Pantheon Report

Generated at 2019-11-24 21:18:16 (UTC).

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

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.
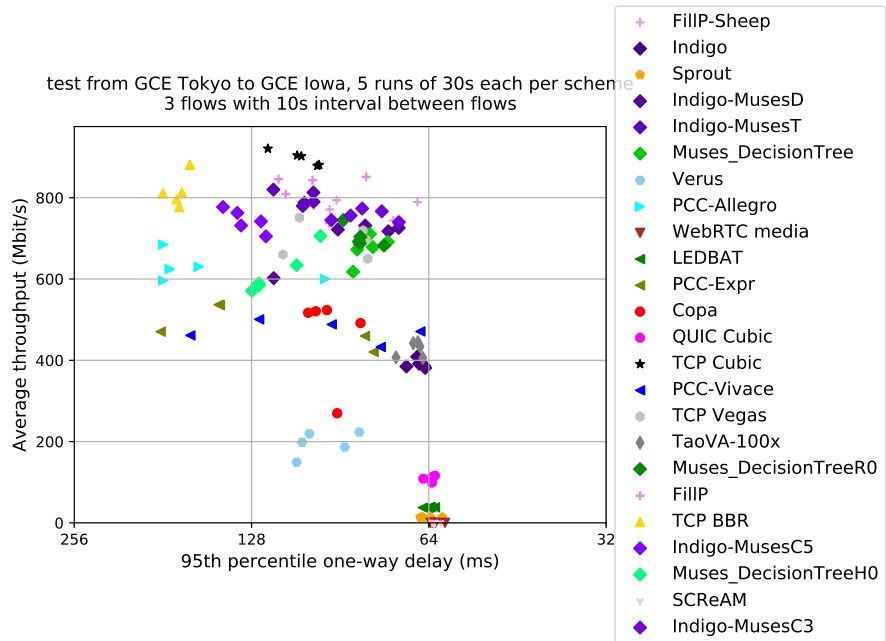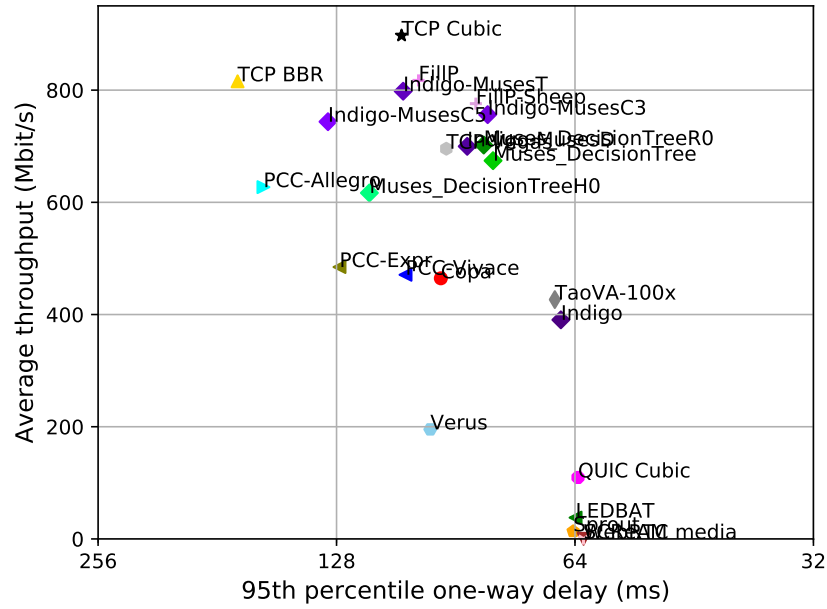
```
System info:
Linux 4.15.0-1044-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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

test from GCE Tokyo to GCE Iowa, 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	414.16	426.38	358.33	147.02	181.79	111.31	0.79	1.28	1.55
Copa	5	219.85	265.90	206.67	92.65	90.47	90.39	0.31	0.63	1.43
TCP Cubic	5	469.48	438.99	412.44	97.16	99.29	128.55	0.42	0.70	1.59
FillP	5	512.19	340.77	240.63	107.58	67.06	64.74	0.87	0.53	1.45
FillP-Sheep	5	490.85	310.75	240.03	91.46	68.10	64.89	0.39	0.51	1.39
Indigo	5	211.81	186.30	164.97	66.58	66.02	65.99	0.43	0.67	1.44
Indigo-MusesC3	5	445.72	378.81	268.26	87.07	77.03	67.02	0.31	0.57	2.04
Indigo-MusesC5	5	464.23	381.00	144.35	142.20	89.48	63.51	0.34	0.60	1.95
Indigo-MusesD	5	404.60	363.13	249.10	96.84	78.30	64.48	0.33	0.64	2.16
Indigo-MusesT	5	471.89	401.98	274.52	113.07	85.16	71.43	0.35	0.58	1.95
LEDBAT	5	24.29	16.56	8.26	63.00	62.90	61.32	0.82	1.23	2.46
Muses_DecisionTree	5	401.84	304.12	226.10	87.04	72.73	72.32	0.34	0.63	1.35
Muses_DecisionTreeH0	5	340.62	294.79	258.93	127.83	99.20	84.63	0.50	0.37	2.05
Muses_DecisionTreeR0	5	414.21	338.94	204.41	91.46	70.33	68.41	0.29	0.58	1.97
PCC-Allegro	5	359.06	289.80	233.88	166.17	114.56	91.34	2.10	1.27	1.46
PCC-Expr	5	269.19	231.85	188.26	131.56	97.91	110.85	1.42	1.06	1.95
QUIC Cubic	5	60.66	58.50	23.31	62.41	62.12	61.67	0.58	0.73	2.05
SCReAM	5	0.22	0.22	0.22	61.23	62.38	60.71	0.38	0.61	1.23
Sprout	5	6.88	6.88	6.64	63.47	62.34	62.41	0.49	0.64	1.36
TaoVA-100x	5	223.98	213.48	184.38	66.55	67.55	70.51	0.42	0.62	1.55
TCP Vegas	5	346.41	346.73	359.98	79.84	92.09	98.41	0.34	0.60	1.24
Verus	5	93.04	121.07	70.01	84.52	106.00	94.45	0.21	0.73	0.31
PCC-Vivace	5	263.39	230.39	166.80	109.34	82.75	82.82	0.60	0.68	1.60
WebRTC media	5	0.05	0.07	0.05	62.60	60.69	60.97	0.00	0.01	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-11-24 15:25:35
End at: 2019-11-24 15:26:05
Local clock offset: -0.183 ms
Remote clock offset: 0.04 ms


# Below is generated by plot.py at 2019-11-24 18:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.07 Mbit/s
95th percentile per-packet one-way delay: 171.554 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 399.50 Mbit/s
95th percentile per-packet one-way delay: 149.919 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 440.64 Mbit/s
95th percentile per-packet one-way delay: 183.829 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 314.44 Mbit/s
95th percentile per-packet one-way delay: 65.347 ms
Loss rate: 1.28%
```
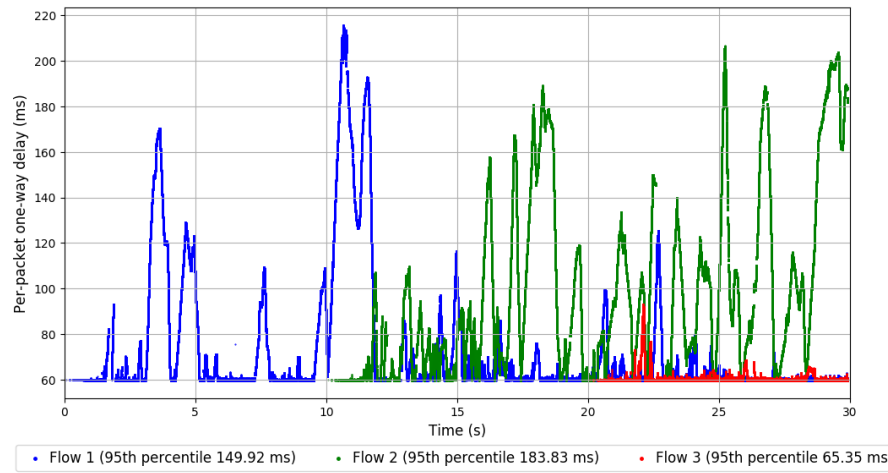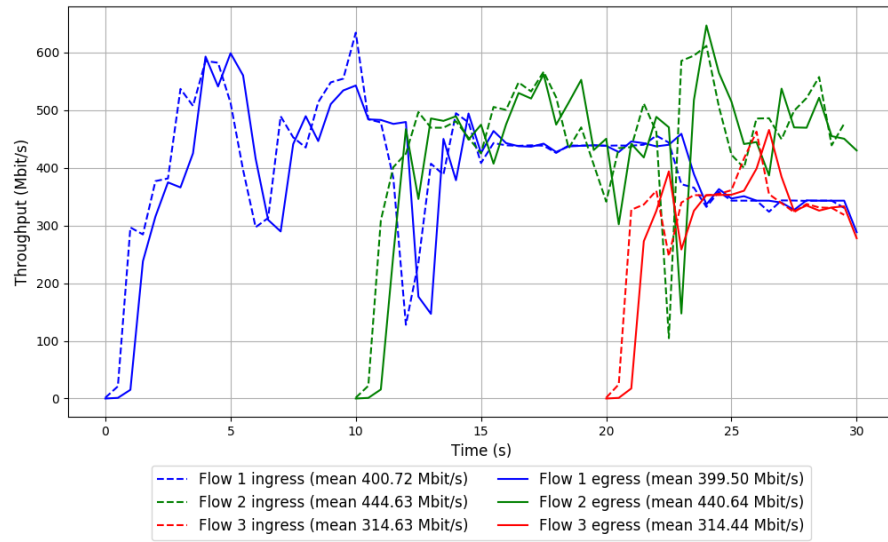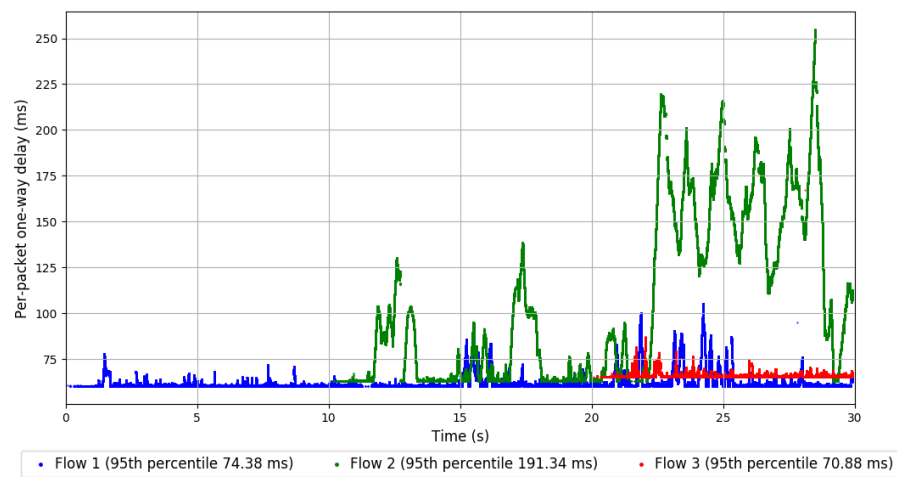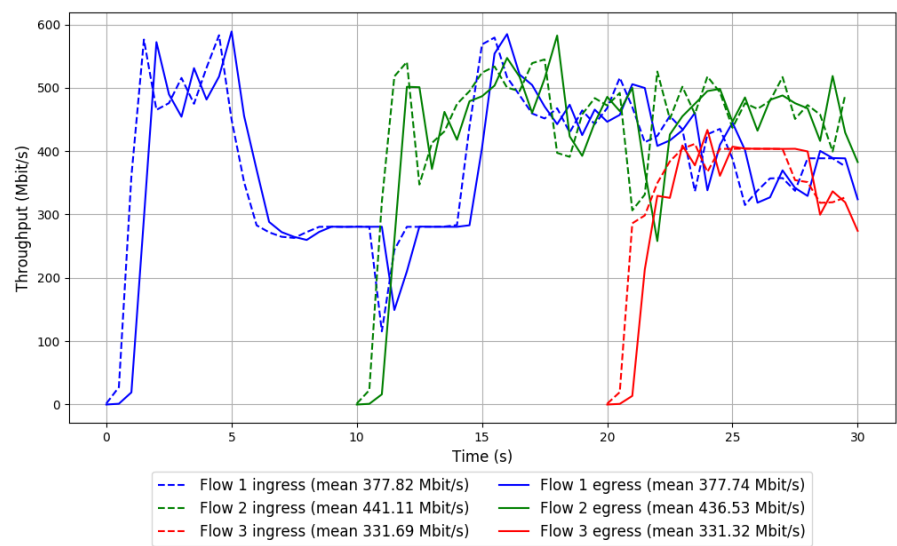
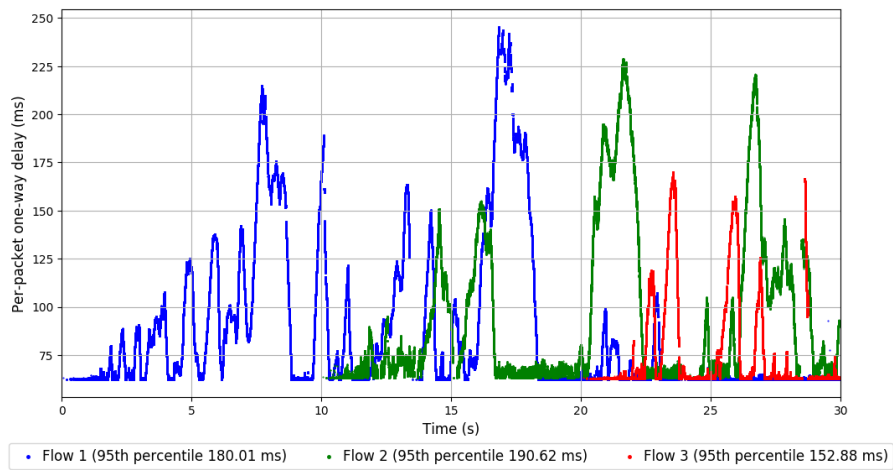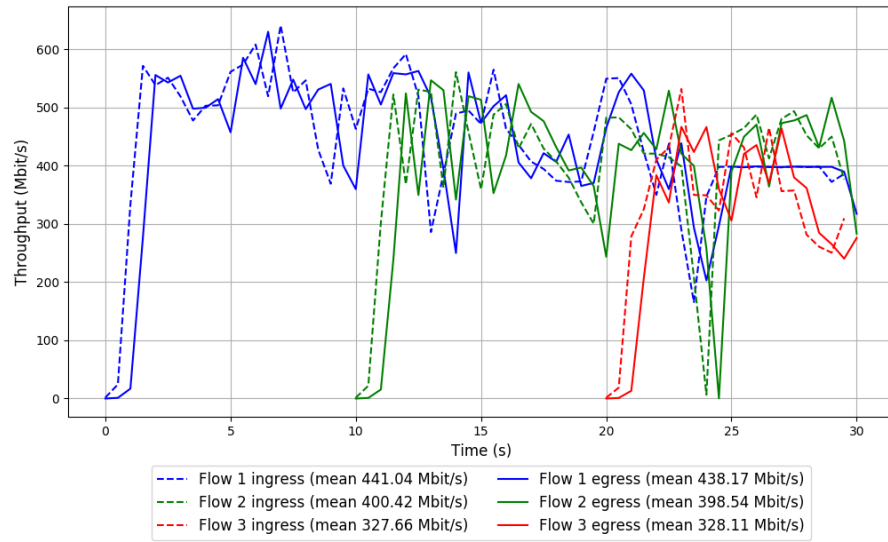Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-11-24 16:05:52
End at: 2019-11-24 16:06:22
Local clock offset: 0.405 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2019-11-24 18:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.11 Mbit/s
95th percentile per-packet one-way delay: 169.873 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 377.74 Mbit/s
95th percentile per-packet one-way delay: 74.383 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 436.53 Mbit/s
95th percentile per-packet one-way delay: 191.336 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 331.32 Mbit/s
95th percentile per-packet one-way delay: 70.876 ms
Loss rate: 1.41%
```

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-11-24 16:46:13
End at: 2019-11-24 16:46:43
Local clock offset: 0.754 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-11-24 18:48:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 811.26 Mbit/s
95th percentile per-packet one-way delay: 181.031 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 438.17 Mbit/s
95th percentile per-packet one-way delay: 180.012 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 398.54 Mbit/s
95th percentile per-packet one-way delay: 190.619 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 328.11 Mbit/s
95th percentile per-packet one-way delay: 152.880 ms
Loss rate: 1.11%
```
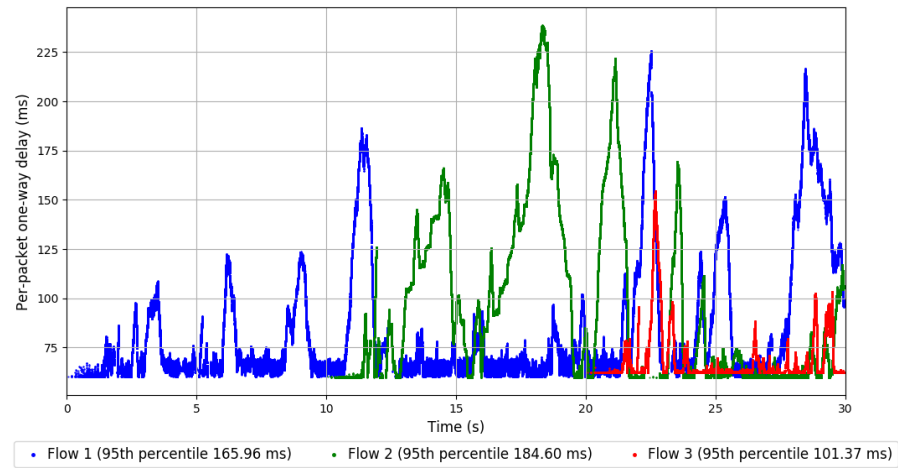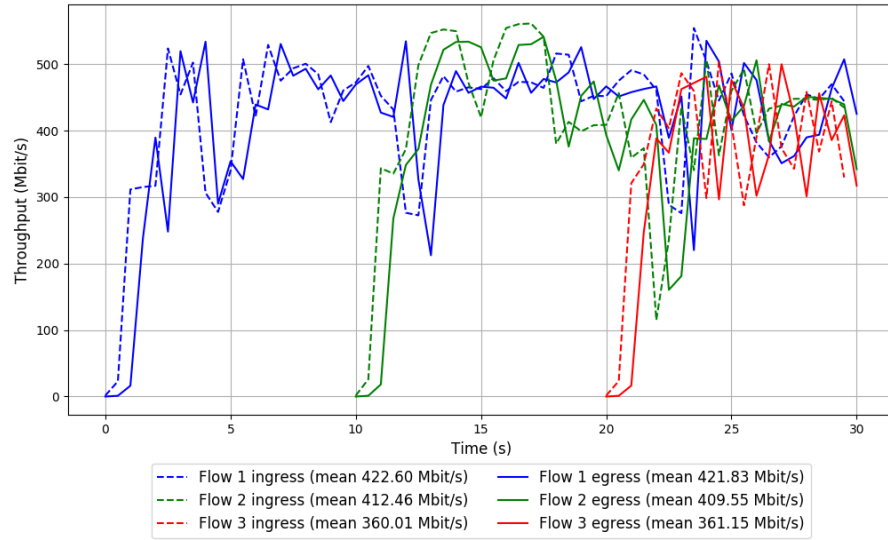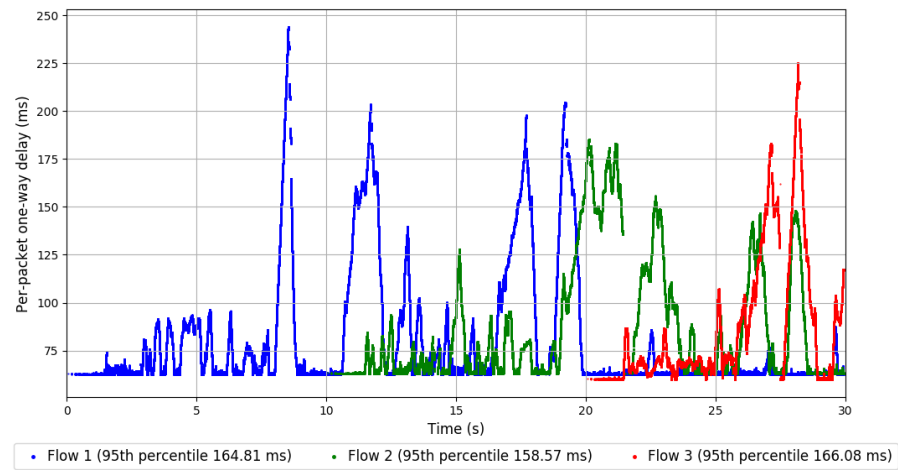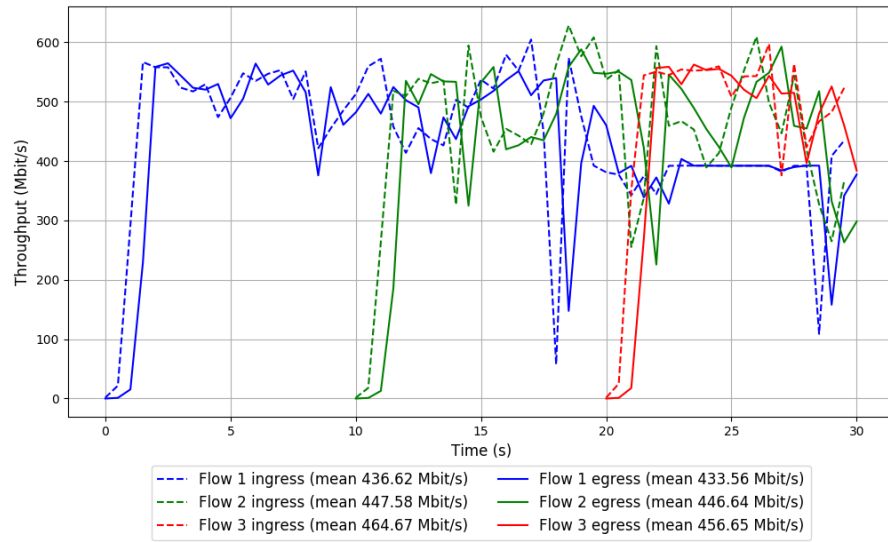
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 441.04 Mbit/s)   Flow 1 egress (mean 438.17 Mbit/s)
Flow 2 ingress (mean 400.42 Mbit/s)   Flow 2 egress (mean 398.54 Mbit/s)
Flow 3 ingress (mean 327.66 Mbit/s)   Flow 3 egress (mean 328.11 Mbit/s)

Flow 1 (95th percentile 180.01 ms)   Flow 2 (95th percentile 190.62 ms)   Flow 3 (95th percentile 152.88 ms)

10

```
Run 4: Statistics of TCP BBR

Start at: 2019-11-24 17:26:32
End at: 2019-11-24 17:27:02
Local clock offset: -0.126 ms
Remote clock offset: 0.07 ms


# Below is generated by plot.py at 2019-11-24 18:48:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 813.16 Mbit/s
95th percentile per-packet one-way delay: 168.023 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 421.83 Mbit/s
95th percentile per-packet one-way delay: 165.959 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 409.55 Mbit/s
95th percentile per-packet one-way delay: 184.596 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 361.15 Mbit/s
95th percentile per-packet one-way delay: 101.370 ms
Loss rate: 0.98%
```
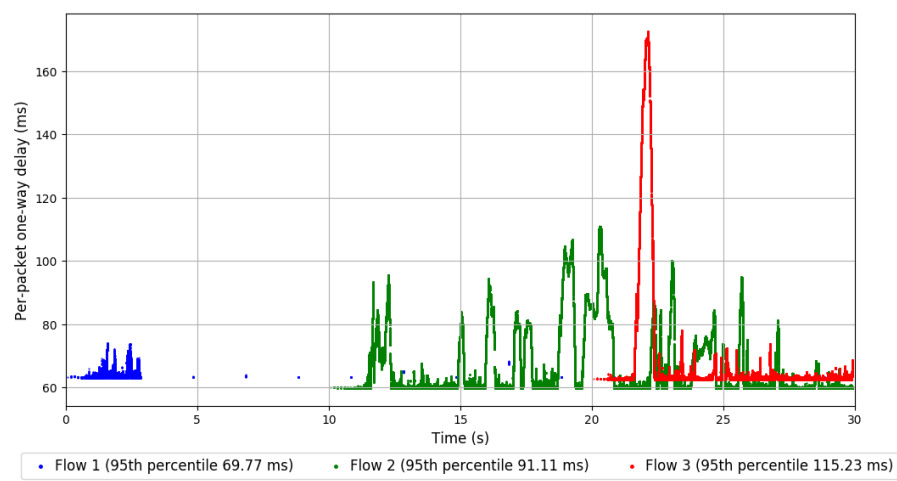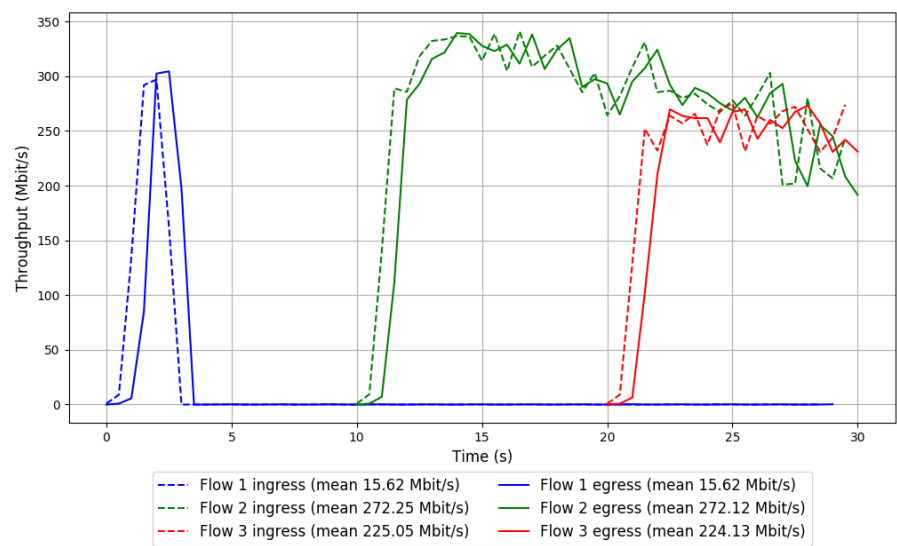
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 422.60 Mbit/s)   Flow 1 egress (mean 421.83 Mbit/s)
Flow 2 ingress (mean 412.46 Mbit/s)   Flow 2 egress (mean 409.55 Mbit/s)
Flow 3 ingress (mean 360.01 Mbit/s)   Flow 3 egress (mean 361.15 Mbit/s)

Flow 1 (95th percentile 165.96 ms)   Flow 2 (95th percentile 184.60 ms)   Flow 3 (95th percentile 101.37 ms)
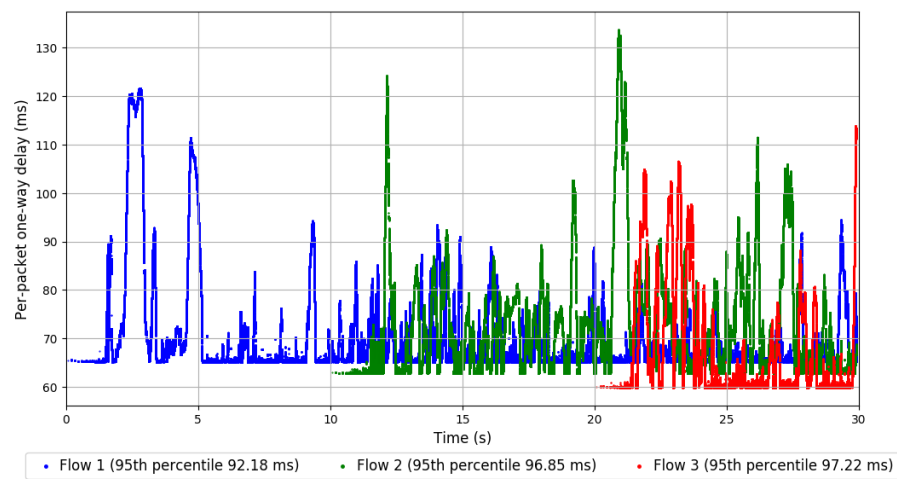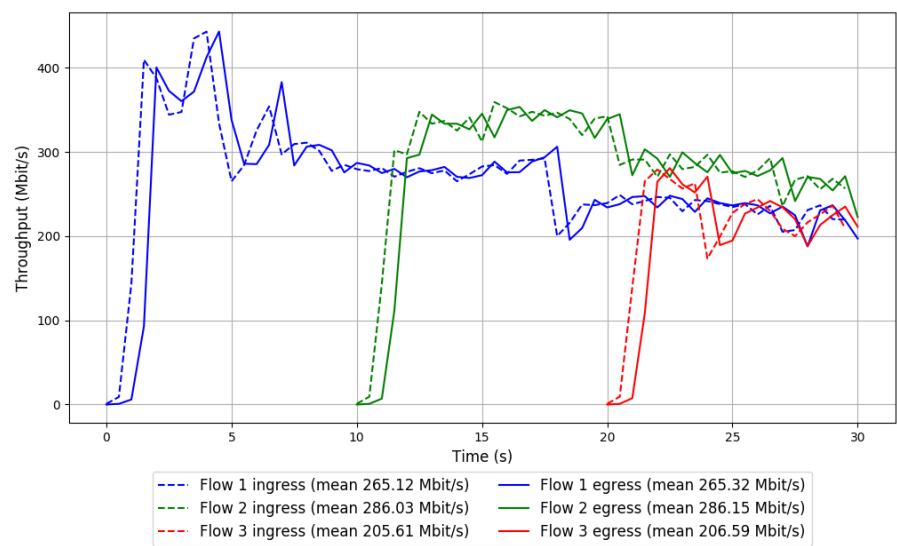
```
Run 5: Statistics of TCP BBR

Start at: 2019-11-24 18:07:04
End at: 2019-11-24 18:07:34
Local clock offset: -0.228 ms
Remote clock offset: -0.241 ms


# Below is generated by plot.py at 2019-11-24 18:49:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 881.05 Mbit/s
95th percentile per-packet one-way delay: 162.823 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 433.56 Mbit/s
95th percentile per-packet one-way delay: 164.806 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 446.64 Mbit/s
95th percentile per-packet one-way delay: 158.571 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 456.65 Mbit/s
95th percentile per-packet one-way delay: 166.077 ms
Loss rate: 2.95%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 436.62 Mbit/s)   — Flow 1 egress (mean 433.56 Mbit/s)
Flow 2 ingress (mean 447.58 Mbit/s)   — Flow 2 egress (mean 446.64 Mbit/s)
Flow 3 ingress (mean 464.67 Mbit/s)   — Flow 3 egress (mean 456.65 Mbit/s)

• Flow 1 (95th percentile 164.81 ms)   • Flow 2 (95th percentile 158.57 ms)   • Flow 3 (95th percentile 166.08 ms)
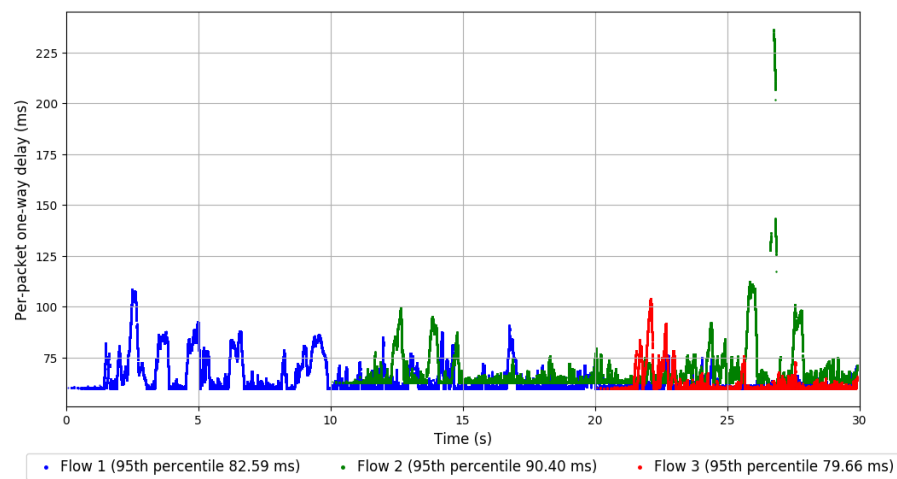
14

```
Run 1: Statistics of Copa

Start at: 2019-11-24 15:20:56
End at: 2019-11-24 15:21:26
Local clock offset: -0.381 ms
Remote clock offset: 0.001 ms


# Below is generated by plot.py at 2019-11-24 18:49:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 269.84 Mbit/s
95th percentile per-packet one-way delay: 91.575 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 69.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 272.12 Mbit/s
95th percentile per-packet one-way delay: 91.114 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 224.13 Mbit/s
95th percentile per-packet one-way delay: 115.232 ms
Loss rate: 1.63%
```
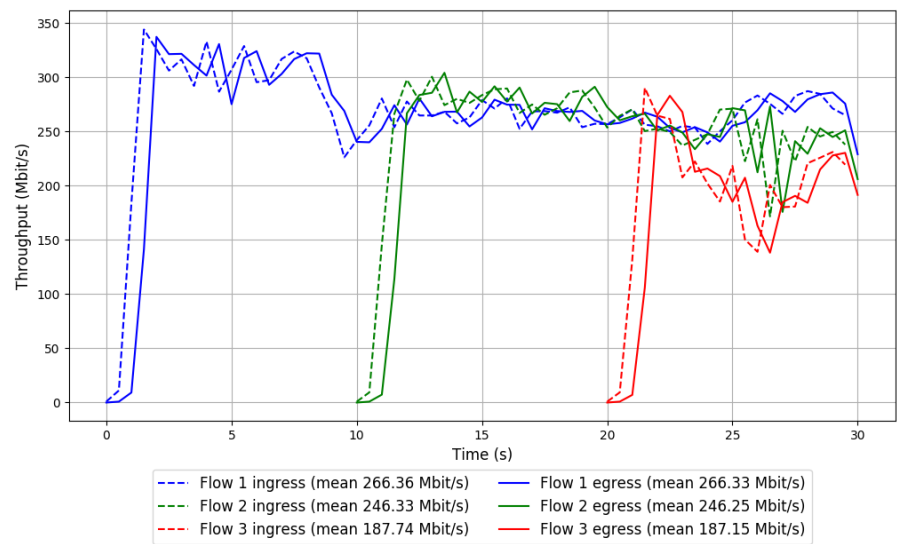
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-11-24 16:00:51
End at: 2019-11-24 16:01:21
Local clock offset: 0.353 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2019-11-24 18:51:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 523.62 Mbit/s
95th percentile per-packet one-way delay: 95.328 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 265.32 Mbit/s
95th percentile per-packet one-way delay: 92.180 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 286.15 Mbit/s
95th percentile per-packet one-way delay: 96.849 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 206.59 Mbit/s
95th percentile per-packet one-way delay: 97.216 ms
Loss rate: 0.74%
```
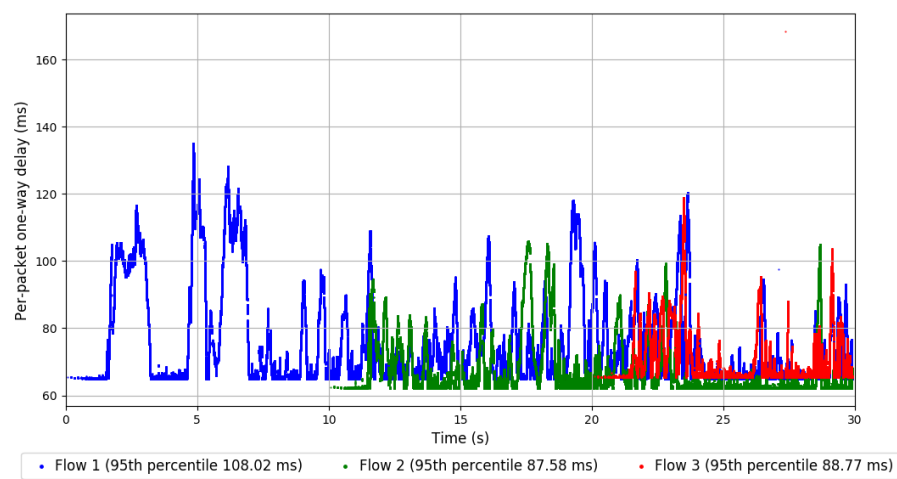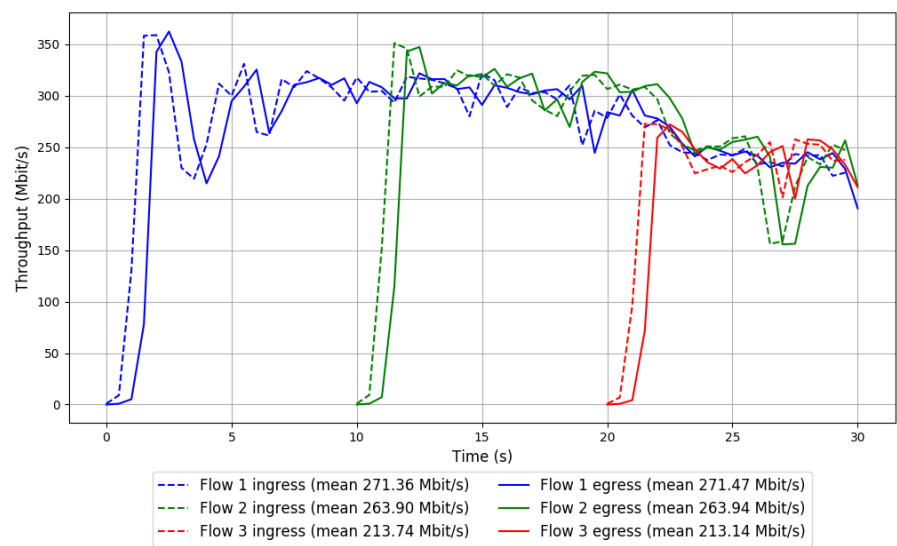
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-11-24 16:41:14
End at: 2019-11-24 16:41:44
Local clock offset: 0.714 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-11-24 18:51:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.75 Mbit/s
95th percentile per-packet one-way delay: 83.604 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 266.33 Mbit/s
95th percentile per-packet one-way delay: 82.588 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 246.25 Mbit/s
95th percentile per-packet one-way delay: 90.402 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 187.15 Mbit/s
95th percentile per-packet one-way delay: 79.658 ms
Loss rate: 1.51%
```
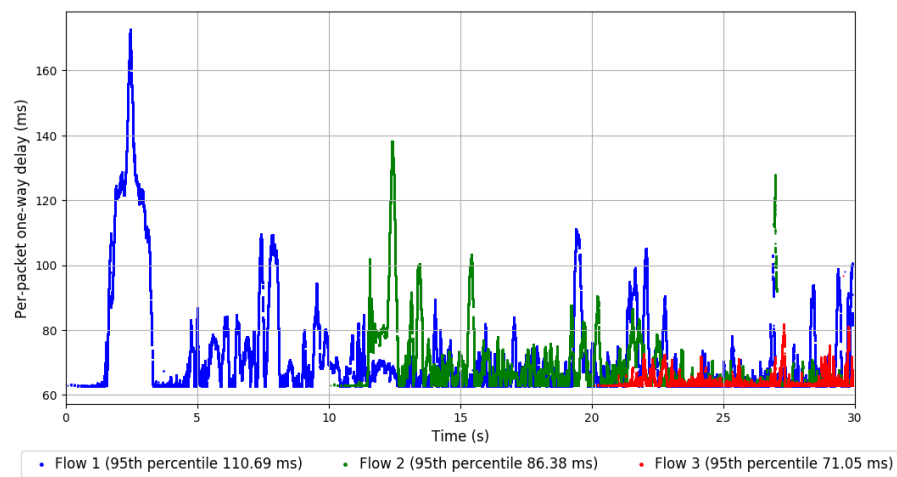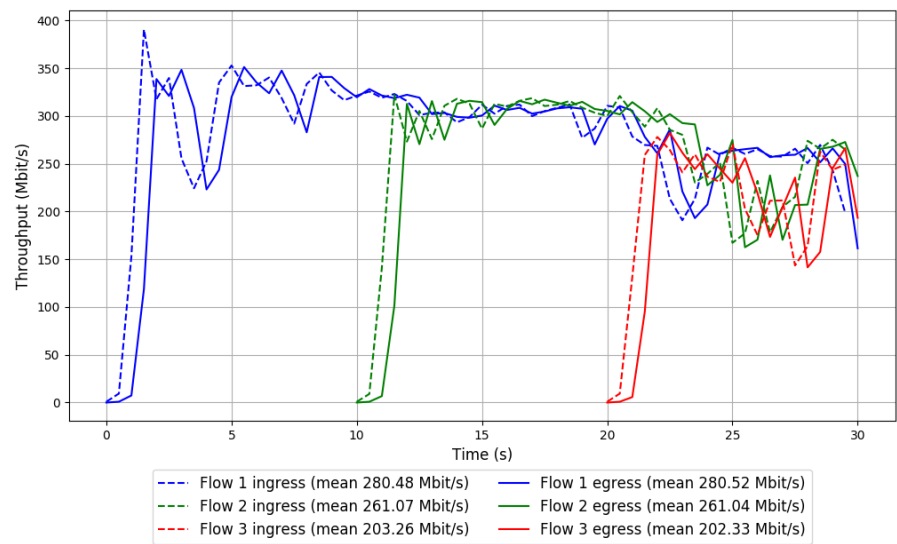
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-11-24 17:21:27
End at: 2019-11-24 17:21:57
Local clock offset: -0.049 ms
Remote clock offset: 0.13 ms


# Below is generated by plot.py at 2019-11-24 19:00:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 517.02 Mbit/s
95th percentile per-packet one-way delay: 102.569 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 271.47 Mbit/s
95th percentile per-packet one-way delay: 108.020 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 263.94 Mbit/s
95th percentile per-packet one-way delay: 87.578 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 213.14 Mbit/s
95th percentile per-packet one-way delay: 88.769 ms
Loss rate: 1.56%
```
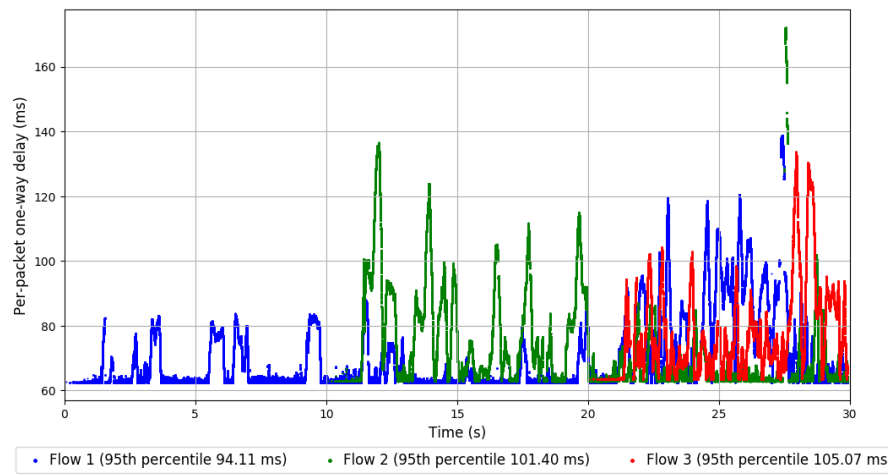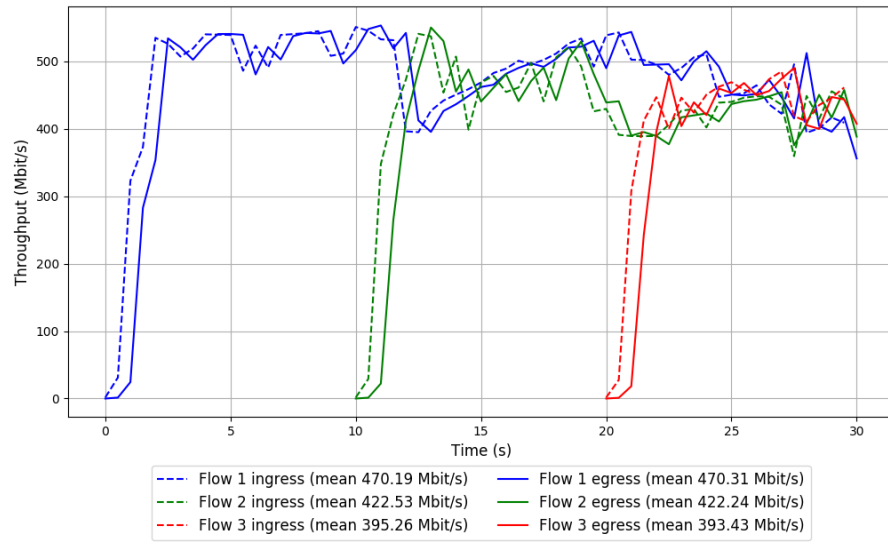
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 271.36 Mbit/s) — Flow 1 egress (mean 271.47 Mbit/s)
Flow 2 ingress (mean 263.90 Mbit/s) — Flow 2 egress (mean 263.94 Mbit/s)
Flow 3 ingress (mean 213.74 Mbit/s) — Flow 3 egress (mean 213.14 Mbit/s)

Flow 1 (95th percentile 108.02 ms) • Flow 2 (95th percentile 87.58 ms) • Flow 3 (95th percentile 88.77 ms)

```
Run 5: Statistics of Copa

Start at: 2019-11-24 18:02:01
End at: 2019-11-24 18:02:31
Local clock offset: -0.221 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-11-24 19:05:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.63 Mbit/s
95th percentile per-packet one-way delay: 99.556 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 280.52 Mbit/s
95th percentile per-packet one-way delay: 110.685 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 261.04 Mbit/s
95th percentile per-packet one-way delay: 86.383 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 202.33 Mbit/s
95th percentile per-packet one-way delay: 71.051 ms
Loss rate: 1.69%
```
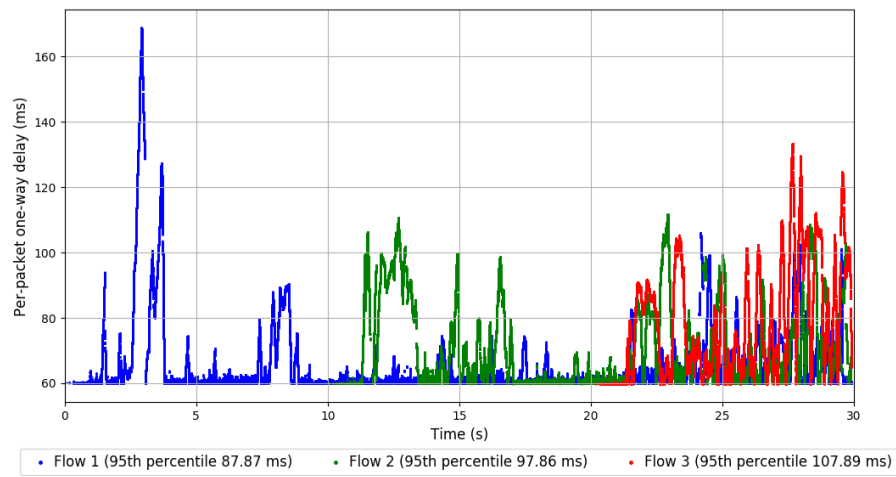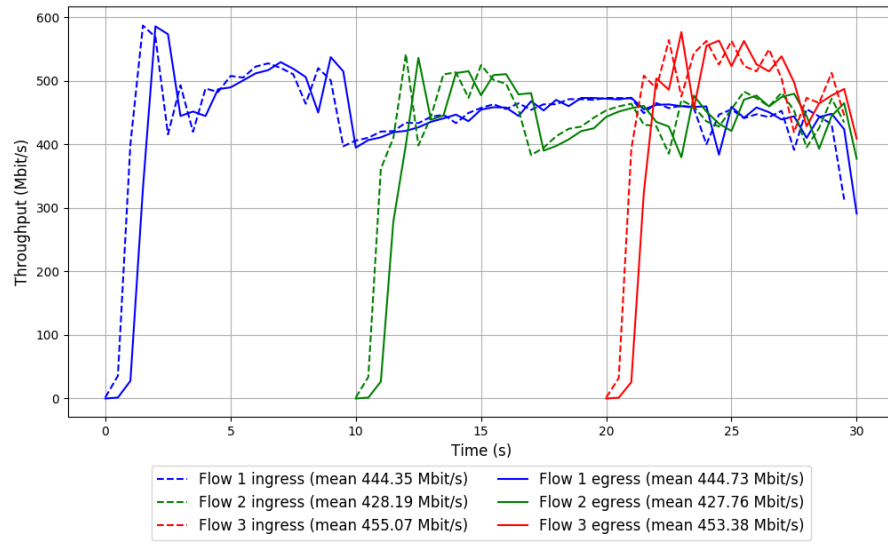
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-11-24 15:29:17
End at: 2019-11-24 15:29:47
Local clock offset: -0.061 ms
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2019-11-24 19:05:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 880.75 Mbit/s
95th percentile per-packet one-way delay: 98.273 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 470.31 Mbit/s
95th percentile per-packet one-way delay: 94.105 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 422.24 Mbit/s
95th percentile per-packet one-way delay: 101.401 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 393.43 Mbit/s
95th percentile per-packet one-way delay: 105.073 ms
Loss rate: 1.69%
```

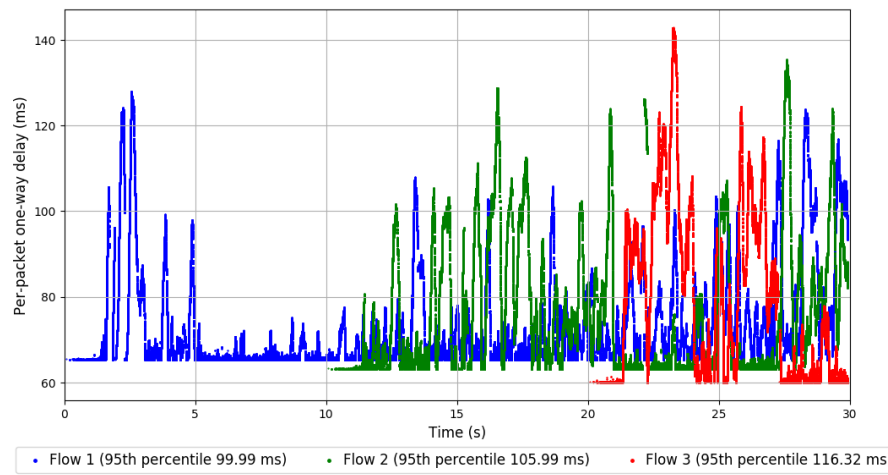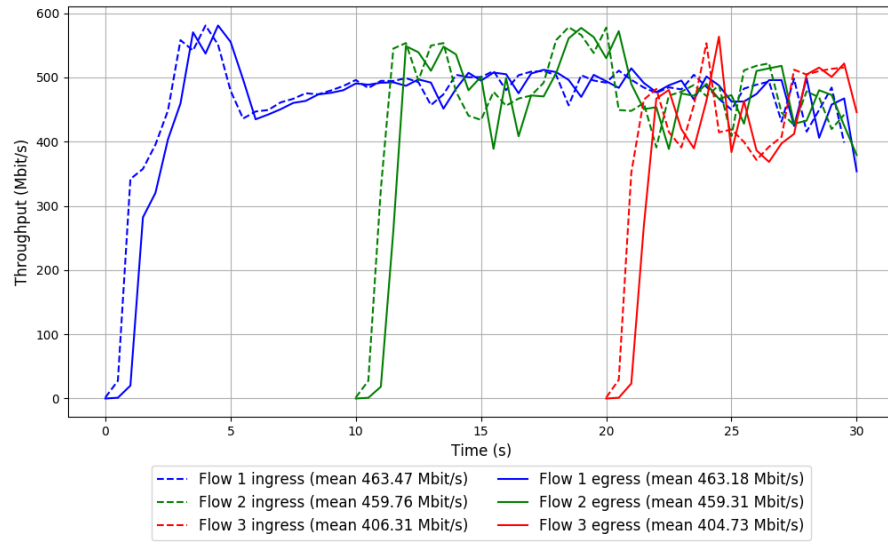Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-11-24 16:09:37
End at: 2019-11-24 16:10:07
Local clock offset: 0.442 ms
Remote clock offset: 0.04 ms


# Below is generated by plot.py at 2019-11-24 19:05:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 878.57 Mbit/s
95th percentile per-packet one-way delay: 98.998 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 444.73 Mbit/s
95th percentile per-packet one-way delay: 87.872 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 427.76 Mbit/s
95th percentile per-packet one-way delay: 97.860 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 453.38 Mbit/s
95th percentile per-packet one-way delay: 107.893 ms
Loss rate: 1.57%
```

Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-11-24 16:49:57
End at: 2019-11-24 16:50:27
Local clock offset: 0.774 ms
Remote clock offset: -0.123 ms


