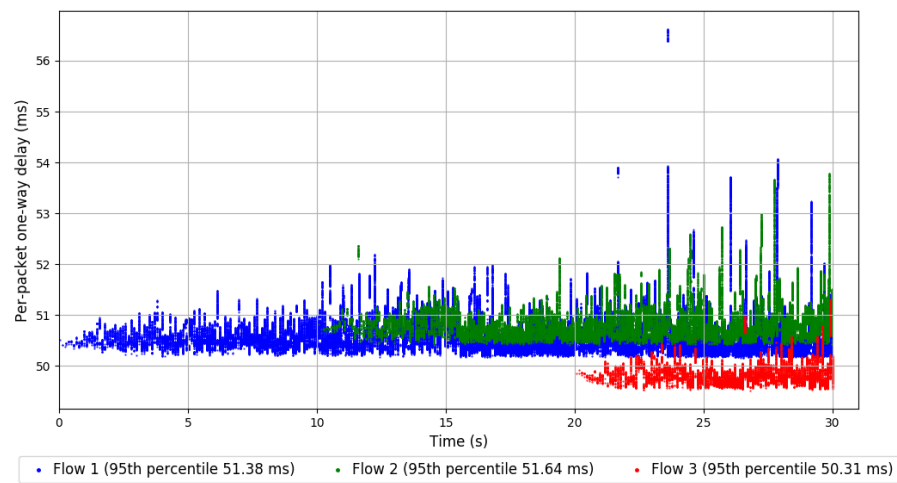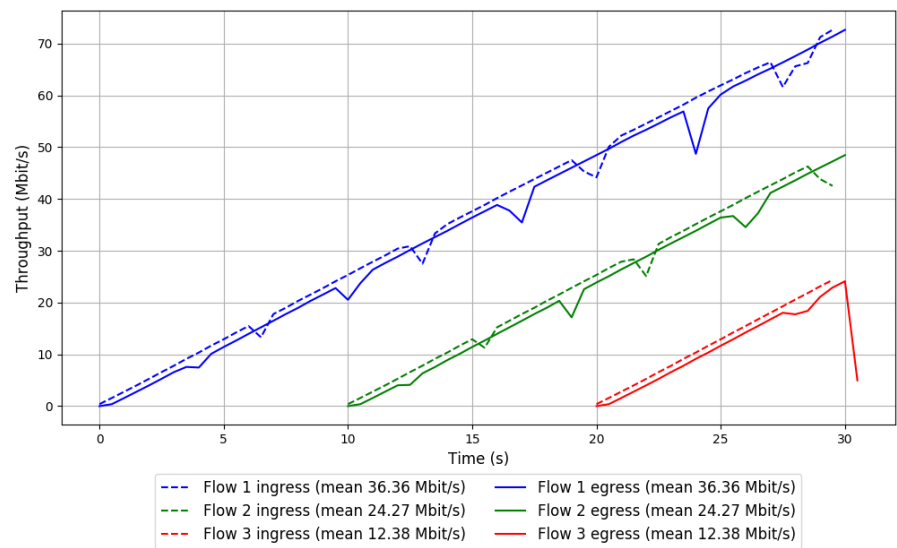

Flow 1 ingress (mean 276.13 Mbit/s)   Flow 1 egress (mean 276.09 Mbit/s)
Flow 2 ingress (mean 270.51 Mbit/s)   Flow 2 egress (mean 269.99 Mbit/s)
Flow 3 ingress (mean 236.94 Mbit/s)   Flow 3 egress (mean 236.75 Mbit/s)

Flow 1 (95th percentile 73.71 ms)   Flow 2 (95th percentile 74.22 ms)   Flow 3 (95th percentile 65.49 ms)

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

Start at: 2018-09-26 07:09:23
End at: 2018-09-26 07:09:53
Local clock offset: -0.388 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.40 Mbit/s
95th percentile per-packet one-way delay: 68.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 272.55 Mbit/s
95th percentile per-packet one-way delay: 68.526 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 255.76 Mbit/s
95th percentile per-packet one-way delay: 66.389 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 238.80 Mbit/s
95th percentile per-packet one-way delay: 70.307 ms
Loss rate: 0.00%
```

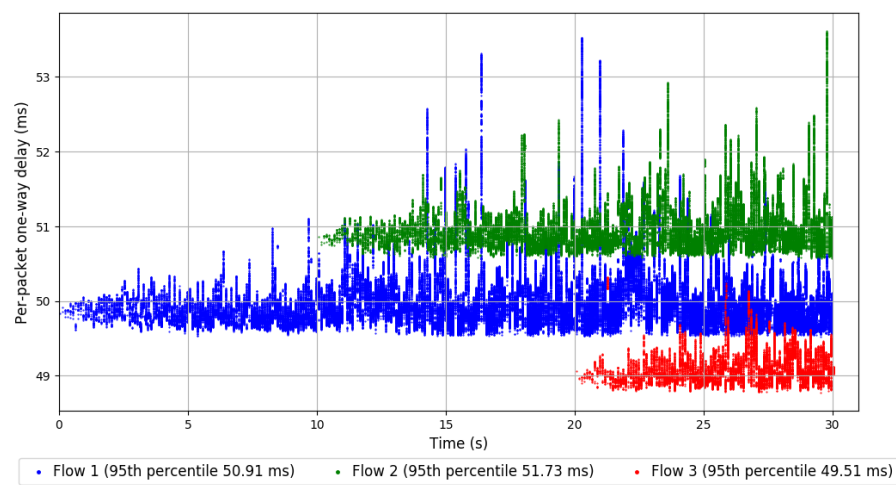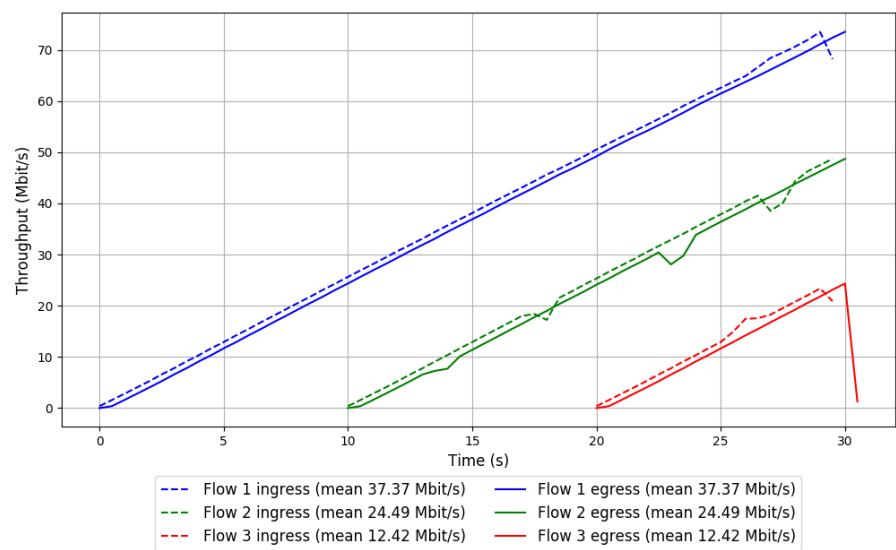# Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-09-26 04:59:26
End at: 2018-09-26 04:59:56
Local clock offset: 0.006 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.76 Mbit/s
95th percentile per-packet one-way delay: 50.991 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.65 Mbit/s
95th percentile per-packet one-way delay: 50.753 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 51.262 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 51.117 ms
Loss rate: 0.00%
```
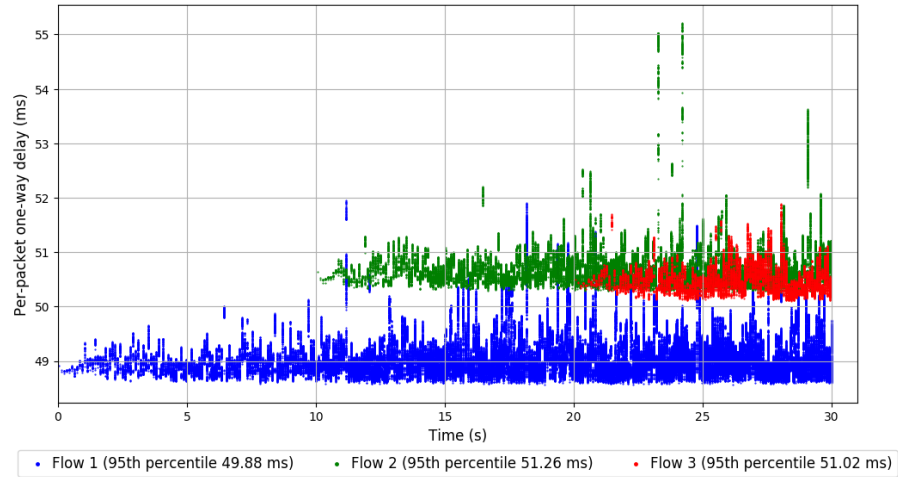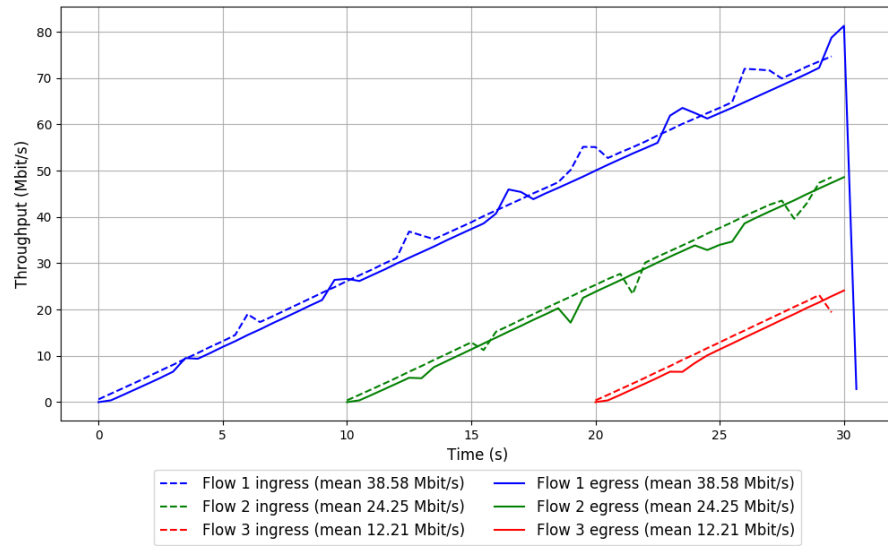
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-09-26 05:32:51
End at: 2018-09-26 05:33:21
Local clock offset: -0.105 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.47 Mbit/s
95th percentile per-packet one-way delay: 51.228 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 51.390 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.97 Mbit/s
95th percentile per-packet one-way delay: 50.191 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.18 Mbit/s
95th percentile per-packet one-way delay: 50.427 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-09-26 06:06:37
End at: 2018-09-26 06:07:07
Local clock offset: -0.102 ms
Remote clock offset: -0.045 ms


# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 51.455 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 51.377 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.27 Mbit/s
95th percentile per-packet one-way delay: 51.644 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.38 Mbit/s
95th percentile per-packet one-way delay: 50.310 ms
Loss rate: 0.00%
```
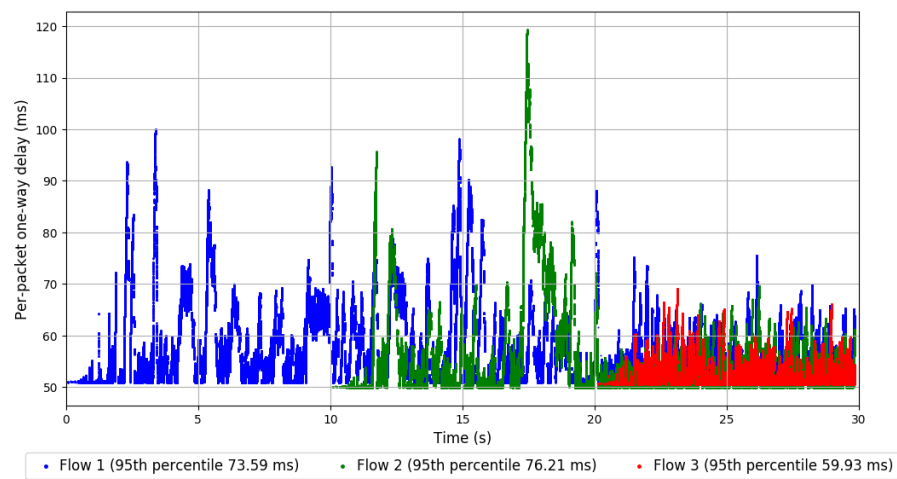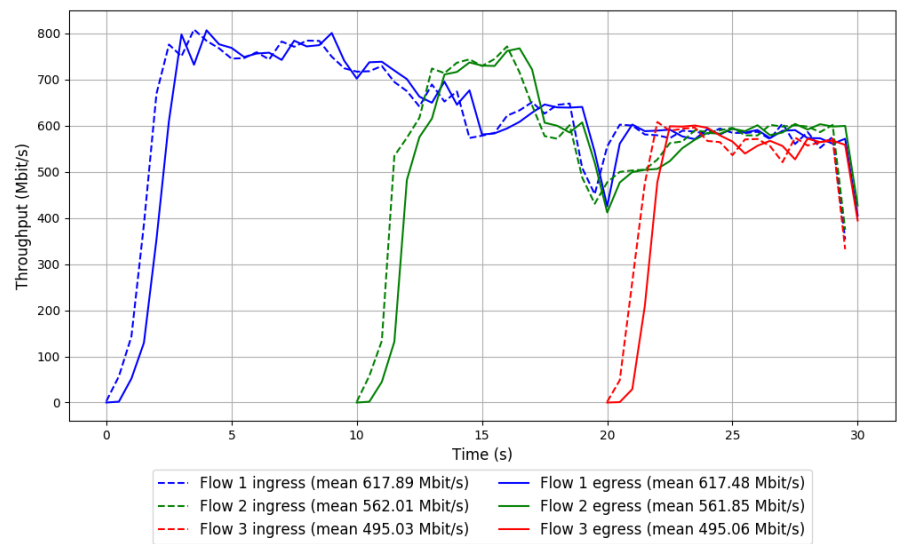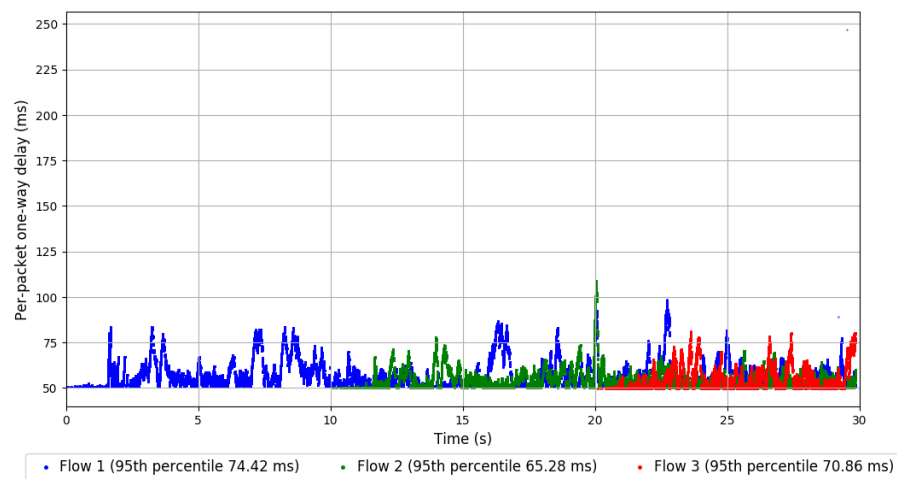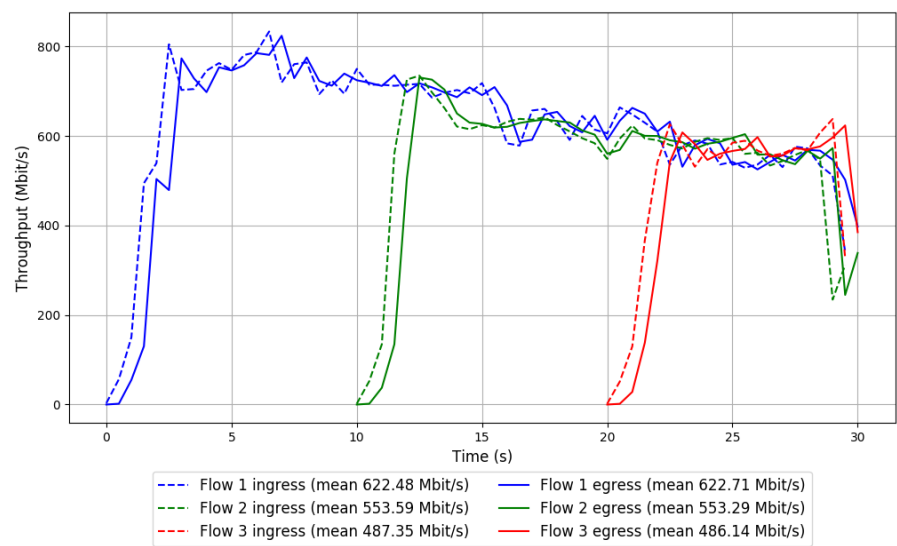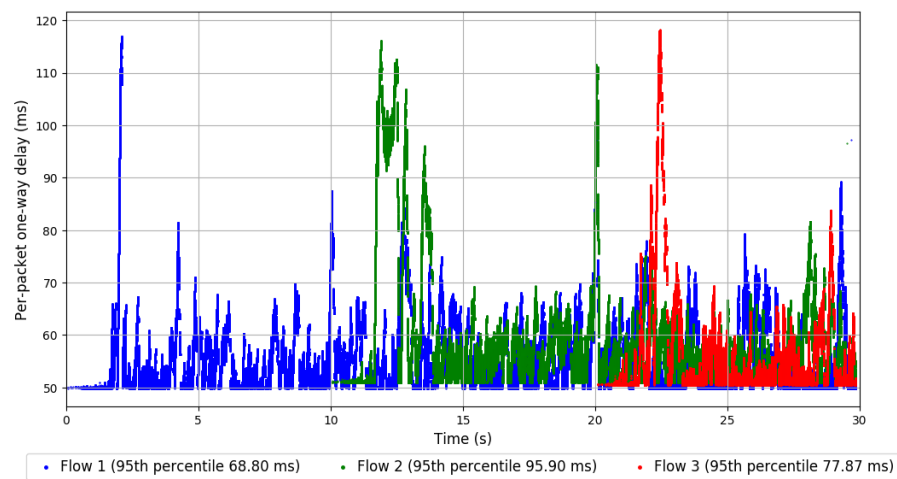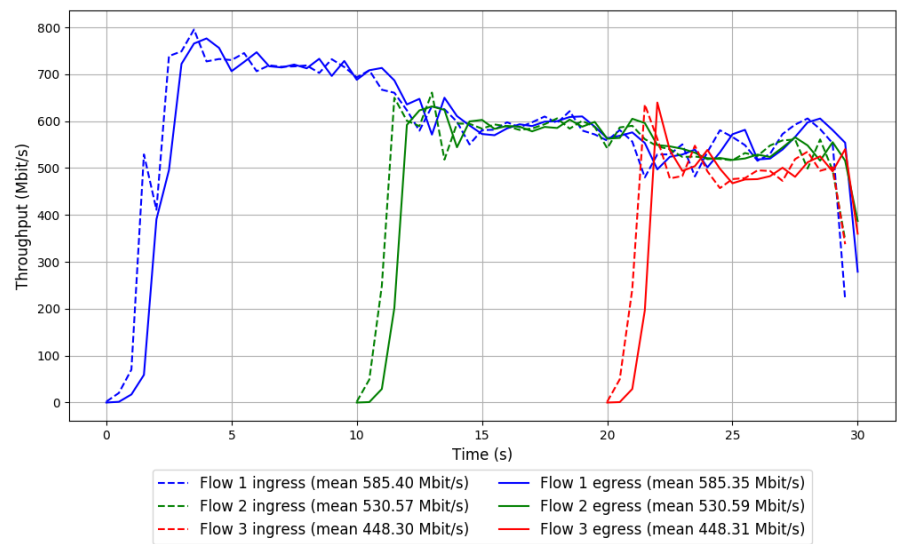
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-09-26 06:40:25
End at: 2018-09-26 06:40:55
Local clock offset: -0.062 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 51.389 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 51.735 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 49.510 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 37.37 Mbit/s) —— Flow 1 egress (mean 37.37 Mbit/s)
- - - Flow 2 ingress (mean 24.49 Mbit/s) —— Flow 2 egress (mean 24.49 Mbit/s)
- - - Flow 3 ingress (mean 12.42 Mbit/s) —— Flow 3 egress (mean 12.42 Mbit/s)

• Flow 1 (95th percentile 50.91 ms)   • Flow 2 (95th percentile 51.73 ms)   • Flow 3 (95th percentile 49.51 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-09-26 07:13:51
End at: 2018-09-26 07:14:21
Local clock offset: 0.386 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-09-26 09:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.73 Mbit/s
95th percentile per-packet one-way delay: 50.962 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 38.58 Mbit/s
95th percentile per-packet one-way delay: 49.878 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 51.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.21 Mbit/s
95th percentile per-packet one-way delay: 51.017 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-26 05:04:40
End at: 2018-09-26 05:05:10
Local clock offset: -0.332 ms
Remote clock offset: 0.058 ms


# Below is generated by plot.py at 2018-09-26 09:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1152.12 Mbit/s
95th percentile per-packet one-way delay: 73.043 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 617.48 Mbit/s
95th percentile per-packet one-way delay: 73.587 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 561.85 Mbit/s
95th percentile per-packet one-way delay: 76.208 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 495.06 Mbit/s
95th percentile per-packet one-way delay: 59.933 ms
Loss rate: 0.01%
```
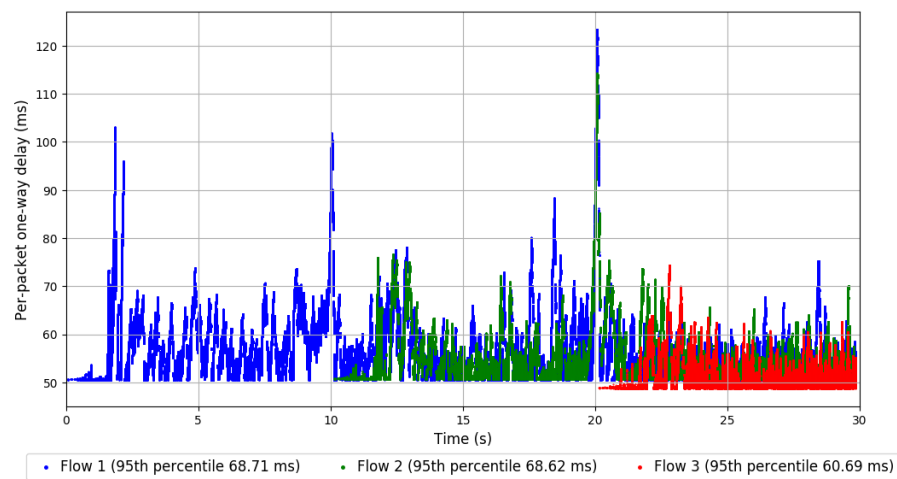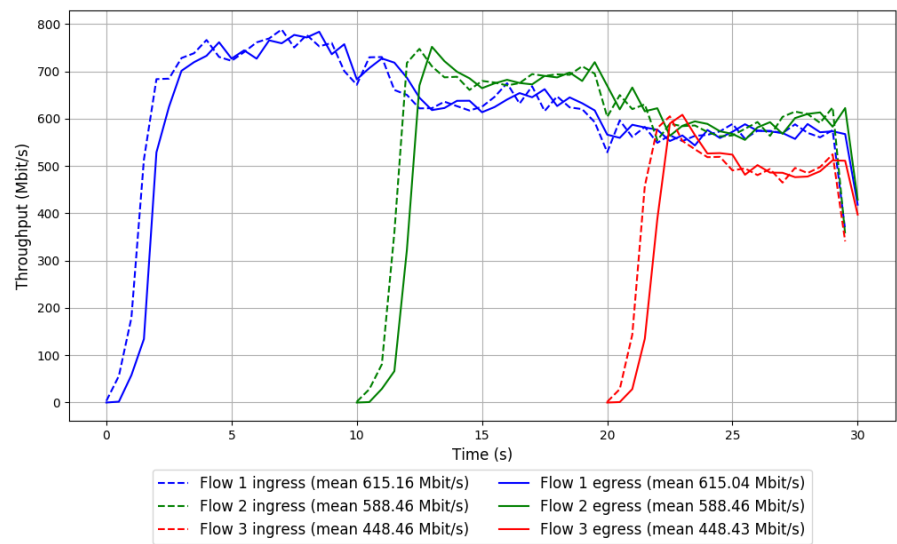
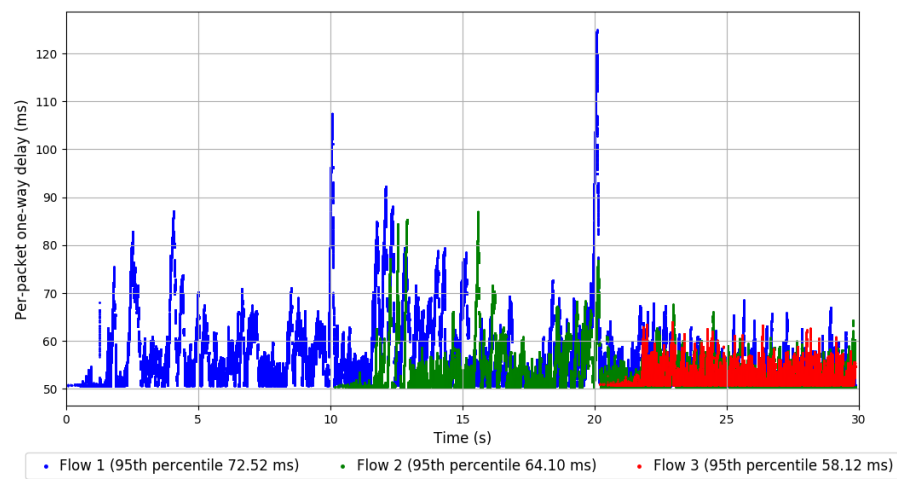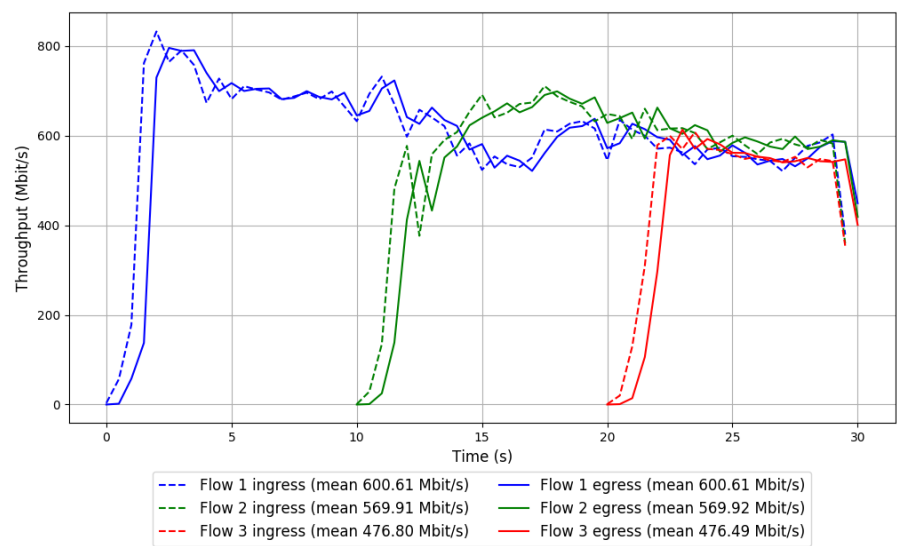Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-09-26 05:38:07
End at: 2018-09-26 05:38:37
Local clock offset: -0.466 ms
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2018-09-26 09:24:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1149.21 Mbit/s
95th percentile per-packet one-way delay: 70.940 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 622.71 Mbit/s
95th percentile per-packet one-way delay: 74.416 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 553.29 Mbit/s
95th percentile per-packet one-way delay: 65.281 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 486.14 Mbit/s
95th percentile per-packet one-way delay: 70.864 ms
Loss rate: 0.25%
```

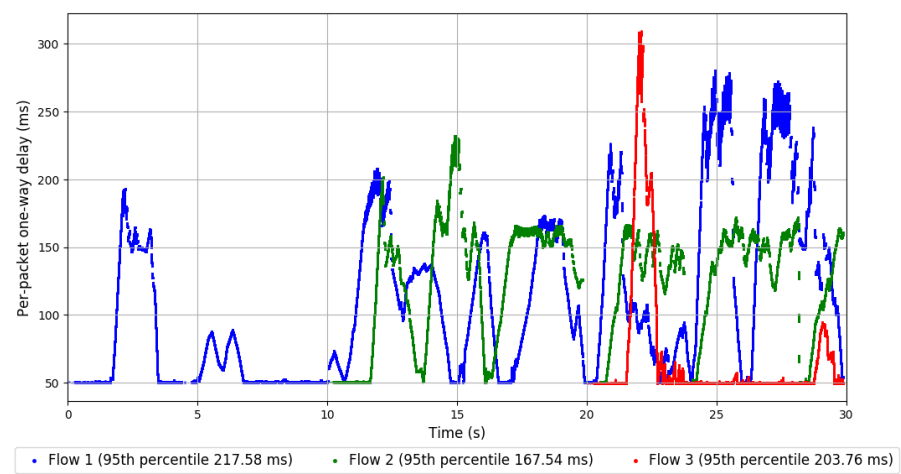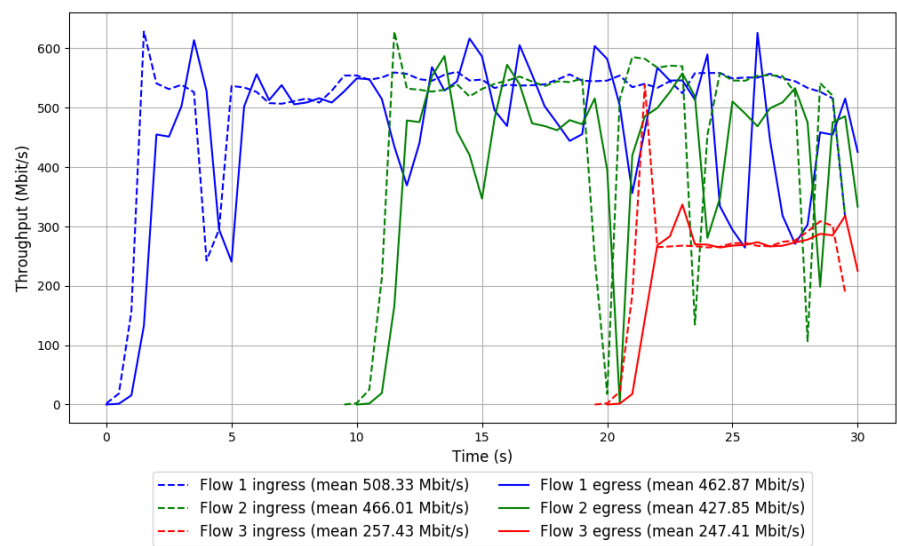Run 2: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 622.48 Mbit/s)   Flow 1 egress (mean 622.71 Mbit/s)
Flow 2 ingress (mean 553.59 Mbit/s)   Flow 2 egress (mean 553.29 Mbit/s)
Flow 3 ingress (mean 487.35 Mbit/s)   Flow 3 egress (mean 486.14 Mbit/s)

Flow 1 (95th percentile 74.42 ms)   Flow 2 (95th percentile 65.28 ms)   Flow 3 (95th percentile 70.86 ms)

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```
Run 3: Statistics of Indigo-Muses

Start at: 2018-09-26 06:11:55
End at: 2018-09-26 06:12:25
Local clock offset: -0.434 ms
Remote clock offset: -0.017 ms

# Below is generated by plot.py at 2018-09-26 09:24:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1084.46 Mbit/s
95th percentile per-packet one-way delay: 75.397 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 585.35 Mbit/s
95th percentile per-packet one-way delay: 68.795 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 530.59 Mbit/s
95th percentile per-packet one-way delay: 95.901 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 448.31 Mbit/s
95th percentile per-packet one-way delay: 77.870 ms
Loss rate: 0.00%
```
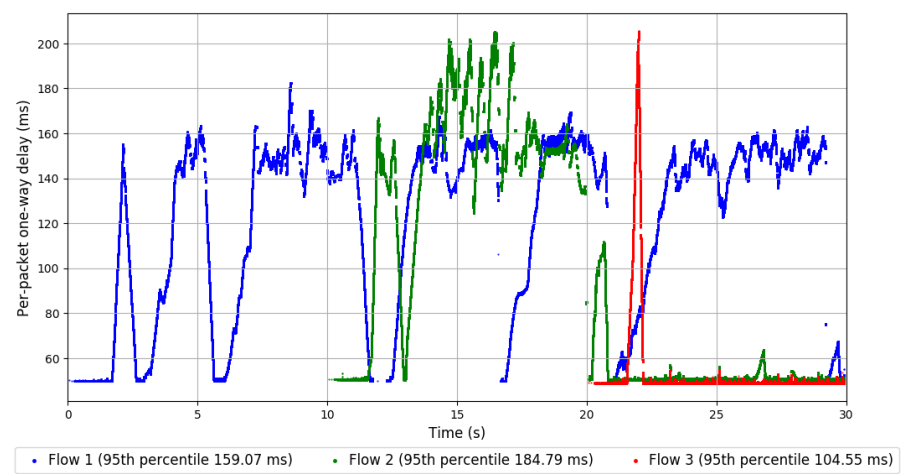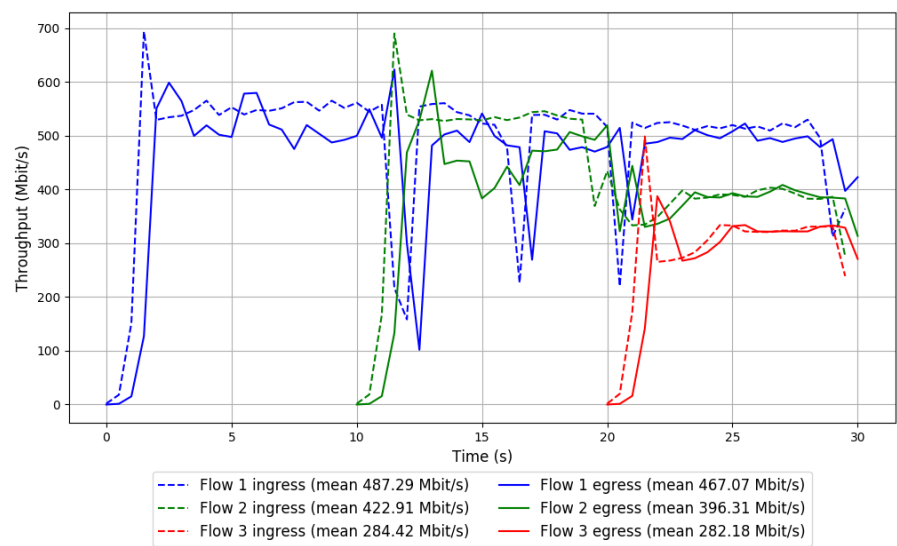
Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 585.40 Mbit/s) --- Flow 1 egress (mean 585.35 Mbit/s)
Flow 2 ingress (mean 530.57 Mbit/s) --- Flow 2 egress (mean 530.59 Mbit/s)
Flow 3 ingress (mean 448.30 Mbit/s) --- Flow 3 egress (mean 448.31 Mbit/s)

