Pantheon Report

Generated at 2019-07-18 01:22:14 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) →Brazil on `p4p1` (*remote*).

Repeated the test of 24 congestion control schemes 5 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.
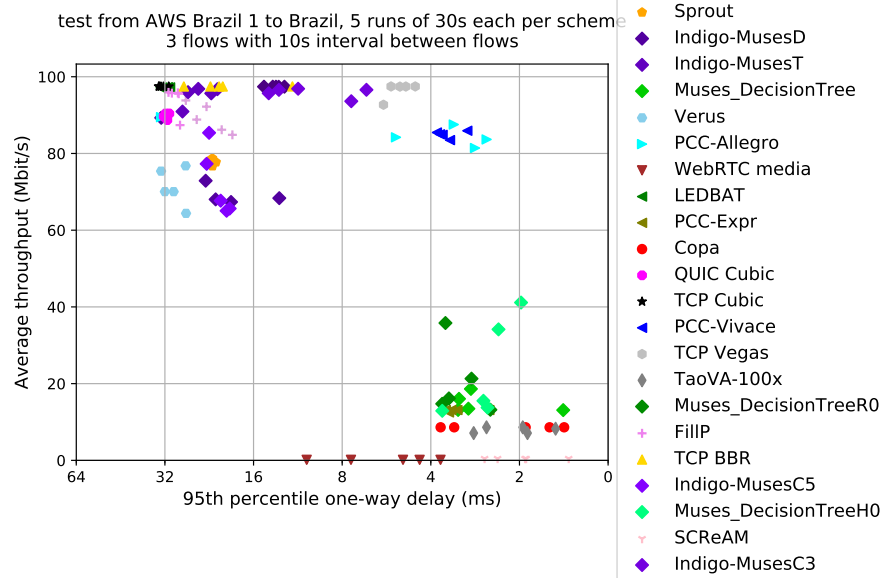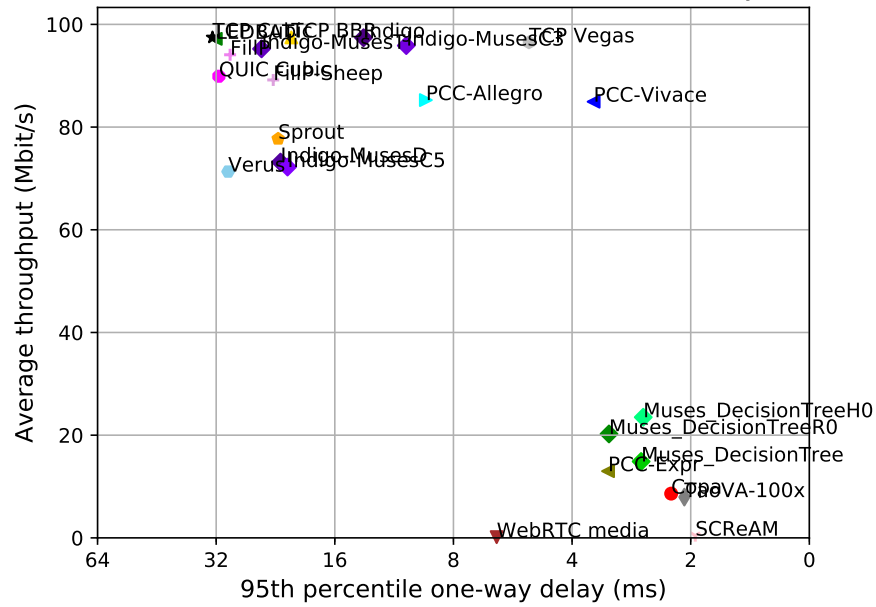
```
System info:
Linux 4.15.0-1043-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
```

```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
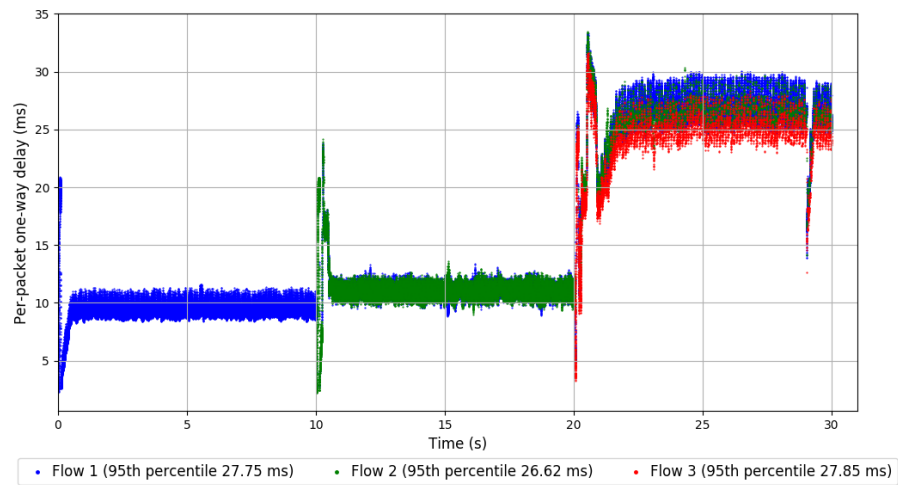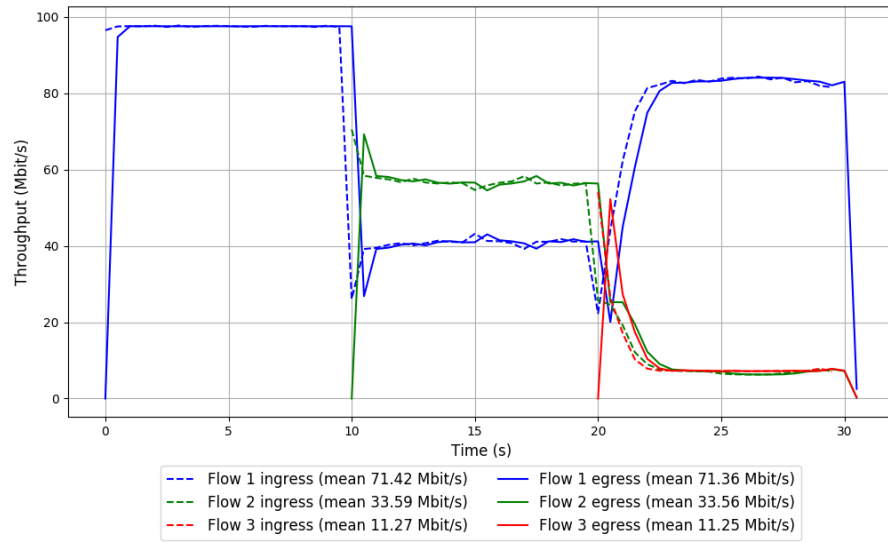3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	63.59	39.49	22.75	20.13	20.70	21.31	0.00	0.00	0.01
Copa	5	0.47	11.47	3.98	2.36	2.30	2.46	95.07	66.60	79.28
TCP Cubic	5	61.76	40.42	26.45	32.45	32.50	32.95	0.04	0.04	0.06
FillP	5	45.53	54.79	36.41	28.29	29.38	29.30	11.72	16.14	33.52
FillP-Sheep	5	55.48	28.67	44.15	19.63	23.14	26.43	0.81	1.04	2.57
Indigo	5	45.83	43.98	68.85	11.55	13.21	14.16	0.00	0.00	0.01
Indigo-MusesC3	5	62.93	33.64	38.03	9.86	10.68	9.83	0.00	0.00	0.01
Indigo-MusesC5	5	37.19	37.88	35.64	19.52	21.10	22.84	0.01	0.00	0.02
Indigo-MusesD	5	40.59	38.81	25.18	21.13	19.90	24.82	0.64	3.62	1.83
Indigo-MusesT	5	59.57	43.15	26.52	22.47	24.90	28.12	0.08	0.19	0.40
LEDBAT	5	70.87	26.89	25.68	31.99	31.82	32.18	0.02	0.19	0.22
Muses_DecisionTree	5	7.40	6.73	9.26	1.99	1.79	2.51	0.00	0.00	0.01
Muses_DecisionTreeH0	5	15.25	8.14	8.77	1.80	2.39	2.34	0.00	0.00	0.00
Muses_DecisionTreeR0	5	7.03	13.15	13.79	2.48	3.29	2.35	0.00	0.00	0.00
PCC-Allegro	5	69.25	18.29	11.66	9.12	9.96	12.42	0.15	0.46	0.86
PCC-Expr	5	8.61	4.58	4.04	3.27	2.39	2.37	24.82	26.75	29.92
QUIC Cubic	5	58.11	33.83	28.28	31.01	31.21	30.85	0.13	0.18	0.19
SCReAM	5	0.22	0.22	0.22	1.93	1.62	1.87	0.00	0.00	0.00
Sprout	5	41.97	37.93	31.82	20.88	22.35	24.02	0.02	0.02	0.00
TaoVA-100x	5	0.00	7.32	9.71	2.03	2.09	2.05	95.92	76.03	87.57
TCP Vegas	5	45.79	48.05	56.23	7.11	4.11	4.77	0.00	0.00	0.00
Verus	5	43.03	28.08	29.12	26.23	32.02	32.59	6.13	16.02	14.38
PCC-Vivace	5	53.62	34.53	25.32	2.53	3.49	5.22	0.00	0.01	0.01
WebRTC media	5	0.05	0.05	0.05	4.27	5.12	5.78	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-17 23:00:03
End at: 2019-07-17 23:00:33
Local clock offset: -5.84 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2019-07-18 01:10:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 27.599 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 71.36 Mbit/s
95th percentile per-packet one-way delay: 27.749 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 33.56 Mbit/s
95th percentile per-packet one-way delay: 26.616 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 27.849 ms
Loss rate: 0.03%
```
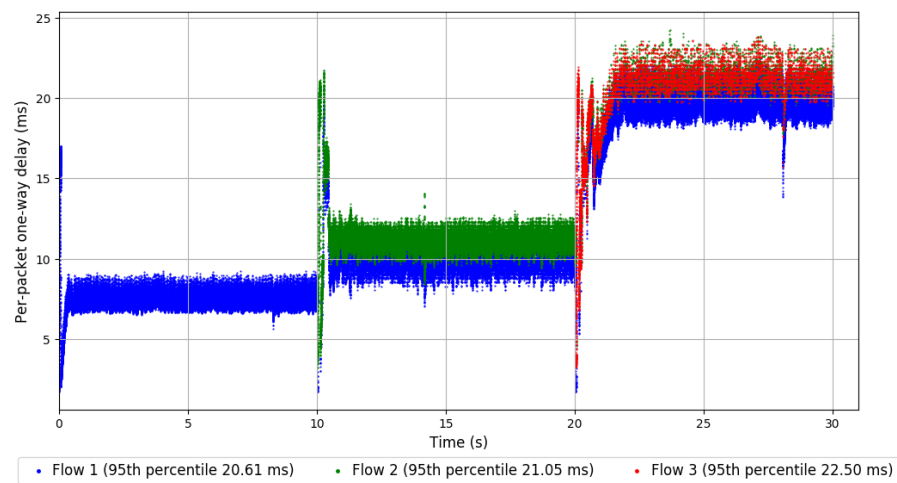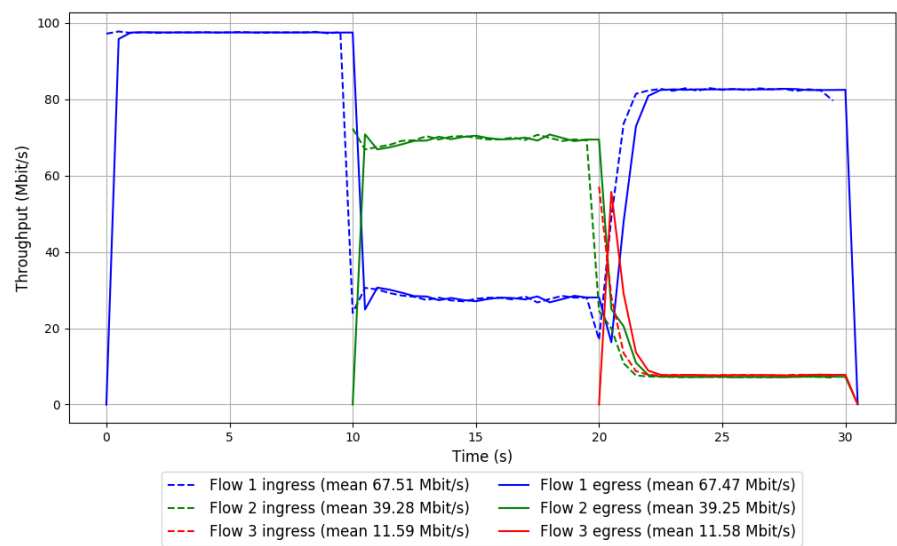
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-07-17 23:27:18
End at: 2019-07-17 23:27:48
Local clock offset: -7.272 ms
Remote clock offset: 0.209 ms


# Below is generated by plot.py at 2019-07-18 01:10:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 20.956 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.47 Mbit/s
95th percentile per-packet one-way delay: 20.609 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.25 Mbit/s
95th percentile per-packet one-way delay: 21.049 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 22.498 ms
Loss rate: 0.00%
```
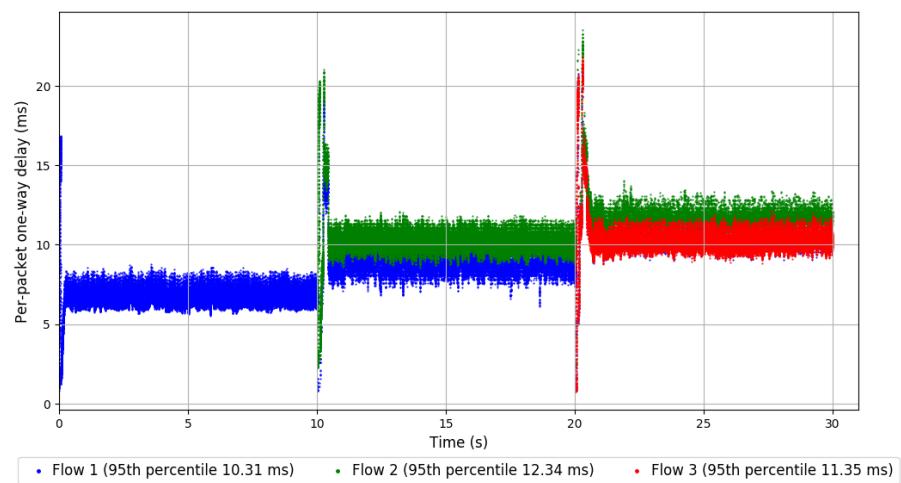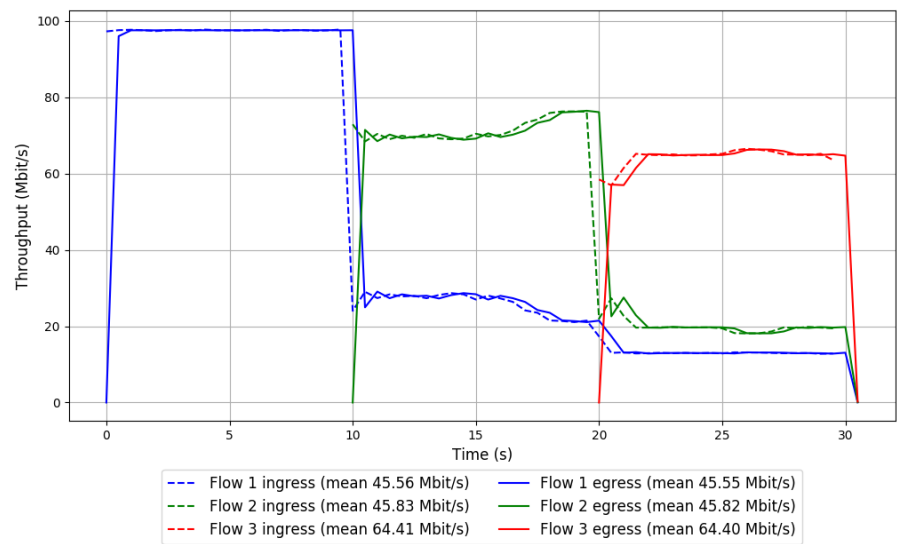
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-07-17 23:54:32
End at: 2019-07-17 23:55:02
Local clock offset: -5.572 ms
Remote clock offset: 0.352 ms


# Below is generated by plot.py at 2019-07-18 01:10:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 11.805 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 10.311 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 12.335 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.40 Mbit/s
95th percentile per-packet one-way delay: 11.350 ms
Loss rate: 0.00%
```
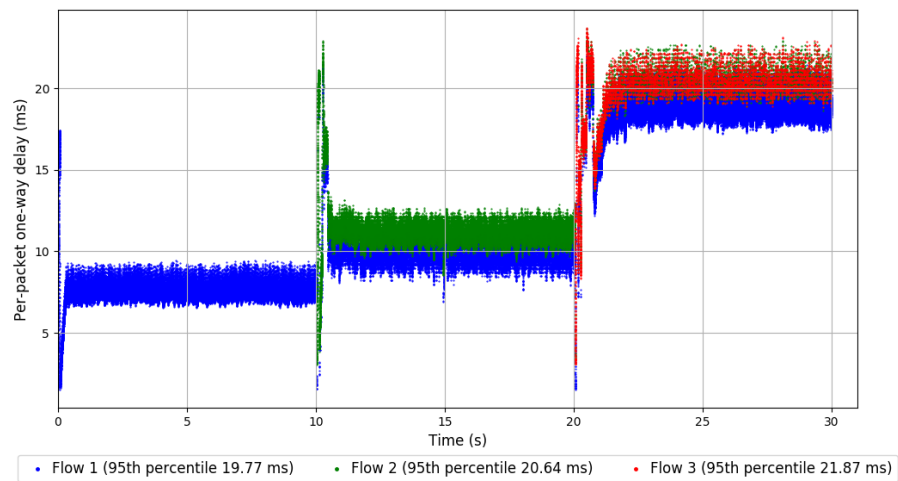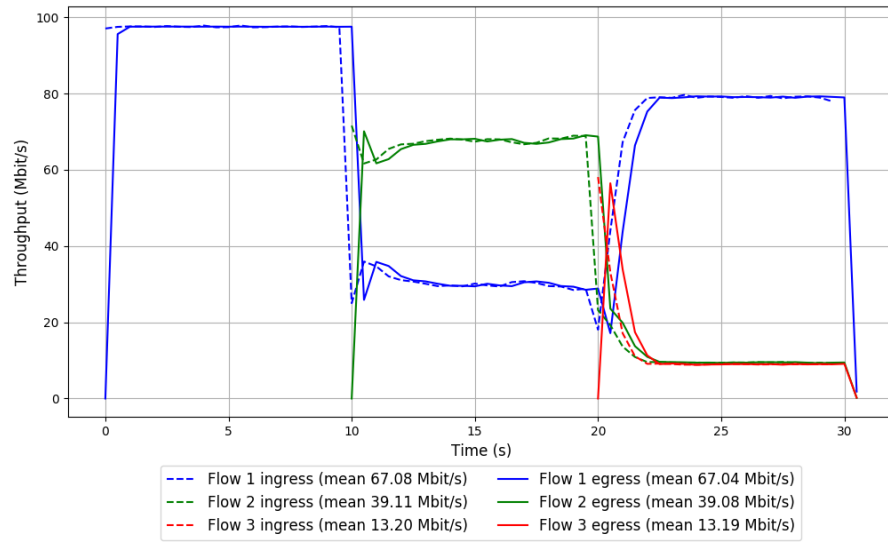
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-07-18 00:21:45
End at: 2019-07-18 00:22:15
Local clock offset: -7.563 ms
Remote clock offset: 0.486 ms


# Below is generated by plot.py at 2019-07-18 01:10:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 20.359 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.04 Mbit/s
95th percentile per-packet one-way delay: 19.769 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 20.638 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 21.869 ms
Loss rate: 0.01%
```
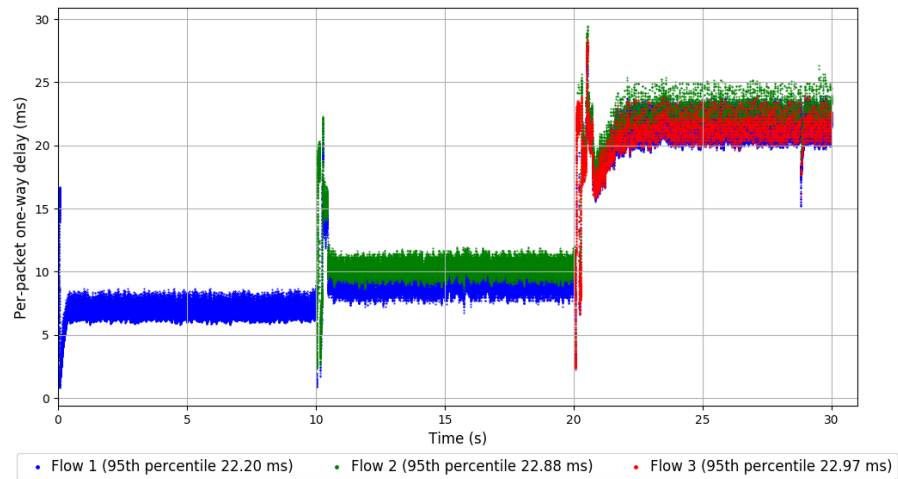
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-07-18 00:48:59
End at: 2019-07-18 00:49:29
Local clock offset: -5.42 ms
Remote clock offset: 0.621 ms


# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 22.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.55 Mbit/s
95th percentile per-packet one-way delay: 22.196 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.74 Mbit/s
95th percentile per-packet one-way delay: 22.879 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.35 Mbit/s
95th percentile per-packet one-way delay: 22.974 ms
Loss rate: 0.00%
```
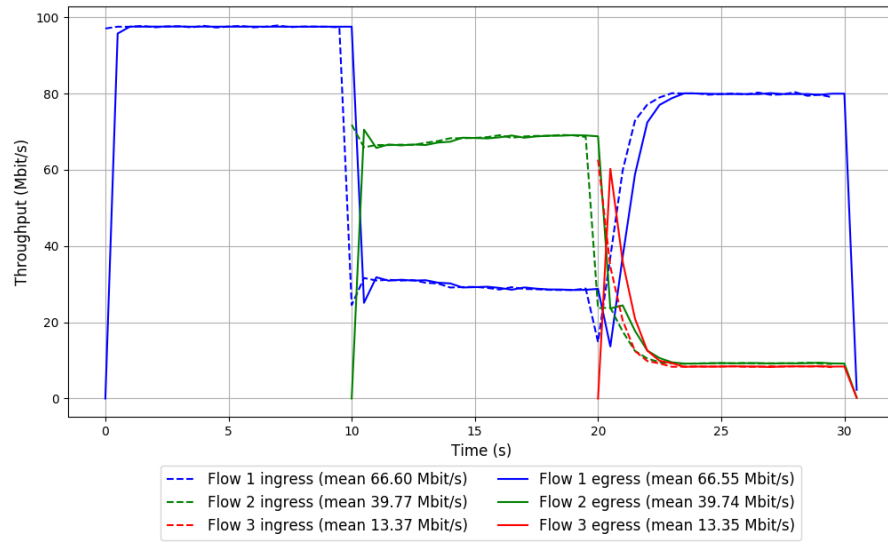
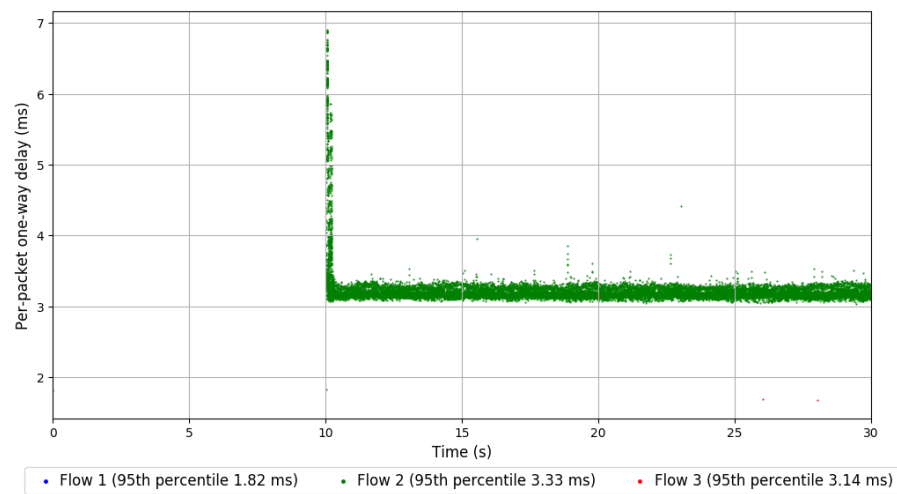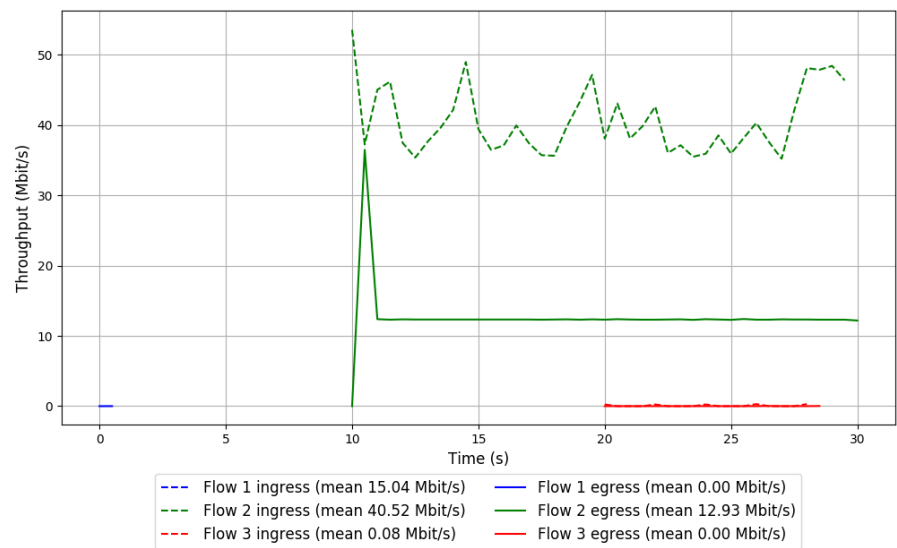Run 5: Report of TCP BBR — Data Link

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```
Run 1: Statistics of Copa

Start at: 2019-07-17 23:02:22
End at: 2019-07-17 23:02:52
Local clock offset: -6.857 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 3.332 ms
Loss rate: 68.11%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.817 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 3.332 ms
Loss rate: 68.08%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3.140 ms
Loss rate: 96.14%
```
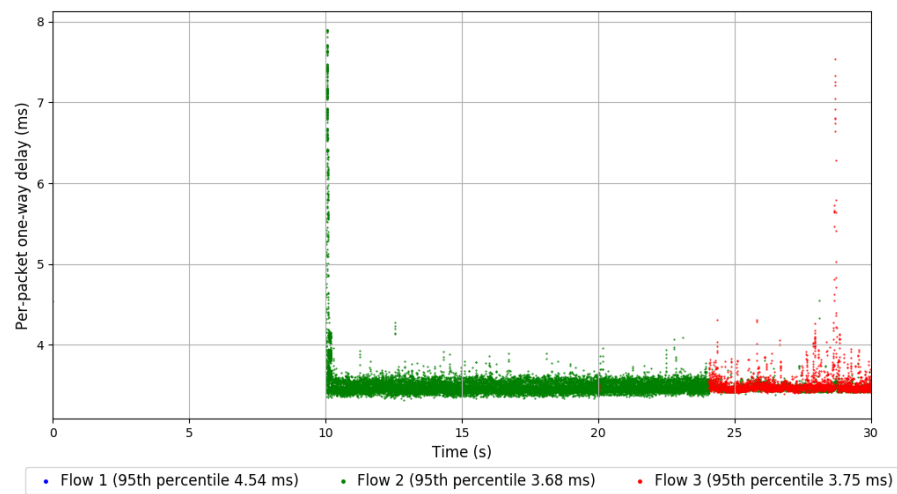
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 15.04 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 40.52 Mbit/s) --- Flow 2 egress (mean 12.93 Mbit/s) ---
Flow 3 ingress (mean 0.08 Mbit/s) --- Flow 3 egress (mean 0.00 Mbit/s) ---

Flow 1 (95th percentile 1.82 ms) · Flow 2 (95th percentile 3.33 ms) · Flow 3 (95th percentile 3.14 ms)

```
Run 2: Statistics of Copa

Start at: 2019-07-17 23:29:36
End at: 2019-07-17 23:30:06
Local clock offset: -7.247 ms
Remote clock offset: 0.219 ms


# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 3.705 ms
Loss rate: 66.24%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.540 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 11.05 Mbit/s
95th percentile per-packet one-way delay: 3.681 ms
Loss rate: 65.09%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 3.749 ms
Loss rate: 71.69%
```
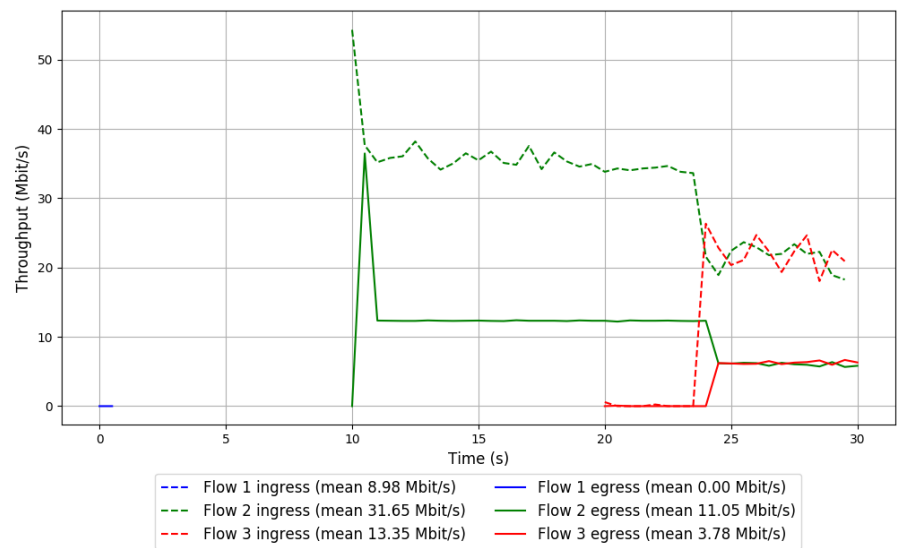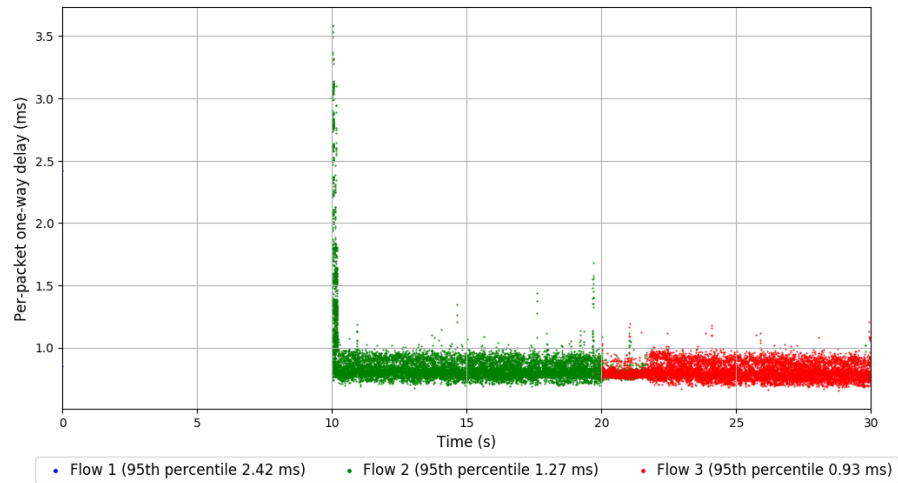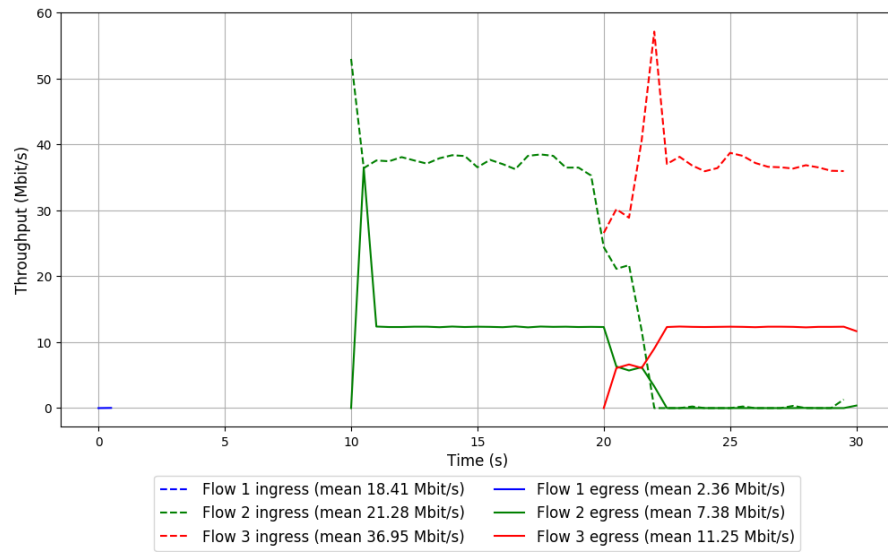
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 8.98 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 31.65 Mbit/s)   Flow 2 egress (mean 11.05 Mbit/s)
Flow 3 ingress (mean 13.35 Mbit/s)   Flow 3 egress (mean 3.78 Mbit/s)

Flow 1 (95th percentile 4.54 ms)   Flow 2 (95th percentile 3.68 ms)   Flow 3 (95th percentile 3.75 ms)

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```
Run 3: Statistics of Copa

Start at: 2019-07-17 23:56:50
End at: 2019-07-17 23:57:20
Local clock offset: -5.78 ms
Remote clock offset: 0.391 ms


# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 0.992 ms
Loss rate: 67.29%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 2.422 ms
Loss rate: 82.17%
-- Flow 2:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 1.271 ms
Loss rate: 65.32%
-- Flow 3:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 0.926 ms
Loss rate: 69.55%
```
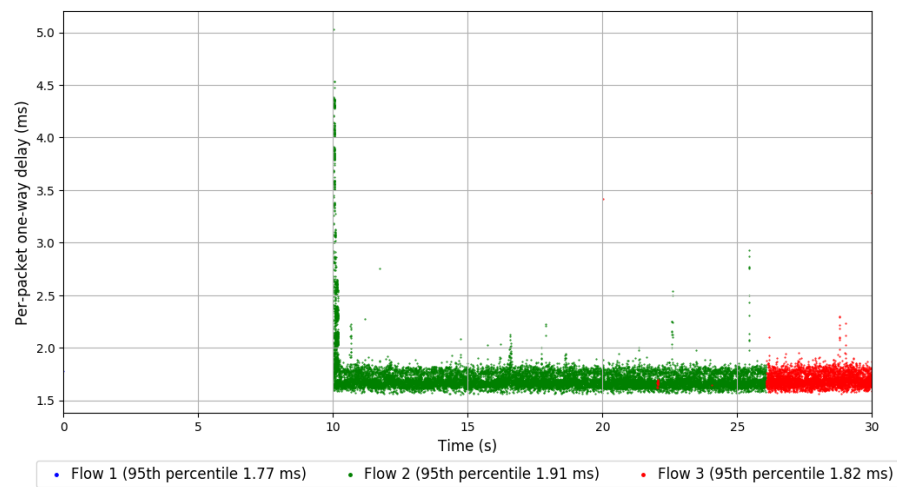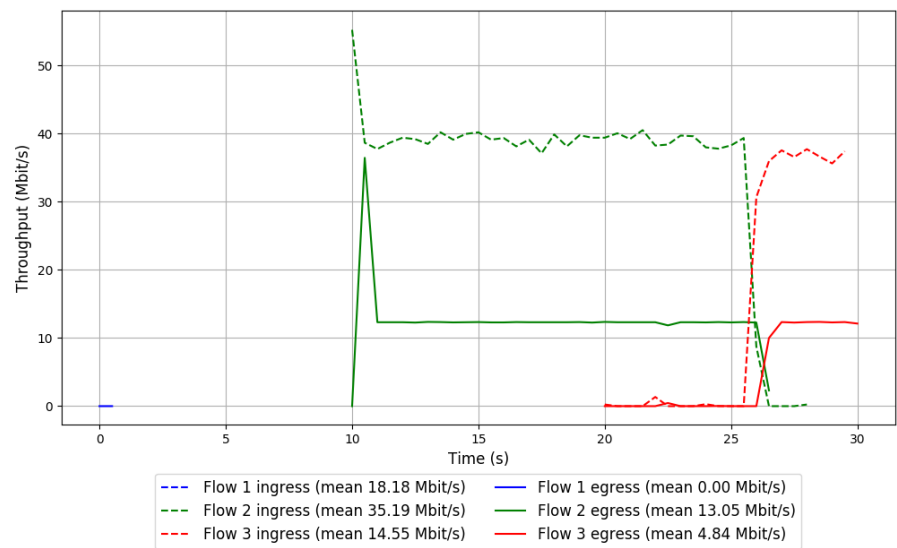
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 18.41 Mbit/s) --- Flow 1 egress (mean 2.36 Mbit/s)
Flow 2 ingress (mean 21.28 Mbit/s) --- Flow 2 egress (mean 7.38 Mbit/s)
Flow 3 ingress (mean 36.95 Mbit/s) --- Flow 3 egress (mean 11.25 Mbit/s)

Flow 1 (95th percentile 2.42 ms)   Flow 2 (95th percentile 1.27 ms)   Flow 3 (95th percentile 0.93 ms)
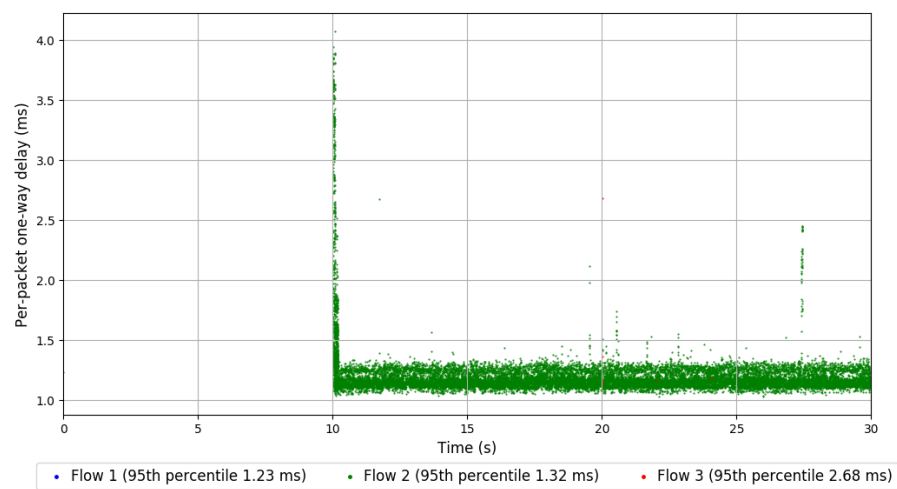
20

```
Run 4: Statistics of Copa

Start at: 2019-07-18 00:24:04
End at: 2019-07-18 00:24:34
Local clock offset: -7.569 ms
Remote clock offset: 0.572 ms

# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 1.861 ms
Loss rate: 66.98%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.774 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 13.05 Mbit/s
95th percentile per-packet one-way delay: 1.911 ms
Loss rate: 67.04%
-- Flow 3:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 1.816 ms
Loss rate: 66.70%
```
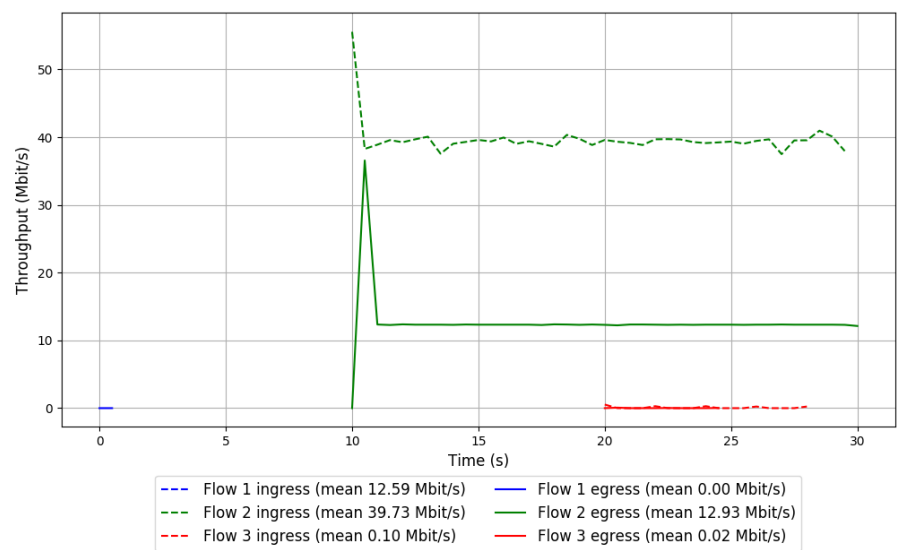
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 18.18 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 35.19 Mbit/s) --- Flow 2 egress (mean 13.05 Mbit/s)
Flow 3 ingress (mean 14.55 Mbit/s) --- Flow 3 egress (mean 4.84 Mbit/s)

Flow 1 (95th percentile 1.77 ms) • Flow 2 (95th percentile 1.91 ms) • Flow 3 (95th percentile 1.82 ms)

```
Run 5: Statistics of Copa

Start at: 2019-07-18 00:51:17
End at: 2019-07-18 00:51:47
Local clock offset: -5.601 ms
Remote clock offset: 0.67 ms


# Below is generated by plot.py at 2019-07-18 01:10:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 1.320 ms
Loss rate: 67.48%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.233 ms
Loss rate: 97.92%
-- Flow 2:
Average throughput: 12.93 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 67.45%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 2.681 ms
Loss rate: 92.31%
```
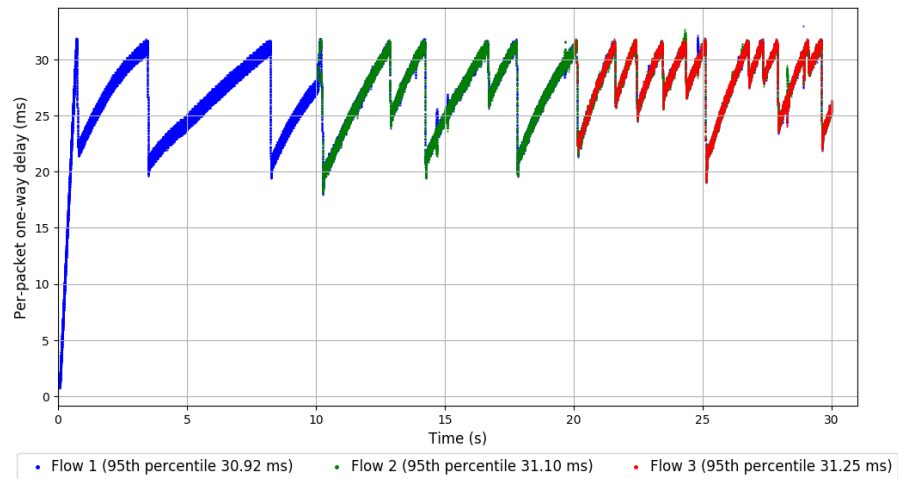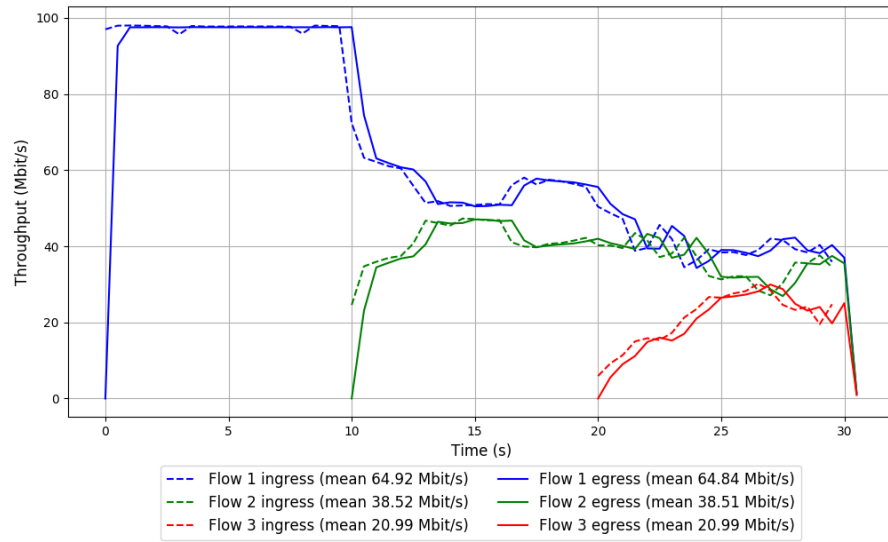
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 12.59 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 39.73 Mbit/s) --- Flow 2 egress (mean 12.93 Mbit/s) ---
Flow 3 ingress (mean 0.10 Mbit/s) --- Flow 3 egress (mean 0.02 Mbit/s) ---

• Flow 1 (95th percentile 1.23 ms)   • Flow 2 (95th percentile 1.32 ms)   • Flow 3 (95th percentile 2.68 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-17 23:11:25
End at: 2019-07-17 23:11:55
Local clock offset: -6.404 ms
Remote clock offset: 0.007 ms


# Below is generated by plot.py at 2019-07-18 01:11:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.45 Mbit/s
95th percentile per-packet one-way delay: 31.058 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 64.84 Mbit/s
95th percentile per-packet one-way delay: 30.924 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.51 Mbit/s
95th percentile per-packet one-way delay: 31.098 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 20.99 Mbit/s
95th percentile per-packet one-way delay: 31.252 ms
Loss rate: 0.05%
```
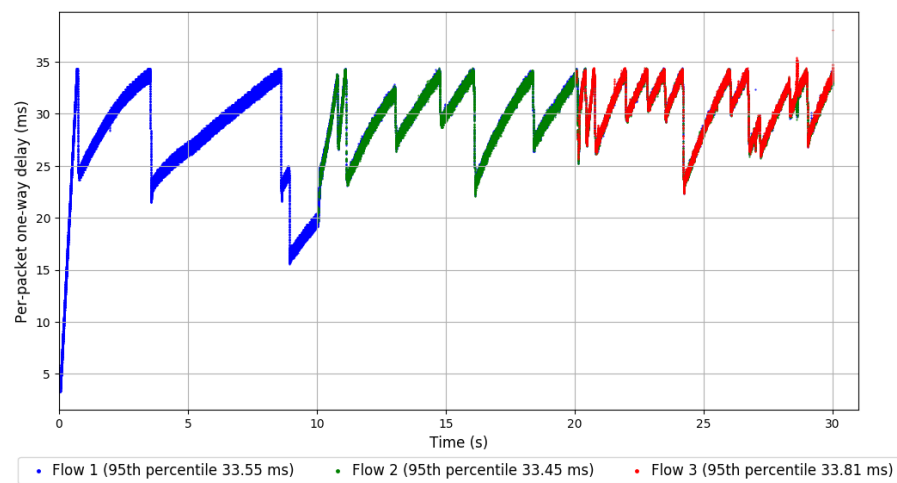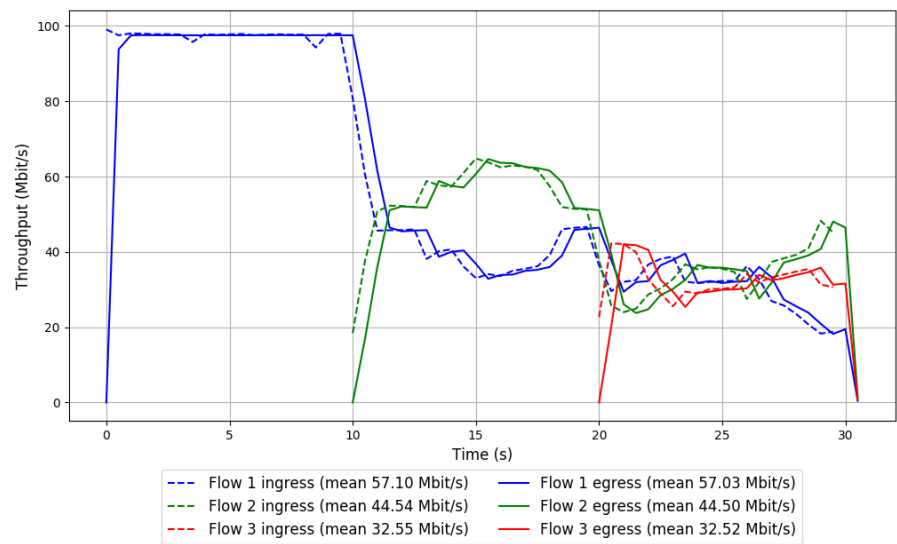
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-17 23:38:40
End at: 2019-07-17 23:39:10
Local clock offset: -6.815 ms
Remote clock offset: 0.212 ms


# Below is generated by plot.py at 2019-07-18 01:11:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 33.577 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 57.03 Mbit/s
95th percentile per-packet one-way delay: 33.547 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 44.50 Mbit/s
95th percentile per-packet one-way delay: 33.455 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 32.52 Mbit/s
95th percentile per-packet one-way delay: 33.814 ms
Loss rate: 0.09%
```
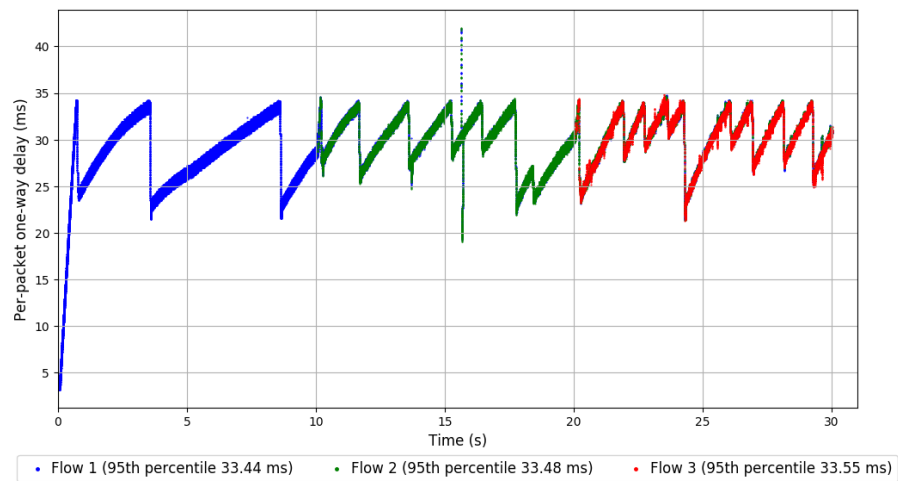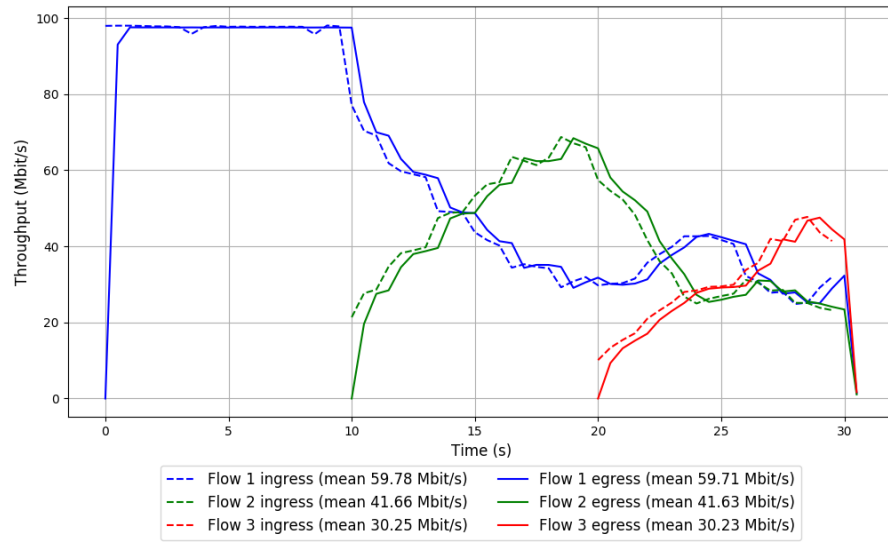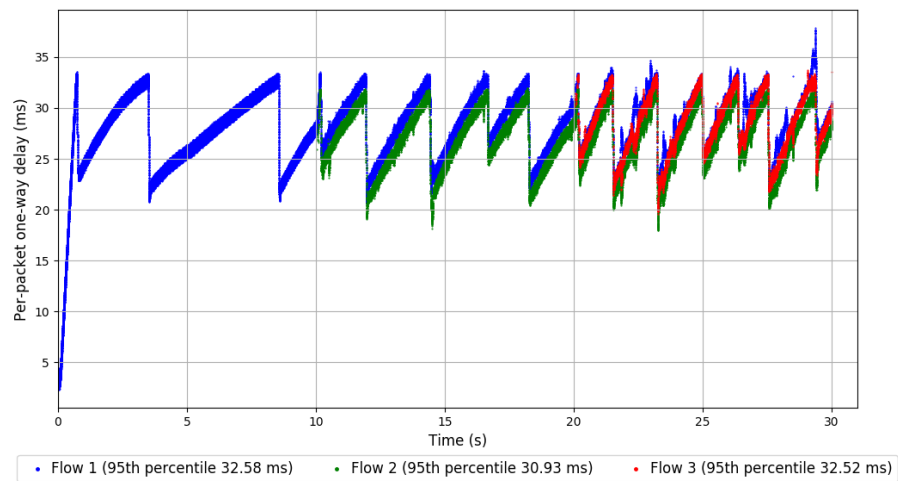
Run 2: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 57.10 Mbit/s)   —— Flow 1 egress (mean 57.03 Mbit/s)
- - - - Flow 2 ingress (mean 44.54 Mbit/s)   —— Flow 2 egress (mean 44.50 Mbit/s)
- - - - Flow 3 ingress (mean 32.55 Mbit/s)   —— Flow 3 egress (mean 32.52 Mbit/s)

- Flow 1 (95th percentile 33.55 ms)   • Flow 2 (95th percentile 33.45 ms)   • Flow 3 (95th percentile 33.81 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-18 00:05:53
End at: 2019-07-18 00:06:23
Local clock offset: -7.177 ms
Remote clock offset: 0.509 ms


