Pantheon Report

Generated at 2019-04-24 02:35:25 (UTC).

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

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.
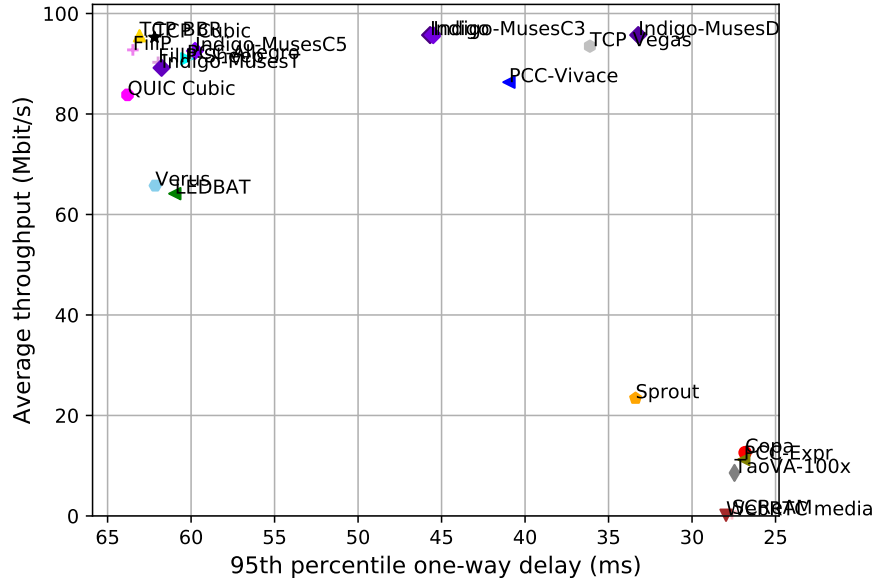
```
System info:
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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
```
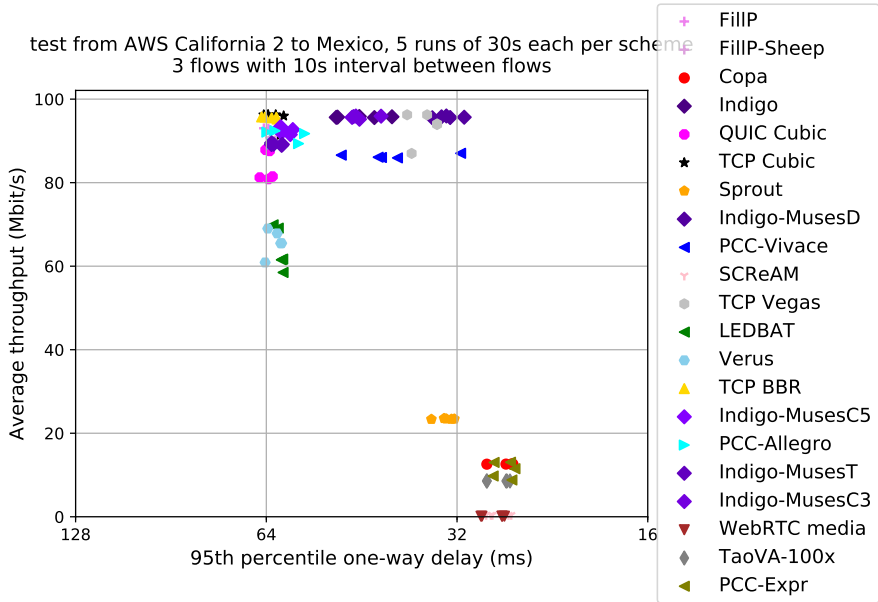
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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

3

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	63.57	31.77	32.73	61.80	63.97	64.85	6.18	9.86	12.04
Copa	5	9.07	4.68	1.27	26.99	26.69	26.72	70.50	82.41	88.55
TCP Cubic	5	74.15	20.96	21.51	61.83	63.41	60.08	0.90	0.66	0.87
FillP	5	57.86	41.52	22.21	62.24	64.61	64.44	30.15	47.55	53.87
FillP-Sheep	5	55.78	38.21	27.65	60.03	63.61	63.22	9.46	17.32	17.55
Indigo	5	66.84	25.77	36.09	41.43	47.82	53.75	0.09	0.14	0.50
Indigo-MusesC3	5	52.60	49.54	36.36	41.19	45.48	53.71	0.33	0.81	2.82
Indigo-MusesC5	5	56.62	48.32	15.08	56.52	61.49	62.81	7.49	16.19	26.71
Indigo-MusesD	5	57.04	42.17	37.93	32.75	32.66	34.73	0.04	0.00	0.02
Indigo-MusesT	5	59.99	43.25	3.73	60.10	63.50	62.64	21.99	37.60	30.53
LEDBAT	5	42.23	23.16	19.86	60.85	62.12	50.74	0.15	0.45	0.20
PCC-Allegro	5	81.12	10.59	8.53	59.86	62.02	57.74	4.39	5.79	6.68
PCC-Expr	5	10.83	9.92	5.10	26.88	26.90	26.95	56.15	43.71	46.81
QUIC Cubic	5	62.50	24.79	14.78	63.68	63.94	64.22	2.34	1.00	0.99
SCReAM	5	0.21	0.21	0.22	27.61	27.60	27.58	0.00	0.00	0.00
Sprout	5	11.83	11.74	11.50	32.90	33.51	34.24	0.01	0.04	0.00
TaoVA-100x	5	0.00	9.75	6.23	27.08	27.92	27.26	95.92	86.93	53.07
TCP Vegas	5	69.21	26.69	19.56	36.45	34.66	33.63	0.59	0.08	0.00
Verus	5	39.22	28.12	29.31	61.88	62.45	61.96	26.58	40.54	36.49
PCC-Vivace	5	65.73	24.57	12.89	40.22	42.03	43.30	0.08	0.18	0.15
WebRTC media	5	0.05	0.05	0.05	27.88	27.91	28.07	0.01	0.01	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2019-04-24 00:18:16
End at: 2019-04-24 00:18:46
Local clock offset: -0.644 ms
Remote clock offset: -1.273 ms


# Below is generated by plot.py at 2019-04-24 02:24:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 61.555 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 62.41 Mbit/s
95th percentile per-packet one-way delay: 59.816 ms
Loss rate: 5.26%
-- Flow 2:
Average throughput: 30.88 Mbit/s
95th percentile per-packet one-way delay: 62.303 ms
Loss rate: 7.98%
-- Flow 3:
Average throughput: 37.28 Mbit/s
95th percentile per-packet one-way delay: 63.665 ms
Loss rate: 10.84%
```
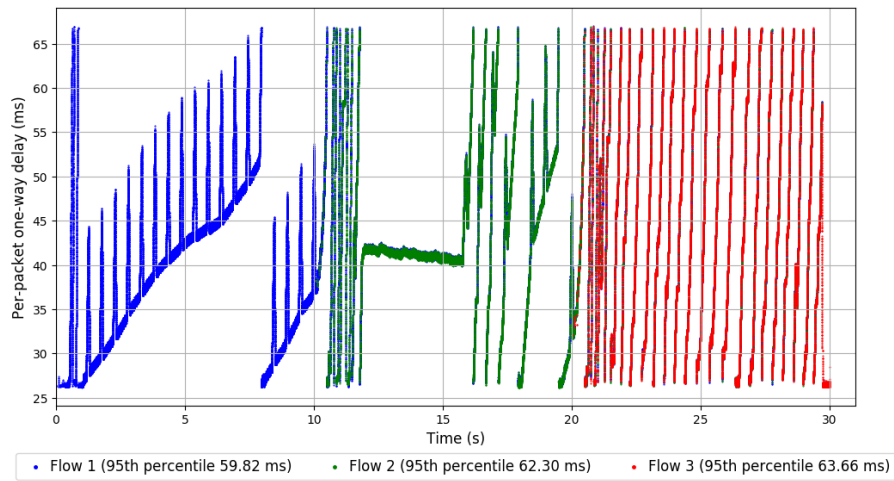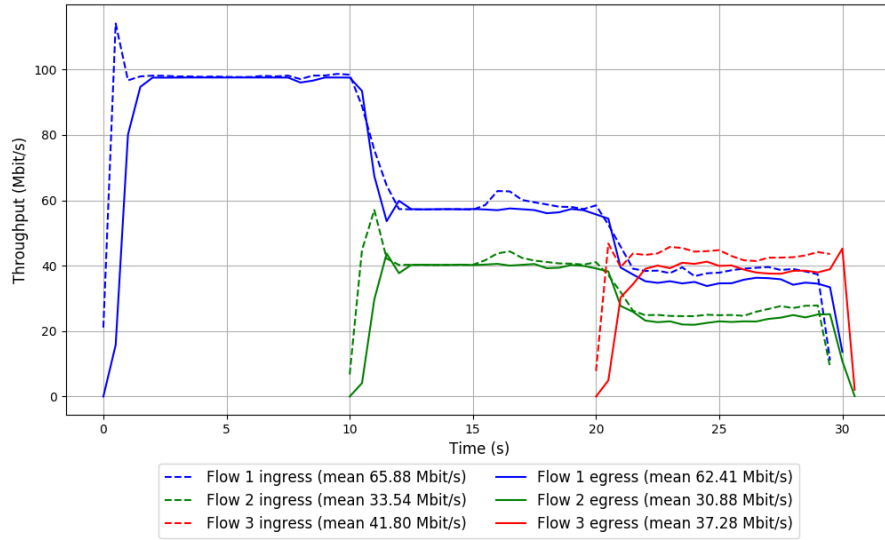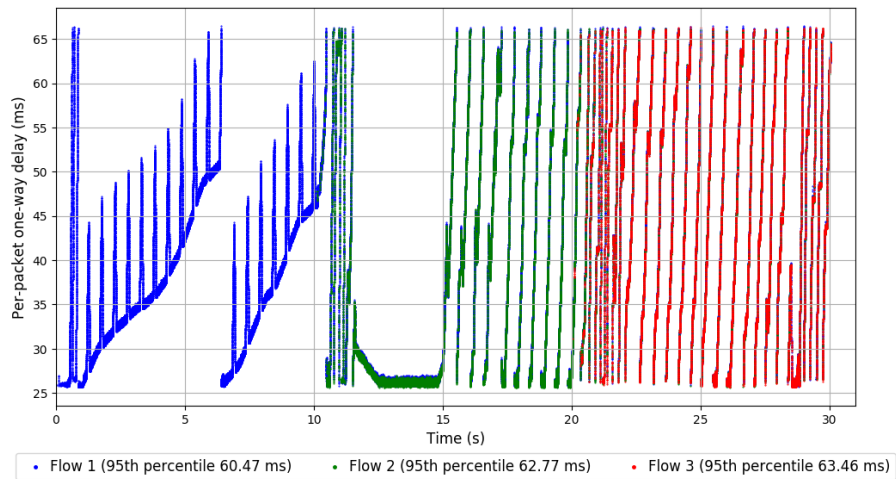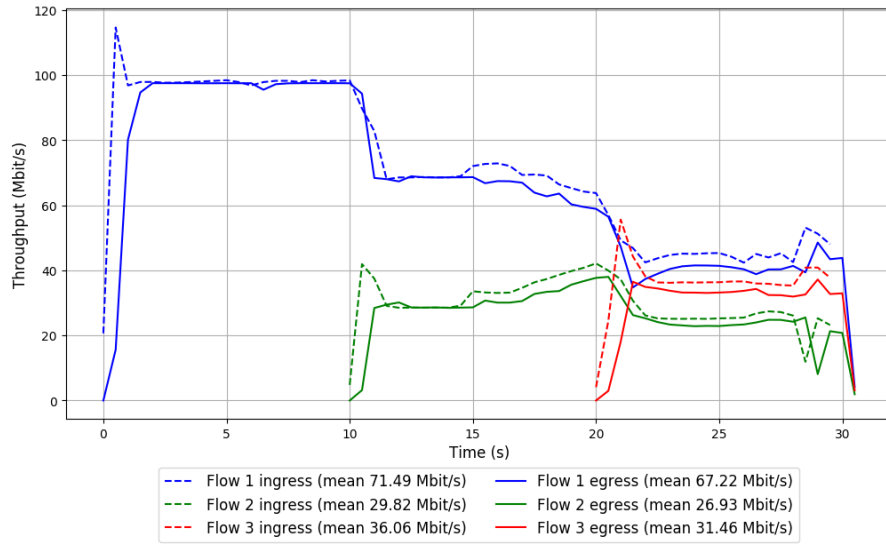
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-04-24 00:44:31
End at: 2019-04-24 00:45:01
Local clock offset: -0.444 ms
Remote clock offset: -1.528 ms


# Below is generated by plot.py at 2019-04-24 02:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 61.711 ms
Loss rate: 7.34%
-- Flow 1:
Average throughput: 67.22 Mbit/s
95th percentile per-packet one-way delay: 60.468 ms
Loss rate: 5.84%
-- Flow 2:
Average throughput: 26.93 Mbit/s
95th percentile per-packet one-way delay: 62.765 ms
Loss rate: 9.61%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 63.458 ms
Loss rate: 12.48%
```
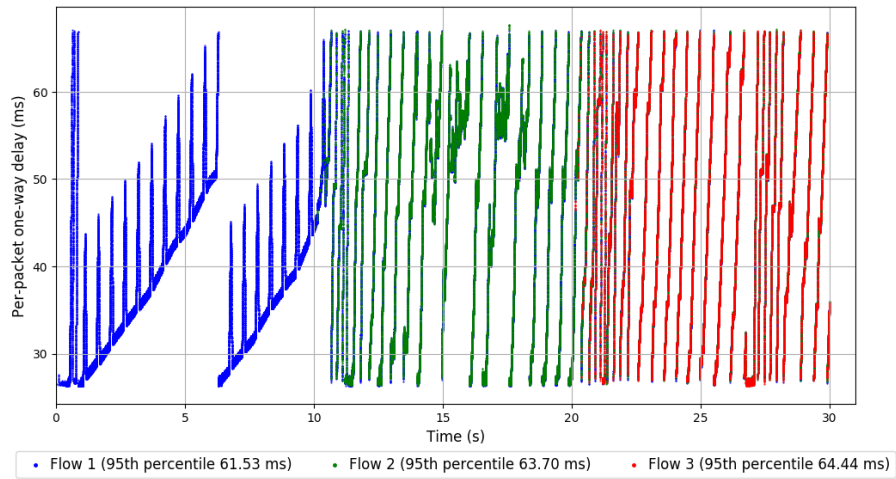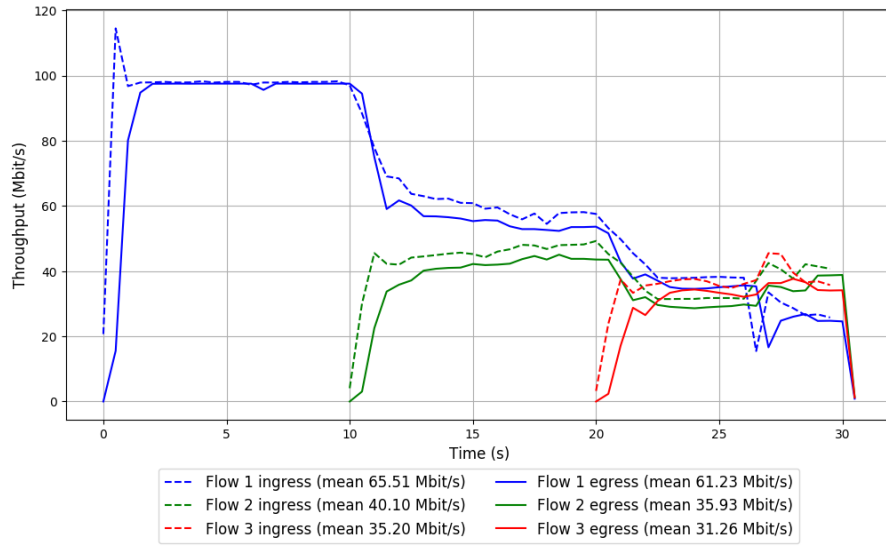
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-04-24 01:11:46
End at: 2019-04-24 01:12:16
Local clock offset: 0.019 ms
Remote clock offset: -0.559 ms


# Below is generated by plot.py at 2019-04-24 02:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.53 Mbit/s
95th percentile per-packet one-way delay: 62.773 ms
Loss rate: 8.05%
-- Flow 1:
Average throughput: 61.23 Mbit/s
95th percentile per-packet one-way delay: 61.526 ms
Loss rate: 6.50%
-- Flow 2:
Average throughput: 35.93 Mbit/s
95th percentile per-packet one-way delay: 63.702 ms
Loss rate: 10.45%
-- Flow 3:
Average throughput: 31.26 Mbit/s
95th percentile per-packet one-way delay: 64.442 ms
Loss rate: 11.18%
```
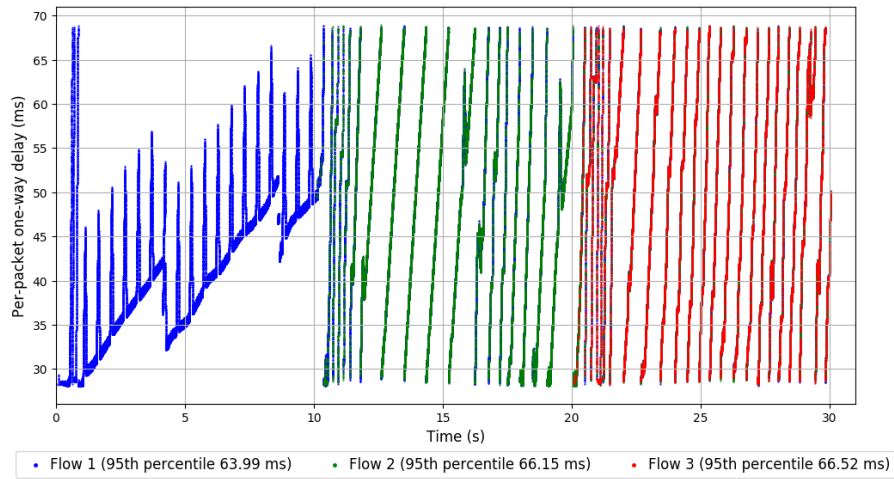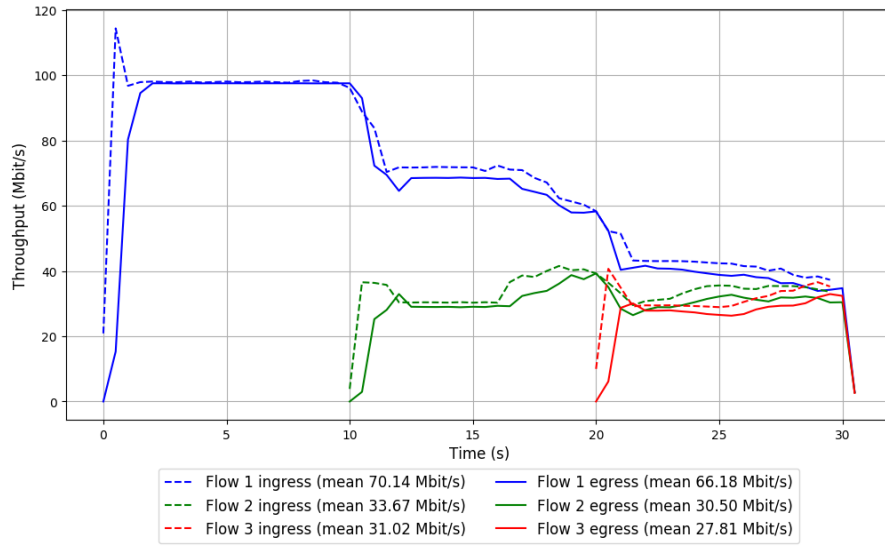
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-04-24 01:37:45
End at: 2019-04-24 01:38:15
Local clock offset: -0.26 ms
Remote clock offset: 1.67 ms


# Below is generated by plot.py at 2019-04-24 02:24:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 65.099 ms
Loss rate: 6.87%
-- Flow 1:
Average throughput: 66.18 Mbit/s
95th percentile per-packet one-way delay: 63.993 ms
Loss rate: 5.58%
-- Flow 2:
Average throughput: 30.50 Mbit/s
95th percentile per-packet one-way delay: 66.154 ms
Loss rate: 9.41%
-- Flow 3:
Average throughput: 27.81 Mbit/s
95th percentile per-packet one-way delay: 66.523 ms
Loss rate: 10.16%
```
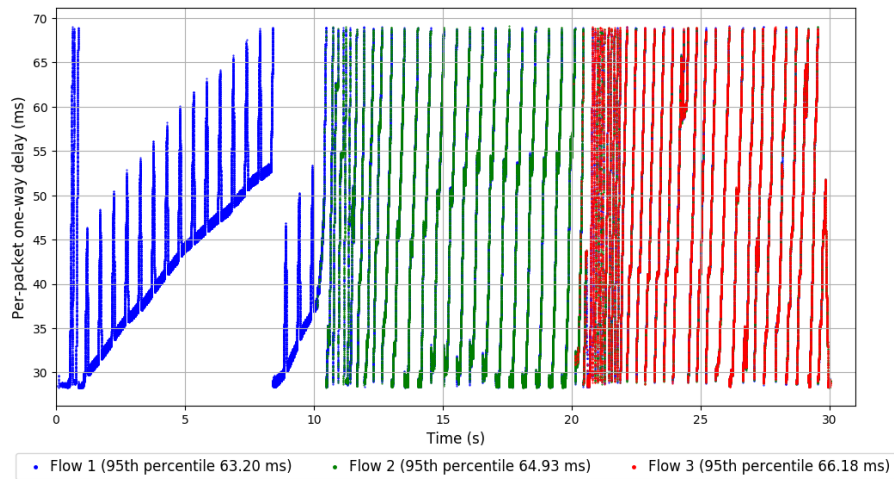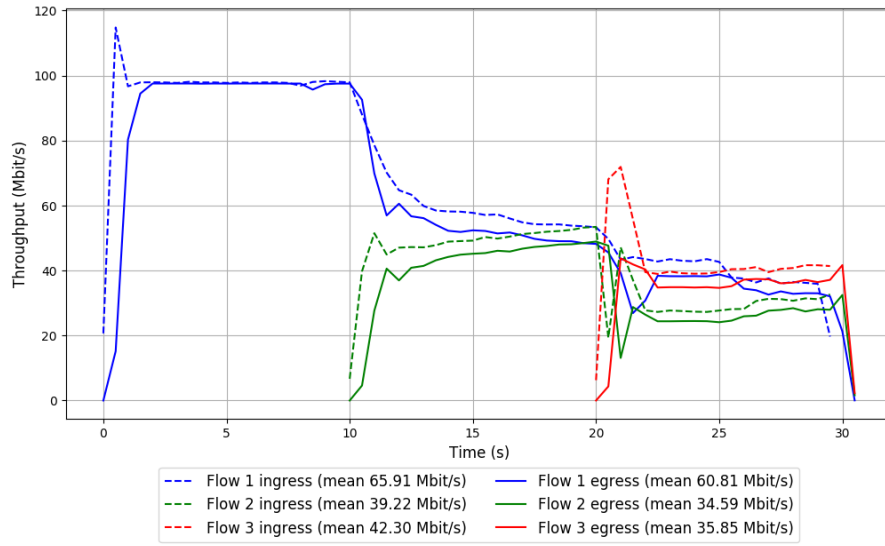
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-04-24 02:03:30
End at: 2019-04-24 02:04:00
Local clock offset: 0.01 ms
Remote clock offset: 1.78 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 64.296 ms
Loss rate: 9.78%
-- Flow 1:
Average throughput: 60.81 Mbit/s
95th percentile per-packet one-way delay: 63.201 ms
Loss rate: 7.73%
-- Flow 2:
Average throughput: 34.59 Mbit/s
95th percentile per-packet one-way delay: 64.934 ms
Loss rate: 11.83%
-- Flow 3:
Average throughput: 35.85 Mbit/s
95th percentile per-packet one-way delay: 66.182 ms
Loss rate: 15.53%
```

Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-04-24 00:20:44
End at: 2019-04-24 00:21:15
Local clock offset: -0.475 ms
Remote clock offset: -0.944 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 26.787 ms
Loss rate: 76.05%
-- Flow 1:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 26.869 ms
Loss rate: 70.57%
-- Flow 2:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 26.620 ms
Loss rate: 83.03%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 26.492 ms
Loss rate: 97.96%
```
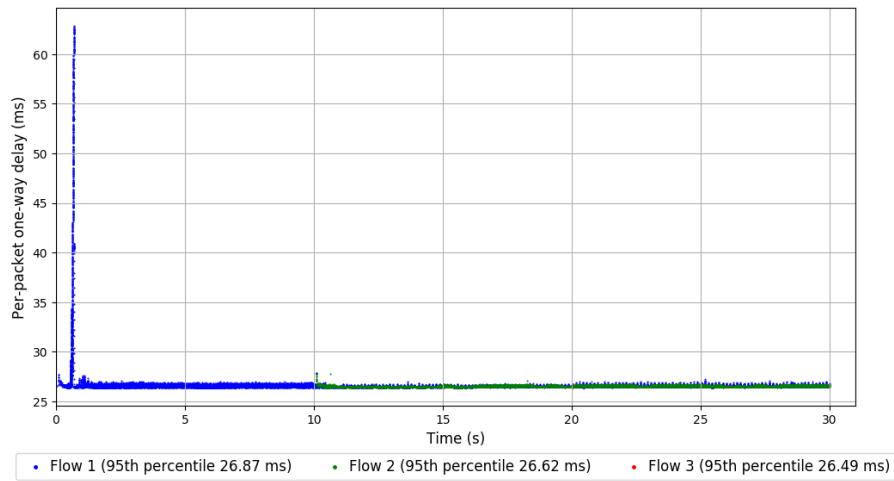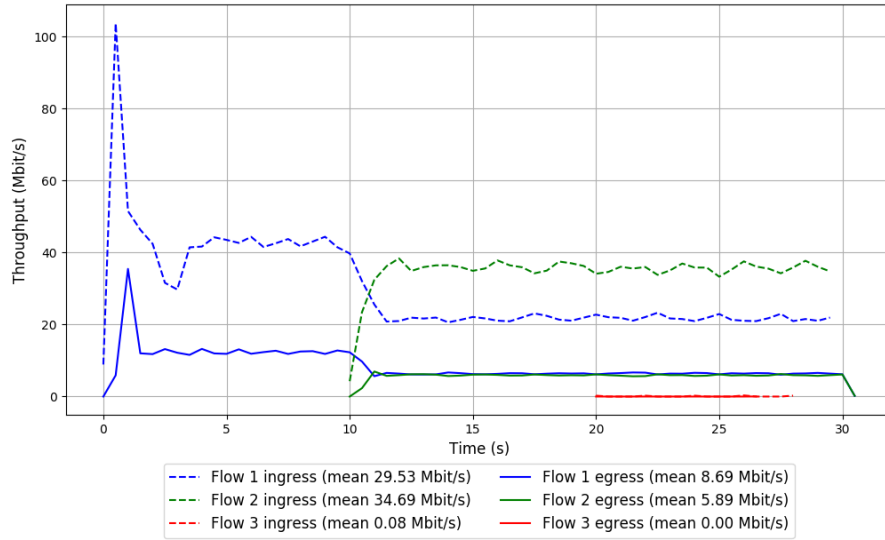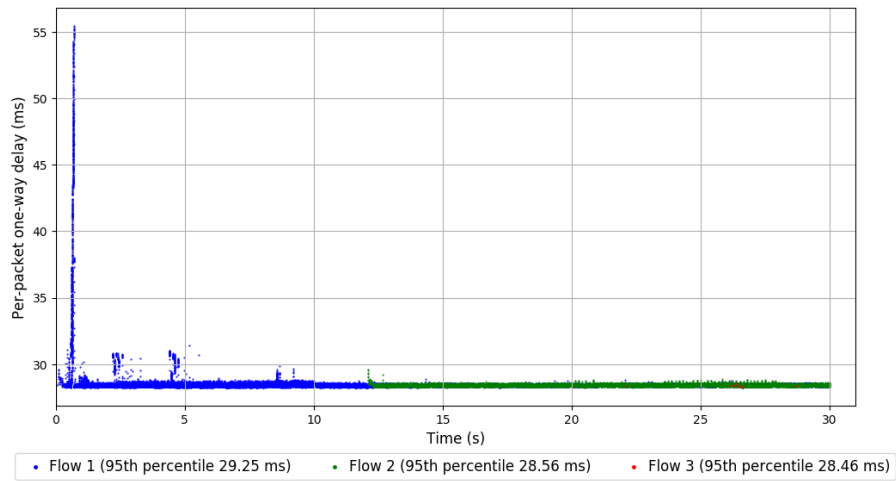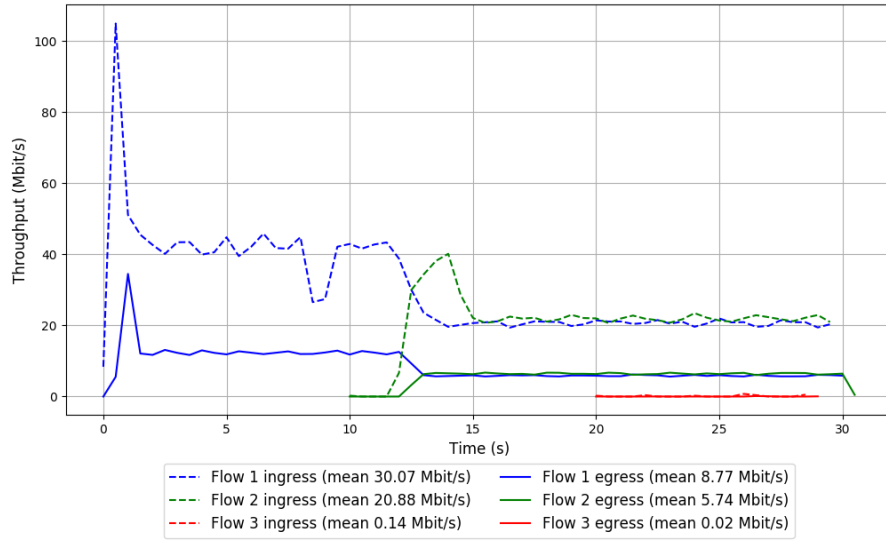
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 29.53 Mbit/s) — — — Flow 1 egress (mean 8.69 Mbit/s)
Flow 2 ingress (mean 34.69 Mbit/s) — — — Flow 2 egress (mean 5.89 Mbit/s)
Flow 3 ingress (mean 0.08 Mbit/s) — — — Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 26.87 ms)   Flow 2 (95th percentile 26.62 ms)   Flow 3 (95th percentile 26.49 ms)

```
Run 2: Statistics of Copa

Start at: 2019-04-24 00:47:12
End at: 2019-04-24 00:47:42
Local clock offset: -0.325 ms
Remote clock offset: 1.113 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 28.716 ms
Loss rate: 71.38%
-- Flow 1:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 29.248 ms
Loss rate: 70.83%
-- Flow 2:
Average throughput: 5.74 Mbit/s
95th percentile per-packet one-way delay: 28.557 ms
Loss rate: 72.52%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 28.461 ms
Loss rate: 88.50%
```
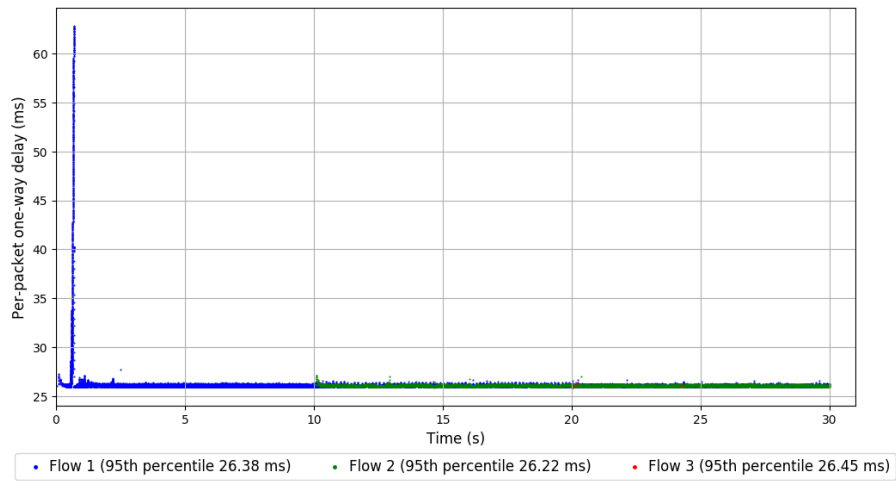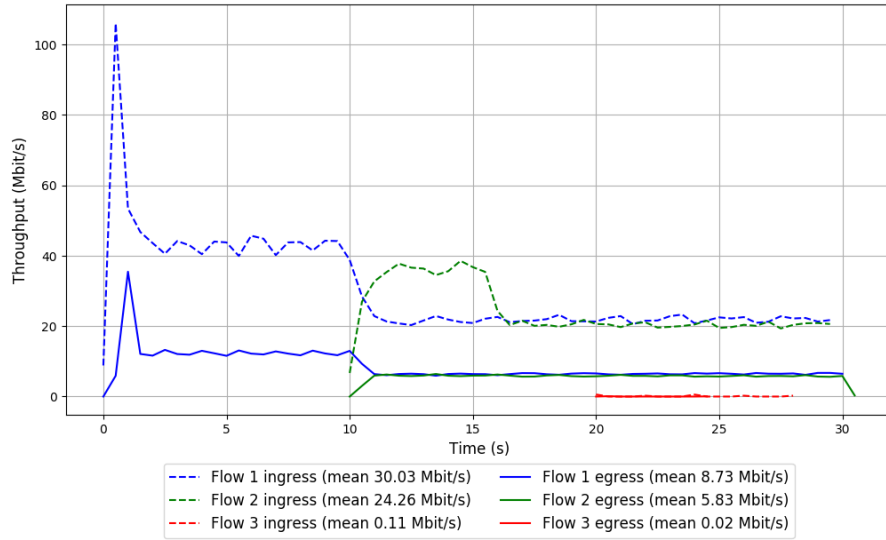
Run 2: Report of Copa — Data Link

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```
Run 3: Statistics of Copa

Start at: 2019-04-24 01:14:26
End at: 2019-04-24 01:14:56
Local clock offset: -0.036 ms
Remote clock offset: -0.877 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 26.284 ms
Loss rate: 72.70%
-- Flow 1:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 26.378 ms
Loss rate: 70.93%
-- Flow 2:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: 26.221 ms
Loss rate: 75.96%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 26.450 ms
Loss rate: 92.11%
```
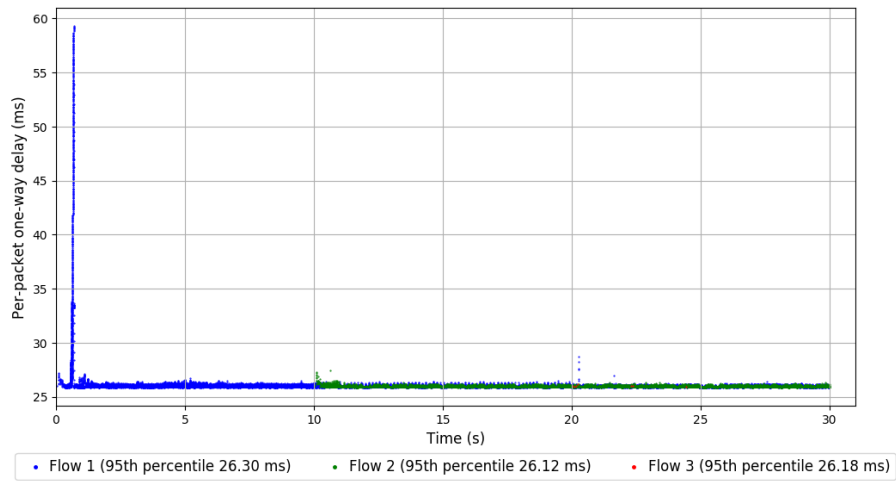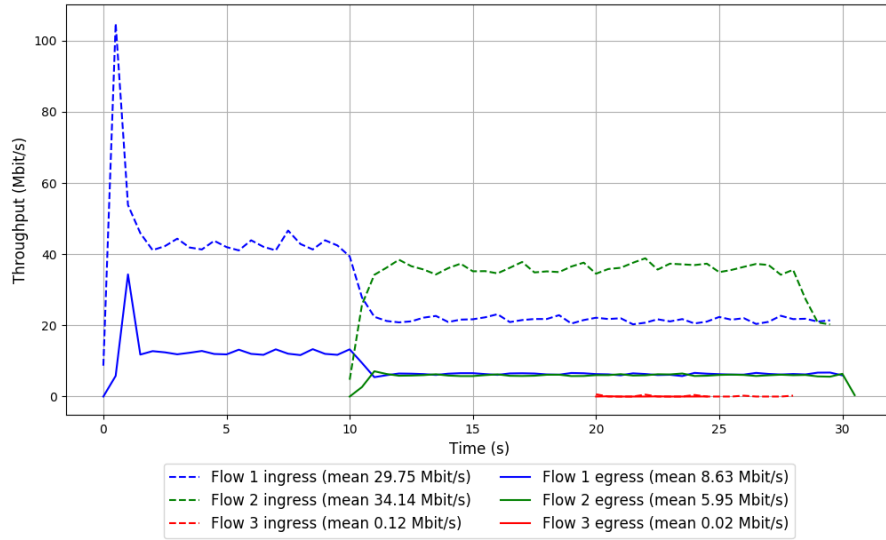
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-04-24 01:40:14
End at: 2019-04-24 01:40:44
Local clock offset: -0.277 ms
Remote clock offset: -0.543 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 26.213 ms
Loss rate: 76.02%
-- Flow 1:
Average throughput: 8.63 Mbit/s
95th percentile per-packet one-way delay: 26.298 ms
Loss rate: 70.99%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 26.121 ms
Loss rate: 82.56%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 26.183 ms
Loss rate: 92.93%
```
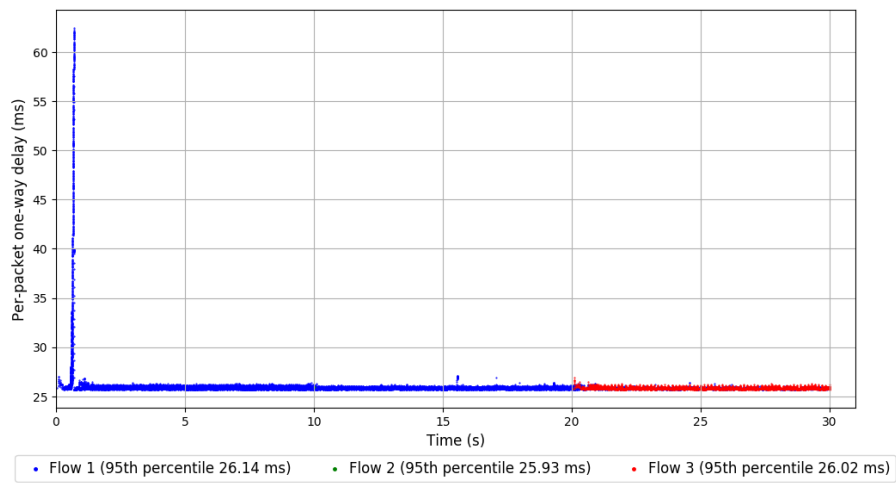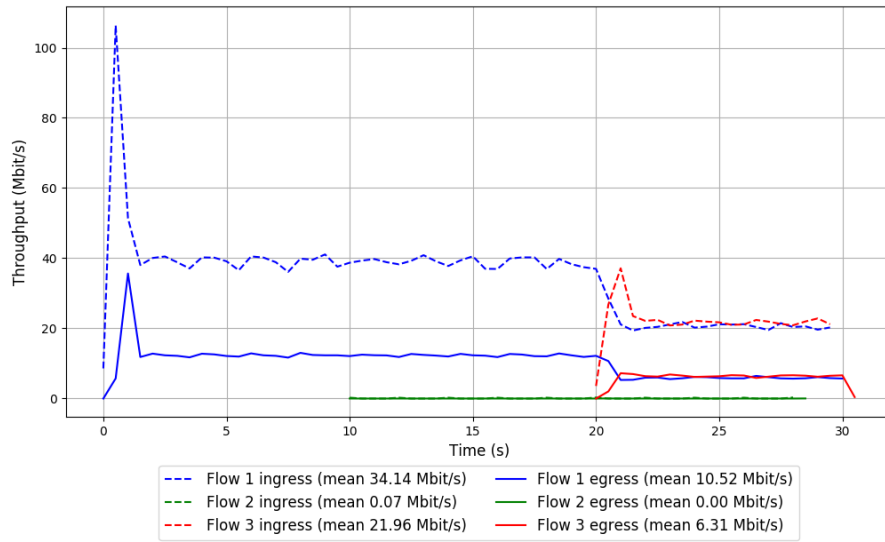
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 29.75 Mbit/s)
Flow 2 ingress (mean 34.14 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)
Flow 1 egress (mean 8.63 Mbit/s)
Flow 2 egress (mean 5.95 Mbit/s)
Flow 3 egress (mean 0.02 Mbit/s)

Flow 1 (95th percentile 26.30 ms)
Flow 2 (95th percentile 26.12 ms)
Flow 3 (95th percentile 26.18 ms)

```
Run 5: Statistics of Copa

Start at: 2019-04-24 02:06:06
End at: 2019-04-24 02:06:36
Local clock offset: 0.007 ms
Remote clock offset: -0.846 ms


# Below is generated by plot.py at 2019-04-24 02:24:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 26.120 ms
Loss rate: 69.57%
-- Flow 1:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 26.144 ms
Loss rate: 69.17%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 25.926 ms
Loss rate: 98.00%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 26.021 ms
Loss rate: 71.26%
```
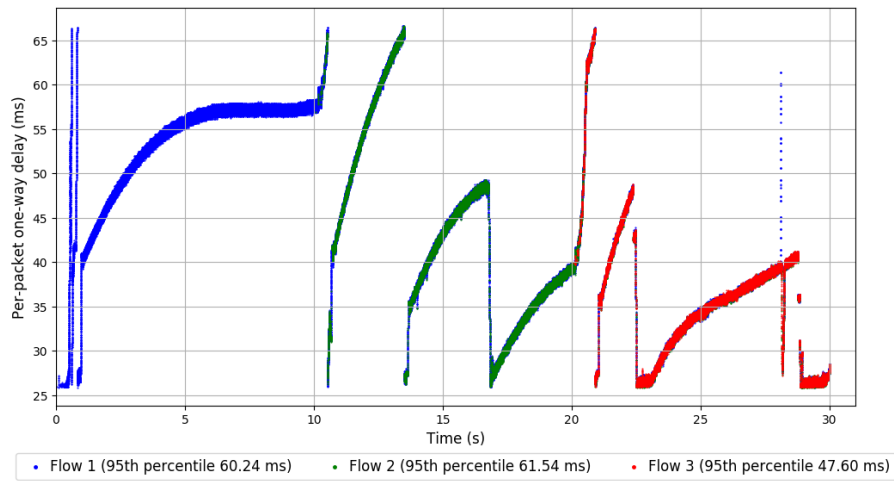
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-04-24 00:19:30
End at: 2019-04-24 00:20:00
Local clock offset: -0.516 ms
Remote clock offset: -1.461 ms


