Pantheon Report

Generated at 2019-06-27 11:19:14 (UTC).

Data path: AWS California 1 on ens5 (*local*) →Stanford on eno1 (*remote*).

Repeated the test of 22 congestion control schemes 5 times.

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

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

```
System info:
Linux 4.15.0-1039-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 @ c3953d08f32ec7ebbdede2d2f0cbdeed262571ef
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 @ 11c9498ecb1596b02ccd896791a02d03172af7ed
 M helpers/__init__.pyc
 M helpers/context.pyc
 M helpers/utils.pyc
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
```

```
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
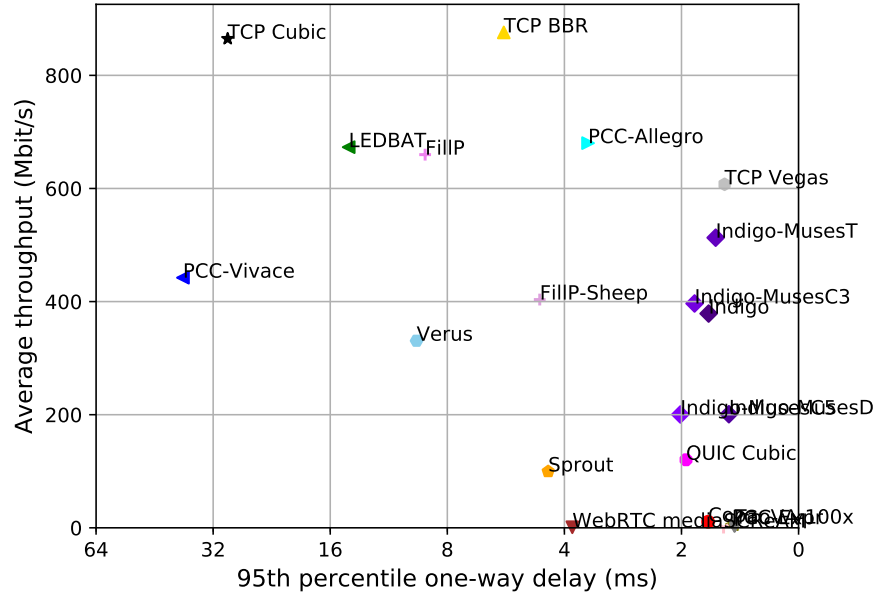
test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows
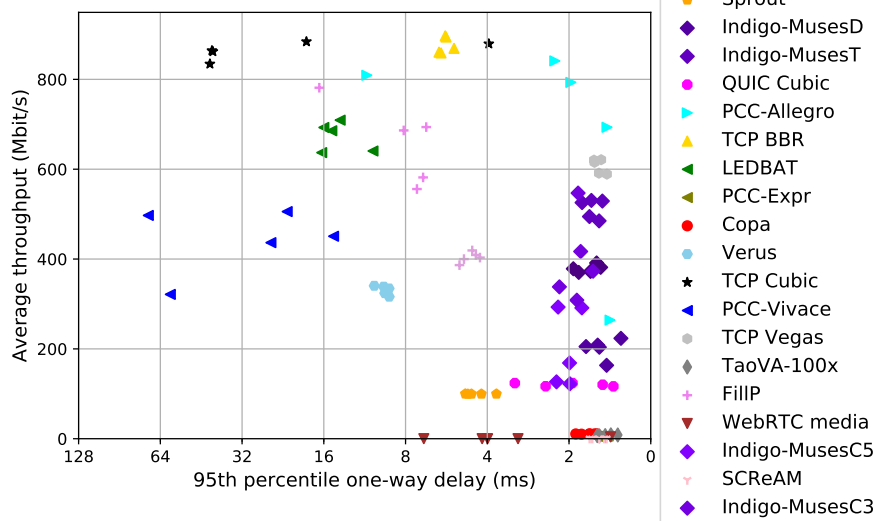
scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	504.51	407.16	301.29	5.58	5.91	4.19	4.66	7.82	11.78
Copa	5	6.49	4.99	4.75	1.62	1.61	1.37	48.27	57.49	59.87
TCP Cubic	5	506.48	382.36	311.24	40.80	2.86	2.79	0.07	0.07	0.08
FillP	5	448.58	230.68	174.45	10.43	4.89	5.63	5.78	10.83	11.68
FillP-Sheep	5	334.34	89.65	29.41	4.96	2.57	2.24	2.68	1.97	3.36
Indigo	5	196.79	187.37	178.71	1.37	1.58	1.86	0.00	0.00	0.00
Indigo-MusesC3	5	189.69	213.08	230.60	1.68	1.78	1.93	0.01	0.00	0.00
Indigo-MusesC5	5	101.17	109.33	93.88	1.48	2.42	1.94	0.01	0.06	0.01
Indigo-MusesD	5	119.34	84.76	87.98	1.23	1.06	1.19	0.00	0.00	0.00
Indigo-MusesT	5	296.88	236.15	212.75	1.34	1.45	1.61	0.00	0.00	0.00
LEDBAT	5	397.53	289.25	265.46	14.95	9.30	9.57	0.13	0.20	0.29
Muses_DecisionTree	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCC-Allegro	5	544.89	135.63	136.95	4.17	1.31	1.29	0.05	0.05	0.08
PCC-Expr	5	0.86	6.16	6.85	1.11	1.16	1.08	85.71	27.06	19.57
QUIC Cubic	5	64.72	59.47	49.25	1.32	2.68	3.64	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	1.27	1.28	1.28	0.00	0.00	0.00
Sprout	5	50.02	49.95	49.62	4.35	4.40	4.41	0.03	0.02	0.08
TaoVA-100x	5	0.00	7.45	8.55	1.09	1.11	1.04	95.92	39.42	35.71
TCP Vegas	5	306.48	291.11	321.61	1.27	1.24	1.30	0.00	0.00	0.01
Verus	5	184.67	148.66	143.19	7.41	13.83	27.52	1.39	2.53	3.76
PCC-Vivace	5	234.16	222.63	181.85	5.82	54.81	79.56	0.02	0.40	1.34
WebRTC media	5	0.49	0.32	0.16	3.97	4.51	3.02	0.01	0.01	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-06-27 07:50:17
End at: 2019-06-27 07:50:47
Local clock offset: -4.568 ms
Remote clock offset: 0.968 ms


# Below is generated by plot.py at 2019-06-27 10:32:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 860.58 Mbit/s
95th percentile per-packet one-way delay: 6.024 ms
Loss rate: 7.40%
-- Flow 1:
Average throughput: 531.23 Mbit/s
95th percentile per-packet one-way delay: 6.091 ms
Loss rate: 4.60%
-- Flow 2:
Average throughput: 366.57 Mbit/s
95th percentile per-packet one-way delay: 6.026 ms
Loss rate: 10.88%
-- Flow 3:
Average throughput: 256.05 Mbit/s
95th percentile per-packet one-way delay: 3.402 ms
Loss rate: 13.58%
```
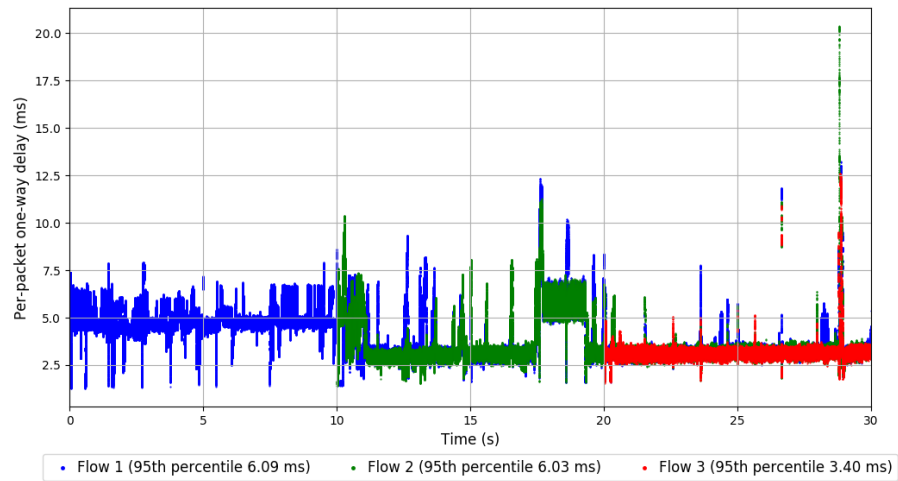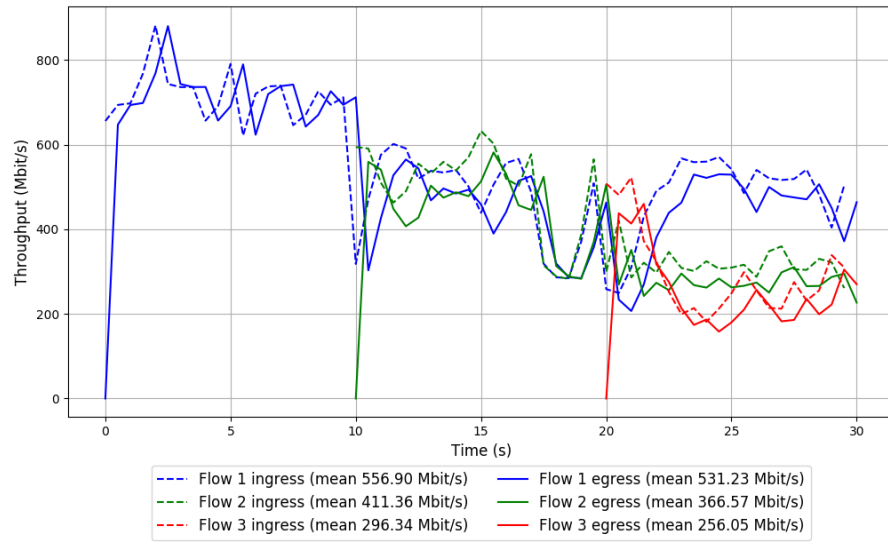
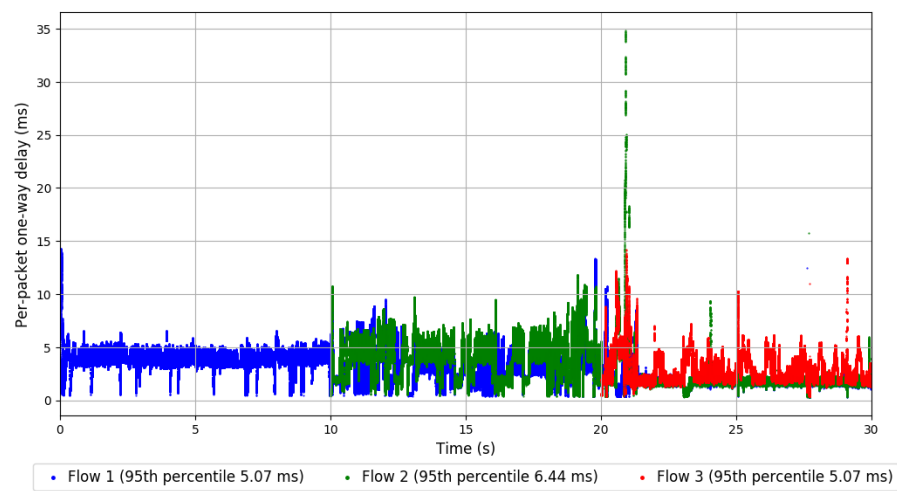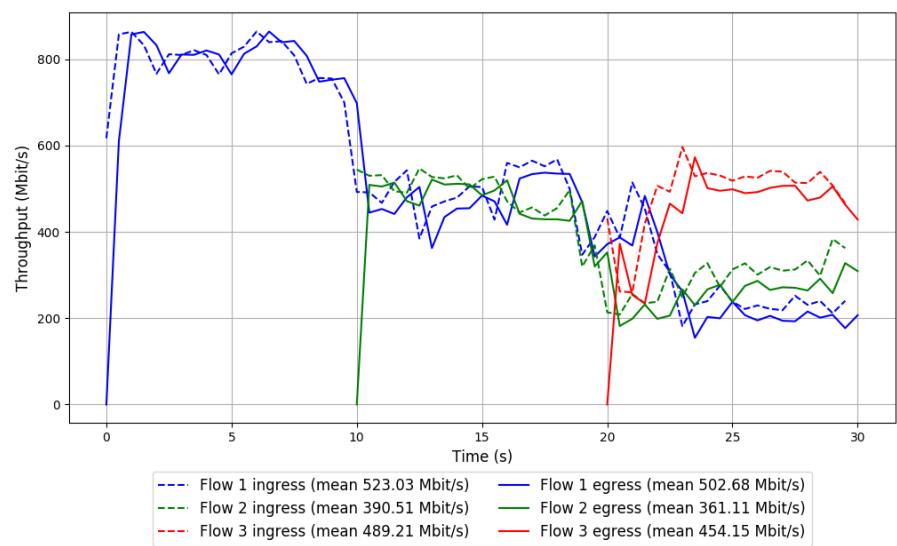Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-06-27 08:22:02
End at: 2019-06-27 08:22:32
Local clock offset: 0.633 ms
Remote clock offset: -4.104 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 896.91 Mbit/s
95th percentile per-packet one-way delay: 5.712 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 469.50 Mbit/s
95th percentile per-packet one-way delay: 5.649 ms
Loss rate: 5.55%
-- Flow 2:
Average throughput: 500.82 Mbit/s
95th percentile per-packet one-way delay: 6.108 ms
Loss rate: 5.18%
-- Flow 3:
Average throughput: 282.37 Mbit/s
95th percentile per-packet one-way delay: 2.925 ms
Loss rate: 13.10%
```

Run 2: Report of TCP BBR — Data Link
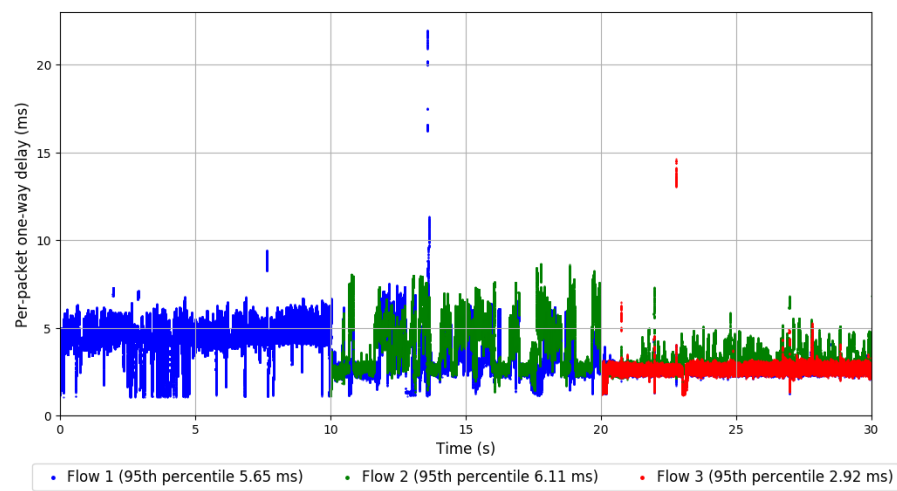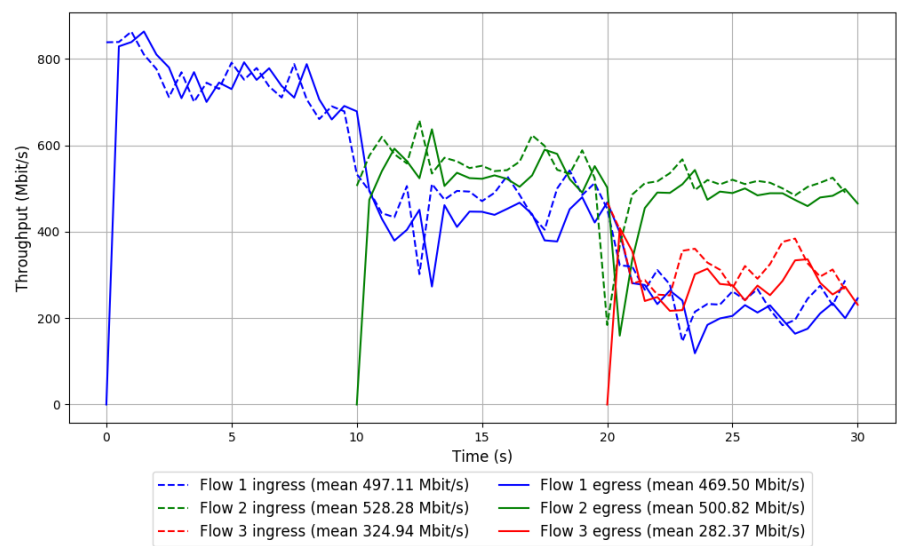
```
Run 3: Statistics of TCP BBR

Start at: 2019-06-27 08:53:46
End at: 2019-06-27 08:54:16
Local clock offset: 0.53 ms
Remote clock offset: -3.261 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 894.24 Mbit/s
95th percentile per-packet one-way delay: 5.675 ms
Loss rate: 5.45%
-- Flow 1:
Average throughput: 502.68 Mbit/s
95th percentile per-packet one-way delay: 5.066 ms
Loss rate: 3.89%
-- Flow 2:
Average throughput: 361.11 Mbit/s
95th percentile per-packet one-way delay: 6.444 ms
Loss rate: 7.52%
-- Flow 3:
Average throughput: 454.15 Mbit/s
95th percentile per-packet one-way delay: 5.071 ms
Loss rate: 7.17%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 523.03 Mbit/s) --- Flow 1 egress (mean 502.68 Mbit/s)
Flow 2 ingress (mean 390.51 Mbit/s) --- Flow 2 egress (mean 361.11 Mbit/s)
Flow 3 ingress (mean 489.21 Mbit/s) --- Flow 3 egress (mean 454.15 Mbit/s)

Flow 1 (95th percentile 5.07 ms)   Flow 2 (95th percentile 6.44 ms)   Flow 3 (95th percentile 5.07 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-06-27 09:25:21
End at: 2019-06-27 09:25:51
Local clock offset: -2.046 ms
Remote clock offset: -3.099 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 869.04 Mbit/s
95th percentile per-packet one-way delay: 5.303 ms
Loss rate: 6.89%
-- Flow 1:
Average throughput: 534.19 Mbit/s
95th percentile per-packet one-way delay: 5.399 ms
Loss rate: 4.79%
-- Flow 2:
Average throughput: 393.20 Mbit/s
95th percentile per-packet one-way delay: 4.883 ms
Loss rate: 8.39%
-- Flow 3:
Average throughput: 219.12 Mbit/s
95th percentile per-packet one-way delay: 2.708 ms
Loss rate: 15.56%
```
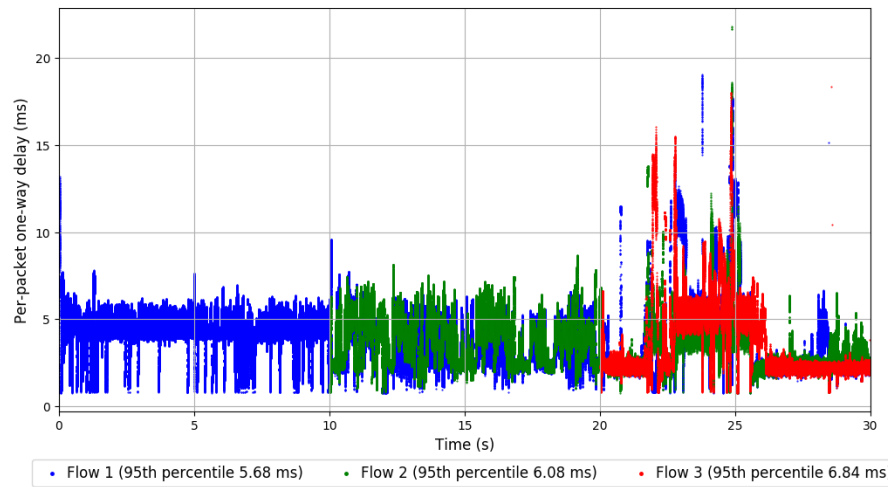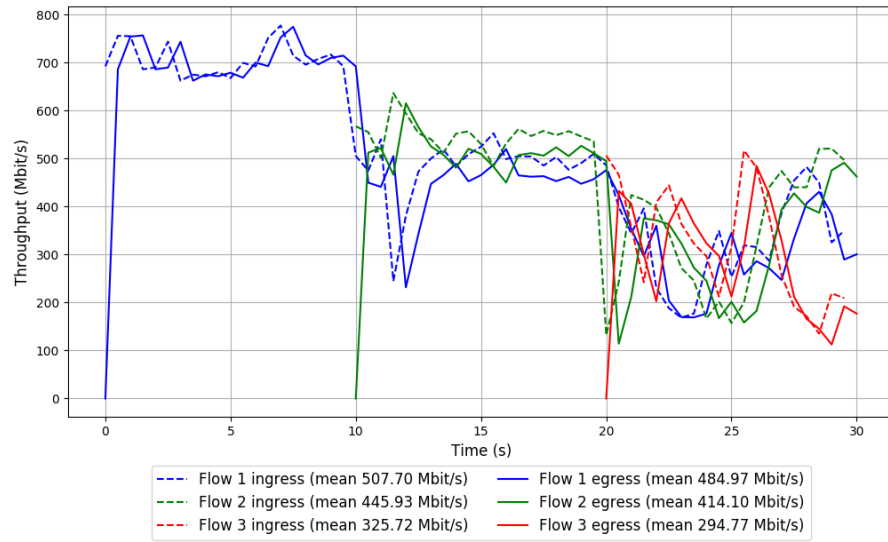
Run 4: Report of TCP BBR — Data Link
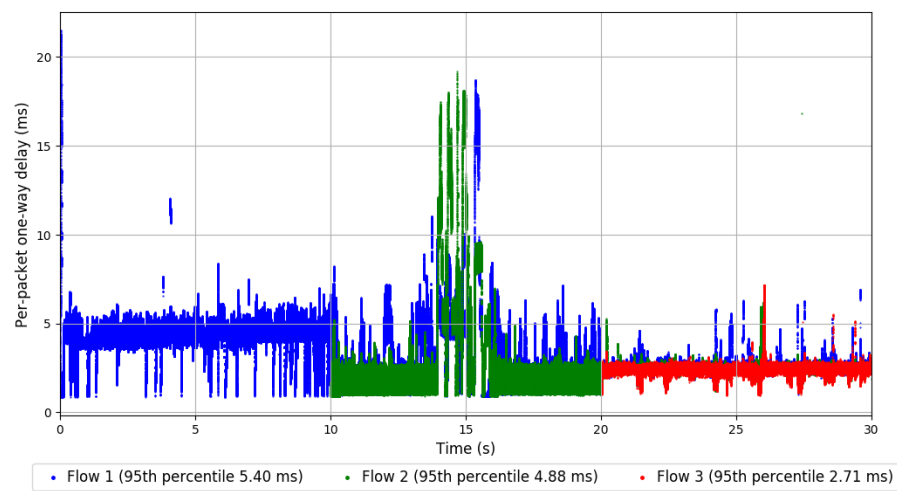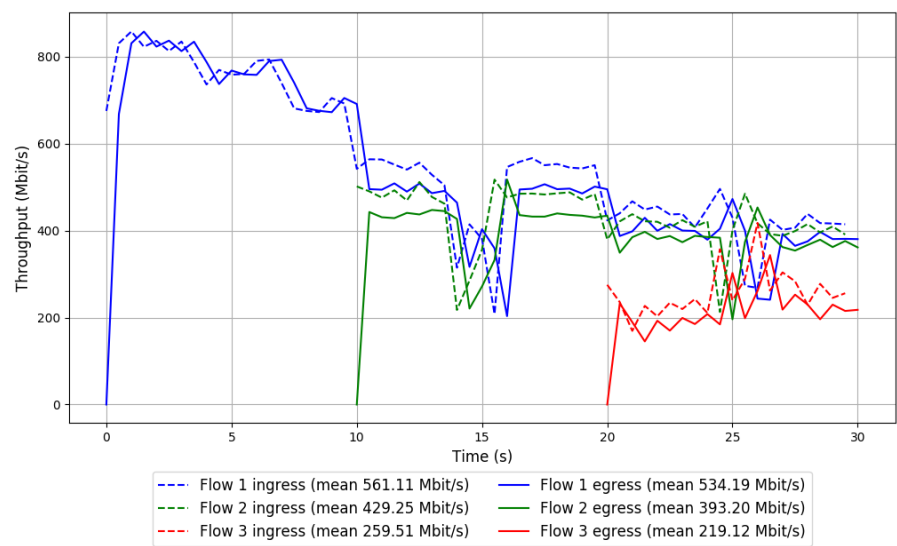
```
Run 5: Statistics of TCP BBR

Start at: 2019-06-27 09:57:13
End at: 2019-06-27 09:57:43
Local clock offset: -0.091 ms
Remote clock offset: 2.132 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 858.82 Mbit/s
95th percentile per-packet one-way delay: 5.921 ms
Loss rate: 5.93%
-- Flow 1:
Average throughput: 484.97 Mbit/s
95th percentile per-packet one-way delay: 5.685 ms
Loss rate: 4.47%
-- Flow 2:
Average throughput: 414.10 Mbit/s
95th percentile per-packet one-way delay: 6.085 ms
Loss rate: 7.14%
-- Flow 3:
Average throughput: 294.77 Mbit/s
95th percentile per-packet one-way delay: 6.844 ms
Loss rate: 9.49%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 507.70 Mbit/s) --- Flow 1 egress (mean 484.97 Mbit/s)
Flow 2 ingress (mean 445.93 Mbit/s) --- Flow 2 egress (mean 414.10 Mbit/s)
Flow 3 ingress (mean 325.72 Mbit/s) --- Flow 3 egress (mean 294.77 Mbit/s)

Flow 1 (95th percentile 5.68 ms) • Flow 2 (95th percentile 6.08 ms) • Flow 3 (95th percentile 6.84 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-06-27 08:06:17
End at: 2019-06-27 08:06:47
Local clock offset: -0.923 ms
Remote clock offset: -3.077 ms

# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 1.498 ms
Loss rate: 52.83%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 1.453 ms
Loss rate: 51.81%
-- Flow 2:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 1.679 ms
Loss rate: 54.18%
-- Flow 3:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 1.312 ms
Loss rate: 60.28%
```

Run 1: Report of Copa — Data Link
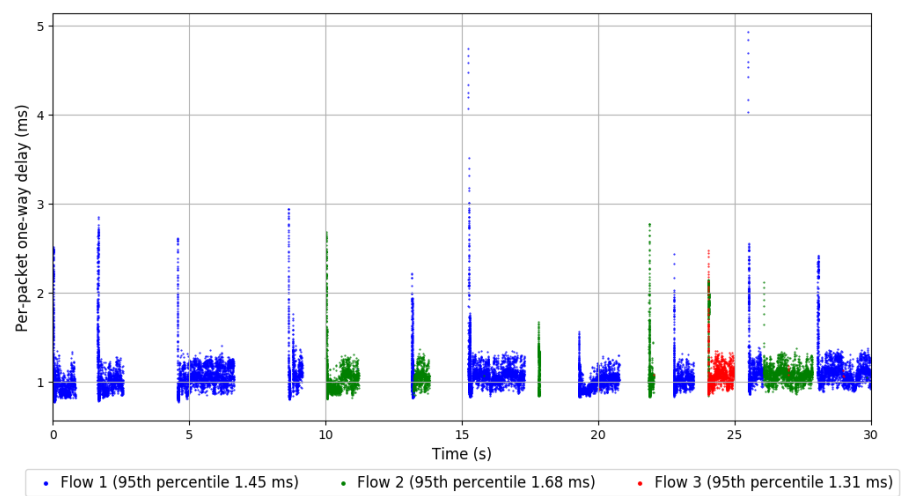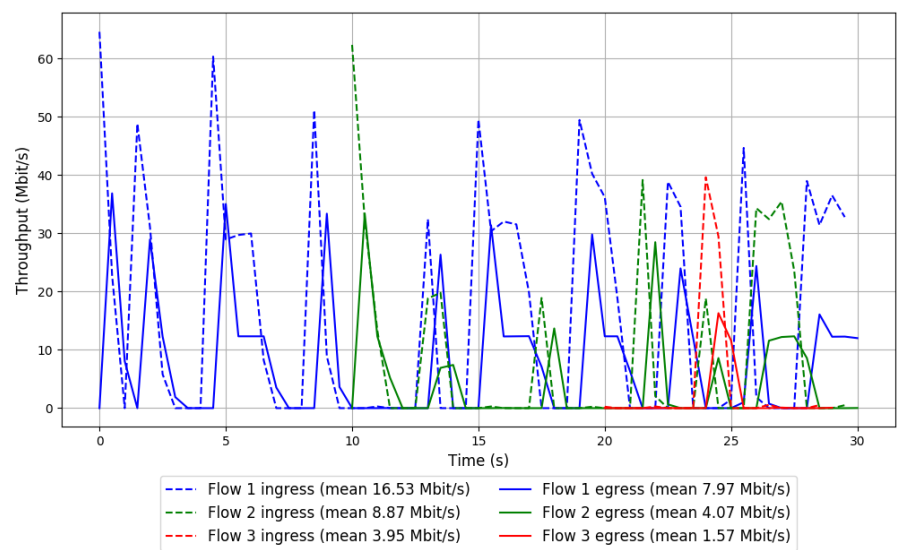
```
Run 2: Statistics of Copa

Start at: 2019-06-27 08:38:11
End at: 2019-06-27 08:38:41
Local clock offset: 3.219 ms
Remote clock offset: -3.202 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.12 Mbit/s
95th percentile per-packet one-way delay: 1.695 ms
Loss rate: 52.63%
-- Flow 1:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 1.817 ms
Loss rate: 38.62%
-- Flow 2:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 2.009 ms
Loss rate: 60.70%
-- Flow 3:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 1.255 ms
Loss rate: 63.71%
```

Run 2: Report of Copa — Data Link
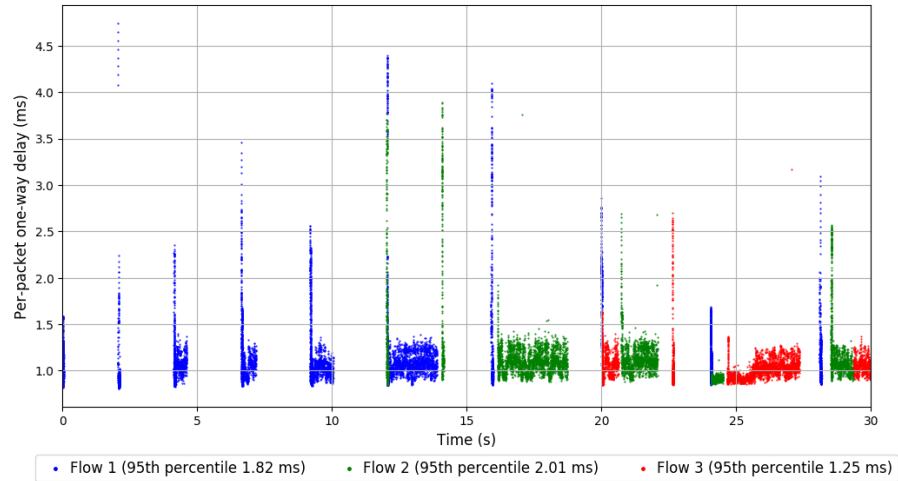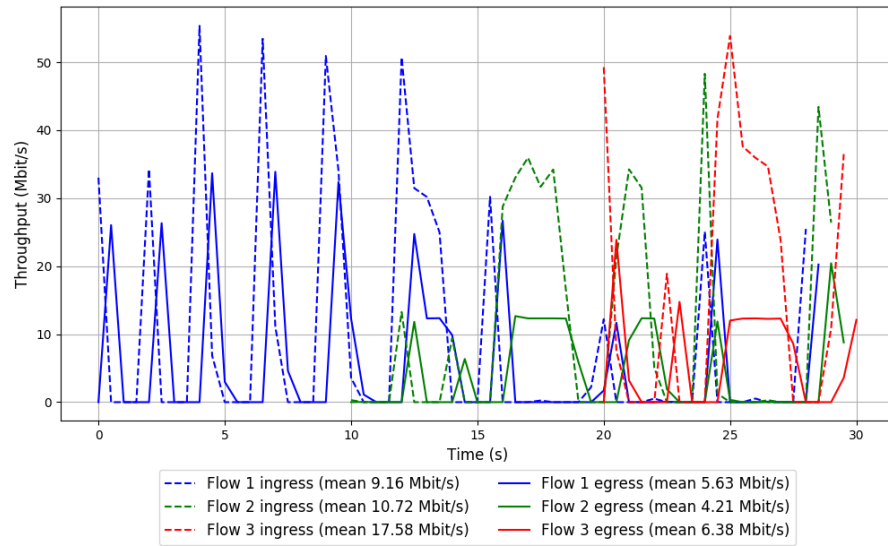
```
Run 3: Statistics of Copa

Start at: 2019-06-27 09:09:55
End at: 2019-06-27 09:10:25
Local clock offset: -3.518 ms
Remote clock offset: -2.996 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.97 Mbit/s
95th percentile per-packet one-way delay: 1.322 ms
Loss rate: 55.12%
-- Flow 1:
Average throughput: 7.13 Mbit/s
95th percentile per-packet one-way delay: 1.541 ms
Loss rate: 48.66%
-- Flow 2:
Average throughput: 6.14 Mbit/s
95th percentile per-packet one-way delay: 1.108 ms
Loss rate: 63.94%
-- Flow 3:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 52.60%
```
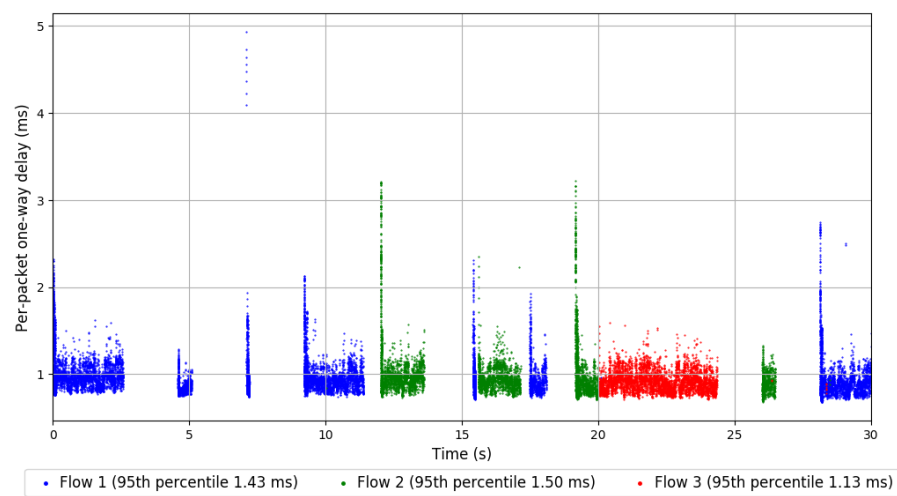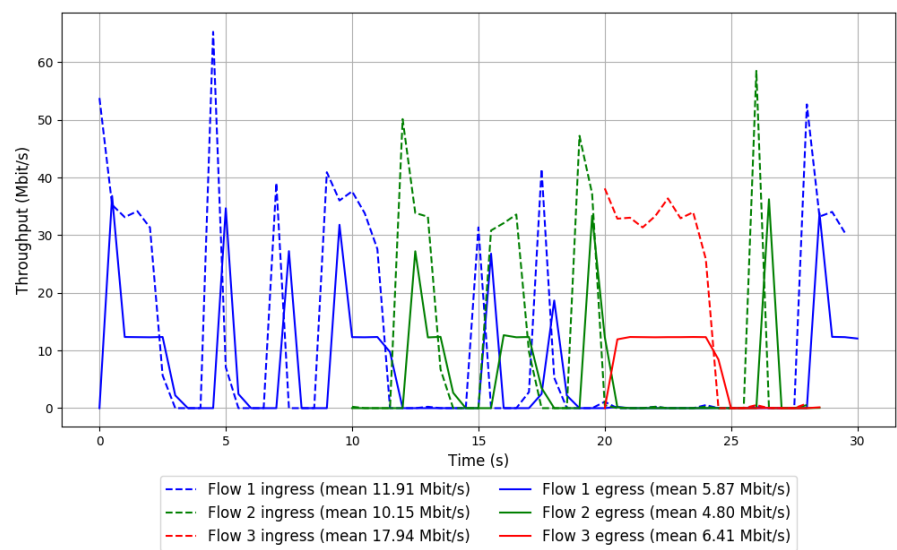
Run 3: Report of Copa — Data Link
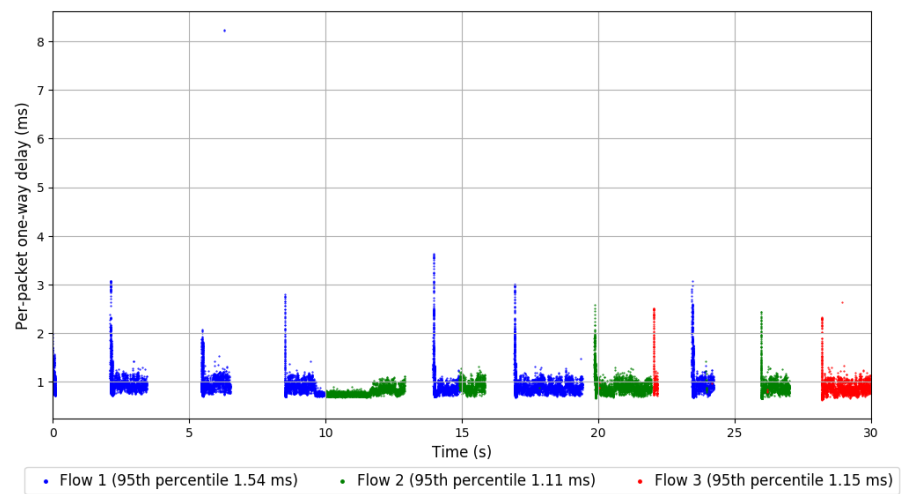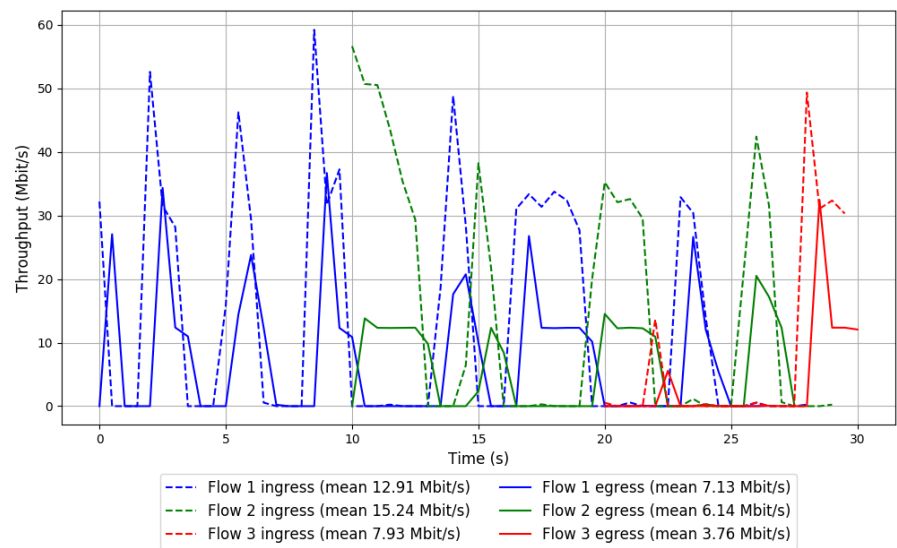
```
Run 4: Statistics of Copa

Start at: 2019-06-27 09:41:32
End at: 2019-06-27 09:42:02
Local clock offset: -0.322 ms
Remote clock offset: 0.072 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.61 Mbit/s
95th percentile per-packet one-way delay: 1.379 ms
Loss rate: 54.16%
-- Flow 1:
Average throughput: 5.87 Mbit/s
95th percentile per-packet one-way delay: 1.433 ms
Loss rate: 50.70%
-- Flow 2:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 1.505 ms
Loss rate: 52.66%
-- Flow 3:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 64.29%
```
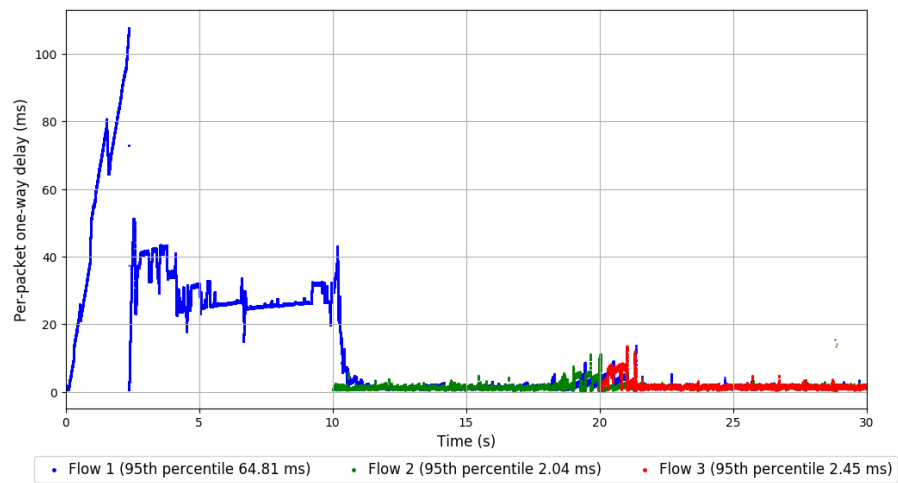
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 11.91 Mbit/s)   Flow 1 egress (mean 5.87 Mbit/s)
Flow 2 ingress (mean 10.15 Mbit/s)   Flow 2 egress (mean 4.80 Mbit/s)
Flow 3 ingress (mean 17.94 Mbit/s)   Flow 3 egress (mean 6.41 Mbit/s)

Flow 1 (95th percentile 1.43 ms)   Flow 2 (95th percentile 1.50 ms)   Flow 3 (95th percentile 1.13 ms)

```
Run 5: Statistics of Copa

Start at: 2019-06-27 10:13:28
End at: 2019-06-27 10:13:58
Local clock offset: 0.072 ms
Remote clock offset: -0.668 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 1.835 ms
Loss rate: 54.42%
-- Flow 1:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 1.835 ms
Loss rate: 51.56%
-- Flow 2:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: 1.761 ms
Loss rate: 55.99%
-- Flow 3:
Average throughput: 5.65 Mbit/s
95th percentile per-packet one-way delay: 2.015 ms
Loss rate: 58.46%
```
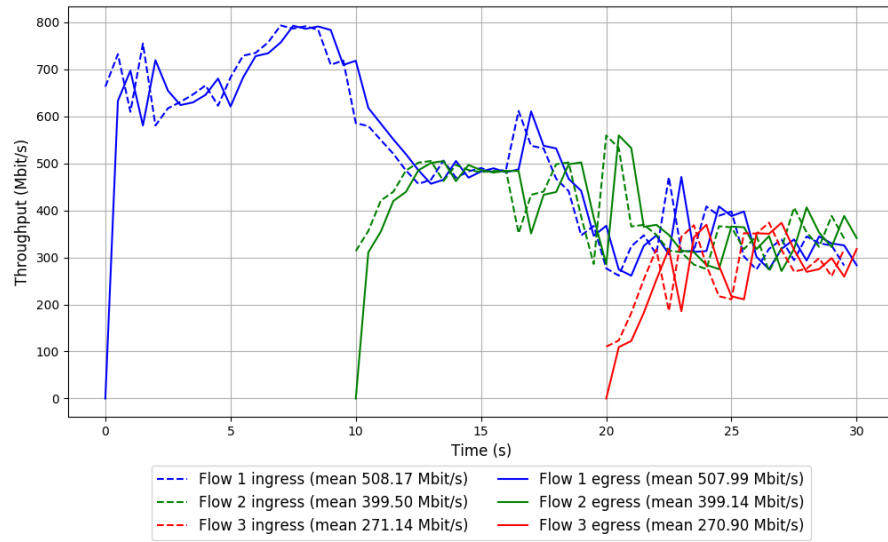
Run 5: Report of Copa — Data Link
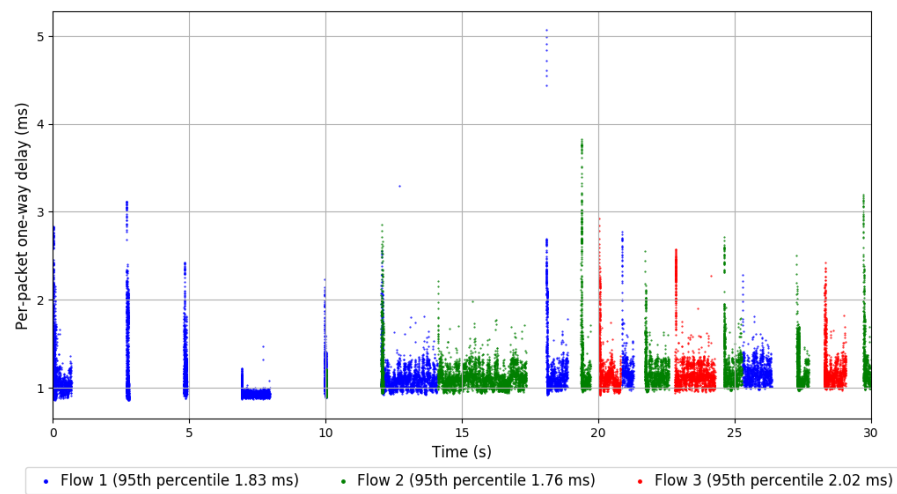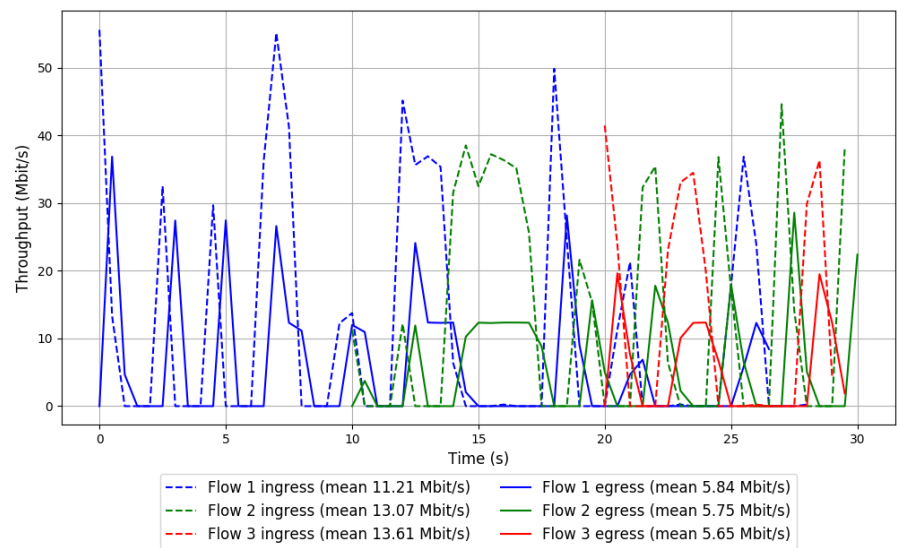
```
Run 1: Statistics of TCP Cubic

