Pantheon Report

Generated at 2019-12-12 03:02:12 (UTC).

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

Repeated the test of 24 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 5.0.0-1025-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

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
```

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

test from GCE Iowa to GCE Tokyo, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE Iowa to GCE Tokyo, 5 runs of 30s each per scheme
3 flows with 10s interval between flows
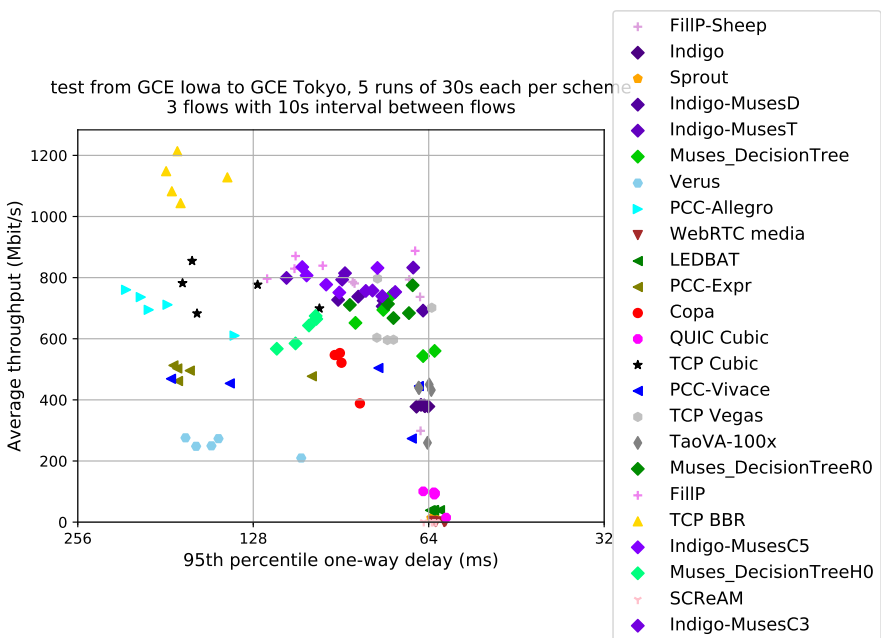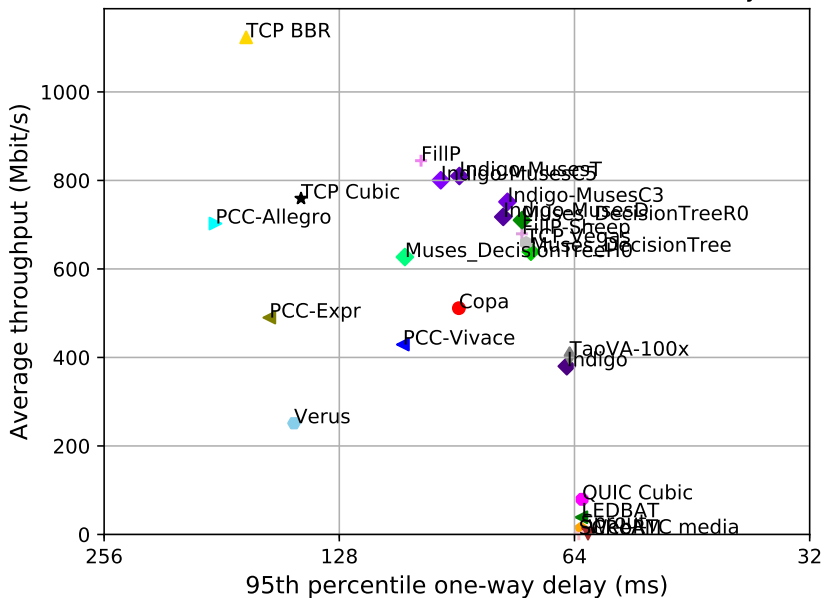
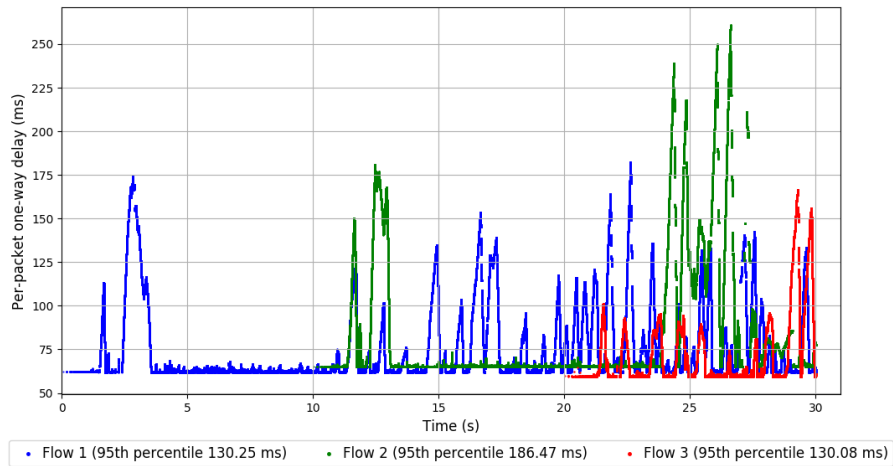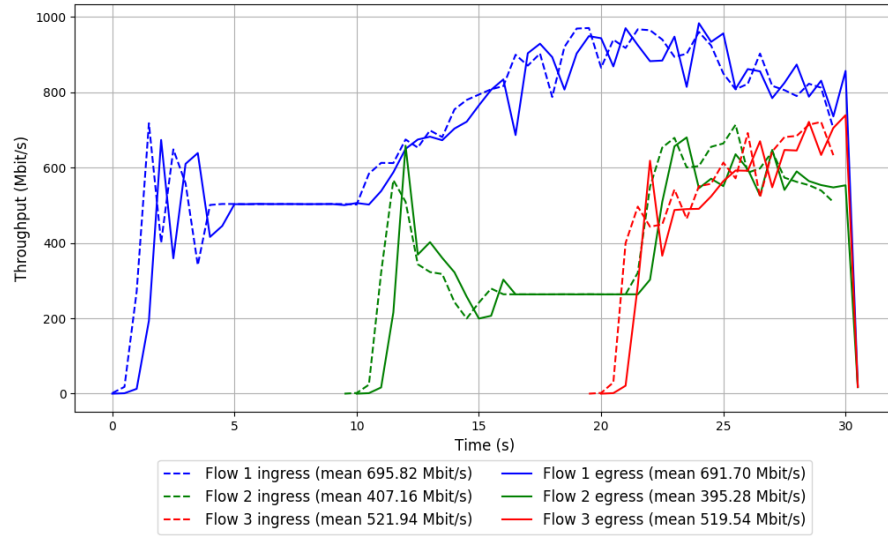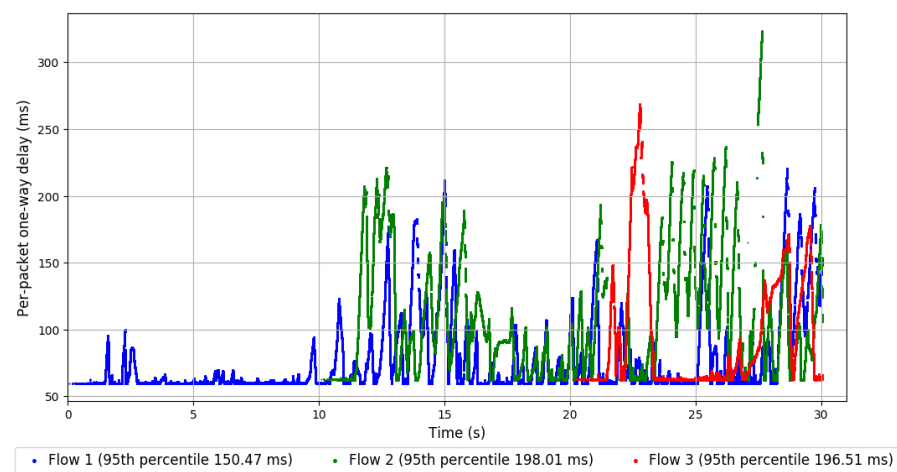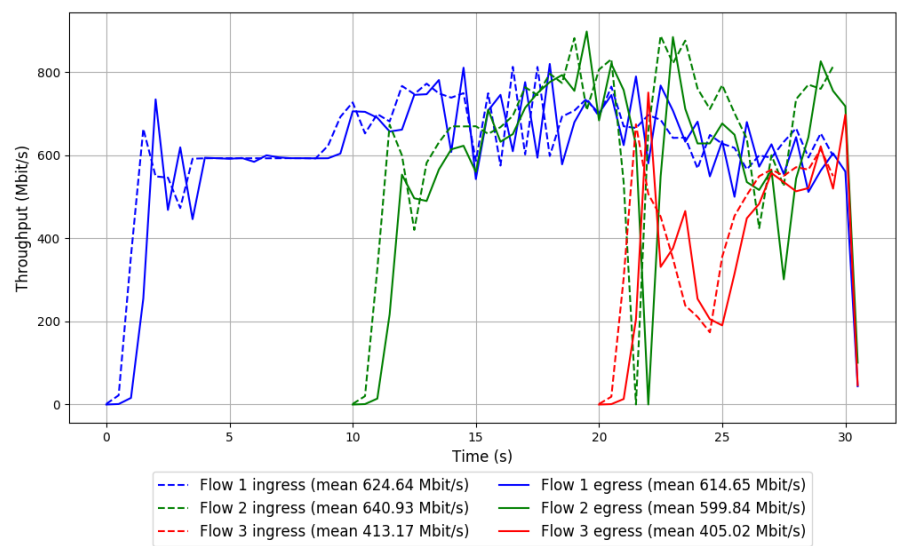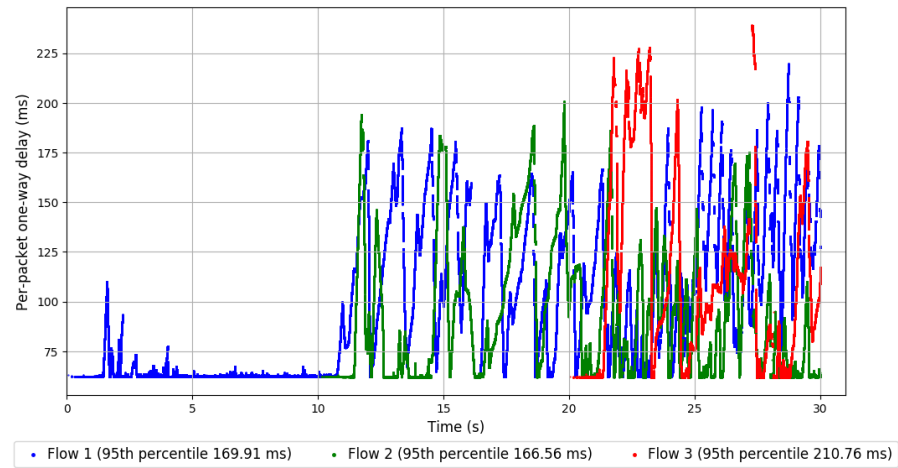| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	624.28	521.38	456.47	160.35	173.06	177.95	2.90	3.15	2.52
Copa	5	262.79	262.35	220.42	88.33	96.84	84.11	0.00	0.01	0.01
TCP Cubic	5	420.95	394.25	227.37	121.75	144.98	99.37	0.12	0.13	0.21
FillP	5	529.62	345.72	255.51	104.64	65.55	64.89	0.68	0.00	0.01
FillP-Sheep	5	402.96	305.22	221.71	79.74	64.37	63.33	0.02	0.00	0.03
Indigo	5	207.24	187.35	151.33	65.33	65.27	63.19	0.00	0.00	0.00
Indigo-MusesC3	4	448.38	379.42	248.19	83.64	69.84	63.96	0.00	0.00	0.00
Indigo-MusesC5	5	476.77	400.72	252.16	102.82	75.90	70.29	0.00	0.00	0.01
Indigo-MusesD	5	434.73	340.81	268.15	84.24	66.60	65.23	0.00	0.00	0.00
Indigo-MusesT	4	483.07	406.25	280.34	96.83	68.92	66.61	0.01	0.00	0.00
LEDBAT	5	25.27	16.40	8.05	62.28	61.92	62.31	0.00	0.00	0.00
Muses_DecisionTree	5	358.73	307.91	240.59	74.58	62.93	64.38	0.00	0.00	0.03
Muses_DecisionTreeH0	5	340.25	308.89	260.27	112.04	94.53	71.01	0.23	0.06	0.01
Muses_DecisionTreeR0	5	406.09	331.13	251.43	79.53	68.87	62.64	0.00	0.00	0.00
PCC-Allegro	5	411.98	313.30	249.67	189.65	129.15	147.70	3.45	2.01	1.36
PCC-Expr	5	280.16	244.37	142.46	156.22	138.04	81.05	1.33	1.46	0.00
QUIC Cubic	5	46.68	36.27	26.43	61.70	61.53	60.41	0.00	0.01	0.00
SCReAM	5	0.22	0.22	0.22	61.56	61.14	62.23	0.00	0.00	0.07
Sprout	5	7.01	6.87	6.54	61.52	61.17	62.70	0.00	0.00	0.00
TaoVA-100x	5	187.62	222.79	205.16	62.92	65.12	67.10	0.00	0.01	0.00
TCP Vegas	5	331.68	343.06	297.29	75.99	69.48	77.03	0.00	0.00	0.00
Verus	5	134.07	127.01	100.00	113.78	160.56	119.45	0.10	0.61	0.41
PCC-Vivace	5	235.88	226.16	129.03	88.67	90.69	63.13	0.01	0.13	0.01
WebRTC media	5	0.90	0.83	0.40	60.41	59.99	61.46	0.00	0.01	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-12-11 20:06:36
End at: 2019-12-11 20:07:06
Local clock offset: -0.079 ms
Remote clock offset: -0.188 ms


# Below is generated by plot.py at 2019-12-12 00:13:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1128.24 Mbit/s
95th percentile per-packet one-way delay: 141.770 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 691.70 Mbit/s
95th percentile per-packet one-way delay: 130.248 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 395.28 Mbit/s
95th percentile per-packet one-way delay: 186.467 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 519.54 Mbit/s
95th percentile per-packet one-way delay: 130.082 ms
Loss rate: 0.45%
```

Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 695.82 Mbit/s) --- Flow 1 egress (mean 691.70 Mbit/s)
Flow 2 ingress (mean 407.16 Mbit/s) --- Flow 2 egress (mean 395.28 Mbit/s)
Flow 3 ingress (mean 521.94 Mbit/s) --- Flow 3 egress (mean 519.54 Mbit/s)

Flow 1 (95th percentile 130.25 ms)   Flow 2 (95th percentile 186.47 ms)   Flow 3 (95th percentile 130.08 ms)
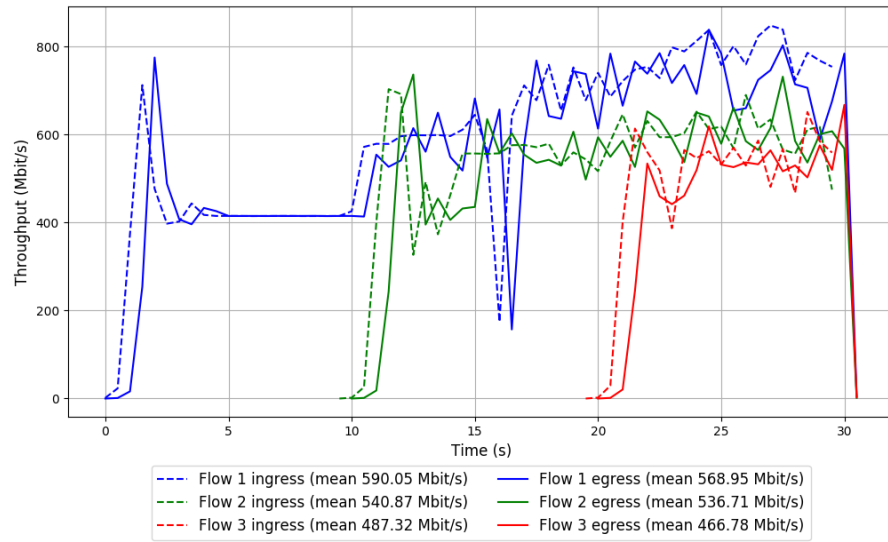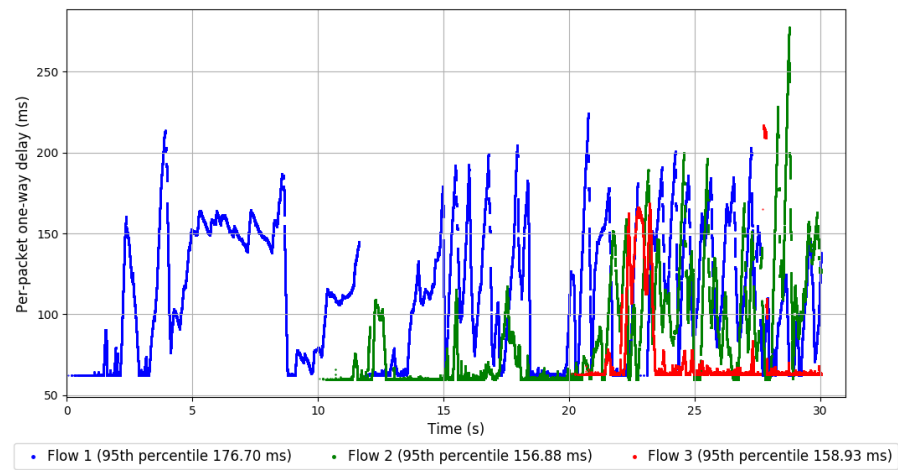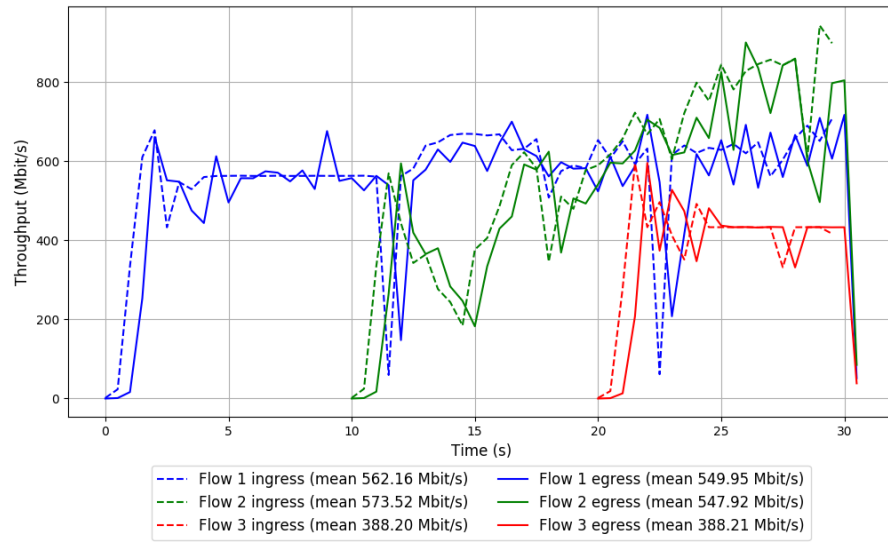
```
Run 2: Statistics of TCP BBR

Start at: 2019-12-11 20:47:33
End at: 2019-12-11 20:48:03
Local clock offset: 0.001 ms
Remote clock offset: -0.302 ms


# Below is generated by plot.py at 2019-12-12 00:13:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1148.34 Mbit/s
95th percentile per-packet one-way delay: 180.581 ms
Loss rate: 3.37%
-- Flow 1:
Average throughput: 614.65 Mbit/s
95th percentile per-packet one-way delay: 150.472 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 599.84 Mbit/s
95th percentile per-packet one-way delay: 198.010 ms
Loss rate: 6.41%
-- Flow 3:
Average throughput: 405.02 Mbit/s
95th percentile per-packet one-way delay: 196.512 ms
Loss rate: 1.97%
```

Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 624.64 Mbit/s) --- Flow 1 egress (mean 614.65 Mbit/s)
Flow 2 ingress (mean 640.93 Mbit/s) --- Flow 2 egress (mean 599.84 Mbit/s)
Flow 3 ingress (mean 413.17 Mbit/s) --- Flow 3 egress (mean 405.02 Mbit/s)

Flow 1 (95th percentile 150.47 ms)   Flow 2 (95th percentile 198.01 ms)   Flow 3 (95th percentile 196.51 ms)
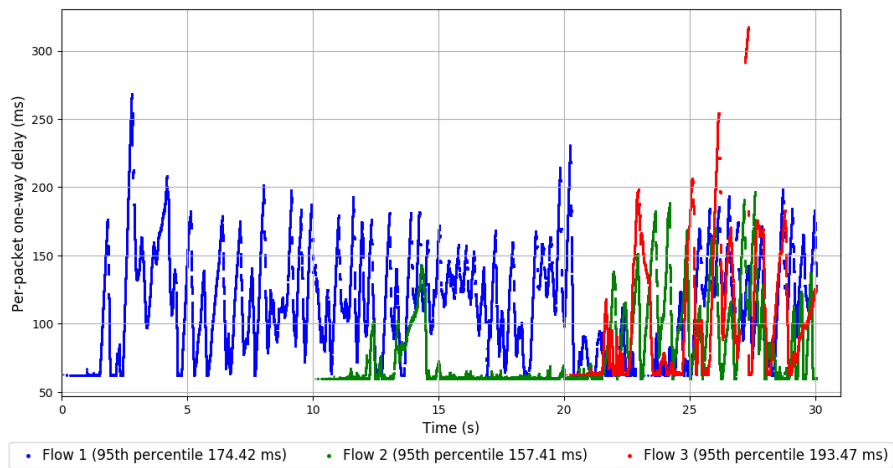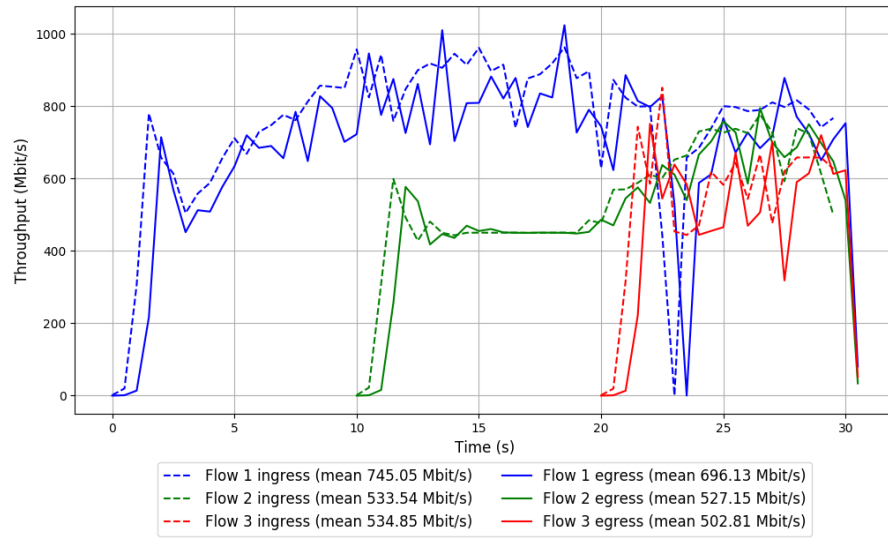
8

```
Run 3: Statistics of TCP BBR

Start at: 2019-12-11 21:28:42
End at: 2019-12-11 21:29:12
Local clock offset: -0.053 ms
Remote clock offset: -0.163 ms


# Below is generated by plot.py at 2019-12-12 00:13:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1082.66 Mbit/s
95th percentile per-packet one-way delay: 176.555 ms
Loss rate: 2.76%
-- Flow 1:
Average throughput: 568.95 Mbit/s
95th percentile per-packet one-way delay: 169.914 ms
Loss rate: 3.58%
-- Flow 2:
Average throughput: 536.71 Mbit/s
95th percentile per-packet one-way delay: 166.560 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 466.78 Mbit/s
95th percentile per-packet one-way delay: 210.758 ms
Loss rate: 4.21%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 590.05 Mbit/s)   Flow 1 egress (mean 568.95 Mbit/s)
Flow 2 ingress (mean 540.87 Mbit/s)   Flow 2 egress (mean 536.71 Mbit/s)
Flow 3 ingress (mean 487.32 Mbit/s)   Flow 3 egress (mean 466.78 Mbit/s)

Flow 1 (95th percentile 169.91 ms)   Flow 2 (95th percentile 166.56 ms)   Flow 3 (95th percentile 210.76 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-12-11 22:09:46
End at: 2019-12-11 22:10:16
Local clock offset: 0.002 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2019-12-12 00:13:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1043.81 Mbit/s
95th percentile per-packet one-way delay: 170.560 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 549.95 Mbit/s
95th percentile per-packet one-way delay: 176.702 ms
Loss rate: 2.17%
-- Flow 2:
Average throughput: 547.92 Mbit/s
95th percentile per-packet one-way delay: 156.881 ms
Loss rate: 4.45%
-- Flow 3:
Average throughput: 388.21 Mbit/s
95th percentile per-packet one-way delay: 158.932 ms
Loss rate: 0.00%
```

Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 562.16 Mbit/s) --- Flow 1 egress (mean 549.95 Mbit/s)
Flow 2 ingress (mean 573.52 Mbit/s) --- Flow 2 egress (mean 547.92 Mbit/s)
Flow 3 ingress (mean 388.20 Mbit/s) --- Flow 3 egress (mean 388.21 Mbit/s)

Flow 1 (95th percentile 176.70 ms)   Flow 2 (95th percentile 156.88 ms)   Flow 3 (95th percentile 158.93 ms)
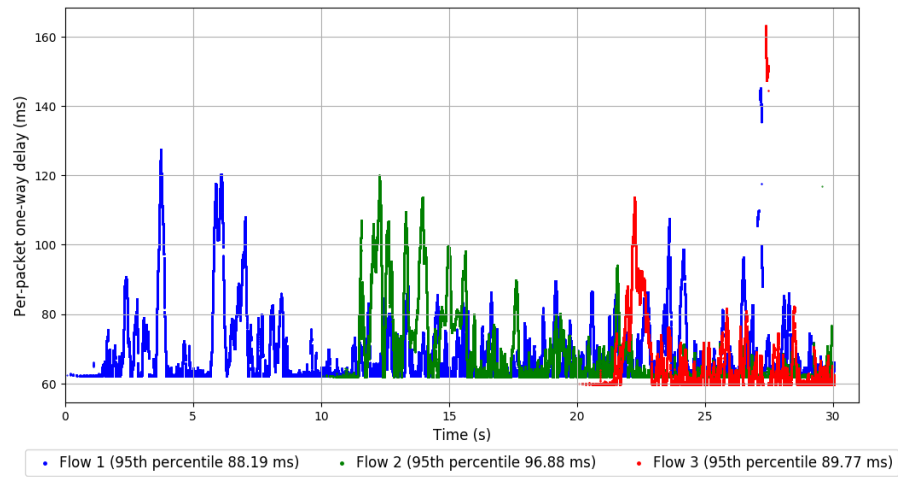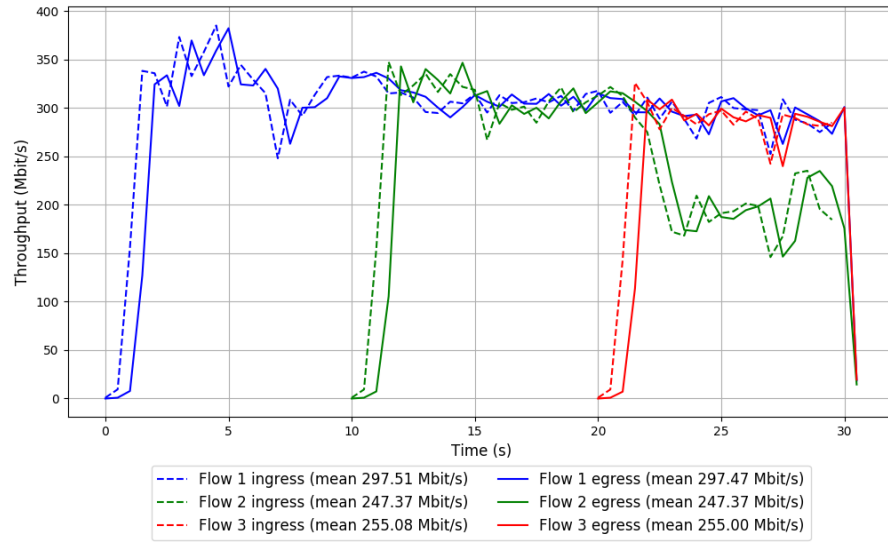
```
Run 5: Statistics of TCP BBR

Start at: 2019-12-11 22:50:41
End at: 2019-12-11 22:51:11
Local clock offset: -0.031 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-12-12 00:15:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1213.80 Mbit/s
95th percentile per-packet one-way delay: 172.731 ms
Loss rate: 4.99%
-- Flow 1:
Average throughput: 696.13 Mbit/s
95th percentile per-packet one-way delay: 174.421 ms
Loss rate: 6.57%
-- Flow 2:
Average throughput: 527.15 Mbit/s
95th percentile per-packet one-way delay: 157.407 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 502.81 Mbit/s
95th percentile per-packet one-way delay: 193.465 ms
Loss rate: 5.99%
```

Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-12-11 20:27:08
End at: 2019-12-11 20:27:38
Local clock offset: -0.057 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-12-12 00:15:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 546.72 Mbit/s
95th percentile per-packet one-way delay: 92.768 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 303.03 Mbit/s
95th percentile per-packet one-way delay: 84.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 246.71 Mbit/s
95th percentile per-packet one-way delay: 128.288 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 230.39 Mbit/s
95th percentile per-packet one-way delay: 84.518 ms
Loss rate: 0.00%
```

Run 1: Report of Copa — Data Link
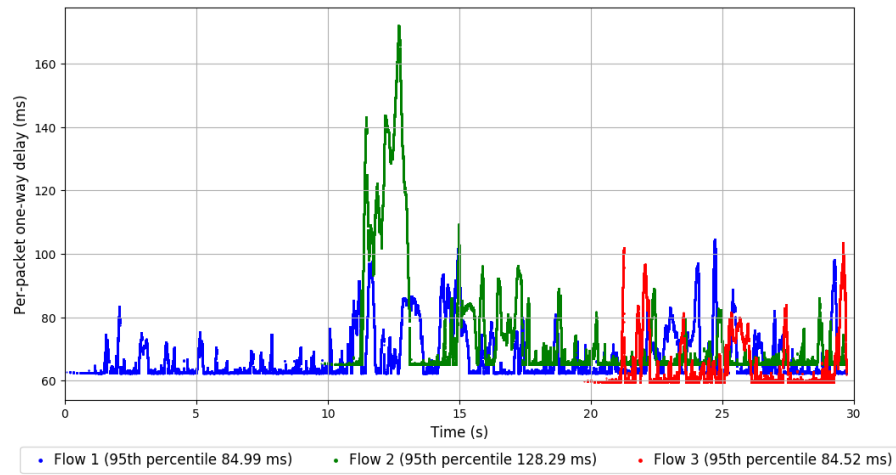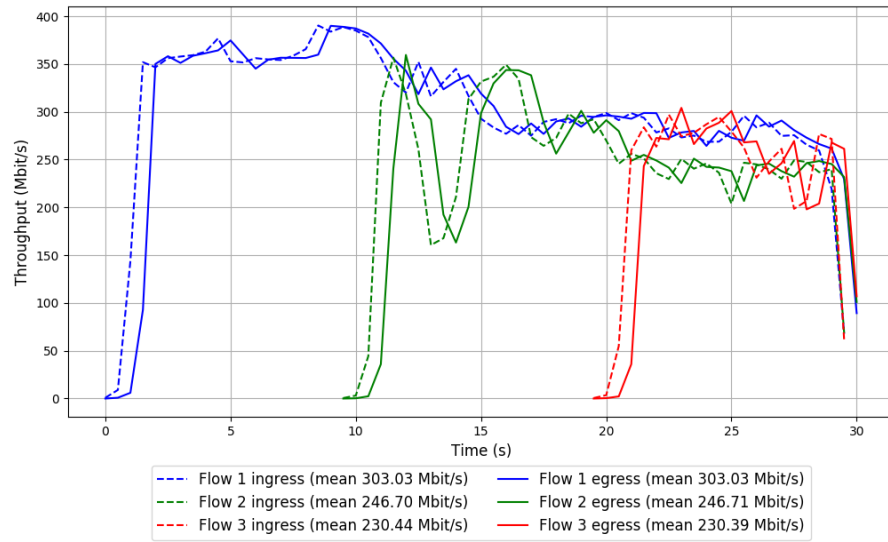
```
Run 2: Statistics of Copa

Start at: 2019-12-11 21:08:12
End at: 2019-12-11 21:08:42
Local clock offset: -0.043 ms
Remote clock offset: -0.139 ms


# Below is generated by plot.py at 2019-12-12 00:15:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 546.84 Mbit/s
95th percentile per-packet one-way delay: 91.917 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 297.47 Mbit/s
95th percentile per-packet one-way delay: 88.195 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 247.37 Mbit/s
95th percentile per-packet one-way delay: 96.882 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 255.00 Mbit/s
95th percentile per-packet one-way delay: 89.765 ms
Loss rate: 0.03%
```

Run 2: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 297.51 Mbit/s) ——— Flow 1 egress (mean 297.47 Mbit/s)
- - - - Flow 2 ingress (mean 247.37 Mbit/s) ——— Flow 2 egress (mean 247.37 Mbit/s)
- - - - Flow 3 ingress (mean 255.08 Mbit/s) ——— Flow 3 egress (mean 255.00 Mbit/s)

- Flow 1 (95th percentile 88.19 ms)   - Flow 2 (95th percentile 96.88 ms)   - Flow 3 (95th percentile 89.77 ms)

```
Run 3: Statistics of Copa

Start at: 2019-12-11 21:49:30
End at: 2019-12-11 21:50:00
Local clock offset: -0.081 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2019-12-12 00:15:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.43 Mbit/s
95th percentile per-packet one-way delay: 83.992 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 153.44 Mbit/s
95th percentile per-packet one-way delay: 66.609 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 274.48 Mbit/s
95th percentile per-packet one-way delay: 95.533 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 156.06 Mbit/s
95th percentile per-packet one-way delay: 71.123 ms
Loss rate: 0.00%
```
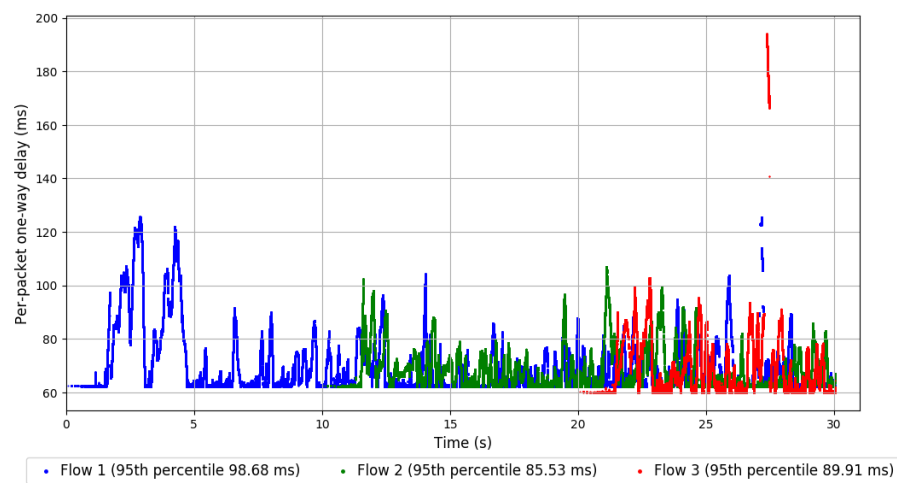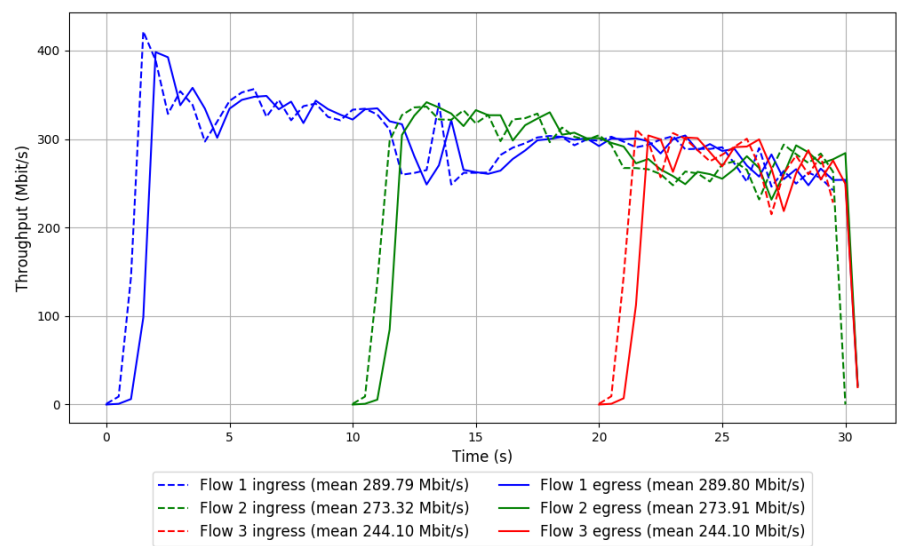
Run 3: Report of Copa — Data Link
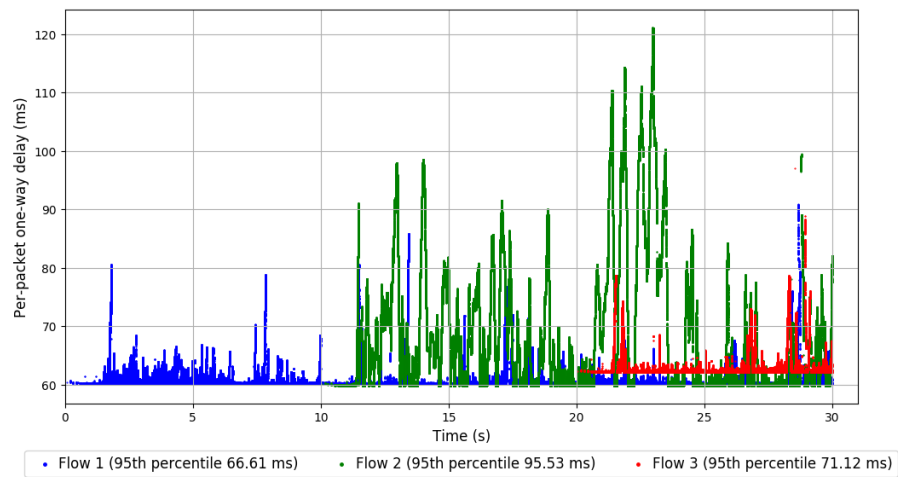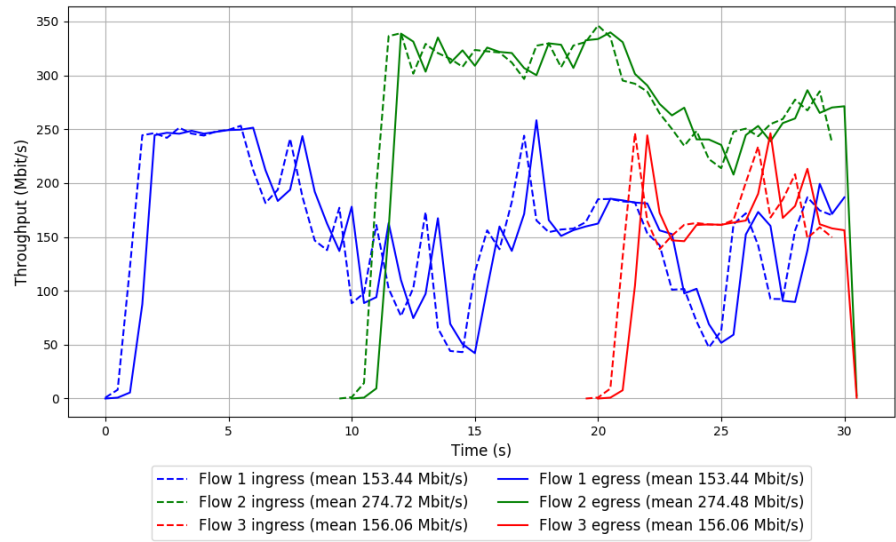
```
Run 4: Statistics of Copa

Start at: 2019-12-11 22:30:26
End at: 2019-12-11 22:30:56
Local clock offset: 0.036 ms
Remote clock offset: -0.15 ms


# Below is generated by plot.py at 2019-12-12 00:24:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.46 Mbit/s
95th percentile per-packet one-way delay: 90.335 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 270.21 Mbit/s
95th percentile per-packet one-way delay: 103.159 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 269.30 Mbit/s
95th percentile per-packet one-way delay: 77.954 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 216.53 Mbit/s
95th percentile per-packet one-way delay: 85.219 ms
Loss rate: 0.00%
```

Run 4: Report of Copa — Data Link
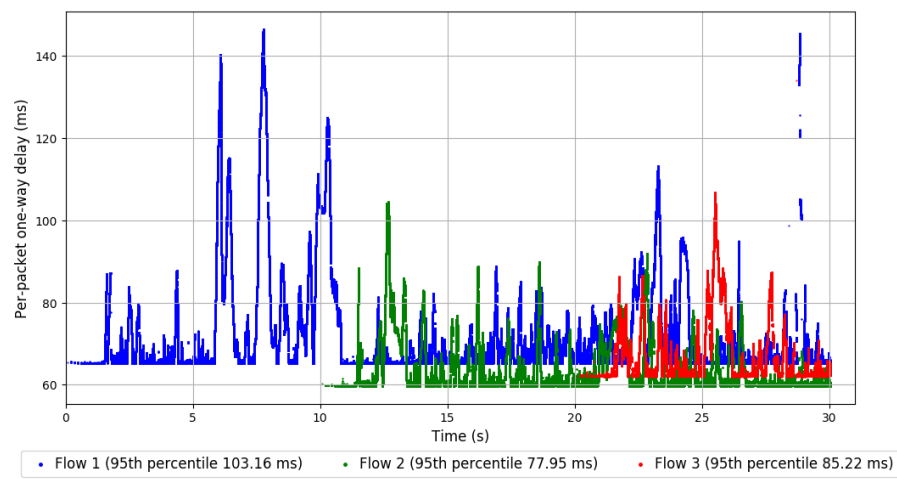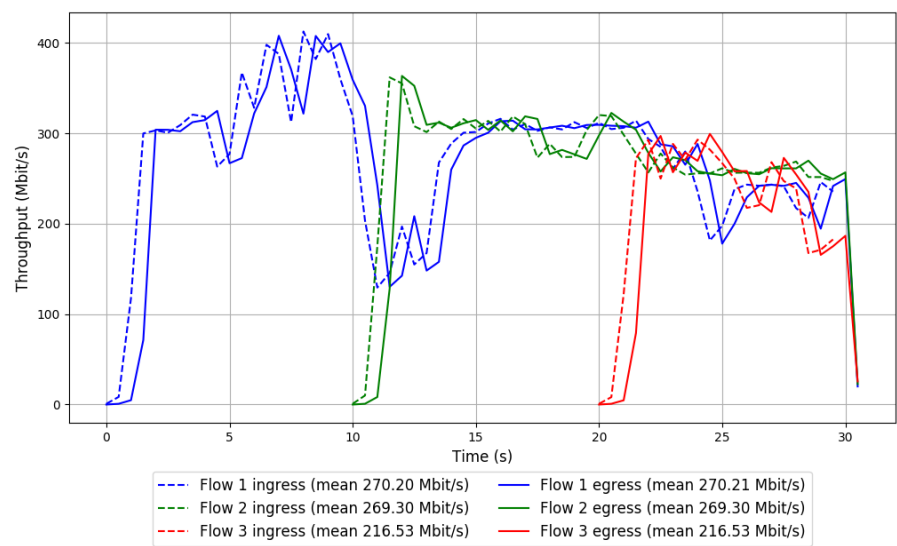
```
Run 5: Statistics of Copa

Start at: 2019-12-11 23:11:33
End at: 2019-12-11 23:12:03
Local clock offset: -0.061 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 553.21 Mbit/s
95th percentile per-packet one-way delay: 90.902 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 289.80 Mbit/s
95th percentile per-packet one-way delay: 98.681 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 273.91 Mbit/s
95th percentile per-packet one-way delay: 85.528 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 244.10 Mbit/s
95th percentile per-packet one-way delay: 89.914 ms
Loss rate: 0.00%
```

Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 289.79 Mbit/s) — — — Flow 1 egress (mean 289.80 Mbit/s)
Flow 2 ingress (mean 273.32 Mbit/s) — — — Flow 2 egress (mean 273.91 Mbit/s)
Flow 3 ingress (mean 244.10 Mbit/s) — — — Flow 3 egress (mean 244.10 Mbit/s)

Flow 1 (95th percentile 98.68 ms)   Flow 2 (95th percentile 85.53 ms)   Flow 3 (95th percentile 89.91 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-12-11 20:08:40
End at: 2019-12-11 20:09:10
Local clock offset: -0.077 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 776.92 Mbit/s
95th percentile per-packet one-way delay: 125.823 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 453.10 Mbit/s
95th percentile per-packet one-way delay: 129.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 357.14 Mbit/s
95th percentile per-packet one-way delay: 109.273 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.71 Mbit/s
95th percentile per-packet one-way delay: 84.196 ms
Loss rate: 0.00%
```
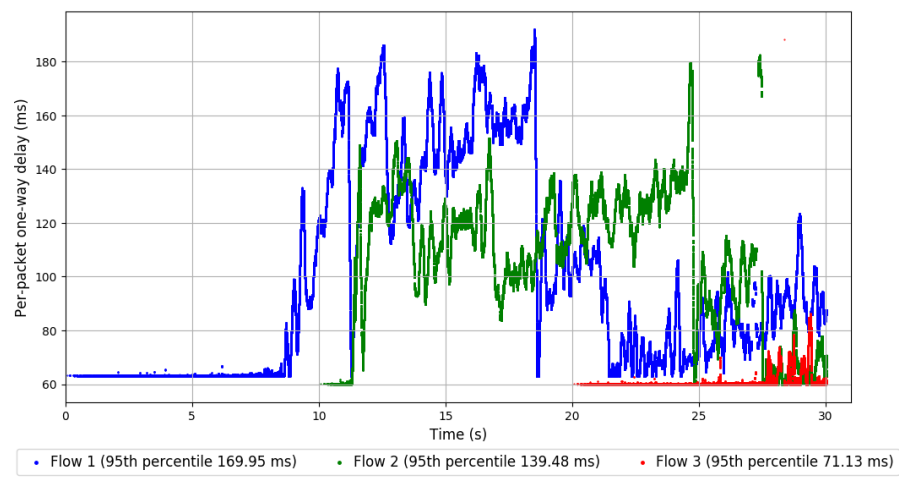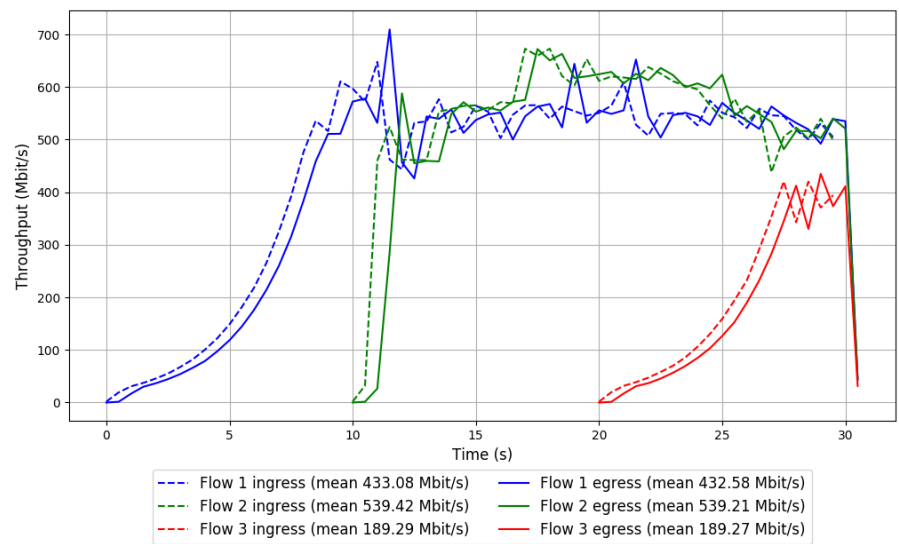
Run 1: Report of TCP Cubic — Data Link
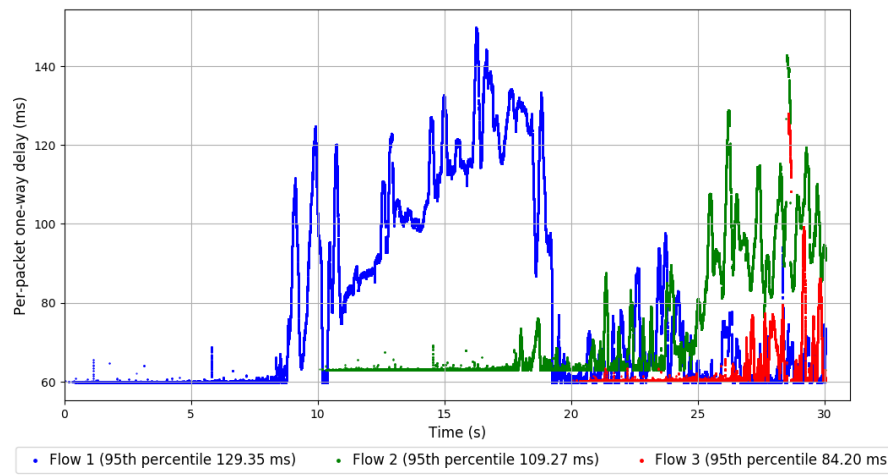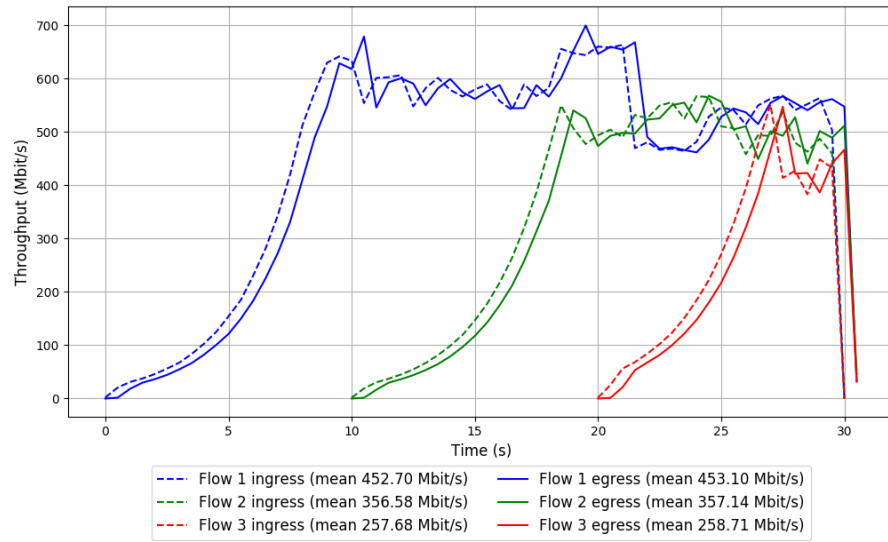
```
Run 2: Statistics of TCP Cubic

Start at: 2019-12-11 20:49:40
End at: 2019-12-11 20:50:10
Local clock offset: 0.02 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 699.14 Mbit/s
95th percentile per-packet one-way delay: 98.550 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 396.90 Mbit/s
95th percentile per-packet one-way delay: 78.011 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 353.99 Mbit/s
95th percentile per-packet one-way delay: 129.261 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 200.02 Mbit/s
95th percentile per-packet one-way delay: 90.370 ms
Loss rate: 0.19%
```

Run 2: Report of TCP Cubic — Data Link
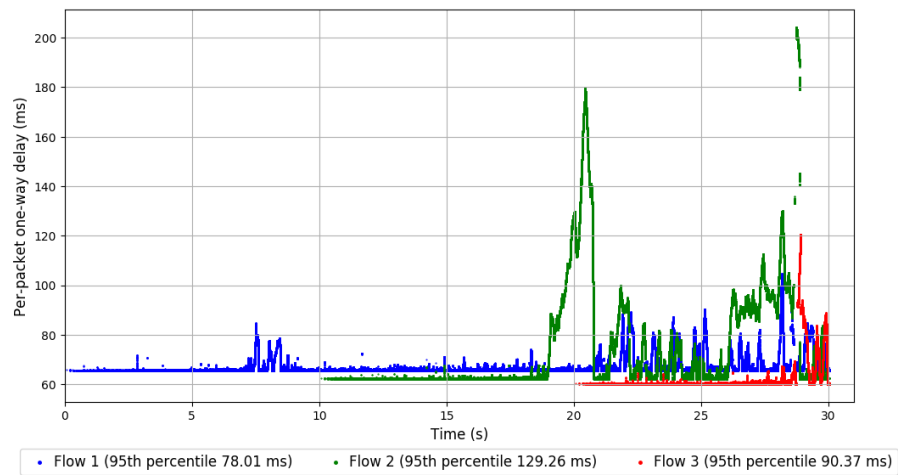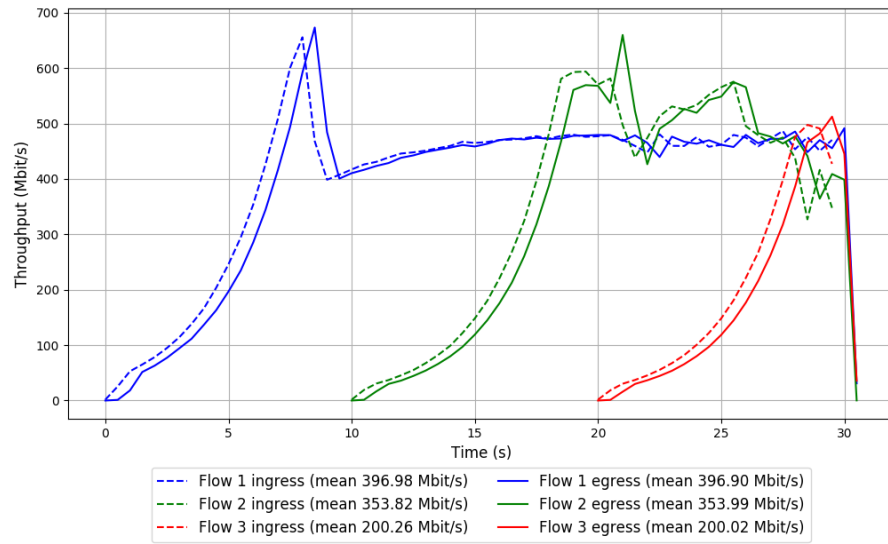
```
Run 3: Statistics of TCP Cubic

Start at: 2019-12-11 21:30:47
End at: 2019-12-11 21:31:17
Local clock offset: -0.041 ms
Remote clock offset: 0.066 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 854.62 Mbit/s
95th percentile per-packet one-way delay: 162.989 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 432.58 Mbit/s
95th percentile per-packet one-way delay: 169.950 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 539.21 Mbit/s
95th percentile per-packet one-way delay: 139.476 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 189.27 Mbit/s
95th percentile per-packet one-way delay: 71.128 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 433.08 Mbit/s)   Flow 1 egress (mean 432.58 Mbit/s)
Flow 2 ingress (mean 539.42 Mbit/s)   Flow 2 egress (mean 539.21 Mbit/s)
Flow 3 ingress (mean 189.29 Mbit/s)   Flow 3 egress (mean 189.27 Mbit/s)

Flow 1 (95th percentile 169.95 ms)   Flow 2 (95th percentile 139.48 ms)   Flow 3 (95th percentile 71.13 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-12-11 22:11:49
End at: 2019-12-11 22:12:19
Local clock offset: -0.015 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 782.02 Mbit/s
95th percentile per-packet one-way delay: 169.260 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 449.93 Mbit/s
95th percentile per-packet one-way delay: 162.546 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 354.64 Mbit/s
95th percentile per-packet one-way delay: 172.621 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 288.75 Mbit/s
95th percentile per-packet one-way delay: 172.809 ms
Loss rate: 0.85%
```