Flow 1 (95th percentile 68.80 ms)   Flow 2 (95th percentile 95.90 ms)   Flow 3 (95th percentile 77.87 ms)

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-09-26 06:45:43
End at: 2018-09-26 06:46:13
Local clock offset: -0.024 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2018-09-26 09:25:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1150.36 Mbit/s
95th percentile per-packet one-way delay: 68.038 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 615.04 Mbit/s
95th percentile per-packet one-way delay: 68.712 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 588.46 Mbit/s
95th percentile per-packet one-way delay: 68.622 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 448.43 Mbit/s
95th percentile per-packet one-way delay: 60.686 ms
Loss rate: 0.00%
```

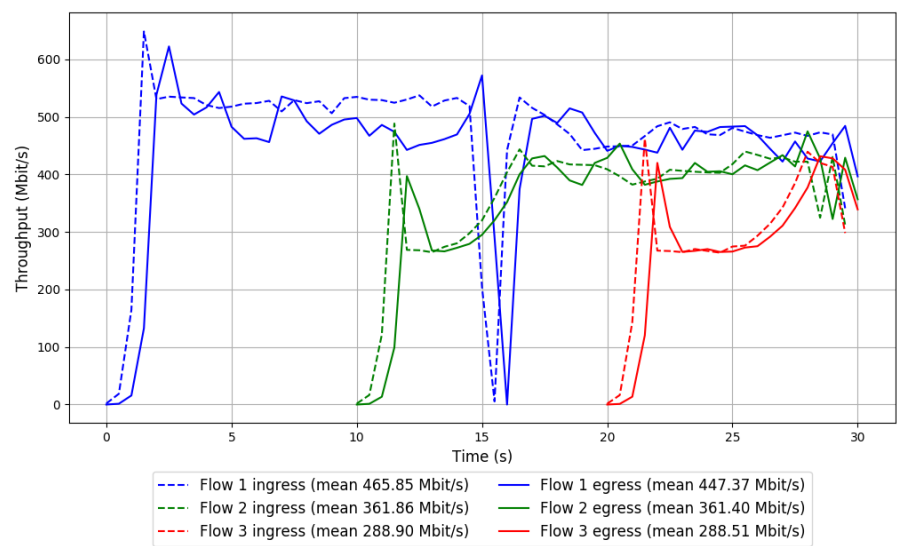Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-09-26 07:19:08
End at: 2018-09-26 07:19:38
Local clock offset: 0.023 ms
Remote clock offset: -0.045 ms

# Below is generated by plot.py at 2018-09-26 09:26:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1131.94 Mbit/s
95th percentile per-packet one-way delay: 68.363 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 600.61 Mbit/s
95th percentile per-packet one-way delay: 72.524 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 569.92 Mbit/s
95th percentile per-packet one-way delay: 64.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 476.49 Mbit/s
95th percentile per-packet one-way delay: 58.119 ms
Loss rate: 0.06%
```
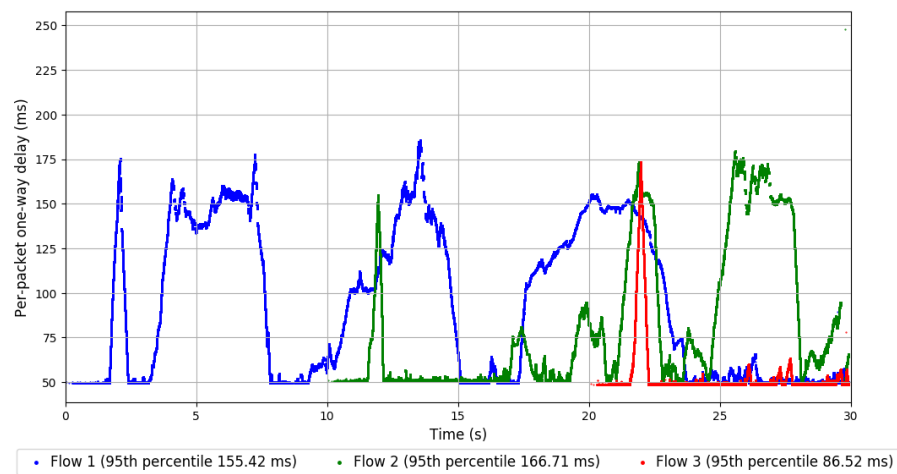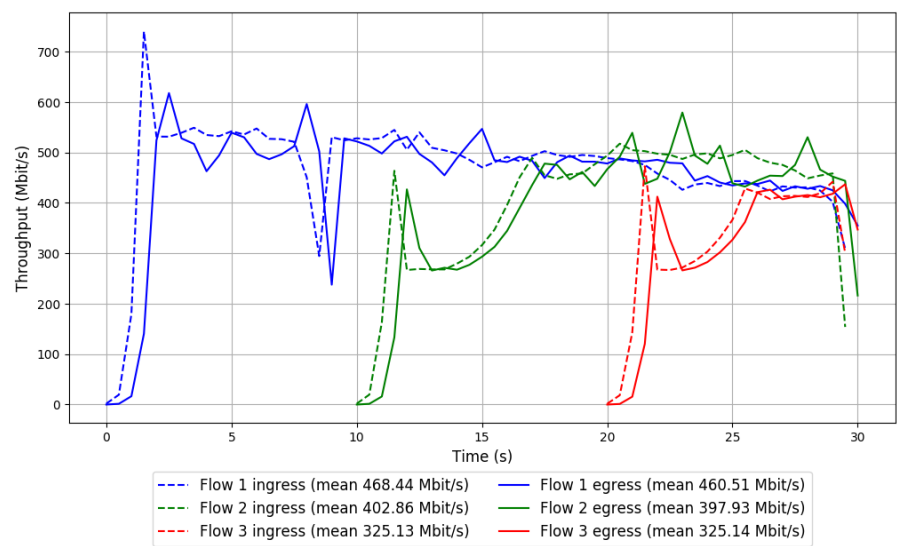
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-26 04:42:54
End at: 2018-09-26 04:43:24
Local clock offset: 0.236 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2018-09-26 09:34:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 829.39 Mbit/s
95th percentile per-packet one-way delay: 198.522 ms
Loss rate: 8.21%
-- Flow 1:
Average throughput: 462.87 Mbit/s
95th percentile per-packet one-way delay: 217.582 ms
Loss rate: 8.94%
-- Flow 2:
Average throughput: 427.85 Mbit/s
95th percentile per-packet one-way delay: 167.541 ms
Loss rate: 8.19%
-- Flow 3:
Average throughput: 247.41 Mbit/s
95th percentile per-packet one-way delay: 203.759 ms
Loss rate: 3.89%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-09-26 05:16:26
End at: 2018-09-26 05:16:56
Local clock offset: -0.049 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-09-26 09:35:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 823.42 Mbit/s
95th percentile per-packet one-way delay: 164.311 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 467.07 Mbit/s
95th percentile per-packet one-way delay: 159.072 ms
Loss rate: 4.15%
-- Flow 2:
Average throughput: 396.31 Mbit/s
95th percentile per-packet one-way delay: 184.795 ms
Loss rate: 6.30%
-- Flow 3:
Average throughput: 282.18 Mbit/s
95th percentile per-packet one-way delay: 104.547 ms
Loss rate: 0.79%
```
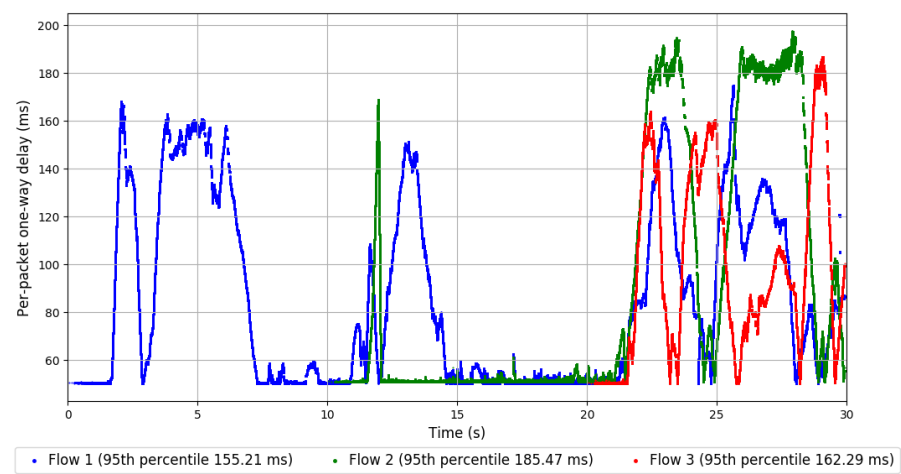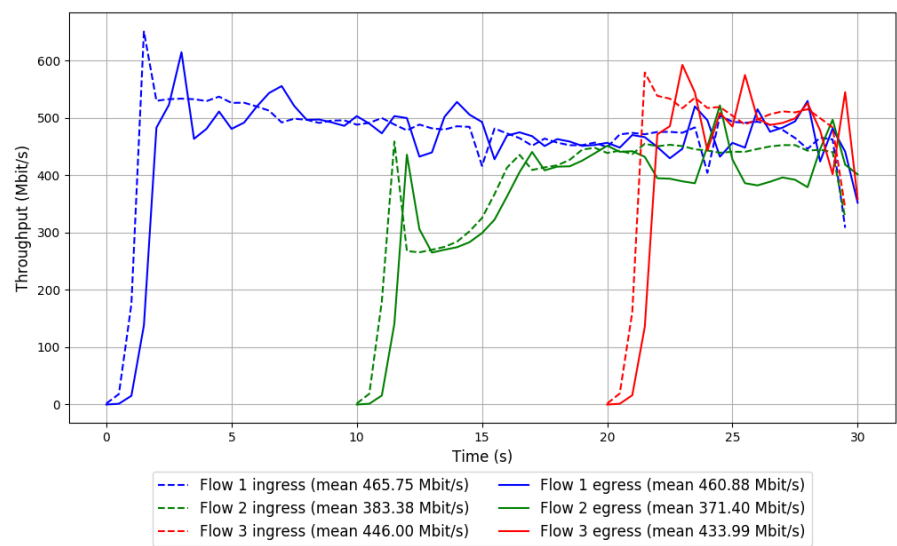
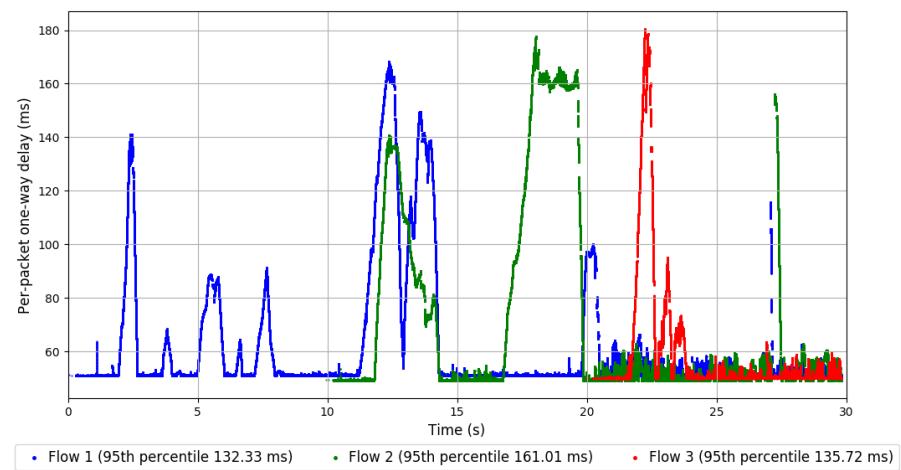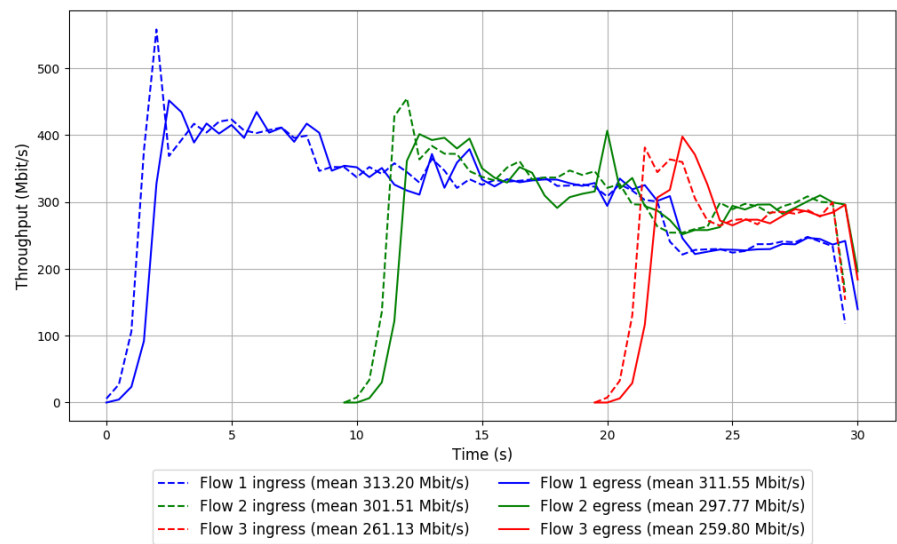# Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-09-26 05:49:50
End at: 2018-09-26 05:50:20
Local clock offset: -0.492 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2018-09-26 09:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 782.53 Mbit/s
95th percentile per-packet one-way delay: 167.074 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 447.37 Mbit/s
95th percentile per-packet one-way delay: 169.958 ms
Loss rate: 3.96%
-- Flow 2:
Average throughput: 361.40 Mbit/s
95th percentile per-packet one-way delay: 125.033 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 288.51 Mbit/s
95th percentile per-packet one-way delay: 80.209 ms
Loss rate: 0.12%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 465.85 Mbit/s) --- Flow 1 egress (mean 447.37 Mbit/s)
Flow 2 ingress (mean 361.86 Mbit/s) --- Flow 2 egress (mean 361.40 Mbit/s)
Flow 3 ingress (mean 288.90 Mbit/s) --- Flow 3 egress (mean 288.51 Mbit/s)

Flow 1 (95th percentile 169.96 ms) · Flow 2 (95th percentile 125.03 ms) · Flow 3 (95th percentile 80.21 ms)

100

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-09-26 06:23:42
End at: 2018-09-26 06:24:12
Local clock offset: -0.057 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2018-09-26 09:50:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 831.99 Mbit/s
95th percentile per-packet one-way delay: 156.513 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 460.51 Mbit/s
95th percentile per-packet one-way delay: 155.421 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 397.93 Mbit/s
95th percentile per-packet one-way delay: 166.709 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 325.14 Mbit/s
95th percentile per-packet one-way delay: 86.520 ms
Loss rate: 0.00%
```
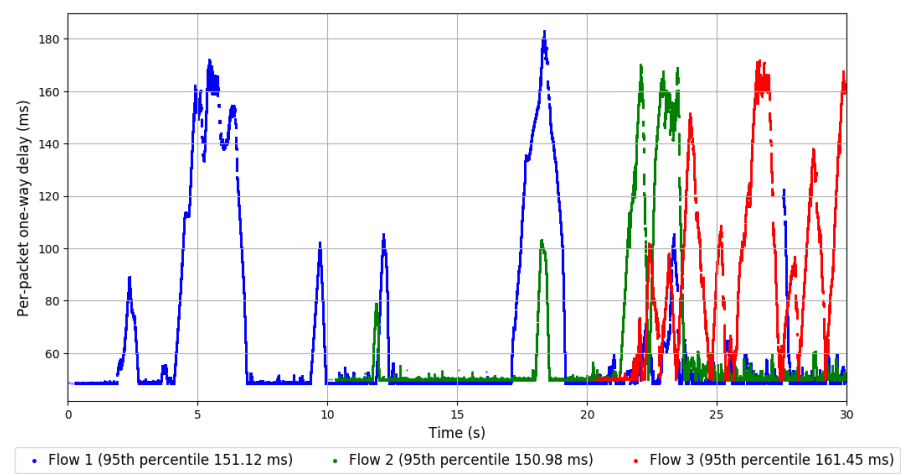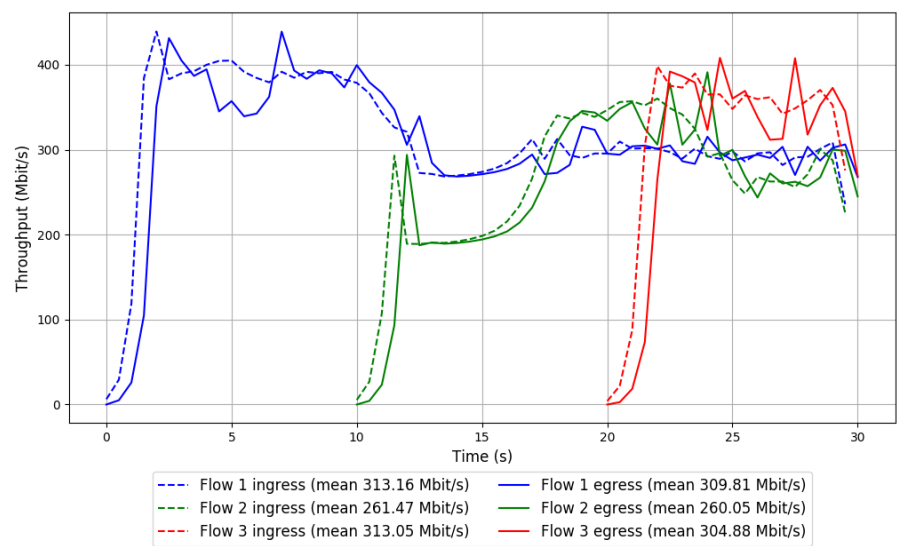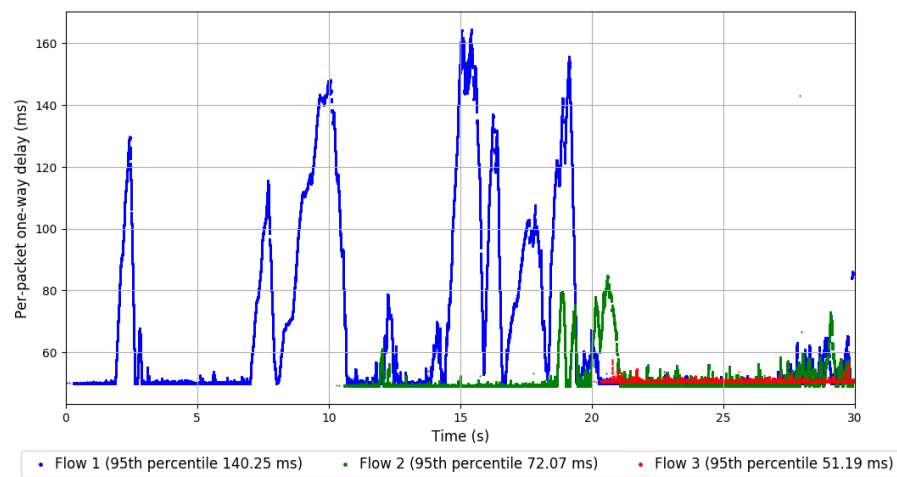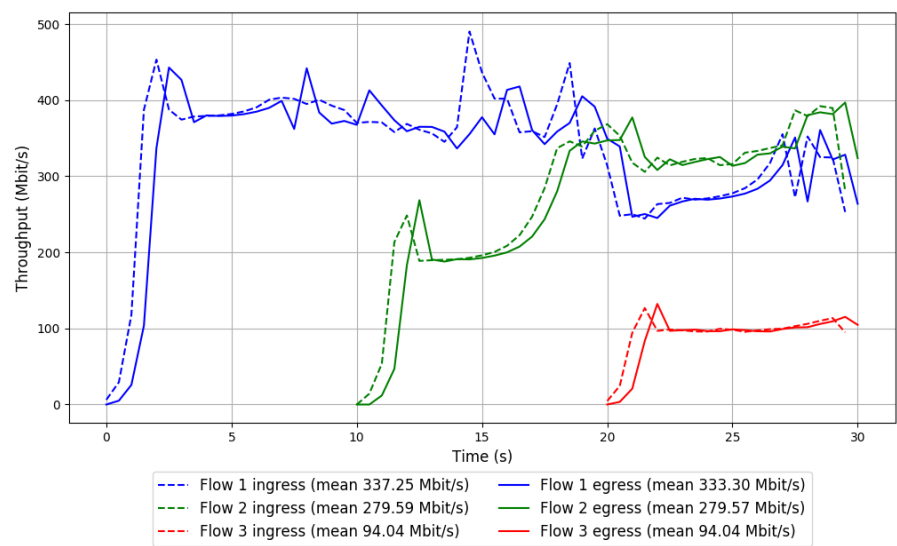
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 468.44 Mbit/s) --- Flow 1 egress (mean 460.51 Mbit/s)
Flow 2 ingress (mean 402.86 Mbit/s) --- Flow 2 egress (mean 397.93 Mbit/s)
Flow 3 ingress (mean 325.13 Mbit/s) --- Flow 3 egress (mean 325.14 Mbit/s)