Start at: 2019-06-27 07:37:16
End at: 2019-06-27 07:37:46
Local clock offset: -3.961 ms
Remote clock offset: 0.664 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 863.99 Mbit/s
95th percentile per-packet one-way delay: 41.312 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 507.99 Mbit/s
95th percentile per-packet one-way delay: 64.809 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 399.14 Mbit/s
95th percentile per-packet one-way delay: 2.036 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 270.90 Mbit/s
95th percentile per-packet one-way delay: 2.450 ms
Loss rate: 0.08%
```
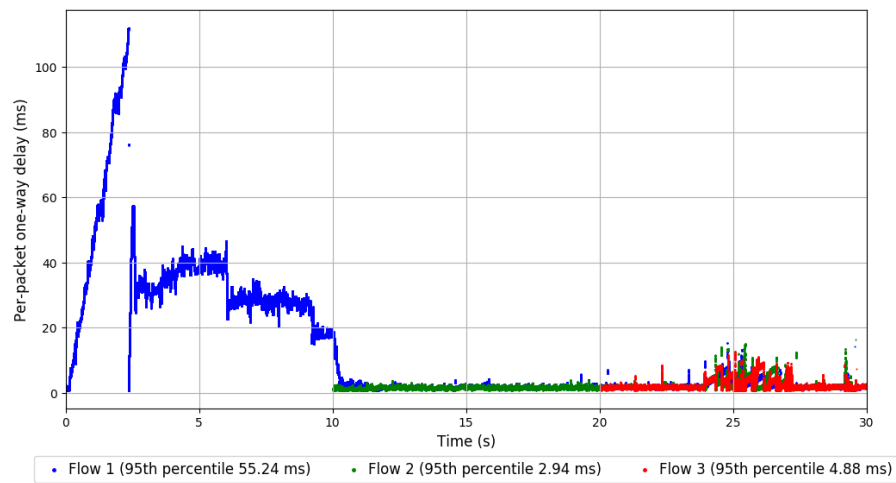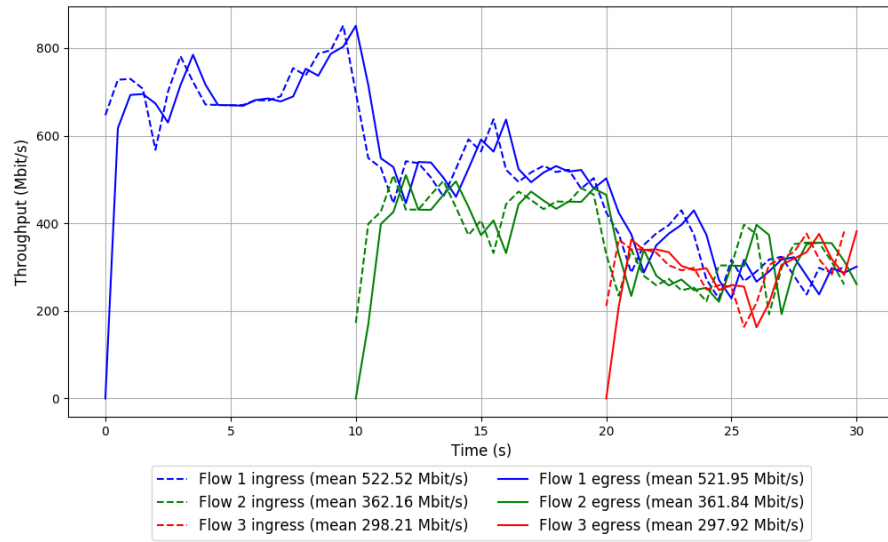
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 508.17 Mbit/s) — Flow 1 egress (mean 507.99 Mbit/s)
Flow 2 ingress (mean 399.50 Mbit/s) — Flow 2 egress (mean 399.14 Mbit/s)
Flow 3 ingress (mean 271.14 Mbit/s) — Flow 3 egress (mean 270.90 Mbit/s)

Flow 1 (95th percentile 64.81 ms)   Flow 2 (95th percentile 2.04 ms)   Flow 3 (95th percentile 2.45 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-06-27 08:08:47
End at: 2019-06-27 08:09:17
Local clock offset: -0.768 ms
Remote clock offset: -3.234 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 883.95 Mbit/s
95th percentile per-packet one-way delay: 18.540 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 523.68 Mbit/s
95th percentile per-packet one-way delay: 20.779 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 374.76 Mbit/s
95th percentile per-packet one-way delay: 4.734 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 332.69 Mbit/s
95th percentile per-packet one-way delay: 2.386 ms
Loss rate: 0.14%
```

Run 2: Report of TCP Cubic — Data Link
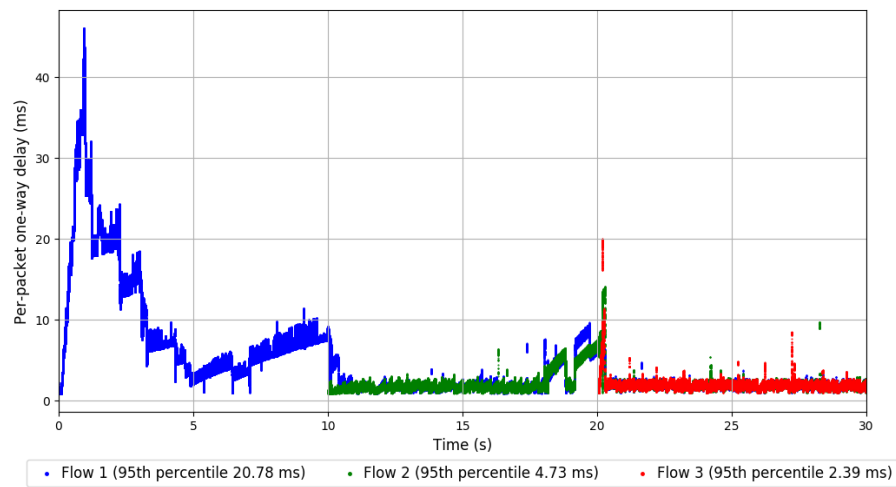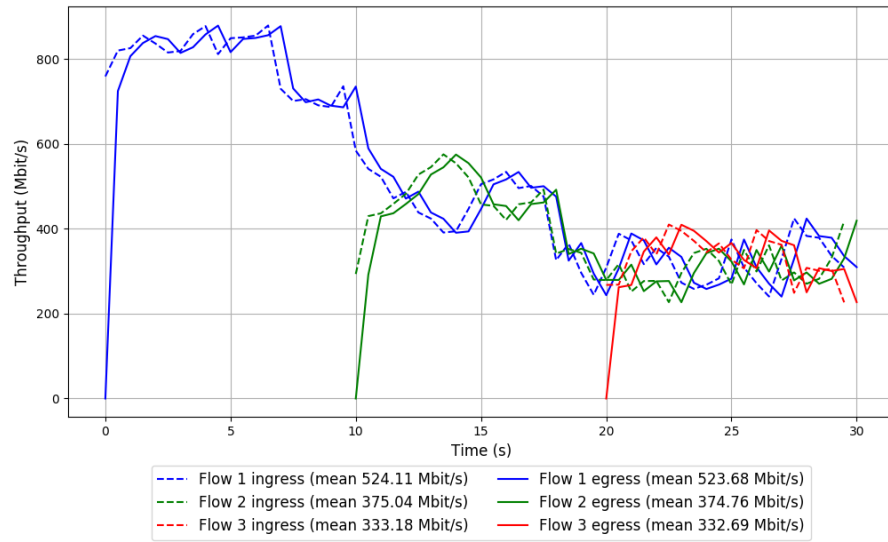
```
Run 3: Statistics of TCP Cubic

Start at: 2019-06-27 08:40:41
End at: 2019-06-27 08:41:11
Local clock offset: 3.393 ms
Remote clock offset: -3.238 ms


# Below is generated by plot.py at 2019-06-27 10:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 861.99 Mbit/s
95th percentile per-packet one-way delay: 40.992 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 521.95 Mbit/s
95th percentile per-packet one-way delay: 55.245 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 361.84 Mbit/s
95th percentile per-packet one-way delay: 2.941 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 297.92 Mbit/s
95th percentile per-packet one-way delay: 4.881 ms
Loss rate: 0.09%
```
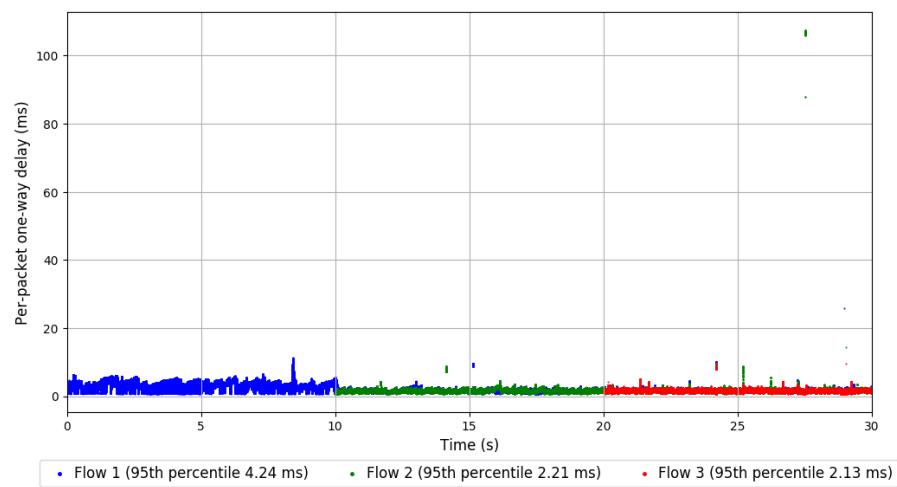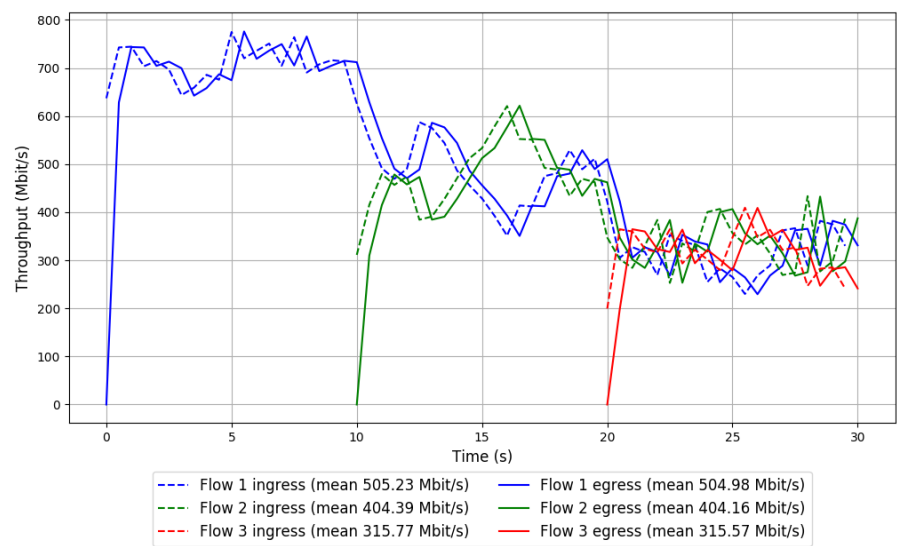
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 522.52 Mbit/s)   Flow 1 egress (mean 521.95 Mbit/s)
Flow 2 ingress (mean 362.16 Mbit/s)   Flow 2 egress (mean 361.84 Mbit/s)
Flow 3 ingress (mean 298.21 Mbit/s)   Flow 3 egress (mean 297.92 Mbit/s)

Flow 1 (95th percentile 55.24 ms)   Flow 2 (95th percentile 2.94 ms)   Flow 3 (95th percentile 4.88 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-06-27 09:12:25
End at: 2019-06-27 09:12:55
Local clock offset: -3.822 ms
Remote clock offset: -3.015 ms


# Below is generated by plot.py at 2019-06-27 10:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 834.33 Mbit/s
95th percentile per-packet one-way delay: 42.038 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 473.81 Mbit/s
95th percentile per-packet one-way delay: 58.928 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 371.89 Mbit/s
95th percentile per-packet one-way delay: 2.362 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 339.11 Mbit/s
95th percentile per-packet one-way delay: 2.101 ms
Loss rate: 0.05%
```

Run 4: Report of TCP Cubic — Data Link
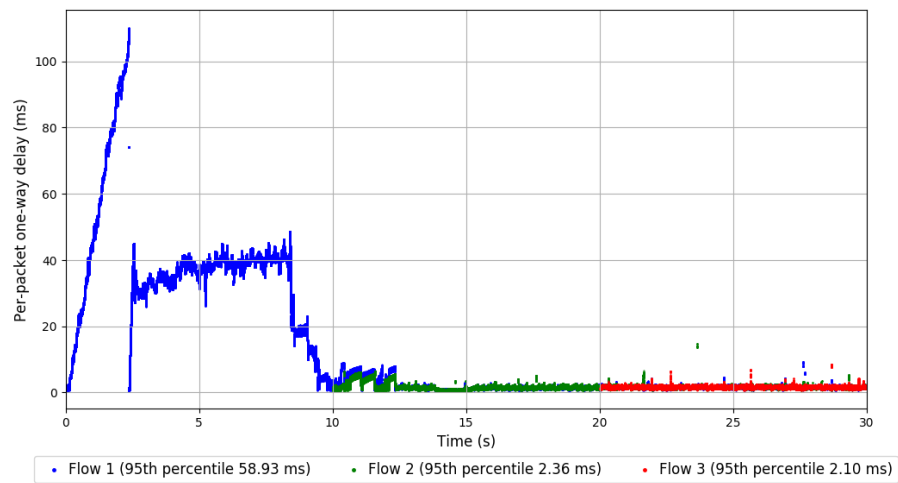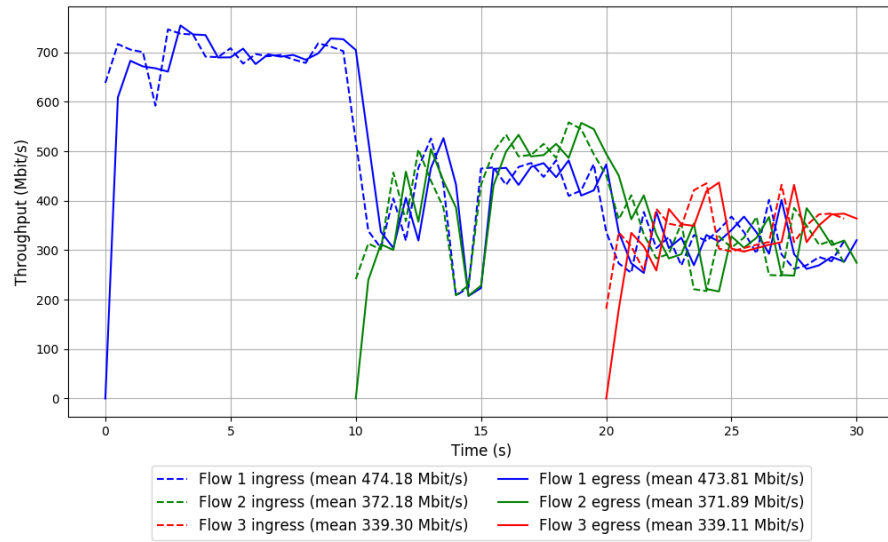
```
Run 5: Statistics of TCP Cubic

Start at: 2019-06-27 09:44:01
End at: 2019-06-27 09:44:32
Local clock offset: -0.257 ms
Remote clock offset: 0.543 ms


# Below is generated by plot.py at 2019-06-27 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.16 Mbit/s
95th percentile per-packet one-way delay: 3.948 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 504.98 Mbit/s
95th percentile per-packet one-way delay: 4.244 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 404.16 Mbit/s
95th percentile per-packet one-way delay: 2.210 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 315.57 Mbit/s
95th percentile per-packet one-way delay: 2.131 ms
Loss rate: 0.06%
```

Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 505.23 Mbit/s) --- Flow 1 egress (mean 504.98 Mbit/s)
Flow 2 ingress (mean 404.39 Mbit/s) --- Flow 2 egress (mean 404.16 Mbit/s)
Flow 3 ingress (mean 315.77 Mbit/s) --- Flow 3 egress (mean 315.57 Mbit/s)

Flow 1 (95th percentile 4.24 ms)   Flow 2 (95th percentile 2.21 ms)   Flow 3 (95th percentile 2.13 ms)

```
Run 1: Statistics of FillP

Start at: 2019-06-27 07:47:26
End at: 2019-06-27 07:47:56
Local clock offset: -5.299 ms
Remote clock offset: 1.354 ms


# Below is generated by plot.py at 2019-06-27 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 581.71 Mbit/s
95th percentile per-packet one-way delay: 6.893 ms
Loss rate: 10.25%
-- Flow 1:
Average throughput: 412.71 Mbit/s
95th percentile per-packet one-way delay: 8.027 ms
Loss rate: 8.01%
-- Flow 2:
Average throughput: 237.44 Mbit/s
95th percentile per-packet one-way delay: 4.602 ms
Loss rate: 15.71%
-- Flow 3:
Average throughput: 33.55 Mbit/s
95th percentile per-packet one-way delay: 2.226 ms
Loss rate: 8.29%
```

Run 1: Report of FillP — Data Link
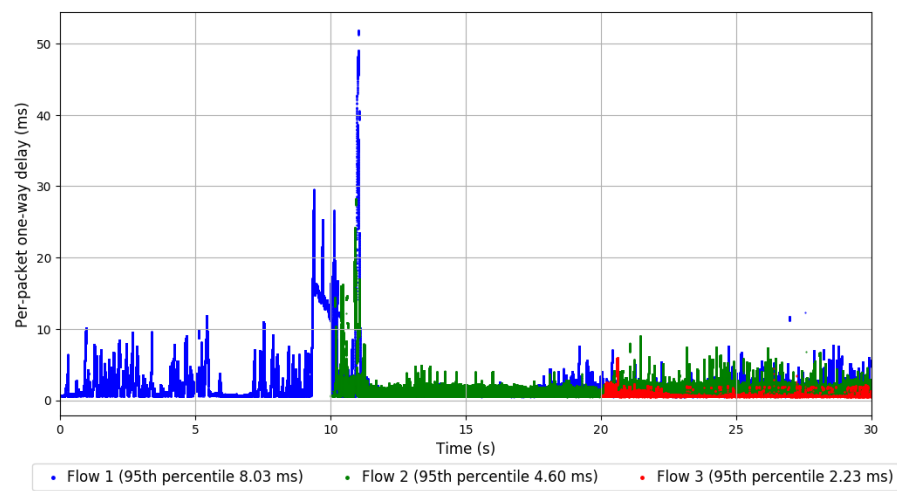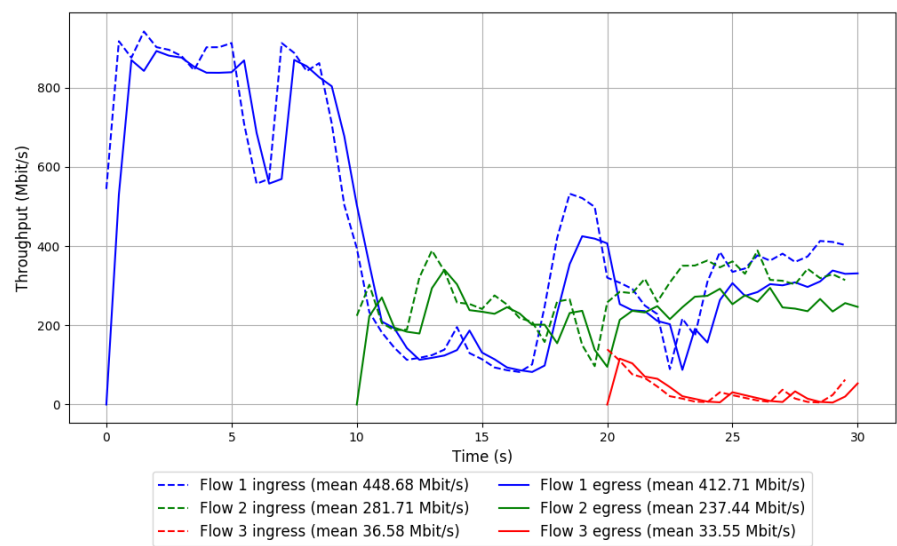
```
Run 2: Statistics of FillP

Start at: 2019-06-27 08:19:01
End at: 2019-06-27 08:19:31
Local clock offset: -0.392 ms
Remote clock offset: -4.012 ms


# Below is generated by plot.py at 2019-06-27 10:42:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 693.79 Mbit/s
95th percentile per-packet one-way delay: 6.712 ms
Loss rate: 10.78%
-- Flow 1:
Average throughput: 393.64 Mbit/s
95th percentile per-packet one-way delay: 9.161 ms
Loss rate: 8.03%
-- Flow 2:
Average throughput: 336.73 Mbit/s
95th percentile per-packet one-way delay: 4.559 ms
Loss rate: 12.78%
-- Flow 3:
Average throughput: 230.06 Mbit/s
95th percentile per-packet one-way delay: 5.147 ms
Loss rate: 17.95%
```

Run 2: Report of FillP — Data Link
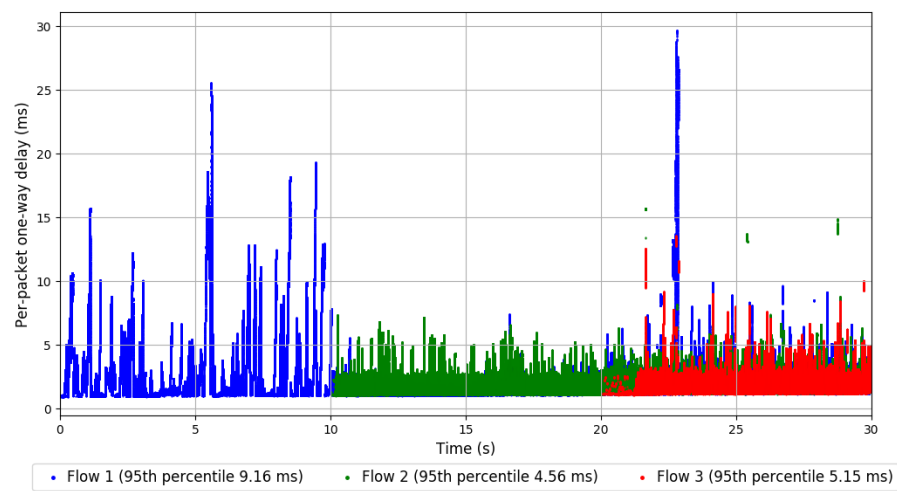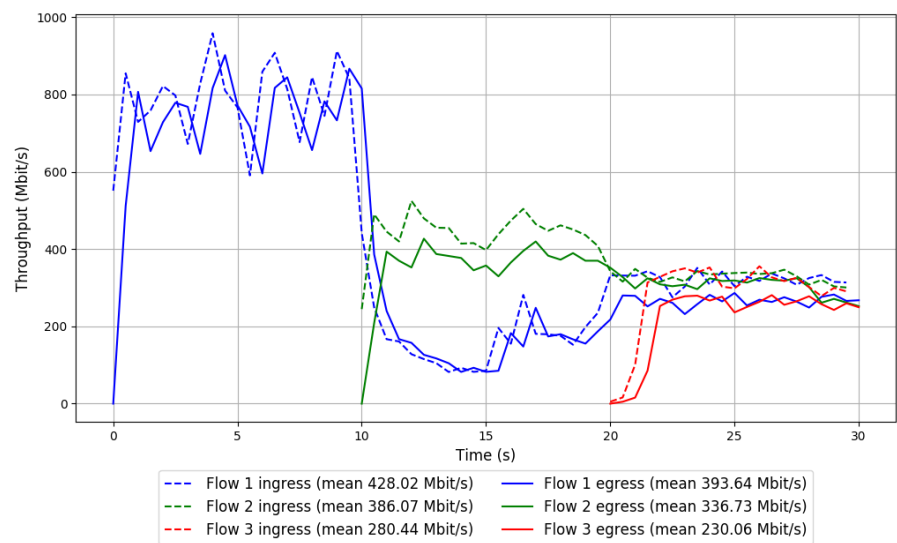
```
Run 3: Statistics of FillP

Start at: 2019-06-27 08:50:54
End at: 2019-06-27 08:51:24
Local clock offset: 2.186 ms
Remote clock offset: -3.217 ms


# Below is generated by plot.py at 2019-06-27 10:42:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 555.86 Mbit/s
95th percentile per-packet one-way delay: 7.263 ms
Loss rate: 5.76%
-- Flow 1:
Average throughput: 432.71 Mbit/s
95th percentile per-packet one-way delay: 8.060 ms
Loss rate: 6.93%
-- Flow 2:
Average throughput: 127.77 Mbit/s
95th percentile per-packet one-way delay: 2.235 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 115.38 Mbit/s
95th percentile per-packet one-way delay: 1.093 ms
Loss rate: 0.22%
```
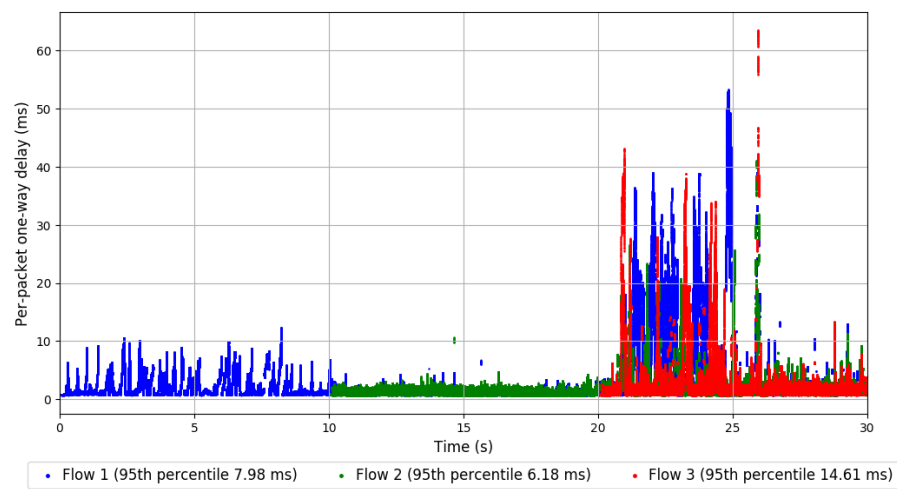
Run 3: Report of FillP — Data Link
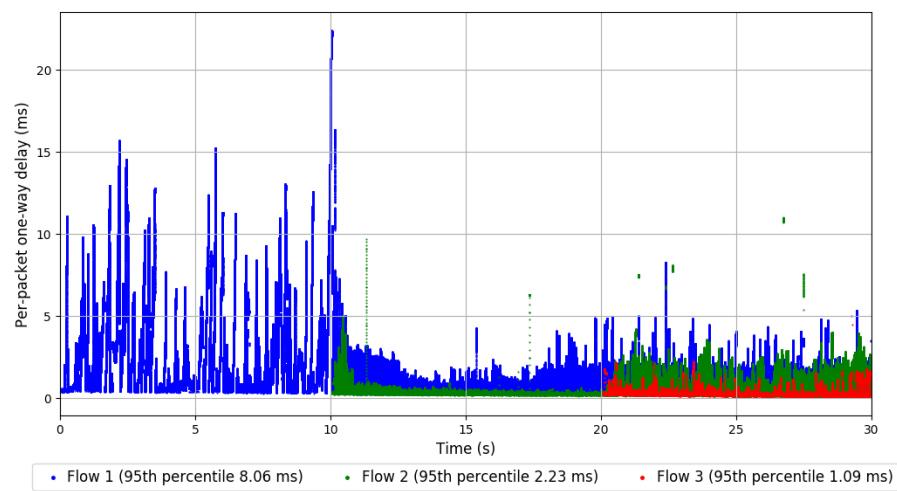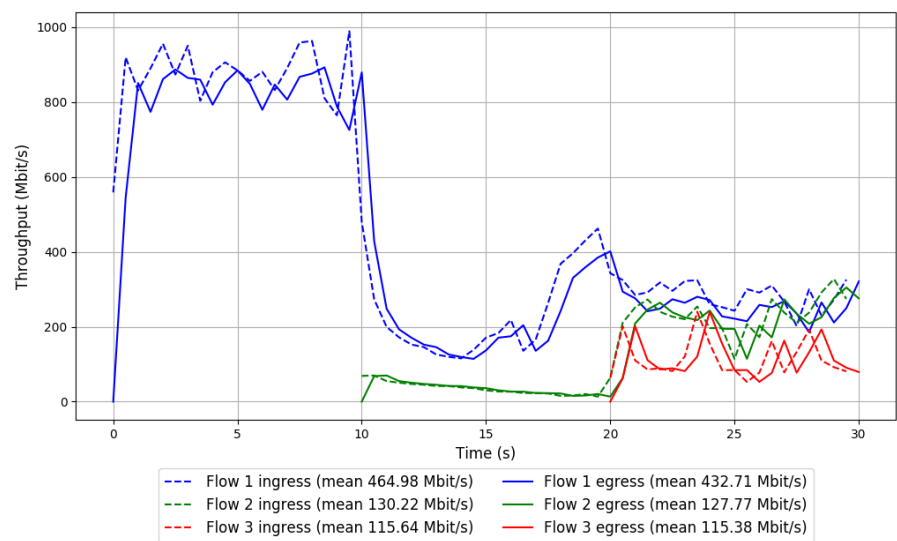
```
Run 4: Statistics of FillP

Start at: 2019-06-27 09:22:24
End at: 2019-06-27 09:22:54
Local clock offset: -2.804 ms
Remote clock offset: -3.008 ms


# Below is generated by plot.py at 2019-06-27 10:43:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.39 Mbit/s
95th percentile per-packet one-way delay: 16.623 ms
Loss rate: 6.27%
-- Flow 1:
Average throughput: 523.58 Mbit/s
95th percentile per-packet one-way delay: 18.897 ms
Loss rate: 3.24%
-- Flow 2:
Average throughput: 250.64 Mbit/s
95th percentile per-packet one-way delay: 6.856 ms
Loss rate: 11.44%
-- Flow 3:
Average throughput: 274.48 Mbit/s
95th percentile per-packet one-way delay: 5.069 ms
Loss rate: 12.66%
```
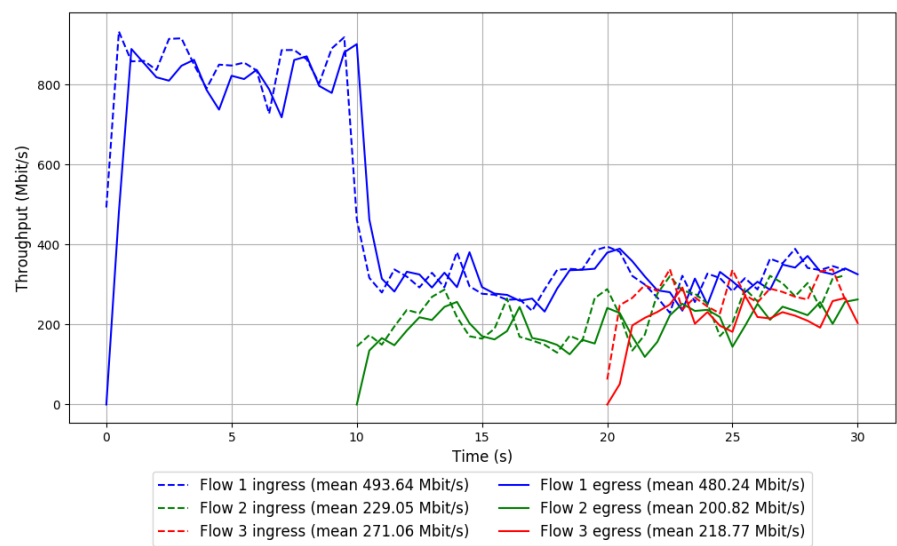
Run 4: Report of FillP — Data Link
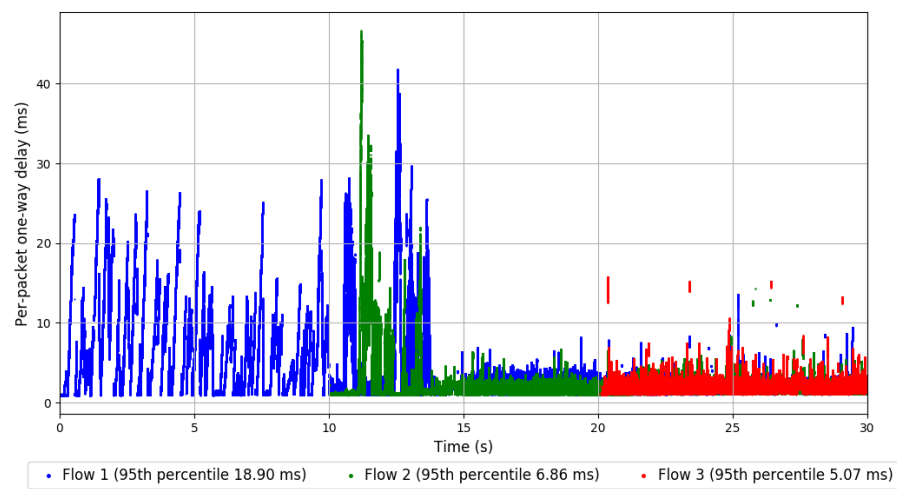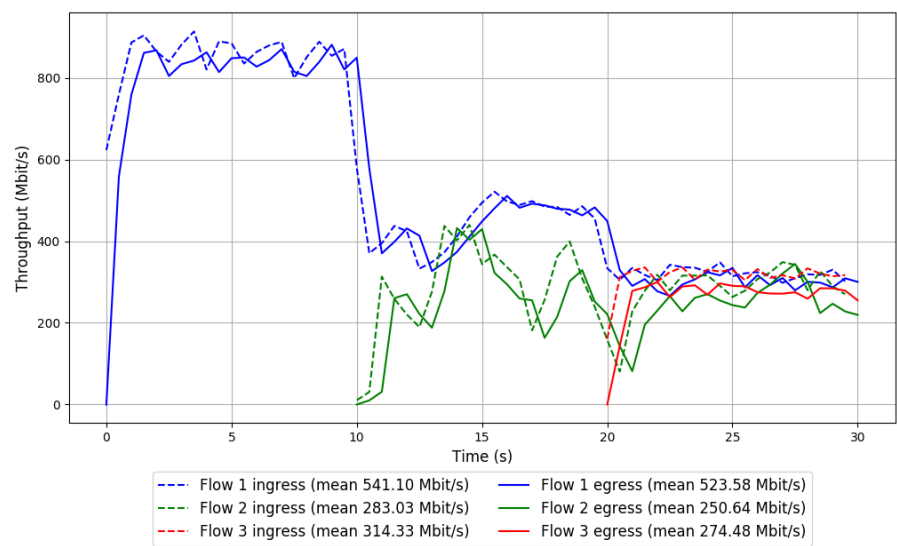
```
Run 5: Statistics of FillP

Start at: 2019-06-27 09:54:14
End at: 2019-06-27 09:54:44
Local clock offset: -0.116 ms
Remote clock offset: 1.812 ms


# Below is generated by plot.py at 2019-06-27 10:43:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 686.31 Mbit/s
95th percentile per-packet one-way delay: 8.125 ms
Loss rate: 6.72%
-- Flow 1:
Average throughput: 480.24 Mbit/s
95th percentile per-packet one-way delay: 7.984 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 200.82 Mbit/s
95th percentile per-packet one-way delay: 6.185 ms
Loss rate: 12.33%
-- Flow 3:
Average throughput: 218.77 Mbit/s
95th percentile per-packet one-way delay: 14.614 ms
Loss rate: 19.28%
```
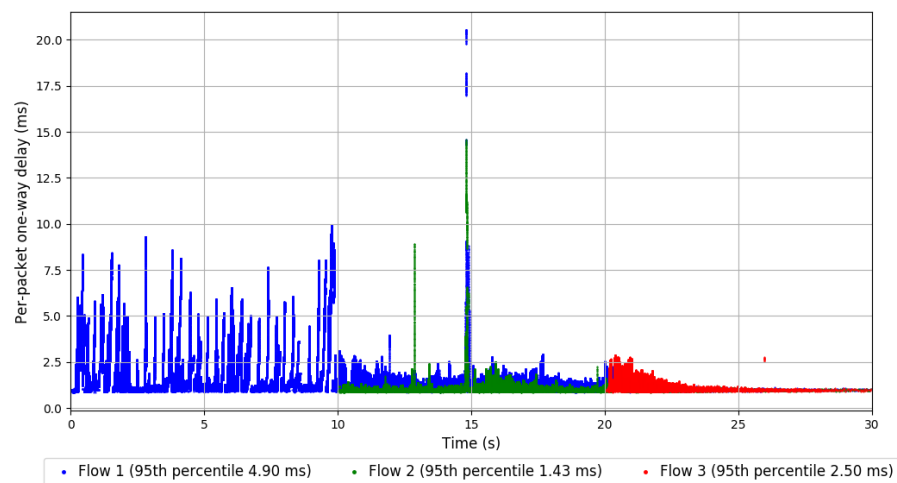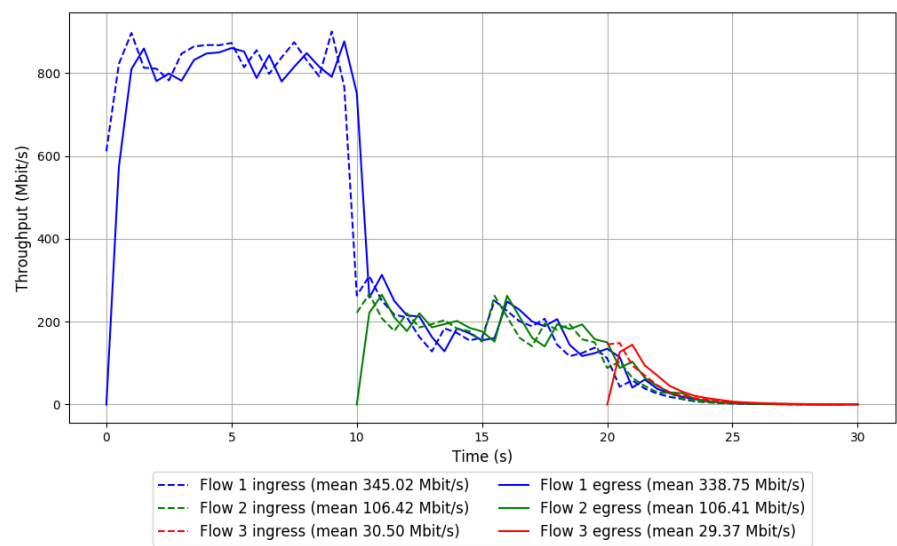
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 493.64 Mbit/s) --- Flow 1 egress (mean 480.24 Mbit/s)
Flow 2 ingress (mean 229.05 Mbit/s) --- Flow 2 egress (mean 200.82 Mbit/s)
Flow 3 ingress (mean 271.06 Mbit/s) --- Flow 3 egress (mean 218.77 Mbit/s)

Flow 1 (95th percentile 7.98 ms) • Flow 2 (95th percentile 6.18 ms) • Flow 3 (95th percentile 14.61 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-06-27 07:53:24
End at: 2019-06-27 07:53:54
Local clock offset: -3.211 ms
Remote clock offset: -0.312 ms


# Below is generated by plot.py at 2019-06-27 10:43:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.06 Mbit/s
95th percentile per-packet one-way delay: 4.408 ms
Loss rate: 3.77%
-- Flow 1:
Average throughput: 344.58 Mbit/s
95th percentile per-packet one-way delay: 4.552 ms
Loss rate: 3.98%
-- Flow 2:
Average throughput: 87.70 Mbit/s
95th percentile per-packet one-way delay: 3.537 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 18.91 Mbit/s
95th percentile per-packet one-way delay: 2.800 ms
Loss rate: 4.78%
```
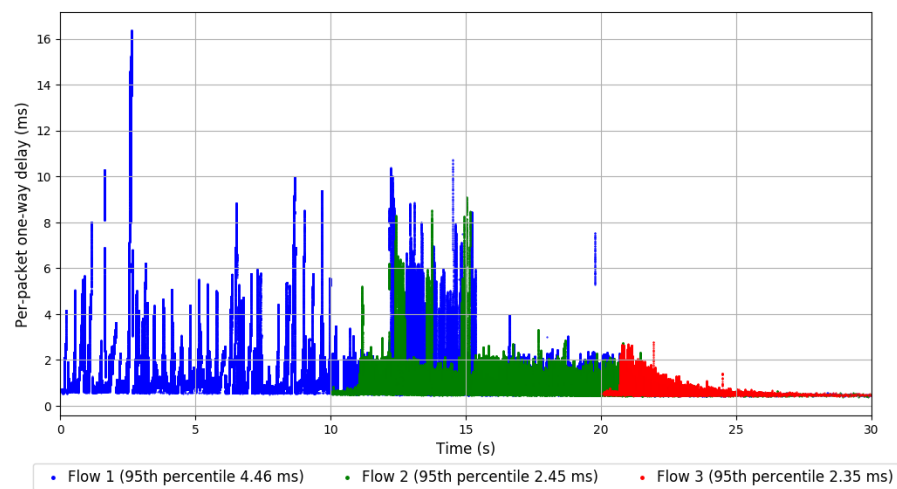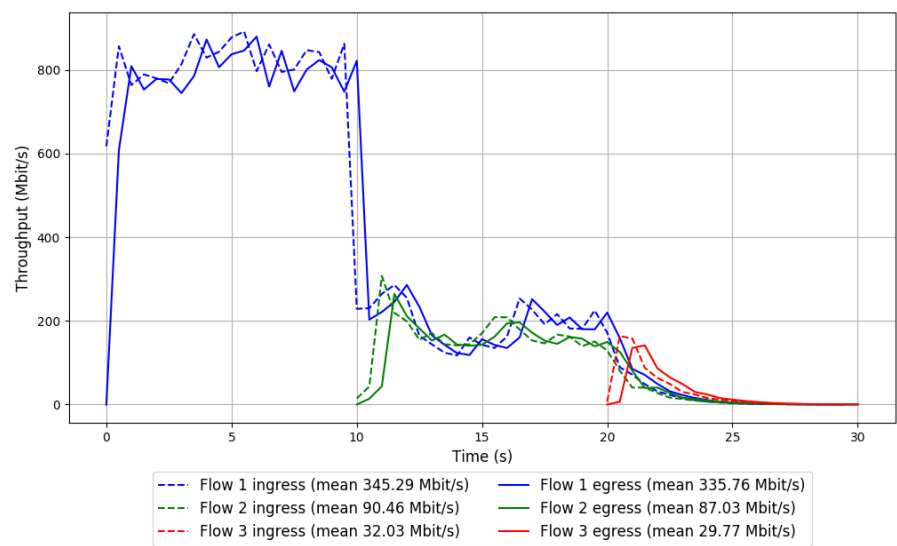
Run 1: Report of FillP-Sheep — Data Link
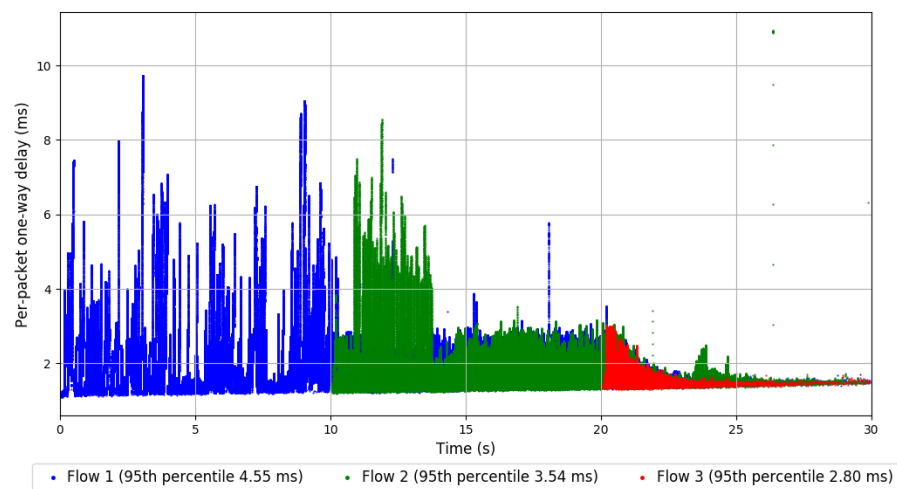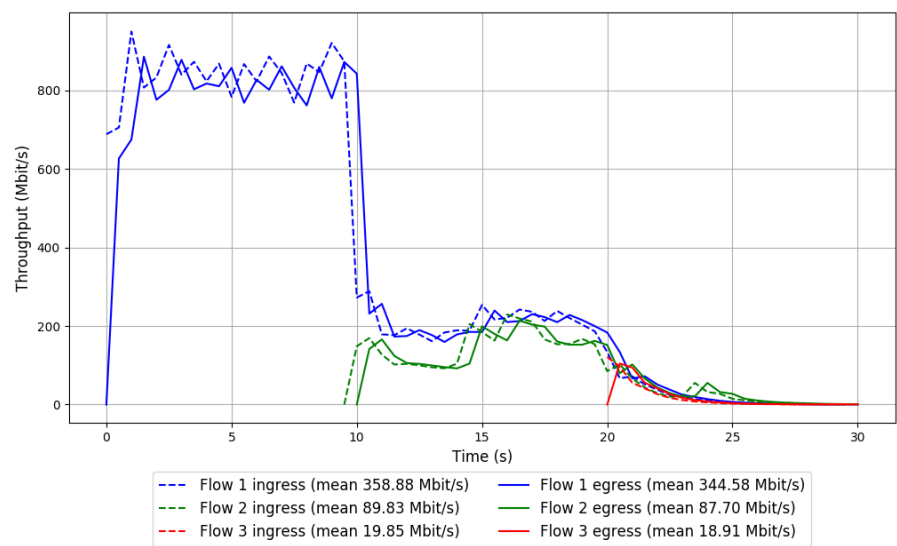
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-06-27 08:25:10
End at: 2019-06-27 08:25:40
Local clock offset: 1.492 ms
Remote clock offset: -3.905 ms


# Below is generated by plot.py at 2019-06-27 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.13 Mbit/s
95th percentile per-packet one-way delay: 4.544 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 338.75 Mbit/s
95th percentile per-packet one-way delay: 4.896 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 106.41 Mbit/s
95th percentile per-packet one-way delay: 1.425 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.37 Mbit/s
95th percentile per-packet one-way delay: 2.504 ms
Loss rate: 3.72%
```
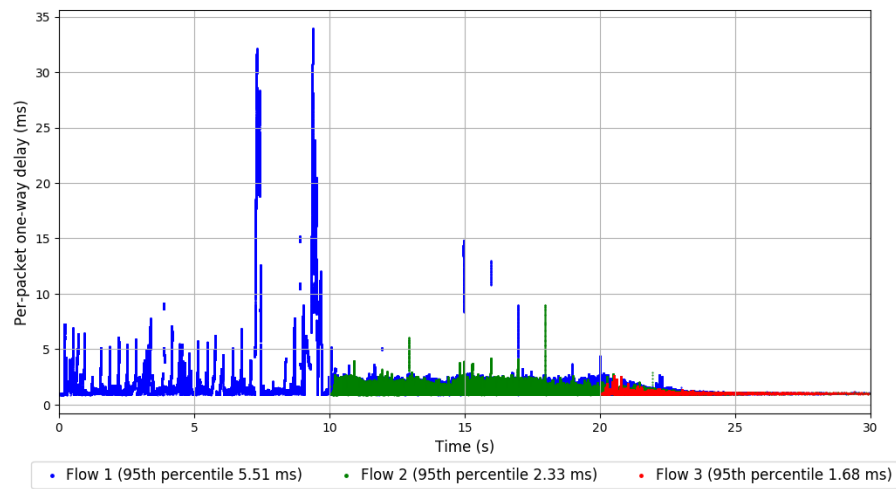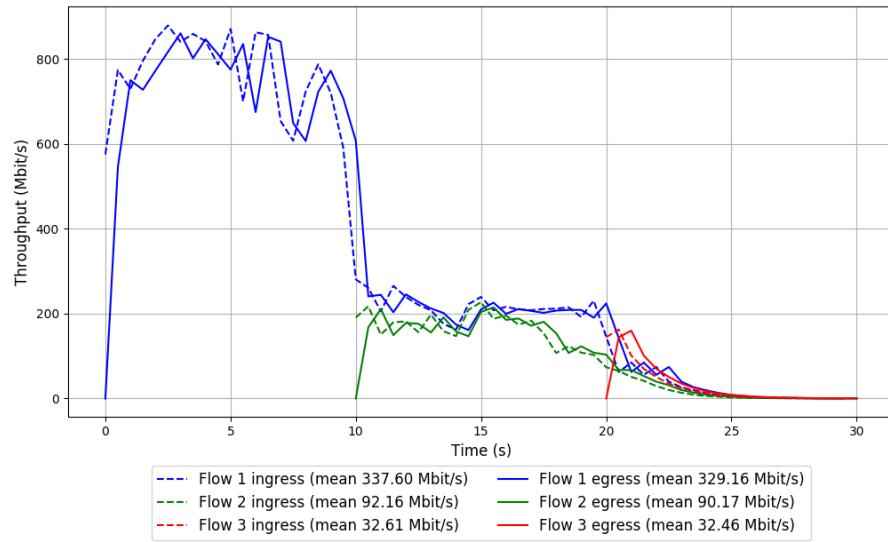
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 345.02 Mbit/s)   Flow 1 egress (mean 338.75 Mbit/s)
Flow 2 ingress (mean 106.42 Mbit/s)   Flow 2 egress (mean 106.41 Mbit/s)
Flow 3 ingress (mean 30.50 Mbit/s)   Flow 3 egress (mean 29.37 Mbit/s)

Flow 1 (95th percentile 4.90 ms)   Flow 2 (95th percentile 1.43 ms)   Flow 3 (95th percentile 2.50 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-06-27 08:56:52
End at: 2019-06-27 08:57:22
Local clock offset: -0.785 ms
Remote clock offset: -3.308 ms


# Below is generated by plot.py at 2019-06-27 10:45:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 403.28 Mbit/s
95th percentile per-packet one-way delay: 4.255 ms
Loss rate: 3.02%
-- Flow 1:
Average throughput: 335.76 Mbit/s
95th percentile per-packet one-way delay: 4.459 ms
Loss rate: 2.76%
-- Flow 2:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 2.448 ms
Loss rate: 3.80%
-- Flow 3:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 2.345 ms
Loss rate: 7.05%
```
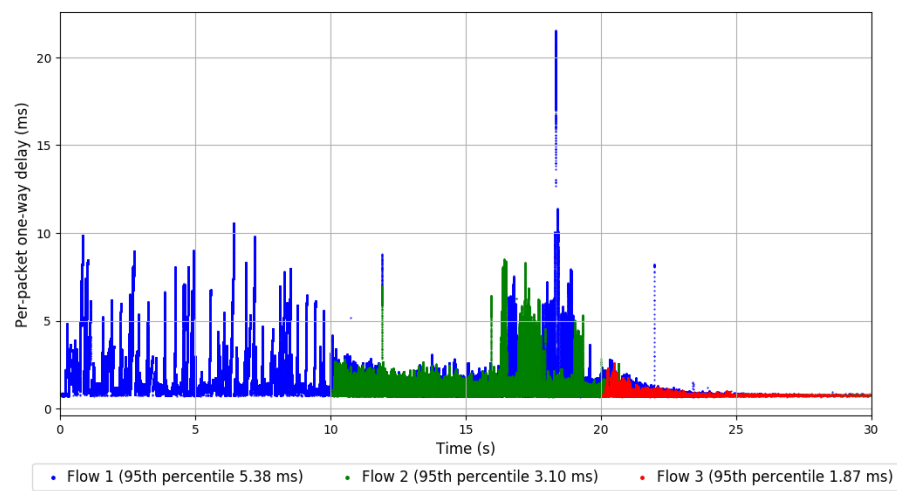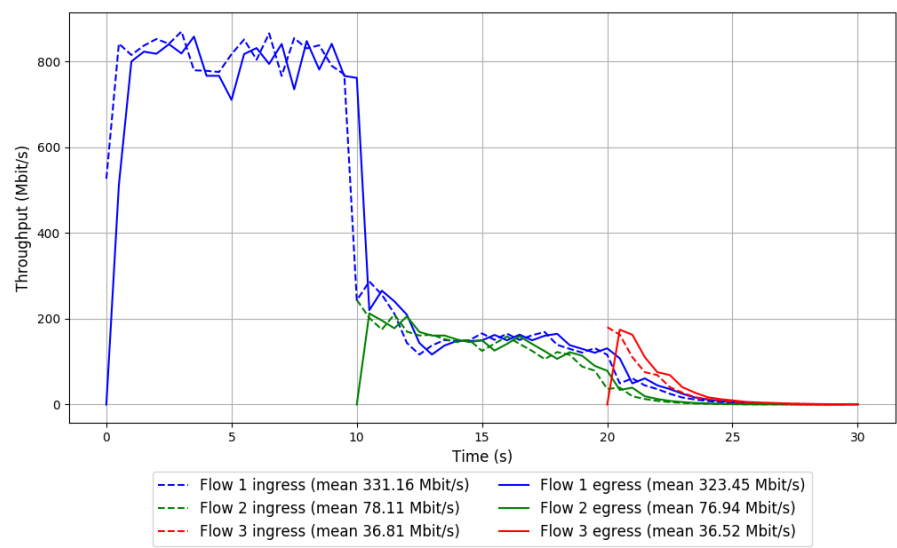
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 345.29 Mbit/s) --- Flow 1 egress (mean 335.76 Mbit/s)
Flow 2 ingress (mean 90.46 Mbit/s) --- Flow 2 egress (mean 87.03 Mbit/s)
Flow 3 ingress (mean 32.03 Mbit/s) --- Flow 3 egress (mean 29.77 Mbit/s)