# Below is generated by plot.py at 2019-11-24 19:05:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 902.07 Mbit/s
95th percentile per-packet one-way delay: 105.355 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 463.18 Mbit/s
95th percentile per-packet one-way delay: 99.986 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 459.31 Mbit/s
95th percentile per-packet one-way delay: 105.987 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 404.73 Mbit/s
95th percentile per-packet one-way delay: 116.317 ms
Loss rate: 1.60%
```
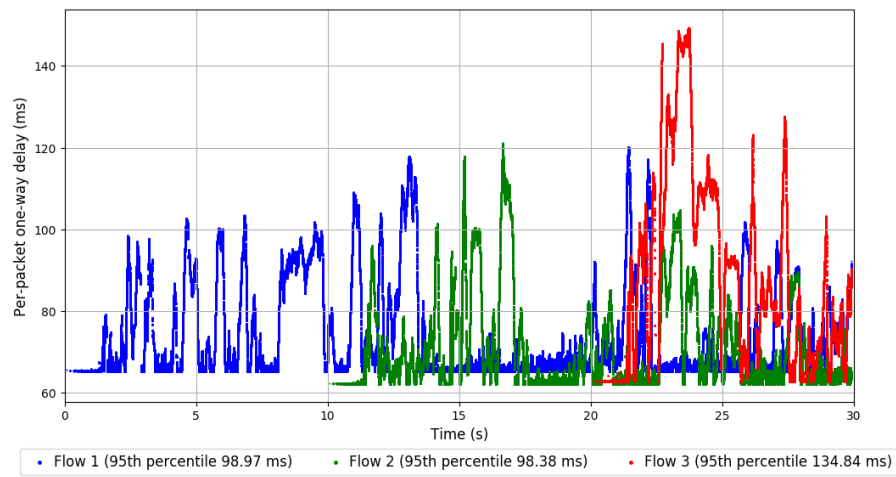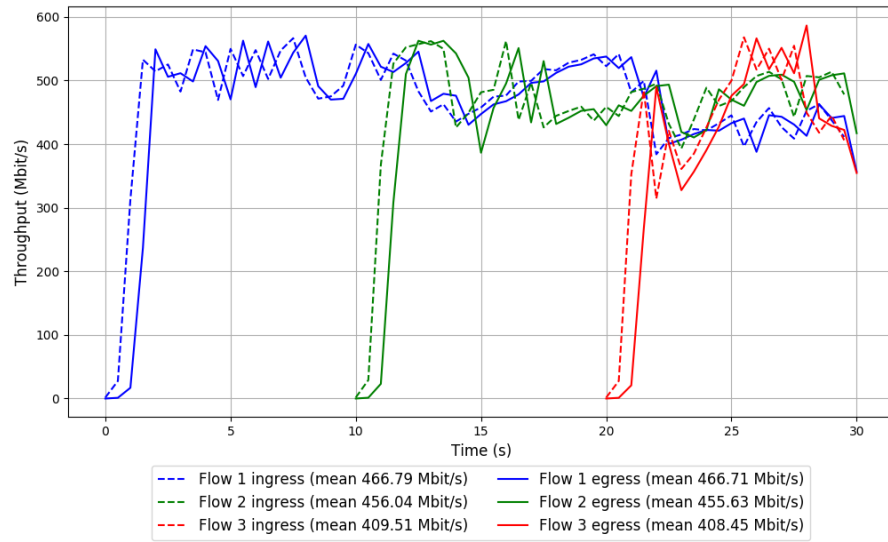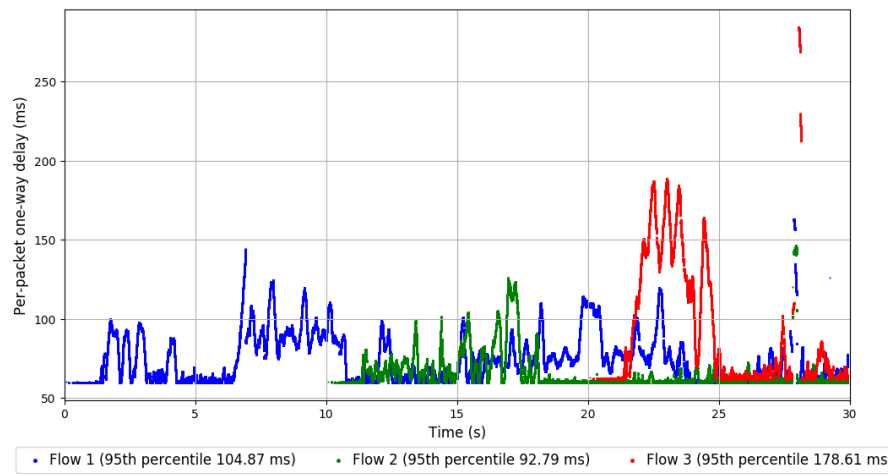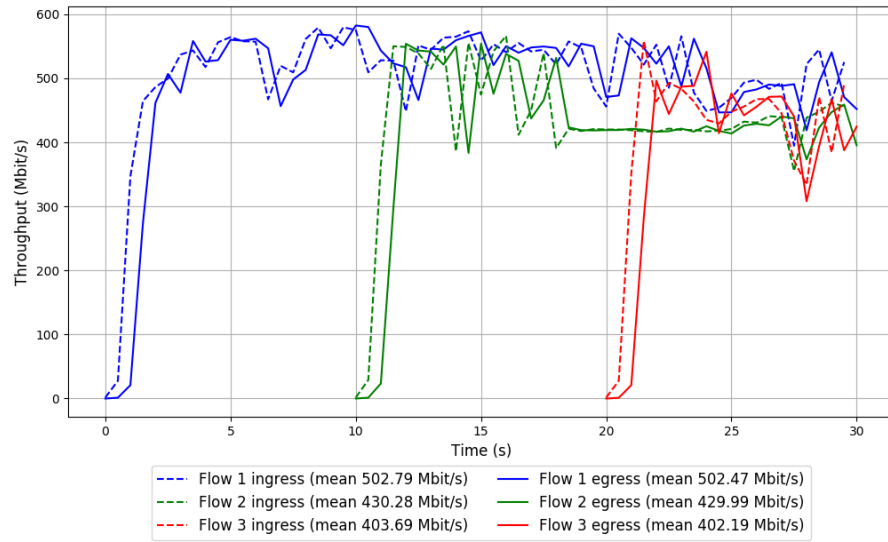
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 463.47 Mbit/s) — Flow 1 egress (mean 463.18 Mbit/s)
Flow 2 ingress (mean 459.76 Mbit/s) — Flow 2 egress (mean 459.31 Mbit/s)
Flow 3 ingress (mean 406.31 Mbit/s) — Flow 3 egress (mean 404.73 Mbit/s)

Flow 1 (95th percentile 99.99 ms) — Flow 2 (95th percentile 105.99 ms) — Flow 3 (95th percentile 116.32 ms)

30

```
Run 4: Statistics of TCP Cubic

Start at: 2019-11-24 17:30:21
End at: 2019-11-24 17:30:51
Local clock offset: -0.194 ms
Remote clock offset: 0.03 ms


# Below is generated by plot.py at 2019-11-24 19:05:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 904.15 Mbit/s
95th percentile per-packet one-way delay: 107.070 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 466.71 Mbit/s
95th percentile per-packet one-way delay: 98.966 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 455.63 Mbit/s
95th percentile per-packet one-way delay: 98.384 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 408.45 Mbit/s
95th percentile per-packet one-way delay: 134.842 ms
Loss rate: 1.49%
```

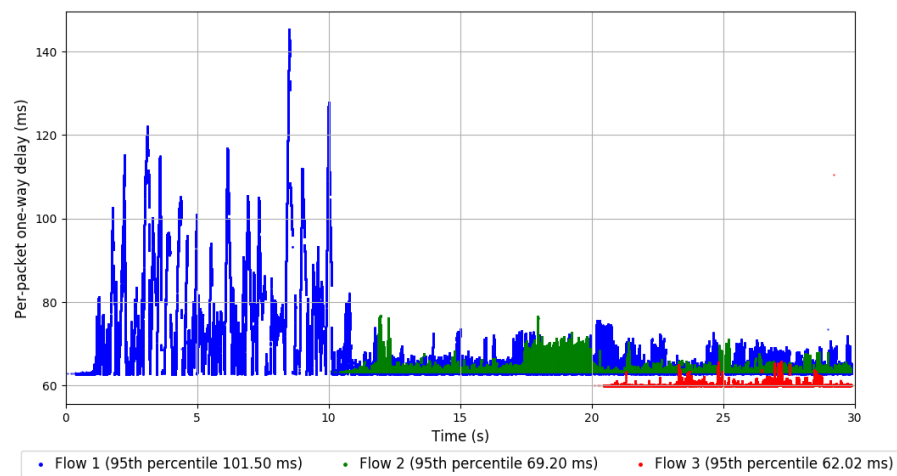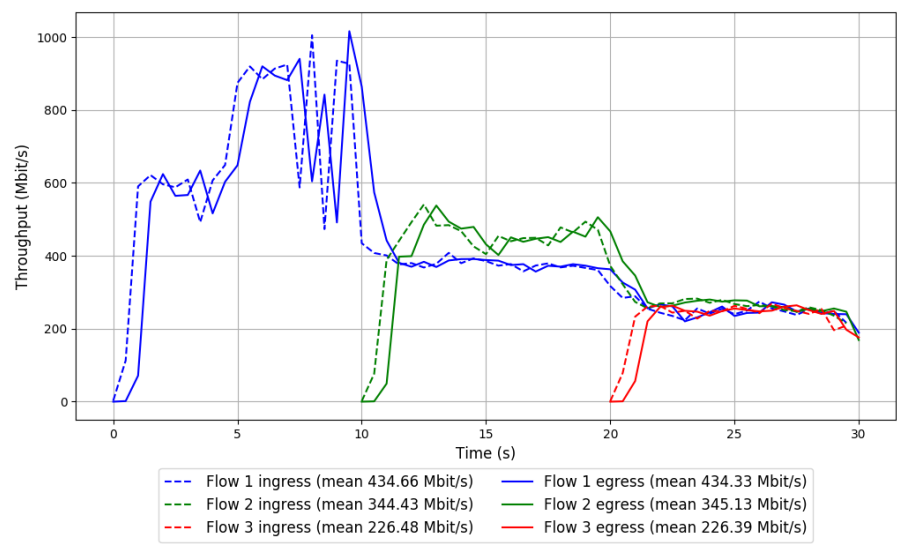Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-11-24 18:10:50
End at: 2019-11-24 18:11:20
Local clock offset: -0.16 ms
Remote clock offset: 0.037 ms


# Below is generated by plot.py at 2019-11-24 19:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 920.84 Mbit/s
95th percentile per-packet one-way delay: 120.077 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 502.47 Mbit/s
95th percentile per-packet one-way delay: 104.866 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 429.99 Mbit/s
95th percentile per-packet one-way delay: 92.794 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 402.19 Mbit/s
95th percentile per-packet one-way delay: 178.613 ms
Loss rate: 1.60%
```
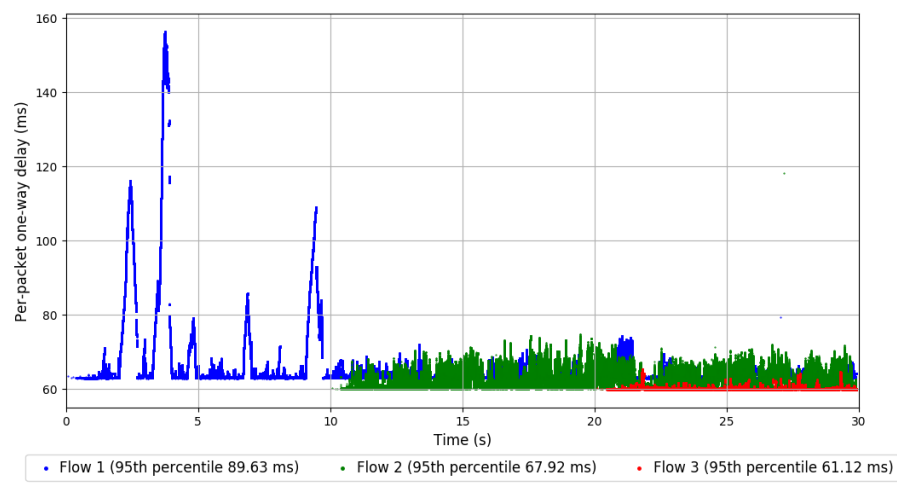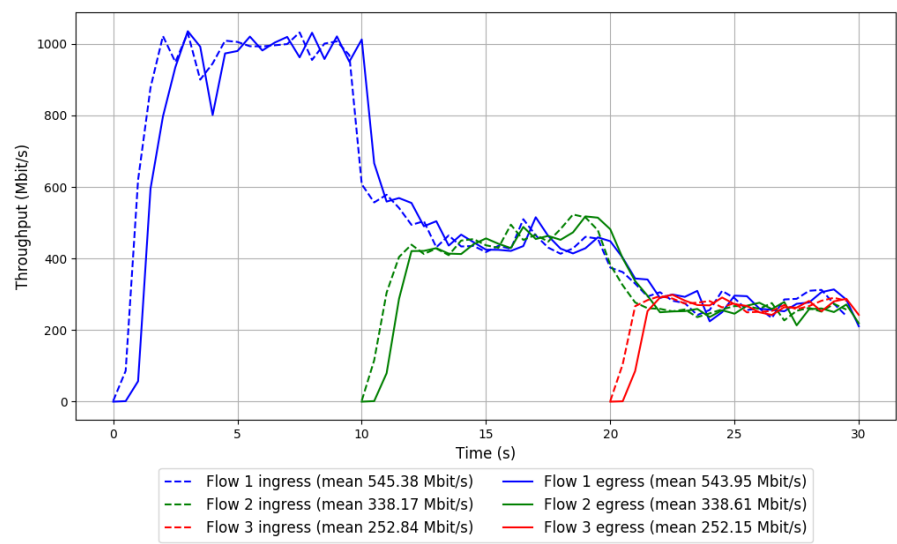
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 502.79 Mbit/s) — — — Flow 1 egress (mean 502.47 Mbit/s)
Flow 2 ingress (mean 430.28 Mbit/s) — — — Flow 2 egress (mean 429.99 Mbit/s)
Flow 3 ingress (mean 403.69 Mbit/s) — — — Flow 3 egress (mean 402.19 Mbit/s)

Flow 1 (95th percentile 104.87 ms) • Flow 2 (95th percentile 92.79 ms) • Flow 3 (95th percentile 178.61 ms)
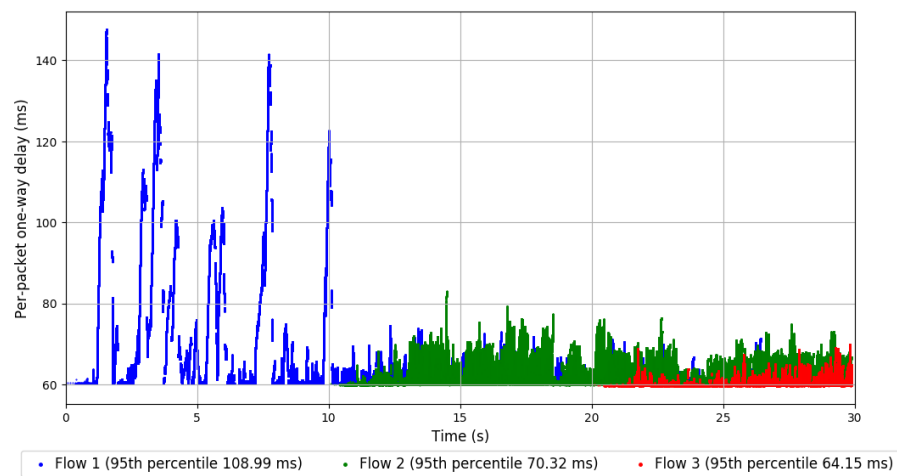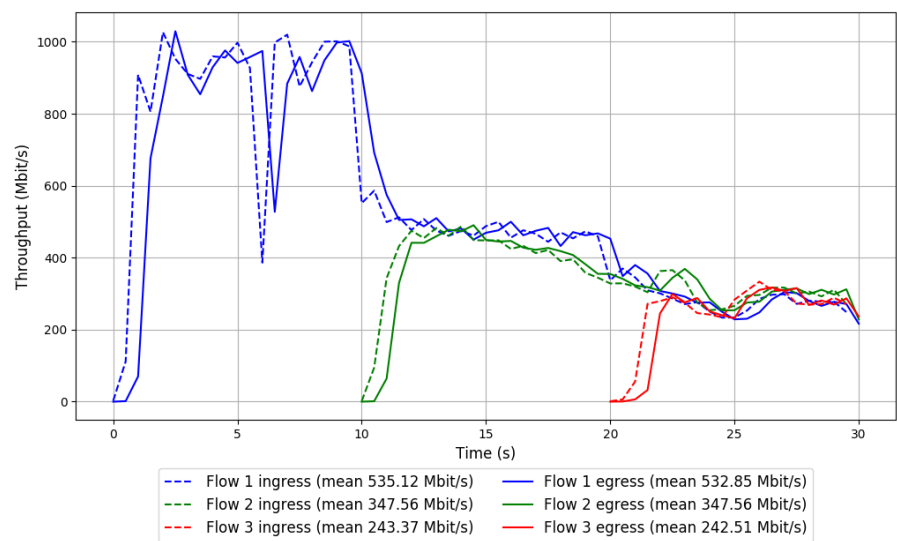
```
Run 1: Statistics of FillP

Start at: 2019-11-24 15:02:59
End at: 2019-11-24 15:03:29
Local clock offset: -0.635 ms
Remote clock offset: -0.079 ms


# Below is generated by plot.py at 2019-11-24 19:07:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 737.48 Mbit/s
95th percentile per-packet one-way delay: 94.510 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 434.33 Mbit/s
95th percentile per-packet one-way delay: 101.502 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 345.13 Mbit/s
95th percentile per-packet one-way delay: 69.198 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 226.39 Mbit/s
95th percentile per-packet one-way delay: 62.015 ms
Loss rate: 1.47%
```

Run 1: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 434.66 Mbit/s)   —— Flow 1 egress (mean 434.33 Mbit/s)
- - - - Flow 2 ingress (mean 344.43 Mbit/s)   —— Flow 2 egress (mean 345.13 Mbit/s)
- - - - Flow 3 ingress (mean 226.48 Mbit/s)   —— Flow 3 egress (mean 226.39 Mbit/s)

• Flow 1 (95th percentile 101.50 ms)   • Flow 2 (95th percentile 69.20 ms)   • Flow 3 (95th percentile 62.02 ms)
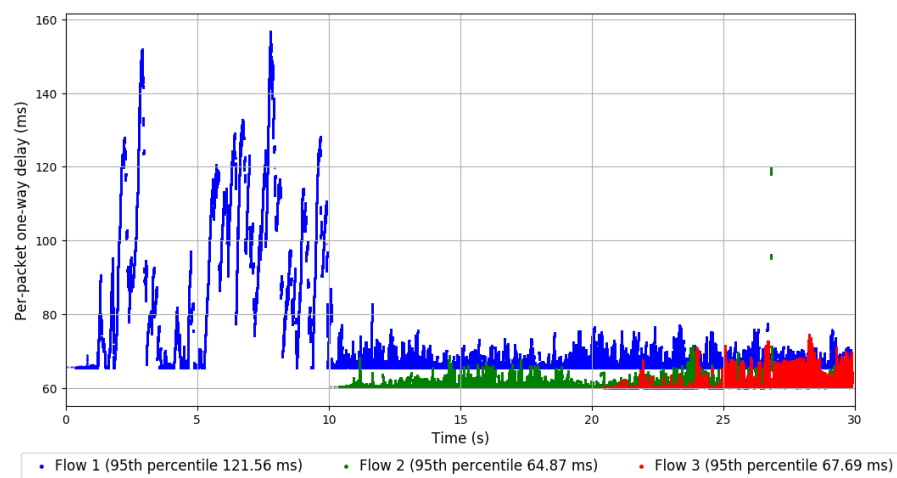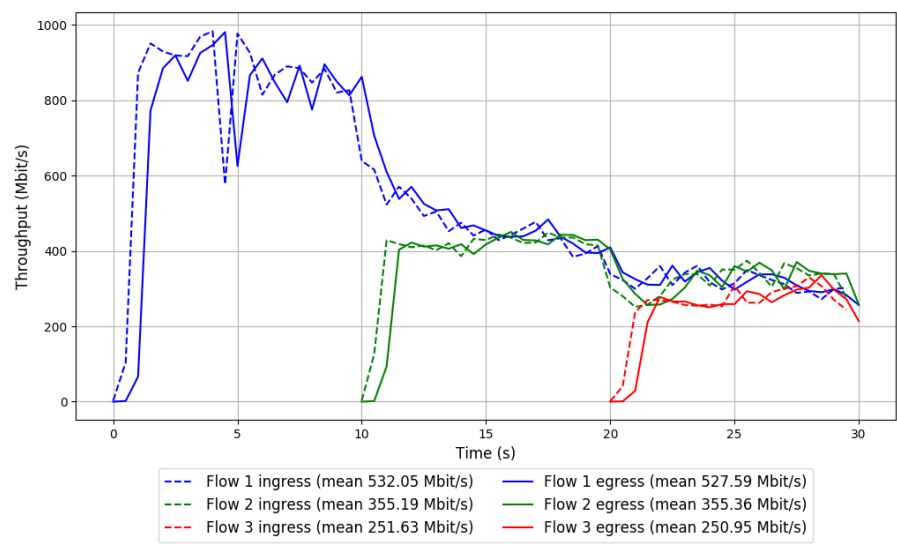
```
Run 2: Statistics of FillP

Start at: 2019-11-24 15:42:42
End at: 2019-11-24 15:43:12
Local clock offset: 0.231 ms
Remote clock offset: 0.134 ms

# Below is generated by plot.py at 2019-11-24 19:19:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 851.56 Mbit/s
95th percentile per-packet one-way delay: 81.751 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 543.95 Mbit/s
95th percentile per-packet one-way delay: 89.634 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 338.61 Mbit/s
95th percentile per-packet one-way delay: 67.922 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 252.15 Mbit/s
95th percentile per-packet one-way delay: 61.117 ms
Loss rate: 1.39%
```

Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 545.38 Mbit/s) --- Flow 1 egress (mean 543.95 Mbit/s)
Flow 2 ingress (mean 338.17 Mbit/s) --- Flow 2 egress (mean 338.61 Mbit/s)
Flow 3 ingress (mean 252.84 Mbit/s) --- Flow 3 egress (mean 252.15 Mbit/s)

Flow 1 (95th percentile 89.63 ms)   Flow 2 (95th percentile 67.92 ms)   Flow 3 (95th percentile 61.12 ms)

```
Run 3: Statistics of FillP

Start at: 2019-11-24 16:23:09
End at: 2019-11-24 16:23:39
Local clock offset: 0.542 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2019-11-24 19:22:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 843.12 Mbit/s
95th percentile per-packet one-way delay: 100.836 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 532.85 Mbit/s
95th percentile per-packet one-way delay: 108.994 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 347.56 Mbit/s
95th percentile per-packet one-way delay: 70.318 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 242.51 Mbit/s
95th percentile per-packet one-way delay: 64.149 ms
Loss rate: 1.39%
```
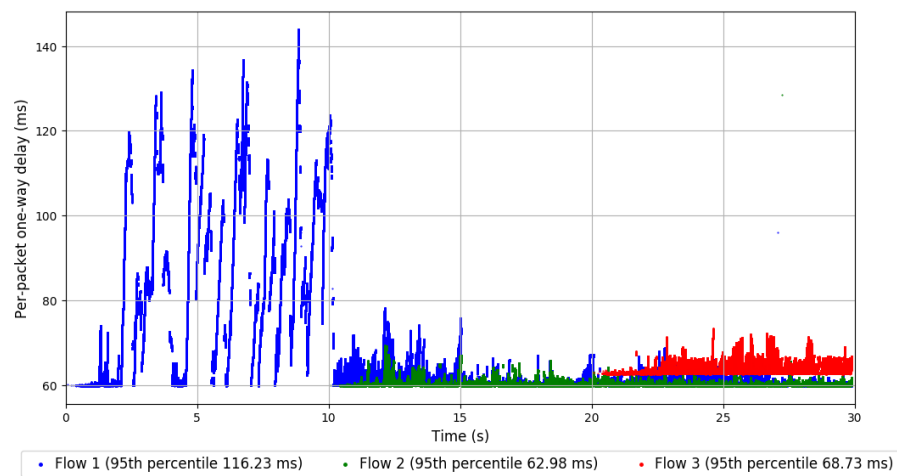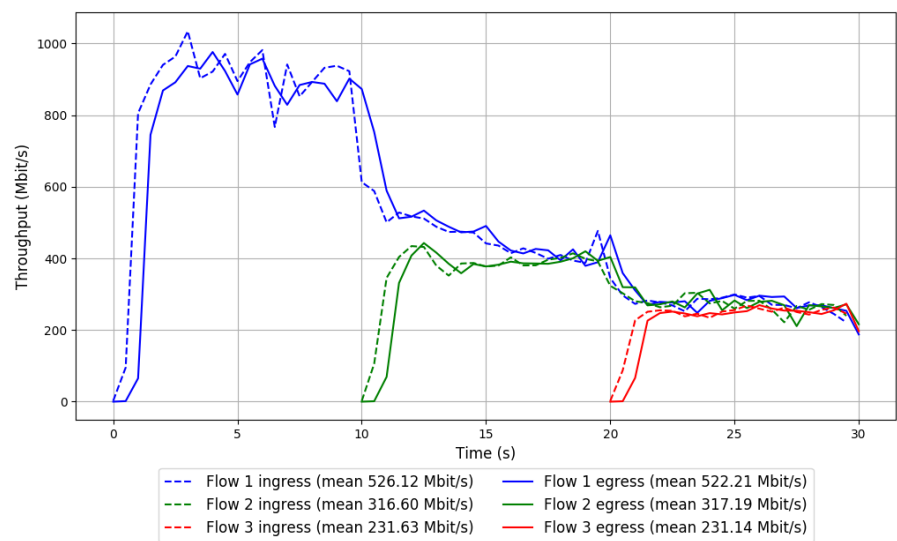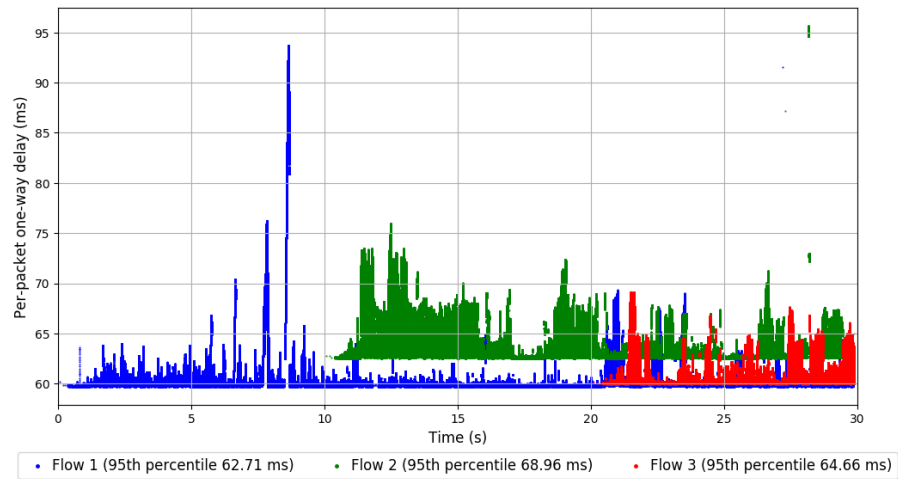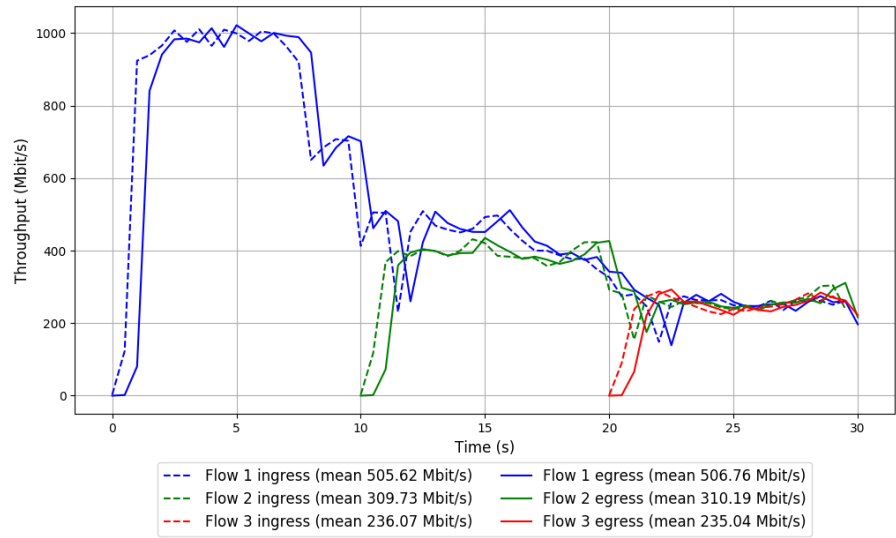
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 535.12 Mbit/s) Flow 1 egress (mean 532.85 Mbit/s)
Flow 2 ingress (mean 347.56 Mbit/s) Flow 2 egress (mean 347.56 Mbit/s)
Flow 3 ingress (mean 243.37 Mbit/s) Flow 3 egress (mean 242.51 Mbit/s)

Flow 1 (95th percentile 108.99 ms) Flow 2 (95th percentile 70.32 ms) Flow 3 (95th percentile 64.15 ms)

40

```
Run 4: Statistics of FillP

Start at: 2019-11-24 17:03:30
End at: 2019-11-24 17:04:00
Local clock offset: 0.527 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2019-11-24 19:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.76 Mbit/s
95th percentile per-packet one-way delay: 115.174 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 527.59 Mbit/s
95th percentile per-packet one-way delay: 121.556 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 355.36 Mbit/s
95th percentile per-packet one-way delay: 64.866 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 250.95 Mbit/s
95th percentile per-packet one-way delay: 67.691 ms
Loss rate: 1.39%
```
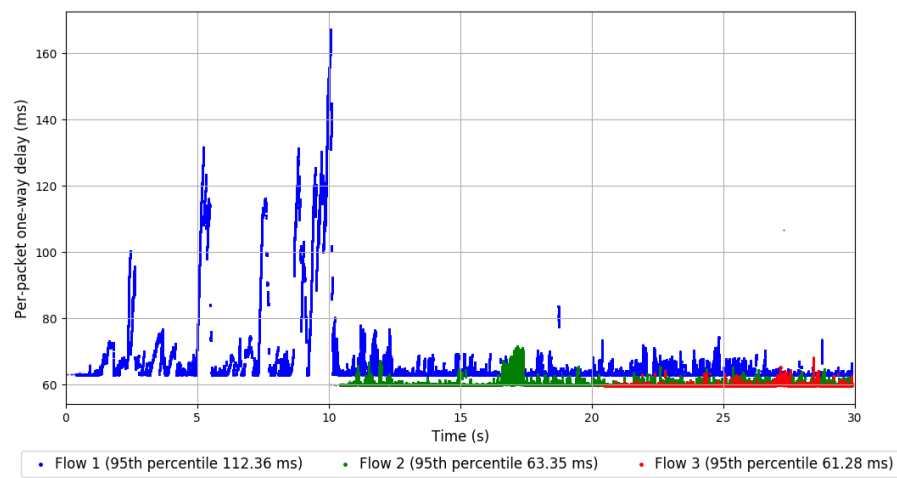
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-11-24 17:44:00
End at: 2019-11-24 17:44:30
Local clock offset: -0.133 ms
Remote clock offset: 0.019 ms

# Below is generated by plot.py at 2019-11-24 19:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 808.75 Mbit/s
95th percentile per-packet one-way delay: 112.016 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 522.21 Mbit/s
95th percentile per-packet one-way delay: 116.229 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 317.19 Mbit/s
95th percentile per-packet one-way delay: 62.982 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 231.14 Mbit/s
95th percentile per-packet one-way delay: 68.730 ms
Loss rate: 1.62%
```
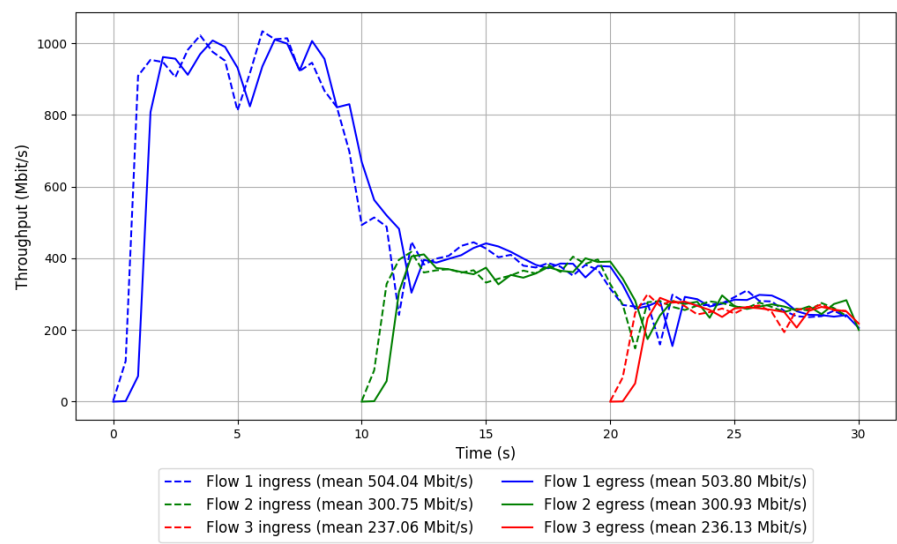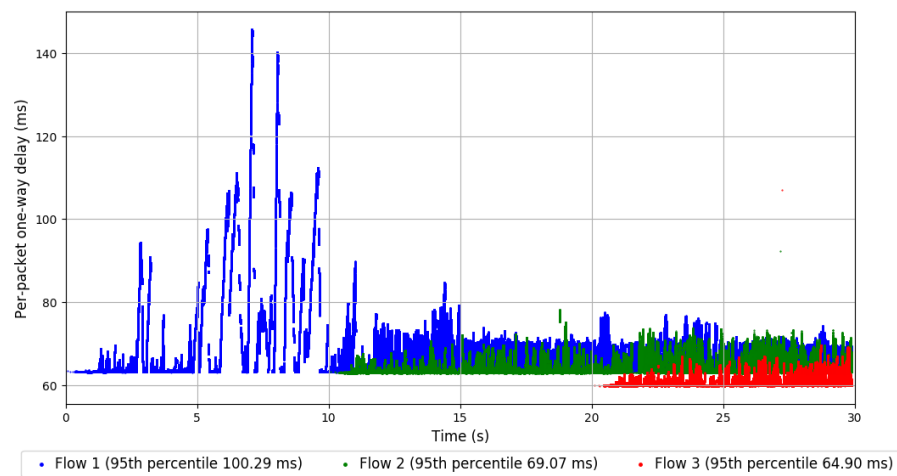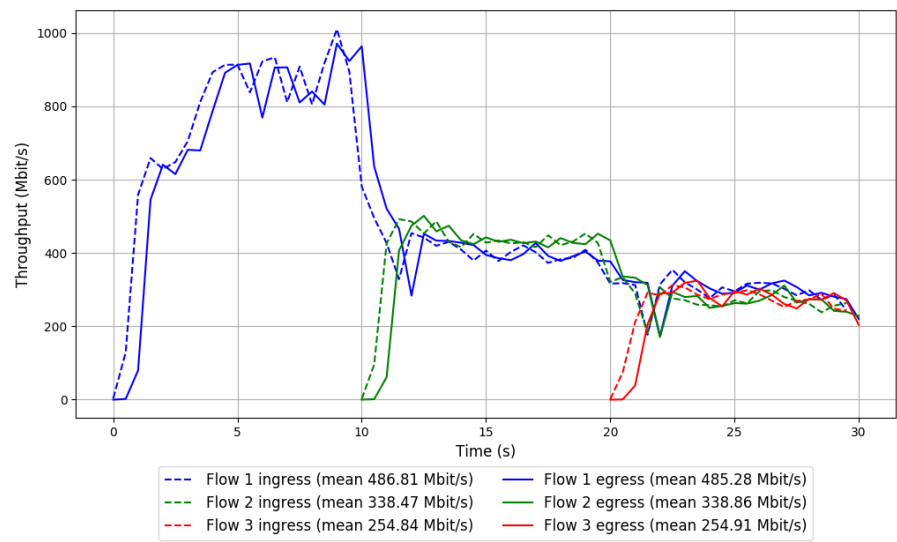
Run 5: Report of FillP — Data Link

44

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-11-24 14:59:29
End at: 2019-11-24 14:59:59
Local clock offset: -0.627 ms
Remote clock offset: 0.075 ms


# Below is generated by plot.py at 2019-11-24 19:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 789.39 Mbit/s
95th percentile per-packet one-way delay: 66.896 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 506.76 Mbit/s
95th percentile per-packet one-way delay: 62.712 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 310.19 Mbit/s
95th percentile per-packet one-way delay: 68.960 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 235.04 Mbit/s
95th percentile per-packet one-way delay: 64.655 ms
Loss rate: 1.53%
```

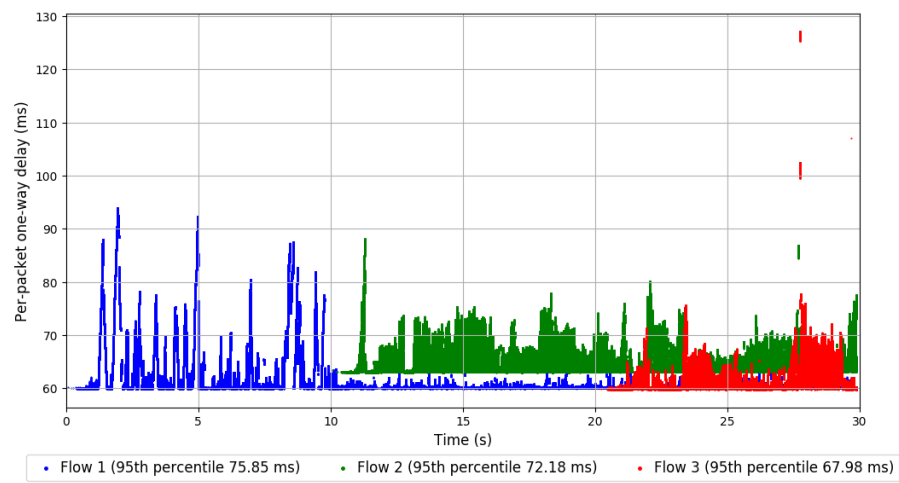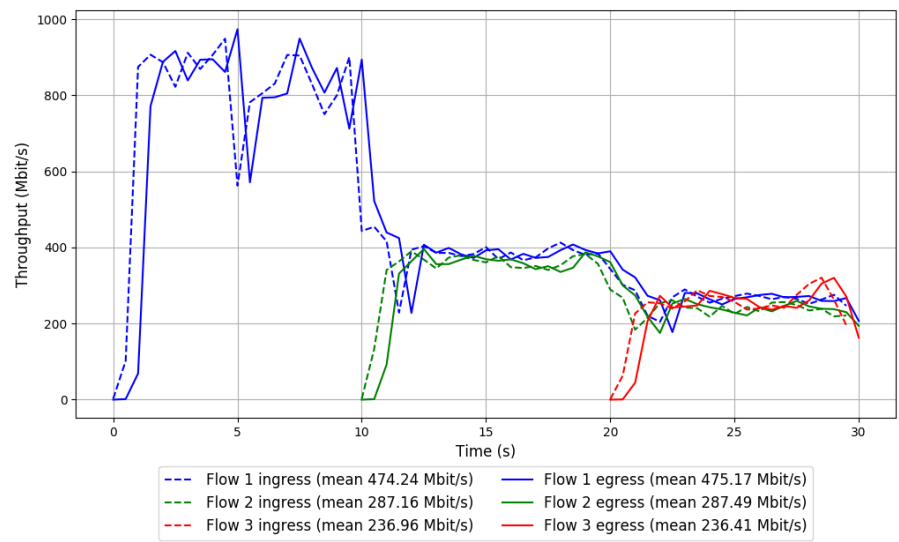Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-11-24 15:39:15
End at: 2019-11-24 15:39:45
Local clock offset: 0.151 ms
Remote clock offset: 0.168 ms


# Below is generated by plot.py at 2019-11-24 19:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.18 Mbit/s
95th percentile per-packet one-way delay: 100.370 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 503.80 Mbit/s
95th percentile per-packet one-way delay: 112.359 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 300.93 Mbit/s
95th percentile per-packet one-way delay: 63.346 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 236.13 Mbit/s
95th percentile per-packet one-way delay: 61.276 ms
Loss rate: 1.58%
```

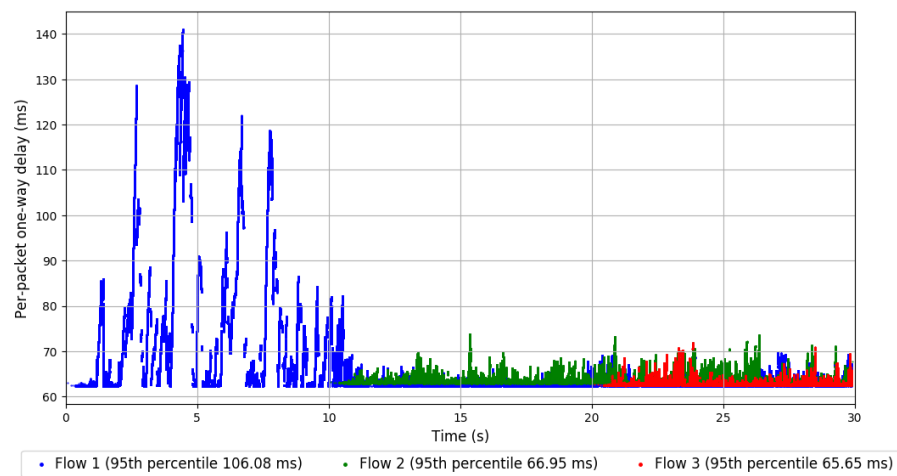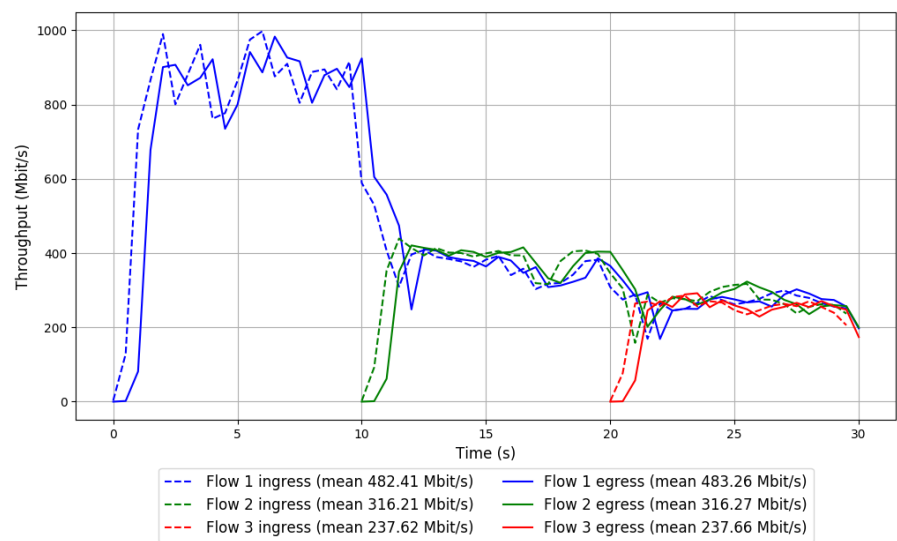Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 504.04 Mbit/s)   Flow 1 egress (mean 503.80 Mbit/s)
Flow 2 ingress (mean 300.75 Mbit/s)   Flow 2 egress (mean 300.93 Mbit/s)
Flow 3 ingress (mean 237.06 Mbit/s)   Flow 3 egress (mean 236.13 Mbit/s)

Flow 1 (95th percentile 112.36 ms)   Flow 2 (95th percentile 63.35 ms)   Flow 3 (95th percentile 61.28 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-11-24 16:19:36
End at: 2019-11-24 16:20:06
Local clock offset: 0.479 ms
Remote clock offset: -0.146 ms


# Below is generated by plot.py at 2019-11-24 19:23:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 794.10 Mbit/s
95th percentile per-packet one-way delay: 91.815 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 485.28 Mbit/s
95th percentile per-packet one-way delay: 100.293 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 338.86 Mbit/s
95th percentile per-packet one-way delay: 69.071 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 254.91 Mbit/s
95th percentile per-packet one-way delay: 64.900 ms
Loss rate: 1.11%
```

Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-11-24 17:00:02
End at: 2019-11-24 17:00:32
Local clock offset: 0.758 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-11-24 19:23:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 743.83 Mbit/s
95th percentile per-packet one-way delay: 73.524 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 475.17 Mbit/s
95th percentile per-packet one-way delay: 75.850 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 287.49 Mbit/s
95th percentile per-packet one-way delay: 72.180 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 236.41 Mbit/s
95th percentile per-packet one-way delay: 67.985 ms
Loss rate: 1.45%
```
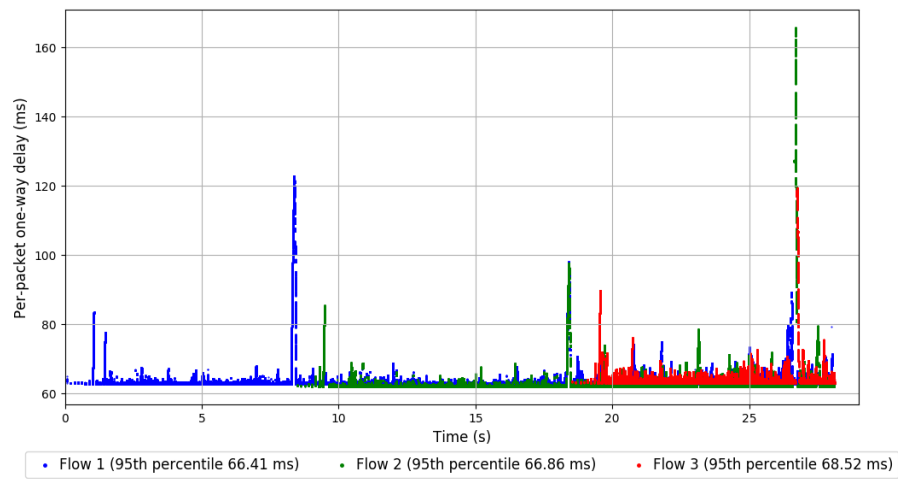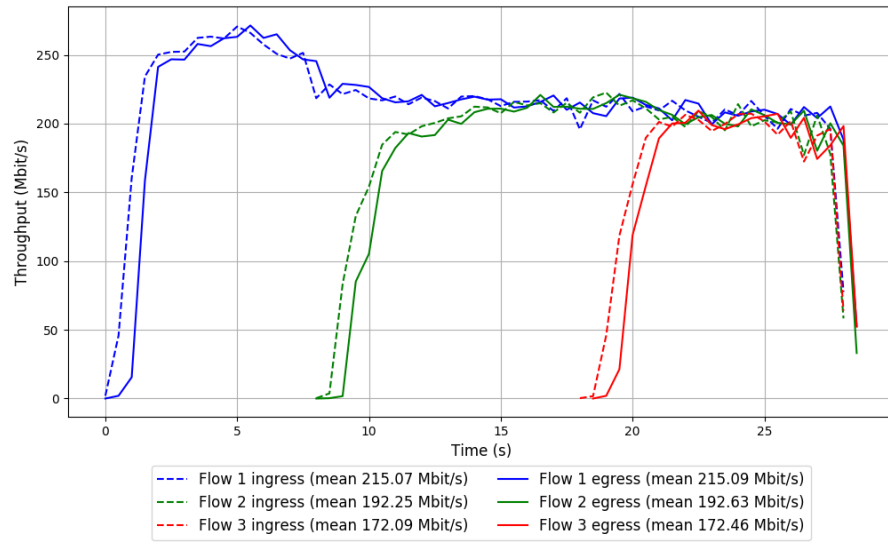
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-11-24 17:40:27
End at: 2019-11-24 17:40:57
Local clock offset: -0.144 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.07 Mbit/s
95th percentile per-packet one-way delay: 94.268 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 483.26 Mbit/s
95th percentile per-packet one-way delay: 106.085 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 316.27 Mbit/s
95th percentile per-packet one-way delay: 66.951 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 237.66 Mbit/s
95th percentile per-packet one-way delay: 65.652 ms
Loss rate: 1.28%
```
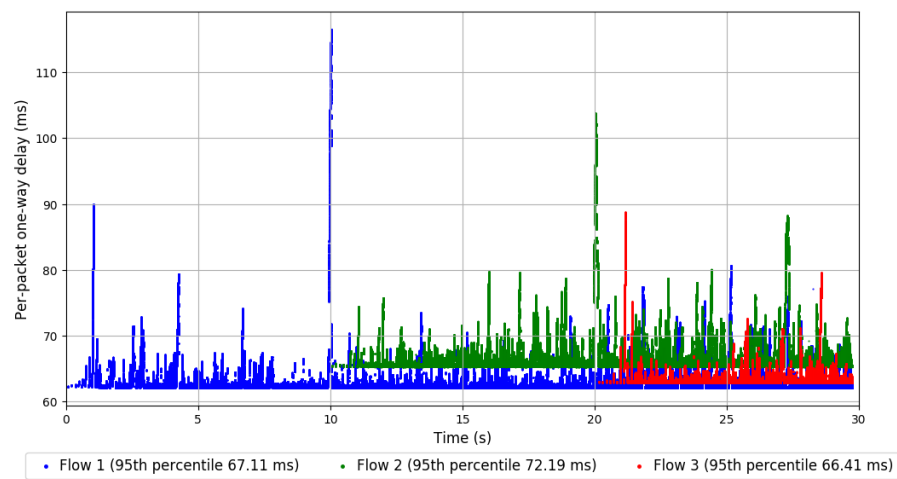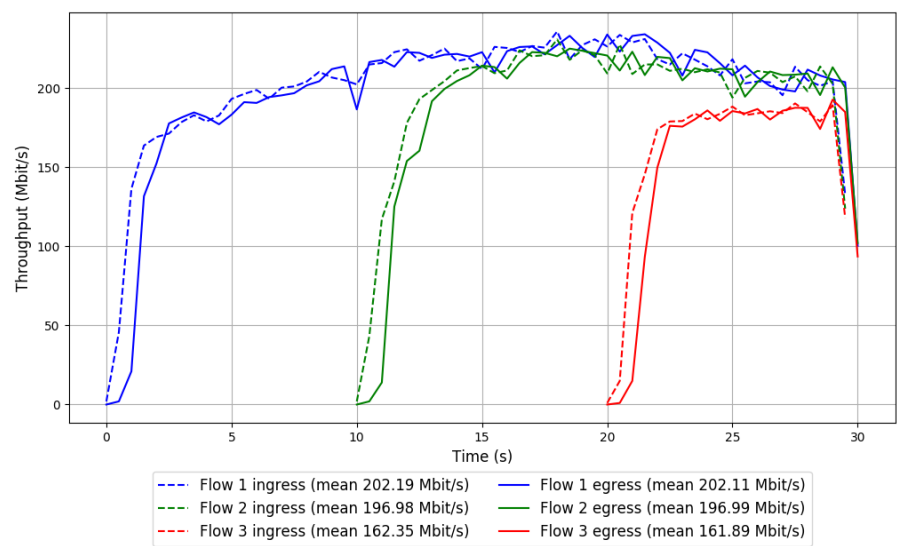
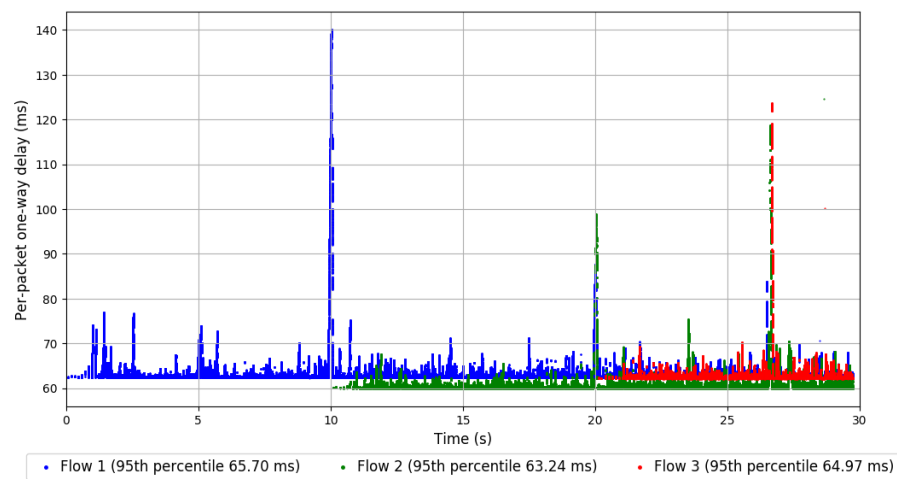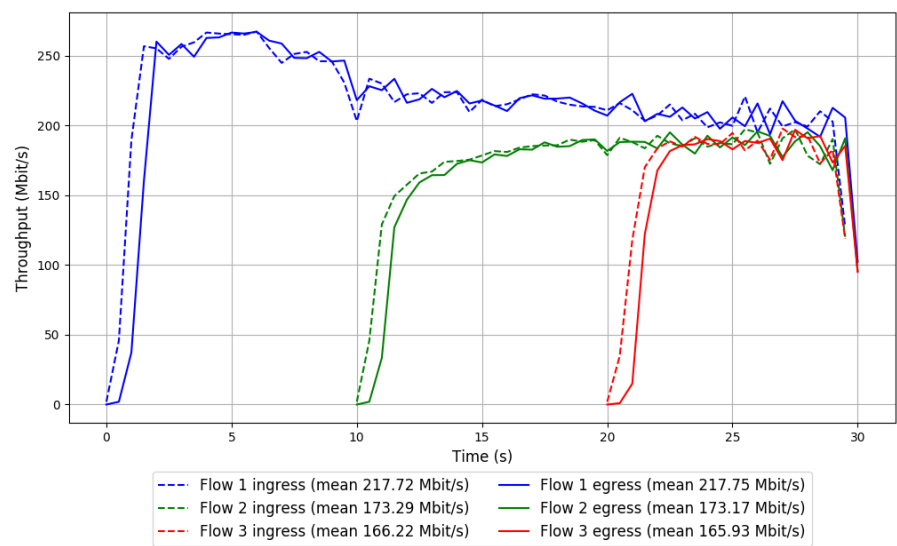Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-11-24 15:14:58
End at: 2019-11-24 15:15:28
Local clock offset: -0.634 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.66 Mbit/s
95th percentile per-packet one-way delay: 66.977 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 215.09 Mbit/s
95th percentile per-packet one-way delay: 66.407 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 192.63 Mbit/s
95th percentile per-packet one-way delay: 66.857 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 172.46 Mbit/s
95th percentile per-packet one-way delay: 68.521 ms
Loss rate: 1.12%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-11-24 15:54:51
End at: 2019-11-24 15:55:21
Local clock offset: 0.311 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.86 Mbit/s
95th percentile per-packet one-way delay: 69.871 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 202.11 Mbit/s
95th percentile per-packet one-way delay: 67.107 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 196.99 Mbit/s
95th percentile per-packet one-way delay: 72.187 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 161.89 Mbit/s
95th percentile per-packet one-way delay: 66.408 ms
Loss rate: 1.58%
```
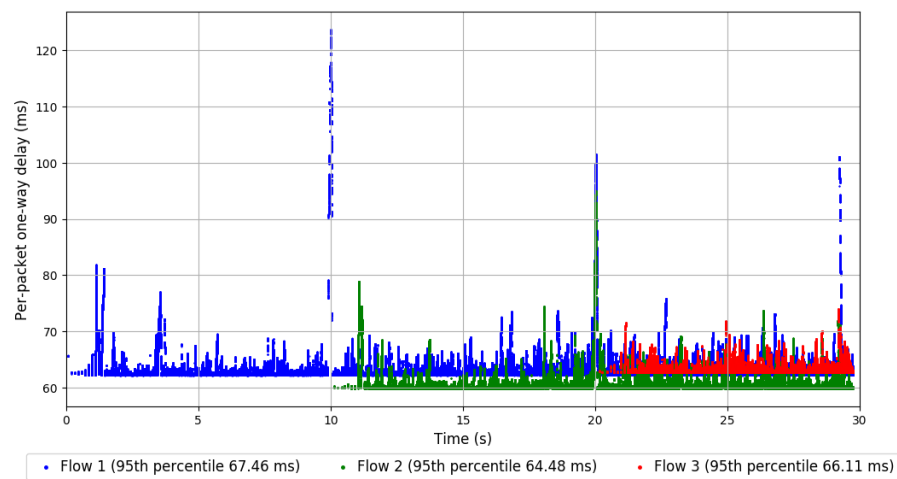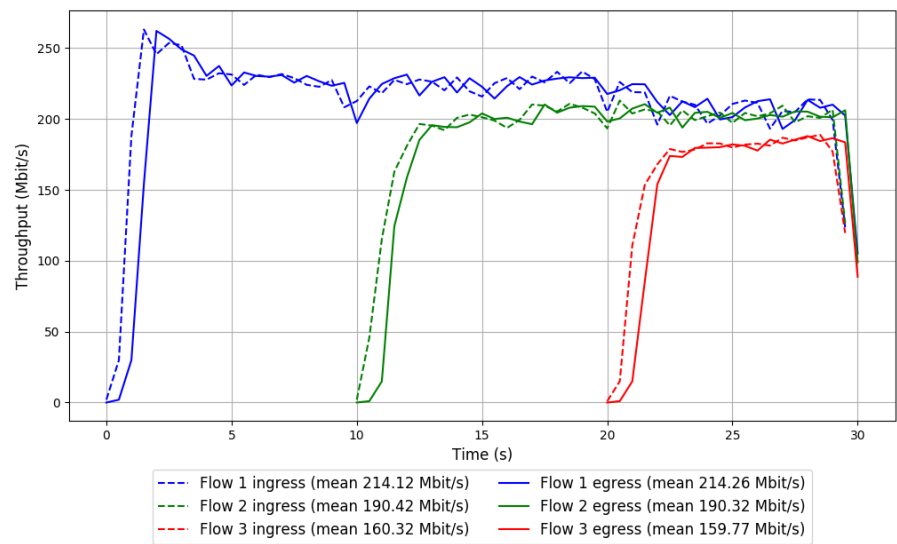
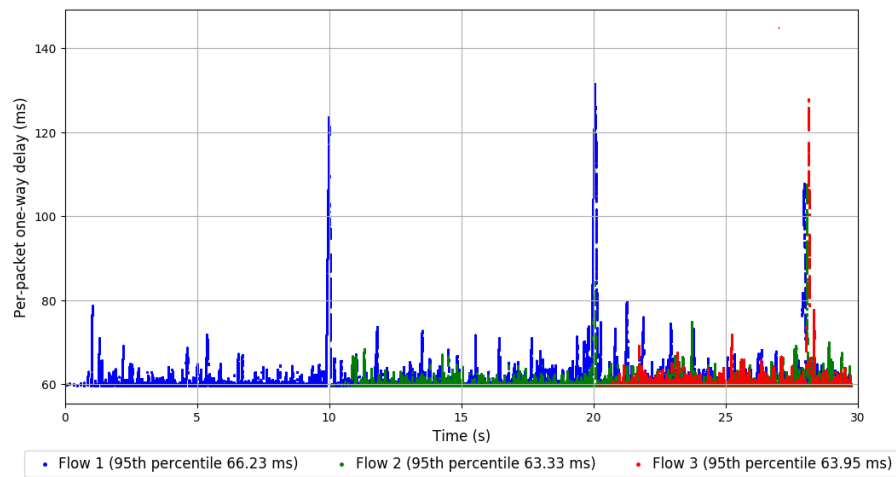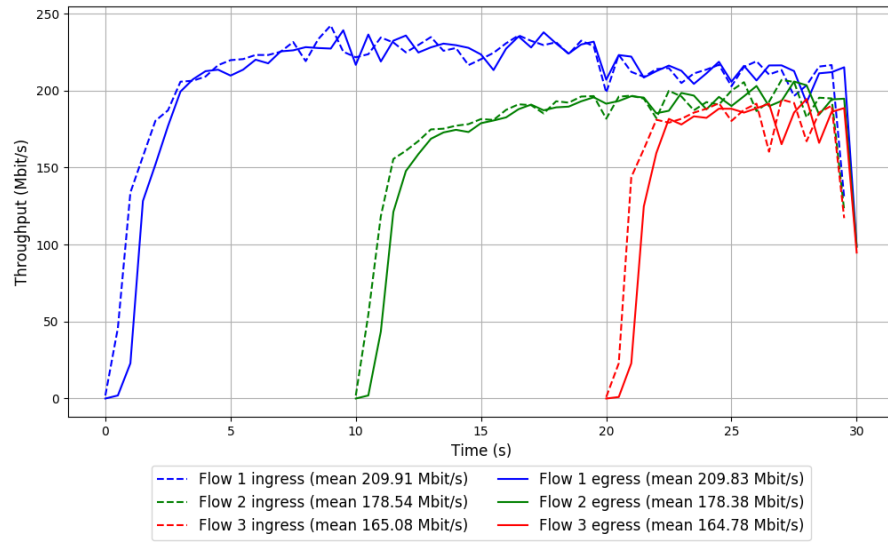# Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-11-24 16:35:13
End at: 2019-11-24 16:35:43
Local clock offset: 0.673 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.28 Mbit/s
95th percentile per-packet one-way delay: 65.181 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 217.75 Mbit/s
95th percentile per-packet one-way delay: 65.704 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 173.17 Mbit/s
95th percentile per-packet one-way delay: 63.237 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 165.93 Mbit/s
95th percentile per-packet one-way delay: 64.975 ms
Loss rate: 1.44%
```
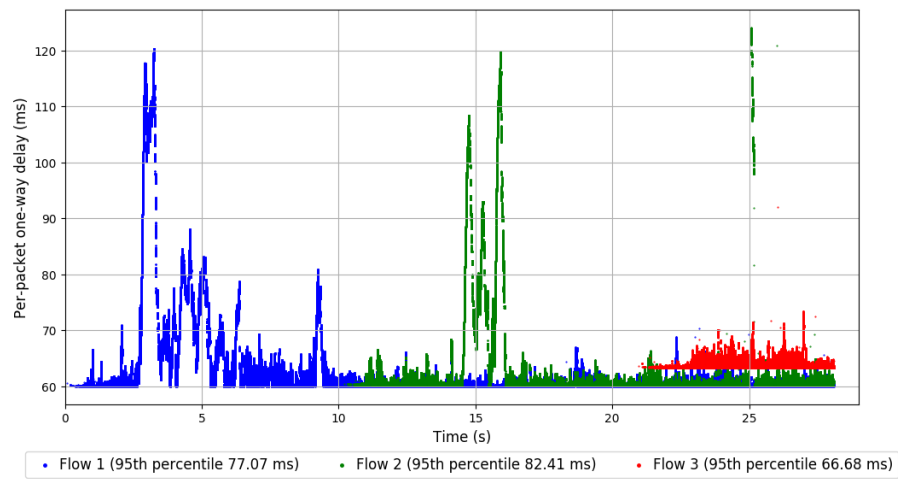
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-11-24 17:15:27
End at: 2019-11-24 17:15:57
Local clock offset: 0.008 ms
Remote clock offset: 0.029 ms


# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 391.64 Mbit/s
95th percentile per-packet one-way delay: 66.478 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 214.26 Mbit/s
95th percentile per-packet one-way delay: 67.464 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 190.32 Mbit/s
95th percentile per-packet one-way delay: 64.482 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 159.77 Mbit/s
95th percentile per-packet one-way delay: 66.108 ms
Loss rate: 1.61%
```
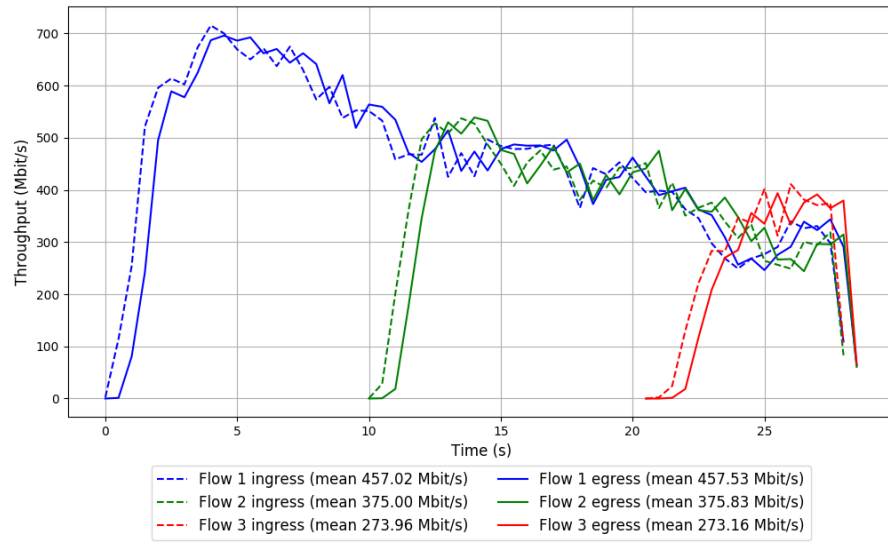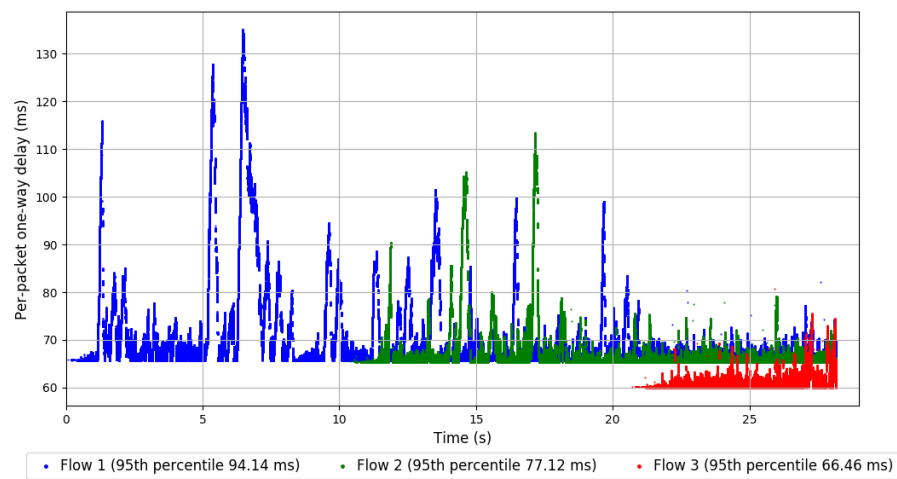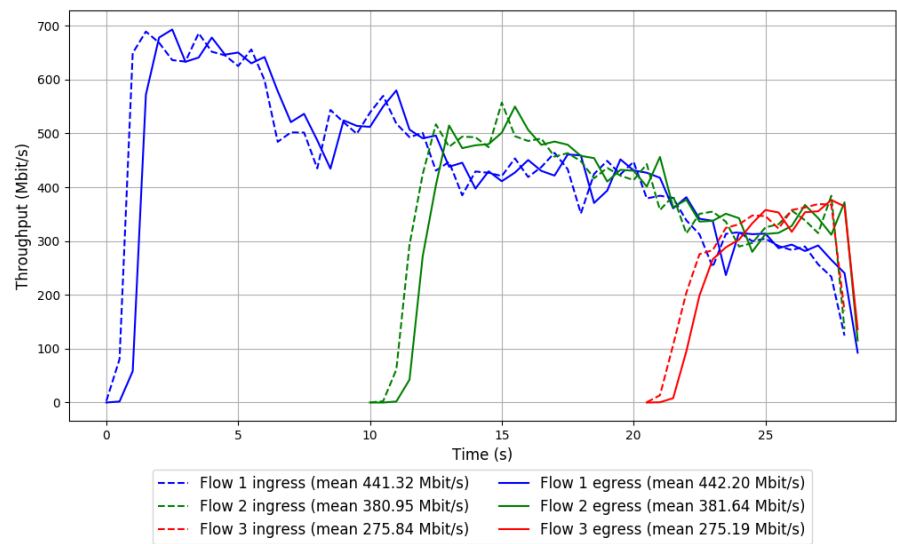
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-11-24 17:55:58
End at: 2019-11-24 17:56:28
Local clock offset: -0.208 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2019-11-24 19:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.29 Mbit/s
95th percentile per-packet one-way delay: 64.909 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 209.83 Mbit/s
95th percentile per-packet one-way delay: 66.234 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 178.38 Mbit/s
95th percentile per-packet one-way delay: 63.331 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 164.78 Mbit/s
95th percentile per-packet one-way delay: 63.950 ms
Loss rate: 1.46%
```

Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 209.91 Mbit/s)   Flow 1 egress (mean 209.83 Mbit/s)
Flow 2 ingress (mean 178.54 Mbit/s)   Flow 2 egress (mean 178.38 Mbit/s)
Flow 3 ingress (mean 165.08 Mbit/s)   Flow 3 egress (mean 164.78 Mbit/s)

Flow 1 (95th percentile 66.23 ms)   Flow 2 (95th percentile 63.33 ms)   Flow 3 (95th percentile 63.95 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-11-24 14:54:09
End at: 2019-11-24 14:54:39
Local clock offset: -0.594 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2019-11-24 19:36:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.73 Mbit/s
95th percentile per-packet one-way delay: 76.912 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 457.53 Mbit/s
95th percentile per-packet one-way delay: 77.074 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 375.83 Mbit/s
95th percentile per-packet one-way delay: 82.408 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 273.16 Mbit/s
95th percentile per-packet one-way delay: 66.678 ms
Loss rate: 2.23%
```

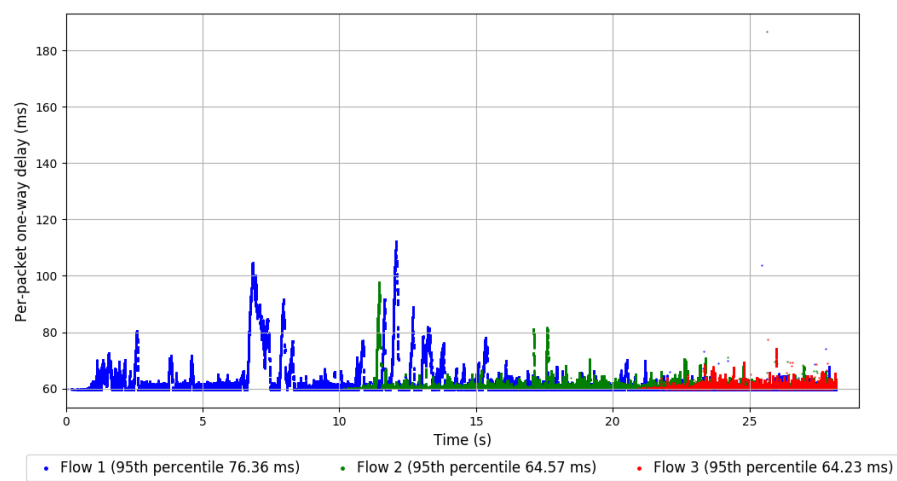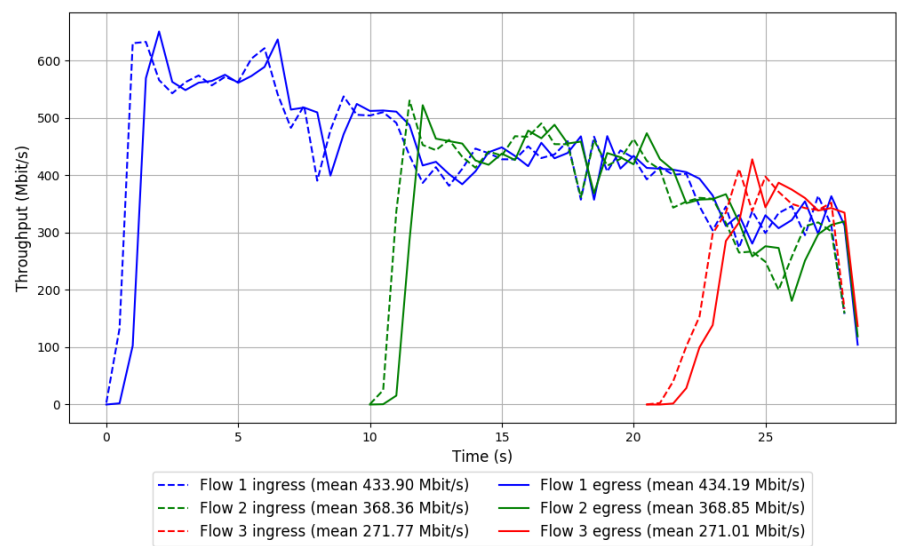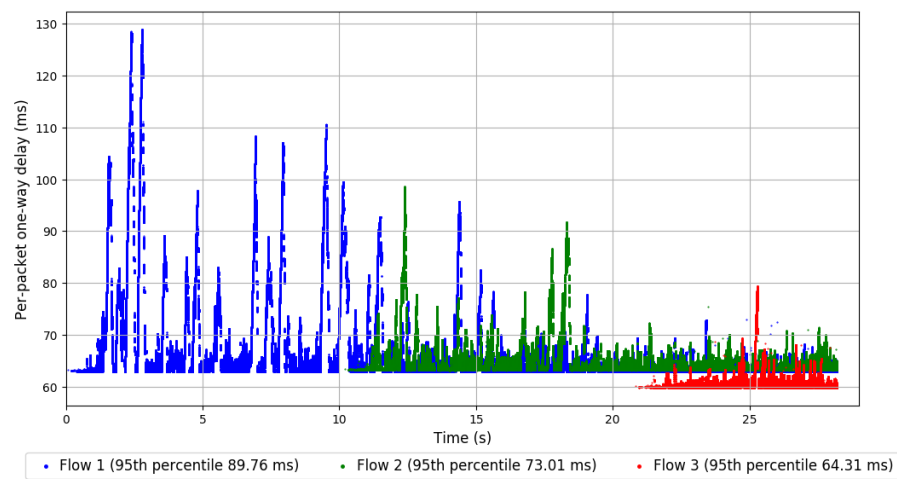Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-11-24 15:33:58
End at: 2019-11-24 15:34:28
Local clock offset: 0.089 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2019-11-24 19:36:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 756.31 Mbit/s
95th percentile per-packet one-way delay: 86.885 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 442.20 Mbit/s
95th percentile per-packet one-way delay: 94.143 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 381.64 Mbit/s
95th percentile per-packet one-way delay: 77.125 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 275.19 Mbit/s
95th percentile per-packet one-way delay: 66.460 ms
Loss rate: 1.83%
```

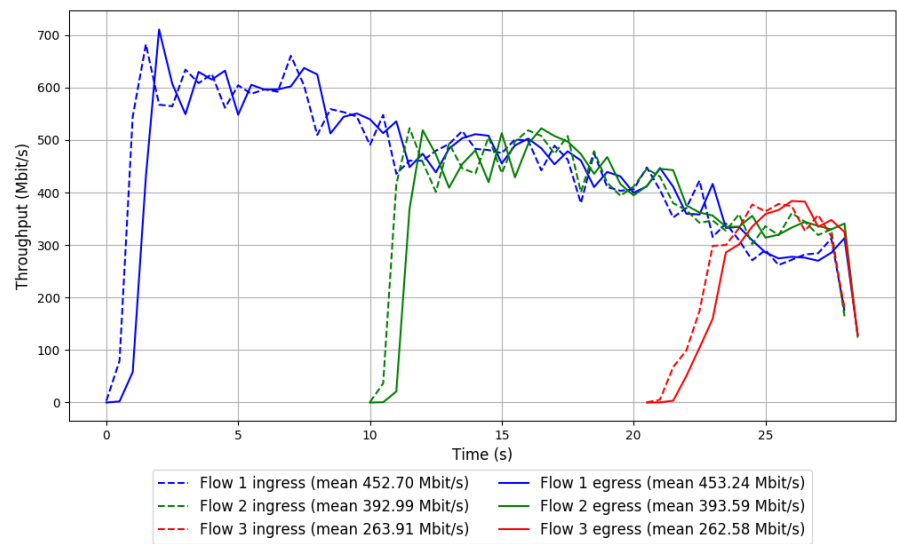Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-11-24 16:14:21
End at: 2019-11-24 16:14:51
Local clock offset: 0.486 ms
Remote clock offset: -0.004 ms

# Below is generated by plot.py at 2019-11-24 19:47:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 739.87 Mbit/s
95th percentile per-packet one-way delay: 71.946 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 434.19 Mbit/s
95th percentile per-packet one-way delay: 76.356 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 368.85 Mbit/s
95th percentile per-packet one-way delay: 64.573 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 271.01 Mbit/s
95th percentile per-packet one-way delay: 64.228 ms
Loss rate: 2.01%
```

Run 3: Report of Indigo-MusesC3 — Data Link

70

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-11-24 16:54:43
End at: 2019-11-24 16:55:13
Local clock offset: 0.819 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2019-11-24 19:48:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 773.58 Mbit/s
95th percentile per-packet one-way delay: 83.045 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 453.24 Mbit/s
95th percentile per-packet one-way delay: 89.756 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 393.59 Mbit/s
95th percentile per-packet one-way delay: 73.007 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 262.58 Mbit/s
95th percentile per-packet one-way delay: 64.309 ms
Loss rate: 2.11%
```
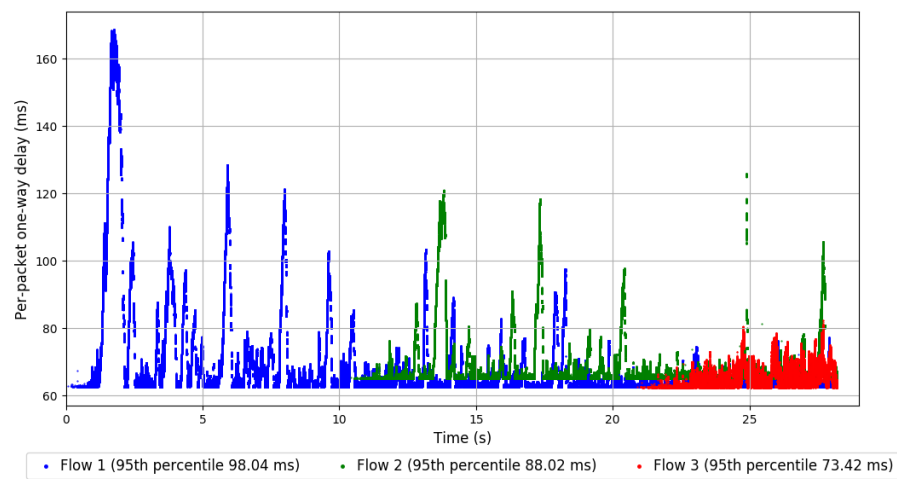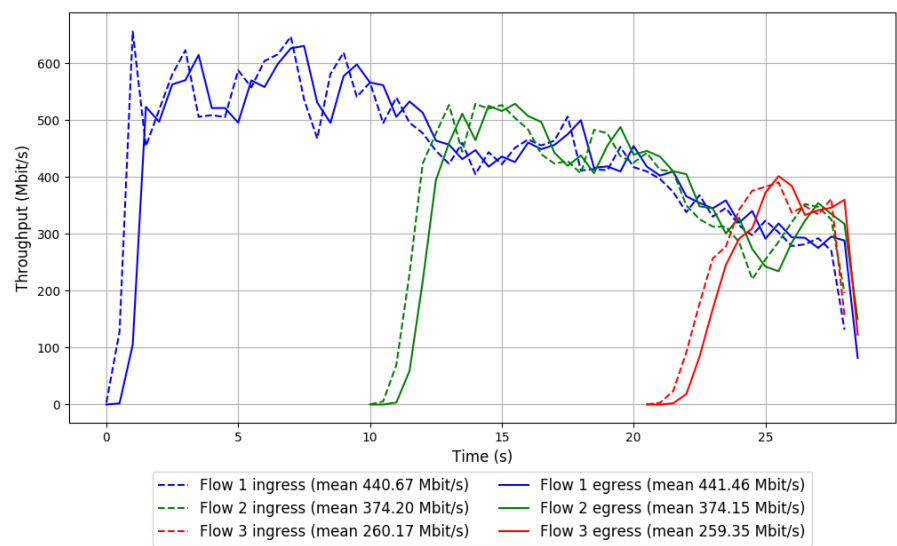
Run 4: Report of Indigo-MusesC3 — Data Link

72

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-11-24 17:35:09
End at: 2019-11-24 17:35:39
Local clock offset: -0.165 ms
Remote clock offset: 0.118 ms

# Below is generated by plot.py at 2019-11-24 19:48:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 745.03 Mbit/s
95th percentile per-packet one-way delay: 93.683 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 441.46 Mbit/s
95th percentile per-packet one-way delay: 98.043 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 374.15 Mbit/s
95th percentile per-packet one-way delay: 88.015 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 259.35 Mbit/s
95th percentile per-packet one-way delay: 73.417 ms
Loss rate: 2.04%
```
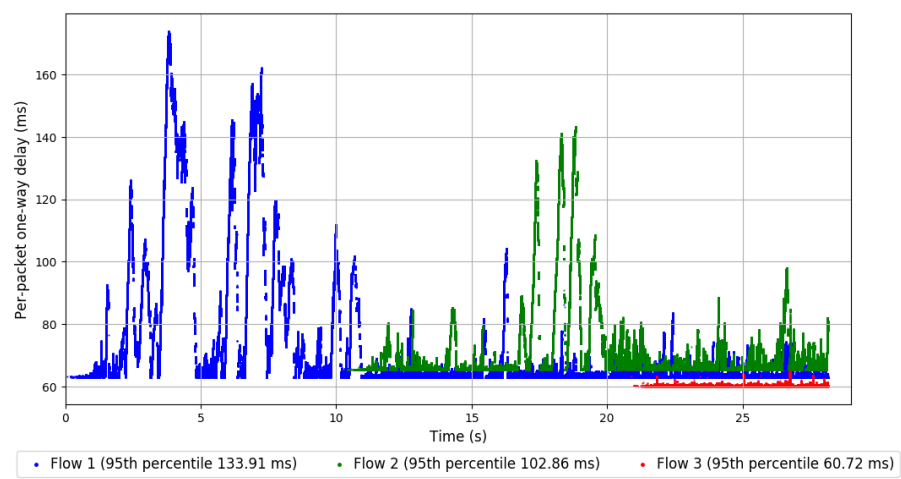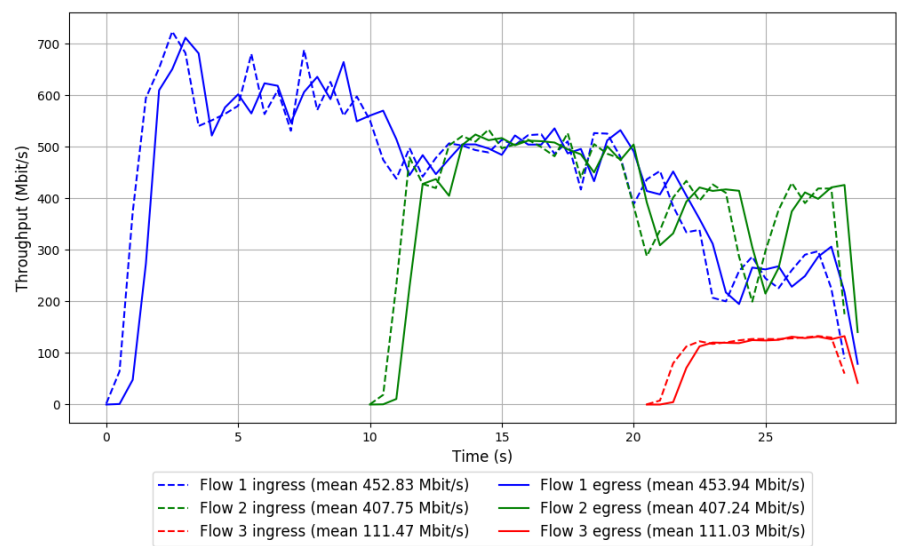
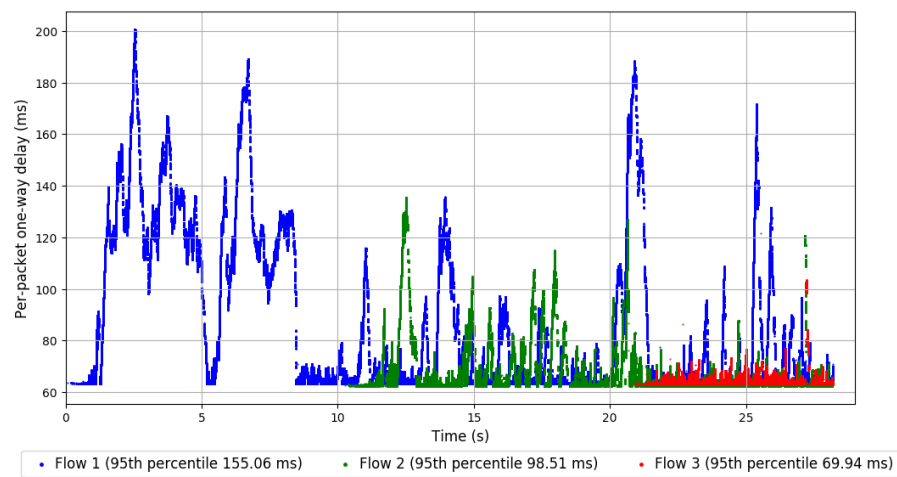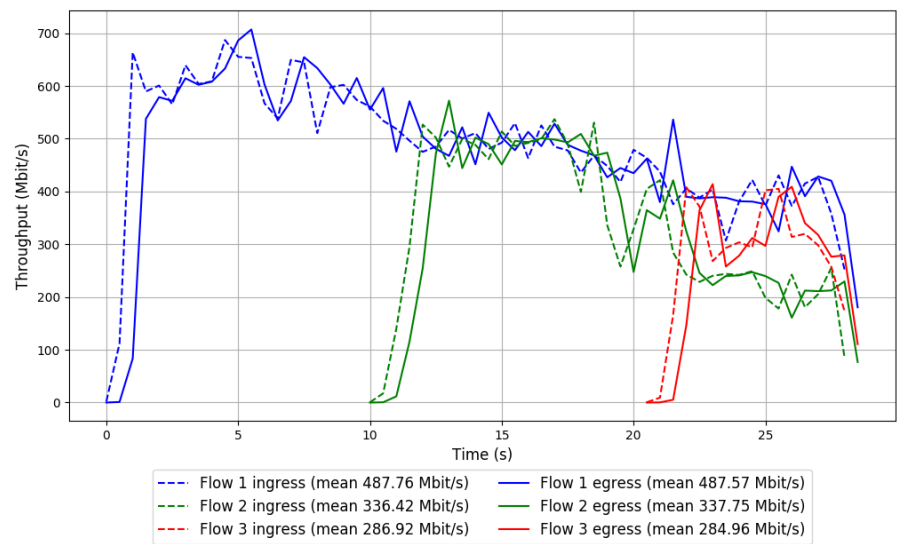# Run 5: Report of Indigo-MusesC3 — Data Link

74

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-11-24 15:27:31
End at: 2019-11-24 15:28:01
Local clock offset: -0.089 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2019-11-24 19:48:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.83 Mbit/s
95th percentile per-packet one-way delay: 123.370 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 453.94 Mbit/s
95th percentile per-packet one-way delay: 133.909 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 407.24 Mbit/s
95th percentile per-packet one-way delay: 102.860 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 111.03 Mbit/s
95th percentile per-packet one-way delay: 60.718 ms
Loss rate: 2.02%
```

Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-11-24 16:07:48
End at: 2019-11-24 16:08:18
Local clock offset: 0.44 ms
Remote clock offset: -0.211 ms


# Below is generated by plot.py at 2019-11-24 19:48:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.19 Mbit/s
95th percentile per-packet one-way delay: 143.095 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 487.57 Mbit/s
95th percentile per-packet one-way delay: 155.055 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 337.75 Mbit/s
95th percentile per-packet one-way delay: 98.511 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 284.96 Mbit/s
95th percentile per-packet one-way delay: 69.938 ms
Loss rate: 1.99%
```
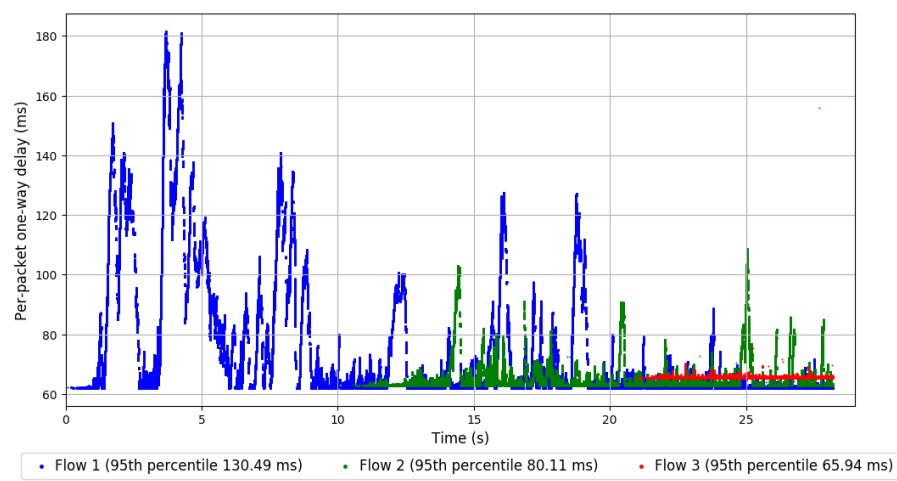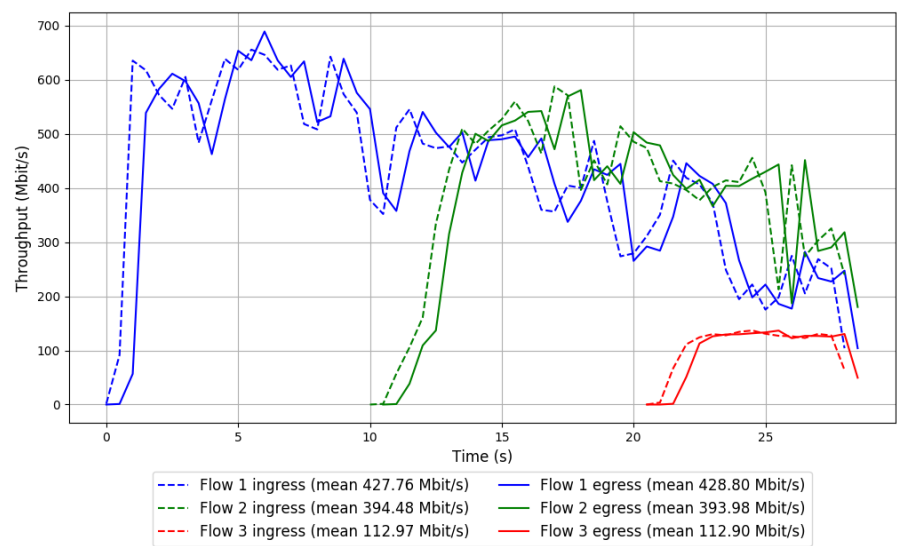
Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 487.76 Mbit/s)   Flow 1 egress (mean 487.57 Mbit/s)
Flow 2 ingress (mean 336.42 Mbit/s)   Flow 2 egress (mean 337.75 Mbit/s)
Flow 3 ingress (mean 286.92 Mbit/s)   Flow 3 egress (mean 284.96 Mbit/s)

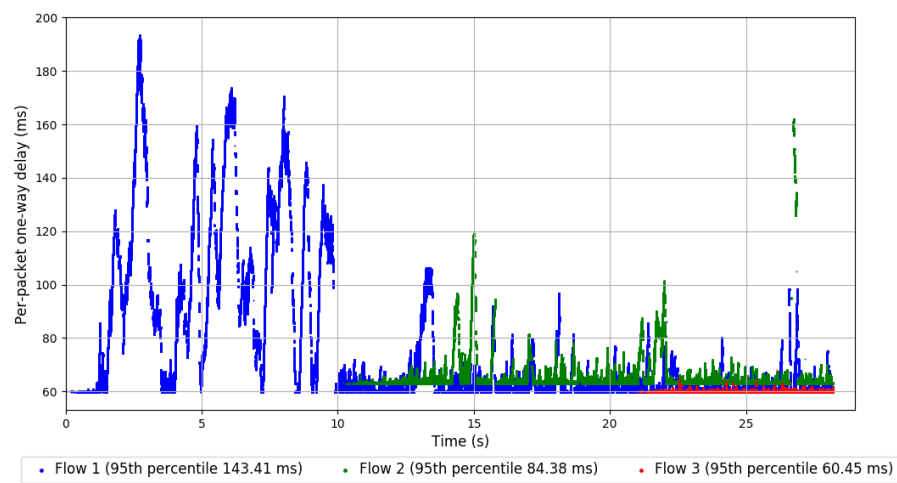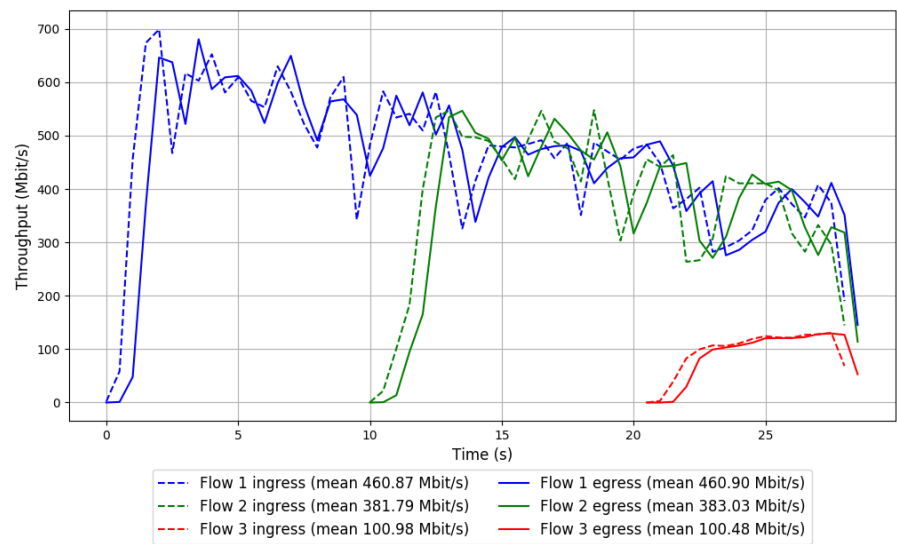Flow 1 (95th percentile 155.06 ms)   Flow 2 (95th percentile 98.51 ms)   Flow 3 (95th percentile 69.94 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-11-24 16:48:12
End at: 2019-11-24 16:48:42
Local clock offset: 0.773 ms
Remote clock offset: 0.1 ms


# Below is generated by plot.py at 2019-11-24 19:48:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 704.98 Mbit/s
95th percentile per-packet one-way delay: 120.993 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 428.80 Mbit/s
95th percentile per-packet one-way delay: 130.490 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 393.98 Mbit/s
95th percentile per-packet one-way delay: 80.108 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 112.90 Mbit/s
95th percentile per-packet one-way delay: 65.944 ms
Loss rate: 1.81%
```
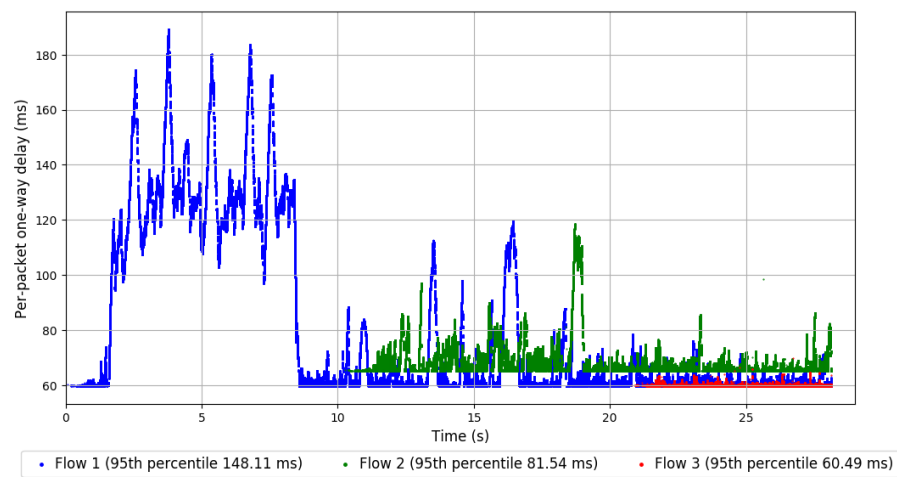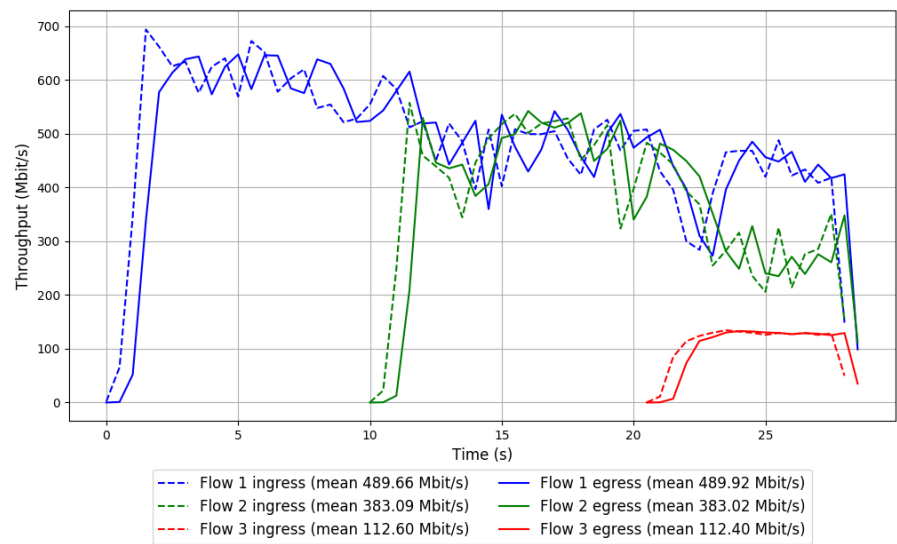
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-11-24 17:28:34
End at: 2019-11-24 17:29:04
Local clock offset: -0.167 ms
Remote clock offset: -0.111 ms


# Below is generated by plot.py at 2019-11-24 19:49:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 731.73 Mbit/s
95th percentile per-packet one-way delay: 133.344 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 460.90 Mbit/s
95th percentile per-packet one-way delay: 143.414 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 383.03 Mbit/s
95th percentile per-packet one-way delay: 84.381 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 100.48 Mbit/s
95th percentile per-packet one-way delay: 60.450 ms
Loss rate: 2.15%
```
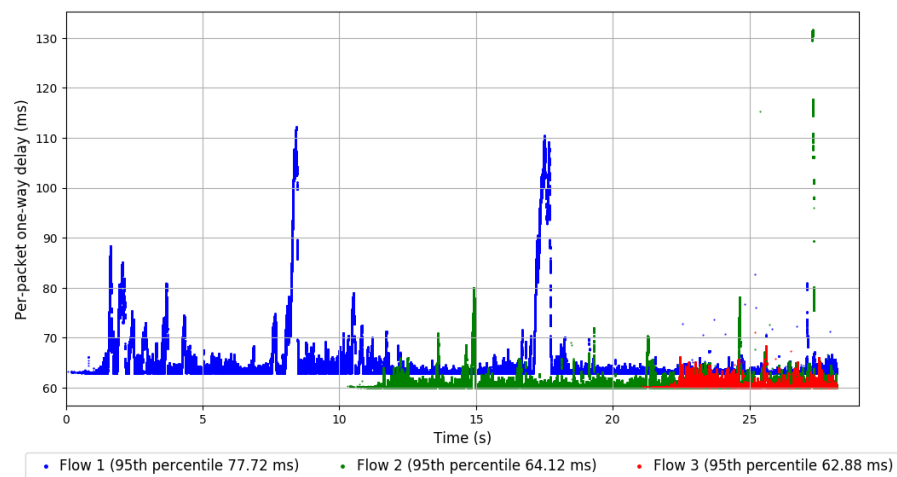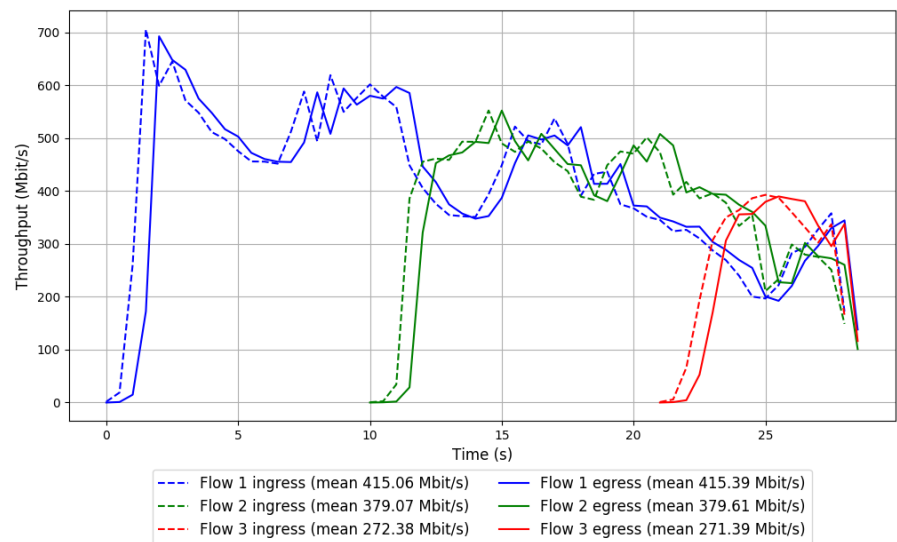
Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 460.87 Mbit/s) --- Flow 1 egress (mean 460.90 Mbit/s)
Flow 2 ingress (mean 381.79 Mbit/s) --- Flow 2 egress (mean 383.03 Mbit/s)
Flow 3 ingress (mean 100.98 Mbit/s) --- Flow 3 egress (mean 100.48 Mbit/s)

Flow 1 (95th percentile 143.41 ms)   Flow 2 (95th percentile 84.38 ms)   Flow 3 (95th percentile 60.45 ms)
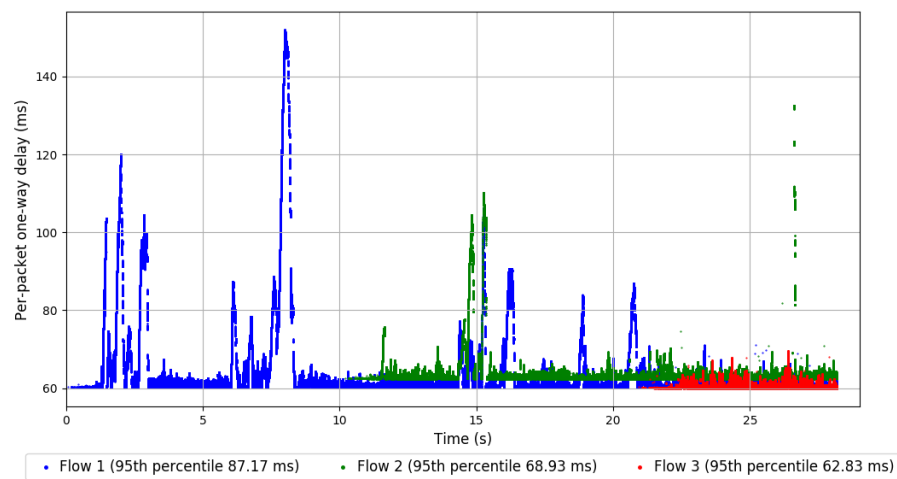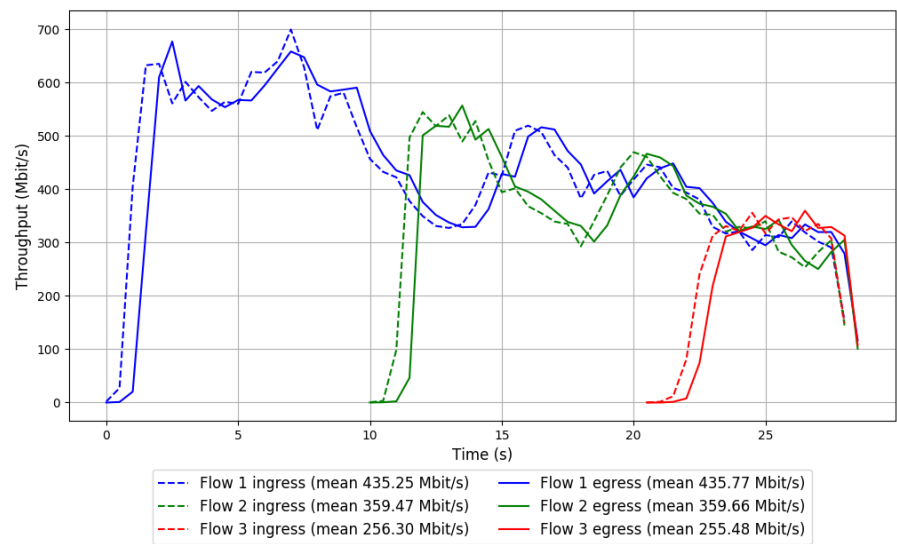
```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-11-24 18:09:02
End at: 2019-11-24 18:09:33
Local clock offset: -0.193 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-11-24 19:49:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 762.79 Mbit/s
95th percentile per-packet one-way delay: 135.316 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 489.92 Mbit/s
95th percentile per-packet one-way delay: 148.109 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 383.02 Mbit/s
95th percentile per-packet one-way delay: 81.543 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 112.40 Mbit/s
95th percentile per-packet one-way delay: 60.493 ms
Loss rate: 1.79%
```

Run 5: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 489.66 Mbit/s) ——— Flow 1 egress (mean 489.92 Mbit/s)
- - - - Flow 2 ingress (mean 383.09 Mbit/s) ——— Flow 2 egress (mean 383.02 Mbit/s)
- - - - Flow 3 ingress (mean 112.60 Mbit/s) ——— Flow 3 egress (mean 112.40 Mbit/s)

• Flow 1 (95th percentile 148.11 ms)   • Flow 2 (95th percentile 81.54 ms)   • Flow 3 (95th percentile 60.49 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-11-24 14:55:55
End at: 2019-11-24 14:56:25
Local clock offset: -0.571 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2019-11-24 19:59:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 725.77 Mbit/s
95th percentile per-packet one-way delay: 72.000 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 415.39 Mbit/s
95th percentile per-packet one-way delay: 77.722 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 379.61 Mbit/s
95th percentile per-packet one-way delay: 64.120 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 271.39 Mbit/s
95th percentile per-packet one-way delay: 62.882 ms
Loss rate: 2.11%
```

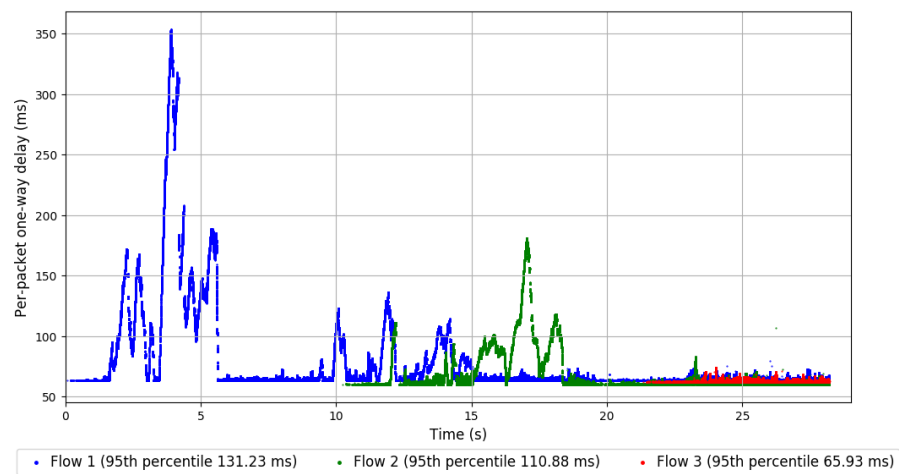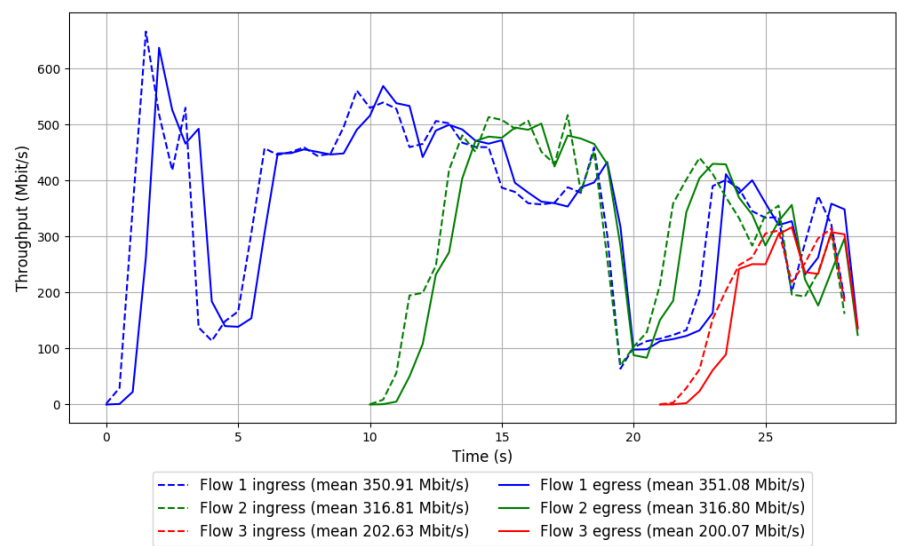Run 1: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 415.06 Mbit/s) ——— Flow 1 egress (mean 415.39 Mbit/s)
- - - Flow 2 ingress (mean 379.07 Mbit/s) ——— Flow 2 egress (mean 379.61 Mbit/s)
- - - Flow 3 ingress (mean 272.38 Mbit/s) ——— Flow 3 egress (mean 271.39 Mbit/s)

