Pantheon Report

Generated at 2019-11-24 19:59:21 (UTC).

Data path: Stanford on `eno1` (*remote*) →AWS California 1 on `ens5` (*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.stanford.edu` and have been applied to correct the timestamps in logs.
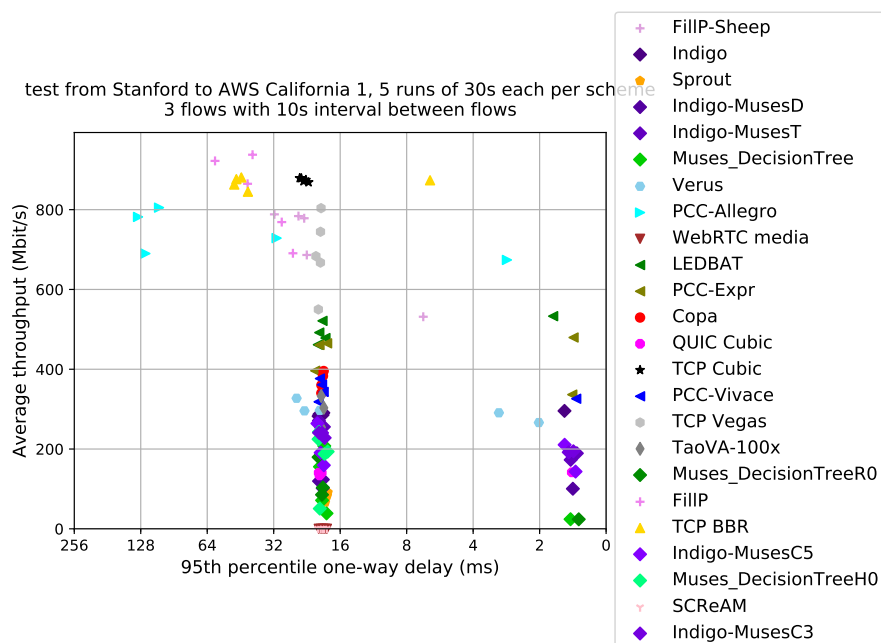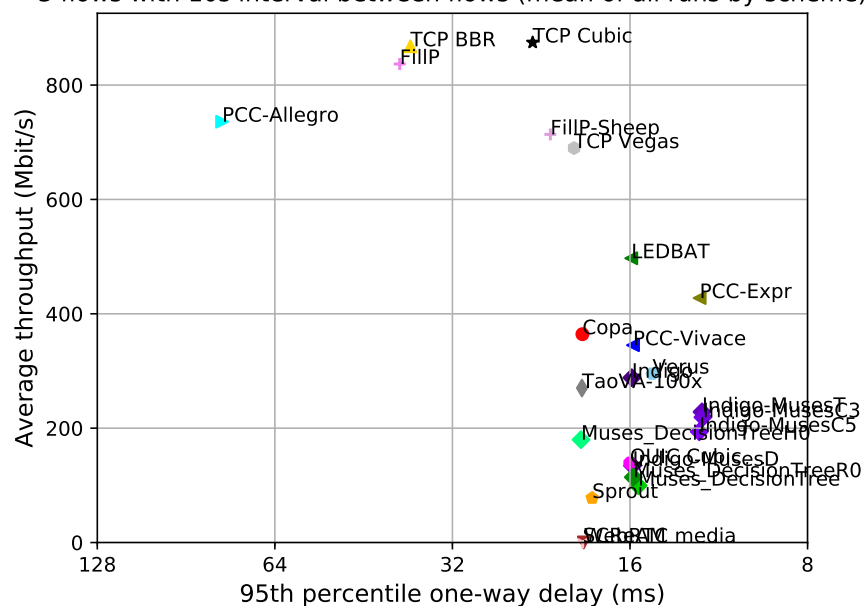
```
System info:
Linux 4.15.0-1051-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 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 Stanford to AWS California 1, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Stanford to AWS California 1, 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	491.04	401.50	328.50	36.86	34.30	17.97	0.34	0.47	0.22
Copa	5	219.75	165.30	104.51	8.44	11.99	15.56	0.02	0.03	0.13
TCP Cubic	5	526.15	367.02	312.58	13.41	21.67	14.90	0.02	0.10	0.16
FillP	5	517.10	379.88	202.40	34.34	33.16	25.21	0.07	0.12	0.09
FillP-Sheep	5	421.06	334.22	213.70	13.18	18.40	16.43	0.01	0.06	0.15
Indigo	5	156.20	139.60	119.43	8.46	12.09	4.91	0.02	0.06	0.05
Indigo-MusesC3	5	171.64	65.43	28.38	12.03	4.56	11.77	0.01	0.02	0.21
Indigo-MusesC5	5	139.81	70.45	39.81	8.66	11.98	4.54	0.01	0.05	0.04
Indigo-MusesD	5	85.21	54.46	59.47	4.77	15.85	8.18	0.01	0.08	0.12
Indigo-MusesT	5	177.79	66.75	37.89	12.05	4.60	8.40	0.01	0.02	0.16
LEDBAT	5	286.45	229.03	178.07	12.37	9.01	9.33	0.03	0.03	0.07
Muses_DecisionTree	5	77.94	22.72	20.76	11.95	8.17	4.44	0.02	0.03	0.06
Muses_DecisionTreeH0	5	153.74	25.97	28.64	15.50	8.23	4.75	0.02	0.02	0.06
Muses_DecisionTreeR0	5	102.84	13.03	9.29	15.80	4.60	8.22	0.01	0.03	0.10
PCC-Allegro	5	571.30	166.52	164.38	79.71	26.16	13.60	0.42	0.04	0.13
PCC-Expr	5	332.39	121.68	43.27	8.97	4.59	4.78	0.02	0.02	0.10
QUIC Cubic	5	75.18	67.83	55.94	4.75	12.07	11.99	0.01	0.06	0.16
SCReAM	5	0.22	0.22	0.22	12.21	4.74	8.17	0.08	0.04	0.21
Sprout	5	40.04	39.93	34.56	8.12	7.94	11.64	0.03	0.08	0.09
TaoVA-100x	5	199.82	75.13	61.41	19.19	8.25	8.15	0.03	0.03	0.08
TCP Vegas	5	331.78	401.86	272.60	12.78	15.92	16.43	0.04	0.06	0.14
Verus	5	167.70	126.87	130.40	12.06	9.51	13.09	0.01	0.03	0.16
PCC-Vivace	5	239.47	121.86	74.72	15.60	11.95	15.49	0.03	0.49	0.23
WebRTC media	5	0.05	0.05	0.05	8.29	19.22	4.54	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-11-24 16:07:54
End at: 2019-11-24 16:08:24
Local clock offset: 2.799 ms
Remote clock offset: 0.917 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 880.76 Mbit/s
95th percentile per-packet one-way delay: 44.845 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 505.35 Mbit/s
95th percentile per-packet one-way delay: 41.824 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 399.13 Mbit/s
95th percentile per-packet one-way delay: 62.119 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 329.44 Mbit/s
95th percentile per-packet one-way delay: 7.991 ms
Loss rate: 0.06%
```
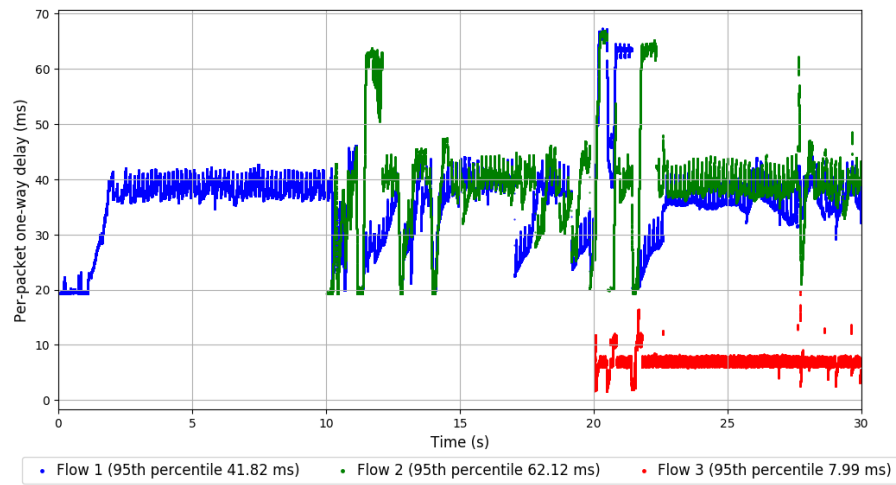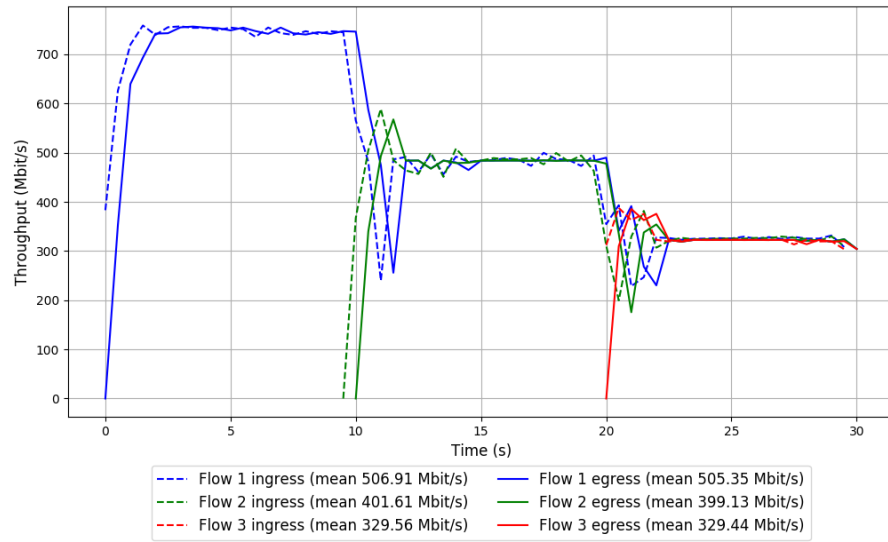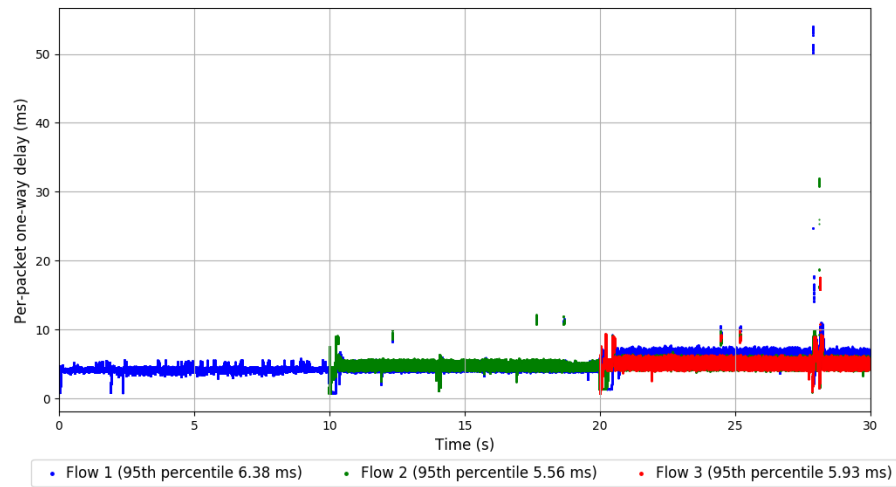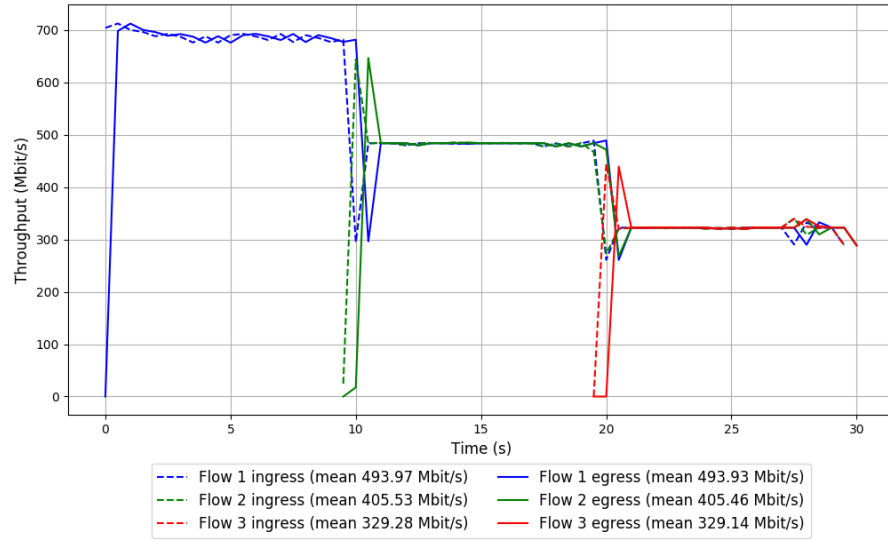
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-11-24 16:42:33
End at: 2019-11-24 16:43:03
Local clock offset: 2.912 ms
Remote clock offset: -2.273 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 873.67 Mbit/s
95th percentile per-packet one-way delay: 6.269 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 493.93 Mbit/s
95th percentile per-packet one-way delay: 6.385 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 405.46 Mbit/s
95th percentile per-packet one-way delay: 5.564 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 329.14 Mbit/s
95th percentile per-packet one-way delay: 5.933 ms
Loss rate: 0.06%
```
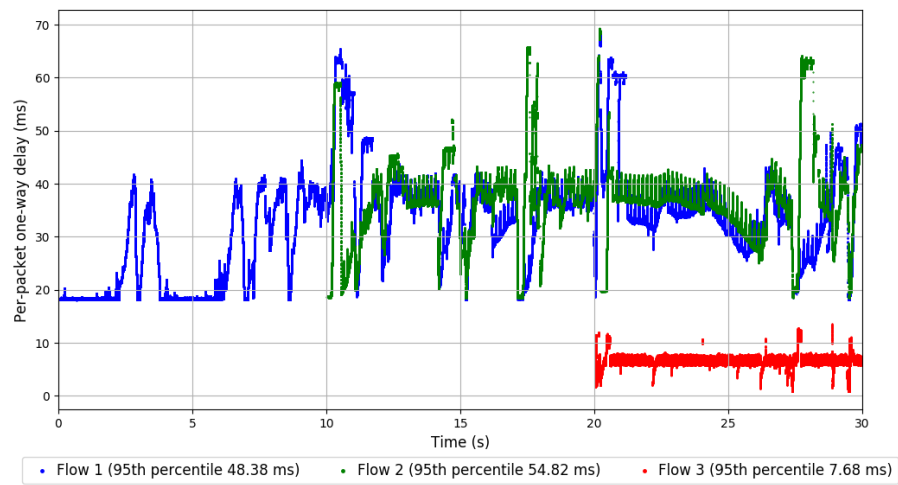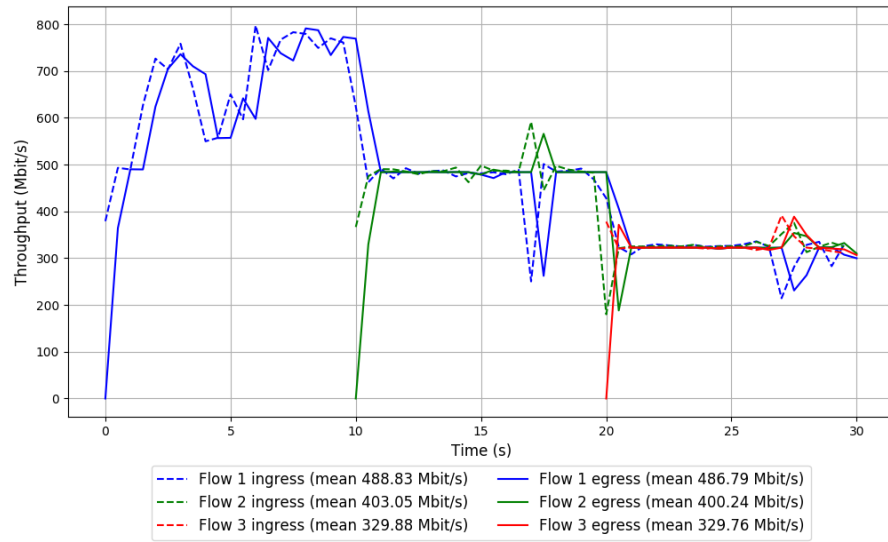
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-11-24 17:16:57
End at: 2019-11-24 17:17:27
Local clock offset: 3.755 ms
Remote clock offset: 0.888 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 863.00 Mbit/s
95th percentile per-packet one-way delay: 48.284 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 486.79 Mbit/s
95th percentile per-packet one-way delay: 48.379 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 400.24 Mbit/s
95th percentile per-packet one-way delay: 54.816 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 329.76 Mbit/s
95th percentile per-packet one-way delay: 7.676 ms
Loss rate: 0.07%
```

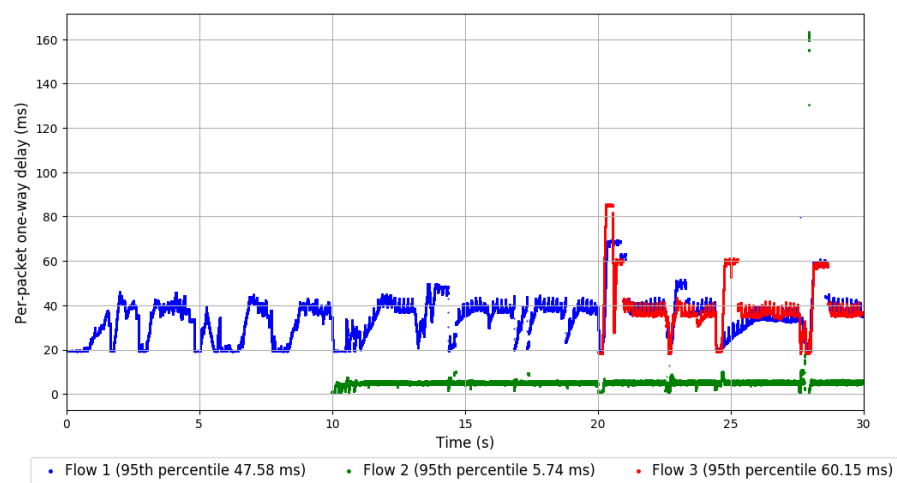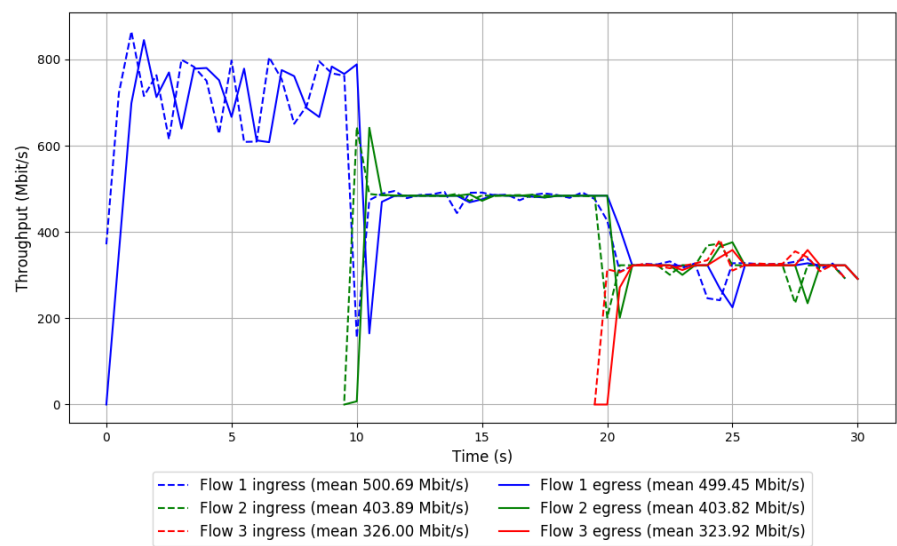Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-11-24 17:51:42
End at: 2019-11-24 17:52:12
Local clock offset: 4.253 ms
Remote clock offset: -2.172 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 876.52 Mbit/s
95th percentile per-packet one-way delay: 47.234 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 499.45 Mbit/s
95th percentile per-packet one-way delay: 47.583 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 403.82 Mbit/s
95th percentile per-packet one-way delay: 5.740 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 323.92 Mbit/s
95th percentile per-packet one-way delay: 60.151 ms
Loss rate: 0.83%
```
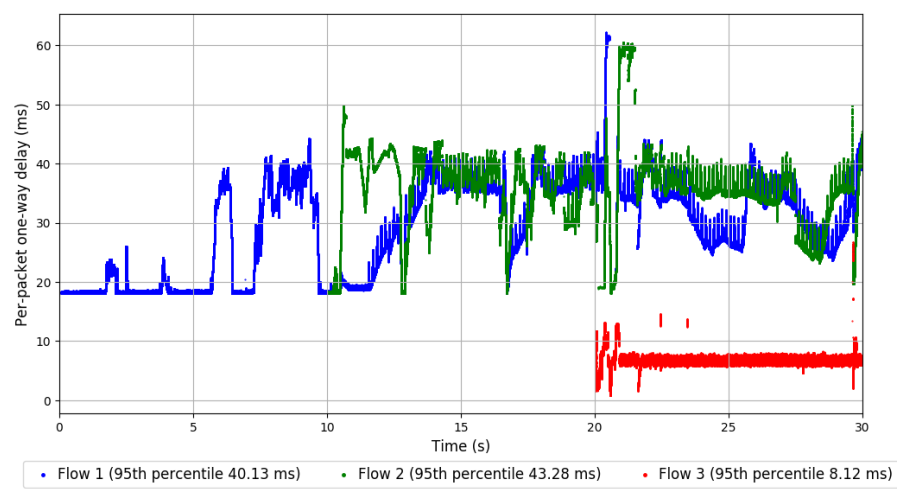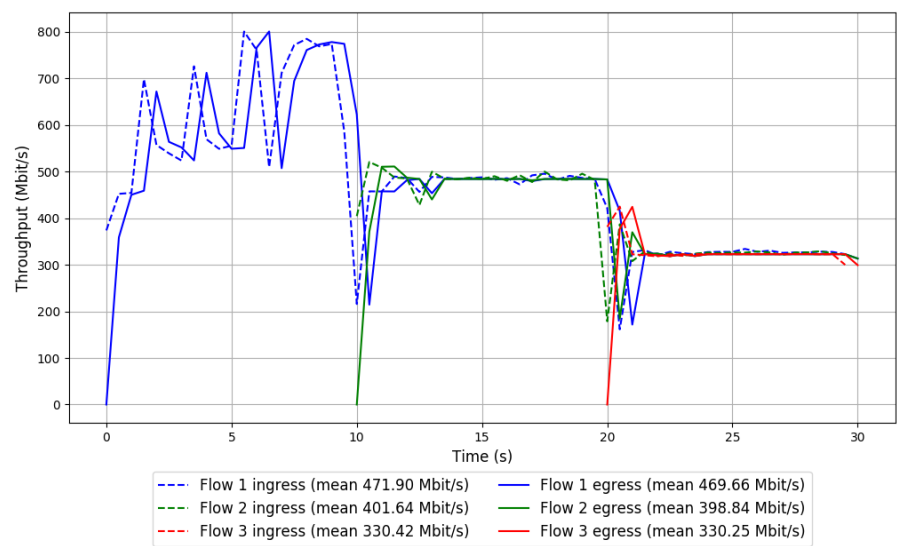
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 500.69 Mbit/s) --- Flow 1 egress (mean 499.45 Mbit/s)
Flow 2 ingress (mean 403.89 Mbit/s) --- Flow 2 egress (mean 403.82 Mbit/s)
Flow 3 ingress (mean 326.00 Mbit/s) --- Flow 3 egress (mean 323.92 Mbit/s)

Flow 1 (95th percentile 47.58 ms)   Flow 2 (95th percentile 5.74 ms)   Flow 3 (95th percentile 60.15 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2019-11-24 18:26:31
End at: 2019-11-24 18:27:01
Local clock offset: 4.258 ms
Remote clock offset: 0.426 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.05 Mbit/s
95th percentile per-packet one-way delay: 41.871 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 469.66 Mbit/s
95th percentile per-packet one-way delay: 40.131 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 398.84 Mbit/s
95th percentile per-packet one-way delay: 43.281 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 330.25 Mbit/s
95th percentile per-packet one-way delay: 8.123 ms
Loss rate: 0.07%
```
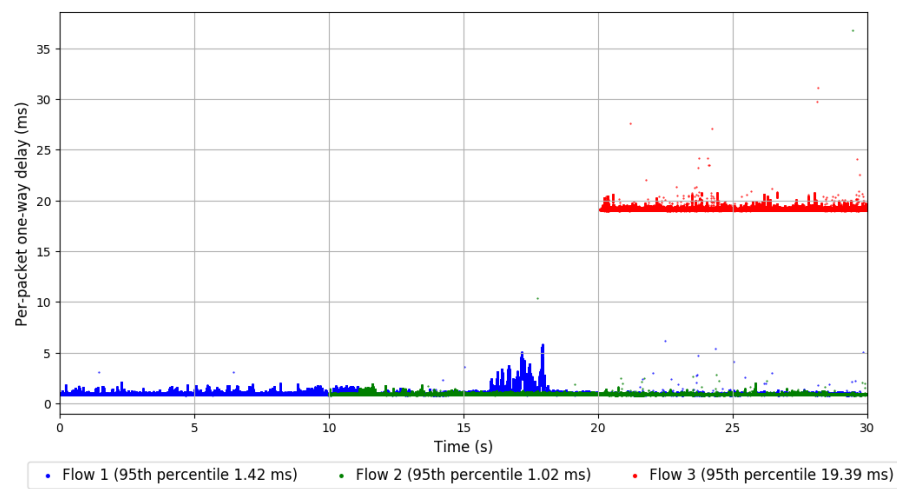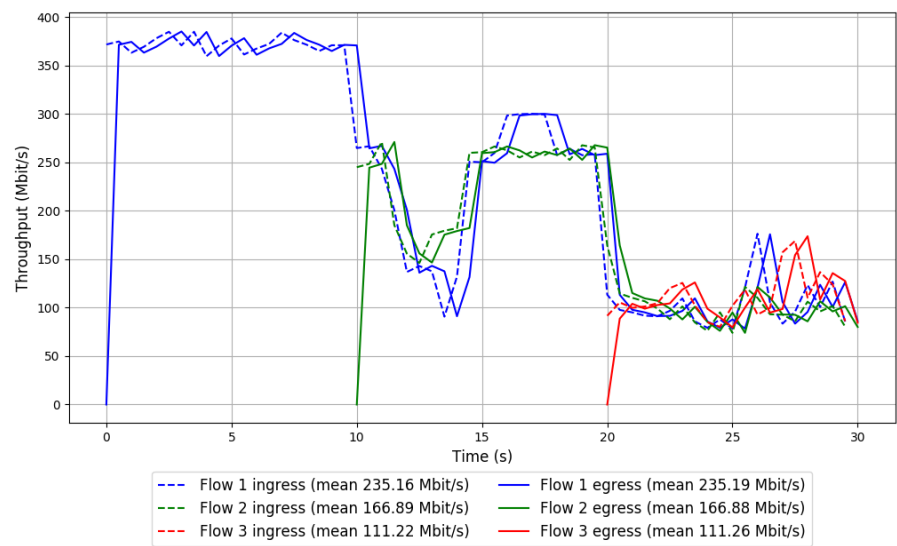
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 471.90 Mbit/s)   Flow 1 egress (mean 469.66 Mbit/s)
Flow 2 ingress (mean 401.64 Mbit/s)   Flow 2 egress (mean 398.84 Mbit/s)
Flow 3 ingress (mean 330.42 Mbit/s)   Flow 3 egress (mean 330.25 Mbit/s)

Flow 1 (95th percentile 40.13 ms)   Flow 2 (95th percentile 43.28 ms)   Flow 3 (95th percentile 8.12 ms)
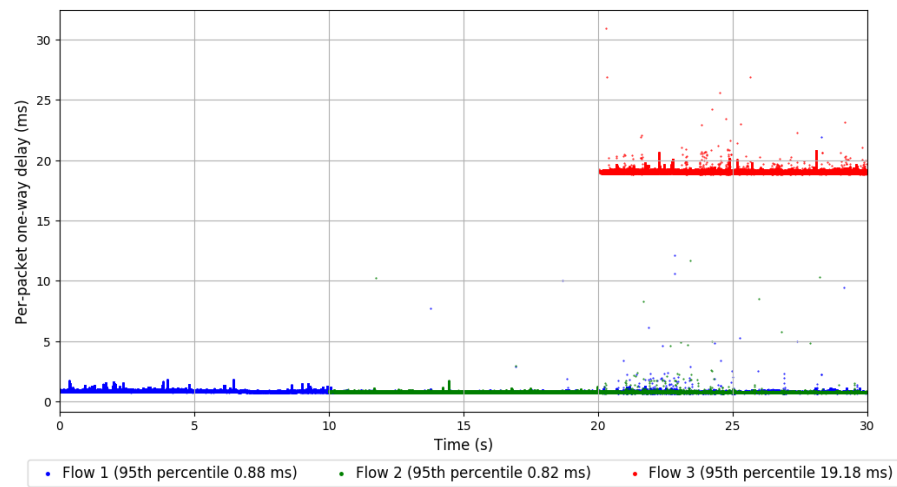
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```
Run 1: Statistics of Copa

Start at: 2019-11-24 16:09:40
End at: 2019-11-24 16:10:10
Local clock offset: 2.832 ms
Remote clock offset: 1.097 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.13 Mbit/s
95th percentile per-packet one-way delay: 19.146 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 235.19 Mbit/s
95th percentile per-packet one-way delay: 1.421 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 166.88 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 111.26 Mbit/s
95th percentile per-packet one-way delay: 19.395 ms
Loss rate: 0.16%
```
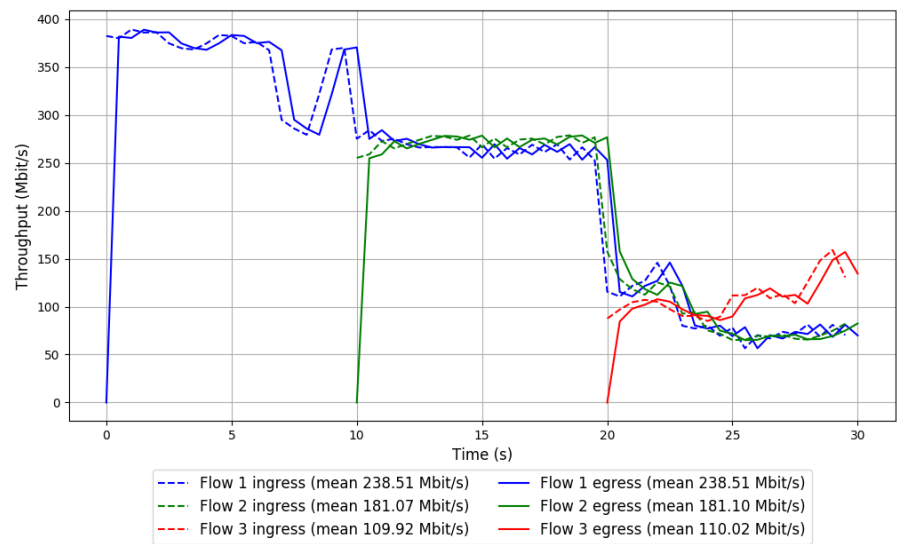
Run 1: Report of Copa — Data Link

- - - Flow 1 ingress (mean 235.16 Mbit/s) ——— Flow 1 egress (mean 235.19 Mbit/s)
- - - Flow 2 ingress (mean 166.89 Mbit/s) ——— Flow 2 egress (mean 166.88 Mbit/s)
- - - Flow 3 ingress (mean 111.22 Mbit/s) ——— Flow 3 egress (mean 111.26 Mbit/s)

• Flow 1 (95th percentile 1.42 ms)   • Flow 2 (95th percentile 1.02 ms)   • Flow 3 (95th percentile 19.39 ms)

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```
Run 2: Statistics of Copa

Start at: 2019-11-24 16:44:15
End at: 2019-11-24 16:44:45
Local clock offset: 3.021 ms
Remote clock offset: -2.407 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 395.52 Mbit/s
95th percentile per-packet one-way delay: 19.010 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 238.51 Mbit/s
95th percentile per-packet one-way delay: 0.883 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 181.10 Mbit/s
95th percentile per-packet one-way delay: 0.817 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 110.02 Mbit/s
95th percentile per-packet one-way delay: 19.176 ms
Loss rate: 0.13%
```
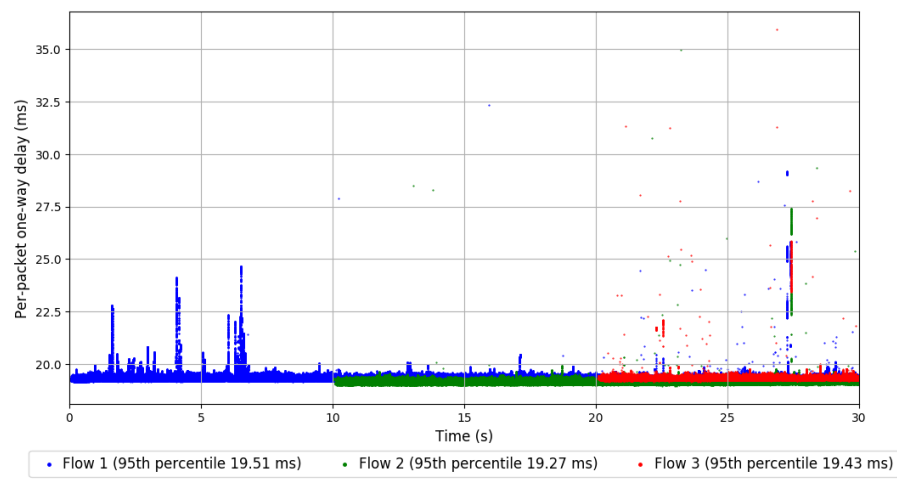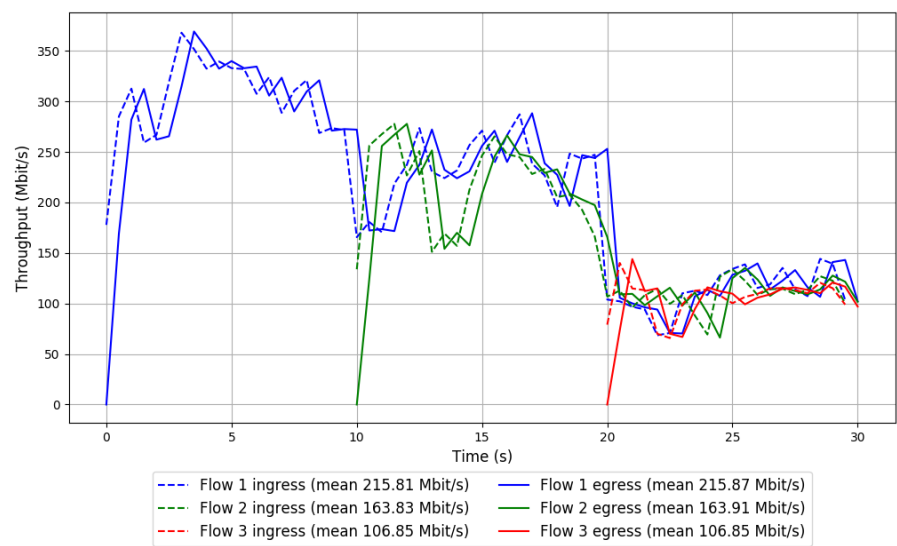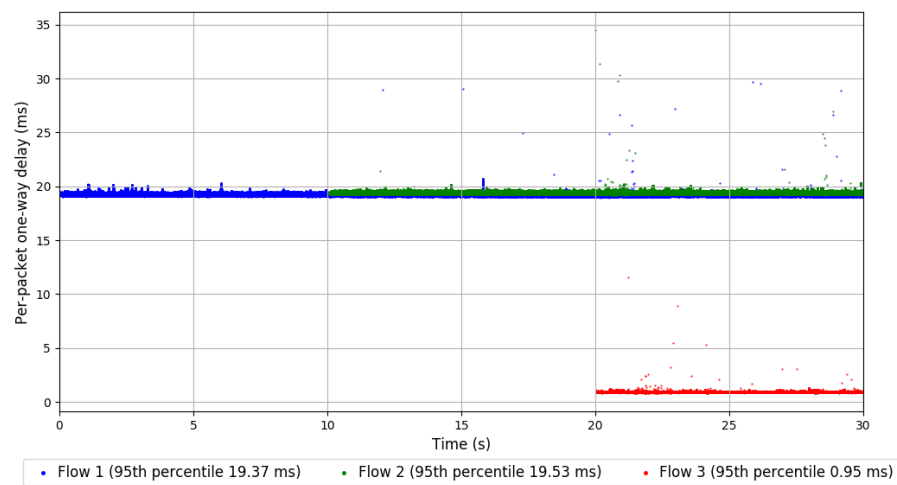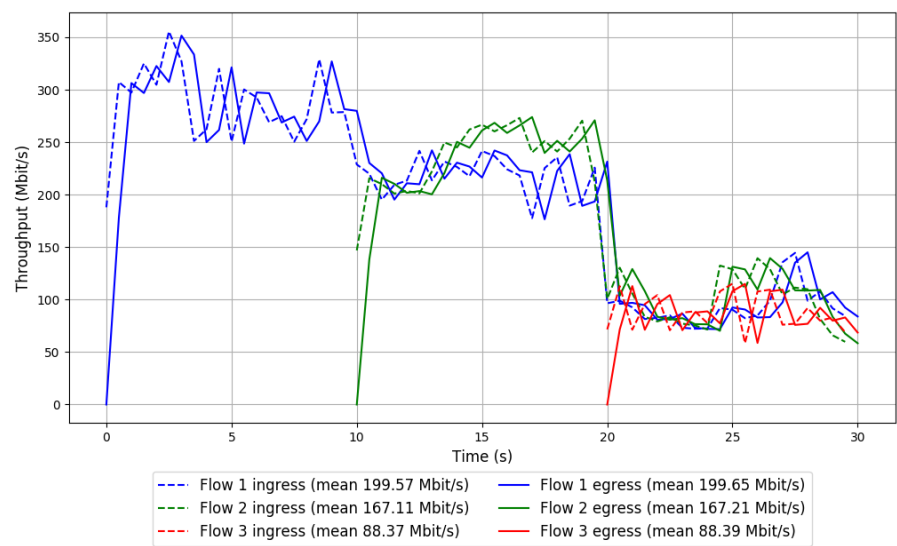
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 238.51 Mbit/s) --- Flow 1 egress (mean 238.51 Mbit/s)
Flow 2 ingress (mean 181.07 Mbit/s) --- Flow 2 egress (mean 181.10 Mbit/s)
Flow 3 ingress (mean 109.92 Mbit/s) --- Flow 3 egress (mean 110.02 Mbit/s)

Flow 1 (95th percentile 0.88 ms)   Flow 2 (95th percentile 0.82 ms)   Flow 3 (95th percentile 19.18 ms)

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```
Run 3: Statistics of Copa

Start at: 2019-11-24 17:18:44
End at: 2019-11-24 17:19:14
Local clock offset: 3.795 ms
Remote clock offset: 1.106 ms


# Below is generated by plot.py at 2019-11-24 18:59:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.21 Mbit/s
95th percentile per-packet one-way delay: 19.464 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 215.87 Mbit/s
95th percentile per-packet one-way delay: 19.506 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 163.91 Mbit/s
95th percentile per-packet one-way delay: 19.266 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 106.85 Mbit/s
95th percentile per-packet one-way delay: 19.428 ms
Loss rate: 0.22%
```
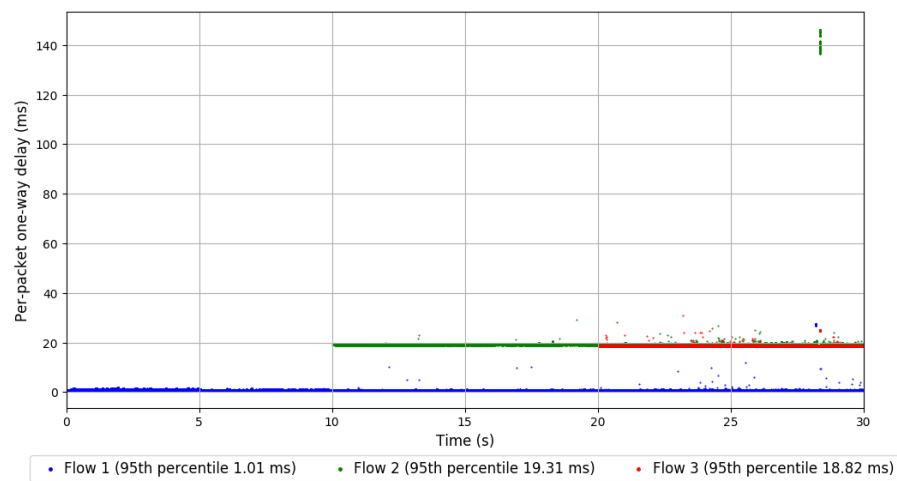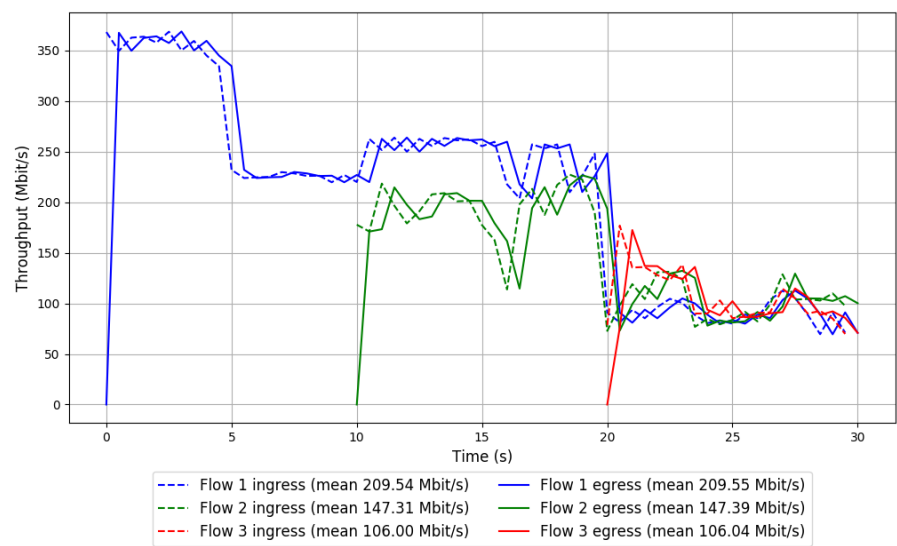
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 215.81 Mbit/s) ---- Flow 1 egress (mean 215.87 Mbit/s) ——
Flow 2 ingress (mean 163.83 Mbit/s) ---- Flow 2 egress (mean 163.91 Mbit/s) ——
Flow 3 ingress (mean 106.85 Mbit/s) ---- Flow 3 egress (mean 106.85 Mbit/s) ——

Flow 1 (95th percentile 19.51 ms) • Flow 2 (95th percentile 19.27 ms) • Flow 3 (95th percentile 19.43 ms)

```
Run 4: Statistics of Copa

Start at: 2019-11-24 17:53:28
End at: 2019-11-24 17:53:58
Local clock offset: 4.28 ms
Remote clock offset: -2.328 ms


# Below is generated by plot.py at 2019-11-24 19:03:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.21 Mbit/s
95th percentile per-packet one-way delay: 19.475 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 199.65 Mbit/s
95th percentile per-packet one-way delay: 19.366 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 167.21 Mbit/s
95th percentile per-packet one-way delay: 19.527 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 88.39 Mbit/s
95th percentile per-packet one-way delay: 0.953 ms
Loss rate: 0.02%
```
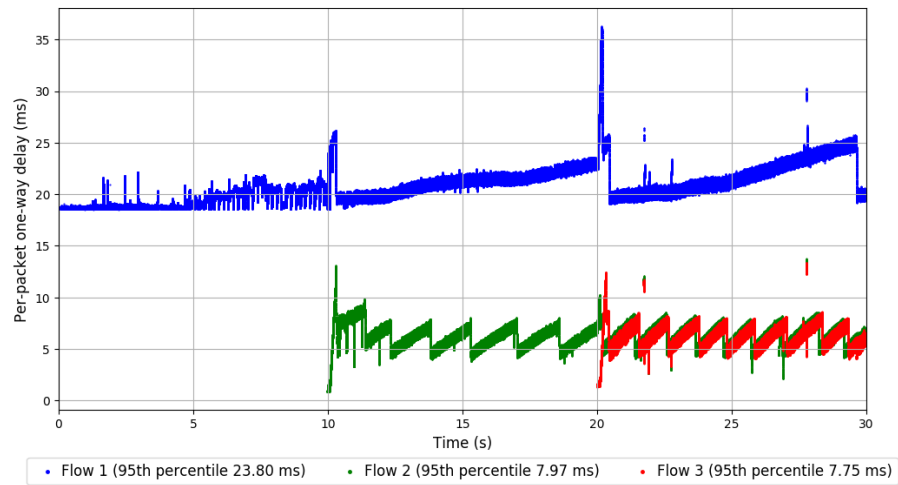
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-11-24 18:28:17
End at: 2019-11-24 18:28:47
Local clock offset: 4.241 ms
Remote clock offset: 0.531 ms


# Below is generated by plot.py at 2019-11-24 19:04:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.81 Mbit/s
95th percentile per-packet one-way delay: 19.233 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 209.55 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.39 Mbit/s
95th percentile per-packet one-way delay: 19.308 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 106.04 Mbit/s
95th percentile per-packet one-way delay: 18.825 ms
Loss rate: 0.10%
```
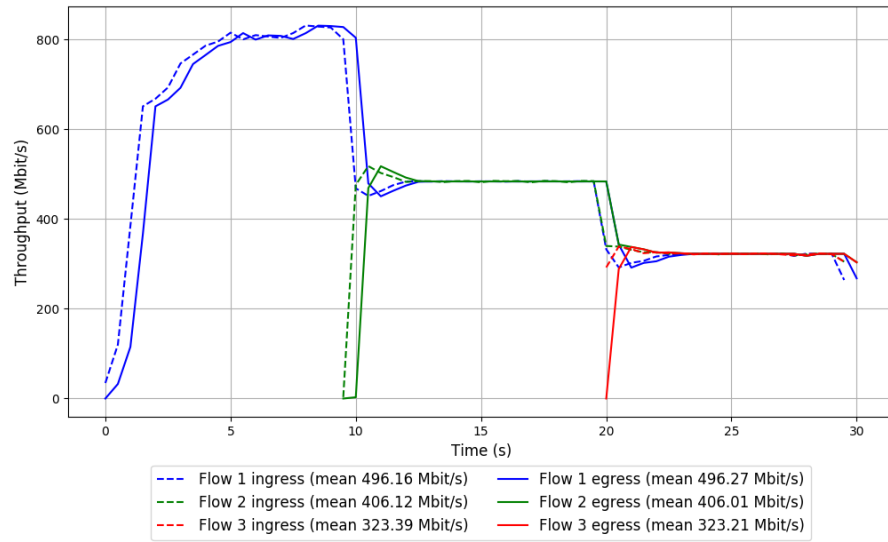
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-11-24 15:54:47
End at: 2019-11-24 15:55:17
Local clock offset: 2.955 ms
Remote clock offset: 0.683 ms


# Below is generated by plot.py at 2019-11-24 19:07:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.49 Mbit/s
95th percentile per-packet one-way delay: 22.879 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 496.27 Mbit/s
95th percentile per-packet one-way delay: 23.805 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 406.01 Mbit/s
95th percentile per-packet one-way delay: 7.967 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 323.21 Mbit/s
95th percentile per-packet one-way delay: 7.752 ms
Loss rate: 0.08%
```
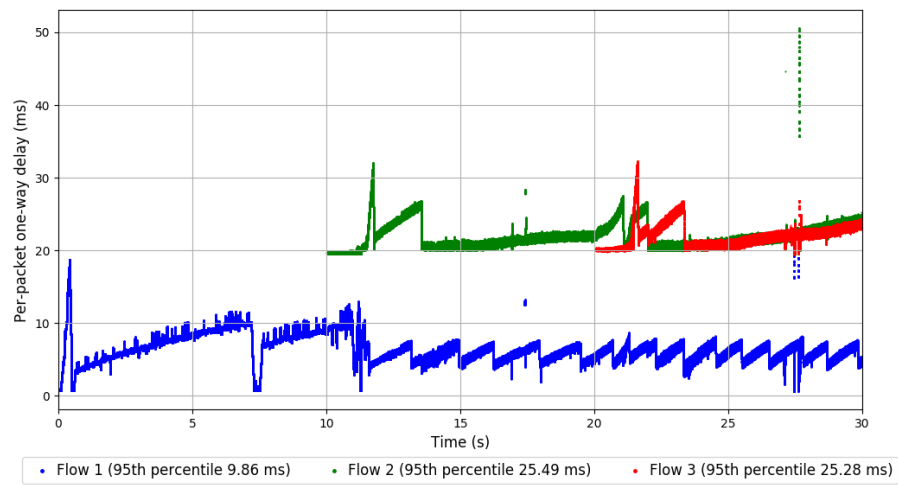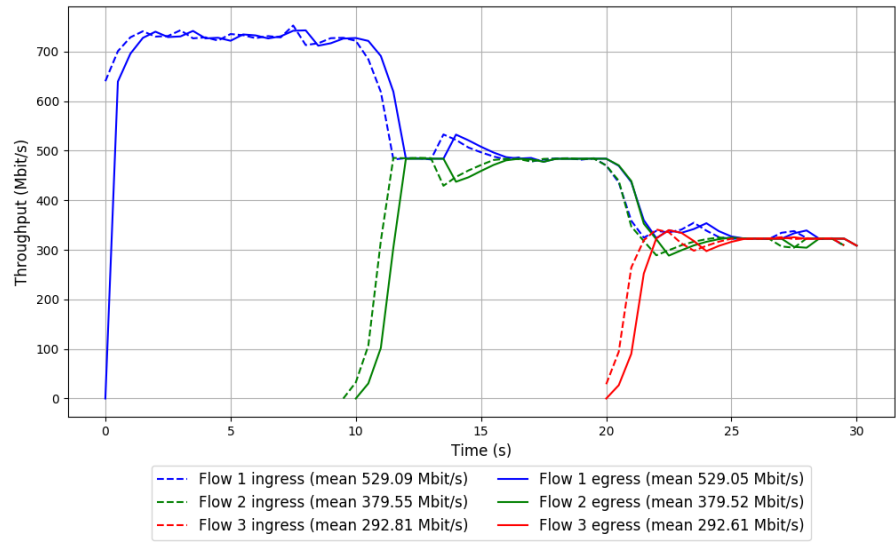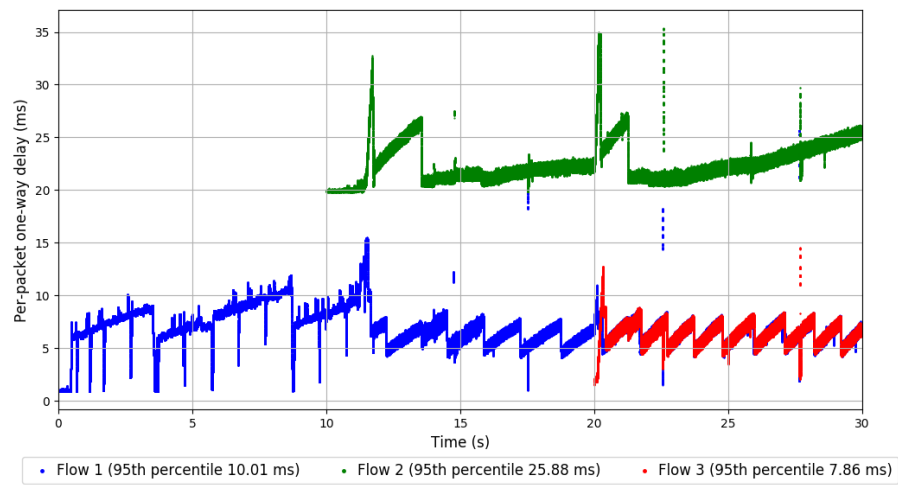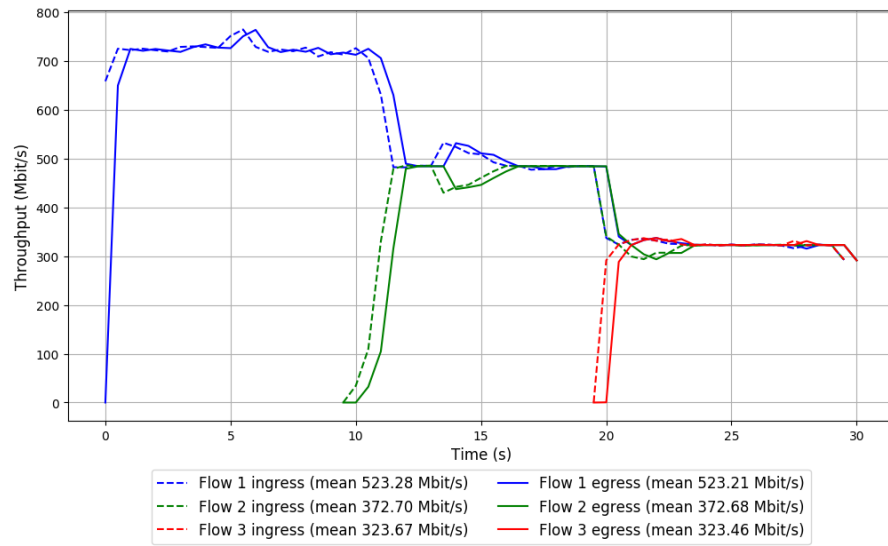
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 496.16 Mbit/s) --- Flow 1 egress (mean 496.27 Mbit/s)
Flow 2 ingress (mean 406.12 Mbit/s) --- Flow 2 egress (mean 406.01 Mbit/s)
Flow 3 ingress (mean 323.39 Mbit/s) --- Flow 3 egress (mean 323.21 Mbit/s)

Flow 1 (95th percentile 23.80 ms)   Flow 2 (95th percentile 7.97 ms)   Flow 3 (95th percentile 7.75 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-11-24 16:29:41
End at: 2019-11-24 16:30:11
Local clock offset: 2.746 ms
Remote clock offset: 0.357 ms

# Below is generated by plot.py at 2019-11-24 19:08:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 878.83 Mbit/s
95th percentile per-packet one-way delay: 23.998 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 529.05 Mbit/s
95th percentile per-packet one-way delay: 9.860 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 379.52 Mbit/s
95th percentile per-packet one-way delay: 25.489 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 292.61 Mbit/s
95th percentile per-packet one-way delay: 25.280 ms
Loss rate: 0.27%
```
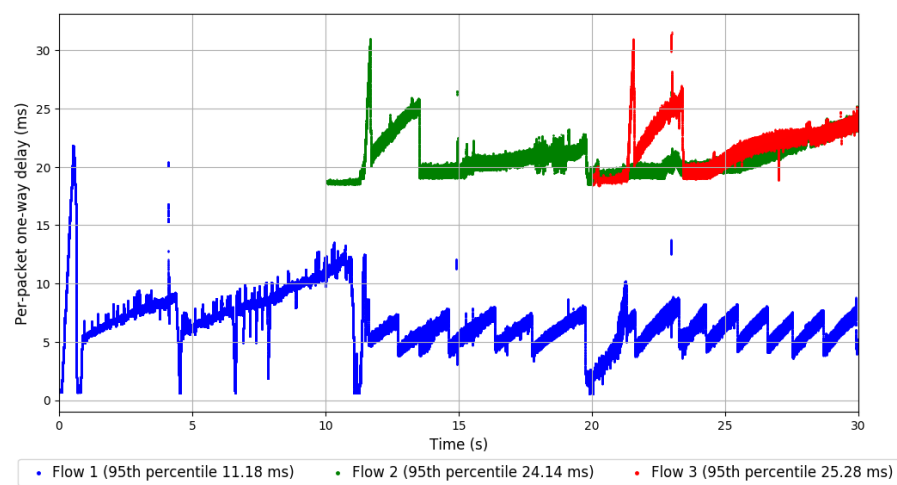
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-11-24 17:03:52
End at: 2019-11-24 17:04:22
Local clock offset: 3.56 ms
Remote clock offset: -1.828 ms