# Below is generated by plot.py at 2019-07-18 01:11:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 33.463 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 59.71 Mbit/s
95th percentile per-packet one-way delay: 33.439 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 41.63 Mbit/s
95th percentile per-packet one-way delay: 33.477 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.23 Mbit/s
95th percentile per-packet one-way delay: 33.547 ms
Loss rate: 0.05%
```
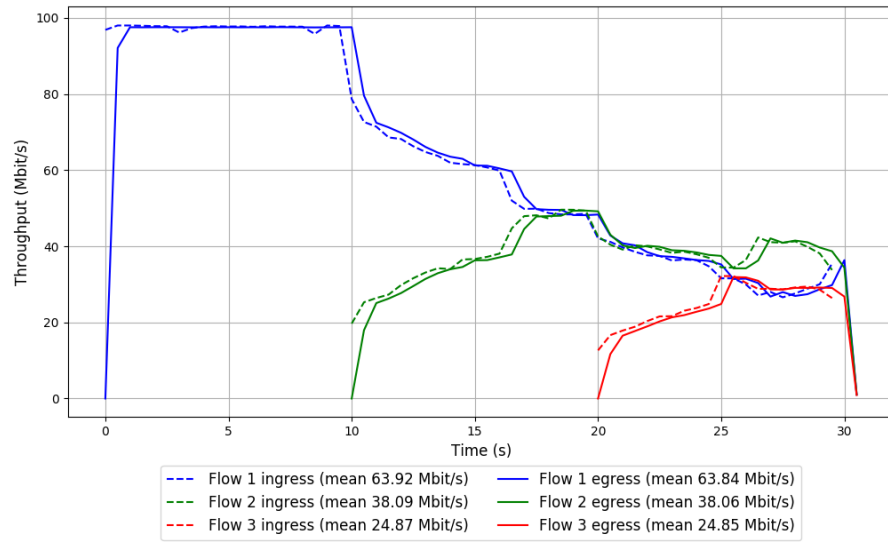
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-18 00:33:07
End at: 2019-07-18 00:33:37
Local clock offset: -5.946 ms
Remote clock offset: 0.554 ms


# Below is generated by plot.py at 2019-07-18 01:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.43 Mbit/s
95th percentile per-packet one-way delay: 32.373 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 63.84 Mbit/s
95th percentile per-packet one-way delay: 32.577 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.06 Mbit/s
95th percentile per-packet one-way delay: 30.935 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 24.85 Mbit/s
95th percentile per-packet one-way delay: 32.523 ms
Loss rate: 0.06%
```
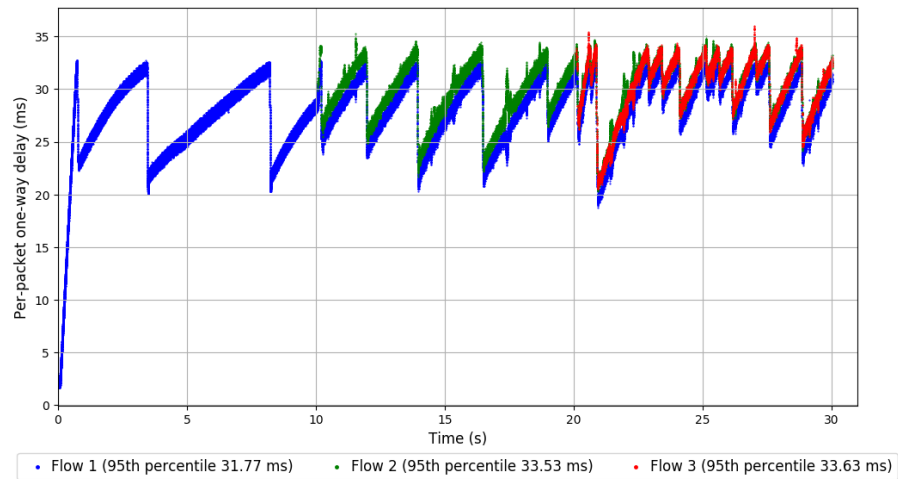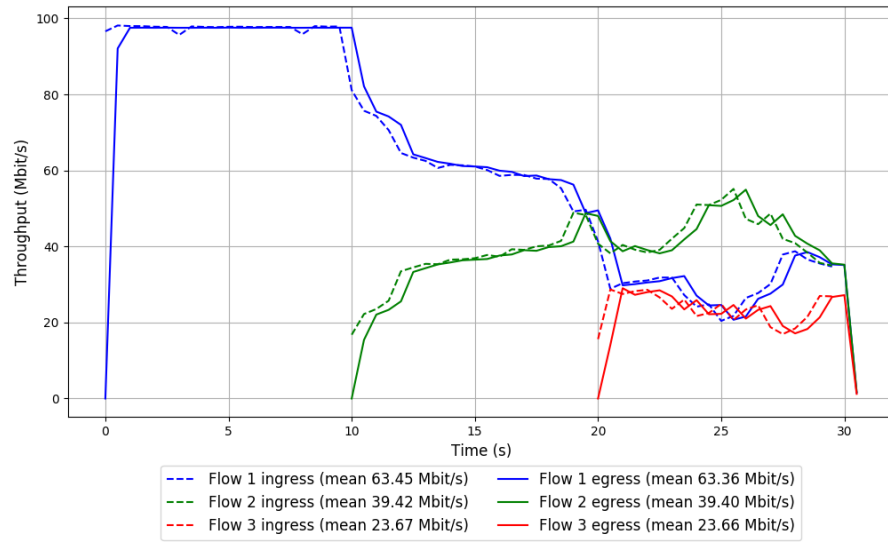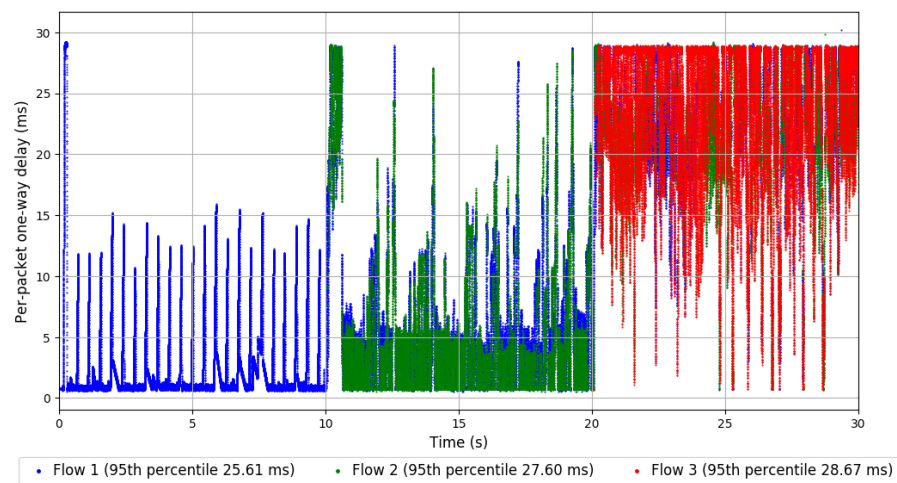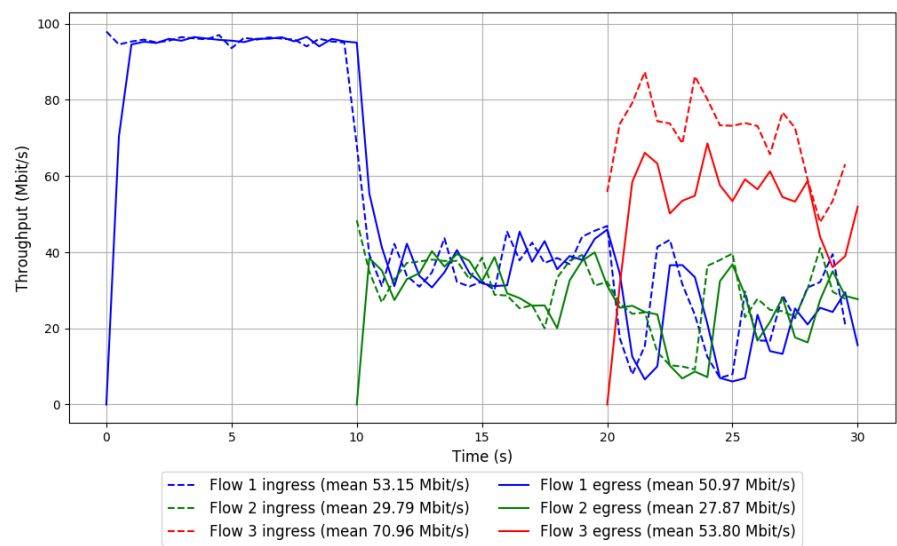
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-18 01:00:25
End at: 2019-07-18 01:00:55
Local clock offset: -6.229 ms
Remote clock offset: 0.66 ms


# Below is generated by plot.py at 2019-07-18 01:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 33.008 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 63.36 Mbit/s
95th percentile per-packet one-way delay: 31.773 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 39.40 Mbit/s
95th percentile per-packet one-way delay: 33.529 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 23.66 Mbit/s
95th percentile per-packet one-way delay: 33.634 ms
Loss rate: 0.07%
```

Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.45 Mbit/s) --- Flow 1 egress (mean 63.36 Mbit/s)
Flow 2 ingress (mean 39.42 Mbit/s) --- Flow 2 egress (mean 39.40 Mbit/s)
Flow 3 ingress (mean 23.67 Mbit/s) --- Flow 3 egress (mean 23.66 Mbit/s)

Flow 1 (95th percentile 31.77 ms)   Flow 2 (95th percentile 33.53 ms)   Flow 3 (95th percentile 33.63 ms)

34

```
Run 1: Statistics of FillP

Start at: 2019-07-17 23:03:28
End at: 2019-07-17 23:03:58
Local clock offset: -6.151 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2019-07-18 01:12:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.39 Mbit/s
95th percentile per-packet one-way delay: 28.428 ms
Loss rate: 9.39%
-- Flow 1:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 25.610 ms
Loss rate: 4.03%
-- Flow 2:
Average throughput: 27.87 Mbit/s
95th percentile per-packet one-way delay: 27.599 ms
Loss rate: 6.36%
-- Flow 3:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 28.666 ms
Loss rate: 24.07%
```
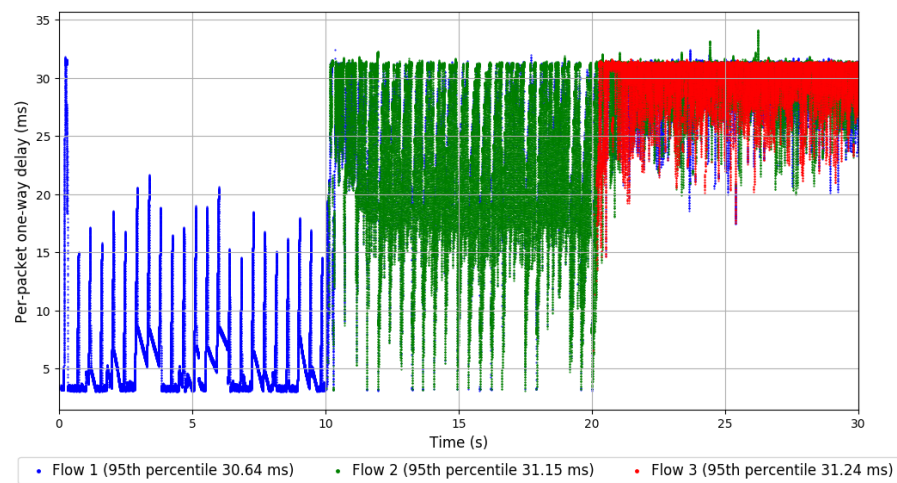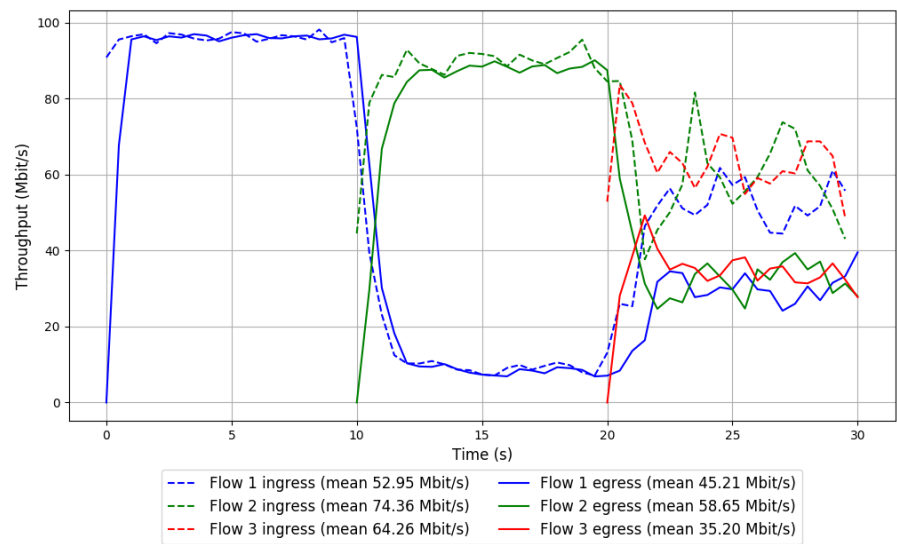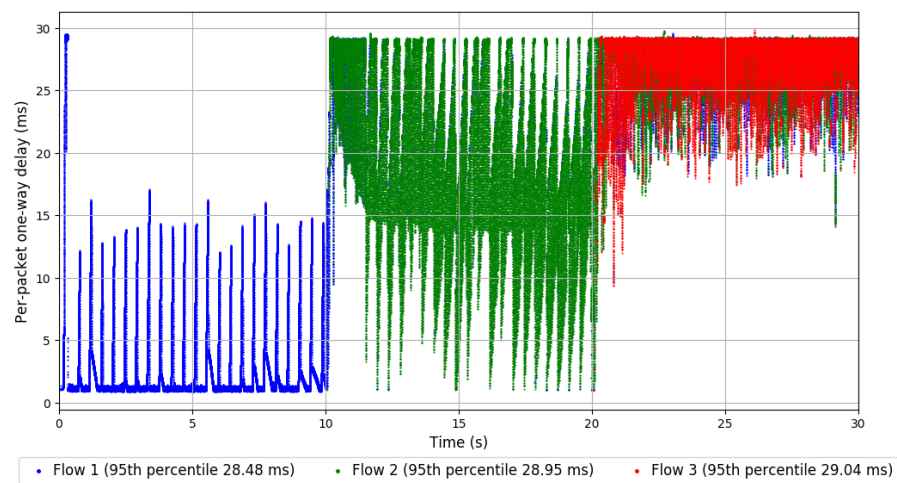
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 53.15 Mbit/s) --- Flow 1 egress (mean 50.97 Mbit/s)
Flow 2 ingress (mean 29.79 Mbit/s) --- Flow 2 egress (mean 27.87 Mbit/s)
Flow 3 ingress (mean 70.96 Mbit/s) --- Flow 3 egress (mean 53.80 Mbit/s)

Flow 1 (95th percentile 25.61 ms)   Flow 2 (95th percentile 27.60 ms)   Flow 3 (95th percentile 28.67 ms)

36

```
Run 2: Statistics of FillP

Start at: 2019-07-17 23:30:42
End at: 2019-07-17 23:31:12
Local clock offset: -6.946 ms
Remote clock offset: 0.269 ms


# Below is generated by plot.py at 2019-07-18 01:12:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.92 Mbit/s
95th percentile per-packet one-way delay: 31.113 ms
Loss rate: 22.40%
-- Flow 1:
Average throughput: 45.21 Mbit/s
95th percentile per-packet one-way delay: 30.641 ms
Loss rate: 14.55%
-- Flow 2:
Average throughput: 58.65 Mbit/s
95th percentile per-packet one-way delay: 31.152 ms
Loss rate: 21.03%
-- Flow 3:
Average throughput: 35.20 Mbit/s
95th percentile per-packet one-way delay: 31.238 ms
Loss rate: 45.11%
```
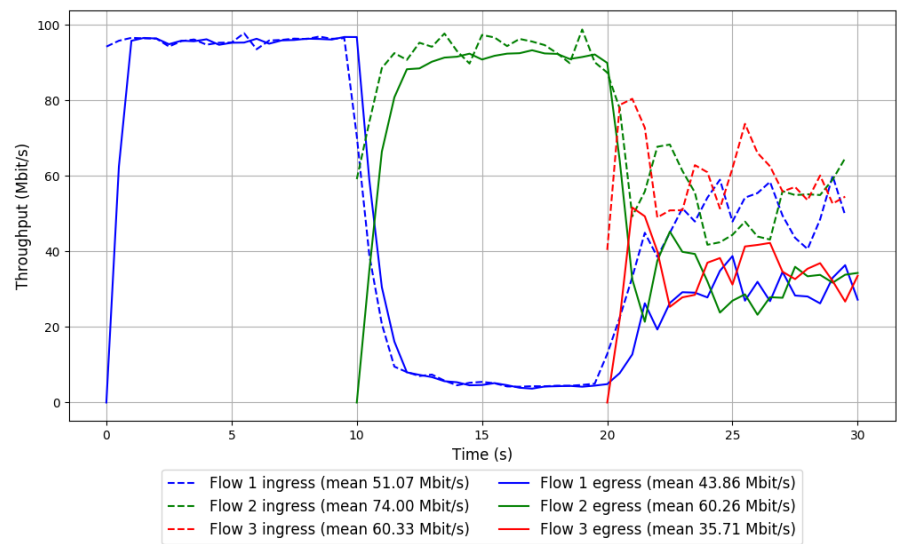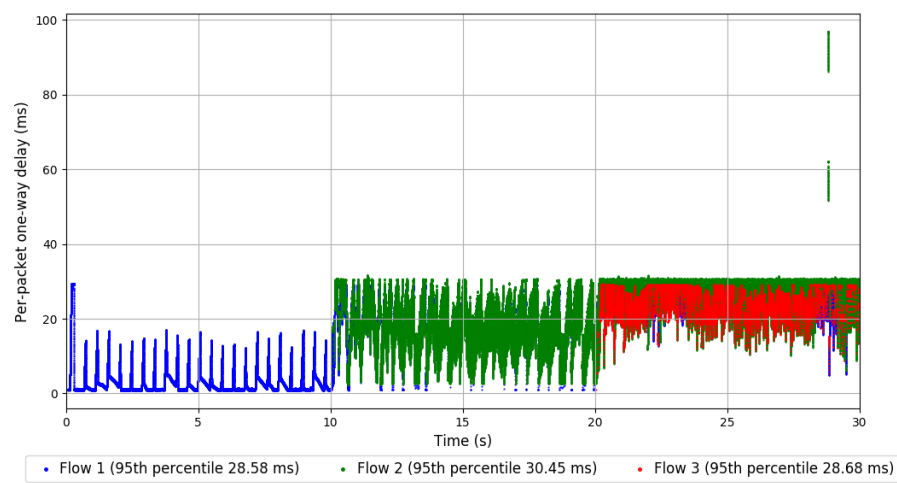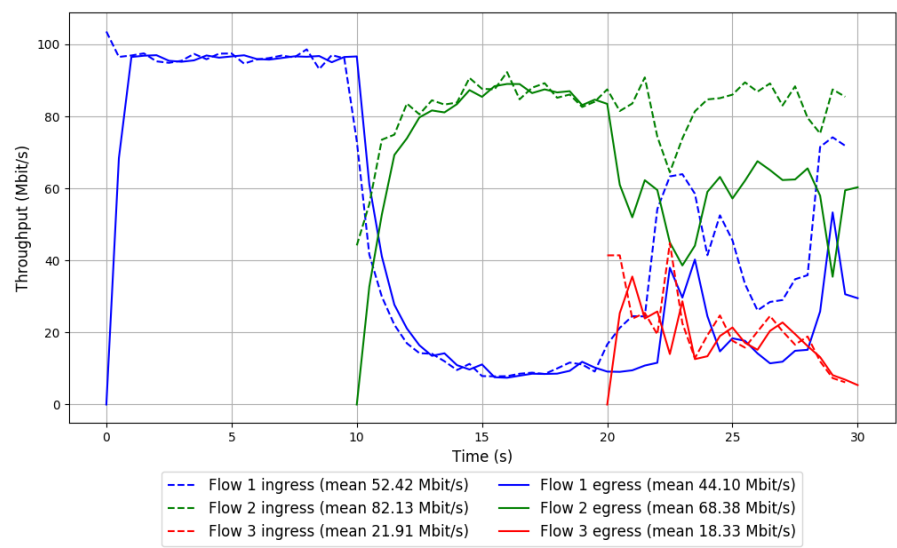
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 52.95 Mbit/s)   Flow 1 egress (mean 45.21 Mbit/s)
Flow 2 ingress (mean 74.36 Mbit/s)   Flow 2 egress (mean 58.65 Mbit/s)
Flow 3 ingress (mean 64.26 Mbit/s)   Flow 3 egress (mean 35.20 Mbit/s)

Flow 1 (95th percentile 30.64 ms)   Flow 2 (95th percentile 31.15 ms)   Flow 3 (95th percentile 31.24 ms)

```
Run 3: Statistics of FillP

Start at: 2019-07-17 23:57:56
End at: 2019-07-17 23:58:26
Local clock offset: -6.168 ms
Remote clock offset: 0.4 ms


# Below is generated by plot.py at 2019-07-18 01:12:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 28.914 ms
Loss rate: 20.29%
-- Flow 1:
Average throughput: 43.86 Mbit/s
95th percentile per-packet one-way delay: 28.475 ms
Loss rate: 14.05%
-- Flow 2:
Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: 28.954 ms
Loss rate: 18.46%
-- Flow 3:
Average throughput: 35.71 Mbit/s
95th percentile per-packet one-way delay: 29.038 ms
Loss rate: 40.77%
```
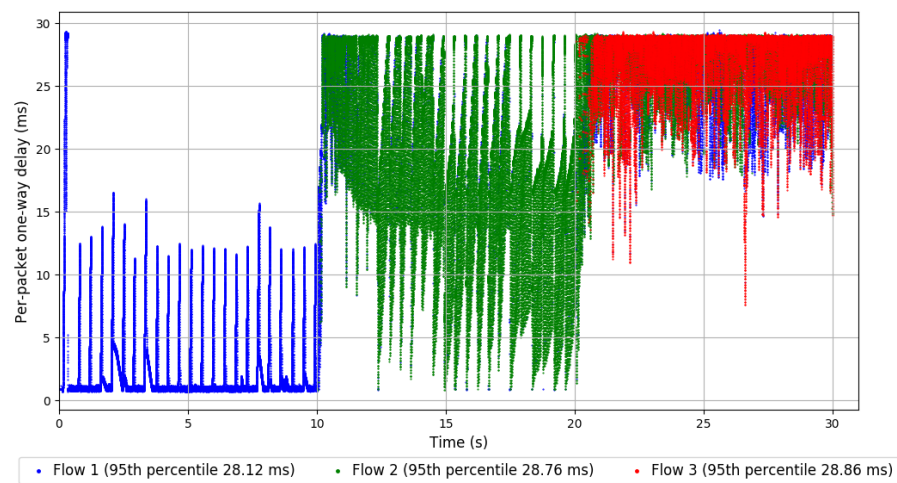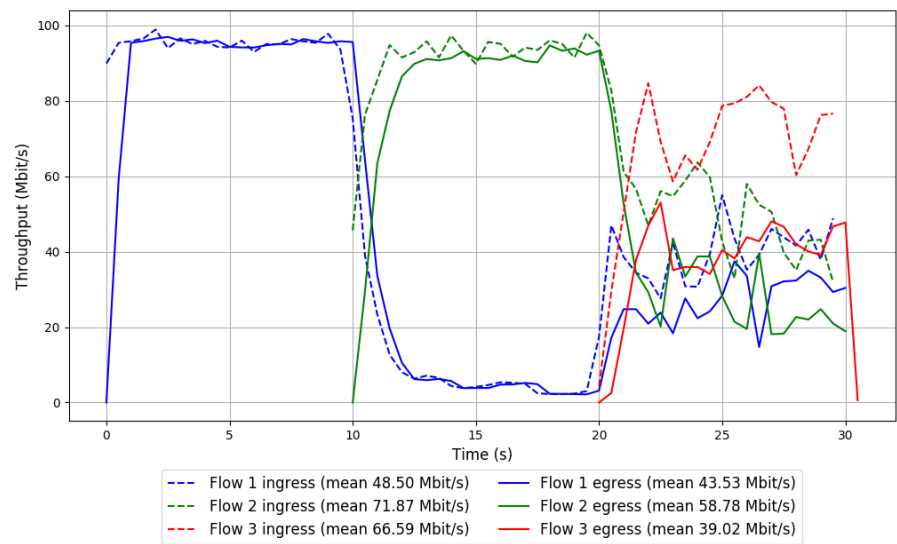
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 51.07 Mbit/s)   Flow 1 egress (mean 43.86 Mbit/s)
Flow 2 ingress (mean 74.00 Mbit/s)   Flow 2 egress (mean 60.26 Mbit/s)
Flow 3 ingress (mean 60.33 Mbit/s)   Flow 3 egress (mean 35.71 Mbit/s)

Flow 1 (95th percentile 28.48 ms)   Flow 2 (95th percentile 28.95 ms)   Flow 3 (95th percentile 29.04 ms)

```
Run 4: Statistics of FillP

Start at: 2019-07-18 00:25:10
End at: 2019-07-18 00:25:40
Local clock offset: -6.784 ms
Remote clock offset: 0.608 ms


# Below is generated by plot.py at 2019-07-18 01:12:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 30.299 ms
Loss rate: 16.25%
-- Flow 1:
Average throughput: 44.10 Mbit/s
95th percentile per-packet one-way delay: 28.583 ms
Loss rate: 15.79%
-- Flow 2:
Average throughput: 68.38 Mbit/s
95th percentile per-packet one-way delay: 30.447 ms
Loss rate: 16.68%
-- Flow 3:
Average throughput: 18.33 Mbit/s
95th percentile per-packet one-way delay: 28.676 ms
Loss rate: 16.26%
```
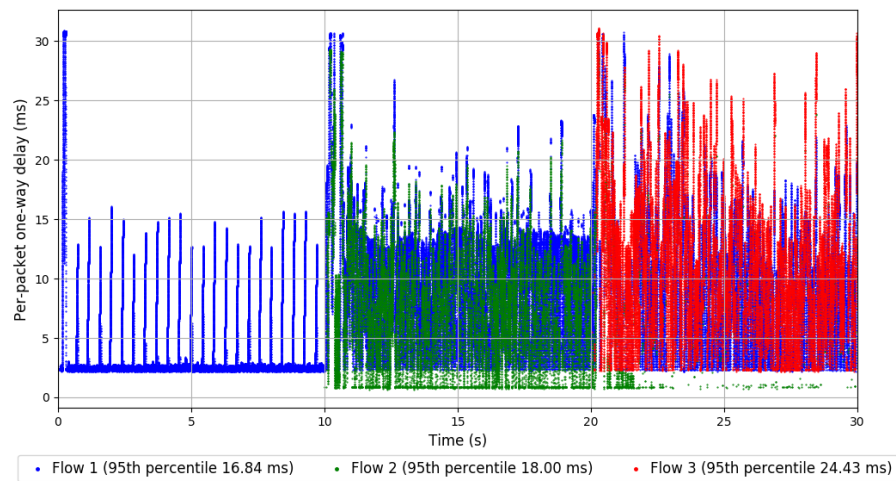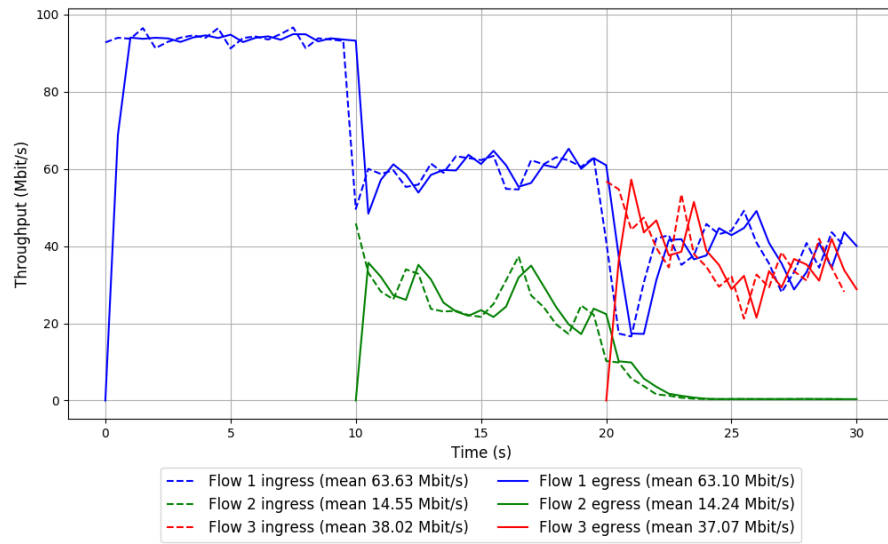
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 52.42 Mbit/s) --- Flow 1 egress (mean 44.10 Mbit/s)
Flow 2 ingress (mean 82.13 Mbit/s) --- Flow 2 egress (mean 68.38 Mbit/s)
Flow 3 ingress (mean 21.91 Mbit/s) --- Flow 3 egress (mean 18.33 Mbit/s)

Flow 1 (95th percentile 28.58 ms) Flow 2 (95th percentile 30.45 ms) Flow 3 (95th percentile 28.68 ms)

```
Run 5: Statistics of FillP

Start at: 2019-07-18 00:52:23
End at: 2019-07-18 00:52:53
Local clock offset: -5.37 ms
Remote clock offset: 0.663 ms


# Below is generated by plot.py at 2019-07-18 01:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 28.732 ms
Loss rate: 19.23%
-- Flow 1:
Average throughput: 43.53 Mbit/s
95th percentile per-packet one-way delay: 28.121 ms
Loss rate: 10.17%
-- Flow 2:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 28.763 ms
Loss rate: 18.15%
-- Flow 3:
Average throughput: 39.02 Mbit/s
95th percentile per-packet one-way delay: 28.860 ms
Loss rate: 41.41%
```
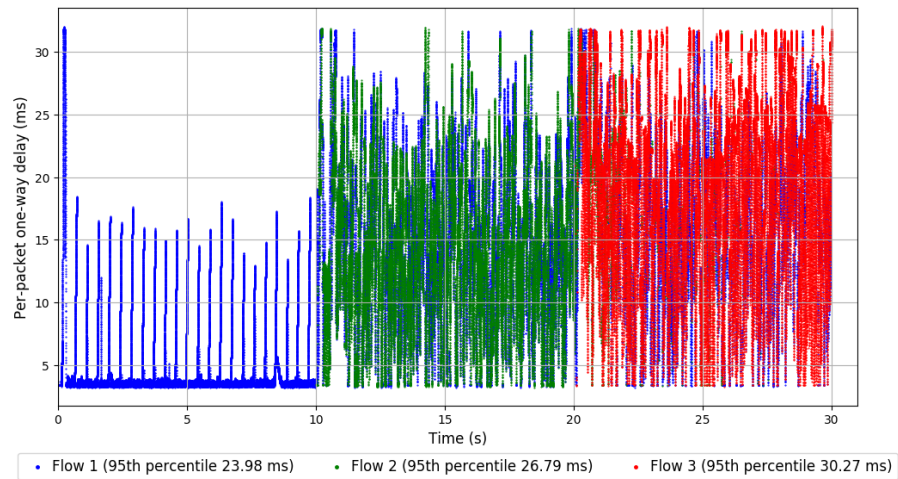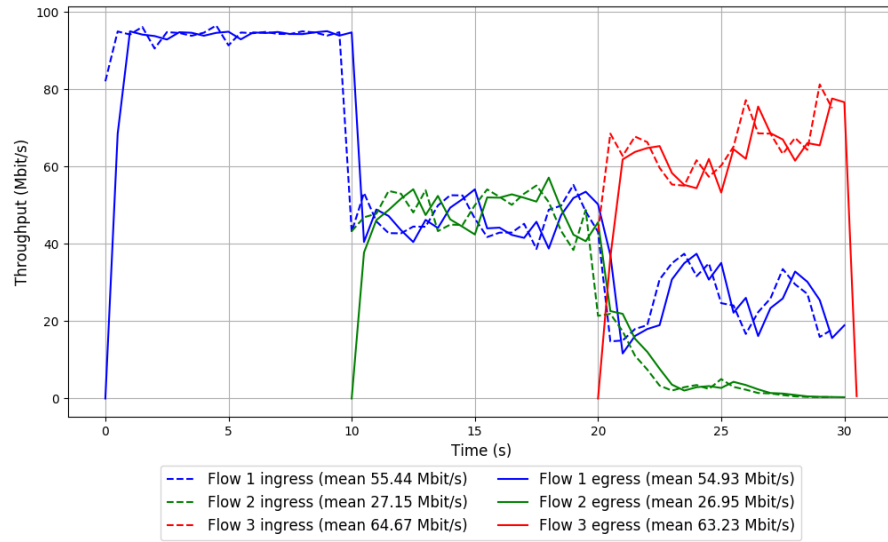
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 48.50 Mbit/s) --- Flow 1 egress (mean 43.53 Mbit/s) ---
Flow 2 ingress (mean 71.87 Mbit/s) --- Flow 2 egress (mean 58.78 Mbit/s) ---
Flow 3 ingress (mean 66.59 Mbit/s) --- Flow 3 egress (mean 39.02 Mbit/s) ---

Flow 1 (95th percentile 28.12 ms) · Flow 2 (95th percentile 28.76 ms) · Flow 3 (95th percentile 28.86 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-17 23:18:18
End at: 2019-07-17 23:18:48
Local clock offset: -6.642 ms
Remote clock offset: 0.062 ms

# Below is generated by plot.py at 2019-07-18 01:12:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.85 Mbit/s
95th percentile per-packet one-way delay: 18.879 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 63.10 Mbit/s
95th percentile per-packet one-way delay: 16.838 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 14.24 Mbit/s
95th percentile per-packet one-way delay: 18.004 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 37.07 Mbit/s
95th percentile per-packet one-way delay: 24.431 ms
Loss rate: 2.29%
```
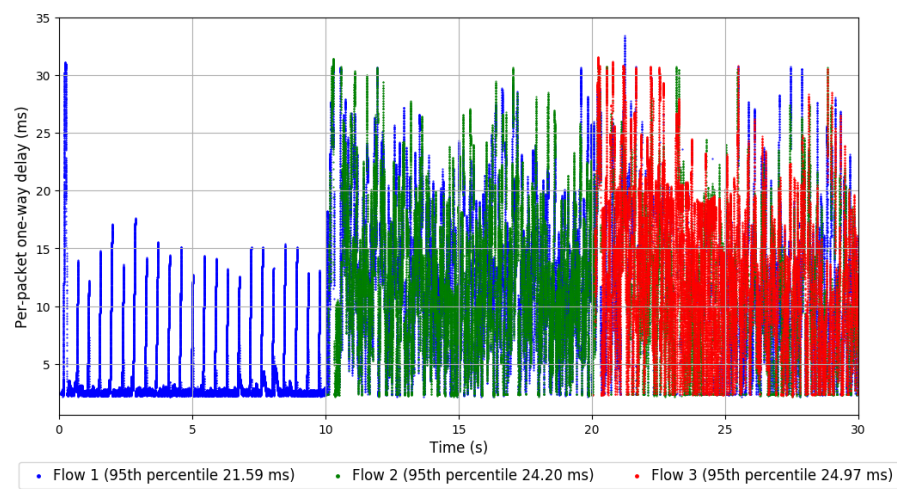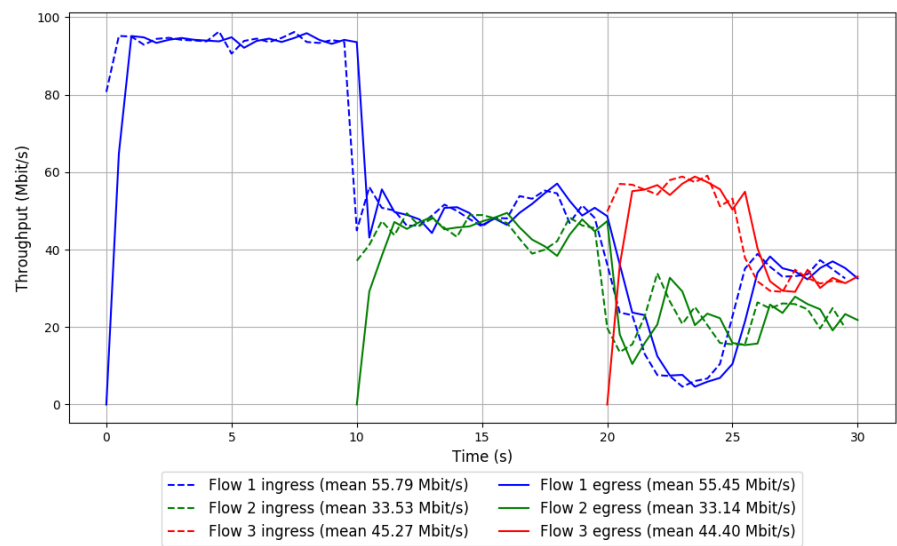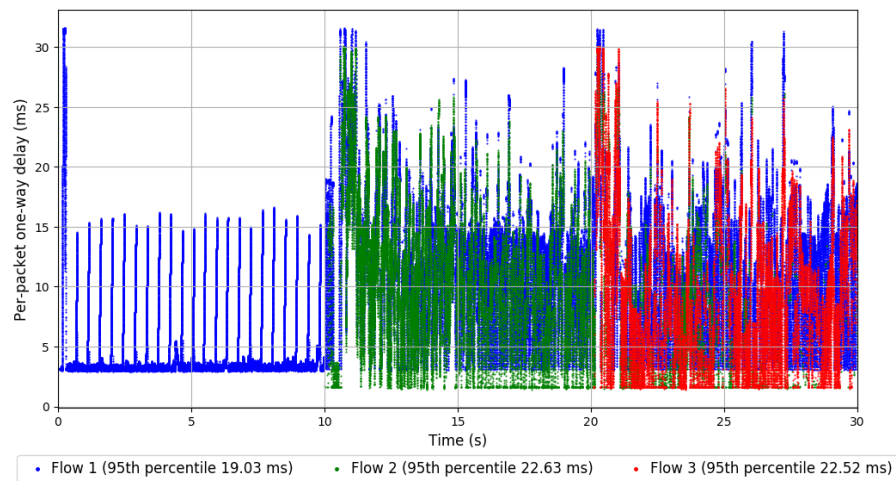
Run 1: Report of FillP-Sheep — Data Link

--- Flow 1 ingress (mean 63.63 Mbit/s) —— Flow 1 egress (mean 63.10 Mbit/s)
--- Flow 2 ingress (mean 14.55 Mbit/s) —— Flow 2 egress (mean 14.24 Mbit/s)
--- Flow 3 ingress (mean 38.02 Mbit/s) —— Flow 3 egress (mean 37.07 Mbit/s)

· Flow 1 (95th percentile 16.84 ms)   · Flow 2 (95th percentile 18.00 ms)   · Flow 3 (95th percentile 24.43 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-17 23:45:33
End at: 2019-07-17 23:46:03
Local clock offset: -6.671 ms
Remote clock offset: 0.377 ms

# Below is generated by plot.py at 2019-07-18 01:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.82 Mbit/s
95th percentile per-packet one-way delay: 27.170 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 54.93 Mbit/s
95th percentile per-packet one-way delay: 23.985 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 26.95 Mbit/s
95th percentile per-packet one-way delay: 26.785 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 63.23 Mbit/s
95th percentile per-packet one-way delay: 30.275 ms
Loss rate: 2.13%
```
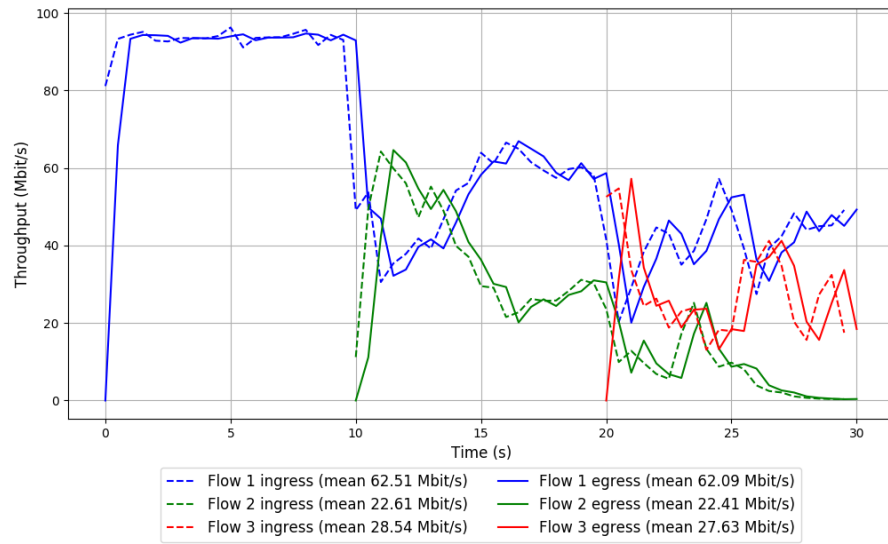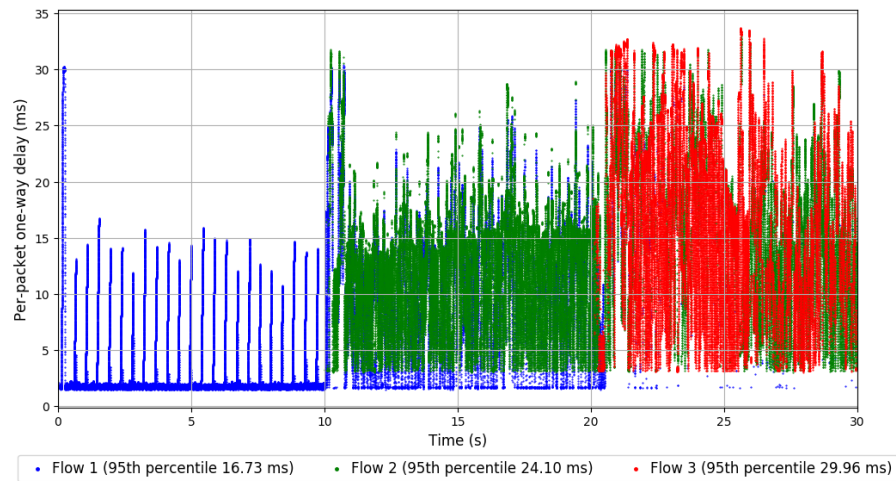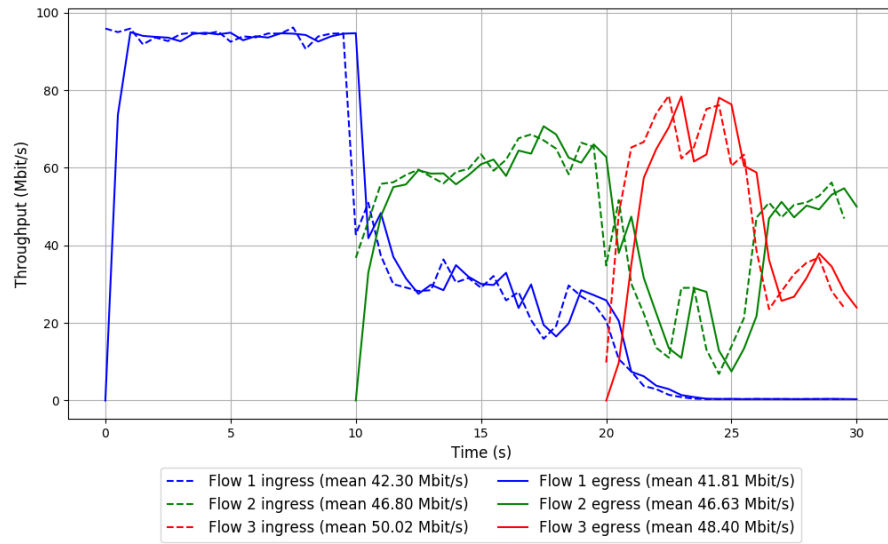
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 55.44 Mbit/s) Flow 1 egress (mean 54.93 Mbit/s)
Flow 2 ingress (mean 27.15 Mbit/s) Flow 2 egress (mean 26.95 Mbit/s)
Flow 3 ingress (mean 64.67 Mbit/s) Flow 3 egress (mean 63.23 Mbit/s)

Flow 1 (95th percentile 23.98 ms)   Flow 2 (95th percentile 26.79 ms)   Flow 3 (95th percentile 30.27 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-18 00:12:46
End at: 2019-07-18 00:13:16
Local clock offset: -6.592 ms
Remote clock offset: 0.538 ms


# Below is generated by plot.py at 2019-07-18 01:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.20 Mbit/s
95th percentile per-packet one-way delay: 23.111 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 55.45 Mbit/s
95th percentile per-packet one-way delay: 21.586 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 33.14 Mbit/s
95th percentile per-packet one-way delay: 24.200 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 44.40 Mbit/s
95th percentile per-packet one-way delay: 24.967 ms
Loss rate: 1.89%
```
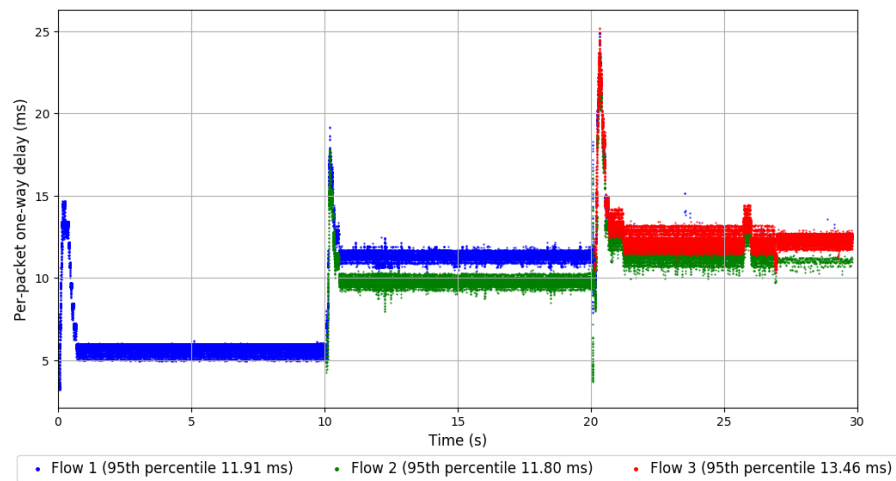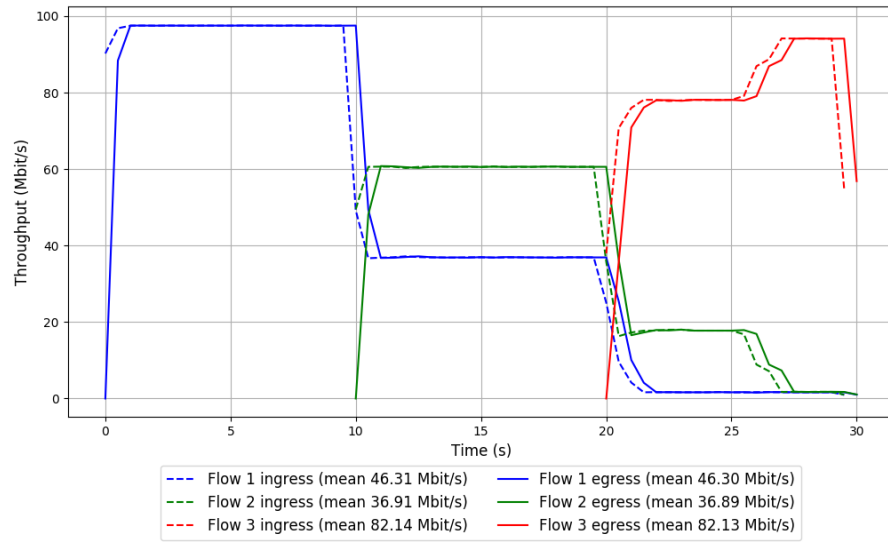
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 55.79 Mbit/s) --- Flow 1 egress (mean 55.45 Mbit/s)
Flow 2 ingress (mean 33.53 Mbit/s) --- Flow 2 egress (mean 33.14 Mbit/s)
Flow 3 ingress (mean 45.27 Mbit/s) --- Flow 3 egress (mean 44.40 Mbit/s)

• Flow 1 (95th percentile 21.59 ms)   • Flow 2 (95th percentile 24.20 ms)   • Flow 3 (95th percentile 24.97 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-18 00:40:01
End at: 2019-07-18 00:40:31
Local clock offset: -6.433 ms
Remote clock offset: 0.575 ms


# Below is generated by plot.py at 2019-07-18 01:13:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 20.527 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 62.09 Mbit/s
95th percentile per-packet one-way delay: 19.029 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 22.41 Mbit/s
95th percentile per-packet one-way delay: 22.627 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 27.63 Mbit/s
95th percentile per-packet one-way delay: 22.522 ms
Loss rate: 3.18%
```
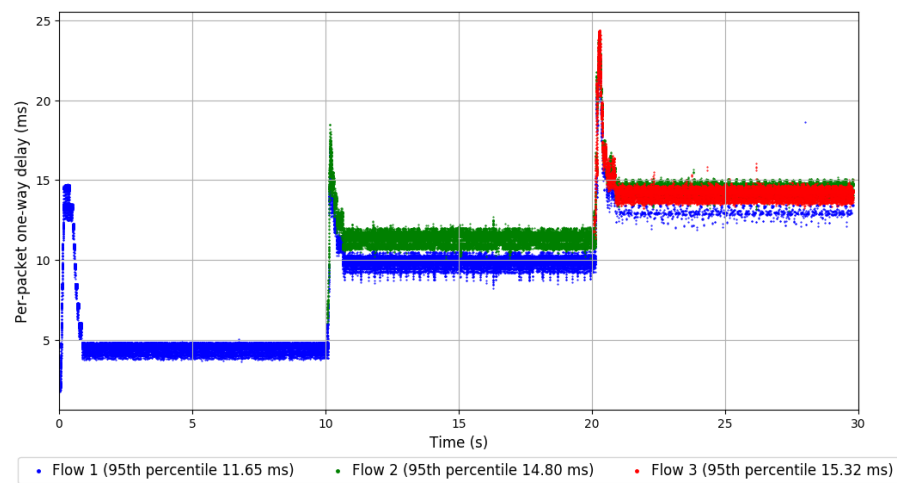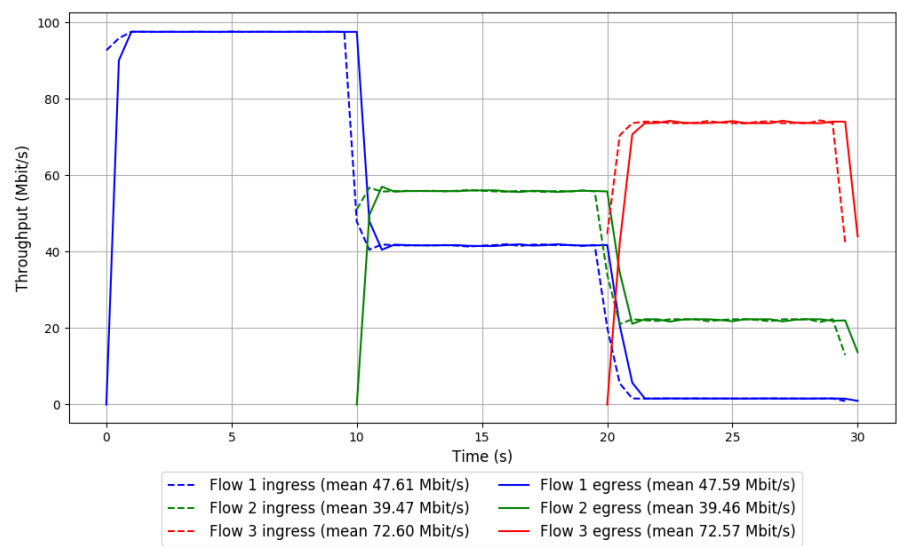
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 62.51 Mbit/s)   Flow 1 egress (mean 62.09 Mbit/s)
Flow 2 ingress (mean 22.61 Mbit/s)   Flow 2 egress (mean 22.41 Mbit/s)
Flow 3 ingress (mean 28.54 Mbit/s)   Flow 3 egress (mean 27.63 Mbit/s)

Flow 1 (95th percentile 19.03 ms)   Flow 2 (95th percentile 22.63 ms)   Flow 3 (95th percentile 22.52 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-18 01:07:18
End at: 2019-07-18 01:07:48
Local clock offset: -6.261 ms
Remote clock offset: 0.739 ms


# Below is generated by plot.py at 2019-07-18 01:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.83 Mbit/s
95th percentile per-packet one-way delay: 24.951 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 41.81 Mbit/s
95th percentile per-packet one-way delay: 16.730 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 46.63 Mbit/s
95th percentile per-packet one-way delay: 24.097 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 48.40 Mbit/s
95th percentile per-packet one-way delay: 29.958 ms
Loss rate: 3.34%
```
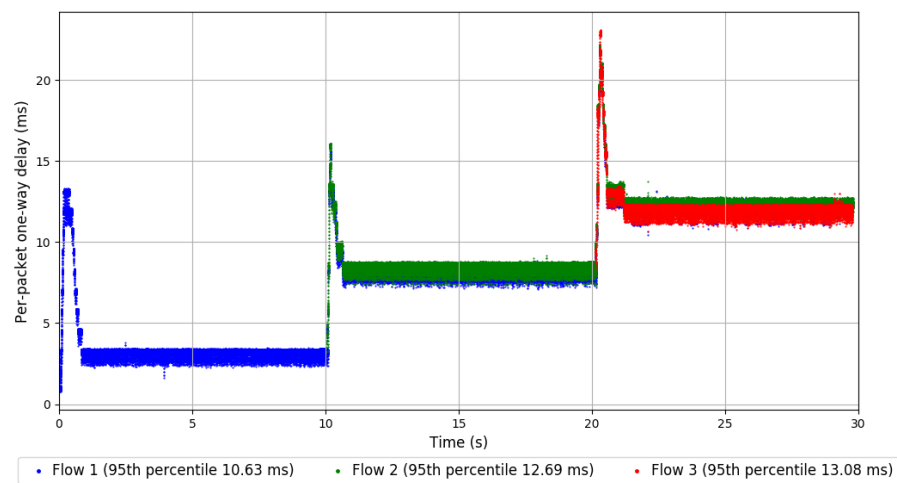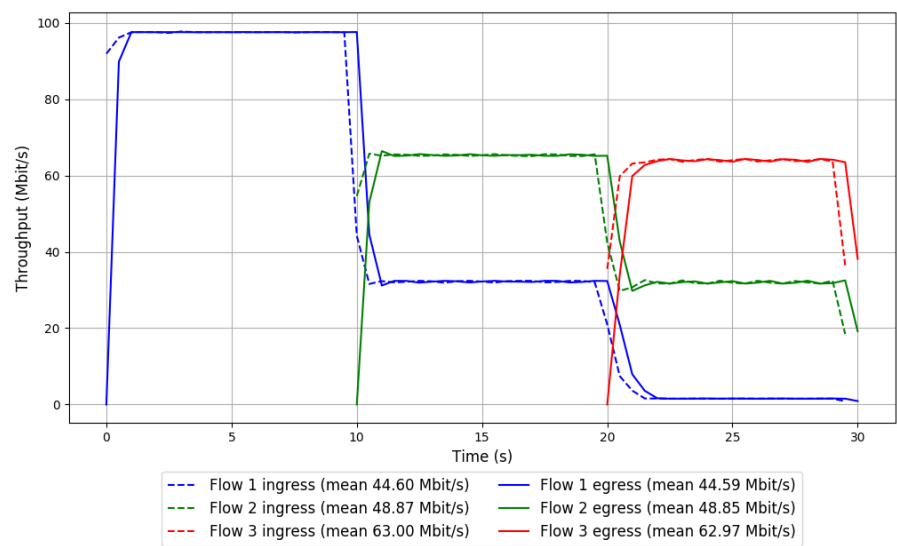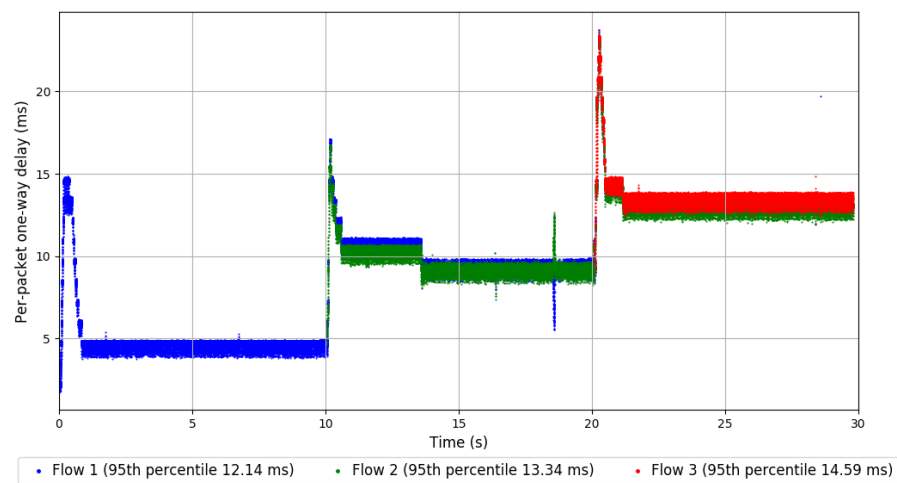
Run 5: Report of FillP-Sheep — Data Link

