Pantheon Report

Generated at 2019-03-27 14:23:14 (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.
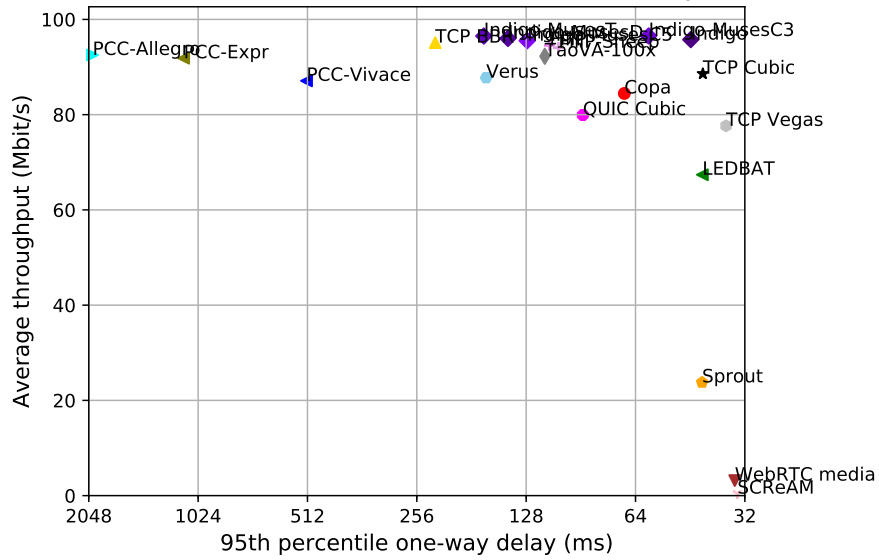
```
System info:
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/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
```
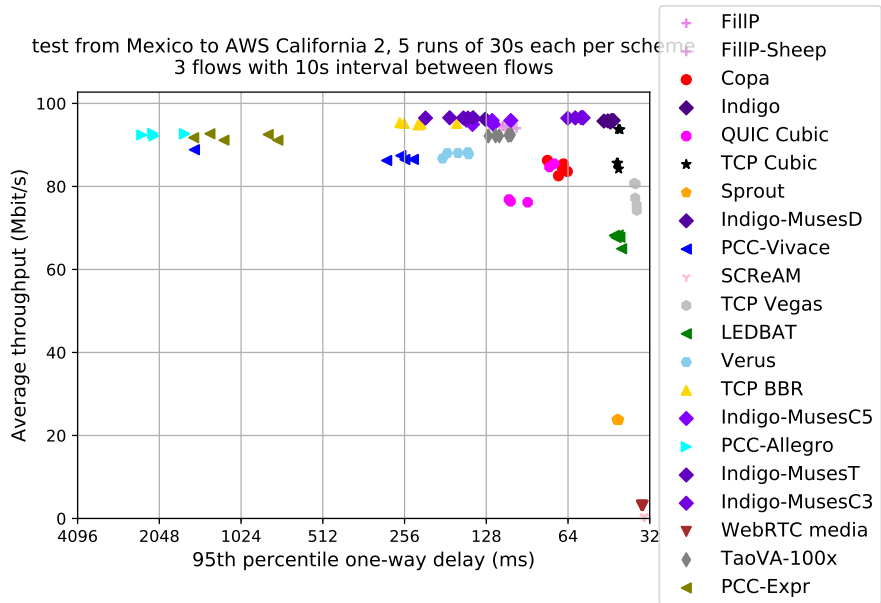
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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)

PCC-Allegro PCC-Expr

TCP Indigo-MusesT Indigo MusesC3

PCC-Vivace

Verus

TaoVA-100x

TCP Cubic

Copa

QUIC Cubic

TCP Vegas

LEDBAT

Sprout

WebRTC media
SCReAM

Average throughput (Mbit/s)

95th percentile one-way delay (ms)

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

Average throughput (Mbit/s)

95th percentile one-way delay (ms)

Legend:
+ FillP
+ FillP-Sheep
● Copa
◆ Indigo
● QUIC Cubic
★ TCP Cubic
⬠ Sprout
◆ Indigo-MusesD
◀ PCC-Vivace
⅄ SCReAM
● TCP Vegas
◀ LEDBAT
● Verus
▲ TCP BBR
◆ Indigo-MusesC5
▶ PCC-Allegro
◆ Indigo-MusesT
◆ Indigo-MusesC3
▼ WebRTC media
◆ TaoVA-100x
◀ PCC-Expr

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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	57.53	41.15	30.82	200.97	141.77	465.85	1.09	1.21	3.29
Copa	5	50.37	38.12	26.27	96.22	51.38	60.68	0.16	0.31	0.68
TCP Cubic	5	52.96	38.80	29.61	43.58	41.22	44.56	0.22	0.28	0.81
FillP	5	55.88	42.54	31.33	104.01	113.93	97.17	0.42	2.76	1.74
FillP-Sheep	5	58.21	38.91	30.13	90.90	114.26	172.48	0.22	0.50	1.34
Indigo	5	60.28	38.60	30.05	44.52	45.95	45.53	0.18	0.33	0.75
Indigo-MusesC3	5	59.32	43.14	31.22	58.44	62.17	67.02	0.20	0.54	1.06
Indigo-MusesC5	5	60.03	41.59	28.48	102.97	132.90	133.18	1.37	3.92	5.91
Indigo-MusesD	5	61.81	38.95	30.05	142.78	105.06	97.15	6.44	9.95	5.04
Indigo-MusesT	5	60.00	43.43	28.25	136.39	167.44	231.21	2.43	4.73	7.79
LEDBAT	5	39.16	31.32	22.30	42.14	42.01	40.74	0.13	0.38	1.07
PCC-Allegro	5	59.29	39.11	22.07	2044.09	1521.18	283.92	10.28	8.64	2.97
PCC-Expr	5	56.89	36.72	32.08	861.26	1287.23	177.85	33.09	14.52	1.58
QUIC Cubic	5	45.62	37.99	27.54	78.79	117.07	124.30	0.23	0.43	0.99
SCReAM	5	0.21	0.21	0.22	33.54	33.55	33.53	0.13	0.40	0.71
Sprout	5	12.04	11.88	11.70	41.73	41.92	42.92	0.23	0.36	0.77
TaoVA-100x	5	55.20	40.69	30.09	106.98	122.23	149.17	0.54	1.11	2.16
TCP Vegas	5	43.54	35.11	32.42	36.84	35.51	40.40	0.17	0.31	0.79
Verus	5	56.19	35.14	24.84	136.50	197.00	282.02	0.41	0.44	1.40
PCC-Vivace	5	55.66	34.82	25.23	529.93	299.80	72.19	2.39	1.91	1.09
WebRTC media	5	1.75	0.99	0.43	34.06	34.14	34.16	0.07	0.22	0.66

```
Run 1: Statistics of TCP BBR

Start at: 2019-03-27 12:03:19
End at: 2019-03-27 12:03:49
Local clock offset: 3.323 ms
Remote clock offset: -1.679 ms


# Below is generated by plot.py at 2019-03-27 14:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.37 Mbit/s
95th percentile per-packet one-way delay: 266.481 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 212.478 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 39.71 Mbit/s
95th percentile per-packet one-way delay: 163.700 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 32.69 Mbit/s
95th percentile per-packet one-way delay: 540.959 ms
Loss rate: 3.62%
```
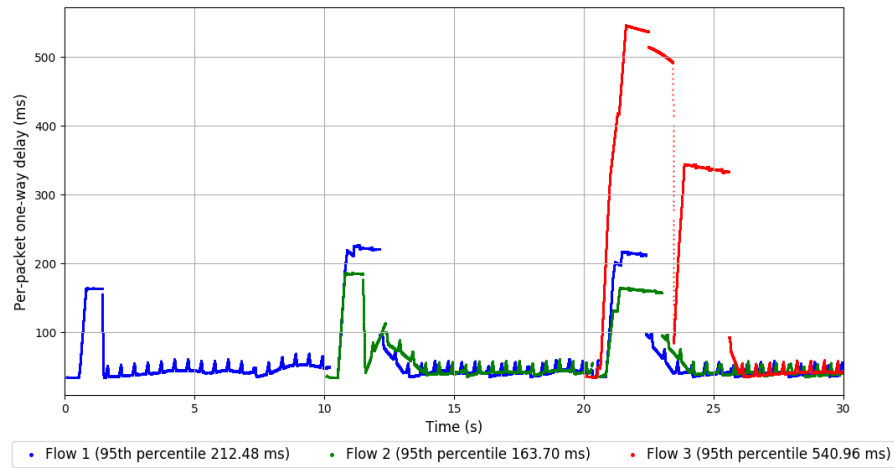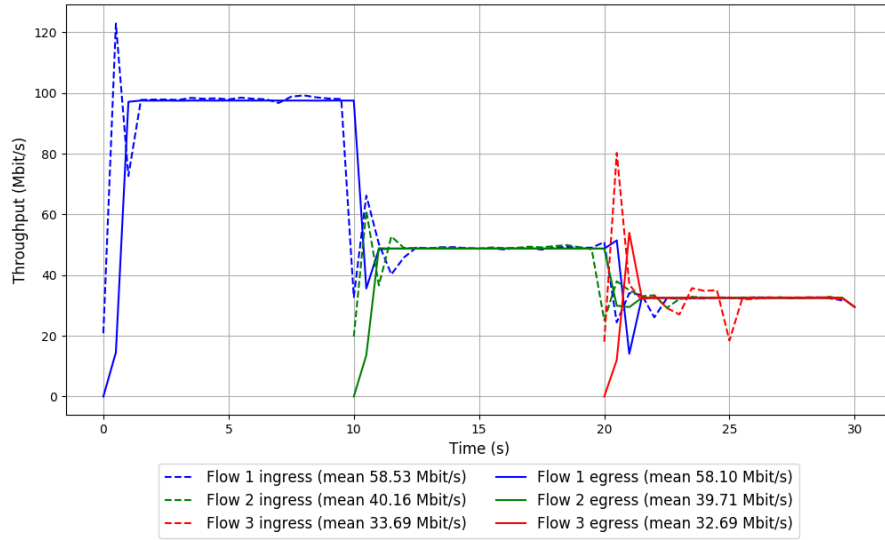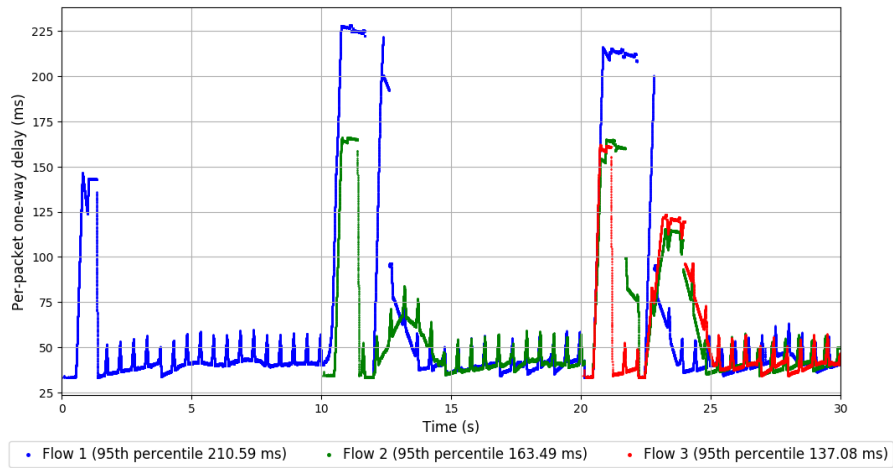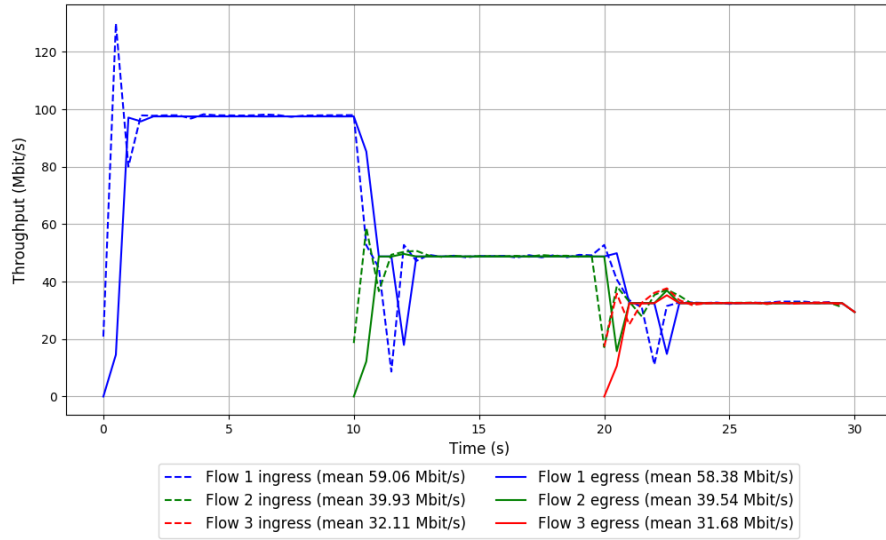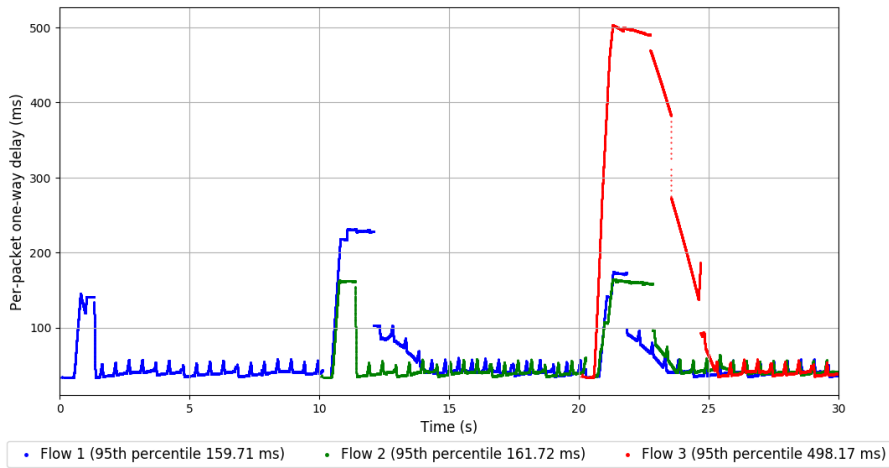
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.53 Mbit/s) --- Flow 1 egress (mean 58.10 Mbit/s) ---
Flow 2 ingress (mean 40.16 Mbit/s) --- Flow 2 egress (mean 39.71 Mbit/s) ---
Flow 3 ingress (mean 33.69 Mbit/s) --- Flow 3 egress (mean 32.69 Mbit/s) ---

Flow 1 (95th percentile 212.48 ms) · Flow 2 (95th percentile 163.70 ms) · Flow 3 (95th percentile 540.96 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-03-27 12:28:56
End at: 2019-03-27 12:29:26
Local clock offset: 1.184 ms
Remote clock offset: 0.279 ms


# Below is generated by plot.py at 2019-03-27 14:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 164.523 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 58.38 Mbit/s
95th percentile per-packet one-way delay: 210.595 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 39.54 Mbit/s
95th percentile per-packet one-way delay: 163.490 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 137.082 ms
Loss rate: 1.95%
```
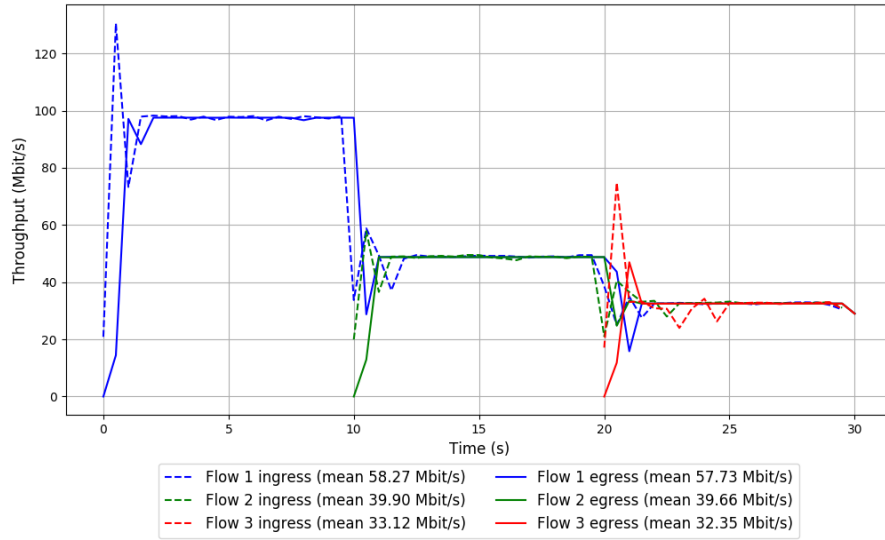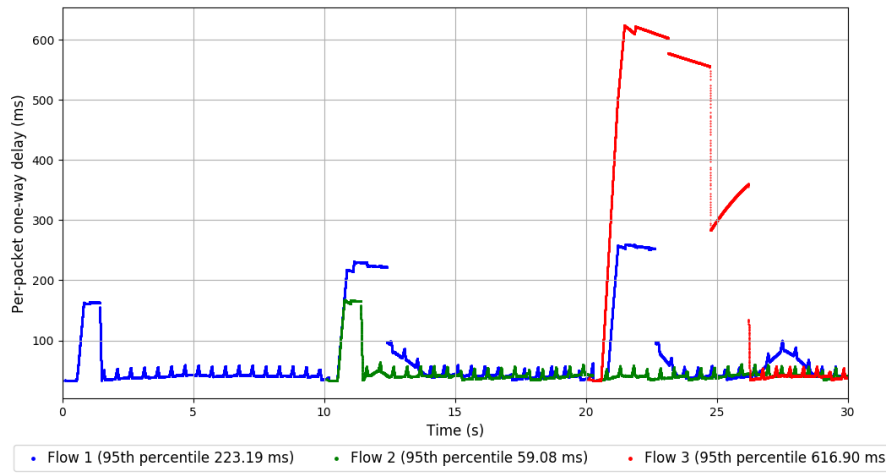
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 12:54:32
End at: 2019-03-27 12:55:02
Local clock offset: 0.037 ms
Remote clock offset: 1.375 ms


# Below is generated by plot.py at 2019-03-27 14:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.83 Mbit/s
95th percentile per-packet one-way delay: 228.197 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 159.713 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 161.725 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 498.168 ms
Loss rate: 2.98%
```
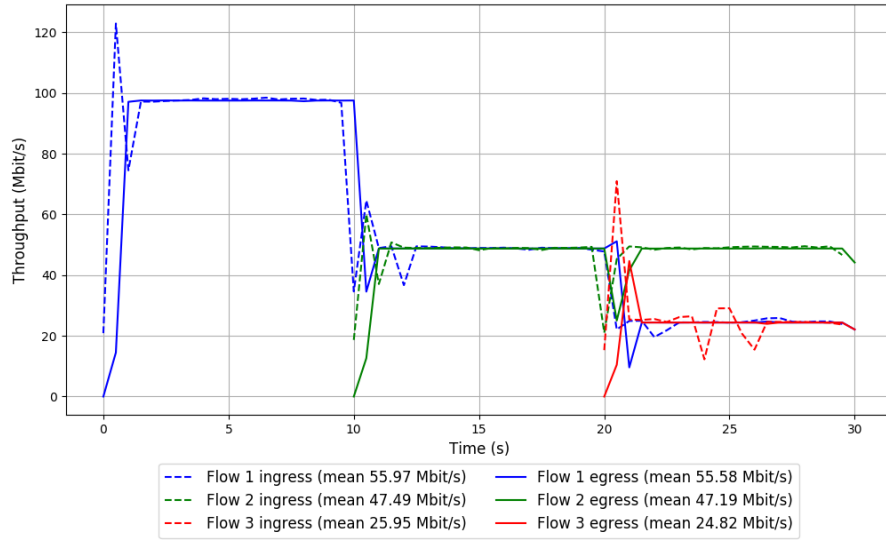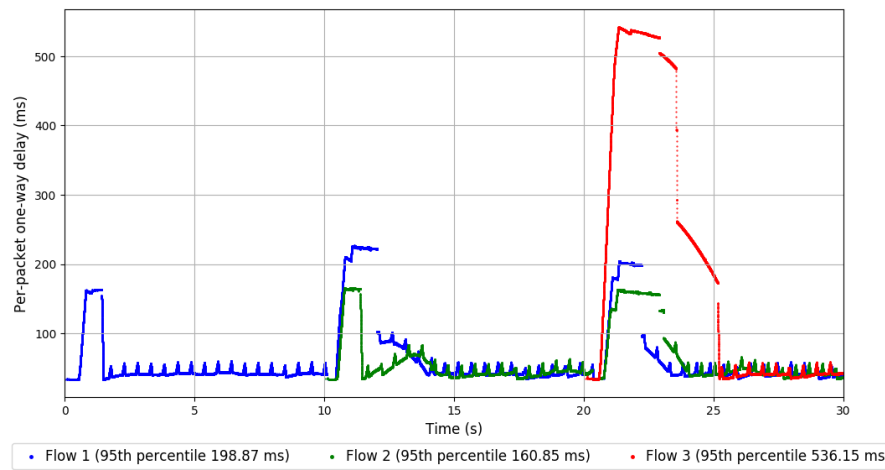
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.27 Mbit/s)   Flow 1 egress (mean 57.73 Mbit/s)
Flow 2 ingress (mean 39.90 Mbit/s)   Flow 2 egress (mean 39.66 Mbit/s)
Flow 3 ingress (mean 33.12 Mbit/s)   Flow 3 egress (mean 32.35 Mbit/s)

Flow 1 (95th percentile 159.71 ms)   Flow 2 (95th percentile 161.72 ms)   Flow 3 (95th percentile 498.17 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-03-27 13:20:17
End at: 2019-03-27 13:20:47
Local clock offset: 0.978 ms
Remote clock offset: 2.117 ms


# Below is generated by plot.py at 2019-03-27 14:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 256.664 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 55.58 Mbit/s
95th percentile per-packet one-way delay: 223.189 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 47.19 Mbit/s
95th percentile per-packet one-way delay: 59.082 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 24.82 Mbit/s
95th percentile per-packet one-way delay: 616.904 ms
Loss rate: 4.98%
```
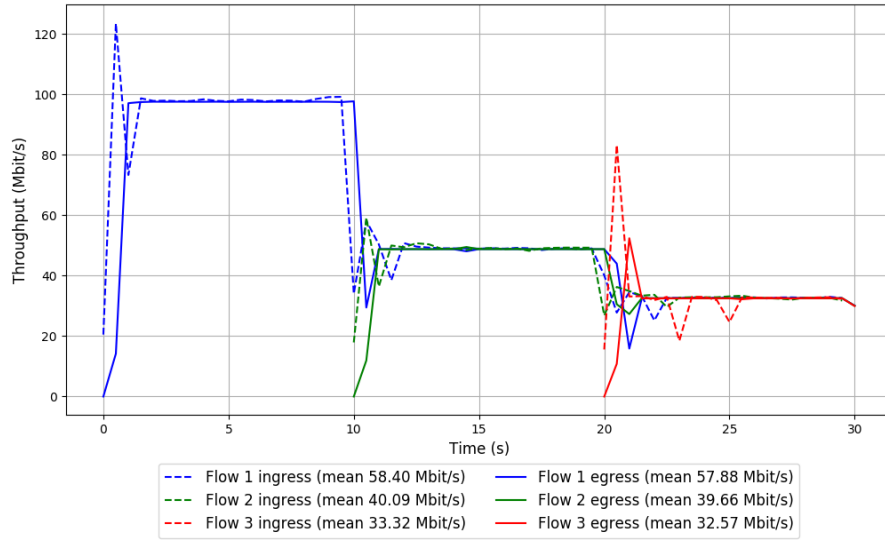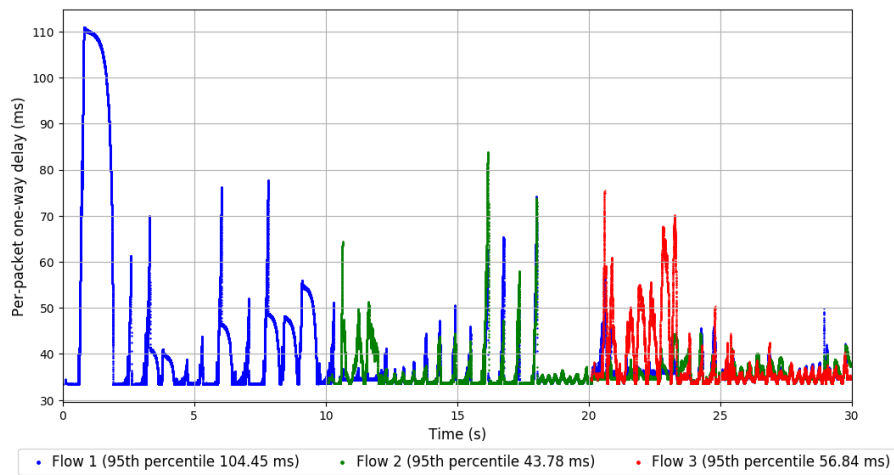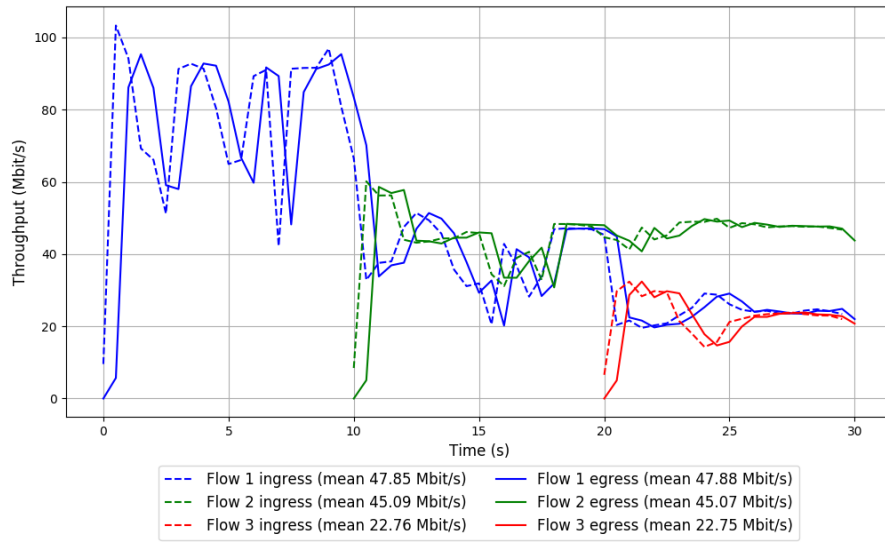
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 55.97 Mbit/s) —— Flow 1 egress (mean 55.58 Mbit/s)
Flow 2 ingress (mean 47.49 Mbit/s) —— Flow 2 egress (mean 47.19 Mbit/s)
Flow 3 ingress (mean 25.95 Mbit/s) —— Flow 3 egress (mean 24.82 Mbit/s)

• Flow 1 (95th percentile 223.19 ms)   • Flow 2 (95th percentile 59.08 ms)   • Flow 3 (95th percentile 616.90 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2019-03-27 13:45:56
End at: 2019-03-27 13:46:26
Local clock offset: 3.768 ms
Remote clock offset: 3.089 ms


# Below is generated by plot.py at 2019-03-27 14:09:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 223.059 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 57.88 Mbit/s
95th percentile per-packet one-way delay: 198.873 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 160.855 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 32.57 Mbit/s
95th percentile per-packet one-way delay: 536.146 ms
Loss rate: 2.90%
```
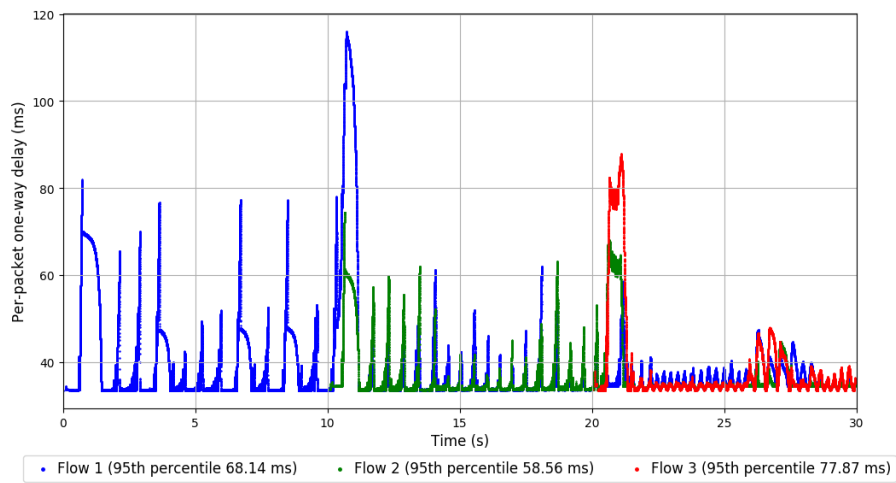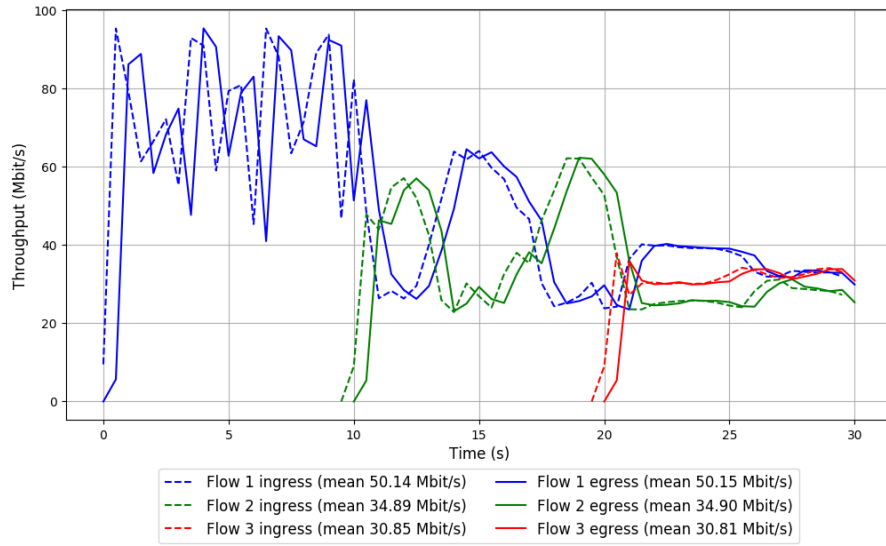
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.40 Mbit/s) --- Flow 1 egress (mean 57.88 Mbit/s)
Flow 2 ingress (mean 40.09 Mbit/s) --- Flow 2 egress (mean 39.66 Mbit/s)
Flow 3 ingress (mean 33.32 Mbit/s) --- Flow 3 egress (mean 32.57 Mbit/s)

Flow 1 (95th percentile 198.87 ms)   Flow 2 (95th percentile 160.85 ms)   Flow 3 (95th percentile 536.15 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-03-27 12:16:42
End at: 2019-03-27 12:17:12
Local clock offset: 3.151 ms
Remote clock offset: -0.506 ms


# Below is generated by plot.py at 2019-03-27 14:10:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 66.533 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 47.88 Mbit/s
95th percentile per-packet one-way delay: 104.451 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 45.07 Mbit/s
95th percentile per-packet one-way delay: 43.782 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 22.75 Mbit/s
95th percentile per-packet one-way delay: 56.845 ms
Loss rate: 0.70%
```
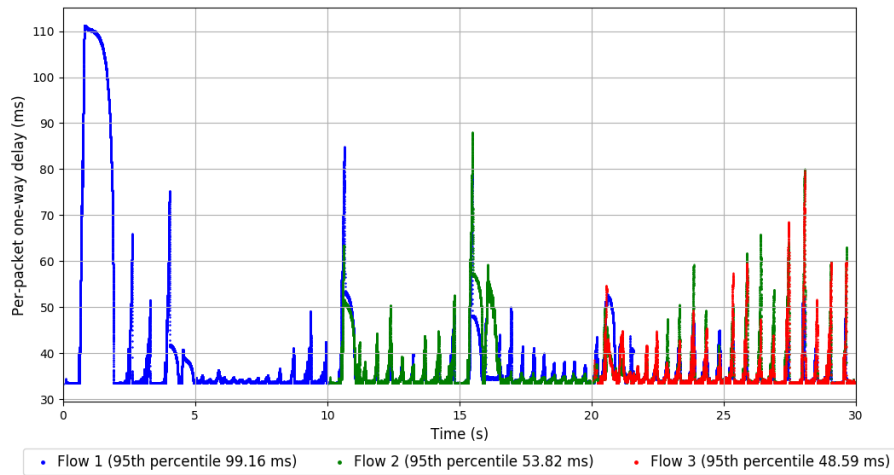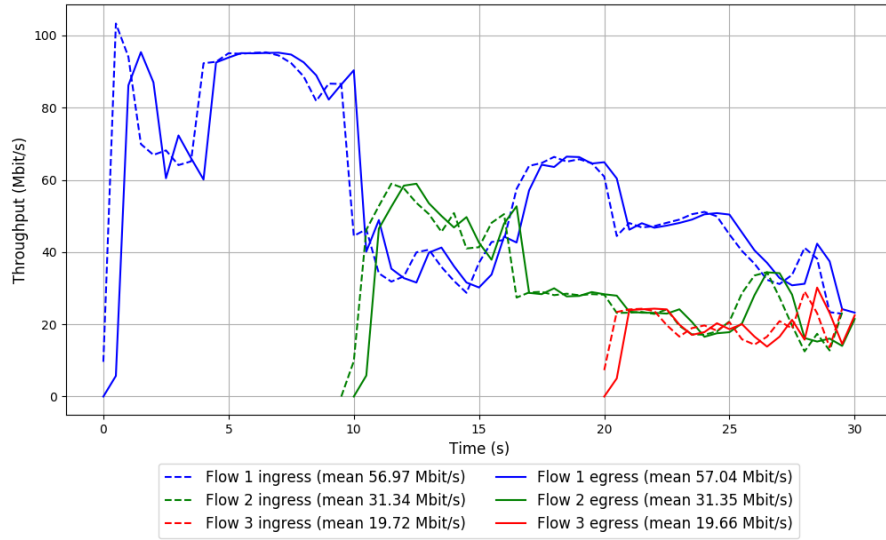
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 47.85 Mbit/s)   Flow 1 egress (mean 47.88 Mbit/s)
Flow 2 ingress (mean 45.09 Mbit/s)   Flow 2 egress (mean 45.07 Mbit/s)
Flow 3 ingress (mean 22.76 Mbit/s)   Flow 3 egress (mean 22.75 Mbit/s)

Flow 1 (95th percentile 104.45 ms)   Flow 2 (95th percentile 43.78 ms)   Flow 3 (95th percentile 56.84 ms)

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```
Run 2: Statistics of Copa

Start at: 2019-03-27 12:42:18
End at: 2019-03-27 12:42:48
Local clock offset: 0.427 ms
Remote clock offset: 0.904 ms


# Below is generated by plot.py at 2019-03-27 14:10:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.61 Mbit/s
95th percentile per-packet one-way delay: 64.374 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 68.135 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 58.562 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 77.868 ms
Loss rate: 0.78%
```
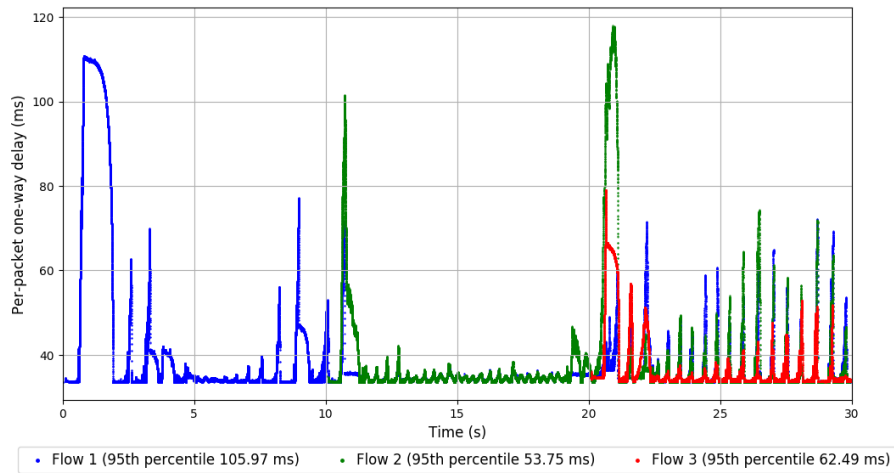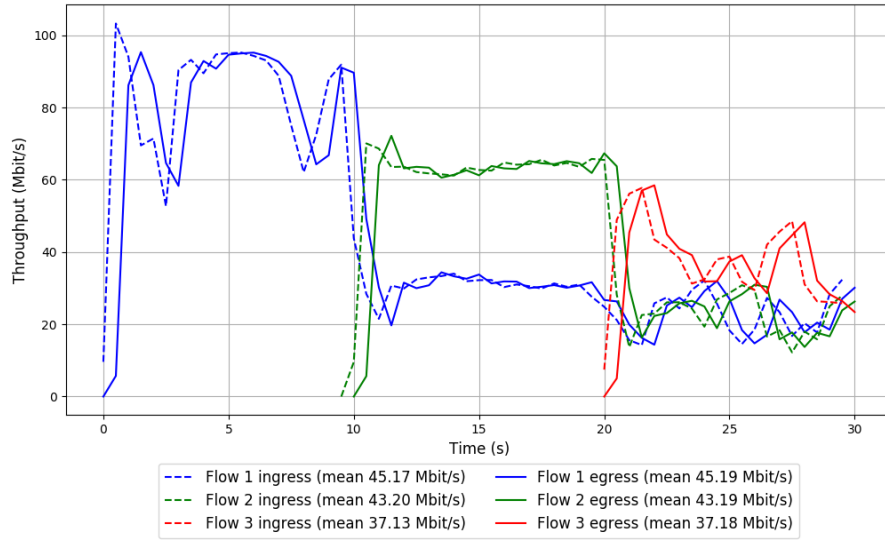
Run 2: Report of Copa — Data Link

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```
Run 3: Statistics of Copa

Start at: 2019-03-27 13:08:02
End at: 2019-03-27 13:08:32
Local clock offset: -0.384 ms
Remote clock offset: 1.833 ms


# Below is generated by plot.py at 2019-03-27 14:10:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.43 Mbit/s
95th percentile per-packet one-way delay: 66.997 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 57.04 Mbit/s
95th percentile per-packet one-way delay: 99.160 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 31.35 Mbit/s
95th percentile per-packet one-way delay: 53.821 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 19.66 Mbit/s
95th percentile per-packet one-way delay: 48.585 ms
Loss rate: 0.93%
```
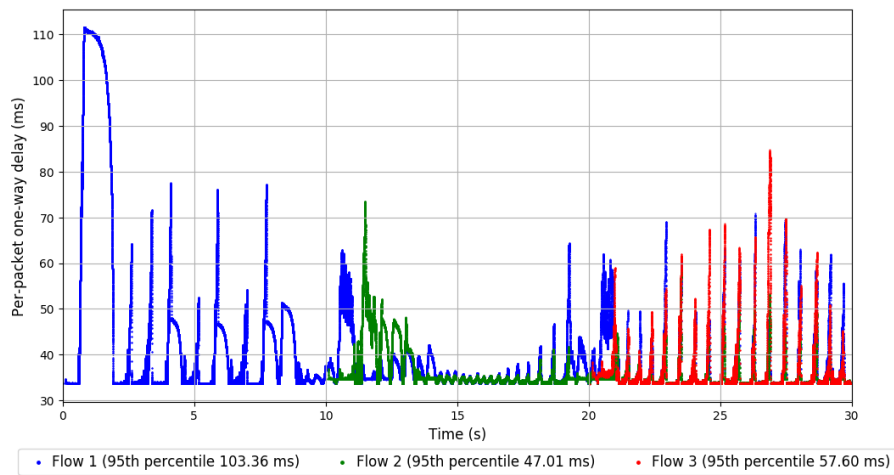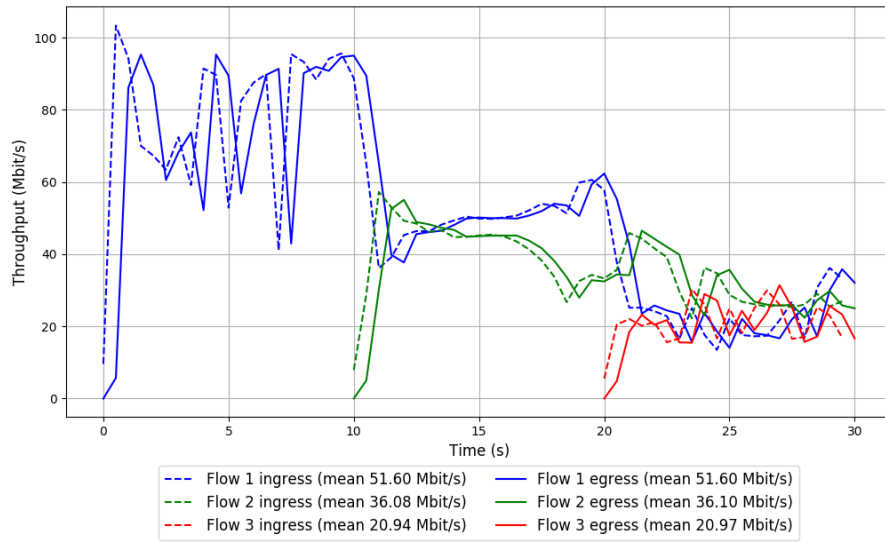
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 56.97 Mbit/s) -- Flow 1 egress (mean 57.04 Mbit/s)
Flow 2 ingress (mean 31.34 Mbit/s) -- Flow 2 egress (mean 31.35 Mbit/s)
Flow 3 ingress (mean 19.72 Mbit/s) -- Flow 3 egress (mean 19.66 Mbit/s)

Flow 1 (95th percentile 99.16 ms)　Flow 2 (95th percentile 53.82 ms)　Flow 3 (95th percentile 48.59 ms)

```
Run 4: Statistics of Copa

Start at: 2019-03-27 13:33:40
End at: 2019-03-27 13:34:10
Local clock offset: 3.107 ms
Remote clock offset: 2.476 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.26 Mbit/s
95th percentile per-packet one-way delay: 76.201 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 45.19 Mbit/s
95th percentile per-packet one-way delay: 105.975 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 43.19 Mbit/s
95th percentile per-packet one-way delay: 53.748 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 37.18 Mbit/s
95th percentile per-packet one-way delay: 62.489 ms
Loss rate: 0.51%
```
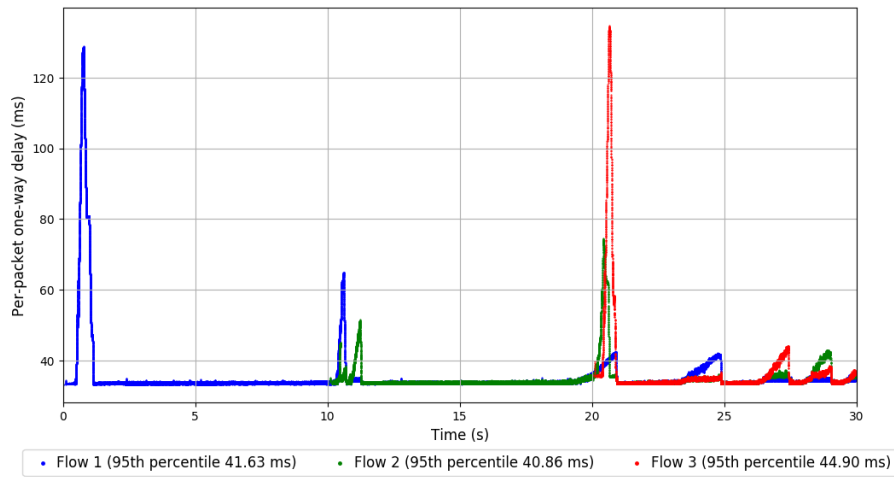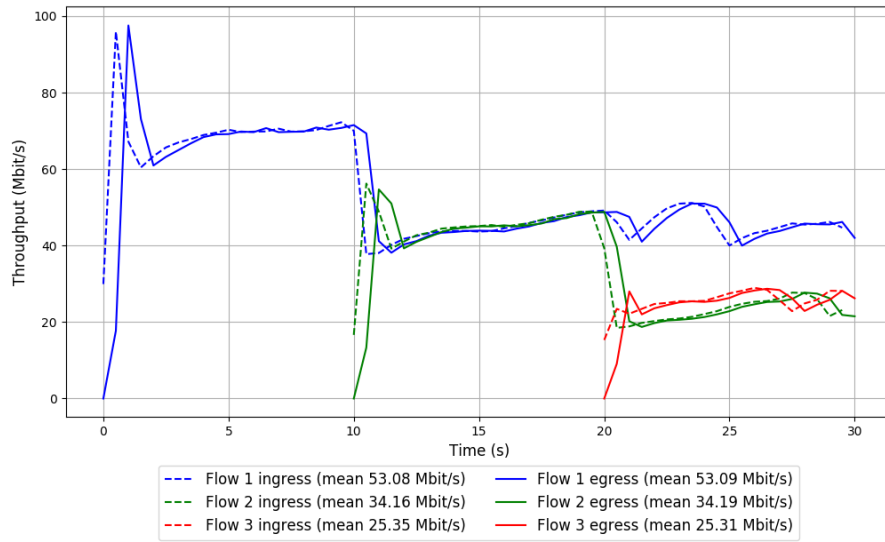
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-03-27 13:59:19
End at: 2019-03-27 13:59:49
Local clock offset: 0.758 ms
Remote clock offset: 2.9 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.58 Mbit/s
95th percentile per-packet one-way delay: 69.392 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 51.60 Mbit/s
95th percentile per-packet one-way delay: 103.363 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 36.10 Mbit/s
95th percentile per-packet one-way delay: 47.008 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 20.97 Mbit/s
95th percentile per-packet one-way delay: 57.600 ms
Loss rate: 0.50%
```
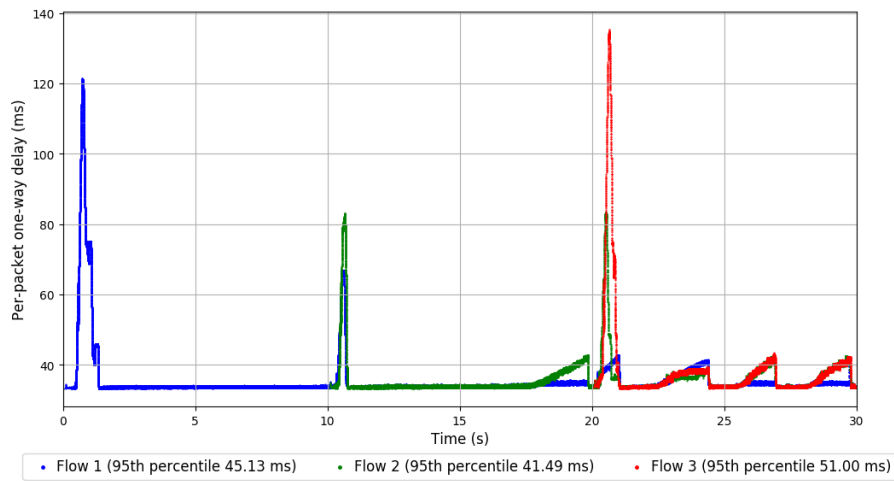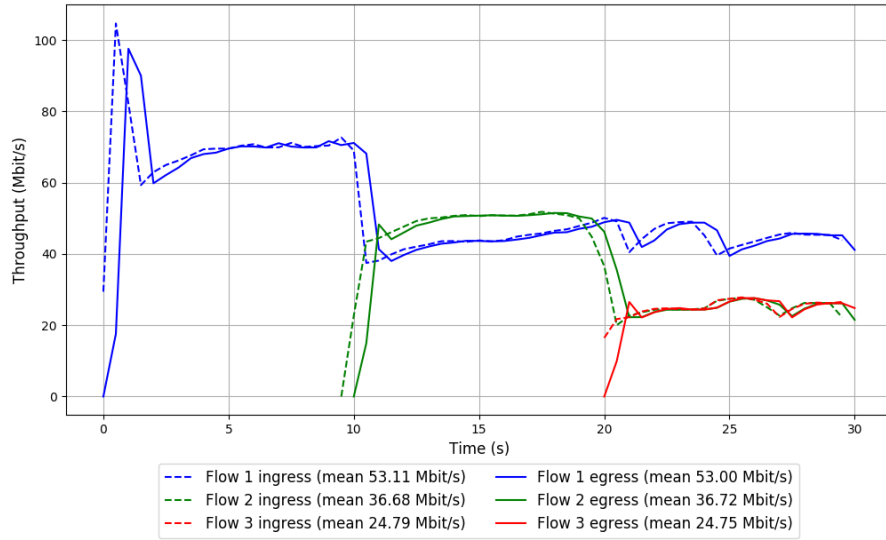
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 51.60 Mbit/s) —— Flow 1 egress (mean 51.60 Mbit/s)
Flow 2 ingress (mean 36.08 Mbit/s) —— Flow 2 egress (mean 36.10 Mbit/s)
Flow 3 ingress (mean 20.94 Mbit/s) —— Flow 3 egress (mean 20.97 Mbit/s)