# Below is generated by plot.py at 2019-04-24 02:25:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 60.100 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 75.97 Mbit/s
95th percentile per-packet one-way delay: 60.239 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 17.76 Mbit/s
95th percentile per-packet one-way delay: 61.541 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 24.66 Mbit/s
95th percentile per-packet one-way delay: 47.600 ms
Loss rate: 0.60%
```
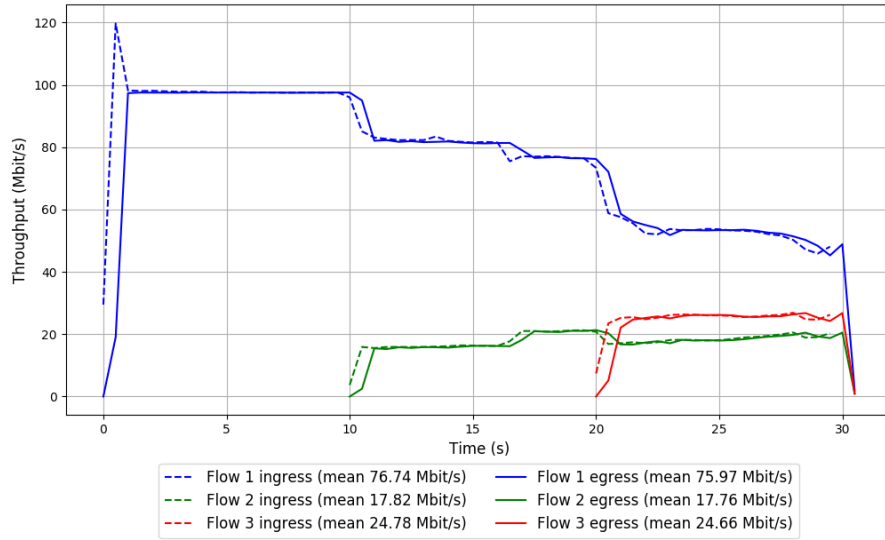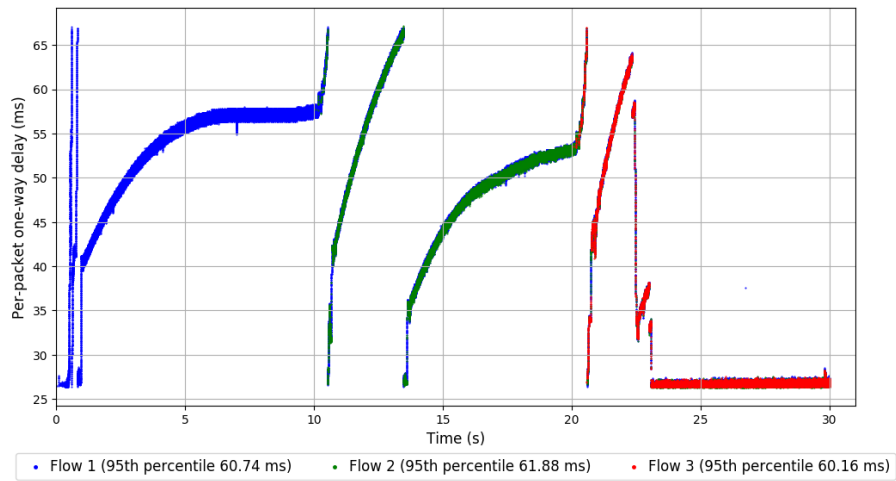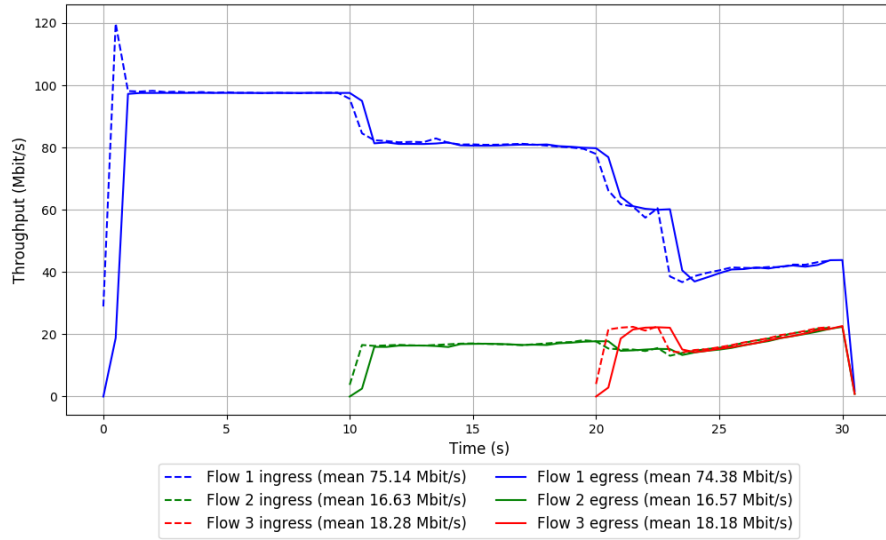
Run 1: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 76.74 Mbit/s) —— Flow 1 egress (mean 75.97 Mbit/s)
- - - Flow 2 ingress (mean 17.82 Mbit/s) —— Flow 2 egress (mean 17.76 Mbit/s)
- - - Flow 3 ingress (mean 24.78 Mbit/s) —— Flow 3 egress (mean 24.66 Mbit/s)

• Flow 1 (95th percentile 60.24 ms)   • Flow 2 (95th percentile 61.54 ms)   • Flow 3 (95th percentile 47.60 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-04-24 00:45:52
End at: 2019-04-24 00:46:22
Local clock offset: -0.403 ms
Remote clock offset: -0.832 ms


# Below is generated by plot.py at 2019-04-24 02:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.43 Mbit/s
95th percentile per-packet one-way delay: 60.813 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 74.38 Mbit/s
95th percentile per-packet one-way delay: 60.736 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 16.57 Mbit/s
95th percentile per-packet one-way delay: 61.881 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 18.18 Mbit/s
95th percentile per-packet one-way delay: 60.162 ms
Loss rate: 0.80%
```
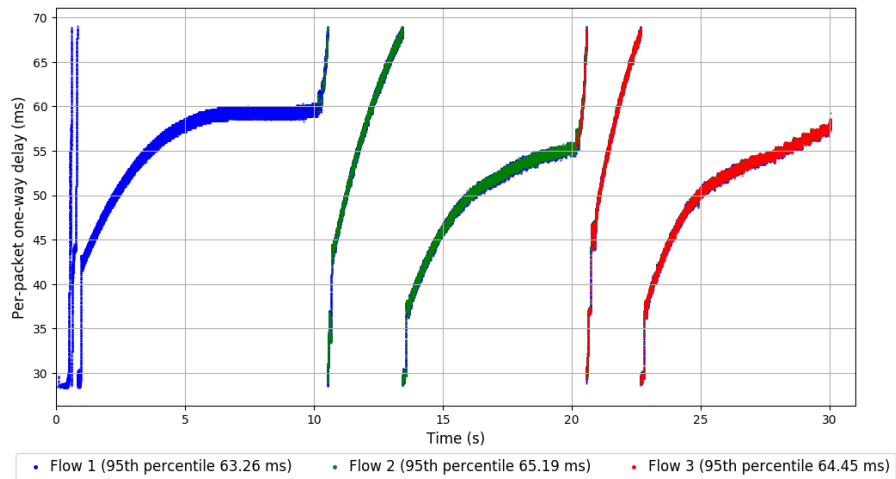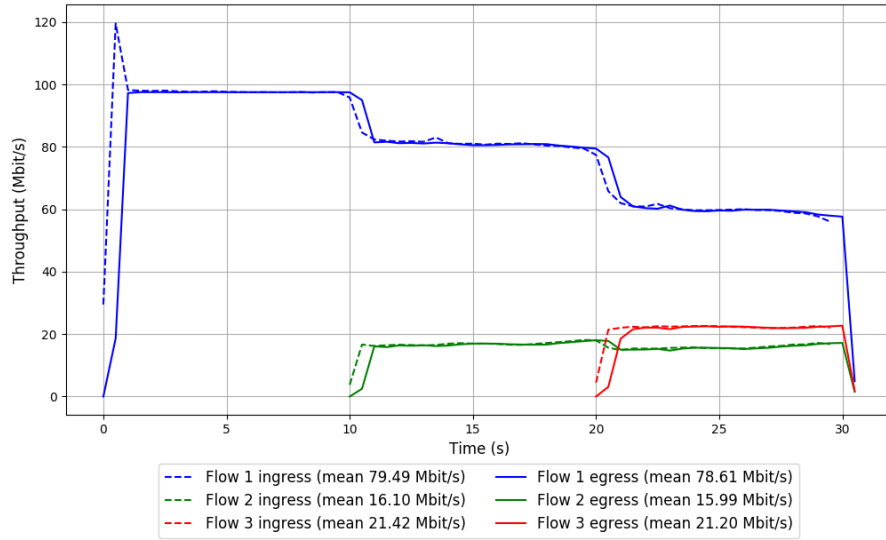
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-04-24 01:13:07
End at: 2019-04-24 01:13:37
Local clock offset: 0.031 ms
Remote clock offset: 1.564 ms


# Below is generated by plot.py at 2019-04-24 02:25:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 63.588 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 78.61 Mbit/s
95th percentile per-packet one-way delay: 63.257 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 15.99 Mbit/s
95th percentile per-packet one-way delay: 65.187 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 21.20 Mbit/s
95th percentile per-packet one-way delay: 64.455 ms
Loss rate: 0.99%
```
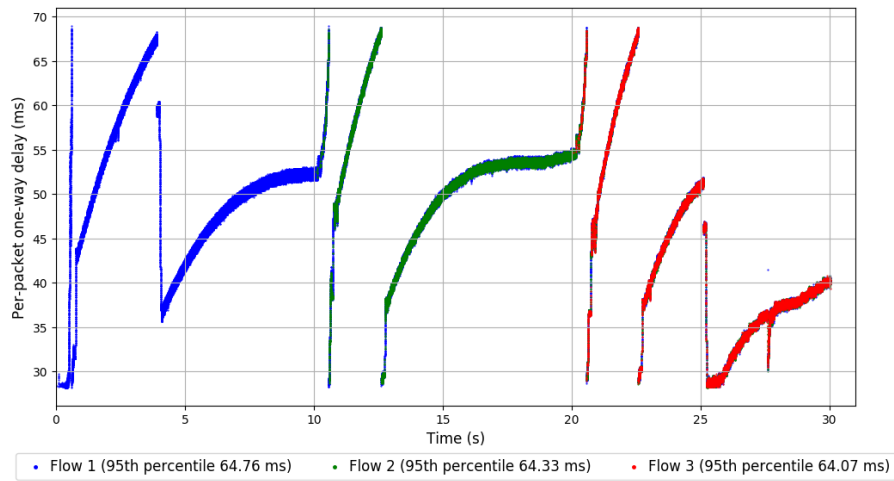
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-04-24 01:39:00
End at: 2019-04-24 01:39:30
Local clock offset: -0.278 ms
Remote clock offset: 1.802 ms


# Below is generated by plot.py at 2019-04-24 02:25:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.24 Mbit/s
95th percentile per-packet one-way delay: 64.598 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 72.74 Mbit/s
95th percentile per-packet one-way delay: 64.762 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 64.326 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 21.63 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 1.05%
```
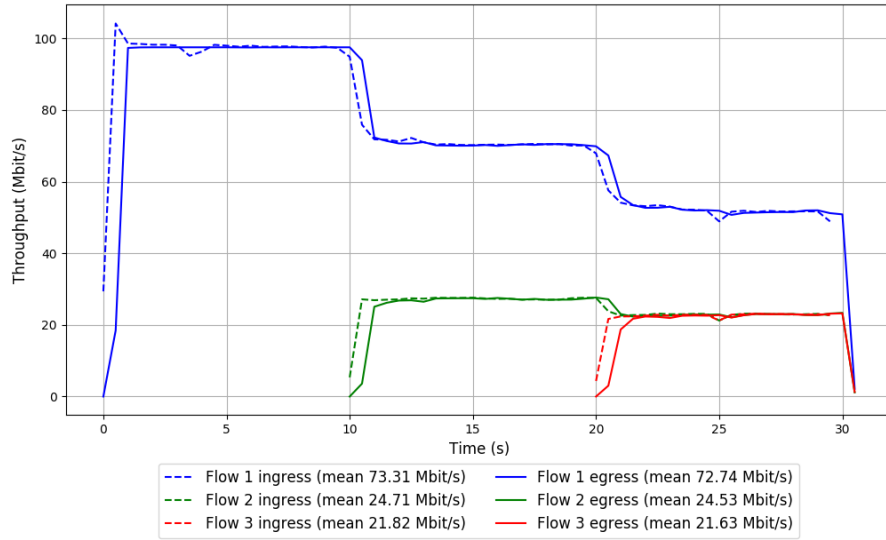
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-04-24 02:04:45
End at: 2019-04-24 02:05:15
Local clock offset: 0.032 ms
Remote clock offset: 1.722 ms


# Below is generated by plot.py at 2019-04-24 02:25:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.26 Mbit/s
95th percentile per-packet one-way delay: 61.857 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 69.04 Mbit/s
95th percentile per-packet one-way delay: 60.155 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 29.95 Mbit/s
95th percentile per-packet one-way delay: 64.104 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 64.116 ms
Loss rate: 0.89%
```
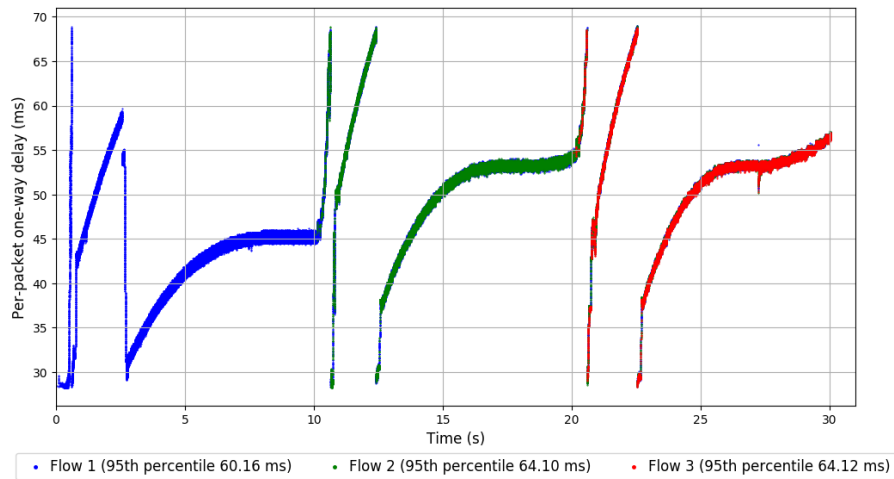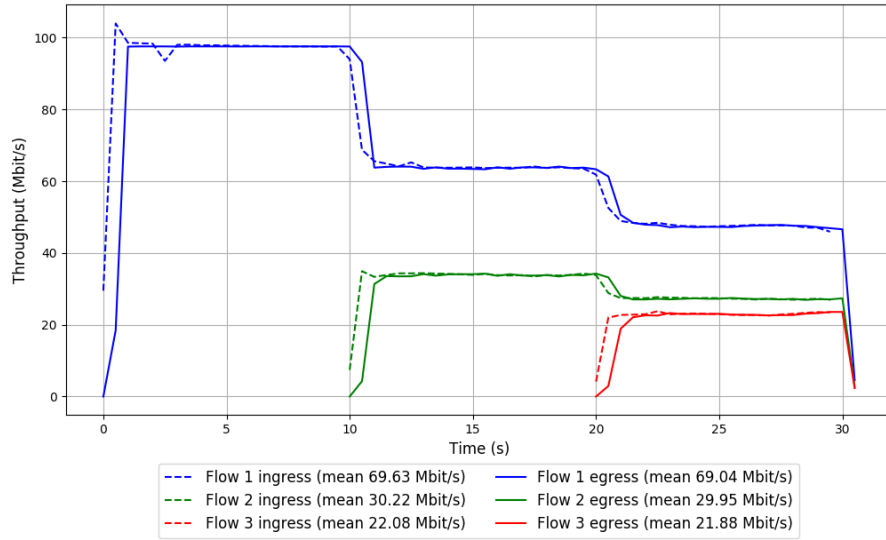
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-04-24 00:30:30
End at: 2019-04-24 00:31:00
Local clock offset: -0.351 ms
Remote clock offset: -0.9 ms


# Below is generated by plot.py at 2019-04-24 02:26:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 63.538 ms
Loss rate: 40.62%
-- Flow 1:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 62.304 ms
Loss rate: 31.04%
-- Flow 2:
Average throughput: 41.16 Mbit/s
95th percentile per-packet one-way delay: 64.782 ms
Loss rate: 50.07%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 64.864 ms
Loss rate: 56.15%
```
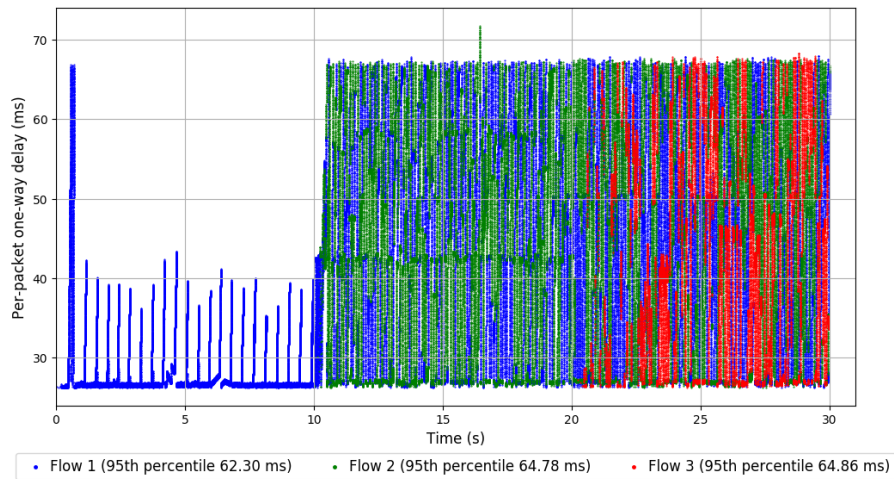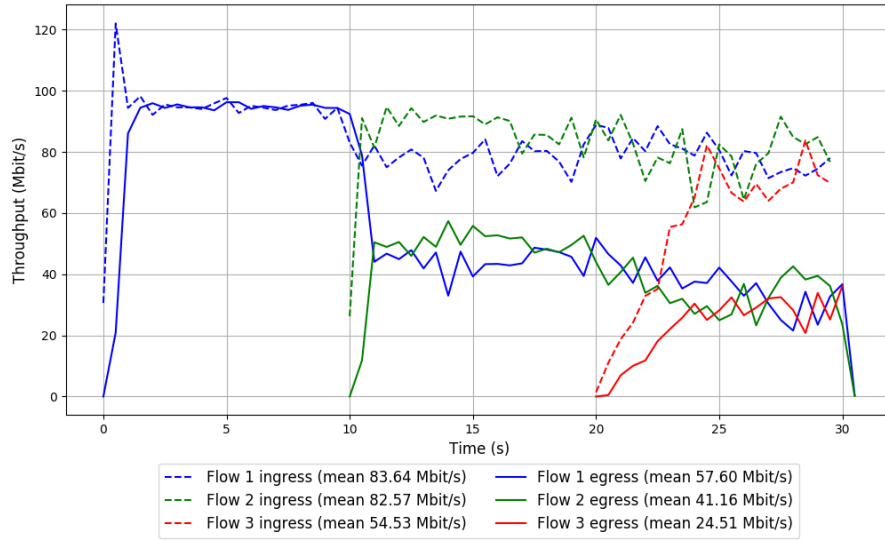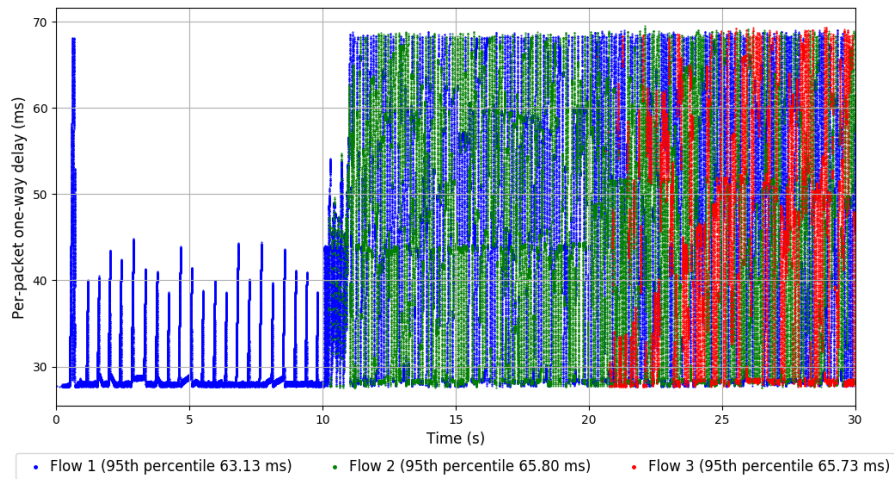
Run 1: Report of FillP — Data Link

- - - Flow 1 ingress (mean 83.64 Mbit/s) ——— Flow 1 egress (mean 57.60 Mbit/s)
- - - Flow 2 ingress (mean 82.57 Mbit/s) ——— Flow 2 egress (mean 41.16 Mbit/s)
- - - Flow 3 ingress (mean 54.53 Mbit/s) ——— Flow 3 egress (mean 24.51 Mbit/s)

• Flow 1 (95th percentile 62.30 ms)   • Flow 2 (95th percentile 64.78 ms)   • Flow 3 (95th percentile 64.86 ms)

```
Run 2: Statistics of FillP

Start at: 2019-04-24 00:57:49
End at: 2019-04-24 00:58:19
Local clock offset: -0.002 ms
Remote clock offset: 0.705 ms

# Below is generated by plot.py at 2019-04-24 02:26:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 64.575 ms
Loss rate: 39.11%
-- Flow 1:
Average throughput: 57.52 Mbit/s
95th percentile per-packet one-way delay: 63.129 ms
Loss rate: 30.20%
-- Flow 2:
Average throughput: 40.76 Mbit/s
95th percentile per-packet one-way delay: 65.801 ms
Loss rate: 46.65%
-- Flow 3:
Average throughput: 26.09 Mbit/s
95th percentile per-packet one-way delay: 65.732 ms
Loss rate: 57.03%
```
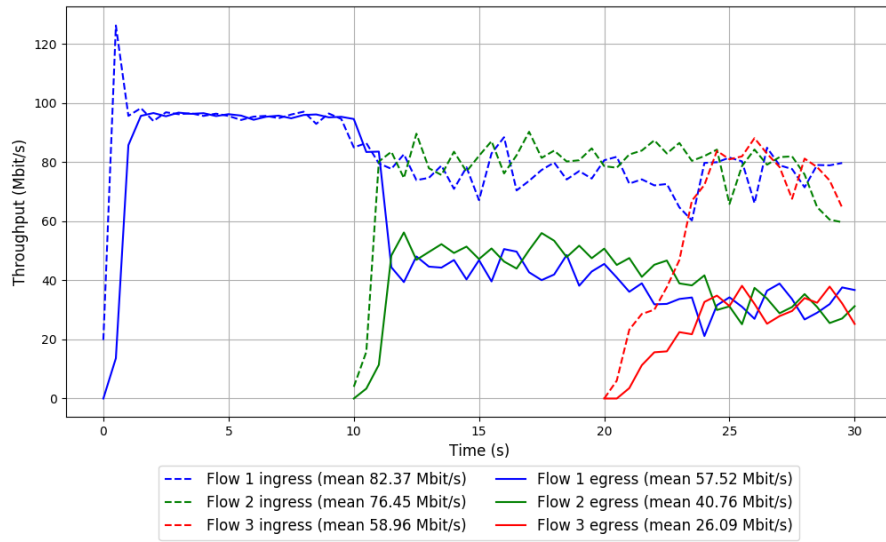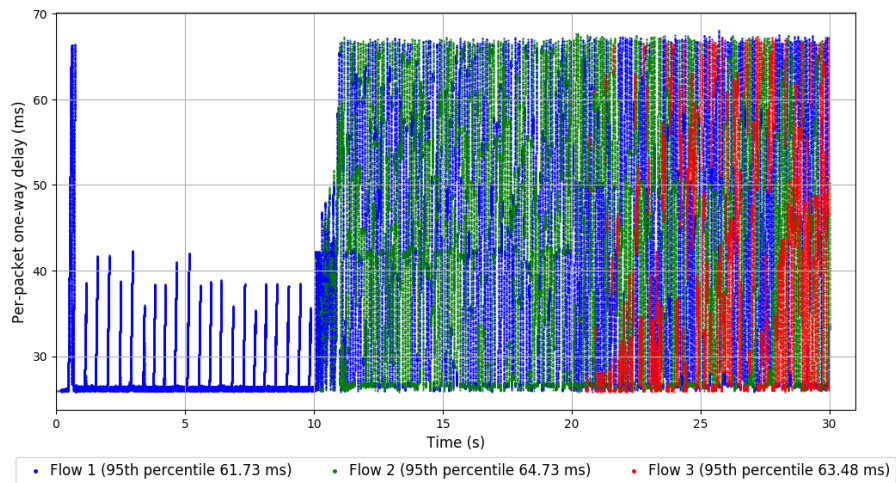
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-04-24 01:24:13
End at: 2019-04-24 01:24:43
Local clock offset: -0.082 ms
Remote clock offset: -0.504 ms


# Below is generated by plot.py at 2019-04-24 02:26:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.61 Mbit/s
95th percentile per-packet one-way delay: 63.166 ms
Loss rate: 37.34%
-- Flow 1:
Average throughput: 60.42 Mbit/s
95th percentile per-packet one-way delay: 61.726 ms
Loss rate: 28.80%
-- Flow 2:
Average throughput: 37.98 Mbit/s
95th percentile per-packet one-way delay: 64.731 ms
Loss rate: 47.62%
-- Flow 3:
Average throughput: 20.98 Mbit/s
95th percentile per-packet one-way delay: 63.479 ms
Loss rate: 52.84%
```
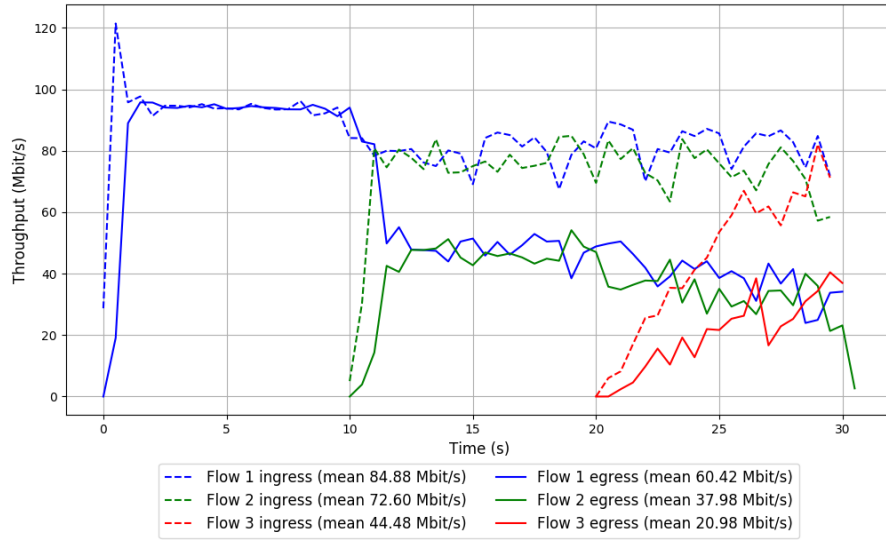
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-04-24 01:50:03
End at: 2019-04-24 01:50:33
Local clock offset: -0.146 ms
Remote clock offset: -0.544 ms


# Below is generated by plot.py at 2019-04-24 02:26:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.49 Mbit/s
95th percentile per-packet one-way delay: 62.916 ms
Loss rate: 37.57%
-- Flow 1:
Average throughput: 57.82 Mbit/s
95th percentile per-packet one-way delay: 62.000 ms
Loss rate: 29.79%
-- Flow 2:
Average throughput: 43.55 Mbit/s
95th percentile per-packet one-way delay: 63.977 ms
Loss rate: 46.53%
-- Flow 3:
Average throughput: 17.29 Mbit/s
95th percentile per-packet one-way delay: 63.810 ms
Loss rate: 50.89%
```
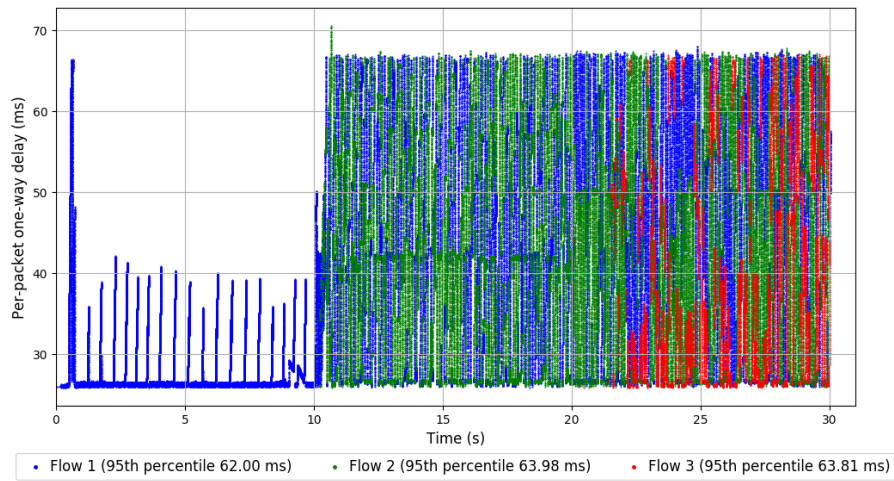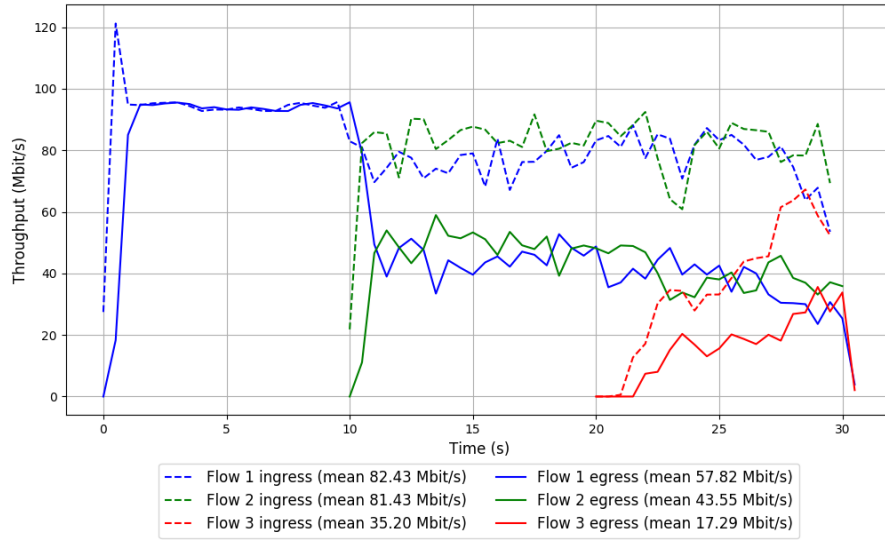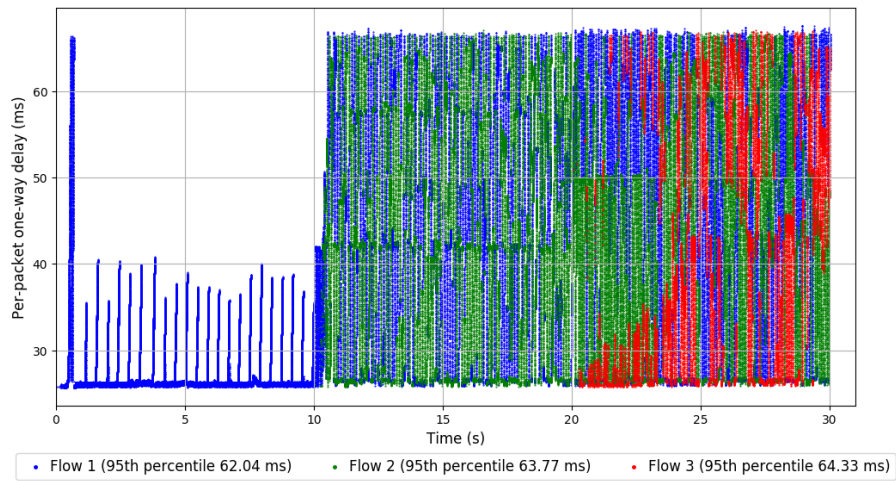
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 82.43 Mbit/s) — — —   Flow 1 egress (mean 57.82 Mbit/s)
Flow 2 ingress (mean 81.43 Mbit/s) — — —   Flow 2 egress (mean 43.55 Mbit/s)
Flow 3 ingress (mean 35.20 Mbit/s) — — —   Flow 3 egress (mean 17.29 Mbit/s)

Flow 1 (95th percentile 62.00 ms)   Flow 2 (95th percentile 63.98 ms)   Flow 3 (95th percentile 63.81 ms)

```
Run 5: Statistics of FillP

Start at: 2019-04-24 02:16:17
End at: 2019-04-24 02:16:47
Local clock offset: 0.413 ms
Remote clock offset: -0.87 ms


# Below is generated by plot.py at 2019-04-24 02:26:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.67 Mbit/s
95th percentile per-packet one-way delay: 63.236 ms
Loss rate: 38.94%
-- Flow 1:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 62.038 ms
Loss rate: 30.94%
-- Flow 2:
Average throughput: 44.17 Mbit/s
95th percentile per-packet one-way delay: 63.773 ms
Loss rate: 46.88%
-- Flow 3:
Average throughput: 22.19 Mbit/s
95th percentile per-packet one-way delay: 64.334 ms
Loss rate: 52.42%
```
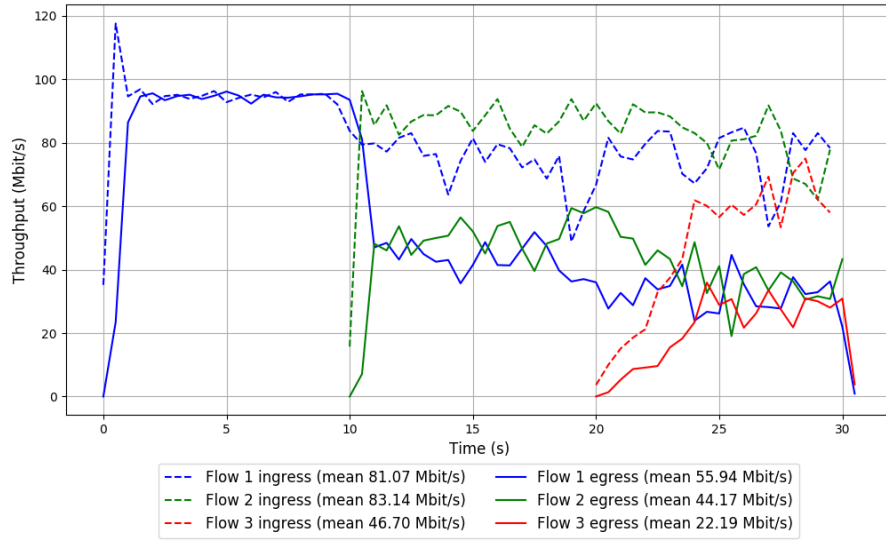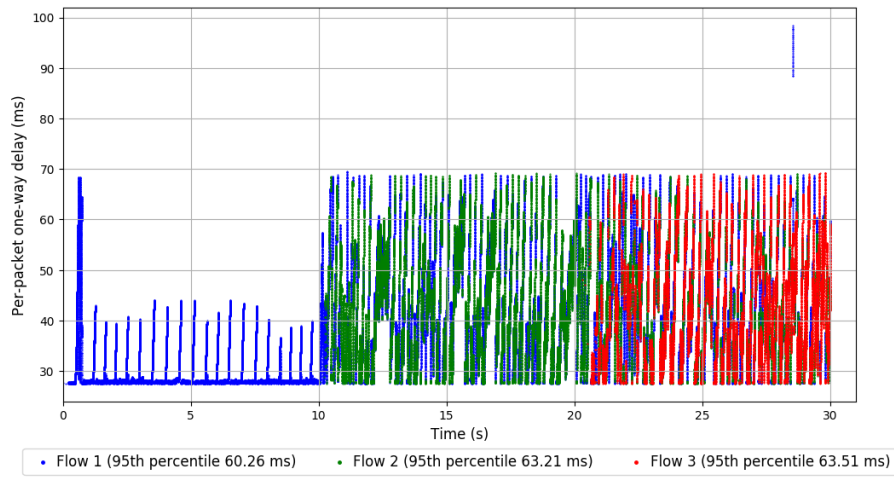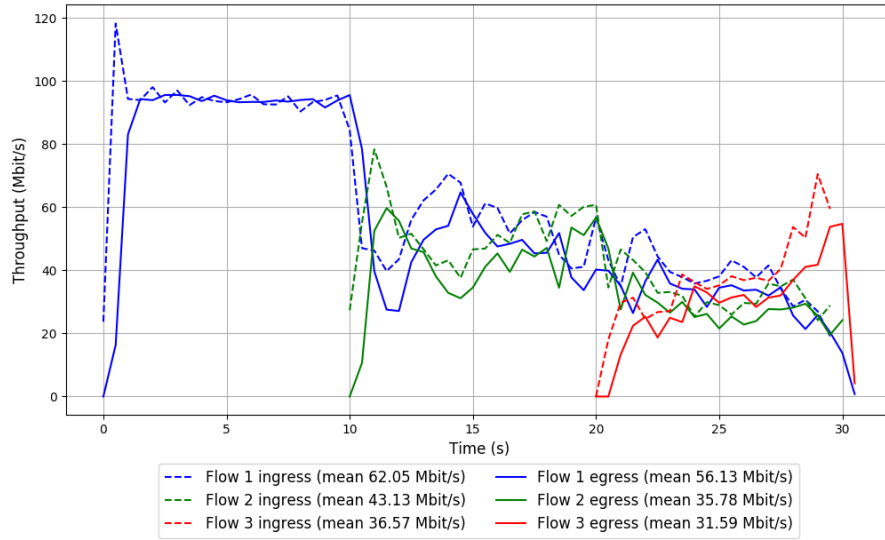
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 81.07 Mbit/s)   Flow 1 egress (mean 55.94 Mbit/s)
Flow 2 ingress (mean 83.14 Mbit/s)   Flow 2 egress (mean 44.17 Mbit/s)
Flow 3 ingress (mean 46.70 Mbit/s)   Flow 3 egress (mean 22.19 Mbit/s)

Flow 1 (95th percentile 62.04 ms)   Flow 2 (95th percentile 63.77 ms)   Flow 3 (95th percentile 64.33 ms)

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```
Run 1: Statistics of FillP-Sheep

Start at: 2019-04-24 00:35:33
End at: 2019-04-24 00:36:03
Local clock offset: -0.345 ms
Remote clock offset: 0.414 ms


# Below is generated by plot.py at 2019-04-24 02:26:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.17 Mbit/s
95th percentile per-packet one-way delay: 61.886 ms
Loss rate: 12.27%
-- Flow 1:
Average throughput: 56.13 Mbit/s
95th percentile per-packet one-way delay: 60.258 ms
Loss rate: 9.47%
-- Flow 2:
Average throughput: 35.78 Mbit/s
95th percentile per-packet one-way delay: 63.211 ms
Loss rate: 16.98%
-- Flow 3:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 63.508 ms
Loss rate: 15.42%
```
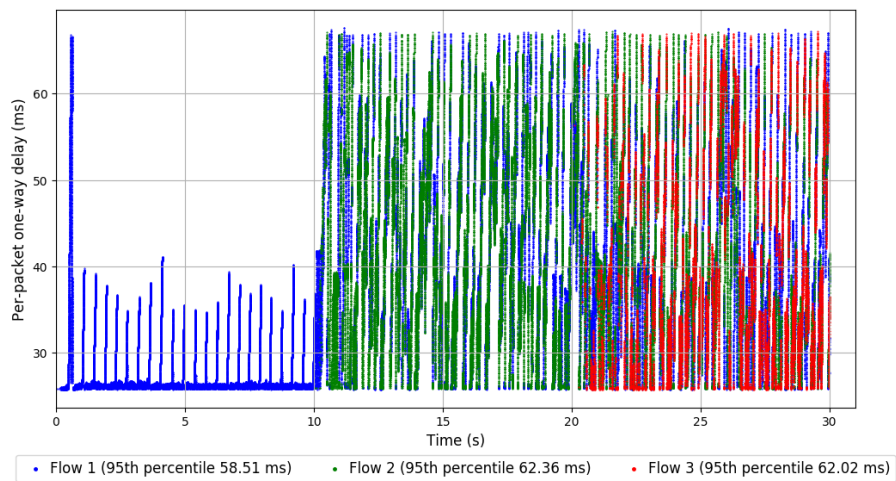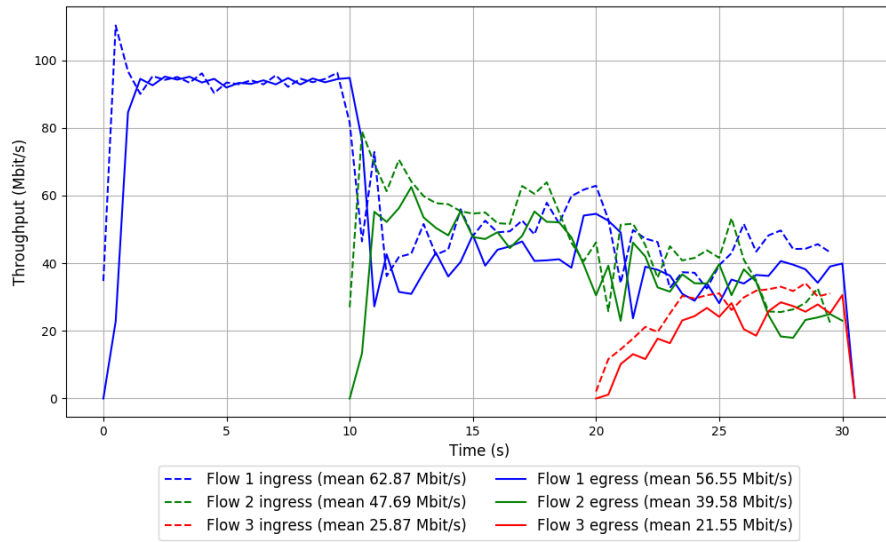
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 62.05 Mbit/s) --- Flow 1 egress (mean 56.13 Mbit/s)
Flow 2 ingress (mean 43.13 Mbit/s) --- Flow 2 egress (mean 35.78 Mbit/s)
Flow 3 ingress (mean 36.57 Mbit/s) --- Flow 3 egress (mean 31.59 Mbit/s)

Flow 1 (95th percentile 60.26 ms)   Flow 2 (95th percentile 63.21 ms)   Flow 3 (95th percentile 63.51 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-04-24 01:02:49
End at: 2019-04-24 01:03:19
Local clock offset: 0.045 ms
Remote clock offset: -1.054 ms


# Below is generated by plot.py at 2019-04-24 02:27:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.02 Mbit/s
95th percentile per-packet one-way delay: 60.620 ms
Loss rate: 12.75%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 58.507 ms
Loss rate: 10.05%
-- Flow 2:
Average throughput: 39.58 Mbit/s
95th percentile per-packet one-way delay: 62.357 ms
Loss rate: 16.98%
-- Flow 3:
Average throughput: 21.55 Mbit/s
95th percentile per-packet one-way delay: 62.024 ms
Loss rate: 16.92%
```
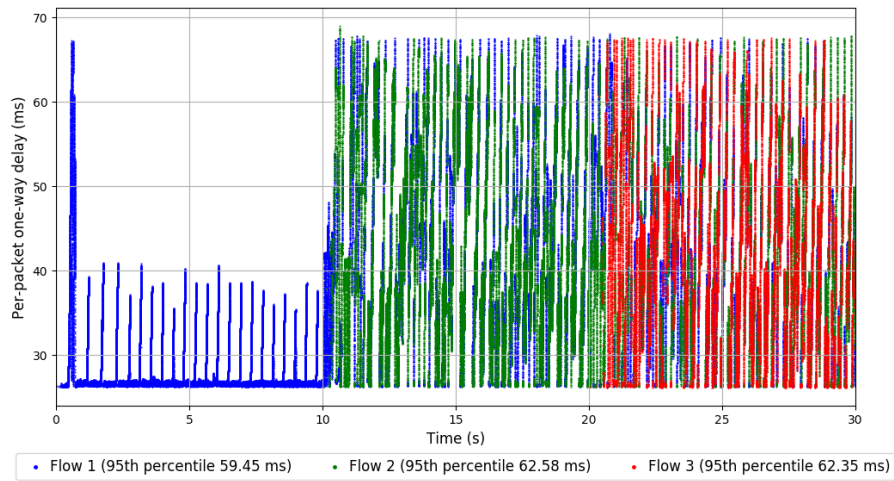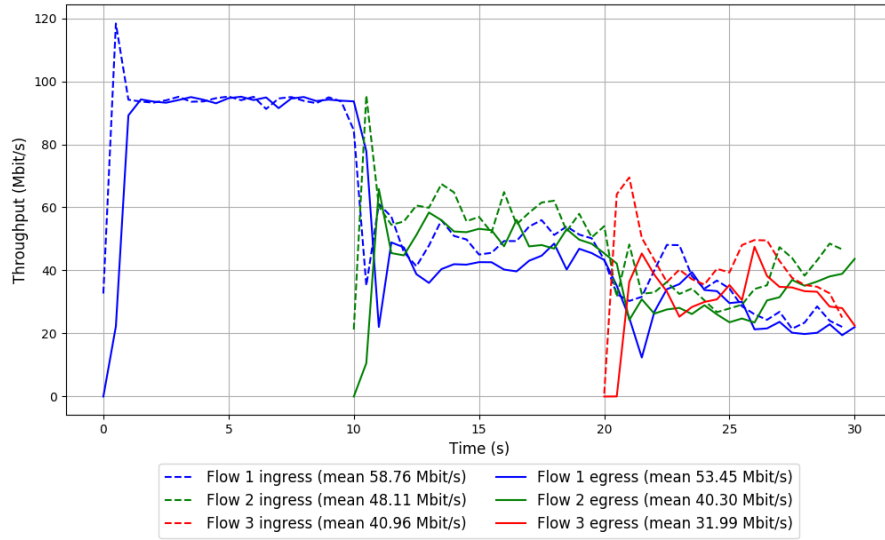
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-04-24 01:29:09
End at: 2019-04-24 01:29:39
Local clock offset: -0.139 ms
Remote clock offset: -0.136 ms

# Below is generated by plot.py at 2019-04-24 02:27:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.89 Mbit/s
95th percentile per-packet one-way delay: 61.224 ms
Loss rate: 12.92%
-- Flow 1:
Average throughput: 53.45 Mbit/s
95th percentile per-packet one-way delay: 59.446 ms
Loss rate: 9.05%
-- Flow 2:
Average throughput: 40.30 Mbit/s
95th percentile per-packet one-way delay: 62.581 ms
Loss rate: 16.23%
-- Flow 3:
Average throughput: 31.99 Mbit/s
95th percentile per-packet one-way delay: 62.347 ms
Loss rate: 21.90%
```
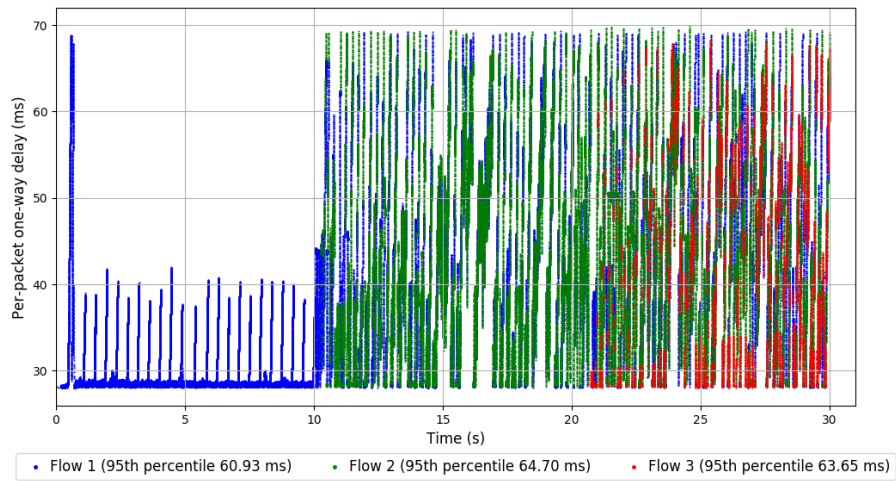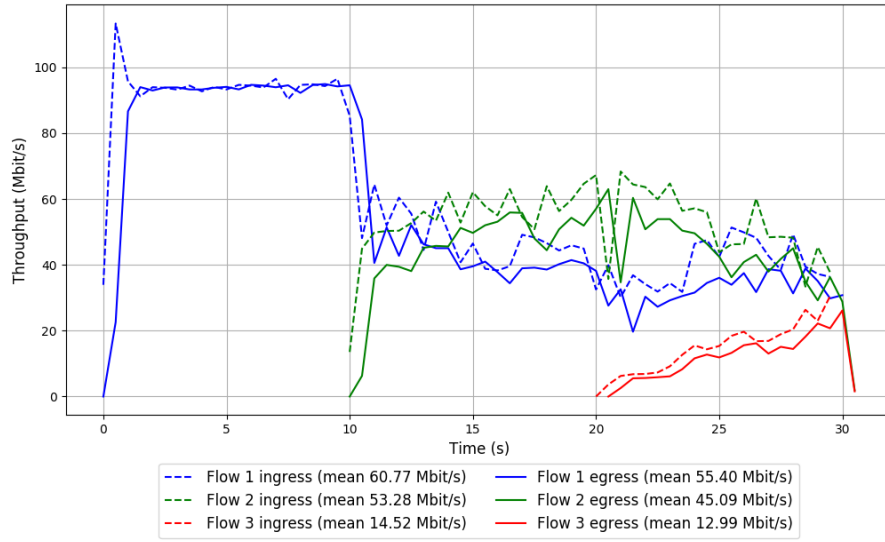
Run 3: Report of FillP-Sheep — Data Link

Legend:
- Flow 1 ingress (mean 58.76 Mbit/s)
- Flow 1 egress (mean 53.45 Mbit/s)
- Flow 2 ingress (mean 48.11 Mbit/s)
- Flow 2 egress (mean 40.30 Mbit/s)
- Flow 3 ingress (mean 40.96 Mbit/s)
- Flow 3 egress (mean 31.99 Mbit/s)

Legend:
- Flow 1 (95th percentile 59.45 ms)
- Flow 2 (95th percentile 62.58 ms)
- Flow 3 (95th percentile 62.35 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-04-24 01:54:56
End at: 2019-04-24 01:55:26
Local clock offset: -0.038 ms
Remote clock offset: 1.661 ms


# Below is generated by plot.py at 2019-04-24 02:27:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.51 Mbit/s
95th percentile per-packet one-way delay: 62.955 ms
Loss rate: 11.36%
-- Flow 1:
Average throughput: 55.40 Mbit/s
95th percentile per-packet one-way delay: 60.934 ms
Loss rate: 8.85%
-- Flow 2:
Average throughput: 45.09 Mbit/s
95th percentile per-packet one-way delay: 64.702 ms
Loss rate: 15.23%
-- Flow 3:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 63.648 ms
Loss rate: 14.61%
```
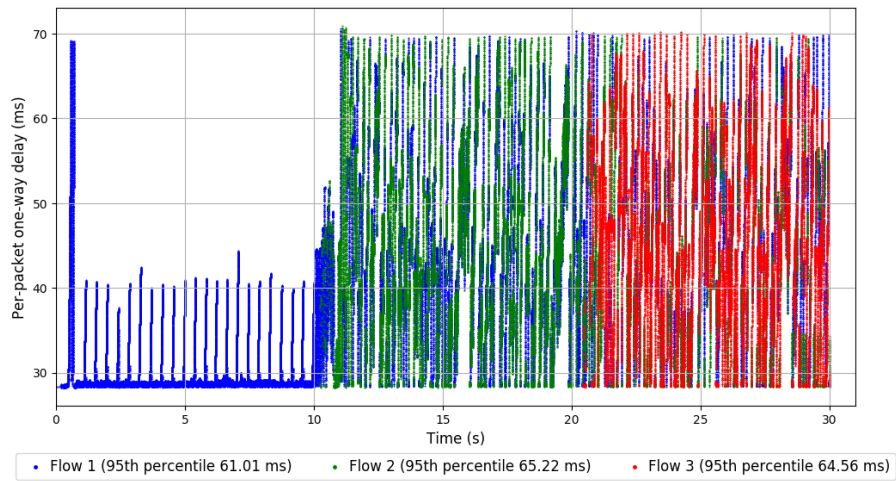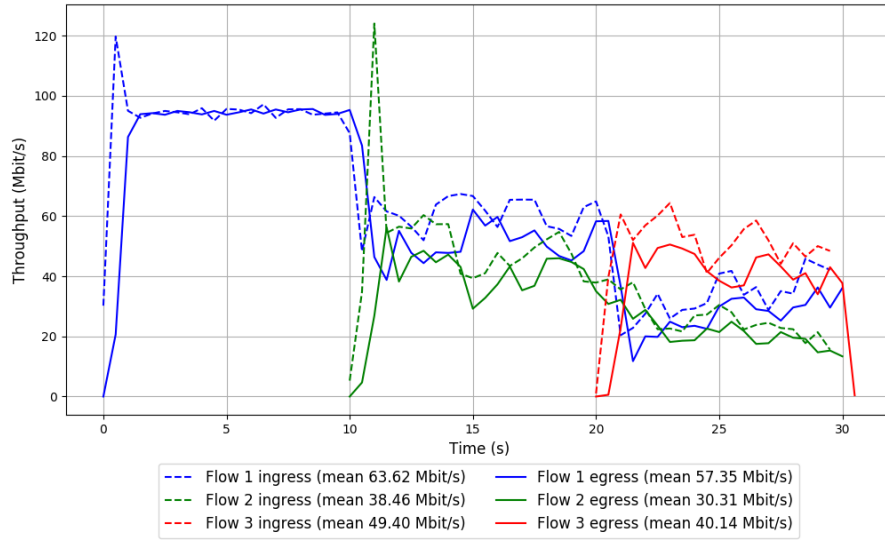
Run 4: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 60.77 Mbit/s) —— Flow 1 egress (mean 55.40 Mbit/s)
- - - Flow 2 ingress (mean 53.28 Mbit/s) —— Flow 2 egress (mean 45.09 Mbit/s)
- - - Flow 3 ingress (mean 14.52 Mbit/s) —— Flow 3 egress (mean 12.99 Mbit/s)

