Pantheon Report

Generated at 2019-01-19 14:06:43 (UTC).

Data path: Mexico on `em1` (*remote*) →AWS California 2 on `ens5` (*local*).

Repeated the test of 21 congestion control schemes 5 times.

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

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

```
System info:
Linux 4.15.0-1031-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 @ c80a283586bf7b0cc1fe08c69c8f60d56498f81c
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ c3eee875824760ec5b2fd207fefe166e1afe2170
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
```
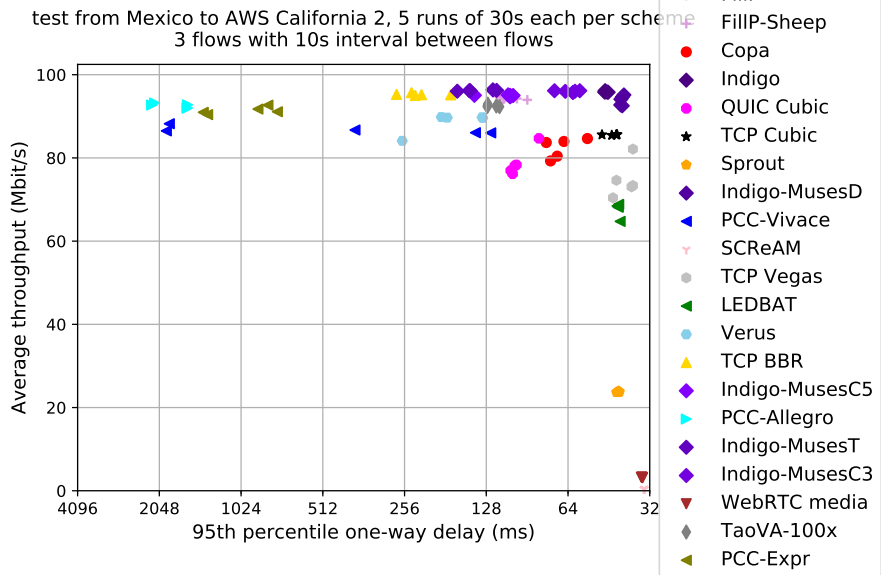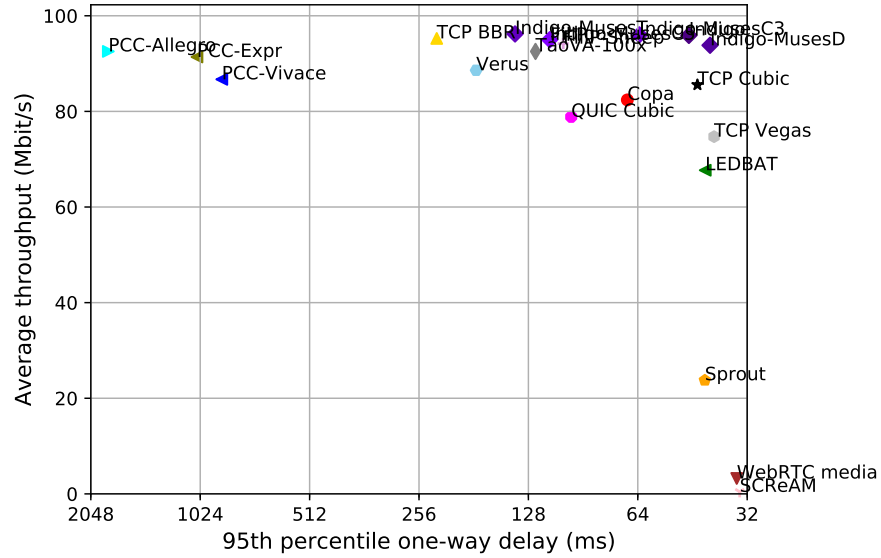
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Mexico to AWS California 2, 5 runs of 30s each per scheme
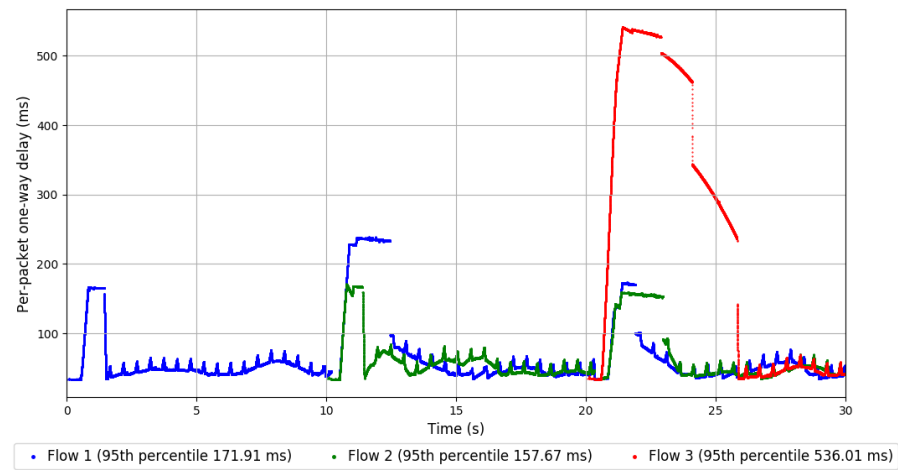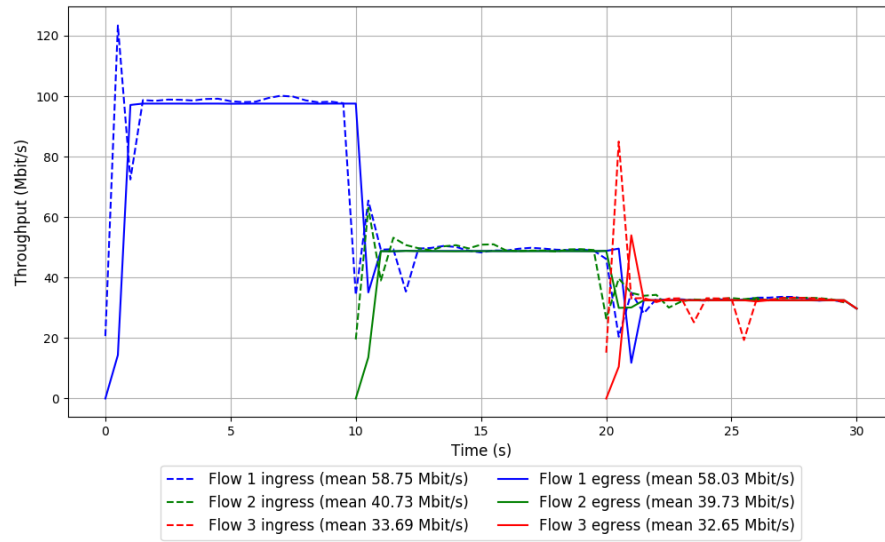3 flows with 10s interval between flows (mean of all runs by scheme)

test from Mexico to AWS California 2, 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	58.50	38.27	34.15	167.22	206.07	476.79	1.69	2.19	3.64
Copa	5	51.97	33.06	25.41	93.01	48.20	45.63	0.13	0.37	0.74
TCP Cubic	5	49.13	39.36	30.91	46.96	42.09	49.07	0.20	0.30	0.81
FillP	5	56.68	43.97	26.67	100.98	115.54	115.19	0.42	2.74	2.47
FillP-Sheep	5	55.69	42.39	31.07	103.99	104.80	96.59	0.23	0.60	1.09
Indigo	5	58.07	40.68	32.93	47.29	47.20	44.18	0.19	0.35	0.73
Indigo-MusesC3	5	61.21	37.83	34.43	61.06	65.62	62.96	0.31	0.50	1.19
Indigo-MusesC5	5	57.09	42.50	34.26	93.93	137.13	101.29	1.06	3.52	5.42
Indigo-MusesD	5	48.77	50.47	40.90	38.76	47.25	39.14	0.09	0.20	1.09
Indigo-MusesT	5	59.26	41.93	32.46	124.66	147.65	133.01	2.93	6.29	6.73
LEDBAT	5	40.38	30.30	21.60	41.53	42.97	40.73	0.18	0.30	1.15
PCC-Allegro	5	58.76	34.77	32.49	1834.82	1978.62	429.19	16.76	17.53	4.42
PCC-Expr	5	55.44	37.83	32.84	878.63	931.44	173.53	34.72	14.72	1.86
QUIC Cubic	5	46.05	34.16	30.71	86.00	116.02	117.47	0.20	0.44	1.01
SCReAM	5	0.21	0.21	0.22	33.54	33.53	33.56	0.23	0.40	0.71
Sprout	5	12.04	11.92	11.61	41.75	41.67	42.47	0.23	0.40	0.81
TaoVA-100x	5	54.98	42.19	28.58	119.90	119.33	142.04	0.73	1.22	3.07
TCP Vegas	5	38.92	36.73	34.29	48.68	36.99	36.47	0.18	0.31	0.75
Verus	5	52.71	41.42	25.22	150.51	325.00	232.17	0.33	0.53	1.70
PCC-Vivace	5	55.28	33.95	26.90	922.39	796.32	79.58	3.02	4.84	1.06
WebRTC media	5	1.79	1.01	0.44	34.16	34.20	34.25	0.11	0.07	0.59

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-19 11:45:55
End at: 2019-01-19 11:46:25
Local clock offset: 0.134 ms
Remote clock offset: -2.625 ms


# Below is generated by plot.py at 2019-01-19 13:53:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.27 Mbit/s
95th percentile per-packet one-way delay: 273.967 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 171.914 ms
Loss rate: 1.44%
-- Flow 2:
Average throughput: 39.73 Mbit/s
95th percentile per-packet one-way delay: 157.672 ms
Loss rate: 2.78%
-- Flow 3:
Average throughput: 32.65 Mbit/s
95th percentile per-packet one-way delay: 536.012 ms
Loss rate: 3.70%
```
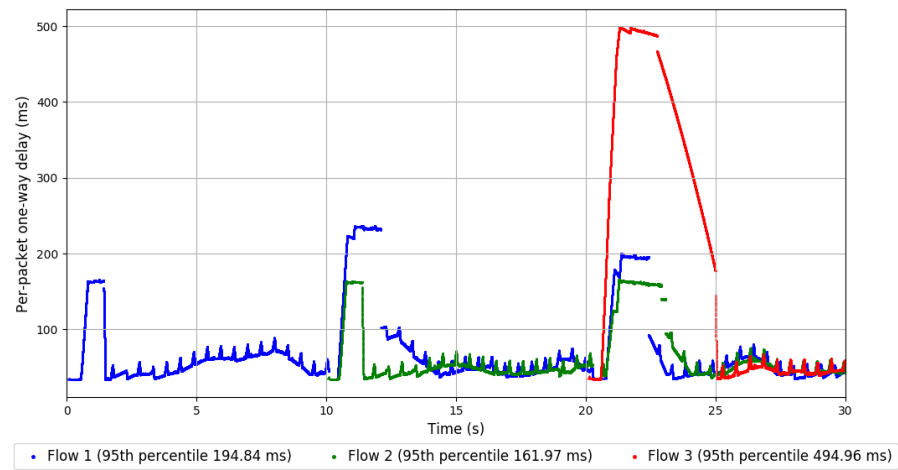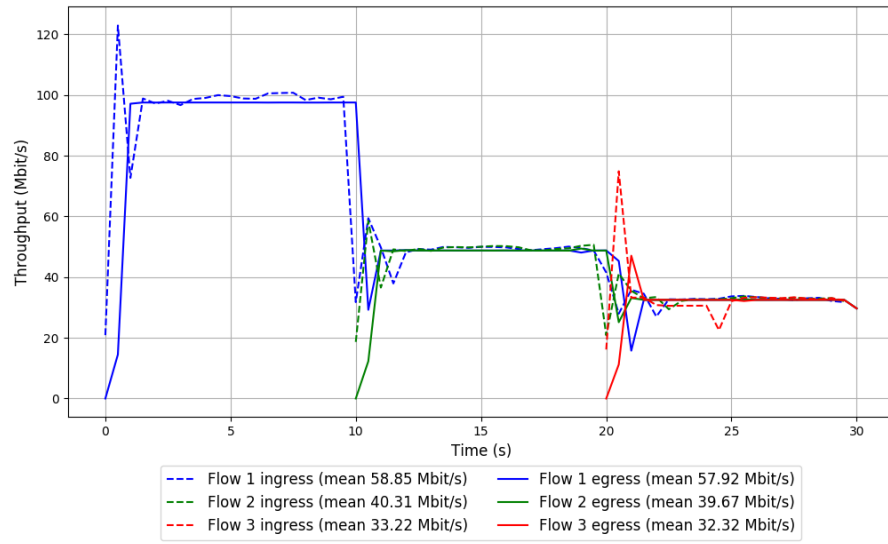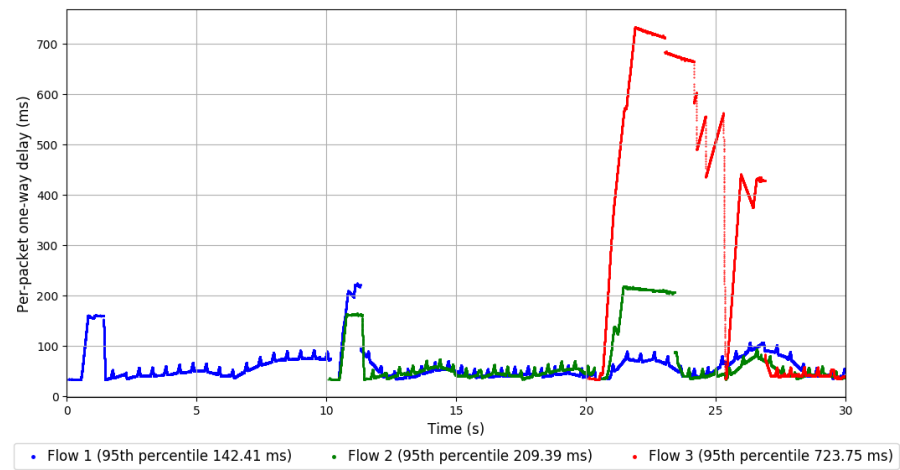
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.75 Mbit/s) --- Flow 1 egress (mean 58.03 Mbit/s)
Flow 2 ingress (mean 40.73 Mbit/s) --- Flow 2 egress (mean 39.73 Mbit/s)
Flow 3 ingress (mean 33.69 Mbit/s) --- Flow 3 egress (mean 32.65 Mbit/s)

Flow 1 (95th percentile 171.91 ms)   Flow 2 (95th percentile 157.67 ms)   Flow 3 (95th percentile 536.01 ms)

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```
Run 2: Statistics of TCP BBR

Start at: 2019-01-19 12:12:28
End at: 2019-01-19 12:12:58
Local clock offset: 0.239 ms
Remote clock offset: -2.189 ms


# Below is generated by plot.py at 2019-01-19 13:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 233.815 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 57.92 Mbit/s
95th percentile per-packet one-way delay: 194.838 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 39.67 Mbit/s
95th percentile per-packet one-way delay: 161.971 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 494.964 ms
Loss rate: 3.34%
```
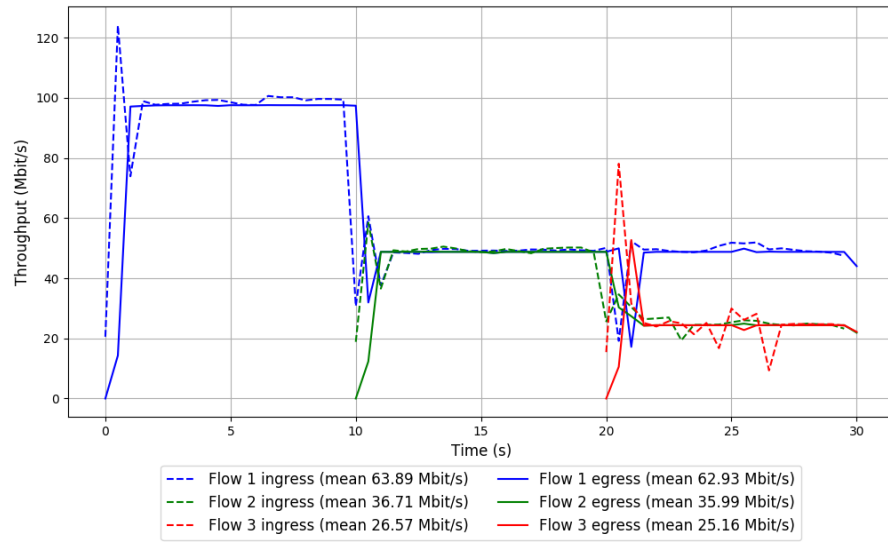
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.85 Mbit/s) --- Flow 1 egress (mean 57.92 Mbit/s)
Flow 2 ingress (mean 40.31 Mbit/s) --- Flow 2 egress (mean 39.67 Mbit/s)
Flow 3 ingress (mean 33.22 Mbit/s) --- Flow 3 egress (mean 32.32 Mbit/s)

Flow 1 (95th percentile 194.84 ms)   Flow 2 (95th percentile 161.97 ms)   Flow 3 (95th percentile 494.96 ms)
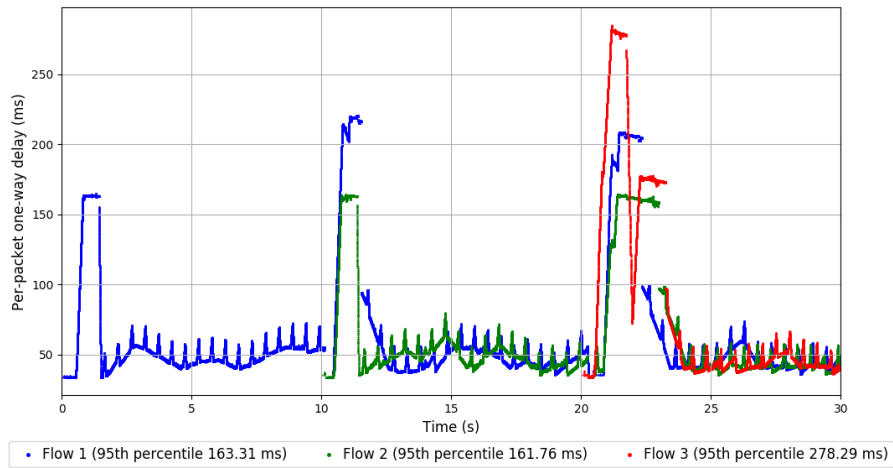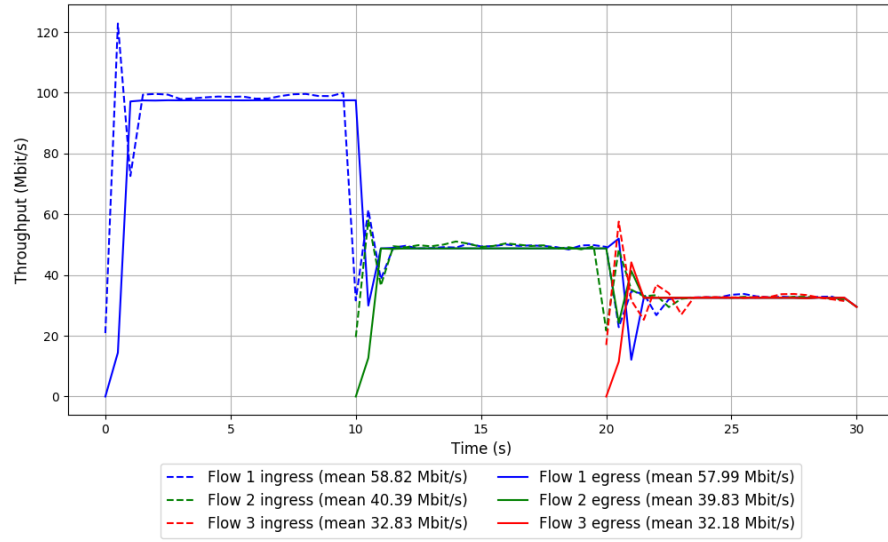
```
Run 3: Statistics of TCP BBR

Start at: 2019-01-19 12:40:13
End at: 2019-01-19 12:40:43
Local clock offset: 0.186 ms
Remote clock offset: -1.162 ms


# Below is generated by plot.py at 2019-01-19 13:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 221.794 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 142.409 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 35.99 Mbit/s
95th percentile per-packet one-way delay: 209.388 ms
Loss rate: 2.28%
-- Flow 3:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 723.754 ms
Loss rate: 5.91%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 63.89 Mbit/s) --- Flow 1 egress (mean 62.93 Mbit/s)
Flow 2 ingress (mean 36.71 Mbit/s) --- Flow 2 egress (mean 35.99 Mbit/s)
Flow 3 ingress (mean 26.57 Mbit/s) --- Flow 3 egress (mean 25.16 Mbit/s)

Flow 1 (95th percentile 142.41 ms) · Flow 2 (95th percentile 209.39 ms) · Flow 3 (95th percentile 723.75 ms)
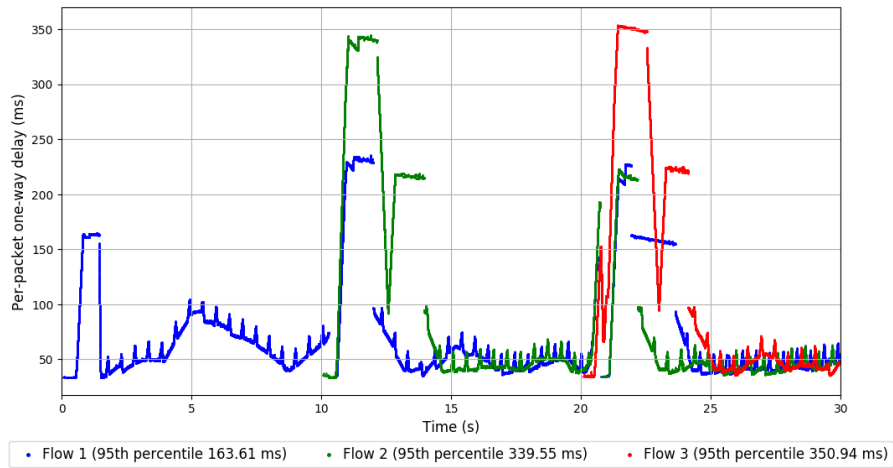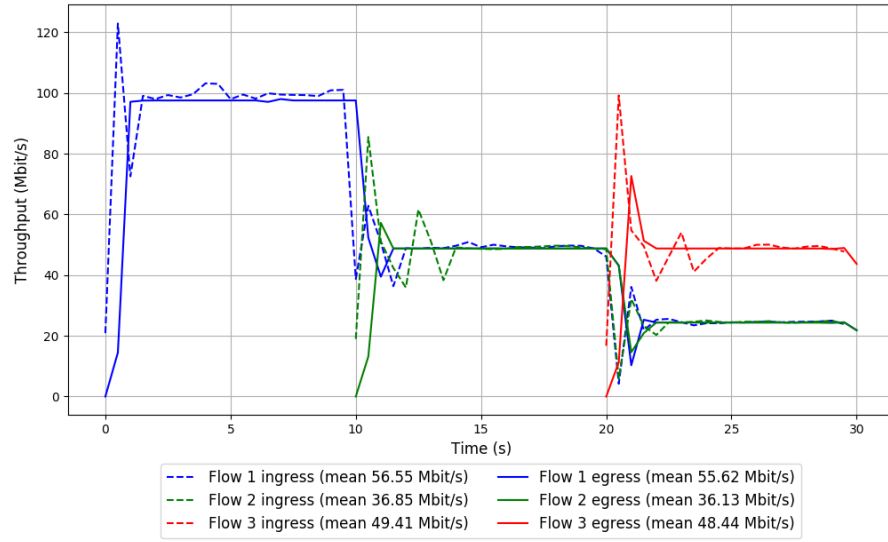
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```
Run 4: Statistics of TCP BBR

Start at: 2019-01-19 13:06:55
End at: 2019-01-19 13:07:25
Local clock offset: -0.085 ms
Remote clock offset: -0.152 ms


# Below is generated by plot.py at 2019-01-19 13:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.16 Mbit/s
95th percentile per-packet one-way delay: 173.135 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 57.99 Mbit/s
95th percentile per-packet one-way delay: 163.309 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 39.83 Mbit/s
95th percentile per-packet one-way delay: 161.760 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 278.289 ms
Loss rate: 2.62%
```
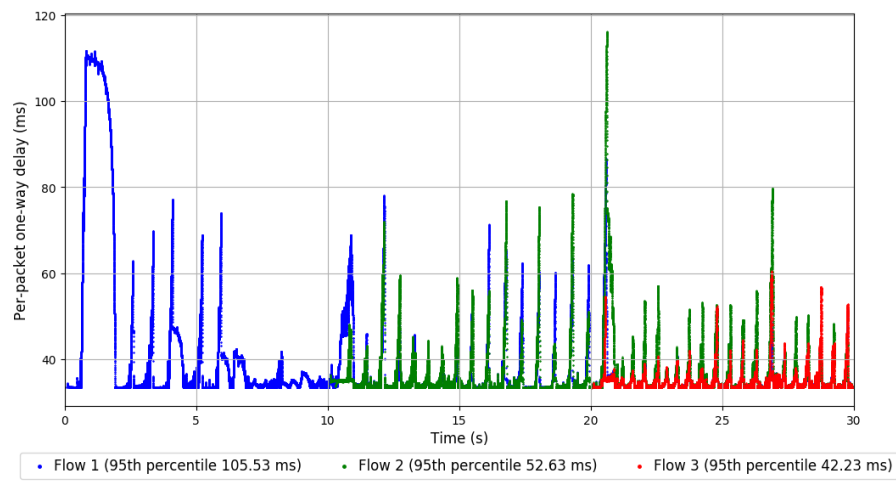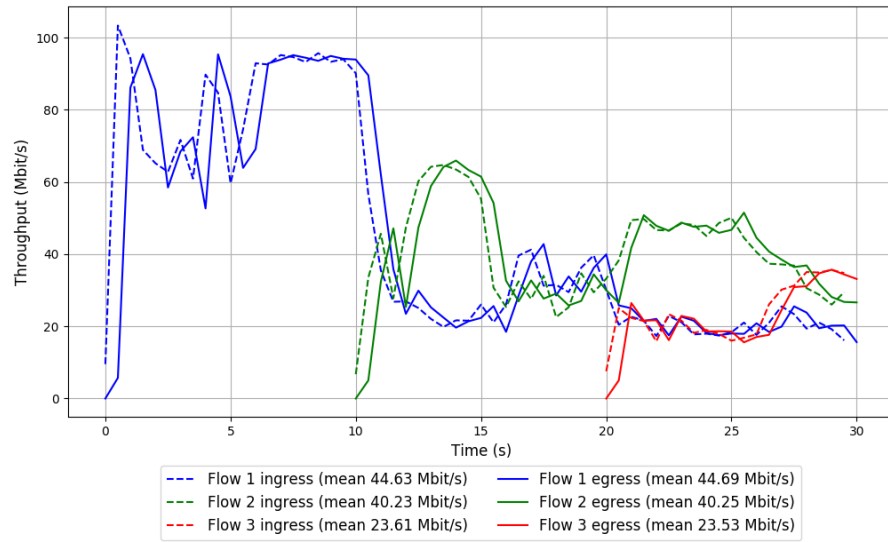
Run 4: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 58.82 Mbit/s) —— Flow 1 egress (mean 57.99 Mbit/s)
- - - Flow 2 ingress (mean 40.39 Mbit/s) —— Flow 2 egress (mean 39.83 Mbit/s)
- - - Flow 3 ingress (mean 32.83 Mbit/s) —— Flow 3 egress (mean 32.18 Mbit/s)

• Flow 1 (95th percentile 163.31 ms)   • Flow 2 (95th percentile 161.76 ms)   • Flow 3 (95th percentile 278.29 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-01-19 13:34:00
End at: 2019-01-19 13:34:30
Local clock offset: 0.058 ms
Remote clock offset: -0.255 ms


# Below is generated by plot.py at 2019-01-19 13:53:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 241.279 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 55.62 Mbit/s
95th percentile per-packet one-way delay: 163.610 ms
Loss rate: 1.86%
-- Flow 2:
Average throughput: 36.13 Mbit/s
95th percentile per-packet one-way delay: 339.553 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 48.44 Mbit/s
95th percentile per-packet one-way delay: 350.938 ms
Loss rate: 2.61%
```

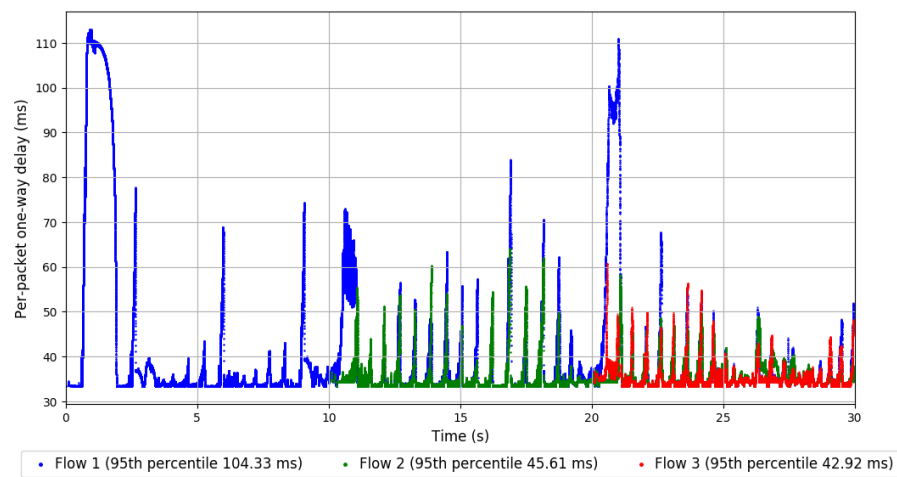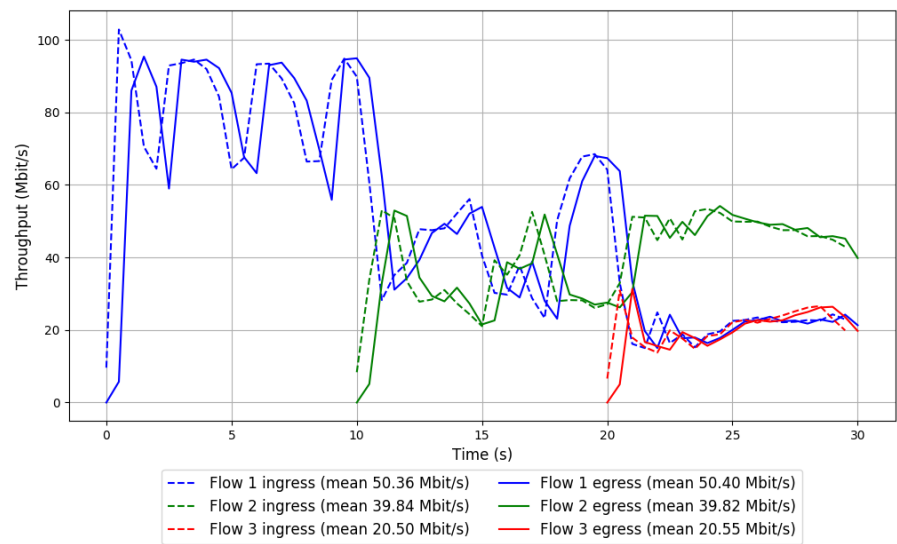Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-01-19 11:40:54
End at: 2019-01-19 11:41:24
Local clock offset: 0.117 ms
Remote clock offset: -2.813 ms


# Below is generated by plot.py at 2019-01-19 13:54:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.28 Mbit/s
95th percentile per-packet one-way delay: 74.230 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 44.69 Mbit/s
95th percentile per-packet one-way delay: 105.535 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.25 Mbit/s
95th percentile per-packet one-way delay: 52.634 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 42.234 ms
Loss rate: 0.96%
```
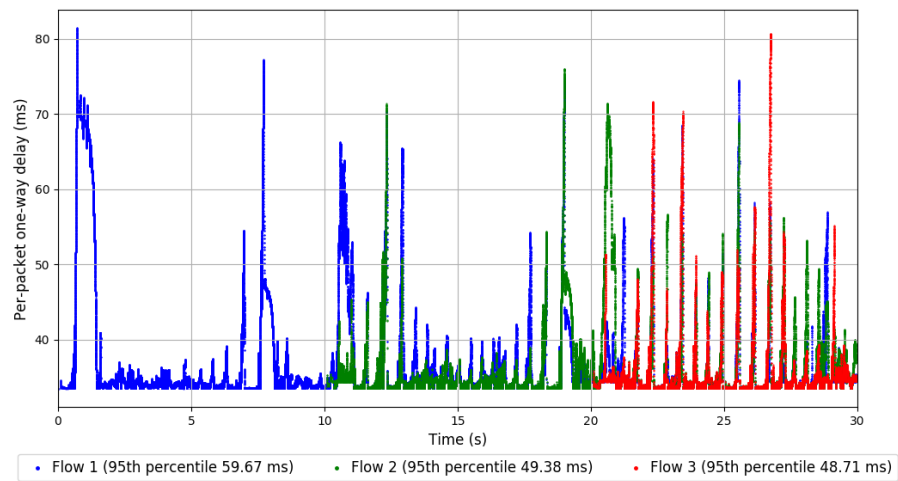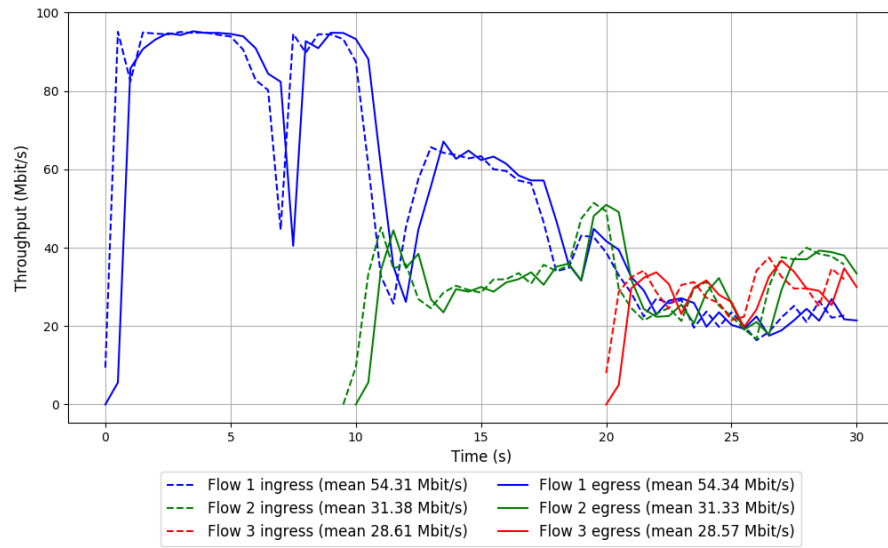
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 44.63 Mbit/s) --- Flow 1 egress (mean 44.69 Mbit/s)
Flow 2 ingress (mean 40.23 Mbit/s) --- Flow 2 egress (mean 40.25 Mbit/s)
Flow 3 ingress (mean 23.61 Mbit/s) --- Flow 3 egress (mean 23.53 Mbit/s)

Flow 1 (95th percentile 105.53 ms)   Flow 2 (95th percentile 52.63 ms)   Flow 3 (95th percentile 42.23 ms)

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```
Run 2: Statistics of Copa

Start at: 2019-01-19 12:07:29
End at: 2019-01-19 12:07:59
Local clock offset: 0.205 ms
Remote clock offset: -2.104 ms


# Below is generated by plot.py at 2019-01-19 13:54:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.71 Mbit/s
95th percentile per-packet one-way delay: 76.973 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 50.40 Mbit/s
95th percentile per-packet one-way delay: 104.332 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 39.82 Mbit/s
95th percentile per-packet one-way delay: 45.606 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 20.55 Mbit/s
95th percentile per-packet one-way delay: 42.925 ms
Loss rate: 0.40%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-01-19 12:34:51
End at: 2019-01-19 12:35:21
Local clock offset: 0.208 ms
Remote clock offset: -1.297 ms


# Below is generated by plot.py at 2019-01-19 13:54:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.66 Mbit/s
95th percentile per-packet one-way delay: 54.294 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 54.34 Mbit/s
95th percentile per-packet one-way delay: 59.668 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 49.384 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 28.57 Mbit/s
95th percentile per-packet one-way delay: 48.707 ms
Loss rate: 0.79%
```
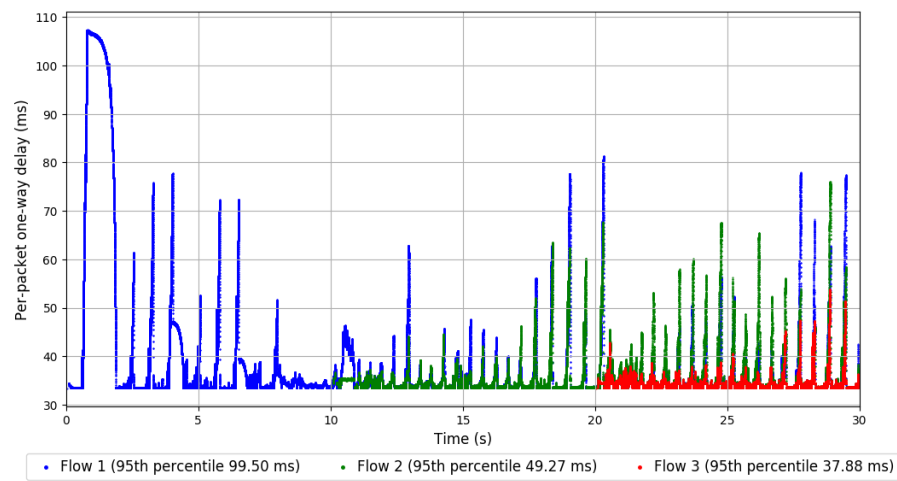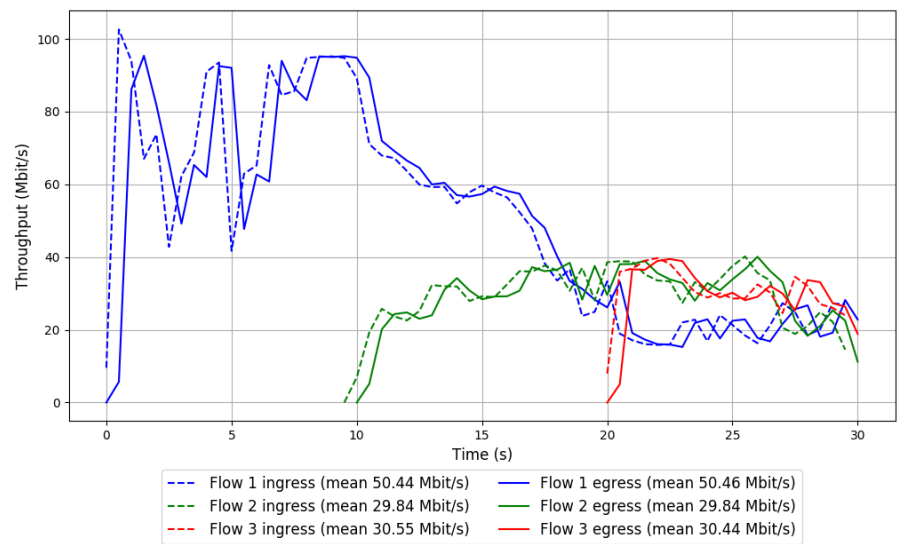
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 54.31 Mbit/s)   Flow 1 egress (mean 54.34 Mbit/s)
Flow 2 ingress (mean 31.38 Mbit/s)   Flow 2 egress (mean 31.33 Mbit/s)
Flow 3 ingress (mean 28.61 Mbit/s)   Flow 3 egress (mean 28.57 Mbit/s)

Flow 1 (95th percentile 59.67 ms)   Flow 2 (95th percentile 49.38 ms)   Flow 3 (95th percentile 48.71 ms)
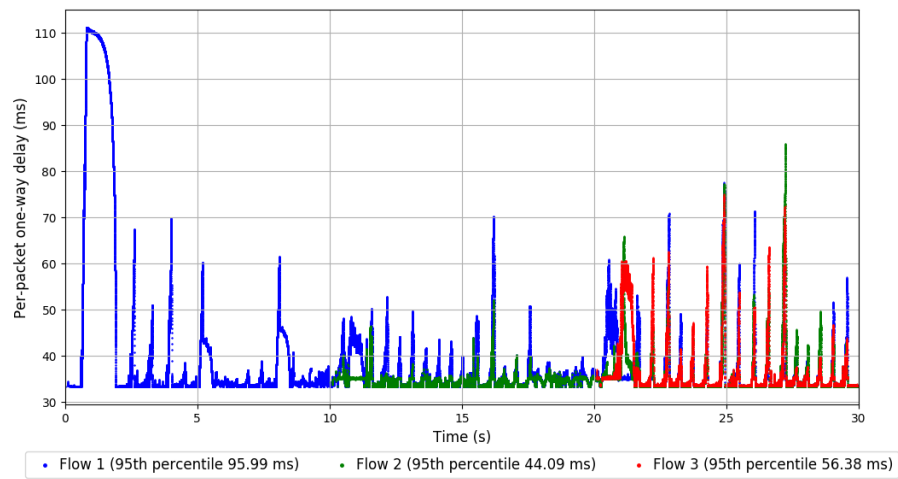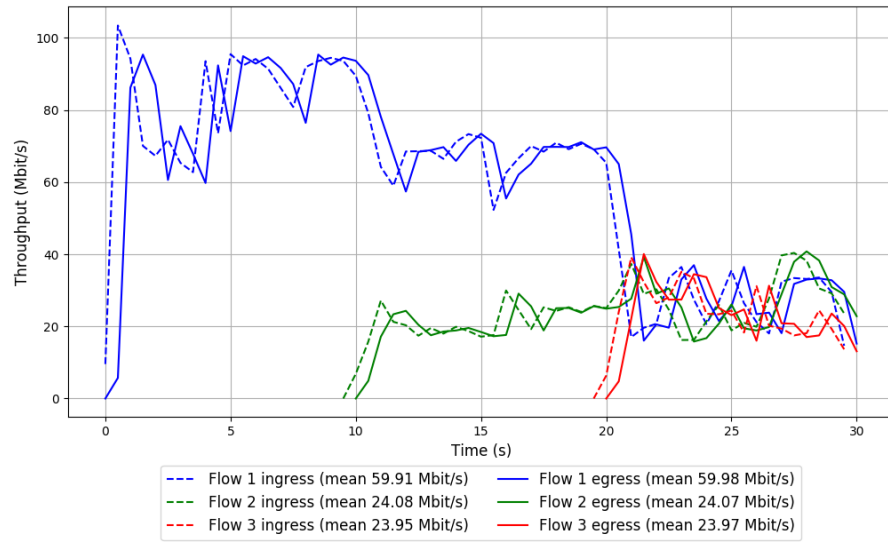
```
Run 4: Statistics of Copa

Start at: 2019-01-19 13:01:47
End at: 2019-01-19 13:02:17
Local clock offset: -0.053 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-01-19 13:55:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.42 Mbit/s
95th percentile per-packet one-way delay: 70.147 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 50.46 Mbit/s
95th percentile per-packet one-way delay: 99.500 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 29.84 Mbit/s
95th percentile per-packet one-way delay: 49.275 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 30.44 Mbit/s
95th percentile per-packet one-way delay: 37.879 ms
Loss rate: 1.00%
```
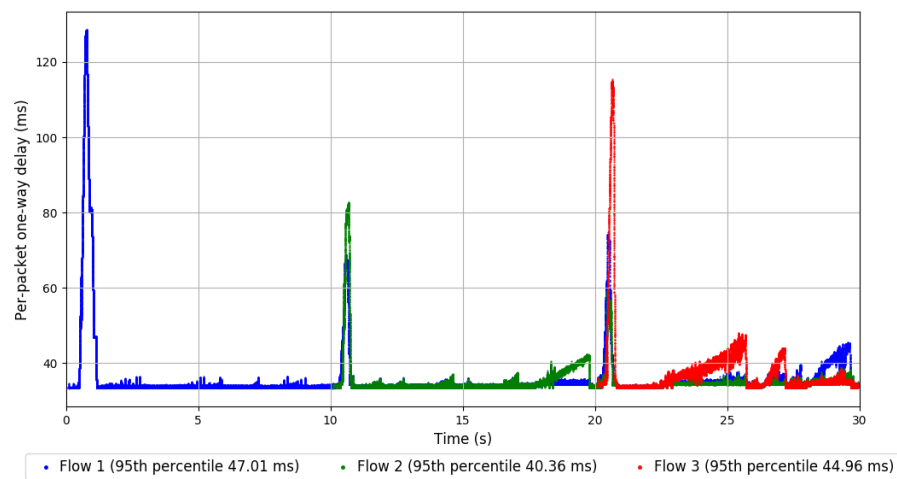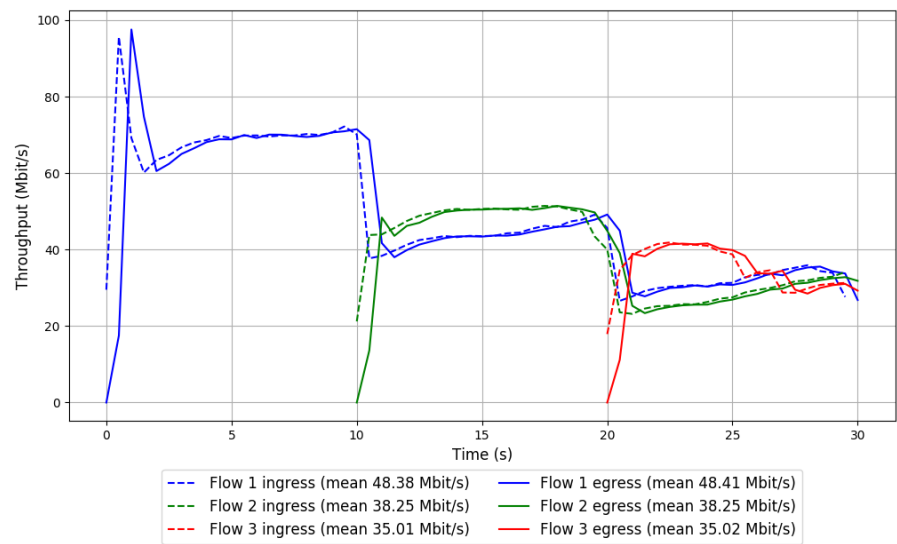
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-01-19 13:28:50
End at: 2019-01-19 13:29:20
Local clock offset: 0.036 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.95 Mbit/s
95th percentile per-packet one-way delay: 66.255 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 59.98 Mbit/s
95th percentile per-packet one-way delay: 95.991 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: 44.092 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 23.97 Mbit/s
95th percentile per-packet one-way delay: 56.382 ms
Loss rate: 0.55%
```

Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-19 11:36:02
End at: 2019-01-19 11:36:33
Local clock offset: 0.104 ms
Remote clock offset: -2.856 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.45 Mbit/s
95th percentile per-packet one-way delay: 44.182 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 48.41 Mbit/s
95th percentile per-packet one-way delay: 47.012 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.25 Mbit/s
95th percentile per-packet one-way delay: 40.359 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 35.02 Mbit/s
95th percentile per-packet one-way delay: 44.958 ms
Loss rate: 0.62%
```

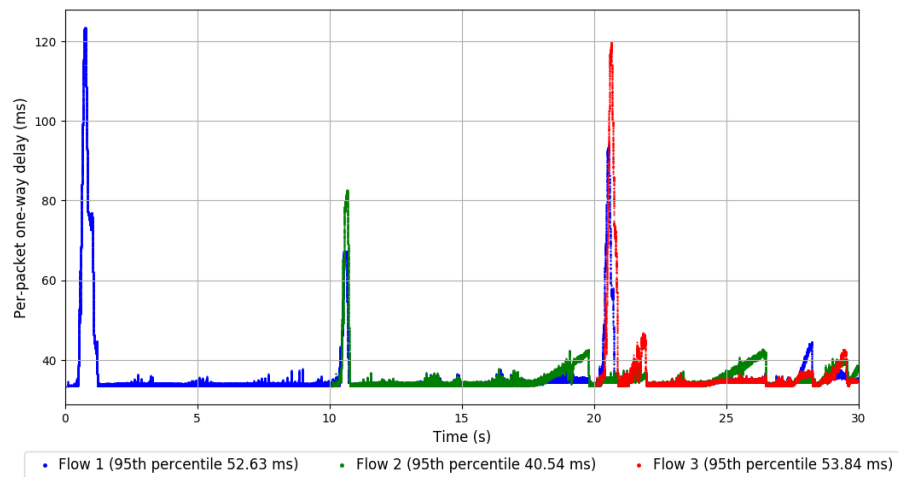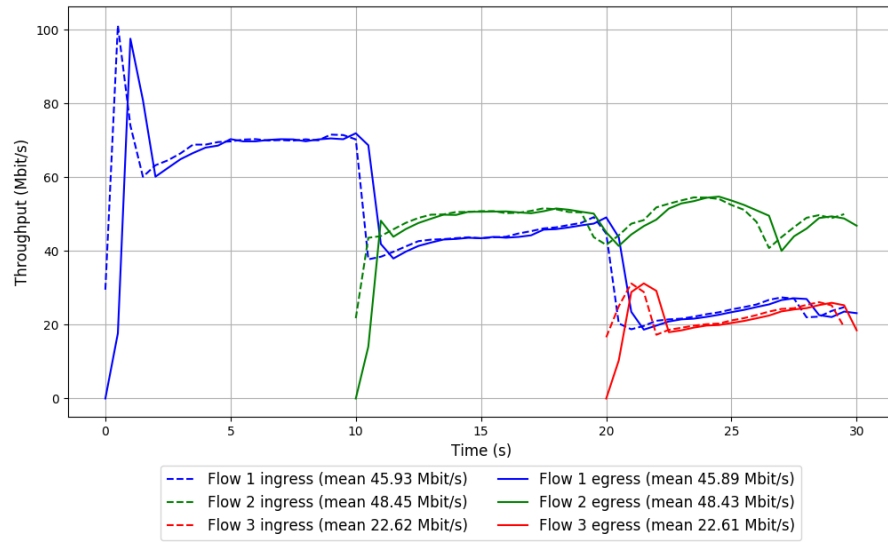Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-19 12:02:23
End at: 2019-01-19 12:02:53
Local clock offset: 0.212 ms
Remote clock offset: -2.186 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 42.213 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 45.89 Mbit/s
95th percentile per-packet one-way delay: 52.630 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 48.43 Mbit/s
95th percentile per-packet one-way delay: 40.536 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 22.61 Mbit/s
95th percentile per-packet one-way delay: 53.835 ms
Loss rate: 0.68%
```
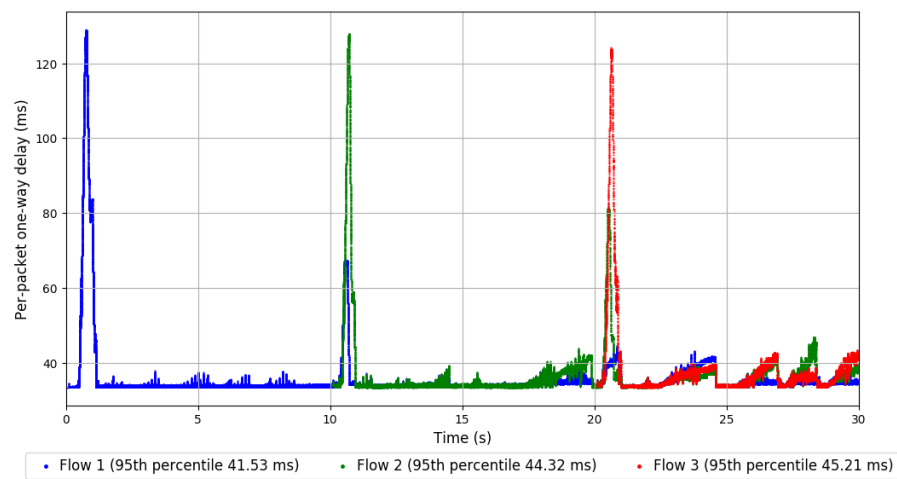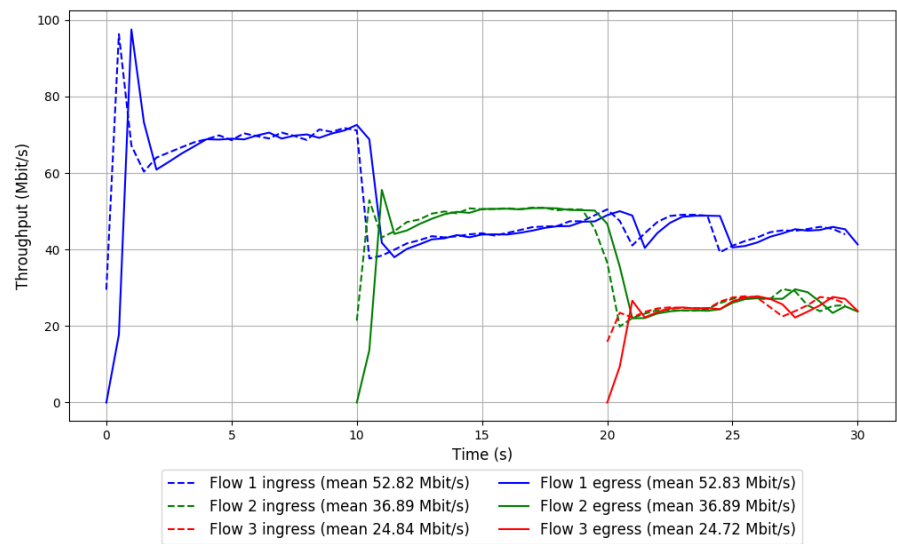
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 45.93 Mbit/s) --- Flow 1 egress (mean 45.89 Mbit/s)
Flow 2 ingress (mean 48.45 Mbit/s) --- Flow 2 egress (mean 48.43 Mbit/s)
Flow 3 ingress (mean 22.62 Mbit/s) --- Flow 3 egress (mean 22.61 Mbit/s)

Flow 1 (95th percentile 52.63 ms)   Flow 2 (95th percentile 40.54 ms)   Flow 3 (95th percentile 53.84 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-19 12:29:32
End at: 2019-01-19 12:30:02
Local clock offset: 0.212 ms
Remote clock offset: -1.369 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.55 Mbit/s
95th percentile per-packet one-way delay: 42.541 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 52.83 Mbit/s
95th percentile per-packet one-way delay: 41.535 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 36.89 Mbit/s
95th percentile per-packet one-way delay: 44.320 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 24.72 Mbit/s
95th percentile per-packet one-way delay: 45.208 ms
Loss rate: 1.13%
```
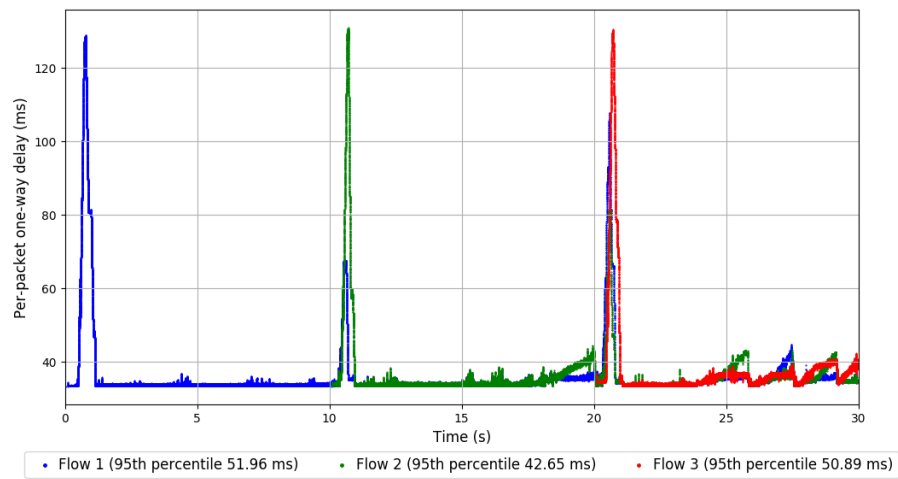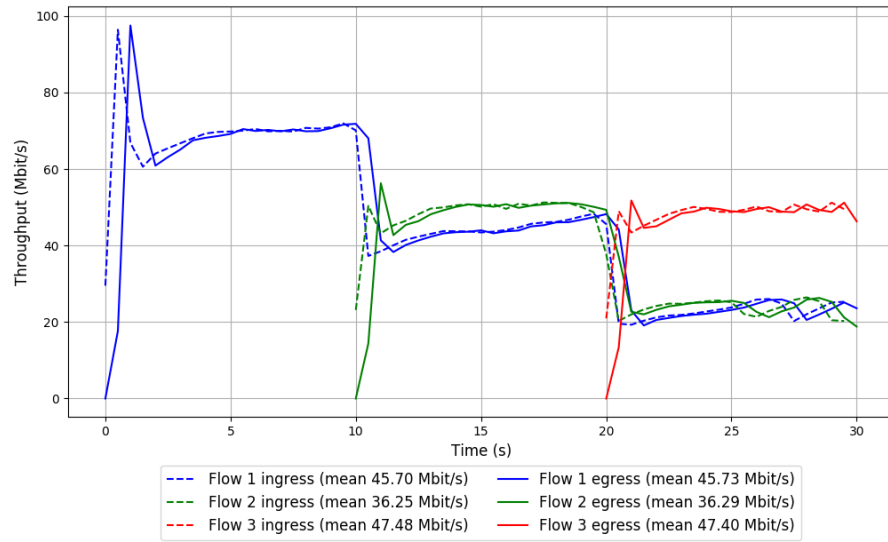
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 52.82 Mbit/s) --- Flow 1 egress (mean 52.83 Mbit/s)
Flow 2 ingress (mean 36.89 Mbit/s) --- Flow 2 egress (mean 36.89 Mbit/s)
Flow 3 ingress (mean 24.84 Mbit/s) --- Flow 3 egress (mean 24.72 Mbit/s)

Flow 1 (95th percentile 41.53 ms) Flow 2 (95th percentile 44.32 ms) Flow 3 (95th percentile 45.21 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-19 12:56:48
End at: 2019-01-19 12:57:18
Local clock offset: -0.006 ms
Remote clock offset: -0.233 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.58 Mbit/s
95th percentile per-packet one-way delay: 47.978 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 45.73 Mbit/s
95th percentile per-packet one-way delay: 51.957 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 36.29 Mbit/s
95th percentile per-packet one-way delay: 42.647 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 47.40 Mbit/s
95th percentile per-packet one-way delay: 50.892 ms
Loss rate: 0.80%
```
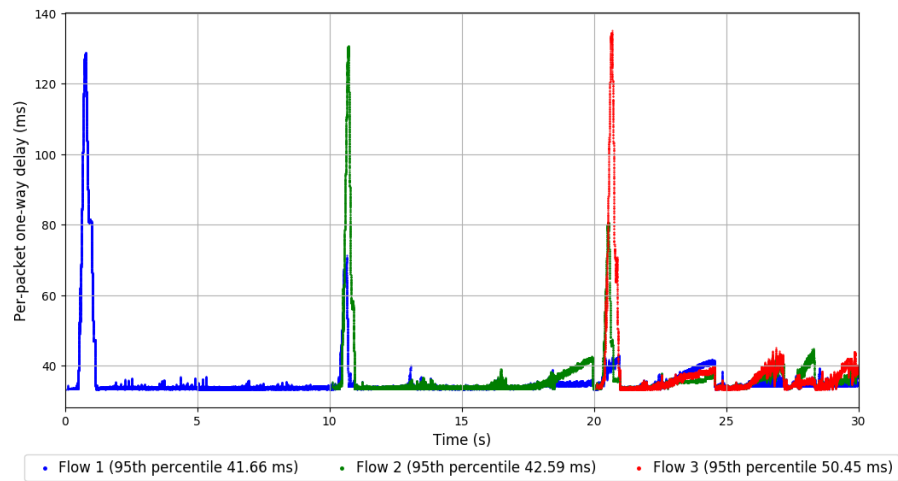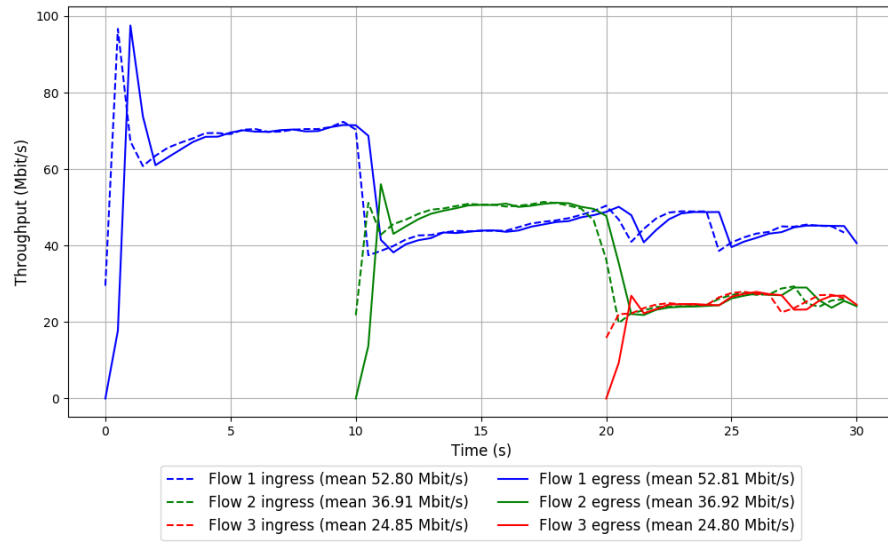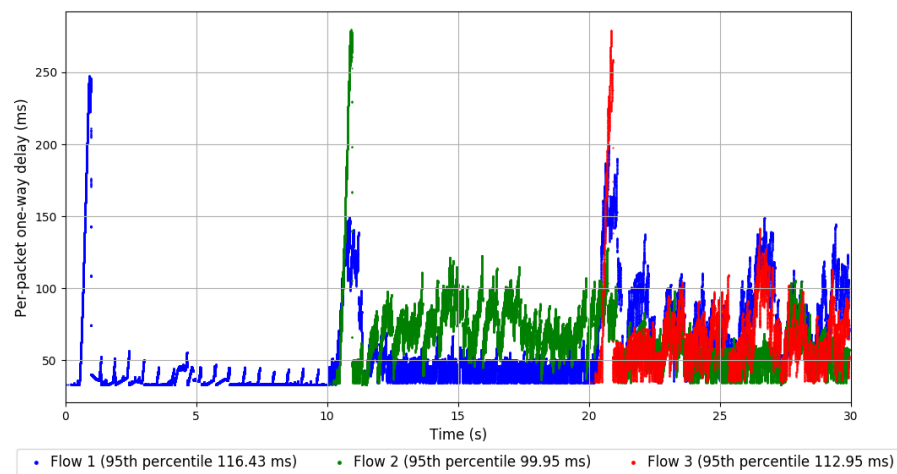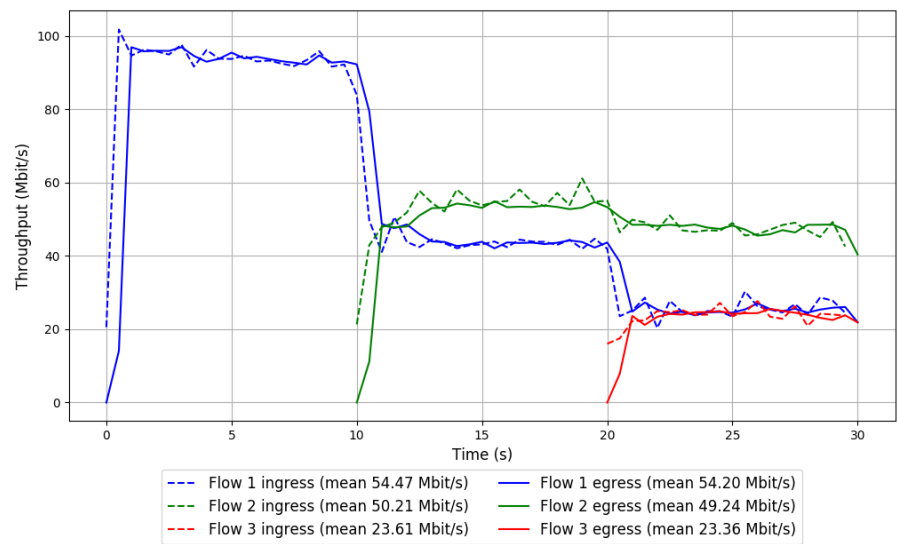
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 45.70 Mbit/s) — — — Flow 1 egress (mean 45.73 Mbit/s)
Flow 2 ingress (mean 36.25 Mbit/s) — — — Flow 2 egress (mean 36.29 Mbit/s)
Flow 3 ingress (mean 47.48 Mbit/s) — — — Flow 3 egress (mean 47.40 Mbit/s)

Flow 1 (95th percentile 51.96 ms) • Flow 2 (95th percentile 42.65 ms) • Flow 3 (95th percentile 50.89 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-19 13:23:36
End at: 2019-01-19 13:24:06
Local clock offset: -0.008 ms
Remote clock offset: 0.098 ms


# Below is generated by plot.py at 2019-01-19 13:55:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 42.396 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 52.81 Mbit/s
95th percentile per-packet one-way delay: 41.659 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 36.92 Mbit/s
95th percentile per-packet one-way delay: 42.595 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 24.80 Mbit/s
95th percentile per-packet one-way delay: 50.446 ms
Loss rate: 0.82%
```

Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-01-19 11:44:41
End at: 2019-01-19 11:45:11
Local clock offset: 0.133 ms
Remote clock offset: -2.685 ms


# Below is generated by plot.py at 2019-01-19 13:55:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.69 Mbit/s
95th percentile per-packet one-way delay: 108.315 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 54.20 Mbit/s
95th percentile per-packet one-way delay: 116.431 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 49.24 Mbit/s
95th percentile per-packet one-way delay: 99.955 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 112.948 ms
Loss rate: 1.66%
```

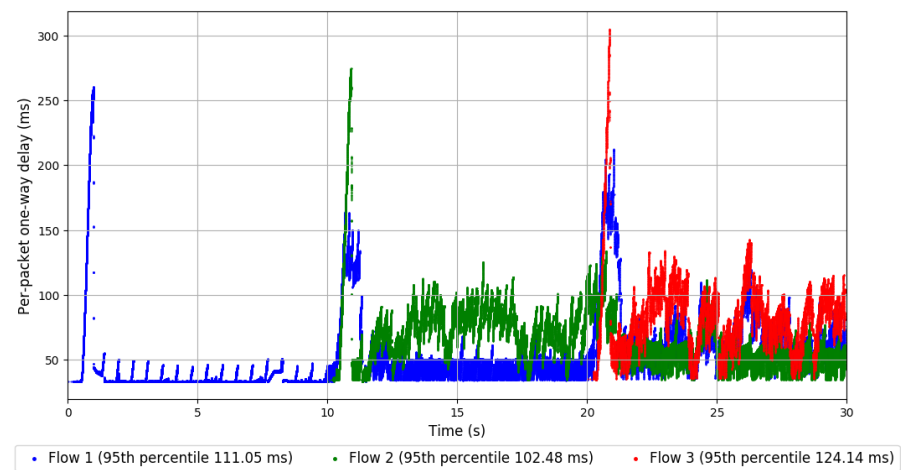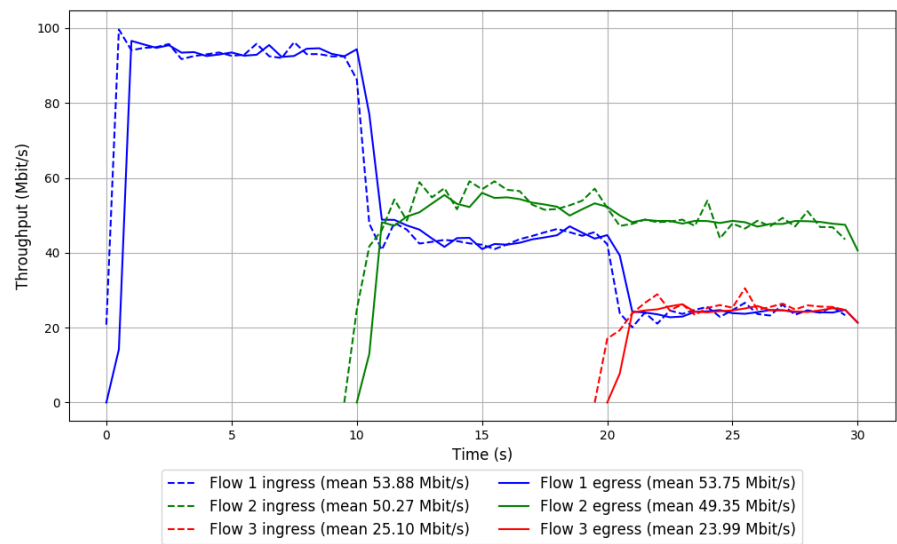Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-01-19 12:11:14
End at: 2019-01-19 12:11:44
Local clock offset: 0.224 ms
Remote clock offset: -2.208 ms

# Below is generated by plot.py at 2019-01-19 13:55:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 109.792 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 53.75 Mbit/s
95th percentile per-packet one-way delay: 111.046 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 49.35 Mbit/s
95th percentile per-packet one-way delay: 102.482 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 23.99 Mbit/s
95th percentile per-packet one-way delay: 124.140 ms
Loss rate: 5.04%
```

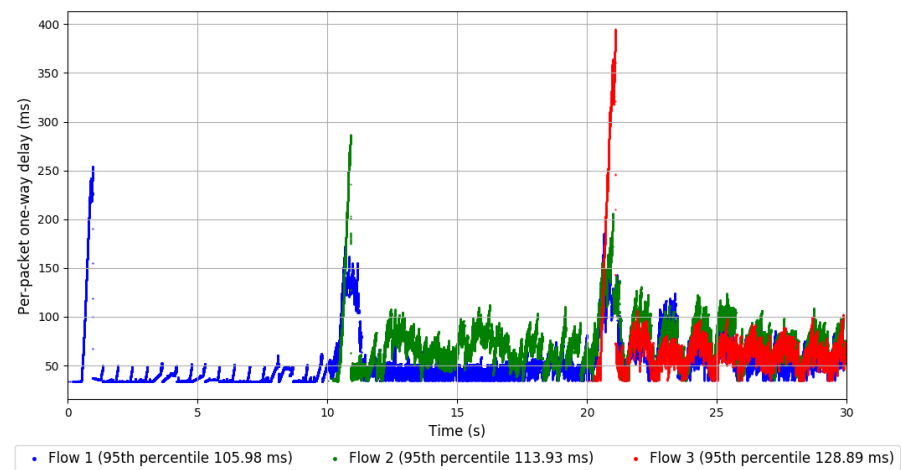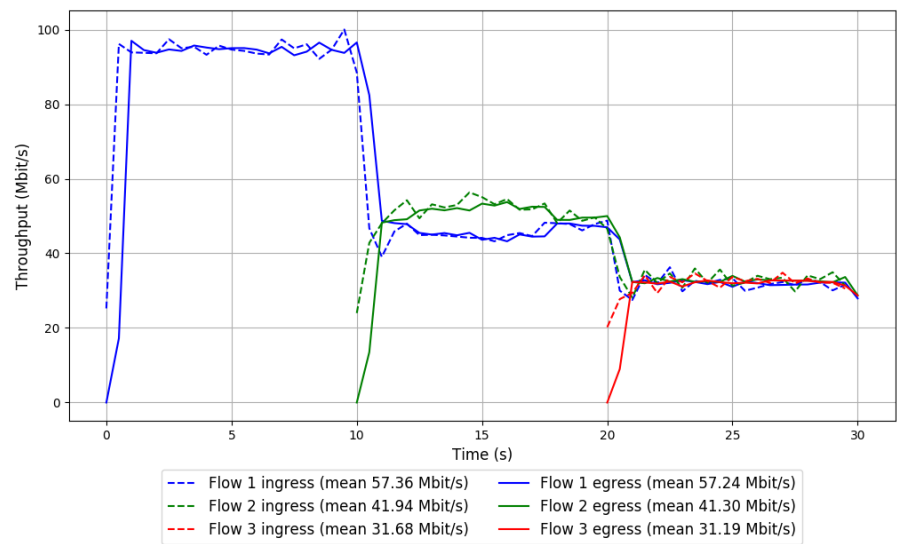## Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-01-19 12:38:56
End at: 2019-01-19 12:39:26
Local clock offset: 0.207 ms
Remote clock offset: -1.083 ms


# Below is generated by plot.py at 2019-01-19 13:55:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 111.260 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 57.24 Mbit/s
95th percentile per-packet one-way delay: 105.982 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 41.30 Mbit/s
95th percentile per-packet one-way delay: 113.933 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 128.889 ms
Loss rate: 2.11%
```
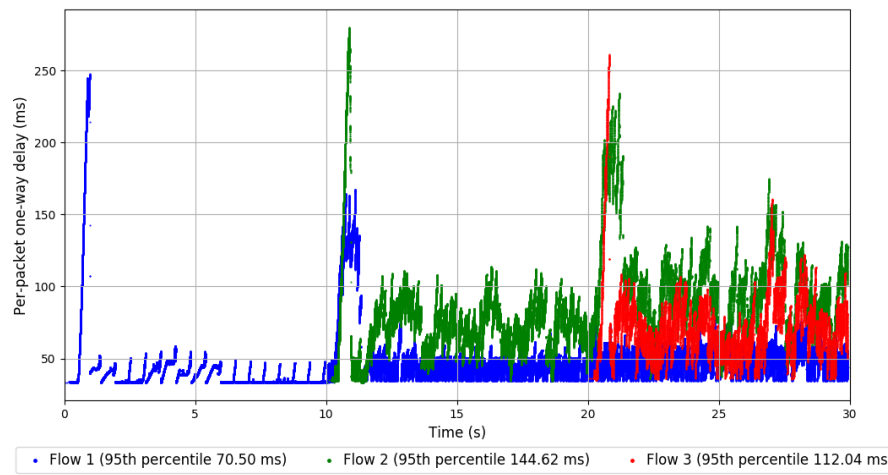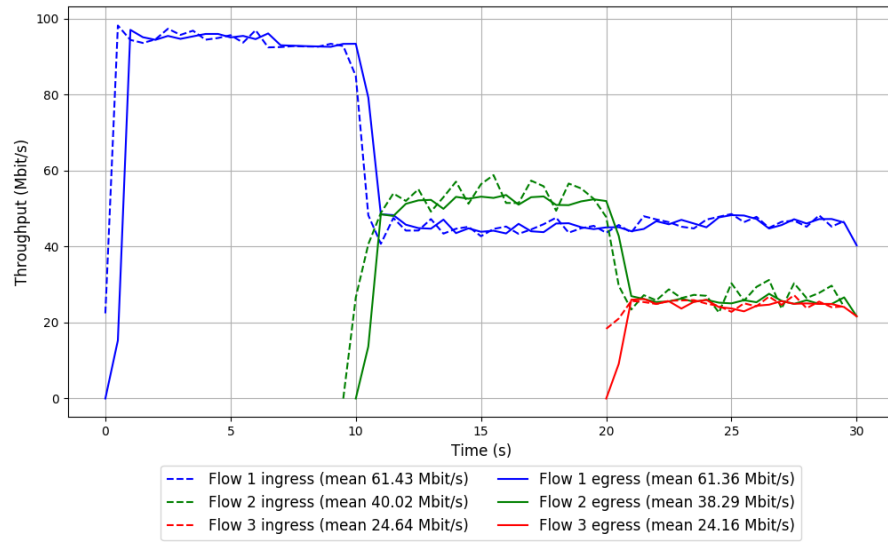
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 57.36 Mbit/s) — Flow 1 egress (mean 57.24 Mbit/s)
Flow 2 ingress (mean 41.94 Mbit/s) — Flow 2 egress (mean 41.30 Mbit/s)
Flow 3 ingress (mean 31.68 Mbit/s) — Flow 3 egress (mean 31.19 Mbit/s)

Flow 1 (95th percentile 105.98 ms) • Flow 2 (95th percentile 113.93 ms) • Flow 3 (95th percentile 128.89 ms)

```
Run 4: Statistics of FillP

Start at: 2019-01-19 13:05:40
End at: 2019-01-19 13:06:10
Local clock offset: -0.063 ms
Remote clock offset: 0.007 ms


# Below is generated by plot.py at 2019-01-19 13:55:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 116.992 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 61.36 Mbit/s
95th percentile per-packet one-way delay: 70.495 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 144.619 ms
Loss rate: 4.57%
-- Flow 3:
Average throughput: 24.16 Mbit/s
95th percentile per-packet one-way delay: 112.042 ms
Loss rate: 2.59%
```

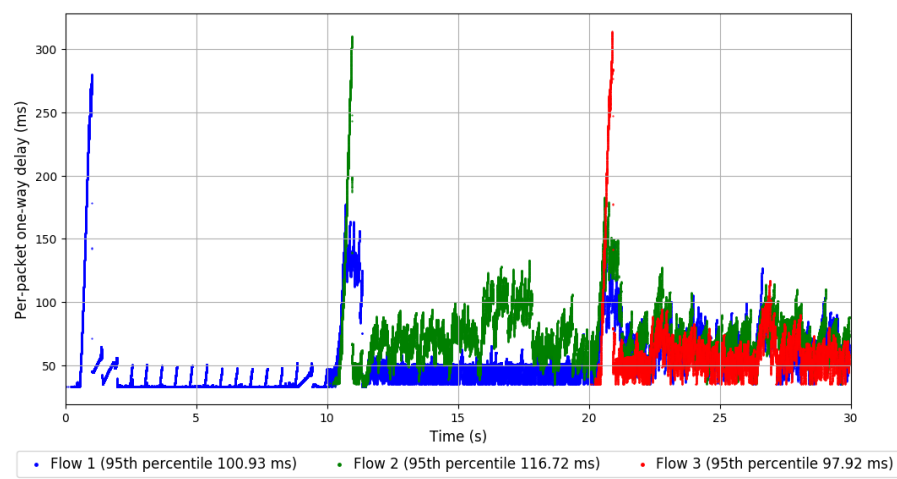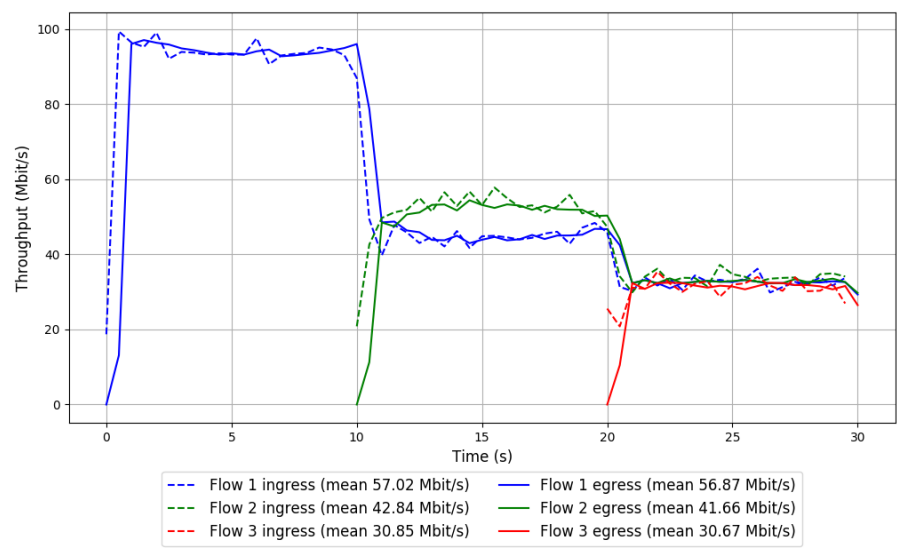Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-01-19 13:32:41
End at: 2019-01-19 13:33:11
Local clock offset: 0.057 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-01-19 13:56:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.73 Mbit/s
95th percentile per-packet one-way delay: 111.029 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 100.928 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 41.66 Mbit/s
95th percentile per-packet one-way delay: 116.725 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 30.67 Mbit/s
95th percentile per-packet one-way delay: 97.918 ms
Loss rate: 0.94%
```
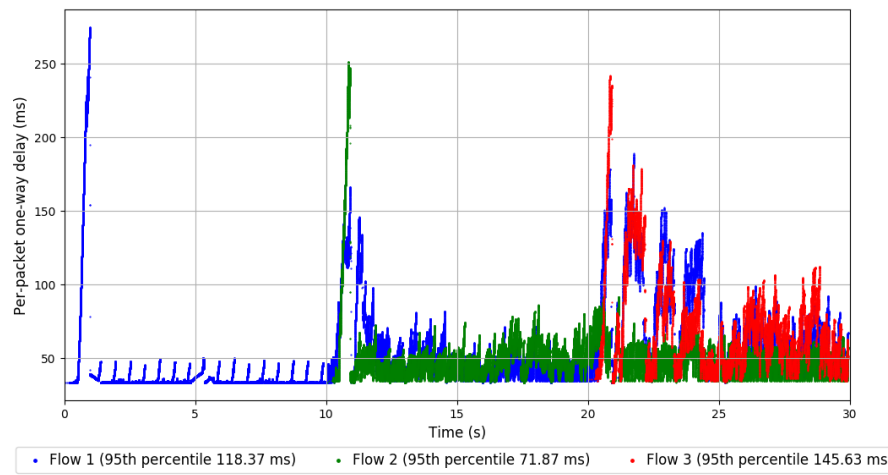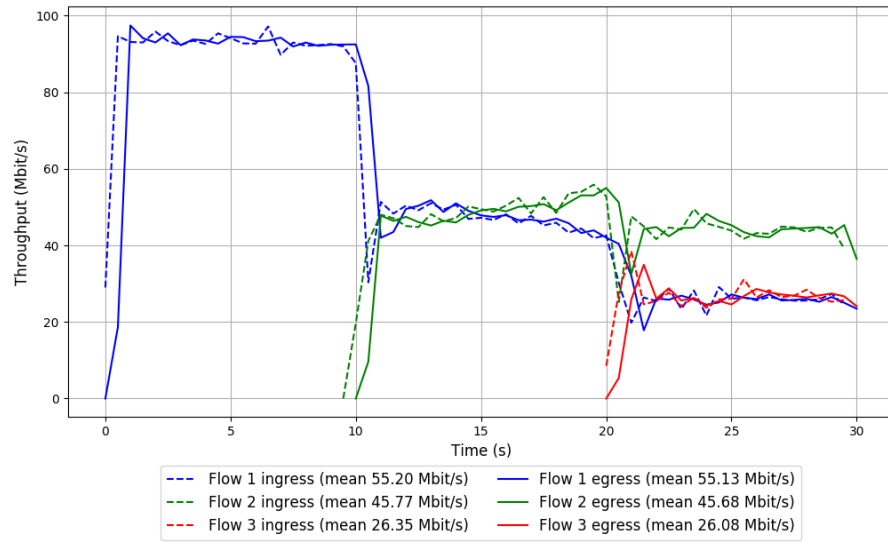
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 57.02 Mbit/s) — Flow 1 egress (mean 56.87 Mbit/s)
Flow 2 ingress (mean 42.84 Mbit/s) — Flow 2 egress (mean 41.66 Mbit/s)
Flow 3 ingress (mean 30.85 Mbit/s) — Flow 3 egress (mean 30.67 Mbit/s)

Flow 1 (95th percentile 100.93 ms) — Flow 2 (95th percentile 116.72 ms) — Flow 3 (95th percentile 97.92 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-19 11:43:27
End at: 2019-01-19 11:43:57
Local clock offset: 0.134 ms
Remote clock offset: -2.763 ms


# Below is generated by plot.py at 2019-01-19 13:56:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.15 Mbit/s
95th percentile per-packet one-way delay: 111.086 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 55.13 Mbit/s
95th percentile per-packet one-way delay: 118.371 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 45.68 Mbit/s
95th percentile per-packet one-way delay: 71.867 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 26.08 Mbit/s
95th percentile per-packet one-way delay: 145.631 ms
Loss rate: 1.45%
```

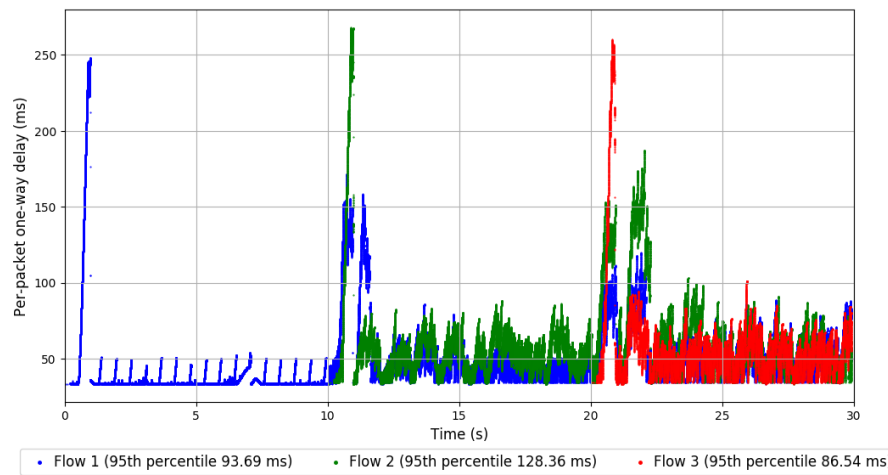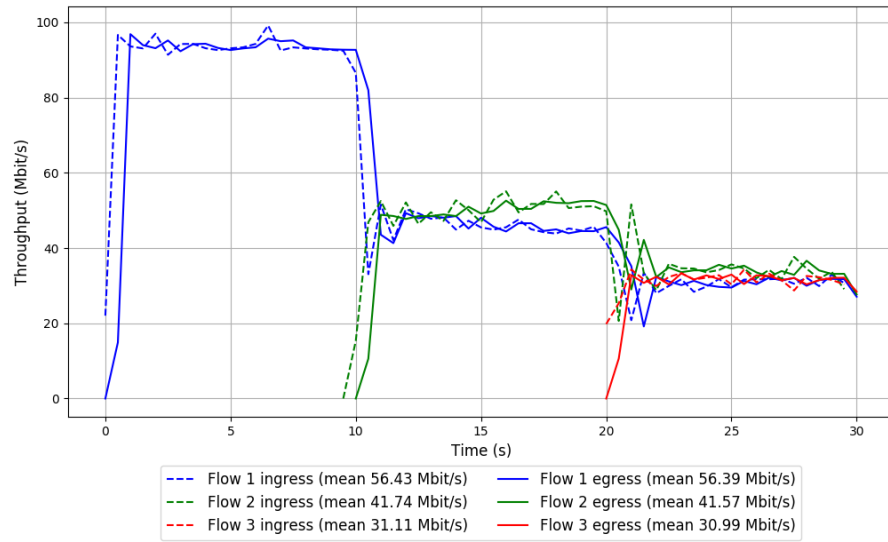# Run 1: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 55.20 Mbit/s)   —— Flow 1 egress (mean 55.13 Mbit/s)
- - - - Flow 2 ingress (mean 45.77 Mbit/s)   —— Flow 2 egress (mean 45.68 Mbit/s)
- - - - Flow 3 ingress (mean 26.35 Mbit/s)   —— Flow 3 egress (mean 26.08 Mbit/s)

- Flow 1 (95th percentile 118.37 ms)   • Flow 2 (95th percentile 71.87 ms)   • Flow 3 (95th percentile 145.63 ms)

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```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-19 12:10:01
End at: 2019-01-19 12:10:31
Local clock offset: 0.222 ms
Remote clock offset: -2.105 ms


# Below is generated by plot.py at 2019-01-19 13:56:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.29 Mbit/s
95th percentile per-packet one-way delay: 103.223 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 56.39 Mbit/s
95th percentile per-packet one-way delay: 93.688 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 41.57 Mbit/s
95th percentile per-packet one-way delay: 128.363 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 30.99 Mbit/s
95th percentile per-packet one-way delay: 86.544 ms
Loss rate: 0.93%
```
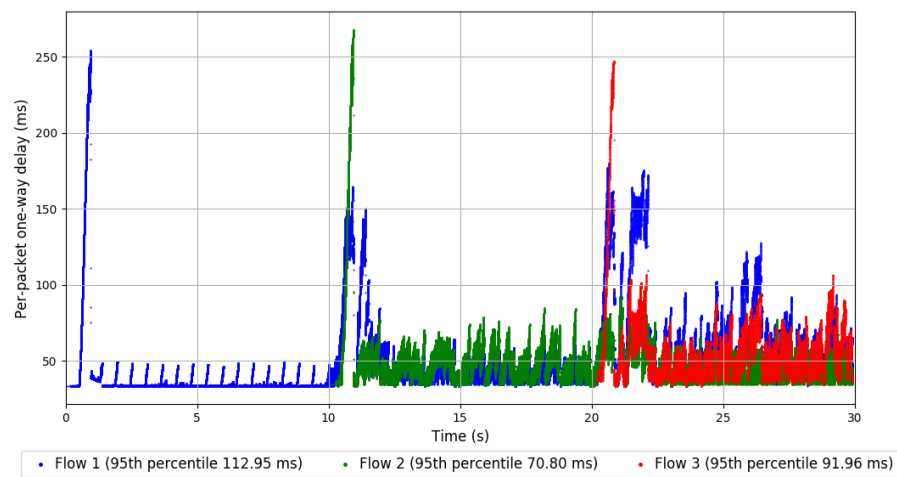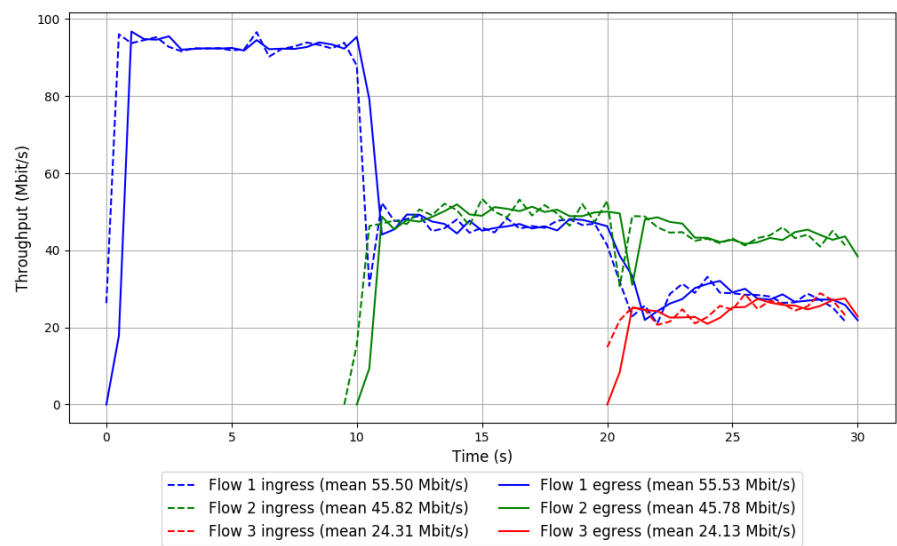
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.43 Mbit/s) --- Flow 1 egress (mean 56.39 Mbit/s)
Flow 2 ingress (mean 41.74 Mbit/s) --- Flow 2 egress (mean 41.57 Mbit/s)
Flow 3 ingress (mean 31.11 Mbit/s) --- Flow 3 egress (mean 30.99 Mbit/s)

Flow 1 (95th percentile 93.69 ms)   Flow 2 (95th percentile 128.36 ms)   Flow 3 (95th percentile 86.54 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-19 12:37:36
End at: 2019-01-19 12:38:06
Local clock offset: 0.211 ms
Remote clock offset: -1.139 ms


# Below is generated by plot.py at 2019-01-19 13:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.96 Mbit/s
95th percentile per-packet one-way delay: 90.406 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 55.53 Mbit/s
95th percentile per-packet one-way delay: 112.947 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 45.78 Mbit/s
95th percentile per-packet one-way delay: 70.796 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 24.13 Mbit/s
95th percentile per-packet one-way delay: 91.958 ms
Loss rate: 1.18%
```
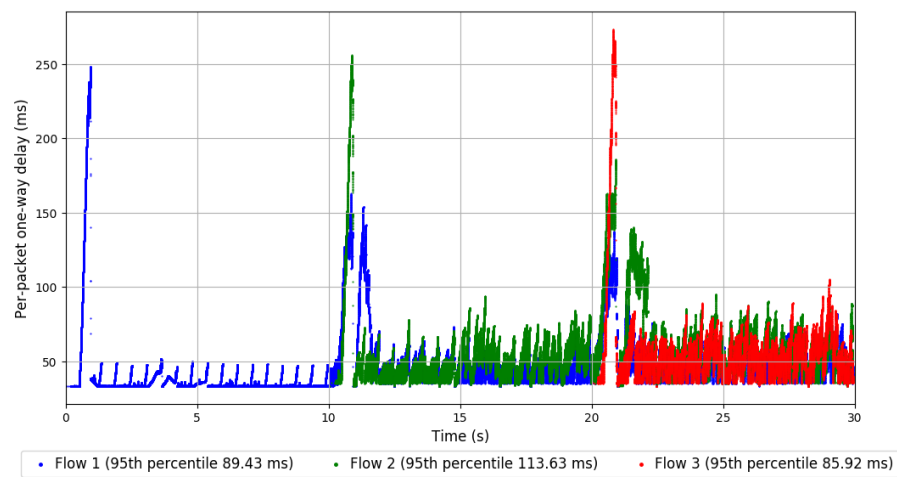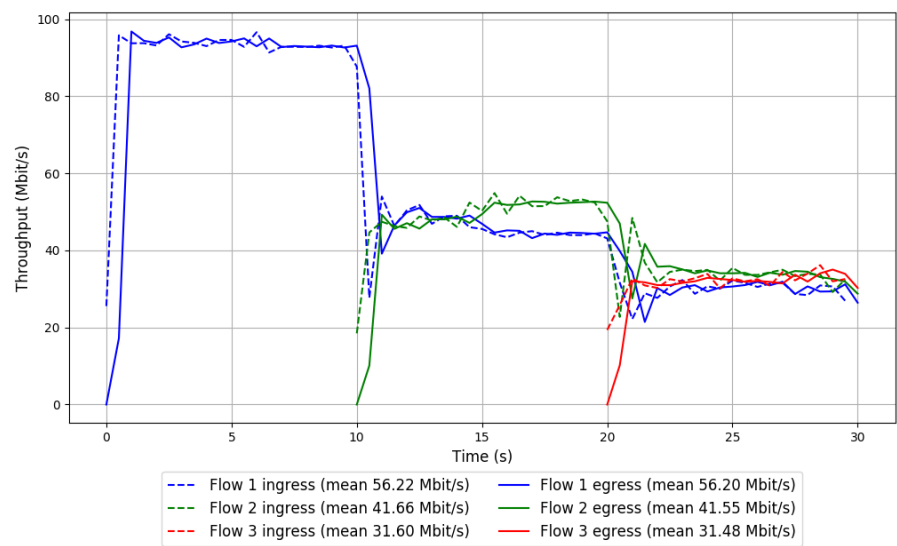
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 55.50 Mbit/s) — — Flow 1 egress (mean 55.53 Mbit/s)
Flow 2 ingress (mean 45.82 Mbit/s) — — Flow 2 egress (mean 45.78 Mbit/s)
Flow 3 ingress (mean 24.31 Mbit/s) — — Flow 3 egress (mean 24.13 Mbit/s)