Flow 1 (95th percentile 155.42 ms)   Flow 2 (95th percentile 166.71 ms)   Flow 3 (95th percentile 86.52 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-09-26 06:57:27
End at: 2018-09-26 06:57:57
Local clock offset: 0.024 ms
Remote clock offset: 0.008 ms


# Below is generated by plot.py at 2018-09-26 09:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 850.87 Mbit/s
95th percentile per-packet one-way delay: 179.349 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 460.88 Mbit/s
95th percentile per-packet one-way delay: 155.206 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 371.40 Mbit/s
95th percentile per-packet one-way delay: 185.470 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 433.99 Mbit/s
95th percentile per-packet one-way delay: 162.287 ms
Loss rate: 2.68%
```

Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-26 04:36:22
End at: 2018-09-26 04:36:52
Local clock offset: -0.027 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2018-09-26 09:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.37 Mbit/s
95th percentile per-packet one-way delay: 147.717 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 311.55 Mbit/s
95th percentile per-packet one-way delay: 132.326 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 297.77 Mbit/s
95th percentile per-packet one-way delay: 161.014 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 259.80 Mbit/s
95th percentile per-packet one-way delay: 135.725 ms
Loss rate: 0.53%
```
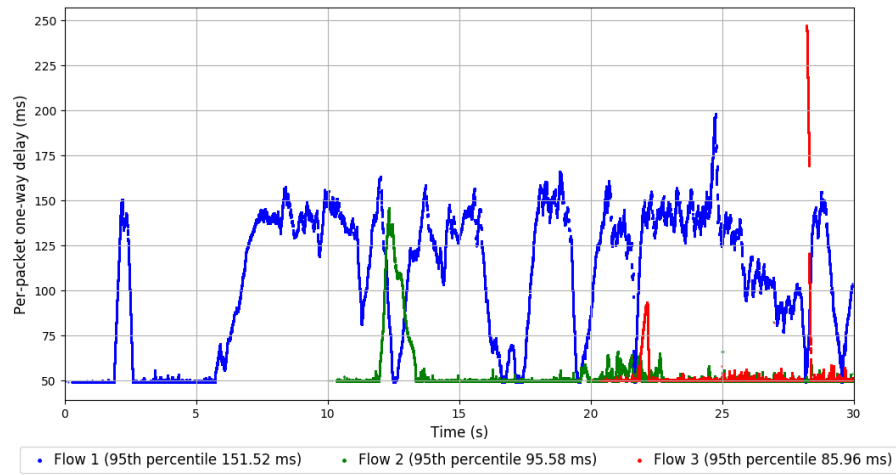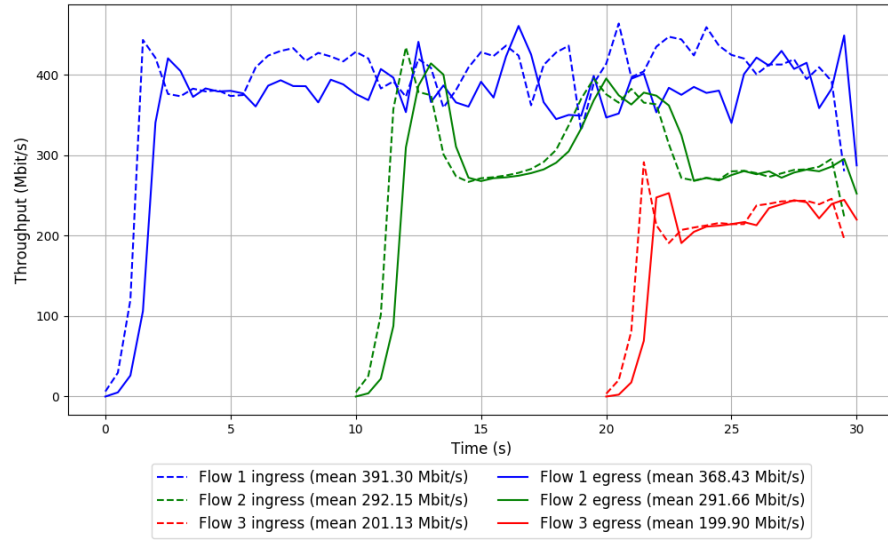
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-09-26 05:09:52
End at: 2018-09-26 05:10:22
Local clock offset: 0.348 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2018-09-26 09:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 583.15 Mbit/s
95th percentile per-packet one-way delay: 152.672 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 309.81 Mbit/s
95th percentile per-packet one-way delay: 151.118 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 260.05 Mbit/s
95th percentile per-packet one-way delay: 150.984 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 304.88 Mbit/s
95th percentile per-packet one-way delay: 161.448 ms
Loss rate: 2.61%
```
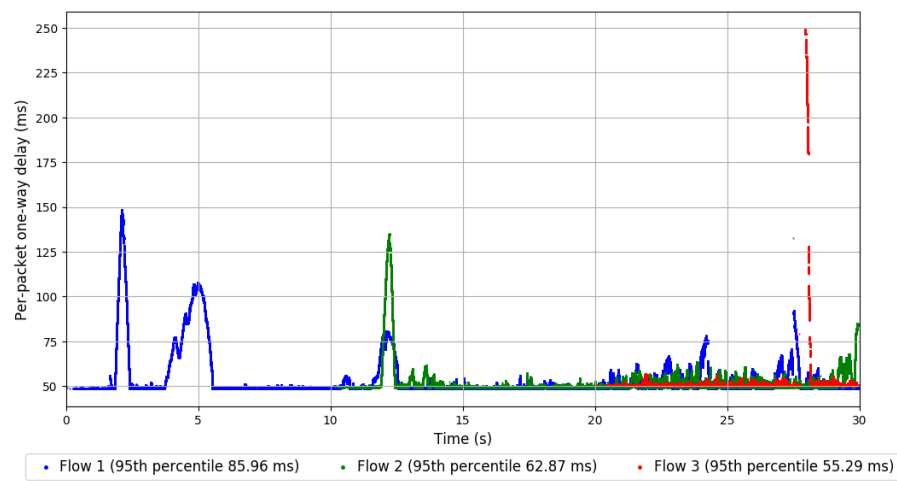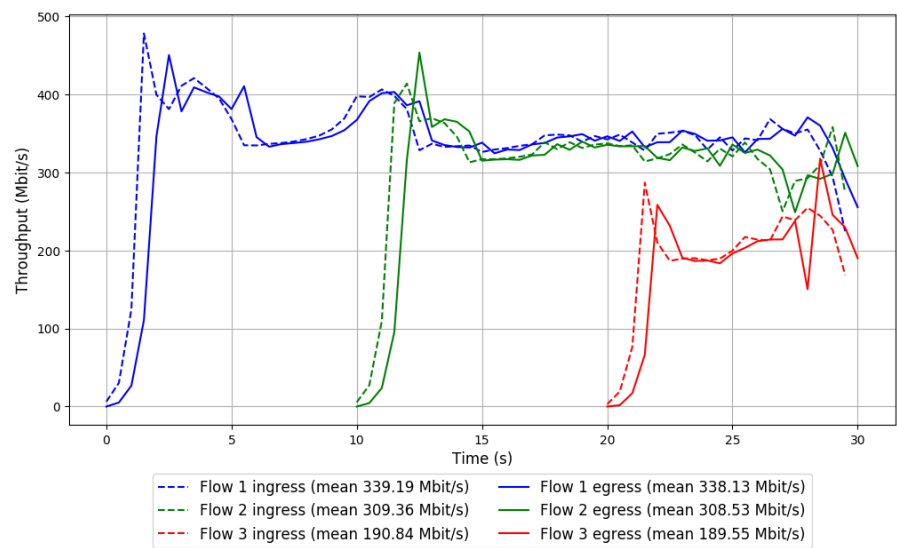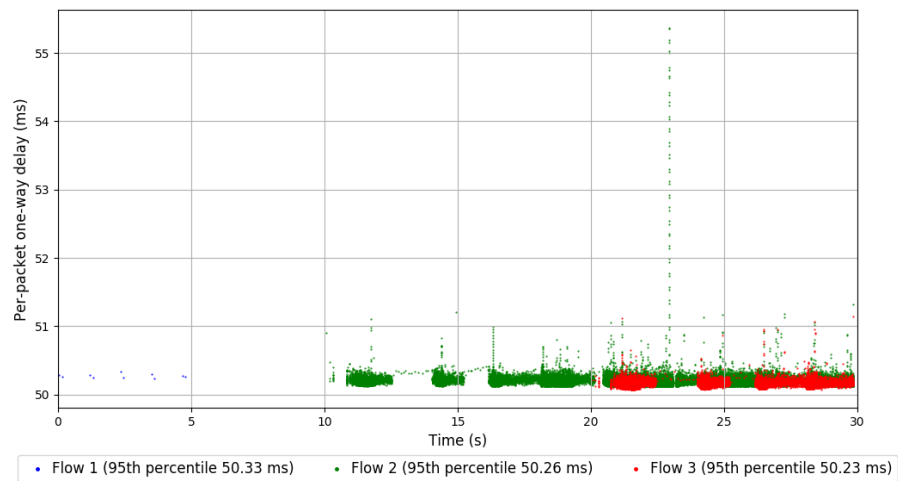
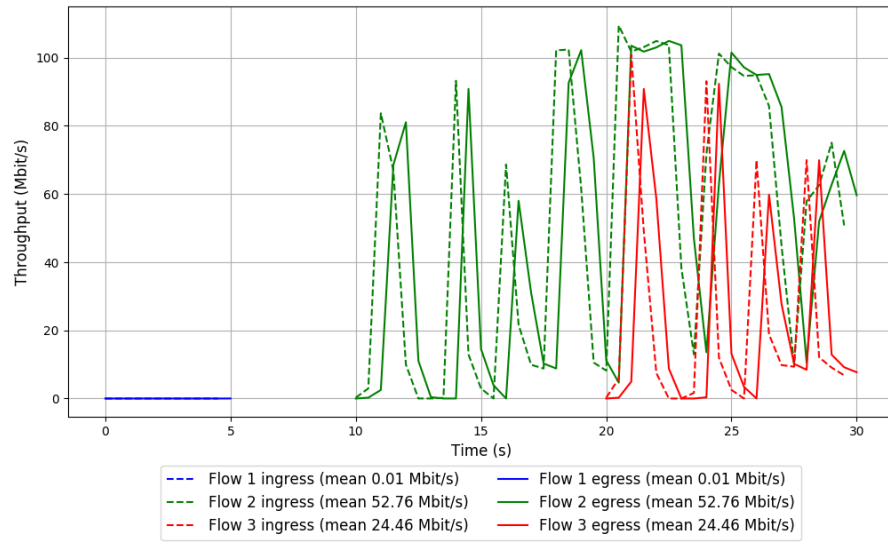Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-09-26 05:43:16
End at: 2018-09-26 05:43:46
Local clock offset: -0.528 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-09-26 09:52:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.91 Mbit/s
95th percentile per-packet one-way delay: 126.114 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 333.30 Mbit/s
95th percentile per-packet one-way delay: 140.245 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 279.57 Mbit/s
95th percentile per-packet one-way delay: 72.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 51.187 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-09-26 06:16:59
End at: 2018-09-26 06:17:29
Local clock offset: 0.255 ms
Remote clock offset: 0.107 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 628.25 Mbit/s
95th percentile per-packet one-way delay: 148.379 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 368.43 Mbit/s
95th percentile per-packet one-way delay: 151.520 ms
Loss rate: 5.84%
-- Flow 2:
Average throughput: 291.66 Mbit/s
95th percentile per-packet one-way delay: 95.575 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 199.90 Mbit/s
95th percentile per-packet one-way delay: 85.959 ms
Loss rate: 0.62%
```
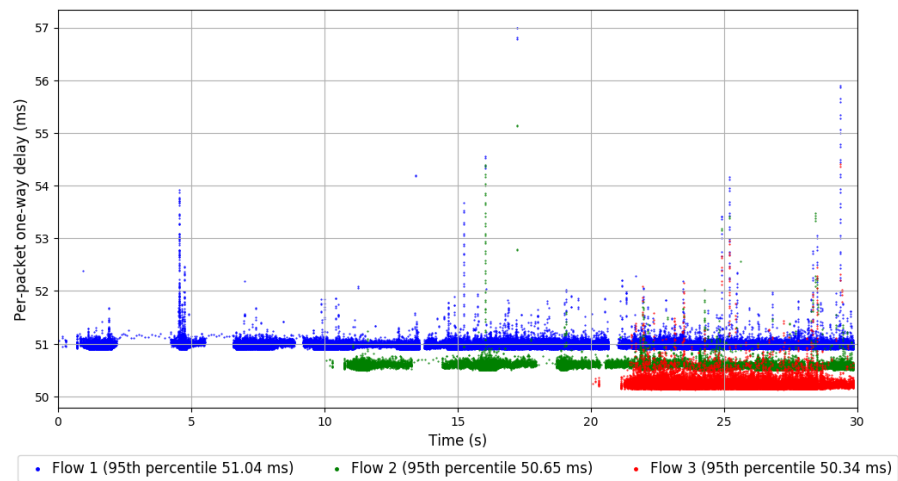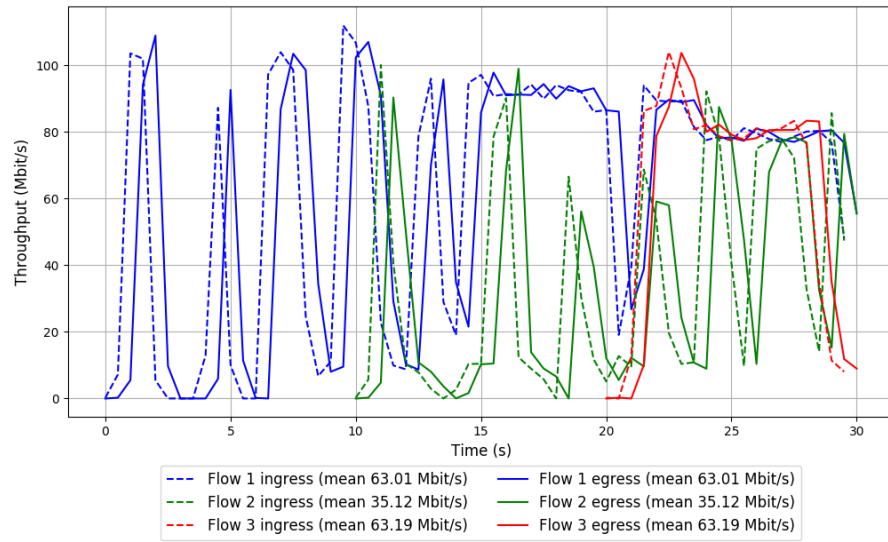
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-09-26 06:50:49
End at: 2018-09-26 06:51:19
Local clock offset: -0.034 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.68 Mbit/s
95th percentile per-packet one-way delay: 78.954 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 338.13 Mbit/s
95th percentile per-packet one-way delay: 85.958 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 308.53 Mbit/s
95th percentile per-packet one-way delay: 62.871 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 189.55 Mbit/s
95th percentile per-packet one-way delay: 55.288 ms
Loss rate: 0.68%
```
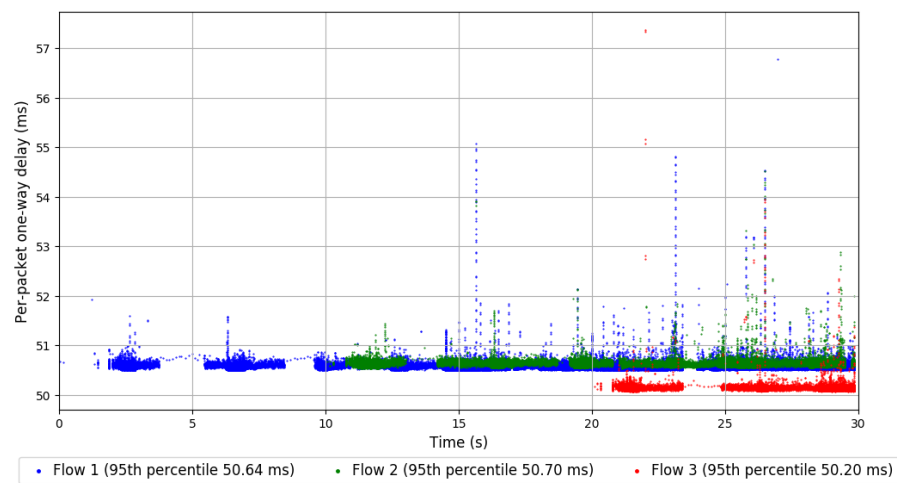