Flow 1 (95th percentile 4.46 ms)   Flow 2 (95th percentile 2.45 ms)   Flow 3 (95th percentile 2.35 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-06-27 09:28:28
End at: 2019-06-27 09:28:58
Local clock offset: -1.419 ms
Remote clock offset: -3.011 ms


# Below is generated by plot.py at 2019-06-27 10:46:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.89 Mbit/s
95th percentile per-packet one-way delay: 4.874 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 329.16 Mbit/s
95th percentile per-packet one-way delay: 5.515 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 90.17 Mbit/s
95th percentile per-packet one-way delay: 2.332 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 1.678 ms
Loss rate: 0.46%
```

Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 337.60 Mbit/s) --- Flow 1 egress (mean 329.16 Mbit/s)
Flow 2 ingress (mean 92.16 Mbit/s) --- Flow 2 egress (mean 90.17 Mbit/s)
Flow 3 ingress (mean 32.61 Mbit/s) --- Flow 3 egress (mean 32.46 Mbit/s)

Flow 1 (95th percentile 5.51 ms)   Flow 2 (95th percentile 2.33 ms)   Flow 3 (95th percentile 1.68 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-06-27 10:00:18
End at: 2019-06-27 10:00:48
Local clock offset: -0.055 ms
Remote clock offset: 2.361 ms


# Below is generated by plot.py at 2019-06-27 10:47:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.53 Mbit/s
95th percentile per-packet one-way delay: 5.063 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 323.45 Mbit/s
95th percentile per-packet one-way delay: 5.383 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 3.100 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 36.52 Mbit/s
95th percentile per-packet one-way delay: 1.874 ms
Loss rate: 0.80%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 331.16 Mbit/s)   Flow 1 egress (mean 323.45 Mbit/s)
Flow 2 ingress (mean 78.11 Mbit/s)   Flow 2 egress (mean 76.94 Mbit/s)
Flow 3 ingress (mean 36.81 Mbit/s)   Flow 3 egress (mean 36.52 Mbit/s)

Flow 1 (95th percentile 5.38 ms)   Flow 2 (95th percentile 3.10 ms)   Flow 3 (95th percentile 1.87 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-06-27 07:44:34
End at: 2019-06-27 07:45:04
Local clock offset: -4.983 ms
Remote clock offset: 1.215 ms


# Below is generated by plot.py at 2019-06-27 10:47:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 391.28 Mbit/s
95th percentile per-packet one-way delay: 1.325 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.28 Mbit/s
95th percentile per-packet one-way delay: 1.158 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 186.68 Mbit/s
95th percentile per-packet one-way delay: 1.368 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 185.56 Mbit/s
95th percentile per-packet one-way delay: 1.664 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link
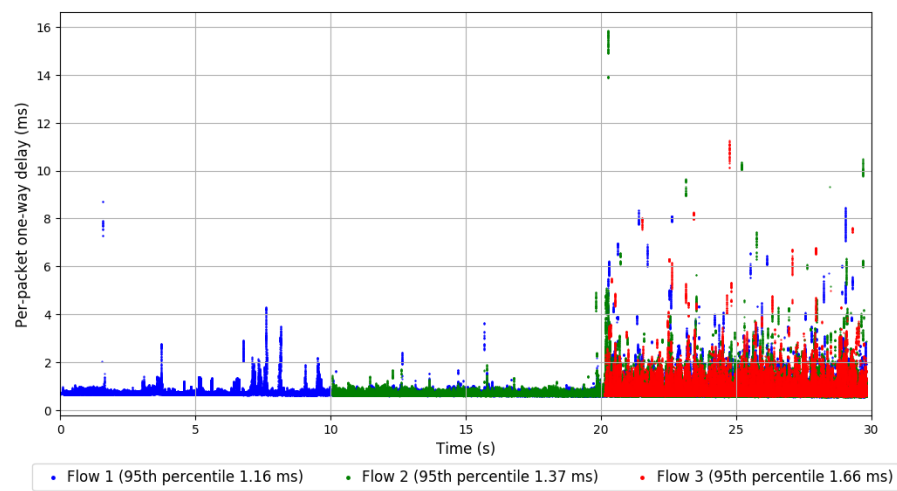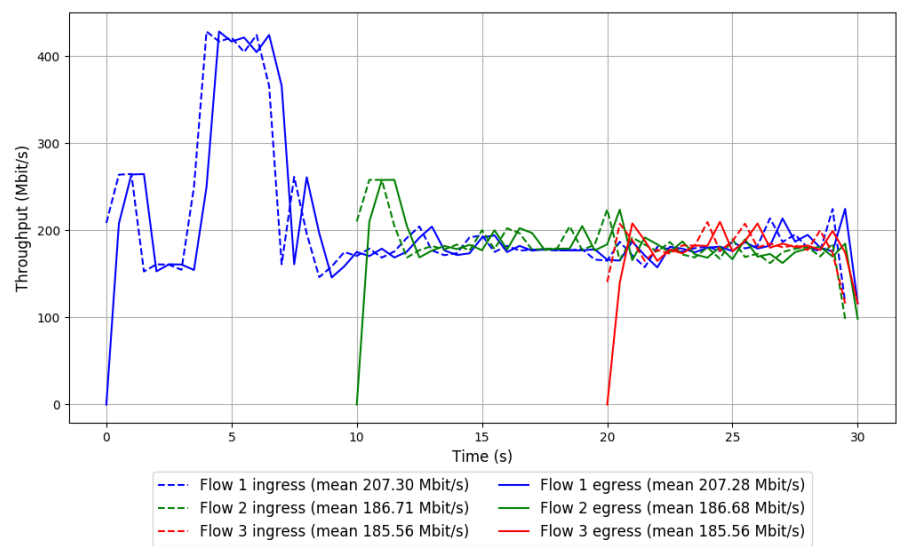
```
Run 2: Statistics of Indigo

Start at: 2019-06-27 08:16:09
End at: 2019-06-27 08:16:39
Local clock offset: -0.589 ms
Remote clock offset: -3.809 ms


# Below is generated by plot.py at 2019-06-27 10:47:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 370.24 Mbit/s
95th percentile per-packet one-way delay: 1.762 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 194.17 Mbit/s
95th percentile per-packet one-way delay: 1.592 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 185.35 Mbit/s
95th percentile per-packet one-way delay: 1.824 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 165.17 Mbit/s
95th percentile per-packet one-way delay: 2.064 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo — Data Link
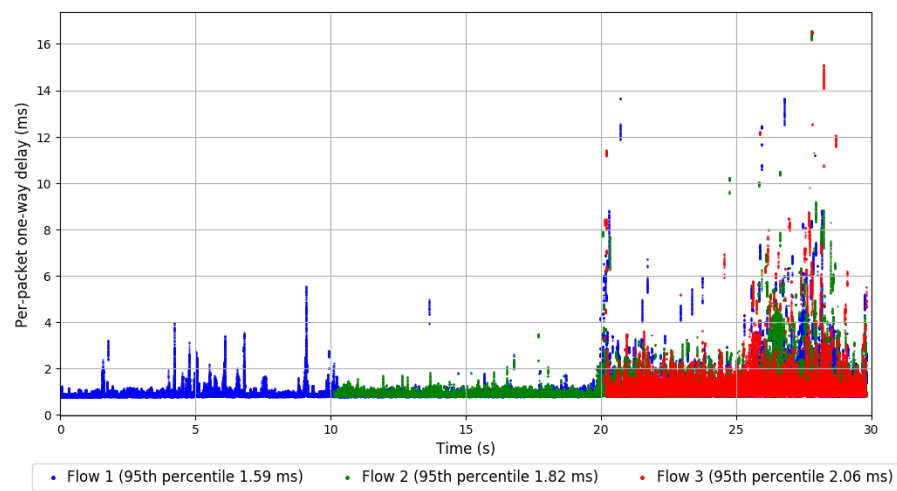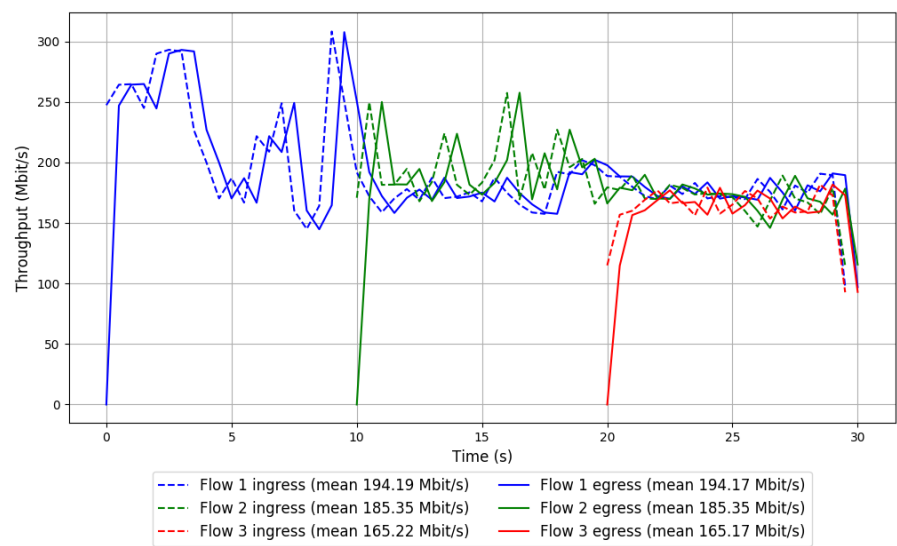
```
Run 3: Statistics of Indigo

Start at: 2019-06-27 08:48:01
End at: 2019-06-27 08:48:31
Local clock offset: 3.831 ms
Remote clock offset: -3.255 ms


# Below is generated by plot.py at 2019-06-27 10:47:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.53 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 198.52 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 188.37 Mbit/s
95th percentile per-packet one-way delay: 1.262 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.25 Mbit/s
95th percentile per-packet one-way delay: 1.536 ms
Loss rate: 0.01%
```

Run 3: Report of Indigo — Data Link
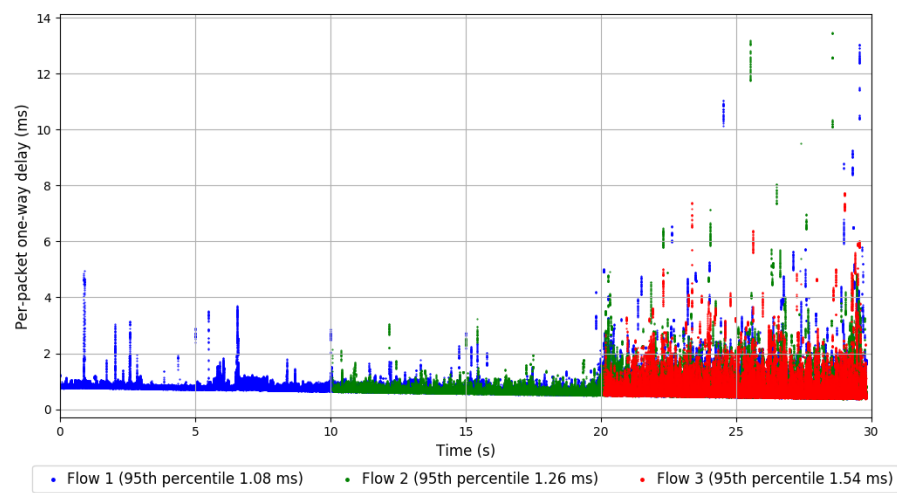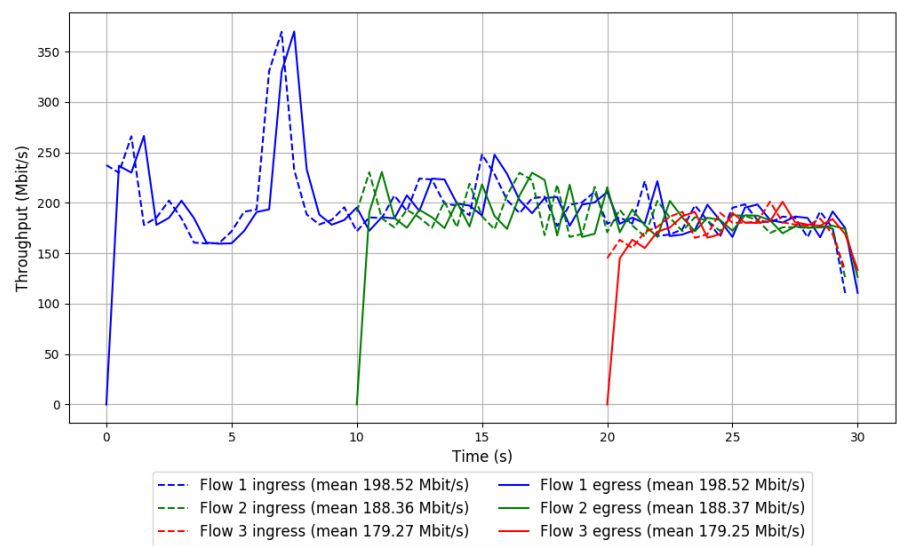
```
Run 4: Statistics of Indigo

Start at: 2019-06-27 09:19:31
End at: 2019-06-27 09:20:01
Local clock offset: -3.849 ms
Remote clock offset: -3.017 ms


# Below is generated by plot.py at 2019-06-27 10:48:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.42 Mbit/s
95th percentile per-packet one-way delay: 1.895 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 194.54 Mbit/s
95th percentile per-packet one-way delay: 1.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 189.77 Mbit/s
95th percentile per-packet one-way delay: 1.942 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 180.56 Mbit/s
95th percentile per-packet one-way delay: 2.233 ms
Loss rate: 0.01%
```
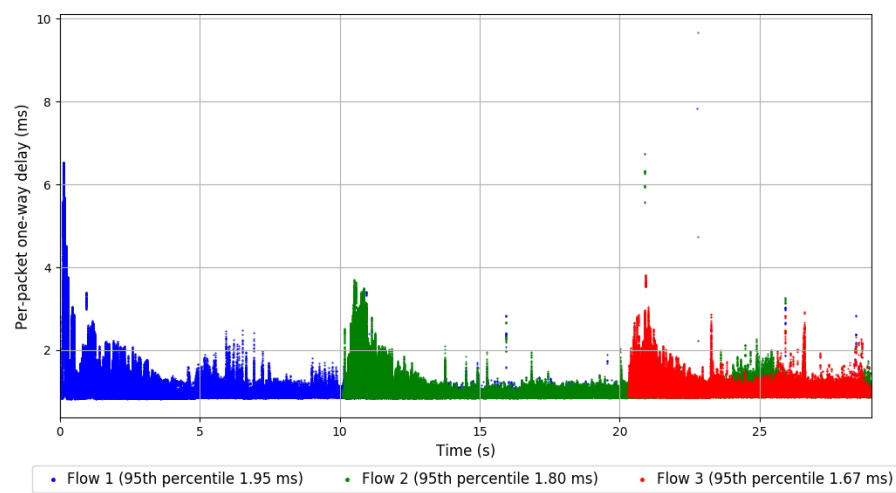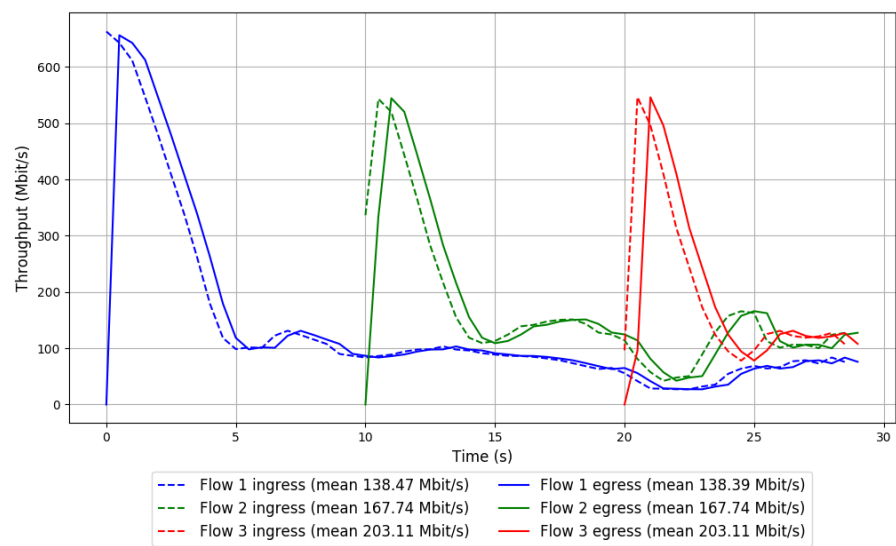
Run 4: Report of Indigo — Data Link
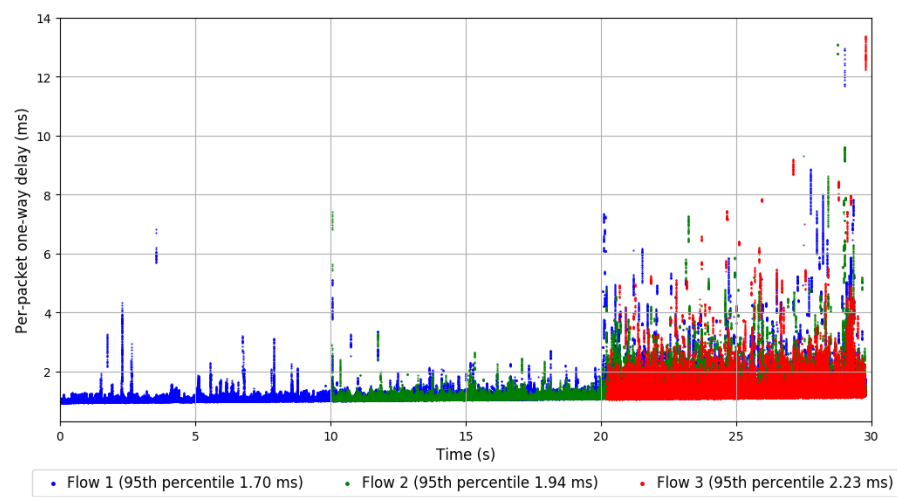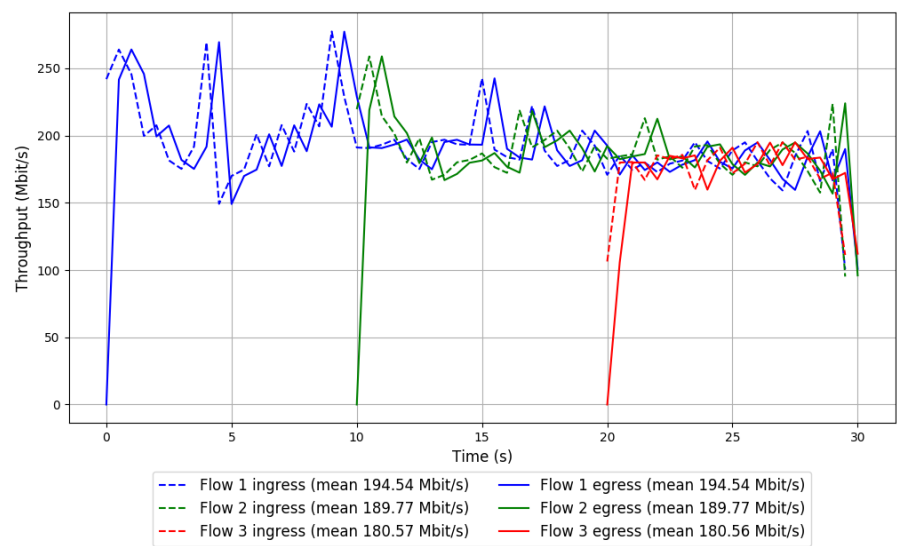
```
Run 5: Statistics of Indigo

Start at: 2019-06-27 09:51:21
End at: 2019-06-27 09:51:51
Local clock offset: -0.144 ms
Remote clock offset: 1.478 ms


# Below is generated by plot.py at 2019-06-27 10:48:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.51 Mbit/s
95th percentile per-packet one-way delay: 1.474 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.46 Mbit/s
95th percentile per-packet one-way delay: 1.334 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 186.69 Mbit/s
95th percentile per-packet one-way delay: 1.483 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 183.02 Mbit/s
95th percentile per-packet one-way delay: 1.798 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link
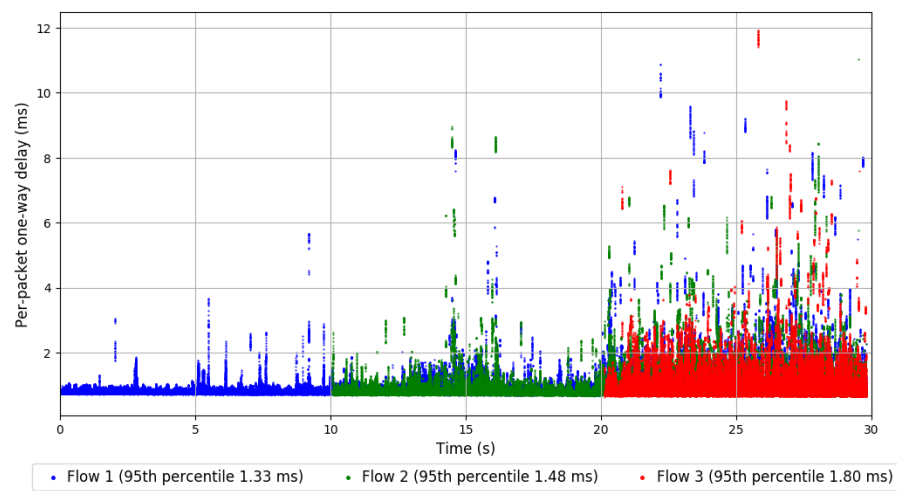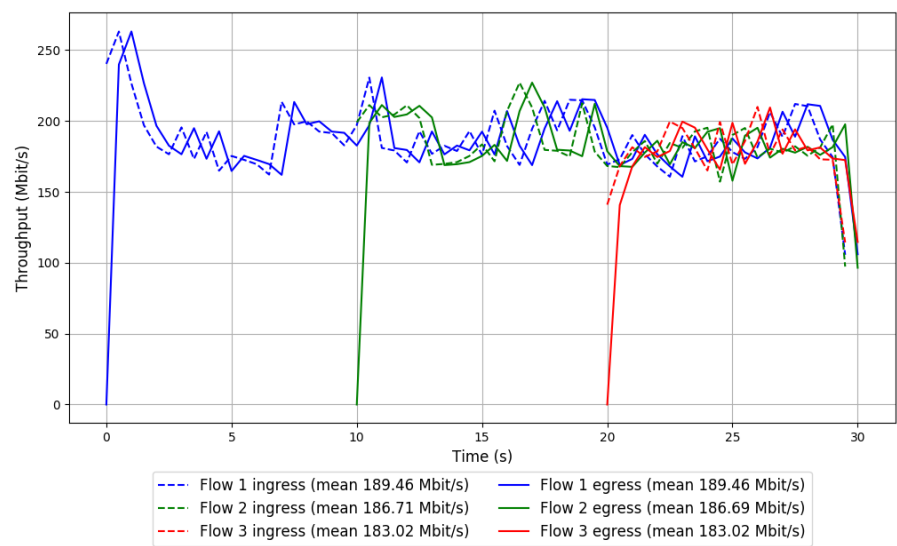
```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-06-27 07:54:50
End at: 2019-06-27 07:55:20
Local clock offset: -2.761 ms
Remote clock offset: -0.822 ms


# Below is generated by plot.py at 2019-06-27 10:49:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.09 Mbit/s
95th percentile per-packet one-way delay: 2.170 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 130.76 Mbit/s
95th percentile per-packet one-way delay: 1.775 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 203.91 Mbit/s
95th percentile per-packet one-way delay: 2.180 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 247.82 Mbit/s
95th percentile per-packet one-way delay: 2.688 ms
Loss rate: 0.00%
```

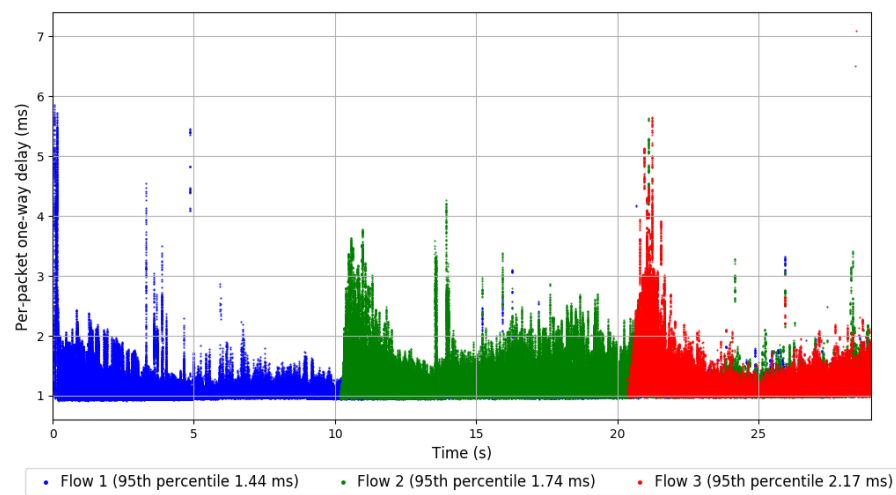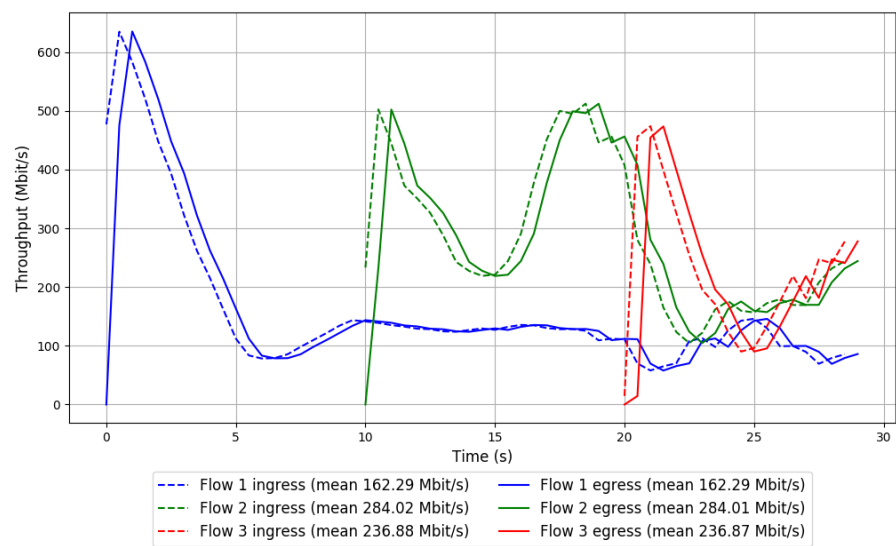Run 1: Report of Indigo-MusesC3 — Data Link
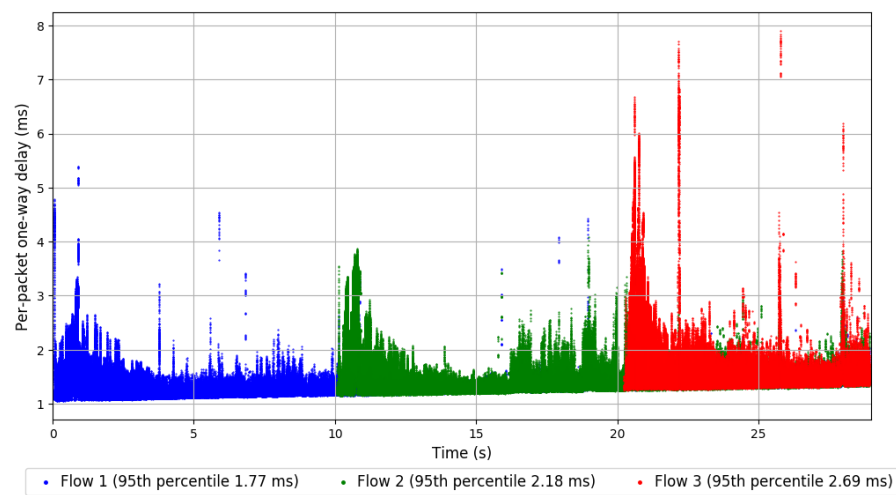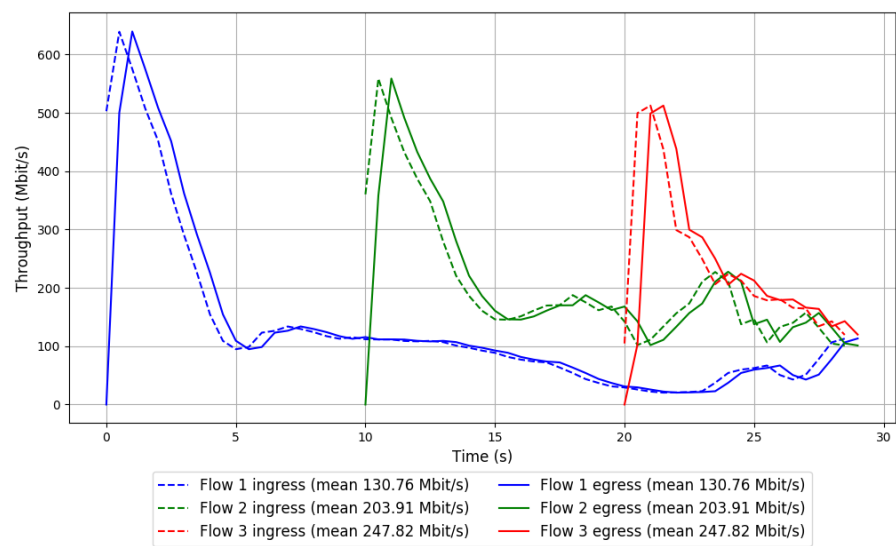
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-06-27 08:26:36
End at: 2019-06-27 08:27:06
Local clock offset: 1.835 ms
Remote clock offset: -3.744 ms


# Below is generated by plot.py at 2019-06-27 10:49:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.43 Mbit/s
95th percentile per-packet one-way delay: 1.809 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 138.39 Mbit/s
95th percentile per-packet one-way delay: 1.949 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 167.74 Mbit/s
95th percentile per-packet one-way delay: 1.804 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 203.11 Mbit/s
95th percentile per-packet one-way delay: 1.668 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 138.47 Mbit/s) --- Flow 1 egress (mean 138.39 Mbit/s)
Flow 2 ingress (mean 167.74 Mbit/s) --- Flow 2 egress (mean 167.74 Mbit/s)
Flow 3 ingress (mean 203.11 Mbit/s) --- Flow 3 egress (mean 203.11 Mbit/s)

Flow 1 (95th percentile 1.95 ms)   Flow 2 (95th percentile 1.80 ms)   Flow 3 (95th percentile 1.67 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-06-27 08:58:18
End at: 2019-06-27 08:58:48
Local clock offset: -1.274 ms
Remote clock offset: -3.222 ms


# Below is generated by plot.py at 2019-06-27 10:50:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.92 Mbit/s
95th percentile per-packet one-way delay: 1.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 175.24 Mbit/s
95th percentile per-packet one-way delay: 1.407 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.20 Mbit/s
95th percentile per-packet one-way delay: 1.492 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 239.39 Mbit/s
95th percentile per-packet one-way delay: 1.349 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC3 — Data Link
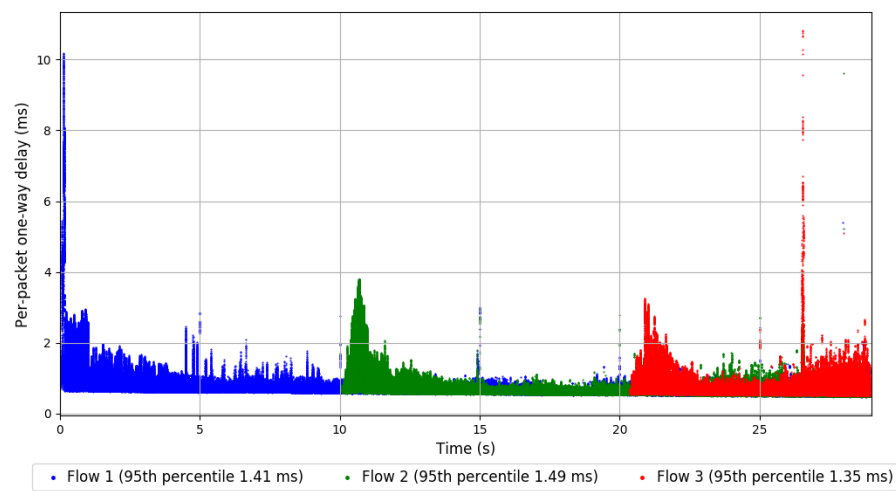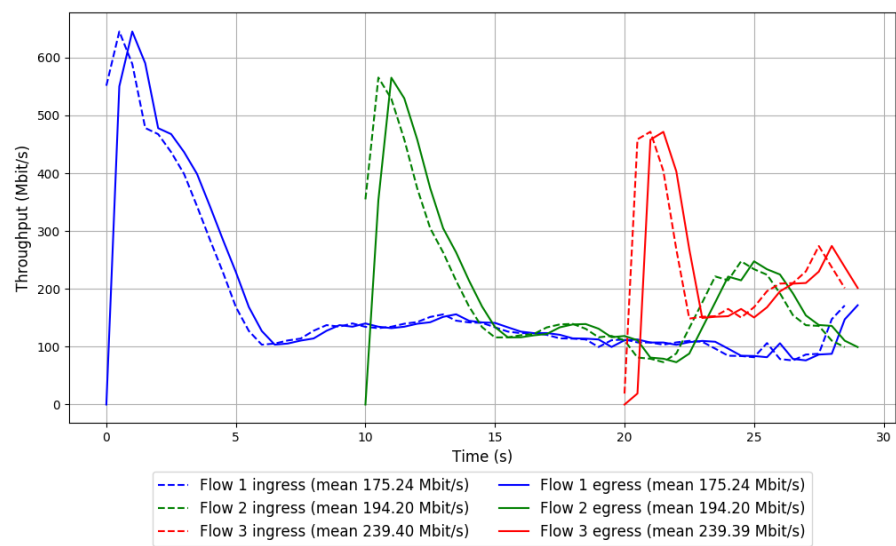
```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-06-27 09:29:54
End at: 2019-06-27 09:30:24
Local clock offset: -1.234 ms
Remote clock offset: -3.012 ms


# Below is generated by plot.py at 2019-06-27 10:51:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 416.85 Mbit/s
95th percentile per-packet one-way delay: 1.715 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 162.29 Mbit/s
95th percentile per-packet one-way delay: 1.441 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 284.01 Mbit/s
95th percentile per-packet one-way delay: 1.744 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 236.87 Mbit/s
95th percentile per-packet one-way delay: 2.169 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-06-27 10:01:43
End at: 2019-06-27 10:02:13
Local clock offset: -0.014 ms
Remote clock offset: 2.482 ms


# Below is generated by plot.py at 2019-06-27 10:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 546.89 Mbit/s
95th percentile per-packet one-way delay: 1.778 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 341.75 Mbit/s
95th percentile per-packet one-way delay: 1.820 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 215.52 Mbit/s
95th percentile per-packet one-way delay: 1.681 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 225.83 Mbit/s
95th percentile per-packet one-way delay: 1.764 ms
Loss rate: 0.01%
```

Run 5: Report of Indigo-MusesC3 — Data Link
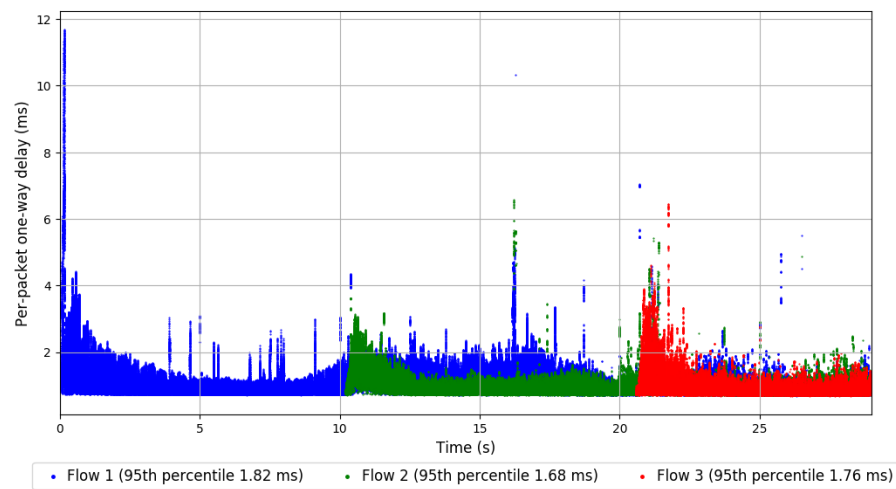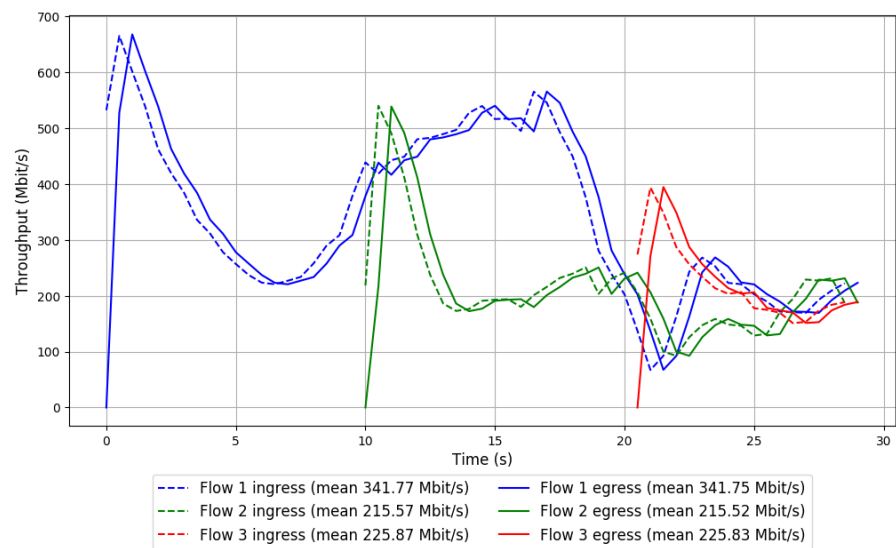
```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-06-27 07:48:59
End at: 2019-06-27 07:49:29
Local clock offset: -5.219 ms
Remote clock offset: 1.467 ms