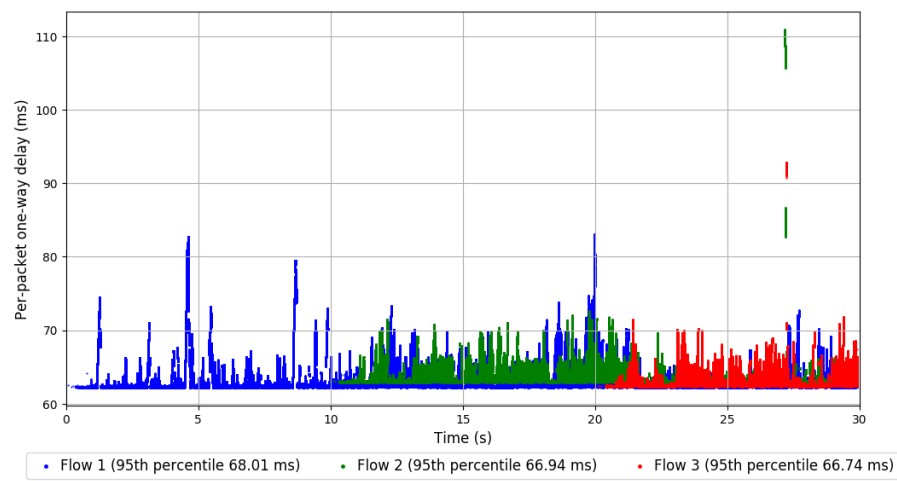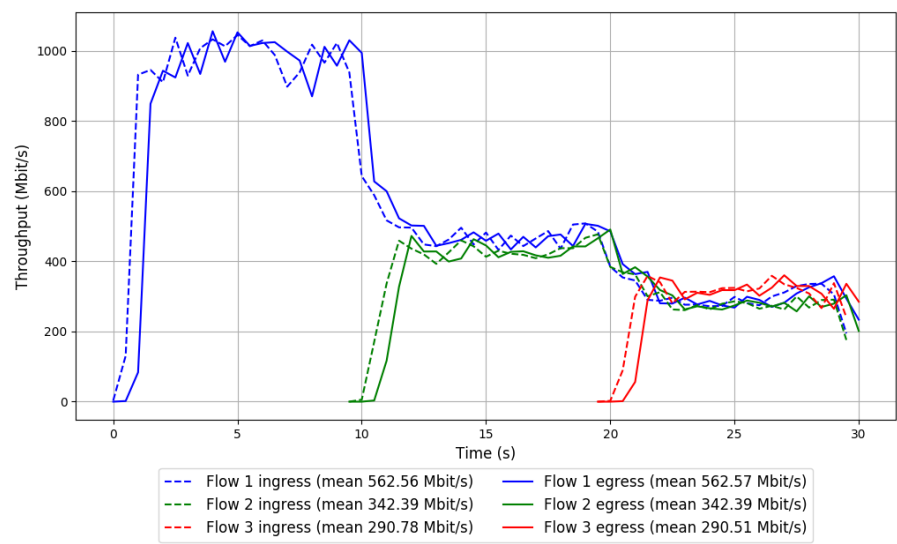Run 4: Report of TCP Cubic — Data Link
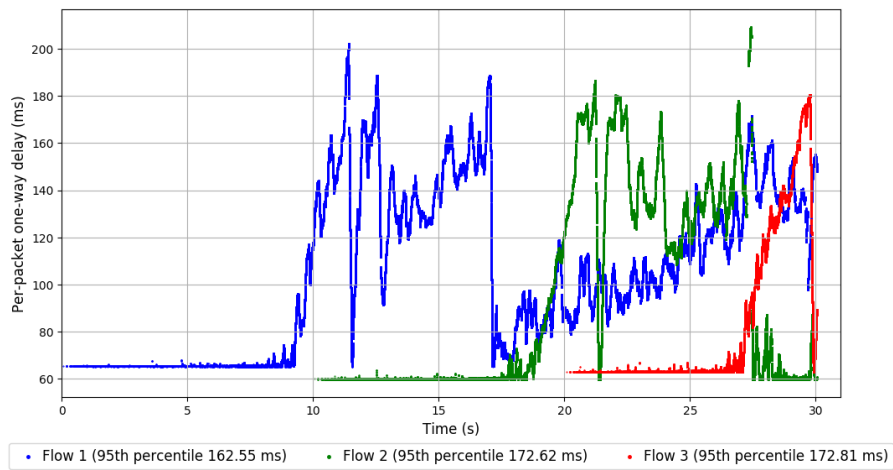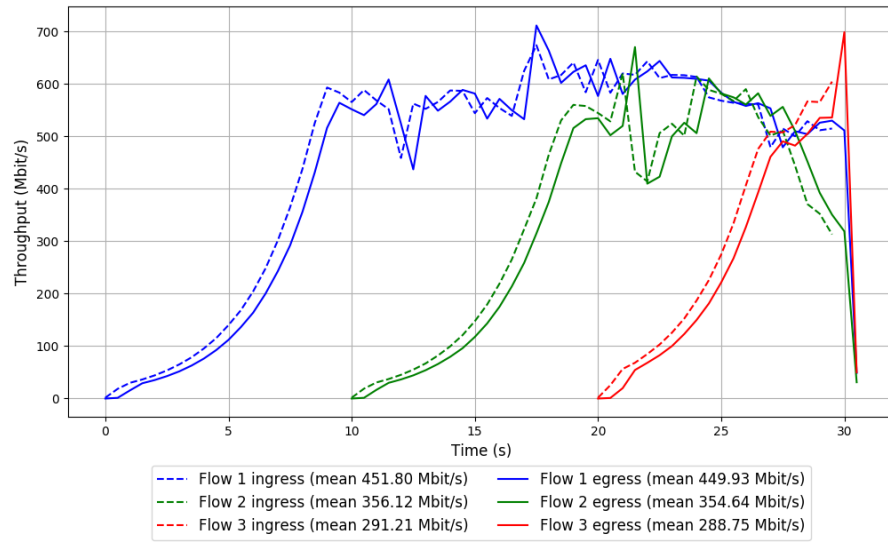
```
Run 5: Statistics of TCP Cubic

Start at: 2019-12-11 22:52:50
End at: 2019-12-11 22:53:20
Local clock offset: -0.032 ms
Remote clock offset: -0.131 ms


# Below is generated by plot.py at 2019-12-12 00:32:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 682.68 Mbit/s
95th percentile per-packet one-way delay: 159.827 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 372.25 Mbit/s
95th percentile per-packet one-way delay: 68.907 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 366.27 Mbit/s
95th percentile per-packet one-way delay: 174.265 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 200.11 Mbit/s
95th percentile per-packet one-way delay: 78.349 ms
Loss rate: 0.00%
```
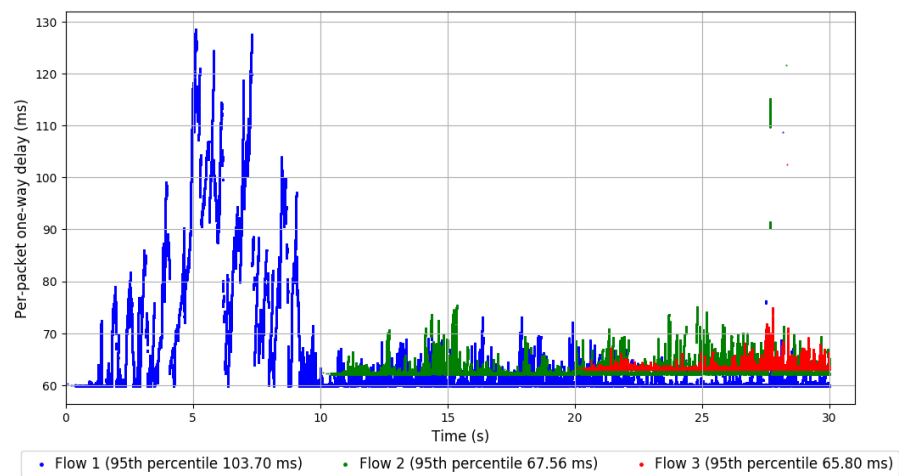
Run 5: Report of TCP Cubic — Data Link
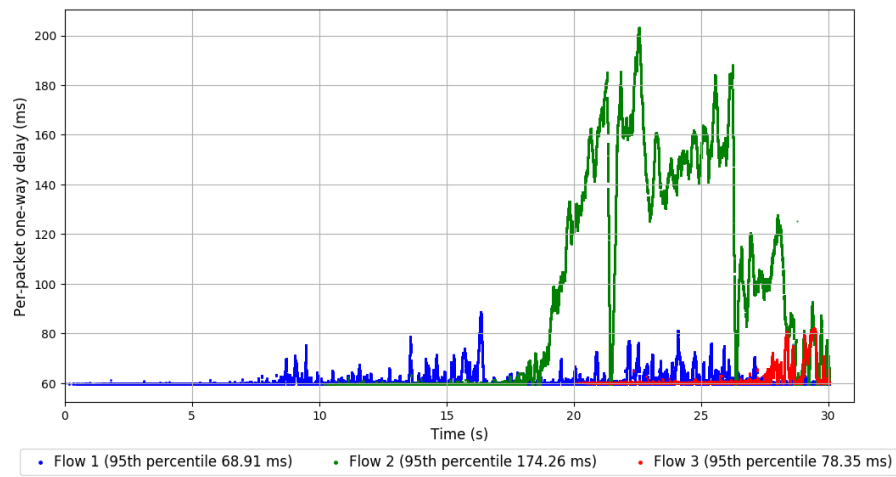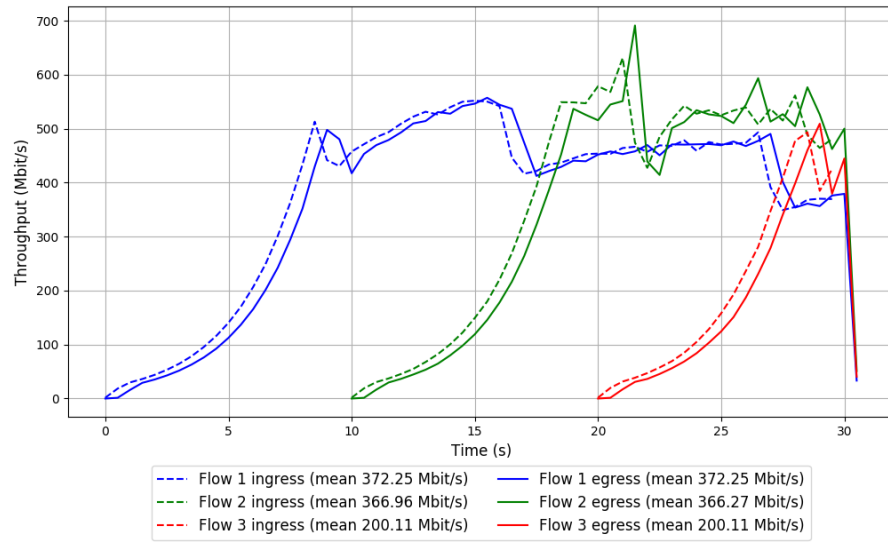
```
Run 1: Statistics of FillP

Start at: 2019-12-11 20:15:19
End at: 2019-12-11 20:15:49
Local clock offset: -0.08 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2019-12-12 00:35:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 887.57 Mbit/s
95th percentile per-packet one-way delay: 67.526 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 562.57 Mbit/s
95th percentile per-packet one-way delay: 68.013 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 342.39 Mbit/s
95th percentile per-packet one-way delay: 66.935 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 290.51 Mbit/s
95th percentile per-packet one-way delay: 66.739 ms
Loss rate: 0.05%
```
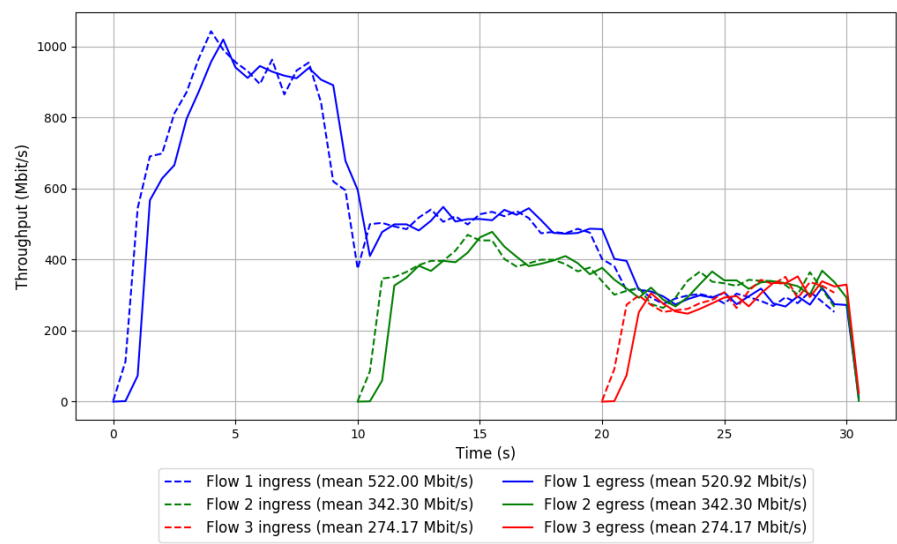
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 562.56 Mbit/s) --- Flow 1 egress (mean 562.57 Mbit/s)
Flow 2 ingress (mean 342.39 Mbit/s) --- Flow 2 egress (mean 342.39 Mbit/s)
Flow 3 ingress (mean 290.78 Mbit/s) --- Flow 3 egress (mean 290.51 Mbit/s)

Flow 1 (95th percentile 68.01 ms)   Flow 2 (95th percentile 66.94 ms)   Flow 3 (95th percentile 66.74 ms)

```
Run 2: Statistics of FillP

Start at: 2019-12-11 20:56:21
End at: 2019-12-11 20:56:51
Local clock offset: -0.007 ms
Remote clock offset: -0.005 ms


# Below is generated by plot.py at 2019-12-12 00:45:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 829.32 Mbit/s
95th percentile per-packet one-way delay: 108.754 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 521.81 Mbit/s
95th percentile per-packet one-way delay: 113.368 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 344.99 Mbit/s
95th percentile per-packet one-way delay: 64.403 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 235.17 Mbit/s
95th percentile per-packet one-way delay: 66.150 ms
Loss rate: 0.00%
```

Run 2: Report of FillP — Data Link
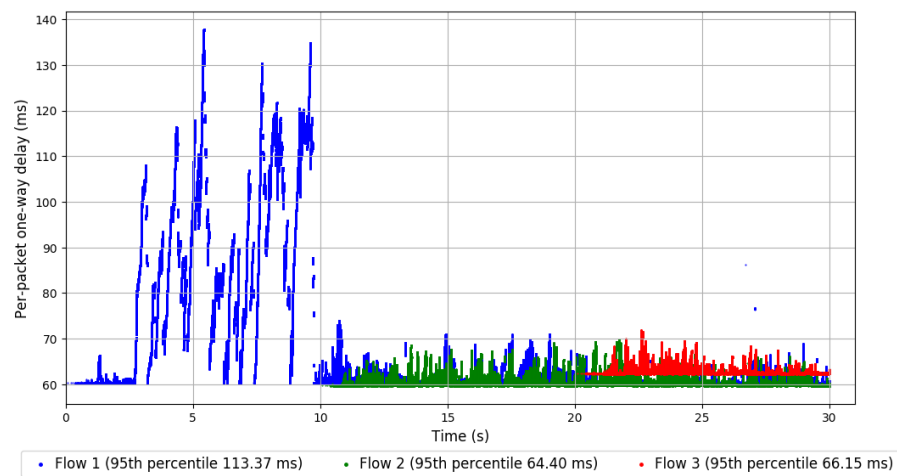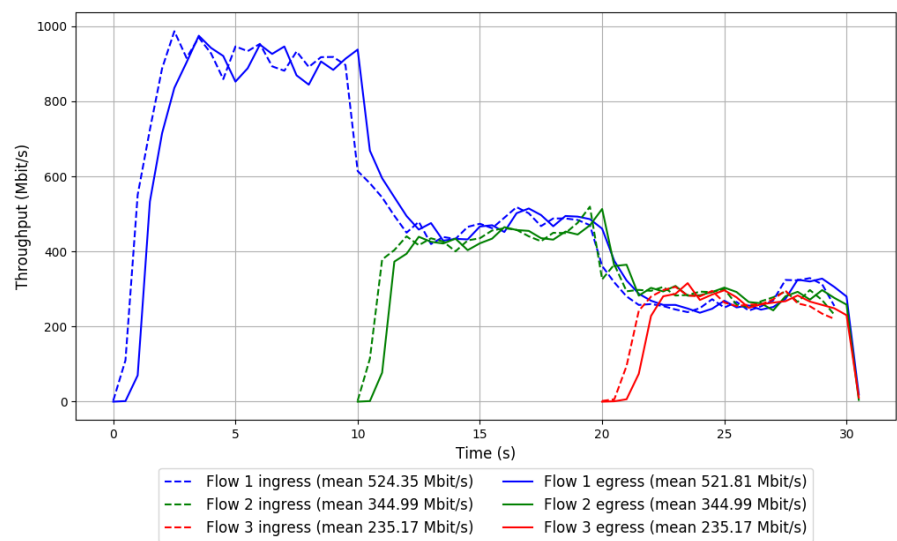
```
Run 3: Statistics of FillP

Start at: 2019-12-11 21:37:36
End at: 2019-12-11 21:38:06
Local clock offset: -0.081 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-12-12 00:46:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 839.16 Mbit/s
95th percentile per-packet one-way delay: 97.257 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 520.92 Mbit/s
95th percentile per-packet one-way delay: 103.699 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 342.30 Mbit/s
95th percentile per-packet one-way delay: 67.559 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 274.17 Mbit/s
95th percentile per-packet one-way delay: 65.796 ms
Loss rate: 0.00%
```

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 522.00 Mbit/s)   Flow 1 egress (mean 520.92 Mbit/s)
Flow 2 ingress (mean 342.30 Mbit/s)   Flow 2 egress (mean 342.30 Mbit/s)
Flow 3 ingress (mean 274.17 Mbit/s)   Flow 3 egress (mean 274.17 Mbit/s)

Flow 1 (95th percentile 103.70 ms)   Flow 2 (95th percentile 67.56 ms)   Flow 3 (95th percentile 65.80 ms)

```
Run 4: Statistics of FillP

Start at: 2019-12-11 22:18:36
End at: 2019-12-11 22:19:06
Local clock offset: -0.043 ms
Remote clock offset: -0.07 ms


# Below is generated by plot.py at 2019-12-12 00:46:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.39 Mbit/s
95th percentile per-packet one-way delay: 121.169 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 497.08 Mbit/s
95th percentile per-packet one-way delay: 125.249 ms
Loss rate: 2.15%
-- Flow 2:
Average throughput: 338.36 Mbit/s
95th percentile per-packet one-way delay: 64.648 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 220.57 Mbit/s
95th percentile per-packet one-way delay: 61.883 ms
Loss rate: 0.00%
```
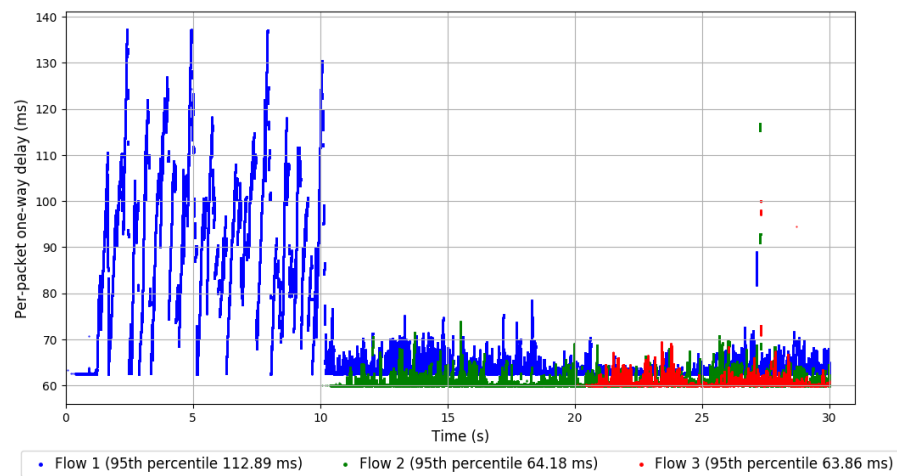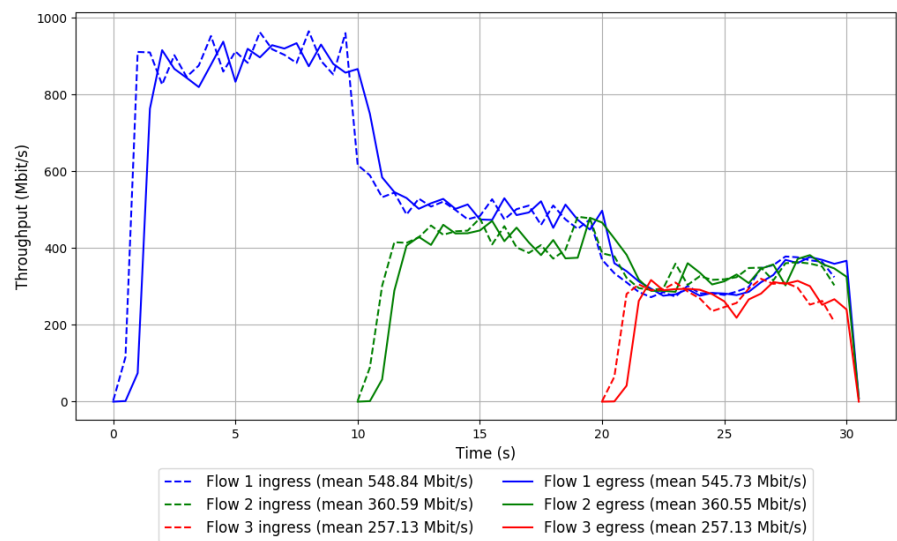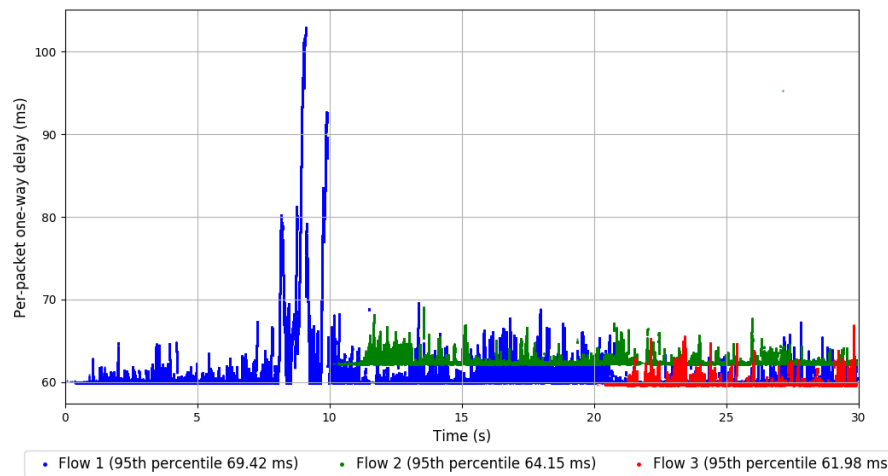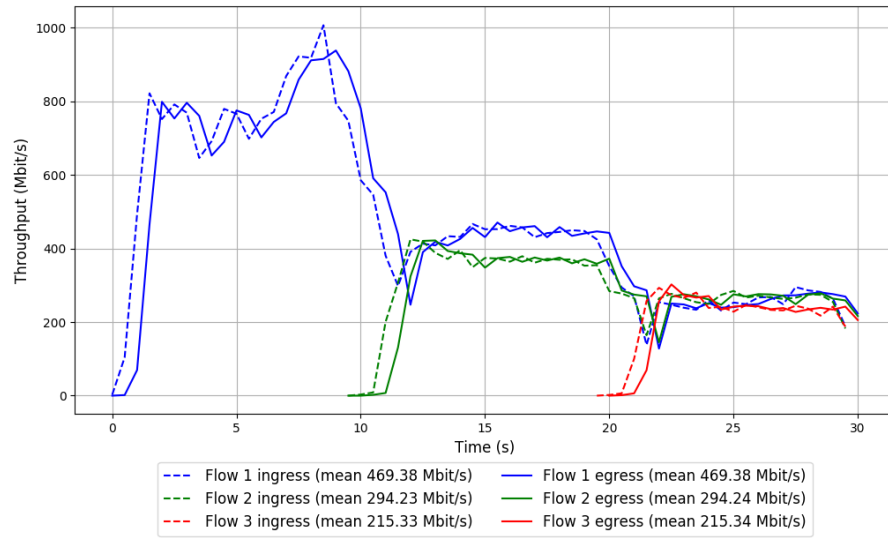
Run 4: Report of FillP — Data Link
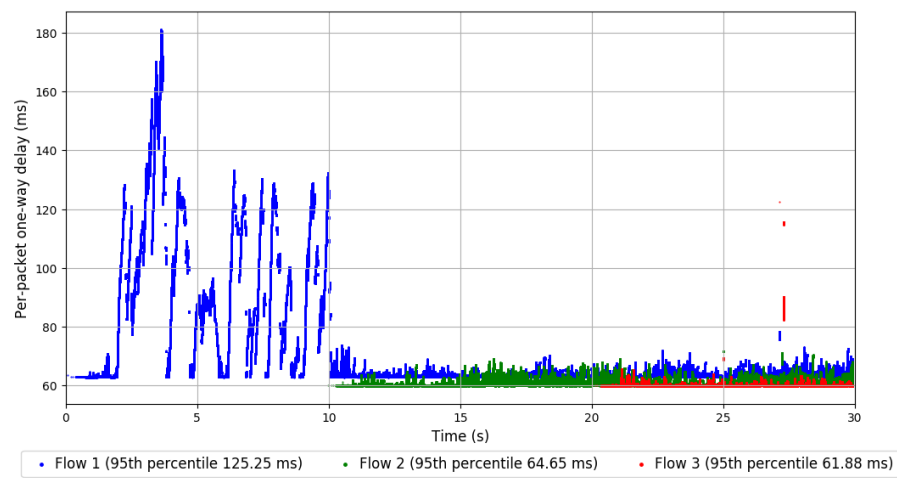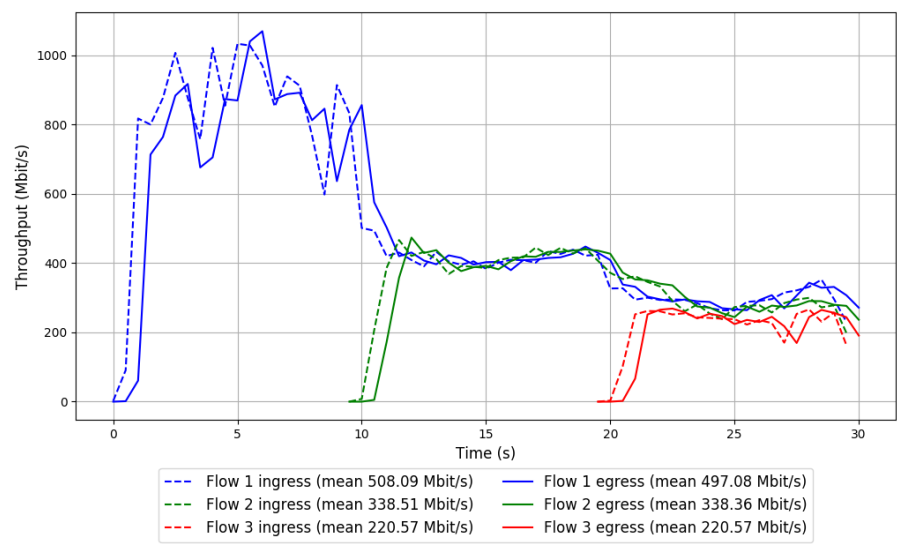
```
Run 5: Statistics of FillP

Start at: 2019-12-11 22:59:40
End at: 2019-12-11 23:00:10
Local clock offset: -0.045 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2019-12-12 00:49:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 870.70 Mbit/s
95th percentile per-packet one-way delay: 108.289 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 545.73 Mbit/s
95th percentile per-packet one-way delay: 112.890 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 360.55 Mbit/s
95th percentile per-packet one-way delay: 64.182 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 257.13 Mbit/s
95th percentile per-packet one-way delay: 63.862 ms
Loss rate: 0.00%
```
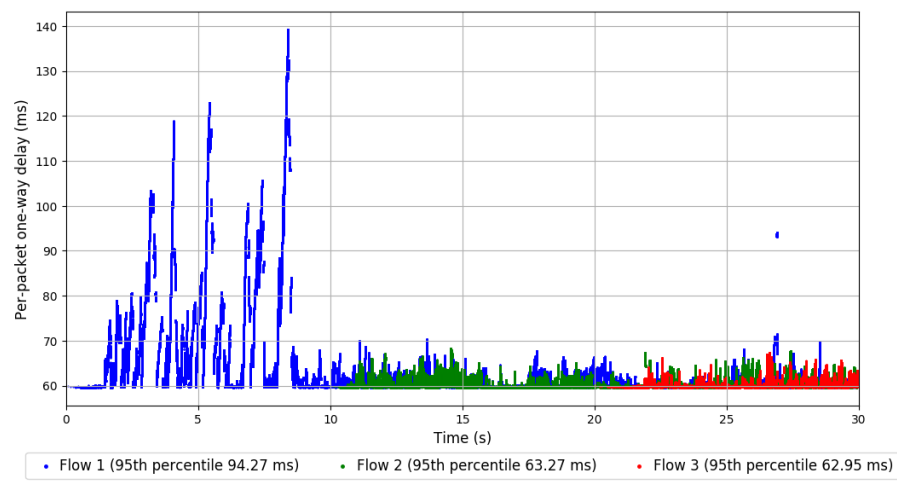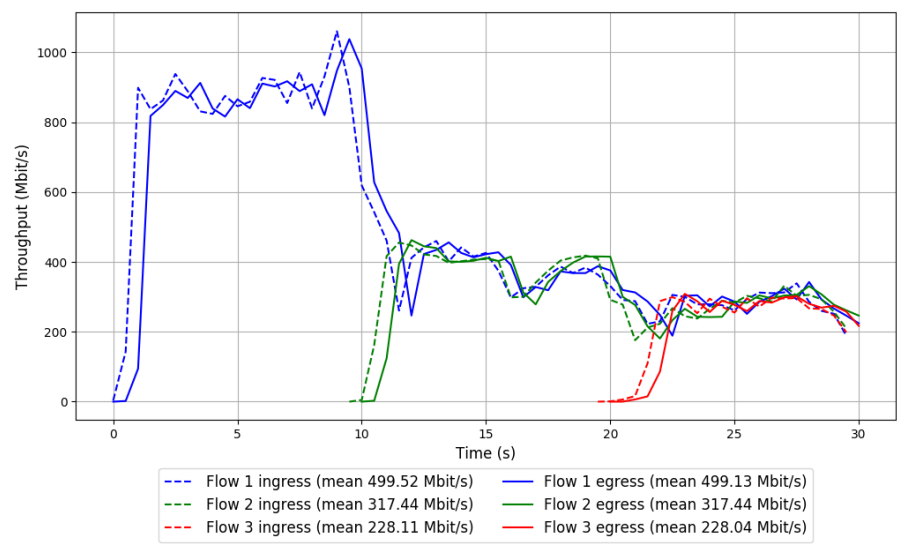
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 548.84 Mbit/s) --- Flow 1 egress (mean 545.73 Mbit/s)
Flow 2 ingress (mean 360.59 Mbit/s) --- Flow 2 egress (mean 360.55 Mbit/s)
Flow 3 ingress (mean 257.13 Mbit/s) --- Flow 3 egress (mean 257.13 Mbit/s)

Flow 1 (95th percentile 112.89 ms)   Flow 2 (95th percentile 64.18 ms)   Flow 3 (95th percentile 63.86 ms)

44

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-12-11 20:40:17
End at: 2019-12-11 20:40:47
Local clock offset: -0.019 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2019-12-12 00:49:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 737.01 Mbit/s
95th percentile per-packet one-way delay: 66.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 469.38 Mbit/s
95th percentile per-packet one-way delay: 69.415 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 294.24 Mbit/s
95th percentile per-packet one-way delay: 64.149 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 215.34 Mbit/s
95th percentile per-packet one-way delay: 61.982 ms
Loss rate: 0.00%
```
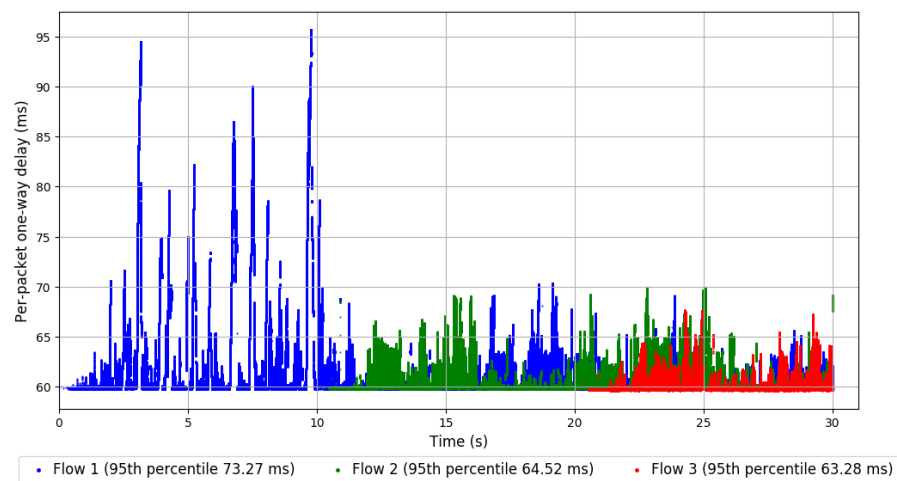
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 469.38 Mbit/s) --- Flow 1 egress (mean 469.38 Mbit/s)
Flow 2 ingress (mean 294.23 Mbit/s) --- Flow 2 egress (mean 294.24 Mbit/s)
Flow 3 ingress (mean 215.33 Mbit/s) --- Flow 3 egress (mean 215.34 Mbit/s)

Flow 1 (95th percentile 69.42 ms) · Flow 2 (95th percentile 64.15 ms) · Flow 3 (95th percentile 61.98 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-12-11 21:21:22
End at: 2019-12-11 21:21:52
Local clock offset: -0.048 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-12-12 00:49:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 786.28 Mbit/s
95th percentile per-packet one-way delay: 86.418 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 499.13 Mbit/s
95th percentile per-packet one-way delay: 94.270 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 317.44 Mbit/s
95th percentile per-packet one-way delay: 63.272 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 228.04 Mbit/s
95th percentile per-packet one-way delay: 62.951 ms
Loss rate: 0.00%
```
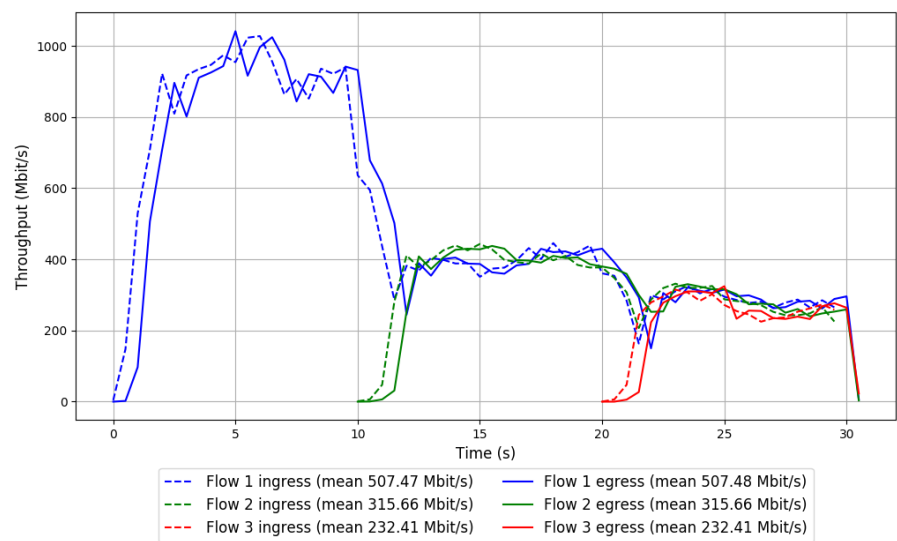
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 499.52 Mbit/s)   Flow 1 egress (mean 499.13 Mbit/s)
Flow 2 ingress (mean 317.44 Mbit/s)   Flow 2 egress (mean 317.44 Mbit/s)
Flow 3 ingress (mean 228.11 Mbit/s)   Flow 3 egress (mean 228.04 Mbit/s)

Flow 1 (95th percentile 94.27 ms)   Flow 2 (95th percentile 63.27 ms)   Flow 3 (95th percentile 62.95 ms)

48

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-12-11 22:02:27
End at: 2019-12-11 22:02:57
Local clock offset: -0.075 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2019-12-12 00:51:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.90 Mbit/s
95th percentile per-packet one-way delay: 69.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 507.48 Mbit/s
95th percentile per-packet one-way delay: 73.273 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 315.66 Mbit/s
95th percentile per-packet one-way delay: 64.522 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 232.41 Mbit/s
95th percentile per-packet one-way delay: 63.282 ms
Loss rate: 0.00%
```

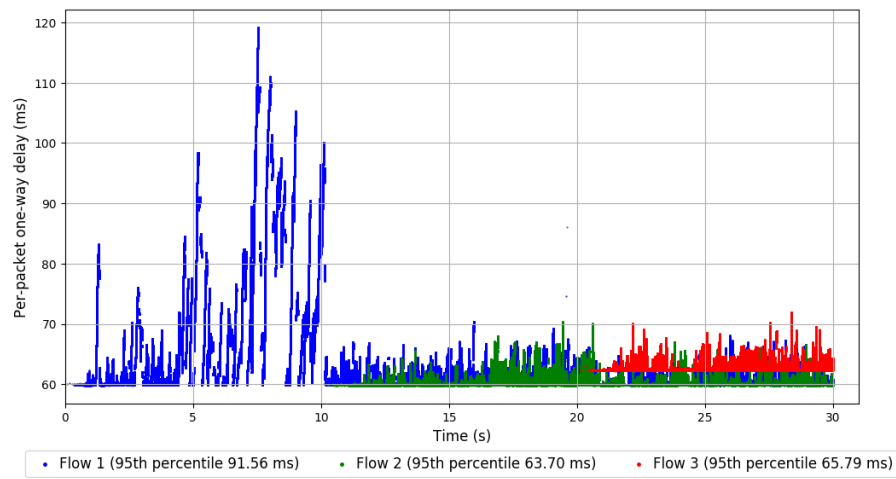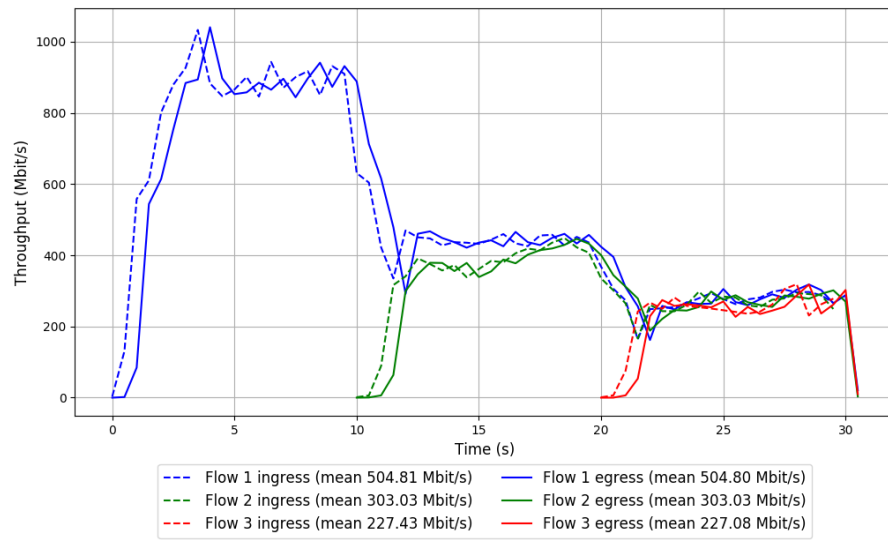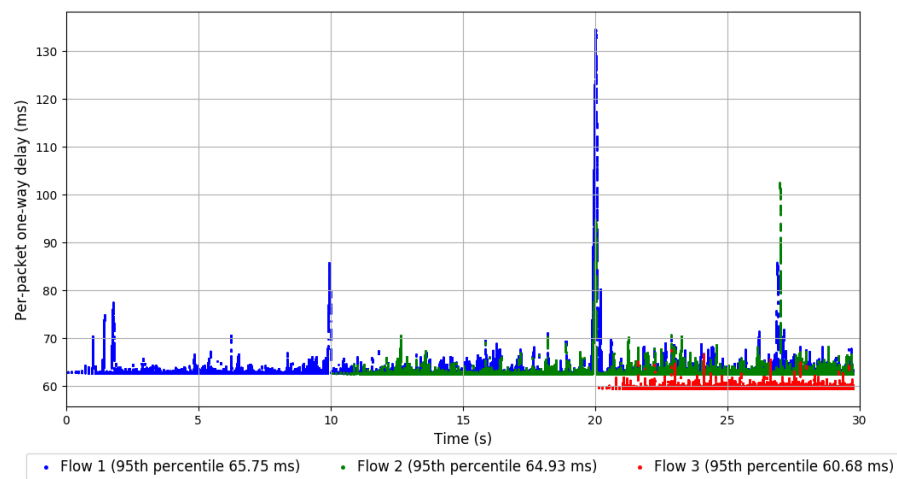Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 507.47 Mbit/s) --- Flow 1 egress (mean 507.48 Mbit/s)
Flow 2 ingress (mean 315.66 Mbit/s) --- Flow 2 egress (mean 315.66 Mbit/s)
Flow 3 ingress (mean 232.41 Mbit/s) --- Flow 3 egress (mean 232.41 Mbit/s)

Flow 1 (95th percentile 73.27 ms)   Flow 2 (95th percentile 64.52 ms)   Flow 3 (95th percentile 63.28 ms)

50

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-12-11 22:43:40
End at: 2019-12-11 22:44:10
Local clock offset: 0.018 ms
Remote clock offset: 0.047 ms


# Below is generated by plot.py at 2019-12-12 00:51:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.70 Mbit/s
95th percentile per-packet one-way delay: 66.094 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.03 Mbit/s
95th percentile per-packet one-way delay: 70.192 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 295.72 Mbit/s
95th percentile per-packet one-way delay: 66.207 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.69 Mbit/s
95th percentile per-packet one-way delay: 62.638 ms
Loss rate: 0.00%
```

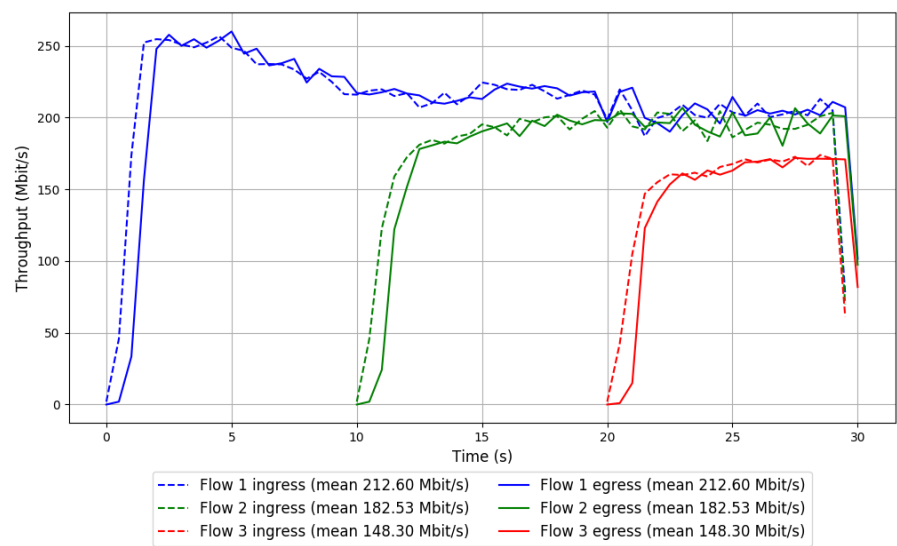## Run 4: Report of FillP-Sheep — Data Link
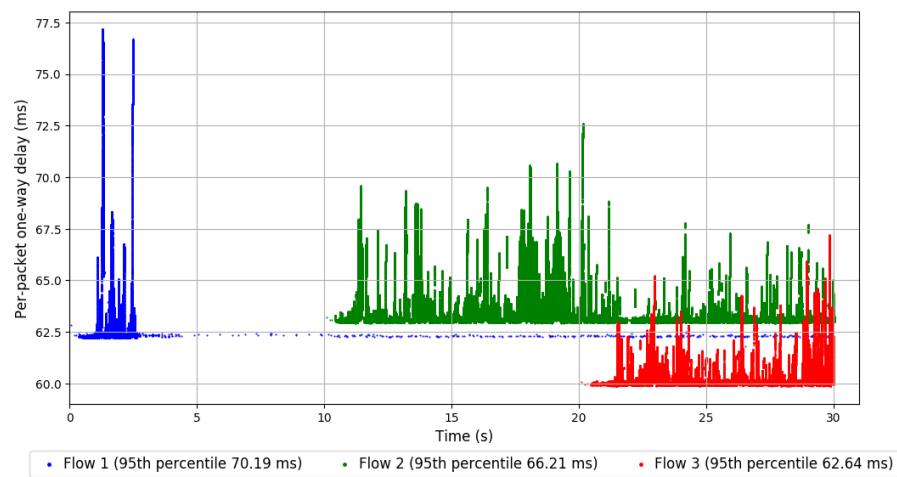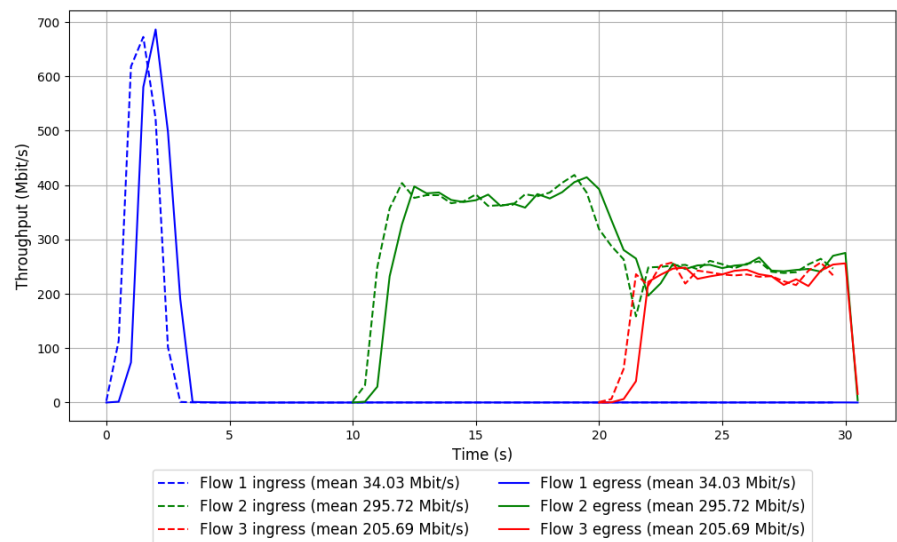
```
Run 5: Statistics of FillP-Sheep

Start at: 2019-12-11 23:24:53
End at: 2019-12-11 23:25:23
Local clock offset: -0.062 ms
Remote clock offset: -0.054 ms

# Below is generated by plot.py at 2019-12-12 01:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.01 Mbit/s
95th percentile per-packet one-way delay: 85.792 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 504.80 Mbit/s
95th percentile per-packet one-way delay: 91.562 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 303.03 Mbit/s
95th percentile per-packet one-way delay: 63.697 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 227.08 Mbit/s
95th percentile per-packet one-way delay: 65.792 ms
Loss rate: 0.17%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 504.81 Mbit/s)   Flow 1 egress (mean 504.80 Mbit/s)
Flow 2 ingress (mean 303.03 Mbit/s)   Flow 2 egress (mean 303.03 Mbit/s)
Flow 3 ingress (mean 227.43 Mbit/s)   Flow 3 egress (mean 227.08 Mbit/s)

Flow 1 (95th percentile 91.56 ms)   Flow 2 (95th percentile 63.70 ms)   Flow 3 (95th percentile 65.79 ms)
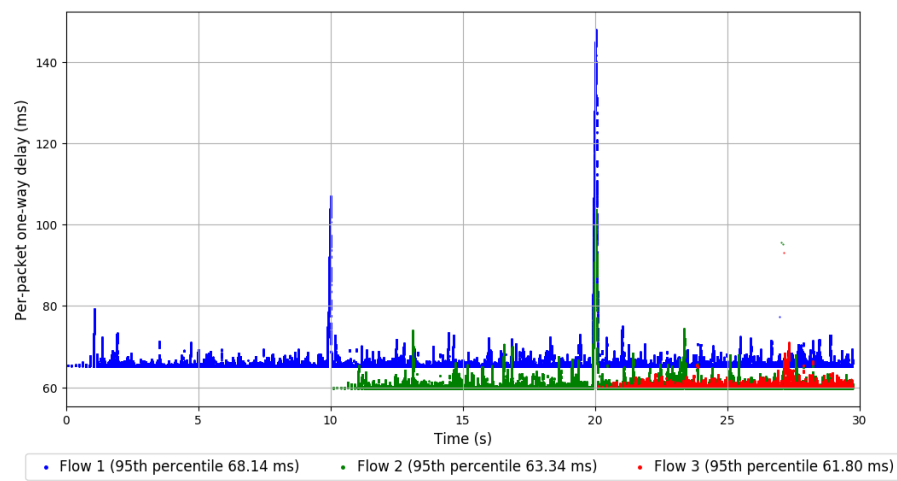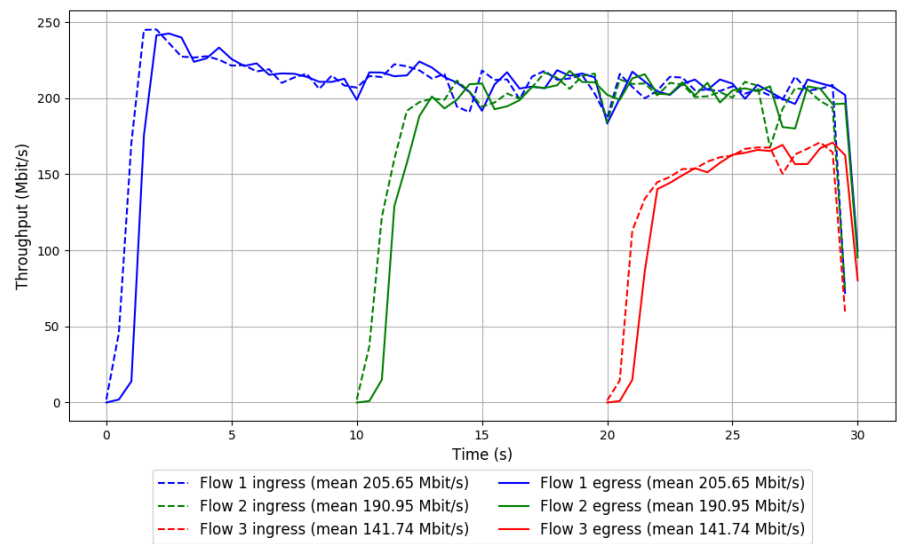
```
Run 1: Statistics of Indigo

Start at: 2019-12-11 20:31:00
End at: 2019-12-11 20:31:30
Local clock offset: -0.028 ms
Remote clock offset: -0.209 ms


# Below is generated by plot.py at 2019-12-12 01:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.63 Mbit/s
95th percentile per-packet one-way delay: 65.150 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.60 Mbit/s
95th percentile per-packet one-way delay: 65.755 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 182.53 Mbit/s
95th percentile per-packet one-way delay: 64.926 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 148.30 Mbit/s
95th percentile per-packet one-way delay: 60.681 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

--- Flow 1 ingress (mean 212.60 Mbit/s)   —— Flow 1 egress (mean 212.60 Mbit/s)
--- Flow 2 ingress (mean 182.53 Mbit/s)   —— Flow 2 egress (mean 182.53 Mbit/s)
--- Flow 3 ingress (mean 148.30 Mbit/s)   —— Flow 3 egress (mean 148.30 Mbit/s)

• Flow 1 (95th percentile 65.75 ms)   • Flow 2 (95th percentile 64.93 ms)   • Flow 3 (95th percentile 60.68 ms)

```
Run 2: Statistics of Indigo

Start at: 2019-12-11 21:12:07
End at: 2019-12-11 21:12:37
Local clock offset: -0.069 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2019-12-12 01:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.36 Mbit/s
95th percentile per-packet one-way delay: 64.093 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 193.52 Mbit/s
95th percentile per-packet one-way delay: 62.956 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.48 Mbit/s
95th percentile per-packet one-way delay: 66.096 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 160.93 Mbit/s
95th percentile per-packet one-way delay: 63.732 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link
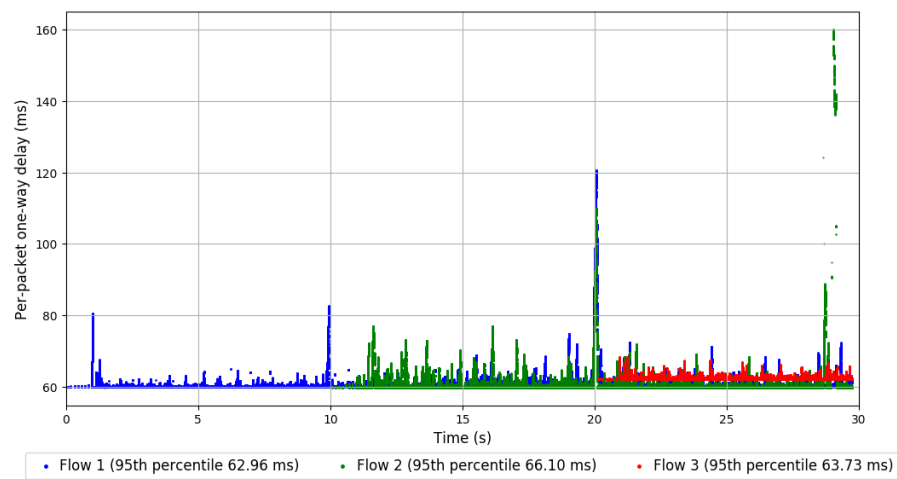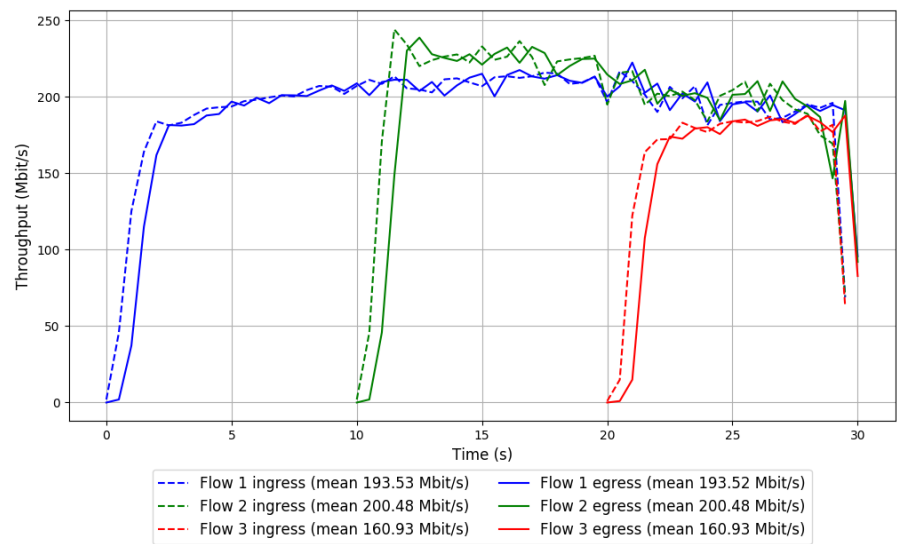
```
Run 3: Statistics of Indigo