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-26 04:41:39
End at: 2018-09-26 04:42:09
Local clock offset: 0.263 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.07 Mbit/s
95th percentile per-packet one-way delay: 50.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 50.332 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.76 Mbit/s
95th percentile per-packet one-way delay: 50.261 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 50.231 ms
Loss rate: 0.00%
```
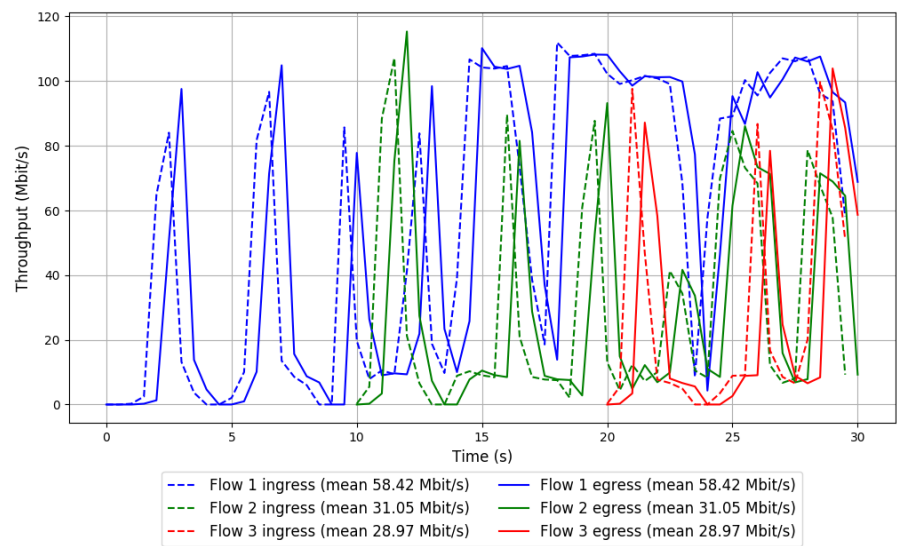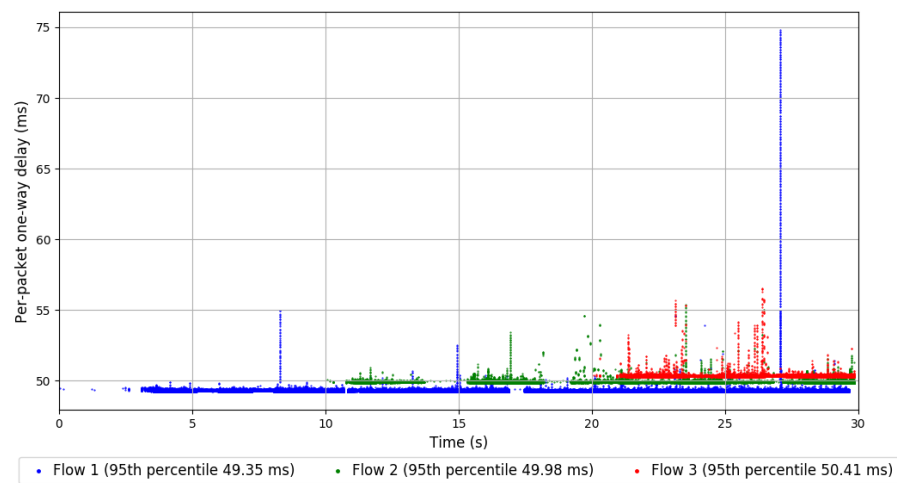
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-09-26 05:15:10
End at: 2018-09-26 05:15:40
Local clock offset: -0.409 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.07 Mbit/s
95th percentile per-packet one-way delay: 51.020 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.01 Mbit/s
95th percentile per-packet one-way delay: 51.038 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 35.12 Mbit/s
95th percentile per-packet one-way delay: 50.652 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 63.19 Mbit/s
95th percentile per-packet one-way delay: 50.338 ms
Loss rate: 0.00%
```
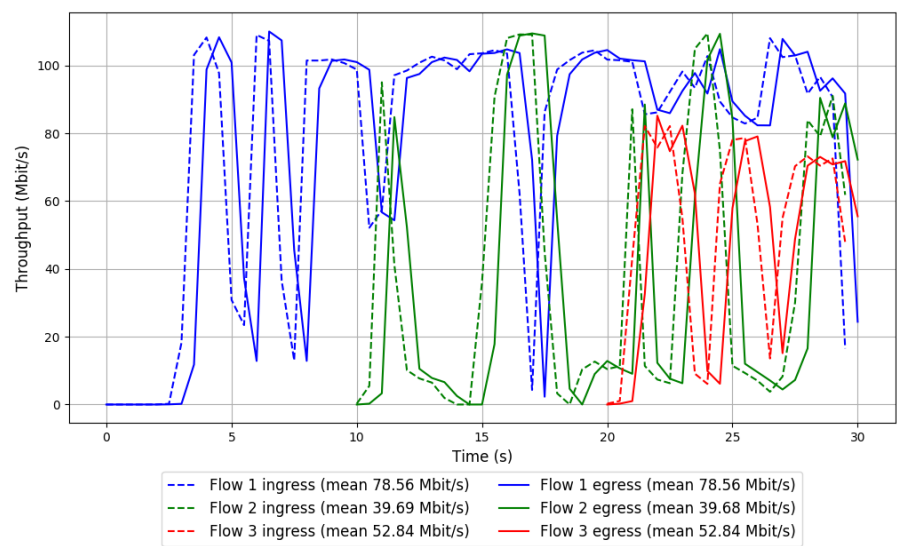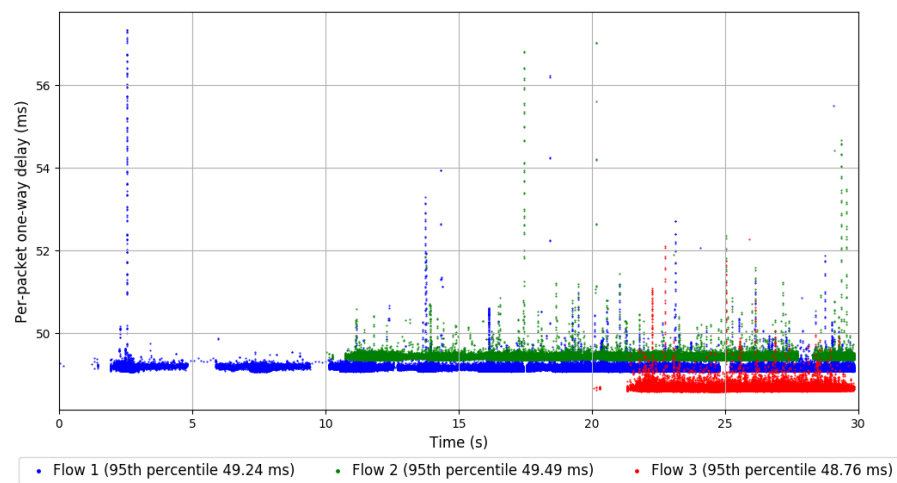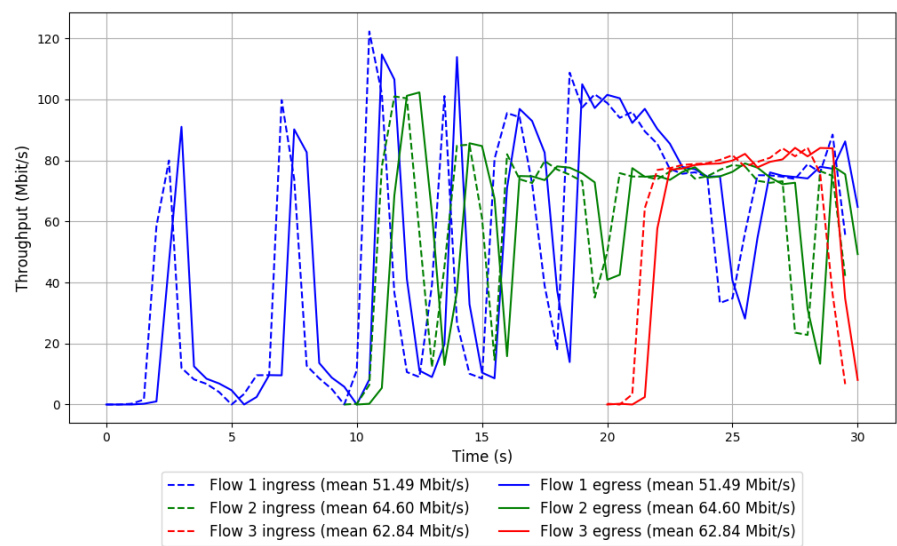
Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 63.01 Mbit/s) —— Flow 1 egress (mean 63.01 Mbit/s)
- - - Flow 2 ingress (mean 35.12 Mbit/s) —— Flow 2 egress (mean 35.12 Mbit/s)
- - - Flow 3 ingress (mean 63.19 Mbit/s) —— Flow 3 egress (mean 63.19 Mbit/s)

• Flow 1 (95th percentile 51.04 ms)   • Flow 2 (95th percentile 50.65 ms)   • Flow 3 (95th percentile 50.34 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-09-26 05:48:34
End at: 2018-09-26 05:49:04
Local clock offset: -0.138 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.52 Mbit/s
95th percentile per-packet one-way delay: 50.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 50.639 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.05 Mbit/s
95th percentile per-packet one-way delay: 50.700 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.97 Mbit/s
95th percentile per-packet one-way delay: 50.197 ms
Loss rate: 0.00%
```
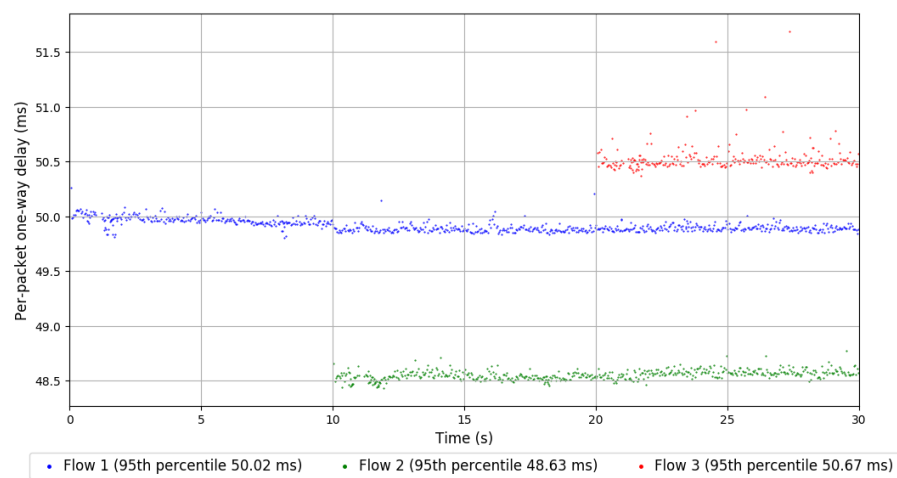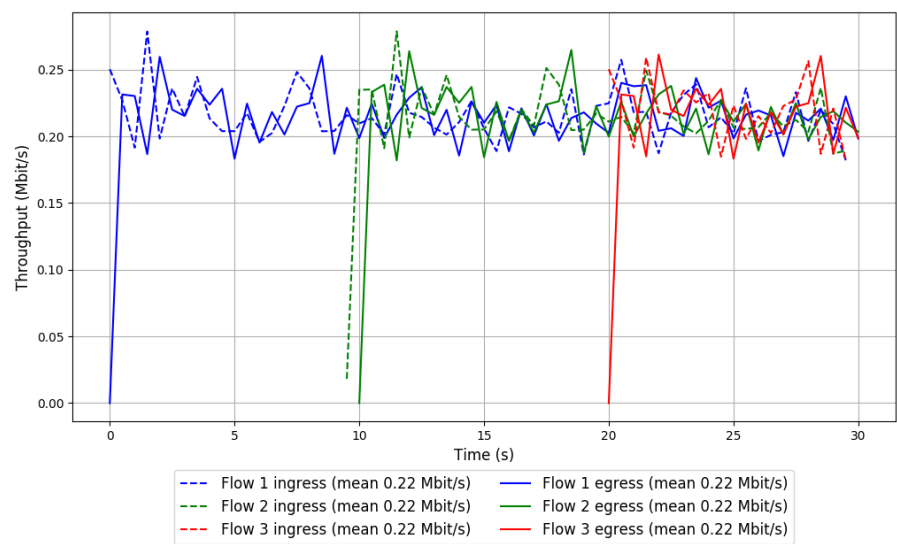
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-09-26 06:22:25
End at: 2018-09-26 06:22:55
Local clock offset: 0.237 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.70 Mbit/s
95th percentile per-packet one-way delay: 50.345 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.56 Mbit/s
95th percentile per-packet one-way delay: 49.355 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.68 Mbit/s
95th percentile per-packet one-way delay: 49.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.84 Mbit/s
95th percentile per-packet one-way delay: 50.405 ms
Loss rate: 0.01%
```
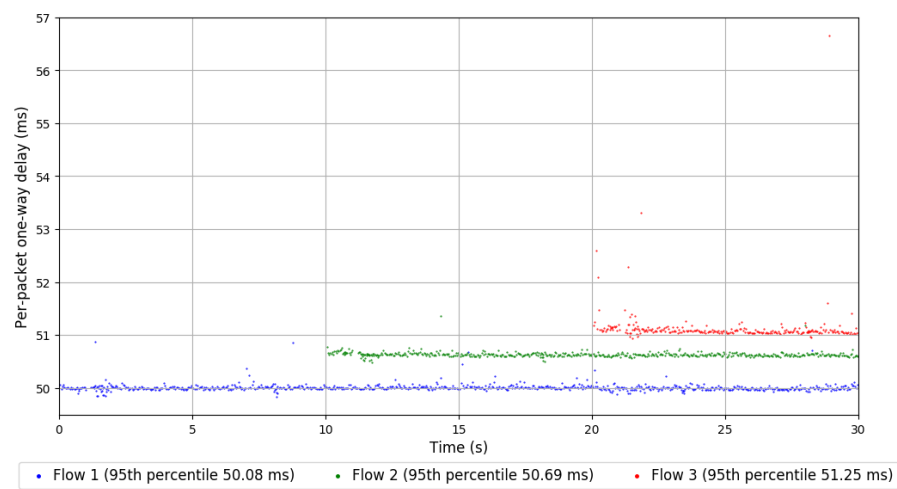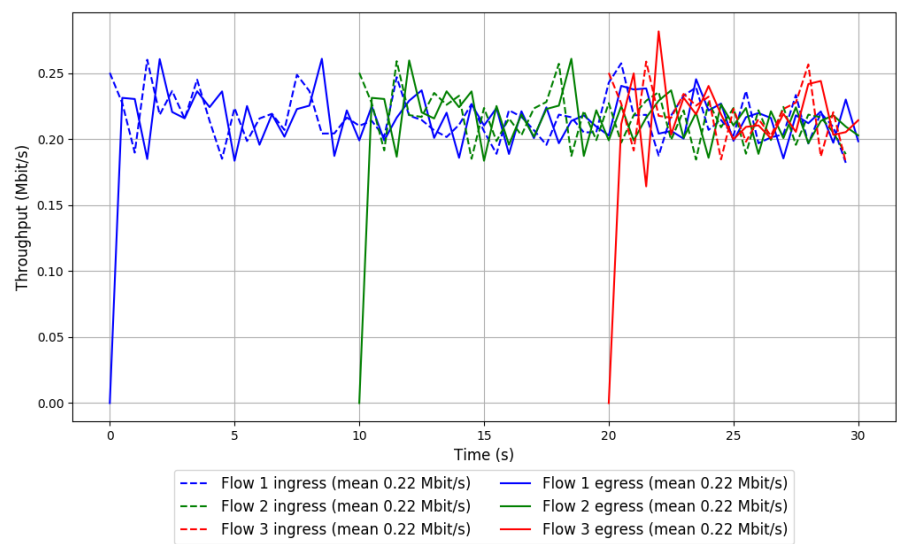
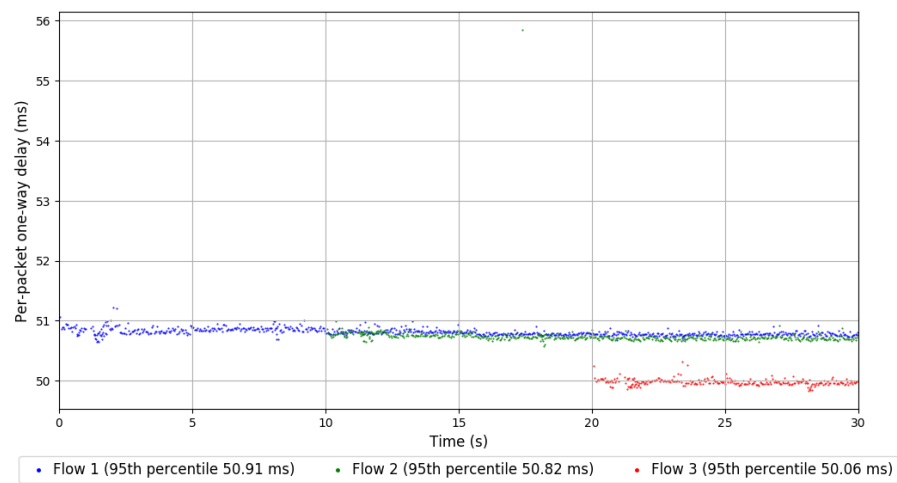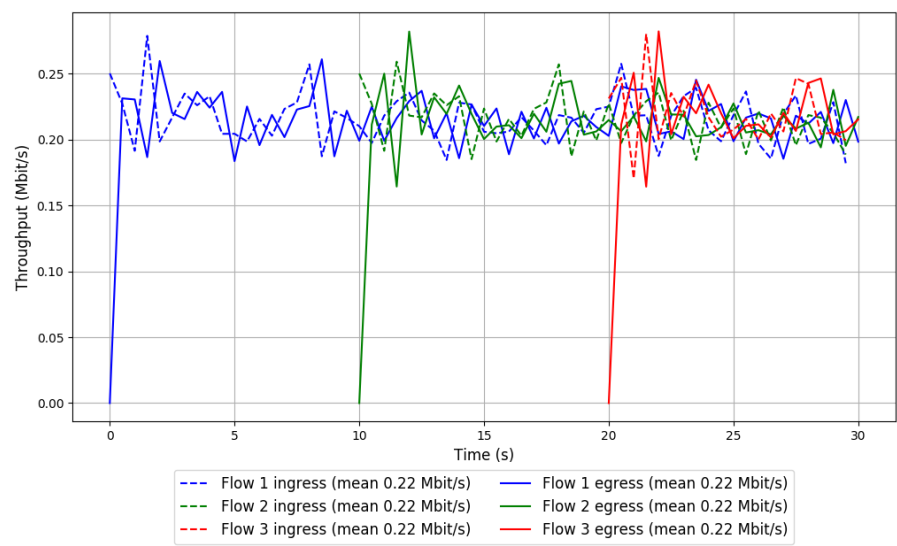## Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-09-26 06:56:10
End at: 2018-09-26 06:56:40
Local clock offset: 0.354 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2018-09-26 09:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.02 Mbit/s
95th percentile per-packet one-way delay: 49.462 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.49 Mbit/s
95th percentile per-packet one-way delay: 49.236 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.60 Mbit/s
95th percentile per-packet one-way delay: 49.493 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.84 Mbit/s
95th percentile per-packet one-way delay: 48.763 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 51.49 Mbit/s) —— Flow 1 egress (mean 51.49 Mbit/s)
Flow 2 ingress (mean 64.60 Mbit/s) —— Flow 2 egress (mean 64.60 Mbit/s)
Flow 3 ingress (mean 62.84 Mbit/s) —— Flow 3 egress (mean 62.84 Mbit/s)

Flow 1 (95th percentile 49.24 ms)   Flow 2 (95th percentile 49.49 ms)   Flow 3 (95th percentile 48.76 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-09-26 04:58:16
End at: 2018-09-26 04:58:46
Local clock offset: 0.362 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 48.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.668 ms
Loss rate: 0.00%
```
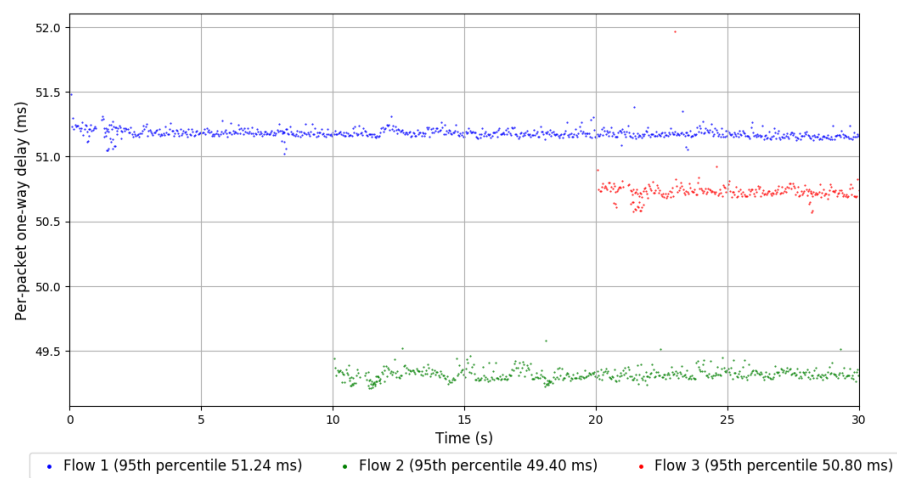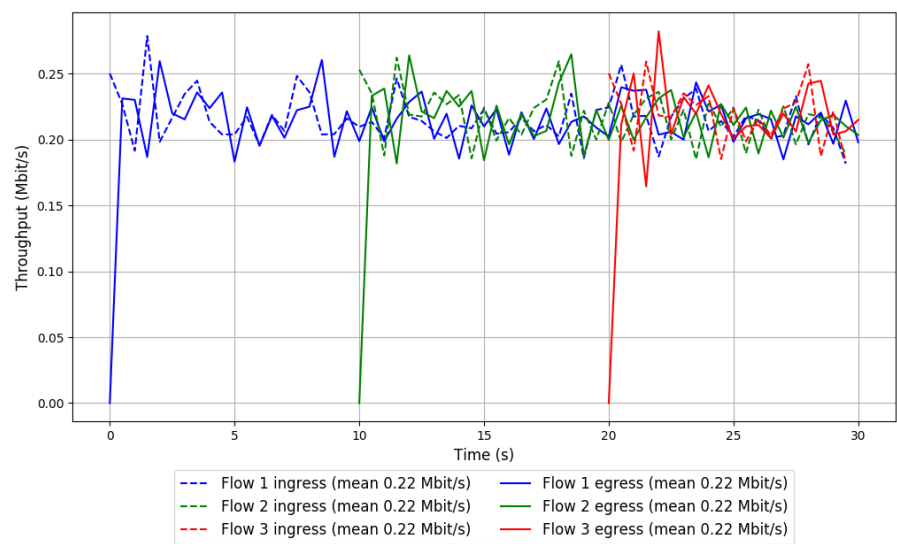
Run 1: Report of SCReAM — Data Link