Flow 1 (95th percentile 112.95 ms) • Flow 2 (95th percentile 70.80 ms) • Flow 3 (95th percentile 91.96 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-19 13:04:23
End at: 2019-01-19 13:04:53
Local clock offset: -0.078 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2019-01-19 13:57:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 98.706 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 56.20 Mbit/s
95th percentile per-packet one-way delay: 89.430 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 113.629 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 31.48 Mbit/s
95th percentile per-packet one-way delay: 85.920 ms
Loss rate: 1.04%
```
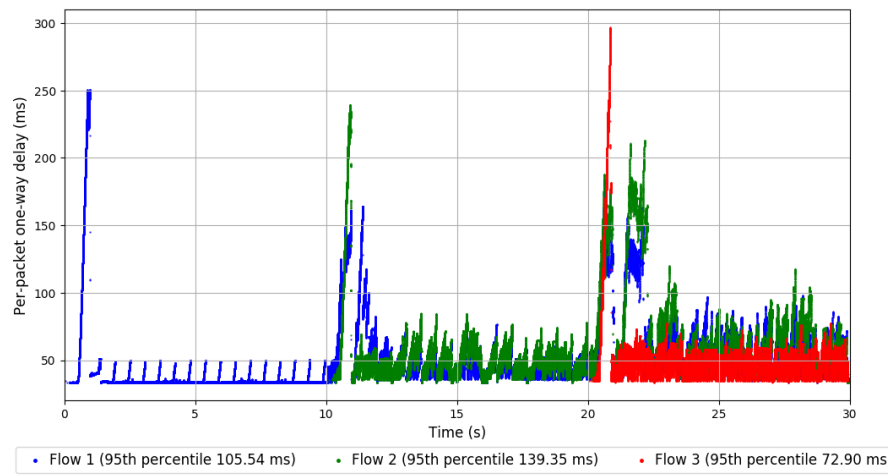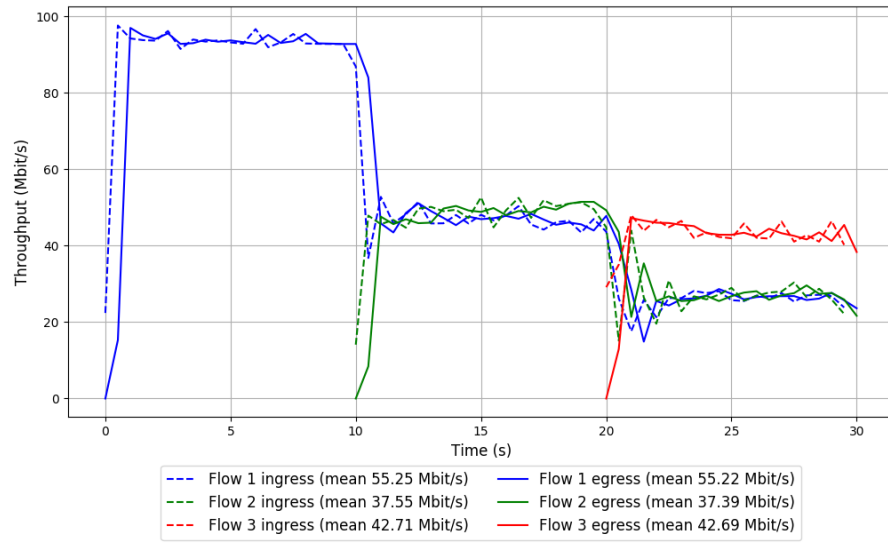
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.22 Mbit/s) --- Flow 1 egress (mean 56.20 Mbit/s)
Flow 2 ingress (mean 41.66 Mbit/s) --- Flow 2 egress (mean 41.55 Mbit/s)
Flow 3 ingress (mean 31.60 Mbit/s) --- Flow 3 egress (mean 31.48 Mbit/s)

Flow 1 (95th percentile 89.43 ms) • Flow 2 (95th percentile 113.63 ms) • Flow 3 (95th percentile 85.92 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-19 13:31:27
End at: 2019-01-19 13:31:57
Local clock offset: 0.057 ms
Remote clock offset: -0.25 ms


# Below is generated by plot.py at 2019-01-19 13:57:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.21 Mbit/s
95th percentile per-packet one-way delay: 109.906 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 55.22 Mbit/s
95th percentile per-packet one-way delay: 105.538 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 37.39 Mbit/s
95th percentile per-packet one-way delay: 139.349 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 42.69 Mbit/s
95th percentile per-packet one-way delay: 72.903 ms
Loss rate: 0.83%
```
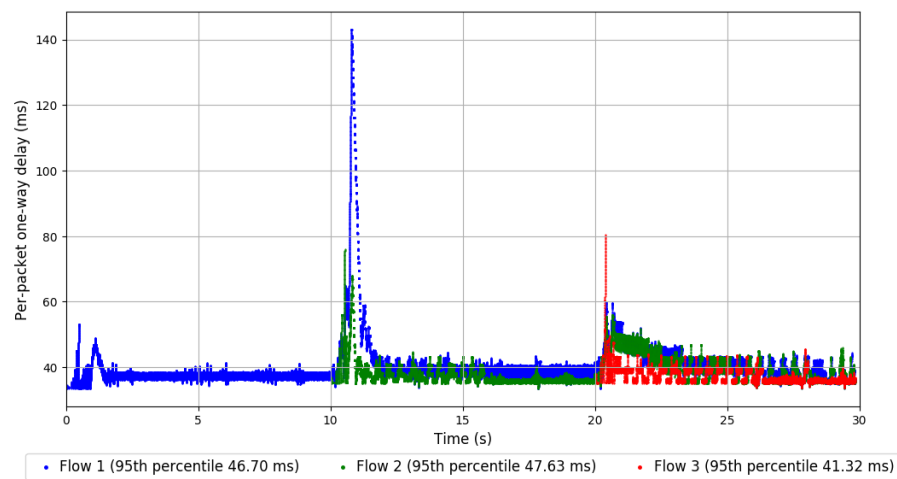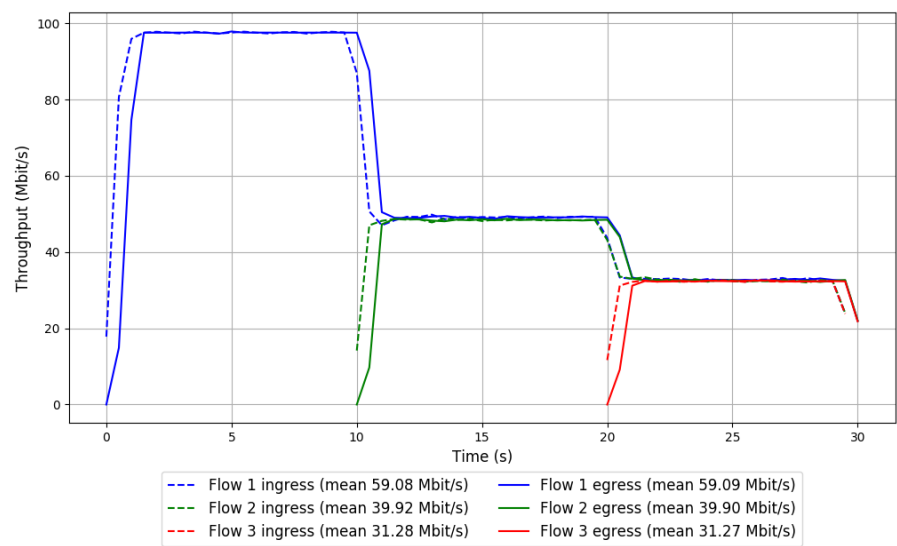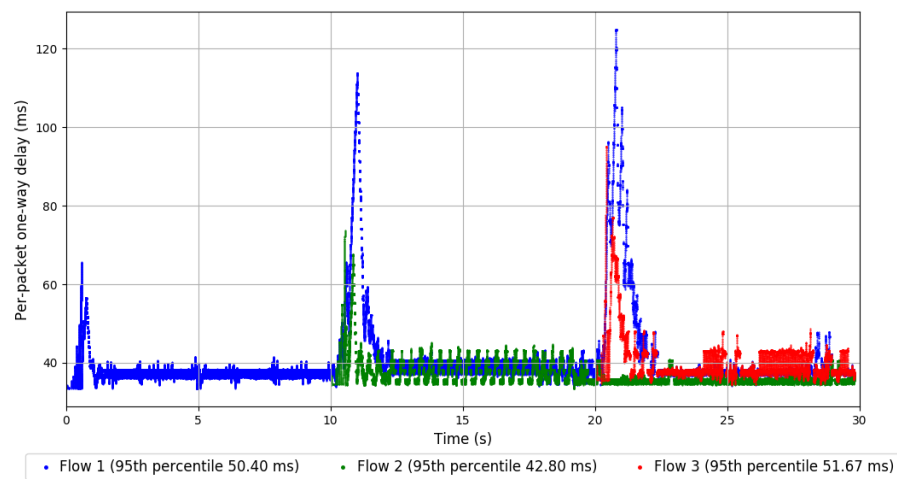
Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-01-19 11:53:22
End at: 2019-01-19 11:53:52
Local clock offset: 0.178 ms
Remote clock offset: -2.54 ms


# Below is generated by plot.py at 2019-01-19 13:57:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.86 Mbit/s
95th percentile per-packet one-way delay: 46.435 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 46.705 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 39.90 Mbit/s
95th percentile per-packet one-way delay: 47.628 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 31.27 Mbit/s
95th percentile per-packet one-way delay: 41.323 ms
Loss rate: 0.70%
```
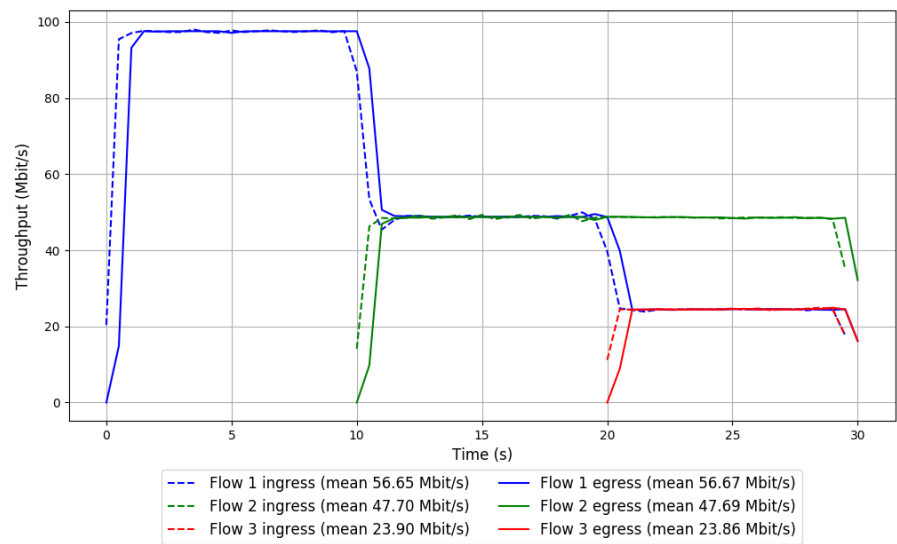
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-01-19 12:20:16
End at: 2019-01-19 12:20:46
Local clock offset: 0.236 ms
Remote clock offset: -1.794 ms


# Below is generated by plot.py at 2019-01-19 13:57:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.17 Mbit/s
95th percentile per-packet one-way delay: 46.734 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 56.67 Mbit/s
95th percentile per-packet one-way delay: 50.398 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 47.69 Mbit/s
95th percentile per-packet one-way delay: 42.802 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 51.667 ms
Loss rate: 0.81%
```
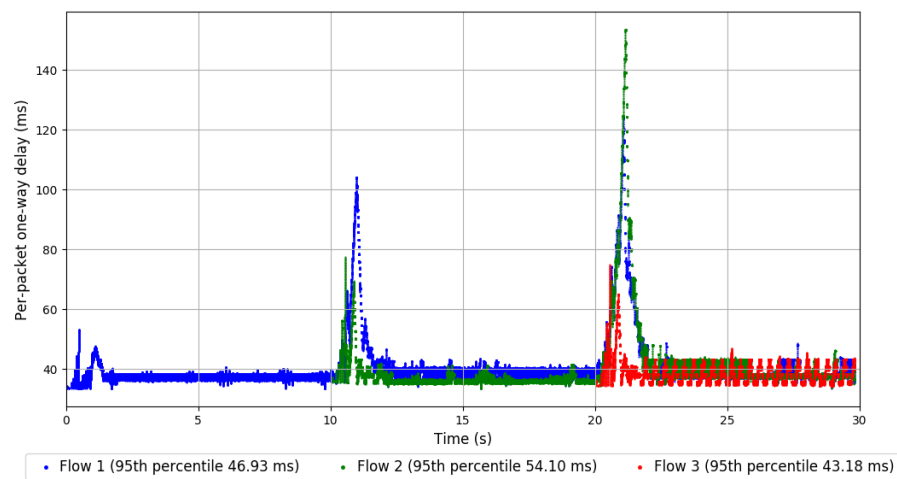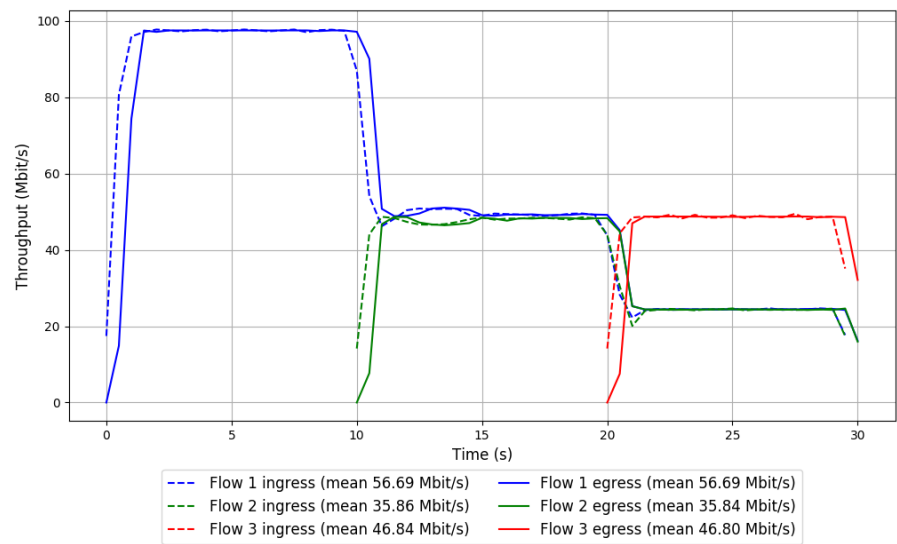
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-19 12:47:52
End at: 2019-01-19 12:48:22
Local clock offset: 0.185 ms
Remote clock offset: -0.699 ms


# Below is generated by plot.py at 2019-01-19 13:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 46.912 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 46.926 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 35.84 Mbit/s
95th percentile per-packet one-way delay: 54.101 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 46.80 Mbit/s
95th percentile per-packet one-way delay: 43.179 ms
Loss rate: 0.73%
```
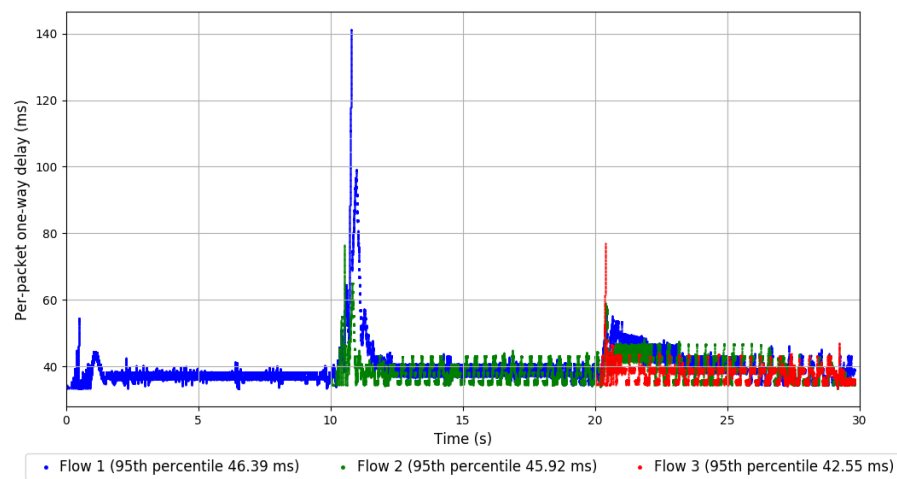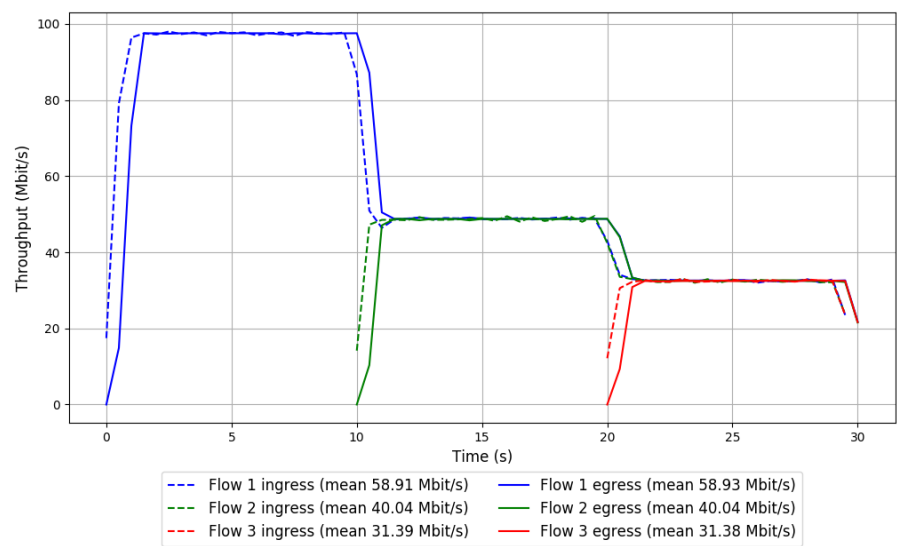
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 56.69 Mbit/s) --- Flow 1 egress (mean 56.69 Mbit/s)
Flow 2 ingress (mean 35.86 Mbit/s) --- Flow 2 egress (mean 35.84 Mbit/s)
Flow 3 ingress (mean 46.84 Mbit/s) --- Flow 3 egress (mean 46.80 Mbit/s)

Flow 1 (95th percentile 46.93 ms)   Flow 2 (95th percentile 54.10 ms)   Flow 3 (95th percentile 43.18 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-01-19 13:14:39
End at: 2019-01-19 13:15:09
Local clock offset: -0.125 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2019-01-19 13:57:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 45.880 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 58.93 Mbit/s
95th percentile per-packet one-way delay: 46.394 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 40.04 Mbit/s
95th percentile per-packet one-way delay: 45.917 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 42.548 ms
Loss rate: 0.70%
```

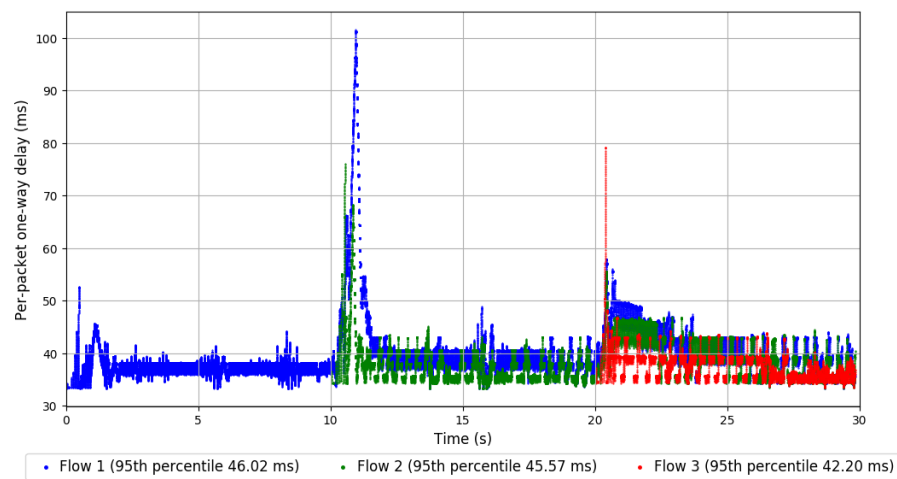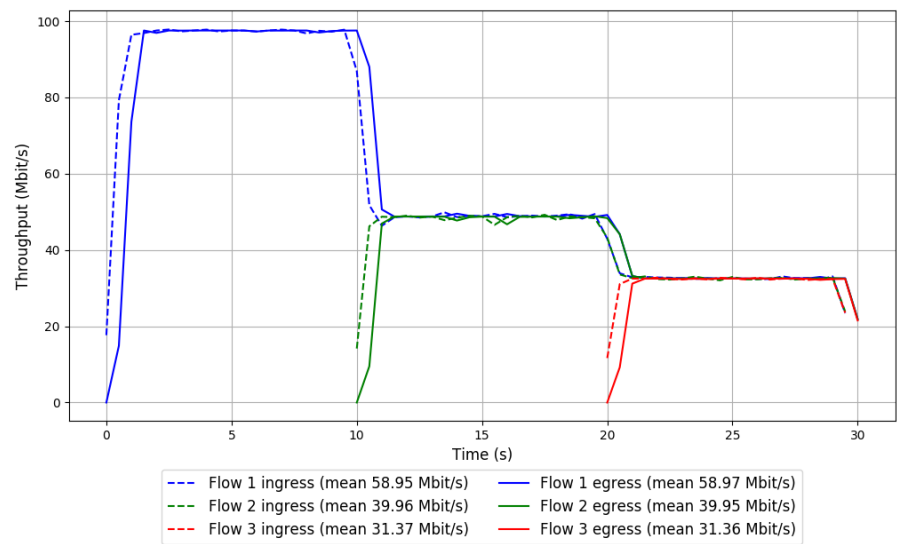Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-19 13:41:35
End at: 2019-01-19 13:42:05
Local clock offset: 0.108 ms
Remote clock offset: -0.206 ms


# Below is generated by plot.py at 2019-01-19 13:57:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 45.539 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 58.97 Mbit/s
95th percentile per-packet one-way delay: 46.019 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 39.95 Mbit/s
95th percentile per-packet one-way delay: 45.567 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 42.201 ms
Loss rate: 0.70%
```
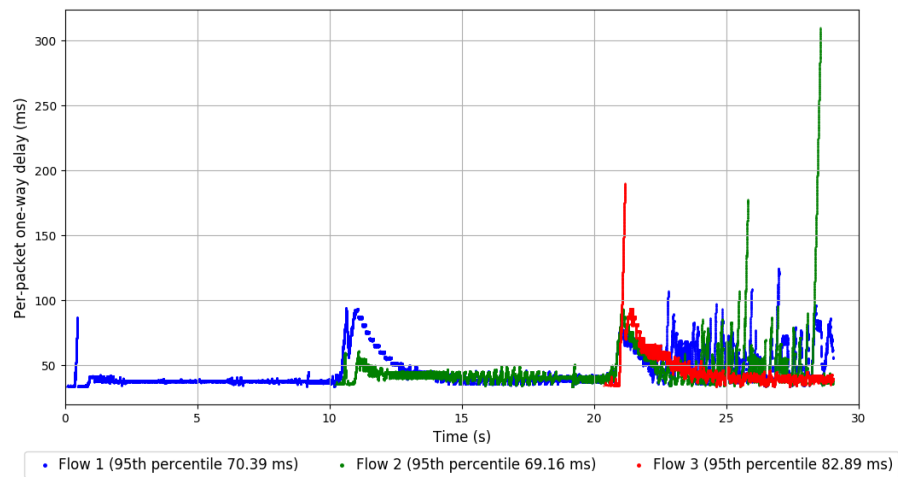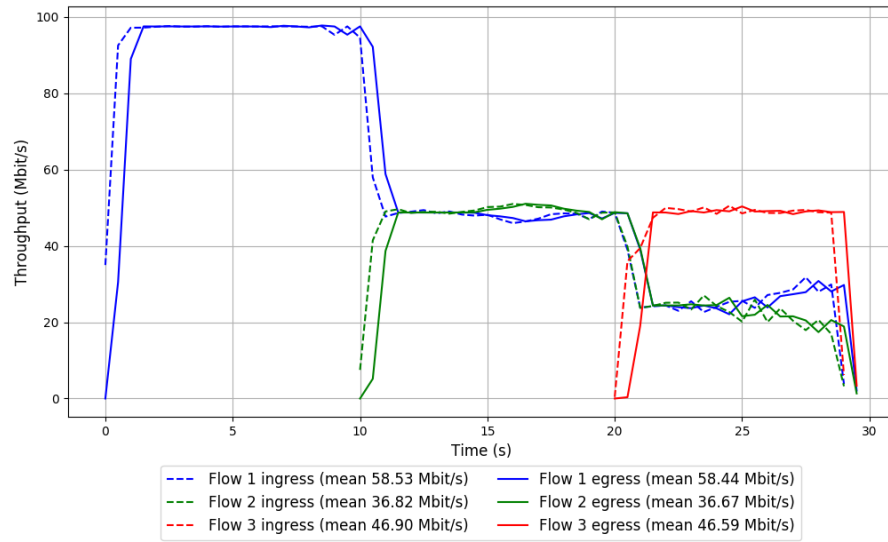
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 58.95 Mbit/s) --- Flow 1 egress (mean 58.97 Mbit/s)
Flow 2 ingress (mean 39.96 Mbit/s) --- Flow 2 egress (mean 39.95 Mbit/s)
Flow 3 ingress (mean 31.37 Mbit/s) --- Flow 3 egress (mean 31.36 Mbit/s)

Flow 1 (95th percentile 46.02 ms) • Flow 2 (95th percentile 45.57 ms) • Flow 3 (95th percentile 42.20 ms)

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```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-19 11:42:11
End at: 2019-01-19 11:42:41
Local clock offset: 0.12 ms
Remote clock offset: -2.754 ms


# Below is generated by plot.py at 2019-01-19 13:57:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 71.778 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 70.394 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 69.162 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 46.59 Mbit/s
95th percentile per-packet one-way delay: 82.885 ms
Loss rate: 1.39%
```

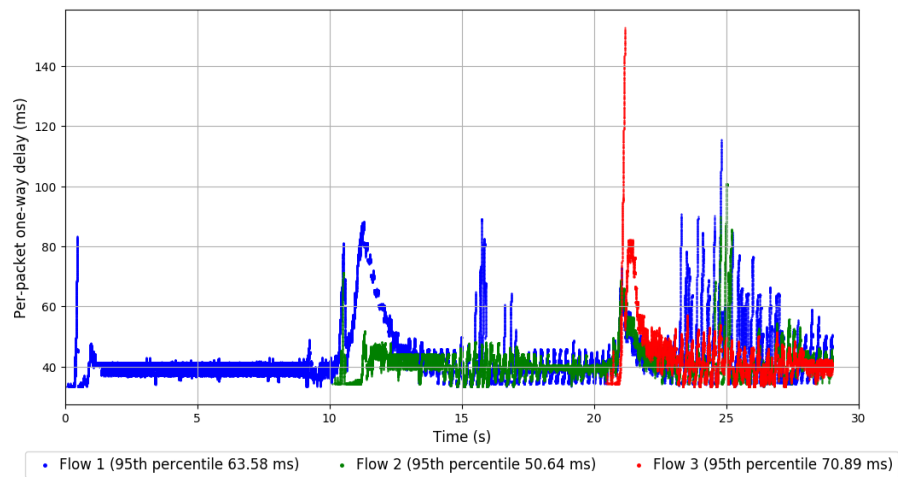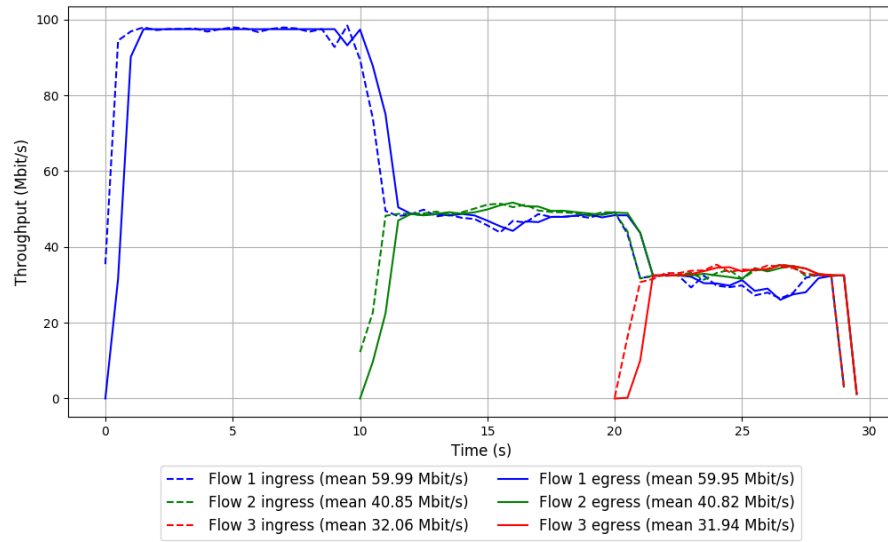Run 1: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 58.53 Mbit/s) —— Flow 1 egress (mean 58.44 Mbit/s)
- - - Flow 2 ingress (mean 36.82 Mbit/s) —— Flow 2 egress (mean 36.67 Mbit/s)
- - - Flow 3 ingress (mean 46.90 Mbit/s) —— Flow 3 egress (mean 46.59 Mbit/s)

• Flow 1 (95th percentile 70.39 ms) • Flow 2 (95th percentile 69.16 ms) • Flow 3 (95th percentile 82.89 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-19 12:08:48
End at: 2019-01-19 12:09:18
Local clock offset: 0.215 ms
Remote clock offset: -2.098 ms


# Below is generated by plot.py at 2019-01-19 13:58:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.03 Mbit/s
95th percentile per-packet one-way delay: 60.332 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 59.95 Mbit/s
95th percentile per-packet one-way delay: 63.577 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 40.82 Mbit/s
95th percentile per-packet one-way delay: 50.643 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 31.94 Mbit/s
95th percentile per-packet one-way delay: 70.885 ms
Loss rate: 1.10%
```

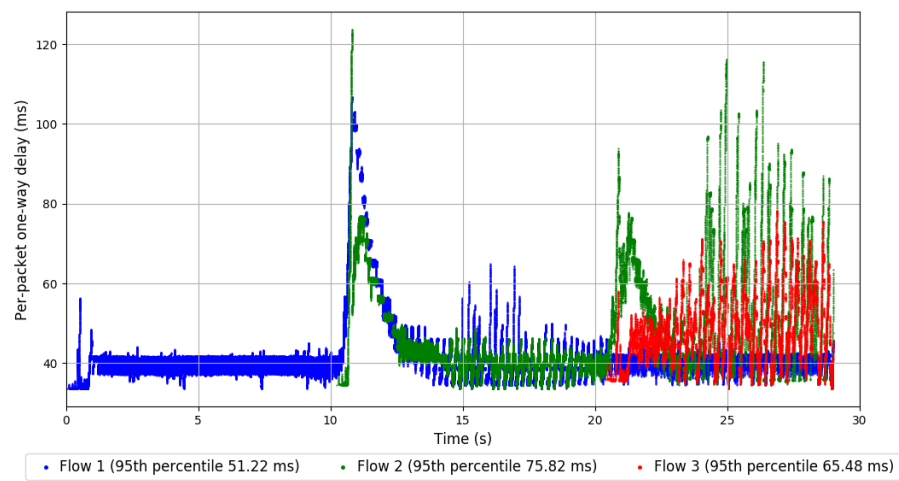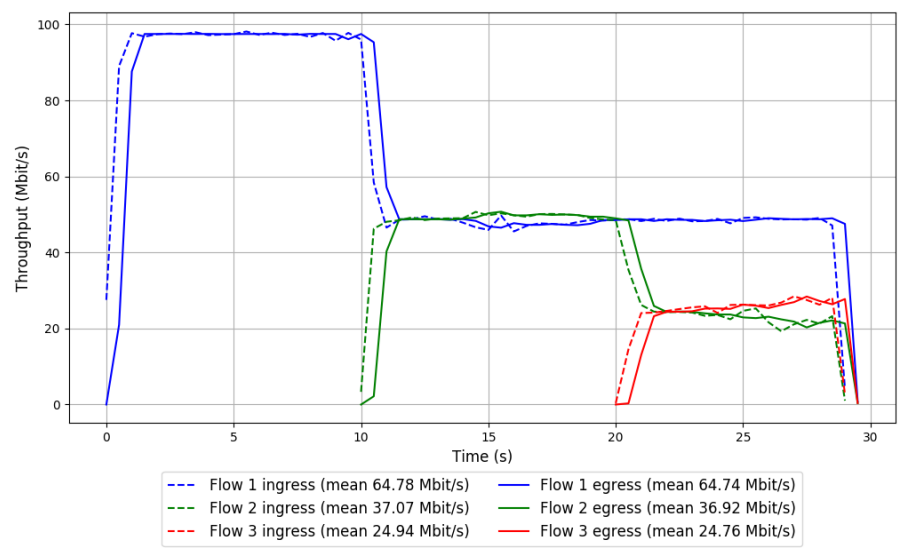Run 2: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 59.99 Mbit/s) ——— Flow 1 egress (mean 59.95 Mbit/s)
- - - - Flow 2 ingress (mean 40.85 Mbit/s) ——— Flow 2 egress (mean 40.82 Mbit/s)
- - - - Flow 3 ingress (mean 32.06 Mbit/s) ——— Flow 3 egress (mean 31.94 Mbit/s)

- Flow 1 (95th percentile 63.58 ms) • Flow 2 (95th percentile 50.64 ms) • Flow 3 (95th percentile 70.89 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-19 12:36:17
End at: 2019-01-19 12:36:47
Local clock offset: 0.212 ms
Remote clock offset: -1.431 ms


# Below is generated by plot.py at 2019-01-19 13:58:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 65.515 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 64.74 Mbit/s
95th percentile per-packet one-way delay: 51.218 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 36.92 Mbit/s
95th percentile per-packet one-way delay: 75.819 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 65.482 ms
Loss rate: 1.47%
```
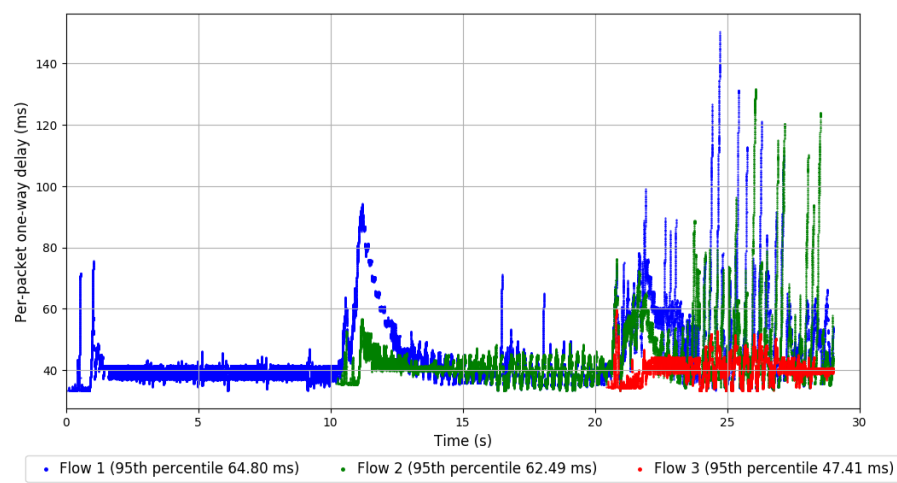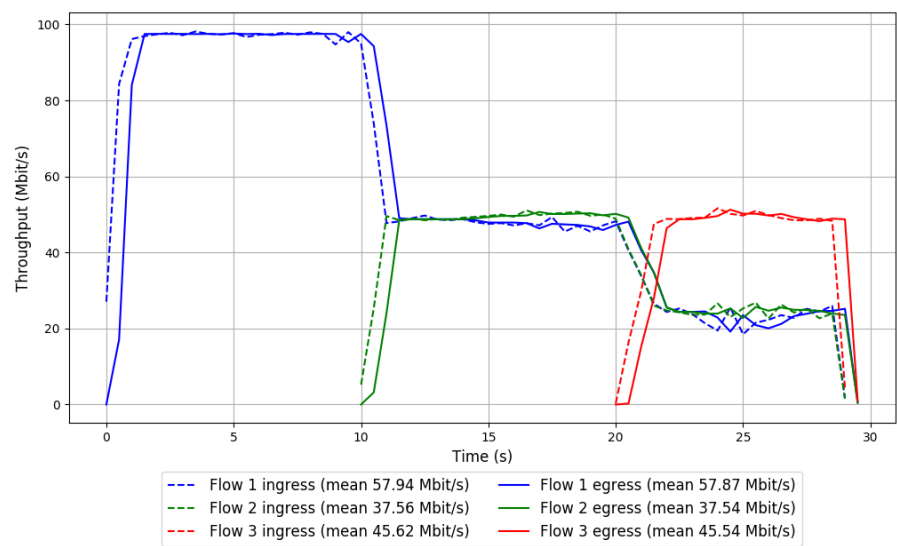
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 64.78 Mbit/s)   Flow 1 egress (mean 64.74 Mbit/s)
Flow 2 ingress (mean 37.07 Mbit/s)   Flow 2 egress (mean 36.92 Mbit/s)
Flow 3 ingress (mean 24.94 Mbit/s)   Flow 3 egress (mean 24.76 Mbit/s)

Flow 1 (95th percentile 51.22 ms)   Flow 2 (95th percentile 75.82 ms)   Flow 3 (95th percentile 65.48 ms)
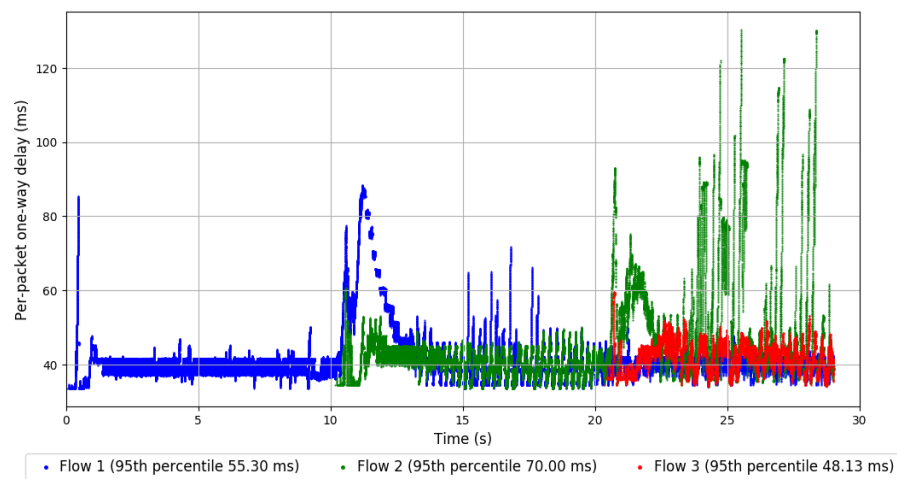
70

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-19 13:03:03
End at: 2019-01-19 13:03:33
Local clock offset: -0.055 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-01-19 13:58:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 61.440 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 57.87 Mbit/s
95th percentile per-packet one-way delay: 64.795 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 62.492 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 45.54 Mbit/s
95th percentile per-packet one-way delay: 47.412 ms
Loss rate: 0.90%
```

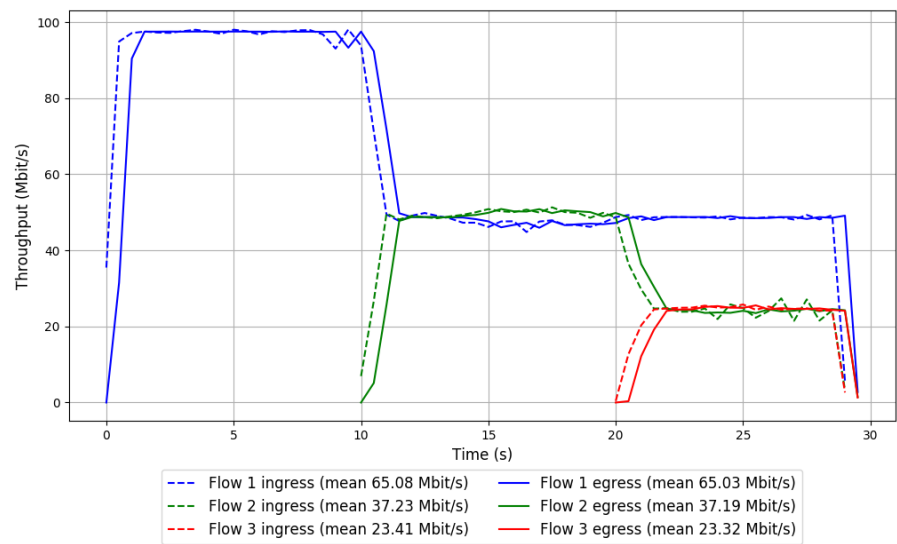Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-19 13:30:13
End at: 2019-01-19 13:30:43
Local clock offset: 0.037 ms
Remote clock offset: -0.238 ms


# Below is generated by plot.py at 2019-01-19 13:58:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 57.923 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 65.03 Mbit/s
95th percentile per-packet one-way delay: 55.302 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 37.19 Mbit/s
95th percentile per-packet one-way delay: 70.001 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 23.32 Mbit/s
95th percentile per-packet one-way delay: 48.130 ms
Loss rate: 1.11%
```

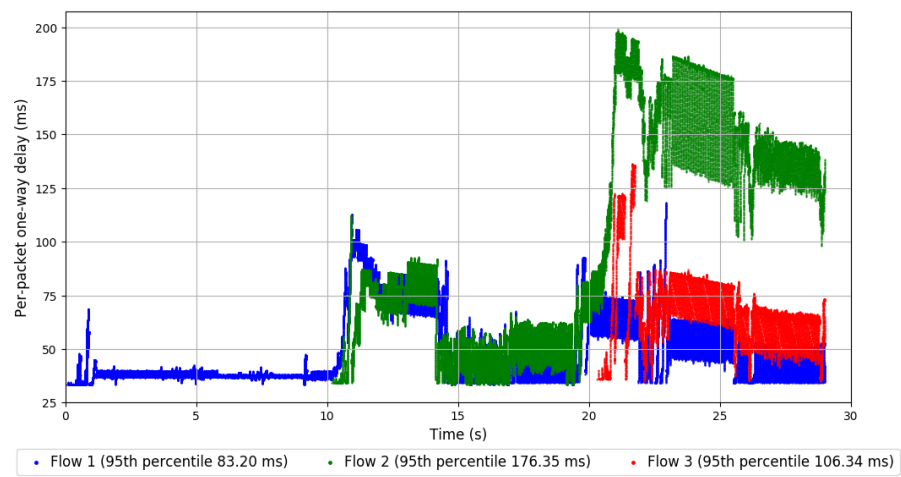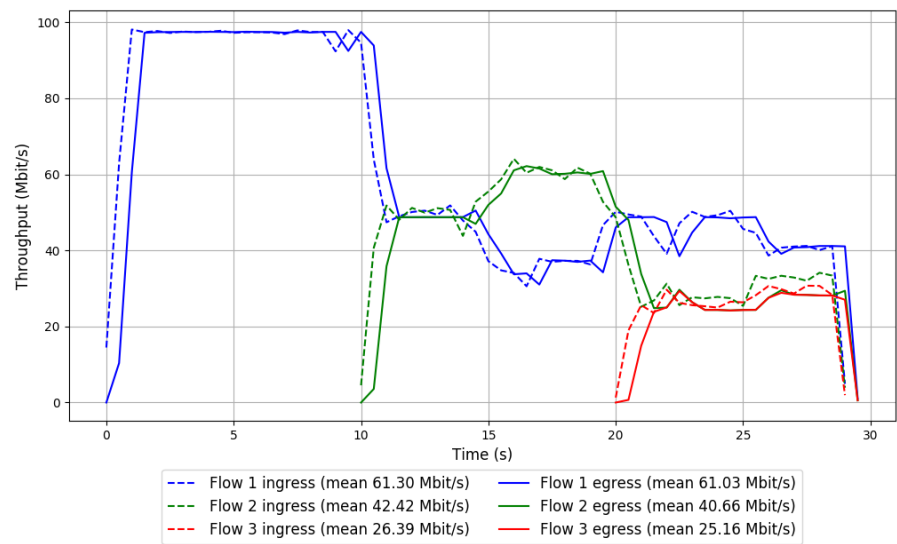Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 65.08 Mbit/s) — Flow 1 egress (mean 65.03 Mbit/s)
Flow 2 ingress (mean 37.23 Mbit/s) — Flow 2 egress (mean 37.19 Mbit/s)
Flow 3 ingress (mean 23.41 Mbit/s) — Flow 3 egress (mean 23.32 Mbit/s)

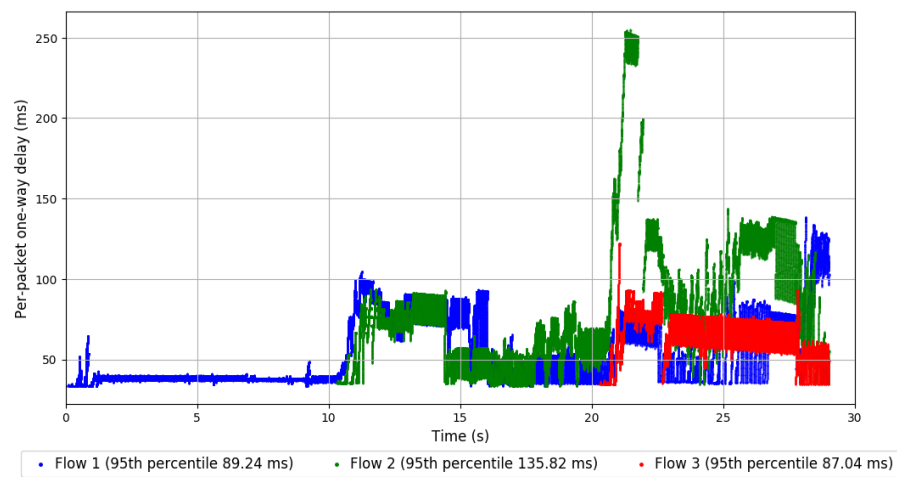Flow 1 (95th percentile 55.30 ms)   Flow 2 (95th percentile 70.00 ms)   Flow 3 (95th percentile 48.13 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-19 11:48:33
End at: 2019-01-19 11:49:03
Local clock offset: 0.146 ms
Remote clock offset: -2.547 ms


# Below is generated by plot.py at 2019-01-19 13:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 141.547 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 61.03 Mbit/s
95th percentile per-packet one-way delay: 83.199 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 176.350 ms
Loss rate: 4.47%
-- Flow 3:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 106.341 ms
Loss rate: 5.23%
```

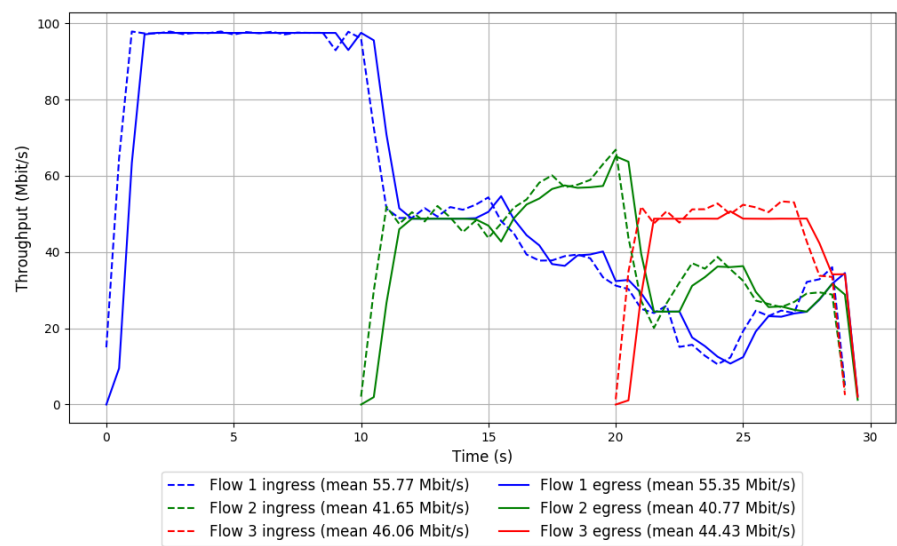Run 1: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 61.30 Mbit/s)   —— Flow 1 egress (mean 61.03 Mbit/s)
- - - Flow 2 ingress (mean 42.42 Mbit/s)   —— Flow 2 egress (mean 40.66 Mbit/s)
- - - Flow 3 ingress (mean 26.39 Mbit/s)   —— Flow 3 egress (mean 25.16 Mbit/s)

• Flow 1 (95th percentile 83.20 ms)   • Flow 2 (95th percentile 176.35 ms)   • Flow 3 (95th percentile 106.34 ms)
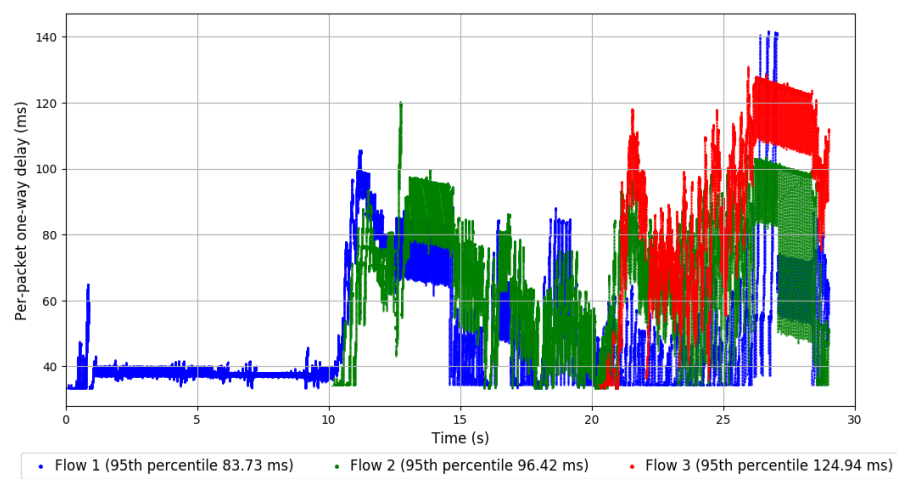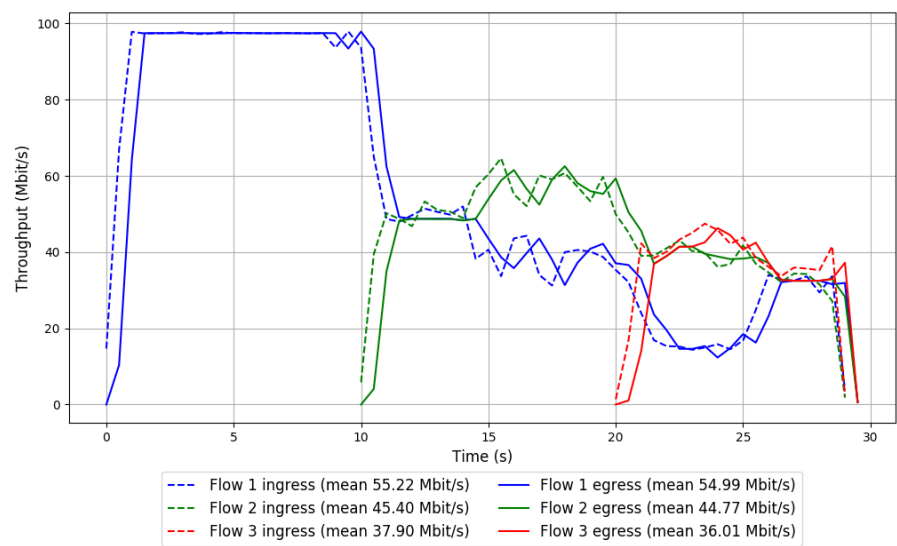
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-19 12:15:11
End at: 2019-01-19 12:15:41
Local clock offset: 0.232 ms
Remote clock offset: -1.93 ms


# Below is generated by plot.py at 2019-01-19 13:58:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 106.339 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 55.35 Mbit/s
95th percentile per-packet one-way delay: 89.241 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 135.816 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 44.43 Mbit/s
95th percentile per-packet one-way delay: 87.043 ms
Loss rate: 4.24%
```

Run 2: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 55.77 Mbit/s)   ——— Flow 1 egress (mean 55.35 Mbit/s)
- - - - Flow 2 ingress (mean 41.65 Mbit/s)   ——— Flow 2 egress (mean 40.77 Mbit/s)
- - - - Flow 3 ingress (mean 46.06 Mbit/s)   ——— Flow 3 egress (mean 44.43 Mbit/s)