• Flow 1 (95th percentile 77.72 ms)　　• Flow 2 (95th percentile 64.12 ms)　　• Flow 3 (95th percentile 62.88 ms)
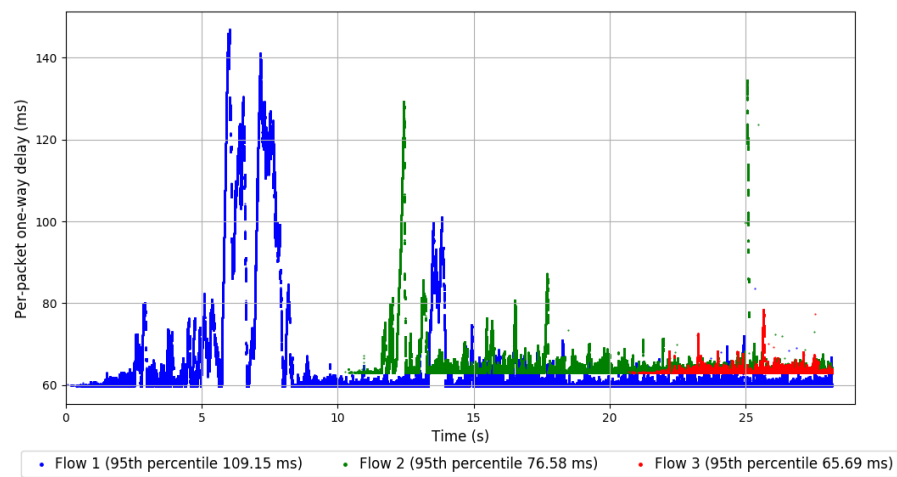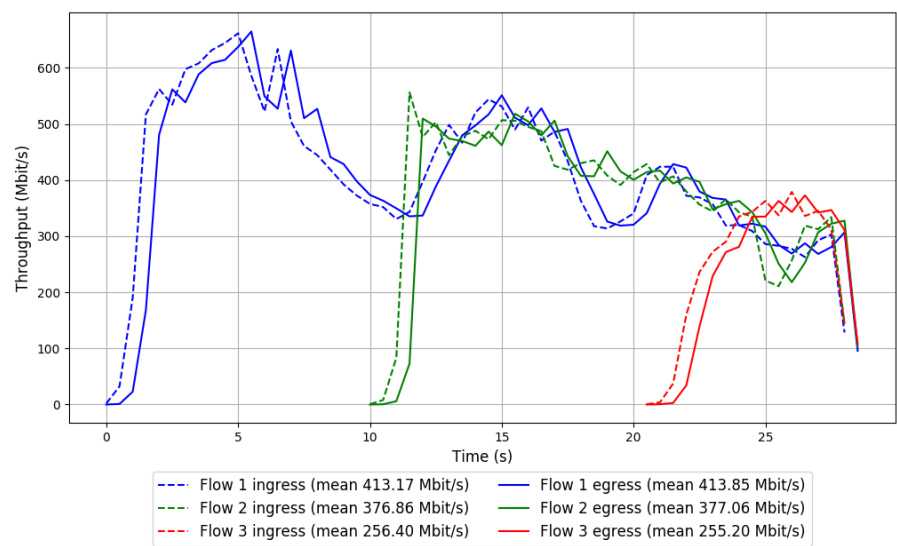
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-11-24 15:35:44
End at: 2019-11-24 15:36:14
Local clock offset: 0.075 ms
Remote clock offset: -0.106 ms


# Below is generated by plot.py at 2019-11-24 20:00:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 731.54 Mbit/s
95th percentile per-packet one-way delay: 82.064 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 435.77 Mbit/s
95th percentile per-packet one-way delay: 87.175 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 359.66 Mbit/s
95th percentile per-packet one-way delay: 68.930 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 255.48 Mbit/s
95th percentile per-packet one-way delay: 62.831 ms
Loss rate: 1.95%
```

Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-11-24 16:16:08
End at: 2019-11-24 16:16:38
Local clock offset: 0.46 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-11-24 20:00:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 602.27 Mbit/s
95th percentile per-packet one-way delay: 117.382 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 351.08 Mbit/s
95th percentile per-packet one-way delay: 131.227 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 316.80 Mbit/s
95th percentile per-packet one-way delay: 110.877 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 200.07 Mbit/s
95th percentile per-packet one-way delay: 65.928 ms
Loss rate: 3.02%
```
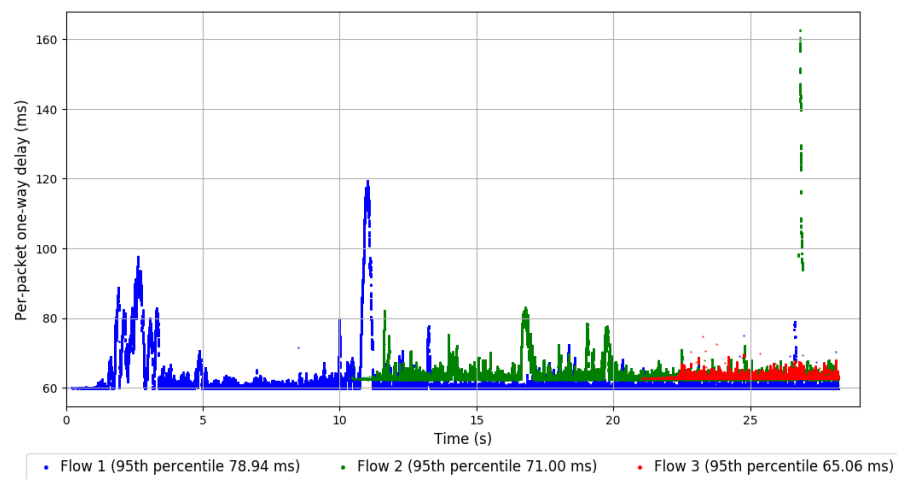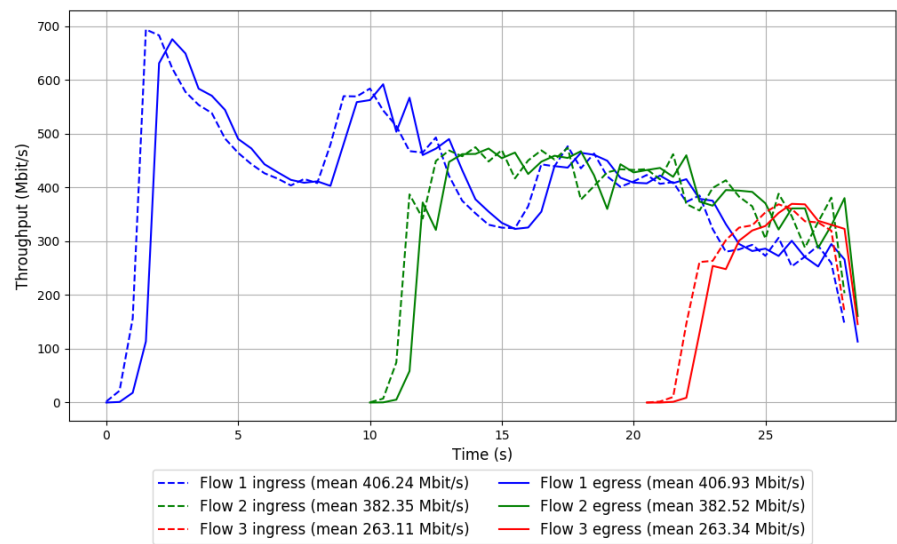
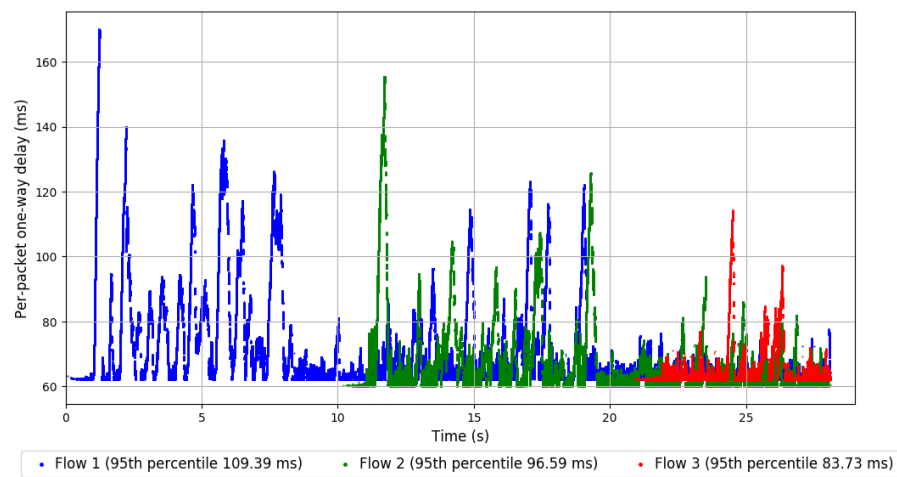Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-11-24 16:56:30
End at: 2019-11-24 16:57:00
Local clock offset: 0.811 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2019-11-24 20:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 721.75 Mbit/s
95th percentile per-packet one-way delay: 91.318 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 413.85 Mbit/s
95th percentile per-packet one-way delay: 109.150 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 377.06 Mbit/s
95th percentile per-packet one-way delay: 76.577 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 255.20 Mbit/s
95th percentile per-packet one-way delay: 65.689 ms
Loss rate: 2.09%
```

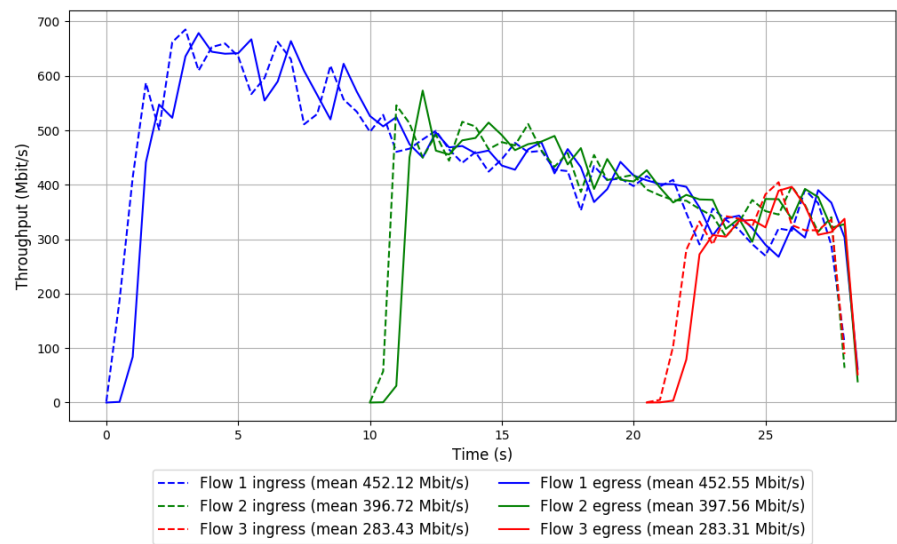Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 413.17 Mbit/s)   Flow 1 egress (mean 413.85 Mbit/s)
Flow 2 ingress (mean 376.86 Mbit/s)   Flow 2 egress (mean 377.06 Mbit/s)
Flow 3 ingress (mean 256.40 Mbit/s)   Flow 3 egress (mean 255.20 Mbit/s)

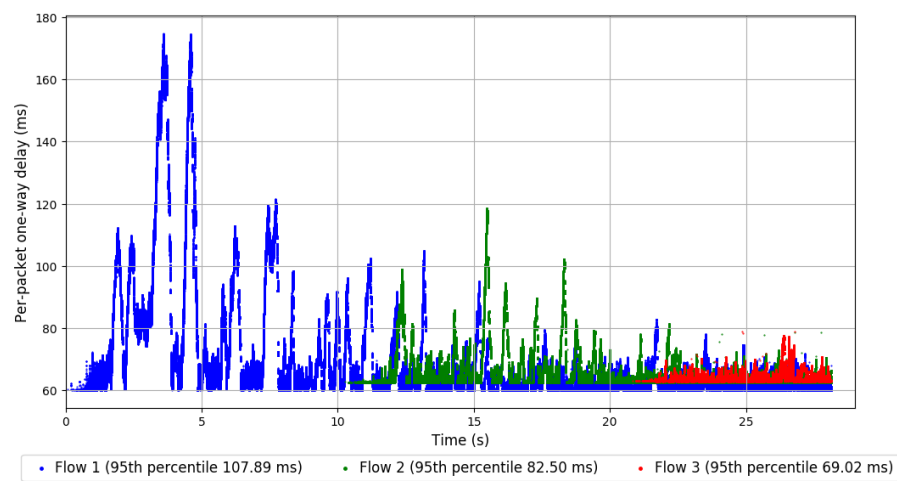Flow 1 (95th percentile 109.15 ms)   Flow 2 (95th percentile 76.58 ms)   Flow 3 (95th percentile 65.69 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-11-24 17:36:56
End at: 2019-11-24 17:37:26
Local clock offset: -0.172 ms
Remote clock offset: 0.07 ms


# Below is generated by plot.py at 2019-11-24 20:00:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 717.60 Mbit/s
95th percentile per-packet one-way delay: 74.974 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 406.93 Mbit/s
95th percentile per-packet one-way delay: 78.945 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 382.52 Mbit/s
95th percentile per-packet one-way delay: 70.998 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 263.34 Mbit/s
95th percentile per-packet one-way delay: 65.060 ms
Loss rate: 1.64%
```

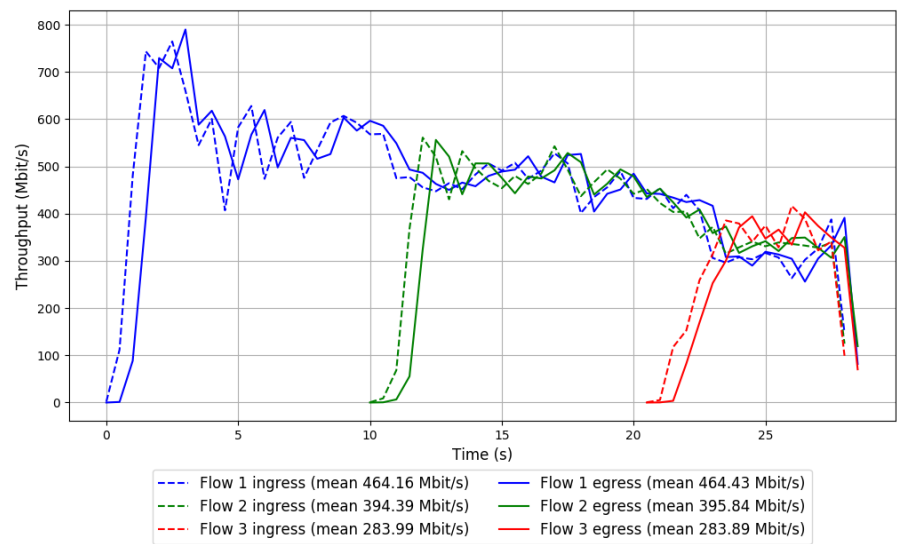Run 5: Report of Indigo-MusesD — Data Link

94

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-11-24 15:23:47
End at: 2019-11-24 15:24:17
Local clock offset: -0.205 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2019-11-24 20:01:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 779.65 Mbit/s
95th percentile per-packet one-way delay: 104.760 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 452.55 Mbit/s
95th percentile per-packet one-way delay: 109.389 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 397.56 Mbit/s
95th percentile per-packet one-way delay: 96.588 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 283.31 Mbit/s
95th percentile per-packet one-way delay: 83.731 ms
Loss rate: 1.71%
```
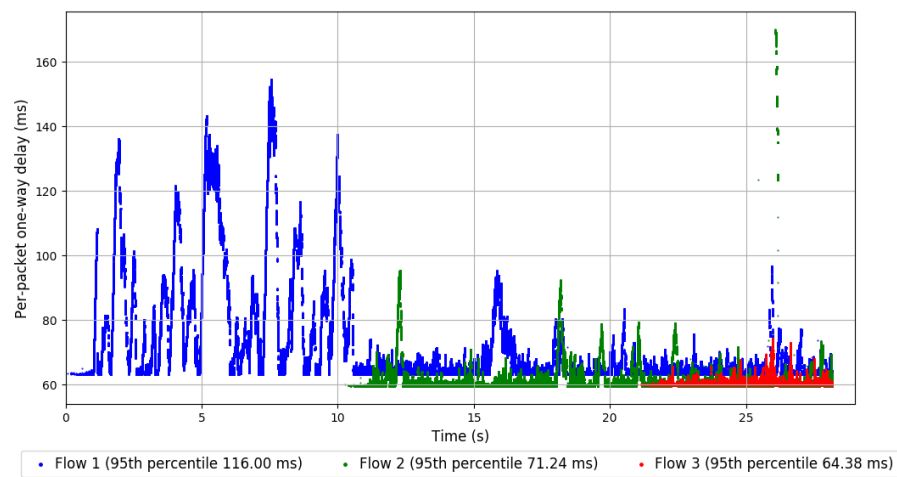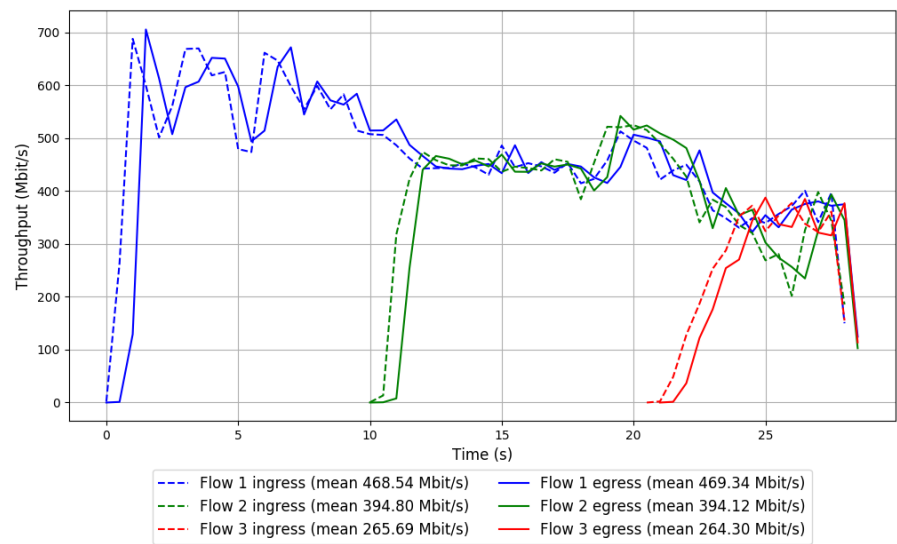
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-11-24 16:04:03
End at: 2019-11-24 16:04:33
Local clock offset: 0.401 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-11-24 20:02:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 790.16 Mbit/s
95th percentile per-packet one-way delay: 100.428 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 464.43 Mbit/s
95th percentile per-packet one-way delay: 107.894 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 395.84 Mbit/s
95th percentile per-packet one-way delay: 82.503 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 283.89 Mbit/s
95th percentile per-packet one-way delay: 69.022 ms
Loss rate: 1.87%
```
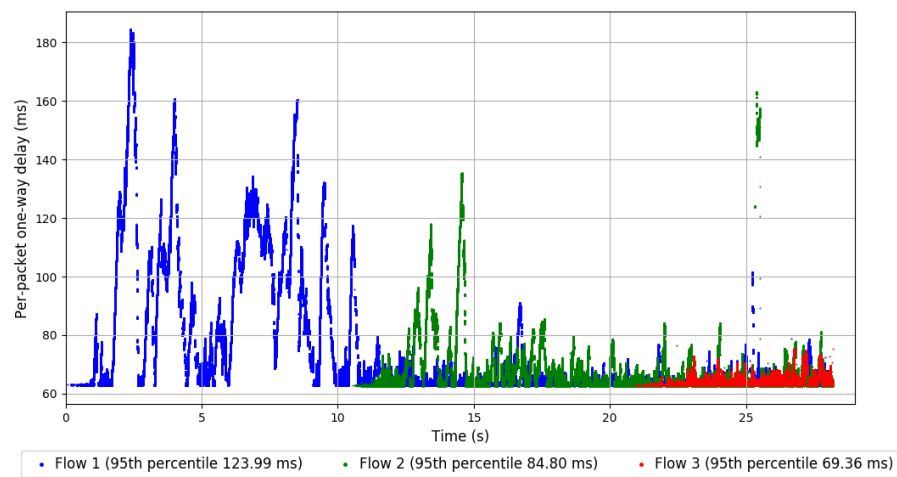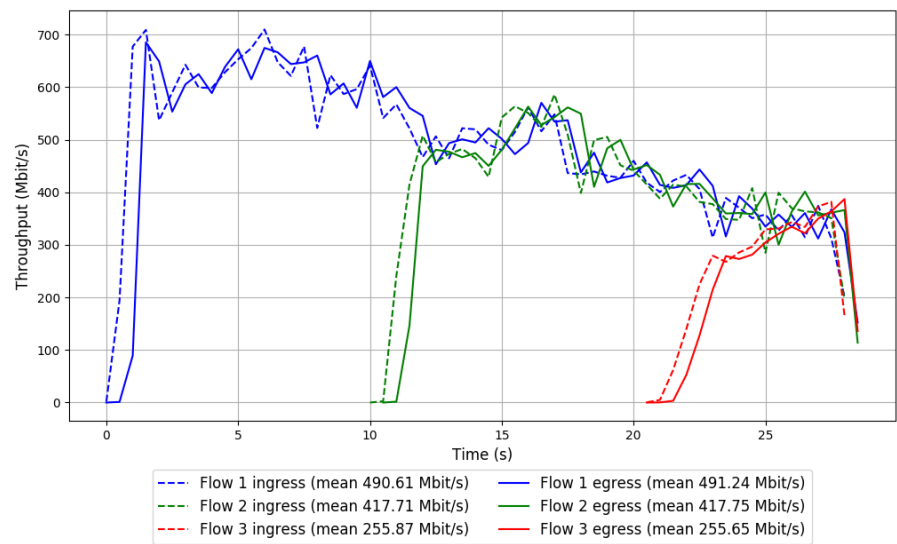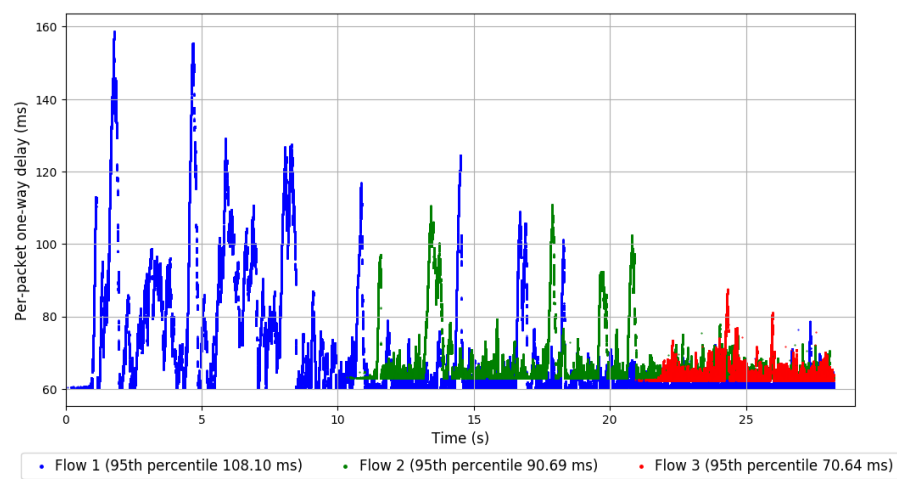
Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 464.16 Mbit/s) --- Flow 1 egress (mean 464.43 Mbit/s)
Flow 2 ingress (mean 394.39 Mbit/s) --- Flow 2 egress (mean 395.84 Mbit/s)
Flow 3 ingress (mean 283.99 Mbit/s) --- Flow 3 egress (mean 283.89 Mbit/s)

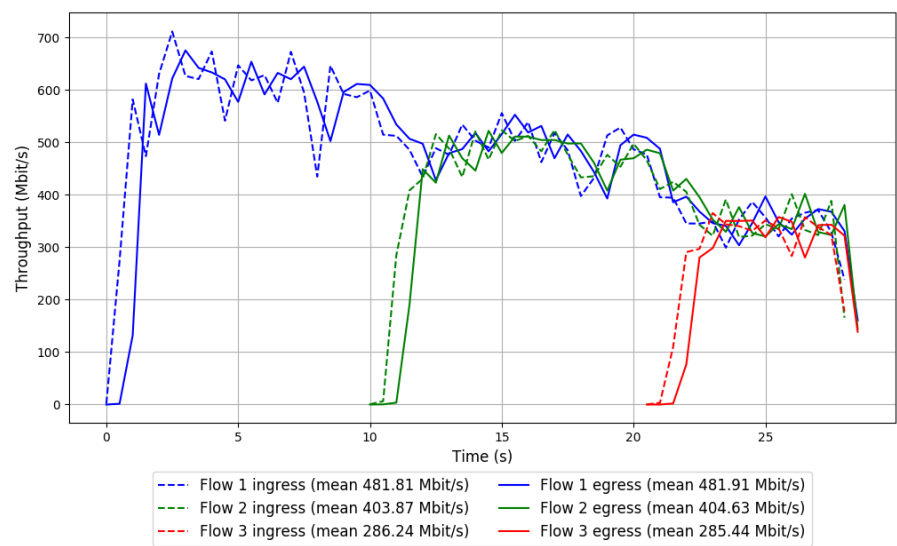Flow 1 (95th percentile 107.89 ms)   Flow 2 (95th percentile 82.50 ms)   Flow 3 (95th percentile 69.02 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-11-24 16:44:24
End at: 2019-11-24 16:44:54
Local clock offset: 0.718 ms
Remote clock offset: 0.094 ms


# Below is generated by plot.py at 2019-11-24 20:03:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 787.66 Mbit/s
95th percentile per-packet one-way delay: 104.127 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 469.34 Mbit/s
95th percentile per-packet one-way delay: 115.997 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 394.12 Mbit/s
95th percentile per-packet one-way delay: 71.236 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 264.30 Mbit/s
95th percentile per-packet one-way delay: 64.380 ms
Loss rate: 2.27%
```
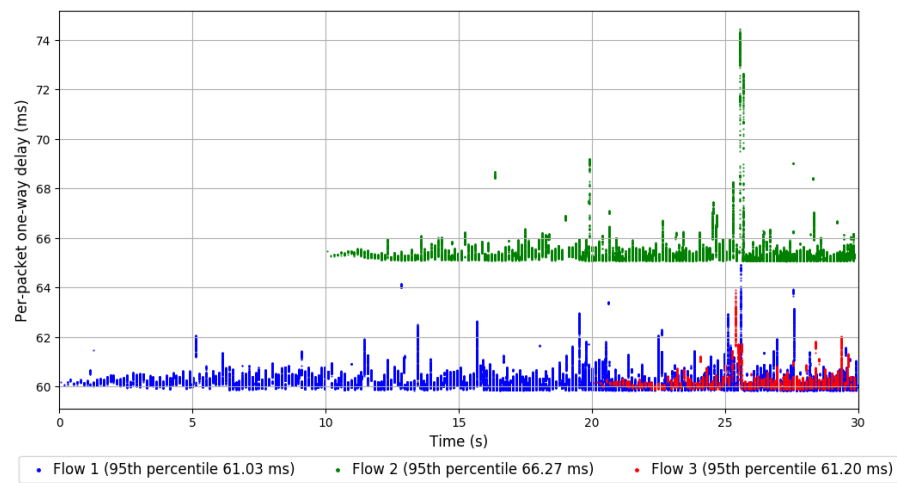
Run 3: Report of Indigo-MusesT — Data Link

100

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-11-24 17:24:41
End at: 2019-11-24 17:25:11
Local clock offset: -0.12 ms
Remote clock offset: -0.08 ms


# Below is generated by plot.py at 2019-11-24 20:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 820.04 Mbit/s
95th percentile per-packet one-way delay: 117.508 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 491.24 Mbit/s
95th percentile per-packet one-way delay: 123.994 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 417.75 Mbit/s
95th percentile per-packet one-way delay: 84.803 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 255.65 Mbit/s
95th percentile per-packet one-way delay: 69.358 ms
Loss rate: 1.81%
```

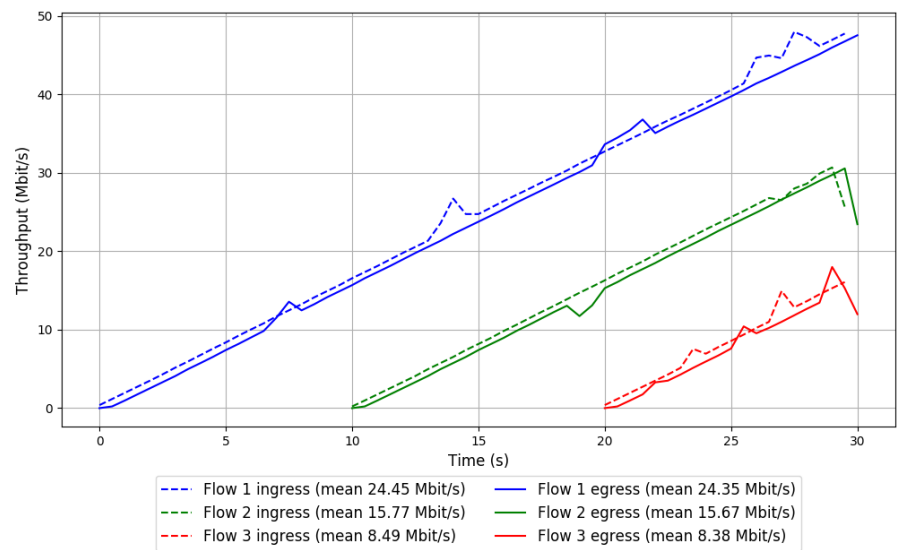Run 4: Report of Indigo-MusesT — Data Link

- - - - Flow 1 ingress (mean 490.61 Mbit/s) ——— Flow 1 egress (mean 491.24 Mbit/s)
- - - - Flow 2 ingress (mean 417.71 Mbit/s) ——— Flow 2 egress (mean 417.75 Mbit/s)
- - - - Flow 3 ingress (mean 255.87 Mbit/s) ——— Flow 3 egress (mean 255.65 Mbit/s)

• Flow 1 (95th percentile 123.99 ms) • Flow 2 (95th percentile 84.80 ms) • Flow 3 (95th percentile 69.36 ms)

102

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-11-24 18:05:14
End at: 2019-11-24 18:05:44
Local clock offset: -0.231 ms
Remote clock offset: -0.239 ms


# Below is generated by plot.py at 2019-11-24 20:13:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 812.91 Mbit/s
95th percentile per-packet one-way delay: 100.480 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 481.91 Mbit/s
95th percentile per-packet one-way delay: 108.099 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 404.63 Mbit/s
95th percentile per-packet one-way delay: 90.690 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 285.44 Mbit/s
95th percentile per-packet one-way delay: 70.639 ms
Loss rate: 2.09%
```

Run 5: Report of Indigo-MusesT — Data Link
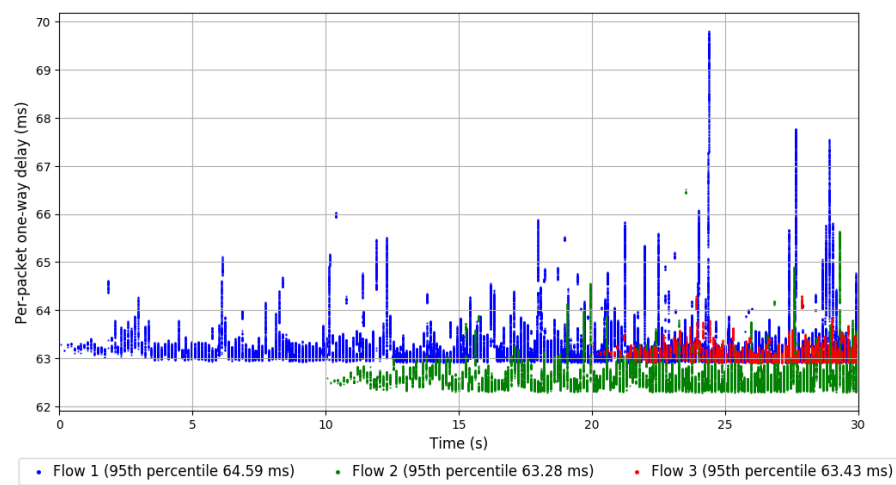

- - - Flow 1 ingress (mean 481.81 Mbit/s)   —— Flow 1 egress (mean 481.91 Mbit/s)
- - - Flow 2 ingress (mean 403.87 Mbit/s)   —— Flow 2 egress (mean 404.63 Mbit/s)
- - - Flow 3 ingress (mean 286.24 Mbit/s)   —— Flow 3 egress (mean 285.44 Mbit/s)

• Flow 1 (95th percentile 108.10 ms)   • Flow 2 (95th percentile 90.69 ms)   • Flow 3 (95th percentile 70.64 ms)
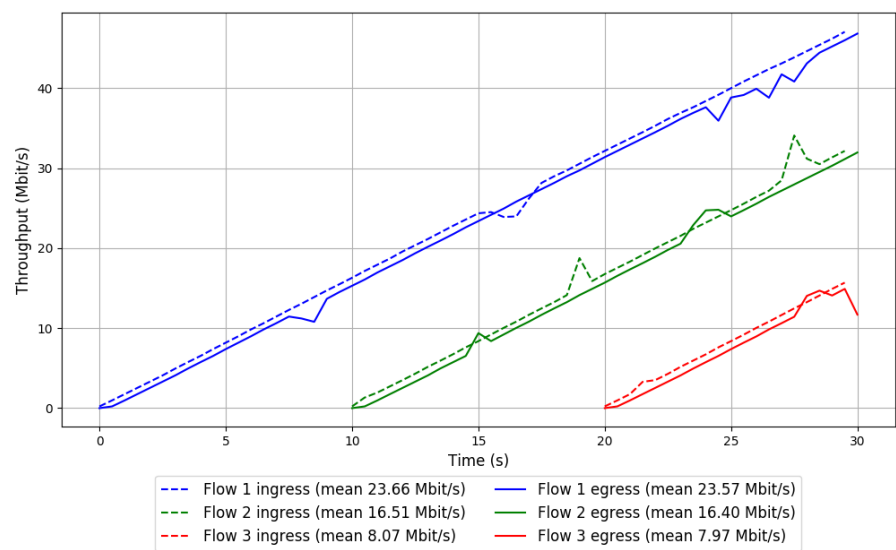
```
Run 1: Statistics of LEDBAT

Start at: 2019-11-24 15:16:45
End at: 2019-11-24 15:17:15
Local clock offset: -0.605 ms
Remote clock offset: -0.143 ms


# Below is generated by plot.py at 2019-11-24 20:13:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.46 Mbit/s
95th percentile per-packet one-way delay: 65.528 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 61.029 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 66.270 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 61.197 ms
Loss rate: 2.44%
```
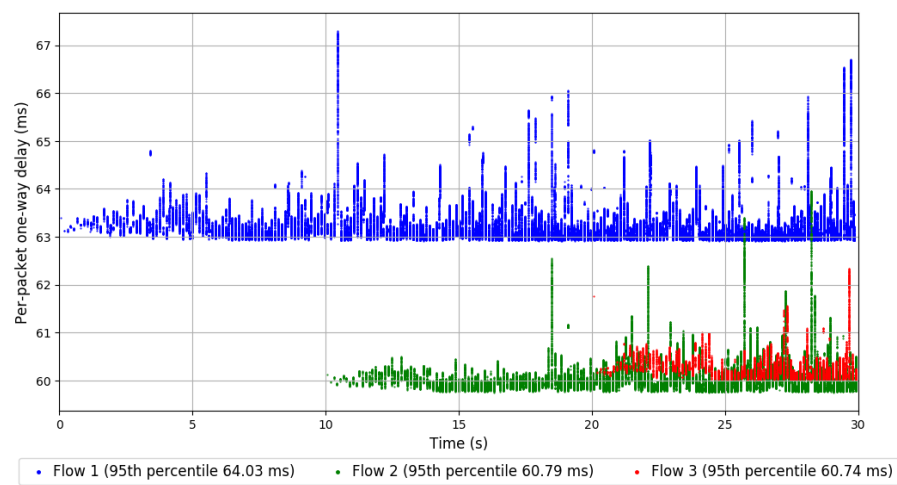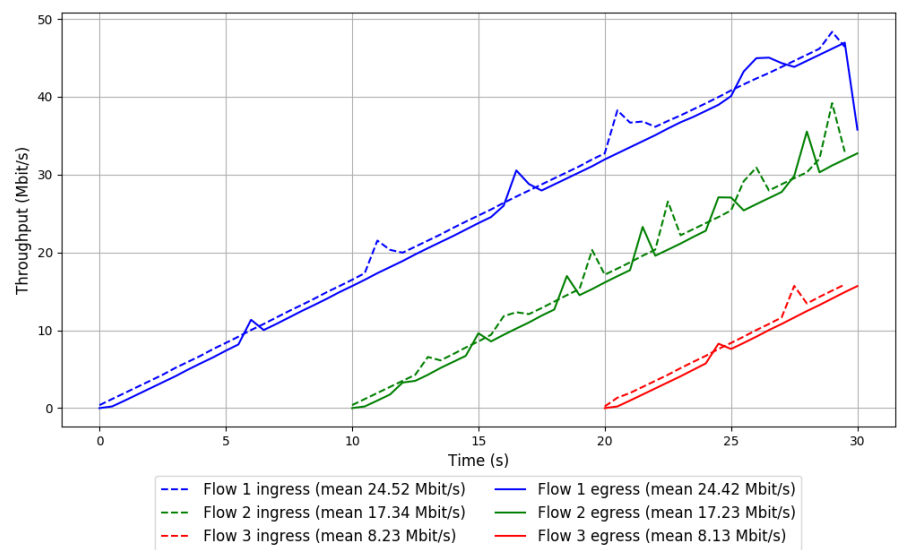
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-11-24 15:56:38
End at: 2019-11-24 15:57:08
Local clock offset: 0.316 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2019-11-24 20:13:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.66 Mbit/s
95th percentile per-packet one-way delay: 63.557 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 24.61 Mbit/s
95th percentile per-packet one-way delay: 63.879 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 17.04 Mbit/s
95th percentile per-packet one-way delay: 61.321 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 8.41 Mbit/s
95th percentile per-packet one-way delay: 60.717 ms
Loss rate: 2.45%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-11-24 16:37:00
End at: 2019-11-24 16:37:30
Local clock offset: 0.647 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2019-11-24 20:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 64.141 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 23.57 Mbit/s
95th percentile per-packet one-way delay: 64.586 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 63.284 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 63.430 ms
Loss rate: 2.50%
```
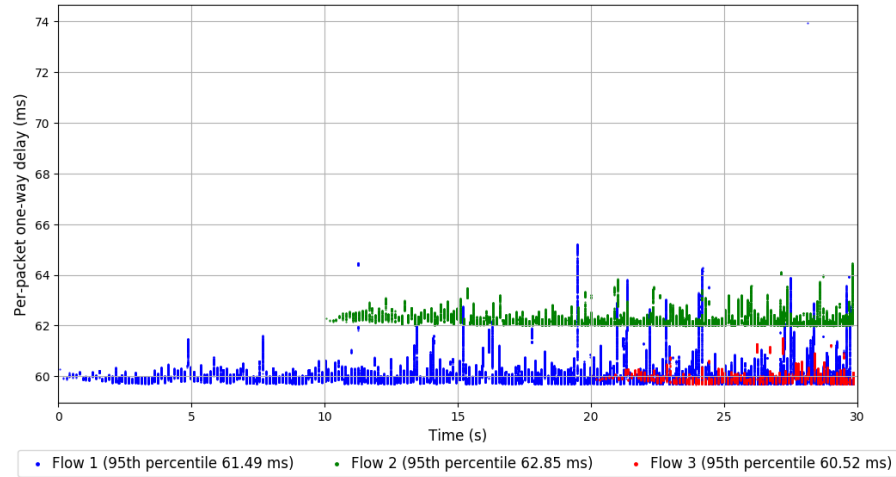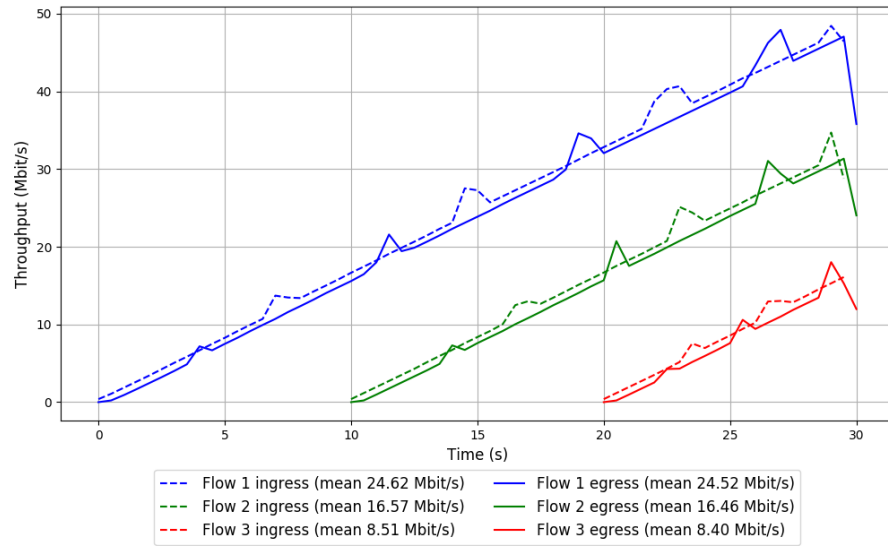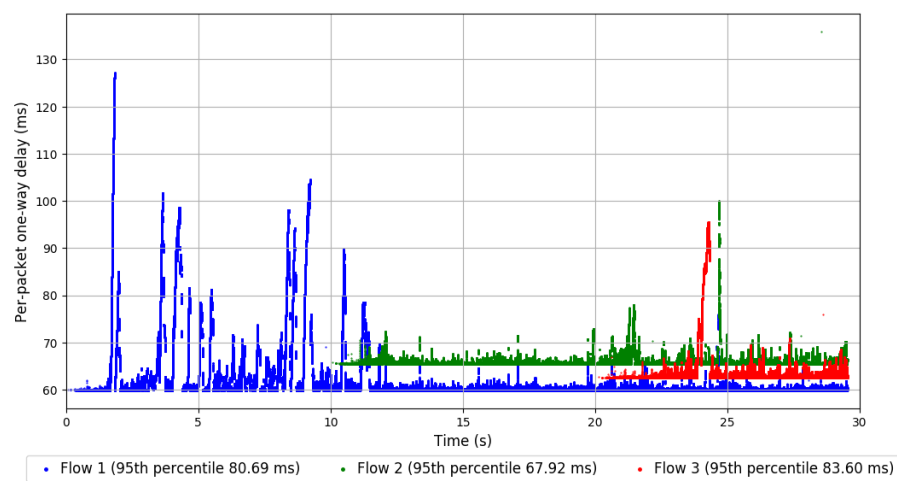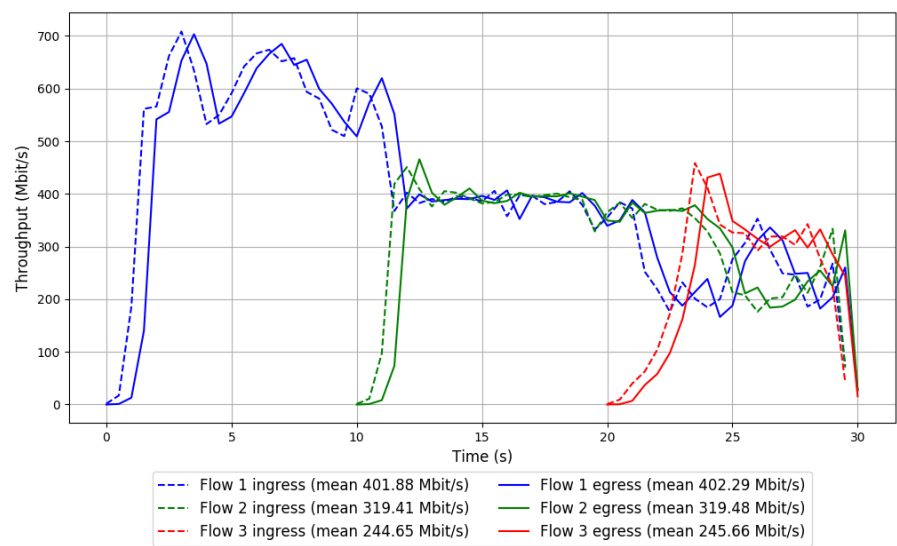
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 23.66 Mbit/s)   Flow 1 egress (mean 23.57 Mbit/s)
Flow 2 ingress (mean 16.51 Mbit/s)   Flow 2 egress (mean 16.40 Mbit/s)
Flow 3 ingress (mean 8.07 Mbit/s)   Flow 3 egress (mean 7.97 Mbit/s)

Flow 1 (95th percentile 64.59 ms)   Flow 2 (95th percentile 63.28 ms)   Flow 3 (95th percentile 63.43 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-11-24 17:17:15
End at: 2019-11-24 17:17:45
Local clock offset: -0.016 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2019-11-24 20:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.49 Mbit/s
95th percentile per-packet one-way delay: 63.790 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 64.032 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 17.23 Mbit/s
95th percentile per-packet one-way delay: 60.791 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 60.737 ms
Loss rate: 2.47%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-11-24 17:57:45
End at: 2019-11-24 17:58:15
Local clock offset: -0.211 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2019-11-24 20:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.19 Mbit/s
95th percentile per-packet one-way delay: 62.482 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 24.52 Mbit/s
95th percentile per-packet one-way delay: 61.494 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 16.46 Mbit/s
95th percentile per-packet one-way delay: 62.855 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 60.517 ms
Loss rate: 2.45%
```
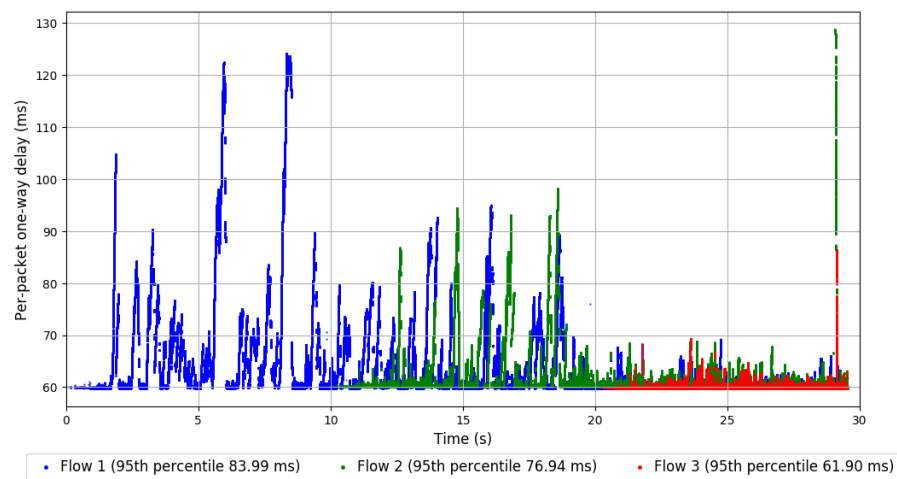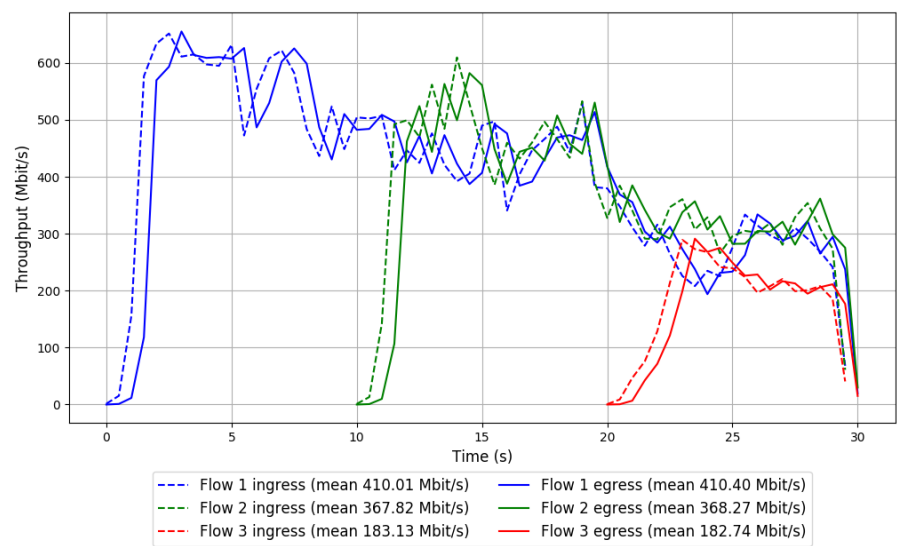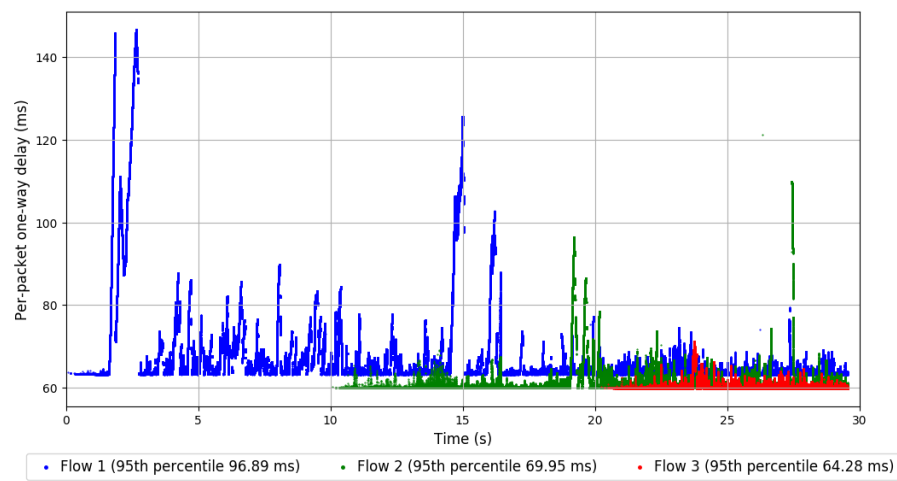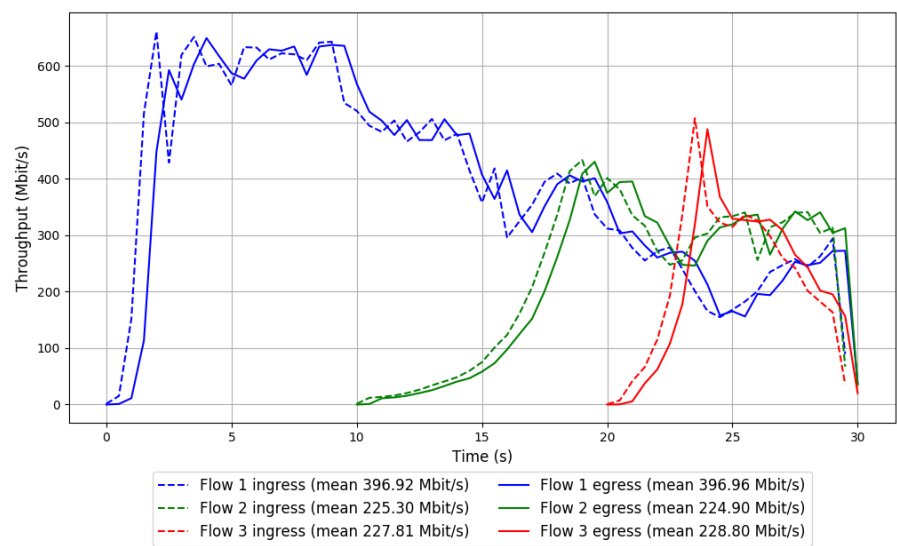
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 15:07:45
End at: 2019-11-24 15:08:15
Local clock offset: -0.624 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2019-11-24 20:14:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 691.53 Mbit/s
95th percentile per-packet one-way delay: 75.119 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 402.29 Mbit/s
95th percentile per-packet one-way delay: 80.688 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 319.48 Mbit/s
95th percentile per-packet one-way delay: 67.916 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 245.66 Mbit/s
95th percentile per-packet one-way delay: 83.600 ms
Loss rate: 0.98%
```
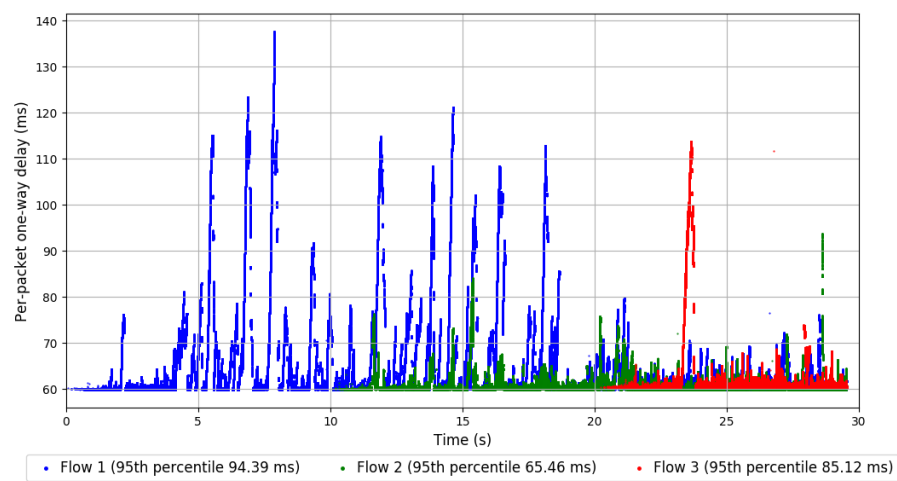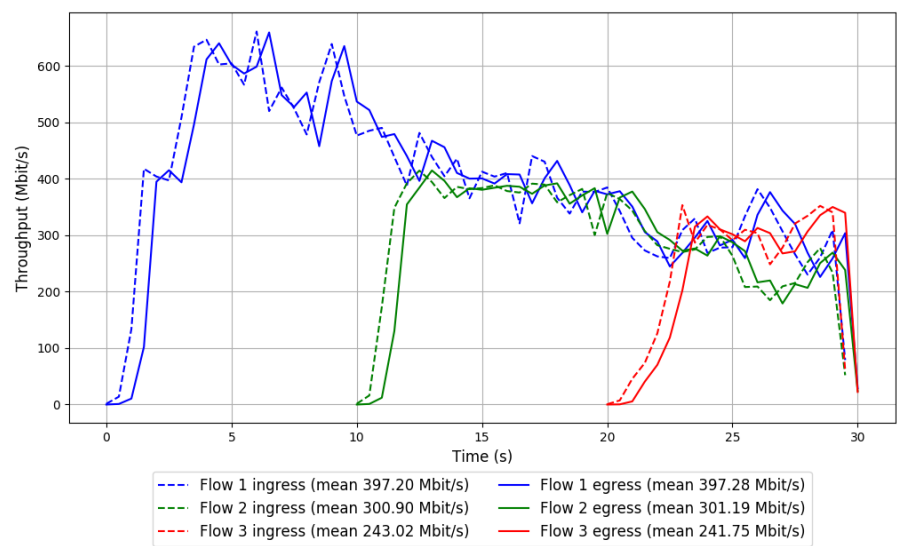
Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 15:47:29
End at: 2019-11-24 15:47:59
Local clock offset: 0.242 ms
Remote clock offset: 0.106 ms