# Below is generated by plot.py at 2019-06-27 10:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.30 Mbit/s
95th percentile per-packet one-way delay: 1.979 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 60.22 Mbit/s
95th percentile per-packet one-way delay: 1.757 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 81.80 Mbit/s
95th percentile per-packet one-way delay: 2.144 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 28.52 Mbit/s
95th percentile per-packet one-way delay: 2.309 ms
Loss rate: 0.00%
```
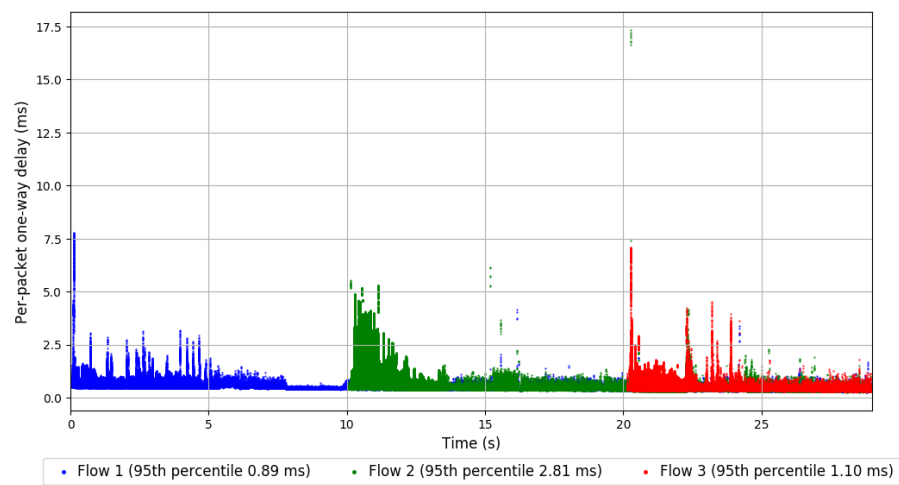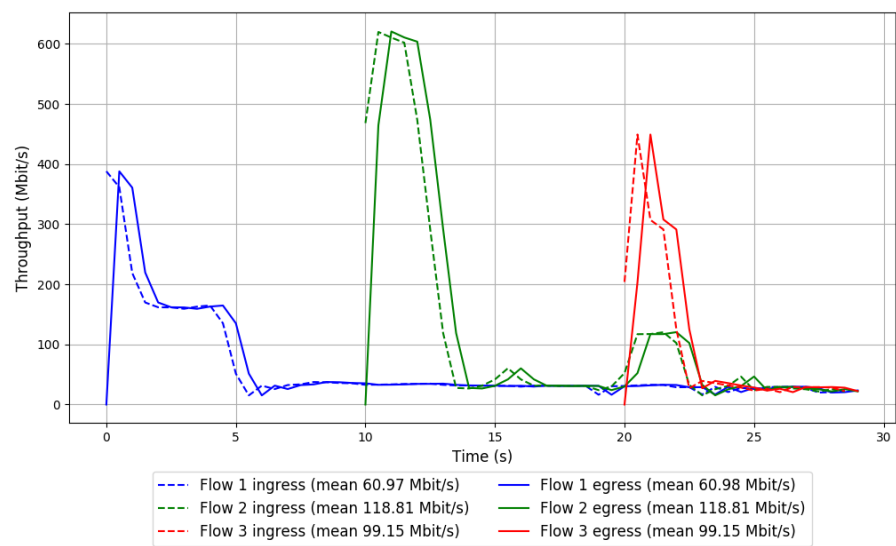
Run 1: Report of Indigo-MusesC5 — Data Link
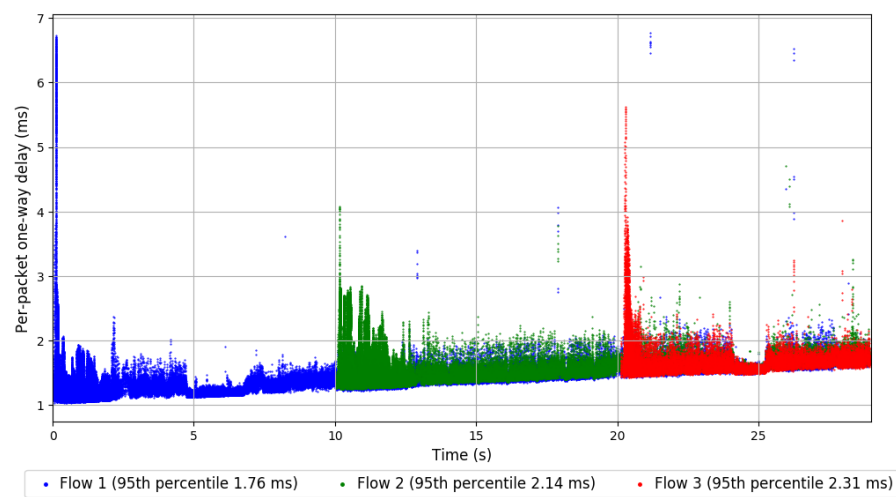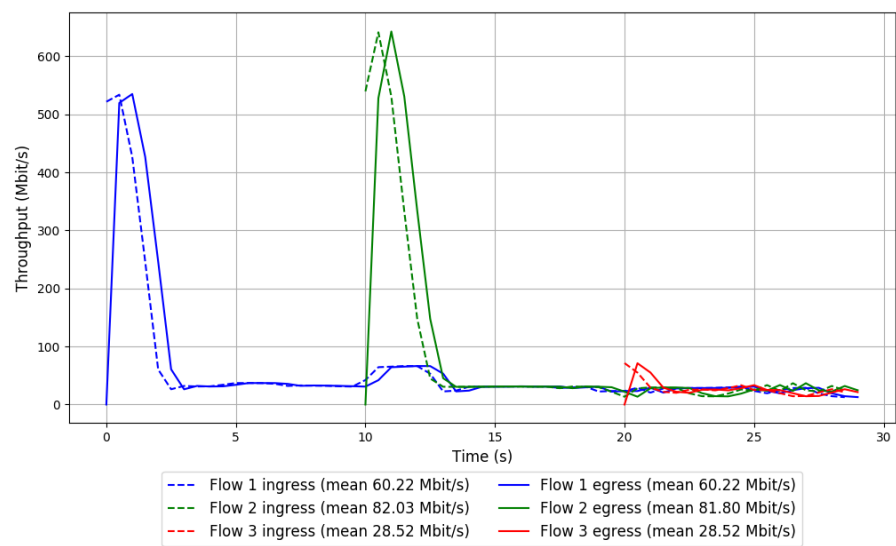
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-06-27 08:20:38
End at: 2019-06-27 08:21:08
Local clock offset: 0.177 ms
Remote clock offset: -4.107 ms


# Below is generated by plot.py at 2019-06-27 10:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.09 Mbit/s
95th percentile per-packet one-way delay: 2.194 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 192.93 Mbit/s
95th percentile per-packet one-way delay: 1.654 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 2.981 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 150.27 Mbit/s
95th percentile per-packet one-way delay: 2.525 ms
Loss rate: 0.02%
```
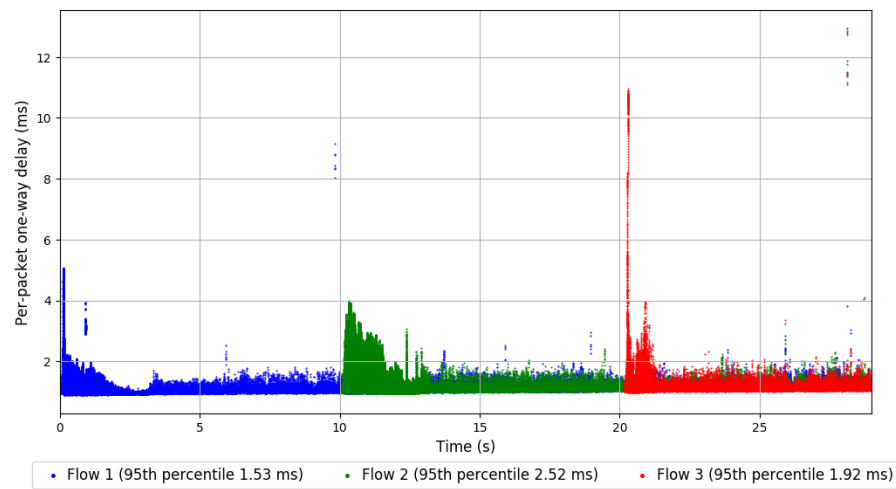
Run 2: Report of Indigo-MusesC5 — Data Link
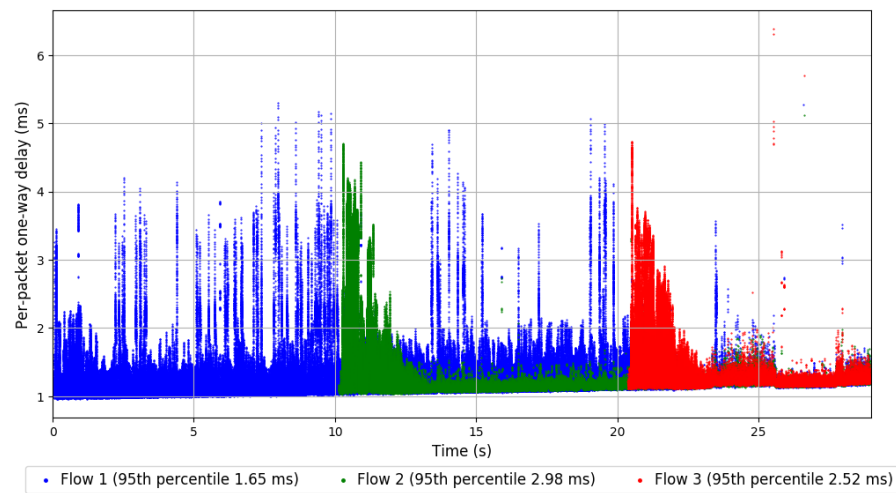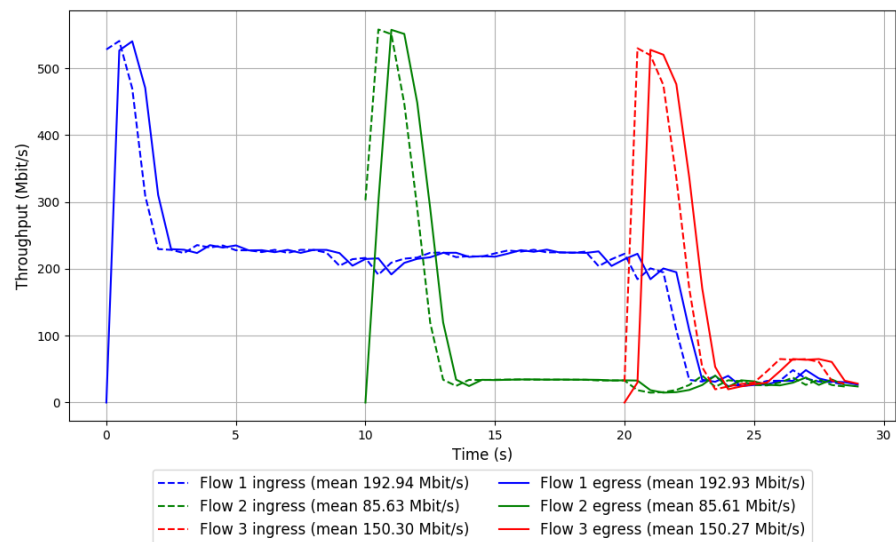
```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-06-27 08:52:26
End at: 2019-06-27 08:52:56
Local clock offset: 1.16 ms
Remote clock offset: -3.28 ms

# Below is generated by plot.py at 2019-06-27 10:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.67 Mbit/s
95th percentile per-packet one-way delay: 1.987 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.98 Mbit/s
95th percentile per-packet one-way delay: 0.888 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 118.81 Mbit/s
95th percentile per-packet one-way delay: 2.814 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 99.15 Mbit/s
95th percentile per-packet one-way delay: 1.102 ms
Loss rate: 0.00%
```
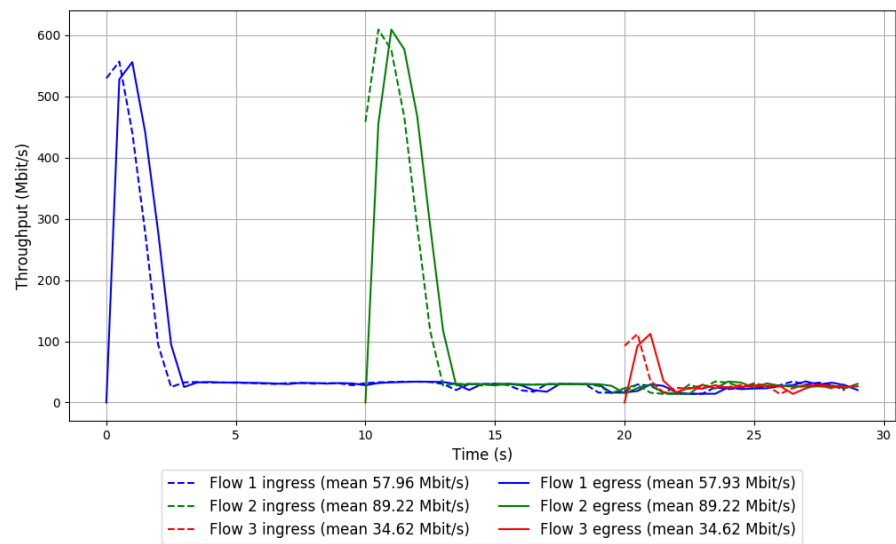
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-06-27 09:24:02
End at: 2019-06-27 09:24:33
Local clock offset: -2.307 ms
Remote clock offset: -3.01 ms


# Below is generated by plot.py at 2019-06-27 10:53:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.64 Mbit/s
95th percentile per-packet one-way delay: 2.224 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 57.93 Mbit/s
95th percentile per-packet one-way delay: 1.526 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 89.22 Mbit/s
95th percentile per-packet one-way delay: 2.519 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.62 Mbit/s
95th percentile per-packet one-way delay: 1.916 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 57.96 Mbit/s) — Flow 1 egress (mean 57.93 Mbit/s)
Flow 2 ingress (mean 89.22 Mbit/s) — Flow 2 egress (mean 89.22 Mbit/s)
Flow 3 ingress (mean 34.62 Mbit/s) — Flow 3 egress (mean 34.62 Mbit/s)

Flow 1 (95th percentile 1.53 ms) — Flow 2 (95th percentile 2.52 ms) — Flow 3 (95th percentile 1.92 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-06-27 09:55:49
End at: 2019-06-27 09:56:19
Local clock offset: -0.107 ms
Remote clock offset: 1.971 ms


# Below is generated by plot.py at 2019-06-27 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.30 Mbit/s
95th percentile per-packet one-way delay: 1.686 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 133.80 Mbit/s
95th percentile per-packet one-way delay: 1.594 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 171.22 Mbit/s
95th percentile per-packet one-way delay: 1.665 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 156.83 Mbit/s
95th percentile per-packet one-way delay: 1.826 ms
Loss rate: 0.02%
```

Run 5: Report of Indigo-MusesC5 — Data Link
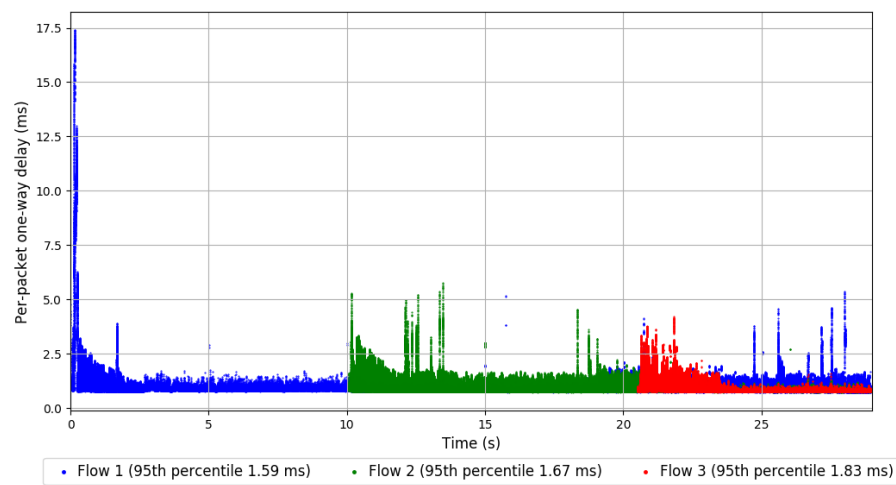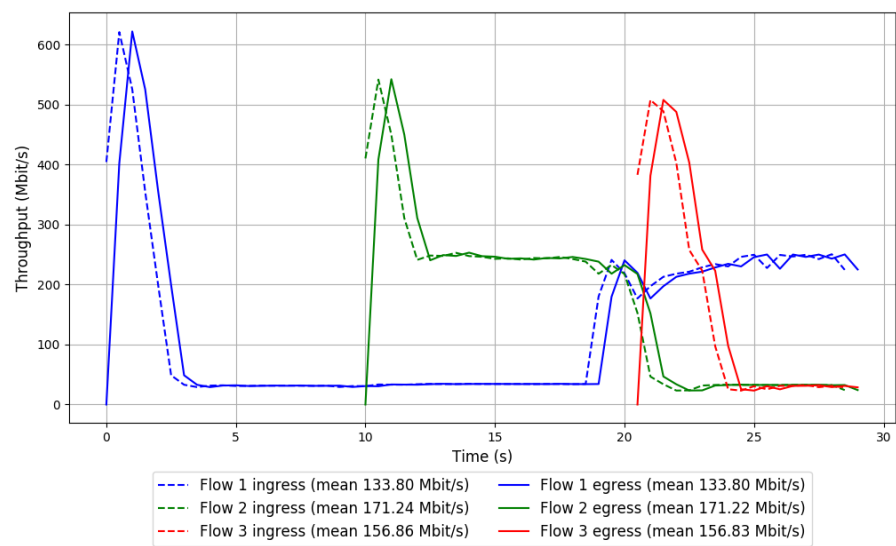
```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-06-27 07:46:06
End at: 2019-06-27 07:46:36
Local clock offset: -5.143 ms
Remote clock offset: 1.257 ms


# Below is generated by plot.py at 2019-06-27 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 163.39 Mbit/s
95th percentile per-packet one-way delay: 1.080 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.40 Mbit/s
95th percentile per-packet one-way delay: 1.151 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 81.79 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 92.60 Mbit/s
95th percentile per-packet one-way delay: 1.004 ms
Loss rate: 0.00%
```
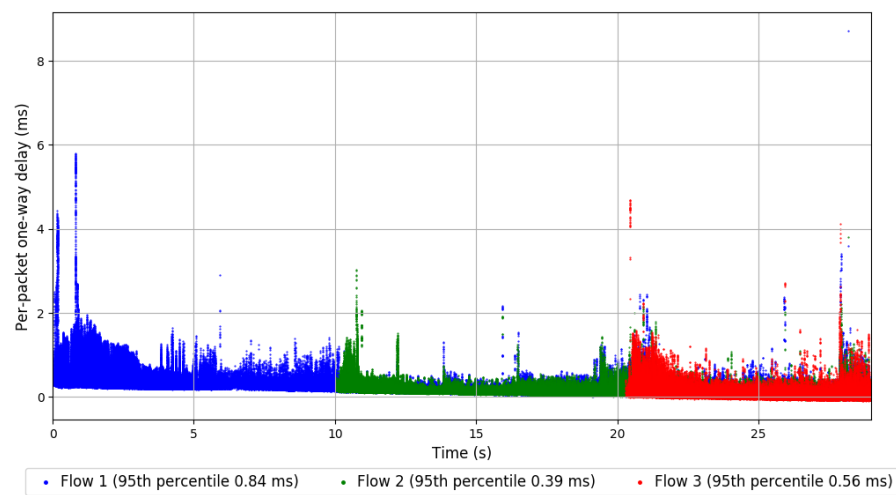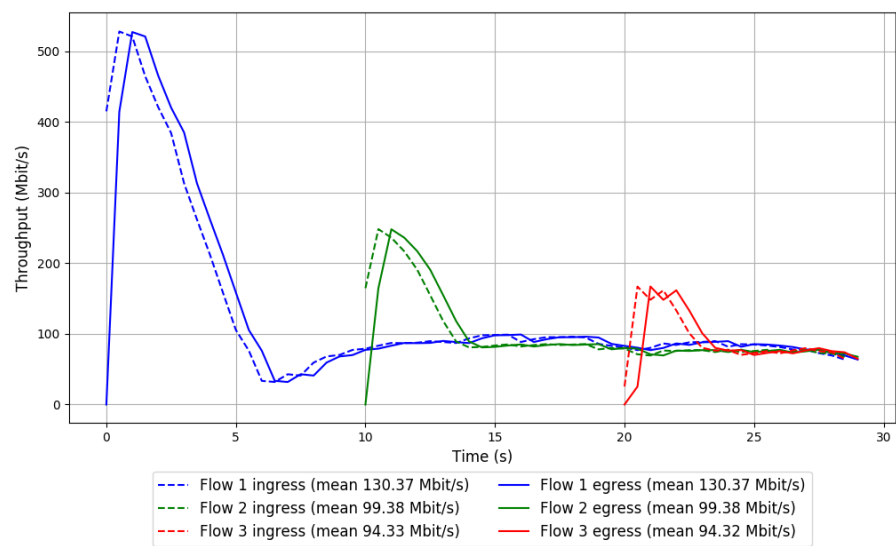
Run 1: Report of Indigo-MusesD — Data Link

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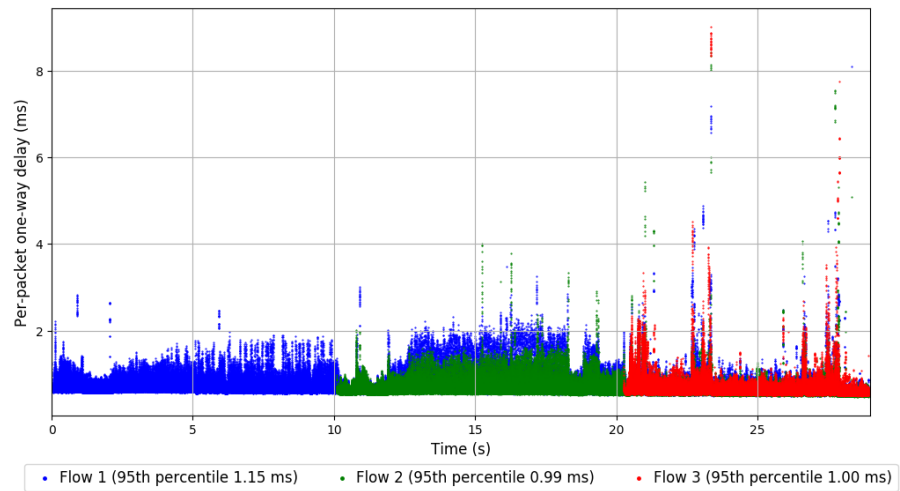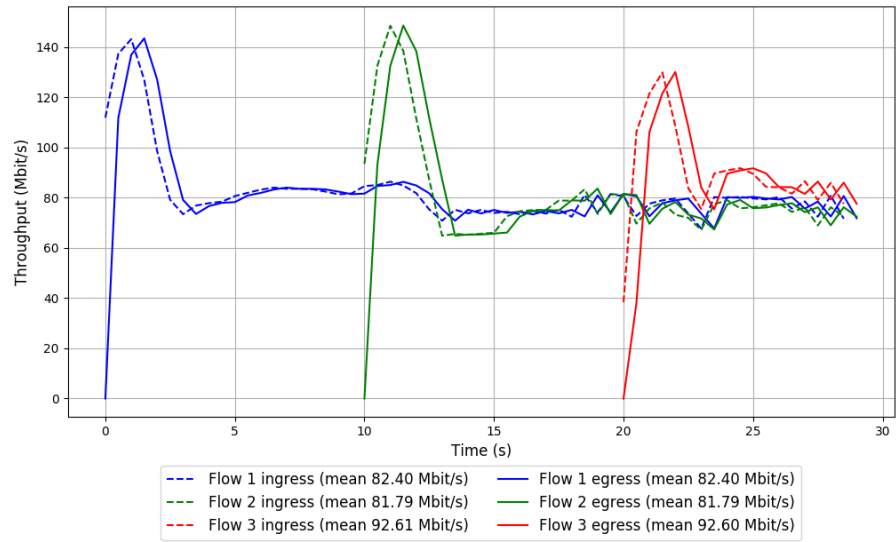
```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-06-27 08:17:40
End at: 2019-06-27 08:18:10
Local clock offset: -0.551 ms
Remote clock offset: -3.886 ms


# Below is generated by plot.py at 2019-06-27 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.40 Mbit/s
95th percentile per-packet one-way delay: 1.299 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 131.80 Mbit/s
95th percentile per-packet one-way delay: 1.307 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 79.12 Mbit/s
95th percentile per-packet one-way delay: 1.181 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 84.38 Mbit/s
95th percentile per-packet one-way delay: 1.456 ms
Loss rate: 0.00%
```

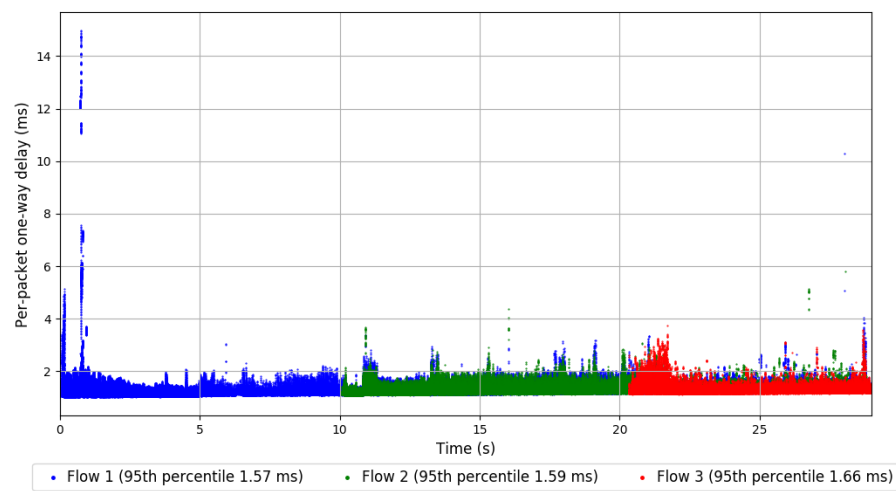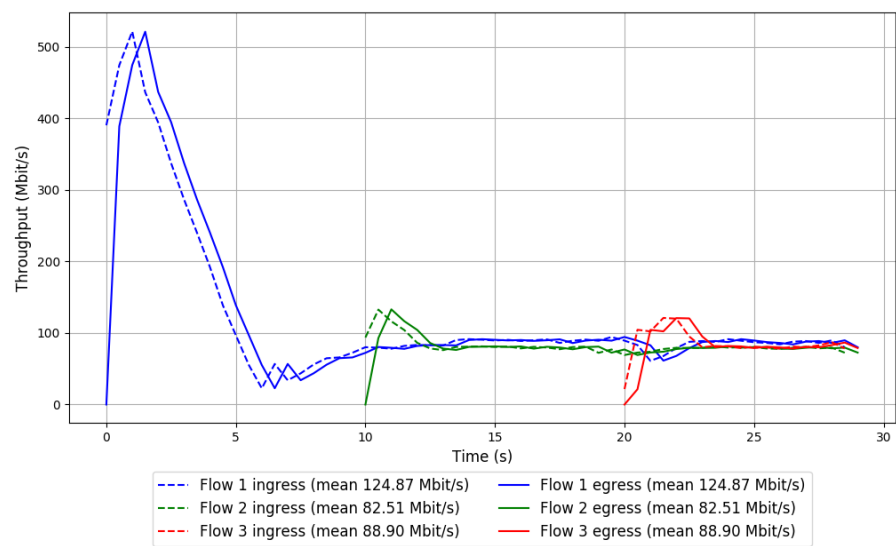Run 2: Report of Indigo-MusesD — Data Link
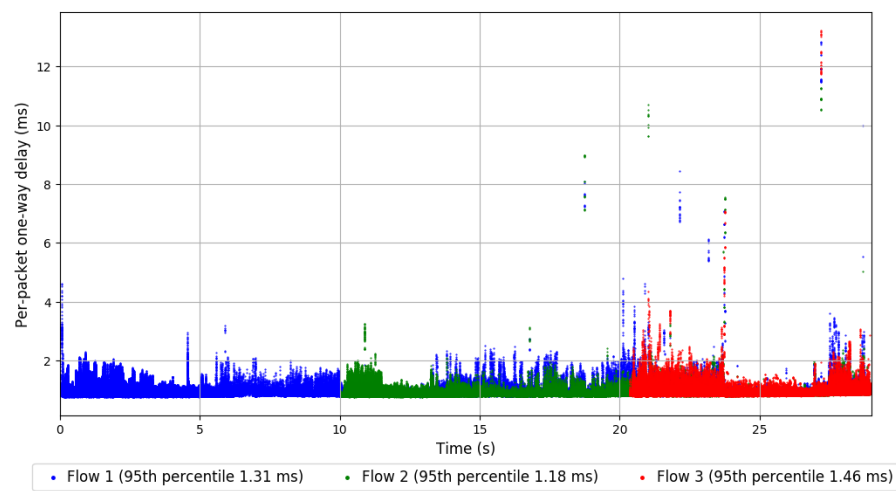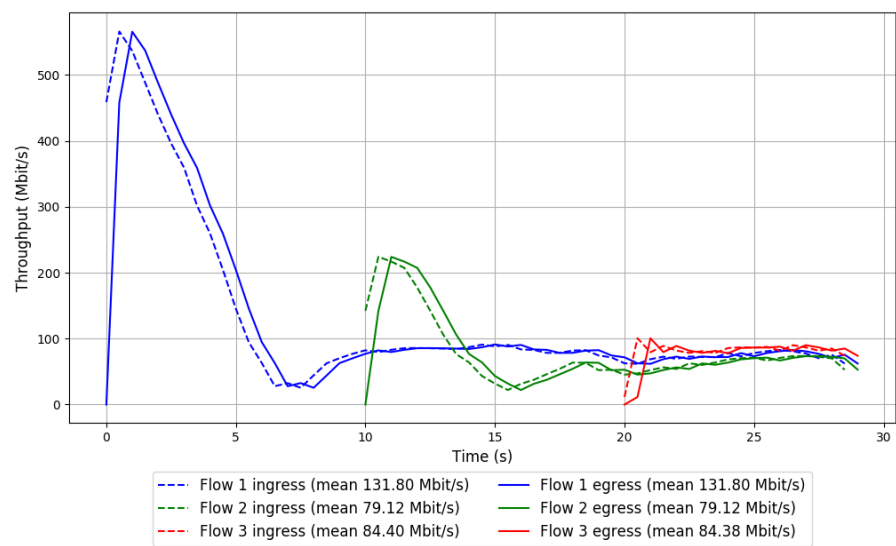
```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-06-27 08:49:33
End at: 2019-06-27 08:50:03
Local clock offset: 3.168 ms
Remote clock offset: -3.281 ms


# Below is generated by plot.py at 2019-06-27 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.48 Mbit/s
95th percentile per-packet one-way delay: 0.730 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 130.37 Mbit/s
95th percentile per-packet one-way delay: 0.845 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 99.38 Mbit/s
95th percentile per-packet one-way delay: 0.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 94.32 Mbit/s
95th percentile per-packet one-way delay: 0.557 ms
Loss rate: 0.01%
```

Run 3: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 130.37 Mbit/s) —— Flow 1 egress (mean 130.37 Mbit/s)
- - - Flow 2 ingress (mean 99.38 Mbit/s) —— Flow 2 egress (mean 99.38 Mbit/s)
- - - Flow 3 ingress (mean 94.33 Mbit/s) —— Flow 3 egress (mean 94.32 Mbit/s)

- Flow 1 (95th percentile 0.84 ms)   - Flow 2 (95th percentile 0.39 ms)   - Flow 3 (95th percentile 0.56 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-06-27 09:21:03
End at: 2019-06-27 09:21:33
Local clock offset: -3.325 ms
Remote clock offset: -3.025 ms

# Below is generated by plot.py at 2019-06-27 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.18 Mbit/s
95th percentile per-packet one-way delay: 1.584 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 124.87 Mbit/s
95th percentile per-packet one-way delay: 1.567 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 82.51 Mbit/s
95th percentile per-packet one-way delay: 1.590 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 88.90 Mbit/s
95th percentile per-packet one-way delay: 1.663 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-06-27 09:52:52
End at: 2019-06-27 09:53:22
Local clock offset: -0.115 ms
Remote clock offset: 1.683 ms


# Below is generated by plot.py at 2019-06-27 10:53:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.67 Mbit/s
95th percentile per-packet one-way delay: 1.258 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 127.26 Mbit/s
95th percentile per-packet one-way delay: 1.283 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 81.00 Mbit/s
95th percentile per-packet one-way delay: 1.159 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 79.71 Mbit/s
95th percentile per-packet one-way delay: 1.284 ms
Loss rate: 0.00%
```

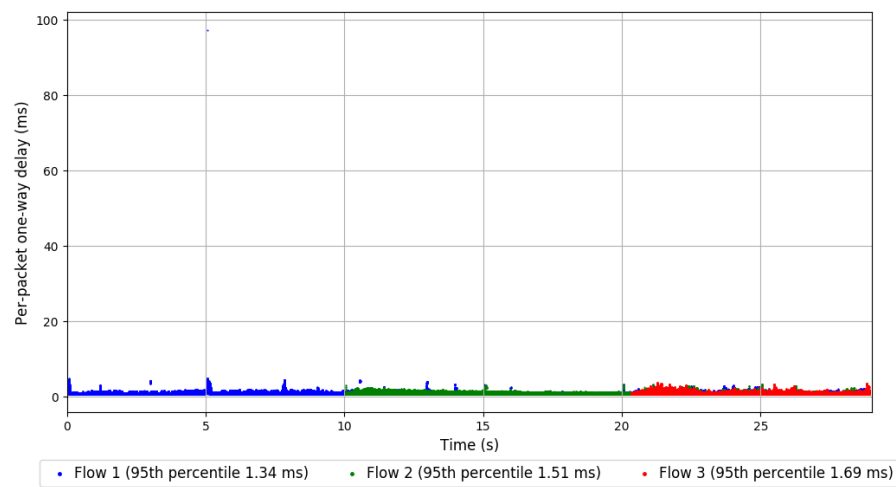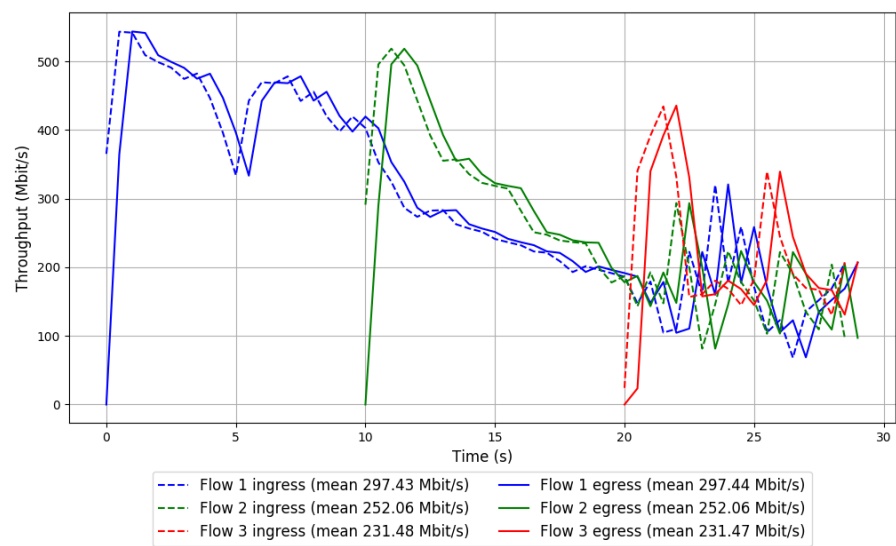Run 5: Report of Indigo-MusesD — Data Link
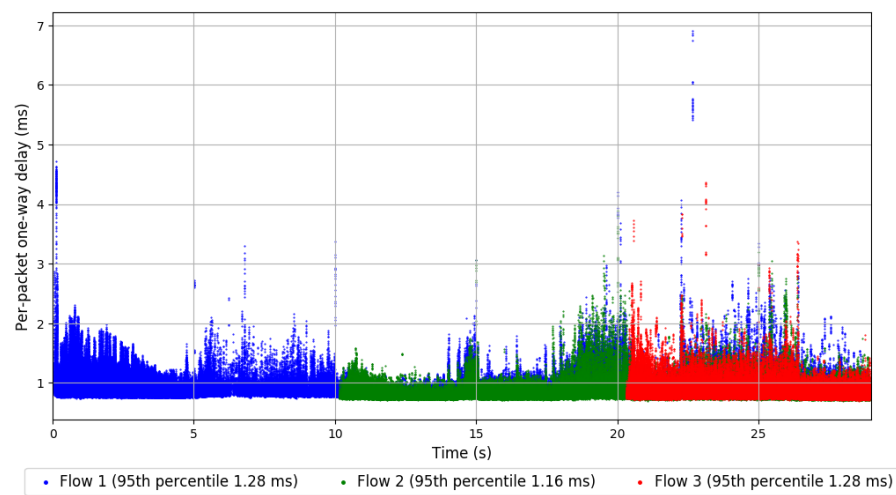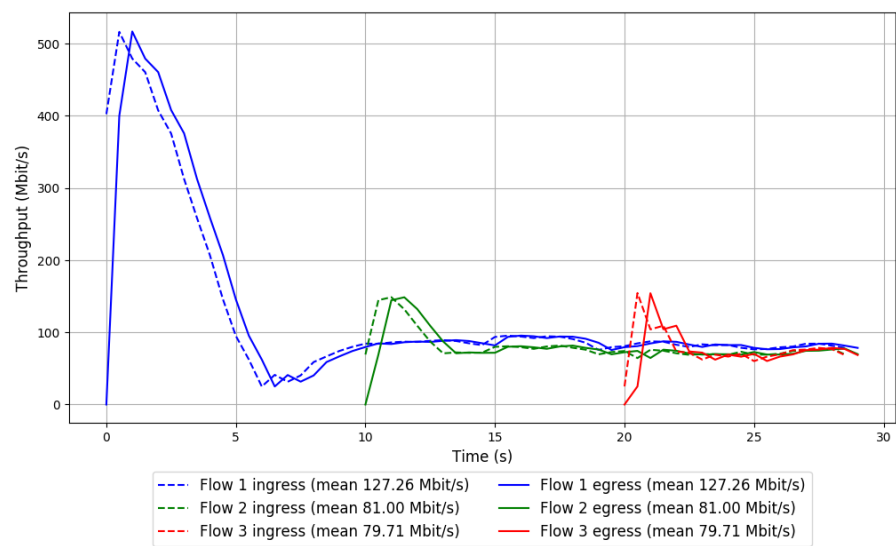
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-06-27 07:58:45
End at: 2019-06-27 07:59:15
Local clock offset: -1.781 ms
Remote clock offset: -1.872 ms


# Below is generated by plot.py at 2019-06-27 10:57:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.68 Mbit/s
95th percentile per-packet one-way delay: 1.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 305.30 Mbit/s
95th percentile per-packet one-way delay: 1.514 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 245.21 Mbit/s
95th percentile per-packet one-way delay: 1.747 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.69 Mbit/s
95th percentile per-packet one-way delay: 2.027 ms
Loss rate: 0.02%
```

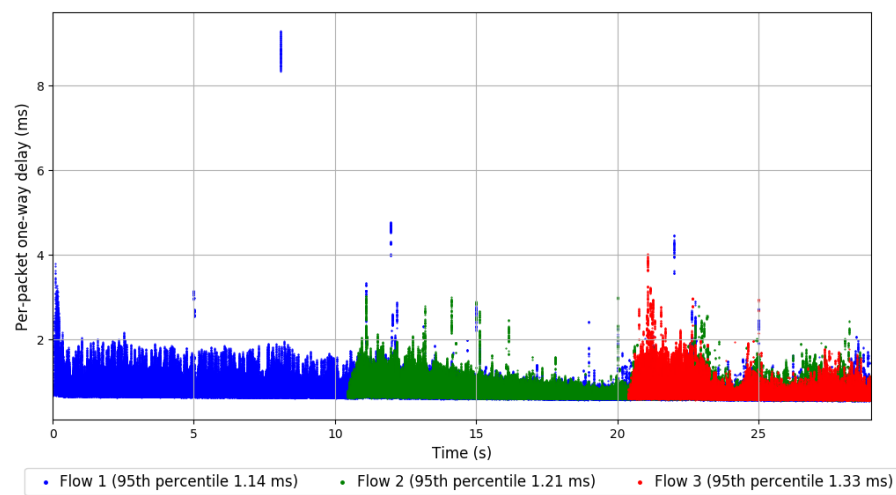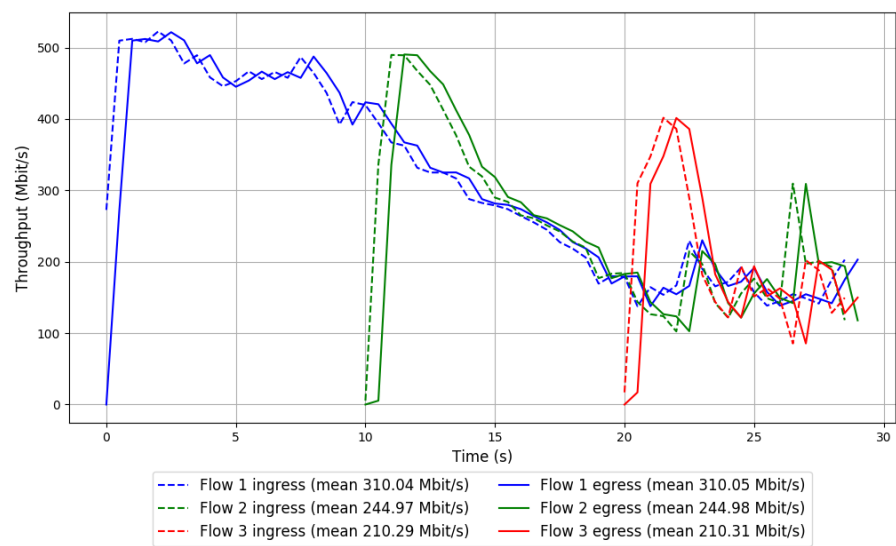Run 1: Report of Indigo-MusesT — Data Link
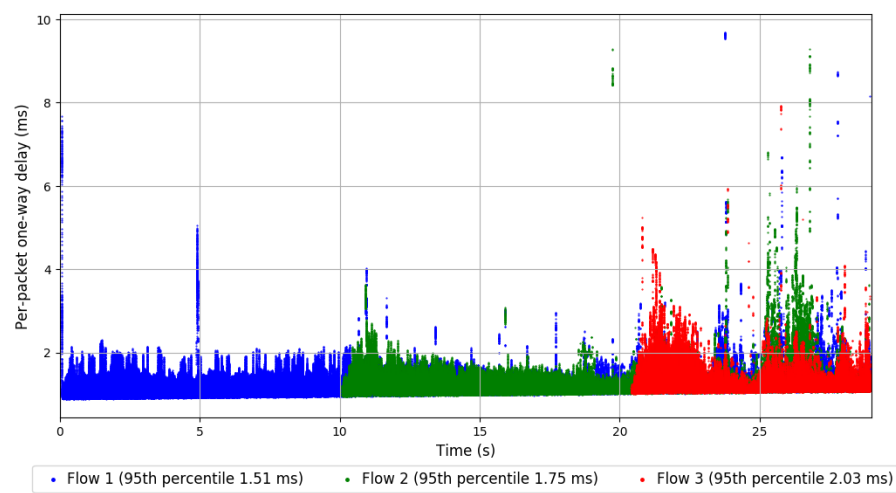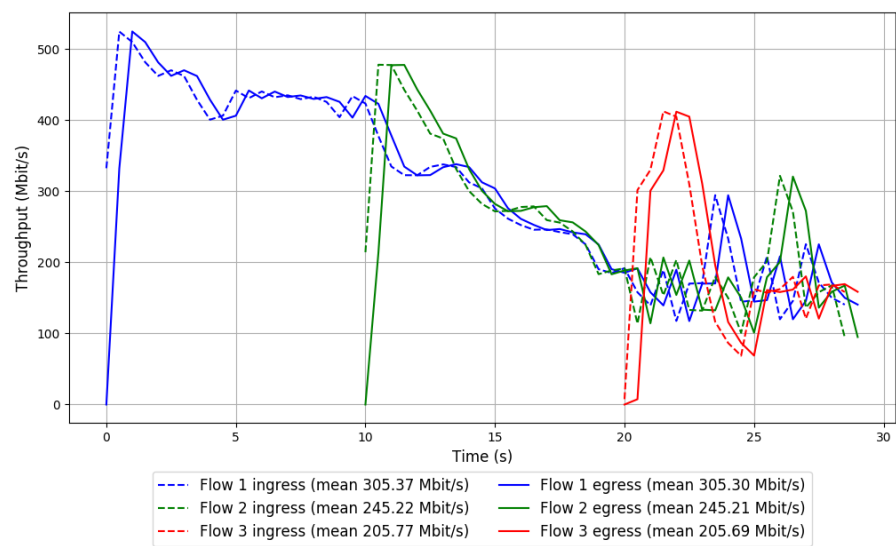
```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-06-27 08:30:31
End at: 2019-06-27 08:31:01
Local clock offset: 2.44 ms
Remote clock offset: -3.467 ms


# Below is generated by plot.py at 2019-06-27 10:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 530.51 Mbit/s
95th percentile per-packet one-way delay: 1.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 297.44 Mbit/s
95th percentile per-packet one-way delay: 1.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 252.06 Mbit/s
95th percentile per-packet one-way delay: 1.509 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 231.47 Mbit/s
95th percentile per-packet one-way delay: 1.692 ms
Loss rate: 0.00%
```

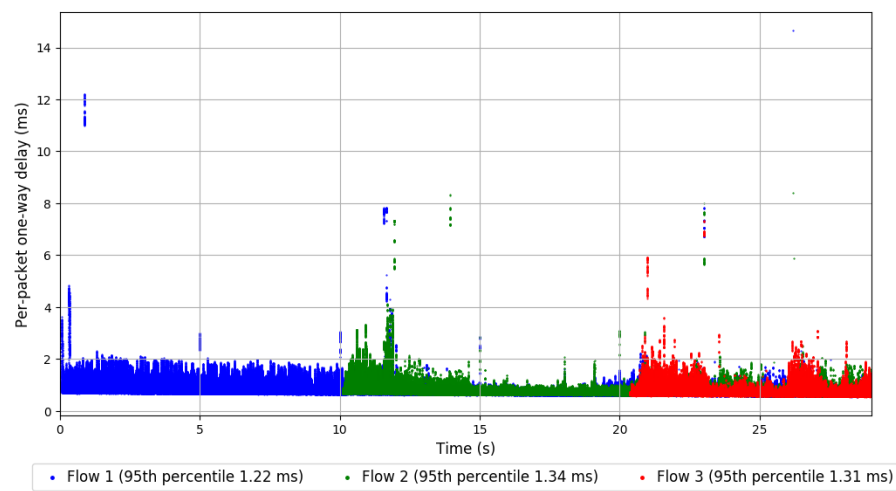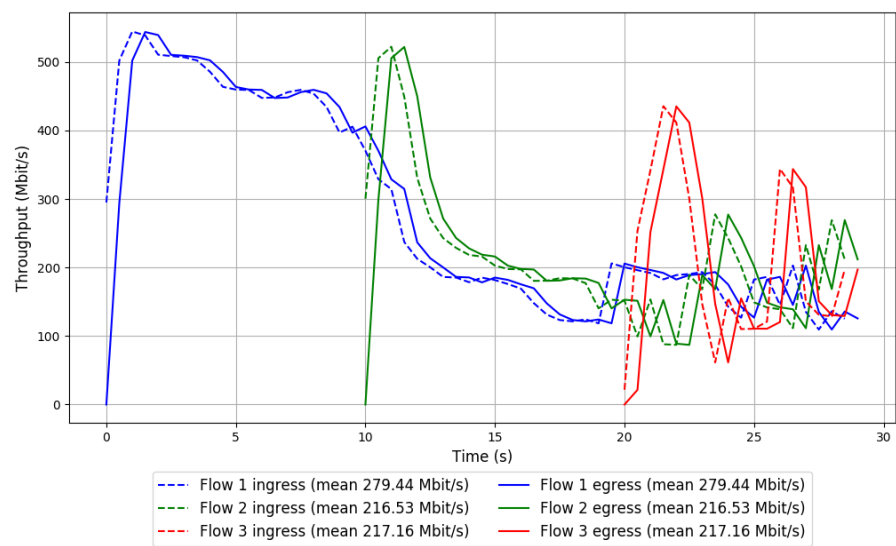Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-06-27 09:02:15
End at: 2019-06-27 09:02:45
Local clock offset: -2.288 ms
Remote clock offset: -3.111 ms


# Below is generated by plot.py at 2019-06-27 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.07 Mbit/s
95th percentile per-packet one-way delay: 1.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 310.05 Mbit/s
95th percentile per-packet one-way delay: 1.139 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.98 Mbit/s
95th percentile per-packet one-way delay: 1.211 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 210.31 Mbit/s
95th percentile per-packet one-way delay: 1.328 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-06-27 09:33:52
End at: 2019-06-27 09:34:22
Local clock offset: -0.747 ms
Remote clock offset: -2.081 ms


# Below is generated by plot.py at 2019-06-27 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 484.92 Mbit/s
95th percentile per-packet one-way delay: 1.264 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 279.44 Mbit/s
95th percentile per-packet one-way delay: 1.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 216.53 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 217.16 Mbit/s
95th percentile per-packet one-way delay: 1.314 ms
Loss rate: 0.00%
```
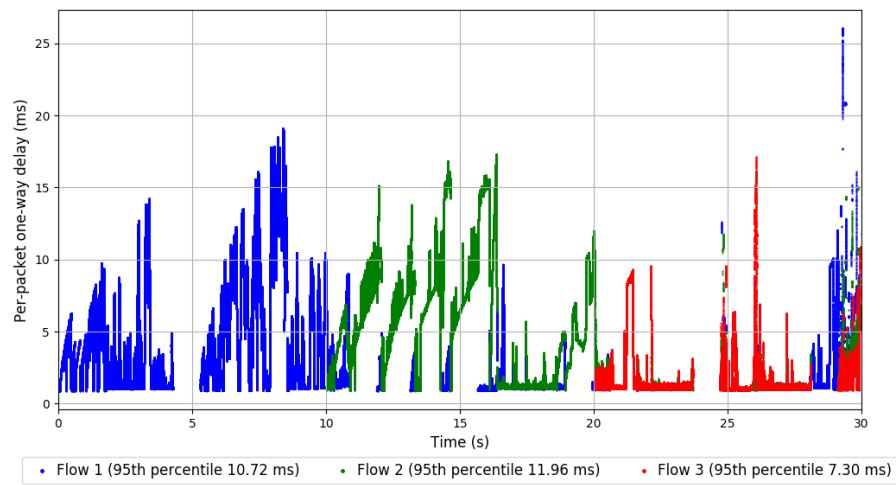
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-06-27 10:05:45
End at: 2019-06-27 10:06:15
Local clock offset: 0.019 ms
Remote clock offset: 2.667 ms


# Below is generated by plot.py at 2019-06-27 10:58:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 494.58 Mbit/s
95th percentile per-packet one-way delay: 1.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 292.19 Mbit/s
95th percentile per-packet one-way delay: 1.466 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 221.97 Mbit/s
95th percentile per-packet one-way delay: 1.470 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 199.14 Mbit/s
95th percentile per-packet one-way delay: 1.691 ms
Loss rate: 0.00%
```

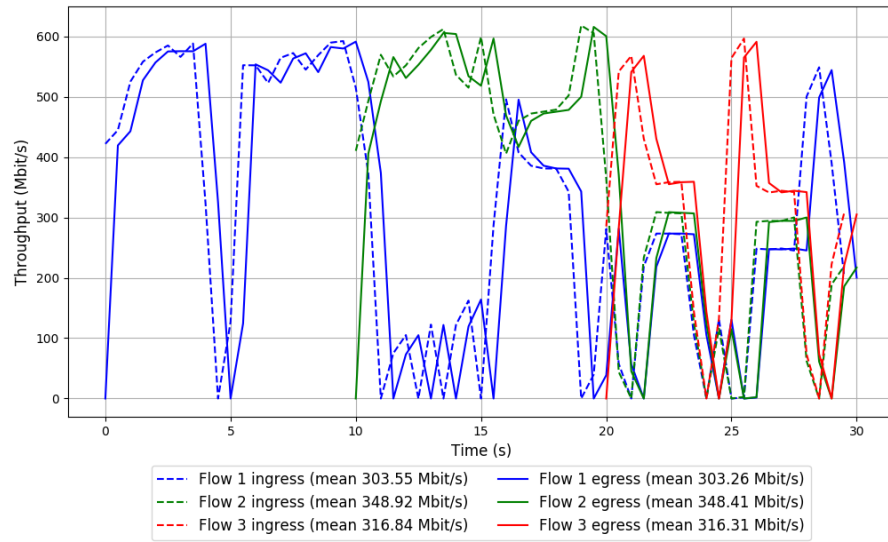Run 5: Report of Indigo-MusesT — Data Link
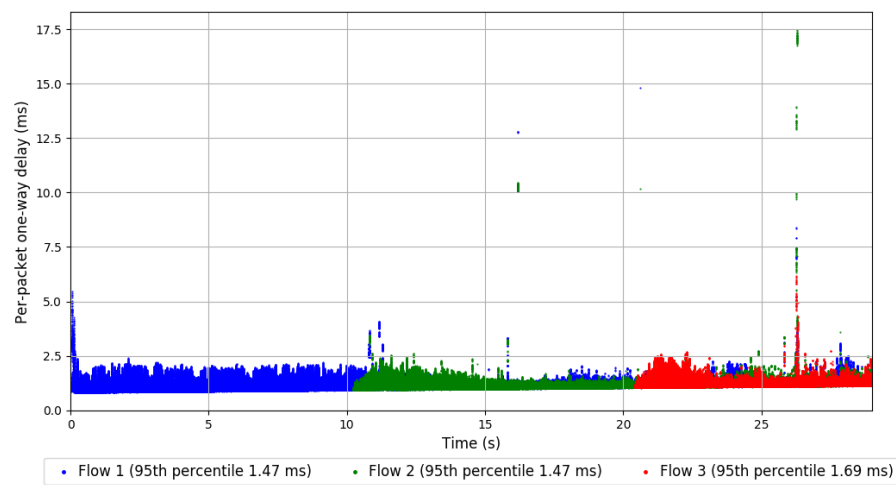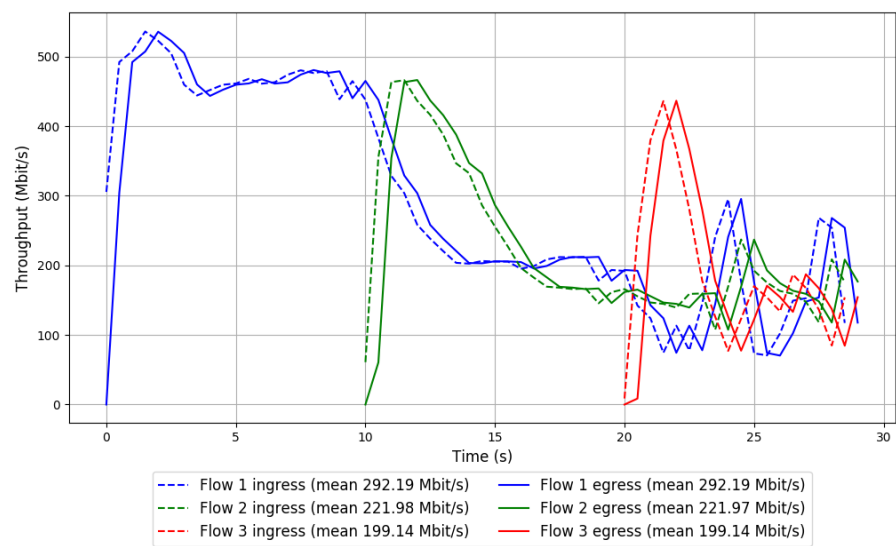
```
Run 1: Statistics of LEDBAT