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```
Run 1: Statistics of Indigo

Start at: 2019-07-17 23:17:08
End at: 2019-07-17 23:17:38
Local clock offset: -7.563 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2019-07-18 01:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 13.139 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 11.908 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.89 Mbit/s
95th percentile per-packet one-way delay: 11.797 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 82.13 Mbit/s
95th percentile per-packet one-way delay: 13.459 ms
Loss rate: 0.02%
```
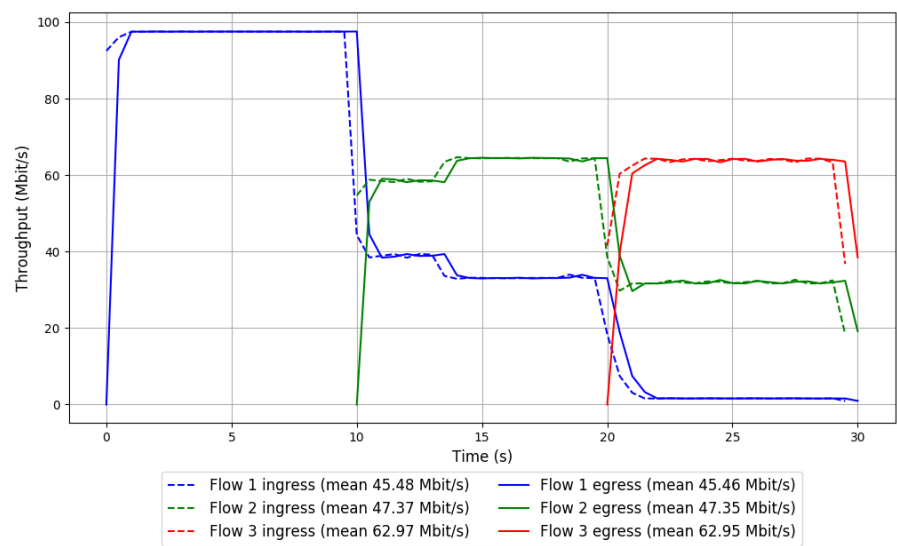
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-07-17 23:44:22
End at: 2019-07-17 23:44:52
Local clock offset: -6.681 ms
Remote clock offset: 0.278 ms

# Below is generated by plot.py at 2019-07-18 01:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 14.744 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.59 Mbit/s
95th percentile per-packet one-way delay: 11.646 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.46 Mbit/s
95th percentile per-packet one-way delay: 14.797 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.57 Mbit/s
95th percentile per-packet one-way delay: 15.324 ms
Loss rate: 0.02%
```
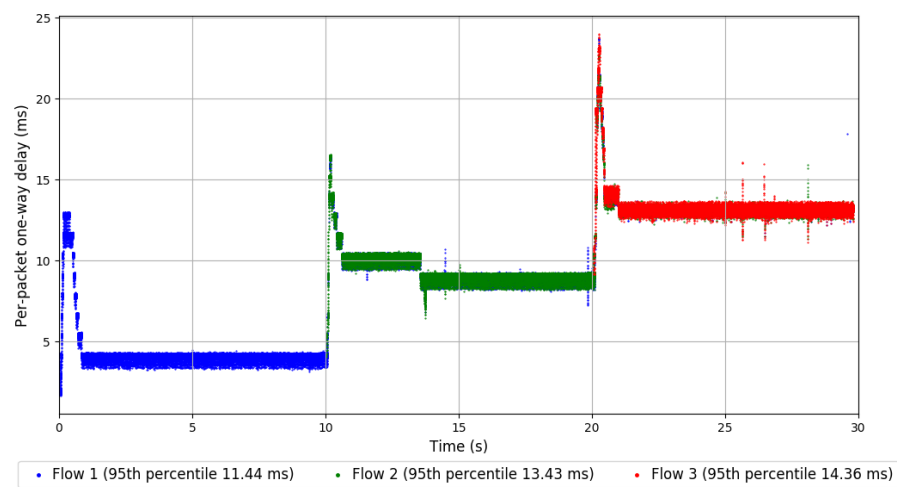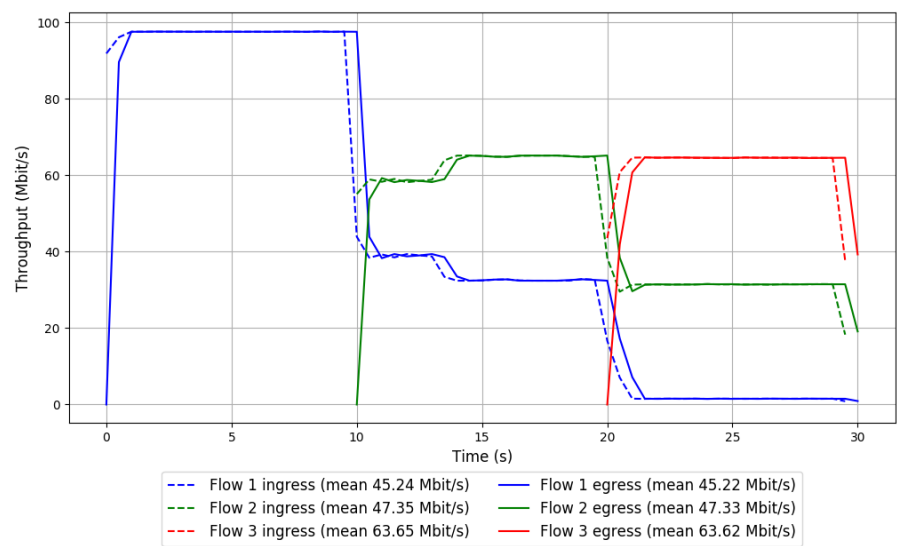
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 47.61 Mbit/s)   Flow 1 egress (mean 47.59 Mbit/s)
Flow 2 ingress (mean 39.47 Mbit/s)   Flow 2 egress (mean 39.46 Mbit/s)
Flow 3 ingress (mean 72.60 Mbit/s)   Flow 3 egress (mean 72.57 Mbit/s)

• Flow 1 (95th percentile 11.65 ms)   • Flow 2 (95th percentile 14.80 ms)   • Flow 3 (95th percentile 15.32 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-07-18 00:11:35
End at: 2019-07-18 00:12:05
Local clock offset: -6.635 ms
Remote clock offset: 0.412 ms


# Below is generated by plot.py at 2019-07-18 01:13:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 12.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.59 Mbit/s
95th percentile per-packet one-way delay: 10.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.85 Mbit/s
95th percentile per-packet one-way delay: 12.689 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.97 Mbit/s
95th percentile per-packet one-way delay: 13.083 ms
Loss rate: 0.00%
```
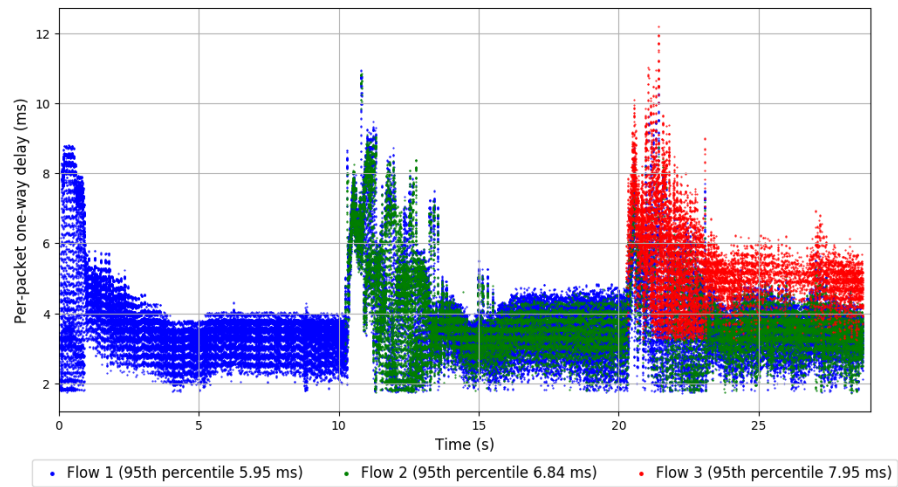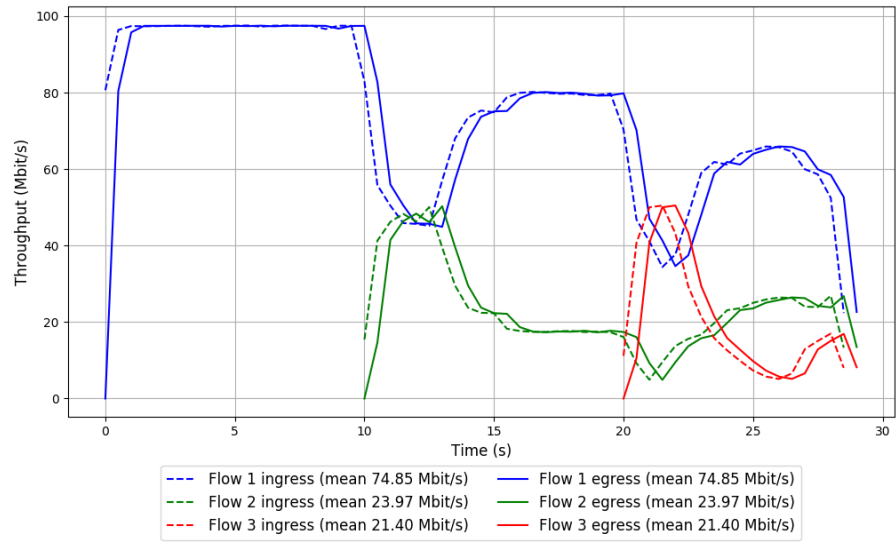
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 44.60 Mbit/s) Flow 1 egress (mean 44.59 Mbit/s)
Flow 2 ingress (mean 48.87 Mbit/s) Flow 2 egress (mean 48.85 Mbit/s)
Flow 3 ingress (mean 63.00 Mbit/s) Flow 3 egress (mean 62.97 Mbit/s)

Flow 1 (95th percentile 10.63 ms)   Flow 2 (95th percentile 12.69 ms)   Flow 3 (95th percentile 13.08 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-07-18 00:38:50
End at: 2019-07-18 00:39:20
Local clock offset: -6.691 ms
Remote clock offset: 0.598 ms


# Below is generated by plot.py at 2019-07-18 01:13:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 13.767 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.46 Mbit/s
95th percentile per-packet one-way delay: 12.138 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.35 Mbit/s
95th percentile per-packet one-way delay: 13.336 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.95 Mbit/s
95th percentile per-packet one-way delay: 14.585 ms
Loss rate: 0.00%
```
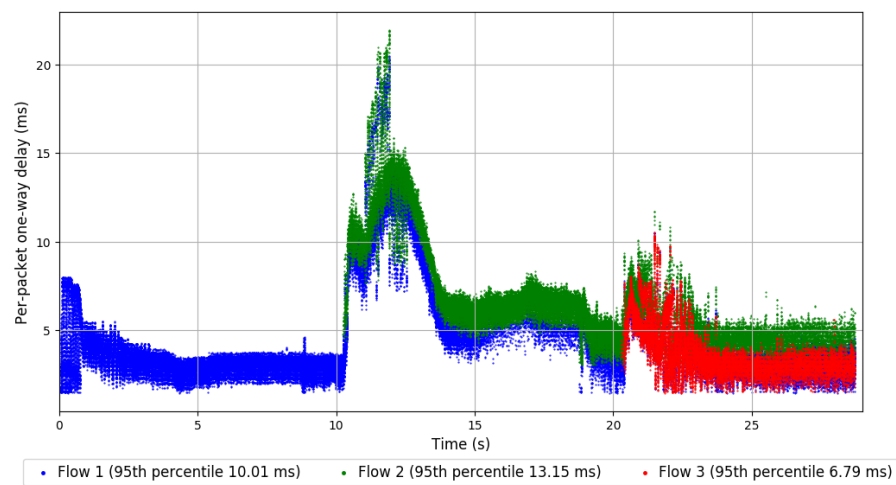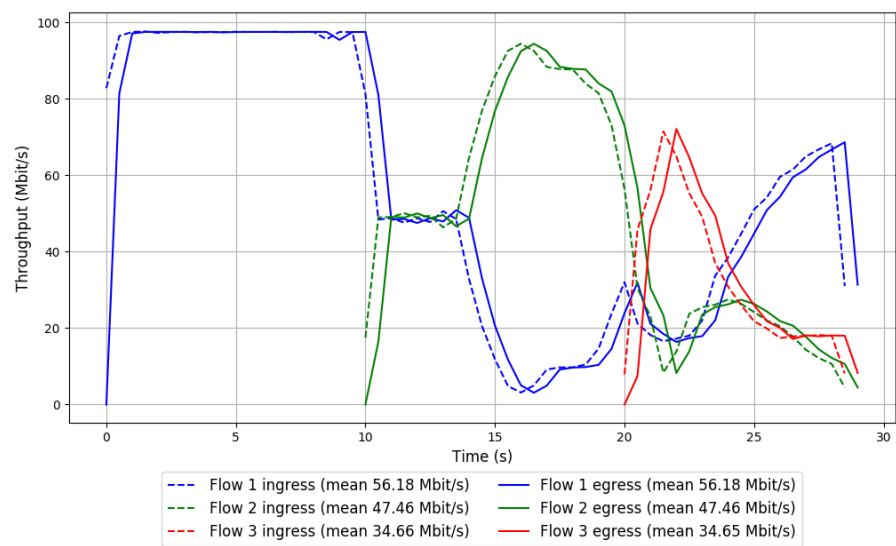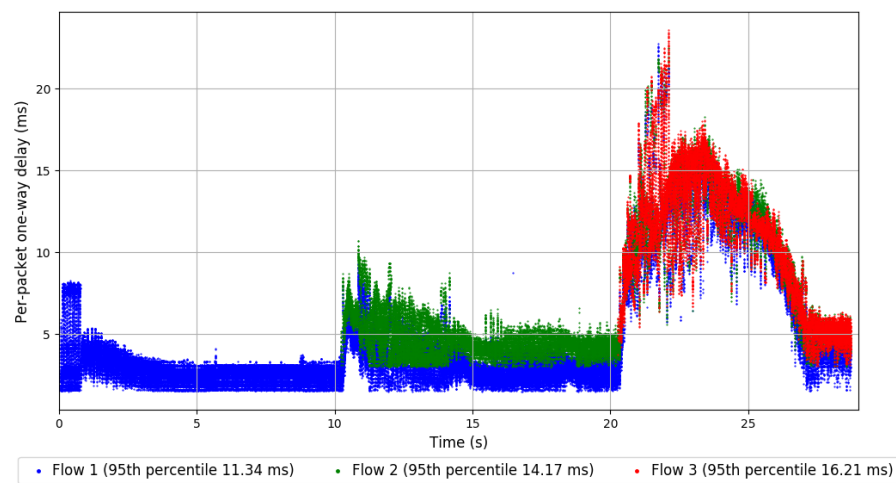
Run 4: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 45.48 Mbit/s) —— Flow 1 egress (mean 45.46 Mbit/s)
- - - Flow 2 ingress (mean 47.37 Mbit/s) —— Flow 2 egress (mean 47.35 Mbit/s)
- - - Flow 3 ingress (mean 62.97 Mbit/s) —— Flow 3 egress (mean 62.95 Mbit/s)

• Flow 1 (95th percentile 12.14 ms) • Flow 2 (95th percentile 13.34 ms) • Flow 3 (95th percentile 14.59 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-07-18 01:06:08
End at: 2019-07-18 01:06:38
Local clock offset: -6.252 ms
Remote clock offset: 0.738 ms


# Below is generated by plot.py at 2019-07-18 01:14:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.40 Mbit/s
95th percentile per-packet one-way delay: 13.427 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.22 Mbit/s
95th percentile per-packet one-way delay: 11.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.33 Mbit/s
95th percentile per-packet one-way delay: 13.425 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.62 Mbit/s
95th percentile per-packet one-way delay: 14.355 ms
Loss rate: 0.00%
```
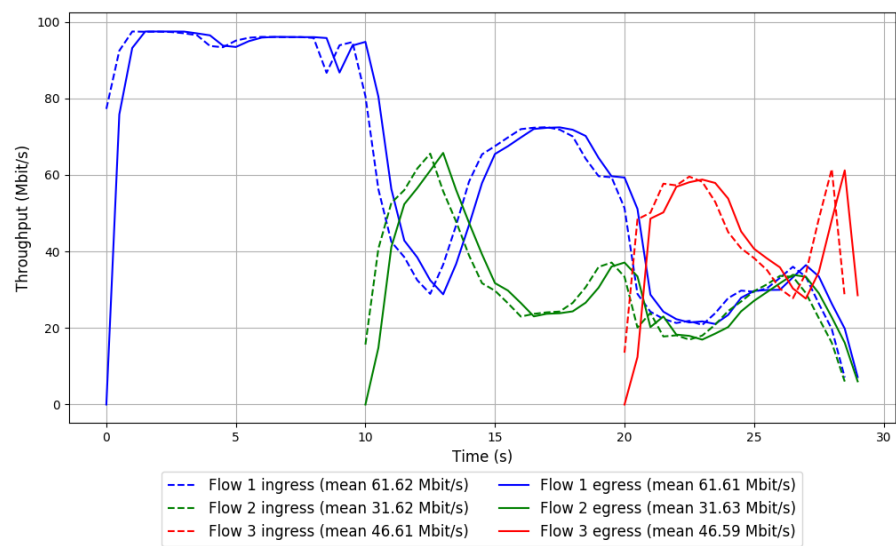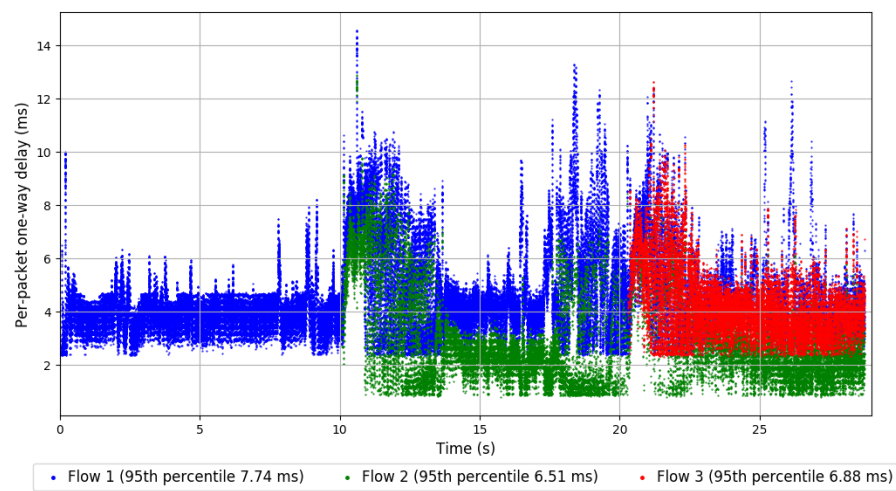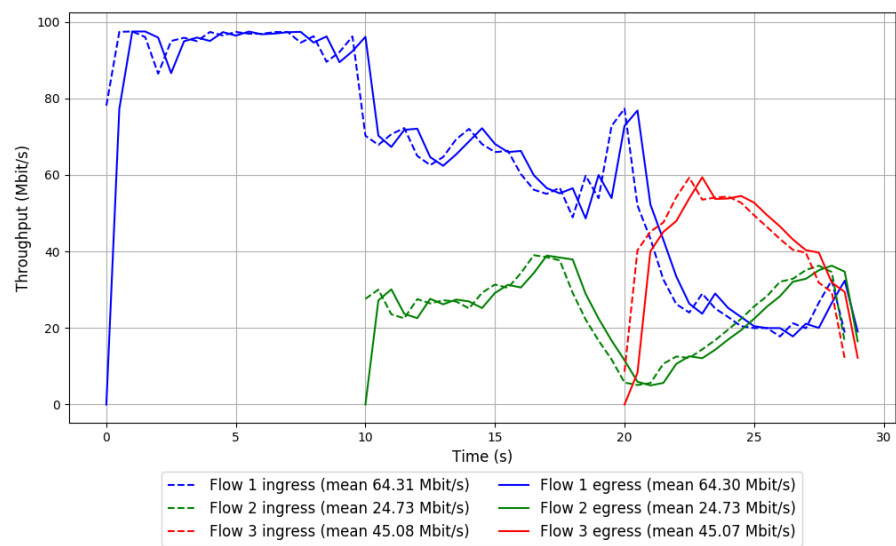
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 45.24 Mbit/s) --- Flow 1 egress (mean 45.22 Mbit/s)
Flow 2 ingress (mean 47.35 Mbit/s) --- Flow 2 egress (mean 47.33 Mbit/s)
Flow 3 ingress (mean 63.65 Mbit/s) --- Flow 3 egress (mean 63.62 Mbit/s)

Flow 1 (95th percentile 11.44 ms) • Flow 2 (95th percentile 13.43 ms) • Flow 3 (95th percentile 14.36 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-17 23:15:58
End at: 2019-07-17 23:16:28
Local clock offset: -7.534 ms
Remote clock offset: 0.081 ms


# Below is generated by plot.py at 2019-07-18 01:14:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.60 Mbit/s
95th percentile per-packet one-way delay: 6.618 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.85 Mbit/s
95th percentile per-packet one-way delay: 5.947 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.97 Mbit/s
95th percentile per-packet one-way delay: 6.836 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.40 Mbit/s
95th percentile per-packet one-way delay: 7.950 ms
Loss rate: 0.00%
```
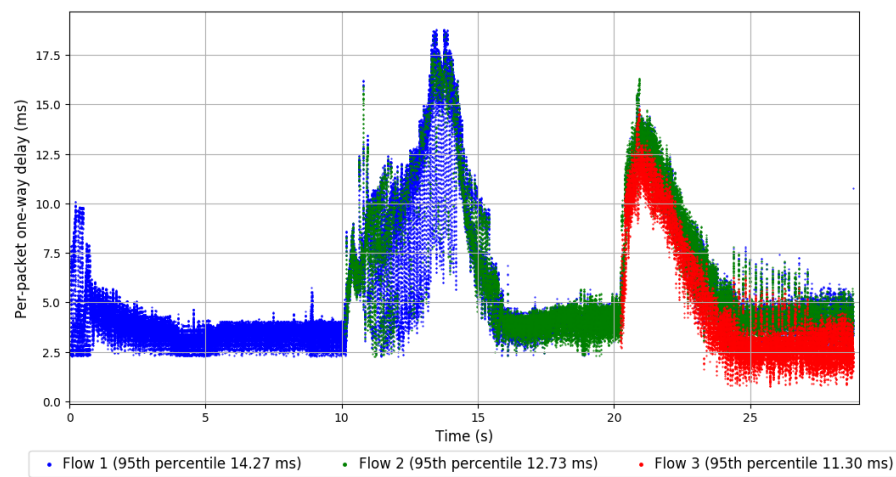
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-17 23:43:13
End at: 2019-07-17 23:43:43
Local clock offset: -6.493 ms
Remote clock offset: 0.193 ms


# Below is generated by plot.py at 2019-07-18 01:14:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 11.291 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.18 Mbit/s
95th percentile per-packet one-way delay: 10.006 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.46 Mbit/s
95th percentile per-packet one-way delay: 13.148 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.65 Mbit/s
95th percentile per-packet one-way delay: 6.795 ms
Loss rate: 0.00%
```
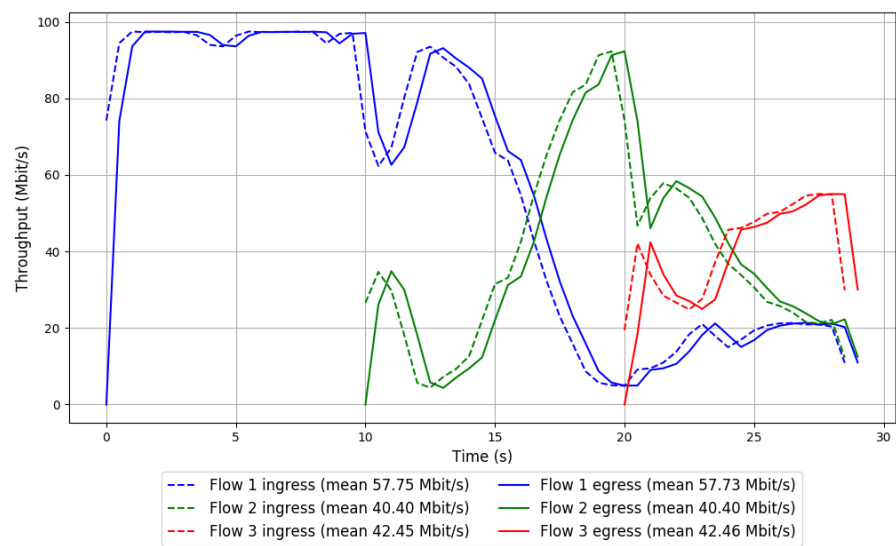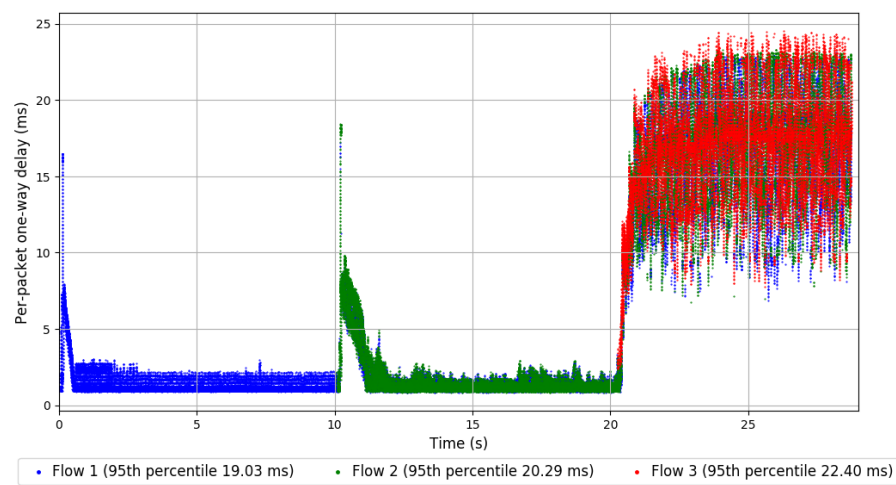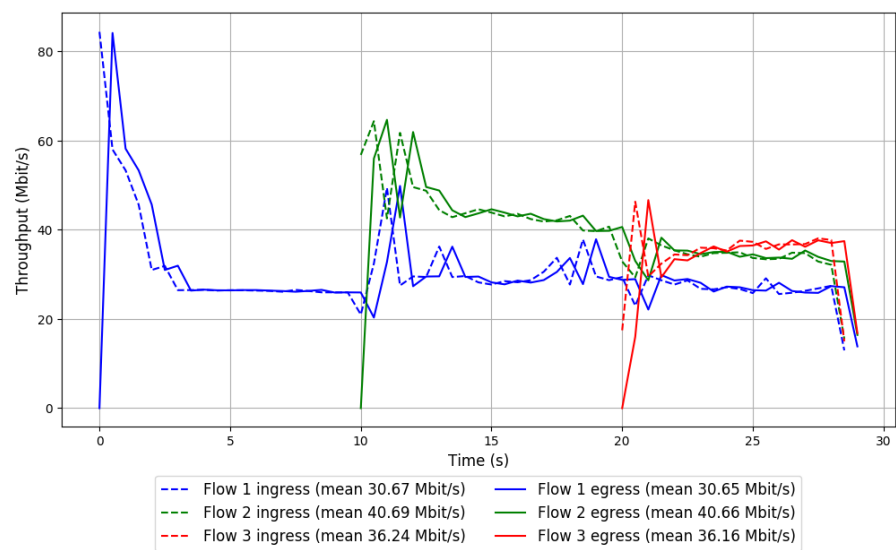
Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 56.18 Mbit/s) --- Flow 1 egress (mean 56.18 Mbit/s)
Flow 2 ingress (mean 47.46 Mbit/s) --- Flow 2 egress (mean 47.46 Mbit/s)
Flow 3 ingress (mean 34.66 Mbit/s) --- Flow 3 egress (mean 34.65 Mbit/s)

Flow 1 (95th percentile 10.01 ms) · Flow 2 (95th percentile 13.15 ms) · Flow 3 (95th percentile 6.79 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-18 00:10:26
End at: 2019-07-18 00:10:56
Local clock offset: -7.328 ms
Remote clock offset: 0.417 ms


# Below is generated by plot.py at 2019-07-18 01:14:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 14.211 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 61.61 Mbit/s
95th percentile per-packet one-way delay: 11.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 14.169 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.59 Mbit/s
95th percentile per-packet one-way delay: 16.214 ms
Loss rate: 0.04%
```
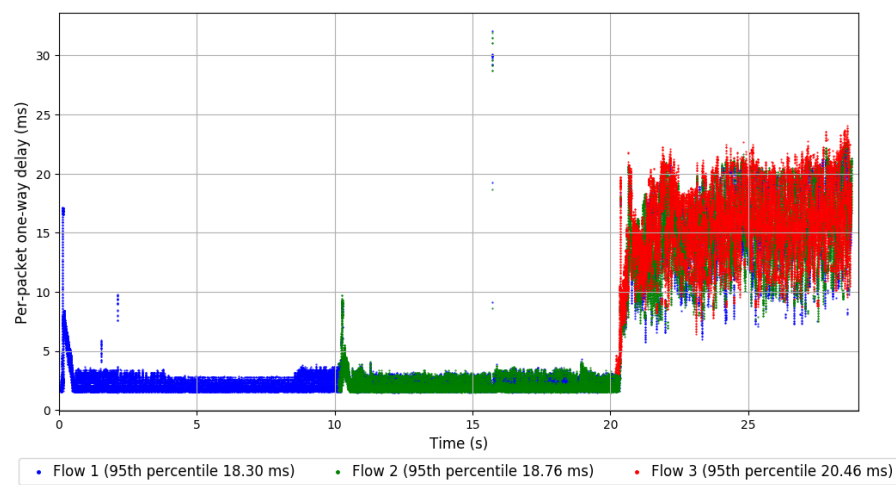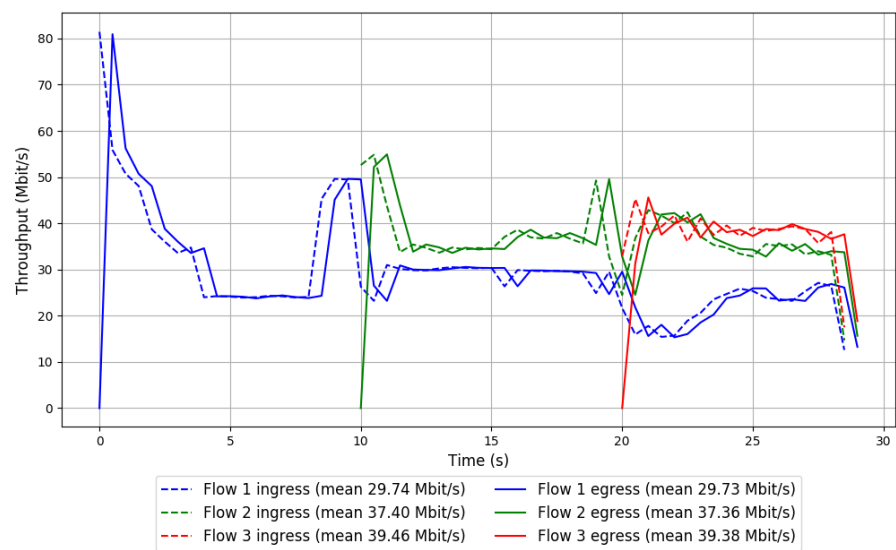
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 61.62 Mbit/s) — — — Flow 1 egress (mean 61.61 Mbit/s)
Flow 2 ingress (mean 31.62 Mbit/s) — — — Flow 2 egress (mean 31.63 Mbit/s)
Flow 3 ingress (mean 46.61 Mbit/s) — — — Flow 3 egress (mean 46.59 Mbit/s)

Flow 1 (95th percentile 11.34 ms)   Flow 2 (95th percentile 14.17 ms)   Flow 3 (95th percentile 16.21 ms)

70

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-18 00:37:41
End at: 2019-07-18 00:38:11
Local clock offset: -5.731 ms
Remote clock offset: 0.615 ms


# Below is generated by plot.py at 2019-07-18 01:14:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.62 Mbit/s
95th percentile per-packet one-way delay: 7.451 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.30 Mbit/s
95th percentile per-packet one-way delay: 7.741 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: 6.513 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.07 Mbit/s
95th percentile per-packet one-way delay: 6.881 ms
Loss rate: 0.00%
```
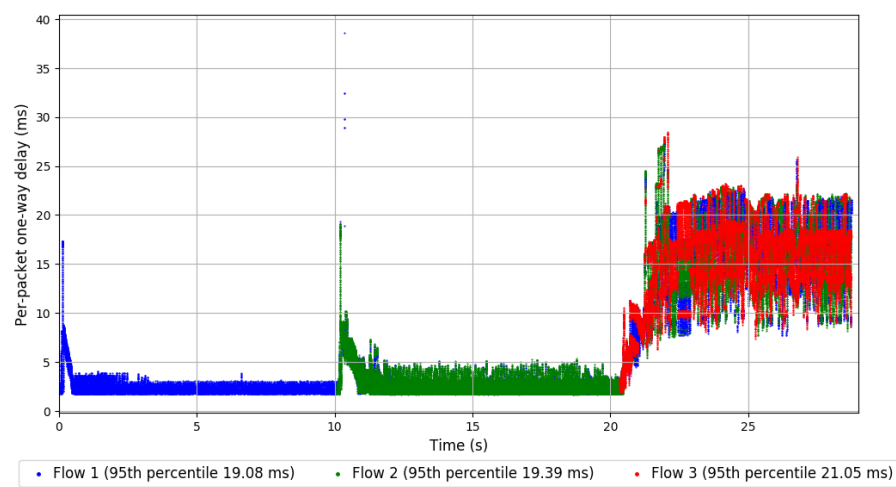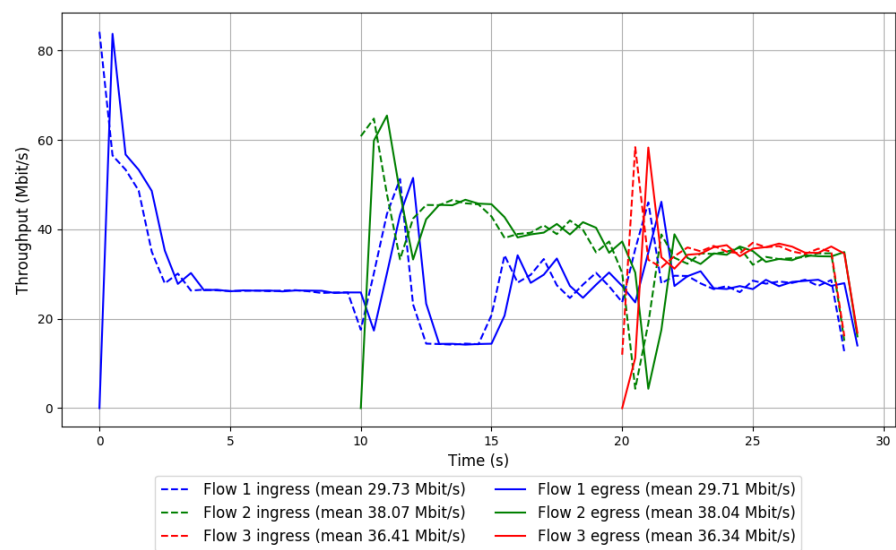
Run 4: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 64.31 Mbit/s) —— Flow 1 egress (mean 64.30 Mbit/s)
- - - Flow 2 ingress (mean 24.73 Mbit/s) —— Flow 2 egress (mean 24.73 Mbit/s)
- - - Flow 3 ingress (mean 45.08 Mbit/s) —— Flow 3 egress (mean 45.07 Mbit/s)

• Flow 1 (95th percentile 7.74 ms)   • Flow 2 (95th percentile 6.51 ms)   • Flow 3 (95th percentile 6.88 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-18 01:04:59
End at: 2019-07-18 01:05:29
Local clock offset: -5.428 ms
Remote clock offset: 0.673 ms


# Below is generated by plot.py at 2019-07-18 01:14:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.58 Mbit/s
95th percentile per-packet one-way delay: 13.123 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 14.265 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.40 Mbit/s
95th percentile per-packet one-way delay: 12.734 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.46 Mbit/s
95th percentile per-packet one-way delay: 11.305 ms
Loss rate: 0.00%
```
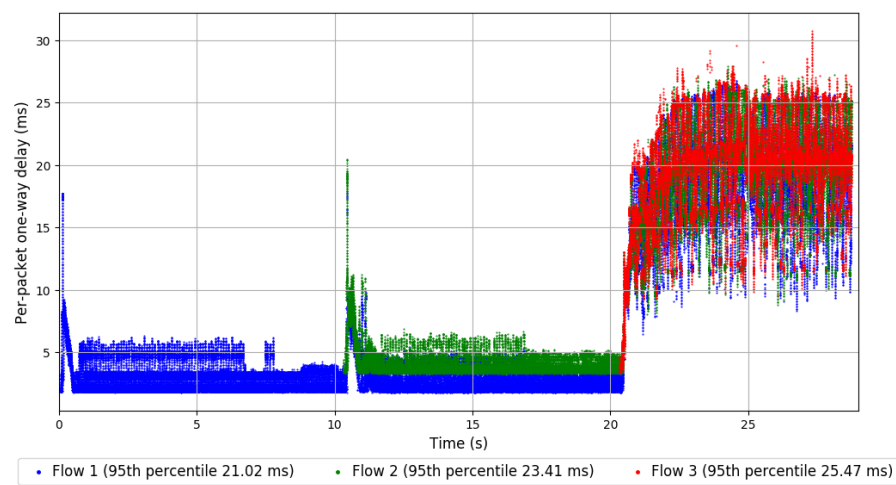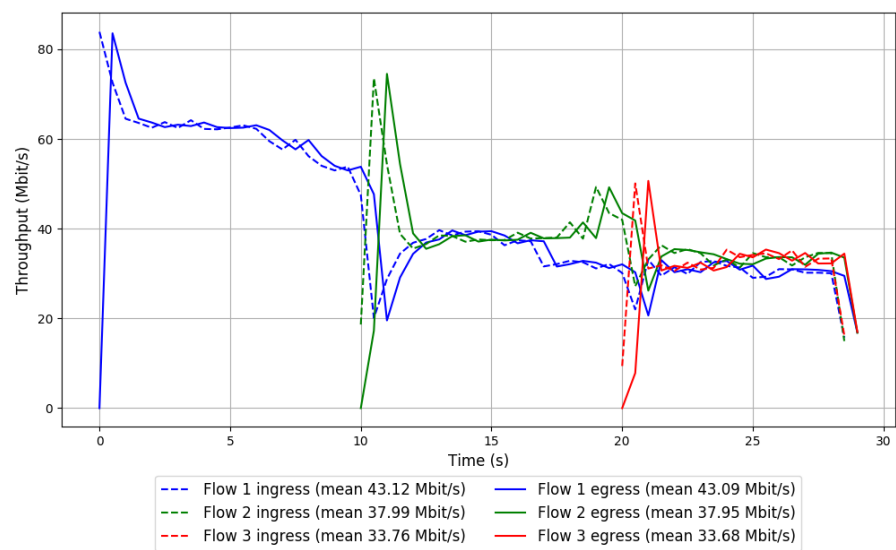
Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 57.75 Mbit/s) --- Flow 1 egress (mean 57.73 Mbit/s)
Flow 2 ingress (mean 40.40 Mbit/s) --- Flow 2 egress (mean 40.40 Mbit/s)
Flow 3 ingress (mean 42.45 Mbit/s) --- Flow 3 egress (mean 42.46 Mbit/s)

Flow 1 (95th percentile 14.27 ms) · Flow 2 (95th percentile 12.73 ms) · Flow 3 (95th percentile 11.30 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-17 23:13:43
End at: 2019-07-17 23:14:13
Local clock offset: -6.552 ms
Remote clock offset: 0.12 ms


# Below is generated by plot.py at 2019-07-18 01:14:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.69 Mbit/s
95th percentile per-packet one-way delay: 20.686 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 30.65 Mbit/s
95th percentile per-packet one-way delay: 19.033 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.66 Mbit/s
95th percentile per-packet one-way delay: 20.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 22.403 ms
Loss rate: 0.00%
```
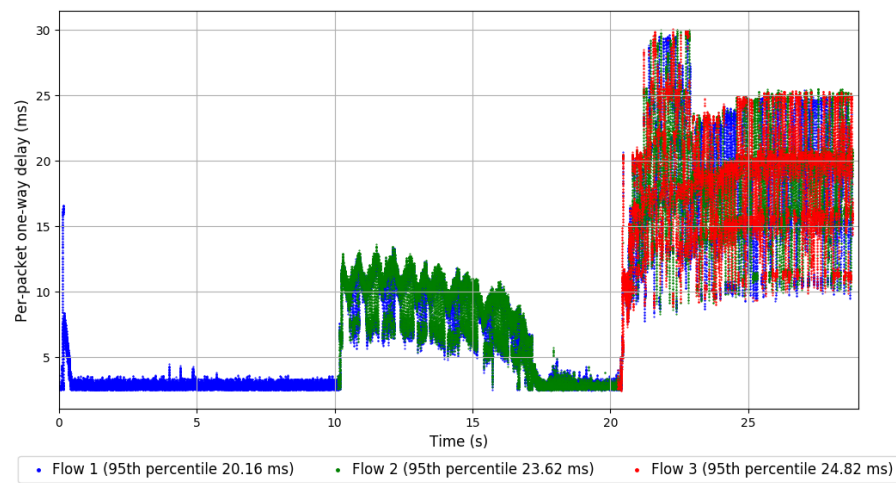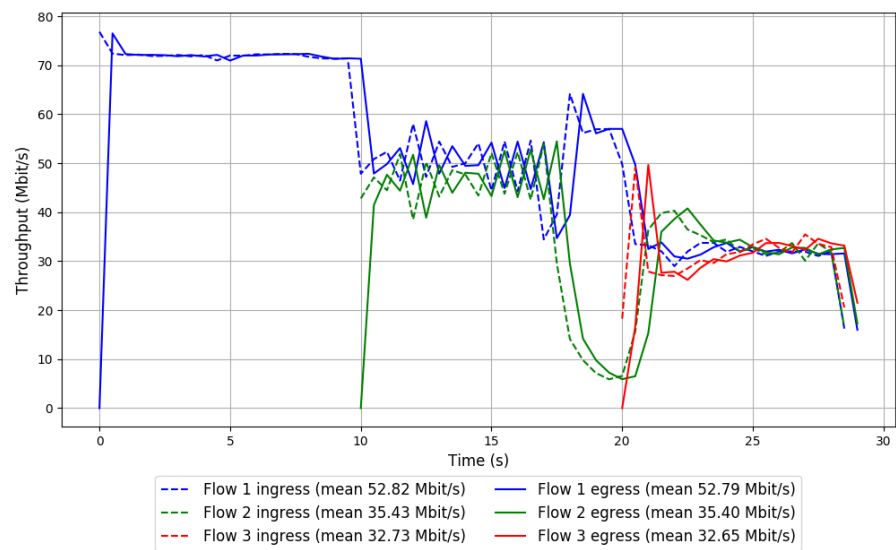
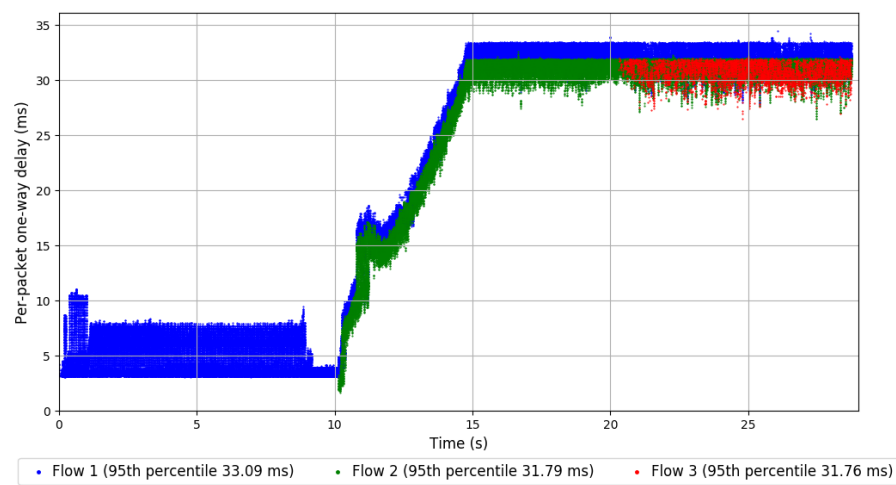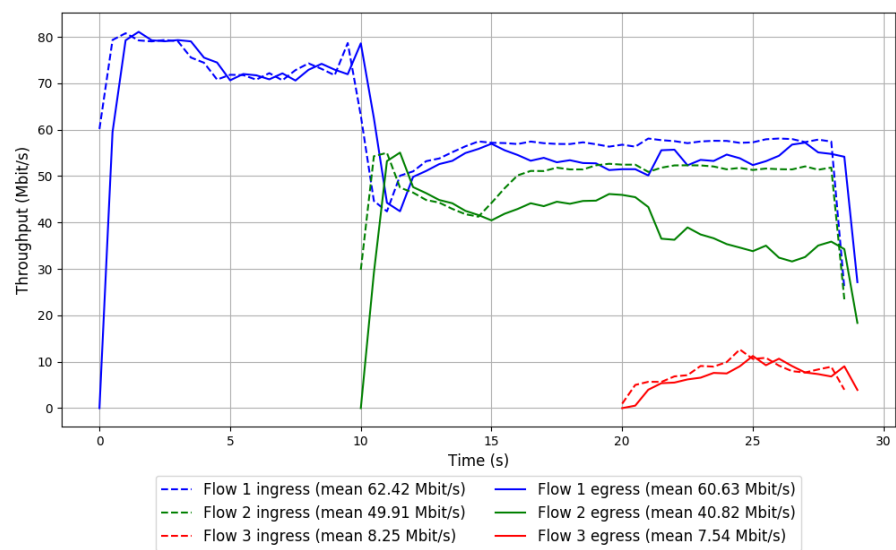Run 1: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 30.67 Mbit/s)   Flow 1 egress (mean 30.65 Mbit/s)
Flow 2 ingress (mean 40.69 Mbit/s)   Flow 2 egress (mean 40.66 Mbit/s)
Flow 3 ingress (mean 36.24 Mbit/s)   Flow 3 egress (mean 36.16 Mbit/s)

Flow 1 (95th percentile 19.03 ms)   Flow 2 (95th percentile 20.29 ms)   Flow 3 (95th percentile 22.40 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-17 23:40:59
End at: 2019-07-17 23:41:29
Local clock offset: -6.591 ms
Remote clock offset: 0.184 ms


# Below is generated by plot.py at 2019-07-18 01:14:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.64 Mbit/s
95th percentile per-packet one-way delay: 19.278 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.73 Mbit/s
95th percentile per-packet one-way delay: 18.305 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.36 Mbit/s
95th percentile per-packet one-way delay: 18.758 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 20.457 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-18 00:08:12
End at: 2019-07-18 00:08:42
Local clock offset: -7.48 ms
Remote clock offset: 0.456 ms


# Below is generated by plot.py at 2019-07-18 01:15:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.06 Mbit/s
95th percentile per-packet one-way delay: 19.754 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.71 Mbit/s
95th percentile per-packet one-way delay: 19.076 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 19.394 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.34 Mbit/s
95th percentile per-packet one-way delay: 21.045 ms
Loss rate: 0.00%
```
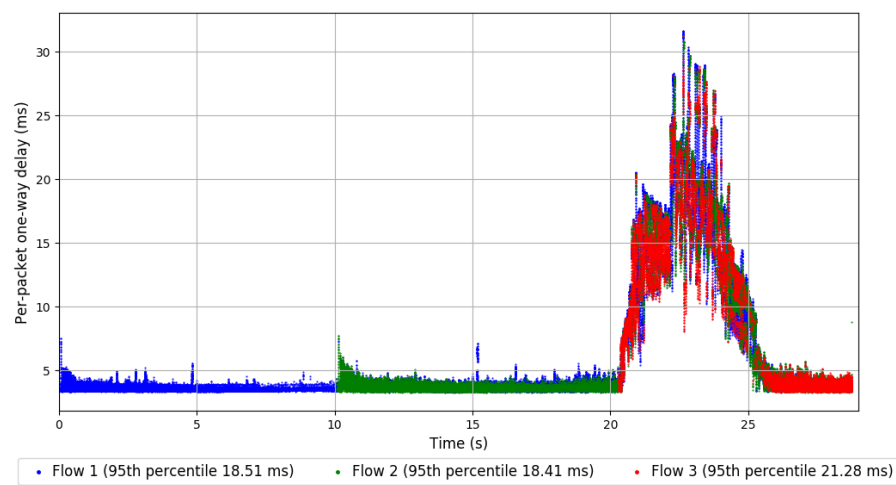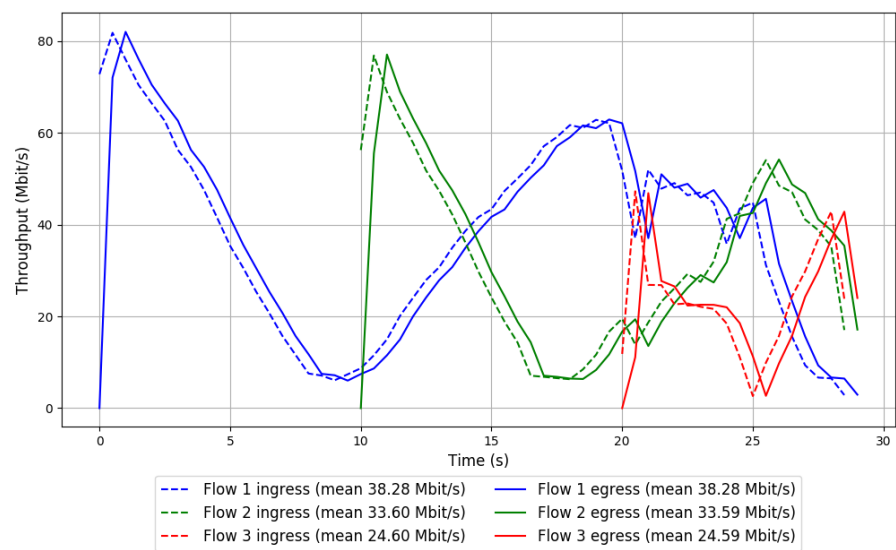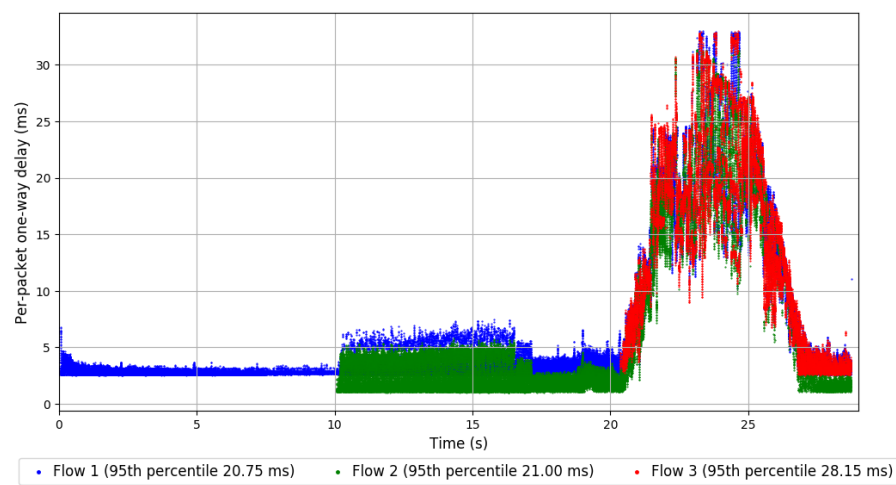
Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 29.73 Mbit/s)   Flow 1 egress (mean 29.71 Mbit/s)
Flow 2 ingress (mean 38.07 Mbit/s)   Flow 2 egress (mean 38.04 Mbit/s)
Flow 3 ingress (mean 36.41 Mbit/s)   Flow 3 egress (mean 36.34 Mbit/s)

Flow 1 (95th percentile 19.08 ms)   Flow 2 (95th percentile 19.39 ms)   Flow 3 (95th percentile 21.05 ms)

80

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-18 00:35:26
End at: 2019-07-18 00:35:56
Local clock offset: -6.816 ms
Remote clock offset: 0.61 ms