# Below is generated by plot.py at 2019-11-24 20:14:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.91 Mbit/s
95th percentile per-packet one-way delay: 80.560 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 410.40 Mbit/s
95th percentile per-packet one-way delay: 83.990 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 368.27 Mbit/s
95th percentile per-packet one-way delay: 76.937 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 182.74 Mbit/s
95th percentile per-packet one-way delay: 61.901 ms
Loss rate: 1.52%
```

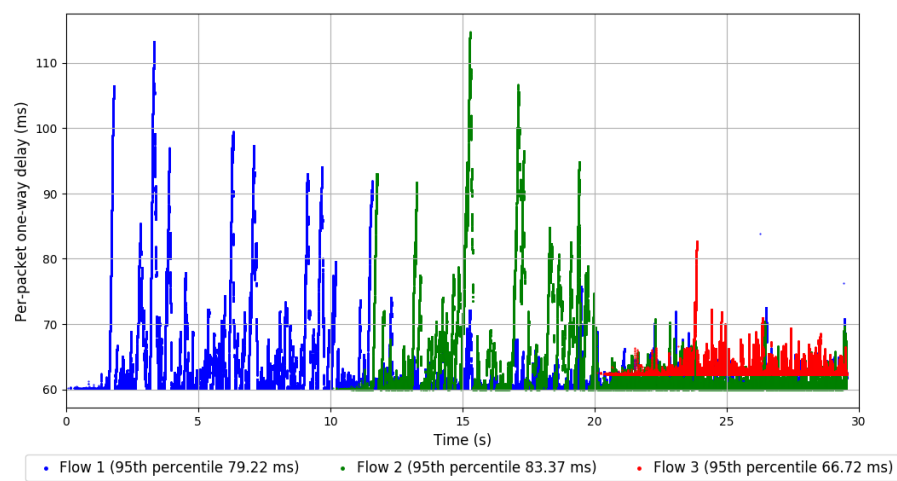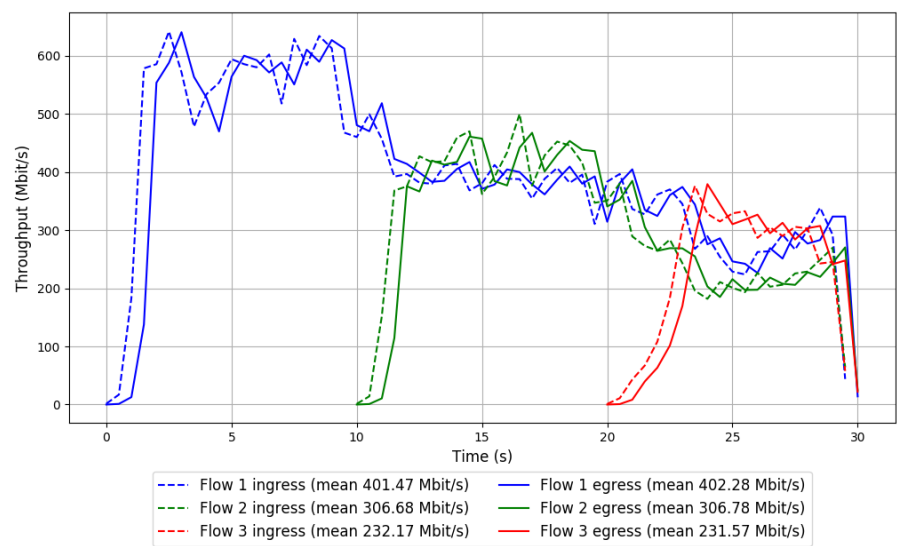Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 16:28:00
End at: 2019-11-24 16:28:30
Local clock offset: 0.589 ms
Remote clock offset: -0.177 ms


# Below is generated by plot.py at 2019-11-24 20:14:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 617.85 Mbit/s
95th percentile per-packet one-way delay: 86.044 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 396.96 Mbit/s
95th percentile per-packet one-way delay: 96.891 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 224.90 Mbit/s
95th percentile per-packet one-way delay: 69.955 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 228.80 Mbit/s
95th percentile per-packet one-way delay: 64.275 ms
Loss rate: 0.84%
```

Run 3: Report of Muses_DecisionTree — Data Link

Run 4: Statistics of Muses_DecisionTree

Start at: 2019-11-24 17:08:18
End at: 2019-11-24 17:08:48
Local clock offset: 0.245 ms
Remote clock offset: -0.057 ms

Below is generated by plot.py at 2019-11-24 20:15:08
Datalink statistics
-- Total of 3 flows:
Average throughput: 672.42 Mbit/s
95th percentile per-packet one-way delay: 84.702 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 397.28 Mbit/s
95th percentile per-packet one-way delay: 94.388 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 301.19 Mbit/s
95th percentile per-packet one-way delay: 65.457 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 241.75 Mbit/s
95th percentile per-packet one-way delay: 85.117 ms
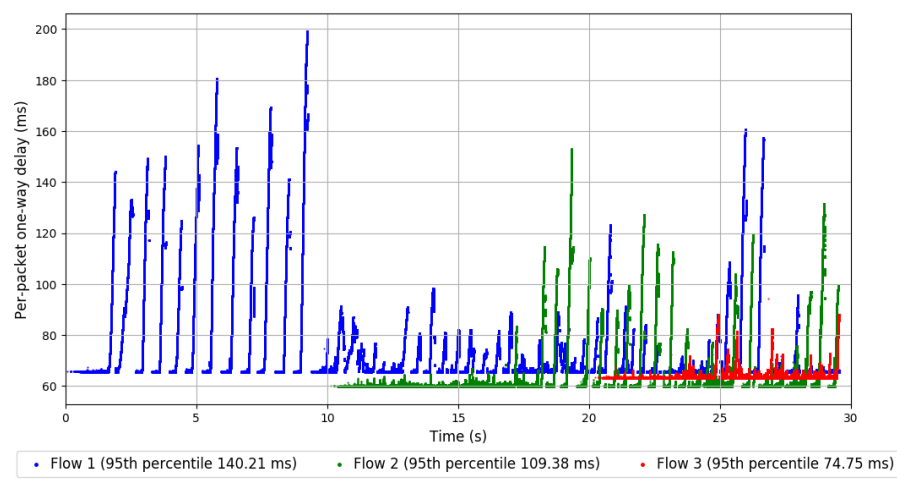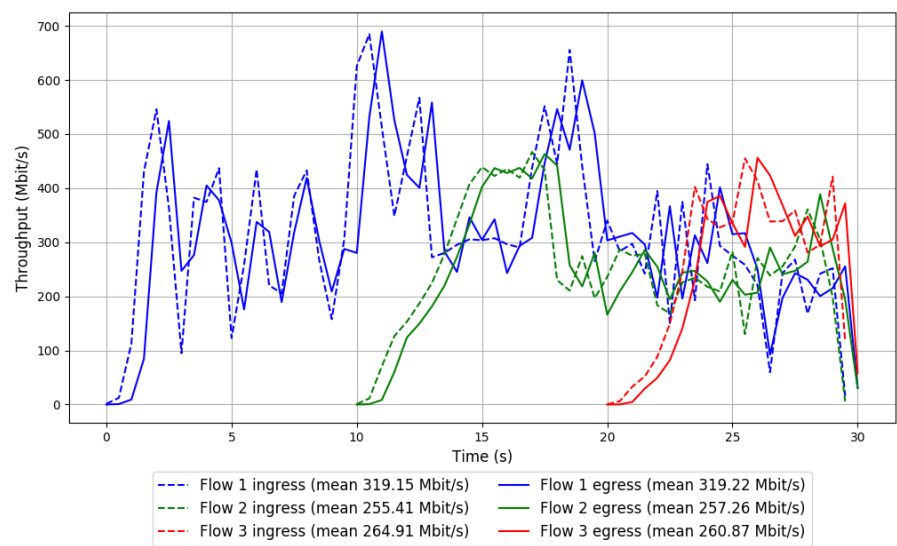Loss rate: 1.81%

Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 17:48:51
End at: 2019-11-24 17:49:21
Local clock offset: -0.147 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2019-11-24 20:15:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 678.55 Mbit/s
95th percentile per-packet one-way delay: 79.641 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 402.28 Mbit/s
95th percentile per-packet one-way delay: 79.224 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 306.78 Mbit/s
95th percentile per-packet one-way delay: 83.369 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 231.57 Mbit/s
95th percentile per-packet one-way delay: 66.716 ms
Loss rate: 1.58%
```
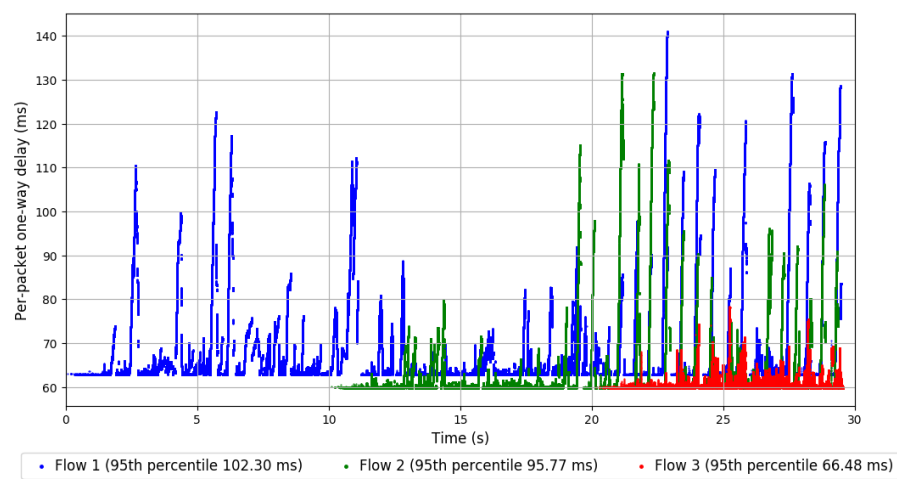
Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 15:13:18
End at: 2019-11-24 15:13:48
Local clock offset: -0.617 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2019-11-24 20:15:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 570.87 Mbit/s
95th percentile per-packet one-way delay: 127.790 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 319.22 Mbit/s
95th percentile per-packet one-way delay: 140.206 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 257.26 Mbit/s
95th percentile per-packet one-way delay: 109.379 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 260.87 Mbit/s
95th percentile per-packet one-way delay: 74.753 ms
Loss rate: 2.87%
```
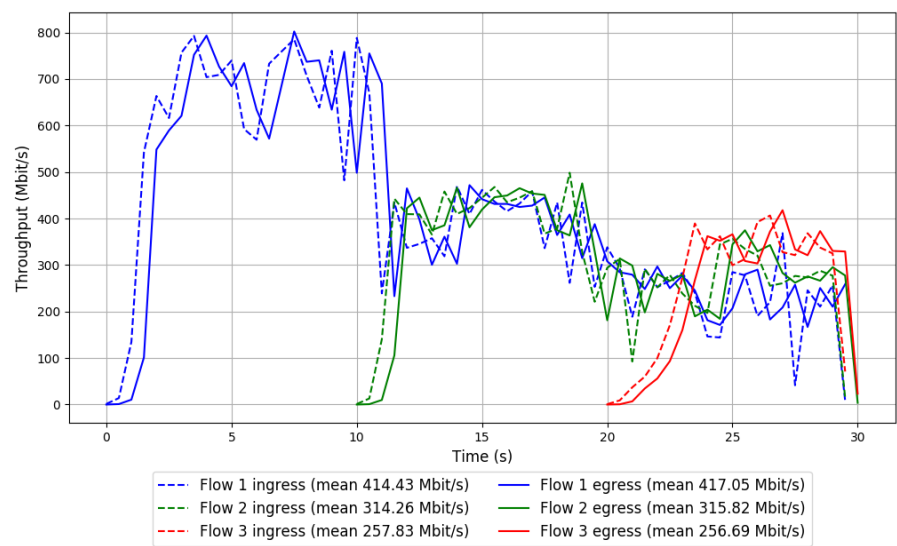
Run 1: Report of Muses_DecisionTreeH0 — Data Link

Run 2: Statistics of Muses_DecisionTreeH0

Start at: 2019-11-24 15:53:04
End at: 2019-11-24 15:53:34
Local clock offset: 0.311 ms
Remote clock offset: 0.063 ms

Below is generated by plot.py at 2019-11-24 20:25:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 705.75 Mbit/s
95th percentile per-packet one-way delay: 97.735 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 417.05 Mbit/s
95th percentile per-packet one-way delay: 102.302 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 315.82 Mbit/s
95th percentile per-packet one-way delay: 95.765 ms
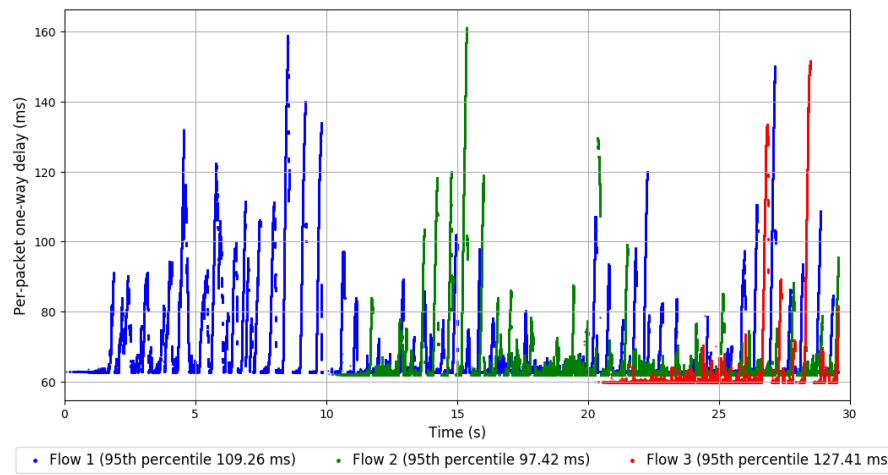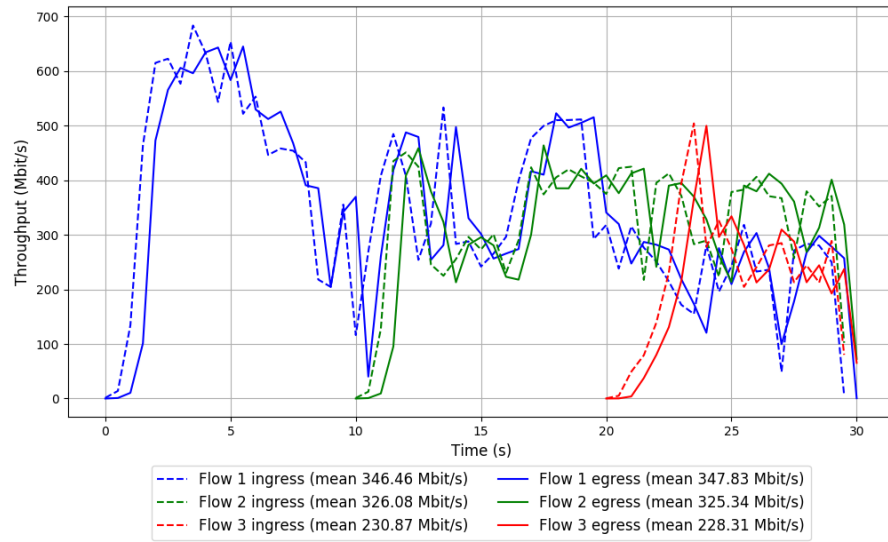Loss rate: 0.13%
-- Flow 3:
Average throughput: 256.69 Mbit/s
95th percentile per-packet one-way delay: 66.476 ms
Loss rate: 1.75%
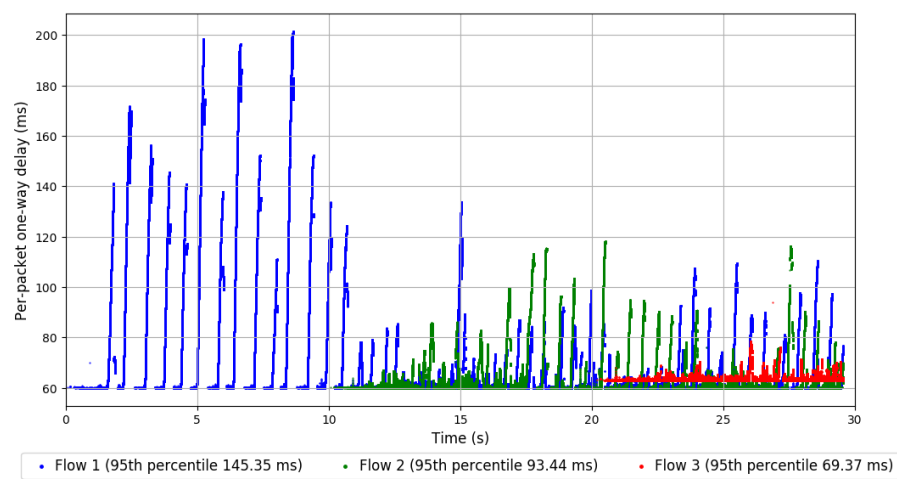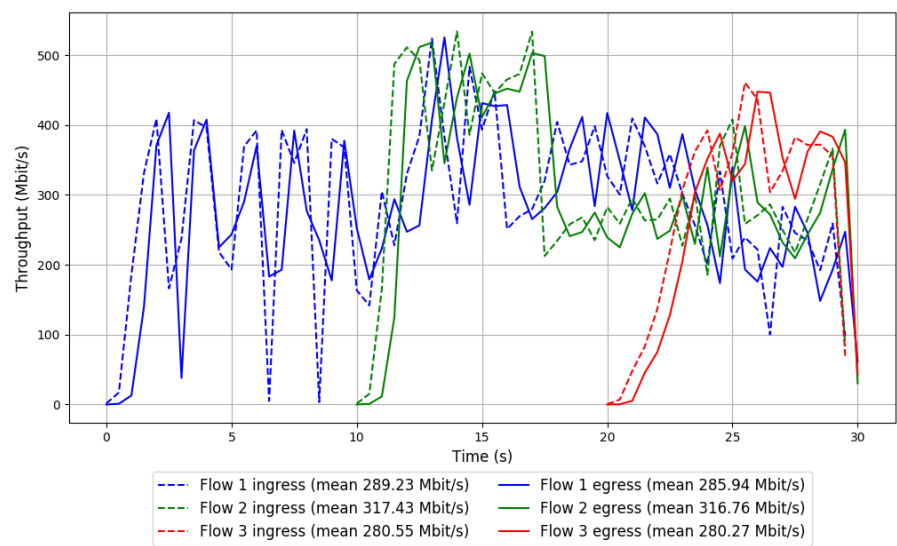
Run 2: Report of Muses_DecisionTreeH0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 16:33:30
End at: 2019-11-24 16:34:00
Local clock offset: 0.626 ms
Remote clock offset: 0.059 ms


# Below is generated by plot.py at 2019-11-24 20:25:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 634.23 Mbit/s
95th percentile per-packet one-way delay: 107.299 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 347.83 Mbit/s
95th percentile per-packet one-way delay: 109.264 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 325.34 Mbit/s
95th percentile per-packet one-way delay: 97.419 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 228.31 Mbit/s
95th percentile per-packet one-way delay: 127.406 ms
Loss rate: 2.00%
```
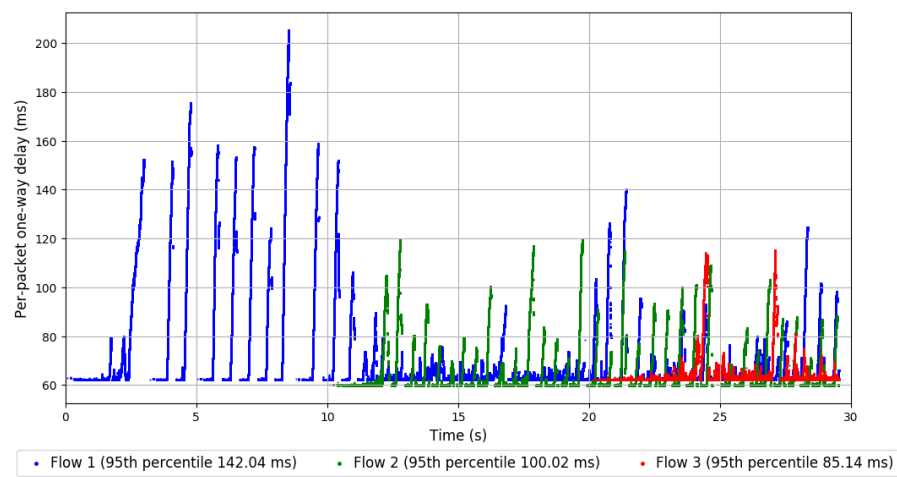
Run 3: Report of Muses_DecisionTreeH0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 17:13:46
End at: 2019-11-24 17:14:16
Local clock offset: 0.064 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2019-11-24 20:25:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 583.77 Mbit/s
95th percentile per-packet one-way delay: 124.522 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 285.94 Mbit/s
95th percentile per-packet one-way delay: 145.351 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 316.76 Mbit/s
95th percentile per-packet one-way delay: 93.445 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 280.27 Mbit/s
95th percentile per-packet one-way delay: 69.371 ms
Loss rate: 1.42%
```
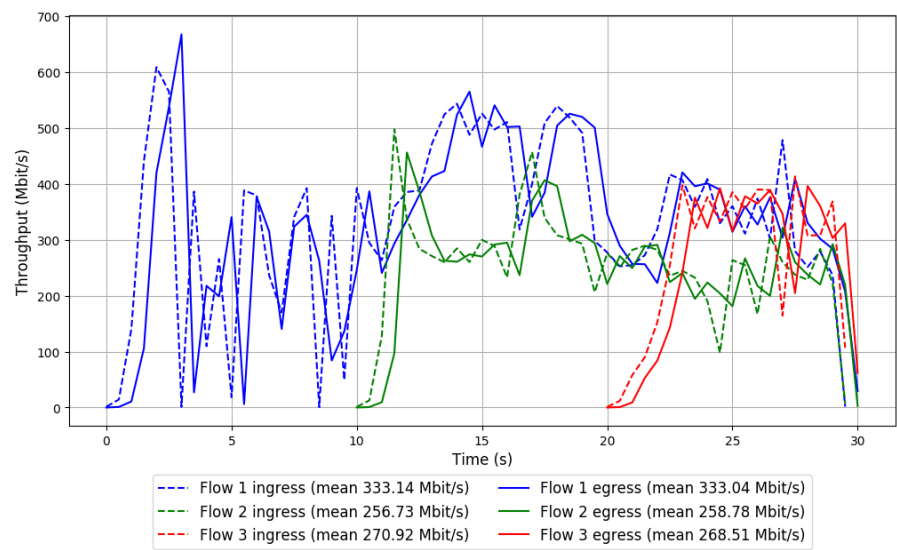
Run 4: Report of Muses_DecisionTreeH0 — Data Link

- - - Flow 1 ingress (mean 289.23 Mbit/s) —— Flow 1 egress (mean 285.94 Mbit/s)
- - - Flow 2 ingress (mean 317.43 Mbit/s) —— Flow 2 egress (mean 316.76 Mbit/s)
- - - Flow 3 ingress (mean 280.55 Mbit/s) —— Flow 3 egress (mean 280.27 Mbit/s)

• Flow 1 (95th percentile 145.35 ms)   • Flow 2 (95th percentile 93.44 ms)   • Flow 3 (95th percentile 69.37 ms)
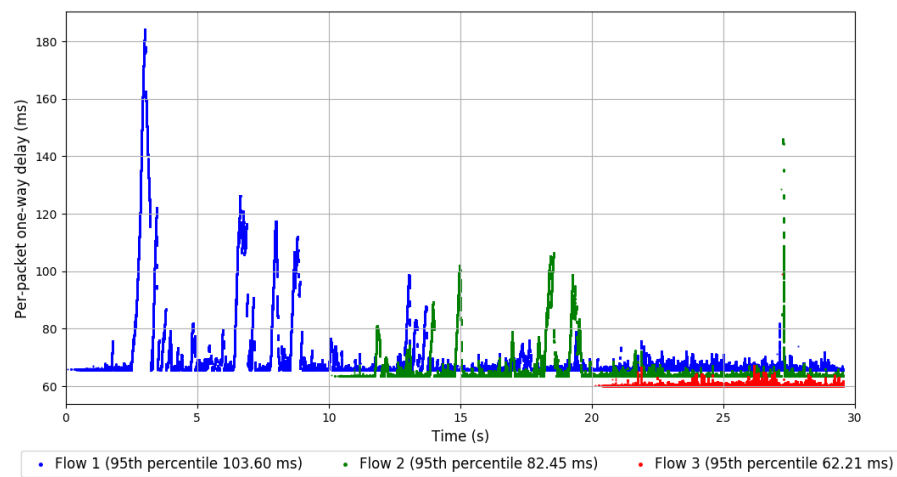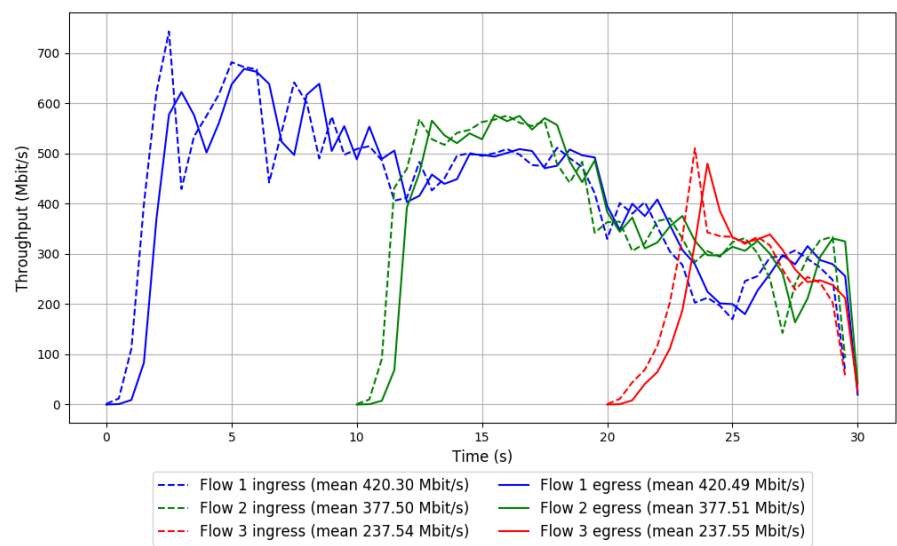
```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 17:54:17
End at: 2019-11-24 17:54:47
Local clock offset: -0.174 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-11-24 20:25:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 589.06 Mbit/s
95th percentile per-packet one-way delay: 124.390 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 333.04 Mbit/s
95th percentile per-packet one-way delay: 142.040 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 258.78 Mbit/s
95th percentile per-packet one-way delay: 100.017 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 268.51 Mbit/s
95th percentile per-packet one-way delay: 85.143 ms
Loss rate: 2.20%
```

Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 14:57:40
End at: 2019-11-24 14:58:10
Local clock offset: -0.61 ms
Remote clock offset: -0.225 ms


# Below is generated by plot.py at 2019-11-24 20:27:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 745.10 Mbit/s
95th percentile per-packet one-way delay: 89.384 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 420.49 Mbit/s
95th percentile per-packet one-way delay: 103.598 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 377.51 Mbit/s
95th percentile per-packet one-way delay: 82.447 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 237.55 Mbit/s
95th percentile per-packet one-way delay: 62.207 ms
Loss rate: 1.27%
```
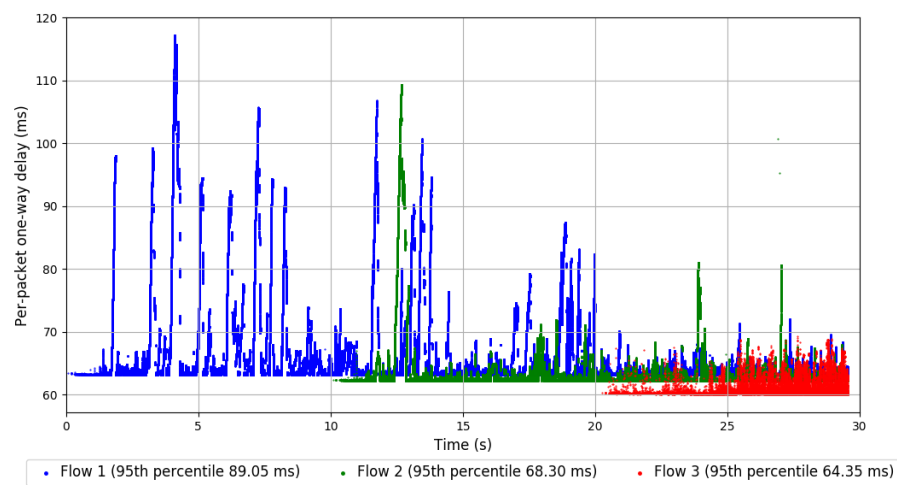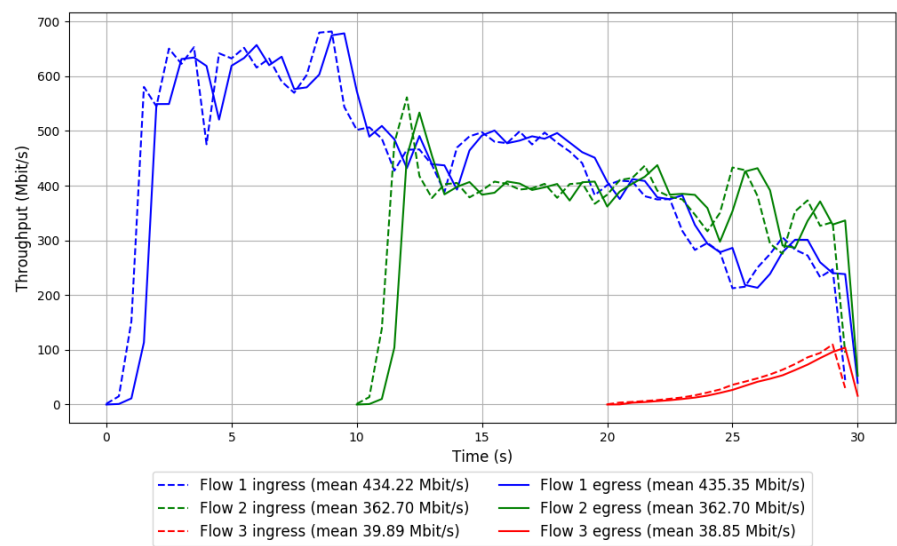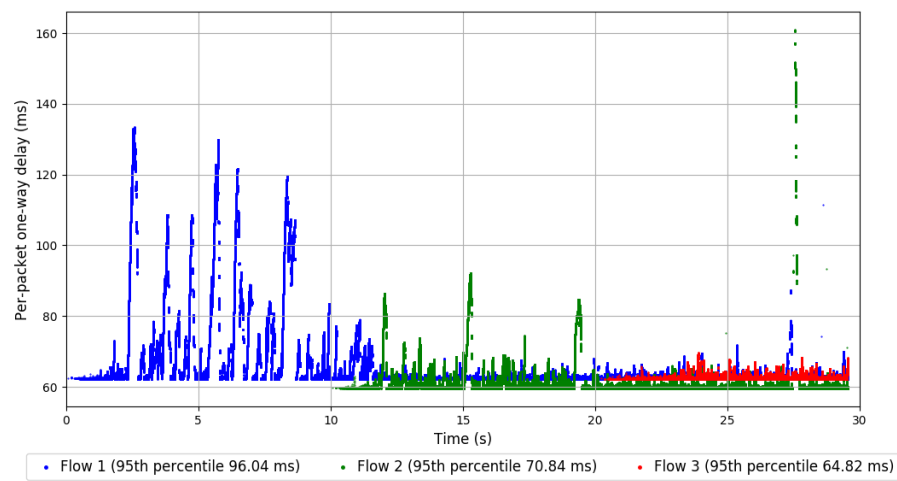
Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 15:37:30
End at: 2019-11-24 15:38:00
Local clock offset: 0.114 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2019-11-24 20:27:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 687.01 Mbit/s
95th percentile per-packet one-way delay: 83.817 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 435.35 Mbit/s
95th percentile per-packet one-way delay: 89.048 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 362.70 Mbit/s
95th percentile per-packet one-way delay: 68.304 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 38.85 Mbit/s
95th percentile per-packet one-way delay: 64.354 ms
Loss rate: 3.90%
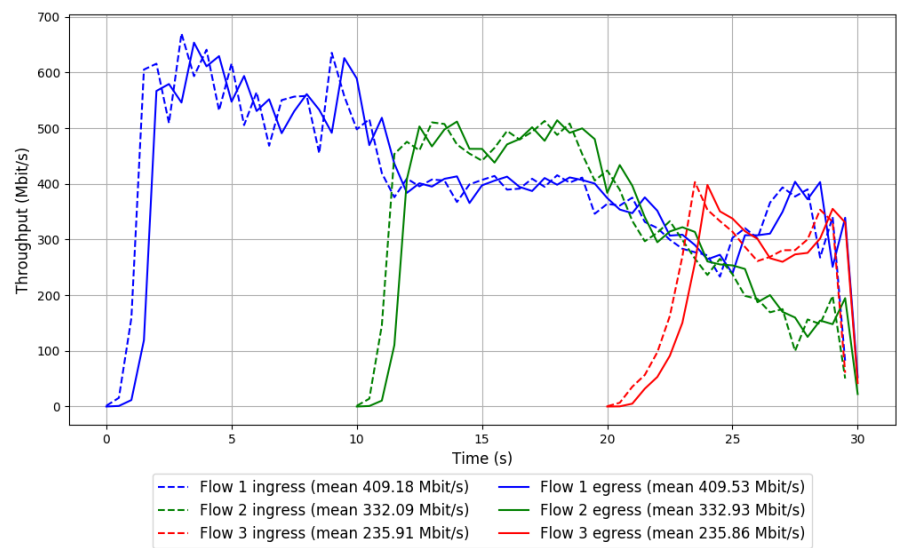```

Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 16:17:50
End at: 2019-11-24 16:18:20
Local clock offset: 0.538 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2019-11-24 20:27:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 703.83 Mbit/s
95th percentile per-packet one-way delay: 83.622 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 409.53 Mbit/s
95th percentile per-packet one-way delay: 96.037 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 332.93 Mbit/s
95th percentile per-packet one-way delay: 70.844 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 235.86 Mbit/s
95th percentile per-packet one-way delay: 64.824 ms
Loss rate: 1.36%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 16:58:16
End at: 2019-11-24 16:58:46
Local clock offset: 0.825 ms
Remote clock offset: -0.108 ms


# Below is generated by plot.py at 2019-11-24 20:27:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 692.27 Mbit/s
95th percentile per-packet one-way delay: 84.105 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 421.53 Mbit/s
95th percentile per-packet one-way delay: 86.747 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 289.63 Mbit/s
95th percentile per-packet one-way delay: 64.365 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 254.46 Mbit/s
95th percentile per-packet one-way delay: 83.604 ms
Loss rate: 1.32%
```
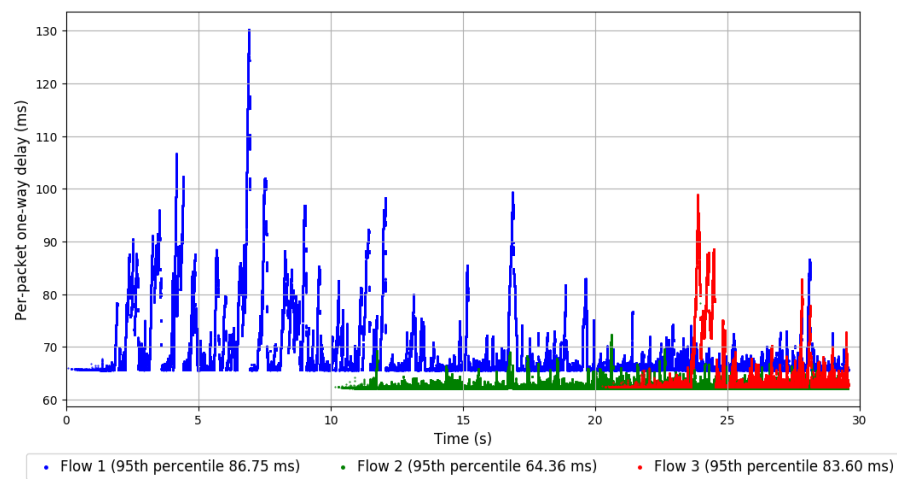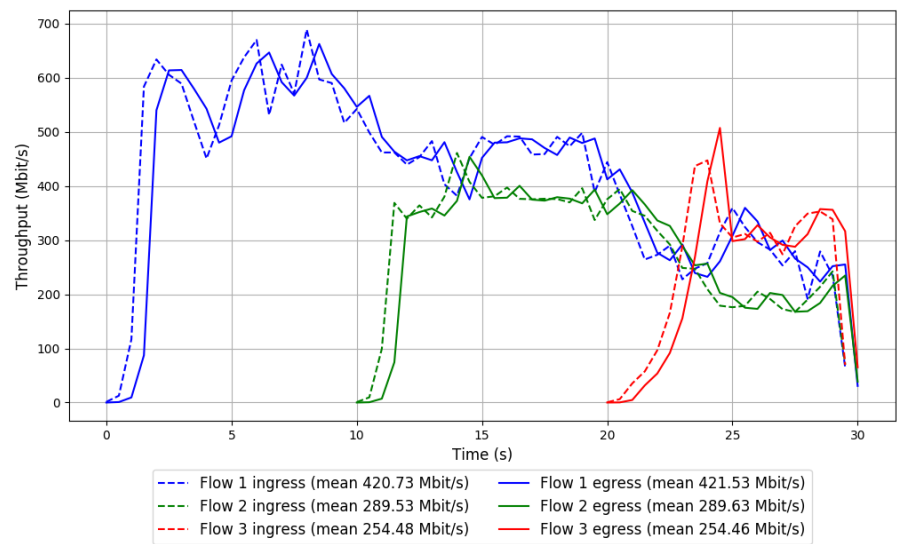
Run 4: Report of Muses_DecisionTreeR0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 17:38:41
End at: 2019-11-24 17:39:11
Local clock offset: -0.167 ms
Remote clock offset: -0.128 ms


# Below is generated by plot.py at 2019-11-24 20:34:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 682.36 Mbit/s
95th percentile per-packet one-way delay: 76.268 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 384.14 Mbit/s
95th percentile per-packet one-way delay: 81.866 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 331.94 Mbit/s
95th percentile per-packet one-way delay: 65.670 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 255.34 Mbit/s
95th percentile per-packet one-way delay: 67.062 ms
Loss rate: 1.99%
```
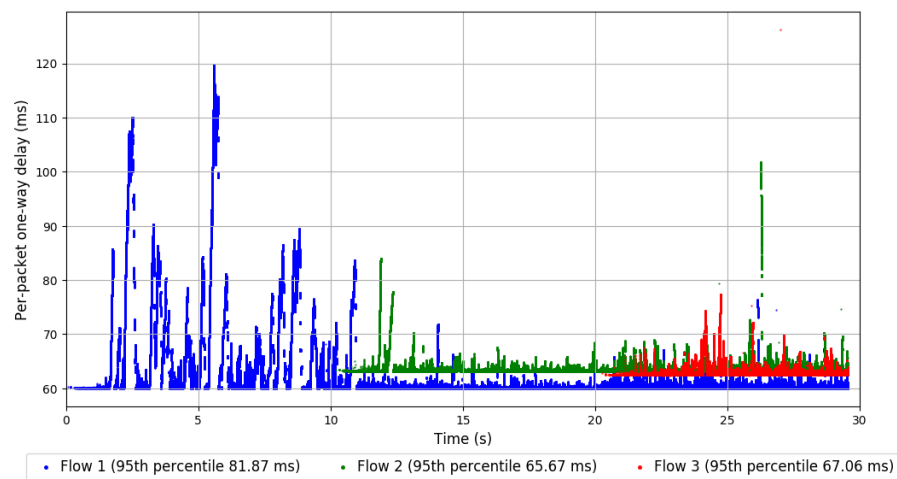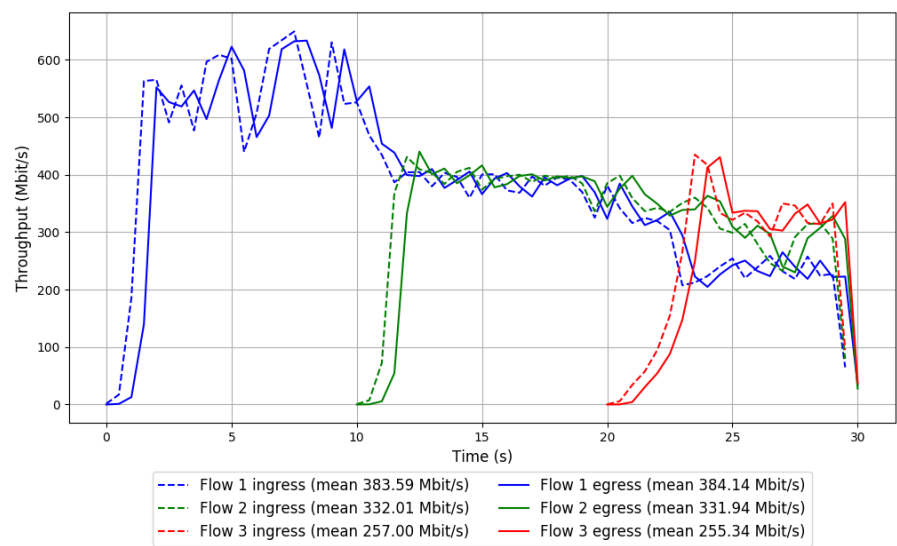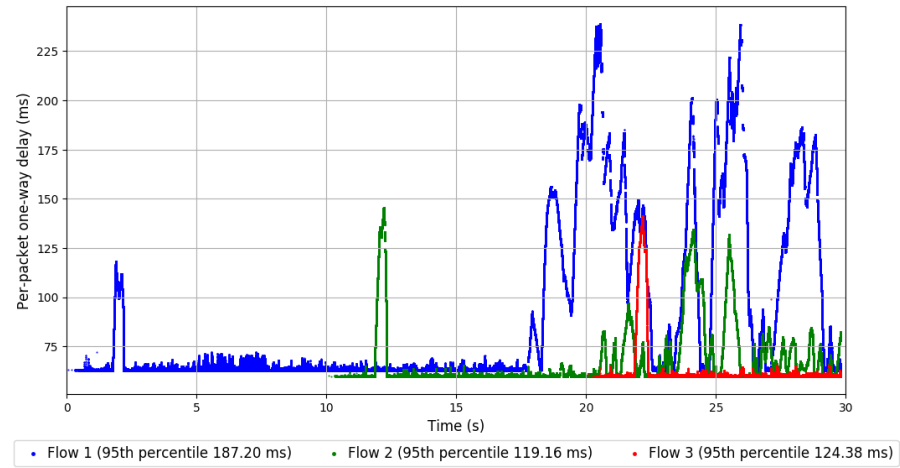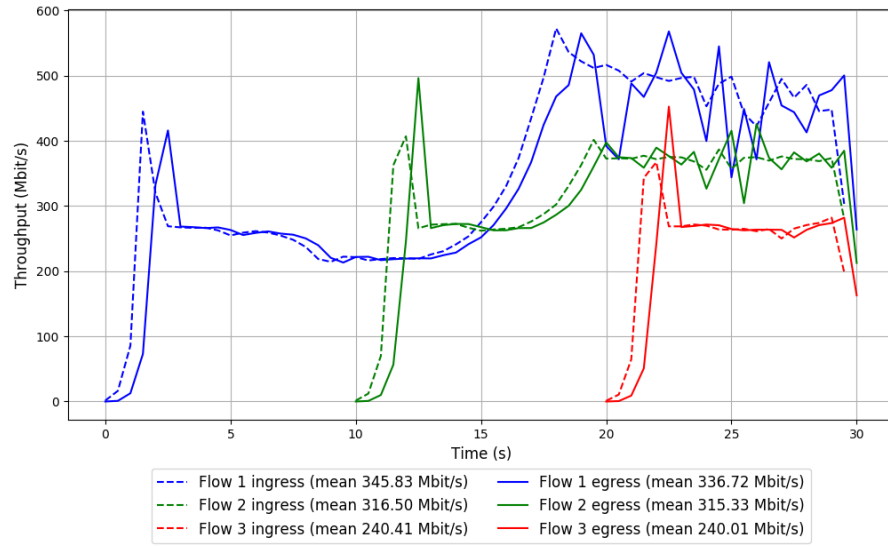
Run 5: Report of Muses_DecisionTreeR0 — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-11-24 15:11:25
End at: 2019-11-24 15:11:55
Local clock offset: -0.622 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-11-24 20:44:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 624.20 Mbit/s
95th percentile per-packet one-way delay: 176.259 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 336.72 Mbit/s
95th percentile per-packet one-way delay: 187.203 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 315.33 Mbit/s
95th percentile per-packet one-way delay: 119.156 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 240.01 Mbit/s
95th percentile per-packet one-way delay: 124.381 ms
Loss rate: 1.46%
```
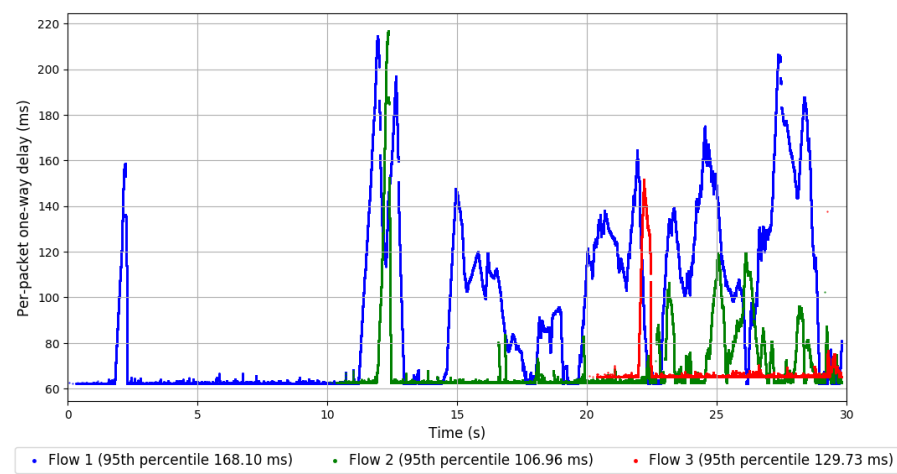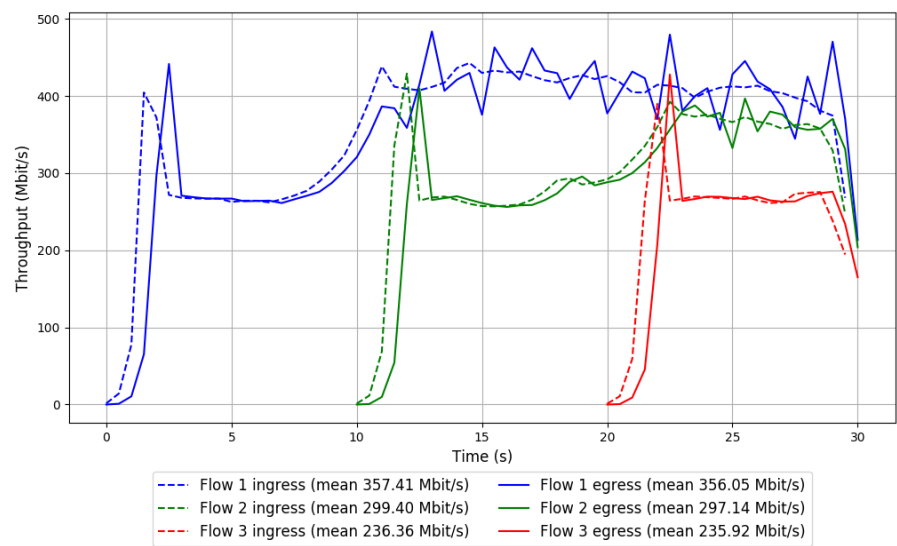
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 345.83 Mbit/s)   Flow 1 egress (mean 336.72 Mbit/s)
Flow 2 ingress (mean 316.50 Mbit/s)   Flow 2 egress (mean 315.33 Mbit/s)
Flow 3 ingress (mean 240.41 Mbit/s)   Flow 3 egress (mean 240.01 Mbit/s)

Flow 1 (95th percentile 187.20 ms)   Flow 2 (95th percentile 119.16 ms)   Flow 3 (95th percentile 124.38 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-11-24 15:51:12
End at: 2019-11-24 15:51:42
Local clock offset: 0.273 ms
Remote clock offset: 0.088 ms