Start at: 2019-06-27 08:04:36
End at: 2019-06-27 08:05:06
Local clock offset: -1.052 ms
Remote clock offset: -2.812 ms


# Below is generated by plot.py at 2019-06-27 11:00:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 640.53 Mbit/s
95th percentile per-packet one-way delay: 10.547 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 303.26 Mbit/s
95th percentile per-packet one-way delay: 10.724 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 348.41 Mbit/s
95th percentile per-packet one-way delay: 11.962 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 316.31 Mbit/s
95th percentile per-packet one-way delay: 7.304 ms
Loss rate: 0.15%
```
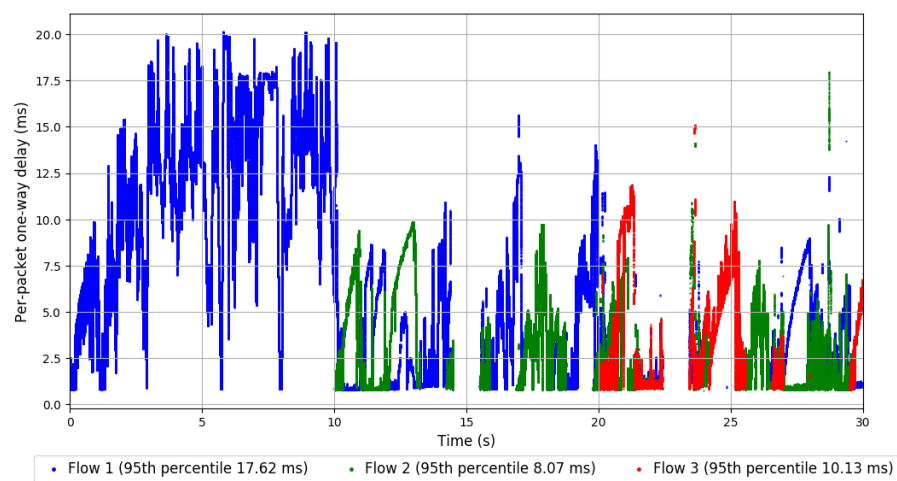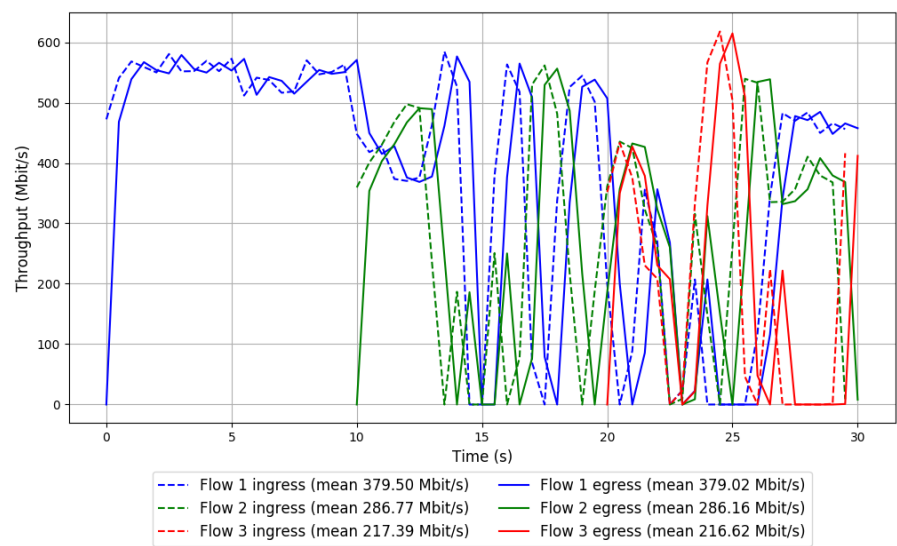
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 303.55 Mbit/s) --- Flow 1 egress (mean 303.26 Mbit/s)
Flow 2 ingress (mean 348.92 Mbit/s) --- Flow 2 egress (mean 348.41 Mbit/s)
Flow 3 ingress (mean 316.84 Mbit/s) --- Flow 3 egress (mean 316.31 Mbit/s)

Flow 1 (95th percentile 10.72 ms) Flow 2 (95th percentile 11.96 ms) Flow 3 (95th percentile 7.30 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-06-27 08:36:29
End at: 2019-06-27 08:36:59
Local clock offset: 3.098 ms
Remote clock offset: -3.247 ms


# Below is generated by plot.py at 2019-06-27 11:00:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 636.98 Mbit/s
95th percentile per-packet one-way delay: 16.290 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 379.02 Mbit/s
95th percentile per-packet one-way delay: 17.617 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 286.16 Mbit/s
95th percentile per-packet one-way delay: 8.069 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 216.62 Mbit/s
95th percentile per-packet one-way delay: 10.128 ms
Loss rate: 0.34%
```

Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 379.50 Mbit/s)   Flow 1 egress (mean 379.02 Mbit/s)
Flow 2 ingress (mean 286.77 Mbit/s)   Flow 2 egress (mean 286.16 Mbit/s)
Flow 3 ingress (mean 217.39 Mbit/s)   Flow 3 egress (mean 216.62 Mbit/s)

Flow 1 (95th percentile 17.62 ms)   Flow 2 (95th percentile 8.07 ms)   Flow 3 (95th percentile 10.13 ms)

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```
Run 3: Statistics of LEDBAT

Start at: 2019-06-27 09:08:10
End at: 2019-06-27 09:08:40
Local clock offset: -3.276 ms
Remote clock offset: -2.991 ms


# Below is generated by plot.py at 2019-06-27 11:01:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 685.67 Mbit/s
95th percentile per-packet one-way delay: 14.953 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 396.39 Mbit/s
95th percentile per-packet one-way delay: 16.069 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 333.54 Mbit/s
95th percentile per-packet one-way delay: 7.554 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 234.86 Mbit/s
95th percentile per-packet one-way delay: 8.084 ms
Loss rate: 0.35%
```

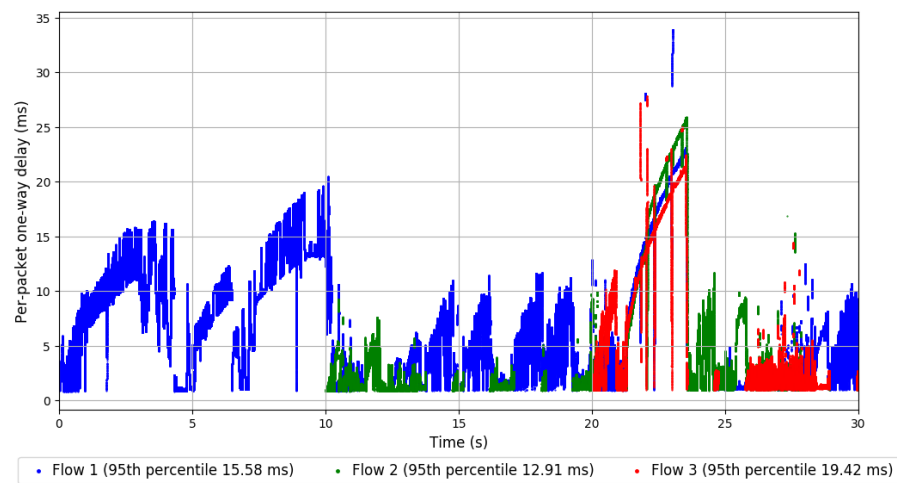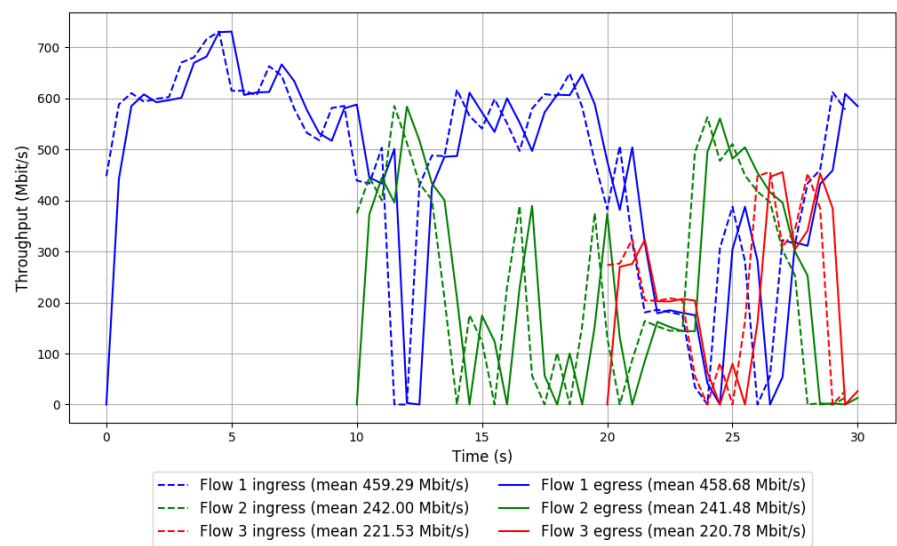## Run 3: Report of LEDBAT — Data Link
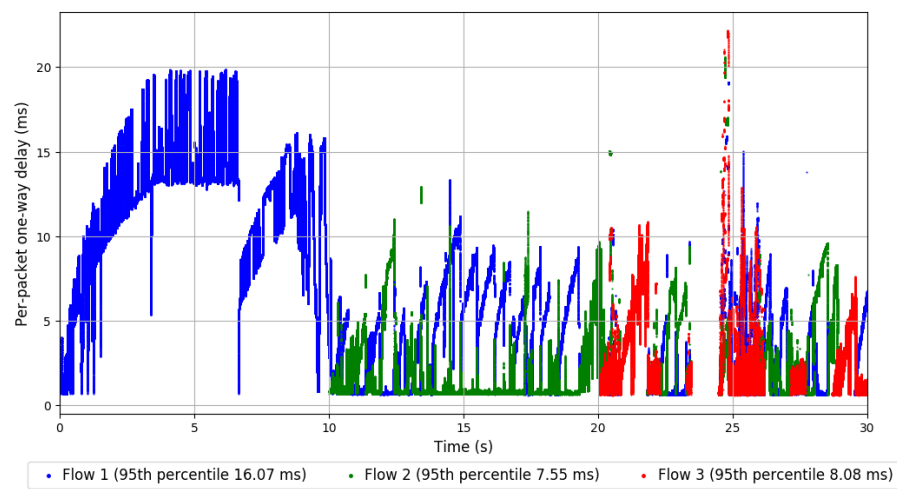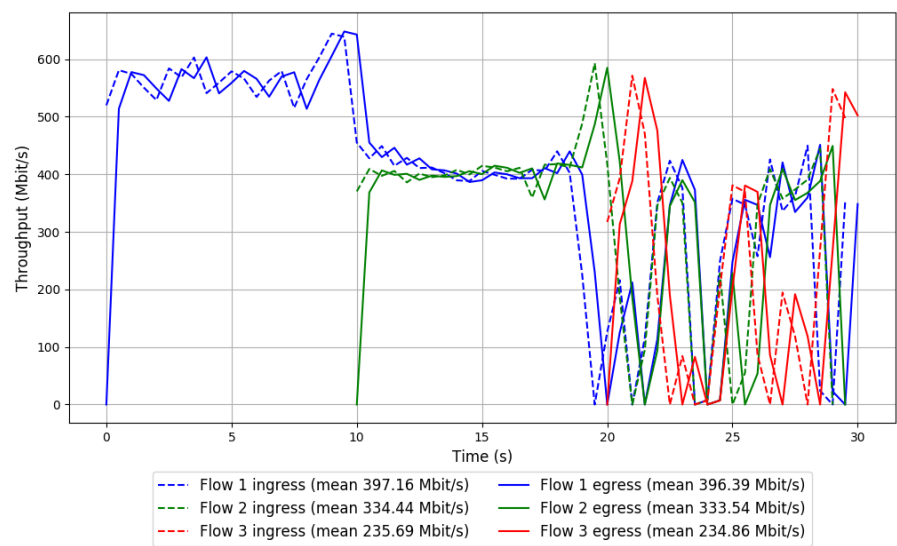
```
Run 4: Statistics of LEDBAT

Start at: 2019-06-27 09:39:48
End at: 2019-06-27 09:40:18
Local clock offset: -0.409 ms
Remote clock offset: -0.28 ms


# Below is generated by plot.py at 2019-06-27 11:06:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 709.20 Mbit/s
95th percentile per-packet one-way delay: 13.935 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 450.30 Mbit/s
95th percentile per-packet one-way delay: 14.772 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 236.68 Mbit/s
95th percentile per-packet one-way delay: 6.005 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 338.71 Mbit/s
95th percentile per-packet one-way delay: 2.927 ms
Loss rate: 0.27%
```

Run 4: Report of LEDBAT — Data Link
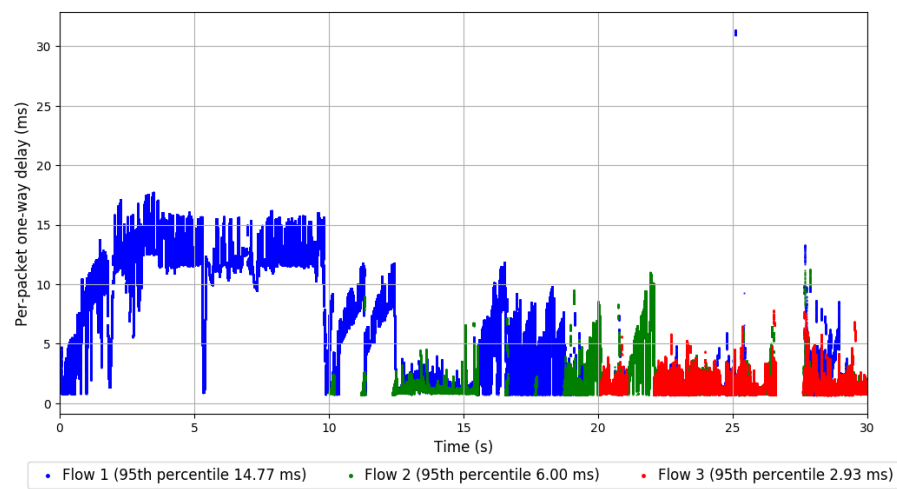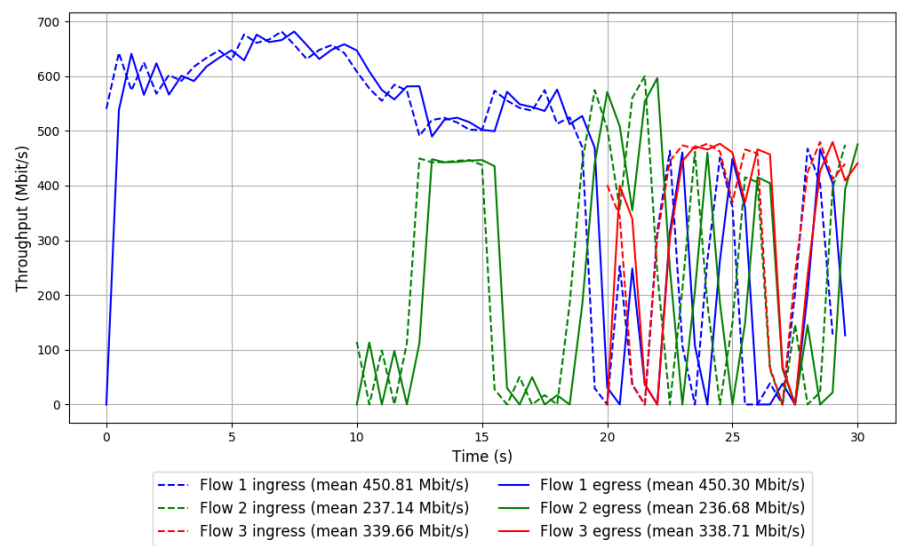
```
Run 5: Statistics of LEDBAT

Start at: 2019-06-27 10:11:44
End at: 2019-06-27 10:12:14
Local clock offset: 0.067 ms
Remote clock offset: -0.149 ms


# Below is generated by plot.py at 2019-06-27 11:06:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 692.89 Mbit/s
95th percentile per-packet one-way delay: 16.002 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 458.68 Mbit/s
95th percentile per-packet one-way delay: 15.581 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 241.48 Mbit/s
95th percentile per-packet one-way delay: 12.910 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 220.78 Mbit/s
95th percentile per-packet one-way delay: 19.417 ms
Loss rate: 0.33%
```

Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 459.29 Mbit/s) ----- Flow 1 egress (mean 458.68 Mbit/s) ——
Flow 2 ingress (mean 242.00 Mbit/s) ----- Flow 2 egress (mean 241.48 Mbit/s) ——
Flow 3 ingress (mean 221.53 Mbit/s) ----- Flow 3 egress (mean 220.78 Mbit/s) ——

• Flow 1 (95th percentile 15.58 ms)   • Flow 2 (95th percentile 12.91 ms)   • Flow 3 (95th percentile 19.42 ms)

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Run 1: Statistics of Muses_DecisionTree

Start at: 2019-06-27 07:56:16
End at: 2019-06-27 07:56:46
Local clock offset: -2.355 ms
Remote clock offset: -1.309 ms

Run 1: Report of Muses_DecisionTree — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of Muses_DecisionTree

Start at: 2019-06-27 08:28:01
End at: 2019-06-27 08:28:31
Local clock offset: 2.059 ms
Remote clock offset: -3.684 ms

Run 2: Report of Muses_DecisionTree — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of Muses_DecisionTree

Start at: 2019-06-27 08:59:45
End at: 2019-06-27 09:00:15
Local clock offset: -1.682 ms
Remote clock offset: -3.245 ms

Run 3: Report of Muses_DecisionTree — Data Link

Figure is missing

Figure is missing

Run 4: Statistics of Muses_DecisionTree

Start at: 2019-06-27 09:31:22
End at: 2019-06-27 09:31:52
Local clock offset: -1.025 ms
Remote clock offset: -3.046 ms

Run 4: Report of Muses_DecisionTree — Data Link

Figure is missing

Figure is missing

Run 5: Statistics of Muses_DecisionTree

Start at: 2019-06-27 10:03:16
End at: 2019-06-27 10:03:46
Local clock offset: -0.015 ms
Remote clock offset: 2.546 ms

Run 5: Report of Muses_DecisionTree — Data Link

Figure is missing

Figure is missing

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-06-27 07:39:00
End at: 2019-06-27 07:39:30
Local clock offset: -4.2 ms
Remote clock offset: 0.869 ms


# Below is generated by plot.py at 2019-06-27 11:06:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 693.35 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 625.76 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 65.27 Mbit/s
95th percentile per-packet one-way delay: 0.959 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 0.958 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Allegro — Data Link
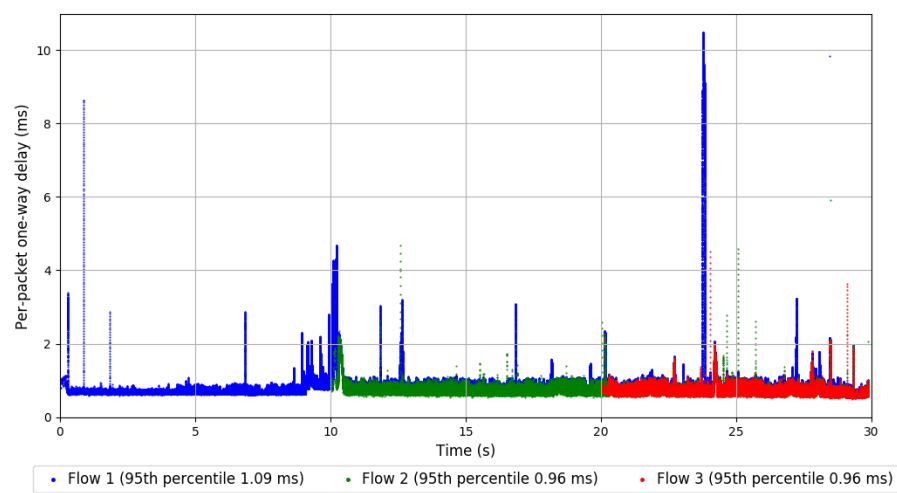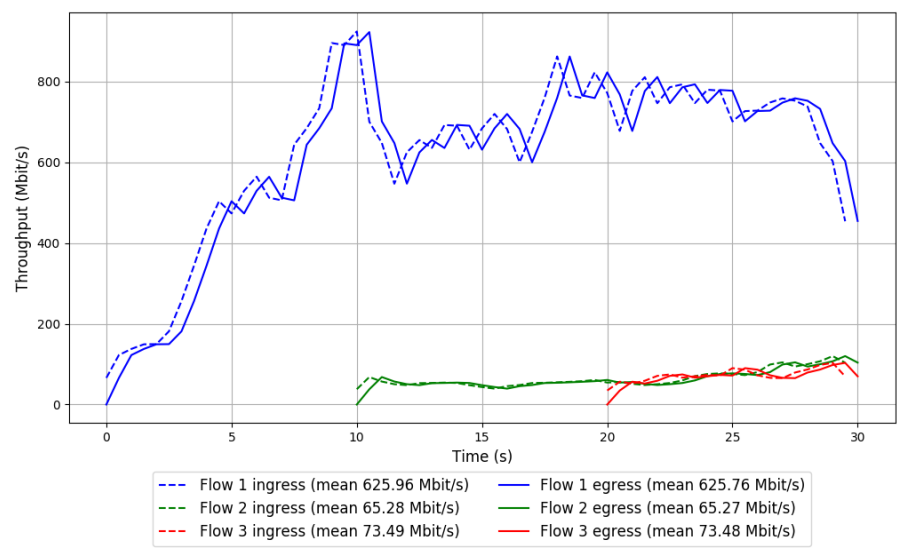
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-06-27 08:10:30
End at: 2019-06-27 08:11:00
Local clock offset: -0.707 ms
Remote clock offset: -3.446 ms


# Below is generated by plot.py at 2019-06-27 11:09:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.12 Mbit/s
95th percentile per-packet one-way delay: 2.256 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 790.28 Mbit/s
95th percentile per-packet one-way delay: 2.305 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 44.17 Mbit/s
95th percentile per-packet one-way delay: 1.208 ms
Loss rate: 0.05%
```

Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 790.87 Mbit/s) --- Flow 1 egress (mean 790.28 Mbit/s)
Flow 2 ingress (mean 54.69 Mbit/s) --- Flow 2 egress (mean 54.64 Mbit/s)
Flow 3 ingress (mean 44.19 Mbit/s) --- Flow 3 egress (mean 44.17 Mbit/s)

Flow 1 (95th percentile 2.31 ms) • Flow 2 (95th percentile 1.32 ms) • Flow 3 (95th percentile 1.21 ms)
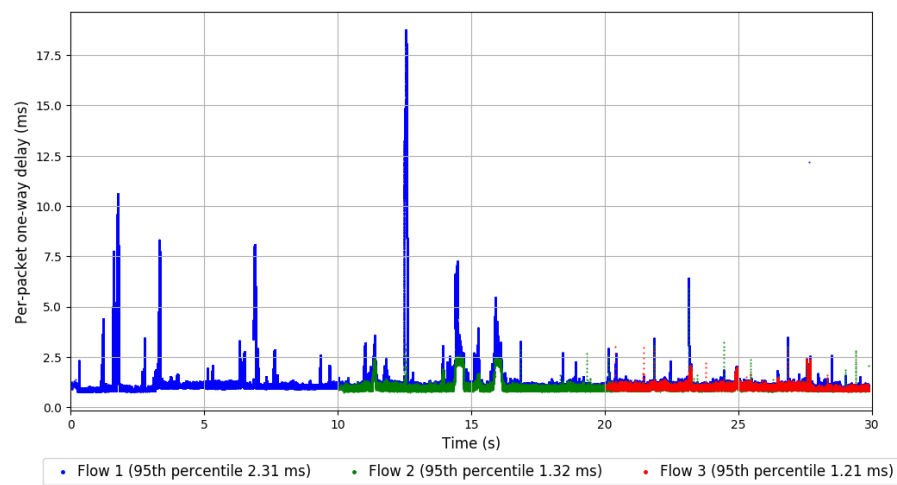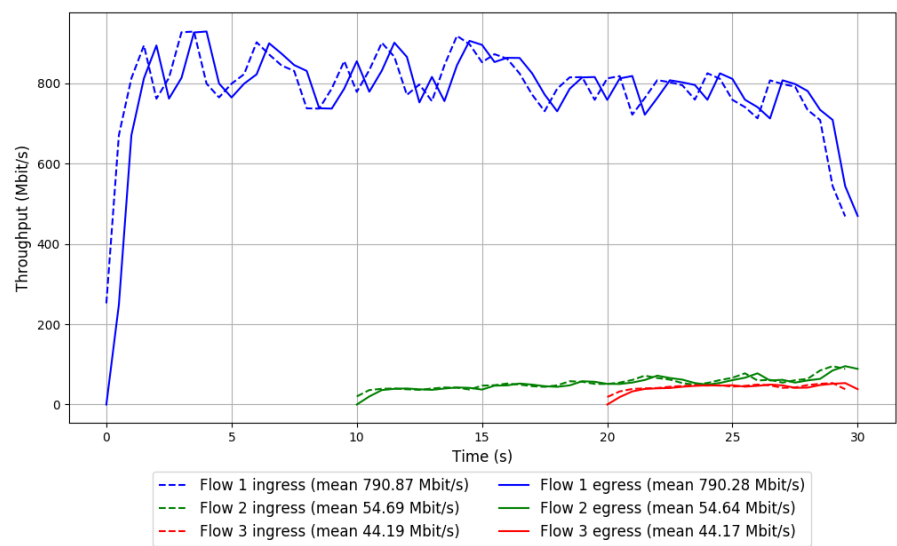
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-06-27 08:42:24
End at: 2019-06-27 08:42:54
Local clock offset: 3.491 ms
Remote clock offset: -3.174 ms


# Below is generated by plot.py at 2019-06-27 11:09:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 809.12 Mbit/s
95th percentile per-packet one-way delay: 11.109 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 625.59 Mbit/s
95th percentile per-packet one-way delay: 14.531 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 273.59 Mbit/s
95th percentile per-packet one-way delay: 1.294 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 1.288 ms
Loss rate: 0.10%
```

Run 3: Report of PCC-Allegro — Data Link
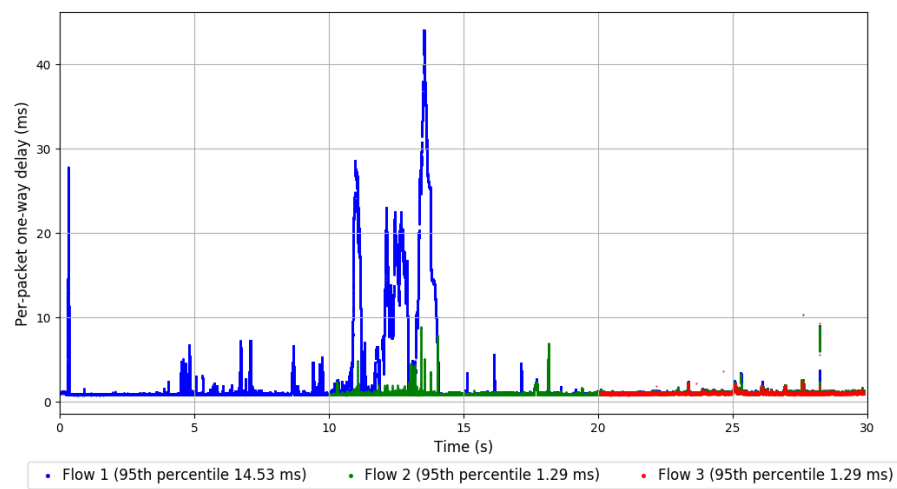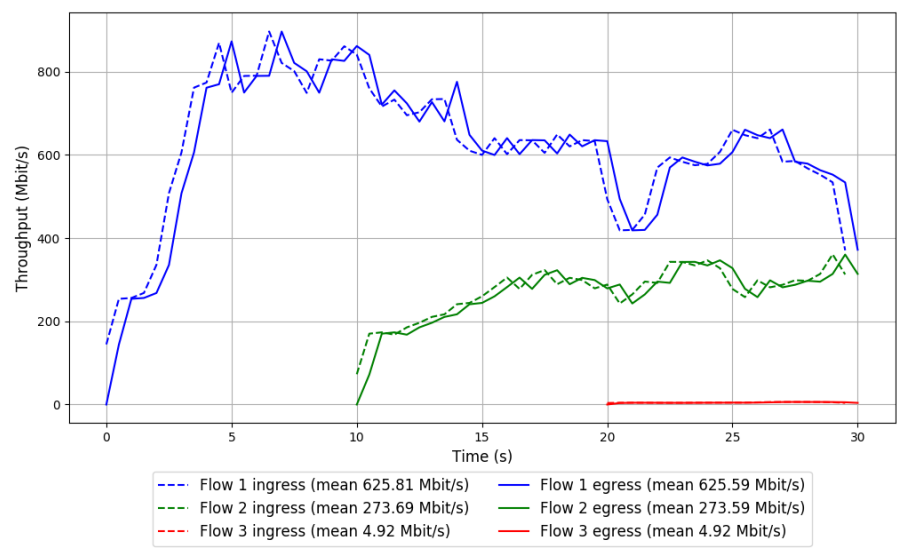
```
Run 4: Statistics of PCC-Allegro

Start at: 2019-06-27 09:14:07
End at: 2019-06-27 09:14:37
Local clock offset: -3.992 ms
Remote clock offset: -2.994 ms


# Below is generated by plot.py at 2019-06-27 11:09:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.06 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 52.76 Mbit/s
95th percentile per-packet one-way delay: 0.958 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 123.32 Mbit/s
95th percentile per-packet one-way delay: 0.960 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 392.01 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.08%
```

Run 4: Report of PCC-Allegro — Data Link
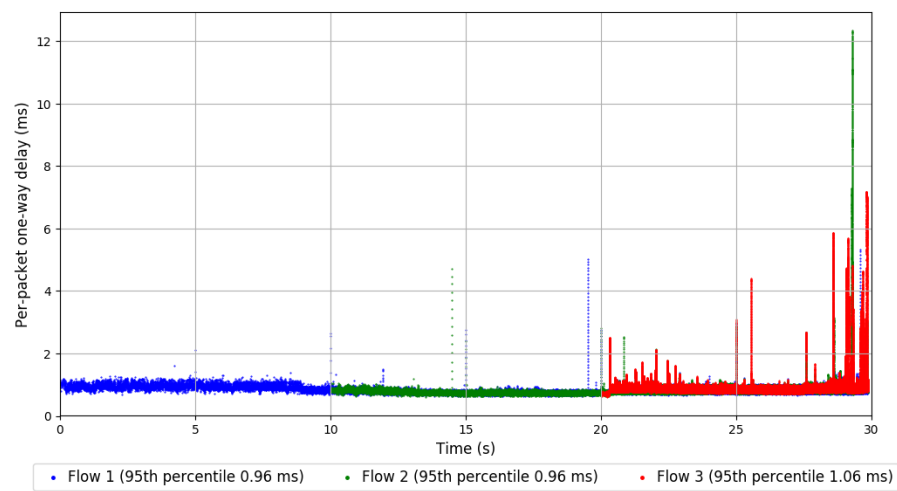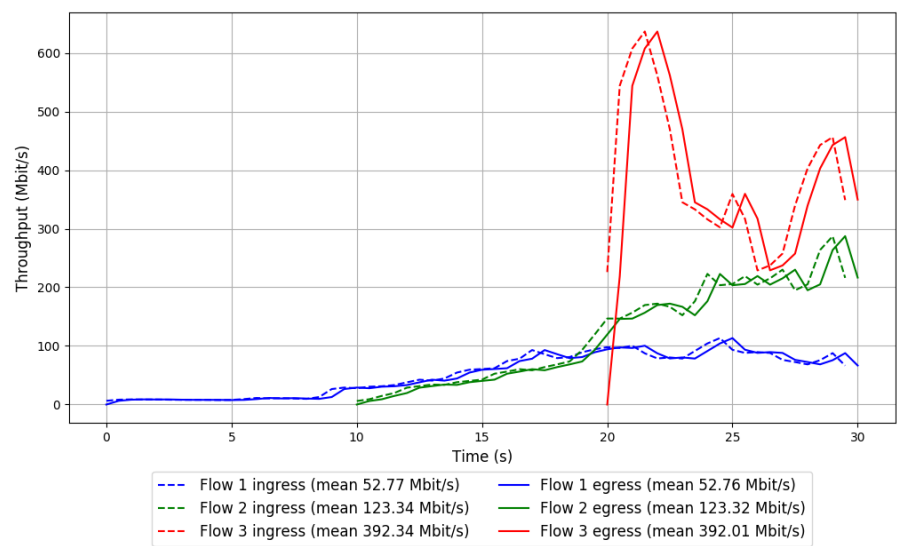
```
Run 5: Statistics of PCC-Allegro

Start at: 2019-06-27 09:45:45
End at: 2019-06-27 09:46:15
Local clock offset: -0.204 ms
Remote clock offset: 0.758 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.31 Mbit/s
95th percentile per-packet one-way delay: 1.955 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 630.08 Mbit/s
95th percentile per-packet one-way delay: 1.944 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 161.34 Mbit/s
95th percentile per-packet one-way delay: 2.002 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 170.16 Mbit/s
95th percentile per-packet one-way delay: 1.924 ms
Loss rate: 0.15%
```

Run 5: Report of PCC-Allegro — Data Link
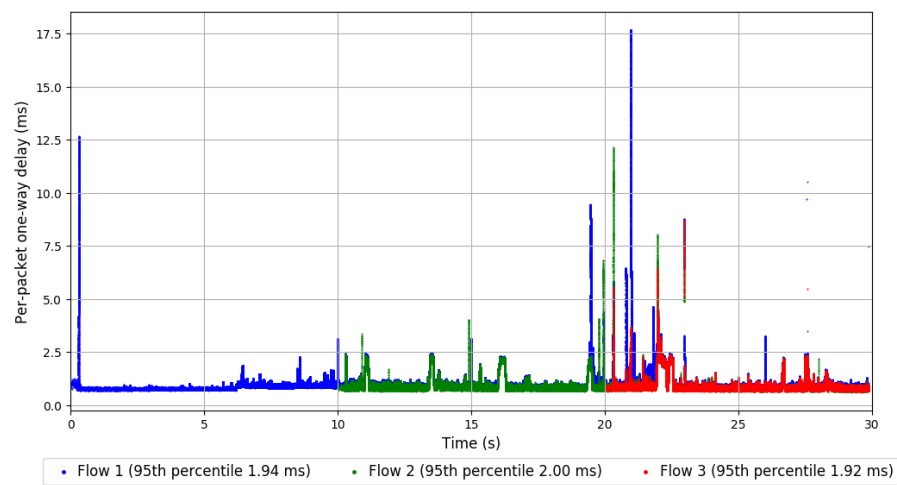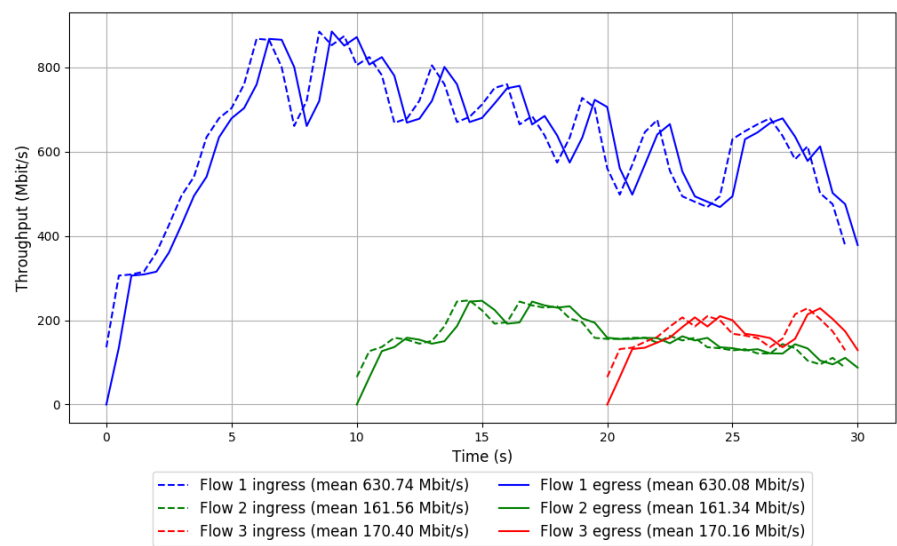
```
Run 1: Statistics of PCC-Expr

Start at: 2019-06-27 07:40:31
End at: 2019-06-27 07:41:01
Local clock offset: -4.447 ms
Remote clock offset: 0.984 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.14 Mbit/s
95th percentile per-packet one-way delay: 1.043 ms
Loss rate: 50.60%
-- Flow 1:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 1.183 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 5.51 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 46.36%
-- Flow 3:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 0.909 ms
Loss rate: 55.79%
```

Run 1: Report of PCC-Expr — Data Link
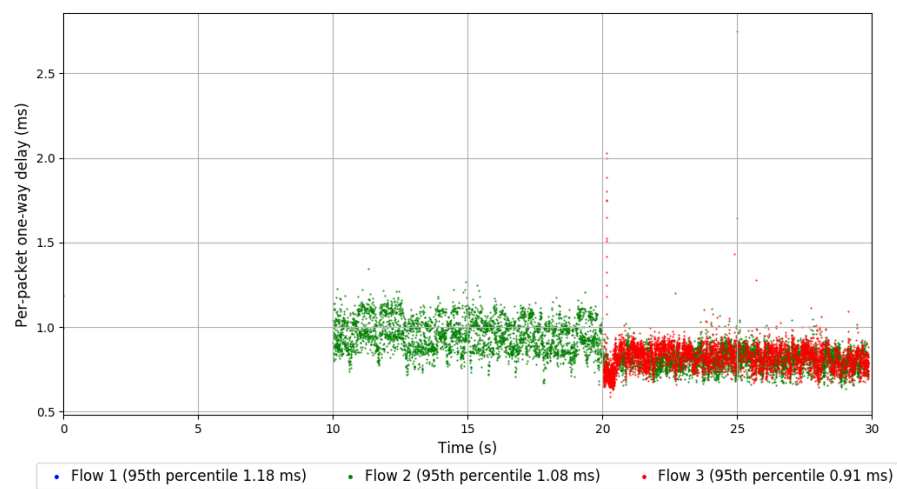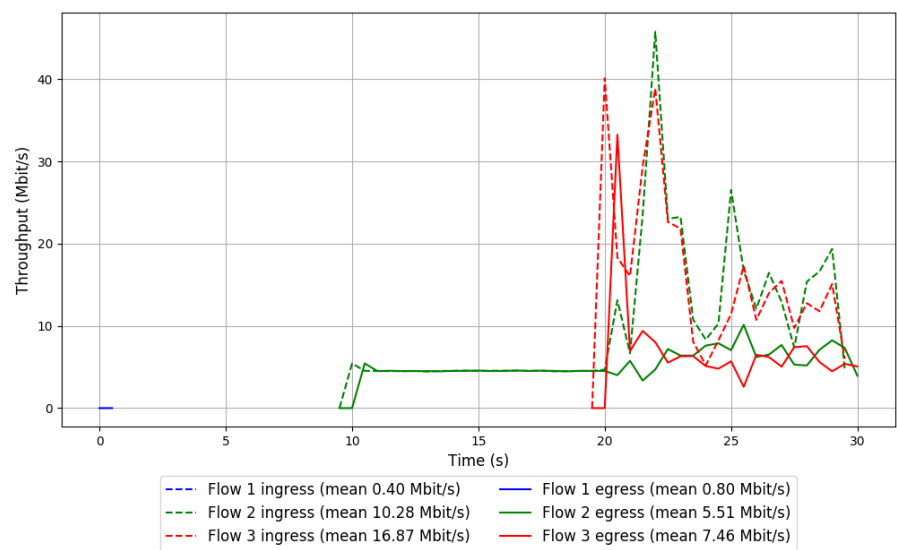
```
Run 2: Statistics of PCC-Expr

Start at: 2019-06-27 08:12:06
End at: 2019-06-27 08:12:36
Local clock offset: -0.641 ms
Remote clock offset: -3.505 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 1.301 ms
Loss rate: 28.88%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 0.939 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 1.295 ms
Loss rate: 36.71%
-- Flow 3:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 1.313 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Expr — Data Link
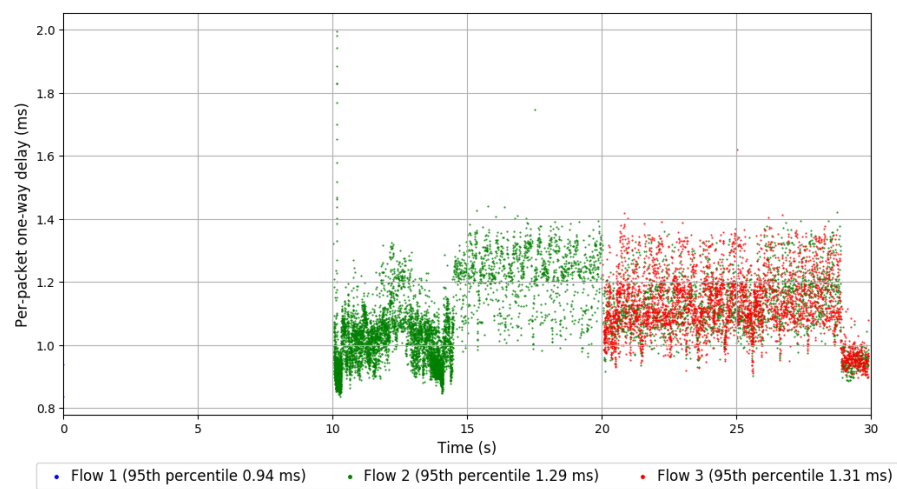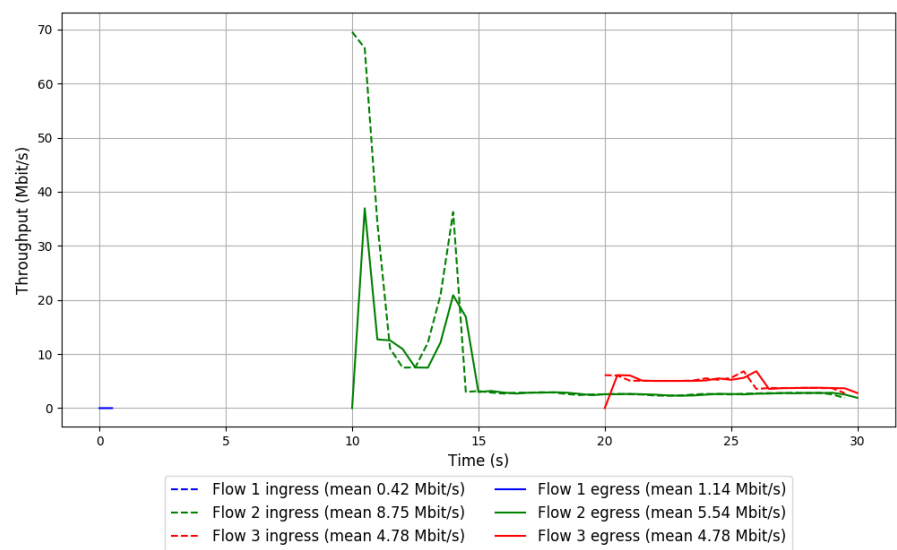
```
Run 3: Statistics of PCC-Expr

Start at: 2019-06-27 08:43:58
End at: 2019-06-27 08:44:28
Local clock offset: 3.609 ms
Remote clock offset: -3.206 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 1.227 ms
Loss rate: 18.20%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 5.66 Mbit/s
95th percentile per-packet one-way delay: 1.240 ms
Loss rate: 19.52%
-- Flow 3:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 1.184 ms
Loss rate: 15.97%
```

Run 3: Report of PCC-Expr — Data Link
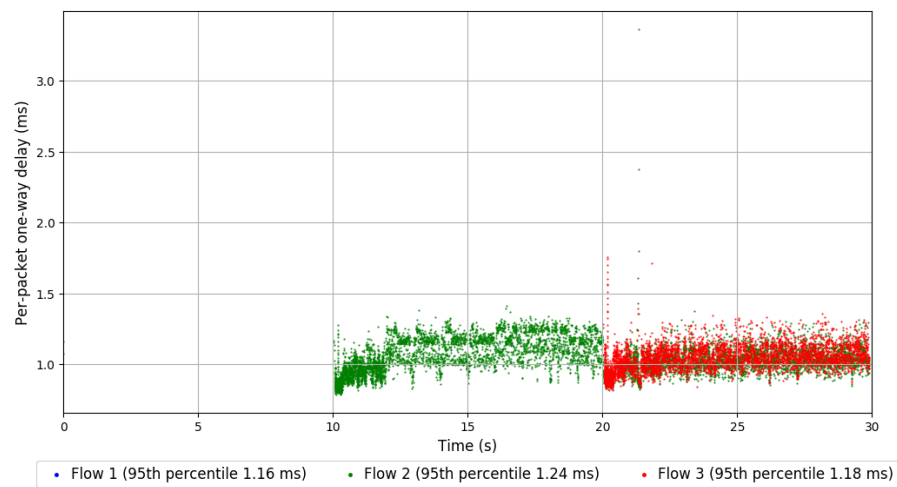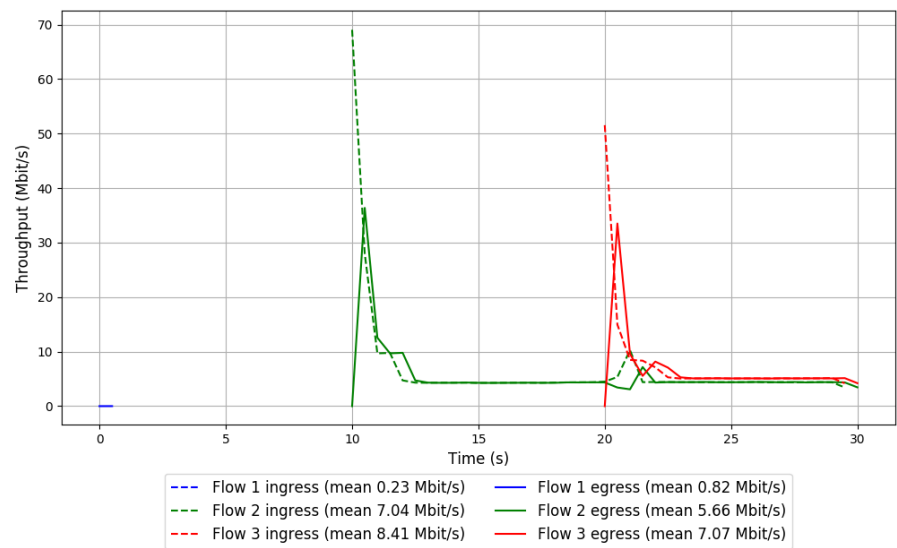
```
Run 4: Statistics of PCC-Expr

Start at: 2019-06-27 09:15:28
End at: 2019-06-27 09:15:58
Local clock offset: -4.1 ms
Remote clock offset: -3.025 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 1.060 ms
Loss rate: 16.32%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 5.65 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 13.90%
-- Flow 3:
Average throughput: 8.08 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 19.48%
```