Flow 1 (95th percentile 103.36 ms) • Flow 2 (95th percentile 47.01 ms) • Flow 3 (95th percentile 57.60 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 12:00:53
End at: 2019-03-27 12:01:23
Local clock offset: 3.336 ms
Remote clock offset: -1.527 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.22 Mbit/s
95th percentile per-packet one-way delay: 41.651 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 53.09 Mbit/s
95th percentile per-packet one-way delay: 41.634 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 34.19 Mbit/s
95th percentile per-packet one-way delay: 40.857 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 25.31 Mbit/s
95th percentile per-packet one-way delay: 44.904 ms
Loss rate: 0.80%
```
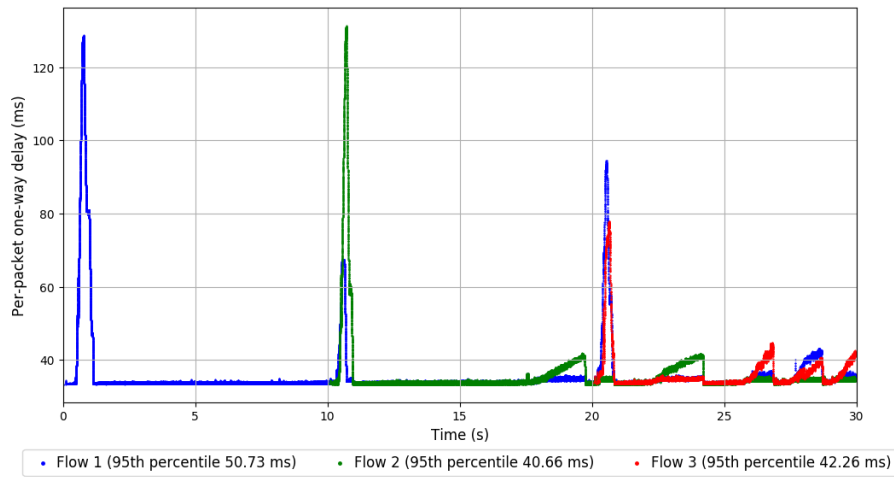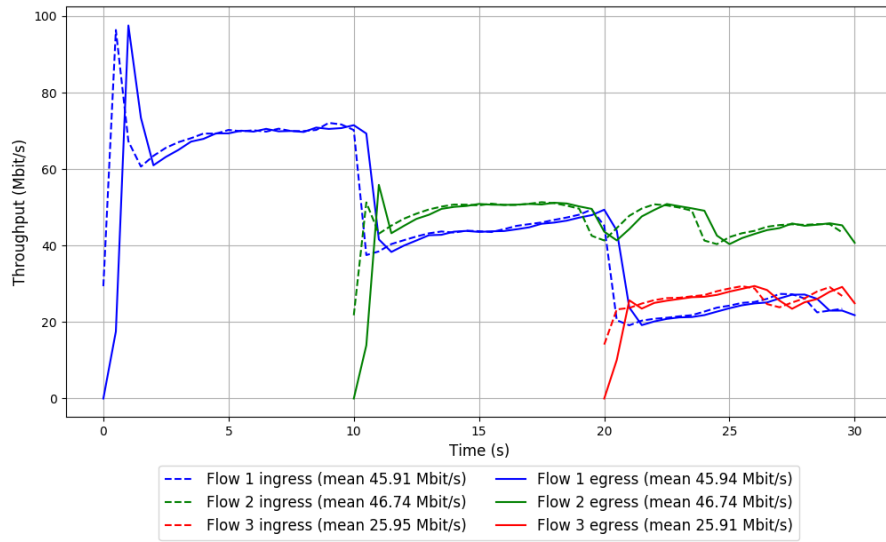
Run 1: Report of TCP Cubic — Data Link

Legend:
- Flow 1 ingress (mean 53.08 Mbit/s) — Flow 1 egress (mean 53.09 Mbit/s)
- Flow 2 ingress (mean 34.16 Mbit/s) — Flow 2 egress (mean 34.19 Mbit/s)
- Flow 3 ingress (mean 25.35 Mbit/s) — Flow 3 egress (mean 25.31 Mbit/s)

Legend:
- Flow 1 (95th percentile 41.63 ms)
- Flow 2 (95th percentile 40.86 ms)
- Flow 3 (95th percentile 44.90 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 12:26:30
End at: 2019-03-27 12:27:00
Local clock offset: 1.413 ms
Remote clock offset: 0.111 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.64 Mbit/s
95th percentile per-packet one-way delay: 42.317 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 53.00 Mbit/s
95th percentile per-packet one-way delay: 45.126 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 36.72 Mbit/s
95th percentile per-packet one-way delay: 41.488 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 24.75 Mbit/s
95th percentile per-packet one-way delay: 51.001 ms
Loss rate: 0.82%
```
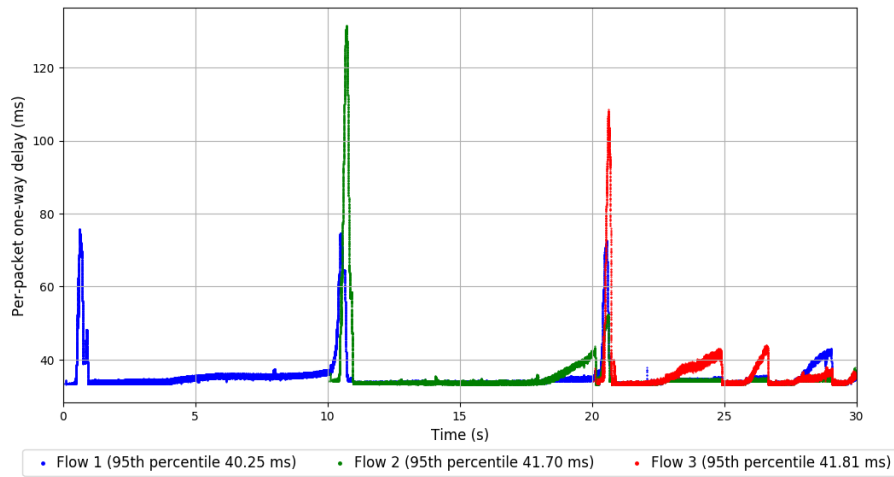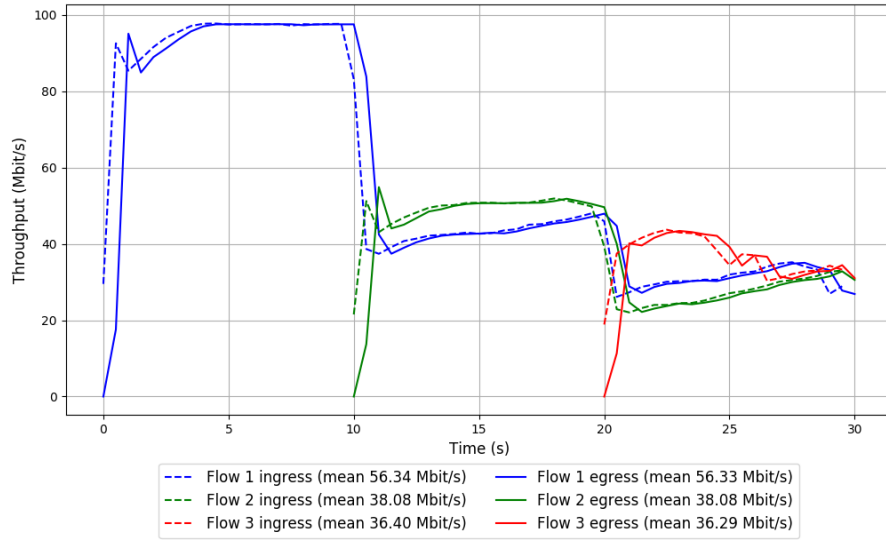
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 12:52:06
End at: 2019-03-27 12:52:36
Local clock offset: 0.106 ms
Remote clock offset: 1.339 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 41.940 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 50.735 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 46.74 Mbit/s
95th percentile per-packet one-way delay: 40.664 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 25.91 Mbit/s
95th percentile per-packet one-way delay: 42.255 ms
Loss rate: 0.78%
```
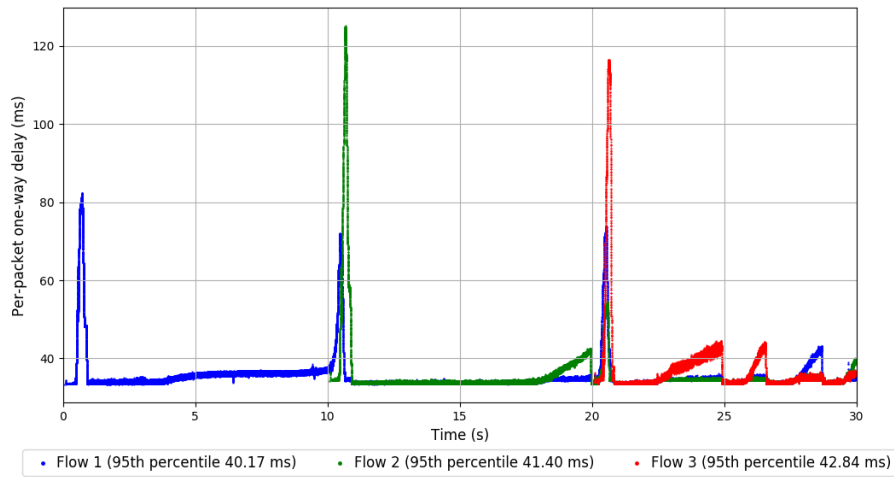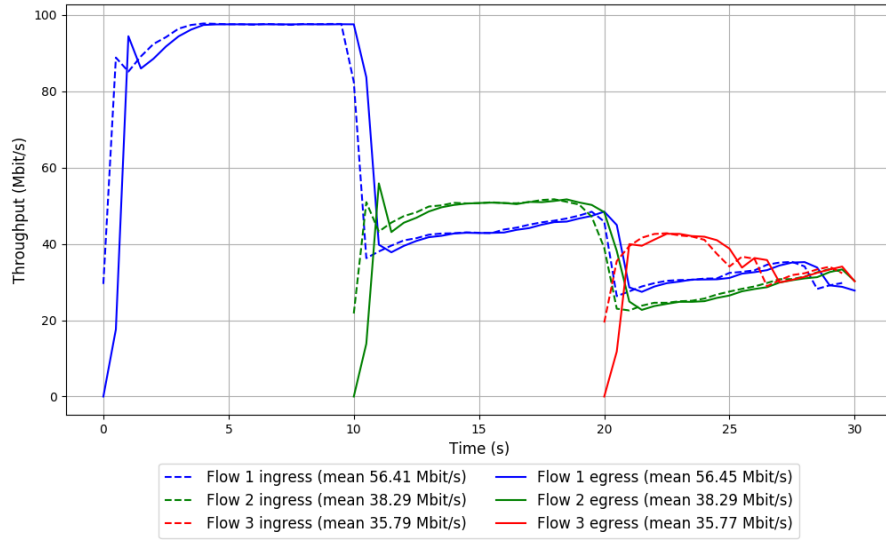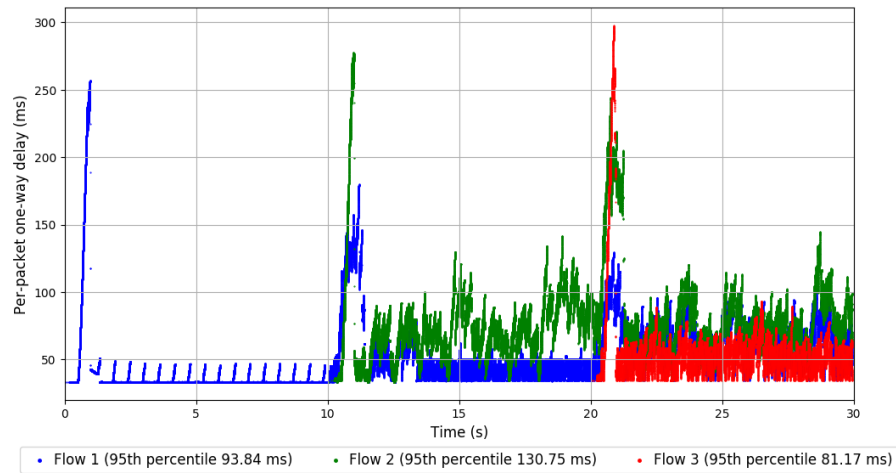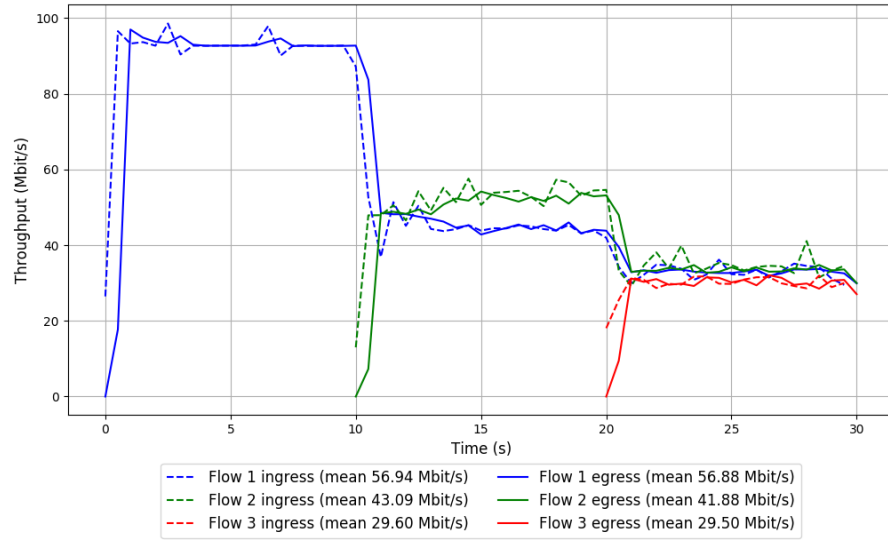
Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 45.91 Mbit/s) —— Flow 1 egress (mean 45.94 Mbit/s)
- - - Flow 2 ingress (mean 46.74 Mbit/s) —— Flow 2 egress (mean 46.74 Mbit/s)
- - - Flow 3 ingress (mean 25.95 Mbit/s) —— Flow 3 egress (mean 25.91 Mbit/s)

• Flow 1 (95th percentile 50.73 ms)   • Flow 2 (95th percentile 40.66 ms)   • Flow 3 (95th percentile 42.26 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 13:17:51
End at: 2019-03-27 13:18:21
Local clock offset: 0.226 ms
Remote clock offset: 2.288 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.69 Mbit/s
95th percentile per-packet one-way delay: 41.176 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 40.252 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 38.08 Mbit/s
95th percentile per-packet one-way delay: 41.704 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 36.29 Mbit/s
95th percentile per-packet one-way delay: 41.811 ms
Loss rate: 0.94%
```

Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 13:43:30
End at: 2019-03-27 13:44:00
Local clock offset: 3.663 ms
Remote clock offset: 2.953 ms


# Below is generated by plot.py at 2019-03-27 14:11:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.78 Mbit/s
95th percentile per-packet one-way delay: 41.736 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 40.166 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 41.396 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 42.836 ms
Loss rate: 0.70%
```
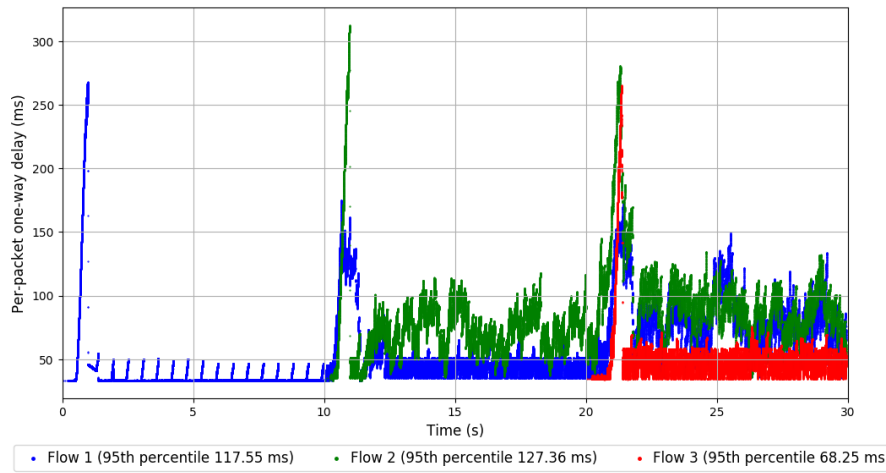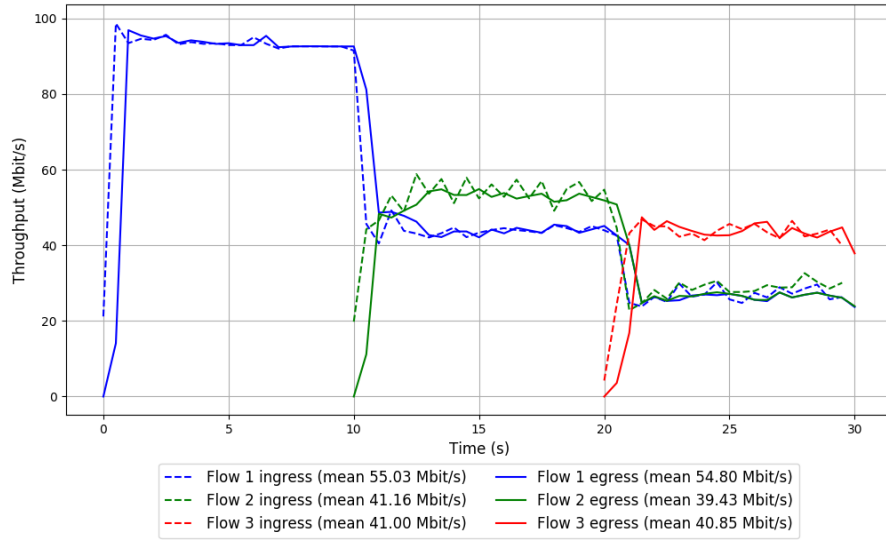
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-03-27 11:59:41
End at: 2019-03-27 12:00:11
Local clock offset: 3.345 ms
Remote clock offset: -1.624 ms


# Below is generated by plot.py at 2019-03-27 14:11:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.50 Mbit/s
95th percentile per-packet one-way delay: 110.907 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 56.88 Mbit/s
95th percentile per-packet one-way delay: 93.843 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 41.88 Mbit/s
95th percentile per-packet one-way delay: 130.746 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 29.50 Mbit/s
95th percentile per-packet one-way delay: 81.175 ms
Loss rate: 0.97%
```
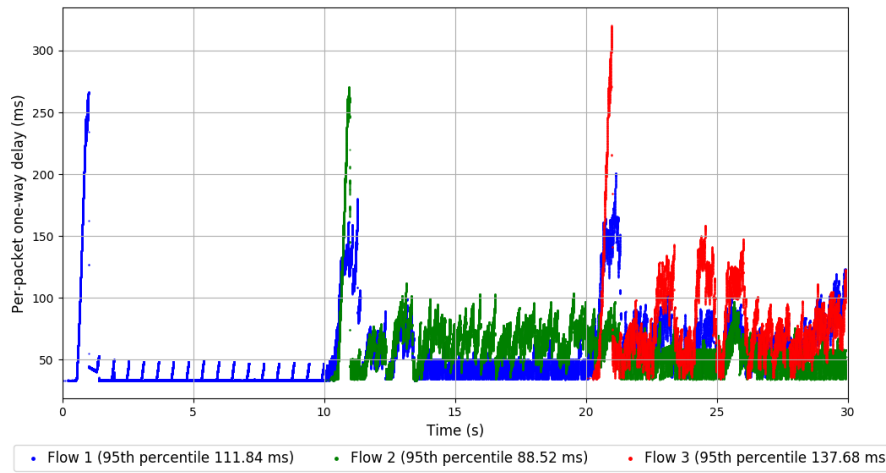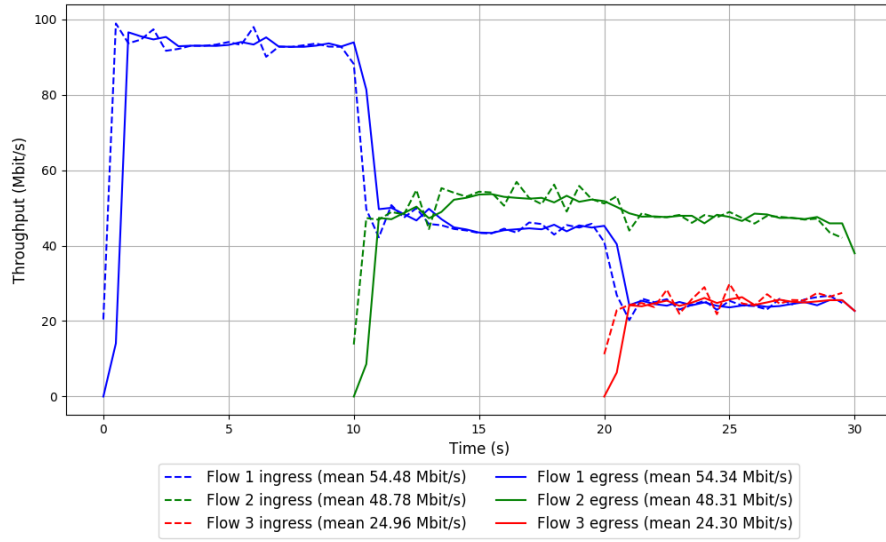
Run 1: Report of FillP — Data Link

- - - Flow 1 ingress (mean 56.94 Mbit/s) —— Flow 1 egress (mean 56.88 Mbit/s)
- - - Flow 2 ingress (mean 43.09 Mbit/s) —— Flow 2 egress (mean 41.88 Mbit/s)
- - - Flow 3 ingress (mean 29.60 Mbit/s) —— Flow 3 egress (mean 29.50 Mbit/s)

• Flow 1 (95th percentile 93.84 ms)   • Flow 2 (95th percentile 130.75 ms)   • Flow 3 (95th percentile 81.17 ms)

```
Run 2: Statistics of FillP

Start at: 2019-03-27 12:25:17
End at: 2019-03-27 12:25:47
Local clock offset: 1.56 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2019-03-27 14:11:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.56 Mbit/s
95th percentile per-packet one-way delay: 119.117 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 54.80 Mbit/s
95th percentile per-packet one-way delay: 117.553 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 39.43 Mbit/s
95th percentile per-packet one-way delay: 127.362 ms
Loss rate: 4.49%
-- Flow 3:
Average throughput: 40.85 Mbit/s
95th percentile per-packet one-way delay: 68.253 ms
Loss rate: 0.93%
```
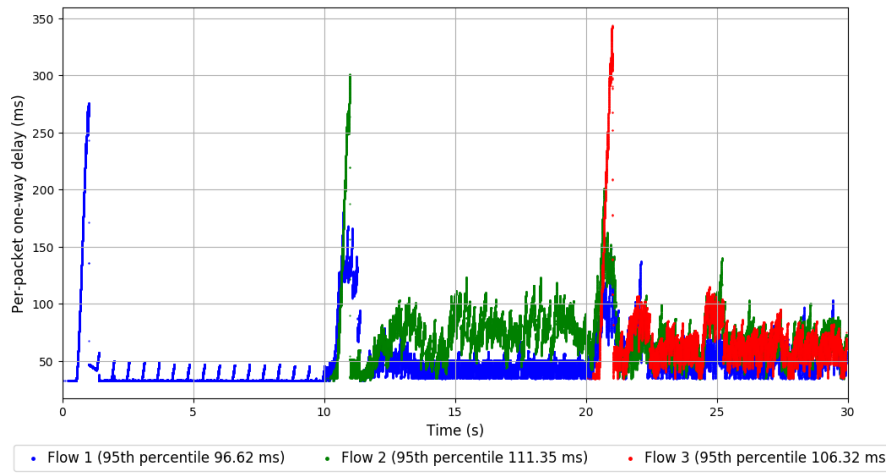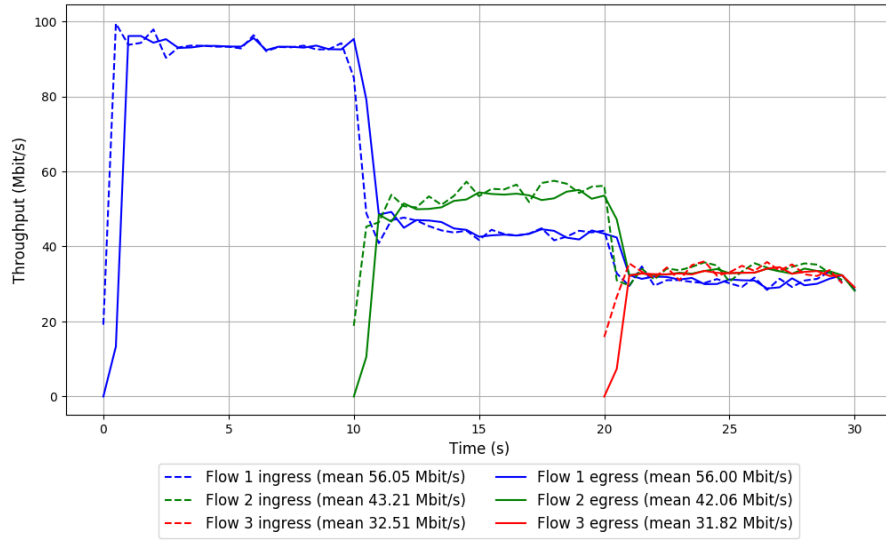
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-03-27 12:50:54
End at: 2019-03-27 12:51:24
Local clock offset: 0.151 ms
Remote clock offset: 1.266 ms

# Below is generated by plot.py at 2019-03-27 14:11:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.52 Mbit/s
95th percentile per-packet one-way delay: 111.349 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 54.34 Mbit/s
95th percentile per-packet one-way delay: 111.845 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 48.31 Mbit/s
95th percentile per-packet one-way delay: 88.518 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 137.681 ms
Loss rate: 3.27%
```
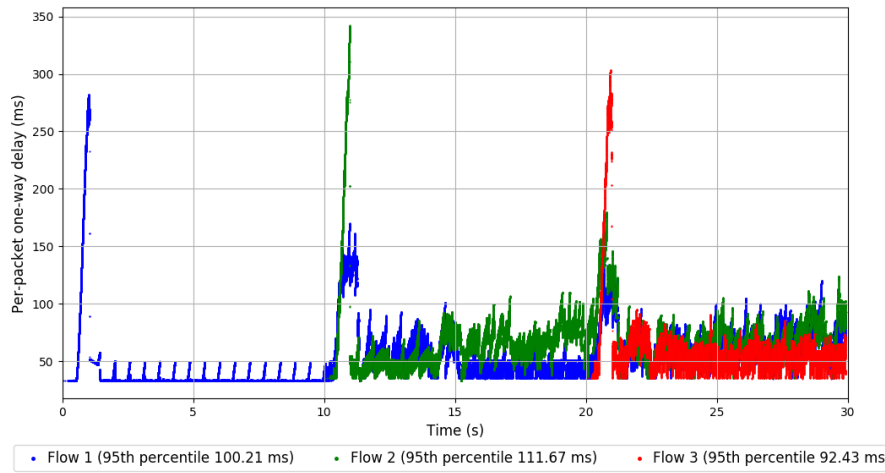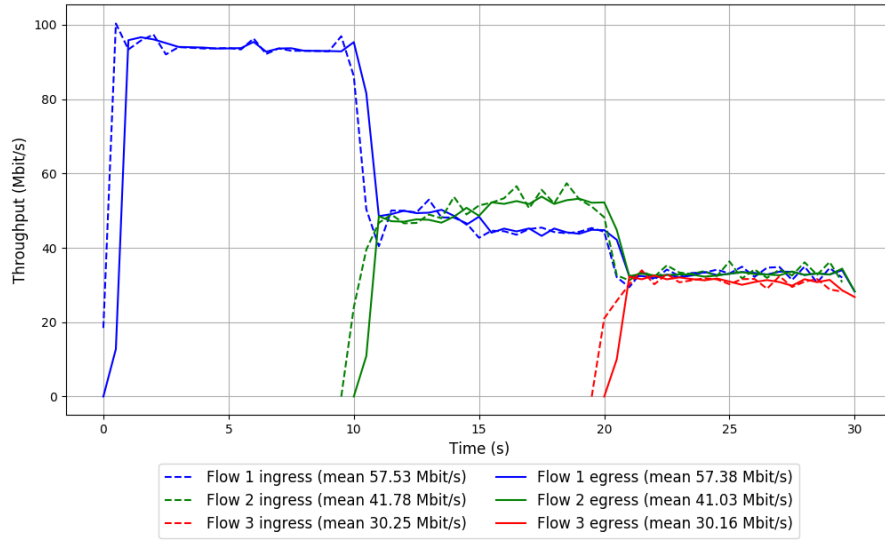
Run 3: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 54.48 Mbit/s) ——— Flow 1 egress (mean 54.34 Mbit/s)
- - - - Flow 2 ingress (mean 48.78 Mbit/s) ——— Flow 2 egress (mean 48.31 Mbit/s)
- - - - Flow 3 ingress (mean 24.96 Mbit/s) ——— Flow 3 egress (mean 24.30 Mbit/s)

• Flow 1 (95th percentile 111.84 ms)   • Flow 2 (95th percentile 88.52 ms)   • Flow 3 (95th percentile 137.68 ms)

40

```
Run 4: Statistics of FillP

Start at: 2019-03-27 13:16:39
End at: 2019-03-27 13:17:09
Local clock offset: -0.362 ms
Remote clock offset: 2.298 ms

# Below is generated by plot.py at 2019-03-27 14:11:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.50 Mbit/s
95th percentile per-packet one-way delay: 106.207 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 56.00 Mbit/s
95th percentile per-packet one-way delay: 96.618 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 42.06 Mbit/s
95th percentile per-packet one-way delay: 111.351 ms
Loss rate: 2.97%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 106.324 ms
Loss rate: 2.53%
```
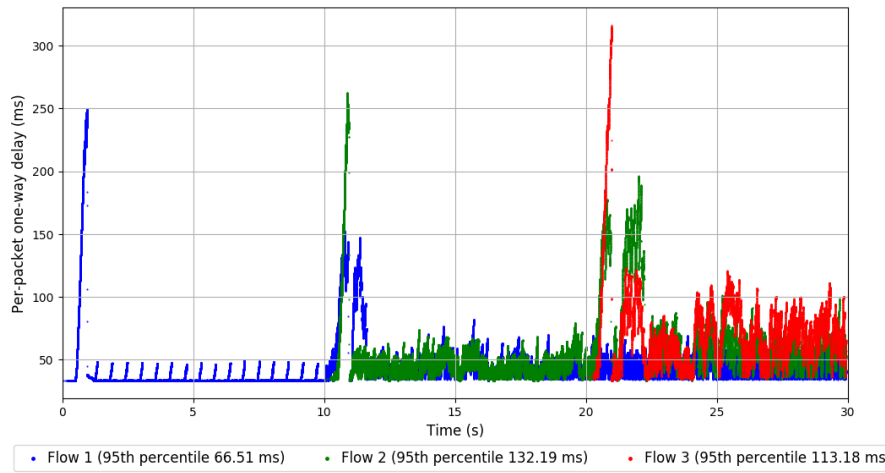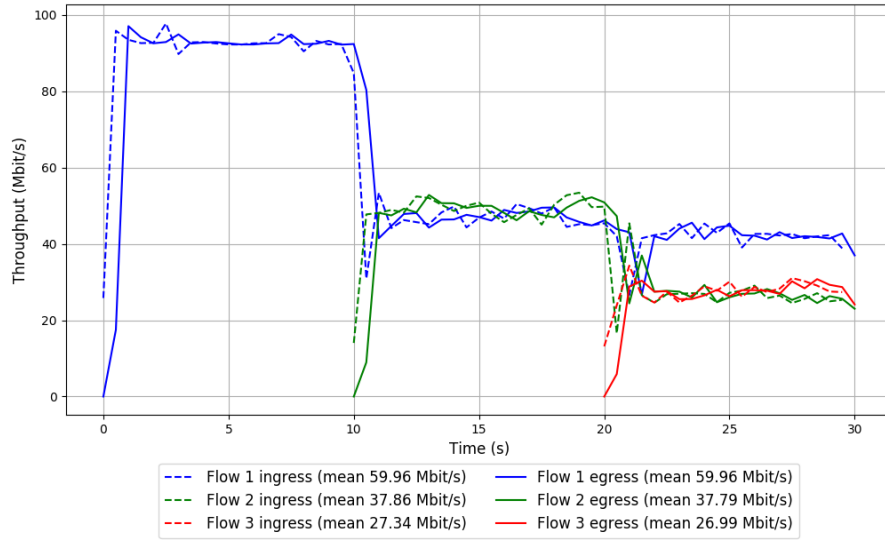
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-03-27 13:42:17
End at: 2019-03-27 13:42:47
Local clock offset: 3.616 ms
Remote clock offset: 2.875 ms


# Below is generated by plot.py at 2019-03-27 14:12:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.67 Mbit/s
95th percentile per-packet one-way delay: 104.448 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 100.213 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 41.03 Mbit/s
95th percentile per-packet one-way delay: 111.671 ms
Loss rate: 2.05%
-- Flow 3:
Average throughput: 30.16 Mbit/s
95th percentile per-packet one-way delay: 92.431 ms
Loss rate: 0.98%
```

Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 12:06:58
End at: 2019-03-27 12:07:28
Local clock offset: 3.306 ms
Remote clock offset: -1.287 ms


# Below is generated by plot.py at 2019-03-27 14:12:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.03 Mbit/s
95th percentile per-packet one-way delay: 99.125 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 59.96 Mbit/s
95th percentile per-packet one-way delay: 66.512 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 37.79 Mbit/s
95th percentile per-packet one-way delay: 132.194 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 26.99 Mbit/s
95th percentile per-packet one-way delay: 113.178 ms
Loss rate: 1.77%
```
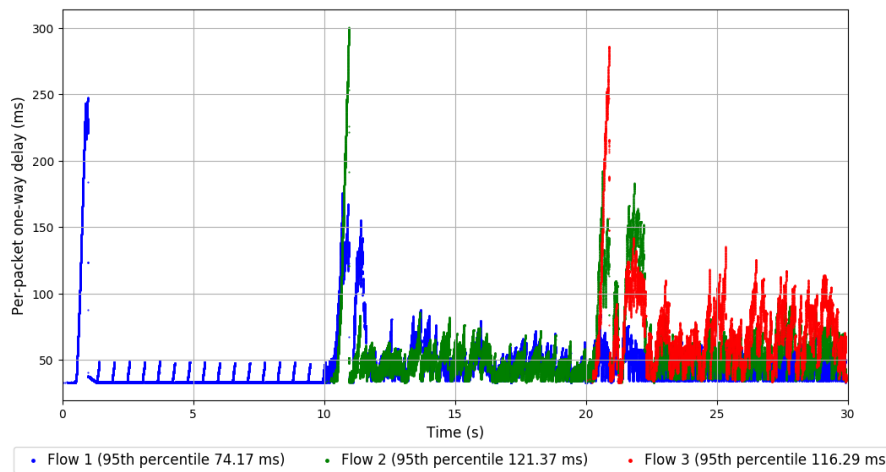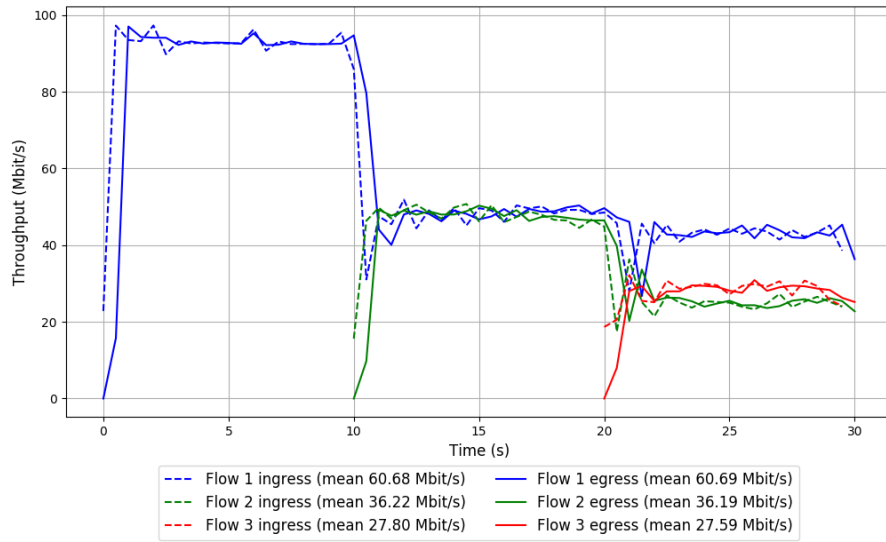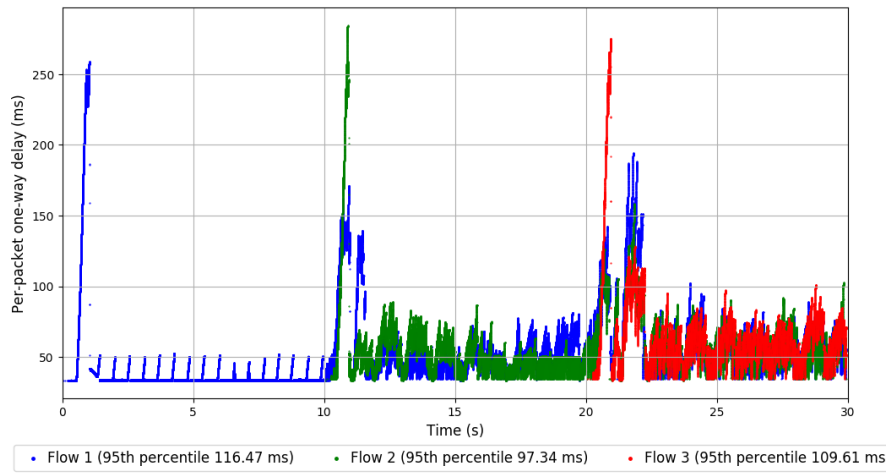
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 59.96 Mbit/s)   Flow 1 egress (mean 59.96 Mbit/s)
Flow 2 ingress (mean 37.86 Mbit/s)   Flow 2 egress (mean 37.79 Mbit/s)
Flow 3 ingress (mean 27.34 Mbit/s)   Flow 3 egress (mean 26.99 Mbit/s)

Flow 1 (95th percentile 66.51 ms)   Flow 2 (95th percentile 132.19 ms)   Flow 3 (95th percentile 113.18 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 12:32:35
End at: 2019-03-27 12:33:05
Local clock offset: 0.9 ms
Remote clock offset: 0.516 ms


# Below is generated by plot.py at 2019-03-27 14:12:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 102.327 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 60.69 Mbit/s
95th percentile per-packet one-way delay: 74.168 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 36.19 Mbit/s
95th percentile per-packet one-way delay: 121.370 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 27.59 Mbit/s
95th percentile per-packet one-way delay: 116.286 ms
Loss rate: 1.33%
```
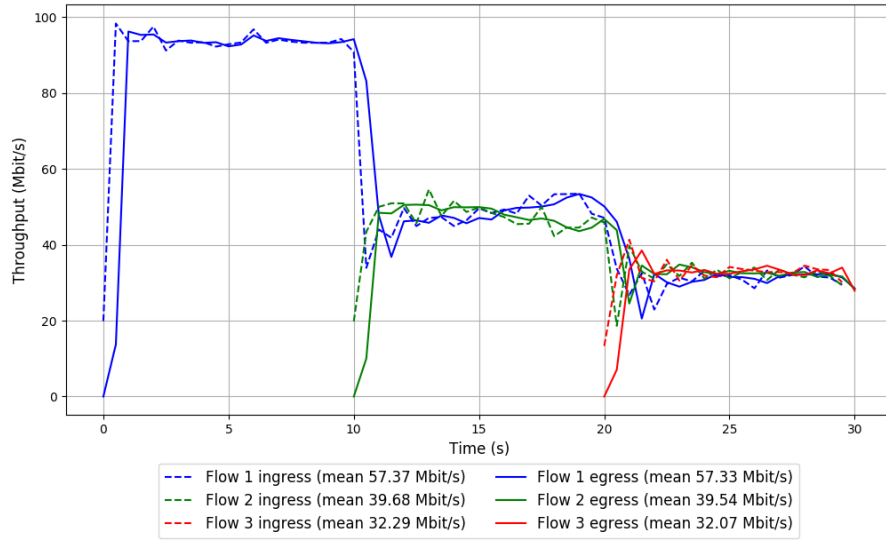
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 12:58:10
End at: 2019-03-27 12:58:40
Local clock offset: -0.087 ms
Remote clock offset: 1.313 ms


# Below is generated by plot.py at 2019-03-27 14:12:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.26 Mbit/s
95th percentile per-packet one-way delay: 105.330 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 116.472 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 39.54 Mbit/s
95th percentile per-packet one-way delay: 97.336 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 32.07 Mbit/s
95th percentile per-packet one-way delay: 109.612 ms
Loss rate: 1.30%
```
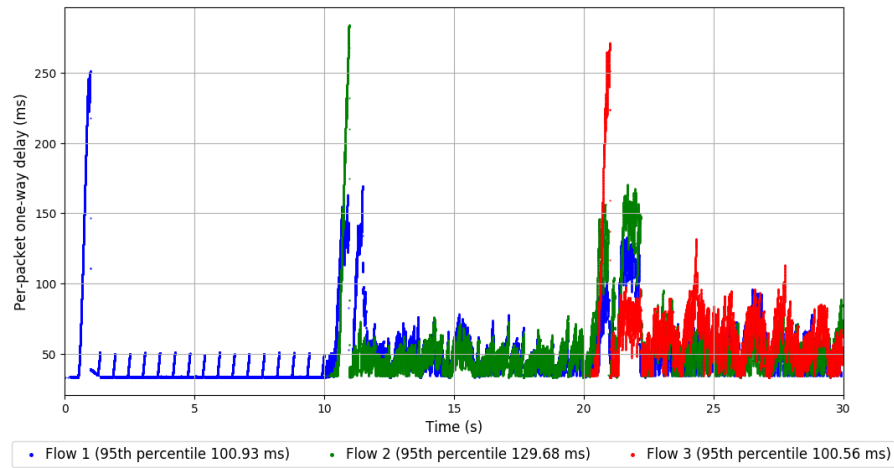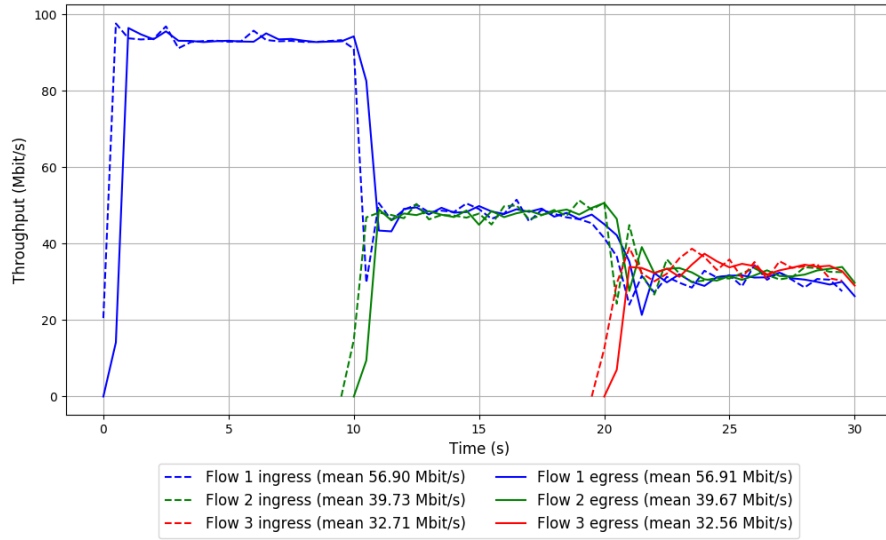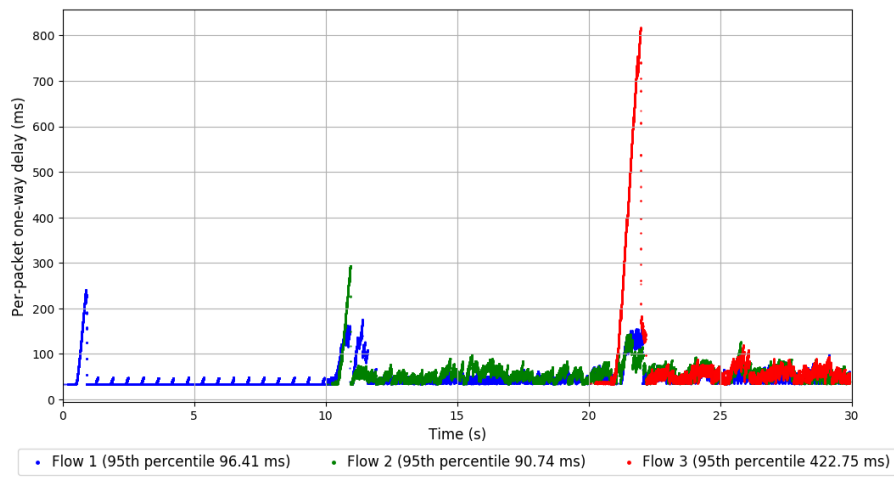
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 57.37 Mbit/s) --- Flow 1 egress (mean 57.33 Mbit/s)
Flow 2 ingress (mean 39.68 Mbit/s) --- Flow 2 egress (mean 39.54 Mbit/s)
Flow 3 ingress (mean 32.29 Mbit/s) --- Flow 3 egress (mean 32.07 Mbit/s)

• Flow 1 (95th percentile 116.47 ms)   • Flow 2 (95th percentile 97.34 ms)   • Flow 3 (95th percentile 109.61 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 13:23:56
End at: 2019-03-27 13:24:26
Local clock offset: 1.875 ms
Remote clock offset: 2.417 ms


# Below is generated by plot.py at 2019-03-27 14:13:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 108.635 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 56.91 Mbit/s
95th percentile per-packet one-way delay: 100.927 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 39.67 Mbit/s
95th percentile per-packet one-way delay: 129.675 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 32.56 Mbit/s
95th percentile per-packet one-way delay: 100.565 ms
Loss rate: 1.11%
```
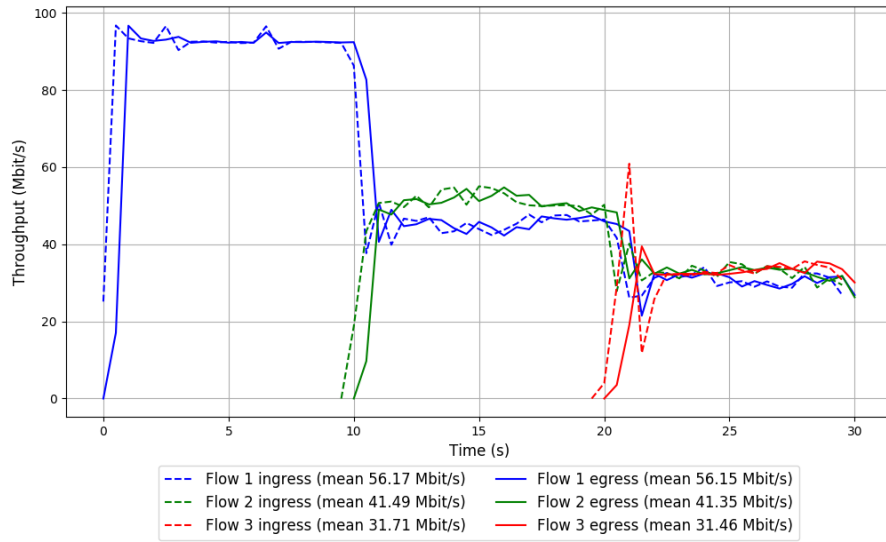
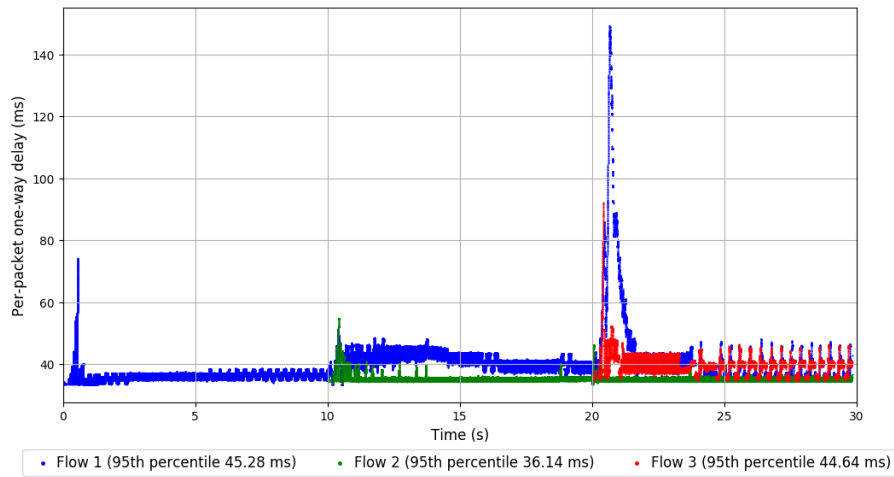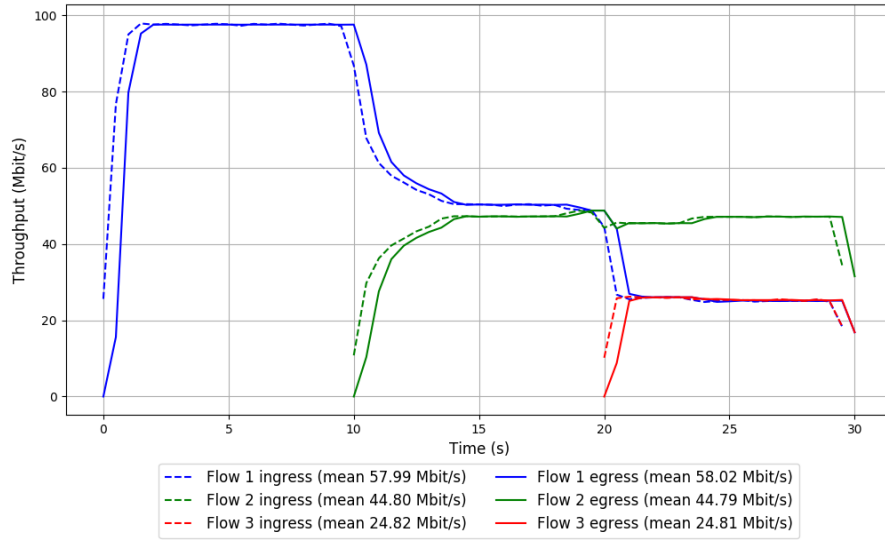Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.90 Mbit/s) --- Flow 1 egress (mean 56.91 Mbit/s)
Flow 2 ingress (mean 39.73 Mbit/s) --- Flow 2 egress (mean 39.67 Mbit/s)
Flow 3 ingress (mean 32.71 Mbit/s) --- Flow 3 egress (mean 32.56 Mbit/s)