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 50.02 ms)   Flow 2 (95th percentile 48.63 ms)   Flow 3 (95th percentile 50.67 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-09-26 05:31:41
End at: 2018-09-26 05:32:11
Local clock offset: -0.479 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.103 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.075 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.692 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.254 ms
Loss rate: 0.00%
```
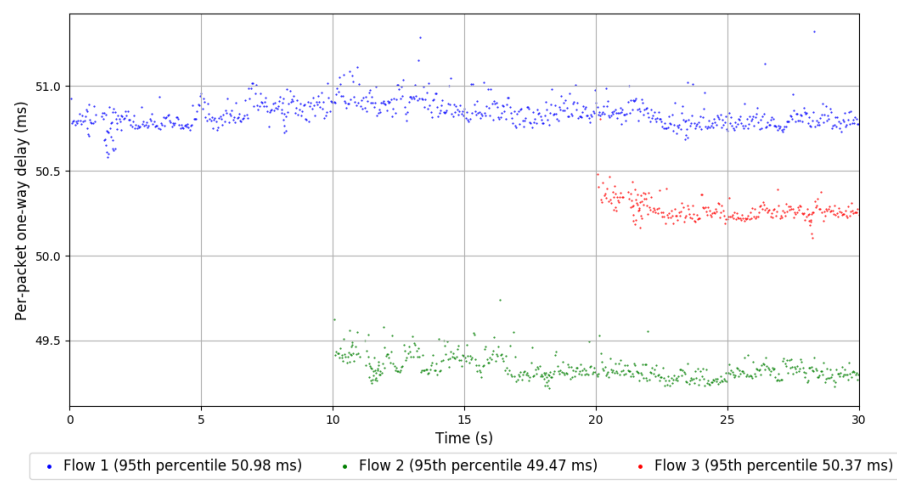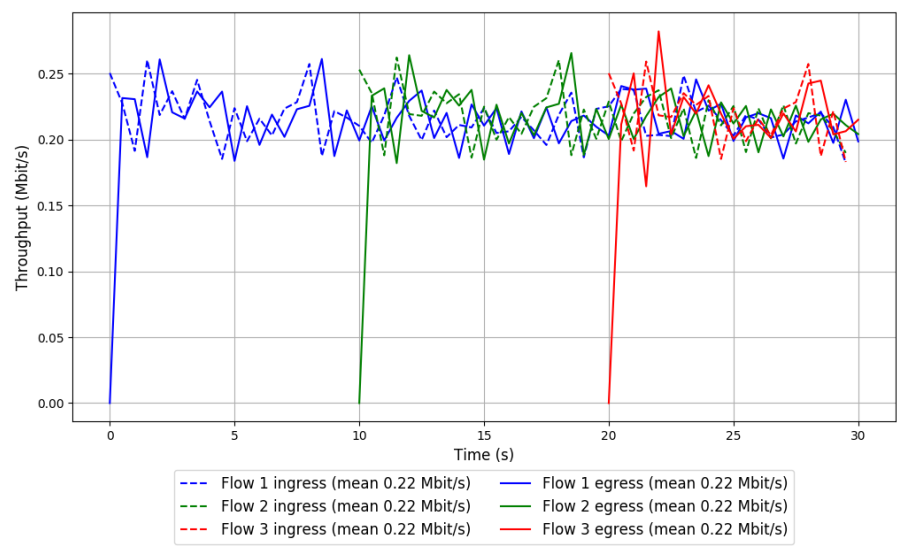
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-09-26 06:05:28
End at: 2018-09-26 06:05:58
Local clock offset: -0.456 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.882 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.914 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.818 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.057 ms
Loss rate: 0.00%
```
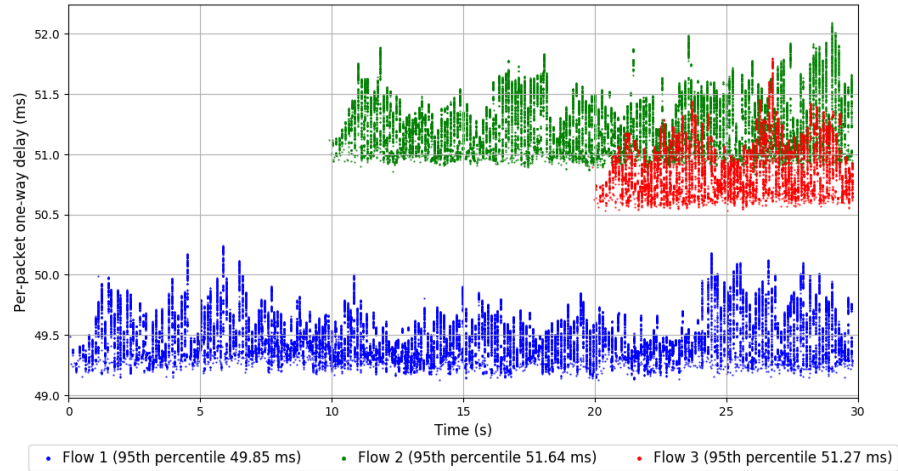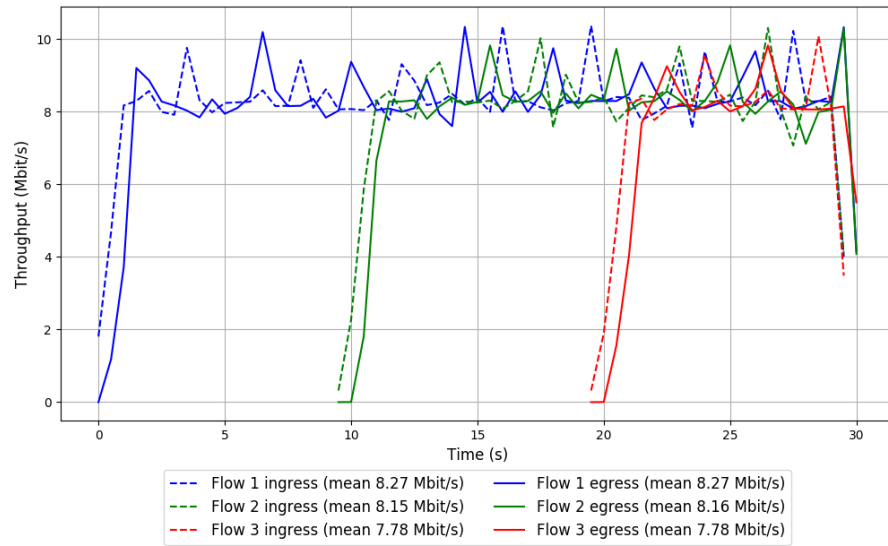
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-09-26 06:39:16
End at: 2018-09-26 06:39:46
Local clock offset: -0.397 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 51.222 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 51.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.396 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.795 ms
Loss rate: 0.00%
```
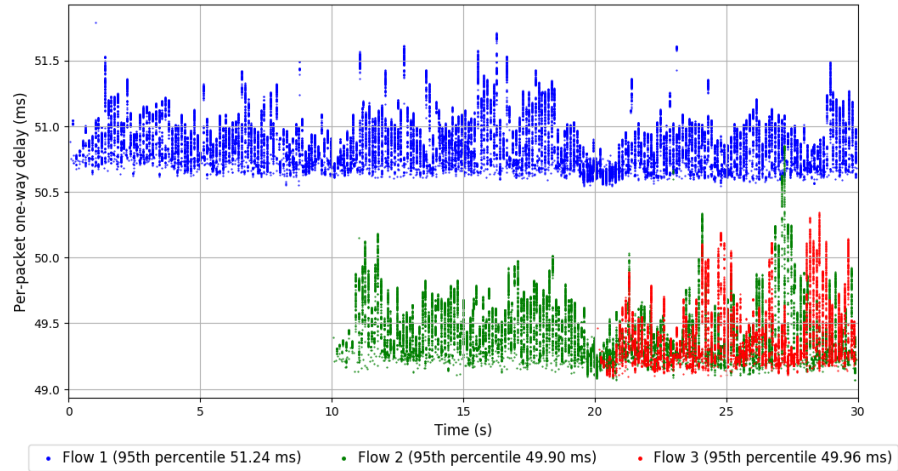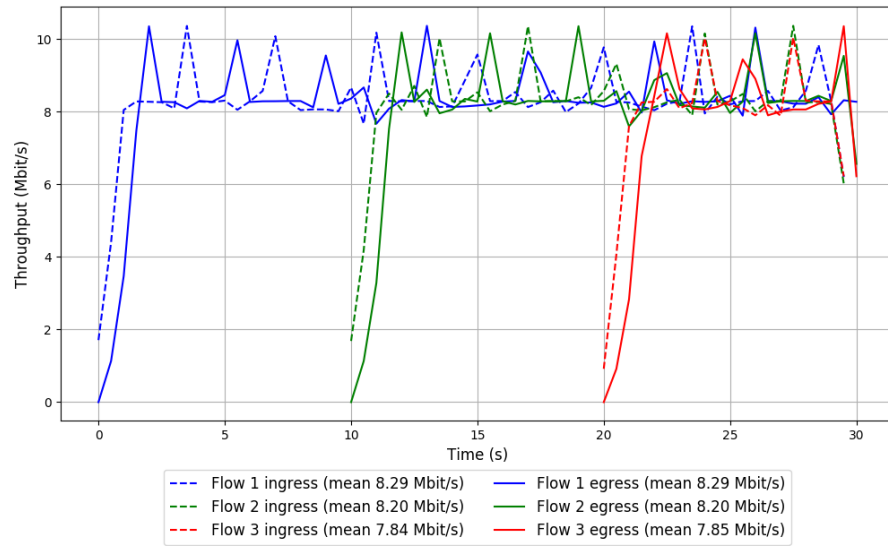
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-09-26 07:12:41
End at: 2018-09-26 07:13:11
Local clock offset: -0.325 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.928 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.374 ms
Loss rate: 0.00%
```
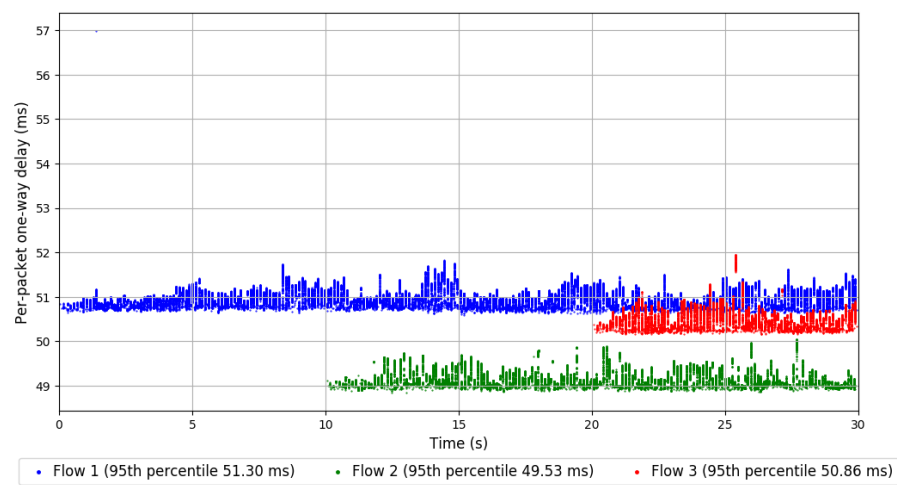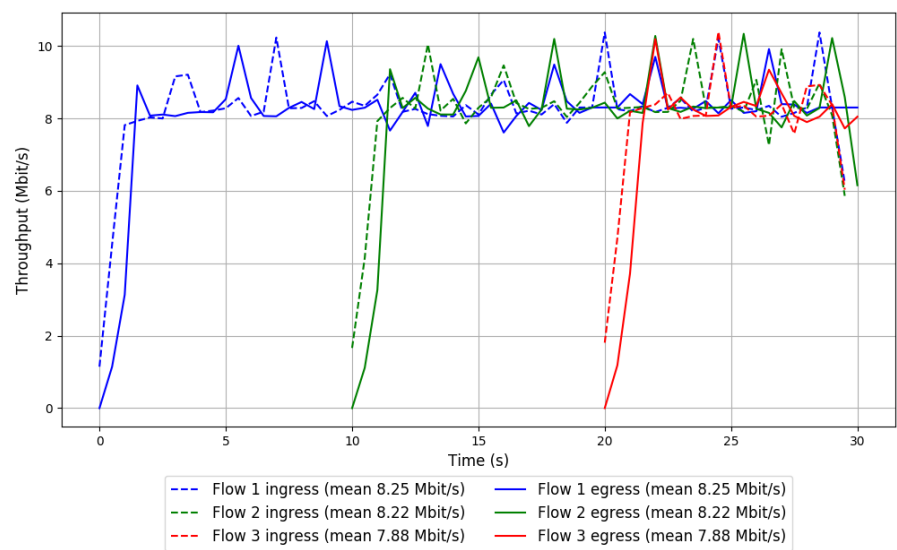
Run 5: Report of SCReAM — Data Link

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 50.98 ms)   Flow 2 (95th percentile 49.47 ms)   Flow 3 (95th percentile 50.37 ms)

```
Run 1: Statistics of Sprout

Start at: 2018-09-26 04:35:10
End at: 2018-09-26 04:35:40
Local clock offset: -0.046 ms
Remote clock offset: -0.065 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.30 Mbit/s
95th percentile per-packet one-way delay: 51.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 49.846 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 51.644 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 51.270 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-09-26 05:08:41
End at: 2018-09-26 05:09:11
Local clock offset: -0.376 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.31 Mbit/s
95th percentile per-packet one-way delay: 51.143 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 51.241 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 49.898 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 49.959 ms
Loss rate: 0.00%
```
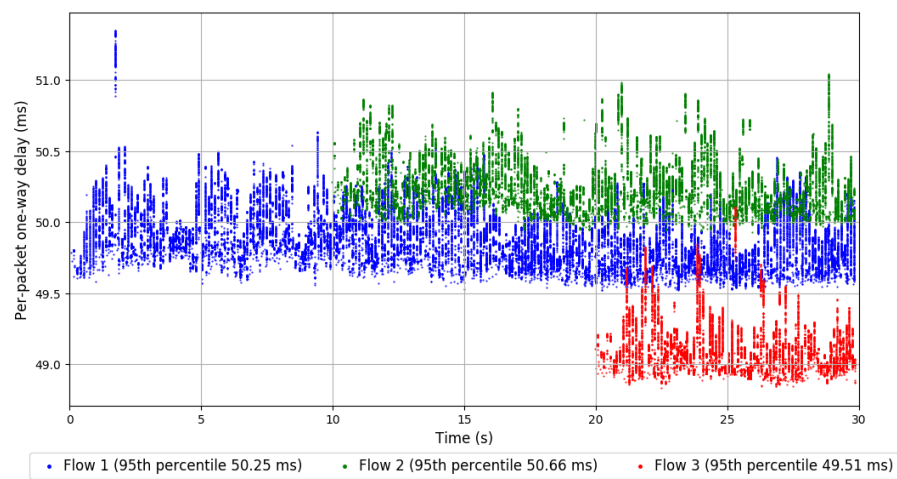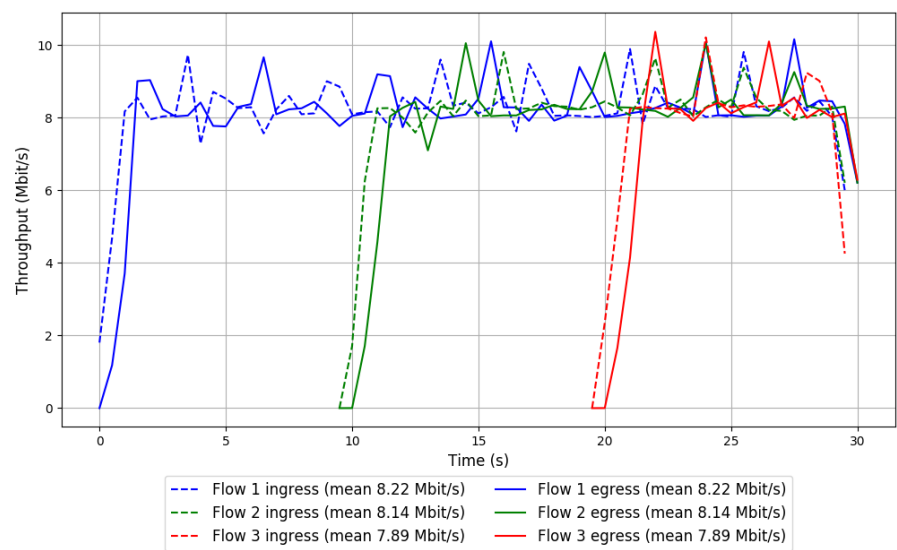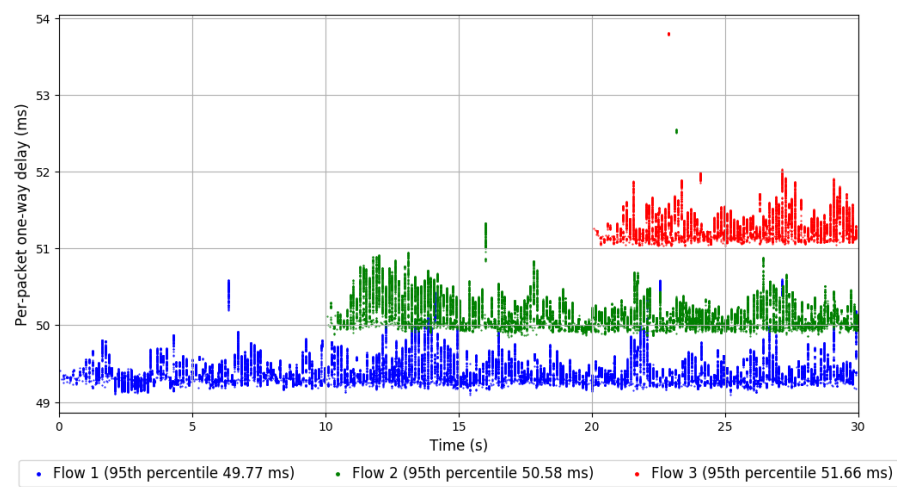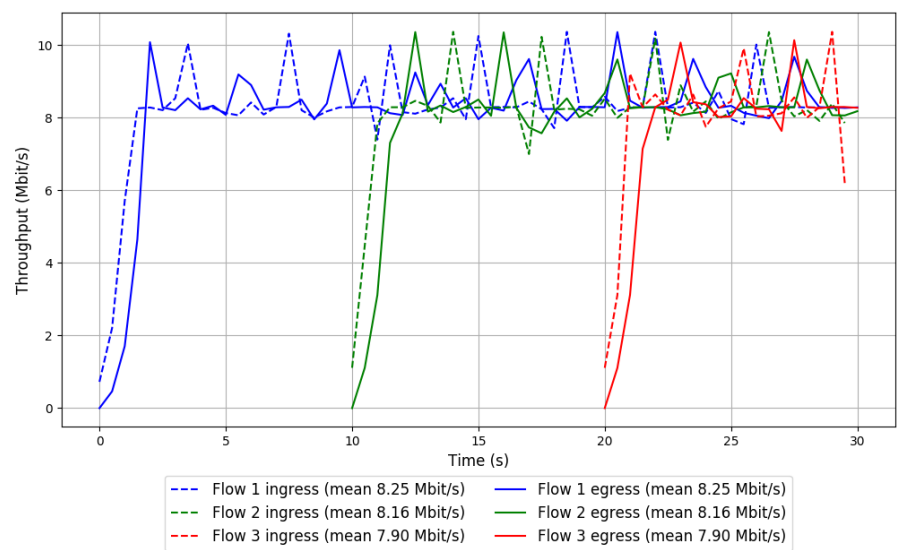
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-09-26 05:42:04
End at: 2018-09-26 05:42:34
Local clock offset: -0.117 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.32 Mbit/s
95th percentile per-packet one-way delay: 51.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 51.301 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 49.532 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 50.858 ms
Loss rate: 0.00%
```
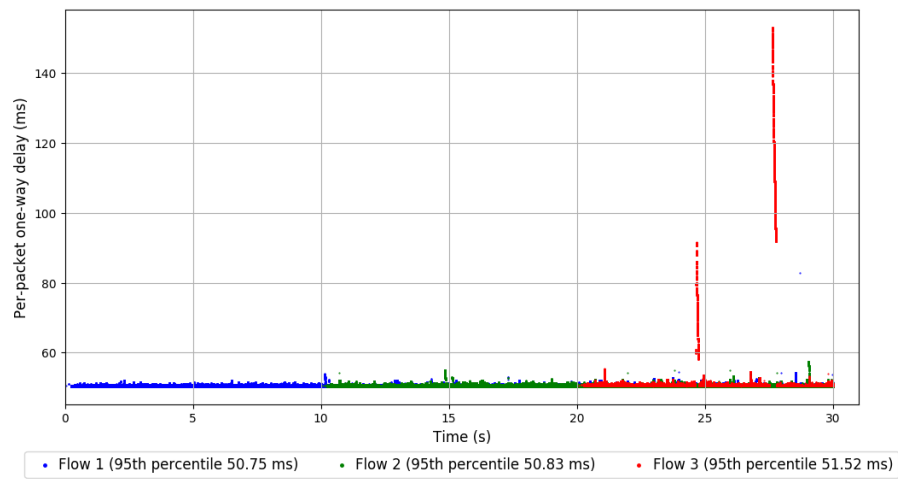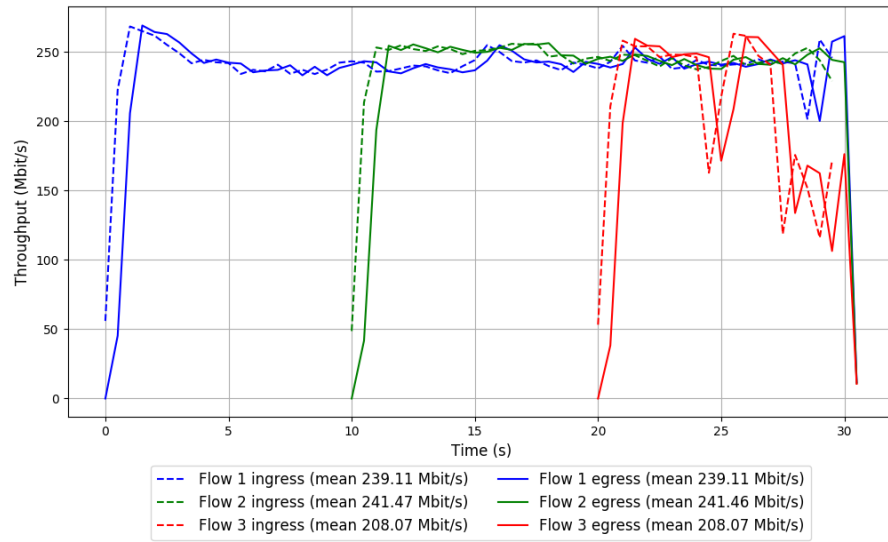
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-09-26 06:15:47
End at: 2018-09-26 06:16:17
Local clock offset: -0.101 ms
Remote clock offset: -0.0 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.25 Mbit/s
95th percentile per-packet one-way delay: 50.491 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 50.248 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 50.662 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 49.512 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-09-26 06:49:37
End at: 2018-09-26 06:50:07
Local clock offset: -0.355 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2018-09-26 09:56:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.26 Mbit/s
95th percentile per-packet one-way delay: 51.374 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 49.768 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 50.582 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 51.664 ms
Loss rate: 0.00%
```
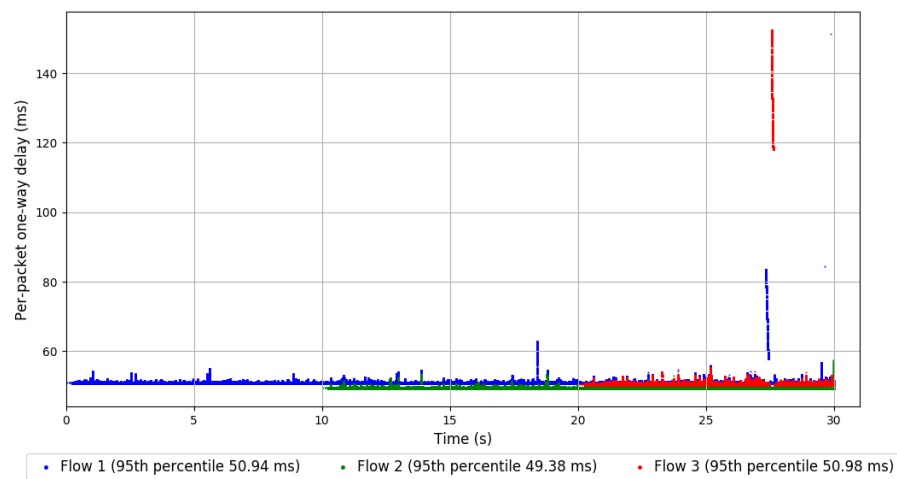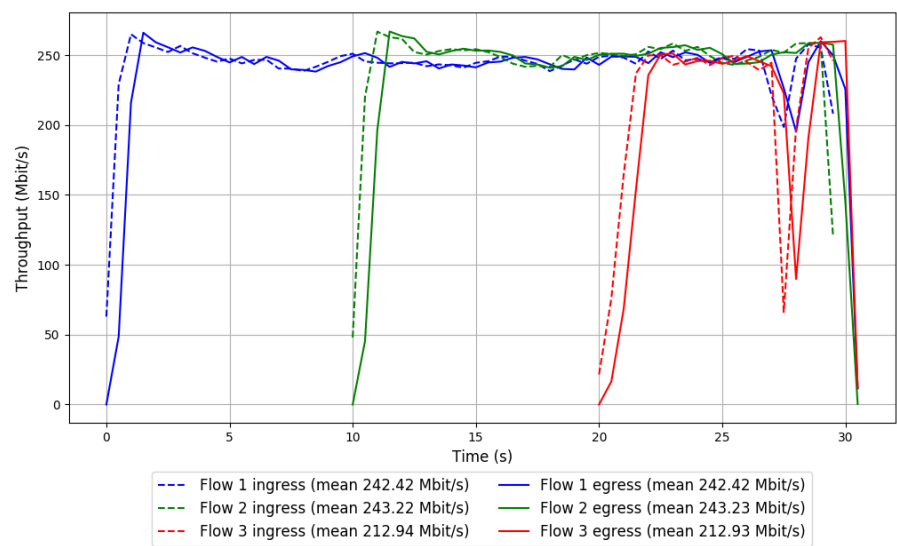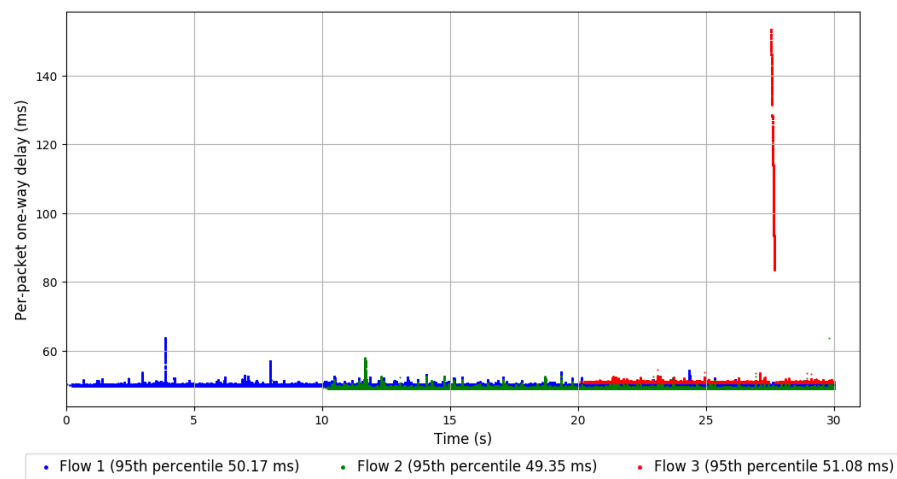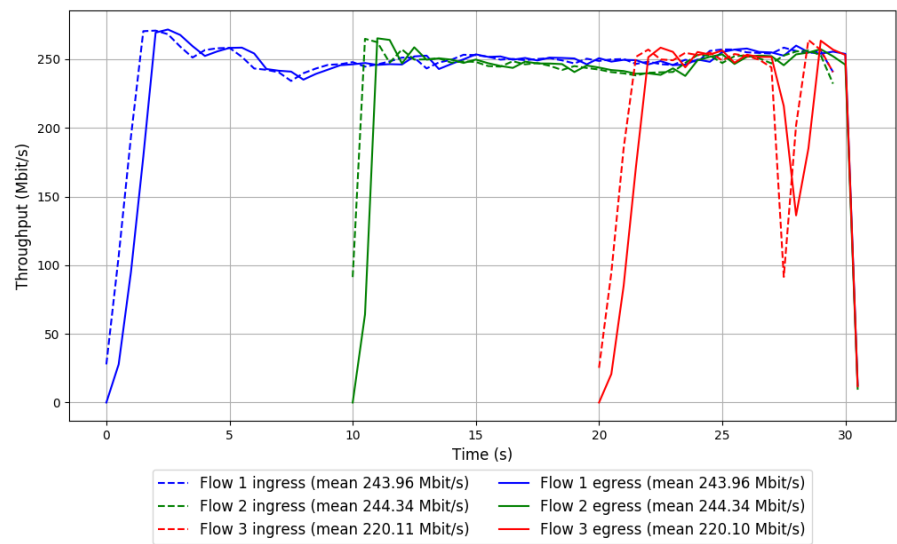
Run 5: Report of Sprout — Data Link

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

Start at: 2018-09-26 05:02:46
End at: 2018-09-26 05:03:16
Local clock offset: -0.004 ms
Remote clock offset: 0.041 ms