- Flow 1 (95th percentile 89.24 ms)   - Flow 2 (95th percentile 135.82 ms)   - Flow 3 (95th percentile 87.04 ms)

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```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-19 12:42:55
End at: 2019-01-19 12:43:25
Local clock offset: 0.209 ms
Remote clock offset: -0.926 ms


# Below is generated by plot.py at 2019-01-19 13:58:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 101.926 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 54.99 Mbit/s
95th percentile per-packet one-way delay: 83.726 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 44.77 Mbit/s
95th percentile per-packet one-way delay: 96.422 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 124.943 ms
Loss rate: 5.62%
```
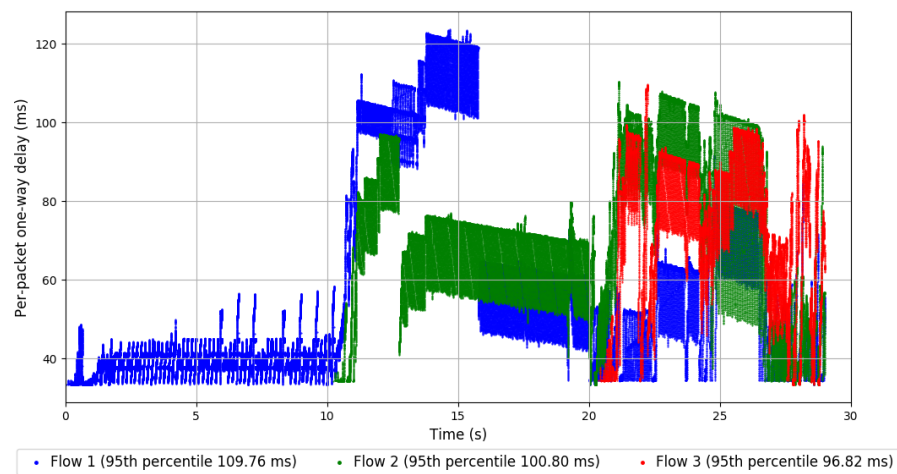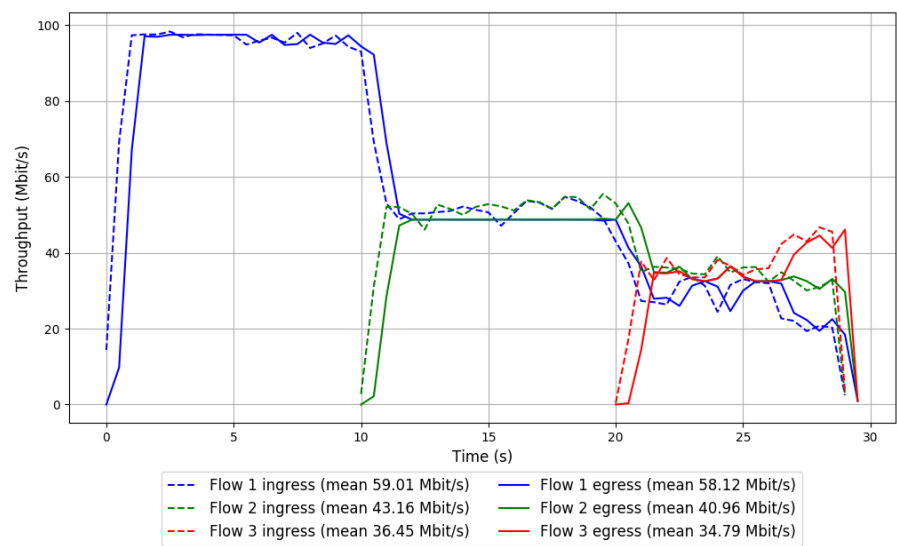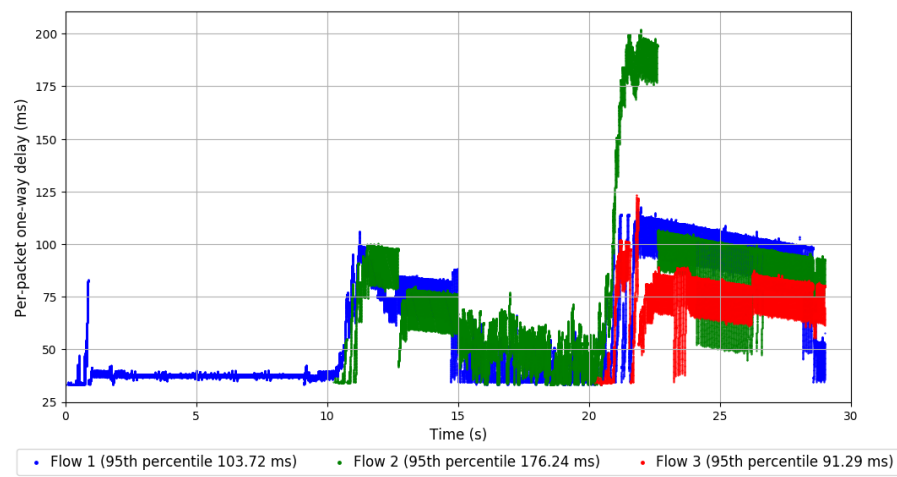
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 55.22 Mbit/s) ---- Flow 1 egress (mean 54.99 Mbit/s) ——
Flow 2 ingress (mean 45.40 Mbit/s) ---- Flow 2 egress (mean 44.77 Mbit/s) ——
Flow 3 ingress (mean 37.90 Mbit/s) ---- Flow 3 egress (mean 36.01 Mbit/s) ——

Flow 1 (95th percentile 83.73 ms)   Flow 2 (95th percentile 96.42 ms)   Flow 3 (95th percentile 124.94 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-19 13:09:32
End at: 2019-01-19 13:10:02
Local clock offset: -0.096 ms
Remote clock offset: 0.062 ms


# Below is generated by plot.py at 2019-01-19 13:59:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 104.550 ms
Loss rate: 3.17%
-- Flow 1:
Average throughput: 58.12 Mbit/s
95th percentile per-packet one-way delay: 109.764 ms
Loss rate: 1.72%
-- Flow 2:
Average throughput: 40.96 Mbit/s
95th percentile per-packet one-way delay: 100.803 ms
Loss rate: 5.39%
-- Flow 3:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 96.823 ms
Loss rate: 5.26%
```
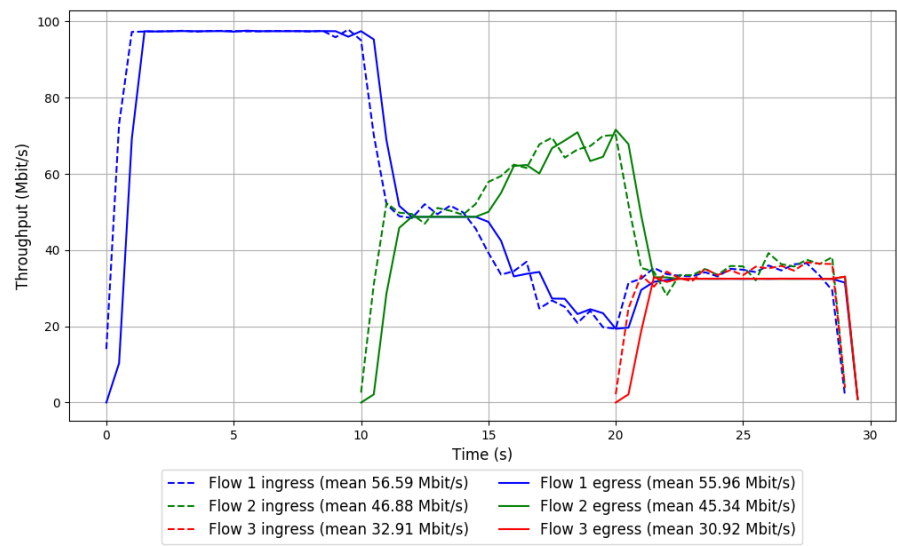
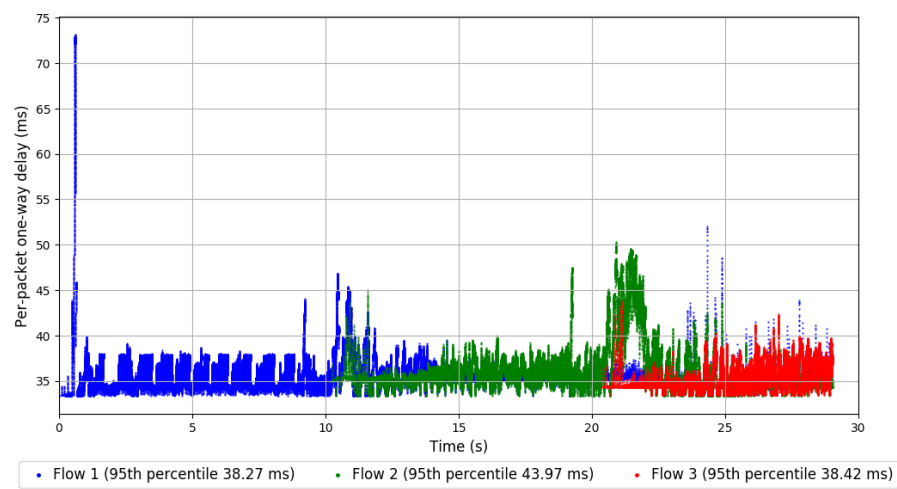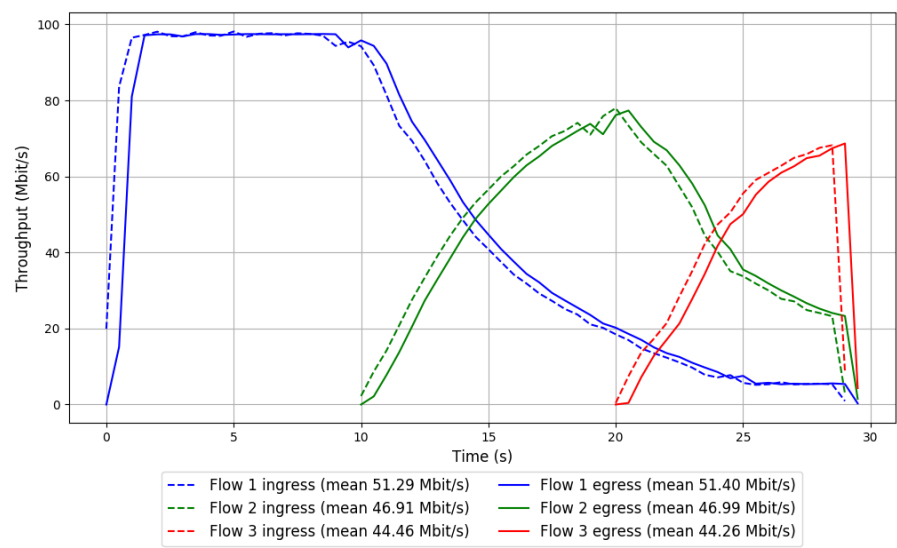Run 4: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 59.01 Mbit/s) ——— Flow 1 egress (mean 58.12 Mbit/s)
- - - - Flow 2 ingress (mean 43.16 Mbit/s) ——— Flow 2 egress (mean 40.96 Mbit/s)
- - - - Flow 3 ingress (mean 36.45 Mbit/s) ——— Flow 3 egress (mean 34.79 Mbit/s)

• Flow 1 (95th percentile 109.76 ms)   • Flow 2 (95th percentile 100.80 ms)   • Flow 3 (95th percentile 96.82 ms)
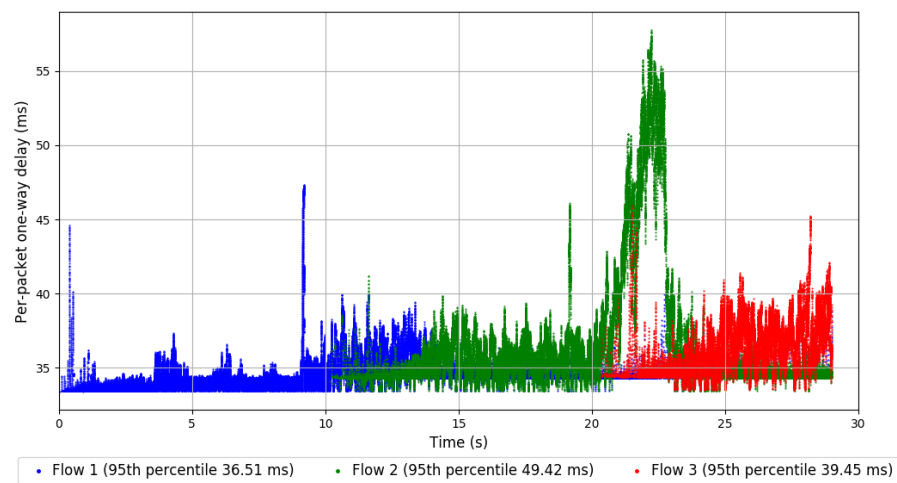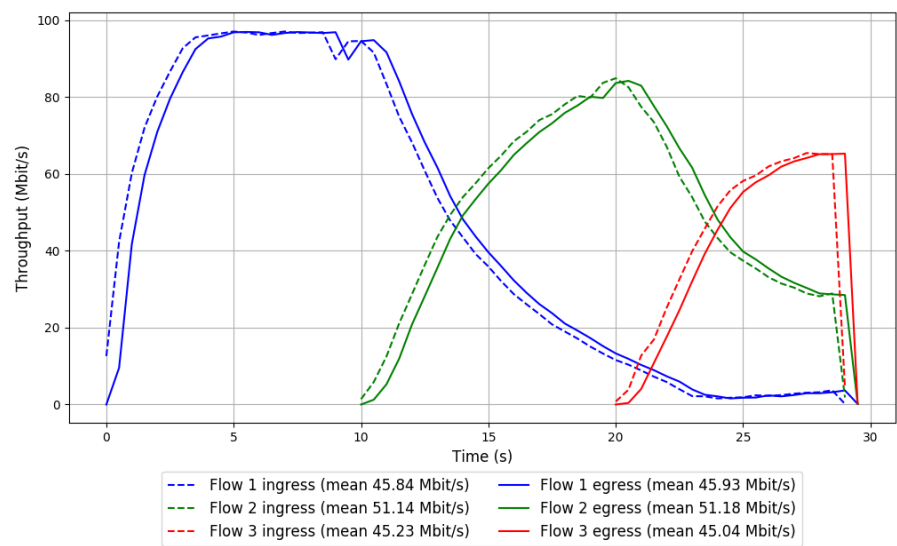
```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-19 13:36:35
End at: 2019-01-19 13:37:05
Local clock offset: 0.084 ms
Remote clock offset: 0.01 ms


# Below is generated by plot.py at 2019-01-19 13:59:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.70 Mbit/s
95th percentile per-packet one-way delay: 104.611 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 55.96 Mbit/s
95th percentile per-packet one-way delay: 103.722 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 45.34 Mbit/s
95th percentile per-packet one-way delay: 176.240 ms
Loss rate: 3.63%
-- Flow 3:
Average throughput: 30.92 Mbit/s
95th percentile per-packet one-way delay: 91.294 ms
Loss rate: 6.75%
```

Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 56.59 Mbit/s)   Flow 1 egress (mean 55.96 Mbit/s)
Flow 2 ingress (mean 46.88 Mbit/s)   Flow 2 egress (mean 45.34 Mbit/s)
Flow 3 ingress (mean 32.91 Mbit/s)   Flow 3 egress (mean 30.92 Mbit/s)

Flow 1 (95th percentile 103.72 ms)   Flow 2 (95th percentile 176.24 ms)   Flow 3 (95th percentile 91.29 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-19 11:38:23
End at: 2019-01-19 11:38:53
Local clock offset: 0.105 ms
Remote clock offset: -2.835 ms


# Below is generated by plot.py at 2019-01-19 13:59:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 39.835 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 51.40 Mbit/s
95th percentile per-packet one-way delay: 38.272 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 46.99 Mbit/s
95th percentile per-packet one-way delay: 43.967 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 44.26 Mbit/s
95th percentile per-packet one-way delay: 38.419 ms
Loss rate: 1.16%
```

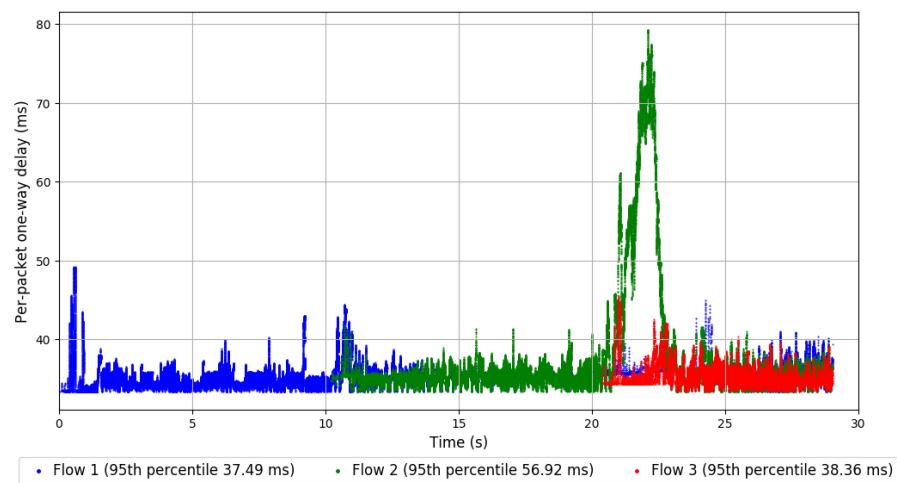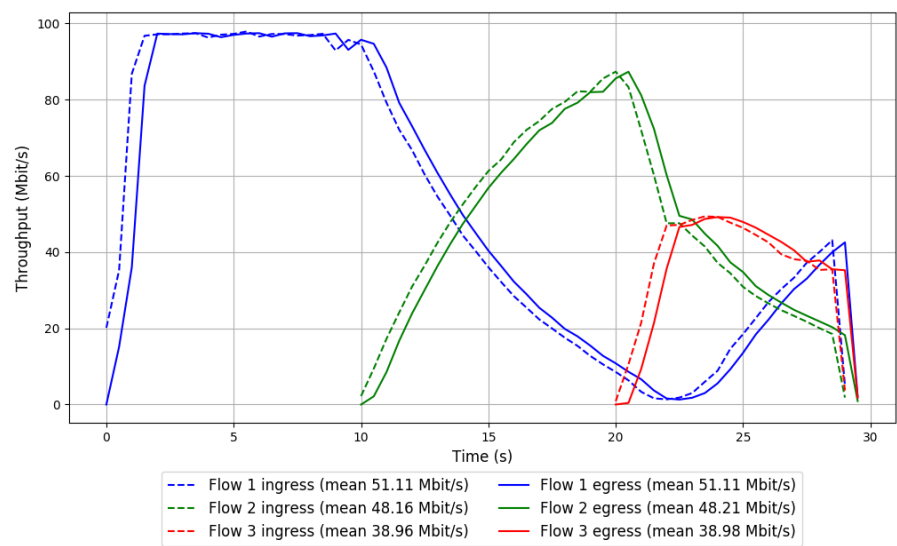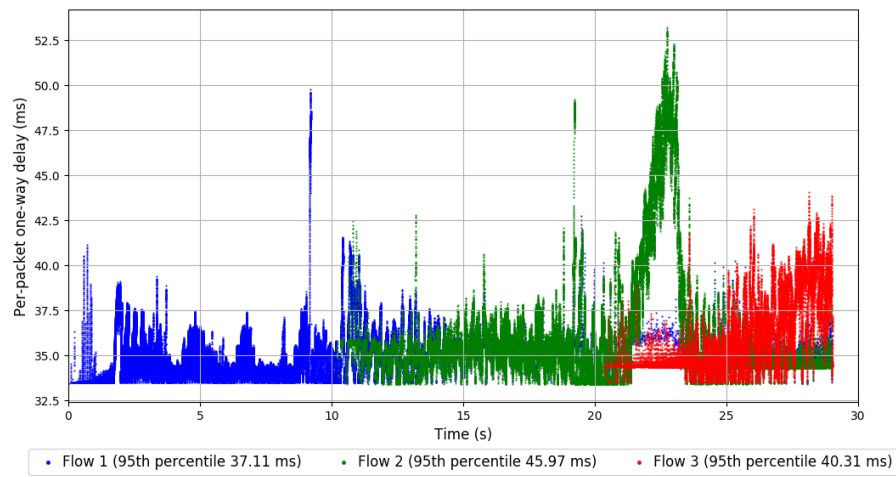Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-19 12:04:45
End at: 2019-01-19 12:05:15
Local clock offset: 0.196 ms
Remote clock offset: -2.178 ms


# Below is generated by plot.py at 2019-01-19 13:59:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 40.931 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 45.93 Mbit/s
95th percentile per-packet one-way delay: 36.505 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 51.18 Mbit/s
95th percentile per-packet one-way delay: 49.419 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 45.04 Mbit/s
95th percentile per-packet one-way delay: 39.449 ms
Loss rate: 1.16%
```
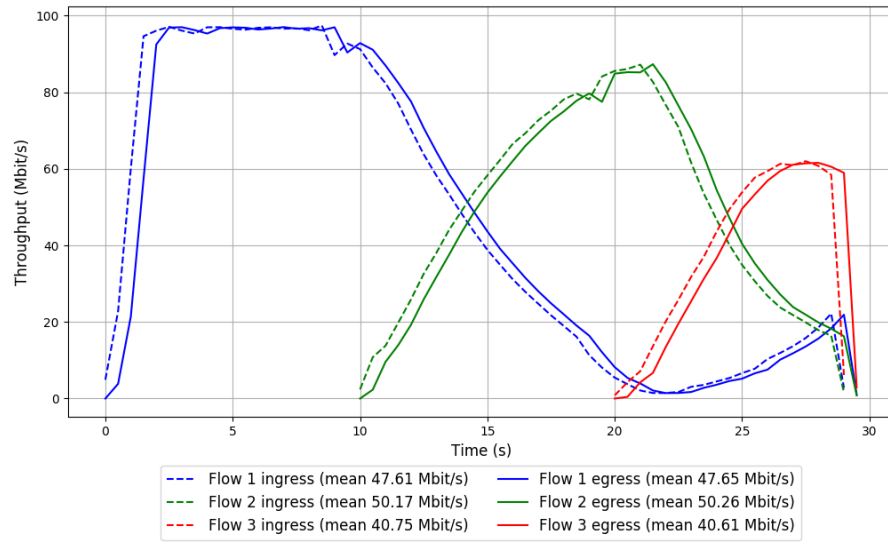
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-19 12:31:59
End at: 2019-01-19 12:32:29
Local clock offset: 0.217 ms
Remote clock offset: -1.377 ms


# Below is generated by plot.py at 2019-01-19 13:59:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.10 Mbit/s
95th percentile per-packet one-way delay: 40.889 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 51.11 Mbit/s
95th percentile per-packet one-way delay: 37.490 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 48.21 Mbit/s
95th percentile per-packet one-way delay: 56.921 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 38.98 Mbit/s
95th percentile per-packet one-way delay: 38.361 ms
Loss rate: 0.69%
```
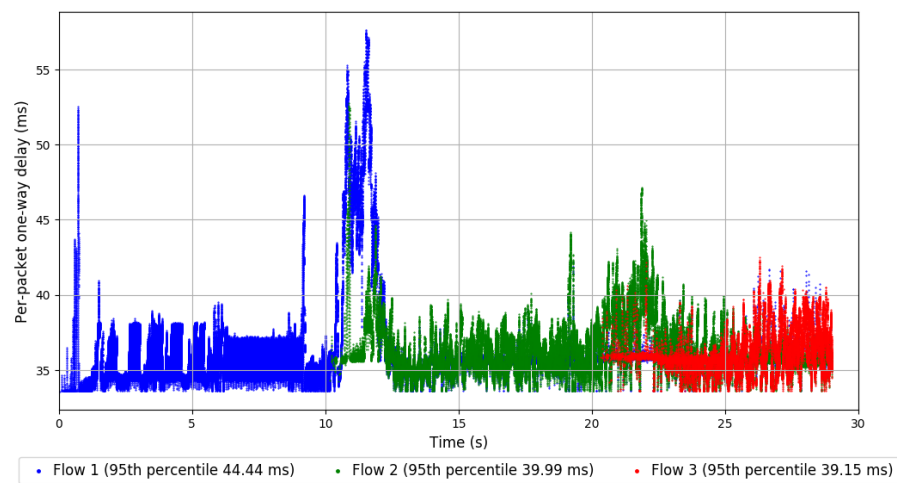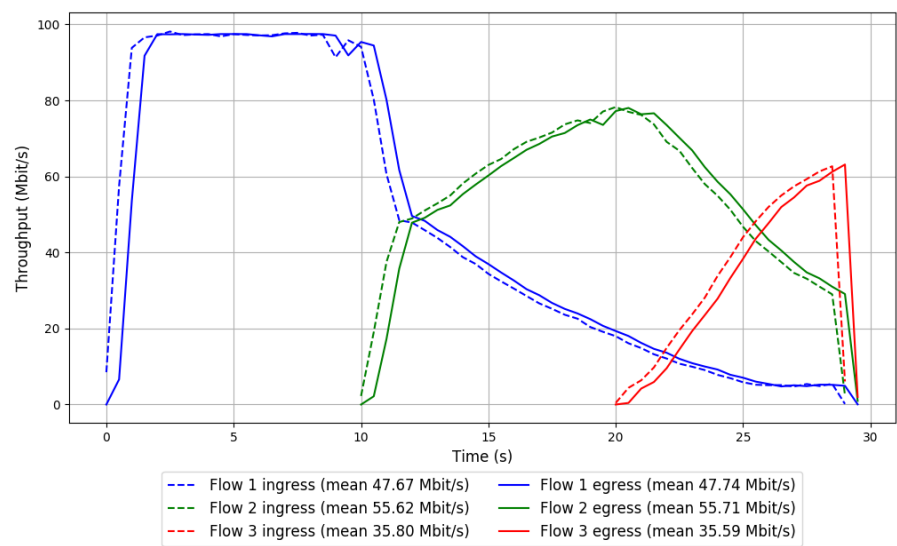
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-19 12:59:10
End at: 2019-01-19 12:59:40
Local clock offset: -0.033 ms
Remote clock offset: -0.124 ms


# Below is generated by plot.py at 2019-01-19 13:59:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.53 Mbit/s
95th percentile per-packet one-way delay: 40.407 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 47.65 Mbit/s
95th percentile per-packet one-way delay: 37.107 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: 45.965 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 40.311 ms
Loss rate: 1.09%
```

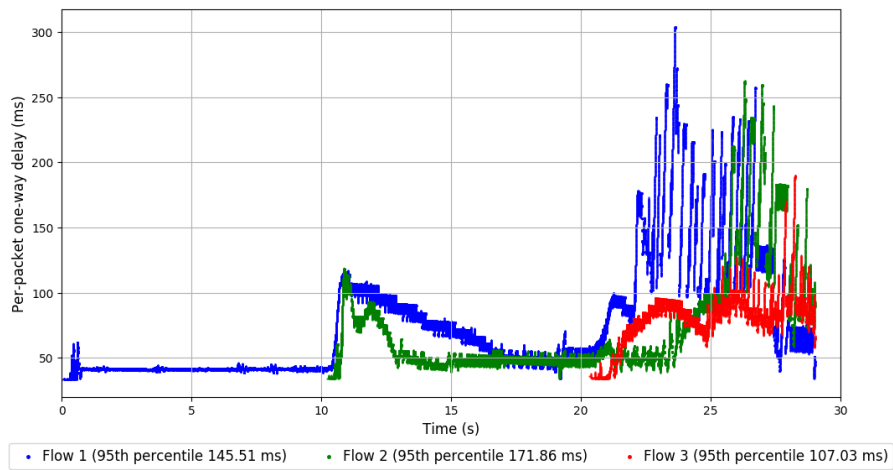Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-19 13:26:01
End at: 2019-01-19 13:26:31
Local clock offset: 0.005 ms
Remote clock offset: -0.154 ms


# Below is generated by plot.py at 2019-01-19 13:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.63 Mbit/s
95th percentile per-packet one-way delay: 40.389 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 47.74 Mbit/s
95th percentile per-packet one-way delay: 44.439 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 55.71 Mbit/s
95th percentile per-packet one-way delay: 39.991 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 35.59 Mbit/s
95th percentile per-packet one-way delay: 39.151 ms
Loss rate: 1.34%
```

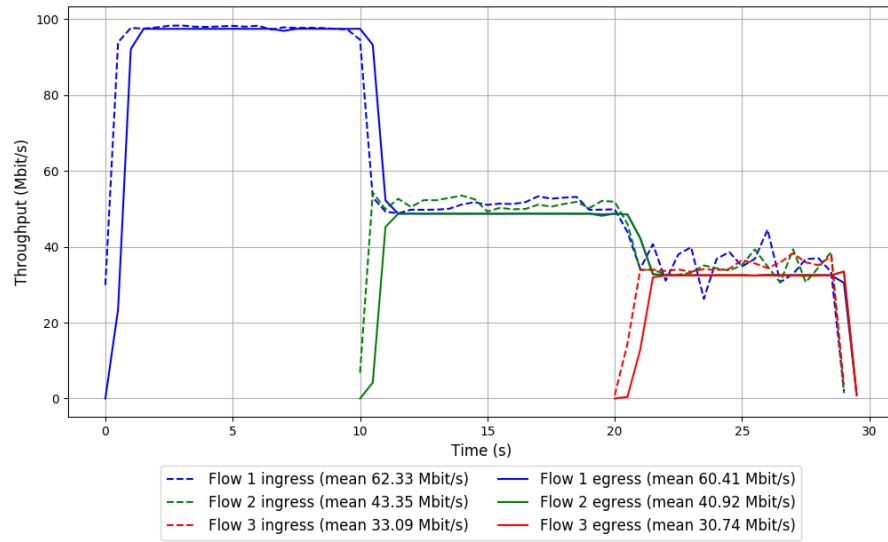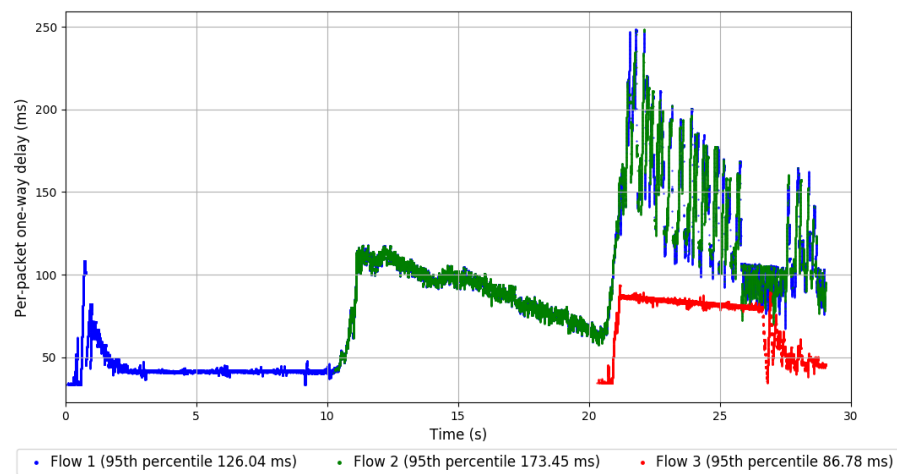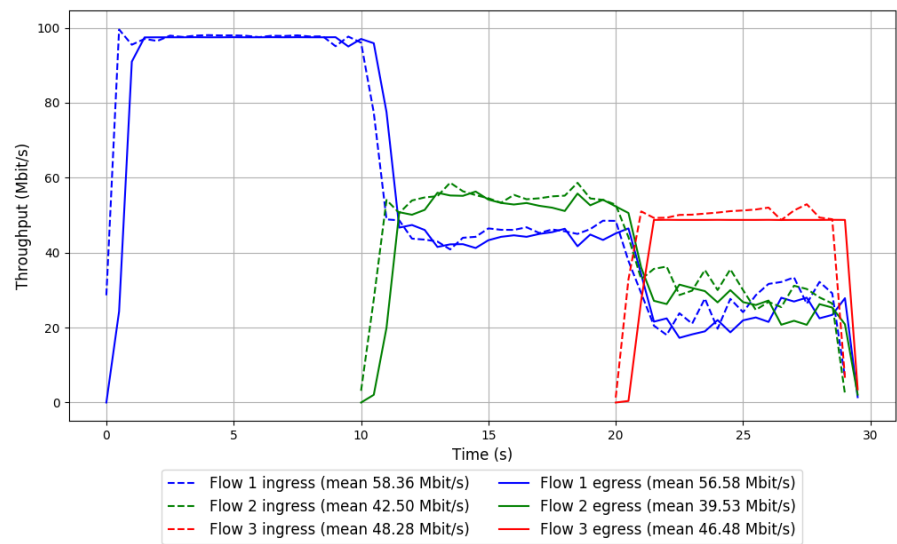Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 47.67 Mbit/s) —— Flow 1 egress (mean 47.74 Mbit/s)
Flow 2 ingress (mean 55.62 Mbit/s) —— Flow 2 egress (mean 55.71 Mbit/s)
Flow 3 ingress (mean 35.80 Mbit/s) —— Flow 3 egress (mean 35.59 Mbit/s)

Flow 1 (95th percentile 44.44 ms)   Flow 2 (95th percentile 39.99 ms)   Flow 3 (95th percentile 39.15 ms)

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```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-19 11:57:18
End at: 2019-01-19 11:57:48
Local clock offset: 0.186 ms
Remote clock offset: -2.264 ms


# Below is generated by plot.py at 2019-01-19 13:59:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 147.773 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 60.41 Mbit/s
95th percentile per-packet one-way delay: 145.509 ms
Loss rate: 3.23%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 171.859 ms
Loss rate: 5.92%
-- Flow 3:
Average throughput: 30.74 Mbit/s
95th percentile per-packet one-way delay: 107.031 ms
Loss rate: 7.83%
```

Run 1: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 62.33 Mbit/s) ——— Flow 1 egress (mean 60.41 Mbit/s)
- - - Flow 2 ingress (mean 43.35 Mbit/s) ——— Flow 2 egress (mean 40.92 Mbit/s)
- - - Flow 3 ingress (mean 33.09 Mbit/s) ——— Flow 3 egress (mean 30.74 Mbit/s)

• Flow 1 (95th percentile 145.51 ms)　　• Flow 2 (95th percentile 171.86 ms)　　• Flow 3 (95th percentile 107.03 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-19 12:24:23
End at: 2019-01-19 12:24:53
Local clock offset: 0.221 ms
Remote clock offset: -1.544 ms


# Below is generated by plot.py at 2019-01-19 14:00:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.16 Mbit/s
95th percentile per-packet one-way delay: 146.771 ms
Loss rate: 4.59%
-- Flow 1:
Average throughput: 56.58 Mbit/s
95th percentile per-packet one-way delay: 126.036 ms
Loss rate: 3.32%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 173.448 ms
Loss rate: 7.35%
-- Flow 3:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 86.778 ms
Loss rate: 4.44%
```
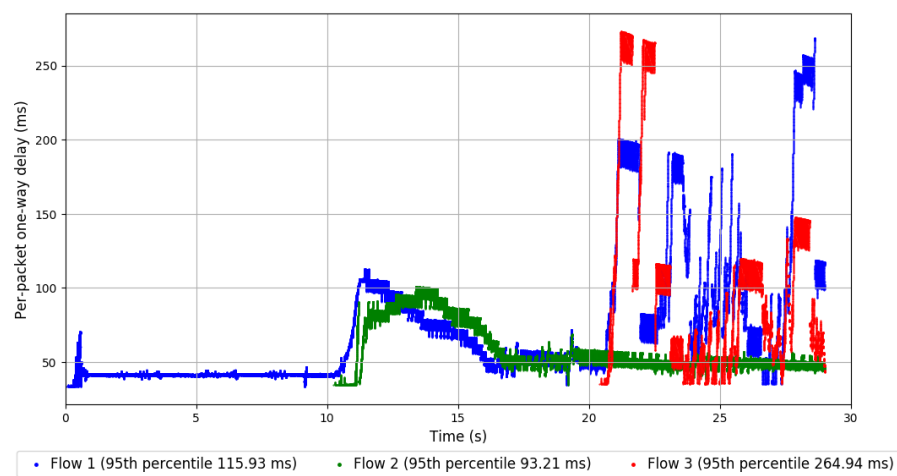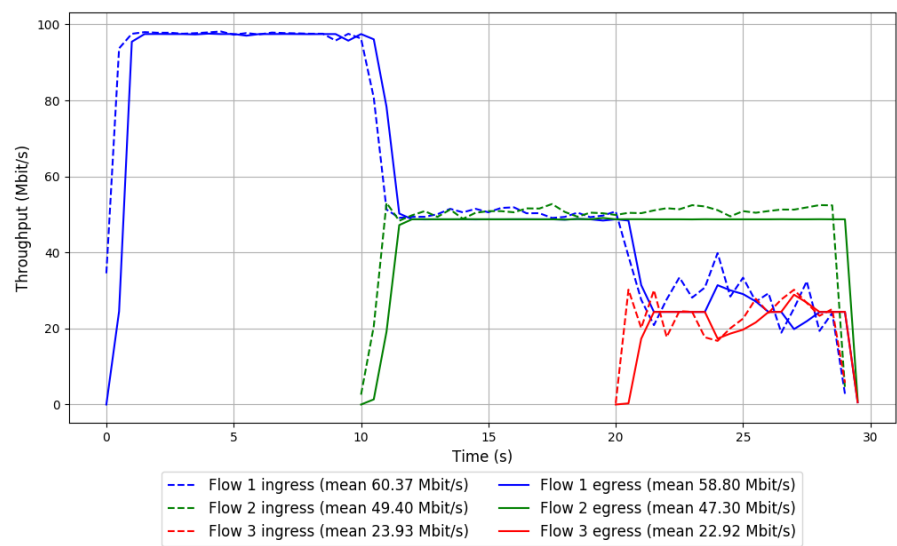
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-19 12:51:49
End at: 2019-01-19 12:52:19
Local clock offset: 0.087 ms
Remote clock offset: -0.5 ms


# Below is generated by plot.py at 2019-01-19 14:00:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.24 Mbit/s
95th percentile per-packet one-way delay: 117.273 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 58.80 Mbit/s
95th percentile per-packet one-way delay: 115.934 ms
Loss rate: 2.80%
-- Flow 2:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 93.214 ms
Loss rate: 4.58%
-- Flow 3:
Average throughput: 22.92 Mbit/s
95th percentile per-packet one-way delay: 264.945 ms
Loss rate: 4.93%
```
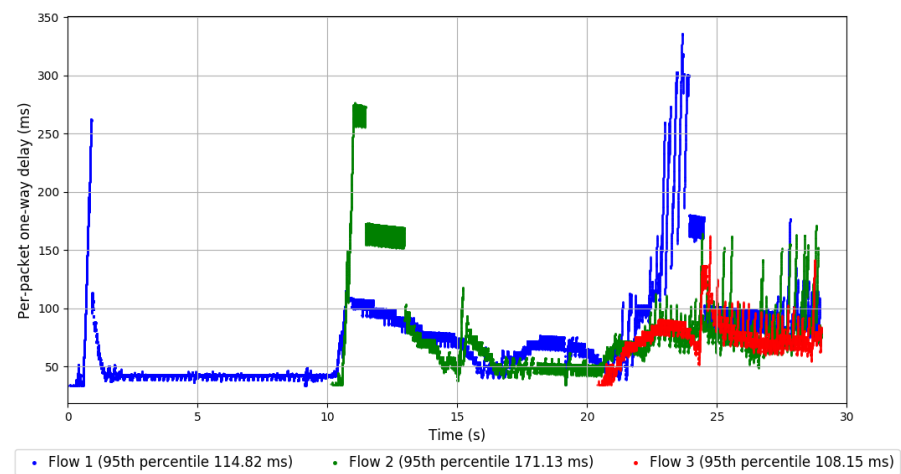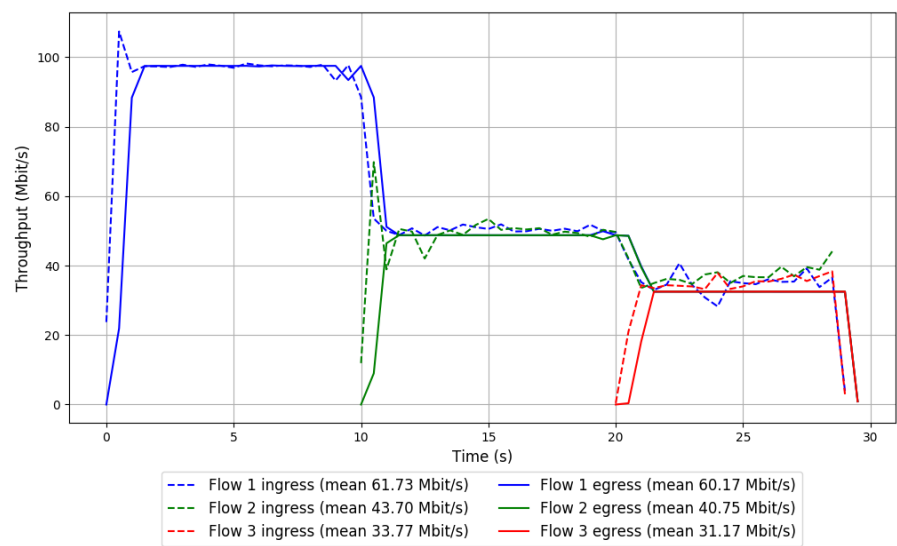
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-19 13:18:32
End at: 2019-01-19 13:19:02
Local clock offset: -0.09 ms
Remote clock offset: 0.033 ms


# Below is generated by plot.py at 2019-01-19 14:00:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 163.702 ms
Loss rate: 4.39%
-- Flow 1:
Average throughput: 60.17 Mbit/s
95th percentile per-packet one-way delay: 114.819 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 40.75 Mbit/s
95th percentile per-packet one-way delay: 171.128 ms
Loss rate: 6.72%
-- Flow 3:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 108.146 ms
Loss rate: 8.36%
```

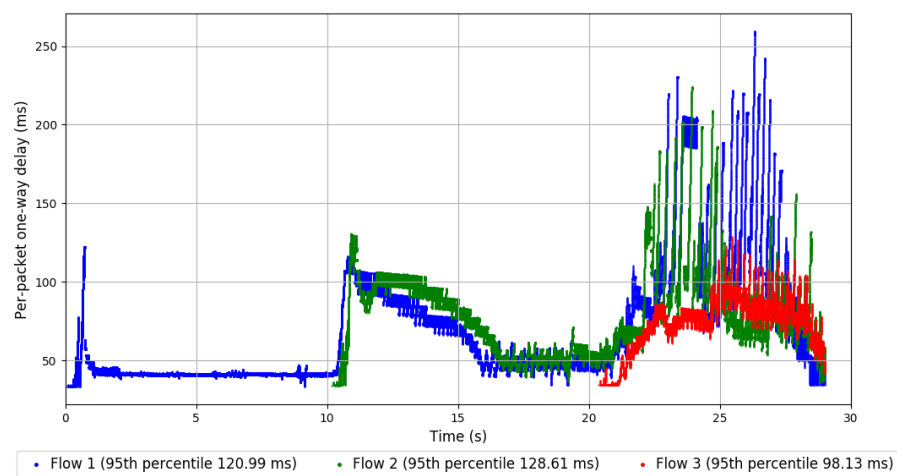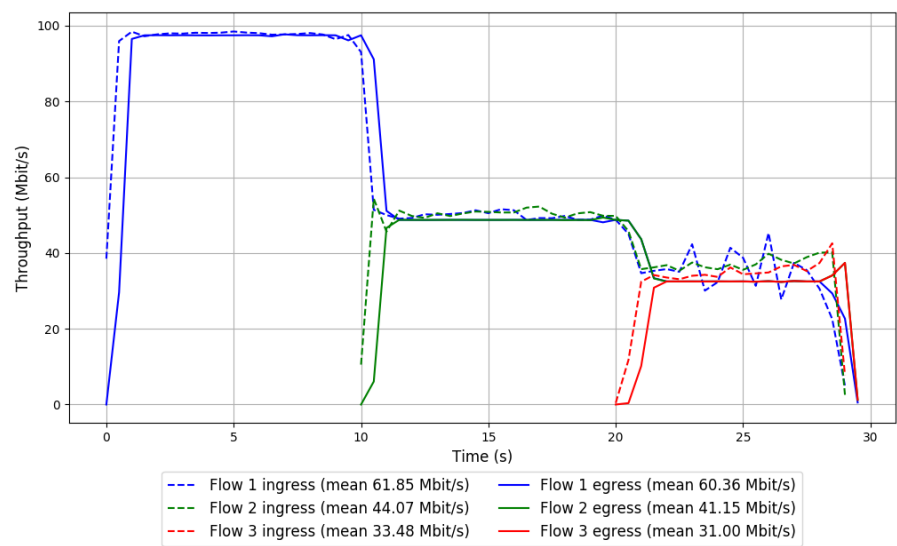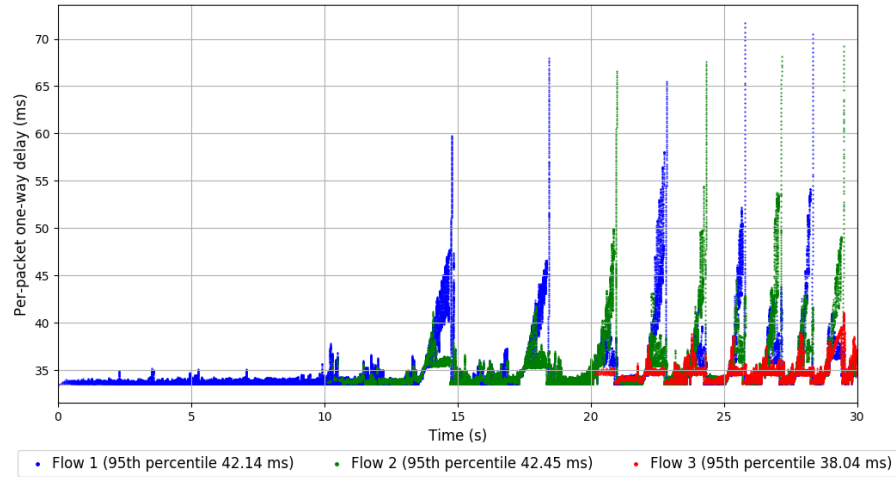Run 4: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 61.73 Mbit/s) —— Flow 1 egress (mean 60.17 Mbit/s)
- - - Flow 2 ingress (mean 43.70 Mbit/s) —— Flow 2 egress (mean 40.75 Mbit/s)
- - - Flow 3 ingress (mean 33.77 Mbit/s) —— Flow 3 egress (mean 31.17 Mbit/s)

• Flow 1 (95th percentile 114.82 ms)   • Flow 2 (95th percentile 171.13 ms)   • Flow 3 (95th percentile 108.15 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-19 13:45:42
End at: 2019-01-19 13:46:12
Local clock offset: 0.116 ms
Remote clock offset: -0.311 ms


# Below is generated by plot.py at 2019-01-19 14:00:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 120.982 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 60.36 Mbit/s
95th percentile per-packet one-way delay: 120.986 ms
Loss rate: 2.63%
-- Flow 2:
Average throughput: 41.15 Mbit/s
95th percentile per-packet one-way delay: 128.613 ms
Loss rate: 6.86%
-- Flow 3:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 98.128 ms
Loss rate: 8.08%
```

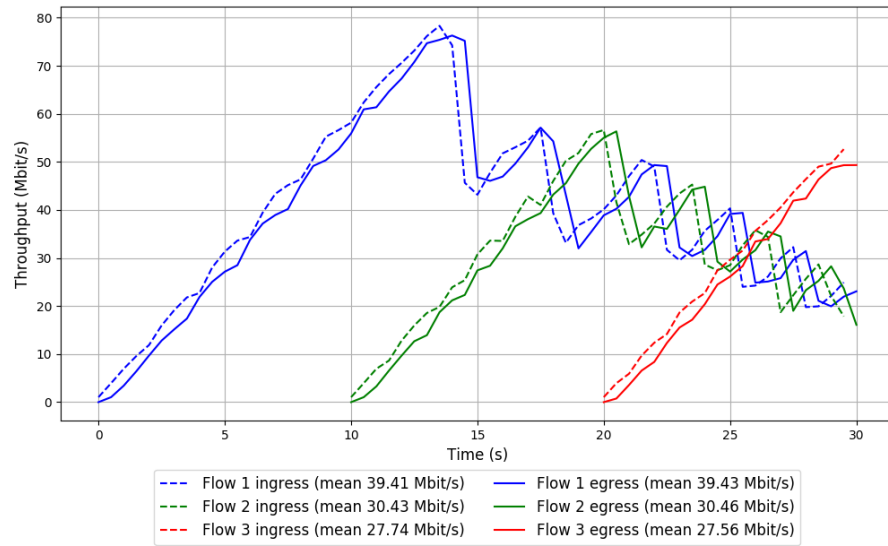## Run 5: Report of Indigo-MusesT — Data Link

- - - - Flow 1 ingress (mean 61.85 Mbit/s)   —— Flow 1 egress (mean 60.36 Mbit/s)
- - - - Flow 2 ingress (mean 44.07 Mbit/s)   —— Flow 2 egress (mean 41.15 Mbit/s)
- - - - Flow 3 ingress (mean 33.48 Mbit/s)   —— Flow 3 egress (mean 31.00 Mbit/s)