Flow 1 (95th percentile 100.93 ms)   Flow 2 (95th percentile 129.68 ms)   Flow 3 (95th percentile 100.56 ms)

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```
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 13:49:35
End at: 2019-03-27 13:50:05
Local clock offset: 2.504 ms
Remote clock offset: 3.16 ms


# Below is generated by plot.py at 2019-03-27 14:13:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.08 Mbit/s
95th percentile per-packet one-way delay: 106.249 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 56.15 Mbit/s
95th percentile per-packet one-way delay: 96.410 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 90.742 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 422.747 ms
Loss rate: 1.20%
```
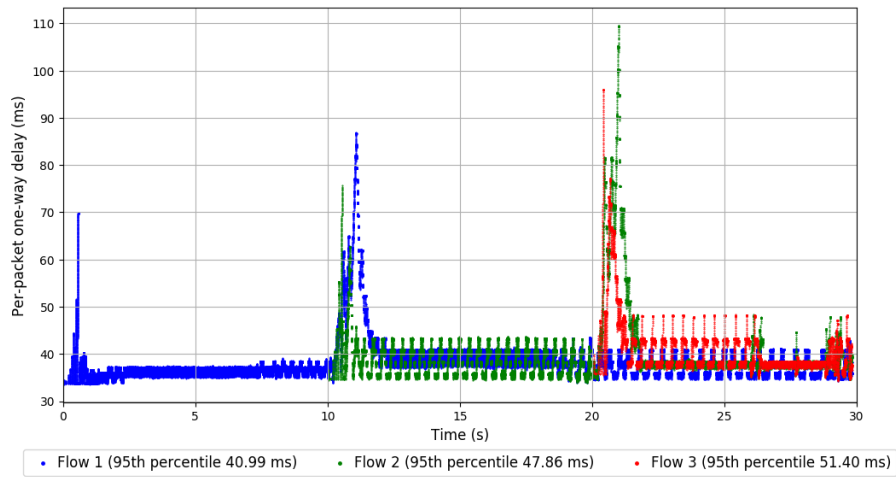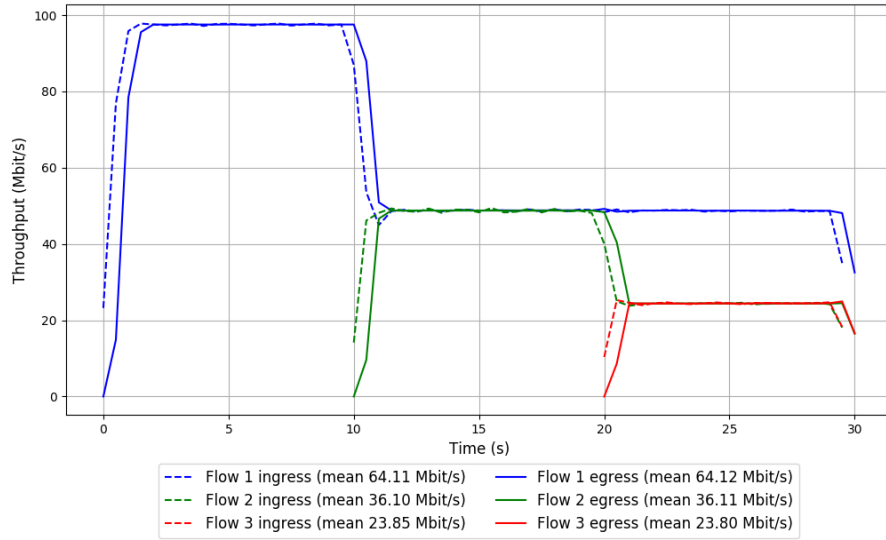
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.17 Mbit/s) --- Flow 1 egress (mean 56.15 Mbit/s)
Flow 2 ingress (mean 41.49 Mbit/s) --- Flow 2 egress (mean 41.35 Mbit/s)
Flow 3 ingress (mean 31.71 Mbit/s) --- Flow 3 egress (mean 31.46 Mbit/s)

Flow 1 (95th percentile 96.41 ms)   Flow 2 (95th percentile 90.74 ms)   Flow 3 (95th percentile 422.75 ms)

54

```
Run 1: Statistics of Indigo

Start at: 2019-03-27 12:20:28
End at: 2019-03-27 12:20:58
Local clock offset: 2.298 ms
Remote clock offset: -0.206 ms


# Below is generated by plot.py at 2019-03-27 14:13:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.90 Mbit/s
95th percentile per-packet one-way delay: 44.277 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 58.02 Mbit/s
95th percentile per-packet one-way delay: 45.279 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 44.79 Mbit/s
95th percentile per-packet one-way delay: 36.141 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 24.81 Mbit/s
95th percentile per-packet one-way delay: 44.642 ms
Loss rate: 0.70%
```
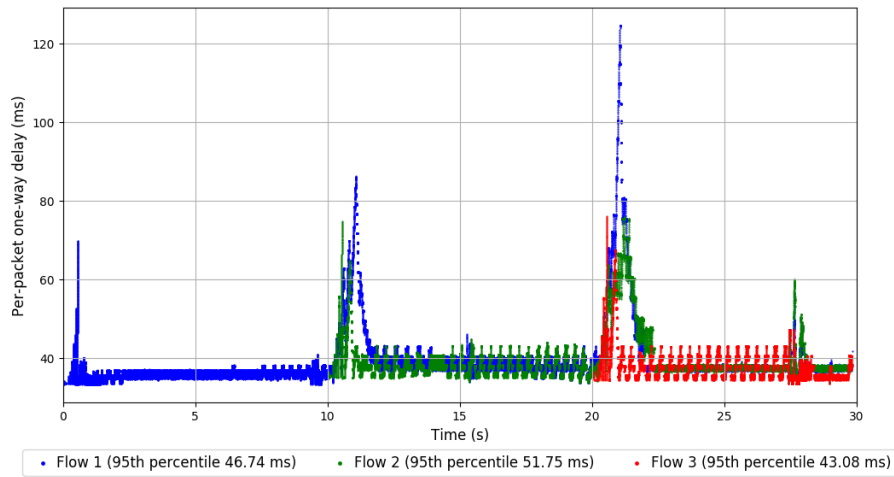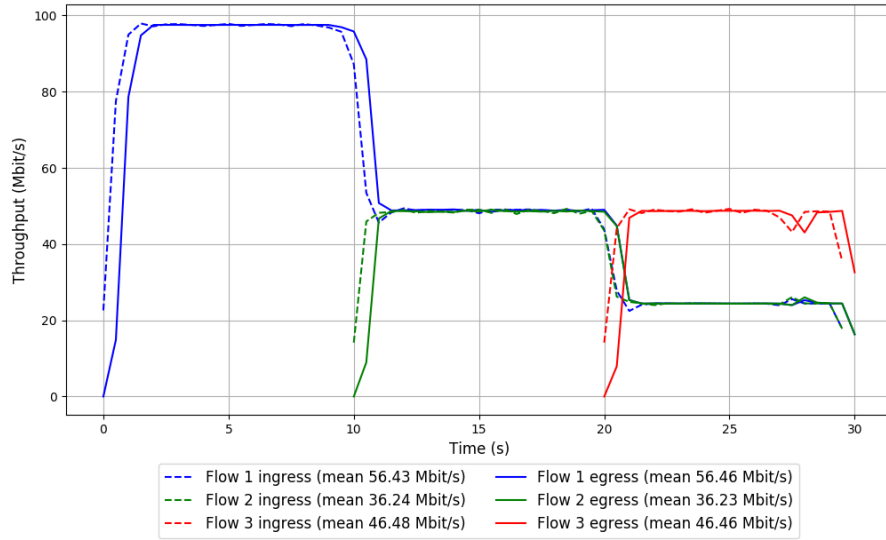
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-03-27 12:46:04
End at: 2019-03-27 12:46:34
Local clock offset: 0.315 ms
Remote clock offset: 0.901 ms

# Below is generated by plot.py at 2019-03-27 14:13:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.90 Mbit/s
95th percentile per-packet one-way delay: 43.626 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 64.12 Mbit/s
95th percentile per-packet one-way delay: 40.993 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 36.11 Mbit/s
95th percentile per-packet one-way delay: 47.863 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 23.80 Mbit/s
95th percentile per-packet one-way delay: 51.403 ms
Loss rate: 0.89%
```
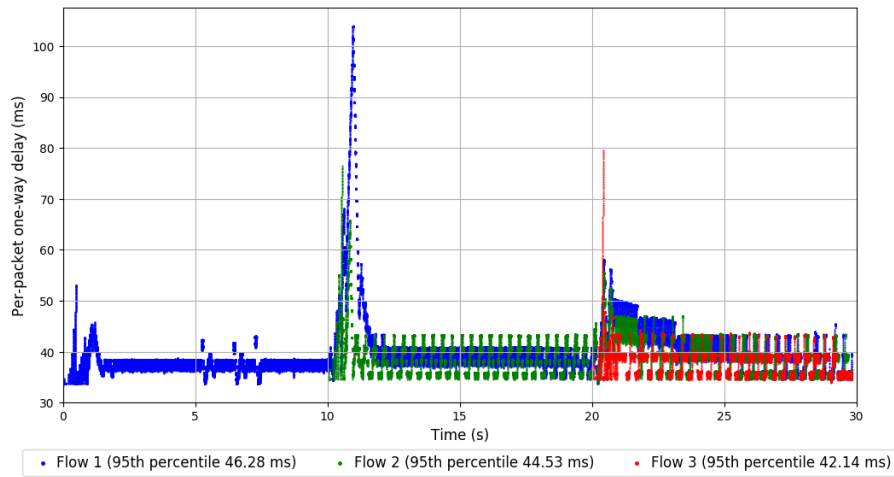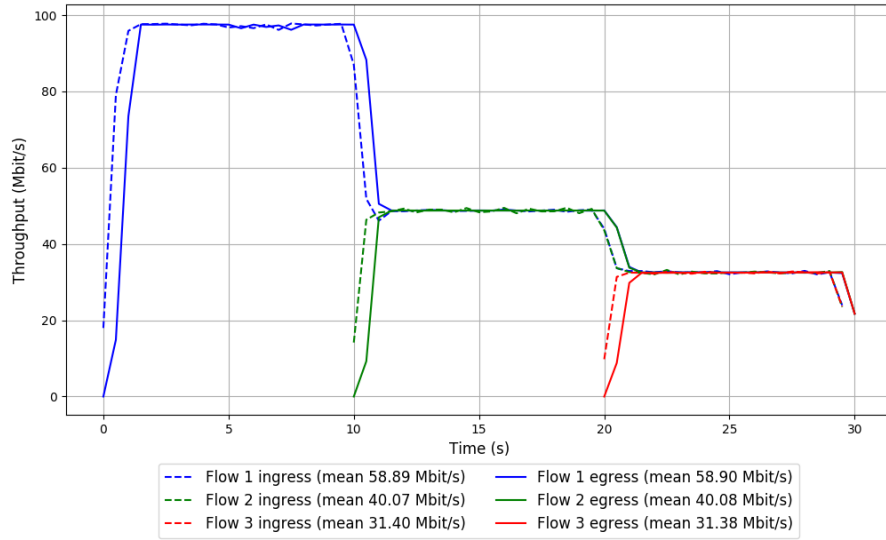
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 64.11 Mbit/s) --- Flow 1 egress (mean 64.12 Mbit/s)
Flow 2 ingress (mean 36.10 Mbit/s) --- Flow 2 egress (mean 36.11 Mbit/s)
Flow 3 ingress (mean 23.85 Mbit/s) --- Flow 3 egress (mean 23.80 Mbit/s)

Flow 1 (95th percentile 40.99 ms)   Flow 2 (95th percentile 47.86 ms)   Flow 3 (95th percentile 51.40 ms)

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```
Run 3: Statistics of Indigo

Start at: 2019-03-27 13:11:49
End at: 2019-03-27 13:12:19
Local clock offset: -0.499 ms
Remote clock offset: 2.081 ms


# Below is generated by plot.py at 2019-03-27 14:13:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 47.191 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 56.46 Mbit/s
95th percentile per-packet one-way delay: 46.743 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 36.23 Mbit/s
95th percentile per-packet one-way delay: 51.749 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 46.46 Mbit/s
95th percentile per-packet one-way delay: 43.082 ms
Loss rate: 0.71%
```
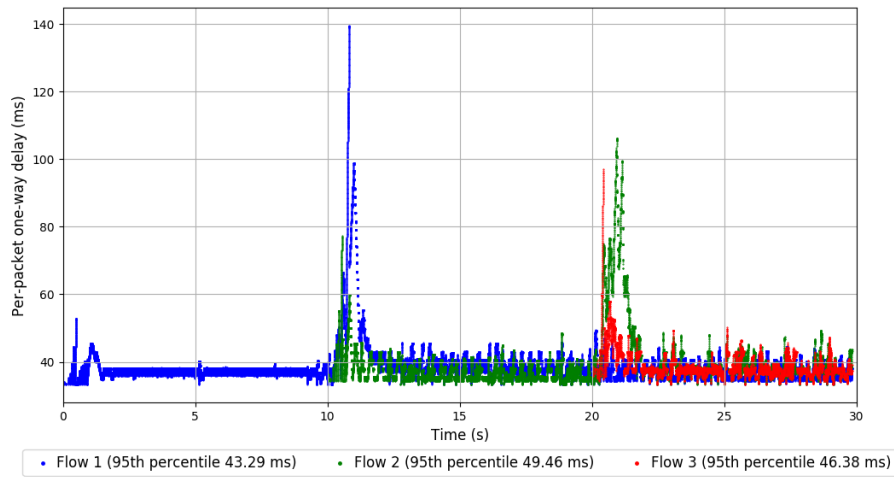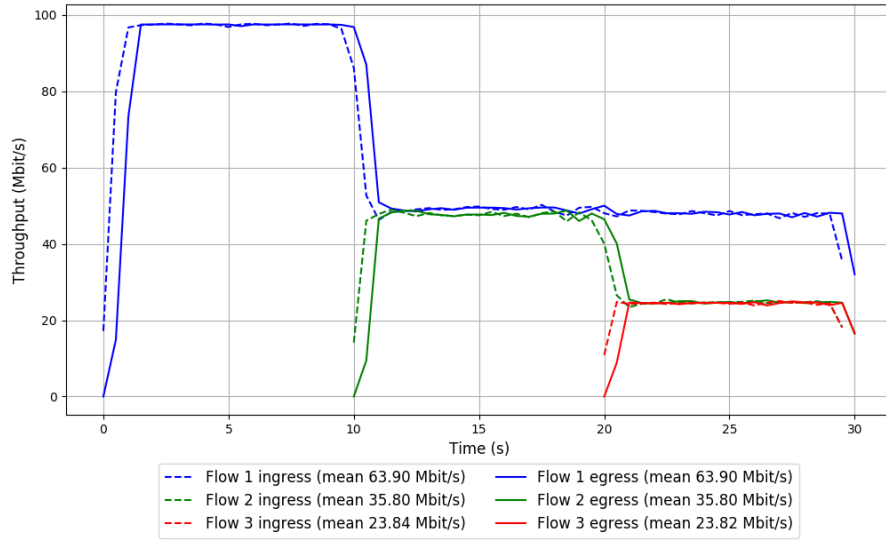
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-03-27 13:37:27
End at: 2019-03-27 13:37:57
Local clock offset: 3.384 ms
Remote clock offset: 2.57 ms


# Below is generated by plot.py at 2019-03-27 14:13:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 45.670 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 46.279 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 40.08 Mbit/s
95th percentile per-packet one-way delay: 44.528 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.38 Mbit/s
95th percentile per-packet one-way delay: 42.138 ms
Loss rate: 0.70%
```
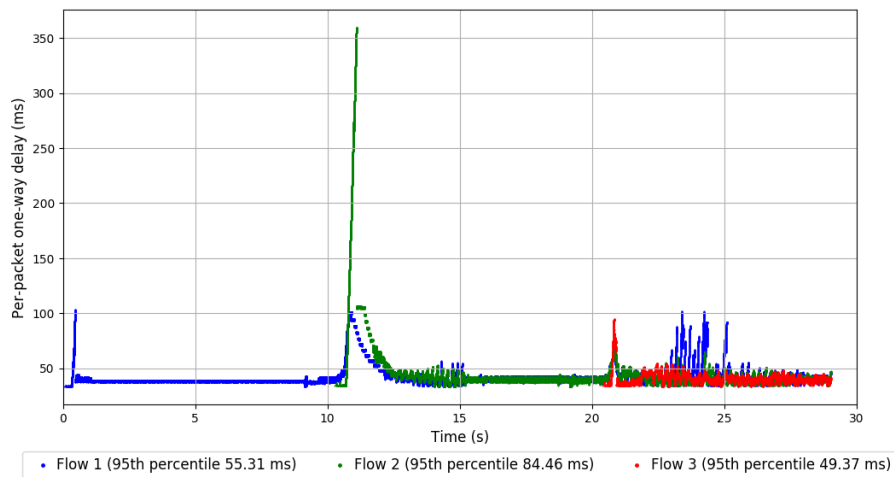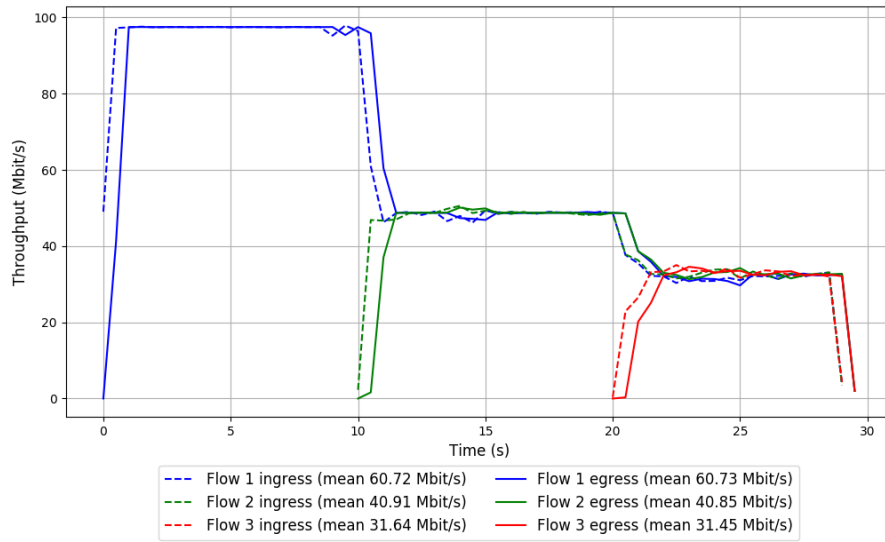
Run 4: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 58.89 Mbit/s)   —— Flow 1 egress (mean 58.90 Mbit/s)
- - - Flow 2 ingress (mean 40.07 Mbit/s)   —— Flow 2 egress (mean 40.08 Mbit/s)
- - - Flow 3 ingress (mean 31.40 Mbit/s)   —— Flow 3 egress (mean 31.38 Mbit/s)

• Flow 1 (95th percentile 46.28 ms)   • Flow 2 (95th percentile 44.53 ms)   • Flow 3 (95th percentile 42.14 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-03-27 14:03:06
End at: 2019-03-27 14:03:36
Local clock offset: 0.412 ms
Remote clock offset: 3.139 ms


# Below is generated by plot.py at 2019-03-27 14:13:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.49 Mbit/s
95th percentile per-packet one-way delay: 44.668 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 43.290 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 49.462 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 23.82 Mbit/s
95th percentile per-packet one-way delay: 46.382 ms
Loss rate: 0.74%
```
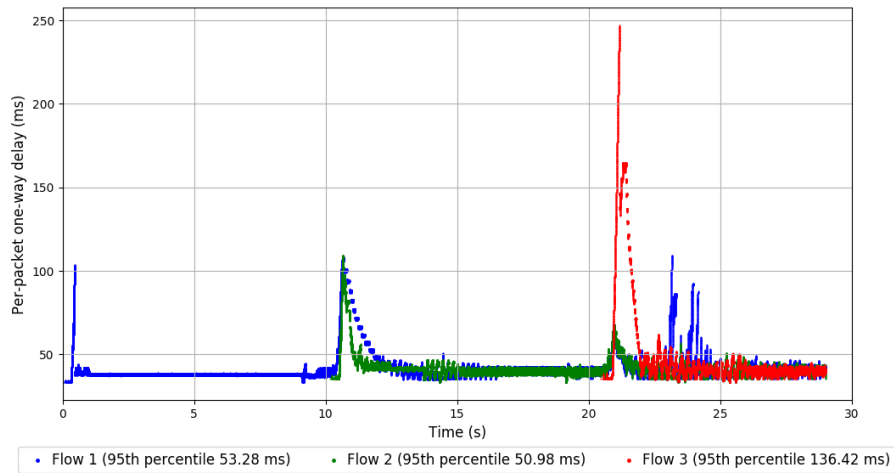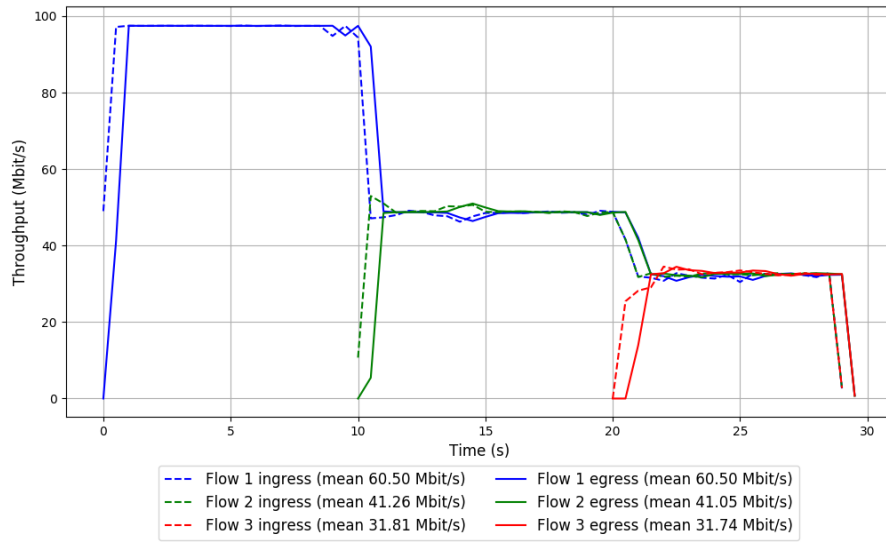
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 63.90 Mbit/s) --- Flow 1 egress (mean 63.90 Mbit/s)
Flow 2 ingress (mean 35.80 Mbit/s) --- Flow 2 egress (mean 35.80 Mbit/s)
Flow 3 ingress (mean 23.84 Mbit/s) --- Flow 3 egress (mean 23.82 Mbit/s)

Flow 1 (95th percentile 43.29 ms)   Flow 2 (95th percentile 49.46 ms)   Flow 3 (95th percentile 46.38 ms)

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```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:02:06
End at: 2019-03-27 12:02:36
Local clock offset: 3.325 ms
Remote clock offset: -1.551 ms


# Below is generated by plot.py at 2019-03-27 14:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 60.189 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 60.73 Mbit/s
95th percentile per-packet one-way delay: 55.310 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 40.85 Mbit/s
95th percentile per-packet one-way delay: 84.460 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 31.45 Mbit/s
95th percentile per-packet one-way delay: 49.368 ms
Loss rate: 1.33%
```
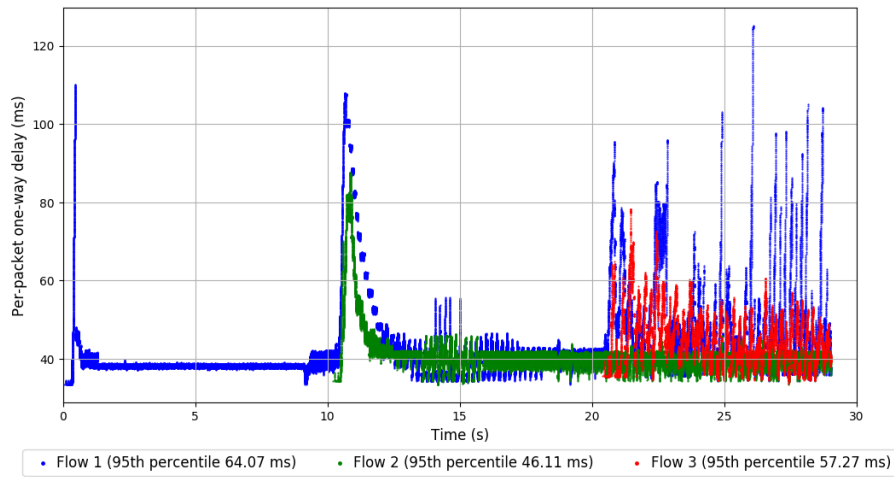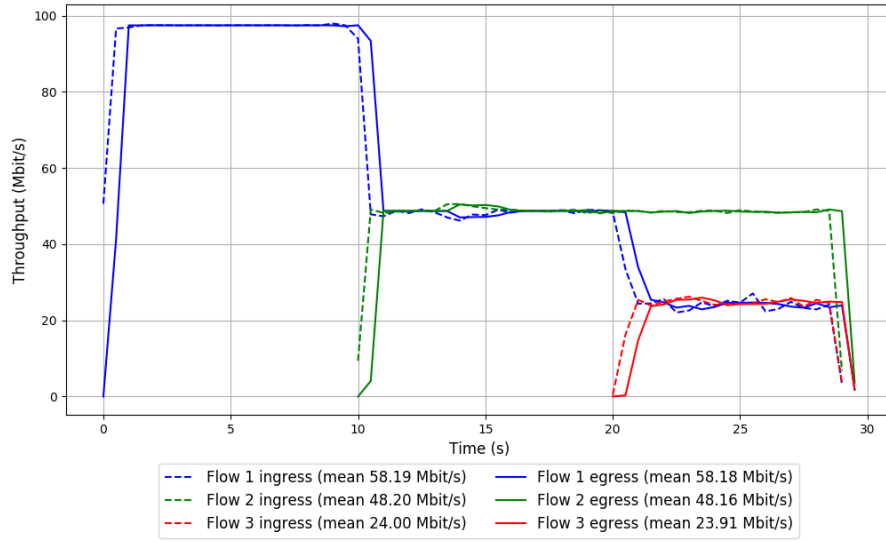
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:27:43
End at: 2019-03-27 12:28:13
Local clock offset: 1.305 ms
Remote clock offset: 0.217 ms


# Below is generated by plot.py at 2019-03-27 14:14:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 56.498 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 60.50 Mbit/s
95th percentile per-packet one-way delay: 53.280 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 41.05 Mbit/s
95th percentile per-packet one-way delay: 50.978 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 31.74 Mbit/s
95th percentile per-packet one-way delay: 136.421 ms
Loss rate: 1.04%
```
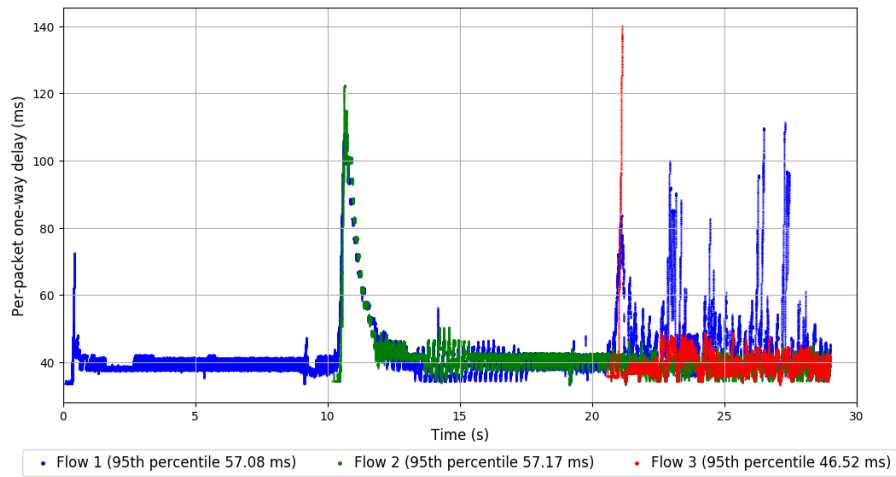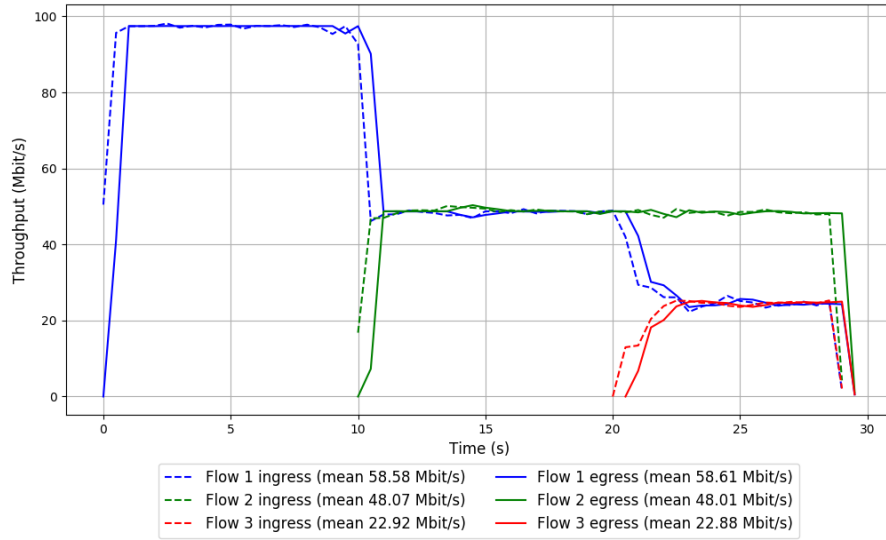
Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 60.50 Mbit/s)   Flow 1 egress (mean 60.50 Mbit/s)
Flow 2 ingress (mean 41.26 Mbit/s)   Flow 2 egress (mean 41.05 Mbit/s)
Flow 3 ingress (mean 31.81 Mbit/s)   Flow 3 egress (mean 31.74 Mbit/s)

Flow 1 (95th percentile 53.28 ms)   Flow 2 (95th percentile 50.98 ms)   Flow 3 (95th percentile 136.42 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:53:19
End at: 2019-03-27 12:53:49
Local clock offset: 0.067 ms
Remote clock offset: 1.377 ms


# Below is generated by plot.py at 2019-03-27 14:14:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.58 Mbit/s
95th percentile per-packet one-way delay: 57.266 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 48.16 Mbit/s
95th percentile per-packet one-way delay: 46.112 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 23.91 Mbit/s
95th percentile per-packet one-way delay: 57.270 ms
Loss rate: 1.14%
```
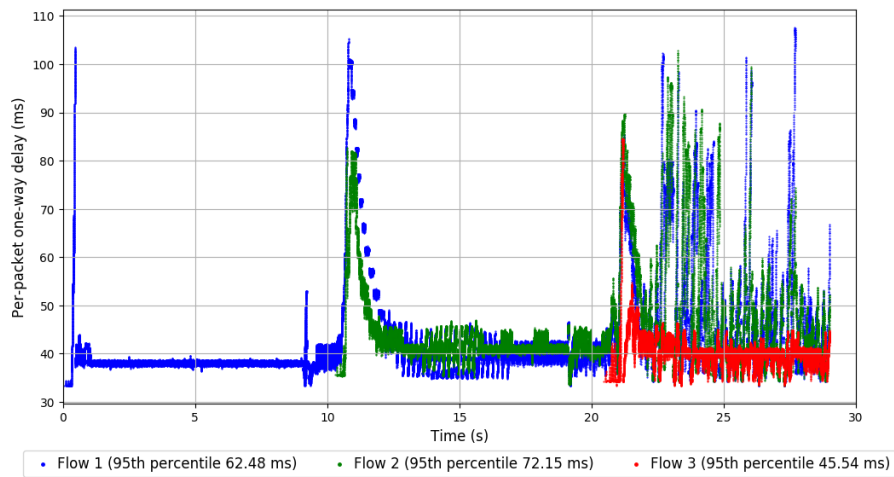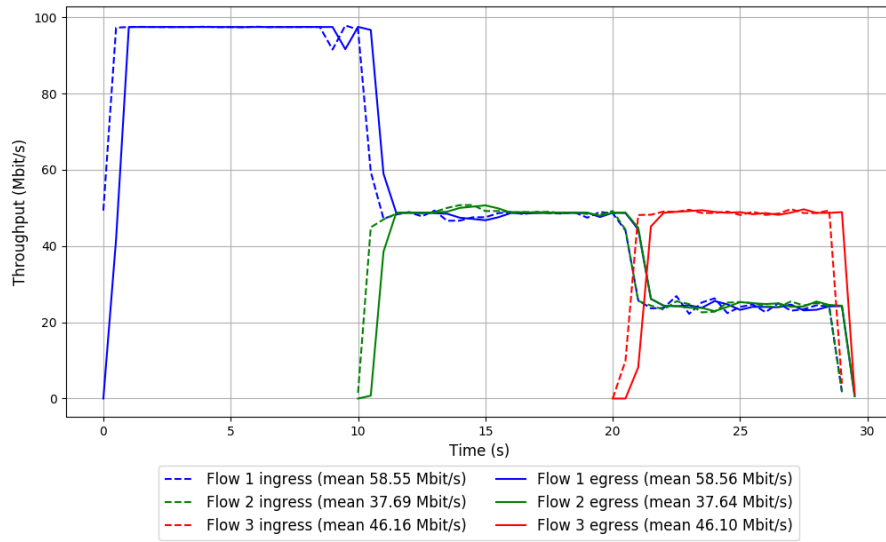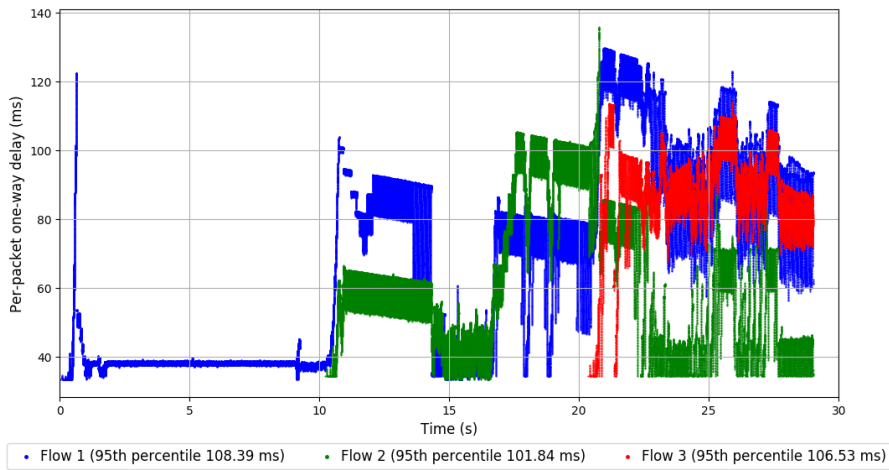
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 58.19 Mbit/s) --- Flow 1 egress (mean 58.18 Mbit/s)
Flow 2 ingress (mean 48.20 Mbit/s) --- Flow 2 egress (mean 48.16 Mbit/s)
Flow 3 ingress (mean 24.00 Mbit/s) --- Flow 3 egress (mean 23.91 Mbit/s)

Flow 1 (95th percentile 64.07 ms) • Flow 2 (95th percentile 46.11 ms) • Flow 3 (95th percentile 57.27 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:19:04
End at: 2019-03-27 13:19:34
Local clock offset: 0.647 ms
Remote clock offset: 2.096 ms


# Below is generated by plot.py at 2019-03-27 14:14:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 56.348 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 58.61 Mbit/s
95th percentile per-packet one-way delay: 57.084 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 48.01 Mbit/s
95th percentile per-packet one-way delay: 57.170 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 22.88 Mbit/s
95th percentile per-packet one-way delay: 46.516 ms
Loss rate: 0.94%
```

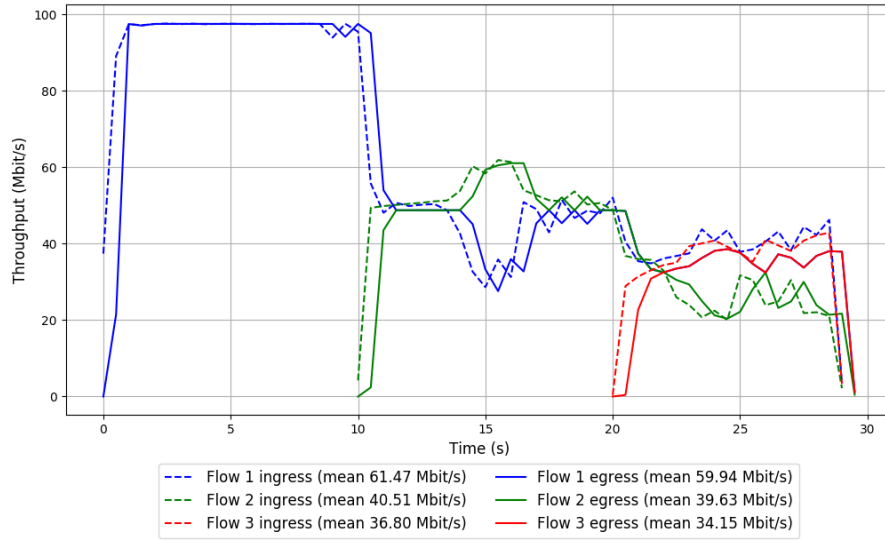Run 4: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 58.58 Mbit/s) ——— Flow 1 egress (mean 58.61 Mbit/s)
- - - - Flow 2 ingress (mean 48.07 Mbit/s) ——— Flow 2 egress (mean 48.01 Mbit/s)
- - - - Flow 3 ingress (mean 22.92 Mbit/s) ——— Flow 3 egress (mean 22.88 Mbit/s)

• Flow 1 (95th percentile 57.08 ms)   • Flow 2 (95th percentile 57.17 ms)   • Flow 3 (95th percentile 46.52 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:44:43
End at: 2019-03-27 13:45:13
Local clock offset: 3.715 ms
Remote clock offset: 3.004 ms


# Below is generated by plot.py at 2019-03-27 14:14:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.45 Mbit/s
95th percentile per-packet one-way delay: 64.120 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 58.56 Mbit/s
95th percentile per-packet one-way delay: 62.477 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 37.64 Mbit/s
95th percentile per-packet one-way delay: 72.148 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 46.10 Mbit/s
95th percentile per-packet one-way delay: 45.539 ms
Loss rate: 0.87%
```
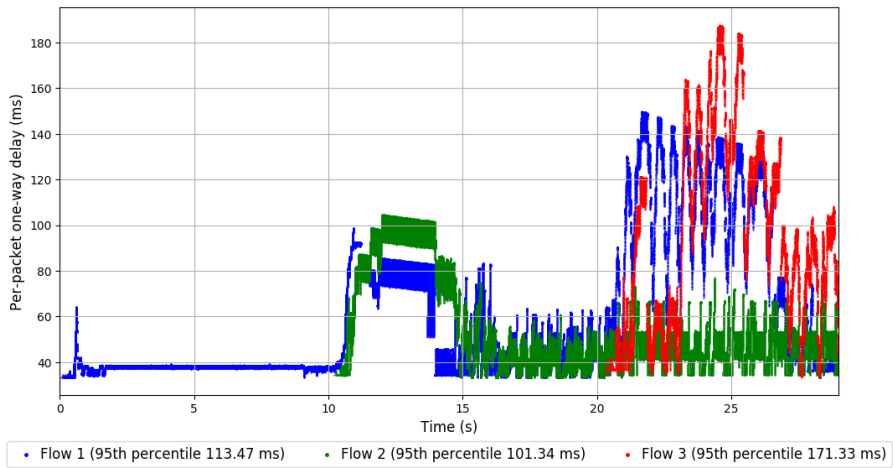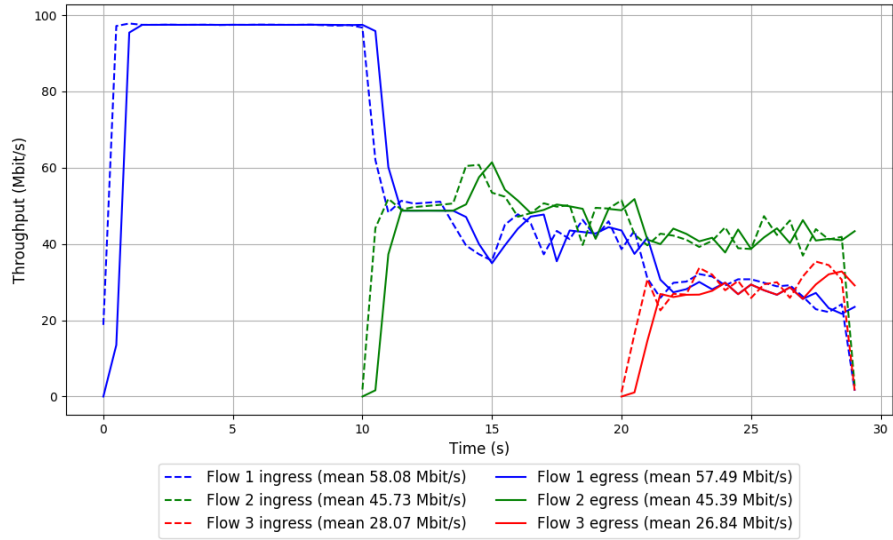
Run 5: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 58.55 Mbit/s) —— Flow 1 egress (mean 58.56 Mbit/s)
- - - Flow 2 ingress (mean 37.69 Mbit/s) —— Flow 2 egress (mean 37.64 Mbit/s)
- - - Flow 3 ingress (mean 46.16 Mbit/s) —— Flow 3 egress (mean 46.10 Mbit/s)

- Flow 1 (95th percentile 62.48 ms) • Flow 2 (95th percentile 72.15 ms) • Flow 3 (95th percentile 45.54 ms)

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```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:08:10
End at: 2019-03-27 12:08:40
Local clock offset: 3.332 ms
Remote clock offset: -1.195 ms