# Below is generated by plot.py at 2018-09-26 10:01:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.12 Mbit/s
95th percentile per-packet one-way delay: 50.851 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 239.11 Mbit/s
95th percentile per-packet one-way delay: 50.748 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 241.46 Mbit/s
95th percentile per-packet one-way delay: 50.826 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 208.07 Mbit/s
95th percentile per-packet one-way delay: 51.519 ms
Loss rate: 0.00%
```

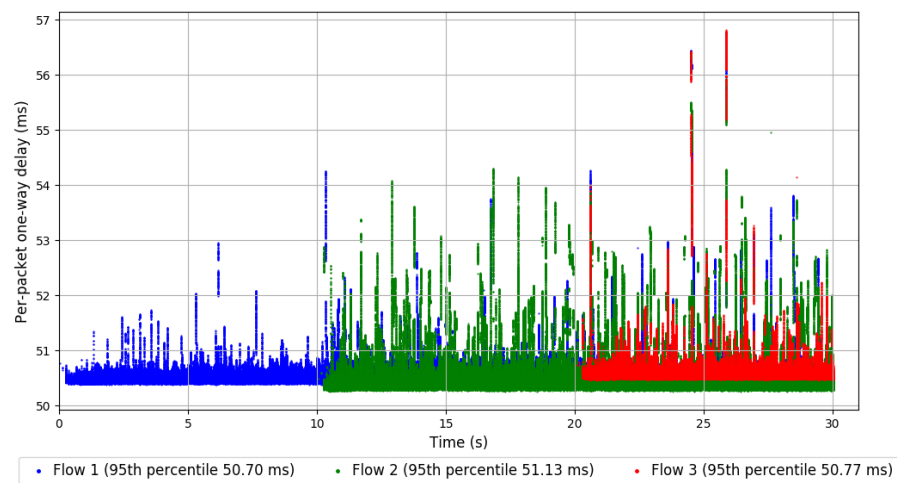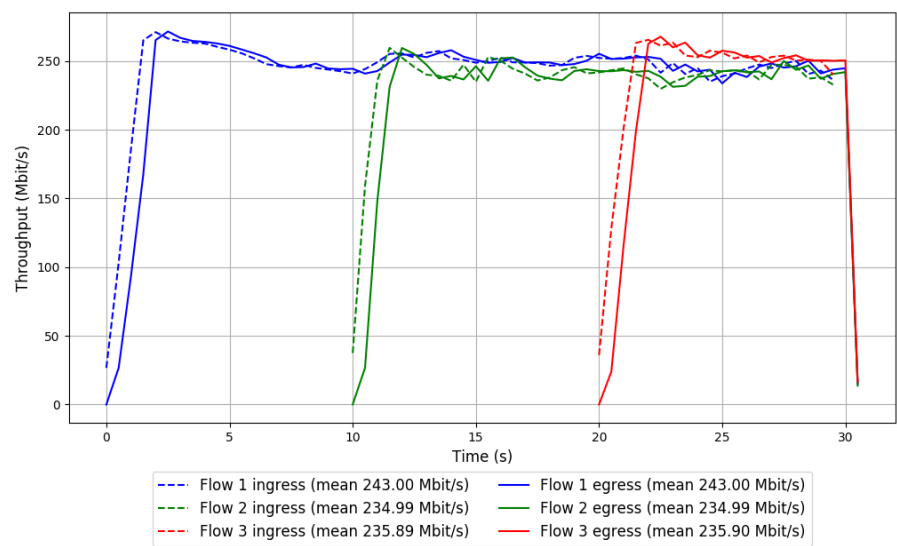# Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-26 05:36:13
End at: 2018-09-26 05:36:43
Local clock offset: -0.497 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2018-09-26 10:02:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.93 Mbit/s
95th percentile per-packet one-way delay: 50.833 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 242.42 Mbit/s
95th percentile per-packet one-way delay: 50.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 243.23 Mbit/s
95th percentile per-packet one-way delay: 49.375 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.93 Mbit/s
95th percentile per-packet one-way delay: 50.985 ms
Loss rate: 0.01%
```

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

- - - - Flow 1 ingress (mean 242.42 Mbit/s) ———— Flow 1 egress (mean 242.42 Mbit/s)
- - - - Flow 2 ingress (mean 243.22 Mbit/s) ———— Flow 2 egress (mean 243.23 Mbit/s)
- - - - Flow 3 ingress (mean 212.94 Mbit/s) ———— Flow 3 egress (mean 212.93 Mbit/s)

- Flow 1 (95th percentile 50.94 ms)   - Flow 2 (95th percentile 49.38 ms)   - Flow 3 (95th percentile 50.98 ms)
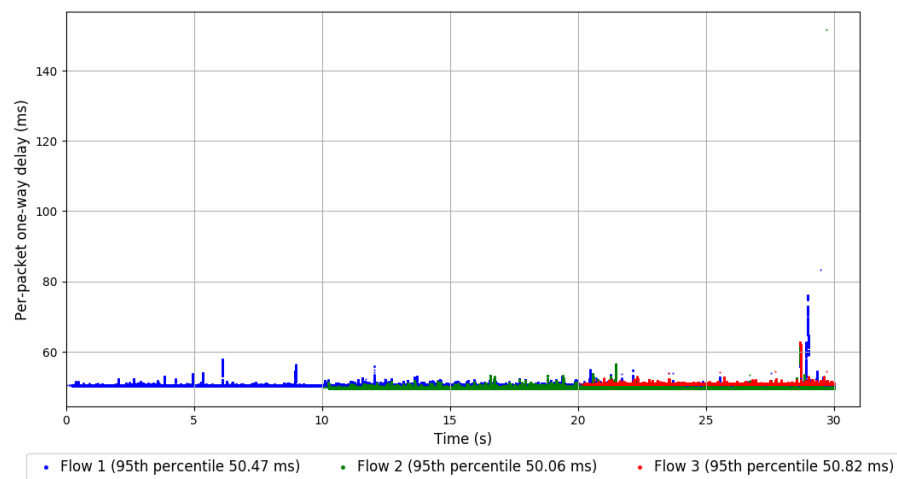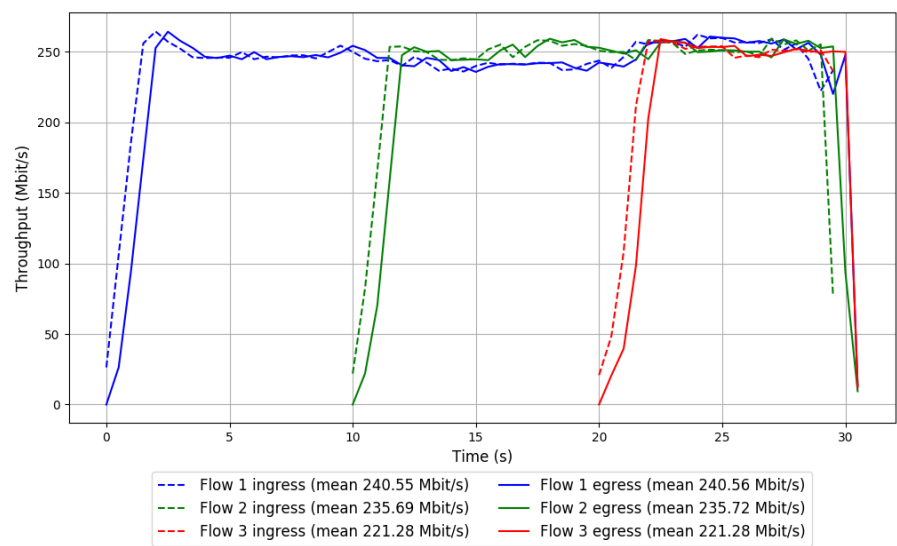
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```
Run 3: Statistics of TaoVA-100x

Start at: 2018-09-26 06:10:00
End at: 2018-09-26 06:10:30
Local clock offset: -0.407 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2018-09-26 10:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 479.80 Mbit/s
95th percentile per-packet one-way delay: 50.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 243.96 Mbit/s
95th percentile per-packet one-way delay: 50.166 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.34 Mbit/s
95th percentile per-packet one-way delay: 49.350 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 220.10 Mbit/s
95th percentile per-packet one-way delay: 51.080 ms
Loss rate: 0.02%
```
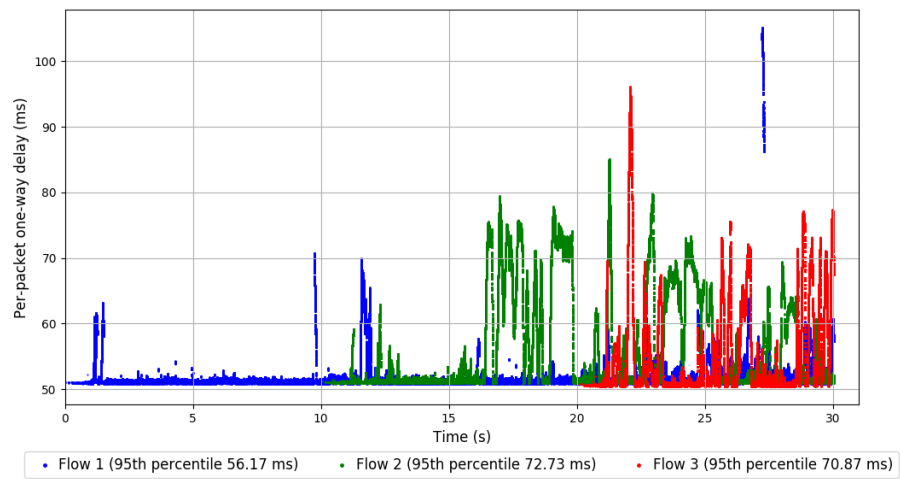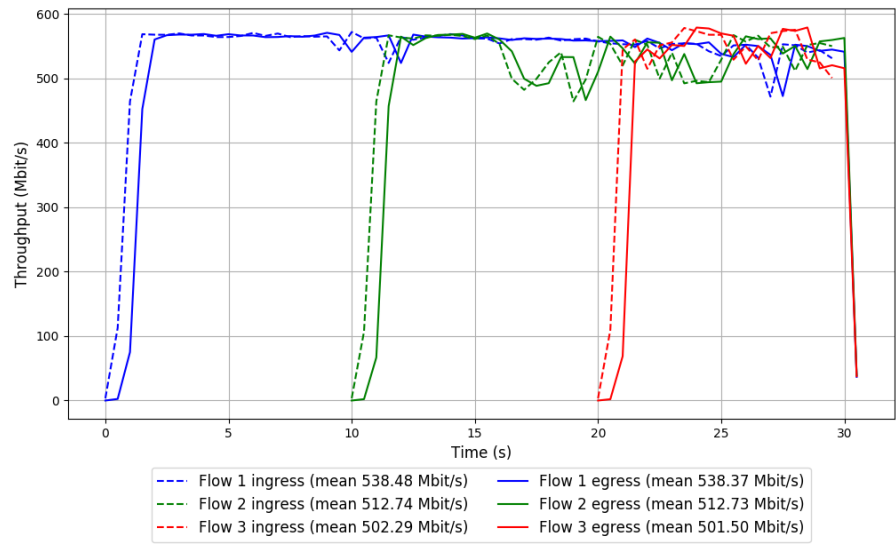
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 243.96 Mbit/s)   Flow 1 egress (mean 243.96 Mbit/s)
Flow 2 ingress (mean 244.34 Mbit/s)   Flow 2 egress (mean 244.34 Mbit/s)
Flow 3 ingress (mean 220.11 Mbit/s)   Flow 3 egress (mean 220.10 Mbit/s)

Flow 1 (95th percentile 50.17 ms)   Flow 2 (95th percentile 49.35 ms)   Flow 3 (95th percentile 51.08 ms)

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

Start at: 2018-09-26 06:43:49
End at: 2018-09-26 06:44:19
Local clock offset: -0.032 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2018-09-26 10:02:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.78 Mbit/s
95th percentile per-packet one-way delay: 50.800 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 243.00 Mbit/s
95th percentile per-packet one-way delay: 50.700 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 234.99 Mbit/s
95th percentile per-packet one-way delay: 51.134 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 235.90 Mbit/s
95th percentile per-packet one-way delay: 50.768 ms
Loss rate: 0.00%
```
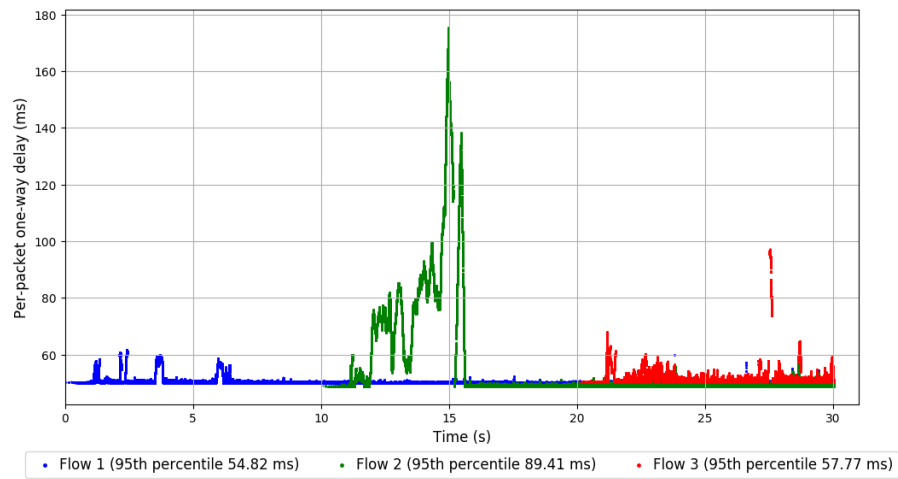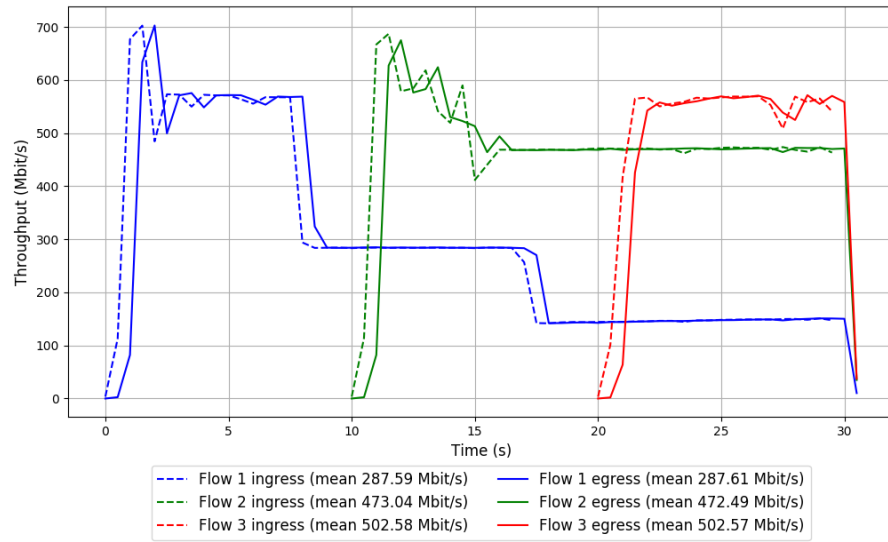
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-26 07:17:13
End at: 2018-09-26 07:17:43
Local clock offset: 0.05 ms
Remote clock offset: -0.085 ms


# Below is generated by plot.py at 2018-09-26 10:06:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 471.02 Mbit/s
95th percentile per-packet one-way delay: 50.679 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 240.56 Mbit/s
95th percentile per-packet one-way delay: 50.471 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 235.72 Mbit/s
95th percentile per-packet one-way delay: 50.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 221.28 Mbit/s
95th percentile per-packet one-way delay: 50.816 ms
Loss rate: 0.01%
```

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

Flow 1 ingress (mean 240.55 Mbit/s)   Flow 1 egress (mean 240.56 Mbit/s)
Flow 2 ingress (mean 235.69 Mbit/s)   Flow 2 egress (mean 235.72 Mbit/s)
Flow 3 ingress (mean 221.28 Mbit/s)   Flow 3 egress (mean 221.28 Mbit/s)

Flow 1 (95th percentile 50.47 ms)   Flow 2 (95th percentile 50.06 ms)   Flow 3 (95th percentile 50.82 ms)
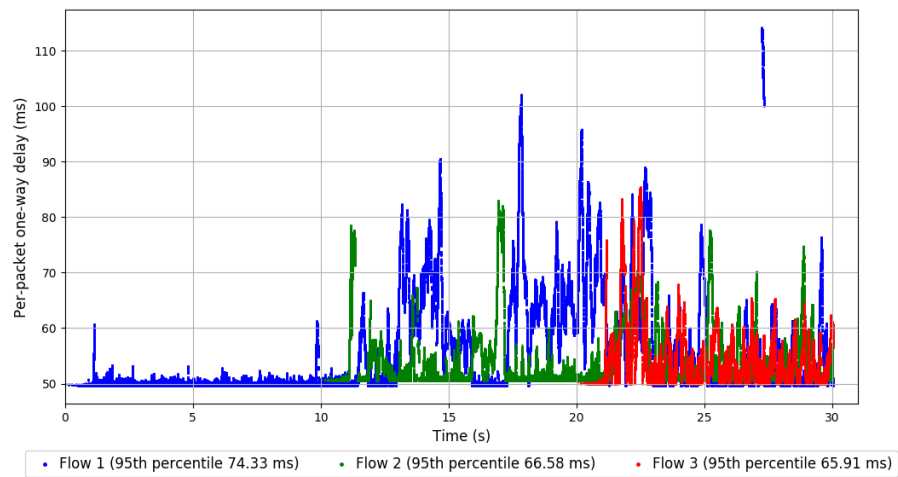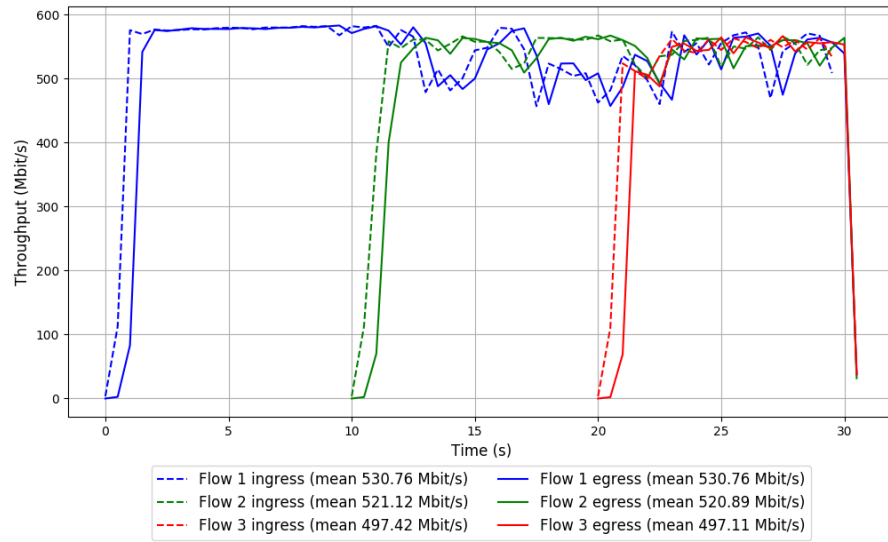
```
Run 1: Statistics of TCP Vegas

Start at: 2018-09-26 04:50:55
End at: 2018-09-26 04:51:25
Local clock offset: -0.273 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2018-09-26 10:10:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1046.48 Mbit/s
95th percentile per-packet one-way delay: 68.987 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 538.37 Mbit/s
95th percentile per-packet one-way delay: 56.174 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 512.73 Mbit/s
95th percentile per-packet one-way delay: 72.729 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 501.50 Mbit/s
95th percentile per-packet one-way delay: 70.869 ms
Loss rate: 0.17%
```

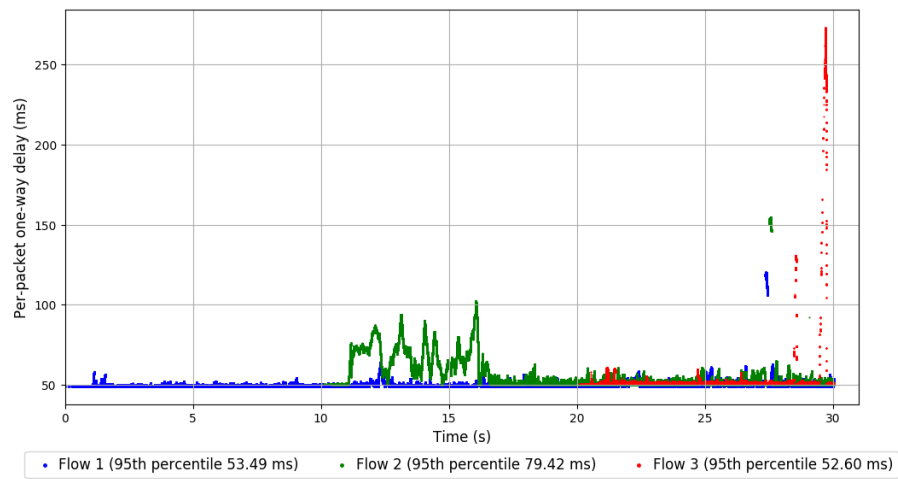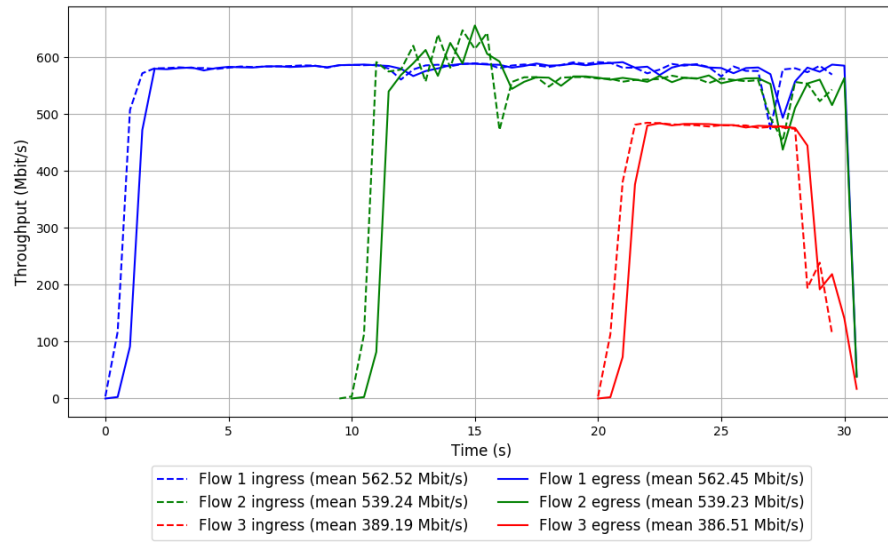Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-09-26 05:24:31
End at: 2018-09-26 05:25:01
Local clock offset: -0.052 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2018-09-26 10:10:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 769.37 Mbit/s
95th percentile per-packet one-way delay: 76.439 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 287.61 Mbit/s
95th percentile per-packet one-way delay: 54.816 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 472.49 Mbit/s
95th percentile per-packet one-way delay: 89.413 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 502.57 Mbit/s
95th percentile per-packet one-way delay: 57.767 ms
Loss rate: 0.02%
```
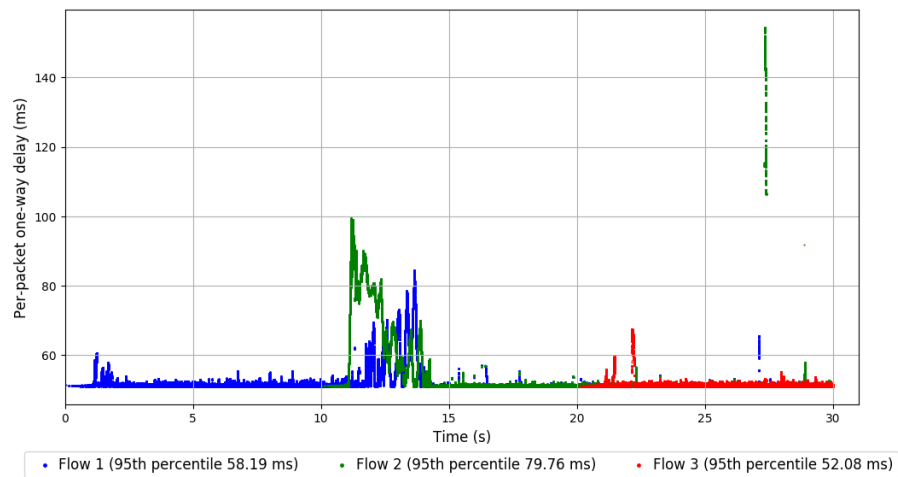
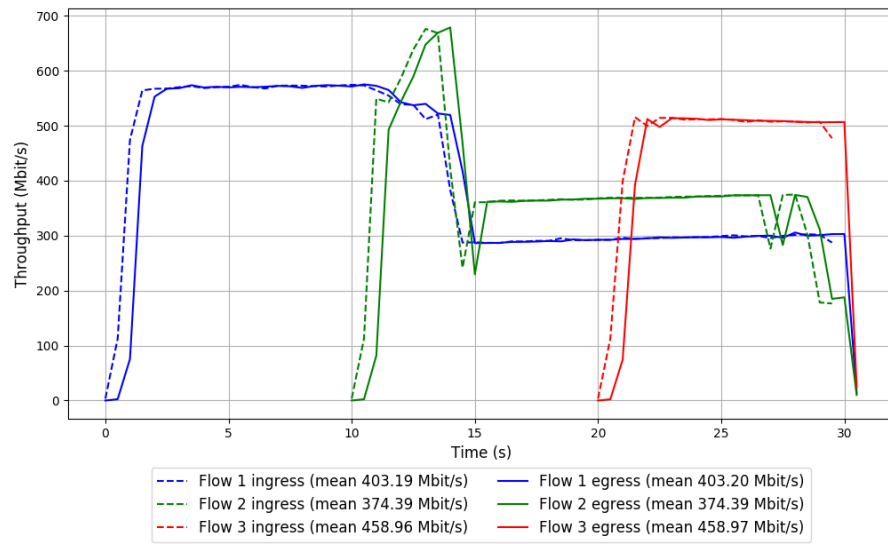Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-09-26 05:57:59
End at: 2018-09-26 05:58:29
Local clock offset: -0.093 ms
Remote clock offset: -0.075 ms