- Flow 1 (95th percentile 120.99 ms)   • Flow 2 (95th percentile 128.61 ms)   • Flow 3 (95th percentile 98.13 ms)
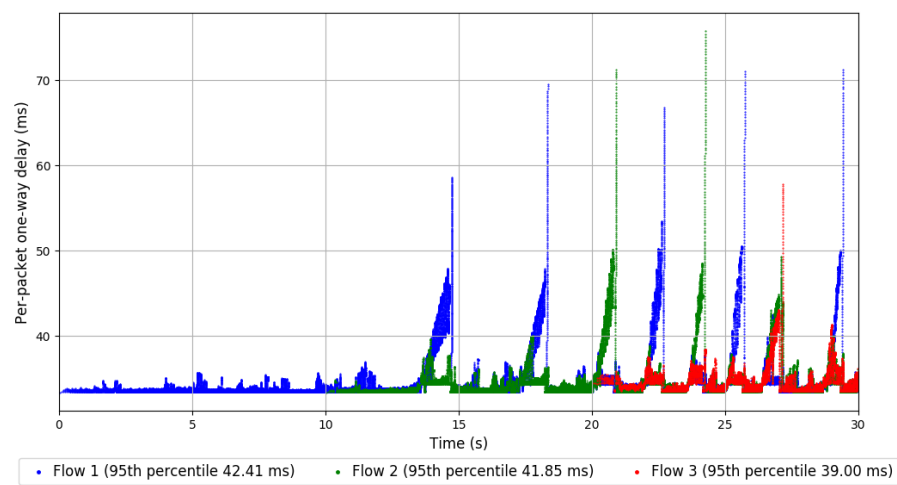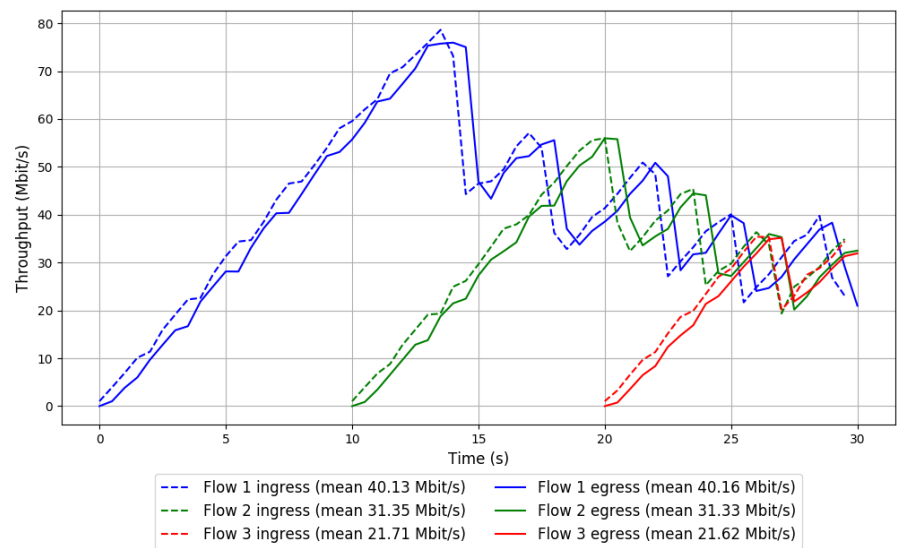
```
Run 1: Statistics of LEDBAT

Start at: 2019-01-19 11:47:17
End at: 2019-01-19 11:47:47
Local clock offset: 0.137 ms
Remote clock offset: -2.73 ms


# Below is generated by plot.py at 2019-01-19 14:00:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.83 Mbit/s
95th percentile per-packet one-way delay: 41.651 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 39.43 Mbit/s
95th percentile per-packet one-way delay: 42.144 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 30.46 Mbit/s
95th percentile per-packet one-way delay: 42.451 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 27.56 Mbit/s
95th percentile per-packet one-way delay: 38.038 ms
Loss rate: 1.31%
```
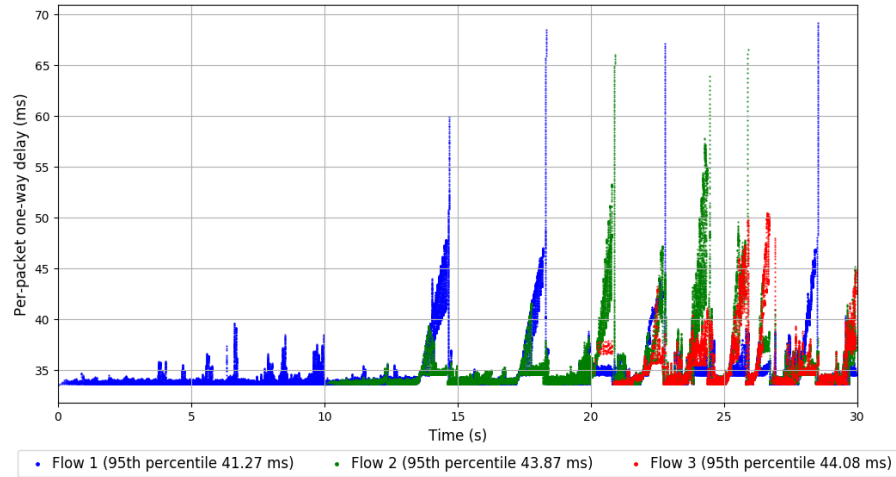
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 39.41 Mbit/s)   Flow 1 egress (mean 39.43 Mbit/s)
Flow 2 ingress (mean 30.43 Mbit/s)   Flow 2 egress (mean 30.46 Mbit/s)
Flow 3 ingress (mean 27.74 Mbit/s)   Flow 3 egress (mean 27.56 Mbit/s)

Flow 1 (95th percentile 42.14 ms)   Flow 2 (95th percentile 42.45 ms)   Flow 3 (95th percentile 38.04 ms)
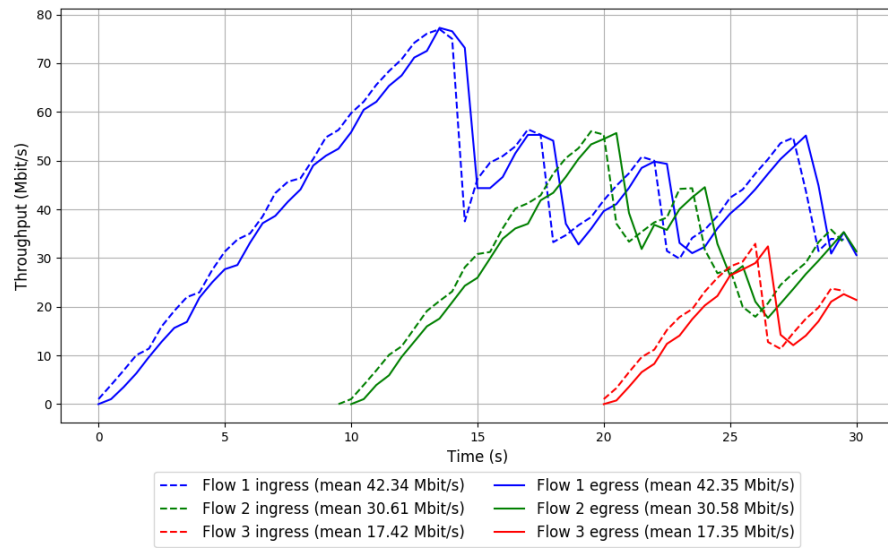
```
Run 2: Statistics of LEDBAT

Start at: 2019-01-19 12:13:54
End at: 2019-01-19 12:14:24
Local clock offset: 0.243 ms
Remote clock offset: -1.927 ms


# Below is generated by plot.py at 2019-01-19 14:00:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.15 Mbit/s
95th percentile per-packet one-way delay: 41.849 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 40.16 Mbit/s
95th percentile per-packet one-way delay: 42.413 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 41.851 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 21.62 Mbit/s
95th percentile per-packet one-way delay: 39.000 ms
Loss rate: 1.08%
```

Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 40.13 Mbit/s) — — — Flow 1 egress (mean 40.16 Mbit/s)
Flow 2 ingress (mean 31.35 Mbit/s) — — — Flow 2 egress (mean 31.33 Mbit/s)
Flow 3 ingress (mean 21.71 Mbit/s) — — — Flow 3 egress (mean 21.62 Mbit/s)

Flow 1 (95th percentile 42.41 ms)   Flow 2 (95th percentile 41.85 ms)   Flow 3 (95th percentile 39.00 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-19 12:41:34
End at: 2019-01-19 12:42:04
Local clock offset: 0.195 ms
Remote clock offset: -1.192 ms


# Below is generated by plot.py at 2019-01-19 14:00:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.45 Mbit/s
95th percentile per-packet one-way delay: 42.244 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 42.35 Mbit/s
95th percentile per-packet one-way delay: 41.273 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 30.58 Mbit/s
95th percentile per-packet one-way delay: 43.871 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 17.35 Mbit/s
95th percentile per-packet one-way delay: 44.079 ms
Loss rate: 1.03%
```
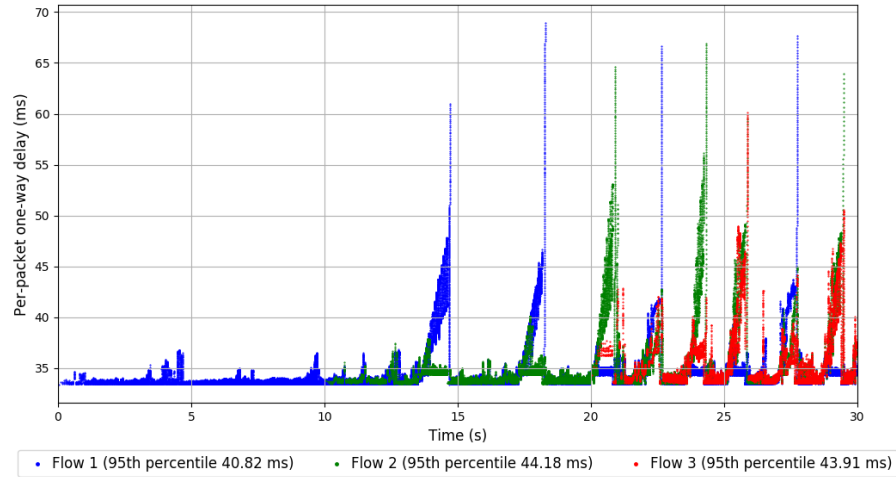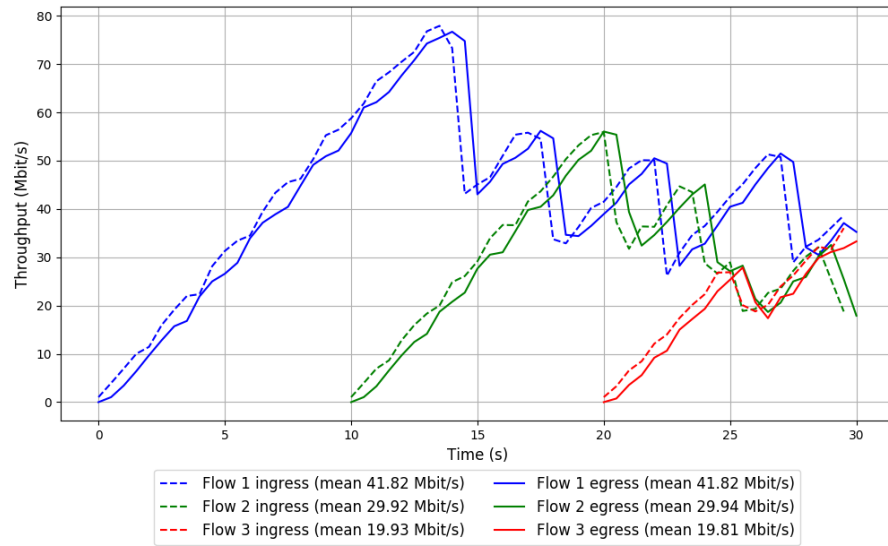
Run 3: Report of LEDBAT — Data Link

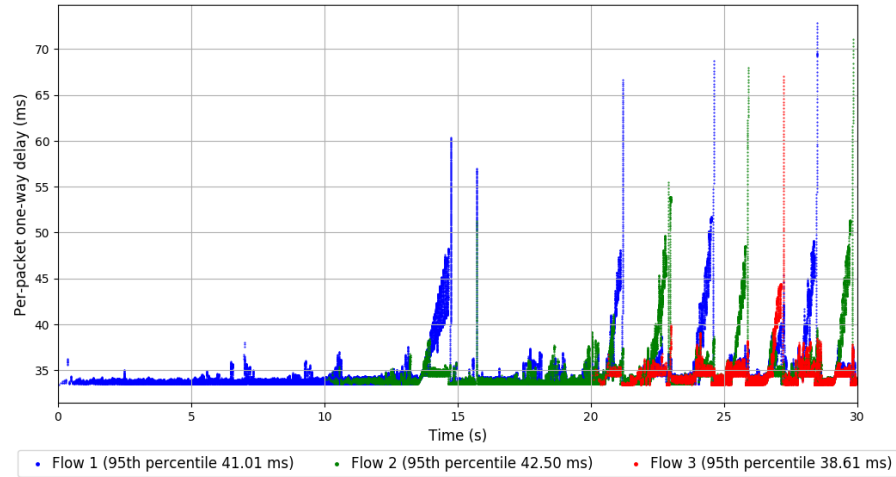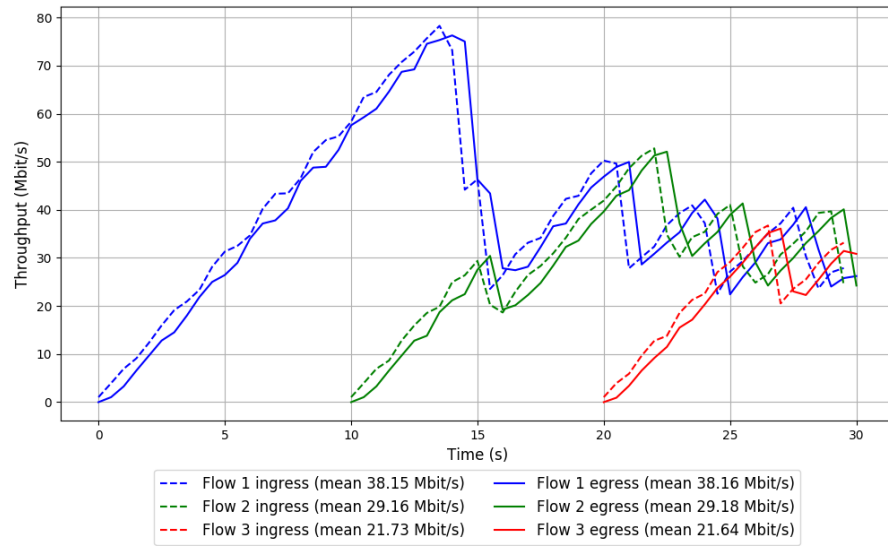Per-packet one-way delay plot

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-19 13:08:16
End at: 2019-01-19 13:08:46
Local clock offset: -0.084 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2019-01-19 14:00:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.29 Mbit/s
95th percentile per-packet one-way delay: 41.857 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 41.82 Mbit/s
95th percentile per-packet one-way delay: 40.821 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 29.94 Mbit/s
95th percentile per-packet one-way delay: 44.182 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 19.81 Mbit/s
95th percentile per-packet one-way delay: 43.913 ms
Loss rate: 1.27%
```
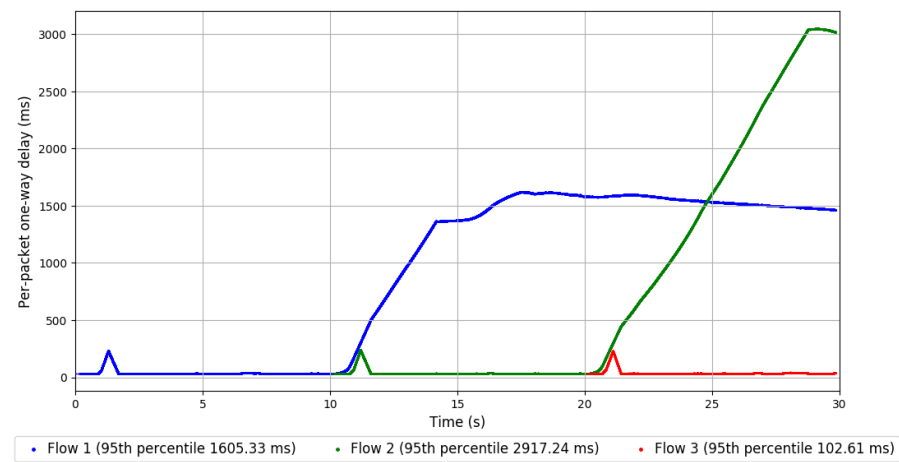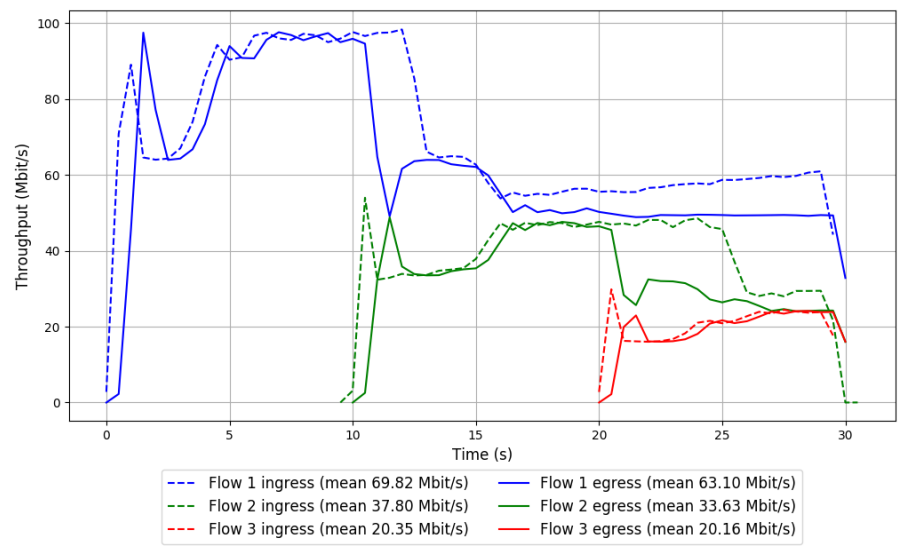
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-01-19 13:35:19
End at: 2019-01-19 13:35:49
Local clock offset: 0.073 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-01-19 14:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.75 Mbit/s
95th percentile per-packet one-way delay: 41.160 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 38.16 Mbit/s
95th percentile per-packet one-way delay: 41.010 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 29.18 Mbit/s
95th percentile per-packet one-way delay: 42.502 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 21.64 Mbit/s
95th percentile per-packet one-way delay: 38.611 ms
Loss rate: 1.07%
```

Run 5: Report of LEDBAT — Data Link

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```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-19 11:58:43
End at: 2019-01-19 11:59:13
Local clock offset: 0.195 ms
Remote clock offset: -2.237 ms


# Below is generated by plot.py at 2019-01-19 14:01:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.06 Mbit/s
95th percentile per-packet one-way delay: 1616.924 ms
Loss rate: 10.57%
-- Flow 1:
Average throughput: 63.10 Mbit/s
95th percentile per-packet one-way delay: 1605.325 ms
Loss rate: 9.82%
-- Flow 2:
Average throughput: 33.63 Mbit/s
95th percentile per-packet one-way delay: 2917.238 ms
Loss rate: 14.87%
-- Flow 3:
Average throughput: 20.16 Mbit/s
95th percentile per-packet one-way delay: 102.605 ms
Loss rate: 1.52%
```

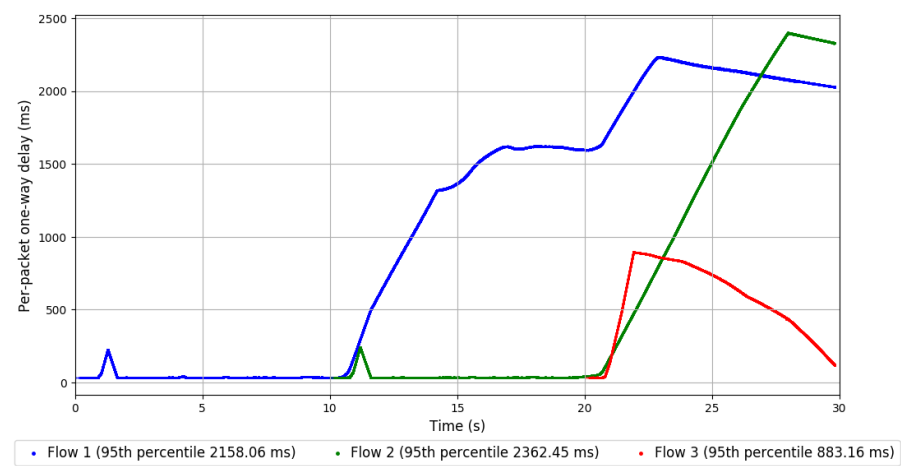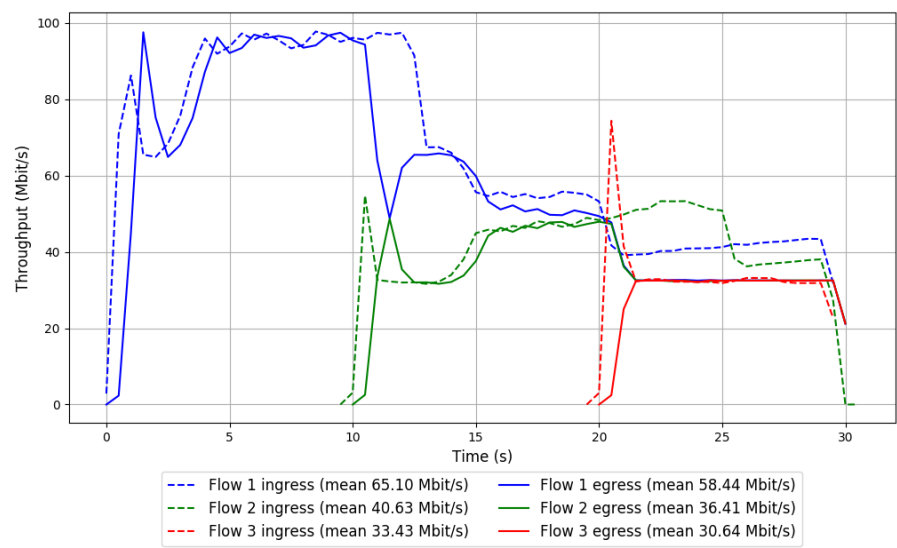Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 69.82 Mbit/s) Flow 1 egress (mean 63.10 Mbit/s)
Flow 2 ingress (mean 37.80 Mbit/s) Flow 2 egress (mean 33.63 Mbit/s)
Flow 3 ingress (mean 20.35 Mbit/s) Flow 3 egress (mean 20.16 Mbit/s)

Flow 1 (95th percentile 1605.33 ms) Flow 2 (95th percentile 2917.24 ms) Flow 3 (95th percentile 102.61 ms)
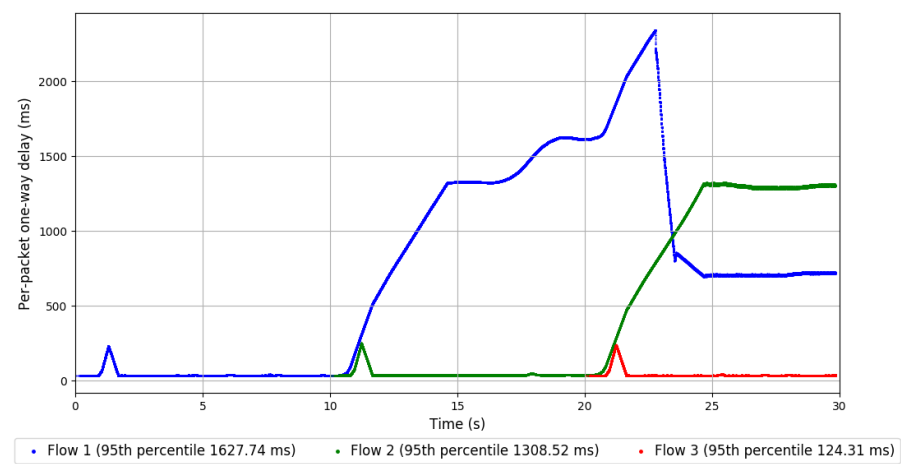
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-19 12:25:40
End at: 2019-01-19 12:26:10
Local clock offset: 0.224 ms
Remote clock offset: -1.721 ms


# Below is generated by plot.py at 2019-01-19 14:01:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.72 Mbit/s
95th percentile per-packet one-way delay: 2185.319 ms
Loss rate: 11.27%
-- Flow 1:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 2158.062 ms
Loss rate: 10.42%
-- Flow 2:
Average throughput: 36.41 Mbit/s
95th percentile per-packet one-way delay: 2362.447 ms
Loss rate: 14.16%
-- Flow 3:
Average throughput: 30.64 Mbit/s
95th percentile per-packet one-way delay: 883.165 ms
Loss rate: 8.95%
```
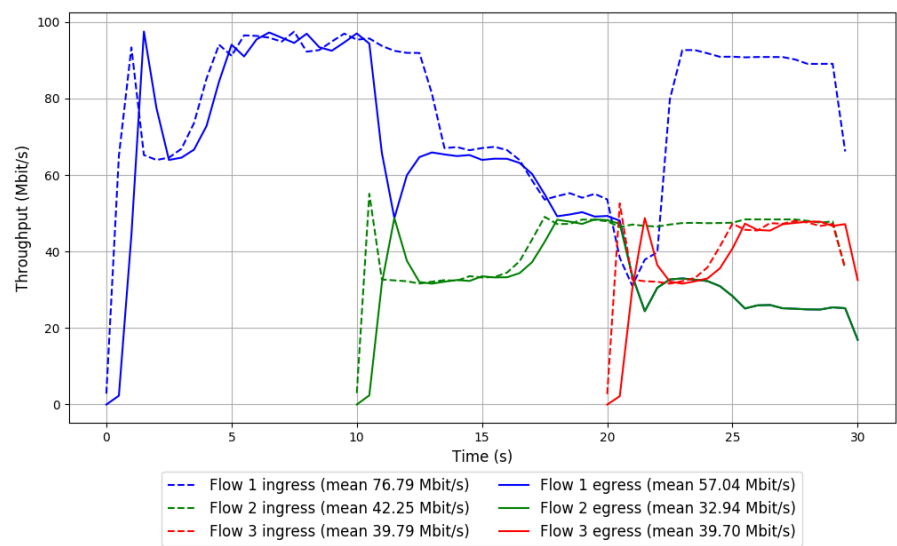
Run 2: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 65.10 Mbit/s) ——— Flow 1 egress (mean 58.44 Mbit/s)
- - - - Flow 2 ingress (mean 40.63 Mbit/s) ——— Flow 2 egress (mean 36.41 Mbit/s)
- - - - Flow 3 ingress (mean 33.43 Mbit/s) ——— Flow 3 egress (mean 30.64 Mbit/s)

- Flow 1 (95th percentile 2158.06 ms)   • Flow 2 (95th percentile 2362.45 ms)   • Flow 3 (95th percentile 883.16 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-19 12:53:06
End at: 2019-01-19 12:53:36
Local clock offset: 0.057 ms
Remote clock offset: -0.352 ms


# Below is generated by plot.py at 2019-01-19 14:01:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.97 Mbit/s
95th percentile per-packet one-way delay: 1616.404 ms
Loss rate: 22.24%
-- Flow 1:
Average throughput: 57.04 Mbit/s
95th percentile per-packet one-way delay: 1627.744 ms
Loss rate: 25.88%
-- Flow 2:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 1308.516 ms
Loss rate: 22.27%
-- Flow 3:
Average throughput: 39.70 Mbit/s
95th percentile per-packet one-way delay: 124.307 ms
Loss rate: 0.87%
```
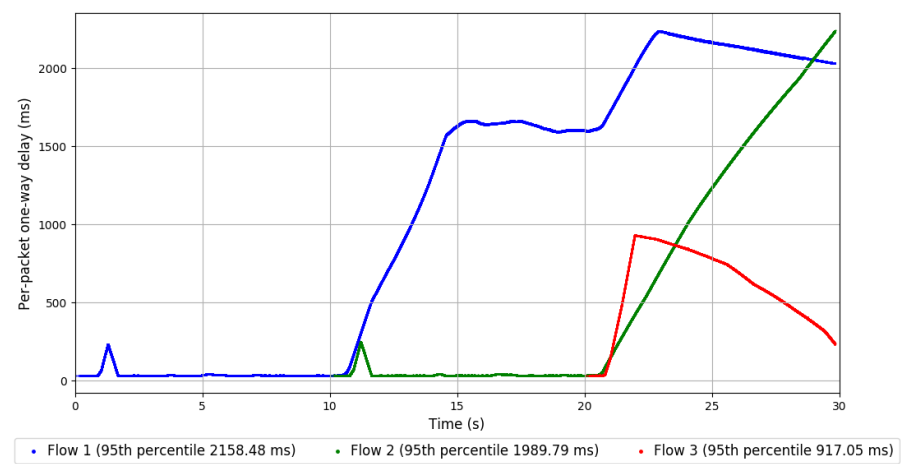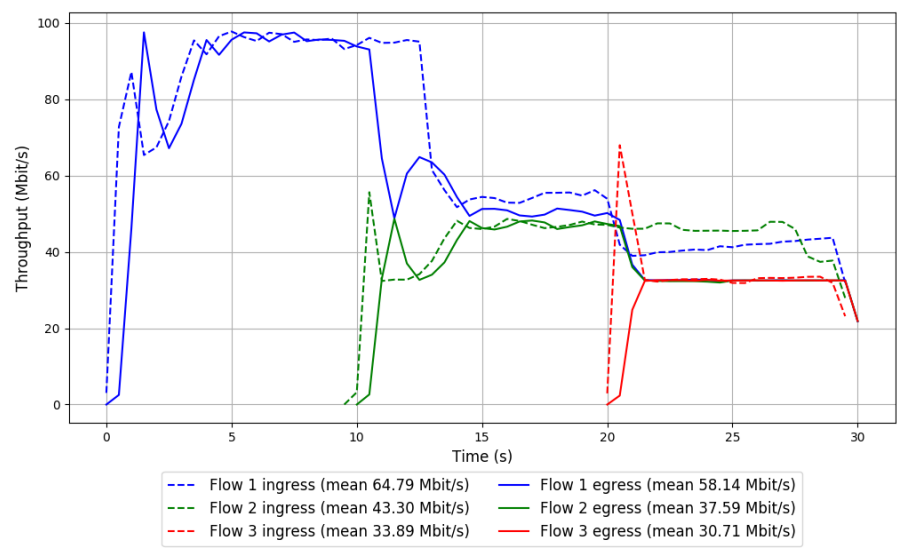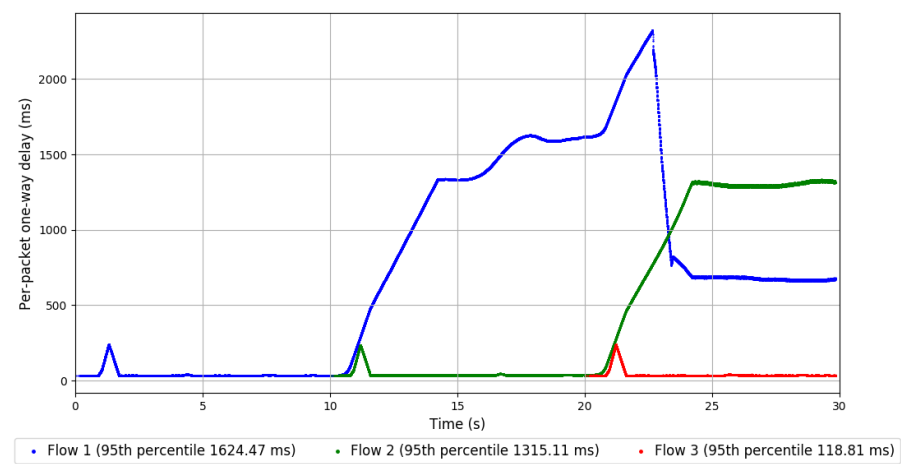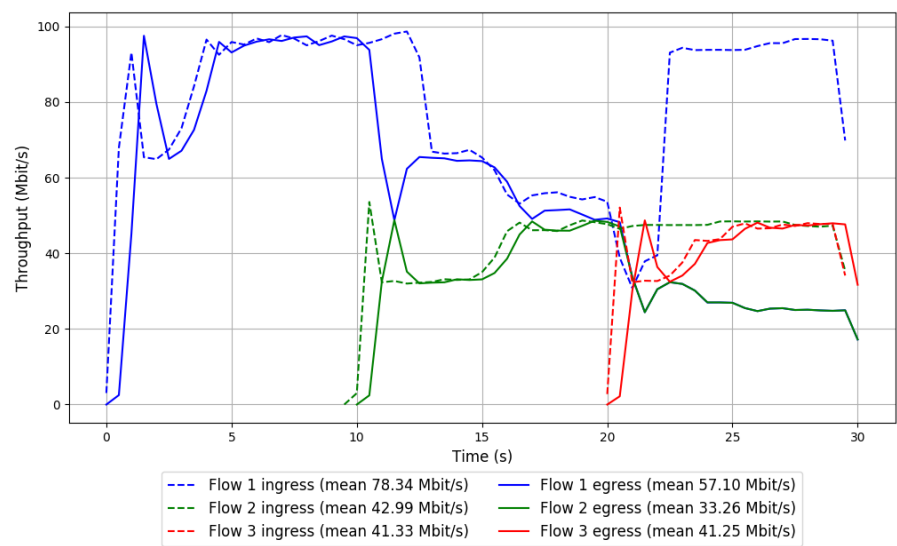
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 76.79 Mbit/s) --- Flow 1 egress (mean 57.04 Mbit/s)
Flow 2 ingress (mean 42.25 Mbit/s) --- Flow 2 egress (mean 32.94 Mbit/s)
Flow 3 ingress (mean 39.79 Mbit/s) --- Flow 3 egress (mean 39.70 Mbit/s)

Flow 1 (95th percentile 1627.74 ms)   Flow 2 (95th percentile 1308.52 ms)   Flow 3 (95th percentile 124.31 ms)

120

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-19 13:19:45
End at: 2019-01-19 13:20:15
Local clock offset: -0.064 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2019-01-19 14:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.22 Mbit/s
95th percentile per-packet one-way delay: 2131.746 ms
Loss rate: 11.22%
-- Flow 1:
Average throughput: 58.14 Mbit/s
95th percentile per-packet one-way delay: 2158.480 ms
Loss rate: 10.44%
-- Flow 2:
Average throughput: 37.59 Mbit/s
95th percentile per-packet one-way delay: 1989.793 ms
Loss rate: 13.45%
-- Flow 3:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 917.047 ms
Loss rate: 9.95%
```
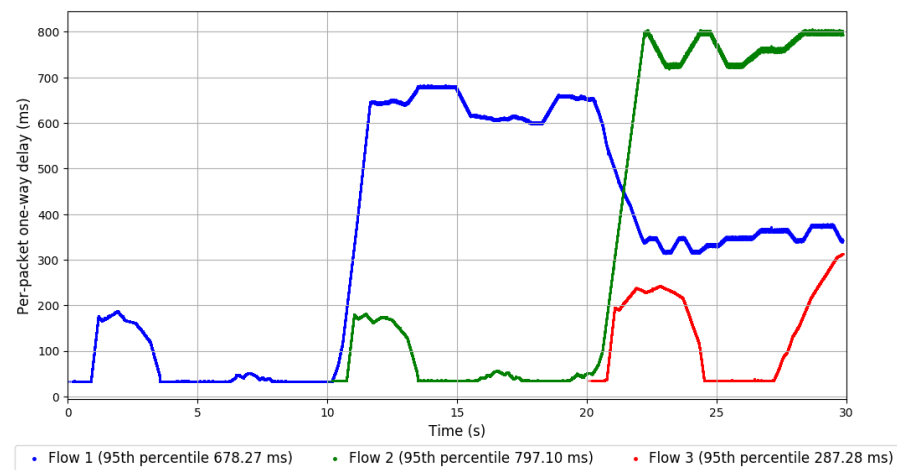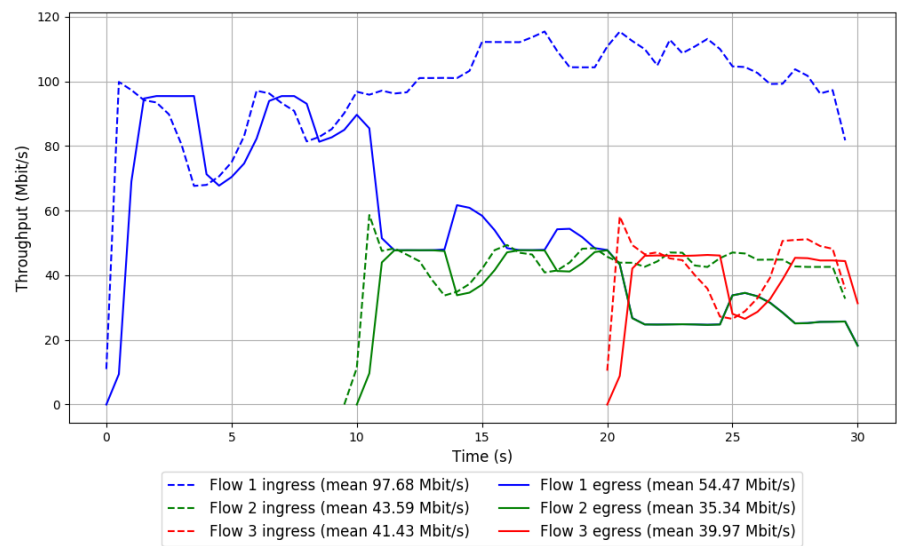
Run 4: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 64.79 Mbit/s)   —— Flow 1 egress (mean 58.14 Mbit/s)
- - - - Flow 2 ingress (mean 43.30 Mbit/s)   —— Flow 2 egress (mean 37.59 Mbit/s)
- - - - Flow 3 ingress (mean 33.89 Mbit/s)   —— Flow 3 egress (mean 30.71 Mbit/s)

- Flow 1 (95th percentile 2158.48 ms)   • Flow 2 (95th percentile 1989.79 ms)   • Flow 3 (95th percentile 917.05 ms)
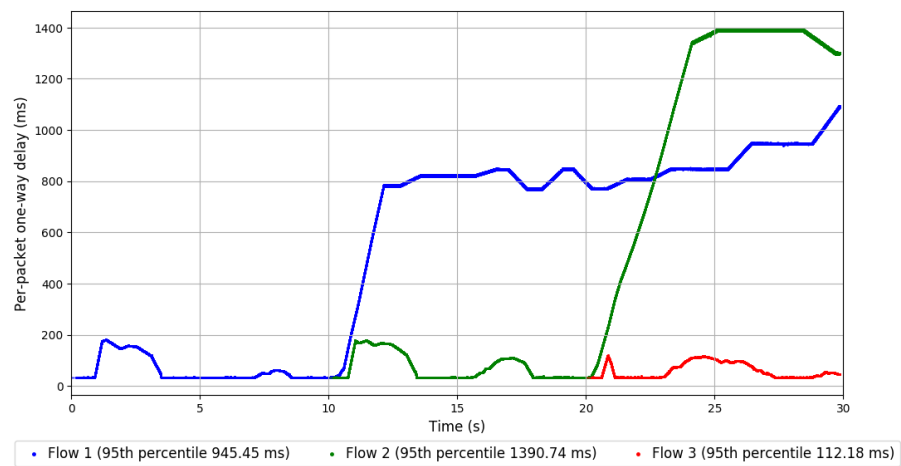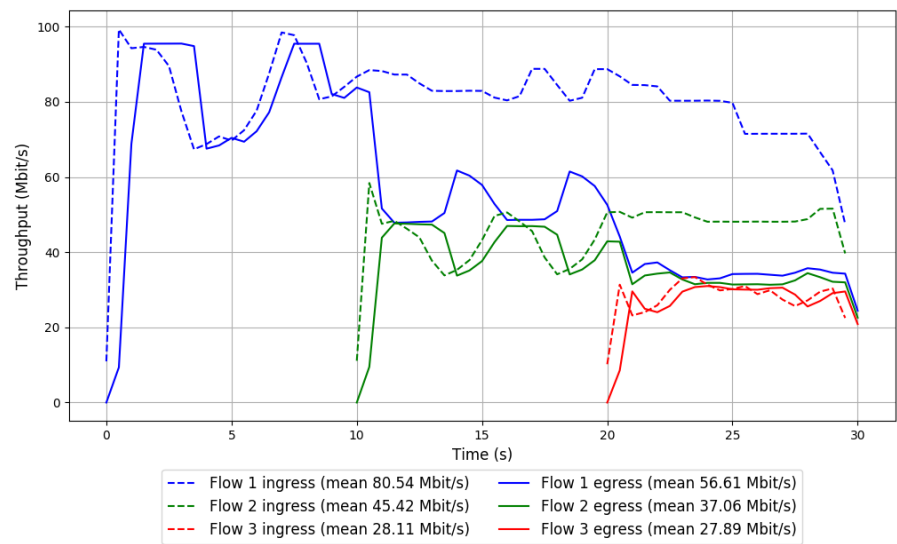
```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-19 13:47:03
End at: 2019-01-19 13:47:33
Local clock offset: -0.029 ms
Remote clock offset: -0.552 ms


# Below is generated by plot.py at 2019-01-19 14:01:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.76 Mbit/s
95th percentile per-packet one-way delay: 1612.794 ms
Loss rate: 23.23%
-- Flow 1:
Average throughput: 57.10 Mbit/s
95th percentile per-packet one-way delay: 1624.469 ms
Loss rate: 27.26%
-- Flow 2:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 1315.108 ms
Loss rate: 22.88%
-- Flow 3:
Average throughput: 41.25 Mbit/s
95th percentile per-packet one-way delay: 118.812 ms
Loss rate: 0.82%
```

Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 78.34 Mbit/s) --- Flow 1 egress (mean 57.10 Mbit/s)
Flow 2 ingress (mean 42.99 Mbit/s) --- Flow 2 egress (mean 33.26 Mbit/s)
Flow 3 ingress (mean 41.33 Mbit/s) --- Flow 3 egress (mean 41.25 Mbit/s)

Flow 1 (95th percentile 1624.47 ms) • Flow 2 (95th percentile 1315.11 ms) • Flow 3 (95th percentile 118.81 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-19 11:39:36
End at: 2019-01-19 11:40:06
Local clock offset: 0.13 ms
Remote clock offset: -2.803 ms


# Below is generated by plot.py at 2019-01-19 14:02:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 752.855 ms
Loss rate: 35.23%
-- Flow 1:
Average throughput: 54.47 Mbit/s
95th percentile per-packet one-way delay: 678.274 ms
Loss rate: 44.36%
-- Flow 2:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 797.097 ms
Loss rate: 19.18%
-- Flow 3:
Average throughput: 39.97 Mbit/s
95th percentile per-packet one-way delay: 287.278 ms
Loss rate: 4.17%
```
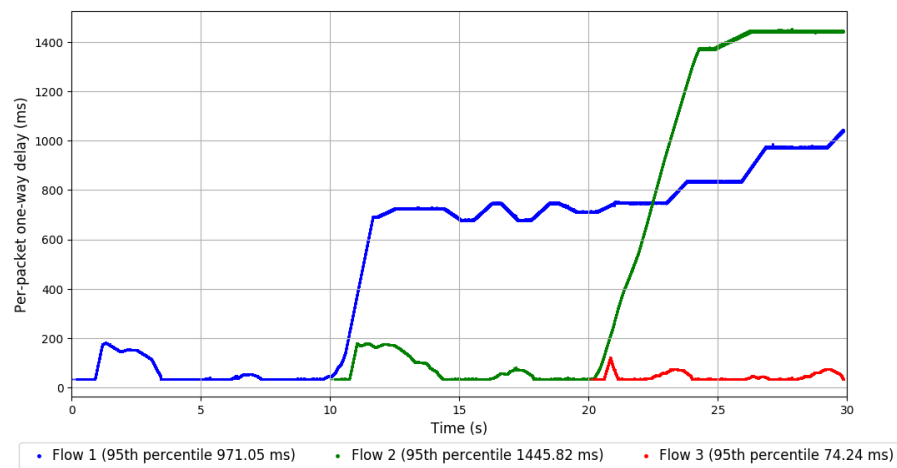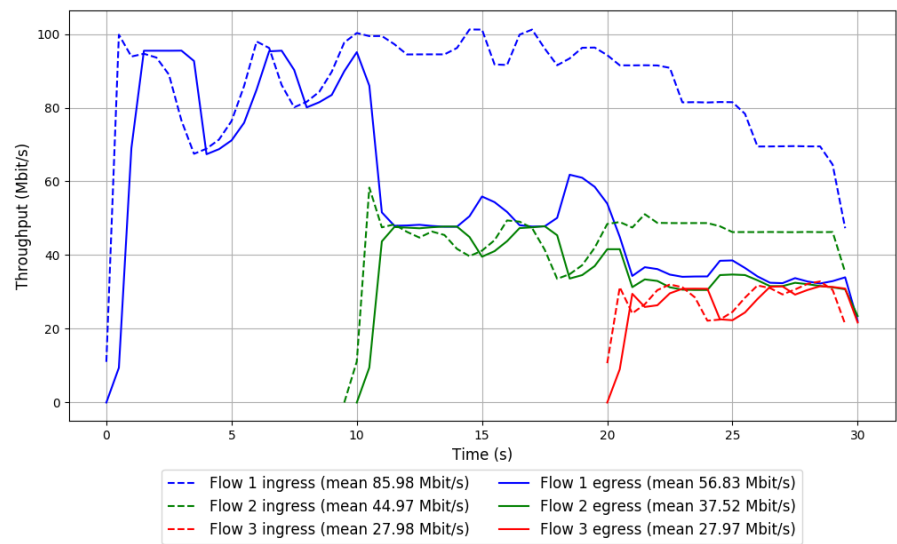
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 97.68 Mbit/s) ---- Flow 1 egress (mean 54.47 Mbit/s) ——
Flow 2 ingress (mean 43.59 Mbit/s) ---- Flow 2 egress (mean 35.34 Mbit/s) ——
Flow 3 ingress (mean 41.43 Mbit/s) ---- Flow 3 egress (mean 39.97 Mbit/s) ——

Flow 1 (95th percentile 678.27 ms)   Flow 2 (95th percentile 797.10 ms)   Flow 3 (95th percentile 287.28 ms)
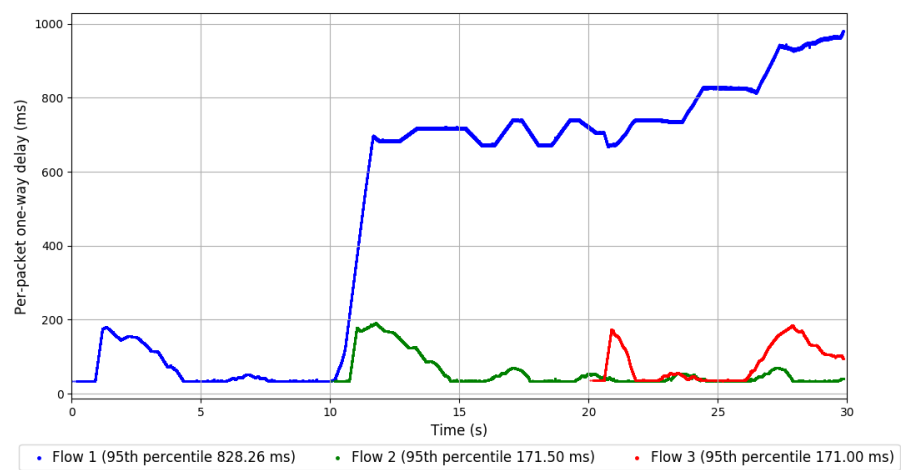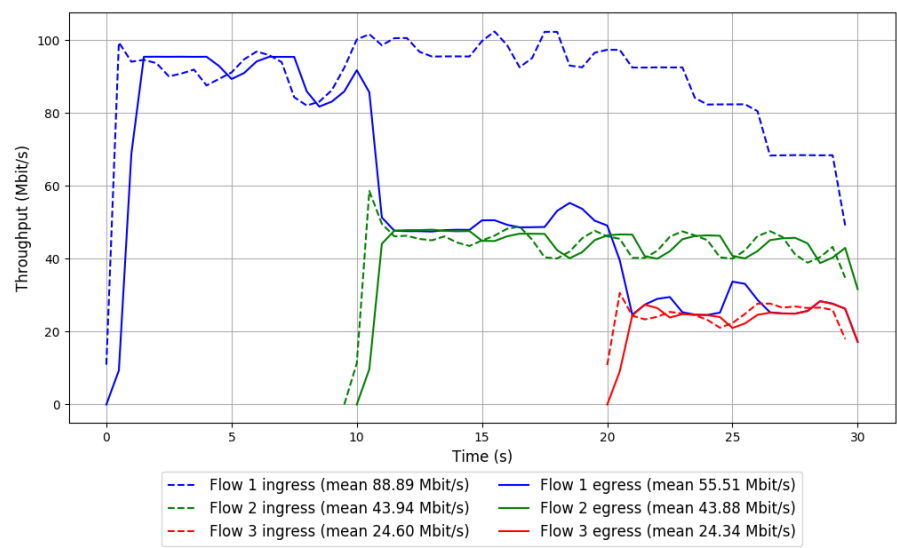
```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-19 12:06:04
End at: 2019-01-19 12:06:34
Local clock offset: 0.202 ms
Remote clock offset: -2.124 ms


# Below is generated by plot.py at 2019-01-19 14:02:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.41 Mbit/s
95th percentile per-packet one-way delay: 1359.893 ms
Loss rate: 24.85%
-- Flow 1:
Average throughput: 56.61 Mbit/s
95th percentile per-packet one-way delay: 945.452 ms
Loss rate: 29.86%
-- Flow 2:
Average throughput: 37.06 Mbit/s
95th percentile per-packet one-way delay: 1390.745 ms
Loss rate: 18.66%
-- Flow 3:
Average throughput: 27.89 Mbit/s
95th percentile per-packet one-way delay: 112.180 ms
Loss rate: 1.45%
```