# Below is generated by plot.py at 2019-03-27 14:14:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.87 Mbit/s
95th percentile per-packet one-way delay: 103.969 ms
Loss rate: 3.21%
-- Flow 1:
Average throughput: 59.94 Mbit/s
95th percentile per-packet one-way delay: 108.389 ms
Loss rate: 2.68%
-- Flow 2:
Average throughput: 39.63 Mbit/s
95th percentile per-packet one-way delay: 101.844 ms
Loss rate: 2.48%
-- Flow 3:
Average throughput: 34.15 Mbit/s
95th percentile per-packet one-way delay: 106.531 ms
Loss rate: 7.82%
```
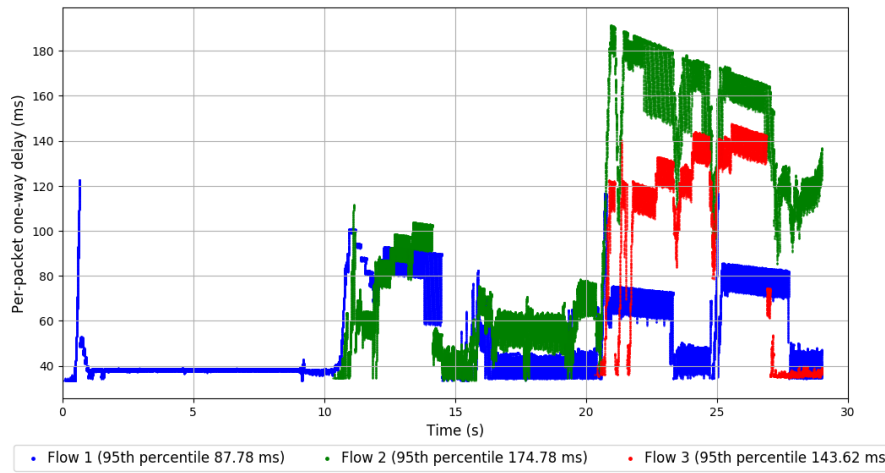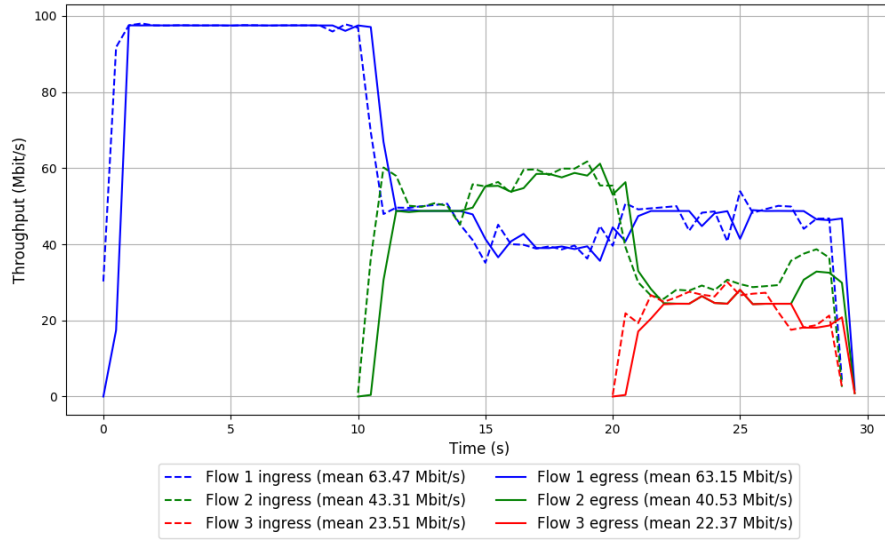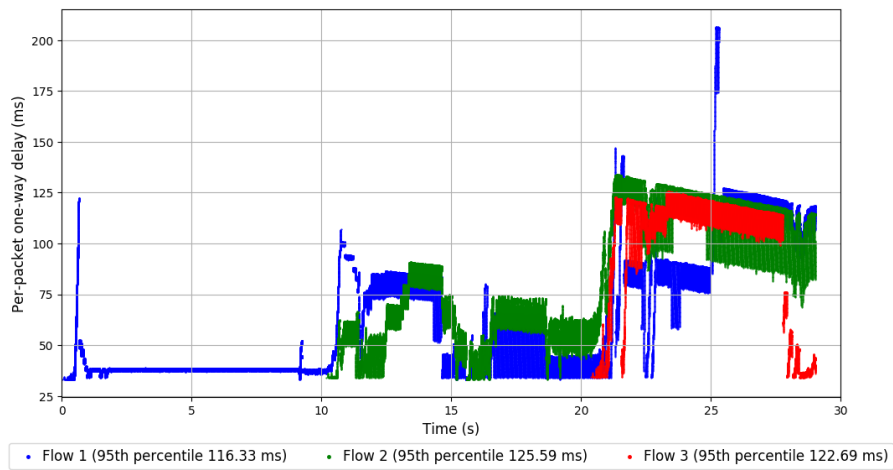
Run 1: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 61.47 Mbit/s) —— Flow 1 egress (mean 59.94 Mbit/s)
- - - Flow 2 ingress (mean 40.51 Mbit/s) —— Flow 2 egress (mean 39.63 Mbit/s)
- - - Flow 3 ingress (mean 36.80 Mbit/s) —— Flow 3 egress (mean 34.15 Mbit/s)

• Flow 1 (95th percentile 108.39 ms)   • Flow 2 (95th percentile 101.84 ms)   • Flow 3 (95th percentile 106.53 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:33:47
End at: 2019-03-27 12:34:17
Local clock offset: 0.823 ms
Remote clock offset: 0.583 ms


# Below is generated by plot.py at 2019-03-27 14:14:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 120.677 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 57.49 Mbit/s
95th percentile per-packet one-way delay: 113.474 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 45.39 Mbit/s
95th percentile per-packet one-way delay: 101.340 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 26.84 Mbit/s
95th percentile per-packet one-way delay: 171.329 ms
Loss rate: 5.07%
```
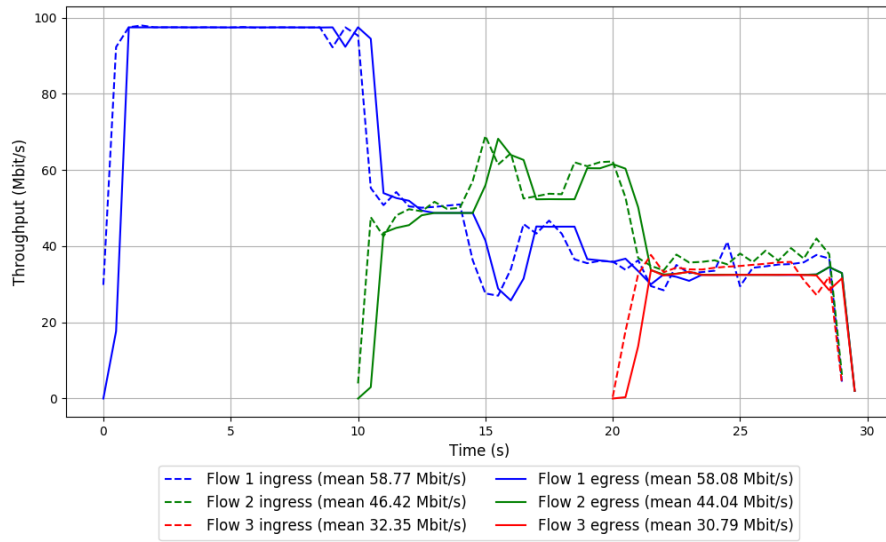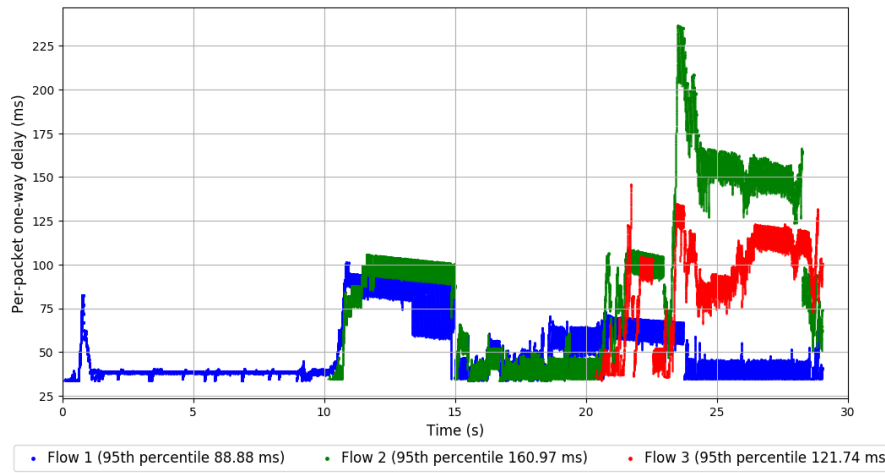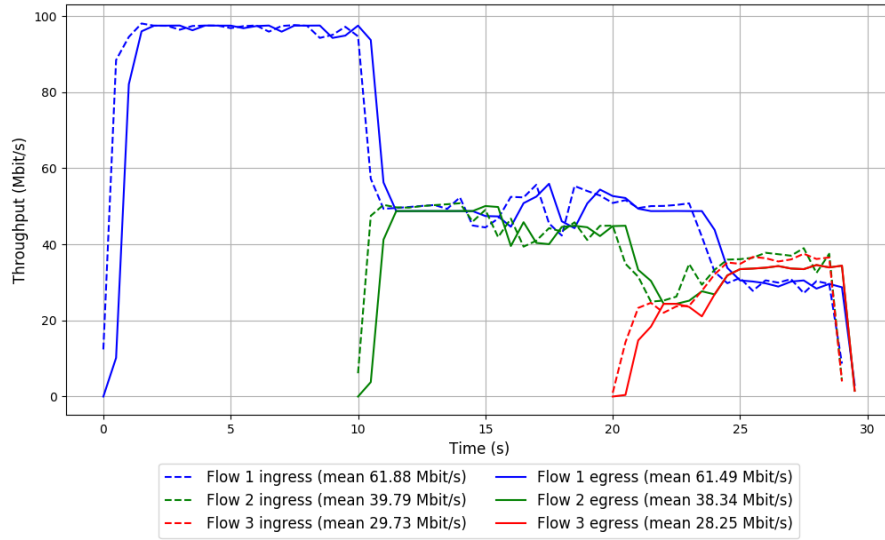
Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 58.08 Mbit/s) --- Flow 1 egress (mean 57.49 Mbit/s)
Flow 2 ingress (mean 45.73 Mbit/s) --- Flow 2 egress (mean 45.39 Mbit/s)
Flow 3 ingress (mean 28.07 Mbit/s) --- Flow 3 egress (mean 26.84 Mbit/s)

Flow 1 (95th percentile 113.47 ms)   Flow 2 (95th percentile 101.34 ms)   Flow 3 (95th percentile 171.33 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:59:22
End at: 2019-03-27 12:59:52
Local clock offset: -0.102 ms
Remote clock offset: 1.525 ms


# Below is generated by plot.py at 2019-03-27 14:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.99 Mbit/s
95th percentile per-packet one-way delay: 145.541 ms
Loss rate: 2.76%
-- Flow 1:
Average throughput: 63.15 Mbit/s
95th percentile per-packet one-way delay: 87.776 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 40.53 Mbit/s
95th percentile per-packet one-way delay: 174.778 ms
Loss rate: 6.69%
-- Flow 3:
Average throughput: 22.37 Mbit/s
95th percentile per-packet one-way delay: 143.616 ms
Loss rate: 5.54%
```

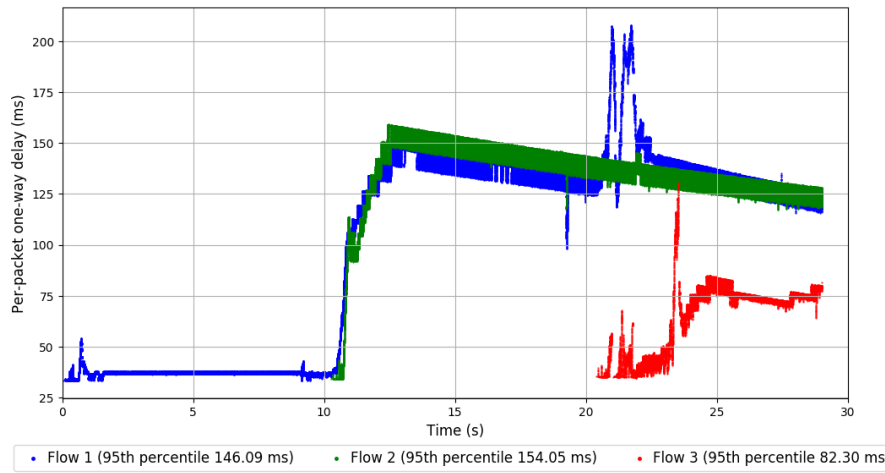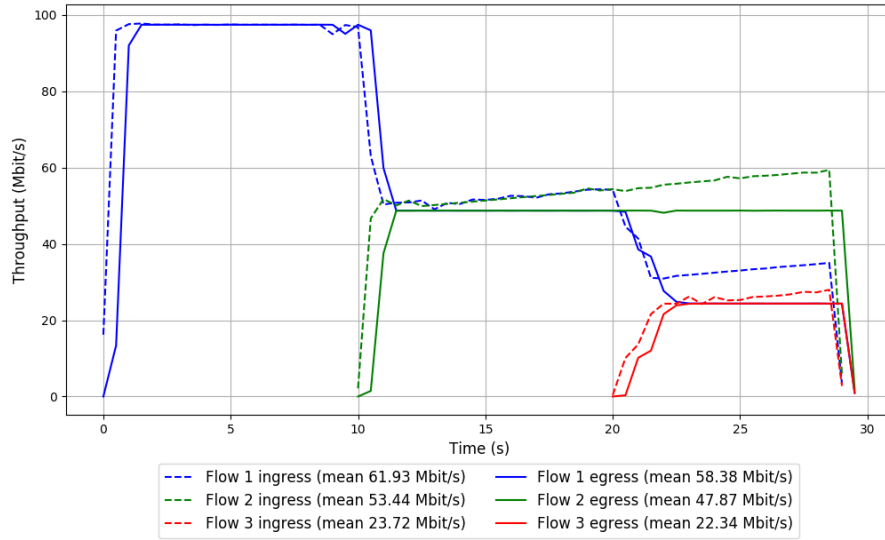Run 3: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 63.47 Mbit/s) ——— Flow 1 egress (mean 63.15 Mbit/s)
- - - - Flow 2 ingress (mean 43.31 Mbit/s) ——— Flow 2 egress (mean 40.53 Mbit/s)
- - - - Flow 3 ingress (mean 23.51 Mbit/s) ——— Flow 3 egress (mean 22.37 Mbit/s)

• Flow 1 (95th percentile 87.78 ms)   • Flow 2 (95th percentile 174.78 ms)   • Flow 3 (95th percentile 143.62 ms)

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```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:25:08
End at: 2019-03-27 13:25:38
Local clock offset: 2.102 ms
Remote clock offset: 2.553 ms


# Below is generated by plot.py at 2019-03-27 14:15:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 121.768 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 58.08 Mbit/s
95th percentile per-packet one-way delay: 116.329 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 44.04 Mbit/s
95th percentile per-packet one-way delay: 125.587 ms
Loss rate: 5.44%
-- Flow 3:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 122.688 ms
Loss rate: 5.52%
```
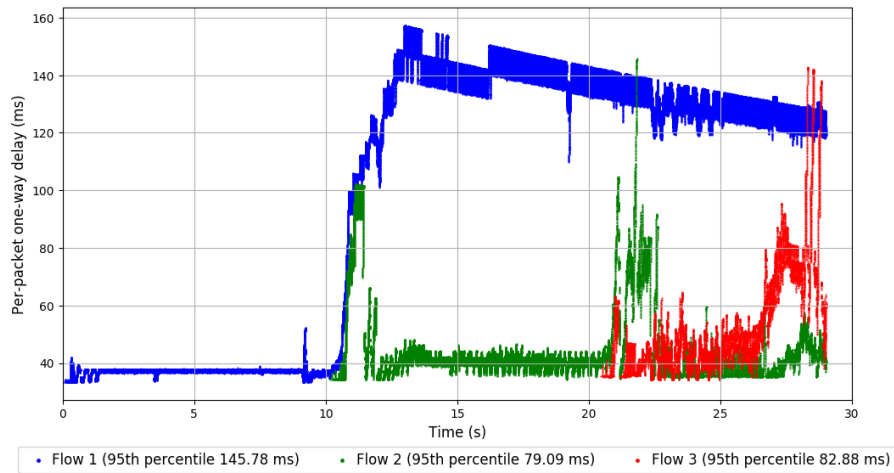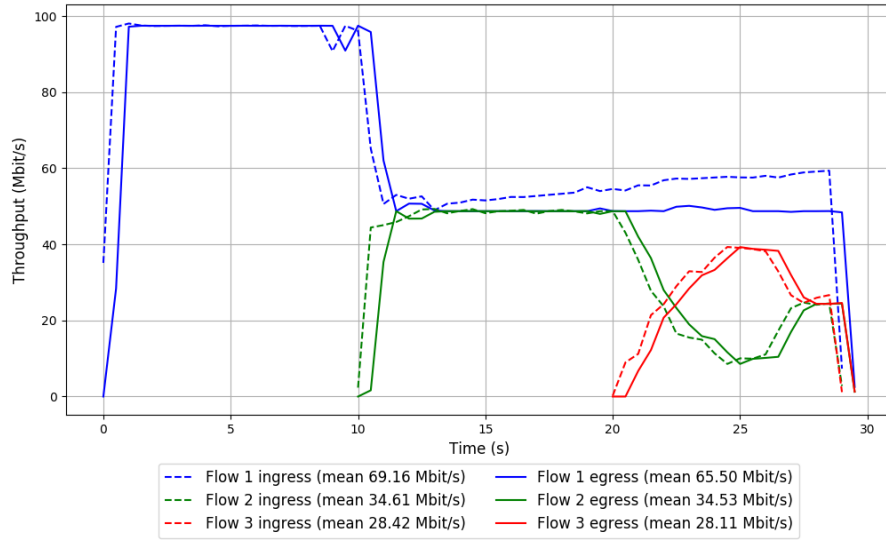
Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 58.77 Mbit/s) — — — Flow 1 egress (mean 58.08 Mbit/s)
Flow 2 ingress (mean 46.42 Mbit/s) — — — Flow 2 egress (mean 44.04 Mbit/s)
Flow 3 ingress (mean 32.35 Mbit/s) — — — Flow 3 egress (mean 30.79 Mbit/s)

Flow 1 (95th percentile 116.33 ms)   Flow 2 (95th percentile 125.59 ms)   Flow 3 (95th percentile 122.69 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:50:47
End at: 2019-03-27 13:51:17
Local clock offset: 2.165 ms
Remote clock offset: 2.998 ms


# Below is generated by plot.py at 2019-03-27 14:15:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.94 Mbit/s
95th percentile per-packet one-way delay: 143.898 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 61.49 Mbit/s
95th percentile per-packet one-way delay: 88.884 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 38.34 Mbit/s
95th percentile per-packet one-way delay: 160.969 ms
Loss rate: 3.93%
-- Flow 3:
Average throughput: 28.25 Mbit/s
95th percentile per-packet one-way delay: 121.736 ms
Loss rate: 5.58%
```
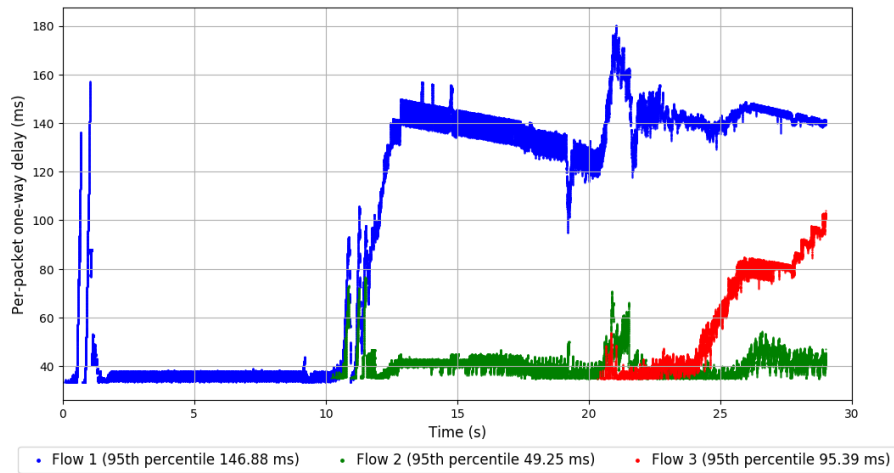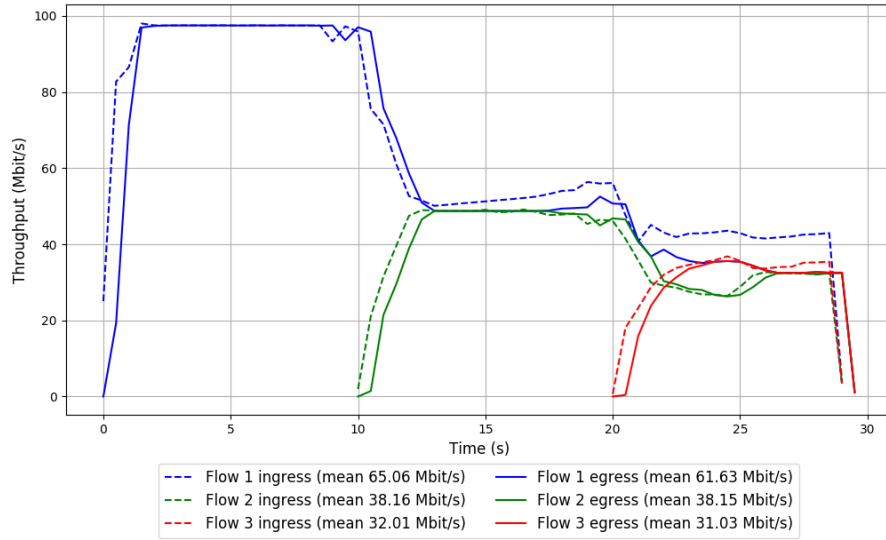
Run 5: Report of Indigo-MusesC5 — Data Link

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```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:13:07
End at: 2019-03-27 12:13:37
Local clock offset: 3.336 ms
Remote clock offset: -0.751 ms


# Below is generated by plot.py at 2019-03-27 14:15:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.99 Mbit/s
95th percentile per-packet one-way delay: 151.370 ms
Loss rate: 7.57%
-- Flow 1:
Average throughput: 58.38 Mbit/s
95th percentile per-packet one-way delay: 146.091 ms
Loss rate: 5.93%
-- Flow 2:
Average throughput: 47.87 Mbit/s
95th percentile per-packet one-way delay: 154.047 ms
Loss rate: 10.71%
-- Flow 3:
Average throughput: 22.34 Mbit/s
95th percentile per-packet one-way delay: 82.301 ms
Loss rate: 6.53%
```
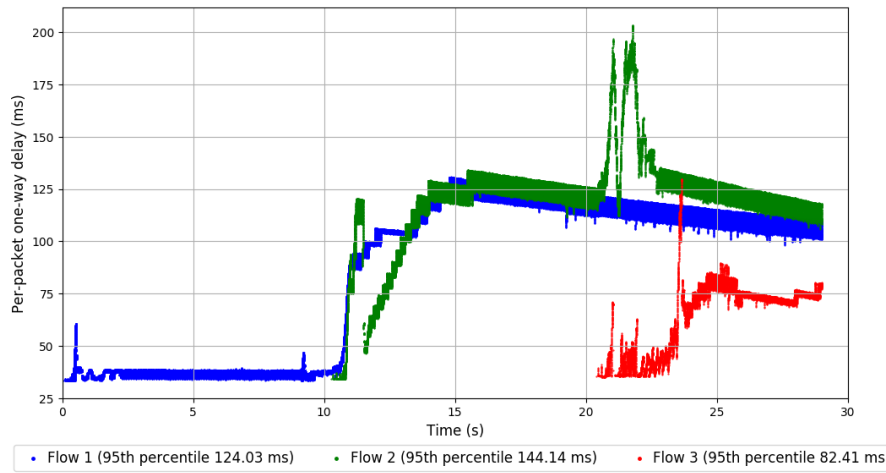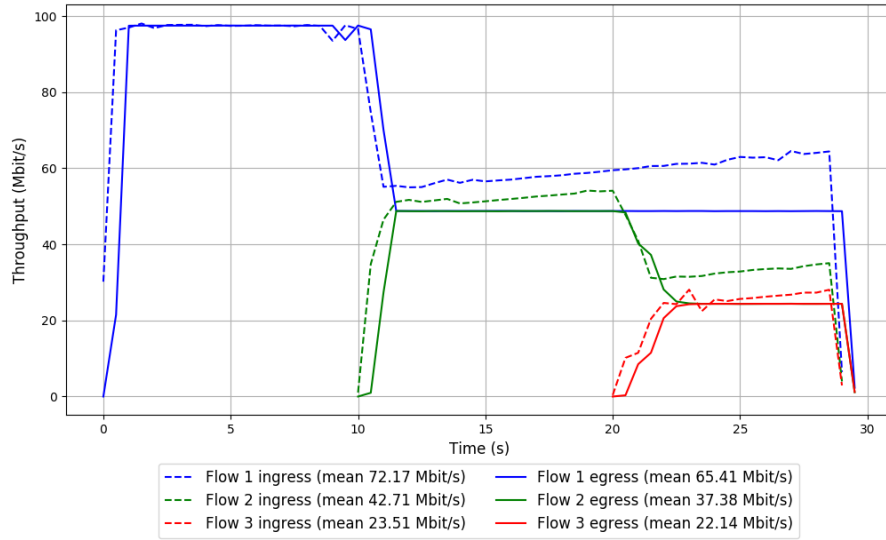
Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 61.93 Mbit/s) --- Flow 1 egress (mean 58.38 Mbit/s)
Flow 2 ingress (mean 53.44 Mbit/s) --- Flow 2 egress (mean 47.87 Mbit/s)
Flow 3 ingress (mean 23.72 Mbit/s) --- Flow 3 egress (mean 22.34 Mbit/s)

Flow 1 (95th percentile 146.09 ms)   Flow 2 (95th percentile 154.05 ms)   Flow 3 (95th percentile 82.30 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:38:44
End at: 2019-03-27 12:39:14
Local clock offset: 0.575 ms
Remote clock offset: 0.747 ms


# Below is generated by plot.py at 2019-03-27 14:15:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 144.081 ms
Loss rate: 4.10%
-- Flow 1:
Average throughput: 65.50 Mbit/s
95th percentile per-packet one-way delay: 145.784 ms
Loss rate: 5.53%
-- Flow 2:
Average throughput: 34.53 Mbit/s
95th percentile per-packet one-way delay: 79.089 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 82.875 ms
Loss rate: 1.85%
```
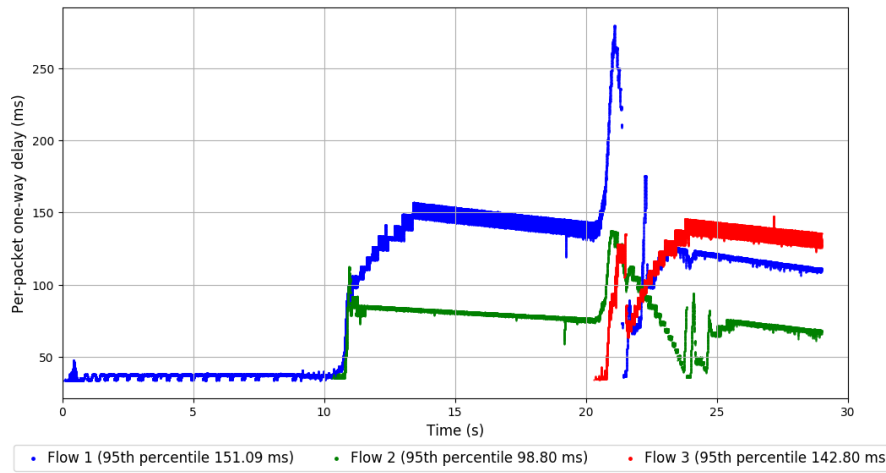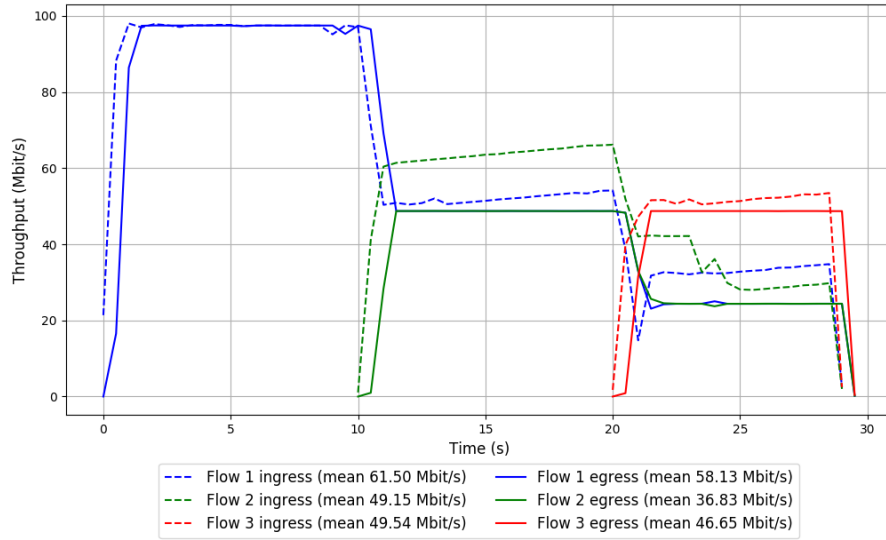
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:04:26
End at: 2019-03-27 13:04:56
Local clock offset: -0.256 ms
Remote clock offset: 1.773 ms


# Below is generated by plot.py at 2019-03-27 14:15:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 145.502 ms
Loss rate: 4.04%
-- Flow 1:
Average throughput: 61.63 Mbit/s
95th percentile per-packet one-way delay: 146.881 ms
Loss rate: 5.48%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 49.247 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 31.03 Mbit/s
95th percentile per-packet one-way delay: 95.389 ms
Loss rate: 3.76%
```
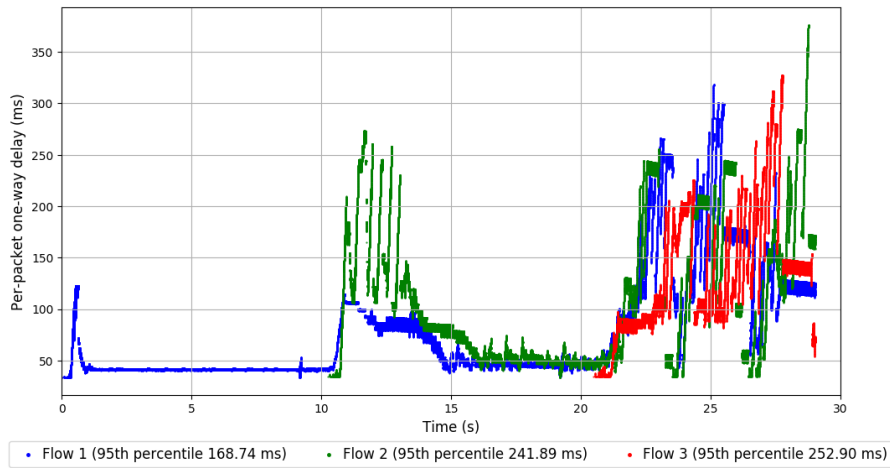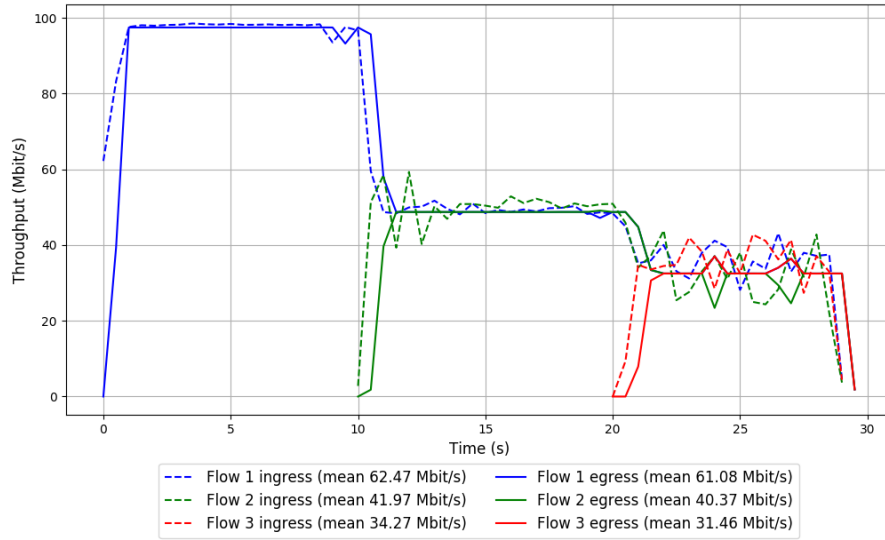
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:30:06
End at: 2019-03-27 13:30:36
Local clock offset: 2.787 ms
Remote clock offset: 2.522 ms


# Below is generated by plot.py at 2019-03-27 14:16:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.19 Mbit/s
95th percentile per-packet one-way delay: 129.063 ms
Loss rate: 10.19%
-- Flow 1:
Average throughput: 65.41 Mbit/s
95th percentile per-packet one-way delay: 124.030 ms
Loss rate: 9.56%
-- Flow 2:
Average throughput: 37.38 Mbit/s
95th percentile per-packet one-way delay: 144.140 ms
Loss rate: 12.77%
-- Flow 3:
Average throughput: 22.14 Mbit/s
95th percentile per-packet one-way delay: 82.405 ms
Loss rate: 6.53%
```
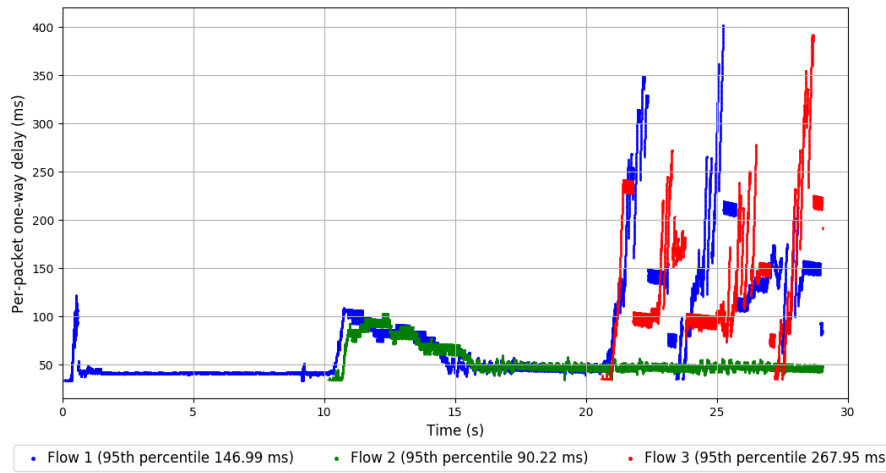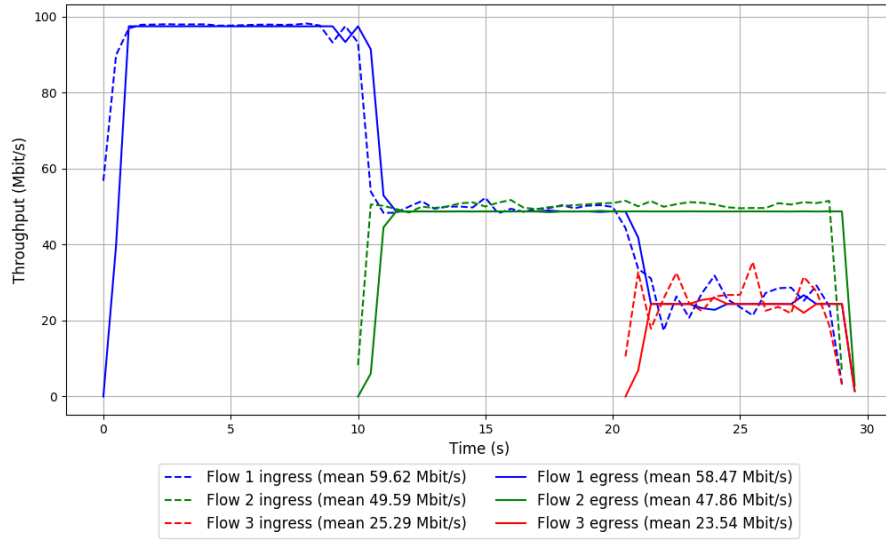
Run 4: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 72.17 Mbit/s)   —— Flow 1 egress (mean 65.41 Mbit/s)
- - - Flow 2 ingress (mean 42.71 Mbit/s)   —— Flow 2 egress (mean 37.38 Mbit/s)
- - - Flow 3 ingress (mean 23.51 Mbit/s)   —— Flow 3 egress (mean 22.14 Mbit/s)

• Flow 1 (95th percentile 124.03 ms)   • Flow 2 (95th percentile 144.14 ms)   • Flow 3 (95th percentile 82.41 ms)

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```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:55:45
End at: 2019-03-27 13:56:15
Local clock offset: 1.198 ms
Remote clock offset: 3.136 ms


# Below is generated by plot.py at 2019-03-27 14:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.94 Mbit/s
95th percentile per-packet one-way delay: 148.259 ms
Loss rate: 11.56%
-- Flow 1:
Average throughput: 58.13 Mbit/s
95th percentile per-packet one-way delay: 151.093 ms
Loss rate: 5.68%
-- Flow 2:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 98.795 ms
Loss rate: 25.33%
-- Flow 3:
Average throughput: 46.65 Mbit/s
95th percentile per-packet one-way delay: 142.798 ms
Loss rate: 6.52%
```
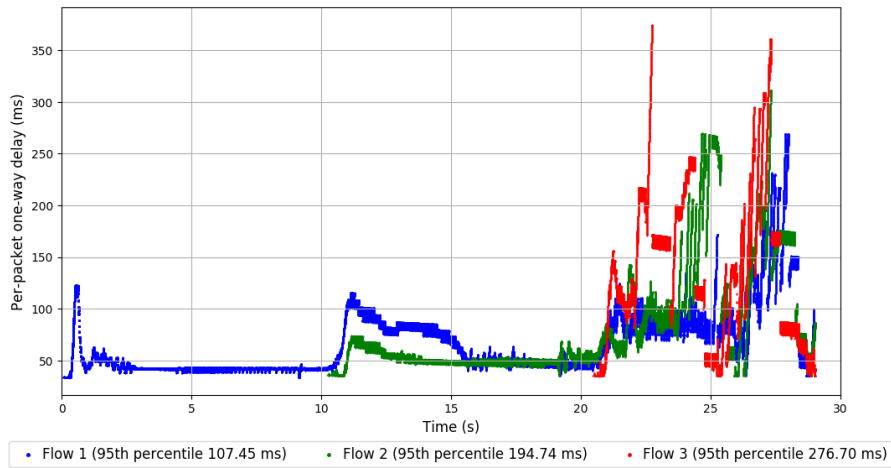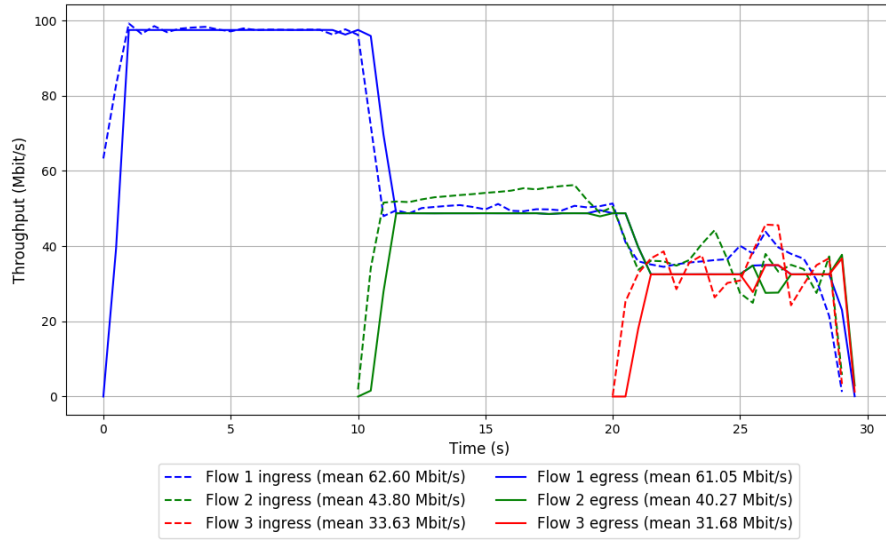
Run 5: Report of Indigo-MusesD — Data Link

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```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:09:23
End at: 2019-03-27 12:09:53
Local clock offset: 3.338 ms
Remote clock offset: -1.28 ms

# Below is generated by plot.py at 2019-03-27 14:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.48 Mbit/s
95th percentile per-packet one-way delay: 214.308 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 61.08 Mbit/s
95th percentile per-packet one-way delay: 168.738 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 241.893 ms
Loss rate: 4.14%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 252.897 ms
Loss rate: 8.89%
```
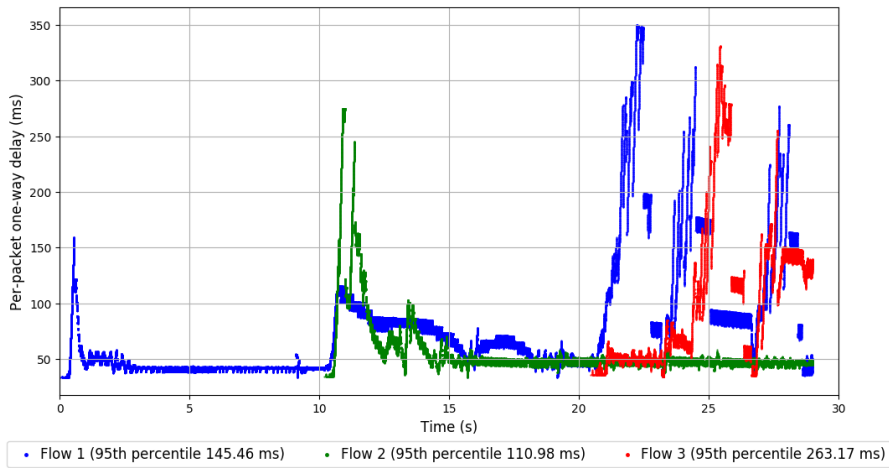
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:35:00
End at: 2019-03-27 12:35:30
Local clock offset: 0.762 ms
Remote clock offset: 0.584 ms


# Below is generated by plot.py at 2019-03-27 14:16:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.51 Mbit/s
95th percentile per-packet one-way delay: 155.407 ms
Loss rate: 3.08%
-- Flow 1:
Average throughput: 58.47 Mbit/s
95th percentile per-packet one-way delay: 146.990 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 47.86 Mbit/s
95th percentile per-packet one-way delay: 90.220 ms
Loss rate: 3.82%
-- Flow 3:
Average throughput: 23.54 Mbit/s
95th percentile per-packet one-way delay: 267.954 ms
Loss rate: 7.56%
```
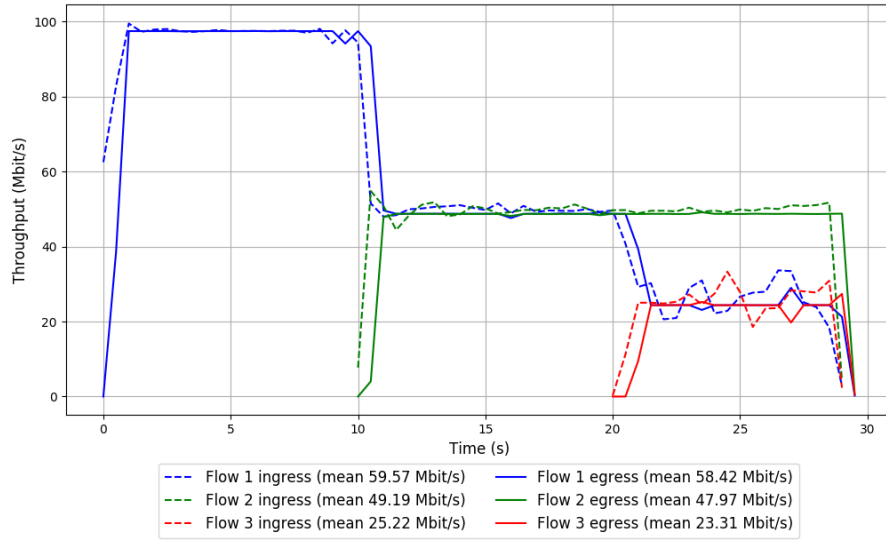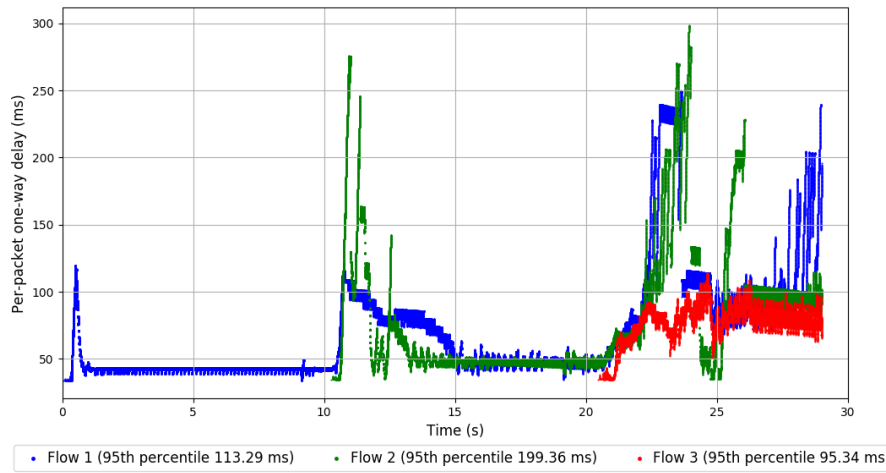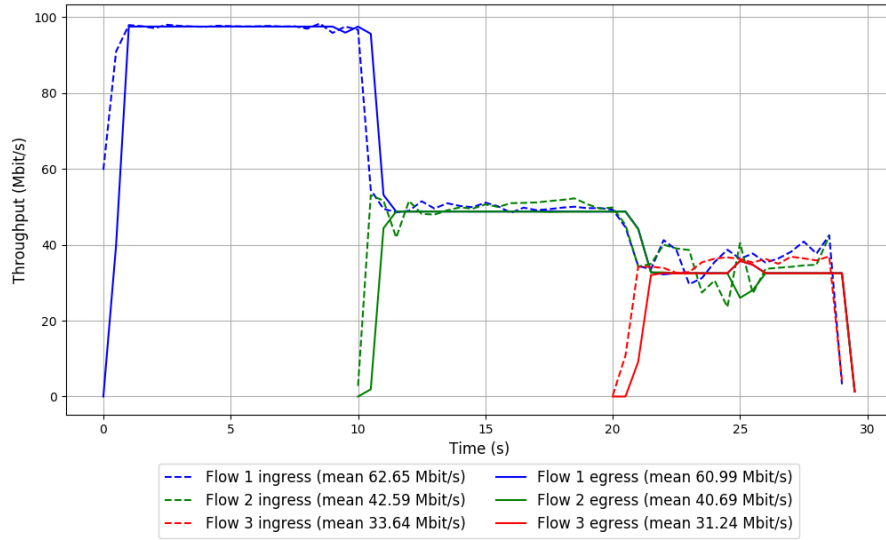
Run 2: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 59.62 Mbit/s) — Flow 1 egress (mean 58.47 Mbit/s)
- - - Flow 2 ingress (mean 49.59 Mbit/s) — Flow 2 egress (mean 47.86 Mbit/s)
- - - Flow 3 ingress (mean 25.29 Mbit/s) — Flow 3 egress (mean 23.54 Mbit/s)

- Flow 1 (95th percentile 146.99 ms)   - Flow 2 (95th percentile 90.22 ms)   - Flow 3 (95th percentile 267.95 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:00:36
End at: 2019-03-27 13:01:06
Local clock offset: -0.146 ms
Remote clock offset: 1.583 ms