Start at: 2019-12-11 21:53:09
End at: 2019-12-11 21:53:39
Local clock offset: -0.068 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2019-12-12 01:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.72 Mbit/s
95th percentile per-packet one-way delay: 67.165 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 205.65 Mbit/s
95th percentile per-packet one-way delay: 68.143 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 190.95 Mbit/s
95th percentile per-packet one-way delay: 63.344 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 141.74 Mbit/s
95th percentile per-packet one-way delay: 61.802 ms
Loss rate: 0.00%
```
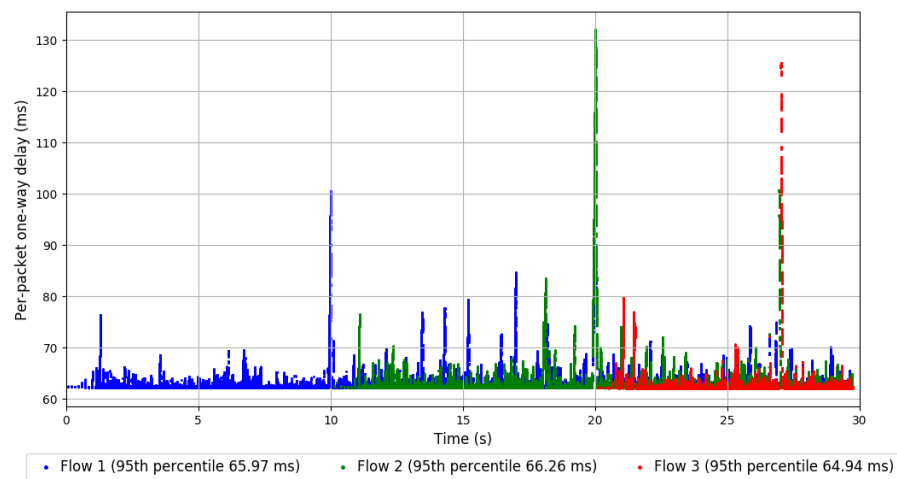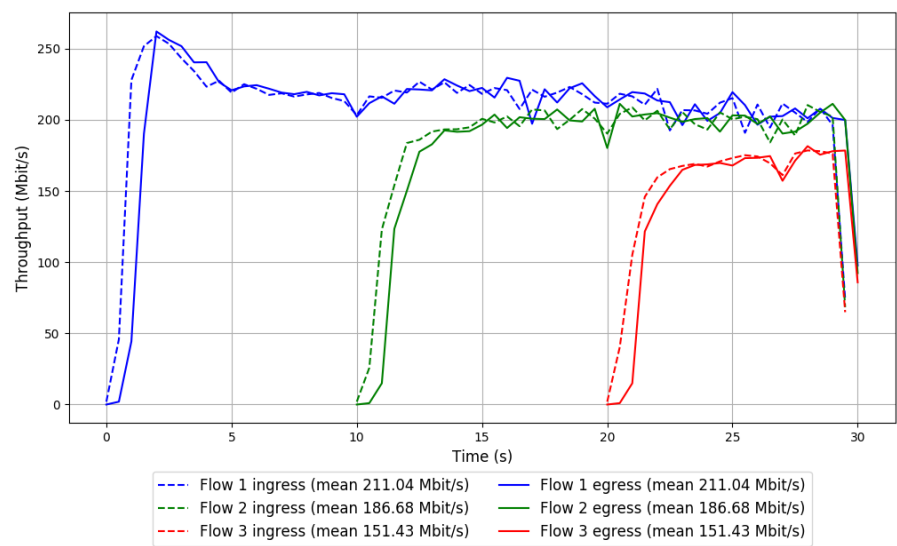
Run 3: Report of Indigo — Data Link
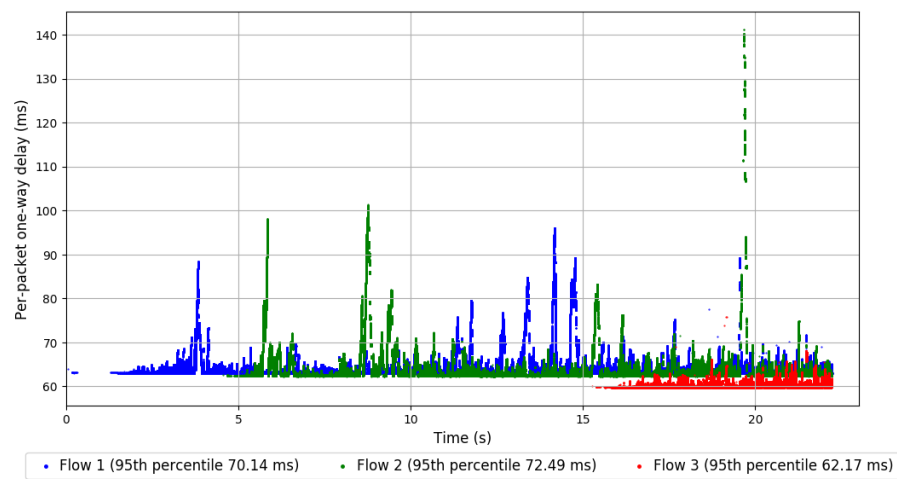

60

```
Run 4: Statistics of Indigo

Start at: 2019-12-11 22:34:21
End at: 2019-12-11 22:34:51
Local clock offset: 0.051 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2019-12-12 01:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.27 Mbit/s
95th percentile per-packet one-way delay: 64.953 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 213.41 Mbit/s
95th percentile per-packet one-way delay: 63.846 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.12 Mbit/s
95th percentile per-packet one-way delay: 65.737 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 154.25 Mbit/s
95th percentile per-packet one-way delay: 64.812 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link
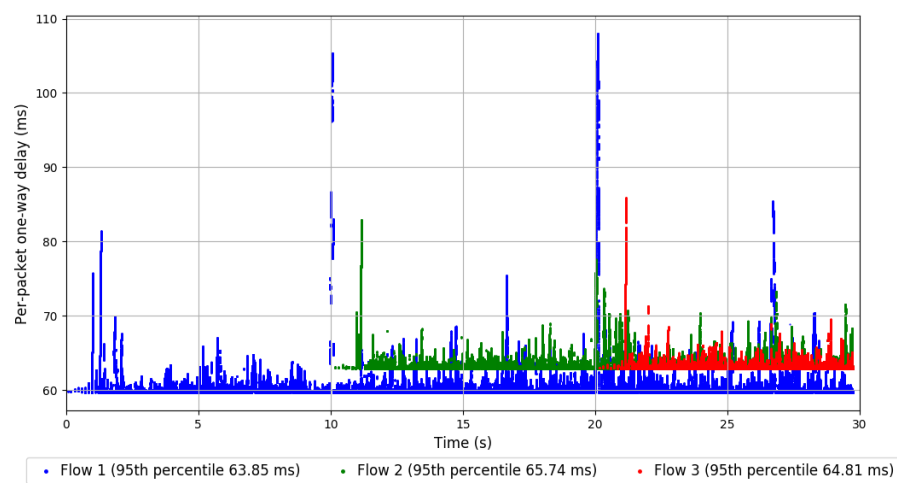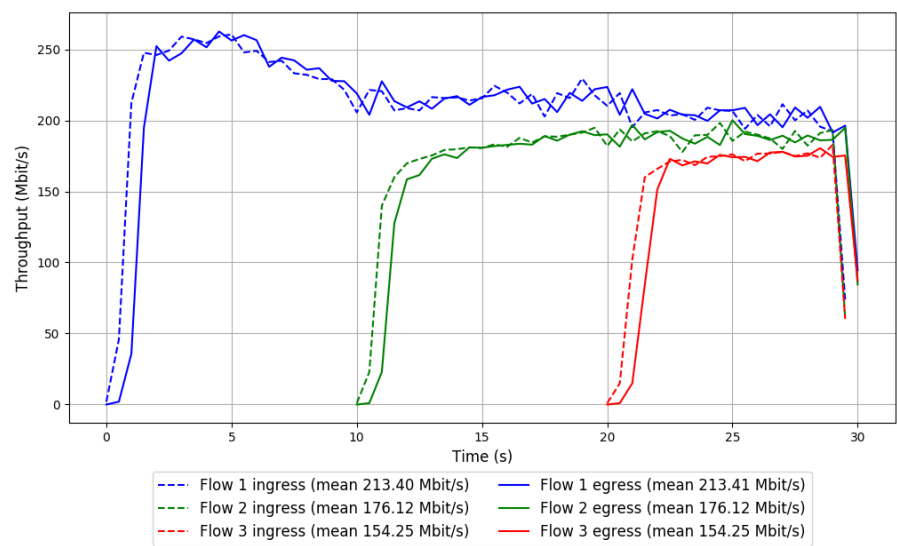
```
Run 5: Statistics of Indigo

Start at: 2019-12-11 23:15:32
End at: 2019-12-11 23:16:02
Local clock offset: -0.011 ms
Remote clock offset: 0.09 ms


# Below is generated by plot.py at 2019-12-12 01:04:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.64 Mbit/s
95th percentile per-packet one-way delay: 65.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 211.04 Mbit/s
95th percentile per-packet one-way delay: 65.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 186.68 Mbit/s
95th percentile per-packet one-way delay: 66.257 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 151.43 Mbit/s
95th percentile per-packet one-way delay: 64.936 ms
Loss rate: 0.00%
```
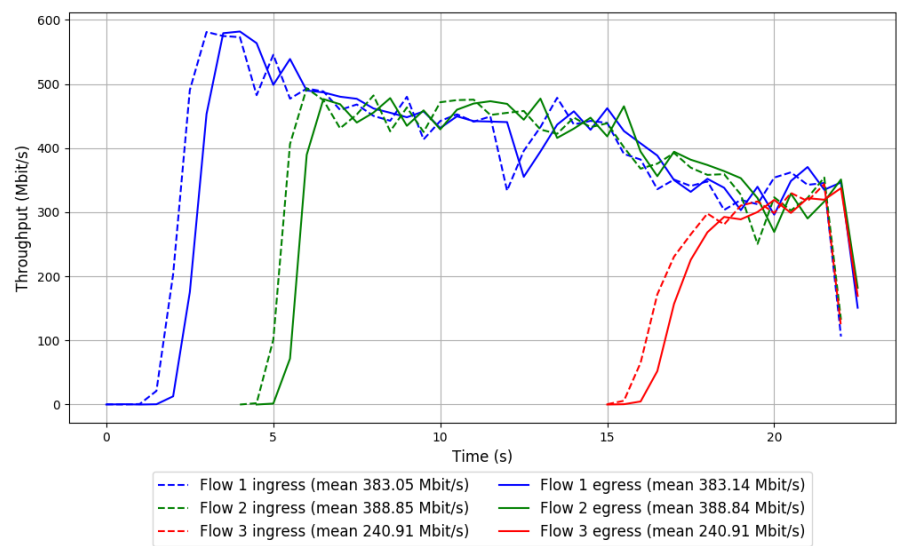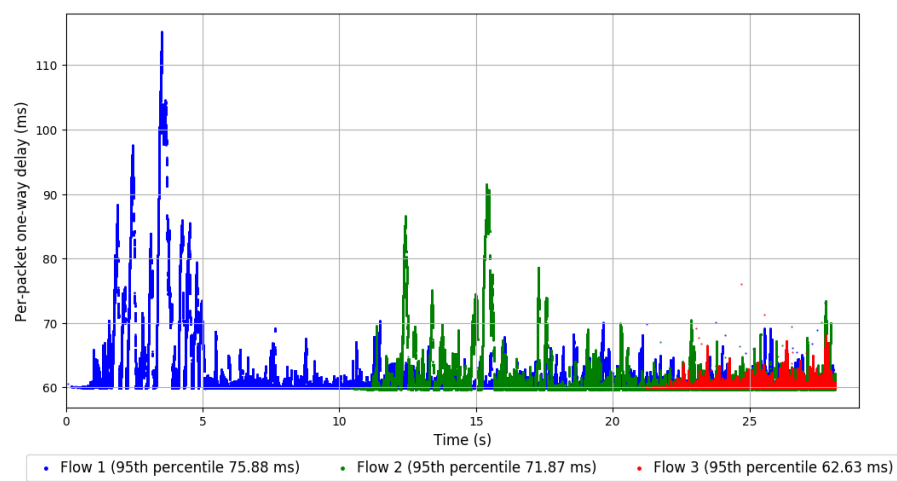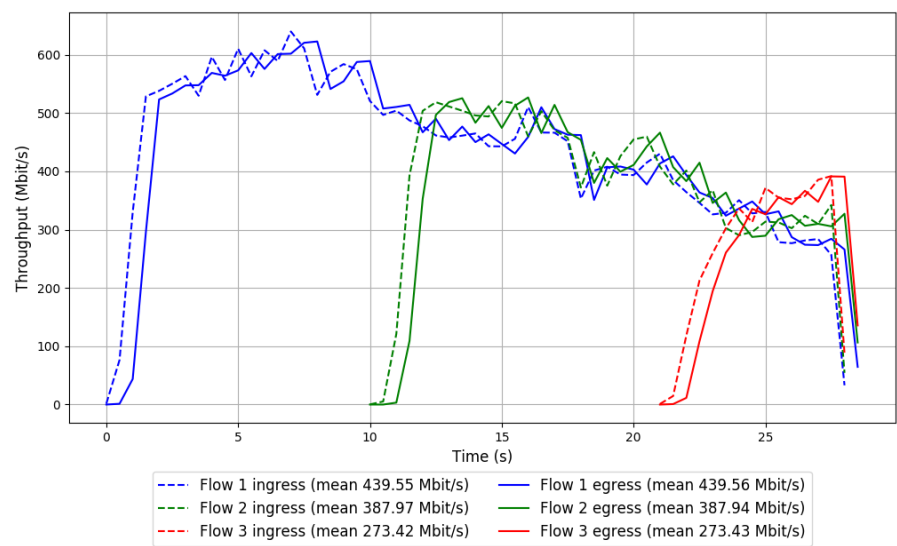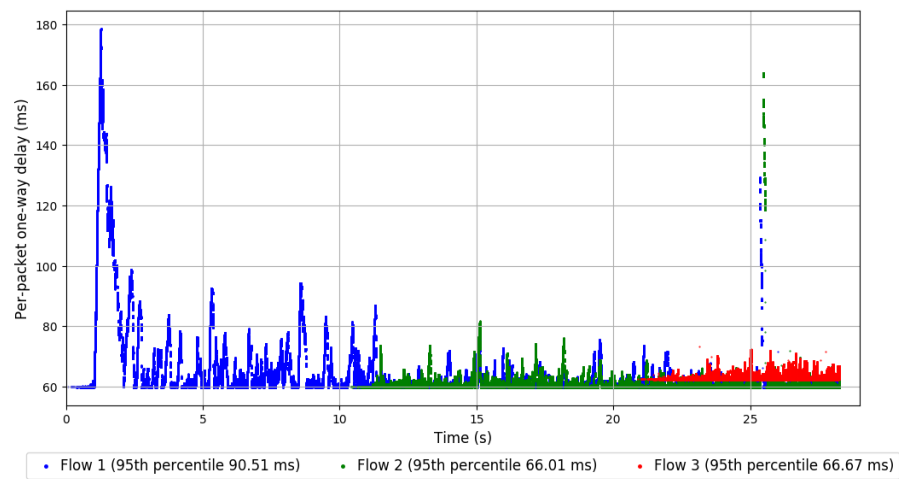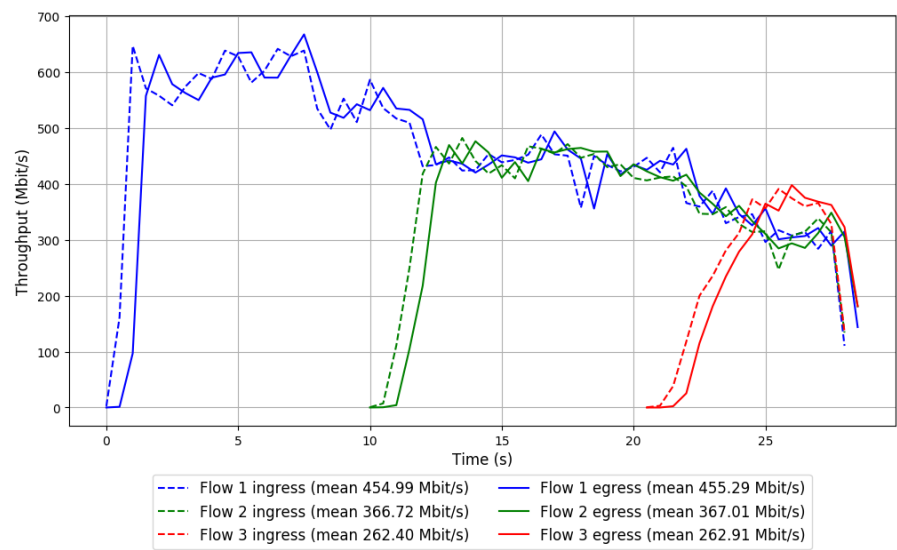
Run 5: Report of Indigo — Data Link

Run 1: Statistics of Indigo-MusesC3

Start at: 2019-12-11 20:12:22
End at: 2019-12-11 20:12:52
Local clock offset: -0.087 ms
Remote clock offset: -0.055 ms

Run 1: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 383.05 Mbit/s) --- Flow 1 egress (mean 383.14 Mbit/s)
Flow 2 ingress (mean 388.85 Mbit/s) --- Flow 2 egress (mean 388.84 Mbit/s)
Flow 3 ingress (mean 240.91 Mbit/s) --- Flow 3 egress (mean 240.91 Mbit/s)

Flow 1 (95th percentile 70.14 ms) Flow 2 (95th percentile 72.49 ms) Flow 3 (95th percentile 62.17 ms)

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```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-12-11 20:53:13
End at: 2019-12-11 20:53:43
Local clock offset: -0.007 ms
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2019-12-12 01:06:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 752.99 Mbit/s
95th percentile per-packet one-way delay: 73.060 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 439.56 Mbit/s
95th percentile per-packet one-way delay: 75.881 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 387.94 Mbit/s
95th percentile per-packet one-way delay: 71.868 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 273.43 Mbit/s
95th percentile per-packet one-way delay: 62.627 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 439.55 Mbit/s)   Flow 1 egress (mean 439.56 Mbit/s)
Flow 2 ingress (mean 387.97 Mbit/s)   Flow 2 egress (mean 387.94 Mbit/s)
Flow 3 ingress (mean 273.42 Mbit/s)   Flow 3 egress (mean 273.43 Mbit/s)

Flow 1 (95th percentile 75.88 ms)   Flow 2 (95th percentile 71.87 ms)   Flow 3 (95th percentile 62.63 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-12-11 21:34:28
End at: 2019-12-11 21:34:58
Local clock offset: -0.071 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-12-12 01:15:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 757.69 Mbit/s
95th percentile per-packet one-way delay: 79.916 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 455.29 Mbit/s
95th percentile per-packet one-way delay: 90.506 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 367.01 Mbit/s
95th percentile per-packet one-way delay: 66.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 262.91 Mbit/s
95th percentile per-packet one-way delay: 66.675 ms
Loss rate: 0.00%
```

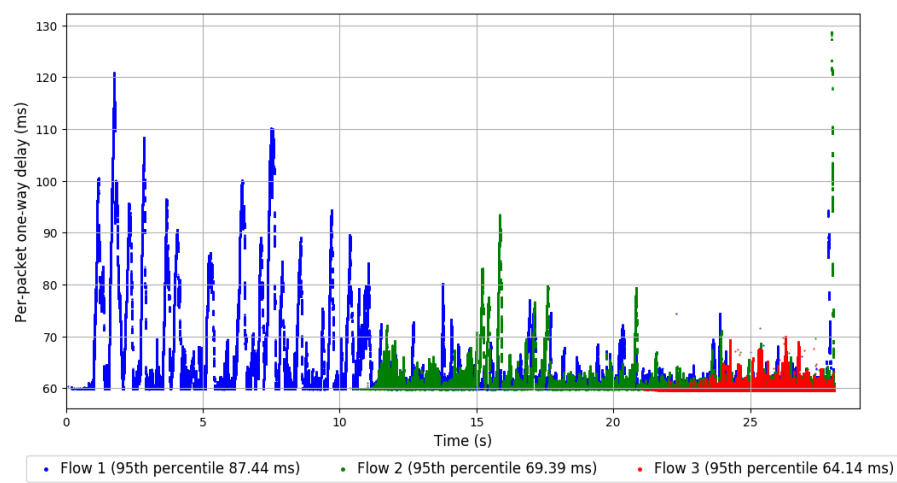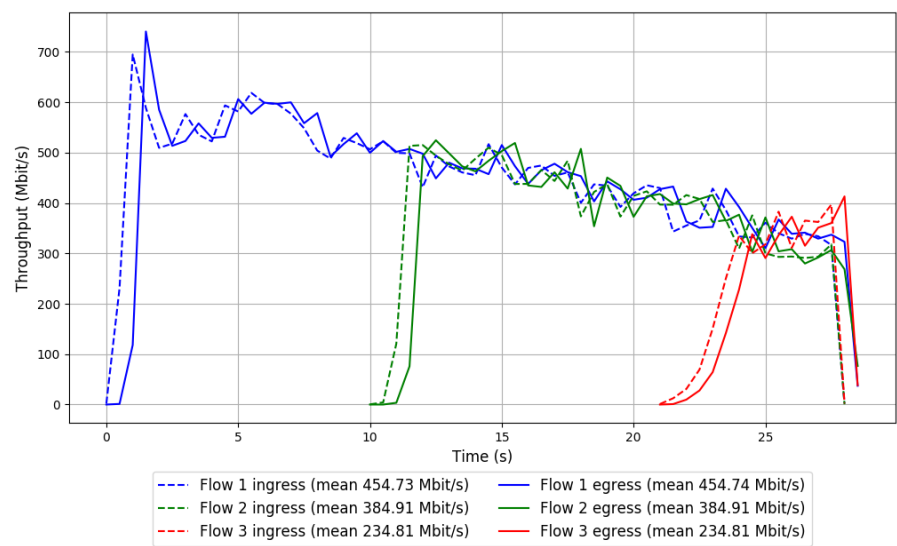Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 454.99 Mbit/s) --- Flow 1 egress (mean 455.29 Mbit/s)
Flow 2 ingress (mean 366.72 Mbit/s) --- Flow 2 egress (mean 367.01 Mbit/s)
Flow 3 ingress (mean 262.40 Mbit/s) --- Flow 3 egress (mean 262.91 Mbit/s)

Flow 1 (95th percentile 90.51 ms)   Flow 2 (95th percentile 66.01 ms)   Flow 3 (95th percentile 66.67 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-12-11 22:15:28
End at: 2019-12-11 22:15:58
Local clock offset: -0.015 ms
Remote clock offset: -0.115 ms


# Below is generated by plot.py at 2019-12-12 01:15:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 739.54 Mbit/s
95th percentile per-packet one-way delay: 76.882 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 443.91 Mbit/s
95th percentile per-packet one-way delay: 80.742 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 377.81 Mbit/s
95th percentile per-packet one-way delay: 72.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 221.63 Mbit/s
95th percentile per-packet one-way delay: 62.396 ms
Loss rate: 0.00%
```
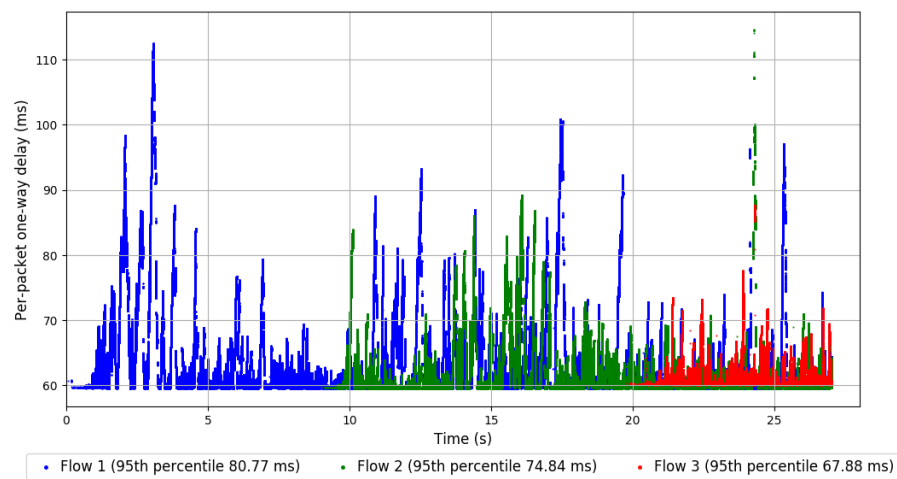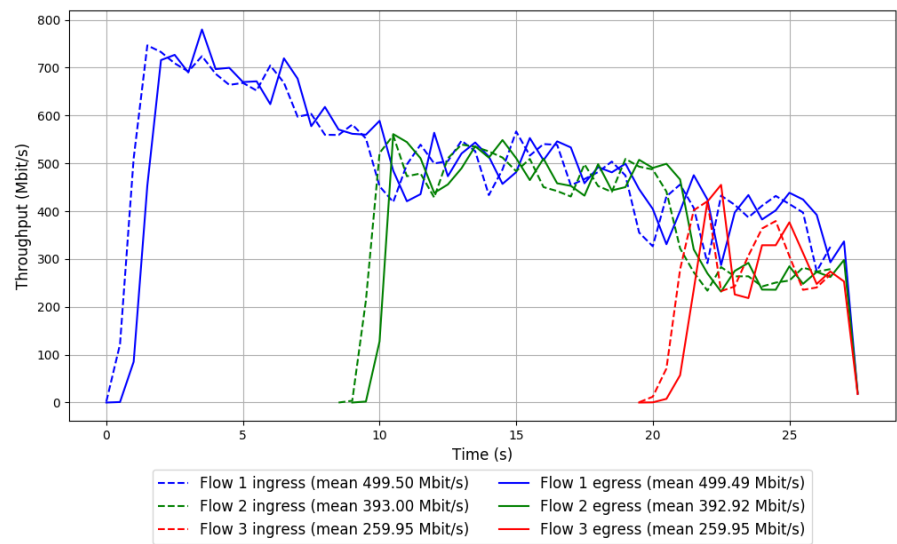
Run 4: Report of Indigo-MusesC3 — Data Link

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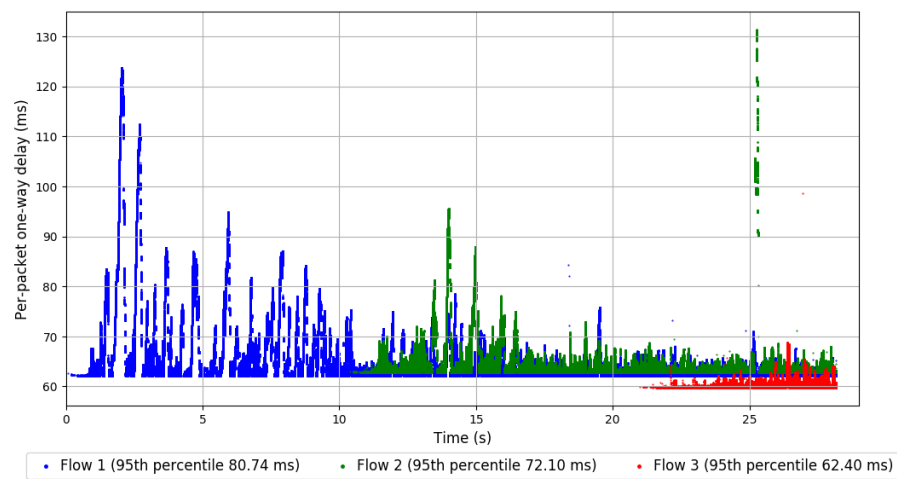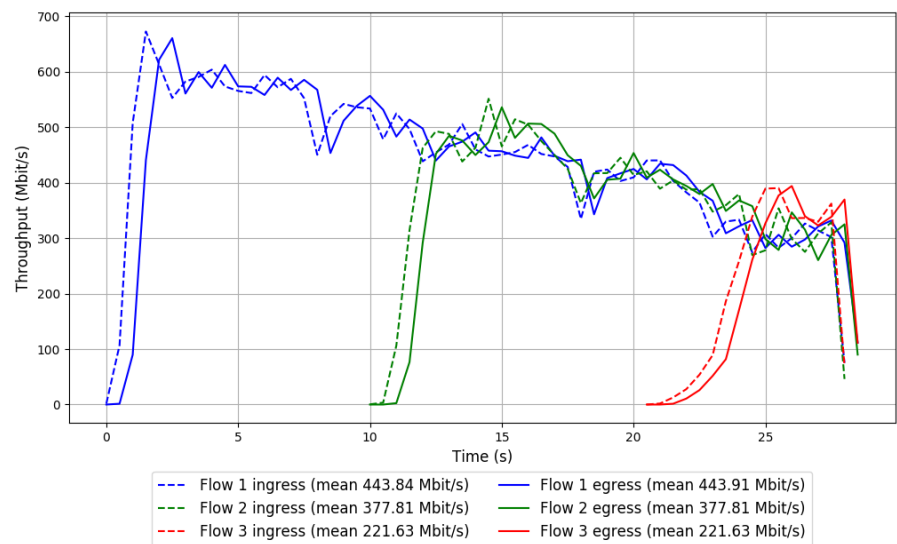
```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-12-11 22:56:33
End at: 2019-12-11 22:57:03
Local clock offset: -0.035 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-12-12 01:16:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 756.49 Mbit/s
95th percentile per-packet one-way delay: 82.050 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 454.74 Mbit/s
95th percentile per-packet one-way delay: 87.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 384.91 Mbit/s
95th percentile per-packet one-way delay: 69.386 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 234.81 Mbit/s
95th percentile per-packet one-way delay: 64.135 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 454.73 Mbit/s) --- Flow 1 egress (mean 454.74 Mbit/s)
Flow 2 ingress (mean 384.91 Mbit/s) --- Flow 2 egress (mean 384.91 Mbit/s)
Flow 3 ingress (mean 234.81 Mbit/s) --- Flow 3 egress (mean 234.81 Mbit/s)

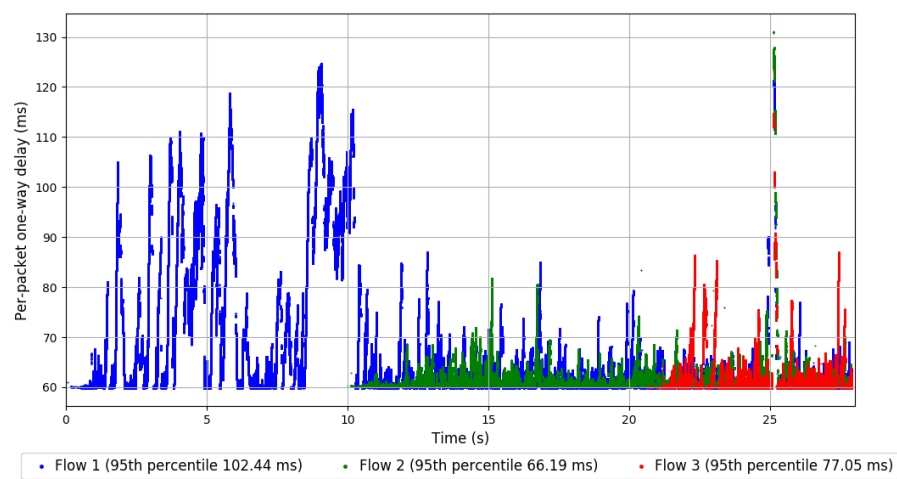Flow 1 (95th percentile 87.44 ms) · Flow 2 (95th percentile 69.39 ms) · Flow 3 (95th percentile 64.14 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-12-11 20:29:11
End at: 2019-12-11 20:29:41
Local clock offset: -0.041 ms
Remote clock offset: -0.12 ms


# Below is generated by plot.py at 2019-12-12 01:16:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 751.24 Mbit/s
95th percentile per-packet one-way delay: 91.108 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 483.53 Mbit/s
95th percentile per-packet one-way delay: 96.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.67 Mbit/s
95th percentile per-packet one-way delay: 79.470 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 124.36 Mbit/s
95th percentile per-packet one-way delay: 65.805 ms
Loss rate: 0.05%
```

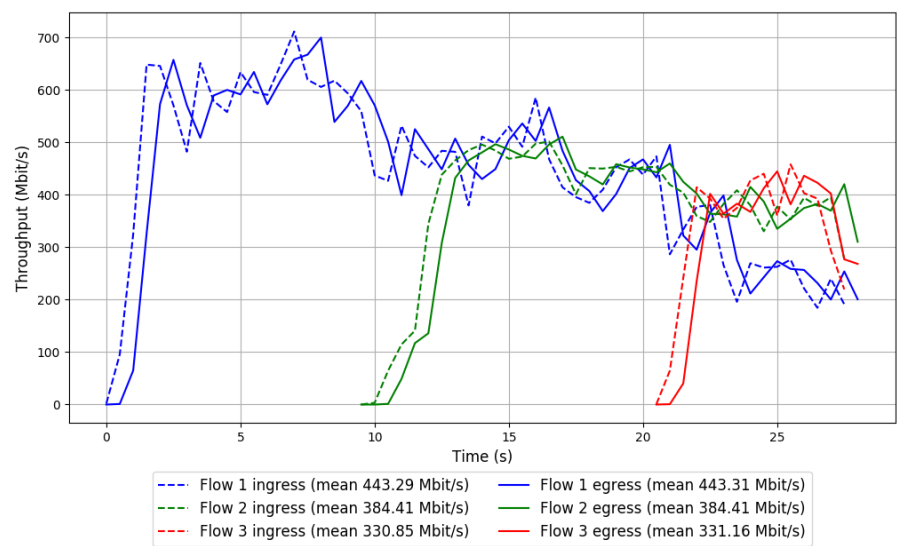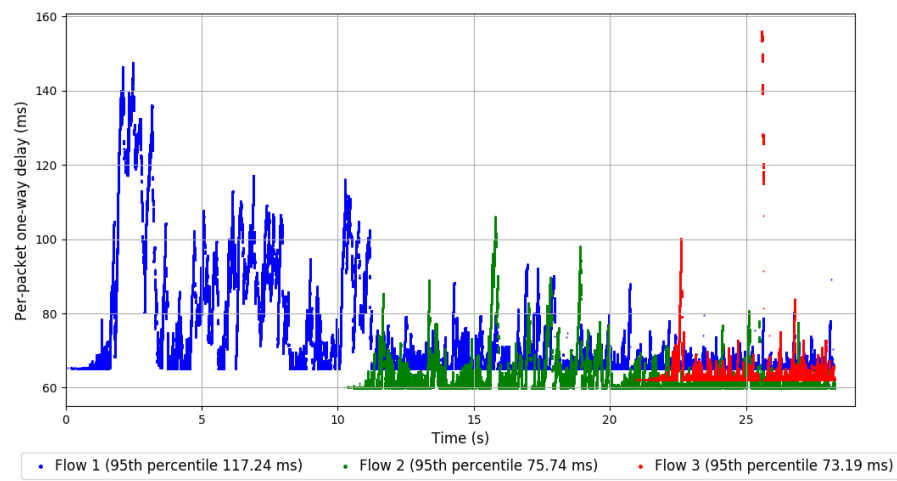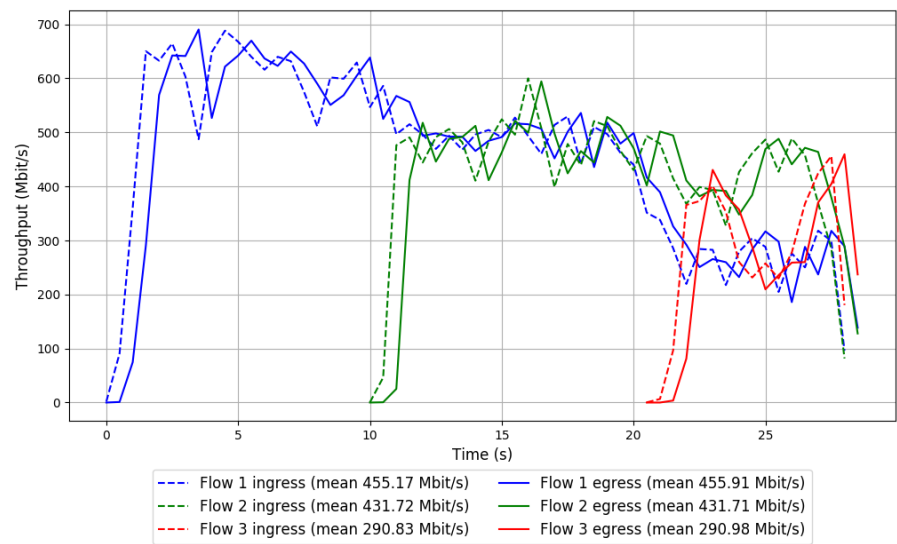Run 1: Report of Indigo-MusesC5 — Data Link

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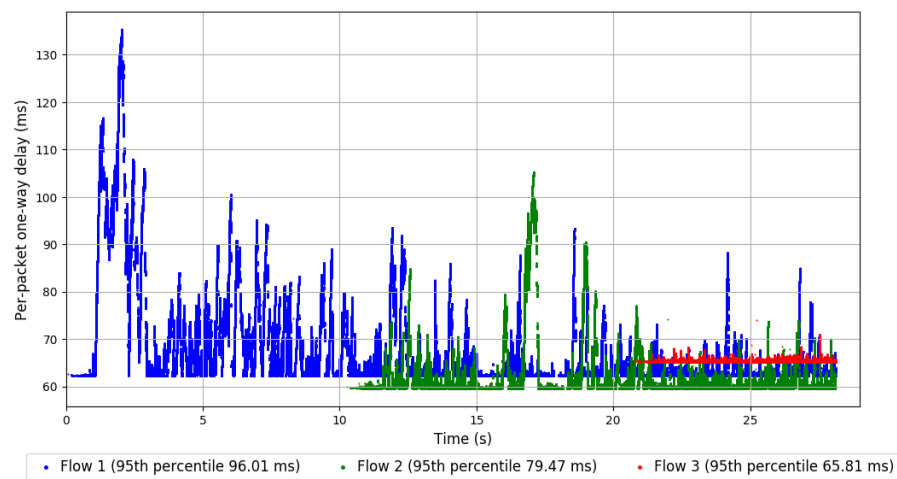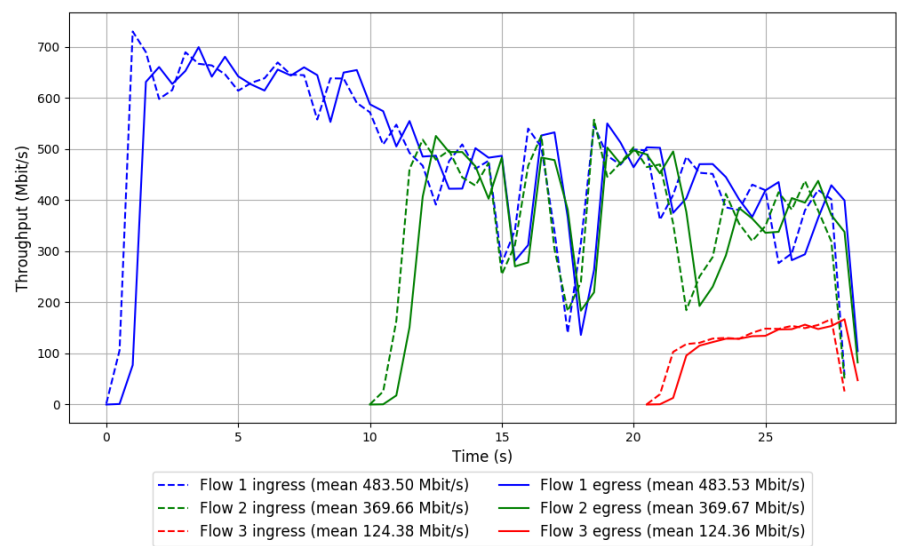
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-12-11 21:10:16
End at: 2019-12-11 21:10:46
Local clock offset: -0.016 ms
Remote clock offset: -0.075 ms


# Below is generated by plot.py at 2019-12-12 01:17:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 831.71 Mbit/s
95th percentile per-packet one-way delay: 78.363 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 499.49 Mbit/s
95th percentile per-packet one-way delay: 80.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 392.92 Mbit/s
95th percentile per-packet one-way delay: 74.836 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 259.95 Mbit/s
95th percentile per-packet one-way delay: 67.878 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 499.50 Mbit/s) ——— Flow 1 egress (mean 499.49 Mbit/s)
- - - Flow 2 ingress (mean 393.00 Mbit/s) ——— Flow 2 egress (mean 392.92 Mbit/s)
- - - Flow 3 ingress (mean 259.95 Mbit/s) ——— Flow 3 egress (mean 259.95 Mbit/s)

• Flow 1 (95th percentile 80.77 ms)   • Flow 2 (95th percentile 74.84 ms)   • Flow 3 (95th percentile 67.88 ms)
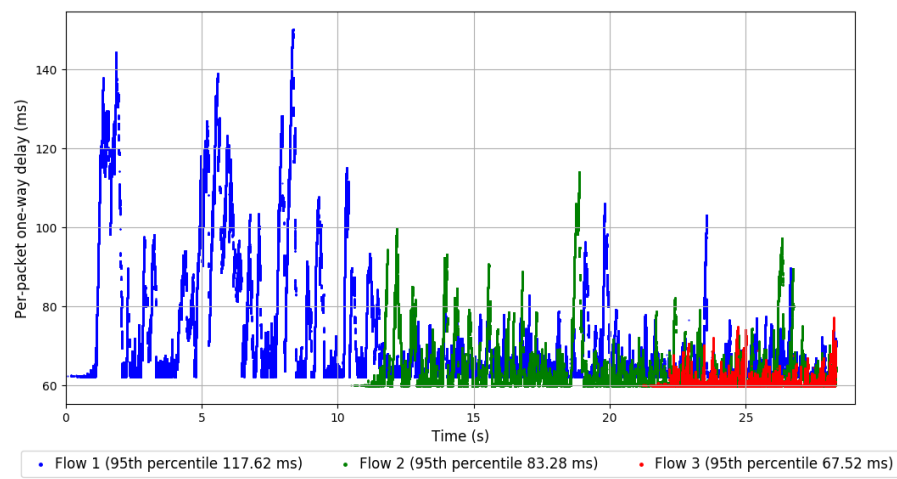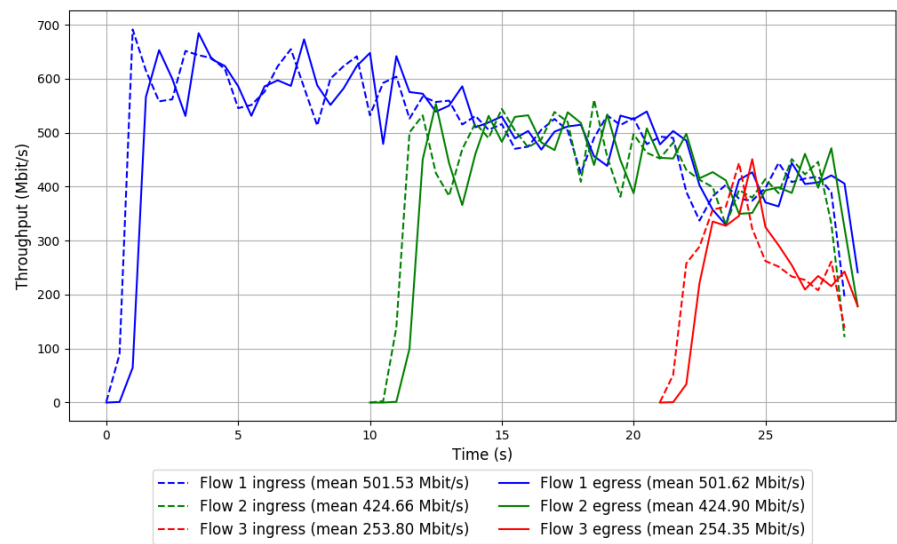
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-12-11 21:51:20
End at: 2019-12-11 21:51:50
Local clock offset: -0.088 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2019-12-12 01:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.30 Mbit/s
95th percentile per-packet one-way delay: 95.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 443.31 Mbit/s
95th percentile per-packet one-way delay: 102.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 384.41 Mbit/s
95th percentile per-packet one-way delay: 66.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 331.16 Mbit/s
95th percentile per-packet one-way delay: 77.045 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 443.29 Mbit/s) --- Flow 1 egress (mean 443.31 Mbit/s)
Flow 2 ingress (mean 384.41 Mbit/s) --- Flow 2 egress (mean 384.41 Mbit/s)
Flow 3 ingress (mean 330.85 Mbit/s) --- Flow 3 egress (mean 331.16 Mbit/s)

Flow 1 (95th percentile 102.44 ms) • Flow 2 (95th percentile 66.19 ms) • Flow 3 (95th percentile 77.05 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-12-11 22:32:30
End at: 2019-12-11 22:33:00
Local clock offset: 0.02 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-12-12 01:20:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 807.10 Mbit/s
95th percentile per-packet one-way delay: 103.679 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 455.91 Mbit/s
95th percentile per-packet one-way delay: 117.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 431.71 Mbit/s
95th percentile per-packet one-way delay: 75.744 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 290.98 Mbit/s
95th percentile per-packet one-way delay: 73.194 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-12-11 23:13:38
End at: 2019-12-11 23:14:08
Local clock offset: -0.042 ms
Remote clock offset: 0.01 ms


# Below is generated by plot.py at 2019-12-12 01:22:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 834.52 Mbit/s
95th percentile per-packet one-way delay: 105.478 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 501.62 Mbit/s
95th percentile per-packet one-way delay: 117.625 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 424.90 Mbit/s
95th percentile per-packet one-way delay: 83.284 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 254.35 Mbit/s
95th percentile per-packet one-way delay: 67.519 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 501.53 Mbit/s) --- Flow 1 egress (mean 501.62 Mbit/s) ---
Flow 2 ingress (mean 424.66 Mbit/s) --- Flow 2 egress (mean 424.90 Mbit/s) ---
Flow 3 ingress (mean 253.80 Mbit/s) --- Flow 3 egress (mean 254.35 Mbit/s) ---

• Flow 1 (95th percentile 117.62 ms)   • Flow 2 (95th percentile 83.28 ms)   • Flow 3 (95th percentile 67.52 ms)
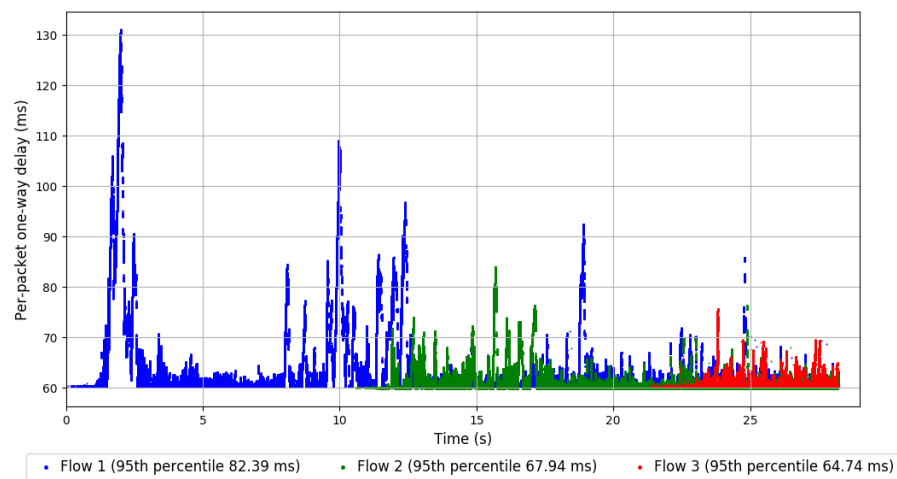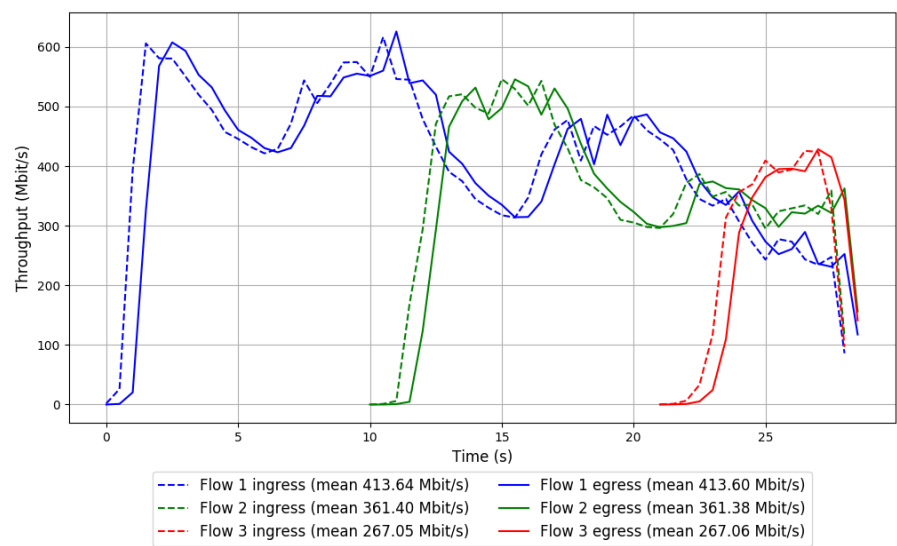
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-12-11 20:42:01
End at: 2019-12-11 20:42:31
Local clock offset: -0.025 ms
Remote clock offset: -0.172 ms


# Below is generated by plot.py at 2019-12-12 01:28:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 692.08 Mbit/s
95th percentile per-packet one-way delay: 65.441 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 441.46 Mbit/s
95th percentile per-packet one-way delay: 66.827 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 264.92 Mbit/s
95th percentile per-packet one-way delay: 61.554 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.02 Mbit/s
95th percentile per-packet one-way delay: 64.865 ms
Loss rate: 0.00%
```

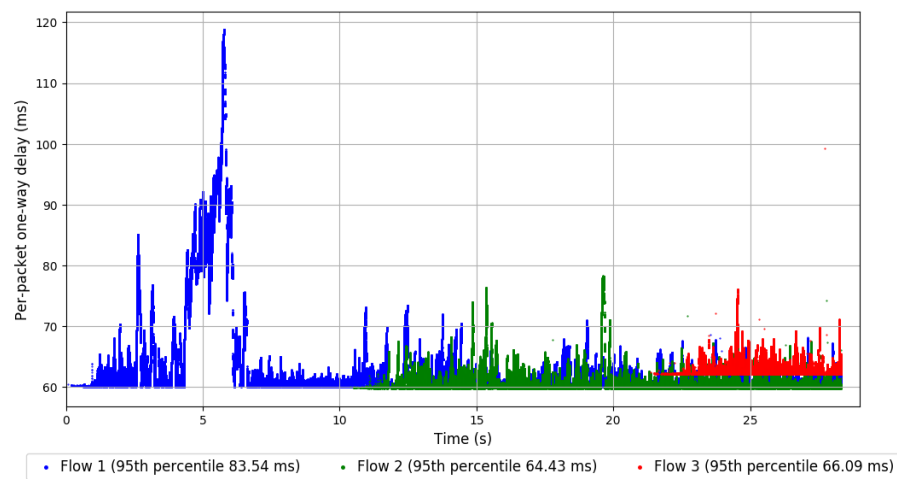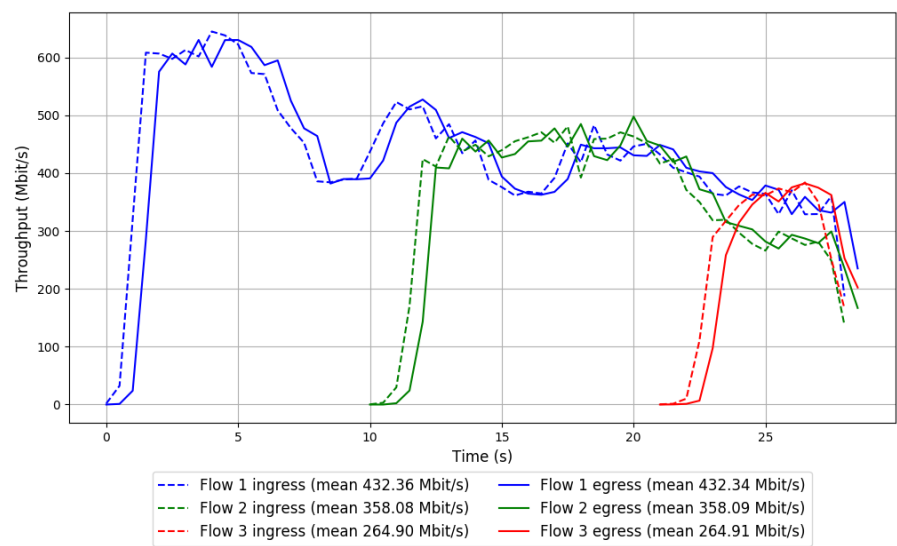Run 1: Report of Indigo-MusesD — Data Link
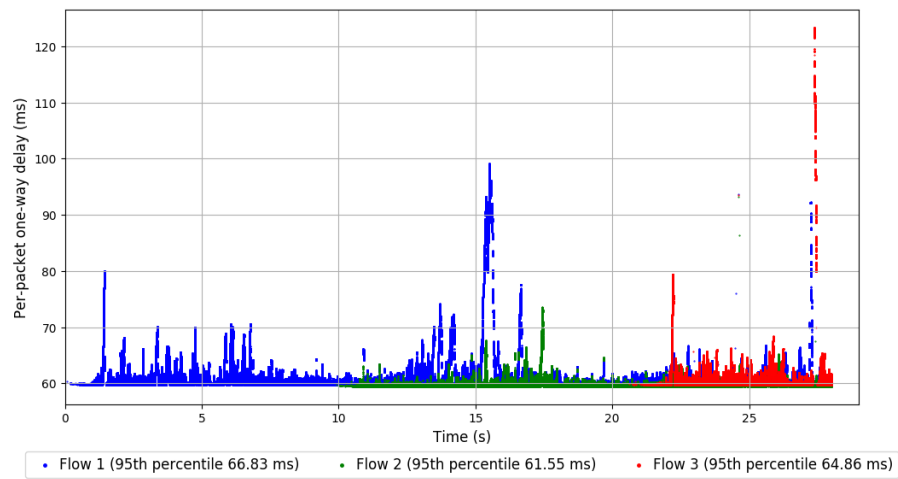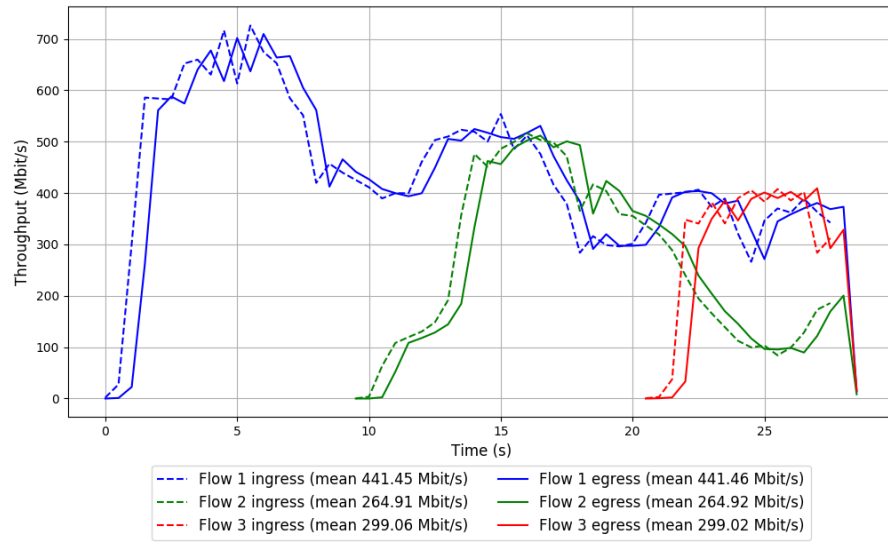
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-12-11 21:23:08
End at: 2019-12-11 21:23:38
Local clock offset: -0.025 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2019-12-12 01:30:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 737.79 Mbit/s
95th percentile per-packet one-way delay: 84.543 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 441.65 Mbit/s
95th percentile per-packet one-way delay: 89.615 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 376.88 Mbit/s
95th percentile per-packet one-way delay: 75.718 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 240.57 Mbit/s
95th percentile per-packet one-way delay: 66.140 ms
Loss rate: 0.00%
```