# Below is generated by plot.py at 2019-11-24 20:45:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 630.02 Mbit/s
95th percentile per-packet one-way delay: 157.461 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 356.05 Mbit/s
95th percentile per-packet one-way delay: 168.098 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 297.14 Mbit/s
95th percentile per-packet one-way delay: 106.962 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 235.92 Mbit/s
95th percentile per-packet one-way delay: 129.732 ms
Loss rate: 1.50%
```
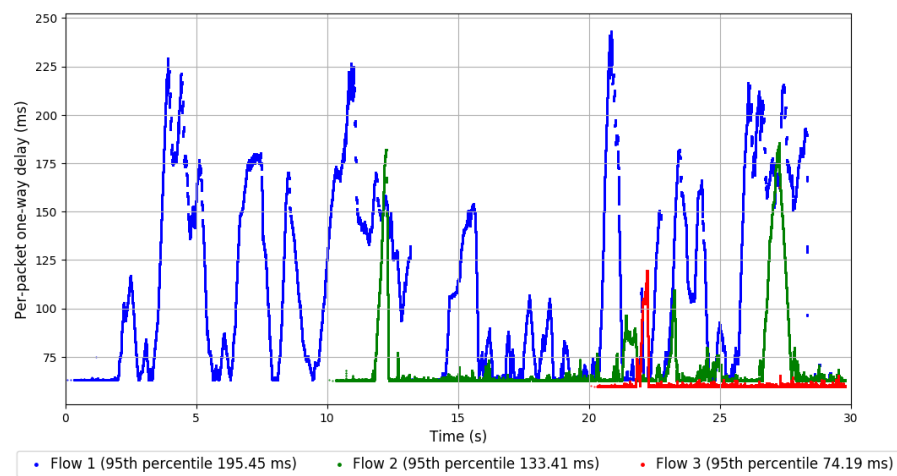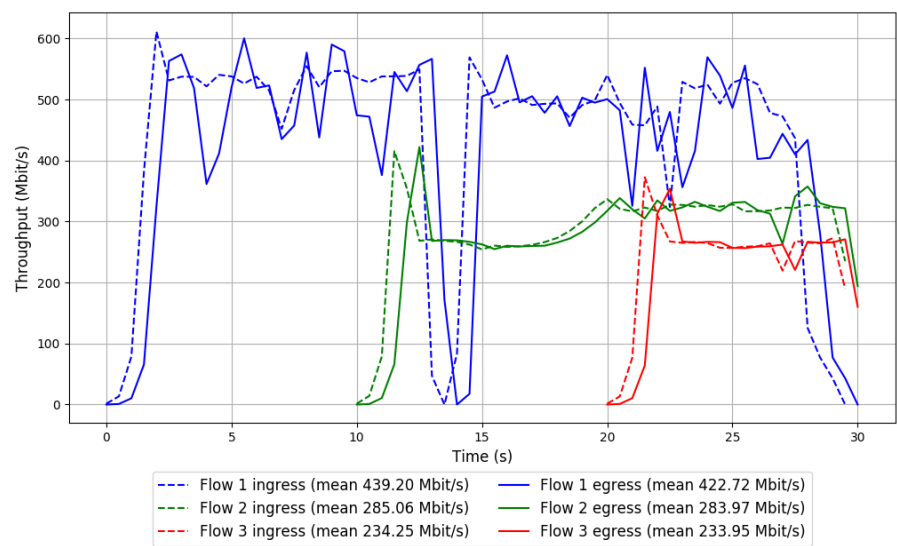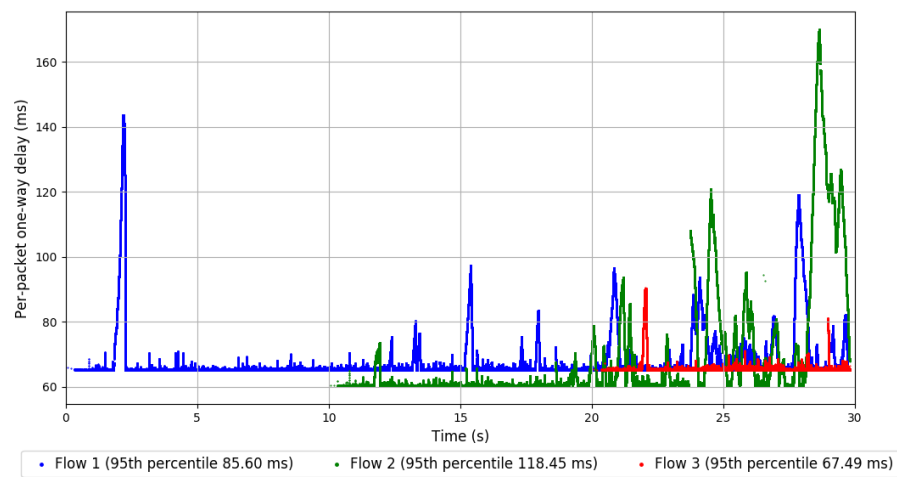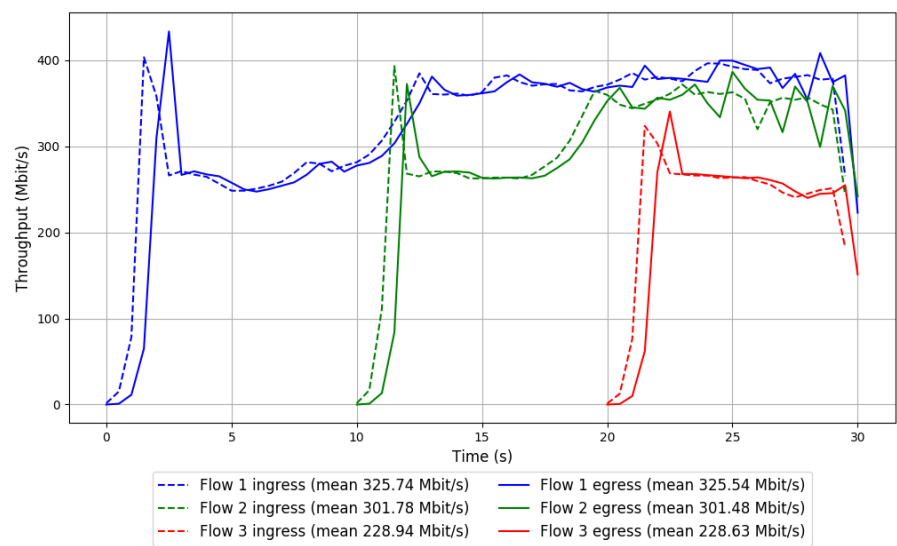
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 357.41 Mbit/s) ---- Flow 1 egress (mean 356.05 Mbit/s)
Flow 2 ingress (mean 299.40 Mbit/s) ---- Flow 2 egress (mean 297.14 Mbit/s)
Flow 3 ingress (mean 236.36 Mbit/s) ---- Flow 3 egress (mean 235.92 Mbit/s)

Flow 1 (95th percentile 168.10 ms)   • Flow 2 (95th percentile 106.96 ms)   • Flow 3 (95th percentile 129.73 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-11-24 16:31:33
End at: 2019-11-24 16:32:03
Local clock offset: 0.621 ms
Remote clock offset: 0.183 ms


# Below is generated by plot.py at 2019-11-24 20:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 684.77 Mbit/s
95th percentile per-packet one-way delay: 180.873 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 422.72 Mbit/s
95th percentile per-packet one-way delay: 195.449 ms
Loss rate: 3.75%
-- Flow 2:
Average throughput: 283.97 Mbit/s
95th percentile per-packet one-way delay: 133.408 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 233.95 Mbit/s
95th percentile per-packet one-way delay: 74.193 ms
Loss rate: 1.36%
```
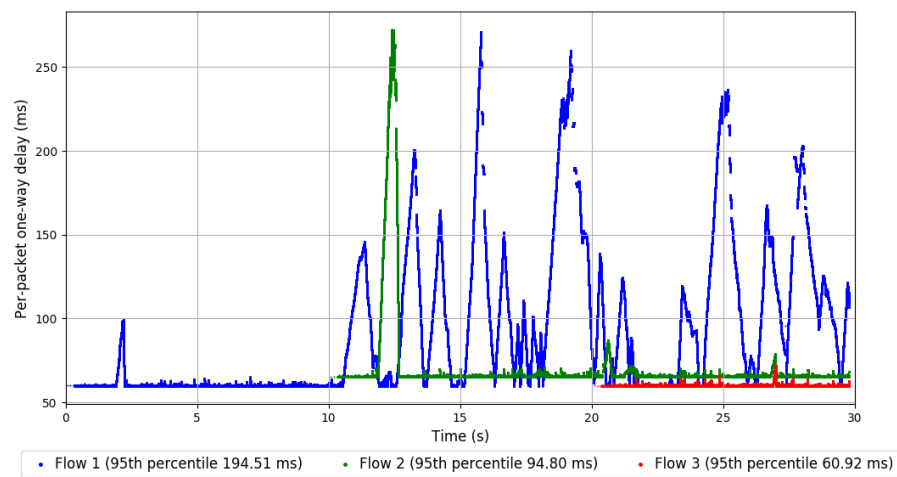
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-11-24 17:11:55
End at: 2019-11-24 17:12:25
Local clock offset: 0.112 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2019-11-24 20:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 600.27 Mbit/s
95th percentile per-packet one-way delay: 96.043 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 325.54 Mbit/s
95th percentile per-packet one-way delay: 85.604 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 301.48 Mbit/s
95th percentile per-packet one-way delay: 118.452 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 228.63 Mbit/s
95th percentile per-packet one-way delay: 67.487 ms
Loss rate: 1.41%
```

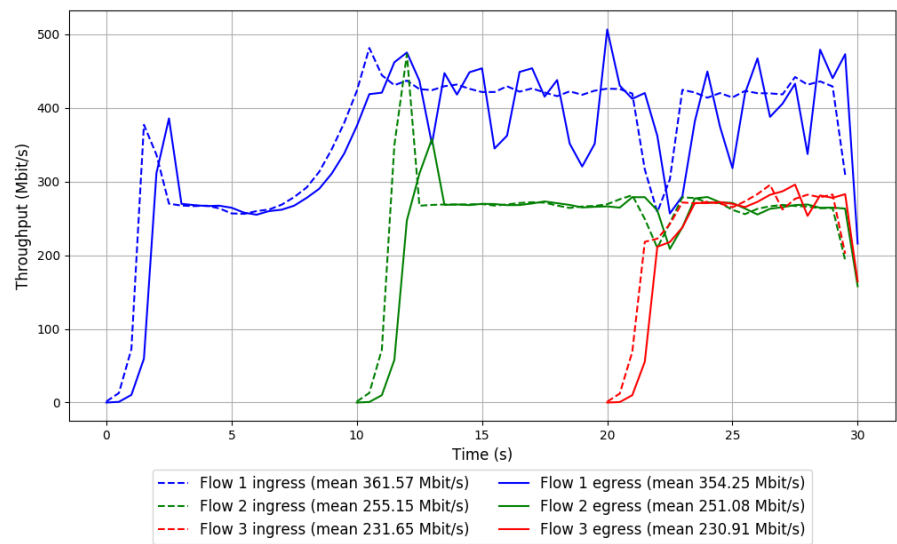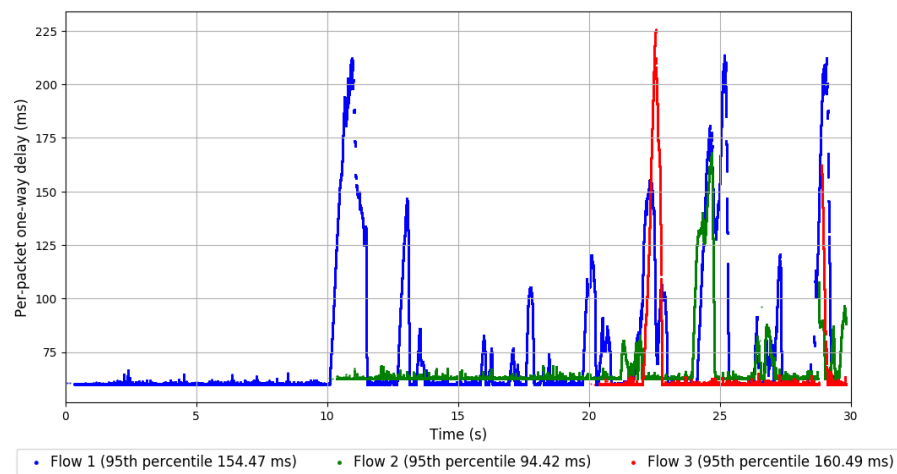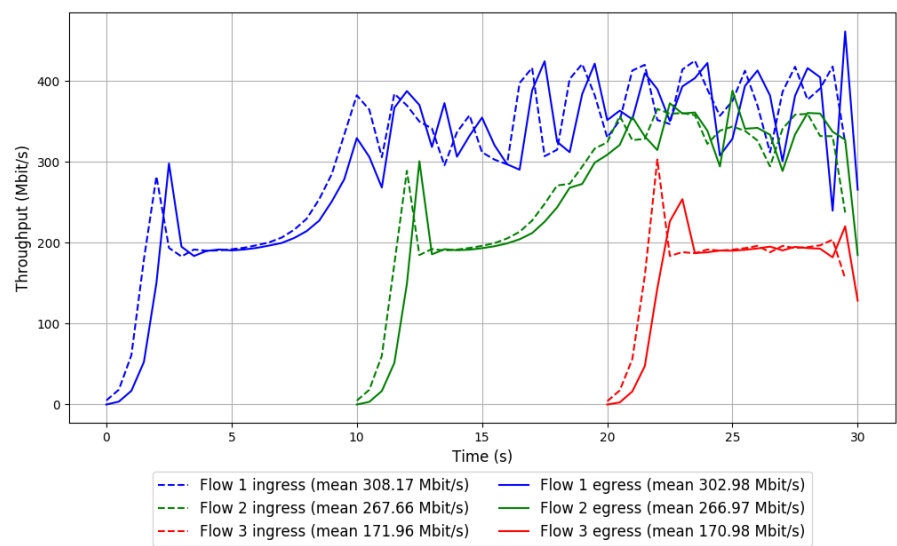Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 325.74 Mbit/s)   Flow 1 egress (mean 325.54 Mbit/s)
Flow 2 ingress (mean 301.78 Mbit/s)   Flow 2 egress (mean 301.48 Mbit/s)
Flow 3 ingress (mean 228.94 Mbit/s)   Flow 3 egress (mean 228.63 Mbit/s)

Flow 1 (95th percentile 85.60 ms)   Flow 2 (95th percentile 118.45 ms)   Flow 3 (95th percentile 67.49 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-11-24 17:52:26
End at: 2019-11-24 17:52:56
Local clock offset: -0.184 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2019-11-24 20:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.12 Mbit/s
95th percentile per-packet one-way delay: 180.856 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 354.25 Mbit/s
95th percentile per-packet one-way delay: 194.508 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 251.08 Mbit/s
95th percentile per-packet one-way delay: 94.798 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 230.91 Mbit/s
95th percentile per-packet one-way delay: 60.921 ms
Loss rate: 1.57%
```

Run 5: Report of PCC-Allegro — Data Link

154

```
Run 1: Statistics of PCC-Expr

Start at: 2019-11-24 15:09:30
End at: 2019-11-24 15:10:00
Local clock offset: -0.641 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2019-11-24 20:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.08 Mbit/s
95th percentile per-packet one-way delay: 144.862 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 302.98 Mbit/s
95th percentile per-packet one-way delay: 154.467 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 266.97 Mbit/s
95th percentile per-packet one-way delay: 94.416 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 170.98 Mbit/s
95th percentile per-packet one-way delay: 160.489 ms
Loss rate: 1.85%
```
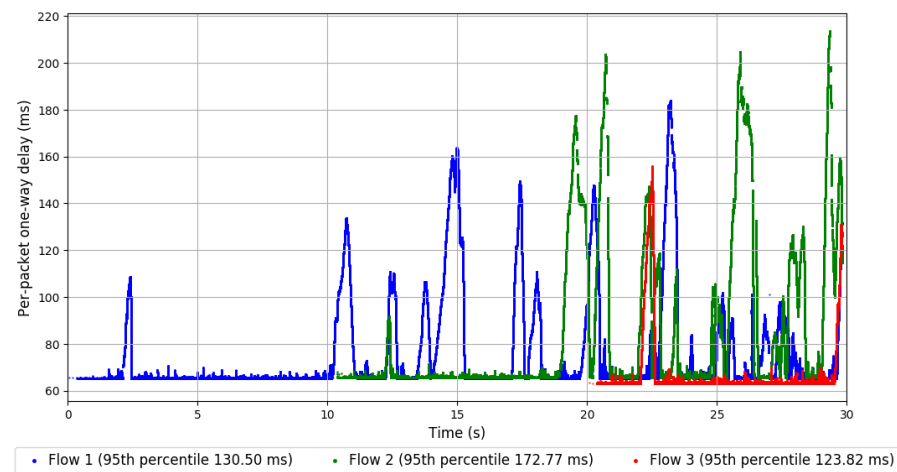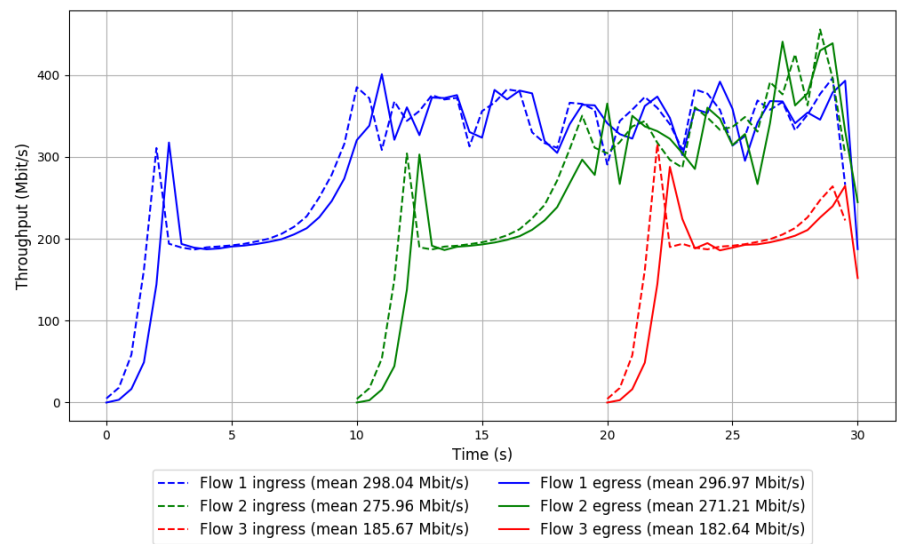
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-11-24 15:49:16
End at: 2019-11-24 15:49:46
Local clock offset: 0.26 ms
Remote clock offset: 0.038 ms


# Below is generated by plot.py at 2019-11-24 20:48:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.73 Mbit/s
95th percentile per-packet one-way delay: 145.532 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 296.97 Mbit/s
95th percentile per-packet one-way delay: 130.502 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 271.21 Mbit/s
95th percentile per-packet one-way delay: 172.766 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 182.64 Mbit/s
95th percentile per-packet one-way delay: 123.816 ms
Loss rate: 2.90%
```
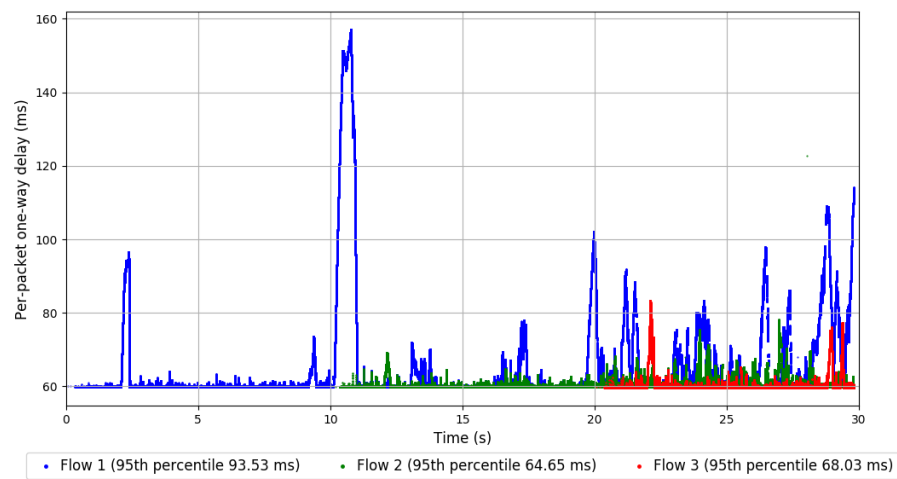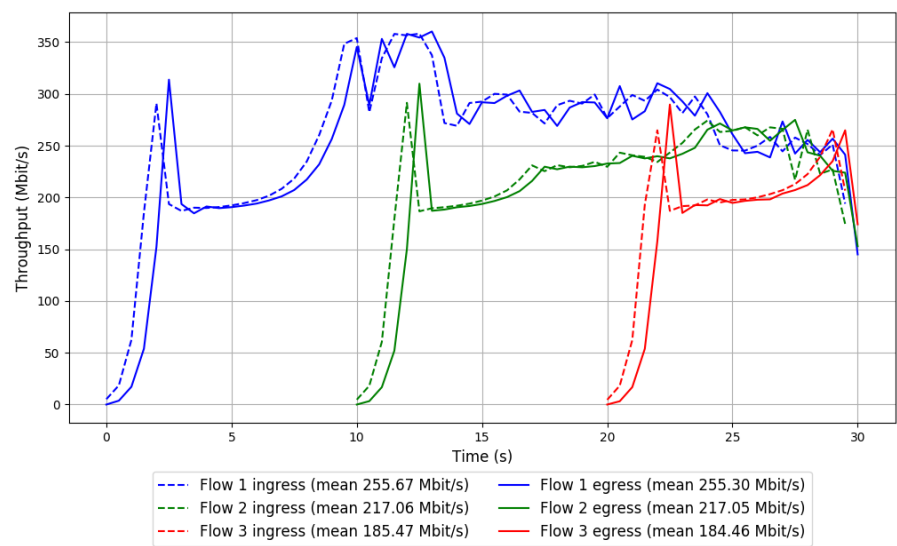
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 298.04 Mbit/s)   Flow 1 egress (mean 296.97 Mbit/s)
Flow 2 ingress (mean 275.96 Mbit/s)   Flow 2 egress (mean 271.21 Mbit/s)
Flow 3 ingress (mean 185.67 Mbit/s)   Flow 3 egress (mean 182.64 Mbit/s)

Flow 1 (95th percentile 130.50 ms)   Flow 2 (95th percentile 172.77 ms)   Flow 3 (95th percentile 123.82 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-11-24 16:29:43
End at: 2019-11-24 16:30:13
Local clock offset: 0.594 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2019-11-24 20:51:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 459.75 Mbit/s
95th percentile per-packet one-way delay: 82.157 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 255.30 Mbit/s
95th percentile per-packet one-way delay: 93.530 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 217.05 Mbit/s
95th percentile per-packet one-way delay: 64.648 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 184.46 Mbit/s
95th percentile per-packet one-way delay: 68.025 ms
Loss rate: 1.77%
```
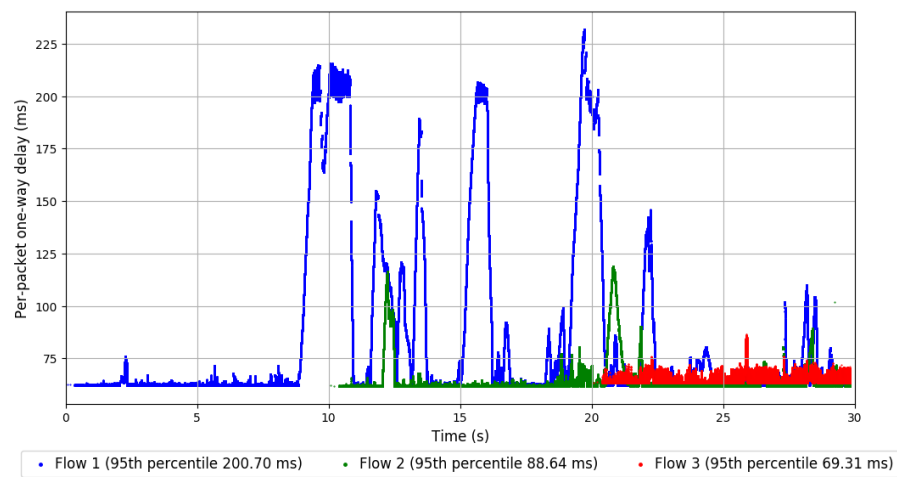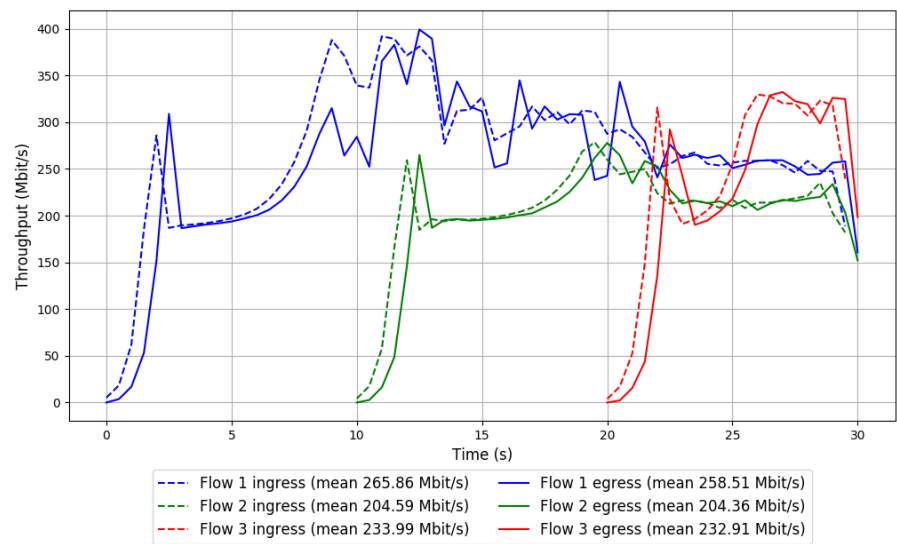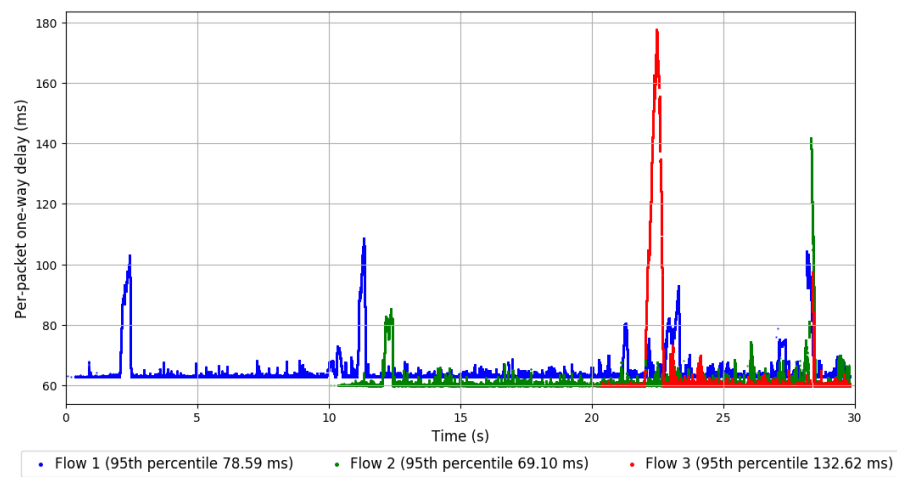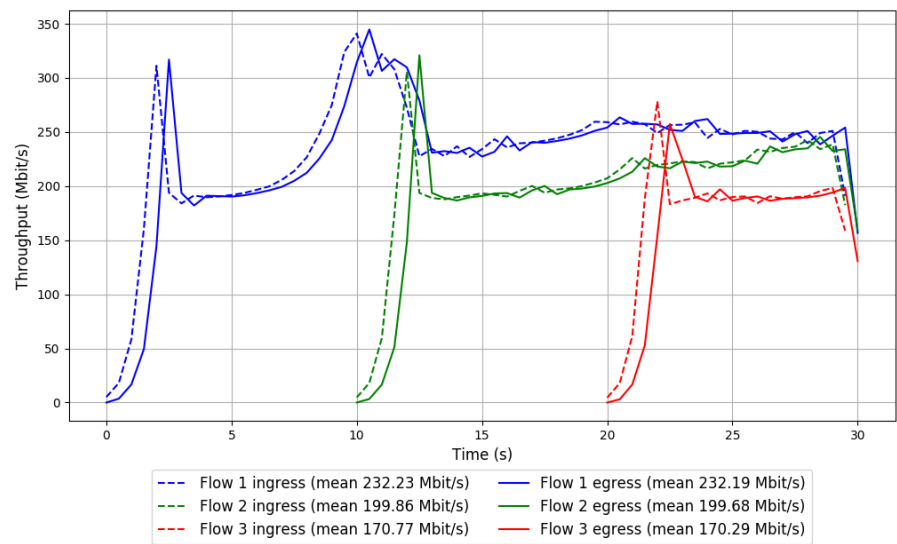
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 255.67 Mbit/s) --- Flow 1 egress (mean 255.30 Mbit/s)
Flow 2 ingress (mean 217.06 Mbit/s) --- Flow 2 egress (mean 217.05 Mbit/s)
Flow 3 ingress (mean 185.47 Mbit/s) --- Flow 3 egress (mean 184.46 Mbit/s)

Flow 1 (95th percentile 93.53 ms) • Flow 2 (95th percentile 64.65 ms) • Flow 3 (95th percentile 68.03 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-11-24 17:10:03
End at: 2019-11-24 17:10:33
Local clock offset: 0.15 ms
Remote clock offset: 0.129 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.39 Mbit/s
95th percentile per-packet one-way delay: 182.603 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 258.51 Mbit/s
95th percentile per-packet one-way delay: 200.698 ms
Loss rate: 3.17%
-- Flow 2:
Average throughput: 204.36 Mbit/s
95th percentile per-packet one-way delay: 88.635 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 232.91 Mbit/s
95th percentile per-packet one-way delay: 69.308 ms
Loss rate: 1.72%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-11-24 17:50:36
End at: 2019-11-24 17:51:06
Local clock offset: -0.173 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.37 Mbit/s
95th percentile per-packet one-way delay: 79.411 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 232.19 Mbit/s
95th percentile per-packet one-way delay: 78.589 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 199.68 Mbit/s
95th percentile per-packet one-way delay: 69.100 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 170.29 Mbit/s
95th percentile per-packet one-way delay: 132.625 ms
Loss rate: 1.53%
```
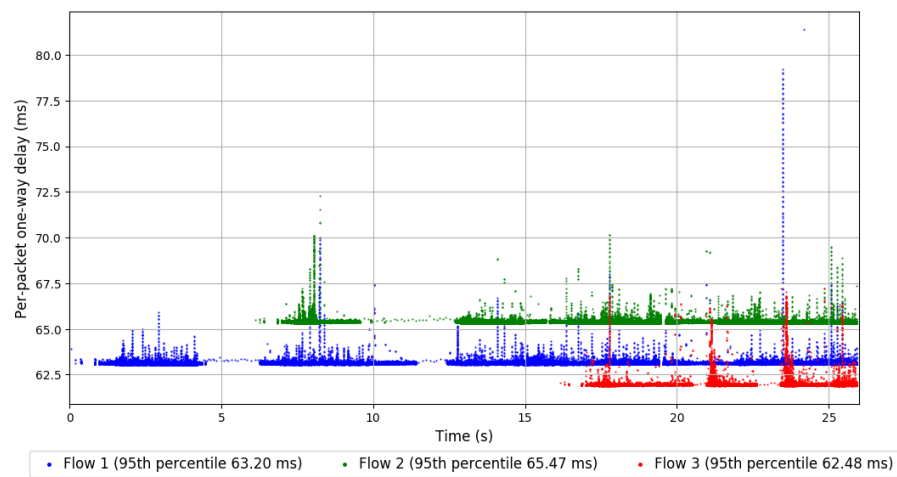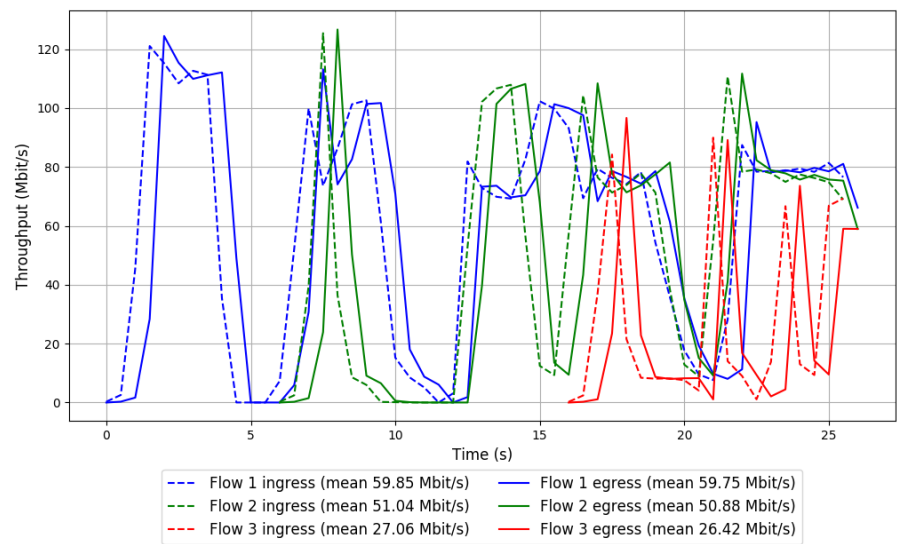
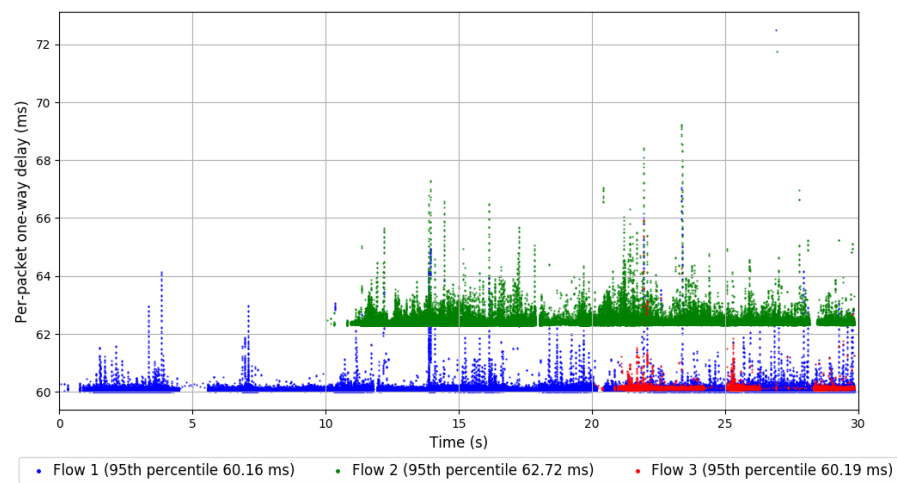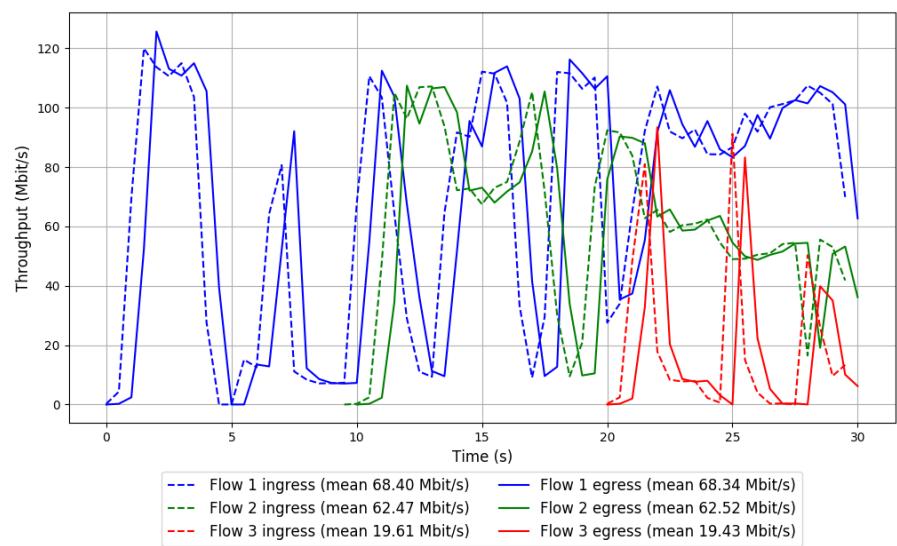Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-11-24 14:52:51
End at: 2019-11-24 14:53:21
Local clock offset: -0.599 ms
Remote clock offset: 0.134 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.66 Mbit/s
95th percentile per-packet one-way delay: 65.419 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 59.75 Mbit/s
95th percentile per-packet one-way delay: 63.200 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 50.88 Mbit/s
95th percentile per-packet one-way delay: 65.469 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 26.42 Mbit/s
95th percentile per-packet one-way delay: 62.481 ms
Loss rate: 3.60%
```
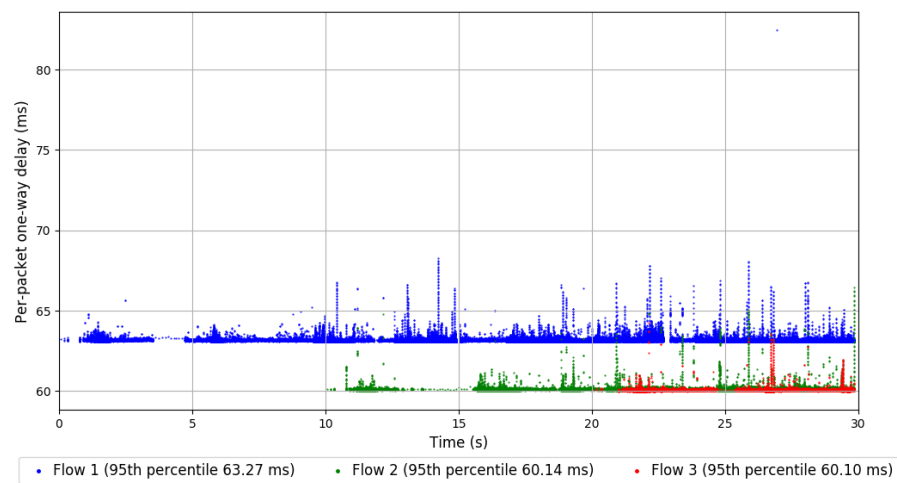
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 59.85 Mbit/s) --- Flow 1 egress (mean 59.75 Mbit/s)
Flow 2 ingress (mean 51.04 Mbit/s) --- Flow 2 egress (mean 50.88 Mbit/s)
Flow 3 ingress (mean 27.06 Mbit/s) --- Flow 3 egress (mean 26.42 Mbit/s)

Flow 1 (95th percentile 63.20 ms) Flow 2 (95th percentile 65.47 ms) Flow 3 (95th percentile 62.48 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-11-24 15:32:39
End at: 2019-11-24 15:33:09
Local clock offset: 0.035 ms
Remote clock offset: -0.159 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.24 Mbit/s
95th percentile per-packet one-way delay: 62.472 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 68.34 Mbit/s
95th percentile per-packet one-way delay: 60.165 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 62.52 Mbit/s
95th percentile per-packet one-way delay: 62.722 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 19.43 Mbit/s
95th percentile per-packet one-way delay: 60.194 ms
Loss rate: 2.10%
```
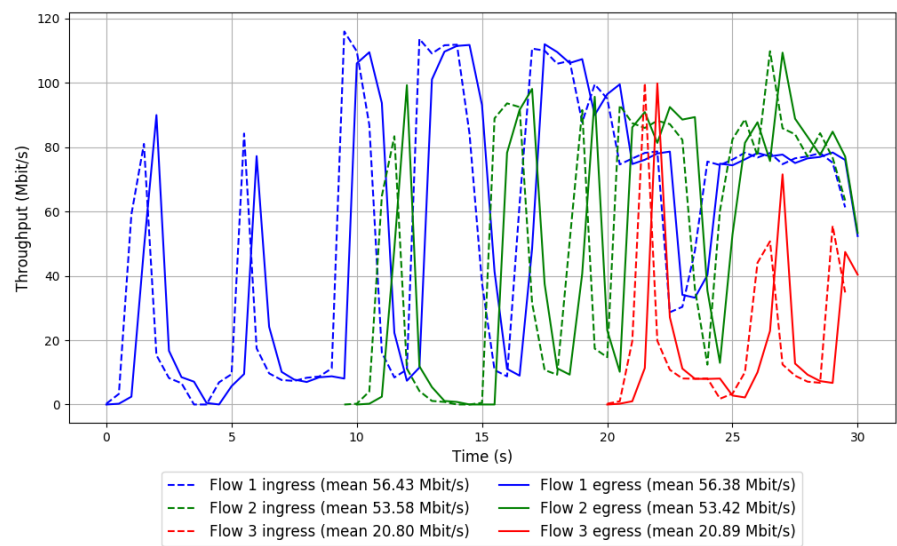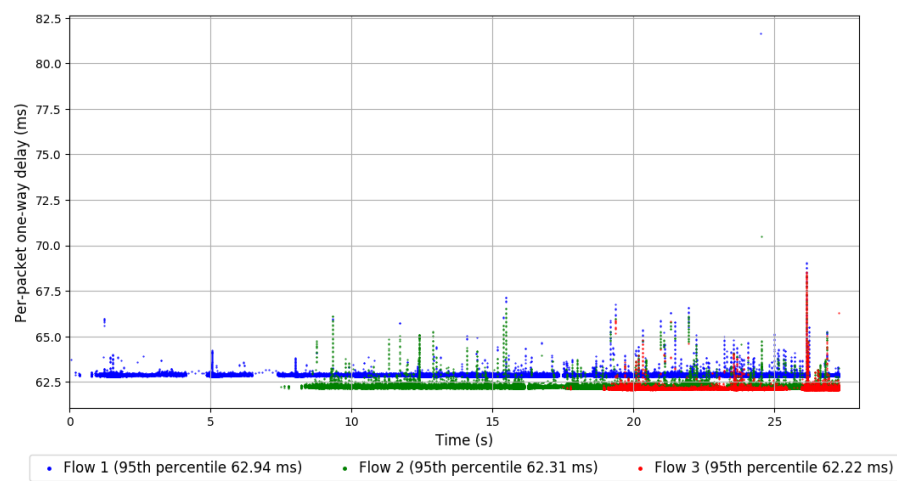
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-11-24 16:13:04
End at: 2019-11-24 16:13:34
Local clock offset: 0.49 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.72 Mbit/s
95th percentile per-packet one-way delay: 63.212 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 56.38 Mbit/s
95th percentile per-packet one-way delay: 63.270 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 53.42 Mbit/s
95th percentile per-packet one-way delay: 60.143 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 20.89 Mbit/s
95th percentile per-packet one-way delay: 60.105 ms
Loss rate: 0.83%
```
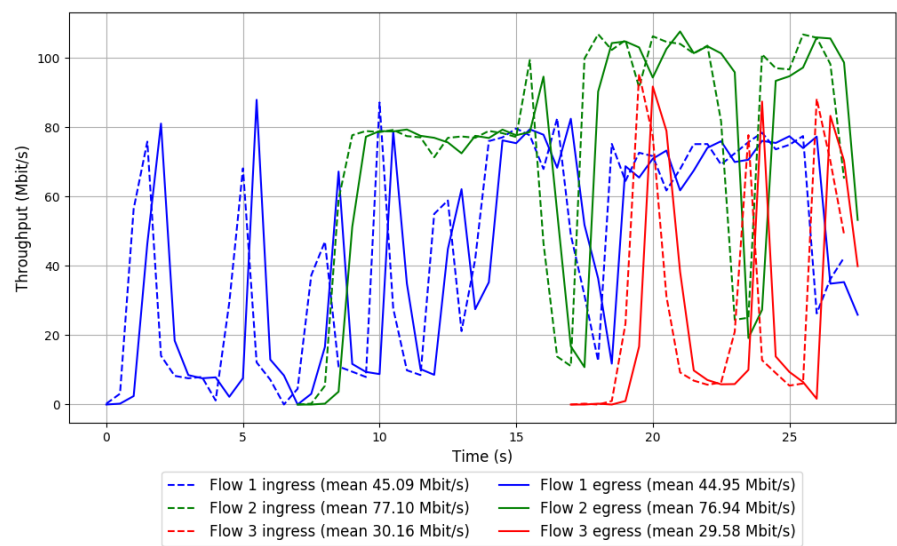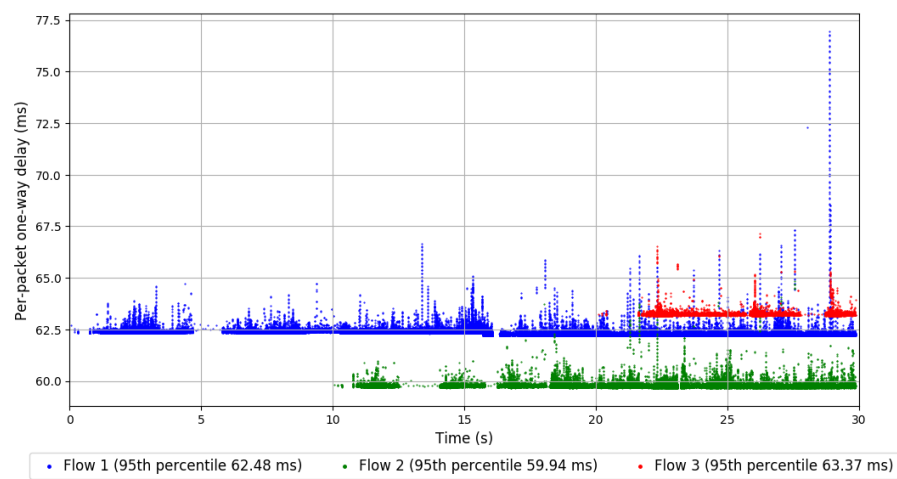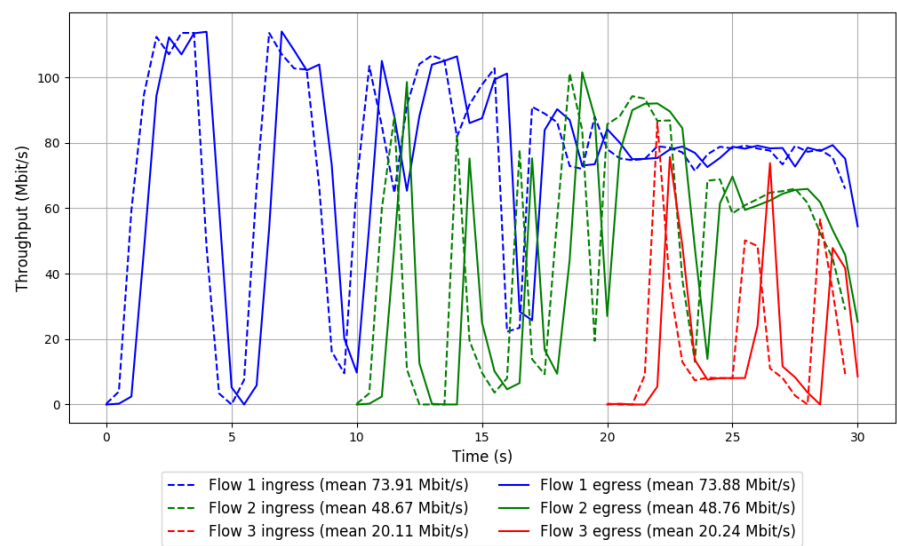
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-11-24 16:53:25
End at: 2019-11-24 16:53:55
Local clock offset: 0.795 ms
Remote clock offset: 0.099 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.52 Mbit/s
95th percentile per-packet one-way delay: 62.916 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 44.95 Mbit/s
95th percentile per-packet one-way delay: 62.941 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 62.309 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 29.58 Mbit/s
95th percentile per-packet one-way delay: 62.224 ms
Loss rate: 3.10%
```
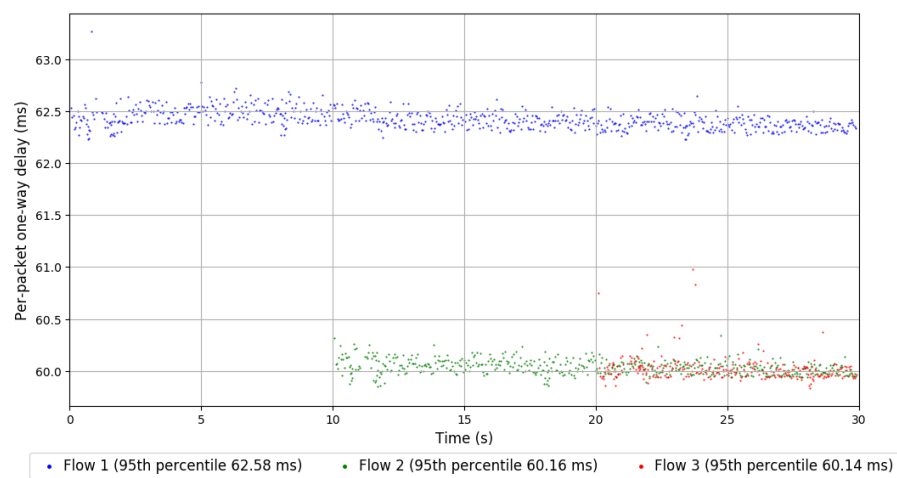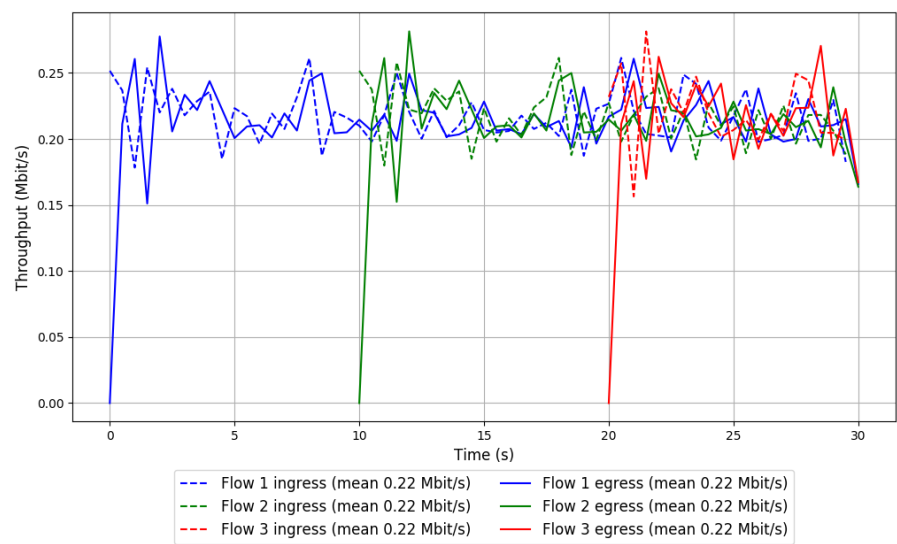
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 45.09 Mbit/s) ---- Flow 1 egress (mean 44.95 Mbit/s)
Flow 2 ingress (mean 77.10 Mbit/s) ---- Flow 2 egress (mean 76.94 Mbit/s)
Flow 3 ingress (mean 30.16 Mbit/s) ---- Flow 3 egress (mean 29.58 Mbit/s)

Flow 1 (95th percentile 62.94 ms)　　Flow 2 (95th percentile 62.31 ms)　　Flow 3 (95th percentile 62.22 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-11-24 17:33:50
End at: 2019-11-24 17:34:20
Local clock offset: -0.199 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.89 Mbit/s
95th percentile per-packet one-way delay: 63.196 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 73.88 Mbit/s
95th percentile per-packet one-way delay: 62.484 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 48.76 Mbit/s
95th percentile per-packet one-way delay: 59.936 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 20.24 Mbit/s
95th percentile per-packet one-way delay: 63.367 ms
Loss rate: 0.63%
```
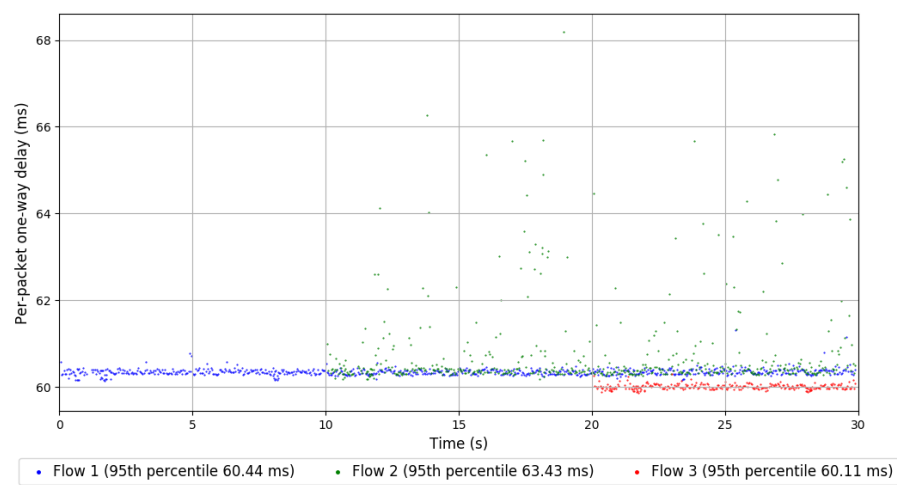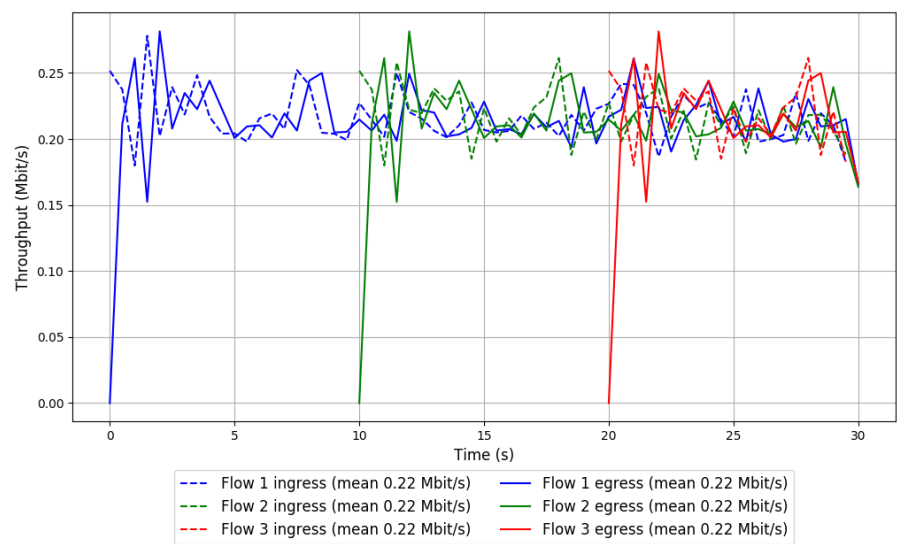
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 73.91 Mbit/s) — Flow 1 egress (mean 73.88 Mbit/s)
Flow 2 ingress (mean 48.67 Mbit/s) — Flow 2 egress (mean 48.76 Mbit/s)
Flow 3 ingress (mean 20.11 Mbit/s) — Flow 3 egress (mean 20.24 Mbit/s)