# Below is generated by plot.py at 2019-03-27 14:16:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.55 Mbit/s
95th percentile per-packet one-way delay: 174.592 ms
Loss rate: 4.67%
-- Flow 1:
Average throughput: 61.05 Mbit/s
95th percentile per-packet one-way delay: 107.455 ms
Loss rate: 2.69%
-- Flow 2:
Average throughput: 40.27 Mbit/s
95th percentile per-packet one-way delay: 194.741 ms
Loss rate: 8.38%
-- Flow 3:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 276.705 ms
Loss rate: 6.54%
```
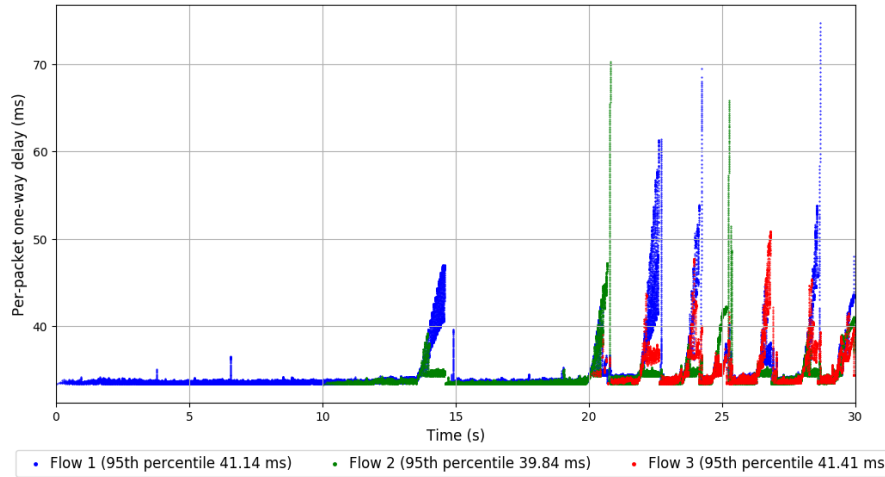
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:26:21
End at: 2019-03-27 13:26:51
Local clock offset: 2.296 ms
Remote clock offset: 2.476 ms


# Below is generated by plot.py at 2019-03-27 14:16:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.46 Mbit/s
95th percentile per-packet one-way delay: 149.644 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 145.455 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 47.97 Mbit/s
95th percentile per-packet one-way delay: 110.976 ms
Loss rate: 2.81%
-- Flow 3:
Average throughput: 23.31 Mbit/s
95th percentile per-packet one-way delay: 263.171 ms
Loss rate: 8.24%
```
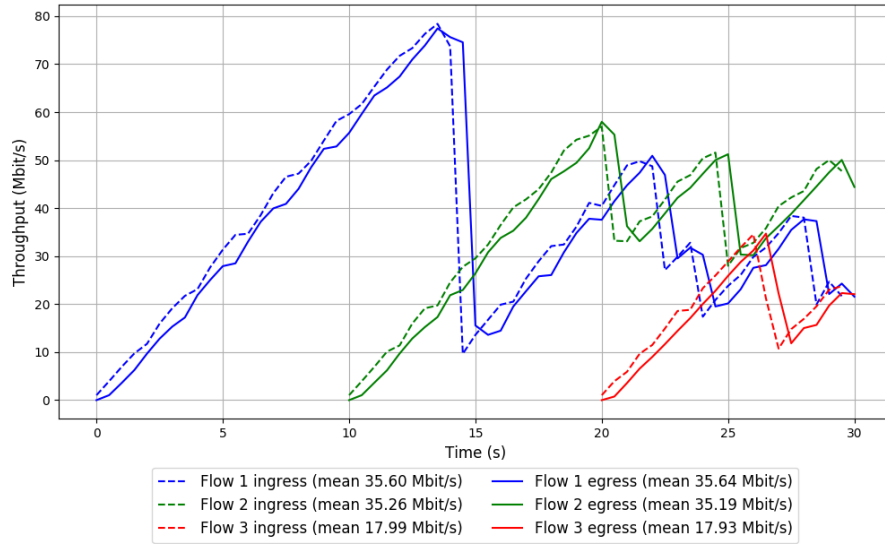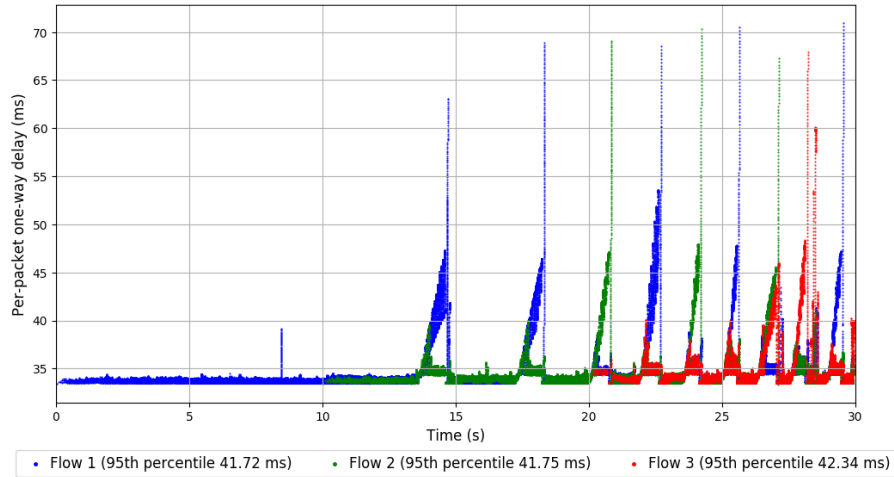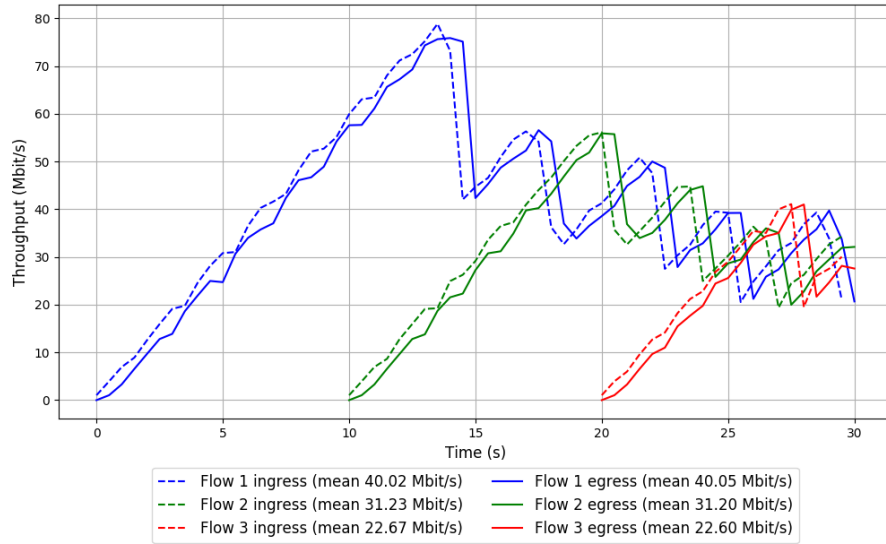
Run 4: Report of Indigo-MusesT — Data Link

- - - - Flow 1 ingress (mean 59.57 Mbit/s) —— Flow 1 egress (mean 58.42 Mbit/s)
- - - - Flow 2 ingress (mean 49.19 Mbit/s) —— Flow 2 egress (mean 47.97 Mbit/s)
- - - - Flow 3 ingress (mean 25.22 Mbit/s) —— Flow 3 egress (mean 23.31 Mbit/s)

• Flow 1 (95th percentile 145.46 ms)   • Flow 2 (95th percentile 110.98 ms)   • Flow 3 (95th percentile 263.17 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:52:00
End at: 2019-03-27 13:52:30
Local clock offset: 1.896 ms
Remote clock offset: 2.947 ms


# Below is generated by plot.py at 2019-03-27 14:16:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.55 Mbit/s
95th percentile per-packet one-way delay: 143.149 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 60.99 Mbit/s
95th percentile per-packet one-way delay: 113.293 ms
Loss rate: 2.77%
-- Flow 2:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 199.358 ms
Loss rate: 4.51%
-- Flow 3:
Average throughput: 31.24 Mbit/s
95th percentile per-packet one-way delay: 95.343 ms
Loss rate: 7.74%
```
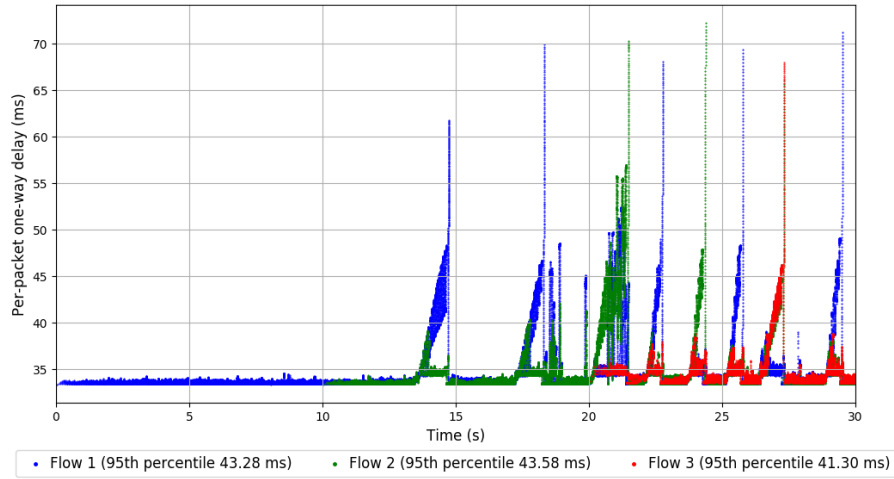
Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 12:21:43
End at: 2019-03-27 12:22:13
Local clock offset: 2.031 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2019-03-27 14:16:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.99 Mbit/s
95th percentile per-packet one-way delay: 40.633 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 35.64 Mbit/s
95th percentile per-packet one-way delay: 41.141 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 35.19 Mbit/s
95th percentile per-packet one-way delay: 39.838 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 17.93 Mbit/s
95th percentile per-packet one-way delay: 41.415 ms
Loss rate: 0.99%
```
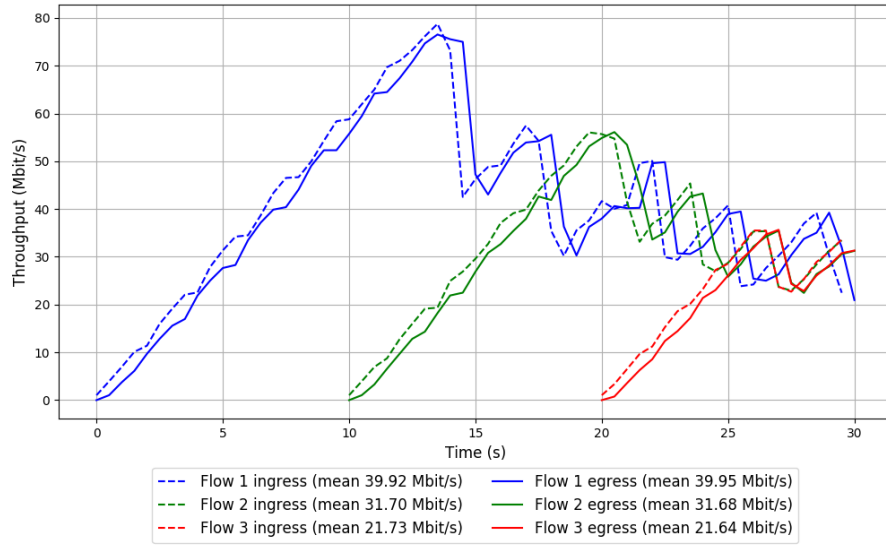
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 12:47:19
End at: 2019-03-27 12:47:49
Local clock offset: 0.254 ms
Remote clock offset: 1.115 ms


# Below is generated by plot.py at 2019-03-27 14:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.29 Mbit/s
95th percentile per-packet one-way delay: 41.835 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 40.05 Mbit/s
95th percentile per-packet one-way delay: 41.722 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.20 Mbit/s
95th percentile per-packet one-way delay: 41.752 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 22.60 Mbit/s
95th percentile per-packet one-way delay: 42.340 ms
Loss rate: 0.93%
```
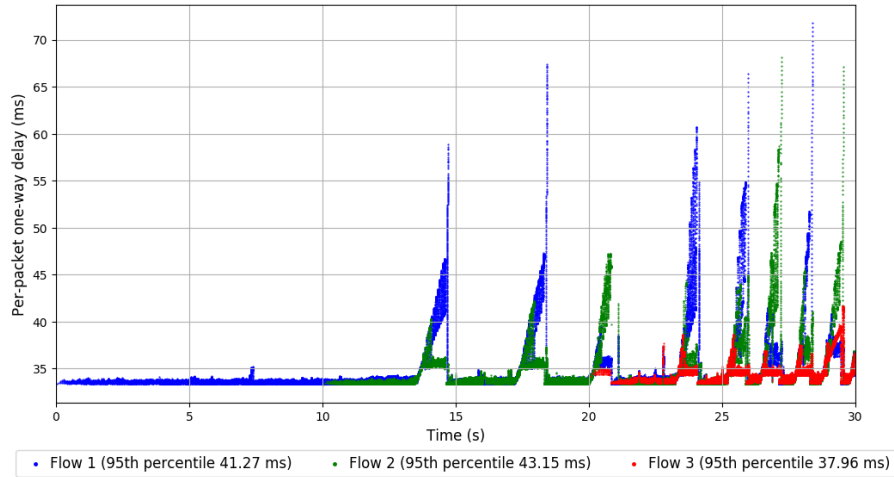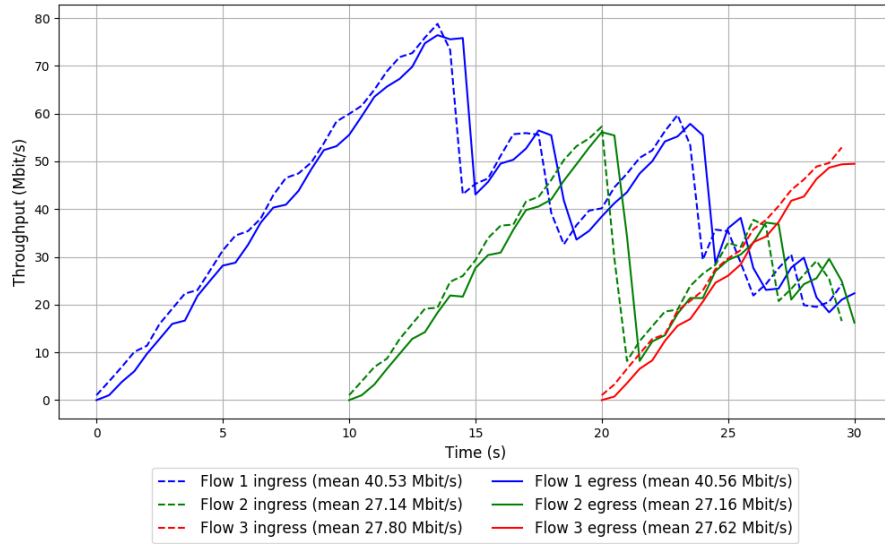
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-03-27 13:13:04
End at: 2019-03-27 13:13:34
Local clock offset: -0.536 ms
Remote clock offset: 2.116 ms


# Below is generated by plot.py at 2019-03-27 14:17:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.20 Mbit/s
95th percentile per-packet one-way delay: 43.217 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 39.95 Mbit/s
95th percentile per-packet one-way delay: 43.281 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 43.576 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 21.64 Mbit/s
95th percentile per-packet one-way delay: 41.300 ms
Loss rate: 1.07%
```
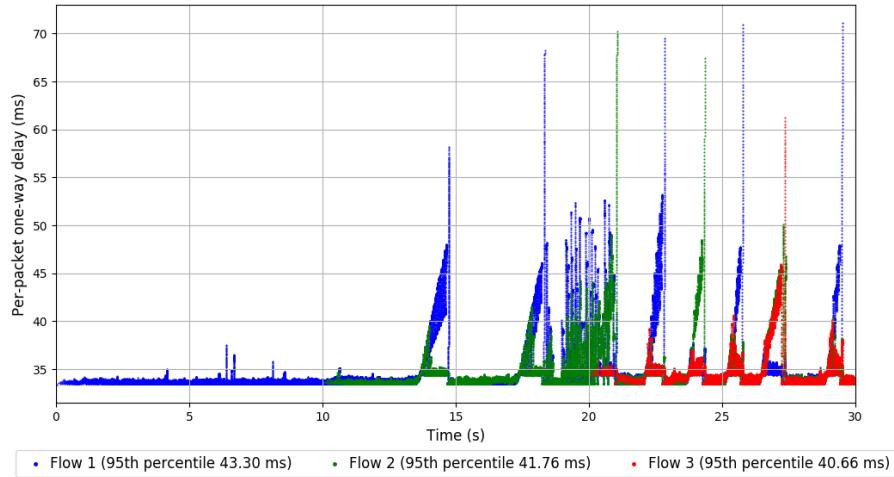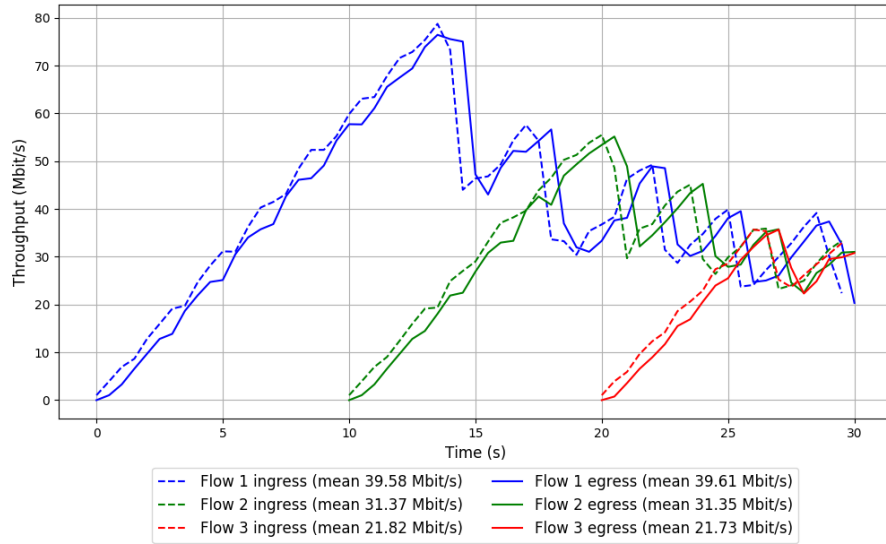
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 39.92 Mbit/s)   Flow 1 egress (mean 39.95 Mbit/s)
Flow 2 ingress (mean 31.70 Mbit/s)   Flow 2 egress (mean 31.68 Mbit/s)
Flow 3 ingress (mean 21.73 Mbit/s)   Flow 3 egress (mean 21.64 Mbit/s)

Flow 1 (95th percentile 43.28 ms)   Flow 2 (95th percentile 43.58 ms)   Flow 3 (95th percentile 41.30 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-03-27 13:38:42
End at: 2019-03-27 13:39:12
Local clock offset: 3.45 ms
Remote clock offset: 2.801 ms


# Below is generated by plot.py at 2019-03-27 14:17:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.75 Mbit/s
95th percentile per-packet one-way delay: 41.233 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 40.56 Mbit/s
95th percentile per-packet one-way delay: 41.273 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 27.16 Mbit/s
95th percentile per-packet one-way delay: 43.147 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 27.62 Mbit/s
95th percentile per-packet one-way delay: 37.958 ms
Loss rate: 1.31%
```
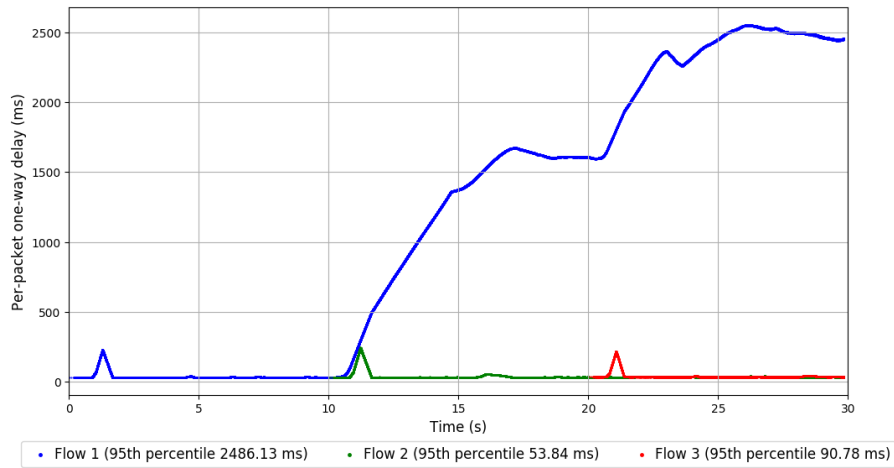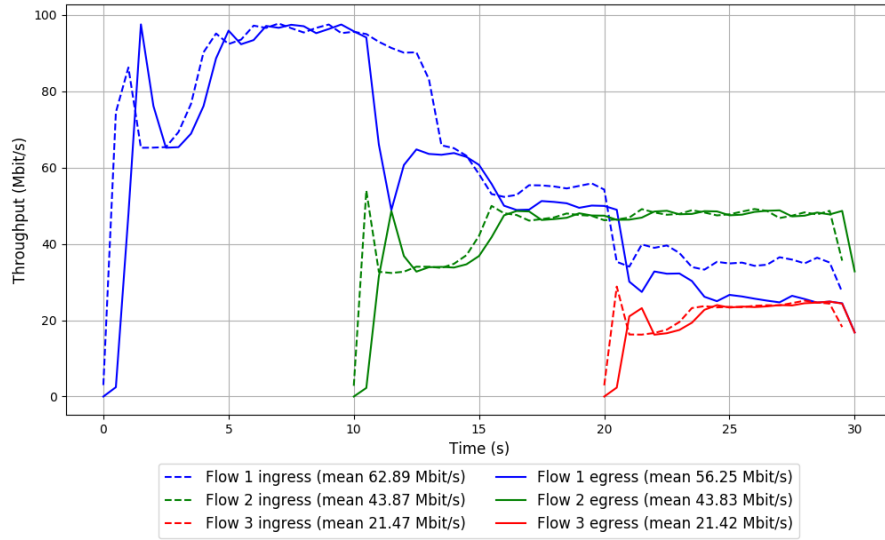
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-03-27 14:04:21
End at: 2019-03-27 14:04:51
Local clock offset: 0.308 ms
Remote clock offset: 3.106 ms

# Below is generated by plot.py at 2019-03-27 14:17:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.68 Mbit/s
95th percentile per-packet one-way delay: 42.582 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 39.61 Mbit/s
95th percentile per-packet one-way delay: 43.300 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 31.35 Mbit/s
95th percentile per-packet one-way delay: 41.757 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 21.73 Mbit/s
95th percentile per-packet one-way delay: 40.664 ms
Loss rate: 1.06%
```
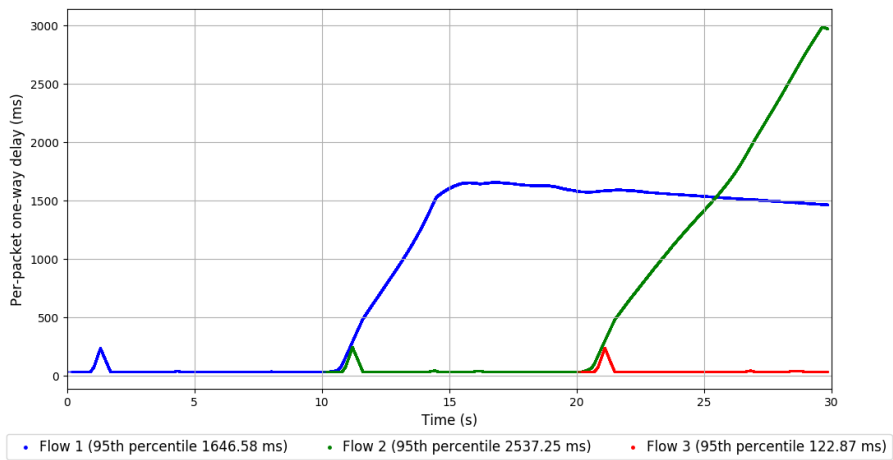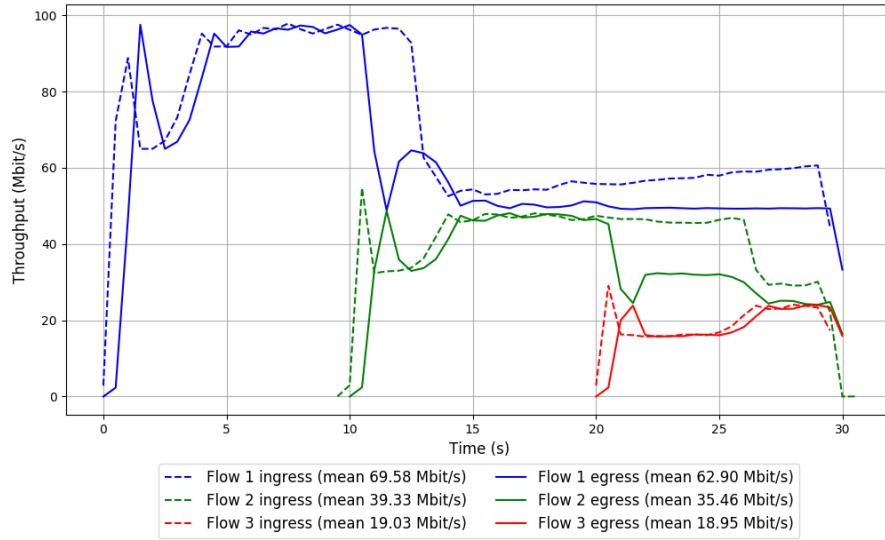
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 12:22:56
End at: 2019-03-27 12:23:26
Local clock offset: 1.857 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-03-27 14:17:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.41 Mbit/s
95th percentile per-packet one-way delay: 2376.905 ms
Loss rate: 7.00%
-- Flow 1:
Average throughput: 56.25 Mbit/s
95th percentile per-packet one-way delay: 2486.128 ms
Loss rate: 10.74%
-- Flow 2:
Average throughput: 43.83 Mbit/s
95th percentile per-packet one-way delay: 53.838 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 21.42 Mbit/s
95th percentile per-packet one-way delay: 90.785 ms
Loss rate: 0.91%
```
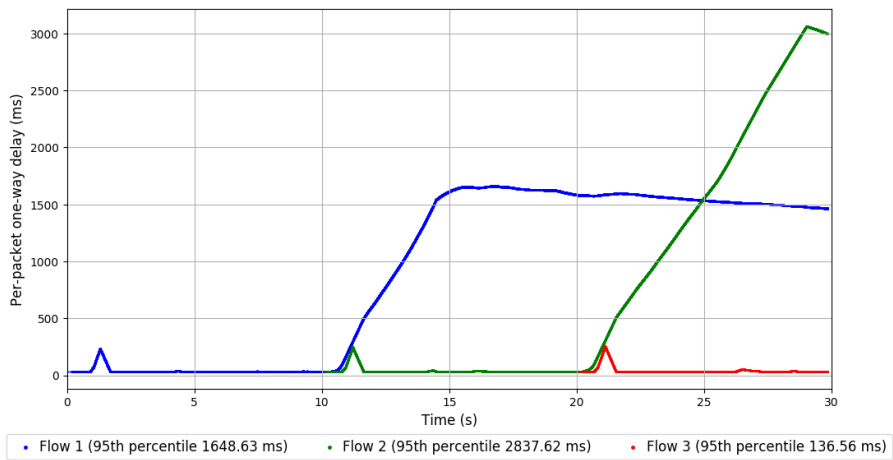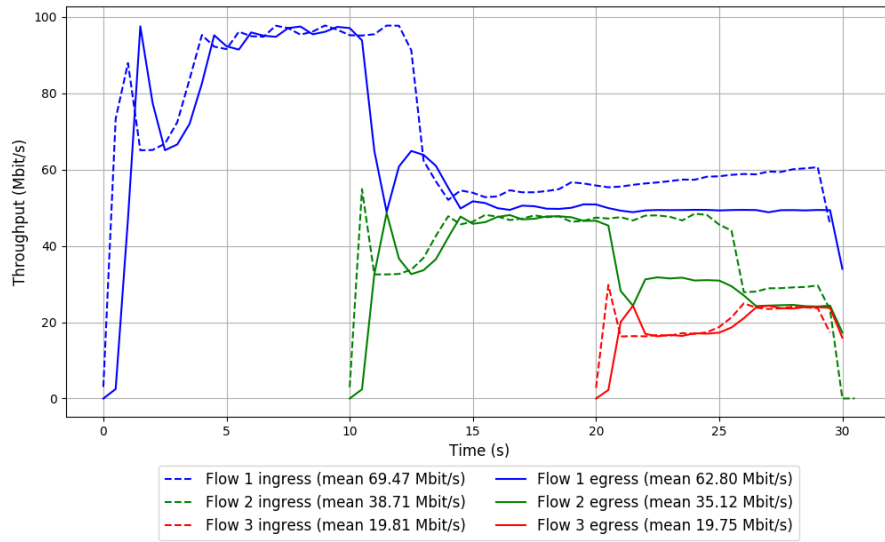
Run 1: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 62.89 Mbit/s)   —— Flow 1 egress (mean 56.25 Mbit/s)
- - - Flow 2 ingress (mean 43.87 Mbit/s)   —— Flow 2 egress (mean 43.83 Mbit/s)
- - - Flow 3 ingress (mean 21.47 Mbit/s)   —— Flow 3 egress (mean 21.42 Mbit/s)

- Flow 1 (95th percentile 2486.13 ms)   • Flow 2 (95th percentile 53.84 ms)   • Flow 3 (95th percentile 90.78 ms)

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```
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 12:48:32
End at: 2019-03-27 12:49:02
Local clock offset: 0.215 ms
Remote clock offset: 1.178 ms


# Below is generated by plot.py at 2019-03-27 14:17:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.69 Mbit/s
95th percentile per-packet one-way delay: 1652.905 ms
Loss rate: 10.43%
-- Flow 1:
Average throughput: 62.90 Mbit/s
95th percentile per-packet one-way delay: 1646.584 ms
Loss rate: 9.78%
-- Flow 2:
Average throughput: 35.46 Mbit/s
95th percentile per-packet one-way delay: 2537.252 ms
Loss rate: 14.22%
-- Flow 3:
Average throughput: 18.95 Mbit/s
95th percentile per-packet one-way delay: 122.869 ms
Loss rate: 1.07%
```
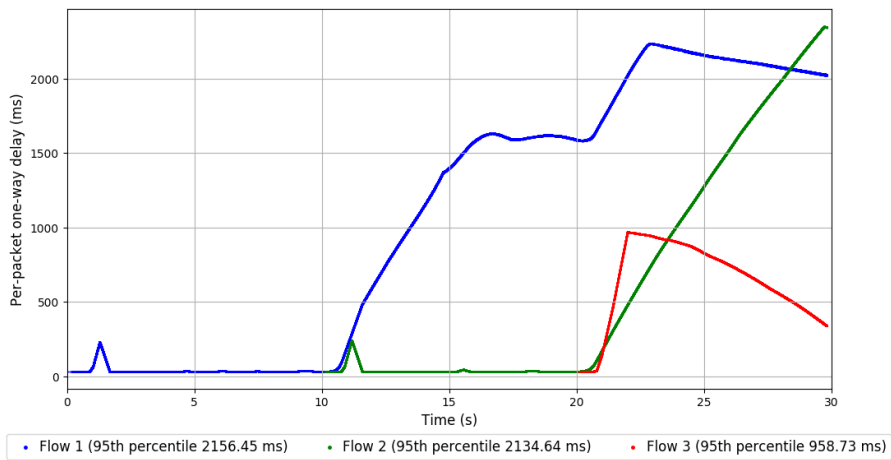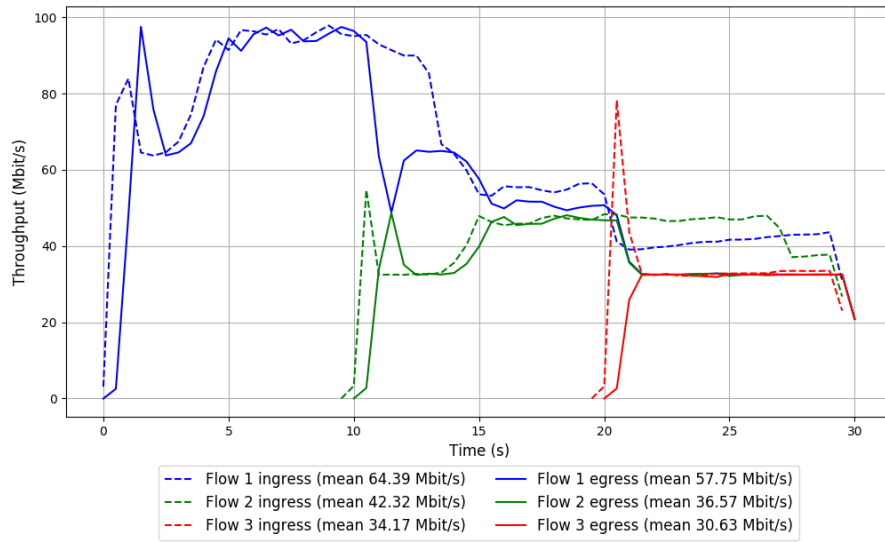
Run 2: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 69.58 Mbit/s)   —— Flow 1 egress (mean 62.90 Mbit/s)
- - - Flow 2 ingress (mean 39.33 Mbit/s)   —— Flow 2 egress (mean 35.46 Mbit/s)
- - - Flow 3 ingress (mean 19.03 Mbit/s)   —— Flow 3 egress (mean 18.95 Mbit/s)

- Flow 1 (95th percentile 1646.58 ms)   • Flow 2 (95th percentile 2537.25 ms)   • Flow 3 (95th percentile 122.87 ms)

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```
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 13:14:17
End at: 2019-03-27 13:14:47
Local clock offset: -0.576 ms
Remote clock offset: 2.155 ms


# Below is generated by plot.py at 2019-03-27 14:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.63 Mbit/s
95th percentile per-packet one-way delay: 1656.442 ms
Loss rate: 10.43%
-- Flow 1:
Average throughput: 62.80 Mbit/s
95th percentile per-packet one-way delay: 1648.635 ms
Loss rate: 9.79%
-- Flow 2:
Average throughput: 35.12 Mbit/s
95th percentile per-packet one-way delay: 2837.620 ms
Loss rate: 14.34%
-- Flow 3:
Average throughput: 19.75 Mbit/s
95th percentile per-packet one-way delay: 136.558 ms
Loss rate: 0.96%
```
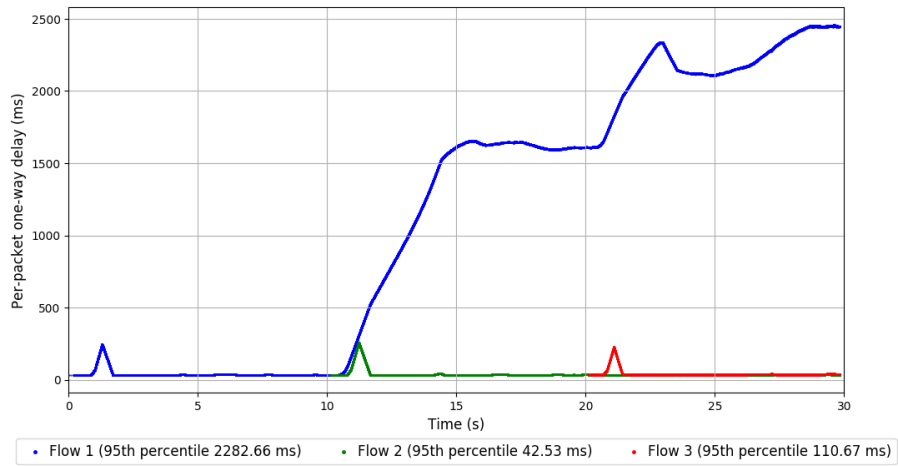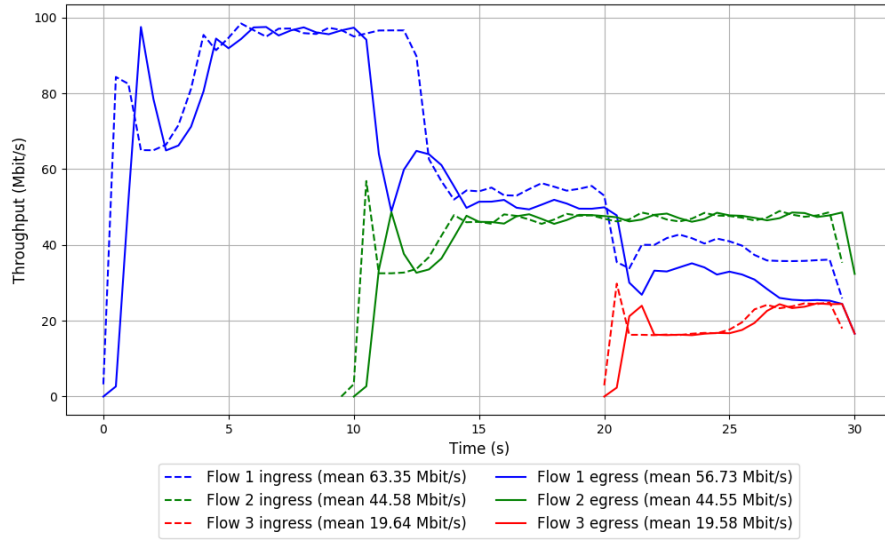
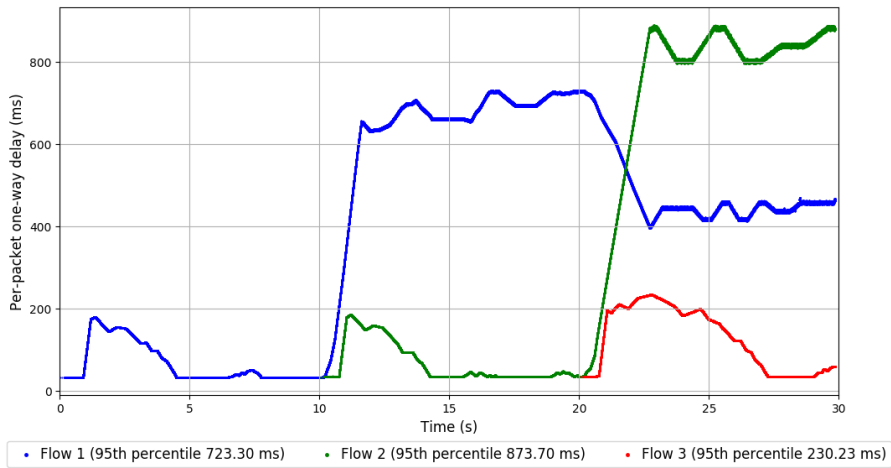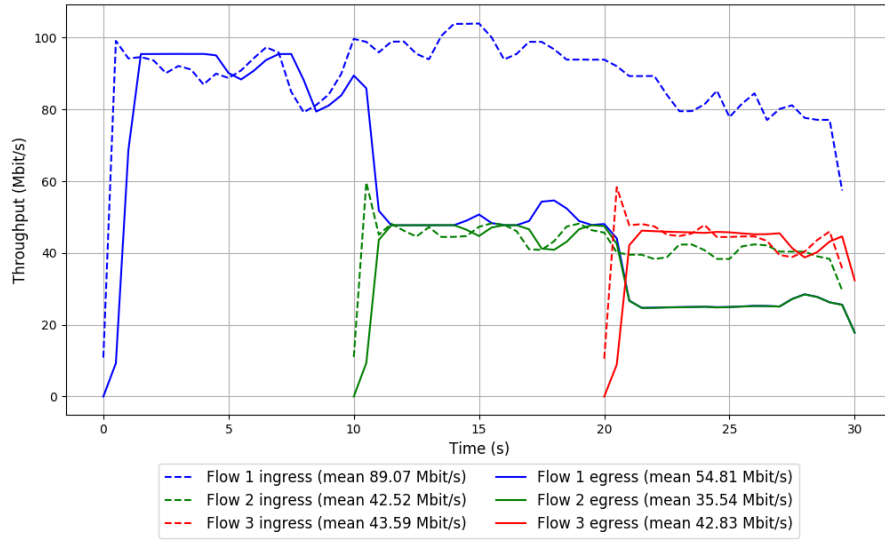# Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 69.47 Mbit/s) Flow 1 egress (mean 62.80 Mbit/s)
Flow 2 ingress (mean 38.71 Mbit/s) Flow 2 egress (mean 35.12 Mbit/s)
Flow 3 ingress (mean 19.81 Mbit/s) Flow 3 egress (mean 19.75 Mbit/s)

Flow 1 (95th percentile 1648.63 ms)   Flow 2 (95th percentile 2837.62 ms)   Flow 3 (95th percentile 136.56 ms)

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```
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 13:39:55
End at: 2019-03-27 13:40:25
Local clock offset: 3.515 ms
Remote clock offset: 2.868 ms


# Below is generated by plot.py at 2019-03-27 14:17:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.16 Mbit/s
95th percentile per-packet one-way delay: 2143.897 ms
Loss rate: 11.45%
-- Flow 1:
Average throughput: 57.75 Mbit/s
95th percentile per-packet one-way delay: 2156.453 ms
Loss rate: 10.49%
-- Flow 2:
Average throughput: 36.57 Mbit/s
95th percentile per-packet one-way delay: 2134.644 ms
Loss rate: 13.84%
-- Flow 3:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 958.726 ms
Loss rate: 10.92%
```

Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 14:05:34
End at: 2019-03-27 14:06:04
Local clock offset: 0.21 ms
Remote clock offset: 3.095 ms


# Below is generated by plot.py at 2019-03-27 14:18:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.77 Mbit/s
95th percentile per-packet one-way delay: 2165.646 ms
Loss rate: 6.94%
-- Flow 1:
Average throughput: 56.73 Mbit/s
95th percentile per-packet one-way delay: 2282.659 ms
Loss rate: 10.62%
-- Flow 2:
Average throughput: 44.55 Mbit/s
95th percentile per-packet one-way delay: 42.530 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 19.58 Mbit/s
95th percentile per-packet one-way delay: 110.672 ms
Loss rate: 1.00%
```
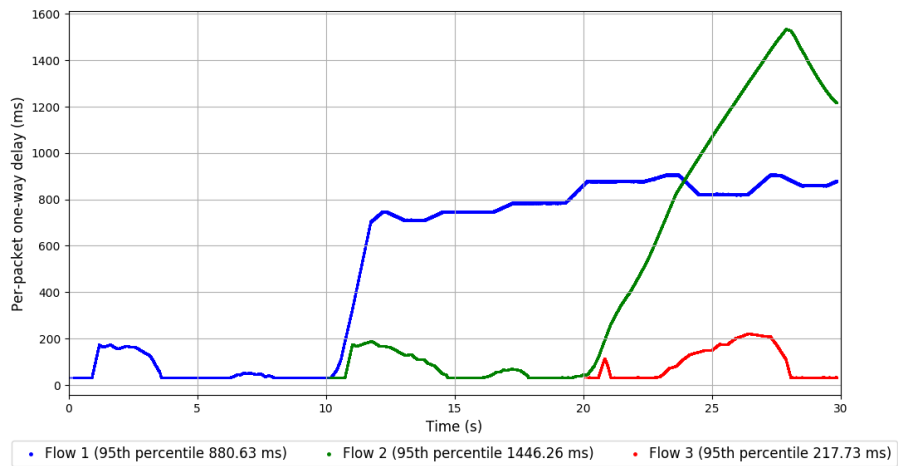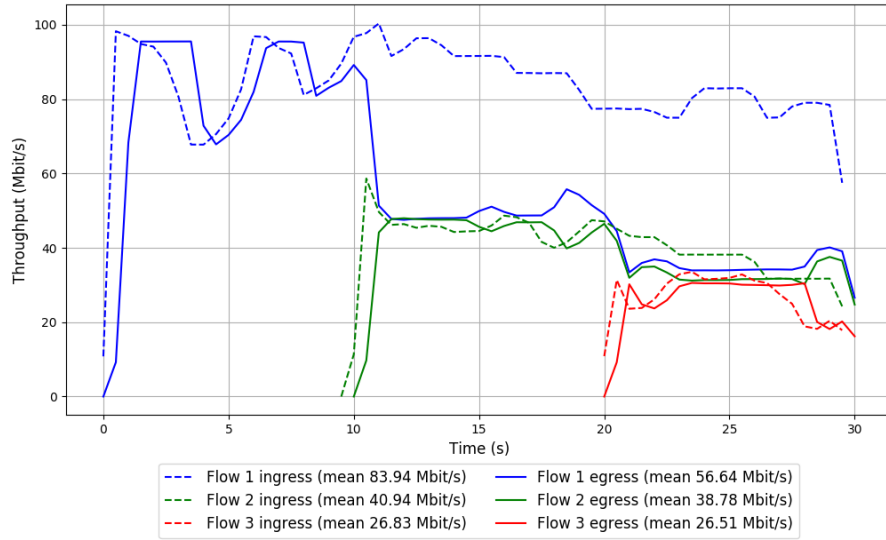
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 63.35 Mbit/s)   Flow 1 egress (mean 56.73 Mbit/s)
Flow 2 ingress (mean 44.58 Mbit/s)   Flow 2 egress (mean 44.55 Mbit/s)
Flow 3 ingress (mean 19.64 Mbit/s)   Flow 3 egress (mean 19.58 Mbit/s)

Flow 1 (95th percentile 2282.66 ms)   Flow 2 (95th percentile 42.53 ms)   Flow 3 (95th percentile 110.67 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 12:19:11
End at: 2019-03-27 12:19:41
Local clock offset: 2.541 ms
Remote clock offset: -0.313 ms


# Below is generated by plot.py at 2019-03-27 14:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.51 Mbit/s
95th percentile per-packet one-way delay: 813.837 ms
Loss rate: 29.95%
-- Flow 1:
Average throughput: 54.81 Mbit/s
95th percentile per-packet one-way delay: 723.305 ms
Loss rate: 38.61%
-- Flow 2:
Average throughput: 35.54 Mbit/s
95th percentile per-packet one-way delay: 873.698 ms
Loss rate: 16.70%
-- Flow 3:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 230.226 ms
Loss rate: 2.39%
```
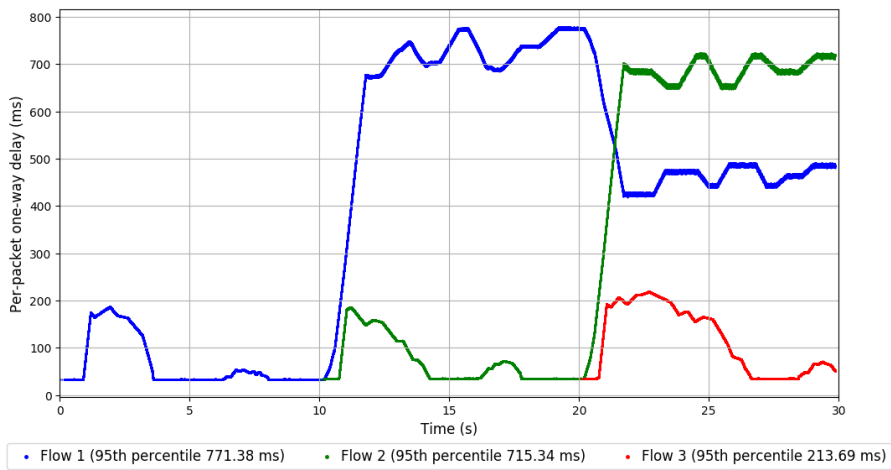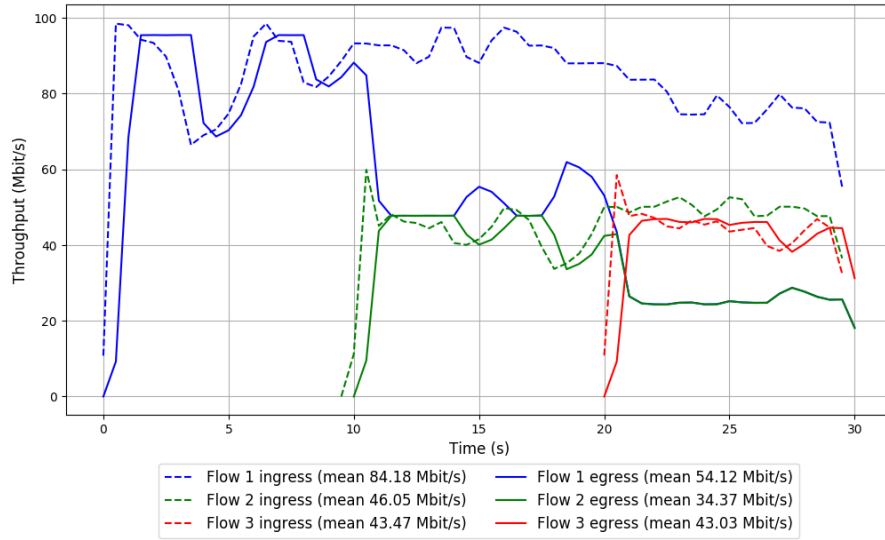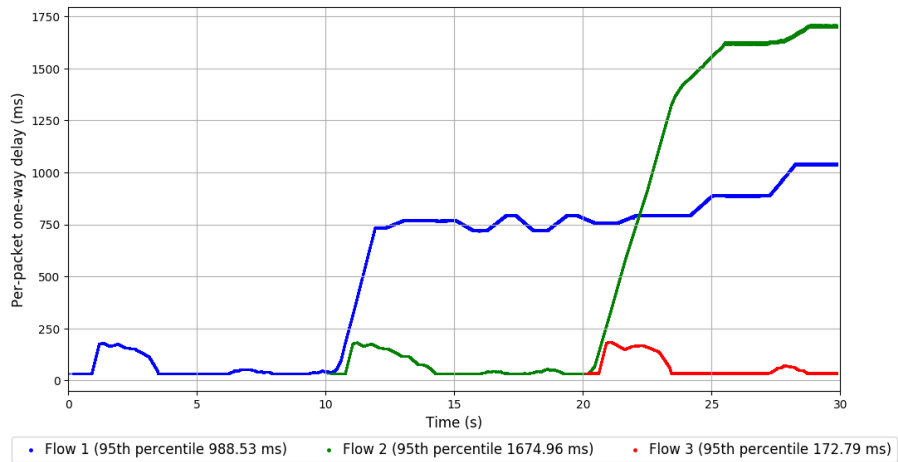
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 89.07 Mbit/s)   Flow 1 egress (mean 54.81 Mbit/s)
Flow 2 ingress (mean 42.52 Mbit/s)   Flow 2 egress (mean 35.54 Mbit/s)
Flow 3 ingress (mean 43.59 Mbit/s)   Flow 3 egress (mean 42.83 Mbit/s)