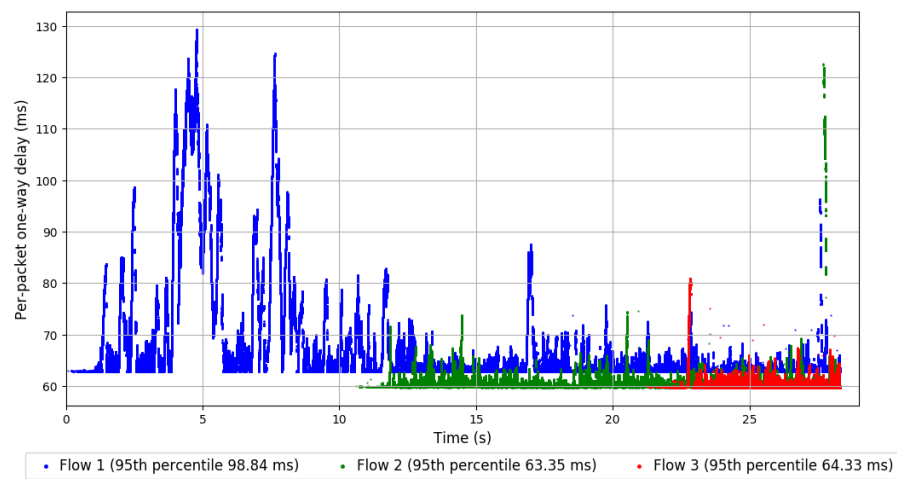Run 2: Report of Indigo-MusesD — Data Link
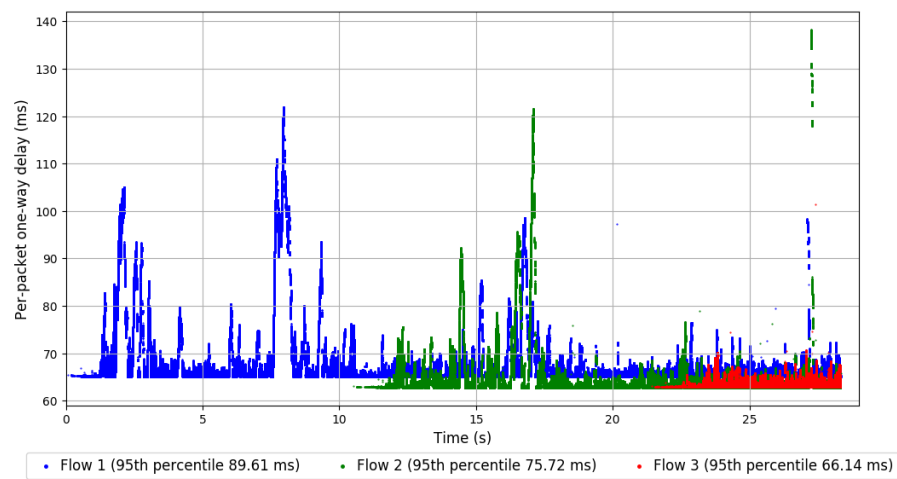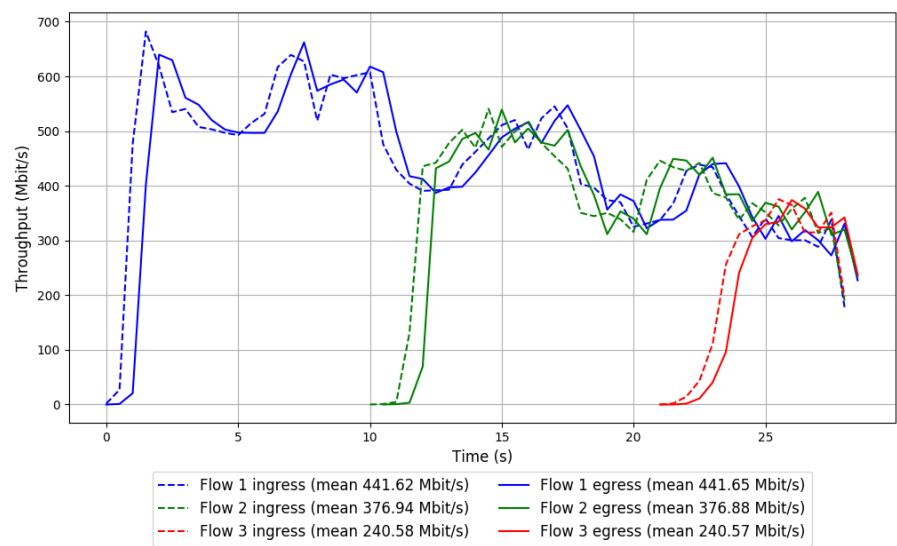
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-12-11 22:04:13
End at: 2019-12-11 22:04:43
Local clock offset: -0.085 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2019-12-12 01:30:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.17 Mbit/s
95th percentile per-packet one-way delay: 76.766 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 413.60 Mbit/s
95th percentile per-packet one-way delay: 82.394 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 361.38 Mbit/s
95th percentile per-packet one-way delay: 67.942 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 267.06 Mbit/s
95th percentile per-packet one-way delay: 64.737 ms
Loss rate: 0.00%
```

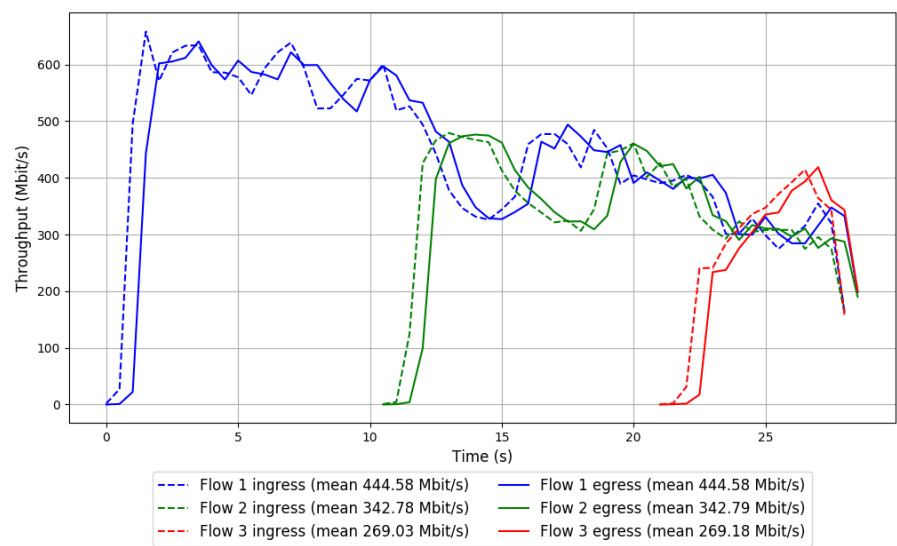Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-12-11 22:45:06
End at: 2019-12-11 22:45:36
Local clock offset: 0.007 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-12-12 01:30:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.66 Mbit/s
95th percentile per-packet one-way delay: 76.471 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 432.34 Mbit/s
95th percentile per-packet one-way delay: 83.539 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 358.09 Mbit/s
95th percentile per-packet one-way delay: 64.427 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 264.91 Mbit/s
95th percentile per-packet one-way delay: 66.093 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link

- - - - Flow 1 ingress (mean 432.36 Mbit/s) —— Flow 1 egress (mean 432.34 Mbit/s)
- - - - Flow 2 ingress (mean 358.08 Mbit/s) —— Flow 2 egress (mean 358.09 Mbit/s)
- - - - Flow 3 ingress (mean 264.90 Mbit/s) —— Flow 3 egress (mean 264.91 Mbit/s)

- Flow 1 (95th percentile 83.54 ms)   - Flow 2 (95th percentile 64.43 ms)   - Flow 3 (95th percentile 66.09 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-12-11 23:26:39
End at: 2019-12-11 23:27:09
Local clock offset: -0.053 ms
Remote clock offset: -0.168 ms


# Below is generated by plot.py at 2019-12-12 01:32:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 727.32 Mbit/s
95th percentile per-packet one-way delay: 91.548 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 444.58 Mbit/s
95th percentile per-packet one-way delay: 98.838 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 342.79 Mbit/s
95th percentile per-packet one-way delay: 63.346 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 269.18 Mbit/s
95th percentile per-packet one-way delay: 64.329 ms
Loss rate: 0.00%
```
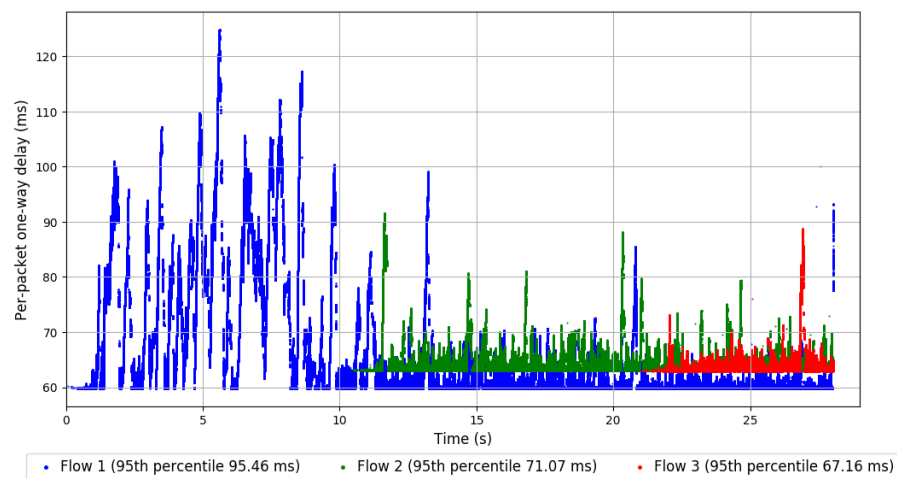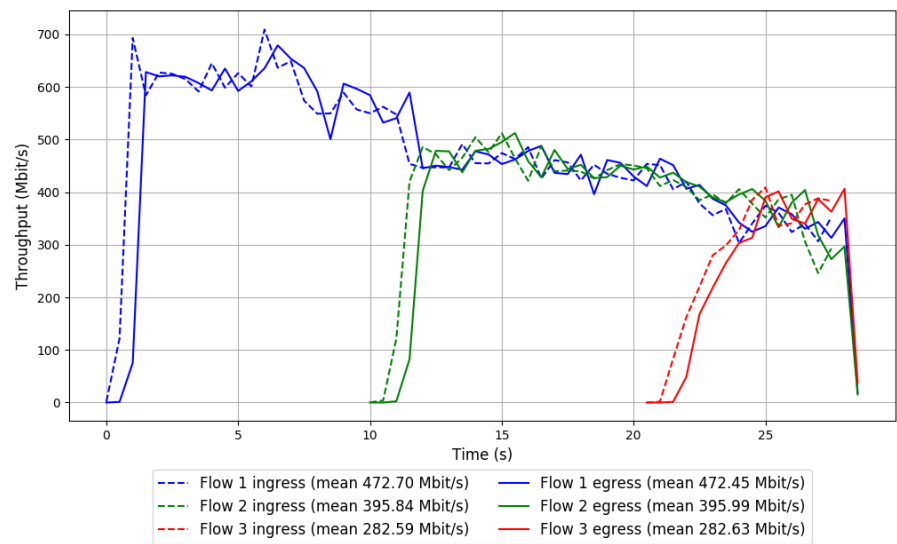
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-12-11 20:05:23
End at: 2019-12-11 20:05:53
Local clock offset: -0.098 ms
Remote clock offset: 0.006 ms
```

Run 1: Report of Indigo-MusesT — Data Link

Figure is missing

Figure is missing

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-12-11 20:45:41
End at: 2019-12-11 20:46:11
Local clock offset: 0.003 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2019-12-12 01:35:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 832.79 Mbit/s
95th percentile per-packet one-way delay: 68.041 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 494.16 Mbit/s
95th percentile per-packet one-way delay: 69.692 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 423.27 Mbit/s
95th percentile per-packet one-way delay: 65.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 276.71 Mbit/s
95th percentile per-packet one-way delay: 65.453 ms
Loss rate: 0.00%
```

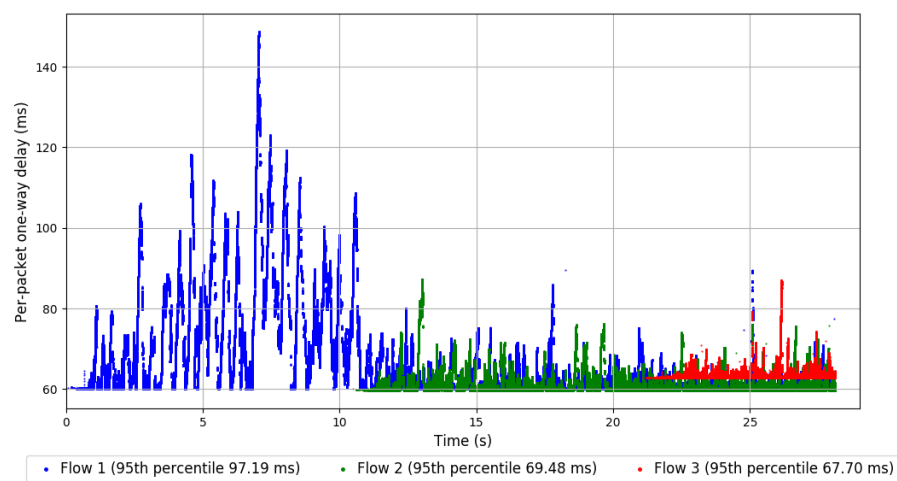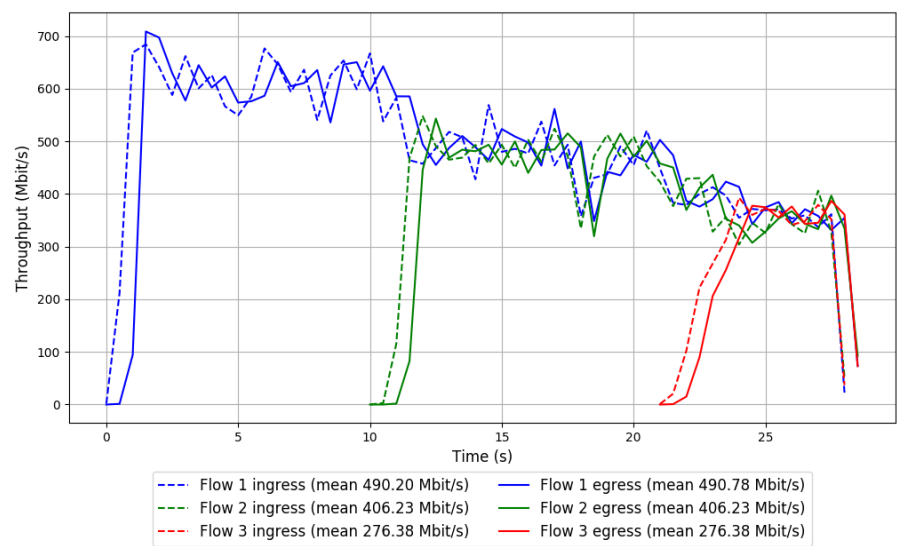Run 2: Report of Indigo-MusesT — Data Link

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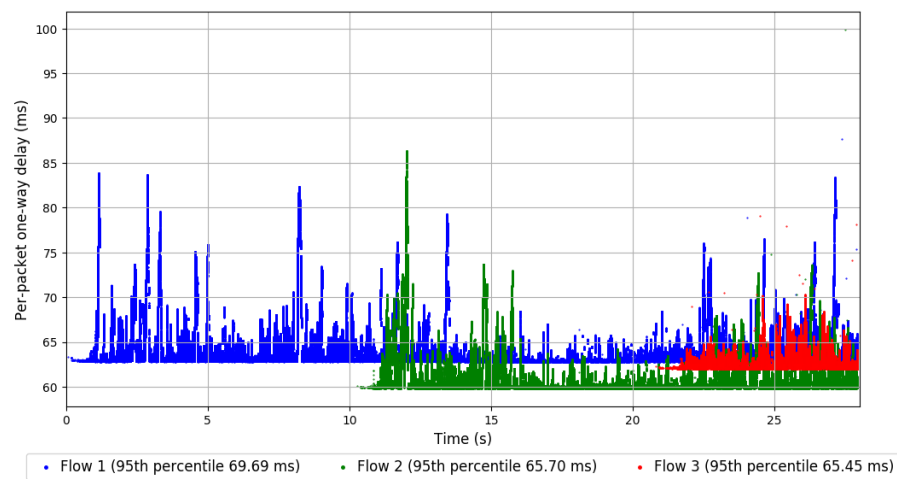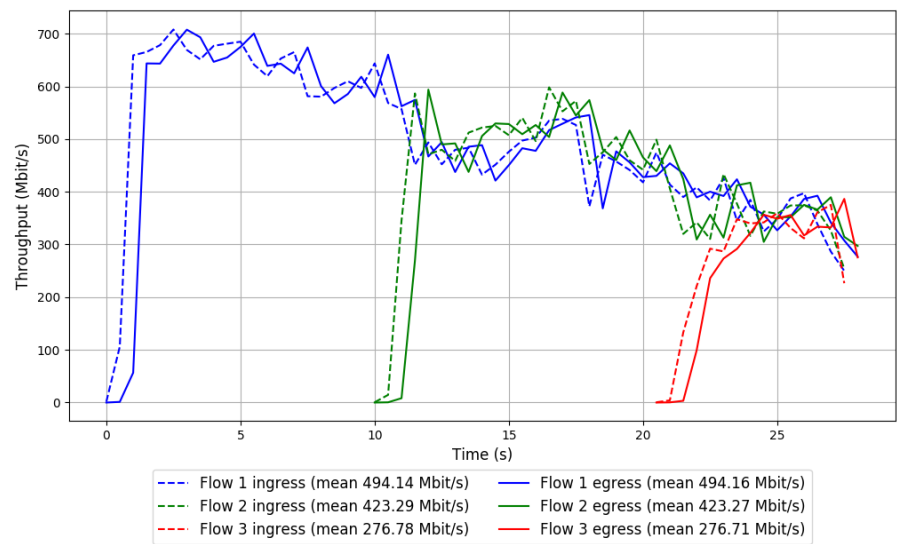
```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-12-11 21:26:51
End at: 2019-12-11 21:27:21
Local clock offset: -0.016 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2019-12-12 01:35:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.52 Mbit/s
95th percentile per-packet one-way delay: 90.093 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 472.45 Mbit/s
95th percentile per-packet one-way delay: 95.456 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 395.99 Mbit/s
95th percentile per-packet one-way delay: 71.067 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 282.63 Mbit/s
95th percentile per-packet one-way delay: 67.155 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesT — Data Link

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```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-12-11 22:07:54
End at: 2019-12-11 22:08:24
Local clock offset: -0.049 ms
Remote clock offset: -0.154 ms


# Below is generated by plot.py at 2019-12-12 01:39:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 814.50 Mbit/s
95th percentile per-packet one-way delay: 89.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 490.78 Mbit/s
95th percentile per-packet one-way delay: 97.188 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 406.23 Mbit/s
95th percentile per-packet one-way delay: 69.482 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 276.38 Mbit/s
95th percentile per-packet one-way delay: 67.703 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-12-11 22:48:50
End at: 2019-12-11 22:49:20
Local clock offset: -0.008 ms
Remote clock offset: -0.093 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 799.05 Mbit/s
95th percentile per-packet one-way delay: 112.239 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 474.91 Mbit/s
95th percentile per-packet one-way delay: 124.968 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 399.50 Mbit/s
95th percentile per-packet one-way delay: 69.424 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 285.65 Mbit/s
95th percentile per-packet one-way delay: 66.139 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesT — Data Link
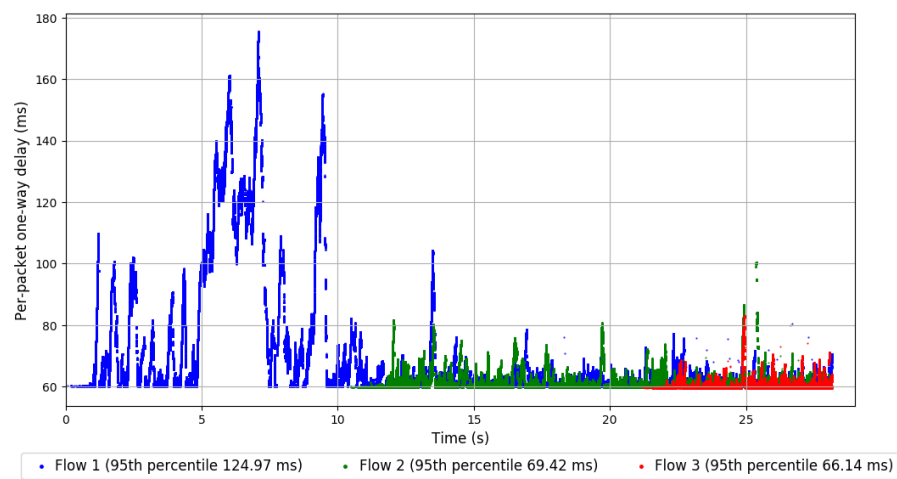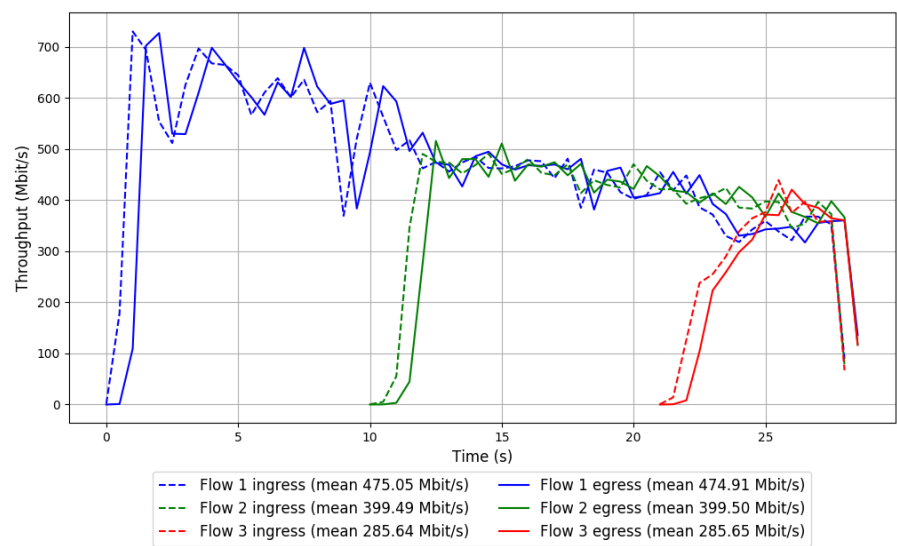
```
Run 1: Statistics of LEDBAT

Start at: 2019-12-11 20:32:49
End at: 2019-12-11 20:33:19
Local clock offset: 0.01 ms
Remote clock offset: -0.183 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 62.698 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.59 Mbit/s
95th percentile per-packet one-way delay: 61.300 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.17 Mbit/s
95th percentile per-packet one-way delay: 60.477 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.68 Mbit/s
95th percentile per-packet one-way delay: 63.151 ms
Loss rate: 0.00%
```
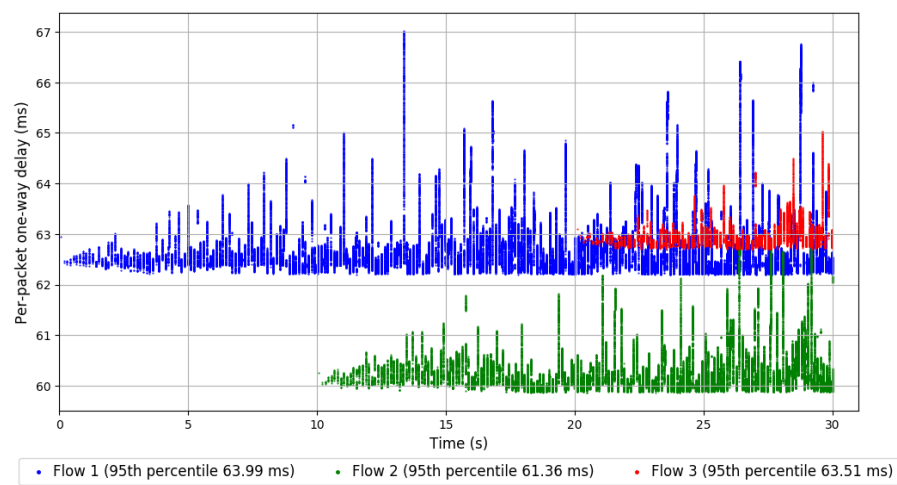
Run 1: Report of LEDBAT — Data Link
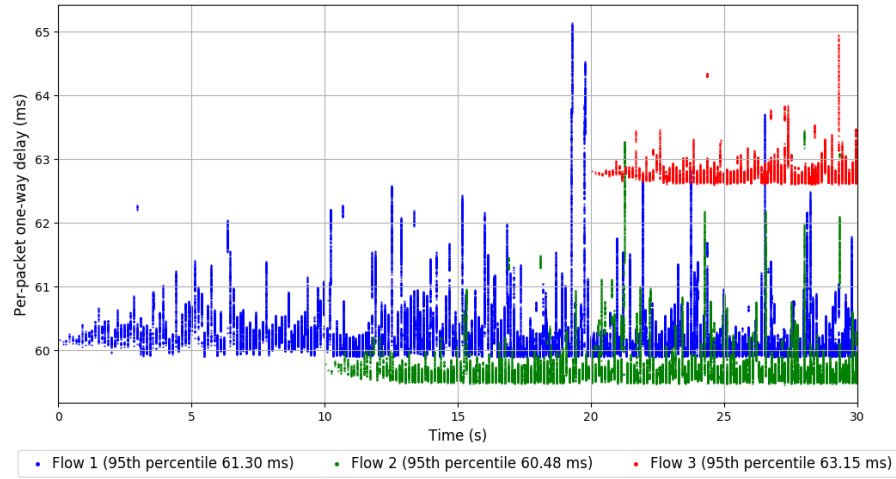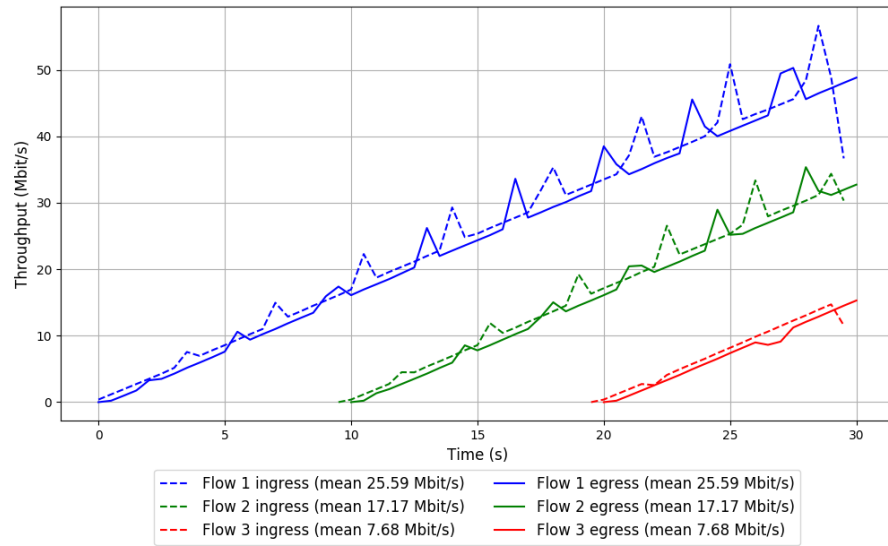
```
Run 2: Statistics of LEDBAT

Start at: 2019-12-11 21:13:55
End at: 2019-12-11 21:14:25
Local clock offset: -0.063 ms
Remote clock offset: -0.175 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.40 Mbit/s
95th percentile per-packet one-way delay: 63.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: 63.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 16.57 Mbit/s
95th percentile per-packet one-way delay: 63.169 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 63.077 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link
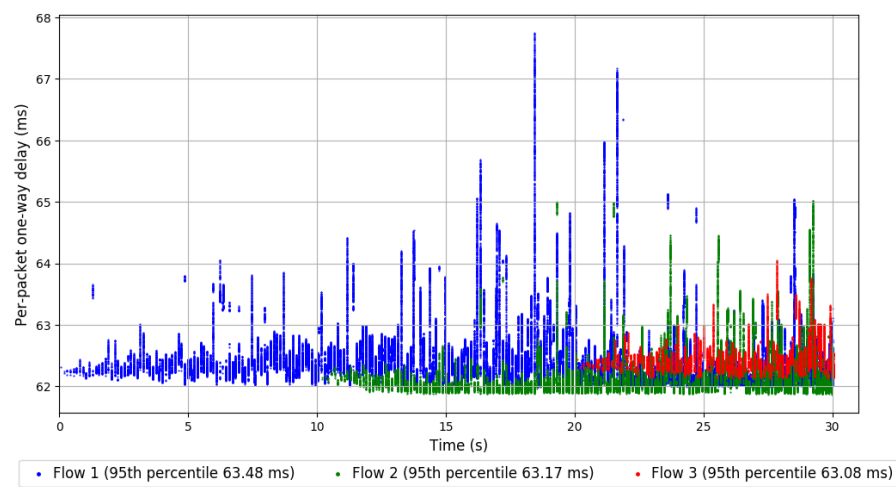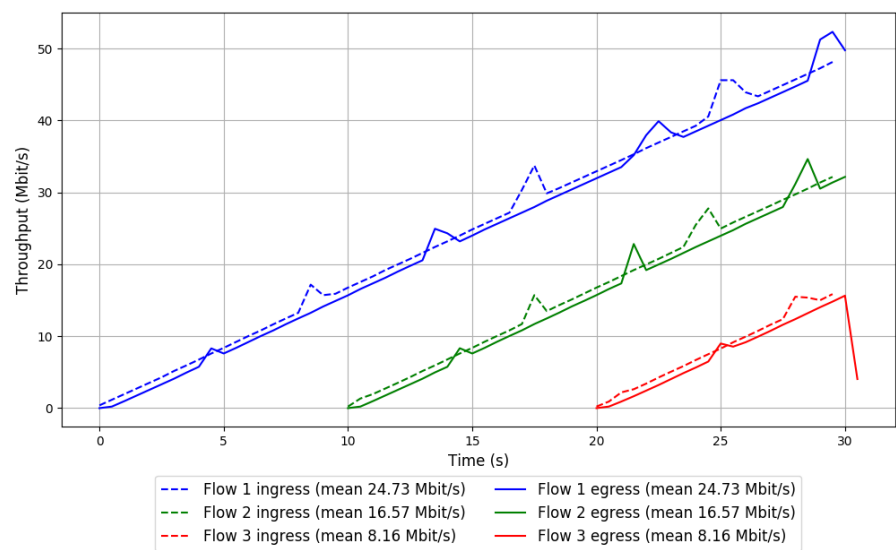
```
Run 3: Statistics of LEDBAT

Start at: 2019-12-11 21:54:58
End at: 2019-12-11 21:55:28
Local clock offset: -0.086 ms
Remote clock offset: 0.041 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.65 Mbit/s
95th percentile per-packet one-way delay: 63.670 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.63 Mbit/s
95th percentile per-packet one-way delay: 63.993 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.08 Mbit/s
95th percentile per-packet one-way delay: 61.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 63.514 ms
Loss rate: 0.00%
```
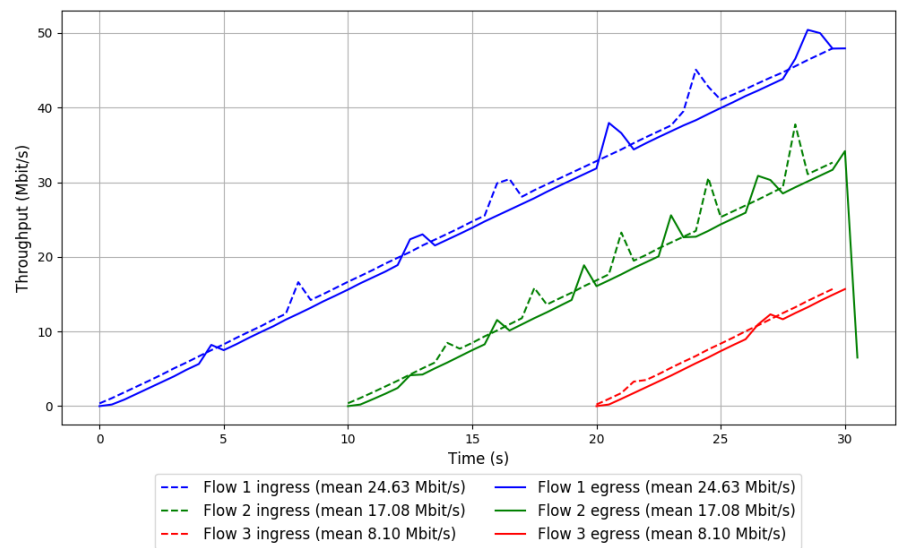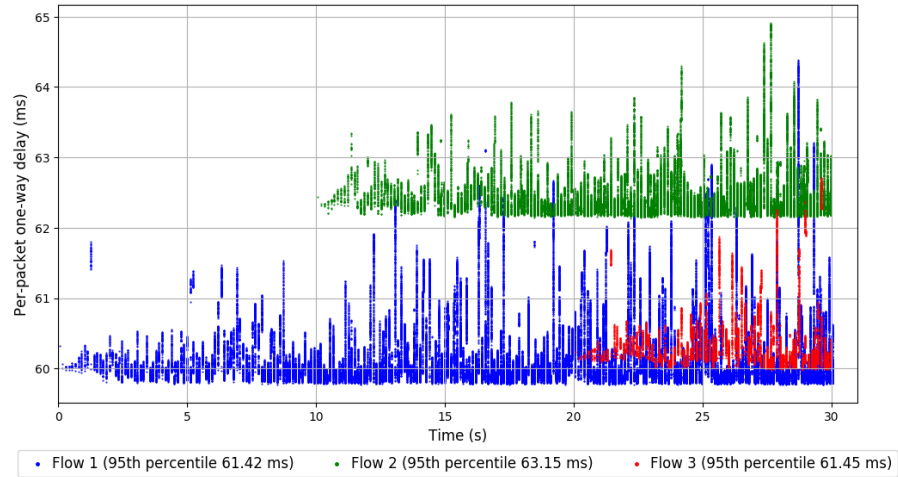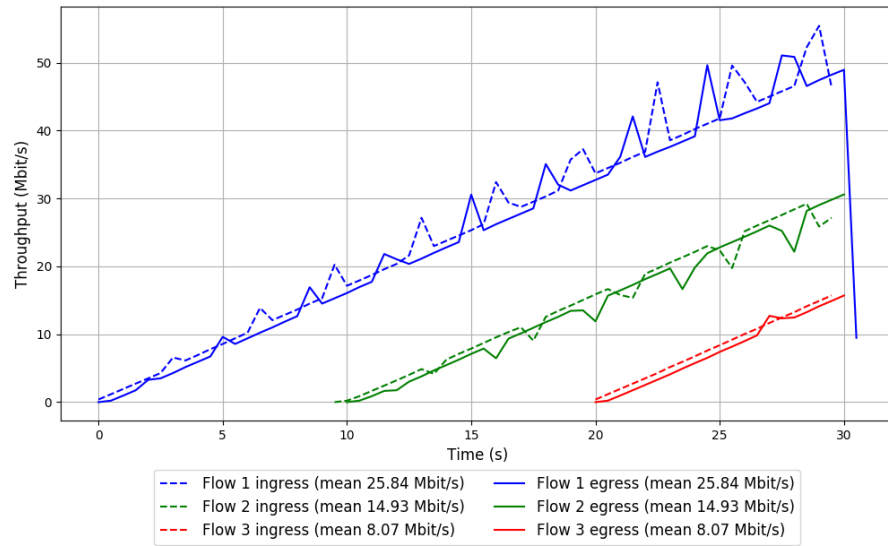
Run 3: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 24.63 Mbit/s) —— Flow 1 egress (mean 24.63 Mbit/s)
- - - Flow 2 ingress (mean 17.08 Mbit/s) —— Flow 2 egress (mean 17.08 Mbit/s)
- - - Flow 3 ingress (mean 8.10 Mbit/s) —— Flow 3 egress (mean 8.10 Mbit/s)

• Flow 1 (95th percentile 63.99 ms)   • Flow 2 (95th percentile 61.36 ms)   • Flow 3 (95th percentile 63.51 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-12-11 22:36:10
End at: 2019-12-11 22:36:40
Local clock offset: 0.027 ms
Remote clock offset: -0.158 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 62.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.84 Mbit/s
95th percentile per-packet one-way delay: 61.420 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.93 Mbit/s
95th percentile per-packet one-way delay: 63.151 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 61.455 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 25.84 Mbit/s) --- Flow 1 egress (mean 25.84 Mbit/s)
Flow 2 ingress (mean 14.93 Mbit/s) --- Flow 2 egress (mean 14.93 Mbit/s)
Flow 3 ingress (mean 8.07 Mbit/s) --- Flow 3 egress (mean 8.07 Mbit/s)

Flow 1 (95th percentile 61.42 ms)   Flow 2 (95th percentile 63.15 ms)   Flow 3 (95th percentile 61.45 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-12-11 23:17:21
End at: 2019-12-11 23:17:51
Local clock offset: -0.006 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.09 Mbit/s
95th percentile per-packet one-way delay: 61.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 61.220 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 16.24 Mbit/s
95th percentile per-packet one-way delay: 61.452 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.24 Mbit/s
95th percentile per-packet one-way delay: 60.341 ms
Loss rate: 0.00%
```
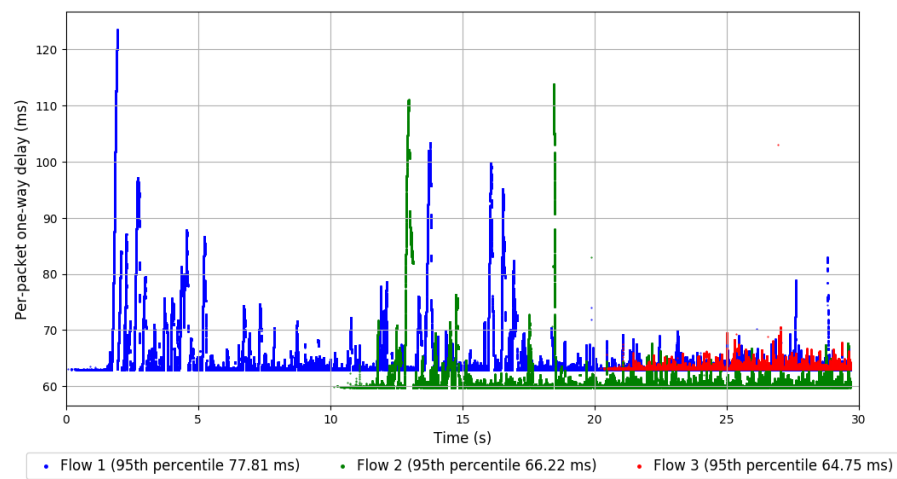
Run 5: Report of LEDBAT — Data Link
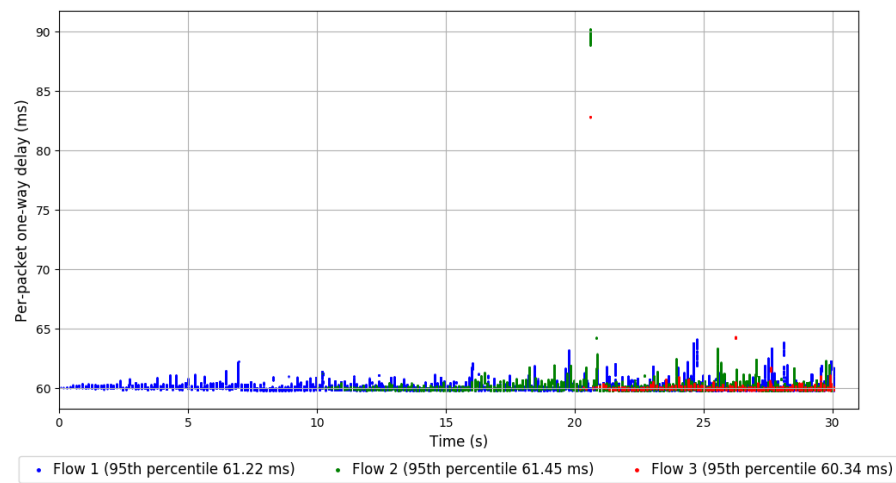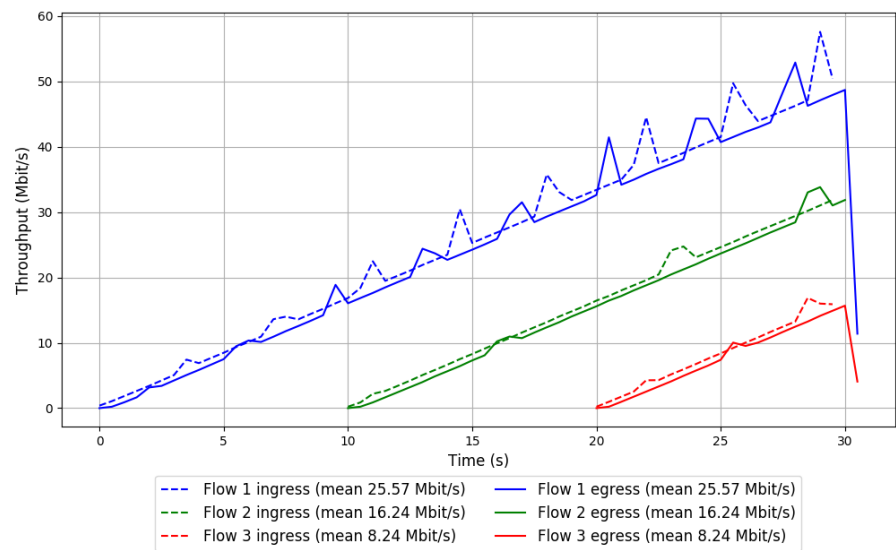
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 20:38:35
End at: 2019-12-11 20:39:05
Local clock offset: -0.009 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2019-12-12 01:44:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 560.19 Mbit/s
95th percentile per-packet one-way delay: 62.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 262.27 Mbit/s
95th percentile per-packet one-way delay: 61.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 324.36 Mbit/s
95th percentile per-packet one-way delay: 60.529 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 256.66 Mbit/s
95th percentile per-packet one-way delay: 64.688 ms
Loss rate: 0.00%
```
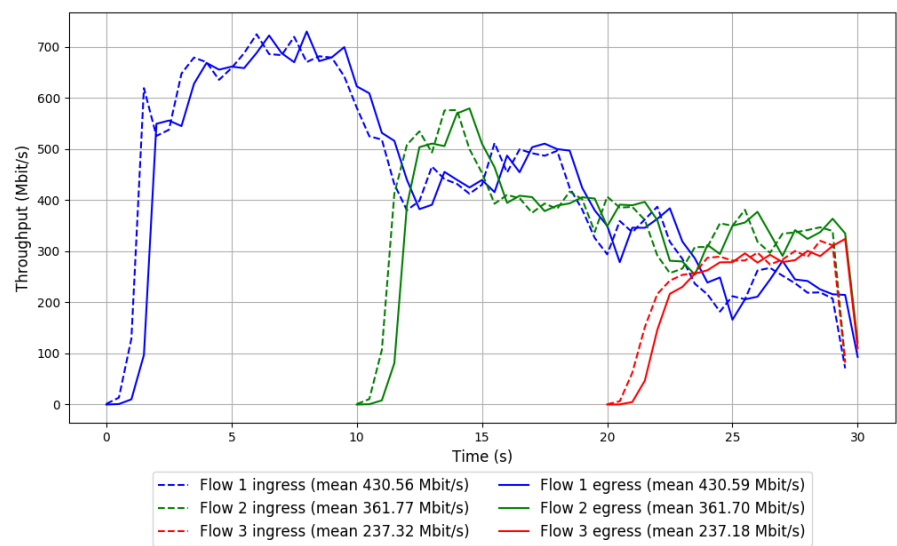
Run 1: Report of Muses_DecisionTree — Data Link
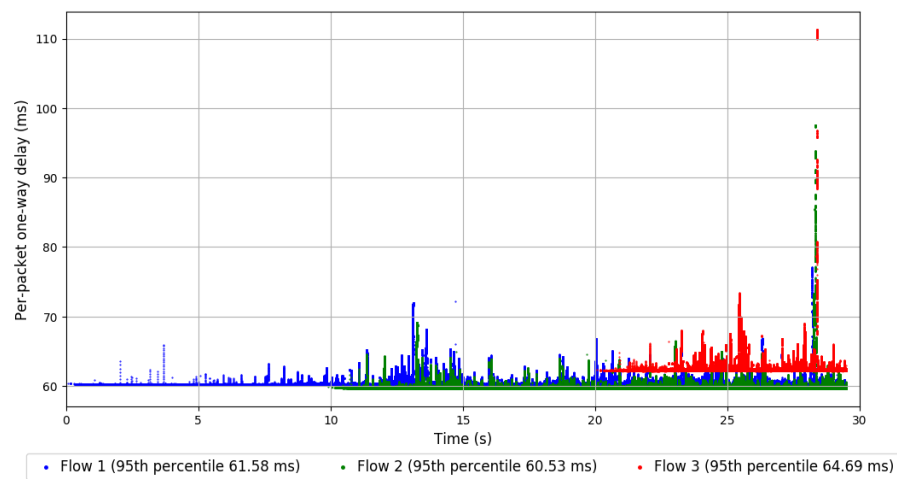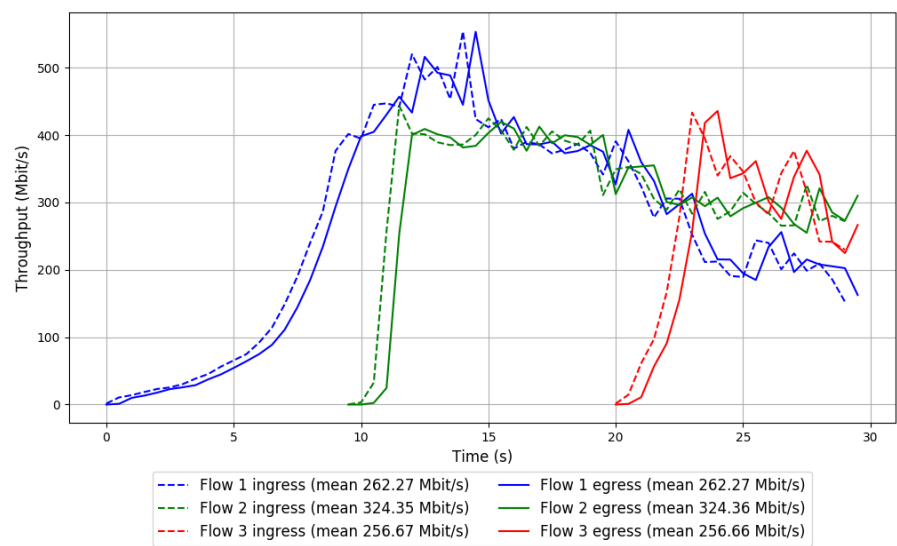
```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 21:19:32
End at: 2019-12-11 21:20:02
Local clock offset: -0.069 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2019-12-12 01:47:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 744.97 Mbit/s
95th percentile per-packet one-way delay: 73.879 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 430.59 Mbit/s
95th percentile per-packet one-way delay: 77.806 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 361.70 Mbit/s
95th percentile per-packet one-way delay: 66.221 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 237.18 Mbit/s
95th percentile per-packet one-way delay: 64.753 ms
Loss rate: 0.11%
```
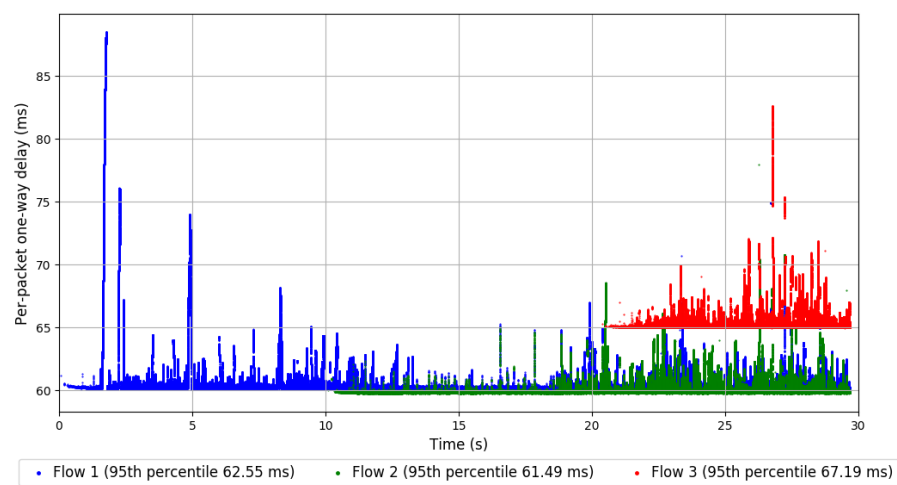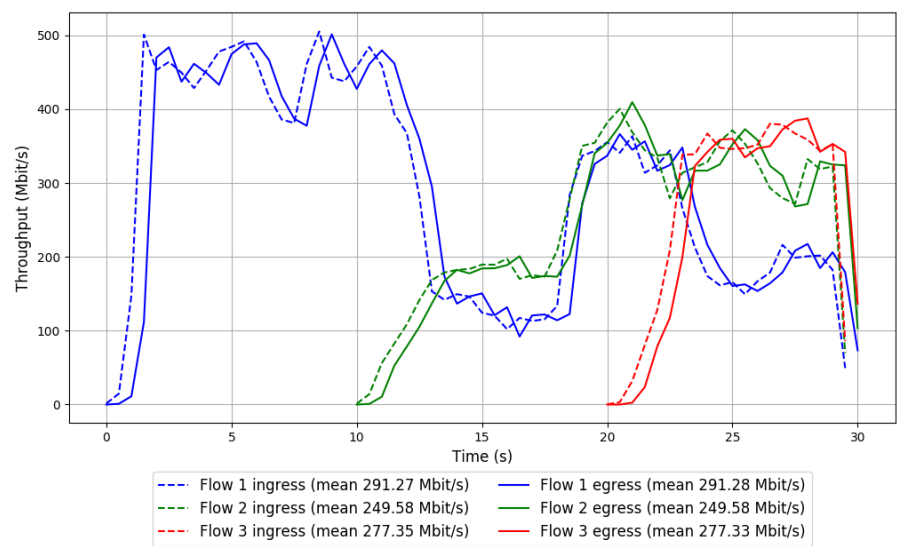
Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-12-11 22:00:46
End at: 2019-12-11 22:01:16
Local clock offset: -0.071 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-12-12 01:47:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 543.25 Mbit/s
95th percentile per-packet one-way delay: 65.430 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 291.28 Mbit/s
95th percentile per-packet one-way delay: 62.555 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 249.58 Mbit/s
95th percentile per-packet one-way delay: 61.487 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 277.33 Mbit/s
95th percentile per-packet one-way delay: 67.185 ms
Loss rate: 0.03%
```

# Run 3: Report of Muses_DecisionTree — Data Link



Flow 1 ingress (mean 291.27 Mbit/s) --- Flow 1 egress (mean 291.28 Mbit/s)
Flow 2 ingress (mean 249.58 Mbit/s) --- Flow 2 egress (mean 249.58 Mbit/s)
Flow 3 ingress (mean 277.35 Mbit/s) --- Flow 3 egress (mean 277.33 Mbit/s)



Flow 1 (95th percentile 62.55 ms)　　Flow 2 (95th percentile 61.49 ms)　　Flow 3 (95th percentile 67.19 ms)

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```
Run 4: Statistics of Muses_DecisionTree

Start at: 2019-12-11 22:41:54
End at: 2019-12-11 22:42:24
Local clock offset: -0.009 ms
Remote clock offset: -0.001 ms

Below is generated by plot.py at 2019-12-12 01:47:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 651.94 Mbit/s
95th percentile per-packet one-way delay: 85.477 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 407.31 Mbit/s
95th percentile per-packet one-way delay: 88.123 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 272.18 Mbit/s
95th percentile per-packet one-way delay: 62.109 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.34 Mbit/s
95th percentile per-packet one-way delay: 61.110 ms
Loss rate: 0.00%
```
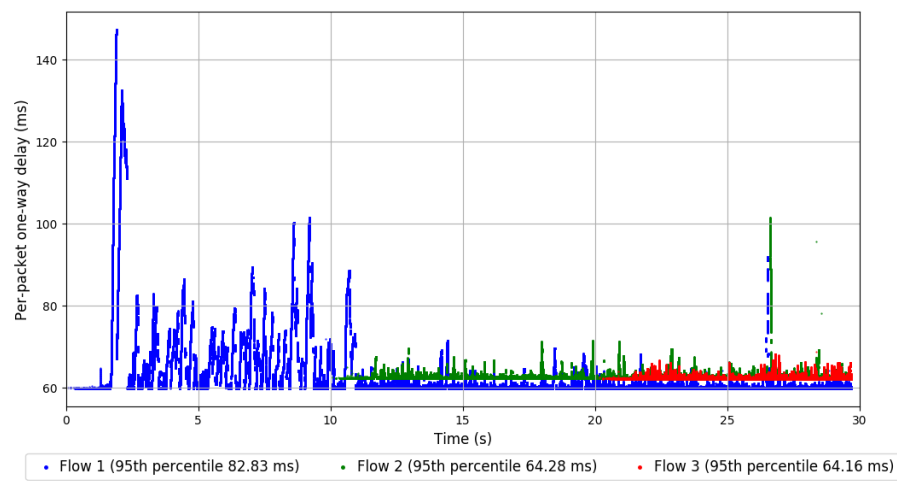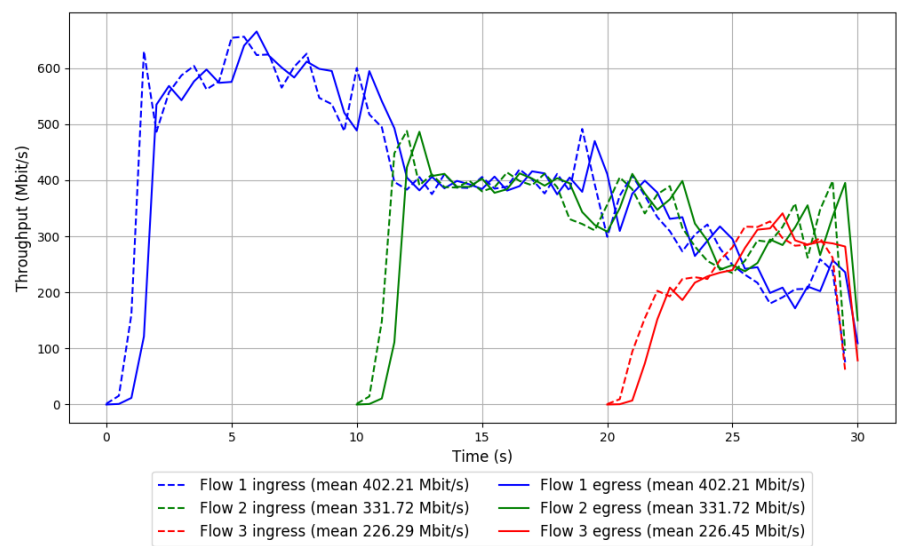
Run 4: Report of Muses_DecisionTree — Data Link
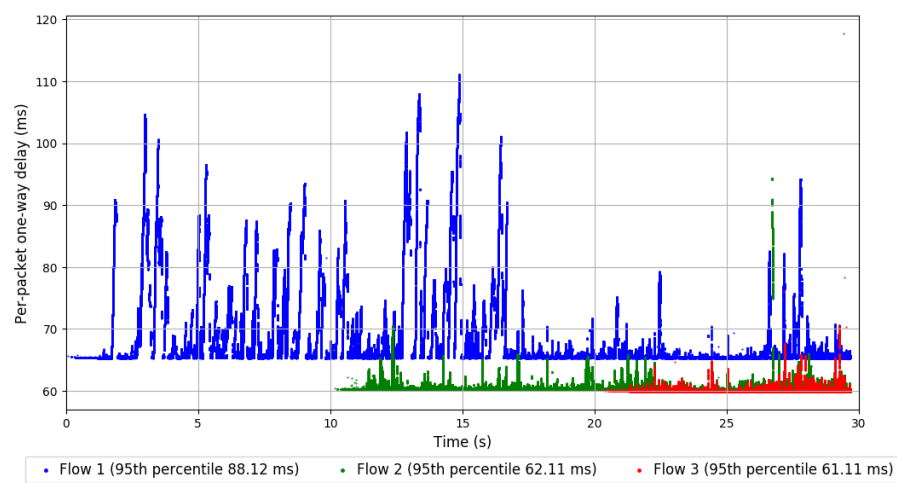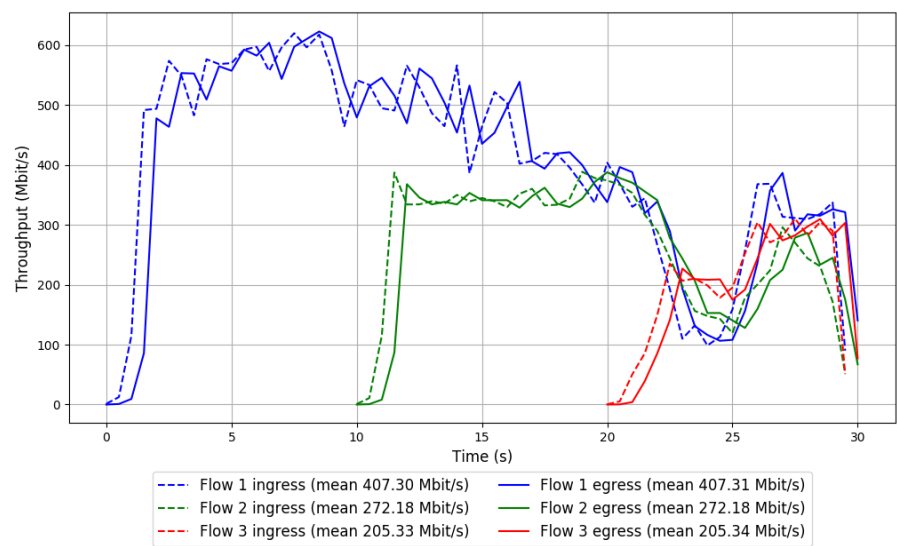
```
Run 5: Statistics of Muses_DecisionTree

Start at: 2019-12-11 23:23:05
End at: 2019-12-11 23:23:35
Local clock offset: -0.058 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2019-12-12 01:49:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 694.47 Mbit/s
95th percentile per-packet one-way delay: 76.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 402.21 Mbit/s
95th percentile per-packet one-way delay: 82.828 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 331.72 Mbit/s
95th percentile per-packet one-way delay: 64.285 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 226.45 Mbit/s
95th percentile per-packet one-way delay: 64.163 ms
Loss rate: 0.00%
```
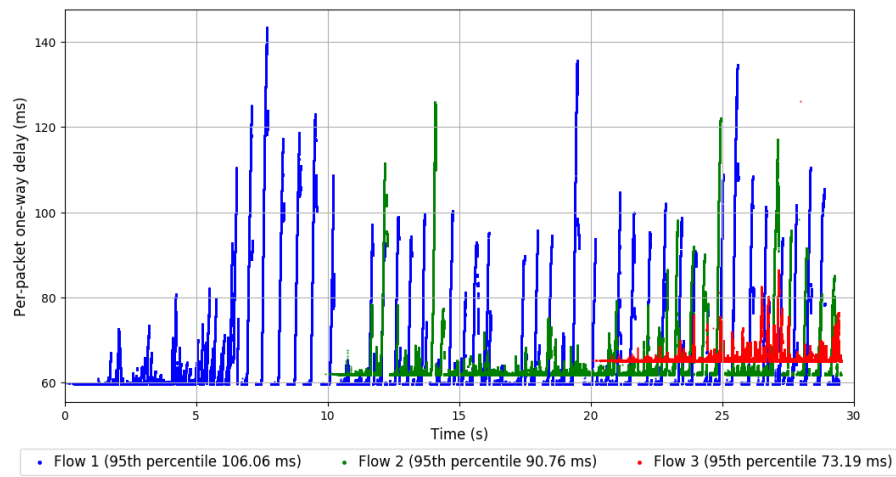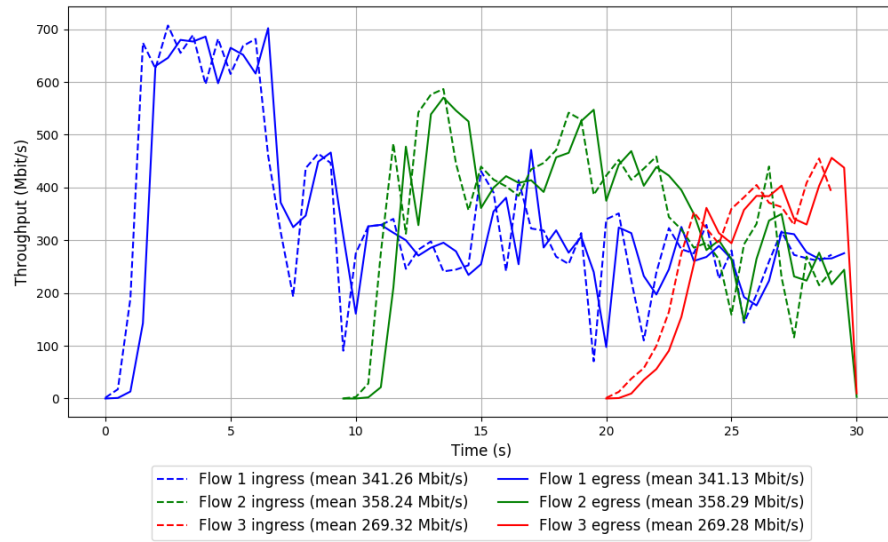
Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses_DecisionTreeH0