• Flow 1 (95th percentile 60.93 ms)   • Flow 2 (95th percentile 64.70 ms)   • Flow 3 (95th percentile 63.65 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-04-24 02:21:14
End at: 2019-04-24 02:21:44
Local clock offset: 1.698 ms
Remote clock offset: 1.553 ms


# Below is generated by plot.py at 2019-04-24 02:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 63.177 ms
Loss rate: 14.01%
-- Flow 1:
Average throughput: 57.35 Mbit/s
95th percentile per-packet one-way delay: 61.006 ms
Loss rate: 9.86%
-- Flow 2:
Average throughput: 30.31 Mbit/s
95th percentile per-packet one-way delay: 65.219 ms
Loss rate: 21.19%
-- Flow 3:
Average throughput: 40.14 Mbit/s
95th percentile per-packet one-way delay: 64.565 ms
Loss rate: 18.91%
```
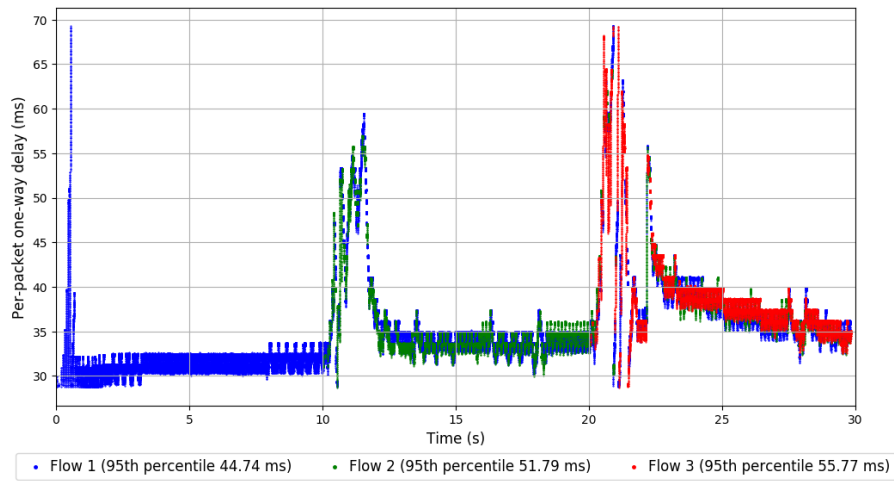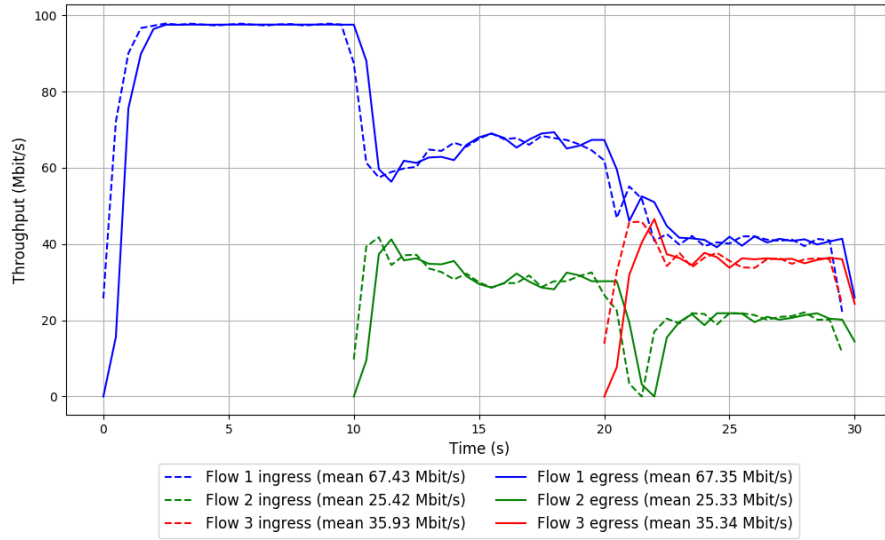
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 63.62 Mbit/s) --- Flow 1 egress (mean 57.35 Mbit/s)
Flow 2 ingress (mean 38.46 Mbit/s) --- Flow 2 egress (mean 30.31 Mbit/s)
Flow 3 ingress (mean 49.40 Mbit/s) --- Flow 3 egress (mean 40.14 Mbit/s)

Flow 1 (95th percentile 61.01 ms)   Flow 2 (95th percentile 65.22 ms)   Flow 3 (95th percentile 64.56 ms)

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```
Run 1: Statistics of Indigo

Start at: 2019-04-24 00:15:44
End at: 2019-04-24 00:16:14
Local clock offset: -0.801 ms
Remote clock offset: 1.306 ms


# Below is generated by plot.py at 2019-04-24 02:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 49.401 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 67.35 Mbit/s
95th percentile per-packet one-way delay: 44.739 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 25.33 Mbit/s
95th percentile per-packet one-way delay: 51.789 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 35.34 Mbit/s
95th percentile per-packet one-way delay: 55.772 ms
Loss rate: 1.63%
```
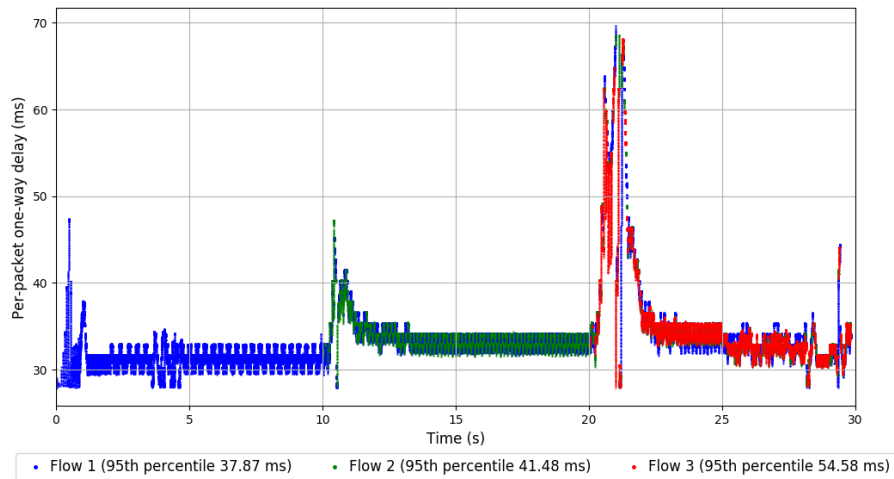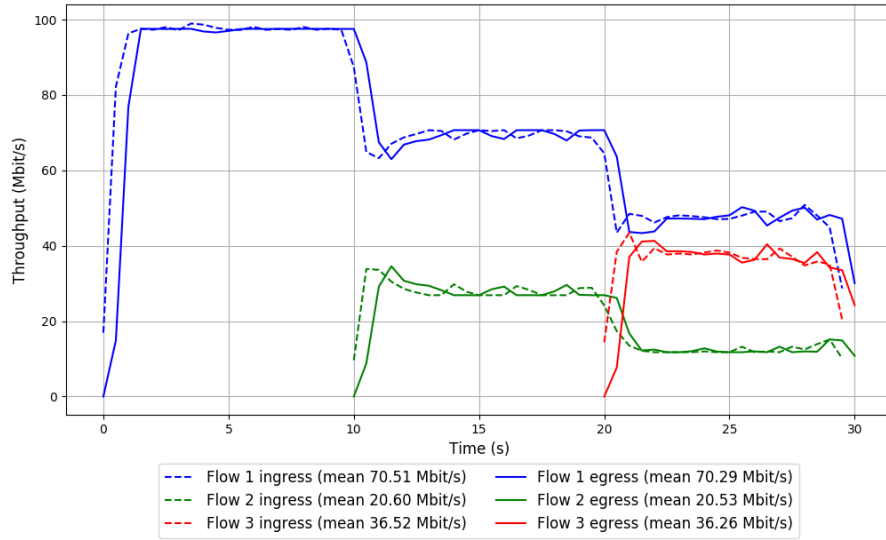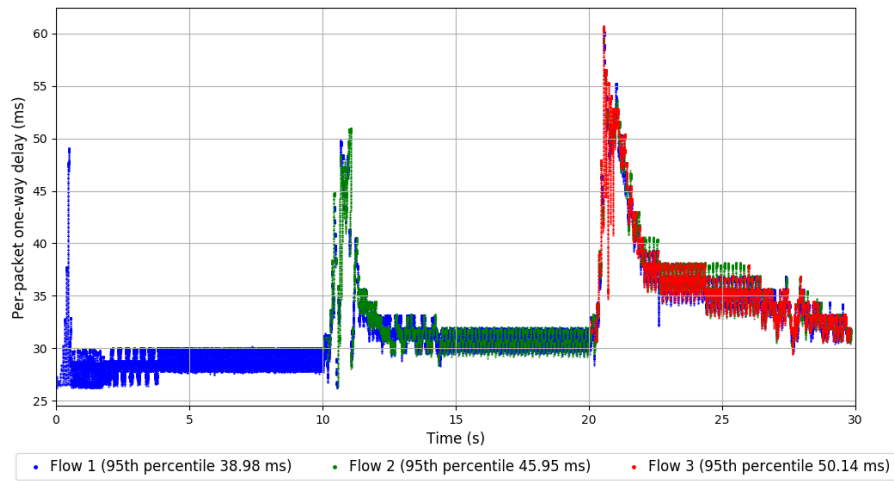
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-04-24 00:41:49
End at: 2019-04-24 00:42:19
Local clock offset: -0.391 ms
Remote clock offset: 0.787 ms


# Below is generated by plot.py at 2019-04-24 02:27:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 40.537 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 70.29 Mbit/s
95th percentile per-packet one-way delay: 37.866 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 20.53 Mbit/s
95th percentile per-packet one-way delay: 41.477 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 36.26 Mbit/s
95th percentile per-packet one-way delay: 54.581 ms
Loss rate: 0.69%
```
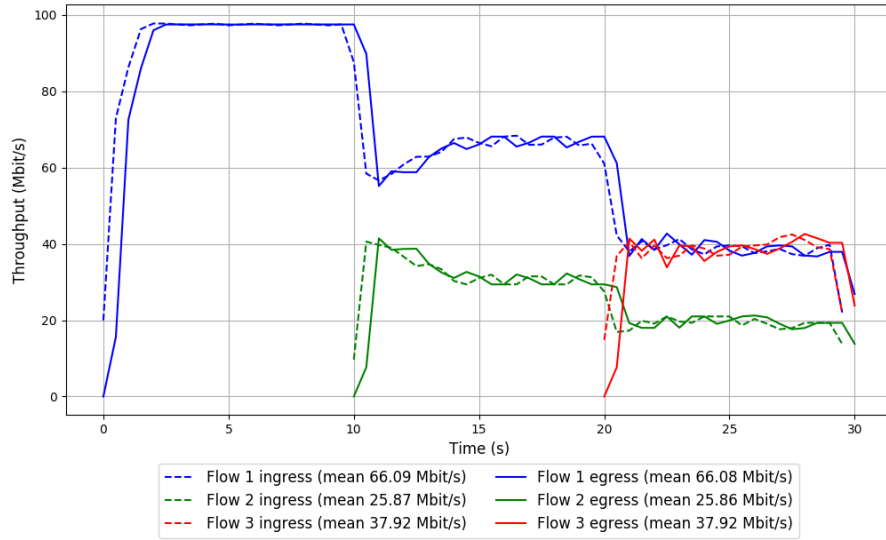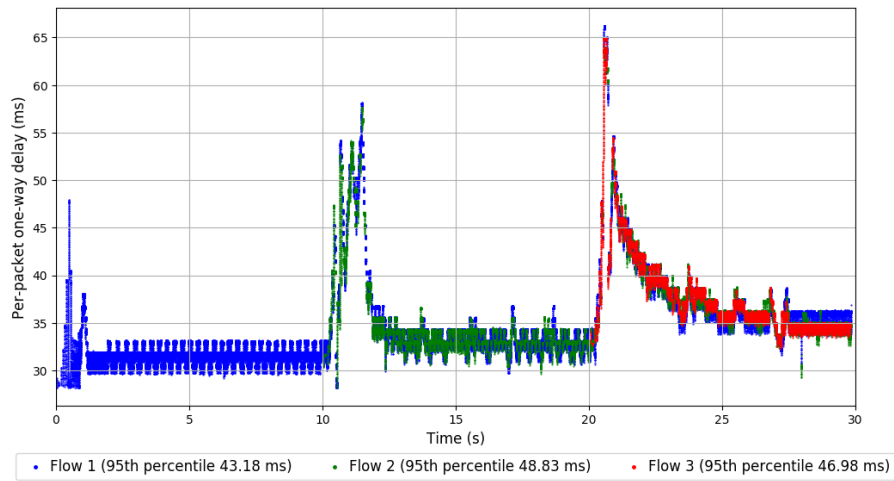
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 70.51 Mbit/s) ---- Flow 1 egress (mean 70.29 Mbit/s)
Flow 2 ingress (mean 20.60 Mbit/s) ---- Flow 2 egress (mean 20.53 Mbit/s)
Flow 3 ingress (mean 36.52 Mbit/s) ---- Flow 3 egress (mean 36.26 Mbit/s)

Flow 1 (95th percentile 37.87 ms) ● Flow 2 (95th percentile 41.48 ms) ● Flow 3 (95th percentile 54.58 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-04-24 01:08:59
End at: 2019-04-24 01:09:29
Local clock offset: 0.059 ms
Remote clock offset: -0.6 ms


# Below is generated by plot.py at 2019-04-24 02:27:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.59 Mbit/s
95th percentile per-packet one-way delay: 43.212 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.08 Mbit/s
95th percentile per-packet one-way delay: 38.982 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.86 Mbit/s
95th percentile per-packet one-way delay: 45.945 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.92 Mbit/s
95th percentile per-packet one-way delay: 50.142 ms
Loss rate: 0.00%
```
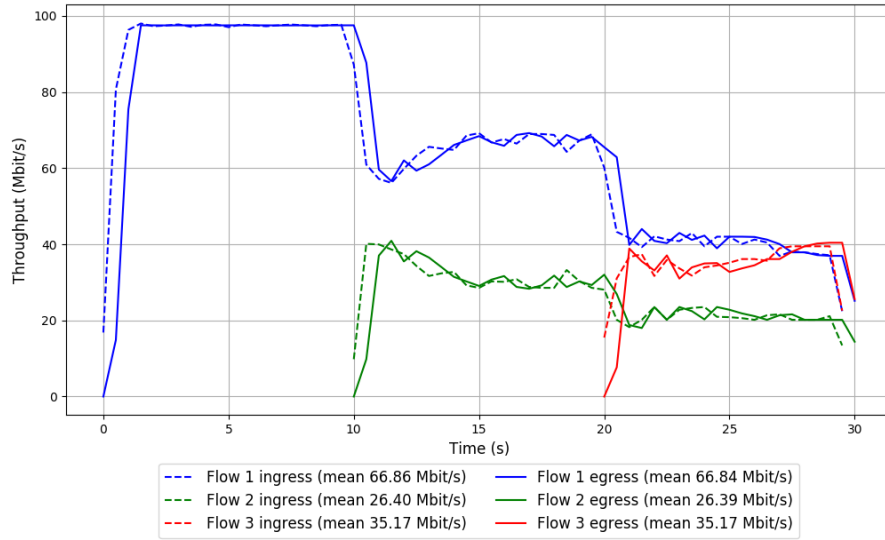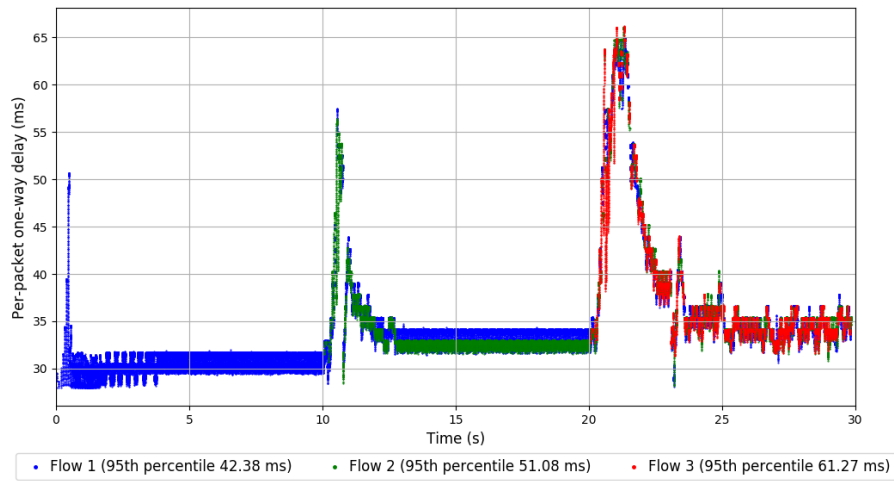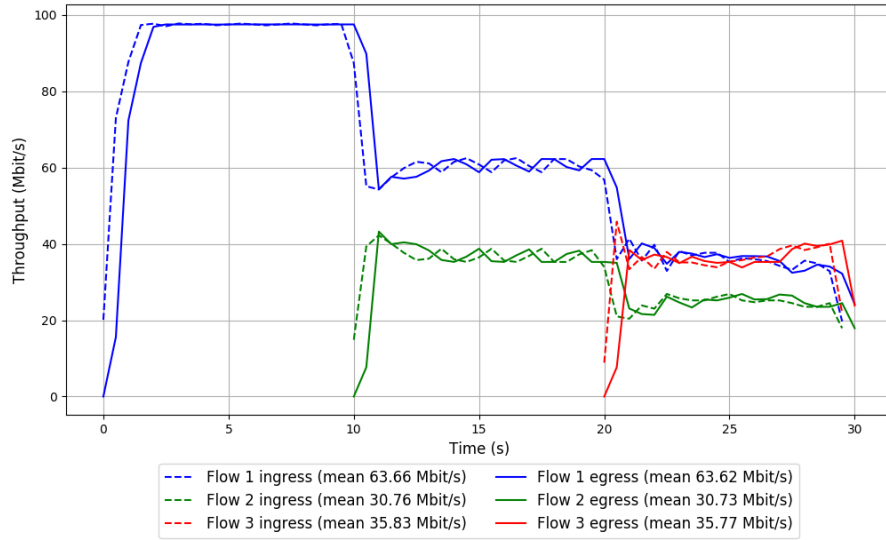
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 66.09 Mbit/s) --- Flow 1 egress (mean 66.08 Mbit/s)
Flow 2 ingress (mean 25.87 Mbit/s) --- Flow 2 egress (mean 25.86 Mbit/s)
Flow 3 ingress (mean 37.92 Mbit/s) --- Flow 3 egress (mean 37.92 Mbit/s)

Flow 1 (95th percentile 38.98 ms)   Flow 2 (95th percentile 45.95 ms)   Flow 3 (95th percentile 50.14 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-04-24 01:35:14
End at: 2019-04-24 01:35:44
Local clock offset: -0.213 ms
Remote clock offset: 1.69 ms


# Below is generated by plot.py at 2019-04-24 02:27:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 45.643 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.84 Mbit/s
95th percentile per-packet one-way delay: 43.178 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.39 Mbit/s
95th percentile per-packet one-way delay: 48.827 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.17 Mbit/s
95th percentile per-packet one-way delay: 46.980 ms
Loss rate: 0.00%
```
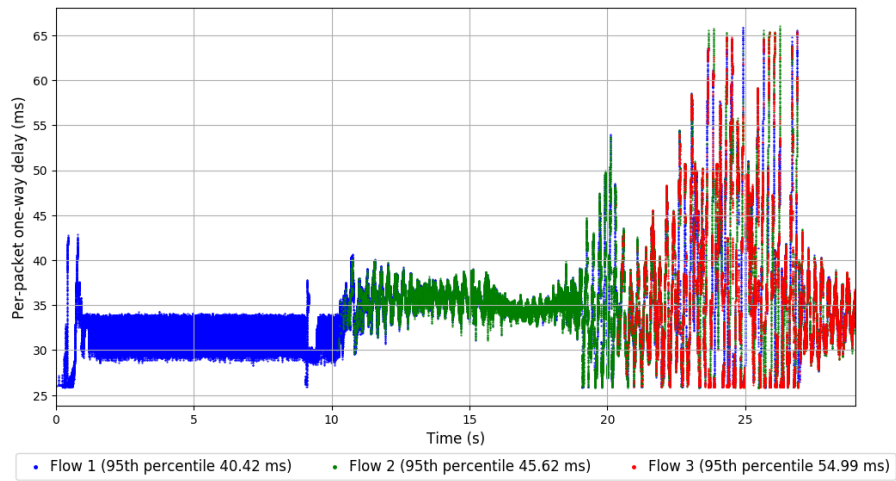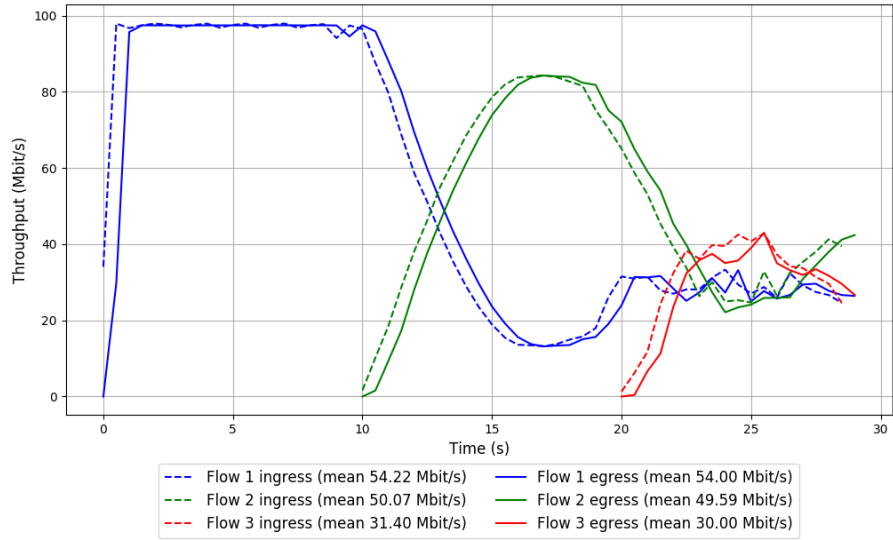
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 66.86 Mbit/s) — Flow 1 egress (mean 66.84 Mbit/s)
Flow 2 ingress (mean 26.40 Mbit/s) — Flow 2 egress (mean 26.39 Mbit/s)
Flow 3 ingress (mean 35.17 Mbit/s) — Flow 3 egress (mean 35.17 Mbit/s)

Flow 1 (95th percentile 43.18 ms) · Flow 2 (95th percentile 48.83 ms) · Flow 3 (95th percentile 46.98 ms)

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```
Run 5: Statistics of Indigo

Start at: 2019-04-24 02:01:03
End at: 2019-04-24 02:01:33
Local clock offset: 0.019 ms
Remote clock offset: 1.436 ms


# Below is generated by plot.py at 2019-04-24 02:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 49.640 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 63.62 Mbit/s
95th percentile per-packet one-way delay: 42.376 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 51.081 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 61.265 ms
Loss rate: 0.17%
```
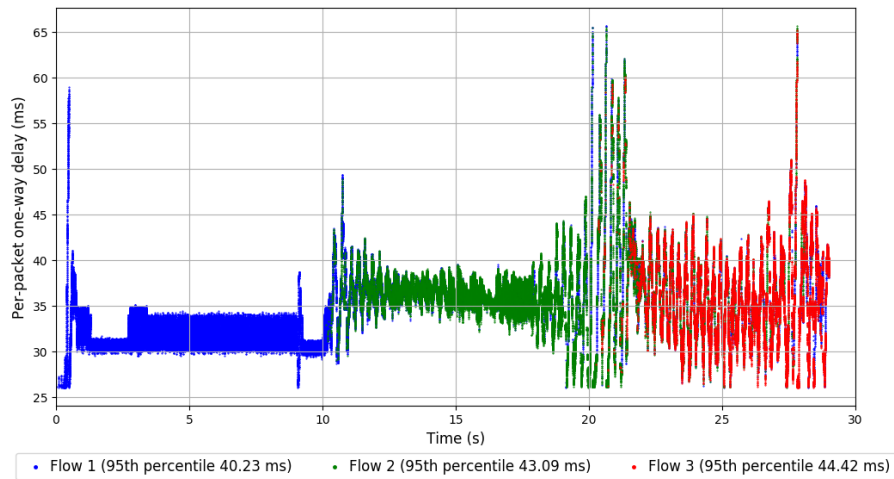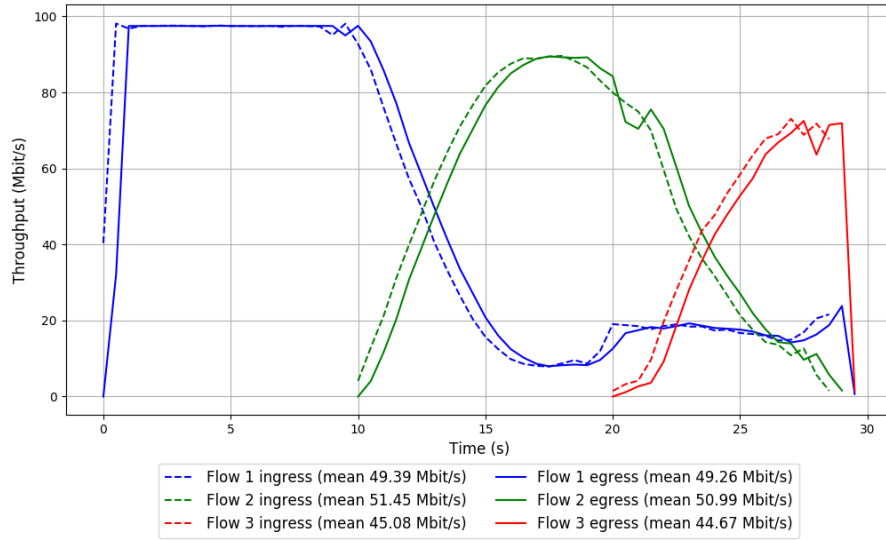
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-04-24 00:23:10
End at: 2019-04-24 00:23:40
Local clock offset: -0.422 ms
Remote clock offset: -1.476 ms


# Below is generated by plot.py at 2019-04-24 02:28:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 45.624 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 54.00 Mbit/s
95th percentile per-packet one-way delay: 40.424 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 45.615 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 54.993 ms
Loss rate: 4.56%
```
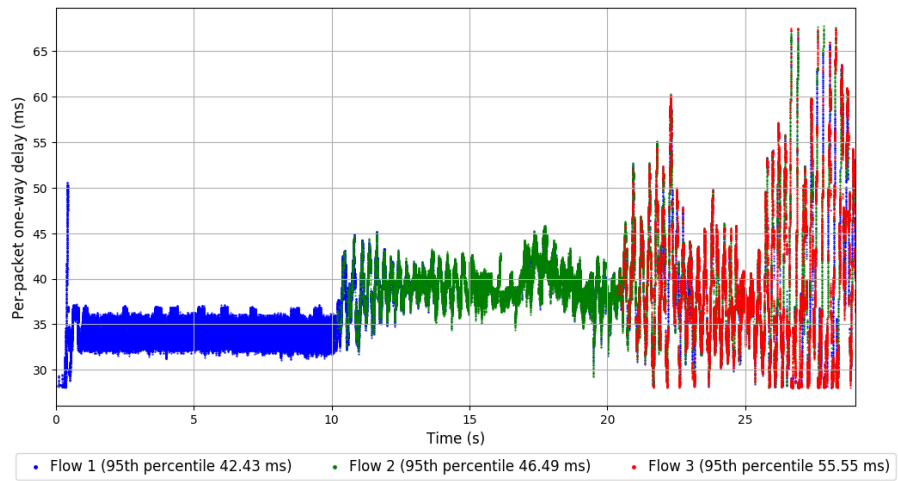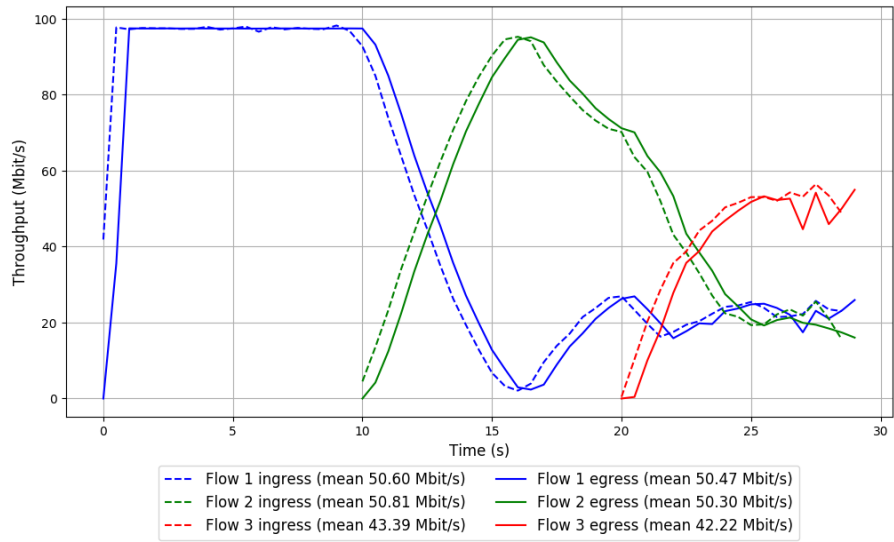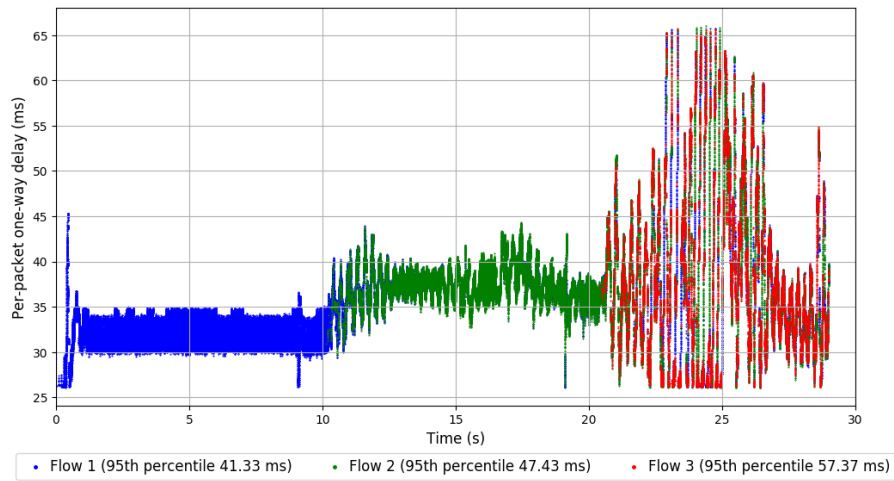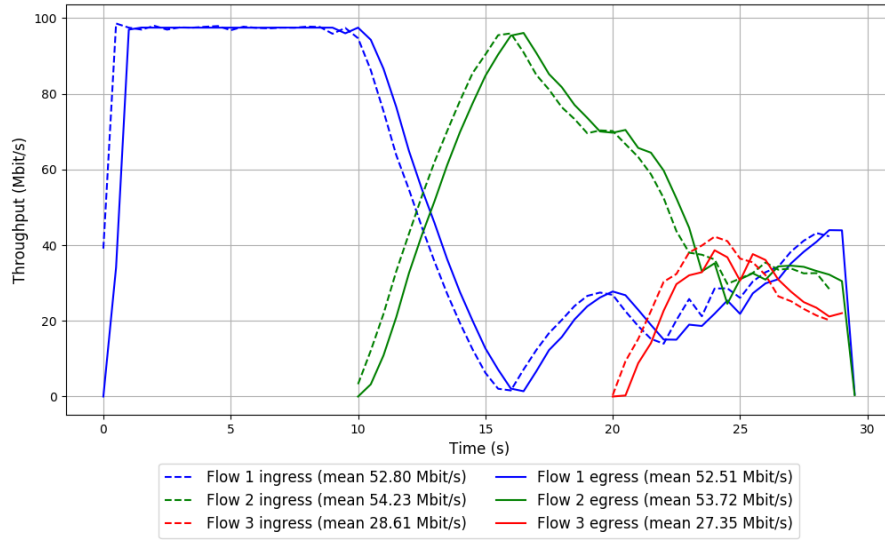
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-04-24 00:49:48
End at: 2019-04-24 00:50:18
Local clock offset: -0.194 ms
Remote clock offset: -1.018 ms


# Below is generated by plot.py at 2019-04-24 02:28:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 42.172 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 49.26 Mbit/s
95th percentile per-packet one-way delay: 40.227 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 50.99 Mbit/s
95th percentile per-packet one-way delay: 43.092 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 44.67 Mbit/s
95th percentile per-packet one-way delay: 44.418 ms
Loss rate: 0.79%
```

Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-04-24 01:16:52
End at: 2019-04-24 01:17:22
Local clock offset: -0.03 ms
Remote clock offset: 1.384 ms


# Below is generated by plot.py at 2019-04-24 02:28:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.82 Mbit/s
95th percentile per-packet one-way delay: 46.617 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 50.47 Mbit/s
95th percentile per-packet one-way delay: 42.431 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 50.30 Mbit/s
95th percentile per-packet one-way delay: 46.486 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 42.22 Mbit/s
95th percentile per-packet one-way delay: 55.552 ms
Loss rate: 2.71%
```
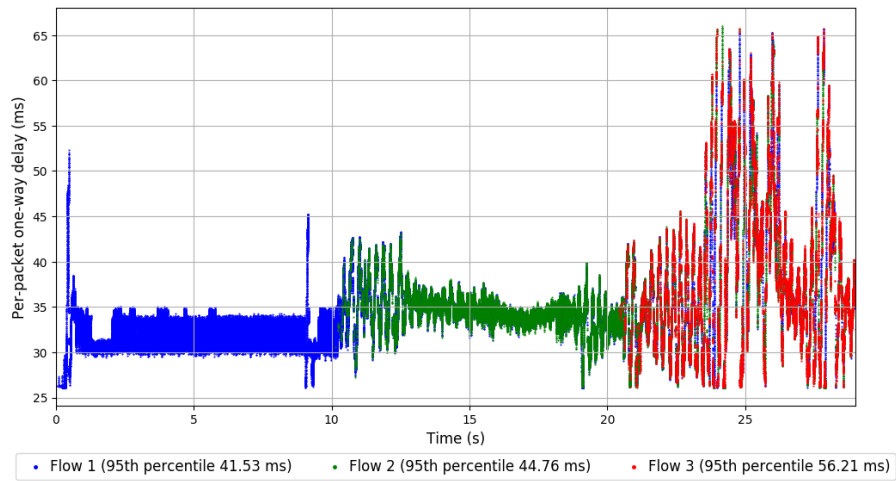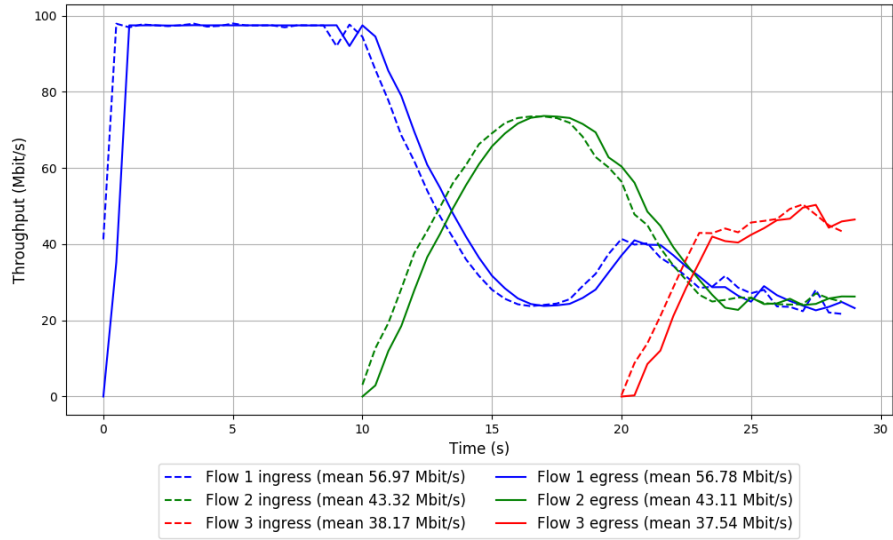
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 50.60 Mbit/s)   Flow 1 egress (mean 50.47 Mbit/s)
Flow 2 ingress (mean 50.81 Mbit/s)   Flow 2 egress (mean 50.30 Mbit/s)
Flow 3 ingress (mean 43.39 Mbit/s)   Flow 3 egress (mean 42.22 Mbit/s)

Flow 1 (95th percentile 42.43 ms)   Flow 2 (95th percentile 46.49 ms)   Flow 3 (95th percentile 55.55 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-04-24 01:42:41
End at: 2019-04-24 01:43:11
Local clock offset: -0.319 ms
Remote clock offset: -0.305 ms


# Below is generated by plot.py at 2019-04-24 02:28:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 46.866 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 52.51 Mbit/s
95th percentile per-packet one-way delay: 41.330 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 53.72 Mbit/s
95th percentile per-packet one-way delay: 47.430 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 27.35 Mbit/s
95th percentile per-packet one-way delay: 57.372 ms
Loss rate: 4.36%
```
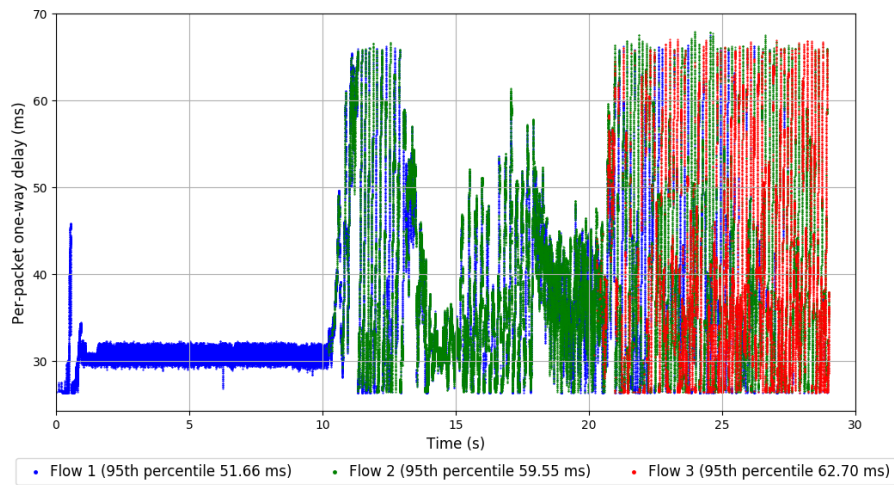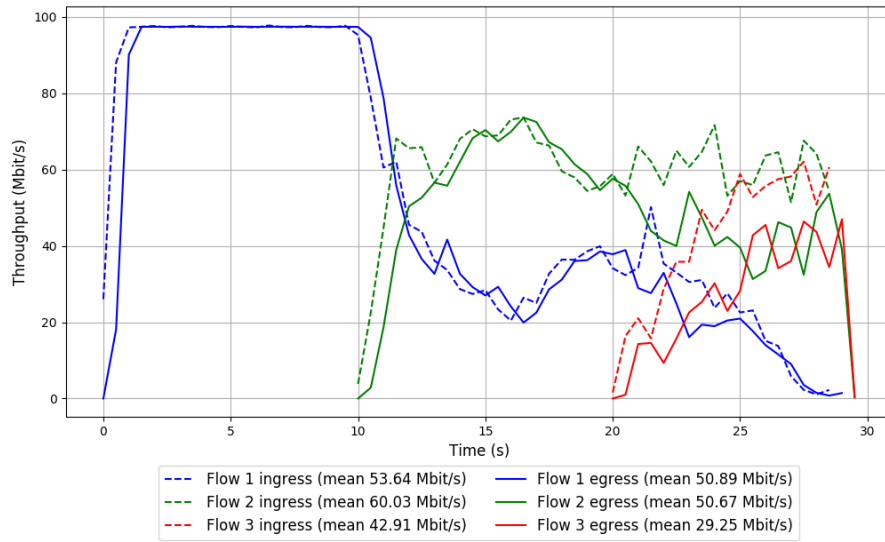
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-04-24 02:08:35
End at: 2019-04-24 02:09:05
Local clock offset: 0.005 ms
Remote clock offset: -0.409 ms