Run 4: Report of PCC-Expr — Data Link
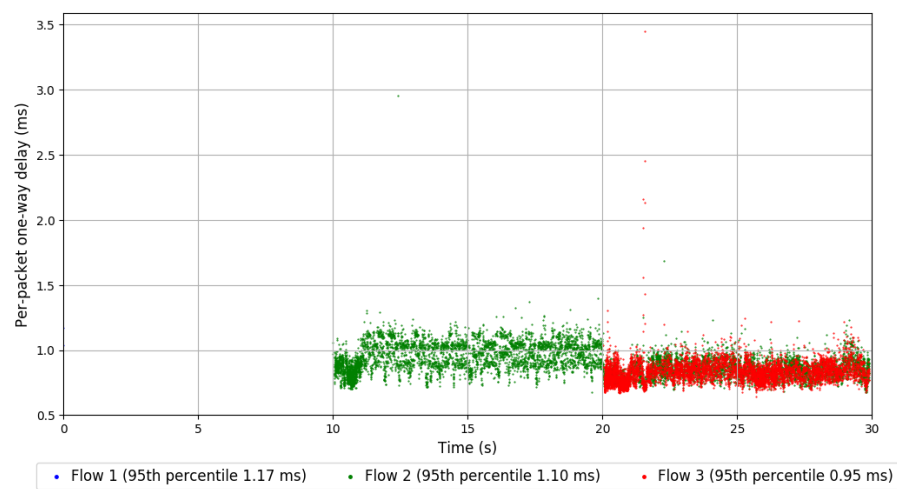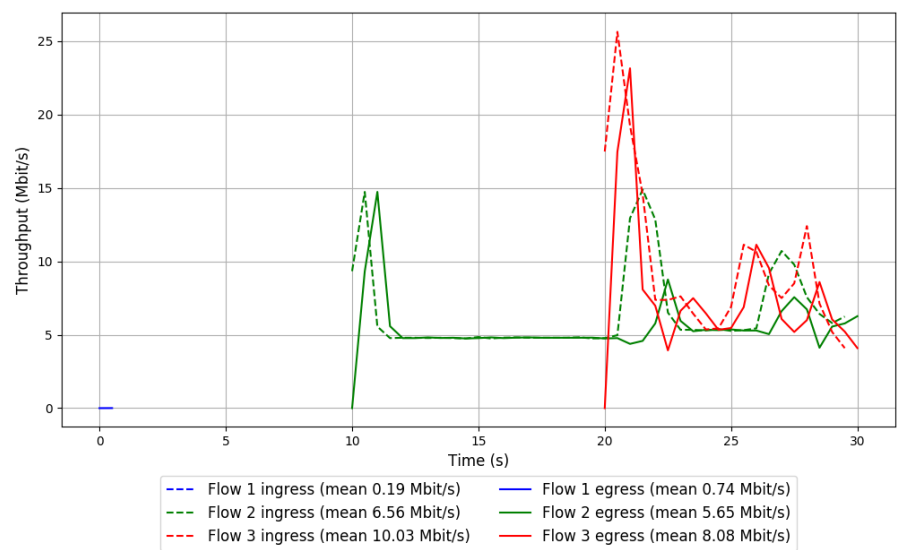
```
Run 5: Statistics of PCC-Expr

Start at: 2019-06-27 09:47:19
End at: 2019-06-27 09:47:49
Local clock offset: -0.189 ms
Remote clock offset: 1.036 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 15.64%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 1.086 ms
Loss rate: 18.81%
-- Flow 3:
Average throughput: 6.87 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 6.60%
```
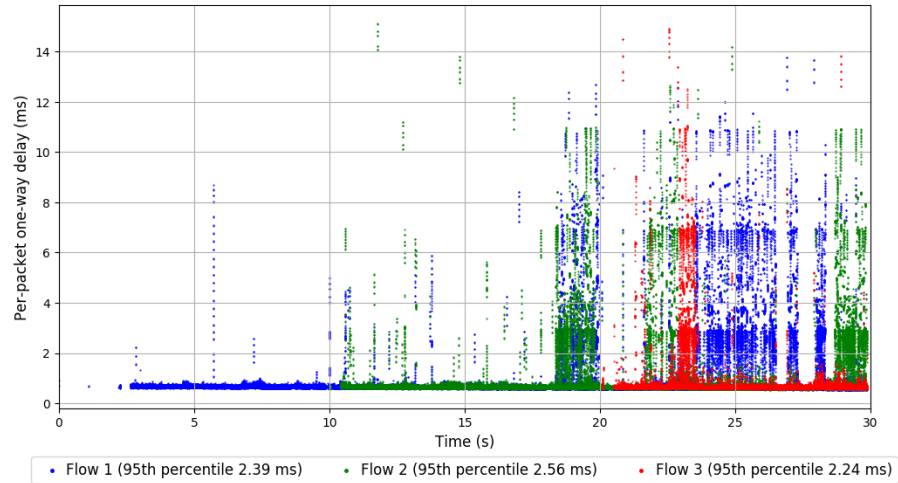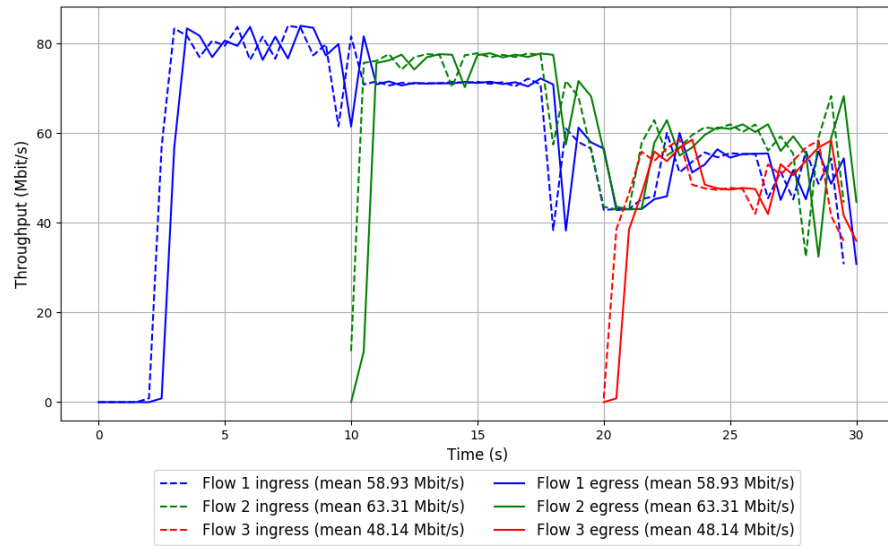
Run 5: Report of PCC-Expr — Data Link
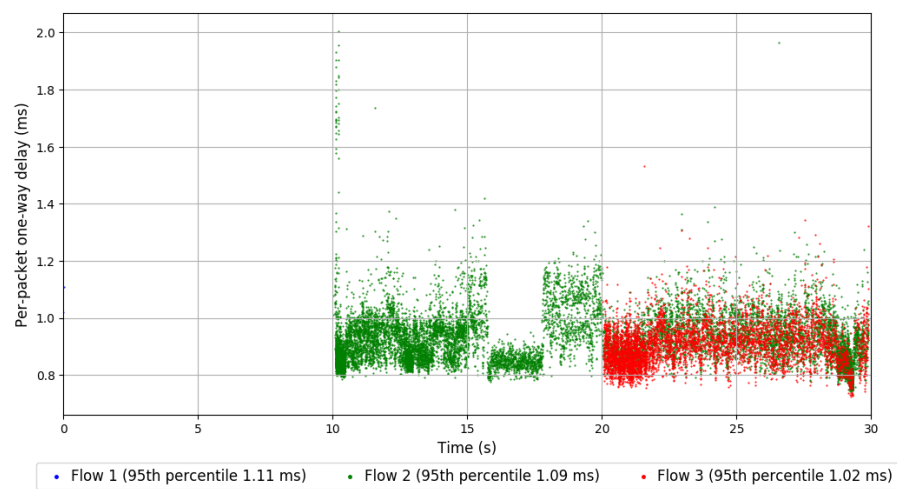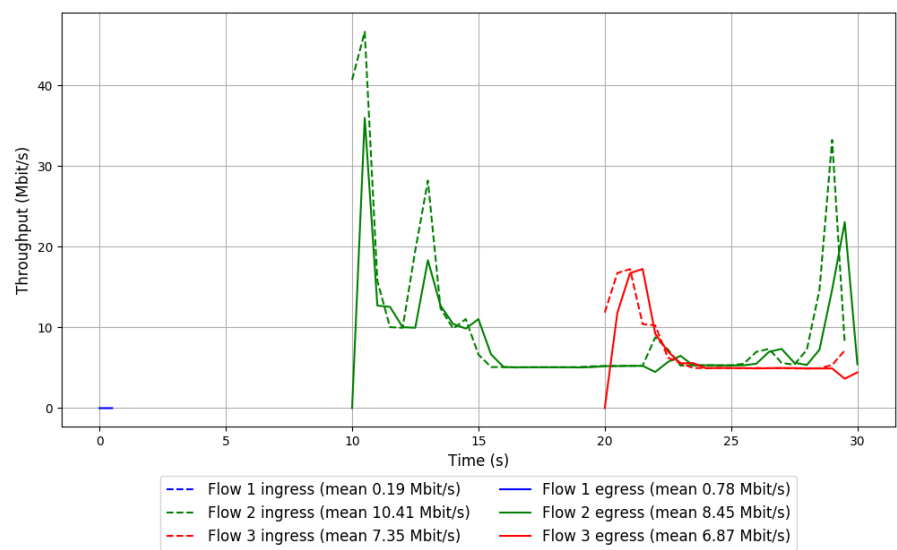
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-06-27 07:41:46
End at: 2019-06-27 07:42:16
Local clock offset: -4.605 ms
Remote clock offset: 1.029 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.80 Mbit/s
95th percentile per-packet one-way delay: 2.439 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.93 Mbit/s
95th percentile per-packet one-way delay: 2.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.31 Mbit/s
95th percentile per-packet one-way delay: 2.556 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.14 Mbit/s
95th percentile per-packet one-way delay: 2.239 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 58.93 Mbit/s) —— Flow 1 egress (mean 58.93 Mbit/s)
- - - Flow 2 ingress (mean 63.31 Mbit/s) —— Flow 2 egress (mean 63.31 Mbit/s)
- - - Flow 3 ingress (mean 48.14 Mbit/s) —— Flow 3 egress (mean 48.14 Mbit/s)

- Flow 1 (95th percentile 2.39 ms)　　• Flow 2 (95th percentile 2.56 ms)　　• Flow 3 (95th percentile 2.24 ms)

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```
Run 2: Statistics of QUIC Cubic

Start at: 2019-06-27 08:13:20
End at: 2019-06-27 08:13:50
Local clock offset: -0.609 ms
Remote clock offset: -3.659 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.82 Mbit/s
95th percentile per-packet one-way delay: 3.167 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.56 Mbit/s
95th percentile per-packet one-way delay: 1.500 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.04 Mbit/s
95th percentile per-packet one-way delay: 4.174 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 6.008 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link
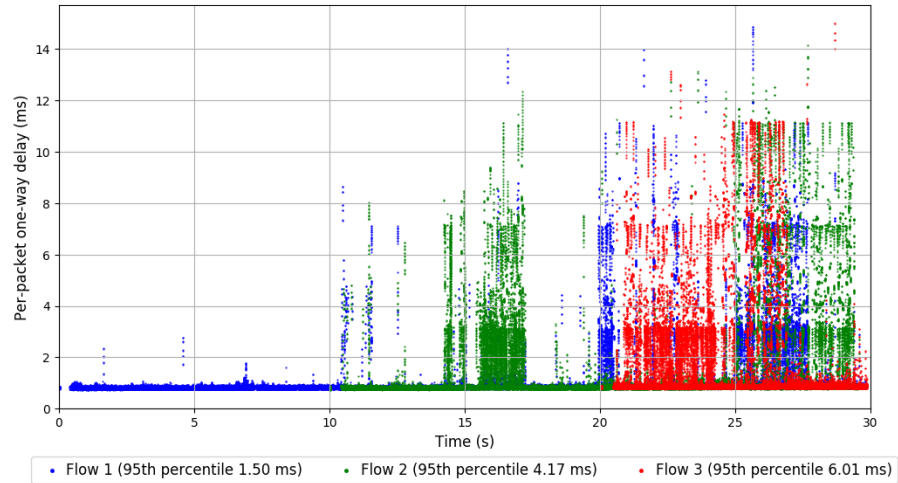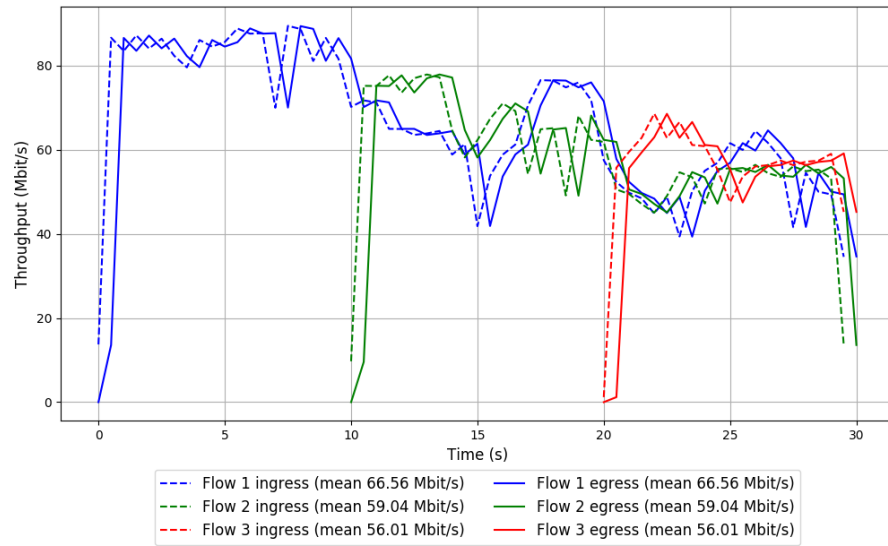
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-06-27 08:45:13
End at: 2019-06-27 08:45:43
Local clock offset: 3.687 ms
Remote clock offset: -3.205 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.29 Mbit/s
95th percentile per-packet one-way delay: 1.177 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.75 Mbit/s
95th percentile per-packet one-way delay: 0.936 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.99 Mbit/s
95th percentile per-packet one-way delay: 2.776 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.80 Mbit/s
95th percentile per-packet one-way delay: 3.896 ms
Loss rate: 0.00%
```

# Run 3: Report of QUIC Cubic — Data Link
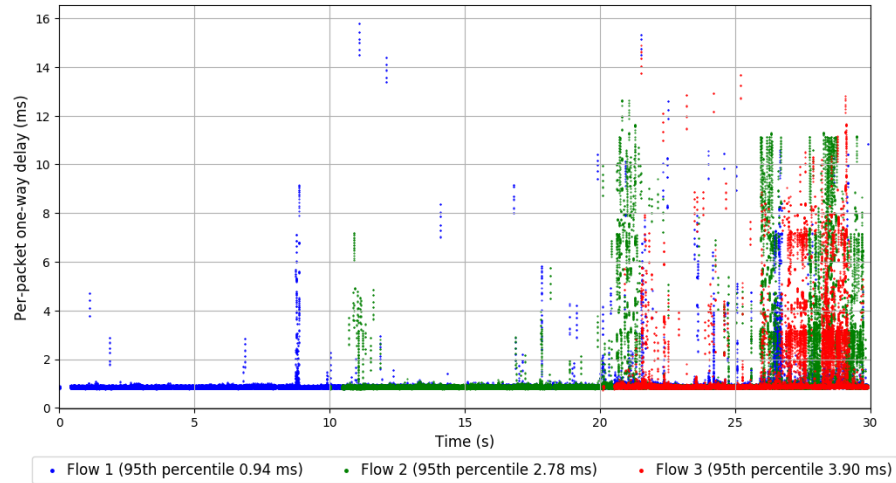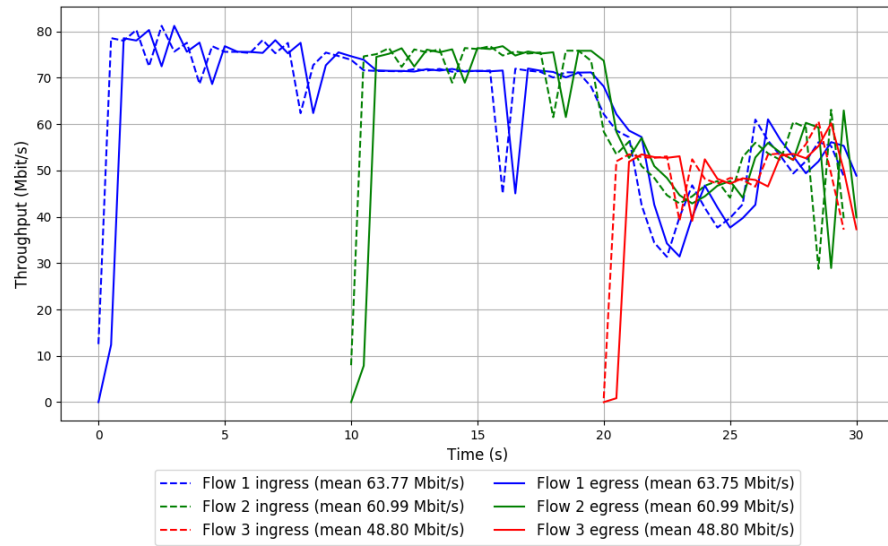
```
Run 4: Statistics of QUIC Cubic

Start at: 2019-06-27 09:16:43
End at: 2019-06-27 09:17:13
Local clock offset: -4.249 ms
Remote clock offset: -2.998 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.58 Mbit/s
95th percentile per-packet one-way delay: 0.915 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.80 Mbit/s
95th percentile per-packet one-way delay: 0.879 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.09 Mbit/s
95th percentile per-packet one-way delay: 0.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 3.474 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link
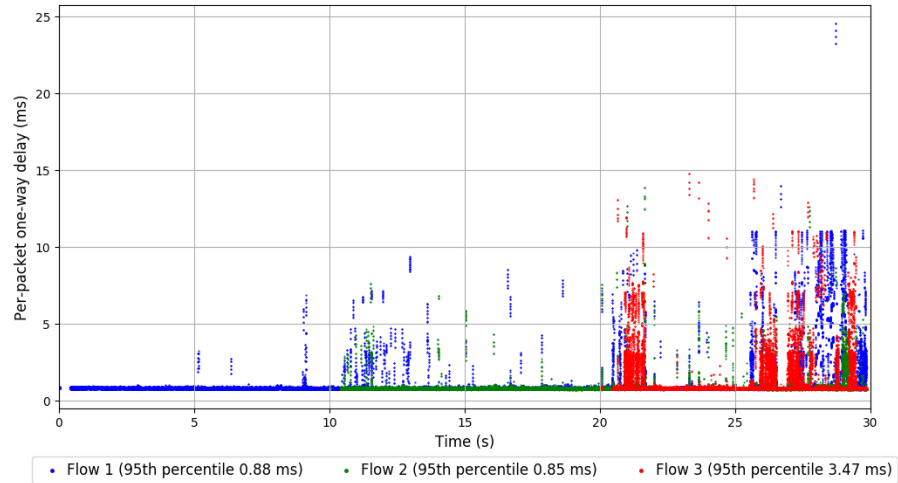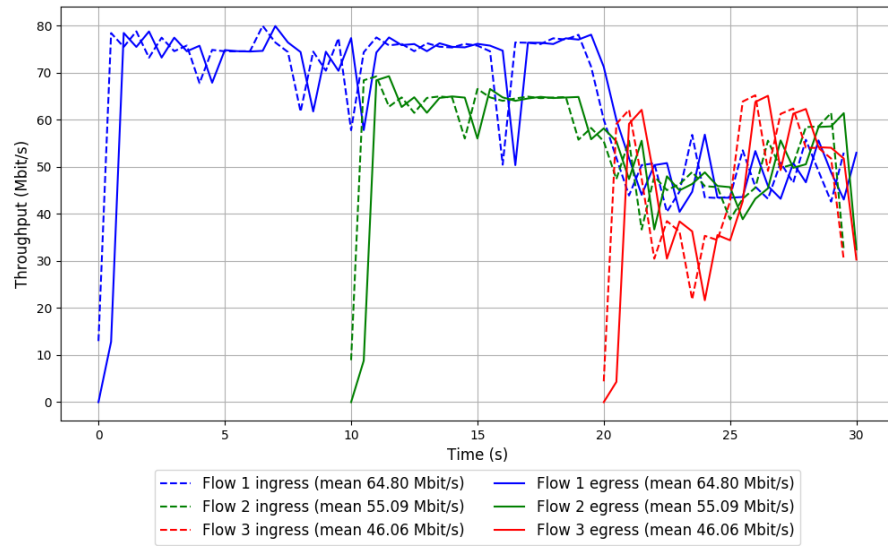
```
Run 5: Statistics of QUIC Cubic

Start at: 2019-06-27 09:48:34
End at: 2019-06-27 09:49:04
Local clock offset: -0.186 ms
Remote clock offset: 1.159 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.94 Mbit/s
95th percentile per-packet one-way delay: 1.914 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.57 Mbit/s
95th percentile per-packet one-way delay: 0.877 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 3.049 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.25 Mbit/s
95th percentile per-packet one-way delay: 2.593 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link
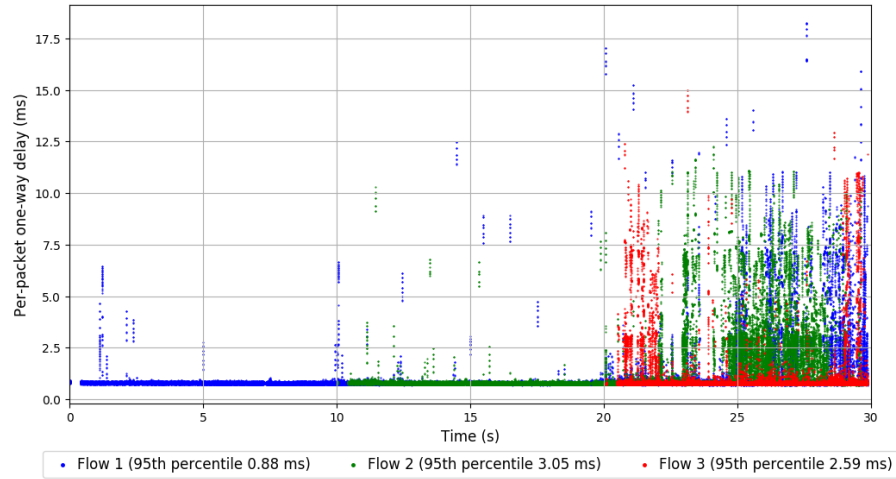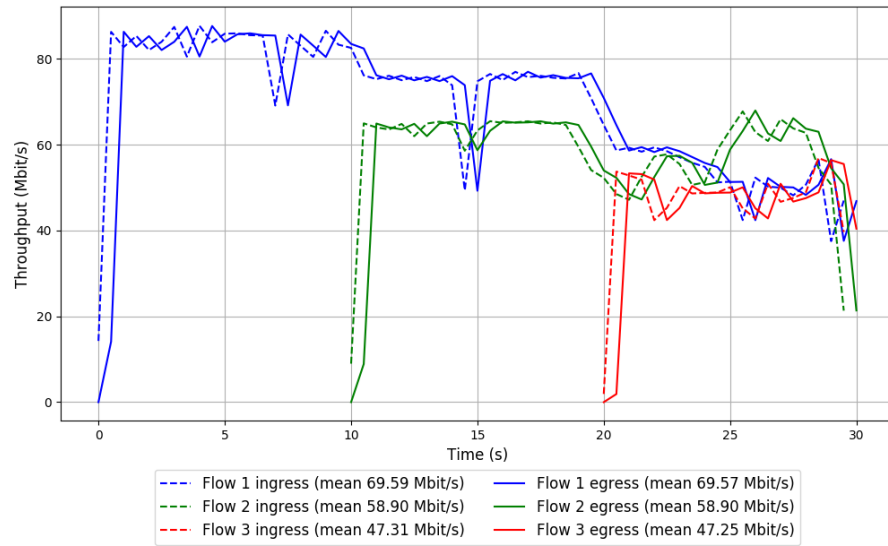
```
Run 1: Statistics of SCReAM

Start at: 2019-06-27 08:01:46
End at: 2019-06-27 08:02:16
Local clock offset: -1.328 ms
Remote clock offset: -2.408 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.432 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.380 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.485 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link
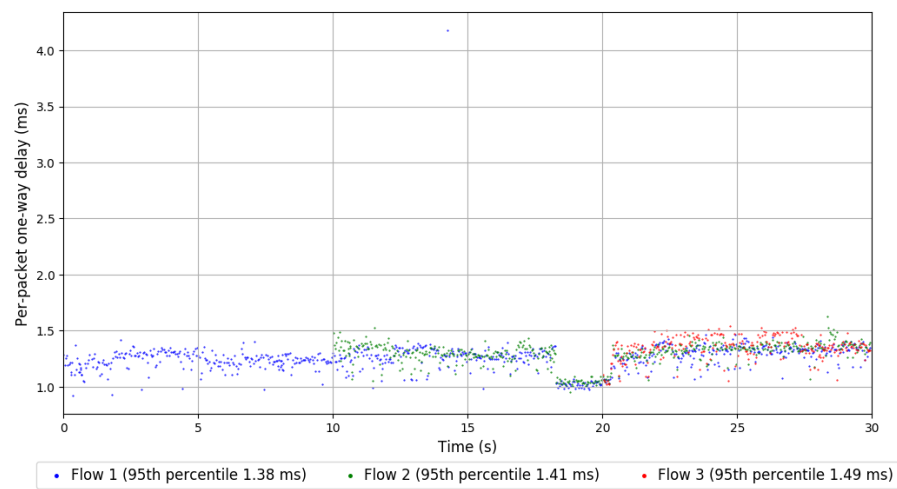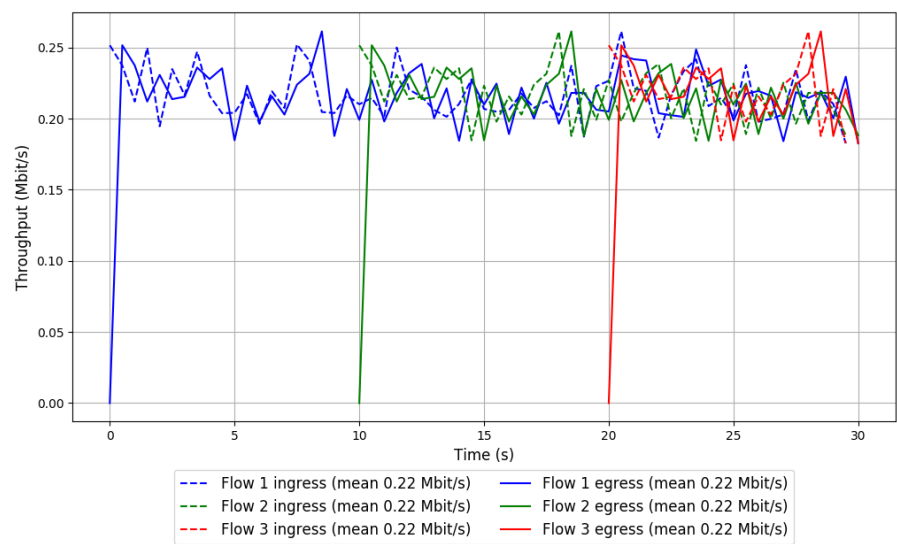
```
Run 2: Statistics of SCReAM

Start at: 2019-06-27 08:33:40
End at: 2019-06-27 08:34:10
Local clock offset: 2.836 ms
Remote clock offset: -3.353 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.251 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link
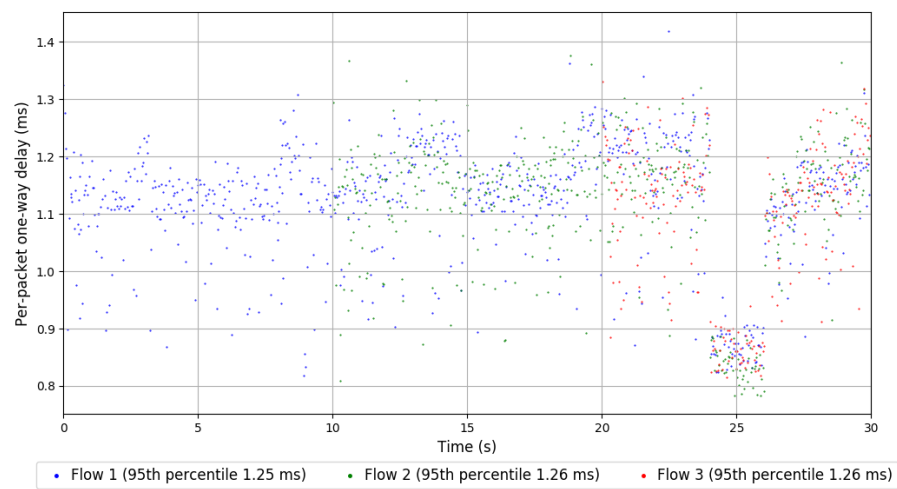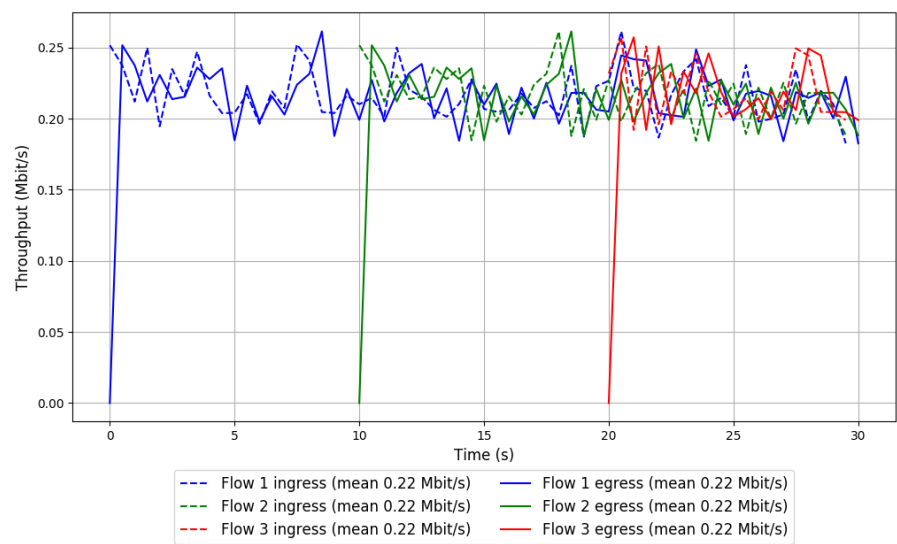
```
Run 3: Statistics of SCReAM

Start at: 2019-06-27 09:05:22
End at: 2019-06-27 09:05:52
Local clock offset: -2.849 ms
Remote clock offset: -3.055 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.081 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link
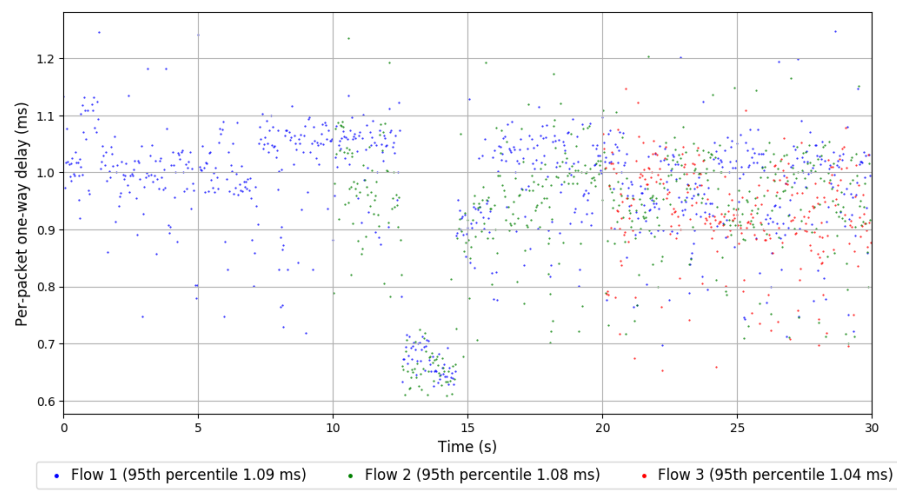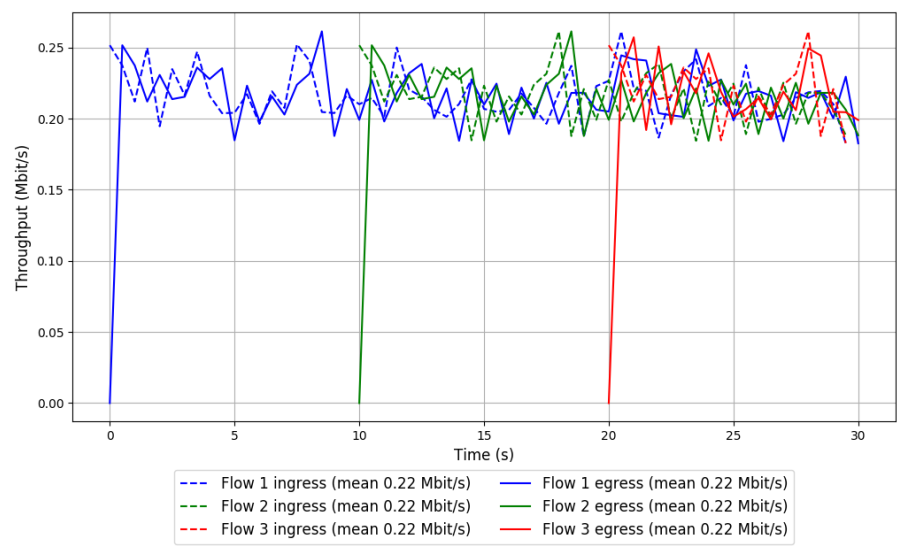
```
Run 4: Statistics of SCReAM

Start at: 2019-06-27 09:36:58
End at: 2019-06-27 09:37:28
Local clock offset: -0.537 ms
Remote clock offset: -1.02 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.140 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.144 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.00%
```
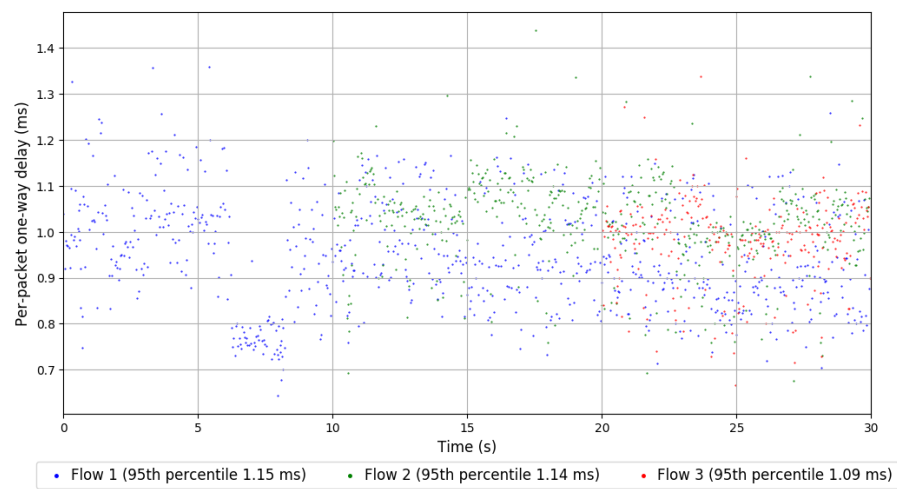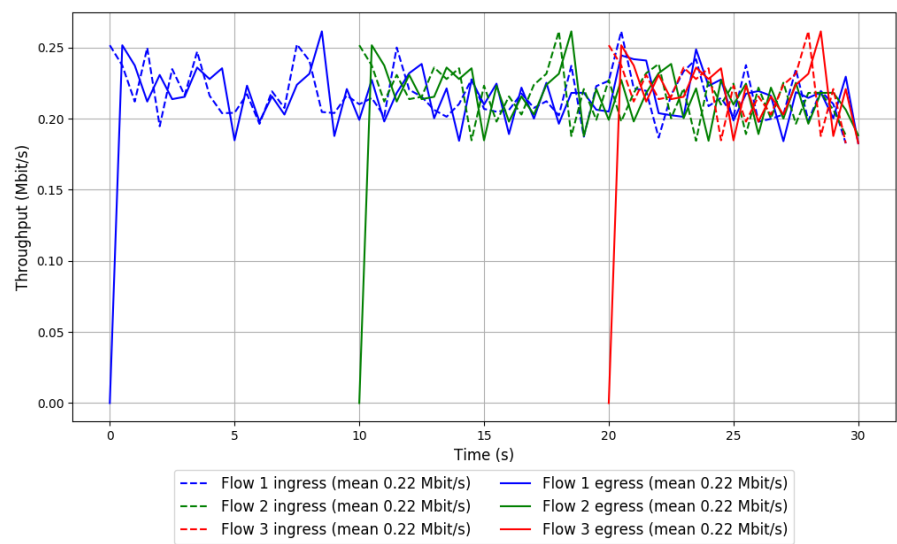
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-06-27 10:08:55
End at: 2019-06-27 10:09:25
Local clock offset: 0.039 ms
Remote clock offset: 0.982 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.483 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.481 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.513 ms
Loss rate: 0.00%
```
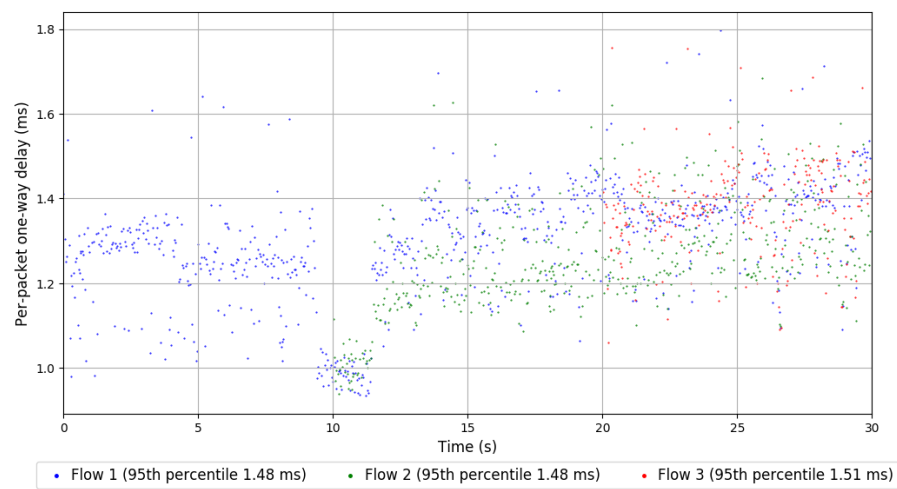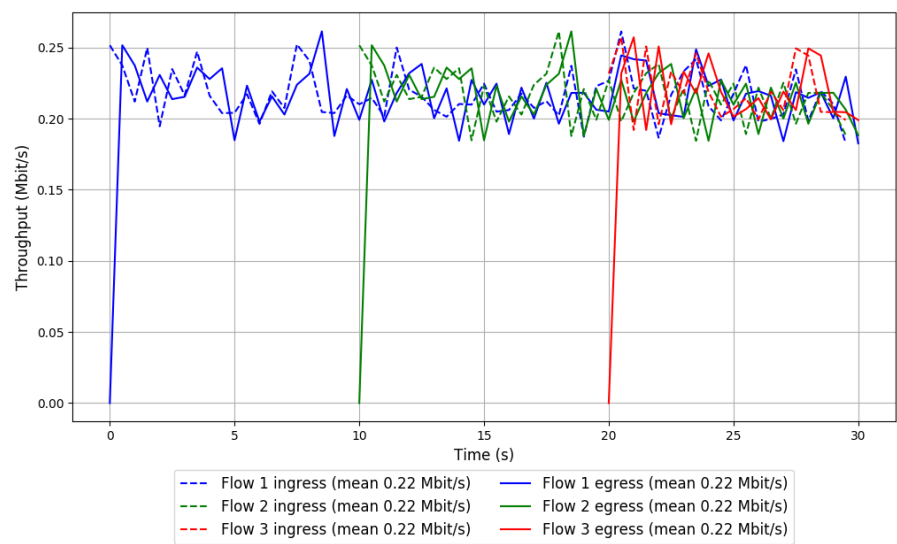
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-06-27 07:52:07
End at: 2019-06-27 07:52:37
Local clock offset: -3.727 ms
Remote clock offset: 0.053 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.92 Mbit/s
95th percentile per-packet one-way delay: 4.818 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.10 Mbit/s
95th percentile per-packet one-way delay: 4.665 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 50.03 Mbit/s
95th percentile per-packet one-way delay: 4.864 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 5.124 ms
Loss rate: 0.01%
```
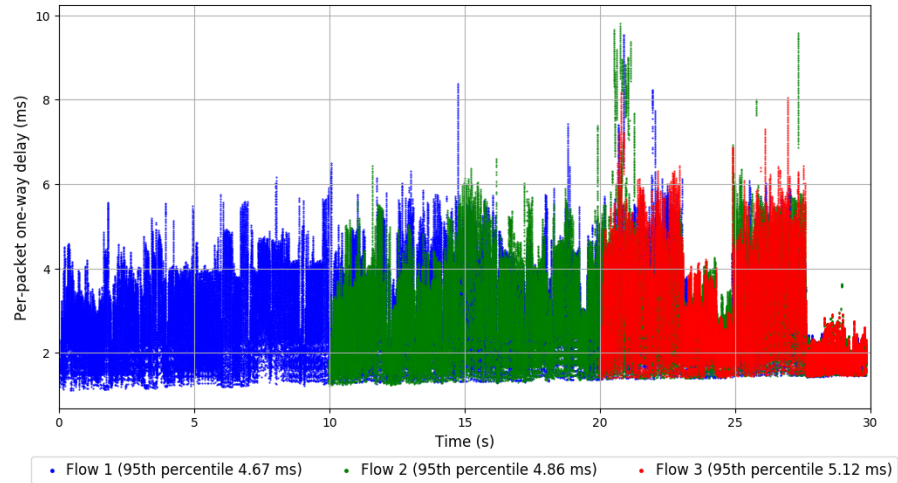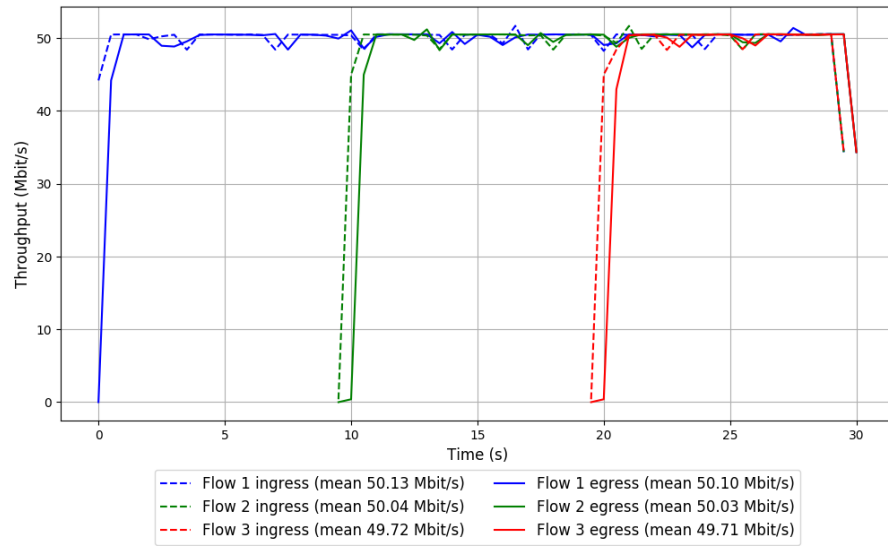
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-06-27 08:23:53
End at: 2019-06-27 08:24:23
Local clock offset: 1.207 ms
Remote clock offset: -4.072 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.61 Mbit/s
95th percentile per-packet one-way delay: 4.204 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 4.161 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 49.92 Mbit/s
95th percentile per-packet one-way delay: 4.125 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 49.62 Mbit/s
95th percentile per-packet one-way delay: 4.451 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link
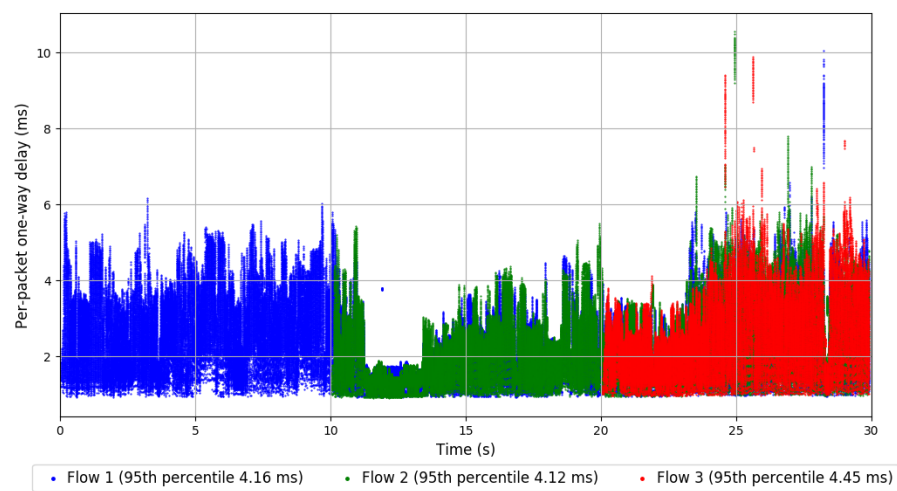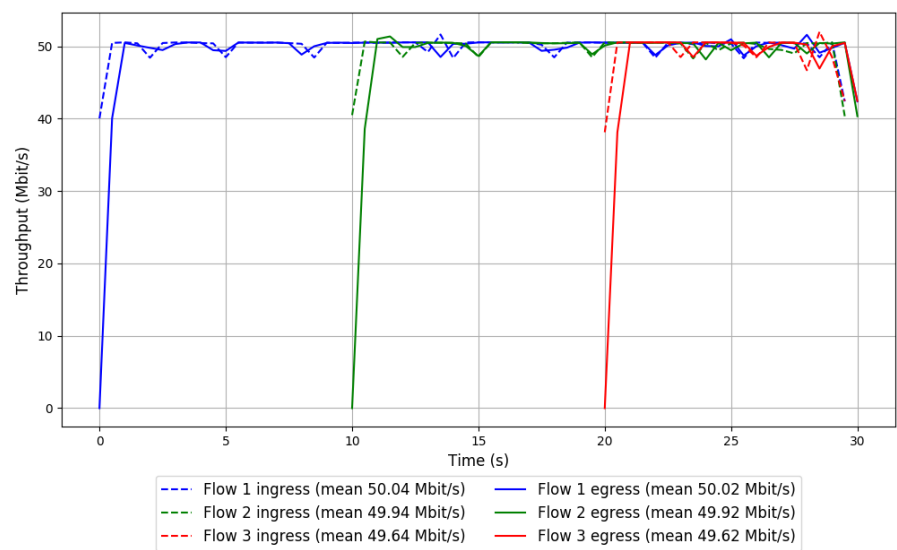
```
Run 3: Statistics of Sprout

Start at: 2019-06-27 08:55:35
End at: 2019-06-27 08:56:05
Local clock offset: -0.221 ms
Remote clock offset: -3.3 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.69 Mbit/s
95th percentile per-packet one-way delay: 3.702 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 3.612 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 50.00 Mbit/s
95th percentile per-packet one-way delay: 3.603 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.65 Mbit/s
95th percentile per-packet one-way delay: 4.026 ms
Loss rate: 0.02%
```