Start at: 2019-12-11 20:21:49
End at: 2019-12-11 20:22:19
Local clock offset: -0.027 ms
Remote clock offset: -0.172 ms

Below is generated by plot.py at 2019-12-12 01:49:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 664.75 Mbit/s
95th percentile per-packet one-way delay: 99.785 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 341.13 Mbit/s
95th percentile per-packet one-way delay: 106.056 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 358.29 Mbit/s
95th percentile per-packet one-way delay: 90.756 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 269.28 Mbit/s
95th percentile per-packet one-way delay: 73.185 ms
Loss rate: 0.03%
```
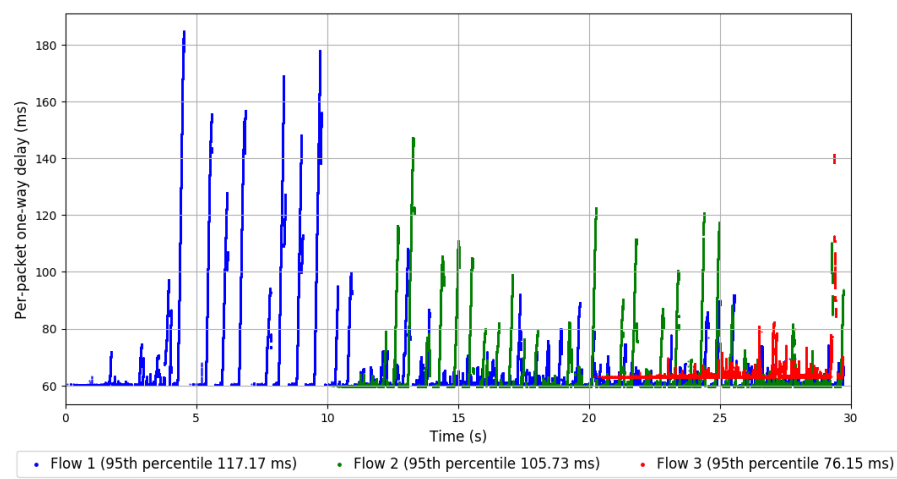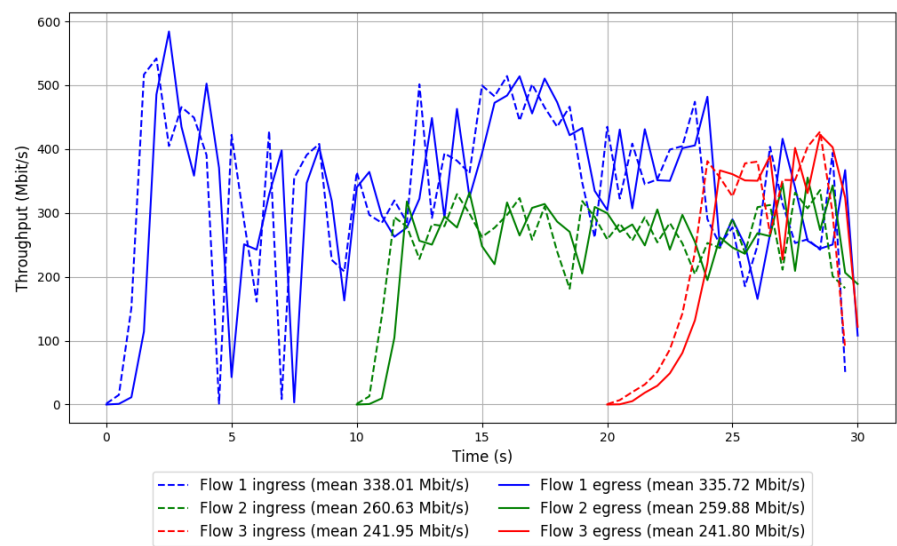
Run 1: Report of Muses_DecisionTreeH0 — Data Link



- - - Flow 1 ingress (mean 341.26 Mbit/s) ——— Flow 1 egress (mean 341.13 Mbit/s)
- - - Flow 2 ingress (mean 358.24 Mbit/s) ——— Flow 2 egress (mean 358.29 Mbit/s)
- - - Flow 3 ingress (mean 269.32 Mbit/s) ——— Flow 3 egress (mean 269.28 Mbit/s)



• Flow 1 (95th percentile 106.06 ms)    • Flow 2 (95th percentile 90.76 ms)    • Flow 3 (95th percentile 73.19 ms)

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```
Run 2: Statistics of Muses_DecisionTreeH0

Start at: 2019-12-11 21:02:47
End at: 2019-12-11 21:03:17
Local clock offset: -0.042 ms
Remote clock offset: 0.047 ms

Below is generated by plot.py at 2019-12-12 01:51:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 584.69 Mbit/s
95th percentile per-packet one-way delay: 108.321 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 335.72 Mbit/s
95th percentile per-packet one-way delay: 117.167 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 259.88 Mbit/s
95th percentile per-packet one-way delay: 105.735 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 241.80 Mbit/s
95th percentile per-packet one-way delay: 76.146 ms
Loss rate: 0.00%
```
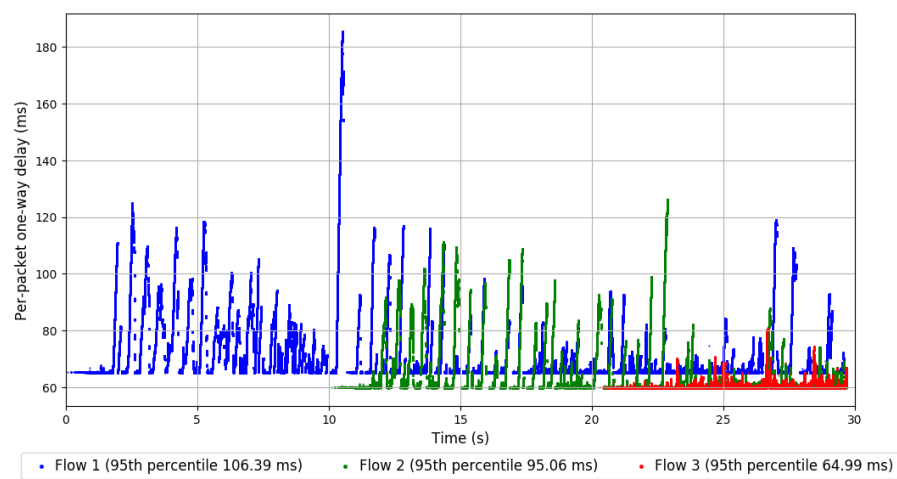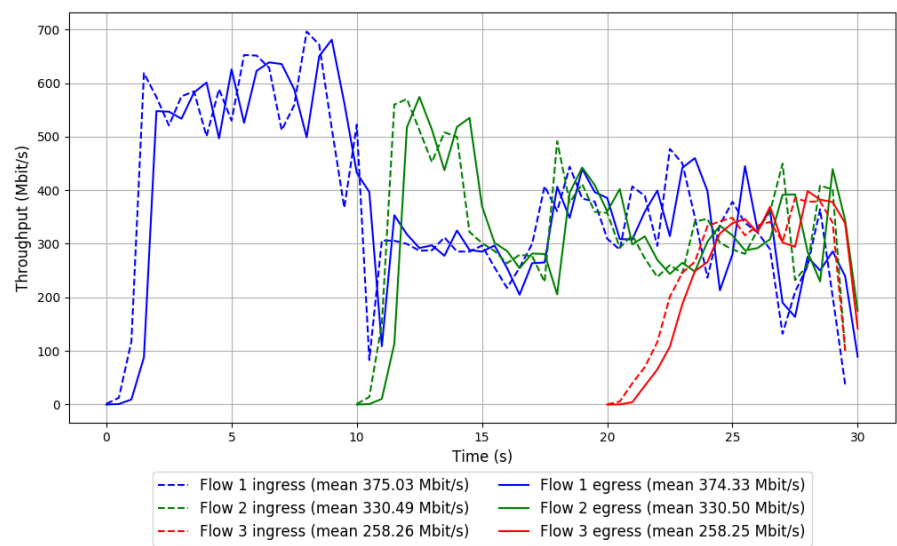
Run 2: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 338.01 Mbit/s)    Flow 1 egress (mean 335.72 Mbit/s)
Flow 2 ingress (mean 260.63 Mbit/s)    Flow 2 egress (mean 259.88 Mbit/s)
Flow 3 ingress (mean 241.95 Mbit/s)    Flow 3 egress (mean 241.80 Mbit/s)



Flow 1 (95th percentile 117.17 ms)    Flow 2 (95th percentile 105.73 ms)    Flow 3 (95th percentile 76.15 ms)

```
Run 3: Statistics of Muses_DecisionTreeH0

Start at: 2019-12-11 21:43:58
End at: 2019-12-11 21:44:28
Local clock offset: -0.067 ms
Remote clock offset: -0.017 ms

Below is generated by plot.py at 2019-12-12 01:56:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 674.59 Mbit/s
95th percentile per-packet one-way delay: 100.034 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 374.33 Mbit/s
95th percentile per-packet one-way delay: 106.393 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 330.50 Mbit/s
95th percentile per-packet one-way delay: 95.056 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.25 Mbit/s
95th percentile per-packet one-way delay: 64.993 ms
Loss rate: 0.00%
```
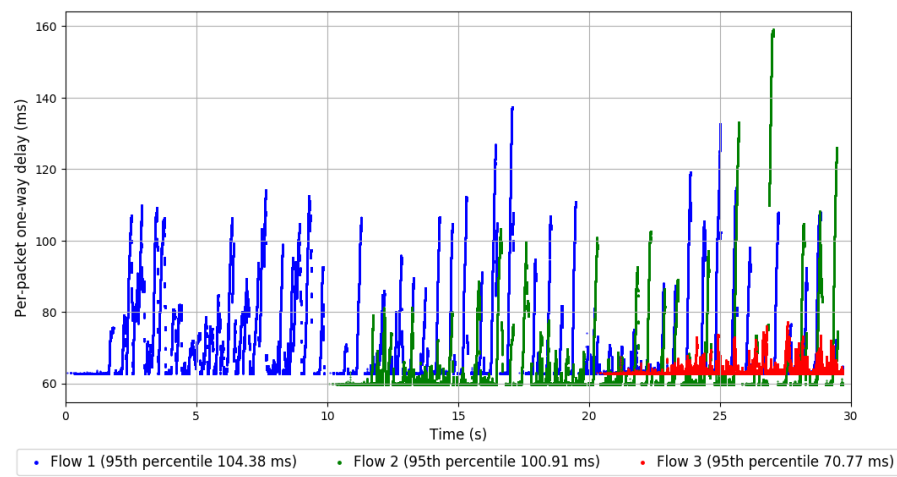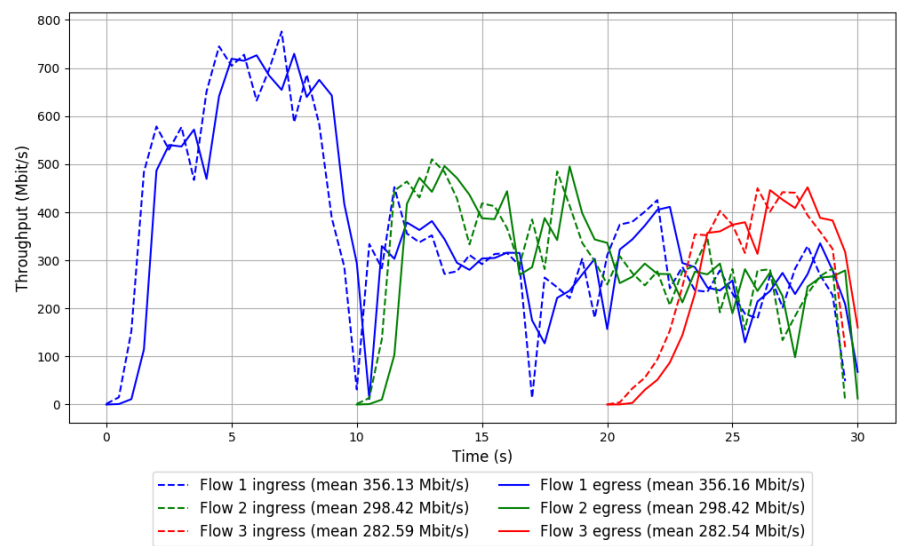
Run 3: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 375.03 Mbit/s) --- Flow 1 egress (mean 374.33 Mbit/s)
Flow 2 ingress (mean 330.49 Mbit/s) --- Flow 2 egress (mean 330.50 Mbit/s)
Flow 3 ingress (mean 258.26 Mbit/s) --- Flow 3 egress (mean 258.25 Mbit/s)



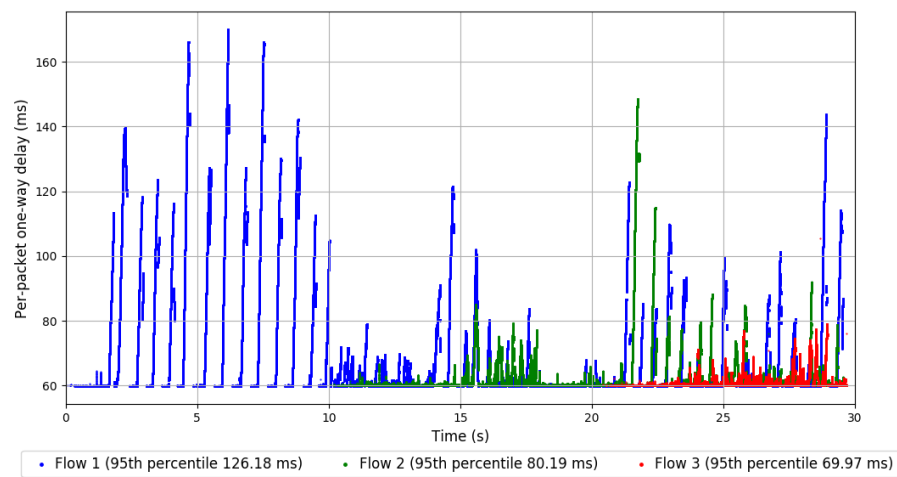Flow 1 (95th percentile 106.39 ms) • Flow 2 (95th percentile 95.06 ms) • Flow 3 (95th percentile 64.99 ms)

```
Run 4: Statistics of Muses_DecisionTreeH0

Start at: 2019-12-11 22:25:00
End at: 2019-12-11 22:25:30
Local clock offset: -0.01 ms
Remote clock offset: -0.206 ms

Below is generated by plot.py at 2019-12-12 01:57:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 643.30 Mbit/s
95th percentile per-packet one-way delay: 102.719 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 356.16 Mbit/s
95th percentile per-packet one-way delay: 104.381 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 298.42 Mbit/s
95th percentile per-packet one-way delay: 100.914 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 282.54 Mbit/s
95th percentile per-packet one-way delay: 70.774 ms
Loss rate: 0.03%
```
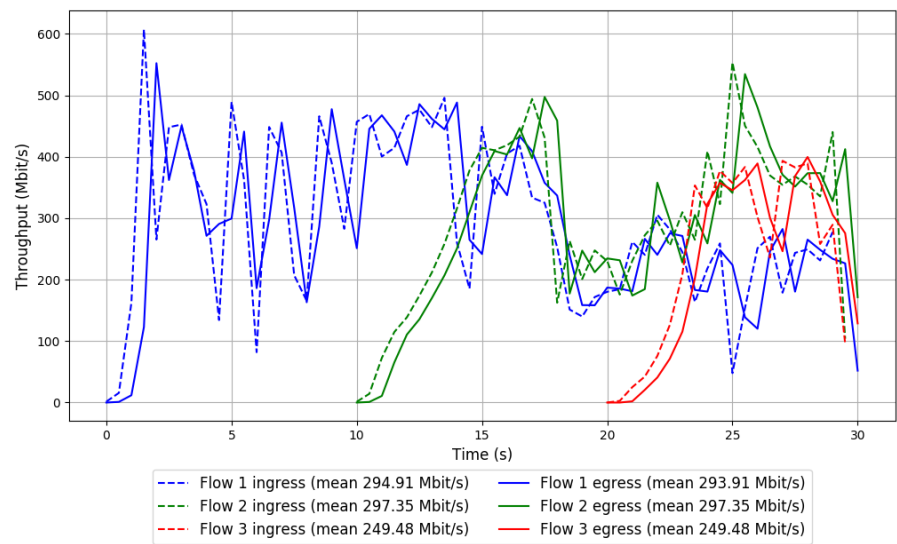
Run 4: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 356.13 Mbit/s) ----  Flow 1 egress (mean 356.16 Mbit/s) ——
Flow 2 ingress (mean 298.42 Mbit/s) ----  Flow 2 egress (mean 298.42 Mbit/s) ——
Flow 3 ingress (mean 282.59 Mbit/s) ----  Flow 3 egress (mean 282.54 Mbit/s) ——



Flow 1 (95th percentile 104.38 ms)   Flow 2 (95th percentile 100.91 ms)   Flow 3 (95th percentile 70.77 ms)
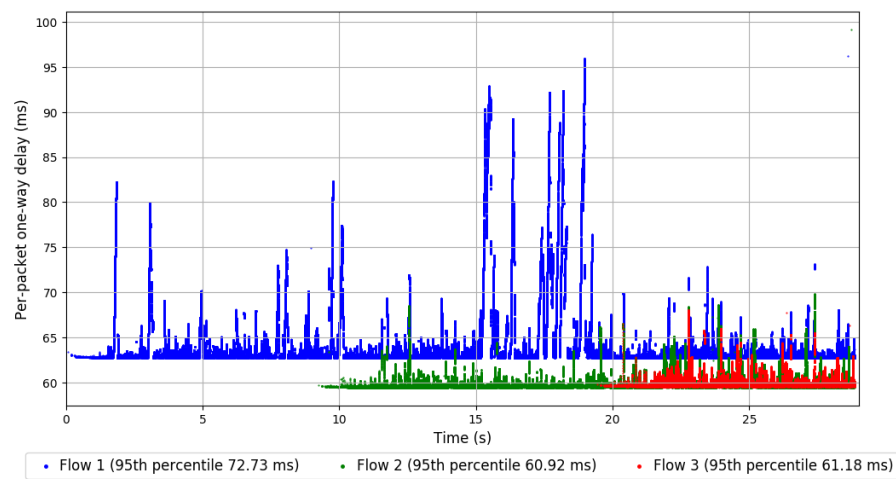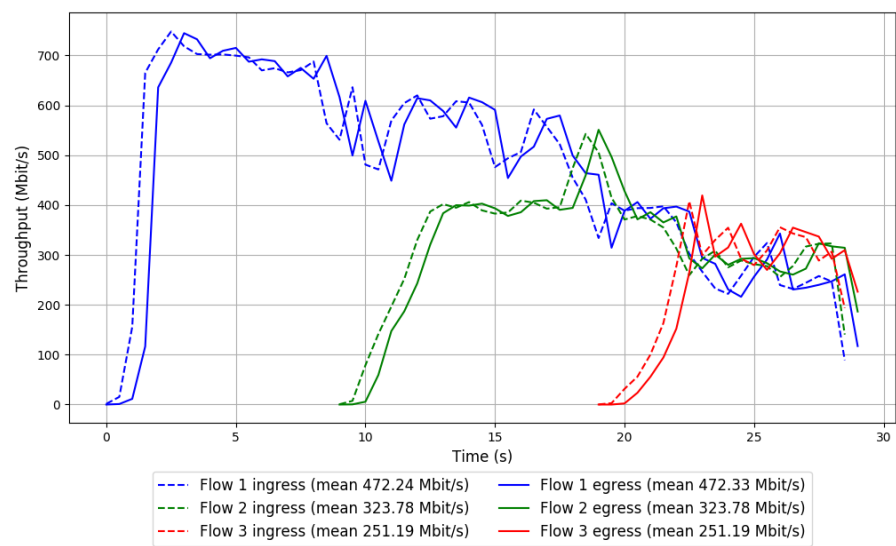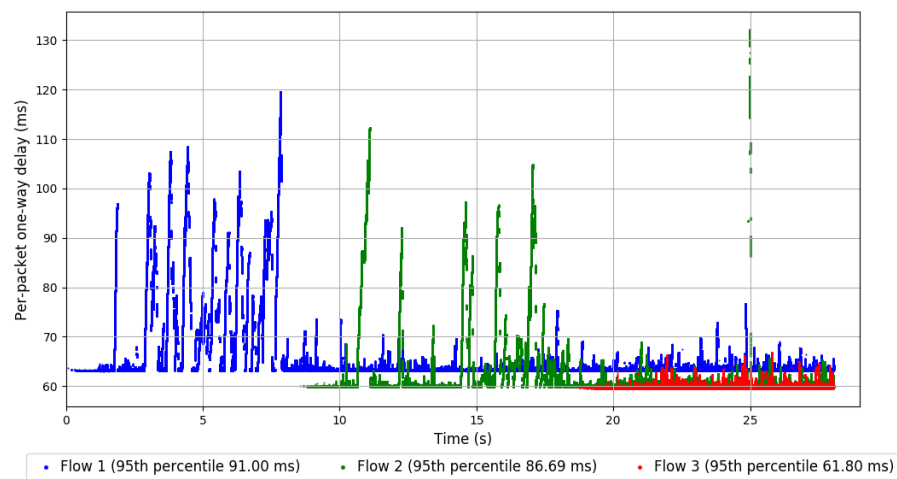
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```
Run 5: Statistics of Muses_DecisionTreeH0

Start at: 2019-12-11 23:06:08
End at: 2019-12-11 23:06:38
Local clock offset: -0.069 ms
Remote clock offset: -0.049 ms

Below is generated by plot.py at 2019-12-12 01:57:28
Datalink statistics
-- Total of 3 flows:
Average throughput: 567.23 Mbit/s
95th percentile per-packet one-way delay: 116.636 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 293.91 Mbit/s
95th percentile per-packet one-way delay: 126.183 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 297.35 Mbit/s
95th percentile per-packet one-way delay: 80.188 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 249.48 Mbit/s
95th percentile per-packet one-way delay: 69.975 ms
Loss rate: 0.00%
```

Run 5: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 294.91 Mbit/s) ----- Flow 1 egress (mean 293.91 Mbit/s) —
Flow 2 ingress (mean 297.35 Mbit/s) ----- Flow 2 egress (mean 297.35 Mbit/s) —
Flow 3 ingress (mean 249.48 Mbit/s) ----- Flow 3 egress (mean 249.48 Mbit/s) —



• Flow 1 (95th percentile 126.18 ms)   • Flow 2 (95th percentile 80.19 ms)   • Flow 3 (95th percentile 69.97 ms)

```
Run 1: Statistics of Muses_DecisionTreeR0

Start at: 2019-12-11 20:19:58
End at: 2019-12-11 20:20:28
Local clock offset: -0.068 ms
Remote clock offset: -0.205 ms

Below is generated by plot.py at 2019-12-12 02:02:45
Datalink statistics
-- Total of 3 flows:
Average throughput: 775.00 Mbit/s
95th percentile per-packet one-way delay: 68.195 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 472.33 Mbit/s
95th percentile per-packet one-way delay: 72.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 323.78 Mbit/s
95th percentile per-packet one-way delay: 60.916 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.19 Mbit/s
95th percentile per-packet one-way delay: 61.181 ms
Loss rate: 0.00%
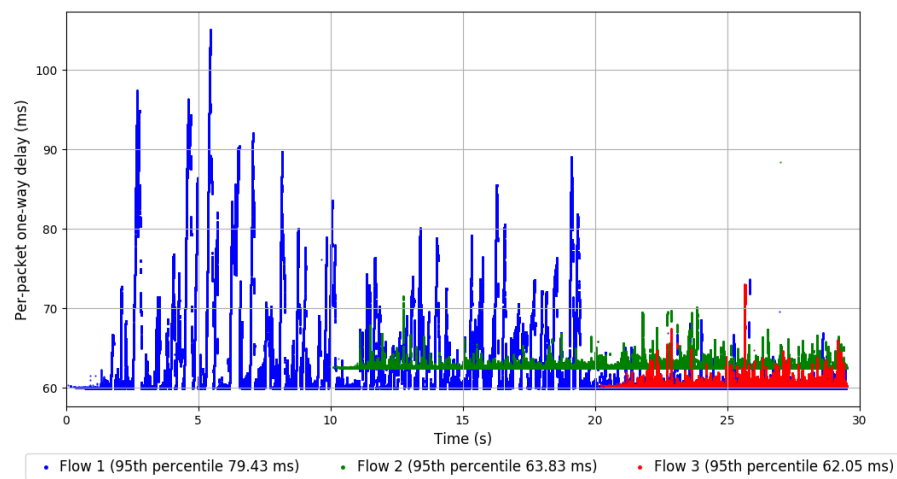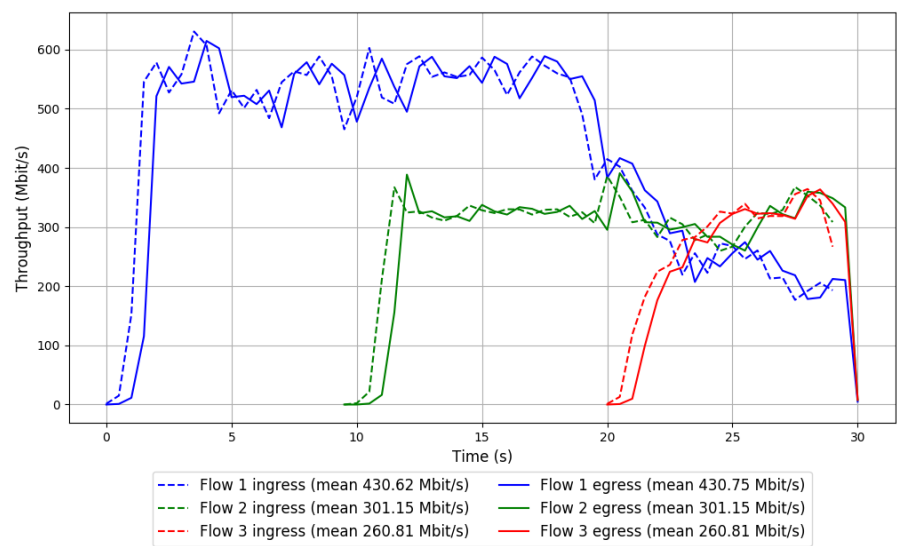```

Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 21:01:01
End at: 2019-12-11 21:01:31
Local clock offset: -0.037 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2019-12-12 02:02:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.66 Mbit/s
95th percentile per-packet one-way delay: 87.387 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 378.90 Mbit/s
95th percentile per-packet one-way delay: 90.995 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 366.46 Mbit/s
95th percentile per-packet one-way delay: 86.694 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 227.16 Mbit/s
95th percentile per-packet one-way delay: 61.795 ms
Loss rate: 0.00%
```

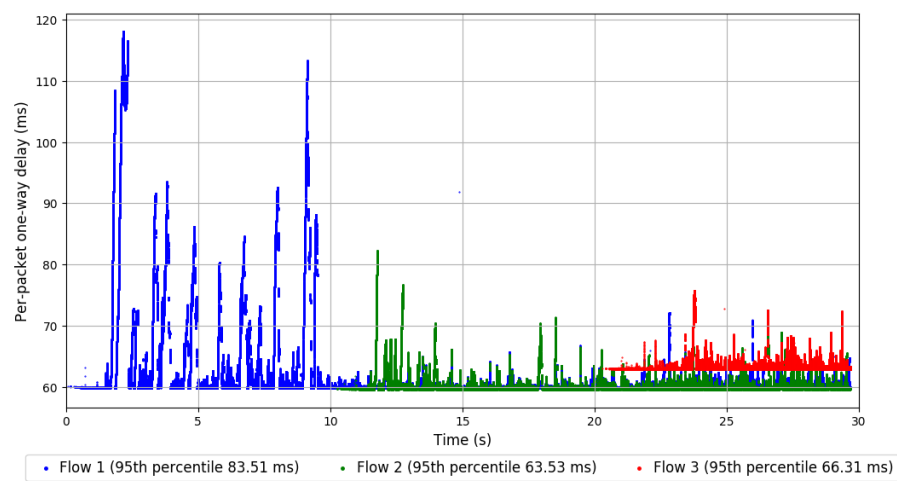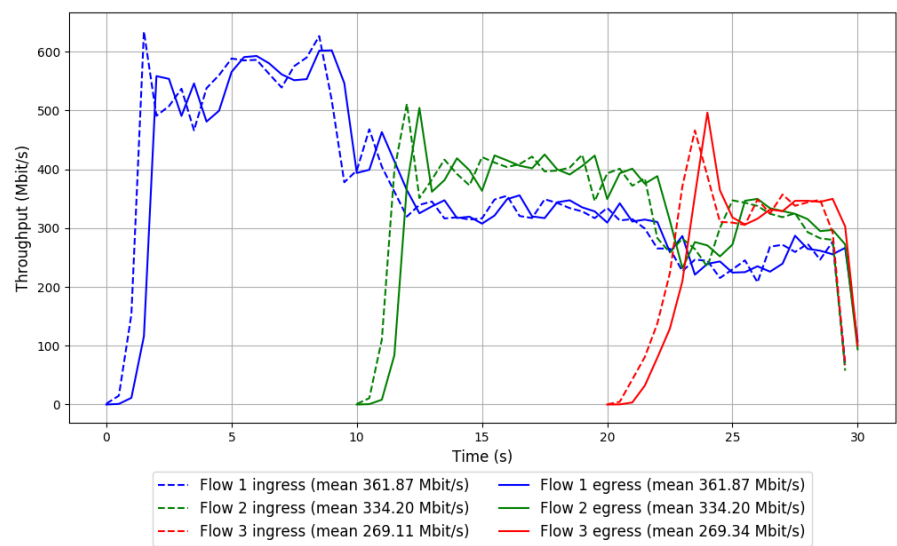Run 2: Report of Muses_DecisionTreeR0 — Data Link
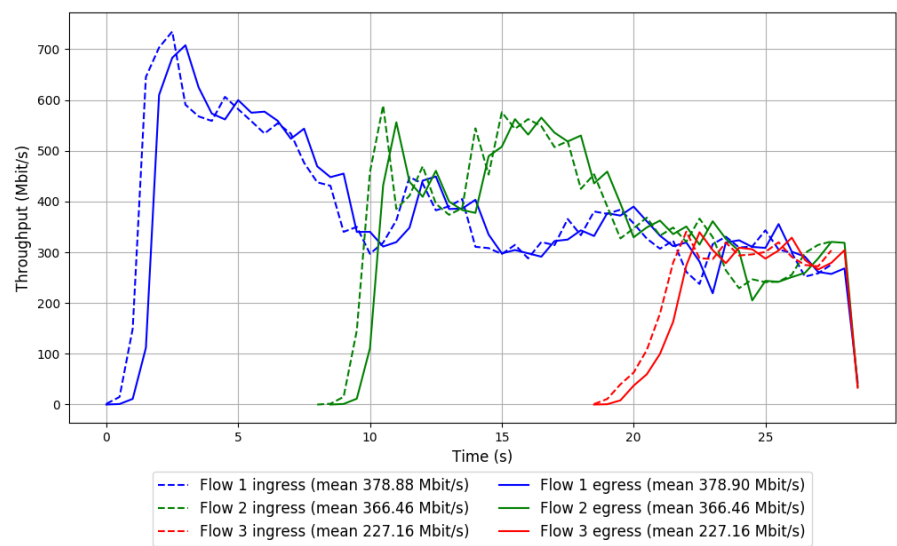
```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 21:42:10
End at: 2019-12-11 21:42:40
Local clock offset: -0.067 ms
Remote clock offset: -0.026 ms


# Below is generated by plot.py at 2019-12-12 02:04:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 713.86 Mbit/s
95th percentile per-packet one-way delay: 75.179 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 430.75 Mbit/s
95th percentile per-packet one-way delay: 79.428 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 301.15 Mbit/s
95th percentile per-packet one-way delay: 63.825 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.81 Mbit/s
95th percentile per-packet one-way delay: 62.050 ms
Loss rate: 0.00%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 430.62 Mbit/s)   Flow 1 egress (mean 430.75 Mbit/s)
Flow 2 ingress (mean 301.15 Mbit/s)   Flow 2 egress (mean 301.15 Mbit/s)
Flow 3 ingress (mean 260.81 Mbit/s)   Flow 3 egress (mean 260.81 Mbit/s)

Flow 1 (95th percentile 79.43 ms)   Flow 2 (95th percentile 63.83 ms)   Flow 3 (95th percentile 62.05 ms)

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 22:23:14
End at: 2019-12-11 22:23:44
Local clock offset: 0.013 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2019-12-12 02:04:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.71 Mbit/s
95th percentile per-packet one-way delay: 73.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 361.87 Mbit/s
95th percentile per-packet one-way delay: 83.511 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 334.20 Mbit/s
95th percentile per-packet one-way delay: 63.526 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 269.34 Mbit/s
95th percentile per-packet one-way delay: 66.308 ms
Loss rate: 0.00%
```
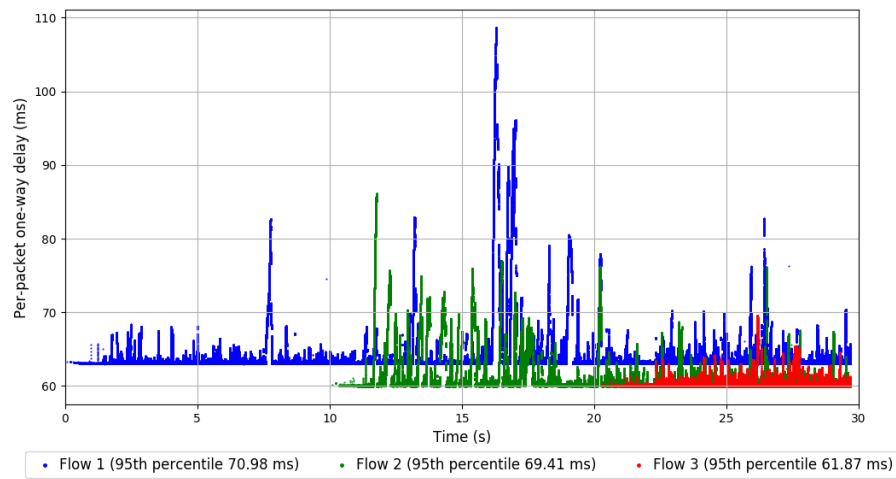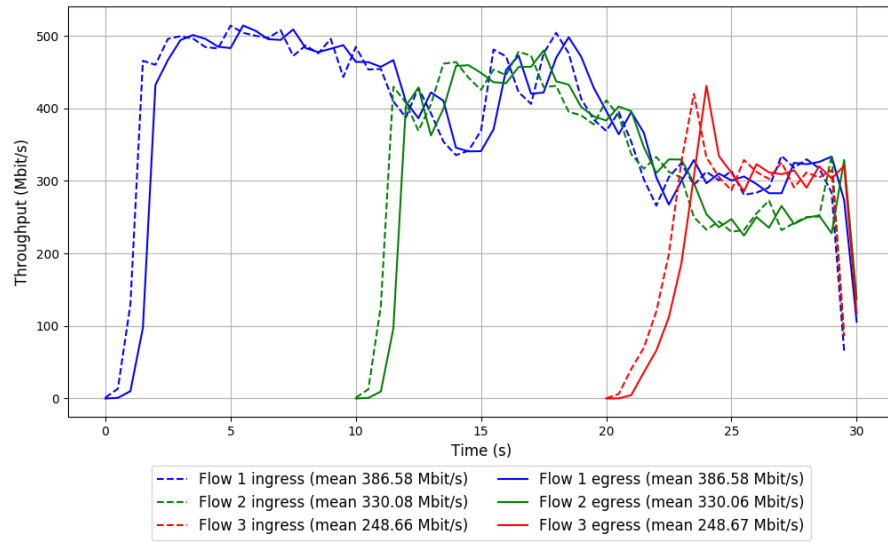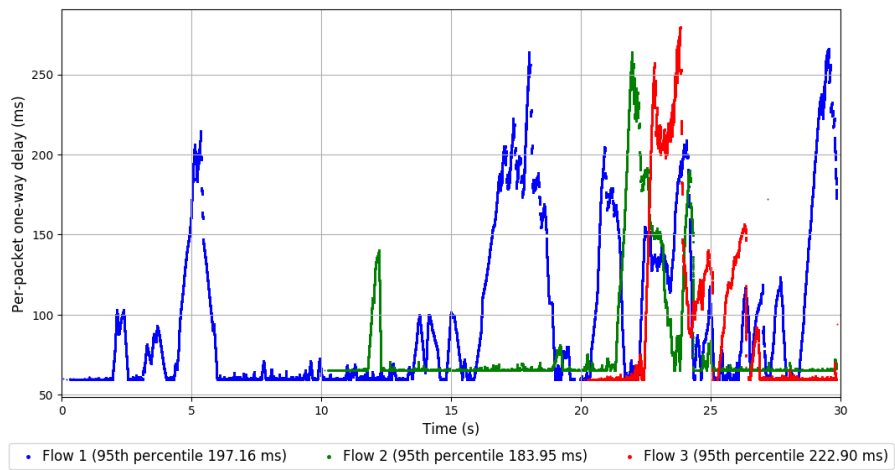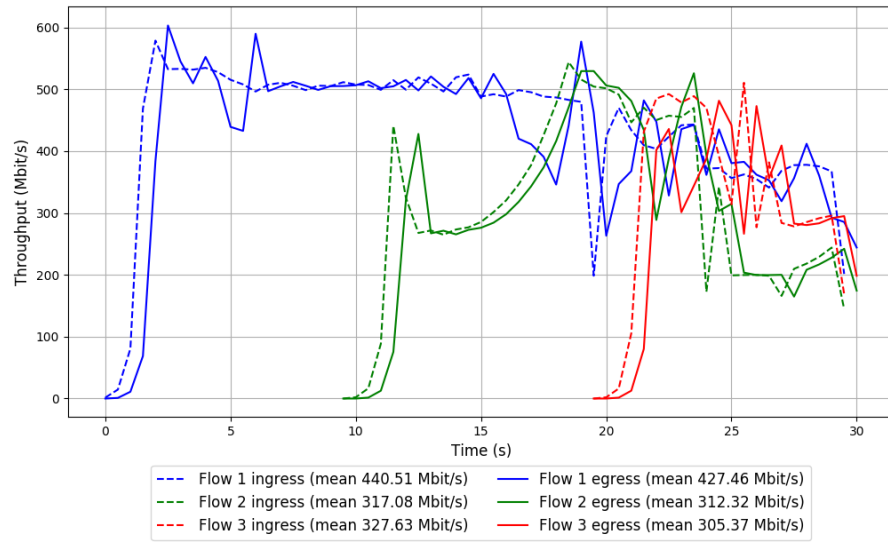
Run 4: Report of Muses_DecisionTreeR0 — Data Link

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```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-12-11 23:04:20
End at: 2019-12-11 23:04:50
Local clock offset: -0.095 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2019-12-12 02:05:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.91 Mbit/s
95th percentile per-packet one-way delay: 69.198 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 386.58 Mbit/s
95th percentile per-packet one-way delay: 70.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 330.06 Mbit/s
95th percentile per-packet one-way delay: 69.409 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.67 Mbit/s
95th percentile per-packet one-way delay: 61.871 ms
Loss rate: 0.00%
```

Run 5: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 386.58 Mbit/s) --- Flow 1 egress (mean 386.58 Mbit/s)
Flow 2 ingress (mean 330.08 Mbit/s) --- Flow 2 egress (mean 330.06 Mbit/s)
Flow 3 ingress (mean 248.66 Mbit/s) --- Flow 3 egress (mean 248.67 Mbit/s)

Flow 1 (95th percentile 70.98 ms) · Flow 2 (95th percentile 69.41 ms) · Flow 3 (95th percentile 61.87 ms)
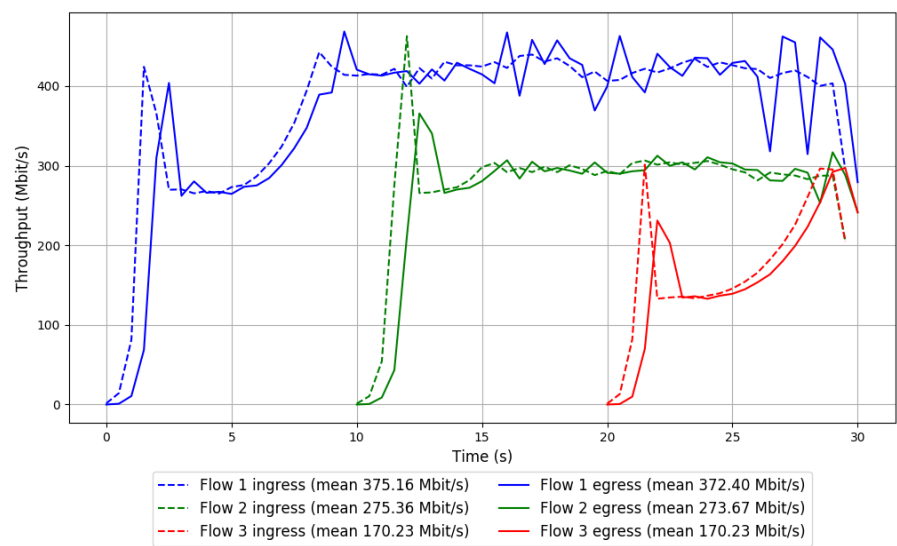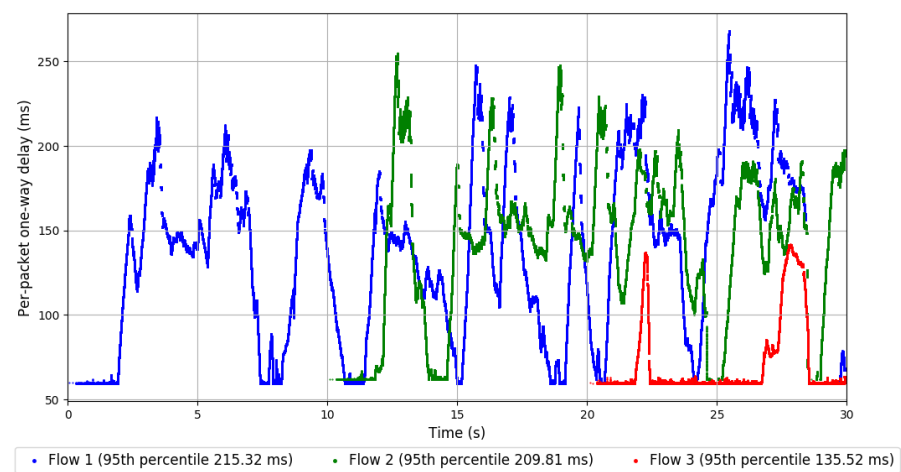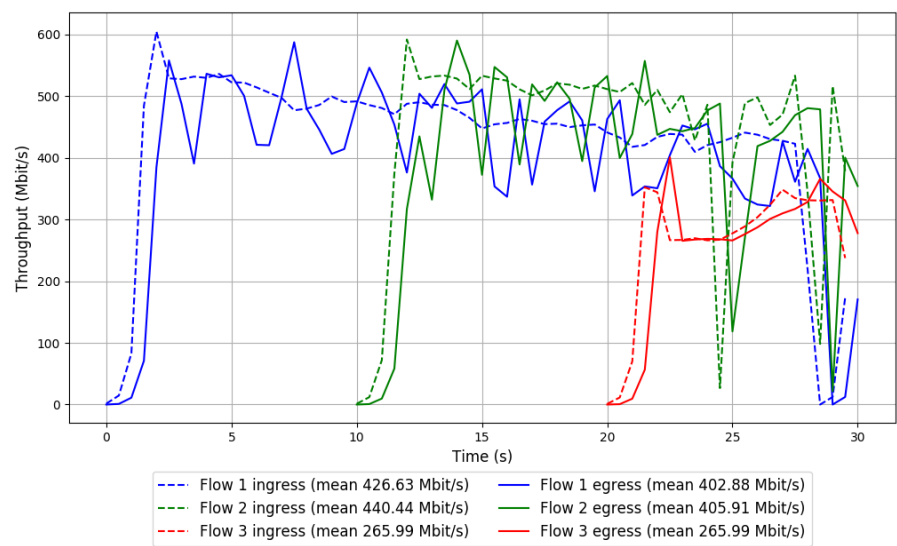
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-12-11 20:36:34
End at: 2019-12-11 20:37:04
Local clock offset: -0.014 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-12-12 02:25:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 736.25 Mbit/s
95th percentile per-packet one-way delay: 199.600 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 427.46 Mbit/s
95th percentile per-packet one-way delay: 197.165 ms
Loss rate: 2.95%
-- Flow 2:
Average throughput: 312.32 Mbit/s
95th percentile per-packet one-way delay: 183.949 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 305.37 Mbit/s
95th percentile per-packet one-way delay: 222.903 ms
Loss rate: 6.58%
```

Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 440.51 Mbit/s)   Flow 1 egress (mean 427.46 Mbit/s)
Flow 2 ingress (mean 317.08 Mbit/s)   Flow 2 egress (mean 312.32 Mbit/s)
Flow 3 ingress (mean 327.63 Mbit/s)   Flow 3 egress (mean 305.37 Mbit/s)

Flow 1 (95th percentile 197.16 ms)   Flow 2 (95th percentile 183.95 ms)   Flow 3 (95th percentile 222.90 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-12-11 21:17:38
End at: 2019-12-11 21:18:08
Local clock offset: -0.025 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2019-12-12 02:25:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 610.28 Mbit/s
95th percentile per-packet one-way delay: 137.783 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 372.40 Mbit/s
95th percentile per-packet one-way delay: 146.097 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 273.67 Mbit/s
95th percentile per-packet one-way delay: 98.819 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 170.23 Mbit/s
95th percentile per-packet one-way delay: 108.813 ms
Loss rate: 0.00%
```
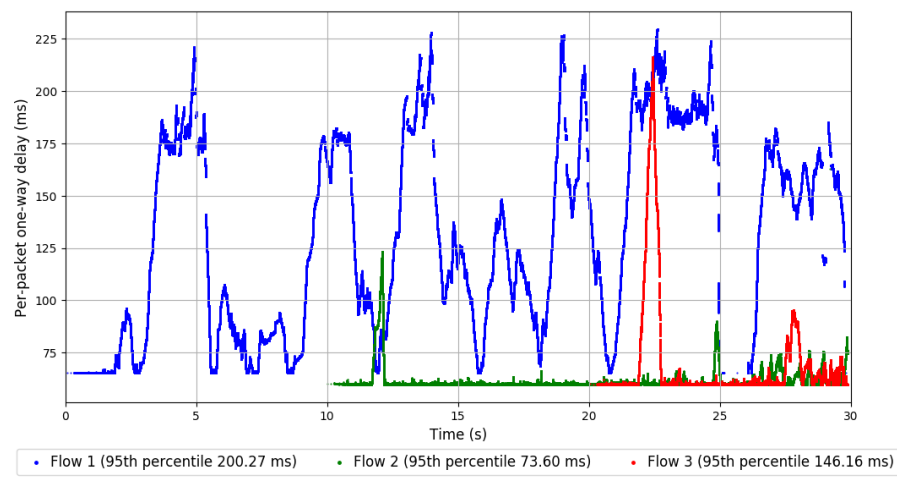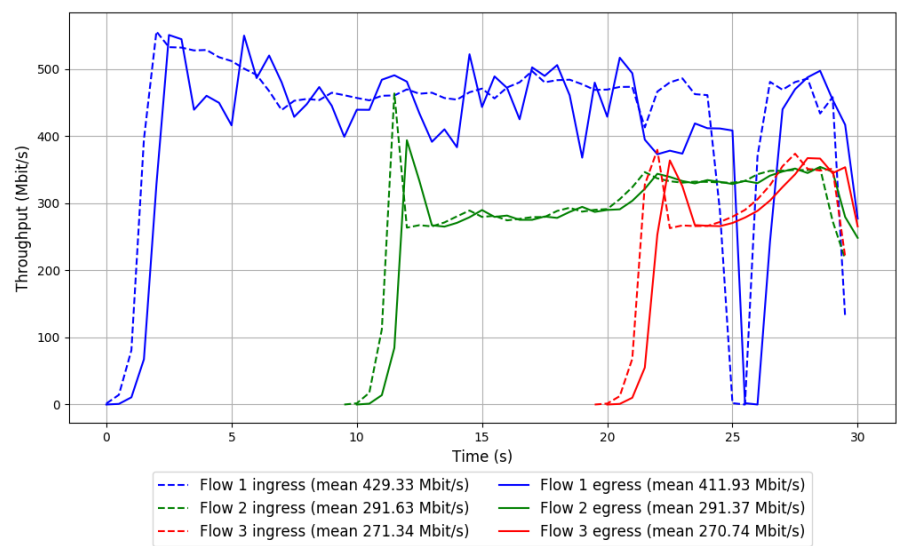
Run 2: Report of PCC-Allegro — Data Link
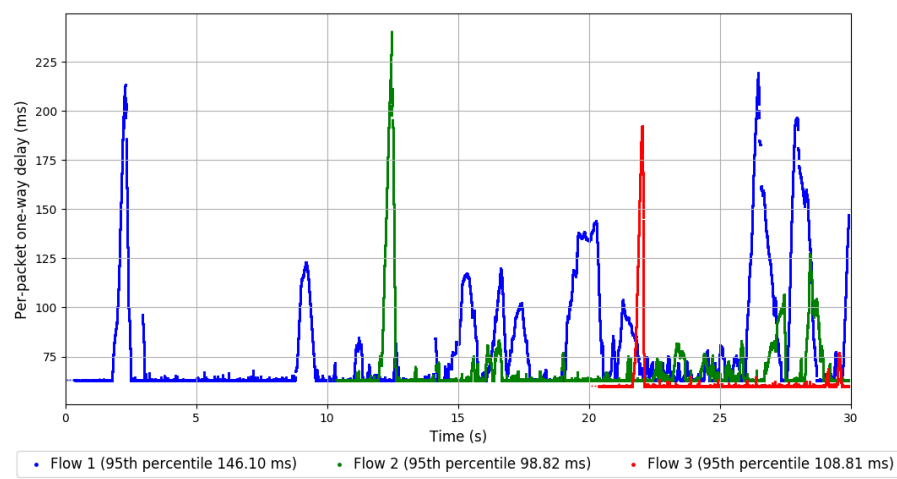
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-12-11 21:58:42
End at: 2019-12-11 21:59:12
Local clock offset: -0.067 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2019-12-12 02:28:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 760.18 Mbit/s
95th percentile per-packet one-way delay: 211.541 ms
Loss rate: 5.78%
-- Flow 1:
Average throughput: 402.88 Mbit/s
95th percentile per-packet one-way delay: 215.320 ms
Loss rate: 5.56%
-- Flow 2:
Average throughput: 405.91 Mbit/s
95th percentile per-packet one-way delay: 209.809 ms
Loss rate: 7.84%
-- Flow 3:
Average throughput: 265.99 Mbit/s
95th percentile per-packet one-way delay: 135.521 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 426.63 Mbit/s) --- Flow 1 egress (mean 402.88 Mbit/s)
Flow 2 ingress (mean 440.44 Mbit/s) --- Flow 2 egress (mean 405.91 Mbit/s)
Flow 3 ingress (mean 265.99 Mbit/s) --- Flow 3 egress (mean 265.99 Mbit/s)