# Below is generated by plot.py at 2019-07-18 01:15:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.30 Mbit/s
95th percentile per-packet one-way delay: 23.086 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.09 Mbit/s
95th percentile per-packet one-way delay: 21.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.95 Mbit/s
95th percentile per-packet one-way delay: 23.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.68 Mbit/s
95th percentile per-packet one-way delay: 25.469 ms
Loss rate: 0.00%
```
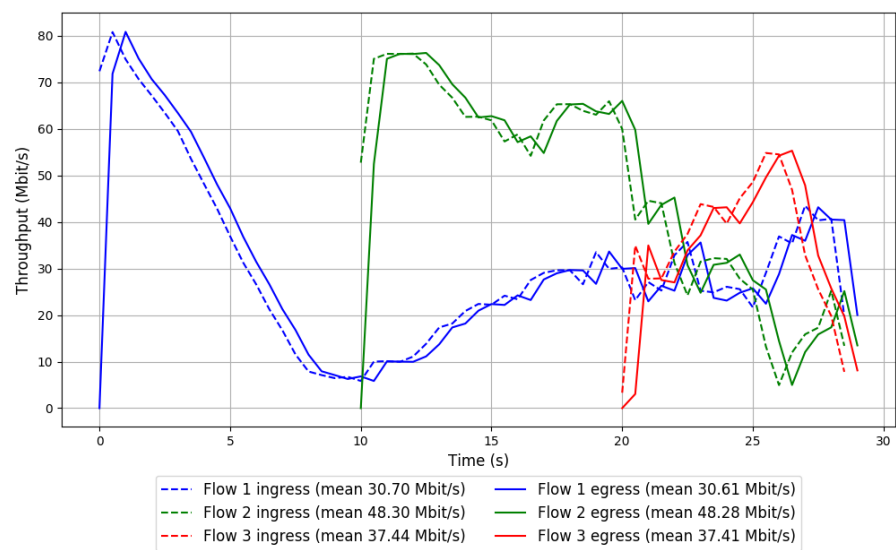
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-18 01:02:44
End at: 2019-07-18 01:03:14
Local clock offset: -5.652 ms
Remote clock offset: 0.65 ms


# Below is generated by plot.py at 2019-07-18 01:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.38 Mbit/s
95th percentile per-packet one-way delay: 22.652 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 20.159 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 35.40 Mbit/s
95th percentile per-packet one-way delay: 23.622 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.65 Mbit/s
95th percentile per-packet one-way delay: 24.820 ms
Loss rate: 0.08%
```
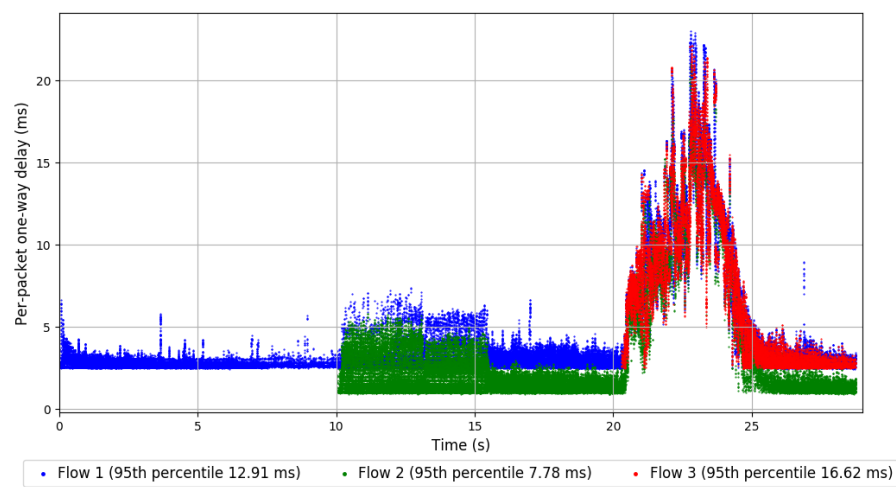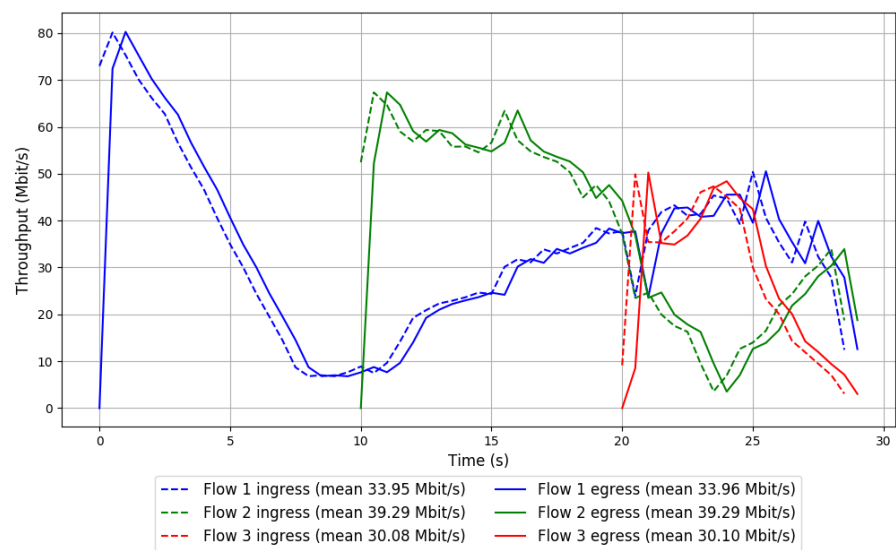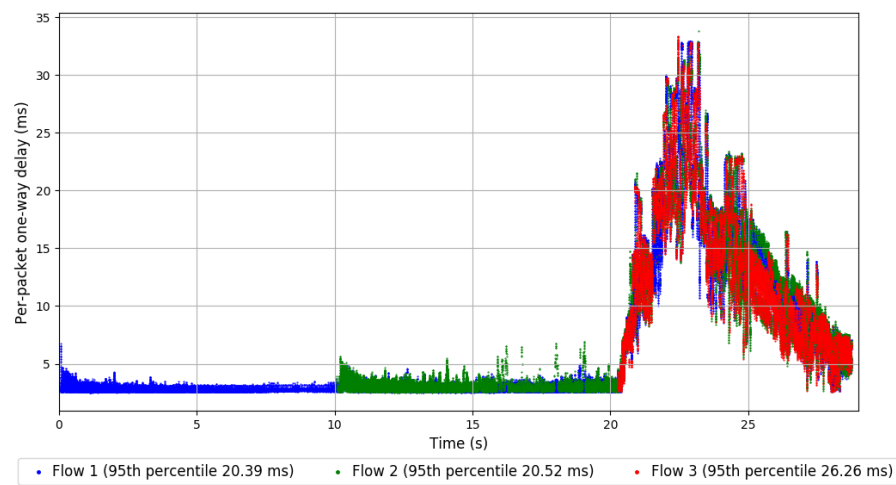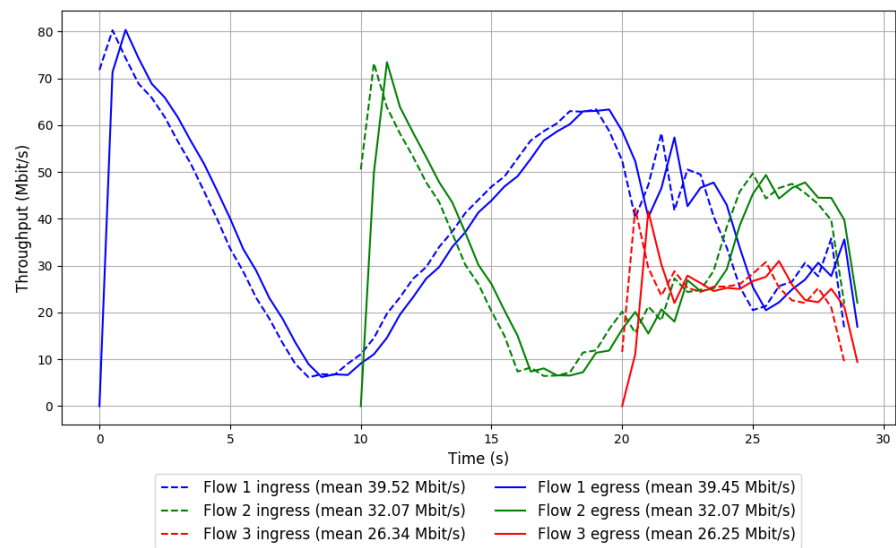
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-17 22:53:17
End at: 2019-07-17 22:53:47
Local clock offset: -6.058 ms
Remote clock offset: -0.048 ms

# Below is generated by plot.py at 2019-07-18 01:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.29 Mbit/s
95th percentile per-packet one-way delay: 32.935 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 60.63 Mbit/s
95th percentile per-packet one-way delay: 33.090 ms
Loss rate: 2.77%
-- Flow 2:
Average throughput: 40.82 Mbit/s
95th percentile per-packet one-way delay: 31.793 ms
Loss rate: 18.07%
-- Flow 3:
Average throughput: 7.54 Mbit/s
95th percentile per-packet one-way delay: 31.761 ms
Loss rate: 8.69%
```

Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-17 23:20:33
End at: 2019-07-17 23:21:03
Local clock offset: -7.65 ms
Remote clock offset: 0.127 ms


# Below is generated by plot.py at 2019-07-18 01:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.35 Mbit/s
95th percentile per-packet one-way delay: 19.077 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 38.28 Mbit/s
95th percentile per-packet one-way delay: 18.510 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.59 Mbit/s
95th percentile per-packet one-way delay: 18.414 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 21.282 ms
Loss rate: 0.02%
```
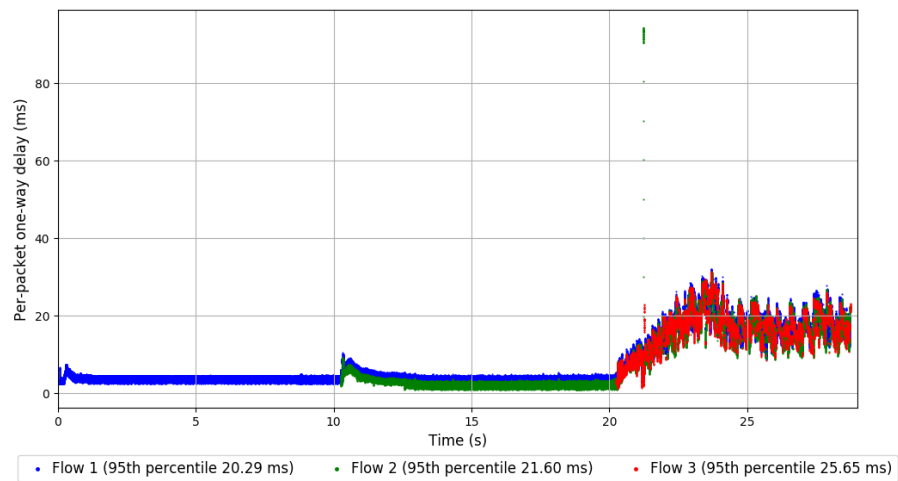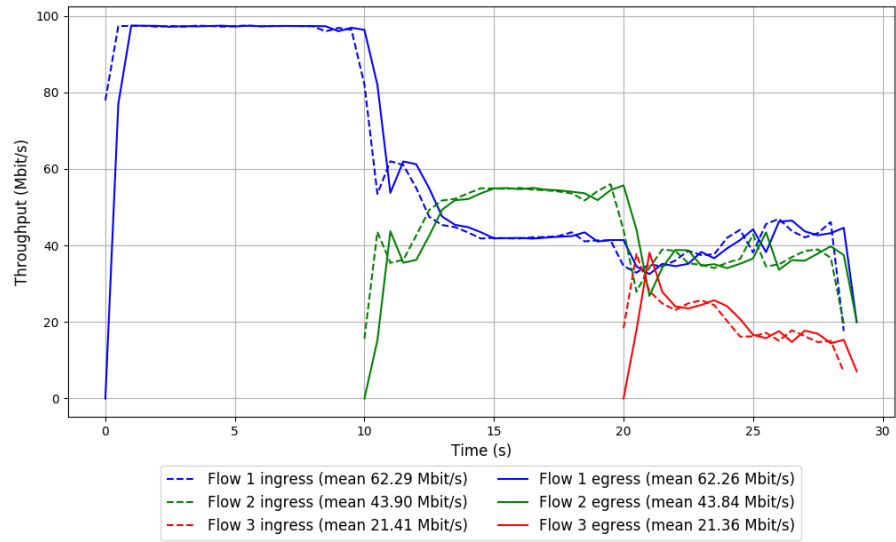
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-17 23:47:47
End at: 2019-07-17 23:48:17
Local clock offset: -5.912 ms
Remote clock offset: 0.313 ms


# Below is generated by plot.py at 2019-07-18 01:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.89 Mbit/s
95th percentile per-packet one-way delay: 23.267 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 30.61 Mbit/s
95th percentile per-packet one-way delay: 20.746 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 21.002 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 37.41 Mbit/s
95th percentile per-packet one-way delay: 28.154 ms
Loss rate: 0.10%
```
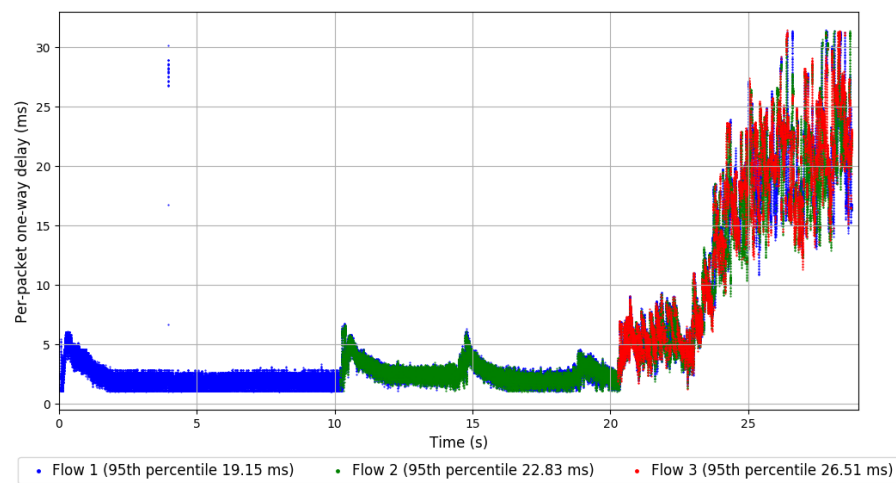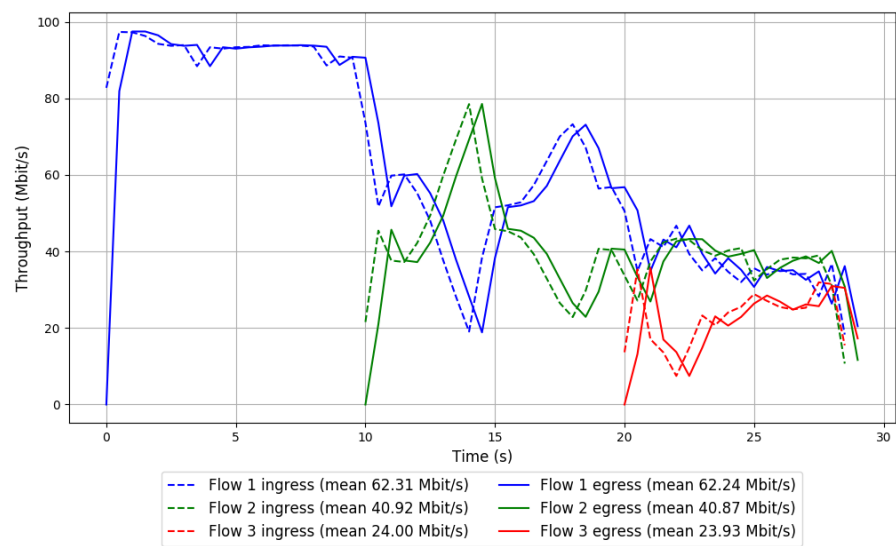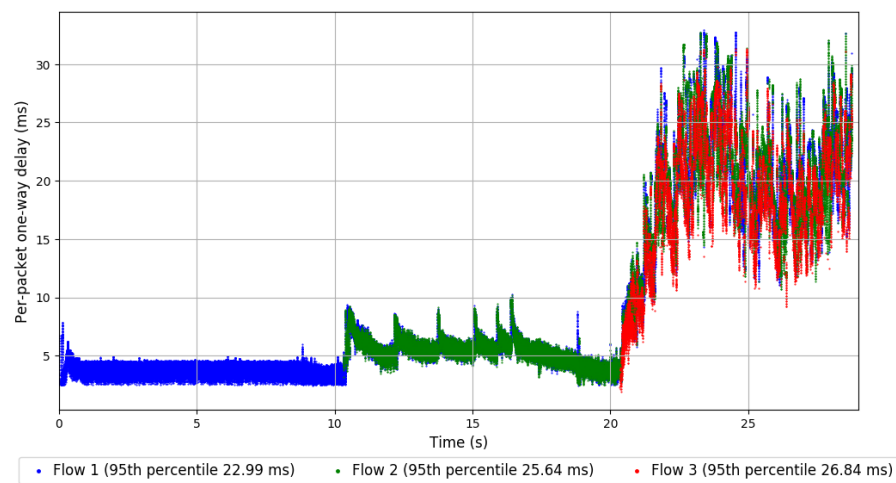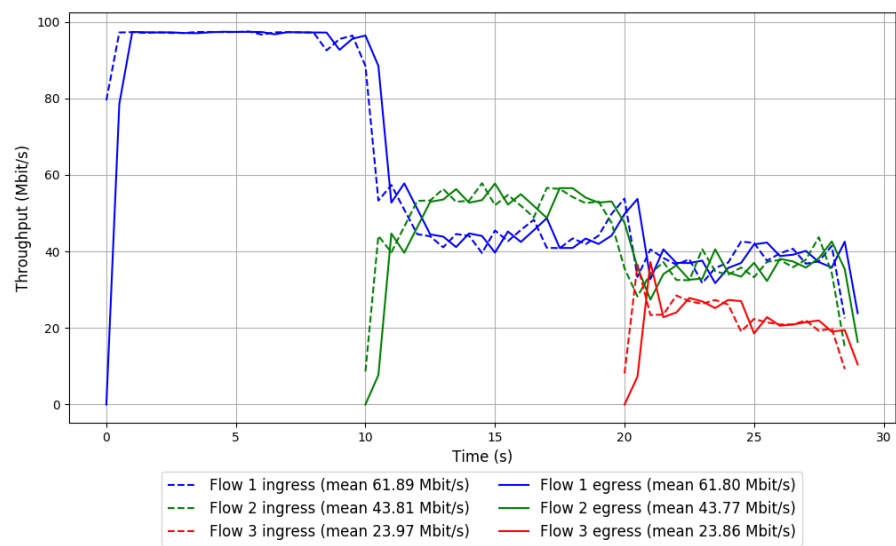
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-18 00:15:01
End at: 2019-07-18 00:15:31
Local clock offset: -6.889 ms
Remote clock offset: 0.469 ms


# Below is generated by plot.py at 2019-07-18 01:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.35 Mbit/s
95th percentile per-packet one-way delay: 13.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.96 Mbit/s
95th percentile per-packet one-way delay: 12.907 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 7.778 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 16.620 ms
Loss rate: 0.01%
```

Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-18 00:42:15
End at: 2019-07-18 00:42:45
Local clock offset: -5.796 ms
Remote clock offset: 0.629 ms


# Below is generated by plot.py at 2019-07-18 01:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.03 Mbit/s
95th percentile per-packet one-way delay: 21.521 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 20.391 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 32.07 Mbit/s
95th percentile per-packet one-way delay: 20.524 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 26.25 Mbit/s
95th percentile per-packet one-way delay: 26.264 ms
Loss rate: 0.31%
```

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-17 23:06:51
End at: 2019-07-17 23:07:21
Local clock offset: -6.46 ms
Remote clock offset: 0.072 ms

# Below is generated by plot.py at 2019-07-18 01:16:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 21.224 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 20.288 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.84 Mbit/s
95th percentile per-packet one-way delay: 21.598 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 21.36 Mbit/s
95th percentile per-packet one-way delay: 25.647 ms
Loss rate: 0.00%
```
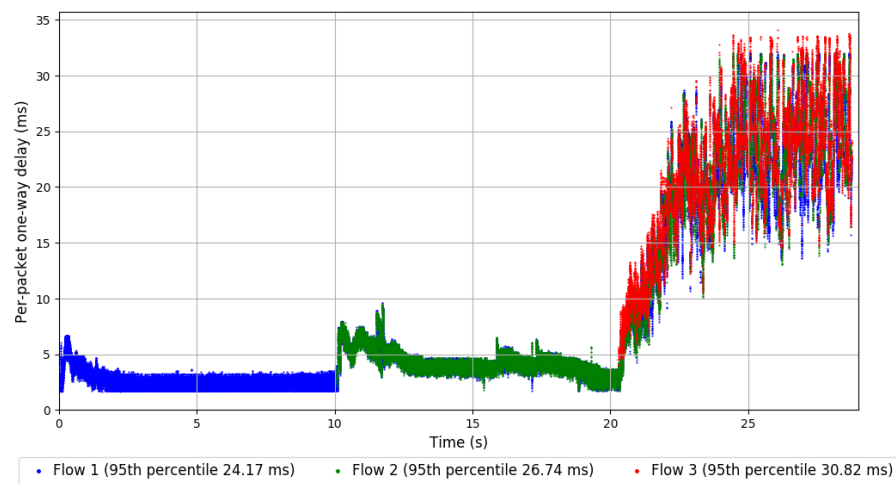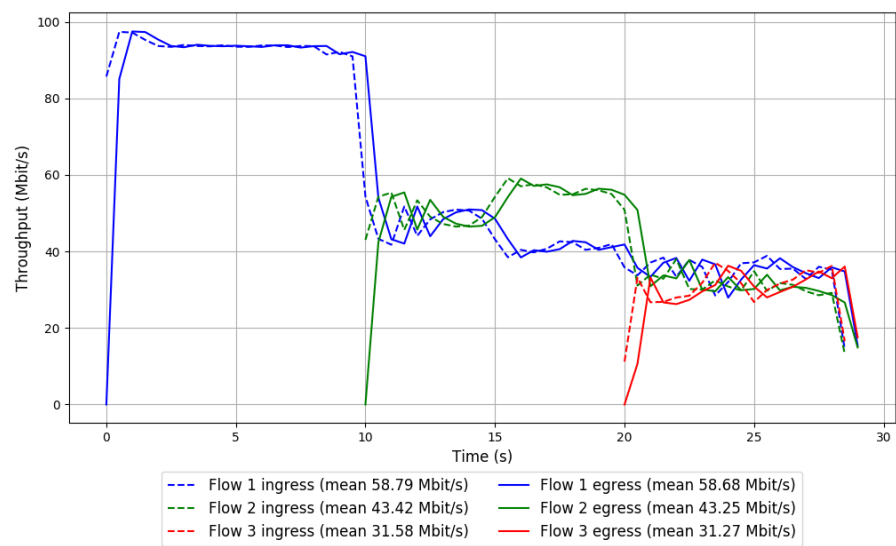
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-17 23:34:07
End at: 2019-07-17 23:34:37
Local clock offset: -6.193 ms
Remote clock offset: 0.276 ms


# Below is generated by plot.py at 2019-07-18 01:16:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 22.270 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 62.24 Mbit/s
95th percentile per-packet one-way delay: 19.146 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.87 Mbit/s
95th percentile per-packet one-way delay: 22.833 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 23.93 Mbit/s
95th percentile per-packet one-way delay: 26.512 ms
Loss rate: 0.12%
```
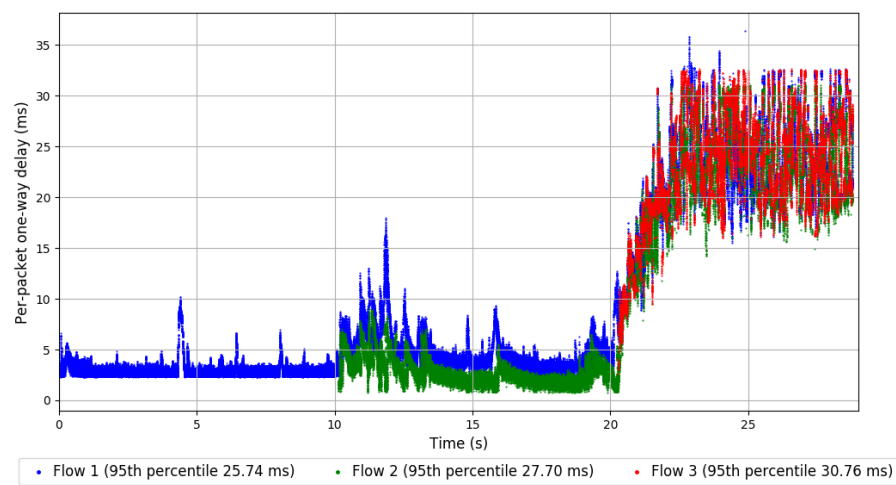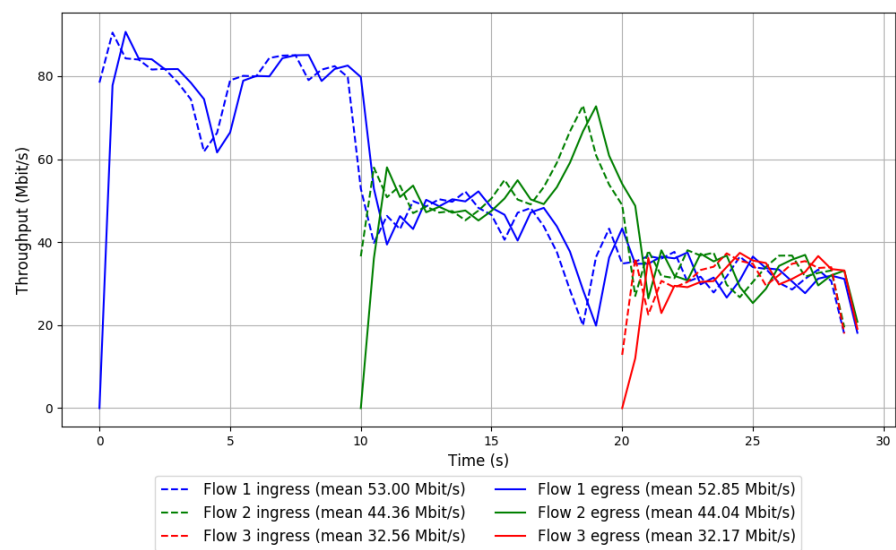
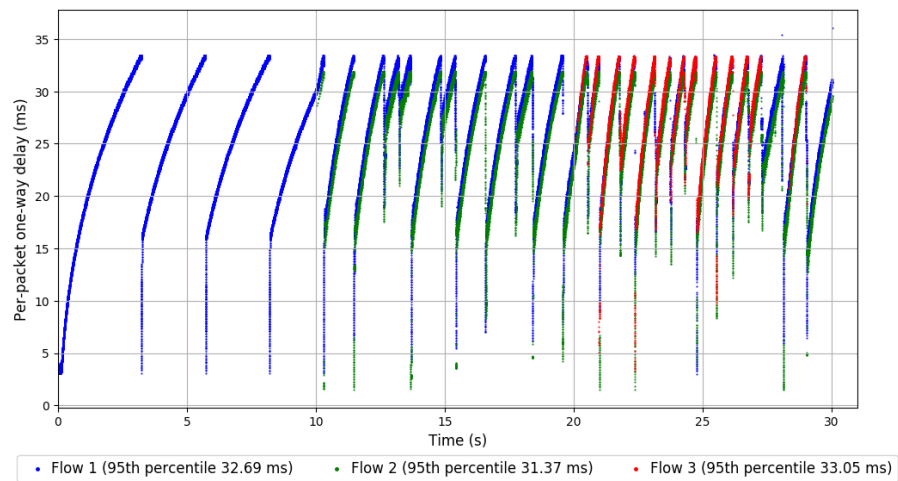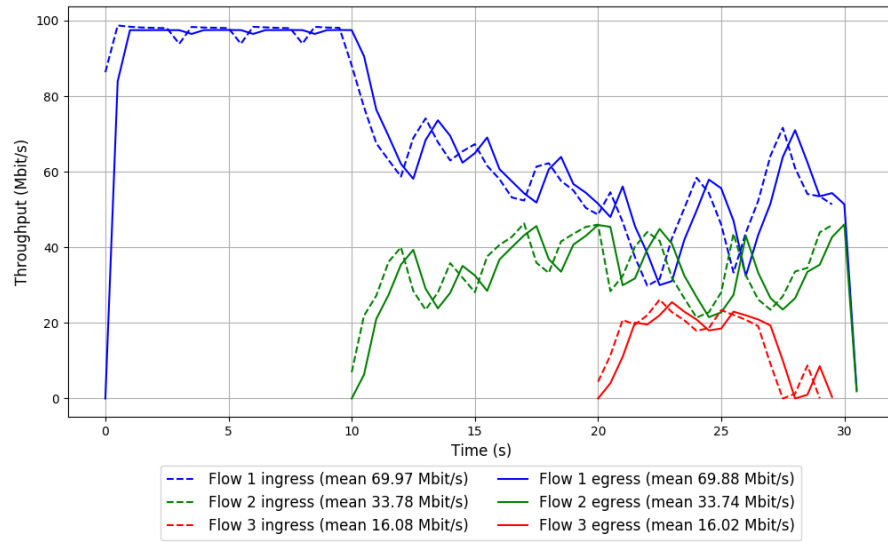Run 2: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 62.31 Mbit/s) —— Flow 1 egress (mean 62.24 Mbit/s)
- - - Flow 2 ingress (mean 40.92 Mbit/s) —— Flow 2 egress (mean 40.87 Mbit/s)
- - - Flow 3 ingress (mean 24.00 Mbit/s) —— Flow 3 egress (mean 23.93 Mbit/s)

- Flow 1 (95th percentile 19.15 ms)　　• Flow 2 (95th percentile 22.83 ms)　　• Flow 3 (95th percentile 26.51 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-18 00:01:20
End at: 2019-07-18 00:01:50
Local clock offset: -6.357 ms
Remote clock offset: 0.442 ms


# Below is generated by plot.py at 2019-07-18 01:16:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.84 Mbit/s
95th percentile per-packet one-way delay: 24.652 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.80 Mbit/s
95th percentile per-packet one-way delay: 22.989 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 43.77 Mbit/s
95th percentile per-packet one-way delay: 25.636 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 23.86 Mbit/s
95th percentile per-packet one-way delay: 26.843 ms
Loss rate: 0.19%
```

Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-18 00:28:34
End at: 2019-07-18 00:29:04
Local clock offset: -7.173 ms
Remote clock offset: 0.564 ms


# Below is generated by plot.py at 2019-07-18 01:16:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 26.697 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 58.68 Mbit/s
95th percentile per-packet one-way delay: 24.168 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 26.736 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 31.27 Mbit/s
95th percentile per-packet one-way delay: 30.824 ms
Loss rate: 0.74%
```
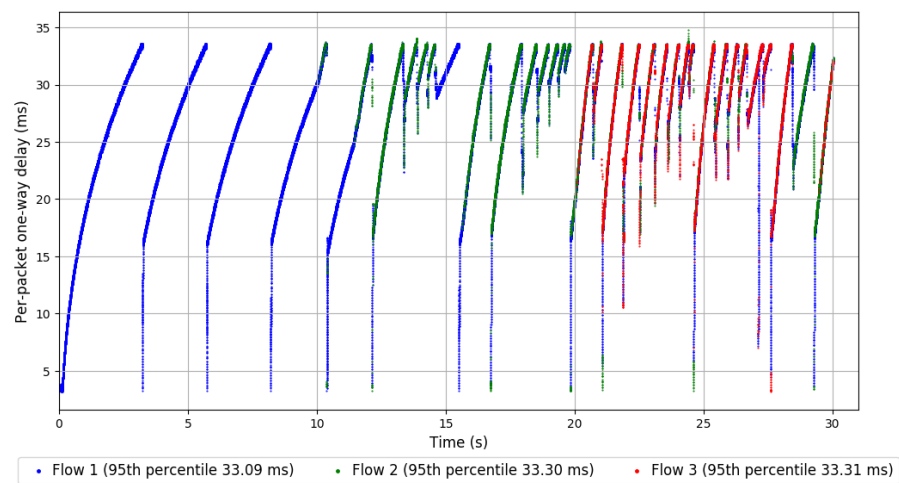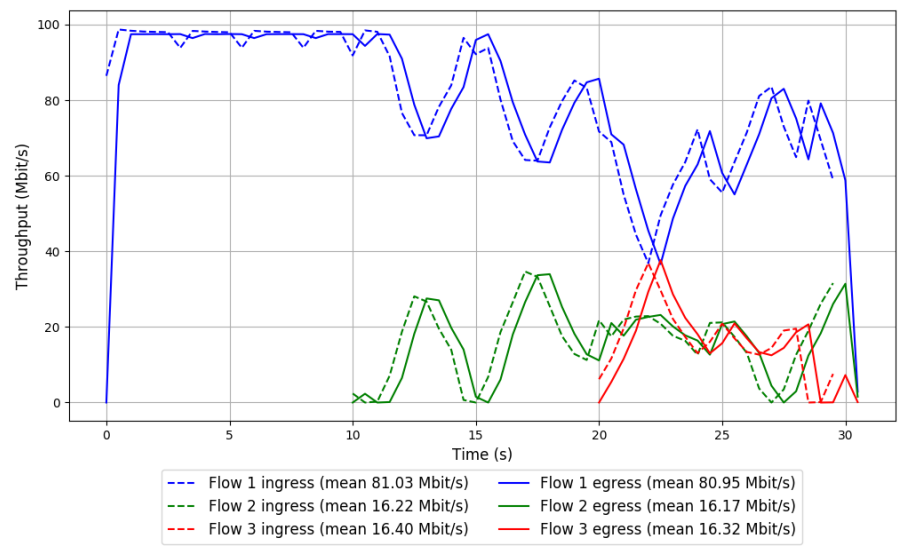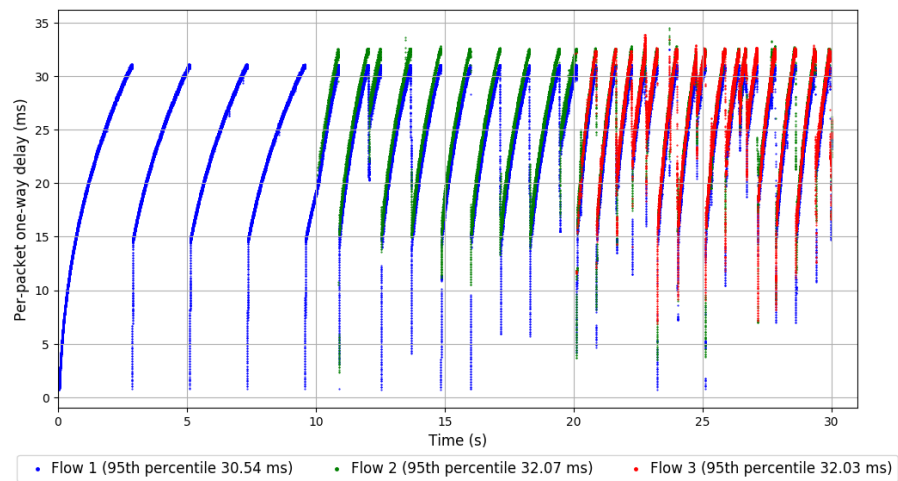
Run 4: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 58.79 Mbit/s) —— Flow 1 egress (mean 58.68 Mbit/s)
- - - Flow 2 ingress (mean 43.42 Mbit/s) —— Flow 2 egress (mean 43.25 Mbit/s)
- - - Flow 3 ingress (mean 31.58 Mbit/s) —— Flow 3 egress (mean 31.27 Mbit/s)

• Flow 1 (95th percentile 24.17 ms)   • Flow 2 (95th percentile 26.74 ms)   • Flow 3 (95th percentile 30.82 ms)

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```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-18 00:55:47
End at: 2019-07-18 00:56:17
Local clock offset: -5.352 ms
Remote clock offset: 0.616 ms


# Below is generated by plot.py at 2019-07-18 01:16:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 27.892 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 52.85 Mbit/s
95th percentile per-packet one-way delay: 25.738 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 44.04 Mbit/s
95th percentile per-packet one-way delay: 27.696 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 30.759 ms
Loss rate: 0.94%
```
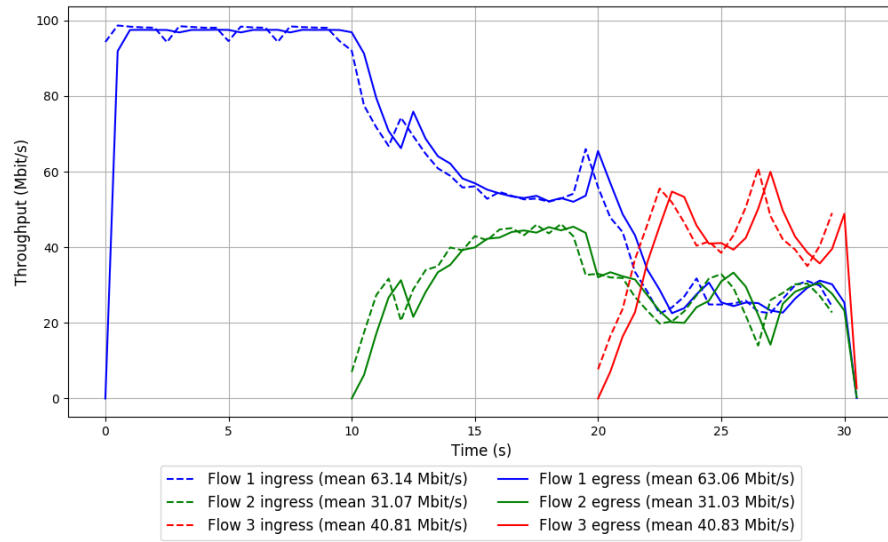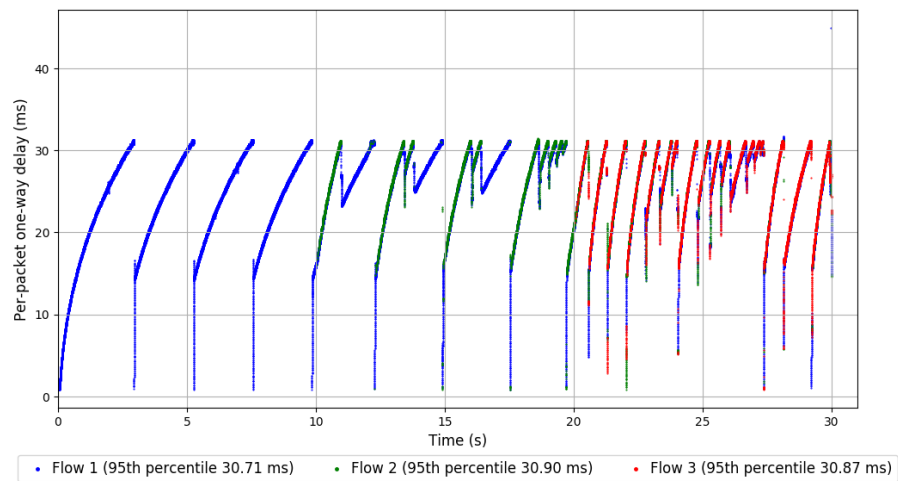
Run 5: Report of Indigo-MusesT — Data Link

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```
Run 1: Statistics of LEDBAT

Start at: 2019-07-17 22:58:53
End at: 2019-07-17 22:59:23
Local clock offset: -6.523 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-07-18 01:16:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.13 Mbit/s
95th percentile per-packet one-way delay: 32.627 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 69.88 Mbit/s
95th percentile per-packet one-way delay: 32.686 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 33.74 Mbit/s
95th percentile per-packet one-way delay: 31.371 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 16.02 Mbit/s
95th percentile per-packet one-way delay: 33.047 ms
Loss rate: 0.43%
```
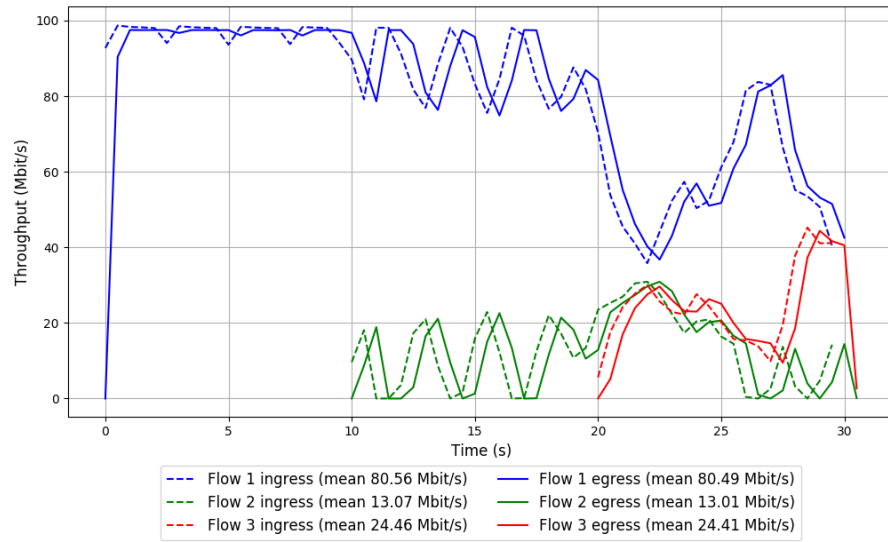
Run 1: Report of LEDBAT — Data Link

- - - - Flow 1 ingress (mean 69.97 Mbit/s) ——— Flow 1 egress (mean 69.88 Mbit/s)
- - - - Flow 2 ingress (mean 33.78 Mbit/s) ——— Flow 2 egress (mean 33.74 Mbit/s)
- - - - Flow 3 ingress (mean 16.08 Mbit/s) ——— Flow 3 egress (mean 16.02 Mbit/s)

• Flow 1 (95th percentile 32.69 ms)   • Flow 2 (95th percentile 31.37 ms)   • Flow 3 (95th percentile 33.05 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-07-17 23:26:07
End at: 2019-07-17 23:26:37
Local clock offset: -7.401 ms
Remote clock offset: 0.178 ms


# Below is generated by plot.py at 2019-07-18 01:17:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 33.110 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 80.95 Mbit/s
95th percentile per-packet one-way delay: 33.088 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 16.17 Mbit/s
95th percentile per-packet one-way delay: 33.305 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 16.32 Mbit/s
95th percentile per-packet one-way delay: 33.306 ms
Loss rate: 0.36%
```
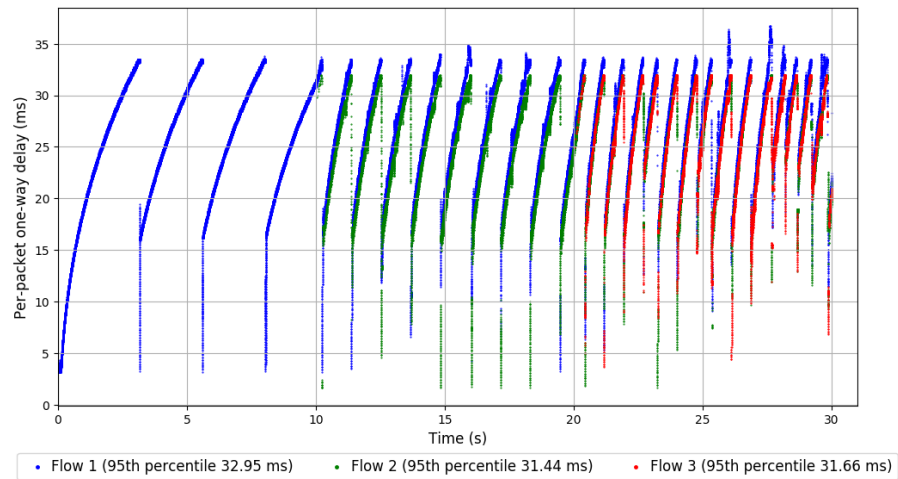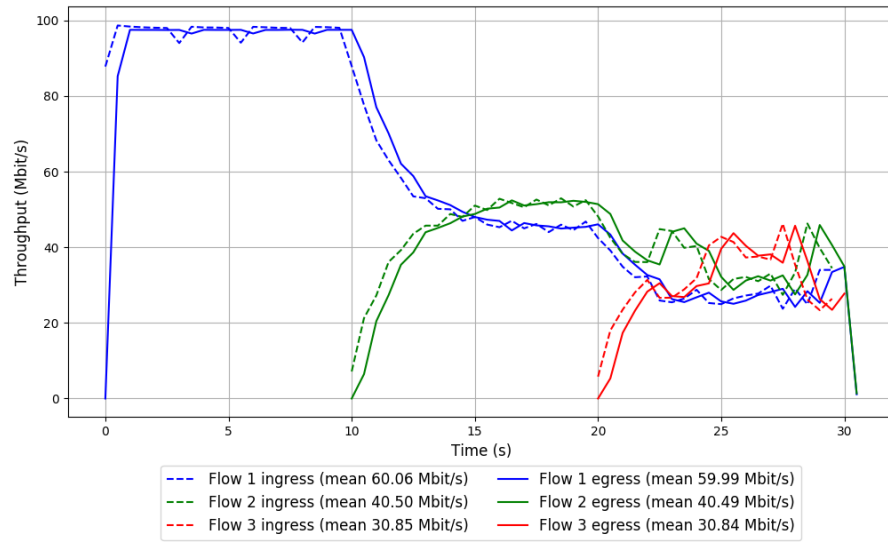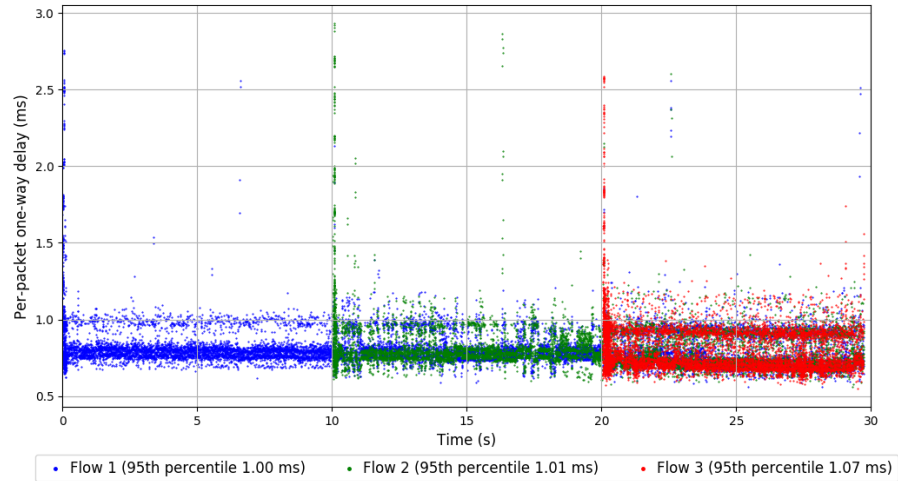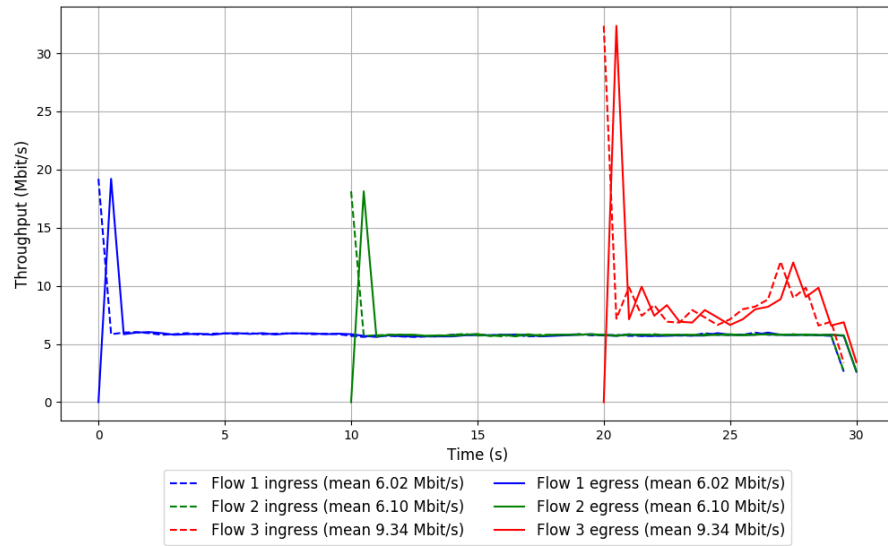
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 81.03 Mbit/s) Flow 1 egress (mean 80.95 Mbit/s)
Flow 2 ingress (mean 16.22 Mbit/s) Flow 2 egress (mean 16.17 Mbit/s)
Flow 3 ingress (mean 16.40 Mbit/s) Flow 3 egress (mean 16.32 Mbit/s)

Flow 1 (95th percentile 33.09 ms)   Flow 2 (95th percentile 33.30 ms)   Flow 3 (95th percentile 33.31 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-07-17 23:53:21
End at: 2019-07-17 23:53:51
Local clock offset: -5.556 ms
Remote clock offset: 0.315 ms


# Below is generated by plot.py at 2019-07-18 01:17:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.27 Mbit/s
95th percentile per-packet one-way delay: 31.275 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 63.06 Mbit/s
95th percentile per-packet one-way delay: 30.537 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 31.03 Mbit/s
95th percentile per-packet one-way delay: 32.067 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 40.83 Mbit/s
95th percentile per-packet one-way delay: 32.031 ms
Loss rate: 0.03%
```
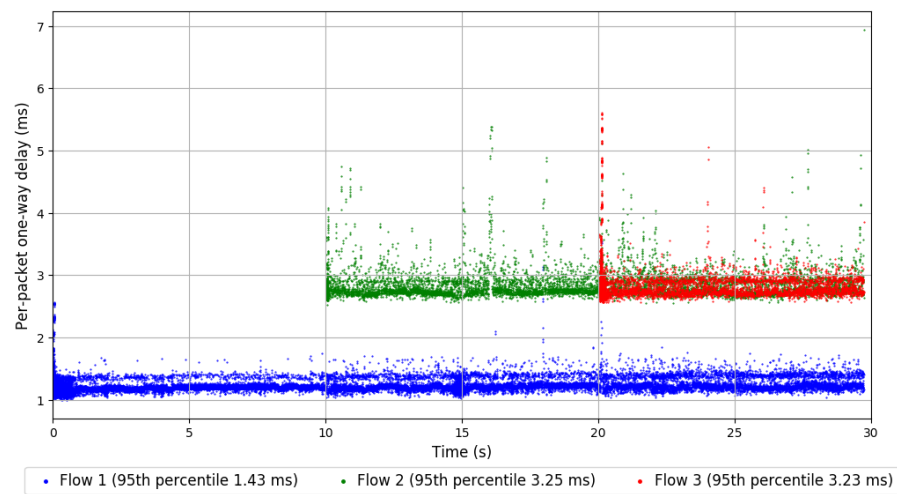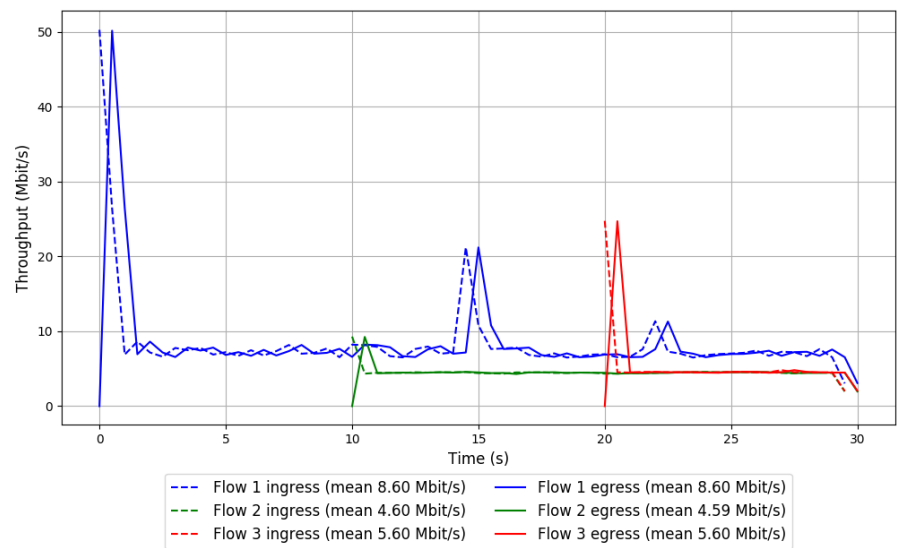
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 63.14 Mbit/s) --- Flow 1 egress (mean 63.06 Mbit/s)
Flow 2 ingress (mean 31.07 Mbit/s) --- Flow 2 egress (mean 31.03 Mbit/s)
Flow 3 ingress (mean 40.81 Mbit/s) --- Flow 3 egress (mean 40.83 Mbit/s)

Flow 1 (95th percentile 30.54 ms) • Flow 2 (95th percentile 32.07 ms) • Flow 3 (95th percentile 32.03 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-07-18 00:20:34
End at: 2019-07-18 00:21:04
Local clock offset: -6.739 ms
Remote clock offset: 0.581 ms


# Below is generated by plot.py at 2019-07-18 01:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 30.728 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 80.49 Mbit/s
95th percentile per-packet one-way delay: 30.710 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 13.01 Mbit/s
95th percentile per-packet one-way delay: 30.901 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 24.41 Mbit/s
95th percentile per-packet one-way delay: 30.872 ms
Loss rate: 0.17%
```
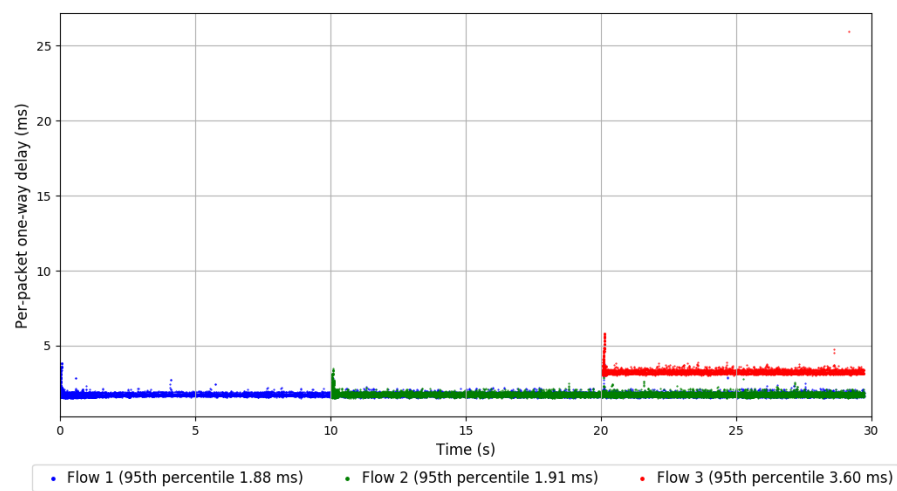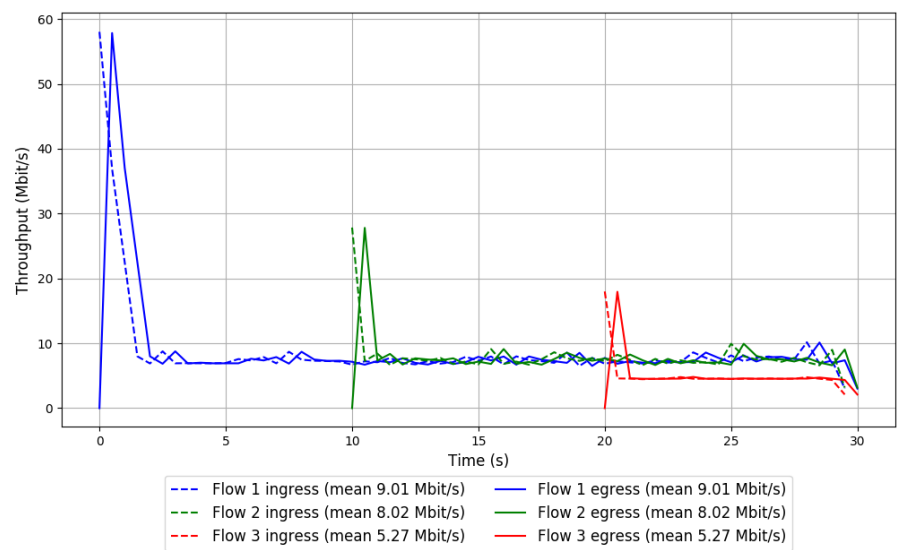
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 80.56 Mbit/s) --- Flow 1 egress (mean 80.49 Mbit/s)
Flow 2 ingress (mean 13.07 Mbit/s) --- Flow 2 egress (mean 13.01 Mbit/s)
Flow 3 ingress (mean 24.46 Mbit/s) --- Flow 3 egress (mean 24.41 Mbit/s)