# Below is generated by plot.py at 2019-04-24 02:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.96 Mbit/s
95th percentile per-packet one-way delay: 46.222 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 56.78 Mbit/s
95th percentile per-packet one-way delay: 41.527 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 43.11 Mbit/s
95th percentile per-packet one-way delay: 44.763 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 56.206 ms
Loss rate: 1.67%
```
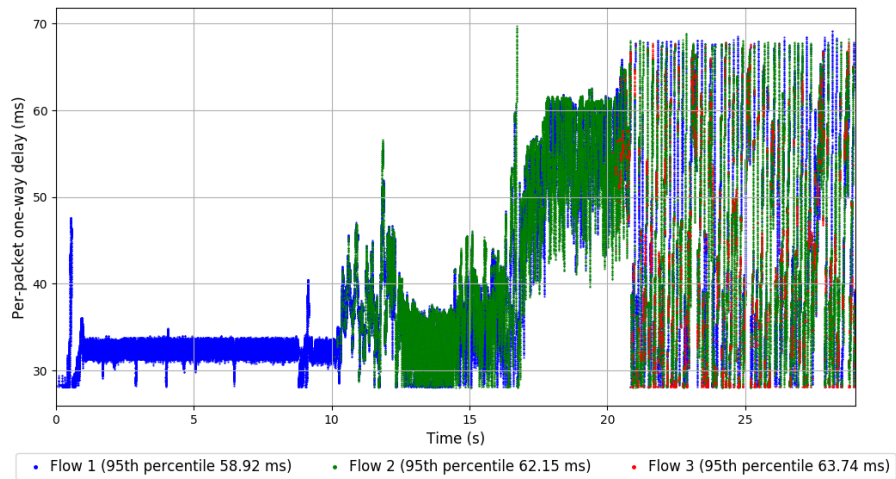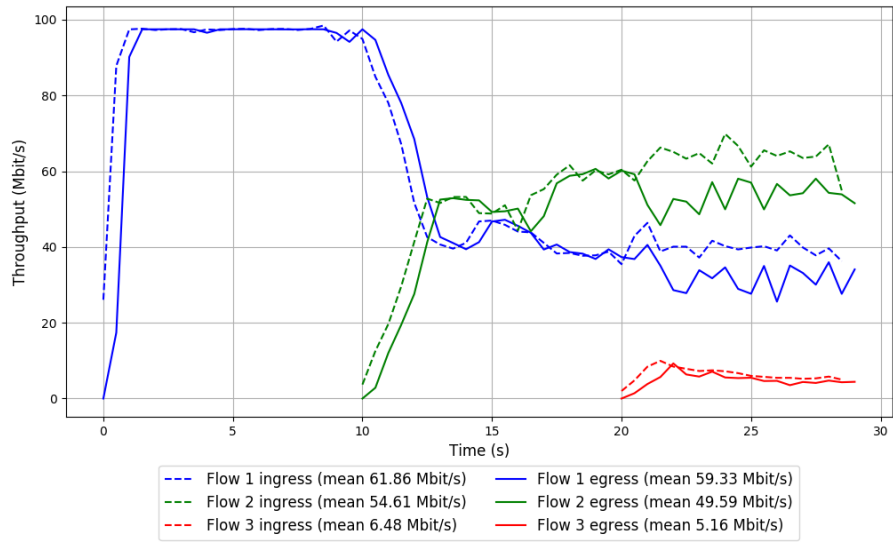
Run 5: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 56.97 Mbit/s)   —— Flow 1 egress (mean 56.78 Mbit/s)
- - - Flow 2 ingress (mean 43.32 Mbit/s)   —— Flow 2 egress (mean 43.11 Mbit/s)
- - - Flow 3 ingress (mean 38.17 Mbit/s)   —— Flow 3 egress (mean 37.54 Mbit/s)

• Flow 1 (95th percentile 41.53 ms)   • Flow 2 (95th percentile 44.76 ms)   • Flow 3 (95th percentile 56.21 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-04-24 00:25:39
End at: 2019-04-24 00:26:09
Local clock offset: -0.377 ms
Remote clock offset: -0.929 ms


# Below is generated by plot.py at 2019-04-24 02:28:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.72 Mbit/s
95th percentile per-packet one-way delay: 58.121 ms
Loss rate: 12.26%
-- Flow 1:
Average throughput: 50.89 Mbit/s
95th percentile per-packet one-way delay: 51.665 ms
Loss rate: 5.13%
-- Flow 2:
Average throughput: 50.67 Mbit/s
95th percentile per-packet one-way delay: 59.545 ms
Loss rate: 15.56%
-- Flow 3:
Average throughput: 29.25 Mbit/s
95th percentile per-packet one-way delay: 62.698 ms
Loss rate: 31.77%
```
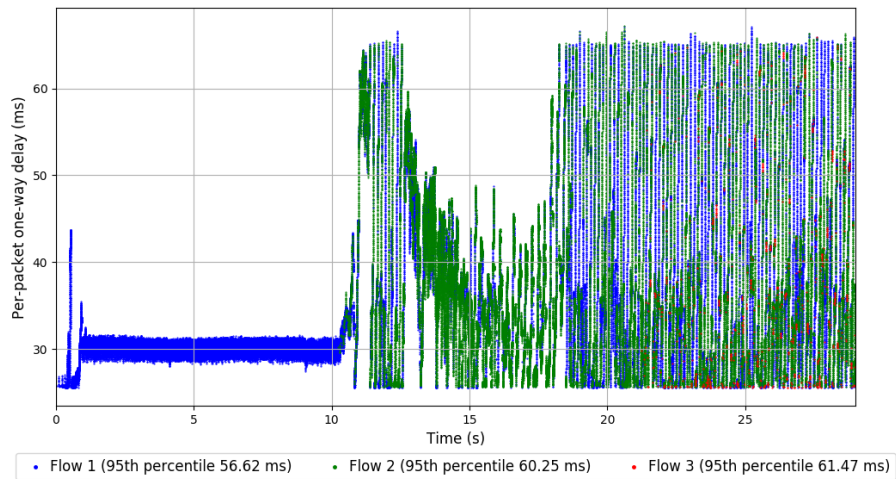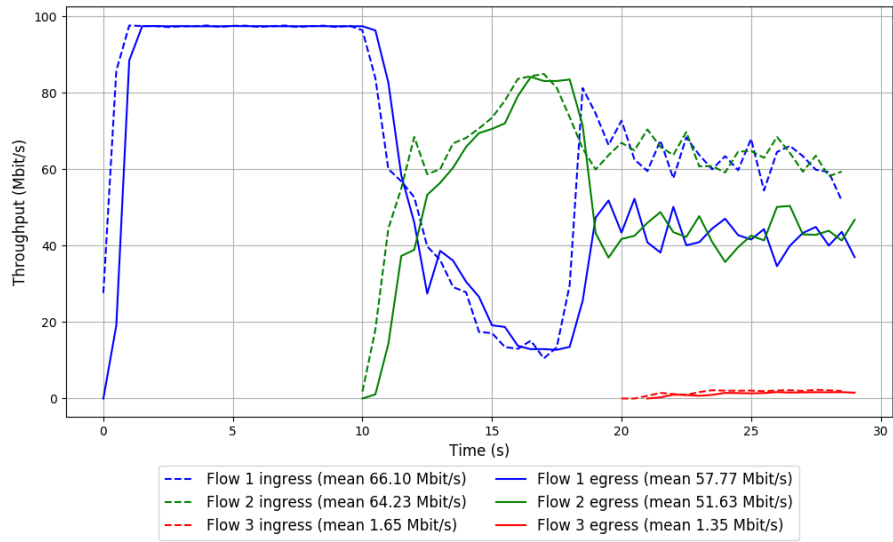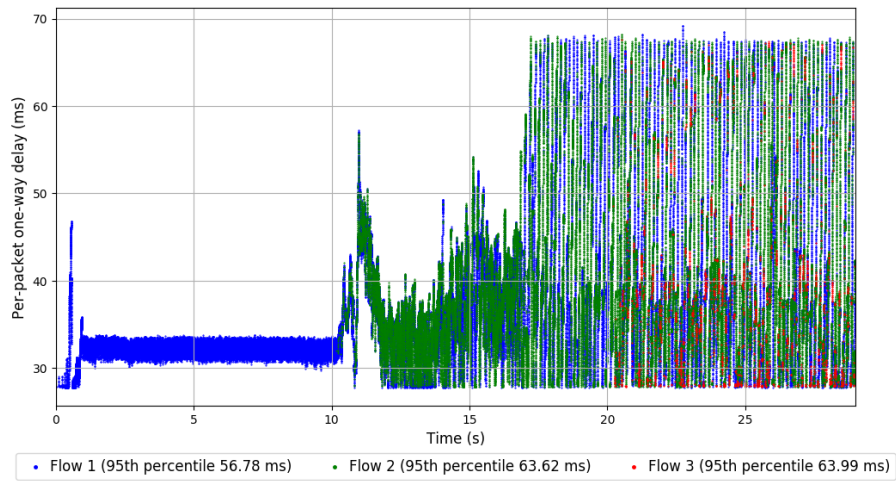
Run 1: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 53.64 Mbit/s) ——— Flow 1 egress (mean 50.89 Mbit/s)
- - - Flow 2 ingress (mean 60.03 Mbit/s) ——— Flow 2 egress (mean 50.67 Mbit/s)
- - - Flow 3 ingress (mean 42.91 Mbit/s) ——— Flow 3 egress (mean 29.25 Mbit/s)

• Flow 1 (95th percentile 51.66 ms)   • Flow 2 (95th percentile 59.55 ms)   • Flow 3 (95th percentile 62.70 ms)

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```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-04-24 00:52:37
End at: 2019-04-24 00:53:07
Local clock offset: -0.079 ms
Remote clock offset: 1.012 ms

# Below is generated by plot.py at 2019-04-24 02:29:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.21 Mbit/s
95th percentile per-packet one-way delay: 60.651 ms
Loss rate: 6.24%
-- Flow 1:
Average throughput: 59.33 Mbit/s
95th percentile per-packet one-way delay: 58.920 ms
Loss rate: 4.08%
-- Flow 2:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 62.152 ms
Loss rate: 9.20%
-- Flow 3:
Average throughput: 5.16 Mbit/s
95th percentile per-packet one-way delay: 63.743 ms
Loss rate: 20.49%
```
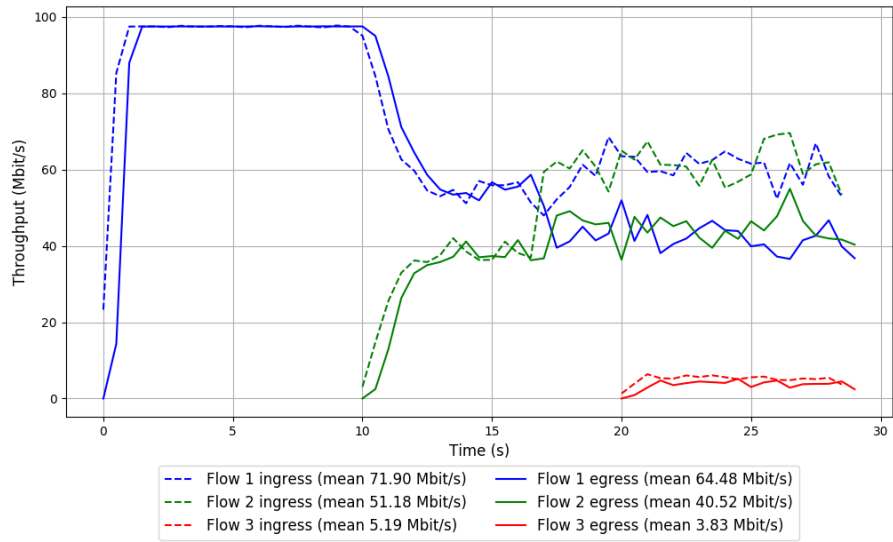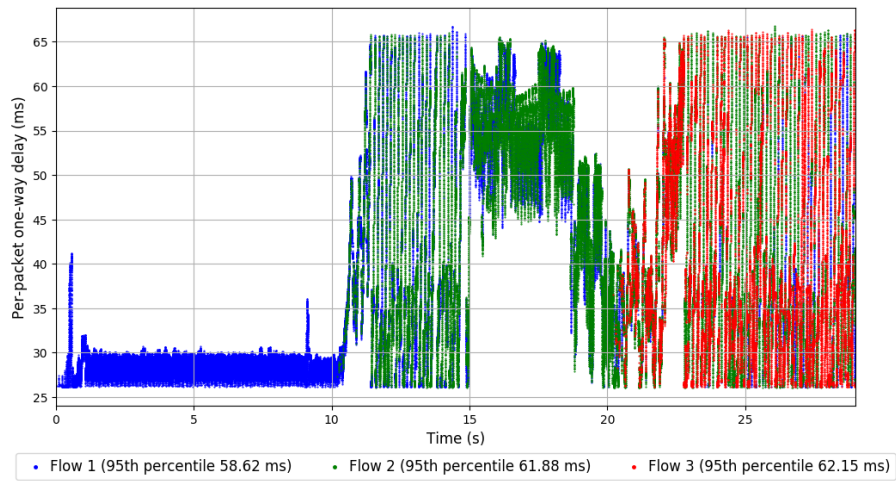
Run 2: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 61.86 Mbit/s)   —— Flow 1 egress (mean 59.33 Mbit/s)
- - - Flow 2 ingress (mean 54.61 Mbit/s)   —— Flow 2 egress (mean 49.59 Mbit/s)
- - - Flow 3 ingress (mean 6.48 Mbit/s)   —— Flow 3 egress (mean 5.16 Mbit/s)

• Flow 1 (95th percentile 58.92 ms)   • Flow 2 (95th percentile 62.15 ms)   • Flow 3 (95th percentile 63.74 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-04-24 01:19:21
End at: 2019-04-24 01:19:51
Local clock offset: 0.002 ms
Remote clock offset: -0.992 ms


# Below is generated by plot.py at 2019-04-24 02:29:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.51 Mbit/s
95th percentile per-packet one-way delay: 58.663 ms
Loss rate: 15.38%
-- Flow 1:
Average throughput: 57.77 Mbit/s
95th percentile per-packet one-way delay: 56.617 ms
Loss rate: 12.61%
-- Flow 2:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 60.250 ms
Loss rate: 19.63%
-- Flow 3:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 61.466 ms
Loss rate: 27.61%
```
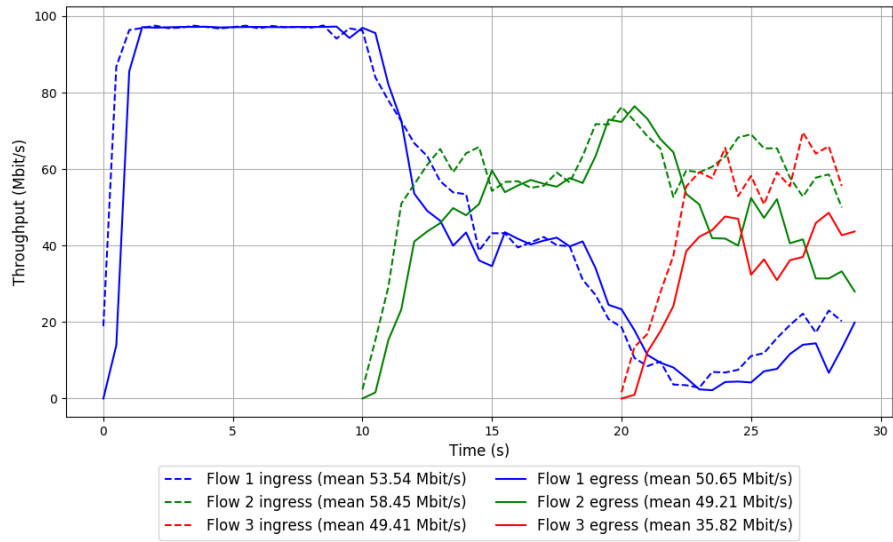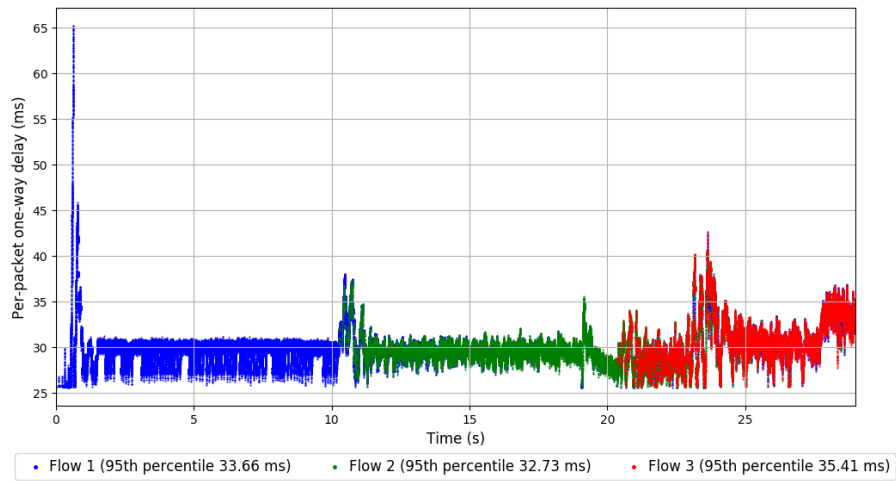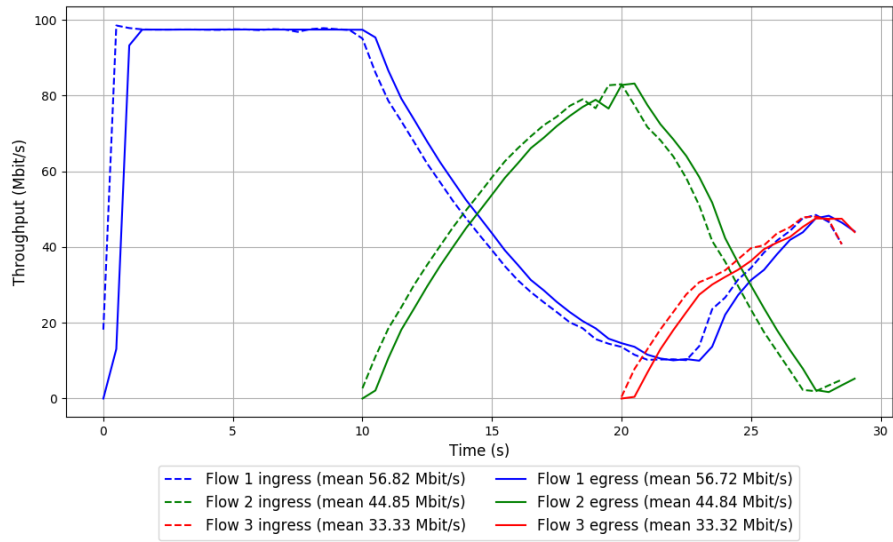
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 66.10 Mbit/s) --- Flow 1 egress (mean 57.77 Mbit/s)
Flow 2 ingress (mean 64.23 Mbit/s) --- Flow 2 egress (mean 51.63 Mbit/s)
Flow 3 ingress (mean 1.65 Mbit/s) --- Flow 3 egress (mean 1.35 Mbit/s)

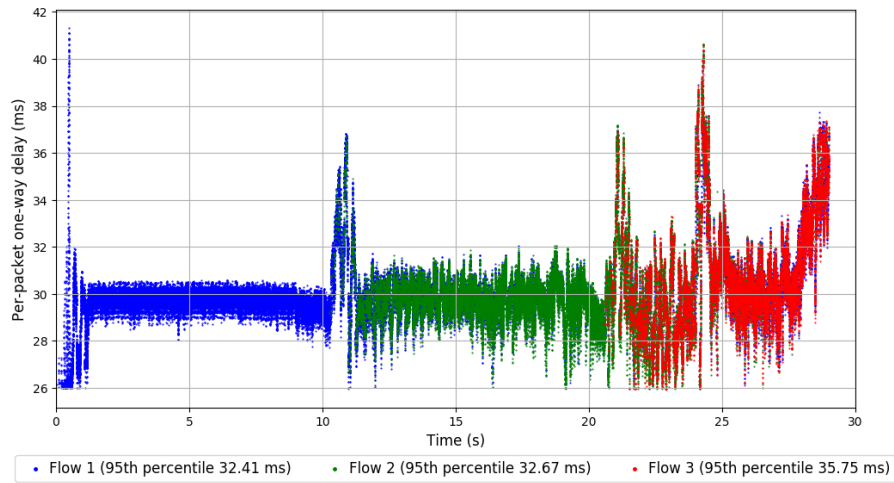Flow 1 (95th percentile 56.62 ms) • Flow 2 (95th percentile 60.25 ms) • Flow 3 (95th percentile 61.47 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-04-24 01:45:16
End at: 2019-04-24 01:45:46
Local clock offset: -0.329 ms
Remote clock offset: 1.256 ms


# Below is generated by plot.py at 2019-04-24 02:29:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.95 Mbit/s
95th percentile per-packet one-way delay: 60.597 ms
Loss rate: 13.80%
-- Flow 1:
Average throughput: 64.48 Mbit/s
95th percentile per-packet one-way delay: 56.777 ms
Loss rate: 10.27%
-- Flow 2:
Average throughput: 40.52 Mbit/s
95th percentile per-packet one-way delay: 63.622 ms
Loss rate: 20.83%
-- Flow 3:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 63.989 ms
Loss rate: 26.14%
```

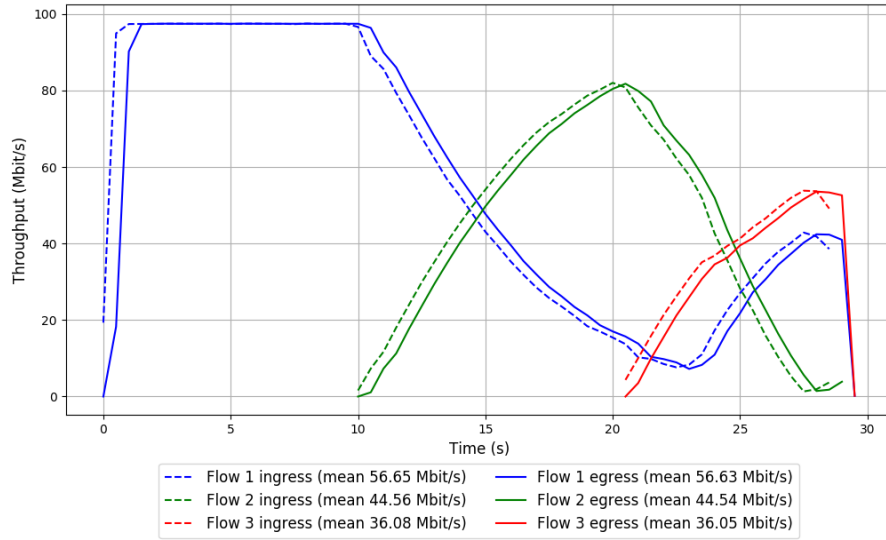Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-04-24 02:11:12
End at: 2019-04-24 02:11:42
Local clock offset: 0.013 ms
Remote clock offset: -0.378 ms


# Below is generated by plot.py at 2019-04-24 02:29:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.40 Mbit/s
95th percentile per-packet one-way delay: 60.787 ms
Loss rate: 12.18%
-- Flow 1:
Average throughput: 50.65 Mbit/s
95th percentile per-packet one-way delay: 58.624 ms
Loss rate: 5.37%
-- Flow 2:
Average throughput: 49.21 Mbit/s
95th percentile per-packet one-way delay: 61.882 ms
Loss rate: 15.75%
-- Flow 3:
Average throughput: 35.82 Mbit/s
95th percentile per-packet one-way delay: 62.148 ms
Loss rate: 27.52%
```
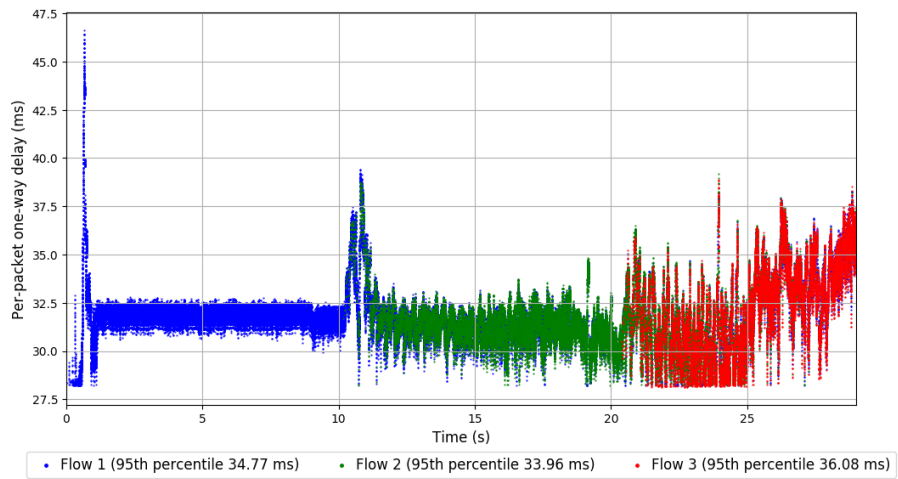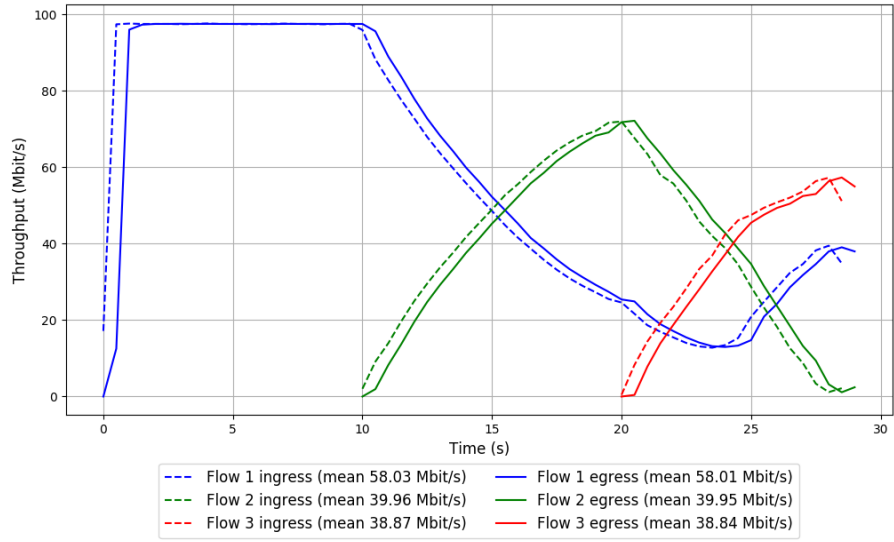
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-04-24 00:10:57
End at: 2019-04-24 00:11:27
Local clock offset: -0.636 ms
Remote clock offset: -1.626 ms


# Below is generated by plot.py at 2019-04-24 02:29:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 33.855 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 56.72 Mbit/s
95th percentile per-packet one-way delay: 33.655 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 44.84 Mbit/s
95th percentile per-packet one-way delay: 32.730 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.32 Mbit/s
95th percentile per-packet one-way delay: 35.408 ms
Loss rate: 0.00%
```
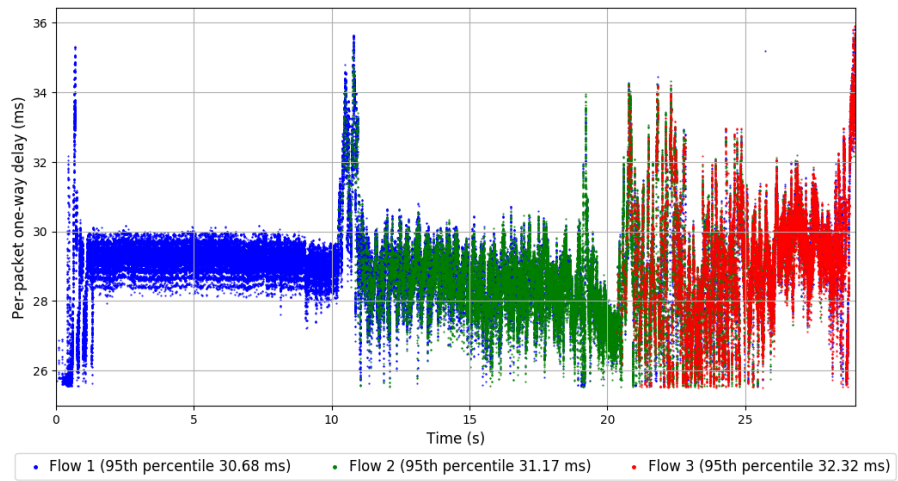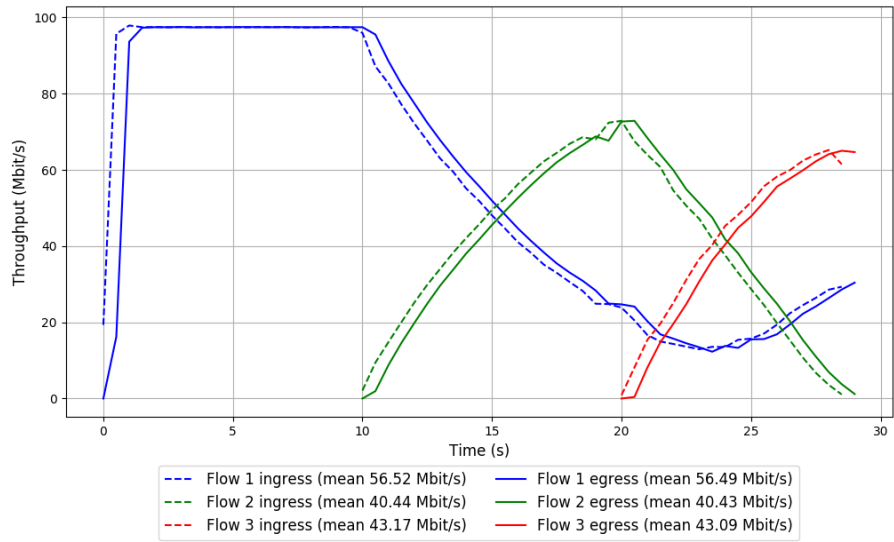
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-04-24 00:36:50
End at: 2019-04-24 00:37:20
Local clock offset: -0.383 ms
Remote clock offset: -1.325 ms


# Below is generated by plot.py at 2019-04-24 02:30:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.97 Mbit/s
95th percentile per-packet one-way delay: 33.266 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.63 Mbit/s
95th percentile per-packet one-way delay: 32.413 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.54 Mbit/s
95th percentile per-packet one-way delay: 32.669 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 35.751 ms
Loss rate: 0.00%
```
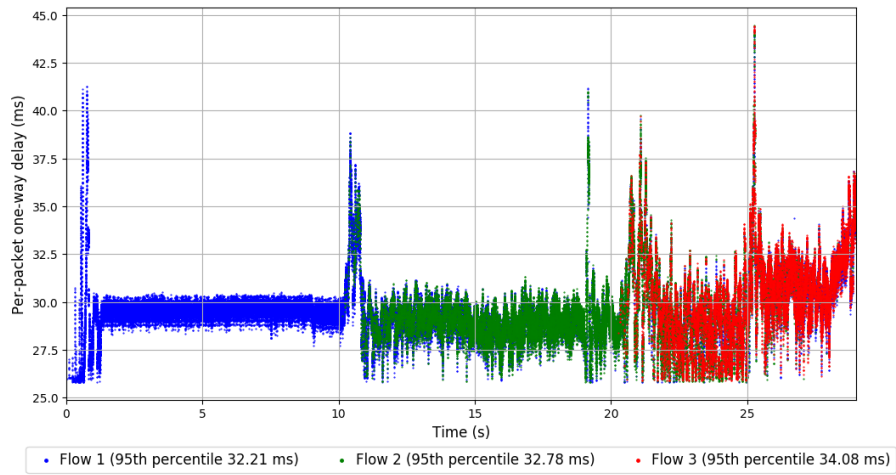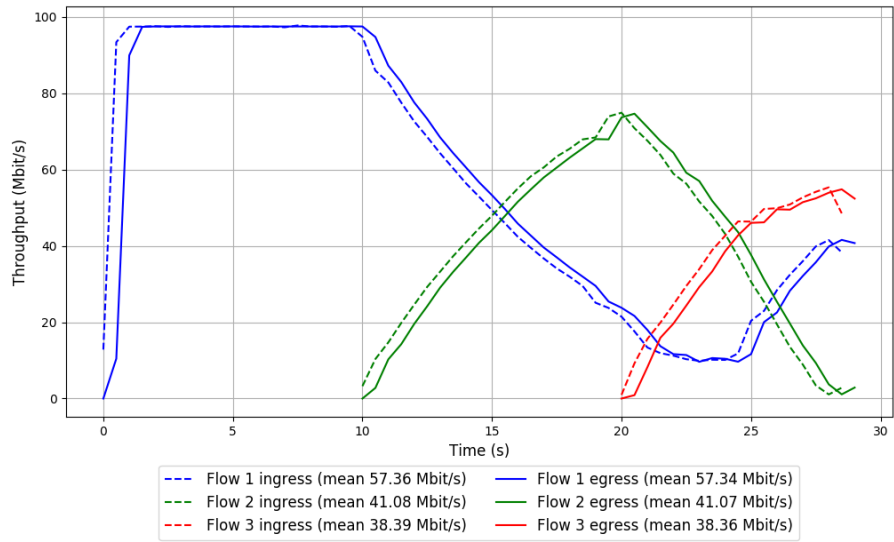
Run 2: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 56.65 Mbit/s)   —— Flow 1 egress (mean 56.63 Mbit/s)
- - - Flow 2 ingress (mean 44.56 Mbit/s)   —— Flow 2 egress (mean 44.54 Mbit/s)
- - - Flow 3 ingress (mean 36.08 Mbit/s)   —— Flow 3 egress (mean 36.05 Mbit/s)

- Flow 1 (95th percentile 32.41 ms)   - Flow 2 (95th percentile 32.67 ms)   - Flow 3 (95th percentile 35.75 ms)

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-04-24 01:04:05
End at: 2019-04-24 01:04:35
Local clock offset: 0.064 ms
Remote clock offset: 1.239 ms


# Below is generated by plot.py at 2019-04-24 02:30:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.54 Mbit/s
95th percentile per-packet one-way delay: 35.008 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.01 Mbit/s
95th percentile per-packet one-way delay: 34.775 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.95 Mbit/s
95th percentile per-packet one-way delay: 33.964 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.84 Mbit/s
95th percentile per-packet one-way delay: 36.084 ms
Loss rate: 0.00%
```
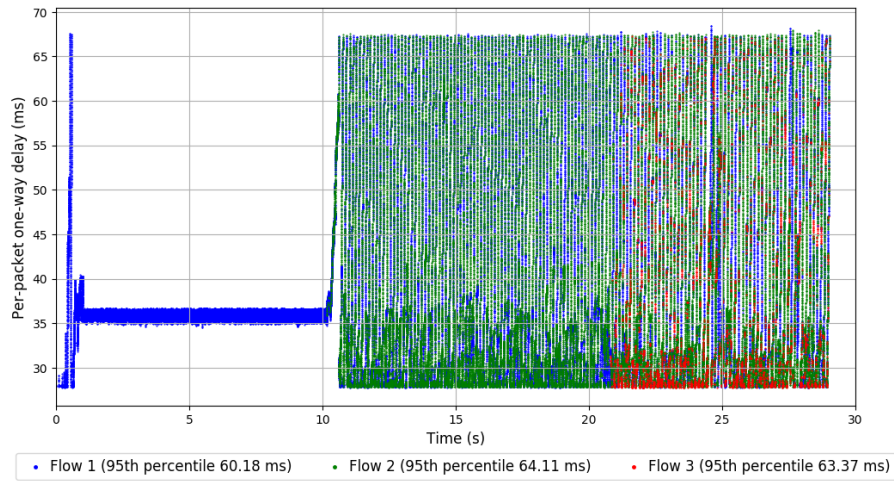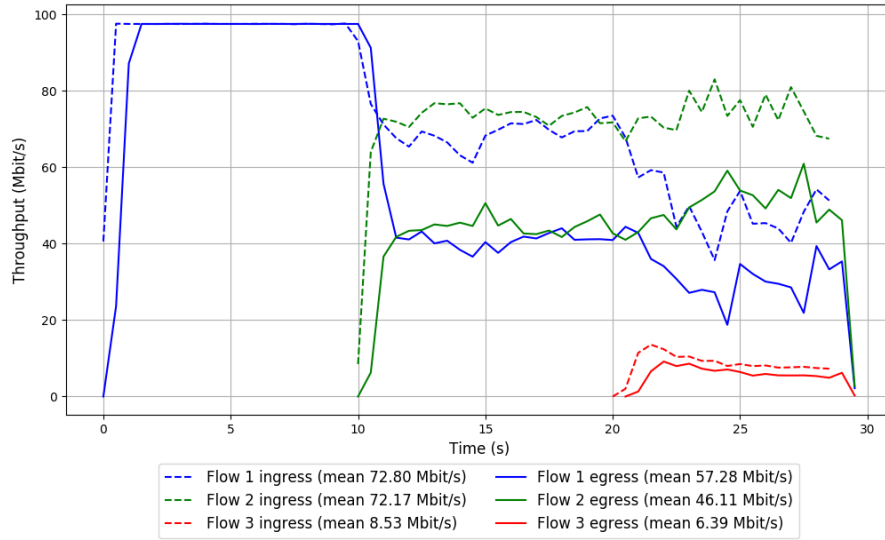
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-04-24 01:30:23
End at: 2019-04-24 01:30:53
Local clock offset: -0.125 ms
Remote clock offset: -0.915 ms


# Below is generated by plot.py at 2019-04-24 02:30:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 31.176 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 56.49 Mbit/s
95th percentile per-packet one-way delay: 30.676 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 31.167 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 32.318 ms
Loss rate: 0.10%
```
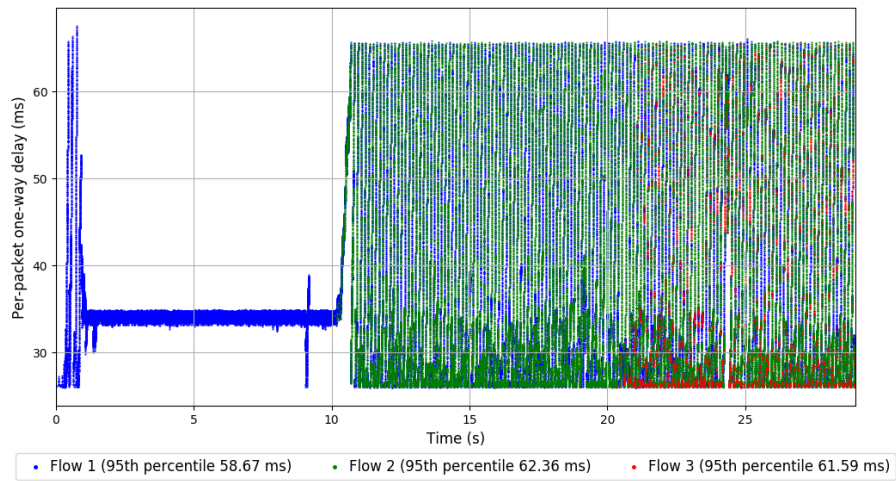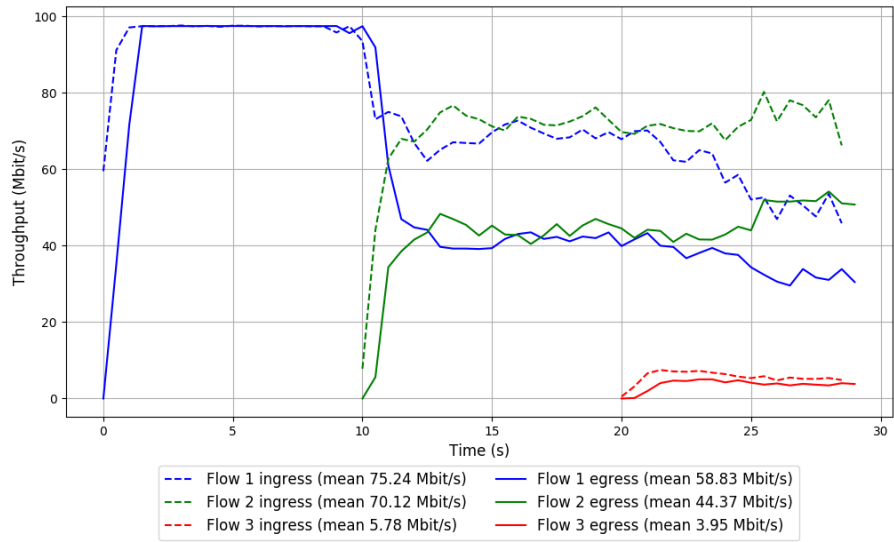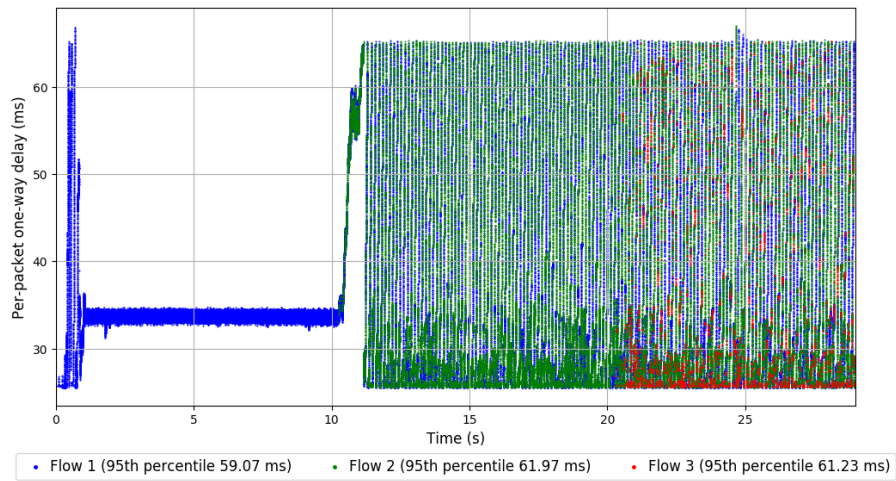
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-04-24 01:56:10
End at: 2019-04-24 01:56:40
Local clock offset: 0.002 ms
Remote clock offset: -0.672 ms


# Below is generated by plot.py at 2019-04-24 02:30:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 32.812 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.34 Mbit/s
95th percentile per-packet one-way delay: 32.207 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.07 Mbit/s
95th percentile per-packet one-way delay: 32.785 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.36 Mbit/s
95th percentile per-packet one-way delay: 34.079 ms
Loss rate: 0.00%
```
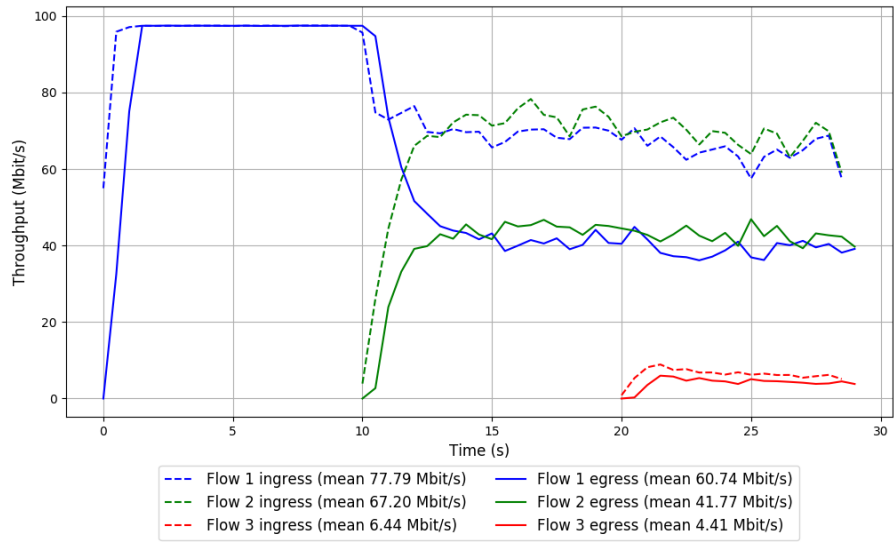
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-04-24 00:21:55
End at: 2019-04-24 00:22:25
Local clock offset: -0.473 ms
Remote clock offset: 0.421 ms


# Below is generated by plot.py at 2019-04-24 02:30:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.20 Mbit/s
95th percentile per-packet one-way delay: 62.327 ms
Loss rate: 27.07%
-- Flow 1:
Average throughput: 57.28 Mbit/s
95th percentile per-packet one-way delay: 60.183 ms
Loss rate: 21.21%
-- Flow 2:
Average throughput: 46.11 Mbit/s
95th percentile per-packet one-way delay: 64.111 ms
Loss rate: 36.01%
-- Flow 3:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 63.367 ms
Loss rate: 29.09%
```
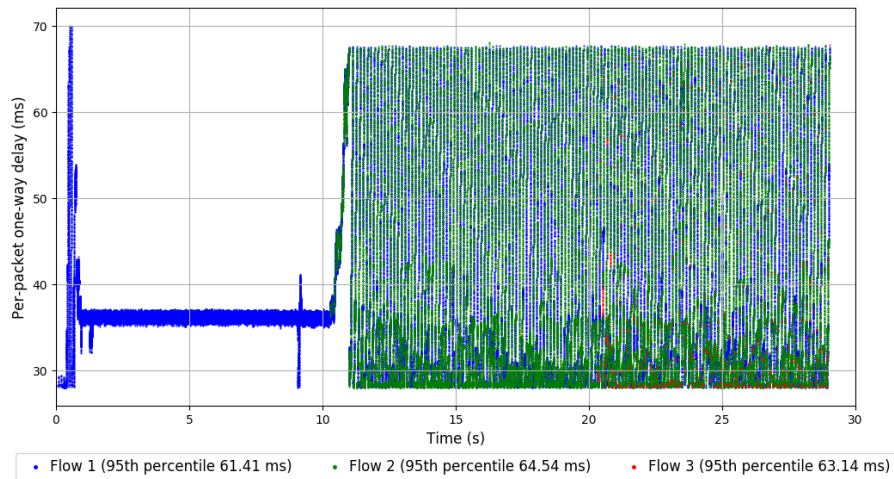
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-04-24 00:48:23
End at: 2019-04-24 00:48:53
Local clock offset: -0.255 ms
Remote clock offset: -1.132 ms


# Below is generated by plot.py at 2019-04-24 02:30:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.93 Mbit/s
95th percentile per-packet one-way delay: 60.534 ms
Loss rate: 27.50%
-- Flow 1:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 58.667 ms
Loss rate: 21.80%
-- Flow 2:
Average throughput: 44.37 Mbit/s
95th percentile per-packet one-way delay: 62.362 ms
Loss rate: 36.72%
-- Flow 3:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 61.592 ms
Loss rate: 31.61%
```
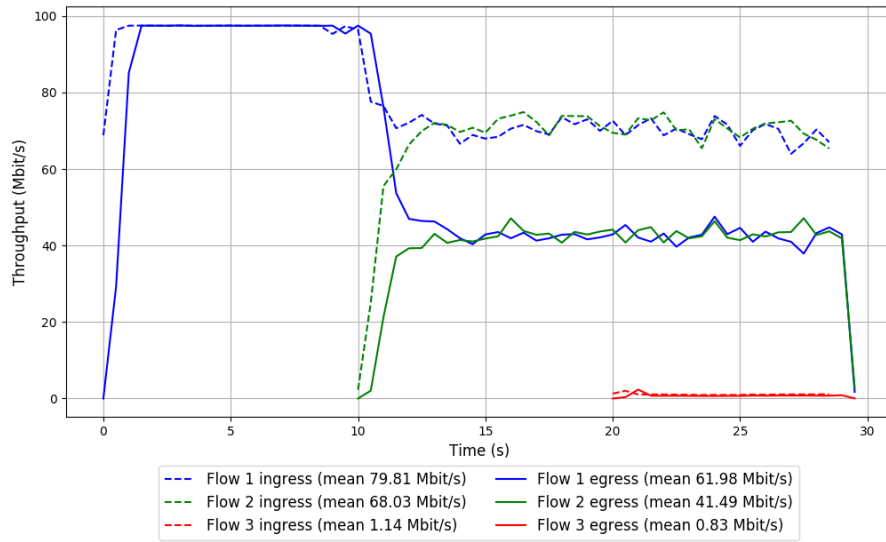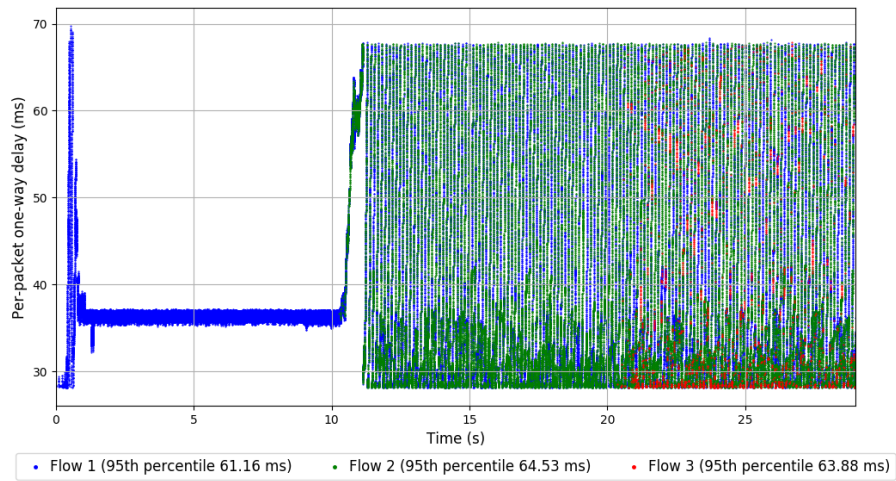
Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 75.24 Mbit/s)   Flow 1 egress (mean 58.83 Mbit/s)
Flow 2 ingress (mean 70.12 Mbit/s)   Flow 2 egress (mean 44.37 Mbit/s)
Flow 3 ingress (mean 5.78 Mbit/s)   Flow 3 egress (mean 3.95 Mbit/s)

Flow 1 (95th percentile 58.67 ms)   Flow 2 (95th percentile 62.36 ms)   Flow 3 (95th percentile 61.59 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-04-24 01:15:37
End at: 2019-04-24 01:16:07
Local clock offset: -0.036 ms
Remote clock offset: -1.169 ms


# Below is generated by plot.py at 2019-04-24 02:31:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.17 Mbit/s
95th percentile per-packet one-way delay: 60.379 ms
Loss rate: 27.71%
-- Flow 1:
Average throughput: 60.74 Mbit/s
95th percentile per-packet one-way delay: 59.067 ms
Loss rate: 21.92%
-- Flow 2:
Average throughput: 41.77 Mbit/s
95th percentile per-packet one-way delay: 61.973 ms
Loss rate: 37.86%
-- Flow 3:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 61.235 ms
Loss rate: 31.48%
```
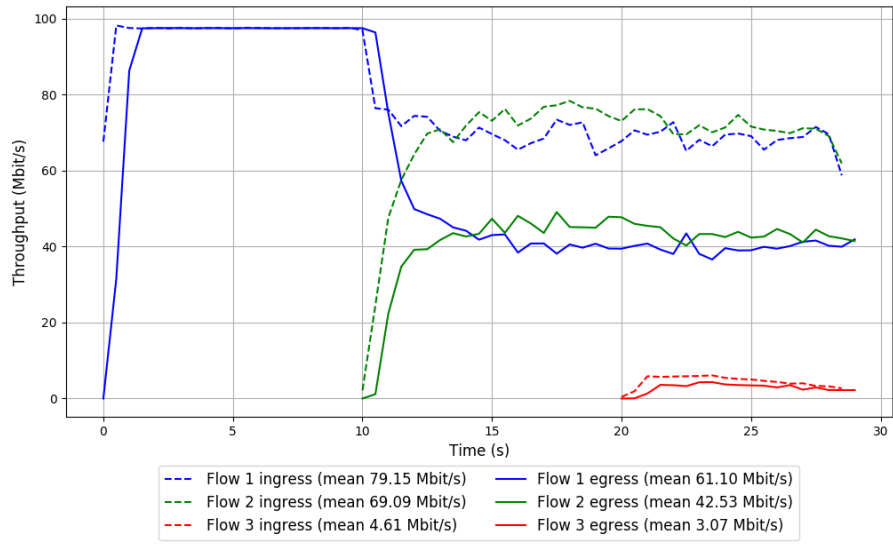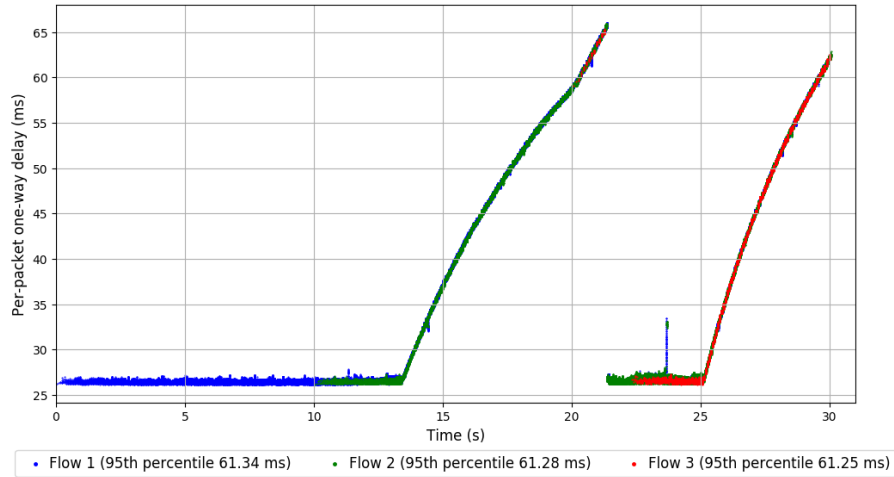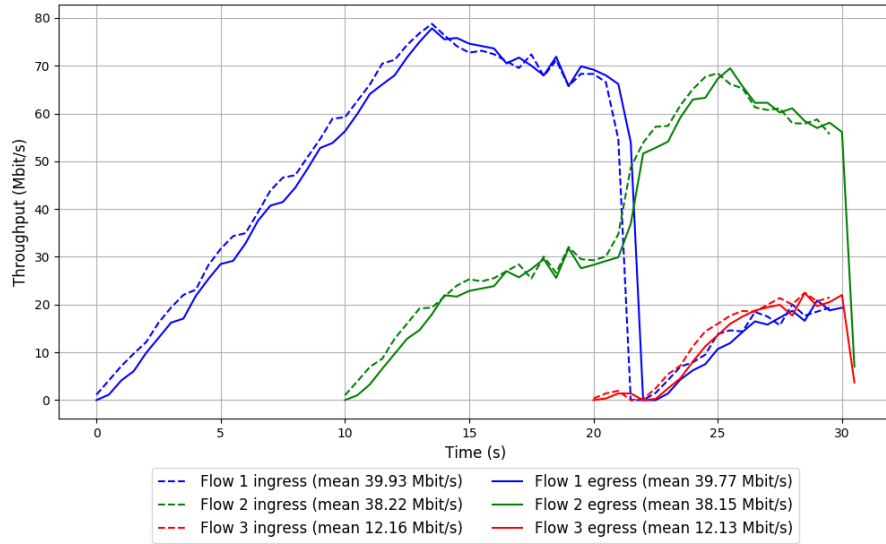
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 77.79 Mbit/s) --- Flow 1 egress (mean 60.74 Mbit/s)
Flow 2 ingress (mean 67.20 Mbit/s) --- Flow 2 egress (mean 41.77 Mbit/s)
Flow 3 ingress (mean 6.44 Mbit/s) --- Flow 3 egress (mean 4.41 Mbit/s)