Flow 1 (95th percentile 723.30 ms)   Flow 2 (95th percentile 873.70 ms)   Flow 3 (95th percentile 230.23 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 12:44:47
End at: 2019-03-27 12:45:17
Local clock offset: 0.343 ms
Remote clock offset: 1.056 ms


# Below is generated by plot.py at 2019-03-27 14:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 1184.117 ms
Loss rate: 24.24%
-- Flow 1:
Average throughput: 56.64 Mbit/s
95th percentile per-packet one-way delay: 880.632 ms
Loss rate: 32.67%
-- Flow 2:
Average throughput: 38.78 Mbit/s
95th percentile per-packet one-way delay: 1446.258 ms
Loss rate: 5.58%
-- Flow 3:
Average throughput: 26.51 Mbit/s
95th percentile per-packet one-way delay: 217.730 ms
Loss rate: 1.82%
```
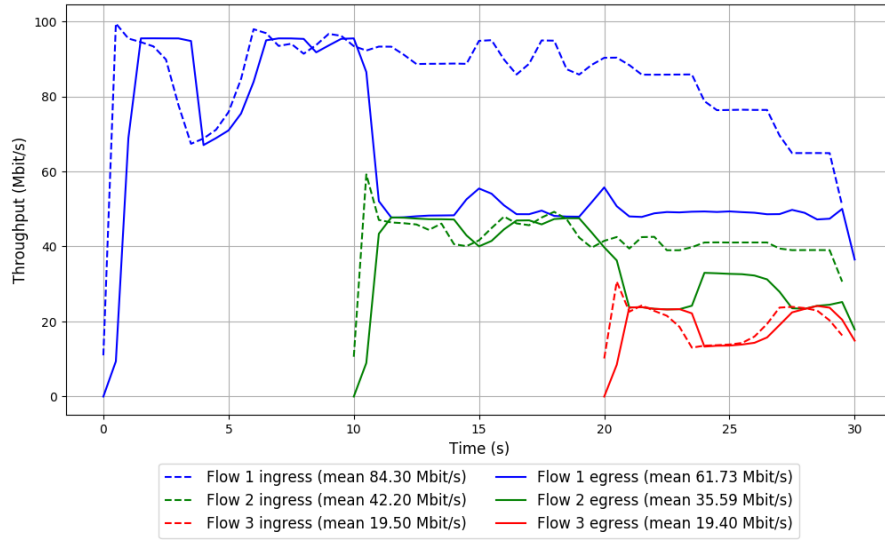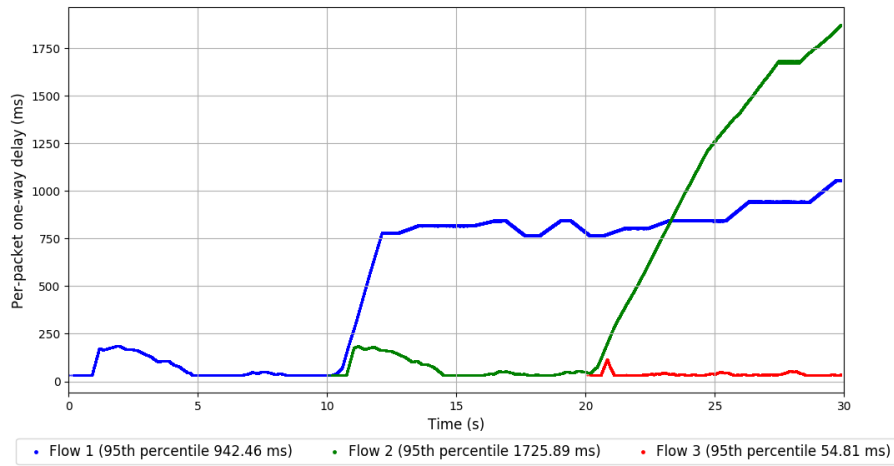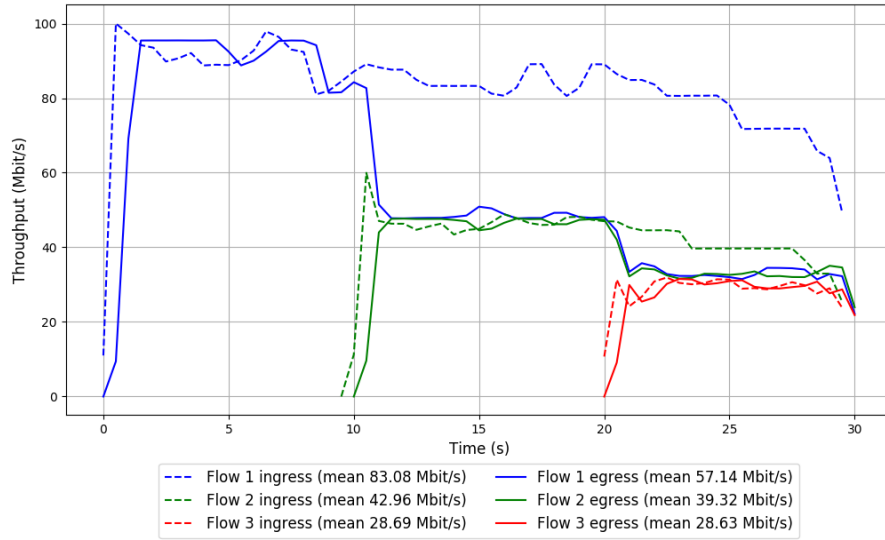
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 83.94 Mbit/s) --- Flow 1 egress (mean 56.64 Mbit/s)
Flow 2 ingress (mean 40.94 Mbit/s) --- Flow 2 egress (mean 38.78 Mbit/s)
Flow 3 ingress (mean 26.83 Mbit/s) --- Flow 3 egress (mean 26.51 Mbit/s)

Flow 1 (95th percentile 880.63 ms)   Flow 2 (95th percentile 1446.26 ms)   Flow 3 (95th percentile 217.73 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 13:10:31
End at: 2019-03-27 13:11:01
Local clock offset: -0.473 ms
Remote clock offset: 2.004 ms

# Below is generated by plot.py at 2019-03-27 14:19:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.13 Mbit/s
95th percentile per-packet one-way delay: 749.433 ms
Loss rate: 29.61%
-- Flow 1:
Average throughput: 54.12 Mbit/s
95th percentile per-packet one-way delay: 771.385 ms
Loss rate: 35.85%
-- Flow 2:
Average throughput: 34.37 Mbit/s
95th percentile per-packet one-way delay: 715.341 ms
Loss rate: 25.60%
-- Flow 3:
Average throughput: 43.03 Mbit/s
95th percentile per-packet one-way delay: 213.691 ms
Loss rate: 1.66%
```
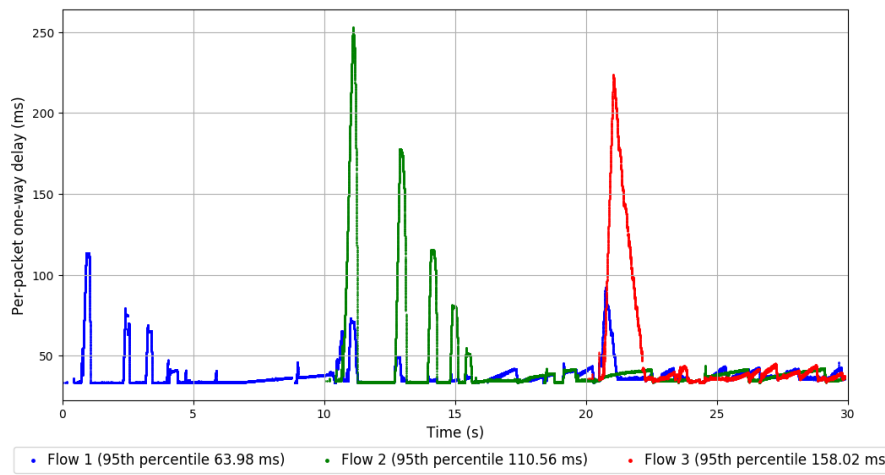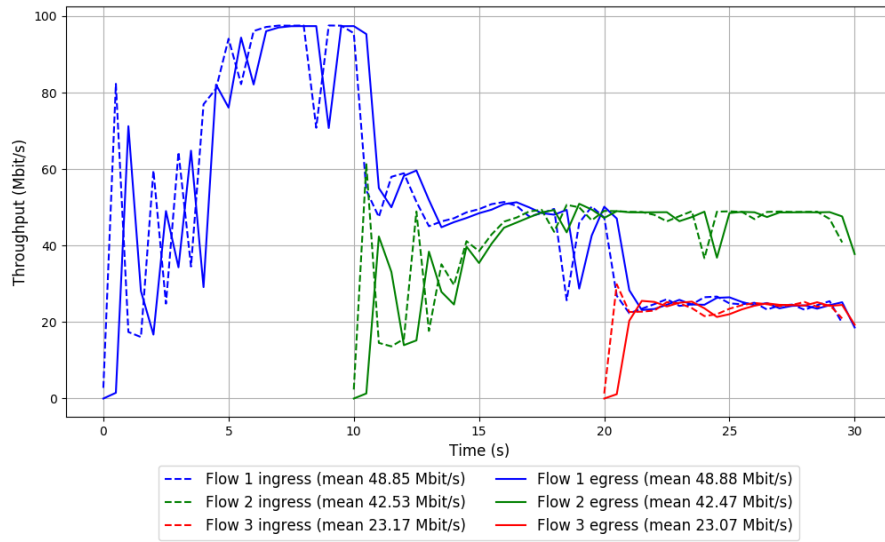
Run 3: Report of PCC-Expr — Data Link

- - - - Flow 1 ingress (mean 84.18 Mbit/s) ——— Flow 1 egress (mean 54.12 Mbit/s)
- - - - Flow 2 ingress (mean 46.05 Mbit/s) ——— Flow 2 egress (mean 34.37 Mbit/s)
- - - - Flow 3 ingress (mean 43.47 Mbit/s) ——— Flow 3 egress (mean 43.03 Mbit/s)

- Flow 1 (95th percentile 771.38 ms)   - Flow 2 (95th percentile 715.34 ms)   - Flow 3 (95th percentile 213.69 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 13:36:09
End at: 2019-03-27 13:36:39
Local clock offset: 3.303 ms
Remote clock offset: 2.786 ms


# Below is generated by plot.py at 2019-03-27 14:19:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.75 Mbit/s
95th percentile per-packet one-way delay: 1530.721 ms
Loss rate: 22.93%
-- Flow 1:
Average throughput: 61.73 Mbit/s
95th percentile per-packet one-way delay: 988.527 ms
Loss rate: 26.93%
-- Flow 2:
Average throughput: 35.59 Mbit/s
95th percentile per-packet one-way delay: 1674.961 ms
Loss rate: 15.94%
-- Flow 3:
Average throughput: 19.40 Mbit/s
95th percentile per-packet one-way delay: 172.794 ms
Loss rate: 1.19%
```
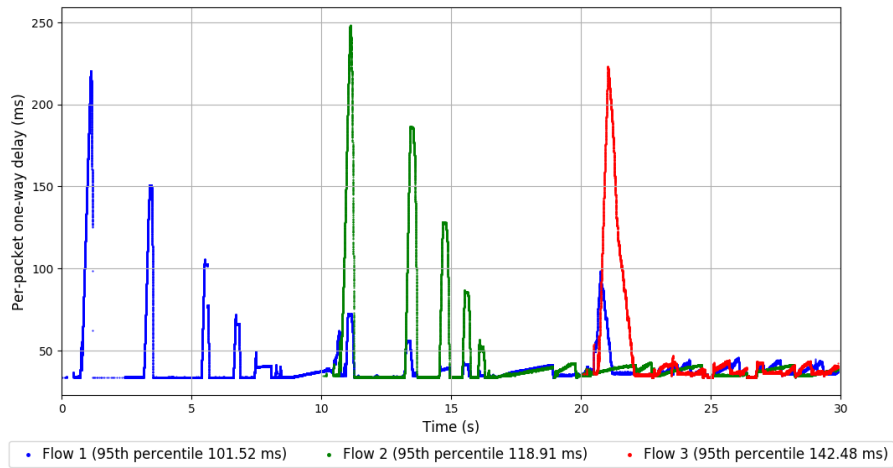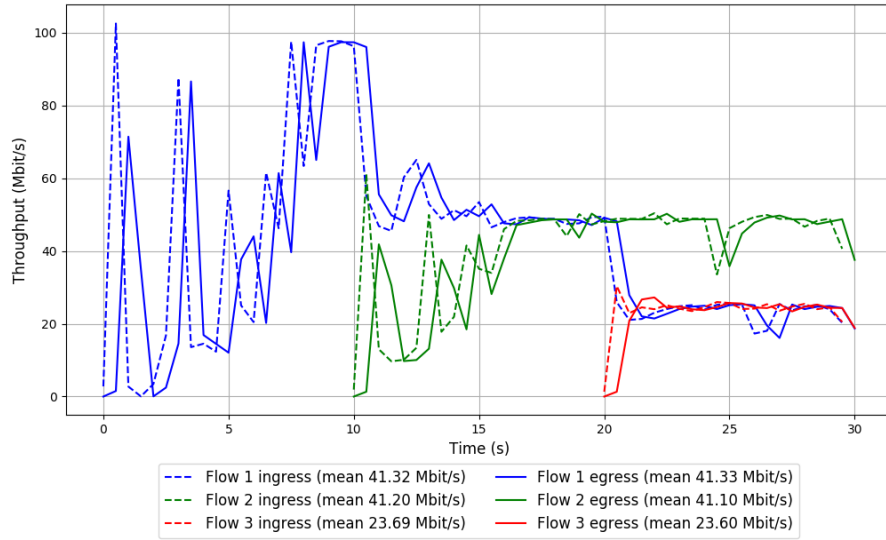
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 14:01:48
End at: 2019-03-27 14:02:18
Local clock offset: 0.526 ms
Remote clock offset: 3.171 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.69 Mbit/s
95th percentile per-packet one-way delay: 1334.064 ms
Loss rate: 23.64%
-- Flow 1:
Average throughput: 57.14 Mbit/s
95th percentile per-packet one-way delay: 942.464 ms
Loss rate: 31.37%
-- Flow 2:
Average throughput: 39.32 Mbit/s
95th percentile per-packet one-way delay: 1725.894 ms
Loss rate: 8.76%
-- Flow 3:
Average throughput: 28.63 Mbit/s
95th percentile per-packet one-way delay: 54.807 ms
Loss rate: 0.84%
```
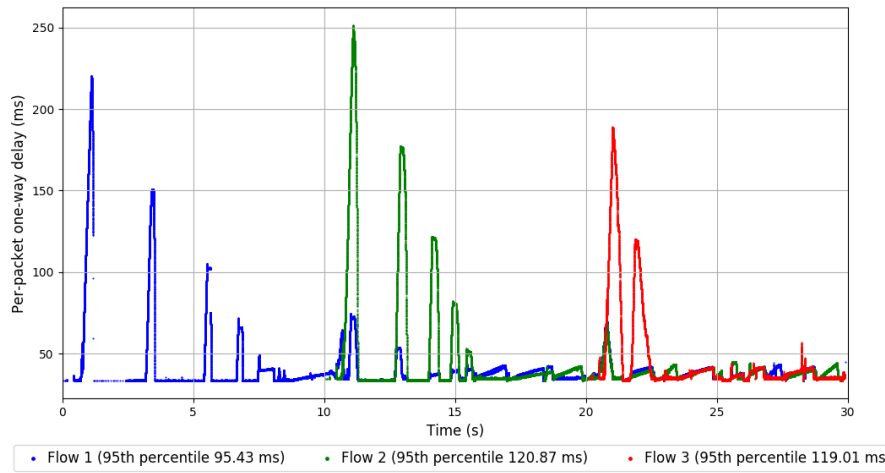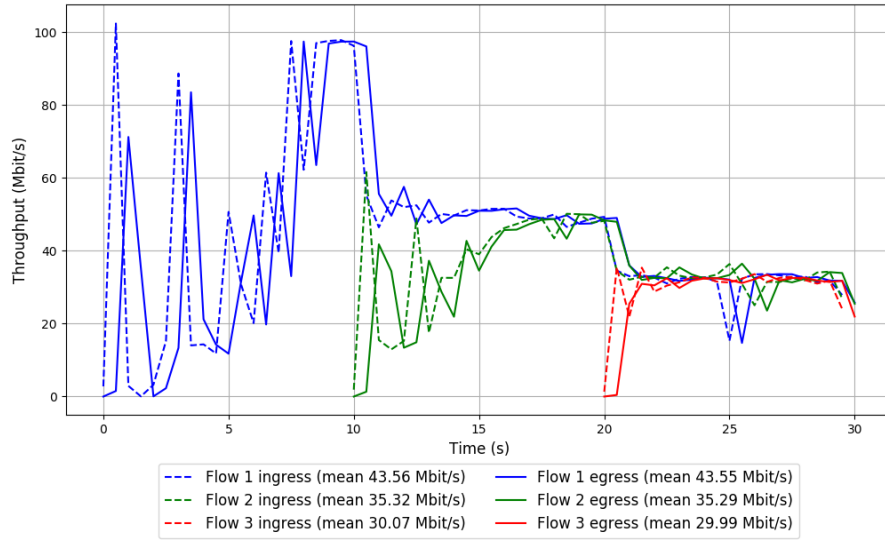
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 83.08 Mbit/s) --- Flow 1 egress (mean 57.14 Mbit/s)
Flow 2 ingress (mean 42.96 Mbit/s) --- Flow 2 egress (mean 39.32 Mbit/s)
Flow 3 ingress (mean 28.69 Mbit/s) --- Flow 3 egress (mean 28.63 Mbit/s)

Flow 1 (95th percentile 942.46 ms)   Flow 2 (95th percentile 1725.89 ms)   Flow 3 (95th percentile 54.81 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 12:17:58
End at: 2019-03-27 12:18:28
Local clock offset: 2.839 ms
Remote clock offset: -0.372 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.69 Mbit/s
95th percentile per-packet one-way delay: 74.886 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 63.984 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 42.47 Mbit/s
95th percentile per-packet one-way delay: 110.562 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 23.07 Mbit/s
95th percentile per-packet one-way delay: 158.018 ms
Loss rate: 1.10%
```
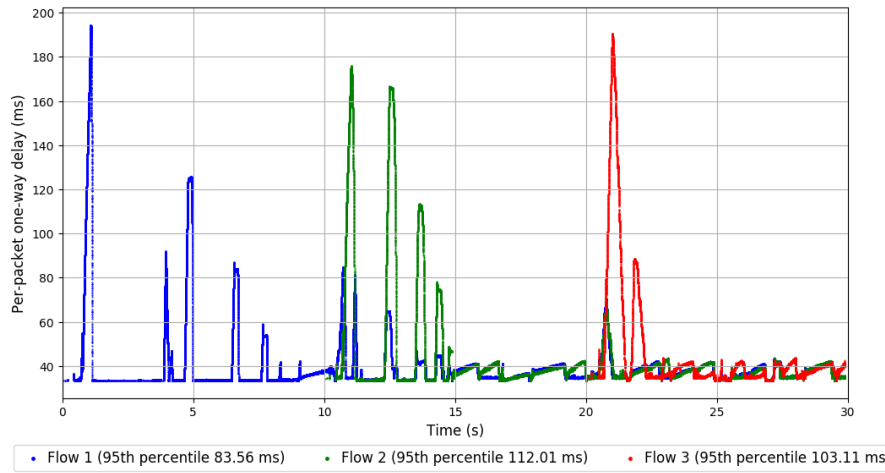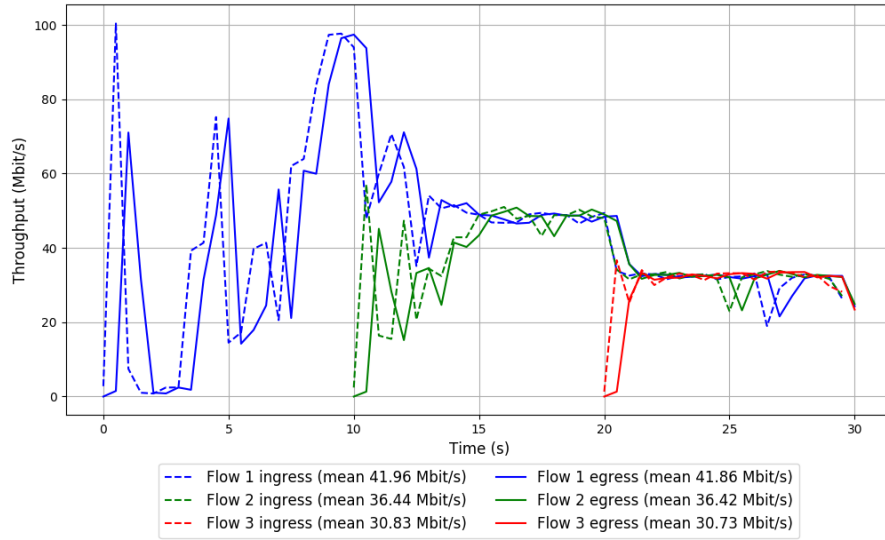
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 48.85 Mbit/s) --- Flow 1 egress (mean 48.88 Mbit/s)
Flow 2 ingress (mean 42.53 Mbit/s) --- Flow 2 egress (mean 42.47 Mbit/s)
Flow 3 ingress (mean 23.17 Mbit/s) --- Flow 3 egress (mean 23.07 Mbit/s)

Flow 1 (95th percentile 63.98 ms) • Flow 2 (95th percentile 110.56 ms) • Flow 3 (95th percentile 158.02 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 12:43:34
End at: 2019-03-27 12:44:04
Local clock offset: 0.391 ms
Remote clock offset: 0.85 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.41 Mbit/s
95th percentile per-packet one-way delay: 104.229 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 41.33 Mbit/s
95th percentile per-packet one-way delay: 101.516 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 41.10 Mbit/s
95th percentile per-packet one-way delay: 118.911 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 23.60 Mbit/s
95th percentile per-packet one-way delay: 142.484 ms
Loss rate: 1.00%
```
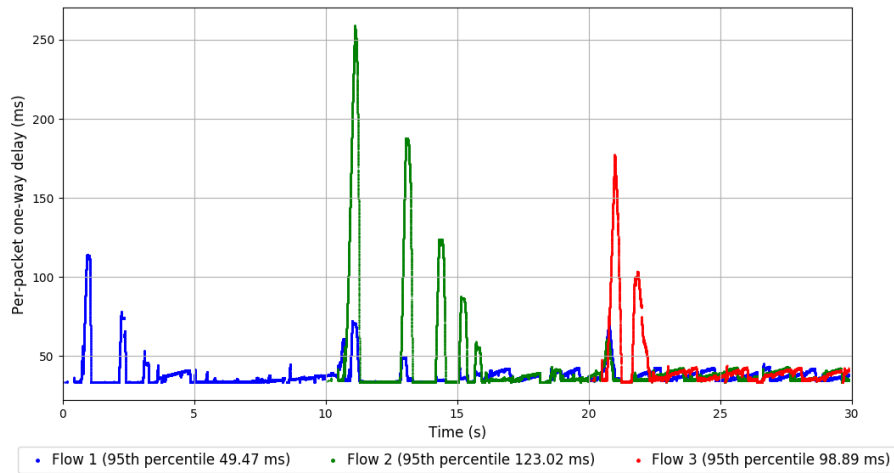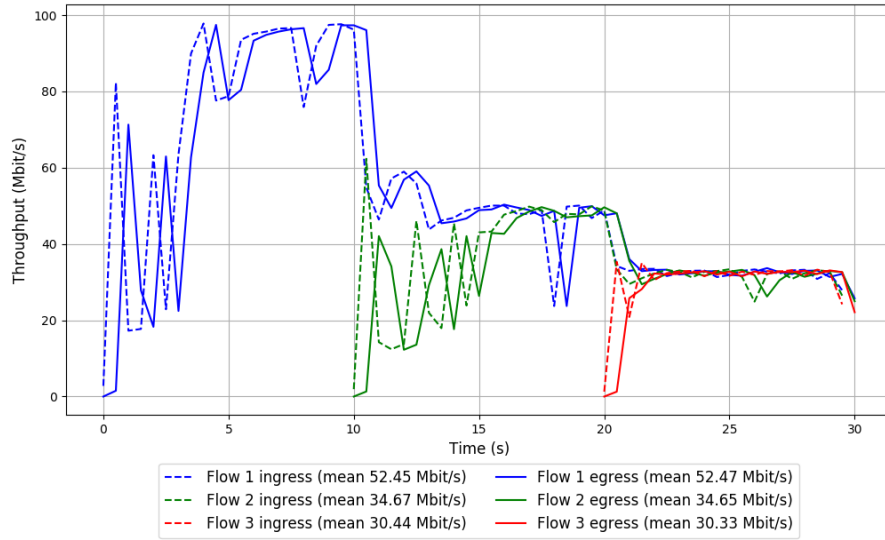
Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 41.32 Mbit/s) —— Flow 1 egress (mean 41.33 Mbit/s)
- - - Flow 2 ingress (mean 41.20 Mbit/s) —— Flow 2 egress (mean 41.10 Mbit/s)
- - - Flow 3 ingress (mean 23.69 Mbit/s) —— Flow 3 egress (mean 23.60 Mbit/s)

• Flow 1 (95th percentile 101.52 ms)   • Flow 2 (95th percentile 118.91 ms)   • Flow 3 (95th percentile 142.48 ms)

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```
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 13:09:19
End at: 2019-03-27 13:09:49
Local clock offset: -0.406 ms
Remote clock offset: 1.982 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.85 Mbit/s
95th percentile per-packet one-way delay: 105.533 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 43.55 Mbit/s
95th percentile per-packet one-way delay: 95.427 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 120.866 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 29.99 Mbit/s
95th percentile per-packet one-way delay: 119.011 ms
Loss rate: 0.92%
```
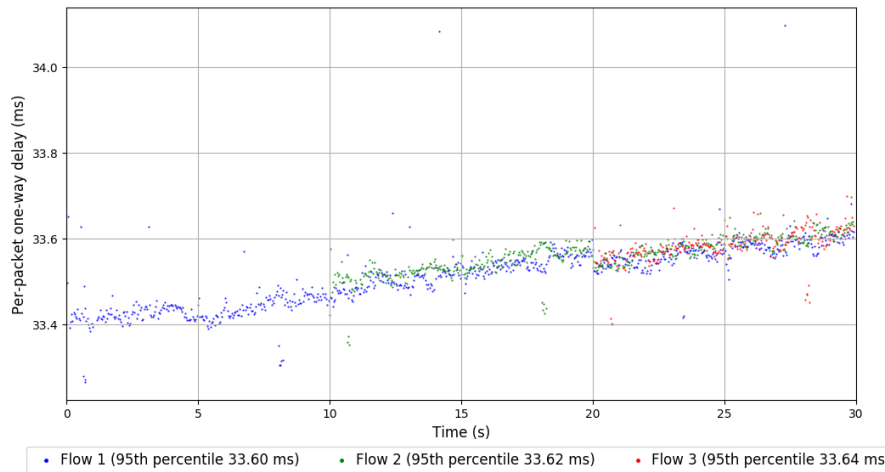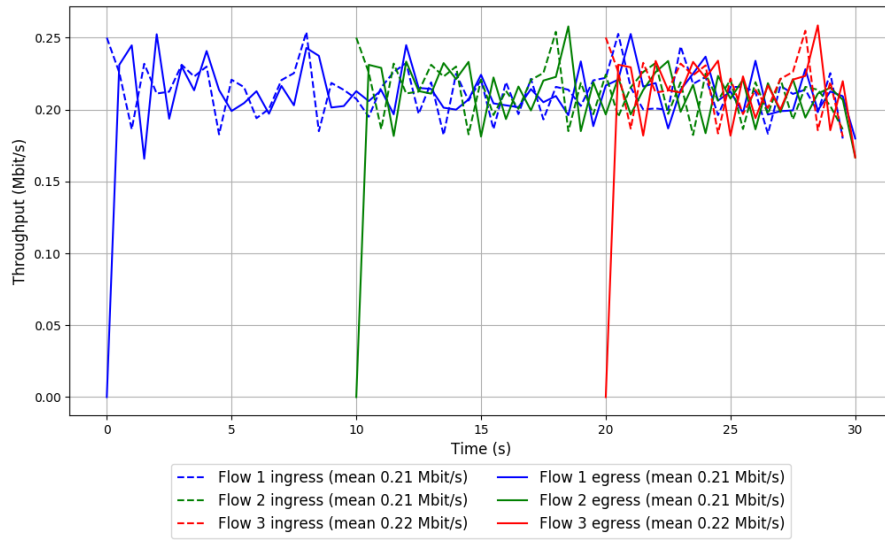
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 13:34:56
End at: 2019-03-27 13:35:26
Local clock offset: 3.202 ms
Remote clock offset: 2.54 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.19 Mbit/s
95th percentile per-packet one-way delay: 90.138 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 41.86 Mbit/s
95th percentile per-packet one-way delay: 83.556 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 36.42 Mbit/s
95th percentile per-packet one-way delay: 112.009 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 103.113 ms
Loss rate: 0.95%
```
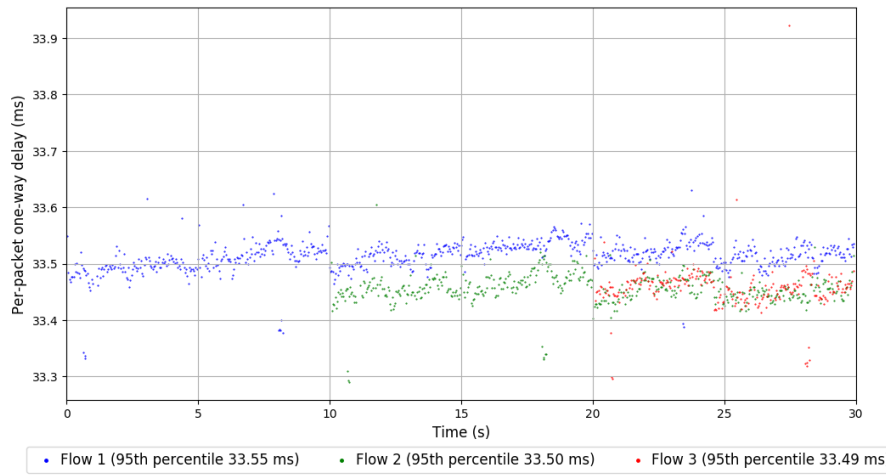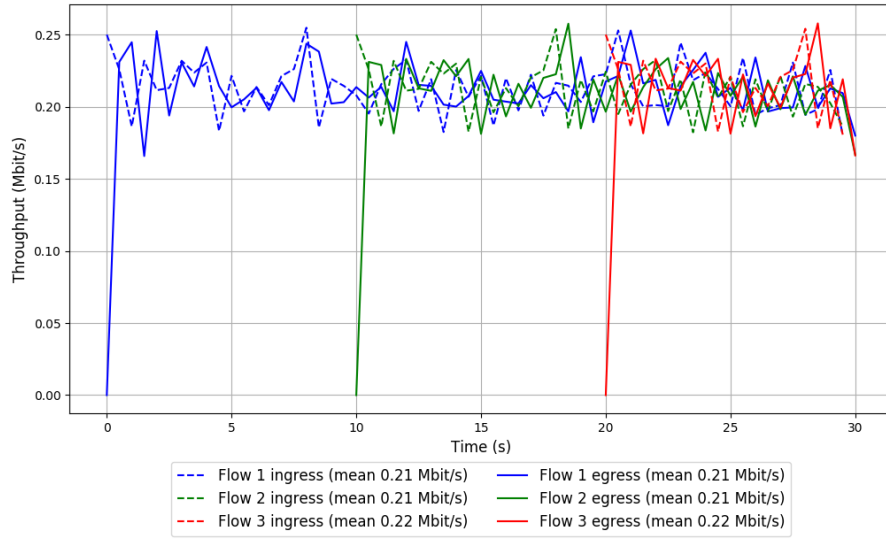
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 41.96 Mbit/s) ----- Flow 1 egress (mean 41.86 Mbit/s)
Flow 2 ingress (mean 36.44 Mbit/s) ----- Flow 2 egress (mean 36.42 Mbit/s)
Flow 3 ingress (mean 30.83 Mbit/s) ----- Flow 3 egress (mean 30.73 Mbit/s)

Flow 1 (95th percentile 83.56 ms)   Flow 2 (95th percentile 112.01 ms)   Flow 3 (95th percentile 103.11 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 14:00:35
End at: 2019-03-27 14:01:05
Local clock offset: 0.619 ms
Remote clock offset: 3.137 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.49 Mbit/s
95th percentile per-packet one-way delay: 72.037 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 52.47 Mbit/s
95th percentile per-packet one-way delay: 49.470 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 34.65 Mbit/s
95th percentile per-packet one-way delay: 123.020 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 30.33 Mbit/s
95th percentile per-packet one-way delay: 98.889 ms
Loss rate: 0.99%
```
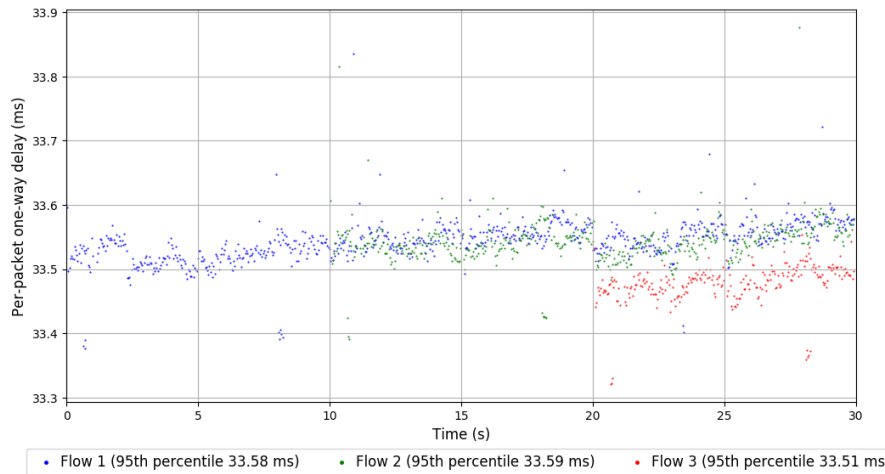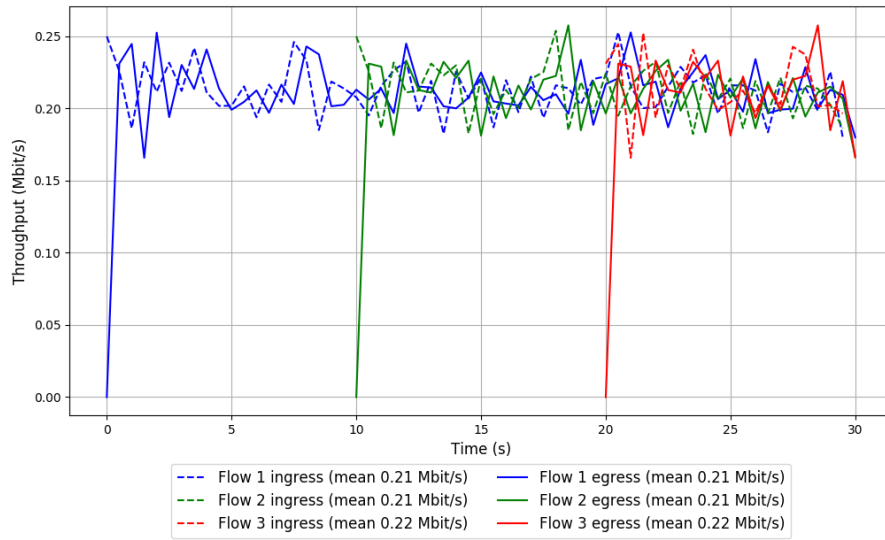
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 52.45 Mbit/s) --- Flow 1 egress (mean 52.47 Mbit/s)
Flow 2 ingress (mean 34.67 Mbit/s) --- Flow 2 egress (mean 34.65 Mbit/s)
Flow 3 ingress (mean 30.44 Mbit/s) --- Flow 3 egress (mean 30.33 Mbit/s)

Flow 1 (95th percentile 49.47 ms) • Flow 2 (95th percentile 123.02 ms) • Flow 3 (95th percentile 98.89 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-03-27 12:15:33
End at: 2019-03-27 12:16:03
Local clock offset: 3.358 ms
Remote clock offset: -0.612 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.621 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.601 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.624 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.637 ms
Loss rate: 0.71%
```
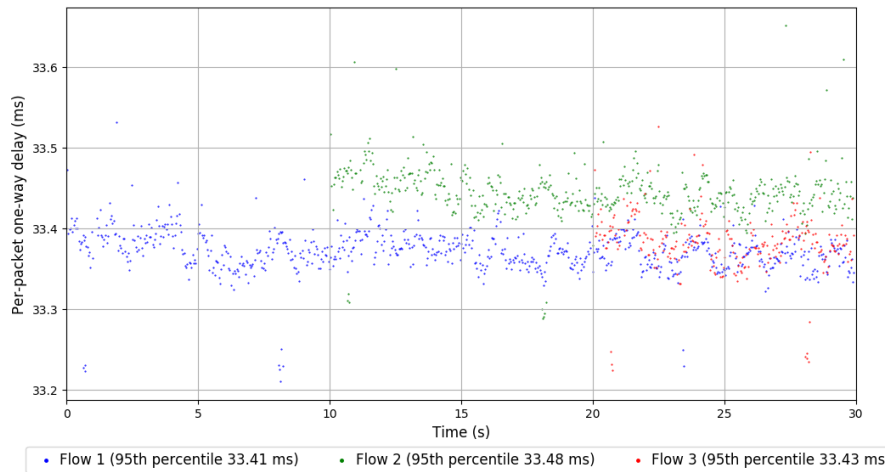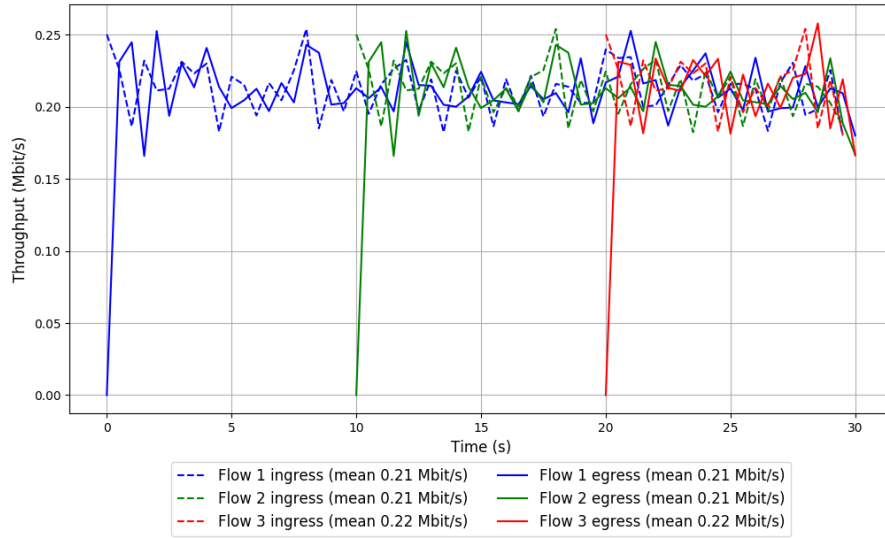
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-03-27 12:41:10
End at: 2019-03-27 12:41:40
Local clock offset: 0.47 ms
Remote clock offset: 0.911 ms

# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.542 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.549 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.496 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.491 ms
Loss rate: 0.71%
```
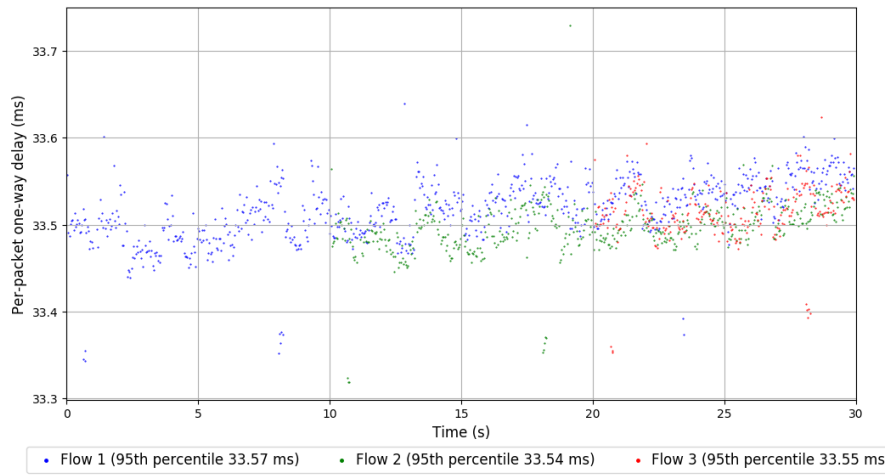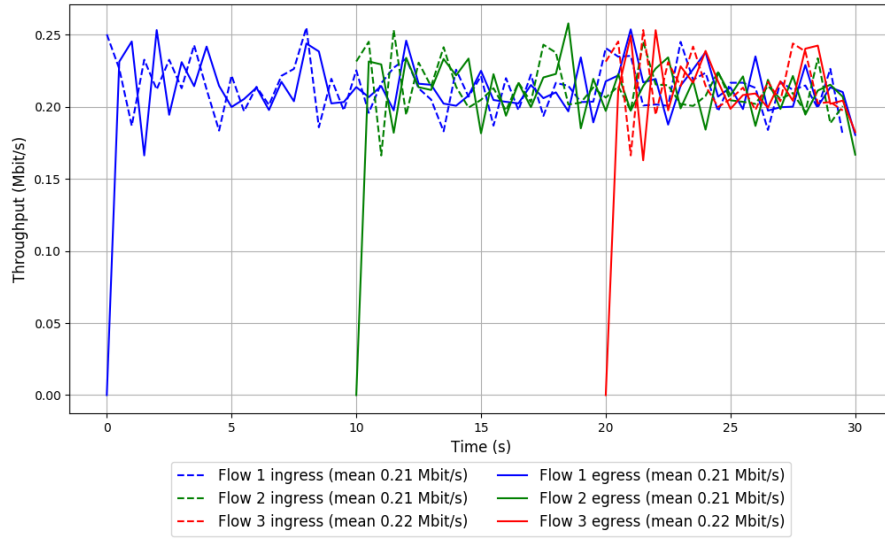
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-03-27 13:06:54
End at: 2019-03-27 13:07:24
Local clock offset: -0.331 ms
Remote clock offset: 1.852 ms

# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.581 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.582 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.585 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.514 ms
Loss rate: 0.71%
```
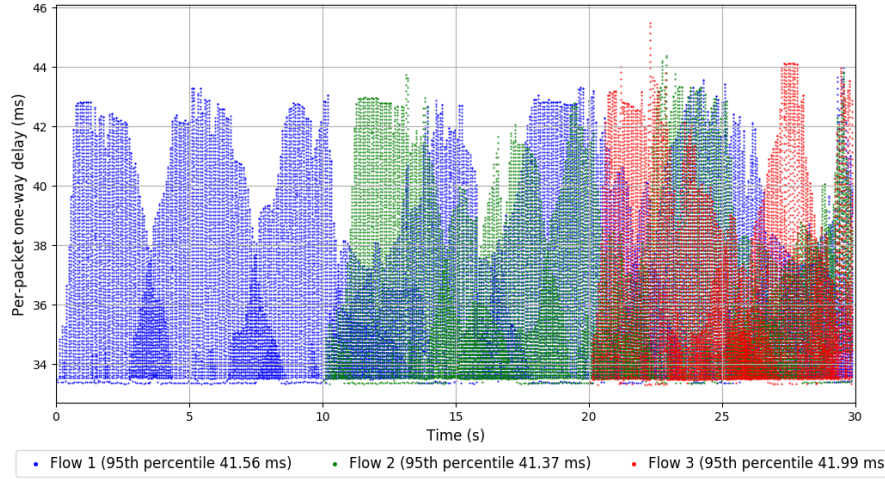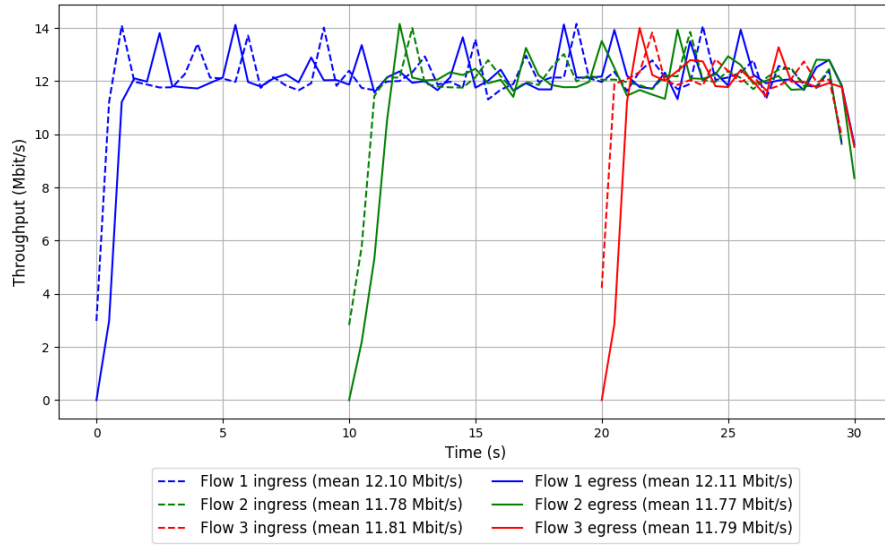
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-03-27 13:32:31
End at: 2019-03-27 13:33:01
Local clock offset: 3.013 ms
Remote clock offset: 2.612 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.468 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.410 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.485 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.431 ms
Loss rate: 0.71%
```
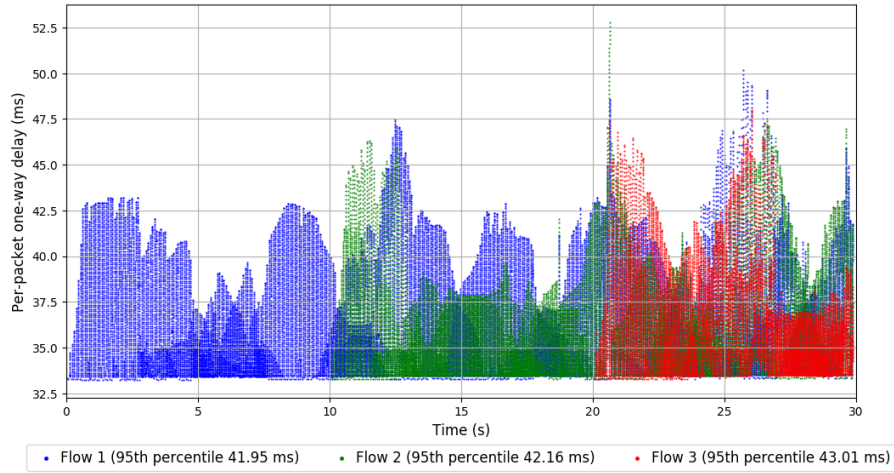
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-03-27 13:58:10
End at: 2019-03-27 13:58:40
Local clock offset: 0.883 ms
Remote clock offset: 3.124 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 33.564 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.569 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.536 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 33.553 ms
Loss rate: 0.71%
```
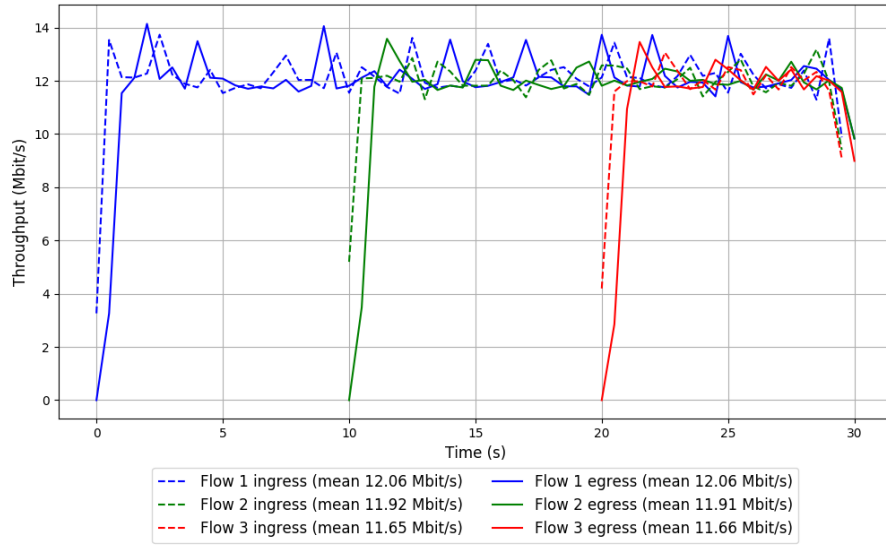
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-03-27 12:04:33
End at: 2019-03-27 12:05:03
Local clock offset: 3.323 ms
Remote clock offset: -1.44 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 41.569 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 12.11 Mbit/s
95th percentile per-packet one-way delay: 41.558 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 41.369 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 41.990 ms
Loss rate: 0.78%
```
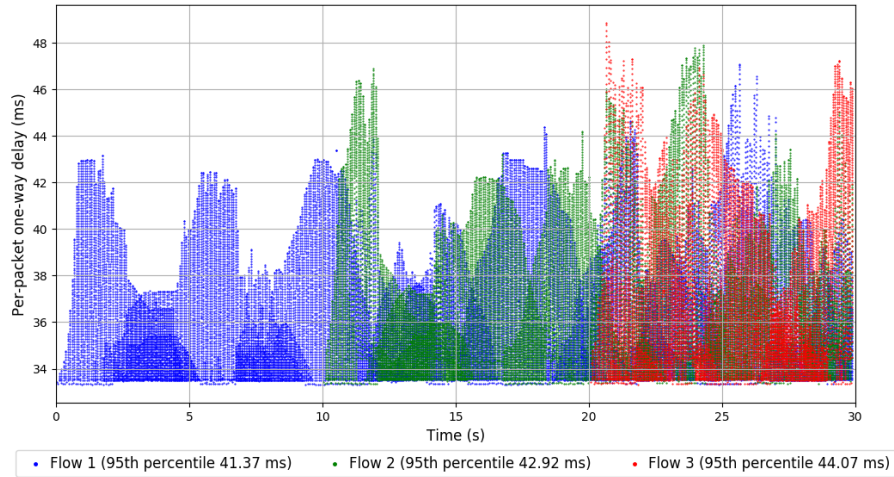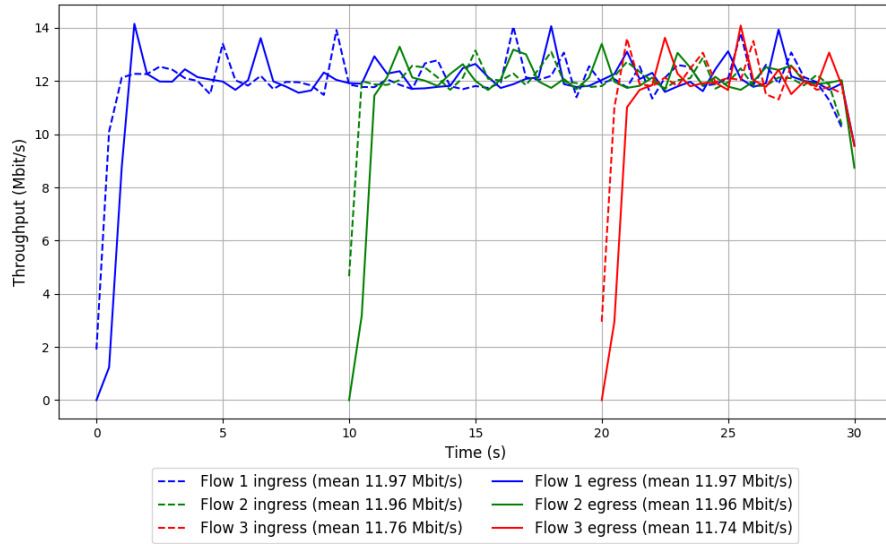
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 12.10 Mbit/s)   Flow 1 egress (mean 12.11 Mbit/s)
Flow 2 ingress (mean 11.78 Mbit/s)   Flow 2 egress (mean 11.77 Mbit/s)
Flow 3 ingress (mean 11.81 Mbit/s)   Flow 3 egress (mean 11.79 Mbit/s)

Flow 1 (95th percentile 41.56 ms)   Flow 2 (95th percentile 41.37 ms)   Flow 3 (95th percentile 41.99 ms)