Run 3: Report of Sprout — Data Link
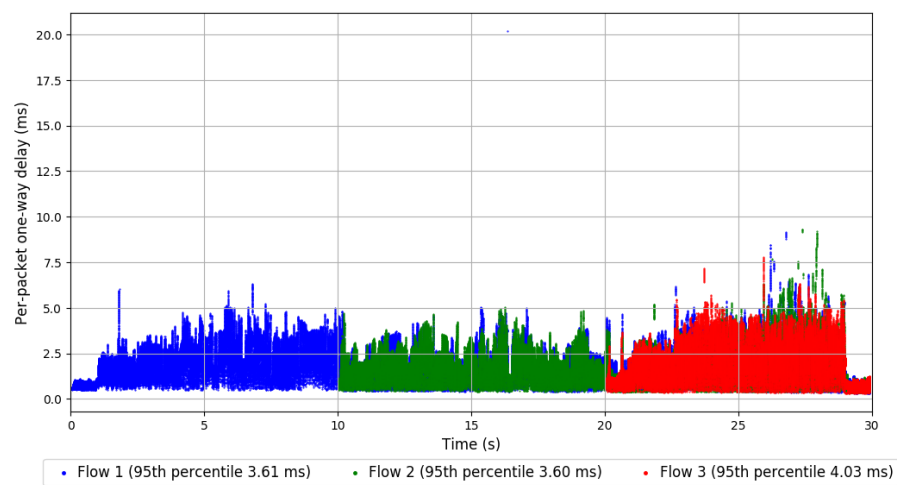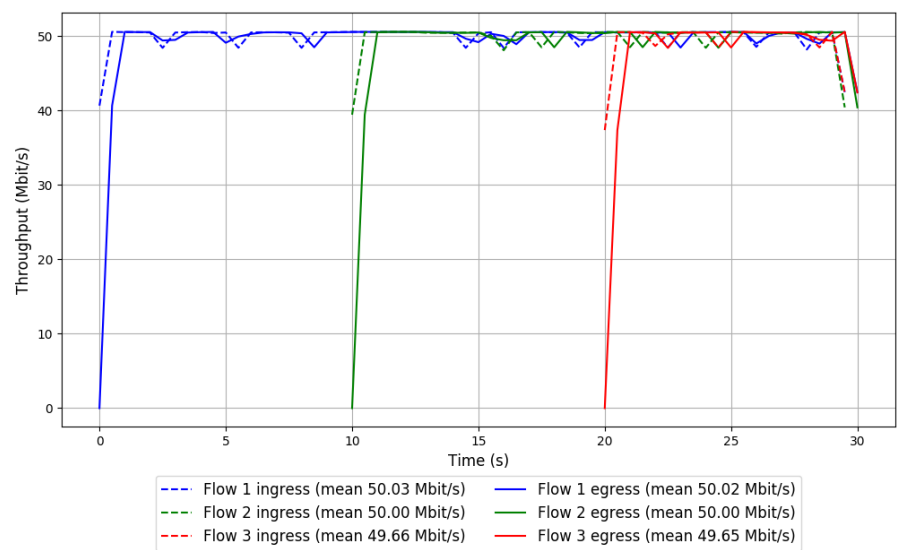
```
Run 4: Statistics of Sprout

Start at: 2019-06-27 09:27:11
End at: 2019-06-27 09:27:41
Local clock offset: -1.674 ms
Remote clock offset: -3.002 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.62 Mbit/s
95th percentile per-packet one-way delay: 4.575 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.00 Mbit/s
95th percentile per-packet one-way delay: 4.683 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.648 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.69 Mbit/s
95th percentile per-packet one-way delay: 3.630 ms
Loss rate: 0.09%
```

Run 4: Report of Sprout — Data Link
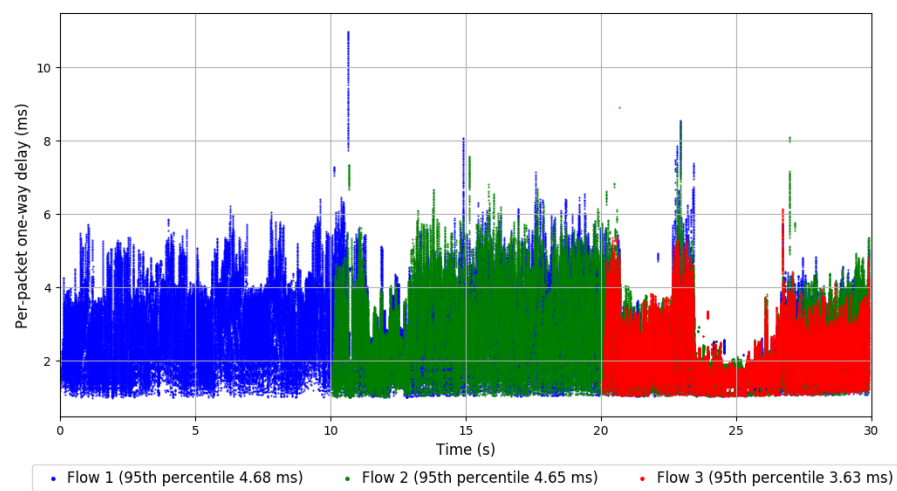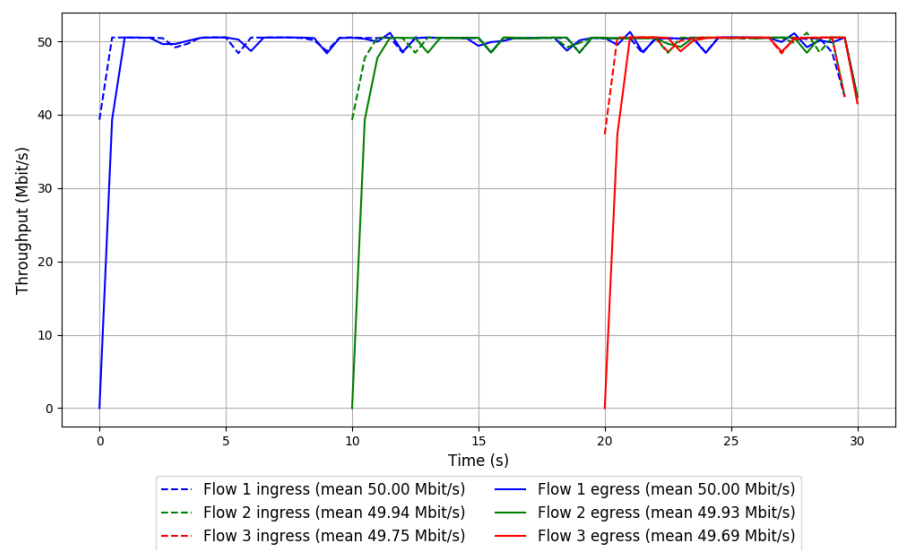
```
Run 5: Statistics of Sprout

Start at: 2019-06-27 09:59:01
End at: 2019-06-27 09:59:31
Local clock offset: -0.052 ms
Remote clock offset: 2.257 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.46 Mbit/s
95th percentile per-packet one-way delay: 4.717 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 49.97 Mbit/s
95th percentile per-packet one-way delay: 4.623 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 4.767 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 4.834 ms
Loss rate: 0.28%
```

Run 5: Report of Sprout — Data Link
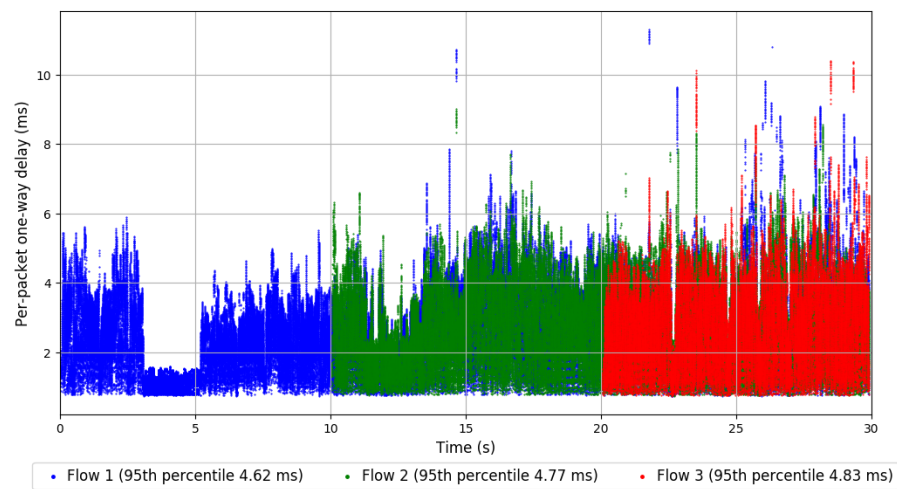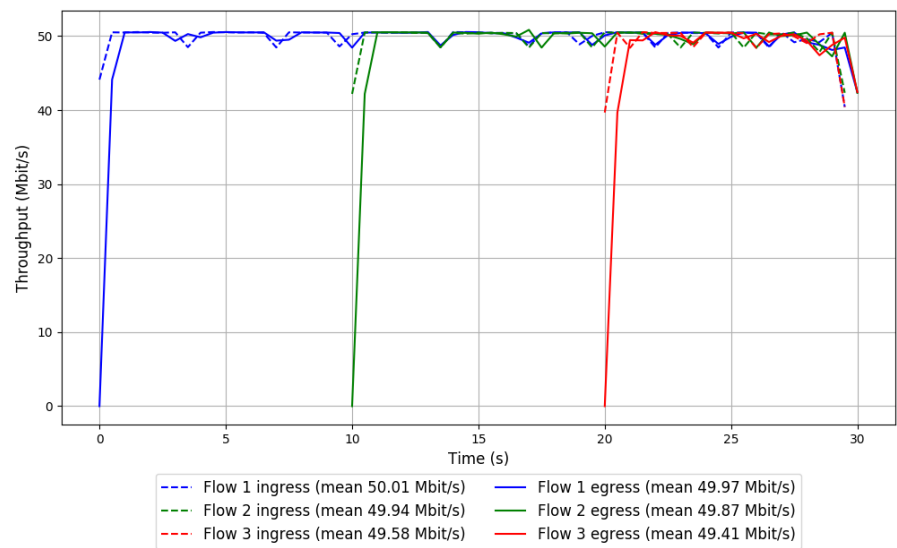
```
Run 1: Statistics of TaoVA-100x

Start at: 2019-06-27 07:57:30
End at: 2019-06-27 07:58:00
Local clock offset: -2.01 ms
Remote clock offset: -1.701 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 1.309 ms
Loss rate: 58.18%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.950 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 1.342 ms
Loss rate: 30.14%
-- Flow 3:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 1.264 ms
Loss rate: 66.64%
```

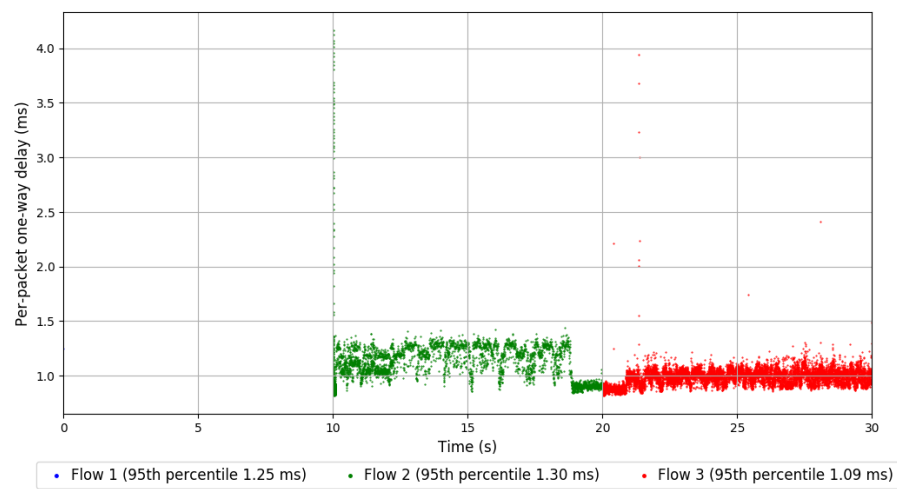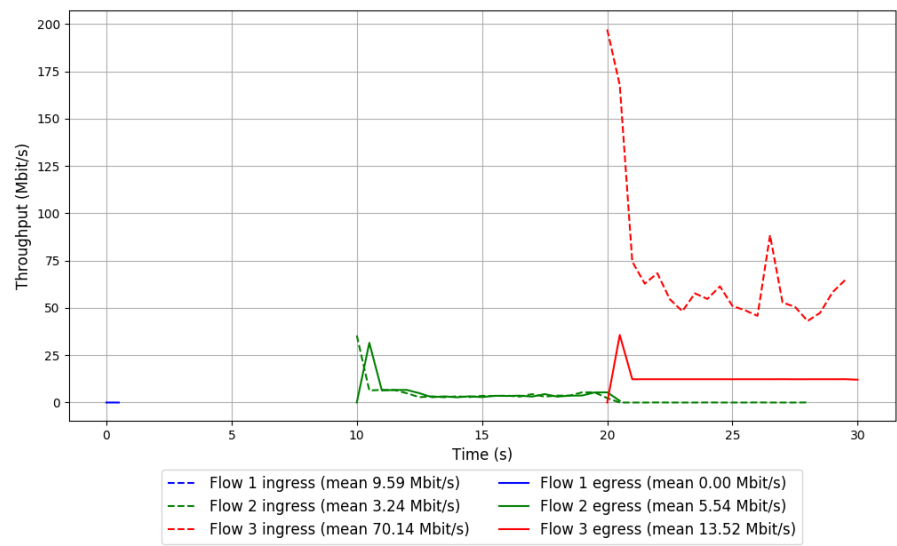Run 1: Report of TaoVA-100x — Data Link
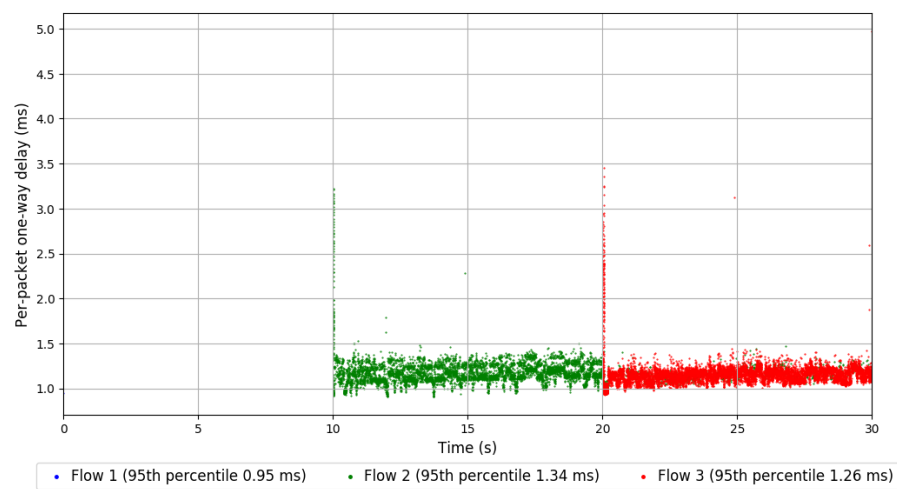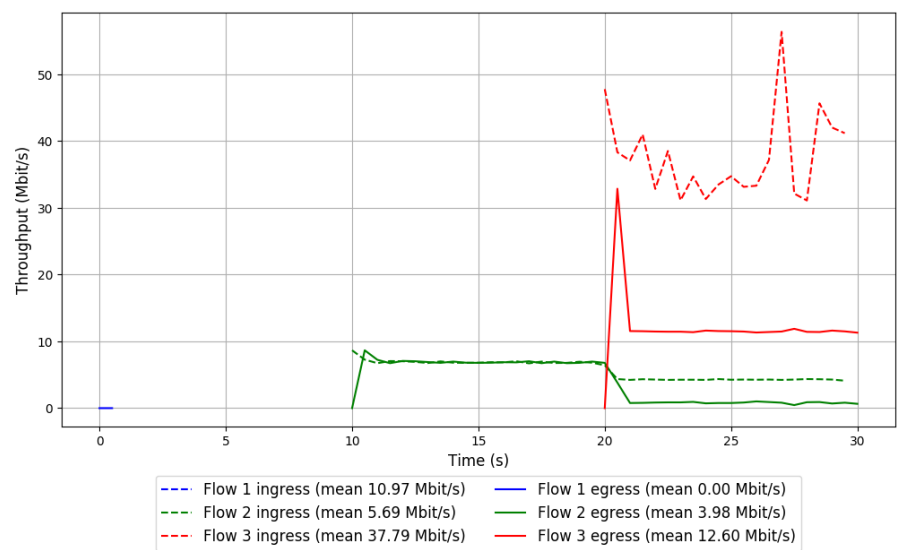
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-06-27 08:29:16
End at: 2019-06-27 08:29:46
Local clock offset: 2.288 ms
Remote clock offset: -3.552 ms

# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 74.85%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.246 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 4.67%
-- Flow 3:
Average throughput: 13.52 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 80.72%
```

Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 9.59 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 3.24 Mbit/s) --- Flow 2 egress (mean 5.54 Mbit/s)
Flow 3 ingress (mean 70.14 Mbit/s) --- Flow 3 egress (mean 13.52 Mbit/s)

Flow 1 (95th percentile 1.25 ms) Flow 2 (95th percentile 1.30 ms) Flow 3 (95th percentile 1.09 ms)
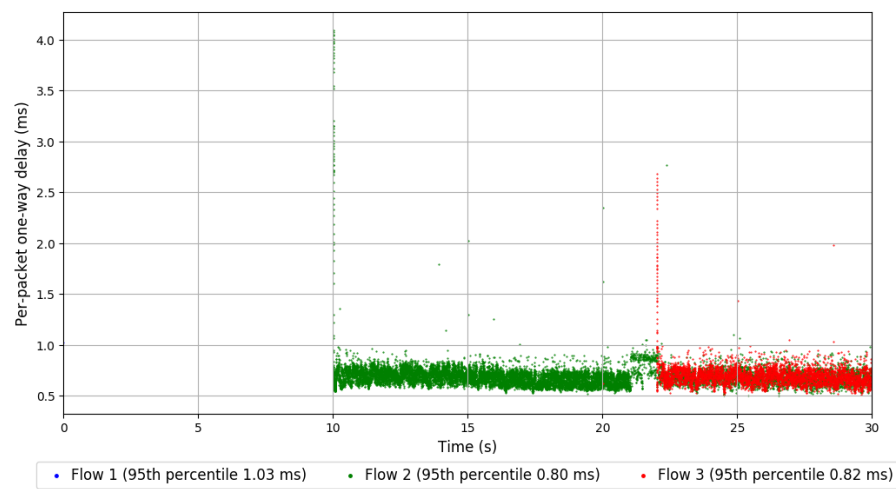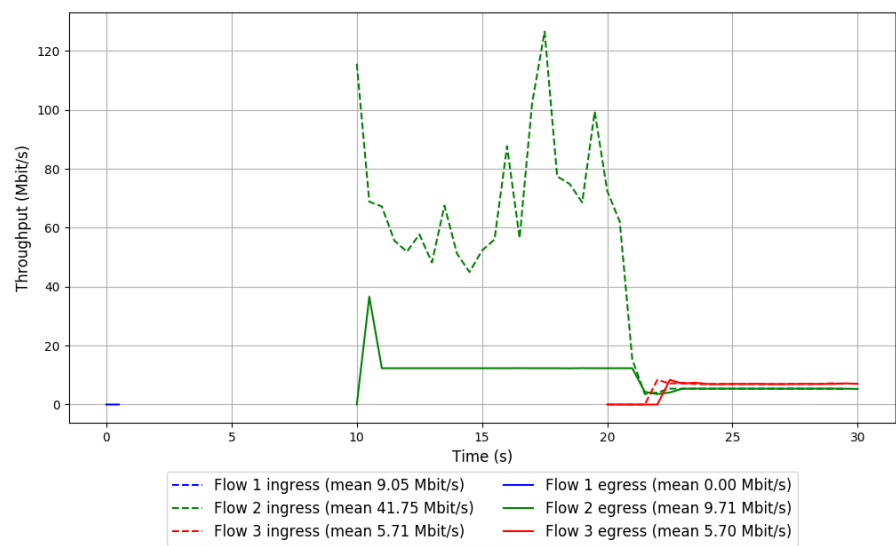
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-06-27 09:01:00
End at: 2019-06-27 09:01:30
Local clock offset: -1.954 ms
Remote clock offset: -3.162 ms

# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 0.808 ms
Loss rate: 71.85%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.71 Mbit/s
95th percentile per-packet one-way delay: 0.804 ms
Loss rate: 76.75%
-- Flow 3:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 0.820 ms
Loss rate: 0.04%
```

Run 3: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 9.05 Mbit/s) ——— Flow 1 egress (mean 0.00 Mbit/s)
- - - - Flow 2 ingress (mean 41.75 Mbit/s) ——— Flow 2 egress (mean 9.71 Mbit/s)
- - - - Flow 3 ingress (mean 5.71 Mbit/s) ——— Flow 3 egress (mean 5.70 Mbit/s)

- Flow 1 (95th percentile 1.03 ms)   • Flow 2 (95th percentile 0.80 ms)   • Flow 3 (95th percentile 0.82 ms)
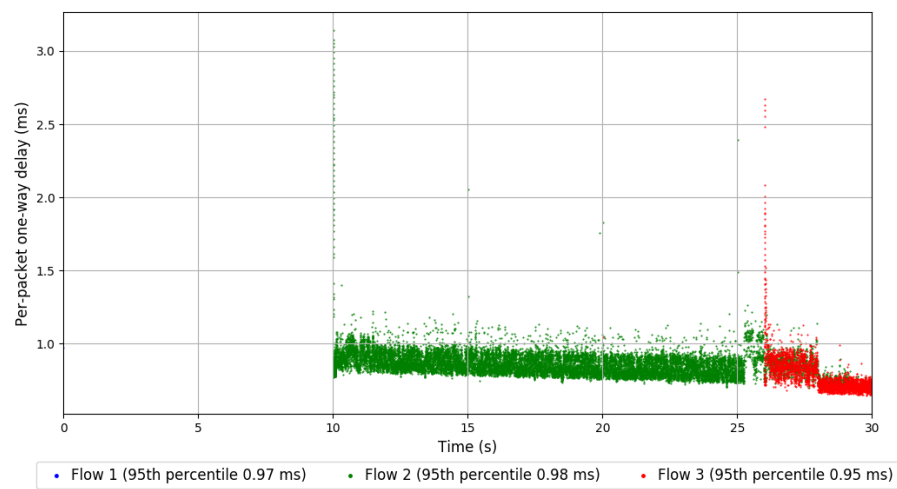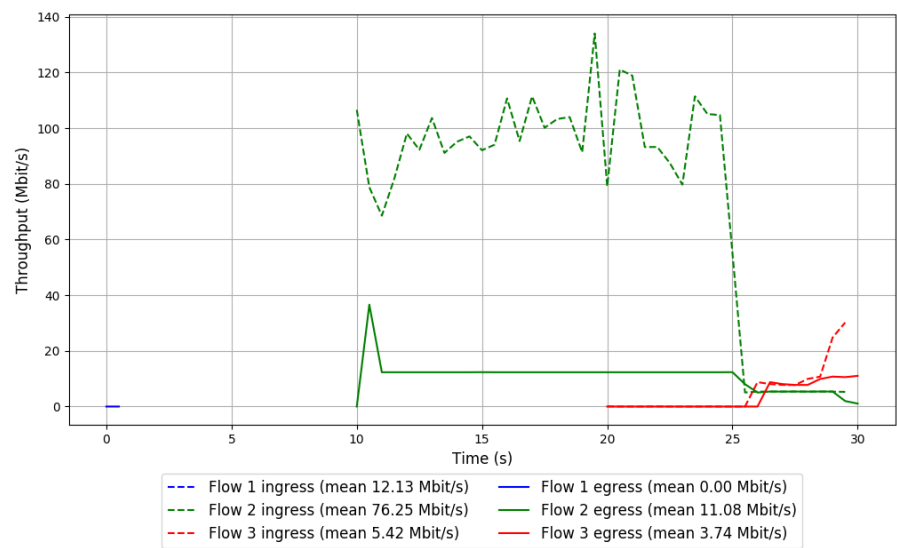
```
Run 4: Statistics of TaoVA-100x

Start at: 2019-06-27 09:32:36
End at: 2019-06-27 09:33:06
Local clock offset: -0.892 ms
Remote clock offset: -2.523 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 0.977 ms
Loss rate: 83.61%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.973 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 85.48%
-- Flow 3:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 0.950 ms
Loss rate: 31.03%
```

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

Flow 1 ingress (mean 12.13 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 76.25 Mbit/s)   Flow 2 egress (mean 11.08 Mbit/s)
Flow 3 ingress (mean 5.42 Mbit/s)   Flow 3 egress (mean 3.74 Mbit/s)

Flow 1 (95th percentile 0.97 ms)   Flow 2 (95th percentile 0.98 ms)   Flow 3 (95th percentile 0.95 ms)

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

Start at: 2019-06-27 10:04:31
End at: 2019-06-27 10:05:01
Local clock offset: 0.013 ms
Remote clock offset: 2.74 ms


# Below is generated by plot.py at 2019-06-27 11:10:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.234 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.12%
```
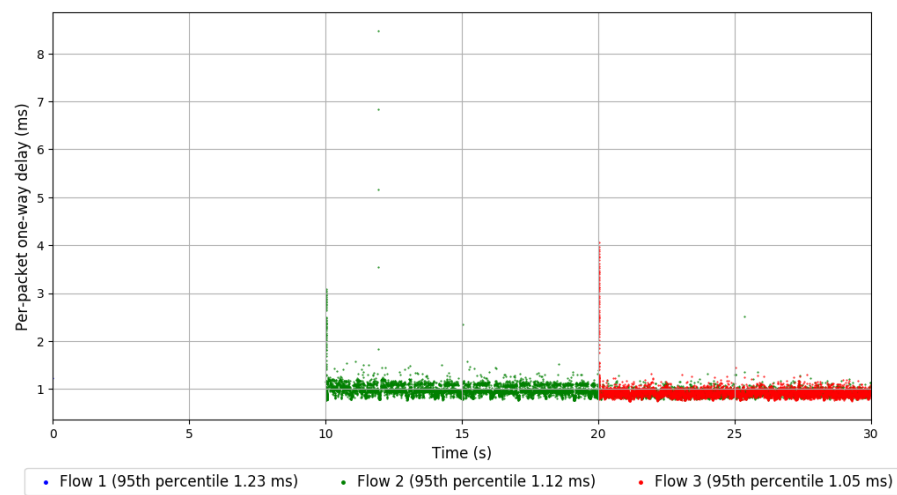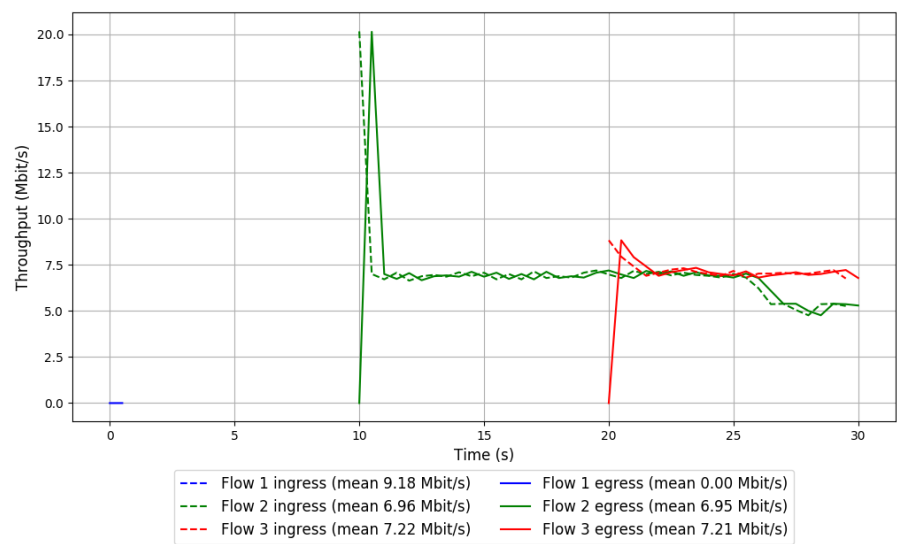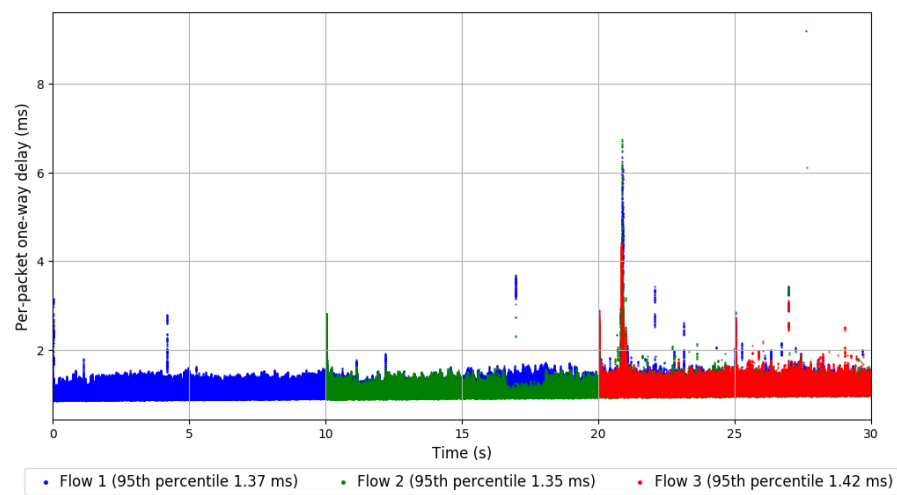
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 9.18 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 6.96 Mbit/s) --- Flow 2 egress (mean 6.95 Mbit/s) ---
Flow 3 ingress (mean 7.22 Mbit/s) --- Flow 3 egress (mean 7.21 Mbit/s) ---

Flow 1 (95th percentile 1.23 ms) • Flow 2 (95th percentile 1.12 ms) • Flow 3 (95th percentile 1.05 ms)
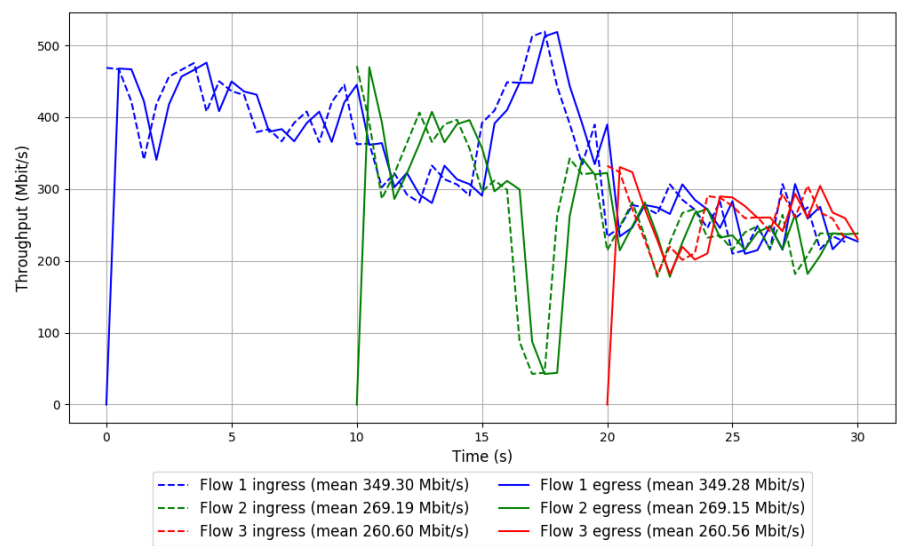
```
Run 1: Statistics of TCP Vegas

Start at: 2019-06-27 08:03:01
End at: 2019-06-27 08:03:31
Local clock offset: -1.209 ms
Remote clock offset: -2.601 ms


# Below is generated by plot.py at 2019-06-27 11:15:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 615.27 Mbit/s
95th percentile per-packet one-way delay: 1.376 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 349.28 Mbit/s
95th percentile per-packet one-way delay: 1.370 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 269.15 Mbit/s
95th percentile per-packet one-way delay: 1.355 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 260.56 Mbit/s
95th percentile per-packet one-way delay: 1.420 ms
Loss rate: 0.01%
```

Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 349.30 Mbit/s) --- Flow 1 egress (mean 349.28 Mbit/s)
Flow 2 ingress (mean 269.19 Mbit/s) --- Flow 2 egress (mean 269.15 Mbit/s)
Flow 3 ingress (mean 260.60 Mbit/s) --- Flow 3 egress (mean 260.56 Mbit/s)

Flow 1 (95th percentile 1.37 ms)   Flow 2 (95th percentile 1.35 ms)   Flow 3 (95th percentile 1.42 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-06-27 08:34:55
End at: 2019-06-27 08:35:25
Local clock offset: 2.955 ms
Remote clock offset: -3.268 ms


# Below is generated by plot.py at 2019-06-27 11:15:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 591.15 Mbit/s
95th percentile per-packet one-way delay: 1.268 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 237.45 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 346.99 Mbit/s
95th percentile per-packet one-way delay: 1.259 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 368.60 Mbit/s
95th percentile per-packet one-way delay: 1.330 ms
Loss rate: 0.00%
```

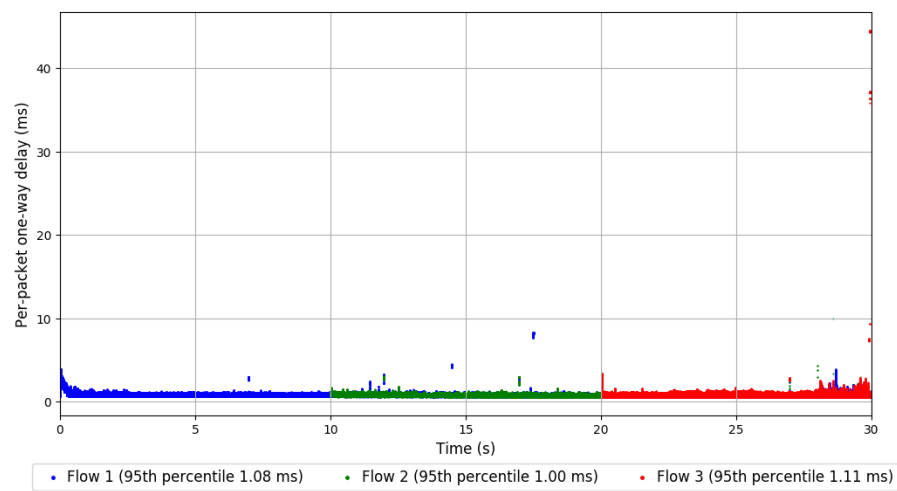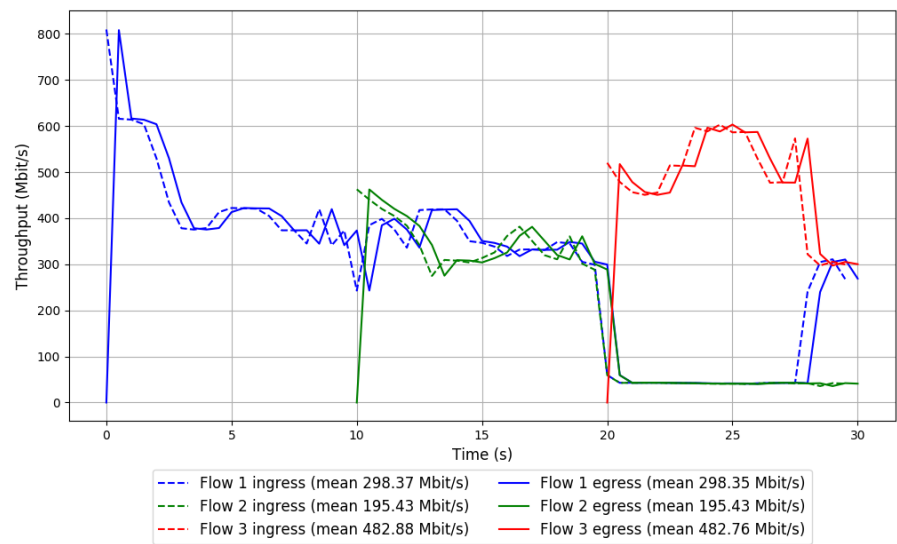Run 2: Report of TCP Vegas — Data Link
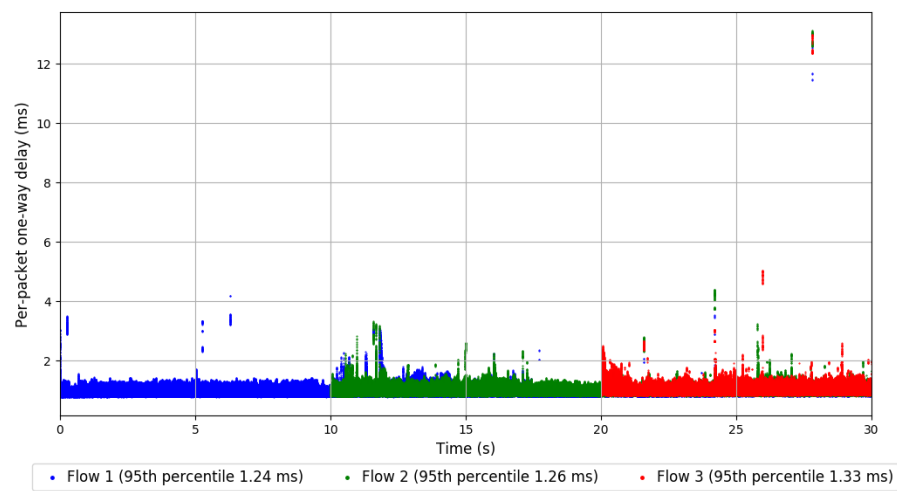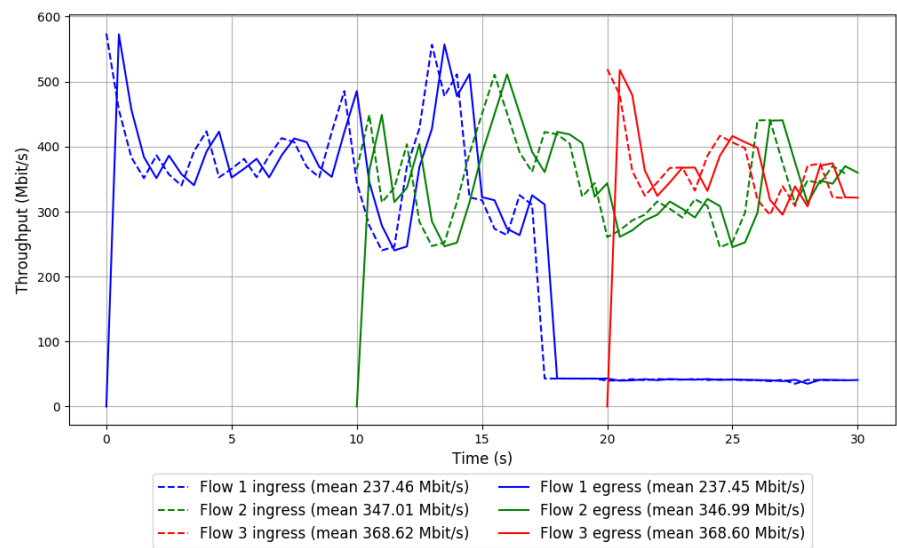
```
Run 3: Statistics of TCP Vegas

Start at: 2019-06-27 09:06:36
End at: 2019-06-27 09:07:06
Local clock offset: -3.042 ms
Remote clock offset: -3.059 ms


# Below is generated by plot.py at 2019-06-27 11:15:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 589.06 Mbit/s
95th percentile per-packet one-way delay: 1.073 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 298.35 Mbit/s
95th percentile per-packet one-way delay: 1.083 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.43 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 482.76 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 0.02%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 298.37 Mbit/s) --- Flow 1 egress (mean 298.35 Mbit/s)
Flow 2 ingress (mean 195.43 Mbit/s) --- Flow 2 egress (mean 195.43 Mbit/s)
Flow 3 ingress (mean 482.88 Mbit/s) --- Flow 3 egress (mean 482.76 Mbit/s)

Flow 1 (95th percentile 1.08 ms) • Flow 2 (95th percentile 1.00 ms) • Flow 3 (95th percentile 1.11 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-06-27 09:38:13
End at: 2019-06-27 09:38:43
Local clock offset: -0.438 ms
Remote clock offset: -0.636 ms


# Below is generated by plot.py at 2019-06-27 11:15:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 621.13 Mbit/s
95th percentile per-packet one-way delay: 1.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 320.88 Mbit/s
95th percentile per-packet one-way delay: 1.278 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 317.71 Mbit/s
95th percentile per-packet one-way delay: 1.173 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 266.44 Mbit/s
95th percentile per-packet one-way delay: 1.234 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link
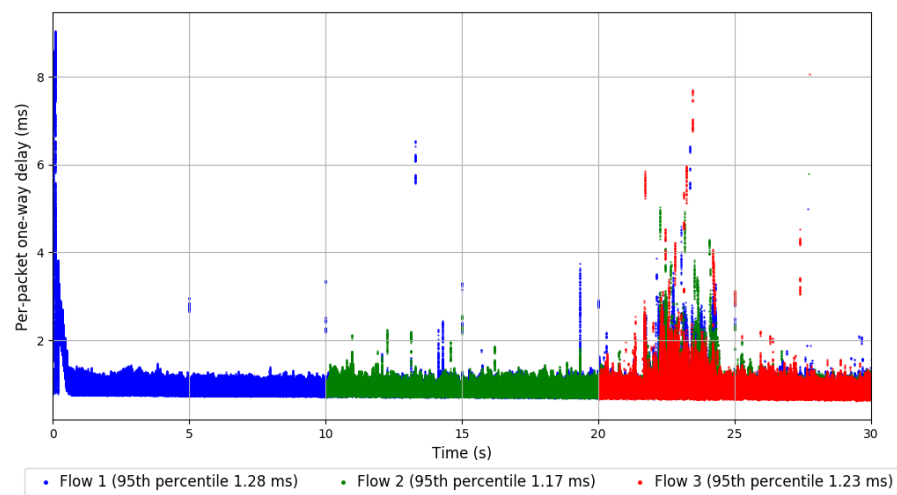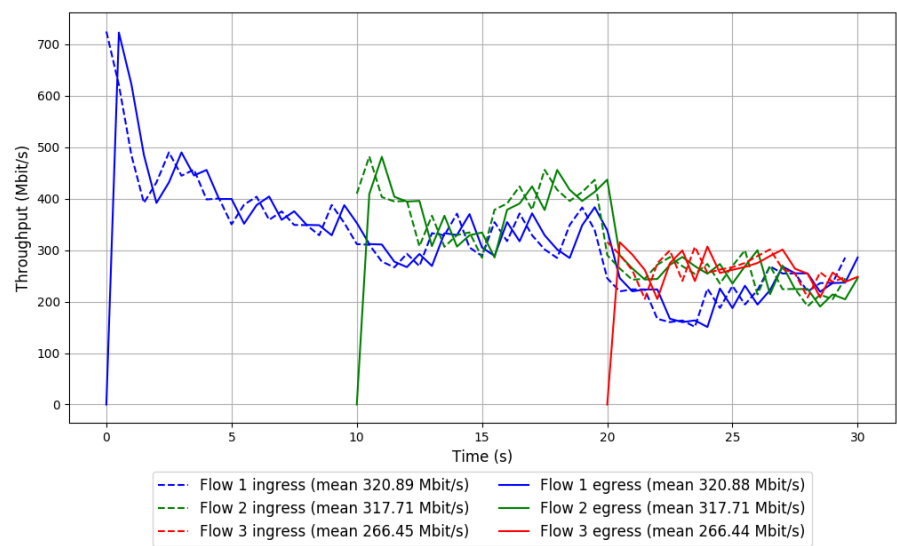
```
Run 5: Statistics of TCP Vegas

Start at: 2019-06-27 10:10:10
End at: 2019-06-27 10:10:40
Local clock offset: 0.089 ms
Remote clock offset: 0.421 ms


# Below is generated by plot.py at 2019-06-27 11:15:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 620.19 Mbit/s
95th percentile per-packet one-way delay: 1.389 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 326.44 Mbit/s
95th percentile per-packet one-way delay: 1.360 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 326.29 Mbit/s
95th percentile per-packet one-way delay: 1.422 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 229.69 Mbit/s
95th percentile per-packet one-way delay: 1.406 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link
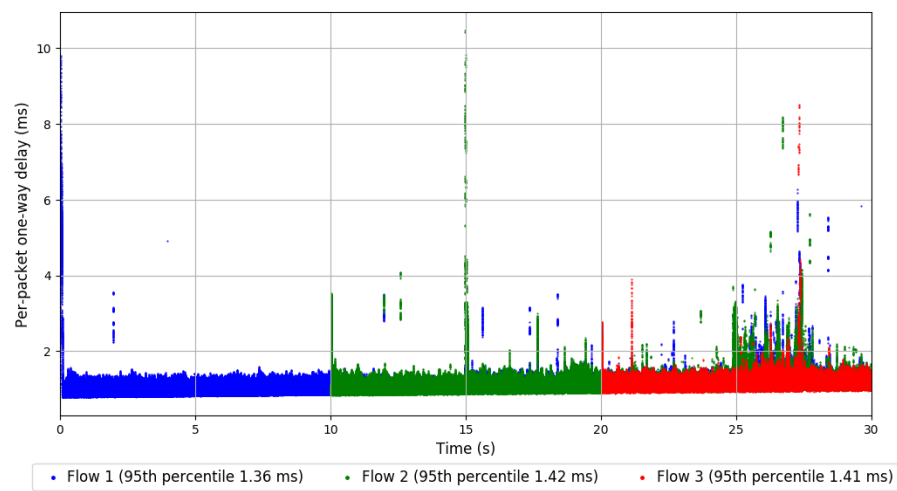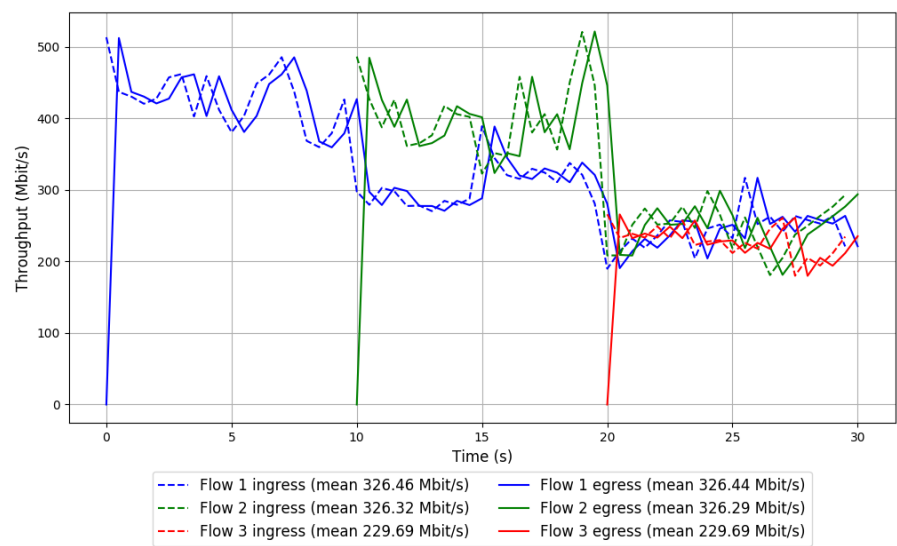
```
Run 1: Statistics of Verus

Start at: 2019-06-27 07:43:05
End at: 2019-06-27 07:43:35
Local clock offset: -4.811 ms
Remote clock offset: 1.114 ms


# Below is generated by plot.py at 2019-06-27 11:15:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.06 Mbit/s
95th percentile per-packet one-way delay: 9.541 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 181.08 Mbit/s
95th percentile per-packet one-way delay: 5.724 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 141.54 Mbit/s
95th percentile per-packet one-way delay: 18.162 ms
Loss rate: 2.67%
-- Flow 3:
Average throughput: 147.76 Mbit/s
95th percentile per-packet one-way delay: 10.557 ms
Loss rate: 2.06%
```
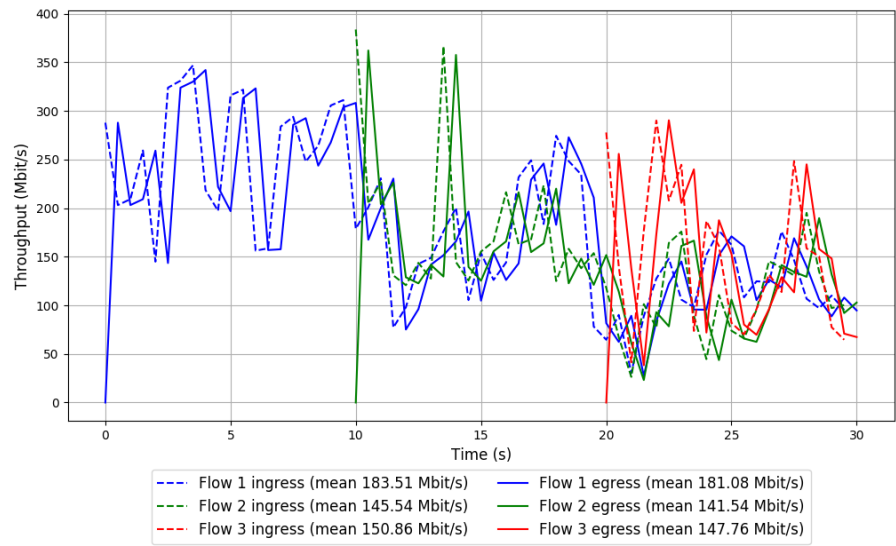
Run 1: Report of Verus — Data Link
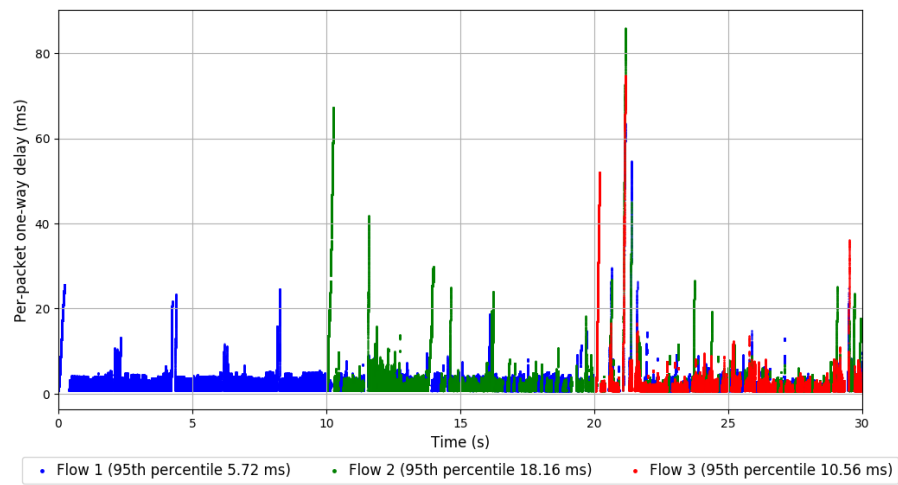
```
Run 2: Statistics of Verus

Start at: 2019-06-27 08:14:39
End at: 2019-06-27 08:15:09
Local clock offset: -0.605 ms
Remote clock offset: -3.692 ms


# Below is generated by plot.py at 2019-06-27 11:15:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.44 Mbit/s
95th percentile per-packet one-way delay: 10.430 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 197.25 Mbit/s
95th percentile per-packet one-way delay: 6.487 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 160.82 Mbit/s
95th percentile per-packet one-way delay: 11.746 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 109.66 Mbit/s
95th percentile per-packet one-way delay: 80.715 ms
Loss rate: 4.77%
```