Flow 1 (95th percentile 59.07 ms)   Flow 2 (95th percentile 61.97 ms)   Flow 3 (95th percentile 61.23 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-04-24 01:41:24
End at: 2019-04-24 01:41:54
Local clock offset: -0.306 ms
Remote clock offset: 1.631 ms


# Below is generated by plot.py at 2019-04-24 02:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.13 Mbit/s
95th percentile per-packet one-way delay: 62.810 ms
Loss rate: 28.19%
-- Flow 1:
Average throughput: 61.98 Mbit/s
95th percentile per-packet one-way delay: 61.408 ms
Loss rate: 22.25%
-- Flow 2:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 64.540 ms
Loss rate: 38.94%
-- Flow 3:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 63.143 ms
Loss rate: 27.03%
```
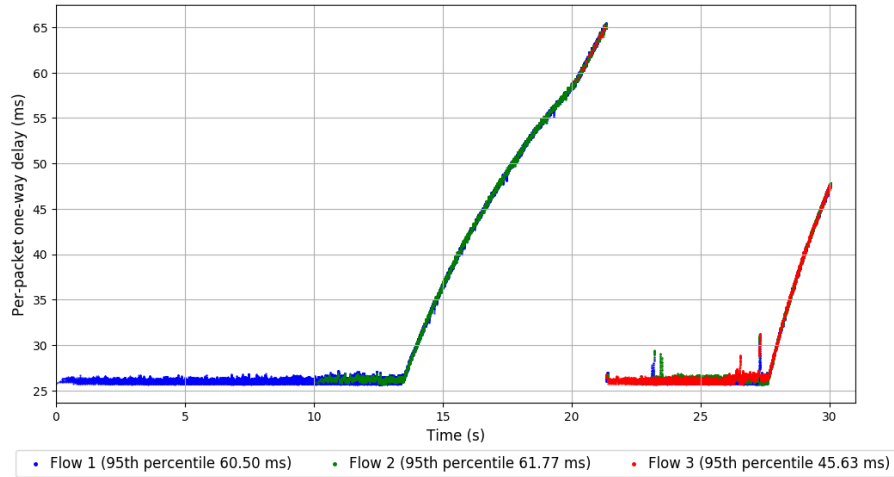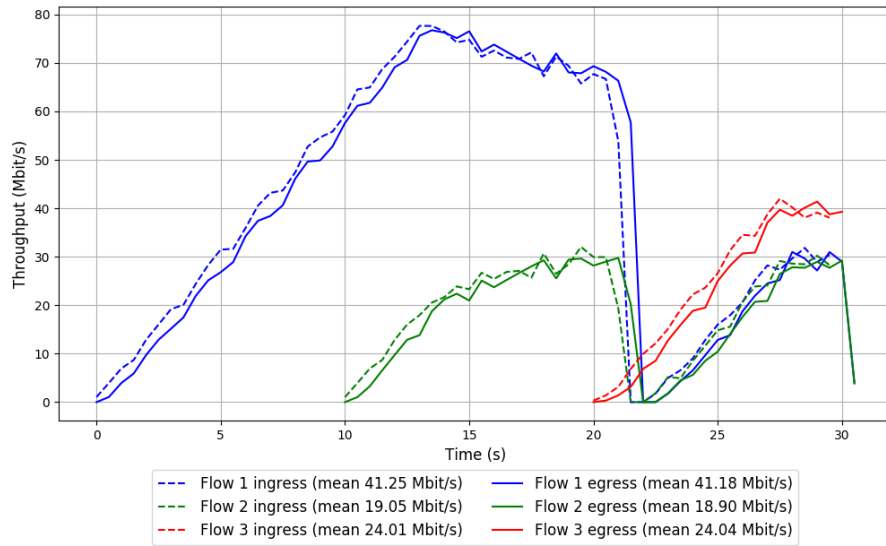
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-04-24 02:07:17
End at: 2019-04-24 02:07:47
Local clock offset: 0.042 ms
Remote clock offset: 1.686 ms


# Below is generated by plot.py at 2019-04-24 02:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.51 Mbit/s
95th percentile per-packet one-way delay: 62.784 ms
Loss rate: 28.49%
-- Flow 1:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 61.165 ms
Loss rate: 22.78%
-- Flow 2:
Average throughput: 42.53 Mbit/s
95th percentile per-packet one-way delay: 64.533 ms
Loss rate: 38.45%
-- Flow 3:
Average throughput: 3.07 Mbit/s
95th percentile per-packet one-way delay: 63.876 ms
Loss rate: 33.45%
```
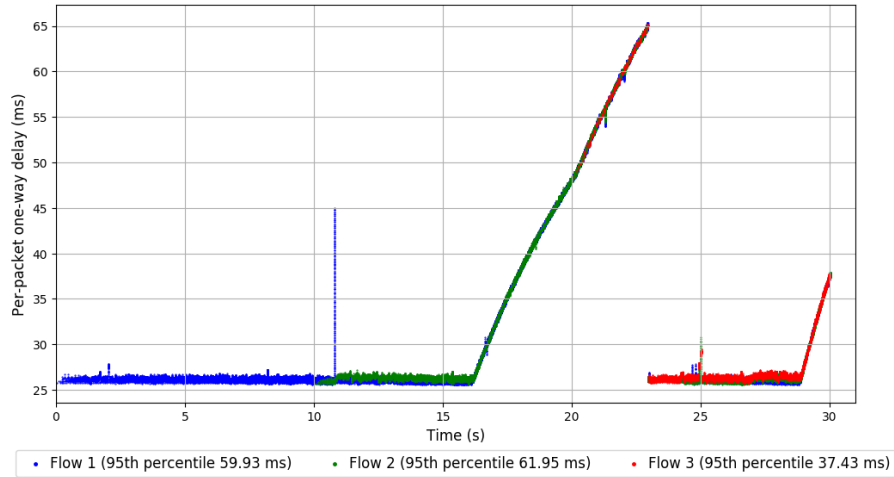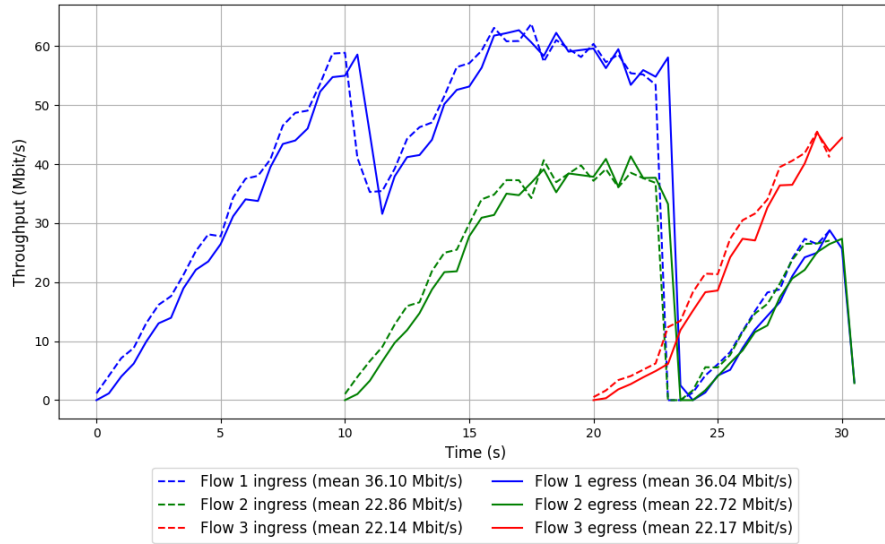
Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 79.15 Mbit/s)   Flow 1 egress (mean 61.10 Mbit/s)
Flow 2 ingress (mean 69.09 Mbit/s)   Flow 2 egress (mean 42.53 Mbit/s)
Flow 3 ingress (mean 4.61 Mbit/s)   Flow 3 egress (mean 3.07 Mbit/s)

Flow 1 (95th percentile 61.16 ms)   Flow 2 (95th percentile 64.53 ms)   Flow 3 (95th percentile 63.88 ms)

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```
Run 1: Statistics of LEDBAT

Start at: 2019-04-24 00:17:01
End at: 2019-04-24 00:17:31
Local clock offset: -0.69 ms
Remote clock offset: -1.265 ms

# Below is generated by plot.py at 2019-04-24 02:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.11 Mbit/s
95th percentile per-packet one-way delay: 61.291 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 39.77 Mbit/s
95th percentile per-packet one-way delay: 61.335 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 61.285 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 61.252 ms
Loss rate: 0.22%
```
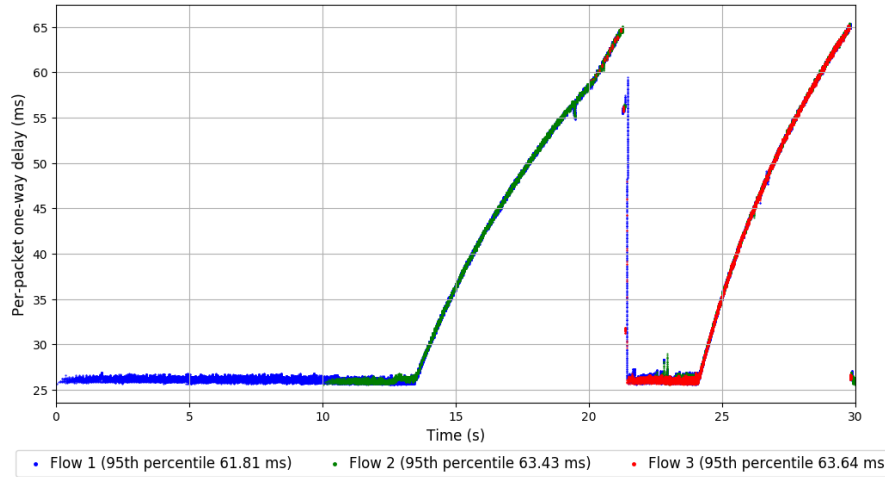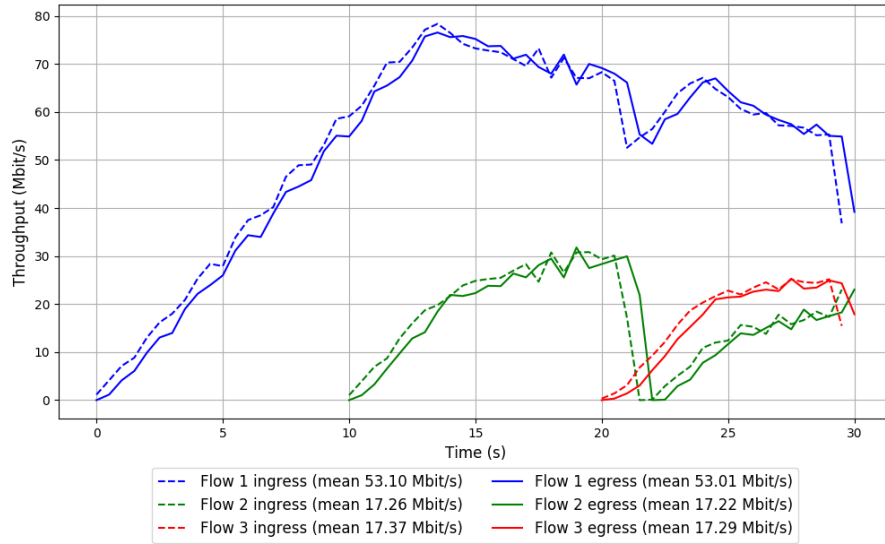
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-04-24 00:43:13
End at: 2019-04-24 00:43:43
Local clock offset: -0.417 ms
Remote clock offset: -1.506 ms

# Below is generated by plot.py at 2019-04-24 02:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.70 Mbit/s
95th percentile per-packet one-way delay: 60.300 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 41.18 Mbit/s
95th percentile per-packet one-way delay: 60.498 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 61.767 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 24.04 Mbit/s
95th percentile per-packet one-way delay: 45.632 ms
Loss rate: 0.00%
```
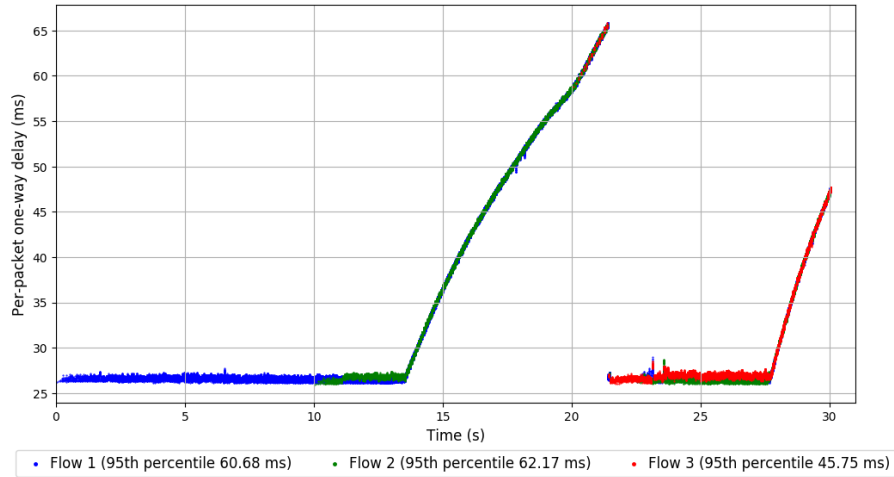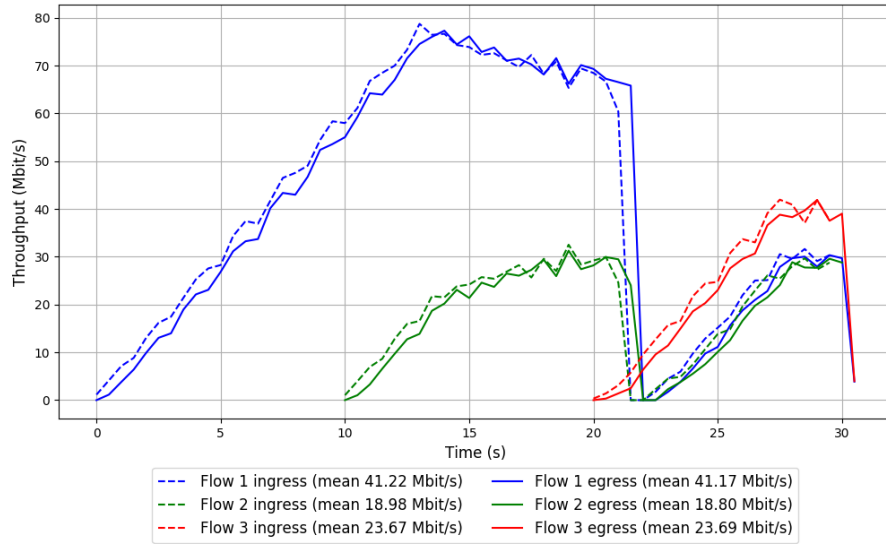
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-04-24 01:10:26
End at: 2019-04-24 01:10:56
Local clock offset: 0.043 ms
Remote clock offset: -1.31 ms


# Below is generated by plot.py at 2019-04-24 02:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.50 Mbit/s
95th percentile per-packet one-way delay: 60.227 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 36.04 Mbit/s
95th percentile per-packet one-way delay: 59.927 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 22.72 Mbit/s
95th percentile per-packet one-way delay: 61.949 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 22.17 Mbit/s
95th percentile per-packet one-way delay: 37.432 ms
Loss rate: 0.00%
```
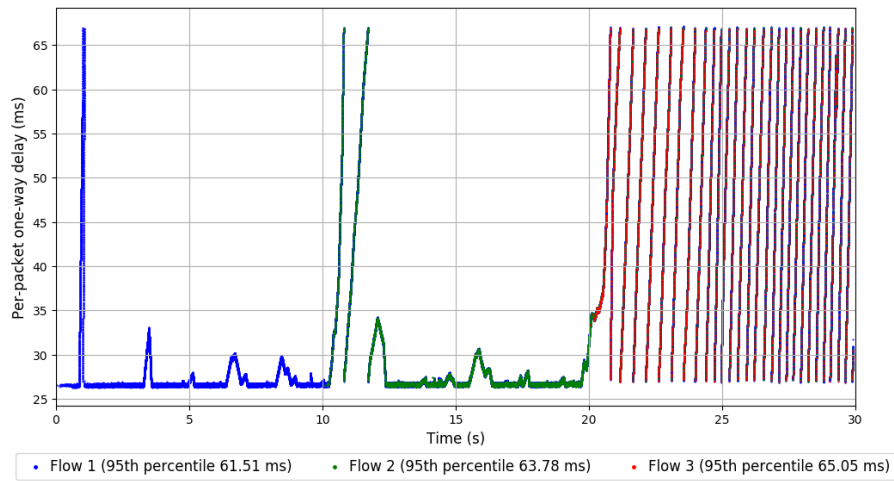
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-04-24 01:36:31
End at: 2019-04-24 01:37:01
Local clock offset: -0.225 ms
Remote clock offset: -0.842 ms

# Below is generated by plot.py at 2019-04-24 02:31:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.90 Mbit/s
95th percentile per-packet one-way delay: 62.442 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 53.01 Mbit/s
95th percentile per-packet one-way delay: 61.806 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 17.22 Mbit/s
95th percentile per-packet one-way delay: 63.427 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 17.29 Mbit/s
95th percentile per-packet one-way delay: 63.643 ms
Loss rate: 0.78%
```
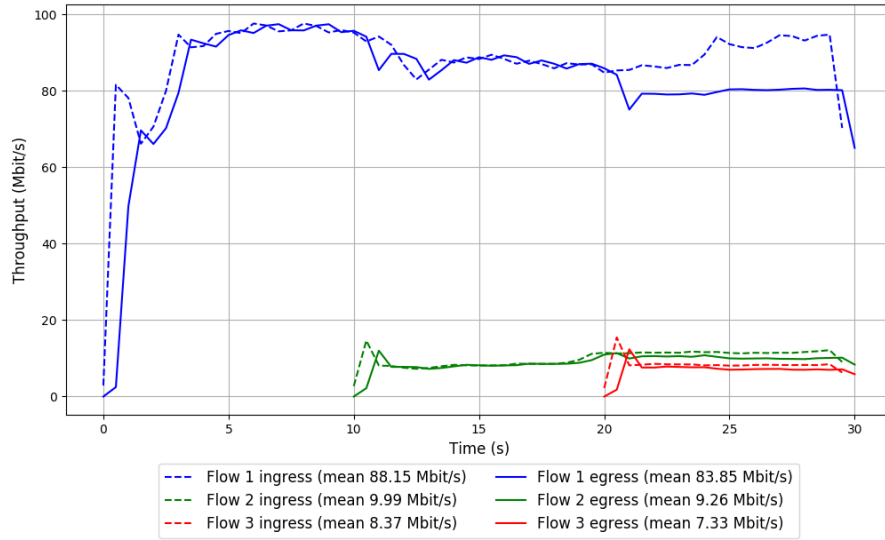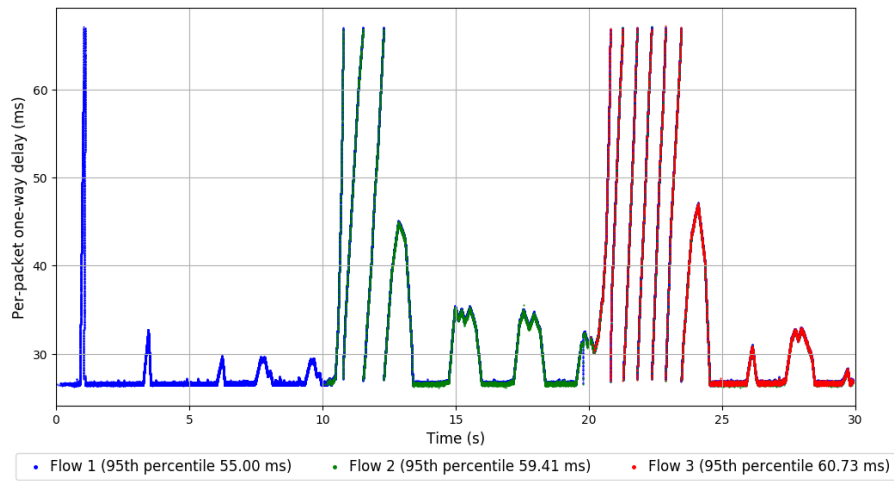
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-04-24 02:02:18
End at: 2019-04-24 02:02:48
Local clock offset: 0.004 ms
Remote clock offset: -0.52 ms


# Below is generated by plot.py at 2019-04-24 02:31:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.52 Mbit/s
95th percentile per-packet one-way delay: 60.614 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 41.17 Mbit/s
95th percentile per-packet one-way delay: 60.683 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 18.80 Mbit/s
95th percentile per-packet one-way delay: 62.171 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 23.69 Mbit/s
95th percentile per-packet one-way delay: 45.748 ms
Loss rate: 0.00%
```
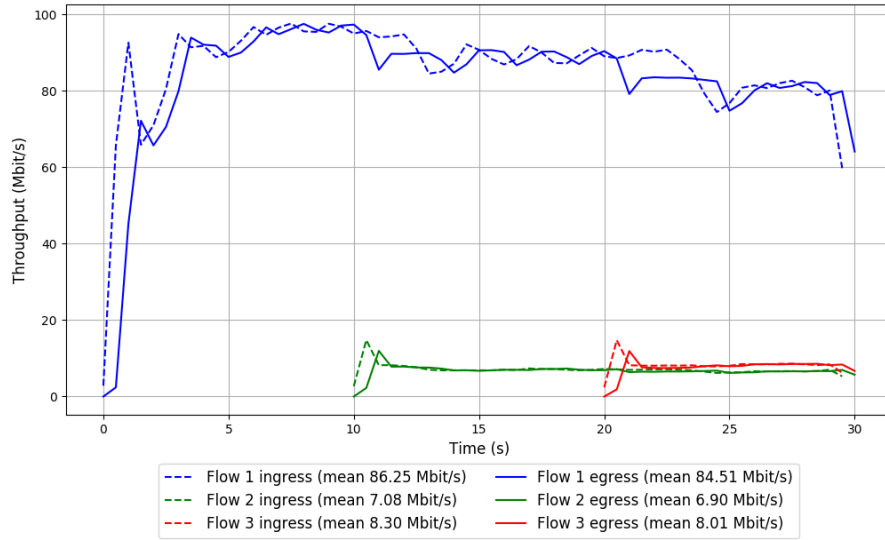
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-04-24 00:31:48
End at: 2019-04-24 00:32:18
Local clock offset: -0.34 ms
Remote clock offset: -0.924 ms

# Below is generated by plot.py at 2019-04-24 02:32:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.42 Mbit/s
95th percentile per-packet one-way delay: 62.014 ms
Loss rate: 5.24%
-- Flow 1:
Average throughput: 83.85 Mbit/s
95th percentile per-packet one-way delay: 61.510 ms
Loss rate: 4.86%
-- Flow 2:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 63.781 ms
Loss rate: 7.34%
-- Flow 3:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 65.052 ms
Loss rate: 12.45%
```
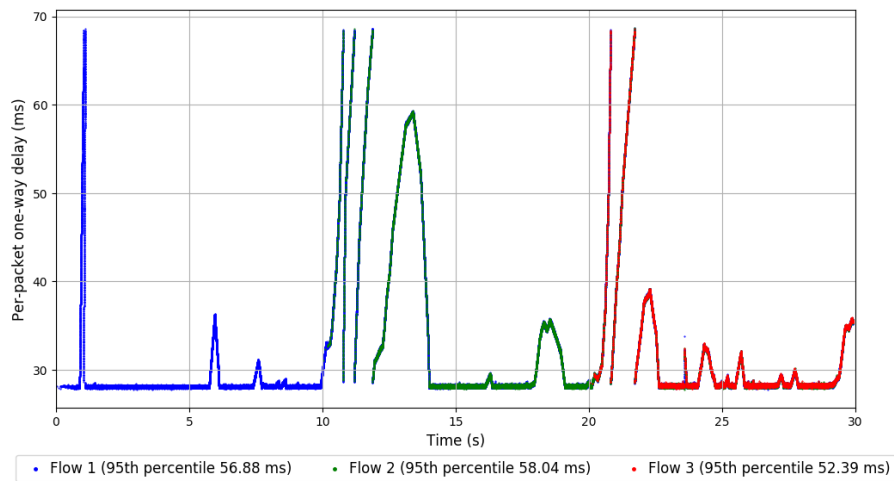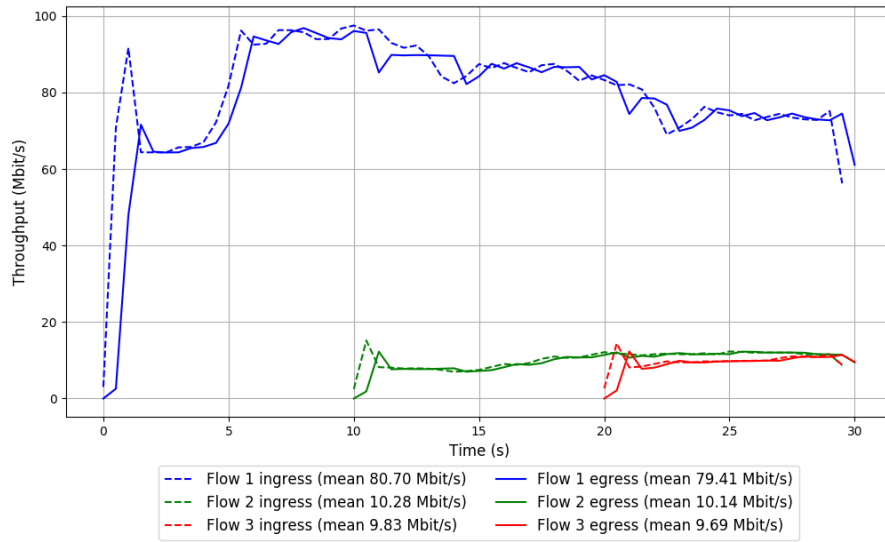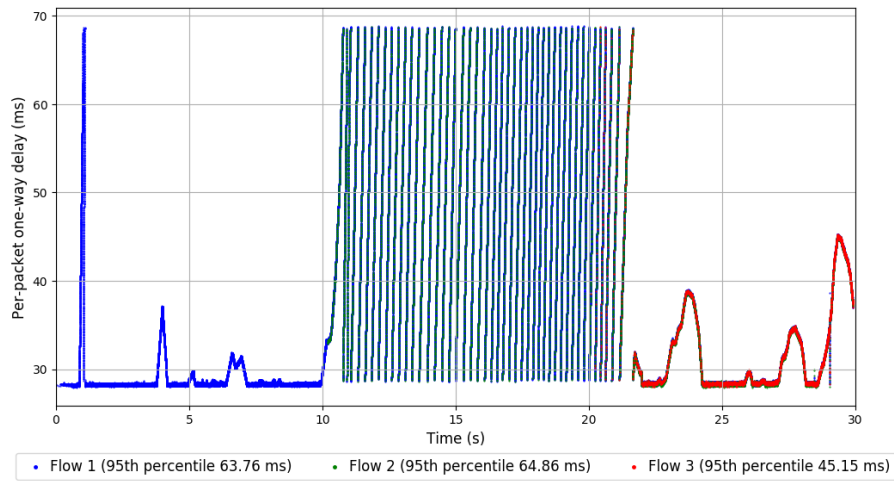
Run 1: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 88.15 Mbit/s)   —— Flow 1 egress (mean 83.85 Mbit/s)
- - - Flow 2 ingress (mean 9.99 Mbit/s)   —— Flow 2 egress (mean 9.26 Mbit/s)
- - - Flow 3 ingress (mean 8.37 Mbit/s)   —— Flow 3 egress (mean 7.33 Mbit/s)

• Flow 1 (95th percentile 61.51 ms)   • Flow 2 (95th percentile 63.78 ms)   • Flow 3 (95th percentile 65.05 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-04-24 00:59:06
End at: 2019-04-24 00:59:36
Local clock offset: 0.01 ms
Remote clock offset: -0.652 ms


# Below is generated by plot.py at 2019-04-24 02:32:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.74 Mbit/s
95th percentile per-packet one-way delay: 55.686 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 84.51 Mbit/s
95th percentile per-packet one-way delay: 54.997 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 59.414 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 60.725 ms
Loss rate: 3.55%
```
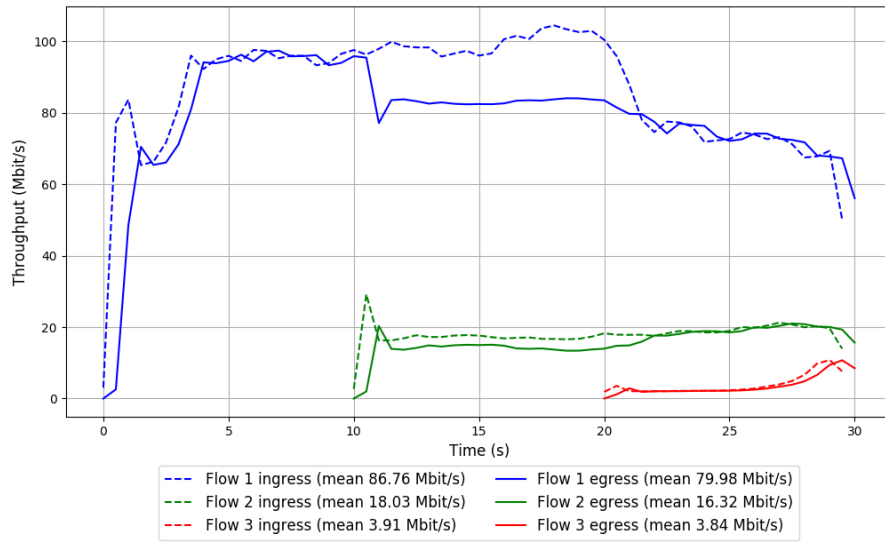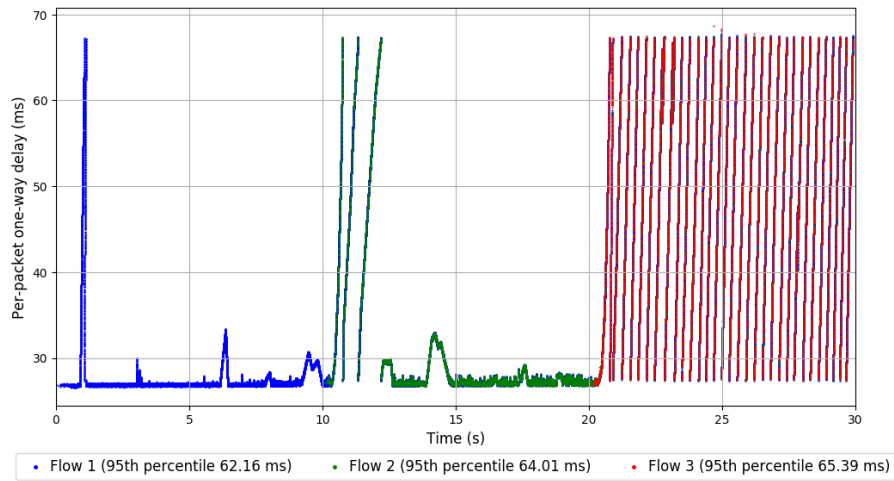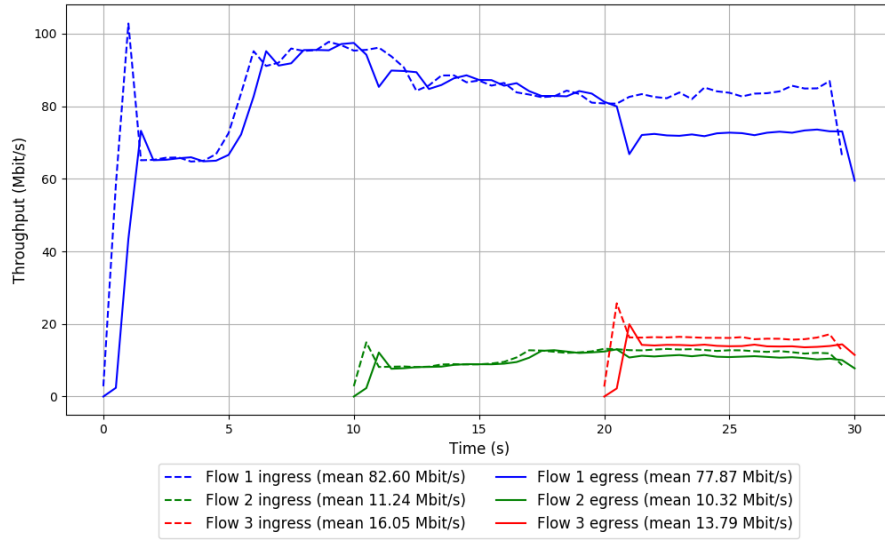
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-04-24 01:25:30
End at: 2019-04-24 01:26:00
Local clock offset: -0.08 ms
Remote clock offset: 1.423 ms


# Below is generated by plot.py at 2019-04-24 02:32:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.35 Mbit/s
95th percentile per-packet one-way delay: 56.925 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 79.41 Mbit/s
95th percentile per-packet one-way delay: 56.876 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 58.043 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 9.69 Mbit/s
95th percentile per-packet one-way delay: 52.389 ms
Loss rate: 1.38%
```

Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-04-24 01:51:16
End at: 2019-04-24 01:51:46
Local clock offset: -0.088 ms
Remote clock offset: 1.563 ms


# Below is generated by plot.py at 2019-04-24 02:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 63.872 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 79.98 Mbit/s
95th percentile per-packet one-way delay: 63.755 ms
Loss rate: 7.78%
-- Flow 2:
Average throughput: 16.32 Mbit/s
95th percentile per-packet one-way delay: 64.858 ms
Loss rate: 9.47%
-- Flow 3:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 45.153 ms
Loss rate: 1.92%
```
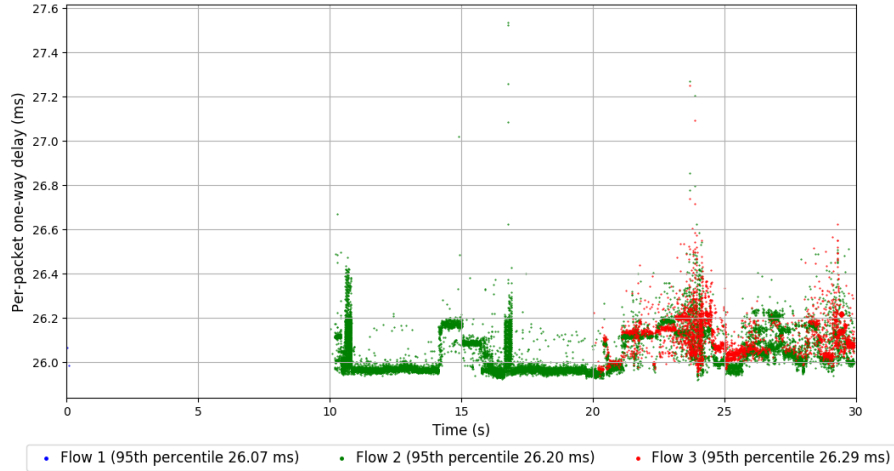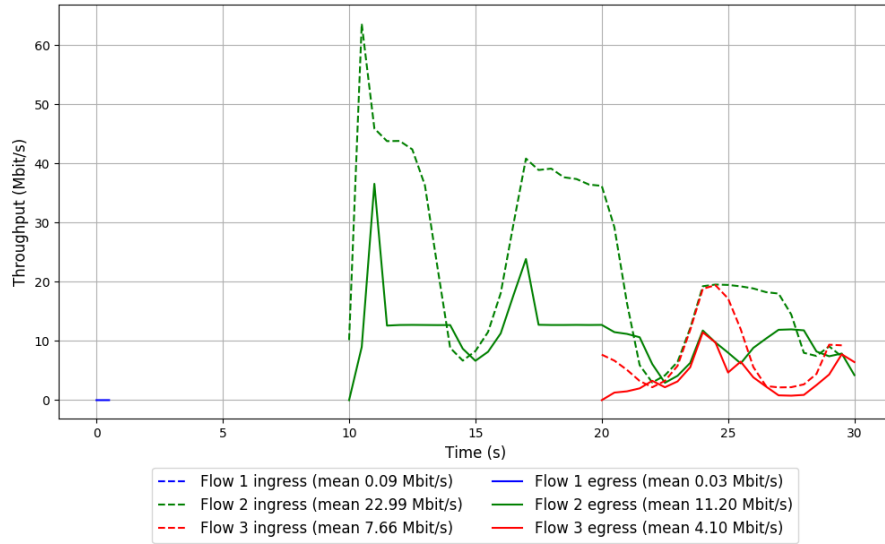
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 86.76 Mbit/s)   Flow 1 egress (mean 79.98 Mbit/s)
Flow 2 ingress (mean 18.03 Mbit/s)   Flow 2 egress (mean 16.32 Mbit/s)
Flow 3 ingress (mean 3.91 Mbit/s)   Flow 3 egress (mean 3.84 Mbit/s)

Flow 1 (95th percentile 63.76 ms)   Flow 2 (95th percentile 64.86 ms)   Flow 3 (95th percentile 45.15 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-04-24 02:17:38
End at: 2019-04-24 02:18:08
Local clock offset: 0.792 ms
Remote clock offset: -0.126 ms


# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 62.762 ms
Loss rate: 6.37%
-- Flow 1:
Average throughput: 77.87 Mbit/s
95th percentile per-packet one-way delay: 62.156 ms
Loss rate: 5.71%
-- Flow 2:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 64.011 ms
Loss rate: 8.17%
-- Flow 3:
Average throughput: 13.79 Mbit/s
95th percentile per-packet one-way delay: 65.386 ms
Loss rate: 14.11%
```
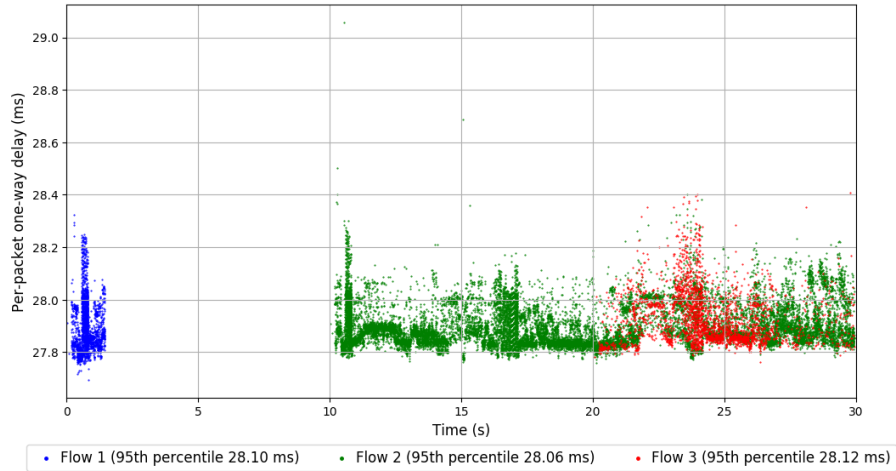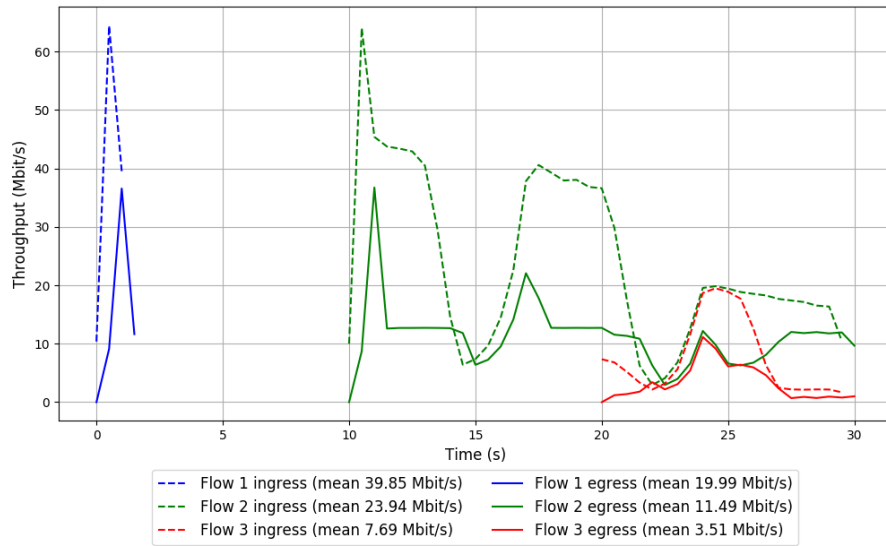
Run 5: Report of PCC-Allegro — Data Link

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```
Run 1: Statistics of PCC-Expr

Start at: 2019-04-24 00:12:10
End at: 2019-04-24 00:12:40
Local clock offset: -0.696 ms
Remote clock offset: -1.357 ms

# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 26.218 ms
Loss rate: 50.61%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 26.066 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.20 Mbit/s
95th percentile per-packet one-way delay: 26.199 ms
Loss rate: 51.29%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 26.287 ms
Loss rate: 46.48%
```
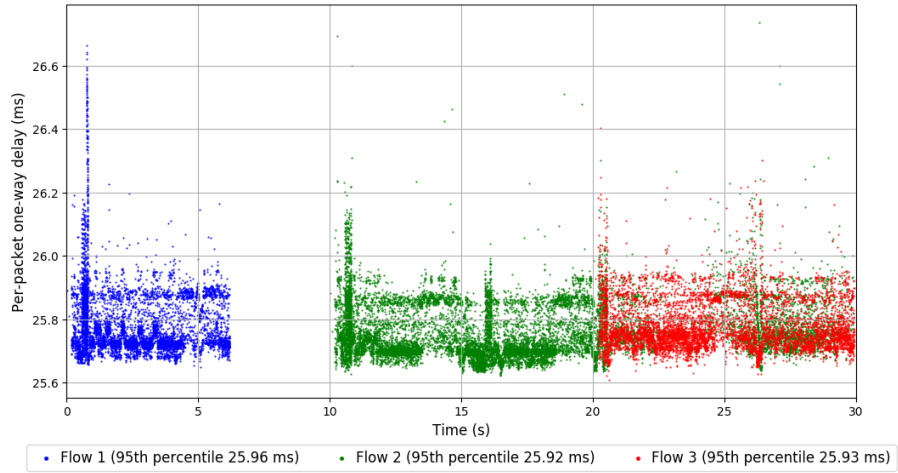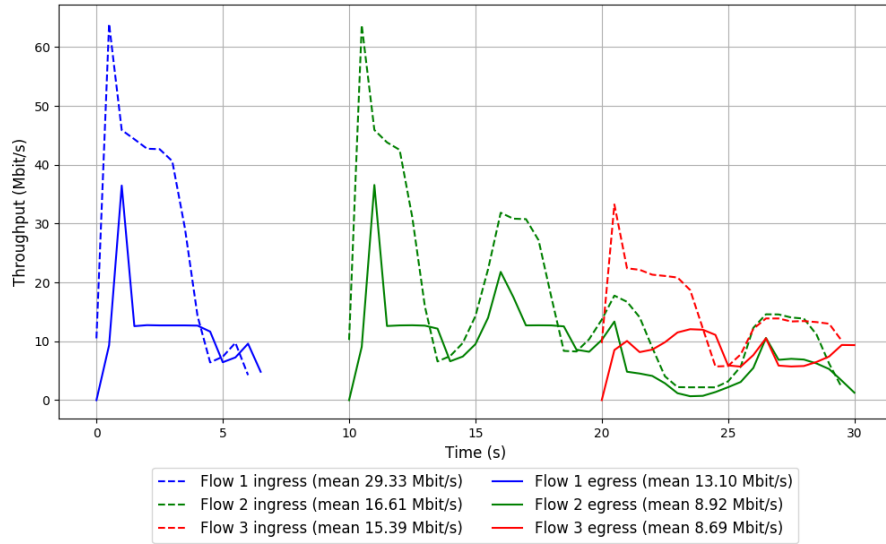
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-04-24 00:38:09
End at: 2019-04-24 00:38:39
Local clock offset: -0.382 ms
Remote clock offset: 0.464 ms


# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.76 Mbit/s
95th percentile per-packet one-way delay: 28.064 ms
Loss rate: 52.08%
-- Flow 1:
Average throughput: 19.99 Mbit/s
95th percentile per-packet one-way delay: 28.101 ms
Loss rate: 49.87%
-- Flow 2:
Average throughput: 11.49 Mbit/s
95th percentile per-packet one-way delay: 28.057 ms
Loss rate: 51.98%
-- Flow 3:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 28.120 ms
Loss rate: 54.34%
```
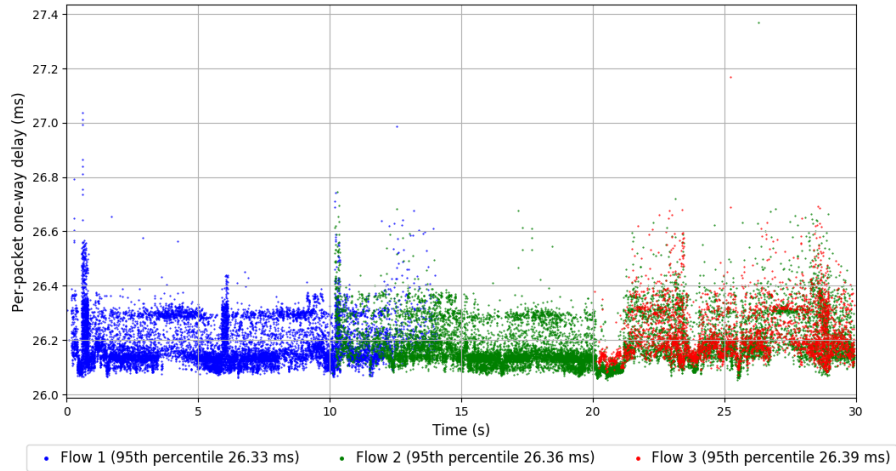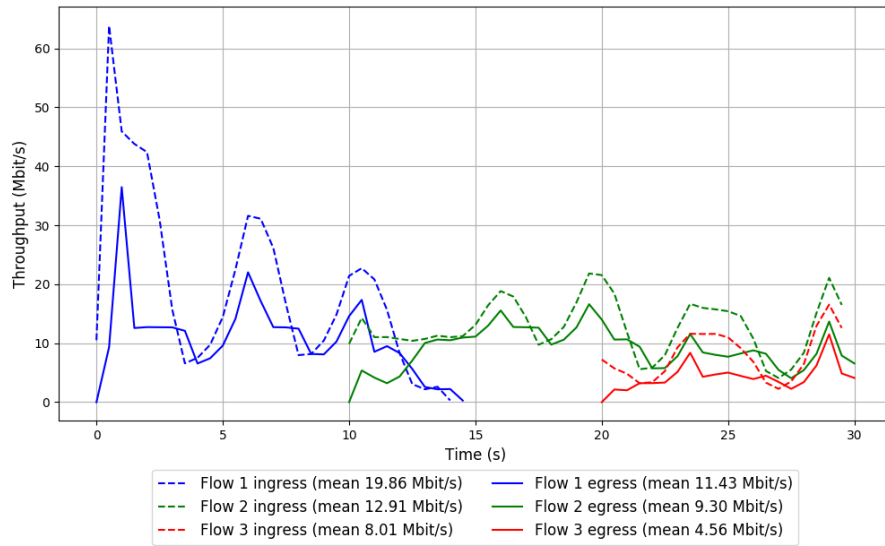
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-04-24 01:05:22
End at: 2019-04-24 01:05:52
Local clock offset: 0.071 ms
Remote clock offset: -1.277 ms


# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 25.928 ms
Loss rate: 48.13%
-- Flow 1:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 25.961 ms
Loss rate: 55.35%
-- Flow 2:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 25.919 ms
Loss rate: 46.27%
-- Flow 3:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 25.929 ms
Loss rate: 43.56%
```
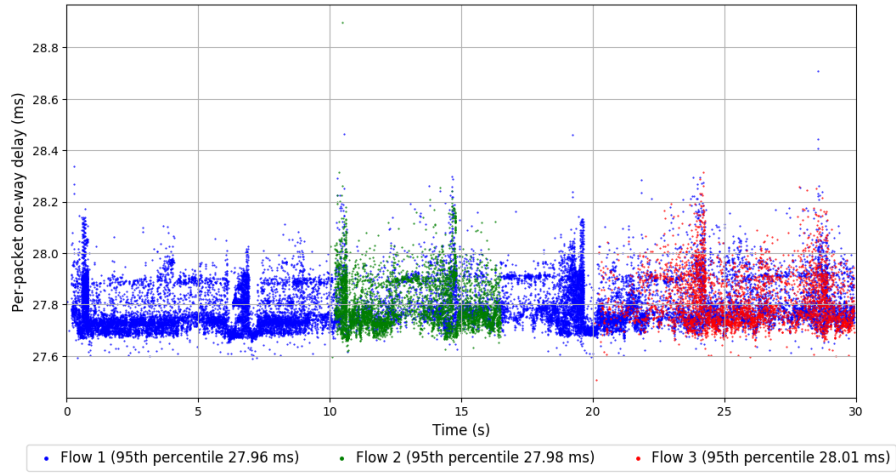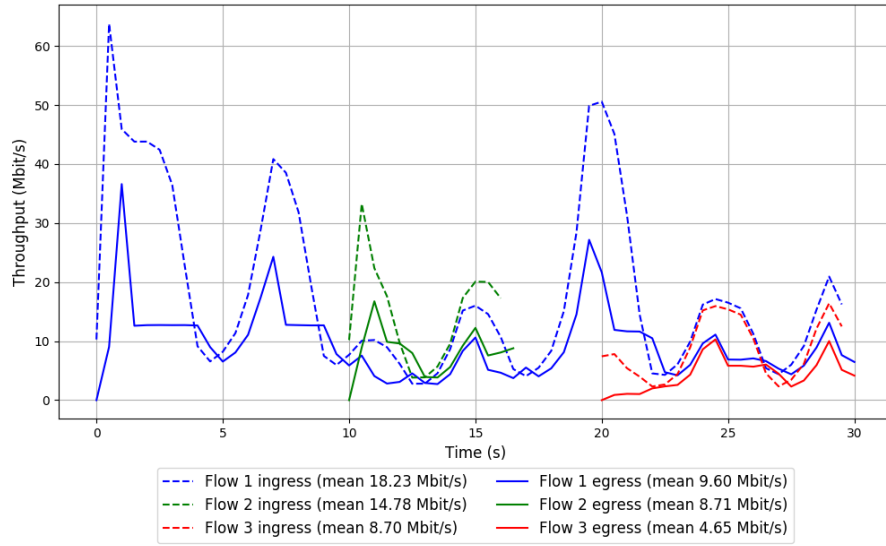
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 29.33 Mbit/s) — — — Flow 1 egress (mean 13.10 Mbit/s)
Flow 2 ingress (mean 16.61 Mbit/s) — — — Flow 2 egress (mean 8.92 Mbit/s)
Flow 3 ingress (mean 15.39 Mbit/s) — — — Flow 3 egress (mean 8.69 Mbit/s)

Flow 1 (95th percentile 25.96 ms)   Flow 2 (95th percentile 25.92 ms)   Flow 3 (95th percentile 25.93 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-04-24 01:31:40
End at: 2019-04-24 01:32:10
Local clock offset: -0.175 ms
Remote clock offset: -0.398 ms


# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 26.351 ms
Loss rate: 36.47%
-- Flow 1:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 26.326 ms
Loss rate: 42.45%
-- Flow 2:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 26.355 ms
Loss rate: 27.93%
-- Flow 3:
Average throughput: 4.56 Mbit/s
95th percentile per-packet one-way delay: 26.395 ms
Loss rate: 43.08%
```
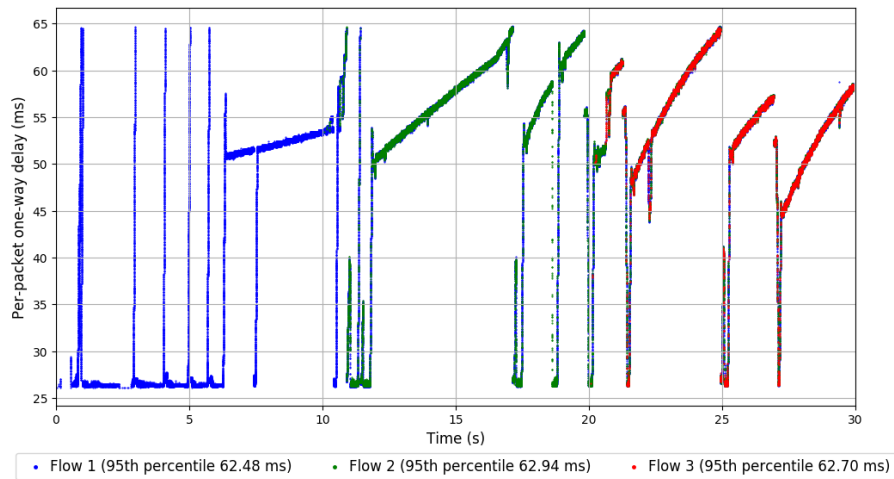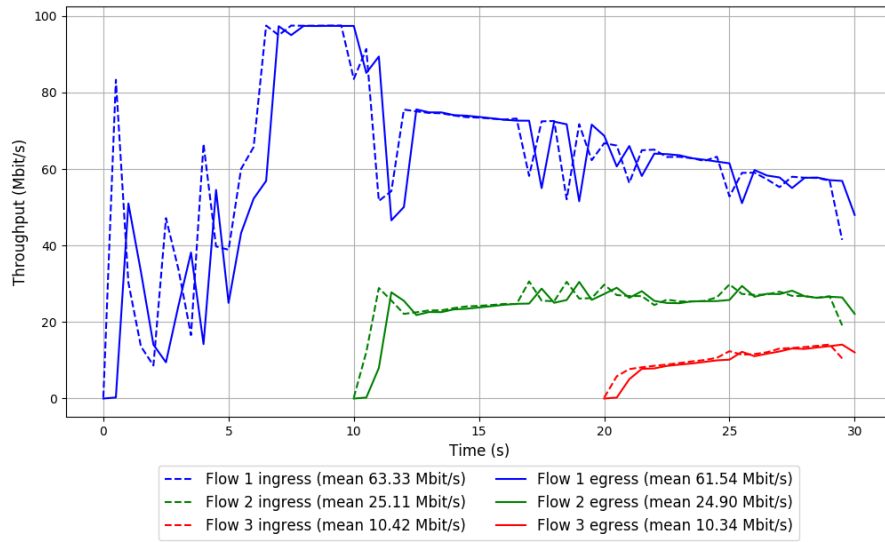
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-04-24 01:57:28
End at: 2019-04-24 01:57:58
Local clock offset: -0.005 ms
Remote clock offset: 1.102 ms


# Below is generated by plot.py at 2019-04-24 02:32:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.01 Mbit/s
95th percentile per-packet one-way delay: 27.970 ms
Loss rate: 46.44%
-- Flow 1:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 27.962 ms
Loss rate: 47.35%
-- Flow 2:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 27.985 ms
Loss rate: 41.09%
-- Flow 3:
Average throughput: 4.65 Mbit/s
95th percentile per-packet one-way delay: 28.008 ms
Loss rate: 46.58%
```
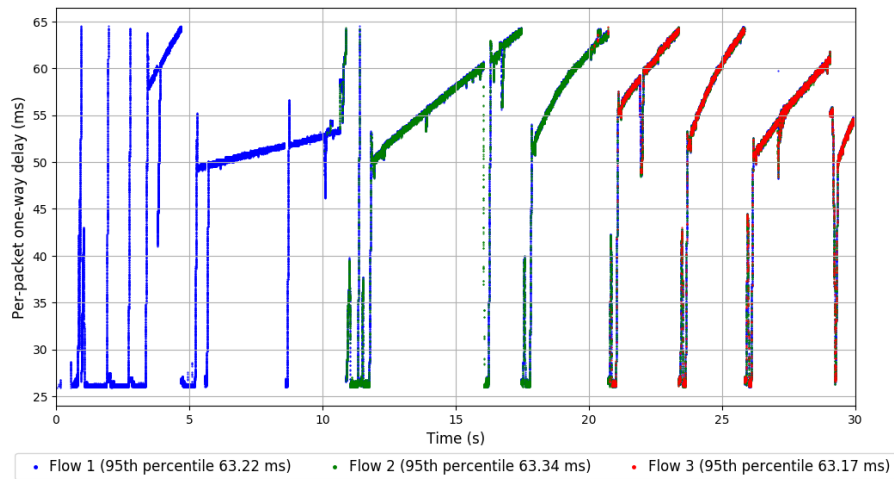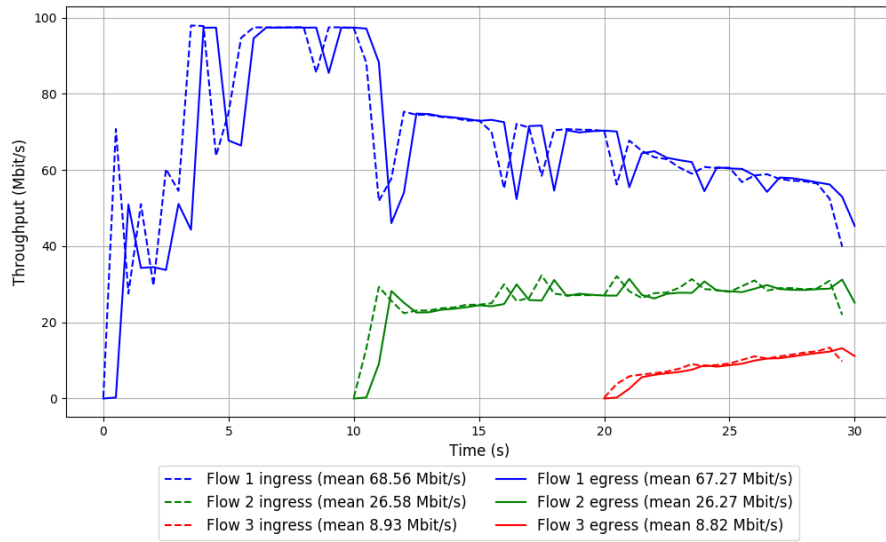
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-04-24 00:14:30
End at: 2019-04-24 00:15:00
Local clock offset: -0.806 ms
Remote clock offset: -1.032 ms


# Below is generated by plot.py at 2019-04-24 02:32:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.48 Mbit/s
95th percentile per-packet one-way delay: 62.564 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 61.54 Mbit/s
95th percentile per-packet one-way delay: 62.484 ms
Loss rate: 2.72%
-- Flow 2:
Average throughput: 24.90 Mbit/s
95th percentile per-packet one-way delay: 62.940 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 62.696 ms
Loss rate: 0.48%
```
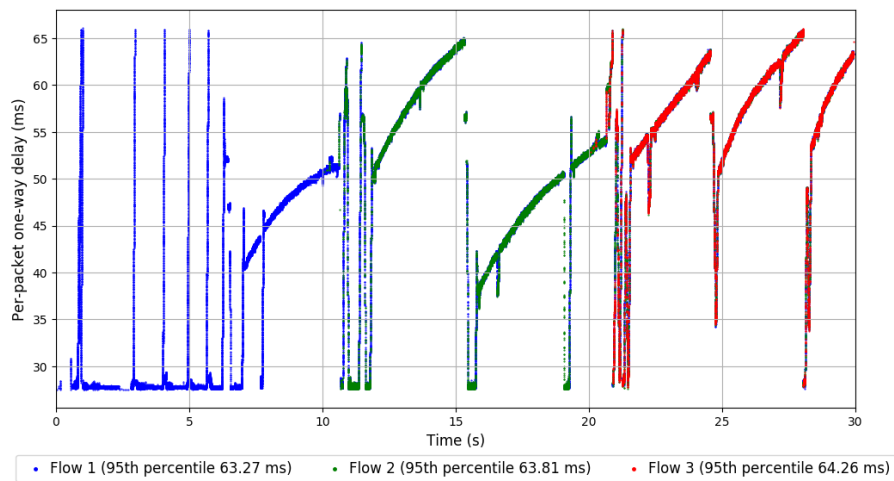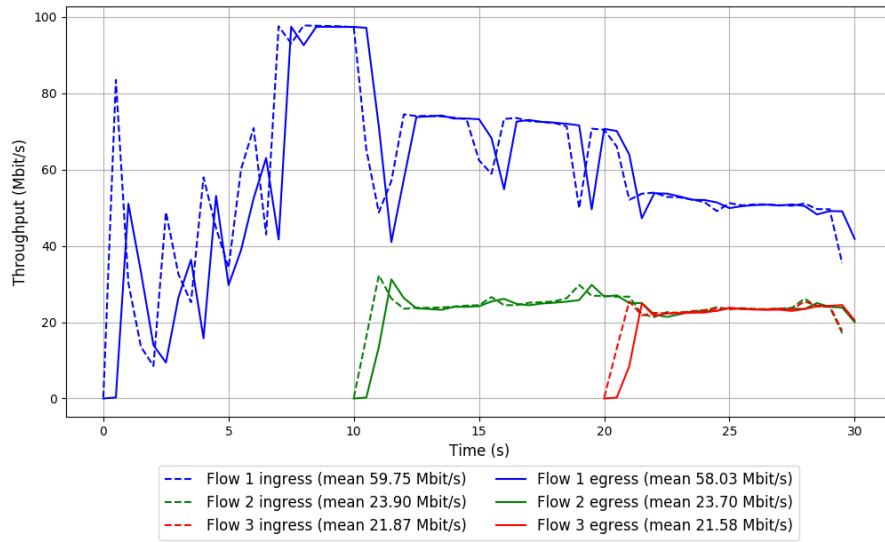
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-04-24 00:40:29
End at: 2019-04-24 00:40:59
Local clock offset: -0.367 ms
Remote clock offset: -1.22 ms


# Below is generated by plot.py at 2019-04-24 02:33:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.59 Mbit/s
95th percentile per-packet one-way delay: 63.235 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 67.27 Mbit/s
95th percentile per-packet one-way delay: 63.219 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 26.27 Mbit/s
95th percentile per-packet one-way delay: 63.343 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 63.175 ms
Loss rate: 1.29%
```
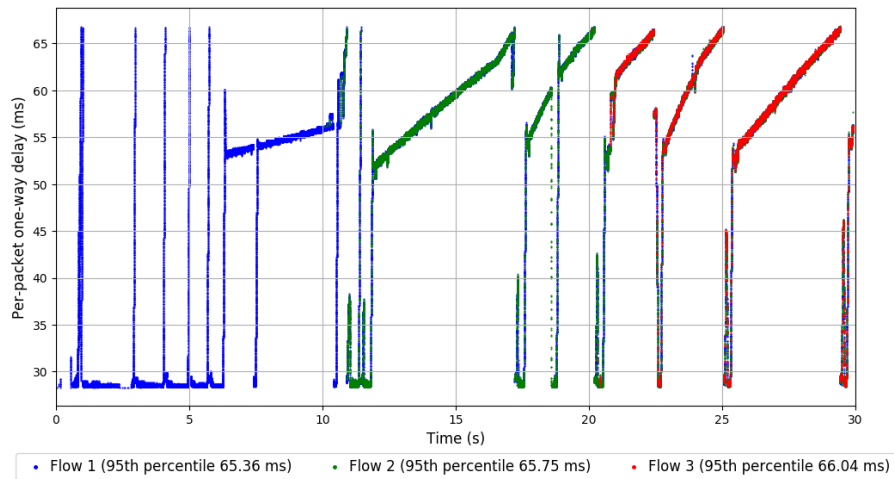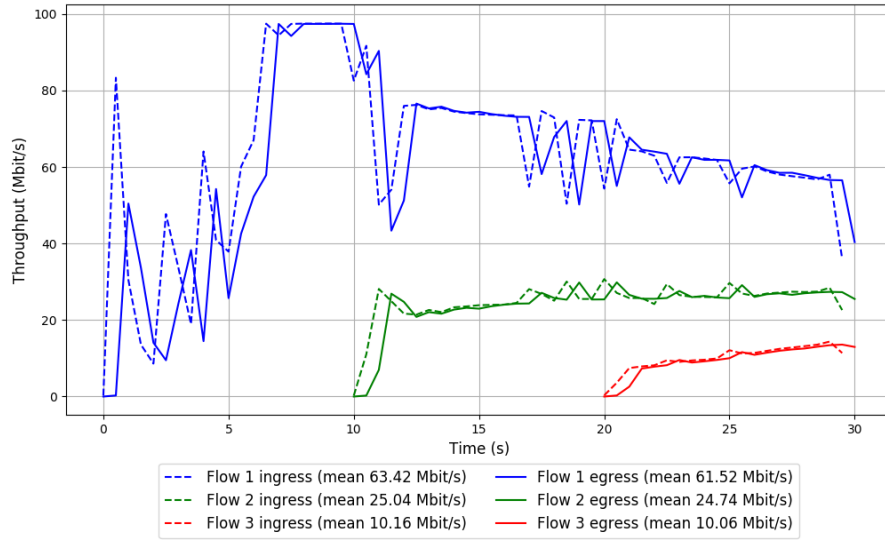
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-04-24 01:07:43
End at: 2019-04-24 01:08:13
Local clock offset: 0.052 ms
Remote clock offset: 0.751 ms


# Below is generated by plot.py at 2019-04-24 02:33:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.87 Mbit/s
95th percentile per-packet one-way delay: 63.506 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 58.03 Mbit/s
95th percentile per-packet one-way delay: 63.274 ms
Loss rate: 2.76%
-- Flow 2:
Average throughput: 23.70 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 21.58 Mbit/s
95th percentile per-packet one-way delay: 64.264 ms
Loss rate: 1.22%
```
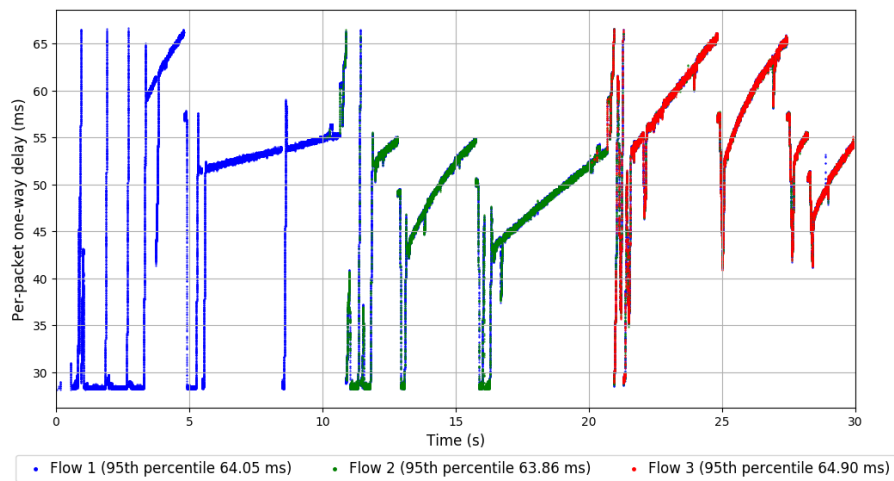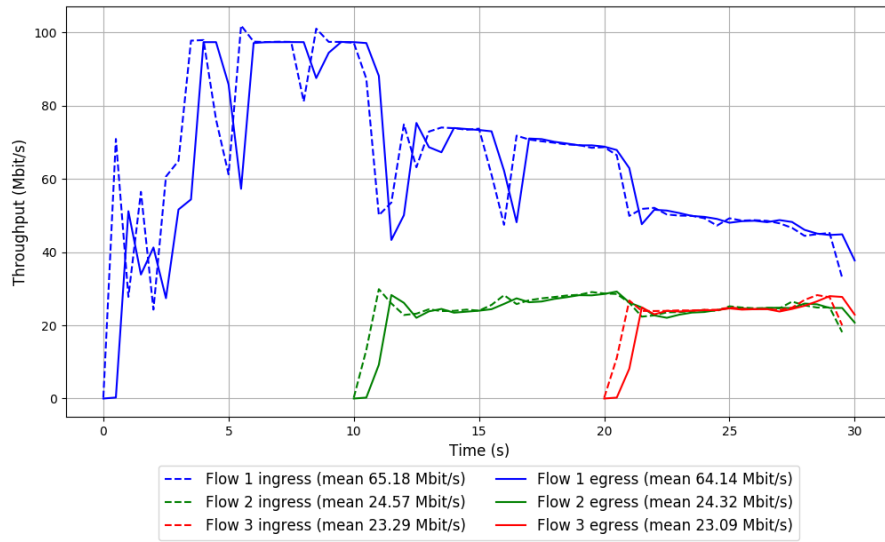
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-04-24 01:34:00
End at: 2019-04-24 01:34:30
Local clock offset: -0.197 ms
Remote clock offset: 1.981 ms


# Below is generated by plot.py at 2019-04-24 02:33:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.23 Mbit/s
95th percentile per-packet one-way delay: 65.543 ms
Loss rate: 2.51%
-- Flow 1:
Average throughput: 61.52 Mbit/s
95th percentile per-packet one-way delay: 65.365 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 24.74 Mbit/s
95th percentile per-packet one-way delay: 65.755 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 66.044 ms
Loss rate: 1.10%
```
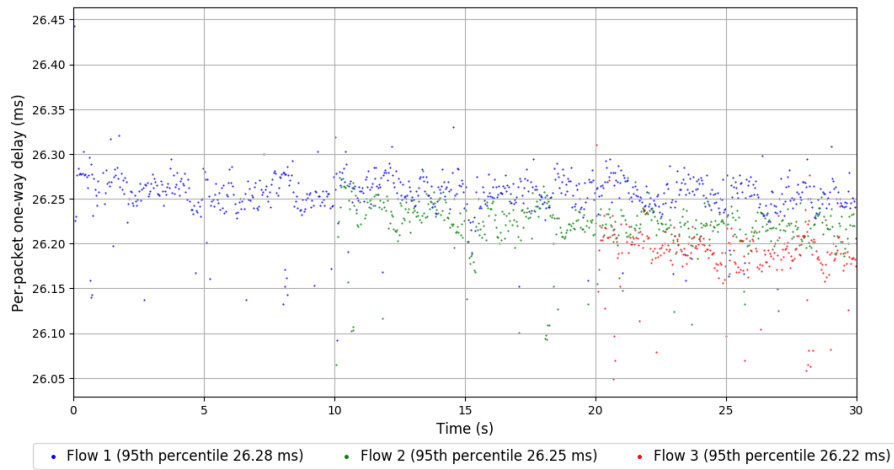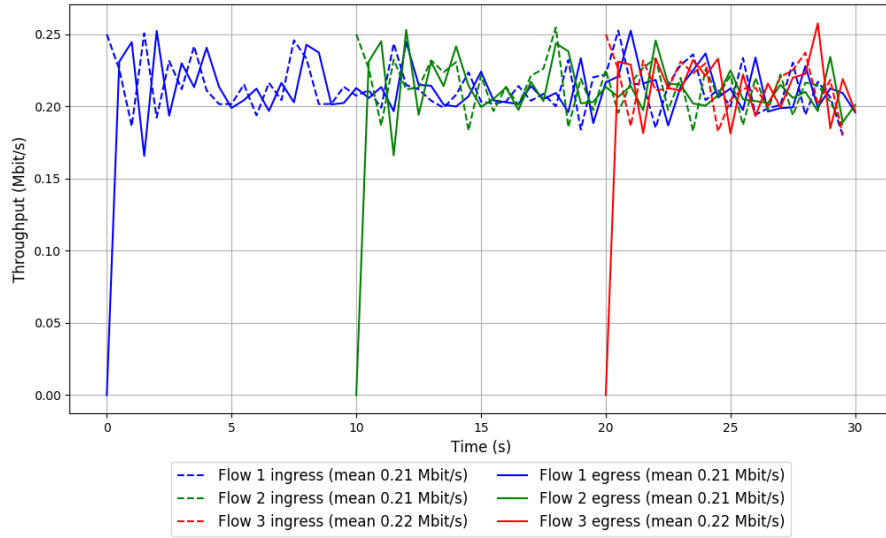
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.42 Mbit/s) --- Flow 1 egress (mean 61.52 Mbit/s)
Flow 2 ingress (mean 25.04 Mbit/s) --- Flow 2 egress (mean 24.74 Mbit/s)
Flow 3 ingress (mean 10.16 Mbit/s) --- Flow 3 egress (mean 10.06 Mbit/s)

Flow 1 (95th percentile 65.36 ms) • Flow 2 (95th percentile 65.75 ms) • Flow 3 (95th percentile 66.04 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2019-04-24 01:59:48
End at: 2019-04-24 02:00:18
Local clock offset: -0.004 ms
Remote clock offset: 1.679 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.86 Mbit/s
95th percentile per-packet one-way delay: 64.182 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 64.14 Mbit/s
95th percentile per-packet one-way delay: 64.048 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 24.32 Mbit/s
95th percentile per-packet one-way delay: 63.860 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 23.09 Mbit/s
95th percentile per-packet one-way delay: 64.904 ms
Loss rate: 0.84%
```
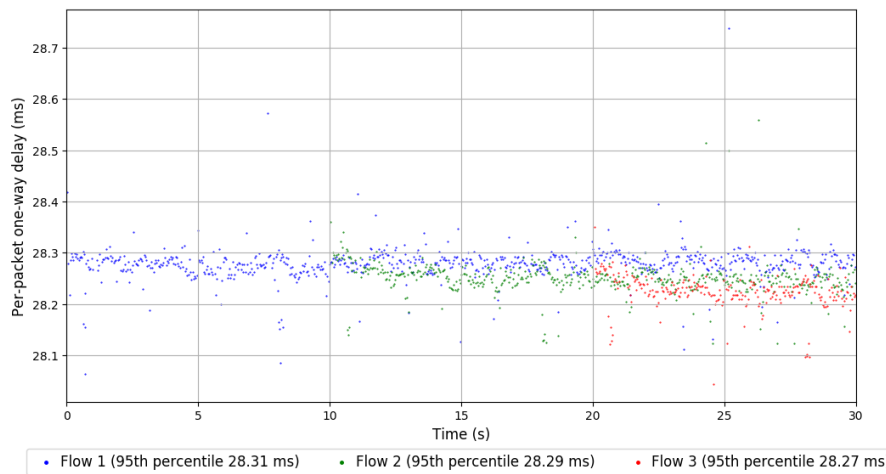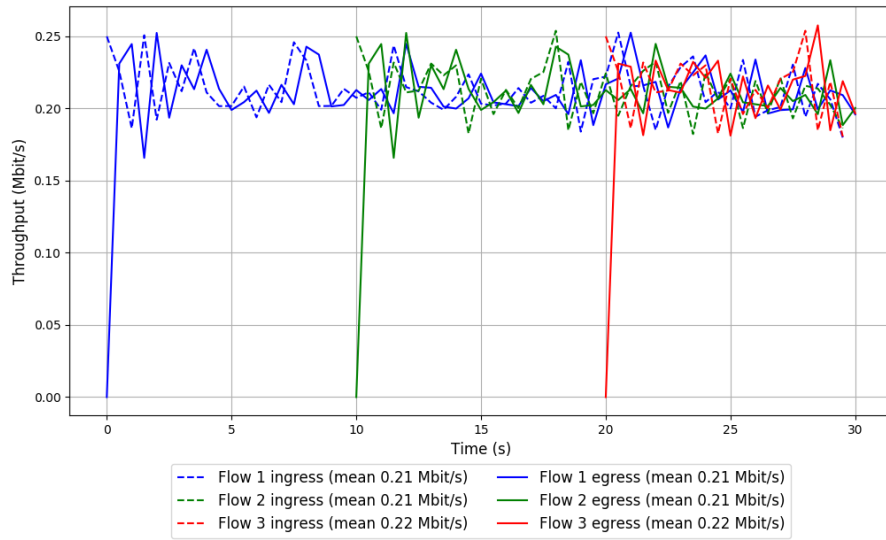
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 65.18 Mbit/s) — Flow 1 egress (mean 64.14 Mbit/s)
Flow 2 ingress (mean 24.57 Mbit/s) — Flow 2 egress (mean 24.32 Mbit/s)
Flow 3 ingress (mean 23.29 Mbit/s) — Flow 3 egress (mean 23.09 Mbit/s)

Flow 1 (95th percentile 64.05 ms)   Flow 2 (95th percentile 63.86 ms)   Flow 3 (95th percentile 64.90 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-04-24 00:33:07
End at: 2019-04-24 00:33:37
Local clock offset: -0.354 ms
Remote clock offset: -1.219 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.278 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 26.284 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 26.254 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.222 ms
Loss rate: 0.00%
```
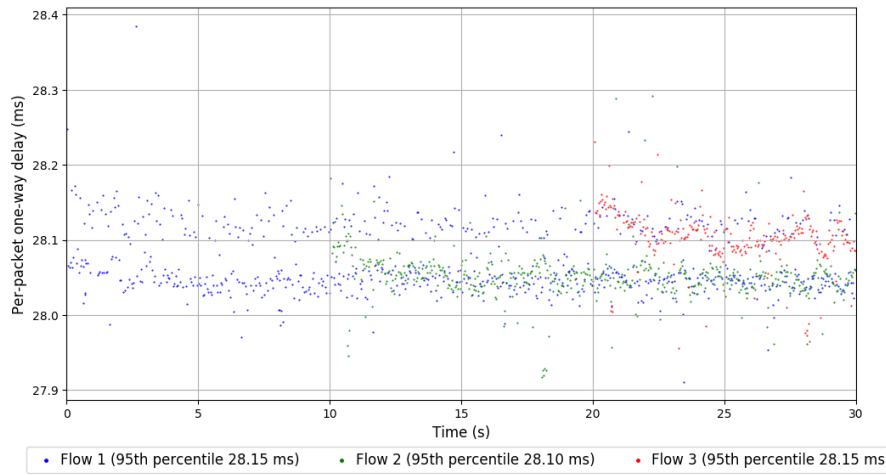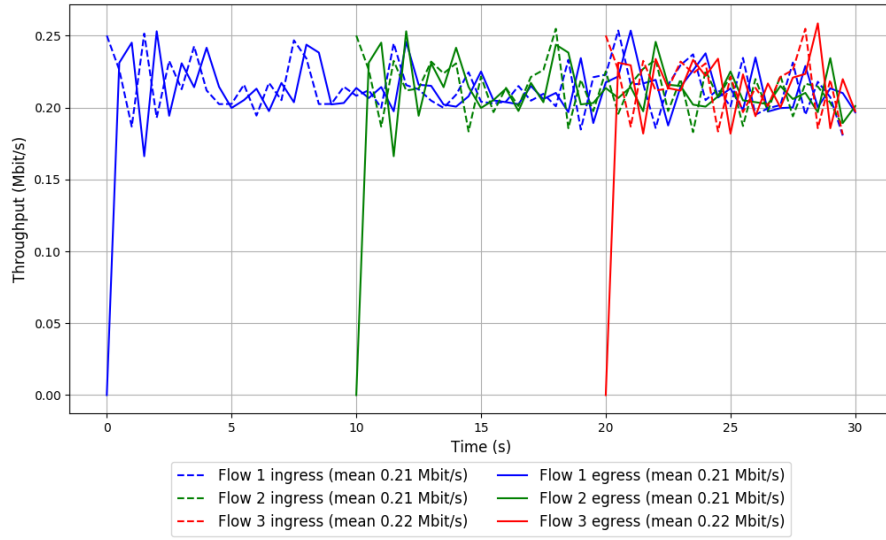
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-04-24 01:00:21
End at: 2019-04-24 01:00:51
Local clock offset: 0.029 ms
Remote clock offset: 1.095 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 28.303 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.309 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.290 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.269 ms
Loss rate: 0.00%
```
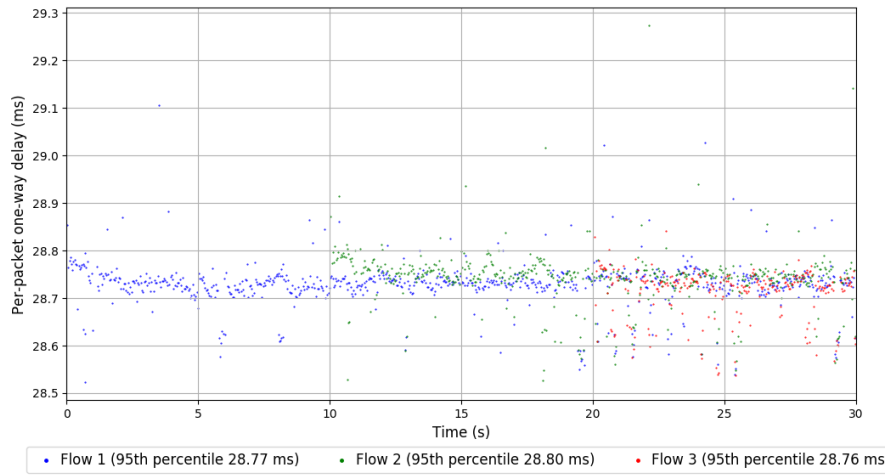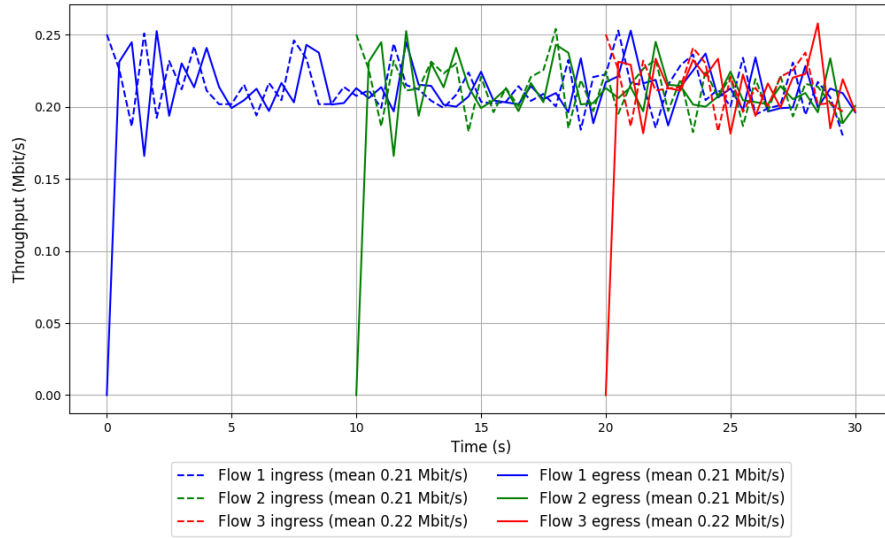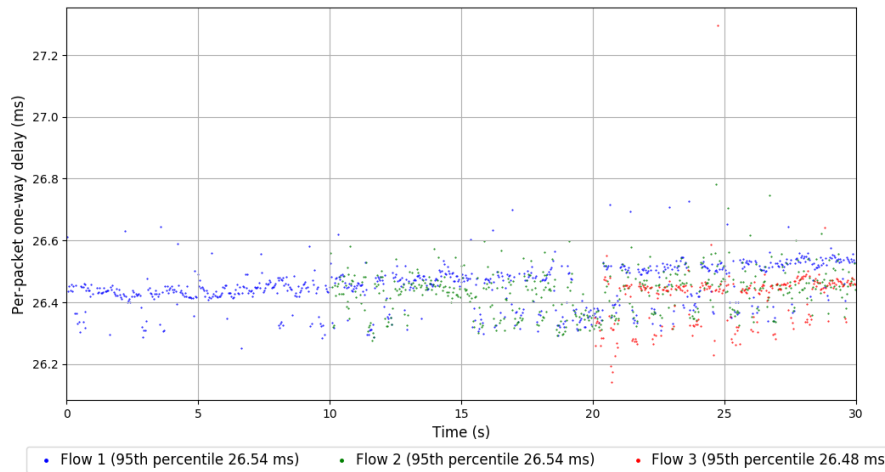
Run 2: Report of SCReAM — Data Link

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```
Run 3: Statistics of SCReAM

Start at: 2019-04-24 01:26:44
End at: 2019-04-24 01:27:14
Local clock offset: -0.101 ms
Remote clock offset: 1.448 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 28.143 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.146 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.097 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.149 ms
Loss rate: 0.00%
```
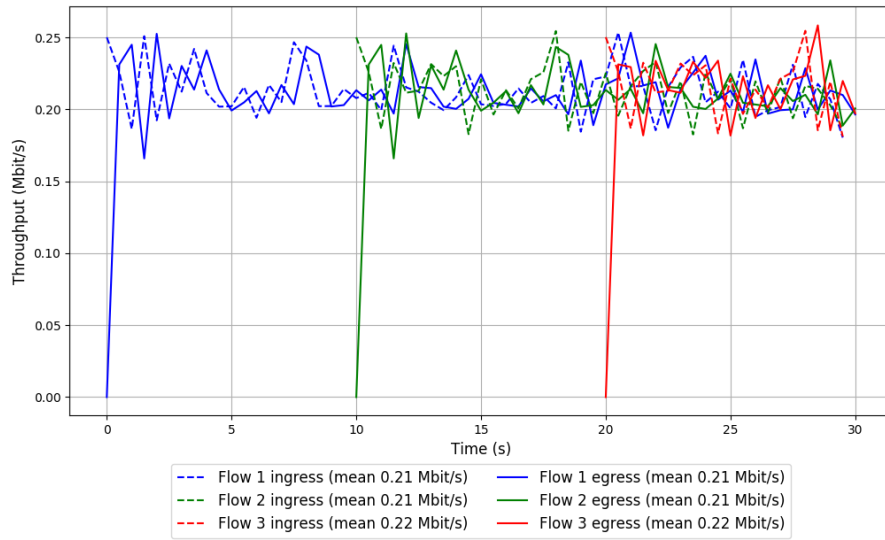
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-04-24 01:52:31
End at: 2019-04-24 01:53:01
Local clock offset: -0.092 ms
Remote clock offset: 2.024 ms

# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 28.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.774 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 28.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.763 ms
Loss rate: 0.00%
```
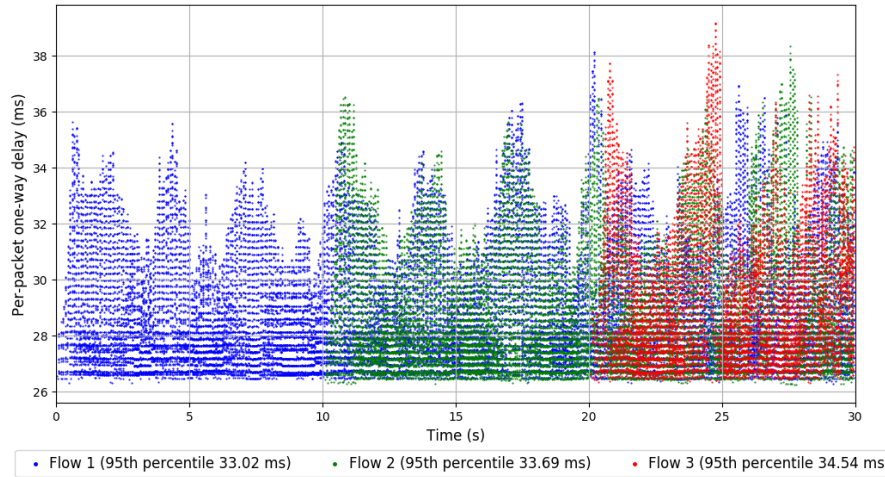
Run 4: Report of SCReAM — Data Link

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```
Run 5: Statistics of SCReAM