```
Run 2: Statistics of Sprout

Start at: 2019-03-27 12:30:10
End at: 2019-03-27 12:30:40
Local clock offset: 1.095 ms
Remote clock offset: 0.393 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 42.153 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 41.950 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.91 Mbit/s
95th percentile per-packet one-way delay: 42.159 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 43.005 ms
Loss rate: 0.50%
```
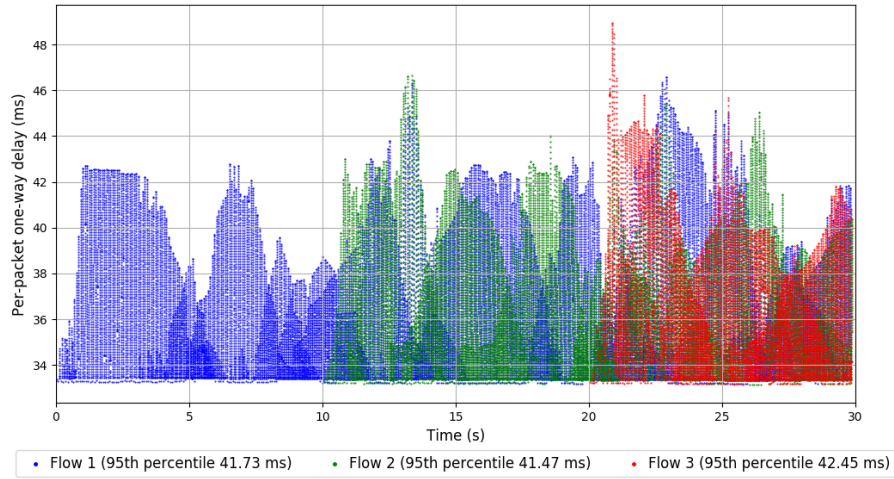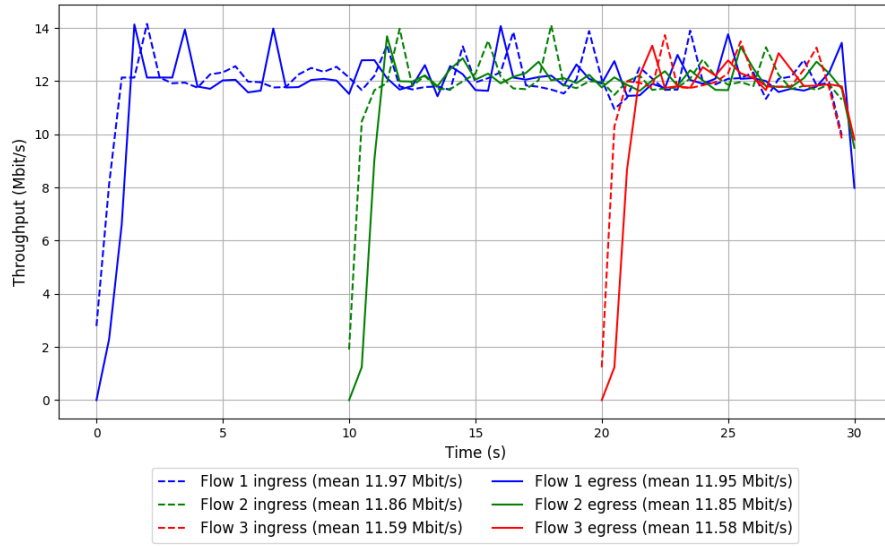
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-03-27 12:55:46
End at: 2019-03-27 12:56:16
Local clock offset: -0.002 ms
Remote clock offset: 1.427 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.77 Mbit/s
95th percentile per-packet one-way delay: 42.325 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 11.97 Mbit/s
95th percentile per-packet one-way delay: 41.371 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 42.925 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 44.071 ms
Loss rate: 0.85%
```
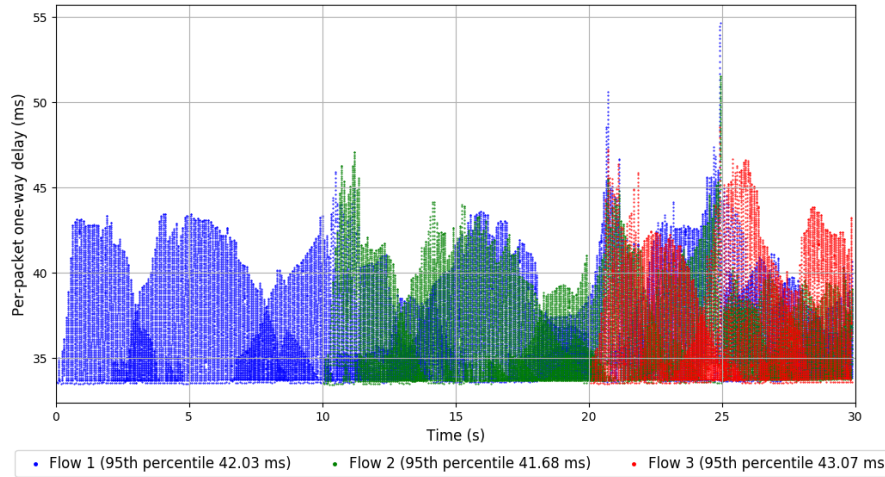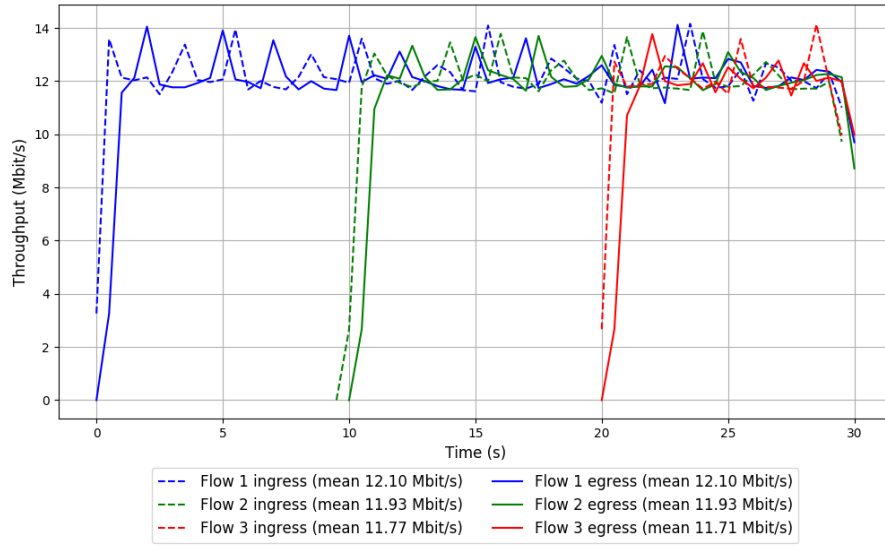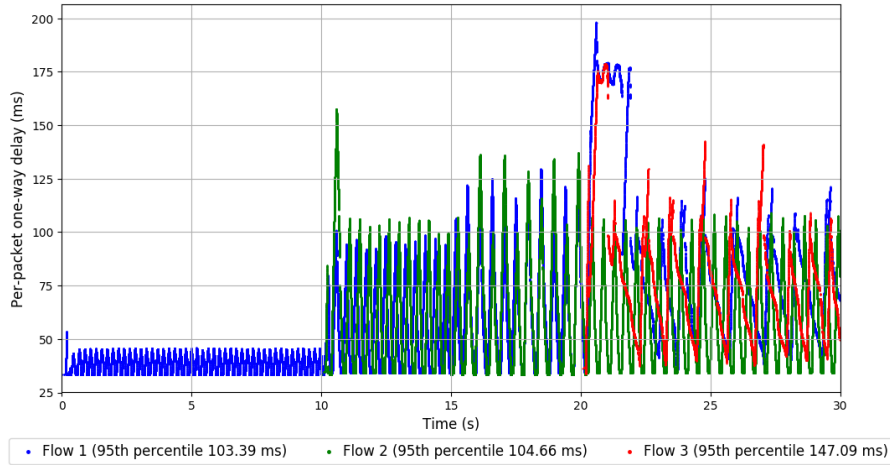
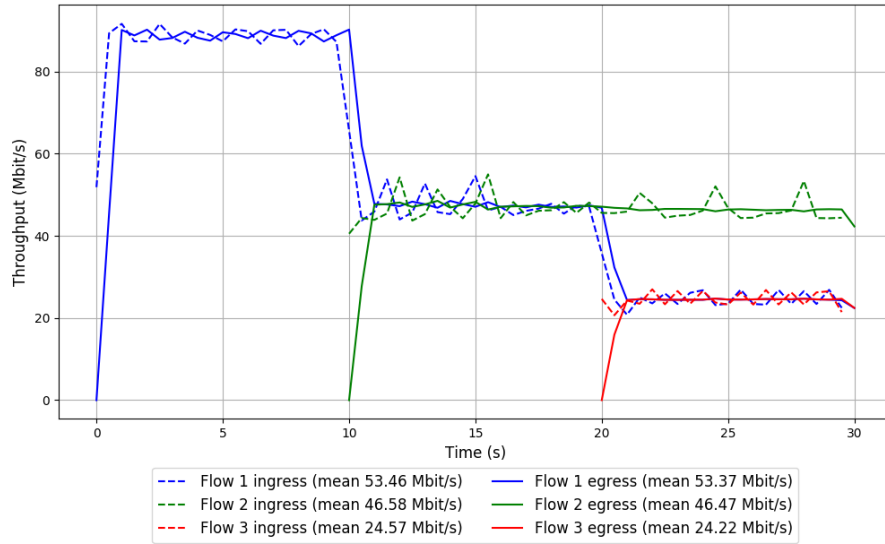## Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-03-27 13:21:32
End at: 2019-03-27 13:22:02
Local clock offset: 1.341 ms
Remote clock offset: 2.36 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.63 Mbit/s
95th percentile per-packet one-way delay: 41.726 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 41.735 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 41.466 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 42.448 ms
Loss rate: 0.86%
```

Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-03-27 13:47:10
End at: 2019-03-27 13:47:40
Local clock offset: 3.246 ms
Remote clock offset: 3.108 ms


# Below is generated by plot.py at 2019-03-27 14:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 42.106 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 42.035 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 41.682 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 43.067 ms
Loss rate: 0.86%
```
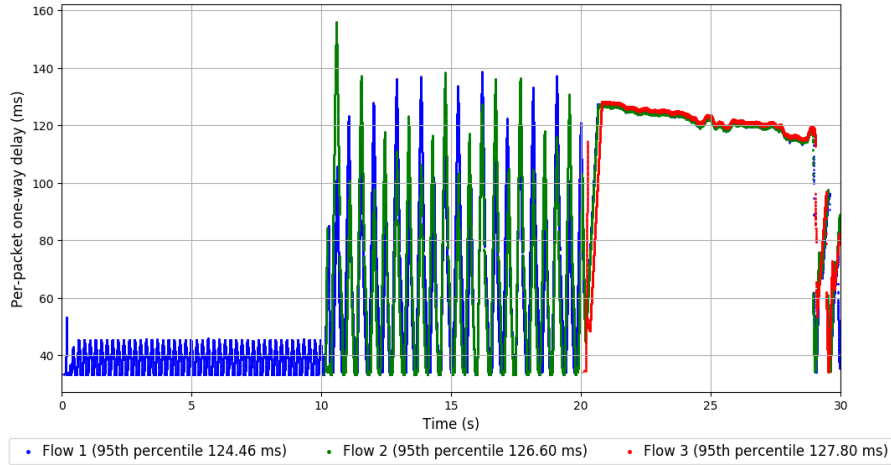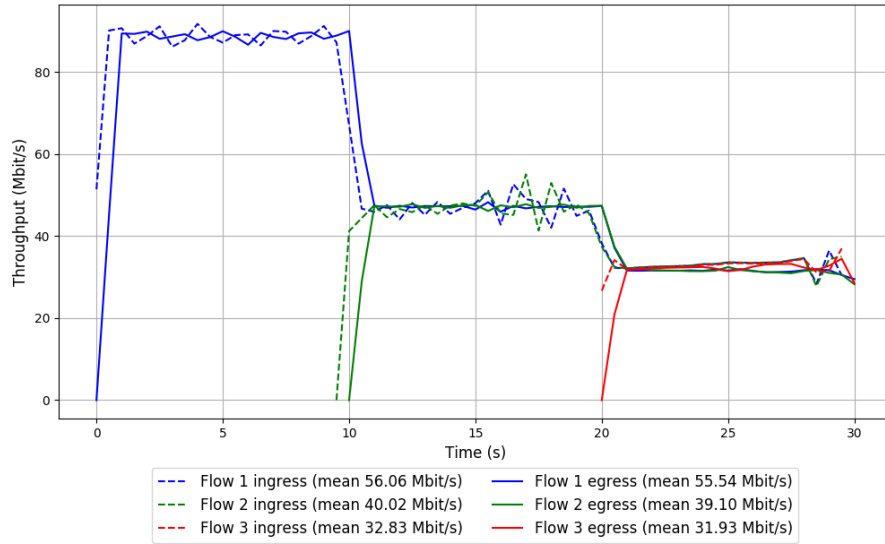
Run 5: Report of Sprout — Data Link

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

Start at: 2019-03-27 12:10:37
End at: 2019-03-27 12:11:07
Local clock offset: 3.325 ms
Remote clock offset: -1.119 ms


# Below is generated by plot.py at 2019-03-27 14:21:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.32 Mbit/s
95th percentile per-packet one-way delay: 106.100 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 53.37 Mbit/s
95th percentile per-packet one-way delay: 103.392 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 46.47 Mbit/s
95th percentile per-packet one-way delay: 104.663 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 147.088 ms
Loss rate: 2.10%
```
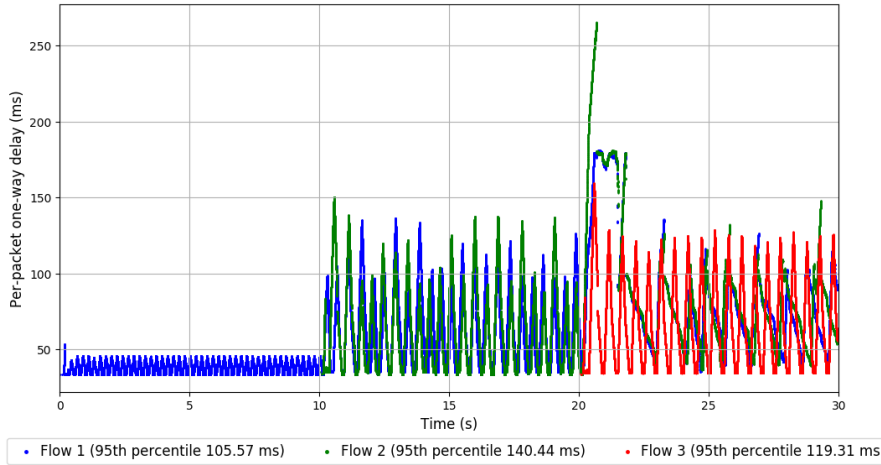
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-03-27 12:36:13
End at: 2019-03-27 12:36:43
Local clock offset: 0.706 ms
Remote clock offset: 0.572 ms


# Below is generated by plot.py at 2019-03-27 14:21:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.16 Mbit/s
95th percentile per-packet one-way delay: 125.817 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 55.54 Mbit/s
95th percentile per-packet one-way delay: 124.459 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 39.10 Mbit/s
95th percentile per-packet one-way delay: 126.598 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 127.804 ms
Loss rate: 3.36%
```
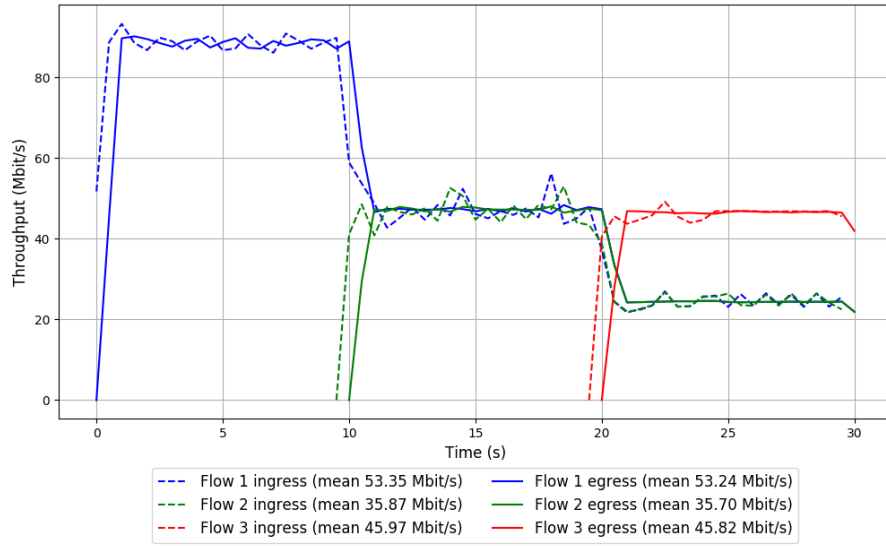
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-03-27 13:01:49
End at: 2019-03-27 13:02:19
Local clock offset: -0.184 ms
Remote clock offset: 1.636 ms


# Below is generated by plot.py at 2019-03-27 14:21:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 118.355 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 53.24 Mbit/s
95th percentile per-packet one-way delay: 105.570 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 35.70 Mbit/s
95th percentile per-packet one-way delay: 140.445 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 119.308 ms
Loss rate: 0.95%
```
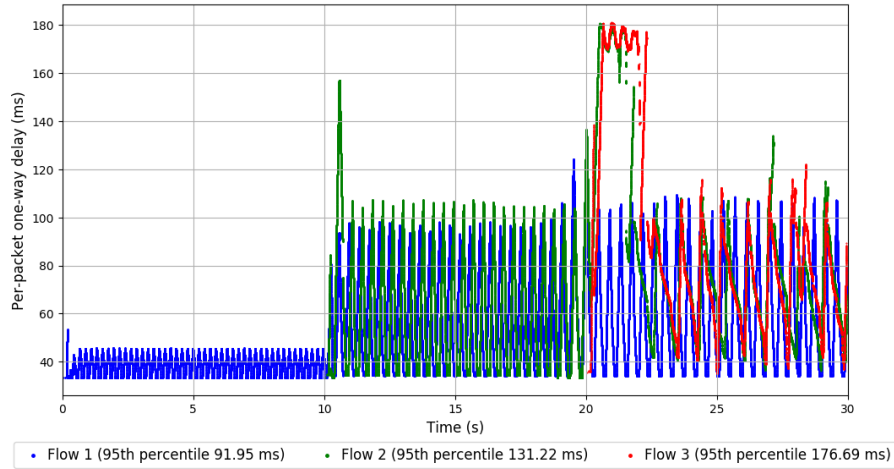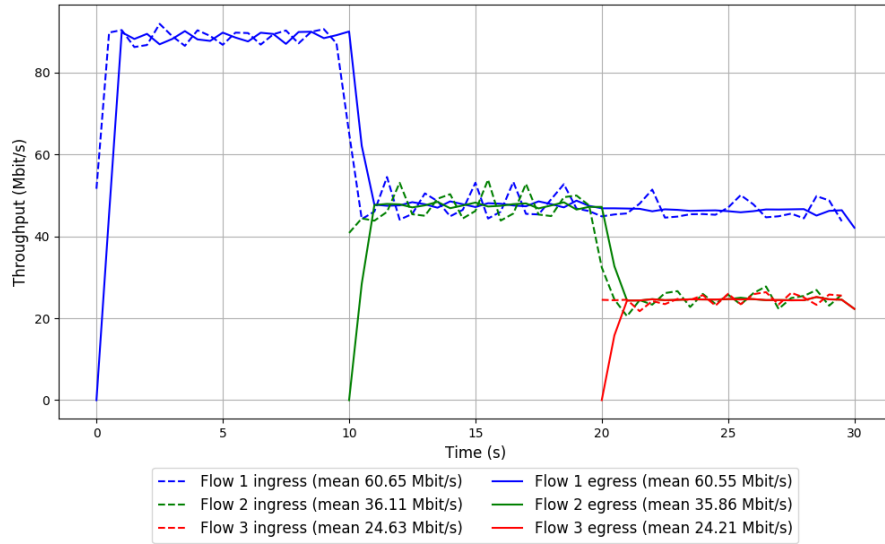
Run 3: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 53.35 Mbit/s)   —— Flow 1 egress (mean 53.24 Mbit/s)
- - - - Flow 2 ingress (mean 35.87 Mbit/s)   —— Flow 2 egress (mean 35.70 Mbit/s)
- - - - Flow 3 ingress (mean 45.97 Mbit/s)   —— Flow 3 egress (mean 45.82 Mbit/s)

• Flow 1 (95th percentile 105.57 ms)   • Flow 2 (95th percentile 140.44 ms)   • Flow 3 (95th percentile 119.31 ms)

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

Start at: 2019-03-27 13:27:35
End at: 2019-03-27 13:28:05
Local clock offset: 2.463 ms
Remote clock offset: 2.325 ms


# Below is generated by plot.py at 2019-03-27 14:21:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.44 Mbit/s
95th percentile per-packet one-way delay: 103.763 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 60.55 Mbit/s
95th percentile per-packet one-way delay: 91.954 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 35.86 Mbit/s
95th percentile per-packet one-way delay: 131.223 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 24.21 Mbit/s
95th percentile per-packet one-way delay: 176.692 ms
Loss rate: 2.34%
```
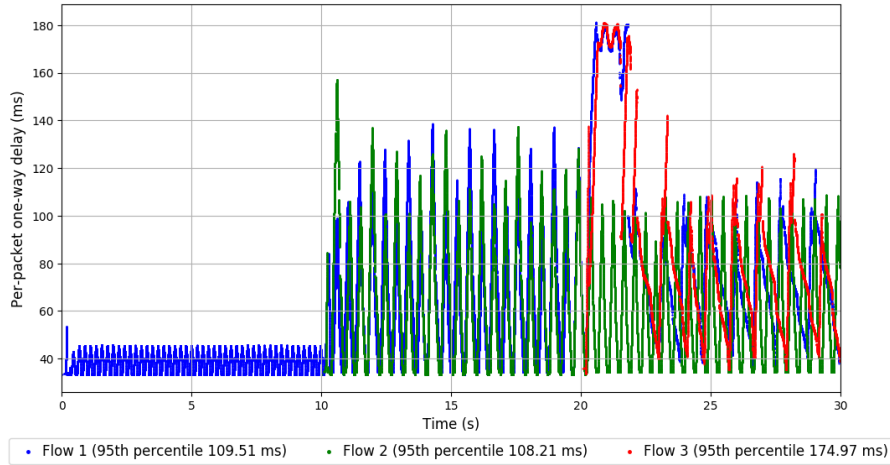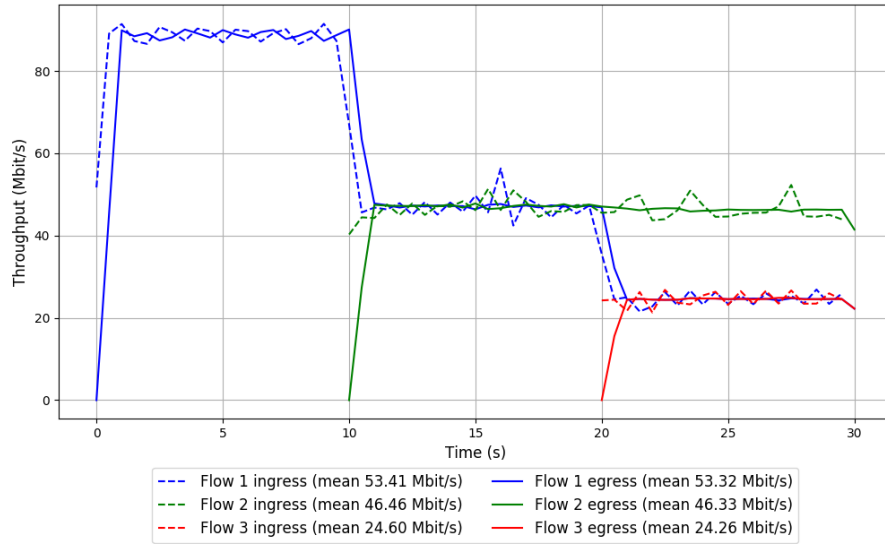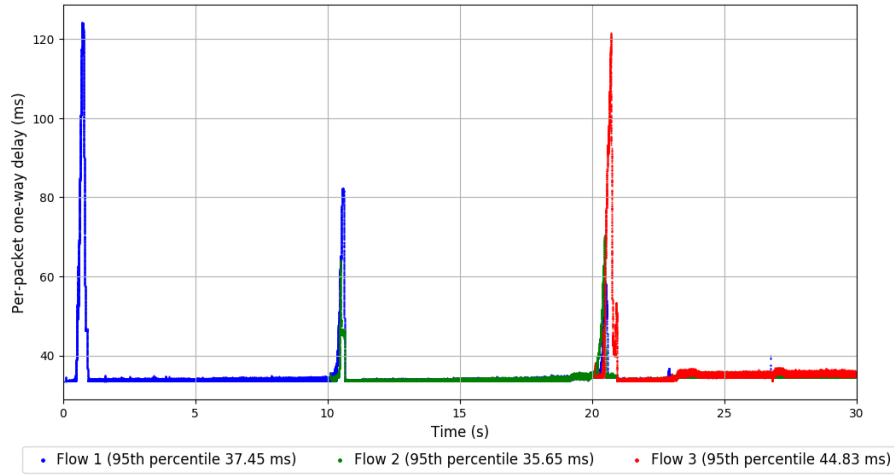
Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 60.65 Mbit/s) ——— Flow 1 egress (mean 60.55 Mbit/s)
- - - - Flow 2 ingress (mean 36.11 Mbit/s) ——— Flow 2 egress (mean 35.86 Mbit/s)
- - - - Flow 3 ingress (mean 24.63 Mbit/s) ——— Flow 3 egress (mean 24.21 Mbit/s)

- Flow 1 (95th percentile 91.95 ms) • Flow 2 (95th percentile 131.22 ms) • Flow 3 (95th percentile 176.69 ms)

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

Start at: 2019-03-27 13:53:14
End at: 2019-03-27 13:53:44
Local clock offset: 1.634 ms
Remote clock offset: 3.138 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 114.630 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 109.513 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 46.33 Mbit/s
95th percentile per-packet one-way delay: 108.213 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 174.970 ms
Loss rate: 2.04%
```
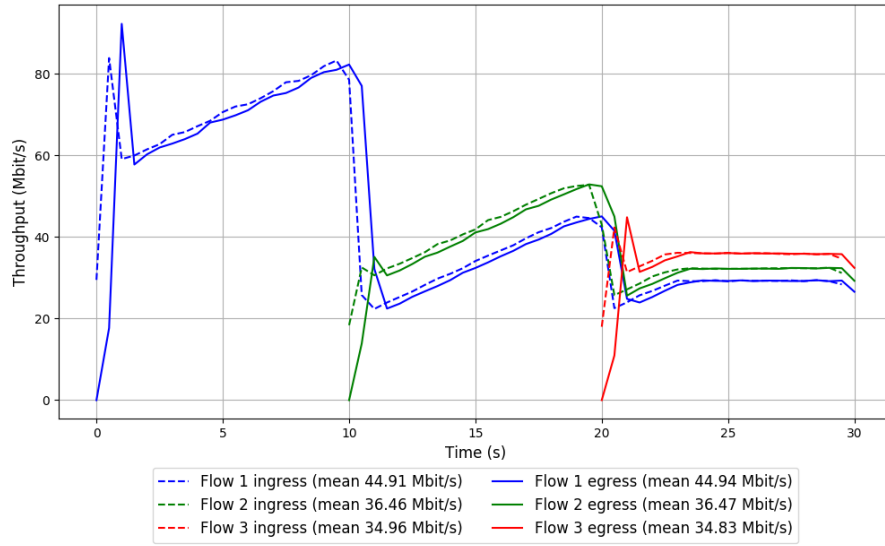
Run 5: Report of TaoVA-100x — Data Link

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```
Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 12:14:21
End at: 2019-03-27 12:14:51
Local clock offset: 3.359 ms
Remote clock offset: -0.863 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.73 Mbit/s
95th percentile per-packet one-way delay: 36.504 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 44.94 Mbit/s
95th percentile per-packet one-way delay: 37.450 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 35.653 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 44.825 ms
Loss rate: 1.03%
```
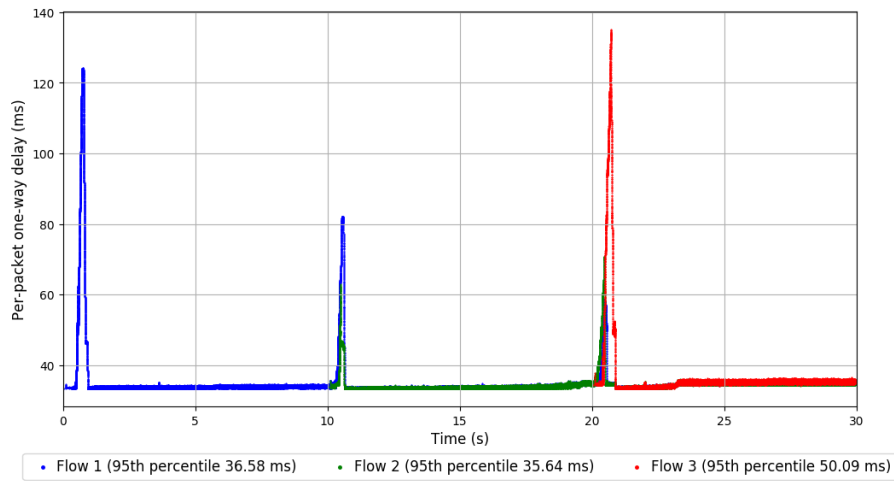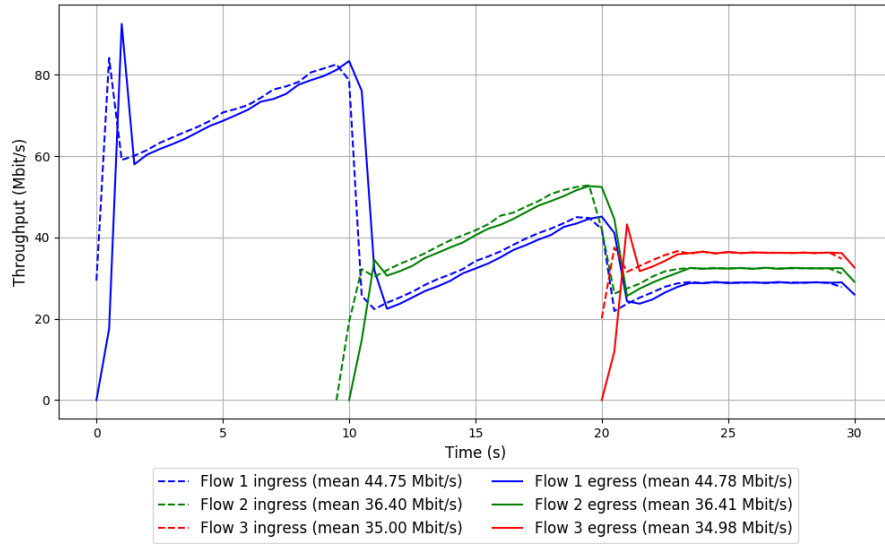
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 12:39:57
End at: 2019-03-27 12:40:27
Local clock offset: 0.52 ms
Remote clock offset: 0.792 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.61 Mbit/s
95th percentile per-packet one-way delay: 36.057 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 44.78 Mbit/s
95th percentile per-packet one-way delay: 36.583 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 36.41 Mbit/s
95th percentile per-packet one-way delay: 35.638 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 34.98 Mbit/s
95th percentile per-packet one-way delay: 50.085 ms
Loss rate: 0.70%
```
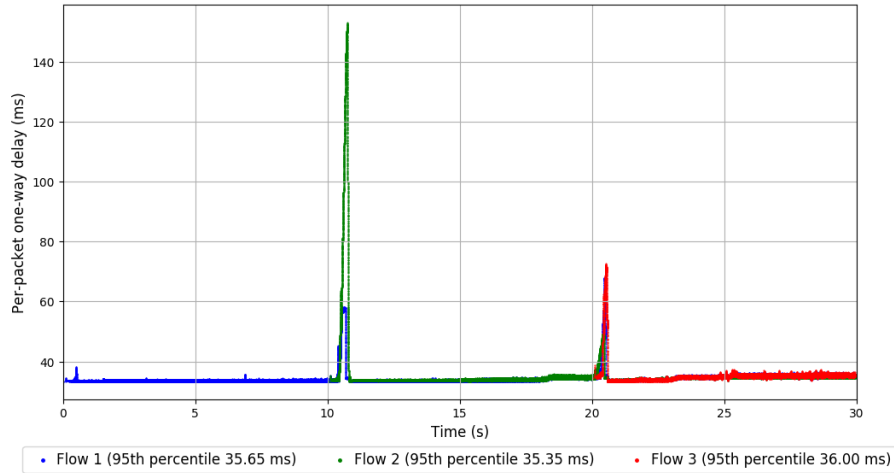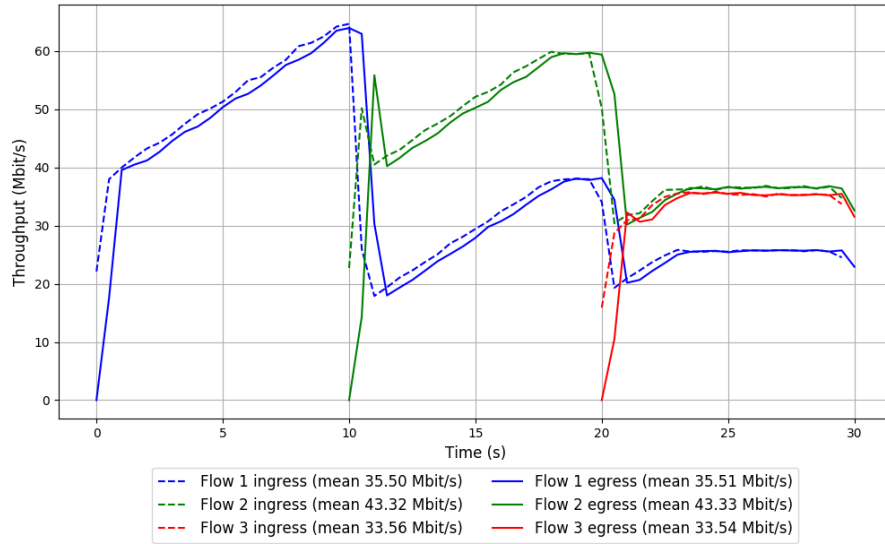
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 44.75 Mbit/s) --- Flow 1 egress (mean 44.78 Mbit/s)
Flow 2 ingress (mean 36.40 Mbit/s) --- Flow 2 egress (mean 36.41 Mbit/s)
Flow 3 ingress (mean 35.00 Mbit/s) --- Flow 3 egress (mean 34.98 Mbit/s)

Flow 1 (95th percentile 36.58 ms) • Flow 2 (95th percentile 35.64 ms) • Flow 3 (95th percentile 50.09 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 13:05:41
End at: 2019-03-27 13:06:11
Local clock offset: -0.317 ms
Remote clock offset: 1.777 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.45 Mbit/s
95th percentile per-packet one-way delay: 35.753 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 35.51 Mbit/s
95th percentile per-packet one-way delay: 35.645 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 43.33 Mbit/s
95th percentile per-packet one-way delay: 35.353 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 33.54 Mbit/s
95th percentile per-packet one-way delay: 36.003 ms
Loss rate: 0.70%
```
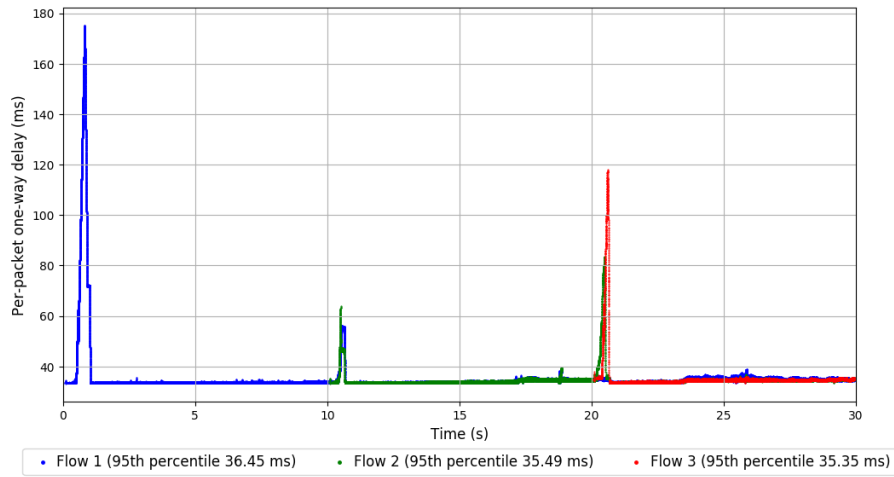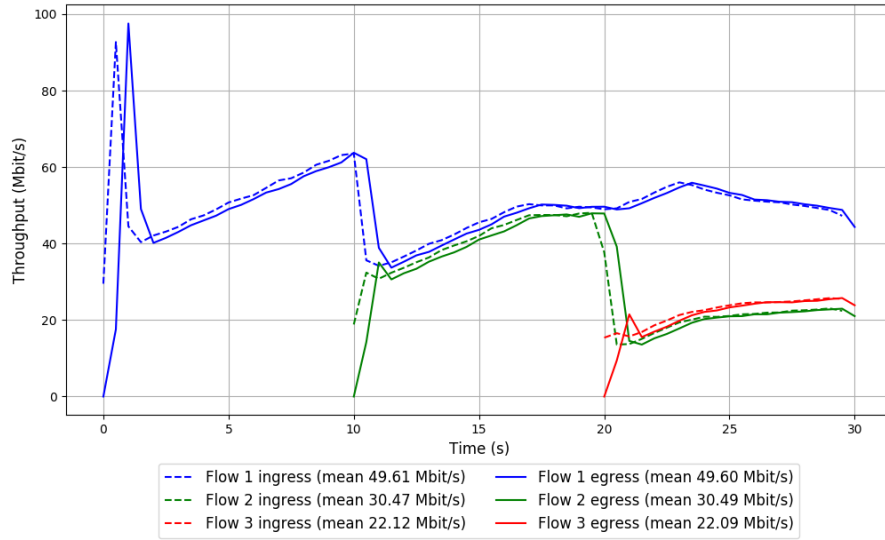
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 13:31:19
End at: 2019-03-27 13:31:49
Local clock offset: 2.899 ms
Remote clock offset: 2.578 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.21 Mbit/s
95th percentile per-packet one-way delay: 36.200 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 49.60 Mbit/s
95th percentile per-packet one-way delay: 36.451 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 30.49 Mbit/s
95th percentile per-packet one-way delay: 35.490 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 22.09 Mbit/s
95th percentile per-packet one-way delay: 35.352 ms
Loss rate: 0.79%
```
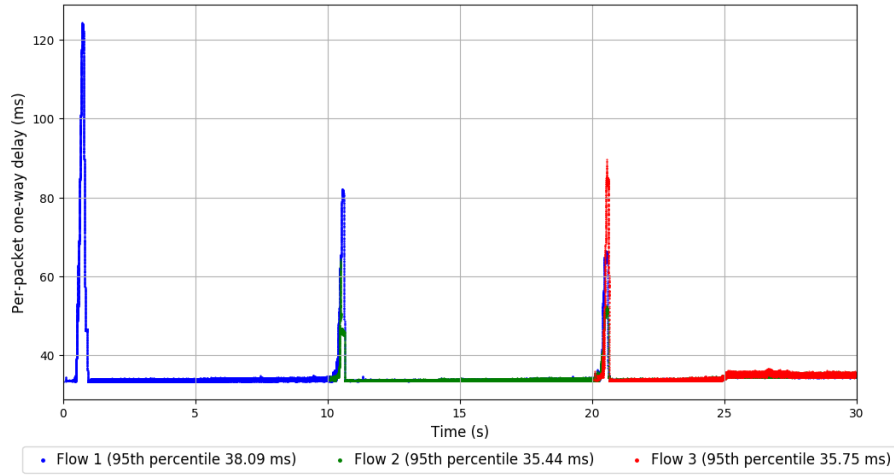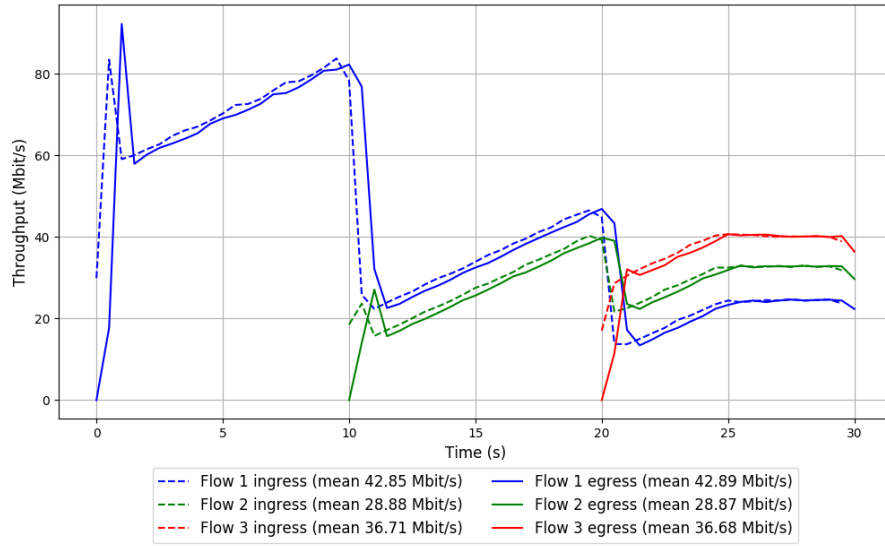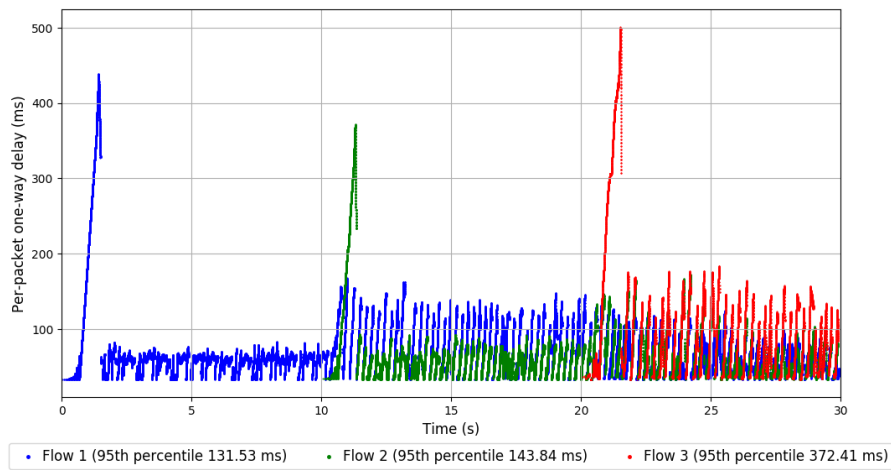
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 13:56:58
End at: 2019-03-27 13:57:28
Local clock offset: 1.039 ms
Remote clock offset: 3.147 ms


# Below is generated by plot.py at 2019-03-27 14:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.24 Mbit/s
95th percentile per-packet one-way delay: 35.726 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 42.89 Mbit/s
95th percentile per-packet one-way delay: 38.089 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 28.87 Mbit/s
95th percentile per-packet one-way delay: 35.437 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 36.68 Mbit/s
95th percentile per-packet one-way delay: 35.752 ms
Loss rate: 0.72%
```
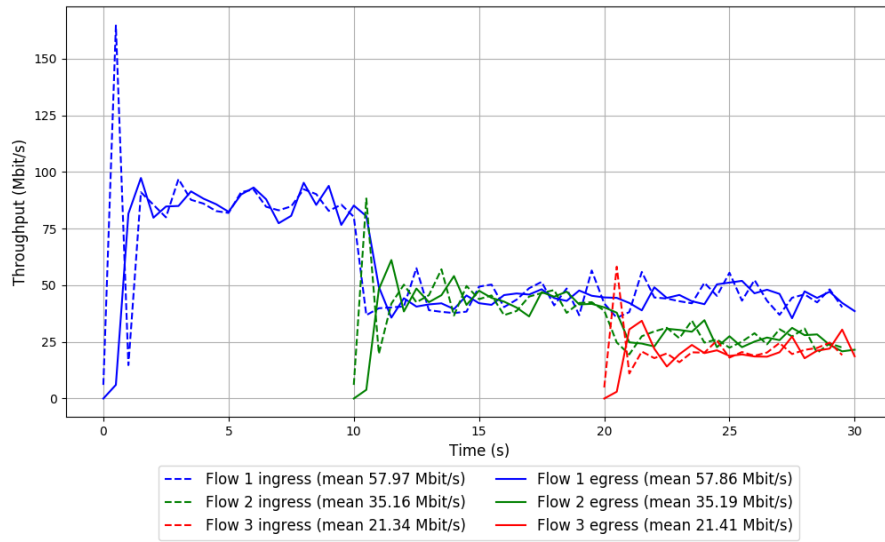
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-03-27 12:11:53
End at: 2019-03-27 12:12:23
Local clock offset: 3.331 ms
Remote clock offset: -0.829 ms