# Below is generated by plot.py at 2018-09-26 10:15:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1042.97 Mbit/s
95th percentile per-packet one-way delay: 70.629 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 530.76 Mbit/s
95th percentile per-packet one-way delay: 74.325 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 520.89 Mbit/s
95th percentile per-packet one-way delay: 66.584 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 497.11 Mbit/s
95th percentile per-packet one-way delay: 65.906 ms
Loss rate: 0.06%
```

Run 3: Report of TCP Vegas — Data Link

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```
Run 4: Statistics of TCP Vegas

Start at: 2018-09-26 06:31:52
End at: 2018-09-26 06:32:22
Local clock offset: -0.046 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2018-09-26 10:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1050.42 Mbit/s
95th percentile per-packet one-way delay: 70.091 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 562.45 Mbit/s
95th percentile per-packet one-way delay: 53.490 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 539.23 Mbit/s
95th percentile per-packet one-way delay: 79.424 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 386.51 Mbit/s
95th percentile per-packet one-way delay: 52.597 ms
Loss rate: 0.69%
```
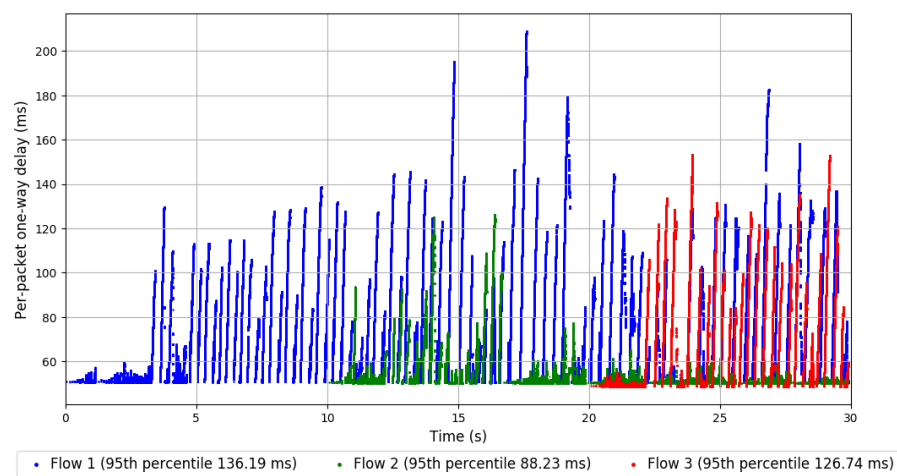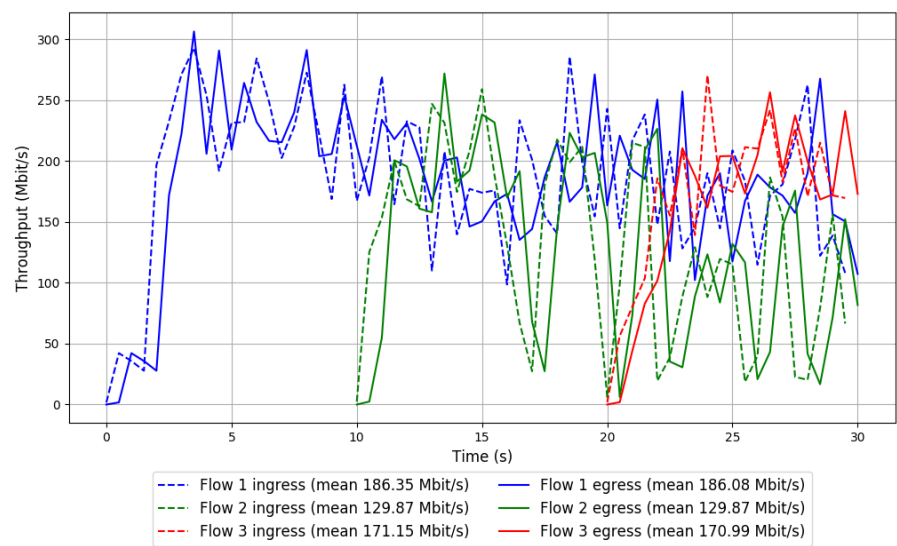
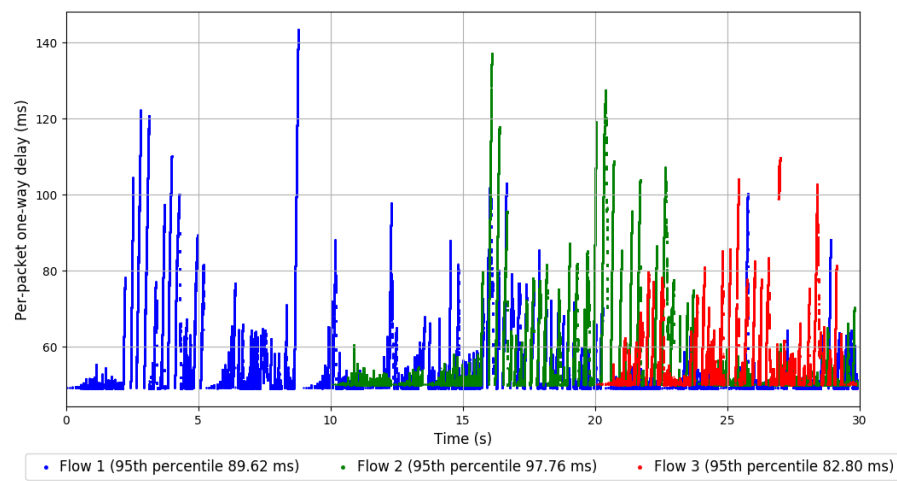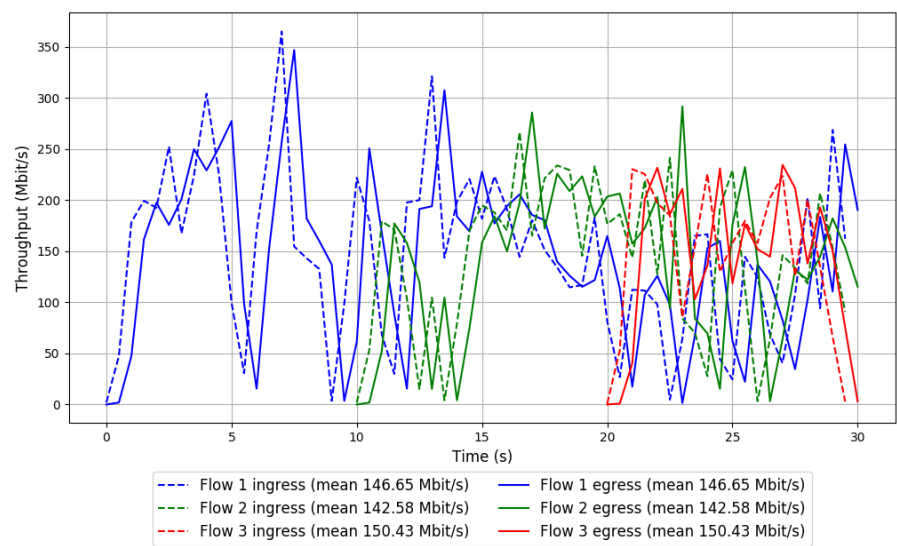Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-09-26 07:05:30
End at: 2018-09-26 07:06:00
Local clock offset: -0.354 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2018-09-26 10:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.08 Mbit/s
95th percentile per-packet one-way delay: 65.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 403.20 Mbit/s
95th percentile per-packet one-way delay: 58.185 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 374.39 Mbit/s
95th percentile per-packet one-way delay: 79.763 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 458.97 Mbit/s
95th percentile per-packet one-way delay: 52.079 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 403.19 Mbit/s) —— Flow 1 egress (mean 403.20 Mbit/s)
- - - Flow 2 ingress (mean 374.39 Mbit/s) —— Flow 2 egress (mean 374.39 Mbit/s)
- - - Flow 3 ingress (mean 458.96 Mbit/s) —— Flow 3 egress (mean 458.97 Mbit/s)

- Flow 1 (95th percentile 58.19 ms)   - Flow 2 (95th percentile 79.76 ms)   - Flow 3 (95th percentile 52.08 ms)

```
Run 1: Statistics of Verus

Start at: 2018-09-26 04:56:36
End at: 2018-09-26 04:57:06
Local clock offset: 0.01 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2018-09-26 10:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.54 Mbit/s
95th percentile per-packet one-way delay: 127.938 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 186.08 Mbit/s
95th percentile per-packet one-way delay: 136.189 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 129.87 Mbit/s
95th percentile per-packet one-way delay: 88.228 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 170.99 Mbit/s
95th percentile per-packet one-way delay: 126.736 ms
Loss rate: 0.00%
```
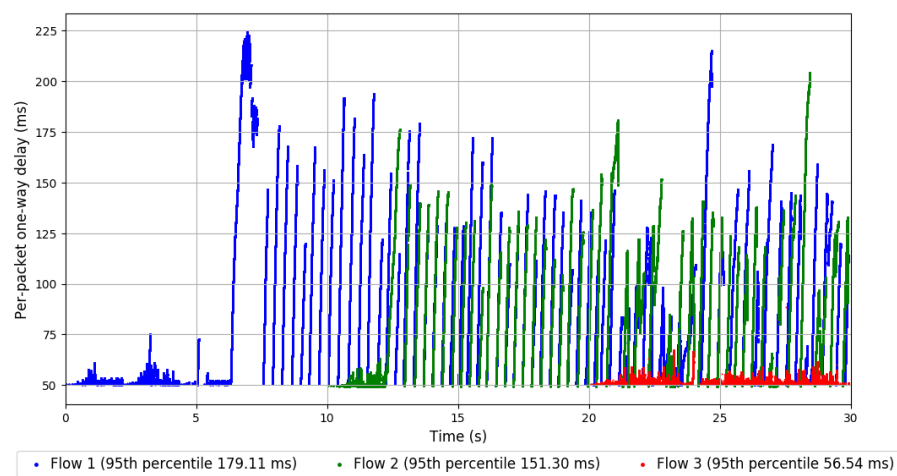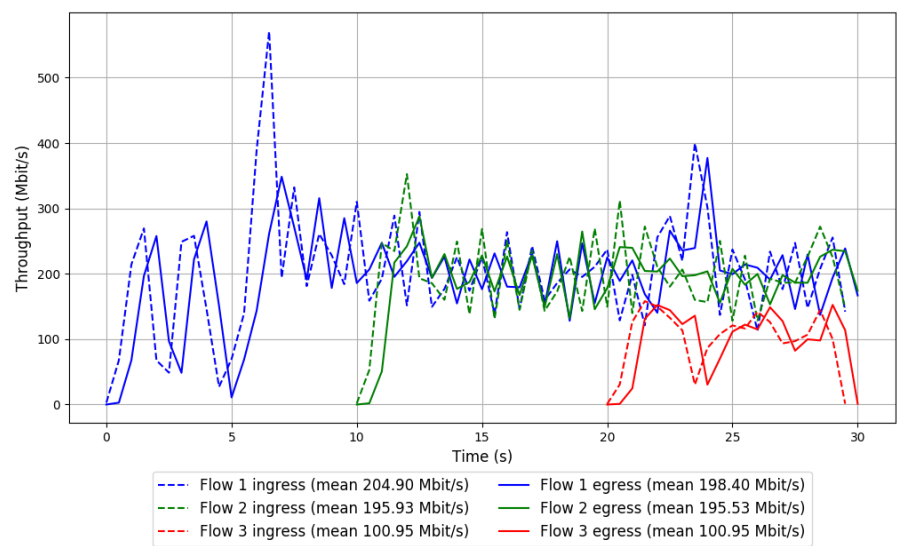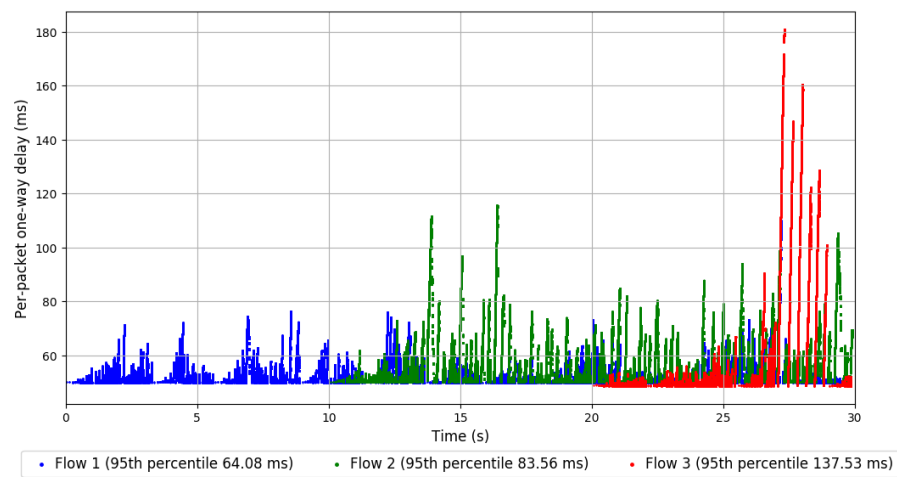
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-09-26 05:30:03
End at: 2018-09-26 05:30:33
Local clock offset: 0.284 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2018-09-26 10:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.64 Mbit/s
95th percentile per-packet one-way delay: 91.866 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 146.65 Mbit/s
95th percentile per-packet one-way delay: 89.623 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.58 Mbit/s
95th percentile per-packet one-way delay: 97.761 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 150.43 Mbit/s
95th percentile per-packet one-way delay: 82.795 ms
Loss rate: 0.00%
```
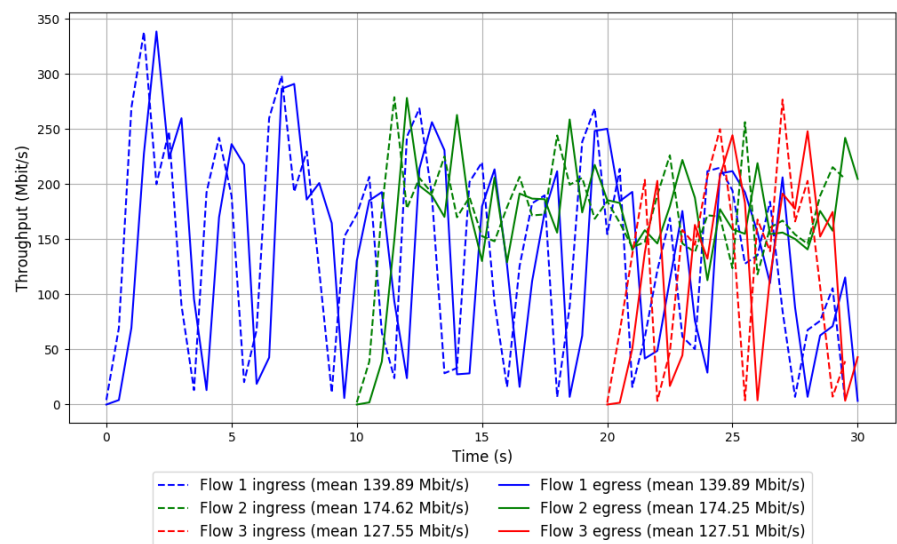
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-09-26 06:03:44
End at: 2018-09-26 06:04:14
Local clock offset: -0.039 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2018-09-26 10:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.62 Mbit/s
95th percentile per-packet one-way delay: 167.611 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 198.40 Mbit/s
95th percentile per-packet one-way delay: 179.108 ms
Loss rate: 3.17%
-- Flow 2:
Average throughput: 195.53 Mbit/s
95th percentile per-packet one-way delay: 151.301 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 100.95 Mbit/s
95th percentile per-packet one-way delay: 56.541 ms
Loss rate: 0.00%
```
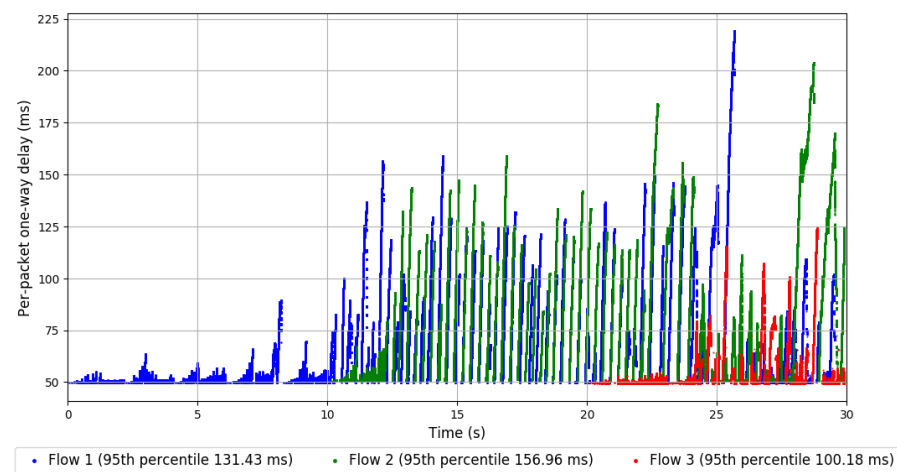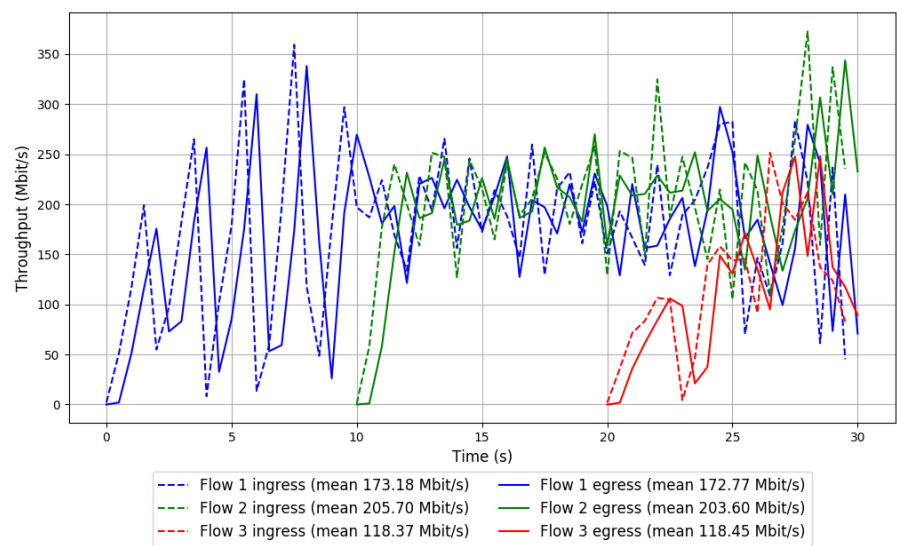
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-09-26 06:37:38
End at: 2018-09-26 06:38:08
Local clock offset: -0.023 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2018-09-26 10:20:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 297.24 Mbit/s
95th percentile per-packet one-way delay: 82.362 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 139.89 Mbit/s
95th percentile per-packet one-way delay: 64.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 174.25 Mbit/s
95th percentile per-packet one-way delay: 83.563 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 127.51 Mbit/s
95th percentile per-packet one-way delay: 137.529 ms
Loss rate: 0.00%
```

Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-09-26 07:10:58
End at: 2018-09-26 07:11:28
Local clock offset: 0.058 ms
Remote clock offset: -0.092 ms

# Below is generated by plot.py at 2018-09-26 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.07 Mbit/s
95th percentile per-packet one-way delay: 142.382 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 172.77 Mbit/s
95th percentile per-packet one-way delay: 131.428 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 203.60 Mbit/s
95th percentile per-packet one-way delay: 156.960 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 118.45 Mbit/s
95th percentile per-packet one-way delay: 100.176 ms
Loss rate: 0.00%
```
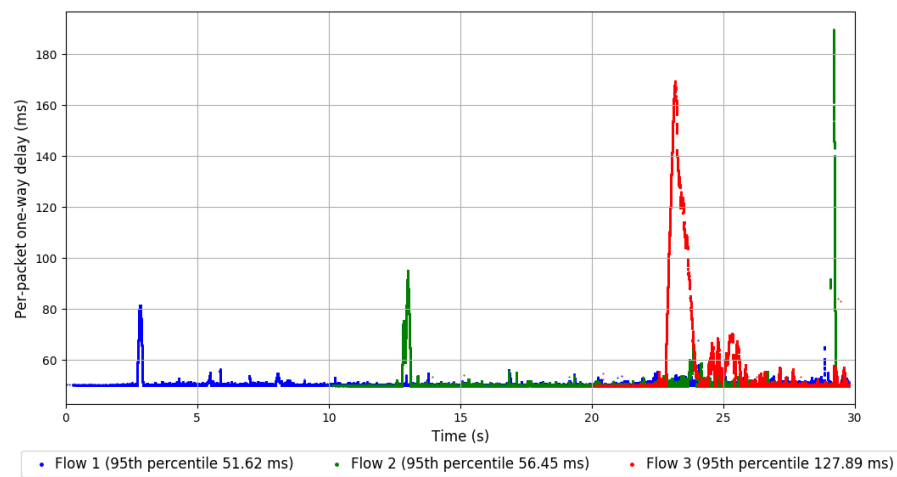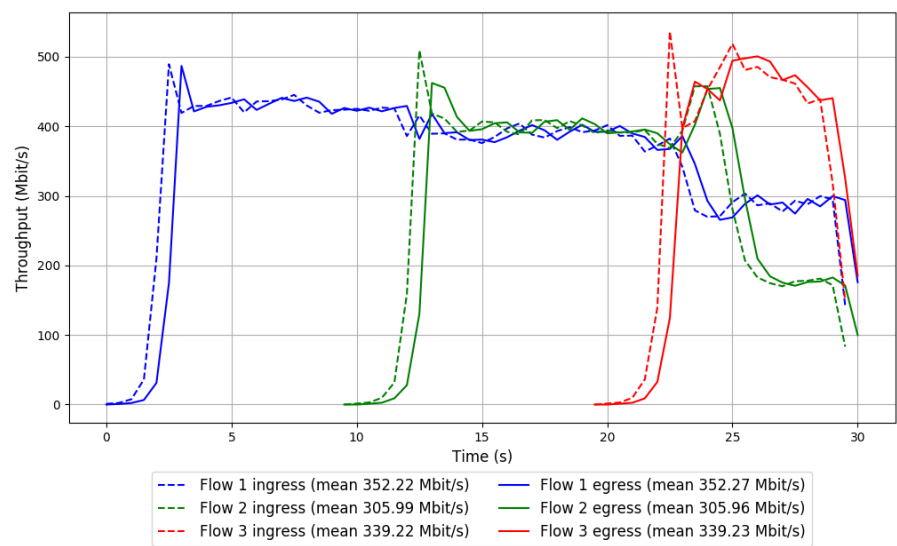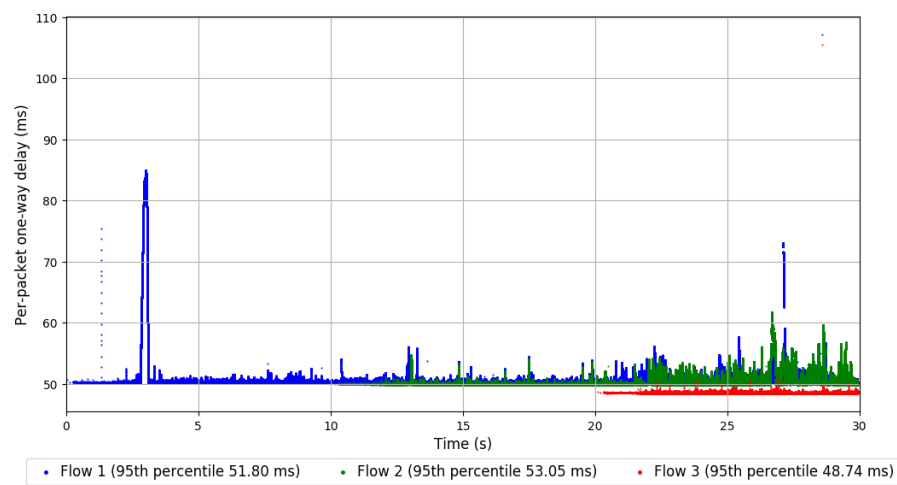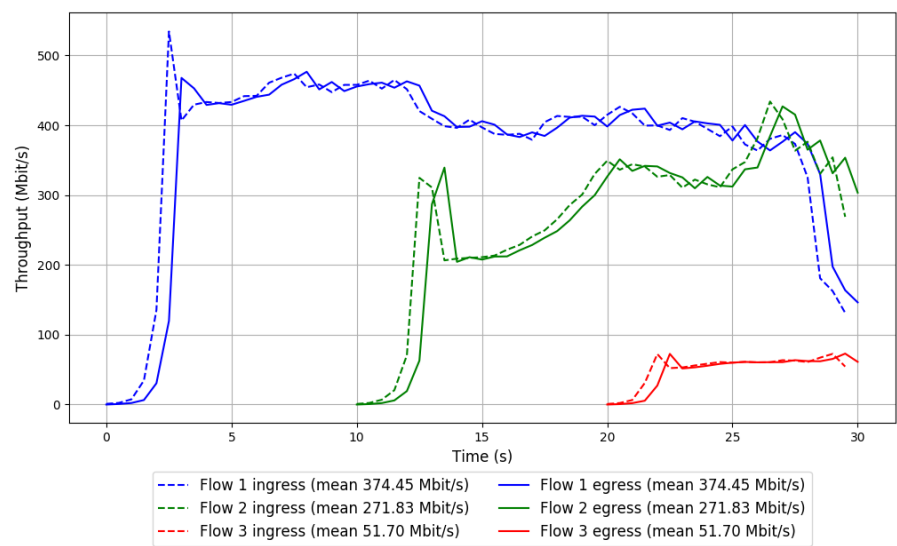
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-26 05:06:46
End at: 2018-09-26 05:07:16
Local clock offset: 0.355 ms
Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2018-09-26 10:23:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 669.11 Mbit/s
95th percentile per-packet one-way delay: 61.735 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 352.27 Mbit/s
95th percentile per-packet one-way delay: 51.623 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 305.96 Mbit/s
95th percentile per-packet one-way delay: 56.449 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 339.23 Mbit/s
95th percentile per-packet one-way delay: 127.893 ms
Loss rate: 0.01%
```
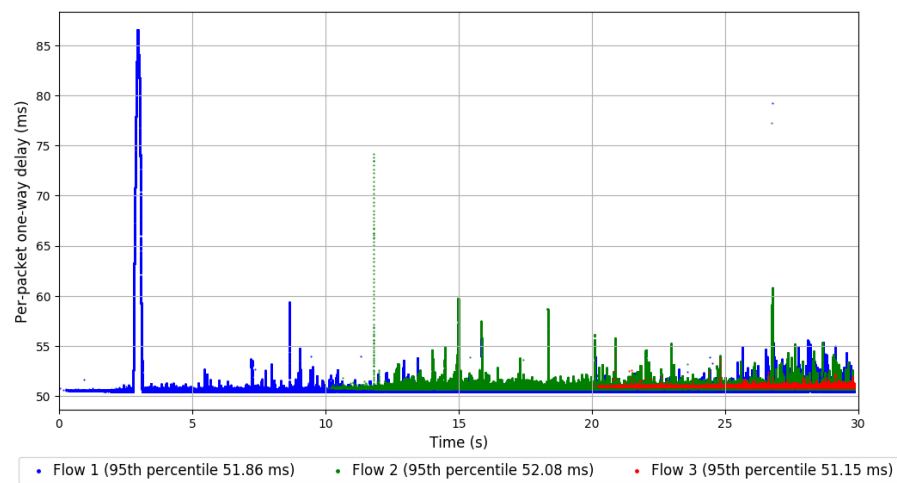
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-09-26 05:40:14
End at: 2018-09-26 05:40:44
Local clock offset: 0.237 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-09-26 10:23:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 572.12 Mbit/s
95th percentile per-packet one-way delay: 52.260 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 374.45 Mbit/s
95th percentile per-packet one-way delay: 51.803 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 271.83 Mbit/s
95th percentile per-packet one-way delay: 53.054 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.70 Mbit/s
95th percentile per-packet one-way delay: 48.739 ms
Loss rate: 0.00%
```