Start at: 2019-04-24 02:18:52
End at: 2019-04-24 02:19:22
Local clock offset: 1.253 ms
Remote clock offset: -0.459 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 26.540 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 26.542 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 26.542 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 26.484 ms
Loss rate: 0.00%
```
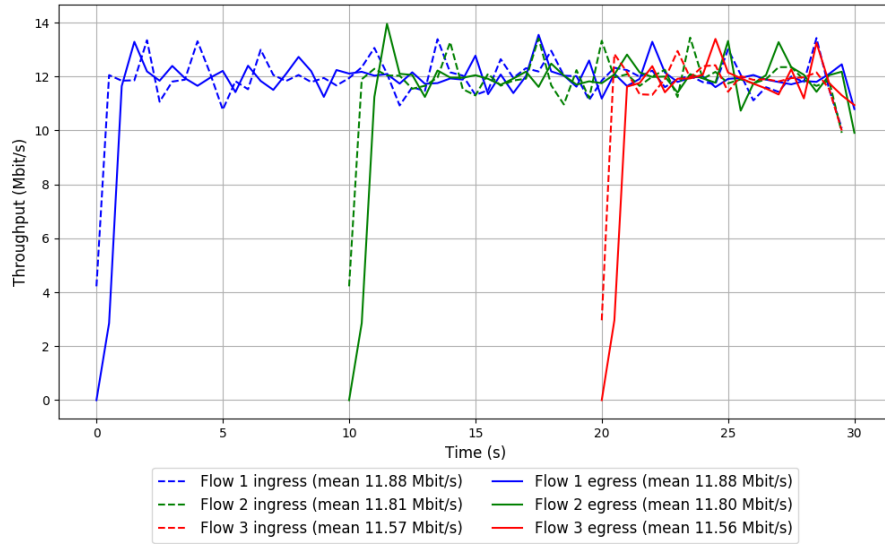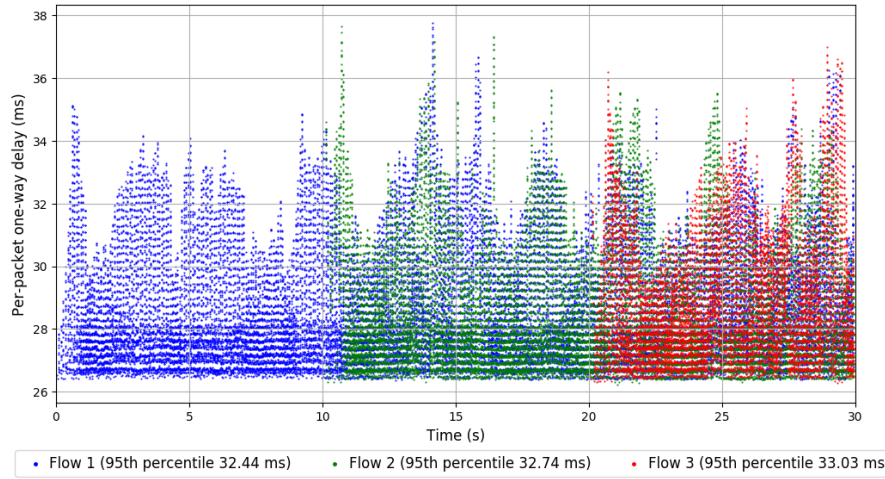
Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2019-04-24 00:13:20
End at: 2019-04-24 00:13:50
Local clock offset: -0.743 ms
Remote clock offset: -0.91 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.56 Mbit/s
95th percentile per-packet one-way delay: 33.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.88 Mbit/s
95th percentile per-packet one-way delay: 33.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.80 Mbit/s
95th percentile per-packet one-way delay: 33.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.56 Mbit/s
95th percentile per-packet one-way delay: 34.544 ms
Loss rate: 0.00%
```
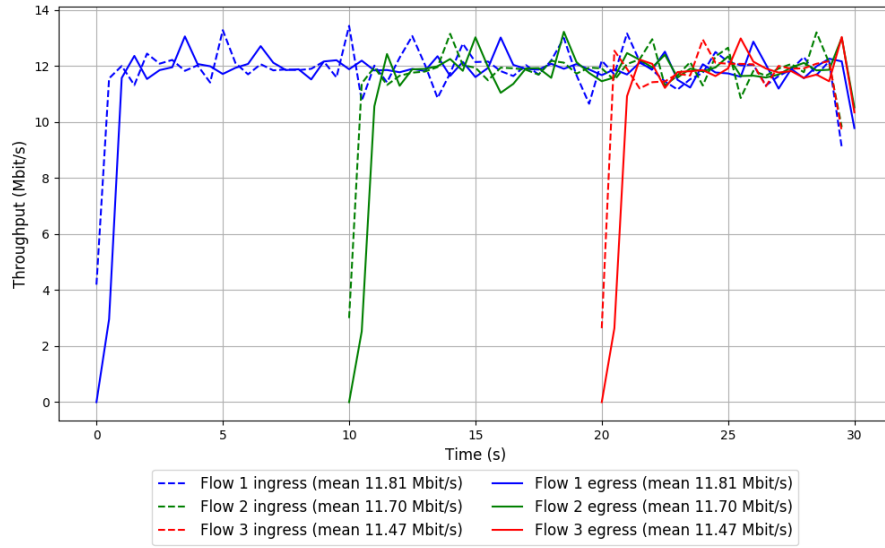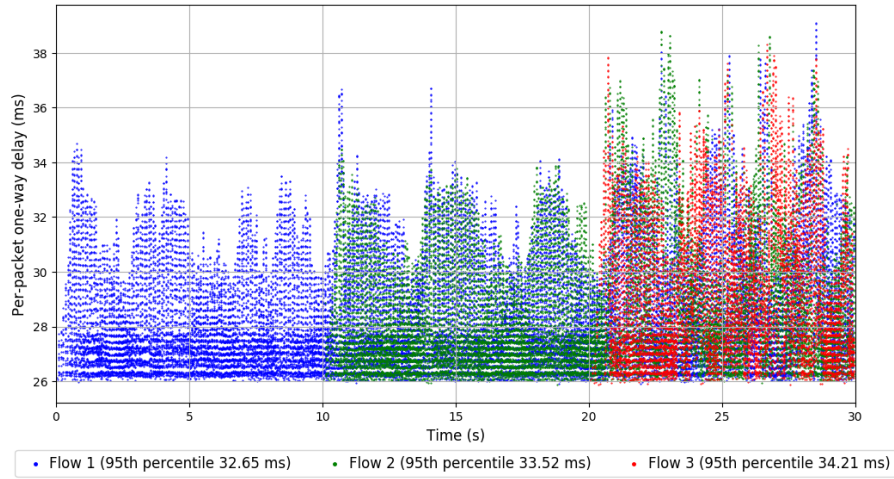
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-04-24 00:39:19
End at: 2019-04-24 00:39:49
Local clock offset: -0.392 ms
Remote clock offset: -0.935 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.38 Mbit/s
95th percentile per-packet one-way delay: 32.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 32.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 32.736 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 33.028 ms
Loss rate: 0.00%
```
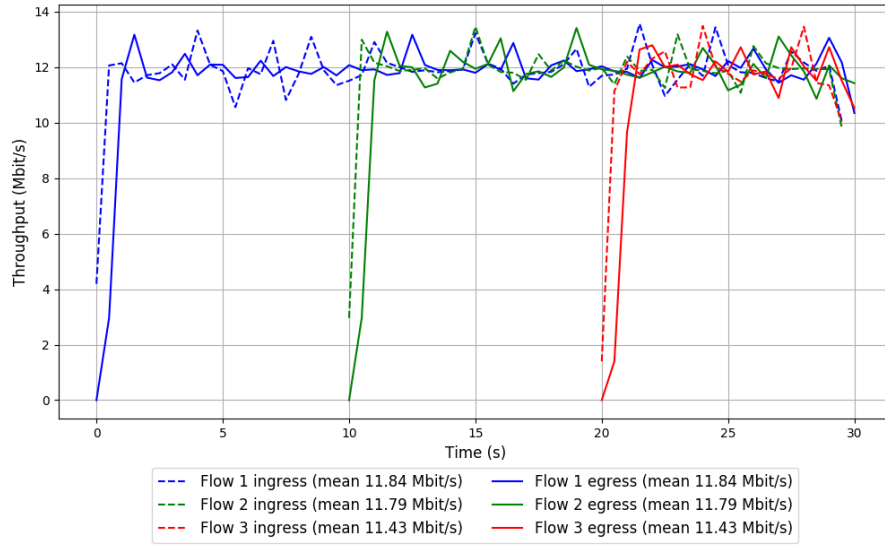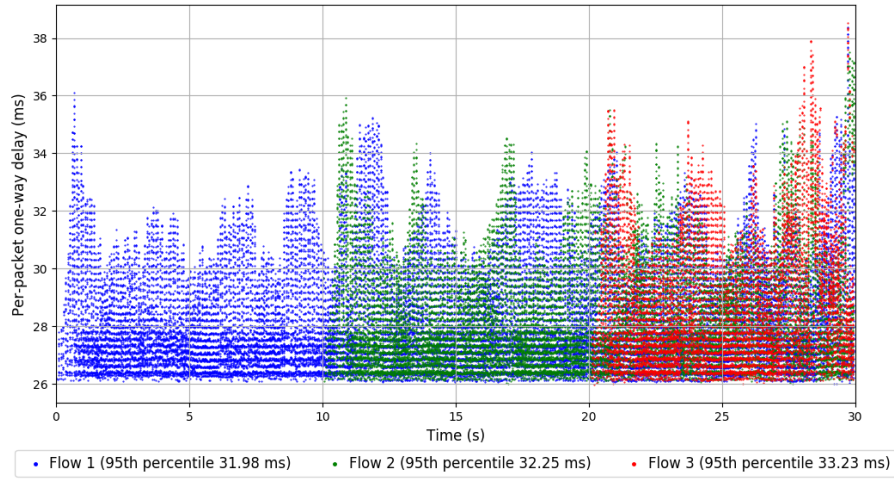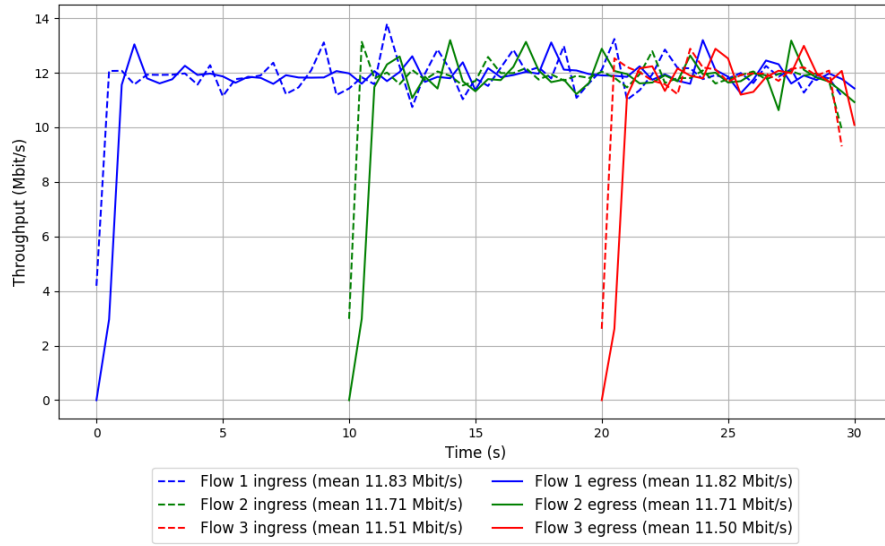
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-04-24 01:06:32
End at: 2019-04-24 01:07:02
Local clock offset: 0.063 ms
Remote clock offset: -0.897 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 33.281 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 32.651 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 33.520 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 34.211 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-04-24 01:32:50
End at: 2019-04-24 01:33:20
Local clock offset: -0.157 ms
Remote clock offset: -0.409 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.42 Mbit/s
95th percentile per-packet one-way delay: 32.315 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 31.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 32.250 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 33.231 ms
Loss rate: 0.00%
```
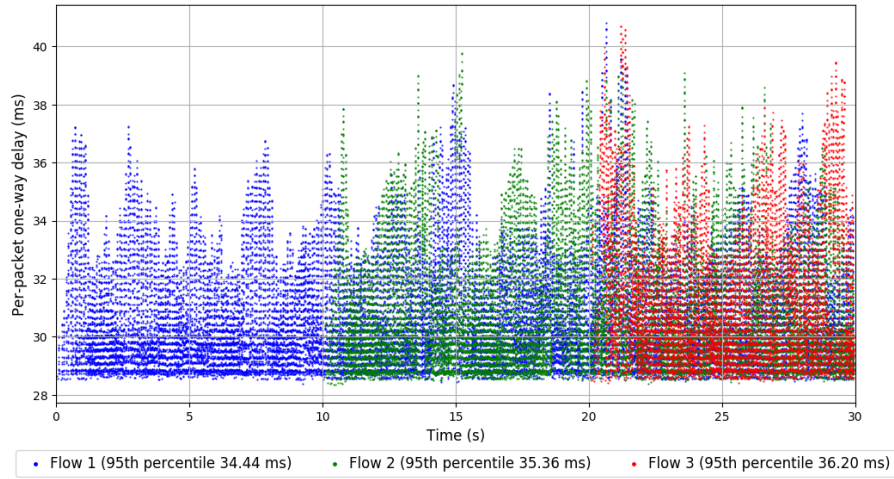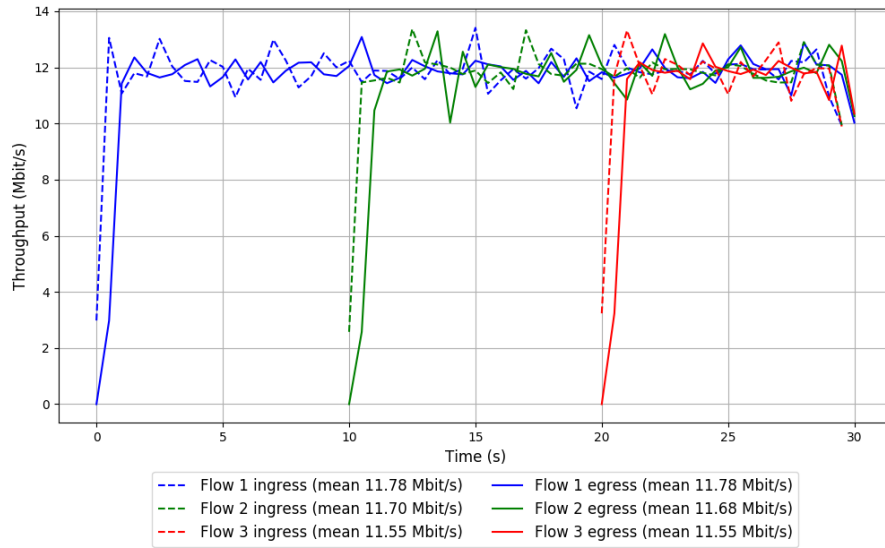
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-04-24 01:58:38
End at: 2019-04-24 01:59:08
Local clock offset: 0.003 ms
Remote clock offset: 1.952 ms


# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 35.124 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 34.435 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 11.68 Mbit/s
95th percentile per-packet one-way delay: 35.356 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 11.55 Mbit/s
95th percentile per-packet one-way delay: 36.204 ms
Loss rate: 0.00%
```
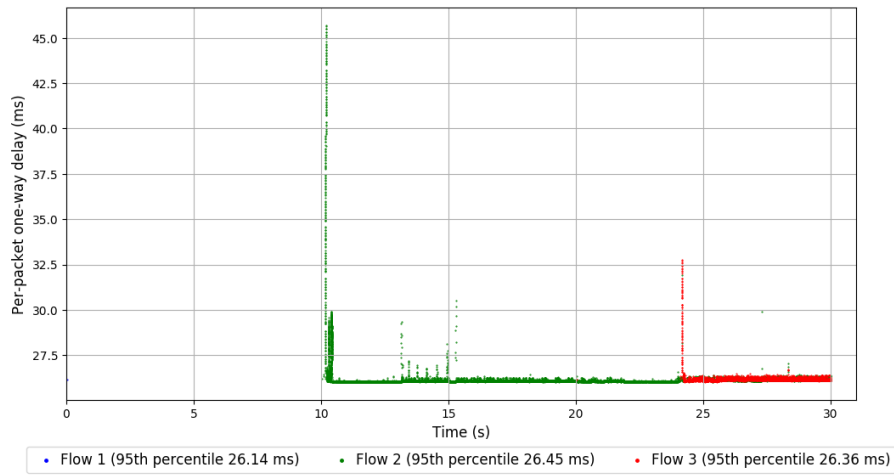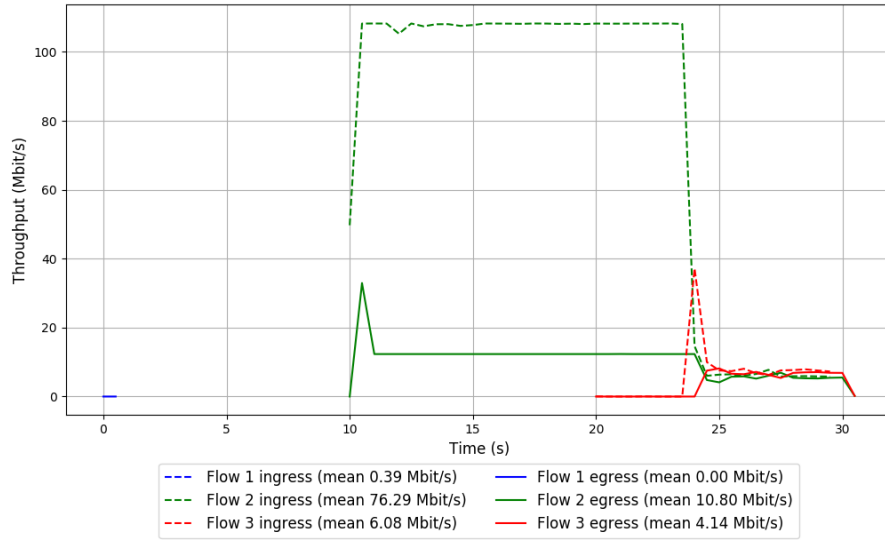
Run 5: Report of Sprout — Data Link

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

Start at: 2019-04-24 00:28:11
End at: 2019-04-24 00:28:41
Local clock offset: -0.341 ms
Remote clock offset: -1.292 ms

# Below is generated by plot.py at 2019-04-24 02:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 26.400 ms
Loss rate: 83.79%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 26.135 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.80 Mbit/s
95th percentile per-packet one-way delay: 26.451 ms
Loss rate: 85.85%
-- Flow 3:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 26.357 ms
Loss rate: 31.95%
```
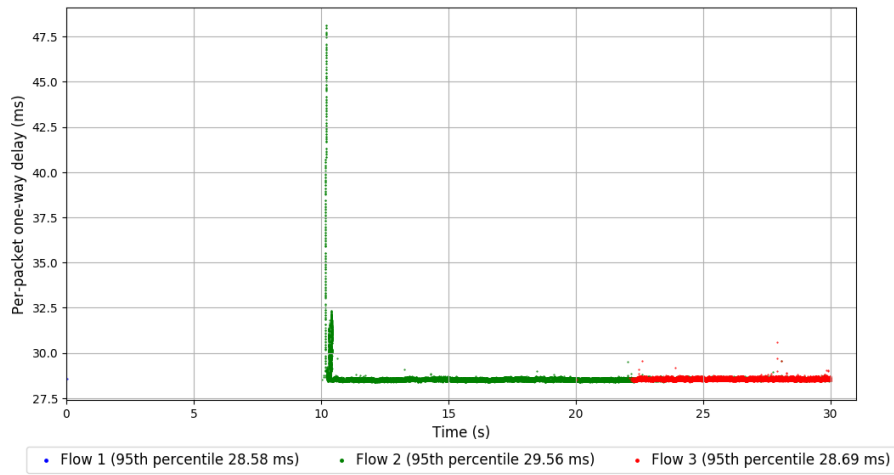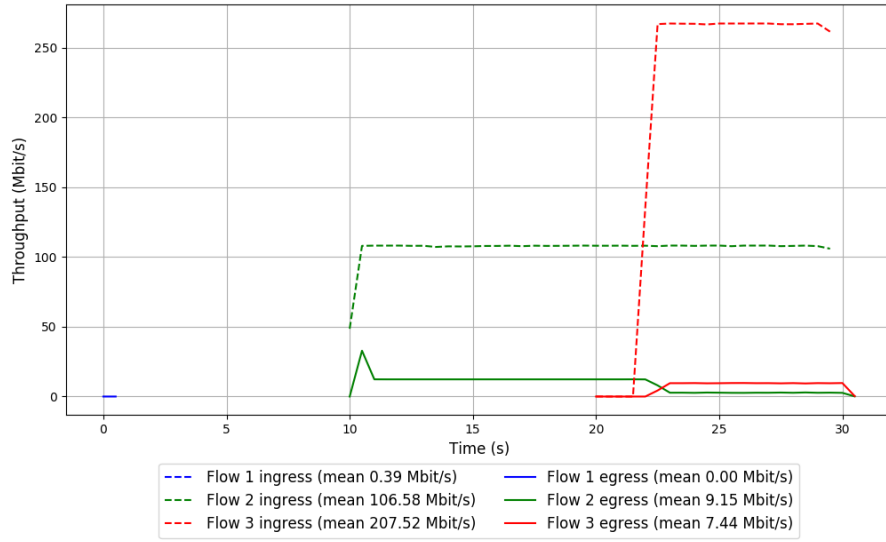
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.39 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 76.29 Mbit/s) — Flow 2 egress (mean 10.80 Mbit/s)
Flow 3 ingress (mean 6.08 Mbit/s) — Flow 3 egress (mean 4.14 Mbit/s)

Flow 1 (95th percentile 26.14 ms) • Flow 2 (95th percentile 26.45 ms) • Flow 3 (95th percentile 26.36 ms)

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

Start at: 2019-04-24 00:55:28
End at: 2019-04-24 00:55:59
Local clock offset: -0.02 ms
Remote clock offset: 1.357 ms


# Below is generated by plot.py at 2019-04-24 02:33:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 28.729 ms
Loss rate: 93.88%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 28.584 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 29.562 ms
Loss rate: 91.42%
-- Flow 3:
Average throughput: 7.44 Mbit/s
95th percentile per-packet one-way delay: 28.687 ms
Loss rate: 96.41%
```
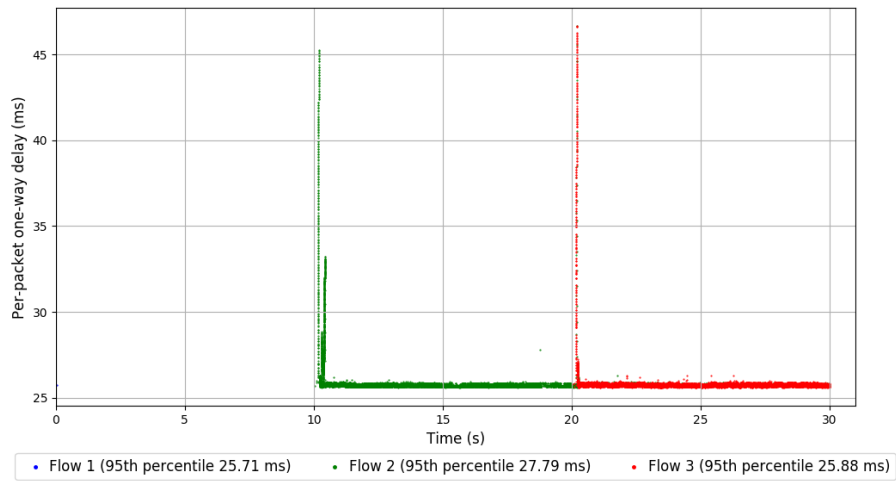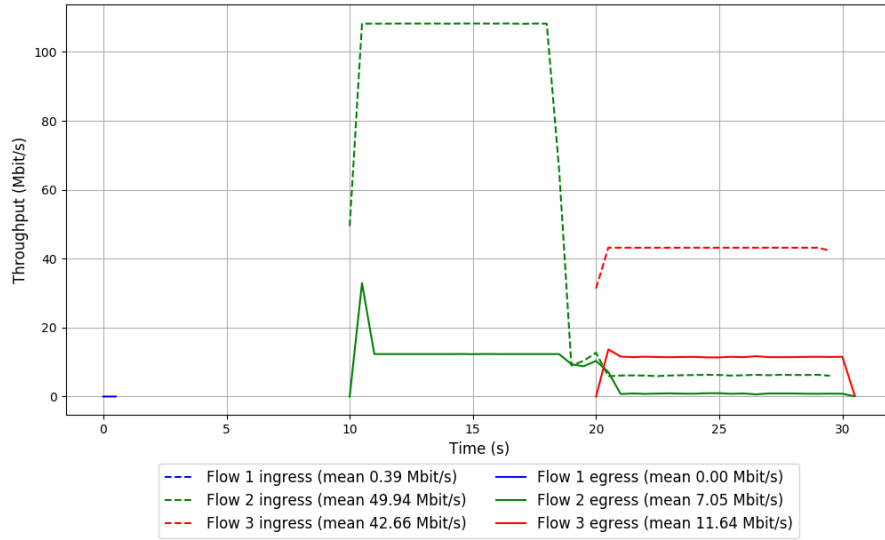
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.39 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 106.58 Mbit/s)   Flow 2 egress (mean 9.15 Mbit/s)
Flow 3 ingress (mean 207.52 Mbit/s)   Flow 3 egress (mean 7.44 Mbit/s)

Flow 1 (95th percentile 28.58 ms)   Flow 2 (95th percentile 29.56 ms)   Flow 3 (95th percentile 28.69 ms)

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

Start at: 2019-04-24 01:21:54
End at: 2019-04-24 01:22:24
Local clock offset: -0.059 ms
Remote clock offset: -0.966 ms

# Below is generated by plot.py at 2019-04-24 02:33:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 26.699 ms
Loss rate: 81.95%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 25.712 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.05 Mbit/s
95th percentile per-packet one-way delay: 27.789 ms
Loss rate: 85.88%
-- Flow 3:
Average throughput: 11.64 Mbit/s
95th percentile per-packet one-way delay: 25.877 ms
Loss rate: 72.72%
```
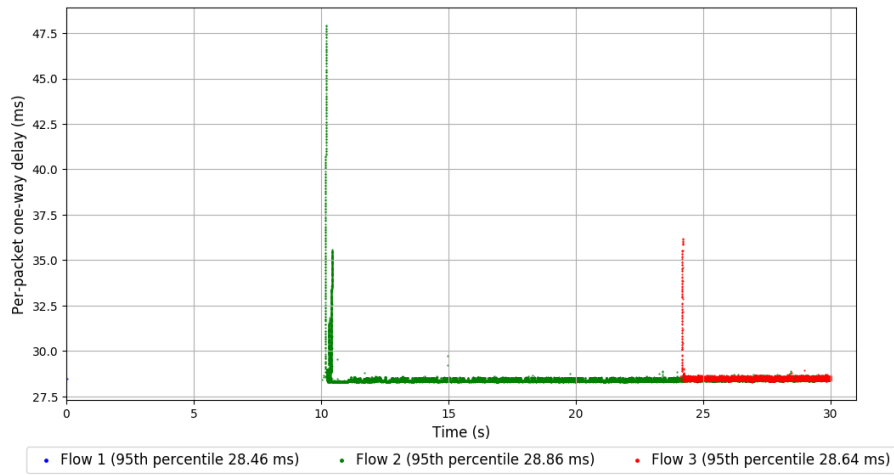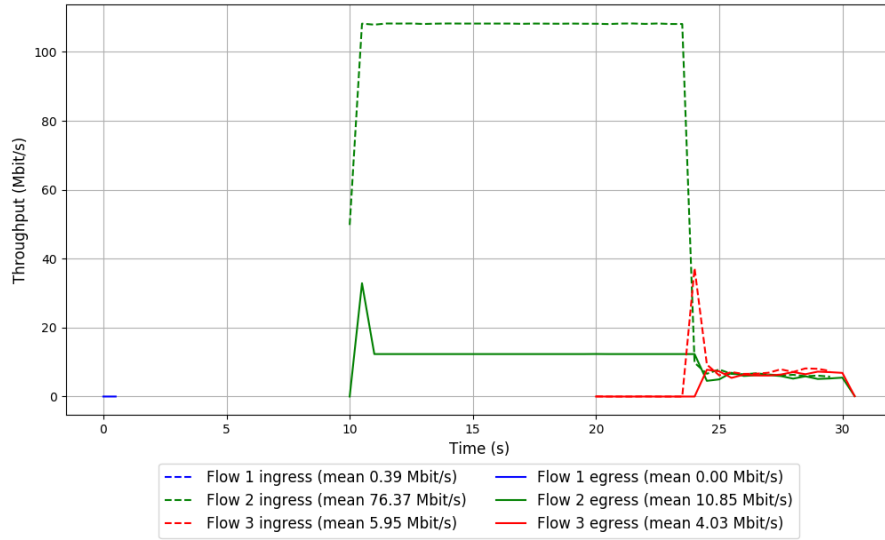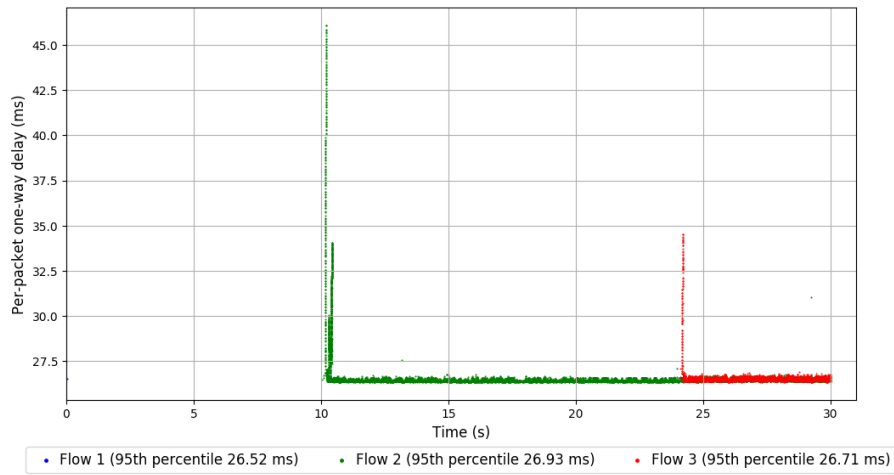
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.39 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 49.94 Mbit/s) --- Flow 2 egress (mean 7.05 Mbit/s)
Flow 3 ingress (mean 42.66 Mbit/s) --- Flow 3 egress (mean 11.64 Mbit/s)

Flow 1 (95th percentile 25.71 ms)   Flow 2 (95th percentile 27.79 ms)   Flow 3 (95th percentile 25.88 ms)

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

Start at: 2019-04-24 01:47:44
End at: 2019-04-24 01:48:14
Local clock offset: -0.218 ms
Remote clock offset: 1.737 ms

# Below is generated by plot.py at 2019-04-24 02:33:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 28.698 ms
Loss rate: 83.79%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 28.456 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.85 Mbit/s
95th percentile per-packet one-way delay: 28.863 ms
Loss rate: 85.79%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 28.643 ms
Loss rate: 32.28%
```
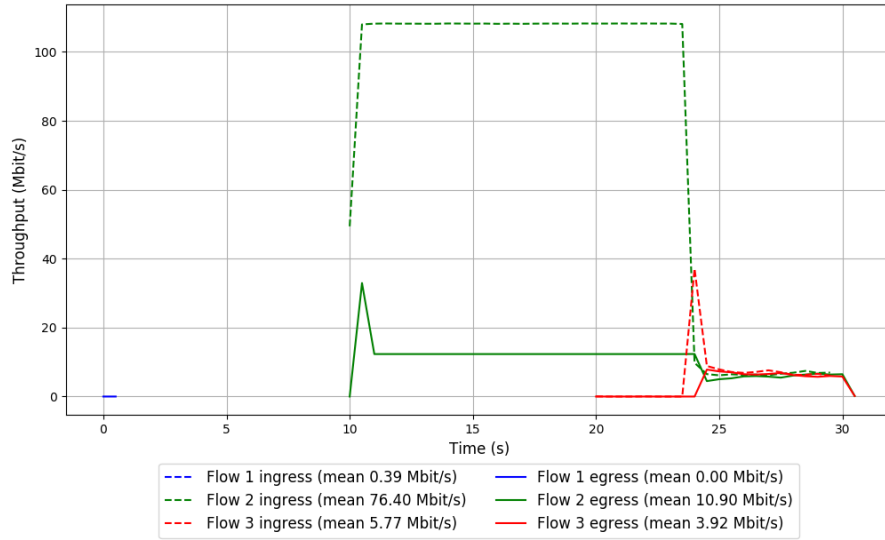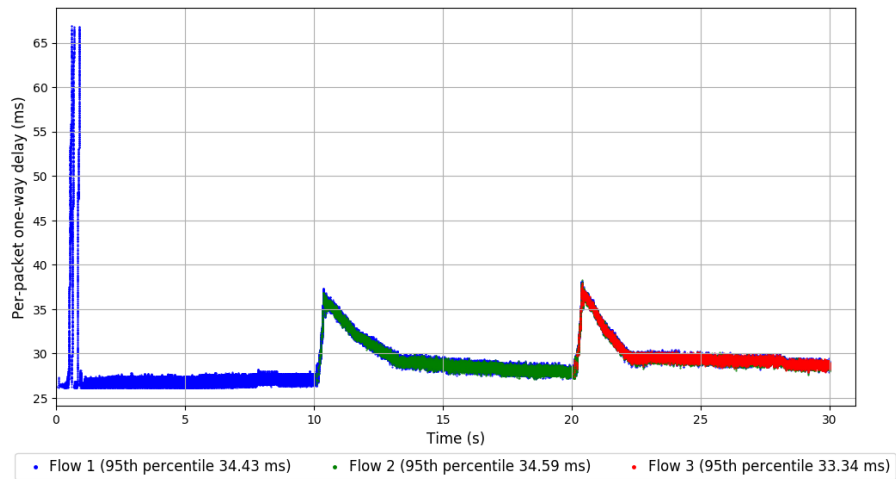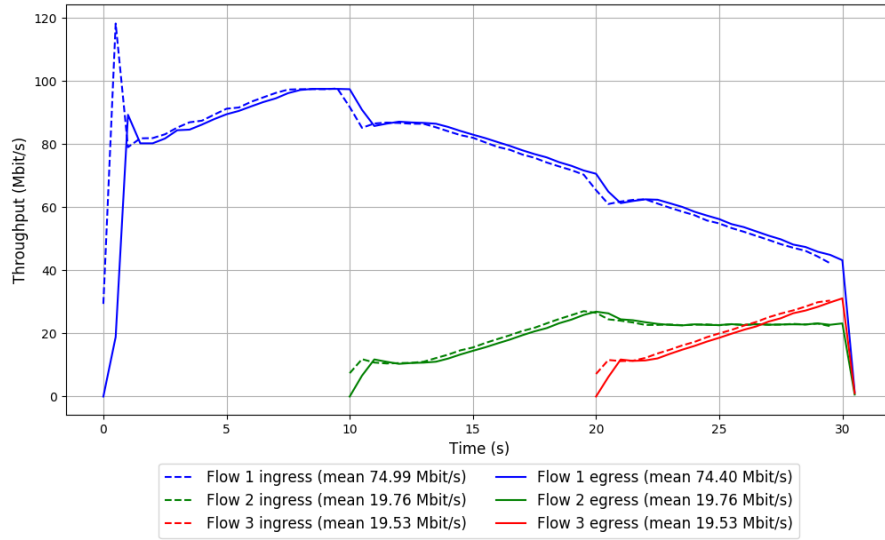
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.39 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 76.37 Mbit/s) --- Flow 2 egress (mean 10.85 Mbit/s) ---
Flow 3 ingress (mean 5.95 Mbit/s) --- Flow 3 egress (mean 4.03 Mbit/s) ---

Flow 1 (95th percentile 28.46 ms) • Flow 2 (95th percentile 28.86 ms) • Flow 3 (95th percentile 28.64 ms)

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

Start at: 2019-04-24 02:13:56
End at: 2019-04-24 02:14:26
Local clock offset: -0.005 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2019-04-24 02:33:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 26.769 ms
Loss rate: 83.78%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 26.520 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 26.931 ms
Loss rate: 85.73%
-- Flow 3:
Average throughput: 3.92 Mbit/s
95th percentile per-packet one-way delay: 26.713 ms
Loss rate: 31.98%
```
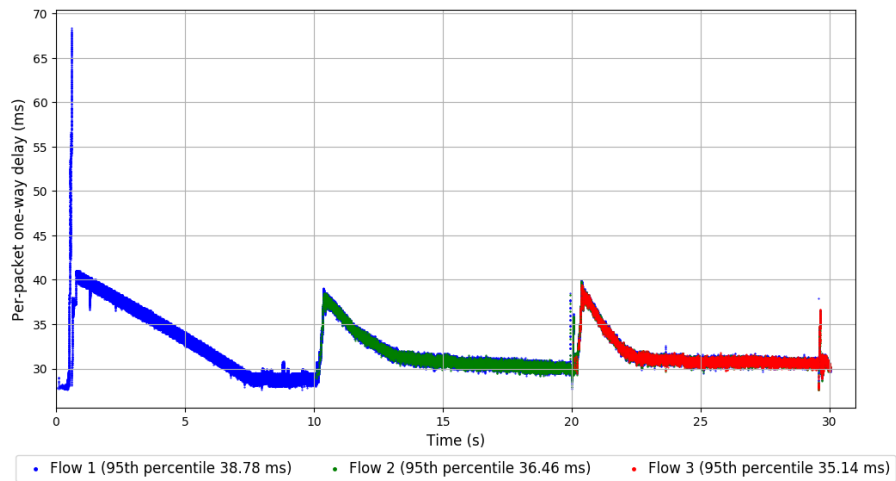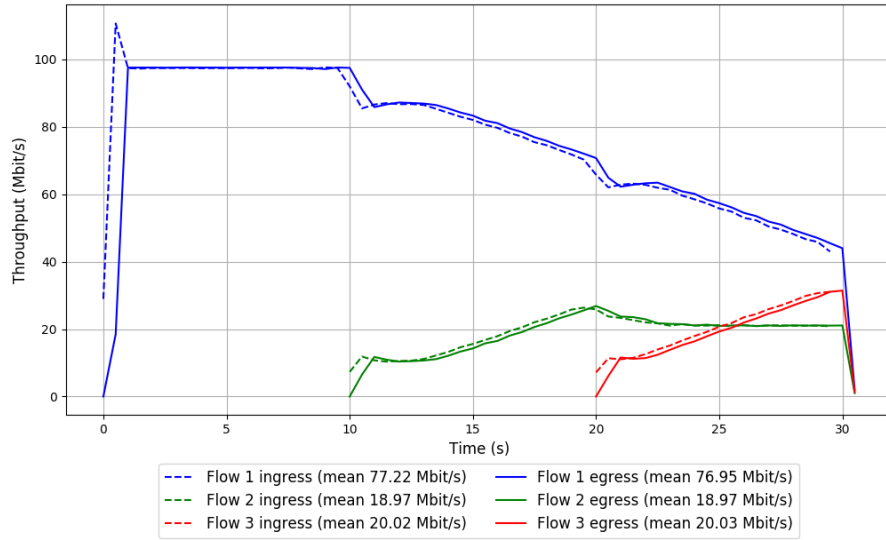
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.39 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 76.40 Mbit/s) --- Flow 2 egress (mean 10.90 Mbit/s)
Flow 3 ingress (mean 5.77 Mbit/s) --- Flow 3 egress (mean 3.92 Mbit/s)

Flow 1 (95th percentile 26.52 ms) Flow 2 (95th percentile 26.93 ms) Flow 3 (95th percentile 26.71 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-04-24 00:34:16
End at: 2019-04-24 00:34:46
Local clock offset: -0.34 ms
Remote clock offset: -1.123 ms


# Below is generated by plot.py at 2019-04-24 02:34:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.06 Mbit/s
95th percentile per-packet one-way delay: 34.399 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 74.40 Mbit/s
95th percentile per-packet one-way delay: 34.426 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 19.76 Mbit/s
95th percentile per-packet one-way delay: 34.588 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 33.344 ms
Loss rate: 0.00%
```
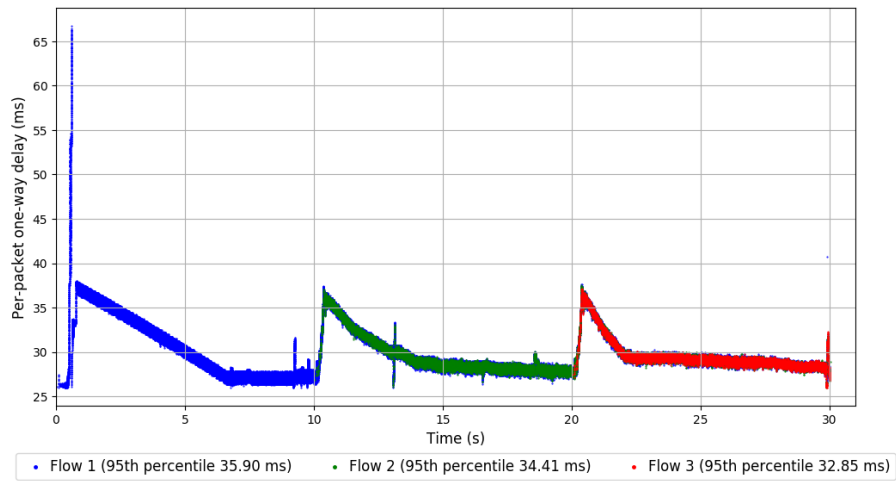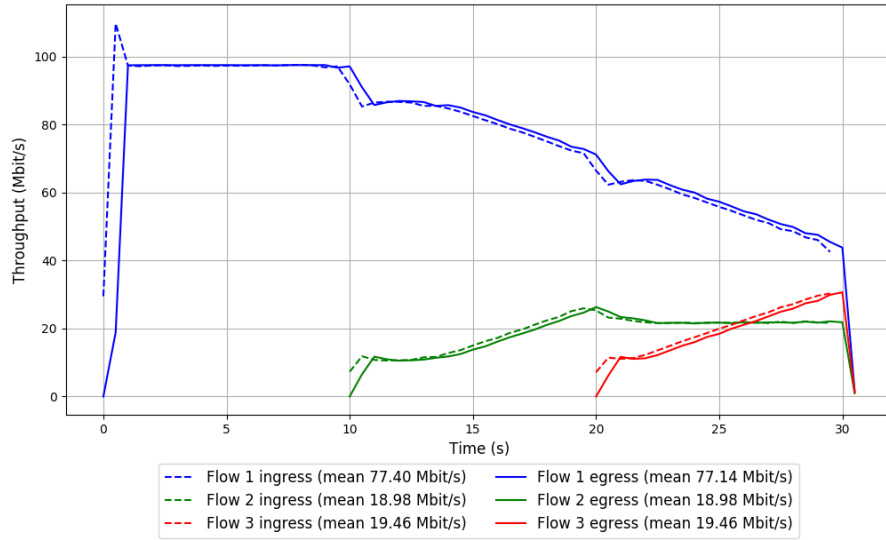
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-04-24 01:01:30
End at: 2019-04-24 01:02:00
Local clock offset: 0.051 ms
Remote clock offset: 0.67 ms


# Below is generated by plot.py at 2019-04-24 02:34:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 38.363 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 76.95 Mbit/s
95th percentile per-packet one-way delay: 38.785 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 18.97 Mbit/s
95th percentile per-packet one-way delay: 36.456 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.03 Mbit/s
95th percentile per-packet one-way delay: 35.136 ms
Loss rate: 0.00%
```
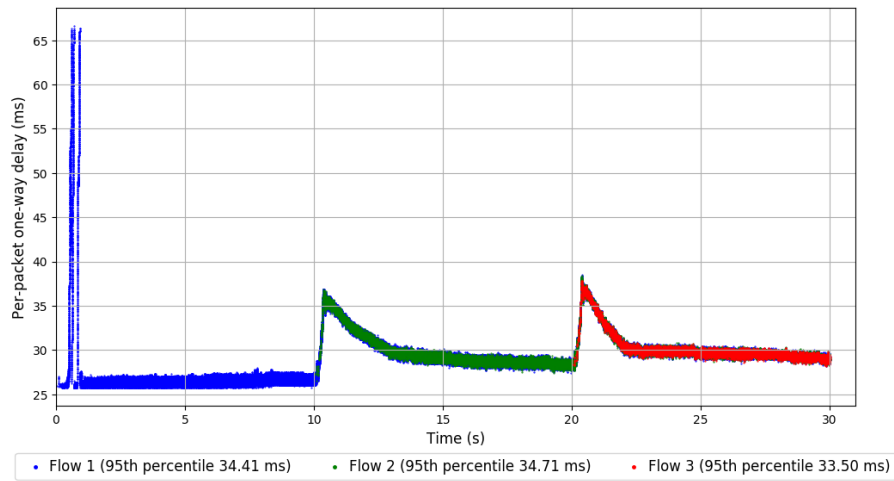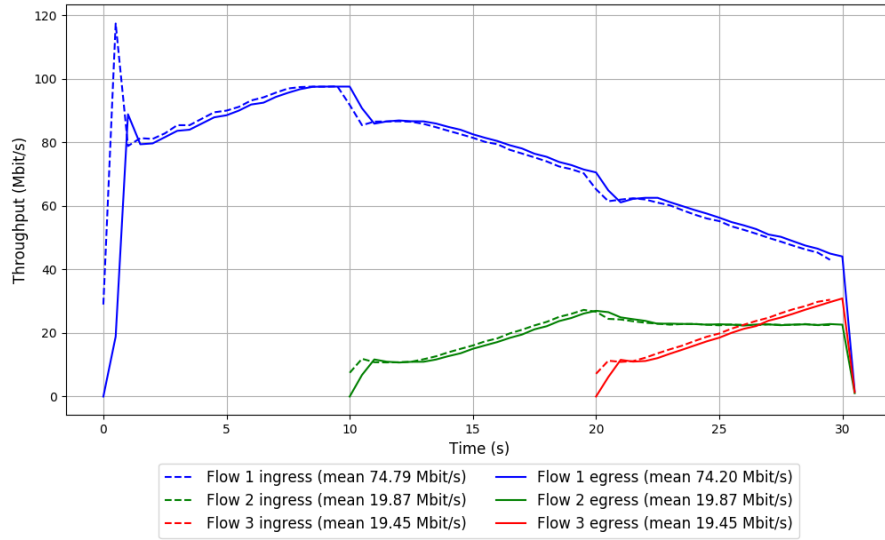
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-04-24 01:27:53
End at: 2019-04-24 01:28:23
Local clock offset: -0.116 ms
Remote clock offset: -0.477 ms


# Below is generated by plot.py at 2019-04-24 02:34:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.24 Mbit/s
95th percentile per-packet one-way delay: 35.674 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 77.14 Mbit/s
95th percentile per-packet one-way delay: 35.900 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 18.98 Mbit/s
95th percentile per-packet one-way delay: 34.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.46 Mbit/s
95th percentile per-packet one-way delay: 32.853 ms
Loss rate: 0.00%
```
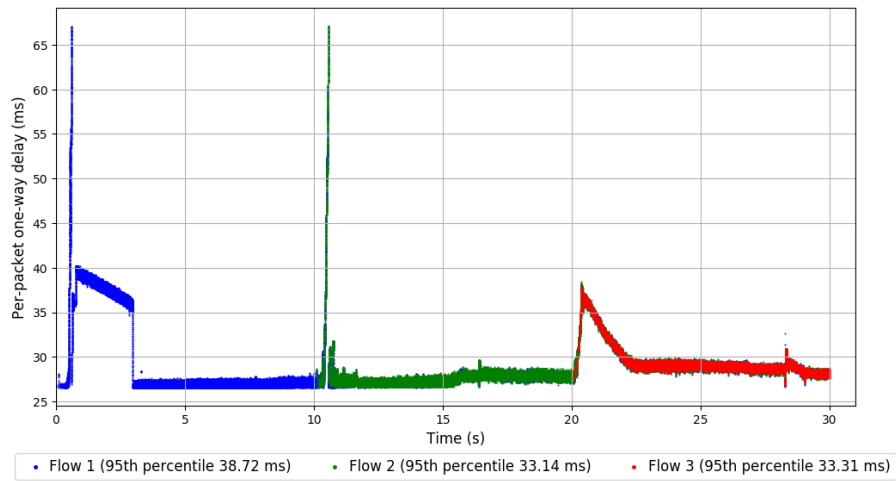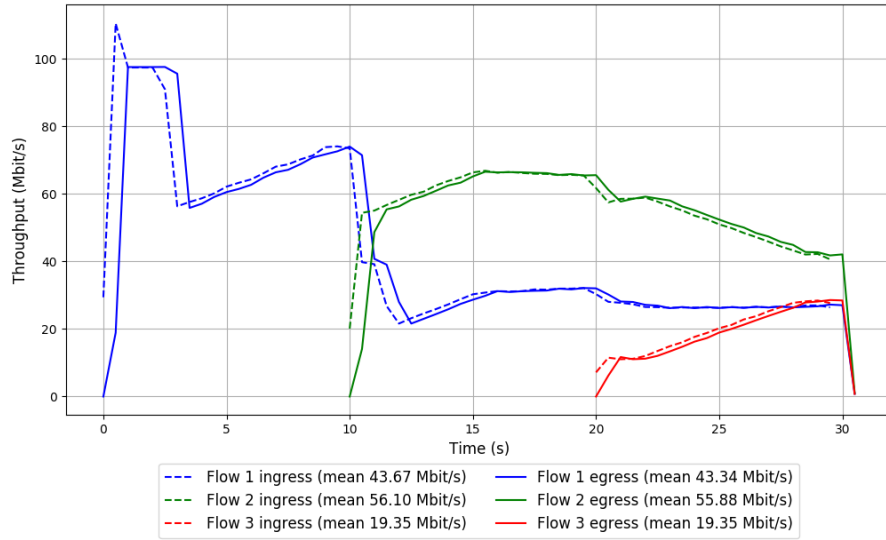
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-04-24 01:53:40
End at: 2019-04-24 01:54:10
Local clock offset: -0.072 ms
Remote clock offset: -0.826 ms

# Below is generated by plot.py at 2019-04-24 02:34:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 34.414 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 74.20 Mbit/s
95th percentile per-packet one-way delay: 34.405 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 34.714 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 33.504 ms
Loss rate: 0.00%
```
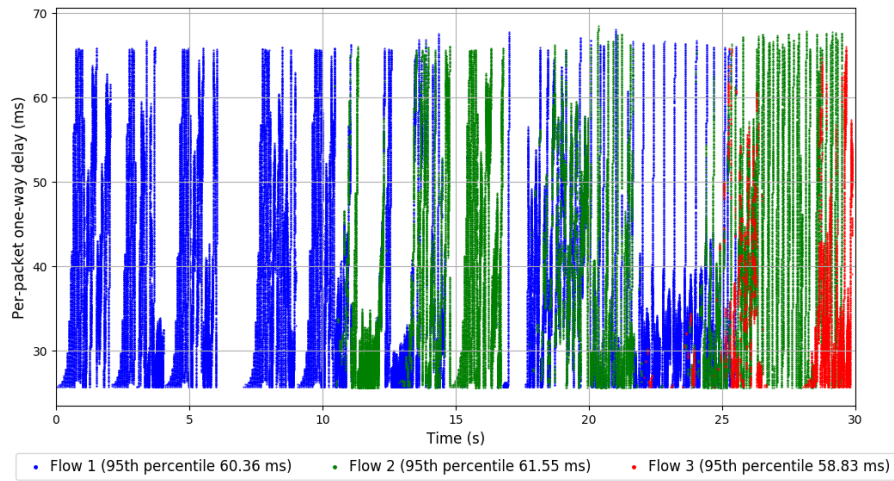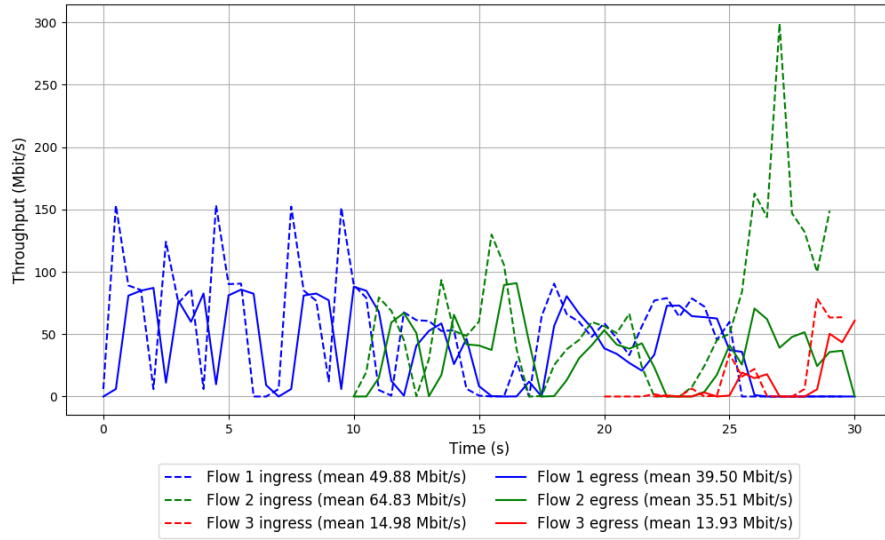
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-04-24 02:20:01
End at: 2019-04-24 02:20:31
Local clock offset: 1.417 ms
Remote clock offset: -0.259 ms