Flow 1 (95th percentile 30.71 ms)   Flow 2 (95th percentile 30.90 ms)   Flow 3 (95th percentile 30.87 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-07-18 00:47:49
End at: 2019-07-18 00:48:19
Local clock offset: -6.23 ms
Remote clock offset: 0.656 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 32.668 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 59.99 Mbit/s
95th percentile per-packet one-way delay: 32.947 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 31.441 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 30.84 Mbit/s
95th percentile per-packet one-way delay: 31.660 ms
Loss rate: 0.09%
```
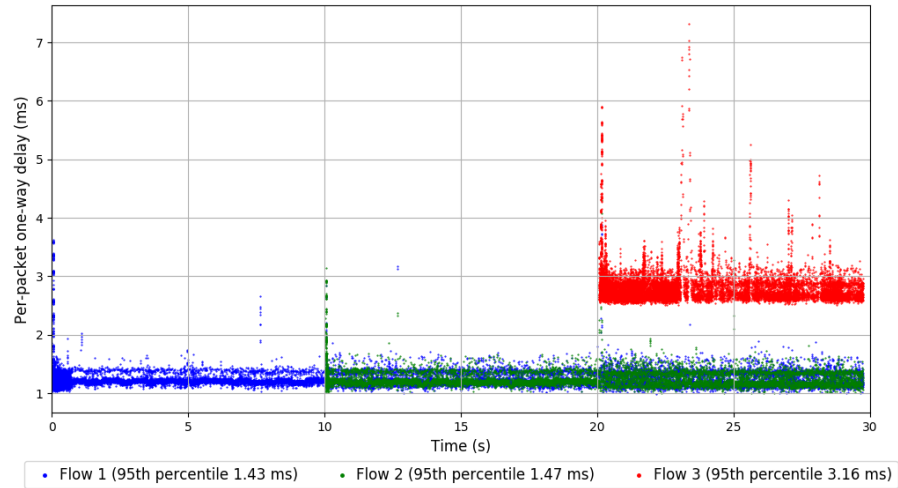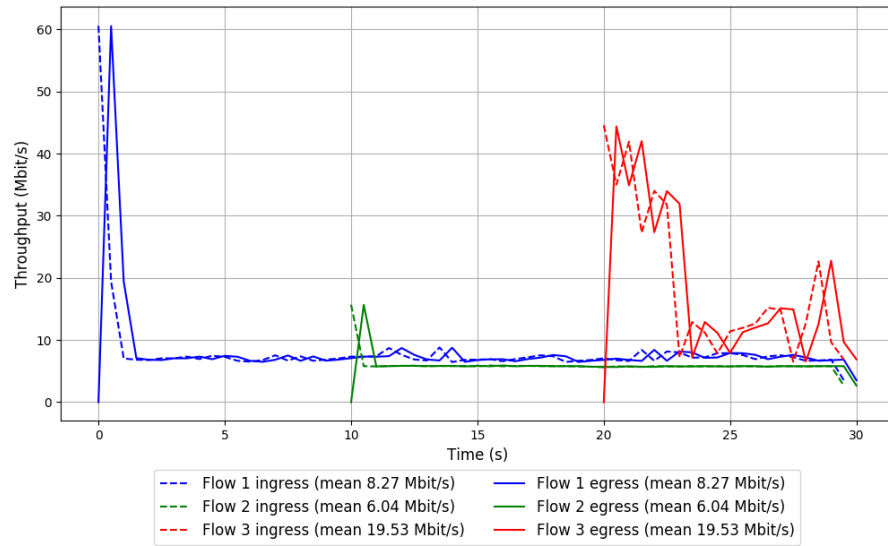
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 22:57:47
End at: 2019-07-17 22:58:17
Local clock offset: -5.601 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 1.013 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.02 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 1.066 ms
Loss rate: 0.00%
```
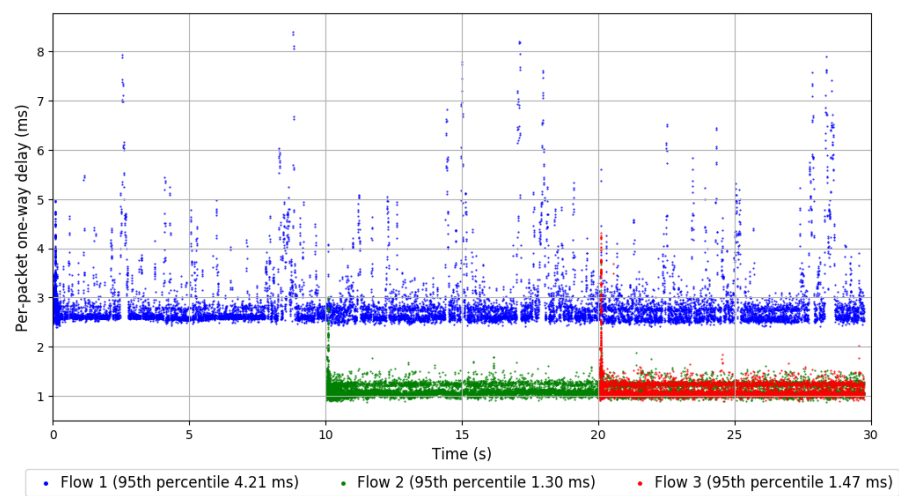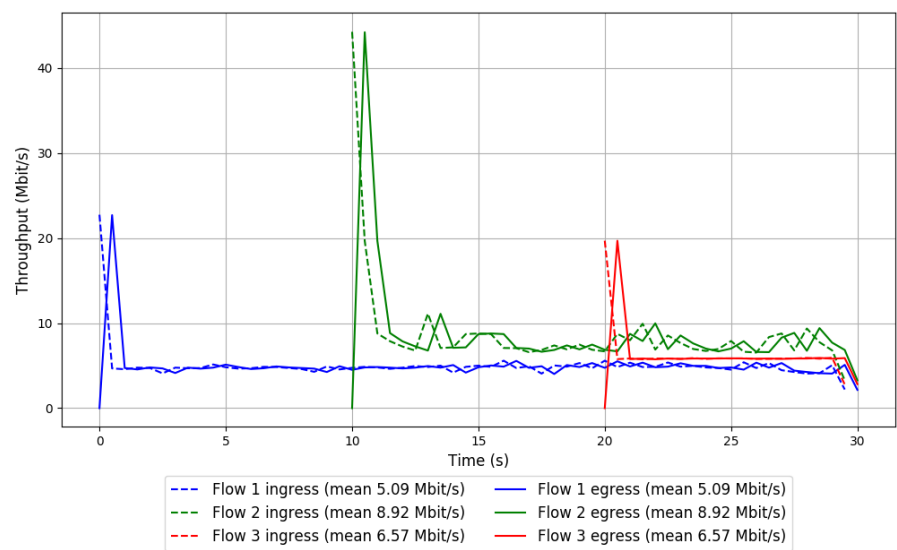
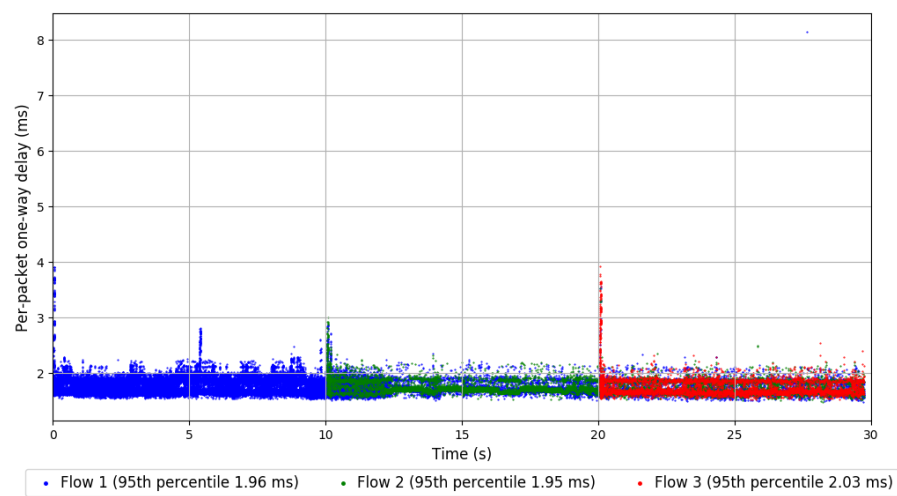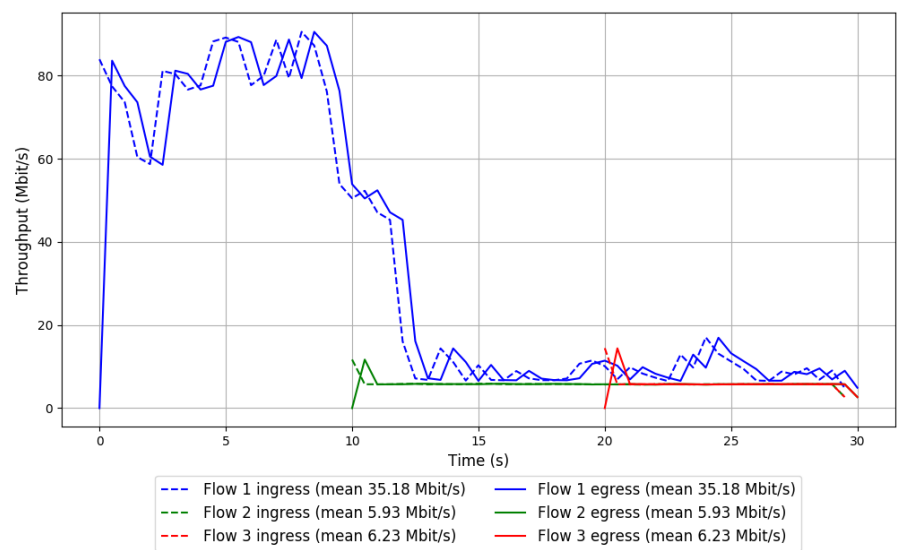Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 23:25:01
End at: 2019-07-17 23:25:31
Local clock offset: -6.893 ms
Remote clock offset: 0.167 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.47 Mbit/s
95th percentile per-packet one-way delay: 2.982 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 1.426 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 3.246 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 3.235 ms
Loss rate: 0.00%
```

Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 23:52:15
End at: 2019-07-17 23:52:45
Local clock offset: -6.361 ms
Remote clock offset: 0.305 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.04 Mbit/s
95th percentile per-packet one-way delay: 3.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 1.875 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 1.912 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 3.596 ms
Loss rate: 0.05%
```
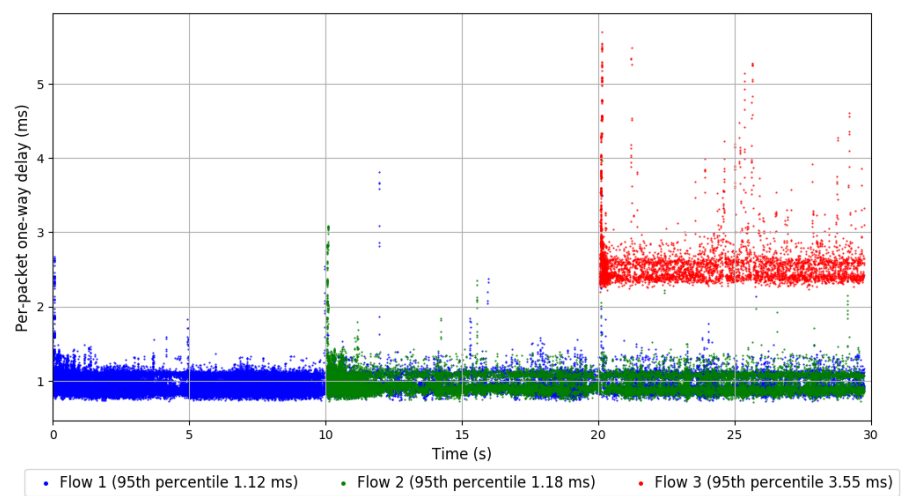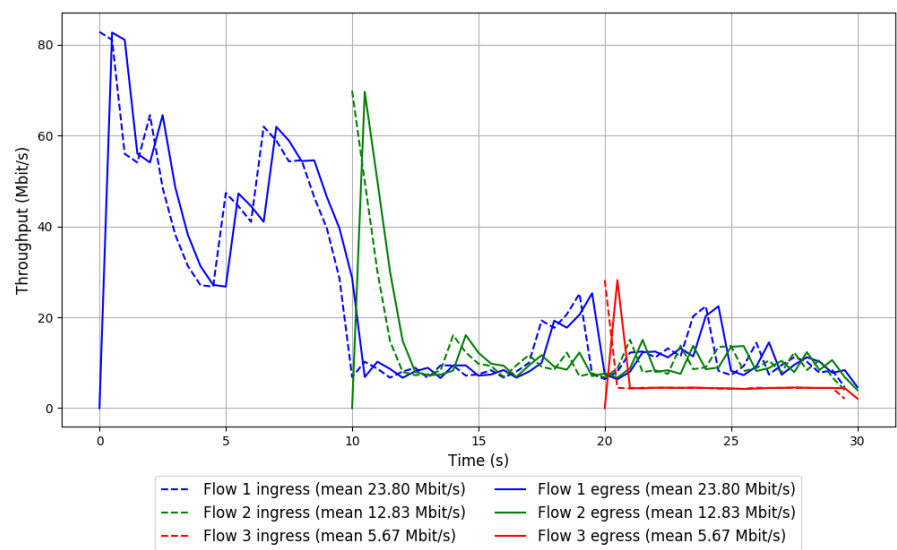
Run 3: Report of Muses_DecisionTree — Data Link

Run 4: Statistics of Muses_DecisionTree

Start at: 2019-07-18 00:19:28
End at: 2019-07-18 00:19:58
Local clock offset: -7.015 ms
Remote clock offset: 0.505 ms

Below is generated by plot.py at 2019-07-18 01:18:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 2.924 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 1.427 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.04 Mbit/s
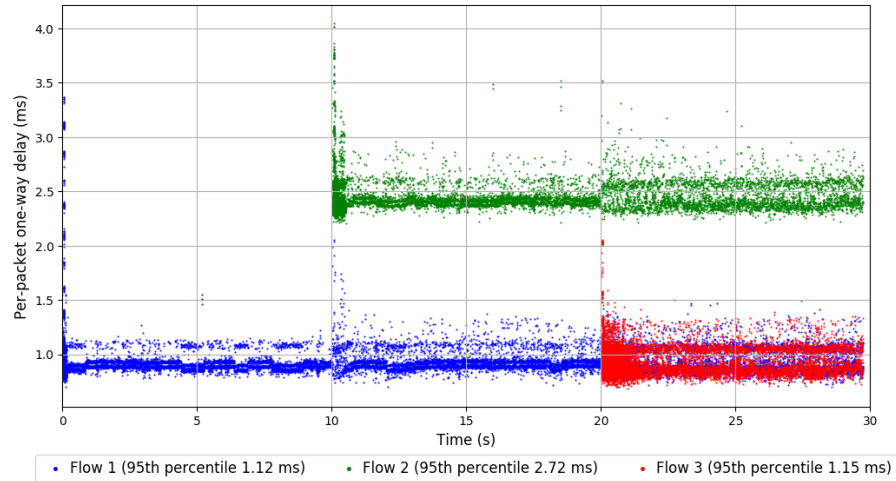95th percentile per-packet one-way delay: 1.474 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 19.53 Mbit/s
95th percentile per-packet one-way delay: 3.164 ms
Loss rate: 0.00%

Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 00:46:43
End at: 2019-07-18 00:47:13
Local clock offset: -5.535 ms
Remote clock offset: 0.67 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.15 Mbit/s
95th percentile per-packet one-way delay: 3.232 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 4.213 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 8.92 Mbit/s
95th percentile per-packet one-way delay: 1.303 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 1.466 ms
Loss rate: 0.00%
```
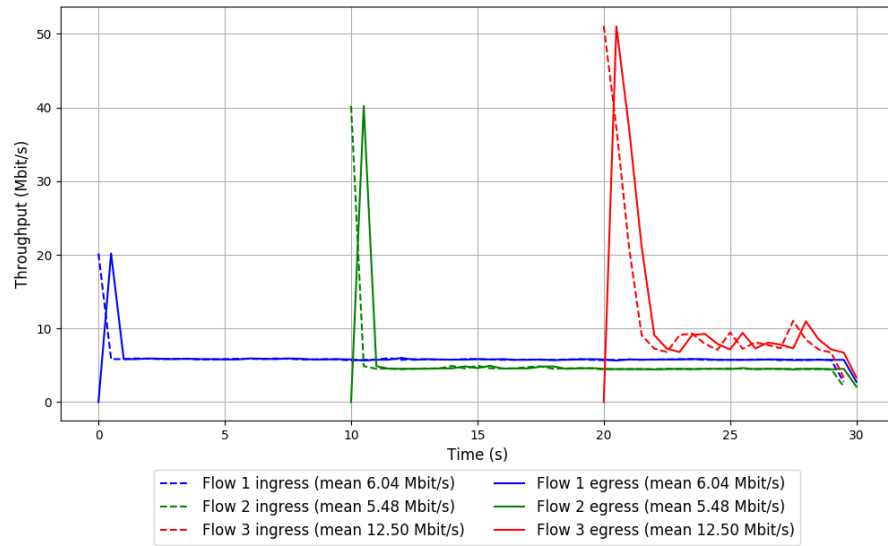
Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 22:56:40
End at: 2019-07-17 22:57:10
Local clock offset: -6.29 ms
Remote clock offset: -0.009 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.14 Mbit/s
95th percentile per-packet one-way delay: 1.964 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 35.18 Mbit/s
95th percentile per-packet one-way delay: 1.964 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 1.949 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 2.030 ms
Loss rate: 0.00%
```
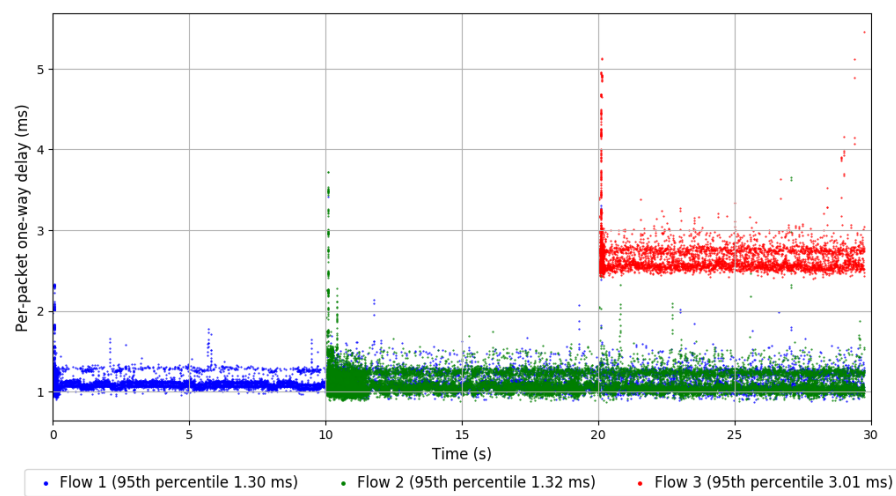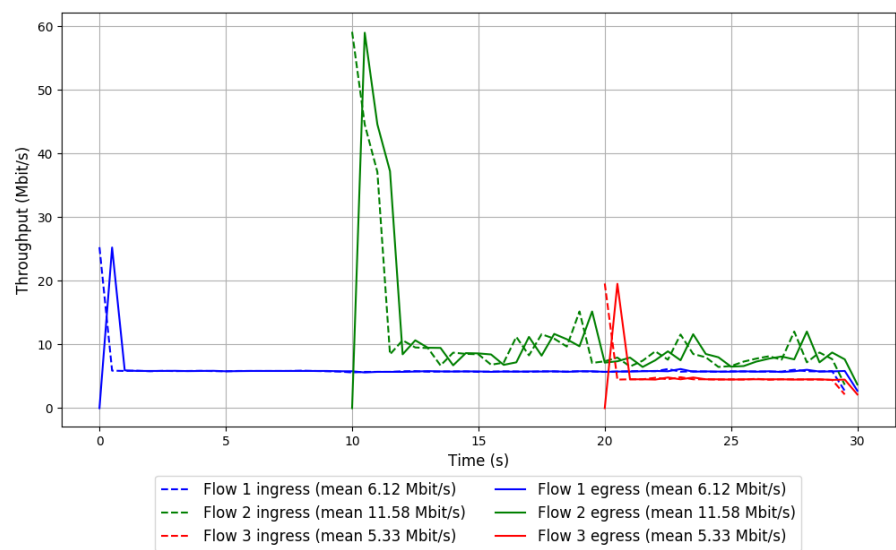
Run 1: Report of Muses_DecisionTreeH0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 23:23:54
End at: 2019-07-17 23:24:24
Local clock offset: -6.698 ms
Remote clock offset: 0.156 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.15 Mbit/s
95th percentile per-packet one-way delay: 2.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.80 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 1.181 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 3.551 ms
Loss rate: 0.00%
```
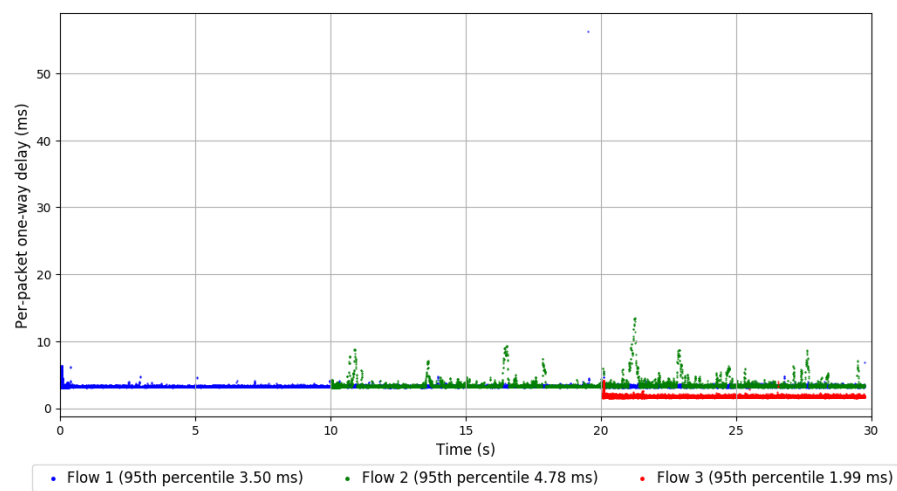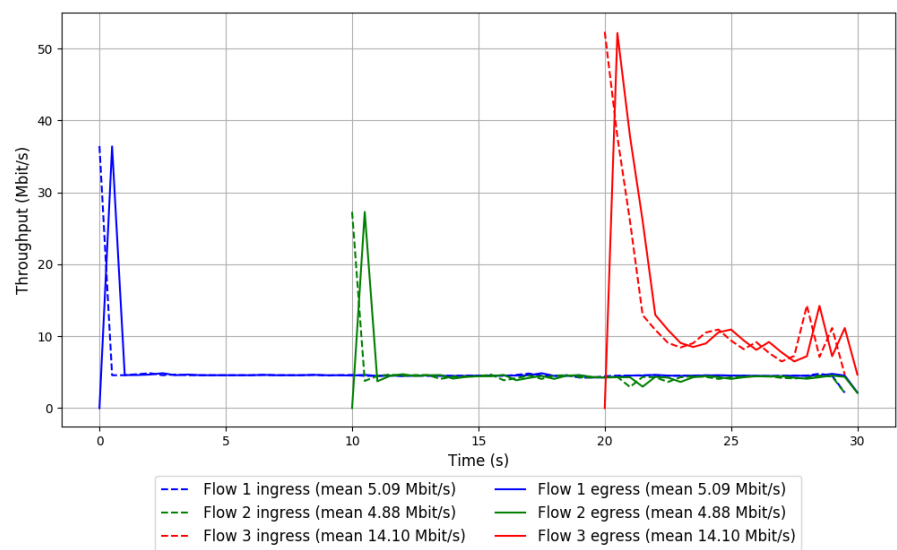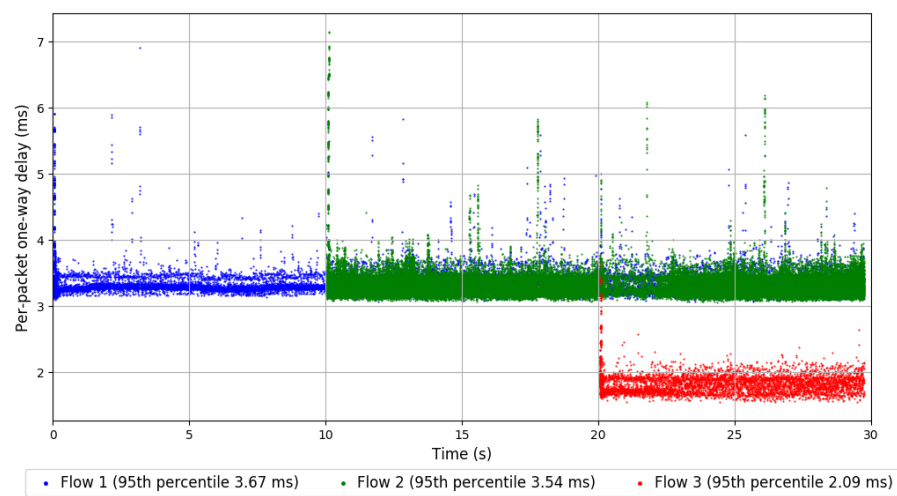
Run 2: Report of Muses_DecisionTreeH0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 23:51:09
End at: 2019-07-17 23:51:39
Local clock offset: -5.57 ms
Remote clock offset: 0.33 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.76 Mbit/s
95th percentile per-packet one-way delay: 2.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.04 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.48 Mbit/s
95th percentile per-packet one-way delay: 2.722 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.00%
```

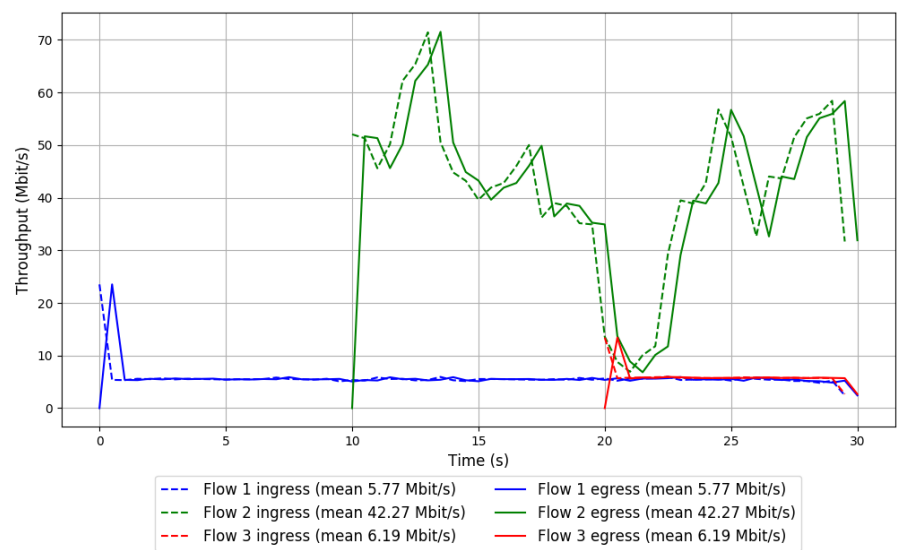Run 3: Report of Muses_DecisionTreeH0 — Data Link

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```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 00:18:22
End at: 2019-07-18 00:18:52
Local clock offset: -6.924 ms
Remote clock offset: 0.457 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.53 Mbit/s
95th percentile per-packet one-way delay: 2.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 1.302 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 1.325 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 3.010 ms
Loss rate: 0.00%
```
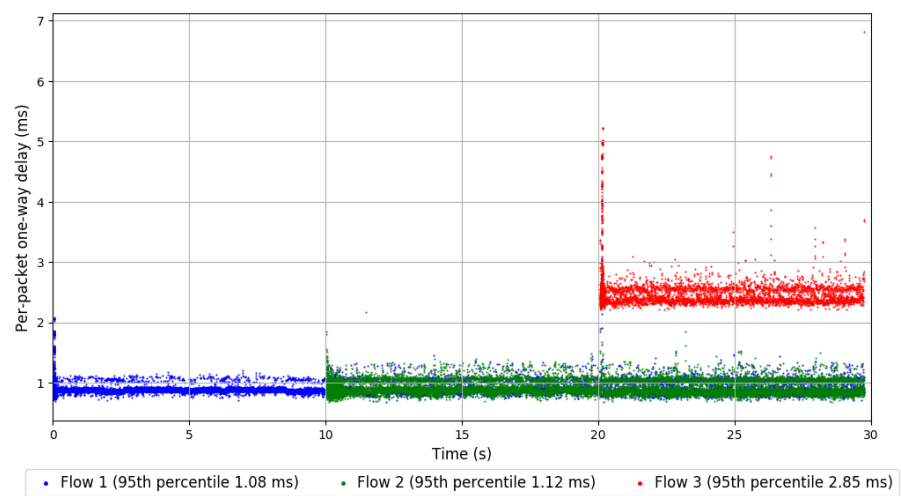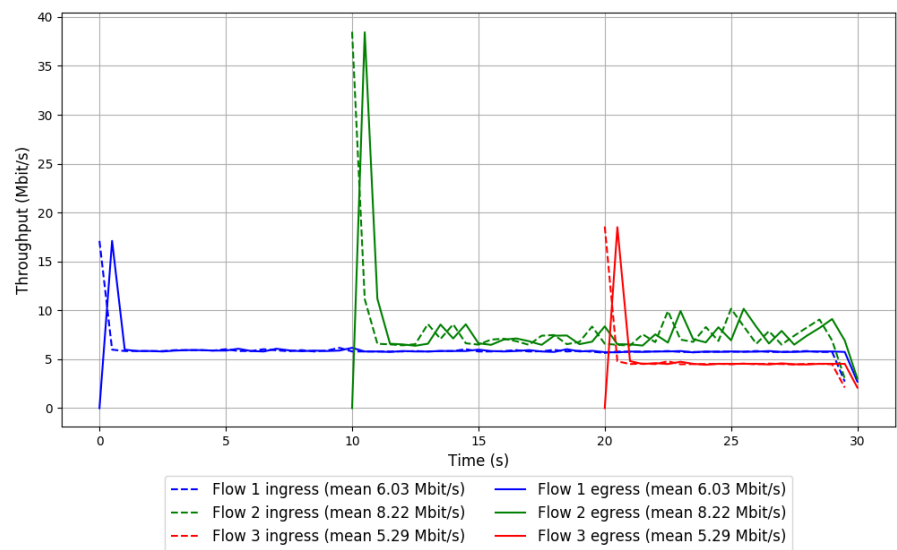
Run 4: Report of Muses_DecisionTreeH0 — Data Link

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Run 4: Report of Muses_DecisionTreeH0 — Data Link

Run 5: Statistics of Muses_DecisionTreeH0

Start at: 2019-07-18 00:45:37
End at: 2019-07-18 00:46:07
Local clock offset: -6.339 ms
Remote clock offset: 0.526 ms

Below is generated by plot.py at 2019-07-18 01:18:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 3.658 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 3.501 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 4.784 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 14.10 Mbit/s
95th percentile per-packet one-way delay: 1.987 ms
Loss rate: 0.00%

Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 23:14:51
End at: 2019-07-17 23:15:21
Local clock offset: -7.293 ms
Remote clock offset: 0.132 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 3.568 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 3.675 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.27 Mbit/s
95th percentile per-packet one-way delay: 3.544 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 2.087 ms
Loss rate: 0.00%
```
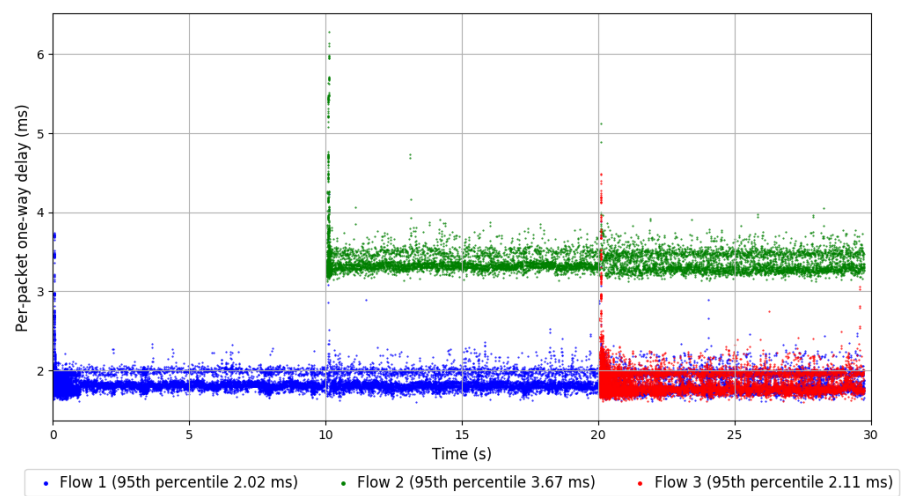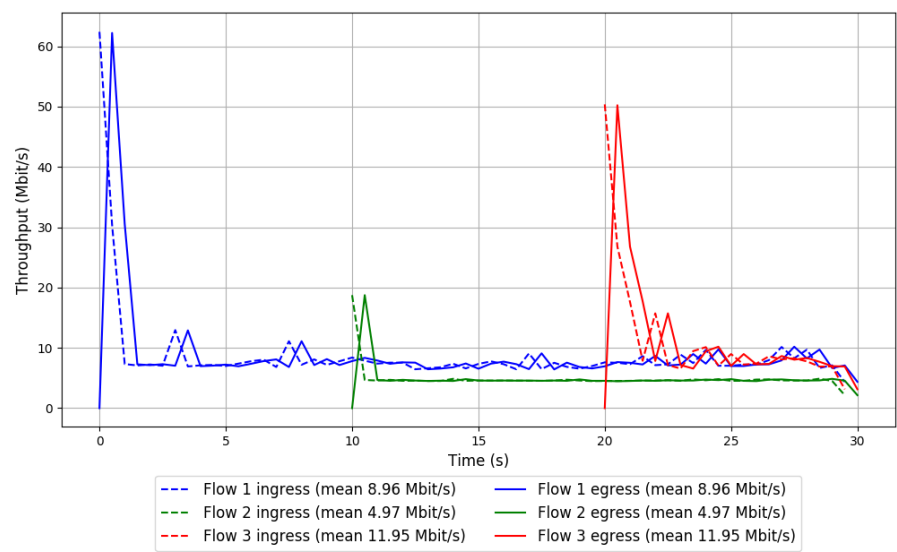
Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 23:42:07
End at: 2019-07-17 23:42:37
Local clock offset: -5.716 ms
Remote clock offset: 0.226 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 2.511 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.03 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 2.849 ms
Loss rate: 0.00%
```
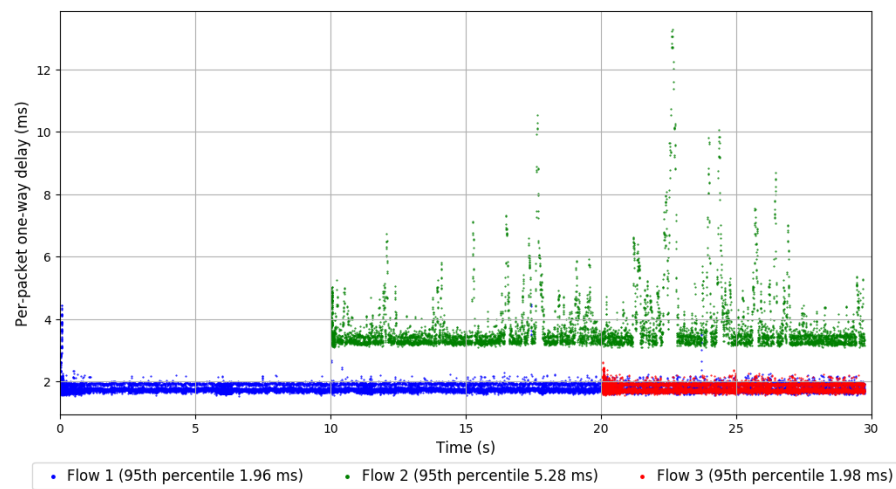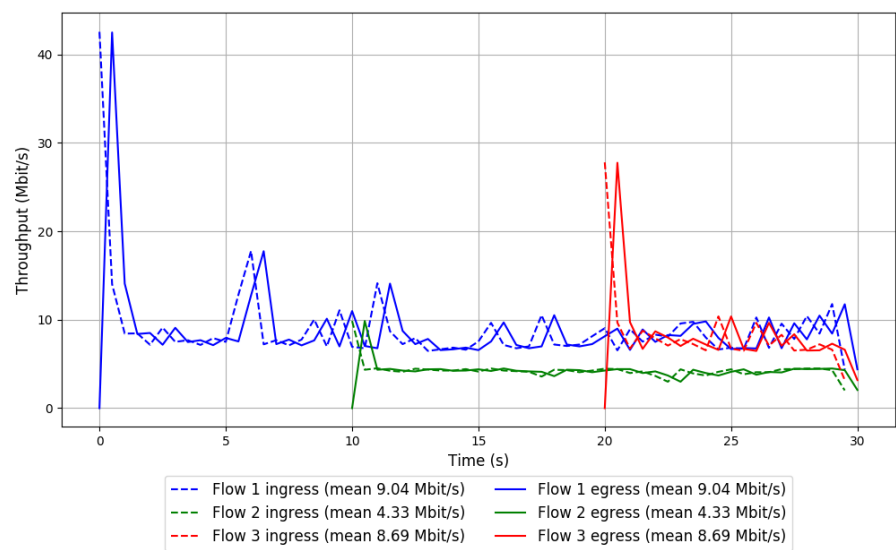
Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 00:09:20
End at: 2019-07-18 00:09:50
Local clock offset: -7.506 ms
Remote clock offset: 0.358 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.15 Mbit/s
95th percentile per-packet one-way delay: 3.472 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 2.025 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 3.672 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 2.107 ms
Loss rate: 0.00%
```
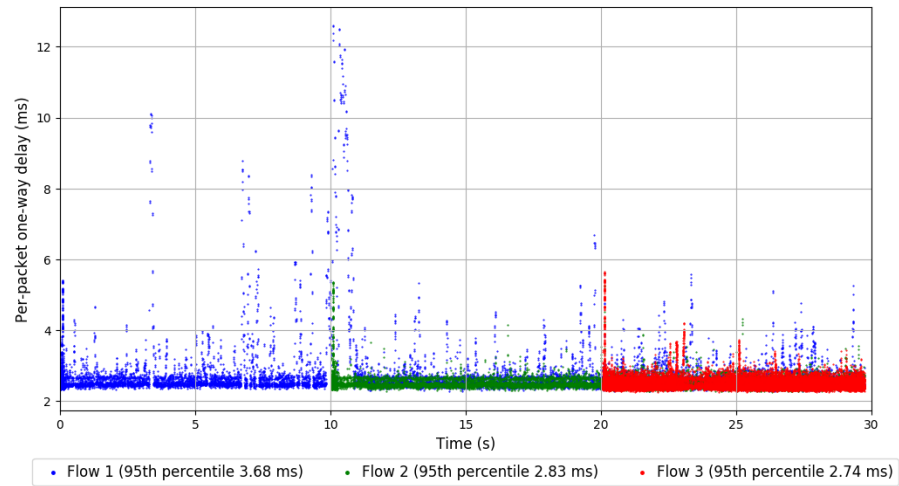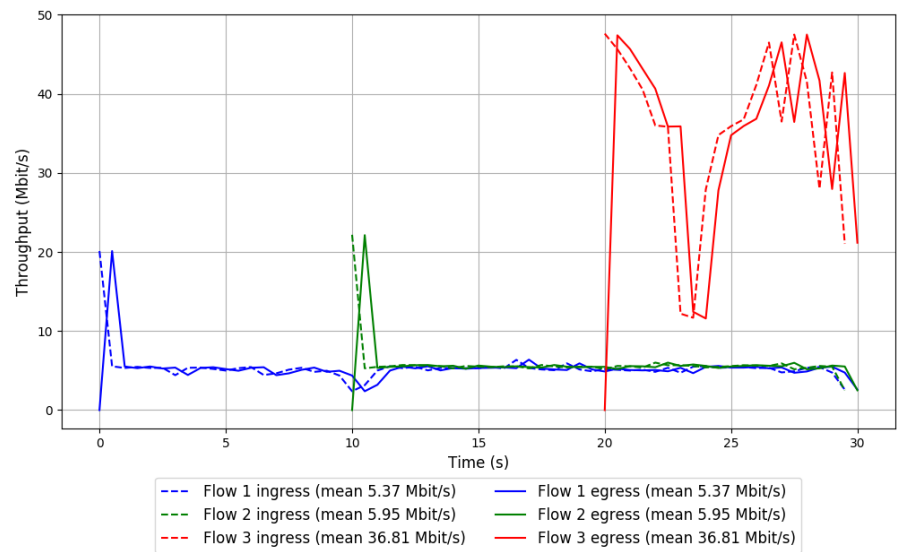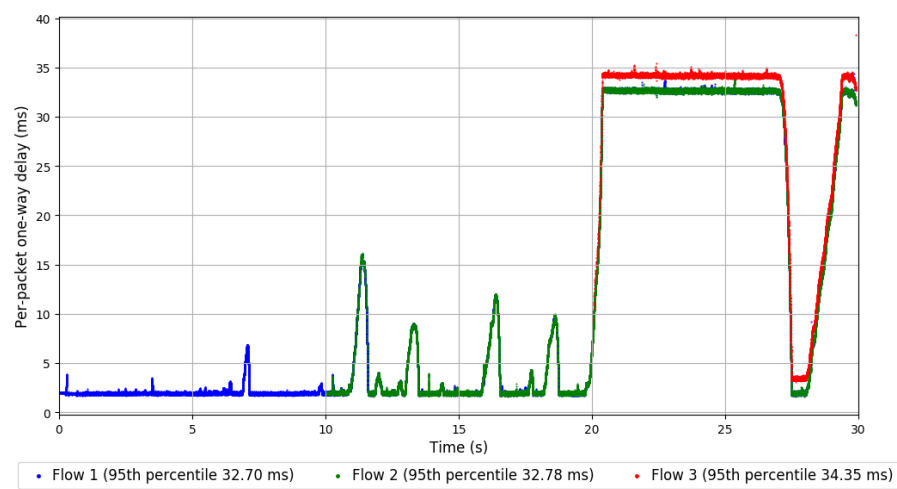
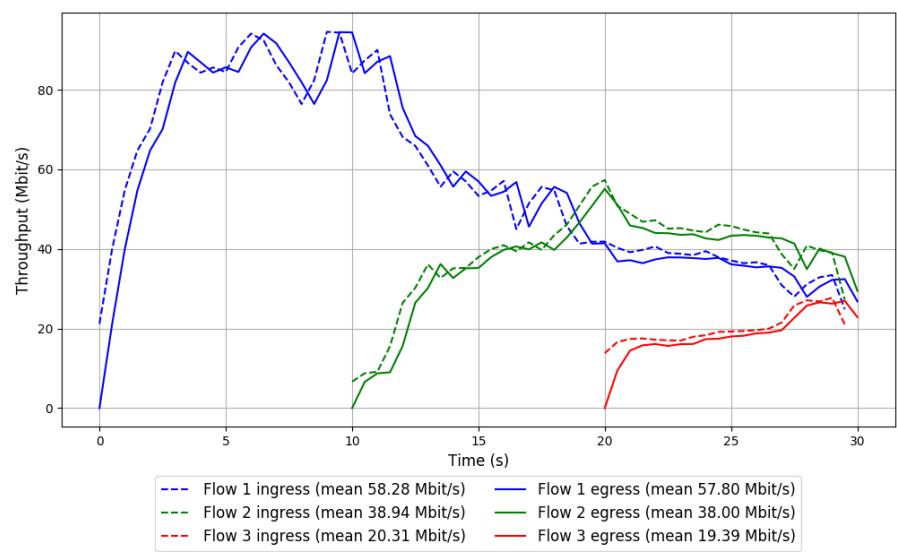Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 00:36:35
End at: 2019-07-18 00:37:05
Local clock offset: -6.576 ms
Remote clock offset: 0.579 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.74 Mbit/s
95th percentile per-packet one-way delay: 3.659 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 1.957 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 5.283 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 1.984 ms
Loss rate: 0.00%
```

Run 4: Report of Muses_DecisionTreeR0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 01:03:53
End at: 2019-07-18 01:04:23
Local clock offset: -5.49 ms
Remote clock offset: 0.631 ms


# Below is generated by plot.py at 2019-07-18 01:18:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.30 Mbit/s
95th percentile per-packet one-way delay: 2.910 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 3.680 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 2.832 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.81 Mbit/s
95th percentile per-packet one-way delay: 2.740 ms
Loss rate: 0.01%
```
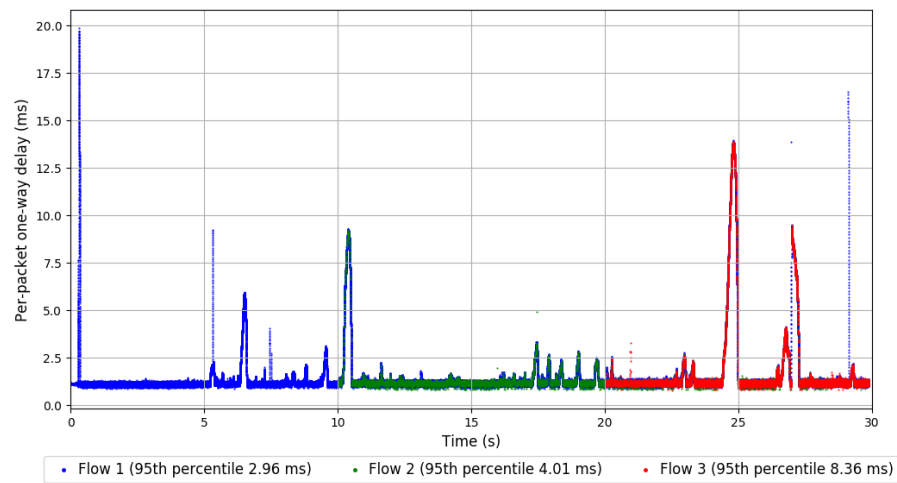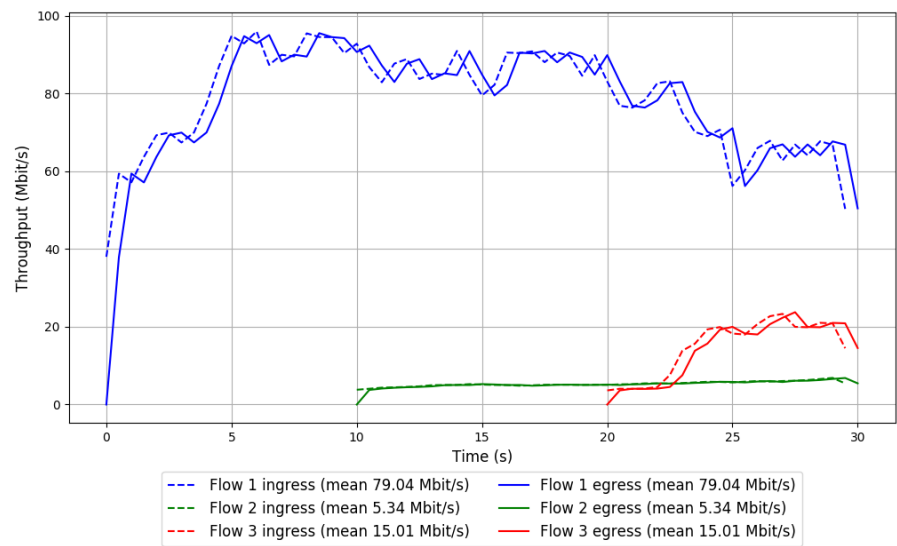
Run 5: Report of Muses_DecisionTreeR0 — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-17 22:54:26
End at: 2019-07-17 22:54:56
Local clock offset: -6.275 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-07-18 01:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.46 Mbit/s
95th percentile per-packet one-way delay: 32.980 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 57.80 Mbit/s
95th percentile per-packet one-way delay: 32.700 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 32.784 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 19.39 Mbit/s
95th percentile per-packet one-way delay: 34.348 ms
Loss rate: 4.26%
```
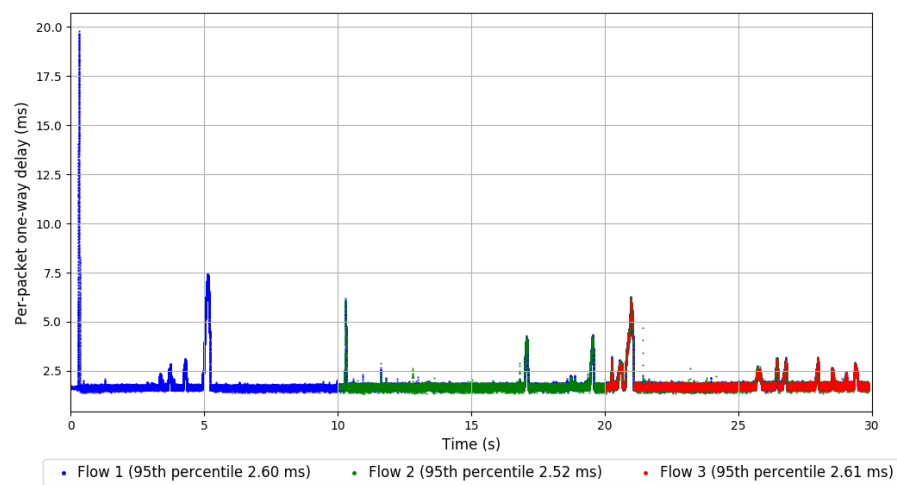
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-17 23:21:41
End at: 2019-07-17 23:22:11
Local clock offset: -6.851 ms
Remote clock offset: 0.175 ms


# Below is generated by plot.py at 2019-07-18 01:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.54 Mbit/s
95th percentile per-packet one-way delay: 3.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.04 Mbit/s
95th percentile per-packet one-way delay: 2.963 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.34 Mbit/s
95th percentile per-packet one-way delay: 4.012 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.01 Mbit/s
95th percentile per-packet one-way delay: 8.364 ms
Loss rate: 0.00%
```
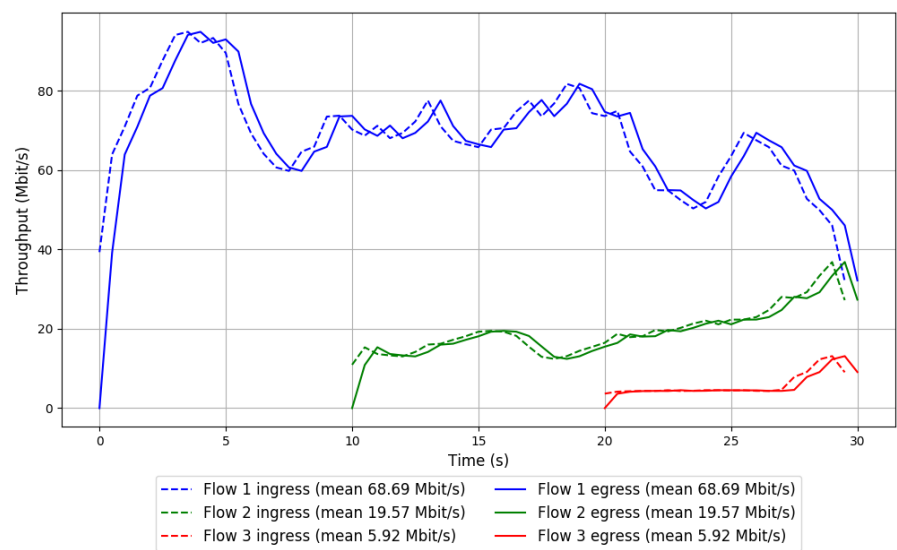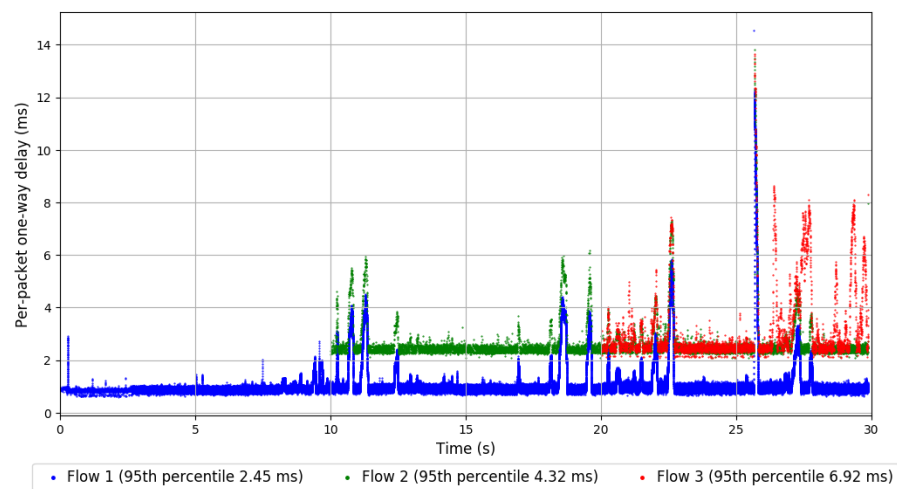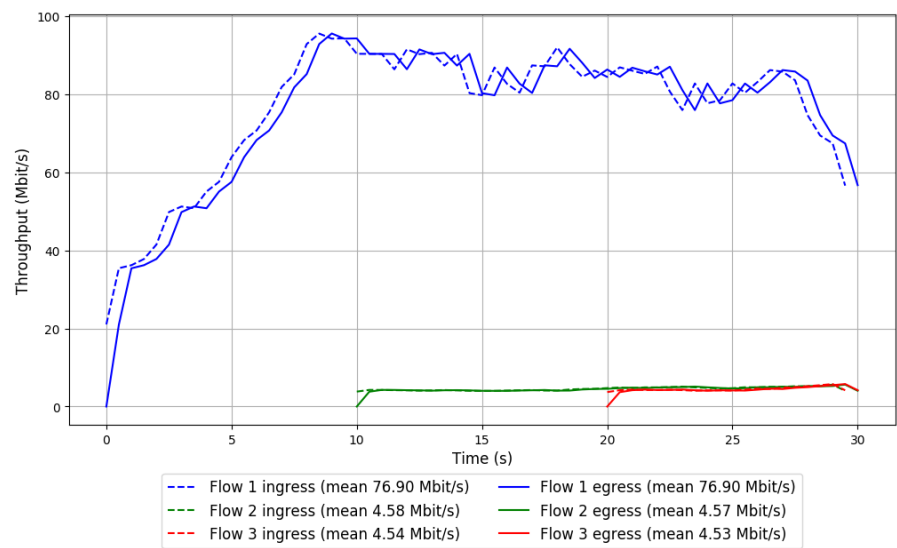
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 79.04 Mbit/s) --- Flow 1 egress (mean 79.04 Mbit/s)
Flow 2 ingress (mean 5.34 Mbit/s) --- Flow 2 egress (mean 5.34 Mbit/s)
Flow 3 ingress (mean 15.01 Mbit/s) --- Flow 3 egress (mean 15.01 Mbit/s)