# Below is generated by plot.py at 2019-11-24 19:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.04 Mbit/s
95th percentile per-packet one-way delay: 24.401 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 523.21 Mbit/s
95th percentile per-packet one-way delay: 10.005 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 372.68 Mbit/s
95th percentile per-packet one-way delay: 25.883 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 323.46 Mbit/s
95th percentile per-packet one-way delay: 7.859 ms
Loss rate: 0.08%
```
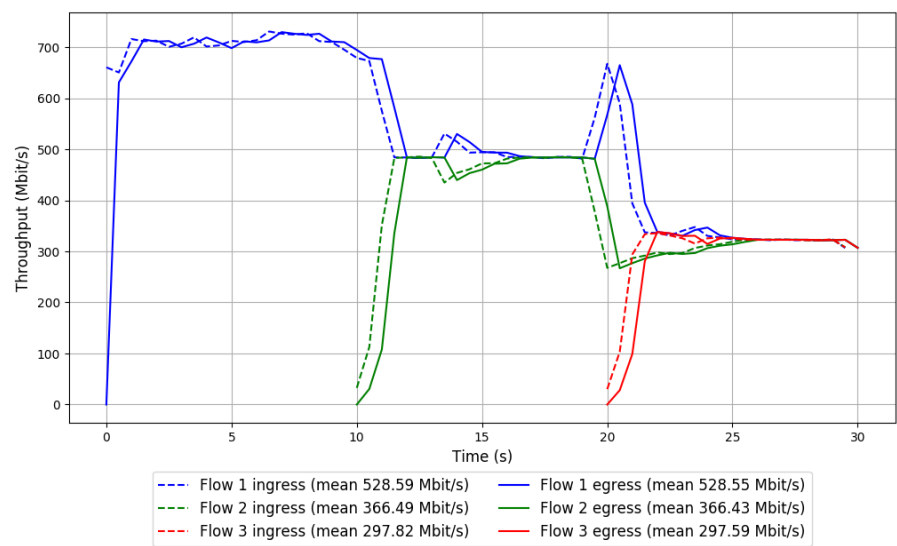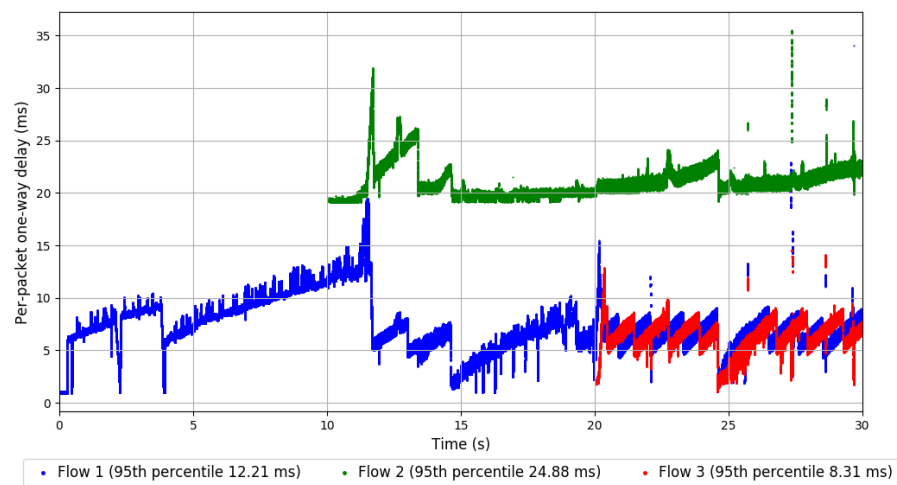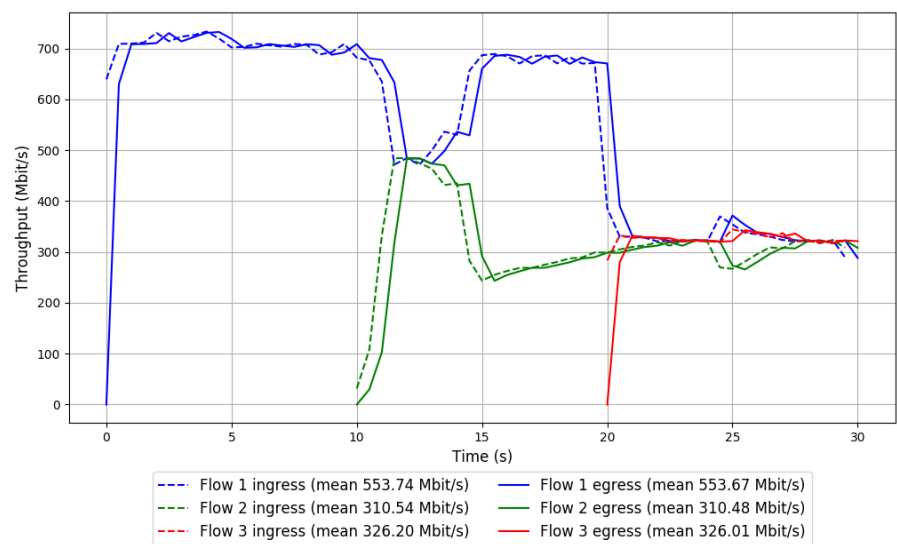
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 523.28 Mbit/s) ---- Flow 1 egress (mean 523.21 Mbit/s) ——
Flow 2 ingress (mean 372.70 Mbit/s) ---- Flow 2 egress (mean 372.68 Mbit/s) ——
Flow 3 ingress (mean 323.67 Mbit/s) ---- Flow 3 egress (mean 323.46 Mbit/s) ——

Flow 1 (95th percentile 10.01 ms)   Flow 2 (95th percentile 25.88 ms)   Flow 3 (95th percentile 7.86 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-11-24 17:38:42
End at: 2019-11-24 17:39:12
Local clock offset: 4.013 ms
Remote clock offset: 0.642 ms


# Below is generated by plot.py at 2019-11-24 19:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 871.18 Mbit/s
95th percentile per-packet one-way delay: 23.444 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 528.55 Mbit/s
95th percentile per-packet one-way delay: 11.177 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 366.43 Mbit/s
95th percentile per-packet one-way delay: 24.139 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 297.59 Mbit/s
95th percentile per-packet one-way delay: 25.284 ms
Loss rate: 0.28%
```
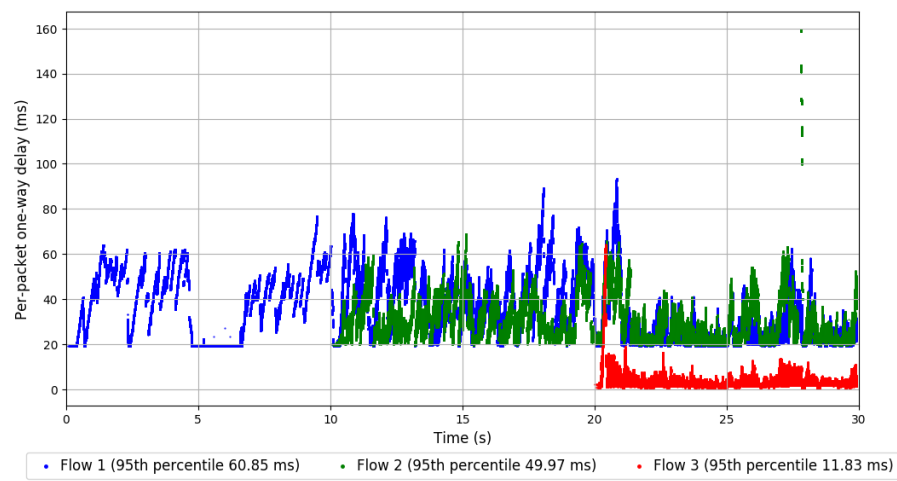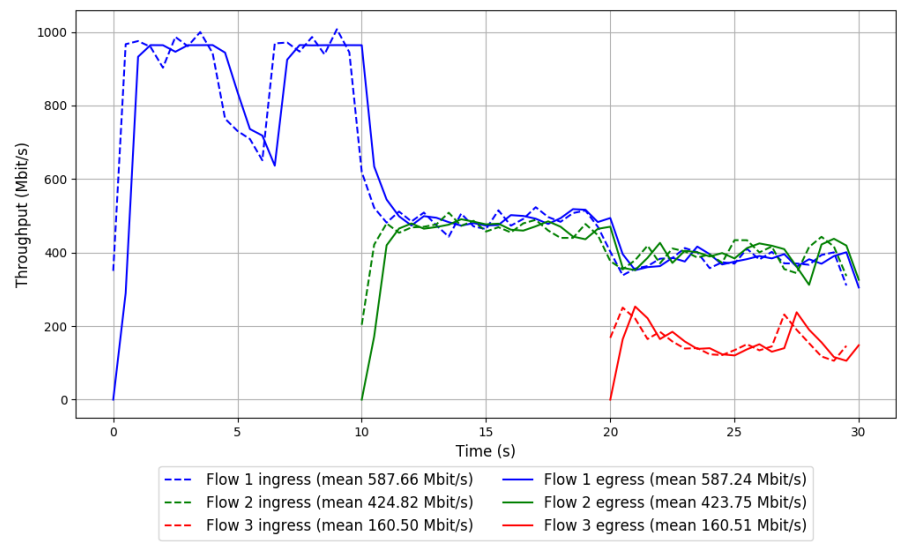
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 528.59 Mbit/s) ---- Flow 1 egress (mean 528.55 Mbit/s) ——
Flow 2 ingress (mean 366.49 Mbit/s) ---- Flow 2 egress (mean 366.43 Mbit/s) ——
Flow 3 ingress (mean 297.82 Mbit/s) ---- Flow 3 egress (mean 297.59 Mbit/s) ——

Flow 1 (95th percentile 11.18 ms)   Flow 2 (95th percentile 24.14 ms)   Flow 3 (95th percentile 25.28 ms)

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```
Run 5: Statistics of TCP Cubic

Start at: 2019-11-24 18:13:28
End at: 2019-11-24 18:13:58
Local clock offset: 4.358 ms
Remote clock offset: -1.522 ms


# Below is generated by plot.py at 2019-11-24 19:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 868.63 Mbit/s
95th percentile per-packet one-way delay: 22.254 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 553.67 Mbit/s
95th percentile per-packet one-way delay: 12.215 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 310.48 Mbit/s
95th percentile per-packet one-way delay: 24.876 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 326.01 Mbit/s
95th percentile per-packet one-way delay: 8.313 ms
Loss rate: 0.09%
```

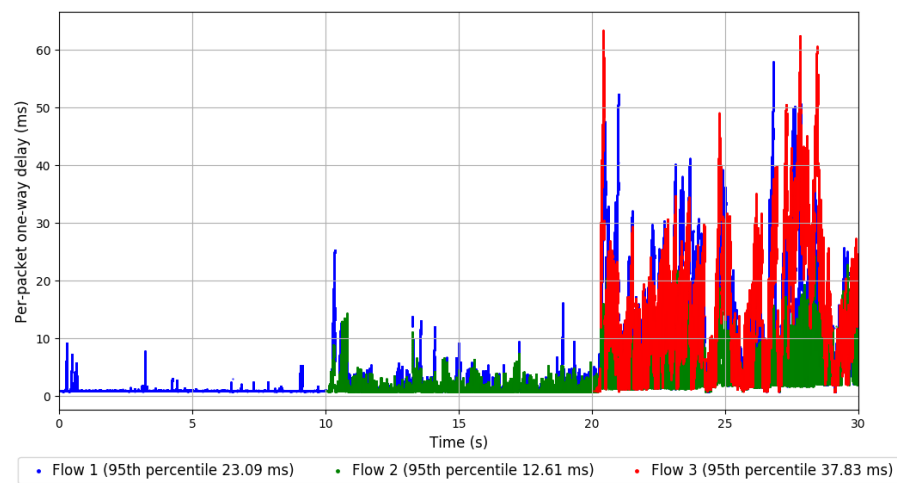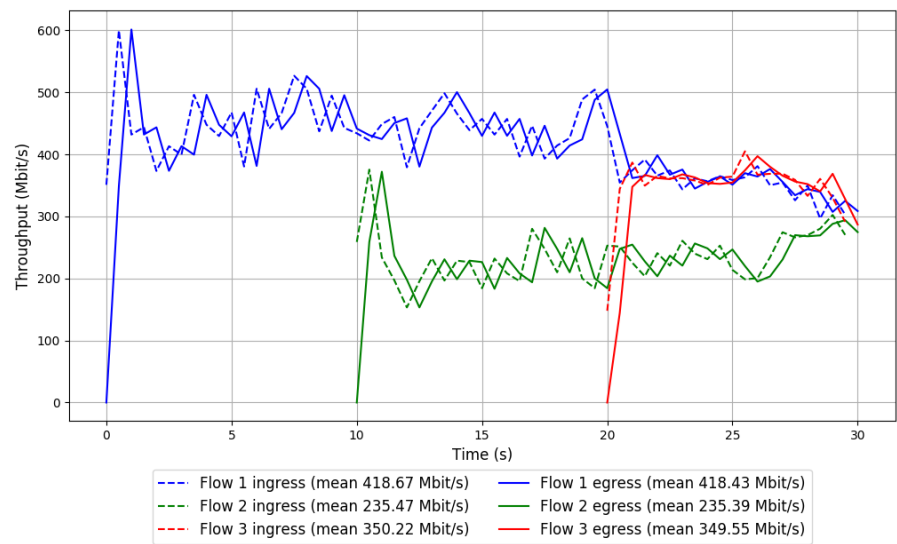Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-11-24 16:11:18
End at: 2019-11-24 16:11:48
Local clock offset: 2.807 ms
Remote clock offset: 1.135 ms


# Below is generated by plot.py at 2019-11-24 19:11:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 922.21 Mbit/s
95th percentile per-packet one-way delay: 58.997 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 587.24 Mbit/s
95th percentile per-packet one-way delay: 60.848 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 423.75 Mbit/s
95th percentile per-packet one-way delay: 49.968 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 160.51 Mbit/s
95th percentile per-packet one-way delay: 11.831 ms
Loss rate: 0.00%
```
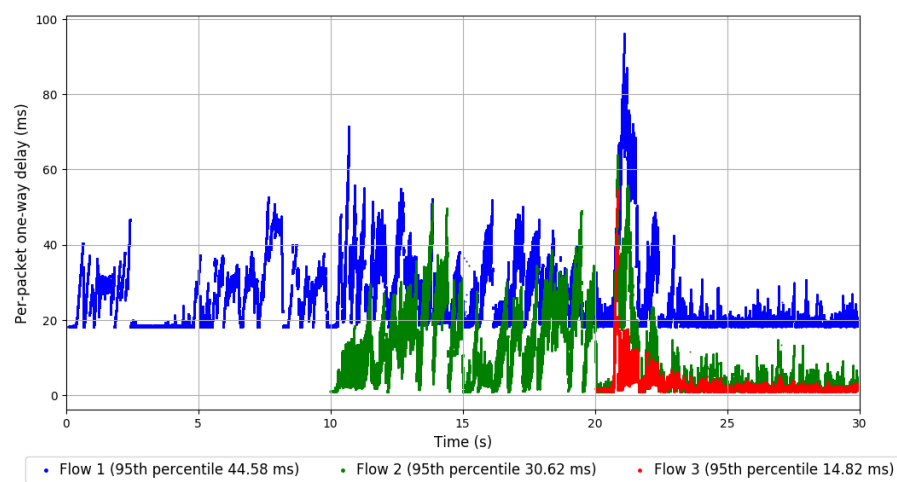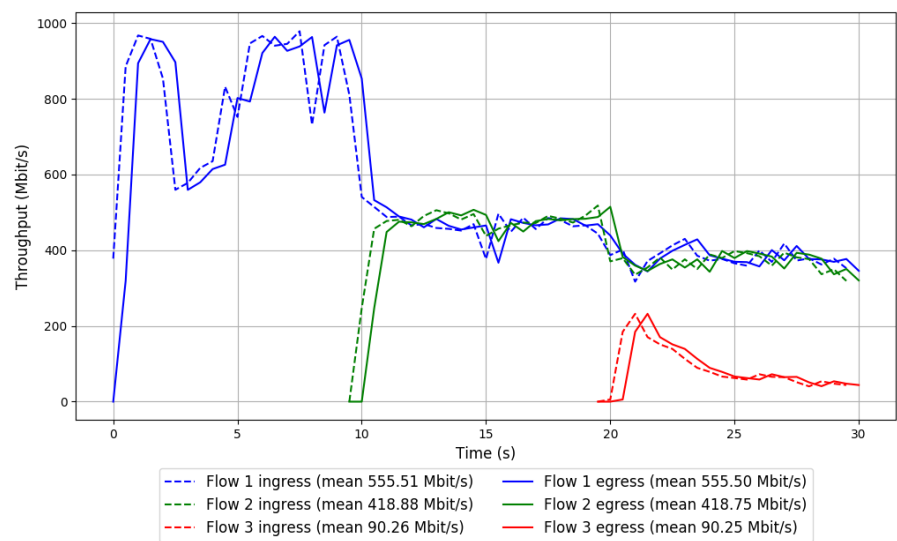
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 587.66 Mbit/s) — Flow 1 egress (mean 587.24 Mbit/s)
Flow 2 ingress (mean 424.82 Mbit/s) — Flow 2 egress (mean 423.75 Mbit/s)
Flow 3 ingress (mean 160.50 Mbit/s) — Flow 3 egress (mean 160.51 Mbit/s)

Flow 1 (95th percentile 60.85 ms) • Flow 2 (95th percentile 49.97 ms) • Flow 3 (95th percentile 11.83 ms)

```
Run 2: Statistics of FillP

Start at: 2019-11-24 16:45:53
End at: 2019-11-24 16:46:23
Local clock offset: 3.11 ms
Remote clock offset: -2.551 ms


# Below is generated by plot.py at 2019-11-24 19:13:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 690.69 Mbit/s
95th percentile per-packet one-way delay: 26.189 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 418.43 Mbit/s
95th percentile per-packet one-way delay: 23.087 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 235.39 Mbit/s
95th percentile per-packet one-way delay: 12.609 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 349.55 Mbit/s
95th percentile per-packet one-way delay: 37.834 ms
Loss rate: 0.21%
```
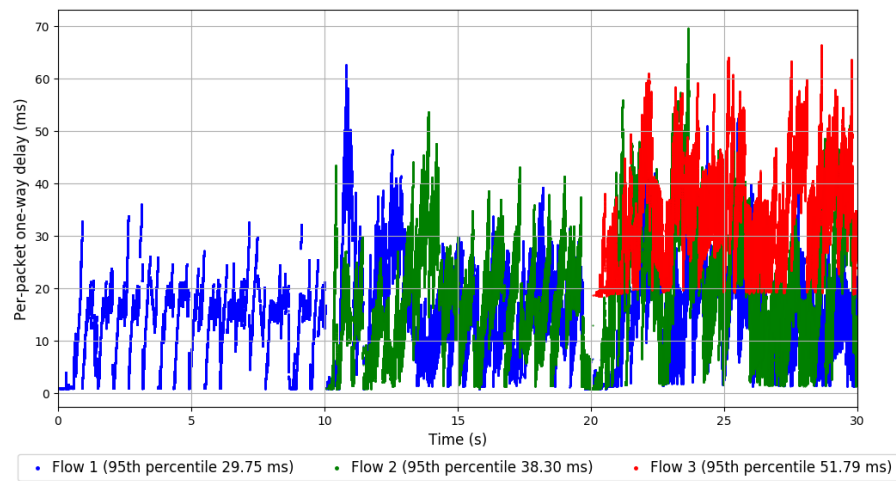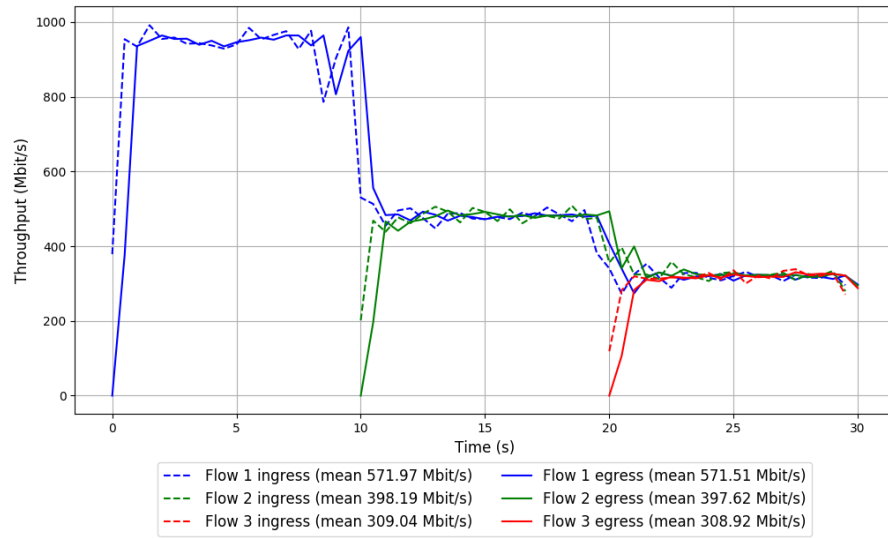
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 418.67 Mbit/s) — — — Flow 1 egress (mean 418.43 Mbit/s)
Flow 2 ingress (mean 235.47 Mbit/s) — — — Flow 2 egress (mean 235.39 Mbit/s)
Flow 3 ingress (mean 350.22 Mbit/s) — — — Flow 3 egress (mean 349.55 Mbit/s)

Flow 1 (95th percentile 23.09 ms)   Flow 2 (95th percentile 12.61 ms)   Flow 3 (95th percentile 37.83 ms)

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```
Run 3: Statistics of FillP

Start at: 2019-11-24 17:20:20
End at: 2019-11-24 17:20:50
Local clock offset: 3.809 ms
Remote clock offset: 1.191 ms

# Below is generated by plot.py at 2019-11-24 19:16:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.80 Mbit/s
95th percentile per-packet one-way delay: 42.017 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 555.50 Mbit/s
95th percentile per-packet one-way delay: 44.579 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 418.75 Mbit/s
95th percentile per-packet one-way delay: 30.625 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 90.25 Mbit/s
95th percentile per-packet one-way delay: 14.821 ms
Loss rate: 0.00%
```
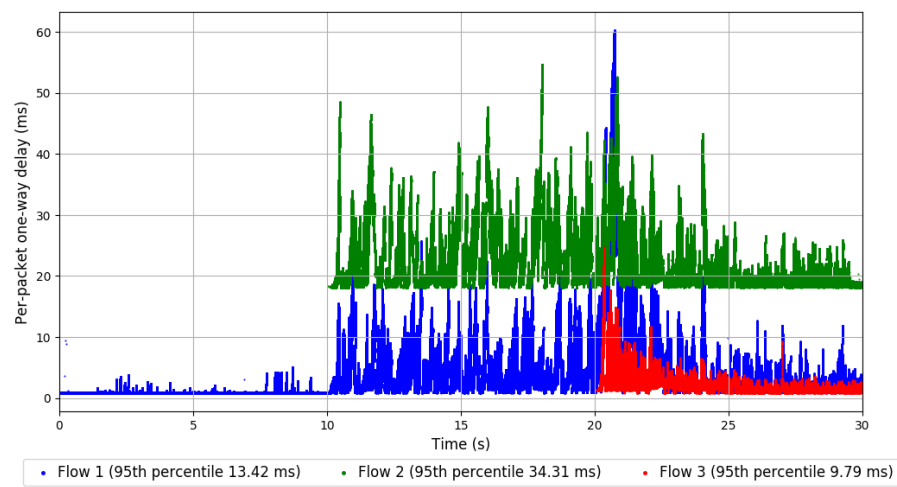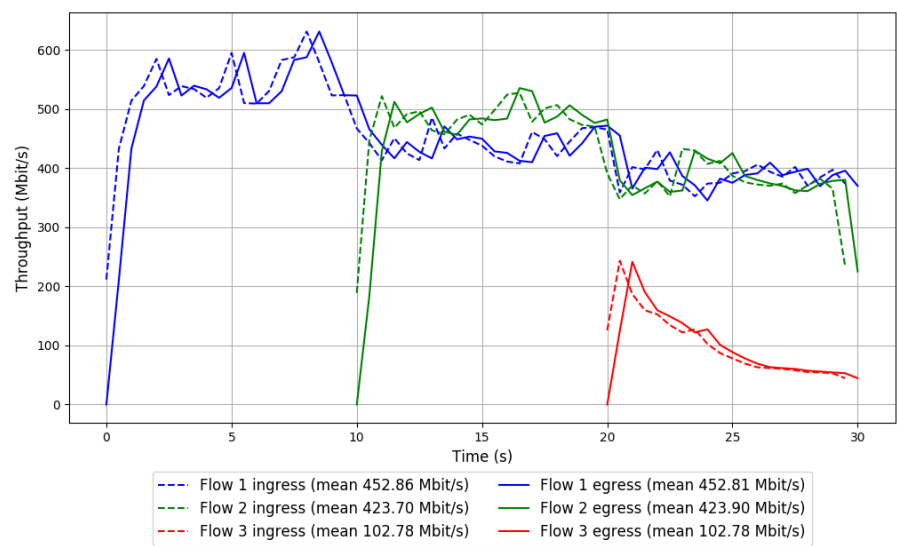
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-11-24 17:55:02
End at: 2019-11-24 17:55:32
Local clock offset: 4.273 ms
Remote clock offset: -2.46 ms

# Below is generated by plot.py at 2019-11-24 19:20:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 937.70 Mbit/s
95th percentile per-packet one-way delay: 39.895 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 571.51 Mbit/s
95th percentile per-packet one-way delay: 29.754 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 397.62 Mbit/s
95th percentile per-packet one-way delay: 38.302 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 308.92 Mbit/s
95th percentile per-packet one-way delay: 51.790 ms
Loss rate: 0.23%
```
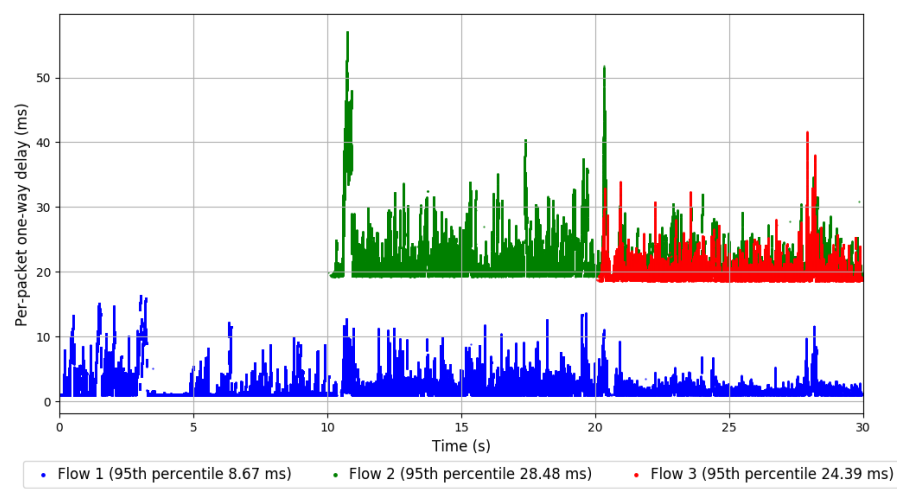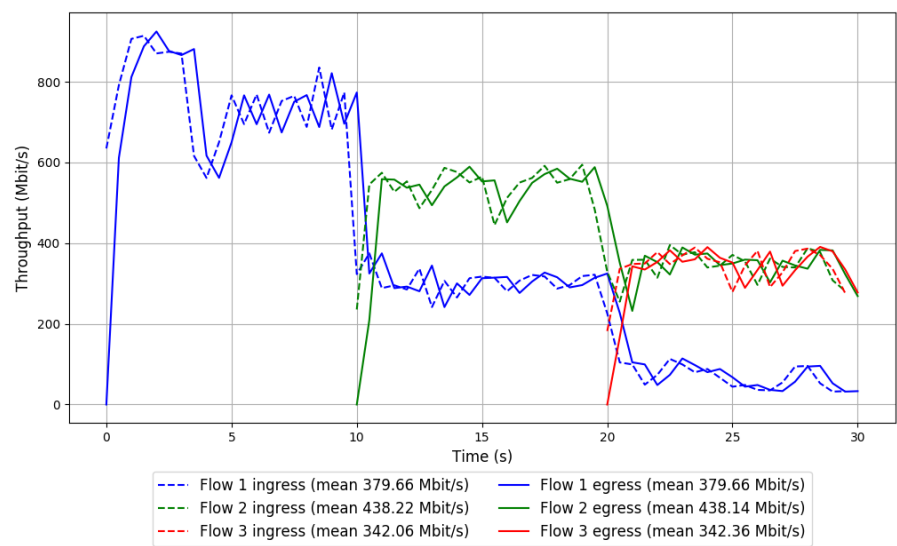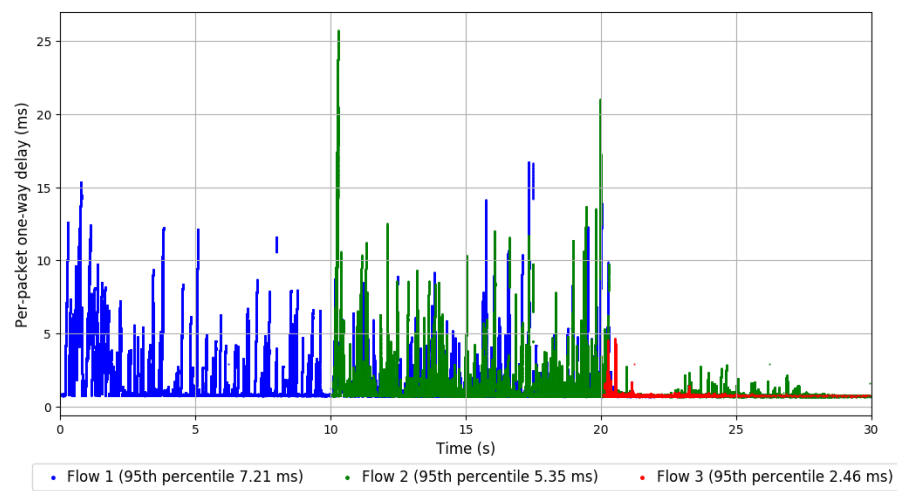
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 571.97 Mbit/s) --- Flow 1 egress (mean 571.51 Mbit/s)
Flow 2 ingress (mean 398.19 Mbit/s) --- Flow 2 egress (mean 397.62 Mbit/s)
Flow 3 ingress (mean 309.04 Mbit/s) --- Flow 3 egress (mean 308.92 Mbit/s)

Flow 1 (95th percentile 29.75 ms) · Flow 2 (95th percentile 38.30 ms) · Flow 3 (95th percentile 51.79 ms)

```
Run 5: Statistics of FillP

Start at: 2019-11-24 18:29:52
End at: 2019-11-24 18:30:22
Local clock offset: 4.255 ms
Remote clock offset: 0.646 ms


# Below is generated by plot.py at 2019-11-24 19:20:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.88 Mbit/s
95th percentile per-packet one-way delay: 29.427 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 452.81 Mbit/s
95th percentile per-packet one-way delay: 13.417 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 423.90 Mbit/s
95th percentile per-packet one-way delay: 34.311 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 102.78 Mbit/s
95th percentile per-packet one-way delay: 9.789 ms
Loss rate: 0.00%
```
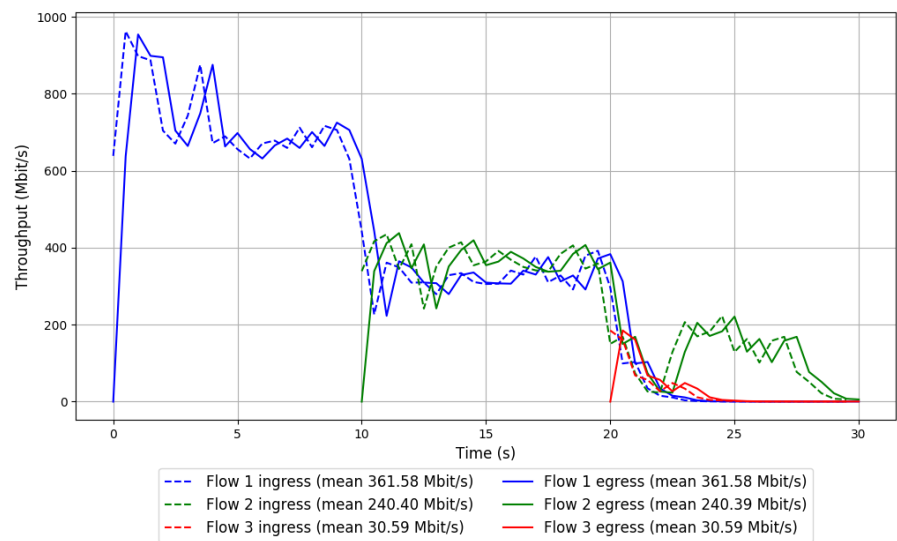
Run 5: Report of FillP — Data Link

Legend:
- - - - Flow 1 ingress (mean 452.86 Mbit/s)   ——— Flow 1 egress (mean 452.81 Mbit/s)
- - - - Flow 2 ingress (mean 423.70 Mbit/s)   ——— Flow 2 egress (mean 423.90 Mbit/s)
- - - - Flow 3 ingress (mean 102.78 Mbit/s)   ——— Flow 3 egress (mean 102.78 Mbit/s)

Legend:
• Flow 1 (95th percentile 13.42 ms)   • Flow 2 (95th percentile 34.31 ms)   • Flow 3 (95th percentile 9.79 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-11-24 16:06:19
End at: 2019-11-24 16:06:49
Local clock offset: 2.832 ms
Remote clock offset: 0.863 ms


# Below is generated by plot.py at 2019-11-24 19:20:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.89 Mbit/s
95th percentile per-packet one-way delay: 24.714 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 379.66 Mbit/s
95th percentile per-packet one-way delay: 8.669 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 438.14 Mbit/s
95th percentile per-packet one-way delay: 28.475 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 342.36 Mbit/s
95th percentile per-packet one-way delay: 24.393 ms
Loss rate: 0.15%
```
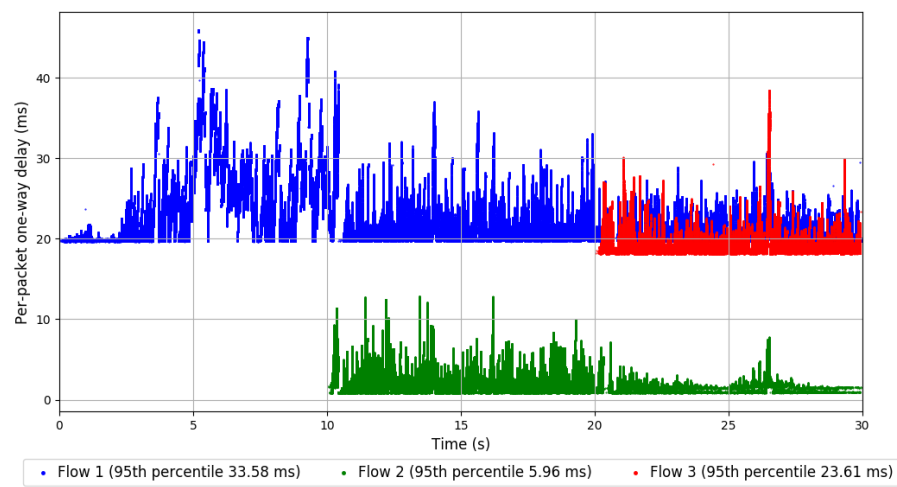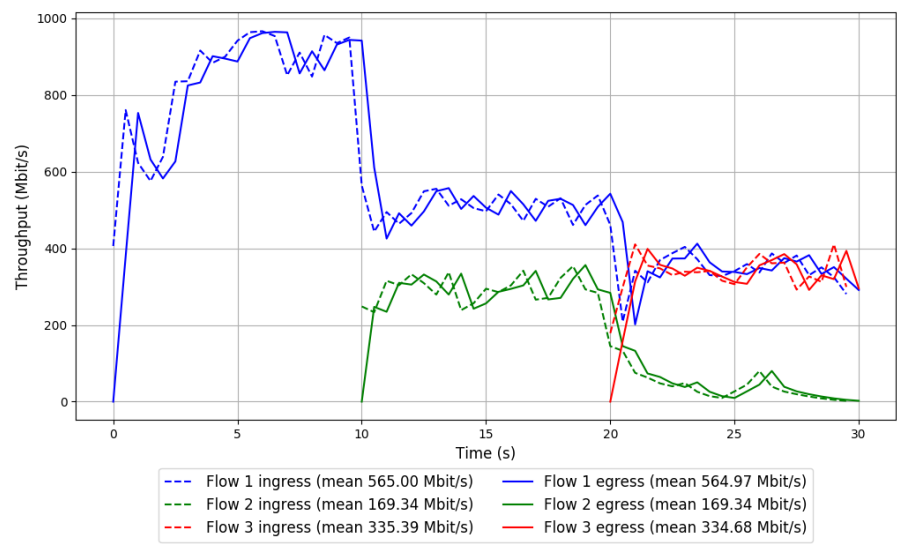
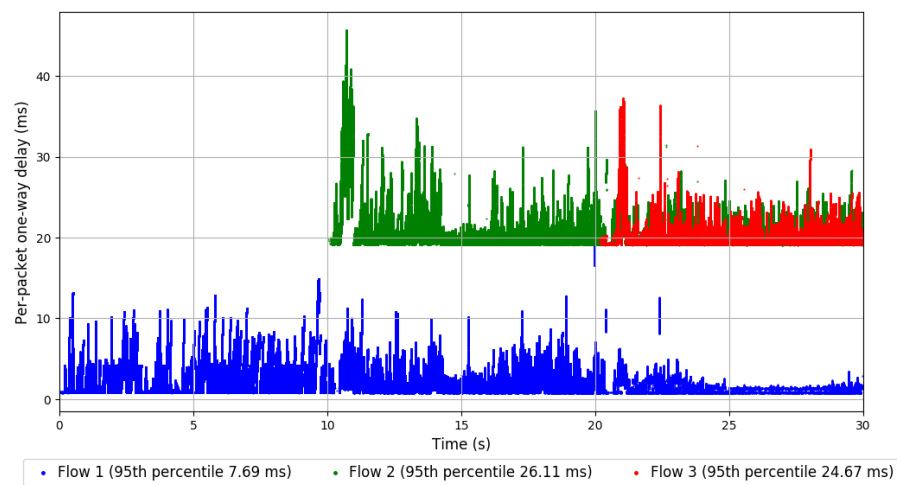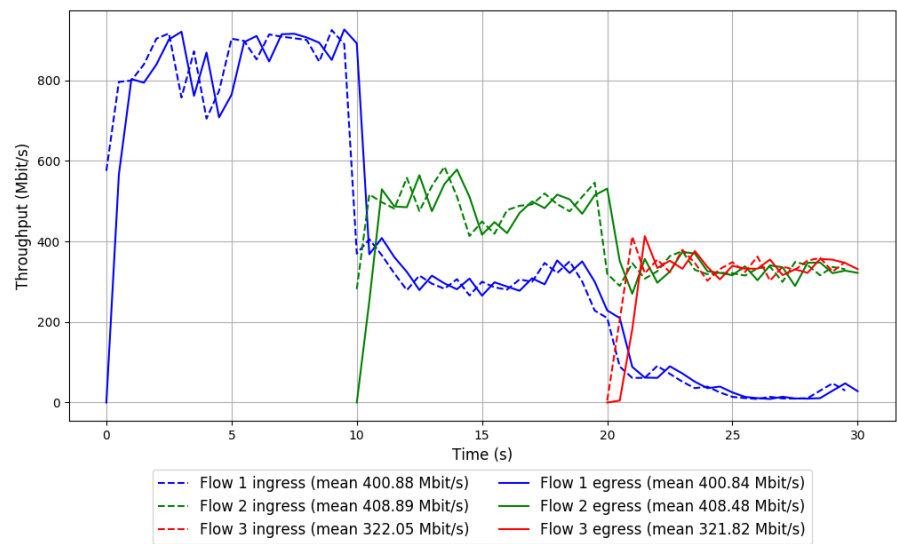Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-11-24 16:41:05
End at: 2019-11-24 16:41:35
Local clock offset: 2.837 ms
Remote clock offset: -2.111 ms


# Below is generated by plot.py at 2019-11-24 19:20:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.58 Mbit/s
95th percentile per-packet one-way delay: 6.729 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 361.58 Mbit/s
95th percentile per-packet one-way delay: 7.210 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 240.39 Mbit/s
95th percentile per-packet one-way delay: 5.347 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.59 Mbit/s
95th percentile per-packet one-way delay: 2.457 ms
Loss rate: 0.00%
```

Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-11-24 17:15:22
End at: 2019-11-24 17:15:52
Local clock offset: 3.718 ms
Remote clock offset: 0.64 ms


# Below is generated by plot.py at 2019-11-24 19:20:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 788.26 Mbit/s
95th percentile per-packet one-way delay: 31.773 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 564.97 Mbit/s
95th percentile per-packet one-way delay: 33.584 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 169.34 Mbit/s
95th percentile per-packet one-way delay: 5.959 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 334.68 Mbit/s
95th percentile per-packet one-way delay: 23.609 ms
Loss rate: 0.34%
```
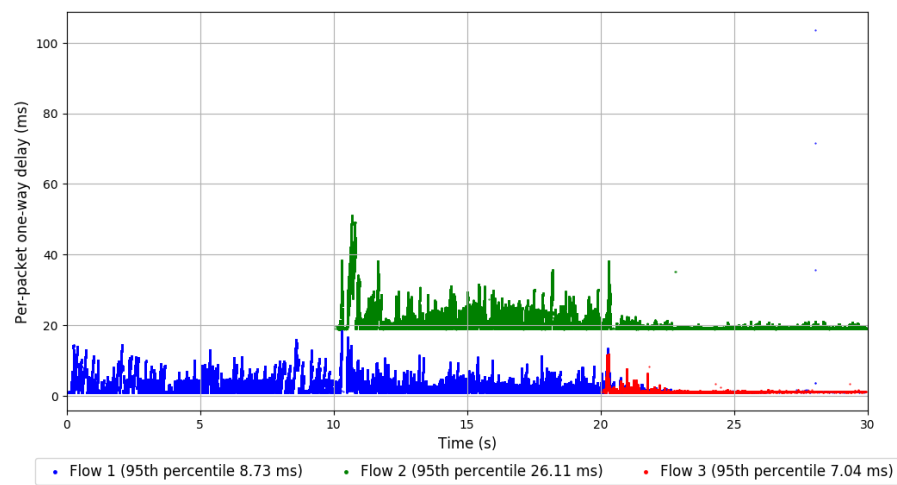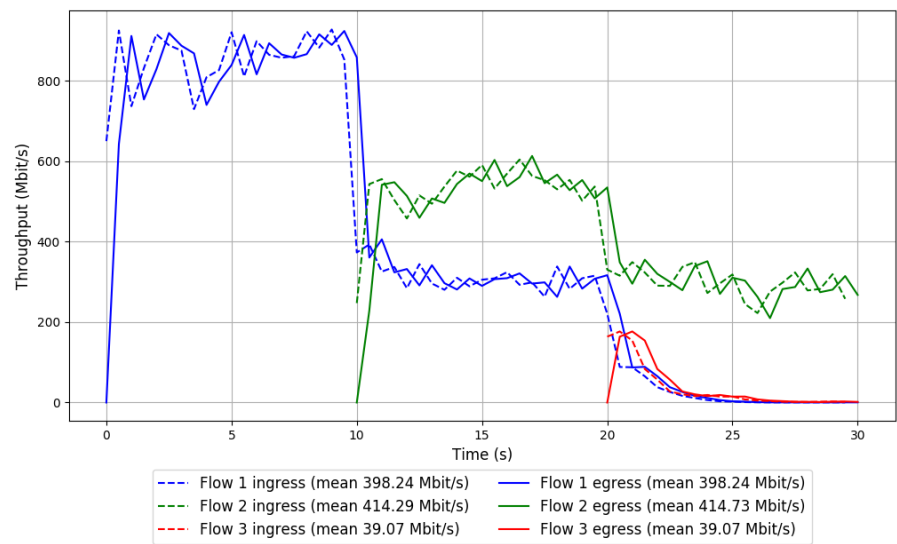
Run 3: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 565.00 Mbit/s) —— Flow 1 egress (mean 564.97 Mbit/s)
- - - Flow 2 ingress (mean 169.34 Mbit/s) —— Flow 2 egress (mean 169.34 Mbit/s)
- - - Flow 3 ingress (mean 335.39 Mbit/s) —— Flow 3 egress (mean 334.68 Mbit/s)

• Flow 1 (95th percentile 33.58 ms)   • Flow 2 (95th percentile 5.96 ms)   • Flow 3 (95th percentile 23.61 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-11-24 17:50:08
End at: 2019-11-24 17:50:38
Local clock offset: 4.208 ms
Remote clock offset: -1.951 ms


# Below is generated by plot.py at 2019-11-24 19:23:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 778.46 Mbit/s
95th percentile per-packet one-way delay: 23.287 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 400.84 Mbit/s
95th percentile per-packet one-way delay: 7.690 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 408.48 Mbit/s
95th percentile per-packet one-way delay: 26.114 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 321.82 Mbit/s
95th percentile per-packet one-way delay: 24.668 ms
Loss rate: 0.27%
```
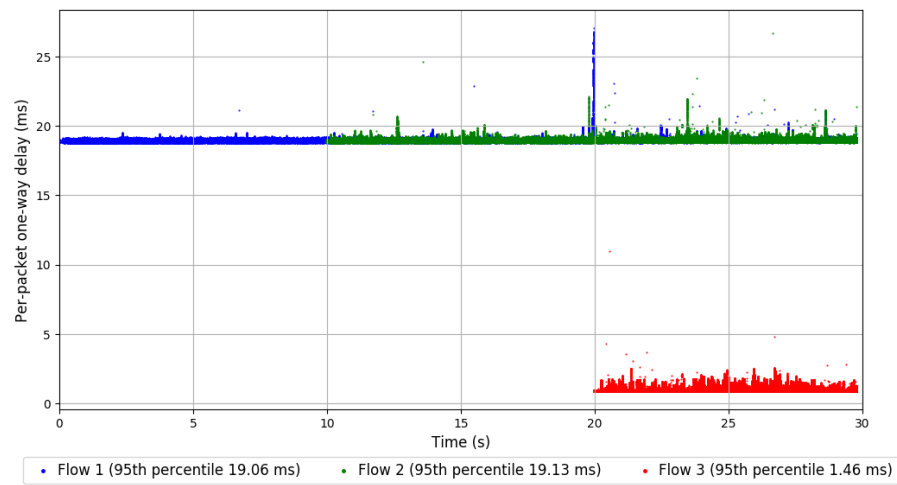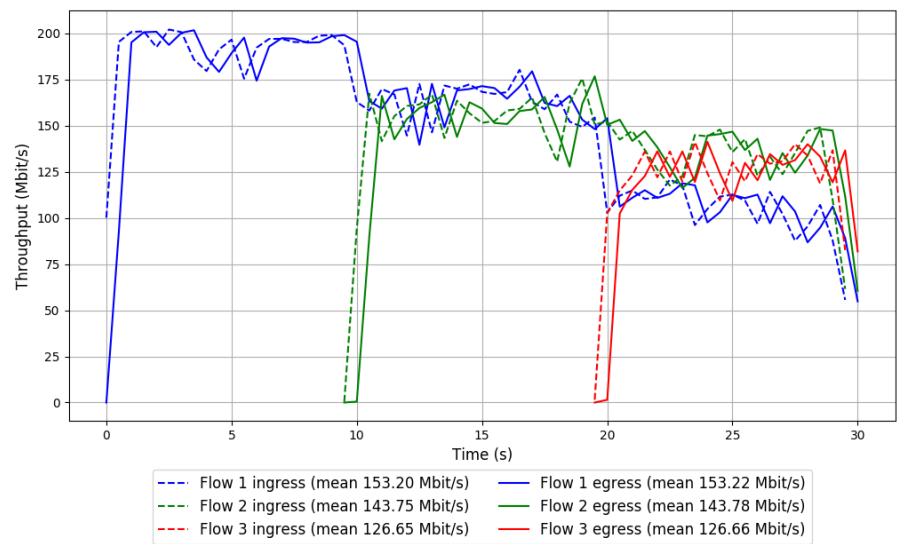
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 400.88 Mbit/s) — Flow 1 egress (mean 400.84 Mbit/s)
Flow 2 ingress (mean 408.89 Mbit/s) — Flow 2 egress (mean 408.48 Mbit/s)
Flow 3 ingress (mean 322.05 Mbit/s) — Flow 3 egress (mean 321.82 Mbit/s)