Flow 1 (95th percentile 215.32 ms) • Flow 2 (95th percentile 209.81 ms) • Flow 3 (95th percentile 135.52 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-12-11 22:39:54
End at: 2019-12-11 22:40:24
Local clock offset: -0.01 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2019-12-12 02:29:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 694.68 Mbit/s
95th percentile per-packet one-way delay: 193.426 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 411.93 Mbit/s
95th percentile per-packet one-way delay: 200.273 ms
Loss rate: 4.05%
-- Flow 2:
Average throughput: 291.37 Mbit/s
95th percentile per-packet one-way delay: 73.603 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 270.74 Mbit/s
95th percentile per-packet one-way delay: 146.159 ms
Loss rate: 0.22%
```

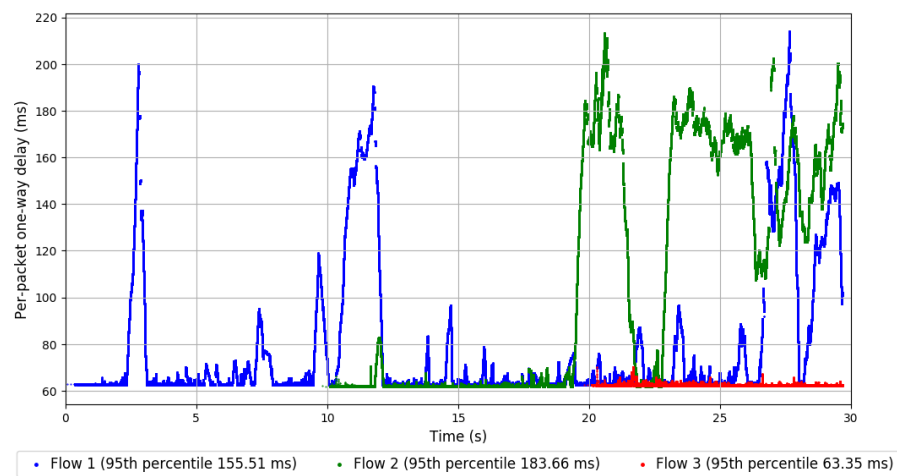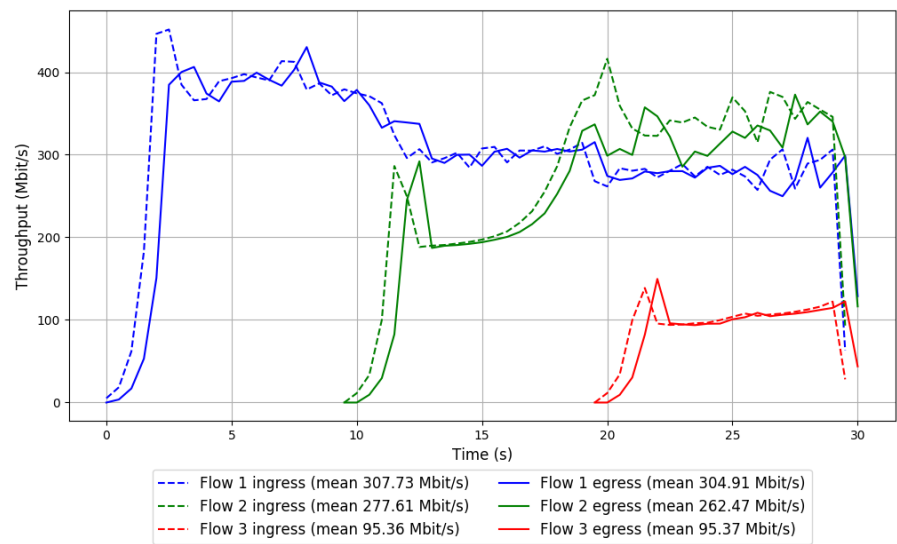Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 429.33 Mbit/s)   Flow 1 egress (mean 411.93 Mbit/s)
Flow 2 ingress (mean 291.63 Mbit/s)   Flow 2 egress (mean 291.37 Mbit/s)
Flow 3 ingress (mean 271.34 Mbit/s)   Flow 3 egress (mean 270.74 Mbit/s)

Flow 1 (95th percentile 200.27 ms)   Flow 2 (95th percentile 73.60 ms)   Flow 3 (95th percentile 146.16 ms)

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```
Run 5: Statistics of PCC-Allegro

Start at: 2019-12-11 23:21:05
End at: 2019-12-11 23:21:35
Local clock offset: -0.053 ms
Remote clock offset: 0.087 ms


# Below is generated by plot.py at 2019-12-12 02:30:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 711.27 Mbit/s
95th percentile per-packet one-way delay: 179.583 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 445.23 Mbit/s
95th percentile per-packet one-way delay: 189.408 ms
Loss rate: 3.93%
-- Flow 2:
Average throughput: 283.23 Mbit/s
95th percentile per-packet one-way delay: 79.564 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 236.04 Mbit/s
95th percentile per-packet one-way delay: 125.123 ms
Loss rate: 0.00%
```

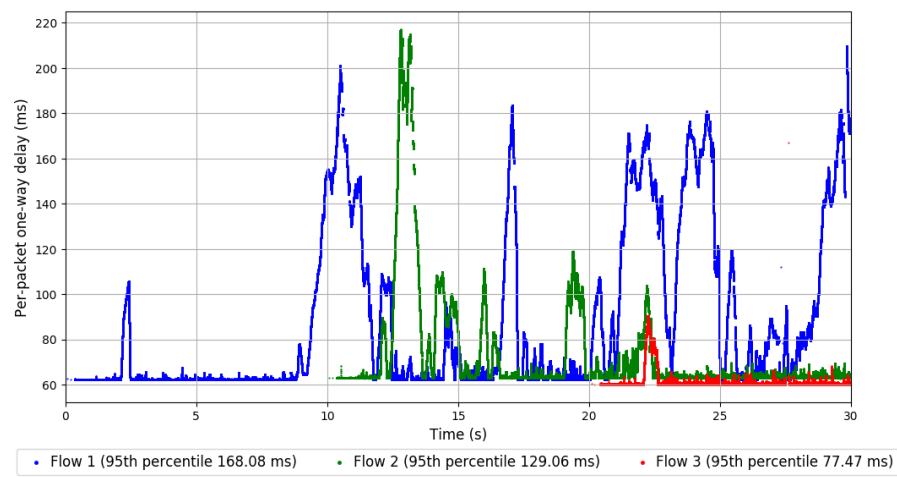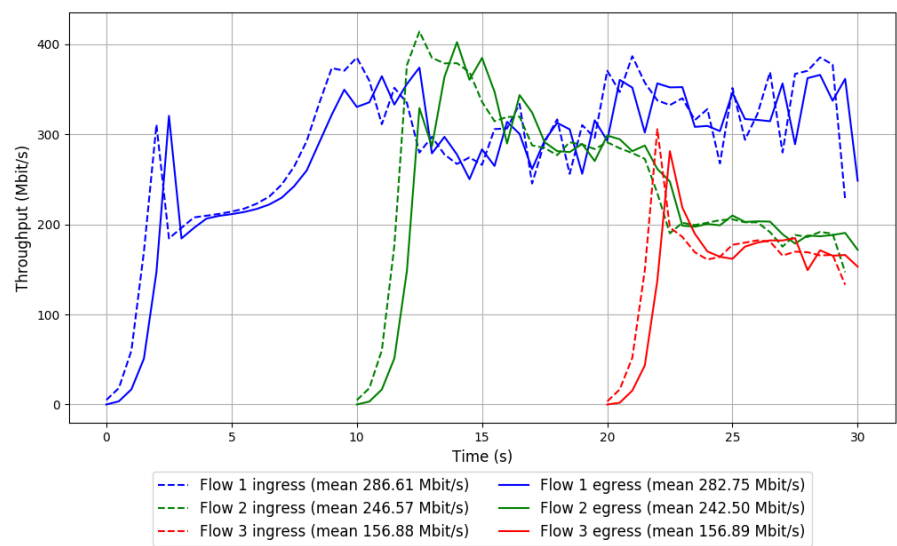# Run 5: Report of PCC-Allegro — Data Link
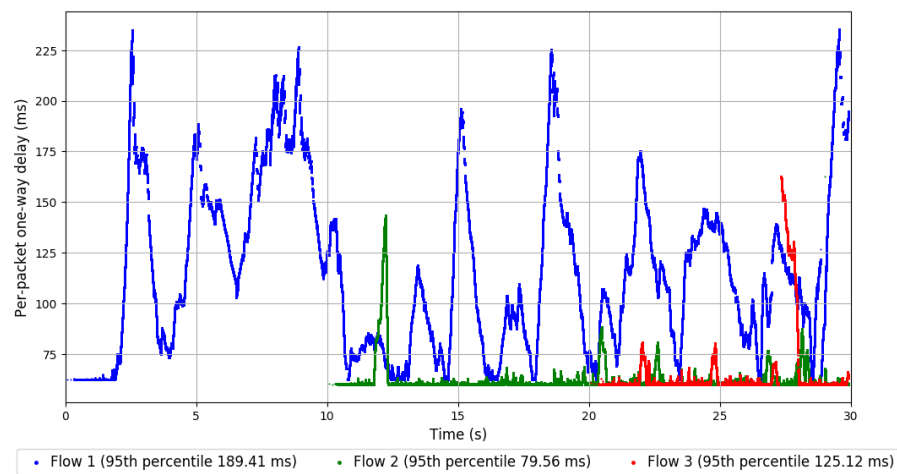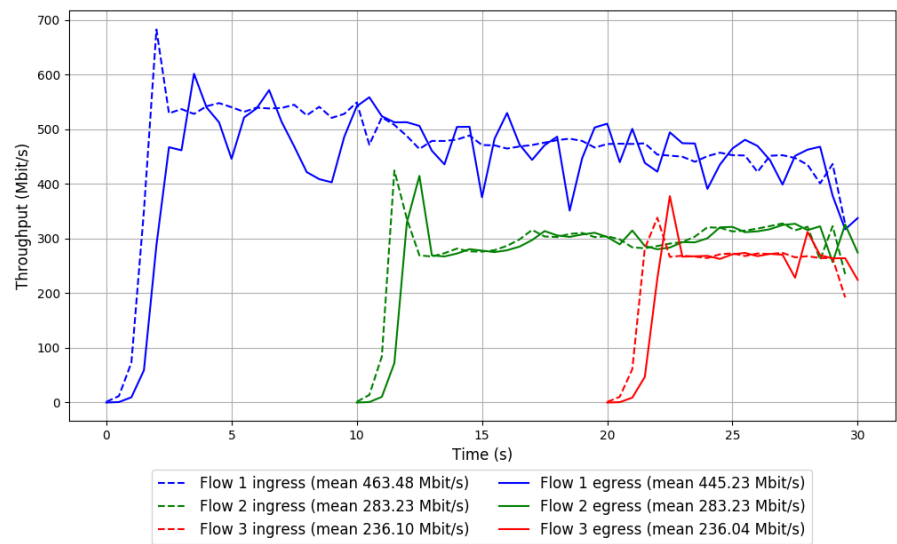
```
Run 1: Statistics of PCC-Expr

Start at: 2019-12-11 20:25:08
End at: 2019-12-11 20:25:38
Local clock offset: -0.035 ms
Remote clock offset: -0.183 ms


# Below is generated by plot.py at 2019-12-12 02:30:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.76 Mbit/s
95th percentile per-packet one-way delay: 175.465 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 304.91 Mbit/s
95th percentile per-packet one-way delay: 155.513 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 262.47 Mbit/s
95th percentile per-packet one-way delay: 183.656 ms
Loss rate: 5.45%
-- Flow 3:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 63.346 ms
Loss rate: 0.00%
```
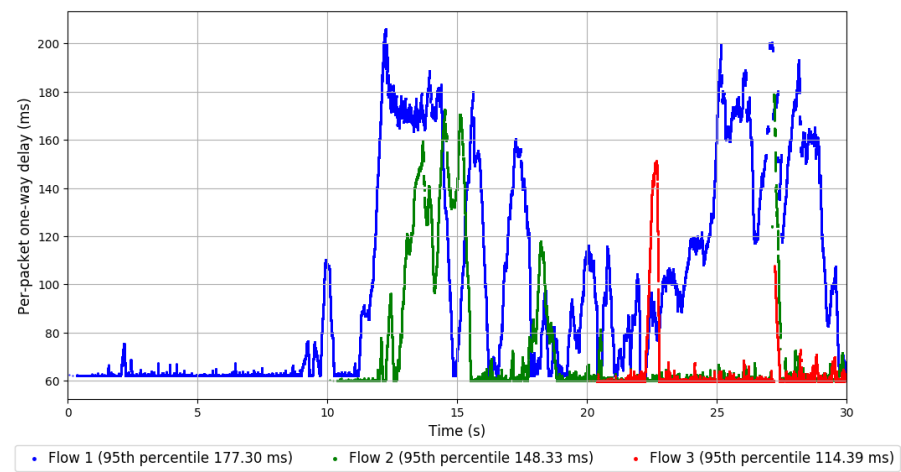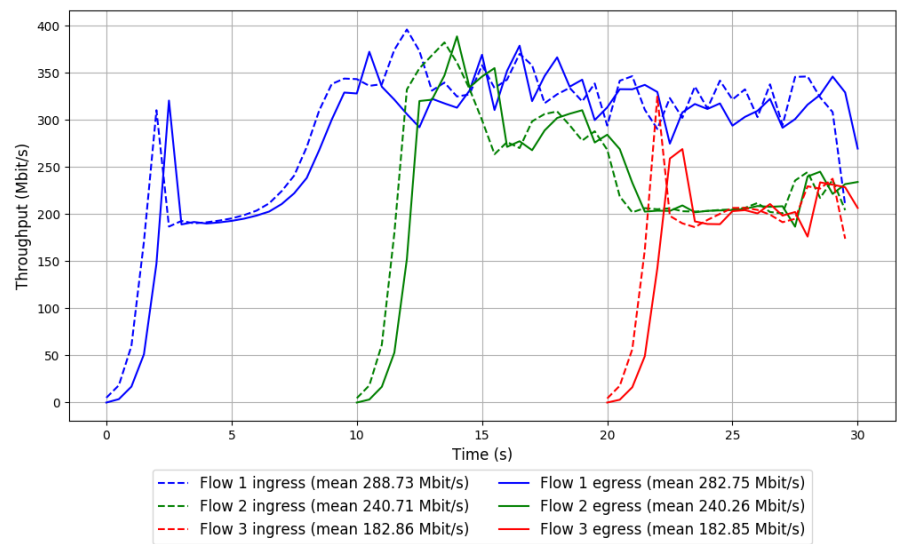
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 307.73 Mbit/s) --- Flow 1 egress (mean 304.91 Mbit/s)
Flow 2 ingress (mean 277.61 Mbit/s) --- Flow 2 egress (mean 262.47 Mbit/s)
Flow 3 ingress (mean 95.36 Mbit/s) --- Flow 3 egress (mean 95.37 Mbit/s)

Flow 1 (95th percentile 155.51 ms)　Flow 2 (95th percentile 183.66 ms)　Flow 3 (95th percentile 63.35 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-12-11 21:06:14
End at: 2019-12-11 21:06:44
Local clock offset: -0.04 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2019-12-12 02:30:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.78 Mbit/s
95th percentile per-packet one-way delay: 164.490 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 282.75 Mbit/s
95th percentile per-packet one-way delay: 168.078 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 242.50 Mbit/s
95th percentile per-packet one-way delay: 129.057 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 156.89 Mbit/s
95th percentile per-packet one-way delay: 77.471 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 286.61 Mbit/s) ---- Flow 1 egress (mean 282.75 Mbit/s) ——
Flow 2 ingress (mean 246.57 Mbit/s) ---- Flow 2 egress (mean 242.50 Mbit/s) ——
Flow 3 ingress (mean 156.88 Mbit/s) ---- Flow 3 egress (mean 156.89 Mbit/s) ——

• Flow 1 (95th percentile 168.08 ms)   • Flow 2 (95th percentile 129.06 ms)   • Flow 3 (95th percentile 77.47 ms)
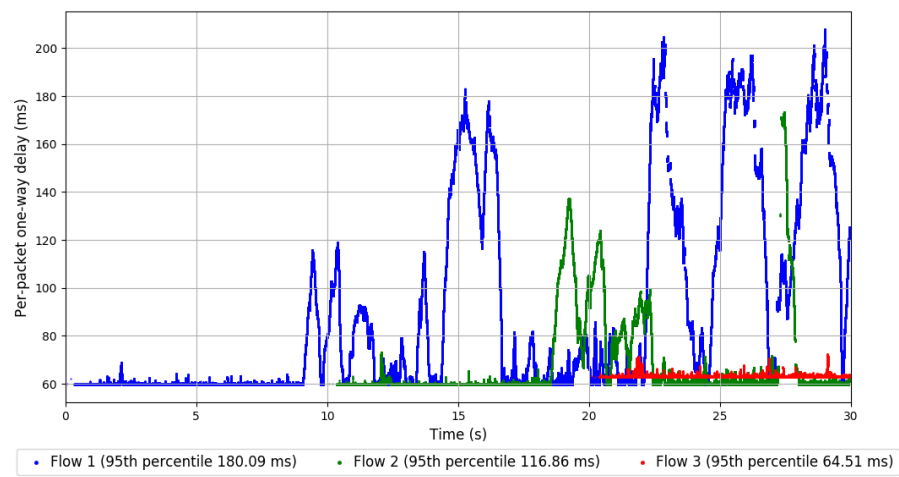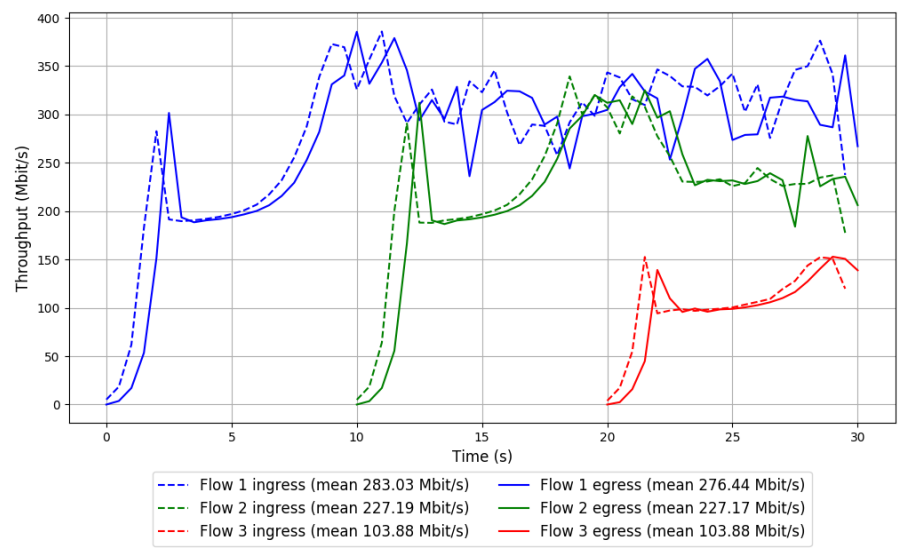
```
Run 3: Statistics of PCC-Expr

Start at: 2019-12-11 21:47:31
End at: 2019-12-11 21:48:01
Local clock offset: -0.061 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2019-12-12 02:30:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 502.77 Mbit/s
95th percentile per-packet one-way delay: 172.804 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 282.75 Mbit/s
95th percentile per-packet one-way delay: 177.300 ms
Loss rate: 2.07%
-- Flow 2:
Average throughput: 240.26 Mbit/s
95th percentile per-packet one-way delay: 148.329 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 182.85 Mbit/s
95th percentile per-packet one-way delay: 114.395 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 288.73 Mbit/s) --- Flow 1 egress (mean 282.75 Mbit/s)
Flow 2 ingress (mean 240.71 Mbit/s) --- Flow 2 egress (mean 240.26 Mbit/s)
Flow 3 ingress (mean 182.86 Mbit/s) --- Flow 3 egress (mean 182.85 Mbit/s)

Flow 1 (95th percentile 177.30 ms)   Flow 2 (95th percentile 148.33 ms)   Flow 3 (95th percentile 114.39 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-12-11 22:28:30
End at: 2019-12-11 22:29:00
Local clock offset: 0.005 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-12-12 02:38:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.20 Mbit/s
95th percentile per-packet one-way delay: 101.562 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 253.93 Mbit/s
95th percentile per-packet one-way delay: 100.115 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 249.45 Mbit/s
95th percentile per-packet one-way delay: 112.322 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 173.30 Mbit/s
95th percentile per-packet one-way delay: 85.527 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Expr — Data Link
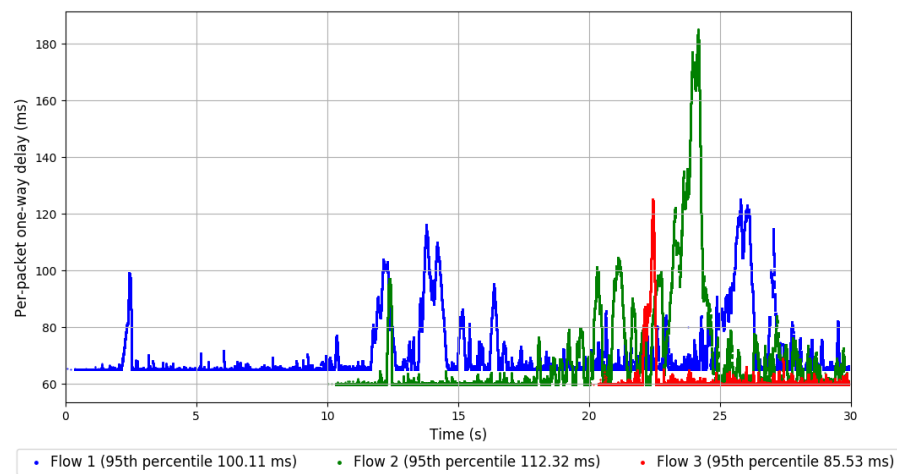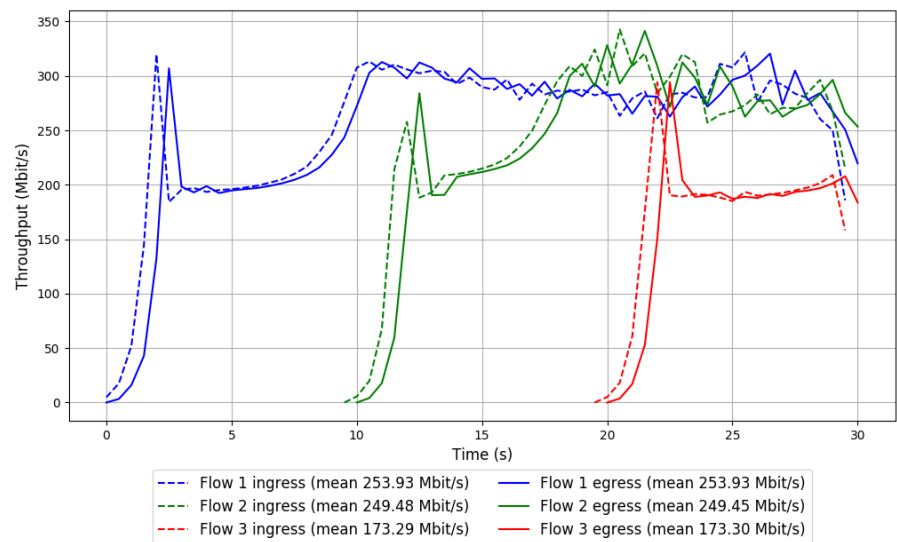
```
Run 5: Statistics of PCC-Expr

Start at: 2019-12-11 23:09:37
End at: 2019-12-11 23:10:07
Local clock offset: -0.031 ms
Remote clock offset: -0.174 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.74 Mbit/s
95th percentile per-packet one-way delay: 172.309 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 276.44 Mbit/s
95th percentile per-packet one-way delay: 180.090 ms
Loss rate: 2.32%
-- Flow 2:
Average throughput: 227.17 Mbit/s
95th percentile per-packet one-way delay: 116.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.88 Mbit/s
95th percentile per-packet one-way delay: 64.510 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 283.03 Mbit/s)
- Flow 1 egress (mean 276.44 Mbit/s)
- Flow 2 ingress (mean 227.19 Mbit/s)
- Flow 2 egress (mean 227.17 Mbit/s)
- Flow 3 ingress (mean 103.88 Mbit/s)
- Flow 3 egress (mean 103.88 Mbit/s)

- Flow 1 (95th percentile 180.09 ms)
- Flow 2 (95th percentile 116.86 ms)
- Flow 3 (95th percentile 64.51 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2019-12-11 20:14:04
End at: 2019-12-11 20:14:34
Local clock offset: -0.087 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.74 Mbit/s
95th percentile per-packet one-way delay: 59.755 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 60.746 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 60.287 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.90 Mbit/s
95th percentile per-packet one-way delay: 59.755 ms
Loss rate: 0.00%
```
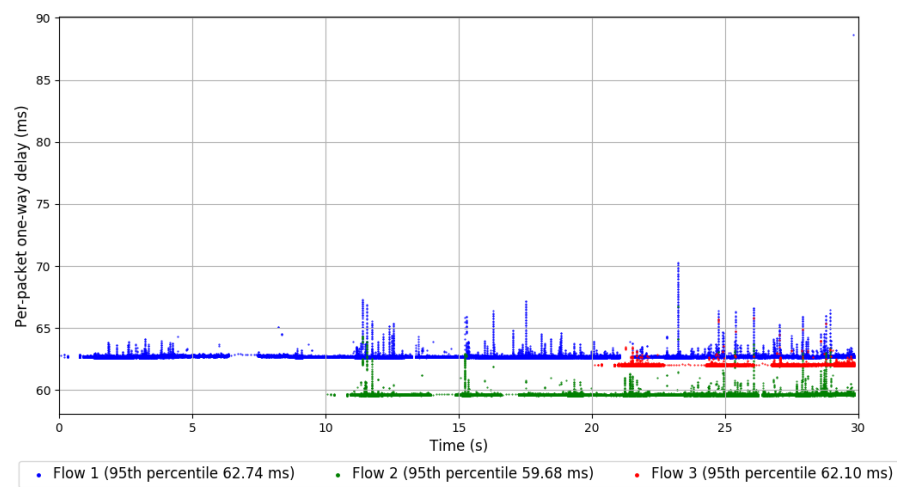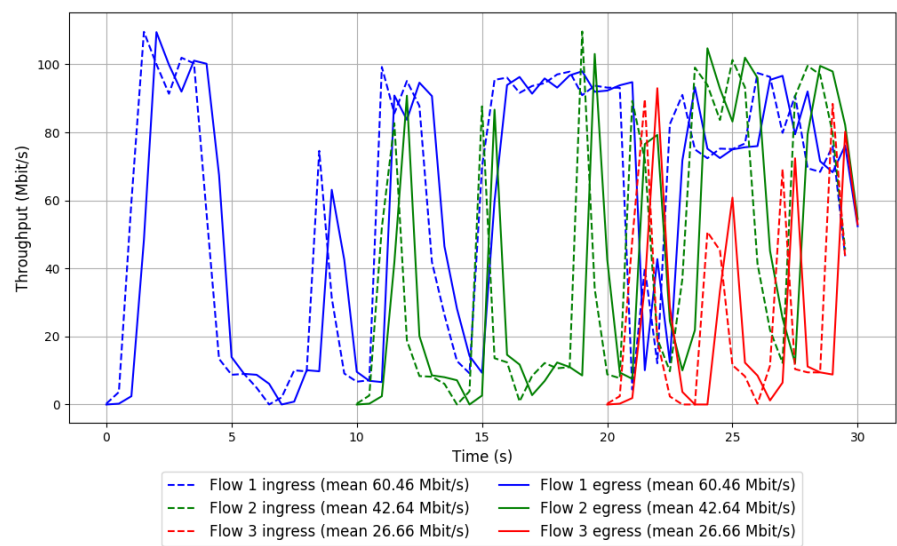
Run 1: Report of QUIC Cubic — Data Link
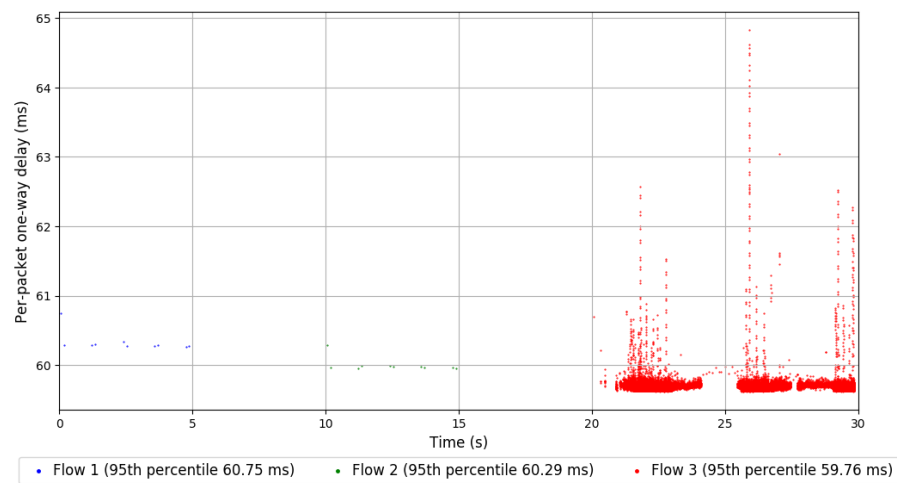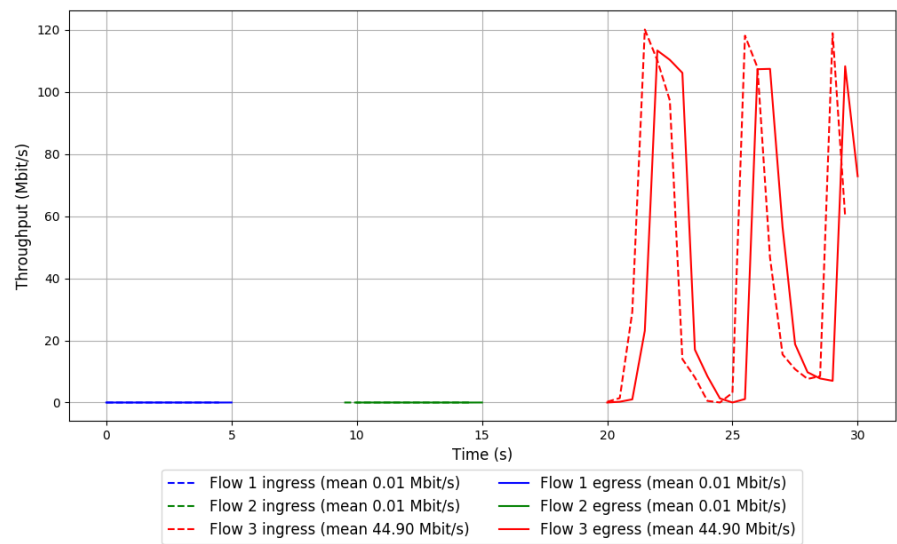
```
Run 2: Statistics of QUIC Cubic

Start at: 2019-12-11 20:55:02
End at: 2019-12-11 20:55:32
Local clock offset: -0.011 ms
Remote clock offset: -0.155 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.71 Mbit/s
95th percentile per-packet one-way delay: 65.401 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 63.88 Mbit/s
95th percentile per-packet one-way delay: 62.401 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 43.85 Mbit/s
95th percentile per-packet one-way delay: 65.438 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 59.802 ms
Loss rate: 0.00%
```
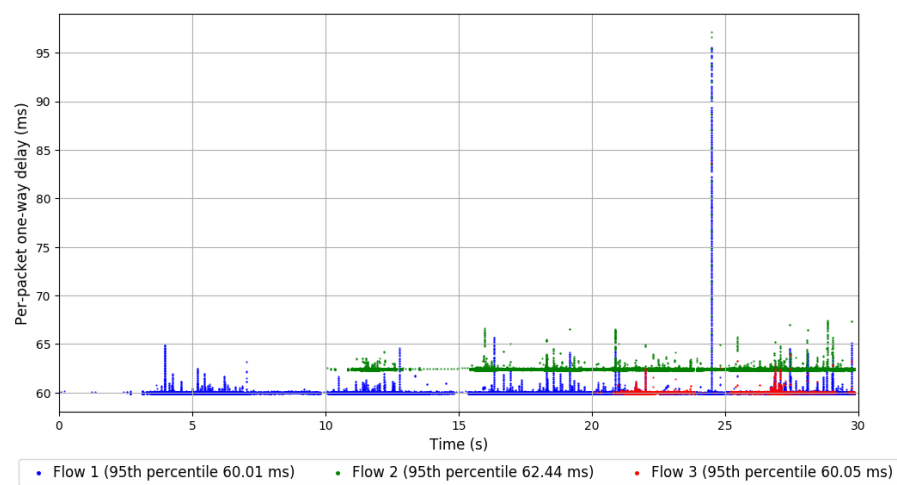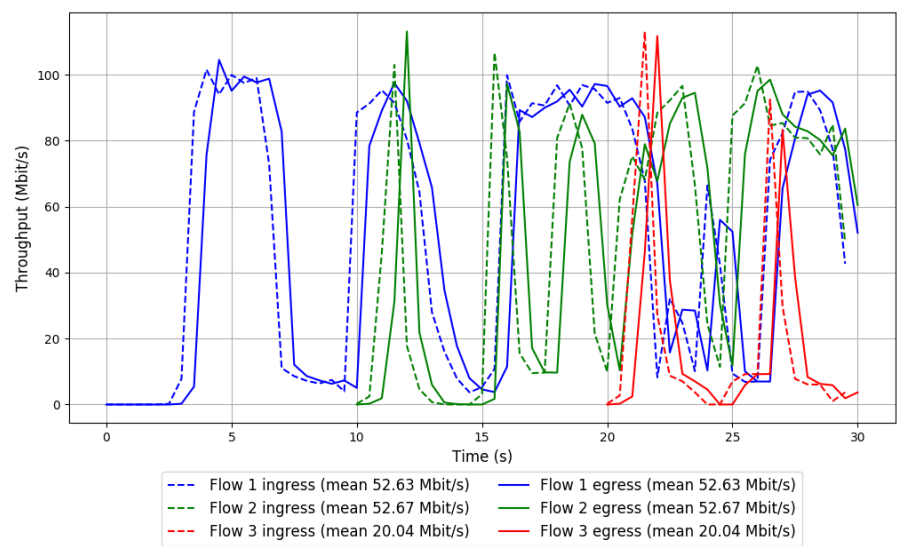
Run 2: Report of QUIC Cubic — Data Link
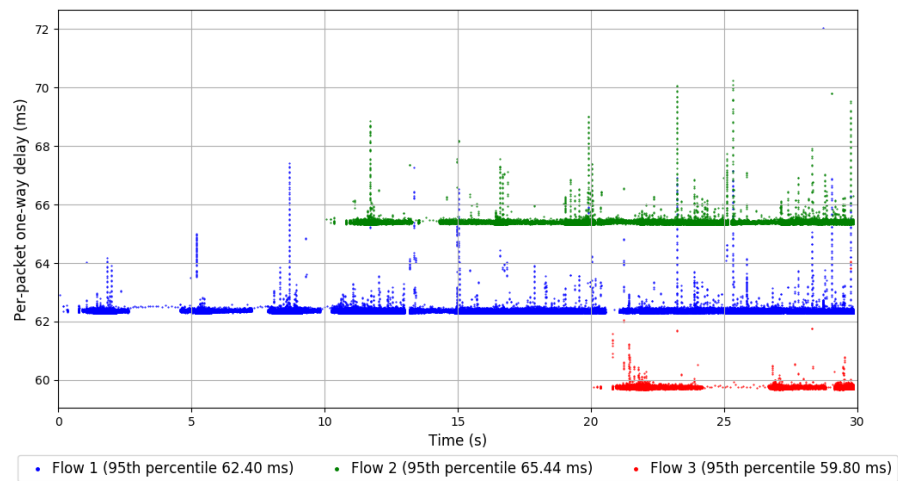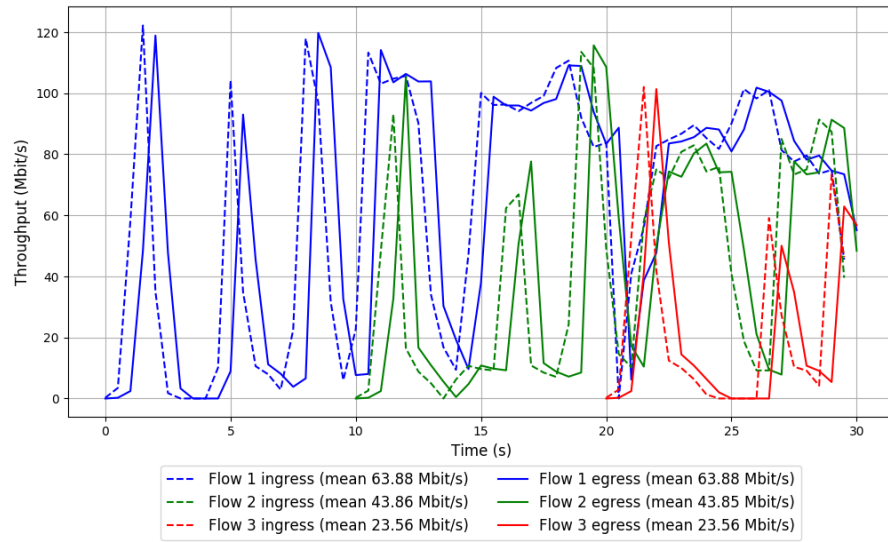
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-12-11 21:36:17
End at: 2019-12-11 21:36:47
Local clock offset: -0.035 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 62.725 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.46 Mbit/s
95th percentile per-packet one-way delay: 62.742 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 59.681 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.66 Mbit/s
95th percentile per-packet one-way delay: 62.096 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-12-11 22:17:17
End at: 2019-12-11 22:17:47
Local clock offset: 0.0 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 62.413 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.63 Mbit/s
95th percentile per-packet one-way delay: 60.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.67 Mbit/s
95th percentile per-packet one-way delay: 62.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.04 Mbit/s
95th percentile per-packet one-way delay: 60.050 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-12-11 22:58:21
End at: 2019-12-11 22:58:51
Local clock offset: -0.043 ms
Remote clock offset: 0.034 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.99 Mbit/s
95th percentile per-packet one-way delay: 62.605 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.43 Mbit/s
95th percentile per-packet one-way delay: 62.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.17 Mbit/s
95th percentile per-packet one-way delay: 59.814 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.98 Mbit/s
95th percentile per-packet one-way delay: 60.339 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link
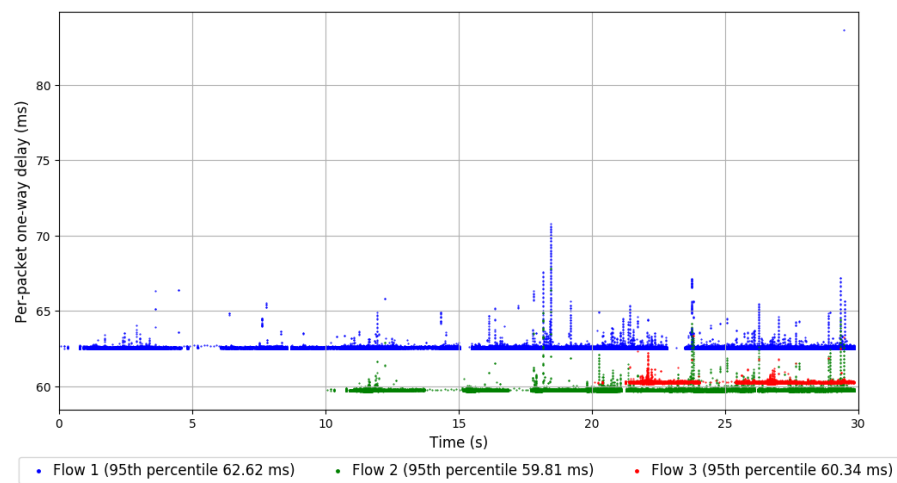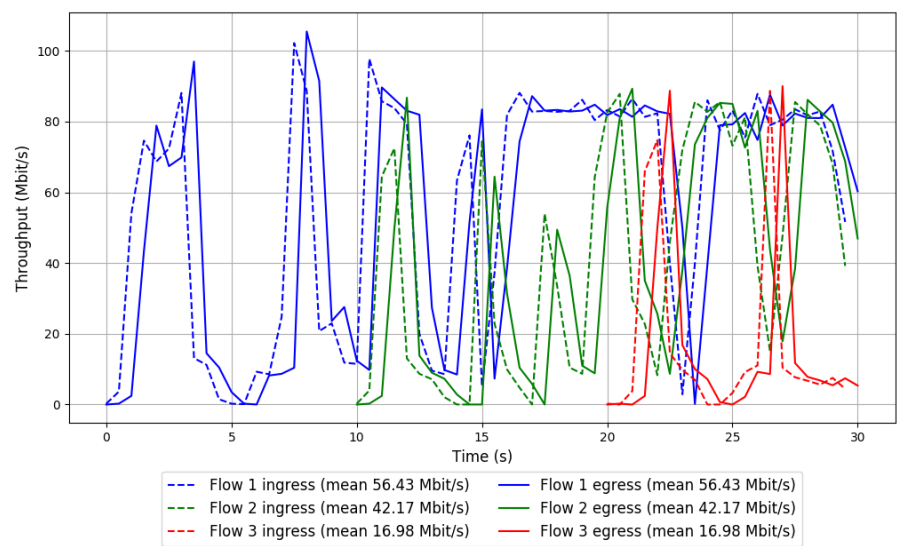
```
Run 1: Statistics of SCReAM

Start at: 2019-12-11 20:18:46
End at: 2019-12-11 20:19:16
Local clock offset: -0.041 ms
Remote clock offset: -0.158 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.136 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.897 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.675 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link
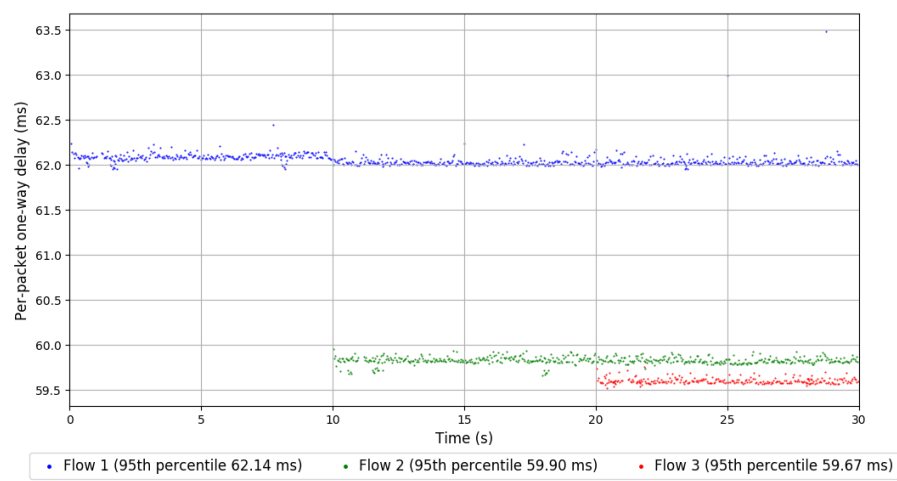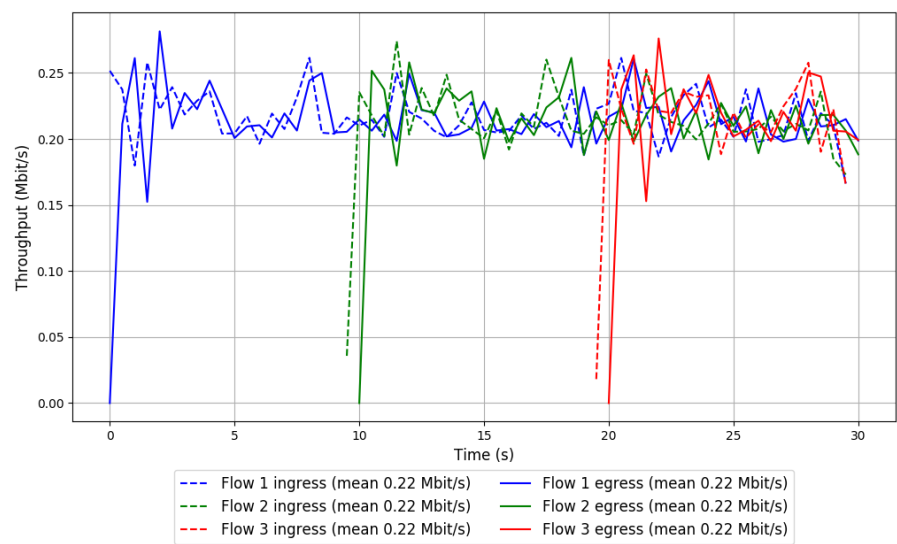
```
Run 2: Statistics of SCReAM

Start at: 2019-12-11 20:59:48
End at: 2019-12-11 21:00:18
Local clock offset: -0.023 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 63.003 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.875 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.047 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link
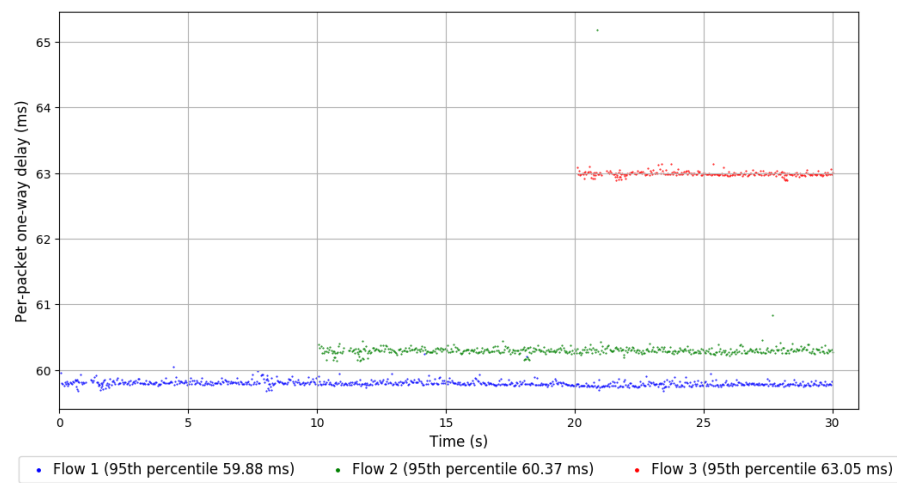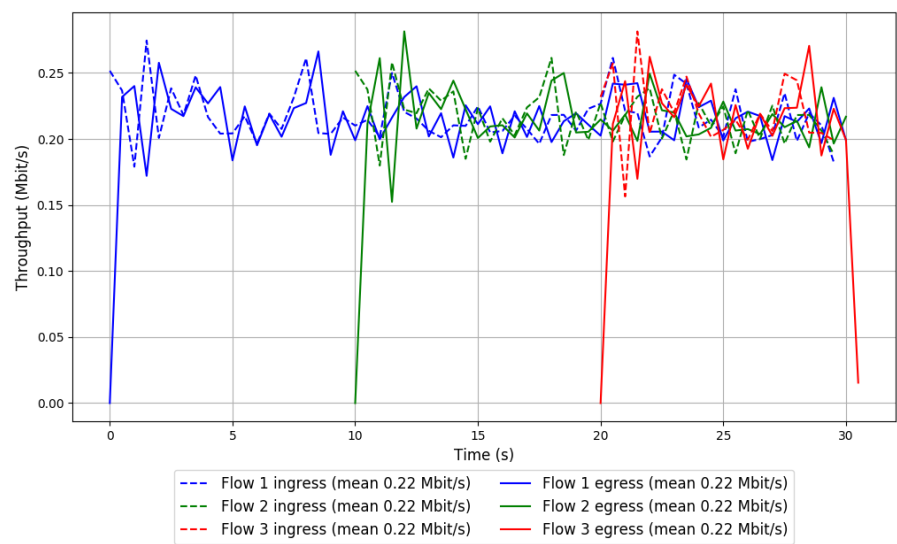
```
Run 3: Statistics of SCReAM

Start at: 2019-12-11 21:40:57
End at: 2019-12-11 21:41:27
Local clock offset: -0.069 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.349 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.371 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.048 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.884 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link
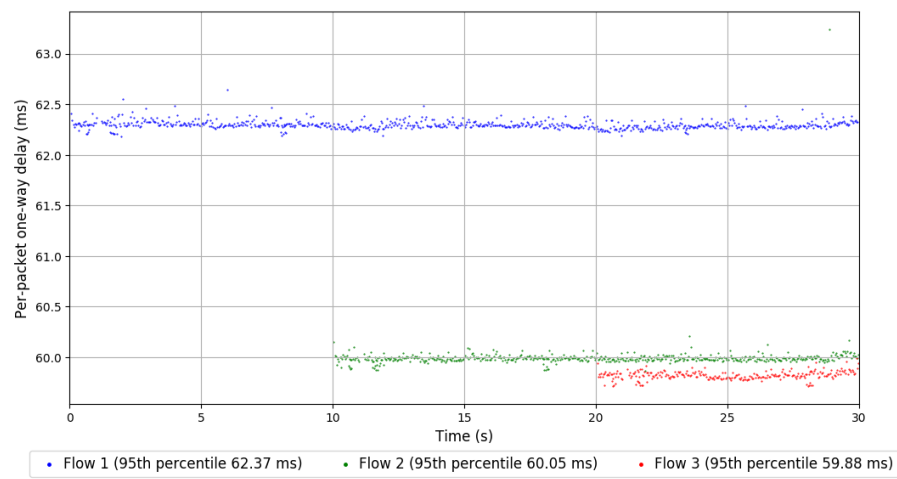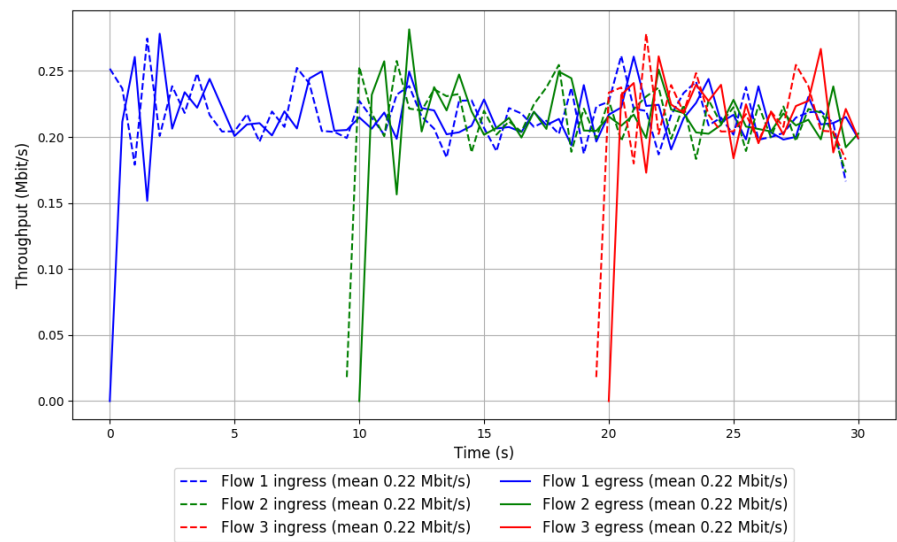
```
Run 4: Statistics of SCReAM

Start at: 2019-12-11 22:22:02
End at: 2019-12-11 22:22:32
Local clock offset: 0.007 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 63.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.232 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.159 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.207 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link
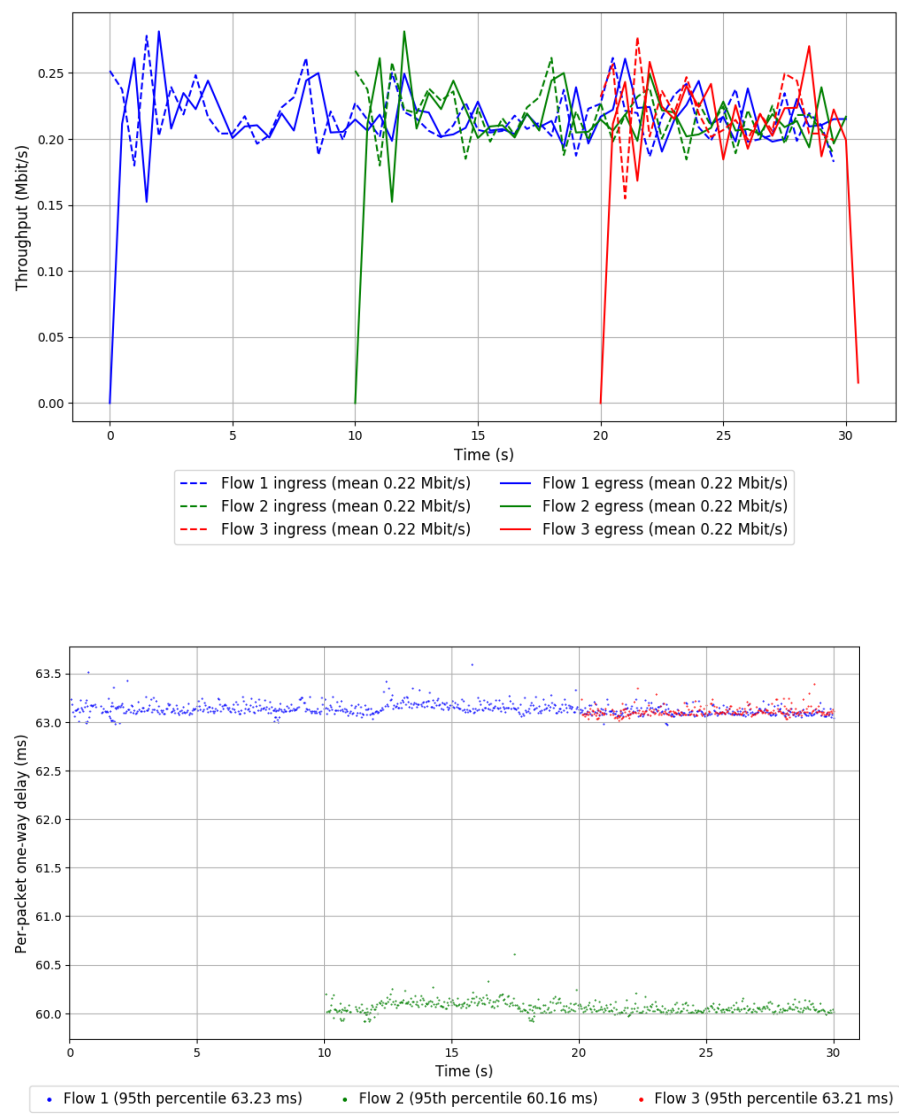
```
Run 5: Statistics of SCReAM