Flow 1 (95th percentile 2.96 ms)   Flow 2 (95th percentile 4.01 ms)   Flow 3 (95th percentile 8.36 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-17 23:48:56
End at: 2019-07-17 23:49:26
Local clock offset: -6.41 ms
Remote clock offset: 0.277 ms


# Below is generated by plot.py at 2019-07-18 01:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.66 Mbit/s
95th percentile per-packet one-way delay: 2.585 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.69 Mbit/s
95th percentile per-packet one-way delay: 2.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.57 Mbit/s
95th percentile per-packet one-way delay: 2.525 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-18 00:16:09
End at: 2019-07-18 00:16:39
Local clock offset: -6.664 ms
Remote clock offset: 0.516 ms


# Below is generated by plot.py at 2019-07-18 01:18:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.42 Mbit/s
95th percentile per-packet one-way delay: 2.832 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.90 Mbit/s
95th percentile per-packet one-way delay: 2.447 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.57 Mbit/s
95th percentile per-packet one-way delay: 4.322 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 6.921 ms
Loss rate: 0.00%
```
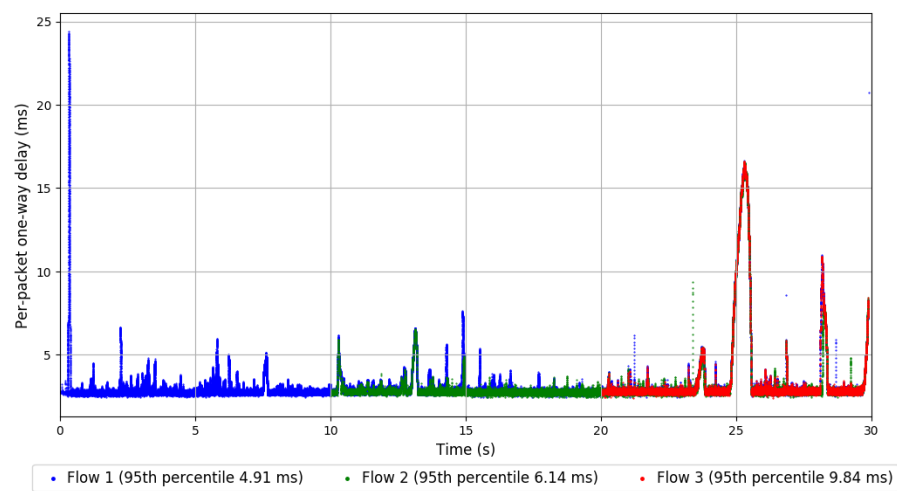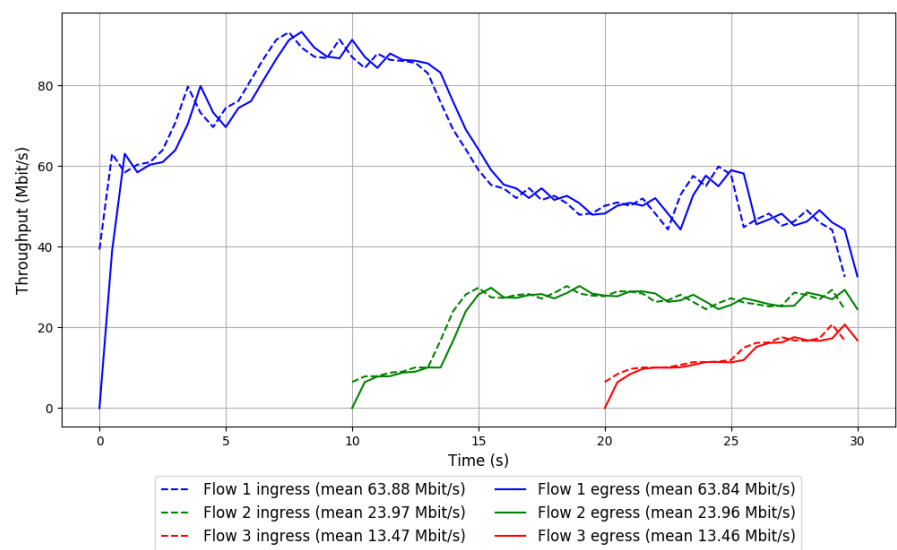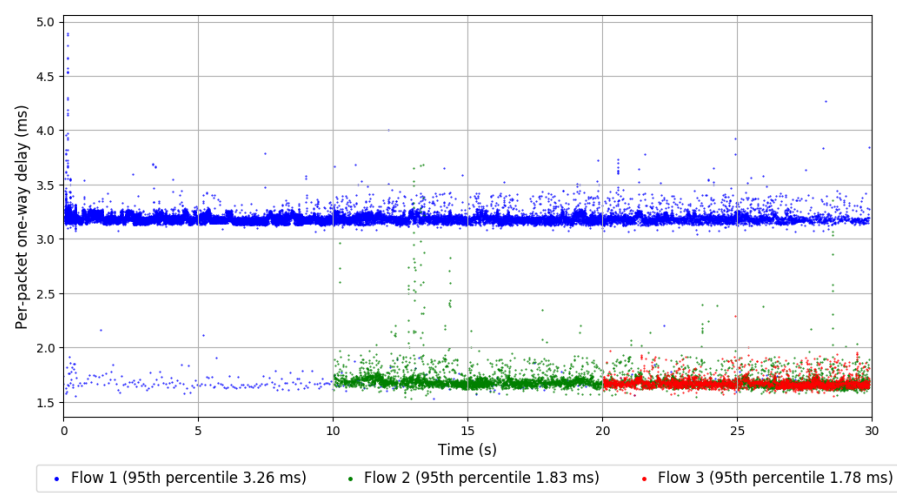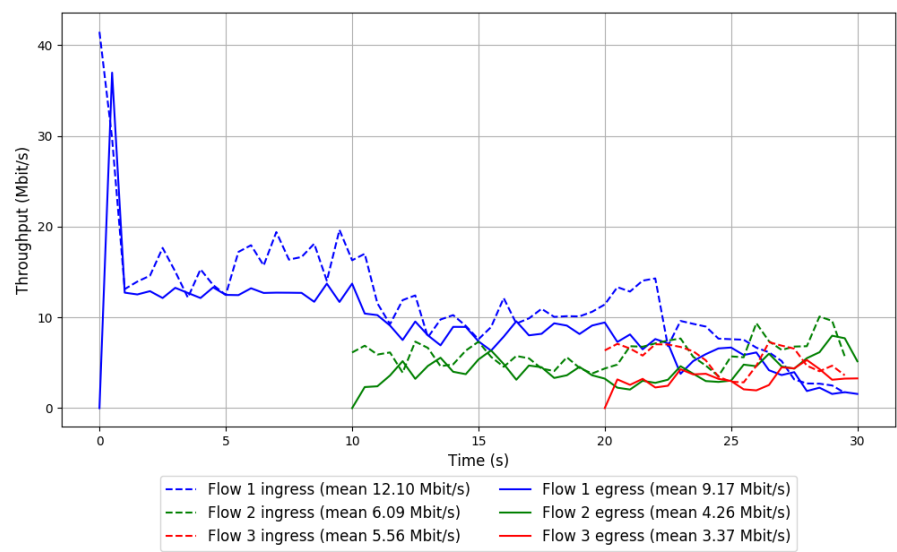
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 76.90 Mbit/s) --- Flow 1 egress (mean 76.90 Mbit/s)
Flow 2 ingress (mean 4.58 Mbit/s) --- Flow 2 egress (mean 4.57 Mbit/s)
Flow 3 ingress (mean 4.54 Mbit/s) --- Flow 3 egress (mean 4.53 Mbit/s)

Flow 1 (95th percentile 2.45 ms)   Flow 2 (95th percentile 4.32 ms)   Flow 3 (95th percentile 6.92 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-18 00:43:23
End at: 2019-07-18 00:43:53
Local clock offset: -5.77 ms
Remote clock offset: 0.66 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.21 Mbit/s
95th percentile per-packet one-way delay: 5.252 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.84 Mbit/s
95th percentile per-packet one-way delay: 4.905 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.96 Mbit/s
95th percentile per-packet one-way delay: 6.142 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 13.46 Mbit/s
95th percentile per-packet one-way delay: 9.844 ms
Loss rate: 0.03%
```
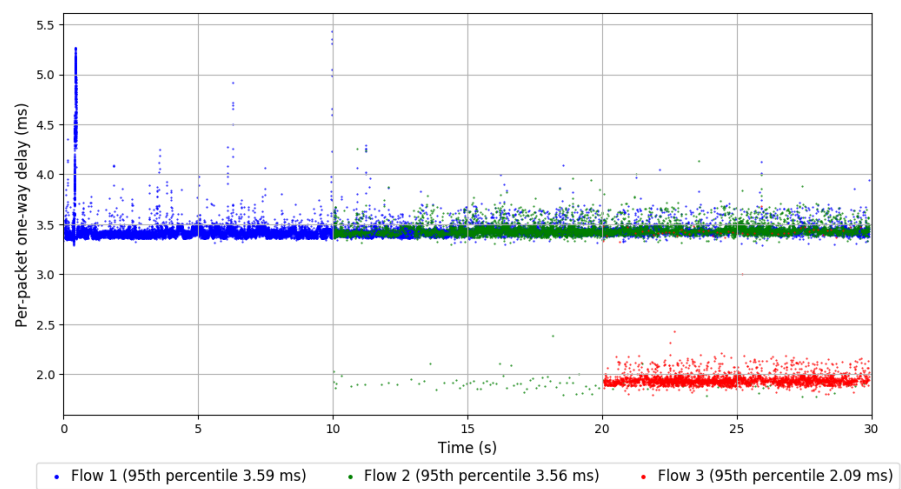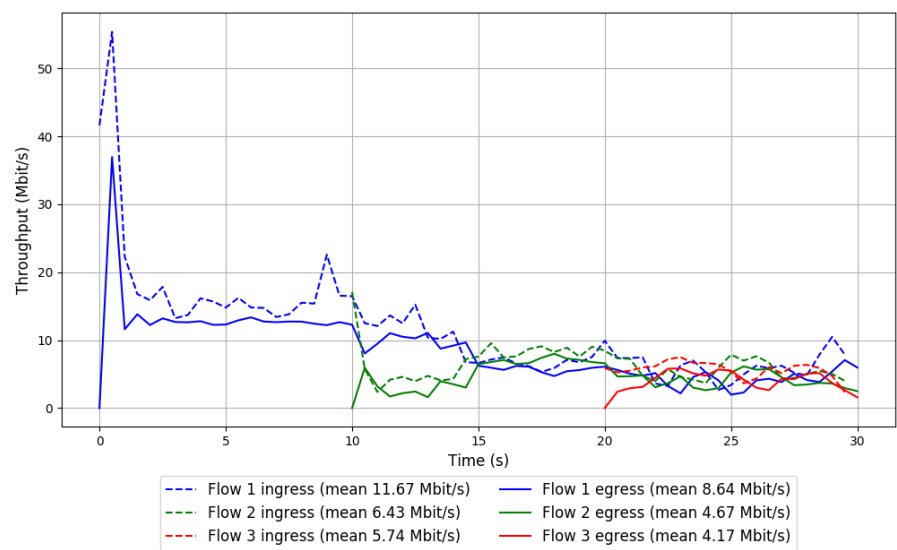
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-17 23:08:01
End at: 2019-07-17 23:08:31
Local clock offset: -7.084 ms
Remote clock offset: 0.051 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.249 ms
Loss rate: 27.08%
-- Flow 1:
Average throughput: 9.17 Mbit/s
95th percentile per-packet one-way delay: 3.259 ms
Loss rate: 24.21%
-- Flow 2:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 1.828 ms
Loss rate: 30.04%
-- Flow 3:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 1.785 ms
Loss rate: 39.46%
```
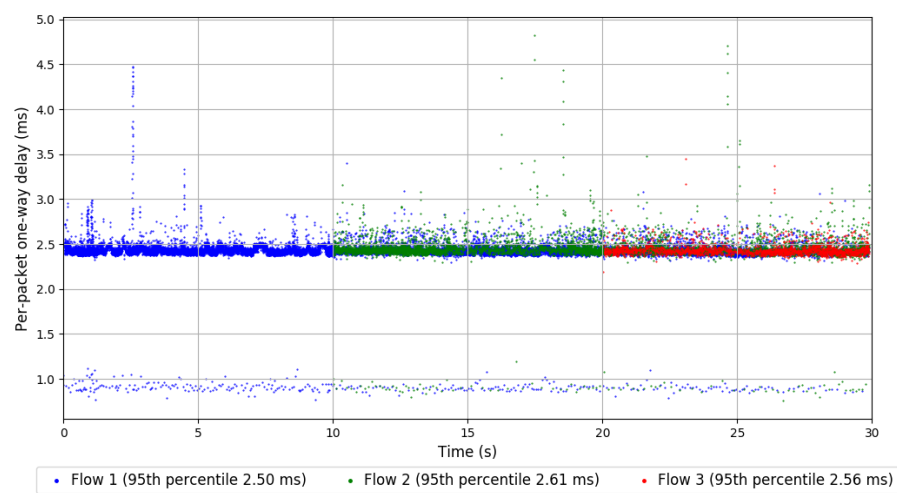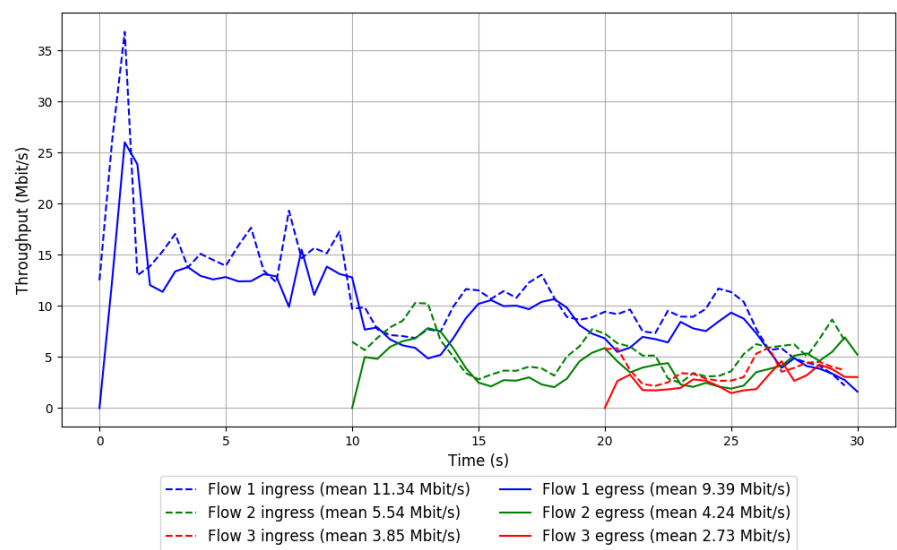
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 12.10 Mbit/s)   Flow 1 egress (mean 9.17 Mbit/s)
Flow 2 ingress (mean 6.09 Mbit/s)   Flow 2 egress (mean 4.26 Mbit/s)
Flow 3 ingress (mean 5.56 Mbit/s)   Flow 3 egress (mean 3.37 Mbit/s)

Flow 1 (95th percentile 3.26 ms)   Flow 2 (95th percentile 1.83 ms)   Flow 3 (95th percentile 1.78 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-17 23:35:16
End at: 2019-07-17 23:35:46
Local clock offset: -6.937 ms
Remote clock offset: 0.239 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.557 ms
Loss rate: 26.45%
-- Flow 1:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 3.588 ms
Loss rate: 25.94%
-- Flow 2:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 3.564 ms
Loss rate: 27.43%
-- Flow 3:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 2.089 ms
Loss rate: 27.40%
```
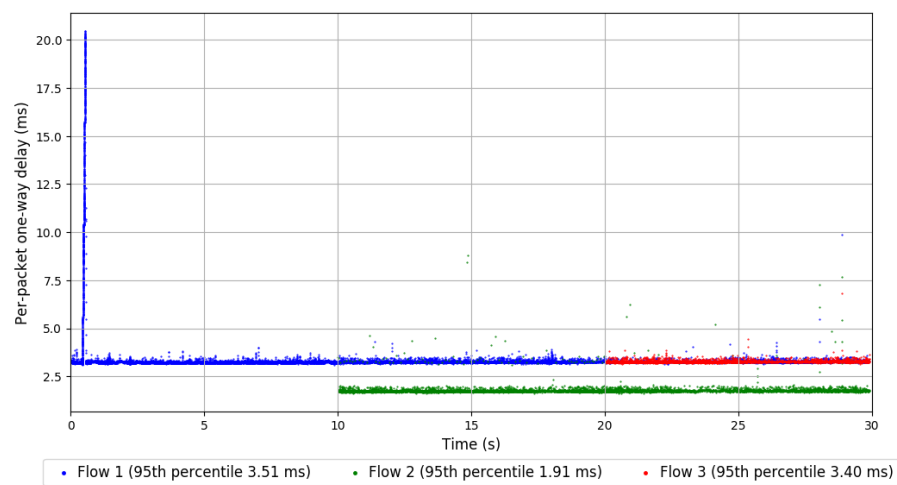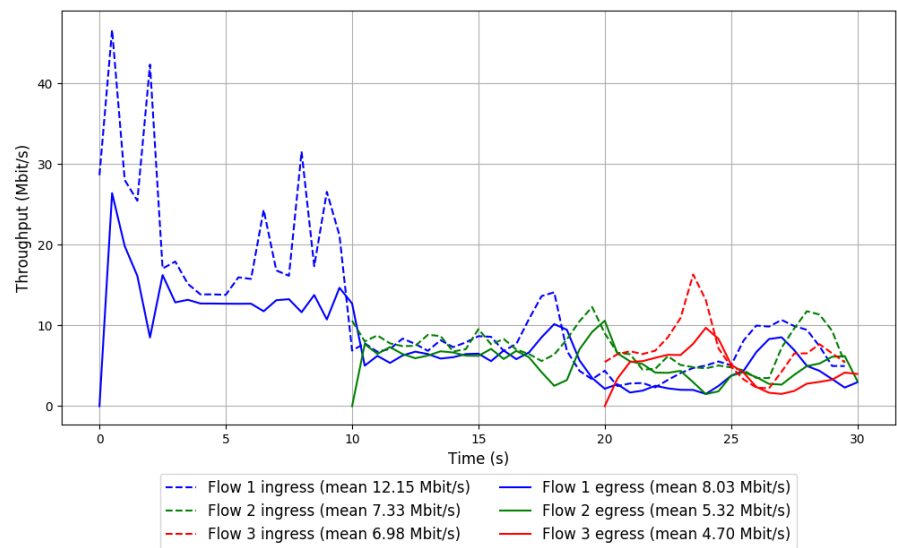
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-18 00:02:29
End at: 2019-07-18 00:02:59
Local clock offset: -6.229 ms
Remote clock offset: 0.482 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 2.531 ms
Loss rate: 19.49%
-- Flow 1:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 2.504 ms
Loss rate: 17.16%
-- Flow 2:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 23.38%
-- Flow 3:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 2.559 ms
Loss rate: 29.04%
```
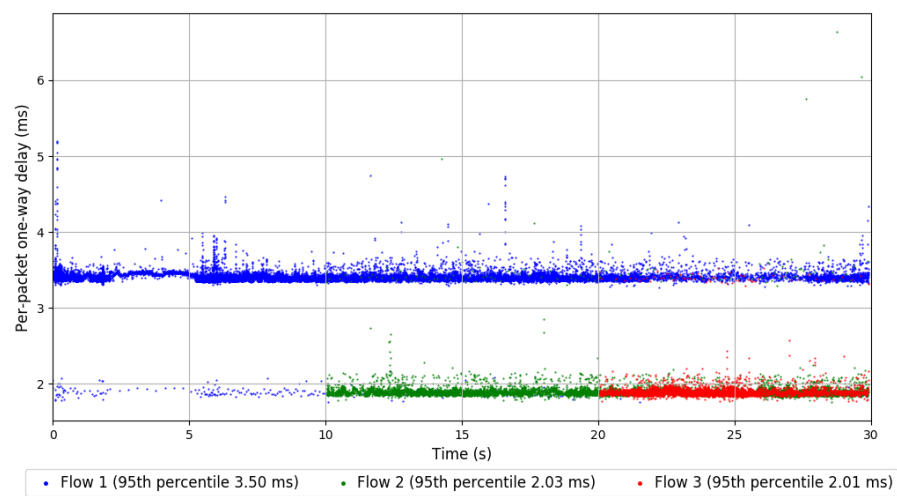
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-18 00:29:43
End at: 2019-07-18 00:30:13
Local clock offset: -7.005 ms
Remote clock offset: 0.593 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 3.404 ms
Loss rate: 32.15%
-- Flow 1:
Average throughput: 8.03 Mbit/s
95th percentile per-packet one-way delay: 3.506 ms
Loss rate: 33.96%
-- Flow 2:
Average throughput: 5.32 Mbit/s
95th percentile per-packet one-way delay: 1.911 ms
Loss rate: 27.43%
-- Flow 3:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 3.401 ms
Loss rate: 32.64%
```
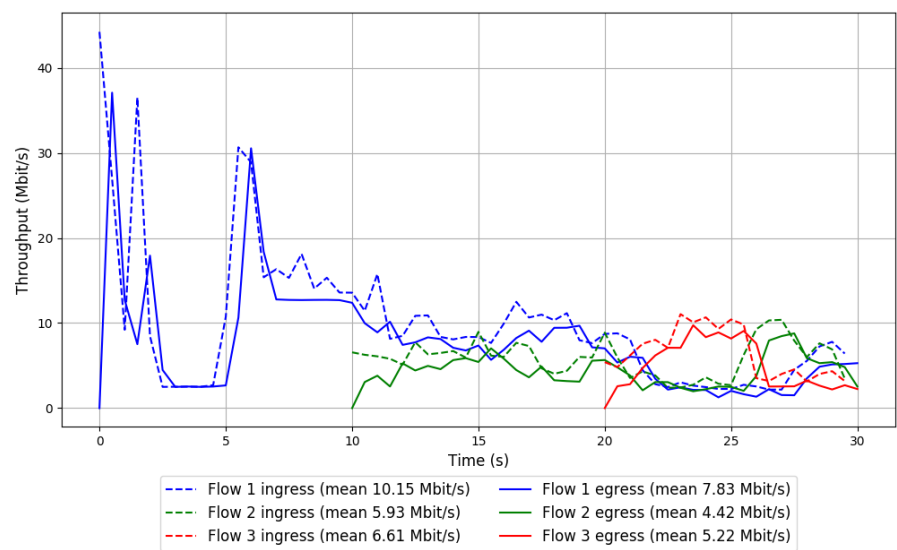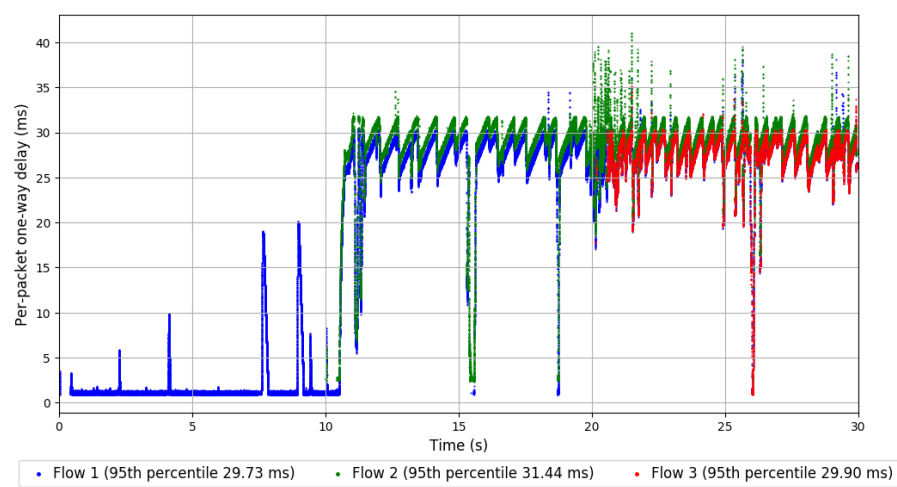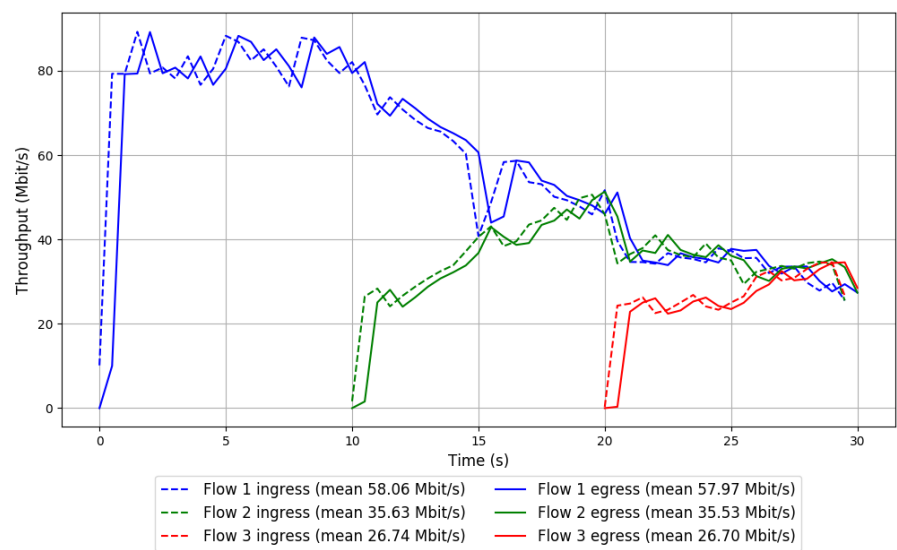
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-18 00:56:56
End at: 2019-07-18 00:57:26
Local clock offset: -6.39 ms
Remote clock offset: 0.626 ms


# Below is generated by plot.py at 2019-07-18 01:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.49 Mbit/s
95th percentile per-packet one-way delay: 3.470 ms
Loss rate: 23.23%
-- Flow 1:
Average throughput: 7.83 Mbit/s
95th percentile per-packet one-way delay: 3.504 ms
Loss rate: 22.84%
-- Flow 2:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 2.027 ms
Loss rate: 25.46%
-- Flow 3:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 2.006 ms
Loss rate: 21.04%
```

Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-17 23:12:34
End at: 2019-07-17 23:13:04
Local clock offset: -6.686 ms
Remote clock offset: -0.007 ms


# Below is generated by plot.py at 2019-07-18 01:19:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.39 Mbit/s
95th percentile per-packet one-way delay: 30.907 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 57.97 Mbit/s
95th percentile per-packet one-way delay: 29.732 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 35.53 Mbit/s
95th percentile per-packet one-way delay: 31.444 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 26.70 Mbit/s
95th percentile per-packet one-way delay: 29.898 ms
Loss rate: 0.17%
```
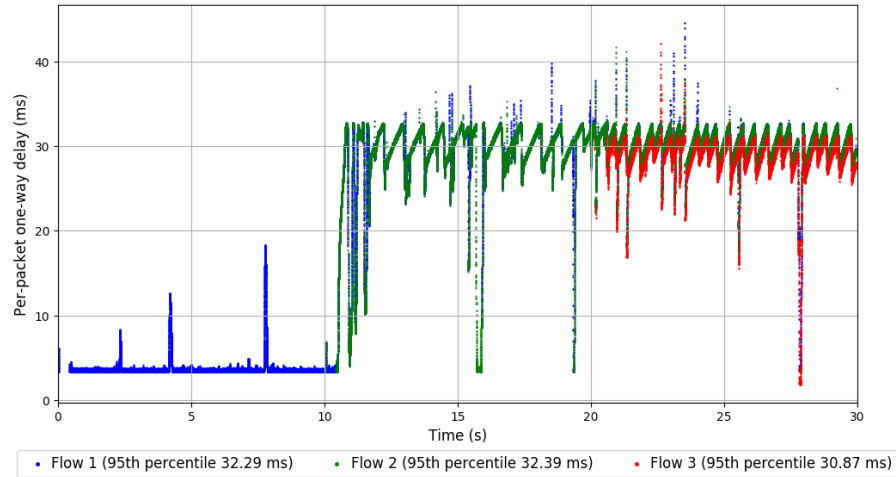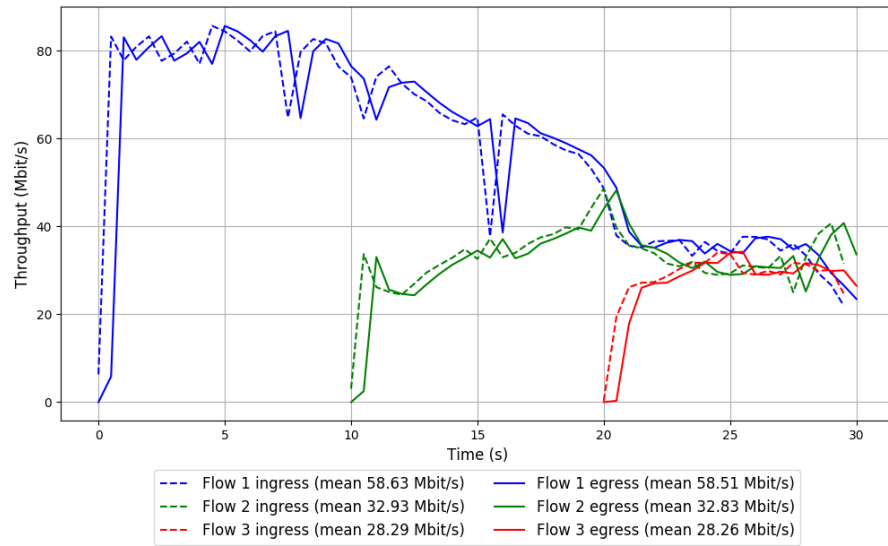
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-17 23:39:50
End at: 2019-07-17 23:40:20
Local clock offset: -6.777 ms
Remote clock offset: 0.34 ms


# Below is generated by plot.py at 2019-07-18 01:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.64 Mbit/s
95th percentile per-packet one-way delay: 32.306 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 58.51 Mbit/s
95th percentile per-packet one-way delay: 32.294 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 32.83 Mbit/s
95th percentile per-packet one-way delay: 32.386 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 28.26 Mbit/s
95th percentile per-packet one-way delay: 30.866 ms
Loss rate: 0.14%
```
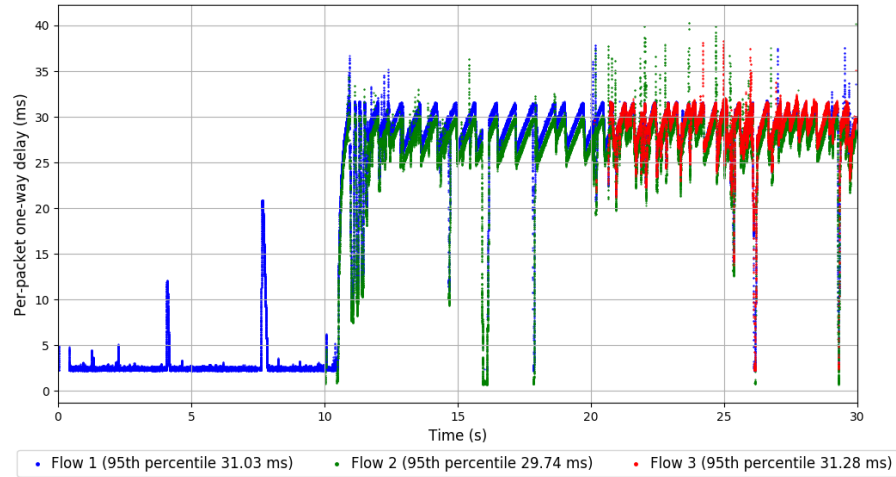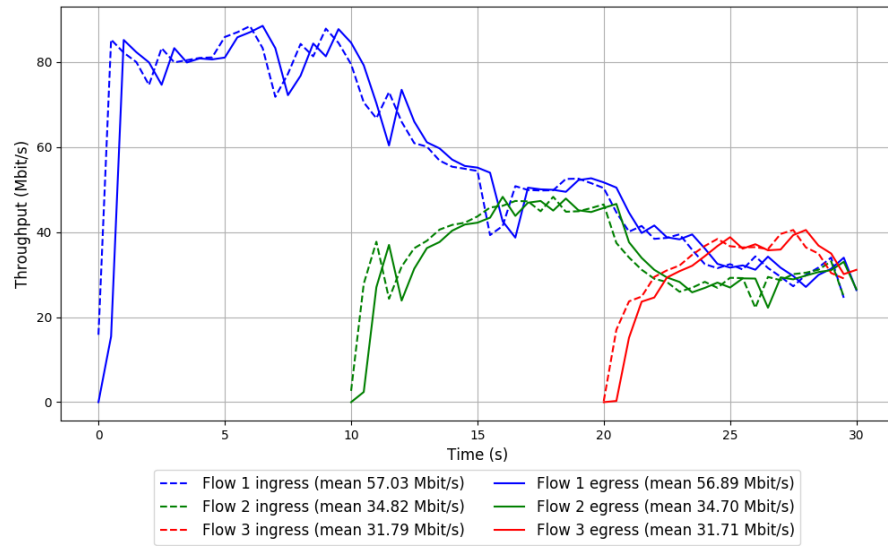
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.63 Mbit/s)   Flow 1 egress (mean 58.51 Mbit/s)
Flow 2 ingress (mean 32.93 Mbit/s)   Flow 2 egress (mean 32.83 Mbit/s)
Flow 3 ingress (mean 28.29 Mbit/s)   Flow 3 egress (mean 28.26 Mbit/s)

Flow 1 (95th percentile 32.29 ms)   Flow 2 (95th percentile 32.39 ms)   Flow 3 (95th percentile 30.87 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-18 00:07:03
End at: 2019-07-18 00:07:33
Local clock offset: -6.48 ms
Remote clock offset: 0.401 ms


# Below is generated by plot.py at 2019-07-18 01:19:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.38 Mbit/s
95th percentile per-packet one-way delay: 31.012 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 56.89 Mbit/s
95th percentile per-packet one-way delay: 31.031 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 34.70 Mbit/s
95th percentile per-packet one-way delay: 29.738 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 31.71 Mbit/s
95th percentile per-packet one-way delay: 31.279 ms
Loss rate: 0.19%
```
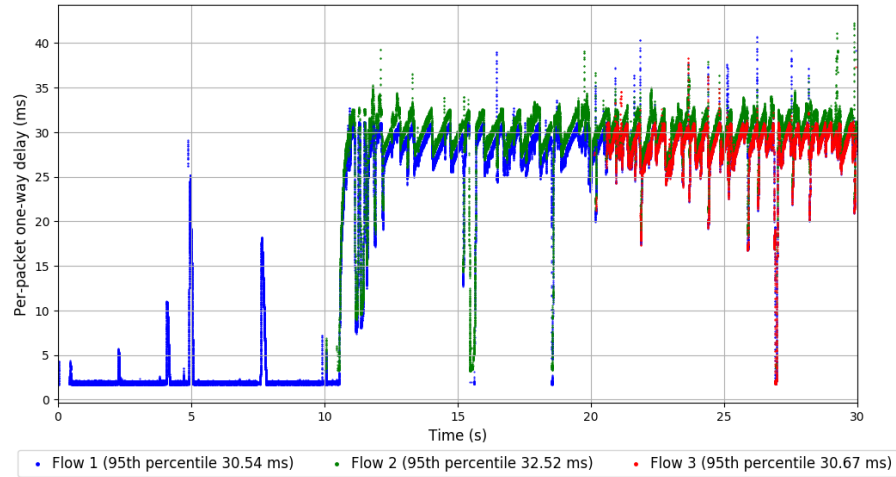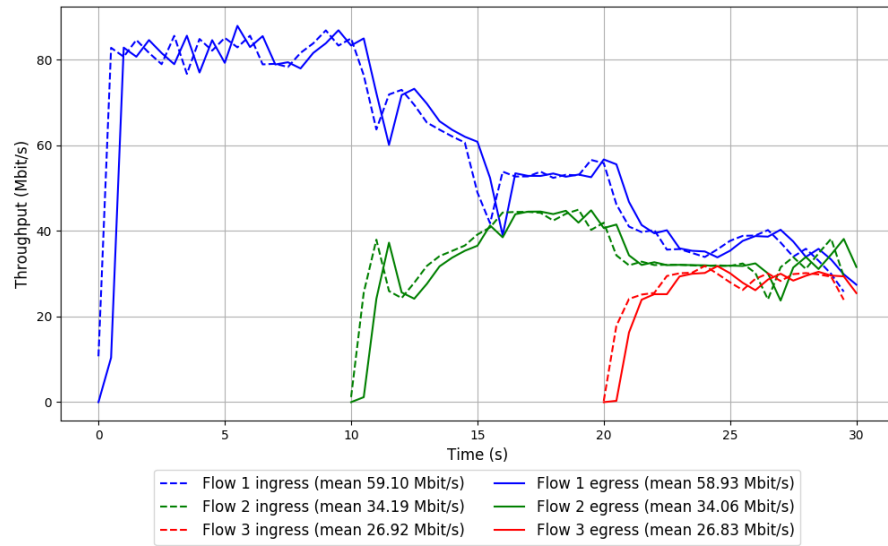
Run 3: Report of QUIC Cubic — Data Link

Run 4: Statistics of QUIC Cubic

Start at: 2019-07-18 00:34:17
End at: 2019-07-18 00:34:47
Local clock offset: -6.754 ms
Remote clock offset: 0.649 ms

Below is generated by plot.py at 2019-07-18 01:19:53
Datalink statistics
-- Total of 3 flows:
Average throughput: 90.41 Mbit/s
95th percentile per-packet one-way delay: 31.859 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 58.93 Mbit/s
95th percentile per-packet one-way delay: 30.537 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 34.06 Mbit/s
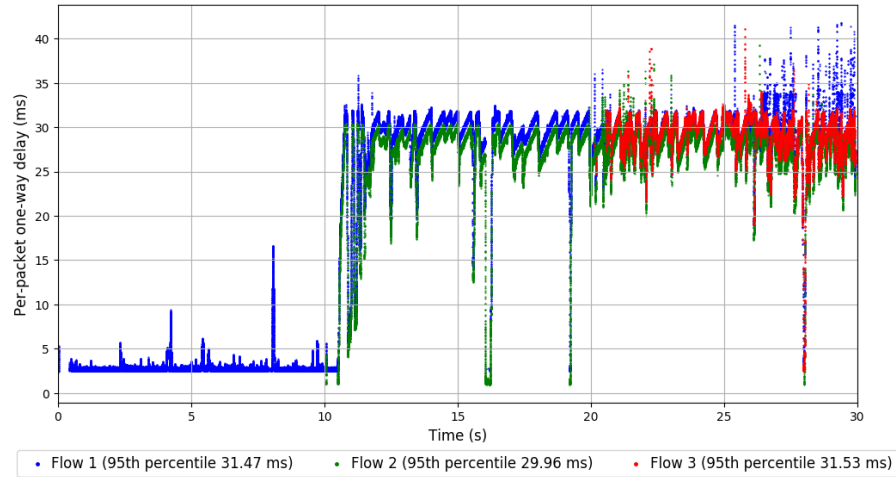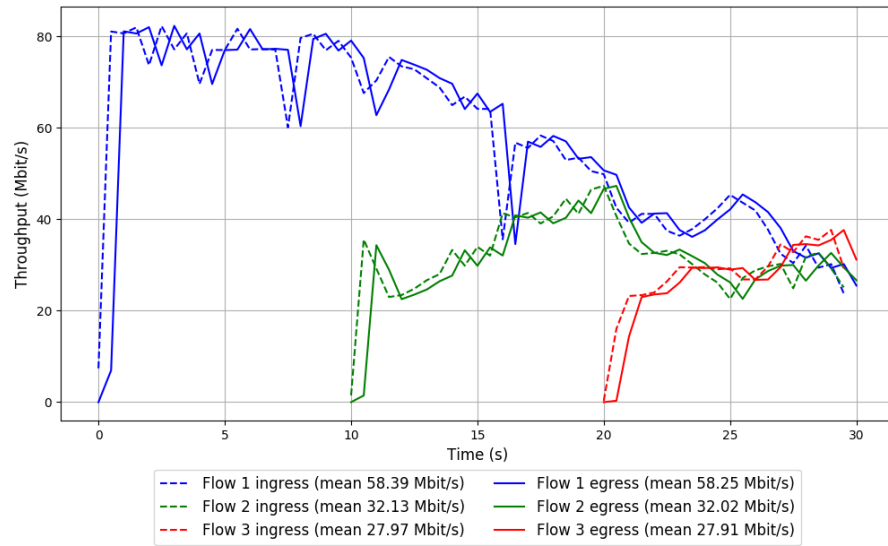95th percentile per-packet one-way delay: 32.523 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 26.83 Mbit/s
95th percentile per-packet one-way delay: 30.668 ms
Loss rate: 0.21%
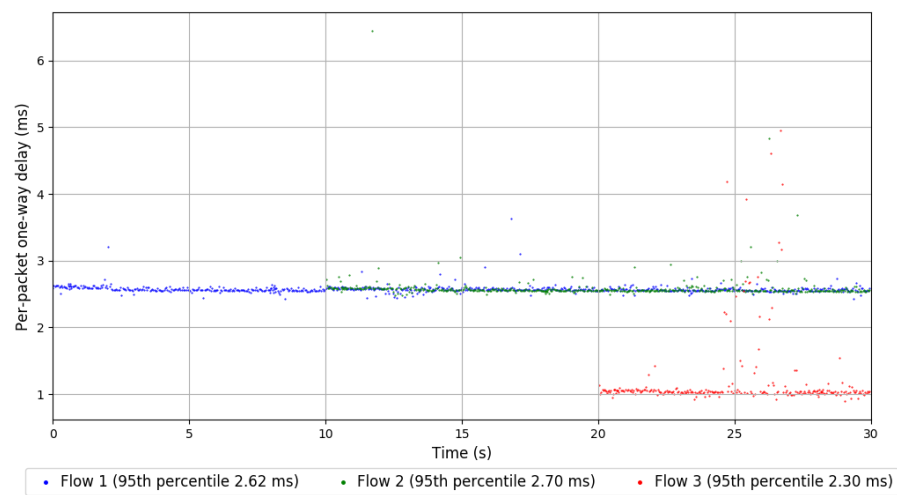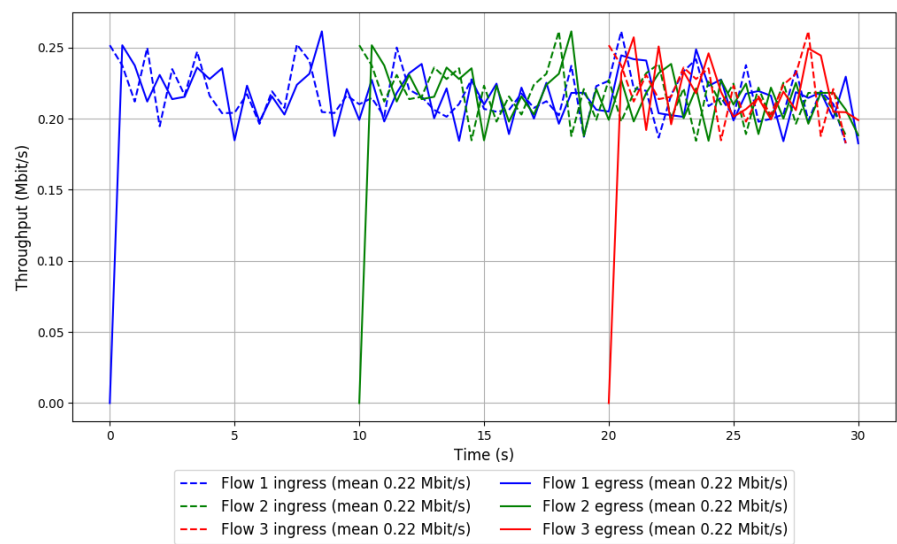
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 59.10 Mbit/s)   Flow 1 egress (mean 58.93 Mbit/s)
Flow 2 ingress (mean 34.19 Mbit/s)   Flow 2 egress (mean 34.06 Mbit/s)
Flow 3 ingress (mean 26.92 Mbit/s)   Flow 3 egress (mean 26.83 Mbit/s)

Flow 1 (95th percentile 30.54 ms)   Flow 2 (95th percentile 32.52 ms)   Flow 3 (95th percentile 30.67 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-18 01:01:35
End at: 2019-07-18 01:02:05
Local clock offset: -5.656 ms
Remote clock offset: 0.636 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.70 Mbit/s
95th percentile per-packet one-way delay: 31.396 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 58.25 Mbit/s
95th percentile per-packet one-way delay: 31.467 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 32.02 Mbit/s
95th percentile per-packet one-way delay: 29.962 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 27.91 Mbit/s
95th percentile per-packet one-way delay: 31.529 ms
Loss rate: 0.22%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.39 Mbit/s)   Flow 1 egress (mean 58.25 Mbit/s)
Flow 2 ingress (mean 32.13 Mbit/s)   Flow 2 egress (mean 32.02 Mbit/s)
Flow 3 ingress (mean 27.97 Mbit/s)   Flow 3 egress (mean 27.91 Mbit/s)

Flow 1 (95th percentile 31.47 ms)   Flow 2 (95th percentile 29.96 ms)   Flow 3 (95th percentile 31.53 ms)
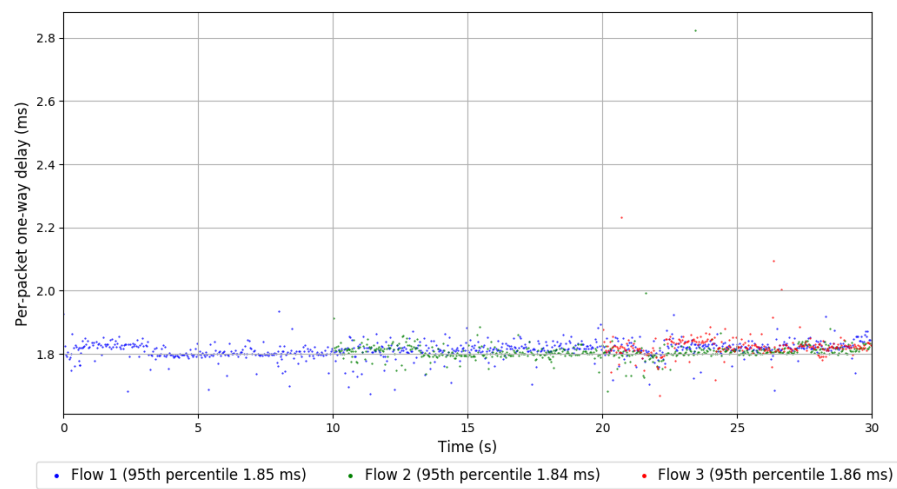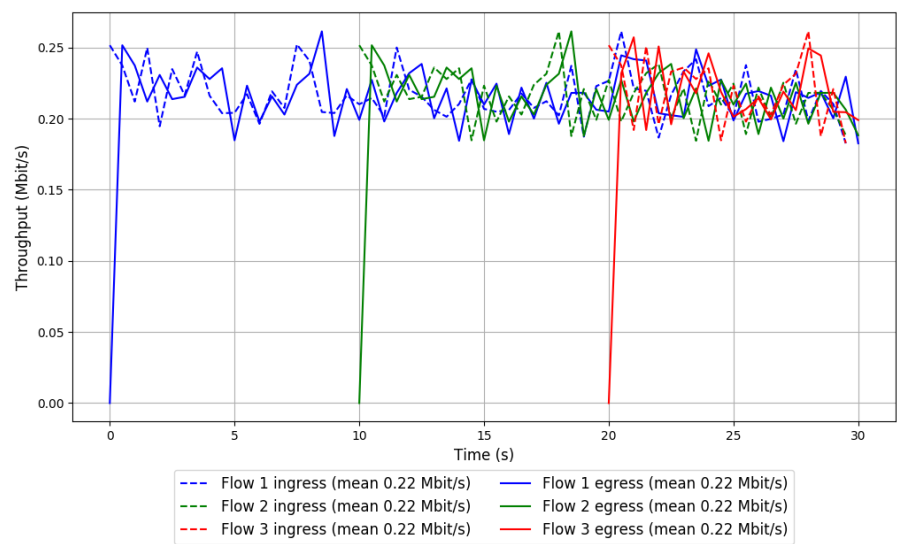
```
Run 1: Statistics of SCReAM

Start at: 2019-07-17 23:04:37
End at: 2019-07-17 23:05:07
Local clock offset: -6.357 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.627 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.621 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.702 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.297 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-07-17 23:31:52
End at: 2019-07-17 23:32:22
Local clock offset: -6.962 ms
Remote clock offset: 0.219 ms

# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.852 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.837 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.856 ms
Loss rate: 0.00%
```
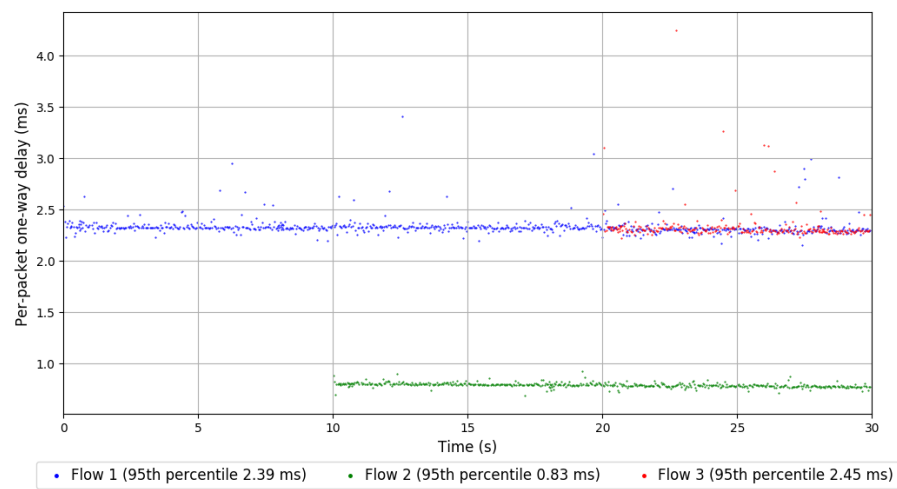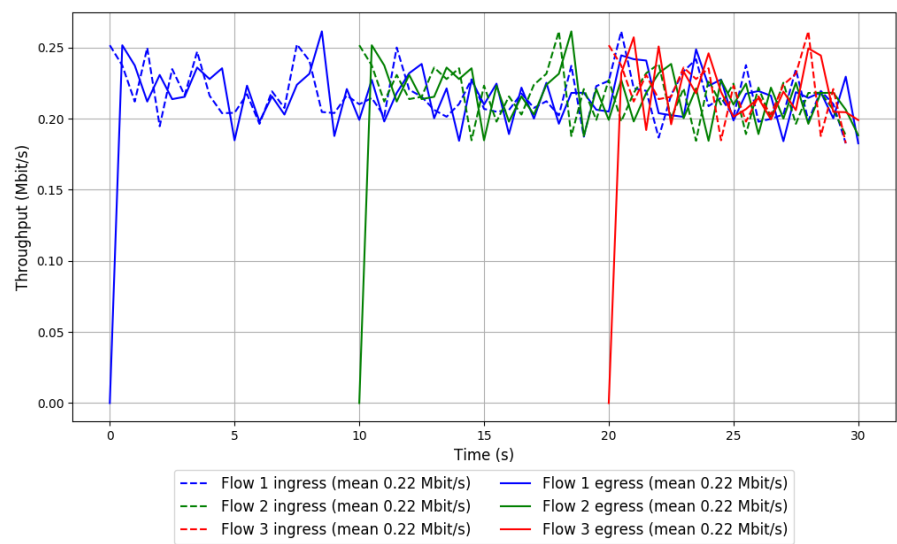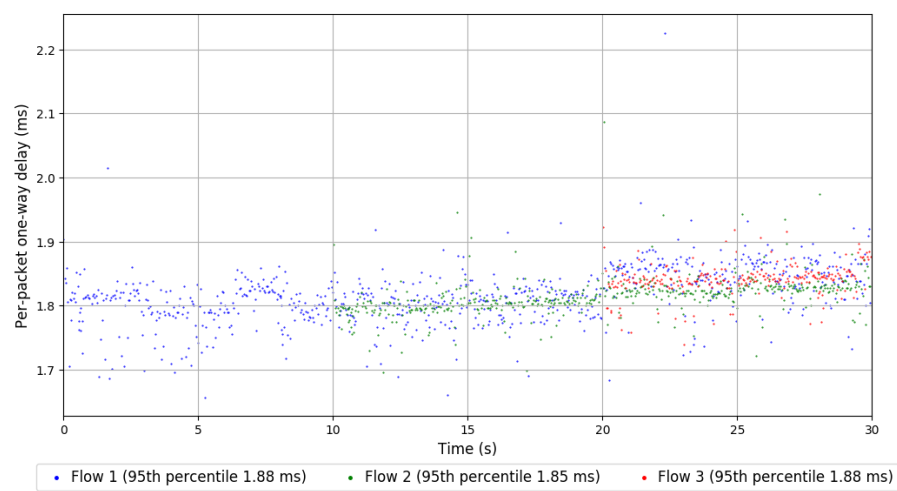
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-07-17 23:59:06
End at: 2019-07-17 23:59:36
Local clock offset: -5.96 ms
Remote clock offset: 0.379 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.373 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.394 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.827 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.447 ms
Loss rate: 0.00%
```
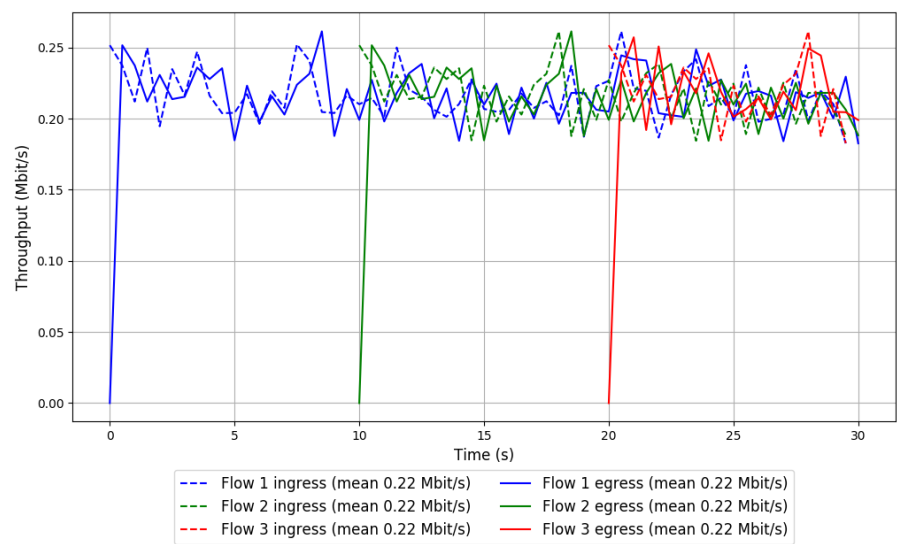
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-07-18 00:26:19
End at: 2019-07-18 00:26:49
Local clock offset: -7.397 ms
Remote clock offset: 0.587 ms

# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.874 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.875 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.851 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.883 ms
Loss rate: 0.00%
```
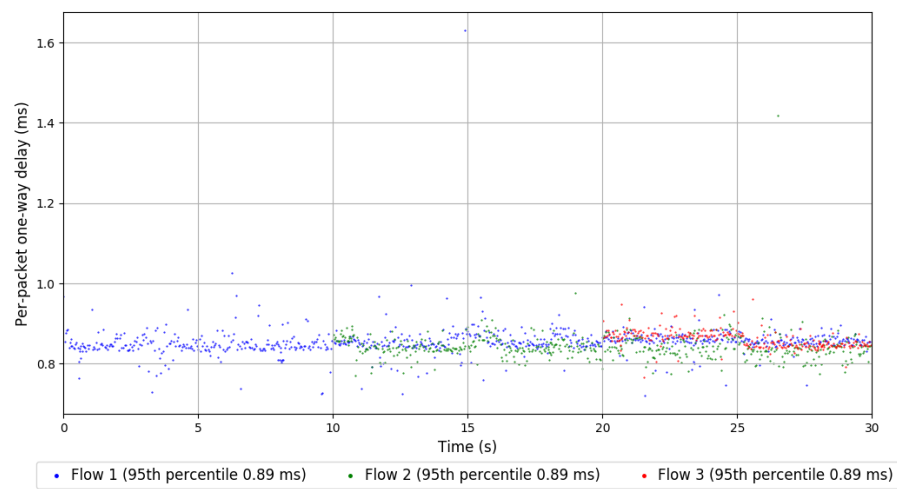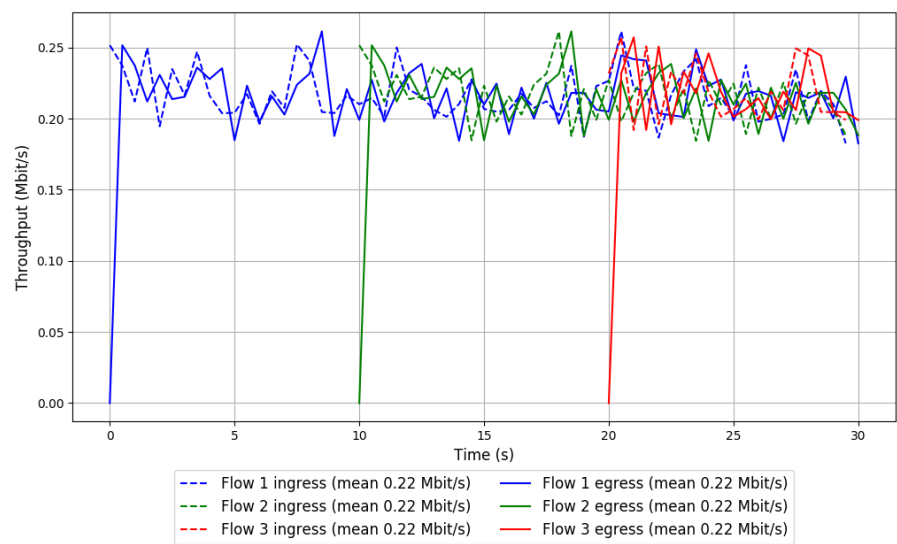
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-07-18 00:53:33
End at: 2019-07-18 00:54:03
Local clock offset: -5.353 ms
Remote clock offset: 0.557 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 0.889 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.890 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.891 ms
Loss rate: 0.00%
```
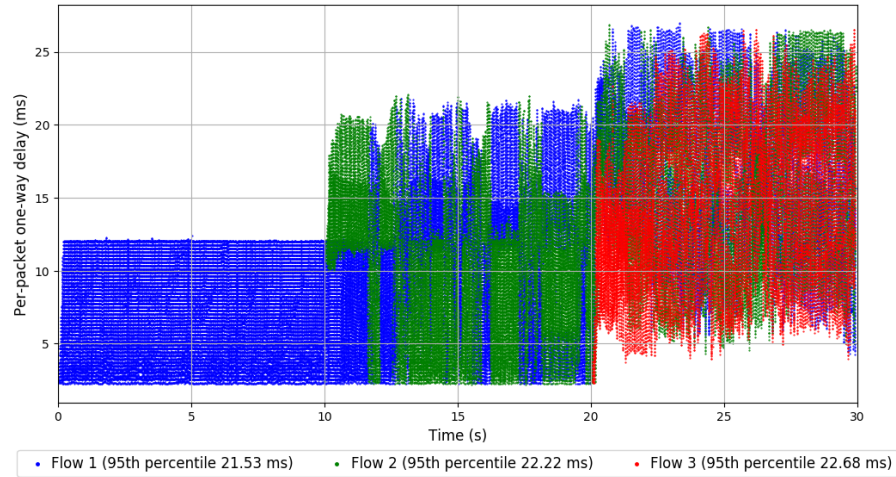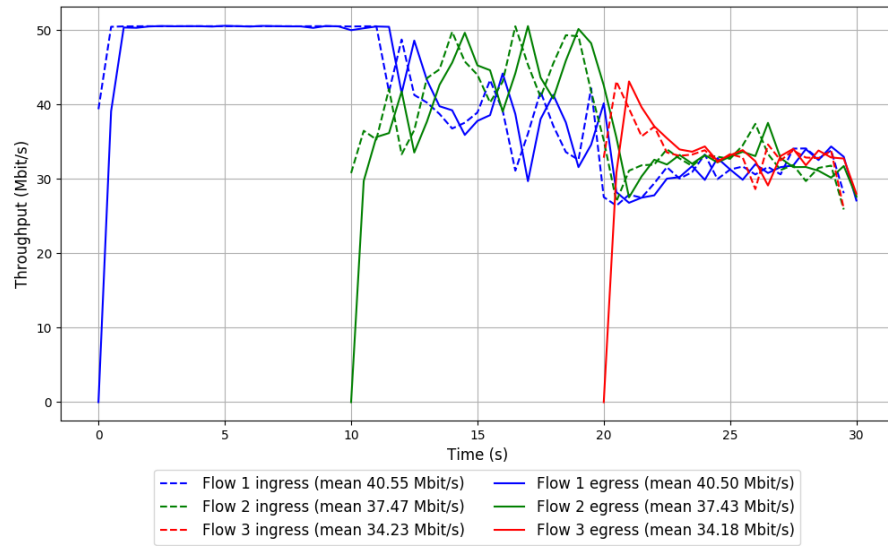
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s)   Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)   Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)   Flow 3 egress (mean 0.22 Mbit/s)

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