Flow 1 (95th percentile 7.69 ms)   Flow 2 (95th percentile 26.11 ms)   Flow 3 (95th percentile 24.67 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-11-24 18:24:59
End at: 2019-11-24 18:25:29
Local clock offset: 4.254 ms
Remote clock offset: 0.163 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 686.43 Mbit/s
95th percentile per-packet one-way delay: 22.662 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 398.24 Mbit/s
95th percentile per-packet one-way delay: 8.735 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 414.73 Mbit/s
95th percentile per-packet one-way delay: 26.113 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 39.07 Mbit/s
95th percentile per-packet one-way delay: 7.043 ms
Loss rate: 0.00%
```
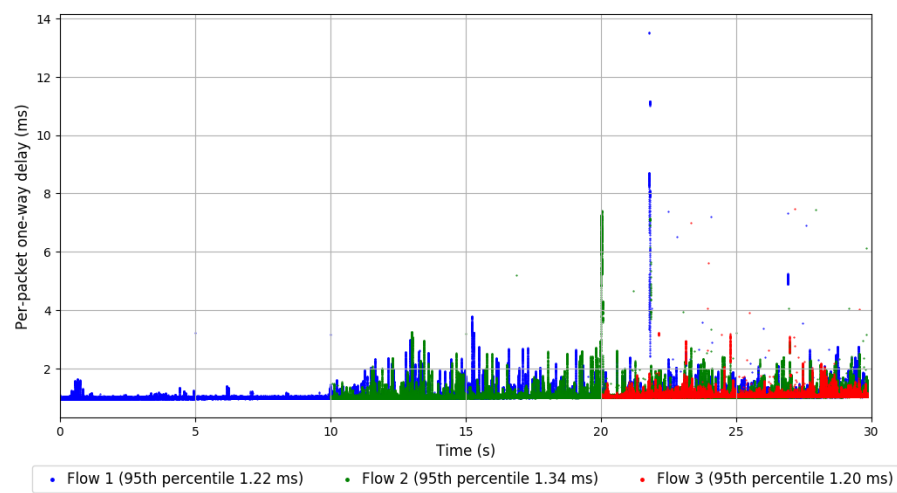
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 398.24 Mbit/s) --- Flow 1 egress (mean 398.24 Mbit/s)
Flow 2 ingress (mean 414.29 Mbit/s) --- Flow 2 egress (mean 414.73 Mbit/s)
Flow 3 ingress (mean 39.07 Mbit/s) --- Flow 3 egress (mean 39.07 Mbit/s)

• Flow 1 (95th percentile 8.73 ms)   • Flow 2 (95th percentile 26.11 ms)   • Flow 3 (95th percentile 7.04 ms)

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```
Run 1: Statistics of Indigo

Start at: 2019-11-24 16:03:18
End at: 2019-11-24 16:03:48
Local clock offset: 2.864 ms
Remote clock offset: 0.825 ms

# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.75 Mbit/s
95th percentile per-packet one-way delay: 19.075 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 153.22 Mbit/s
95th percentile per-packet one-way delay: 19.064 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 143.78 Mbit/s
95th percentile per-packet one-way delay: 19.128 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 126.66 Mbit/s
95th percentile per-packet one-way delay: 1.455 ms
Loss rate: 0.04%
```
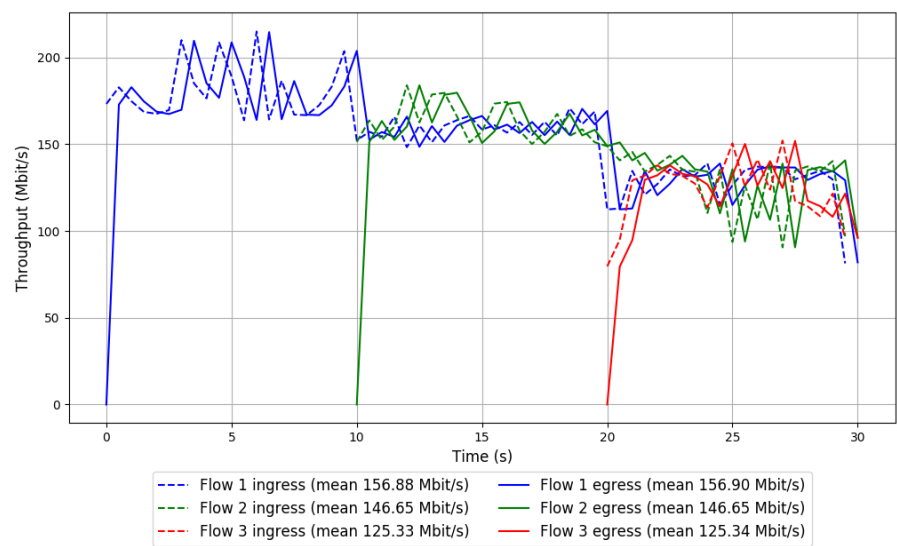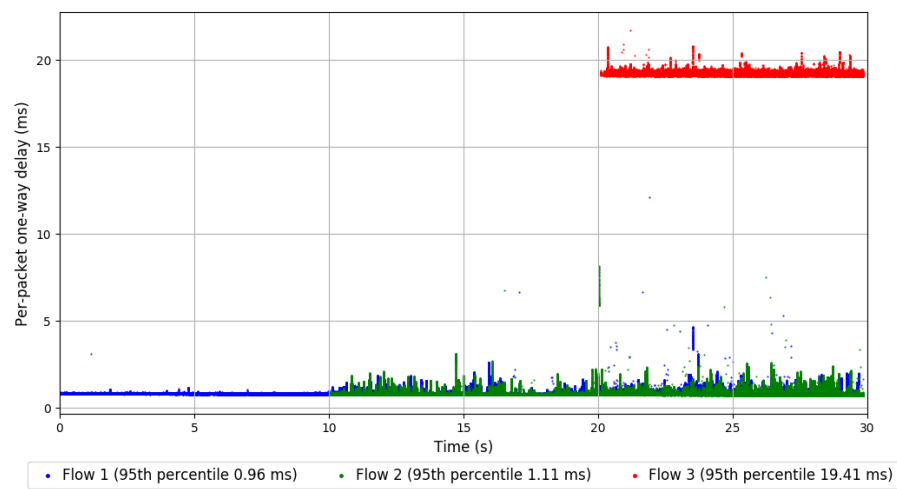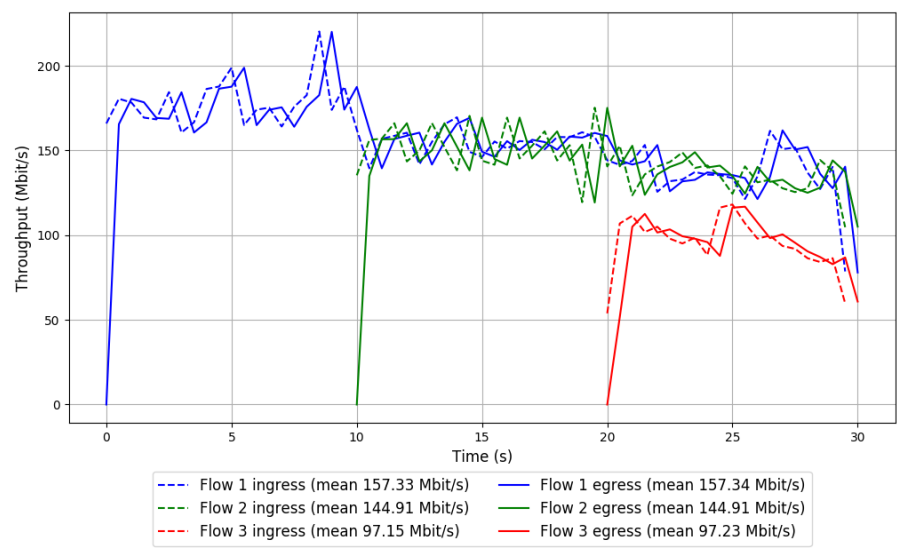
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-11-24 16:38:03
End at: 2019-11-24 16:38:33
Local clock offset: 2.716 ms
Remote clock offset: -1.725 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.08 Mbit/s
95th percentile per-packet one-way delay: 19.854 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 158.59 Mbit/s
95th percentile per-packet one-way delay: 19.890 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 127.86 Mbit/s
95th percentile per-packet one-way delay: 18.758 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 132.57 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 0.03%
```
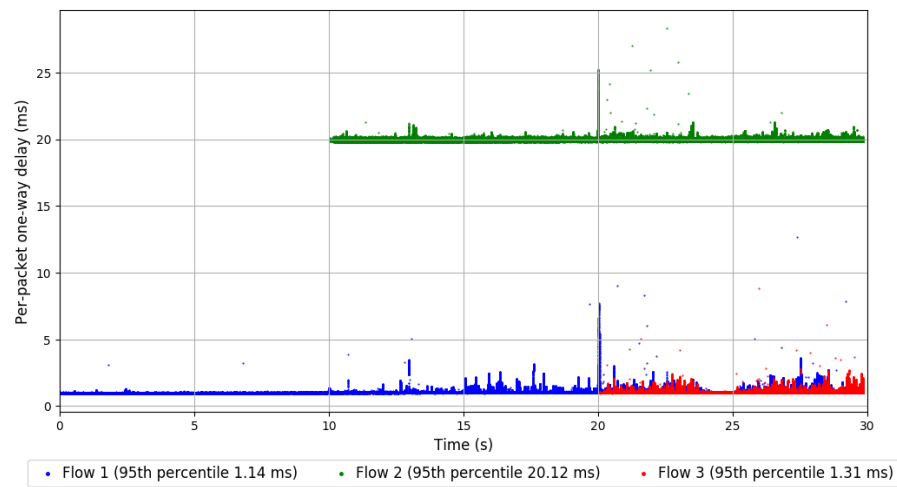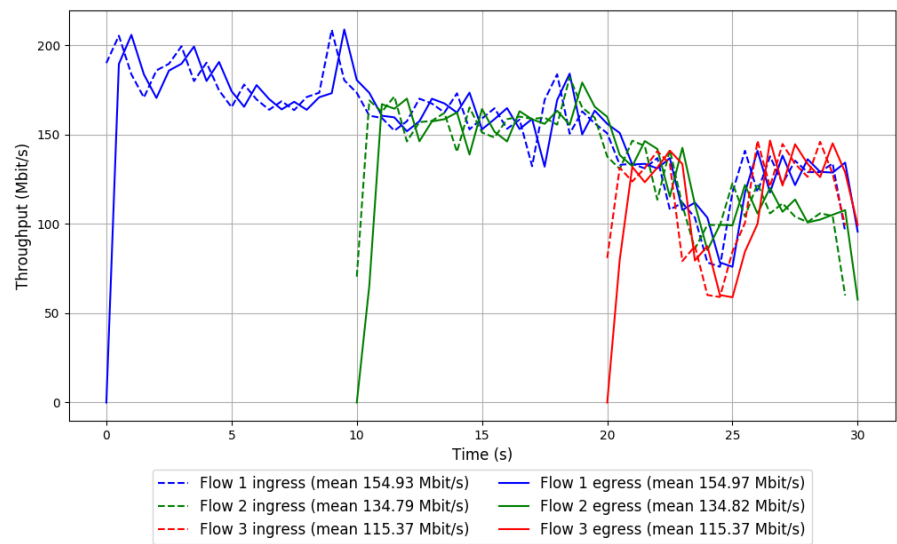
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-11-24 17:12:22
End at: 2019-11-24 17:12:52
Local clock offset: 3.68 ms
Remote clock offset: 0.091 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.60 Mbit/s
95th percentile per-packet one-way delay: 1.252 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 156.90 Mbit/s
95th percentile per-packet one-way delay: 1.219 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.65 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 125.34 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.02%
```

Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-11-24 17:47:05
End at: 2019-11-24 17:47:35
Local clock offset: 4.158 ms
Remote clock offset: -1.563 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 285.27 Mbit/s
95th percentile per-packet one-way delay: 19.229 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 157.34 Mbit/s
95th percentile per-packet one-way delay: 0.963 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 144.91 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 19.414 ms
Loss rate: 0.13%
```
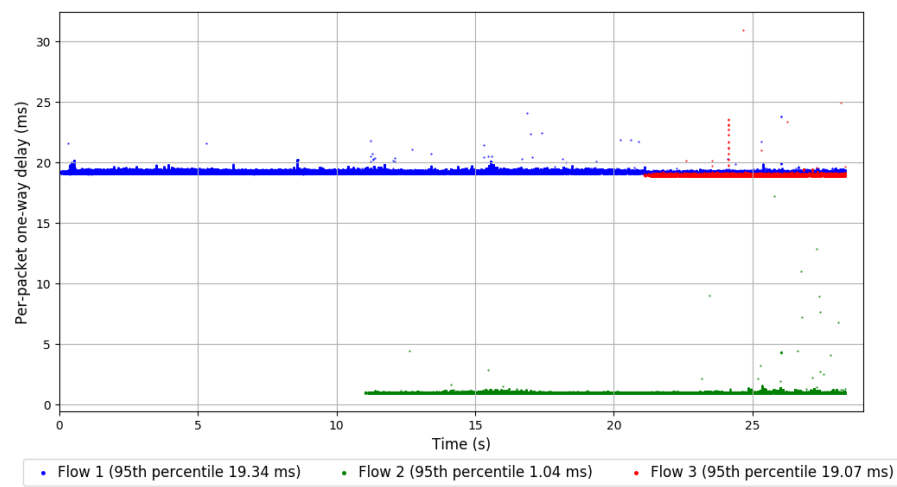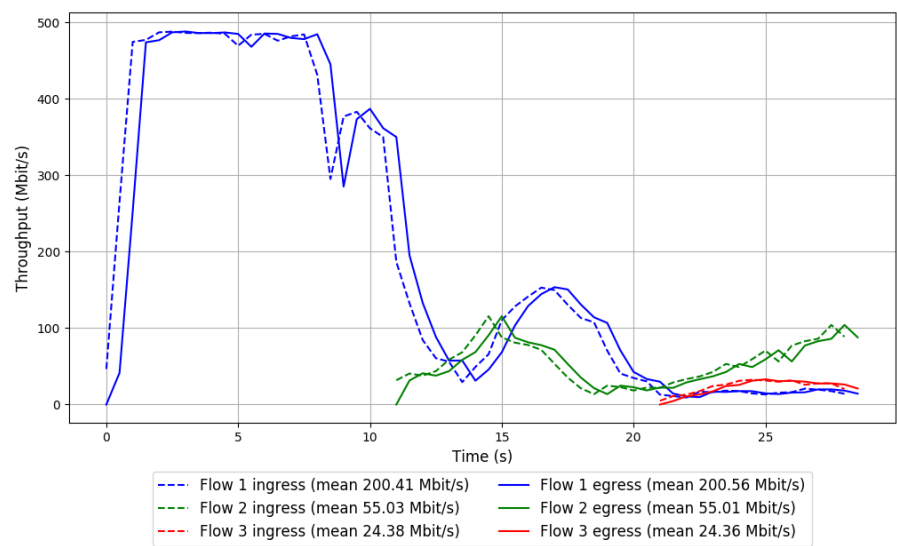
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-11-24 18:21:59
End at: 2019-11-24 18:22:29
Local clock offset: 4.268 ms
Remote clock offset: -0.121 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.27 Mbit/s
95th percentile per-packet one-way delay: 20.031 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 154.97 Mbit/s
95th percentile per-packet one-way delay: 1.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 134.82 Mbit/s
95th percentile per-packet one-way delay: 20.116 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 115.37 Mbit/s
95th percentile per-packet one-way delay: 1.311 ms
Loss rate: 0.01%
```

Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-11-24 16:15:39
End at: 2019-11-24 16:16:09
Local clock offset: 2.782 ms
Remote clock offset: 1.274 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.43 Mbit/s
95th percentile per-packet one-way delay: 19.326 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 200.56 Mbit/s
95th percentile per-packet one-way delay: 19.335 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.01 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 19.070 ms
Loss rate: 0.33%
```
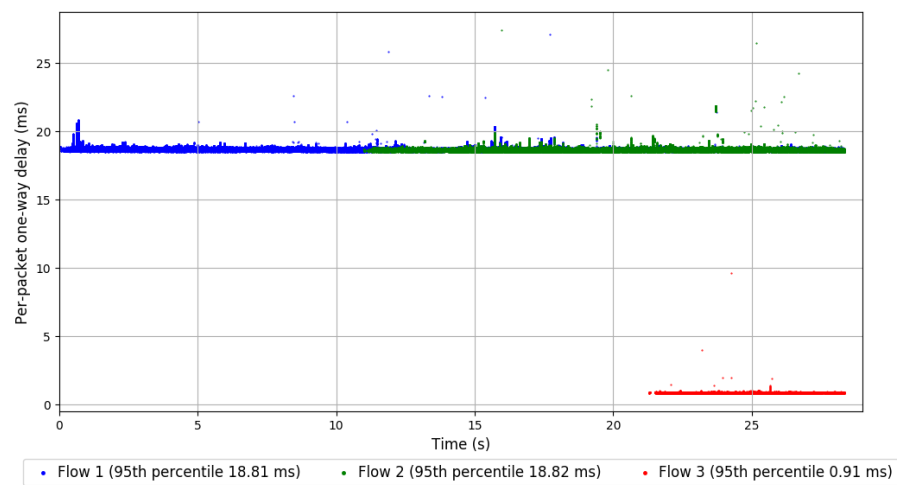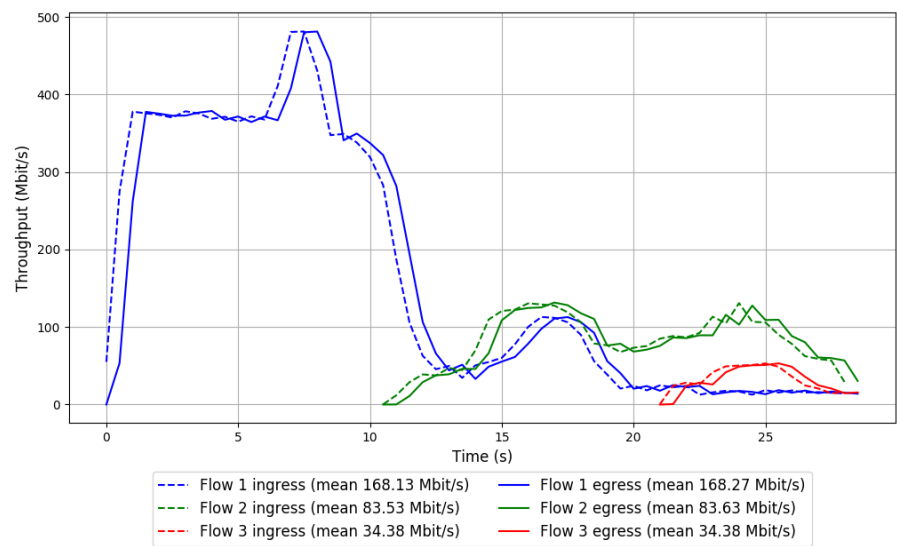
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-11-24 16:50:09
End at: 2019-11-24 16:50:39
Local clock offset: 3.259 ms
Remote clock offset: -2.812 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.09 Mbit/s
95th percentile per-packet one-way delay: 18.809 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 168.27 Mbit/s
95th percentile per-packet one-way delay: 18.811 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 83.63 Mbit/s
95th percentile per-packet one-way delay: 18.816 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.38 Mbit/s
95th percentile per-packet one-way delay: 0.912 ms
Loss rate: 0.00%
```
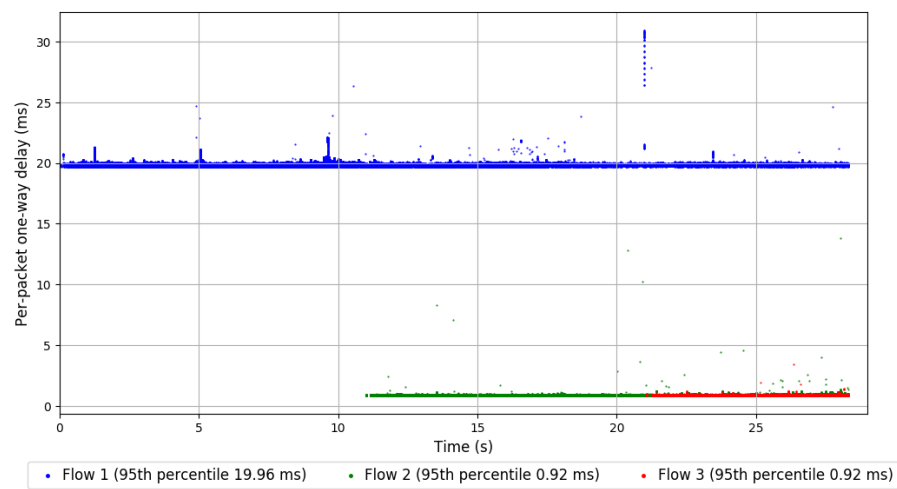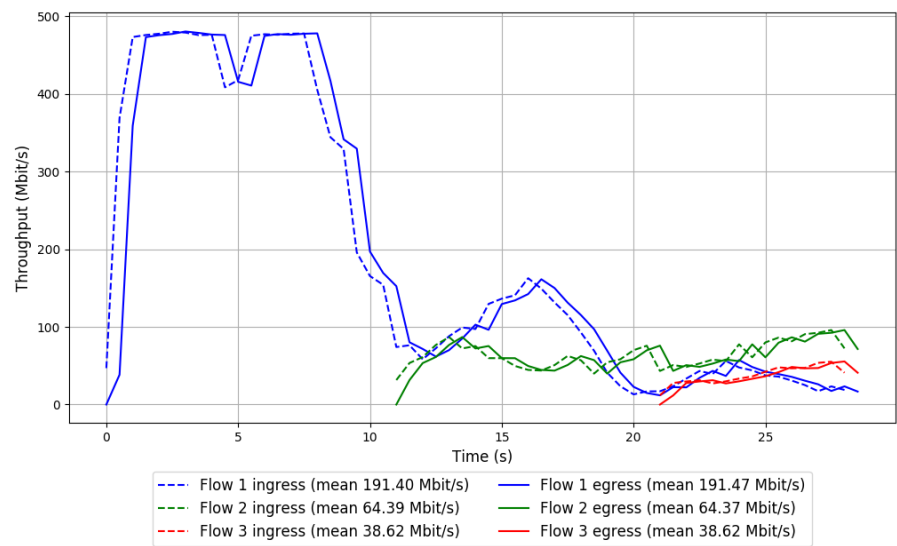
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-11-24 17:24:41
End at: 2019-11-24 17:25:11
Local clock offset: 3.856 ms
Remote clock offset: 1.723 ms


# Below is generated by plot.py at 2019-11-24 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.74 Mbit/s
95th percentile per-packet one-way delay: 19.944 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 191.47 Mbit/s
95th percentile per-packet one-way delay: 19.958 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 64.37 Mbit/s
95th percentile per-packet one-way delay: 0.922 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 38.62 Mbit/s
95th percentile per-packet one-way delay: 0.919 ms
Loss rate: 0.00%
```
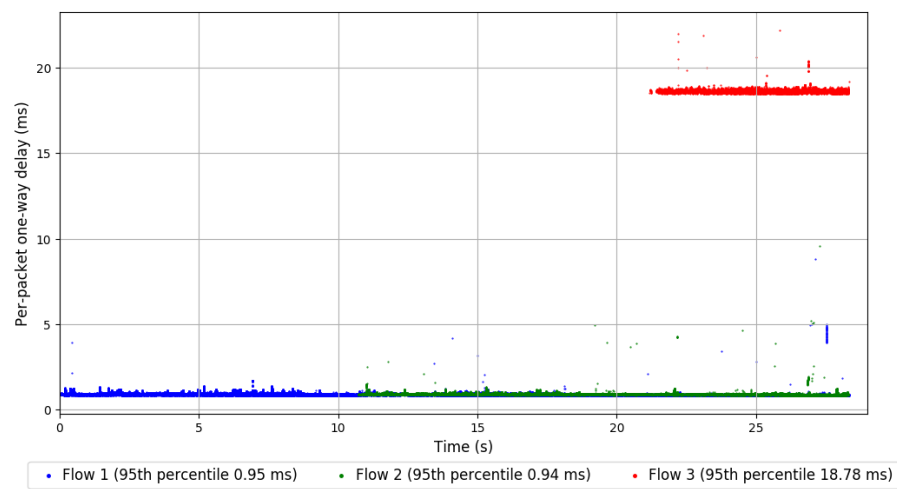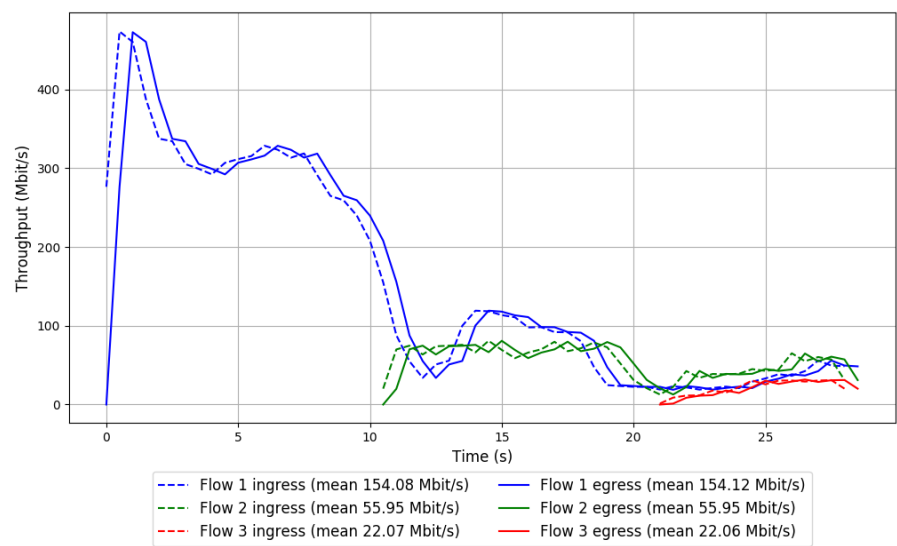
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 191.40 Mbit/s)   Flow 1 egress (mean 191.47 Mbit/s)
Flow 2 ingress (mean 64.39 Mbit/s)   Flow 2 egress (mean 64.37 Mbit/s)
Flow 3 ingress (mean 38.62 Mbit/s)   Flow 3 egress (mean 38.62 Mbit/s)

Flow 1 (95th percentile 19.96 ms)   Flow 2 (95th percentile 0.92 ms)   Flow 3 (95th percentile 0.92 ms)

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```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-11-24 17:59:24
End at: 2019-11-24 17:59:54
Local clock offset: 4.377 ms
Remote clock offset: -2.61 ms


# Below is generated by plot.py at 2019-11-24 19:24:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 194.41 Mbit/s
95th percentile per-packet one-way delay: 0.984 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 154.12 Mbit/s
95th percentile per-packet one-way delay: 0.951 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 0.938 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 18.777 ms
Loss rate: 0.24%
```
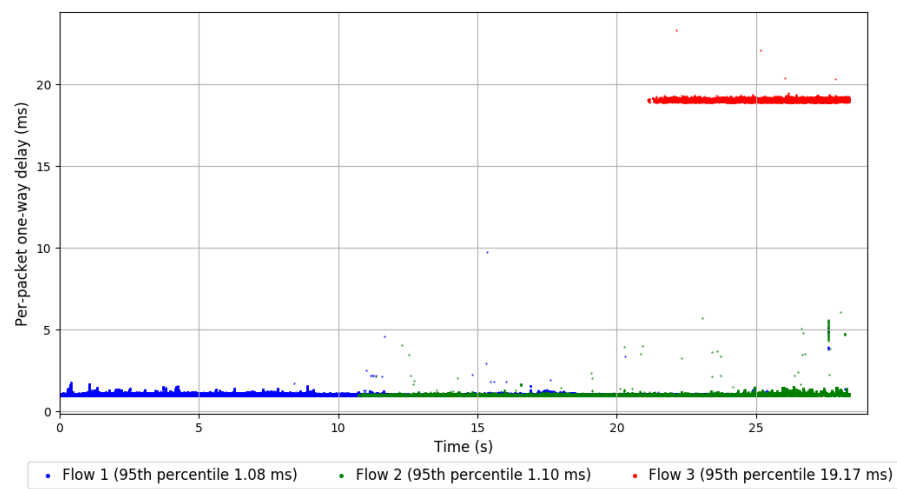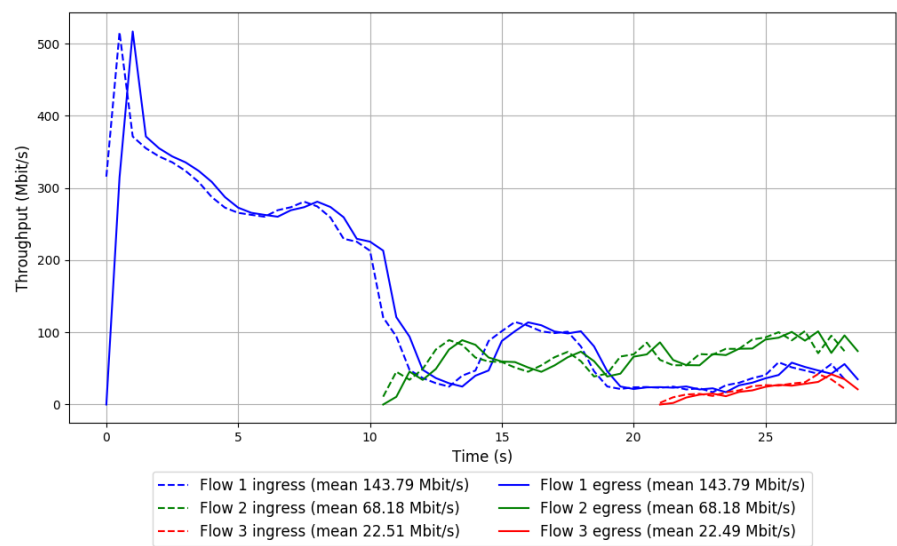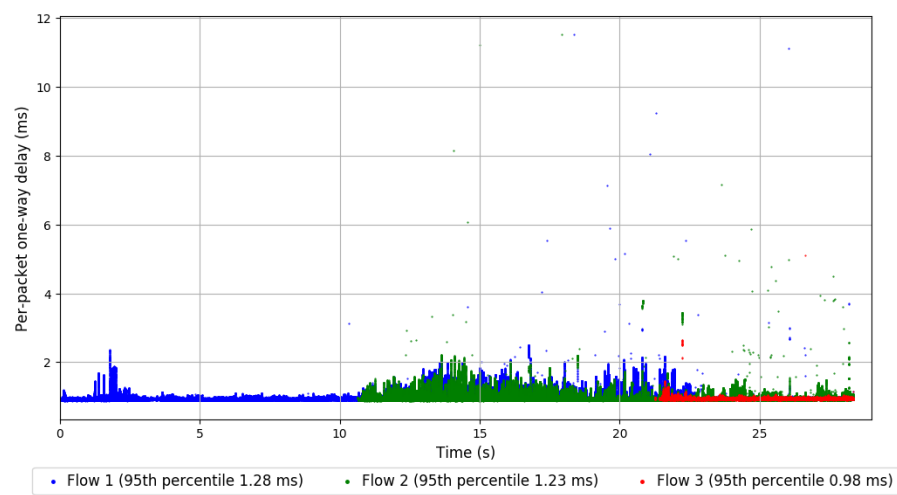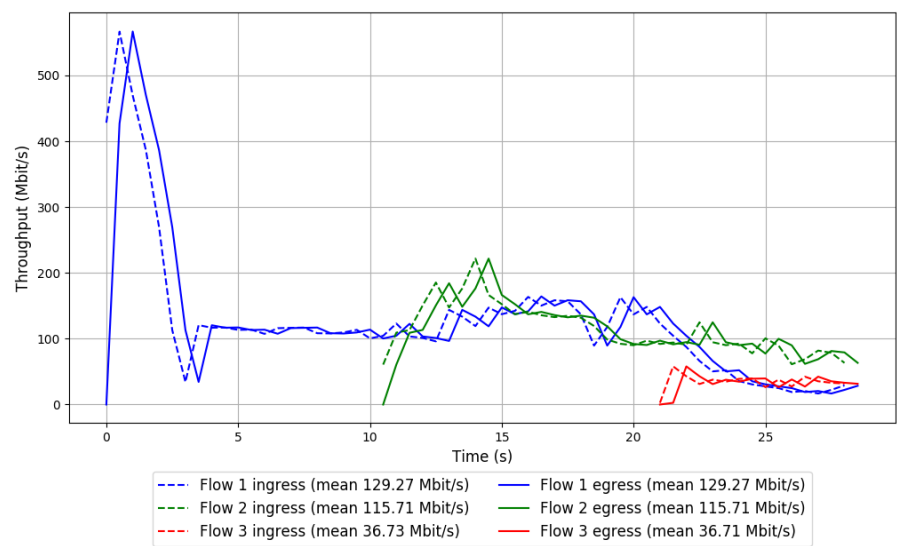
Run 4: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 154.08 Mbit/s) ——— Flow 1 egress (mean 154.12 Mbit/s)
- - - - Flow 2 ingress (mean 55.95 Mbit/s) ——— Flow 2 egress (mean 55.95 Mbit/s)
- - - - Flow 3 ingress (mean 22.07 Mbit/s) ——— Flow 3 egress (mean 22.06 Mbit/s)

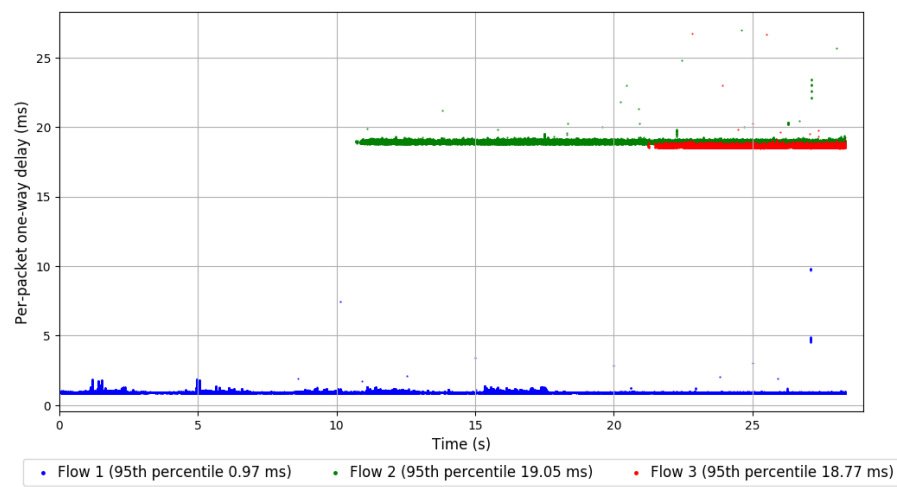- Flow 1 (95th percentile 0.95 ms)   - Flow 2 (95th percentile 0.94 ms)   - Flow 3 (95th percentile 18.78 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-11-24 18:34:10
End at: 2019-11-24 18:34:40
Local clock offset: 4.287 ms
Remote clock offset: 0.815 ms

# Below is generated by plot.py at 2019-11-24 19:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 191.90 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 143.79 Mbit/s
95th percentile per-packet one-way delay: 1.085 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.18 Mbit/s
95th percentile per-packet one-way delay: 1.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.49 Mbit/s
95th percentile per-packet one-way delay: 19.170 ms
Loss rate: 0.48%
```
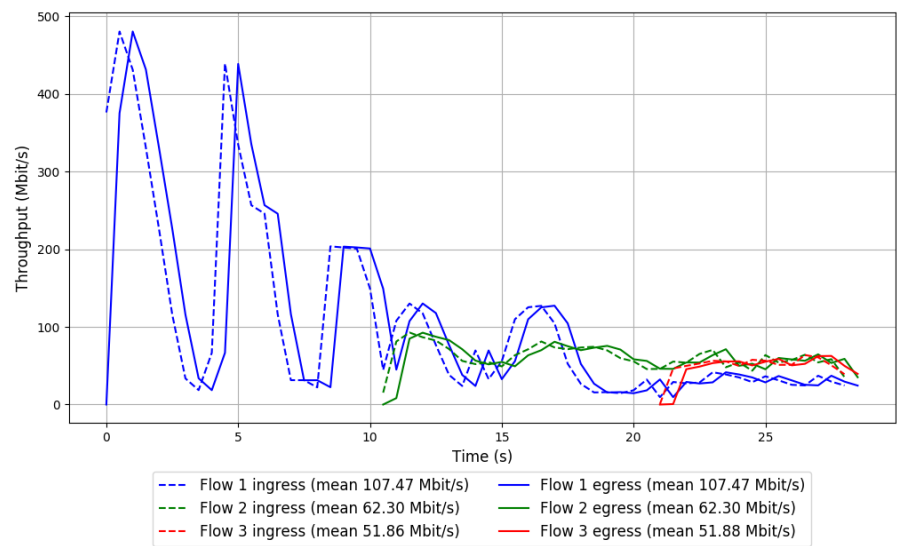
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-11-24 16:19:45
End at: 2019-11-24 16:20:15
Local clock offset: 2.797 ms
Remote clock offset: 1.528 ms


# Below is generated by plot.py at 2019-11-24 19:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.67 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 129.27 Mbit/s
95th percentile per-packet one-way delay: 1.277 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 115.71 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.71 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.07%
```

Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-11-24 16:54:14
End at: 2019-11-24 16:54:44
Local clock offset: 3.392 ms
Remote clock offset: -2.947 ms


# Below is generated by plot.py at 2019-11-24 19:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 159.34 Mbit/s
95th percentile per-packet one-way delay: 18.973 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 107.47 Mbit/s
95th percentile per-packet one-way delay: 0.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.30 Mbit/s
95th percentile per-packet one-way delay: 19.047 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 51.88 Mbit/s
95th percentile per-packet one-way delay: 18.770 ms
Loss rate: 0.15%
```
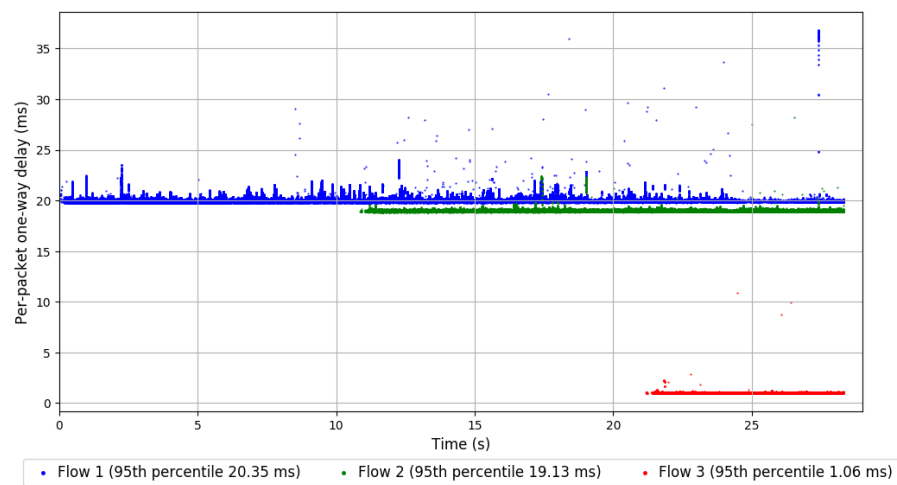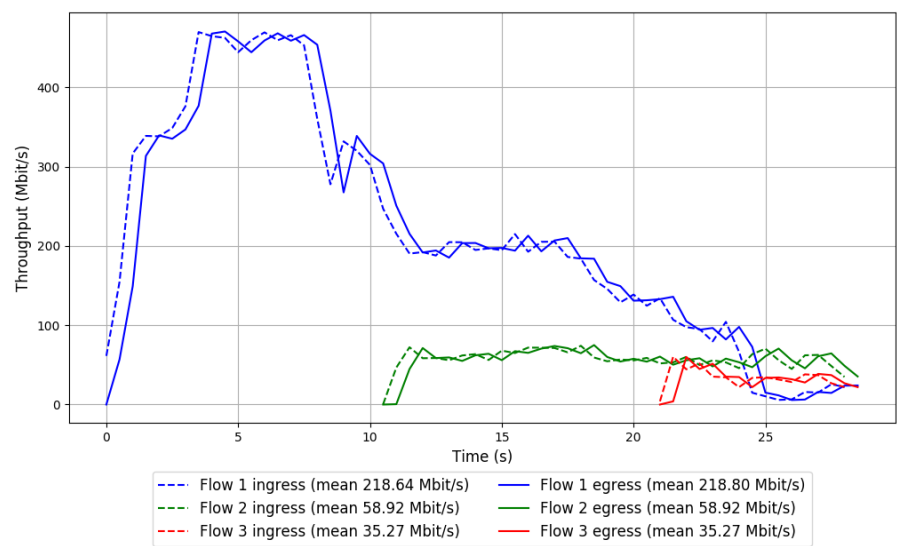
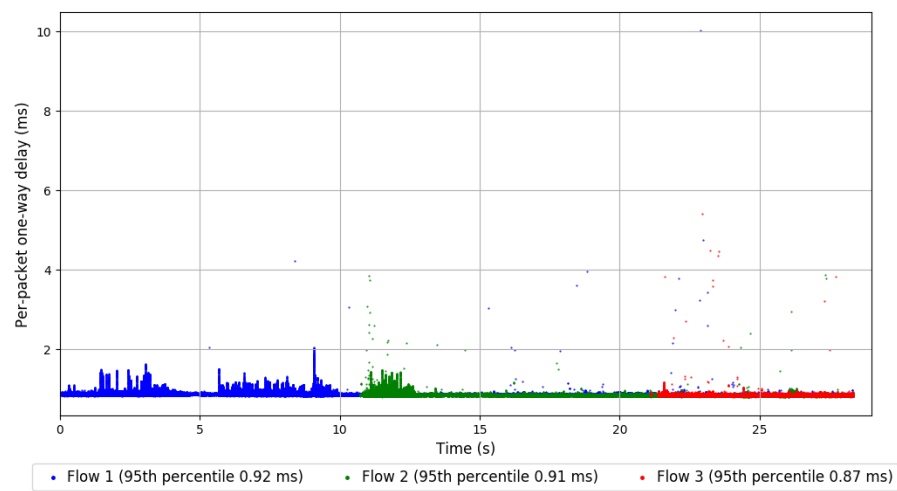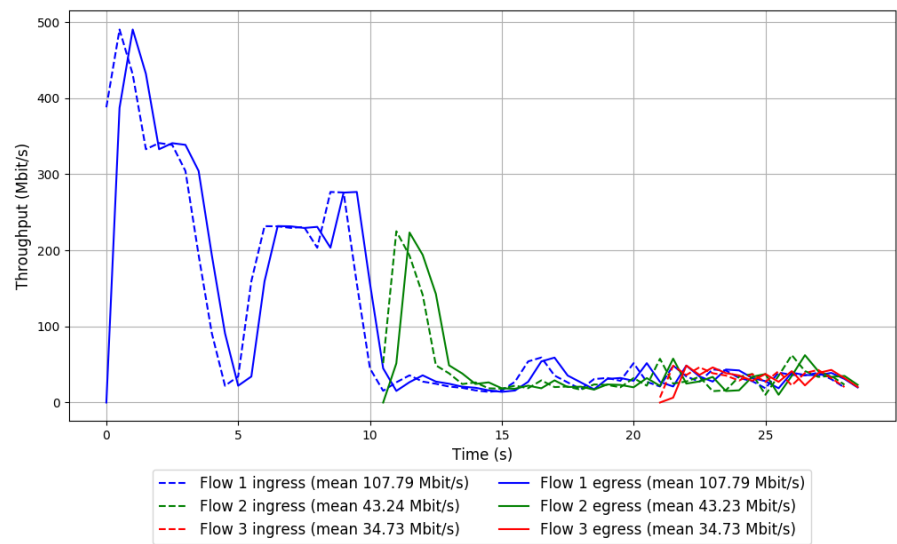Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 107.47 Mbit/s) — — — Flow 1 egress (mean 107.47 Mbit/s)
Flow 2 ingress (mean 62.30 Mbit/s) — — — Flow 2 egress (mean 62.30 Mbit/s)
Flow 3 ingress (mean 51.86 Mbit/s) — — — Flow 3 egress (mean 51.88 Mbit/s)

Flow 1 (95th percentile 0.97 ms)   Flow 2 (95th percentile 19.05 ms)   Flow 3 (95th percentile 18.77 ms)

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```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-11-24 17:28:49
End at: 2019-11-24 17:29:19
Local clock offset: 3.934 ms
Remote clock offset: 1.992 ms

# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.05 Mbit/s
95th percentile per-packet one-way delay: 20.288 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 218.80 Mbit/s
95th percentile per-packet one-way delay: 20.350 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.92 Mbit/s
95th percentile per-packet one-way delay: 19.132 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.00%
```
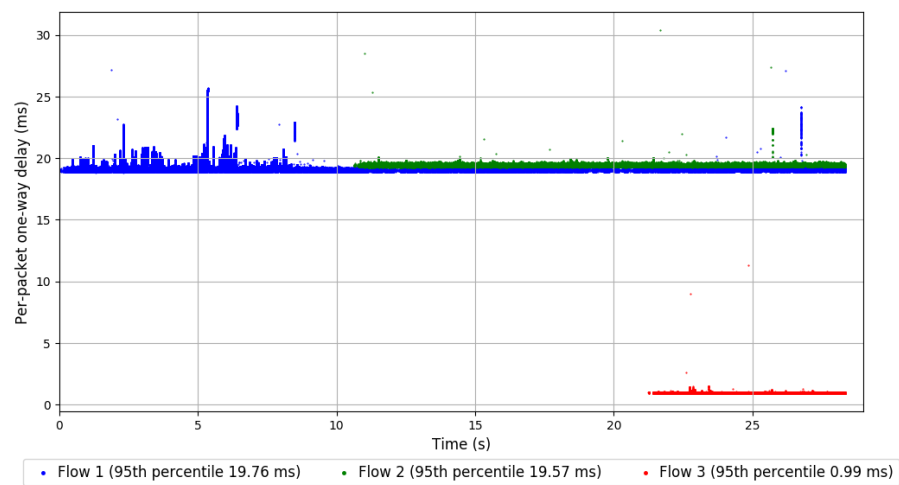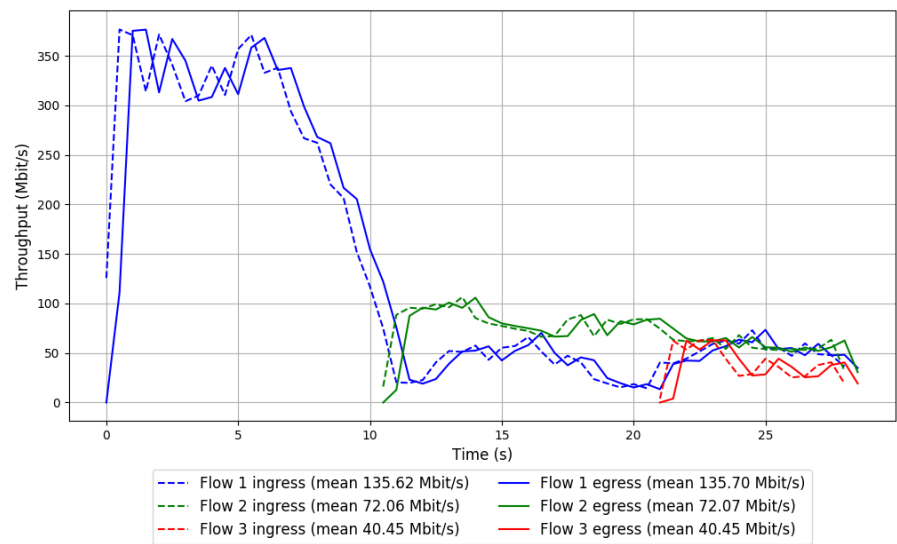
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 218.64 Mbit/s) --- Flow 1 egress (mean 218.80 Mbit/s)
Flow 2 ingress (mean 58.92 Mbit/s) --- Flow 2 egress (mean 58.92 Mbit/s)
Flow 3 ingress (mean 35.27 Mbit/s) --- Flow 3 egress (mean 35.27 Mbit/s)

• Flow 1 (95th percentile 20.35 ms)   • Flow 2 (95th percentile 19.13 ms)   • Flow 3 (95th percentile 1.06 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-11-24 18:03:31
End at: 2019-11-24 18:04:01
Local clock offset: 4.426 ms
Remote clock offset: -2.717 ms


# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 143.52 Mbit/s
95th percentile per-packet one-way delay: 0.919 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 107.79 Mbit/s
95th percentile per-packet one-way delay: 0.923 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.23 Mbit/s
95th percentile per-packet one-way delay: 0.910 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.73 Mbit/s
95th percentile per-packet one-way delay: 0.870 ms
Loss rate: 0.00%
```
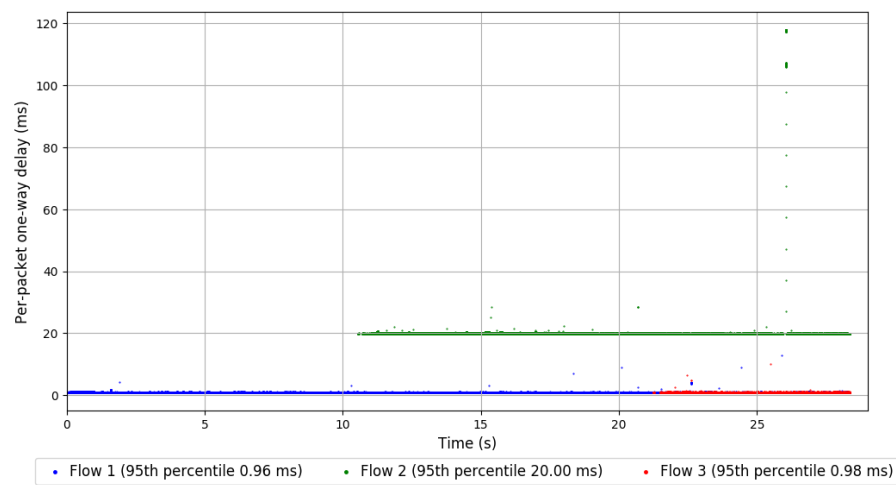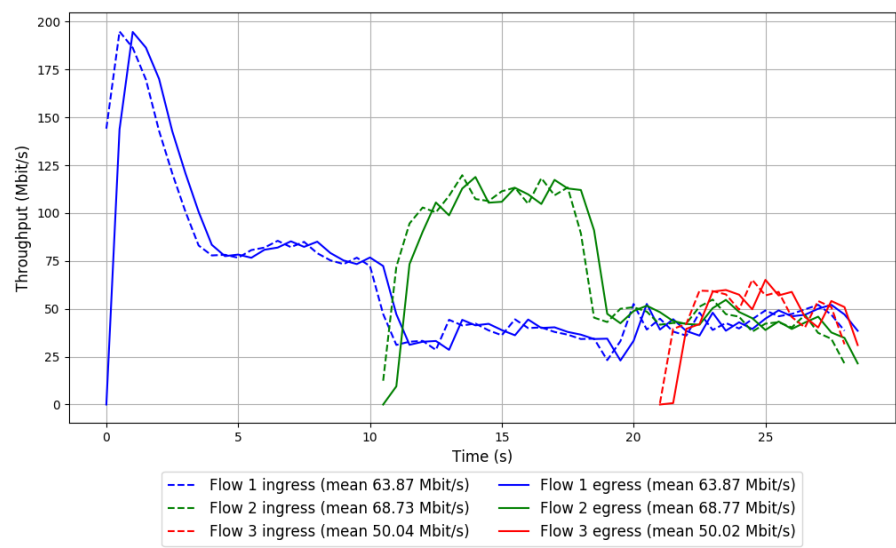
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-11-24 18:38:14
End at: 2019-11-24 18:38:44
Local clock offset: 4.282 ms
Remote clock offset: 1.039 ms


# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.85 Mbit/s
95th percentile per-packet one-way delay: 19.614 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 135.70 Mbit/s
95th percentile per-packet one-way delay: 19.756 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 72.07 Mbit/s
95th percentile per-packet one-way delay: 19.570 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.00%
```

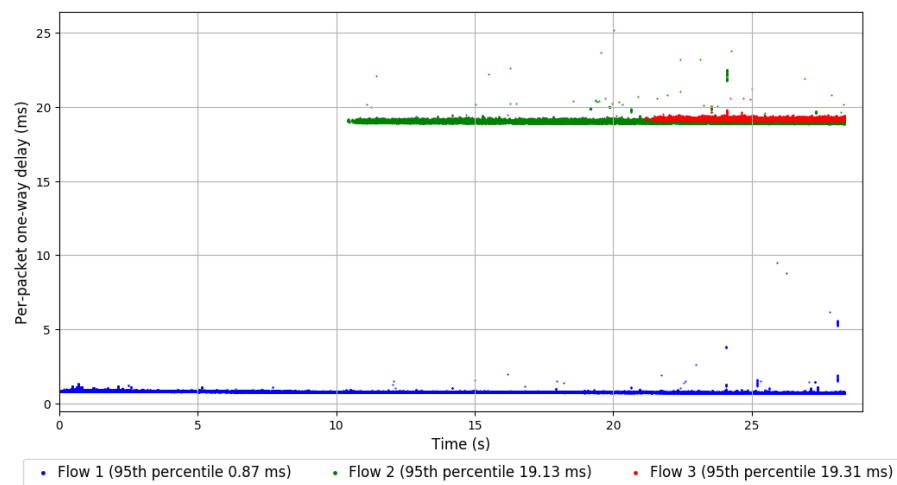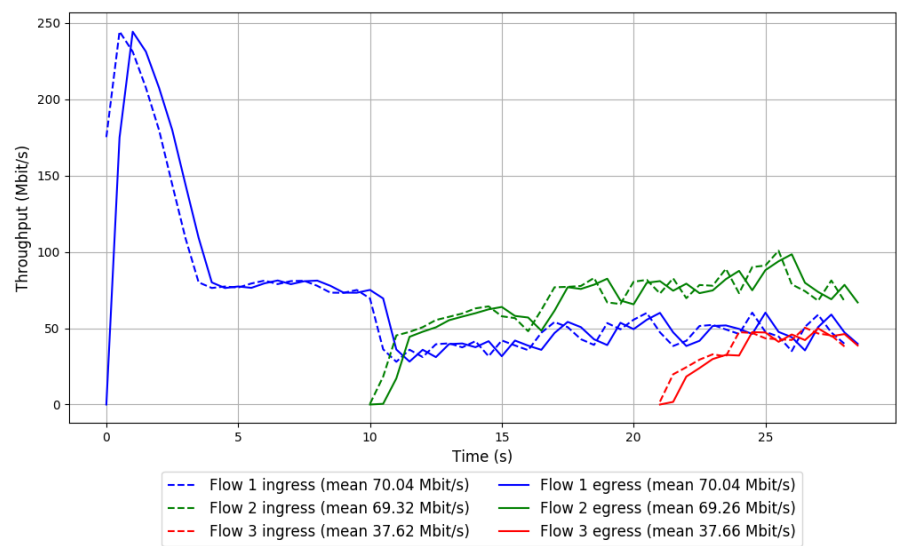Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 135.62 Mbit/s)   Flow 1 egress (mean 135.70 Mbit/s)
Flow 2 ingress (mean 72.06 Mbit/s)   Flow 2 egress (mean 72.07 Mbit/s)
Flow 3 ingress (mean 40.45 Mbit/s)   Flow 3 egress (mean 40.45 Mbit/s)

Flow 1 (95th percentile 19.76 ms)   Flow 2 (95th percentile 19.57 ms)   Flow 3 (95th percentile 0.99 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-11-24 15:59:20
End at: 2019-11-24 15:59:50
Local clock offset: 2.916 ms
Remote clock offset: 0.678 ms


# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.62 Mbit/s
95th percentile per-packet one-way delay: 19.946 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 63.87 Mbit/s
95th percentile per-packet one-way delay: 0.964 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.77 Mbit/s
95th percentile per-packet one-way delay: 20.004 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 0.06%
```
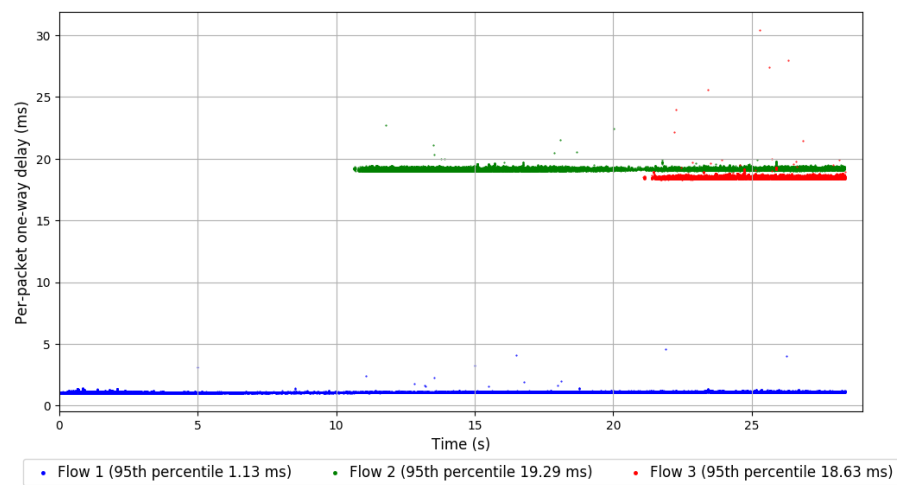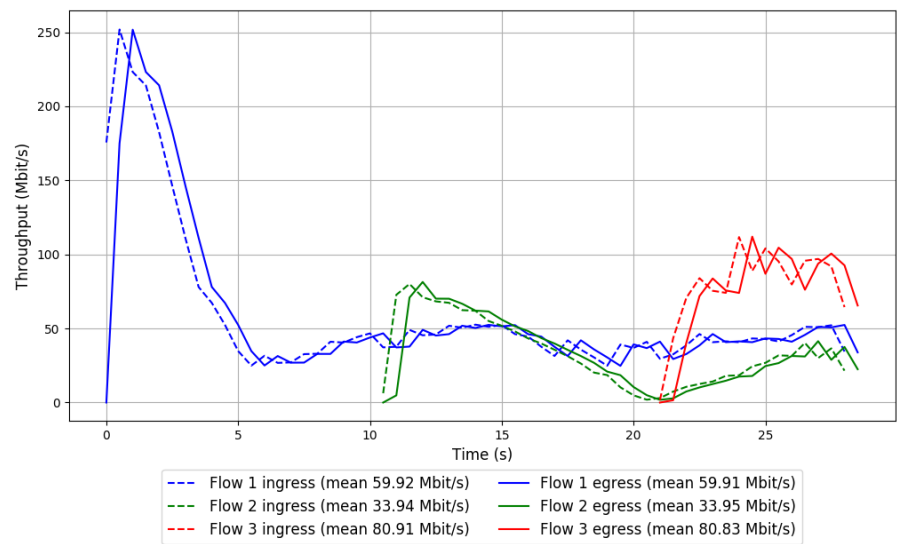
Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 63.87 Mbit/s) - - - - Flow 1 egress (mean 63.87 Mbit/s)
Flow 2 ingress (mean 68.73 Mbit/s) - - - - Flow 2 egress (mean 68.77 Mbit/s)
Flow 3 ingress (mean 50.04 Mbit/s) - - - - Flow 3 egress (mean 50.02 Mbit/s)

Flow 1 (95th percentile 0.96 ms)   Flow 2 (95th percentile 20.00 ms)   Flow 3 (95th percentile 0.98 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-11-24 16:34:06
End at: 2019-11-24 16:34:36
Local clock offset: 2.724 ms
Remote clock offset: -1.024 ms


# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.42 Mbit/s
95th percentile per-packet one-way delay: 19.172 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 70.04 Mbit/s
95th percentile per-packet one-way delay: 0.870 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.26 Mbit/s
95th percentile per-packet one-way delay: 19.133 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 37.66 Mbit/s
95th percentile per-packet one-way delay: 19.307 ms
Loss rate: 0.22%
```
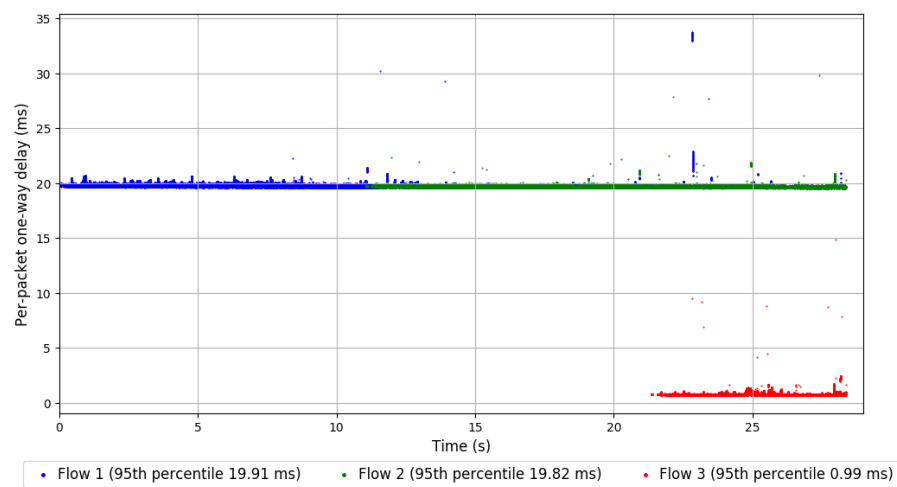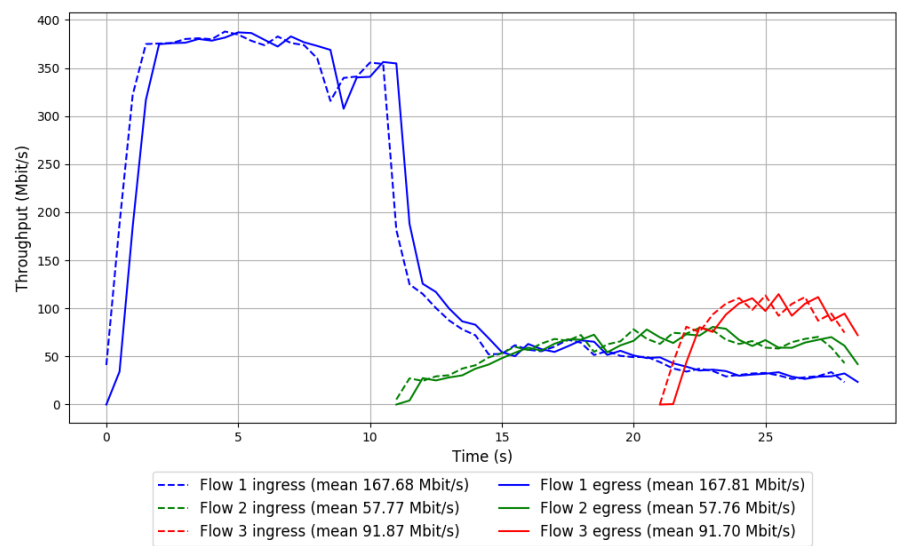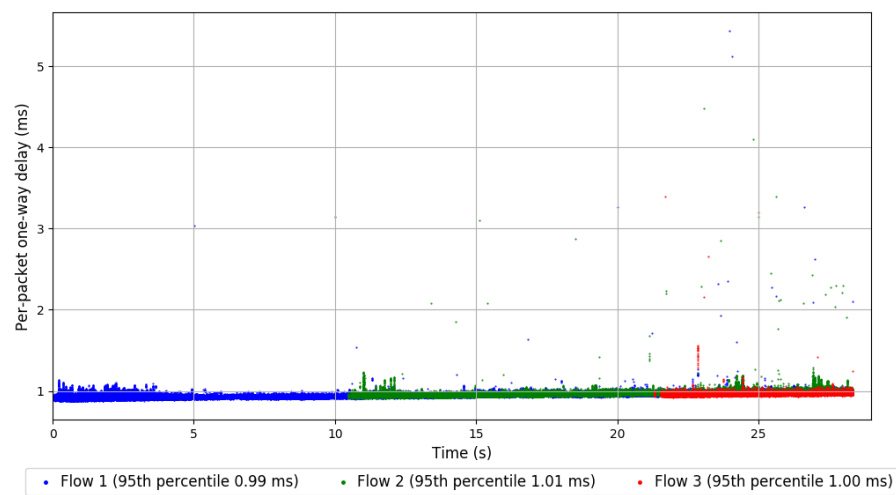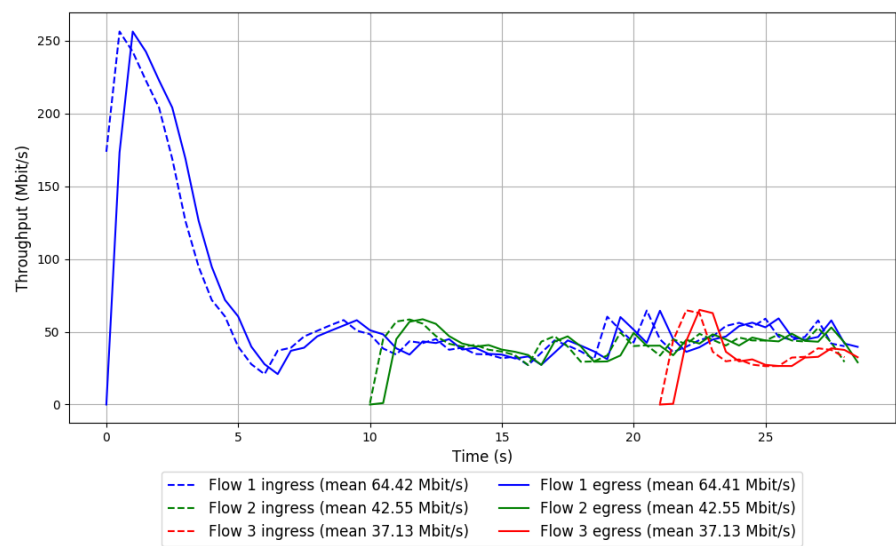
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-11-24 17:08:23
End at: 2019-11-24 17:08:53
Local clock offset: 3.634 ms
Remote clock offset: -0.71 ms


# Below is generated by plot.py at 2019-11-24 19:25:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.86 Mbit/s
95th percentile per-packet one-way delay: 19.201 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 59.91 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 33.95 Mbit/s
95th percentile per-packet one-way delay: 19.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.83 Mbit/s
95th percentile per-packet one-way delay: 18.626 ms
Loss rate: 0.13%
```

Run 3: Report of Indigo-MusesD — Data Link

Legend:
- Flow 1 ingress (mean 59.92 Mbit/s)
- Flow 1 egress (mean 59.91 Mbit/s)
- Flow 2 ingress (mean 33.94 Mbit/s)
- Flow 2 egress (mean 33.95 Mbit/s)
- Flow 3 ingress (mean 80.91 Mbit/s)
- Flow 3 egress (mean 80.83 Mbit/s)

Legend:
- Flow 1 (95th percentile 1.13 ms)
- Flow 2 (95th percentile 19.29 ms)
- Flow 3 (95th percentile 18.63 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-11-24 17:43:09
End at: 2019-11-24 17:43:39
Local clock offset: 4.061 ms
Remote clock offset: -0.9 ms


# Below is generated by plot.py at 2019-11-24 19:26:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.67 Mbit/s
95th percentile per-packet one-way delay: 19.891 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 167.81 Mbit/s
95th percentile per-packet one-way delay: 19.911 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 19.819 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 91.70 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.20%
```
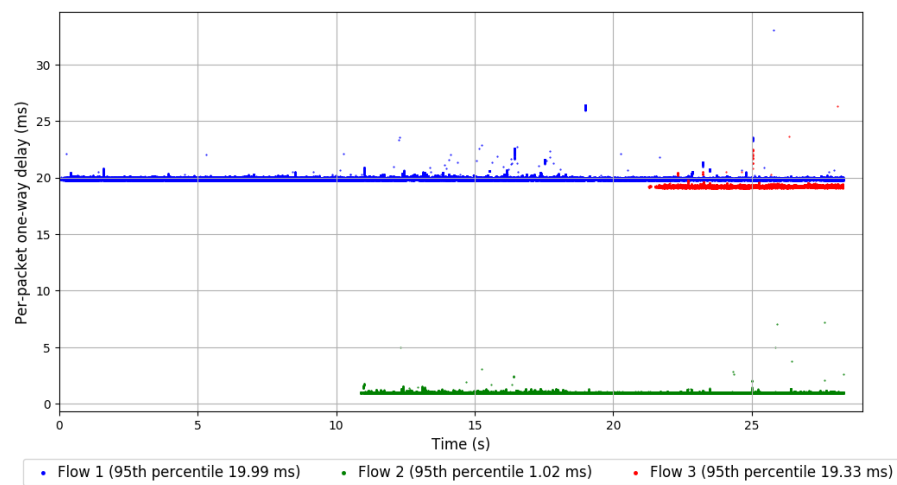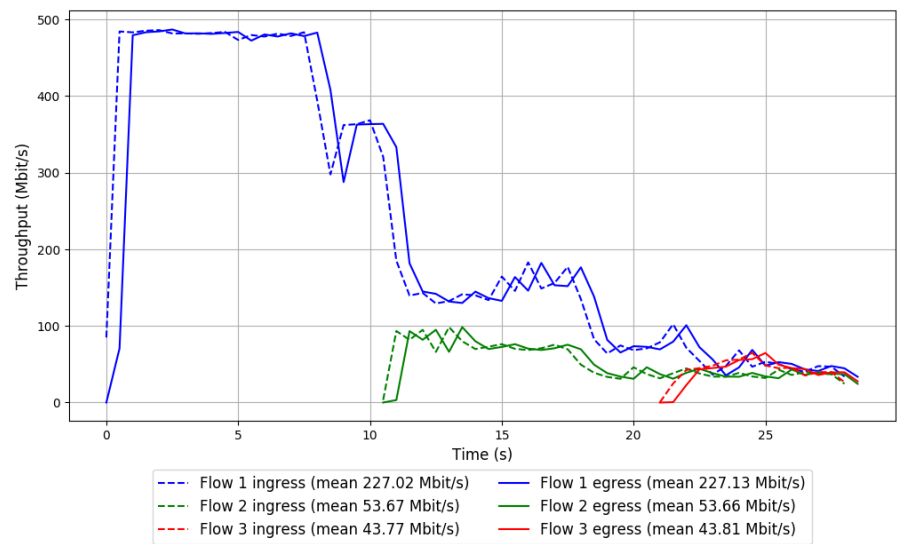
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-11-24 18:18:02
End at: 2019-11-24 18:18:32
Local clock offset: 4.266 ms
Remote clock offset: -0.616 ms


# Below is generated by plot.py at 2019-11-24 19:26:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.47 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 64.41 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.55 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.00%
```
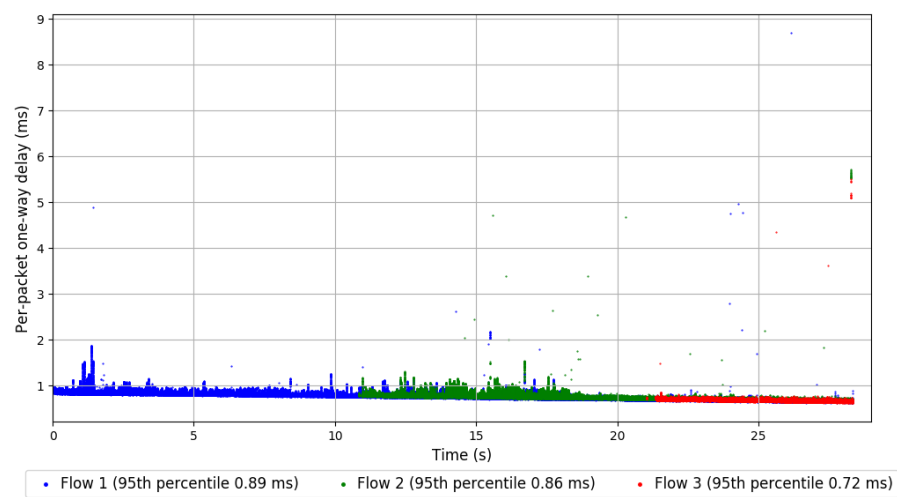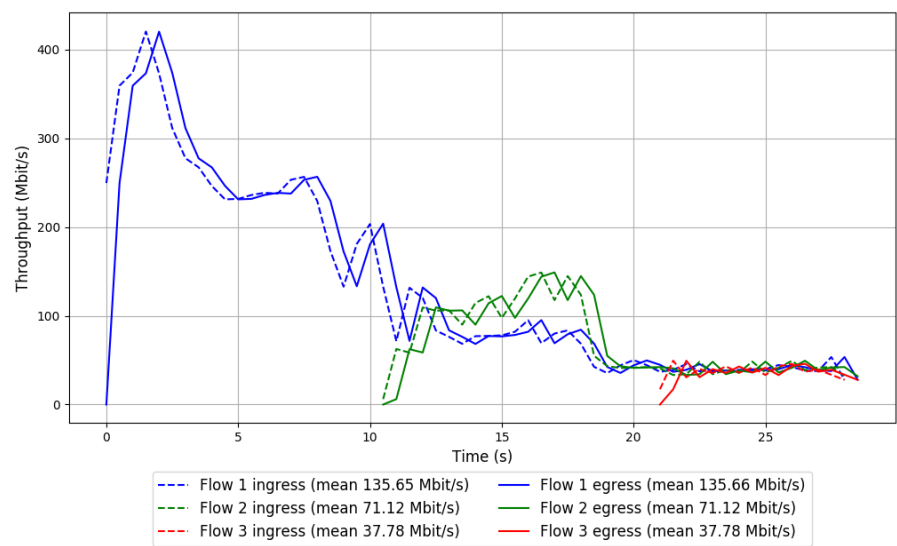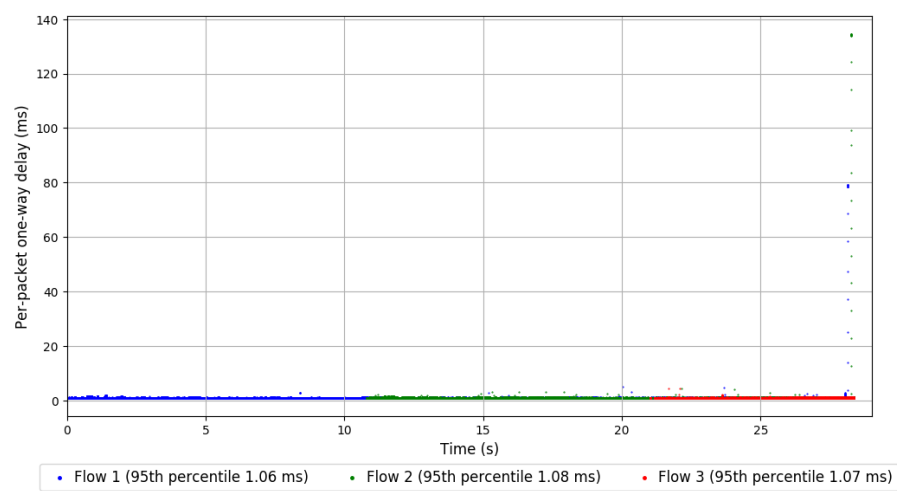
Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 64.42 Mbit/s) --- Flow 1 egress (mean 64.41 Mbit/s)
Flow 2 ingress (mean 42.55 Mbit/s) --- Flow 2 egress (mean 42.55 Mbit/s)
Flow 3 ingress (mean 37.13 Mbit/s) --- Flow 3 egress (mean 37.13 Mbit/s)

Flow 1 (95th percentile 0.99 ms)   Flow 2 (95th percentile 1.01 ms)   Flow 3 (95th percentile 1.00 ms)

94

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-11-24 15:53:25
End at: 2019-11-24 15:53:55
Local clock offset: 2.962 ms
Remote clock offset: 0.627 ms


# Below is generated by plot.py at 2019-11-24 19:28:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.02 Mbit/s
95th percentile per-packet one-way delay: 19.978 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 227.13 Mbit/s
95th percentile per-packet one-way delay: 19.986 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 53.66 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.81 Mbit/s
95th percentile per-packet one-way delay: 19.332 ms
Loss rate: 0.14%
```

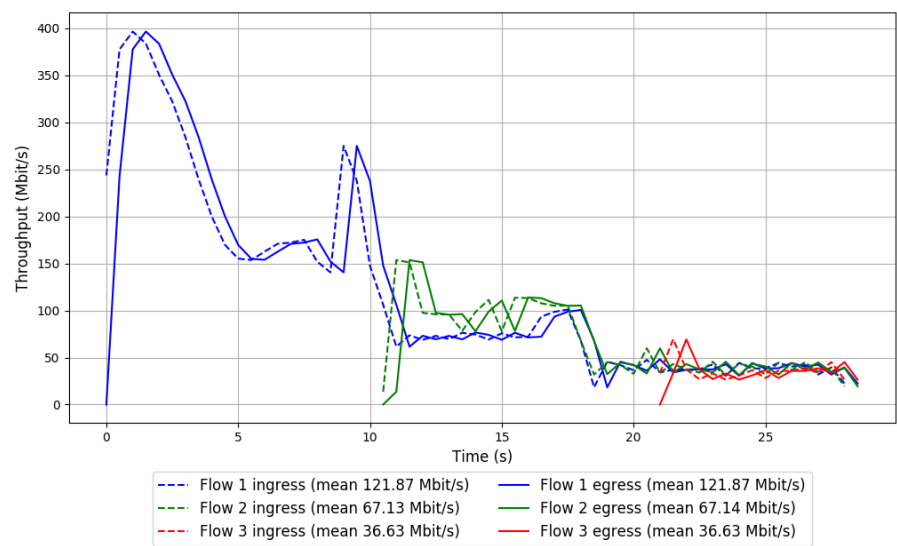# Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-11-24 16:28:20
End at: 2019-11-24 16:28:50
Local clock offset: 2.753 ms
Remote clock offset: 0.811 ms


# Below is generated by plot.py at 2019-11-24 19:28:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.31 Mbit/s
95th percentile per-packet one-way delay: 0.880 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 135.66 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 71.12 Mbit/s
95th percentile per-packet one-way delay: 0.856 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 37.78 Mbit/s
95th percentile per-packet one-way delay: 0.725 ms
Loss rate: 0.00%
```
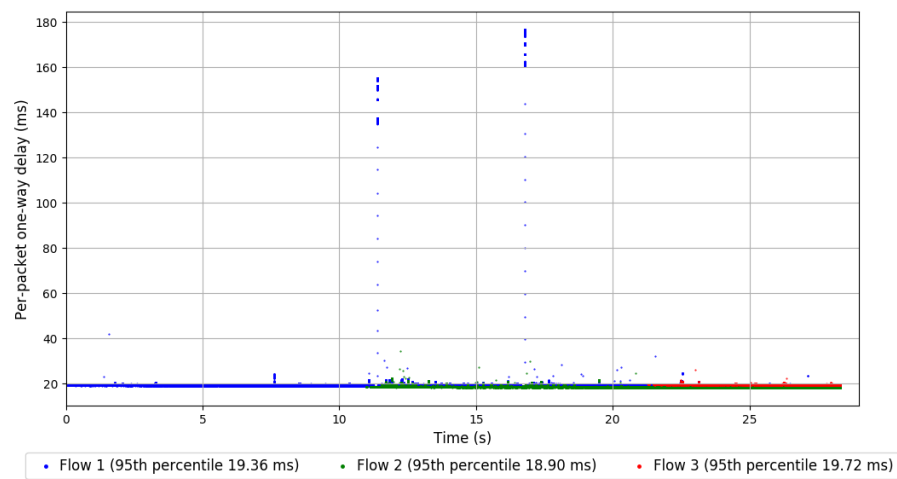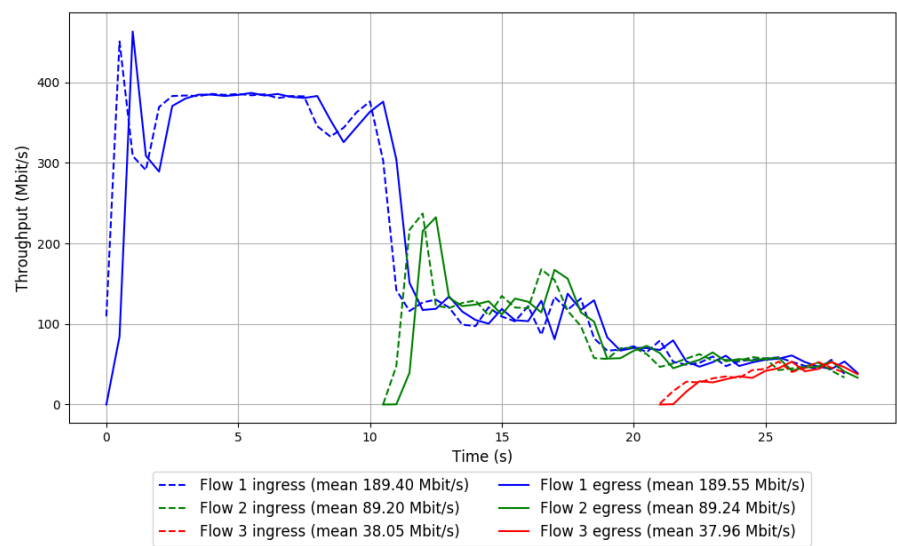
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-11-24 17:02:32
End at: 2019-11-24 17:03:02
Local clock offset: 3.564 ms
Remote clock offset: -2.199 ms


# Below is generated by plot.py at 2019-11-24 19:28:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.90 Mbit/s
95th percentile per-packet one-way delay: 1.066 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 121.87 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.14 Mbit/s
95th percentile per-packet one-way delay: 1.083 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.00%
```
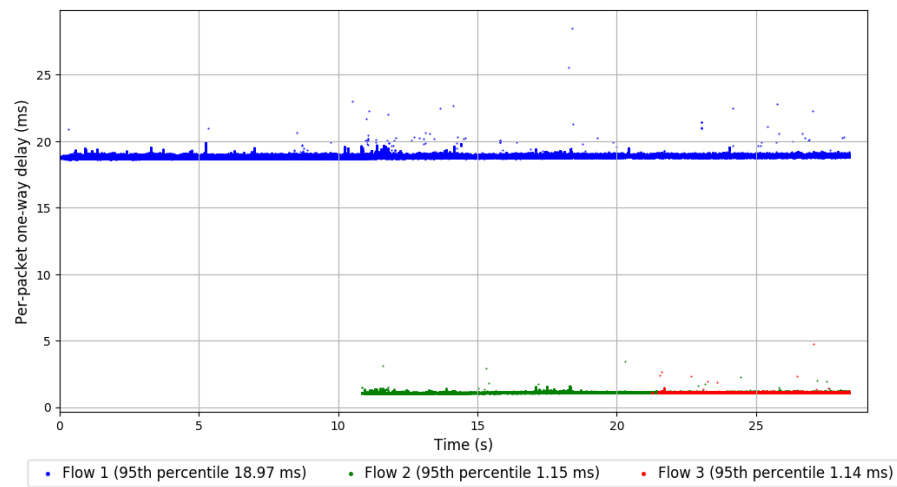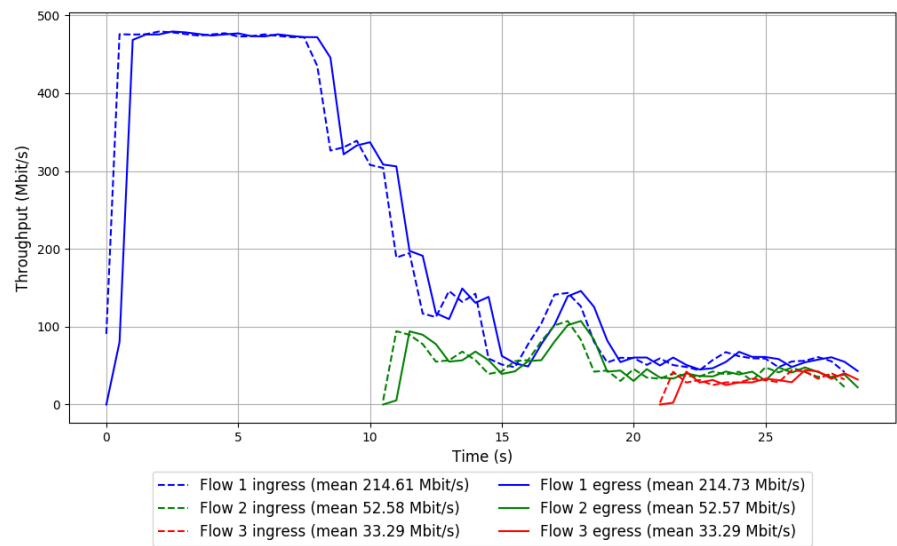
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 121.87 Mbit/s) --- Flow 1 egress (mean 121.87 Mbit/s)
Flow 2 ingress (mean 67.13 Mbit/s) --- Flow 2 egress (mean 67.14 Mbit/s)
Flow 3 ingress (mean 36.63 Mbit/s) --- Flow 3 egress (mean 36.63 Mbit/s)

Flow 1 (95th percentile 1.06 ms)   Flow 2 (95th percentile 1.08 ms)   Flow 3 (95th percentile 1.07 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-11-24 17:37:20
End at: 2019-11-24 17:37:50
Local clock offset: 3.97 ms
Remote clock offset: 1.035 ms


# Below is generated by plot.py at 2019-11-24 19:28:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.65 Mbit/s
95th percentile per-packet one-way delay: 19.510 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 189.55 Mbit/s
95th percentile per-packet one-way delay: 19.365 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 89.24 Mbit/s
95th percentile per-packet one-way delay: 18.903 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 19.719 ms
Loss rate: 0.68%
```

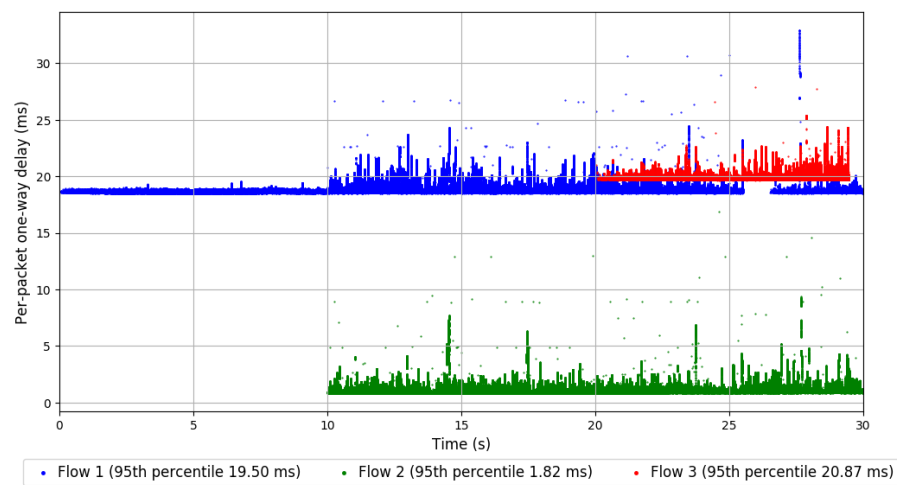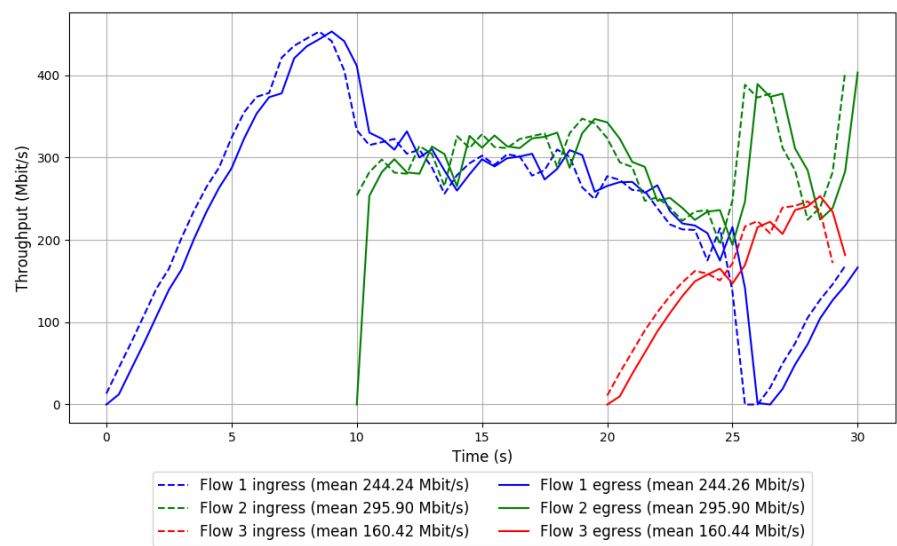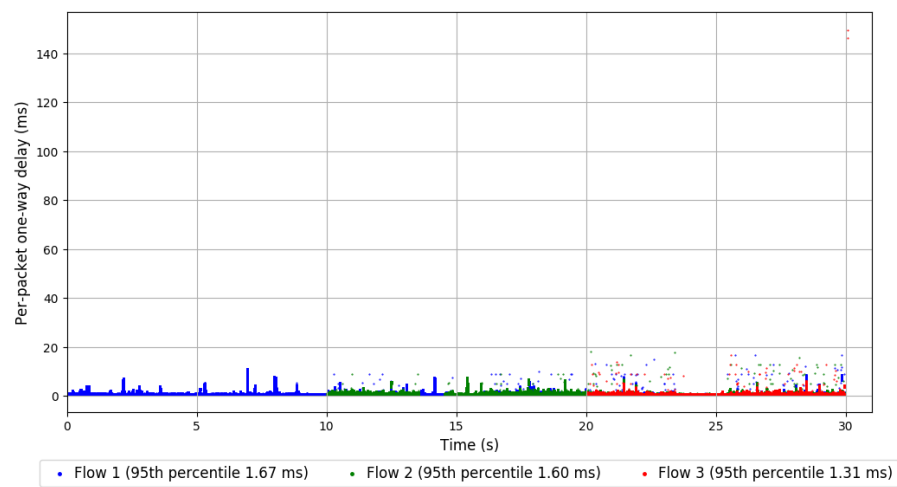# Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 189.40 Mbit/s) --- Flow 1 egress (mean 189.55 Mbit/s)
Flow 2 ingress (mean 89.20 Mbit/s) --- Flow 2 egress (mean 89.24 Mbit/s)
Flow 3 ingress (mean 38.05 Mbit/s) --- Flow 3 egress (mean 37.96 Mbit/s)

Flow 1 (95th percentile 19.36 ms)   Flow 2 (95th percentile 18.90 ms)   Flow 3 (95th percentile 19.72 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-11-24 18:12:06
End at: 2019-11-24 18:12:36
Local clock offset: 4.411 ms
Remote clock offset: -1.87 ms


# Below is generated by plot.py at 2019-11-24 19:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.56 Mbit/s
95th percentile per-packet one-way delay: 18.963 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 214.73 Mbit/s
95th percentile per-packet one-way delay: 18.974 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 52.57 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 33.29 Mbit/s
95th percentile per-packet one-way delay: 1.142 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesT — Data Link
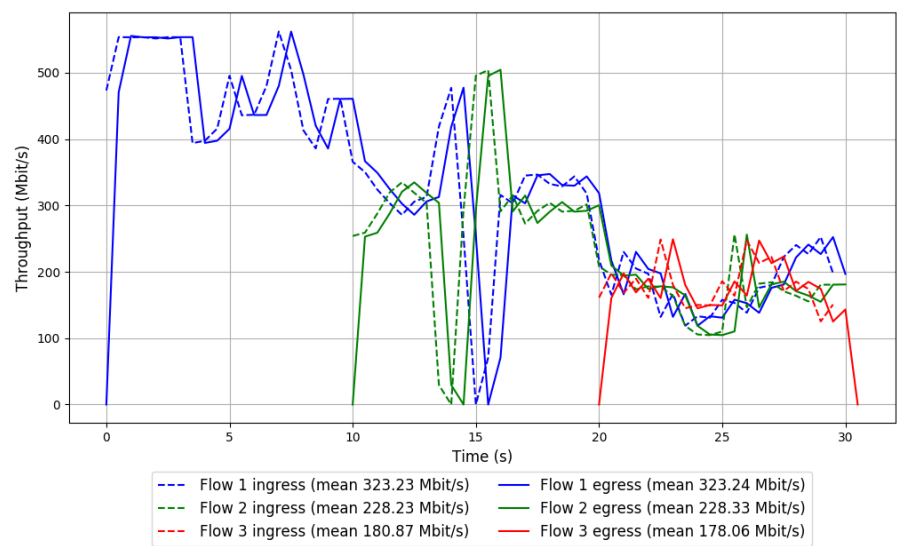

- - - Flow 1 ingress (mean 214.61 Mbit/s) —— Flow 1 egress (mean 214.73 Mbit/s)
- - - Flow 2 ingress (mean 52.58 Mbit/s) —— Flow 2 egress (mean 52.57 Mbit/s)
- - - Flow 3 ingress (mean 33.29 Mbit/s) —— Flow 3 egress (mean 33.29 Mbit/s)

• Flow 1 (95th percentile 18.97 ms)   • Flow 2 (95th percentile 1.15 ms)   • Flow 3 (95th percentile 1.14 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-11-24 16:04:45
End at: 2019-11-24 16:05:15
Local clock offset: 2.83 ms
Remote clock offset: 0.876 ms


# Below is generated by plot.py at 2019-11-24 19:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.89 Mbit/s
95th percentile per-packet one-way delay: 19.905 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 244.26 Mbit/s
95th percentile per-packet one-way delay: 19.496 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 295.90 Mbit/s
95th percentile per-packet one-way delay: 1.820 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 160.44 Mbit/s
95th percentile per-packet one-way delay: 20.873 ms
Loss rate: 0.00%
```
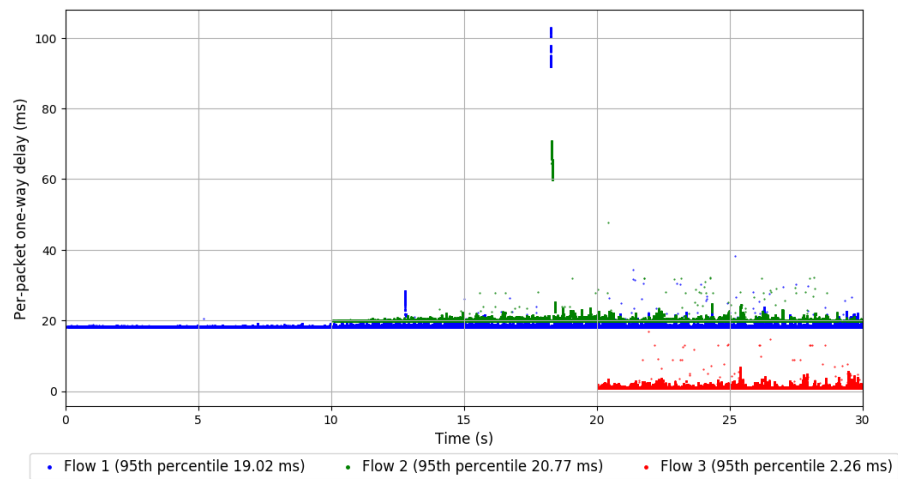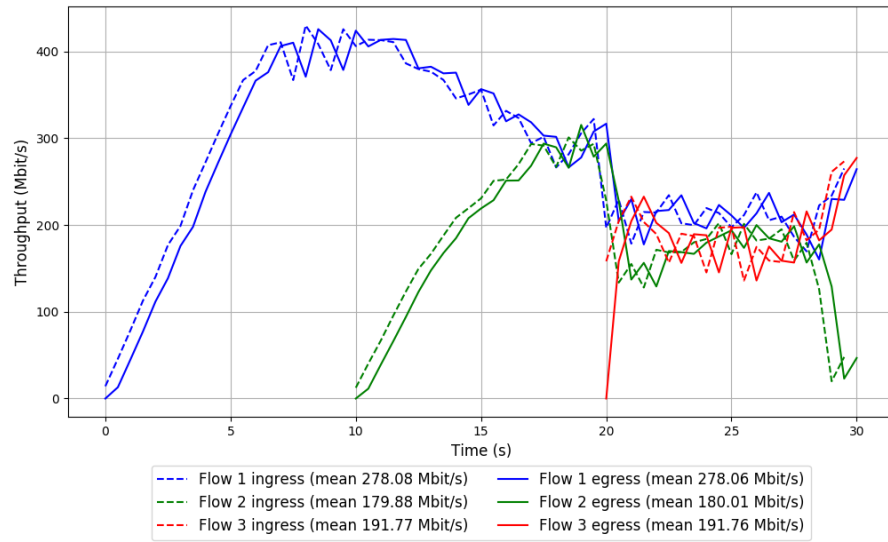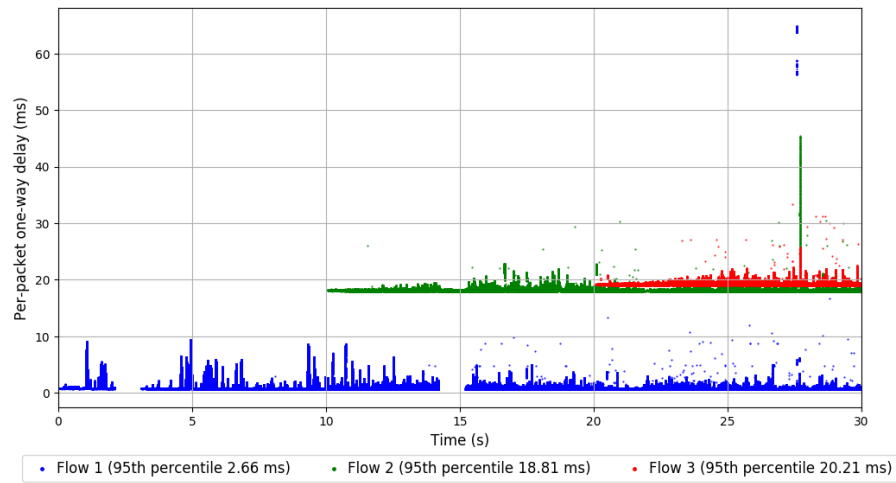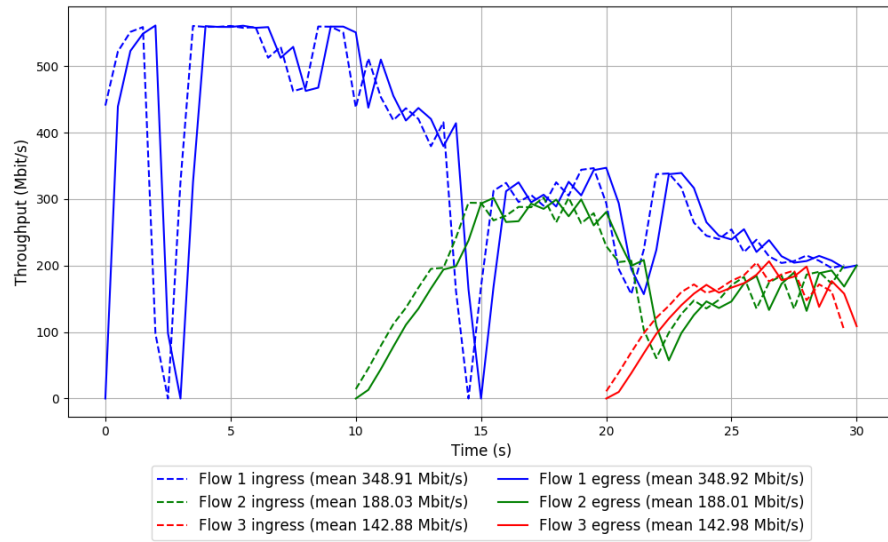
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-11-24 16:39:29
End at: 2019-11-24 16:39:59
Local clock offset: 2.708 ms
Remote clock offset: -2.035 ms


# Below is generated by plot.py at 2019-11-24 19:32:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.01 Mbit/s
95th percentile per-packet one-way delay: 1.594 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 323.24 Mbit/s
95th percentile per-packet one-way delay: 1.670 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 228.33 Mbit/s
95th percentile per-packet one-way delay: 1.599 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 178.06 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 0.21%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-11-24 17:13:48
End at: 2019-11-24 17:14:18
Local clock offset: 3.698 ms
Remote clock offset: 0.4 ms


# Below is generated by plot.py at 2019-11-24 19:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.53 Mbit/s
95th percentile per-packet one-way delay: 20.192 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 278.06 Mbit/s
95th percentile per-packet one-way delay: 19.019 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 180.01 Mbit/s
95th percentile per-packet one-way delay: 20.773 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 191.76 Mbit/s
95th percentile per-packet one-way delay: 2.257 ms
Loss rate: 0.00%
```
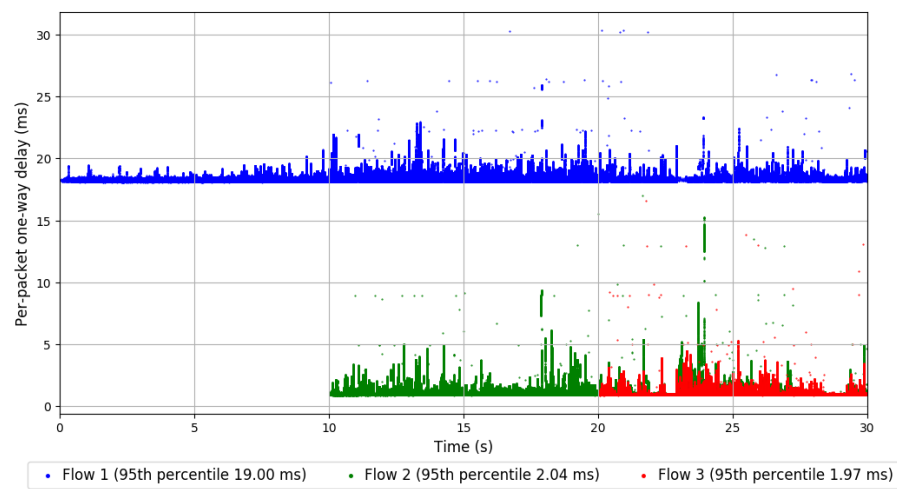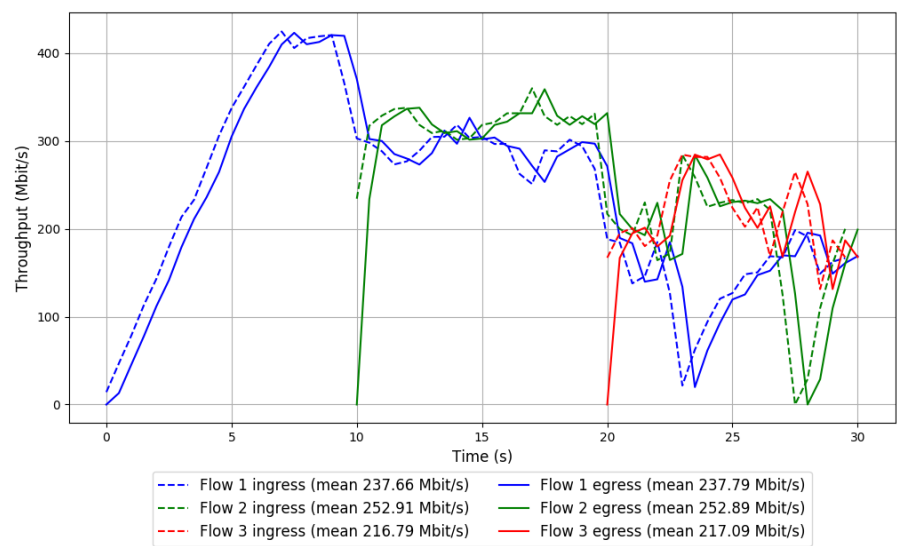
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-11-24 17:48:32
End at: 2019-11-24 17:49:02
Local clock offset: 4.18 ms
Remote clock offset: -1.717 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.28 Mbit/s
95th percentile per-packet one-way delay: 19.247 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 348.92 Mbit/s
95th percentile per-packet one-way delay: 2.658 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 188.01 Mbit/s
95th percentile per-packet one-way delay: 18.812 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 142.98 Mbit/s
95th percentile per-packet one-way delay: 20.214 ms
Loss rate: 0.13%
```
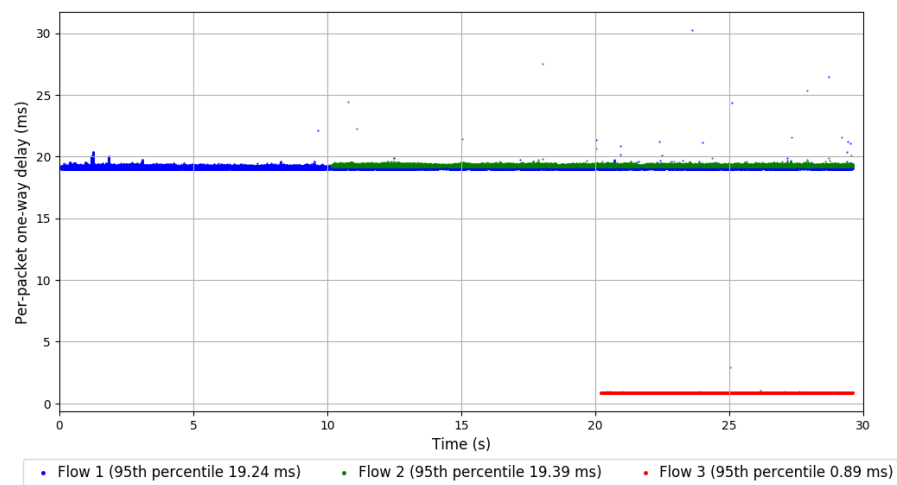
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-11-24 18:23:25
End at: 2019-11-24 18:23:55
Local clock offset: 4.257 ms
Remote clock offset: 0.083 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 478.18 Mbit/s
95th percentile per-packet one-way delay: 18.668 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 237.79 Mbit/s
95th percentile per-packet one-way delay: 19.004 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 252.89 Mbit/s
95th percentile per-packet one-way delay: 2.040 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 217.09 Mbit/s
95th percentile per-packet one-way delay: 1.972 ms
Loss rate: 0.00%
```
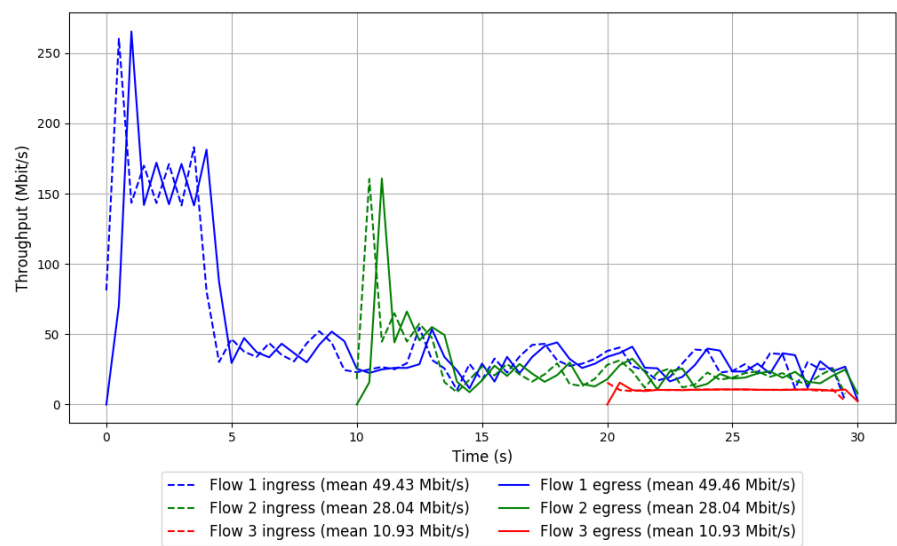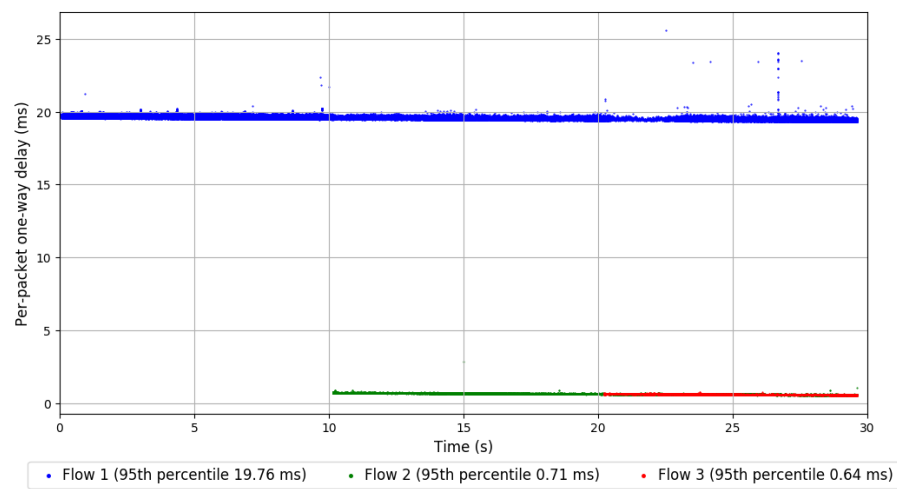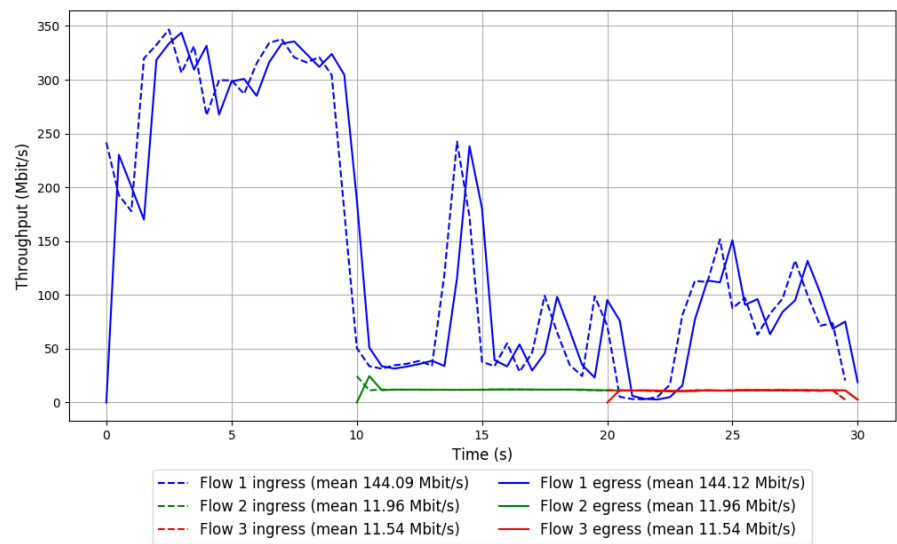
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 237.66 Mbit/s)   Flow 1 egress (mean 237.79 Mbit/s)
Flow 2 ingress (mean 252.91 Mbit/s)   Flow 2 egress (mean 252.89 Mbit/s)
Flow 3 ingress (mean 216.79 Mbit/s)   Flow 3 egress (mean 217.09 Mbit/s)

Flow 1 (95th percentile 19.00 ms)   Flow 2 (95th percentile 2.04 ms)   Flow 3 (95th percentile 1.97 ms)

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 15:52:08
End at: 2019-11-24 15:52:38
Local clock offset: 2.961 ms
Remote clock offset: 0.751 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.40 Mbit/s
95th percentile per-packet one-way delay: 19.324 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 19.237 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 28.04 Mbit/s
95th percentile per-packet one-way delay: 19.388 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 0.887 ms
Loss rate: 0.02%
```