# Below is generated by plot.py at 2019-03-27 14:22:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.26 Mbit/s
95th percentile per-packet one-way delay: 149.571 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 57.86 Mbit/s
95th percentile per-packet one-way delay: 131.530 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 35.19 Mbit/s
95th percentile per-packet one-way delay: 143.843 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 21.41 Mbit/s
95th percentile per-packet one-way delay: 372.414 ms
Loss rate: 0.70%
```
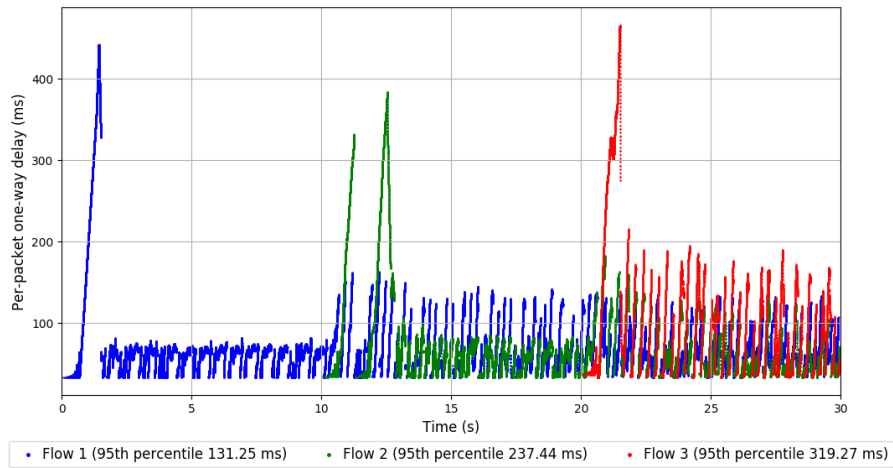
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-03-27 12:37:30
End at: 2019-03-27 12:38:00
Local clock offset: 0.629 ms
Remote clock offset: 0.61 ms


# Below is generated by plot.py at 2019-03-27 14:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.01 Mbit/s
95th percentile per-packet one-way delay: 178.143 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 58.31 Mbit/s
95th percentile per-packet one-way delay: 131.255 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 34.18 Mbit/s
95th percentile per-packet one-way delay: 237.444 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 21.05 Mbit/s
95th percentile per-packet one-way delay: 319.269 ms
Loss rate: 2.36%
```
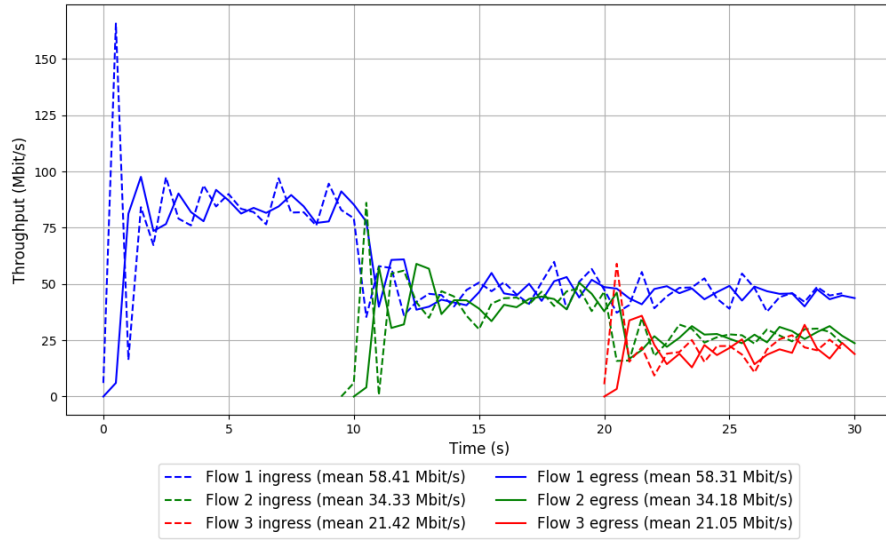
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-03-27 13:03:10
End at: 2019-03-27 13:03:40
Local clock offset: -0.209 ms
Remote clock offset: 1.704 ms


# Below is generated by plot.py at 2019-03-27 14:22:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.72 Mbit/s
95th percentile per-packet one-way delay: 185.436 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 58.58 Mbit/s
95th percentile per-packet one-way delay: 124.220 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 245.843 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 20.68 Mbit/s
95th percentile per-packet one-way delay: 284.458 ms
Loss rate: 1.84%
```
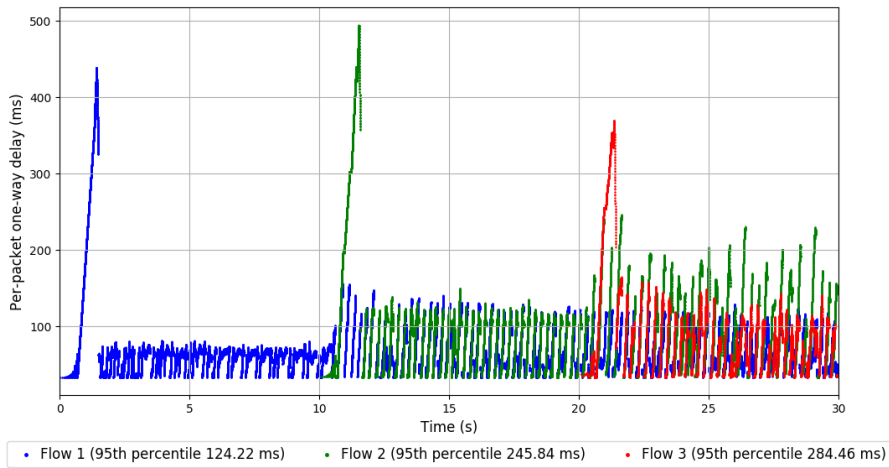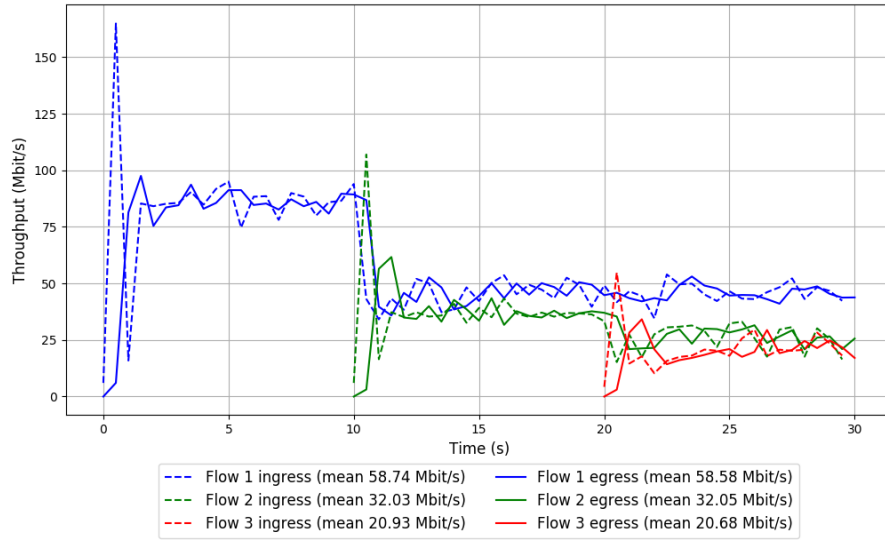
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-03-27 13:28:51
End at: 2019-03-27 13:29:21
Local clock offset: 2.639 ms
Remote clock offset: 2.482 ms


# Below is generated by plot.py at 2019-03-27 14:22:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.74 Mbit/s
95th percentile per-packet one-way delay: 148.720 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 53.06 Mbit/s
95th percentile per-packet one-way delay: 143.336 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 120.990 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 30.02 Mbit/s
95th percentile per-packet one-way delay: 254.192 ms
Loss rate: 0.90%
```
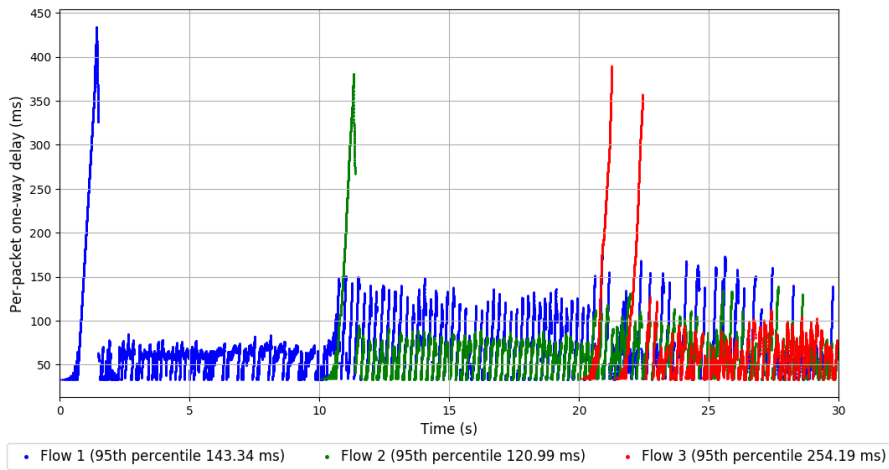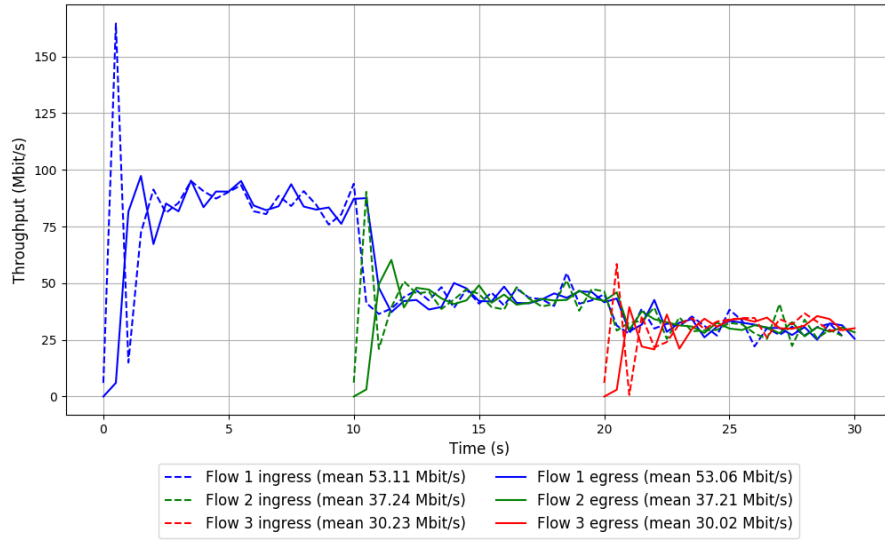
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-03-27 13:54:30
End at: 2019-03-27 13:55:00
Local clock offset: 1.378 ms
Remote clock offset: 2.987 ms


# Below is generated by plot.py at 2019-03-27 14:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.05 Mbit/s
95th percentile per-packet one-way delay: 162.775 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 53.13 Mbit/s
95th percentile per-packet one-way delay: 152.137 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 37.07 Mbit/s
95th percentile per-packet one-way delay: 236.888 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 179.777 ms
Loss rate: 1.21%
```
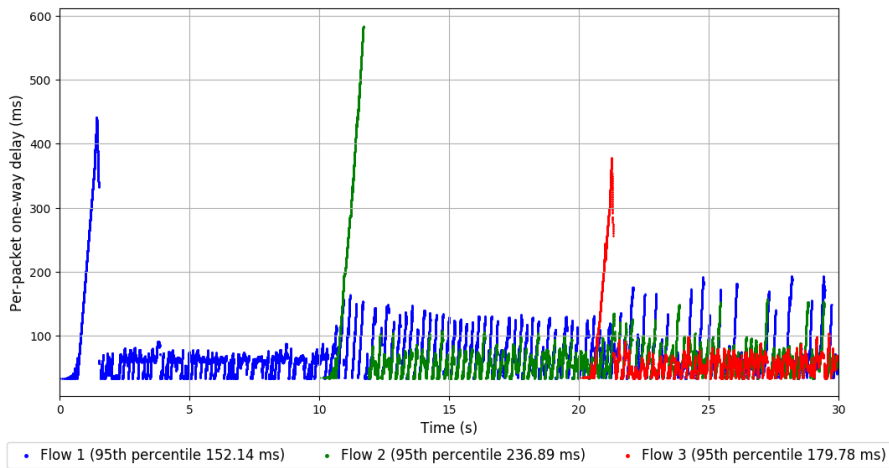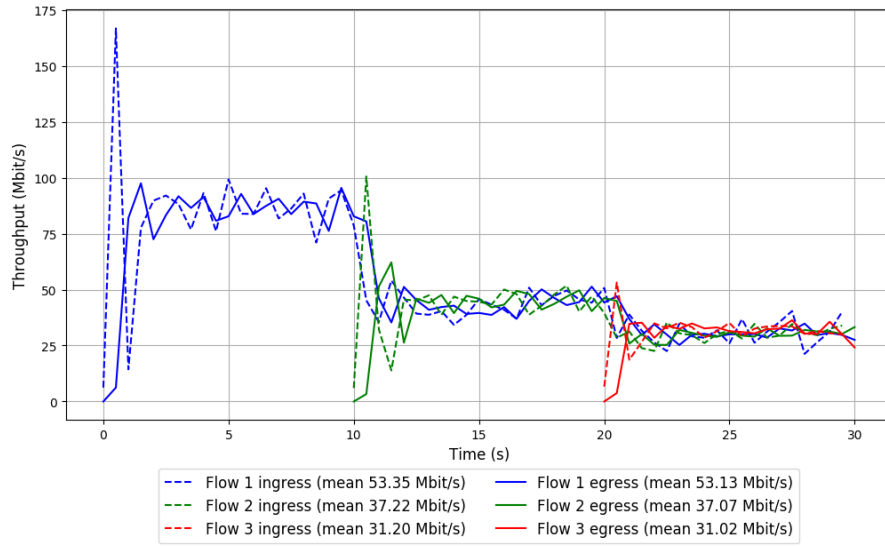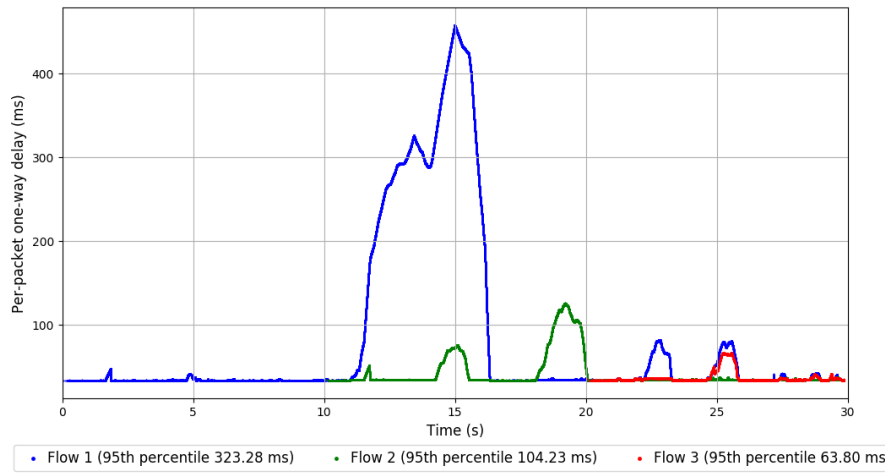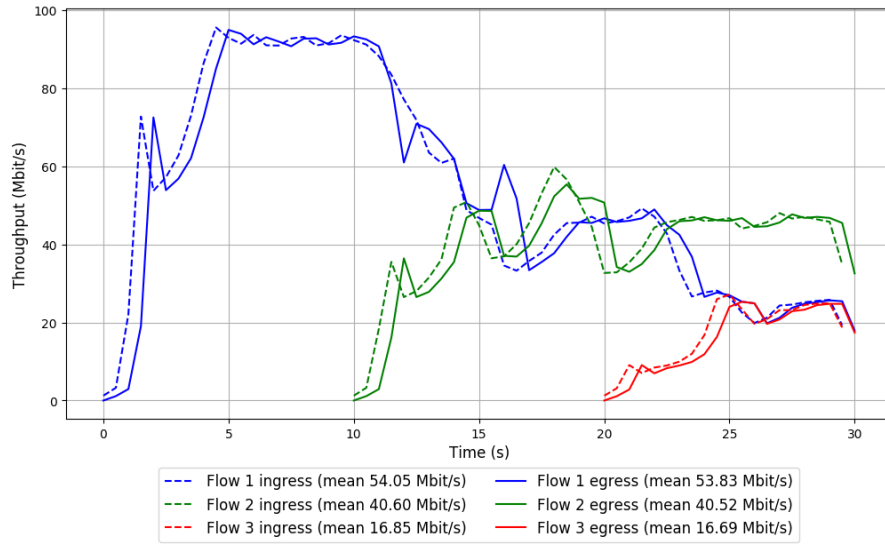
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 12:05:43
End at: 2019-03-27 12:06:13
Local clock offset: 3.315 ms
Remote clock offset: -1.354 ms


# Below is generated by plot.py at 2019-03-27 14:23:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.25 Mbit/s
95th percentile per-packet one-way delay: 297.940 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 53.83 Mbit/s
95th percentile per-packet one-way delay: 323.278 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 40.52 Mbit/s
95th percentile per-packet one-way delay: 104.230 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 16.69 Mbit/s
95th percentile per-packet one-way delay: 63.795 ms
Loss rate: 1.62%
```

Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 12:31:20
End at: 2019-03-27 12:31:50
Local clock offset: 0.999 ms
Remote clock offset: 0.425 ms


# Below is generated by plot.py at 2019-03-27 14:23:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.84 Mbit/s
95th percentile per-packet one-way delay: 1520.987 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 60.95 Mbit/s
95th percentile per-packet one-way delay: 1524.772 ms
Loss rate: 9.38%
-- Flow 2:
Average throughput: 32.45 Mbit/s
95th percentile per-packet one-way delay: 622.566 ms
Loss rate: 6.00%
-- Flow 3:
Average throughput: 19.19 Mbit/s
95th percentile per-packet one-way delay: 41.671 ms
Loss rate: 0.83%
```
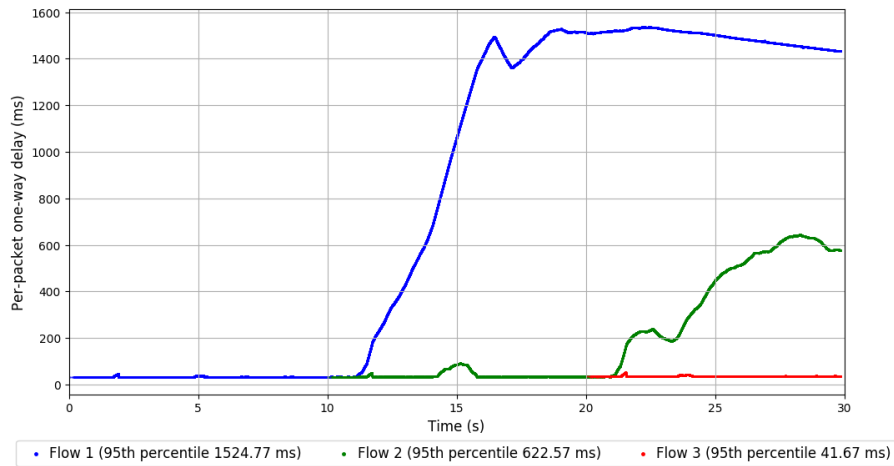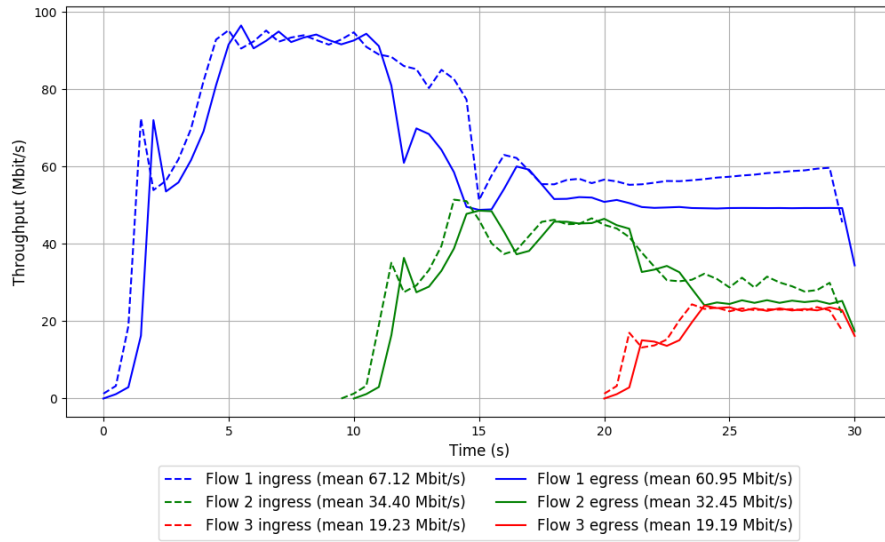
Run 2: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 67.12 Mbit/s)   —— Flow 1 egress (mean 60.95 Mbit/s)
- - - Flow 2 ingress (mean 34.40 Mbit/s)   —— Flow 2 egress (mean 32.45 Mbit/s)
- - - Flow 3 ingress (mean 19.23 Mbit/s)   —— Flow 3 egress (mean 19.19 Mbit/s)

- Flow 1 (95th percentile 1524.77 ms)   • Flow 2 (95th percentile 622.57 ms)   • Flow 3 (95th percentile 41.67 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 12:56:56
End at: 2019-03-27 12:57:26
Local clock offset: -0.037 ms
Remote clock offset: 1.434 ms


# Below is generated by plot.py at 2019-03-27 14:23:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.51 Mbit/s
95th percentile per-packet one-way delay: 237.548 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 53.22 Mbit/s
95th percentile per-packet one-way delay: 233.990 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 37.23 Mbit/s
95th percentile per-packet one-way delay: 253.690 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 25.96 Mbit/s
95th percentile per-packet one-way delay: 59.523 ms
Loss rate: 0.77%
```
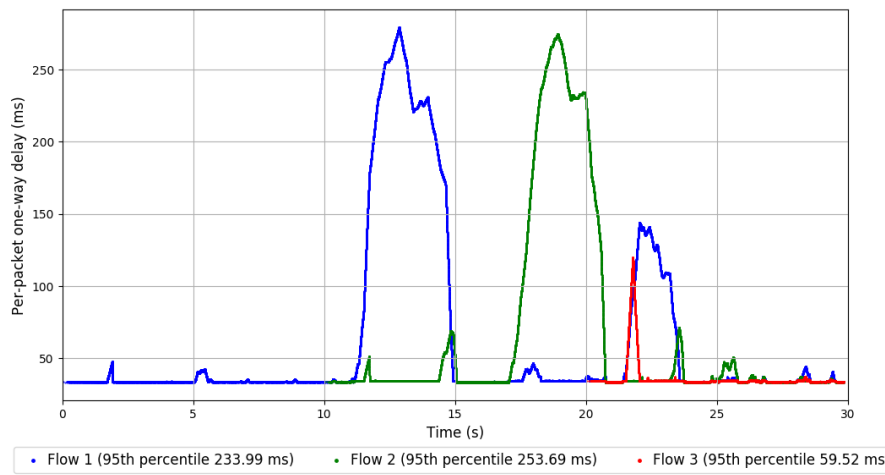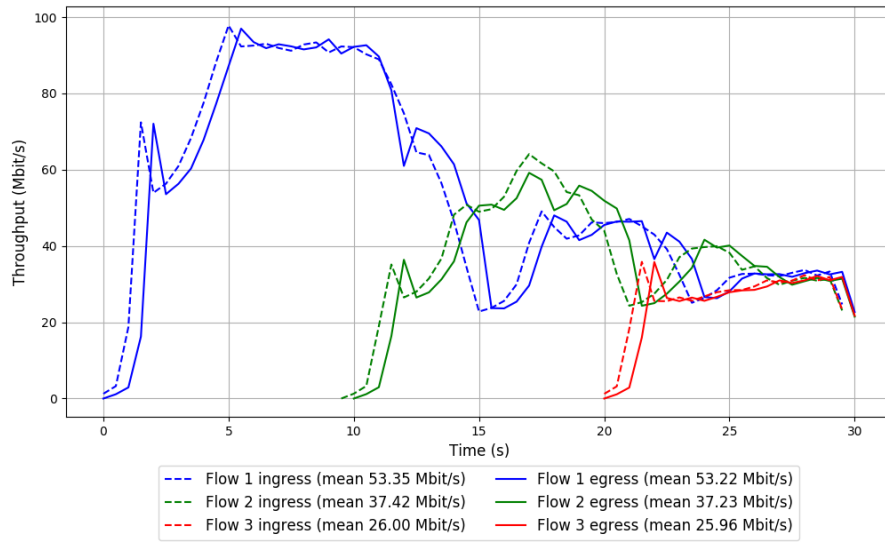
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 53.35 Mbit/s) --- Flow 1 egress (mean 53.22 Mbit/s)
Flow 2 ingress (mean 37.42 Mbit/s) --- Flow 2 egress (mean 37.23 Mbit/s)
Flow 3 ingress (mean 26.00 Mbit/s) --- Flow 3 egress (mean 25.96 Mbit/s)

Flow 1 (95th percentile 233.99 ms) · Flow 2 (95th percentile 253.69 ms) · Flow 3 (95th percentile 59.52 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 13:22:41
End at: 2019-03-27 13:23:11
Local clock offset: 1.59 ms
Remote clock offset: 2.426 ms


# Below is generated by plot.py at 2019-03-27 14:23:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.48 Mbit/s
95th percentile per-packet one-way delay: 255.228 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 52.64 Mbit/s
95th percentile per-packet one-way delay: 253.049 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 37.57 Mbit/s
95th percentile per-packet one-way delay: 274.725 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 27.01 Mbit/s
95th percentile per-packet one-way delay: 129.372 ms
Loss rate: 1.28%
```
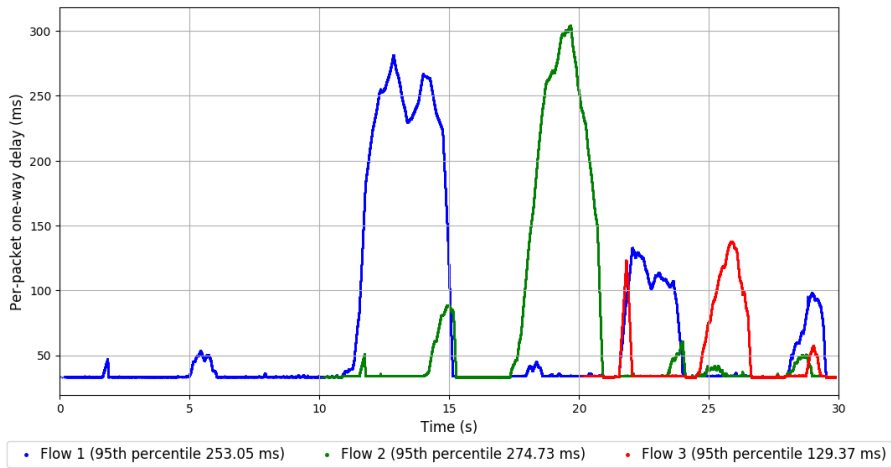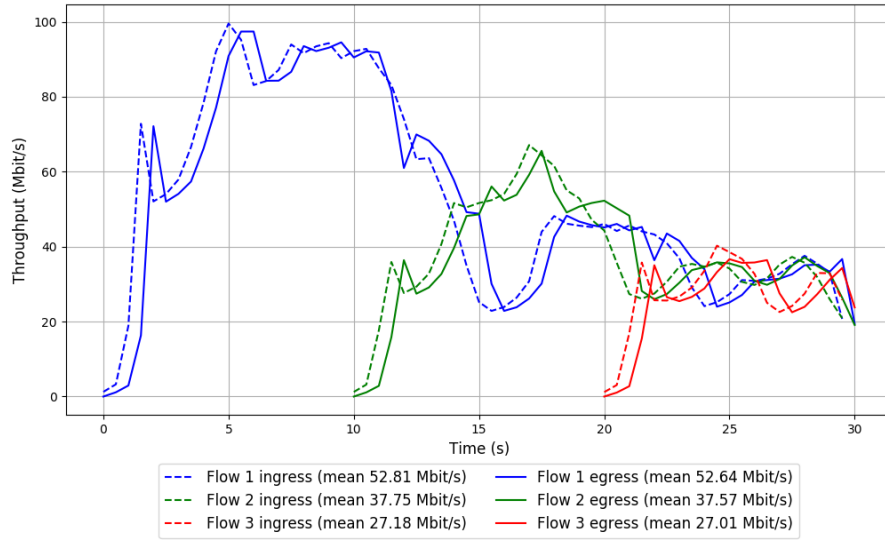
Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 52.81 Mbit/s) — Flow 1 egress (mean 52.64 Mbit/s)
Flow 2 ingress (mean 37.75 Mbit/s) — Flow 2 egress (mean 37.57 Mbit/s)
Flow 3 ingress (mean 27.18 Mbit/s) — Flow 3 egress (mean 27.01 Mbit/s)

Flow 1 (95th percentile 253.05 ms) • Flow 2 (95th percentile 274.73 ms) • Flow 3 (95th percentile 129.37 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 13:48:20
End at: 2019-03-27 13:48:50
Local clock offset: 2.824 ms
Remote clock offset: 3.154 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.42 Mbit/s
95th percentile per-packet one-way delay: 264.183 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 314.551 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 26.31 Mbit/s
95th percentile per-packet one-way delay: 243.785 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 37.31 Mbit/s
95th percentile per-packet one-way delay: 66.612 ms
Loss rate: 0.97%
```
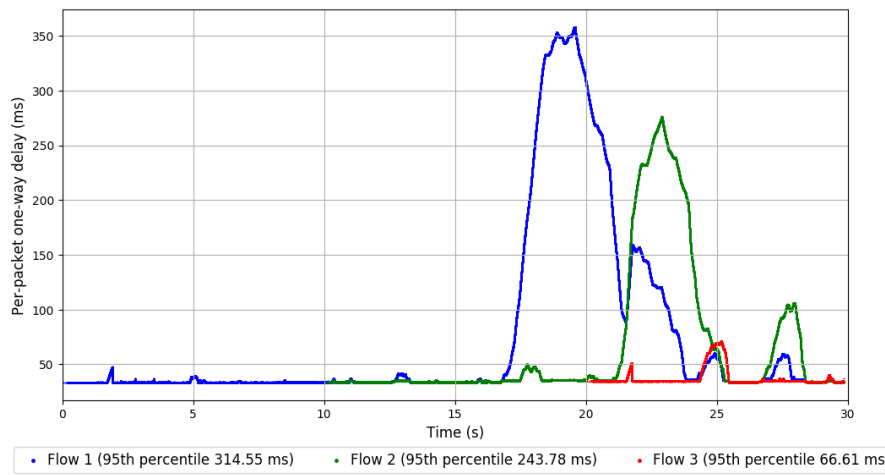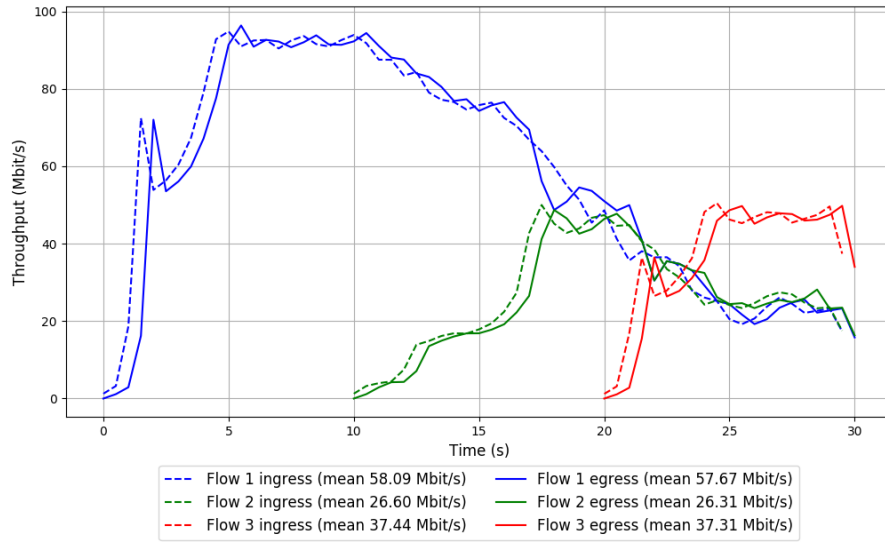
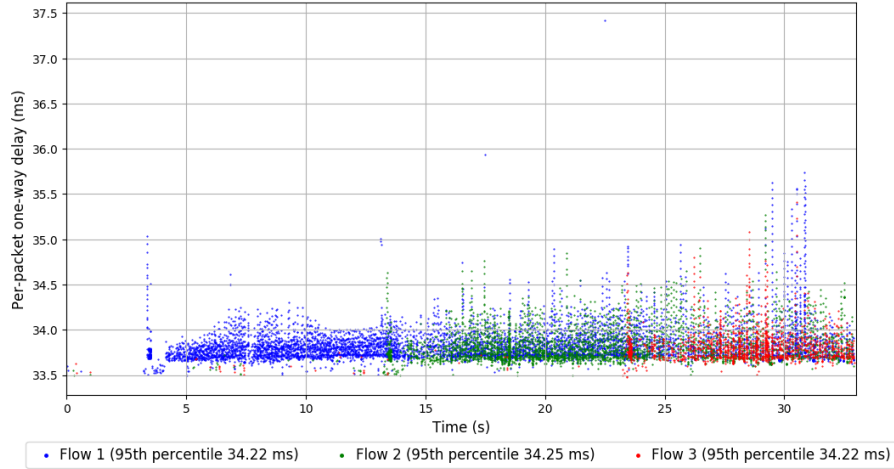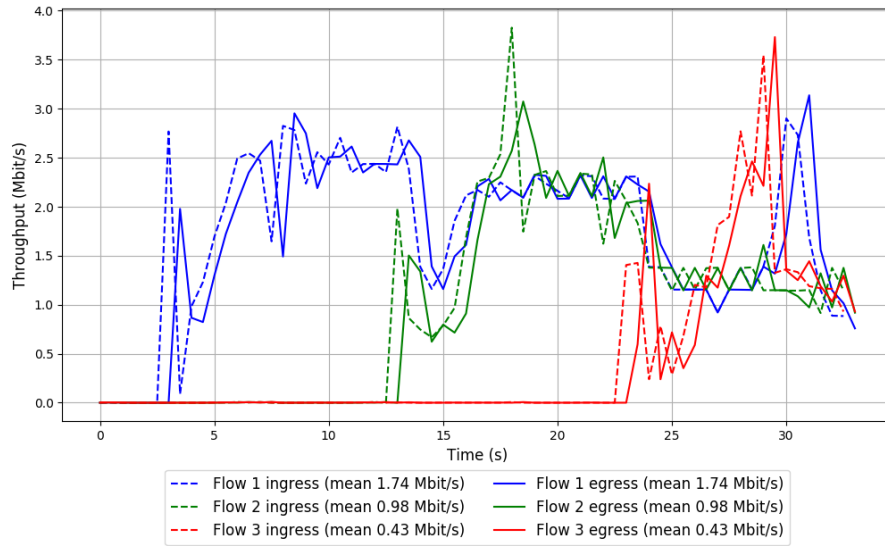Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 11:58:32
End at: 2019-03-27 11:59:02
Local clock offset: 3.354 ms
Remote clock offset: -1.857 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 34.232 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 34.222 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 34.249 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 34.216 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.74 Mbit/s) — Flow 1 egress (mean 1.74 Mbit/s)
Flow 2 ingress (mean 0.98 Mbit/s) — Flow 2 egress (mean 0.98 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s) — Flow 3 egress (mean 0.43 Mbit/s)

Flow 1 (95th percentile 34.22 ms) • Flow 2 (95th percentile 34.25 ms) • Flow 3 (95th percentile 34.22 ms)
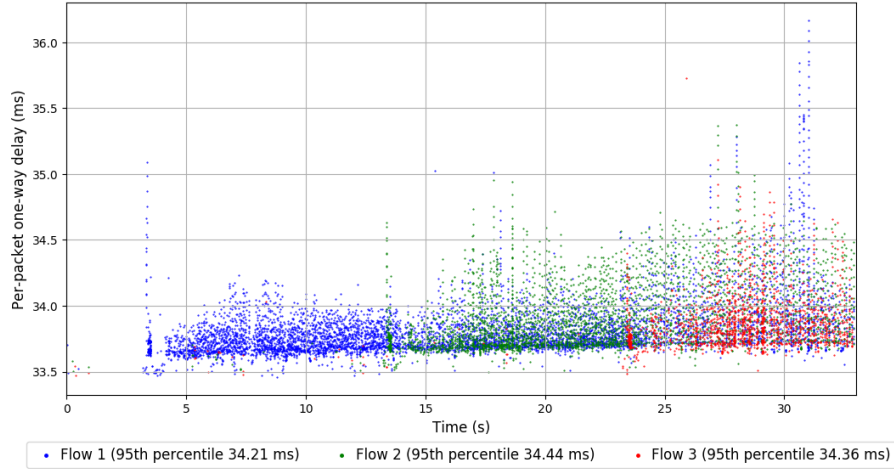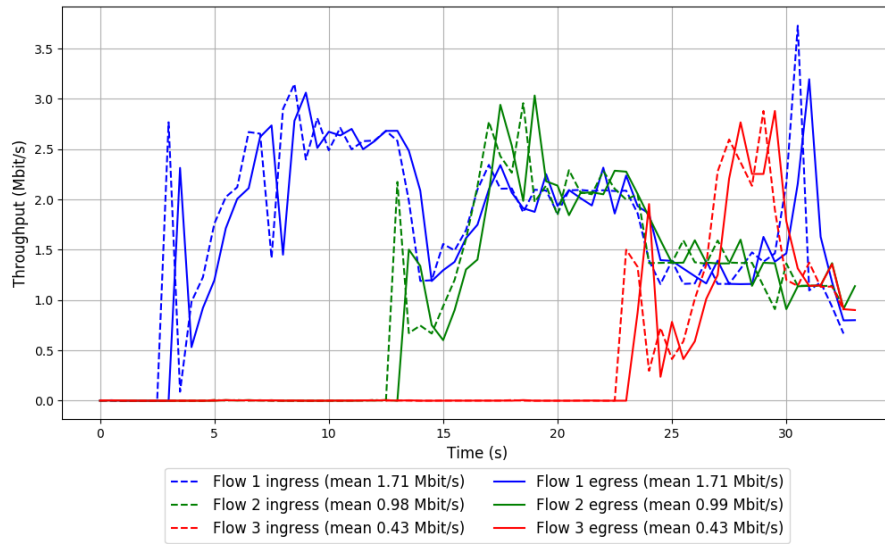
```
Run 2: Statistics of WebRTC media

Start at: 2019-03-27 12:24:08
End at: 2019-03-27 12:24:38
Local clock offset: 1.687 ms
Remote clock offset: -0.195 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 34.357 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 34.206 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 34.443 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 34.358 ms
Loss rate: 0.79%
```

Run 2: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.71 Mbit/s) — — —   Flow 1 egress (mean 1.71 Mbit/s) ——
Flow 2 ingress (mean 0.98 Mbit/s) — — —   Flow 2 egress (mean 0.99 Mbit/s) ——
Flow 3 ingress (mean 0.43 Mbit/s) — — —   Flow 3 egress (mean 0.43 Mbit/s) ——

Flow 1 (95th percentile 34.21 ms)   Flow 2 (95th percentile 34.44 ms)   Flow 3 (95th percentile 34.36 ms)

```
Run 3: Statistics of WebRTC media

Start at: 2019-03-27 12:49:45
End at: 2019-03-27 12:50:15
Local clock offset: 0.175 ms
Remote clock offset: 1.195 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 34.195 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 34.131 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 34.192 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 34.367 ms
Loss rate: 0.78%
```
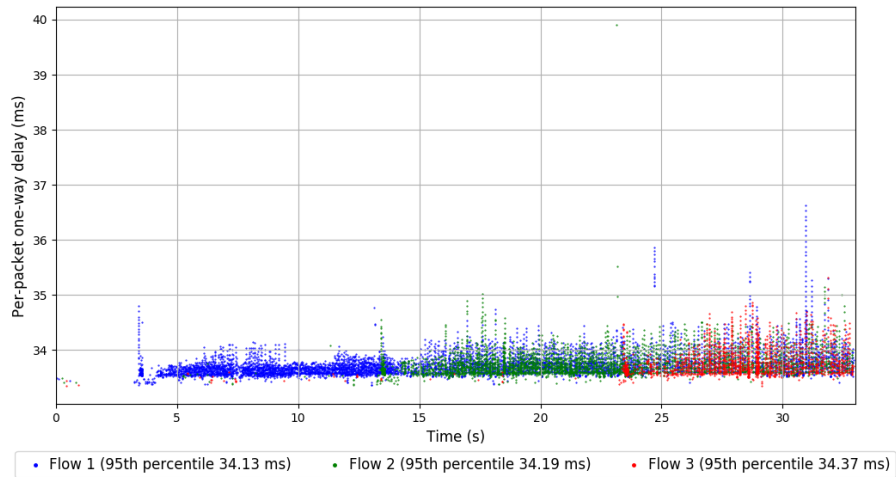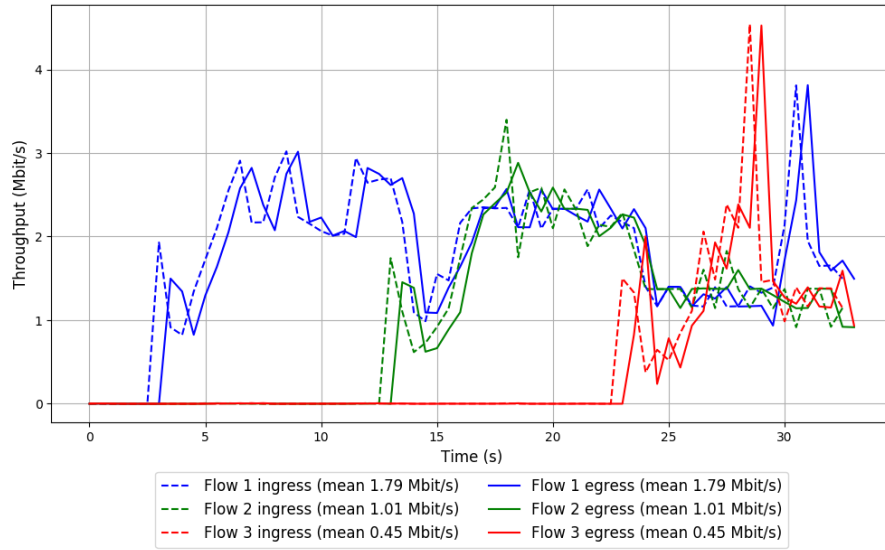
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-03-27 13:15:30
End at: 2019-03-27 13:16:00
Local clock offset: -0.624 ms
Remote clock offset: 2.253 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 33.891 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 33.887 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 33.845 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 34.031 ms
Loss rate: 0.84%
```
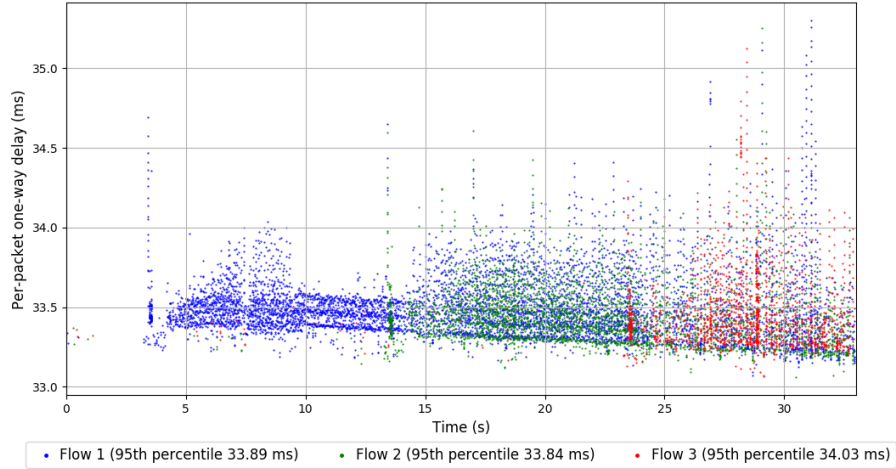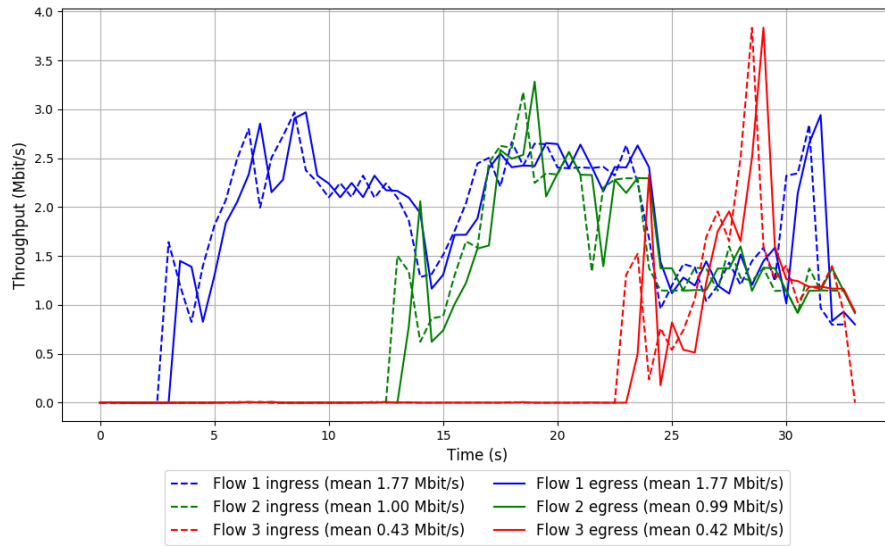
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-03-27 13:41:08
End at: 2019-03-27 13:41:38
Local clock offset: 3.559 ms
Remote clock offset: 2.904 ms


# Below is generated by plot.py at 2019-03-27 14:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 33.892 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 33.874 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 33.962 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 33.823 ms
Loss rate: 0.87%
```

Run 5: Report of WebRTC media — Data Link