# Below is generated by plot.py at 2019-04-24 02:34:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.00 Mbit/s
95th percentile per-packet one-way delay: 37.743 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 38.717 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 55.88 Mbit/s
95th percentile per-packet one-way delay: 33.137 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 19.35 Mbit/s
95th percentile per-packet one-way delay: 33.312 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-04-24 00:24:24
End at: 2019-04-24 00:24:54
Local clock offset: -0.414 ms
Remote clock offset: -1.718 ms


# Below is generated by plot.py at 2019-04-24 02:34:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.48 Mbit/s
95th percentile per-packet one-way delay: 60.745 ms
Loss rate: 31.74%
-- Flow 1:
Average throughput: 39.50 Mbit/s
95th percentile per-packet one-way delay: 60.358 ms
Loss rate: 20.99%
-- Flow 2:
Average throughput: 35.51 Mbit/s
95th percentile per-packet one-way delay: 61.546 ms
Loss rate: 45.22%
-- Flow 3:
Average throughput: 13.93 Mbit/s
95th percentile per-packet one-way delay: 58.831 ms
Loss rate: 25.92%
```
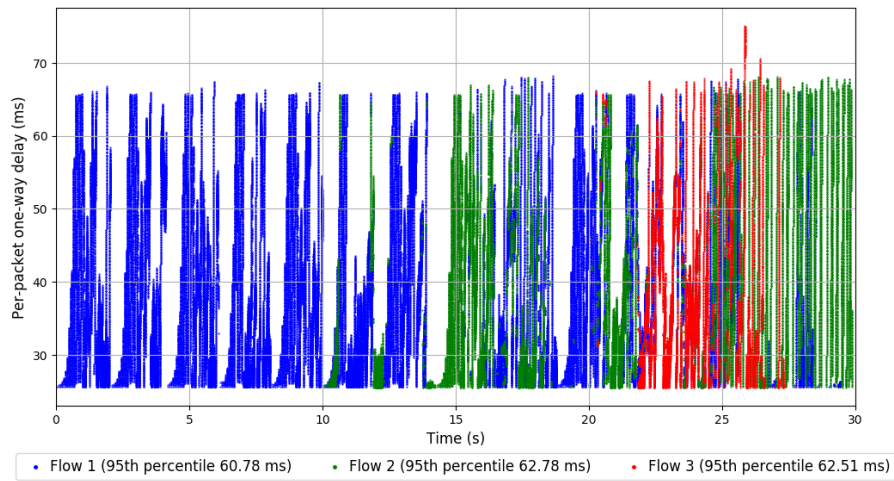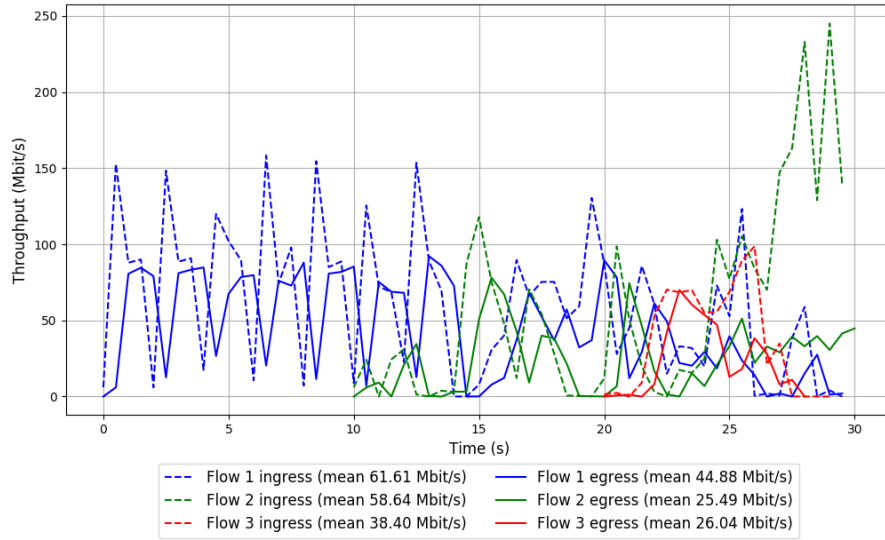
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-04-24 00:51:10
End at: 2019-04-24 00:51:40
Local clock offset: -0.142 ms
Remote clock offset: -1.516 ms


# Below is generated by plot.py at 2019-04-24 02:34:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.85 Mbit/s
95th percentile per-packet one-way delay: 61.522 ms
Loss rate: 39.49%
-- Flow 1:
Average throughput: 44.88 Mbit/s
95th percentile per-packet one-way delay: 60.778 ms
Loss rate: 28.10%
-- Flow 2:
Average throughput: 25.49 Mbit/s
95th percentile per-packet one-way delay: 62.778 ms
Loss rate: 56.51%
-- Flow 3:
Average throughput: 26.04 Mbit/s
95th percentile per-packet one-way delay: 62.511 ms
Loss rate: 42.71%
```
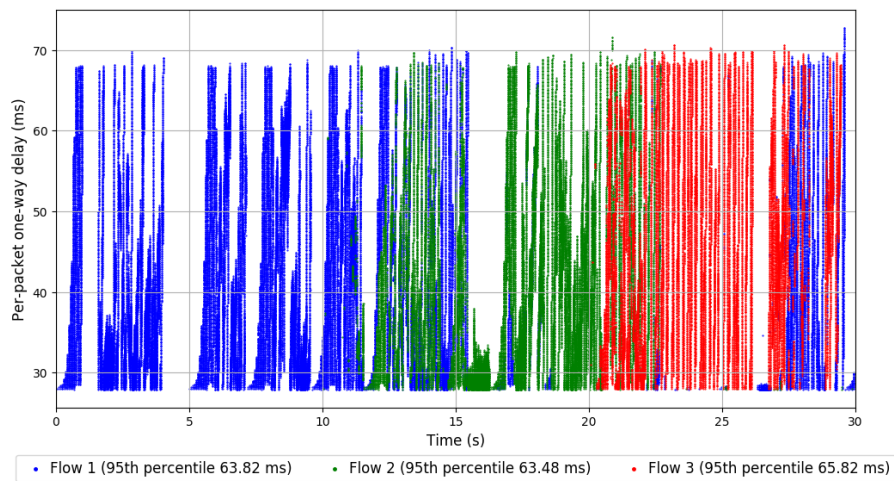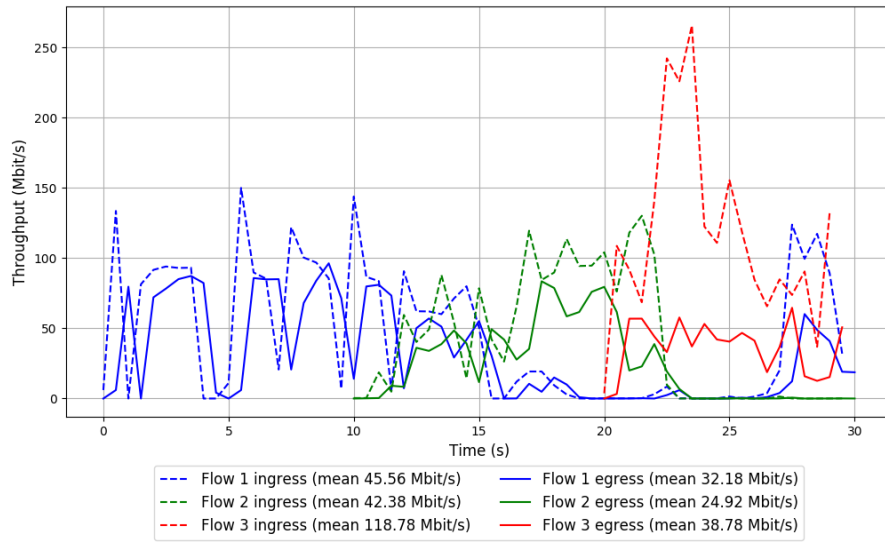
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-04-24 01:18:07
End at: 2019-04-24 01:18:37
Local clock offset: -0.041 ms
Remote clock offset: 1.307 ms

# Below is generated by plot.py at 2019-04-24 02:34:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.89 Mbit/s
95th percentile per-packet one-way delay: 64.274 ms
Loss rate: 45.09%
-- Flow 1:
Average throughput: 32.18 Mbit/s
95th percentile per-packet one-way delay: 63.818 ms
Loss rate: 29.36%
-- Flow 2:
Average throughput: 24.92 Mbit/s
95th percentile per-packet one-way delay: 63.482 ms
Loss rate: 41.20%
-- Flow 3:
Average throughput: 38.78 Mbit/s
95th percentile per-packet one-way delay: 65.818 ms
Loss rate: 67.29%
```
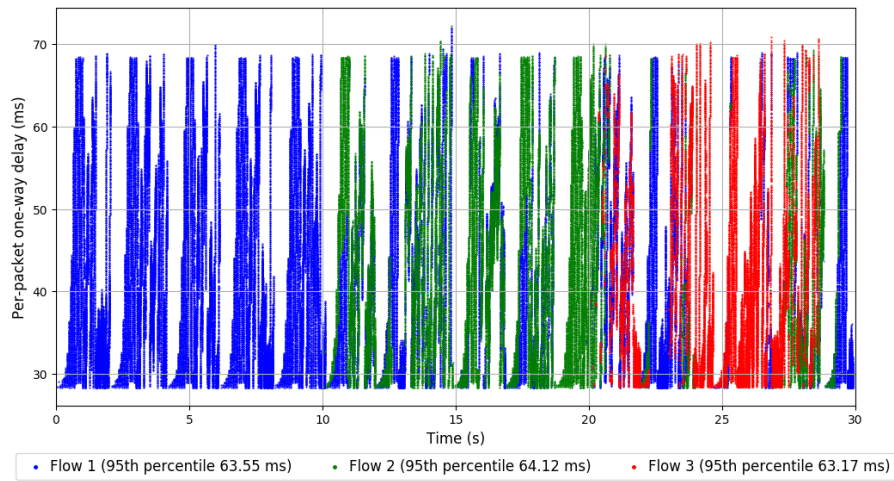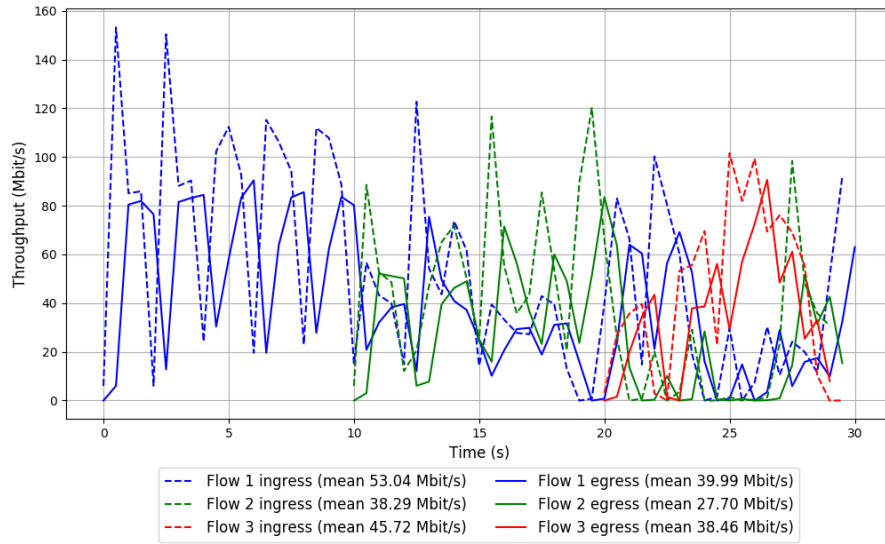
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-04-24 01:43:58
End at: 2019-04-24 01:44:28
Local clock offset: -0.352 ms
Remote clock offset: 1.846 ms


# Below is generated by plot.py at 2019-04-24 02:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.01 Mbit/s
95th percentile per-packet one-way delay: 63.660 ms
Loss rate: 25.48%
-- Flow 1:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 63.548 ms
Loss rate: 24.59%
-- Flow 2:
Average throughput: 27.70 Mbit/s
95th percentile per-packet one-way delay: 64.121 ms
Loss rate: 27.89%
-- Flow 3:
Average throughput: 38.46 Mbit/s
95th percentile per-packet one-way delay: 63.175 ms
Loss rate: 24.55%
```
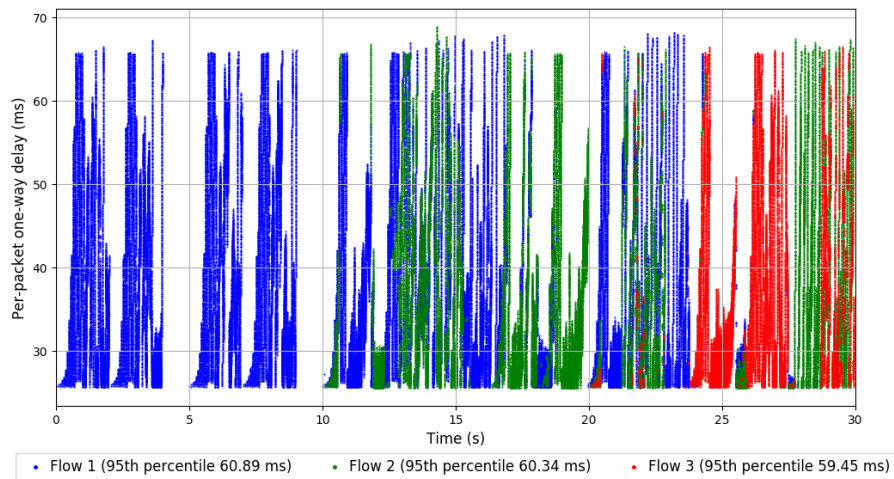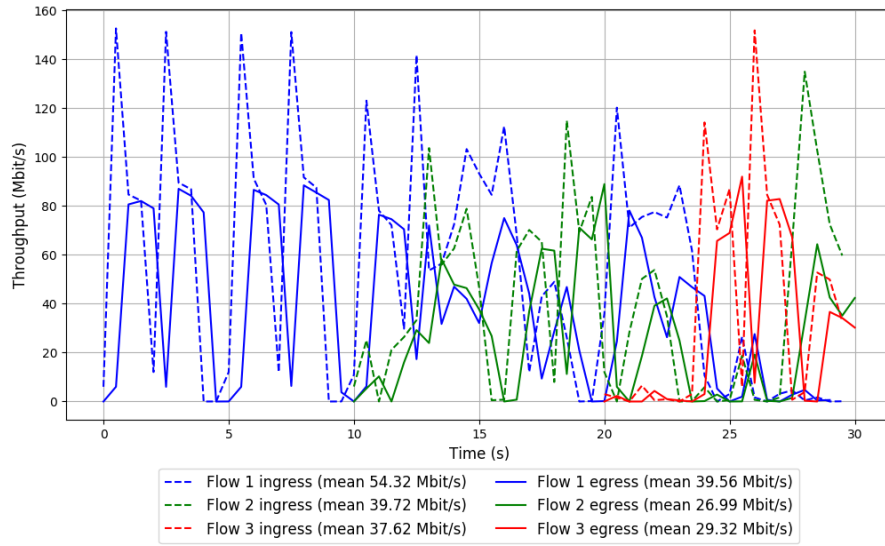
Run 4: Report of Verus — Data Link

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```
Run 5: Statistics of Verus

Start at: 2019-04-24 02:09:54
End at: 2019-04-24 02:10:24
Local clock offset: 0.001 ms
Remote clock offset: -0.892 ms


# Below is generated by plot.py at 2019-04-24 02:35:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.49 Mbit/s
95th percentile per-packet one-way delay: 60.531 ms
Loss rate: 29.38%
-- Flow 1:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 60.888 ms
Loss rate: 29.85%
-- Flow 2:
Average throughput: 26.99 Mbit/s
95th percentile per-packet one-way delay: 60.341 ms
Loss rate: 31.90%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 59.449 ms
Loss rate: 21.97%
```
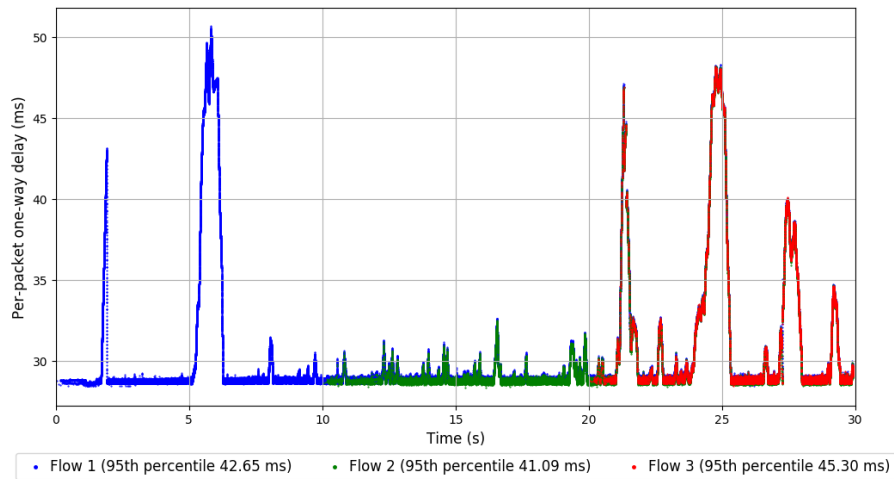
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-04-24 00:26:54
End at: 2019-04-24 00:27:24
Local clock offset: -0.383 ms
Remote clock offset: 1.154 ms


# Below is generated by plot.py at 2019-04-24 02:35:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.09 Mbit/s
95th percentile per-packet one-way delay: 42.626 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 66.02 Mbit/s
95th percentile per-packet one-way delay: 42.654 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 23.15 Mbit/s
95th percentile per-packet one-way delay: 41.085 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 14.15 Mbit/s
95th percentile per-packet one-way delay: 45.304 ms
Loss rate: 0.07%
```
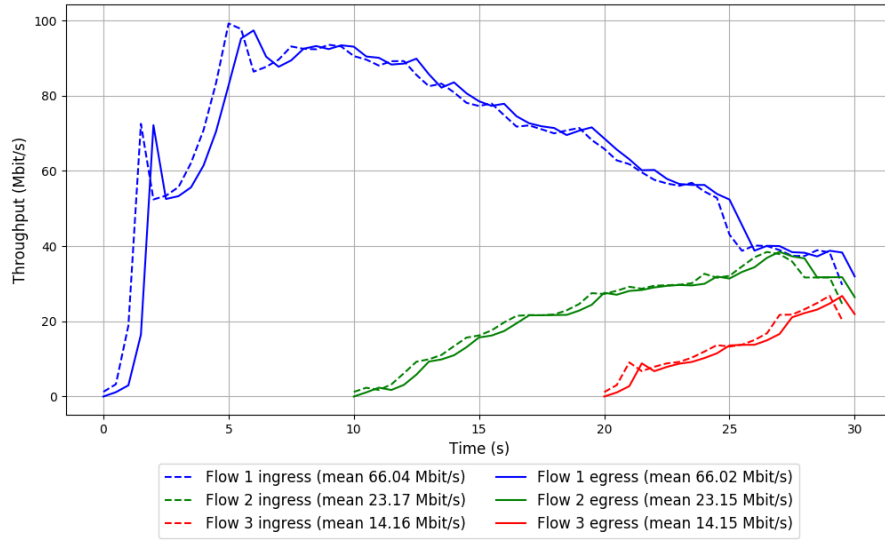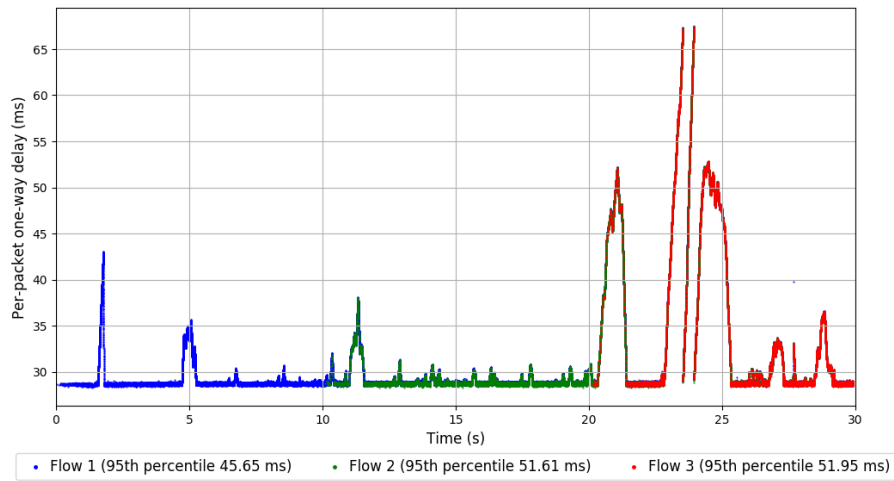
Run 1: Report of PCC-Vivace — Data Link

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```
Run 2: Statistics of PCC-Vivace

Start at: 2019-04-24 00:54:03
End at: 2019-04-24 00:54:33
Local clock offset: -0.081 ms
Remote clock offset: 1.392 ms


# Below is generated by plot.py at 2019-04-24 02:35:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.59 Mbit/s
95th percentile per-packet one-way delay: 48.746 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 64.98 Mbit/s
95th percentile per-packet one-way delay: 45.654 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 51.608 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 14.25 Mbit/s
95th percentile per-packet one-way delay: 51.948 ms
Loss rate: 0.67%
```
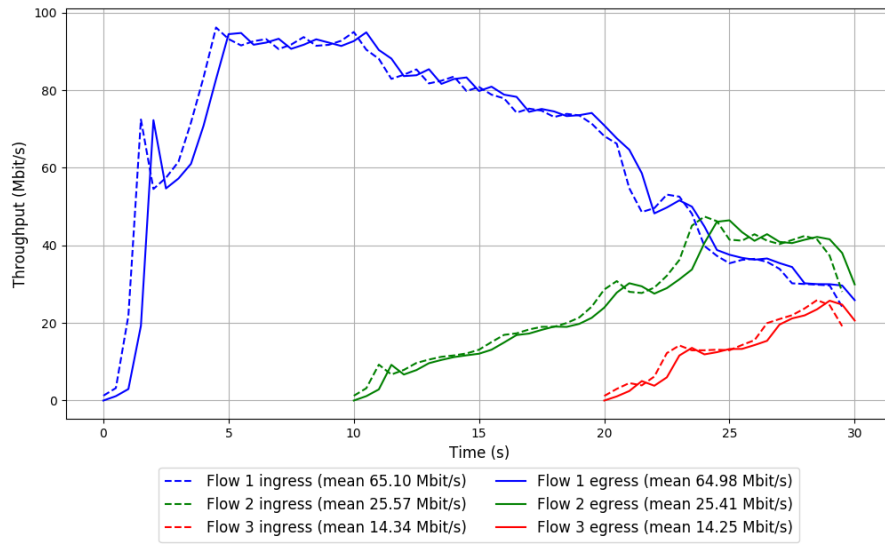
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-04-24 01:20:36
End at: 2019-04-24 01:21:06
Local clock offset: -0.033 ms
Remote clock offset: -0.545 ms


# Below is generated by plot.py at 2019-04-24 02:35:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.93 Mbit/s
95th percentile per-packet one-way delay: 39.741 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 65.12 Mbit/s
95th percentile per-packet one-way delay: 39.660 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 26.12 Mbit/s
95th percentile per-packet one-way delay: 39.526 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 10.39 Mbit/s
95th percentile per-packet one-way delay: 43.175 ms
Loss rate: 0.00%
```
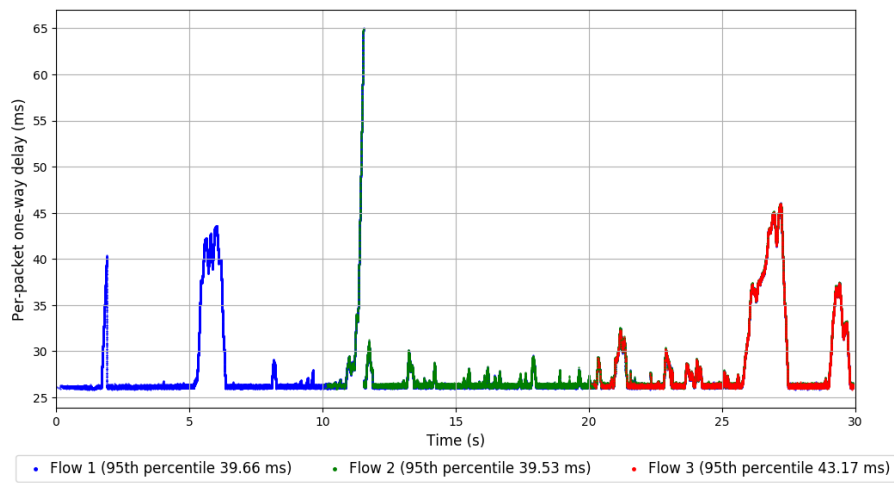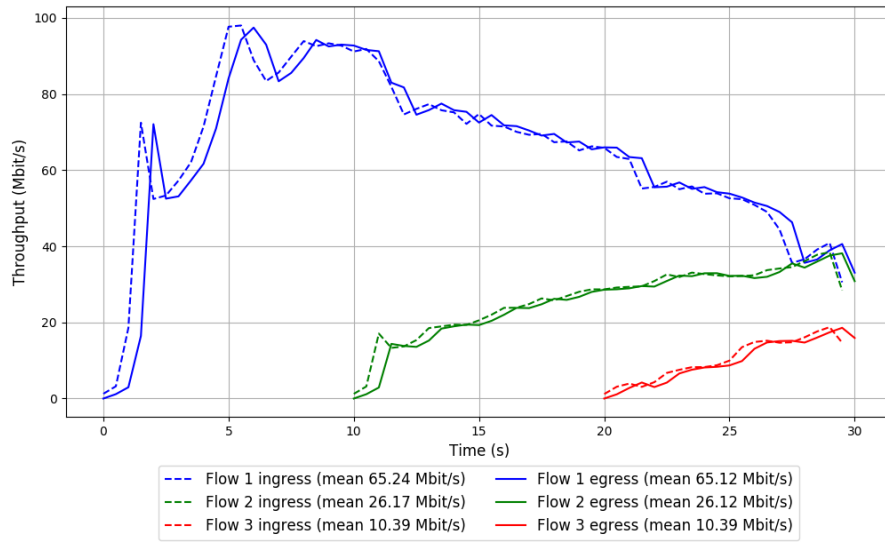
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 65.24 Mbit/s) --- Flow 1 egress (mean 65.12 Mbit/s)
Flow 2 ingress (mean 26.17 Mbit/s) --- Flow 2 egress (mean 26.12 Mbit/s)
Flow 3 ingress (mean 10.39 Mbit/s) --- Flow 3 egress (mean 10.39 Mbit/s)

Flow 1 (95th percentile 39.66 ms)   Flow 2 (95th percentile 39.53 ms)   Flow 3 (95th percentile 43.17 ms)

200

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-04-24 01:46:30
End at: 2019-04-24 01:47:00
Local clock offset: -0.282 ms
Remote clock offset: -0.523 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.03 Mbit/s
95th percentile per-packet one-way delay: 42.119 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.91 Mbit/s
95th percentile per-packet one-way delay: 41.697 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 45.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 41.802 ms
Loss rate: 0.00%
```
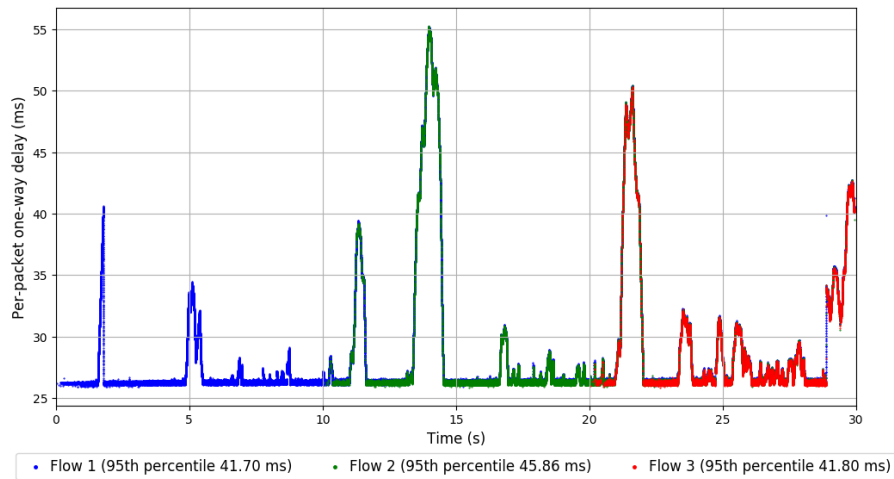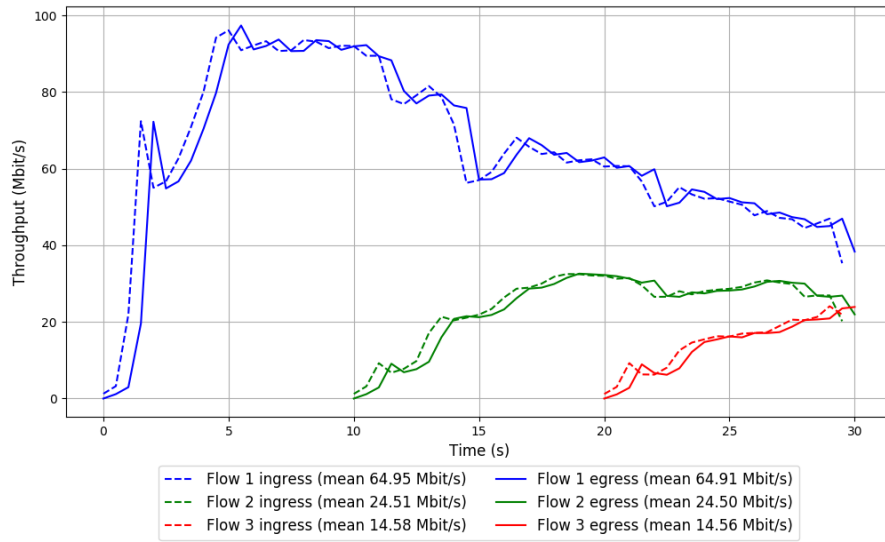
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-04-24 02:12:31
End at: 2019-04-24 02:13:01
Local clock offset: 0.003 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 31.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.62 Mbit/s
95th percentile per-packet one-way delay: 31.431 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.67 Mbit/s
95th percentile per-packet one-way delay: 32.053 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.11 Mbit/s
95th percentile per-packet one-way delay: 34.281 ms
Loss rate: 0.00%
```
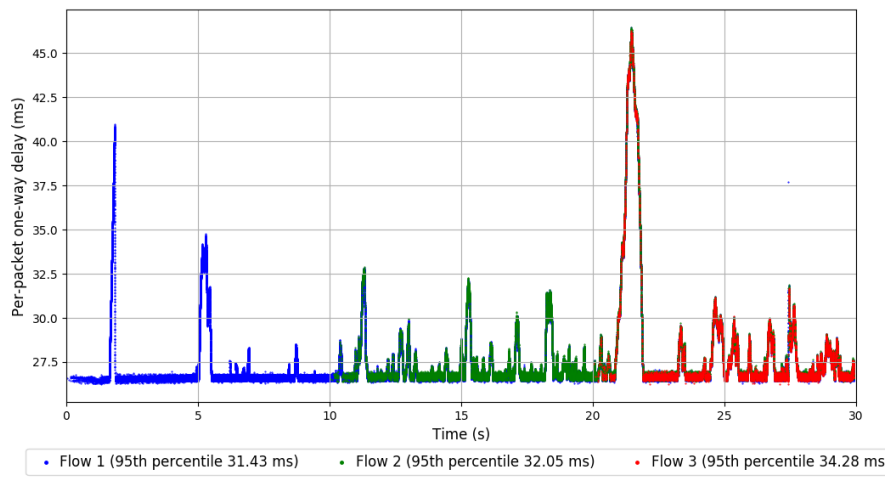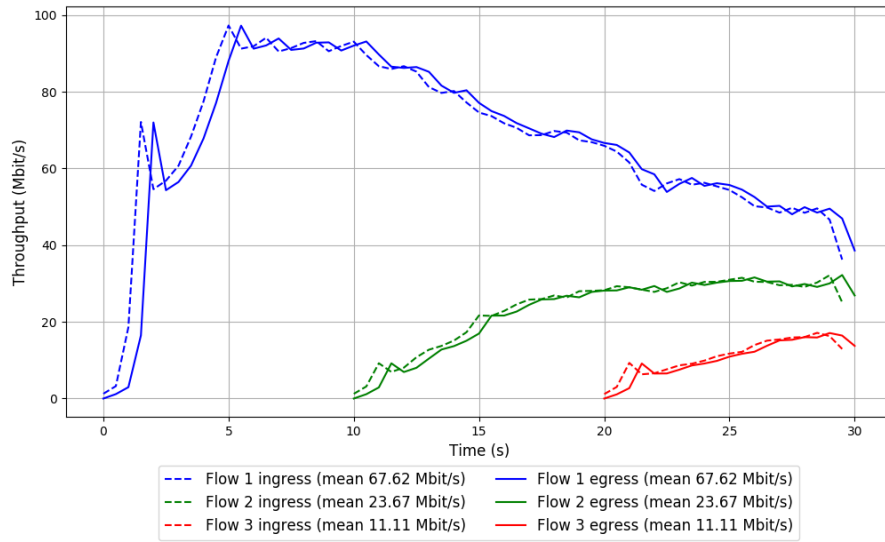
Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-04-24 00:29:21
End at: 2019-04-24 00:29:51
Local clock offset: -0.347 ms
Remote clock offset: -0.935 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 27.184 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.156 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.173 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.238 ms
Loss rate: 0.00%
```
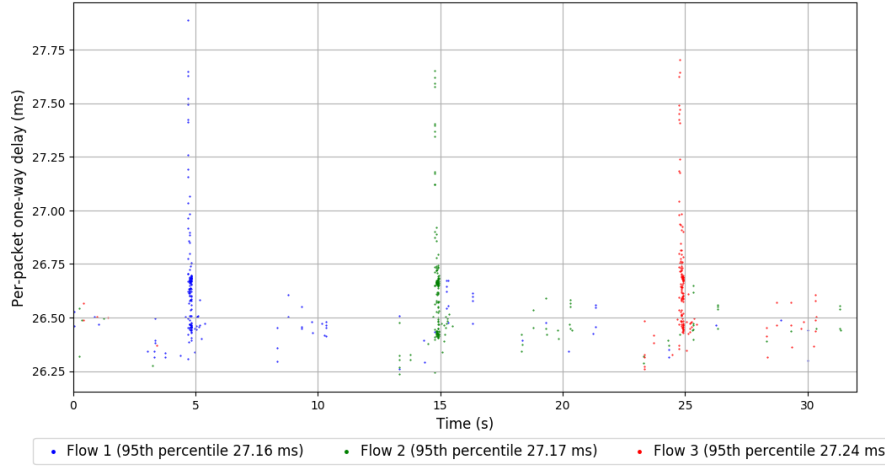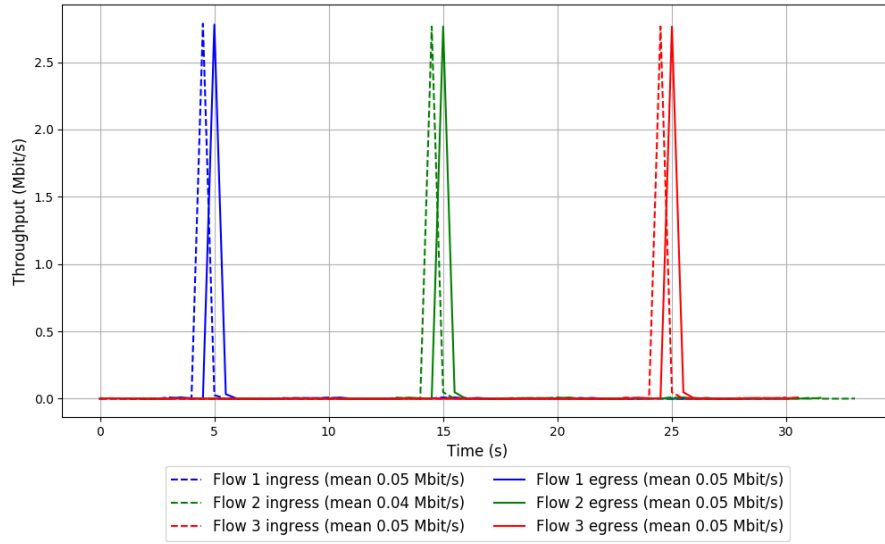
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-04-24 00:56:40
End at: 2019-04-24 00:57:10
Local clock offset: -0.008 ms
Remote clock offset: 1.392 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 29.233 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 29.141 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 29.129 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 29.233 ms
Loss rate: 0.05%
```
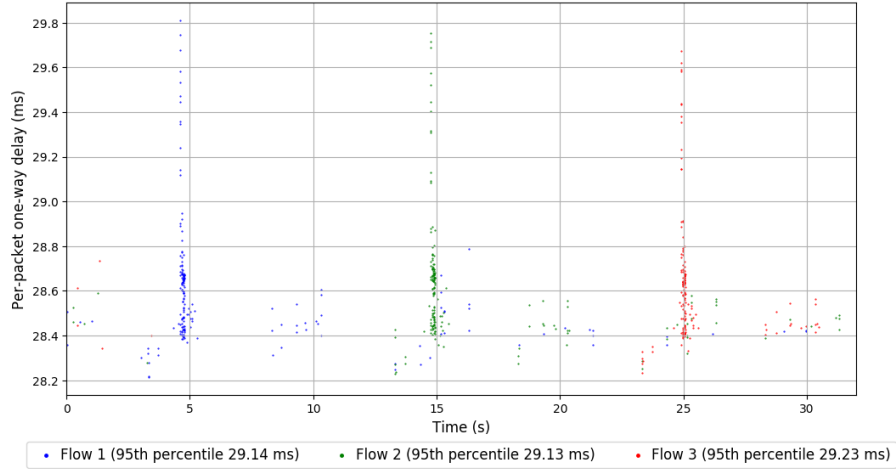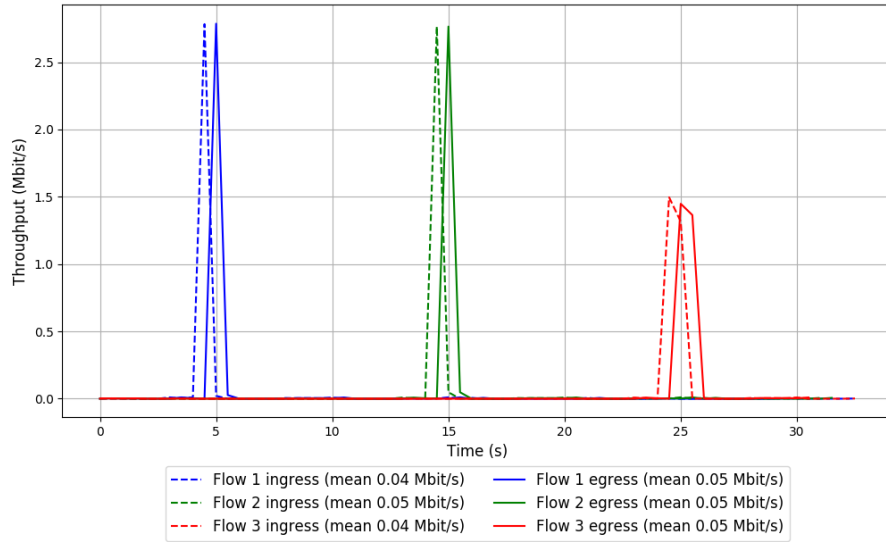
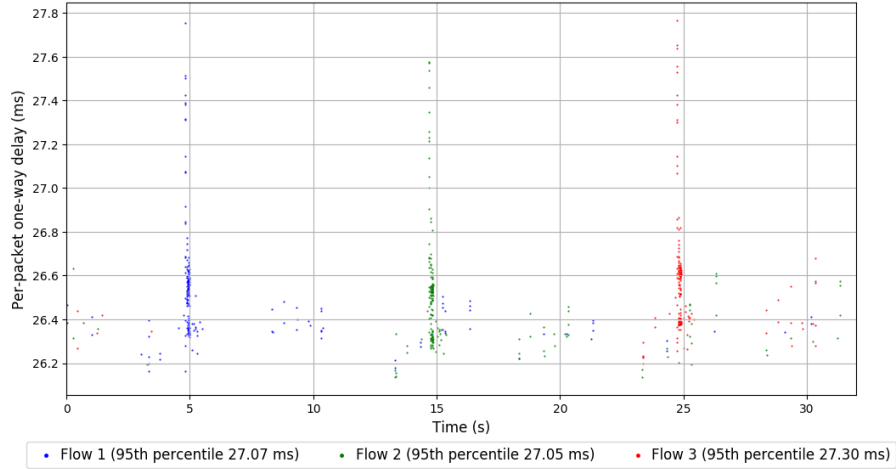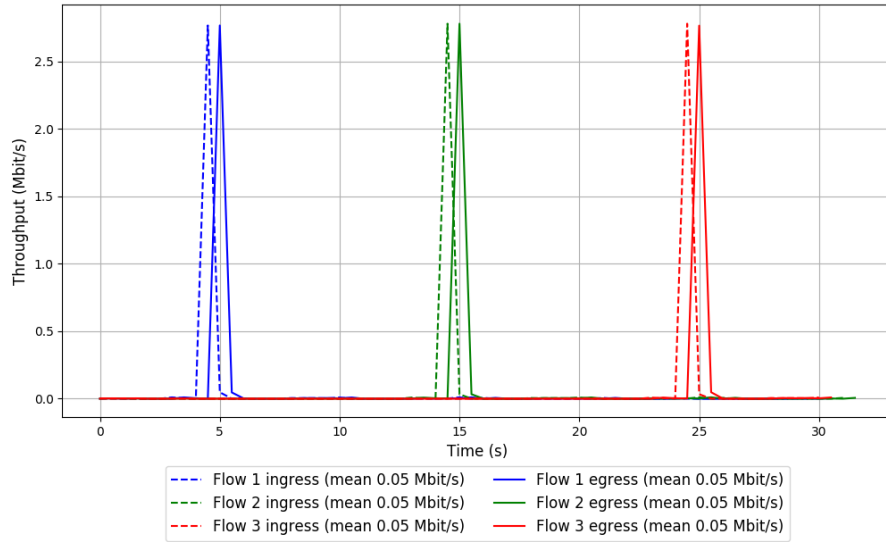Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-04-24 01:23:04
End at: 2019-04-24 01:23:34
Local clock offset: -0.094 ms
Remote clock offset: -0.287 ms

# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 27.138 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.070 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.050 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.301 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-04-24 01:48:54
End at: 2019-04-24 01:49:24
Local clock offset: -0.161 ms
Remote clock offset: -0.48 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 26.938 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 26.806 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 26.938 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 27.015 ms
Loss rate: 0.00%
```
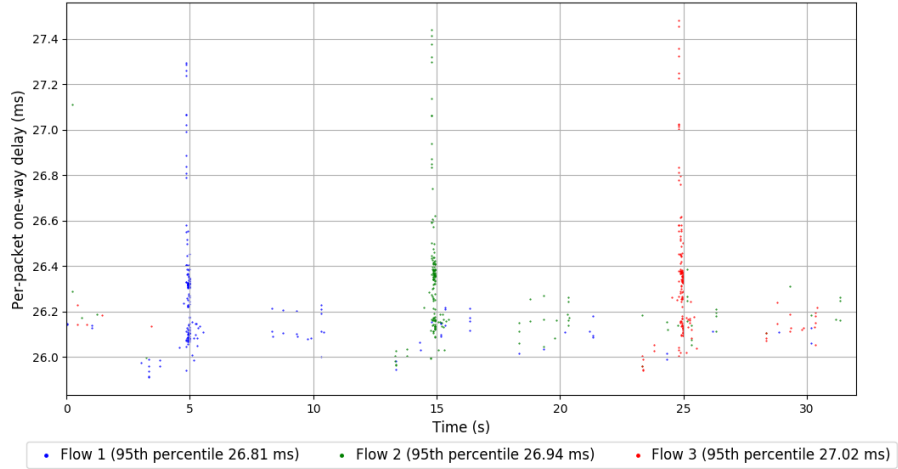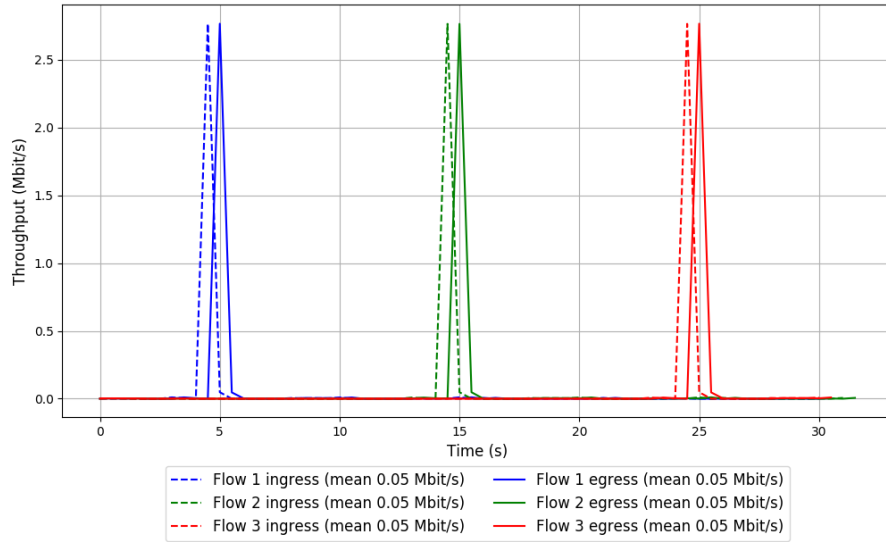
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-04-24 02:15:09
End at: 2019-04-24 02:15:39
Local clock offset: -0.043 ms
Remote clock offset: 1.703 ms


# Below is generated by plot.py at 2019-04-24 02:35:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 29.332 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 29.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 29.266 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 29.543 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link