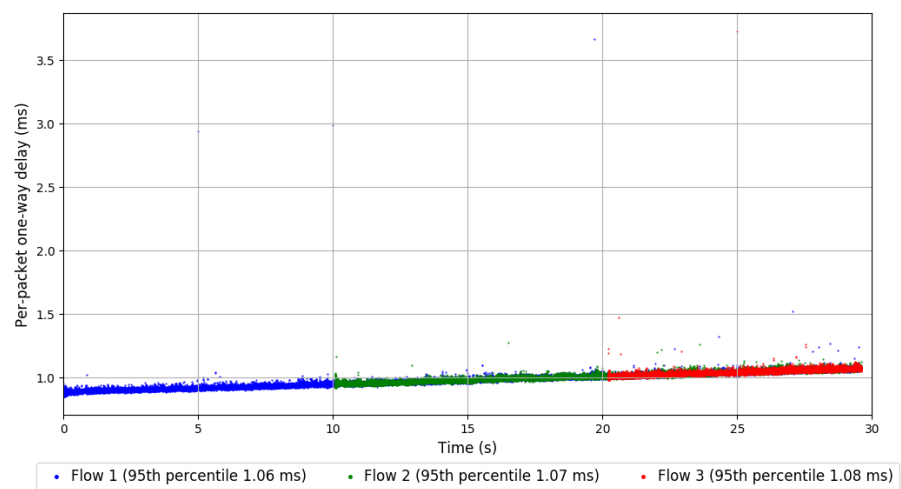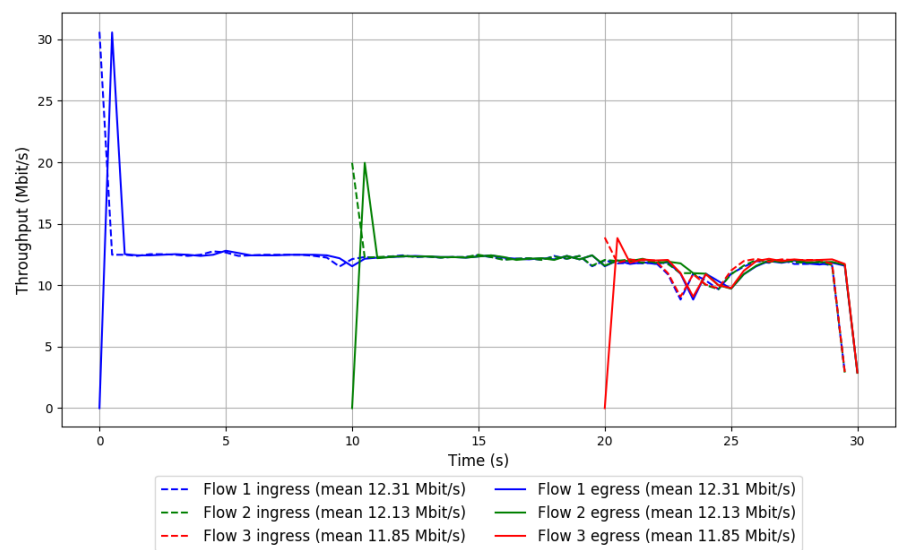Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 16:27:01
End at: 2019-11-24 16:27:31
Local clock offset: 2.768 ms
Remote clock offset: 1.539 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 155.64 Mbit/s
95th percentile per-packet one-way delay: 19.757 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 144.12 Mbit/s
95th percentile per-packet one-way delay: 19.761 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 0.711 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.54 Mbit/s
95th percentile per-packet one-way delay: 0.639 ms
Loss rate: 0.02%
```
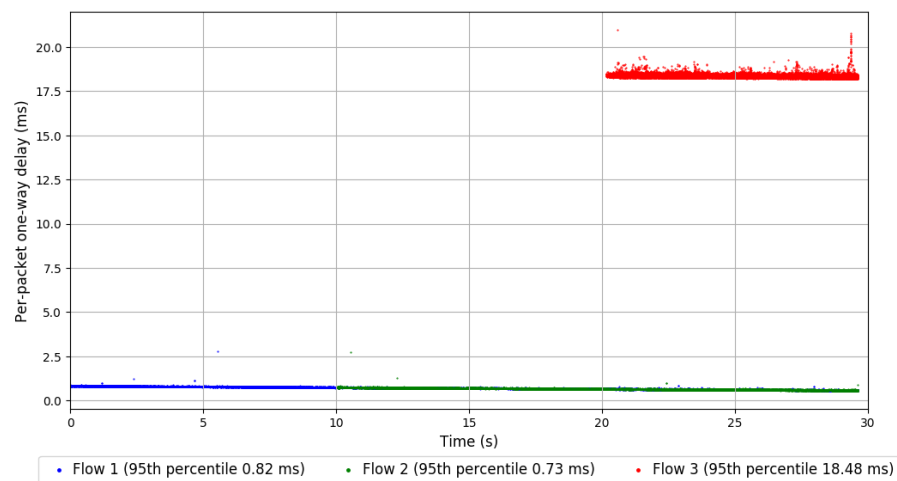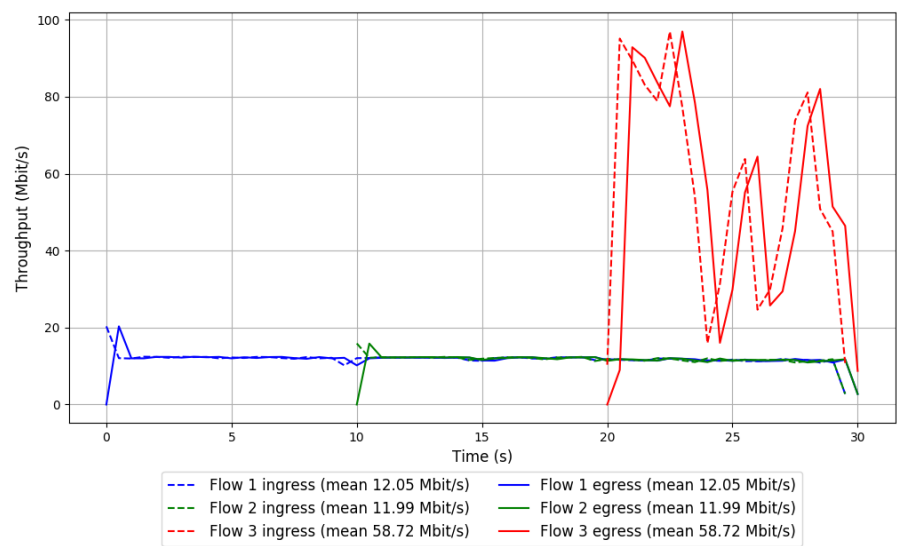
Run 2: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 144.09 Mbit/s) --- Flow 1 egress (mean 144.12 Mbit/s)
Flow 2 ingress (mean 11.96 Mbit/s) --- Flow 2 egress (mean 11.96 Mbit/s)
Flow 3 ingress (mean 11.54 Mbit/s) --- Flow 3 egress (mean 11.54 Mbit/s)

Flow 1 (95th percentile 19.76 ms)   Flow 2 (95th percentile 0.71 ms)   Flow 3 (95th percentile 0.64 ms)

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 17:01:17
End at: 2019-11-24 17:01:47
Local clock offset: 3.522 ms
Remote clock offset: -2.689 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.02%
```

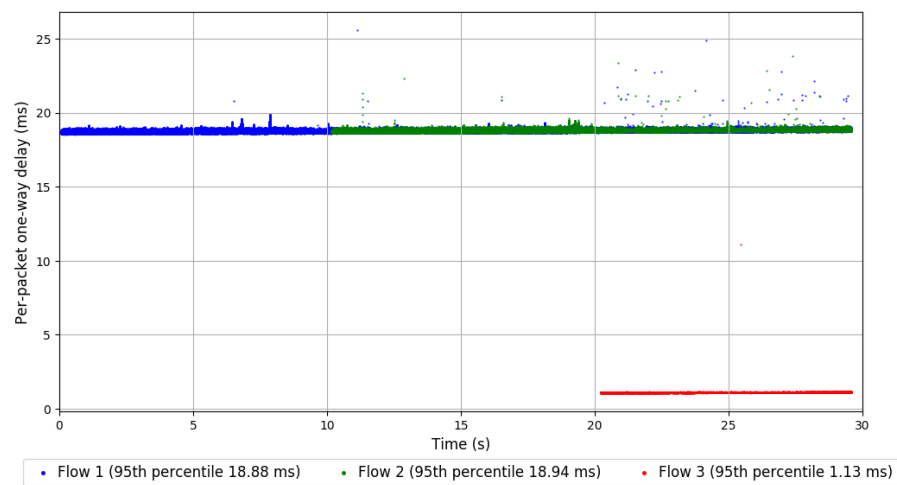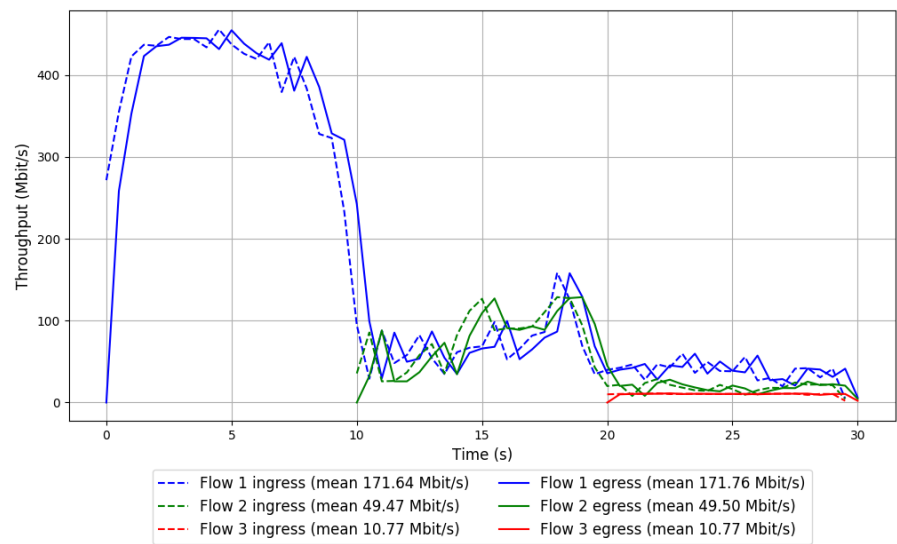Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 17:36:04
End at: 2019-11-24 17:36:34
Local clock offset: 3.982 ms
Remote clock offset: 1.713 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 18.446 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 0.817 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 0.733 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 58.72 Mbit/s
95th percentile per-packet one-way delay: 18.485 ms
Loss rate: 0.20%
```
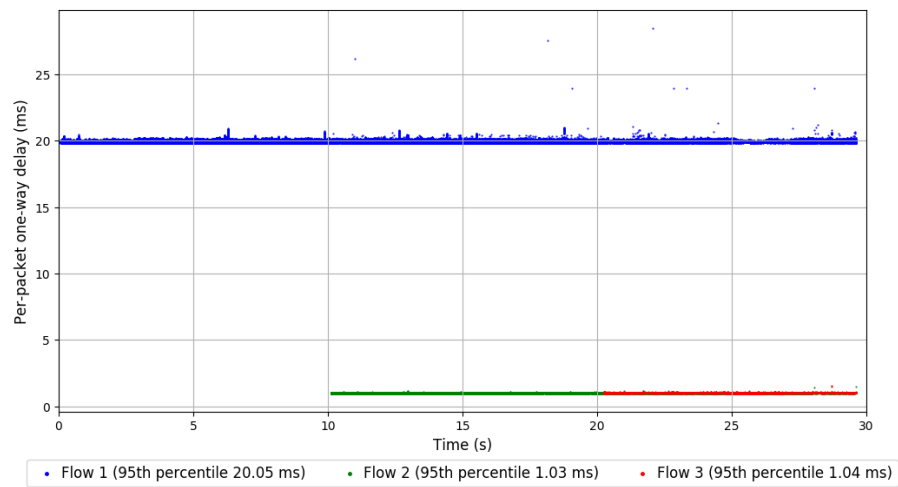
Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-11-24 18:10:45
End at: 2019-11-24 18:11:15
Local clock offset: 4.46 ms
Remote clock offset: -2.217 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 207.73 Mbit/s
95th percentile per-packet one-way delay: 18.892 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 171.76 Mbit/s
95th percentile per-packet one-way delay: 18.878 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 49.50 Mbit/s
95th percentile per-packet one-way delay: 18.938 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 10.77 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.02%
```
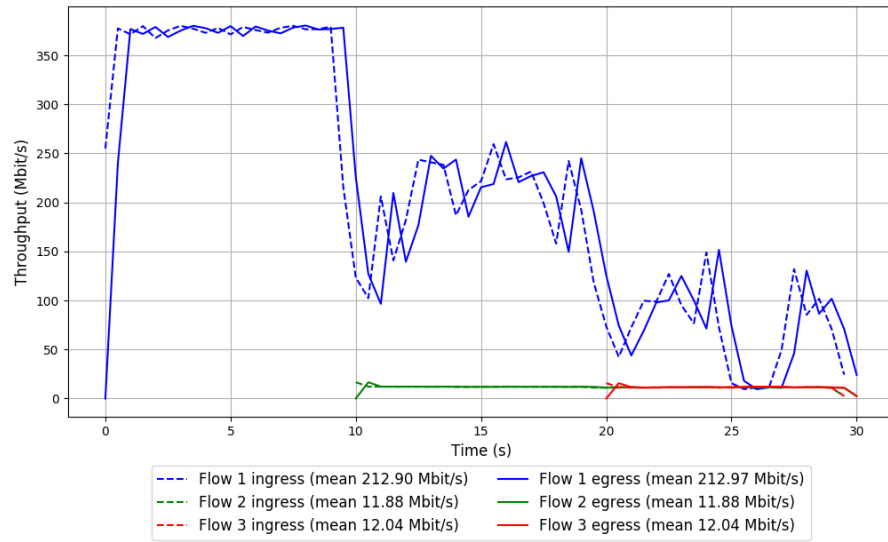
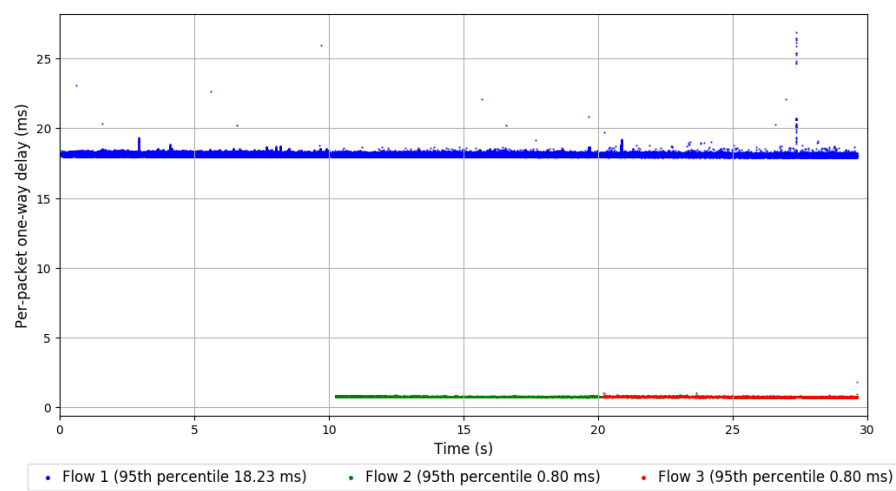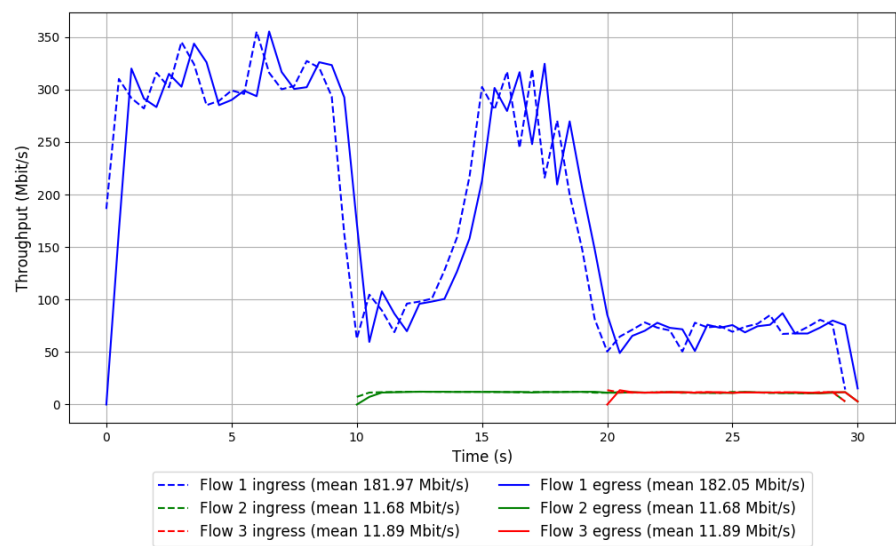Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 16:01:57
End at: 2019-11-24 16:02:27
Local clock offset: 2.879 ms
Remote clock offset: 0.67 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 224.60 Mbit/s
95th percentile per-packet one-way delay: 20.049 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 212.97 Mbit/s
95th percentile per-packet one-way delay: 20.051 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 1.033 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.02%
```

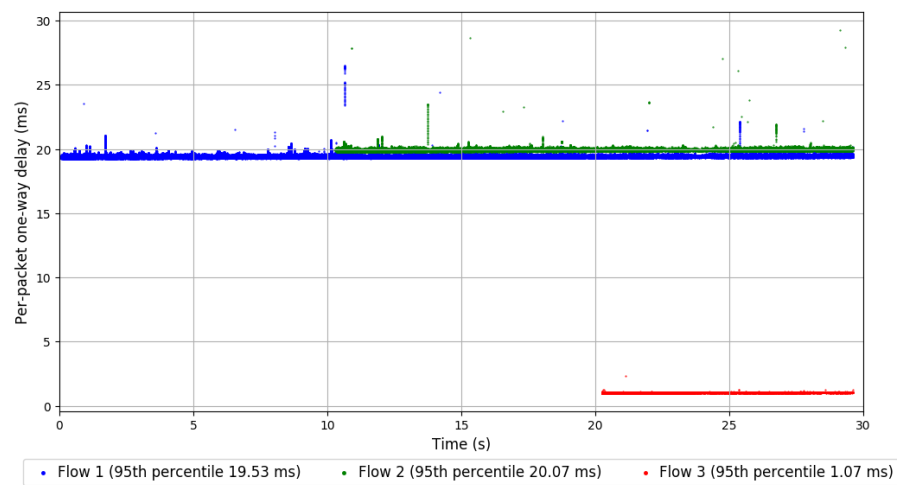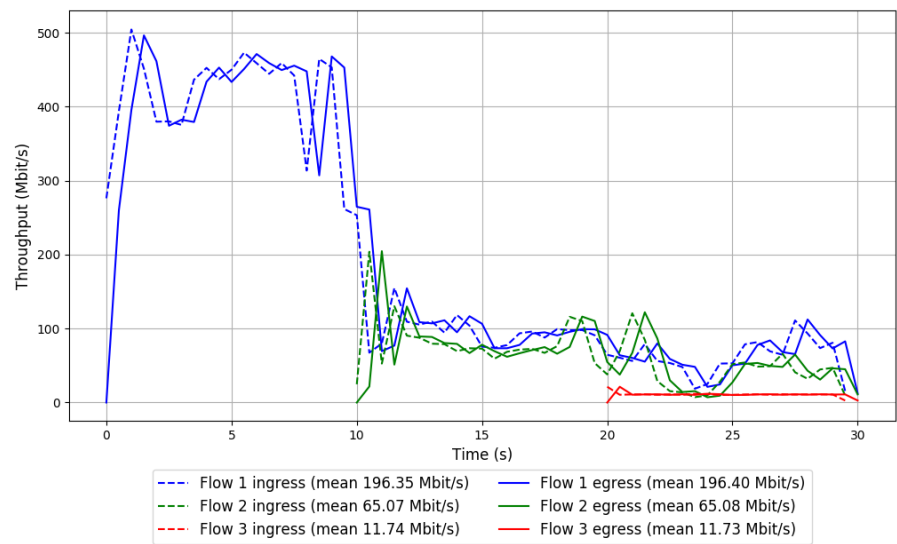Run 1: Report of Muses_DecisionTreeH0 — Data Link

- - - Flow 1 ingress (mean 212.90 Mbit/s)   —— Flow 1 egress (mean 212.97 Mbit/s)
- - - Flow 2 ingress (mean 11.88 Mbit/s)   —— Flow 2 egress (mean 11.88 Mbit/s)
- - - Flow 3 ingress (mean 12.04 Mbit/s)   —— Flow 3 egress (mean 12.04 Mbit/s)

- Flow 1 (95th percentile 20.05 ms)   - Flow 2 (95th percentile 1.03 ms)   - Flow 3 (95th percentile 1.04 ms)

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 16:36:42
End at: 2019-11-24 16:37:12
Local clock offset: 2.702 ms
Remote clock offset: -1.526 ms


# Below is generated by plot.py at 2019-11-24 19:33:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 193.46 Mbit/s
95th percentile per-packet one-way delay: 18.230 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 182.05 Mbit/s
95th percentile per-packet one-way delay: 18.233 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 0.799 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 0.796 ms
Loss rate: 0.01%
```
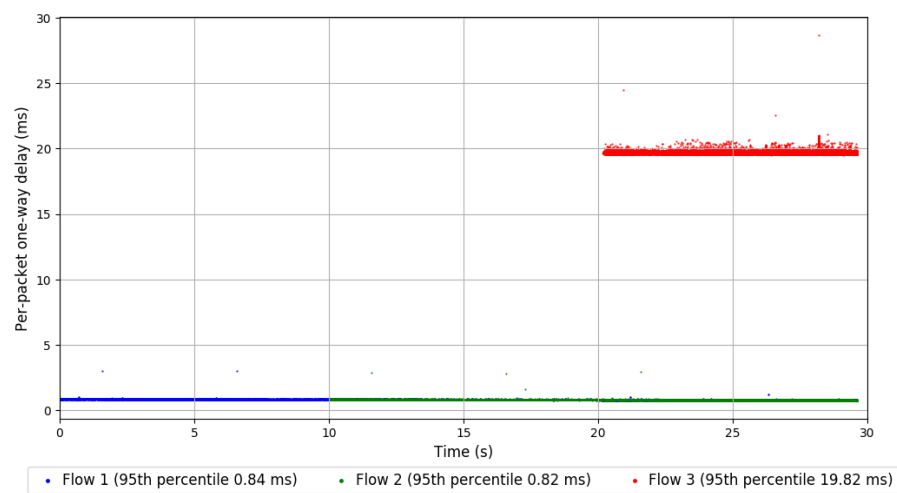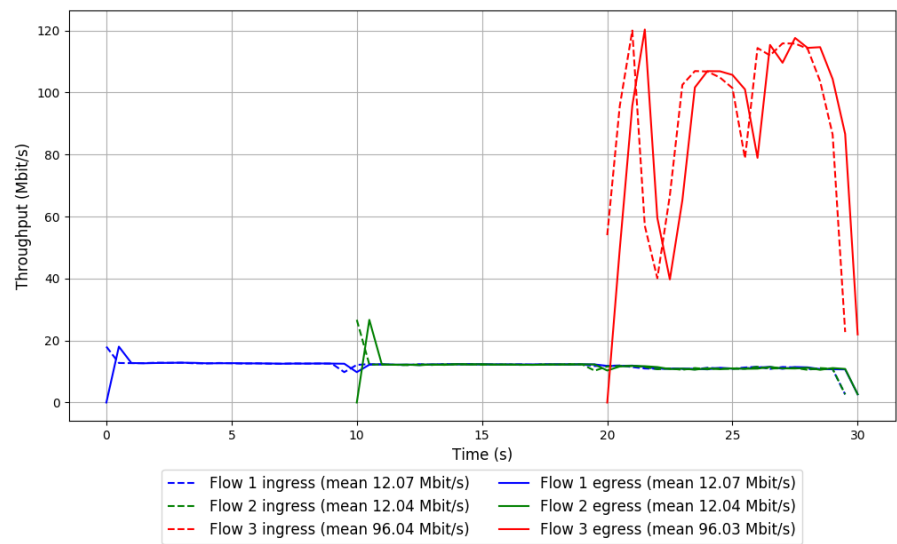
Run 2: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 181.97 Mbit/s)   Flow 1 egress (mean 182.05 Mbit/s)
Flow 2 ingress (mean 11.68 Mbit/s)   Flow 2 egress (mean 11.68 Mbit/s)
Flow 3 ingress (mean 11.89 Mbit/s)   Flow 3 egress (mean 11.89 Mbit/s)

Flow 1 (95th percentile 18.23 ms)   Flow 2 (95th percentile 0.80 ms)   Flow 3 (95th percentile 0.80 ms)
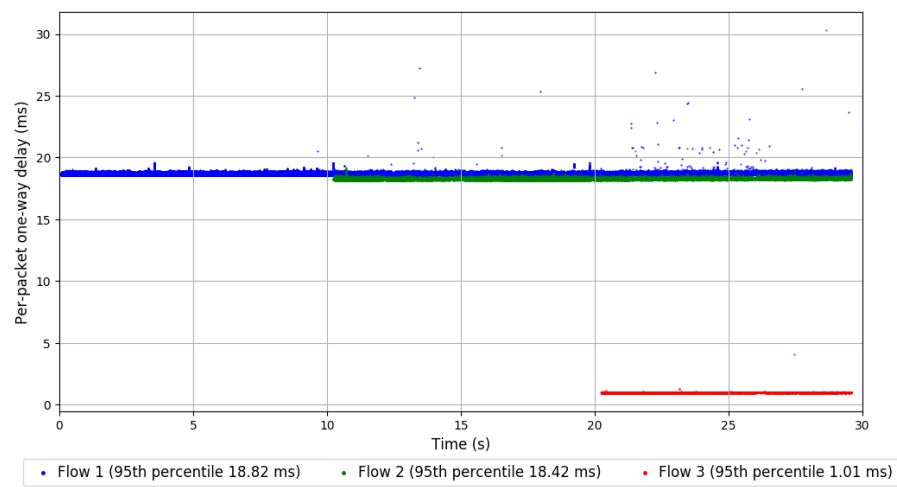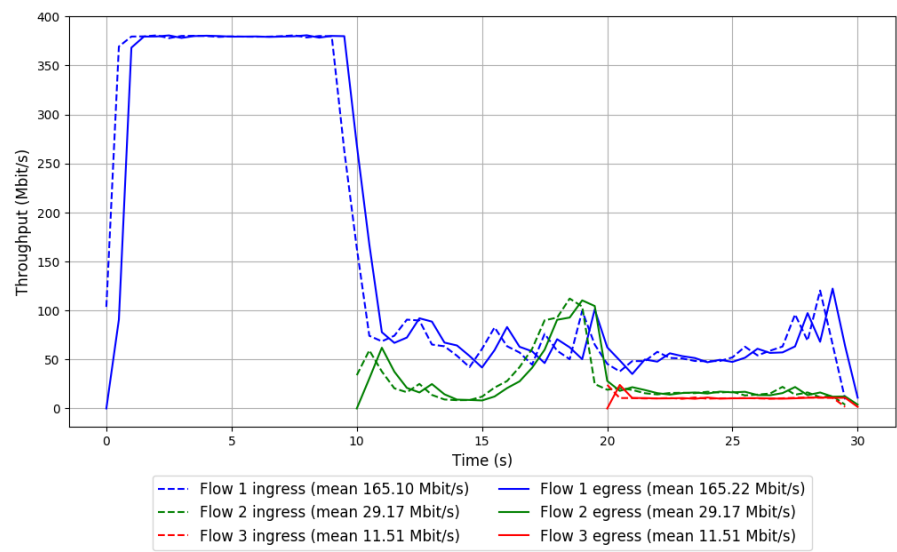
```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 17:11:00
End at: 2019-11-24 17:11:30
Local clock offset: 3.644 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-11-24 19:34:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.65 Mbit/s
95th percentile per-packet one-way delay: 19.968 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 196.40 Mbit/s
95th percentile per-packet one-way delay: 19.533 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 65.08 Mbit/s
95th percentile per-packet one-way delay: 20.066 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 11.73 Mbit/s
95th percentile per-packet one-way delay: 1.066 ms
Loss rate: 0.01%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 196.35 Mbit/s) Flow 1 egress (mean 196.40 Mbit/s)
Flow 2 ingress (mean 65.07 Mbit/s) Flow 2 egress (mean 65.08 Mbit/s)
Flow 3 ingress (mean 11.74 Mbit/s) Flow 3 egress (mean 11.73 Mbit/s)

Flow 1 (95th percentile 19.53 ms) Flow 2 (95th percentile 20.07 ms) Flow 3 (95th percentile 1.07 ms)

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 17:45:50
End at: 2019-11-24 17:46:20
Local clock offset: 4.123 ms
Remote clock offset: -1.382 ms


# Below is generated by plot.py at 2019-11-24 19:34:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.67 Mbit/s
95th percentile per-packet one-way delay: 19.791 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 0.845 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 0.825 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 96.03 Mbit/s
95th percentile per-packet one-way delay: 19.817 ms
Loss rate: 0.22%
```

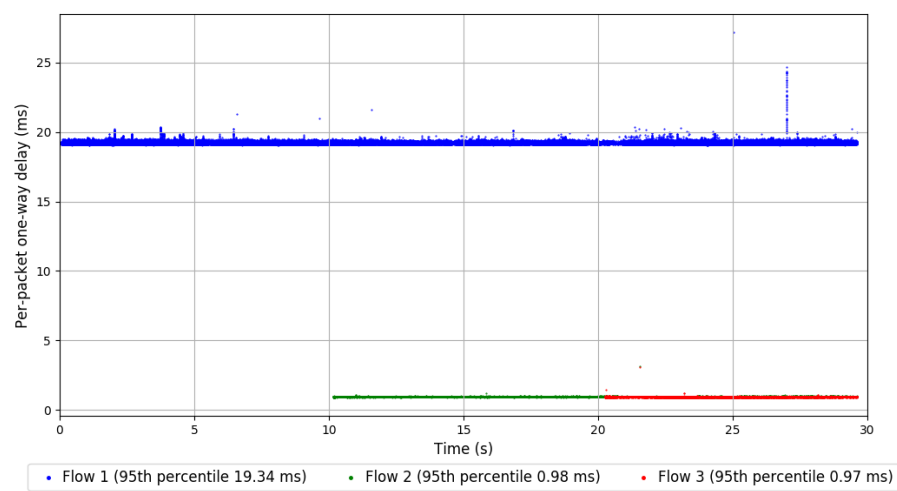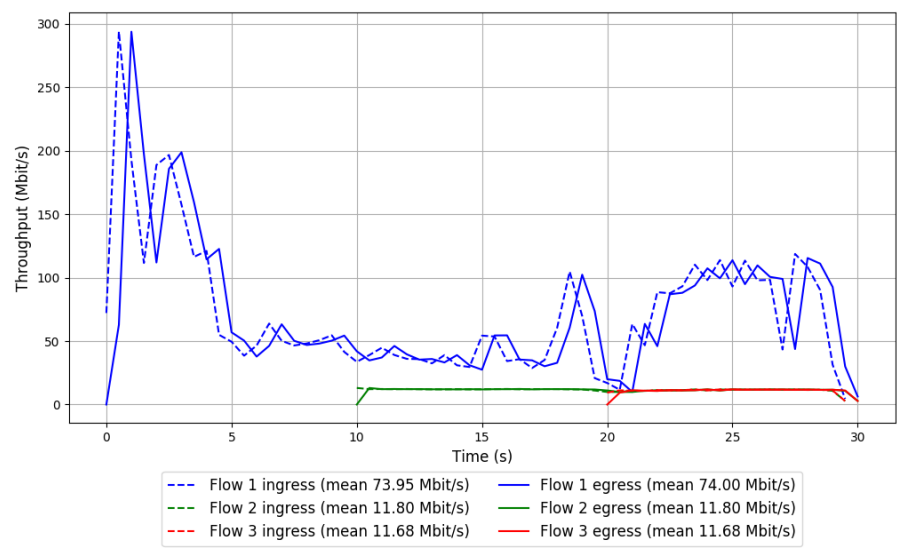Run 4: Report of Muses_DecisionTreeH0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-11-24 18:20:39
End at: 2019-11-24 18:21:09
Local clock offset: 4.285 ms
Remote clock offset: -0.239 ms


# Below is generated by plot.py at 2019-11-24 19:34:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.94 Mbit/s
95th percentile per-packet one-way delay: 18.816 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 165.22 Mbit/s
95th percentile per-packet one-way delay: 18.822 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 29.17 Mbit/s
95th percentile per-packet one-way delay: 18.420 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.02%
```
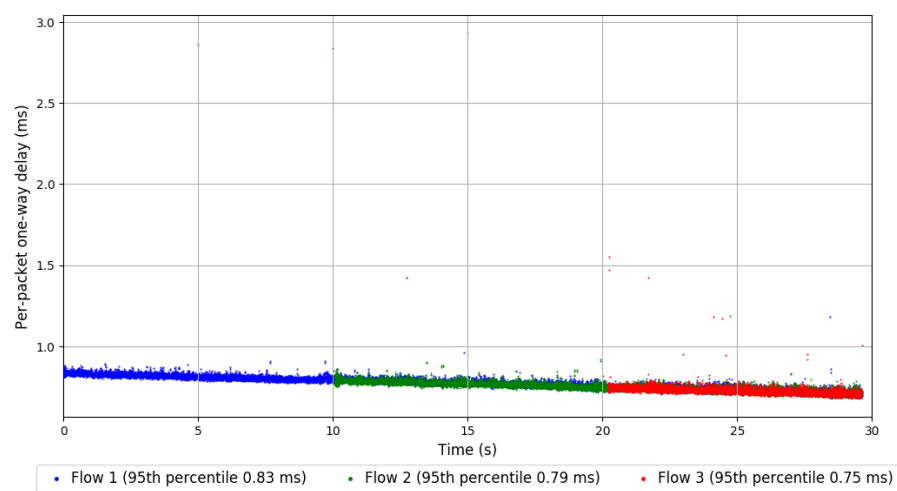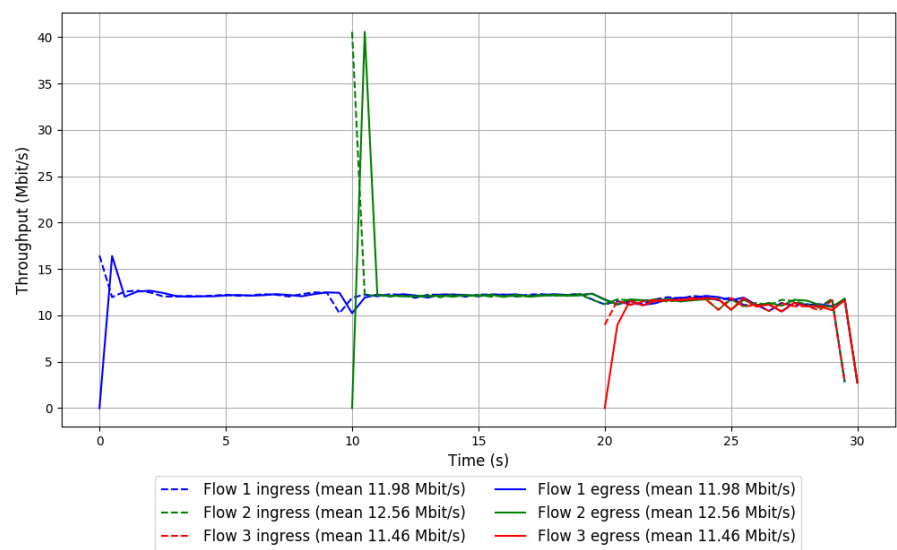
Run 5: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 165.10 Mbit/s) --- Flow 1 egress (mean 165.22 Mbit/s)
Flow 2 ingress (mean 29.17 Mbit/s) --- Flow 2 egress (mean 29.17 Mbit/s)
Flow 3 ingress (mean 11.51 Mbit/s) --- Flow 3 egress (mean 11.51 Mbit/s)

Flow 1 (95th percentile 18.82 ms)   Flow 2 (95th percentile 18.42 ms)   Flow 3 (95th percentile 1.01 ms)
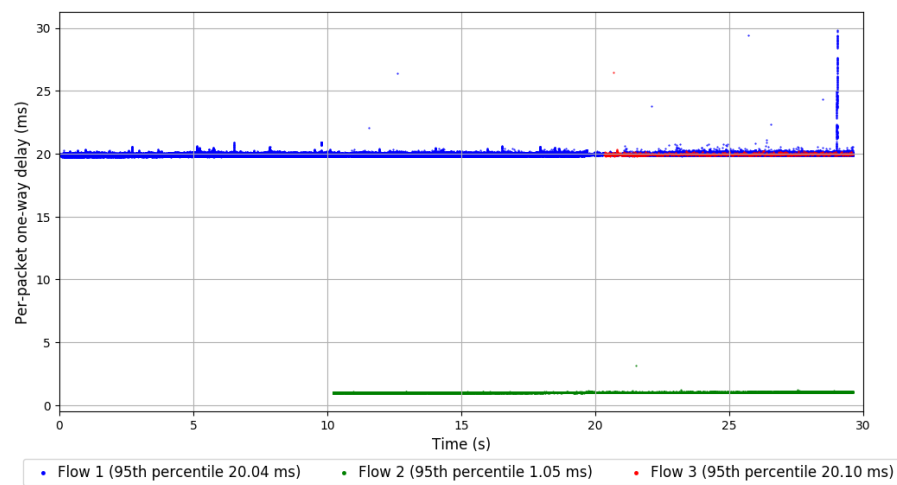
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```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 15:58:03
End at: 2019-11-24 15:58:33
Local clock offset: 2.89 ms
Remote clock offset: 0.609 ms


# Below is generated by plot.py at 2019-11-24 19:34:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.44 Mbit/s
95th percentile per-packet one-way delay: 19.337 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 74.00 Mbit/s
95th percentile per-packet one-way delay: 19.345 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 0.981 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 0.966 ms
Loss rate: 0.00%
```

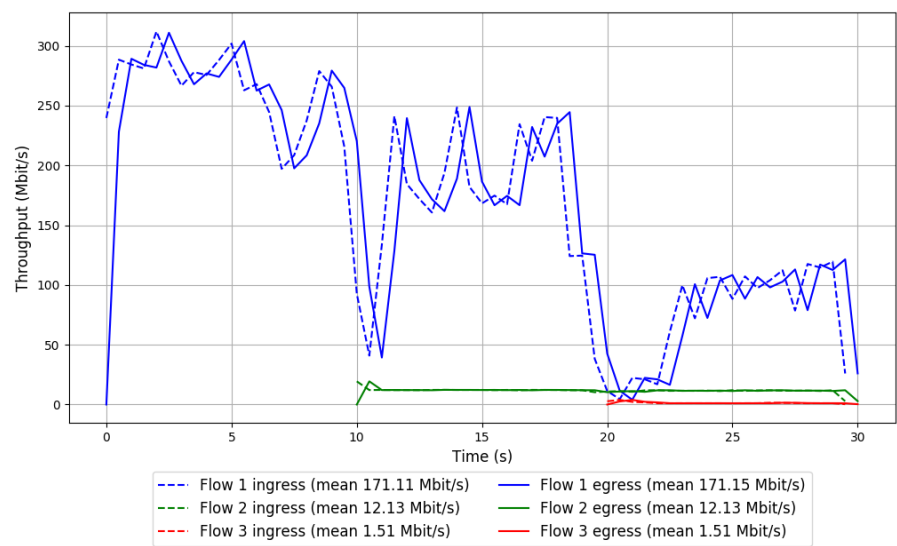Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 16:32:51
End at: 2019-11-24 16:33:21
Local clock offset: 2.715 ms
Remote clock offset: -0.71 ms


# Below is generated by plot.py at 2019-11-24 19:34:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 0.823 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 0.829 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 0.792 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 0.753 ms
Loss rate: 0.01%
```
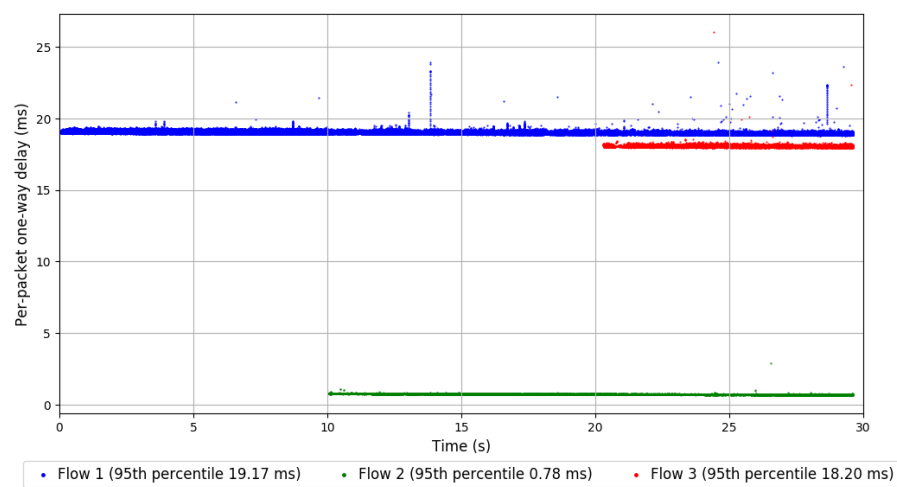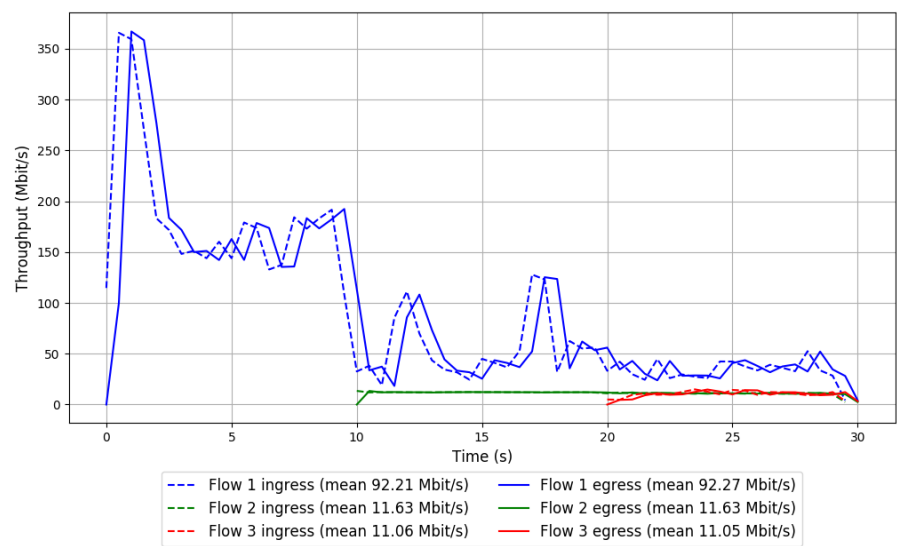
Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 17:07:03
End at: 2019-11-24 17:07:33
Local clock offset: 3.615 ms
Remote clock offset: -0.925 ms


# Below is generated by plot.py at 2019-11-24 19:34:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.57 Mbit/s
95th percentile per-packet one-way delay: 20.039 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 171.15 Mbit/s
95th percentile per-packet one-way delay: 20.041 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 1.051 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 20.099 ms
Loss rate: 0.17%
```
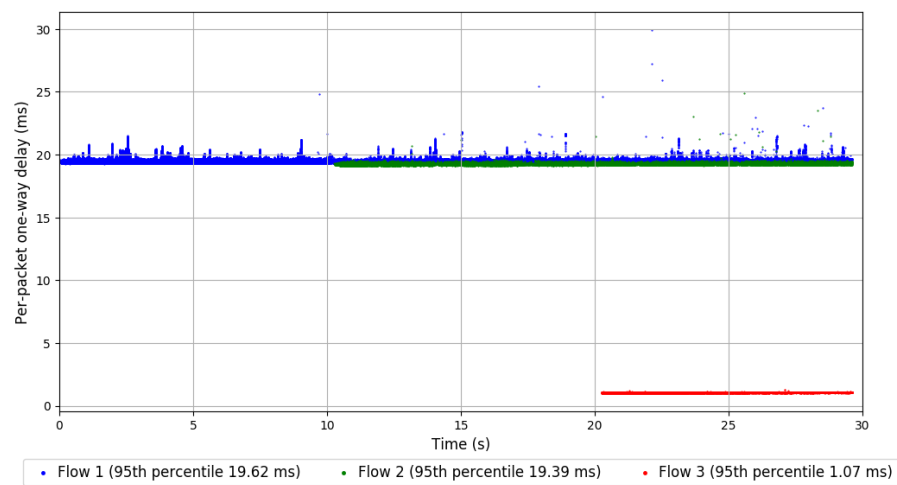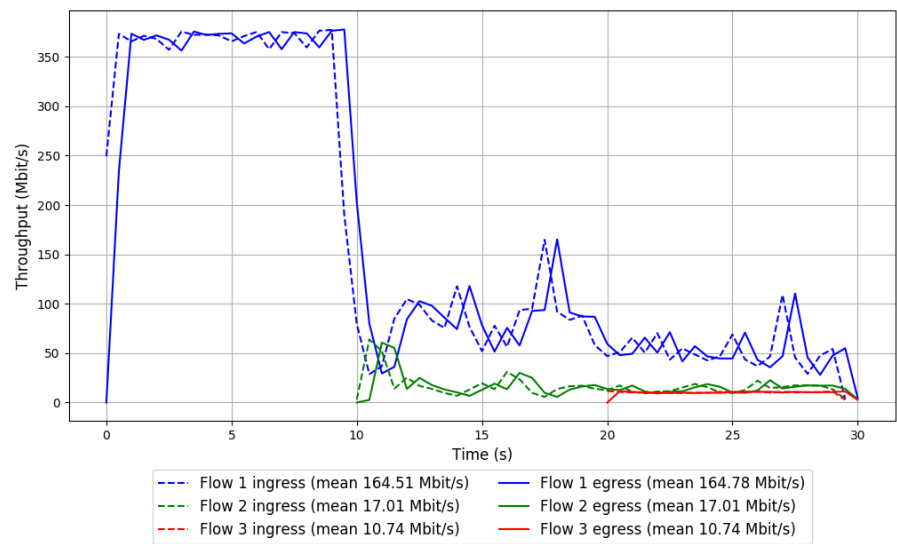
Run 3: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 171.11 Mbit/s) --- Flow 1 egress (mean 171.15 Mbit/s)
Flow 2 ingress (mean 12.13 Mbit/s) --- Flow 2 egress (mean 12.13 Mbit/s)
Flow 3 ingress (mean 1.51 Mbit/s) --- Flow 3 egress (mean 1.51 Mbit/s)

Flow 1 (95th percentile 20.04 ms) • Flow 2 (95th percentile 1.05 ms) • Flow 3 (95th percentile 20.10 ms)

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 17:41:52
End at: 2019-11-24 17:42:22
Local clock offset: 4.038 ms
Remote clock offset: -0.54 ms


# Below is generated by plot.py at 2019-11-24 19:34:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.43 Mbit/s
95th percentile per-packet one-way delay: 19.161 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 19.167 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 0.784 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 18.200 ms
Loss rate: 0.32%
```
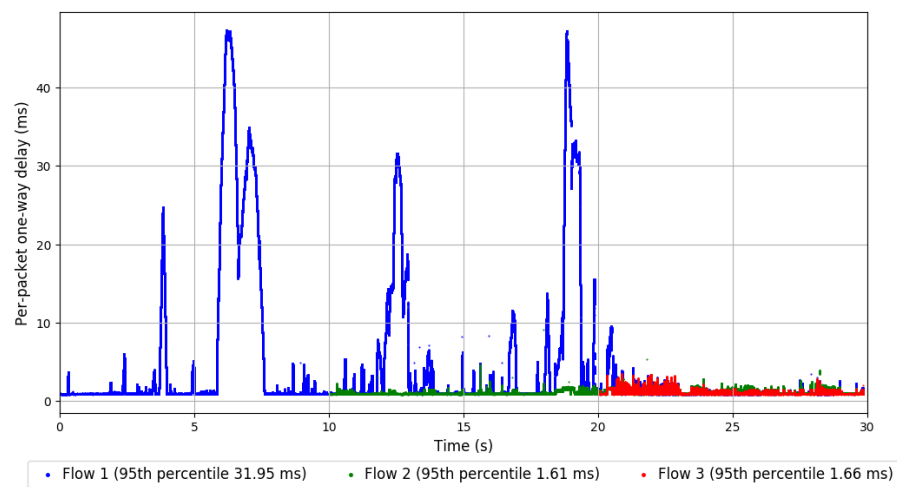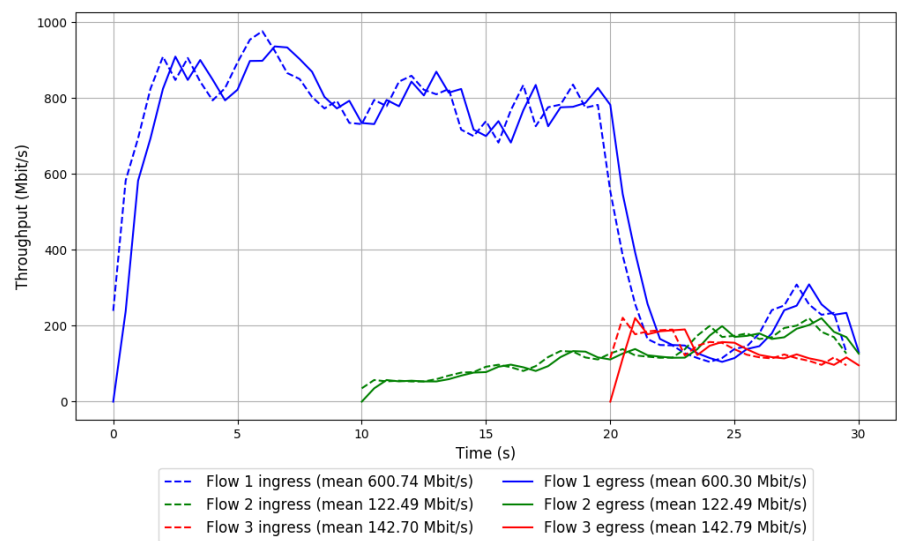
Run 4: Report of Muses_DecisionTreeR0 — Data Link

- - - Flow 1 ingress (mean 92.21 Mbit/s) —— Flow 1 egress (mean 92.27 Mbit/s)
- - - Flow 2 ingress (mean 11.63 Mbit/s) —— Flow 2 egress (mean 11.63 Mbit/s)
- - - Flow 3 ingress (mean 11.06 Mbit/s) —— Flow 3 egress (mean 11.05 Mbit/s)

• Flow 1 (95th percentile 19.17 ms)   • Flow 2 (95th percentile 0.78 ms)   • Flow 3 (95th percentile 18.20 ms)

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```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-11-24 18:16:42
End at: 2019-11-24 18:17:12
Local clock offset: 4.31 ms
Remote clock offset: -0.877 ms


# Below is generated by plot.py at 2019-11-24 19:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 179.16 Mbit/s
95th percentile per-packet one-way delay: 19.615 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 164.78 Mbit/s
95th percentile per-packet one-way delay: 19.623 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.01 Mbit/s
95th percentile per-packet one-way delay: 19.394 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.02%
```

Run 5: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 164.51 Mbit/s) --- Flow 1 egress (mean 164.78 Mbit/s)
Flow 2 ingress (mean 17.01 Mbit/s) --- Flow 2 egress (mean 17.01 Mbit/s)
Flow 3 ingress (mean 10.74 Mbit/s) --- Flow 3 egress (mean 10.74 Mbit/s)

Flow 1 (95th percentile 19.62 ms) • Flow 2 (95th percentile 19.39 ms) • Flow 3 (95th percentile 1.07 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-11-24 16:18:14
End at: 2019-11-24 16:18:44
Local clock offset: 2.792 ms
Remote clock offset: 1.468 ms


# Below is generated by plot.py at 2019-11-24 19:40:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 728.62 Mbit/s
95th percentile per-packet one-way delay: 31.041 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 600.30 Mbit/s
95th percentile per-packet one-way delay: 31.946 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 122.49 Mbit/s
95th percentile per-packet one-way delay: 1.609 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 142.79 Mbit/s
95th percentile per-packet one-way delay: 1.661 ms
Loss rate: 0.01%
```
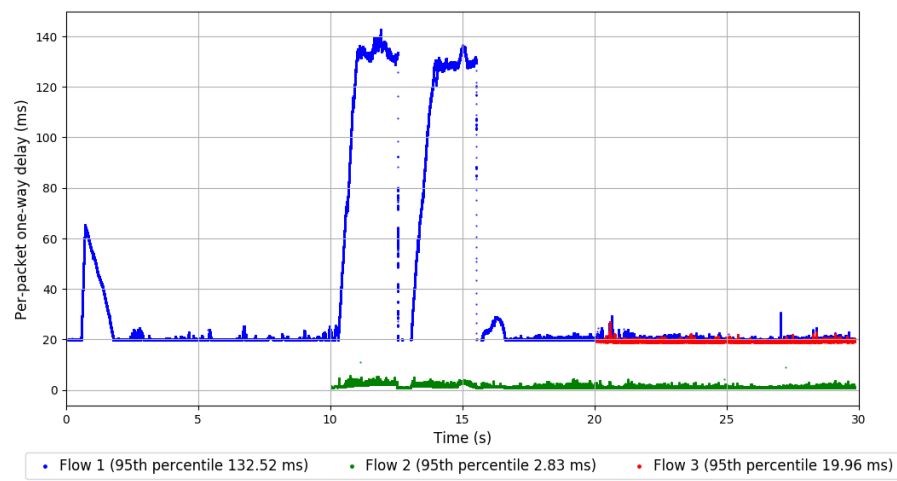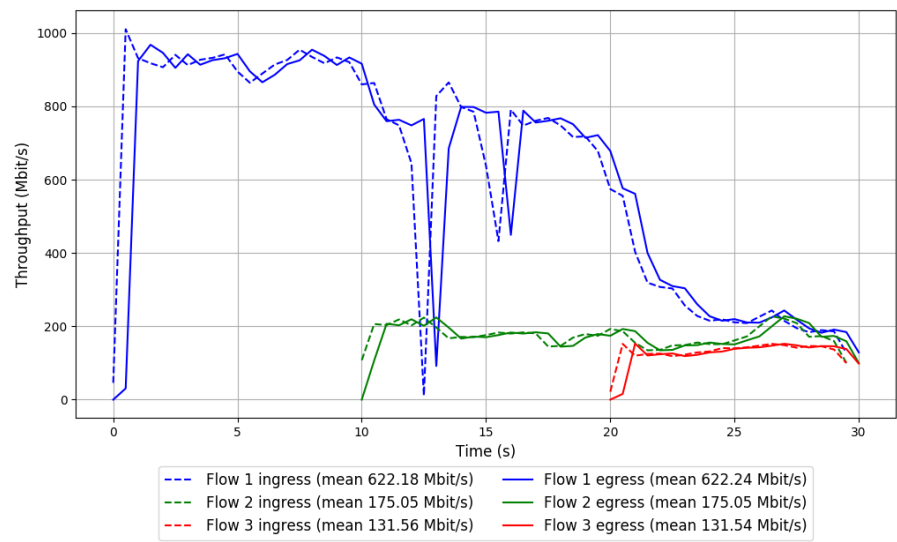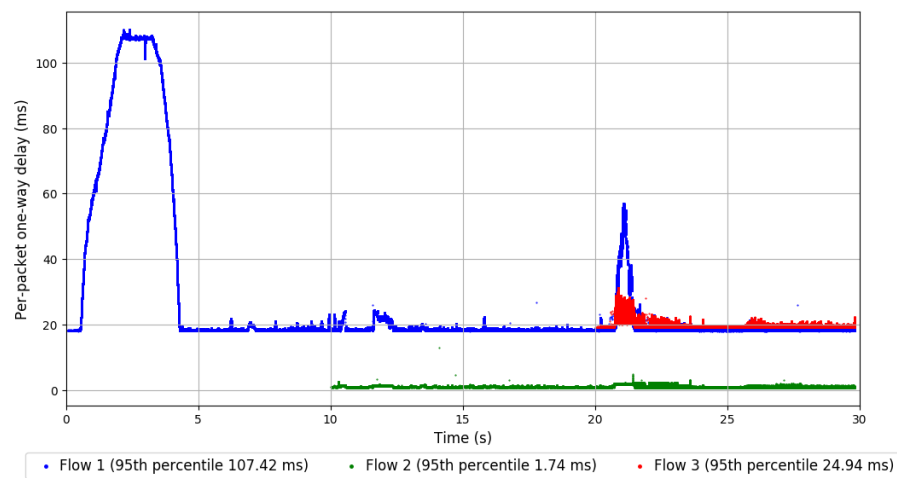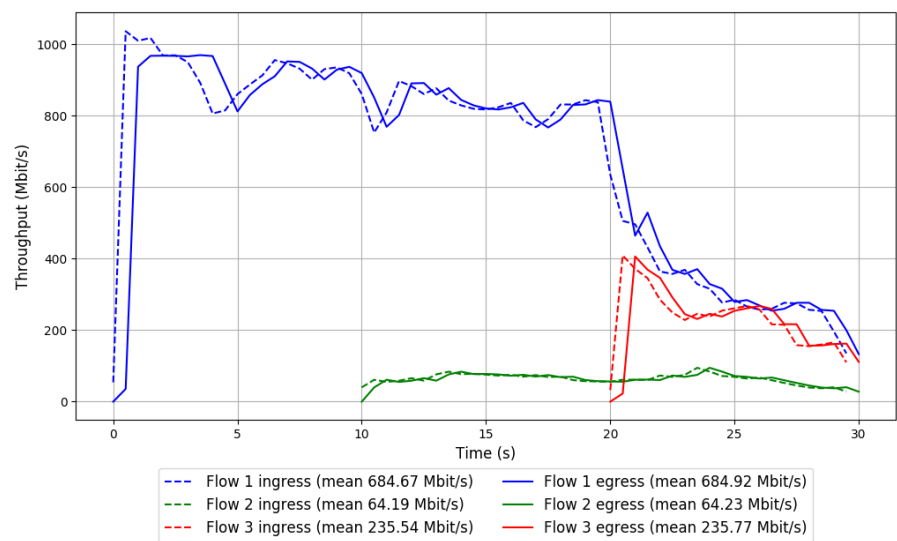
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-11-24 16:52:44
End at: 2019-11-24 16:53:14
Local clock offset: 3.358 ms
Remote clock offset: -2.933 ms


# Below is generated by plot.py at 2019-11-24 19:40:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 690.01 Mbit/s
95th percentile per-packet one-way delay: 121.893 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 441.25 Mbit/s
95th percentile per-packet one-way delay: 122.217 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 298.69 Mbit/s
95th percentile per-packet one-way delay: 123.270 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 154.15 Mbit/s
95th percentile per-packet one-way delay: 19.783 ms
Loss rate: 0.26%
```

Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-11-24 17:27:17
End at: 2019-11-24 17:27:47
Local clock offset: 3.883 ms
Remote clock offset: 1.802 ms


# Below is generated by plot.py at 2019-11-24 19:42:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.81 Mbit/s
95th percentile per-packet one-way delay: 131.663 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 622.24 Mbit/s
95th percentile per-packet one-way delay: 132.522 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 175.05 Mbit/s
95th percentile per-packet one-way delay: 2.827 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 131.54 Mbit/s
95th percentile per-packet one-way delay: 19.962 ms
Loss rate: 0.23%
```
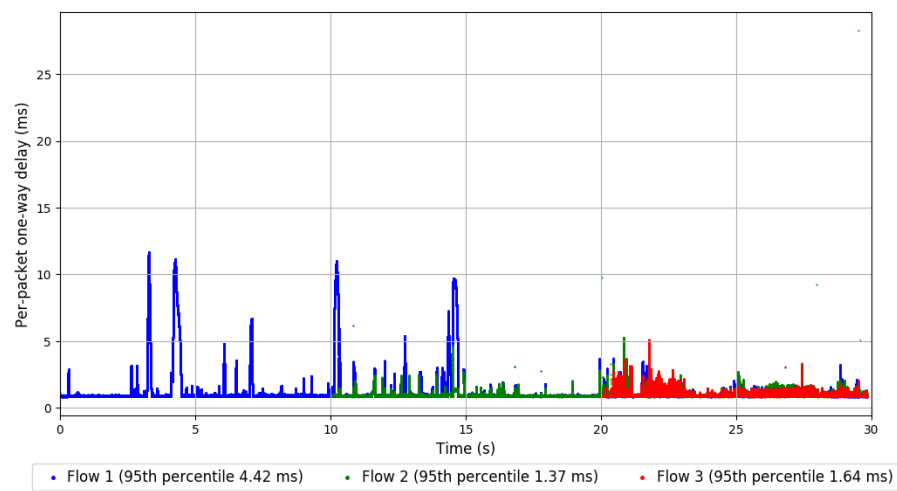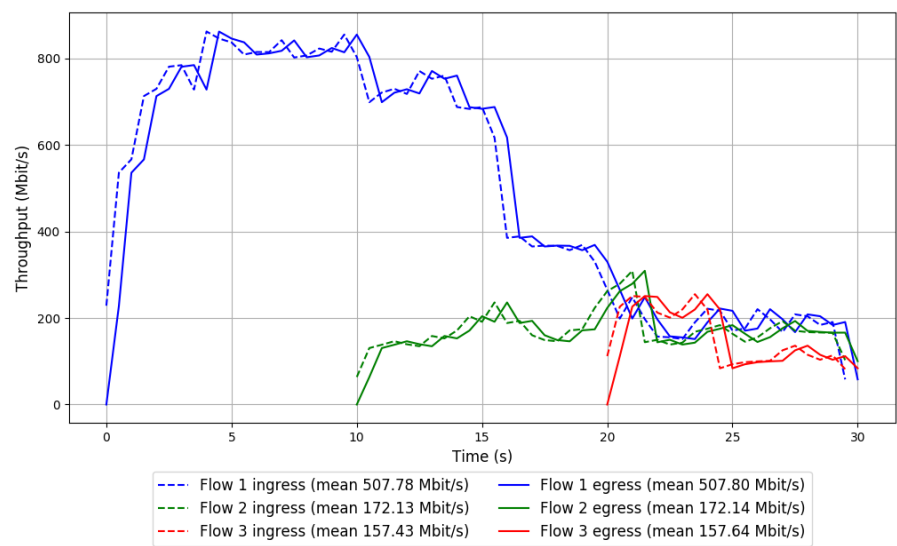
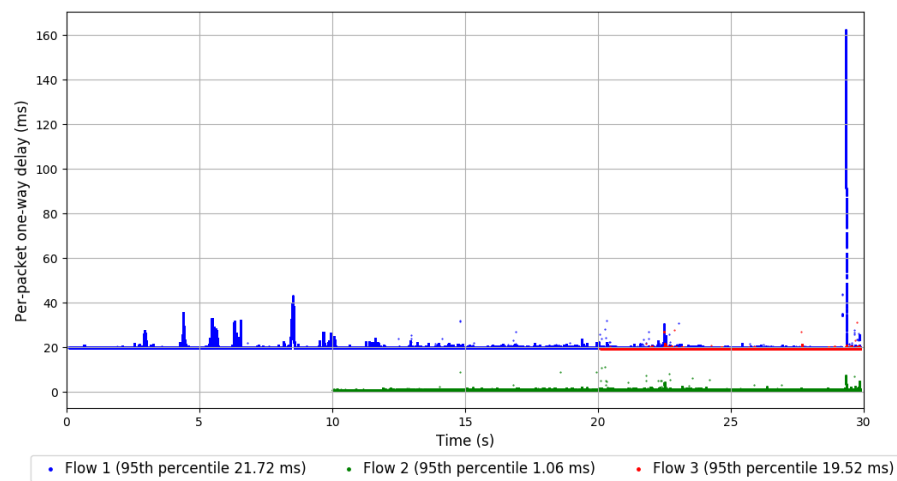Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-11-24 18:01:58
End at: 2019-11-24 18:02:28
Local clock offset: 4.409 ms
Remote clock offset: -2.692 ms


# Below is generated by plot.py at 2019-11-24 19:42:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.08 Mbit/s
95th percentile per-packet one-way delay: 105.746 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 684.92 Mbit/s
95th percentile per-packet one-way delay: 107.423 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 64.23 Mbit/s
95th percentile per-packet one-way delay: 1.736 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 235.77 Mbit/s
95th percentile per-packet one-way delay: 24.941 ms
Loss rate: 0.15%
```

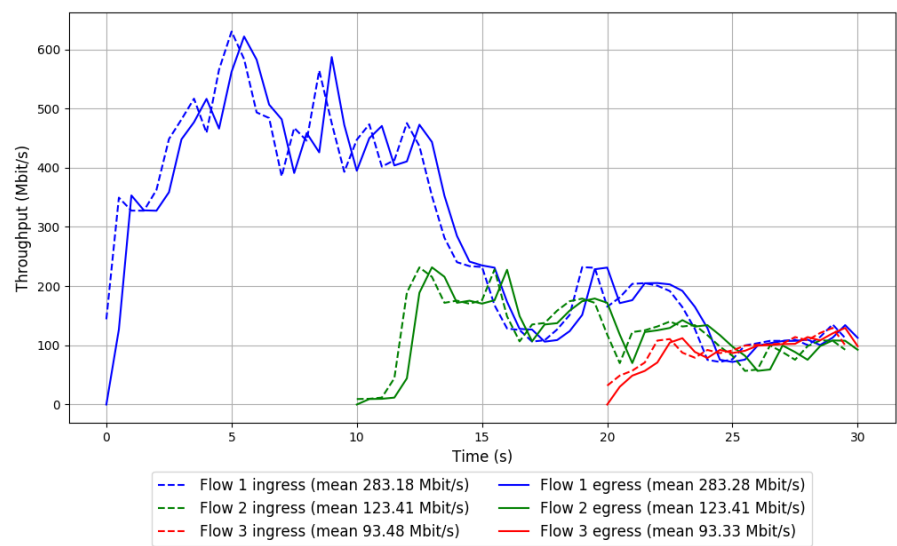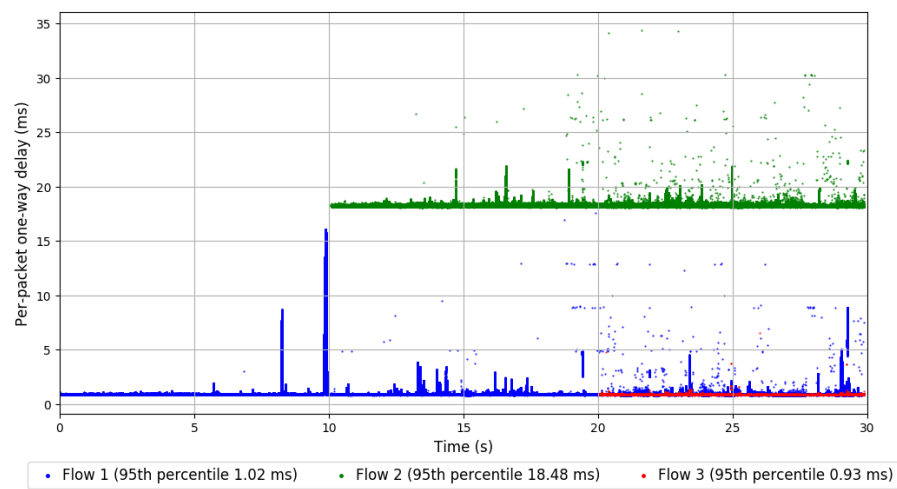Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 684.67 Mbit/s) --- Flow 1 egress (mean 684.92 Mbit/s)
Flow 2 ingress (mean 64.19 Mbit/s) --- Flow 2 egress (mean 64.23 Mbit/s)
Flow 3 ingress (mean 235.54 Mbit/s) --- Flow 3 egress (mean 235.77 Mbit/s)

Flow 1 (95th percentile 107.42 ms) • Flow 2 (95th percentile 1.74 ms) • Flow 3 (95th percentile 24.94 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-11-24 18:36:44
End at: 2019-11-24 18:37:14
Local clock offset: 4.279 ms
Remote clock offset: 1.032 ms


# Below is generated by plot.py at 2019-11-24 19:42:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 673.96 Mbit/s
95th percentile per-packet one-way delay: 2.812 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 507.80 Mbit/s
95th percentile per-packet one-way delay: 4.419 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 172.14 Mbit/s
95th percentile per-packet one-way delay: 1.372 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 157.64 Mbit/s
95th percentile per-packet one-way delay: 1.639 ms
Loss rate: 0.00%
```

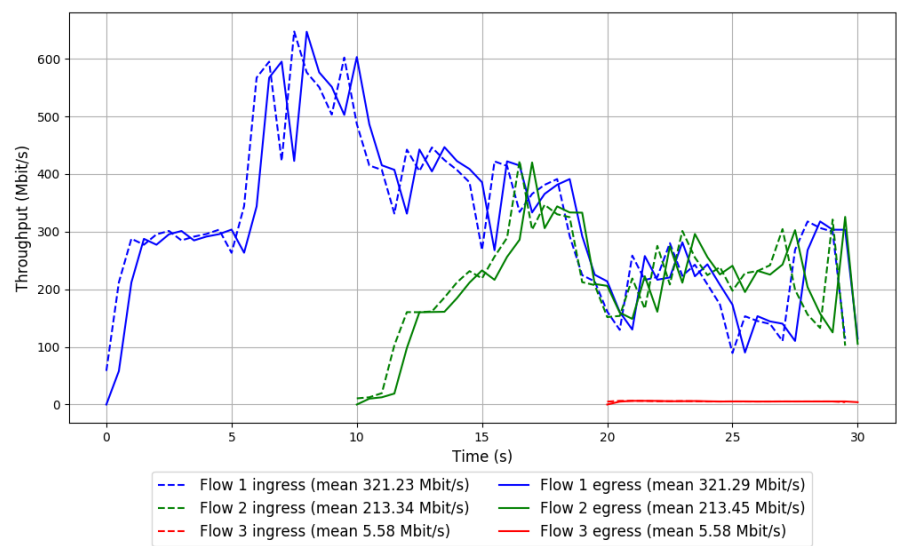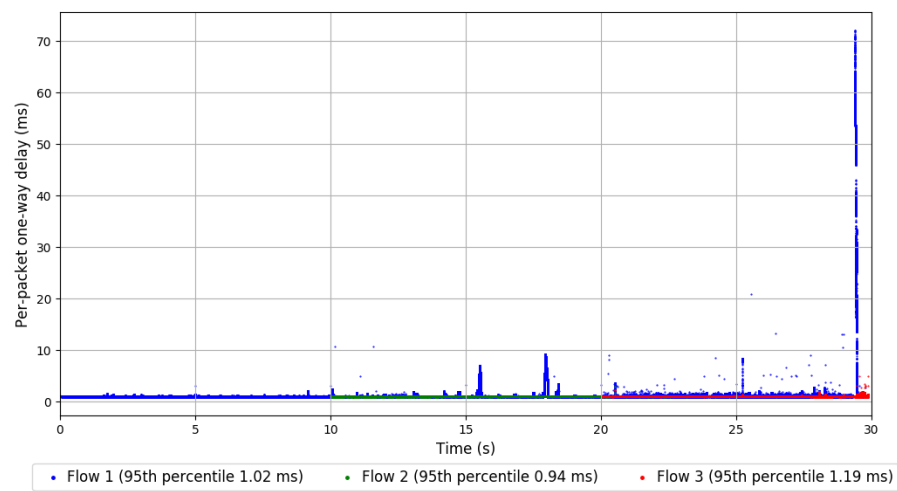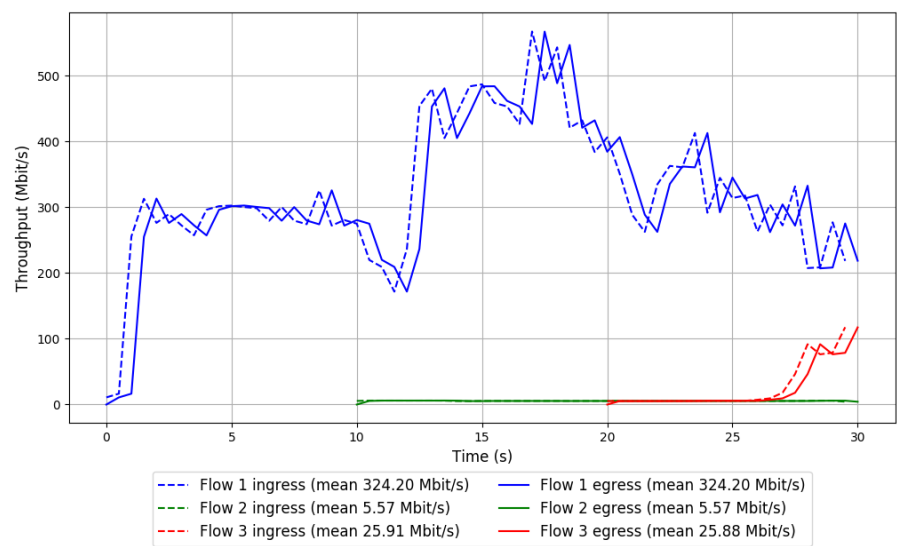Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-11-24 16:21:06
End at: 2019-11-24 16:21:36
Local clock offset: 2.784 ms
Remote clock offset: 1.611 ms


# Below is generated by plot.py at 2019-11-24 19:42:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.13 Mbit/s
95th percentile per-packet one-way delay: 20.760 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 283.28 Mbit/s
95th percentile per-packet one-way delay: 21.716 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 123.41 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 19.525 ms
Loss rate: 0.36%
```
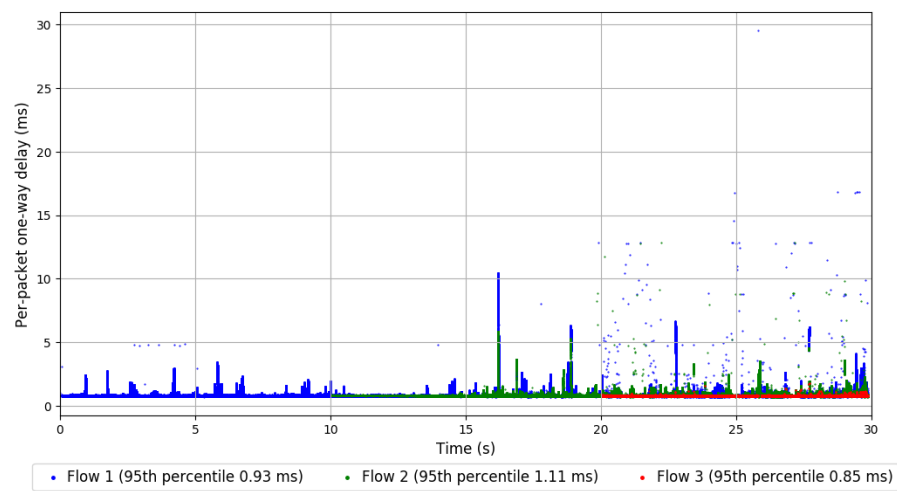
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 283.18 Mbit/s) — Flow 1 egress (mean 283.28 Mbit/s)
Flow 2 ingress (mean 123.41 Mbit/s) — Flow 2 egress (mean 123.41 Mbit/s)
Flow 3 ingress (mean 93.48 Mbit/s) — Flow 3 egress (mean 93.33 Mbit/s)

Flow 1 (95th percentile 21.72 ms) — Flow 2 (95th percentile 1.06 ms) — Flow 3 (95th percentile 19.52 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-11-24 16:55:33
End at: 2019-11-24 16:56:03
Local clock offset: 3.435 ms
Remote clock offset: -2.969 ms


# Below is generated by plot.py at 2019-11-24 19:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 464.89 Mbit/s
95th percentile per-packet one-way delay: 18.342 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 321.29 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 213.45 Mbit/s
95th percentile per-packet one-way delay: 18.479 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 0.930 ms
Loss rate: 0.00%
```
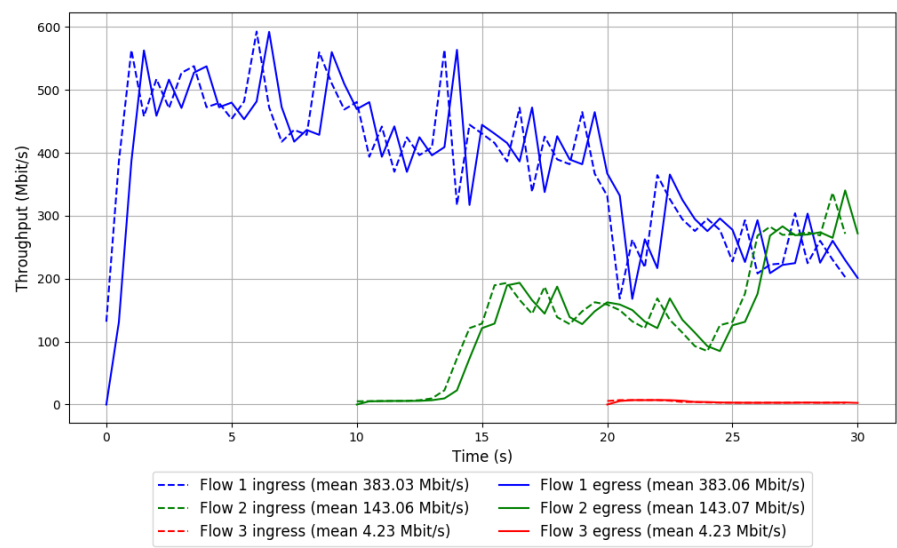
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-11-24 17:30:11
End at: 2019-11-24 17:30:41
Local clock offset: 3.933 ms
Remote clock offset: 2.168 ms


# Below is generated by plot.py at 2019-11-24 19:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.42 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 324.20 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 0.943 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 25.88 Mbit/s
95th percentile per-packet one-way delay: 1.193 ms
Loss rate: 0.10%
```
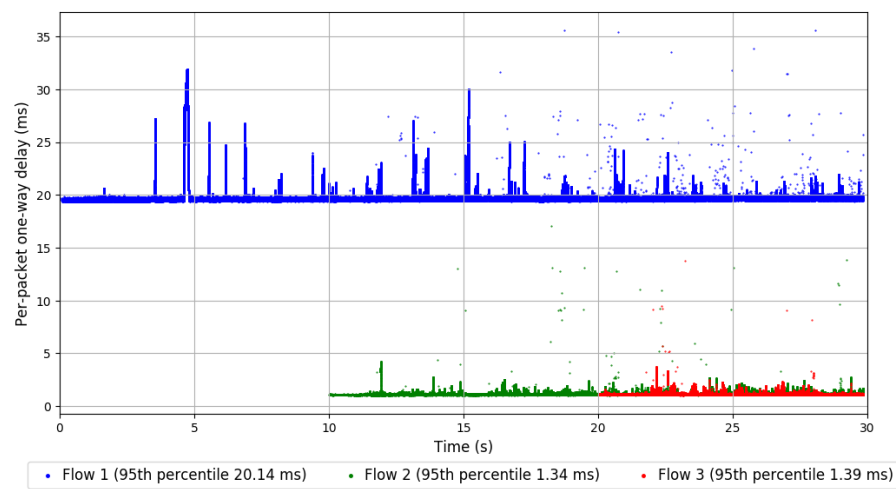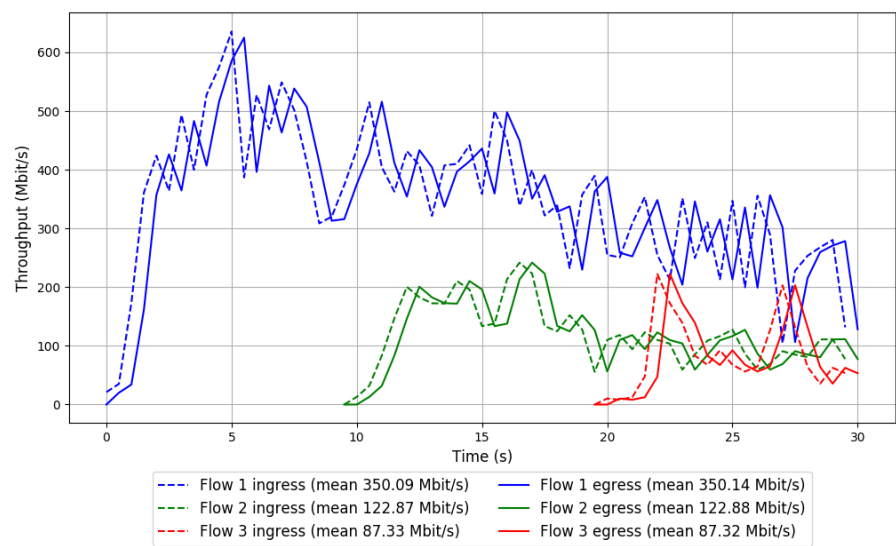
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 324.20 Mbit/s) ---- Flow 1 egress (mean 324.20 Mbit/s)
Flow 2 ingress (mean 5.57 Mbit/s) ---- Flow 2 egress (mean 5.57 Mbit/s)
Flow 3 ingress (mean 25.91 Mbit/s) ---- Flow 3 egress (mean 25.88 Mbit/s)

Flow 1 (95th percentile 1.02 ms)   Flow 2 (95th percentile 0.94 ms)   Flow 3 (95th percentile 1.19 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-11-24 18:04:49
End at: 2019-11-24 18:05:19
Local clock offset: 4.421 ms
Remote clock offset: -2.767 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 479.53 Mbit/s
95th percentile per-packet one-way delay: 0.980 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 383.06 Mbit/s
95th percentile per-packet one-way delay: 0.934 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 143.07 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 0.853 ms
Loss rate: 0.00%
```
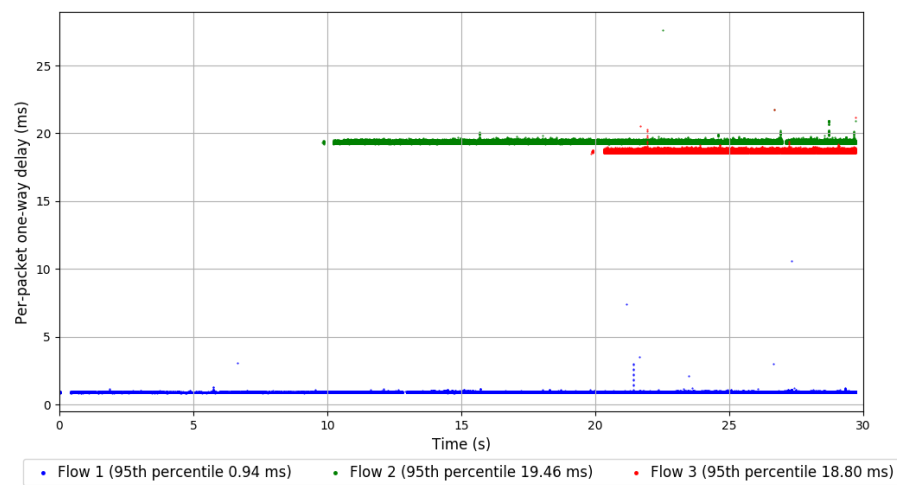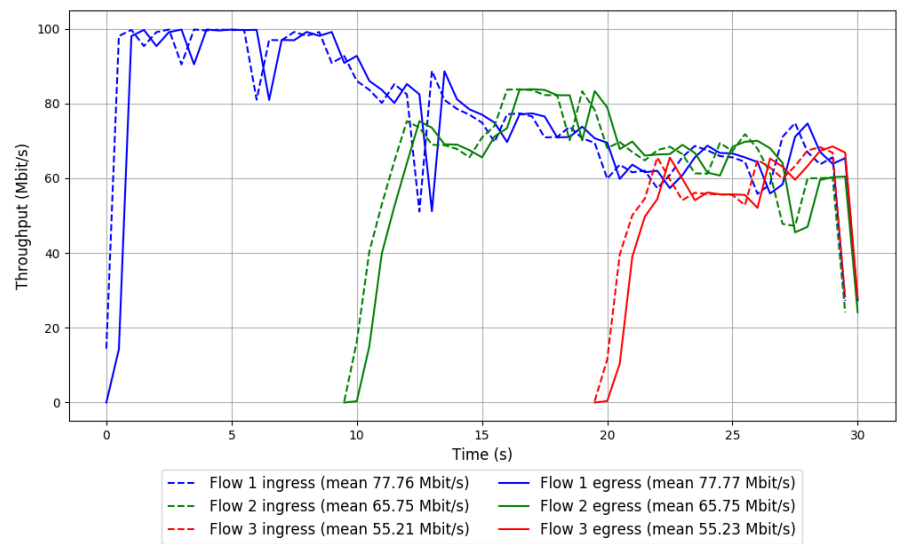
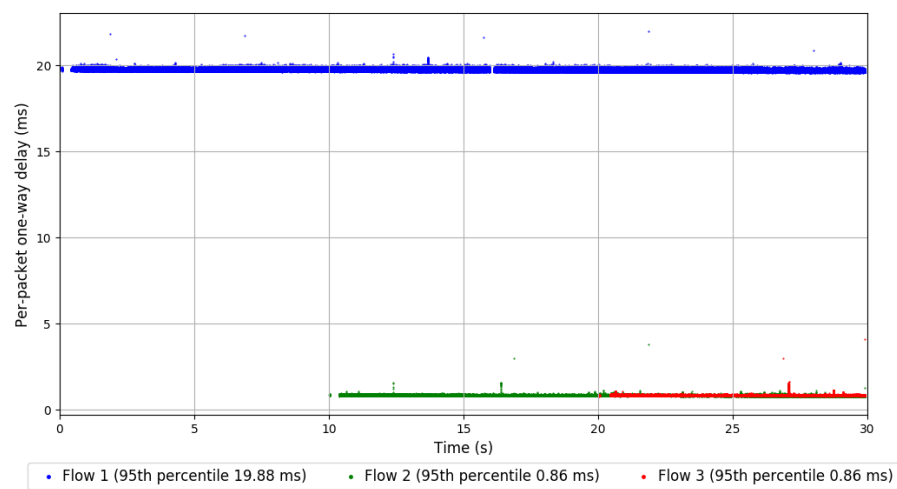Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-11-24 18:39:34
End at: 2019-11-24 18:40:04
Local clock offset: 4.28 ms
Remote clock offset: 1.093 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 460.81 Mbit/s
95th percentile per-packet one-way delay: 19.862 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 350.14 Mbit/s
95th percentile per-packet one-way delay: 20.141 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 122.88 Mbit/s
95th percentile per-packet one-way delay: 1.344 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 87.32 Mbit/s
95th percentile per-packet one-way delay: 1.388 ms
Loss rate: 0.02%
```
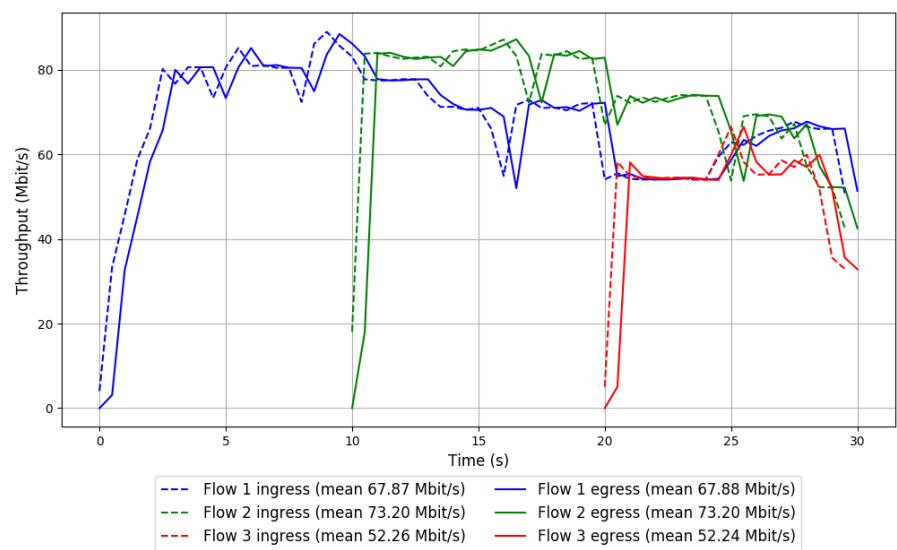
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 350.09 Mbit/s) --- Flow 1 egress (mean 350.14 Mbit/s)
Flow 2 ingress (mean 122.87 Mbit/s) --- Flow 2 egress (mean 122.88 Mbit/s)
Flow 3 ingress (mean 87.33 Mbit/s) --- Flow 3 egress (mean 87.32 Mbit/s)

Flow 1 (95th percentile 20.14 ms) Flow 2 (95th percentile 1.34 ms) Flow 3 (95th percentile 1.39 ms)
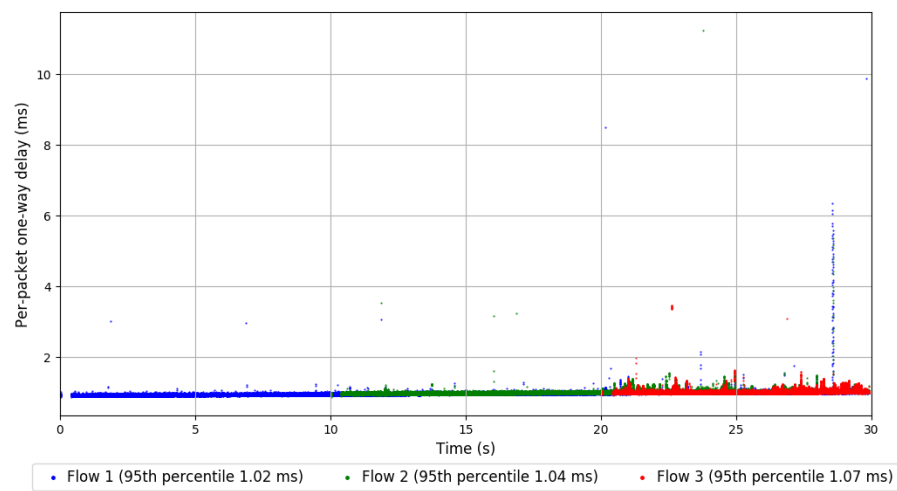
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-11-24 16:00:38
End at: 2019-11-24 16:01:08
Local clock offset: 2.869 ms
Remote clock offset: 0.7 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.12 Mbit/s
95th percentile per-packet one-way delay: 19.399 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 77.77 Mbit/s
95th percentile per-packet one-way delay: 0.942 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.75 Mbit/s
95th percentile per-packet one-way delay: 19.456 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 55.23 Mbit/s
95th percentile per-packet one-way delay: 18.805 ms
Loss rate: 0.24%
```
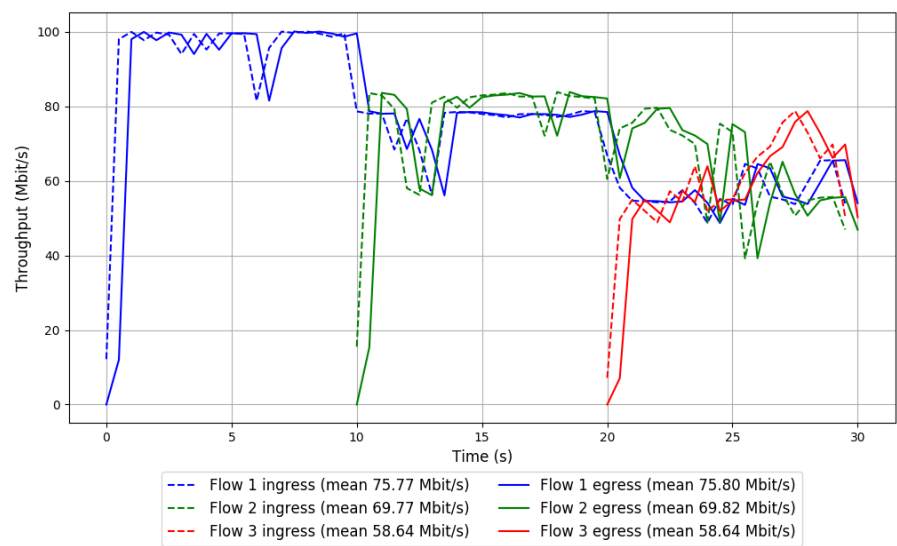
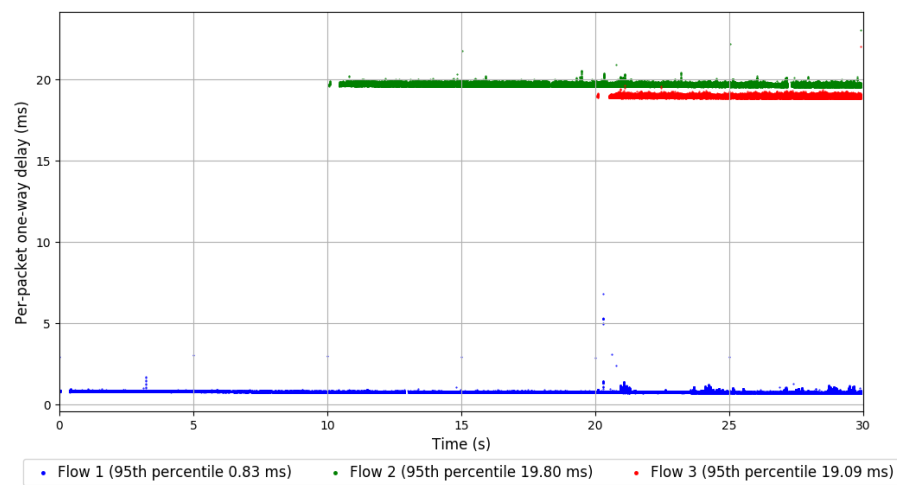Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-11-24 16:35:24
End at: 2019-11-24 16:35:54
Local clock offset: 2.716 ms
Remote clock offset: -1.346 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.91 Mbit/s
95th percentile per-packet one-way delay: 19.847 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 67.88 Mbit/s
95th percentile per-packet one-way delay: 19.881 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 73.20 Mbit/s
95th percentile per-packet one-way delay: 0.863 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 0.856 ms
Loss rate: 0.02%
```
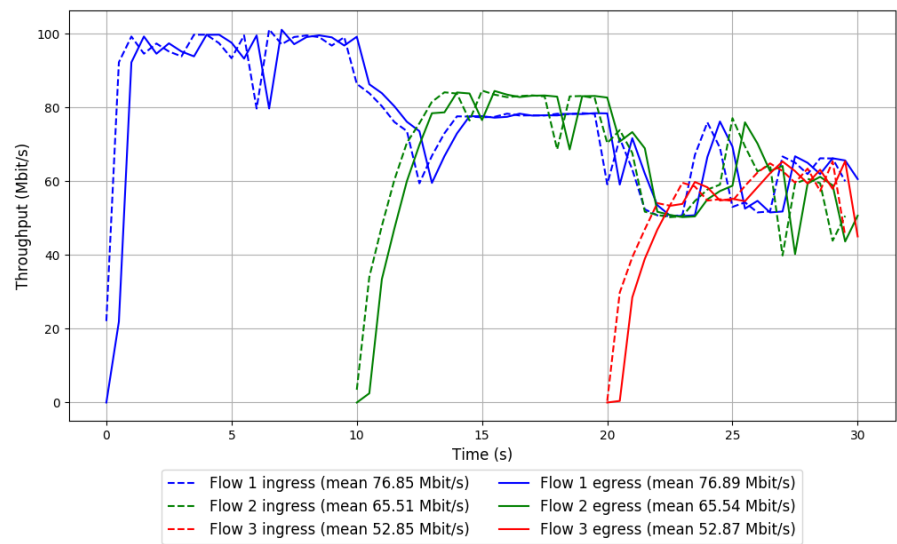
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-11-24 17:09:40
End at: 2019-11-24 17:10:10
Local clock offset: 3.66 ms
Remote clock offset: -0.319 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.64 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 75.80 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.82 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 58.64 Mbit/s
95th percentile per-packet one-way delay: 1.066 ms
Loss rate: 0.01%
```
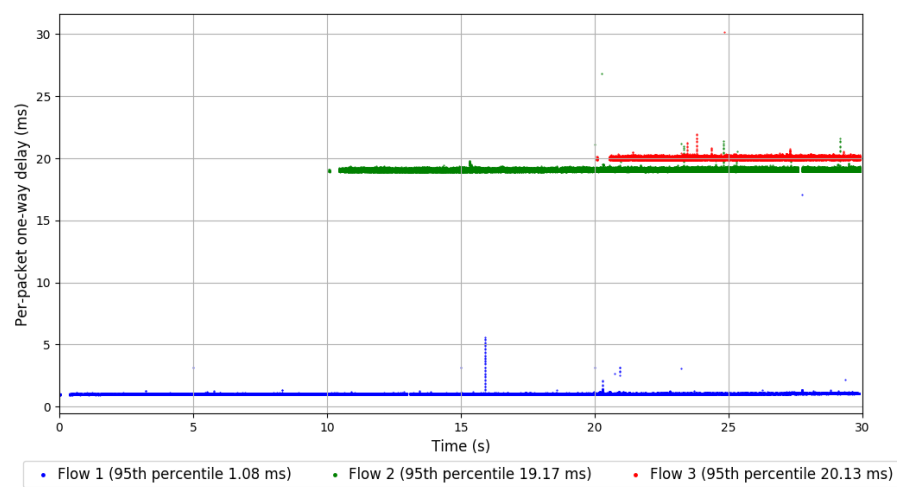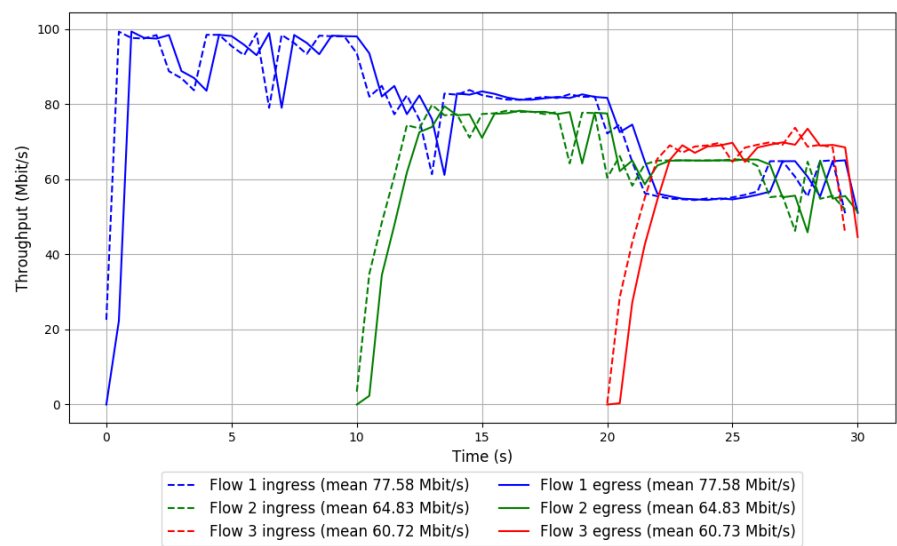
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-11-24 17:44:31
End at: 2019-11-24 17:45:01
Local clock offset: 4.117 ms
Remote clock offset: -1.122 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.92 Mbit/s
95th percentile per-packet one-way delay: 19.742 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 76.89 Mbit/s
95th percentile per-packet one-way delay: 0.826 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.54 Mbit/s
95th percentile per-packet one-way delay: 19.802 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 52.87 Mbit/s
95th percentile per-packet one-way delay: 19.091 ms
Loss rate: 0.21%
```
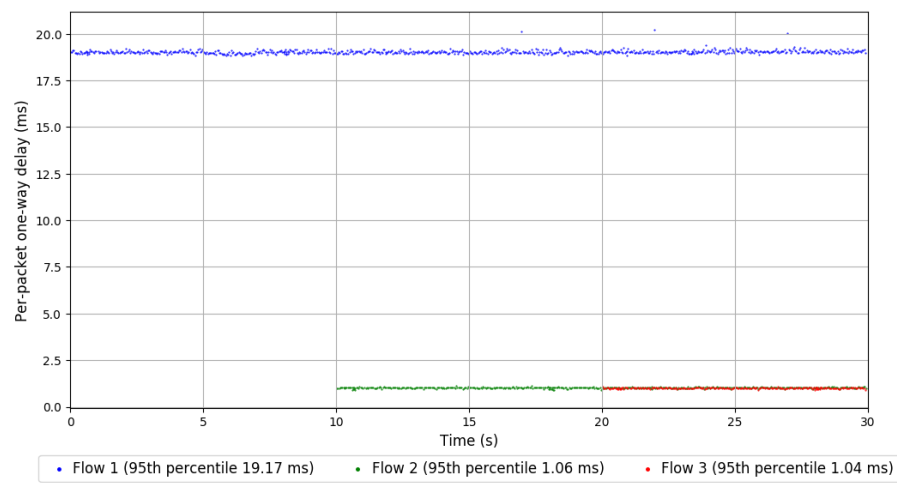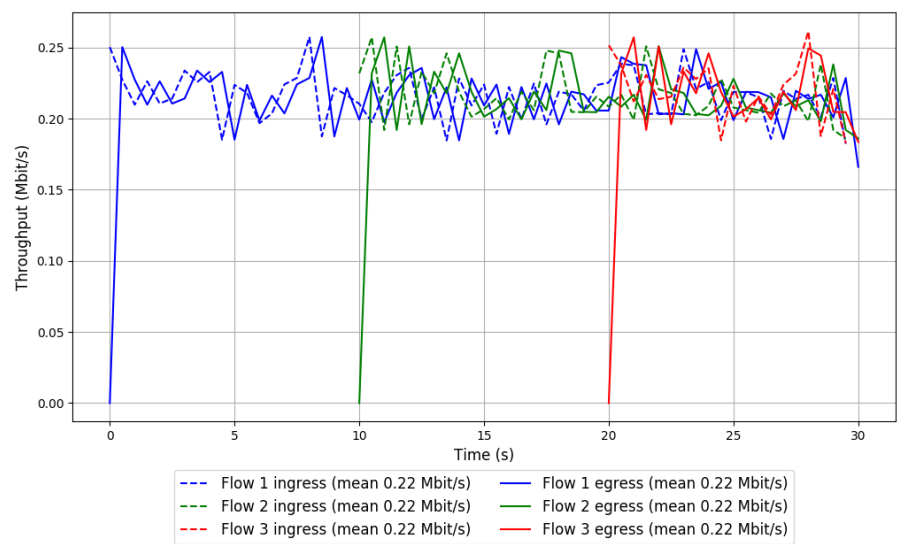
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 76.85 Mbit/s) ---- Flow 1 egress (mean 76.89 Mbit/s)
Flow 2 ingress (mean 65.51 Mbit/s) ---- Flow 2 egress (mean 65.54 Mbit/s)
Flow 3 ingress (mean 52.85 Mbit/s) ---- Flow 3 egress (mean 52.87 Mbit/s)

Flow 1 (95th percentile 0.83 ms) • Flow 2 (95th percentile 19.80 ms) • Flow 3 (95th percentile 19.09 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-11-24 18:19:20
End at: 2019-11-24 18:19:50
Local clock offset: 4.287 ms
Remote clock offset: -0.485 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.61 Mbit/s
95th percentile per-packet one-way delay: 20.016 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 77.58 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.83 Mbit/s
95th percentile per-packet one-way delay: 19.172 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 60.73 Mbit/s
95th percentile per-packet one-way delay: 20.130 ms
Loss rate: 0.31%
```
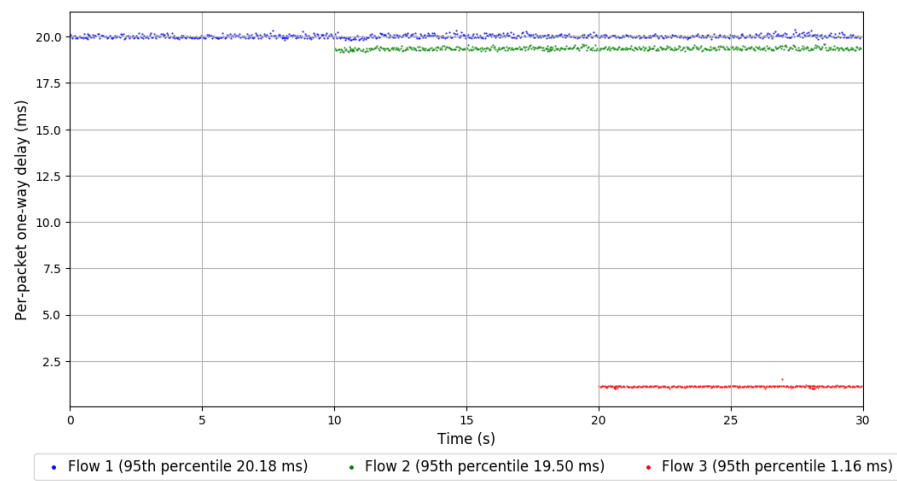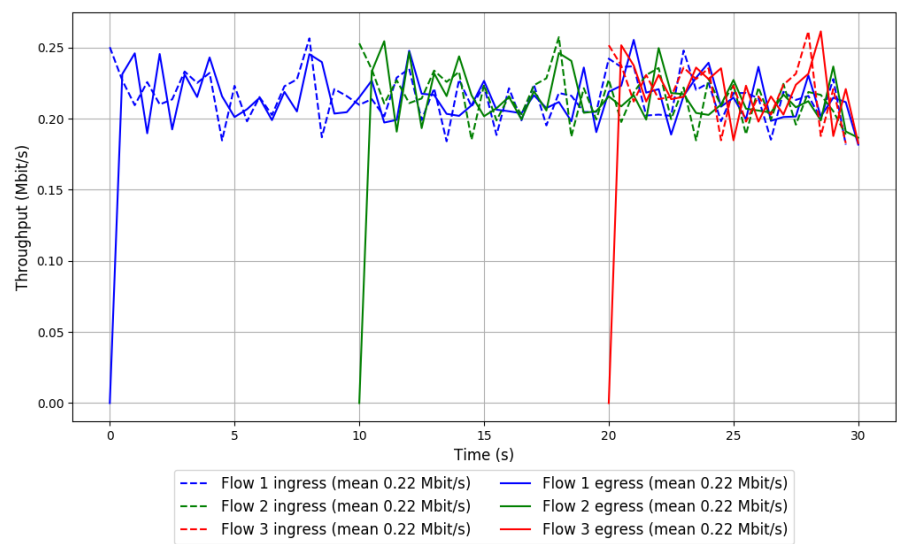
Run 5: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 77.58 Mbit/s) —— Flow 1 egress (mean 77.58 Mbit/s)
- - - - Flow 2 ingress (mean 64.83 Mbit/s) —— Flow 2 egress (mean 64.83 Mbit/s)
- - - - Flow 3 ingress (mean 60.72 Mbit/s) —— Flow 3 egress (mean 60.73 Mbit/s)

• Flow 1 (95th percentile 1.08 ms) • Flow 2 (95th percentile 19.17 ms) • Flow 3 (95th percentile 20.13 ms)
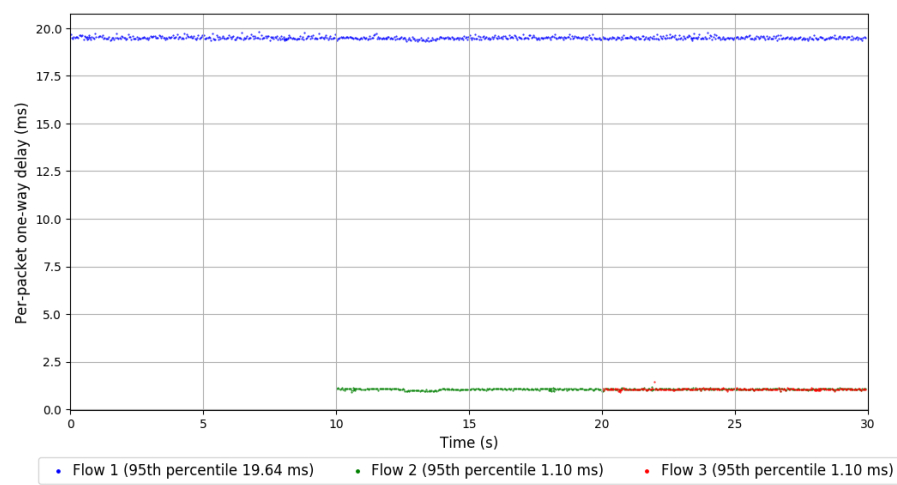
```
Run 1: Statistics of SCReAM

Start at: 2019-11-24 15:49:16
End at: 2019-11-24 15:49:46
Local clock offset: 2.992 ms
Remote clock offset: 0.609 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 19.138 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.171 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.35%
```
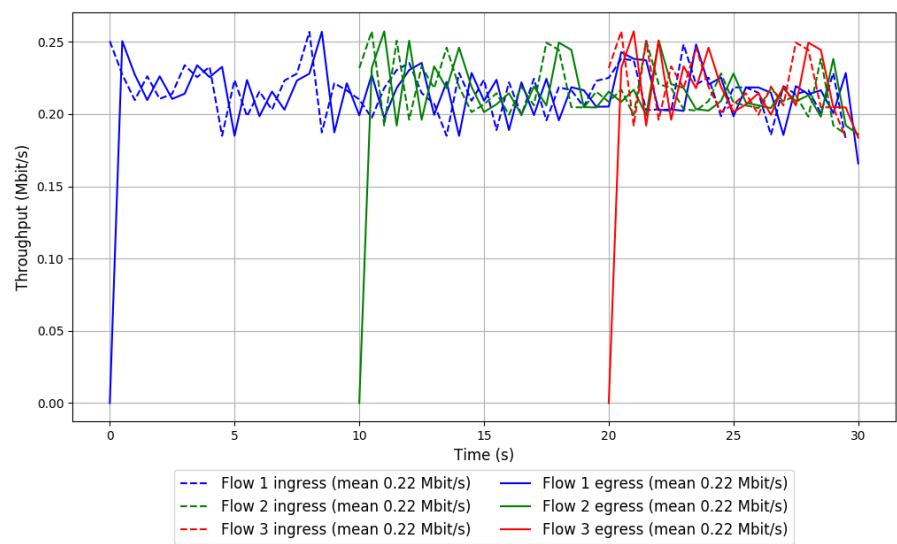
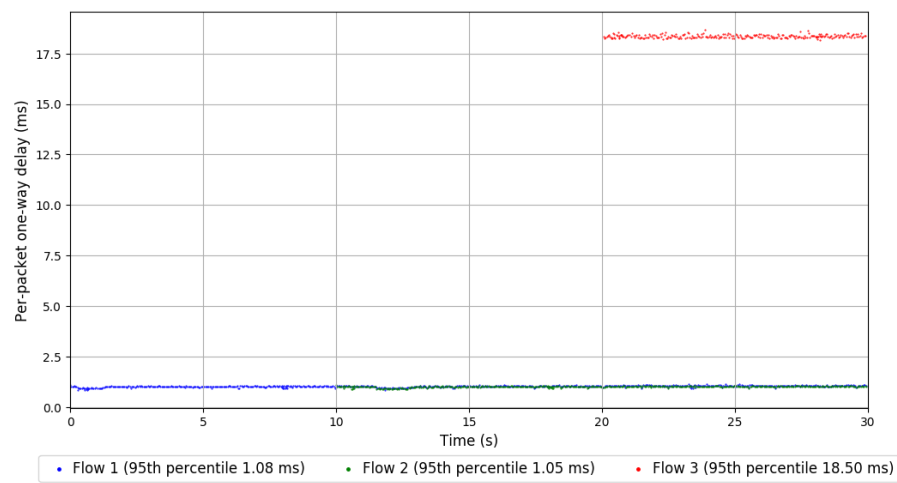# Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-11-24 16:24:12
End at: 2019-11-24 16:24:42
Local clock offset: 2.779 ms
Remote clock offset: 1.673 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 20.143 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.183 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.500 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.00%
```
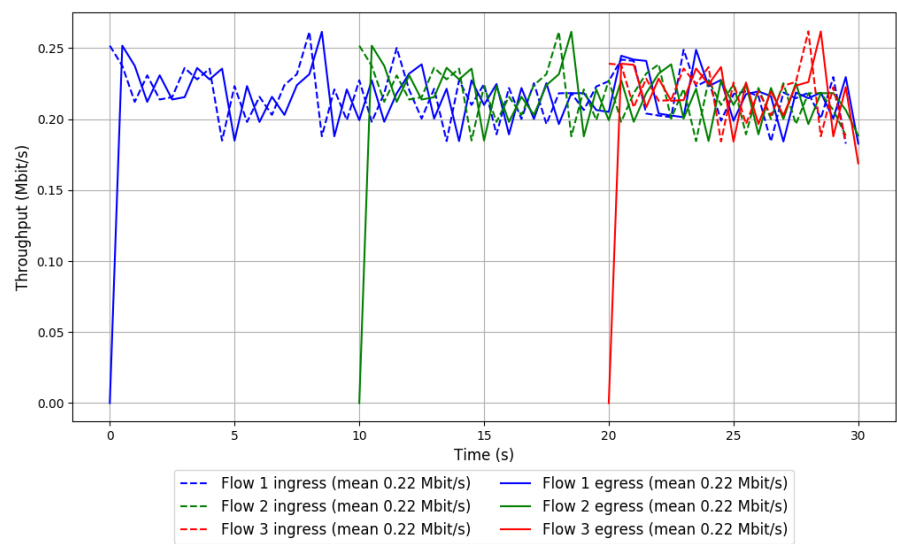
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-11-24 16:58:39
End at: 2019-11-24 16:59:09
Local clock offset: 3.502 ms
Remote clock offset: -3.073 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 19.595 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.638 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.101 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.00%
```
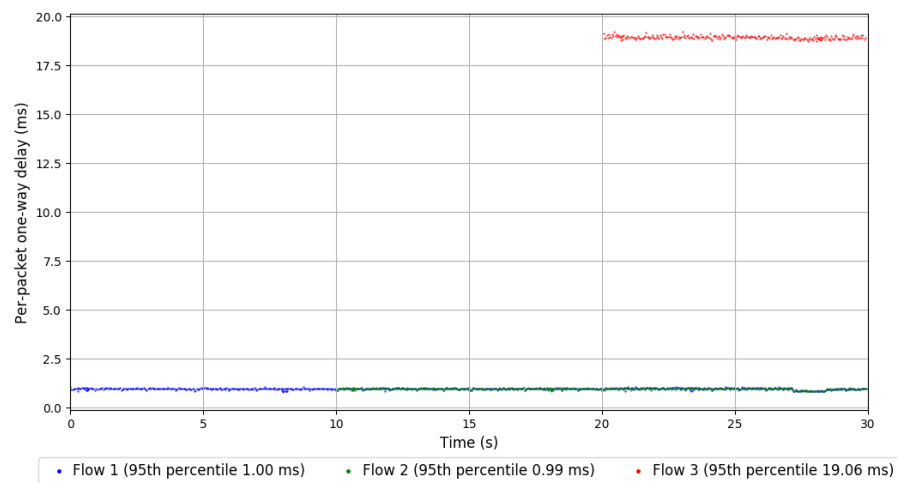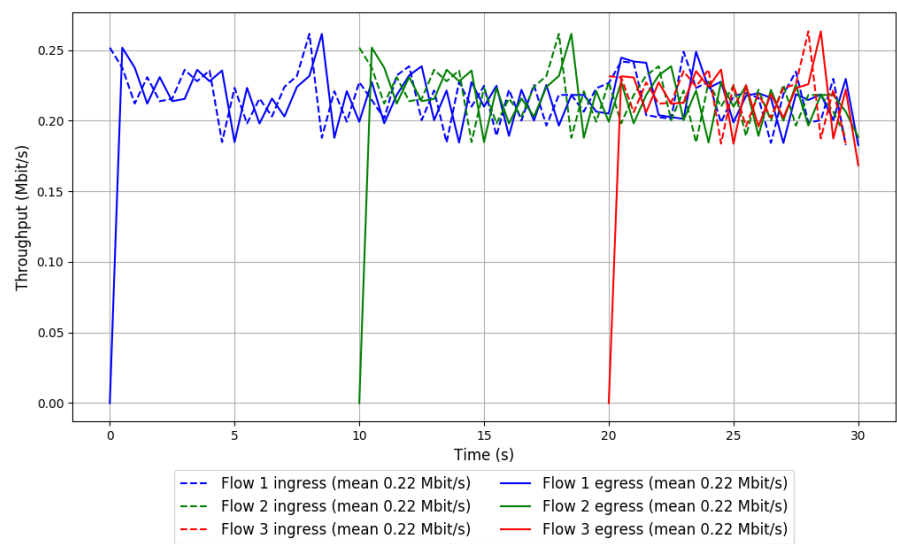
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-11-24 17:33:10
End at: 2019-11-24 17:33:40
Local clock offset: 3.948 ms
Remote clock offset: 2.417 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 18.398 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.051 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 18.498 ms
Loss rate: 0.35%
```

Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-11-24 18:07:55
End at: 2019-11-24 18:08:25
Local clock offset: 4.455 ms
Remote clock offset: -2.854 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 18.962 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.002 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.991 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19.059 ms
Loss rate: 0.35%
```
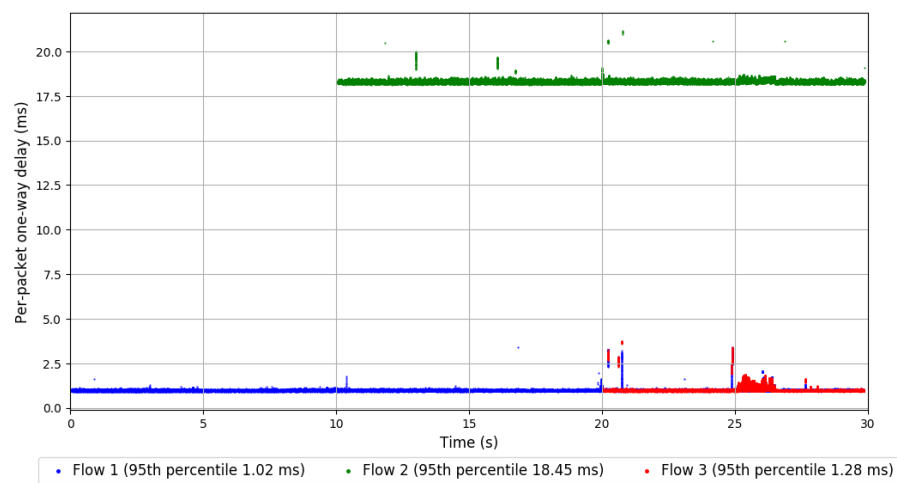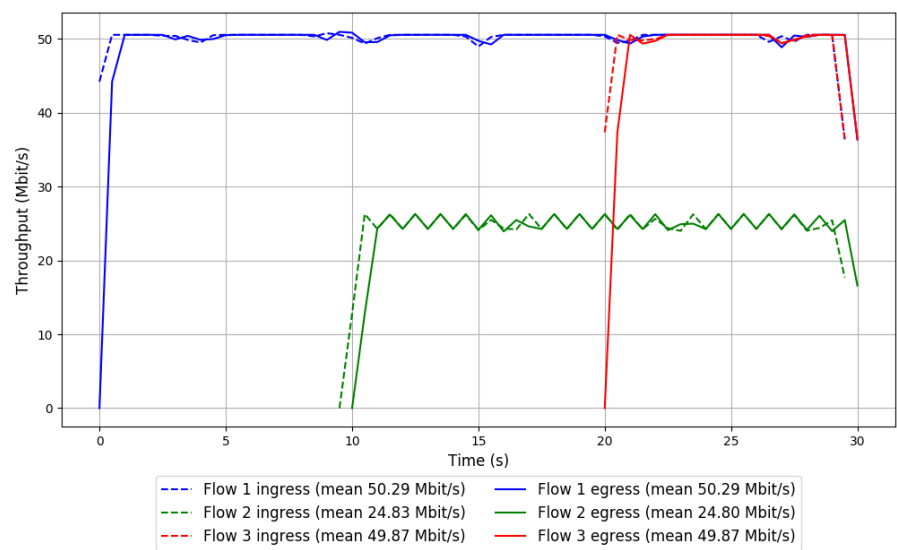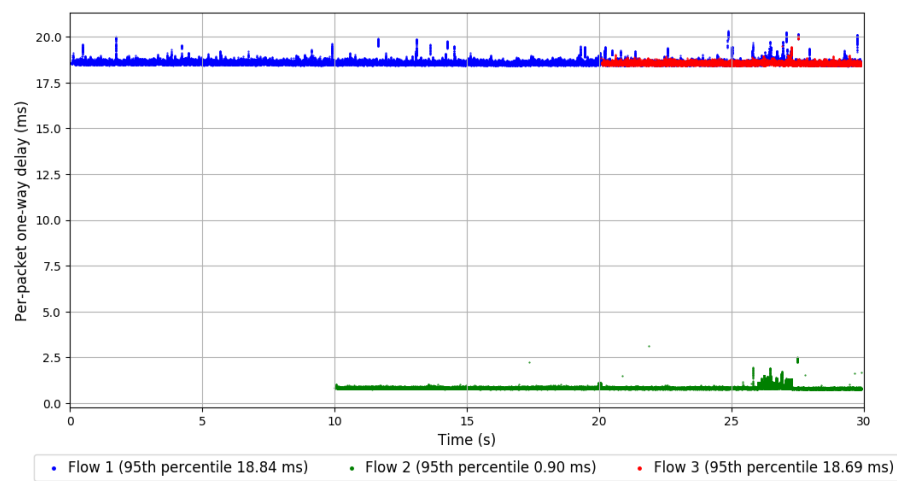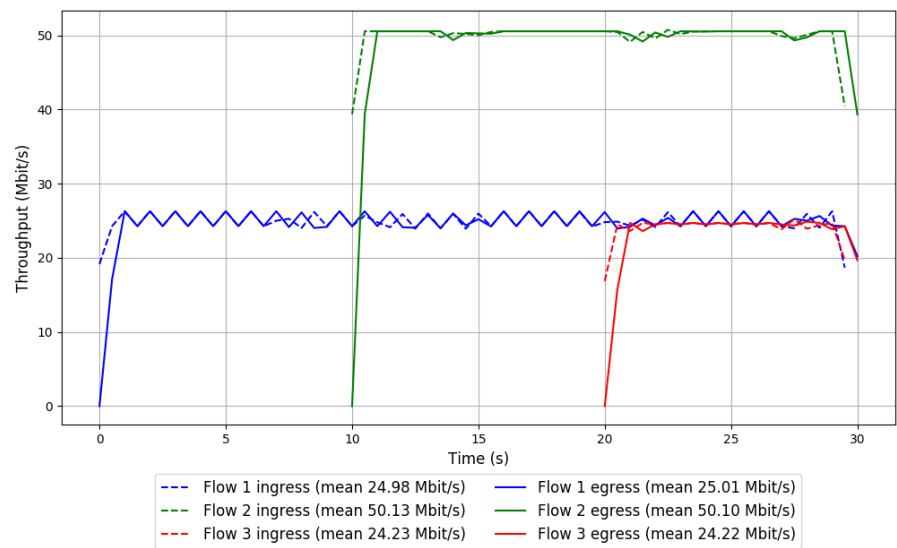
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-11-24 16:12:57
End at: 2019-11-24 16:13:27
Local clock offset: 2.803 ms
Remote clock offset: 1.186 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.15 Mbit/s
95th percentile per-packet one-way delay: 18.345 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 18.451 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 1.276 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 50.29 Mbit/s) --- Flow 1 egress (mean 50.29 Mbit/s)
Flow 2 ingress (mean 24.83 Mbit/s) --- Flow 2 egress (mean 24.80 Mbit/s)
Flow 3 ingress (mean 49.87 Mbit/s) --- Flow 3 egress (mean 49.87 Mbit/s)

Flow 1 (95th percentile 1.02 ms)   Flow 2 (95th percentile 18.45 ms)   Flow 3 (95th percentile 1.28 ms)

```
Run 2: Statistics of Sprout

Start at: 2019-11-24 16:47:26
End at: 2019-11-24 16:47:56
Local clock offset: 3.168 ms
Remote clock offset: -2.603 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.32 Mbit/s
95th percentile per-packet one-way delay: 18.709 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 25.01 Mbit/s
95th percentile per-packet one-way delay: 18.844 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 50.10 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 18.694 ms
Loss rate: 0.23%
```
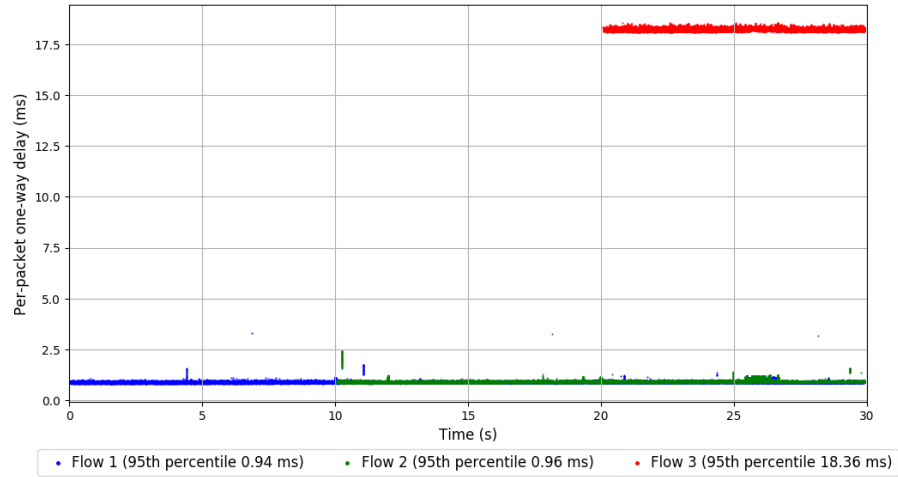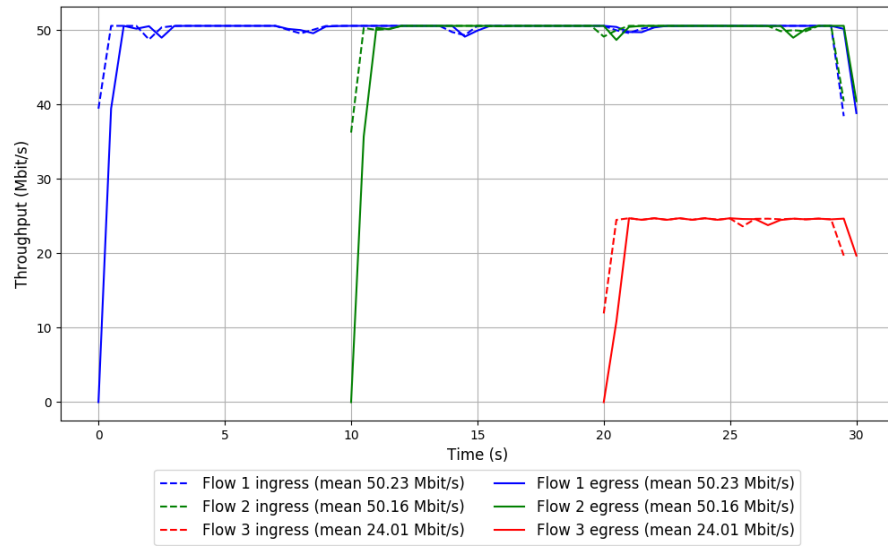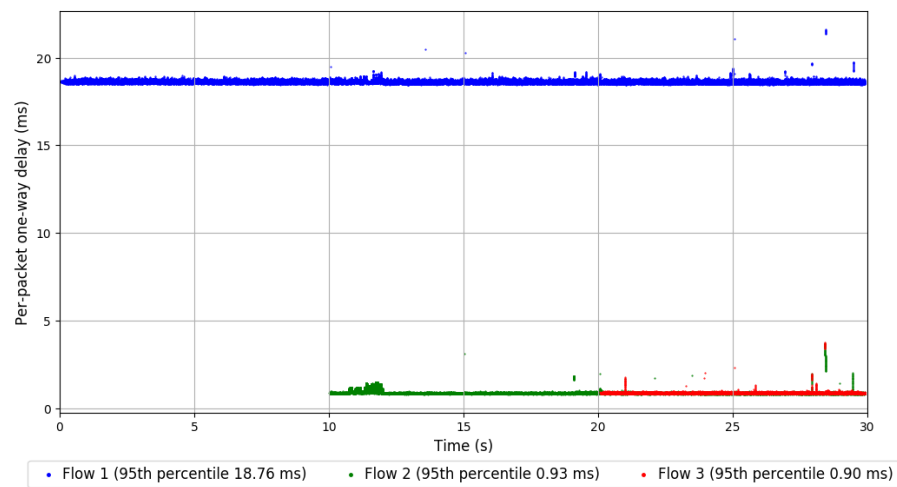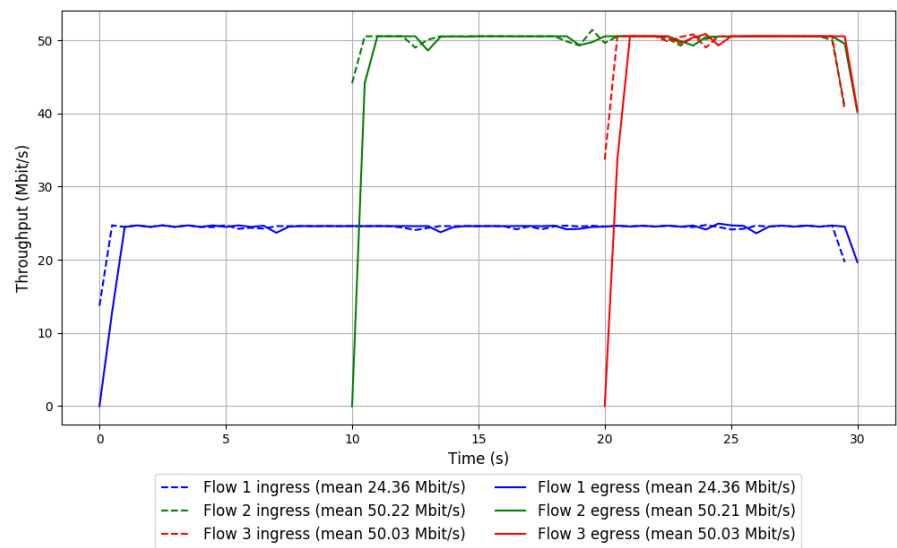
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-11-24 17:21:57
End at: 2019-11-24 17:22:27
Local clock offset: 3.826 ms
Remote clock offset: 1.455 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.43 Mbit/s
95th percentile per-packet one-way delay: 18.209 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.23 Mbit/s
95th percentile per-packet one-way delay: 0.936 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.16 Mbit/s
95th percentile per-packet one-way delay: 0.956 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.01 Mbit/s
95th percentile per-packet one-way delay: 18.361 ms
Loss rate: 0.20%
```

Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-11-24 17:56:41
End at: 2019-11-24 17:57:11
Local clock offset: 4.309 ms
Remote clock offset: -2.471 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.22 Mbit/s
95th percentile per-packet one-way delay: 18.699 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 18.759 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 0.929 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 50.03 Mbit/s
95th percentile per-packet one-way delay: 0.899 ms
Loss rate: 0.00%
```
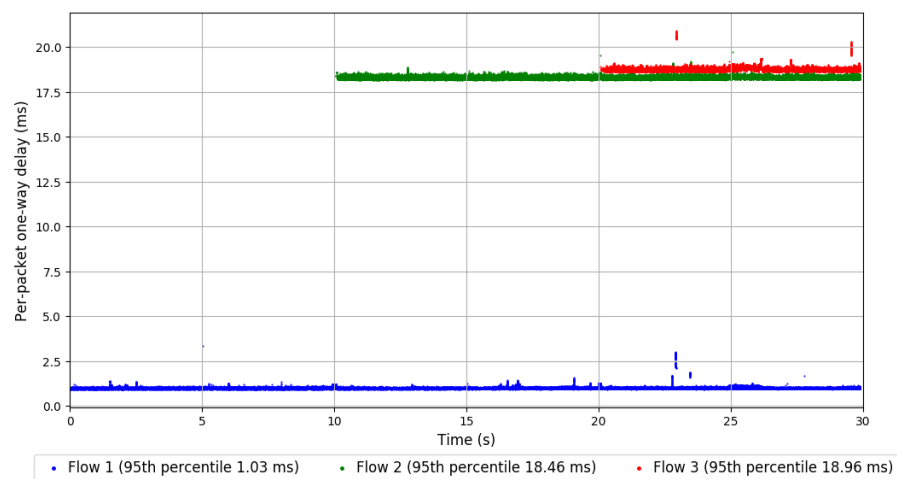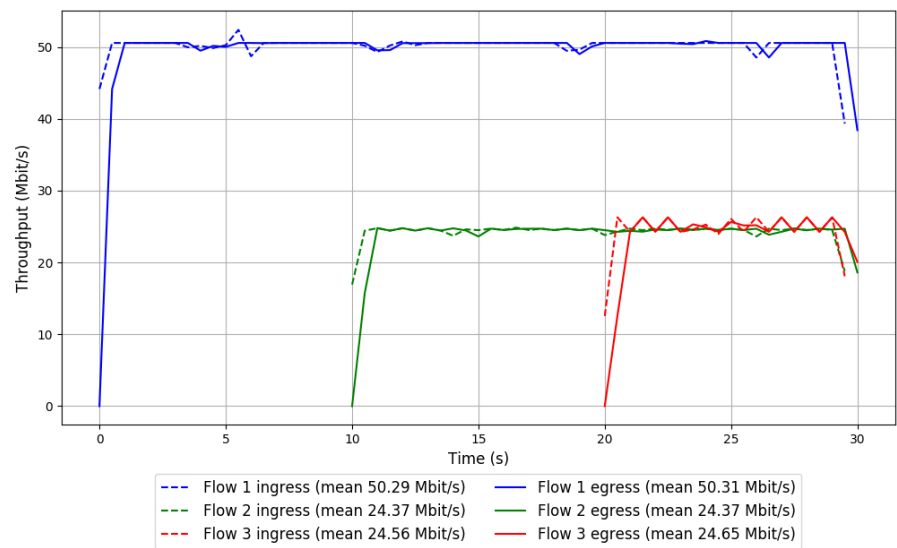
Run 4: Report of Sprout — Data Link

- - - Flow 1 ingress (mean 24.36 Mbit/s) ——— Flow 1 egress (mean 24.36 Mbit/s)
- - - Flow 2 ingress (mean 50.22 Mbit/s) ——— Flow 2 egress (mean 50.21 Mbit/s)
- - - Flow 3 ingress (mean 50.03 Mbit/s) ——— Flow 3 egress (mean 50.03 Mbit/s)

- Flow 1 (95th percentile 18.76 ms)　　• Flow 2 (95th percentile 0.93 ms)　　• Flow 3 (95th percentile 0.90 ms)

```
Run 5: Statistics of Sprout

Start at: 2019-11-24 18:31:27
End at: 2019-11-24 18:31:57
Local clock offset: 4.266 ms
Remote clock offset: 0.683 ms


# Below is generated by plot.py at 2019-11-24 19:50:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.58 Mbit/s
95th percentile per-packet one-way delay: 18.772 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 24.37 Mbit/s
95th percentile per-packet one-way delay: 18.463 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.65 Mbit/s
95th percentile per-packet one-way delay: 18.961 ms
Loss rate: 0.00%
```
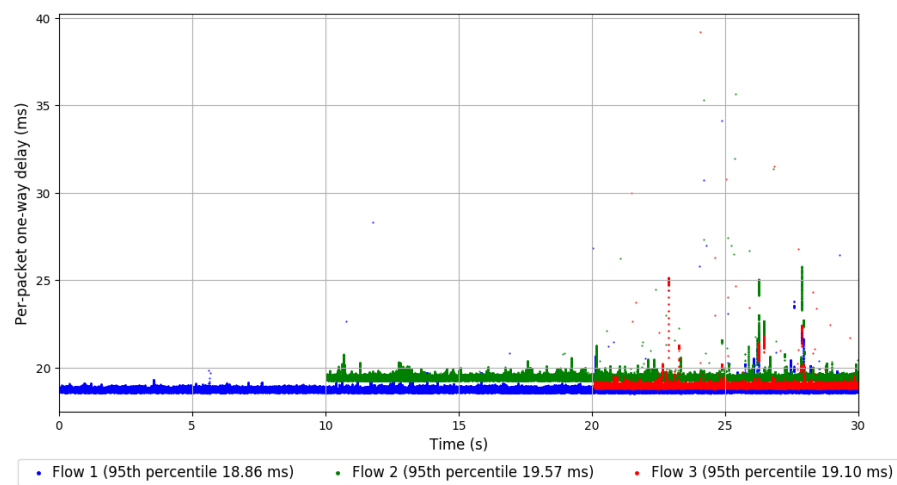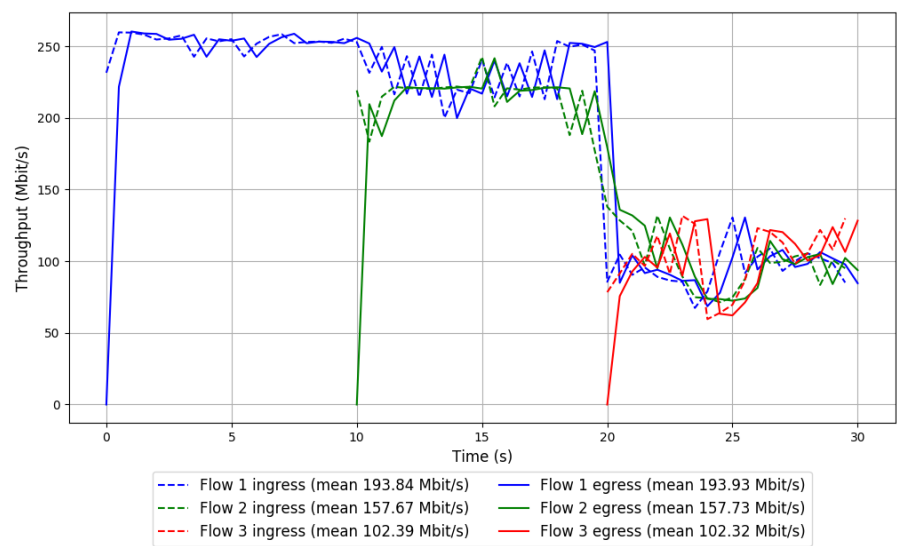
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 50.29 Mbit/s)   Flow 1 egress (mean 50.31 Mbit/s)
Flow 2 ingress (mean 24.37 Mbit/s)   Flow 2 egress (mean 24.37 Mbit/s)
Flow 3 ingress (mean 24.56 Mbit/s)   Flow 3 egress (mean 24.65 Mbit/s)

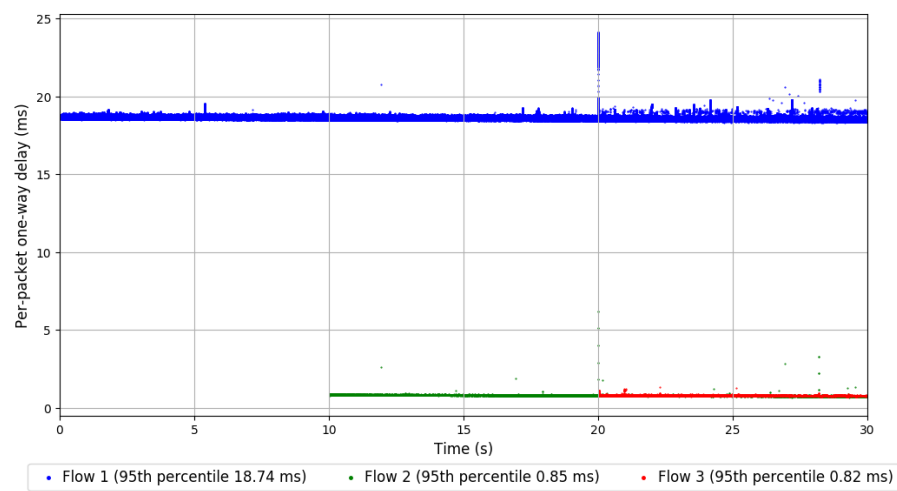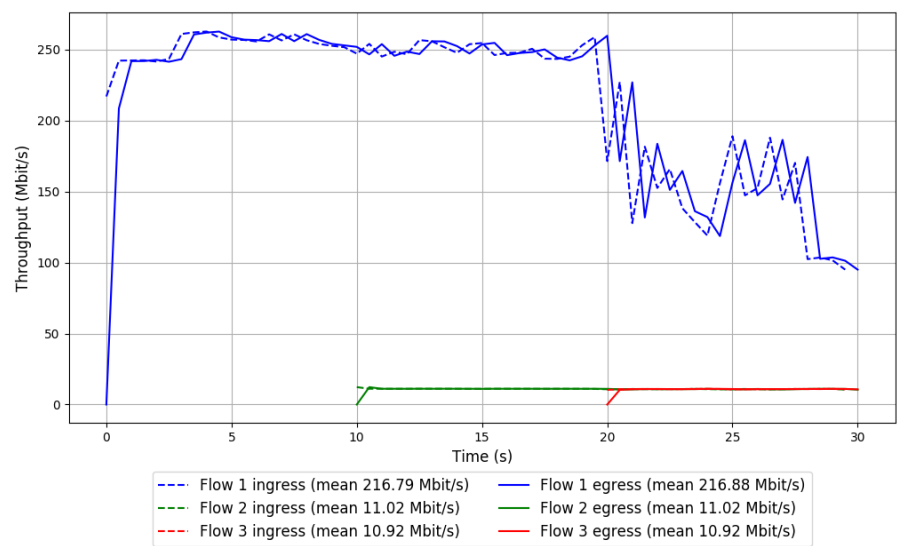Flow 1 (95th percentile 1.03 ms)   Flow 2 (95th percentile 18.46 ms)   Flow 3 (95th percentile 18.96 ms)

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

Start at: 2019-11-24 15:56:29
End at: 2019-11-24 15:56:59
Local clock offset: 2.905 ms
Remote clock offset: 0.575 ms

# Below is generated by plot.py at 2019-11-24 19:51:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.83 Mbit/s
95th percentile per-packet one-way delay: 19.491 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 193.93 Mbit/s
95th percentile per-packet one-way delay: 18.856 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 157.73 Mbit/s
95th percentile per-packet one-way delay: 19.567 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 102.32 Mbit/s
95th percentile per-packet one-way delay: 19.104 ms
Loss rate: 0.27%
```
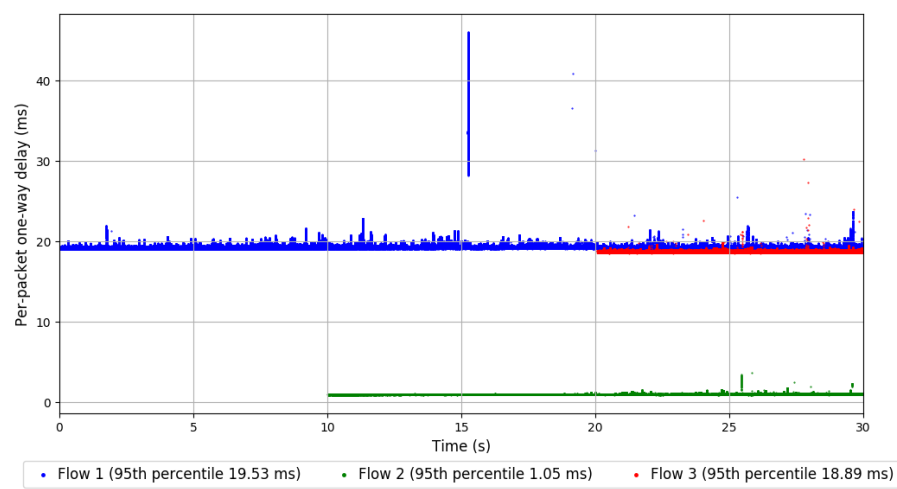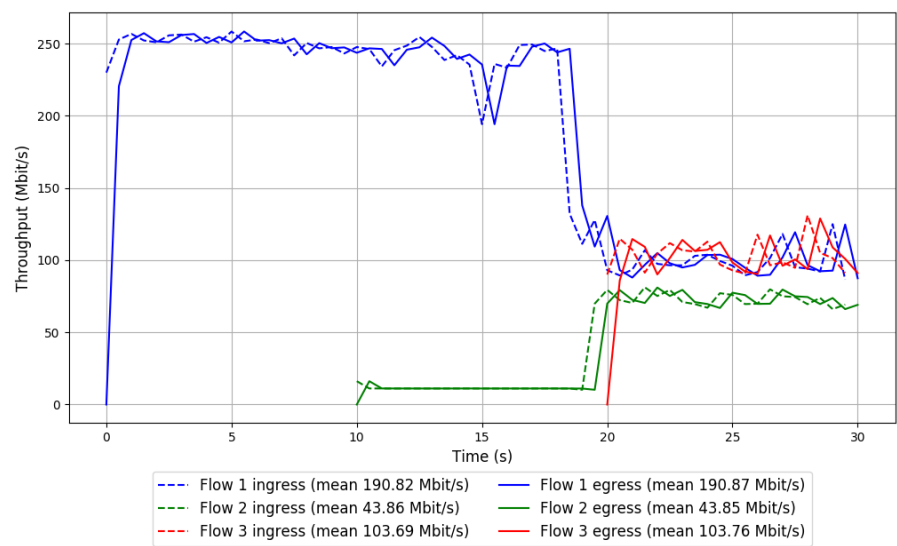
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 193.84 Mbit/s) --- Flow 1 egress (mean 193.93 Mbit/s)
Flow 2 ingress (mean 157.67 Mbit/s) --- Flow 2 egress (mean 157.73 Mbit/s)
Flow 3 ingress (mean 102.39 Mbit/s) --- Flow 3 egress (mean 102.32 Mbit/s)

Flow 1 (95th percentile 18.86 ms)   Flow 2 (95th percentile 19.57 ms)   Flow 3 (95th percentile 19.10 ms)

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

Start at: 2019-11-24 16:31:23
End at: 2019-11-24 16:31:53
Local clock offset: 2.742 ms
Remote clock offset: -0.356 ms


# Below is generated by plot.py at 2019-11-24 19:51:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.84 Mbit/s
95th percentile per-packet one-way delay: 18.741 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 216.88 Mbit/s
95th percentile per-packet one-way delay: 18.744 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 11.02 Mbit/s
95th percentile per-packet one-way delay: 0.848 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 10.92 Mbit/s
95th percentile per-packet one-way delay: 0.825 ms
Loss rate: 0.01%
```
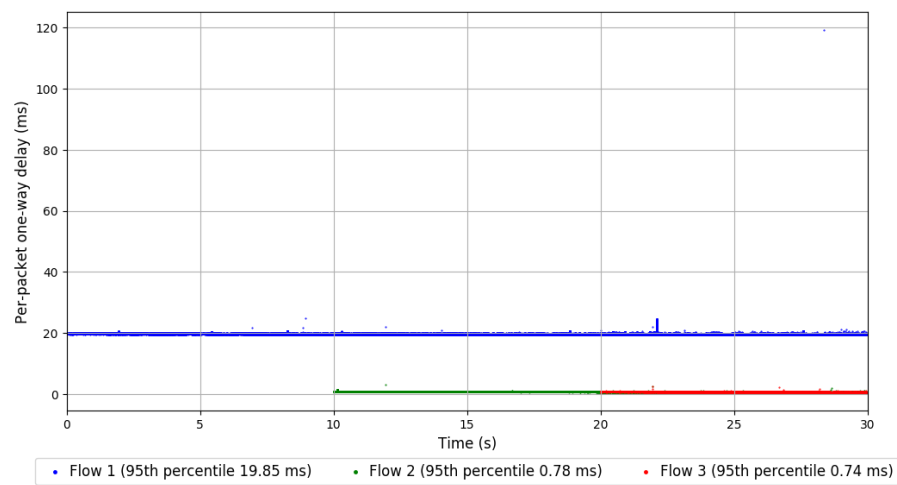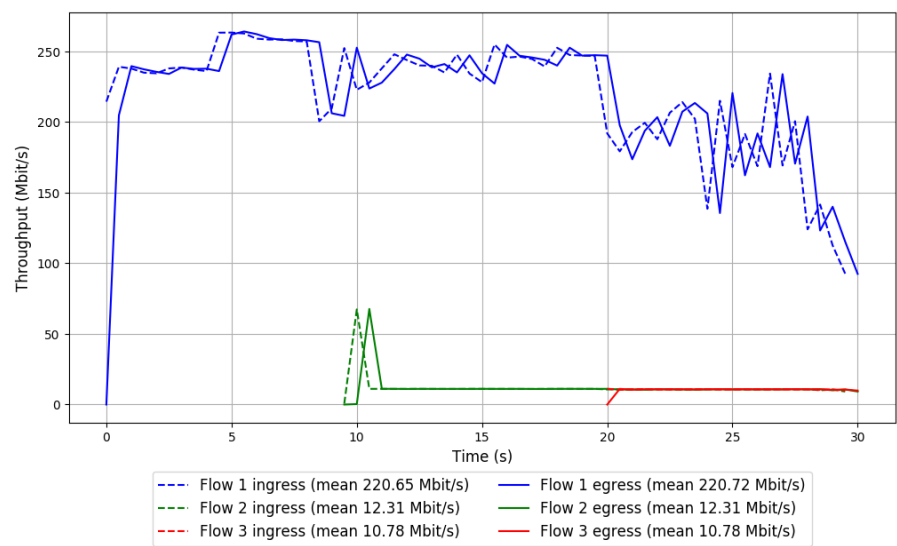
Run 2: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 216.79 Mbit/s) —— Flow 1 egress (mean 216.88 Mbit/s)
- - - Flow 2 ingress (mean 11.02 Mbit/s) —— Flow 2 egress (mean 11.02 Mbit/s)
- - - Flow 3 ingress (mean 10.92 Mbit/s) —— Flow 3 egress (mean 10.92 Mbit/s)

- Flow 1 (95th percentile 18.74 ms)   • Flow 2 (95th percentile 0.85 ms)   • Flow 3 (95th percentile 0.82 ms)

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

Start at: 2019-11-24 17:05:34
End at: 2019-11-24 17:06:04
Local clock offset: 3.566 ms
Remote clock offset: -1.298 ms

# Below is generated by plot.py at 2019-11-24 19:51:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.45 Mbit/s
95th percentile per-packet one-way delay: 19.453 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 190.87 Mbit/s
95th percentile per-packet one-way delay: 19.530 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 43.85 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 103.76 Mbit/s
95th percentile per-packet one-way delay: 18.889 ms
Loss rate: 0.13%
```
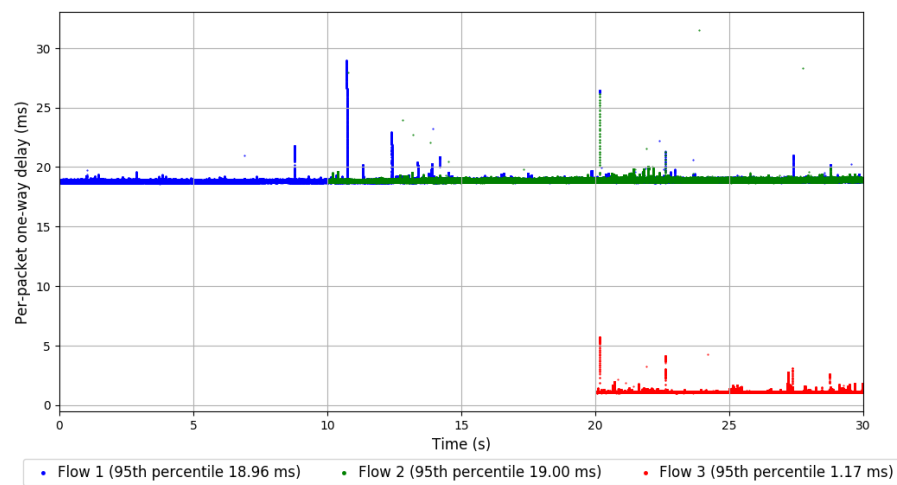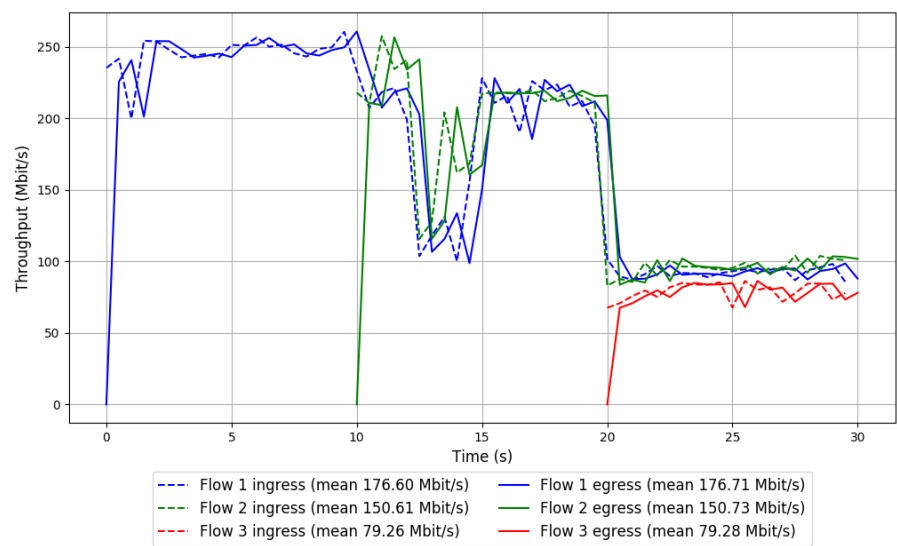
Run 3: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 190.82 Mbit/s) ——— Flow 1 egress (mean 190.87 Mbit/s)
- - - Flow 2 ingress (mean 43.86 Mbit/s) ——— Flow 2 egress (mean 43.85 Mbit/s)
- - - Flow 3 ingress (mean 103.69 Mbit/s) ——— Flow 3 egress (mean 103.76 Mbit/s)

• Flow 1 (95th percentile 19.53 ms)　　• Flow 2 (95th percentile 1.05 ms)　　• Flow 3 (95th percentile 18.89 ms)

200

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

Start at: 2019-11-24 17:40:24
End at: 2019-11-24 17:40:54
Local clock offset: 4.016 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-11-24 19:51:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.50 Mbit/s
95th percentile per-packet one-way delay: 19.845 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 220.72 Mbit/s
95th percentile per-packet one-way delay: 19.847 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 0.778 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 0.742 ms
Loss rate: 0.01%
```
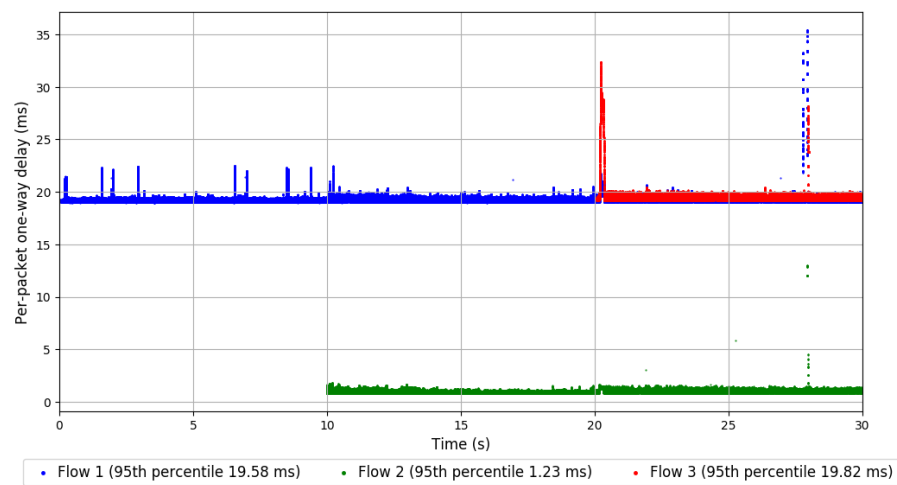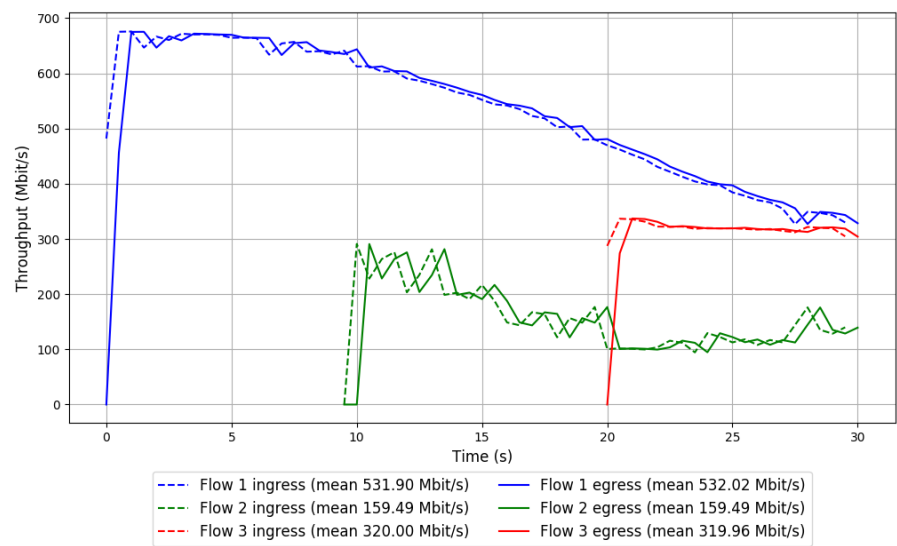
Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 220.65 Mbit/s) —— Flow 1 egress (mean 220.72 Mbit/s)
- - - - Flow 2 ingress (mean 12.31 Mbit/s) —— Flow 2 egress (mean 12.31 Mbit/s)
- - - - Flow 3 ingress (mean 10.78 Mbit/s) —— Flow 3 egress (mean 10.78 Mbit/s)

- Flow 1 (95th percentile 19.85 ms) • Flow 2 (95th percentile 0.78 ms) • Flow 3 (95th percentile 0.74 ms)

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

Start at: 2019-11-24 18:15:10
End at: 2019-11-24 18:15:40
Local clock offset: 4.317 ms
Remote clock offset: -1.214 ms


# Below is generated by plot.py at 2019-11-24 19:51:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.28 Mbit/s
95th percentile per-packet one-way delay: 18.975 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 176.71 Mbit/s
95th percentile per-packet one-way delay: 18.962 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 150.73 Mbit/s
95th percentile per-packet one-way delay: 19.002 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 79.28 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.00%
```
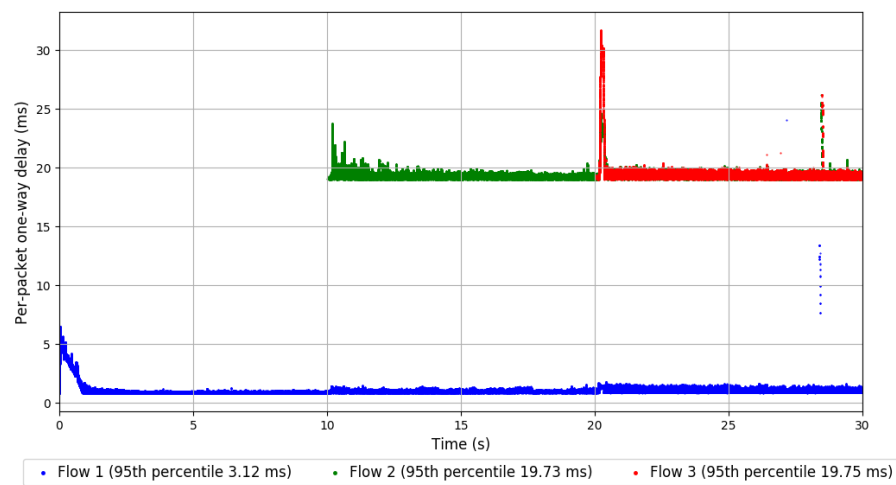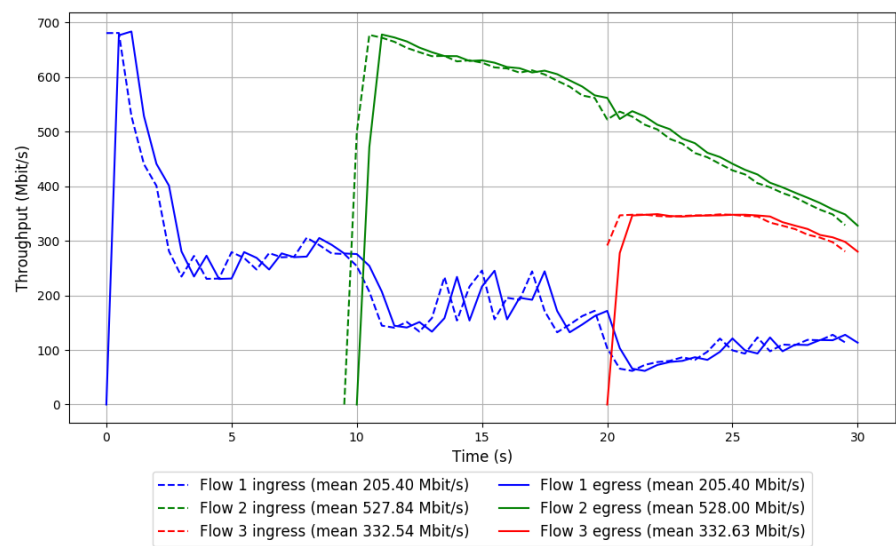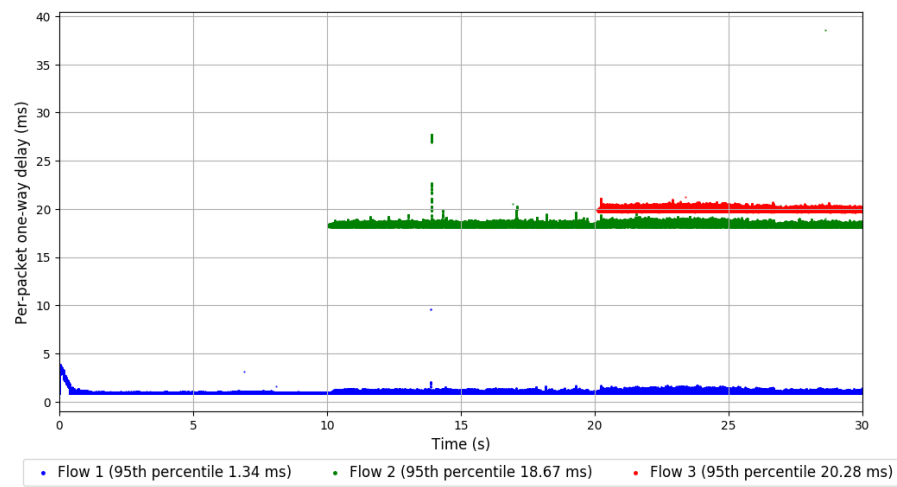
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 176.60 Mbit/s)   Flow 1 egress (mean 176.71 Mbit/s)
Flow 2 ingress (mean 150.61 Mbit/s)   Flow 2 egress (mean 150.73 Mbit/s)
Flow 3 ingress (mean 79.26 Mbit/s)   Flow 3 egress (mean 79.28 Mbit/s)

Flow 1 (95th percentile 18.96 ms)   Flow 2 (95th percentile 19.00 ms)   Flow 3 (95th percentile 1.17 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-11-24 15:50:31
End at: 2019-11-24 15:51:01
Local clock offset: 2.978 ms
Remote clock offset: 0.701 ms


# Below is generated by plot.py at 2019-11-24 19:53:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 744.61 Mbit/s
95th percentile per-packet one-way delay: 19.643 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 532.02 Mbit/s
95th percentile per-packet one-way delay: 19.584 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 159.49 Mbit/s
95th percentile per-packet one-way delay: 1.229 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 319.96 Mbit/s
95th percentile per-packet one-way delay: 19.818 ms
Loss rate: 0.21%
```
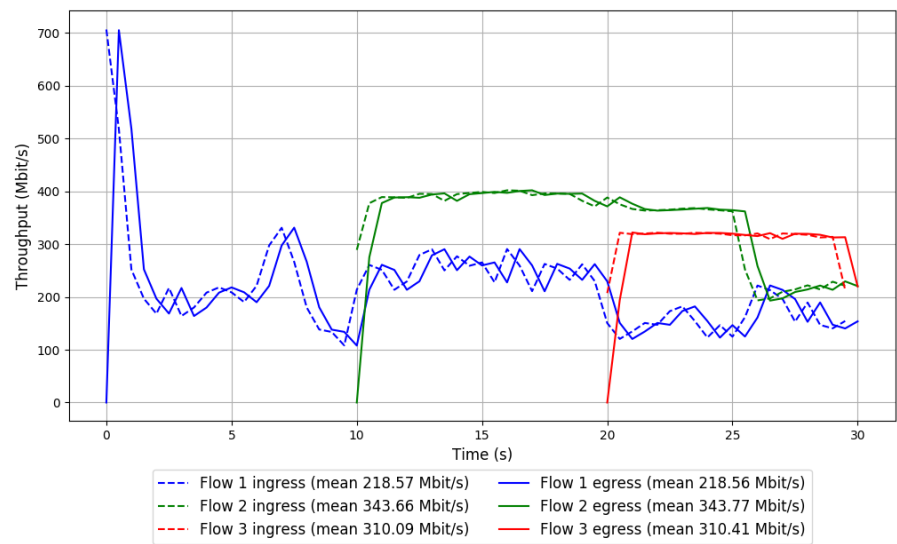
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-11-24 16:25:26
End at: 2019-11-24 16:25:56
Local clock offset: 2.749 ms
Remote clock offset: 1.826 ms


# Below is generated by plot.py at 2019-11-24 19:56:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.28 Mbit/s
95th percentile per-packet one-way delay: 19.658 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 205.40 Mbit/s
95th percentile per-packet one-way delay: 3.115 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 528.00 Mbit/s
95th percentile per-packet one-way delay: 19.725 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 332.63 Mbit/s
95th percentile per-packet one-way delay: 19.746 ms
Loss rate: 0.18%
```
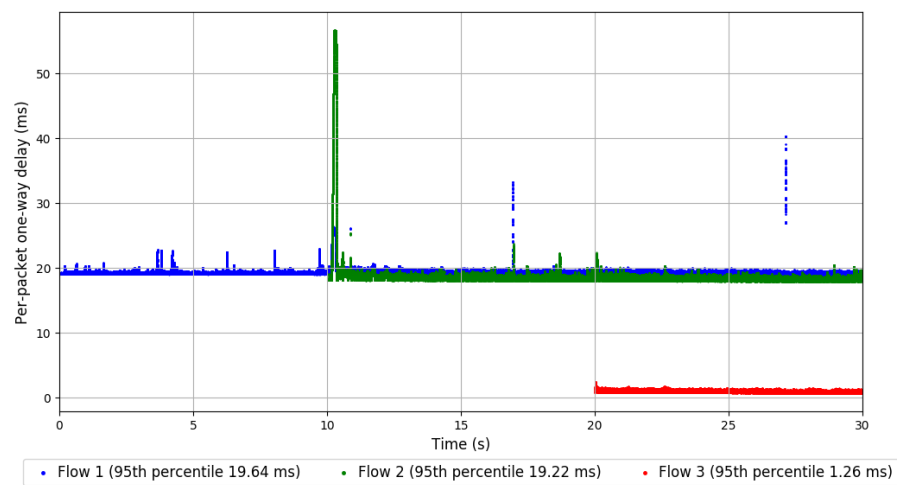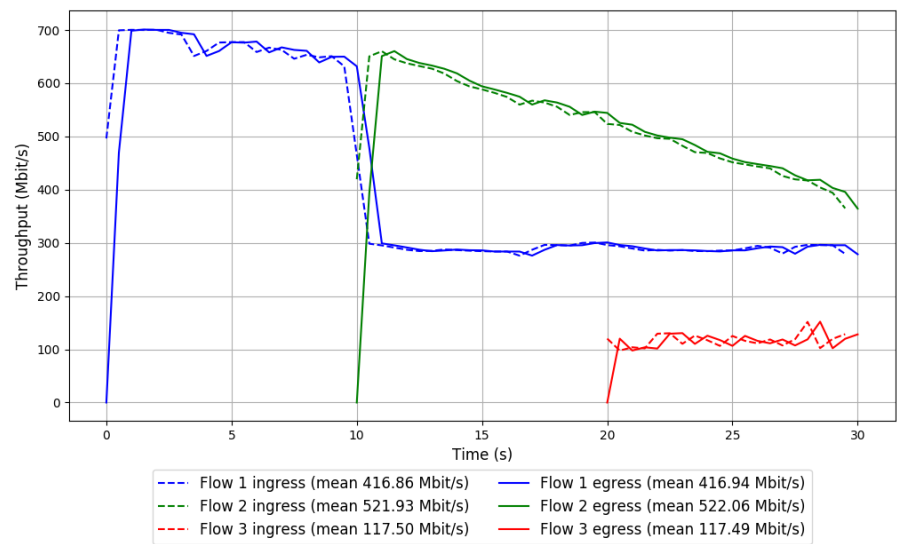
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-11-24 16:59:46
End at: 2019-11-24 17:00:16
Local clock offset: 3.501 ms
Remote clock offset: -3.058 ms