```
Run 1: Statistics of Sprout

Start at: 2019-07-17 23:09:07
End at: 2019-07-17 23:09:37
Local clock offset: -6.34 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 22.063 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 21.533 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 37.43 Mbit/s
95th percentile per-packet one-way delay: 22.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.18 Mbit/s
95th percentile per-packet one-way delay: 22.680 ms
Loss rate: 0.00%
```
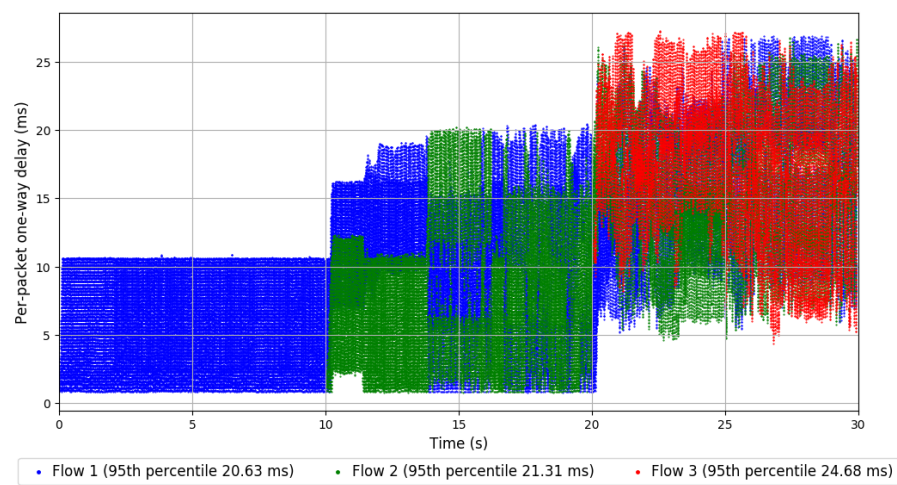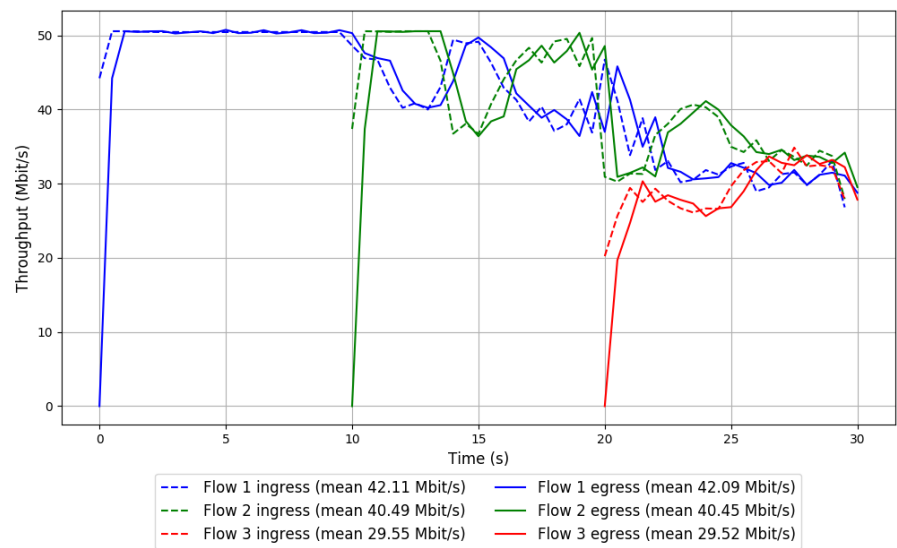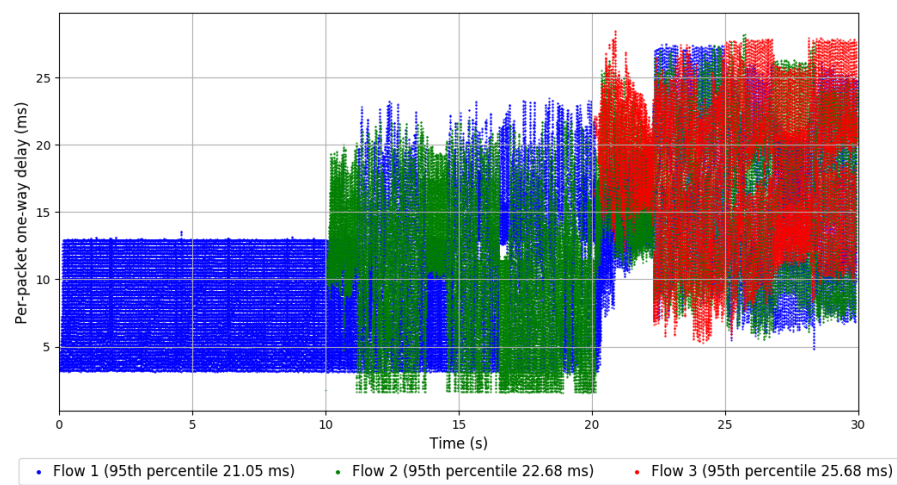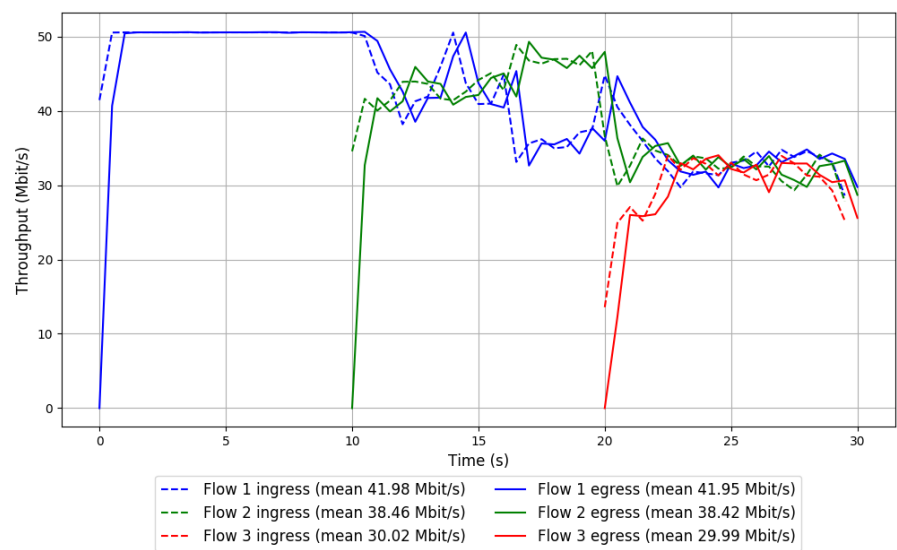
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 40.55 Mbit/s) --- Flow 1 egress (mean 40.50 Mbit/s)
Flow 2 ingress (mean 37.47 Mbit/s) --- Flow 2 egress (mean 37.43 Mbit/s)
Flow 3 ingress (mean 34.23 Mbit/s) --- Flow 3 egress (mean 34.18 Mbit/s)

Flow 1 (95th percentile 21.53 ms)   Flow 2 (95th percentile 22.22 ms)   Flow 3 (95th percentile 22.68 ms)

```
Run 2: Statistics of Sprout

Start at: 2019-07-17 23:36:22
End at: 2019-07-17 23:36:52
Local clock offset: -5.88 ms
Remote clock offset: 0.251 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.74 Mbit/s
95th percentile per-packet one-way delay: 22.079 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.09 Mbit/s
95th percentile per-packet one-way delay: 20.634 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 21.312 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.52 Mbit/s
95th percentile per-packet one-way delay: 24.678 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-07-18 00:03:36
End at: 2019-07-18 00:04:06
Local clock offset: -7.068 ms
Remote clock offset: 0.478 ms


# Below is generated by plot.py at 2019-07-18 01:19:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.42 Mbit/s
95th percentile per-packet one-way delay: 23.050 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.95 Mbit/s
95th percentile per-packet one-way delay: 21.048 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.42 Mbit/s
95th percentile per-packet one-way delay: 22.675 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.99 Mbit/s
95th percentile per-packet one-way delay: 25.679 ms
Loss rate: 0.00%
```
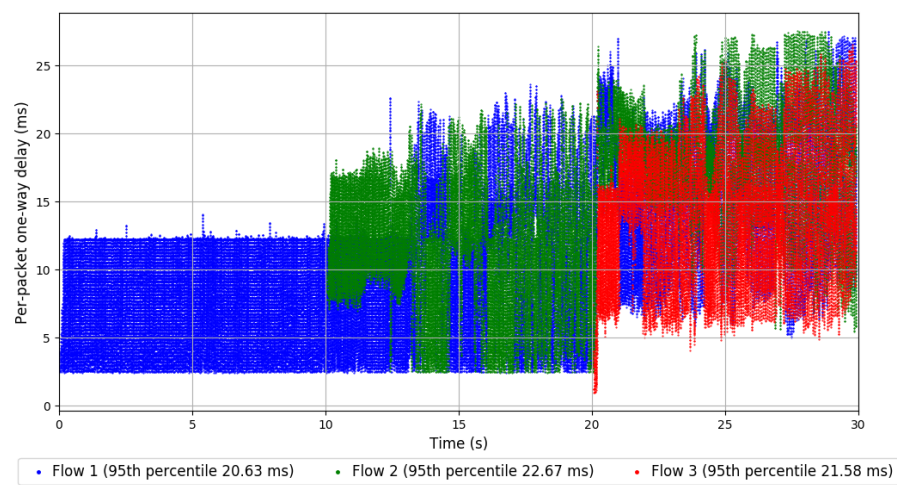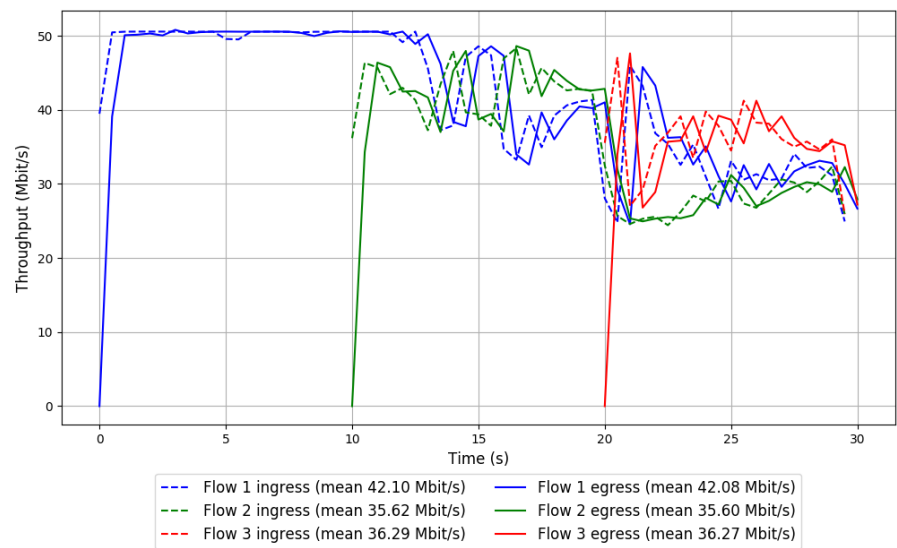
Run 3: Report of Sprout — Data Link

Flow 1 ingress (mean 41.98 Mbit/s) --- Flow 1 egress (mean 41.95 Mbit/s)
Flow 2 ingress (mean 38.46 Mbit/s) --- Flow 2 egress (mean 38.42 Mbit/s)
Flow 3 ingress (mean 30.02 Mbit/s) --- Flow 3 egress (mean 29.99 Mbit/s)

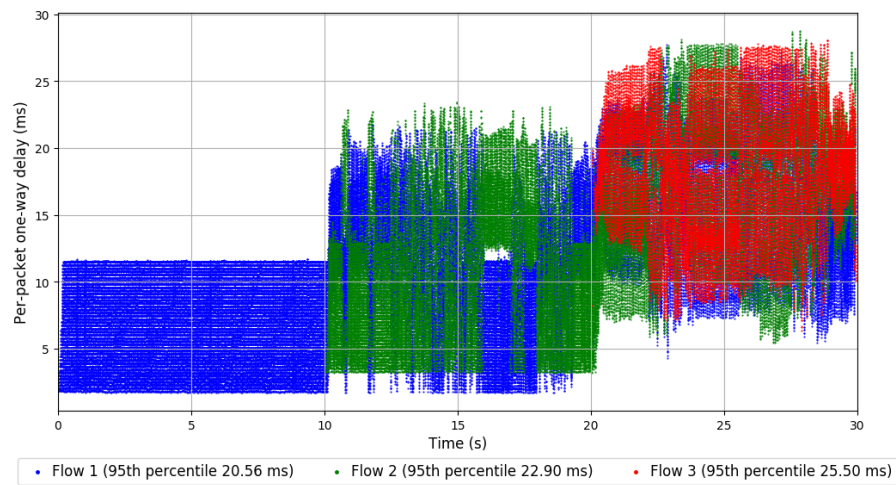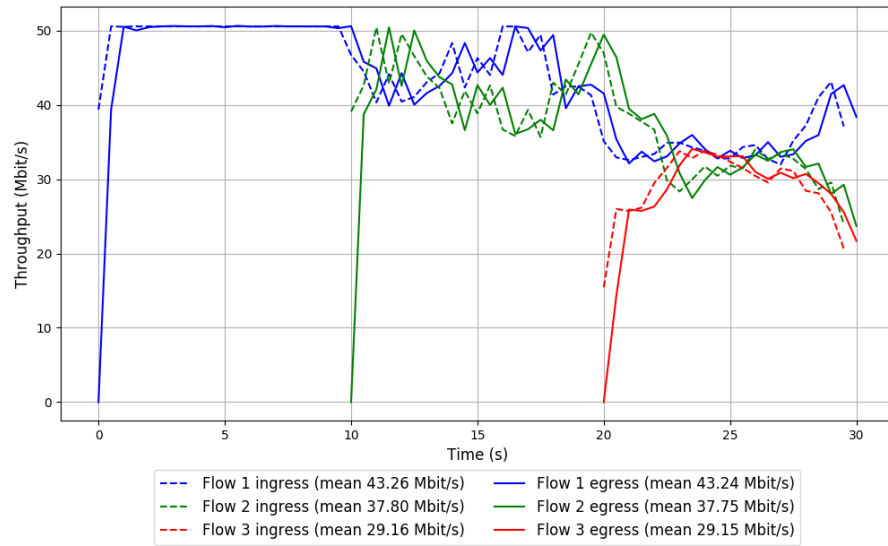Flow 1 (95th percentile 21.05 ms)   Flow 2 (95th percentile 22.68 ms)   Flow 3 (95th percentile 25.68 ms)

```
Run 4: Statistics of Sprout

Start at: 2019-07-18 00:30:50
End at: 2019-07-18 00:31:20
Local clock offset: -6.134 ms
Remote clock offset: 0.665 ms


# Below is generated by plot.py at 2019-07-18 01:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.74 Mbit/s
95th percentile per-packet one-way delay: 21.464 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.08 Mbit/s
95th percentile per-packet one-way delay: 20.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.60 Mbit/s
95th percentile per-packet one-way delay: 22.666 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 21.583 ms
Loss rate: 0.00%
```
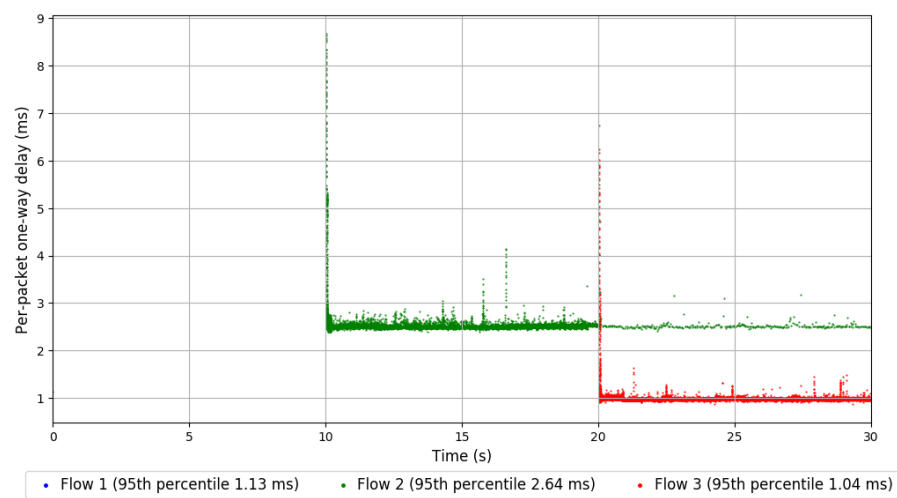
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-07-18 00:58:08
End at: 2019-07-18 00:58:38
Local clock offset: -6.257 ms
Remote clock offset: 0.682 ms

# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.99 Mbit/s
95th percentile per-packet one-way delay: 22.750 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 43.24 Mbit/s
95th percentile per-packet one-way delay: 20.559 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.75 Mbit/s
95th percentile per-packet one-way delay: 22.903 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 29.15 Mbit/s
95th percentile per-packet one-way delay: 25.500 ms
Loss rate: 0.00%
```
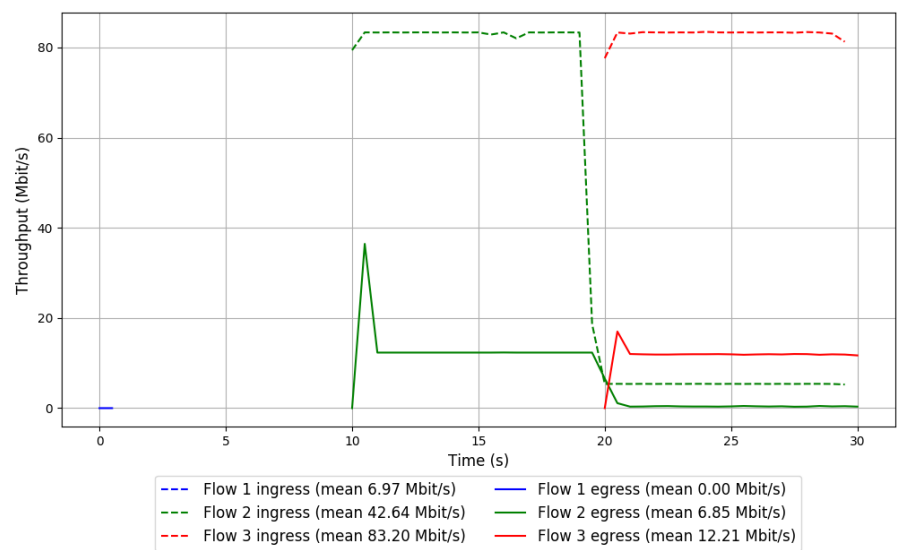
Run 5: Report of Sprout — Data Link

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

Start at: 2019-07-17 22:52:11
End at: 2019-07-17 22:52:41
Local clock offset: -5.498 ms
Remote clock offset: -0.191 ms


# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.588 ms
Loss rate: 84.63%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.129 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 2.640 ms
Loss rate: 83.96%
-- Flow 3:
Average throughput: 12.21 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 85.32%
```
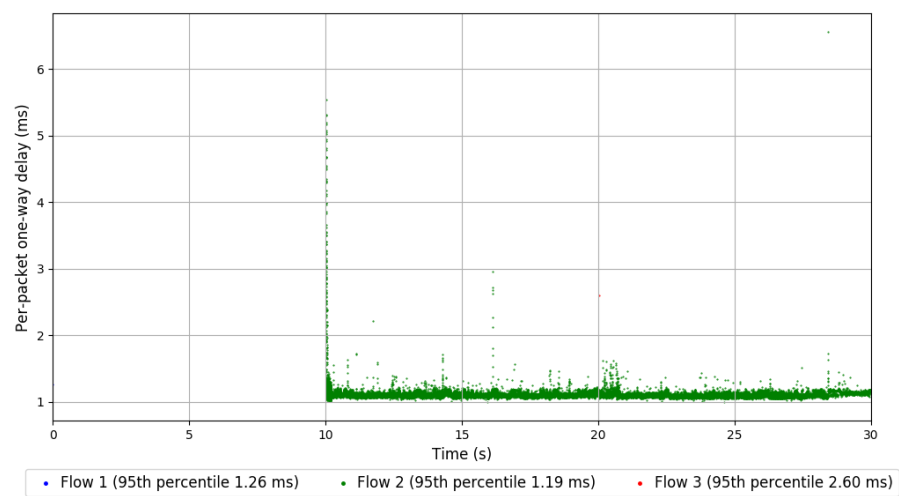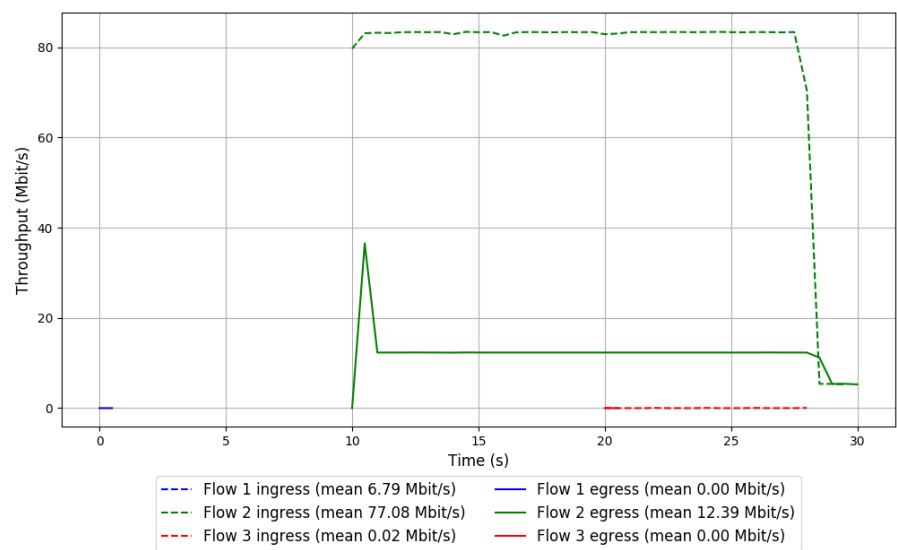
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-17 23:19:26
End at: 2019-07-17 23:19:56
Local clock offset: -6.798 ms
Remote clock offset: 0.181 ms


# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 1.185 ms
Loss rate: 83.93%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.260 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 1.185 ms
Loss rate: 83.93%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.602 ms
Loss rate: 99.16%
```
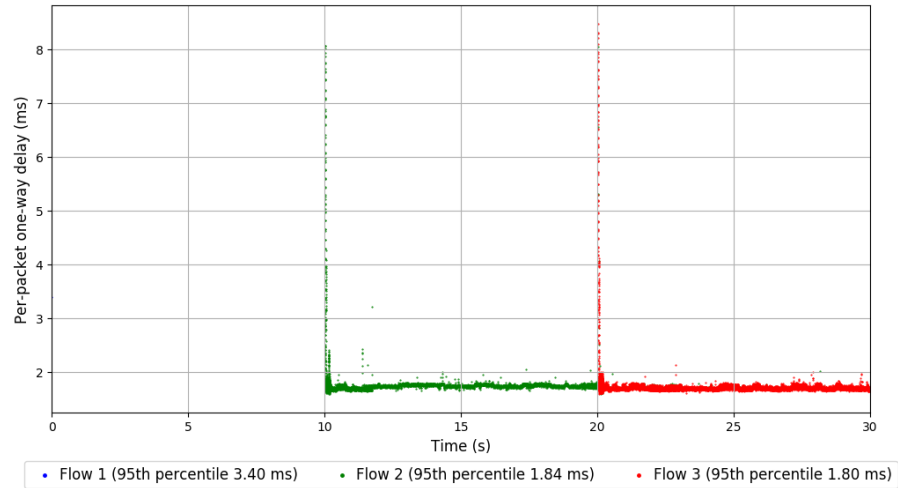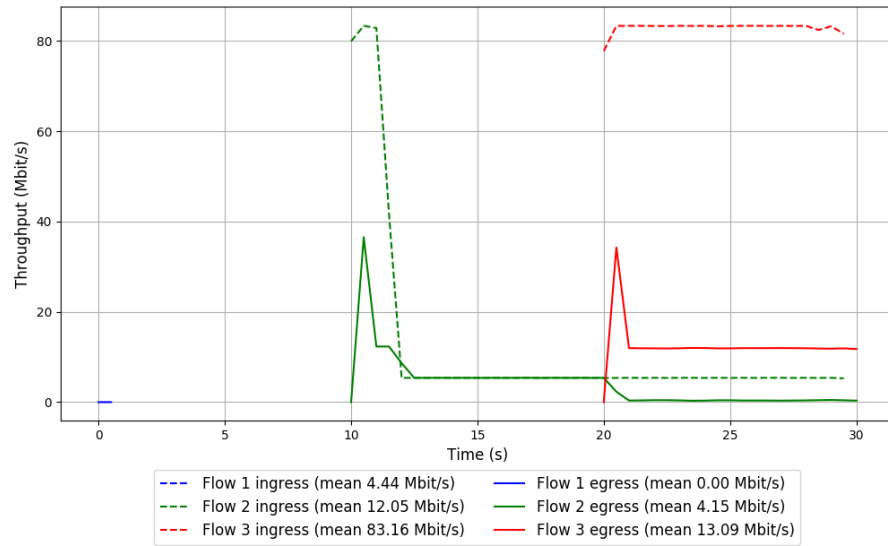
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 6.79 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 77.08 Mbit/s) --- Flow 2 egress (mean 12.39 Mbit/s)
Flow 3 ingress (mean 0.02 Mbit/s) --- Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 1.26 ms) Flow 2 (95th percentile 1.19 ms) Flow 3 (95th percentile 2.60 ms)

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

Start at: 2019-07-17 23:46:41
End at: 2019-07-17 23:47:11
Local clock offset: -6.429 ms
Remote clock offset: 0.366 ms


# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 1.819 ms
Loss rate: 80.07%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3.397 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 1.842 ms
Loss rate: 65.62%
-- Flow 3:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 1.802 ms
Loss rate: 84.27%
```
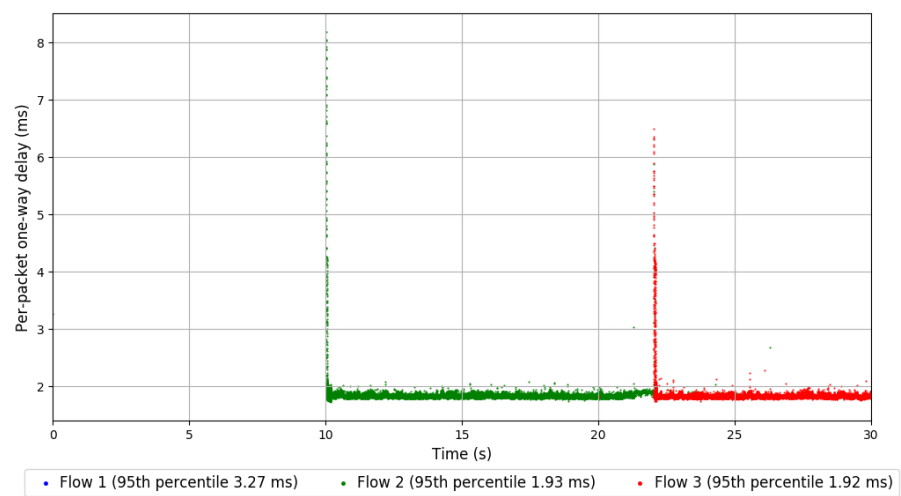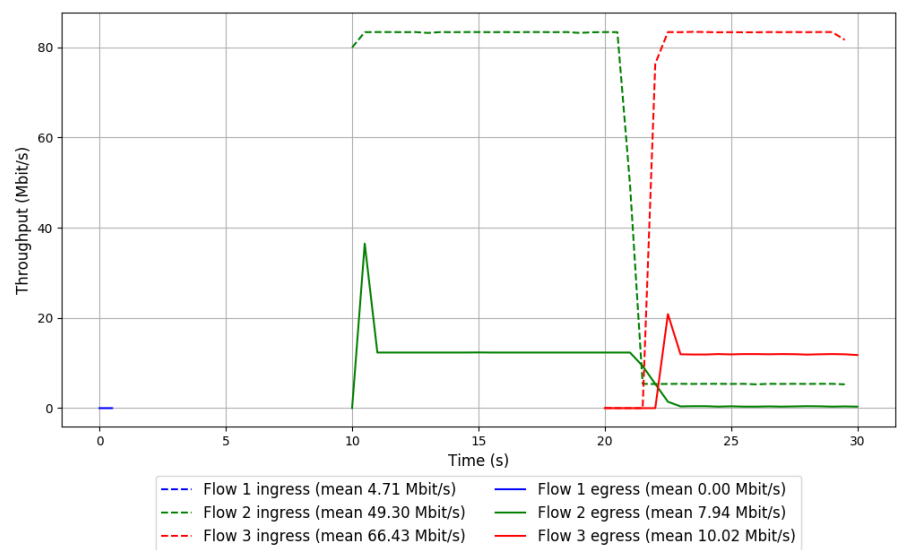
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 4.44 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 12.05 Mbit/s) --- Flow 2 egress (mean 4.15 Mbit/s)
Flow 3 ingress (mean 83.16 Mbit/s) --- Flow 3 egress (mean 13.09 Mbit/s)

Flow 1 (95th percentile 3.40 ms) Flow 2 (95th percentile 1.84 ms) Flow 3 (95th percentile 1.80 ms)

200

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

Start at: 2019-07-18 00:13:54
End at: 2019-07-18 00:14:24
Local clock offset: -7.629 ms
Remote clock offset: 0.481 ms


# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 1.926 ms
Loss rate: 84.31%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3.266 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 1.928 ms
Loss rate: 83.91%
-- Flow 3:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 1.918 ms
Loss rate: 84.92%
```
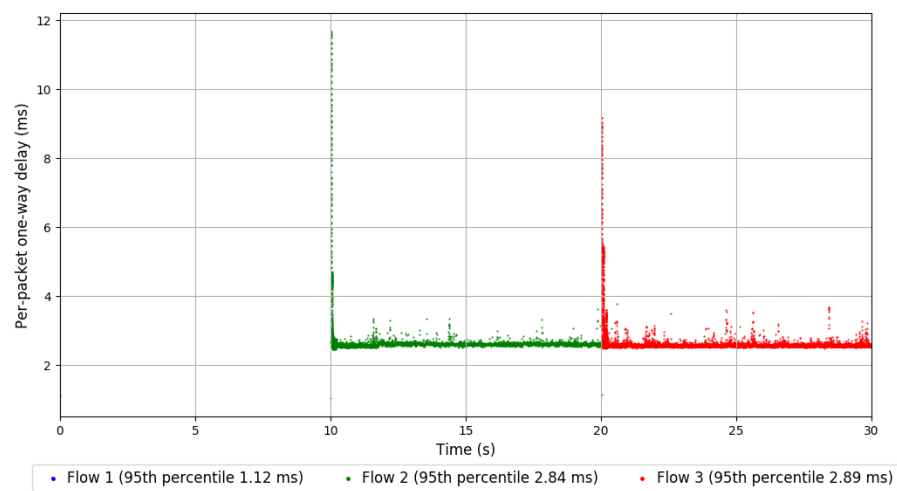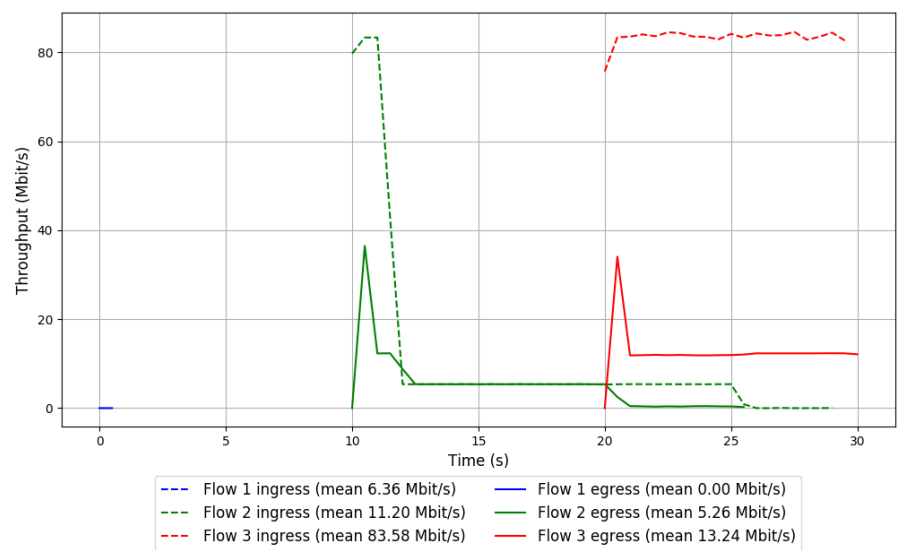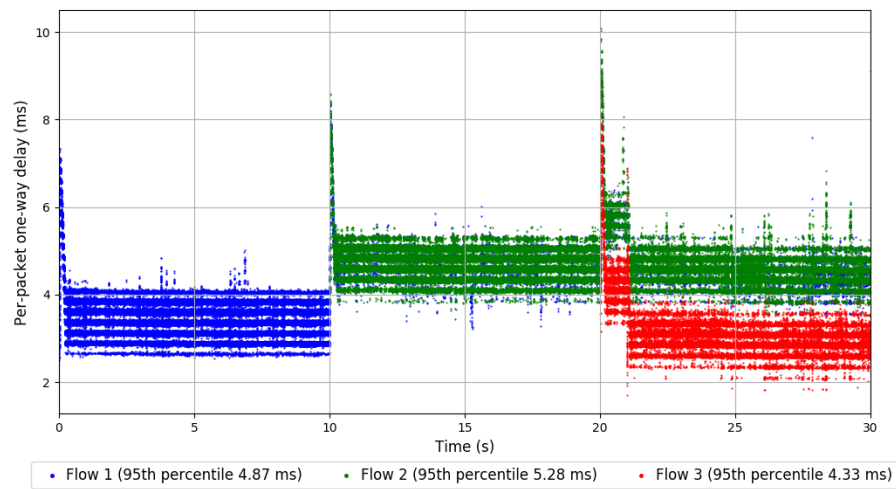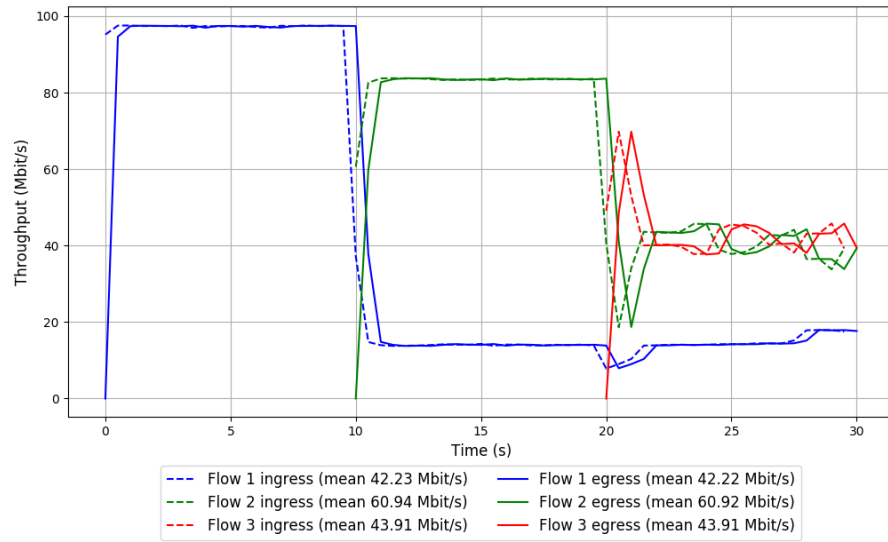
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 4.71 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 49.30 Mbit/s)   Flow 2 egress (mean 7.94 Mbit/s)
Flow 3 ingress (mean 66.43 Mbit/s)   Flow 3 egress (mean 10.02 Mbit/s)

Flow 1 (95th percentile 3.27 ms)   Flow 2 (95th percentile 1.93 ms)   Flow 3 (95th percentile 1.92 ms)

202

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

Start at: 2019-07-18 00:41:09
End at: 2019-07-18 00:41:39
Local clock offset: -5.81 ms
Remote clock offset: 0.561 ms


# Below is generated by plot.py at 2019-07-18 01:20:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 2.861 ms
Loss rate: 79.71%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 2.838 ms
Loss rate: 62.72%
-- Flow 3:
Average throughput: 13.24 Mbit/s
95th percentile per-packet one-way delay: 2.886 ms
Loss rate: 84.16%
```

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

```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-17 23:01:13
End at: 2019-07-17 23:01:43
Local clock offset: -6.164 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2019-07-18 01:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.42 Mbit/s
95th percentile per-packet one-way delay: 5.093 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.22 Mbit/s
95th percentile per-packet one-way delay: 4.869 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.92 Mbit/s
95th percentile per-packet one-way delay: 5.275 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 43.91 Mbit/s
95th percentile per-packet one-way delay: 4.334 ms
Loss rate: 0.00%
```
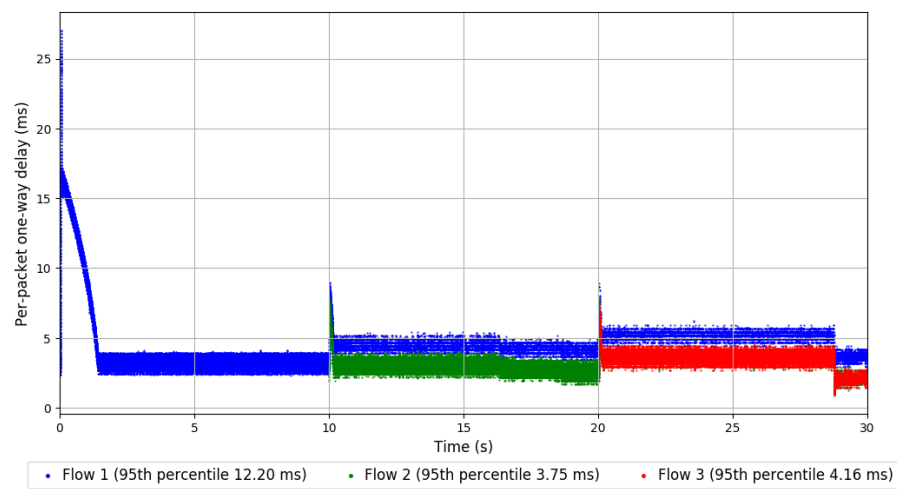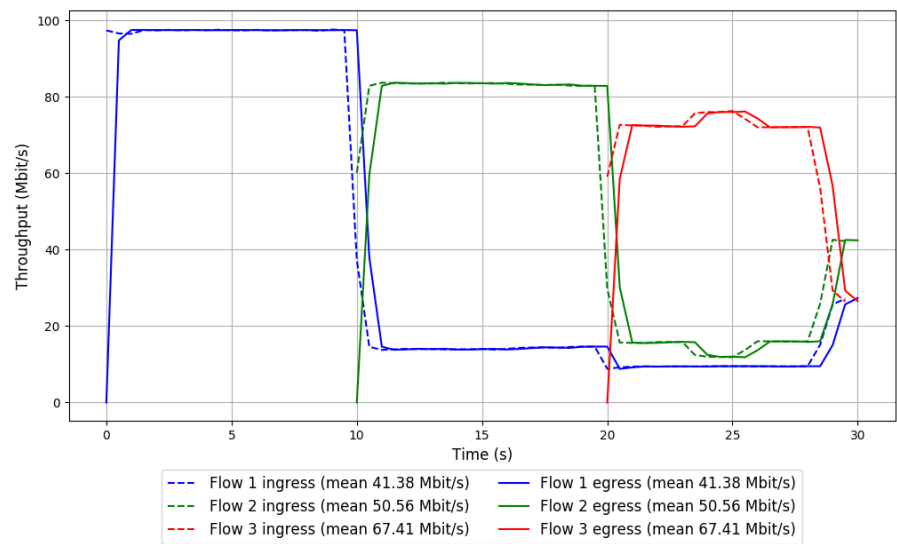
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 42.23 Mbit/s)   Flow 1 egress (mean 42.22 Mbit/s)
Flow 2 ingress (mean 60.94 Mbit/s)   Flow 2 egress (mean 60.92 Mbit/s)
Flow 3 ingress (mean 43.91 Mbit/s)   Flow 3 egress (mean 43.91 Mbit/s)

Flow 1 (95th percentile 4.87 ms)   Flow 2 (95th percentile 5.28 ms)   Flow 3 (95th percentile 4.33 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-17 23:28:27
End at: 2019-07-17 23:28:57
Local clock offset: -6.337 ms
Remote clock offset: 0.176 ms


# Below is generated by plot.py at 2019-07-18 01:21:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 5.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 12.196 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.56 Mbit/s
95th percentile per-packet one-way delay: 3.753 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 67.41 Mbit/s
95th percentile per-packet one-way delay: 4.163 ms
Loss rate: 0.00%
```
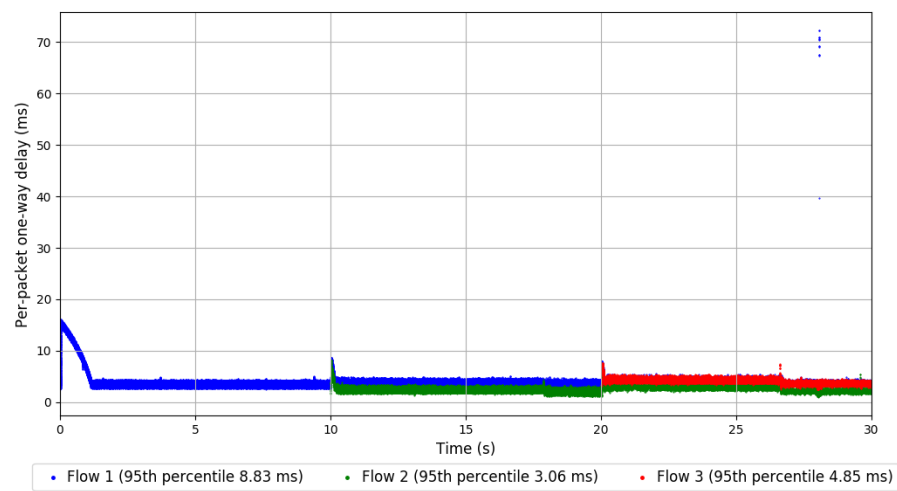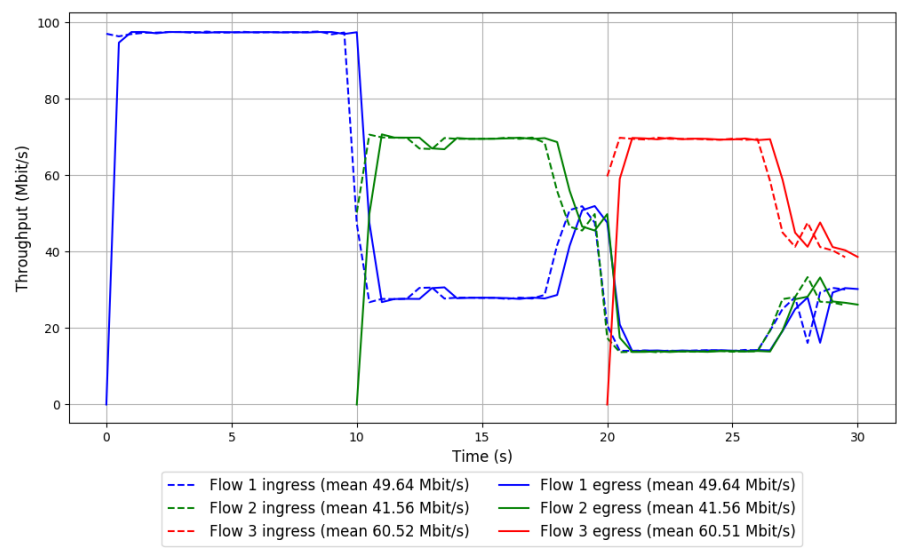
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-17 23:55:41
End at: 2019-07-17 23:56:11
Local clock offset: -5.933 ms
Remote clock offset: 0.371 ms