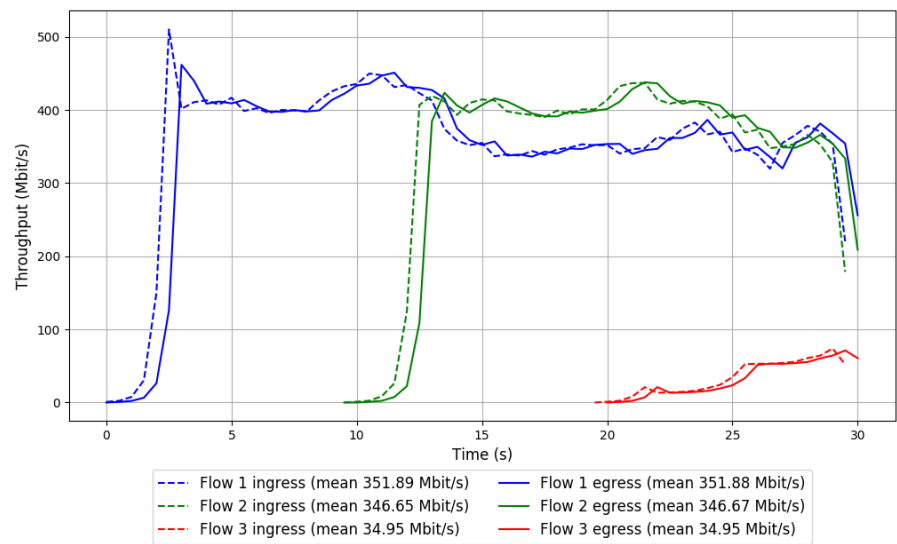Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-09-26 06:13:58
End at: 2018-09-26 06:14:28
Local clock offset: -0.466 ms
Remote clock offset: -0.065 ms


# Below is generated by plot.py at 2018-09-26 10:24:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 594.50 Mbit/s
95th percentile per-packet one-way delay: 51.947 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 351.88 Mbit/s
95th percentile per-packet one-way delay: 51.862 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 346.67 Mbit/s
95th percentile per-packet one-way delay: 52.075 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.95 Mbit/s
95th percentile per-packet one-way delay: 51.145 ms
Loss rate: 0.03%
```

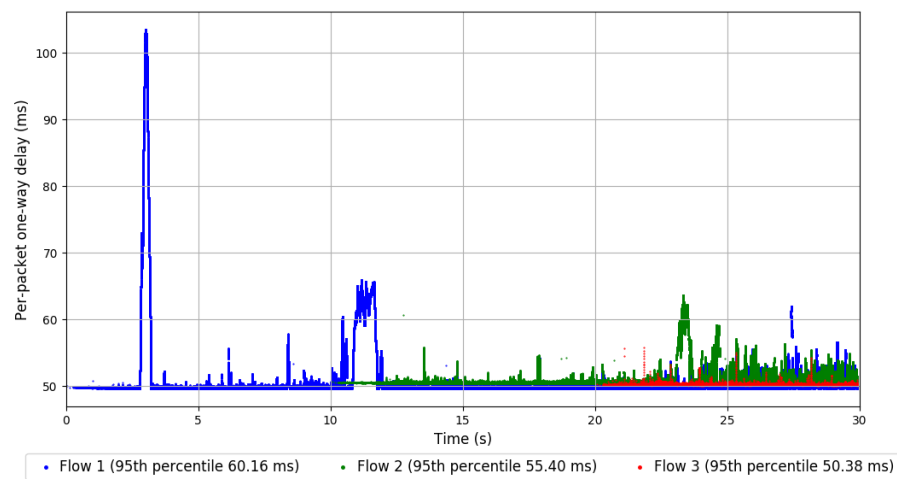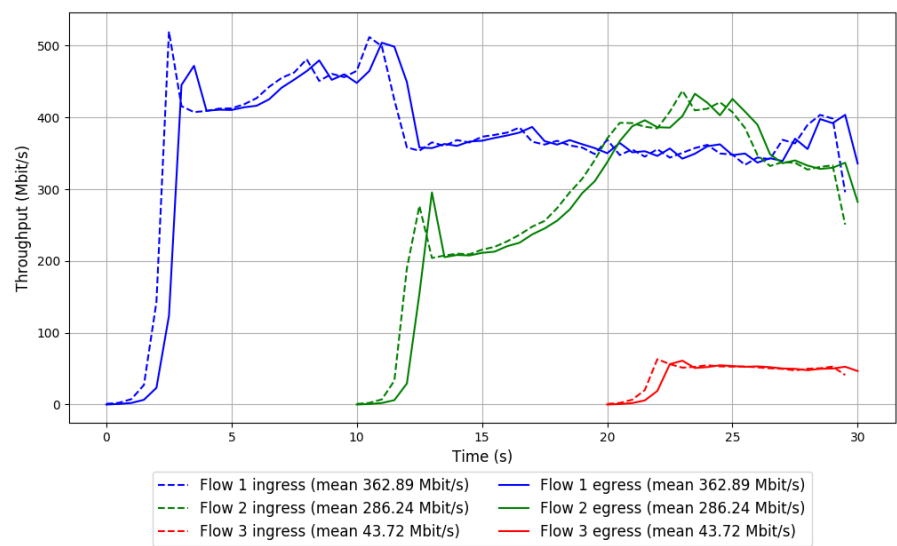# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-09-26 06:47:48
End at: 2018-09-26 06:48:18
Local clock offset: -0.021 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-09-26 10:24:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.61 Mbit/s
95th percentile per-packet one-way delay: 57.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 362.89 Mbit/s
95th percentile per-packet one-way delay: 60.161 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 286.24 Mbit/s
95th percentile per-packet one-way delay: 55.396 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.72 Mbit/s
95th percentile per-packet one-way delay: 50.379 ms
Loss rate: 0.00%
```

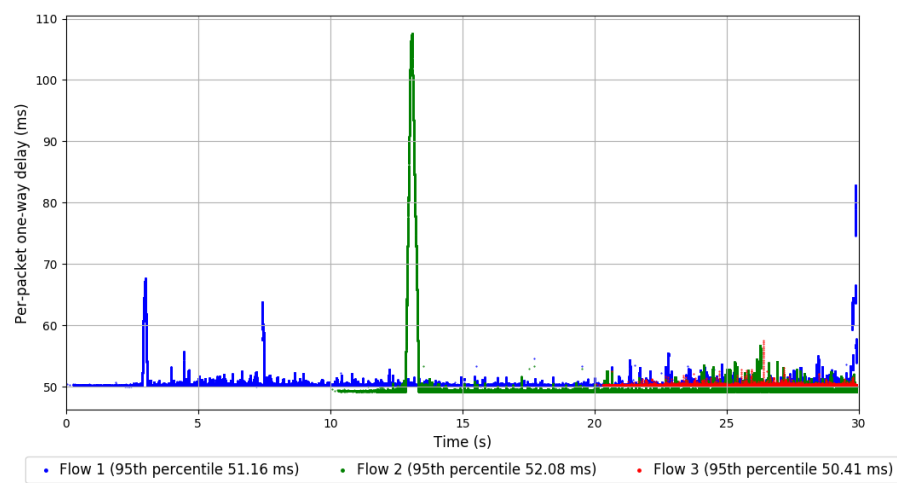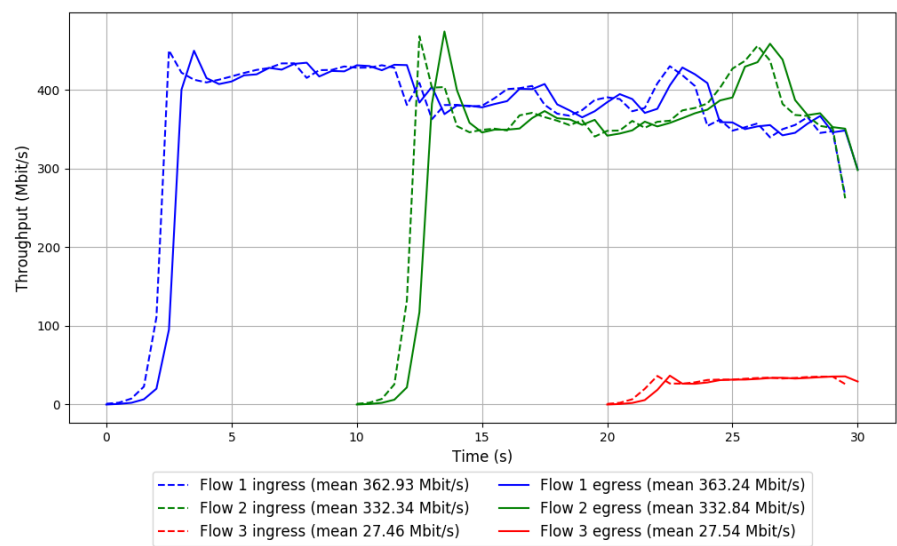# Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-09-26 07:21:13
End at: 2018-09-26 07:21:43
Local clock offset: 0.393 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 593.54 Mbit/s
95th percentile per-packet one-way delay: 51.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 363.24 Mbit/s
95th percentile per-packet one-way delay: 51.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 332.84 Mbit/s
95th percentile per-packet one-way delay: 52.084 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.54 Mbit/s
95th percentile per-packet one-way delay: 50.406 ms
Loss rate: 0.02%
```

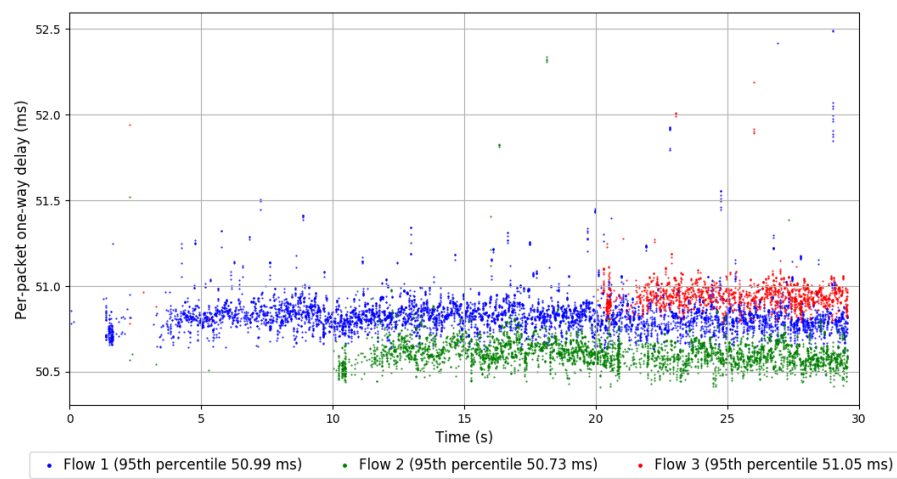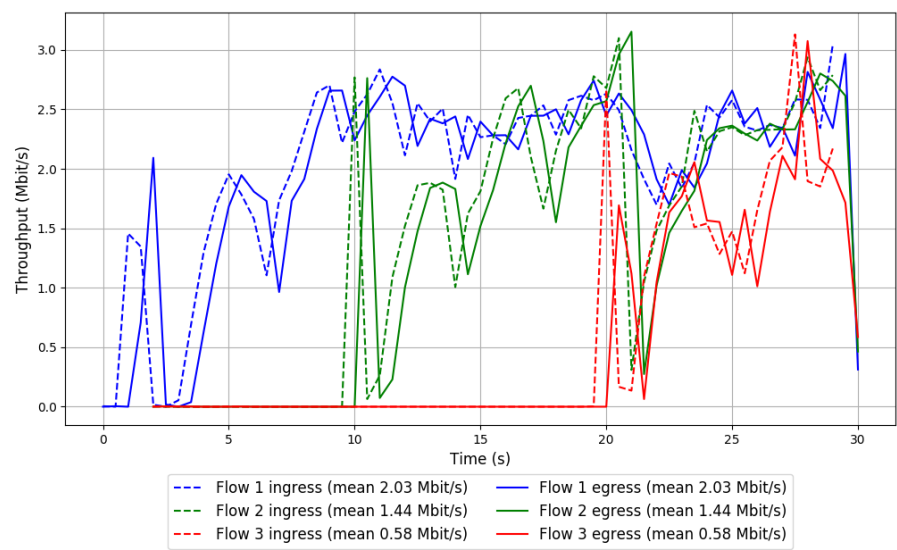Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-09-26 04:38:25
End at: 2018-09-26 04:38:55
Local clock offset: -0.006 ms
Remote clock offset: -0.098 ms

# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 50.996 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 50.988 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 50.727 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 51.049 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-09-26 05:11:55
End at: 2018-09-26 05:12:25
Local clock offset: -0.026 ms
Remote clock offset: 0.072 ms


# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 50.319 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 49.066 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 49.750 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 50.410 ms
Loss rate: 0.06%
```
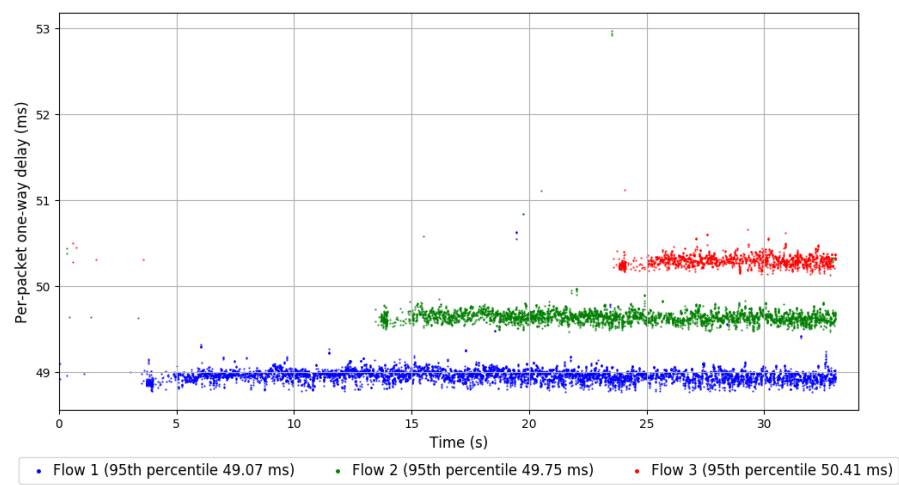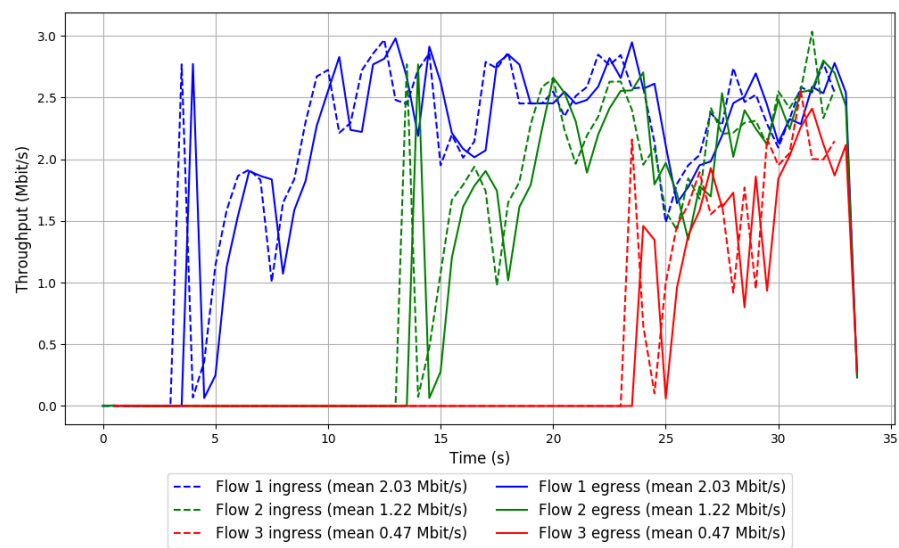
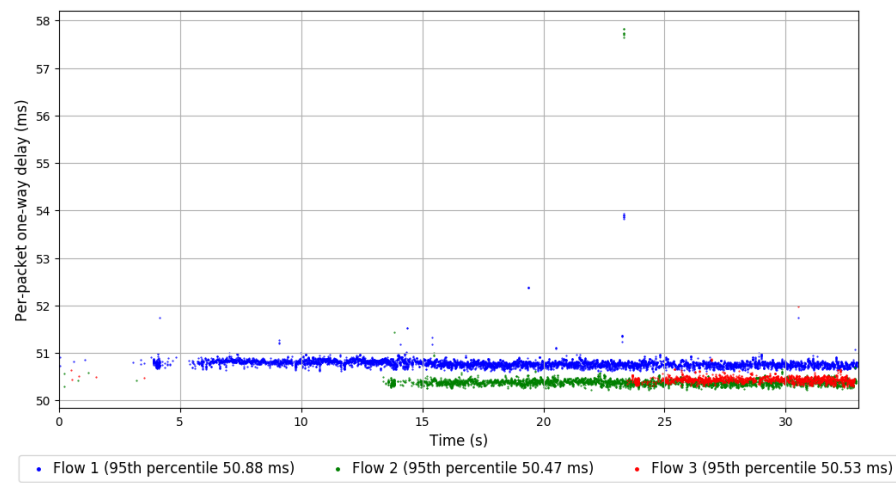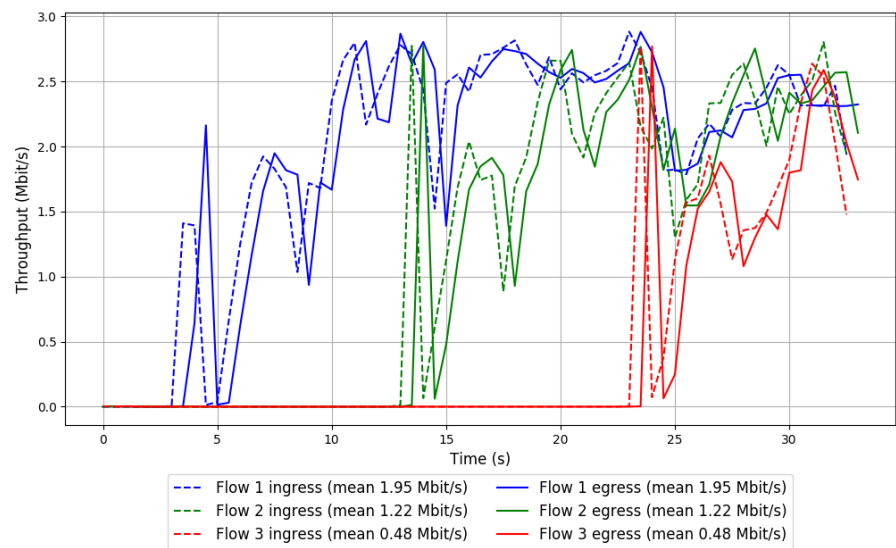Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-09-26 05:45:17
End at: 2018-09-26 05:45:47
Local clock offset: -0.193 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.63 Mbit/s
95th percentile per-packet one-way delay: 50.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 50.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 50.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 50.526 ms
Loss rate: 0.00%
```

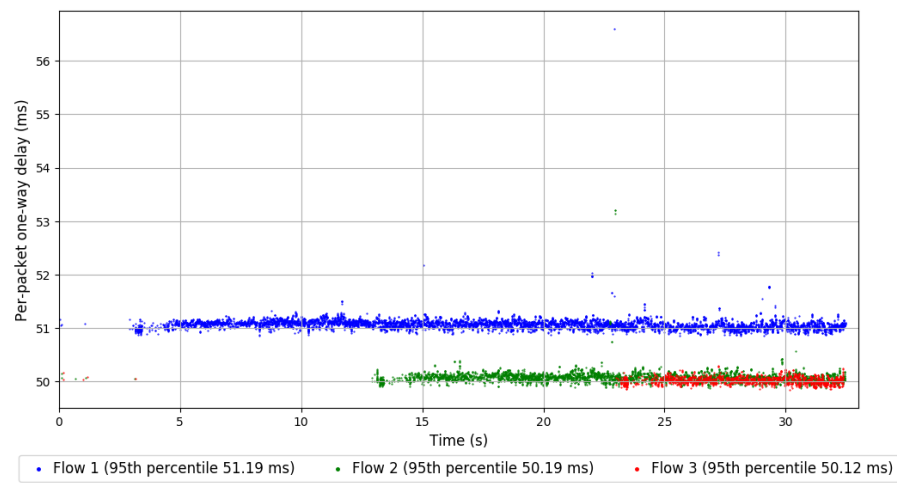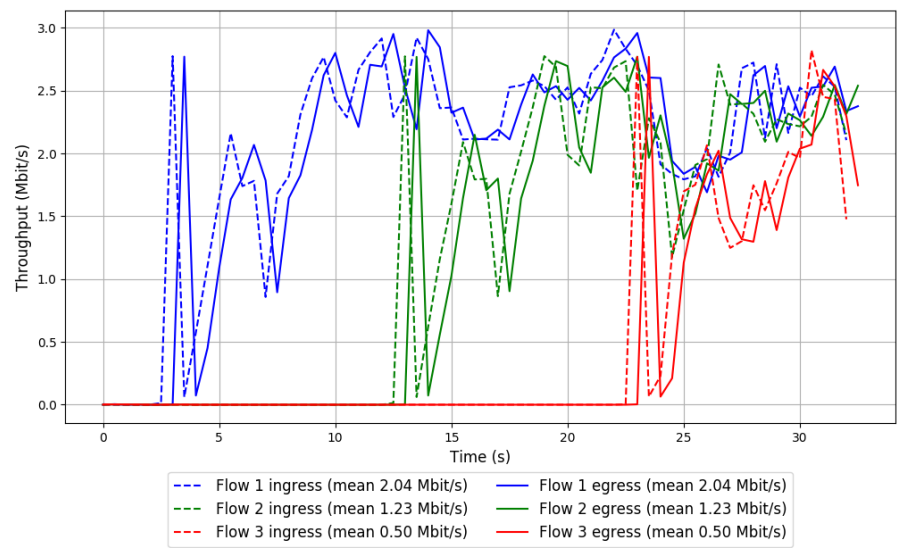Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-09-26 06:19:06
End at: 2018-09-26 06:19:36
Local clock offset: -0.484 ms
Remote clock offset: -0.023 ms


# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 51.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 51.187 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 50.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 50.124 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-09-26 06:52:53
End at: 2018-09-26 06:53:23
Local clock offset: -0.002 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2018-09-26 10:24:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.73 Mbit/s
95th percentile per-packet one-way delay: 50.658 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 50.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 50.558 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 50.741 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link