# Below is generated by plot.py at 2019-11-24 19:56:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 549.87 Mbit/s
95th percentile per-packet one-way delay: 20.086 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 218.56 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 343.77 Mbit/s
95th percentile per-packet one-way delay: 18.671 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 310.41 Mbit/s
95th percentile per-packet one-way delay: 20.284 ms
Loss rate: 0.11%
```
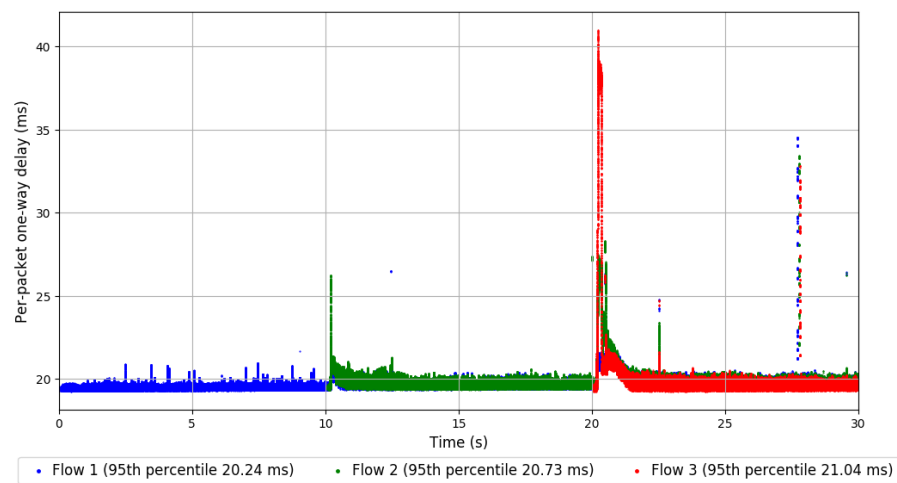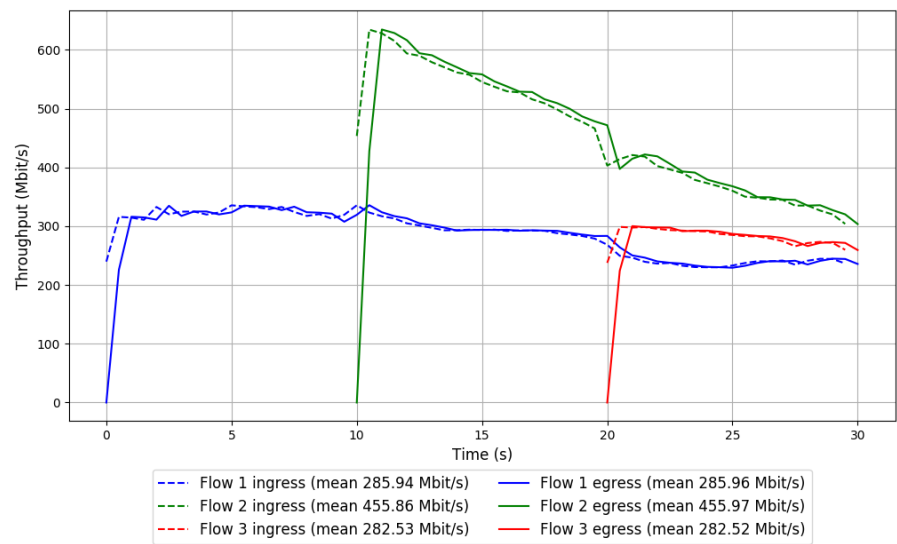
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-11-24 17:34:25
End at: 2019-11-24 17:34:55
Local clock offset: 3.945 ms
Remote clock offset: 2.494 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 803.73 Mbit/s
95th percentile per-packet one-way delay: 19.532 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 416.94 Mbit/s
95th percentile per-packet one-way delay: 19.645 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 522.06 Mbit/s
95th percentile per-packet one-way delay: 19.220 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 117.49 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 0.02%
```
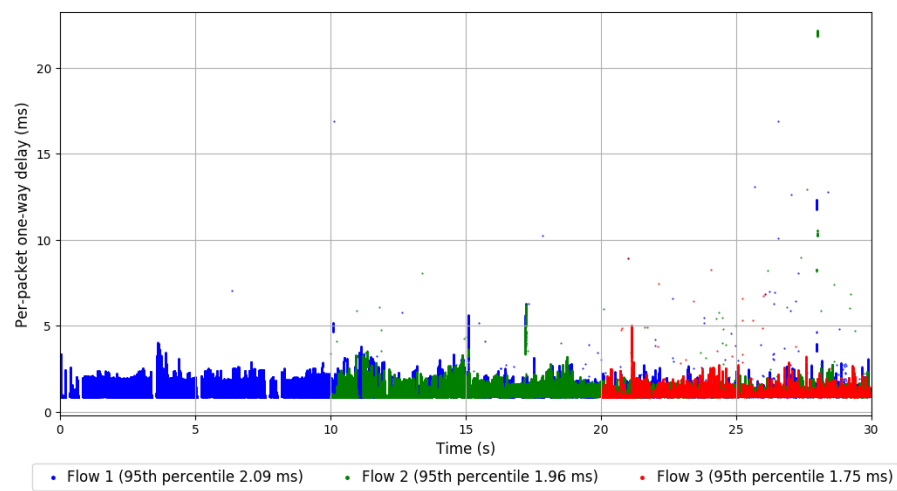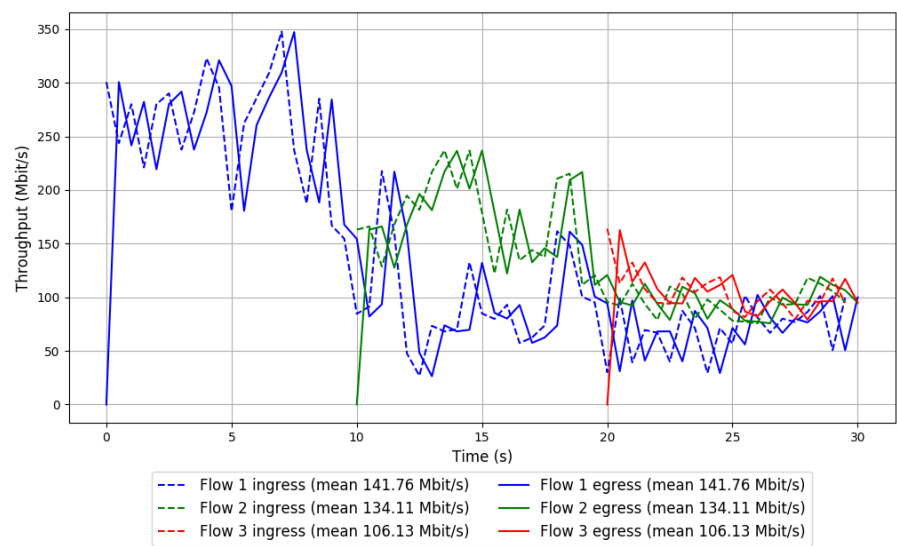
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-11-24 18:09:09
End at: 2019-11-24 18:09:39
Local clock offset: 4.486 ms
Remote clock offset: -2.81 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.44 Mbit/s
95th percentile per-packet one-way delay: 20.606 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 285.96 Mbit/s
95th percentile per-packet one-way delay: 20.236 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 455.97 Mbit/s
95th percentile per-packet one-way delay: 20.730 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 282.52 Mbit/s
95th percentile per-packet one-way delay: 21.037 ms
Loss rate: 0.20%
```
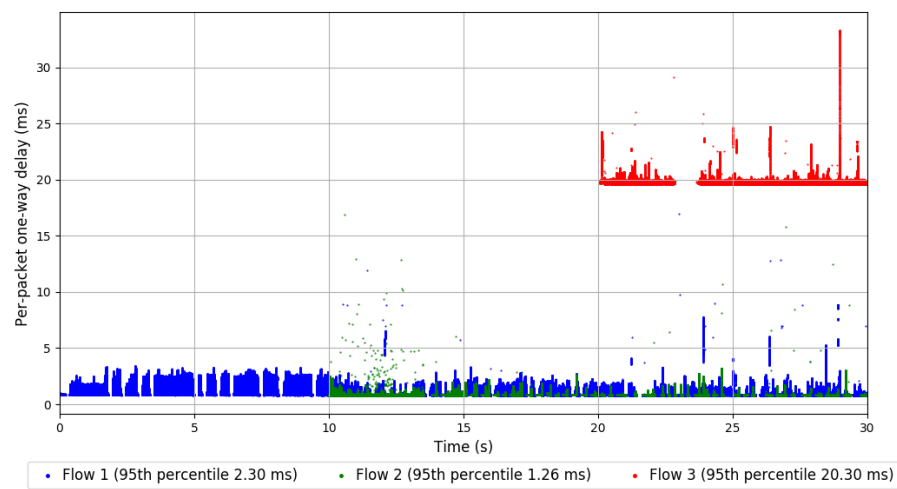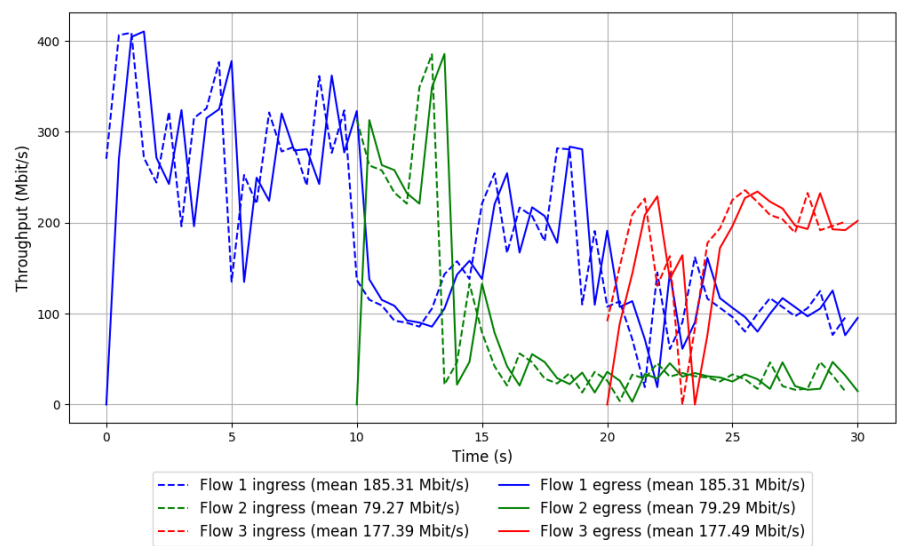
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-11-24 16:14:13
End at: 2019-11-24 16:14:43
Local clock offset: 2.756 ms
Remote clock offset: 1.237 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.36 Mbit/s
95th percentile per-packet one-way delay: 2.016 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 141.76 Mbit/s
95th percentile per-packet one-way delay: 2.094 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 134.11 Mbit/s
95th percentile per-packet one-way delay: 1.955 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 106.13 Mbit/s
95th percentile per-packet one-way delay: 1.755 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-11-24 16:48:42
End at: 2019-11-24 16:49:12
Local clock offset: 3.218 ms
Remote clock offset: -2.658 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 296.94 Mbit/s
95th percentile per-packet one-way delay: 19.794 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 185.31 Mbit/s
95th percentile per-packet one-way delay: 2.298 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 79.29 Mbit/s
95th percentile per-packet one-way delay: 1.258 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 177.49 Mbit/s
95th percentile per-packet one-way delay: 20.299 ms
Loss rate: 0.23%
```
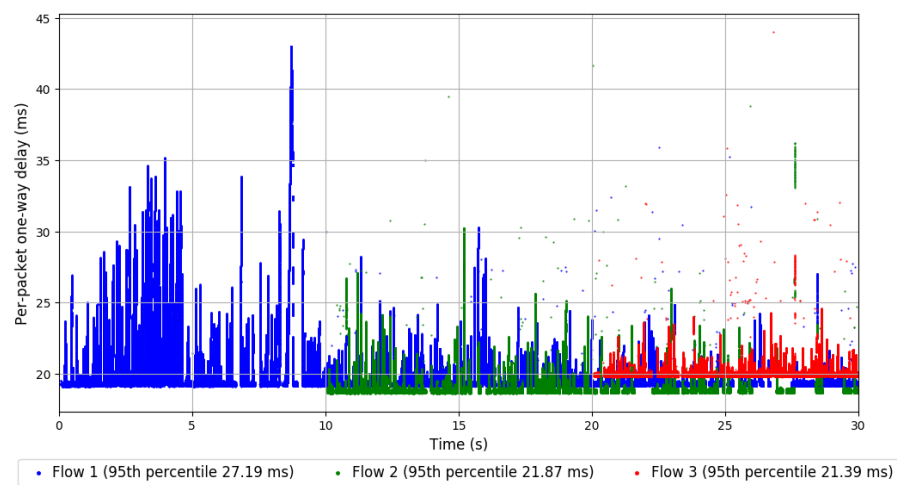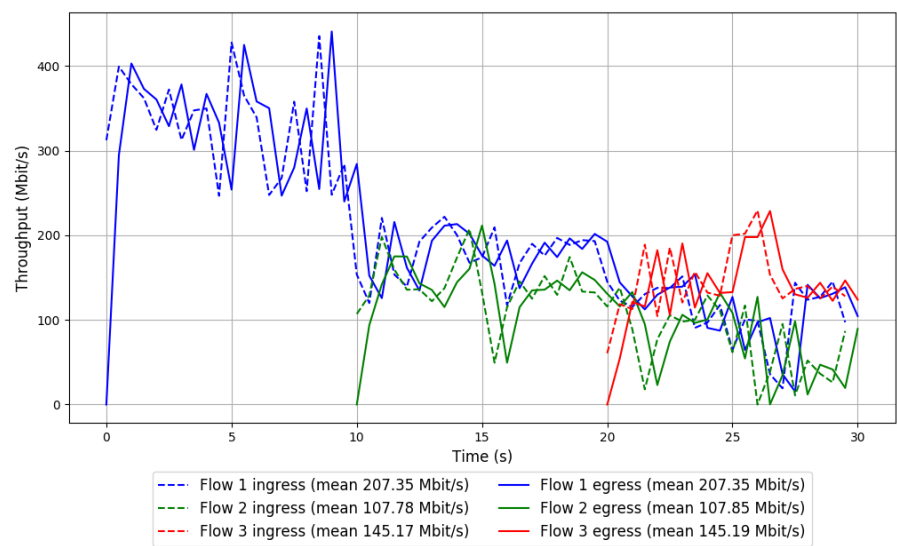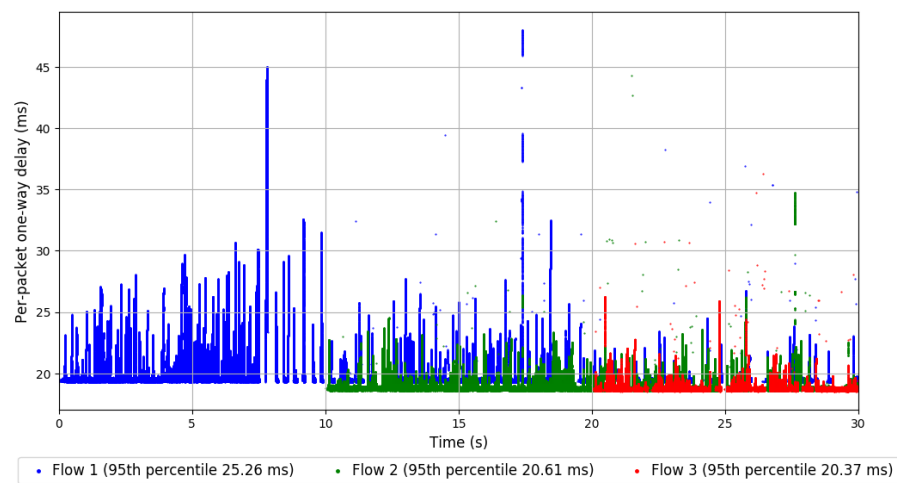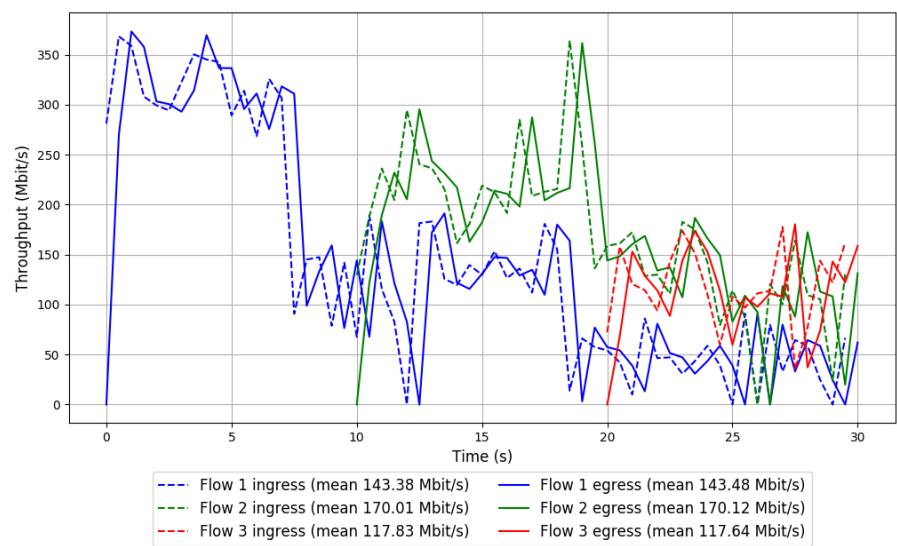
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-11-24 17:23:13
End at: 2019-11-24 17:23:43
Local clock offset: 3.84 ms
Remote clock offset: 1.446 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.25 Mbit/s
95th percentile per-packet one-way delay: 25.206 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 207.35 Mbit/s
95th percentile per-packet one-way delay: 27.190 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 107.85 Mbit/s
95th percentile per-packet one-way delay: 21.869 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 145.19 Mbit/s
95th percentile per-packet one-way delay: 21.387 ms
Loss rate: 0.22%
```

Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-11-24 17:57:57
End at: 2019-11-24 17:58:27
Local clock offset: 4.35 ms
Remote clock offset: -2.606 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.70 Mbit/s
95th percentile per-packet one-way delay: 23.215 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 143.48 Mbit/s
95th percentile per-packet one-way delay: 25.260 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 170.12 Mbit/s
95th percentile per-packet one-way delay: 20.610 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 117.64 Mbit/s
95th percentile per-packet one-way delay: 20.373 ms
Loss rate: 0.36%
```
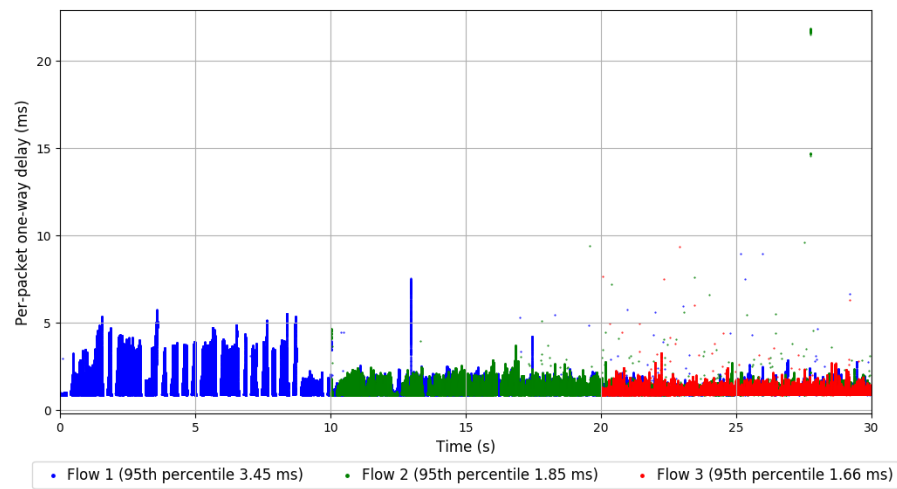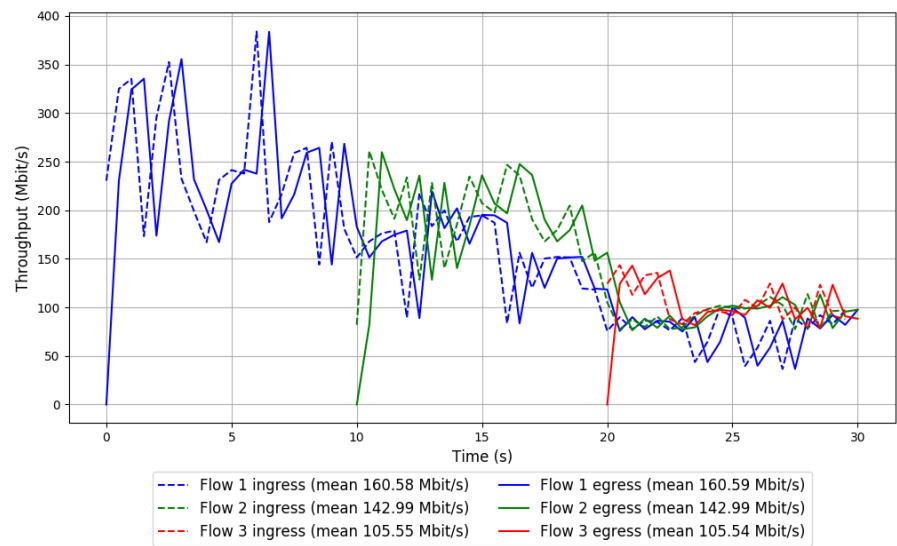
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-11-24 18:32:43
End at: 2019-11-24 18:33:13
Local clock offset: 4.27 ms
Remote clock offset: 0.835 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.83 Mbit/s
95th percentile per-packet one-way delay: 3.058 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 160.59 Mbit/s
95th percentile per-packet one-way delay: 3.447 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.99 Mbit/s
95th percentile per-packet one-way delay: 1.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 105.54 Mbit/s
95th percentile per-packet one-way delay: 1.659 ms
Loss rate: 0.00%
```
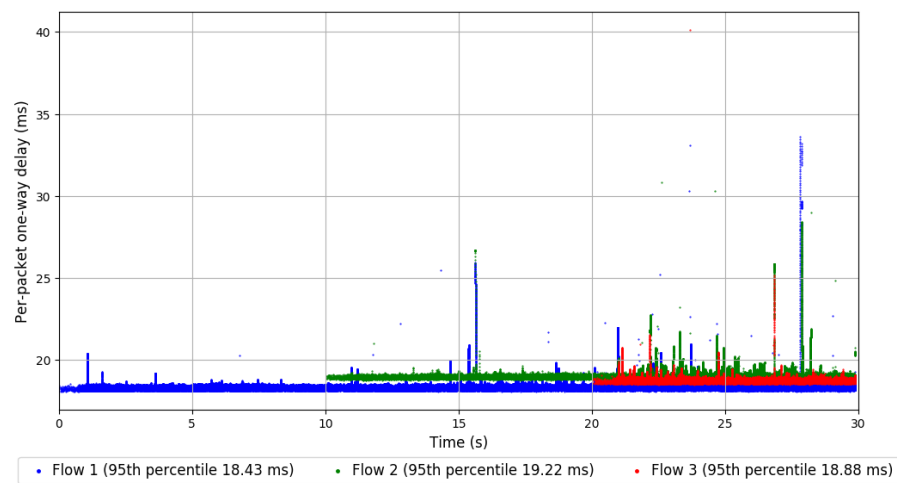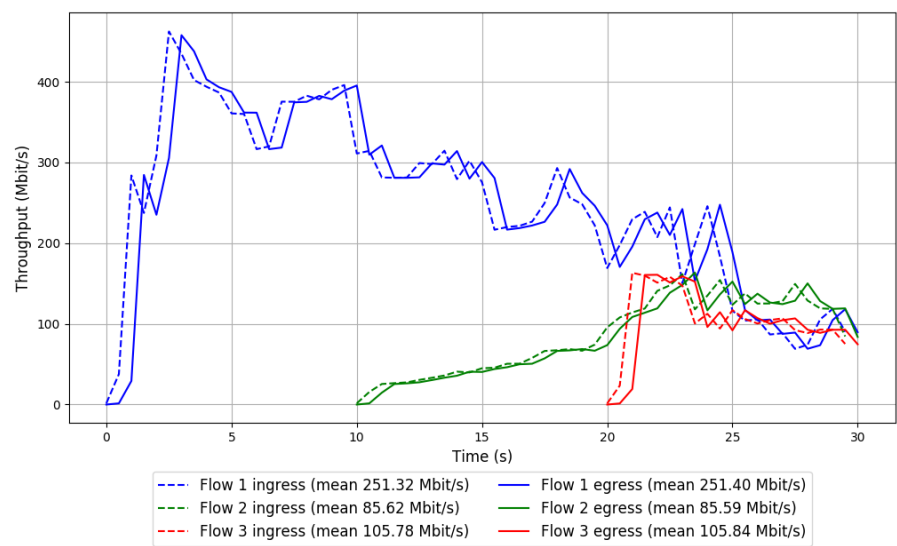
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-11-24 15:47:47
End at: 2019-11-24 15:48:17
Local clock offset: 3.012 ms
Remote clock offset: 0.488 ms


# Below is generated by plot.py at 2019-11-24 19:58:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.20 Mbit/s
95th percentile per-packet one-way delay: 19.021 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 251.40 Mbit/s
95th percentile per-packet one-way delay: 18.434 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 19.216 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 105.84 Mbit/s
95th percentile per-packet one-way delay: 18.877 ms
Loss rate: 0.20%
```

Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-11-24 16:22:41
End at: 2019-11-24 16:23:11
Local clock offset: 2.754 ms
Remote clock offset: 1.68 ms


# Below is generated by plot.py at 2019-11-24 19:58:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 376.63 Mbit/s
95th percentile per-packet one-way delay: 19.770 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 278.81 Mbit/s
95th percentile per-packet one-way delay: 19.305 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 118.01 Mbit/s
95th percentile per-packet one-way delay: 18.904 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 19.987 ms
Loss rate: 0.42%
```
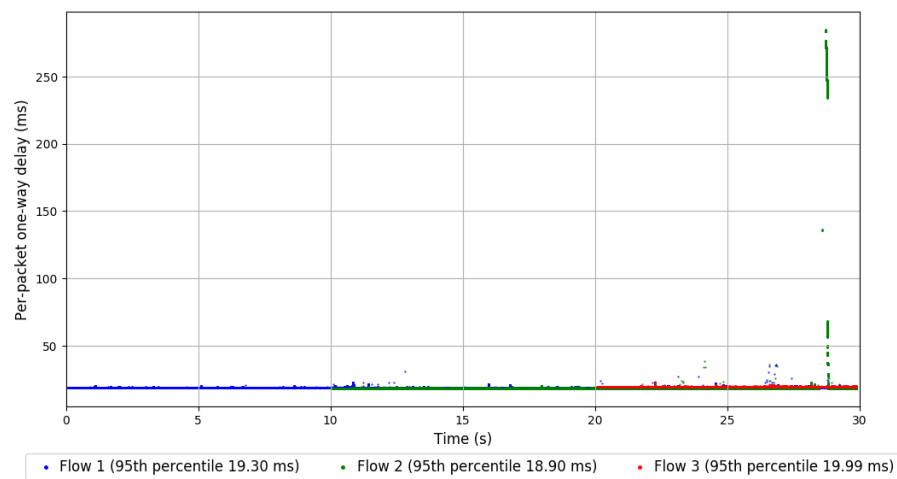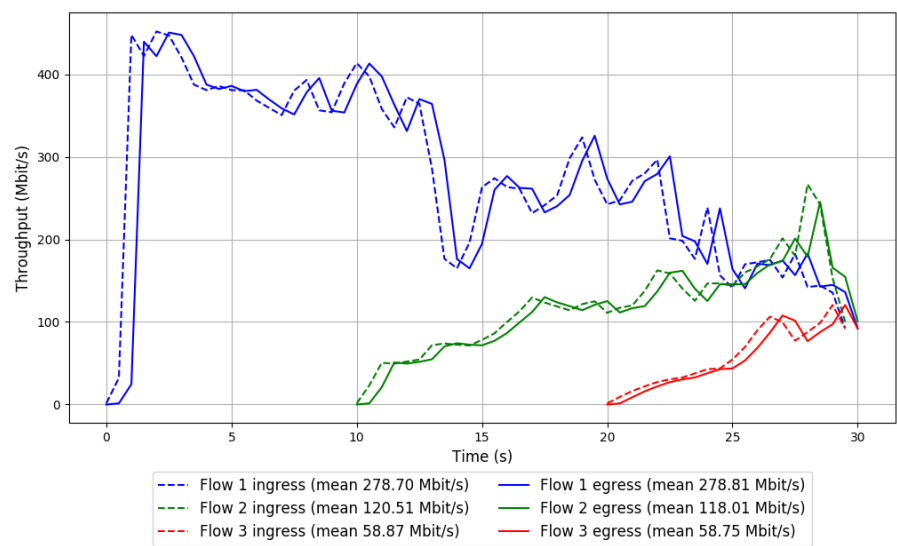
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-11-24 16:57:09
End at: 2019-11-24 16:57:39
Local clock offset: 3.472 ms
Remote clock offset: -2.99 ms


# Below is generated by plot.py at 2019-11-24 19:59:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.30 Mbit/s
95th percentile per-packet one-way delay: 19.341 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 237.45 Mbit/s
95th percentile per-packet one-way delay: 19.334 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 141.42 Mbit/s
95th percentile per-packet one-way delay: 19.399 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 90.51 Mbit/s
95th percentile per-packet one-way delay: 18.783 ms
Loss rate: 0.18%
```
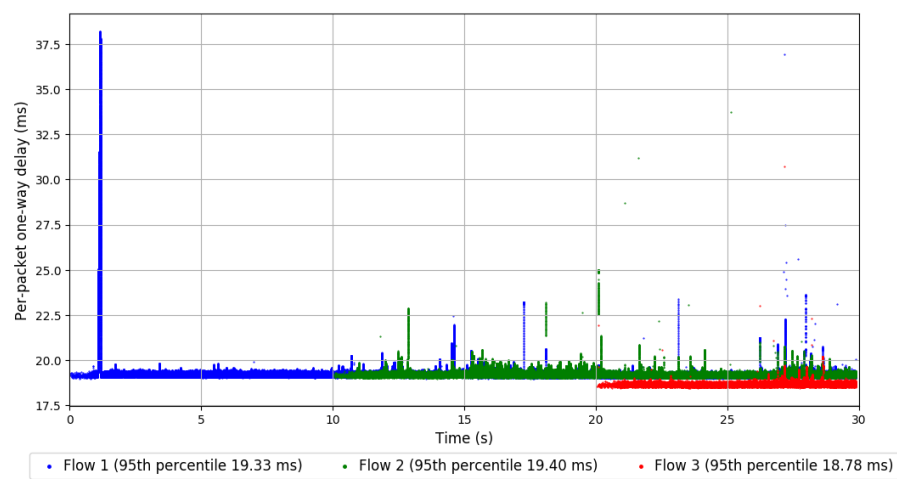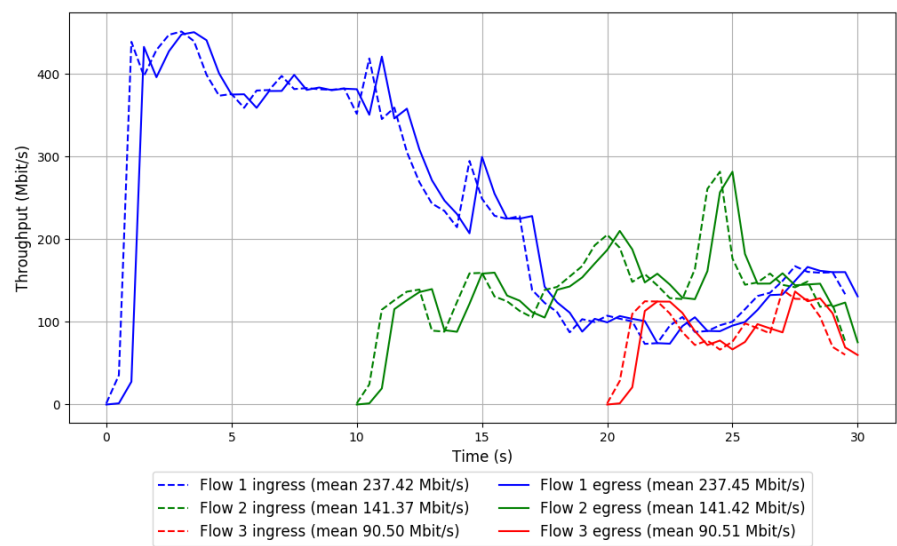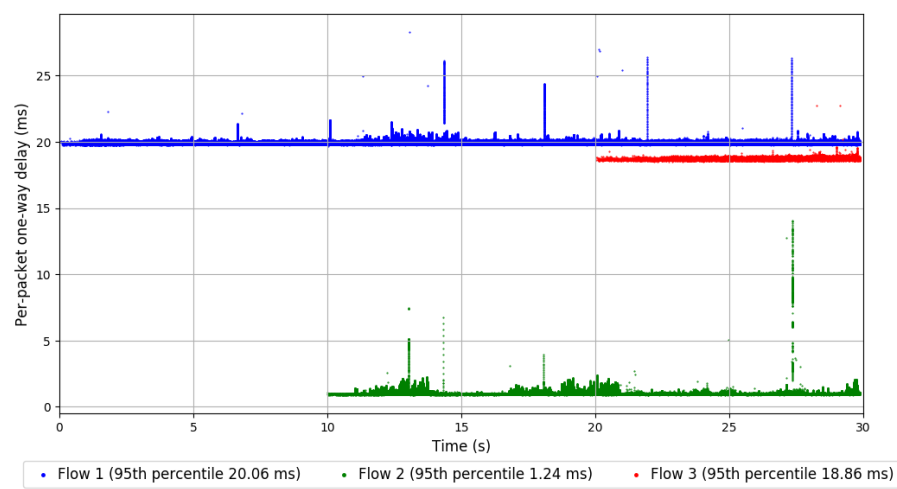
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 237.42 Mbit/s) --- Flow 1 egress (mean 237.45 Mbit/s)
Flow 2 ingress (mean 141.37 Mbit/s) --- Flow 2 egress (mean 141.42 Mbit/s)
Flow 3 ingress (mean 90.50 Mbit/s) --- Flow 3 egress (mean 90.51 Mbit/s)

Flow 1 (95th percentile 19.33 ms)   Flow 2 (95th percentile 19.40 ms)   Flow 3 (95th percentile 18.78 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-11-24 17:31:42
End at: 2019-11-24 17:32:12
Local clock offset: 3.928 ms
Remote clock offset: 2.214 ms


# Below is generated by plot.py at 2019-11-24 19:59:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.39 Mbit/s
95th percentile per-packet one-way delay: 20.040 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 228.62 Mbit/s
95th percentile per-packet one-way delay: 20.061 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 109.04 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 18.857 ms
Loss rate: 0.32%
```
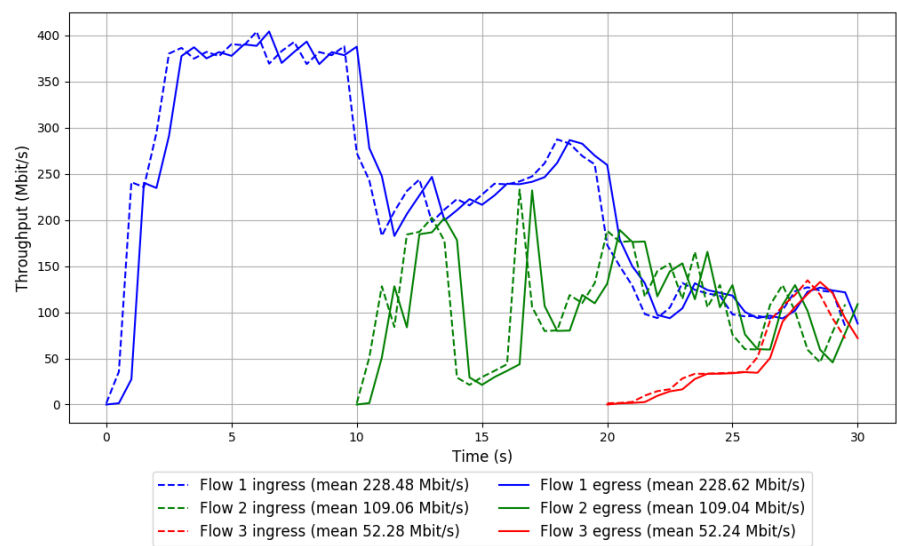
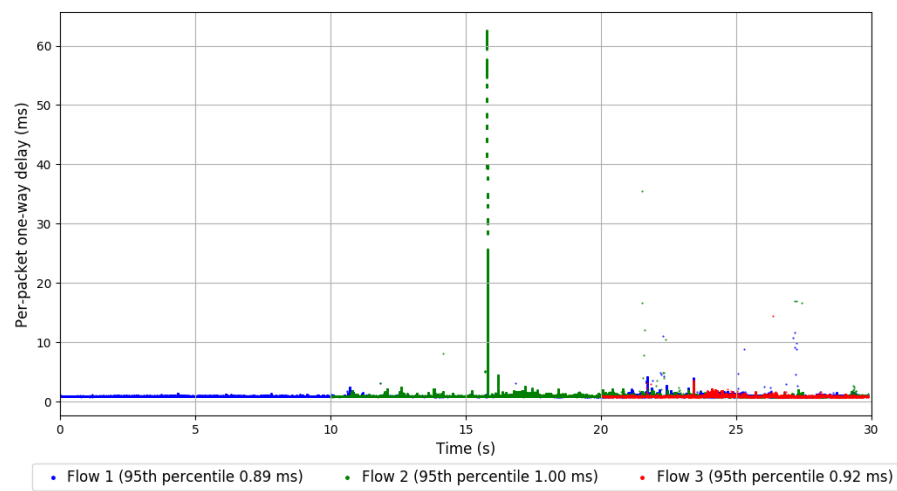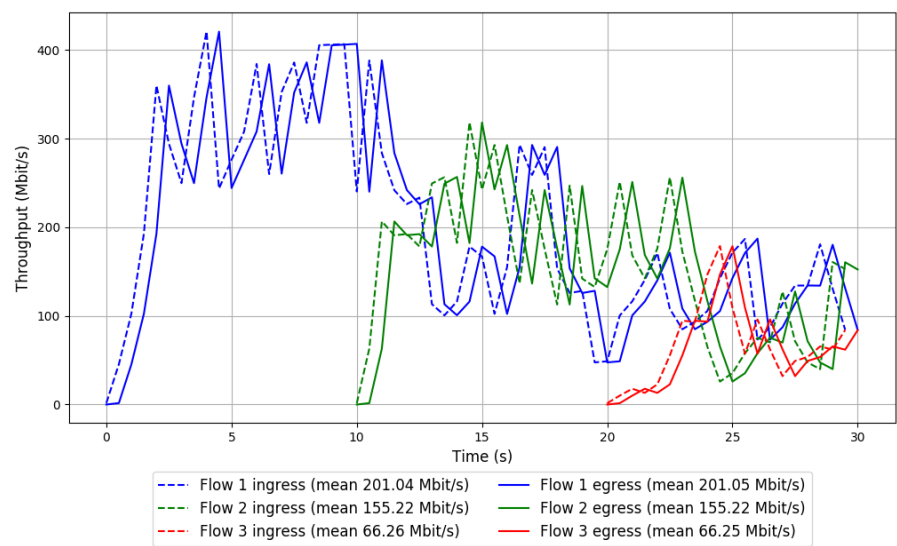Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-11-24 18:06:26
End at: 2019-11-24 18:06:56
Local clock offset: 4.468 ms
Remote clock offset: -2.803 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.08 Mbit/s
95th percentile per-packet one-way delay: 0.900 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 201.05 Mbit/s
95th percentile per-packet one-way delay: 0.888 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 155.22 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 66.25 Mbit/s
95th percentile per-packet one-way delay: 0.924 ms
Loss rate: 0.03%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 201.04 Mbit/s) --- Flow 1 egress (mean 201.05 Mbit/s)
Flow 2 ingress (mean 155.22 Mbit/s) --- Flow 2 egress (mean 155.22 Mbit/s)
Flow 3 ingress (mean 66.26 Mbit/s) --- Flow 3 egress (mean 66.25 Mbit/s)

Flow 1 (95th percentile 0.89 ms)   Flow 2 (95th percentile 1.00 ms)   Flow 3 (95th percentile 0.92 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-11-24 16:17:00
End at: 2019-11-24 16:17:30
Local clock offset: 2.797 ms
Remote clock offset: 1.389 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 18.759 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18.834 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18.440 ms
Loss rate: 0.00%
```
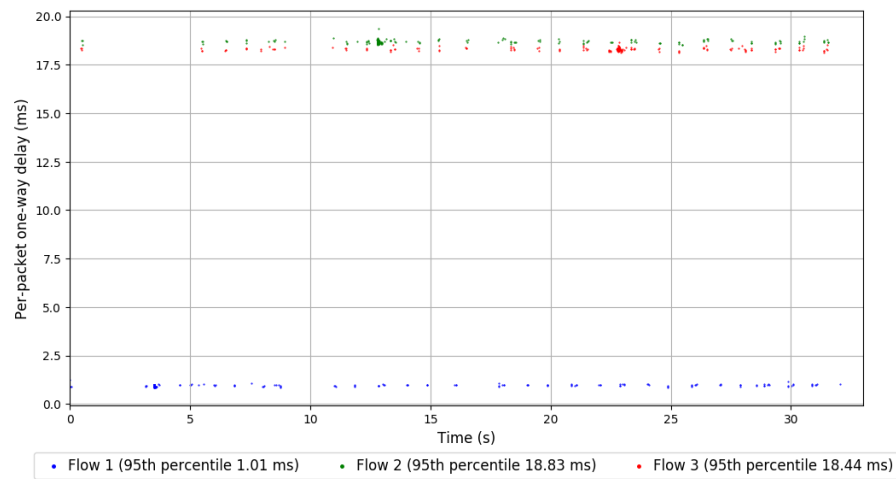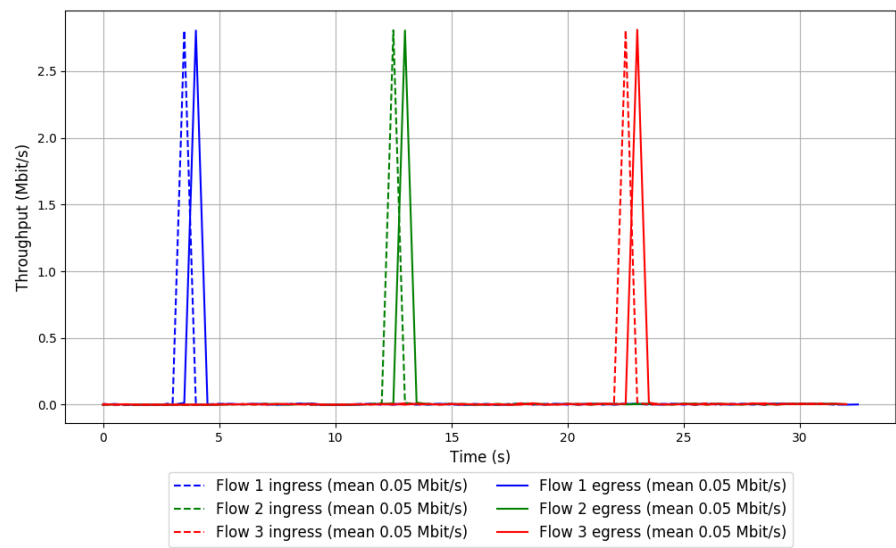
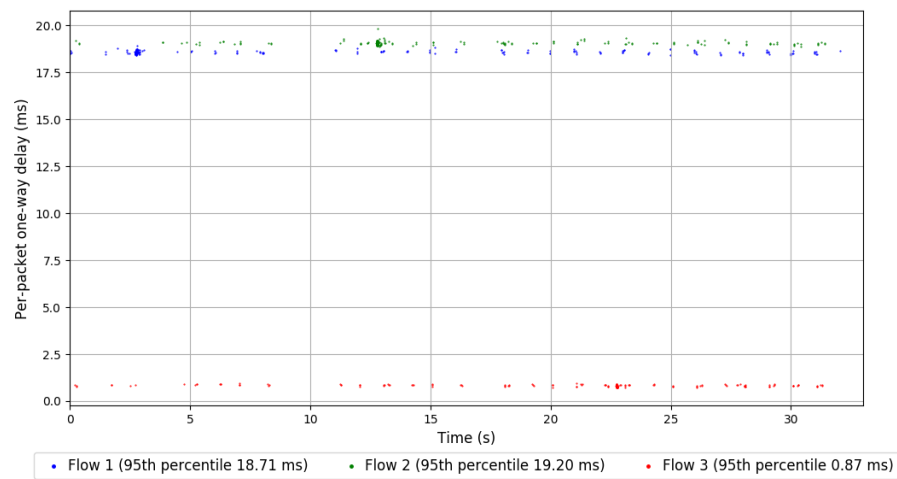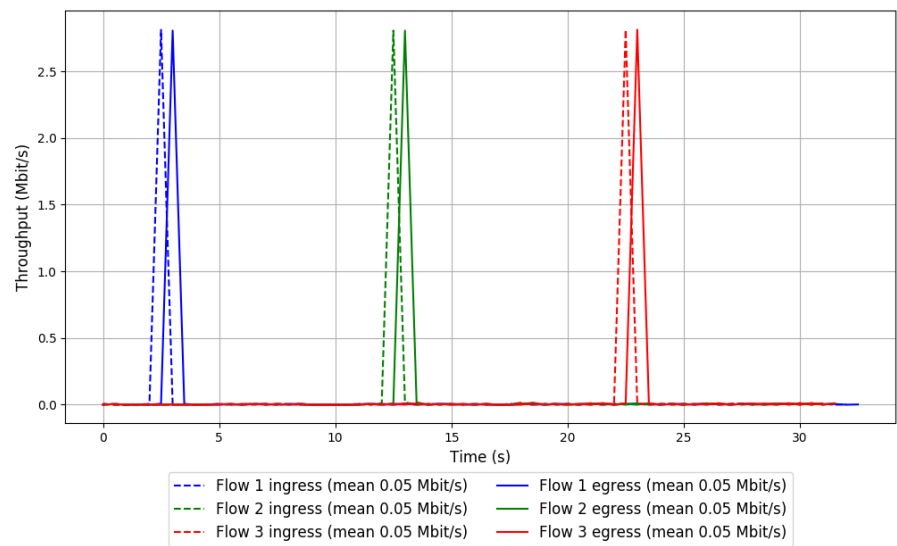Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-11-24 16:51:30
End at: 2019-11-24 16:52:00
Local clock offset: 3.297 ms
Remote clock offset: -2.773 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 19.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18.715 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 19.203 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 0.874 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-11-24 17:26:03
End at: 2019-11-24 17:26:33
Local clock offset: 3.892 ms
Remote clock offset: 1.775 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 18.387 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18.440 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.00%
```
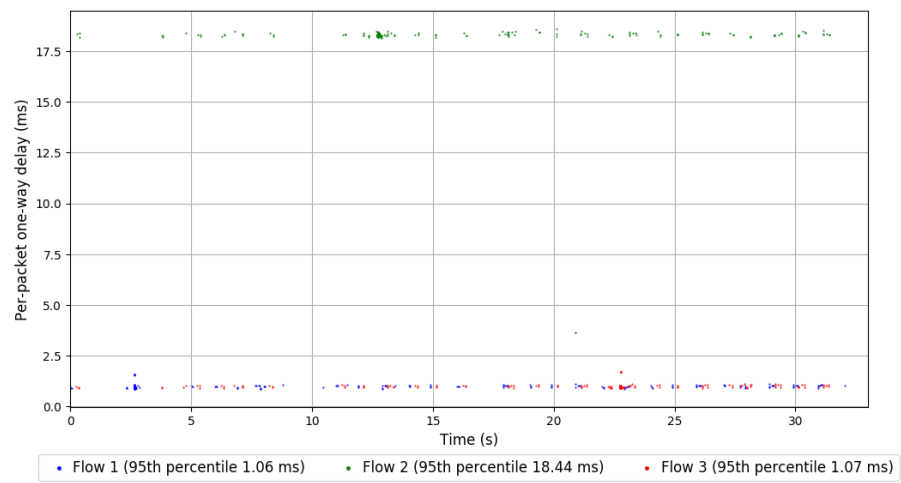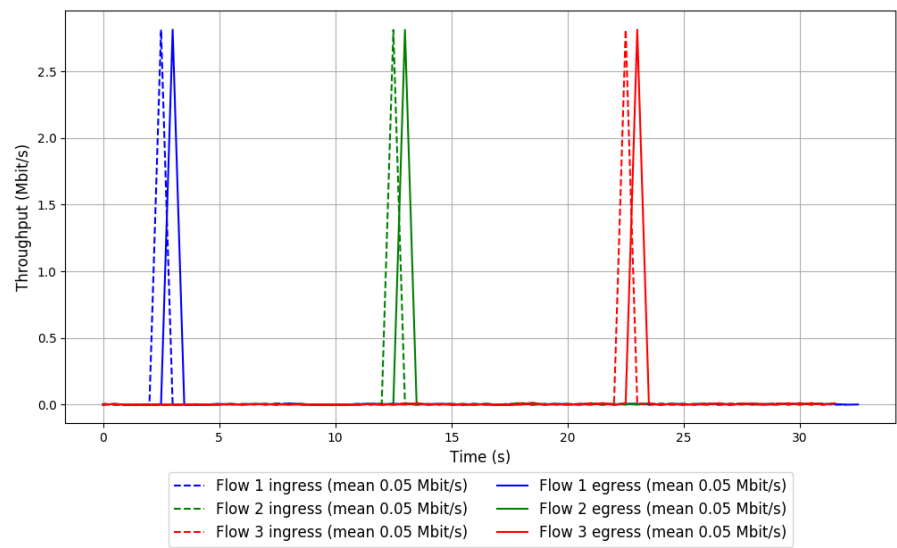
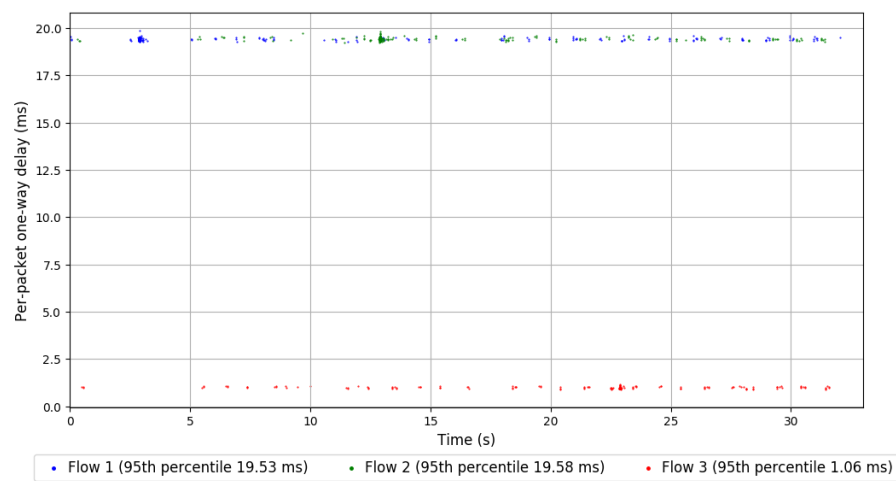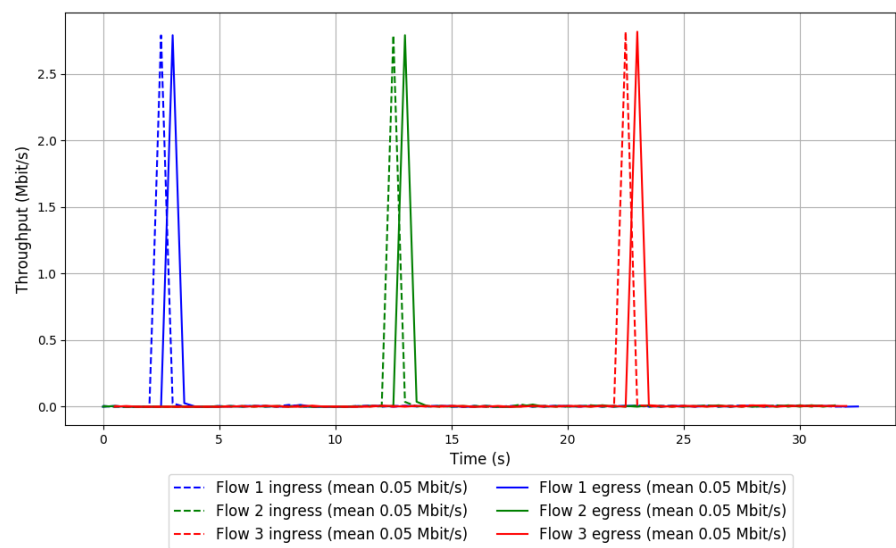Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-11-24 18:00:44
End at: 2019-11-24 18:01:14
Local clock offset: 4.382 ms
Remote clock offset: -2.744 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 19.536 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 19.534 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 19.576 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.058 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-11-24 18:35:30
End at: 2019-11-24 18:36:00
Local clock offset: 4.278 ms
Remote clock offset: 0.924 ms


# Below is generated by plot.py at 2019-11-24 19:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 19.998 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.102 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 20.048 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.257 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link