# Below is generated by plot.py at 2019-07-18 01:21:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 4.864 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.64 Mbit/s
95th percentile per-packet one-way delay: 8.834 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.56 Mbit/s
95th percentile per-packet one-way delay: 3.062 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.51 Mbit/s
95th percentile per-packet one-way delay: 4.853 ms
Loss rate: 0.01%
```
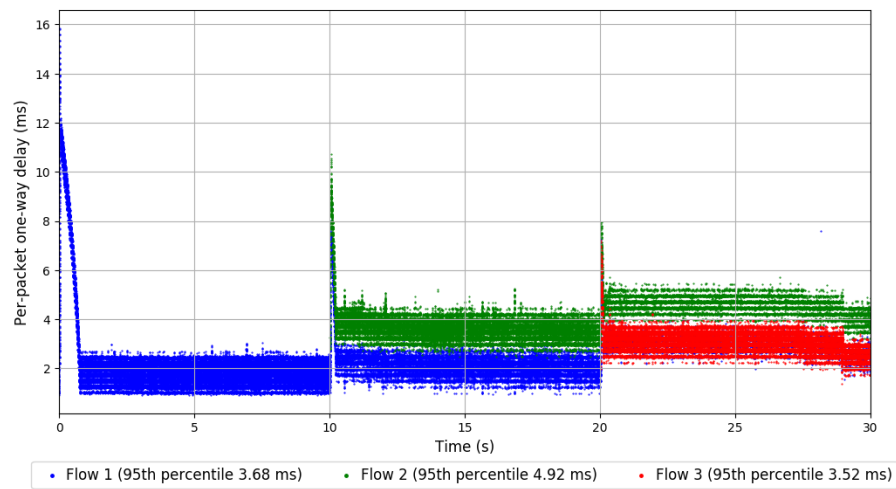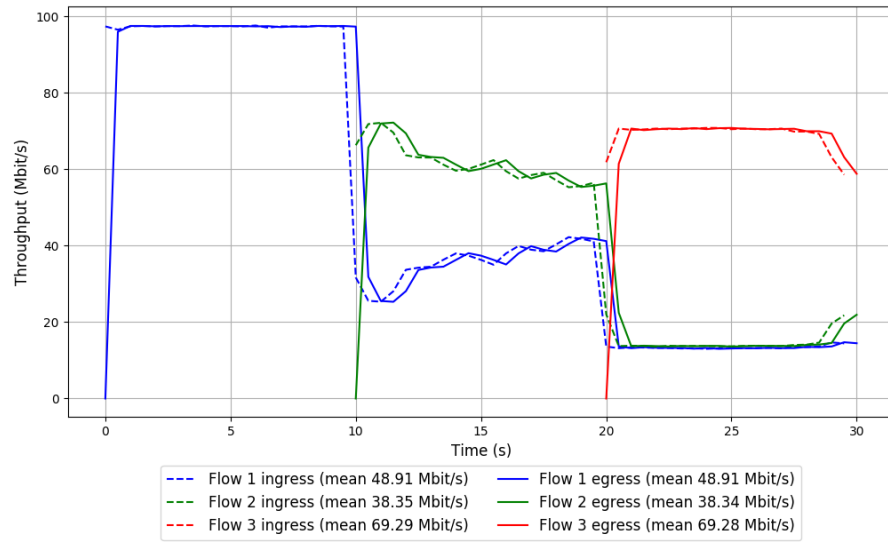
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-18 00:22:54
End at: 2019-07-18 00:23:24
Local clock offset: -6.798 ms
Remote clock offset: 0.601 ms


# Below is generated by plot.py at 2019-07-18 01:21:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 4.518 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.91 Mbit/s
95th percentile per-packet one-way delay: 3.683 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.34 Mbit/s
95th percentile per-packet one-way delay: 4.922 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.28 Mbit/s
95th percentile per-packet one-way delay: 3.522 ms
Loss rate: 0.00%
```
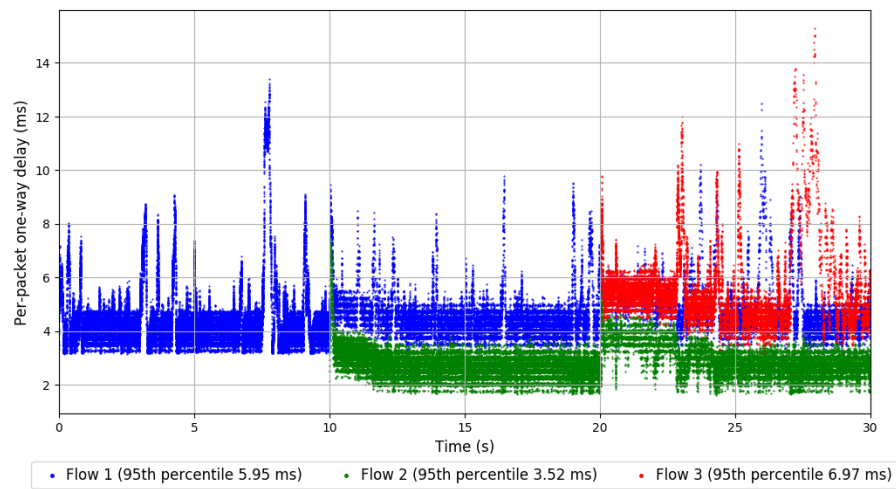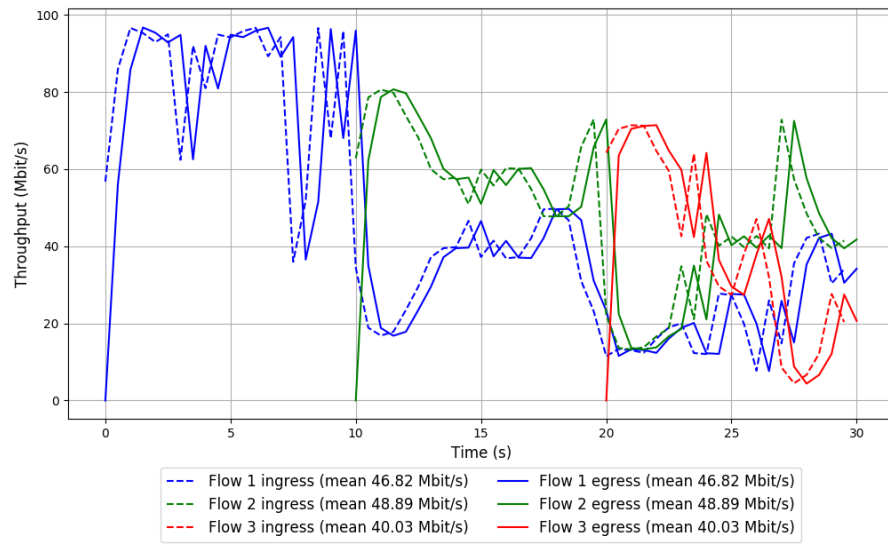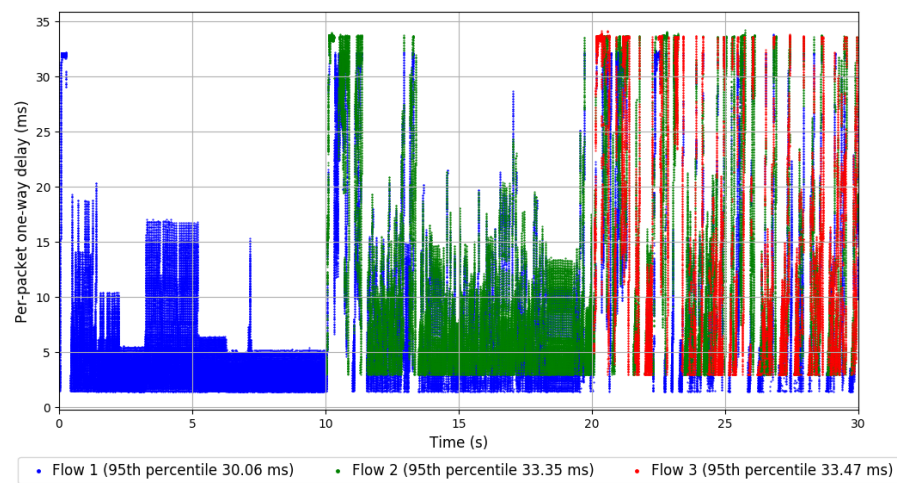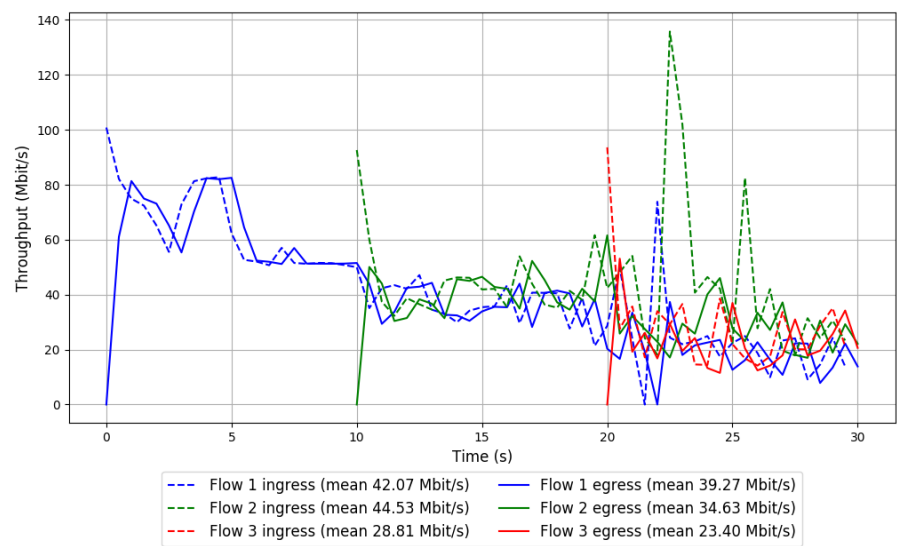
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 48.91 Mbit/s) — — — Flow 1 egress (mean 48.91 Mbit/s)
Flow 2 ingress (mean 38.35 Mbit/s) — — — Flow 2 egress (mean 38.34 Mbit/s)
Flow 3 ingress (mean 69.29 Mbit/s) — — — Flow 3 egress (mean 69.28 Mbit/s)

Flow 1 (95th percentile 3.68 ms)   •   Flow 2 (95th percentile 4.92 ms)   •   Flow 3 (95th percentile 3.52 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-18 00:50:08
End at: 2019-07-18 00:50:38
Local clock offset: -6.183 ms
Remote clock offset: 0.678 ms


# Below is generated by plot.py at 2019-07-18 01:21:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.70 Mbit/s
95th percentile per-packet one-way delay: 5.792 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: 5.951 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.89 Mbit/s
95th percentile per-packet one-way delay: 3.516 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.03 Mbit/s
95th percentile per-packet one-way delay: 6.968 ms
Loss rate: 0.01%
```

Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-07-17 23:05:42
End at: 2019-07-17 23:06:12
Local clock offset: -7.0 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2019-07-18 01:21:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.06 Mbit/s
95th percentile per-packet one-way delay: 32.006 ms
Loss rate: 13.72%
-- Flow 1:
Average throughput: 39.27 Mbit/s
95th percentile per-packet one-way delay: 30.059 ms
Loss rate: 6.62%
-- Flow 2:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 33.352 ms
Loss rate: 22.19%
-- Flow 3:
Average throughput: 23.40 Mbit/s
95th percentile per-packet one-way delay: 33.472 ms
Loss rate: 18.69%
```
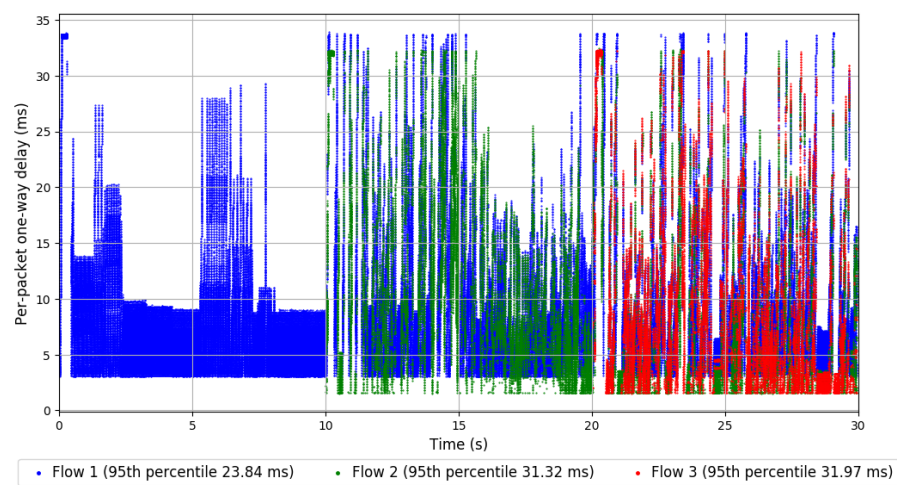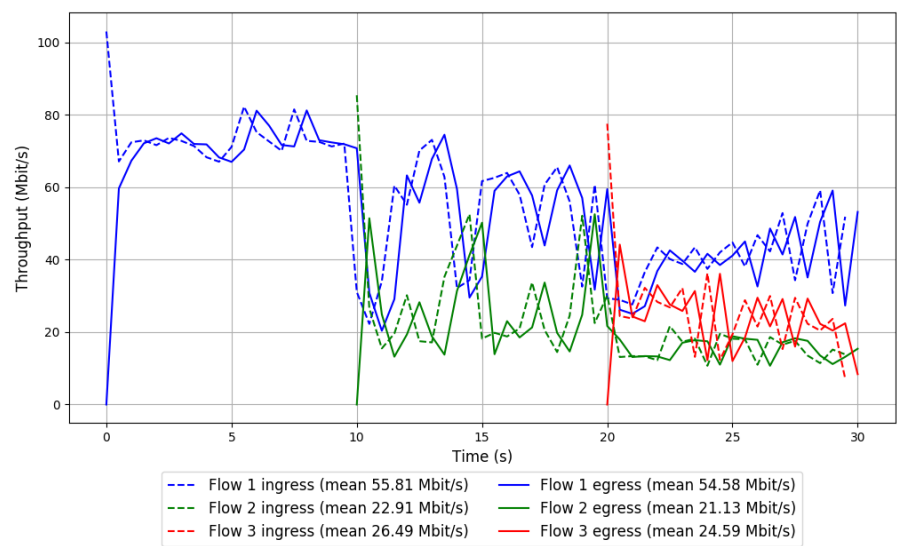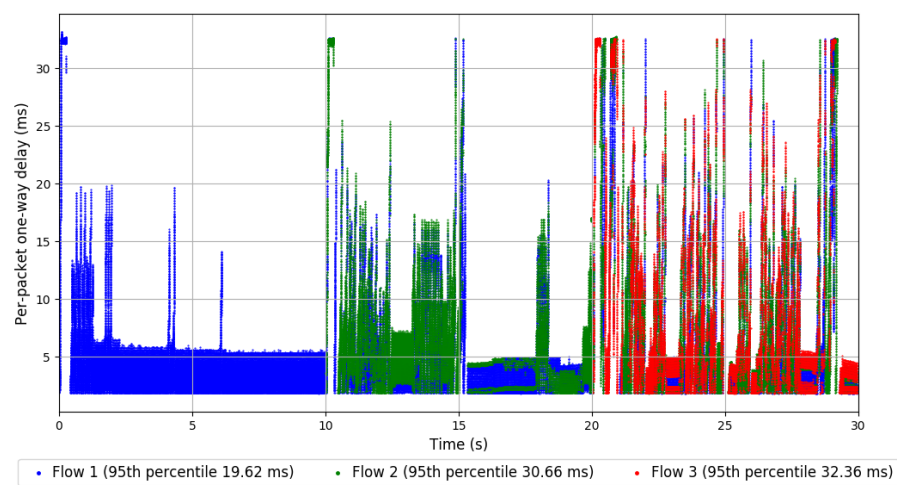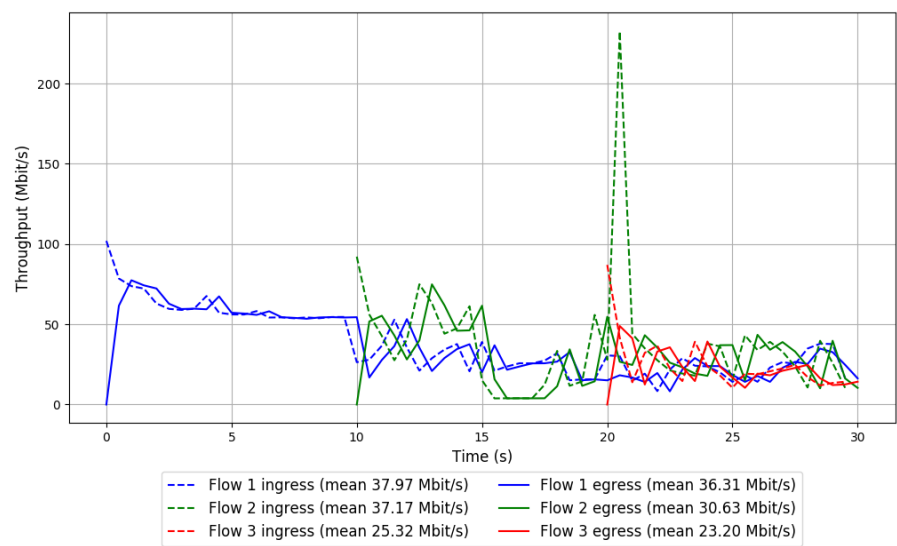
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 42.07 Mbit/s) --- Flow 1 egress (mean 39.27 Mbit/s)
Flow 2 ingress (mean 44.53 Mbit/s) --- Flow 2 egress (mean 34.63 Mbit/s)
Flow 3 ingress (mean 28.81 Mbit/s) --- Flow 3 egress (mean 23.40 Mbit/s)

Flow 1 (95th percentile 30.06 ms) Flow 2 (95th percentile 33.35 ms) Flow 3 (95th percentile 33.47 ms)

216

```
Run 2: Statistics of Verus

Start at: 2019-07-17 23:32:57
End at: 2019-07-17 23:33:27
Local clock offset: -6.835 ms
Remote clock offset: 0.165 ms


# Below is generated by plot.py at 2019-07-18 01:21:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.78 Mbit/s
95th percentile per-packet one-way delay: 27.203 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 54.58 Mbit/s
95th percentile per-packet one-way delay: 23.845 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 21.13 Mbit/s
95th percentile per-packet one-way delay: 31.319 ms
Loss rate: 7.79%
-- Flow 3:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 31.971 ms
Loss rate: 7.22%
```
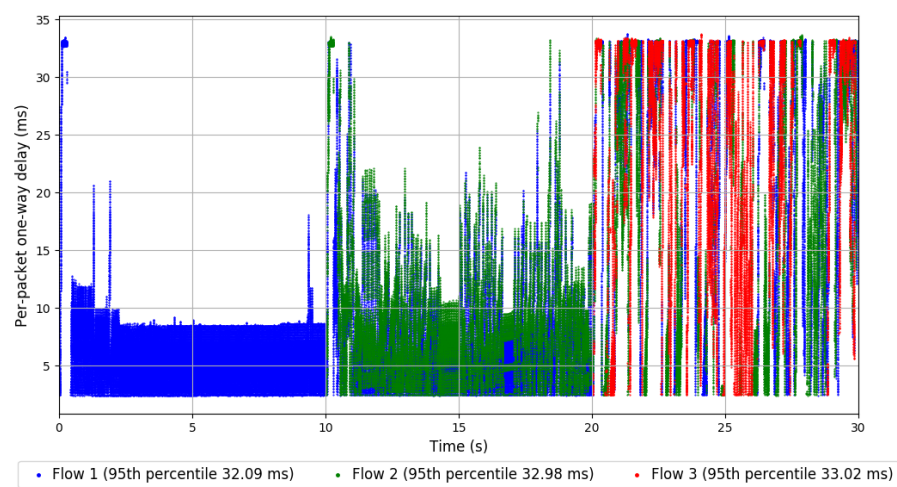
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-07-18 00:00:11
End at: 2019-07-18 00:00:41
Local clock offset: -7.157 ms
Remote clock offset: 0.467 ms


# Below is generated by plot.py at 2019-07-18 01:21:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.39 Mbit/s
95th percentile per-packet one-way delay: 27.123 ms
Loss rate: 9.46%
-- Flow 1:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 19.624 ms
Loss rate: 4.38%
-- Flow 2:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 30.665 ms
Loss rate: 17.61%
-- Flow 3:
Average throughput: 23.20 Mbit/s
95th percentile per-packet one-way delay: 32.360 ms
Loss rate: 8.35%
```
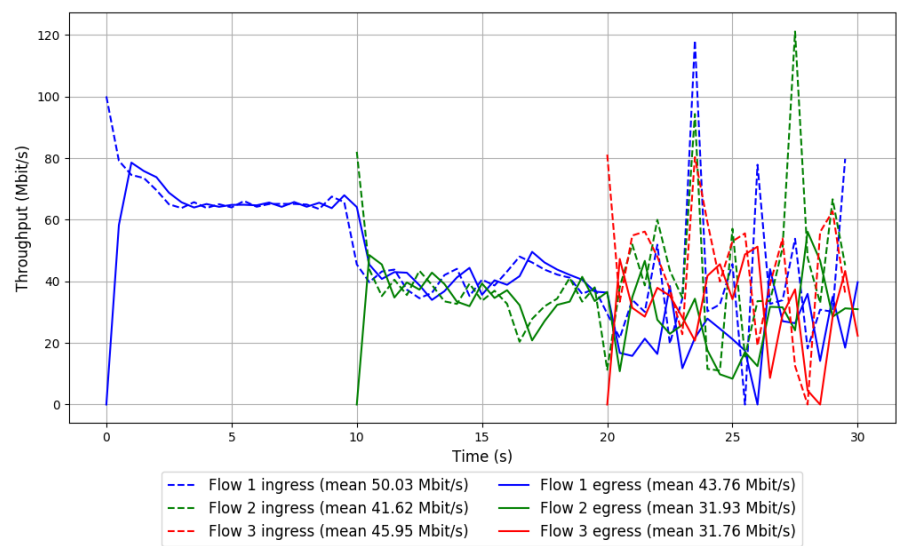
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-07-18 00:27:24
End at: 2019-07-18 00:27:54
Local clock offset: -6.496 ms
Remote clock offset: 0.619 ms


# Below is generated by plot.py at 2019-07-18 01:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.39 Mbit/s
95th percentile per-packet one-way delay: 32.969 ms
Loss rate: 18.61%
-- Flow 1:
Average throughput: 43.76 Mbit/s
95th percentile per-packet one-way delay: 32.088 ms
Loss rate: 12.45%
-- Flow 2:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 32.976 ms
Loss rate: 23.20%
-- Flow 3:
Average throughput: 31.76 Mbit/s
95th percentile per-packet one-way delay: 33.021 ms
Loss rate: 30.67%
```
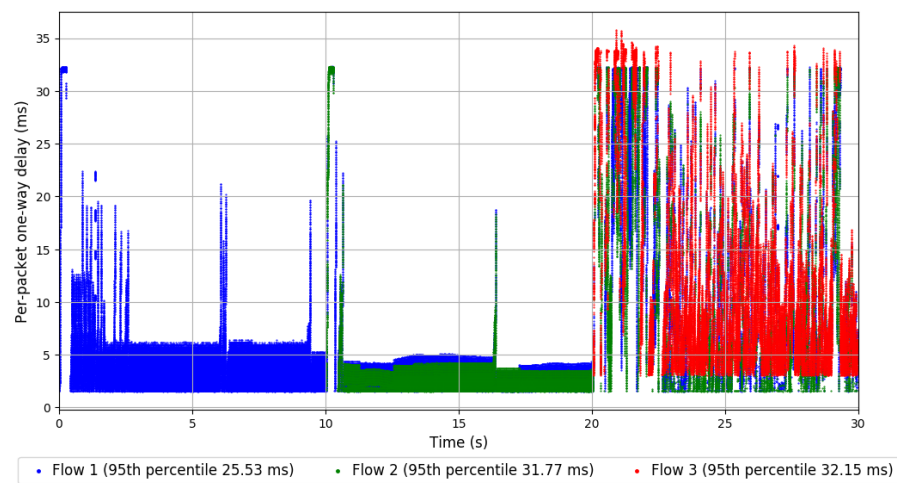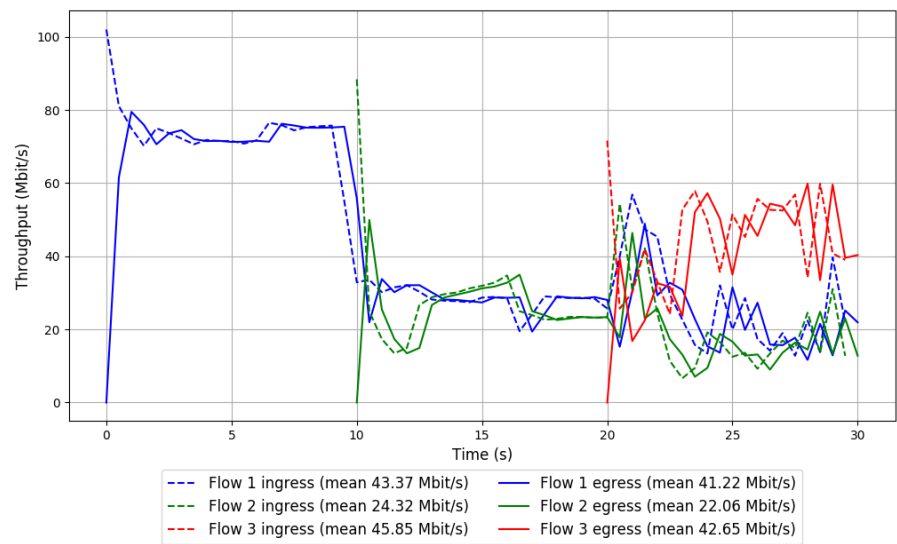
Run 4: Report of Verus — Data Link

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```
Run 5: Statistics of Verus

Start at: 2019-07-18 00:54:38
End at: 2019-07-18 00:55:08
Local clock offset: -6.126 ms
Remote clock offset: 0.614 ms


# Below is generated by plot.py at 2019-07-18 01:22:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.05 Mbit/s
95th percentile per-packet one-way delay: 29.887 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 41.22 Mbit/s
95th percentile per-packet one-way delay: 25.530 ms
Loss rate: 4.96%
-- Flow 2:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 31.773 ms
Loss rate: 9.29%
-- Flow 3:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 32.145 ms
Loss rate: 6.95%
```
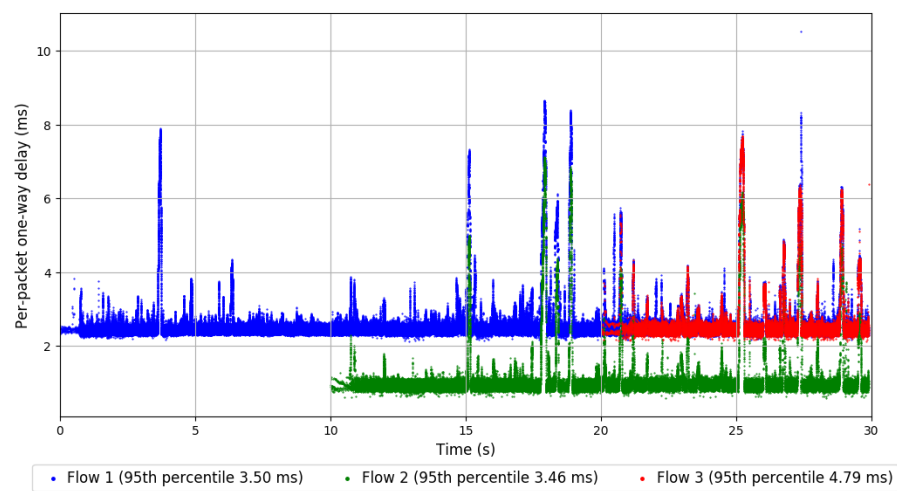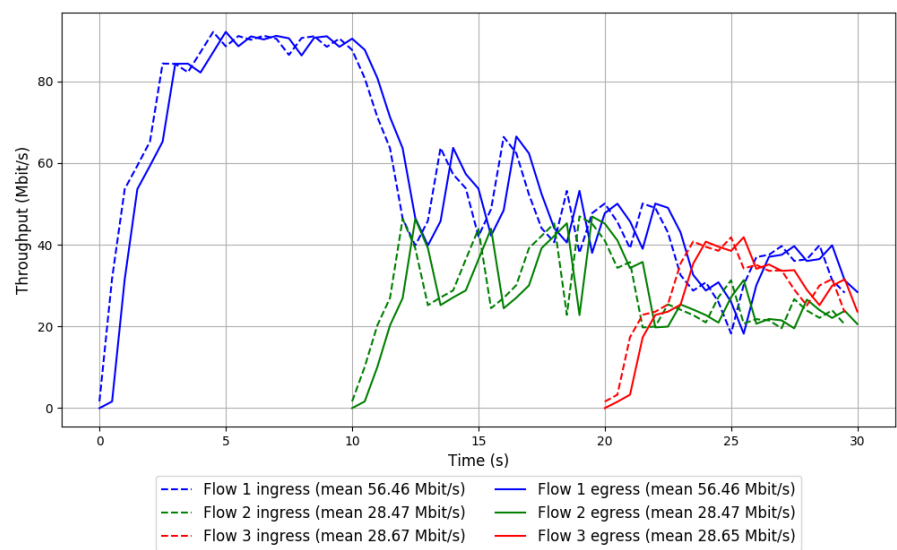
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 43.37 Mbit/s) --- Flow 1 egress (mean 41.22 Mbit/s) ---
Flow 2 ingress (mean 24.32 Mbit/s) --- Flow 2 egress (mean 22.06 Mbit/s) ---
Flow 3 ingress (mean 45.85 Mbit/s) --- Flow 3 egress (mean 42.65 Mbit/s) ---

Flow 1 (95th percentile 25.53 ms) • Flow 2 (95th percentile 31.77 ms) • Flow 3 (95th percentile 32.15 ms)

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```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-17 23:10:14
End at: 2019-07-17 23:10:44
Local clock offset: -6.463 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-07-18 01:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.85 Mbit/s
95th percentile per-packet one-way delay: 3.649 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.46 Mbit/s
95th percentile per-packet one-way delay: 3.505 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.47 Mbit/s
95th percentile per-packet one-way delay: 3.465 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.65 Mbit/s
95th percentile per-packet one-way delay: 4.785 ms
Loss rate: 0.01%
```
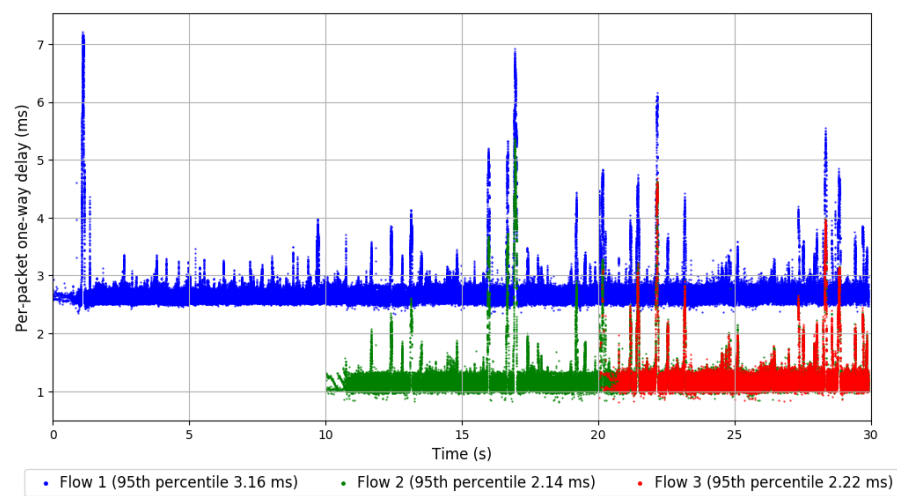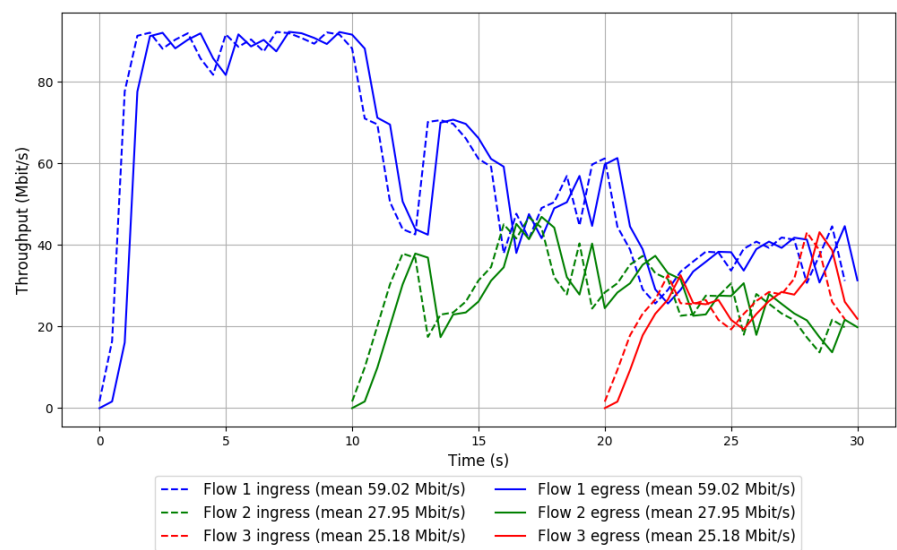
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-17 23:37:30
End at: 2019-07-17 23:38:00
Local clock offset: -6.11 ms
Remote clock offset: 0.197 ms


# Below is generated by plot.py at 2019-07-18 01:22:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.92 Mbit/s
95th percentile per-packet one-way delay: 3.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.02 Mbit/s
95th percentile per-packet one-way delay: 3.158 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.95 Mbit/s
95th percentile per-packet one-way delay: 2.138 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.18 Mbit/s
95th percentile per-packet one-way delay: 2.216 ms
Loss rate: 0.00%
```
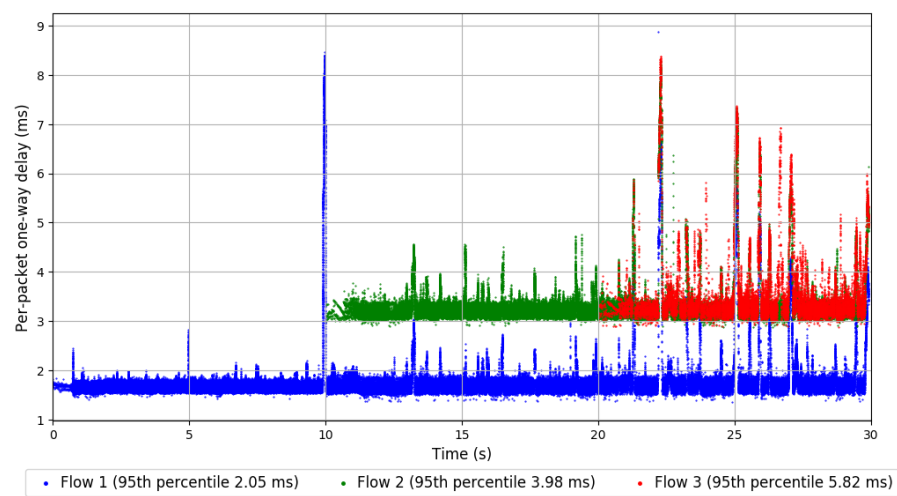
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-18 00:04:43
End at: 2019-07-18 00:05:13
Local clock offset: -7.13 ms
Remote clock offset: 0.44 ms


# Below is generated by plot.py at 2019-07-18 01:22:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.99 Mbit/s
95th percentile per-packet one-way delay: 3.723 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.50 Mbit/s
95th percentile per-packet one-way delay: 2.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.03 Mbit/s
95th percentile per-packet one-way delay: 3.984 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 18.81 Mbit/s
95th percentile per-packet one-way delay: 5.823 ms
Loss rate: 0.02%
```
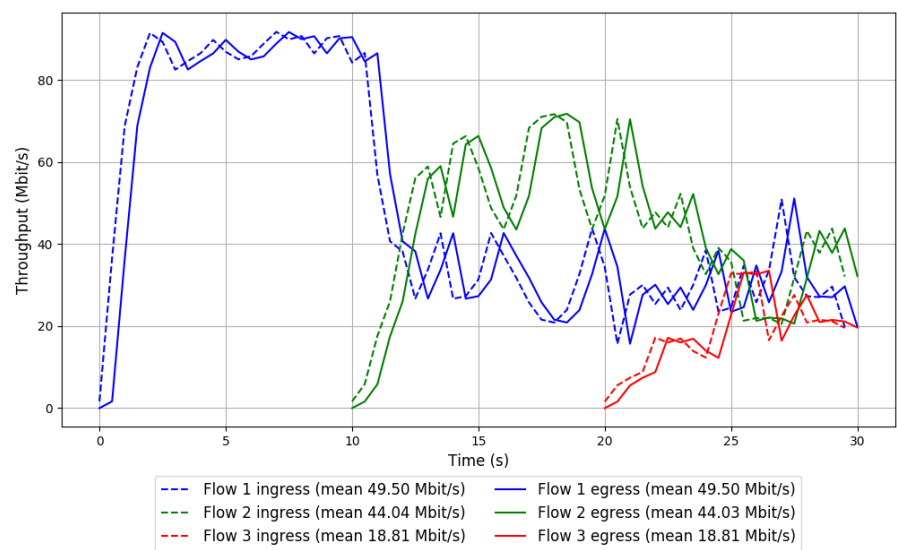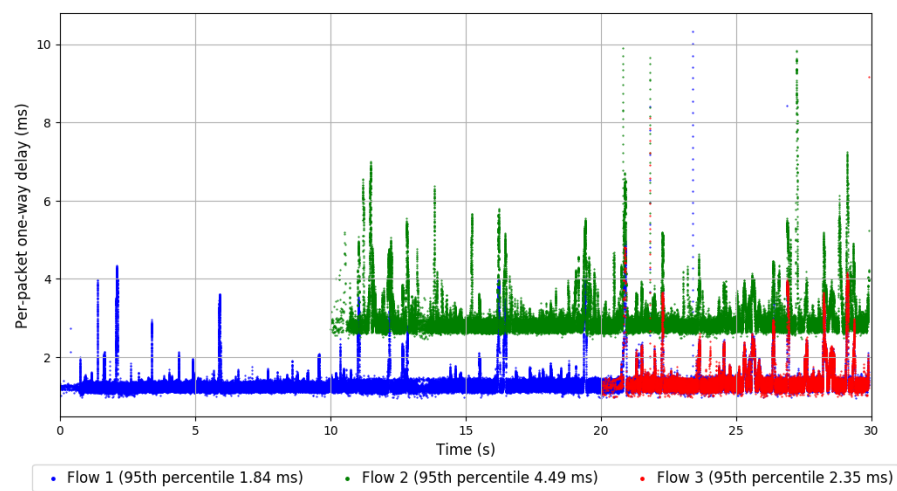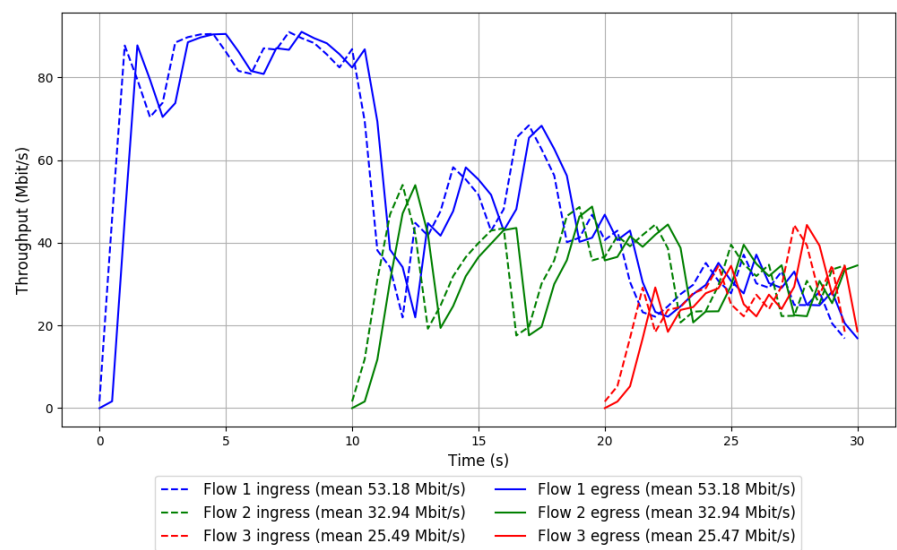
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 49.50 Mbit/s) --- Flow 1 egress (mean 49.50 Mbit/s)
Flow 2 ingress (mean 44.04 Mbit/s) --- Flow 2 egress (mean 44.03 Mbit/s)
Flow 3 ingress (mean 18.81 Mbit/s) --- Flow 3 egress (mean 18.81 Mbit/s)

Flow 1 (95th percentile 2.05 ms)   Flow 2 (95th percentile 3.98 ms)   Flow 3 (95th percentile 5.82 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-18 00:31:57
End at: 2019-07-18 00:32:27
Local clock offset: -6.334 ms
Remote clock offset: 0.582 ms


# Below is generated by plot.py at 2019-07-18 01:22:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.48 Mbit/s
95th percentile per-packet one-way delay: 3.443 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.18 Mbit/s
95th percentile per-packet one-way delay: 1.842 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 4.486 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 25.47 Mbit/s
95th percentile per-packet one-way delay: 2.346 ms
Loss rate: 0.00%
```
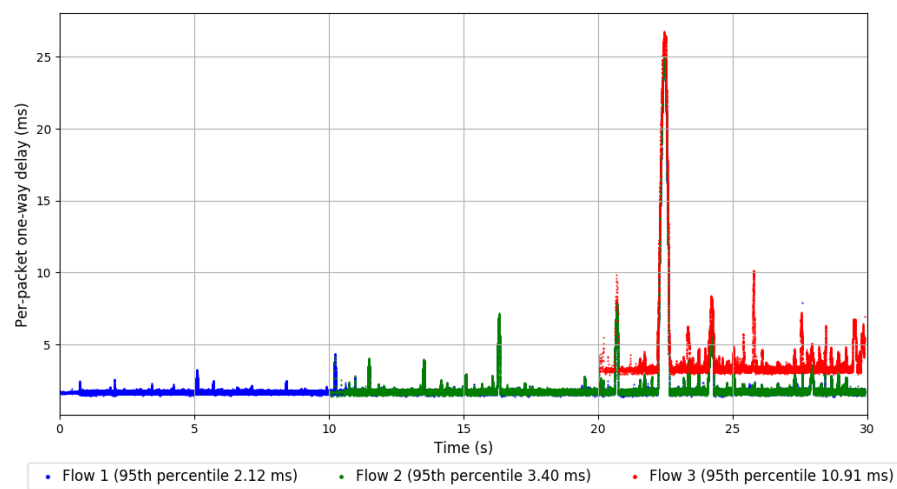
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-18 00:59:15
End at: 2019-07-18 00:59:45
Local clock offset: -6.181 ms
Remote clock offset: 0.615 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.47 Mbit/s
95th percentile per-packet one-way delay: 3.815 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 2.116 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 3.399 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.50 Mbit/s
95th percentile per-packet one-way delay: 10.911 ms
Loss rate: 0.04%
```
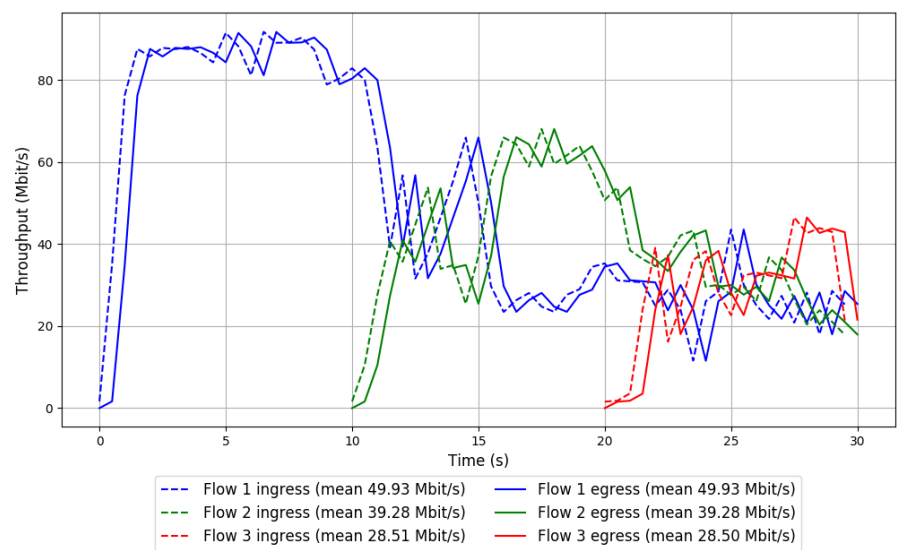
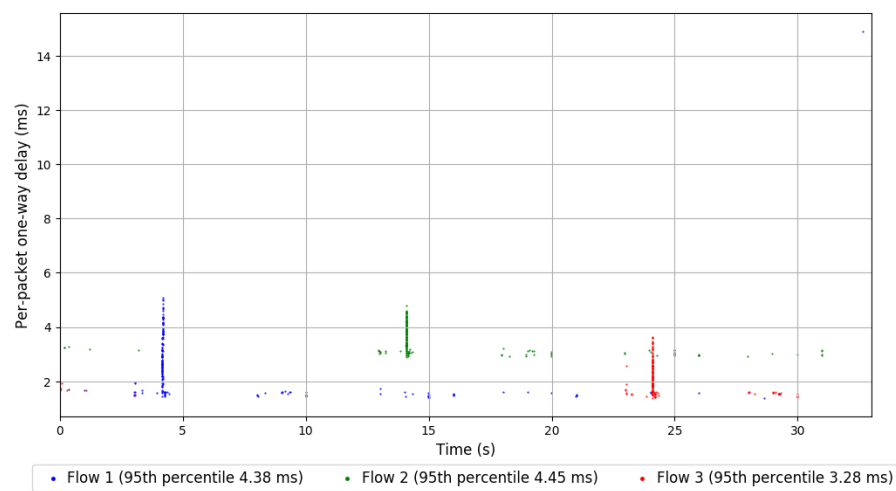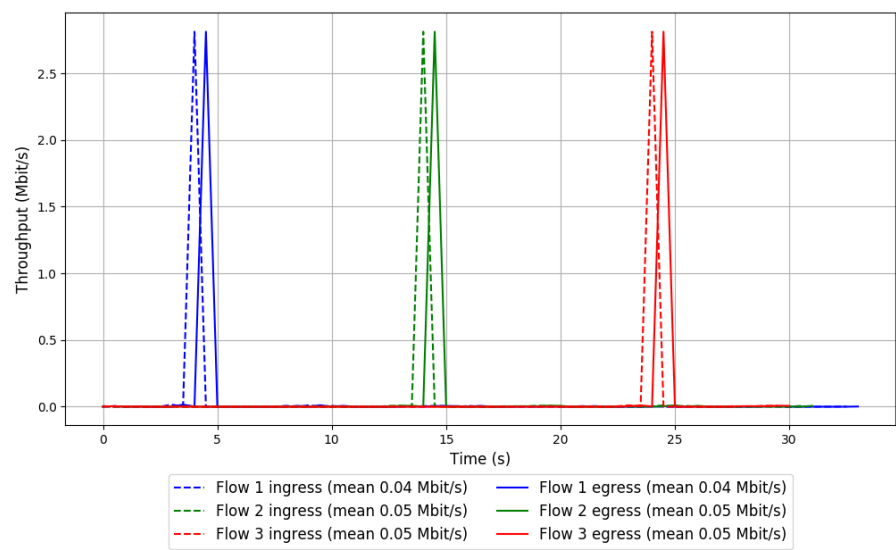# Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-07-17 22:55:34
End at: 2019-07-17 22:56:04
Local clock offset: -6.133 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 4.366 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 4.376 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.454 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.281 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-07-17 23:22:49
End at: 2019-07-17 23:23:19
Local clock offset: -6.724 ms
Remote clock offset: 0.079 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 10.560 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.643 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.491 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 12.642 ms
Loss rate: 0.00%
```
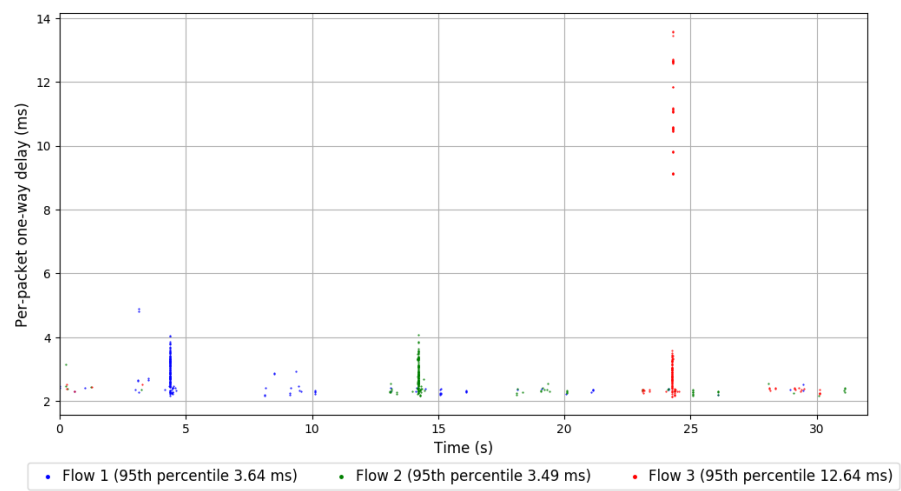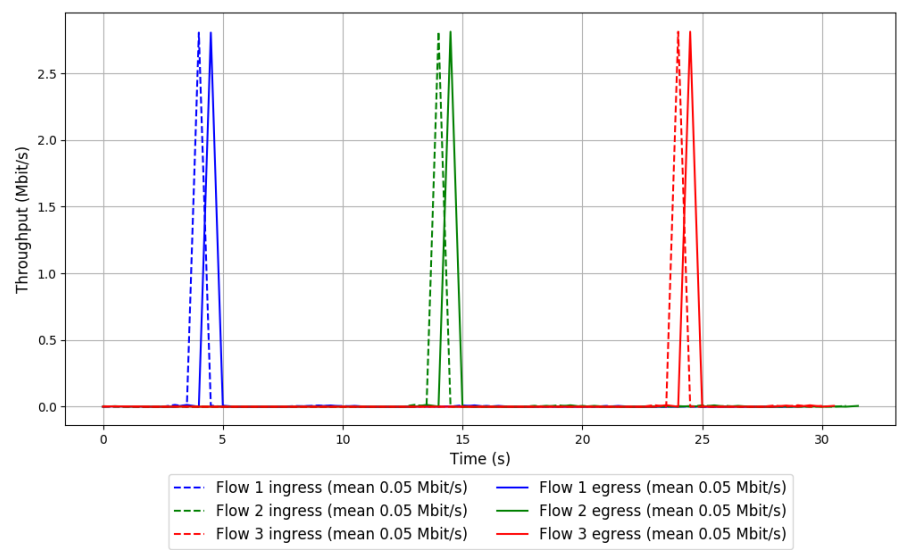
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-07-17 23:50:04
End at: 2019-07-17 23:50:34
Local clock offset: -5.62 ms
Remote clock offset: 0.324 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.649 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.781 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.009 ms
Loss rate: 0.00%
```
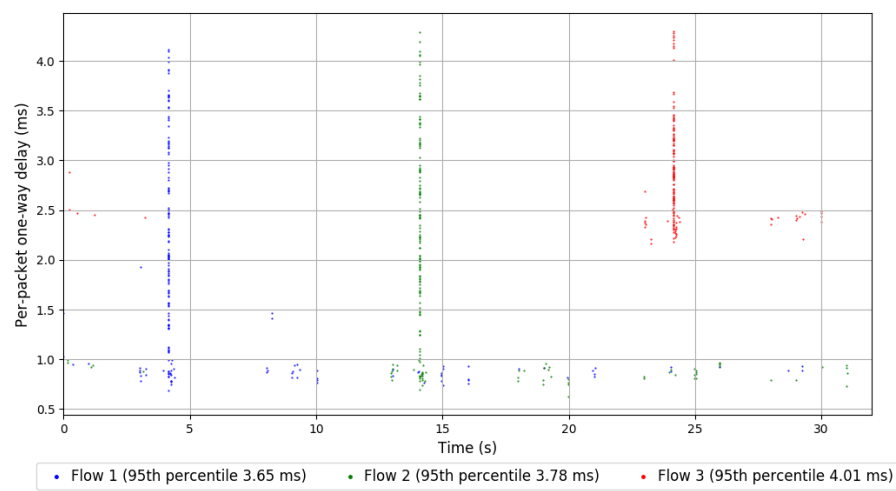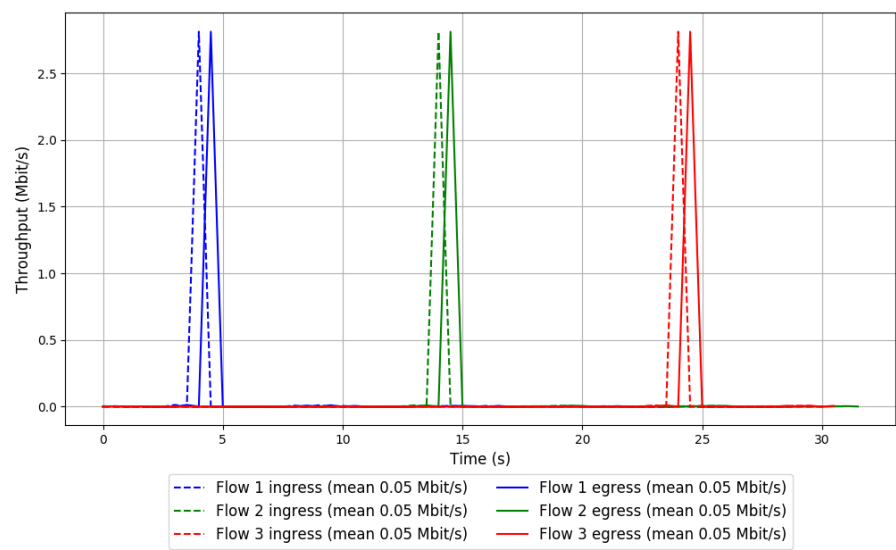
Run 3: Report of WebRTC media — Data Link

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```
Run 4: Statistics of WebRTC media

Start at: 2019-07-18 00:17:17
End at: 2019-07-18 00:17:47
Local clock offset: -7.691 ms
Remote clock offset: 0.506 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.972 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.692 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.245 ms
Loss rate: 0.00%
```
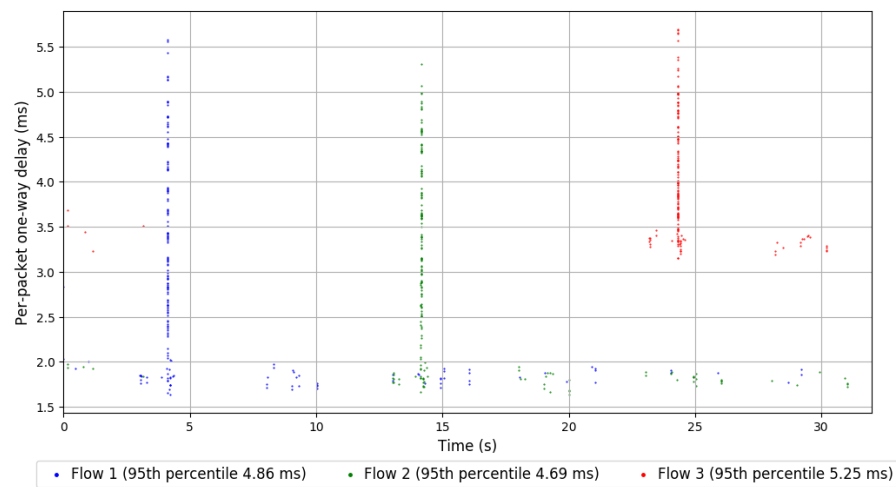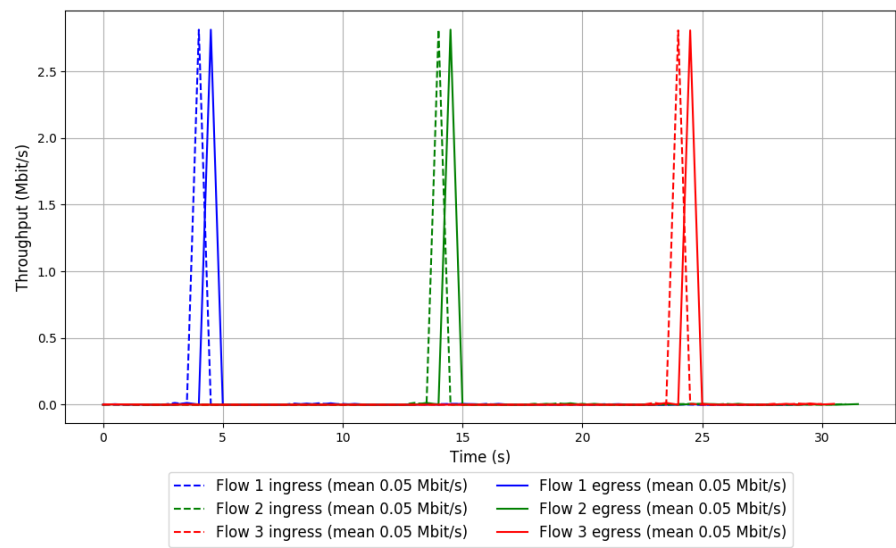
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-07-18 00:44:31
End at: 2019-07-18 00:45:01
Local clock offset: -6.313 ms
Remote clock offset: 0.665 ms


# Below is generated by plot.py at 2019-07-18 01:22:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 7.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.831 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.194 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.707 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link