Run 2: Report of Verus — Data Link
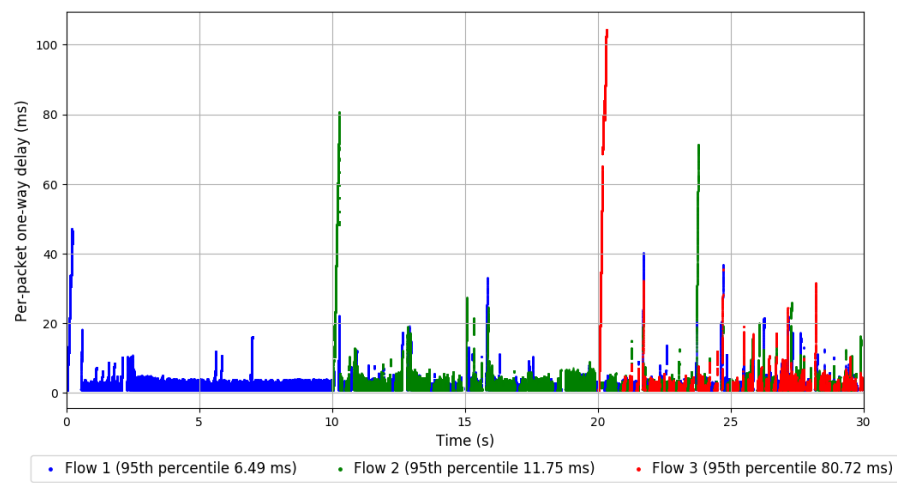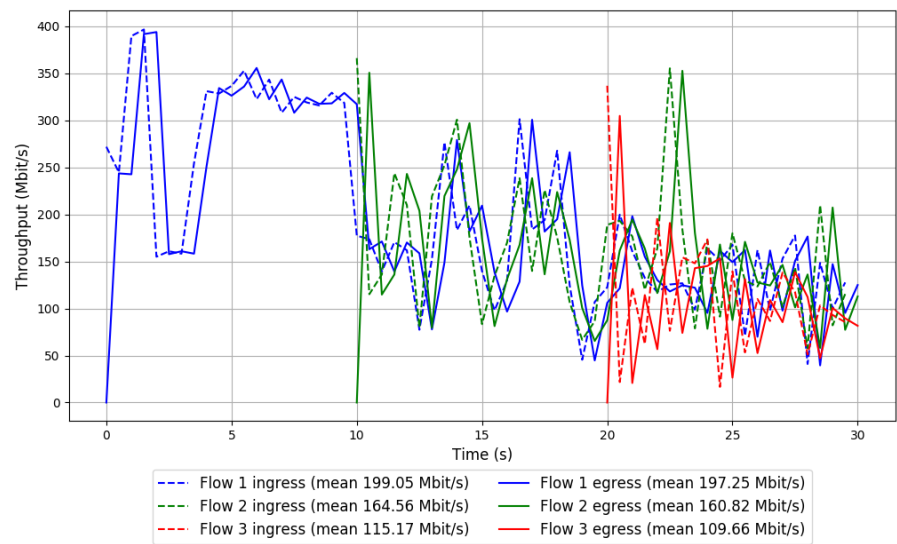
```
Run 3: Statistics of Verus

Start at: 2019-06-27 08:46:32
End at: 2019-06-27 08:47:02
Local clock offset: 3.76 ms
Remote clock offset: -3.199 ms


# Below is generated by plot.py at 2019-06-27 11:15:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.53 Mbit/s
95th percentile per-packet one-way delay: 9.200 ms
Loss rate: 2.53%
-- Flow 1:
Average throughput: 171.84 Mbit/s
95th percentile per-packet one-way delay: 7.447 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 161.37 Mbit/s
95th percentile per-packet one-way delay: 6.146 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 166.99 Mbit/s
95th percentile per-packet one-way delay: 28.773 ms
Loss rate: 5.41%
```

Run 3: Report of Verus — Data Link

200
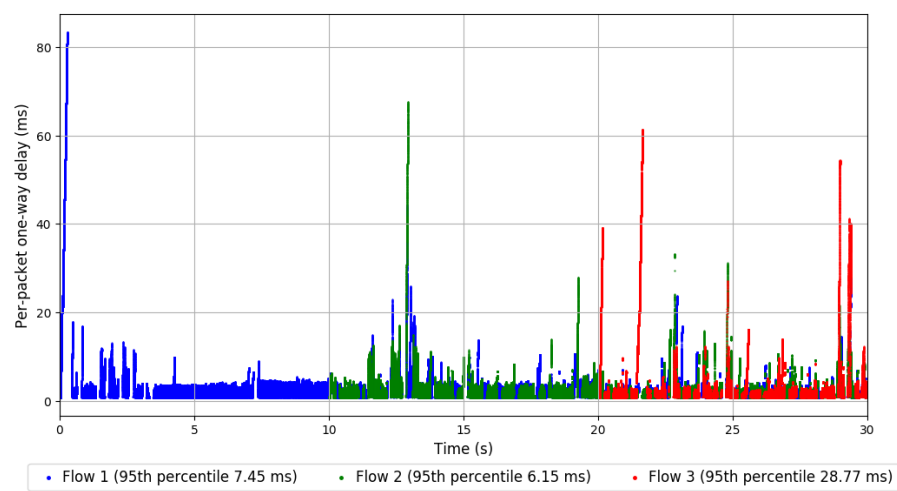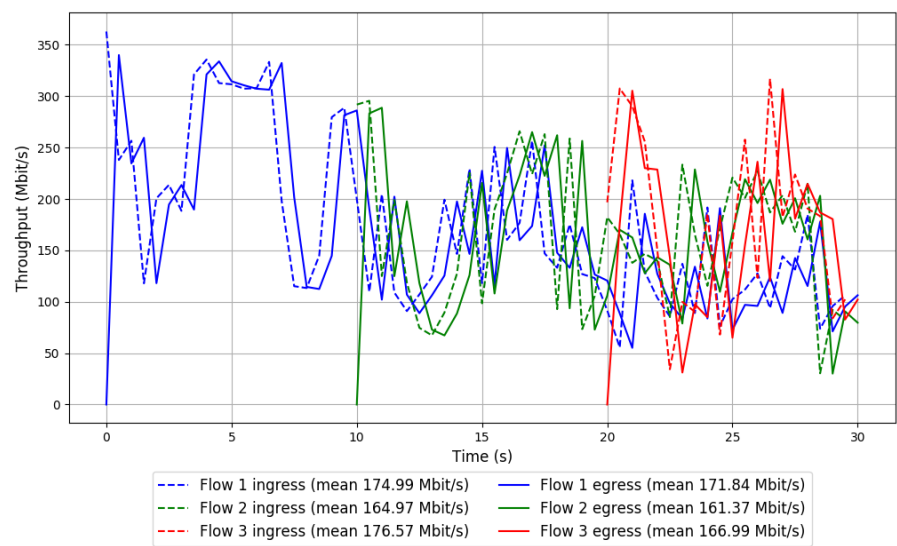
```
Run 4: Statistics of Verus

Start at: 2019-06-27 09:18:02
End at: 2019-06-27 09:18:32
Local clock offset: -4.324 ms
Remote clock offset: -3.02 ms


# Below is generated by plot.py at 2019-06-27 11:16:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.52 Mbit/s
95th percentile per-packet one-way delay: 9.632 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 204.03 Mbit/s
95th percentile per-packet one-way delay: 10.116 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 133.05 Mbit/s
95th percentile per-packet one-way delay: 8.912 ms
Loss rate: 3.02%
-- Flow 3:
Average throughput: 141.11 Mbit/s
95th percentile per-packet one-way delay: 8.516 ms
Loss rate: 3.60%
```
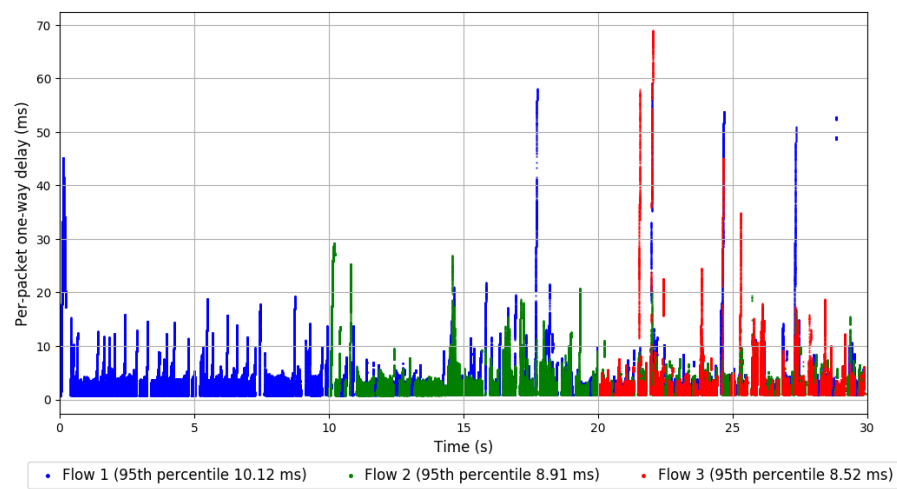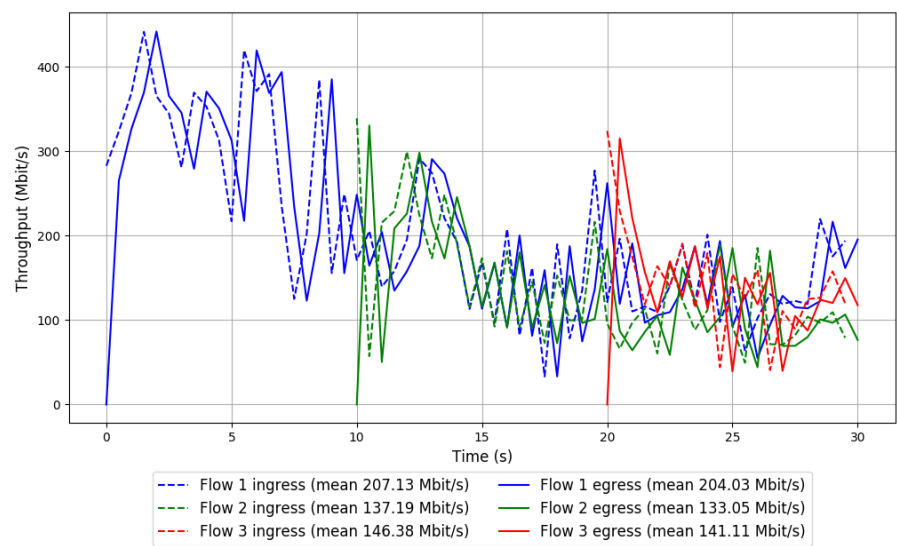
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-06-27 09:49:53
End at: 2019-06-27 09:50:23
Local clock offset: -0.159 ms
Remote clock offset: 1.299 ms


# Below is generated by plot.py at 2019-06-27 11:16:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.22 Mbit/s
95th percentile per-packet one-way delay: 9.188 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 169.14 Mbit/s
95th percentile per-packet one-way delay: 7.267 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 146.54 Mbit/s
95th percentile per-packet one-way delay: 24.200 ms
Loss rate: 2.60%
-- Flow 3:
Average throughput: 150.44 Mbit/s
95th percentile per-packet one-way delay: 9.022 ms
Loss rate: 2.98%
```
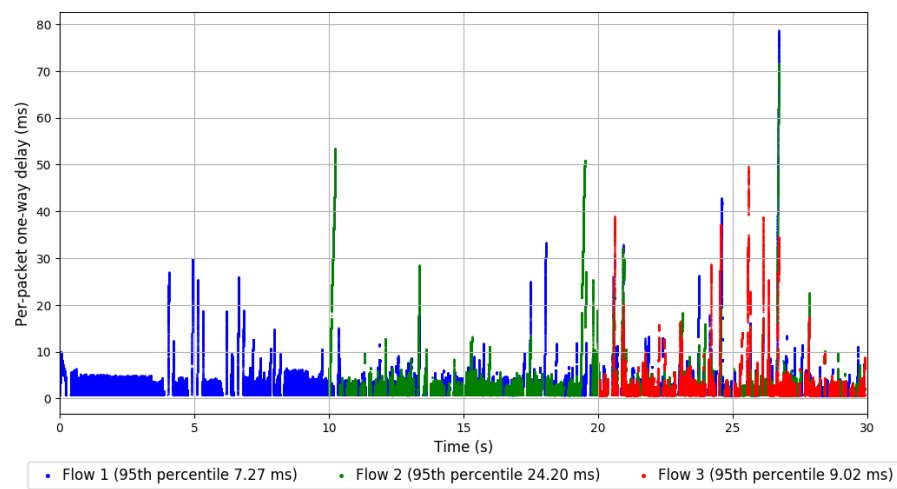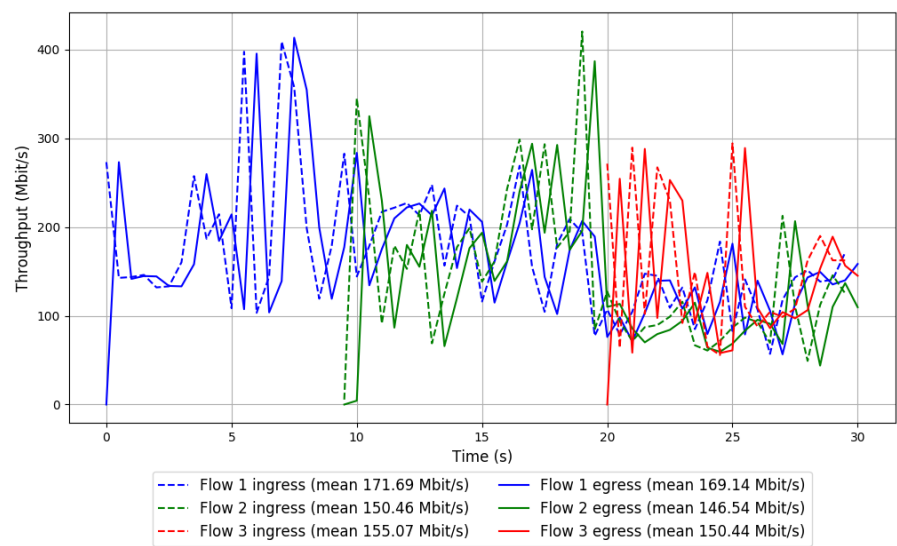
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-06-27 08:00:17
End at: 2019-06-27 08:00:47
Local clock offset: -1.591 ms
Remote clock offset: -2.16 ms


# Below is generated by plot.py at 2019-06-27 11:17:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.33 Mbit/s
95th percentile per-packet one-way delay: 58.827 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 158.83 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 189.50 Mbit/s
95th percentile per-packet one-way delay: 149.358 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 110.20 Mbit/s
95th percentile per-packet one-way delay: 2.531 ms
Loss rate: 0.05%
```
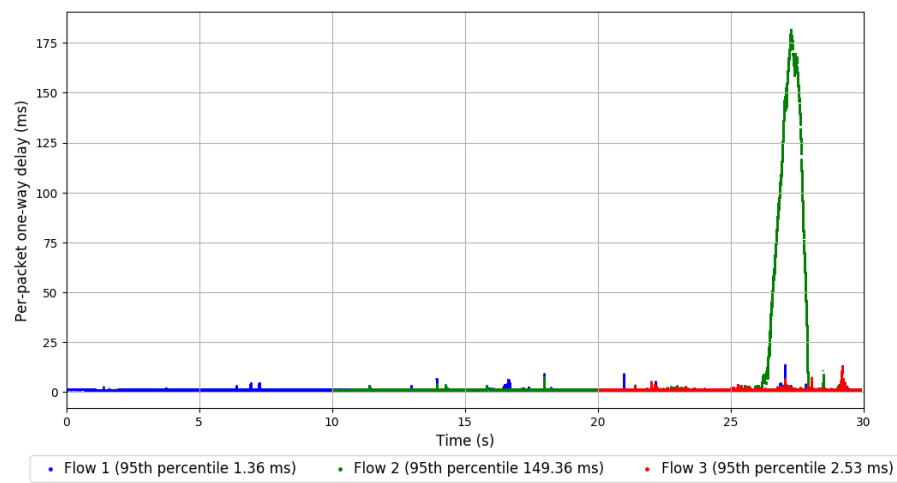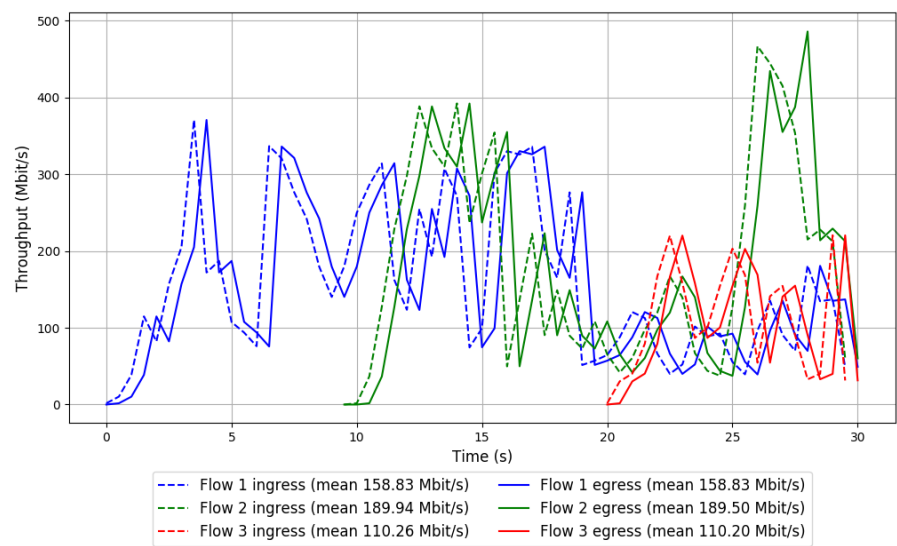
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-06-27 08:32:03
End at: 2019-06-27 08:32:33
Local clock offset: 2.643 ms
Remote clock offset: -3.358 ms


# Below is generated by plot.py at 2019-06-27 11:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.10 Mbit/s
95th percentile per-packet one-way delay: 70.891 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 271.38 Mbit/s
95th percentile per-packet one-way delay: 1.717 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 218.30 Mbit/s
95th percentile per-packet one-way delay: 2.019 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 244.10 Mbit/s
95th percentile per-packet one-way delay: 162.836 ms
Loss rate: 1.07%
```

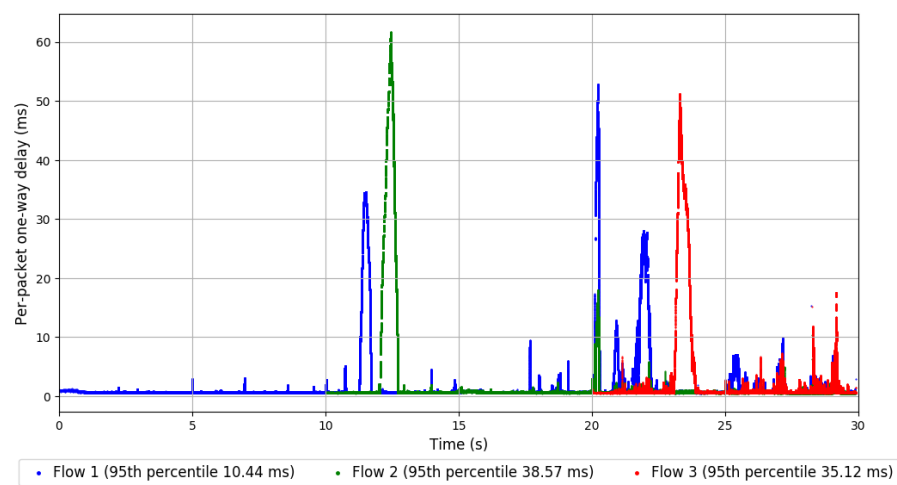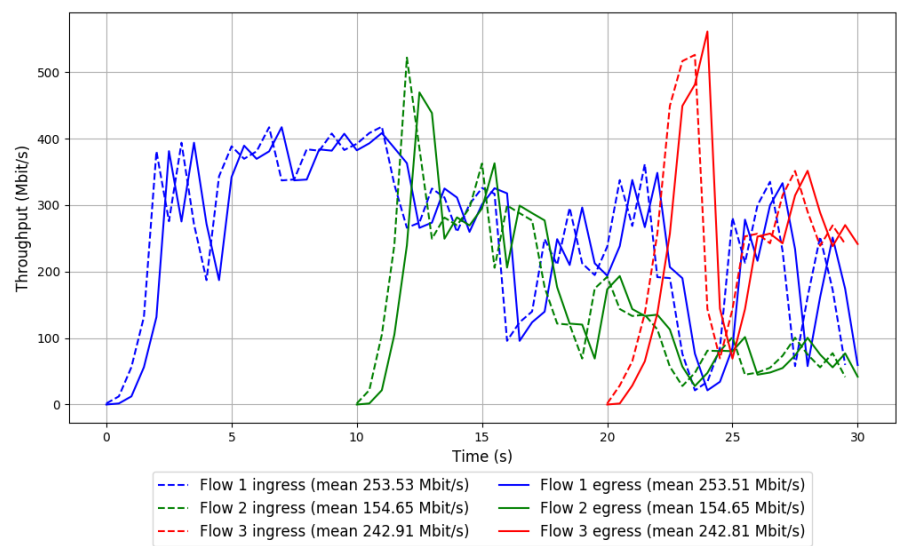Run 2: Report of PCC-Vivace — Data Link
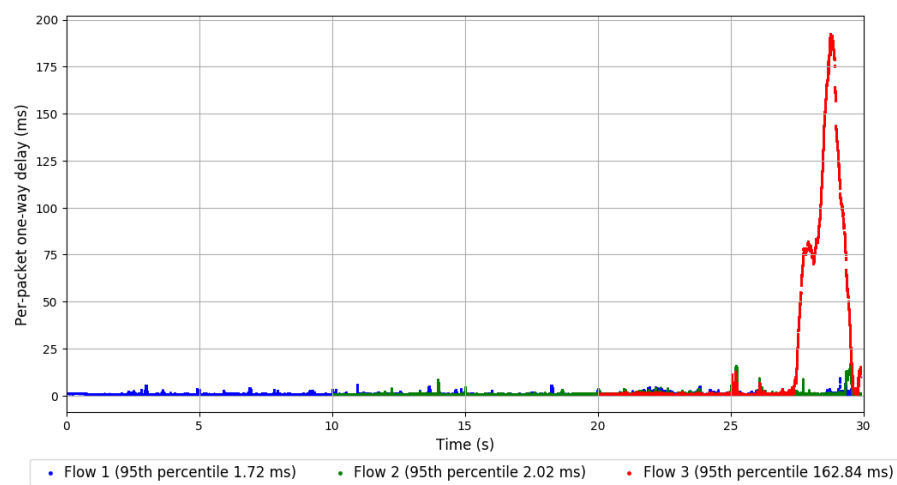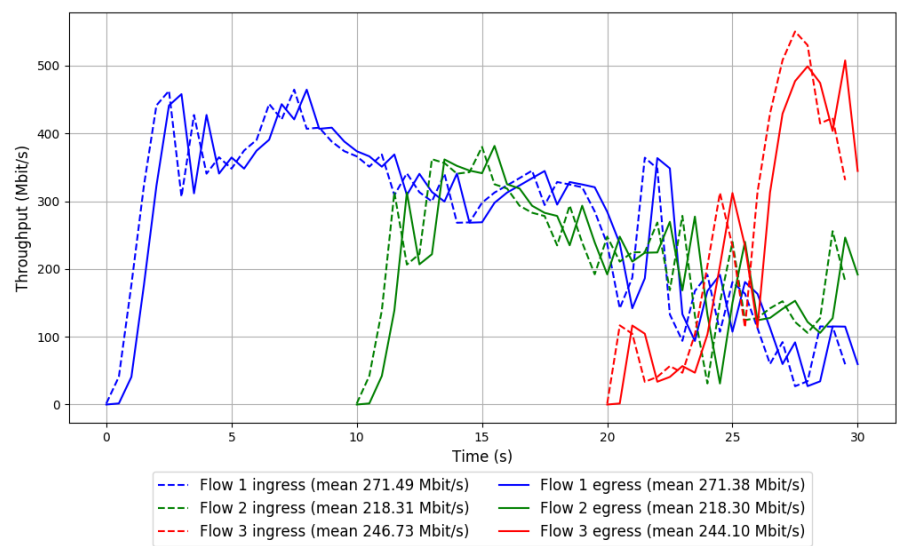
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-06-27 09:03:47
End at: 2019-06-27 09:04:17
Local clock offset: -2.565 ms
Remote clock offset: -3.114 ms


# Below is generated by plot.py at 2019-06-27 11:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.52 Mbit/s
95th percentile per-packet one-way delay: 25.065 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 253.51 Mbit/s
95th percentile per-packet one-way delay: 10.436 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 154.65 Mbit/s
95th percentile per-packet one-way delay: 38.573 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 242.81 Mbit/s
95th percentile per-packet one-way delay: 35.117 ms
Loss rate: 0.04%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 253.53 Mbit/s)   Flow 1 egress (mean 253.51 Mbit/s)
Flow 2 ingress (mean 154.65 Mbit/s)   Flow 2 egress (mean 154.65 Mbit/s)
Flow 3 ingress (mean 242.91 Mbit/s)   Flow 3 egress (mean 242.81 Mbit/s)

Flow 1 (95th percentile 10.44 ms)   Flow 2 (95th percentile 38.57 ms)   Flow 3 (95th percentile 35.12 ms)
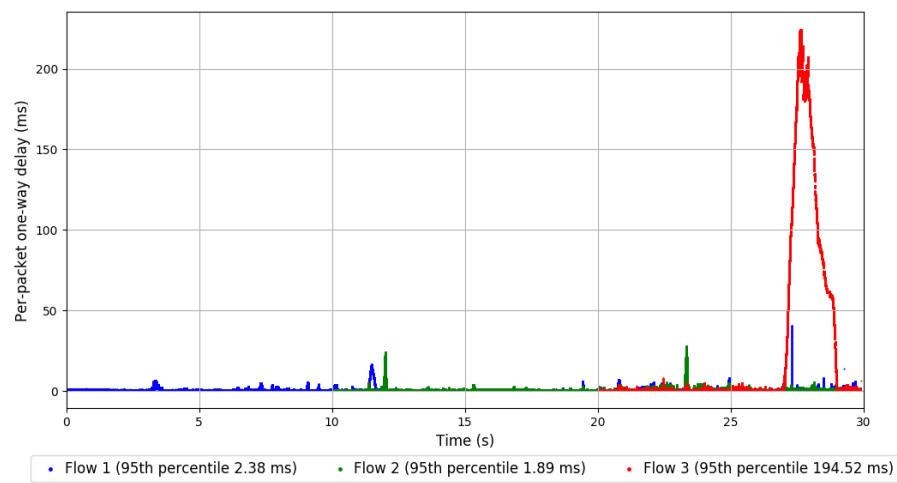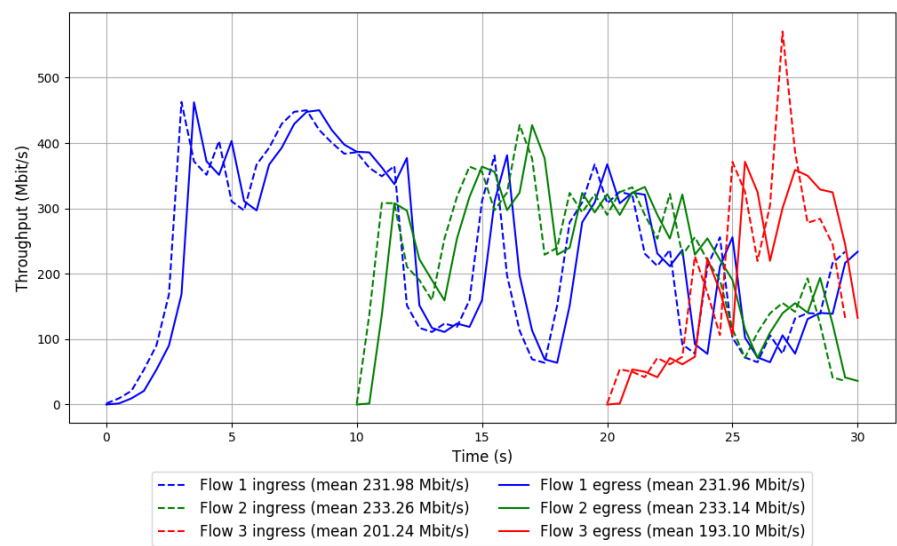
210

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-06-27 09:35:22
End at: 2019-06-27 09:35:52
Local clock offset: -0.671 ms
Remote clock offset: -1.626 ms


# Below is generated by plot.py at 2019-06-27 11:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 450.74 Mbit/s
95th percentile per-packet one-way delay: 14.731 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 231.96 Mbit/s
95th percentile per-packet one-way delay: 2.375 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 233.14 Mbit/s
95th percentile per-packet one-way delay: 1.891 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 193.10 Mbit/s
95th percentile per-packet one-way delay: 194.518 ms
Loss rate: 4.04%
```

Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-06-27 10:07:16
End at: 2019-06-27 10:07:46
Local clock offset: 0.034 ms
Remote clock offset: 1.856 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.65 Mbit/s
95th percentile per-packet one-way delay: 21.835 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 255.13 Mbit/s
95th percentile per-packet one-way delay: 13.236 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 317.55 Mbit/s
95th percentile per-packet one-way delay: 82.217 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 119.05 Mbit/s
95th percentile per-packet one-way delay: 2.780 ms
Loss rate: 1.48%
```
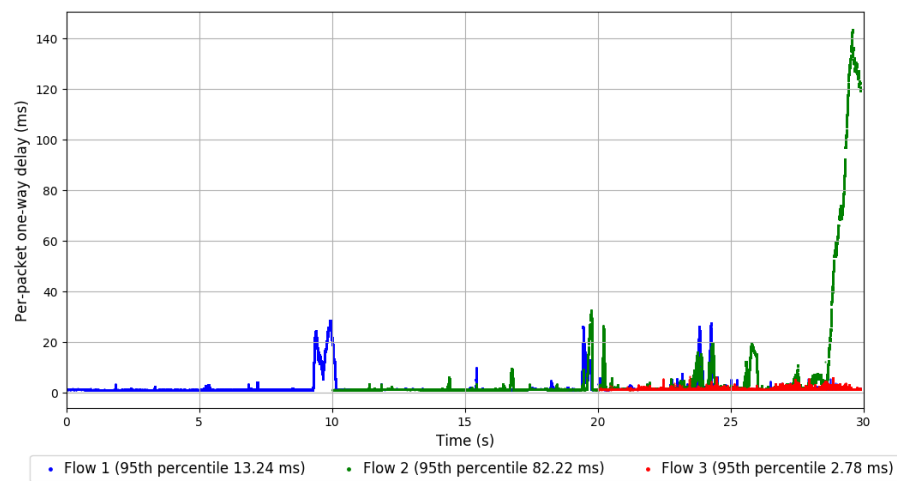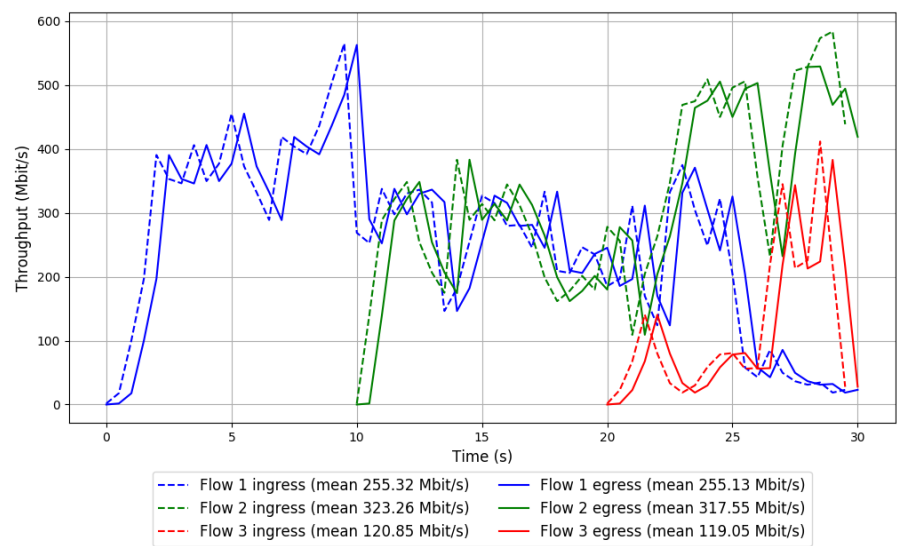
Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 255.32 Mbit/s) — — — Flow 1 egress (mean 255.13 Mbit/s)
Flow 2 ingress (mean 323.26 Mbit/s) — — — Flow 2 egress (mean 317.55 Mbit/s)
Flow 3 ingress (mean 120.85 Mbit/s) — — — Flow 3 egress (mean 119.05 Mbit/s)

Flow 1 (95th percentile 13.24 ms)   Flow 2 (95th percentile 82.22 ms)   Flow 3 (95th percentile 2.78 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-06-27 07:36:02
End at: 2019-06-27 07:36:32
Local clock offset: -3.748 ms
Remote clock offset: 0.641 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 0.985 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 0.944 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 1.546 ms
Loss rate: 0.00%
```
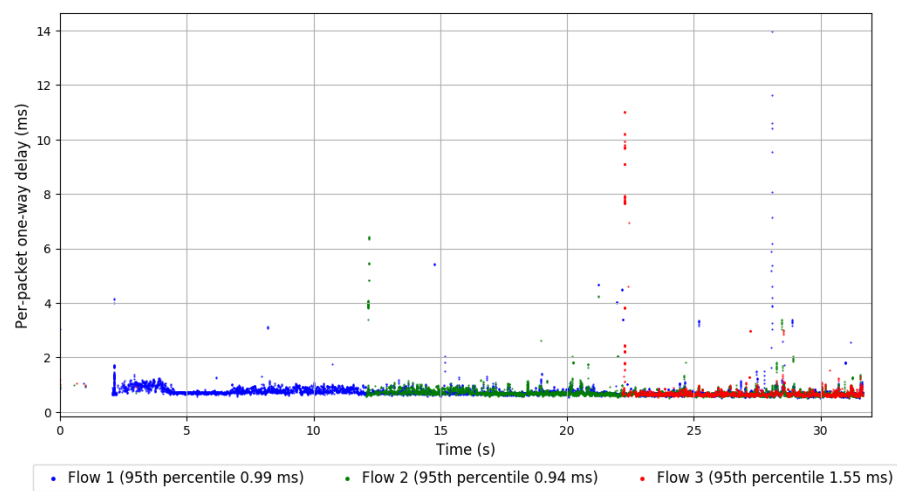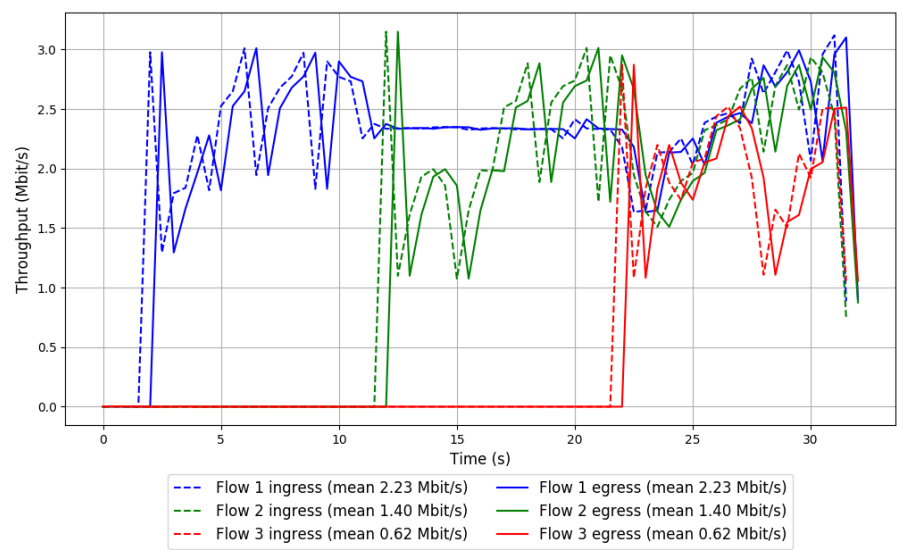
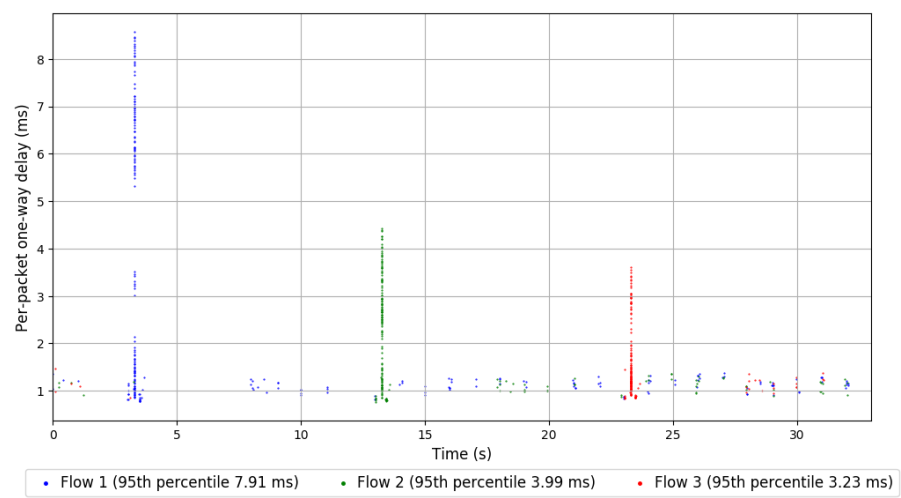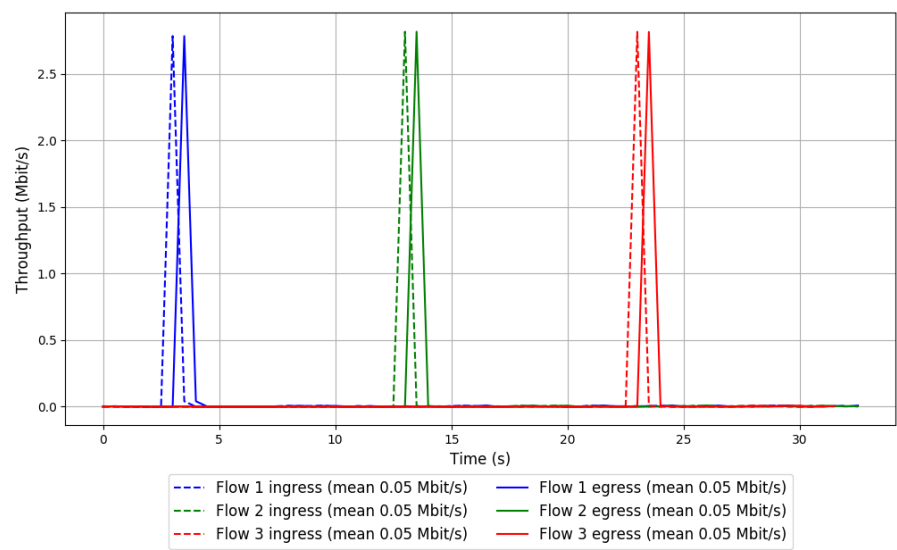Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-06-27 08:07:32
End at: 2019-06-27 08:08:02
Local clock offset: -0.821 ms
Remote clock offset: -3.152 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 6.852 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.905 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.993 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.226 ms
Loss rate: 0.00%
```

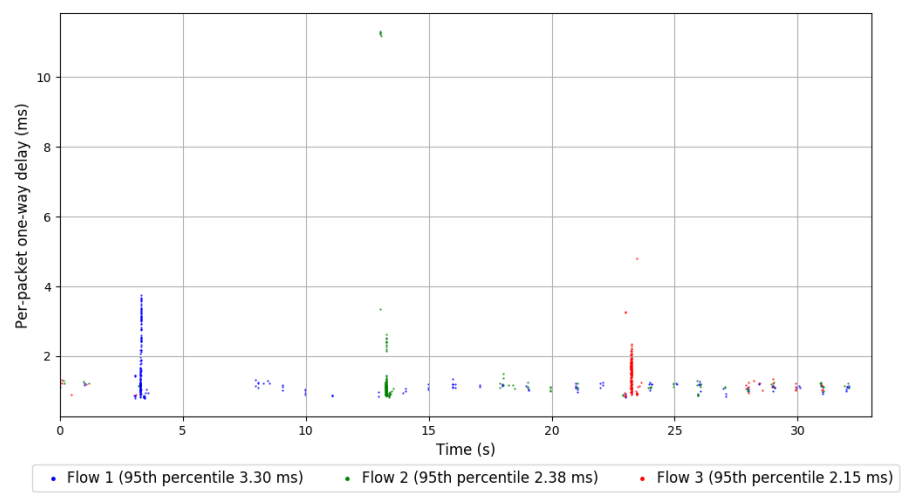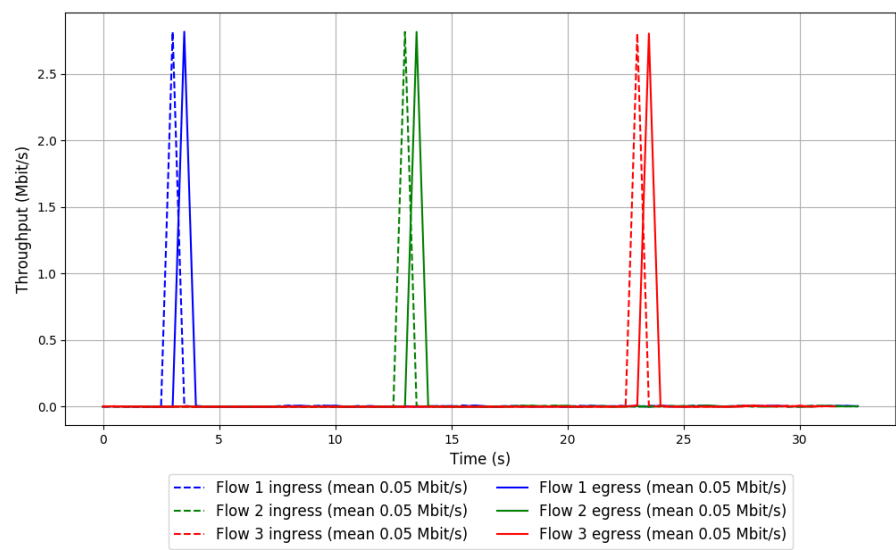Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-06-27 08:39:26
End at: 2019-06-27 08:39:56
Local clock offset: 3.33 ms
Remote clock offset: -3.165 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.082 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.296 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.383 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.147 ms
Loss rate: 0.00%
```

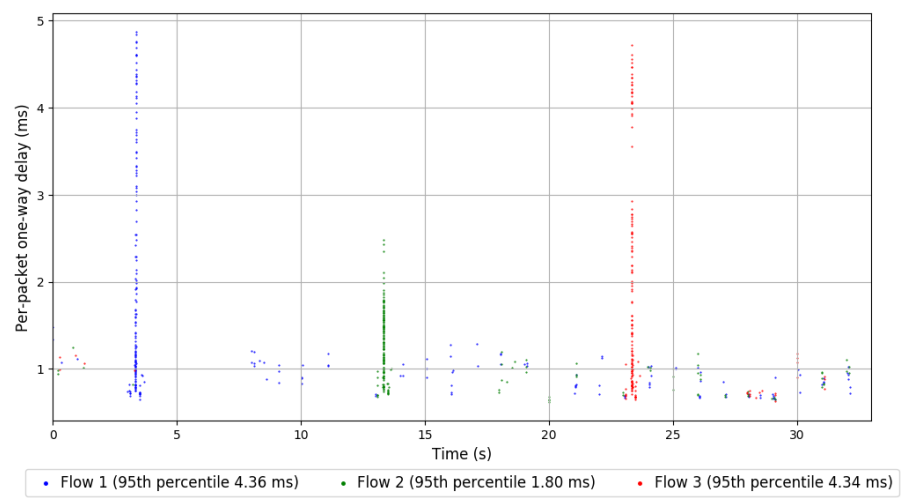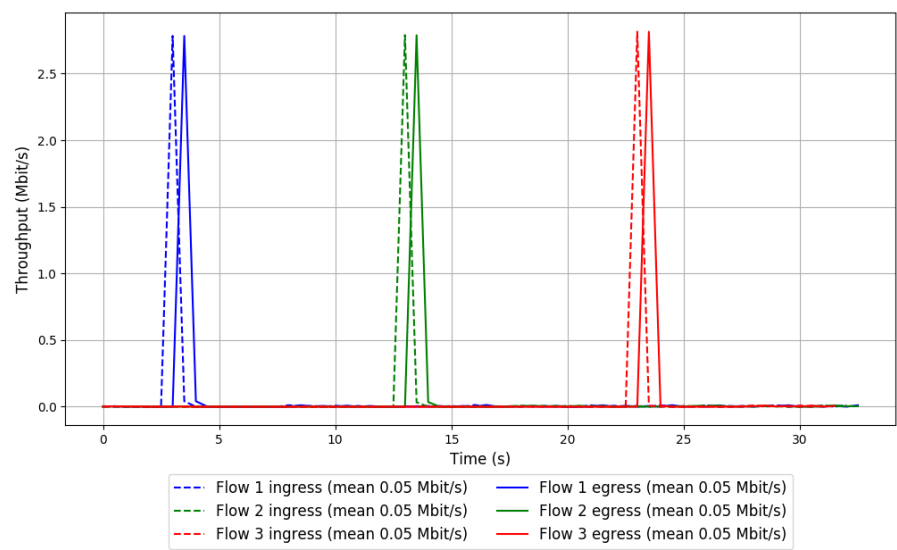Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-06-27 09:11:10
End at: 2019-06-27 09:11:40
Local clock offset: -3.658 ms
Remote clock offset: -2.974 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.178 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.356 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.340 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-06-27 09:42:47
End at: 2019-06-27 09:43:17
Local clock offset: -0.278 ms
Remote clock offset: 0.281 ms


# Below is generated by plot.py at 2019-06-27 11:19:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 3.990 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.298 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 13.429 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.837 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link