Start at: 2019-12-11 23:03:08
End at: 2019-12-11 23:03:38
Local clock offset: -0.05 ms
Remote clock offset: -0.202 ms


# Below is generated by plot.py at 2019-12-12 02:41:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 65.269 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.173 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.240 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.325 ms
Loss rate: 0.35%
```

Run 5: Report of SCReAM — Data Link
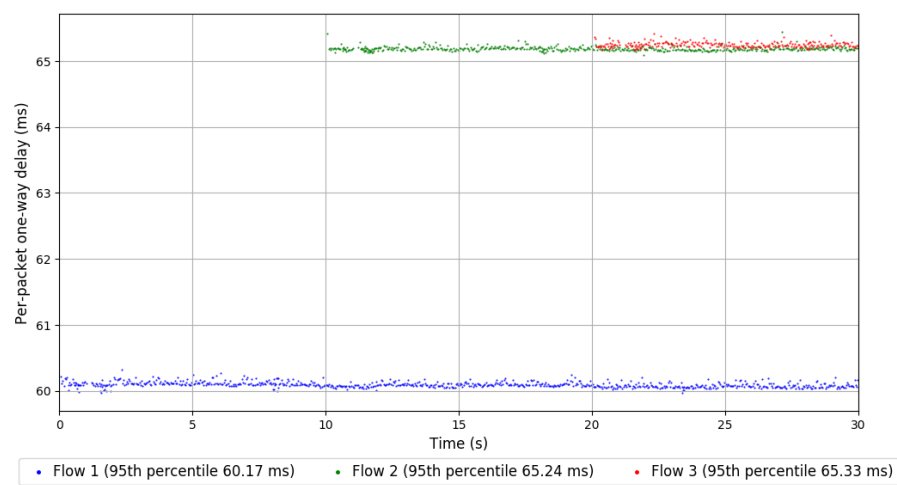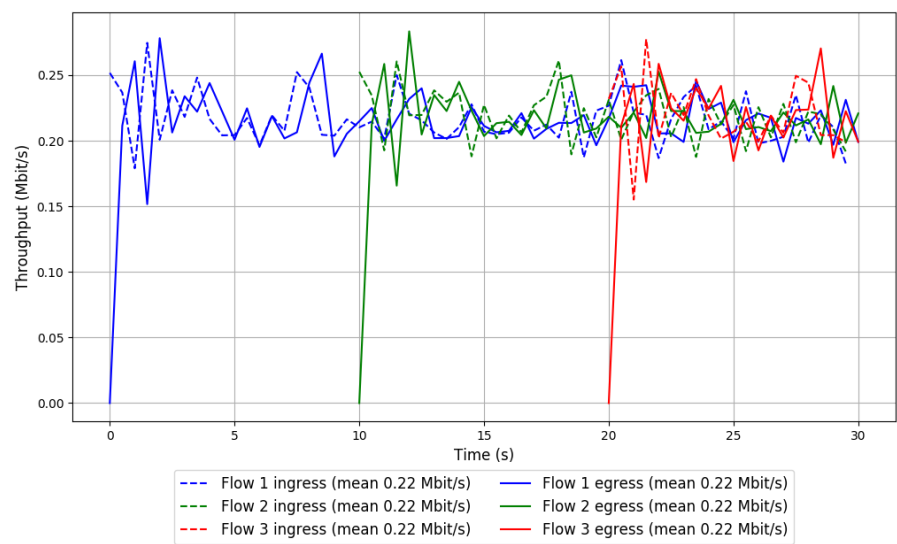
```
Run 1: Statistics of Sprout

Start at: 2019-12-11 20:35:19
End at: 2019-12-11 20:35:49
Local clock offset: -0.03 ms
Remote clock offset: 0.007 ms


# Below is generated by plot.py at 2019-12-12 02:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.88 Mbit/s
95th percentile per-packet one-way delay: 62.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 60.615 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 60.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 62.898 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link
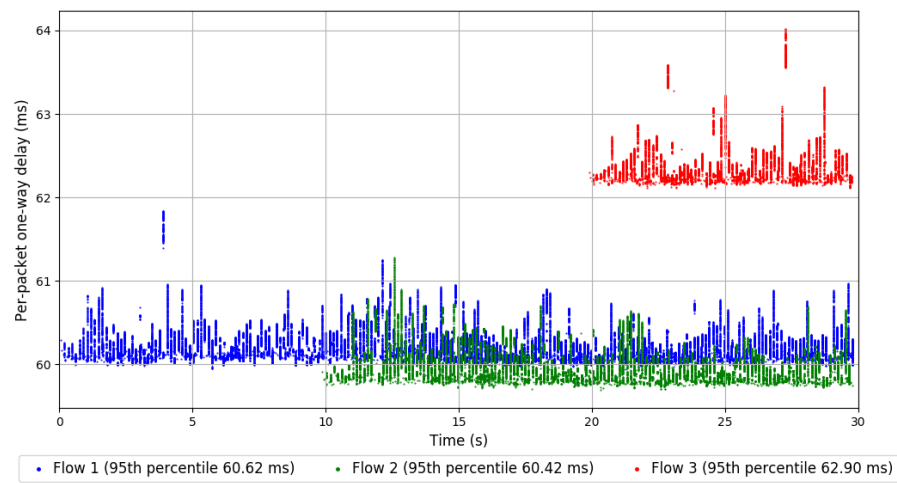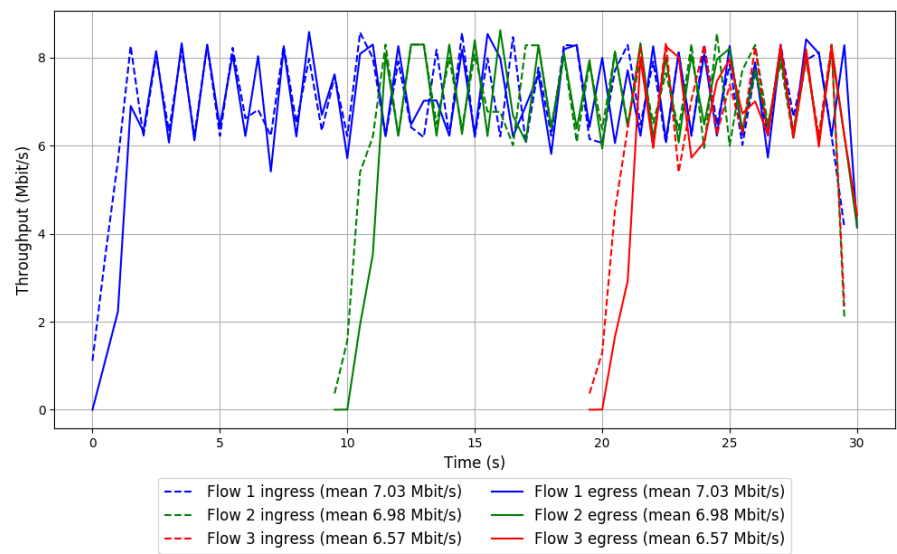
```
Run 2: Statistics of Sprout

Start at: 2019-12-11 21:16:24
End at: 2019-12-11 21:16:54
Local clock offset: -0.021 ms
Remote clock offset: -0.066 ms


# Below is generated by plot.py at 2019-12-12 02:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.88 Mbit/s
95th percentile per-packet one-way delay: 62.512 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 60.413 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.94 Mbit/s
95th percentile per-packet one-way delay: 60.500 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.64 Mbit/s
95th percentile per-packet one-way delay: 63.040 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link
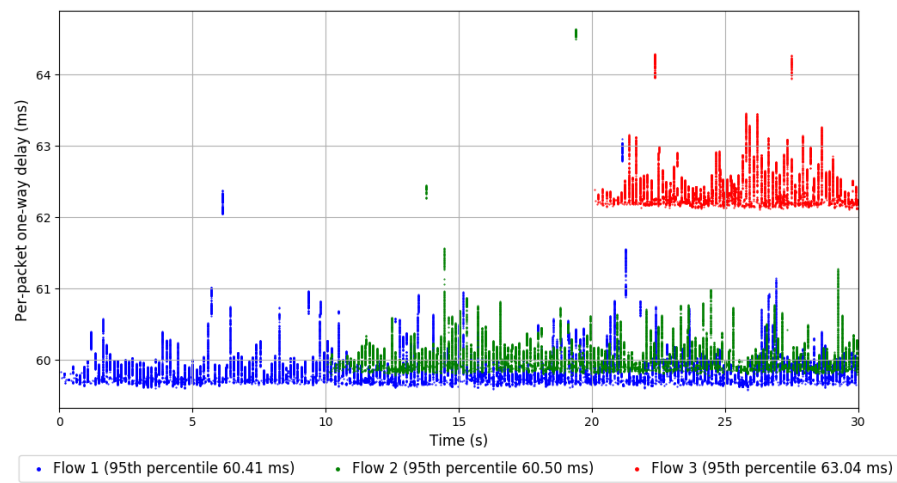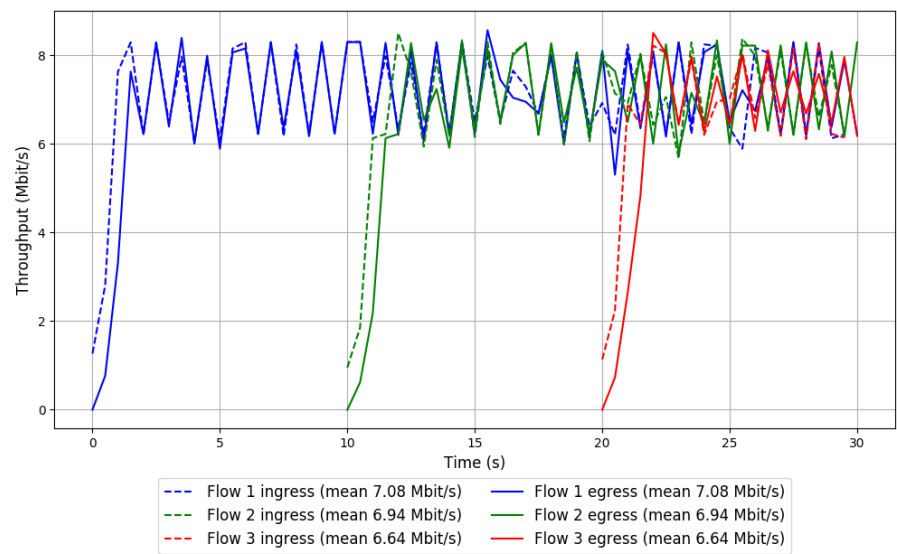
```
Run 3: Statistics of Sprout

Start at: 2019-12-11 21:57:27
End at: 2019-12-11 21:57:57
Local clock offset: -0.067 ms
Remote clock offset: -0.193 ms


# Below is generated by plot.py at 2019-12-12 02:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.84 Mbit/s
95th percentile per-packet one-way delay: 63.033 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.09 Mbit/s
95th percentile per-packet one-way delay: 60.451 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 60.832 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 63.494 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link
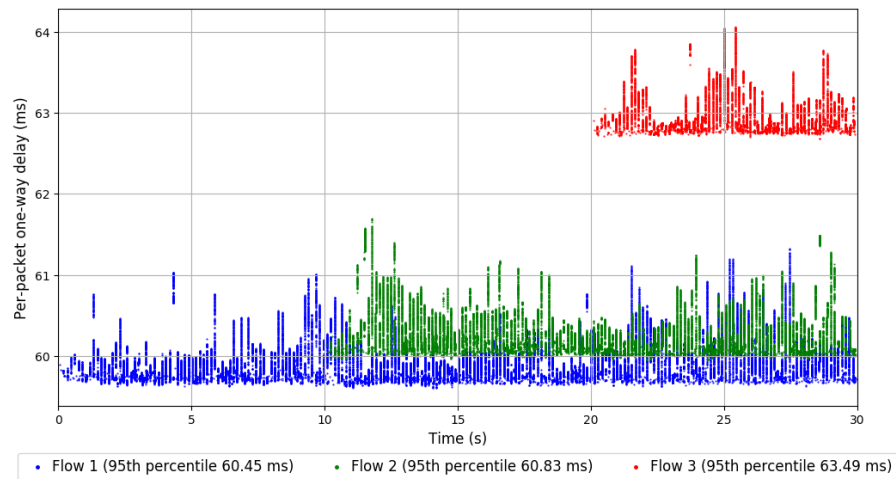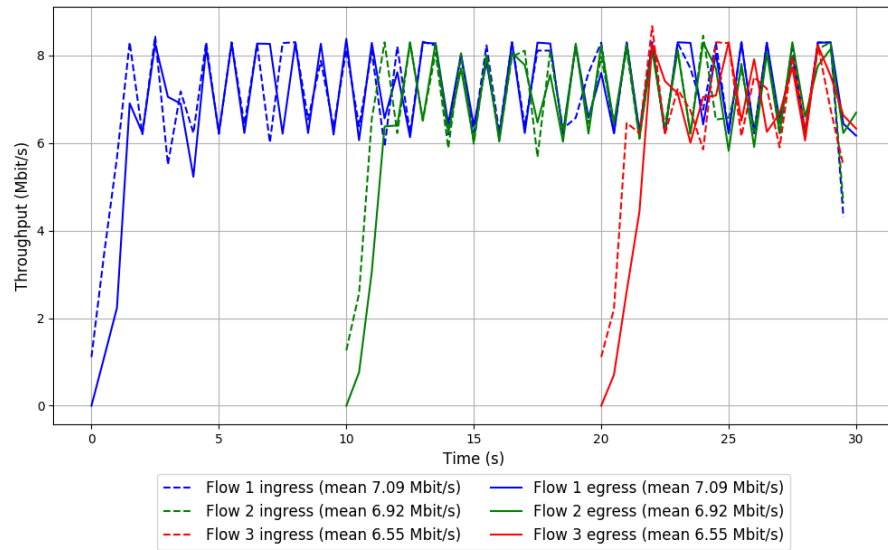
```
Run 4: Statistics of Sprout

Start at: 2019-12-11 22:38:40
End at: 2019-12-11 22:39:10
Local clock offset: 0.005 ms
Remote clock offset: -0.214 ms


# Below is generated by plot.py at 2019-12-12 02:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 63.385 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 63.344 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 63.465 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 63.278 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link
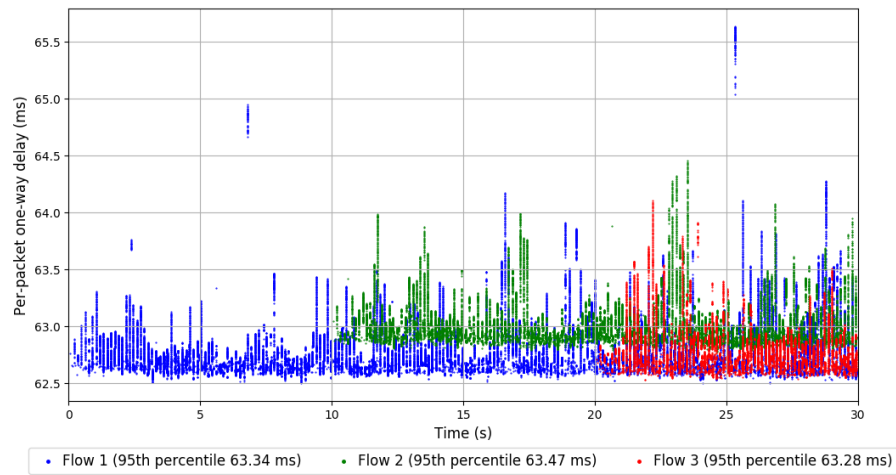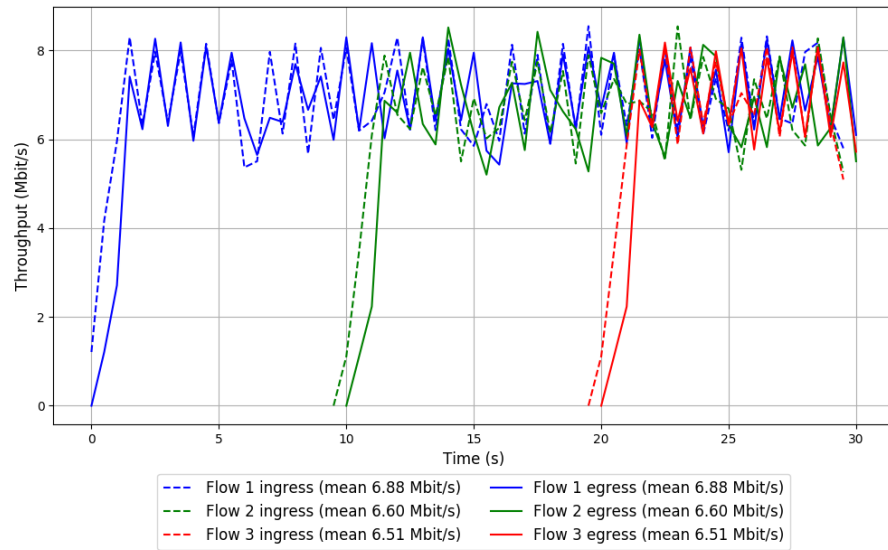
```
Run 5: Statistics of Sprout

Start at: 2019-12-11 23:19:51
End at: 2019-12-11 23:20:21
Local clock offset: -0.028 ms
Remote clock offset: -0.073 ms


# Below is generated by plot.py at 2019-12-12 02:41:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 62.635 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 62.774 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 60.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.44 Mbit/s
95th percentile per-packet one-way delay: 60.787 ms
Loss rate: 0.00%
```
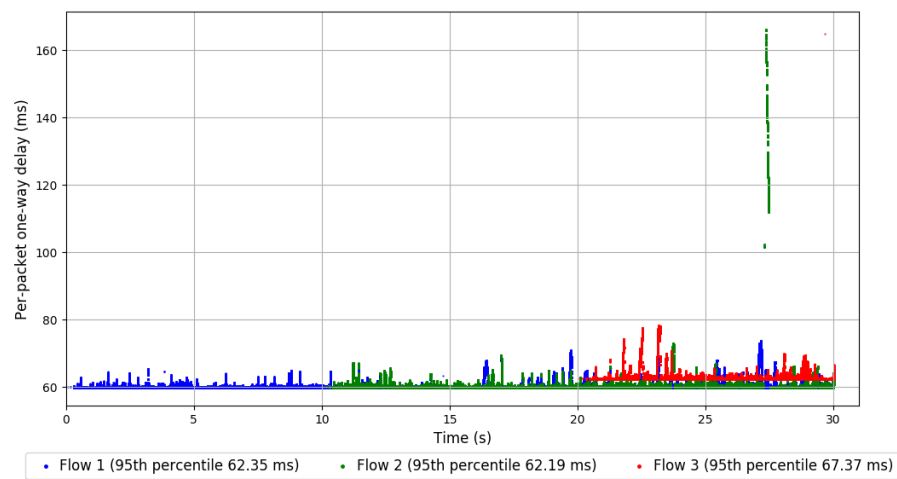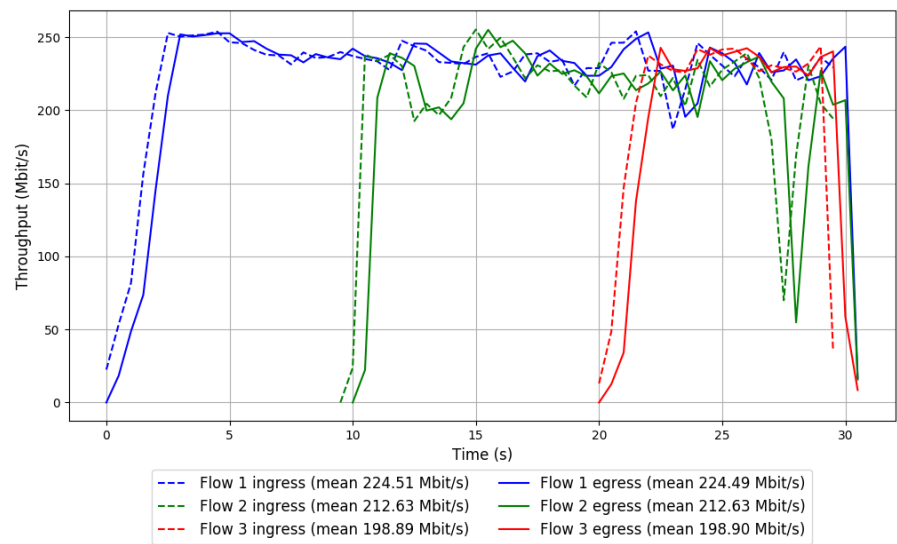
Run 5: Report of Sprout — Data Link
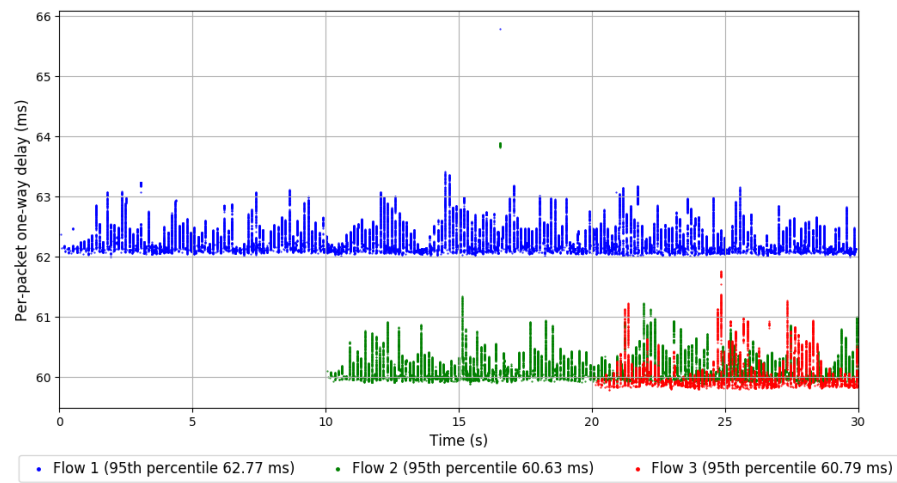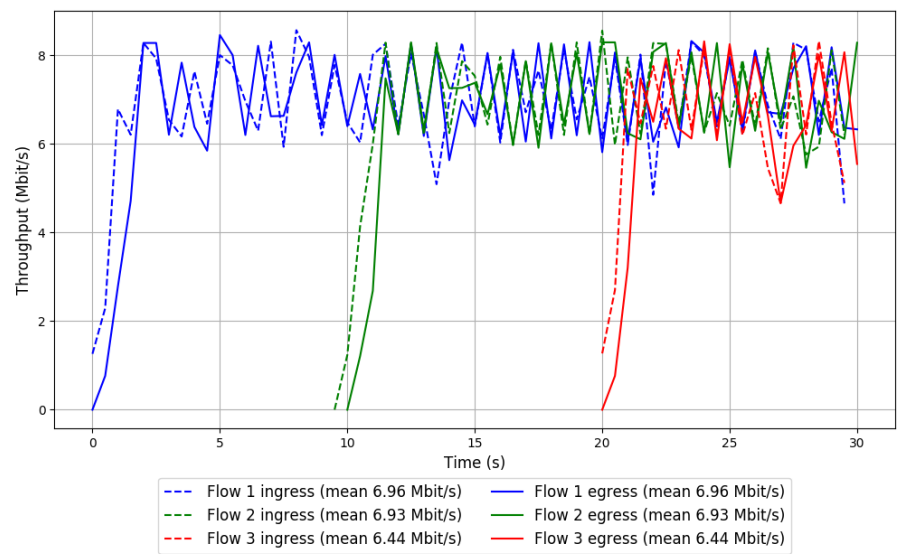
```
Run 1: Statistics of TaoVA-100x

Start at: 2019-12-11 20:43:46
End at: 2019-12-11 20:44:16
Local clock offset: 0.004 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2019-12-12 02:44:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 432.18 Mbit/s
95th percentile per-packet one-way delay: 63.344 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.49 Mbit/s
95th percentile per-packet one-way delay: 62.355 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.63 Mbit/s
95th percentile per-packet one-way delay: 62.188 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 198.90 Mbit/s
95th percentile per-packet one-way delay: 67.367 ms
Loss rate: 0.00%
```

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

- - - Flow 1 ingress (mean 224.51 Mbit/s) —— Flow 1 egress (mean 224.49 Mbit/s)
- - - Flow 2 ingress (mean 212.63 Mbit/s) —— Flow 2 egress (mean 212.63 Mbit/s)
- - - Flow 3 ingress (mean 198.89 Mbit/s) —— Flow 3 egress (mean 198.90 Mbit/s)

- Flow 1 (95th percentile 62.35 ms)   • Flow 2 (95th percentile 62.19 ms)   • Flow 3 (95th percentile 67.37 ms)
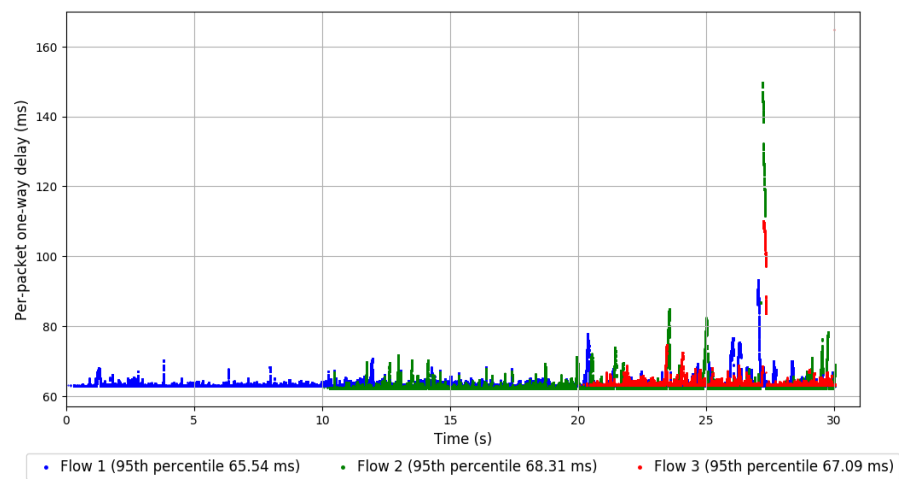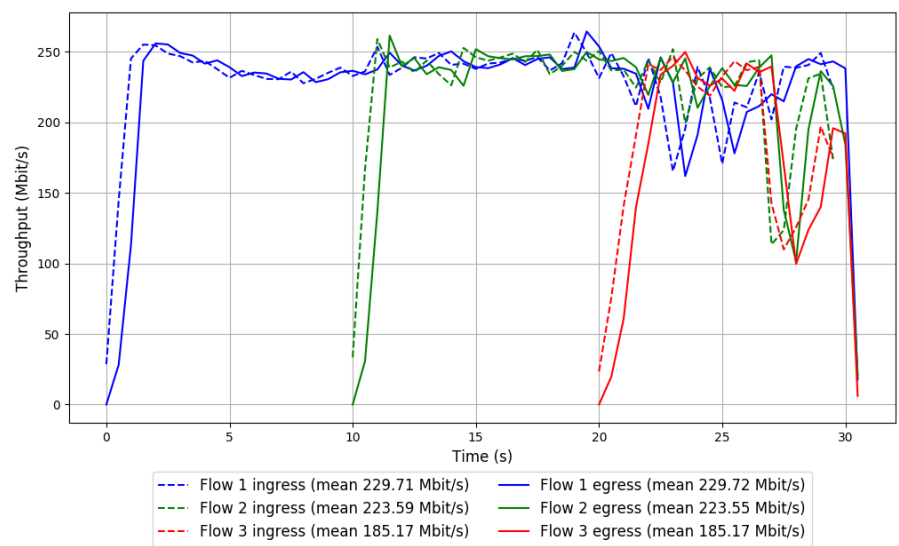
196

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

Start at: 2019-12-11 21:24:56
End at: 2019-12-11 21:25:26
Local clock offset: -0.052 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-12-12 02:46:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 440.06 Mbit/s
95th percentile per-packet one-way delay: 66.615 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 229.72 Mbit/s
95th percentile per-packet one-way delay: 65.542 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 223.55 Mbit/s
95th percentile per-packet one-way delay: 68.307 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 185.17 Mbit/s
95th percentile per-packet one-way delay: 67.094 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 229.71 Mbit/s) — Flow 1 egress (mean 229.72 Mbit/s)
Flow 2 ingress (mean 223.59 Mbit/s) — Flow 2 egress (mean 223.55 Mbit/s)
Flow 3 ingress (mean 185.17 Mbit/s) — Flow 3 egress (mean 185.17 Mbit/s)

Flow 1 (95th percentile 65.54 ms)   Flow 2 (95th percentile 68.31 ms)   Flow 3 (95th percentile 67.09 ms)
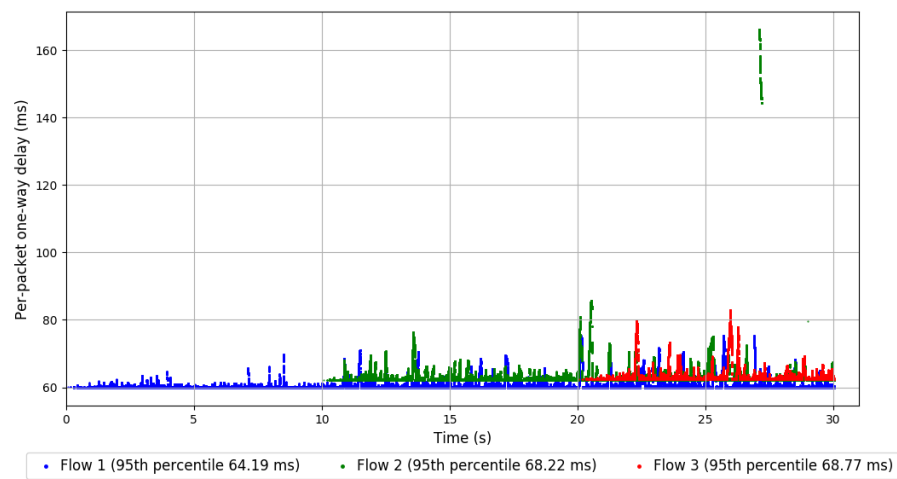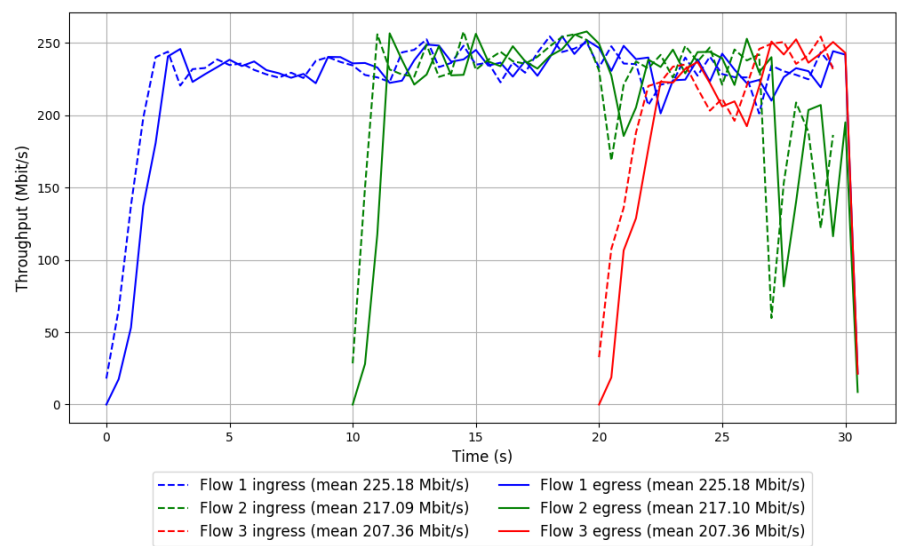
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-12-11 22:06:00
End at: 2019-12-11 22:06:30
Local clock offset: -0.078 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-12-12 02:46:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.67 Mbit/s
95th percentile per-packet one-way delay: 66.481 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 225.18 Mbit/s
95th percentile per-packet one-way delay: 64.189 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 217.10 Mbit/s
95th percentile per-packet one-way delay: 68.221 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 207.36 Mbit/s
95th percentile per-packet one-way delay: 68.765 ms
Loss rate: 0.00%
```

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

200

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

Start at: 2019-12-11 22:46:54
End at: 2019-12-11 22:47:24
Local clock offset: 0.005 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2019-12-12 02:46:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 450.15 Mbit/s
95th percentile per-packet one-way delay: 63.884 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 229.48 Mbit/s
95th percentile per-packet one-way delay: 62.794 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 222.52 Mbit/s
95th percentile per-packet one-way delay: 64.428 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 218.51 Mbit/s
95th percentile per-packet one-way delay: 66.069 ms
Loss rate: 0.00%
```
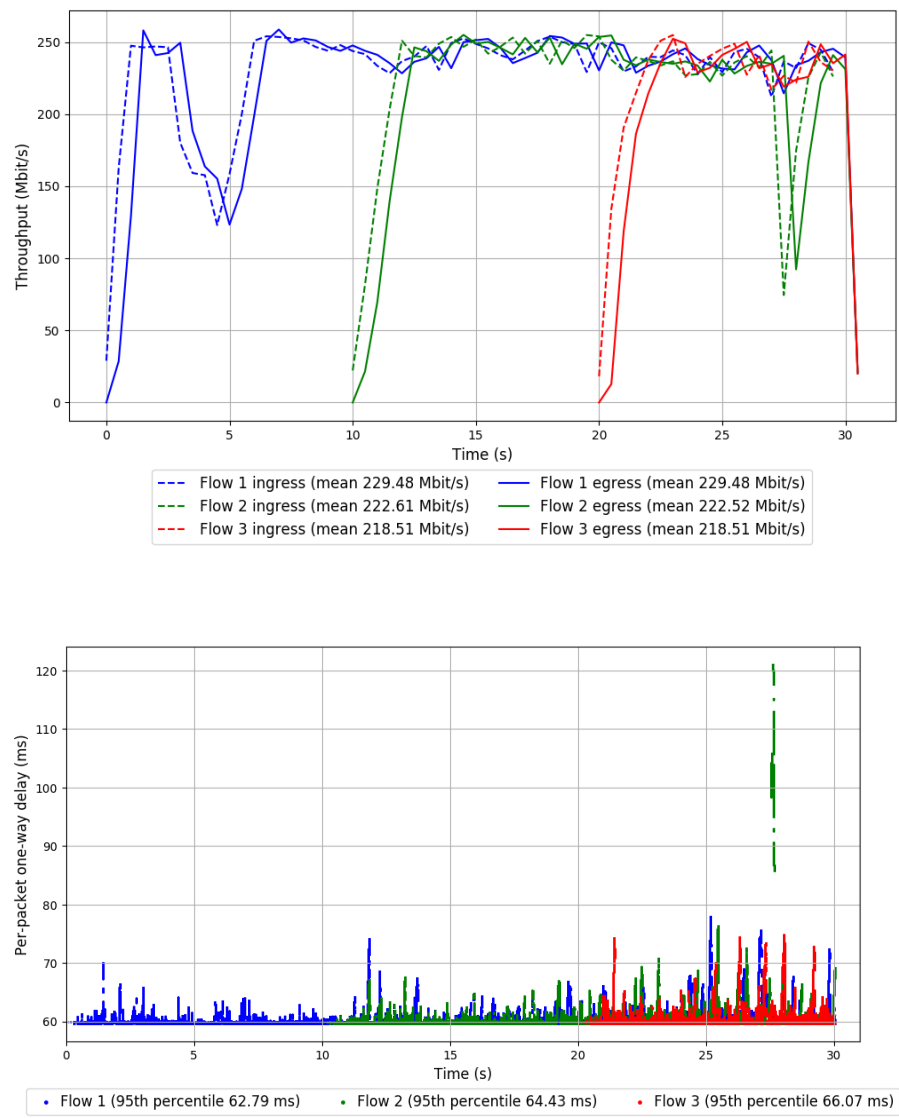
Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 229.48 Mbit/s) ——— Flow 1 egress (mean 229.48 Mbit/s)
- - - - Flow 2 ingress (mean 222.61 Mbit/s) ——— Flow 2 egress (mean 222.52 Mbit/s)
- - - - Flow 3 ingress (mean 218.51 Mbit/s) ——— Flow 3 egress (mean 218.51 Mbit/s)

- Flow 1 (95th percentile 62.79 ms)   • Flow 2 (95th percentile 64.43 ms)   • Flow 3 (95th percentile 66.07 ms)
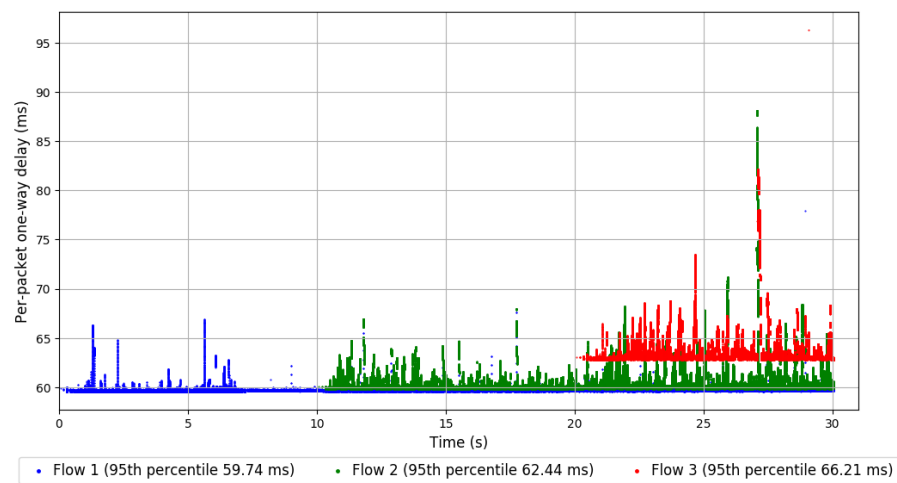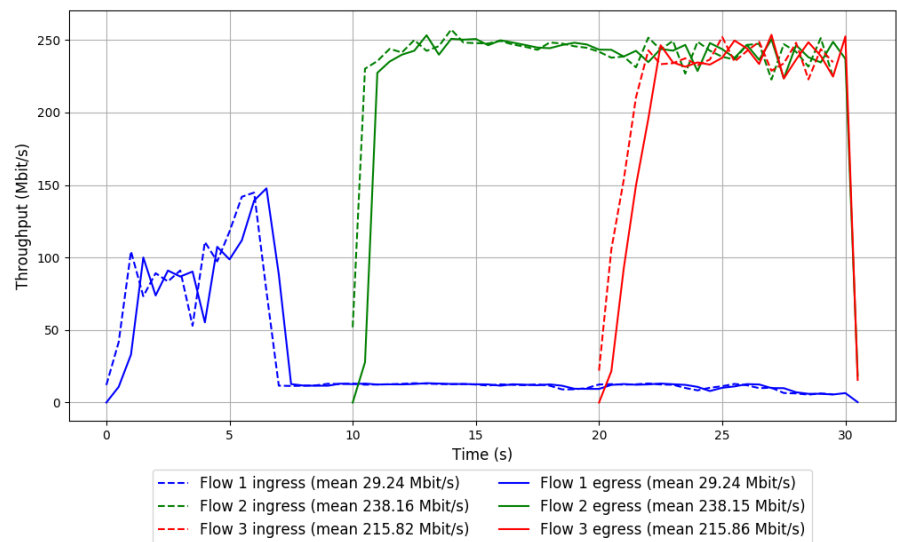
```
Run 5: Statistics of TaoVA-100x

Start at: 2019-12-11 23:28:26
End at: 2019-12-11 23:28:56
Local clock offset: -0.054 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-12-12 02:46:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 259.56 Mbit/s
95th percentile per-packet one-way delay: 64.322 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.24 Mbit/s
95th percentile per-packet one-way delay: 59.739 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 238.15 Mbit/s
95th percentile per-packet one-way delay: 62.444 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 215.86 Mbit/s
95th percentile per-packet one-way delay: 66.207 ms
Loss rate: 0.01%
```

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

Flow 1 ingress (mean 29.24 Mbit/s) --- Flow 1 egress (mean 29.24 Mbit/s)
Flow 2 ingress (mean 238.16 Mbit/s) --- Flow 2 egress (mean 238.15 Mbit/s)
Flow 3 ingress (mean 215.82 Mbit/s) --- Flow 3 egress (mean 215.86 Mbit/s)

Flow 1 (95th percentile 59.74 ms)   Flow 2 (95th percentile 62.44 ms)   Flow 3 (95th percentile 66.21 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-12-11 20:10:33
End at: 2019-12-11 20:11:03
Local clock offset: -0.063 ms
Remote clock offset: -0.155 ms


# Below is generated by plot.py at 2019-12-12 02:46:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 701.48 Mbit/s
95th percentile per-packet one-way delay: 63.238 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 431.37 Mbit/s
95th percentile per-packet one-way delay: 63.630 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 274.38 Mbit/s
95th percentile per-packet one-way delay: 60.391 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 262.86 Mbit/s
95th percentile per-packet one-way delay: 73.100 ms
Loss rate: 0.00%
```

Run 1: Report of TCP Vegas — Data Link
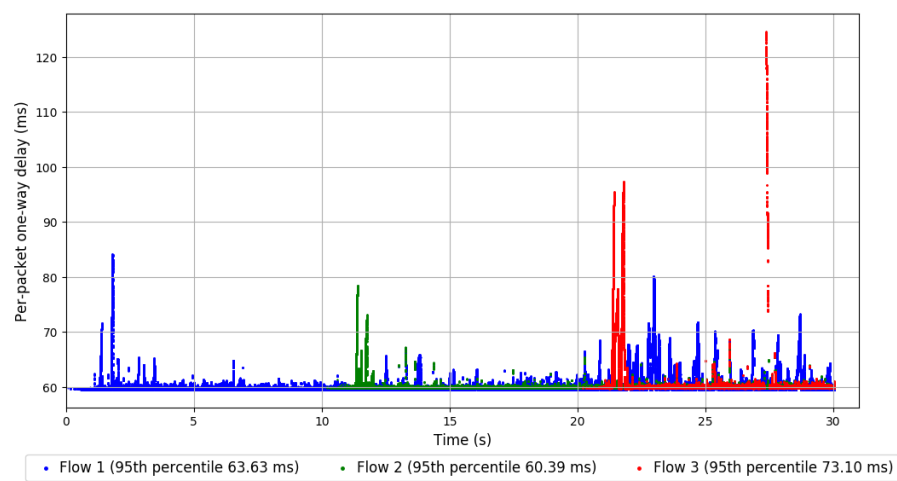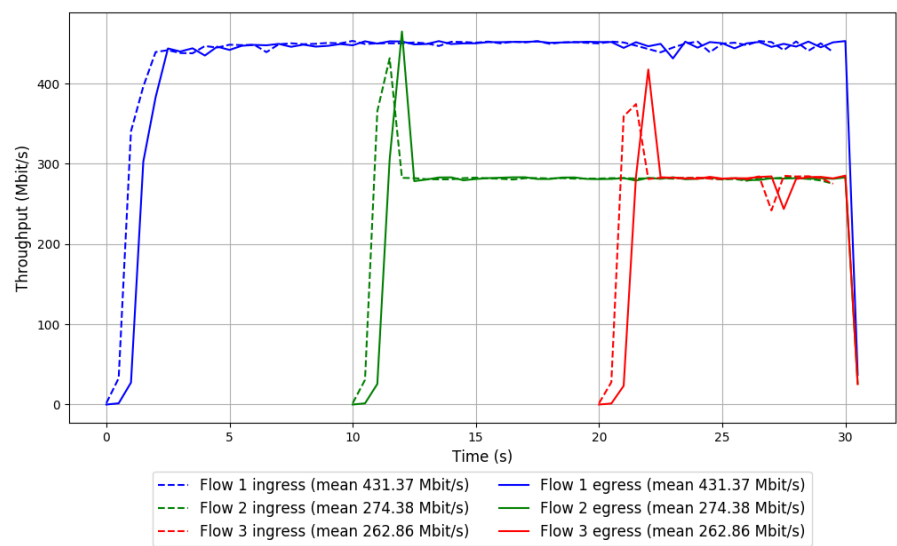
```
Run 2: Statistics of TCP Vegas

Start at: 2019-12-11 20:51:29
End at: 2019-12-11 20:51:59
Local clock offset: 0.039 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2019-12-12 02:51:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.88 Mbit/s
95th percentile per-packet one-way delay: 73.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 178.57 Mbit/s
95th percentile per-packet one-way delay: 63.503 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 426.58 Mbit/s
95th percentile per-packet one-way delay: 70.031 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 403.95 Mbit/s
95th percentile per-packet one-way delay: 98.540 ms
Loss rate: 0.01%
```
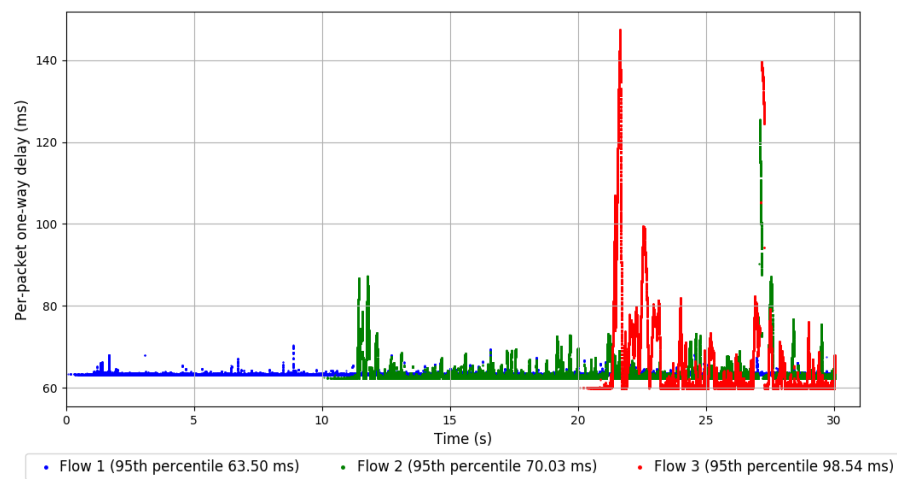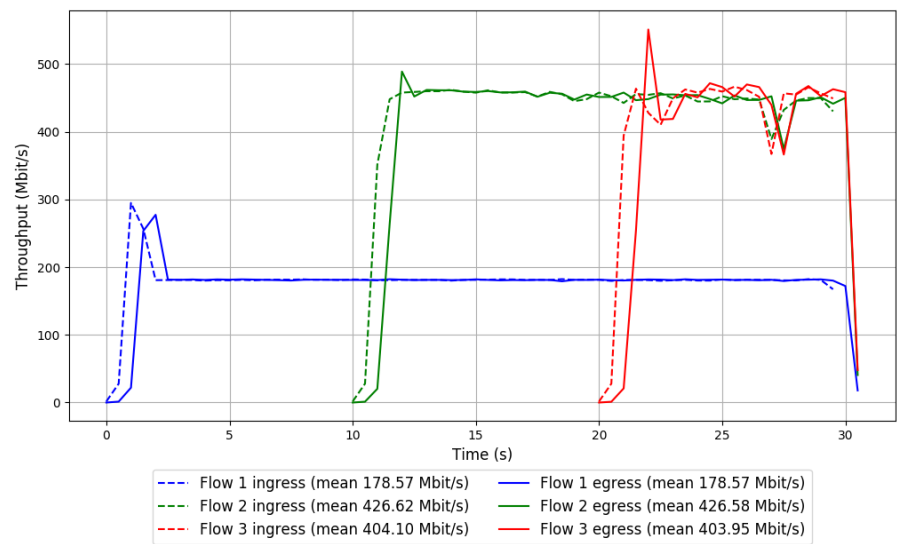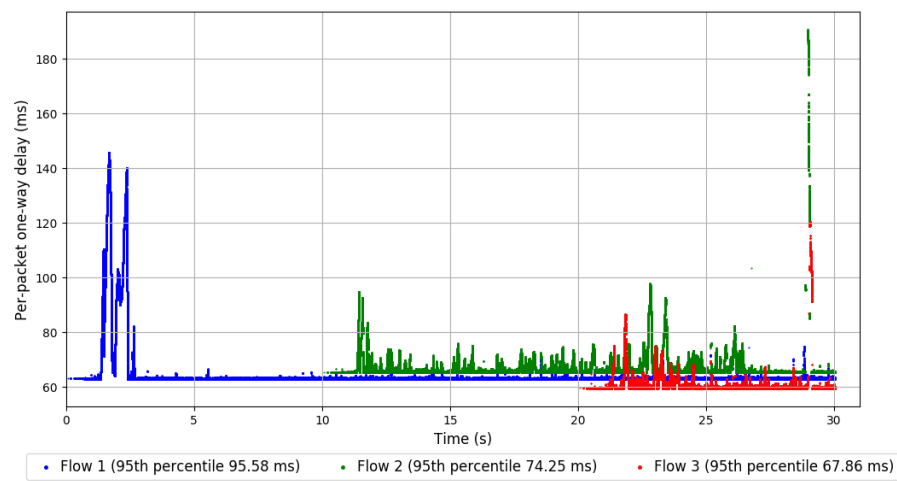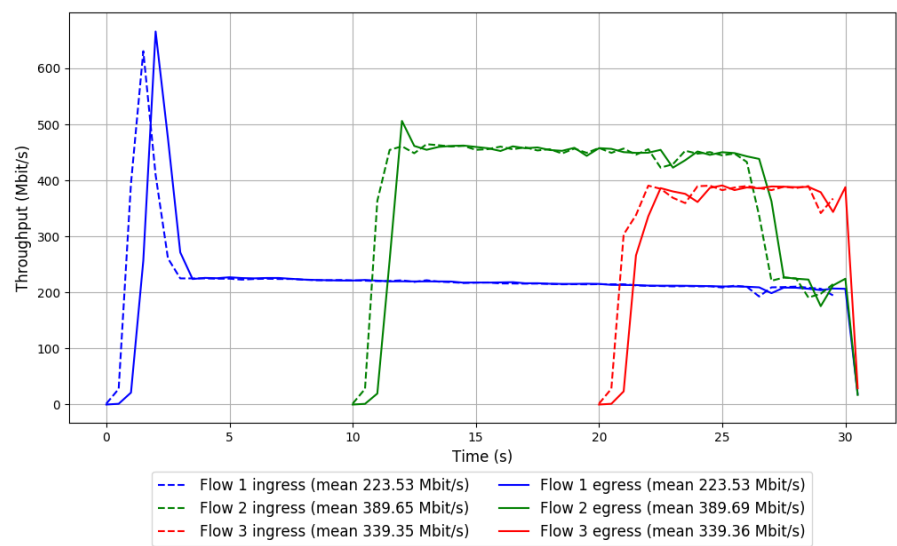
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 178.57 Mbit/s) — Flow 1 egress (mean 178.57 Mbit/s)
Flow 2 ingress (mean 426.62 Mbit/s) — Flow 2 egress (mean 426.58 Mbit/s)
Flow 3 ingress (mean 404.10 Mbit/s) — Flow 3 egress (mean 403.95 Mbit/s)

Flow 1 (95th percentile 63.50 ms) · Flow 2 (95th percentile 70.03 ms) · Flow 3 (95th percentile 98.54 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-12-11 21:32:43
End at: 2019-12-11 21:33:13
Local clock offset: -0.04 ms
Remote clock offset: -0.093 ms