Run 2: Report of PCC-Expr — Data Link

Throughput (Mbit/s) vs Time (s)

- Flow 1 ingress (mean 80.54 Mbit/s)
- Flow 1 egress (mean 56.61 Mbit/s)
- Flow 2 ingress (mean 45.42 Mbit/s)
- Flow 2 egress (mean 37.06 Mbit/s)
- Flow 3 ingress (mean 28.11 Mbit/s)
- Flow 3 egress (mean 27.89 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

- Flow 1 (95th percentile 945.45 ms)
- Flow 2 (95th percentile 1390.74 ms)
- Flow 3 (95th percentile 112.18 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-19 12:33:21
End at: 2019-01-19 12:33:51
Local clock offset: 0.211 ms
Remote clock offset: -1.369 ms


# Below is generated by plot.py at 2019-01-19 14:03:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.96 Mbit/s
95th percentile per-packet one-way delay: 1411.690 ms
Loss rate: 27.48%
-- Flow 1:
Average throughput: 56.83 Mbit/s
95th percentile per-packet one-way delay: 971.050 ms
Loss rate: 34.05%
-- Flow 2:
Average throughput: 37.52 Mbit/s
95th percentile per-packet one-way delay: 1445.819 ms
Loss rate: 16.87%
-- Flow 3:
Average throughput: 27.97 Mbit/s
95th percentile per-packet one-way delay: 74.239 ms
Loss rate: 0.69%
```
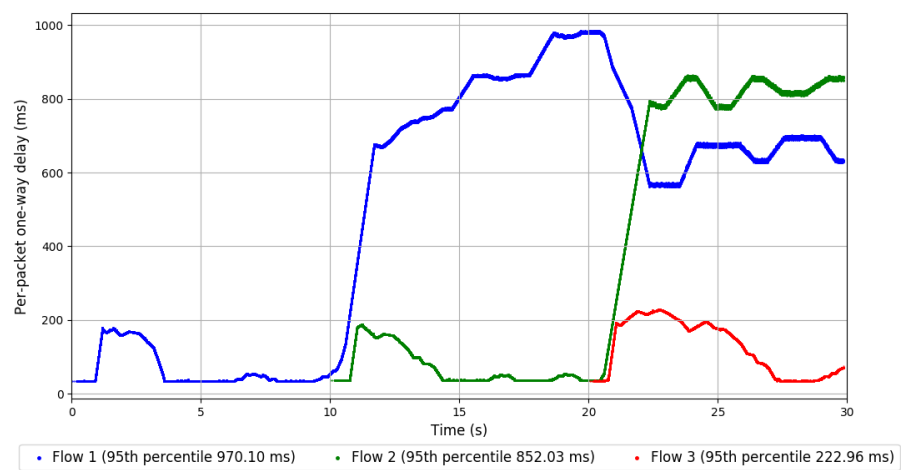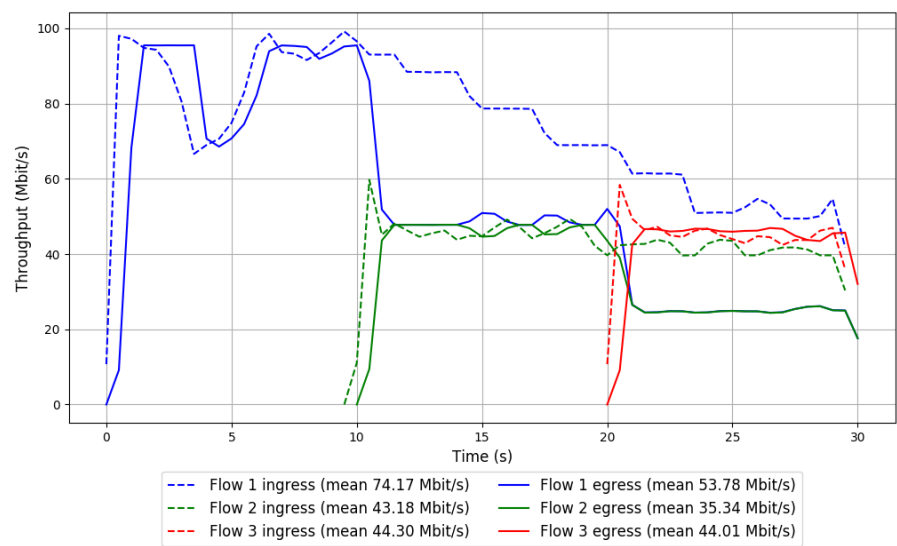
Run 3: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 85.98 Mbit/s) —— Flow 1 egress (mean 56.83 Mbit/s)
- - - Flow 2 ingress (mean 44.97 Mbit/s) —— Flow 2 egress (mean 37.52 Mbit/s)
- - - Flow 3 ingress (mean 27.98 Mbit/s) —— Flow 3 egress (mean 27.97 Mbit/s)

• Flow 1 (95th percentile 971.05 ms)   • Flow 2 (95th percentile 1445.82 ms)   • Flow 3 (95th percentile 74.24 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-19 13:00:26
End at: 2019-01-19 13:00:56
Local clock offset: -0.037 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 815.667 ms
Loss rate: 26.75%
-- Flow 1:
Average throughput: 55.51 Mbit/s
95th percentile per-packet one-way delay: 828.264 ms
Loss rate: 37.69%
-- Flow 2:
Average throughput: 43.88 Mbit/s
95th percentile per-packet one-way delay: 171.502 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 170.998 ms
Loss rate: 1.72%
```
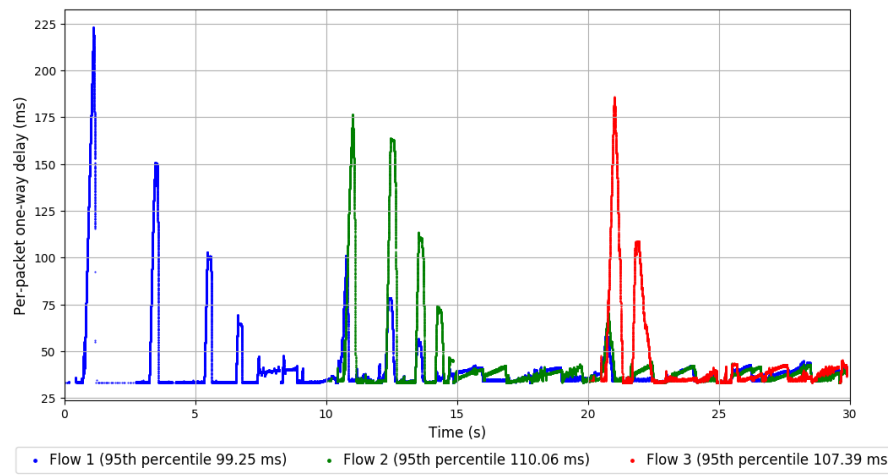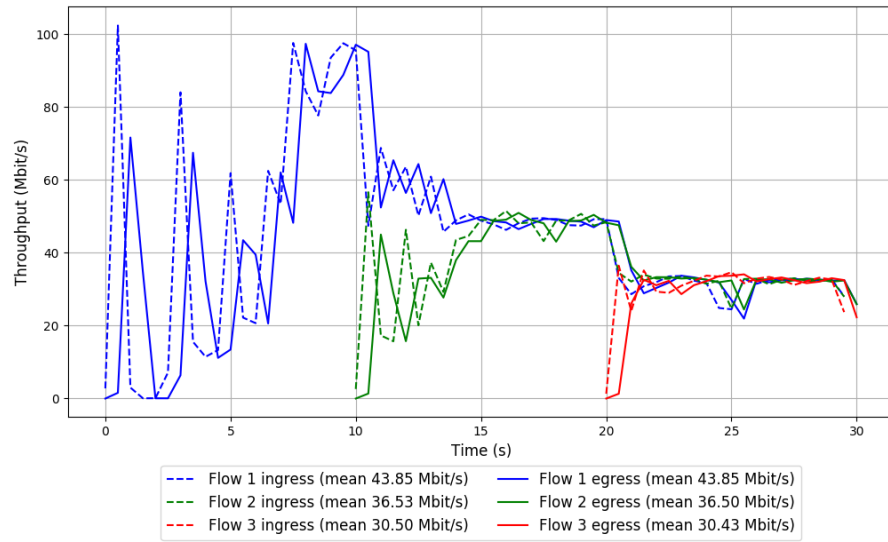
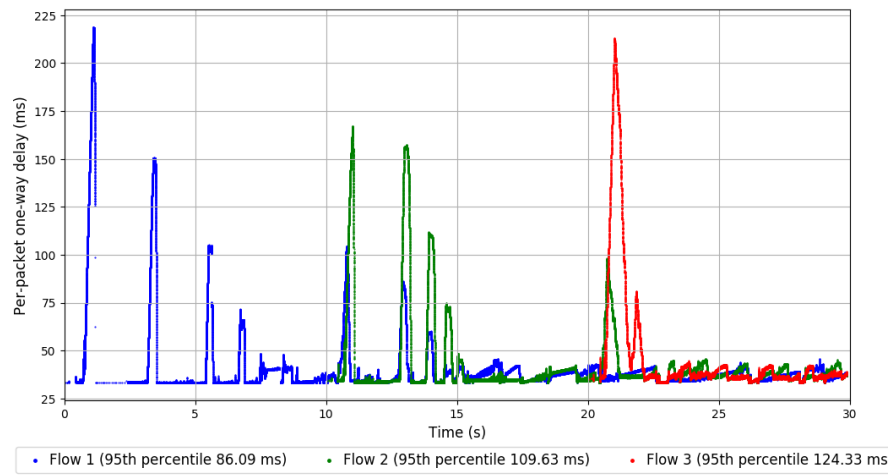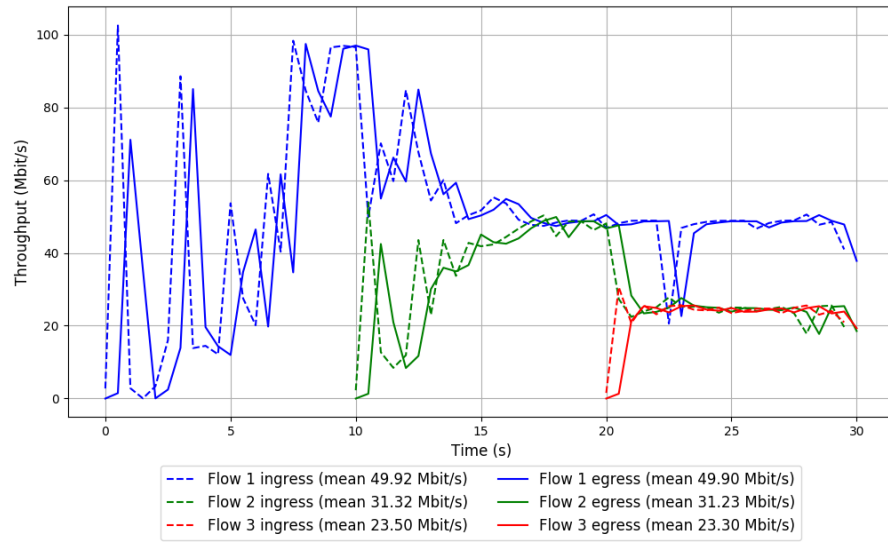# Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 88.89 Mbit/s) --- Flow 1 egress (mean 55.51 Mbit/s)
Flow 2 ingress (mean 43.94 Mbit/s) --- Flow 2 egress (mean 43.88 Mbit/s)
Flow 3 ingress (mean 24.60 Mbit/s) --- Flow 3 egress (mean 24.34 Mbit/s)

Flow 1 (95th percentile 828.26 ms)   Flow 2 (95th percentile 171.50 ms)   Flow 3 (95th percentile 171.00 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-19 13:27:25
End at: 2019-01-19 13:27:55
Local clock offset: 0.032 ms
Remote clock offset: 0.03 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.74 Mbit/s
95th percentile per-packet one-way delay: 887.812 ms
Loss rate: 22.10%
-- Flow 1:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 970.097 ms
Loss rate: 27.65%
-- Flow 2:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 852.033 ms
Loss rate: 18.41%
-- Flow 3:
Average throughput: 44.01 Mbit/s
95th percentile per-packet one-way delay: 222.956 ms
Loss rate: 1.27%
```
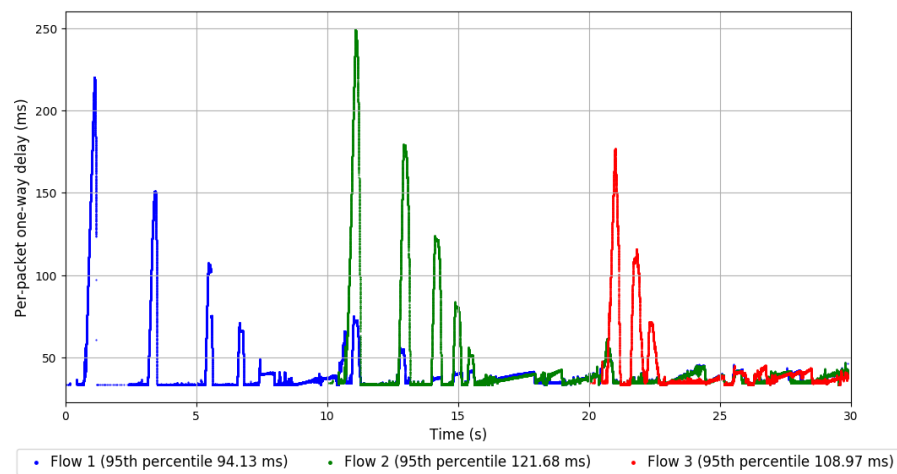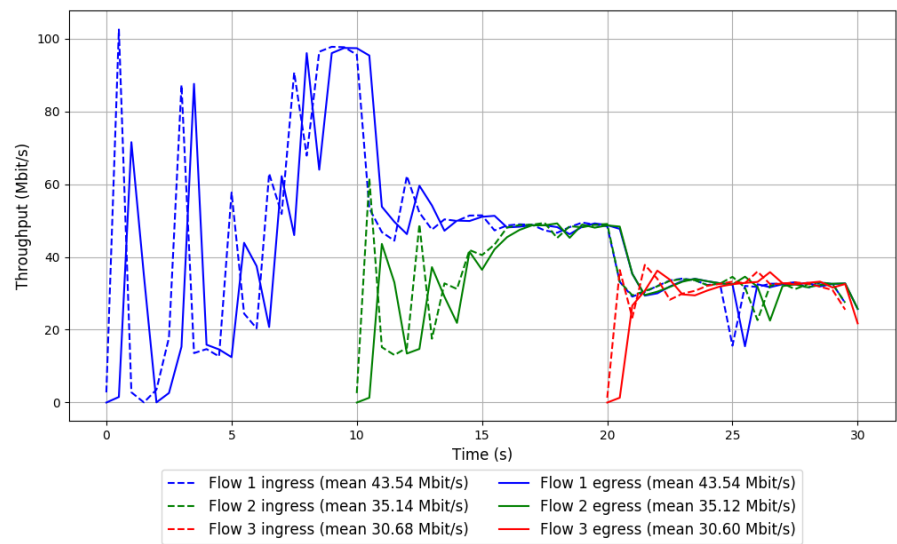
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 74.17 Mbit/s) Flow 1 egress (mean 53.78 Mbit/s)
Flow 2 ingress (mean 43.18 Mbit/s) Flow 2 egress (mean 35.34 Mbit/s)
Flow 3 ingress (mean 44.30 Mbit/s) Flow 3 egress (mean 44.01 Mbit/s)

Flow 1 (95th percentile 970.10 ms)   Flow 2 (95th percentile 852.03 ms)   Flow 3 (95th percentile 222.96 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-19 11:52:09
End at: 2019-01-19 11:52:39
Local clock offset: 0.164 ms
Remote clock offset: -2.41 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.13 Mbit/s
95th percentile per-packet one-way delay: 100.511 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 43.85 Mbit/s
95th percentile per-packet one-way delay: 99.255 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 36.50 Mbit/s
95th percentile per-packet one-way delay: 110.058 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 30.43 Mbit/s
95th percentile per-packet one-way delay: 107.394 ms
Loss rate: 0.84%
```
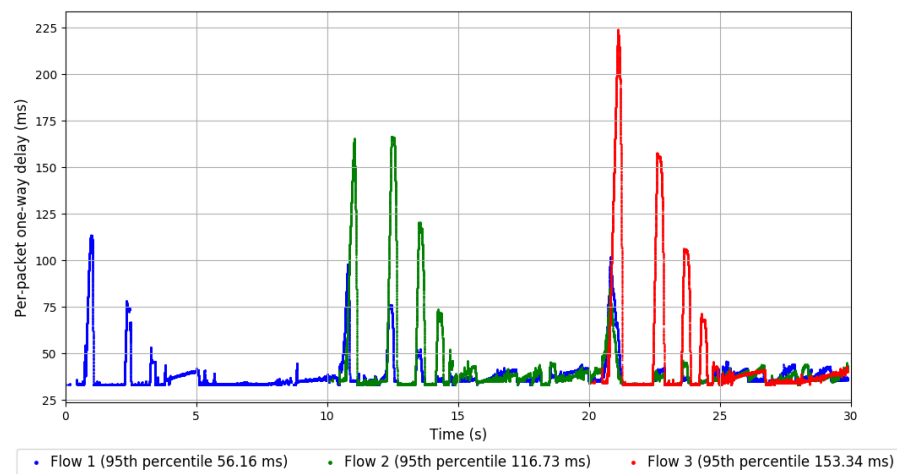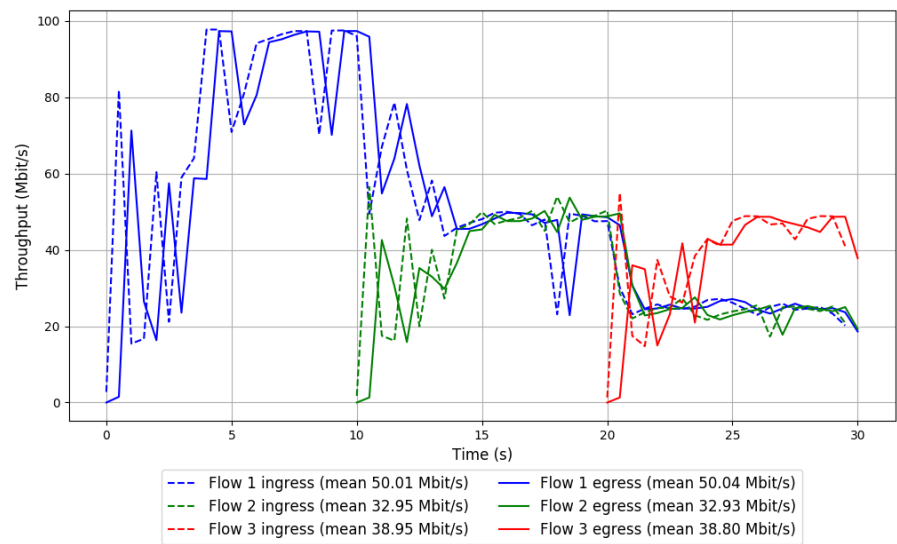
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.85 Mbit/s) ---- Flow 1 egress (mean 43.85 Mbit/s) —
Flow 2 ingress (mean 36.53 Mbit/s) ---- Flow 2 egress (mean 36.50 Mbit/s) —
Flow 3 ingress (mean 30.50 Mbit/s) ---- Flow 3 egress (mean 30.43 Mbit/s) —

• Flow 1 (95th percentile 99.25 ms)   • Flow 2 (95th percentile 110.06 ms)   • Flow 3 (95th percentile 107.39 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-19 12:18:59
End at: 2019-01-19 12:19:29
Local clock offset: 0.248 ms
Remote clock offset: -1.806 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.33 Mbit/s
95th percentile per-packet one-way delay: 99.101 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 49.90 Mbit/s
95th percentile per-packet one-way delay: 86.094 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 31.23 Mbit/s
95th percentile per-packet one-way delay: 109.631 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 23.30 Mbit/s
95th percentile per-packet one-way delay: 124.329 ms
Loss rate: 1.48%
```
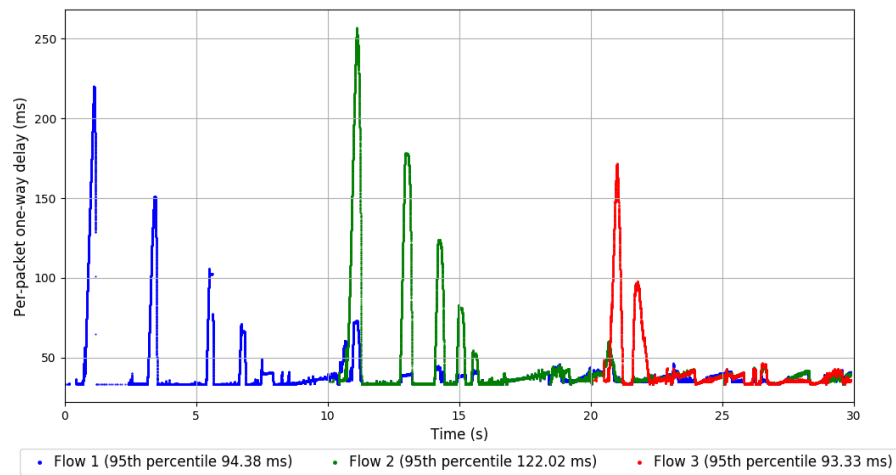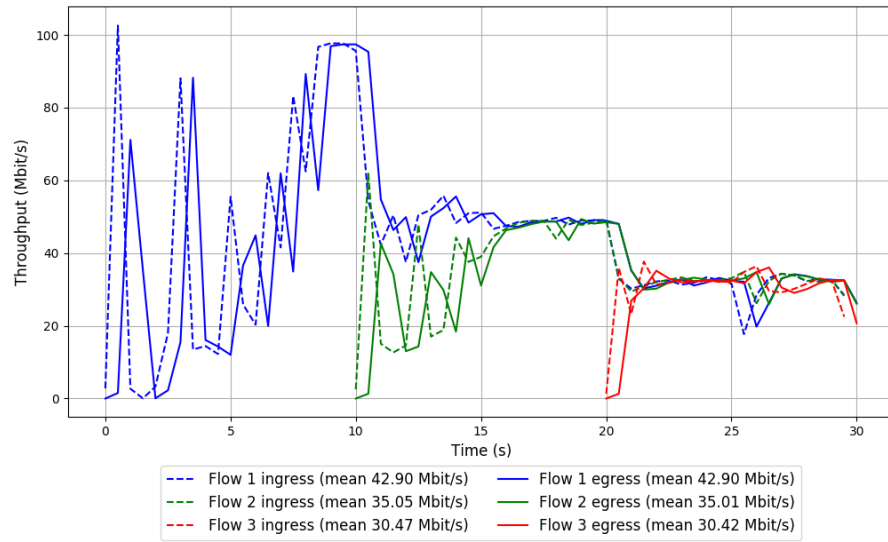
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-19 12:46:39
End at: 2019-01-19 12:47:09
Local clock offset: 0.222 ms
Remote clock offset: -0.965 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.96 Mbit/s
95th percentile per-packet one-way delay: 104.090 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 43.54 Mbit/s
95th percentile per-packet one-way delay: 94.132 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 35.12 Mbit/s
95th percentile per-packet one-way delay: 121.679 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 30.60 Mbit/s
95th percentile per-packet one-way delay: 108.971 ms
Loss rate: 0.91%
```
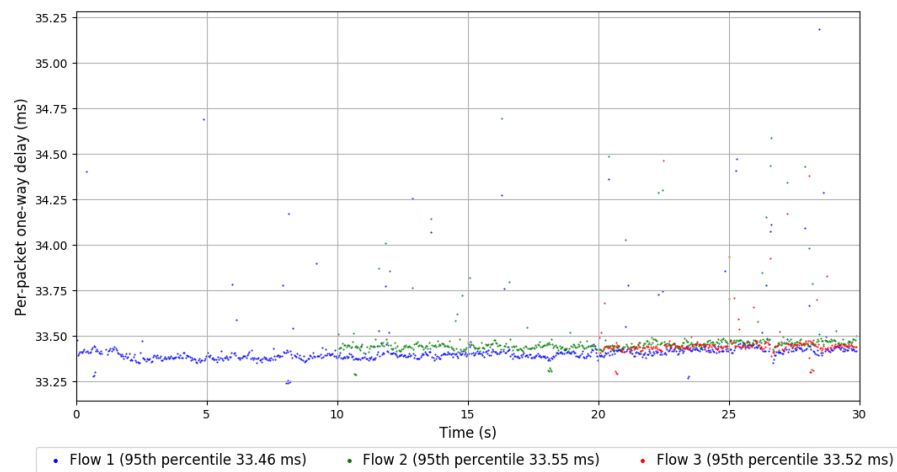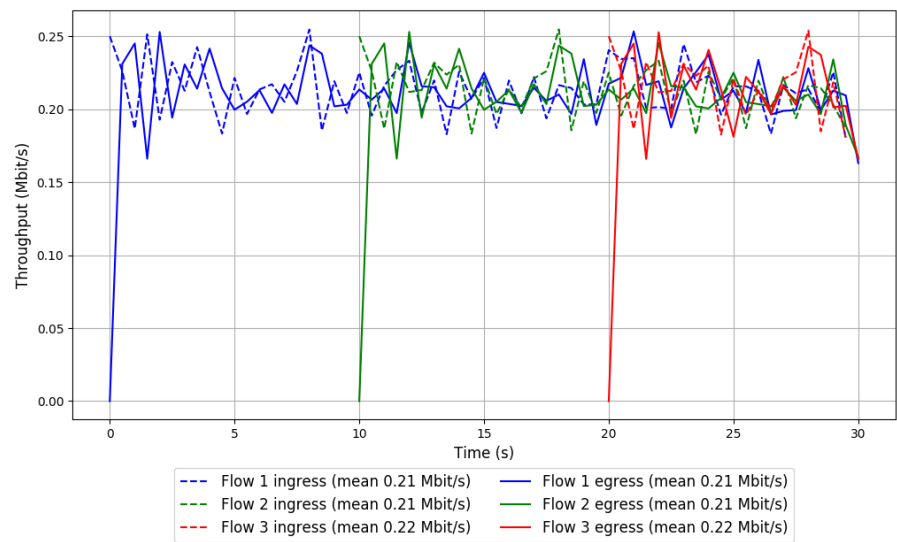
Run 3: Report of QUIC Cubic — Data Link

- Flow 1 ingress (mean 43.54 Mbit/s)
- Flow 1 egress (mean 43.54 Mbit/s)
- Flow 2 ingress (mean 35.14 Mbit/s)
- Flow 2 egress (mean 35.12 Mbit/s)
- Flow 3 ingress (mean 30.68 Mbit/s)
- Flow 3 egress (mean 30.60 Mbit/s)

- Flow 1 (95th percentile 94.13 ms)
- Flow 2 (95th percentile 121.68 ms)
- Flow 3 (95th percentile 108.97 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-19 13:13:23
End at: 2019-01-19 13:13:53
Local clock offset: -0.122 ms
Remote clock offset: -0.009 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.70 Mbit/s
95th percentile per-packet one-way delay: 81.900 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 50.04 Mbit/s
95th percentile per-packet one-way delay: 56.160 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 116.732 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 38.80 Mbit/s
95th percentile per-packet one-way delay: 153.345 ms
Loss rate: 1.03%
```
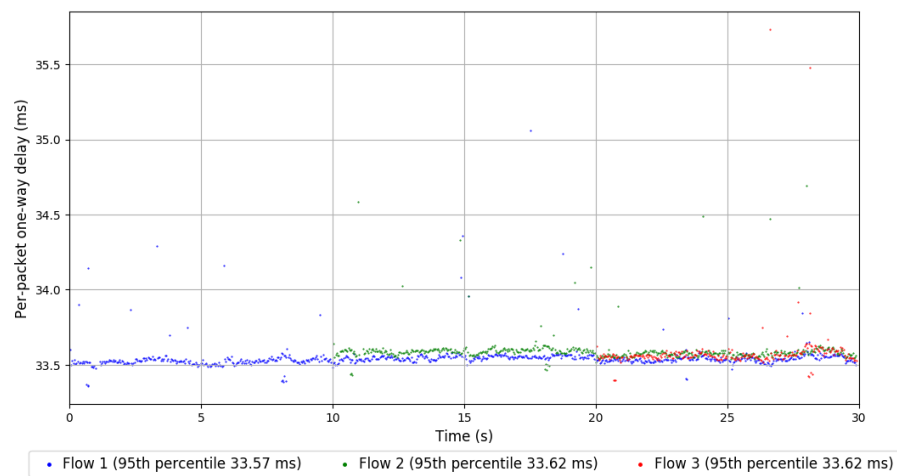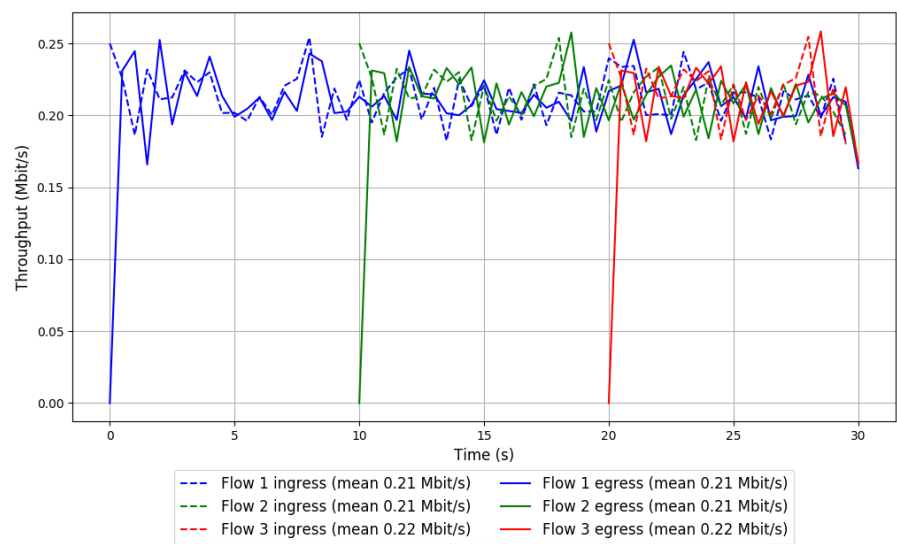
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-19 13:40:19
End at: 2019-01-19 13:40:49
Local clock offset: 0.099 ms
Remote clock offset: -0.113 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.18 Mbit/s
95th percentile per-packet one-way delay: 102.366 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 42.90 Mbit/s
95th percentile per-packet one-way delay: 94.376 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 122.018 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 30.42 Mbit/s
95th percentile per-packet one-way delay: 93.329 ms
Loss rate: 0.81%
```
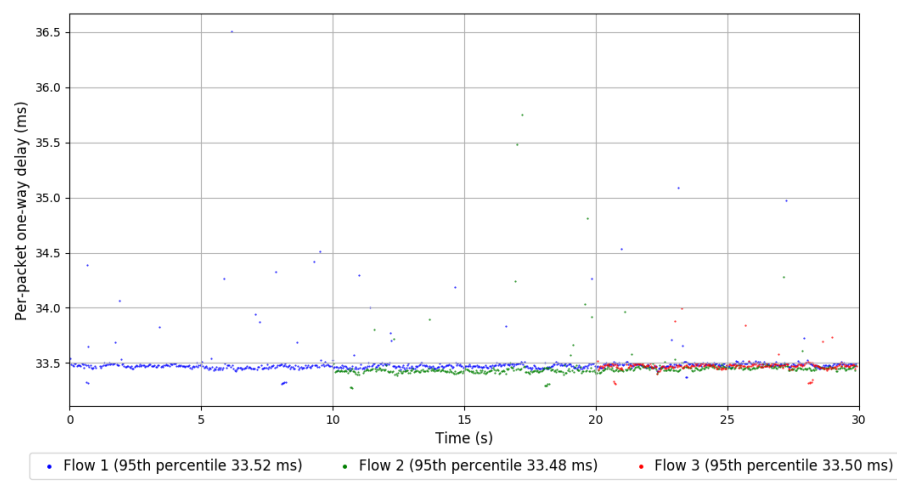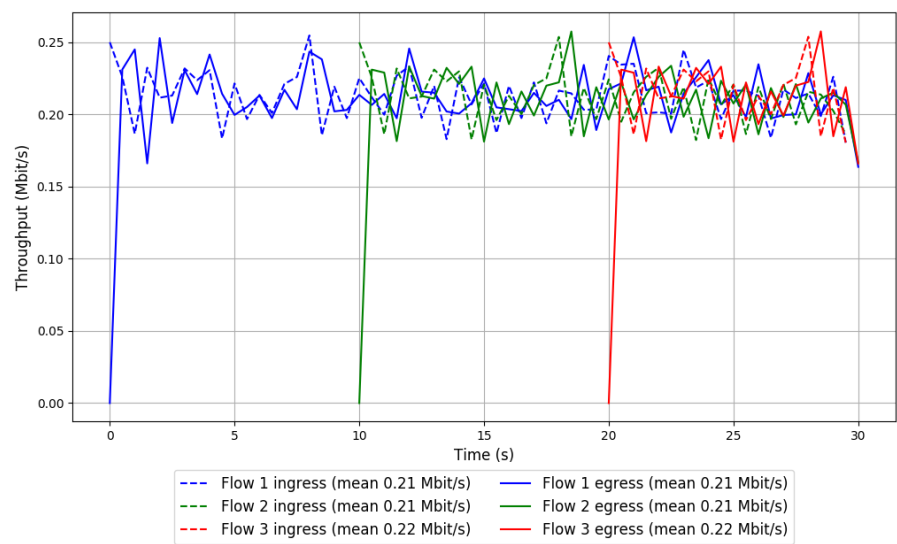
Run 5: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 42.90 Mbit/s) ——— Flow 1 egress (mean 42.90 Mbit/s)
- - - - Flow 2 ingress (mean 35.05 Mbit/s) ——— Flow 2 egress (mean 35.01 Mbit/s)
- - - - Flow 3 ingress (mean 30.47 Mbit/s) ——— Flow 3 egress (mean 30.42 Mbit/s)

- Flow 1 (95th percentile 94.38 ms)   • Flow 2 (95th percentile 122.02 ms)   • Flow 3 (95th percentile 93.33 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-01-19 11:37:15
End at: 2019-01-19 11:37:45
Local clock offset: 0.101 ms
Remote clock offset: -2.852 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.509 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.461 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.549 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.519 ms
Loss rate: 0.71%
```
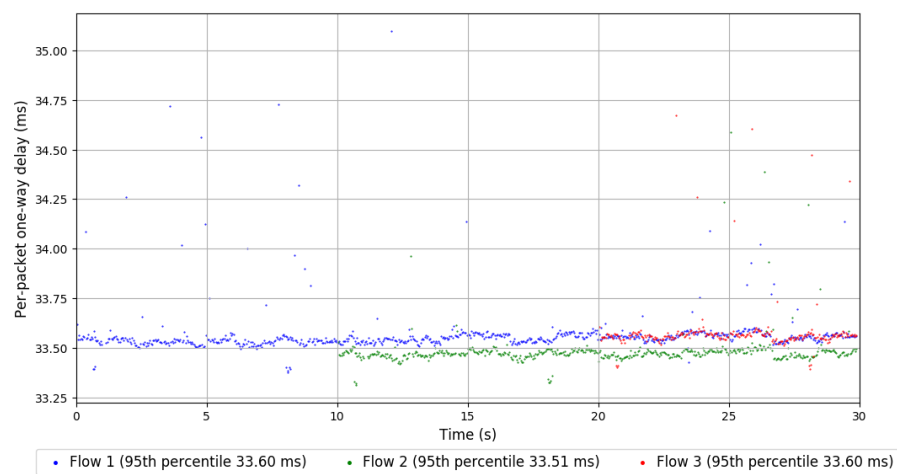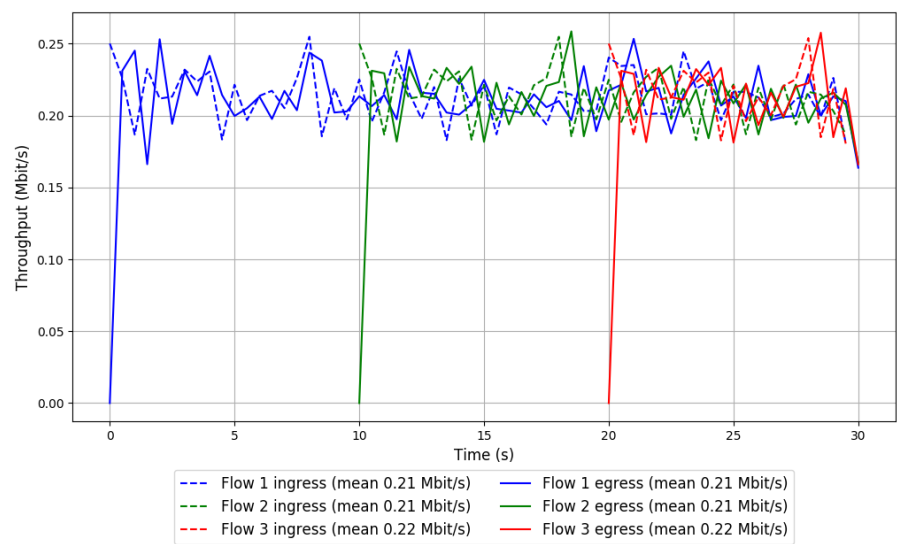
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-01-19 12:03:37
End at: 2019-01-19 12:04:07
Local clock offset: 0.202 ms
Remote clock offset: -2.217 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.614 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.574 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.621 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.622 ms
Loss rate: 0.71%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-01-19 12:30:50
End at: 2019-01-19 12:31:20
Local clock offset: 0.219 ms
Remote clock offset: -1.39 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.509 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.515 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.483 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.502 ms
Loss rate: 0.71%
```
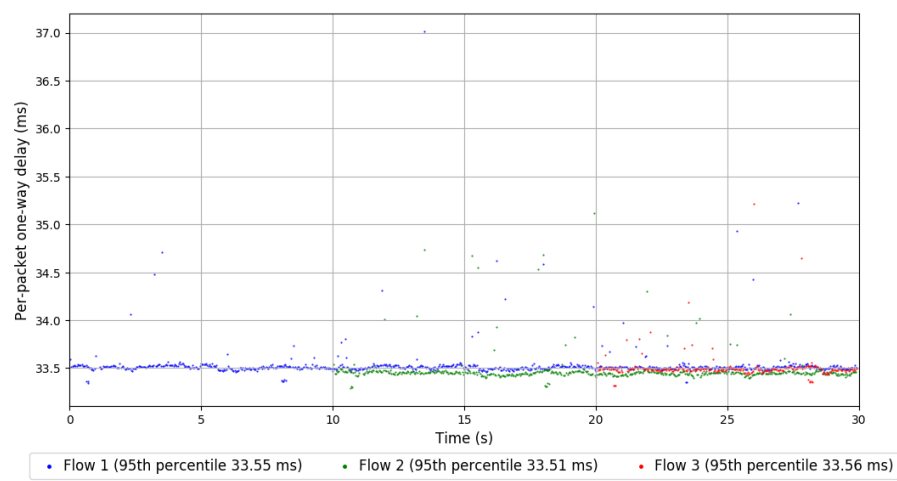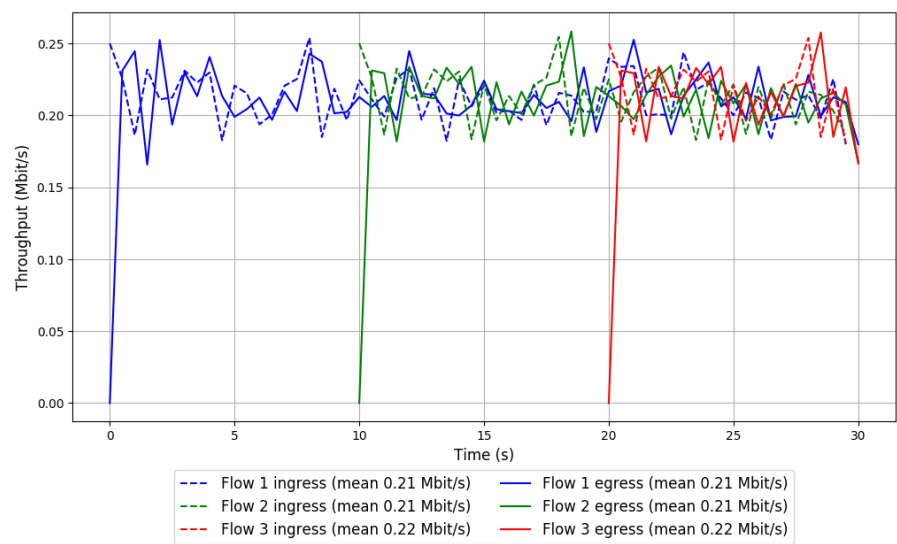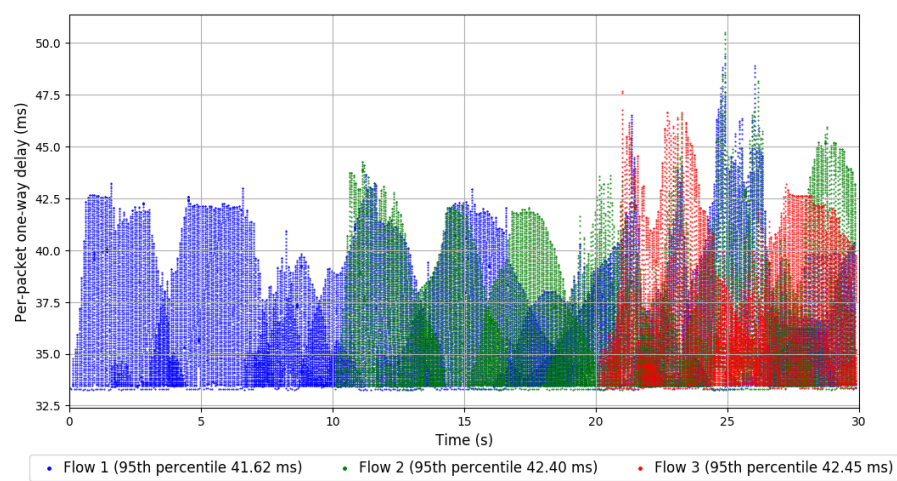
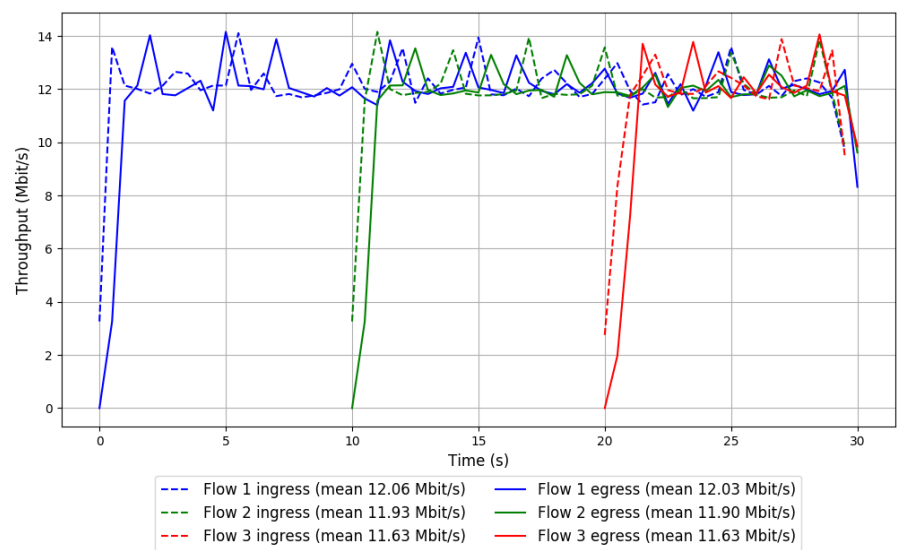# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-01-19 12:58:02
End at: 2019-01-19 12:58:32
Local clock offset: -0.008 ms
Remote clock offset: -0.178 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.592 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.597 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.506 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.598 ms
Loss rate: 0.71%
```

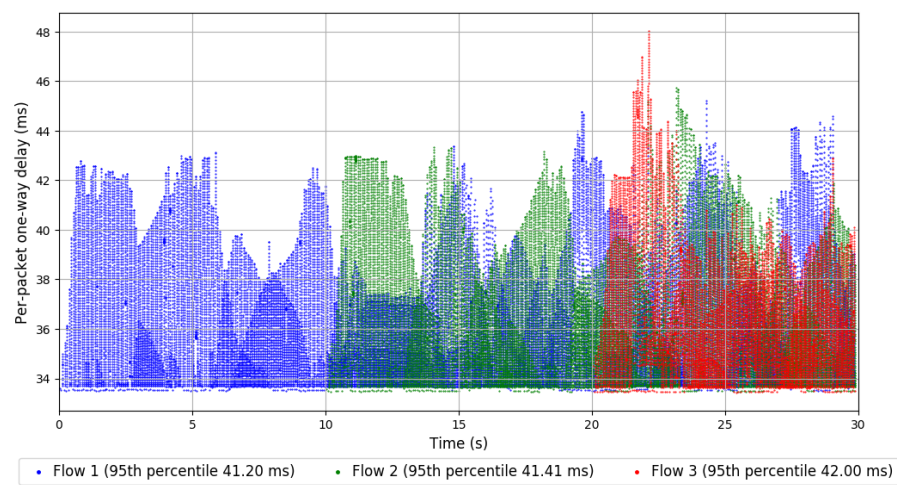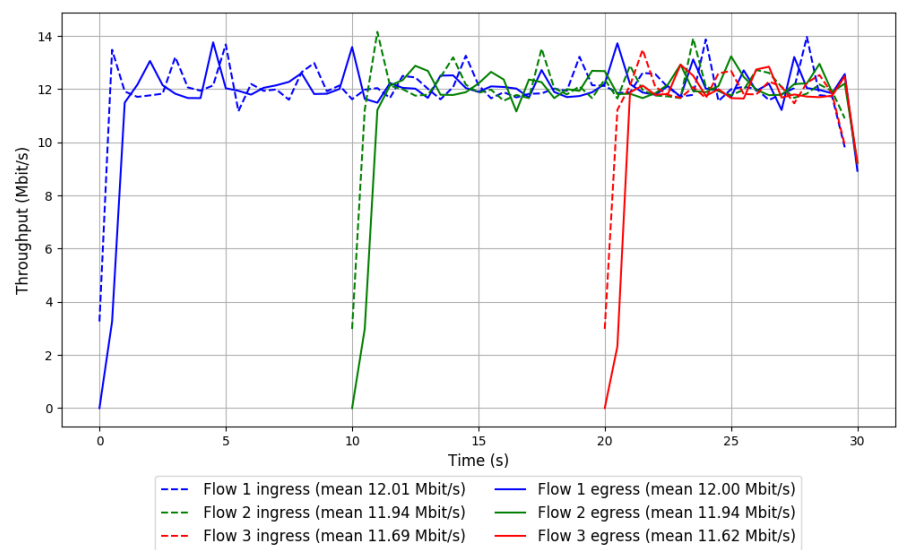# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-01-19 13:24:52
End at: 2019-01-19 13:25:22
Local clock offset: 0.014 ms
Remote clock offset: 0.035 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.549 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.553 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.510 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.557 ms
Loss rate: 0.71%
```

Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-01-19 11:59:59
End at: 2019-01-19 12:00:29
Local clock offset: 0.206 ms
Remote clock offset: -2.219 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.77 Mbit/s
95th percentile per-packet one-way delay: 41.973 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 41.619 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 11.90 Mbit/s
95th percentile per-packet one-way delay: 42.397 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 11.63 Mbit/s
95th percentile per-packet one-way delay: 42.453 ms
Loss rate: 0.59%
```
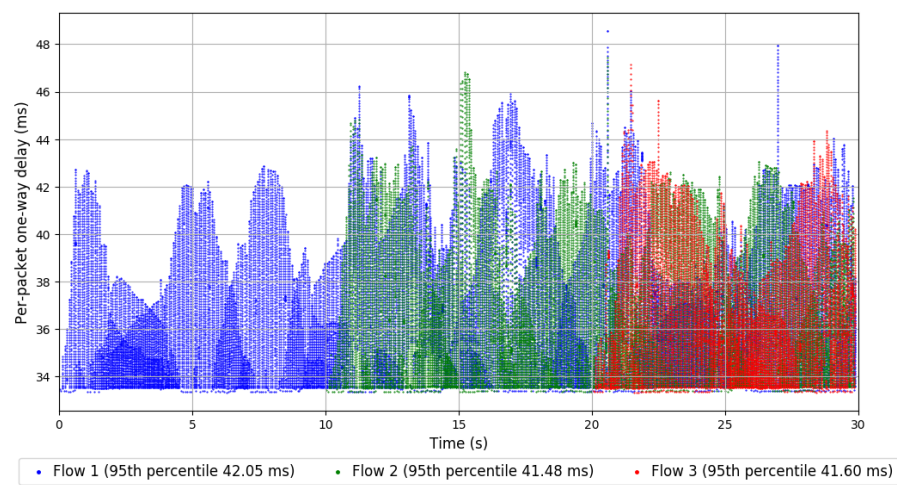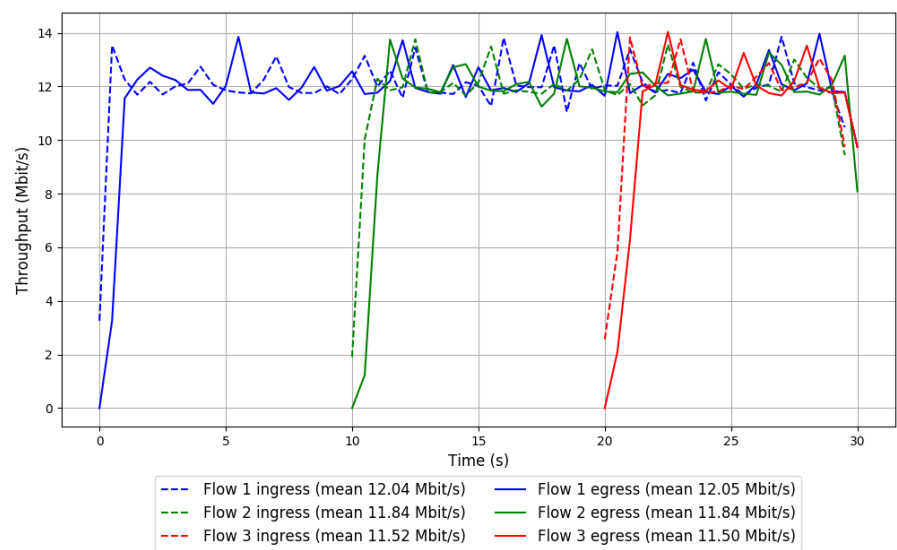
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-19 12:26:59
End at: 2019-01-19 12:27:29
Local clock offset: 0.225 ms
Remote clock offset: -1.604 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.75 Mbit/s
95th percentile per-packet one-way delay: 41.370 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 41.197 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.94 Mbit/s
95th percentile per-packet one-way delay: 41.411 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 11.62 Mbit/s
95th percentile per-packet one-way delay: 42.003 ms
Loss rate: 0.86%
```
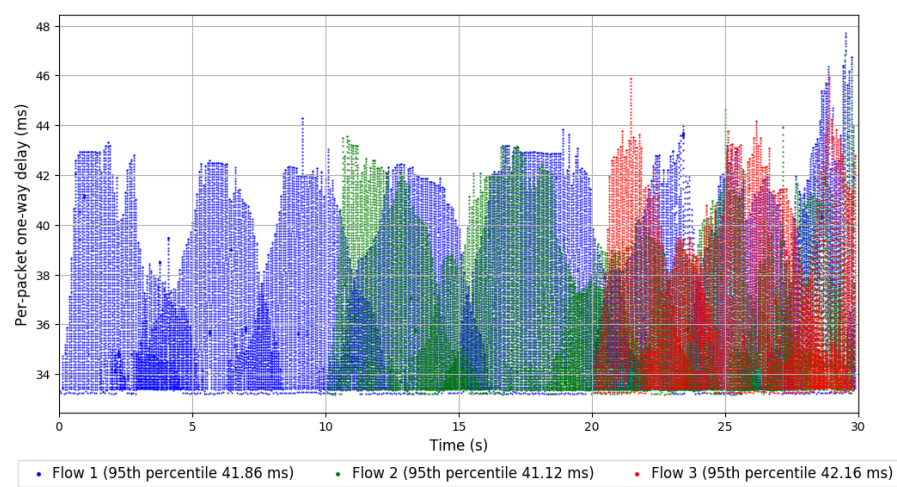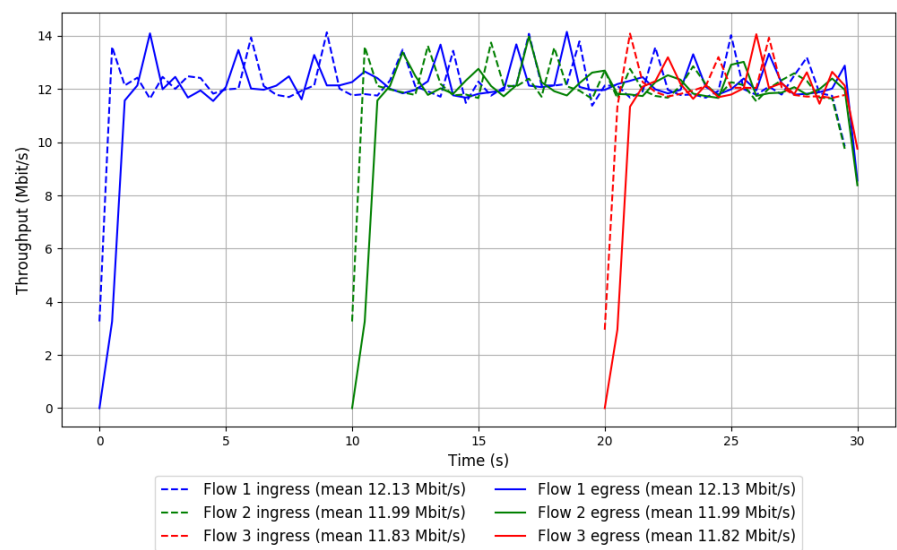
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-19 12:54:21
End at: 2019-01-19 12:54:51
Local clock offset: 0.051 ms
Remote clock offset: -0.345 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 41.790 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 42.048 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 41.481 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 41.604 ms
Loss rate: 0.86%
```
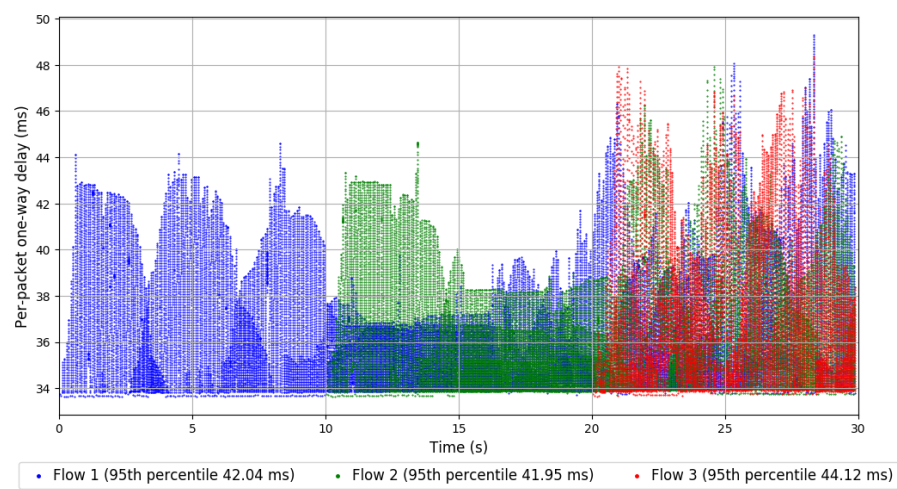
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-01-19 13:21:00
End at: 2019-01-19 13:21:30
Local clock offset: -0.051 ms
Remote clock offset: 0.084 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 41.699 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 41.856 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 41.116 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 42.156 ms
Loss rate: 0.86%
```
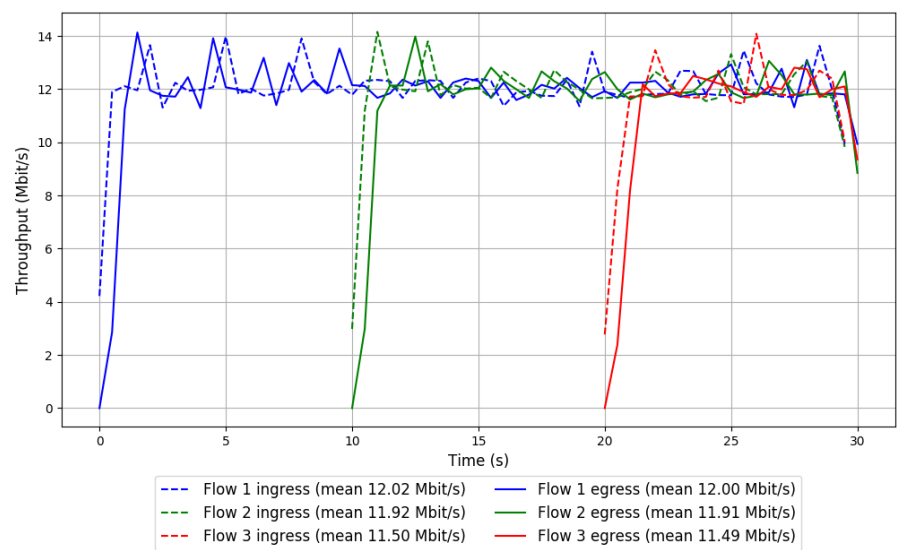
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-01-19 13:48:27
End at: 2019-01-19 13:48:57
Local clock offset: -0.426 ms
Remote clock offset: -0.557 ms


# Below is generated by plot.py at 2019-01-19 14:03:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 42.427 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 42.043 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.91 Mbit/s
95th percentile per-packet one-way delay: 41.953 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.49 Mbit/s
95th percentile per-packet one-way delay: 44.118 ms
Loss rate: 0.86%
```
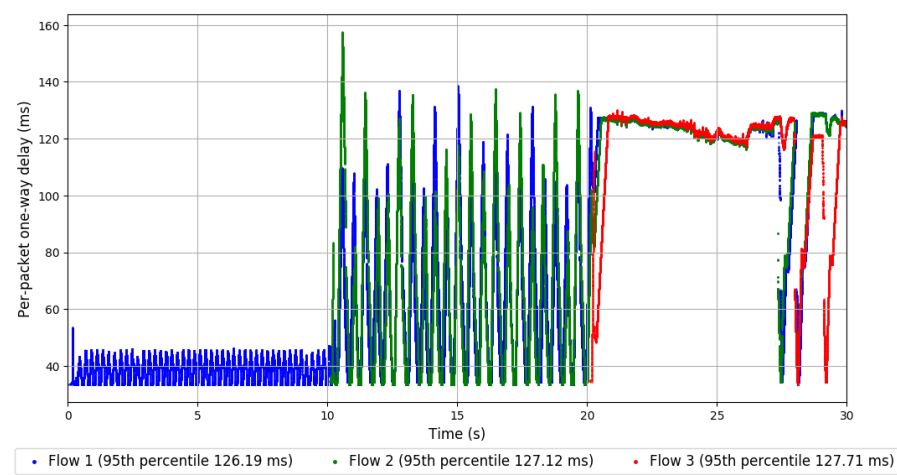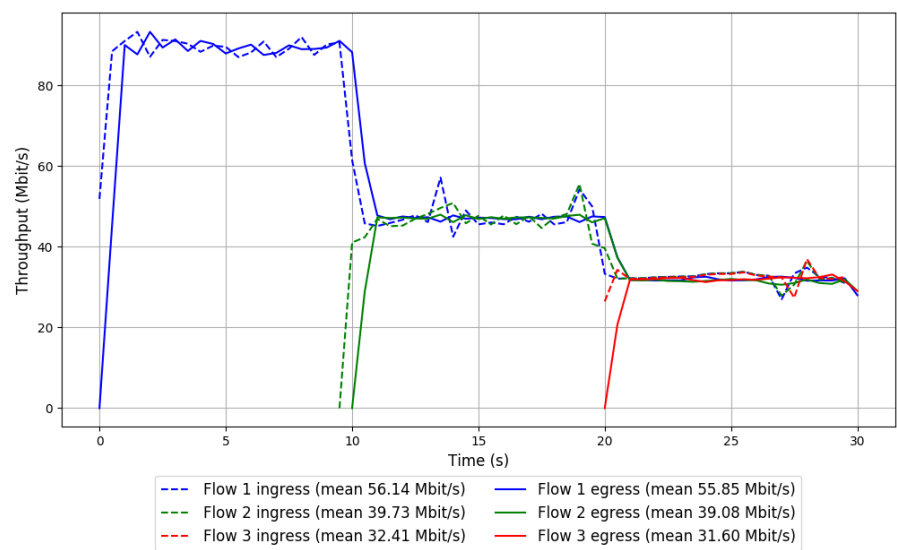
Run 5: Report of Sprout — Data Link

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

Start at: 2019-01-19 11:54:37
End at: 2019-01-19 11:55:07
Local clock offset: 0.169 ms
Remote clock offset: -2.559 ms


# Below is generated by plot.py at 2019-01-19 14:05:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.33 Mbit/s
95th percentile per-packet one-way delay: 126.907 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 55.85 Mbit/s
95th percentile per-packet one-way delay: 126.193 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 127.118 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 31.60 Mbit/s
95th percentile per-packet one-way delay: 127.714 ms
Loss rate: 3.13%
```

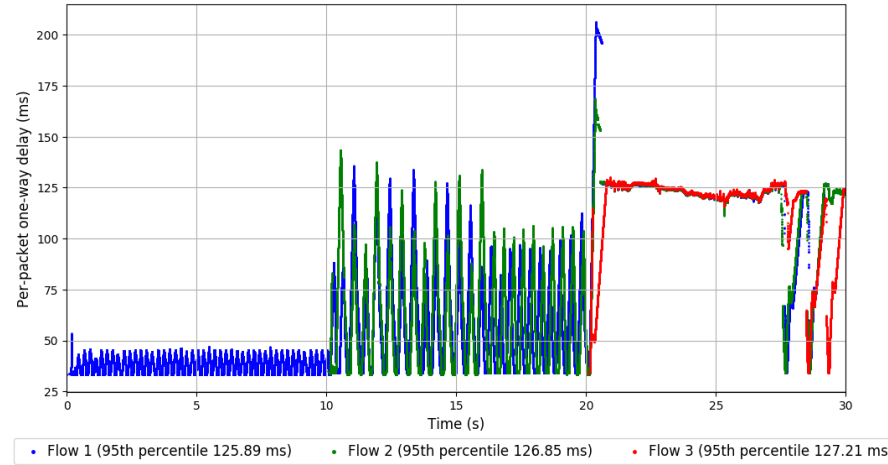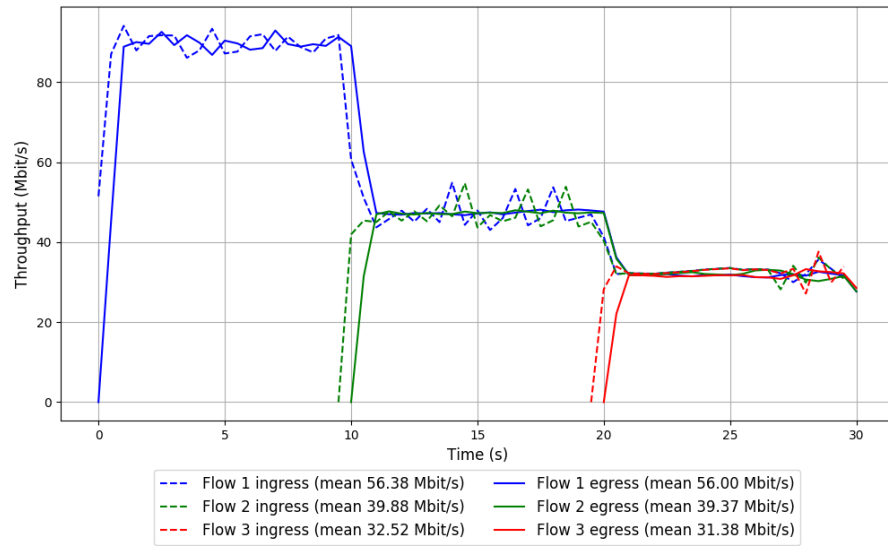Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 56.14 Mbit/s) --- Flow 1 egress (mean 55.85 Mbit/s)
Flow 2 ingress (mean 39.73 Mbit/s) --- Flow 2 egress (mean 39.08 Mbit/s)
Flow 3 ingress (mean 32.41 Mbit/s) --- Flow 3 egress (mean 31.60 Mbit/s)

Flow 1 (95th percentile 126.19 ms) • Flow 2 (95th percentile 127.12 ms) • Flow 3 (95th percentile 127.71 ms)

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

Start at: 2019-01-19 12:21:31
End at: 2019-01-19 12:22:01
Local clock offset: 0.231 ms
Remote clock offset: -1.733 ms


# Below is generated by plot.py at 2019-01-19 14:05:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.63 Mbit/s
95th percentile per-packet one-way delay: 126.689 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 56.00 Mbit/s
95th percentile per-packet one-way delay: 125.887 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 126.849 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 127.211 ms
Loss rate: 4.11%
```
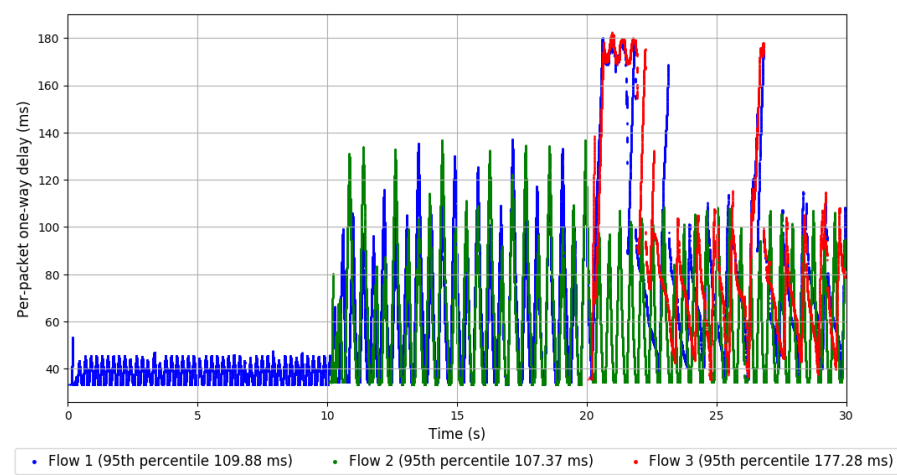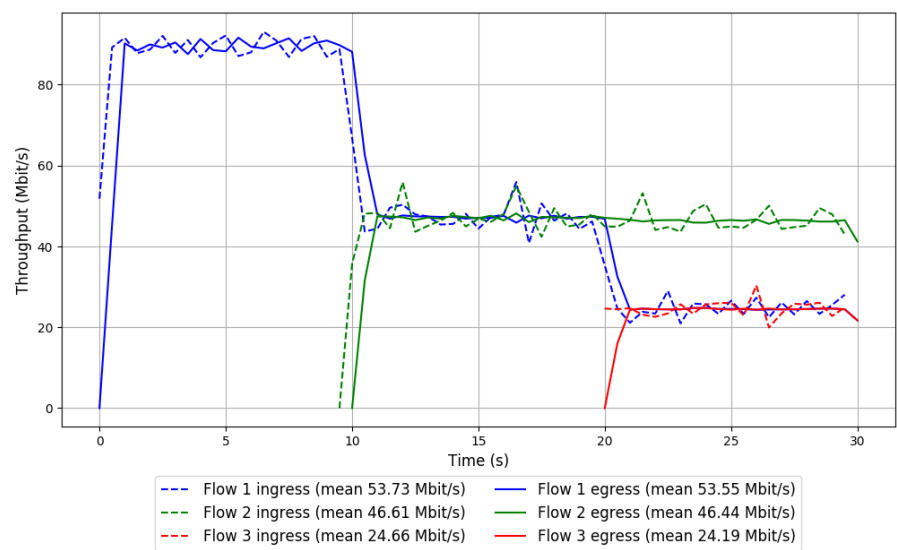
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 56.38 Mbit/s)   Flow 1 egress (mean 56.00 Mbit/s)
Flow 2 ingress (mean 39.88 Mbit/s)   Flow 2 egress (mean 39.37 Mbit/s)
Flow 3 ingress (mean 32.52 Mbit/s)   Flow 3 egress (mean 31.38 Mbit/s)

Flow 1 (95th percentile 125.89 ms)   Flow 2 (95th percentile 126.85 ms)   Flow 3 (95th percentile 127.21 ms)

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

Start at: 2019-01-19 12:49:08
End at: 2019-01-19 12:49:38
Local clock offset: 0.145 ms
Remote clock offset: -0.642 ms


# Below is generated by plot.py at 2019-01-19 14:05:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.47 Mbit/s
95th percentile per-packet one-way delay: 117.497 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 53.55 Mbit/s
95th percentile per-packet one-way delay: 109.884 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 46.44 Mbit/s
95th percentile per-packet one-way delay: 107.374 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 24.19 Mbit/s
95th percentile per-packet one-way delay: 177.277 ms
Loss rate: 2.54%
```
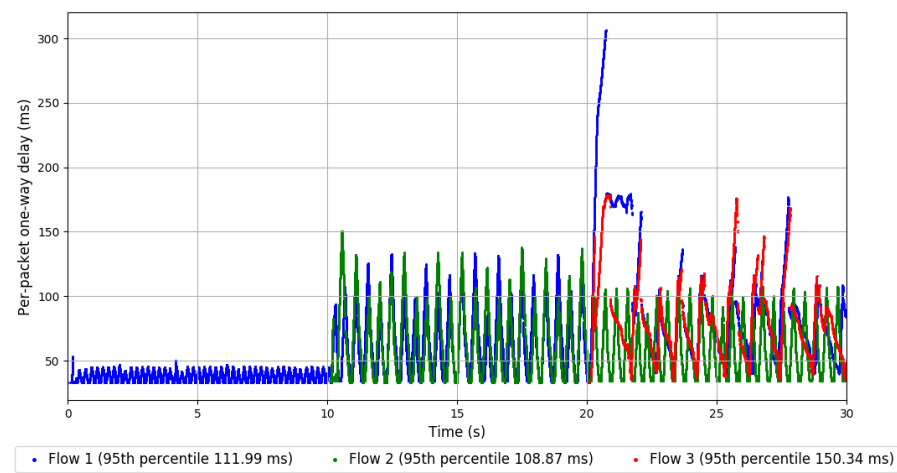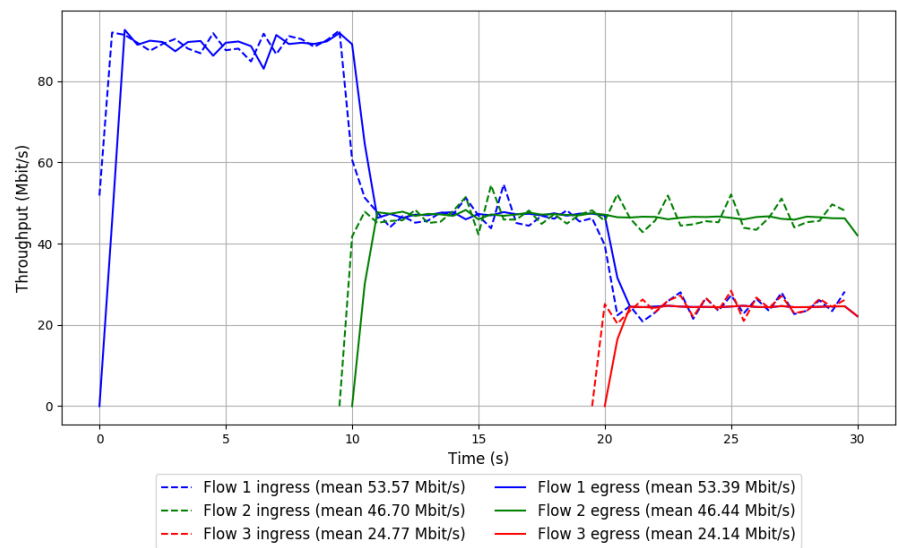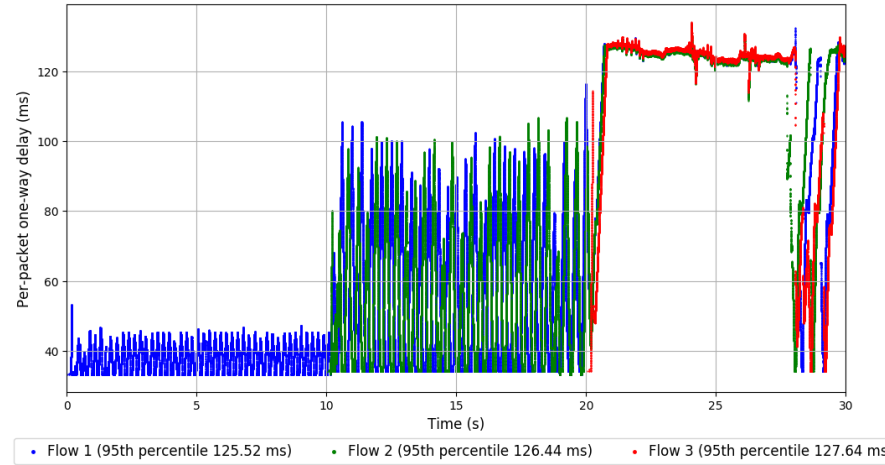
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 53.73 Mbit/s) — Flow 1 egress (mean 53.55 Mbit/s)
Flow 2 ingress (mean 46.61 Mbit/s) — Flow 2 egress (mean 46.44 Mbit/s)
Flow 3 ingress (mean 24.66 Mbit/s) — Flow 3 egress (mean 24.19 Mbit/s)

Flow 1 (95th percentile 109.88 ms)   •   Flow 2 (95th percentile 107.37 ms)   •   Flow 3 (95th percentile 177.28 ms)

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

Start at: 2019-01-19 13:16:01
End at: 2019-01-19 13:16:31
Local clock offset: -0.122 ms
Remote clock offset: 0.017 ms


# Below is generated by plot.py at 2019-01-19 14:05:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.32 Mbit/s
95th percentile per-packet one-way delay: 114.395 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 53.39 Mbit/s
95th percentile per-packet one-way delay: 111.992 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 46.44 Mbit/s
95th percentile per-packet one-way delay: 108.874 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 24.14 Mbit/s
95th percentile per-packet one-way delay: 150.339 ms
Loss rate: 3.12%
```

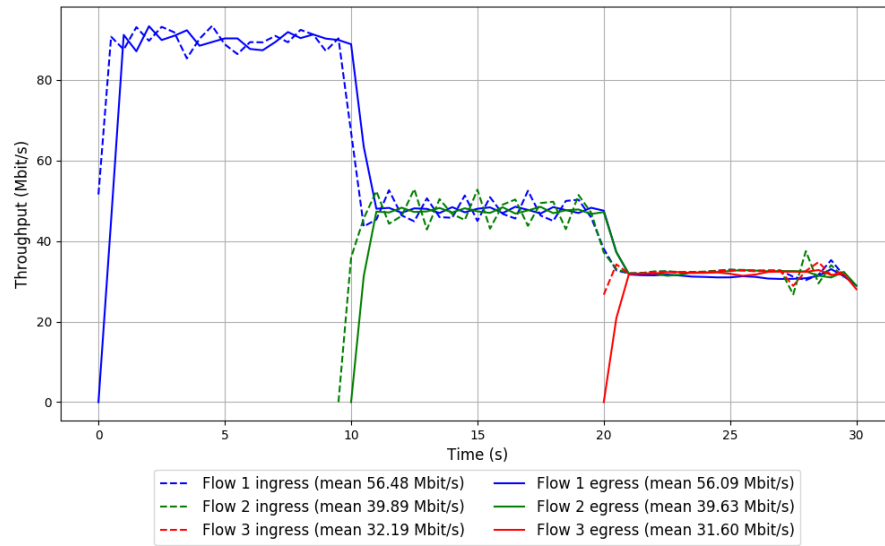Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-19 13:42:54
End at: 2019-01-19 13:43:24
Local clock offset: 0.113 ms
Remote clock offset: -0.193 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.94 Mbit/s
95th percentile per-packet one-way delay: 126.389 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 56.09 Mbit/s
95th percentile per-packet one-way delay: 125.522 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 39.63 Mbit/s
95th percentile per-packet one-way delay: 126.442 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 31.60 Mbit/s
95th percentile per-packet one-way delay: 127.636 ms
Loss rate: 2.46%
```

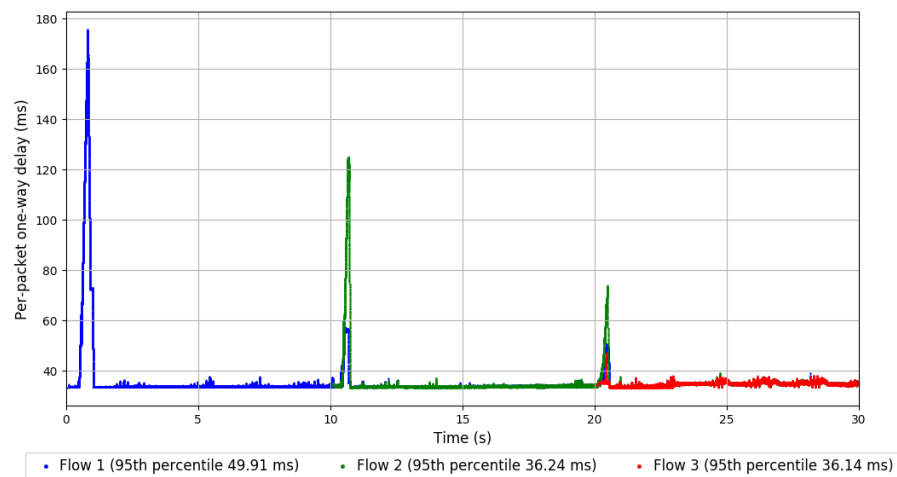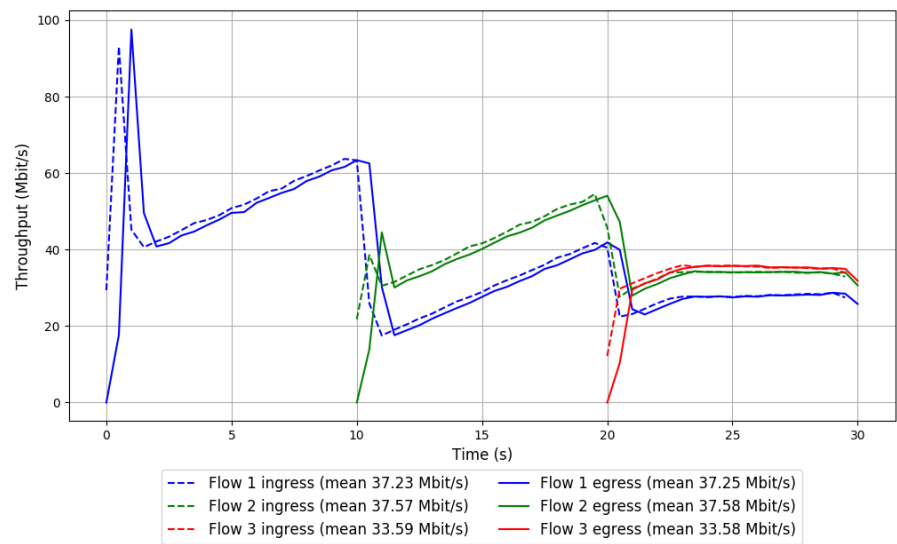Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-19 11:55:58
End at: 2019-01-19 11:56:28
Local clock offset: 0.194 ms
Remote clock offset: -2.334 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.36 Mbit/s
95th percentile per-packet one-way delay: 36.916 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 37.25 Mbit/s
95th percentile per-packet one-way delay: 49.915 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 37.58 Mbit/s
95th percentile per-packet one-way delay: 36.245 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 36.141 ms
Loss rate: 0.69%
```
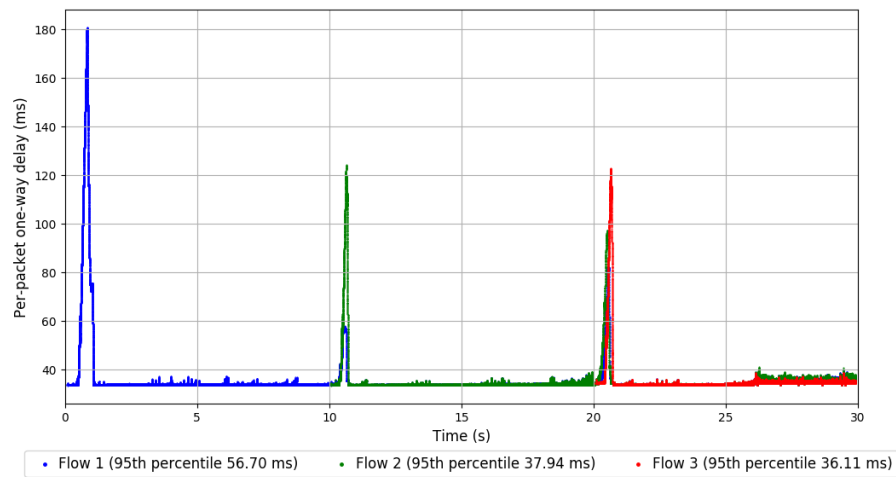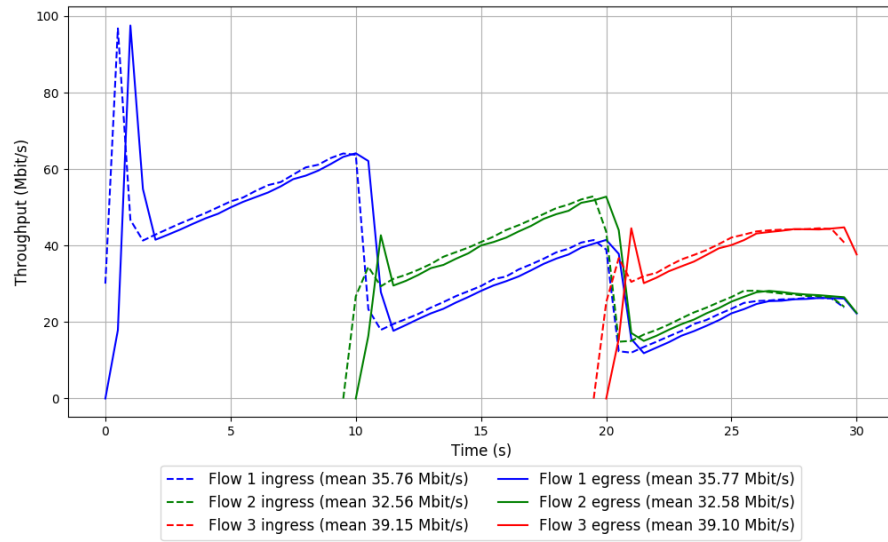
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.23 Mbit/s)   Flow 1 egress (mean 37.25 Mbit/s)
Flow 2 ingress (mean 37.57 Mbit/s)   Flow 2 egress (mean 37.58 Mbit/s)
Flow 3 ingress (mean 33.59 Mbit/s)   Flow 3 egress (mean 33.58 Mbit/s)

Flow 1 (95th percentile 49.91 ms)   Flow 2 (95th percentile 36.24 ms)   Flow 3 (95th percentile 36.14 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-19 12:23:07
End at: 2019-01-19 12:23:37
Local clock offset: 0.228 ms
Remote clock offset: -1.684 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.41 Mbit/s
95th percentile per-packet one-way delay: 43.711 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 56.700 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 37.936 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 39.10 Mbit/s
95th percentile per-packet one-way delay: 36.107 ms
Loss rate: 0.76%
```

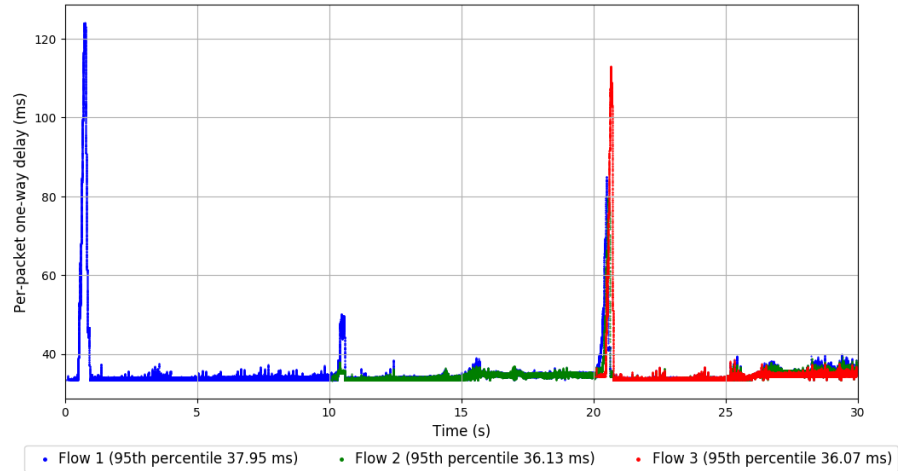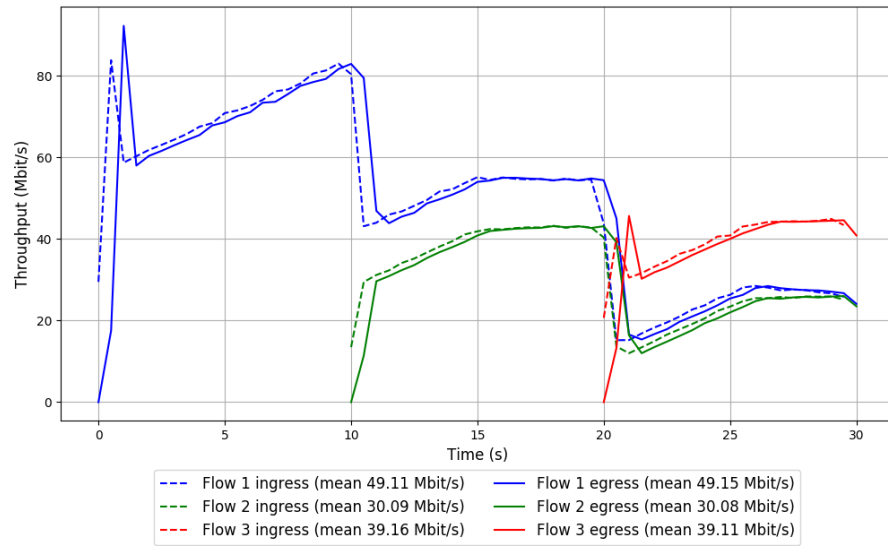Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-19 12:50:34
End at: 2019-01-19 12:51:04
Local clock offset: 0.099 ms
Remote clock offset: -0.527 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.13 Mbit/s
95th percentile per-packet one-way delay: 36.916 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 49.15 Mbit/s
95th percentile per-packet one-way delay: 37.955 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 30.08 Mbit/s
95th percentile per-packet one-way delay: 36.130 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 39.11 Mbit/s
95th percentile per-packet one-way delay: 36.070 ms
Loss rate: 0.77%
```

Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-19 13:17:19
End at: 2019-01-19 13:17:49
Local clock offset: -0.113 ms
Remote clock offset: 0.031 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.06 Mbit/s
95th percentile per-packet one-way delay: 37.350 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 43.329 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 36.744 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 37.945 ms
Loss rate: 0.79%
```
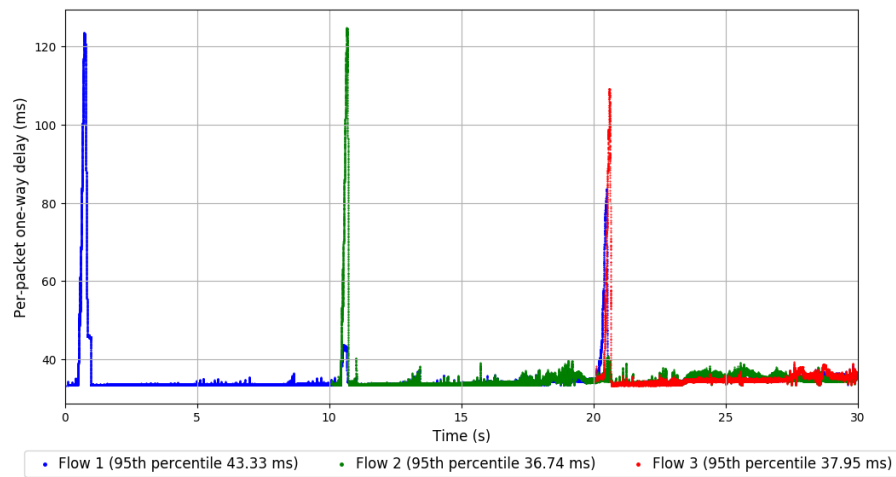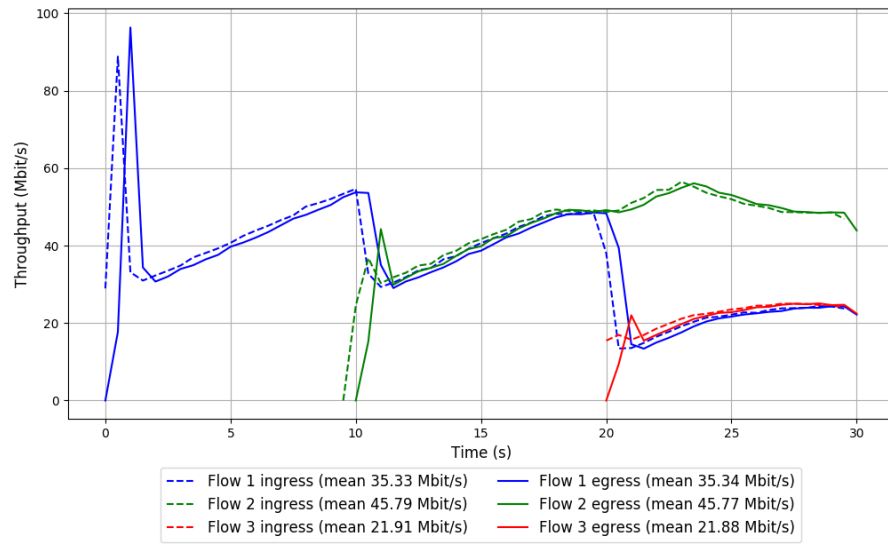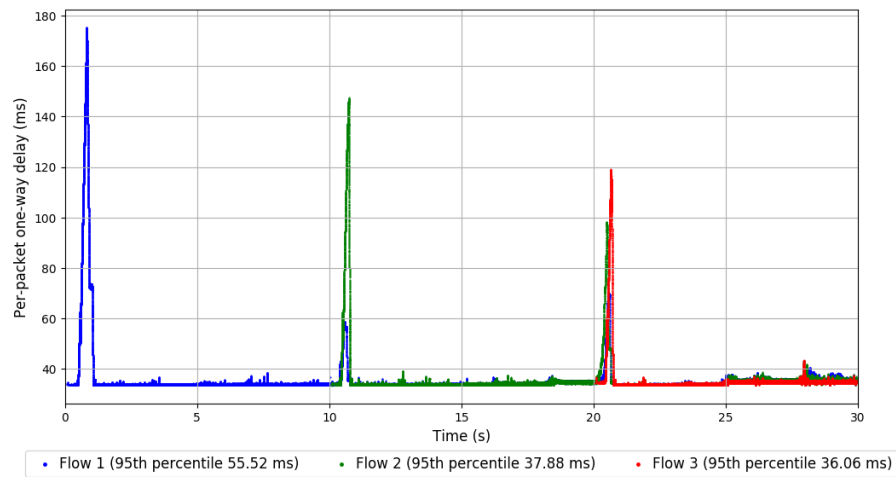
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 35.33 Mbit/s) ---- Flow 1 egress (mean 35.34 Mbit/s)
Flow 2 ingress (mean 45.79 Mbit/s) ---- Flow 2 egress (mean 45.77 Mbit/s)
Flow 3 ingress (mean 21.91 Mbit/s) ---- Flow 3 egress (mean 21.88 Mbit/s)

Flow 1 (95th percentile 43.33 ms) Flow 2 (95th percentile 36.74 ms) Flow 3 (95th percentile 37.95 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-19 13:44:26
End at: 2019-01-19 13:44:56
Local clock offset: 0.123 ms
Remote clock offset: -0.308 ms


# Below is generated by plot.py at 2019-01-19 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.62 Mbit/s
95th percentile per-packet one-way delay: 42.451 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 37.07 Mbit/s
95th percentile per-packet one-way delay: 55.516 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 37.63 Mbit/s
95th percentile per-packet one-way delay: 37.879 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 37.80 Mbit/s
95th percentile per-packet one-way delay: 36.063 ms
Loss rate: 0.74%
```
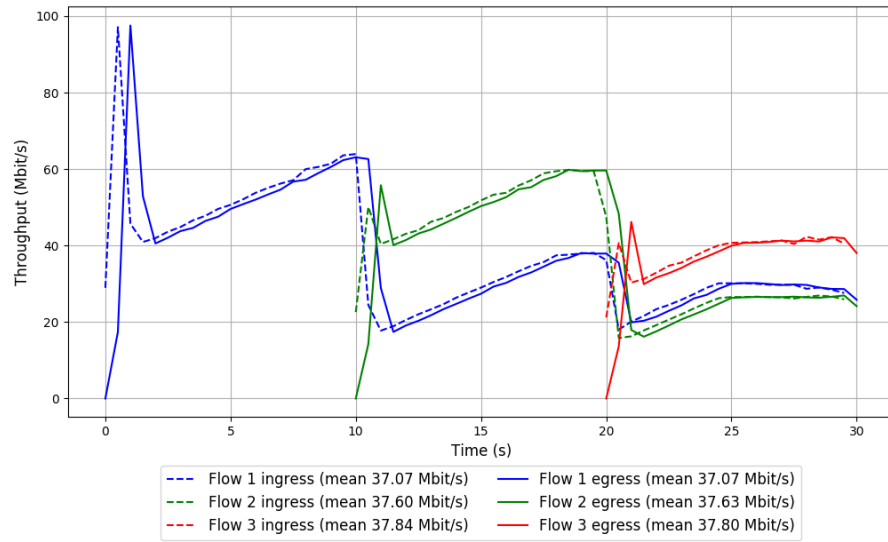
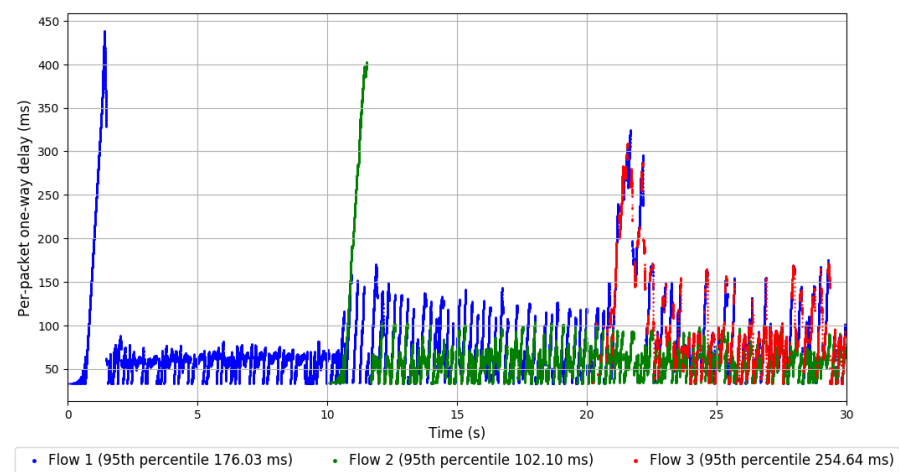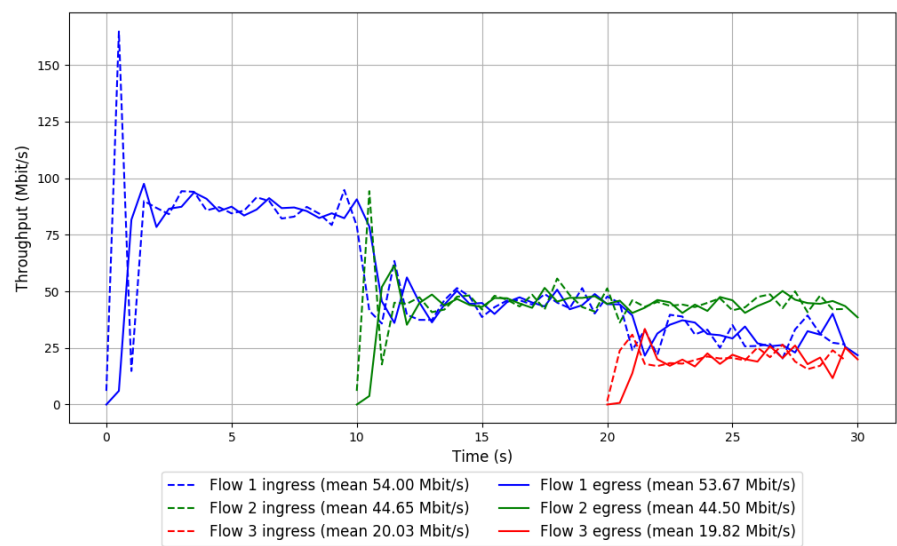## Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-01-19 11:50:55
End at: 2019-01-19 11:51:25
Local clock offset: 0.167 ms
Remote clock offset: -2.439 ms


# Below is generated by plot.py at 2019-01-19 14:05:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.82 Mbit/s
95th percentile per-packet one-way delay: 187.440 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 53.67 Mbit/s
95th percentile per-packet one-way delay: 176.033 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 44.50 Mbit/s
95th percentile per-packet one-way delay: 102.101 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 19.82 Mbit/s
95th percentile per-packet one-way delay: 254.636 ms
Loss rate: 1.45%
```