Flow 1 (95th percentile 62.48 ms) • Flow 2 (95th percentile 59.94 ms) • Flow 3 (95th percentile 63.37 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-11-24 15:19:44
End at: 2019-11-24 15:20:14
Local clock offset: -0.446 ms
Remote clock offset: -0.104 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 62.540 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.580 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.165 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.144 ms
Loss rate: 1.08%
```
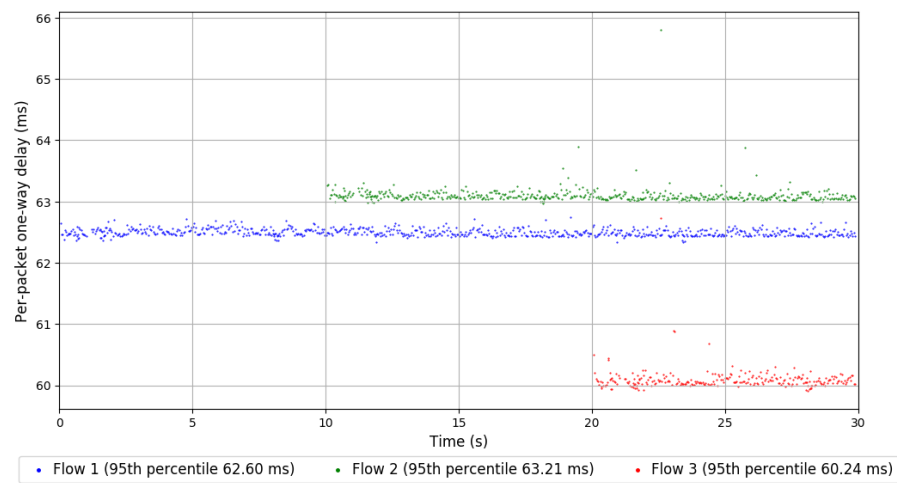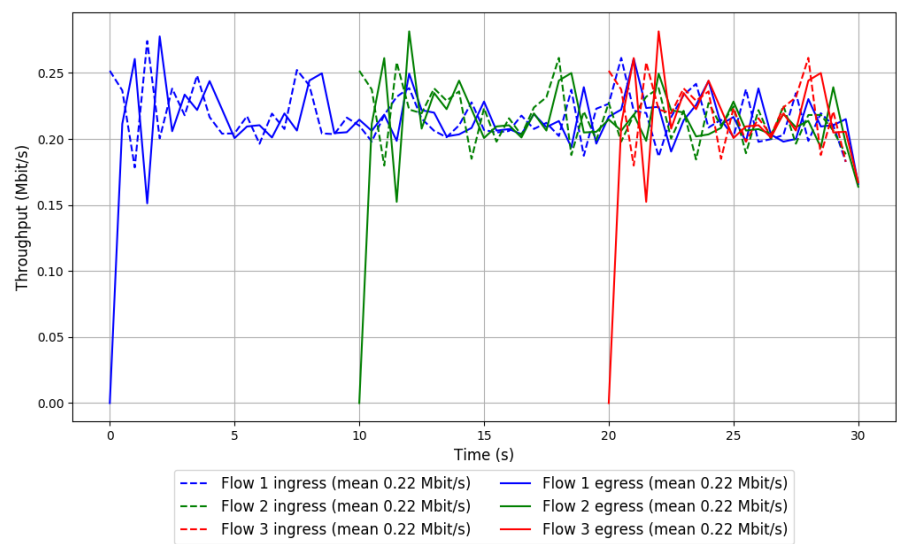
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-11-24 15:59:39
End at: 2019-11-24 16:00:09
Local clock offset: 0.329 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 61.149 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.442 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.431 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.108 ms
Loss rate: 1.08%
```
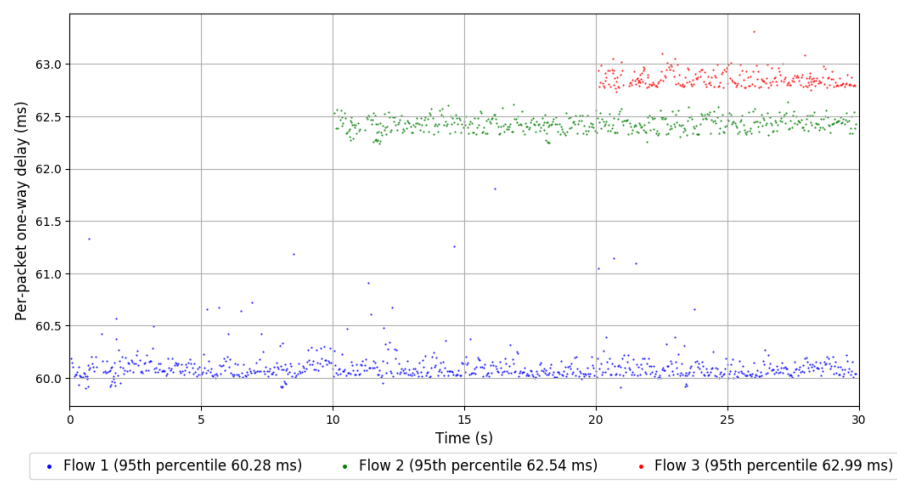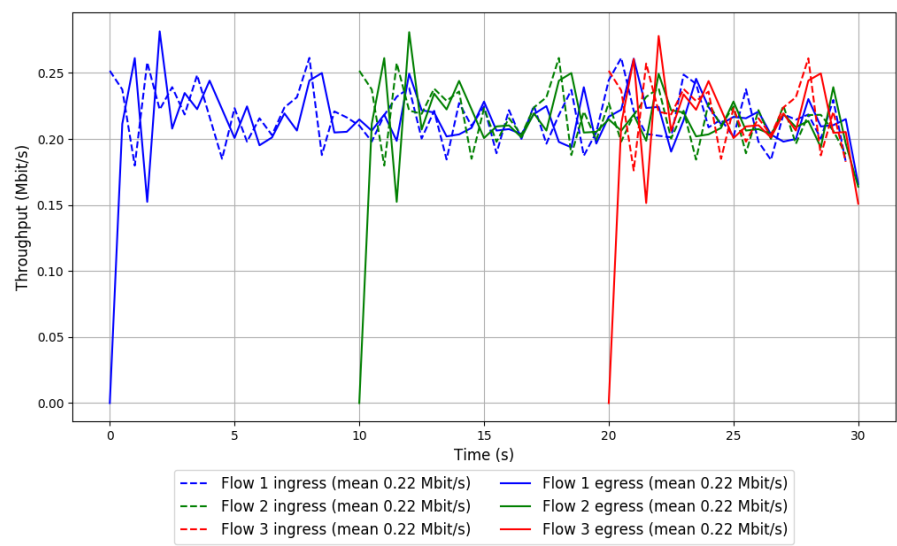
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-11-24 16:40:02
End at: 2019-11-24 16:40:32
Local clock offset: 0.73 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 63.152 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.603 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.208 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.243 ms
Loss rate: 1.08%
```
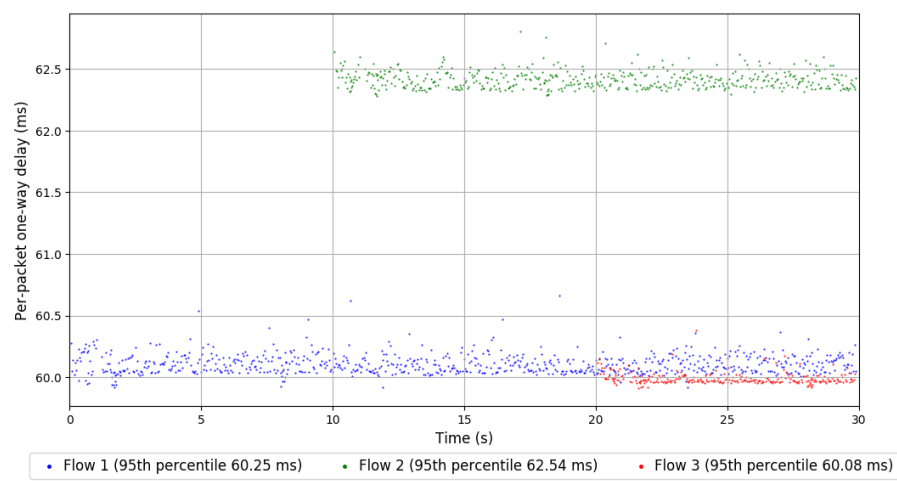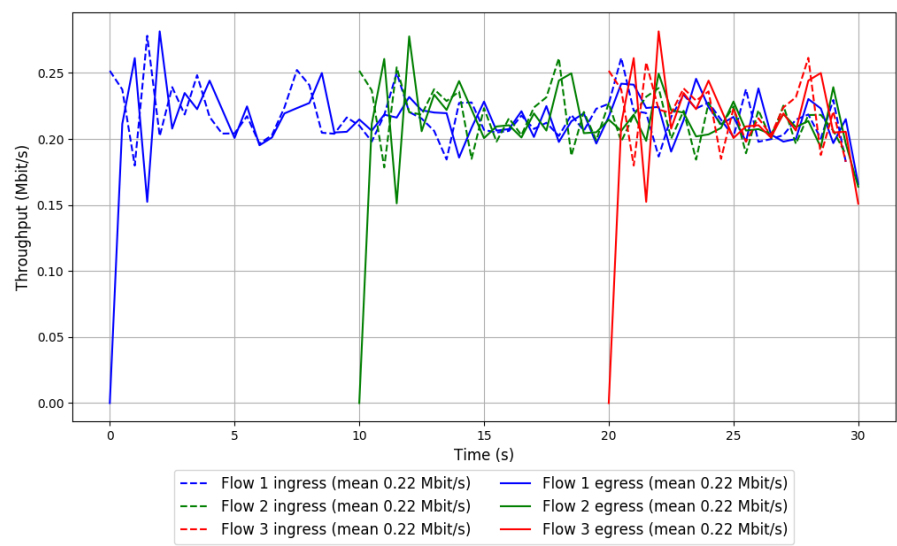
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-11-24 17:20:15
End at: 2019-11-24 17:20:45
Local clock offset: -0.069 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 62.876 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.282 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.540 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.992 ms
Loss rate: 1.45%
```
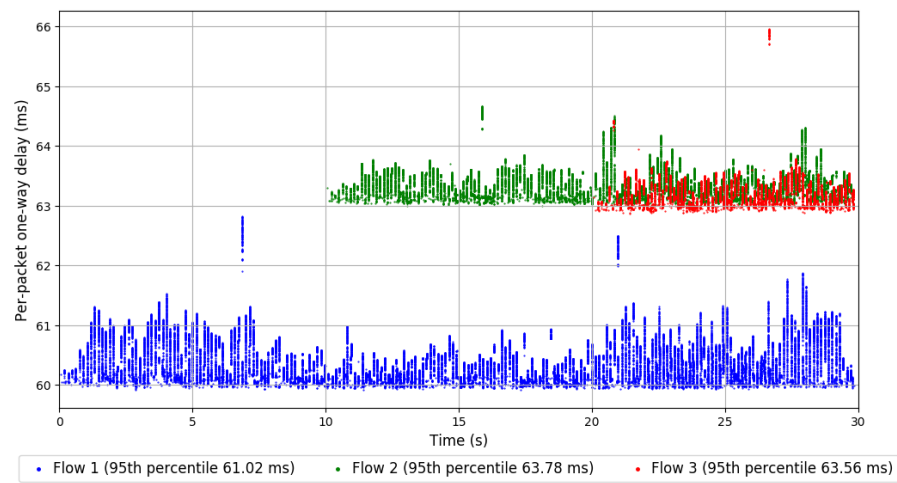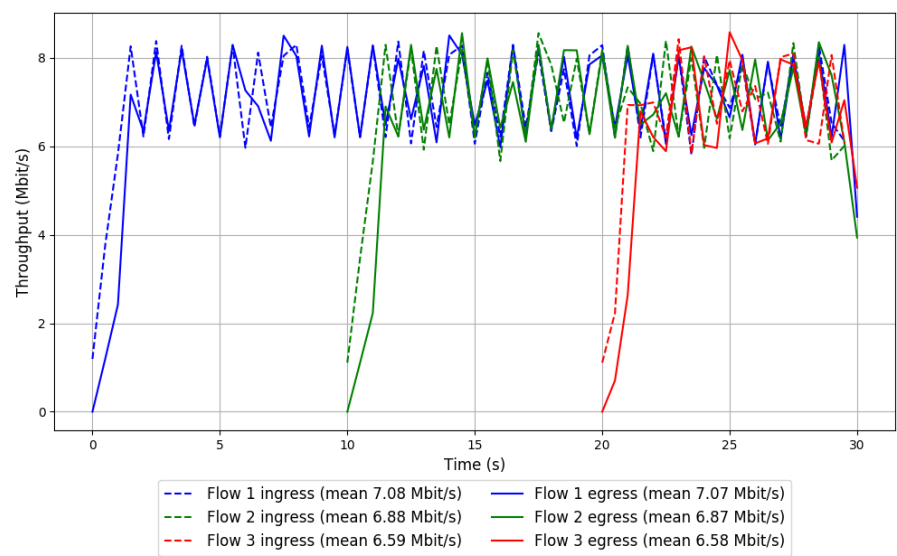
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-11-24 18:00:48
End at: 2019-11-24 18:01:18
Local clock offset: -0.19 ms
Remote clock offset: -0.088 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 62.484 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.246 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.541 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.078 ms
Loss rate: 1.45%
```
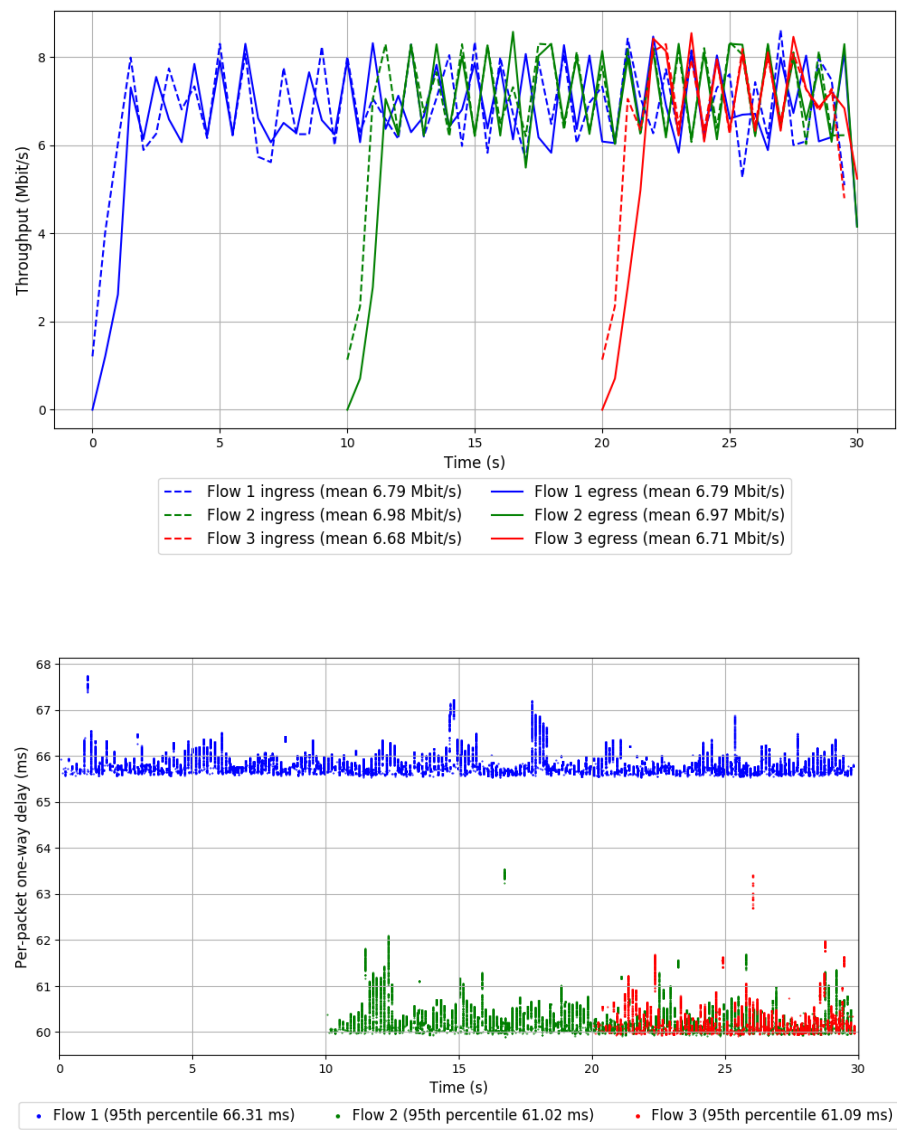
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-11-24 15:22:34
End at: 2019-11-24 15:23:04
Local clock offset: -0.281 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.77 Mbit/s
95th percentile per-packet one-way delay: 63.597 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 61.019 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 6.87 Mbit/s
95th percentile per-packet one-way delay: 63.777 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 63.556 ms
Loss rate: 1.57%
```
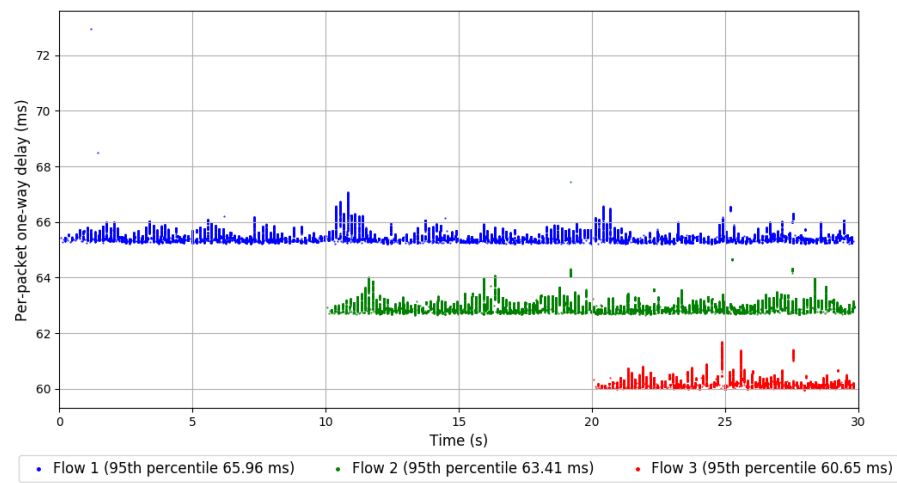
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-11-24 16:02:50
End at: 2019-11-24 16:03:20
Local clock offset: 0.409 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.61 Mbit/s
95th percentile per-packet one-way delay: 66.165 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 66.309 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 61.015 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 61.092 ms
Loss rate: 0.60%
```
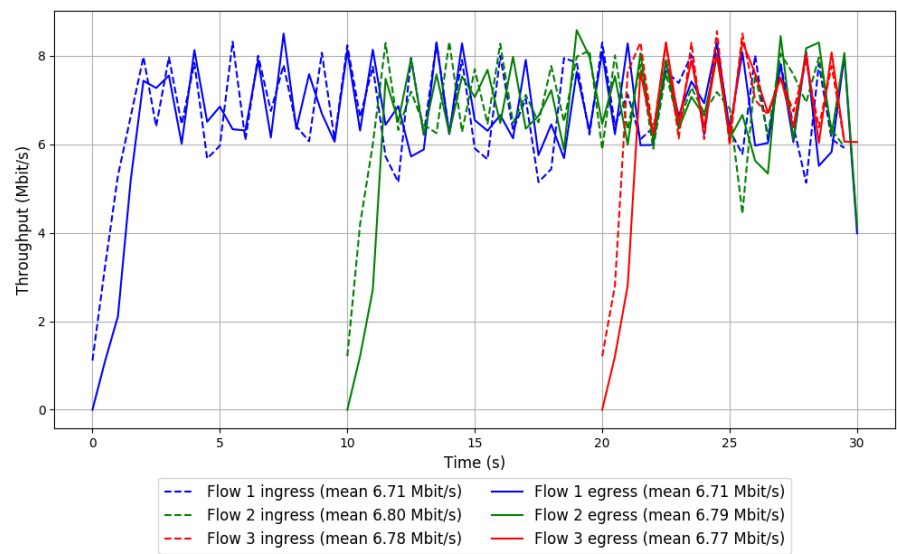
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-11-24 16:43:11
End at: 2019-11-24 16:43:41
Local clock offset: 0.704 ms
Remote clock offset: -0.102 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 65.791 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 65.959 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 63.415 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 60.654 ms
Loss rate: 1.51%
```
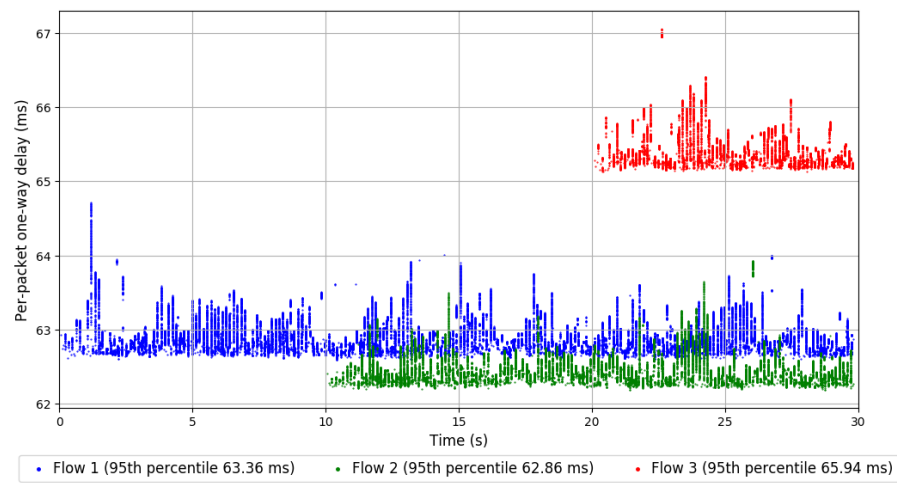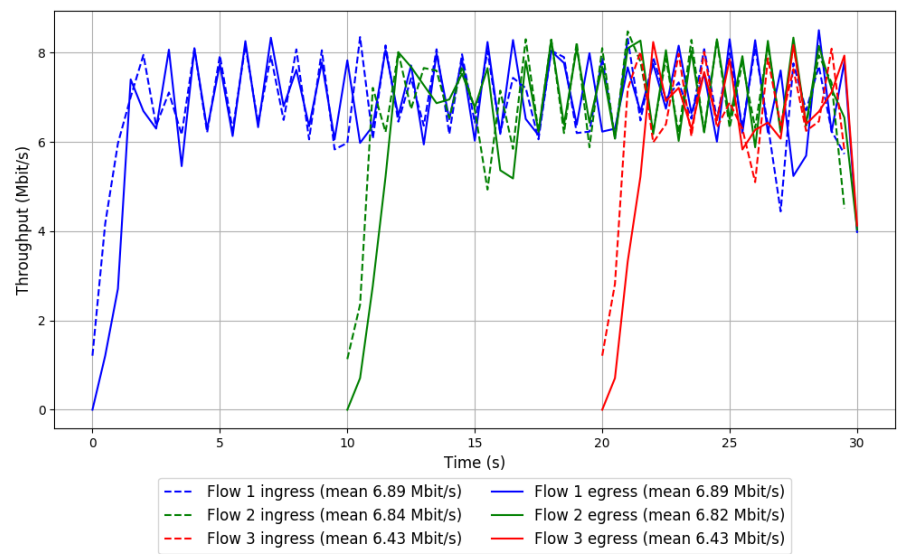
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-11-24 17:23:27
End at: 2019-11-24 17:23:57
Local clock offset: -0.09 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.51 Mbit/s
95th percentile per-packet one-way delay: 65.436 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 63.362 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 62.861 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 65.937 ms
Loss rate: 1.57%
```
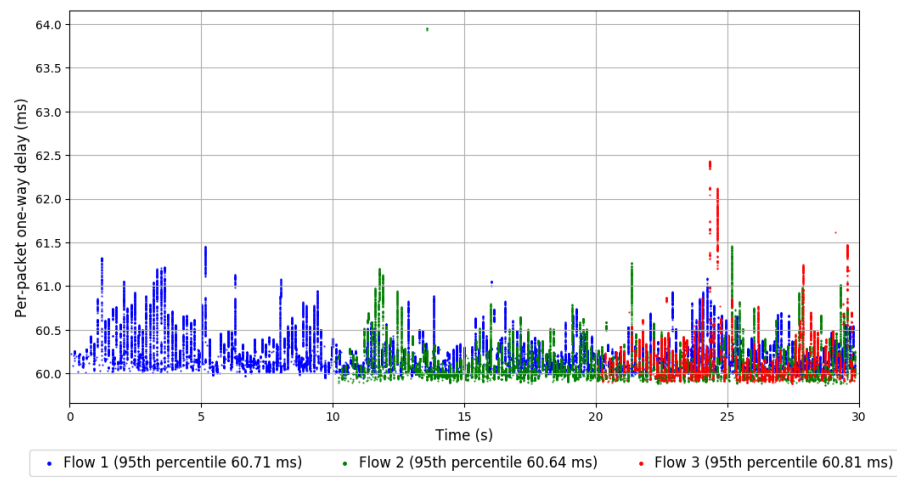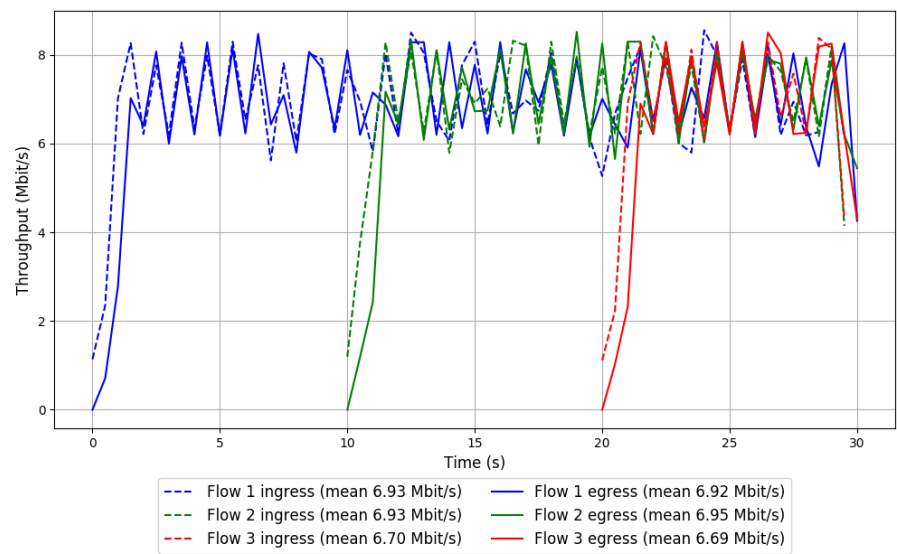
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-11-24 18:04:00
End at: 2019-11-24 18:04:30
Local clock offset: -0.219 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2019-11-24 21:00:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.72 Mbit/s
95th percentile per-packet one-way delay: 60.696 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 60.711 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 60.640 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 60.806 ms
Loss rate: 1.57%
```
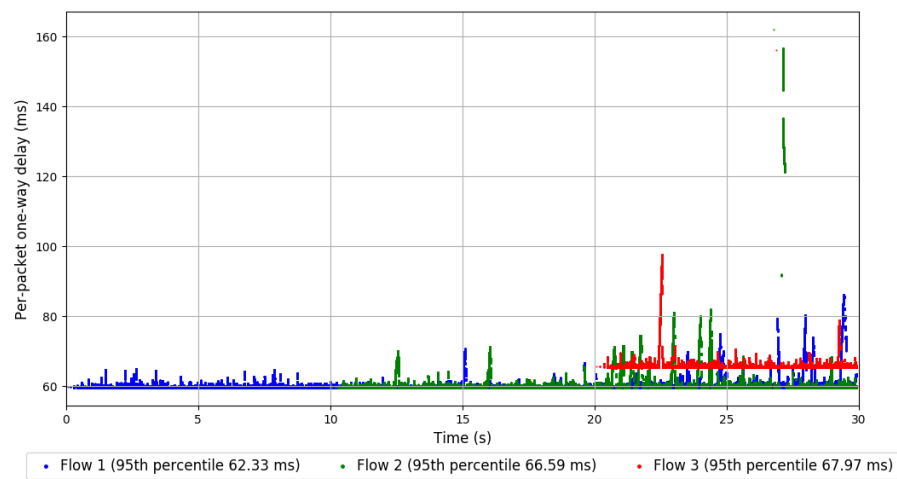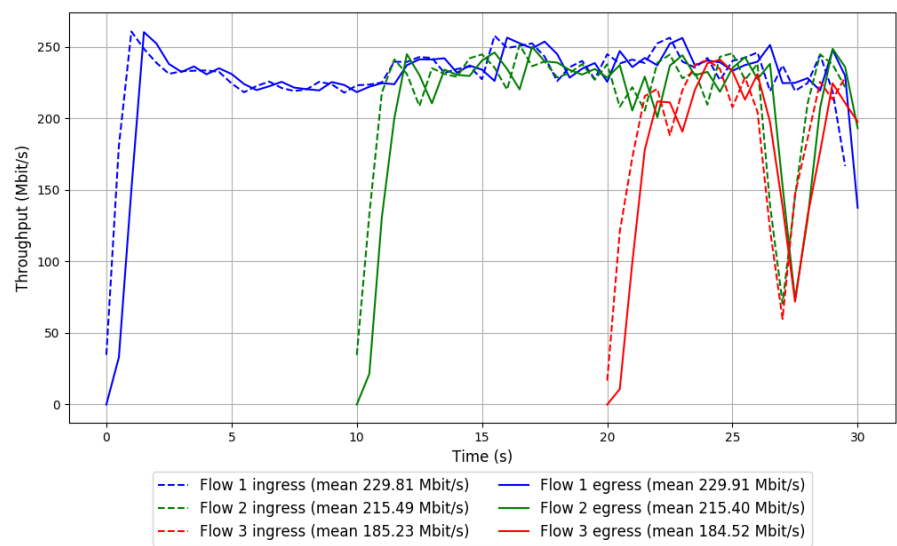
Run 5: Report of Sprout — Data Link

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

Start at: 2019-11-24 15:05:54
End at: 2019-11-24 15:06:24
Local clock offset: -0.615 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-11-24 21:03:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.85 Mbit/s
95th percentile per-packet one-way delay: 66.231 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 229.91 Mbit/s
95th percentile per-packet one-way delay: 62.333 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 215.40 Mbit/s
95th percentile per-packet one-way delay: 66.592 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 184.52 Mbit/s
95th percentile per-packet one-way delay: 67.967 ms
Loss rate: 1.70%
```
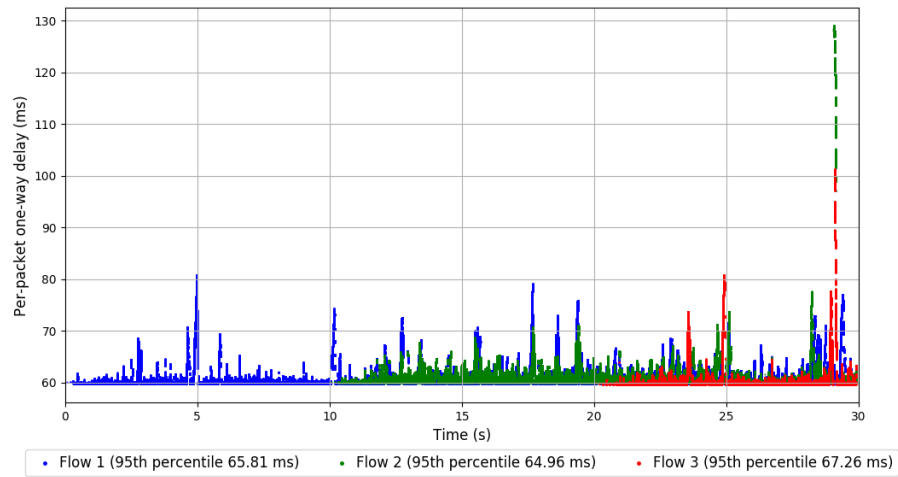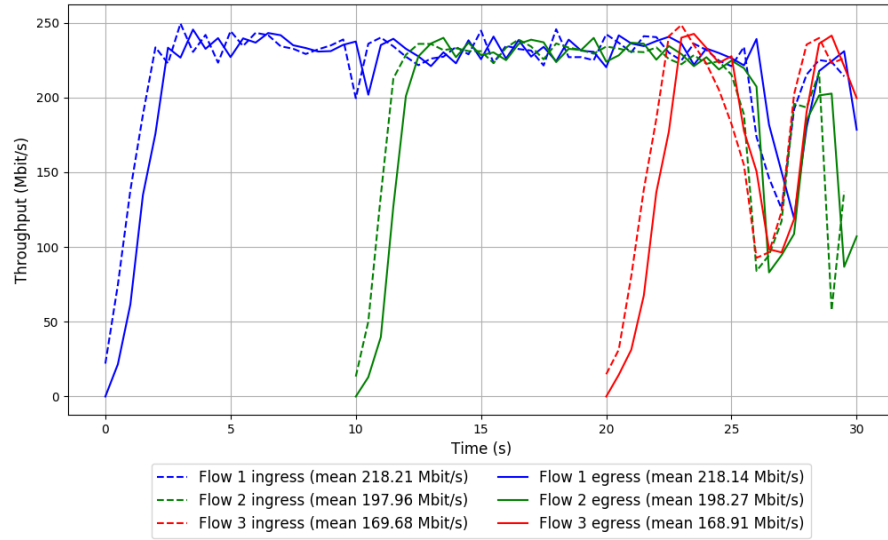
Run 1: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 229.81 Mbit/s) ——— Flow 1 egress (mean 229.91 Mbit/s)
- - - - Flow 2 ingress (mean 215.49 Mbit/s) ——— Flow 2 egress (mean 215.40 Mbit/s)
- - - - Flow 3 ingress (mean 185.23 Mbit/s) ——— Flow 3 egress (mean 184.52 Mbit/s)

• Flow 1 (95th percentile 62.33 ms)   • Flow 2 (95th percentile 66.59 ms)   • Flow 3 (95th percentile 67.97 ms)

196

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

Start at: 2019-11-24 15:45:40
End at: 2019-11-24 15:46:10
Local clock offset: 0.225 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2019-11-24 21:03:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.59 Mbit/s
95th percentile per-packet one-way delay: 65.524 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 218.14 Mbit/s
95th percentile per-packet one-way delay: 65.811 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 198.27 Mbit/s
95th percentile per-packet one-way delay: 64.961 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 168.91 Mbit/s
95th percentile per-packet one-way delay: 67.262 ms
Loss rate: 1.66%
```

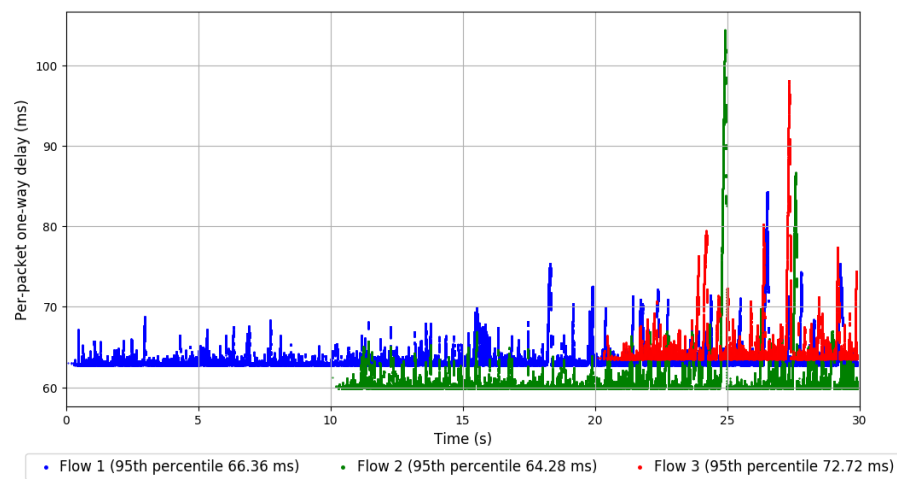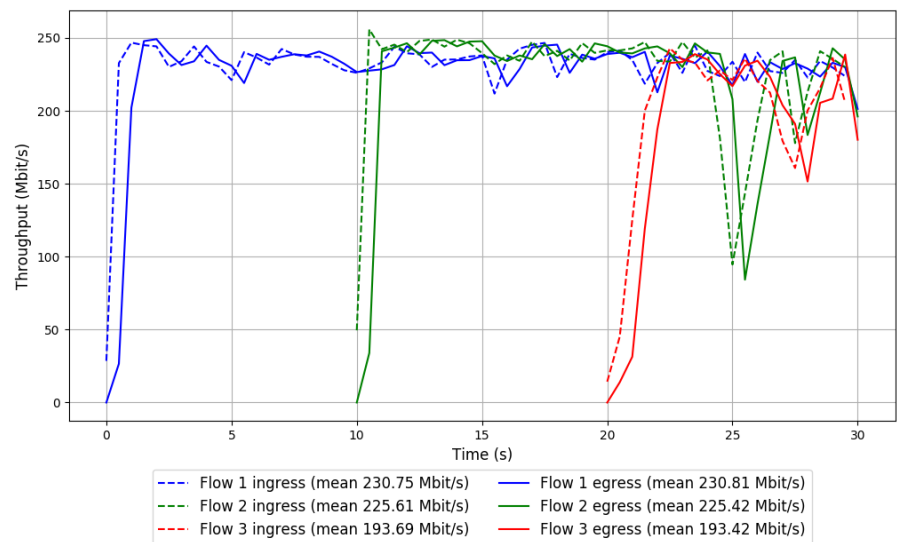# Run 2: Report of TaoVA-100x — Data Link

198

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

Start at: 2019-11-24 16:26:07
End at: 2019-11-24 16:26:37
Local clock offset: 0.599 ms
Remote clock offset: -0.151 ms


# Below is generated by plot.py at 2019-11-24 21:03:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 444.33 Mbit/s
95th percentile per-packet one-way delay: 66.798 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 230.81 Mbit/s
95th percentile per-packet one-way delay: 66.362 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 225.42 Mbit/s
95th percentile per-packet one-way delay: 64.281 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 193.42 Mbit/s
95th percentile per-packet one-way delay: 72.719 ms
Loss rate: 1.39%
```
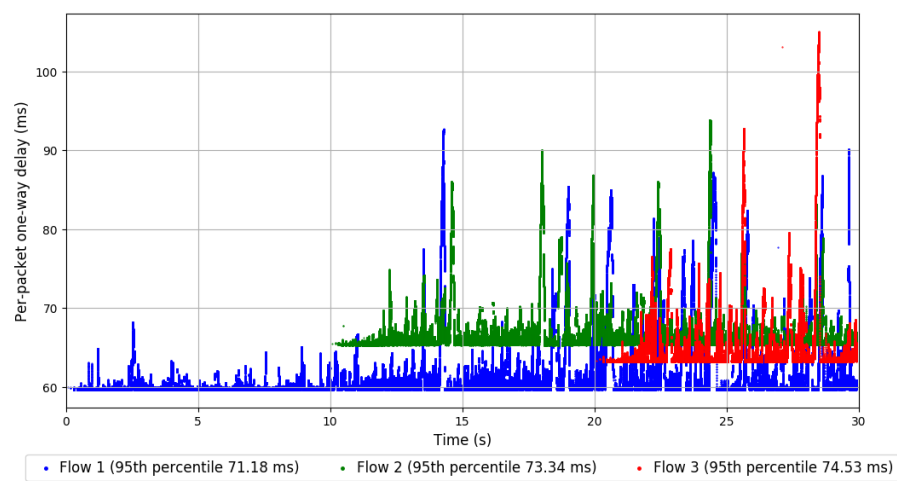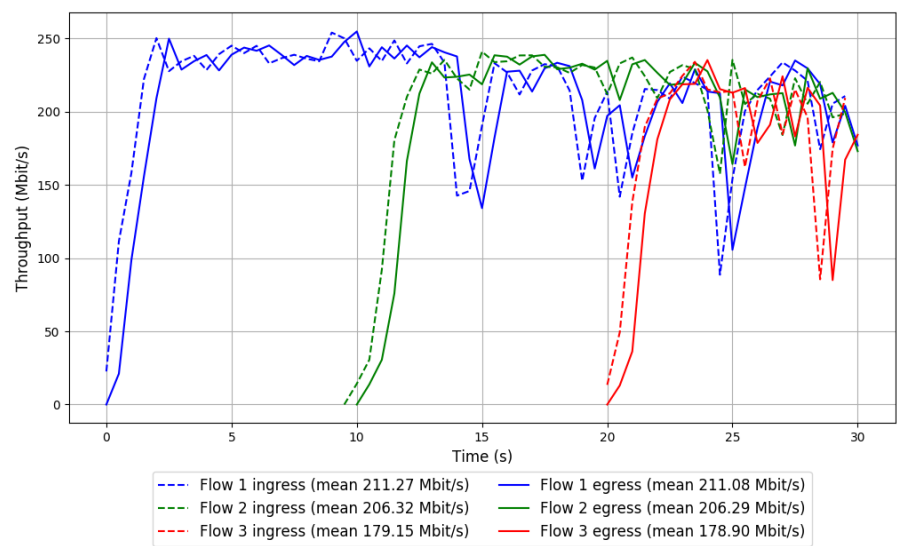
Run 3: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 230.75 Mbit/s)   —— Flow 1 egress (mean 230.81 Mbit/s)
- - - - Flow 2 ingress (mean 225.61 Mbit/s)   —— Flow 2 egress (mean 225.42 Mbit/s)
- - - - Flow 3 ingress (mean 193.69 Mbit/s)   —— Flow 3 egress (mean 193.42 Mbit/s)

- Flow 1 (95th percentile 66.36 ms)   • Flow 2 (95th percentile 64.28 ms)   • Flow 3 (95th percentile 72.72 ms)

200

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

Start at: 2019-11-24 17:06:28
End at: 2019-11-24 17:06:58
Local clock offset: 0.341 ms
Remote clock offset: 0.028 ms


# Below is generated by plot.py at 2019-11-24 21:03:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 407.22 Mbit/s
95th percentile per-packet one-way delay: 72.760 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 211.08 Mbit/s
95th percentile per-packet one-way delay: 71.178 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 206.29 Mbit/s
95th percentile per-packet one-way delay: 73.340 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 178.90 Mbit/s
95th percentile per-packet one-way delay: 74.535 ms
Loss rate: 1.40%
```
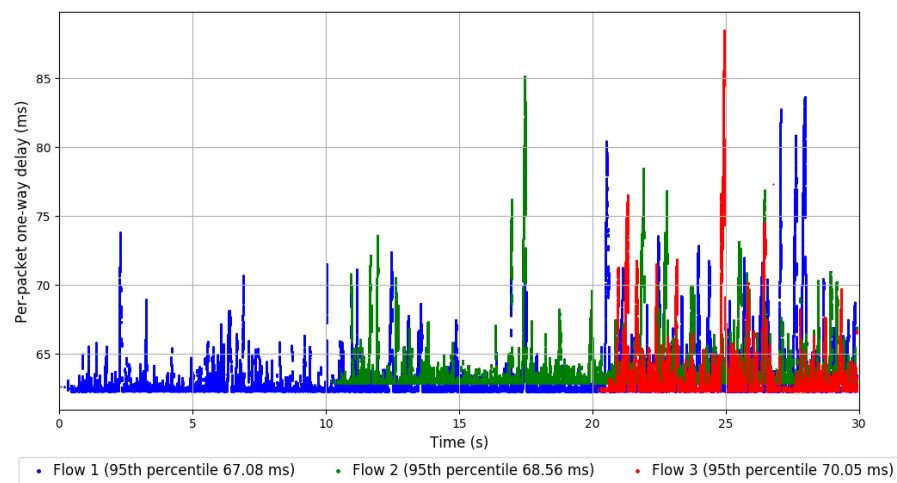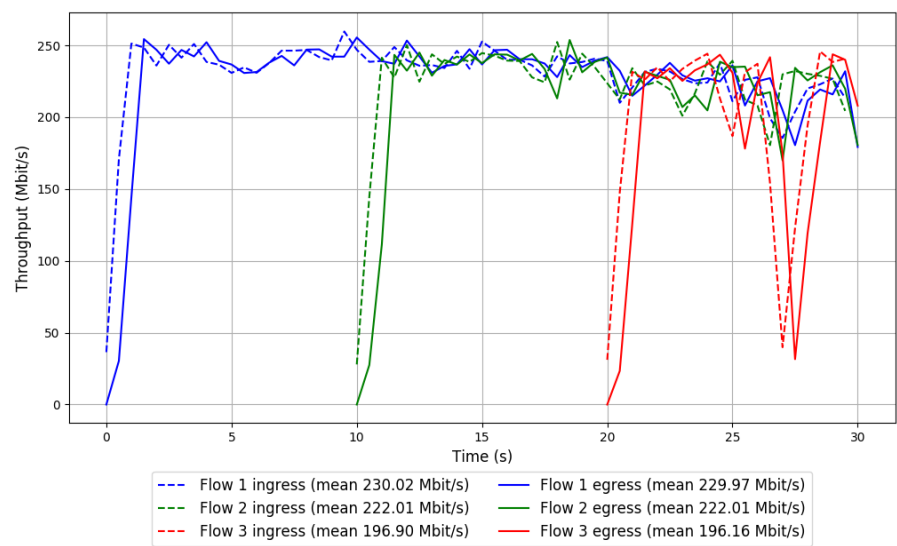
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-11-24 17:46:58
End at: 2019-11-24 17:47:28
Local clock offset: -0.138 ms
Remote clock offset: -0.13 ms


# Below is generated by plot.py at 2019-11-24 21:04:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.15 Mbit/s
95th percentile per-packet one-way delay: 68.000 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 229.97 Mbit/s
95th percentile per-packet one-way delay: 67.077 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 222.01 Mbit/s
95th percentile per-packet one-way delay: 68.562 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 196.16 Mbit/s
95th percentile per-packet one-way delay: 70.048 ms
Loss rate: 1.60%
```

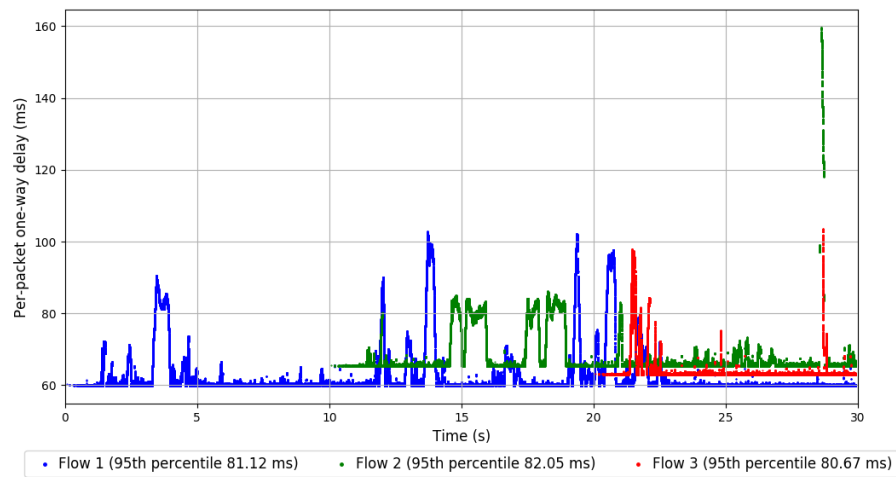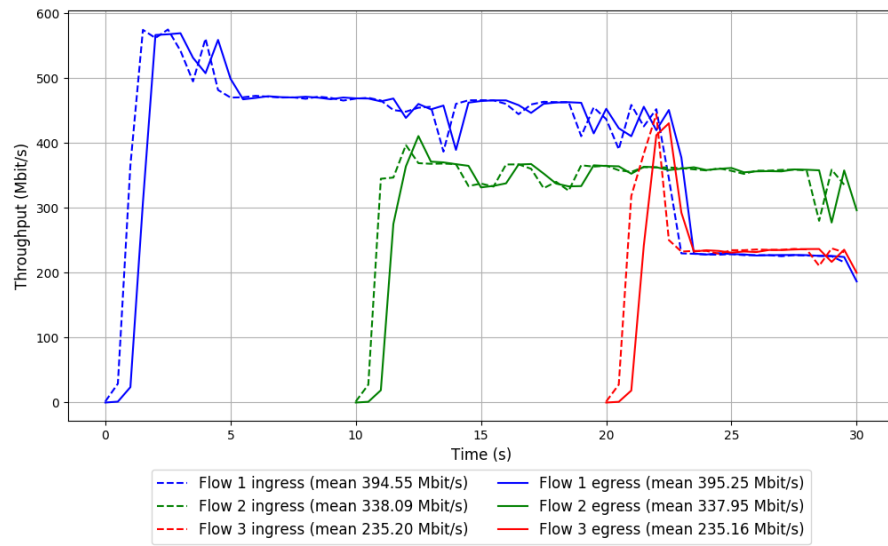Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-11-24 15:01:13
End at: 2019-11-24 15:01:43
Local clock offset: -0.636 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-11-24 21:04:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 697.31 Mbit/s
95th percentile per-packet one-way delay: 81.796 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 395.25 Mbit/s
95th percentile per-packet one-way delay: 81.121 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 337.95 Mbit/s
95th percentile per-packet one-way delay: 82.046 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 235.16 Mbit/s
95th percentile per-packet one-way delay: 80.672 ms
Loss rate: 1.28%
```
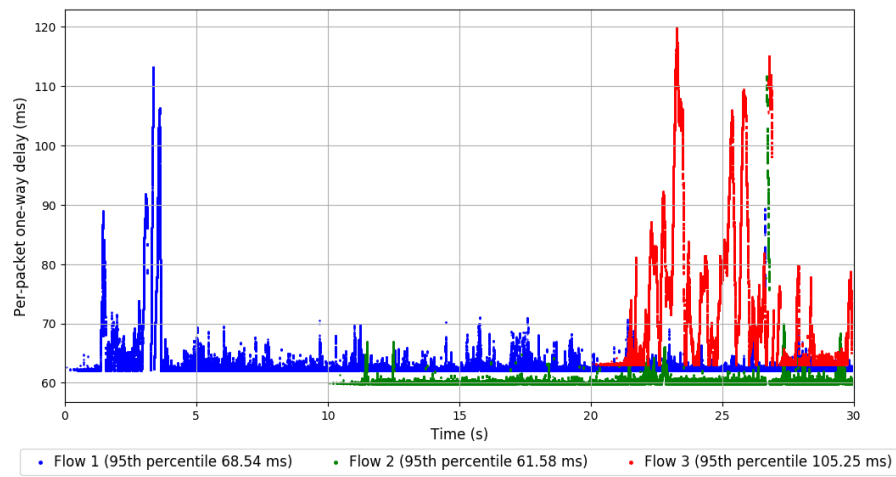
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-11-24 15:40:58
End at: 2019-11-24 15:41:28
Local clock offset: 0.165 ms
Remote clock offset: 0.135 ms


# Below is generated by plot.py at 2019-11-24 21:10:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 649.70 Mbit/s
95th percentile per-packet one-way delay: 81.259 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 273.97 Mbit/s
95th percentile per-packet one-way delay: 68.541 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 353.02 Mbit/s
95th percentile per-packet one-way delay: 61.577 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 427.84 Mbit/s
95th percentile per-packet one-way delay: 105.246 ms
Loss rate: 1.31%
```
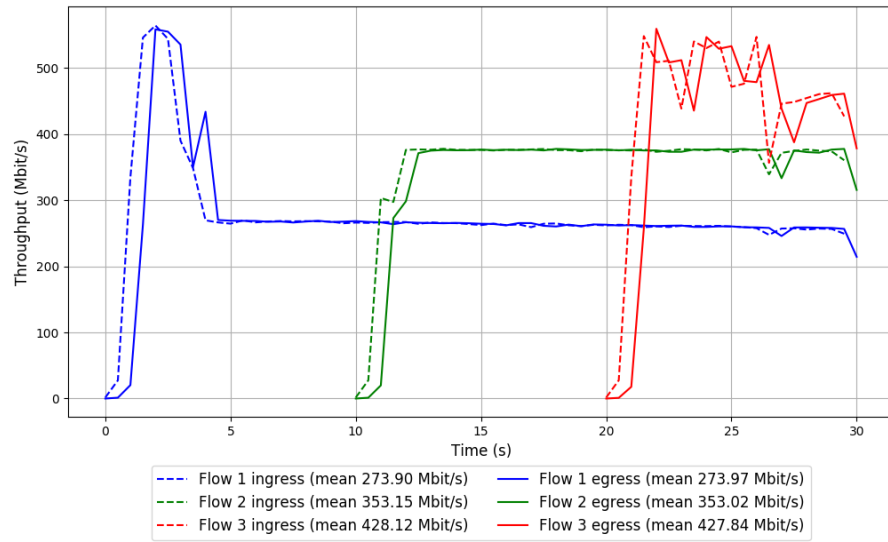
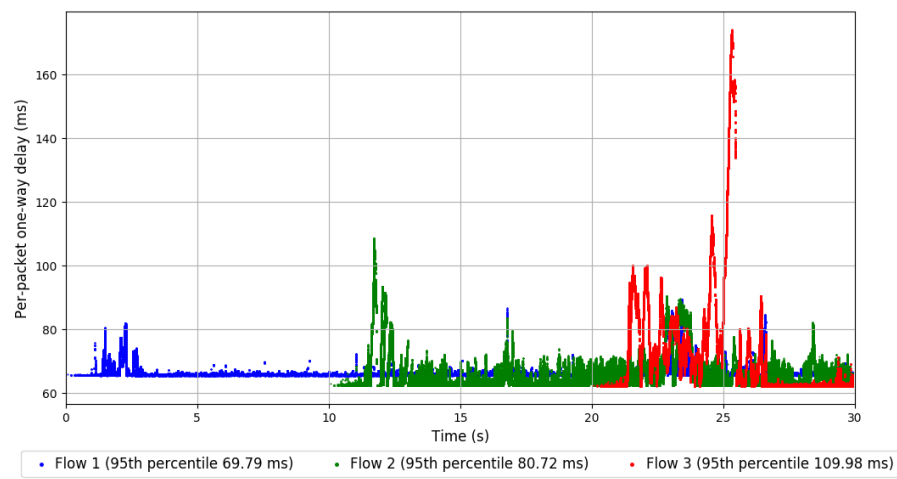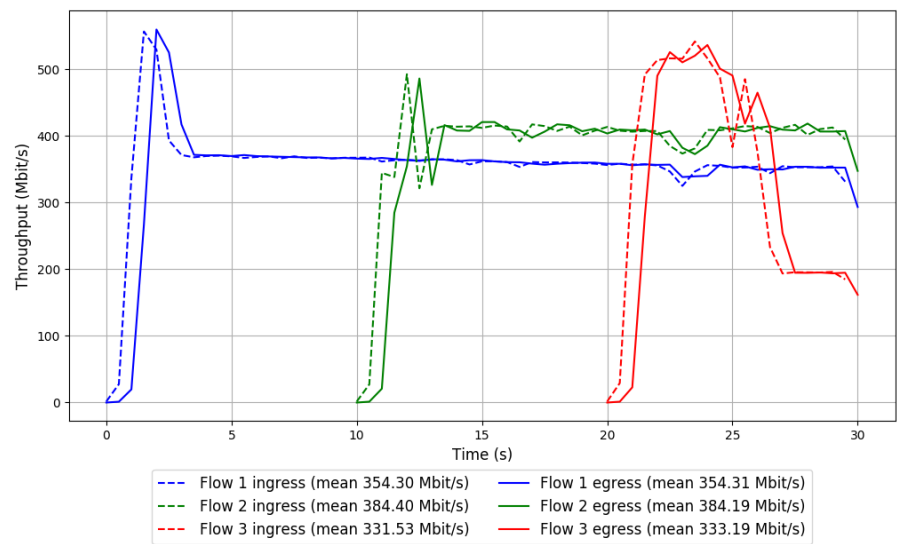# Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-11-24 16:21:20
End at: 2019-11-24 16:21:50
Local clock offset: 0.548 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-11-24 21:13:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 719.64 Mbit/s
95th percentile per-packet one-way delay: 82.796 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 354.31 Mbit/s
95th percentile per-packet one-way delay: 69.788 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 384.19 Mbit/s
95th percentile per-packet one-way delay: 80.720 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 333.19 Mbit/s
95th percentile per-packet one-way delay: 109.978 ms
Loss rate: 0.72%
```

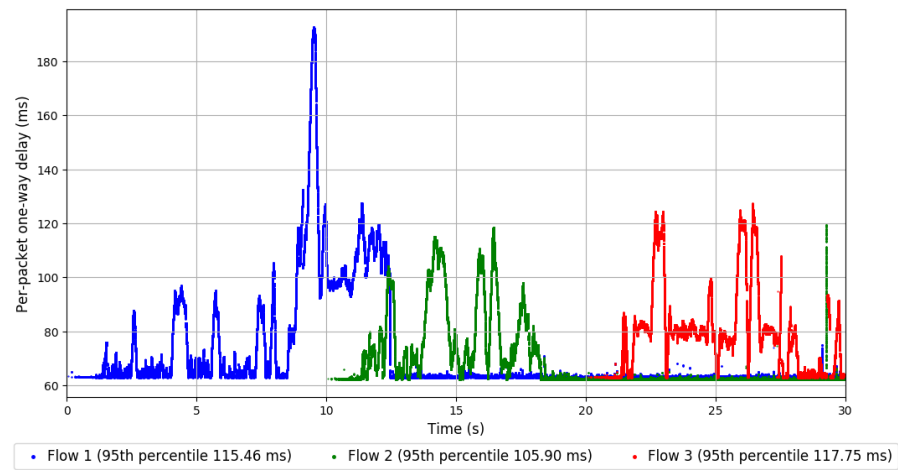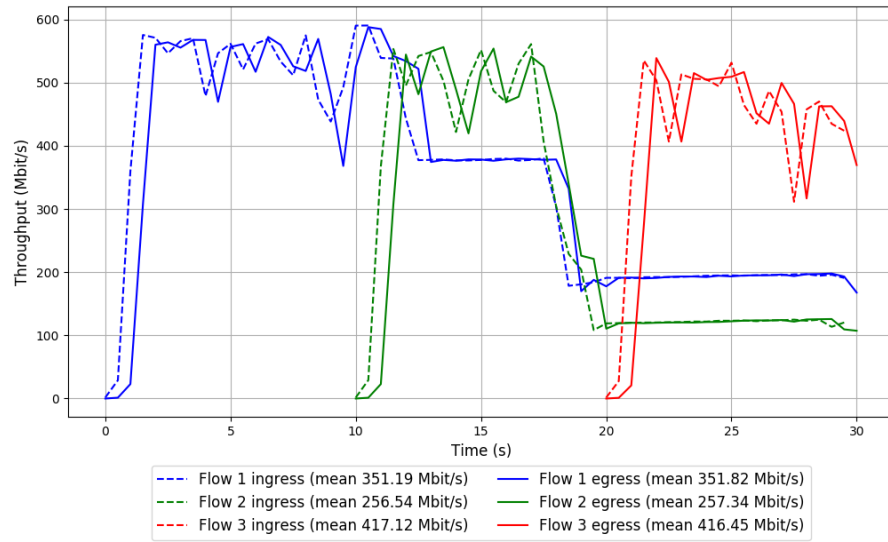Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-11-24 17:01:44
End at: 2019-11-24 17:02:14
Local clock offset: 0.624 ms
Remote clock offset: -0.007 ms