# Below is generated by plot.py at 2019-12-12 02:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 595.74 Mbit/s
95th percentile per-packet one-way delay: 75.341 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 223.53 Mbit/s
95th percentile per-packet one-way delay: 95.575 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 389.69 Mbit/s
95th percentile per-packet one-way delay: 74.255 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 339.36 Mbit/s
95th percentile per-packet one-way delay: 67.857 ms
Loss rate: 0.00%
```
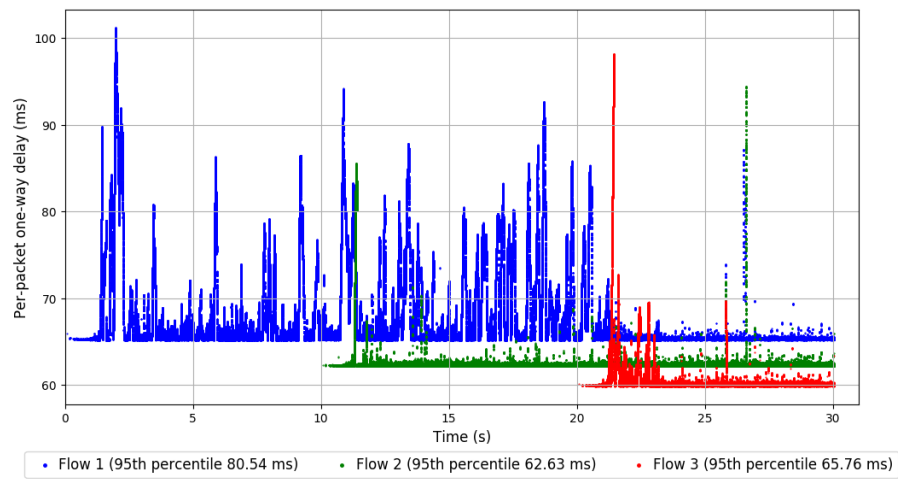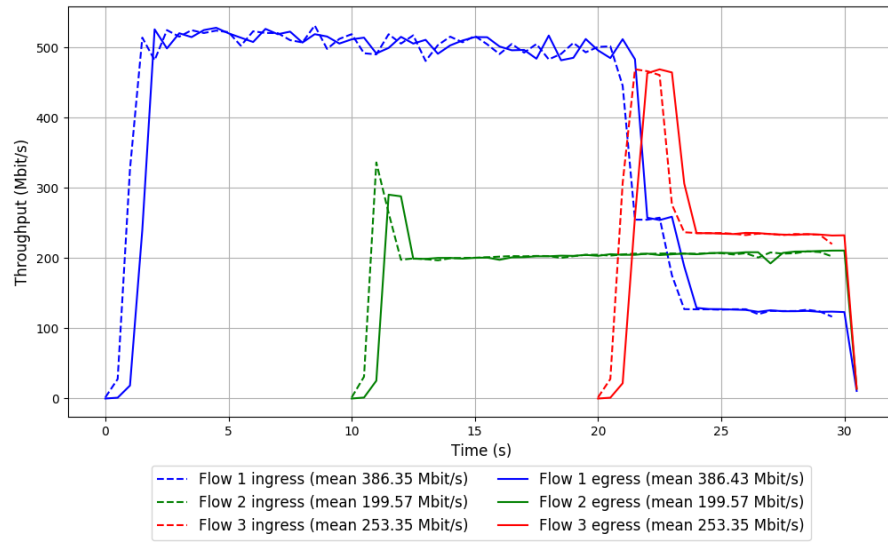
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 223.53 Mbit/s) — — — Flow 1 egress (mean 223.53 Mbit/s)
Flow 2 ingress (mean 389.65 Mbit/s) — — — Flow 2 egress (mean 389.69 Mbit/s)
Flow 3 ingress (mean 339.35 Mbit/s) — — — Flow 3 egress (mean 339.36 Mbit/s)

Flow 1 (95th percentile 95.58 ms)   Flow 2 (95th percentile 74.25 ms)   Flow 3 (95th percentile 67.86 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-12-11 22:13:43
End at: 2019-12-11 22:14:13
Local clock offset: -0.006 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2019-12-12 02:53:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 603.47 Mbit/s
95th percentile per-packet one-way delay: 78.553 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 386.43 Mbit/s
95th percentile per-packet one-way delay: 80.540 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 199.57 Mbit/s
95th percentile per-packet one-way delay: 62.629 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 253.35 Mbit/s
95th percentile per-packet one-way delay: 65.764 ms
Loss rate: 0.00%
```
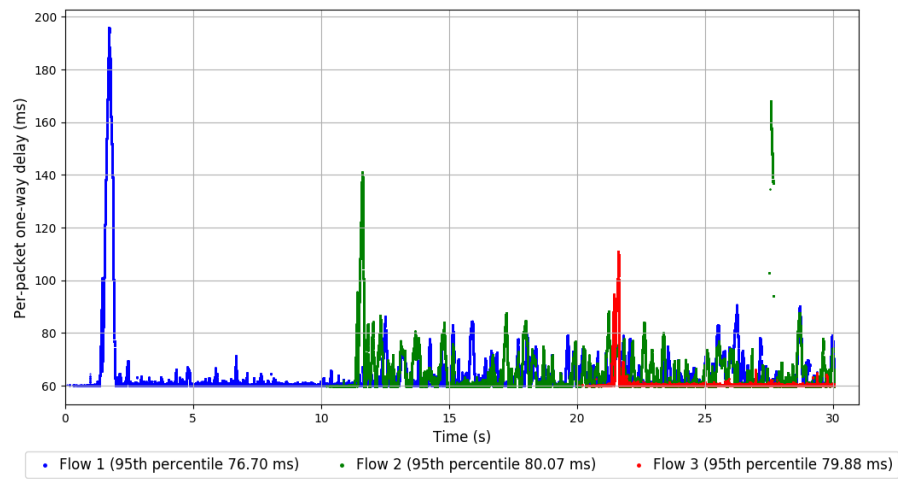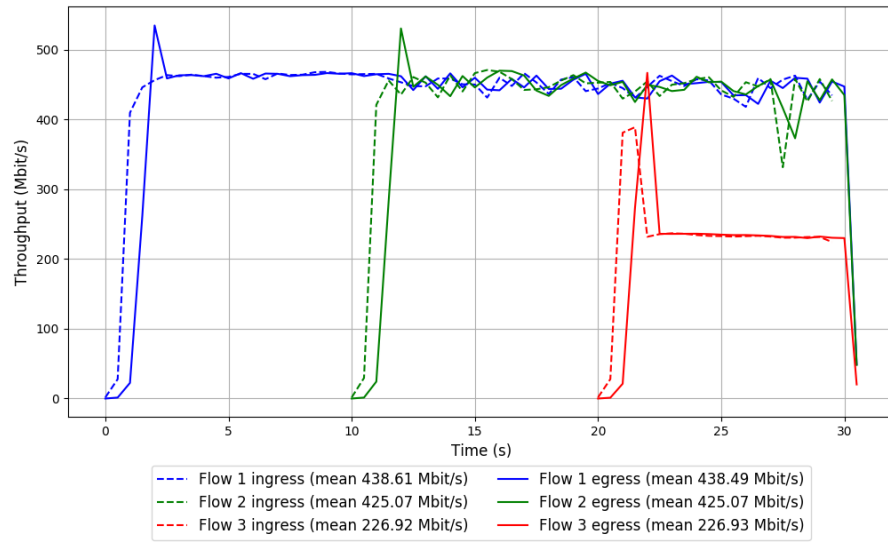
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 386.35 Mbit/s) --- Flow 1 egress (mean 386.43 Mbit/s)
Flow 2 ingress (mean 199.57 Mbit/s) --- Flow 2 egress (mean 199.57 Mbit/s)
Flow 3 ingress (mean 253.35 Mbit/s) --- Flow 3 egress (mean 253.35 Mbit/s)

Flow 1 (95th percentile 80.54 ms)   Flow 2 (95th percentile 62.63 ms)   Flow 3 (95th percentile 65.76 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-12-11 22:54:38
End at: 2019-12-11 22:55:08
Local clock offset: -0.024 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 797.00 Mbit/s
95th percentile per-packet one-way delay: 78.352 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 438.49 Mbit/s
95th percentile per-packet one-way delay: 76.698 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 425.07 Mbit/s
95th percentile per-packet one-way delay: 80.070 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 226.93 Mbit/s
95th percentile per-packet one-way delay: 79.884 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 438.61 Mbit/s) ---- Flow 1 egress (mean 438.49 Mbit/s) ——
Flow 2 ingress (mean 425.07 Mbit/s) ---- Flow 2 egress (mean 425.07 Mbit/s) ——
Flow 3 ingress (mean 226.92 Mbit/s) ---- Flow 3 egress (mean 226.93 Mbit/s) ——

Flow 1 (95th percentile 76.70 ms)　　Flow 2 (95th percentile 80.07 ms)　　Flow 3 (95th percentile 79.88 ms)
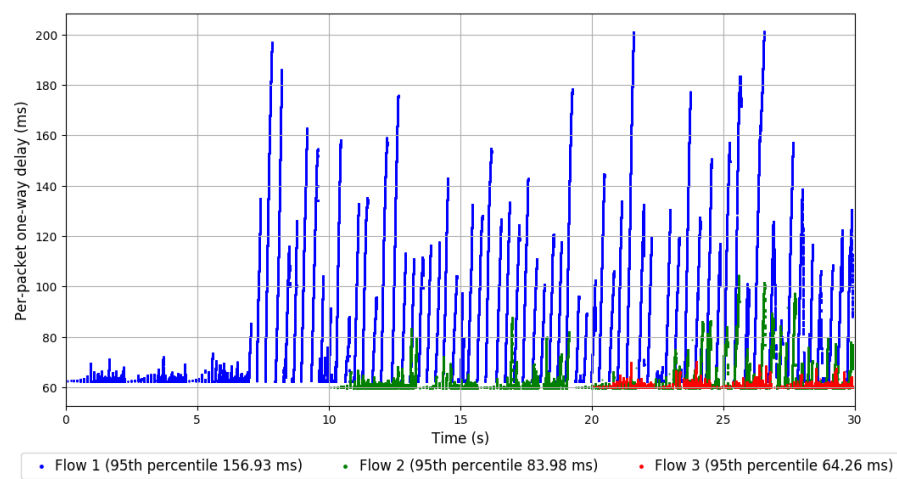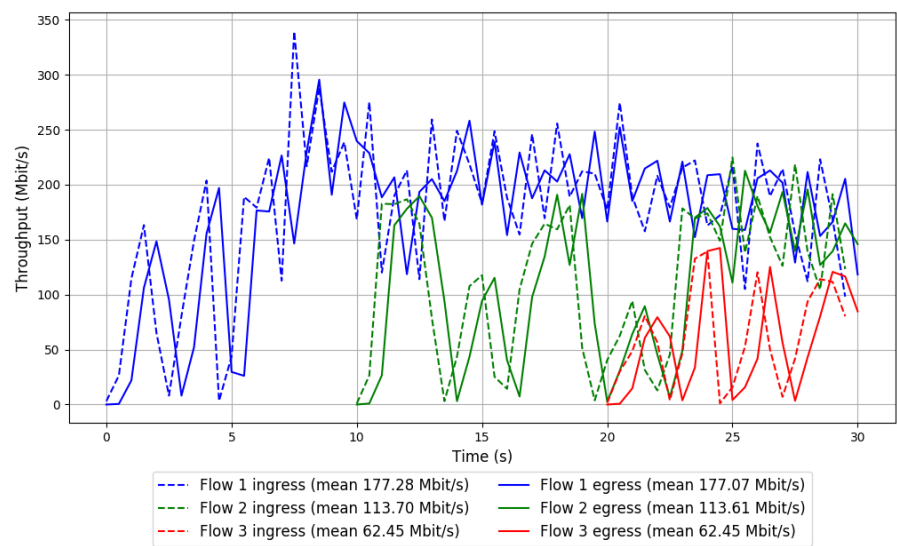
```
Run 1: Statistics of Verus

Start at: 2019-12-11 20:17:09
End at: 2019-12-11 20:17:39
Local clock offset: -0.077 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 249.63 Mbit/s
95th percentile per-packet one-way delay: 150.986 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 113.73 Mbit/s
95th percentile per-packet one-way delay: 80.849 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 126.58 Mbit/s
95th percentile per-packet one-way delay: 198.228 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 157.25 Mbit/s
95th percentile per-packet one-way delay: 139.787 ms
Loss rate: 0.10%
```

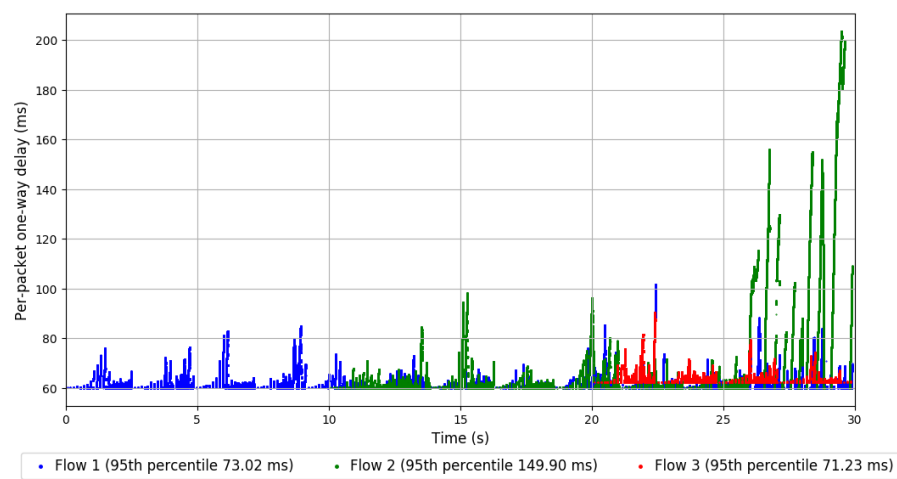Run 1: Report of Verus — Data Link
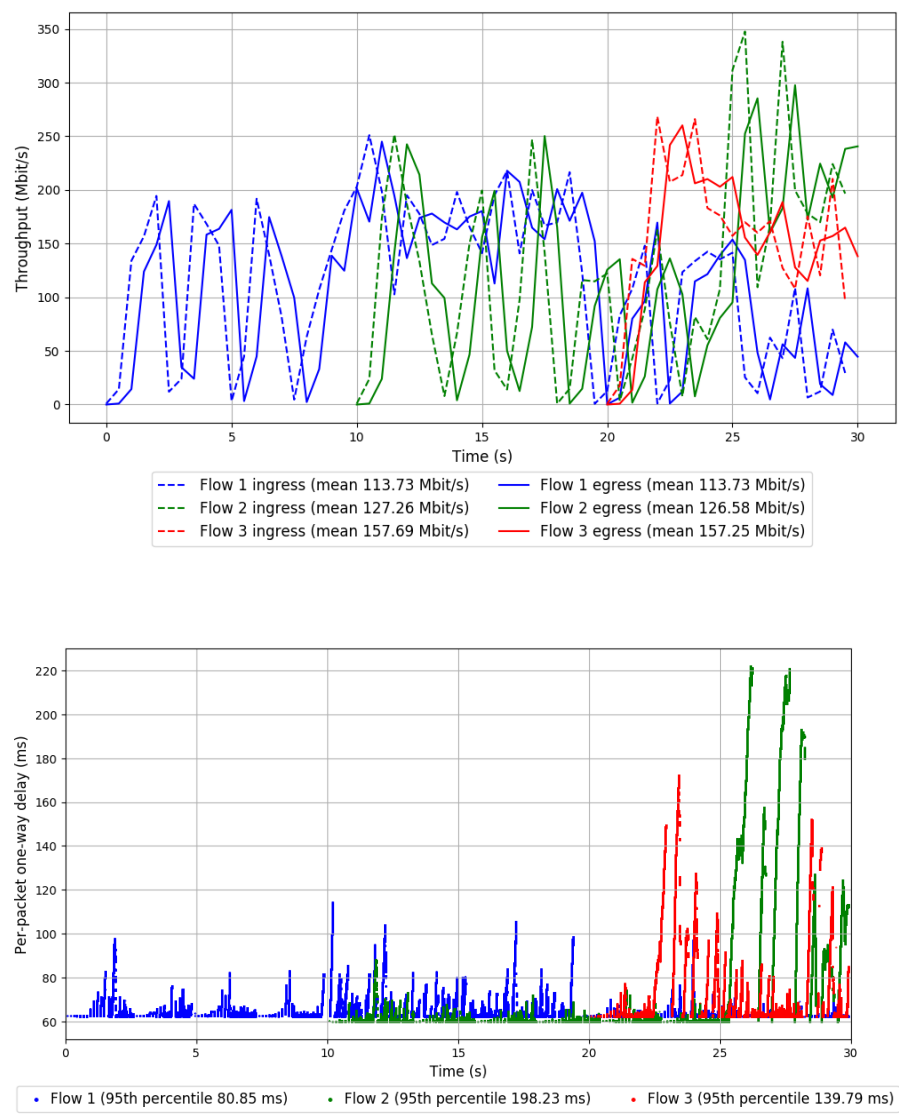
```
Run 2: Statistics of Verus

Start at: 2019-12-11 20:58:09
End at: 2019-12-11 20:58:39
Local clock offset: -0.019 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 273.15 Mbit/s
95th percentile per-packet one-way delay: 146.840 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 177.07 Mbit/s
95th percentile per-packet one-way delay: 156.925 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 113.61 Mbit/s
95th percentile per-packet one-way delay: 83.985 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 62.45 Mbit/s
95th percentile per-packet one-way delay: 64.260 ms
Loss rate: 0.00%
```

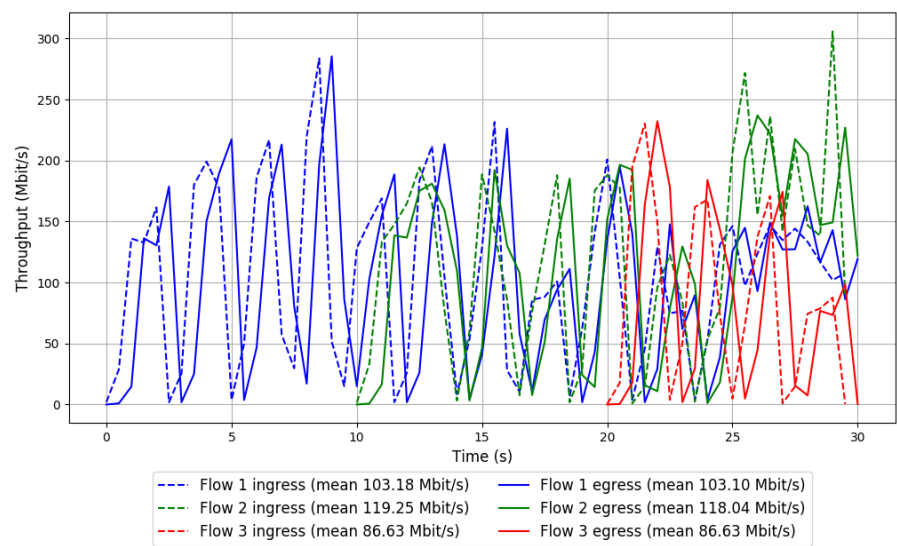## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-12-11 21:39:24
End at: 2019-12-11 21:39:54
Local clock offset: -0.065 ms
Remote clock offset: 0.186 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.80 Mbit/s
95th percentile per-packet one-way delay: 105.900 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 103.10 Mbit/s
95th percentile per-packet one-way delay: 73.016 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 118.04 Mbit/s
95th percentile per-packet one-way delay: 149.903 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 86.63 Mbit/s
95th percentile per-packet one-way delay: 71.230 ms
Loss rate: 0.00%
```

Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 103.18 Mbit/s)   Flow 1 egress (mean 103.10 Mbit/s)
Flow 2 ingress (mean 119.25 Mbit/s)   Flow 2 egress (mean 118.04 Mbit/s)
Flow 3 ingress (mean 86.63 Mbit/s)   Flow 3 egress (mean 86.63 Mbit/s)

Flow 1 (95th percentile 73.02 ms)   Flow 2 (95th percentile 149.90 ms)   Flow 3 (95th percentile 71.23 ms)
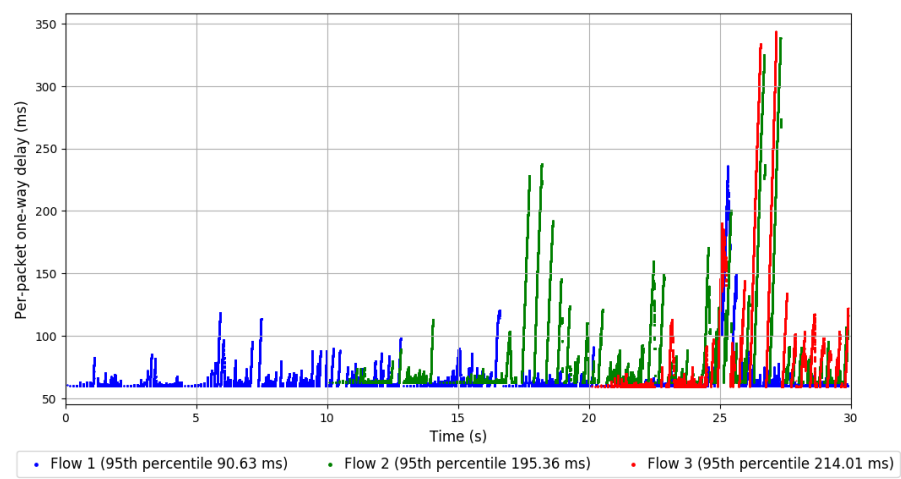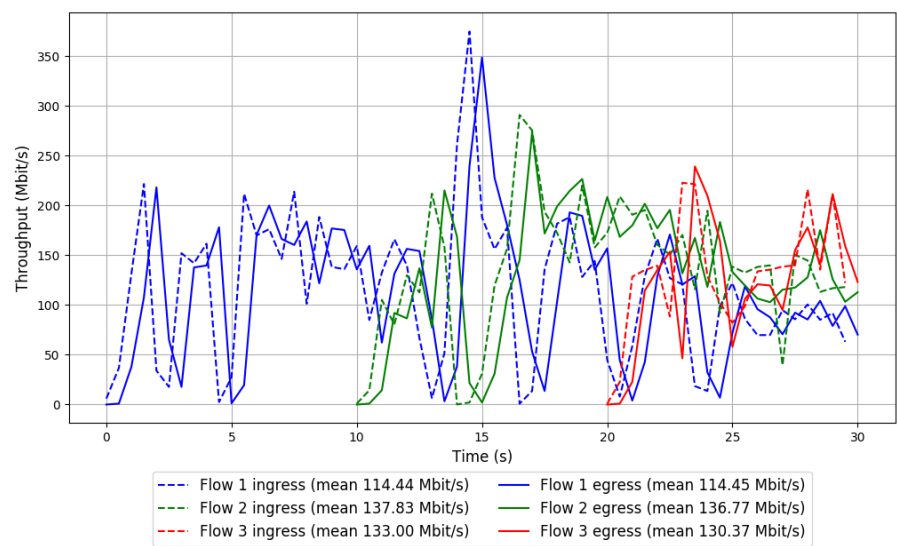
```
Run 4: Statistics of Verus

Start at: 2019-12-11 22:20:22
End at: 2019-12-11 22:20:52
Local clock offset: -0.032 ms
Remote clock offset: -0.12 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 275.89 Mbit/s
95th percentile per-packet one-way delay: 167.266 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 161.99 Mbit/s
95th percentile per-packet one-way delay: 167.492 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 140.06 Mbit/s
95th percentile per-packet one-way delay: 175.319 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 63.28 Mbit/s
95th percentile per-packet one-way delay: 107.970 ms
Loss rate: 0.00%
```

Run 4: Report of Verus — Data Link
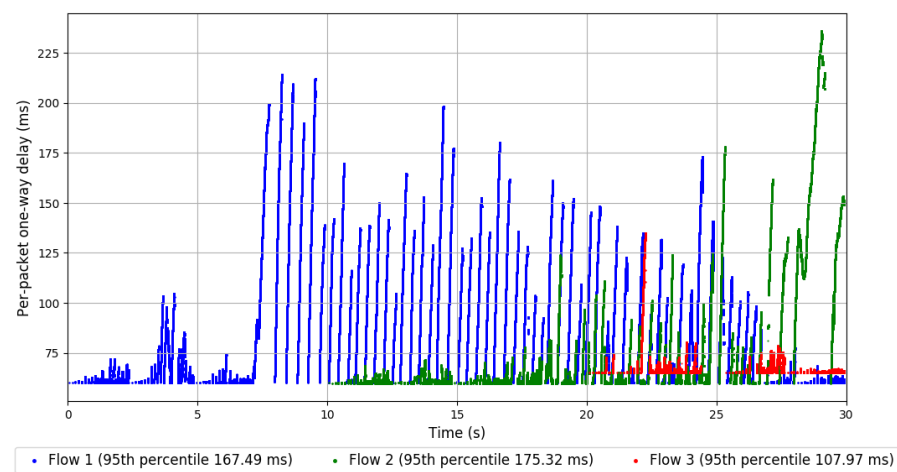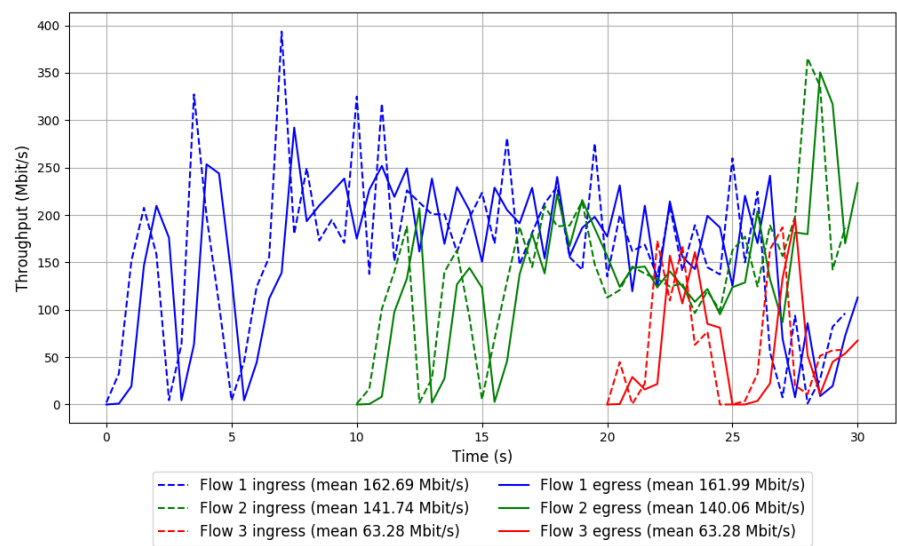
```
Run 5: Statistics of Verus

Start at: 2019-12-11 23:01:29
End at: 2019-12-11 23:01:59
Local clock offset: -0.053 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 248.11 Mbit/s
95th percentile per-packet one-way delay: 160.407 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 114.45 Mbit/s
95th percentile per-packet one-way delay: 90.634 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 136.77 Mbit/s
95th percentile per-packet one-way delay: 195.358 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 130.37 Mbit/s
95th percentile per-packet one-way delay: 214.010 ms
Loss rate: 1.95%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-12-11 20:23:35
End at: 2019-12-11 20:24:05
Local clock offset: -0.04 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2019-12-12 03:00:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 273.38 Mbit/s
95th percentile per-packet one-way delay: 68.439 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.86 Mbit/s
95th percentile per-packet one-way delay: 63.193 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 249.91 Mbit/s
95th percentile per-packet one-way delay: 71.224 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 161.77 Mbit/s
95th percentile per-packet one-way delay: 64.668 ms
Loss rate: 0.00%
```

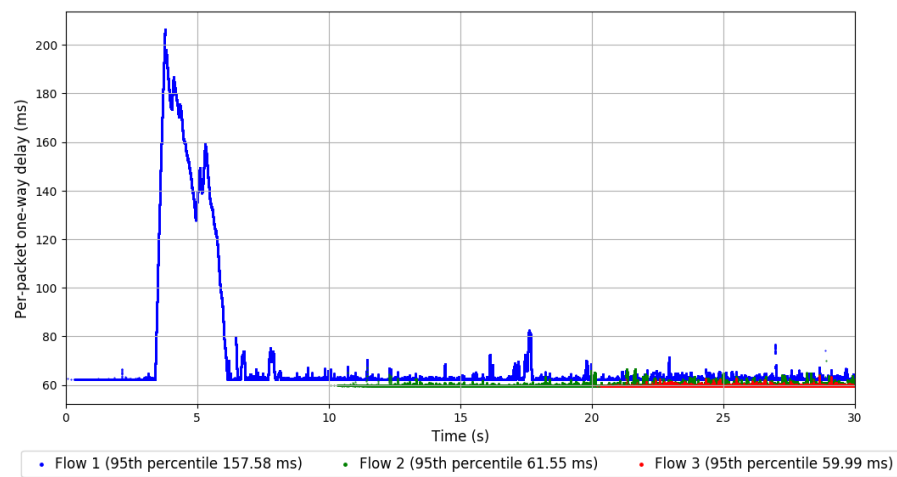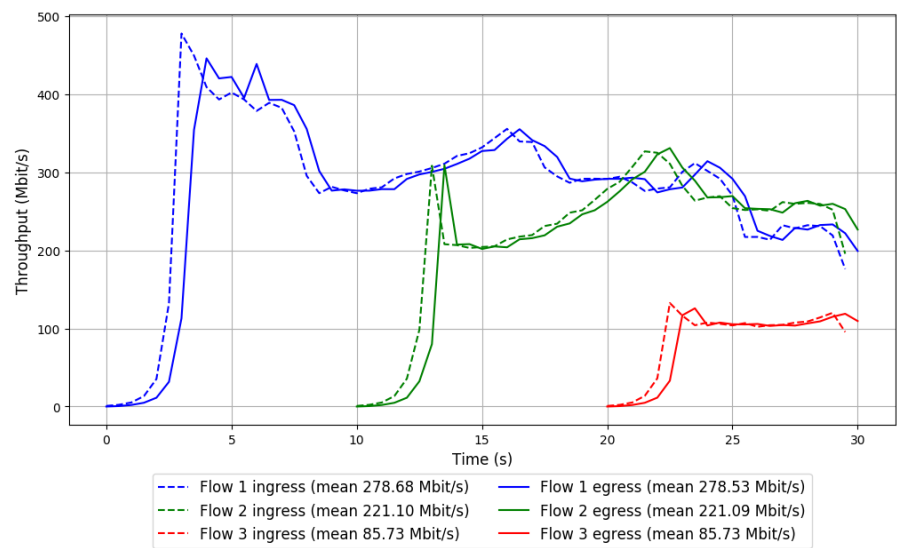Run 1: Report of PCC-Vivace — Data Link
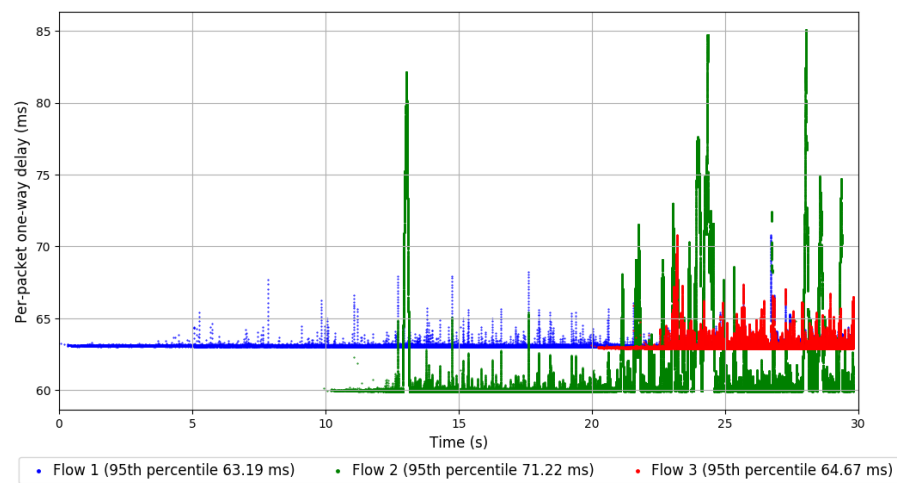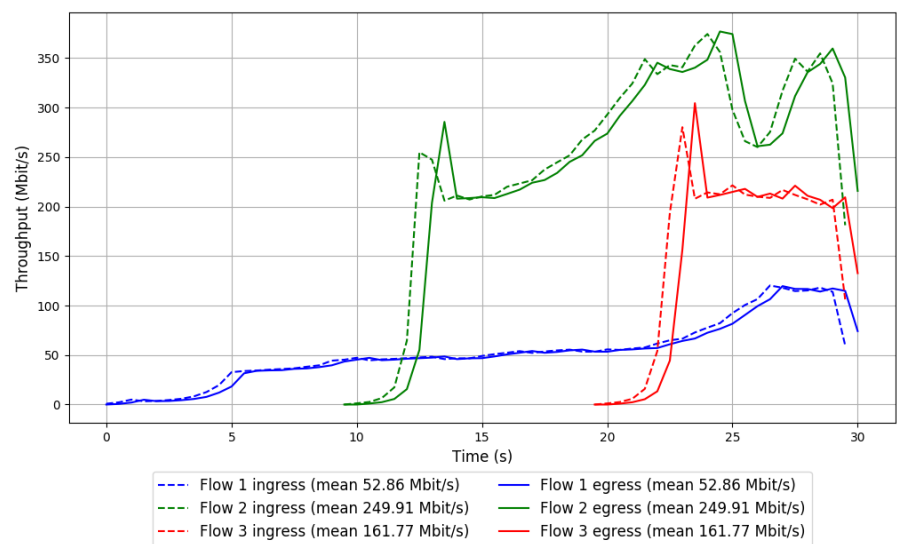
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-12-11 21:04:29
End at: 2019-12-11 21:04:59
Local clock offset: -0.043 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2019-12-12 03:01:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 453.87 Mbit/s
95th percentile per-packet one-way delay: 140.440 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 278.53 Mbit/s
95th percentile per-packet one-way delay: 157.580 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 221.09 Mbit/s
95th percentile per-packet one-way delay: 61.546 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 85.73 Mbit/s
95th percentile per-packet one-way delay: 59.990 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 278.68 Mbit/s) --- Flow 1 egress (mean 278.53 Mbit/s)
Flow 2 ingress (mean 221.10 Mbit/s) --- Flow 2 egress (mean 221.09 Mbit/s)
Flow 3 ingress (mean 85.73 Mbit/s) --- Flow 3 egress (mean 85.73 Mbit/s)

Flow 1 (95th percentile 157.58 ms) • Flow 2 (95th percentile 61.55 ms) • Flow 3 (95th percentile 59.99 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-12-11 21:45:45
End at: 2019-12-11 21:46:15
Local clock offset: -0.093 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-12-12 03:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 468.99 Mbit/s
95th percentile per-packet one-way delay: 177.142 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 264.19 Mbit/s
95th percentile per-packet one-way delay: 66.126 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 223.53 Mbit/s
95th percentile per-packet one-way delay: 193.895 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 168.41 Mbit/s
95th percentile per-packet one-way delay: 64.992 ms
Loss rate: 0.00%
```

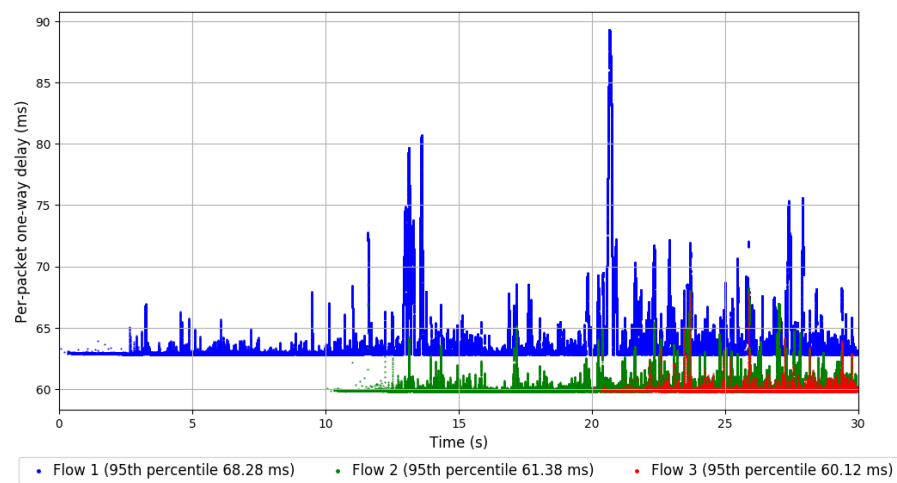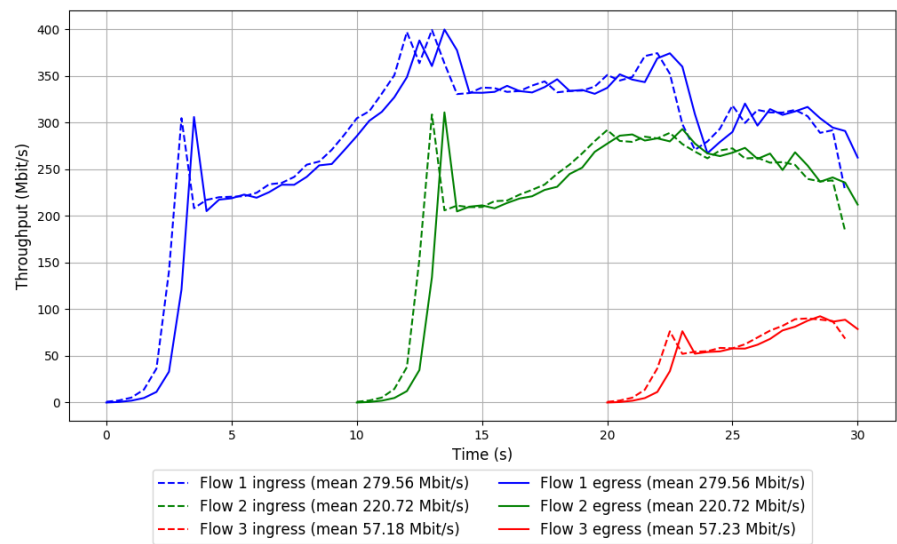# Run 3: Report of PCC-Vivace — Data Link
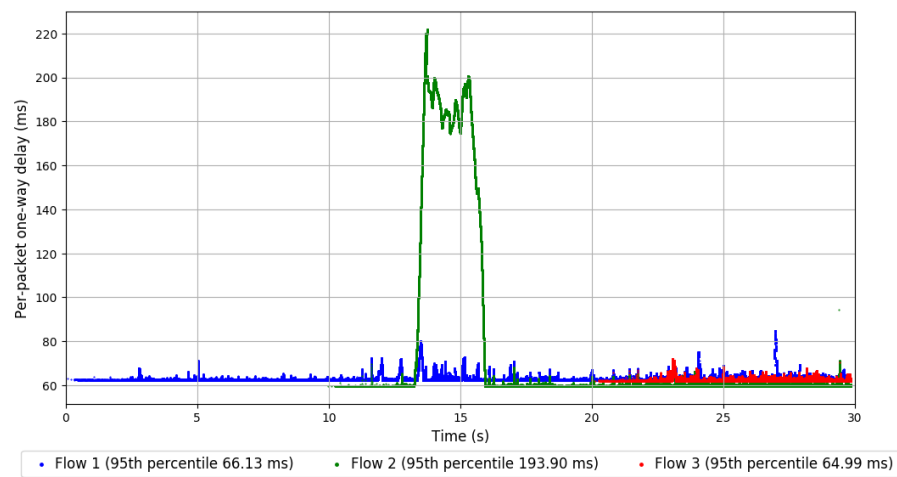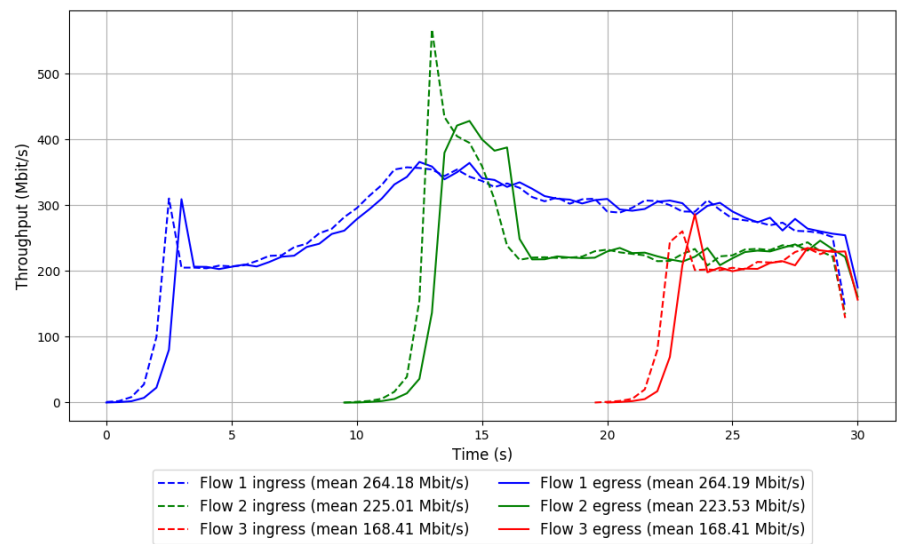
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-12-11 22:26:46
End at: 2019-12-11 22:27:16
Local clock offset: 0.032 ms
Remote clock offset: -0.077 ms


# Below is generated by plot.py at 2019-12-12 03:01:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 445.20 Mbit/s
95th percentile per-packet one-way delay: 66.544 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 279.56 Mbit/s
95th percentile per-packet one-way delay: 68.284 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 220.72 Mbit/s
95th percentile per-packet one-way delay: 61.379 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 60.120 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 279.56 Mbit/s) — — — Flow 1 egress (mean 279.56 Mbit/s)
Flow 2 ingress (mean 220.72 Mbit/s) — — — Flow 2 egress (mean 220.72 Mbit/s)
Flow 3 ingress (mean 57.18 Mbit/s) — — — Flow 3 egress (mean 57.23 Mbit/s)

Flow 1 (95th percentile 68.28 ms) · Flow 2 (95th percentile 61.38 ms) · Flow 3 (95th percentile 60.12 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-12-11 23:07:49
End at: 2019-12-11 23:08:19
Local clock offset: -0.044 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.29 Mbit/s
95th percentile per-packet one-way delay: 78.084 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 304.26 Mbit/s
95th percentile per-packet one-way delay: 88.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 215.55 Mbit/s
95th percentile per-packet one-way delay: 65.420 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 172.03 Mbit/s
95th percentile per-packet one-way delay: 65.869 ms
Loss rate: 0.04%
```

Run 5: Report of PCC-Vivace — Data Link
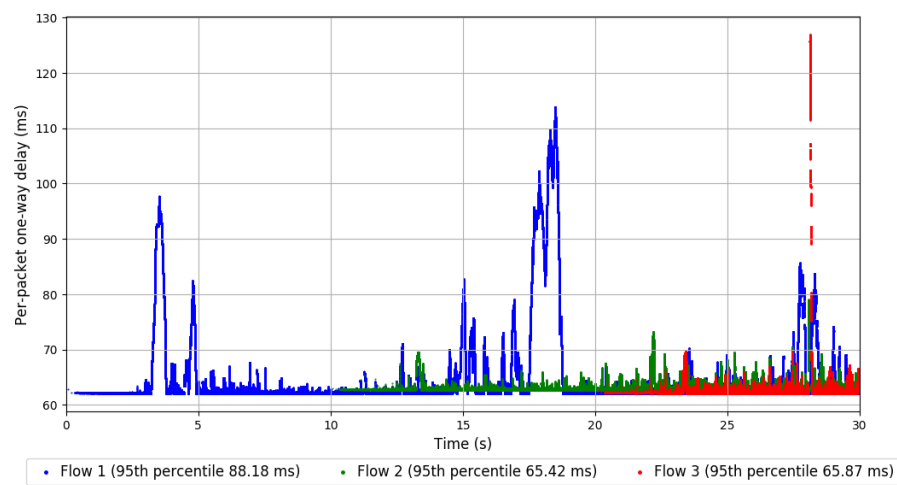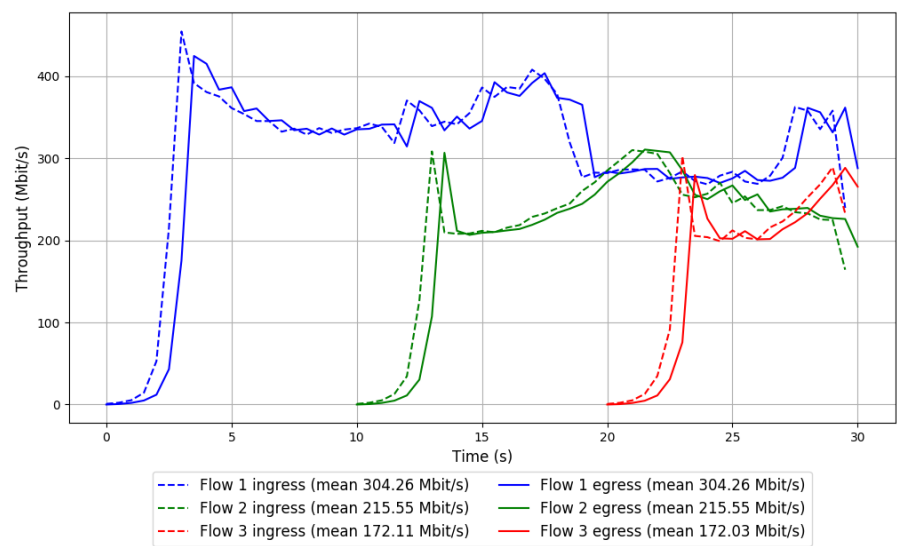
```
Run 1: Statistics of WebRTC media

Start at: 2019-12-11 20:34:06
End at: 2019-12-11 20:34:36
Local clock offset: -0.079 ms
Remote clock offset: -0.185 ms


# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 62.120 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 59.708 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 59.997 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 62.164 ms
Loss rate: 0.00%
```

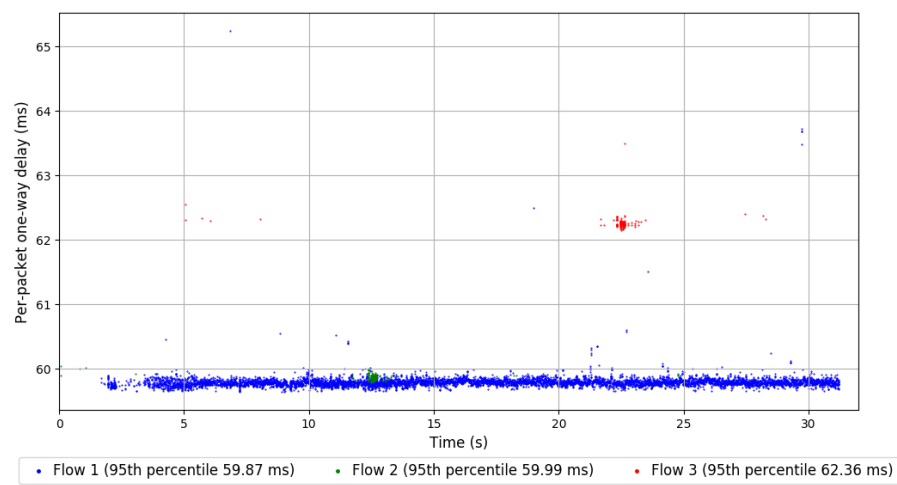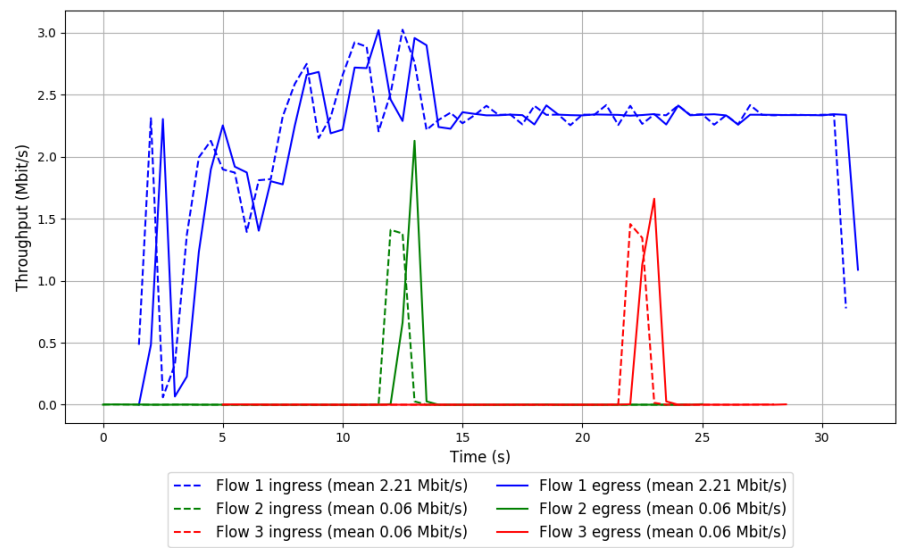## Run 1: Report of WebRTC media — Data Link
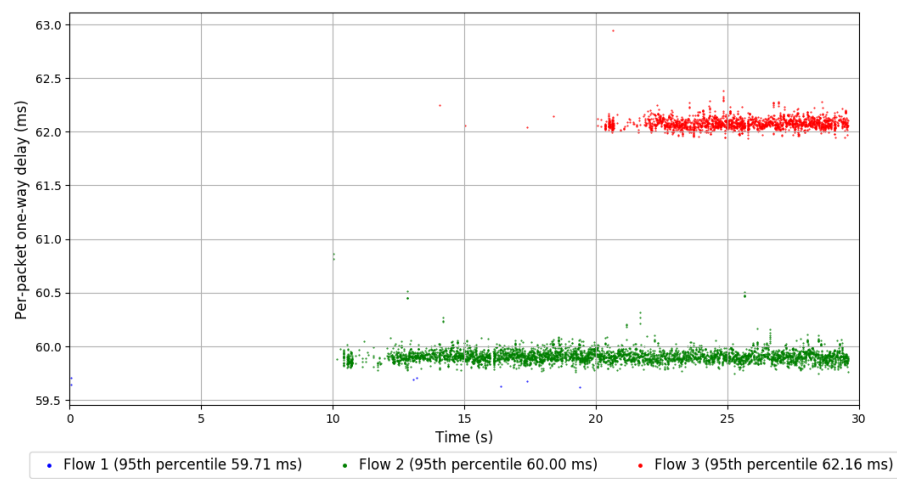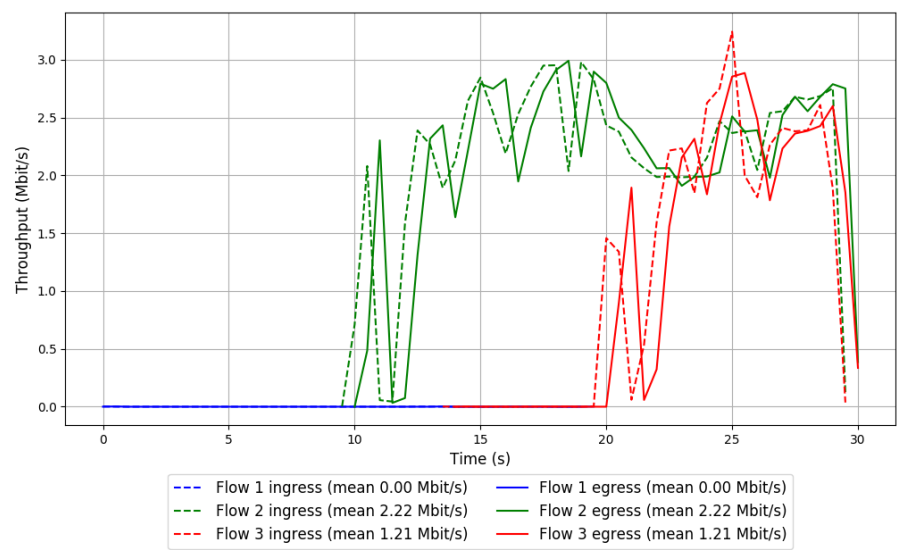
```
Run 2: Statistics of WebRTC media

Start at: 2019-12-11 21:15:12
End at: 2019-12-11 21:15:42
Local clock offset: -0.026 ms
Remote clock offset: -0.113 ms


# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 59.899 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 59.874 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 59.989 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 62.360 ms
Loss rate: 0.00%
```

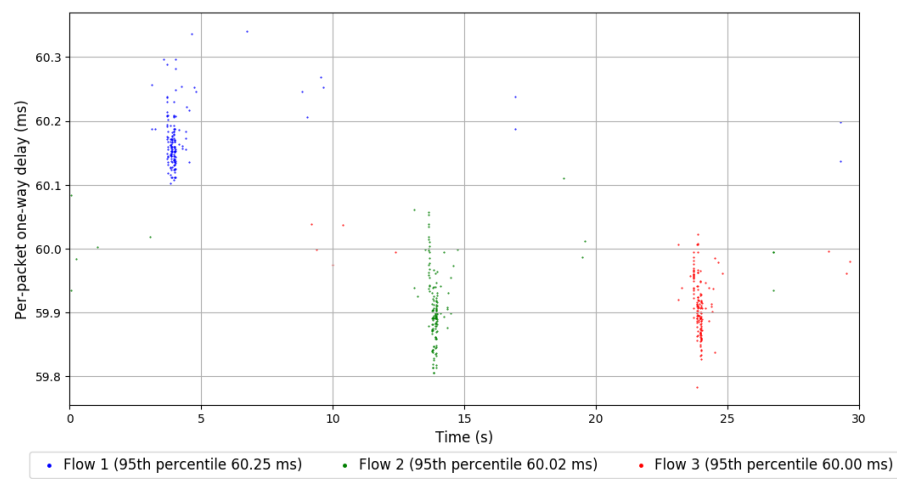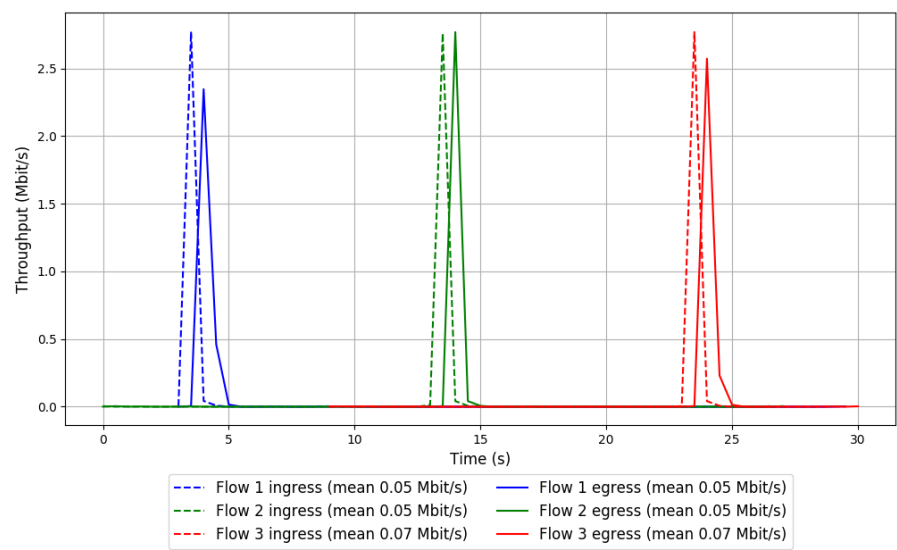Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-12-11 21:56:15
End at: 2019-12-11 21:56:45
Local clock offset: -0.073 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 60.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.254 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.019 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 59.998 ms
Loss rate: 0.00%
```

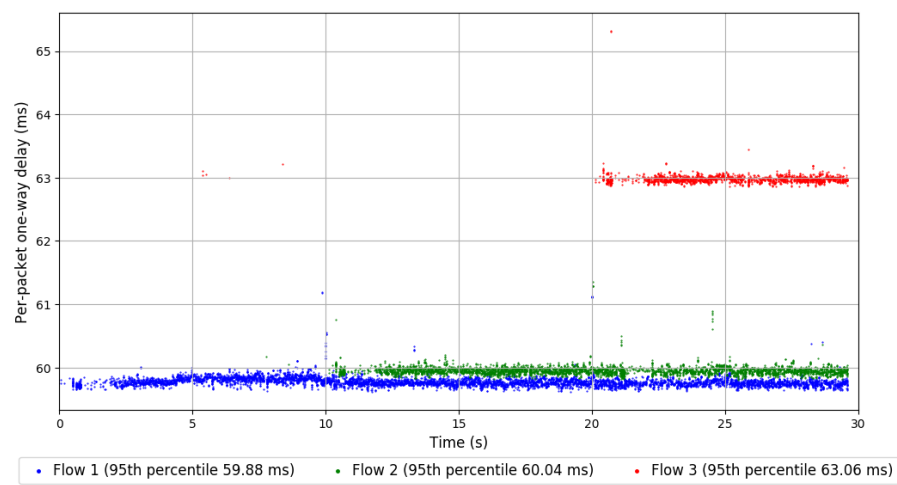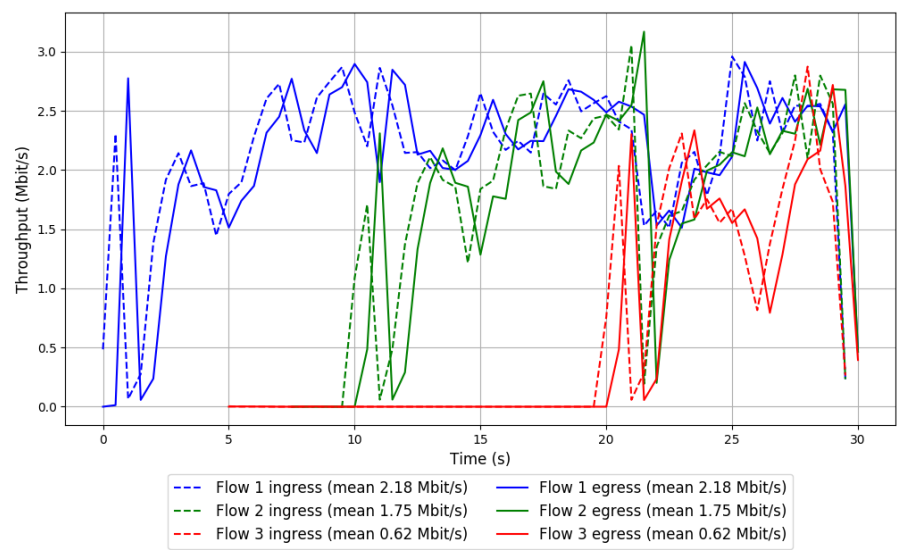Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-12-11 22:37:27
End at: 2019-12-11 22:37:57
Local clock offset: -0.0 ms
Remote clock offset: -0.123 ms


# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 62.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 59.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 60.041 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 63.057 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-12-11 23:18:38
End at: 2019-12-11 23:19:08
Local clock offset: -0.004 ms
Remote clock offset: -0.105 ms


# Below is generated by plot.py at 2019-12-12 03:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 62.289 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.324 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 59.925 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 59.721 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link