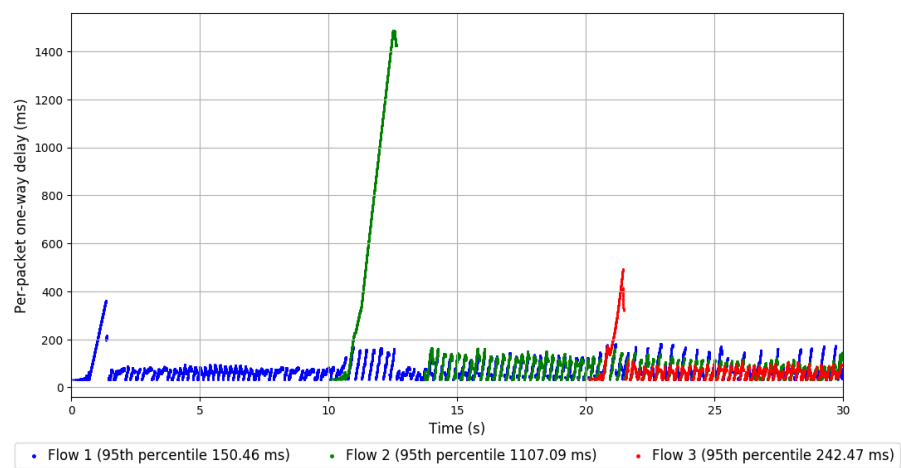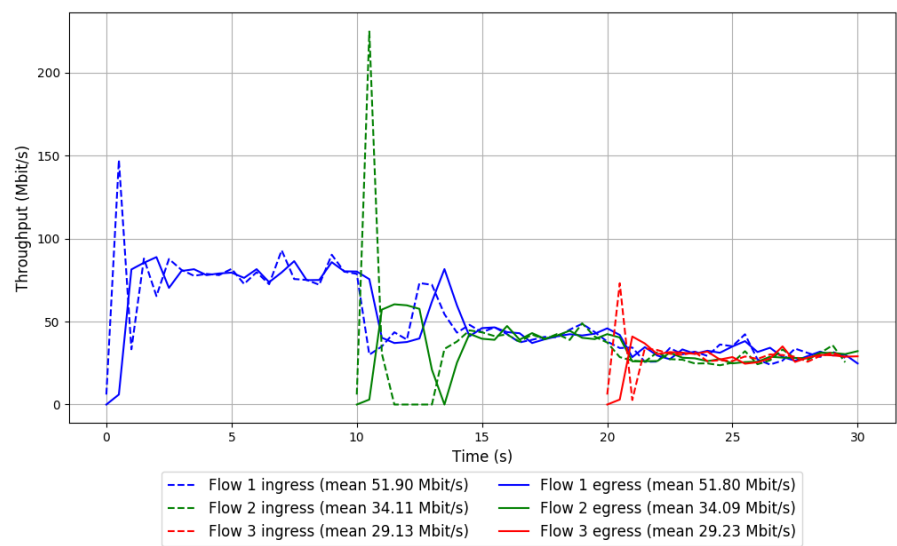Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-01-19 12:17:42
End at: 2019-01-19 12:18:12
Local clock offset: 0.26 ms
Remote clock offset: -1.878 ms


# Below is generated by plot.py at 2019-01-19 14:06:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.11 Mbit/s
95th percentile per-packet one-way delay: 261.060 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 51.80 Mbit/s
95th percentile per-packet one-way delay: 150.459 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 34.09 Mbit/s
95th percentile per-packet one-way delay: 1107.092 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 29.23 Mbit/s
95th percentile per-packet one-way delay: 242.468 ms
Loss rate: 0.56%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 51.90 Mbit/s) ---- Flow 1 egress (mean 51.80 Mbit/s) ——
Flow 2 ingress (mean 34.11 Mbit/s) ---- Flow 2 egress (mean 34.09 Mbit/s) ——
Flow 3 ingress (mean 29.13 Mbit/s) ---- Flow 3 egress (mean 29.23 Mbit/s) ——

Flow 1 (95th percentile 150.46 ms)   Flow 2 (95th percentile 1107.09 ms)   Flow 3 (95th percentile 242.47 ms)
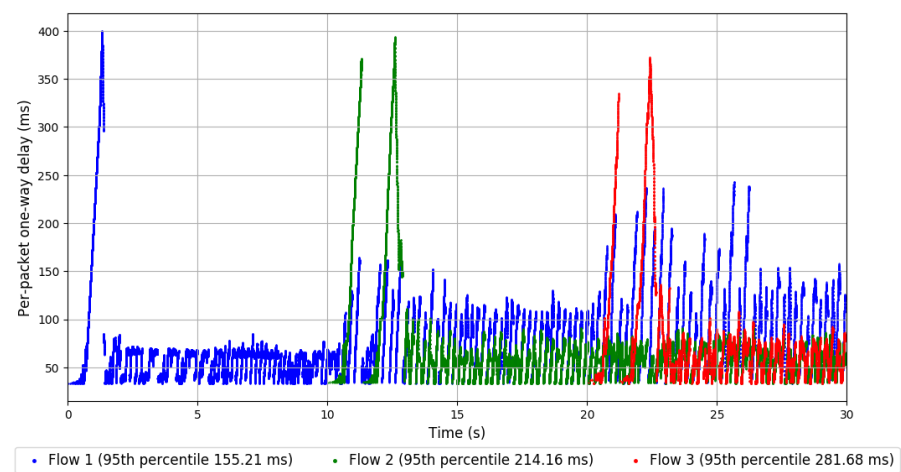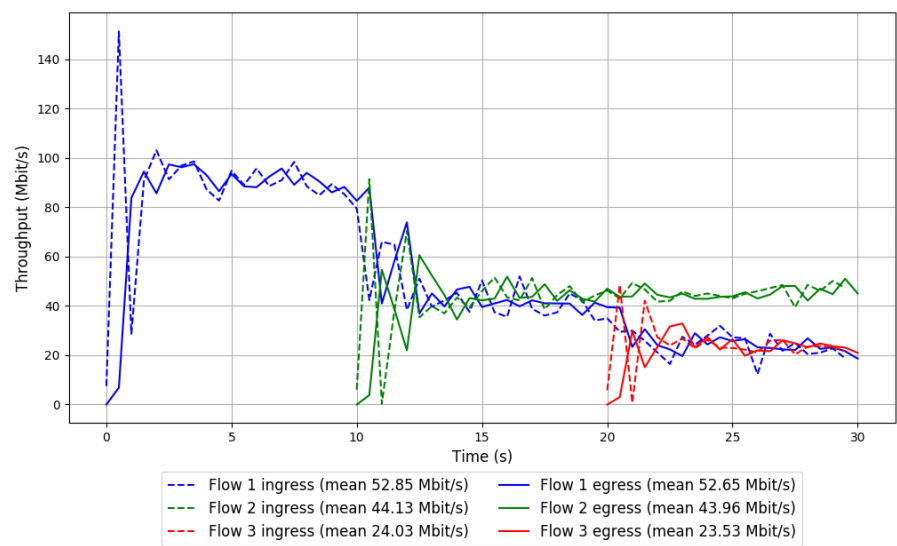
```
Run 3: Statistics of Verus

Start at: 2019-01-19 12:45:22
End at: 2019-01-19 12:45:52
Local clock offset: 0.219 ms
Remote clock offset: -0.871 ms


# Below is generated by plot.py at 2019-01-19 14:06:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.68 Mbit/s
95th percentile per-packet one-way delay: 178.179 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 52.65 Mbit/s
95th percentile per-packet one-way delay: 155.210 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 43.96 Mbit/s
95th percentile per-packet one-way delay: 214.165 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 281.681 ms
Loss rate: 2.73%
```

Run 3: Report of Verus — Data Link

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```
Run 4: Statistics of Verus

Start at: 2019-01-19 13:11:59
End at: 2019-01-19 13:12:29
Local clock offset: -0.11 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2019-01-19 14:06:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.63 Mbit/s
95th percentile per-packet one-way delay: 131.970 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 51.54 Mbit/s
95th percentile per-packet one-way delay: 139.582 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 45.91 Mbit/s
95th percentile per-packet one-way delay: 88.937 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 22.80 Mbit/s
95th percentile per-packet one-way delay: 109.361 ms
Loss rate: 2.70%
```
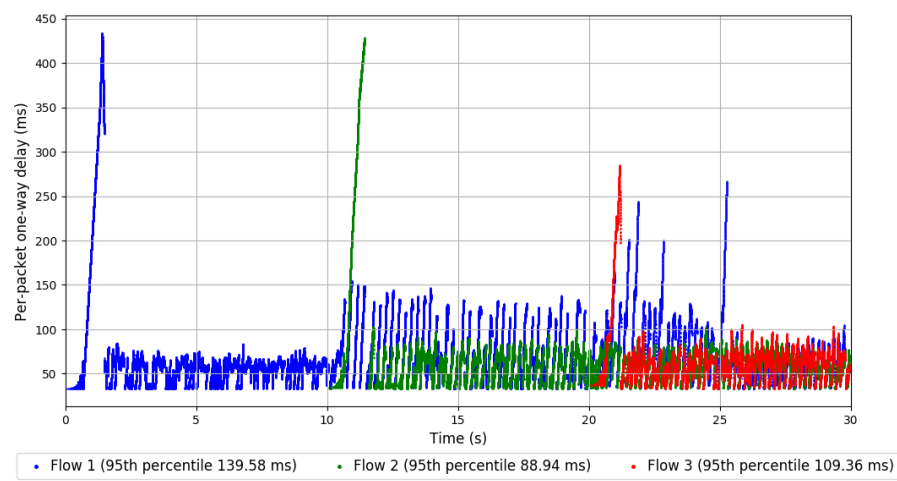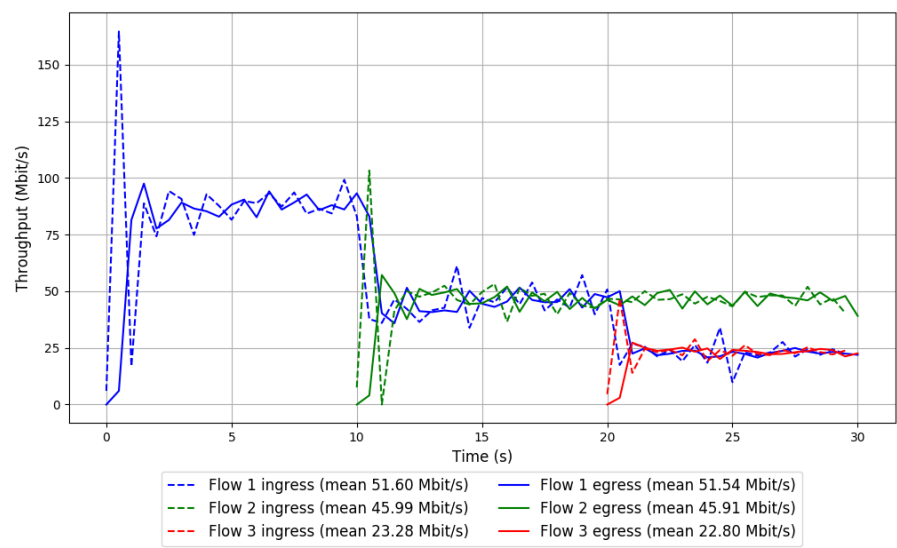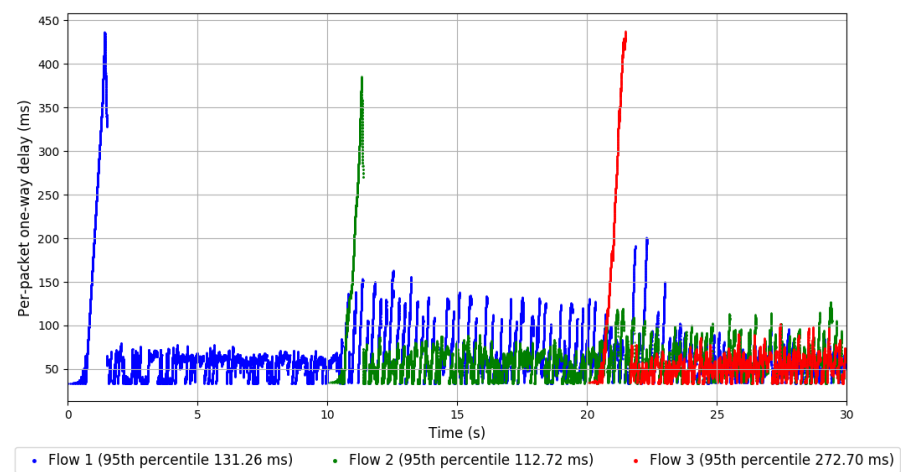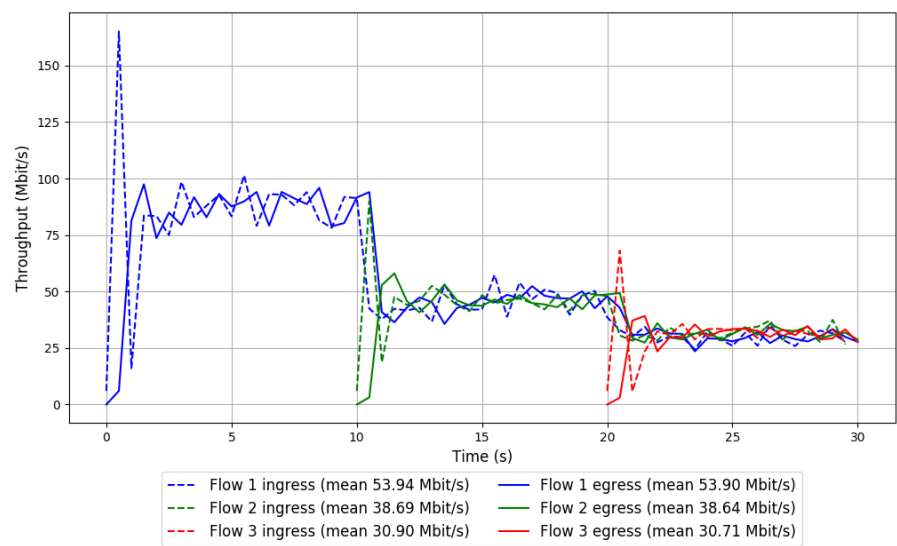
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-01-19 13:39:01
End at: 2019-01-19 13:39:31
Local clock offset: 0.094 ms
Remote clock offset: -0.123 ms


# Below is generated by plot.py at 2019-01-19 14:06:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 132.617 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 53.90 Mbit/s
95th percentile per-packet one-way delay: 131.258 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 38.64 Mbit/s
95th percentile per-packet one-way delay: 112.721 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 272.705 ms
Loss rate: 1.07%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 53.94 Mbit/s) --- Flow 1 egress (mean 53.90 Mbit/s)
Flow 2 ingress (mean 38.69 Mbit/s) --- Flow 2 egress (mean 38.64 Mbit/s)
Flow 3 ingress (mean 30.90 Mbit/s) --- Flow 3 egress (mean 30.71 Mbit/s)

Flow 1 (95th percentile 131.26 ms) • Flow 2 (95th percentile 112.72 ms) • Flow 3 (95th percentile 272.70 ms)
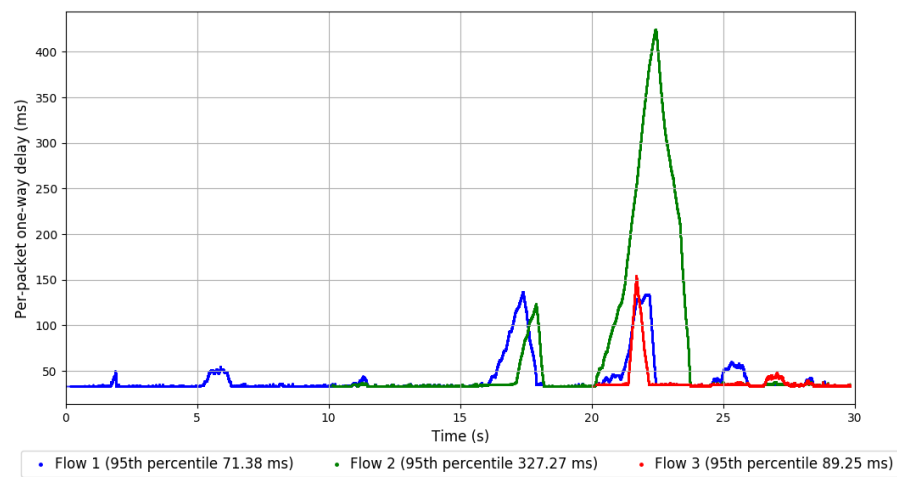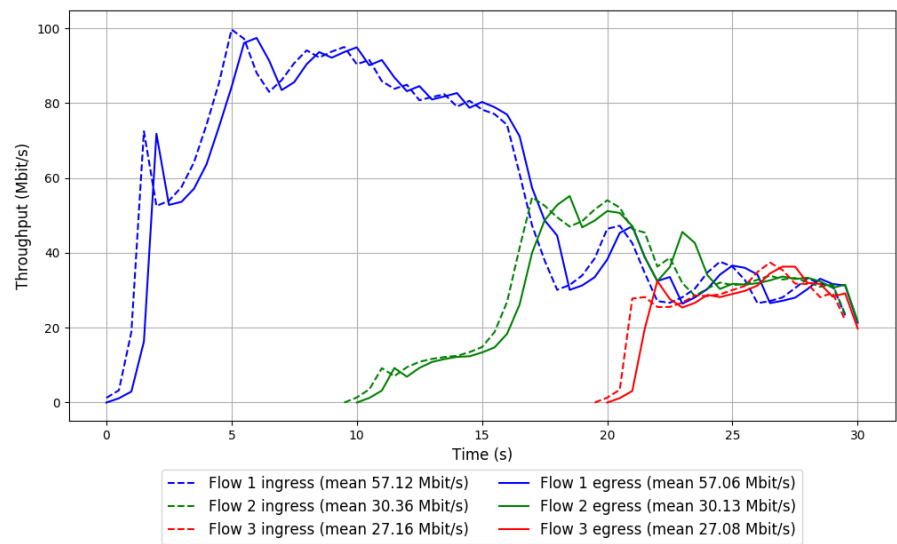
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-19 12:01:09
End at: 2019-01-19 12:01:39
Local clock offset: 0.206 ms
Remote clock offset: -2.177 ms


# Below is generated by plot.py at 2019-01-19 14:06:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.02 Mbit/s
95th percentile per-packet one-way delay: 123.275 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 57.06 Mbit/s
95th percentile per-packet one-way delay: 71.376 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 30.13 Mbit/s
95th percentile per-packet one-way delay: 327.268 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 27.08 Mbit/s
95th percentile per-packet one-way delay: 89.251 ms
Loss rate: 0.94%
```

Run 1: Report of PCC-Vivace — Data Link

Legend:
- Flow 1 ingress (mean 57.12 Mbit/s)
- Flow 1 egress (mean 57.06 Mbit/s)
- Flow 2 ingress (mean 30.36 Mbit/s)
- Flow 2 egress (mean 30.13 Mbit/s)
- Flow 3 ingress (mean 27.16 Mbit/s)
- Flow 3 egress (mean 27.08 Mbit/s)

Legend:
- Flow 1 (95th percentile 71.38 ms)
- Flow 2 (95th percentile 327.27 ms)
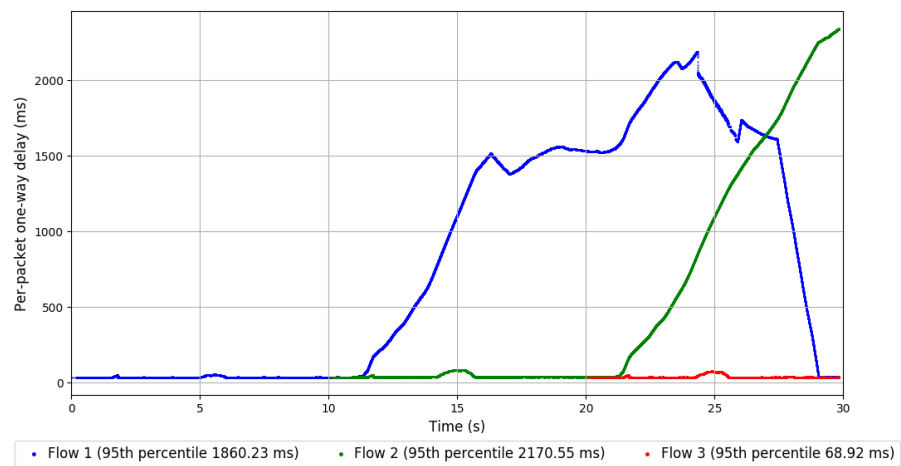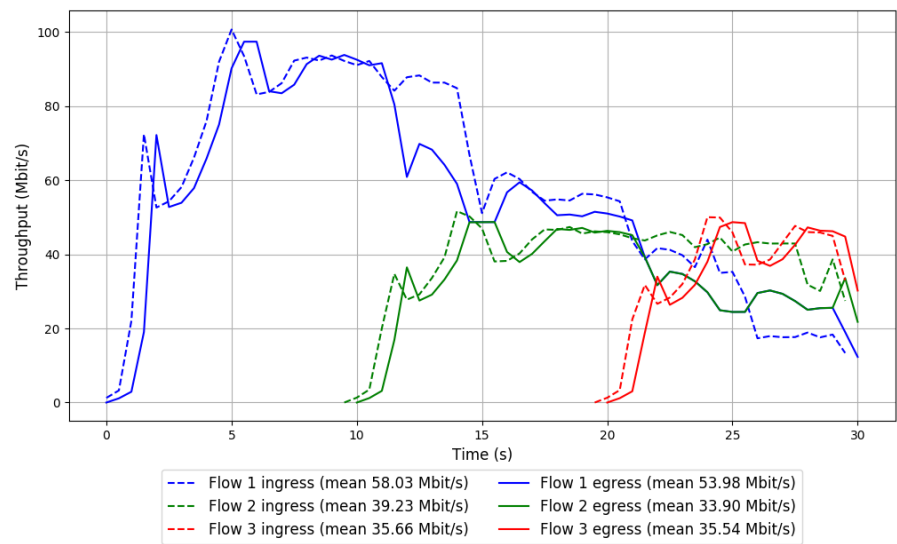- Flow 3 (95th percentile 89.25 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-19 12:28:10
End at: 2019-01-19 12:28:40
Local clock offset: 0.214 ms
Remote clock offset: -1.393 ms


# Below is generated by plot.py at 2019-01-19 14:06:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.22 Mbit/s
95th percentile per-packet one-way delay: 1882.412 ms
Loss rate: 8.24%
-- Flow 1:
Average throughput: 53.98 Mbit/s
95th percentile per-packet one-way delay: 1860.230 ms
Loss rate: 7.17%
-- Flow 2:
Average throughput: 33.90 Mbit/s
95th percentile per-packet one-way delay: 2170.552 ms
Loss rate: 13.87%
-- Flow 3:
Average throughput: 35.54 Mbit/s
95th percentile per-packet one-way delay: 68.916 ms
Loss rate: 0.97%
```

Run 2: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 58.03 Mbit/s) —— Flow 1 egress (mean 53.98 Mbit/s)
- - - Flow 2 ingress (mean 39.23 Mbit/s) —— Flow 2 egress (mean 33.90 Mbit/s)
- - - Flow 3 ingress (mean 35.66 Mbit/s) —— Flow 3 egress (mean 35.54 Mbit/s)

- Flow 1 (95th percentile 1860.23 ms)   • Flow 2 (95th percentile 2170.55 ms)   • Flow 3 (95th percentile 68.92 ms)
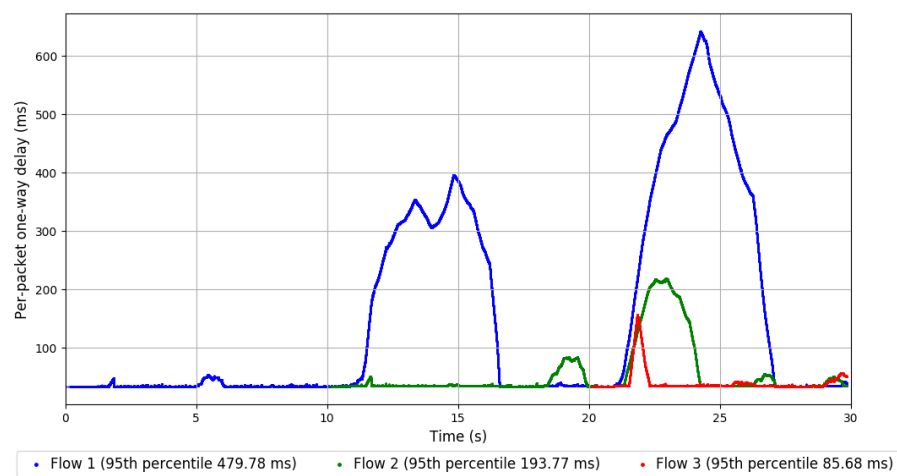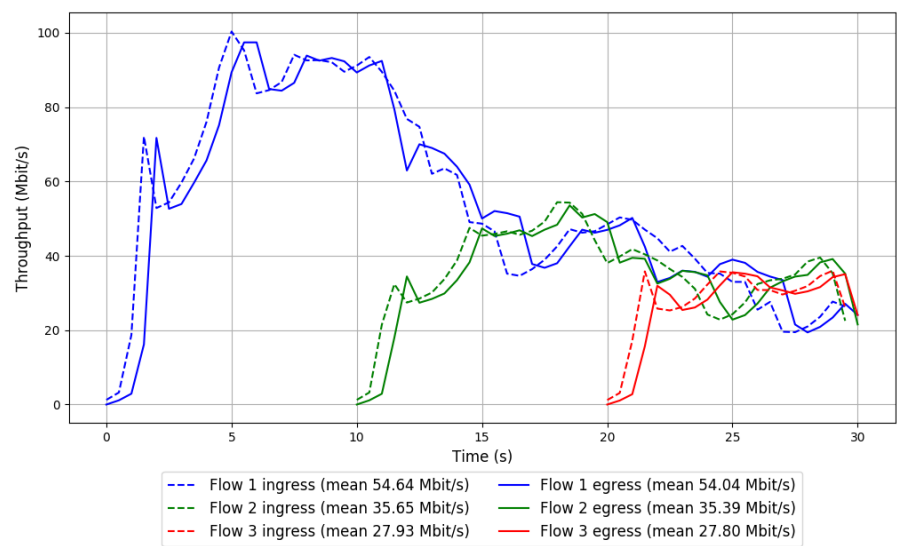
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-19 12:55:31
End at: 2019-01-19 12:56:01
Local clock offset: 0.015 ms
Remote clock offset: -0.257 ms


# Below is generated by plot.py at 2019-01-19 14:06:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.71 Mbit/s
95th percentile per-packet one-way delay: 389.883 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 54.04 Mbit/s
95th percentile per-packet one-way delay: 479.784 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 35.39 Mbit/s
95th percentile per-packet one-way delay: 193.771 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 27.80 Mbit/s
95th percentile per-packet one-way delay: 85.677 ms
Loss rate: 1.09%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 54.64 Mbit/s) --- Flow 1 egress (mean 54.04 Mbit/s)
Flow 2 ingress (mean 35.65 Mbit/s) --- Flow 2 egress (mean 35.39 Mbit/s)
Flow 3 ingress (mean 27.93 Mbit/s) --- Flow 3 egress (mean 27.80 Mbit/s)

• Flow 1 (95th percentile 479.78 ms) • Flow 2 (95th percentile 193.77 ms) • Flow 3 (95th percentile 85.68 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-19 13:22:12
End at: 2019-01-19 13:22:42
Local clock offset: -0.022 ms
Remote clock offset: 0.066 ms


# Below is generated by plot.py at 2019-01-19 14:06:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.50 Mbit/s
95th percentile per-packet one-way delay: 1930.482 ms
Loss rate: 5.96%
-- Flow 1:
Average throughput: 53.87 Mbit/s
95th percentile per-packet one-way delay: 2018.159 ms
Loss rate: 5.96%
-- Flow 2:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 1163.785 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 26.62 Mbit/s
95th percentile per-packet one-way delay: 86.608 ms
Loss rate: 1.01%
```
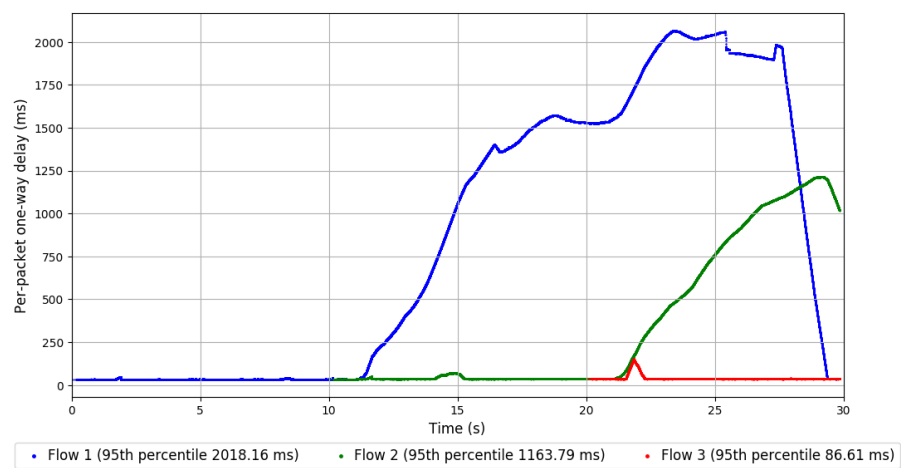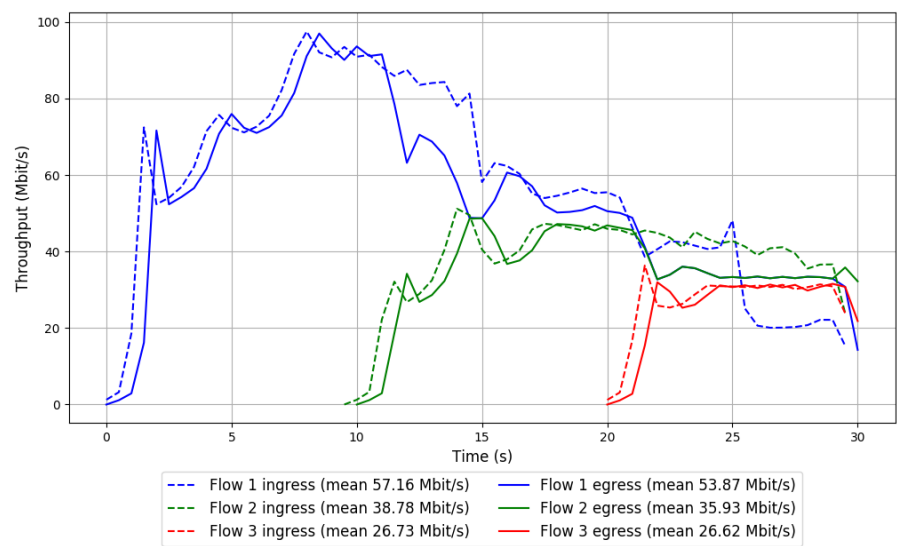
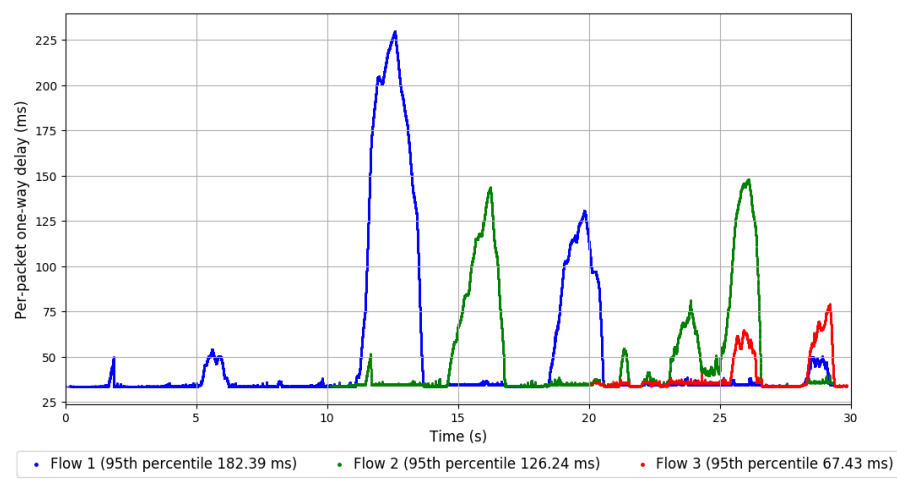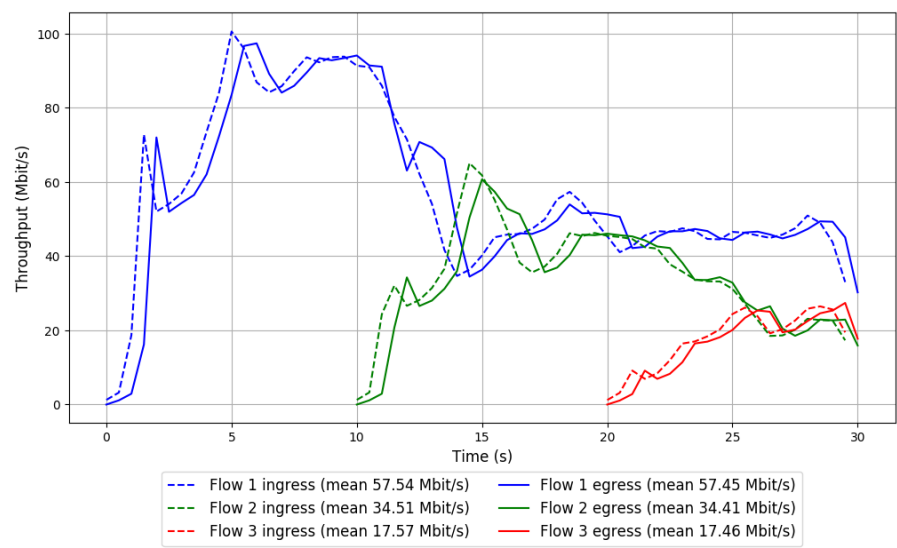## Run 4: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 57.16 Mbit/s) ——— Flow 1 egress (mean 53.87 Mbit/s)
- - - - Flow 2 ingress (mean 38.78 Mbit/s) ——— Flow 2 egress (mean 35.93 Mbit/s)
- - - - Flow 3 ingress (mean 26.73 Mbit/s) ——— Flow 3 egress (mean 26.62 Mbit/s)

- Flow 1 (95th percentile 2018.16 ms)   • Flow 2 (95th percentile 1163.79 ms)   • Flow 3 (95th percentile 86.61 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-19 13:49:38
End at: 2019-01-19 13:50:08
Local clock offset: -0.792 ms
Remote clock offset: -0.574 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.06 Mbit/s
95th percentile per-packet one-way delay: 140.386 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 57.45 Mbit/s
95th percentile per-packet one-way delay: 182.389 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 34.41 Mbit/s
95th percentile per-packet one-way delay: 126.244 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 17.46 Mbit/s
95th percentile per-packet one-way delay: 67.430 ms
Loss rate: 1.30%
```

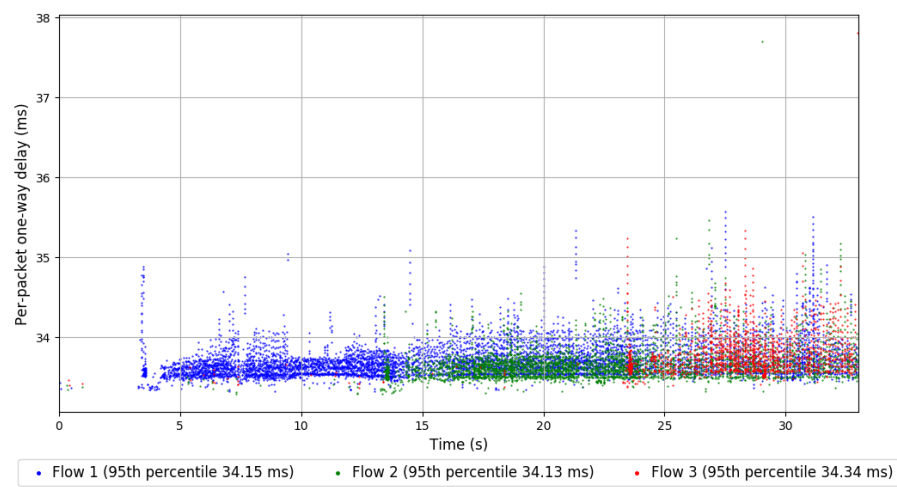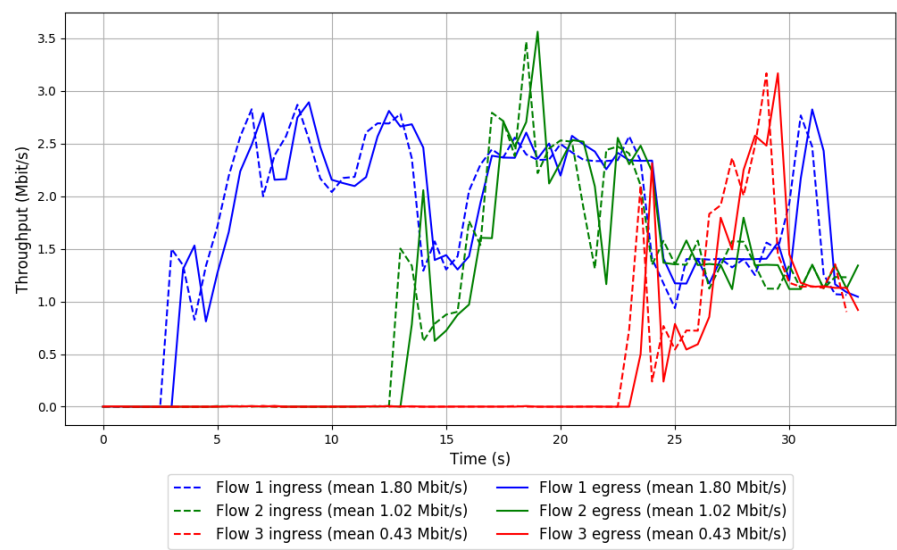Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-19 11:49:46
End at: 2019-01-19 11:50:16
Local clock offset: 0.144 ms
Remote clock offset: -2.505 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 34.180 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 34.146 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 34.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 34.345 ms
Loss rate: 0.74%
```
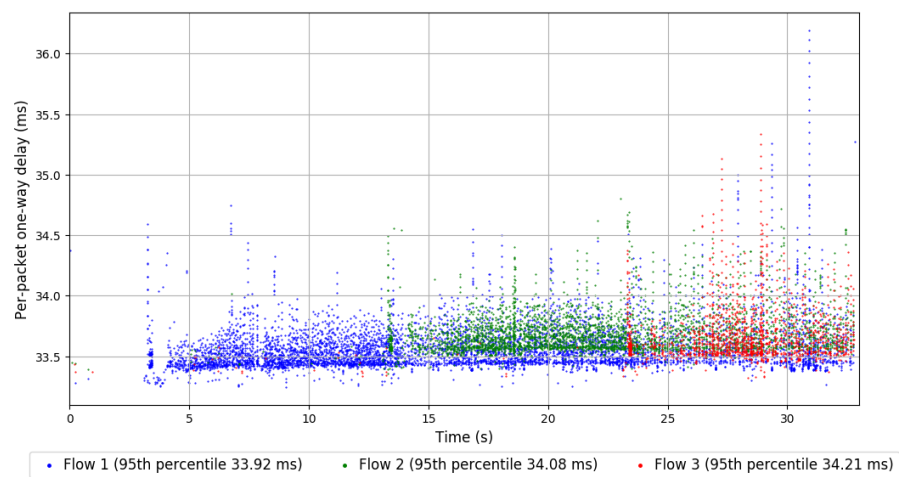
Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.80 Mbit/s) — — — Flow 1 egress (mean 1.80 Mbit/s)
Flow 2 ingress (mean 1.02 Mbit/s) — — — Flow 2 egress (mean 1.02 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s) — — — Flow 3 egress (mean 0.43 Mbit/s)

Flow 1 (95th percentile 34.15 ms) · Flow 2 (95th percentile 34.13 ms) · Flow 3 (95th percentile 34.34 ms)
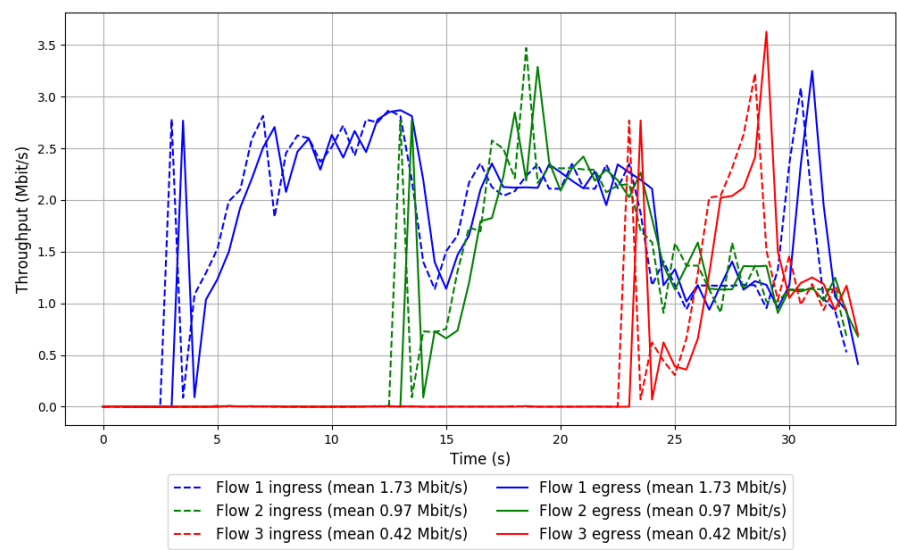
```
Run 2: Statistics of WebRTC media

Start at: 2019-01-19 12:16:33
End at: 2019-01-19 12:17:03
Local clock offset: 0.264 ms
Remote clock offset: -1.912 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 34.025 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 33.921 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 34.078 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 34.208 ms
Loss rate: 0.84%
```

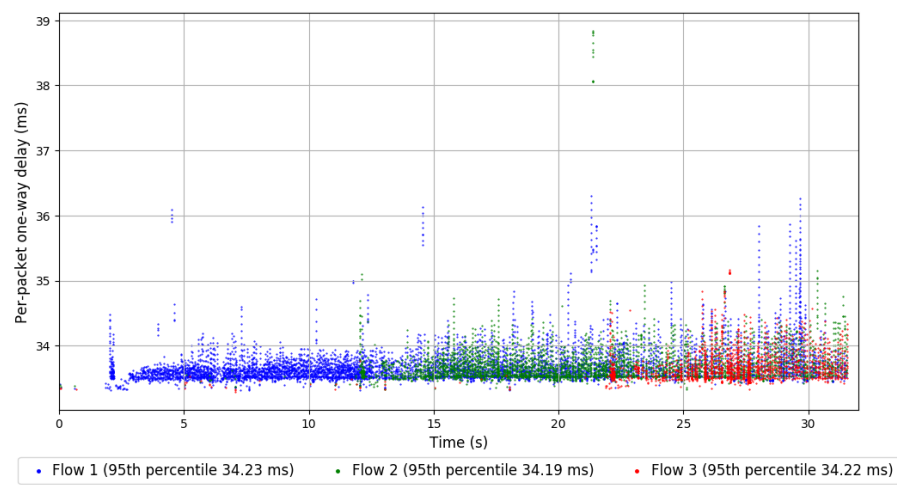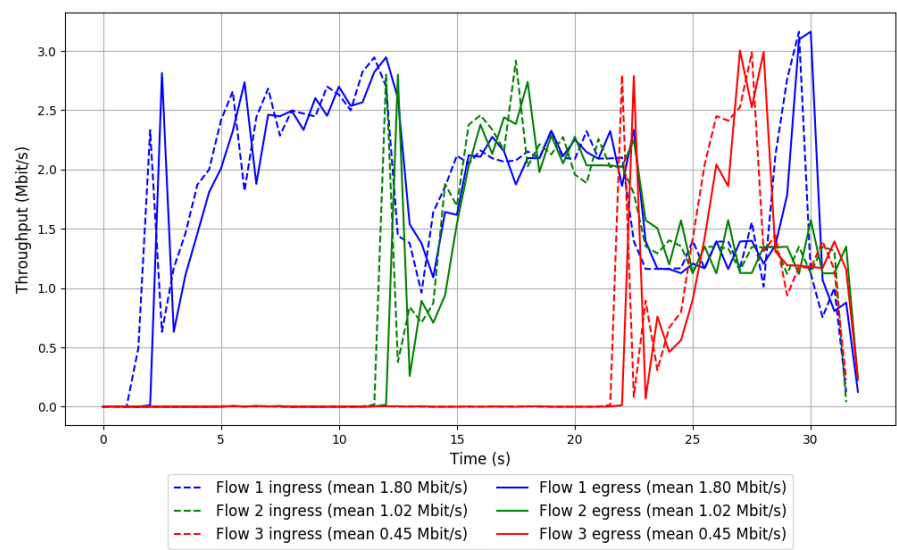Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-19 12:44:14
End at: 2019-01-19 12:44:44
Local clock offset: 0.227 ms
Remote clock offset: -0.878 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 34.211 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 34.234 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 34.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 34.215 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-19 13:10:50
End at: 2019-01-19 13:11:20
Local clock offset: -0.1 ms
Remote clock offset: 0.068 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 34.174 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 34.190 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 34.148 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 34.248 ms
Loss rate: 0.78%
```
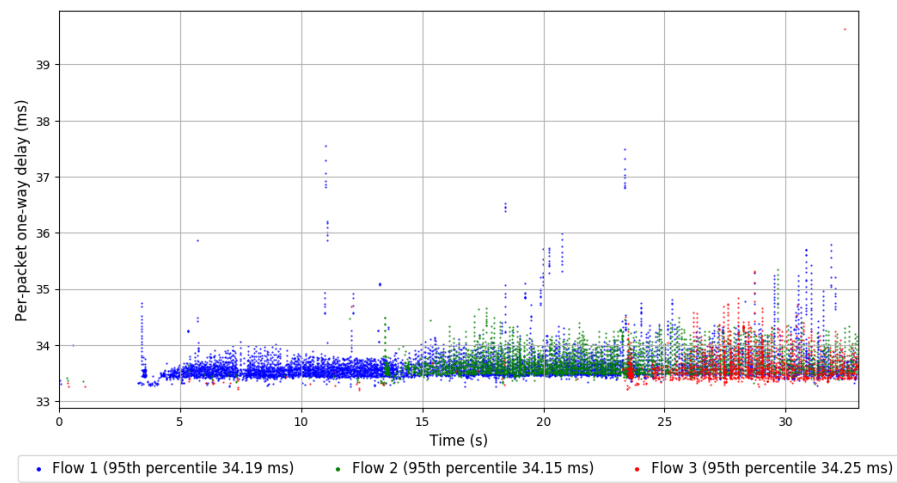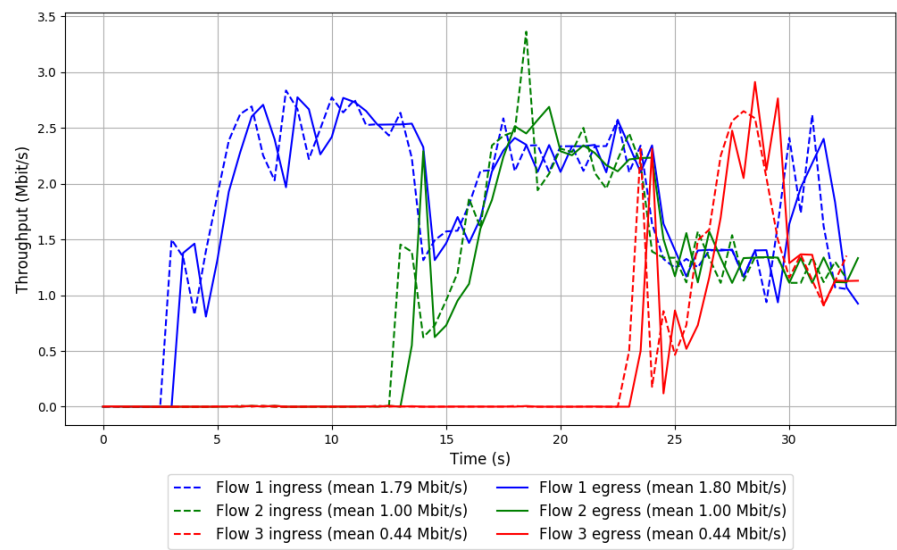
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-19 13:37:53
End at: 2019-01-19 13:38:23
Local clock offset: 0.092 ms
Remote clock offset: -0.298 ms


# Below is generated by plot.py at 2019-01-19 14:06:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 34.358 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 34.308 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 34.446 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 34.236 ms
Loss rate: 0.61%
```

Run 5: Report of WebRTC media — Data Link