# Below is generated by plot.py at 2019-11-24 21:14:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 660.15 Mbit/s
95th percentile per-packet one-way delay: 113.184 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 351.82 Mbit/s
95th percentile per-packet one-way delay: 115.462 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 257.34 Mbit/s
95th percentile per-packet one-way delay: 105.899 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 416.45 Mbit/s
95th percentile per-packet one-way delay: 117.754 ms
Loss rate: 1.40%
```

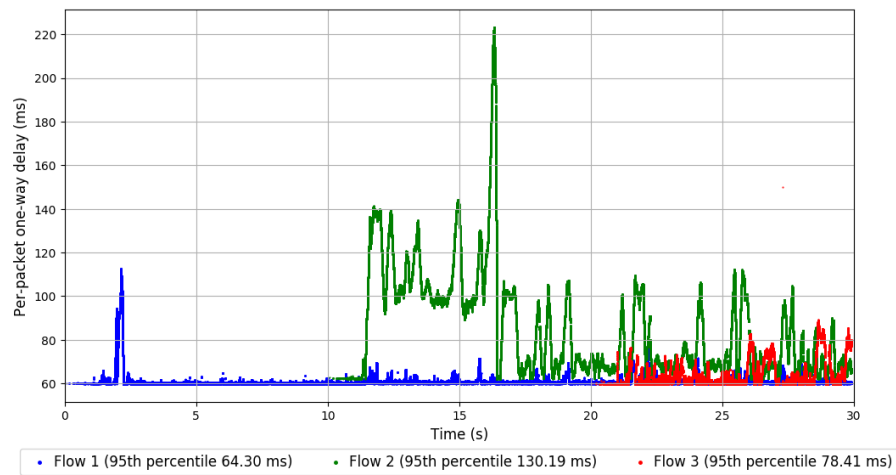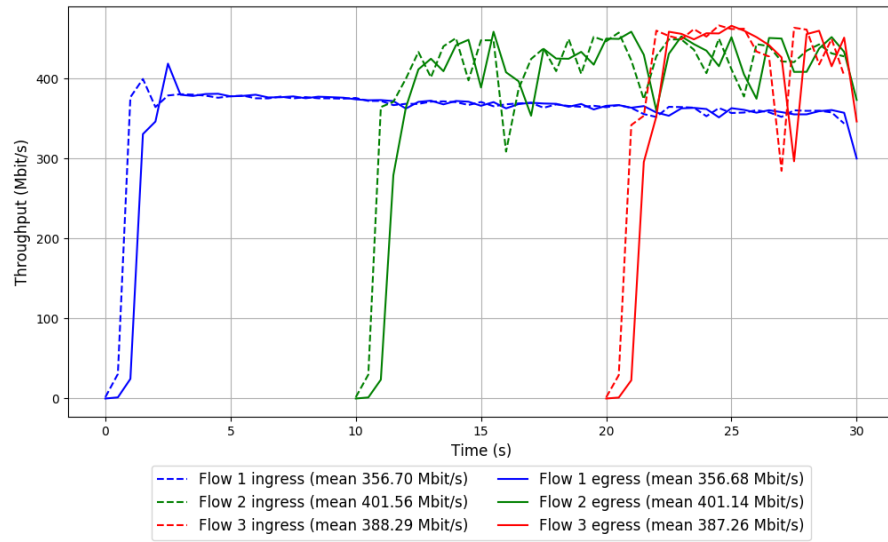# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-11-24 17:42:11
End at: 2019-11-24 17:42:41
Local clock offset: -0.174 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.99 Mbit/s
95th percentile per-packet one-way delay: 106.108 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 356.68 Mbit/s
95th percentile per-packet one-way delay: 64.301 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 401.14 Mbit/s
95th percentile per-packet one-way delay: 130.186 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 387.26 Mbit/s
95th percentile per-packet one-way delay: 78.413 ms
Loss rate: 1.49%
```

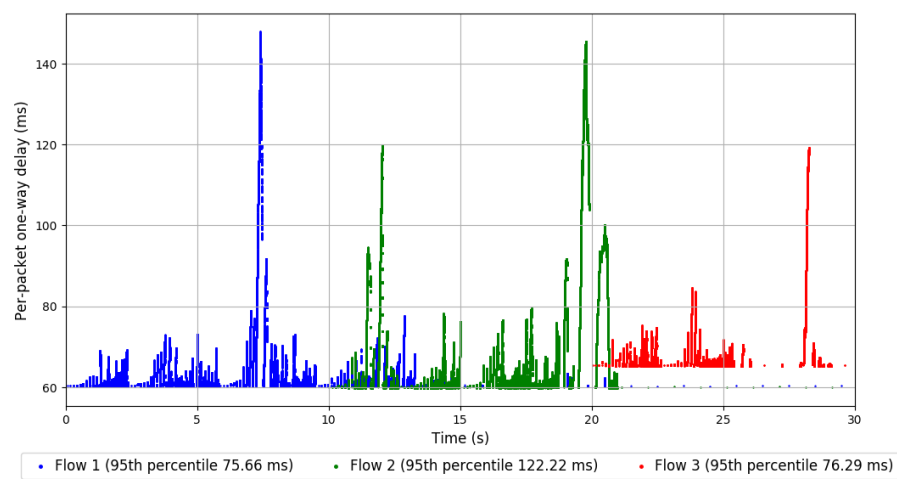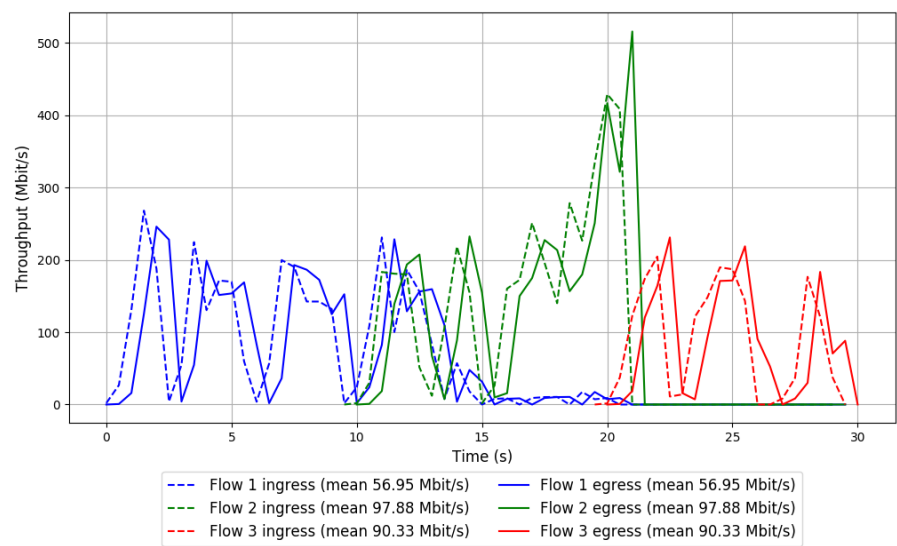Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-11-24 15:31:13
End at: 2019-11-24 15:31:43
Local clock offset: 0.014 ms
Remote clock offset: -0.005 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.30 Mbit/s
95th percentile per-packet one-way delay: 107.292 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.95 Mbit/s
95th percentile per-packet one-way delay: 75.663 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 97.88 Mbit/s
95th percentile per-packet one-way delay: 122.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 76.289 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link
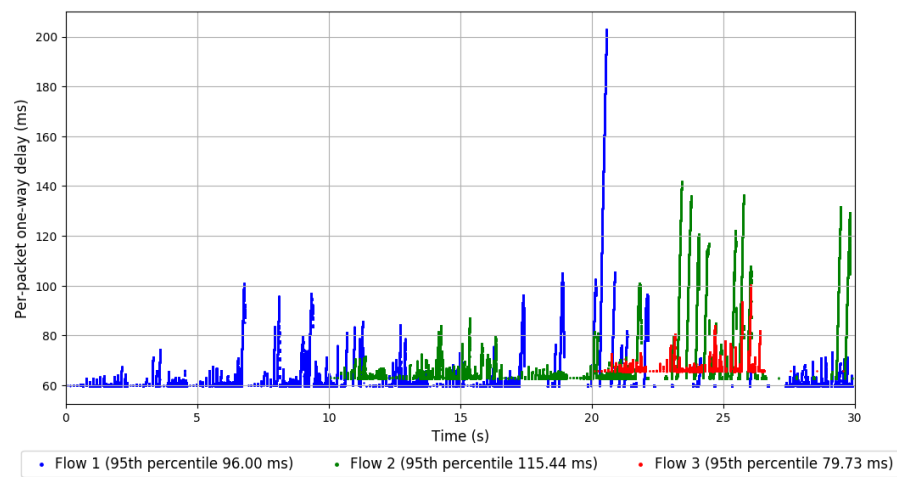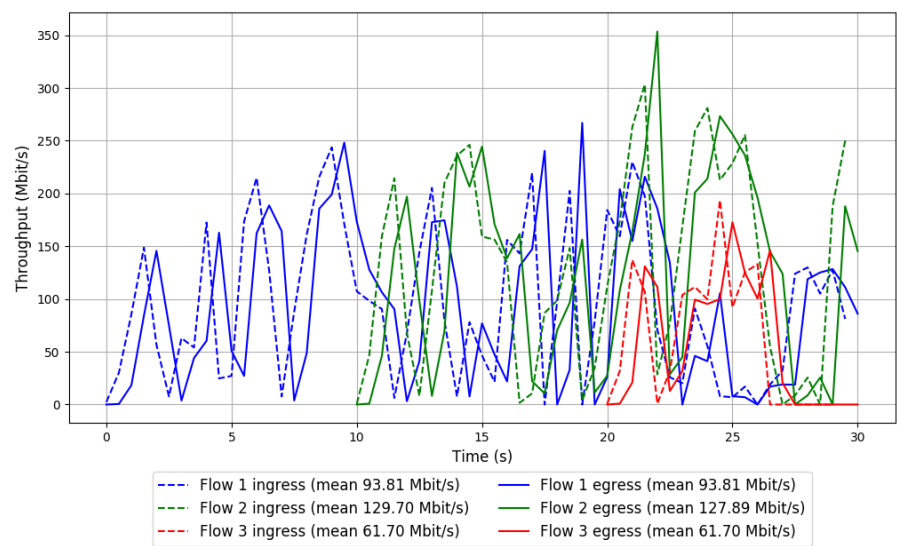

216

```
Run 2: Statistics of Verus

Start at: 2019-11-24 16:11:33
End at: 2019-11-24 16:12:03
Local clock offset: 0.441 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 198.34 Mbit/s
95th percentile per-packet one-way delay: 105.023 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 96.000 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 127.89 Mbit/s
95th percentile per-packet one-way delay: 115.437 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 61.70 Mbit/s
95th percentile per-packet one-way delay: 79.727 ms
Loss rate: 0.00%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 93.81 Mbit/s) --- Flow 1 egress (mean 93.81 Mbit/s)
Flow 2 ingress (mean 129.70 Mbit/s) --- Flow 2 egress (mean 127.89 Mbit/s)
Flow 3 ingress (mean 61.70 Mbit/s) --- Flow 3 egress (mean 61.70 Mbit/s)

Flow 1 (95th percentile 96.00 ms) Flow 2 (95th percentile 115.44 ms) Flow 3 (95th percentile 79.73 ms)

218

```
Run 3: Statistics of Verus

Start at: 2019-11-24 16:51:54
End at: 2019-11-24 16:52:24
Local clock offset: 0.779 ms
Remote clock offset: 0.111 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.14 Mbit/s
95th percentile per-packet one-way delay: 102.136 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 86.35 Mbit/s
95th percentile per-packet one-way delay: 74.468 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 177.32 Mbit/s
95th percentile per-packet one-way delay: 122.906 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 112.645 ms
Loss rate: 0.00%
```
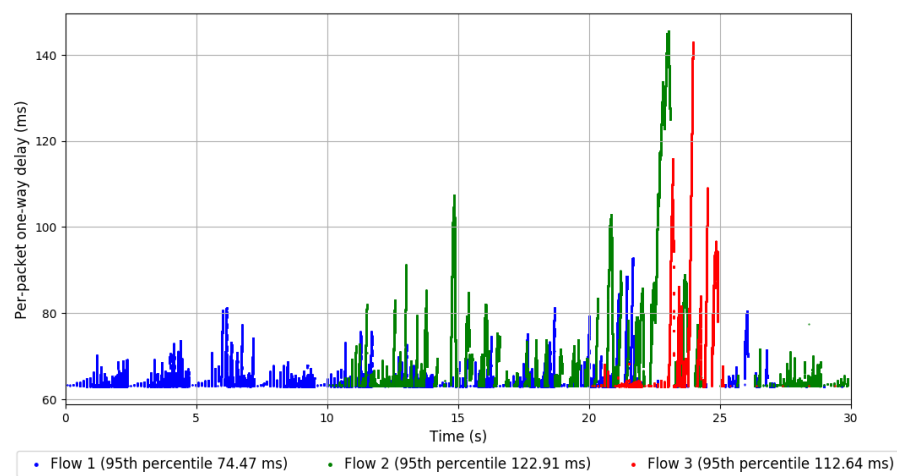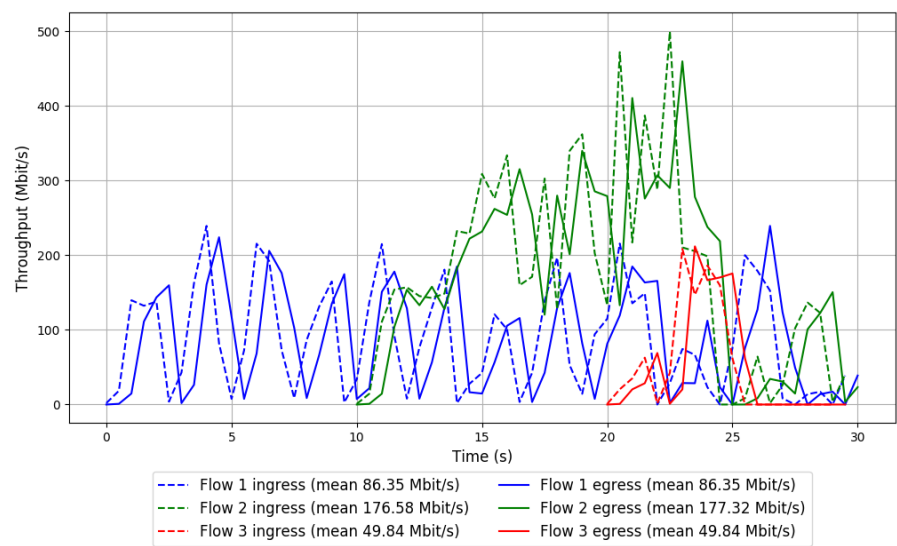
Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 86.35 Mbit/s) --- Flow 1 egress (mean 86.35 Mbit/s)
Flow 2 ingress (mean 176.58 Mbit/s) --- Flow 2 egress (mean 177.32 Mbit/s)
Flow 3 ingress (mean 49.84 Mbit/s) --- Flow 3 egress (mean 49.84 Mbit/s)

• Flow 1 (95th percentile 74.47 ms)   • Flow 2 (95th percentile 122.91 ms)   • Flow 3 (95th percentile 112.64 ms)

```
Run 4: Statistics of Verus

Start at: 2019-11-24 17:32:18
End at: 2019-11-24 17:32:48
Local clock offset: -0.201 ms
Remote clock offset: 0.026 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 186.33 Mbit/s
95th percentile per-packet one-way delay: 88.893 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 102.58 Mbit/s
95th percentile per-packet one-way delay: 80.824 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 100.98 Mbit/s
95th percentile per-packet one-way delay: 95.530 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 130.999 ms
Loss rate: 0.00%
```
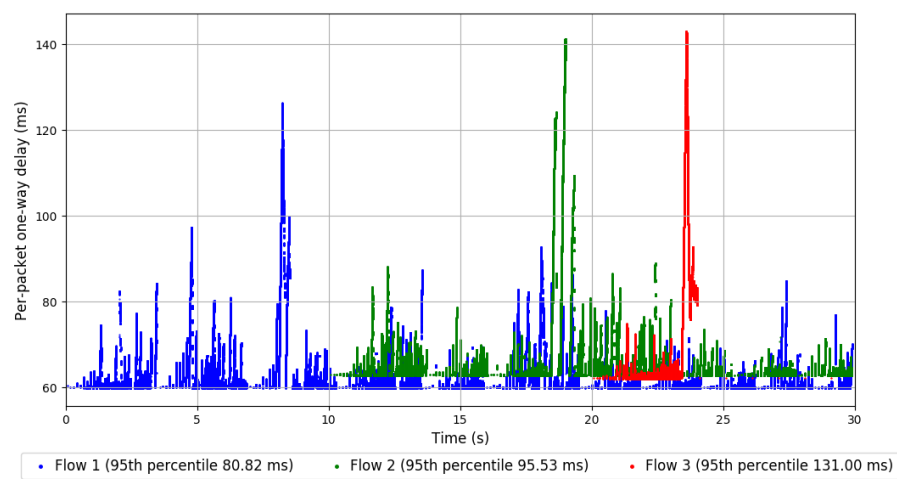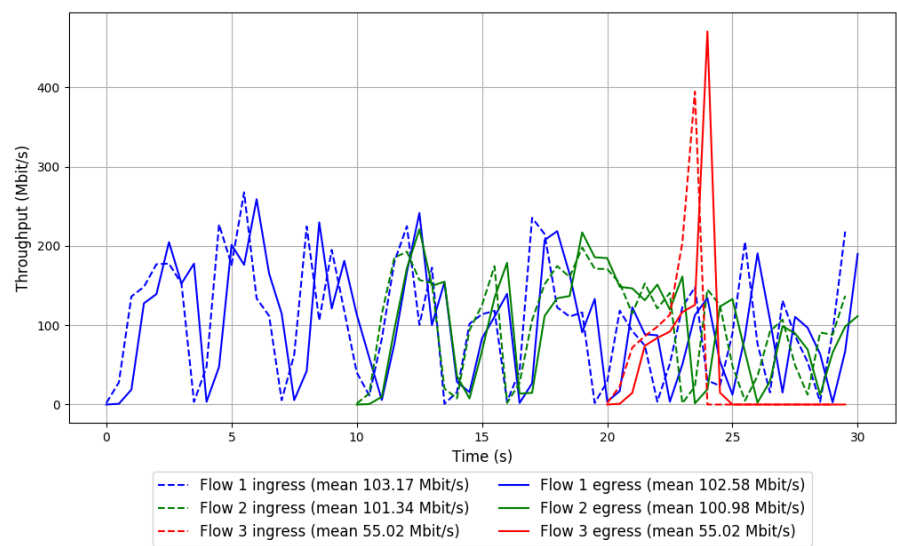
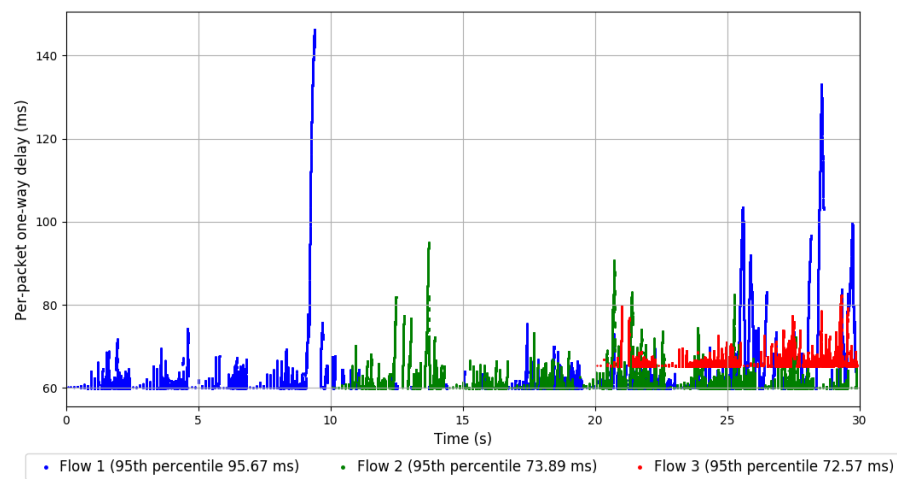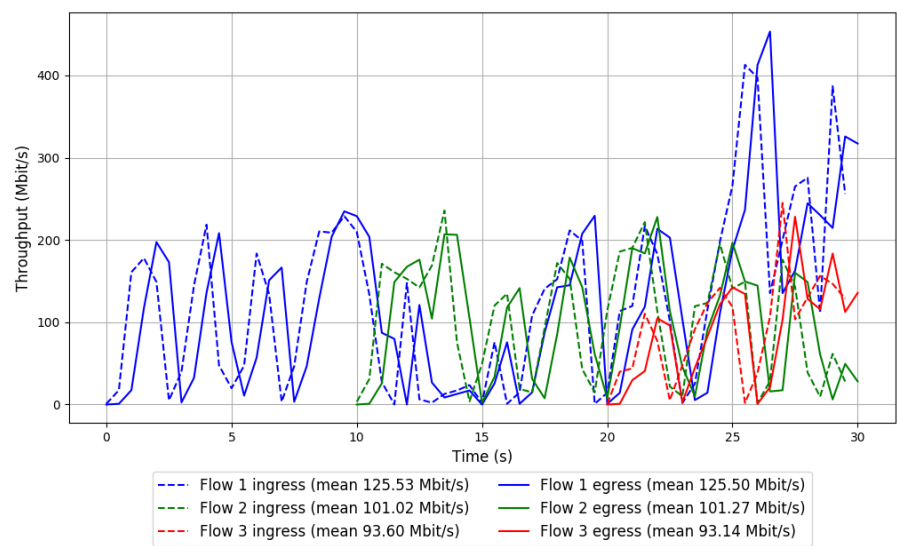## Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-11-24 18:12:47
End at: 2019-11-24 18:13:17
Local clock offset: -0.154 ms
Remote clock offset: -0.007 ms


# Below is generated by plot.py at 2019-11-24 21:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.24 Mbit/s
95th percentile per-packet one-way delay: 84.002 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 125.50 Mbit/s
95th percentile per-packet one-way delay: 95.668 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 101.27 Mbit/s
95th percentile per-packet one-way delay: 73.894 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 72.571 ms
Loss rate: 1.53%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 125.53 Mbit/s)   Flow 1 egress (mean 125.50 Mbit/s)
Flow 2 ingress (mean 101.02 Mbit/s)   Flow 2 egress (mean 101.27 Mbit/s)
Flow 3 ingress (mean 93.60 Mbit/s)   Flow 3 egress (mean 93.14 Mbit/s)

Flow 1 (95th percentile 95.67 ms)   Flow 2 (95th percentile 73.89 ms)   Flow 3 (95th percentile 72.57 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-11-24 15:18:01
End at: 2019-11-24 15:18:31
Local clock offset: -0.564 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-11-24 21:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.37 Mbit/s
95th percentile per-packet one-way delay: 162.587 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 262.89 Mbit/s
95th percentile per-packet one-way delay: 212.605 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 221.69 Mbit/s
95th percentile per-packet one-way delay: 61.226 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 156.99 Mbit/s
95th percentile per-packet one-way delay: 69.839 ms
Loss rate: 1.70%
```
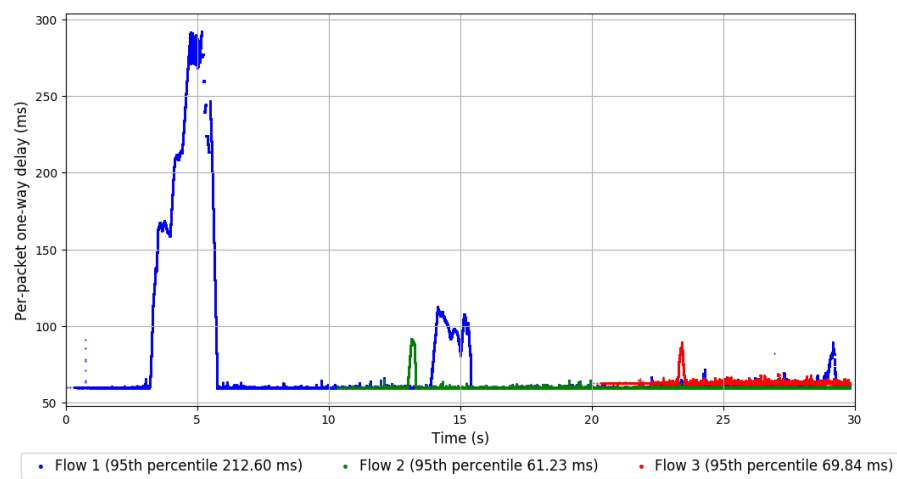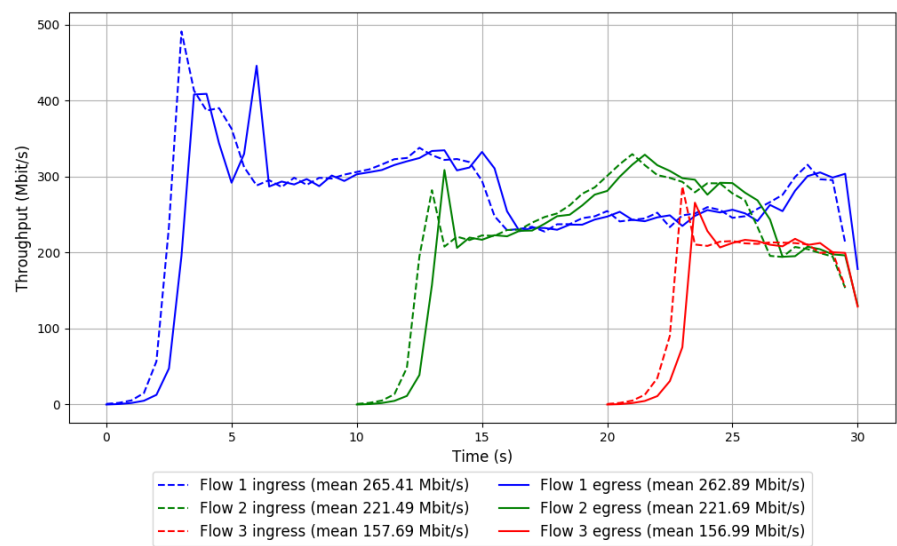
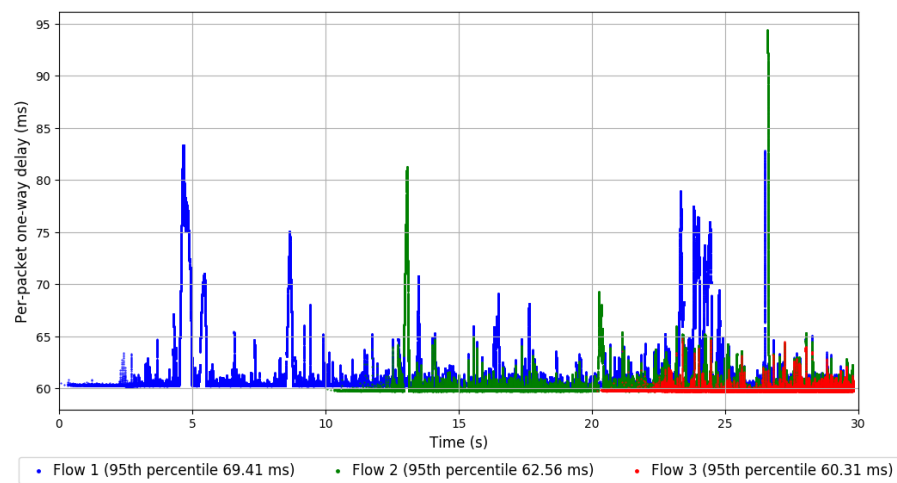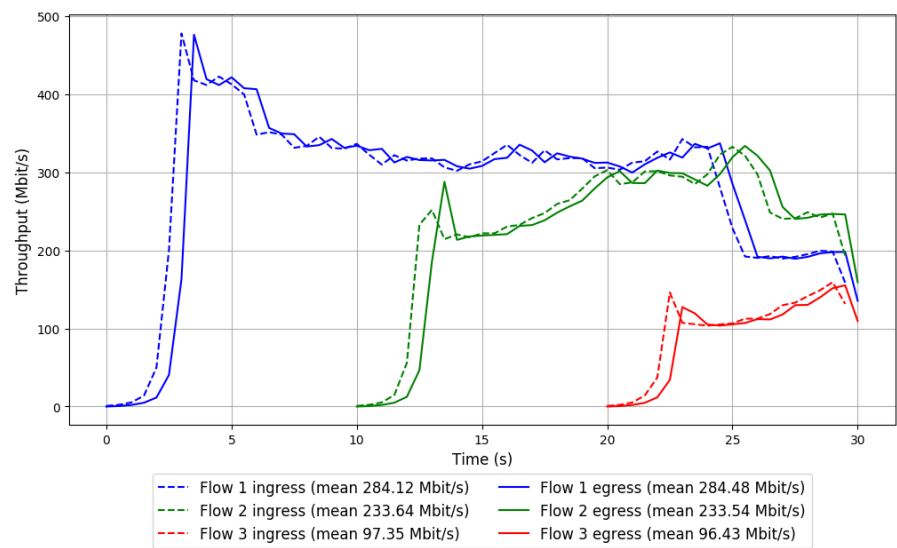## Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-11-24 15:57:55
End at: 2019-11-24 15:58:25
Local clock offset: 0.376 ms
Remote clock offset: -0.105 ms


# Below is generated by plot.py at 2019-11-24 21:17:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 471.02 Mbit/s
95th percentile per-packet one-way delay: 66.147 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 284.48 Mbit/s
95th percentile per-packet one-way delay: 69.413 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 233.54 Mbit/s
95th percentile per-packet one-way delay: 62.565 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 96.43 Mbit/s
95th percentile per-packet one-way delay: 60.310 ms
Loss rate: 2.19%
```

Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-11-24 16:38:17
End at: 2019-11-24 16:38:47
Local clock offset: 0.68 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-11-24 21:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 488.33 Mbit/s
95th percentile per-packet one-way delay: 93.537 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 287.76 Mbit/s
95th percentile per-packet one-way delay: 112.123 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 224.61 Mbit/s
95th percentile per-packet one-way delay: 64.280 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 157.37 Mbit/s
95th percentile per-packet one-way delay: 68.855 ms
Loss rate: 1.58%
```
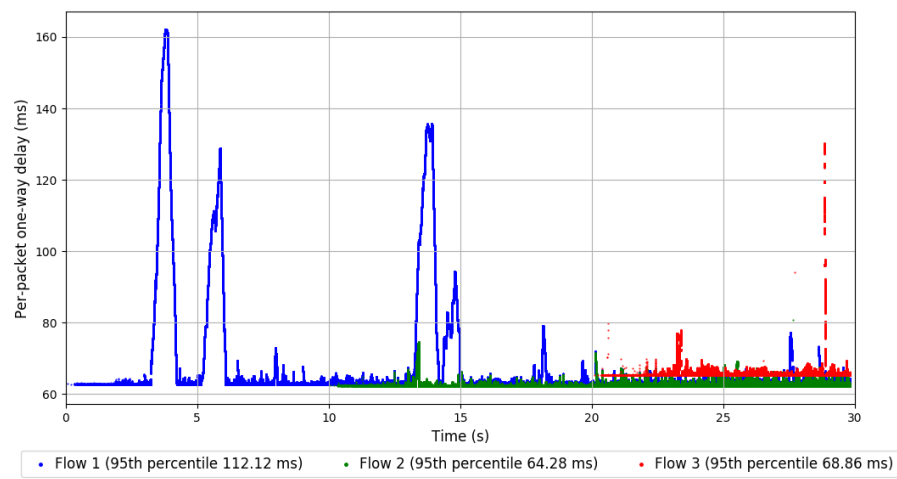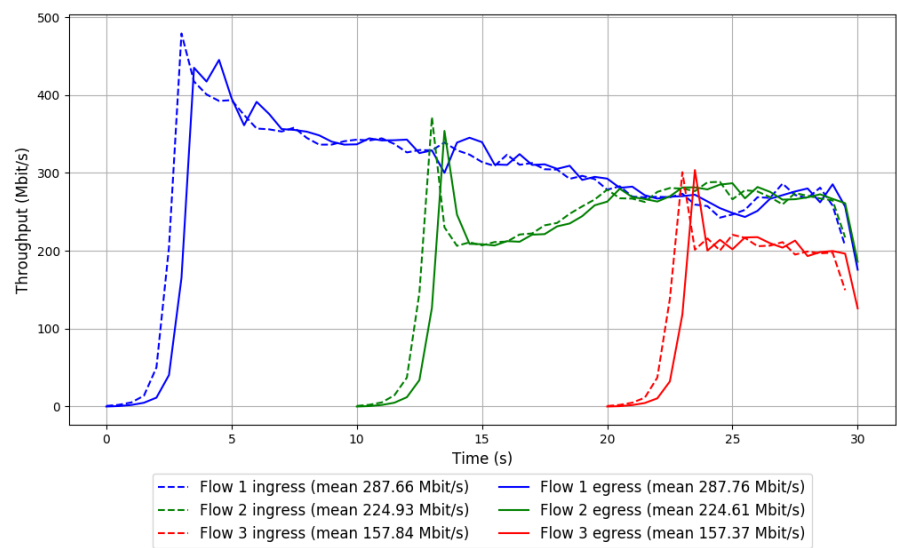
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-11-24 17:18:32
End at: 2019-11-24 17:19:02
Local clock offset: -0.069 ms
Remote clock offset: 0.022 ms


# Below is generated by plot.py at 2019-11-24 21:17:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 432.77 Mbit/s
95th percentile per-packet one-way delay: 77.252 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 234.53 Mbit/s
95th percentile per-packet one-way delay: 82.906 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 221.74 Mbit/s
95th percentile per-packet one-way delay: 62.089 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 156.30 Mbit/s
95th percentile per-packet one-way delay: 68.537 ms
Loss rate: 1.67%
```
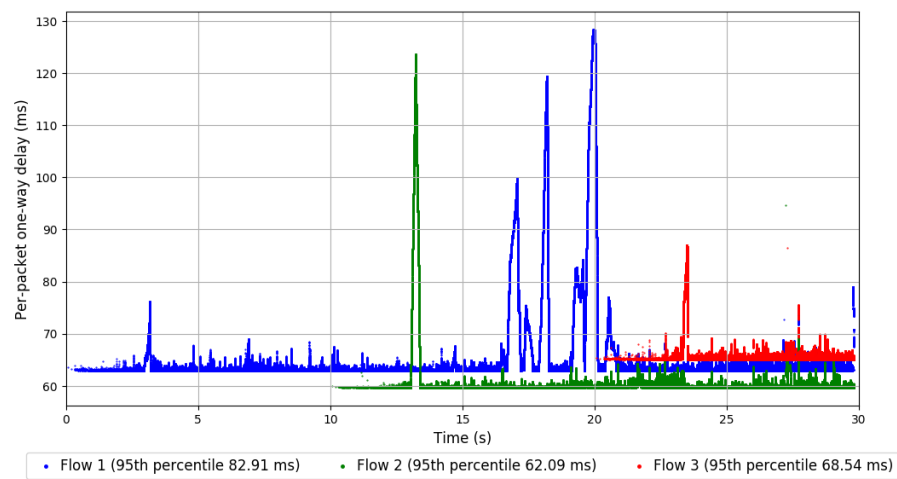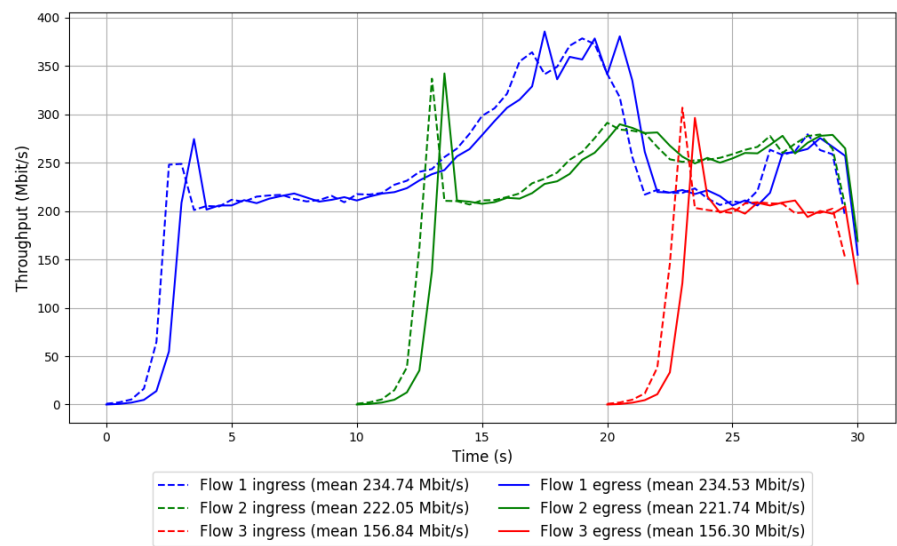
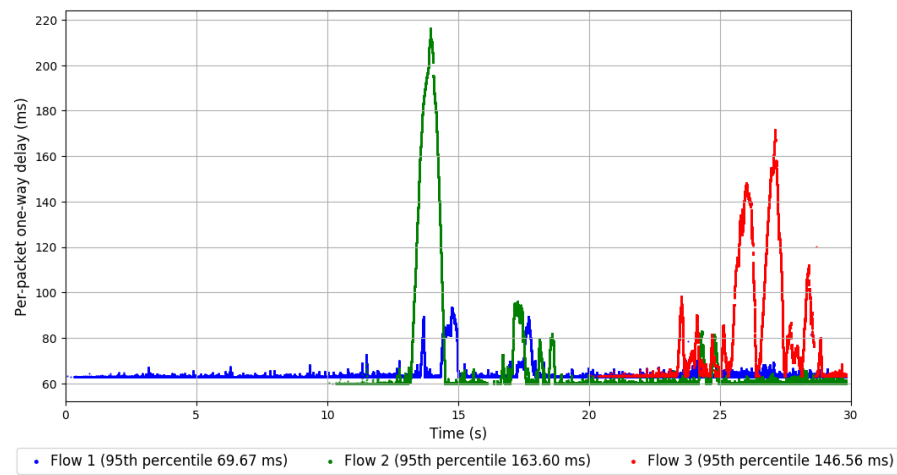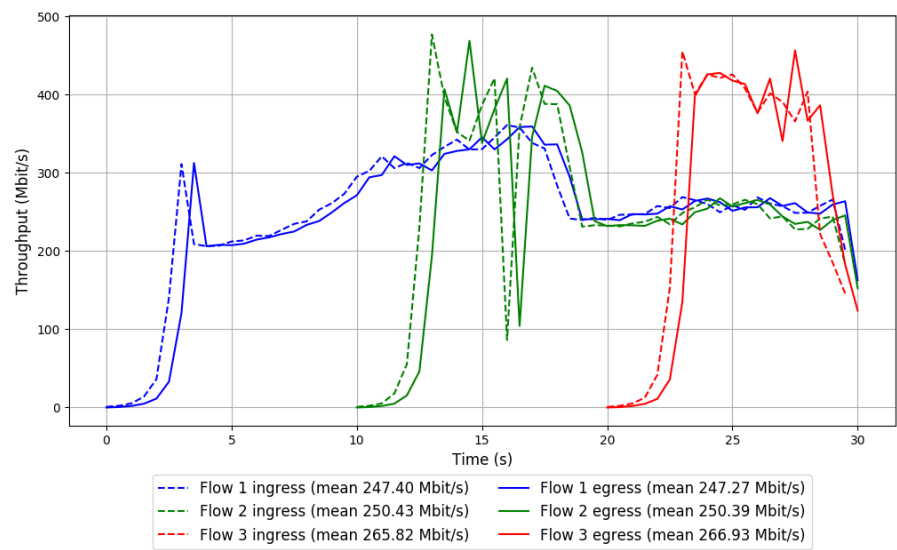Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-11-24 17:59:02
End at: 2019-11-24 17:59:32
Local clock offset: -0.208 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 500.79 Mbit/s
95th percentile per-packet one-way delay: 124.249 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 247.27 Mbit/s
95th percentile per-packet one-way delay: 69.666 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 250.39 Mbit/s
95th percentile per-packet one-way delay: 163.604 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 266.93 Mbit/s
95th percentile per-packet one-way delay: 146.558 ms
Loss rate: 0.88%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 247.40 Mbit/s)   Flow 1 egress (mean 247.27 Mbit/s)
Flow 2 ingress (mean 250.43 Mbit/s)   Flow 2 egress (mean 250.39 Mbit/s)
Flow 3 ingress (mean 265.82 Mbit/s)   Flow 3 egress (mean 266.93 Mbit/s)

Flow 1 (95th percentile 69.67 ms)   Flow 2 (95th percentile 163.60 ms)   Flow 3 (95th percentile 146.56 ms)
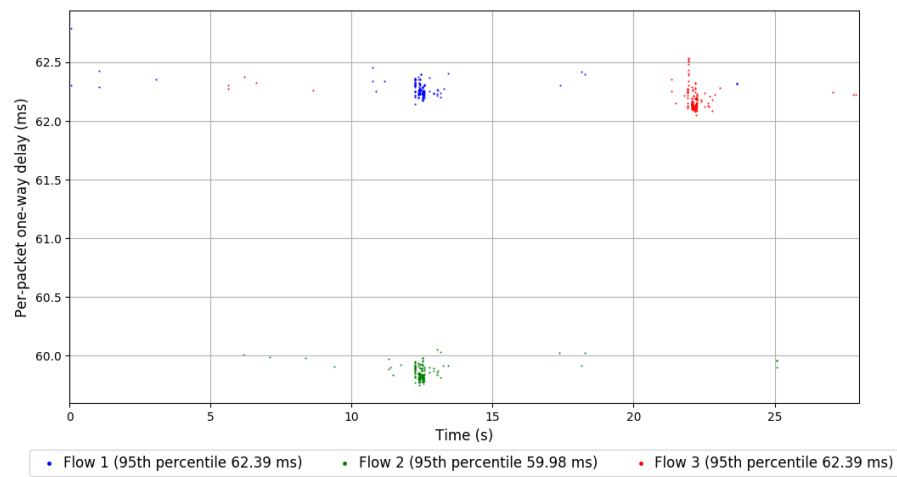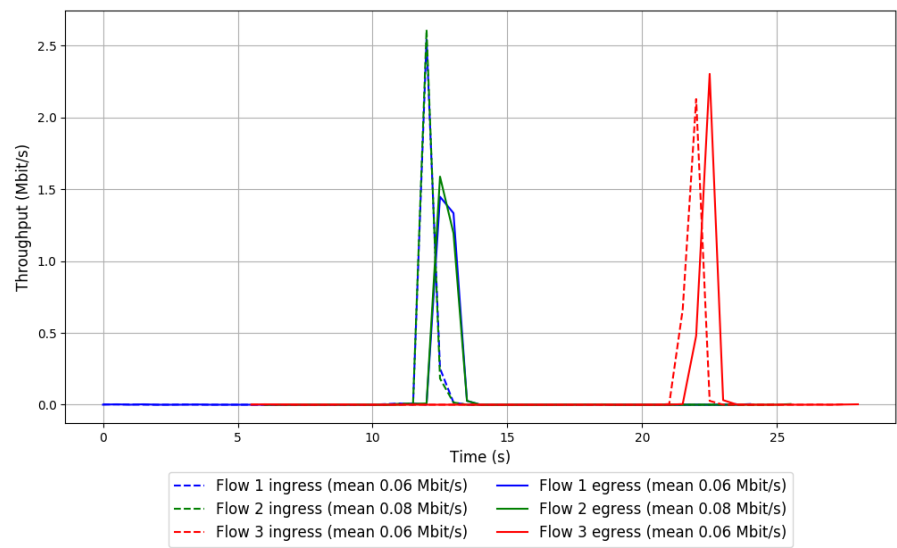
```
Run 1: Statistics of WebRTC media

Start at: 2019-11-24 15:04:41
End at: 2019-11-24 15:05:11
Local clock offset: -0.662 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 62.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 62.393 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 59.980 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 62.388 ms
Loss rate: 0.00%
```

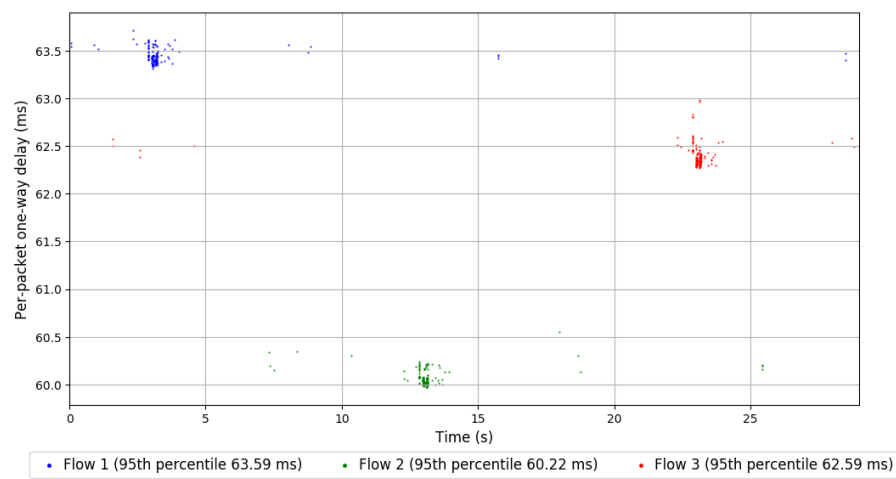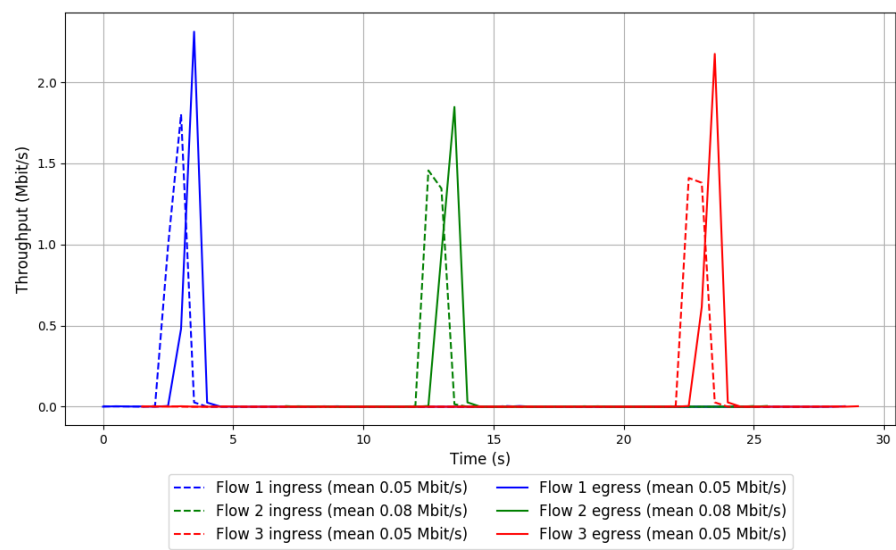Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-11-24 15:44:28
End at: 2019-11-24 15:44:58
Local clock offset: 0.216 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 63.554 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.594 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 60.224 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.595 ms
Loss rate: 0.00%
```

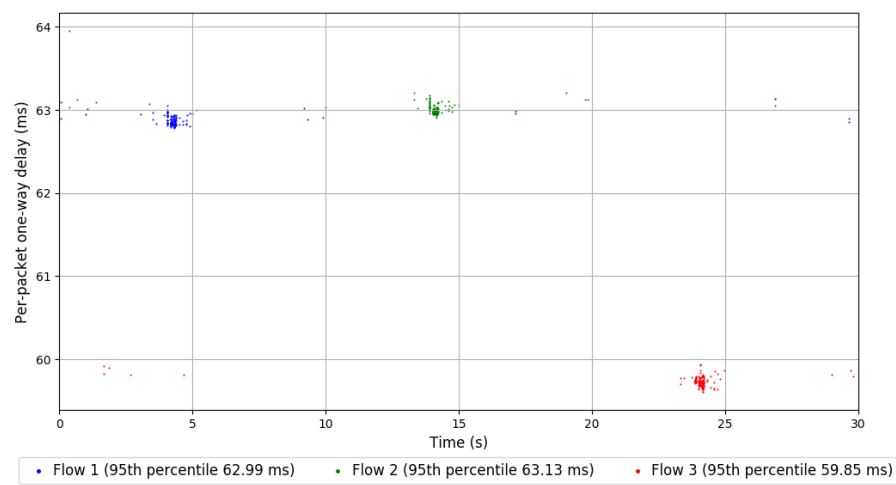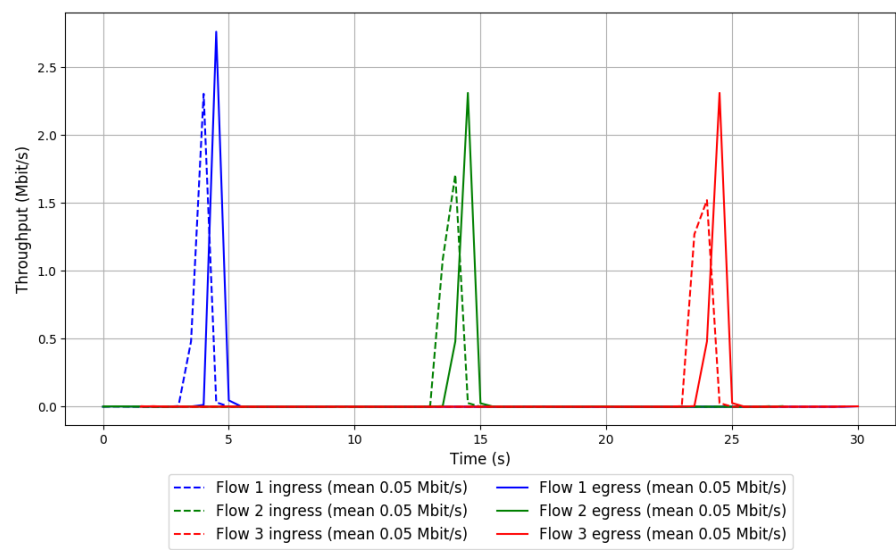Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-11-24 16:24:56
End at: 2019-11-24 16:25:26
Local clock offset: 0.579 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 63.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.987 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.131 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 59.854 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-11-24 17:05:16
End at: 2019-11-24 17:05:46
Local clock offset: 0.39 ms
Remote clock offset: 0.107 ms


# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 60.063 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.110 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 59.826 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 59.908 ms
Loss rate: 0.00%
```
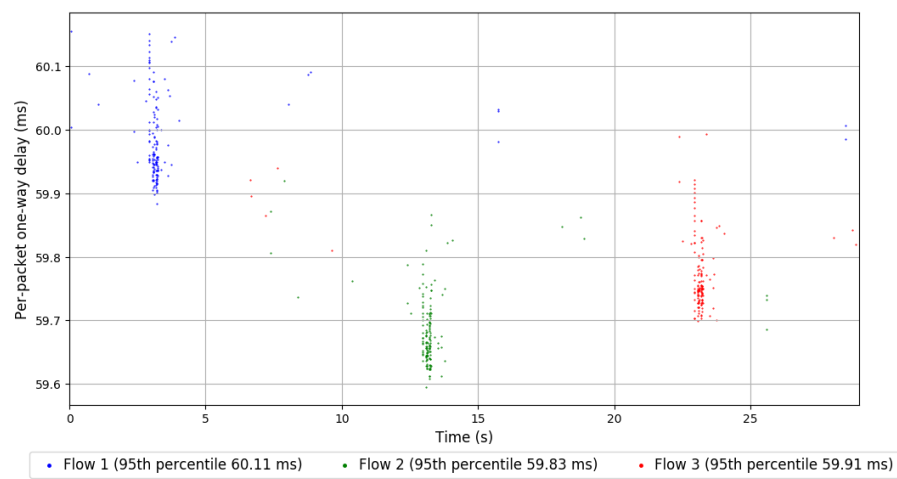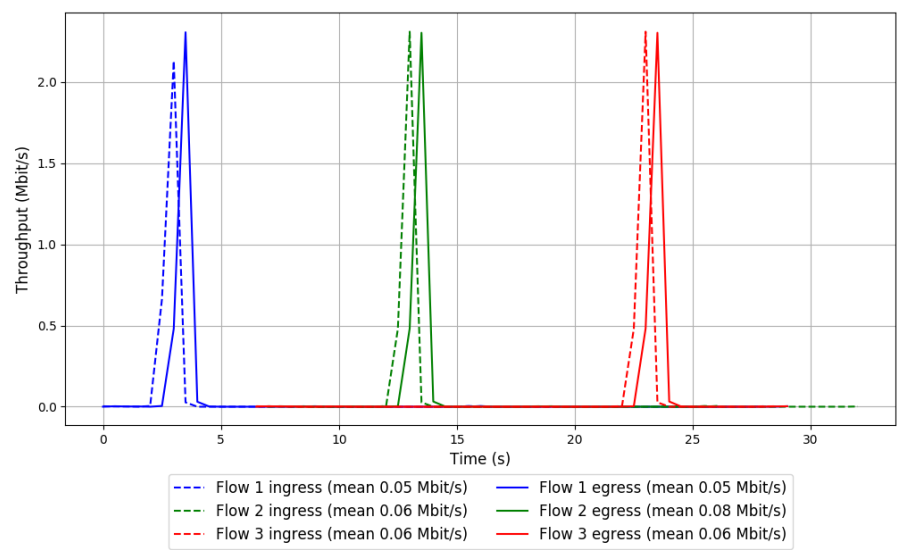
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-11-24 17:45:46
End at: 2019-11-24 17:46:16
Local clock offset: -0.161 ms
Remote clock offset: -0.156 ms


# Below is generated by plot.py at 2019-11-24 21:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 63.077 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.902 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 60.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 60.081 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link